

Moscow City Council



Regular Meeting ~Agenda~

www.ci.moscow.id.us

Laurie M. Hopkins
City Clerk

208.883.7015

Monday, October 21, 2024

7:00 PM

**Council Chambers
206 E. Third St.**

The Moscow Mayor, City Council and Staff welcome you to tonight's meeting. This meeting is open to the public. We appreciate and encourage public participation. For regular agenda items, an opportunity for public comment is sometimes provided after the staff report. However, the formality of procedures varies with the purpose and subject of the agenda item; therefore, the Mayor may exercise discretion in deciding when to allow public comment during the course of the proceedings and limitations may be placed on the time allowed for comments. Citizens wishing to comment on business that is not on the agenda will be provided the opportunity to do so during the public comment item on the agenda. If you plan to address the Council, you will find a list of "Tips for Addressing the Council" in the door pocket outside the City Council Chambers. Please note that Moscow City Council meetings are televised, videotaped and/or recorded. Links to view the City Council meeting live can be found on the City website and the City's YouTube channel. Thank you for your interest in City government.

PLEDGE OF ALLEGIANCE

PROCLAMATION

Domestic Violence Action Month

CONSENT AGENDA

1. All Consent Items (ACTION ITEM)

A. Approval of Moscow City Council October 7, 2024 Minutes - Laurie M. Hopkins

B. Disbursement Report September 2024 - Sarah Decker

Presentation of the Accounts Payable Report for the month ending September 2024.

ACTION: Approve and authorize the use of digital signatures to sign the Disbursements Report for the month of September 2024.

C. Woodbury 1st Addition Development Agreement Amendment - Todd Drage

Woodbury Land LLC, has submitted a request to modify the phasing for the Woodbury 1st Addition Subdivision. The final plat, titled Woodbury 1st Addition, and the Development Agreement for the Addition was approved by City Council on Monday, October 17, 2022. Section X - Phasing, in the original agreement contained a figure that detailed 17 single family lots being included in a 1st phase, 17 single family lots included in a 2nd phase, and then the remaining 45 lots being included in a 3rd phase. The original agreement was then amended in 2023 requesting a modified phasing plan. Woodbury Land LLC is requesting a 2nd amendment to phase the remaining lots in the development in 6 more phases (7 phases total). The agreement amendment provides a new figure, detailing the 7 phases. The amendment, along with the original development agreement, and the 1st amendment, are included as attachments to the 2nd amendment, and have been included with this packet.

This amendment was reviewed and approved by Council on September 16, 2024 however the wrong figure was included with the agreement. This amendment simply replaces the incorrect figure with the correct one.

ACTION: Approve the Development Agreement amendment with Woodbury Land LLC for the Woodbury 1st Addition.

D. Memorandum of Agreement for Rehabilitation of the West Palouse River Drive Park Property - Todd Drage

During construction of the Edington 1st Addition Subdivision, BBC LLC utilized the City's West Palouse River Drive Park Property for permanent placement of excess subdivision fill material, access during construction, and storage and stockpiling of materials and debris. As a result of changes to the Subdivision's grading plan, BBC LLC did not conduct as much grading as was anticipated upon BBC LLC's property which resulted in a lack of topsoil to grade the Park Property as previously agreed upon between BBC LLC and the City. Additionally, because of BBC LLC's construction activities and hauling and stockpiling of material upon the park property it has been left in a degraded state compared to its prior condition. As the City and BBC LLC desire that the park property be rehabilitated while being able to issue and receive permits for the Addition, the City and BBC LLC have developed an agreement that will allow BBC LLC to complete the Park's rehabilitation over the next year. The memorandum of agreement (MOA) included in this packet allows the City to issue permits for the lots within the Edington 1st Addition while also ensuring that the park property rehabilitation will be completed.

ACTION: Approve the Memorandum of Agreement with BBC LLC.

E. Moscow Police Department Office of Highway Safety Grant Award – Alisa Anderson

The Moscow Police Department (MPD) is requesting to accept an award from the Idaho Traffic Safety Commission (ITSC) for the Federal Fiscal Year (FFY) 2025 Highway Safety Grant. The program addresses specific behaviors related to traffic safety priority areas and safety deficiencies within local law enforcement jurisdictions and is focused on combatting traffic crashes resulting in fatal and serious injuries. The MPD is requesting to accept a grant award in the amount of \$56,000 requiring an in-kind match of \$14,000.

ACTION: Approve the Moscow Police Department to accept an award for the Office of Highway Safety Grant FFY 2025 for \$56,000 with an in-kind match of \$14,000.

F. Moscow Police Department Annual Small Grant Requests and Awards – Alisa Anderson

The City of Moscow Police Department (MPD) applies for several small grants on an annual basis which assist the department with the purchase of equipment, including bullet-proof vests. The grants are also used to host various traffic enforcement mobilizations and other prevention and safety activities. The grants awarded to MPD provide funding and resources to protect our youngest citizens, for operational and personal safety equipment, and for program support to implement and host multiple safety programs. These resources assist MPD in their mission of community-oriented policing to improve the quality of life for Moscow residents through community partnerships and problem-solving approaches, while also making sure the officers are outfitted and equipped with items needed to safely do their jobs. The MPD is requesting approval and/or ratification of the funding requests and awards for small grants applied for in an amount not to exceed a combined total of \$50,000 for the FY2025 fiscal year.

ACTION: Approve requests and awards for small grants applied for by the Moscow Police Department not to exceed a combined total of \$50,000 for the FY2025 fiscal year.

REGULAR AGENDA

2. **Mayors Appointments (ACTION ITEM)**
3. **Public Comment and Mayor's Response Period (limit 15 minutes)**
4. **Citizen Commission Report - Farmers Market Commission - Amanda Argona / Jamie Hill**
5. **Advanced Water Metering Infrastructure (AMI) Procurement Agreement (ACTION ITEM) - Evan Timar**

The AMI procurement agreement encompasses a two-way, fixed-base AMI system with simultaneous one-way, drive-by reading capabilities, along with meters, a meter data management system that provides detailed analytics, and a customer portal. The AMI project will be executed in two phases. The first phase will initiate the project with the procurement of collectors, repeaters, and up to 100 endpoints within a controlled environment, along with the implementation of the AMI software and meter data management system. The second phase will expand the deployment by adding an additional 300 meters and integrating the customer portal. The City intends to distribute the project and its costs over a total span of seven fiscal years. The anticipated annual workload for this project is expected to be divided equally across the fiscal years, resulting in an estimated deployment of approximately 1,077 meters per year following the completion of the initial deployment.

PROPOSED ACTIONS: Approve the AMI Procurement Agreement; or take other action deemed appropriate.

6. **WRF Influent Pump Station Upgrade - Proposal Results & Contract Award (ACTION ITEM) - Scott Bontrager**

The Water Reclamation Facility (WRF) Influent Pump Station (IPS) Upgrade project includes the replacement of the existing three Archimedes screw pumps, which are original to the 2002 Phase III facility upgrade. The IPS system is relied upon to maintain a seamless and consistent operation by moving all of Moscow's wastewater to the peak of the Reclamation Facilities hydraulic grade line further distributing it to downstream treatment processes. On average, the IPS system pumps 650 million gallons of wastewater per year into the facility. The City published an advertisement for bids on August 29, 2024, and the Engineer's Estimate for construction is \$3,600,000. Bids were opened on September 24, 2024, at which four (4) bids were received. The Base Bids ranged from \$1,985,000 to \$2,440,000 and Add Alternate #1 (3-year extended warranty) bids ranged from \$36,000 to \$273,000 and Add Alternate #2 (5-year extended warranty) bids ranged from \$59,000 to \$329,000. Of those, the lowest responsive bid received was submitted by Apollo, Inc. with a Base Bid of \$1,985,000 and an Add Alternate #2 bid of \$59,000. A bid analysis is included in the Council packet.

PROPOSED ACTIONS: Accept the bid from Apollo, Inc., award the contract in the amount of \$2,044,000 for Base Bid and Add Alternate #2, and authorize staff approval of change orders in an amount not to exceed 10% of the contract amount, or take other action deemed appropriate.

7. **Discussion Regarding Potential Impact of Latah County Jail Closure (ACTION ITEM) - Bill Belknap / Joe Sieverding**

Latah County has recently discussed the possibility of closing the Latah County jail located in the Latah County Courthouse at 522 S. Adams Street. While the consideration is ongoing and a final decision has not been made, Staff is concerned that the closure of the jail could present significant challenges to the operations of the Moscow Police Department. It is Staff's understanding, that the County is currently negotiating a contract with the Nez Perce County

Detention Center to perform booking and house the County's inmates. If Latah County decides to close the jail facility, the Moscow Police Department would likely be required to transport any individuals in custody to the Nez Perce County facility for booking and detention. The City's Police force is already operating on minimum shift staffing and the potential loss of patrol staff to transport individuals to Lewiston will either result in a reduction of public safety or additional costs to the City to maintain on-call law enforcement personnel for the transport of individuals in custody to Lewiston. The City has already adopted our FY2025 budget which did not anticipate this potential issue as we had not received any indication from the County that they were considering closing the jail. Staff will review the potential impacts of this matter with the Council for the Council's consideration.

PROPOSED ACTIONS: Receive report and provide staff with direction.

REPORTS

City Council

Mayor

ADJOURN TO EXECUTIVE SESSION PER IDAHO CODE 74-206 (1)(F) - THE MEETING WILL NOT RECONVENE.

NOTICE: It is the policy of the City of Moscow that all City-sponsored public meetings and events are accessible to all people. If you need assistance in participating in this meeting or event due to a disability under the ADA, please contact the City's ADA Coordinator by phone at (208) 883-7600, TDD (208) 883-7019, or by email at adacoordinator@ci.moscow.id.us at least 48 hours prior to the scheduled meeting or event to request an accommodation. The City of Moscow is committed to ensuring that all reasonable accommodation requests are fulfilled.

DOMESTIC VIOLENCE ACTION MONTH PROCLAMATION

WHEREAS, domestic violence violates an individual's dignity, security, and humanity and is a crime with sweeping effects on our community's safety and health; and,

WHEREAS, survivors of domestic violence should have help to find the compassion and healing they deserve, and perpetrators of violence should be held accountable for their actions; and

WHEREAS, all residents of Moscow should feel safe and at peace in their homes; and

WHEREAS, our youth deserve information and education on healthy relationships, boundaries, and consent; and

WHEREAS, Alternatives to Violence of the Palouse (ATVP) is committed to ending violence in our community through prevention education, and has been providing services to those affected by violence for 44 years; and

WHEREAS, a local coalition of organizations exists to directly confront domestic violence, including law enforcement officers, victims' advocates, prosecutors, healthcare providers, faith leaders, and concerned Moscow residents; and

WHEREAS, the City of Moscow is an important partner in ATVP's vision to create a community that is safe, equitable, and free from oppressions that lead to domestic violence.

NOW, THEREFORE, I, Art Bettge, Mayor for the City of Moscow, do hereby proclaim the month of October 2024 as

Domestic Violence Action Month

in the City of Moscow, and I encourage all citizens to reflect and to honor victims and survivors of domestic violence in our community, and also use this month to take action towards ending violence on the Palouse.



DATED this 21st day of October, 2024.

Arthur D. Bettge, Mayor

Moscow City Council



Regular Meeting ~Agenda~

Laurie M. Hopkins
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208.883.7015

Monday, October 7, 2024

7:00 PM

**Council Chambers
206 E. Third St.**

Bill, Mia, Laurie, David Schott, Mike Ray, Tyler Ochoa, Amanda Argona, Laura Perigo
Absent: Drew Davis

PLEDGE OF ALLEGIANCE

Council Member Blankenship led the Pledge of Allegiance.

CONSENT AGENDA

1. All Consent Items (ACTION ITEM)

A. Approval of Moscow City Council September 16, 2024 Minutes - Laurie M. Hopkins

B. Idaho Outdoor Recreation Fund Grant Application - Alisa Anderson / Scott Bontrager

The City received notification of a grant opportunity through the Outdoor Recreation Fund Advisory Council (ORFAC) accepting applications to build projects that expand recreational opportunities. For 2024, ORFAC has been allocated \$5 million dollars to spend on capital projects (trails, bridges, campgrounds, etc.) that create or enhance outdoor access. City staff have identified two park projects to include the Mountain View Park Connector Pathway and Anderson Frontier Park Pathway Connection, which will provide ADA access to both locations. Staff are requesting to submit a grant application in an amount not to exceed \$160,000. Staff will include engineering, design, and construction management as an in-kind match. No cash match is required under this program. This was reviewed by the Administrative Committee on September 23, 2024, and recommended for approval.

ACTION: Ratify the approval to submit a grant application not to exceed \$160,000 to the Idaho Outdoor Recreation Fund.

C. Professional Services Agreement between the City of Moscow and Presnell Gage, PLLC - Sarah Decker

In June 2024, the City of Moscow issued a Request for Qualifications (RFQ) from certified public accounting firms to audit our respective financial statements for the fiscal year ending September 30, 2024, with the option of auditing for four subsequent fiscal years. Firms had to address the requirements of the RFQ and submit a sealed proposal to include pricing for the five-year period. The City received one response to the RFQ from Presnell Gage, PLLC. Staff reviewed the proposal and deemed that it met all requirements of the RFQ. This was reviewed by the Administrative Committee on September 23, 2024, and was recommended for approval.

ACTION: Approve the Professional Services Agreement between the City of Moscow and Presnell Gage, PLLC to audit our respective financial statements for the fiscal year ending September 30, 2024, and the four subsequent fiscal years with the ability for the City to terminate at any time.

D. City of Moscow Utility Billing Policy Update - Sarah Decker

In accordance with Moscow City Code, property owners are responsible for the cost of utility services delivered to their property(s), regardless of the user of the utility being provided. The City of Moscow has historically provided property owners with the convenience of billing a non-owner occupant (tenant) even though the City is under no legal obligation to do so. On February 16, 2021, the City formalized the Utility Billing process, Resolution 2021-01, by adopting the City of Moscow Utility Billing Policy, City of Moscow Utility Billing Application, and City of Moscow Utility Billing Directive. On August 19, 2024, the Idaho Supreme Court issued a decision that confirmed the City's ability to hold property owners responsible for the utility services provided to their property, but the Court found that the City did not provide enough detail within the Utility Billing Application regarding the means by which the City could pursue to collect unpaid balances through the use of liens. This decision necessitates an amendment to the City of Moscow's Utility Billing Policy, Utility Billing Application, and Tenant Utility Billing Directive to continue providing the convenience of tenant billing to property owners. This was reviewed by the Administrative Committee on September 23, 2024, and was recommended for approval.

ACTION: Approve the updated City of Moscow Utility Billing Policy, City of Moscow Utility Billing Application, and City of Moscow Tenant Utility Billing Directive.

E. Second Amendment to Franchise Agreement Exhibit G - Tim Davis

Fees from Exhibit G of the Solid Waste Franchise Agreement between the City of Moscow and Latah Sanitation, Inc., dba Inland North Waste, are adjusted upward or downward each fiscal year to reflect changes in the cost of operations, as reflected by fluctuations in the Consumer Price Index (CPI), as published by the U.S. Bureau of Labor Statistics. The statistics utilized are for a one-year period and are the end-adjusted figures for the annual change for the calendar year, as published in January of each year. The fee modification date is October 1 of each year. Every year the fees are increased or decreased for the coming year in a percentage of 100% of the net change of the CPI for the prior year period. The CPI adjustment for FY2025 is 3.82%. In addition to the CPI adjustment, staff updated Exhibit G to reflect the existing contract provisions as it pertains to the billing for biosolids composting. These updates have been reviewed and approved by Latah Sanitation, Inc.

ACTION: Approve the Second Amendment to Exhibit "G" of the Solid Waste Franchise Agreement.

Kelly moved and Lewis seconded to approve the consent agenda as presented. Roll Call Vote: Ayes: Unanimous. Nays: None. Abstentions: None. Motion carried.

REGULAR AGENDA

2. Public Comment and Mayor's Response Period (limit 15 minutes)

Kent Salisbury (Moscow) said he appreciated that the graffiti has been painted over. He does wish it could have been taken care of sooner.

3. Presentation of Mayor's Golf Tournament Proceeds

Argona said the tournament brought in just under \$2,000 and will go to Inland Oasis west side food bank. While ICCU and Mead and Hunt are our largest donors, Latah Credit Union and Corner Club have consistently contributed to this event. Megan accepted the proceeds and said they are feeding approximately 650 families per month. She thanked the Mayor for the donation.

4. Citizen Commission Report - Parks and Recreation Commission - David Schott / Cat Harner

Schott introduced Harner, chair of the P&R Commission. She provided the purpose of the Commission and a list of the Commission members. The Bee City USA Subcommittee has been very active. Triangle Park was the 2024 pesticide free park. There was an installation of a Peace Pole in the plaza landscape area of the Jim Lyle Rotary Park. Pickleball courts are recommended for inclusion in the Capital Improvement Plan for future courts at Mountain View Park. The Commission is preparing a letter to Mayor and City Council regarding corporate sponsorships for parks capital improvement projects. They conducted the 2024 Parks and Recreation Commission Annual Tour.

5. Wildrose Court Final Plat and Final PUD (ACTION ITEM) - Mike Ray

On May 6, 2024, Moscow City Council approved the annexation, Comprehensive Plan land use designation, zoning designation, preliminary subdivision plat, and preliminary planned unit development (PUD) for the Wildrose Court Addition with six conditions. On August 13, 2024, the applicant submitted the final subdivision plat and final PUD to be reviewed by the Planning and Zoning Commission and City Council. The Planning and Zoning Commission reviewed the final subdivision plat and final PUD at their meeting on August 28, 2024 and recommended approval to City Council with no conditions. The Public Works/Finance Committee reviewed this item at their September 9, 2024 meeting and recommended approval.

PROPOSED ACTIONS: Approve the Wildrose Court Addition Final Plat and Final PUD, or take other action deemed appropriate.

Ray introduced the item by providing a description of the area and illustrations of the site including streets, lots, stormwater, and boundaries.

Blankenship said he voted no to the preliminary plat and he has appreciated seeing how the process works and is now supportive of the plat and PUD. He moved to approve the Wildrose Court Addition Final Plat and Final PUD. Parker seconded. Roll Call Vote: Ayes: Unanimous. Nays: None. Abstentions: None. Motion carried.

6. Public Hearing: SOMO Annexation, Comprehensive Plan Land Use Designation, Zoning Designation, and Preliminary Plat (ACTION ITEM) - Mike Ray

The applicant, 2-GM, LLC, is proposing a Comprehensive Plan land use designation, zoning designation, and a preliminary subdivision plat for a 51.53-acre property proposed to be annexed into the City of Moscow and generally located south of the South Fork of the Palouse River and East of Highway 95 within the City of Moscow. The current Comprehensive Plan Land Use Designation is a combination of Auto-Urban Commercial, Industrial, and Rural and Agricultural and the proposal is the Auto-Urban Commercial designation. The zoning of the subject property is currently a combination of the Motor Business (MB) and Agriculture Forestry (AF) Zone and the proposal is the Motor Business (MB) Zone. The proposed preliminary plat is a 29.46-acre area to create 15 lots ranging from 0.82 to 4.18 acres in size, referred to as SOMO Subdivision. The City of Moscow Planning and Zoning Commission conducted a public hearing for the proposed Comprehensive Plan Land Use Designation, Rezone, and Preliminary Plat on May 24, 2023, and recommended approval with two conditions.

PROPOSED ACTIONS: Conduct the public hearing upon the annexation, Comprehensive Plan land use designation, zoning designation, and preliminary plat and upon consideration of any testimony presented:

1. Approve the Annexation Ordinance under suspension of the rules requiring three complete and separate readings and that it be read by title and published by summary; or consider the Annexation Ordinance on first reading; or reject the Annexation Ordinance; or take other action as deemed appropriate.

2. If the Annexation Ordinance is approved, approve the proposed Comprehensive Plan Land Use Designation Resolution and adopt the Planning and Zoning Commission Reasoned Statement of

Relevant Criteria; or reject the proposed Comprehensive Plan Land Use Designation Resolution and direct staff to prepare a Reasoned Statement of Relevant Criteria; or take other action as deemed appropriate.

3. If the Annexation Ordinance is approved and Comprehensive Plan Land Use Designation Resolution is approved, approve the proposed Zoning Ordinance under suspension of the rules requiring three complete and separate readings and that it be read by title and published by summary and adopt the Planning and Zoning Commission Reasoned Statement of Relevant Criteria; or consider the Zoning Ordinance on first reading; or reject the Zoning Ordinance and direct staff to prepare a Reasoned Statement of Relevant Criteria; or take other action as deemed appropriate.

4. If the Annexation Ordinance is approved, the Comprehensive Plan Land Use Designation Resolution is approved, and the proposed Zoning Ordinance is approved, approve the preliminary plat for SOMO Addition with two (2) conditions and adopt the Planning and Zoning Commission Reasoned Statement of Relevant Criteria; or approve the preliminary plat with no conditions and direct staff to prepare a Reasoned Statement of Relevant Criteria; or reject the preliminary plat and direct staff to prepare a Reasoned Statement of Relevant Criteria; or take other such action deemed appropriate.

Mayor Bettge opened the public hearing at 7:28 p.m.

Ray introduced the item providing an illustration of the area and described the zoning and comprehensive plan. The area to be annexed is owned by multiple owners and includes the ITD right-of-way for the new highway. The subdivision is proposed with 15 lots ranging from 0.82 to 4.18 acres in size, two stormwater detention tracts and pedestrian connections to the north and south. The parkland requirement is provided on the north side of the subdivision next to the South Fork of the Palouse River. Lewis spoke about her concern of no on-street parking in a motor business area.

Jeff Motley, applicant, said he had the drawings for the new highway when he looked at the property. He feels it will be a nice exposure for motor business. There is a lot of interest and believes the development will do great things for south Moscow. No grading will take place in the flood area. He said he met with Avista shortly after the P&Z meeting and there is ample power coming from the west side of the highway.

Shelley Bennett, Kimley Haygood Company, said the city has needed a business park for years, one that focuses on small businesses.

Mayor Bettge asked for testimony in favor of the application. Hearing none he asked for opposition. Hearing none, he asked for general testimony.

David Hall (rural Moscow) said he is always worried about the declining aquifer. While the city has water now, the Council should be concerned about water usage for all the annexations. He believes the City needs to look at a water budget.

Mayor Bettge closed the public hearing at 7:53 p.m.

Ray said the goal of the council and the city is to transition those historical agricultural and industrial areas south of town. If this subdivision is approved, there are approximately 150 acres of industrial left in the area. Motor Business is similar to Industrial but doesn't allow heavy industrial. It allows the most flexibility while still allowing industrial. Lewis said she wants to meet the immediate needs and likes to hear that there is interest in the lots already. She doesn't want to be in a situation where an industrial opportunity is missed and then fit where it shouldn't be. Taruscio responded with her experience in economic development, that it is a 5 to 1 ratio needing Motor Business versus Industrial. Industrial zoning is near but the limited factor in her opinion is power if it was developed as heavy industrial. Parker pointed

out Schweitzer Engineering Labs is in Motor Business but is more like industrial. She feels this annexation is very logical and likes that Primeland is included.

Taruscio moved to approve the Annexation Ordinance under suspension of the rules requiring three complete and separate readings and that it be read by title and published by summary. Kelly seconded. Roll Call Vote: Ayes: Unanimous. Nays: None. Abstentions: None. Motion carried.

Mayor Bettge read Ordinance 2024-18 by title:

AN ORDINANCE OF THE CITY OF MOSCOW, A MUNICIPAL CORPORATION OF THE STATE OF IDAHO; PROVIDING THAT LAND DESCRIBED IN SECTION 2 OF THIS ORDINANCE, AND GENERALLY SHOWN ON EXHIBIT "A" ATTACHED HERETO AND INCORPORATED BY THIS REFERENCE, BE ANNEXED TO THE CITY OF MOSCOW; PROVIDING THAT THE PROVISIONS OF THIS ORDINANCE BE DEEMED SEVERABLE; PROVIDING FOR THIS ORDINANCE TO BE IN FULL FORCE AND EFFECT FROM AND AFTER PASSAGE, APPROVAL AND PUBLICATION ACCORDING TO LAW.

Taruscio moved to approve the proposed Comprehensive Plan Land Use Designation Resolution and adopt the Planning and Zoning Commission Reasoned Statement of Relevant Criteria. Blankenship seconded. Roll Call Vote: Ayes: Unanimous. Nays: None. Abstentions: None. Motion carried.

Taruscio moved to approve the proposed Zoning Ordinance under suspension of the rules requiring three complete and separate readings and that it be read by title and published by summary and adopt the Planning and Zoning Commission Reasoned Statement of Relevant Criteria. Kelly seconded. Roll Call Vote: Ayes: Unanimous. Nays: None. Abstentions: None. Motion carried.

Mayor Bettge read Ordinance 2024-19 by title:

AN ORDINANCE OF THE CITY OF MOSCOW, IDAHO, A MUNICIPAL CORPORATION OF THE STATE OF IDAHO; PROVIDING FOR THE REZONING OF A FIFTY-ONE POINT FIVE THREE (51.53) ACRE PROPERTY, DESCRIBED IN SECTION 2, FROM MOTOR BUSINESS (MB) AND AGRICULTURE FORESTRY (AF) TO MOTOR BUSINESS (MB); PROVIDING THAT THE PROVISIONS OF THIS ORDINANCE BE DEEMED SEVERABLE; PROVIDING FOR THIS ORDINANCE TO BE IN FULL FORCE AND EFFECT FROM AND AFTER ITS PASSAGE, APPROVAL AND PUBLICATION ACCORDING TO LAW.

Taruscio moved to approve the preliminary plat for SOMO Addition with two (2) conditions and adopt the Planning and Zoning Commission Reasoned Statement of Relevant Criteria. Kelly seconded. Roll Call Vote: Ayes: Unanimous. Nays: None. Abstentions: None. Motion carried.

7. West Palouse River Drive Site Study Agreement (ACTION ITEM) - Bill Belknap

The Moscow School District anticipates the need to construct a new elementary school in the near future and is currently considering where it may be located. The District would like better distribution of elementary school locations in the community to serve surrounding neighborhoods. The City and District have discussed the potential of locating a future elementary school on the City's West Palouse River Drive Property in conjunction with the potential development of a city park and additional athletic fields. Earlier this year, the City and District entered into a Memorandum of Understanding to jointly fund a planning study to assess the feasibility of developing the West Palouse River Drive property for a future elementary school, park, and athletic fields. It is anticipated the study will assess pedestrian access, vehicular access and circulation, site grading, building, parking, park, and athletic facility development to determine the suitability of the site for the proposed uses and help inform future

decisions regarding the property. City Staff worked with Lombard Conrad Architects LLC., an architectural firm that was recently selected by the Moscow School District for District architectural services, to prepare a scope of work and professional services agreement to conduct the site study. The scope has been reviewed and approved by the Moscow School District. This was reviewed by the Administrative Committee on September 23, 2024 and recommended for approval.

PROPOSED ACTIONS: Approve the proposed Professional Services Agreement with Lombard Conrad Architects Inc.; or take other action deemed appropriate.

Belknap introduced the item as written above. Having no questions, Lewis moved to approve the proposed Professional Services Agreement with Lombard Conrad Architects Inc. Kelly seconded. Roll Call Vote: Ayes: Unanimous. Nays: None. Abstentions: None. Motion carried.

REPORTS 8:08

City Council

1912 Center Development Committee – Kelly said the third floor, bathrooms, walls, HVAC, are all looking good. Fundraising is being put together.

Farmers Market Commission – Parker said the last Saturday of October includes a costume contest at the Farmers Market. They are beginning planning for the 50th anniversary which is 2026.

Human Rights Commission – Blankenship said they debriefed on the Monday event.

Council members spoke on other meetings and events including the Annual Water Summit.

Mayor

The Mayor went to Washington DC and visited the senators and representatives to thank them for the airport grants and prepared them for alternate water supplies. They lobbied to enhance flights. He met with a Korean economic team; attended the airport board meeting where they are going forward with finding a concessionaire; attended the water summit and a transportation review hosted by Ailene Clegg.

ADJOURN TO EXECUTIVE SESSION PER IDAHO CODE 74-206 (1)(B) AND (1)(F) - THE MEETING WILL NOT RECONVENE.

Lewis moved, Blankenship seconded to adjourn to executive session per Idaho Code 74-206 (1)(B) and (F) at 8:25 p.m. Roll Call Vote: Ayes: Unanimous. Nays: None. Abstentions: None. Motion carried.

Arthur D. Bettge, Mayor

ATTEST:

Laurie M. Hopkins, City Clerk

**CITY OF MOSCOW
MINUTES OF CITY COUNCIL EXECUTIVE SESSION
October 7, 2024**

Present: Mayor Bettge, Bryce Blankenship, Sandra Kelly, Hailey Lewis, Julia Parker, Gina Taruscio

Also Present: Bill Belknap, City Supervisor; Mia Bautista, City Attorney,

The executive session was called to order at 8:33 p.m.

- 1st item (74-206(1)(b) & (f)): 8:33 p.m. – 8:52 p.m.
- 2nd Item (74-206(1)(f) - pending litigation): 8:53 p.m. – 9:02 p.m.
- 3rd item (74-206(1)(f) - controversies not yet being litigated but imminently likely to be litigated) 9:02 p.m. – 9:17 p.m.
- 4th Item (74-206(1)(f) - controversies not yet being litigated but imminently likely to be litigated) 9:18 p.m. – 9:22 p.m.

The executive session was adjourned at 9:22 p.m.

COMMITTEE / CITY COUNCIL STAFF REPORT

DATE: Monday, October 21, 2024



AGENDA ITEM TITLE

Disbursement Report September 2024 - Sarah Decker

RESPONSIBLE STAFF

Sarah Decker, Director of Finance & Employee Services

ADDITIONAL PRESENTER(S)

DESCRIPTION

Accounts Payable Report for the month ending September 30, 2024. A summary of the major expenditures has been approximated by category and represents 96% of the total expenditure of \$3,373,956.31.

Payroll	\$1,238,828.00
Professional Services	\$205,365.00
Sanitation	\$370,465.00
Capital Outlay	\$424,620.00
Capital Outlay-Vehicles/Public Safety	\$57,046.00
Capital Outlay - Improvement	\$571,863.00
Minor Equipment	\$12,785.00
Supplies	\$150,209.00
Utilities	\$105,000.00
Contractual Payments	\$49,259.00
ACH Wells Fargo	\$53,218.00
Total	\$3,238,658.00

REVIEWED BY

PROPOSED ACTIONS

ACTION: Approve and authorize the use of digital signatures to sign the Disbursements Report for the month of September 2024.

STAFF RECOMMENDATION

Approve the disbursement report and use of digital signatures to sign the Disbursements Report for the month of September 2024.

OTHER RESOURCES

FISCAL IMPACT

PERSONNEL IMPACT

ATTACHMENTS

1. Disbursement Report - September 2024
2. Major Expenditures Report - September 2024
3. September Revenue Report 2024
4. Cash & Investments Balances - September 2024

DISBURSEMENTS REPORT FOR SEPTEMBER 2024											
DATE	FUND NAME	ACCOUNTS PAYABLE	ACCOUNTS PAYABLE	ACCOUNTS PAYABLE	ACCOUNTS PAYABLE	WELLSFARGO CC ACH	ACCOUNTA PAYABLE ACH	VOID CHECKS	PAYROLL	PAYROLL	GRAND TOTALS
		9/5/2024	9/12/2024	9/19/2024	9/26/2024	9/16/2024	9/19/2024	9/6/2024	9/20/2024		
		AP 9.6.2024	AP 9.13.2024	AP 9.20.2024	AP 9.27.2024	9/27/2024 AP 9.7.2024 AP 9.20.2024	9/26/2024 AP 9.20.2024 AP 9.27.2024	PR116	PR117-118		
CHECK #'s		110197-110265	110266-110351	110352-110428	110429-110486	September's CC ACH's	September's ACH's		21627	21628	
Fund #											
101	GENERAL	34,562.76	16,948.34	11,232.61	19,616.04	27,542.00			339,400.30	372,729.83	822,031.88
105	STREETS	37,469.40	95,374.76	7,951.63	14,981.42	1,621.31			30,233.50	31,615.19	219,247.21
120	RECREATION AND CULTURE	25,960.73	20,142.02	26,629.11	4,851.99	11,728.33			71,418.87	62,208.72	222,939.77
121	MSD COMM. PLAY FIELDS			3,084.26	272.39	1,435.14			1,850.85	1,910.56	8,553.20
123	1912 CENTER	10,750.00									10,750.00
128	TRANSIT CENTER	969.56	198.74	1,217.78							2,386.08
220	WATER	46,363.03	8,761.23	85,992.69	9,562.60	2,837.66			50,950.66	55,978.27	260,446.14
230	SEWER	34,304.99	3,594.80	48,958.38	10,976.71	3,003.76	20,697.72		50,352.09	52,766.78	224,655.23
235	STORMWATER	684.27	6,440.83	10,452.63	6,489.87	70.00	218,138.86		17,846.25	17,594.81	277,717.52
240	SANITATION	185.45	131,628.85	331.22					7,852.68	8,020.60	148,018.80
290	FLEET	4,531.18	62,077.28	19,713.82	4,718.12	1,939.47			12,862.15	13,349.82	119,191.84
295	INFORMATION SYSTEMS	3,923.31	3,835.00	9,574.77	13,185.30	3,040.37			19,603.64	20,282.34	73,444.73
320	WATER CAPITAL PROJECTS						221.40				221.40
330	SEWER CAPITAL PROJECTS				408,598.68		221.40				408,820.08
335	STORMWATER CAPITAL PROJECTS										0.00
340	SANITATION CAPITAL PROJ										0.00
350	CAPITAL PROJECTS	401,466.00	159,377.37	8,806.24			5,882.82				575,532.43
355	LID CONSTRUCTION										0.00
380	HAMILTON - PARKS & REC										0.00
590	BONDS & INTEREST										0.00
890	URBAN RENEWAL AGENCY										0.00
941	PAYROLL CLEARING FUND										0.00
	TOTAL	601,170.68	508,379.22	233,945.14	493,253.12	53,218.04	245,162.20	0.00	602,370.99	636,456.92	3,373,956.31

Gina Taruscio

Hailey Lewis

Bryce Blankenship

Sarah L. Decker, Director of Finance & Employee Services

Major Expenditures for September 2024

<u>Professional Services</u>		<u>Sanitation</u>		<u>Utilities</u>	
Evcar, Inc.	\$ 9,589.65	Finlev Buttes Landfill	\$ 131,628.85	Avista Utilities	\$ 105,000.41
Monthly Cleaning for September		MSW Transport & Disposal - August 2024		August 2024	
Geveko Markings, Inc.	\$ 8,141.95	Latah Sanitation (ACH Payment)	\$ 238,836.58		\$ 105,000.41
Blue line, yellow line, shark's teeth, Handicap kits and Bike lane		Monthly LSI Billing for August 2024			
GG Gutters, Inc.	\$ 6,139.32		\$ 370,465.43	<u>Payroll</u>	\$ 1,238,827.91
Janitorial Service - September 2024				<u>Contractual Payments</u>	
Viva Cleaning Company	\$ 7,684.32	<u>Supplies</u>		Heart of the Arts	\$ 10,750.00
Janitorial Cleaning		Motley - Motley, Inc.	\$ 3,885.38	Infosend, Inc.	\$ 3,788.13
Coeur D' Alene Service Station Equipment, Inc.	\$ 3,660.16	Hot mix asphalt (40.01 tons @ \$90.00/ea)		Malwarebytes, Inc.	\$ 9,082.20
Replacement for tank monitor probe		Salt Lake Wholesale Sports	\$ 3,323.20	Alta Science and Engineering, Inc.	\$ 8,406.24
Geveko Markings, Inc.	\$ 4,764.63	Simuniton order for training rounds		Skyhawks Sports Academy	\$ 12,082.00
White line, lane arrow and Sealer		Thatcher Company of Montana	\$ 9,923.10	Moscow Chamber of Commerce, Inc.	\$ 5,150.00
HDR Engineering, Inc.	\$ 3,551.00	Aluminum Sulfate			
Water System modeling		Agpro Marketing and Manufacturing, Inc.	\$ 13,274.70		\$ 49,258.57
Jay Rasgorshek	\$ 15,000.00	New 10,500 gal mag tank			
Jackson & A Street Mural - Final Payment		Source One Environmental, LLC	\$ 4,948.60	<u>ACH Wells Fargo</u>	
Motley-Motley, Inc.	\$ 41,530.82	Pipe patch, Air regulator, adapter, pull cable, hose reel and cart and summer kit		Commercial Card Expense - August 30th	\$ 12,611.01
D Street Patching		Trauma Llama Tactical	\$ 4,400.00	Commercial Card Expense - September 7th	\$ 8,950.54
Motley-Motley, Inc.	\$ 31,955.02	Trauma Kits		Commercial Card Expense - September 13th	\$ 15,997.53
Taylor Avenue Patching		Coleman Oil Co.	\$ 14,701.55	Commercial Card Expense - September 20th	\$ 15,658.96
Cherle Patricia Poulson	\$ 2,962.50	Unleaded fuel (5,000 gals @ \$2.94/ea)			
Tone and Stretch Full Summer/Fall 2024 session		Consolidated Supply Co.	\$ 19,973.07		\$ 53,218.04
HDR Engineering, Inc.	\$ 6,166.00	17"x30" meter box lids			
Miscellaneous water system modeling 3.29.24 - 5.4.24		Core & Main	\$ 3,550.80	<u>Capital Outlay- Improvements</u>	
HDR Engineering, Inc.	\$ 48,808.14	Locate wire connections		Idaho Transportation Department	\$ 399,936.00
Comprehensive Water and Sewer System Plans (6.30.24 - 8.24.24)		Filtration Technology, Inc.	\$ 7,095.09	Public Ave Corridor Safety Improvements - State Local Agreement Sponsor Payment	
IIA Lifting Services, Inc.	\$ 2,953.60	Parts for Wells 6 & 10 MIOX pumps			\$ 3,724.25
Annual Safety Inspection for WRF vehicles and facility		Grainger, Inc.	\$ 2,623.58	HMH Engineering	
Coeur D' Alene Service Station Equipment, Inc.	\$ 7,321.96	Drain covers and drainblocker covers		HMH Engineering Public Ave LHTAC Project PR #16	\$ 30,529.67
Replace probe field cable		H.D. Fowler Company	\$ 6,722.80	Motley-Motley	
Zipty Fiber	\$ 5,135.81	Valve boxes for ITD project		Pay App 1 for the Harvest Park Phase 1 Project 2024	\$ 103,123.45
Semptember bill		H.D. Fowler Company	\$ 3,689.00	Motley-Motley	
	\$ 205,364.88	Meter cables for Kamstrup meters		Pay App 1 for the Carol Brink Pathway Replacement Project 2024	\$ 22,000.00
		J.R. Simplot Company	\$ 7,750.00	Razz Construction, Inc.	
		Insecticide		RETAINAGE Pay app #15 - 6th Street Bridge	\$ 5,250.00
<u>Minor Equipment</u>		Metroquip, Inc.	\$ 2,893.53	Integrity Inspection Solutions, Inc.	
Dell Marketing, L.P.	\$ 3,286.03	Wheel kits for CCTV camera		12" pipe patch and repair on Lynn Street Storm Main	\$ 7,300.00
Rugged Extreme Tablet, mount and Keyboard		Motley - Motley, Inc.	\$ 4,220.41	M.L. Albright & Sons, Inc.	
Idemia Identity & Security USA, LLC	\$ 9,499.00	Hot mix asphalt (43.46 tons @ \$90.00/ea)		Manhole (MH M21-02) rebuild at the intersection of Roxbury & Hwy. 8 - Sept 2024	
Fingerprinting Desktop, Printer, & Software		Oxarc, Inc.	\$ 4,055.52		\$ 571,863.37
		Chlorine,S02 and Pesticide			
	\$ 12,785.03	Valley Container	\$ 4,250.00	<u>Capital Outlay</u>	
		Ocean container to store parts @ Bldg. A		Consolidated Supply Co.	\$ 3,200.47
		Working Fire Furniture & Mattress	\$ 2,653.98	Setters for Home Depot	
		Custom recliners for Station3		Consolidated Supply Co.	\$ 3,857.64
		Advanced Traffic Products	\$ 5,990.00	Setters for Eddington to accomodate depth	
		No left turn signal housing at 3rd & Main		Big Sky Development, Inc.	\$ 318,252.85
		Complete Office, LLC	\$ 2,801.76	Pay App #1 for the Alley E of Washington 5th St to 8th St Project 2024	
<u>Capital Outlay - Vehicles</u>		12 breakroom chairs for the Pump House		Consolidated Supply Co.	\$ 2,885.00
Auto Body Super Center	\$ 2,654.63	L.N. Curtis & Sons	\$ 3,288.85	Boxes for Woodbury Addition	
Paint new cop car #4-01 (PD) to match fleet		SCBA masks and components		Germer Construction, Inc.	\$ 90,098.91
Joe Hall Ford	\$ 51,737.00	L.N. Curtis & Sons	\$ 6,935.00	Pay App #3 for Brent Drive Sewer Project 2024	
New car #4-08 (PD) (Vin1FM5K8AW0SGA14536) w/trade		Ventilation fan for firefighting		LCA Architects, P.A. (ACH Payment)	\$ 6,325.62
Auto Body Super Center	\$ 2,654.63	Newman Signs, Inc.	\$ 4,561.89	City Shop Facility Design Services Aug 2024	
Paint new #4-08 (PD) unit to match fleet		U-Channel posts			\$ 424,620.49
		Pre-Misc, Inc.	\$ 2,697.00		
	\$ 57,046.26	Concrete and Fiber Reinforcement Barracade for sidewalk			
			\$ 150,208.81		
		Major Expenditures	\$ 3,238,659.20	96%	of the total expenditures of \$3,373,956.31
Large Expenditures					
Motley-Motley, Inc.	\$ 41,530.82	Joe Hall Ford	\$ 51,737.00	Motley-Motley	\$ 30,529.67
D Street Patching		New car #4-08 (PD) (Vin1FM5K8AW0SGA14536) w/trade		Pay App 1 for the Harvest Park Phase 1 Project 2024	
Motley-Motley, Inc.	\$ 31,955.02	Idaho Transportation Department	\$ 399,936.00	Motley-Motley	\$ 103,123.45
Taylor Avenue Patching		Public Ave Corridor Safety Improvements - State Local Agreement Sponsor Payment		Pay App 1 for the Carol Brink Pathway Replacement Project 2024	
HDR Engineering, Inc.	\$ 48,808.14	Big Sky Development, Inc.	\$ 318,252.85	Germer Construction, Inc.	\$ 90,098.91
Comprehensive Water and Sewer System Plans (6.30.24 - 8.24.24)		Pay App #1 for the Alley E of Washington 5th St to 8th St Project 2024		Pay App #3 for Brent Drive Sewer Project 2024	
		Large Expenditures total: \$1,115,971.86			

RECEIPTS REPORT FOR SEPTEMBER 2024

	FUND NAME	Taxes	Franchise Fees	Licenses & Permits	Intergovernmental	Charges for Services	Fines & Penalties	Investment Income	Refunds & Reimbursements	Contributions & Donations	Other	Grand Total
Fund #												
101	GENERAL	13,674.13	142,584.59	27,630.26	0.00	145,334.00	19,921.95	294,464.70	34,249.29	1,044.00	5,040.42	683,943.34
105	STREETS	1,887.29	0.00	0.00	0.00	0.00	0.00	0.00	5,280.72	0.00	0.00	7,168.01
120	RECREATION AND CULTURE	0.00	0.00	25.00	0.00	29,371.86	0.00	0.00	999.17	18,962.00	18.86	49,376.89
121	MSD COMMUNITY PLAY FIELDS	0.00	0.00	0.00	8,091.01	0.00	0.00	0.00	0.00	0.00	0.00	8,091.01
123	1912 CENTER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
128	TRANSIT CENTER	0.00	0.00	0.00	0.00	-425.76	0.00	0.00	0.00	0.00	0.00	-425.76
220	WATER	0.00	0.00	0.00	0.00	832,198.08	0.00	1,559.31	5,871.47	0.00	0.00	839,628.86
230	SEWER	0.00	0.00	0.00	0.00	692,096.03	0.00	1,968.89	450.20	0.00	0.00	694,515.12
235	STORMWATER	0.00	0.00	0.00	0.00	47,630.41	0.00	0.00	0.00	0.00	0.00	47,630.41
240	SANITATION	0.00	0.00	0.00	0.00	504,215.33	0.00	0.00	0.00	0.00	0.00	504,215.33
290	FLEET	0.00	0.00	0.00	0.00	81,562.82	0.00	0.00	0.00	0.00	0.00	81,562.82
295	INFORMATION SYSTEMS	0.00	0.00	0.00	0.00	145,795.30	0.00	0.00	0.00	0.00	0.00	145,795.30
320	WATER CAPITAL PROJECTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
330	SEWER CAPITAL PROJECTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
335	STORMWATER CAPITAL FUND	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
340	SANITATION CAPITAL PROJECTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
350	CAPITAL PROJECTS	0.00	0.00	0.00	0.00	0.00	0.00	31,743.09	0.00	0.00	0.00	31,743.09
355	LID CONSTRUCTION	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
380	HAMILTON P&R	0.00	0.00	0.00	0.00	0.00	0.00	3,291.96	0.00	0.00	0.00	3,291.96
590	BOND & INTEREST	1,970.87	0.00	0.00	0.00	0.00	0.00	815.61	0.00	0.00	0.00	2,786.48
595	LID FUNDS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL	17,532.29	142,584.59	27,655.26	8,091.01	2,477,778.07	19,921.95	333,843.56	46,850.85	20,006.00	5,059.28	3,099,322.86

City of Moscow Cash and Investments Balances as of 9/30/2024		
Fund	Year to Date Balance	
General Fund	\$	8,204,871.78
Street Fund	\$	3,112,832.62
Recreation & Culture	\$	1,388,368.97
MSDCP	\$	126,478.74
1912 Fund	\$	62,420.60
Transit Center	\$	66,308.29
Water Fund	\$	3,650,749.20
Sewer Fund	\$	4,142,637.13
Stormwater Fund	\$	415,192.60
Sanitation Fund	\$	3,904,420.25
Fleet	\$	6,710,235.40
Information Systems	\$	6,060,382.44
Water Capital	\$	6,457,113.80
Sewer Capital	\$	21,834,424.85
Stormwater Capital	\$	316,808.62
Capital Projects	\$	11,388,306.41
Sanitation Capital	\$	8,513,052.29
LID Construction	\$	218.29
Hamilton	\$	793,285.19
Bond & Interest	\$	557,880.88
LID Funds	\$	35,611.11
Payroll Service	\$	1,218,550.56
Total Cash & Investments	\$	88,960,150.02

COMMITTEE / CITY COUNCIL STAFF REPORT

DATE: Monday, October 21, 2024



AGENDA ITEM TITLE

Woodbury 1st Addition Development Agreement Amendment - Todd Drage

RESPONSIBLE STAFF

Todd Drage, Civil Engineer

ADDITIONAL PRESENTER(S)

DESCRIPTION

Woodbury Land LLC, has submitted a request to modify the phasing for the Woodbury 1st Addition Subdivision. The final plat, titled Woodbury 1st Addition, and the Development Agreement for the Addition was approved by City Council on Monday, October 17, 2022. Section X - Phasing, in the original agreement contained a figure that detailed 17 single family lots being included in a 1st phase, 17 single family lots included in a 2nd phase, and then the remaining 45 lots being included in a 3rd phase. The original agreement was then amended in 2023 requesting a modified phasing plan. Woodbury Land LLC is requesting a 2nd amendment to phase the remaining lots in the development in 6 more phases (7 phases total). The agreement amendment provides a new figure, detailing the 7 phases. The amendment, along with the original development agreement, and the 1st amendment, are included as attachments to the 2nd amendment, and have been included with this packet.

This amendment was reviewed and approved by Council on September 16, 2024 however the wrong figure was included with the agreement. This amendment simply replaces the incorrect figure with the correct one.

REVIEWED BY

PROPOSED ACTIONS

ACTION: Approve the Development Agreement amendment with Woodbury Land LLC for the Woodbury 1st Addition.

STAFF RECOMMENDATION

Approve the Development Agreement amendment with Woodbury Land LLC for the Woodbury 1st Addition.

OTHER RESOURCES

n/a

FISCAL IMPACT

n/a

PERSONNEL IMPACT

n/a

ATTACHMENTS

1. Second Amendment to Development Agreement - Woodbury 1st Addition_final with attachments

SECOND AMENDMENT TO DEVELOPMENT
AGREEMENT BETWEEN WOODBURY LAND LLC
AND CITY OF MOSCOW, IDAHO

THIS SECOND AMENDMENT TO DEVELOPMENT AGREEMENT BETWEEN WOODBURY LAND LLC AND CITY OF MOSCOW, IDAHO (hereinafter “Second Amendment”) is entered into this ____ day of _____, 2024, by and between Woodbury LLC, whose current address is 1004 Dairy Lane, Moscow, Idaho, 83843, being the Developer of real property as described in the Development Agreement (hereinafter “DEVELOPER”), and the City of Moscow, Idaho, a municipal corporation of the State of Idaho, 206 East Third Street, Moscow, Idaho, 83843 (hereinafter “CITY”).

WITNESSETH:

WHEREAS, CITY and DEVELOPER originally executed a Development Agreement Between Woodbury Land LLC and City of Moscow, Idaho for the Woodbury 1st Addition Subdivision on November 16, 2022, (hereinafter “Agreement”); and

WHEREAS, the Agreement authorizes modifications upon request by DEVELOPER, accompanied by a complete set of development plans, and acceptance of such modification by City Council; and

WHEREAS, DEVELOPER and CITY executed an Amendment to the Agreement on October 20, 2023, attached as Attachment “1” (hereinafter “Amendment”); and

WHEREAS, DEVELOPER and CITY agree to further modify the Agreement by repealing the Amendment and replacing it with this Second Amendment, amending Section X. PHASING of the Agreement to allow for seven (7) phases of development, including an amendment to the Phasing Plan Illustration of the relevant Attachment “C”;

NOW, THEREFORE, DEVELOPER and CITY agree that all matters stated above are found to be true and correct and are incorporated herein by reference as if copied in their entirety and shall be adopted with the following amendments of the Agreement:

- A. The Amendment to the Agreement shall hereby be repealed and replaced with this Second Amendment to the Agreement, specifically modifying Section X. PHASING, which shall be replaced with the following:

X. PHASING:

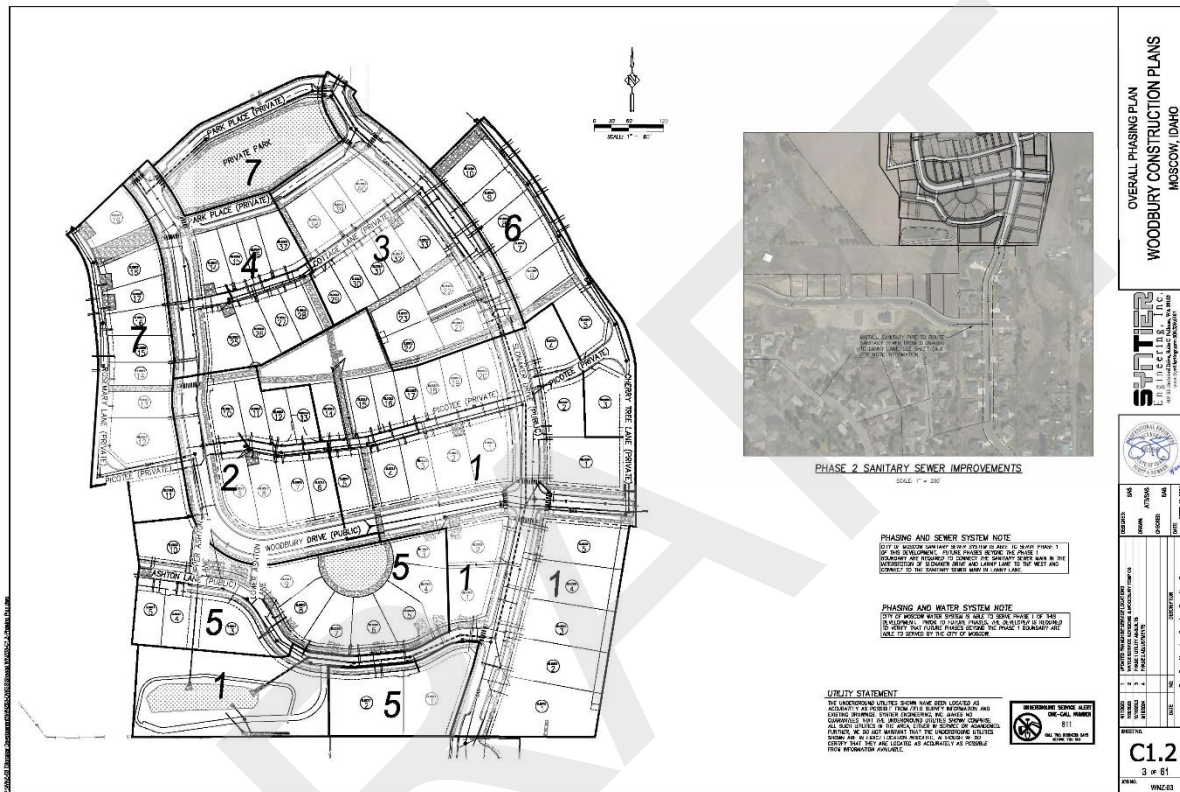
Pursuant to the approval of the Moscow City Council, DEVELOPER may develop the real property described herein in the following seven (7) Phases, reflected in Attachment “C”.

1. Phase I – Completion of the Mountain View Road turning lane and Mountain View Road widening and public improvements described in Section II. B and C of this Agreement. Additionally, all public improvements and appurtenances shown as Phase I on the Phasing Plan included as Attachment “C”, and as required by Moscow City Code Sections 5-1-4 and 5-1-5, and Section II. A of this Agreement. Upon completion of the public improvements as described in Section II. A. of this Agreement, DEVELOPER is authorized to obtain up to 15 building permits within the Phase I boundary prior to the full completion of the Mountain View Road turning lane and Mountain View Road widening and public improvements described in Section II. B and C of this Agreement.
2. Phase II – Completion of the public improvements described in Section II. D of this Agreement. Additionally, all public improvements and appurtenances shown as Phase II on the Phasing Plan included as Attachment “C”, and as required by Moscow City Code Sections 5-1-4 and 5-1-5, and Section II. A of this Agreement.
3. Phase III – Completion of all public improvements and appurtenances shown as Phase III on the Phasing Plan included as Attachment “C”, and as required by Moscow City Code Sections 5-1-4 and 5-1-5, and Section II. A of this Agreement.
4. Phase IV – Completion of all public improvements and appurtenances shown as Phase IV on the Phasing Plan included as Attachment “C”, and as required by Moscow City Code Sections 5-1-4 and 5-1-5, and Section II. A of this Agreement.
5. Phase V – Completion of all public improvements and appurtenances shown as Phase V on the Phasing Plan included as Attachment “C”, and as required by Moscow City Code Sections 5-1-4 and 5-1-5, and Section II. A of this Agreement.
6. Phase VI – Completion of all public improvements and appurtenances shown as Phase VI on the Phasing Plan included as Attachment “C”, and as required by Moscow City Code Sections 5-1-4 and 5-1-5, and Section II. A of this Agreement.
7. Phase VII – Completion of all public improvements and appurtenances shown as Phase VII on the Phasing Plan included as Attachment “C”, and as required by Moscow City Code Sections 5-1-4 and 5-1-5, and Section II. A of this Agreement

No building permit shall be issued for any phase of this development until after all public improvements, related to each preceding phase of this development, are completed, installed and accepted by CITY in accordance with this Agreement.

All proposed phasing of this development has been submitted and approved of prior to the execution of this Agreement and shall not be modified unless agreed in writing and specifically approved by the City Council. Separate construction plans and specifications shall be prepared and shall be submitted for each Phase of this subdivision prior to construction of each phase.

B. Attachment “C” is hereby amended to delete the existing relevant Attachment “C” of the Agreement and shall be replaced with the following:



C. All other terms and conditions of the Agreement that are not modified by this Second Amendment shall remain in full force and effect.

IN WITNESS WHEREOF, the Parties have executed this Second Amendment to be effective the date first above written.

I, Mark Wintz, certify under penalty of perjury pursuant to the law of the State of Idaho, that the foregoing is true and correct and that I am an authorized agent to bind Woodbury Land LLC to this Second Amendment.

DEVELOPER:

Woodbury Land LLC

CITY:

City of Moscow, Idaho

Mark Wintz, Manger

Arthur D. Bettge, Mayor

ATTEST:

Laurie M. Hopkins, City Clerk

ACKNOWLEDGMENT

STATE OF IDAHO)
) ss.
COUNTY OF LATAH)

On this _____ day of _____, 2024, before me, a Notary Public in and for said State, appeared Mark Wintz, known to me to be the person named above and acknowledged that he executed the foregoing document as the duly authorized representative of Woodbury Land LLC.

Notary Public for the State of Idaho

Residing at _____

My commission expires _____

Attachment "1"

AMENDMENT TO DEVELOPMENT AGREEMENT BETWEEN WOODBURY LAND LLC AND CITY OF MOSCOW, IDAHO

631674
NO. _____
AT THE REQUEST
City of Moscow
& H&H
10/20/23 4:00pm
JULIE FRY
LATAH COUNTY RECORDER
FEE \$ 0 BY: *DeVallon*
deputy

THIS AMENDMENT TO DEVELOPMENT AGREEMENT BETWEEN WOODBURY LAND LLC AND CITY OF MOSCOW, IDAHO (hereinafter "Amendment") is entered into this day of October, 2023, by and between Woodbury LLC, whose current address is 1004 Dairy Lane, Moscow, Idaho, 83843, being the Developer of real property as described in the Development Agreement (hereinafter "DEVELOPER"), and the City of Moscow, Idaho, a municipal corporation of the State of Idaho, 206 East Third Street, Moscow, Idaho, 83843 (hereinafter "CITY");

WITNESSETH :

WHEREAS, DEVELOPER wishes to amend, and CITY agrees to amend, the Development Agreement Between Woodbury Land LLC and City of Moscow, Idaho for the Woodbury 1st Addition Subdivision, executed on November 16, 2022, attached as Attachment "A" (hereinafter "Agreement"); and

WHEREAS, the Parties agree to amend Section X. Phasing, including the relevant Attachment "C";

NOW, THEREFORE, DEVELOPER and CITY agree that all matters stated above are found to be true and correct and are incorporated herein by reference as if copied in their entirety and shall be adopted with the following amendments of the Agreement:

A. Section X. PHASING, is hereby amended to delete the existing Section X. of the Agreement and shall be replaced with the following:

X. PHASING :

Pursuant to the approval of the Moscow City Council, DEVELOPER may develop the real property described herein in the following two (2) Phases, reflected in Attachment "C".

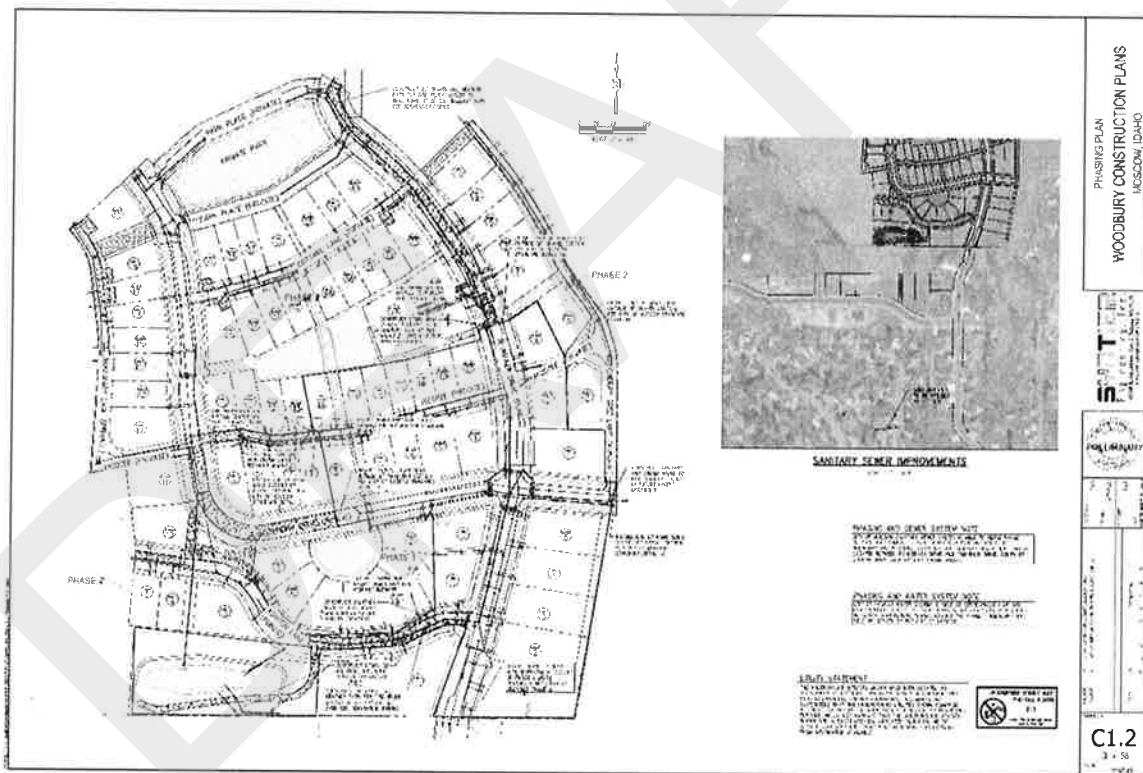
1. Phase I – Completion of the Mountain View Road turning lane and Mountain View Road widening and public improvements described in Section II. B and C of this Agreement. Additionally, all public improvements and appurtenances shown as Phase I on the Phasing Plan included as Attachment "C", and as required by Moscow City Code Sections 5-1-4 and 5-1-5, and Section II. A of this Agreement. Upon completion of the public improvements as described in Section II. A. of this Agreement, DEVELOPER is authorized to obtain up to 15 building permits within the Phase I boundary prior to the full completion of the Mountain View Road turning lane and Mountain View Road widening and public improvements described in Section II. B and C of this Agreement.

2. Phase II – Completion of the public improvements described in Section II. D of this Agreement. Additionally, all public improvements and appurtenances shown as Phase II on the Phasing Plan included as Attachment “C”, and as required by Moscow City Code Sections 5-1-4 and 5-1-5, and Section II. A of this Agreement.

No building permit shall be issued for any phase of this development until after all public improvements, related to each preceding phase of this development, are completed, installed and accepted by CITY in accordance with this Agreement.

All proposed phasing of this development has been submitted and approved of prior to the execution of this Agreement and shall not be modified unless agreed in writing and specifically approved by the City Council. Separate construction plans and specifications shall be prepared and shall be submitted for each Phase of this subdivision.

- B. Attachment “C” is hereby amended to delete the existing Attachment “C” of the Agreement and shall be replaced with the following:



- C. All other terms and conditions of the Agreement that are not modified by this Amendment, shall remain in full force and effect.

IN WITNESS WHEREOF, the Parties have executed this Amendment to be effective the date first above written.

I, Mark Wintz, certify under penalty of perjury pursuant to the law of the State of Idaho, that I am an authorized agent to bind Woodbury Land LLC to this Amendment.

DEVELOPER:

Woodbury Land LLC

CITY:

City of Moscow, Idaho


Mark Wintz, Manager


Arthur D. Bettge, Mayor

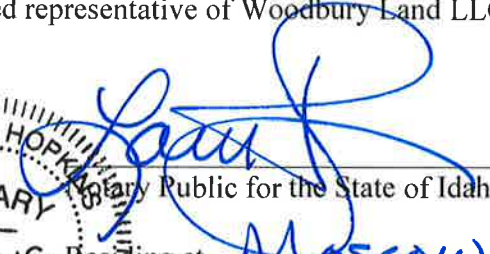
ATTEST:


Laurie M. Hopkins, City Clerk

ACKNOWLEDGMENT

STATE OF IDAHO)
) ss.
COUNTY OF LATAH)

On this 20th day of October, 2023, before me, a Notary Public in and for said State, appeared Mark Wintz, known to me to be the person named above and acknowledged that he executed the foregoing document as the duly authorized representative of Woodbury Land LLC.


Laurie M. Hopkins, Notary Public for the State of Idaho
Residing at Moscow
My commission expires 8/25/23

Attachment "A"

**DEVELOPMENT AGREEMENT
BETWEEN WOODBURY LAND LLC
AND CITY OF MOSCOW, IDAHO**

NO. 626804
 AT THE REQUEST OF City of Moscow
 DATE & HOUR 11/18/22 4:29 pm
 TONYA DODGE
 LATAH COUNTY RECORDER
 FEE \$ 25 BY Shirley

THIS DEVELOPMENT AGREEMENT BETWEEN WOODBURY LAND LLC AND THE CITY OF MOSCOW, IDAHO is entered into this 16th day of November, 2022, by and between Woodbury Land LLC, whose address is 1004 Dairy Lane, Moscow Idaho, 83843 (hereinafter "DEVELOPER"), and the City of Moscow, Idaho, a municipal corporation of the State of Idaho, 206 East Third Street, Moscow, Idaho, 83843 (hereinafter "CITY");

WITNESSETH:

WHEREAS, DEVELOPER desires to develop property to be known as The Woodbury 1st Addition ; and

WHEREAS, DEVELOPER understands that improvements required herein are standards required pursuant to Moscow City Code Title 5, Chapter 1 and are authorized by Idaho Code Sections 67-6513 and 67-6518; and

WHEREAS, DEVELOPER and CITY believe that, without the public improvements required herein, CITY would not be able to otherwise provide for mitigation of the effects of the subdivision development on the ability of CITY to deliver services, without compromising quality of such service delivery to current City residents, or without imposing substantial additional costs upon current City residents to accommodate the proposed subdivision; and

WHEREAS, CITY desires to ensure that the public improvements described in Section II of this Agreement, are constructed; and

WHEREAS, DEVELOPER understands that a waiver of public improvements is available pursuant to the Moscow City Code, but DEVELOPER specifically does not wish to request such a waiver and wishes to enter into this Agreement; and

WHEREAS, DEVELOPER enters into this Agreement of DEVELOPER's own free will and accord, without coercion, without inducement, and at DEVELOPER's request; and

WHEREAS, DEVELOPER has read this Agreement, has understood it, and has had the opportunity to avail itself of legal and other counsel prior to entering into this Agreement and prior to signing it;

NOW, THEREFORE, DEVELOPER and CITY hereby agree as follows:

I. PROPERTY AFFECTED.

This Agreement affects property to be known as The Woodbury 1st Addition more particularly described as follows:

LAND DESCRIPTION

DESCRIPTION OF A PORTION OF PARCELS 3 AND 7 AS DESCRIBED IN QUITCLAIM DEED RECORDED UNDER INSTRUMENT NO. 460076, RECORDS OF LATAH COUNTY, SITUATE IN THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 4 AND THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 5 OF TOWNSHIP 39 NORTH, RANGE 5 WEST, B.M., LATAH COUNTY, STATE OF IDAHO, BEING MORE FULLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWEST CORNER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 4, SAID POINT BEING NORTH 00°33'28" WEST A DISTANCE OF 1322.72 FEET FROM THE SOUTHWEST CORNER OF SAID SECTION 4;

THENCE ALONG THE NORTH LINE OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 5 SOUTH 89°42'12" WEST A DISTANCE OF 340.66 FEET;

THENCE DEPARTING SAID NORTH LINE NORTH 03°36'03" EAST A DISTANCE OF 160.19 FEET;

THENCE NORTH 84°54'56" WEST A DISTANCE OF 10.83 FEET;

THENCE NORTH 04°59'10" EAST A DISTANCE OF 115.14 FEET;

THENCE NORTH 07°58'57" EAST A DISTANCE OF 20.00 FEET

THENCE NORTH 07°43'37" WEST A DISTANCE OF 150.95 FEET;

THENCE SOUTH 78°51'24" WEST A DISTANCE OF 65.33 FEET;

THENCE NORTH 03°50'28" EAST A DISTANCE OF 173.73 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT;

THENCE ALONG SAID TANGENT CURVE TO THE LEFT WITH A RADIUS THAT BEARS NORTH 86°09'32" WEST A DISTANCE OF 490.00 FEET, A CENTRAL ANGLE OF 10°28'49", LONG CHORD BEARING NORTH 01°23'57" WEST A DISTANCE OF 89.50 FEET, AN ARC LENGTH OF 89.63 FEET;

THENCE NORTH 06°38'21" WEST A DISTANCE OF 90.81 TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT;

THENCE ALONG SAID TANGENT CURVE TO THE LEFT WITH A RADIUS THAT BEARS SOUTH 83°21'39" WEST A DISTANCE OF 140.00 FEET, A CENTRAL ANGLE OF 38°38'47", LONG CHORD BEARING NORTH 25°57'45" WEST A DISTANCE OF 92.65 FEET, AN ARC LENGTH OF 94.43 FEET;

THENCE NORTH 55°47'32" EAST A DISTANCE OF 20.33 FEET;

THENCE NORTH 46°24'49" EAST A DISTANCE OF 110.00 FEET;

THENCE NORTH 46°14'08" EAST A DISTANCE OF 60.00 FEET;

THENCE SOUTH 42°30'42" EAST A DISTANCE OF 14.43 FEET;

THENCE NORTH 47°25'44" EAST A DISTANCE OF 93.50 TO THE
 BEGINNING OF A TANGENT CURVE TO THE RIGHT;
 THENCE ALONG SAID TANGENT CURVE TO THE RIGHT WITH A
 RADIUS THAT BEARS SOUTH 42°34'16" WEST A DISTANCE OF 72.00
 FEET, A CENTRAL ANGLE OF 17°30'38", LONG CHORD BEARING
 NORTH 56°11'03" EAST A DISTANCE OF 21.92 FEET, AN ARC LENGTH
 OF 22.00 FEET;
 THENCE NORTH 64°56'22" EAST A DISTANCE OF 171.36 TO THE
 BEGINNING OF A TANGENT CURVE TO THE RIGHT;
 THENCE ALONG SAID TANGENT CURVE TO THE RIGHT WITH A
 RADIUS THAT BEARS SOUTH 25°03'38" EAST A DISTANCE OF 72.00
 FEET, A CENTRAL ANGLE OF 24°13'56", LONG CHORD BEARING
 NORTH 77°03'21" EAST A DISTANCE OF 30.22 FEET, AN ARC LENGTH
 OF 30.45 FEET;
 THENCE NORTH 89°10'19" EAST A DISTANCE OF 24.71 FEET;
 THENCE NORTH 32°35'45" EAST A DISTANCE OF 9.59 FEET;
 THENCE SOUTH 55°45'07" EAST A DISTANCE OF 60.02 FEET;
 THENCE SOUTH 32°35'45" WEST A DISTANCE OF 9.10 FEET;
 THENCE SOUTH 28°57'37" EAST A DISTANCE OF 30.22;
 THENCE SOUTH 52°27'41" WEST A DISTANCE OF 45.94 FEET TO THE
 BEGINNING OF A TANGENT CURVE TO THE RIGHT;
 THENCE ALONG SAID TANGENT CURVE TO THE RIGHT WITH A
 RADIUS THAT BEARS SOUTH 37°32'19" WEST A DISTANCE OF 730.00
 FEET, A CENTRAL ANGLE OF 08°42'04", LONG CHORD BEARING
 SOUTH 48°06'39" EAST A DISTANCE OF 110.75 FEET, AN ARC LENGTH
 OF 110.86 FEET;
 THENCE NORTH 45°24'27" EAST A DISTANCE OF 89.66;
 THENCE NORTH 46°22'47" EAST A DISTANCE OF 40.35 FEET TO THE
 BEGINNING OF A NON-TANGENT CURVE TO THE RIGHT;
 THENCE ALONG SAID NON-TANGENT CURVE TO THE RIGHT WITH A
 RADIUS THAT BEARS SOUTH 46°09'34" WEST A DISTANCE OF 860.00
 FEET, A CENTRAL ANGLE OF 18°56'24", LONG CHORD BEARING
 SOUTH 34°22'14" EAST A DISTANCE OF 282.99 FEET, AN ARC LENGTH
 OF 284.28 FEET TO THE BEGINNING OF A REVERSE CURVE TO THE
 LEFT;
 THENCE ALONG SAID REVERSE CURVE TO THE RIGHT WITH A
 RADIUS THAT BEARS NORTH 66°57'23" EAST A DISTANCE OF 190.00
 FEET, A CENTRAL ANGLE OF 13°35'10", LONG CHORD BEARING
 SOUTH 29°50'12" EAST A DISTANCE OF 44.95 FEET, AN ARC LENGTH
 OF 45.05 FEET;
 THENCE SOUTH 36°41'44" EAST A DISTANCE OF 84.59 FEET TO THE
 BEGINNING OF A TANGENT CURVE TO THE RIGHT;
 THENCE ALONG SAID TANGENT CURVE TO THE RIGHT WITH A
 RADIUS THAT BEARS SOUTH 53°10'04" WEST A DISTANCE OF 110.00
 FEET, A CENTRAL ANGLE OF 20°57'32", LONG CHORD BEARING

SOUTH 26°12'58" EAST A DISTANCE OF 40.01 FEET, AN ARC LENGTH OF 40.24 FEET;
 THENCE SOUTH 15°44'12" EAST A DISTANCE OF 28.73 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT;
 THENCE ALONG SAID TANGENT CURVE TO THE RIGHT WITH A RADIUS THAT BEARS SOUTH 74°15'48" WEST A DISTANCE OF 110.00 FEET, A CENTRAL ANGLE OF 15°34'53", LONG CHORD BEARING SOUTH 07°56'45" EAST A DISTANCE OF 29.82 FEET, AN ARC LENGTH OF 29.91 FEET;
 THENCE SOUTH 00°09'19" EAST A DISTANCE OF 213.19 FEET;
 THENCE SOUTH 00°09'19" EAST A DISTANCE OF 60.24 FEET;
 THENCE NORTH 85°02'10" WEST A DISTANCE OF 11.16 FEET;
 THENCE SOUTH 09°17'54" WEST A DISTANCE OF 369.47 FEET TO THE NORTH LINE OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF AFOREMENTIONED SECTION 4;
 THENCE ALONG SAID NORTH LINE NORTH 89°49'43" WEST A DISTANCE OF 460.08 FEET TO THE POINT OF BEGINNING.

CONTAINING: 898,545 SQUARE FEET OR 20.63 ACRES OF LAND, MORE OR LESS.

II. PUBLIC IMPROVEMENTS.

DEVELOPER agrees to install, at DEVELOPER's expense, within the subdivision, public improvements and appurtenances required by Moscow City Code Title 5, Chapter 1, Sections 1-4 and 1-5, including, but not limited to:

- A. Water mains, valves, fire hydrants, water services, sanitary sewer mains and stubs, storm sewer mains and stubs, storm water detention facilities, street lighting, franchise utilities, erosion control, streets, paving, curbs, traffic control devices (to include but not be limited to stop signs and street signs), and sidewalks; all in accordance with CITY Standards duly adopted by Resolution of the City Council and in accordance with approved engineering plans; and
- B. Widening and frontage improvements to Mountain View Road to improve the road to the CITY's Minor Arterial Standard defined by City of Moscow Standard Construction Drawing Number 1f. The extents of the widening and frontage improvements are on the eastern and southern side of Mountain View Road from the current northern property line at 1714 East F Street, to the eastern extent of the intersection of Mountain View Road and Slonaker Drive, all in accordance with CITY Standards and in accordance with approved engineering plans; DEVELOPER shall be responsible for completion of the design and fifty percent (50%) of the design and construction costs associated with the improvements; and
- C. Construction of a left turn lane from eastbound Mountain View Road onto Slonaker Drive, all in accordance with CITY Standards and in accordance with approved engineering plans; and

- D. The CITY has identified in the Will Serve Letter included as Attachment A that additional water and sewer infrastructure will be required to serve certain portions of the Woodbury 1st Addition. The developer shall design and construct all necessary infrastructure to address the constraints and issues identified in the Will Serve Letter, and will not proceed until said infrastructure is completed, installed, and accepted by the City for each phase of the Woodbury 1st Addition all in accordance with CITY Standards and in accordance with approved engineering plans.

III. TERM.

This Agreement shall remain in full force and effect in accordance with all of its terms and conditions as follows:

- A. Until all public improvements have been completed and accepted by CITY; and
- B. Until the warranty period for public improvements has expired; and
- C. Until all development fees, as required and assessed by CITY, have been paid in full.

IV. CITY'S COVENANT.

CITY shall issue building permits to DEVELOPER's property only after the following have occurred:

- A. Payment of all applicable developmental fees required and assessed by CITY; and
- B. CITY has determined that the construction of all required public improvements is complete or after adequate security, as described in Moscow City Code Section 5-1-10 and as described in Sections VI, VII and VIII herein, has been provided to ensure construction and warranty repairs of the required public improvements; and
- C. Compliance with applicable CITY permit issuance requirements.

V. DEVELOPER'S COVENANT.

- A. DEVELOPER agrees to construct, at DEVELOPER's expense, the public improvements described in Section II of this Agreement, all in accordance with CITY approved engineering design plans, to CITY standards, during and under the terms of this Agreement; and
- B. DEVELOPER agrees to furnish to CITY, at DEVELOPER's expense, engineering design plans (for the required public improvements) prepared by an Idaho Licensed Professional Engineer. Such plans shall be approved by the Moscow City Engineer prior to beginning any public improvements' construction; and

- C. DEVELOPER agrees that DEVELOPER shall construct the public improvements described in Section II of this Agreement, within twelve (12) months from the date of the issuance of the first building permit in the development; and
- D. If DEVELOPER fails to complete installation of the required public improvements within twelve (12) months from the date of the issuance of the first building permit, to CITY standards and as per the approved plans, CITY shall revoke occupancy of the entire development and shall revoke any applicable permit issued to DEVELOPER by CITY.

VI. SECURITY FOR IMPROVEMENTS.

In lieu of DEVELOPER's construction and installation of all public improvements required herein, and CITY'S acceptance of such for ownership and maintenance, CITY agrees that, upon receipt of the adequate security described in Moscow City Code Section 5-1-10, it will issue building permits (upon payment of all CITY development fees and satisfaction of Moscow City Code requirements) for DEVELOPER's development. If DEVELOPER fails to complete installation of the public improvements as required by CITY within twelve (12) months from the date of the issuance of the first building permit in the development, CITY may utilize the security and cause the improvements to be made and CITY may cause improvements to be made and attach a lien on the property in the amount of CITY expense incurred as a result of DEVELOPER's failure to comply with this Agreement. Any engineering or construction costs in excess of the security shall be borne by DEVELOPER. Any additional construction services that shall be performed subject to the laws of the State of Idaho, relative to public works contracting and bidding, shall be borne by DEVELOPER.

VII. FORM OF SECURITY.

DEVELOPER agrees to provide security for the public improvements in the amount to be determined by the City Engineer. This security shall be in the form of cash, construction bond, irrevocable letter of credit from a certified bank or financial institution, or such other form of security acceptable to CITY. Such security shall be provided to CITY prior to the issuance of building permits by CITY. The security must be effective for a minimum period of one (1) year from the date of the issuance of the first building permit in the development. If this security is in the form of an irrevocable letter of credit or bond, the secured improvements shall be constructed at least ninety (90) days prior to the expiration date of the security. If the public improvements identified and described in Section II are not completed within twelve (12) months from the issuance of the first building permit in the development, CITY may claim the security and complete the said improvements using the security. The amount of the security may, from time to time, be modified as deemed appropriate by the City Engineer as conditions warrant.

If for any reason the security for such improvements shall be withdrawn by DEVELOPER or the security or financial institution, or the value or terms thereof shall be compromised in any way, CITY shall immediately cease issuing building permits and shall revoke any

building permits and/or occupancy permits issued pursuant to the terms contained herein, and further, DEVELOPER shall hold CITY harmless for any and all causes of action or damages alleged to have been sustained because of the revocation of such building permits. If any building permits and/or occupancy permits are revoked pursuant to this Section, such building permits and/or occupancy permits shall be re-issued upon receipt by CITY of new or additional security as required herein.

VIII. WARRANTY.

- A. All required public improvements, once constructed and accepted by CITY for ownership and maintenance, shall remain free of defects in materials and workmanship for a period of one (1) year following the date of CITY's written acceptance of such required public improvements (i.e., warranty period).
- B. DEVELOPER shall be responsible for correcting any and all deficiencies which occur within the one (1) year warranty period.
- C. Prior to issuance of any building permit in the development, a warranty Security or performance bond in the amount of fifteen percent (15%) of the estimated value of the required public improvements, as determined by the City Engineer, shall be furnished to CITY by the DEVELOPER. This warranty Security shall be held by the CITY, or shall name the CITY as a holder of the warranty or as the beneficiary of the bond, and shall be in effect for a minimum period of one (1) year from the date of CITY's written acceptance of the public improvements described in Section II of this Agreement.
- D. If DEVELOPER fails to correct all deficiencies within a reasonable amount of time, CITY may claim the warranty Security and correct the deficiencies.
- E. The warranty Security may be in any form allowed under Section VII of this Agreement.

IX. PARKLAND DEDICATION.

As part of the subdivision process, this proposed lot division falls under the following requirements of parkland dedication codes of the City:

The required parkland dedication for the Woodbury 1st Addition is 0.65 acres. The parkland dedication for this Addition has been deferred to a future Addition per the City of Moscow Parks and Recreation Commission's recommendation, and upon mutual agreement and as proposed by DEVELOPER as detailed in DEVELOPER's letter dated August 18, 2021 and attached as Exhibit B to the Attached, Attachment B. The deferred parkland dedication will comprise of a natural area comprised of approximately 133,793 SF (3.07 acres) and a 49,493 SF (1.14 acres) area that total 183,256 F (4.2 acres) for open space that will include grading, a detention basin, and a ten-foot (10') wide gravel (pathway base) pathway provided by DEVELOPER, as detailed in Attachment B, and which are fully incorporated into this Agreement.

X. PHASING.

Pursuant to the approval of the Moscow City Council, DEVELOPER may develop the real property described herein in the following three (3) Phases.

1. Phase I – Completion of the Mountain View Road turning lane, and, Mountain View Road widening and public improvements described in Section II. B and C of this Agreement. Additionally, all public improvements and appurtenances shown as Phase I on the Phasing Plan included as Attachment C as required by Moscow City Code Sections 5-1-4 and 5-1-5, and Section II. A of this Agreement.
2. Phase II – Completion of all public improvements and appurtenances shown as Phase II on the Phasing Plan included as Attachment C as required by Moscow City Code Sections 5-1-4 and 5-1-5, and Section II. A of this Agreement.
3. Phase III - Completion of the public improvements described in Section II. D of this Agreement. Additionally, all public improvements and appurtenances shown as Phase III on the Phasing Plan included as Attachment C as required by Moscow City Code Sections 5-1-4 and 5-1-5, and Section II. A of this Agreement.

No building permit shall be issued for any phase of this development until after all public improvements, related to each preceding phase of this development, are completed, installed and accepted by CITY in accordance with this Agreement.

All proposed phasing of this development has been submitted and approved of prior to the execution of this Agreement and shall not be modified unless agreed in writing and specifically approved by the City Council. Separate construction plans and specifications shall be prepared and shall be submitted for each Phase of this subdivision.

XI. AS-CONSTRUCTED DRAWINGS.

DEVELOPER agrees to furnish, prior to acceptance by CITY of the public improvements as required herein, one (1) set of complete, mylar and AutoCAD, final as-constructed drawings for the public improvements described herein, unless such requirement is waived by the City Engineer.

XII. FAILURE TO COMPLY.

DEVELOPER agrees to pay all expenses incurred by CITY in enforcing this Agreement.

XIII. BINDING ON HEIRS, ASSIGNS AND PURCHASER.

This Agreement shall be binding upon the heirs, executors, administrators, and assignees of the Parties, and subsequent purchasers of and/or within the property described herein.

XIV. OCCUPANCY.

DEVELOPER agrees that no person shall be allowed to occupy any part of the development for any purpose until the described public improvements are completed and accepted by CITY for maintenance or as otherwise provided for by a subsequent development agreement between the Parties.

XV. VENUE AND ATTORNEY FEES.

The Parties agree that, should any provision of this Agreement be litigated in the future, venue for such litigation shall be with the District Court of the Second Judicial District of the State of Idaho in and for the County of Latah. In the event either Party incurs legal expenses to enforce the terms and conditions of this Agreement, the prevailing Party is entitled to recover attorney's fees and other costs and expenses, whether the same are incurred with or without a lawsuit.

XVI. MODIFICATION.

DEVELOPER and CITY agree that the provisions of this Agreement may be modified only upon request of DEVELOPER accompanied by a complete set of development plans, and acceptance of such modification by the Moscow City Council or by a subsequent development agreement between the Parties.

XVII. COVENANTS TO RUN WITH LAND.

This Agreement shall run with the land affected hereby, as shall all covenants contained herein, and shall be to the benefit of CITY, its successors and assigns. This Agreement shall be recorded with the Latah County Recorder.

XVIII. NOTICES.

Any notice required or called for by this Agreement shall be deemed served upon the Party to whom it is sent when delivered by certified United States mail to the following addresses:

DEVELOPER

Woodbury Land LLC
1004 Dairy Lane
Moscow, ID 83843
Phone: 208-596-5555

CITY

City of Moscow, Idaho
Scott Bontrager, City Engineer
P O Box 9203
Moscow, ID 83843
Phone: (208) 883-7000
Facsimile: (208) 883-7018

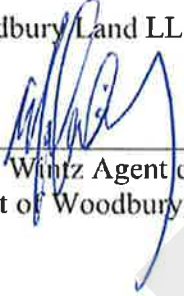
XIX. UNDERSTANDING.

DEVELOPER has read and understood this Agreement and agrees with the contents and conditions thereof. DEVELOPER understands that the terms of this Agreement are contractually and legally binding and that no verbal statement to the contrary, by any person, can void or alter the terms of this Agreement. Specifically, DEVELOPER has had the opportunity to avail itself of legal counsel and of other counsel before entering into this Agreement and before signing it, and hereby enters into it knowingly, voluntarily, willingly, and without inducement.

IN WITNESS WHEREOF, the Parties have executed this Agreement to be effective the date first above written.

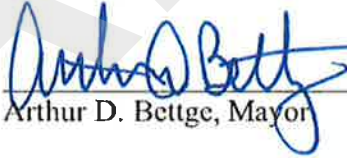
DEVELOPER:

Woodbury Land LLC

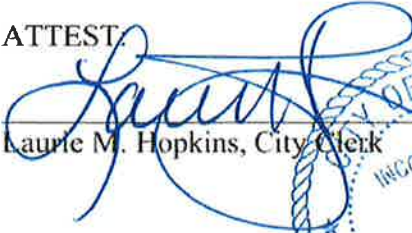

 Mark Wintz Agent of Wintz Company LLC,
 Agent of Woodbury Land LLC

CITY:

City of Moscow, Idaho


 Arthur D. Bettge, Mayor

ATTEST:


 Laurie M. Hopkins, City Clerk



STATE OF IDAHO)
) ss:
 COUNTY OF LATAH)

On this 10th day of November, 2022, before me, the undersigned, a Notary in and for said State, personally appeared Mark Wintz known to me to be the Authorized Registered Agent of Wintz Company LLC, the Authorized Registered Agent of Woodbury Land LLC who is the owner of the affected property.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year herein above written.



Corey O'Brien

NOTARY PUBLIC Idaho

Residing at Latah

My Commission

8/15/2025



Heart of the Arts

Attachment A

631674 626804

September 14, 2022

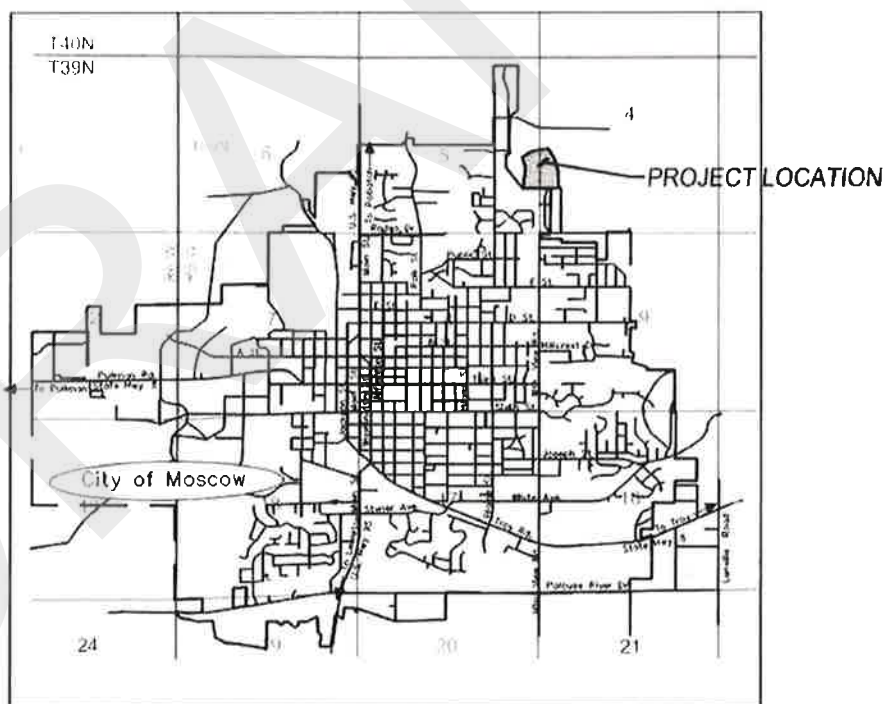
Mark Wintz
Woodbury Land LLC
1004 Dairy Lane
Moscow, ID 83843

Re: "Will Serve" & "As-Built" Notice for the Woodbury 1st Addition

To Whom It May Concern:

This letter is notice that the City of Moscow (City) will provide water and sewer services to the Woodbury 1st Addition Subdivision and upon completion of a one-year warranty period will assume ownership of, operate, and maintain the associated infrastructure as currently designed. The Woodbury 1st Addition (Addition), as shown on Figure 1 below, is located at the northeast edge of Moscow's City limits.

Figure 1: Woodbury 1st Addition Location



As currently designed, Woodbury 1st Addition is comprised of 72 single-family (SF) lots and 7 residential office (RO) lots. The Addition is currently proposed as being completed in three phases with 17 SF lots in Phase I, 17 SF lots in Phase II, and the remaining lots in a 3rd phase. Figure 2 below provides the general layout of the Addition as designed in Syntier Engineering Inc.'s civil design plan set, dated September 1, 2022.

Water System Analysis

To evaluate the proposed addition in regards to the city's ability to provide water services, the City's Comprehensive Water System Plan (CWSP) was used.

City of Moscow, City Hall
c/o Bill Belnap, City Supervisor
206 East 3rd Street
P.O. Box 9203
Moscow ID 83843
Phone (208) 883-7000
Fax (208) 883-7018

Website: www.ci.moscow.id.us
Hearing Impaired (208) 883-7019



Additionally, the city consulted with HDR Engineering who utilized the City's existing hydraulic model to evaluate the proposed new infrastructure and water demand. The model was used to evaluate whether the City's current water infrastructure could provide the development fire hydrant flow while maintaining a minimum distribution pressure of (+) twenty (20) pounds per square inch (psi). The model was also used to verify that an acceptable minimum pressure of 40 psi during typical demand conditions could be maintained throughout the Addition.

It should be noted that Moscow's current water system has been modified a bit since the adoption of the CWSP. Present water storage and well capacity statistics are as follows:

- 4.5 million gallons of storage; derived from the accumulated volumes of three reservoirs: 2 million; 2 million; 0.5 million.
- Six supply wells able to produce 9,600 gpm.

Moscow's yearly daily average water usage = 2.3 million gallons; peak day usage = 4.9 million gallons. The system is operated to maintain 2.0 million gallon minimum storage.

The 1st Addition's average daily demand on the City's water supply is estimated to be 0.0195 million gallons per day (gpd). This estimate was derived from the developed acreage of the property and the water use factor specified in the CWSP. The table below provides the details of this estimate.

Table 1: Woodbury 1st Addition Water Demand

Demographic	Usage ¹	Water Use Factor (gpd ² /Unit)	Number of Units	Total (gpd)	Million (gpd)
Single family Dwelling Units	247	gpd/unit	79	19,513	0.0195
Duplex Dwelling Units	100	gpd/unit	-	-	-
Multi-family Dwelling Units	126	gpd/unit	-	-	-
Mobile Home Dwelling Units	40	gpd/unit	-	-	-
Developed non-residential acres	444	gpd/acre	-	-	-
TOTAL				19,513	0.0195
1) Usage rates obtained from CWSP table 4-10					
2) gpd = Gallons per day					

As detailed in the 4-water modeling technical memorandums attached to this letter, HDR's modeling results show the City of Moscow can serve peak water supply demand while maintaining the required minimum distribution pressure and fire flow for the proposed Woodbury 1st Addition for water service connections below an elevation of 2,681 feet (ft). For water service connections above 2,681 feet, a small booster pump station (BPS) will be required to be constructed to boost the pressures to the required minimum 40 psi. Syntier Engineering's construction plans have phased the 1st Addition to allow construction of the lots below 2,681 ft in the first two phases of the development and then, to construct the required BPS for the phase where the higher elevation lots require boosting.

Relying on the water modeling analysis, the City is able to verify that the necessary steps are taken to be able to serve the Addition. The City is able to





require in the phasing portion of the Addition's Development Agreement that a BPS is designed and constructed prior to the City issuing building permits for the any lots where the service connections are above elevation 2,681 ft.

Sewer System Analysis

The City has reviewed Syntier Engineering's civil design plan set, which details sewage from the development property gravity flowing to the City's existing gravity infrastructure which then gravity flows through existing City sewer mains to eventually arrive at the City's Waste Water Treatment Facility (WWTF). The orange clouding shown on Figure 3 below provides the path from the Addition to the WWTF.

To analyze the City's capability to take on the additional sewage generated from the Addition, the capacity of the sewer system downstream of the Addition and the capacity at the City's Waste Water Treatment Facility (WWTF) is required. To analyze the sewer system from the Addition to the WWTF the City's Facility Plan titled "City of Moscow, Idaho Comprehensive Sewer System Plan" (CSSP) that was developed to satisfy IDAPA 58.01.16.410 was used. The CSSP is the document that the City has used since its' completion in 2011 to identify existing collection system deficiencies, determine future needs, and develop a vision for the future collection system with an implementation strategy. The analysis discussed below, and any section, figure, table, and page numbers referenced are cited from the City's 2011 CSSP. A link to the City's website where a copy of the CSSP can be found below the signature line of this letter.

To analyze future potential development like the Woodbury 1st Addition, areas of development were identified in the CSSP within growth horizon scenarios projected out 5, 20, and 50 years into the future. With these future development areas and time horizons identified, the CSSP modeled the impacts of these future developments on the City's sewer system's capacity. As described in CSSP Section 6.2, the modeled results and the corresponding sewer system's capacity were illustrated throughout the CSSP with color coded capacity usage as a percentage of maximum capacity. From this growth versus system capacity model analysis, a list of sewer system improvements was developed by identifying areas where future development would exceed the current system's capacity. This list is provided in CSSP table 6.3, and the priorities impacting the Woodbury 1st Addition property are provided in Table 2 below.

Table 2: CSSP Table 6.3 – Development Levels Triggering Improvements

Priority	Improvement/Location	Additional Upstream ERUs
1a	36" Paradise Creek Interceptor to Wastewater Treatment Plant	0
1a	30" Paradise Creek Interceptor extension Connect "Dry Line" (along Troy Hwy)	0
1b	Troy Road / White Avenue Interceptor	0
2a	Misc. "Maintenance" Pipes	0

The area encompassing the Woodbury 1st Addition was incorporated in the 50-year future growth horizon development as illustrated on CSSP Appendix Page 177 and included here as Figure 3 below. Figure 3, provides the color-coded pipe





capacity model analysis for the City's sewer system under the 50-year future-growth model scenario with Priority 1a, 1b and 3, system improvement projects completed (in other words the City's sewer system was modeled as though priority projects 1a and 1b and 3 had been completed). Since the completion of the CSSP, priorities 1a and 1b were completed as the CSSP advised. In addition to the completion of priorities 1a and 1b two segments of sewer main along the Woodbury 1st Addition sewer flow path were identified as "surcharged" at the 50-year growth scenario as shown highlighted in red on figure 3 below.

One of the segments, "Mountain View Road near 7th" was identified in the CSSP as a Capital Improvement Project (see CSSP PDF page 193) because it was originally constructed with a near "flat" slope. This Project was completed in 2015 as advised in the CSSP.

The other segment, "Thatuna Ave & Juniper" was identified in the CSSP as a Capital Improvement Project (see CSSP PDF page 194) again because of a segment of pipe with "low or flat slope". The CSSP advised that the location be investigated to determine the feasibility of correcting the slope and stated that increased maintenance through accelerated cleaning schedules may be a desired alternative to replacement. Upon investigation and monitoring, the City determined that this location had excess capacity and did not pose adverse impacts due to surcharge. Since the completion of the CSSP, an increased inspection and maintenance schedule has been used. Currently, this segment serves 23 equivalent residential units (ERU). Based on field observations of the sewer main segment, the City has determined that the increased inspection and maintenance schedule can be used to serve the additional 34 ERUs planned to contribute from Phase I and II of Woodbury 1st Addition. For Phase III and future Additions however, this segment identified in Capital Project CSSP page 194 will need to be replaced.

For the final sewer capacity component, the City has verified that Moscow's Waste Water Treatment Facility has the capacity for the additional flow that this development will generate. The facility was designed for 4.0 mgd average daily flow and a peak flow of 10 mgd. The City's present average daily flow (yearly avg.) is 1.98 mgd and the present highest ever peak flow measured was 10.56 mgd during a large hydrologic event.

Ownership and As-built confirmation

The City agrees to assume ownership of, operate, and maintain the infrastructure for the Woodbury 1st Addition if and when it has been constructed per the final approved civil design plan sets and all of the conditions of the Development's Development Agreement between the City and Developer have been satisfied. The City agrees to inspect and oversee the construction of the public utilities and require the completion of "As-Built" engineering plans upon completion of the work as detailed in the Development Agreement. Upon completion and acceptance of the as-built drawings, City agrees to submit said drawings to the Idaho Department of Environmental Quality (IDEQ) for state approval and record.

Review and Approval of future Additions and Development

As HDR's water modelling memorandums indicates, additional water distribution infrastructure will be required if/when Phase III of the 1st Addition and future Additions are constructed. Additionally, as demonstrated in the CSSP, a segment





631674

626804

of sewer main will require correcting as a part of the 1st Addition's Phase III construction and for future Woodbury Additions. The completion of these water and sewer components prior to Phase III has been specified in Syntier Engineering's September 1st civil design plan set and will be a condition of the Woodbury 1st Addition Development Agreement. As demonstrated in this review, the City is able to provide sewer and water services to the first and second phases of the Woodbury 1st Addition and have evaluated and planned for future infrastructure upgrades to be completed with the construction of Phase III.

To ensure the City's ability to serve additional developments and additions, when additional growth occurs the City will evaluate each new addition and provide Will Serve analysis for IDEQ review and approval.

Please feel free to phone me at (208) 883-7028 or e-mail me at tdrage@ci.moscow.id.us if you have any questions.

Sincerely,

Todd Drage

Todd Drage
Engineering Technician, City of Moscow

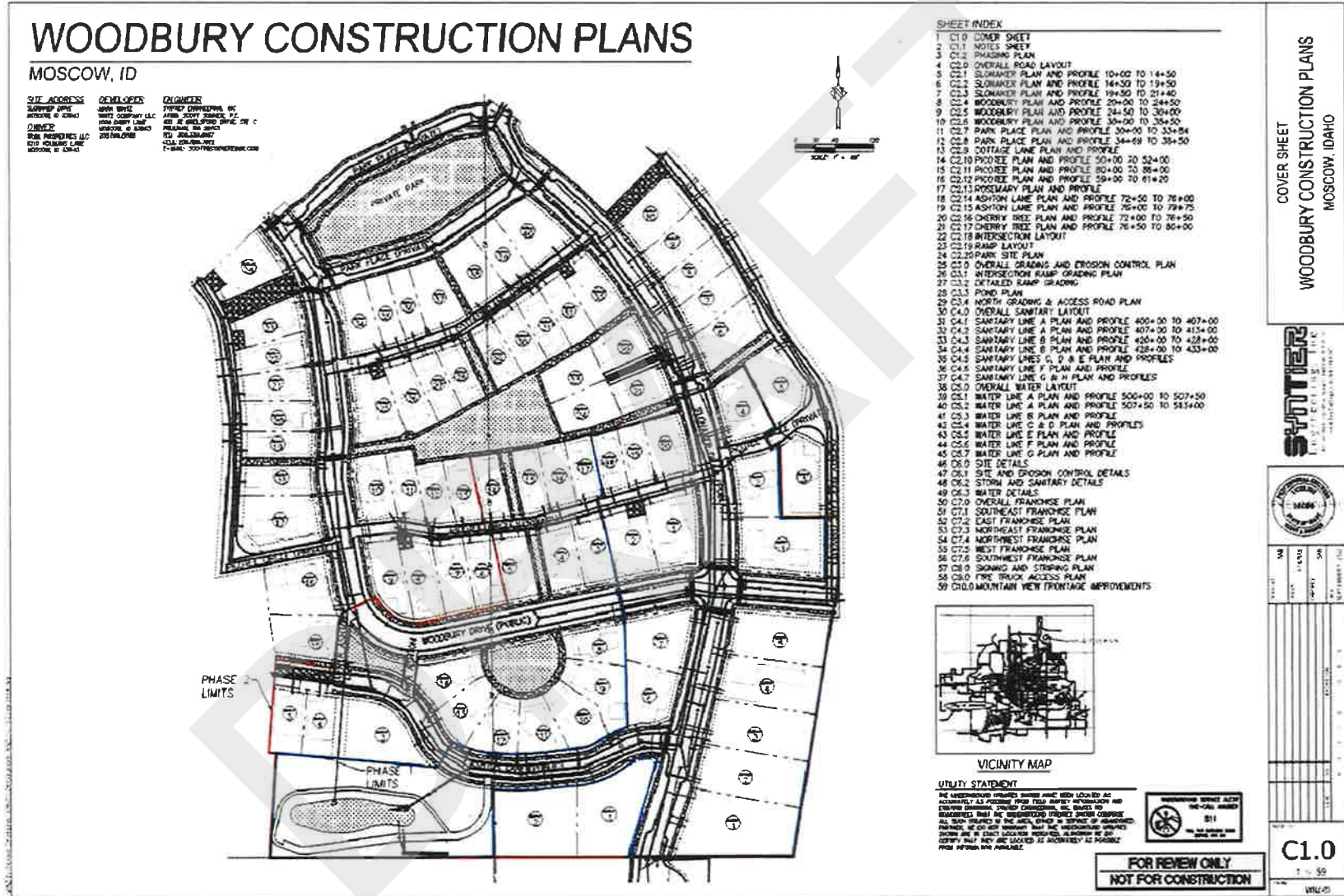
Cc: Scott Sumner, Syntier Engineering

Attachments: HDR Engineering's 4 Water Modelling Memos

Links: Moscow's Sewer and Water Facility Plan website link
<https://www.ci.moscow.id.us/484/Plans-Studies>



Figure 2. Woodbury 1st Addition General Layout



VICINITY MAP

UTILITY STATEMENT

THE INFORMATION SHOWN HEREIN HAS BEEN LOCATED AS ACCURATELY AS POSSIBLE FROM FIELD SURVEY INFORMATION AND RECORD DRAWINGS. SUNDT CONSTRUCTION, INC. MAKES NO WARRANTIES THAT THE UNDERGROUND UTILITIES SHOWN COMPARE TO THE ACTUAL UTILITIES. IT IS THE RESPONSIBILITY OF THE USER TO VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION. SUNDT CONSTRUCTION, INC. SHALL NOT BE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES OR PERSONS OR PROPERTY THAT MAY OCCUR AS A RESULT OF CONSTRUCTION. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR THE PROTECTION OF ALL UTILITIES AND PERSONS AND PROPERTY THAT MAY OCCUR AS A RESULT OF CONSTRUCTION. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR THE PROTECTION OF ALL UTILITIES AND PERSONS AND PROPERTY THAT MAY OCCUR AS A RESULT OF CONSTRUCTION.

**FOR REVIEW ONLY
NOT FOR CONSTRUCTION**

C1.0

1" = 50'

COVER SHEET

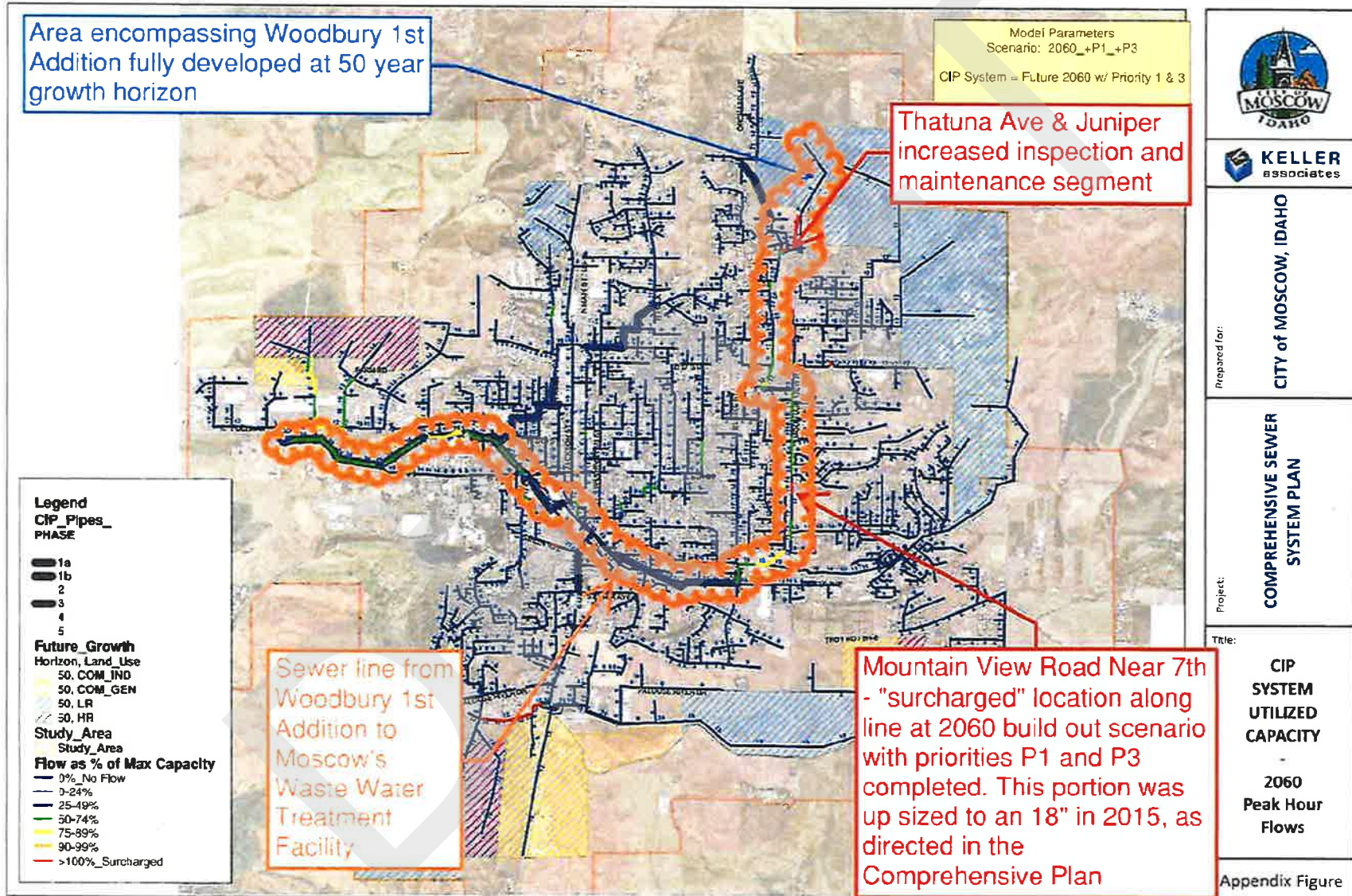
WOODBURY CONSTRUCTION PLANS

MOSCOW, IDAHO

SUNDT CONSTRUCTION, INC.

1000 SUNDT DRIVE
MOSCOW, ID 83843
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FAX: 208.388.1112
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Figure 3: CSSIP 50 Year Growth Horizon with Priorities Impacting the Logos Property Identified



Technical Memorandum



To: Michael Parker (City of Moscow)
From: David Kuhns (HDR)
Date: 8/23/2022
Subject: Task Order 4 – Woodbury Development 1st Addition Supply

Introduction

HDR Engineering Inc. (HDR) has previously completed three analyses related to the Woodbury Development within the City of Moscow (City). These include:

- Attachment A** • *Ponderosa – Woodbury Development Hydraulic Impacts Analysis TM (8/20/2021)* – an initial analysis to determine impacts to the water system and new Ponderosa BPS given the addition of the Woodbury Development and potential build-out area to the east.
- Attachment B** • *Task Order 4 – Updated Woodbury Analysis TM (4/21/2022)* – updated analysis of the Woodbury Development given most recent development drawings.
- Attachment C** • *Task Order 4 – Ponderosa BPS Ability to Serve Woodbury Analysis TM (2022-05-17)* – analysis of the ability for the existing Ponderosa BPS to serve the Woodbury Development

It is anticipated that the Woodbury Development will ultimately be supplied via the Ponderosa Pressure Zone via the proposed future Ponderosa Booster Pump Station (BPS). However, as the existing Ponderosa BPS may have its capacity exceeded during peak demand conditions, until the new BPS is built and online, it is planned to have the 1st Addition of the Woodbury Development supplied from the Main Pressure Zone via a feed on Slonaker Drive.

This technical memorandum (TM) summarizes the current hydraulic analysis for this condition.

Analysis

The current InfoWater Pro hydraulic model of the distribution system as maintained by HDR was utilized for the analysis. System demands included the anticipated demands of the 1st Addition of the Woodbury Development along with other anticipated developments throughout the City.

Figure 1 illustrates the available fire flow for the 1st Addition of the Woodbury Development given a direct, non-boosted connection to the Main Pressure Zone on Slonaker Drive calculated using a steady-state model run. The available fire flow is calculated as the flow available while maintaining a 20 psi pressure throughout the distribution system during peak demands with fire suppression storage depleted. The available fire flow exceeded 1,500 gpm throughout the development.

An extended period simulation (EPS) model run was completed during peak summer conditions to determine the minimum pressures seen in the development which are illustrated on Figure 2. It was found that higher elevation locations within the 1st Addition of the Woodbury Development have pressures that drop below the minimum required 40 psi. The minimum hydraulic grade line (HGL) elevation is estimated to be 2,773 feet. Given this HGL elevation, any elevation above 2,681 feet would have a pressure less than 40 psi.

To obtain adequate pressures throughout the 1st Addition of the Woodbury Development, a small BPS could be placed on the 10-inch pipe feeding the development on Slonaker Drive. As fire flows can be met without pumping, the pump station would be sized to only meet domestic (non-fire flow) demands for the 1st Addition of the Woodbury Development with a check valve or PRV feature placed parallel to the BPS for supplying fire flows. The BPS could be sized to boost by a head of 50 feet which would place the HGL similar to when the area would be fed from the future Ponderosa BPS. The BPS can also use a variable

frequency drive (VFD) to maintain a downstream pressure setpoint and a hydropneumatic tank system to reduce pump starts during low demand periods.

Alternatively, for initial phases of construction, if service connections remain below an elevation of 2,681 feet, a BPS is not needed.

Figure 1. Available fire flow with a direct (non-pumping) connection to the Main Pressure Zone

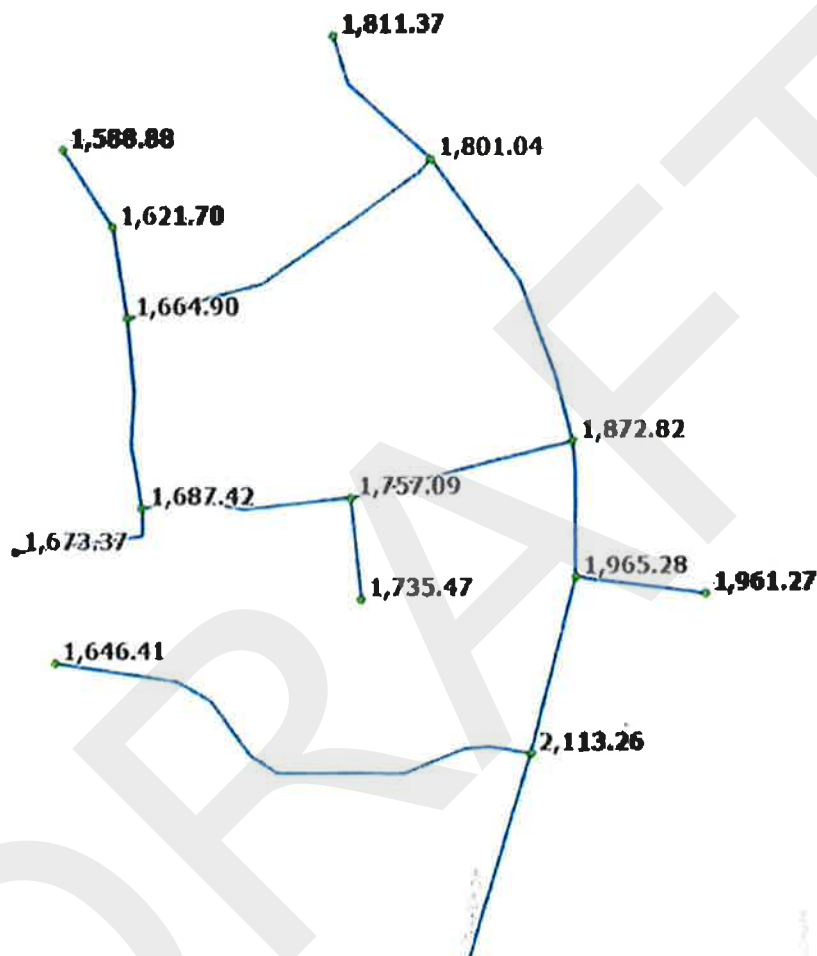
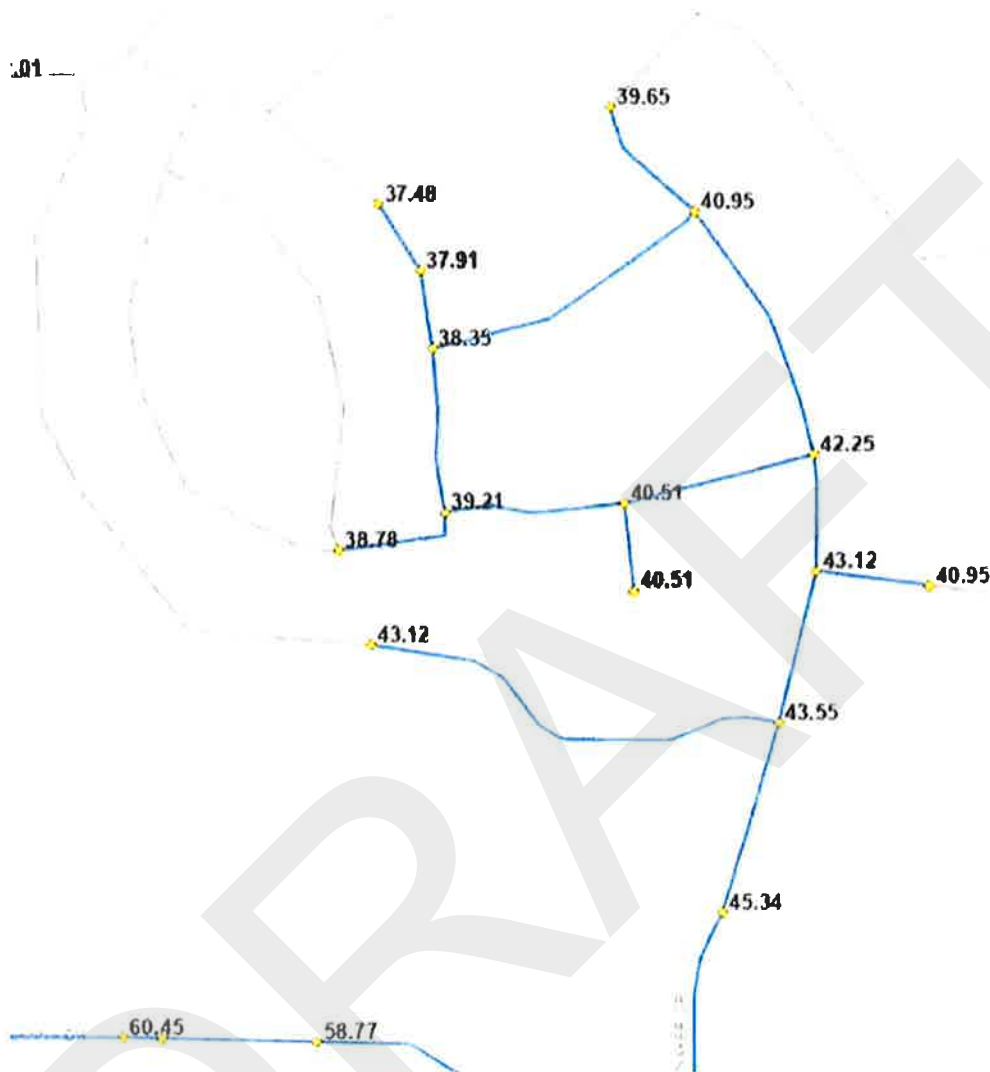


Figure 2. Minimum pressures during peak demand conditions with a direct (non-pumping) connection to the Main Pressure Zone



Summary

If connecting the 1st Addition of the Woodbury Development to the Ponderosa Pressure Zone, during peak demand conditions, it is predicted that demands may exceed the capacity of the existing Ponderosa BPS and therefore cannot be served by the Ponderosa Pressure Zone until the proposed Ponderosa BPS is in place.

In the interim, the 1st Addition of the Woodbury Development can be served with a connection to the Main Pressure Zone on Slonaker Drive. A small BPS could be placed on Slonaker Drive sized for domestic (non-fire) demands while a check valve or PRV could be placed in parallel to the BPS to supply fire flows directly (without pumping) to the development.

For initial construction phases of the 1st Addition of the Woodbury Development, a BPS is not needed if service connections remain below an elevation of 2,681 feet and could have domestic and fire demands served directly from the Main Pressure Zone while meeting minimum pressure requirements.



Technical Memorandum

To: Michael Parker (City of Moscow)
From: David Kuhns, PE (HDR)
Date: August 20, 2021
Subject: Ponderosa - Woodbury Development Hydraulic Impacts Analysis

Background

The Woodbury Development is planned to be within the Ponderosa Pressure Zone within the City of Moscow (City). The Ponderosa Pressure Zone is supplied via the Ponderosa Booster Pump Station (BPS). However, the existing BPS will be replaced by a new Ponderosa BPS, the design of which has been completed by JUB Engineers, Inc. A previous hydraulic analysis identifying pump design points and system curves for the new Ponderosa BPS was completed by HDR (*Indian Hills BPS and Ponderosa BPS Hydraulic Design Points TM*, revised June 9, 2020).

The Woodbury Development was not part of the previous analysis completed. The City requested HDR to complete an initial analysis to determine impacts to the water system and new Ponderosa BPS given the addition of the Woodbury Development. That analysis is summarized in this technical memorandum (TM).

Forecasted Demands

The previous analysis for determining hydraulic design points for the new Ponderosa BPS was based on analyzing existing demands (based on 2018 meter consumption). The existing demands for the Ponderosa Pressure Zone were estimated by using the 2018 consumption measured by service meters within the pressure zone plus non-revenue demands. Non-revenue demands were assumed to be 22 percent of revenue (metered) demands similar to the total water system. 20-year forecasted demands for the zone were then estimated by using the same growth rate used for the total water system from the City's 2012 Comprehensive Water System Plan (CWSP).

The demands for the Woodbury Development were estimated based on the water use factors in the 2012 CWSP. This includes:

- Equivalent residential unit (ERU) average day demand (ADD) equal to 247 gallons per day. This is the typical metered consumption for a single family residential (SFR) connection.
- Maximum day demand (MDD) to ADD ratio of 2.2.
- Non-revenue demand equal to 22 percent of metered consumption.

The Woodbury Development is planned to initially have 74 SFR lots. At buildout, the development will have 270 SFR lots. At buildout, the development's demands are equivalent to:

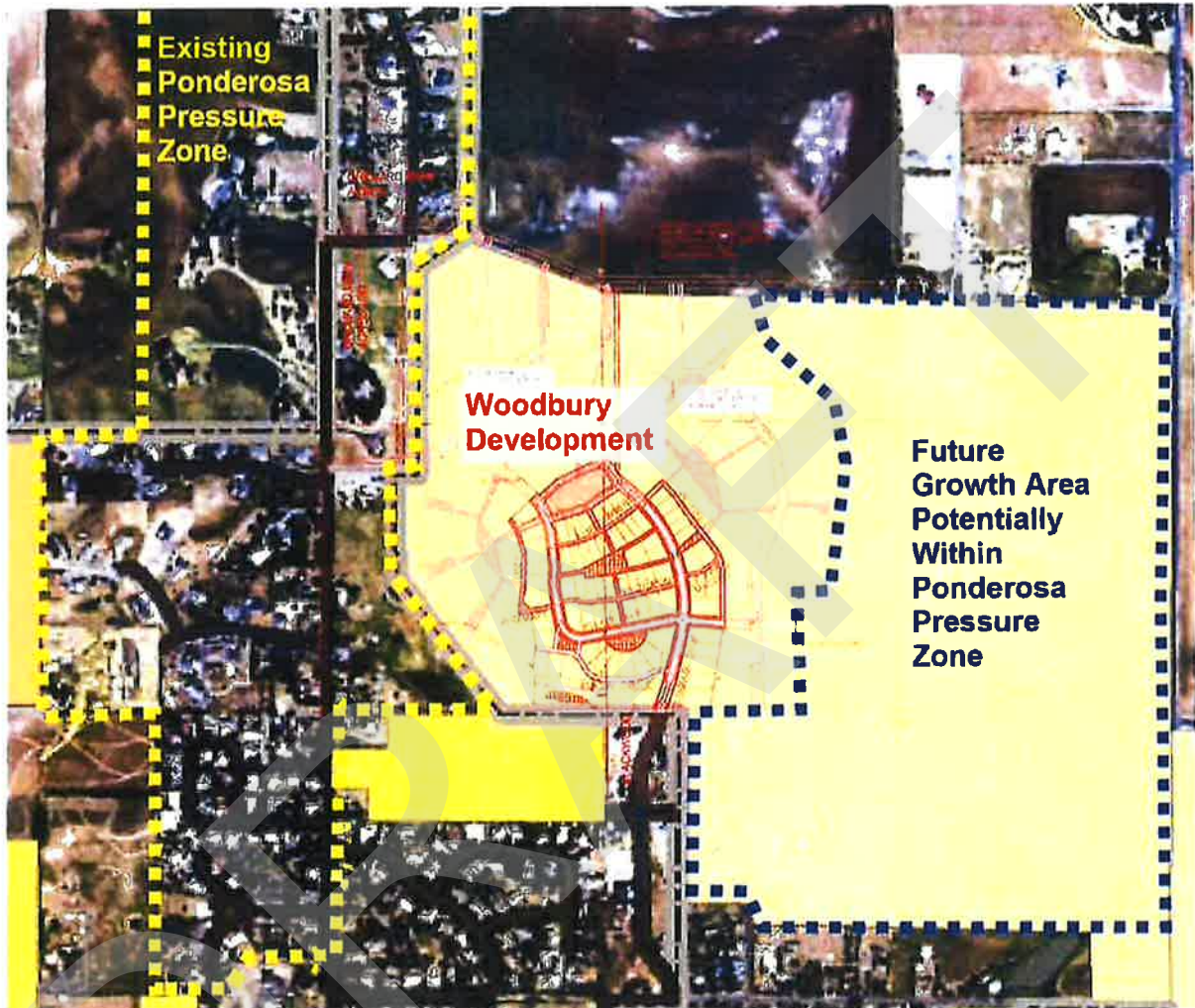
- ADD = 56.5 gallons per minute (gpm)
- MDD = 124.3 gpm

To the east of the Woodbury Development is an area that the City has also previously identified as a future growth area which may also be part of the Ponderosa Pressure Zone. The demands for this future growth area were estimated by assuming a SFR lot density similar to the Woodbury Development. The Woodbury Development covers approximately 83.3 acres with a lot density of 3.24 lots per acre. The future growth area is approximately 119.5 acres which is equivalent to 387 SFR lots if assuming the same SFR lot density as the Woodbury Development.

A summary of the demands given these assumptions is presented in Table 1. From Table 1, it can be seen that the growth of the Woodbury Development plus the future growth area will exceed the previously

forecasted growth assuming the 2012 CWSP's growth rate. The location of the Woodbury Development and the future growth area in relation to the existing Ponderosa Pressure Zone is shown on Figure 1.

Figure 1. Ponderosa Pressure Zone, Woodbury Development, and future growth area



Note: Highlighted areas indicate future growth areas by the City.

Table 1. Ponderosa Pressure Zone Demands

Demand	Existing (2018)	20-year previously assumed	Existing (2018) + Woodbury Buildout	Existing (2018) + Woodbury Buildout + Future Growth Area Buildout
ADD (gpm)	24	48	80	161
MDD (gpm)	52	105	176	354
PHD (gpm)	150	254	382	670
Fire flow (gpm)	1,500	1,500	1,500	1,500
MDD + fire flow (gpm)	1,552	1,605	1,676	1,854

Source Capacity Analysis

The Ponderosa Pressure Zone is a closed pressure zone (no gravity storage). Therefore, all demands are directly supplied from the BPS. The new Ponderosa BPS includes a jockey pump (24 gpm), two duty pumps (each at 150 gpm), and two fire pumps (each at 1,500 gpm). Because the BPS serves a closed pressure zone, the BPS should be sized so that the peak hour demand (PHD) can be met with the largest pump out of service as well as meeting the MDD plus fire flow with the largest pump out of service.

A source capacity analysis (spreadsheet calculation) was completed based on the nameplate flow capacities of each pump to the forecasted demands of Table 1. This analysis is shown on Table 2 which indicates that the nameplate capacities when considering all pumps with the largest out of service is capable of meeting the peak demand condition (MDD + fire flow) of existing demands plus buildout of the Woodbury Development. However, a slight deficiency exists when adding the buildout of the future growth area.

Additionally, if looking at non-fire flow conditions, the estimated PHD cannot be met for the Woodbury Development buildout without exceeding the nameplate flow rate or using a fire pump. When considering the buildout of the future growth area, a fire pump would also need to be utilized to meet MDD. The BPS designer should verify that the fire pump can be utilized for this condition and be operationally efficient as it may be beneficial to modify the design point of the pumps prior to construction if it would mean better efficiencies and operations for the long-term.

Table 2. Ponderosa BPS source capacity analysis

	Existing (2018)	20-year previously assumed	Existing (2018) + Woodbury Buildout	Existing (2018) + Woodbury Buildout + Future Growth Area Buildout
Ponderosa Pressure Zone projected demands (gpm)				
Average day demand (ADD)	24	48	80	161
Maximum day demand (MDD)	52	105	176	354
Peak hour demand (PHD)	150	254	382	670
Fire flow demand	1,500	1,500	1,500	1,500
Sources (gpm)				
Jockey Pump		24		
Duty Pump 1		150		
Duty Pump 2		150		
Fire Pump 1		1,500		
Fire Pump 2		1,500		
Total capacity		3,324		
Total capacity (excluding fire pumps)		324		
Total capacity with largest offline		1,824		
Source surplus (deficiency) checks (gpm)				
ADD with largest pump offline	1,800	1,776	1,744	1,663
MDD + fire with largest pump offline	272	219	148	(30)
PHD with largest pump offline	1,674	1,570	1,442	1,154
MDD without fire pumps	272	219	148	(30)
PHD without fire pumps	174	70	(58)	(346)

Note: Assumes source pumps are operating at the maximum production rate (i.e., for 24 hours per day)

The *Indian Hills BPS and Ponderosa BPS Hydraulic Design Points TM* provided system curves which are still valid. However, the table of buildout (20-year demand) design points—which are based on PHD, MDD + fire flow, and ADD + fire flow—will see a slight change in flow and head requirements due to the increase in forecasted demands as summarized in Table 1. For example, the 20-year demand for MDD + fire flow was 1,605 gpm, but with the Woodbury Development buildout increases to 1,676 gpm. This further increases to 1,854 gpm if considering buildout of the future growth area.

The designer should verify if the new Ponderosa BPS should only meet the existing demands of the Ponderosa Pressure Zone plus the buildout demands of the Woodbury Development, or if it should also be designed to meet the additional demands of the potential future growth area. The pumps in the current design should then be verified if they are capable of meeting the higher demands without modifications using the previously provided system curves, plus their calculated pump station head losses.

Hydraulic Modeling

A water system hydraulic model scenario was run to evaluate including demands for the buildout of the Woodbury Development plus the future growth area to identify the potential for low pressure issues on the suction side of the new Ponderosa BPS. The model indicated that given the pipe improvements proposed by the Ponderosa BPS, which includes adding a pipe to allow the pump station suction to be supplied from both Lanny Drive and Ponderosa Drive (through Orchard Avenue), the distribution system on the suction side of the new BPS will have adequate capacity to meet pressure requirements for the MDD plus a 1,500 gpm fire flow.

The hydraulic model was also updated with the pump curves for the jockey, duty, and fire pumps for the new Ponderosa BPS based on using the basis of design pumps in the new Ponderosa BPS specifications. The modeling indicates that the combination of the two duty pumps and the jockey pump can meet the PHD for the existing plus the buildout Woodbury Development demands. However, the pumps are not operating at their design points, with all pumps operating further to the right on their respective pump curves.

Given 2030 PHD with the buildout Woodbury Development, the hydraulic model has the jockey pump and duty pumps operating at the following conditions:

- Jockey pump: 43 gpm at 51.6 feet of head
- Duty pumps: each operating at 170 gpm at 53 feet of head (variable frequency drive at 0.93 percent speed)

The Ponderosa BPS designer should verify if this operating point is in the acceptable operating range (AOR) of the pumps.

In addition, the model verifies the spreadsheet calculation that the duty pumps alone cannot meet the PHD if the potential future growth area is also at full buildout. One of the fire pumps would also need to be operating to meet that condition.

Conclusion

Initial hydraulic modeling of the new Ponderosa BPS shows that the pump station can meet the demands of the buildout Woodbury Development plus the existing Ponderosa Pressure Zone demands while meeting the 1,500 gpm fire flow. However, the BPS designer shall verify that the new operating points fall within the AOR of the pumps.

In addition, the new Ponderosa BPS may need modifications if it is intended to also meet the buildout demands of the potential future growth area as there is currently a deficiency in meeting the PHD without using one of the fire pumps. If it is acceptable to use one of the fire pumps to meet the PHD, it should be verified that the turndown of the fire pump using a variable frequency drive (VFD) covers the full range above the maximum operating point of the duty plus jockey pumps.

Technical Memorandum



To: Michael Parker (City of Moscow)
From: David Kuhns (HDR)
Date: 4/21/2022
Subject: Task Order 4 – Updated Woodbury Analysis

Introduction

HDR Engineering Inc. (HDR) has previously completed an analysis called Ponderosa - Woodbury Development Hydraulic Impacts Analysis (August 20, 2021) for the City of Moscow (City). The previous analysis had the Woodbury Development and a buildout area to the east all supplied via the Ponderosa Pressure Zone through the Ponderosa Booster Pump Station (BPS). The City provided a new set of Woodbury drawings dated March 17, 2022. HDR, as part of this project, updated the hydraulic model runs based upon the latest Woodbury drawings.

The latest Woodbury drawings only included the first phase of the Woodbury Development and, unlike the previous analysis, has the development supplied via the Main Pressure Zone through a connection on Slonaker Drive. The previous analysis had assumed 10-inch piping for all proposed pipes and made assumptions on the piping alignments. The model was updated to match the pipe placement and diameters for the first phase of the development. Pipeline elevations were also updated for the first phase of the development based on the grading shown on the revised drawings (previous modeling assumed all model nodes at an elevation of 2,680 feet).

The results of the analysis are summarized within this technical memorandum (TM).

Analysis

The hydraulic analysis completed checks to see if a 1,500 gpm fire flow could be met in the development without the distribution system dropping below 20 psi, that pressures stay above 40 psi during peak demands (without fire flow), and that high pressures do not exceed 80 psi.

Below is a summary of the analysis completed.

- Figure 1 illustrates the low pressures expected in the first phase of the development given an extended period simulation (EPS) model run during typical peak summer demands and being part of the Main Pressure Zone. Pressures drop below 40 psi for areas of the development.
- Figure 2 illustrates the high pressures anticipated in the first phase of the development given an EPS model run during typical winter demands and being part of the Main Pressure Zone. Pressures do not exceed 80 psi for the development.
- Figure 3 illustrates the pressures expected during a steady-state model run with maximum day demand (MDD) and fire suppression storage depleted and being part of the Main Pressure Zone. Pressures do not drop below 20 psi for the development.
- Figure 4 illustrates the available fire flow calculated with a steady-state model run with MDD and fire suppression storage depleted and being part of the Main Pressure Zone. Available fire flow exceeds 1,500 gpm for the development.

The same scenarios were also run in the model but with the development part of the Ponderosa Pressure Zone via a connection off of Arborcrest Road.

Figure 2. EPS winter low pressures without fire, part of Main Pressure Zone (psi)

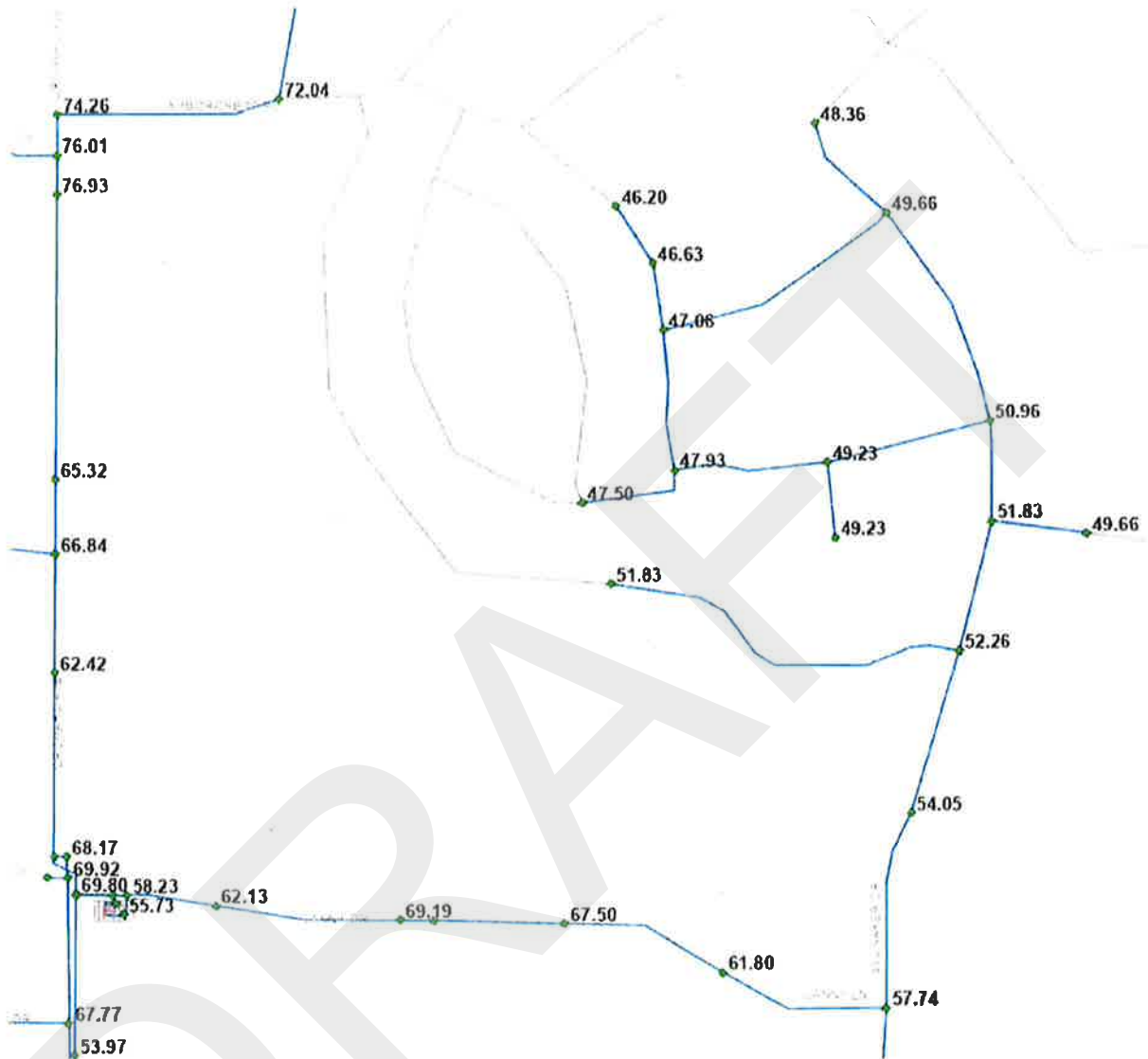


Figure 3. Steady-state pressure during MDD with fire suppression storage depleted, part of Main Pressure Zone (psi)

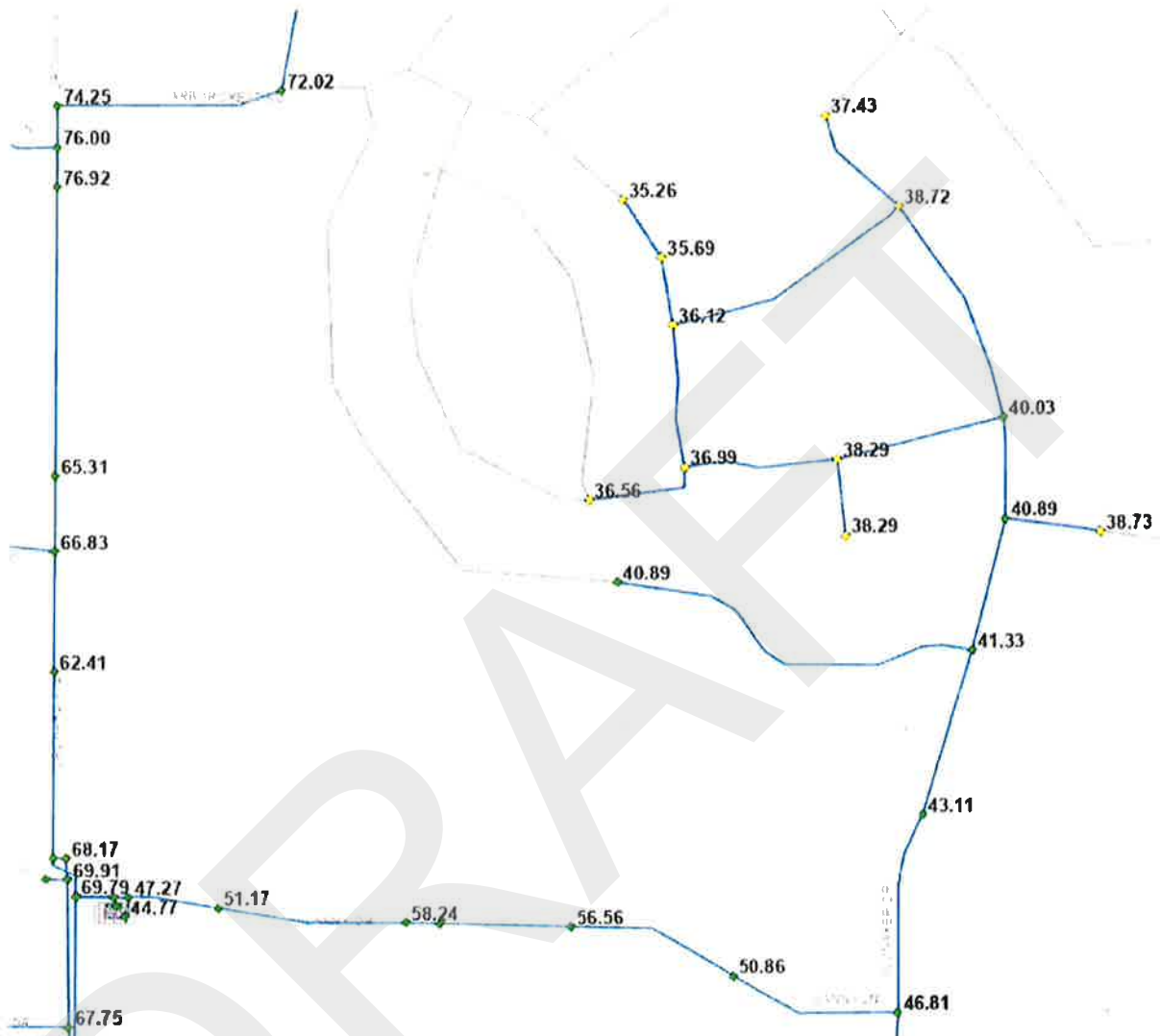


Figure 4. Steady-state available fire flow, part of Main Pressure Zone (gpm)

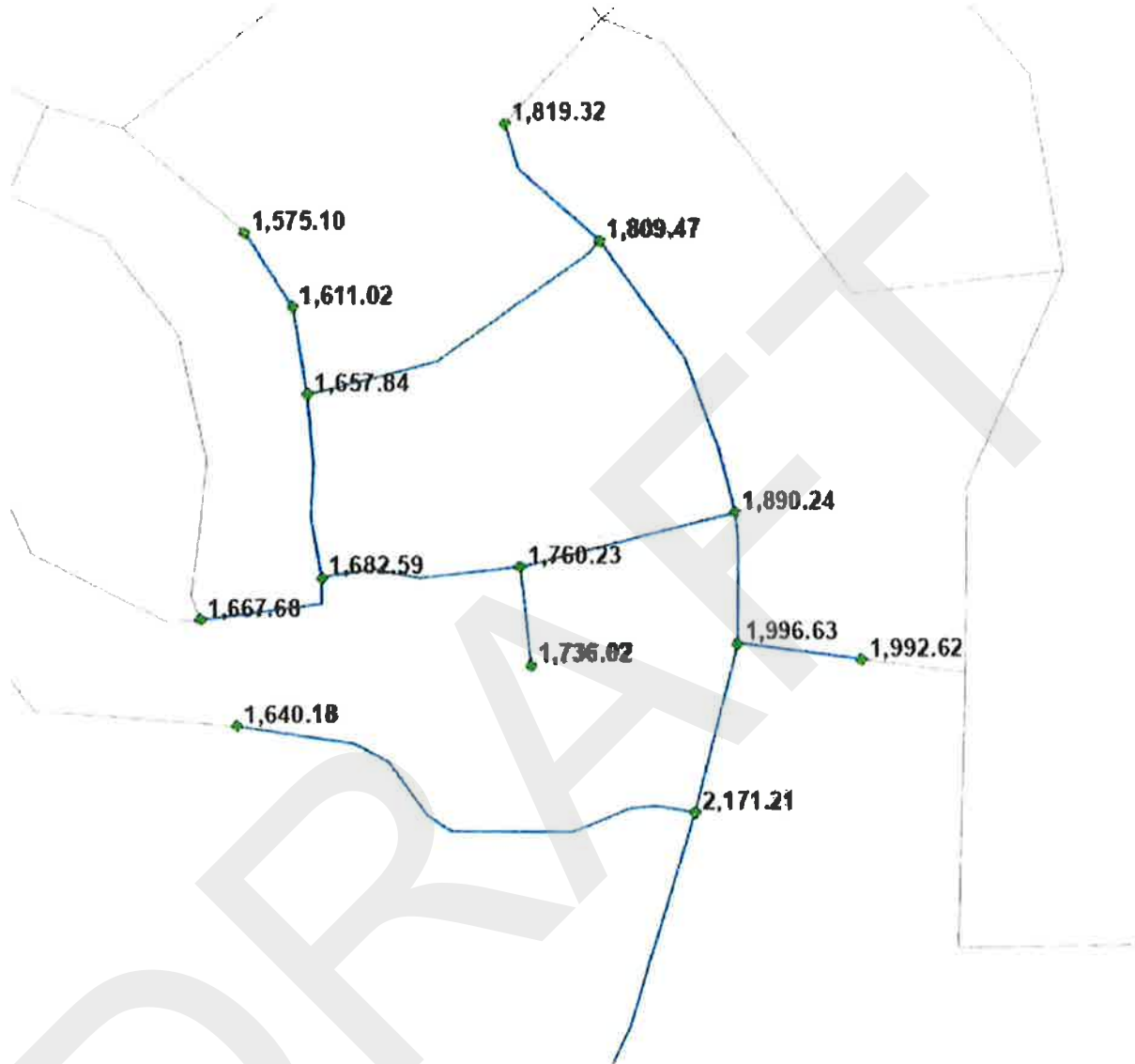


Figure 5. EPS summer low pressures without fire, part of Ponderosa Pressure Zone (psi)

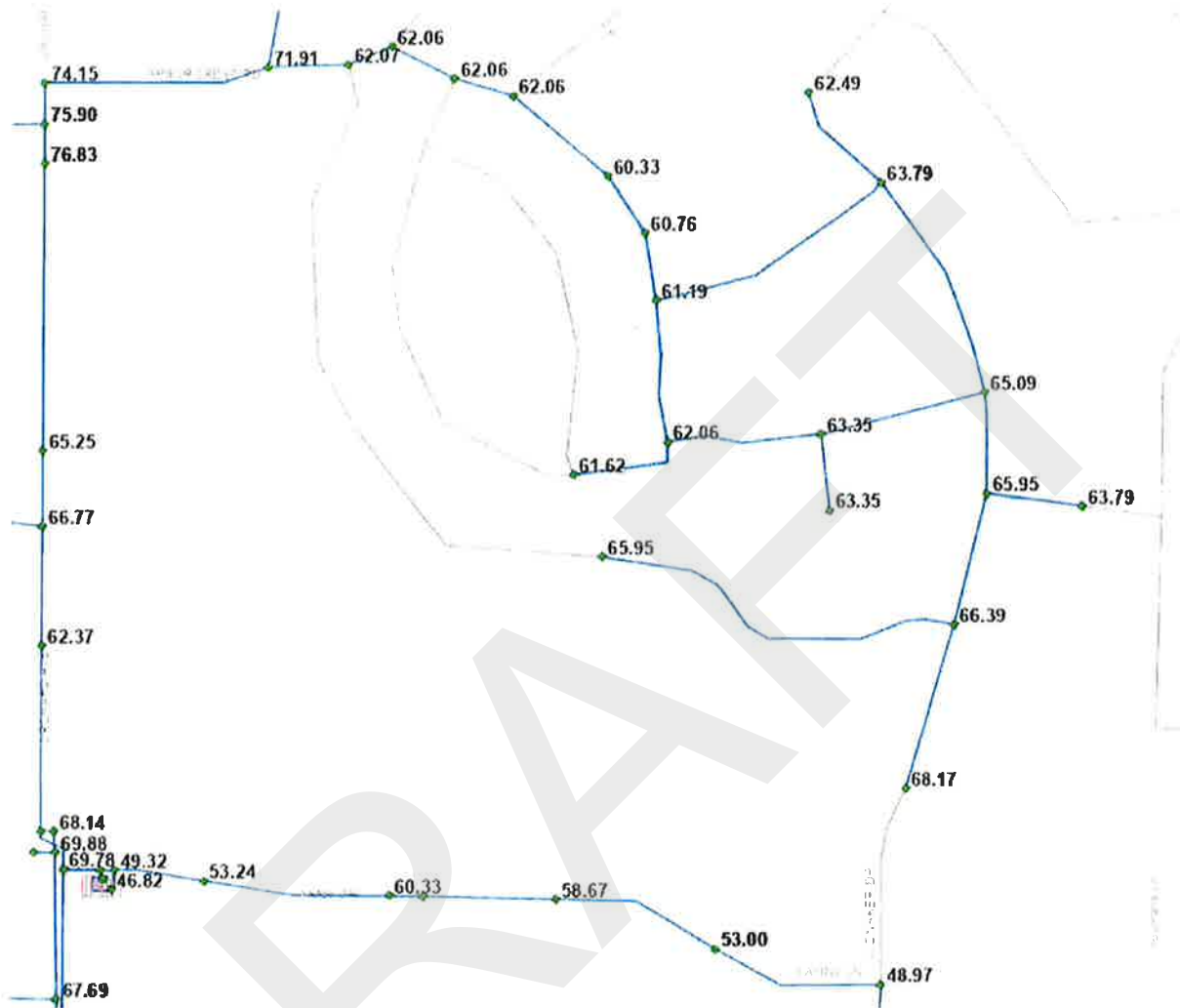


Figure 6. EPS winter low pressures without fire, part of Ponderosa Pressure Zone (psi)

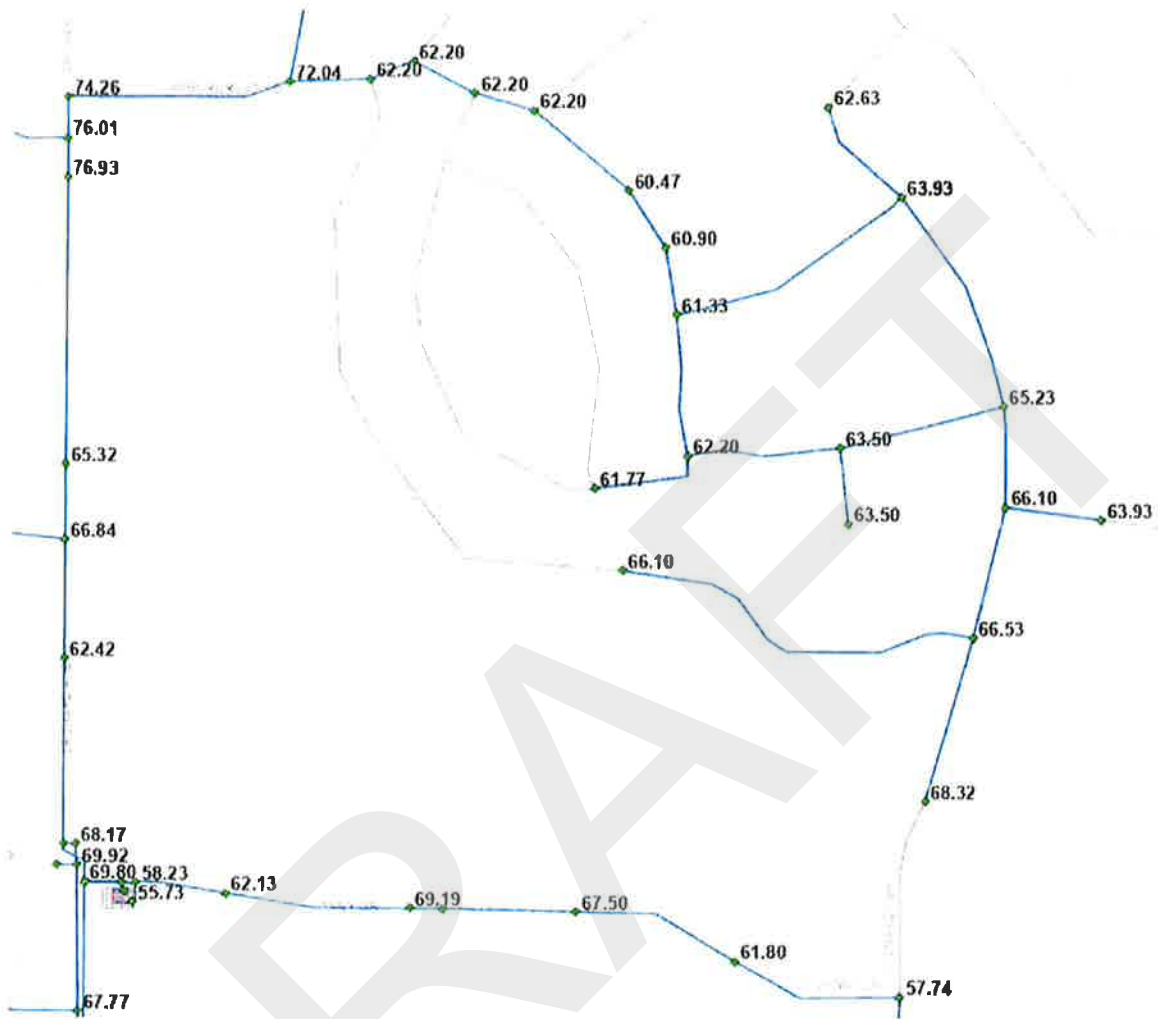
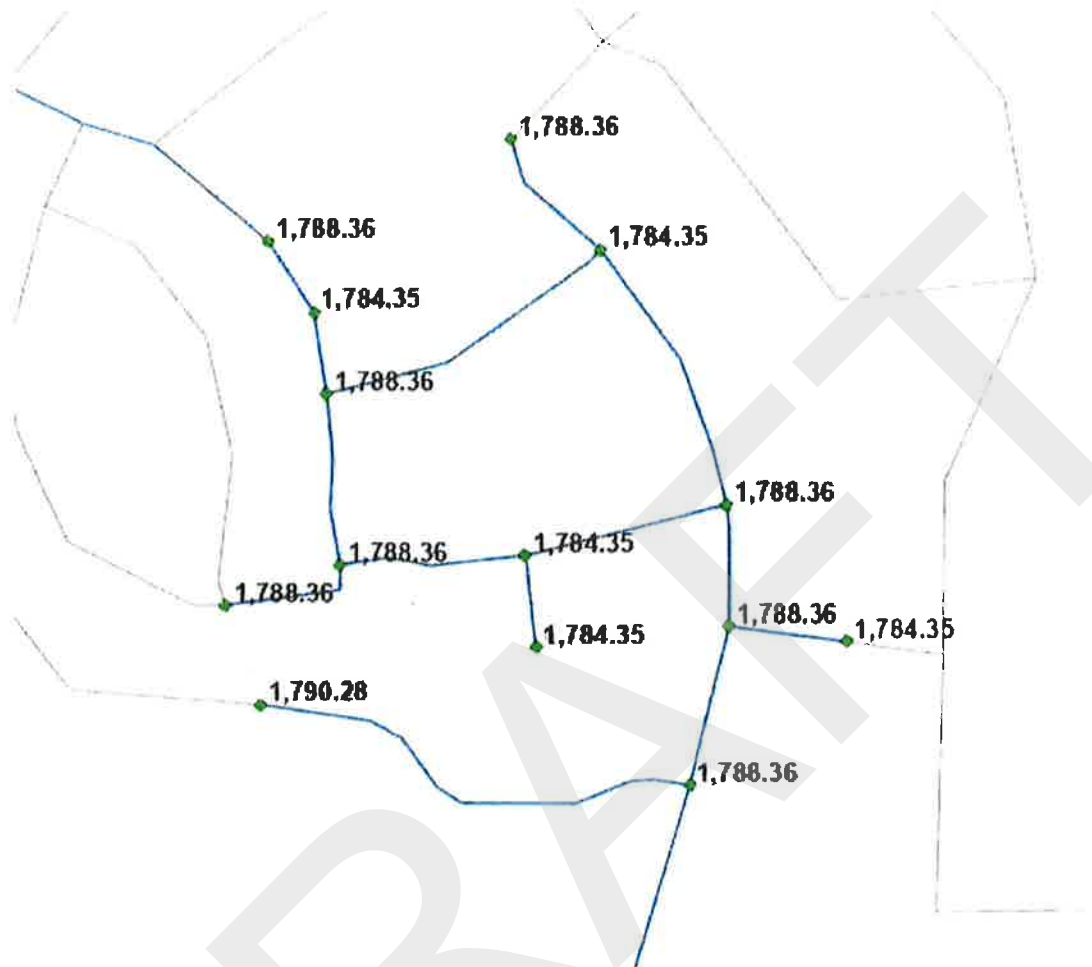


Figure 7. Steady-state available fire flow, part of Ponderosa Pressure Zone (gpm)



Summary

Given that the system pressures could potentially drop below 40 psi during peak demand conditions, the development (or at least the low pressure areas) should be part of the Ponderosa Pressure Zone. A piping connection to the Main Pressure Zone could continue to be constructed for emergency purposes but either left closed with an isolation valve, check valve, or pressure reducing valve.

The TM for the Ponderosa - Woodbury Development Hydraulic Impacts Analysis (August 20, 2021) still applies if the Woodbury Development is still part of the Ponderosa Pressure Zone. Otherwise, if part of the Main Pressure Zones, the demands for the Ponderosa BPS will decrease to what was previously assumed.

Technical Memorandum



To: Michael Parker (City of Moscow)
From: David Kuhns (HDR)
Date: 5/17/2022
Subject: Task Order 4 – Ability of Existing Ponderosa BPS to Serve the Woodbury Development

Introduction

HDR Engineering Inc. (HDR) has previously completed two analyses related to the Woodbury Development. These include the following:

- *Ponderosa – Woodbury Development Hydraulic Impacts Analysis Draft TM (8/20/2021)* – an initial analysis was performed to determine impacts to the existing water system and new Ponderosa BPS given the addition of the Woodbury Development and potential build-out area to the east.
- *Task Order 4 – Updated Woodbury Analysis TM (4/21/2022)* – updated the analysis of the Woodbury Development given the most recent development drawings provided by the City.

It is anticipated that the Woodbury Development will be supplied via the Ponderosa Pressure Zone to provide adequate system pressure. The Ponderosa Pressure Zone is supplied from the Main Pressure Zone via the Ponderosa Booster Pump Station (BPS). The Ponderosa BPS is planned to be replaced with a new Ponderosa BPS with increased capacity. The previous modeling efforts performed assumed the new Ponderosa BPS would be in place as part of the analysis. However, the new BPS may not be in place prior to construction of the first phase of the Woodbury Development (phase 1). The City has requested HDR to perform an analysis to determine if the existing Ponderosa BPS has the capacity to serve the first phase of the new development.

The results of the analysis which evaluates the available capacity of the existing Ponderosa BPS is summarized within this technical memorandum (TM).

Analysis

The existing Ponderosa BPS has an existing duty pump rated for 200 gallons per minute (gpm) at 74 feet of total dynamic head (TDH) and an existing fire booster pump rated for 1,000 gpm at 102 feet TDH.

As part of the 8/20/2021 TM, HDR estimated demands for the existing (2018) Ponderosa Pressure Zone plus the Woodbury Development full build-out demands. Since that analysis only included the full build-out demands for the Woodbury Development, demands for phase 1 of the Woodbury Development were estimated for this analysis. Phase 1 of the development proposes 73 single family residential (SFR) parcels and a 0.8 acre park area. The estimated demands are summarized in Table 1.

The Ponderosa Pressure Zone is a closed pressure zone (no gravity storage). Typically, a BPS designed to serve a closed pressure zone would be sized so that the peak hour demand (PHD) can be met with the largest pump out of service as well as meeting the maximum day demand (MDD) plus fire flow with the largest pump out of service. However, since the existing Ponderosa BPS only has a single fire pump, the fire flow capacity is assumed with both pumps online.

Table 1. Estimated Ponderosa Pressure Zone demands

Demand	Existing (2018)	Existing (2018) + Phase 1 Woodbury	Existing (2018) + Woodbury Buildout	Existing (2018) + Woodbury Buildout + Future Growth Area Buildout
Average day demand, ADD (gpm)	24	40	80	161
Maximum day demand, MDD (gpm)	52	91	176	354
Peak hour demand, PHD (gpm)	150	227	382	670
Fire flow (gpm)	1,500	1,500	1,500	1,500
MDD + fire flow (gpm)	1,552	1,591	1,676	1,854

Capacity Analysis via Nameplate Capacity

A source capacity analysis (spreadsheet calculation) was completed based on the nameplate flow capacities for each pump to the forecasted demands of Table 1 and is summarized in Table 2. With the 1,500 gpm residential fire flow requirement from the City's 2012 Comprehensive Water System Plan, the existing pump station's nameplate capacity is currently deficient to meet the MDD plus the fire flow goal with the deficiency only increasing as additional demands are placed on the existing BPS. For meeting the PHD, the existing pump station is capable of meeting the current PHD but is predicted to be deficient for meeting the PHD once phase 1 of the Woodbury Development is constructed, with this deficiency increasing as further demands are placed on the BPS with additional development.

Table 2. Source capacity analysis

	Existing (2018)	Existing (2018) + Phase 1 Woodbury	Existing (2018) + Woodbury Buildout	Existing (2018) + Woodbury Buildout + Future Growth Area Buildout
Ponderosa Pressure Zone projected demands (gpm)				
Average day demand (ADD)	24	40	80	161
Maximum day demand (MDD)	52	91	176	354
Peak hour demand (PHD)	150	227	382	670
Fire flow demand	1,500	1,500	1,500	1,500
Sources (gpm)				
Duty Pump			200	
Fire Pump			1,000	
Total capacity			1,200	
Total capacity with largest offline			200	
Source surplus (deficiency) checks (gpm)				
ADD with largest pump offline	176	160	120	39
MDD + fire	(352)	(391)	(476)	(654)
PHD with largest pump offline	50	(27)	(182)	(470)

Note: Assumes source pumps are operating at the maximum production rate (i.e., for 24 hours per day)

Capacity Analysis via Hydraulic Model with Pump Curve

While a deficiency is shown after looking at nameplate capacity, the hydraulic model was utilized with the pump curve for the duty pump to validate if the phase 1 Woodbury Development demand could be met by operating further to the right along the pump curve.

The existing PHD for the Ponderosa BPS is estimated to be 150 gpm. With the Ponderosa BPS duty pump operating at full speed, the modeled discharge pressure during the existing PHD is 84 psi. The lowest pressure in the system is at the north end of Arborcrest Road with a modeled pressure of 54 psi.

When adding the predicted demands for phase 1 of the Woodbury Development, during PHD conditions the modeled discharge pressure for the Ponderosa BPS is 70 psi and the north end of Arborcrest Road is 40 psi. The minimum allowable pressure during peak demand conditions is 40 psi. Given the modeling, adding phase 1 of the Woodbury Development places the existing Ponderosa BPS right at its maximum capacity. However, it may not be acceptable to the City to have the pressure at the north end of Arborcrest Road potentially drop approximately 14 psi in their low pressure and operating at 40 psi during PHD conditions versus the current low pressure of 54 psi. This will need to be confirmed with the City if acceptable.

For fire flow conditions, the existing Ponderosa BPS currently cannot meet the 1,500 gpm required fire flow from the 2012 Comprehensive Water System Plan. However, portions of the Ponderosa Pressure Zone can meet this requirement if taking into consideration gravity flows from the Main Pressure Zone through the check valve located on Orchard Avenue.

Summary

Considering only the nameplate capacity of the existing Ponderosa BPS, adding phase 1 of the Woodbury Development would cause a deficiency to meet peak hour demands (PHD).

However, when using the hydraulic model with a pump curve, phase 1 of the Woodbury Development would cause the Ponderosa BPS to be operating right at its maximum capacity to meet PHD, including Phase 1. However at this condition, the northern portion of Arborcrest Road would be at 40 psi—a 14 psi decrease over the predicted current low pressure.

The developer has also not provided their own calculation of water demands for the Woodbury Development. If the demands of phase 1 of the Woodbury Development exceed HDR's predicted demands, the pressure at the north end of Arborcrest Road would drop below 40 psi during PHD conditions and would not meet minimum pressure requirements.

It should also be noted that the existing Ponderosa BPS currently cannot meet the 1,500 gpm required fire flow from the 2012 Comprehensive Water System Plan for the entire pressure zone. However, portions of the Ponderosa Pressure Zone can meet this requirement if taking into consideration gravity flows from the Main Pressure Zone through the check valve located on Orchard Avenue.



City of Moscow Parks and Recreation

Memo

To: Mike Ray, Planning Manager

From: David Schott, Parks and Facilities Manager

Date: September 22, 2022

Re: Parkland Dedication Requirements for the Proposed Woodbury Subdivision Final Plat

As part of the subdivision process, this proposed subdivision falls under the requirements of the parkland dedication codes of the City.

There is 512,046 SF (11.75 acres) of net developable area platted in the Woodbury subdivision. Of the 512,046 SF (11.75 acres), 448,308 SF (10.29 acres) is zoned R-2 Moderate Density, Single Family Residential. The other 63,738 SF (1.46 acres) is zoned NB Neighborhood Business.

The R-2 requires five percent (5%) of required parkland dedication. There is 448,308 SF (10.29 acres) of net developable area, which requires 22,415 SF (0.51 acres) of parkland dedication.

The NB requires nine percent (9%) of required parkland dedication. There is 63,738 SF (1.46 acres) of net developable area, which requires 5,736 SF (0.13 acres) of parkland dedication.

The total parkland dedication requirement for this phase of the Woodbury subdivision is 28,151 SF (0.65 acres).

It is my recommendation to defer the parkland dedication requirements for this phase to a later of the entire subdivision for a natural area comprised of approximately 133,793 SF (3.07 acres) and a 49,493 SF (1.14 acres) area that total 183,256 SF (4.2 acres) for open space that will include grading, a detention basin, and a ten-foot (10') wide gravel (pathway base) pathway provided by the developer.

The WintzCompany, LLC has submitted a letter to this effect, Exhibit A.

It is anticipated the parkland dedication requirements for the entire subdivision would be approximately 2.3 acres +/- . Said 4.2 acres of parkland dedication, together with agreed upon improvements to the

parkland property, would satisfy all parkland dedication requirements for the entire Woodbury subdivision.

It is my opinion that as proposed, the owner meets (exceeds) the parkland dedication requirements for this subdivision.

The Parks and Recreation Commission considered and recommended approval on August 26, 2021.

Please do not hesitate to contact my office with any questions or clarifications.

Exhibit A**Wintz Company, LLC**

General Contracting / RE Development

August 18th, 2021

David Shott

650 N. Van Buren Street

Moscow, ID, 83843

Re: Woodbury park dedication

Dear David,

In order to meet our parks dedication requirements for the Woodbury subdivision, we would like to offer the naturalized area on our southwest boundary. This area comprised of an 133,793 sf area and a 49,463 sf area that together total 183,256 +/- (see attached) will include a detention basin as a water feature and a ten-foot wide gravel path that meanders along the slope. The area overlooks an adjacent low lying natural drainage area, some portion of which has been dedicated to a nature conservancy, consisting of a few ponds that attract waterfowl and various other animals. We envision this naturalized greenspace, being a popular walking area and a possible connector to the larger pathway system.

The entire space consists of approximately 4.2 acres and if completed as designed would meet the parkland dedication requirement for the entire 82 acres proposed for Woodbury. Additionally, Wintz Company proposes to do the grading improvements along with construction of the pathway and placement of gravel if the City is willing to contribute the trees, shrubs and maintenance.

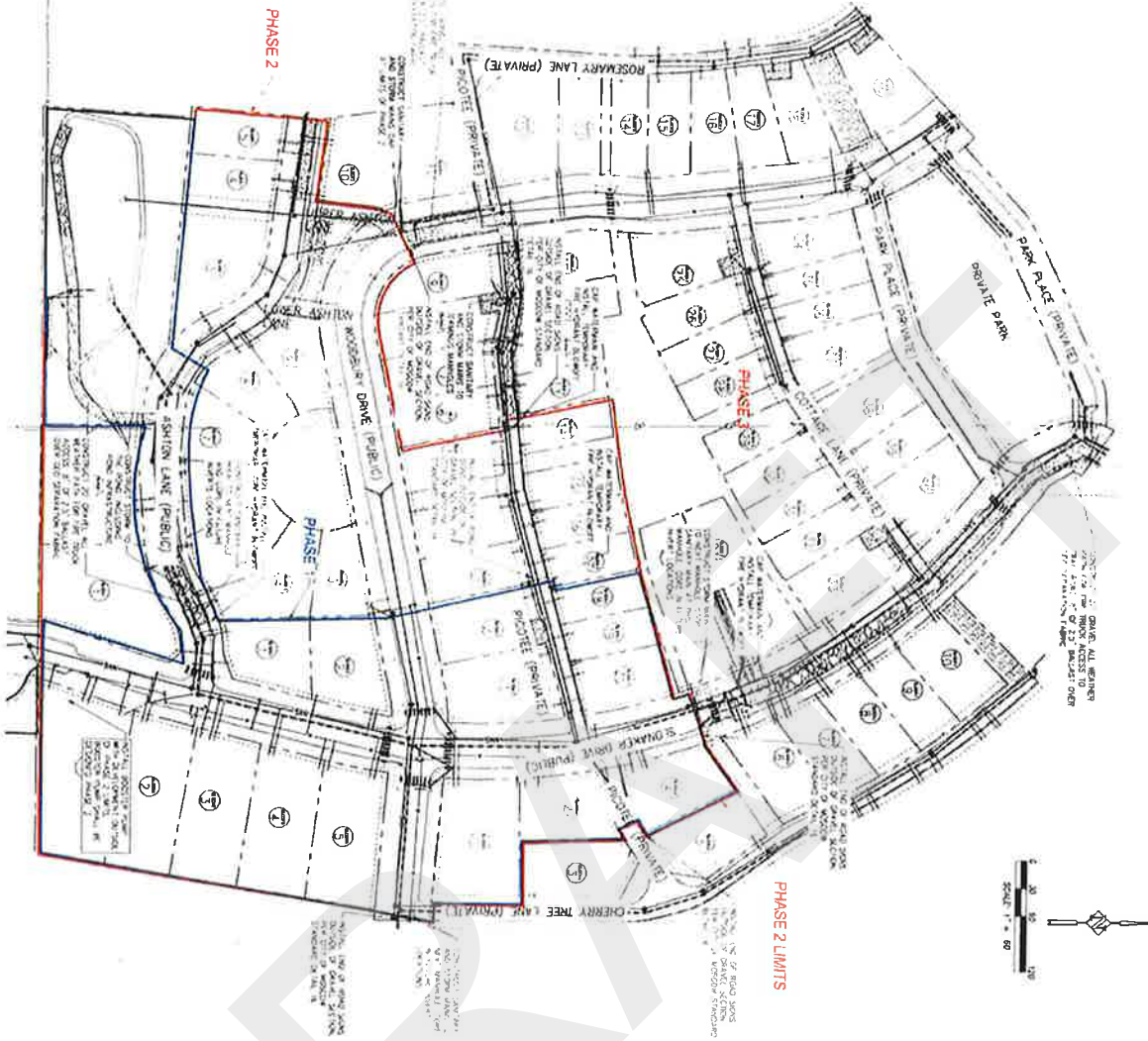
Wintz Company has an agreement with the present land owners to purchase successive phases as we build out the larger project. This proposed area will be part of Phase 2 and will be purchased after Phase 1 is complete. After the purchase of the Phase Two area, Wintz Company would be able to make the dedication to the City but until then our parkland dedication would be suspended by mutual agreement.

Let us know if this is agreeable. We look forward to working with you on creating some fantastic parkland.

Best Regards,

*Mark Wintz*Wintz Company, LLC – 1004 Dairy Lane, Moscow, ID 83843 – mark@wintzcompany.com (208) 586 - 5555





SANITARY SEWER IMPROVEMENTS

PHASING AND SEWER SYSTEM NOTE

PHASE 1: SANITARY SEWER SYSTEM IMPROVEMENTS. PHASE 2: SANITARY SEWER SYSTEM IMPROVEMENTS. PHASE 2 LIMITS: SANITARY SEWER SYSTEM IMPROVEMENTS.

PHASING AND WATER SYSTEM NOTE

PHASE 1: WATER SYSTEM IMPROVEMENTS. PHASE 2: WATER SYSTEM IMPROVEMENTS. PHASE 2 LIMITS: WATER SYSTEM IMPROVEMENTS.

UTILITY STATEMENT

THE UNDERSIGNED, CIVIL ENGINEER, HAS REVIEWED THE PHASING AND SEWER SYSTEM IMPROVEMENTS AND WATER SYSTEM IMPROVEMENTS AND HAS FOUND THAT THE SAME ARE IN ACCORDANCE WITH THE CITY OF MOSCOW, IDAHO, ORDINANCES AND RESOLUTIONS.



PHASING PLAN
WOODBURY CONSTRUCTION PLANS
MOSCOW, IDAHO



DESIGNED	SAS
CHECKED	ATG/SAS
DATE	SEP 10, 2002

NO.	DESCRIPTION	DATE
1	PHASING AND SEWER SYSTEM IMPROVEMENTS	SEP 10, 2002
2	PHASING AND WATER SYSTEM IMPROVEMENTS	SEP 10, 2002

C1.2

3 of 59

WNC-23

COMMITTEE / CITY COUNCIL STAFF REPORT

DATE: Monday, October 21, 2024



AGENDA ITEM TITLE

Memorandum of Agreement for Rehabilitation of the West Palouse River Drive Park Property - Todd Drage

RESPONSIBLE STAFF

Todd Drage, Civil Engineer

ADDITIONAL PRESENTER(S)

DESCRIPTION

During construction of the Edington 1st Addition Subdivision, BBC LLC utilized the City's West Palouse River Drive Park Property for permanent placement of excess subdivision fill material, access during construction, and storage and stockpiling of materials and debris. As a result of changes to the Subdivision's grading plan, BBC LLC did not conduct as much grading as was anticipated upon BBC LLC's property which resulted in a lack of topsoil to grade the Park Property as previously agreed upon between BBC LLC and the City. Additionally, because of BBC LLC's construction activities and hauling and stockpiling of material upon the park property it has been left in a degraded state compared to its prior condition.

As the City and BBC LLC desire that the park property be rehabilitated while being able to issue and receive permits for the Addition, the City and BBC LLC have developed an agreement that will allow BBC LLC to complete the Park's rehabilitation over the next year. The memorandum of agreement (MOA) included in this packet allows the City to issue permits for the lots within the Edington 1st Addition while also ensuring that the park property rehabilitation will be completed.

REVIEWED BY

Legal

PROPOSED ACTIONS

ACTION: Approve the Memorandum of Agreement with BBC LLC.

STAFF RECOMMENDATION

Approve the Memorandum of Agreement with BBC LLC.

OTHER RESOURCES

n/a

FISCAL IMPACT

n/a

PERSONNEL IMPACT

n/a

ATTACHMENTS

1. MOA-Edington Park Property_draft clean

**MEMORANDUM OF AGREEMENT BETWEEN
BBC LLC AND CITY OF MOSCOW, IDAHO**

THIS MEMORANDUM OF AGREEMENT BETWEEN BBC LLC AND CITY OF MOSCOW, IDAHO (hereinafter “MOA”) is entered into effective the date of the last signature, by and between City of Moscow, Idaho, a municipal corporation of the State of Idaho, 206 East Third Street, Moscow, Idaho, 83843 (“CITY”) and BBC LLC, a limited liability company of Idaho, PO Box 8525, 4930 Lenville Road, Moscow, Idaho, 83843 (“BBC LLC”).

WITNESSETH

WHEREAS, in 2002, CITY purchased a 44-acre parcel specifically for the development of playfields, known as the West Palouse River Drive Ball Fields Project. The 44-acre parcel is Latah County Parcel Number RPM00000192430 and will hereinafter be referred to as the Park Property; and

WHEREAS, BBC LLC, during construction of the Edington 1st Addition Subdivision (hereinafter “Edington Addition”), utilized the Park Property for permanent placement of excess subdivision fill material, access during the construction, and storage and stockpiling of materials and debris; and

WHEREAS, BBC LLC did not conduct as much grading as was anticipated upon BBC LLC’s property which resulted in a lack of topsoil to grade the Park Property as previously agreed between BBC LLC and CITY; and

WHEREAS, additionally, as a result of the construction of “Sanitary Line A” as it is defined in the Edington 1st Addition Civil Plan Set, there exists an earthen berm that now prohibits the free drainage of the Park Property that existed prior to the Edington Addition’s construction. Figures of the condition of the Park Property prior to and during construction have been included in Attachment “A”; and

WHEREAS, as a result of BBC LLC’s construction activities and hauling and stockpiling of material upon the Park Property, the Park Property has been left in a degraded state compared to its prior condition including deposits of rock debris, disturbance of established vegetation, and impairment to drainage; and

WHEREAS, CITY and BBC LLC desire the Park Property to be rehabilitated, which includes the removal of rocks and debris, grading to allow positive drainage, and seeding to establish vegetation, all necessary to return it to the condition that it was in prior to BBC LLC’s utilizing it for the construction of the Edington Addition; and

WHEREAS, BBC LLC desire to obtain building permits and certificates of occupancy prior to the completion of the restoration of the Park Property; and

WHEREAS, CITY hereby agrees to issue building permits and certificates of occupancy in accordance with the terms and conditions contained herein.

NOW THEREFORE, for and in consideration of the mutual covenants and representations set forth in this MOA, CITY and BBC LLC agree that all matters stated above are found to be true and correct and are incorporated herein by this reference and agree to the following:

SECTION 1: COOPERATION

BBC LLC enters into this MOA of BBC LLC's own free will and accord, without coercion, without inducement, and at BBC LLC's request. CITY has not made any promises to BBC LLC other than the terms as detailed in this MOA. CITY and BBC LLC are jointly committed to the Park Property rehabilitation and maintenance identified herein.

SECTION 2: BBC LLC RESPONSIBILITIES

1. **Rock Removal.** BBC LLC shall be responsible for the removal of rock material placed on the Park Property by BBC LLC and its contractors and agents during the construction of the Edington Addition. BBC LLC shall remove all rock material placed on the Park Property so as to not interfere with the successful planting, germination, and CITY's future maintenance activities on the Park Property. BBC LLC shall notify CITY of the completion of the rock removal for inspection and approval. If CITY determines the rock removal is not complete, CITY shall provide corrective actions to be completed by BBC LLC. This process will continue until CITY provides approval that the rock removal is complete. This responsibility shall only apply to those areas of the Park Property that were disturbed during the construction of the Edington Addition.
2. **Ponding Water Correction.** BBC LLC shall be responsible for the monitoring and correction of any areas of significant ponding that results from BBC LLC's alteration of the Park Property including the installation of the sanitary sewer main and cover berm. For the purposes of this MOA, significant ponding shall be defined as any area of the Park Property that retains standing water of over two inches (2") in depth and which covers an area of more than five hundred square feet (500 ft²) for more than twenty-four (24) hours following any precipitation event. Correction of ponding areas may include filling low spots with suitable topsoil, installing or modifying stormwater drainage infrastructure, and grading drainage swales to provide positive overland flow to accepting drainage systems. This responsibility shall only apply to those areas of the Park Property that were disturbed during the construction of the Edington Addition.
3. **Seeding.** Upon completion of the rock removal and approval by CITY, BBC LLC shall seed the Park Property with an approved dryland grass seed mix, at the manufacturer's recommended application rate, to return the Park Property to the pre-disturbance condition. This responsibility shall only apply to those areas of the Park Property that were disturbed during the construction of the Edington Addition.

4. **Grass Maintenance.** BBC LLC agrees to maintain the Park Property until such time as the vegetation cover is established in a mature sustainable condition and free of noxious weeds; unless otherwise approved, in writing, by CITY. At a minimum, maintenance shall include mowing vegetation to maintain a vegetative height of no more than twelve inches (12”) and twice annual application of a broadleaf herbicide, applied per manufacturer recommendations and label instructions, to control noxious weeds.
5. **Schedule of Performance.** BBC LLC agrees to complete the responsibilities outlined herein as follows, unless modified in writing by mutual agreement between BBC LLC and CITY:
 - a. Rock Removal. To be completed no later than September 1, 2025;
 - b. Seeding. To be completed no later than October 1, 2025;
 - c. Grass Maintenance. To commence from the date of seeding until Park Property is established in a mature sustainable condition and free of noxious weeds and accepted by CITY.
6. **Financial Guarantee.** To ensure compliance with sections 2.1-2.5, BBC, LLC agrees to provide CITY with an adequate security to cover the costs of all rehabilitation and maintenance activities described above. Should BBC, LLC fail to maintain the property as described, CITY reserves the right to use all, or a portion of the security, to complete the required maintenance activities. The security shall be subject to the following terms:
 - a. BBC LLC agrees to provide security for the improvements in the amount of One Hundred Twenty Seven Thousand, Four Hundred and Ninety (\$127,490) dollars.
 - b. This security shall be in the form of cash, construction bond, irrevocable letter of credit from a certified bank or financial institution, or such other form of security acceptable to CITY. Security shall be submitted in draft form to CITY for review and approval prior to final submittal.
 - c. The security must be effective from the time this MOA is executed until one year after the Park Property rehabilitation is complete and has been accepted in writing by CITY.
 - d. If this security is in the form of an irrevocable letter of credit or bond, the secured Park Property rehabilitation shall be completed at least ninety (90) days prior to the expiration date of the security.
 - e. The amount of the security may, from time to time, be modified as deemed appropriate by CITY Engineer as conditions warrant.
 - f. The security shall be refunded or released upon the successful completion of BBC LLC’s obligations under this MOA and CITY’s acceptance of the Park Property rehabilitation.

SECTION 3: CITY RESPONSIBILITIES

1. **Certificates of Occupancy.** CITY agrees to issue certificates of occupancy for the lots within Phase II of the Edington Addition, as defined in the Amendment to Development Agreement Between BBC LLC and CITY for Edington 1st Addition Subdivision, Latah County Instrument No. 630344, upon the execution of this MOA and the submittal of the security defined and required herein.

2. **CITY Approvals.** CITY agrees to perform any inspections and issue any approvals or corrective action directions in a timely manner. Where approval is required by CITY, such approval shall not be reasonably withheld without due cause and specific corrective actions identified and provided to BBC LLC. If performance under this MOA is not deemed reasonably acceptable, CITY shall deliver to BBC LLC a written description detailing the defective conditions and a reasonable time period to cure detailed defects. If the rehabilitation is accepted by CITY, the acceptance shall be effective immediately, memorialized in writing, and delivered to BBC LLC.

SECTION 4: GENERAL PROVISIONS

1. **Term.** This MOA shall take effect when both Parties have signed it and shall remain in full force and effect in accordance with all of its terms and conditions as stated herein
2. **Indemnification.** BBC LLC agrees to indemnify, defend, and hold harmless CITY, its officers, agents, employees, and engineers, from and against any and all losses, lawsuits, actions, claims, judgements for damages, or any injuries or damages received or sustained by any person, persons, or property, and losses, expenses, and other costs, including litigation costs and attorney's fees, arising out of, resulting from, or in connection with the acts and/or any performances, activities, errors or omissions by BBC LLC, BBC LLC's servants, agents, officers, employees, representatives, guests, business invitees or its subcontractors; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any claims or amounts recovered from any infringements of patent, trademark or copyright; or from any claims or amounts arising out of or recovered under the Workmen's Compensation Act or any other law, ordinance, order, or decree..
3. **Insurance.** BBC LLC shall not commence work until proof of general liability insurance coverage with (a) a limit of no less than One Million Dollars (\$1,000,000) each occurrence and Two Million Dollars (\$2,000,000) aggregate; (b) Automobile Insurance coverage with a limit of no less than One Million Dollars (\$1,000,000) each occurrence and Two Million Dollars (\$2,000,000) aggregate; and (c) Workers' Compensation coverage of no less than the statutory requirement is provided that is sufficient for the work to be completed under this MOA. Each policy and/or certificate of insurance shall list CITY as an additional insured and shall have a provision on the policy that it shall not be subject to cancellation, or reduction in the amounts of its liabilities, or any other material change, until notice has been given in writing to CITY and not less than fifteen (15) days prior to such action.
4. **Entire Agreement, Modification and Assignability.** This MOA and the attachment hereto contain the entire agreement between the Parties, and no statements, promises, or inducements made by either Party, or agents of either Party are valid or binding unless contained herein. This MOA may not be enlarged, modified, or altered except upon written agreement signed by the Parties hereto. Except for hiring the skilled trades required to complete Section 2. BBC LLC Responsibilities, BBC LLC may not subcontract or assign its

rights or duties arising hereunder, other than as provided herein, without the prior written consent and express authorization of CITY.

5. **No Joint Venture and No Joint Powers Agreement.** Nothing contained in this MOA shall be in any way construed as creating, expressing or implying that the Parties have joined together in any joint venture partnership or agency relationship or in any manner have agreed to or are contemplating the sharing of profits and losses among themselves in relation to any matter relating to this MOA.
6. **No Employer-Employee or Agency Relationship.** The Parties warrant by their signatures that no employer-employee or agency relationship is established between BBC LLC and CITY by the terms of this MOA.
7. **Interpretation.** This MOA shall be deemed and construed to have been prepared mutually by each Party and any uncertainty or ambiguity existing therein shall not be construed against any Party.
8. **Compliance with Laws.** BBC LLC shall observe and comply with all Federal, State, and Local laws, codes, ordinances, and regulations, including all licensing and permit requirements which, in any manner, apply to the work being performed under this MOA. No pleas of misunderstanding or ignorance on the part of BBC LLC will in any way serve to modify the provisions of this requirement.
9. **Jurisdiction and Venue.** This MOA shall be construed under and governed by the laws of the State of Idaho. In event of litigation concerning this MOU, venue shall be the District Court of the Second Judicial District of the State of Idaho, in and for the County of Latah.
10. **Notice.** All communication or notification to be given pursuant to this MOA shall be given to the following:

Notice to BBC LLC: Andrew Crapuchettes, Manager PO Box 8525 4930 Lenville Road Moscow, ID 83843	Notice to CITY: Moscow City Administrator PO Box 9203 206 East Third Street Moscow, ID 83843-1703
---	---
11. **Binding on Successors and Assigns.** This MOA shall be binding upon, and shall inure to the benefit of the Parties hereto and their respective successors and permitted assigns.
12. **Amendments.** The terms of this MOA may be amended by mutual agreement of the Parties. The Party seeking an amendment shall submit a written request for amendment to the other Party. The request shall clearly describe the proposed change and why the change is necessary. The responding Party shall schedule a review of the request within thirty (30) days from receipt of the request and shall respond within sixty (60) days from receipt of the request. The responding Party may approve, deny, or suggest modifications to the

amendment. Any amendment shall be in writing, shall refer specifically to this MOA, and shall be executed by both Parties.

13. **Severability.** The terms and conditions of this MOA shall be deemed severable. If any part of this MOA is held invalid or unenforceable, the remaining portions of the MOA shall remain in full force and effect.

IN WITNESS WHEREOF, BBC LLC and CITY, by and through their respective officials designated below, have signed this MOA on the date following their respective signatures.

I, Andrew Crapuchettes, certify, under penalty of perjury pursuant to the law of the State of Idaho, that I am an authorized agent to bind BBC LLC to this MOA and that I have read this MOA, understand its terms, and have had the opportunity to consult with legal counsel or other counsel prior to entering into this MOA. If utilizing a digital signature, I understand that this digital signature is valid and binding upon me to the same force and effect as a handwritten signature and that the acknowledgment before a notary is not required.

BBC LLC

CITY OF MOSCOW

Andrew Crapuchettes,
Manager

Arthur D. Bettge,
Mayor

Date

Date

ATTEST:

Laurie M. Hopkins, City Clerk

Approved as to Form:

Mia Bautista, City Attorney

ACKNOWLEDGMENT

STATE OF IDAHO)
) ss.
COUNTY OF LATAH)

On this _____ day of _____, 2024, before me, a Notary Public in and for said State, appeared Andrew Crapuchettes, known to me to be the person named above and acknowledged that he executed the foregoing document as the duly authorized representative of BBC LLC.

Notary Public for the State of Idaho
Residing at _____
My commission expires _____

Attachment “A”

Figure 1: Aerial Imagery of Park Property from June, 2015



Figure 2: Aerial Imagery of Park Property during the Edington 1st Addition's Construction



Figure 3 Aerial Imagery of Park Property from July, 2022



COMMITTEE / CITY COUNCIL STAFF REPORT

DATE: Monday, October 21, 2024



AGENDA ITEM TITLE

Moscow Police Department Office of Highway Safety Grant Award – Alisa Anderson

RESPONSIBLE STAFF

Alisa Anderson, Grants Manager, Eric Warner

ADDITIONAL PRESENTER(S)

DESCRIPTION

The Moscow Police Department (MPD) has been awarded a grant from the Idaho Traffic Safety Commission (ITSC) for the Federal Fiscal Year (FFY) 2025 Highway Safety Grant. This grant award was previously referred to as the Selective Traffic Enforcement Program (STEP). The MPD submitted the grant request in February 2024 to the Office of Highway Safety (OHS). The grant was included in the Idaho Annual Grant Application to the National Highway Traffic Safety Administration (NHTSA) and approved by the Idaho Transportation Department (ITD) in Summer 2024.

The MPD has participated in this program since October 2021, receiving four prior awards. The program addresses specific behaviors related to traffic safety priority areas and safety deficiencies within local law enforcement jurisdictions and is focused on combatting traffic crashes resulting in fatal and serious injuries. The grant reimburses for law enforcement officer's time dedicated to traffic enforcement to include problem identification, a project plan including objectives, performance measures and safety focused targets. The MPD employs a dedicated traffic enforcement officer; however, the department has formed a "Traffic Enforcement Team" to fulfill the grant requirements for this program. The grant award period is from October 1, 2024, to September 30, 2025. The funding will reimburse for wages and fringe benefits for regular patrol officer wages, and/or overtime, travel, contractual services, training, equipment and consumables. Patrol officer wages can also include hours spent providing public education, distribution of educational materials, and outreach efforts to create a general deterrence toward crash-causing behavior. The MPD has been awarded \$56,000 grant funding with an in-kind match of \$14,000.

REVIEWED BY

PROPOSED ACTIONS

ACTION: Approve the Moscow Police Department to accept an award for the Office of Highway Safety Grant FFY 2025 for \$56,000 with an in-kind match of \$14,000.

STAFF RECOMMENDATION

Approve the Moscow Police Department to accept an award for the Office of Highway Safety Grant FFY 2025 for \$56,000 with an in-kind match of \$14,000.

OTHER RESOURCES

N/A

FISCAL IMPACT

In-kind match of \$14,000 which can include mileage, hard costs, and overtime (not included in other grant programs) allocated to traffic patrols for special events held in Moscow to address program specific safety goals.

PERSONNEL IMPACT

Police, Grants and Finance Departments

ATTACHMENTS

1. Attachment 1 - ITD-667 OHS Grant
2. Attachment 2 - ITD-667a Schedule A
3. Attachment 3 ITD-667b Schedule B Itemization of Budget
4. Attachment 11 - Certification and Assurances



HIGHWAY SAFETY GRANT

Idaho Transportation Department Office of Highway Safety

OFFICE OF HIGHWAY SAFETY			FOR OHS USE ONLY																									
PO Box 7129 Boise, ID 83707-1129 Phone: (208) 334-8100 Fax: (208) 334-4430			Grant Project Name: Moscow Police Department - STEP Grant Project Number/s: SPT2503 \$56,000 \$ \$ Effective Date: From 1-Oct-24 To 30-Sep-25 FAIN: 69A37525300004020ID0 CFDA: 20.600 EIN: 82-6000227																									
1. AGENCY Moscow Police Department Address 155 Southview Ave Moscow, ID 83843			GRANT REVISION SUMMARY <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%; text-align: center;">Date</th> <th style="width: 33%; text-align: center;">Type*</th> <th style="width: 33%; text-align: center;">By</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table> *Type: BCC = Budget Category Change IFF = Increase In Federal Funds PPC = Participation Percentage Change AC = Activity Change GMC = Grant Manager Change DFF = Decrease in Federal Funds		Date	Type*	By																					
Date	Type*	By																										
2. GRANT MANAGER Alisa J. Anderson Title Address PO Box 9203 504 South Washington Moscow, ID 83843 Phone 208-883-7600 FAX E-mail Address aaanderson@ci.moscow.id.us																												
3. GOVERNMENT UNIT/AUTHORIZING OFFICIAL Name Anthony Dahlinger Title Capt Address 155 Southview Ave Moscow, ID 83843 Phone 208-883-7127 FAX E-mail Address adahlinger@ci.moscow.id.us																												
4. GRANT INFORMATION <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Funding Source</th> <th style="width: 15%;">Percentage</th> <th style="width: 20%;">Amount</th> <th style="width: 20%;">Local Benefit</th> <th style="width: 25%;">Amount</th> </tr> </thead> <tbody> <tr> <td>Local (match)</td> <td>25%</td> <td>\$14,000</td> <td>100%</td> <td>\$56,000</td> </tr> <tr> <td>Federal</td> <td>75%</td> <td>\$56,000</td> <td>N/A</td> <td></td> </tr> </tbody> </table>					Funding Source	Percentage	Amount	Local Benefit	Amount	Local (match)	25%	\$14,000	100%	\$56,000	Federal	75%	\$56,000	N/A										
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5. ACCEPTANCE OF CONDITIONS: It is understood and agreed by the below-signed that a grant received as a result of this application is subject to Public Law 89-564 as amended (Highway Safety Act of 1996) and Idaho statutes and all administrative regulations governing grants established by the U.S. Department of Transportation and the State of Idaho. It is agreed that this grant constitutes an official part of the state's Highway Safety Program and that said applicant agency will meet the requirements as set forth herein, including accompanying Schedules A and B which are incorporated herein and made a part of this contract. It is further agreed that applicant agency will be bound to those requirements set forth in the Highway Safety Grant Procedure Manual, published by the Idaho Office of Highway Safety. These requirements include Equal Opportunity assurance, provisions of the Hatch Act, OHS provisions for equipment purchase and maintenance, propriety of copyrights, and inventions and patents. The Office of Highway Safety make no representation or guarantee regarding the availability of federal highway safety funds, and reimbursement of applicant agency costs is subject to such availability.																												
6. AUTHORIZING SIGNATURES <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 45%; text-align: center;"> _____ Grant Manager </td> <td style="width: 10%; text-align: center;"> _____ Date </td> <td style="width: 45%; text-align: center;"> _____ Authorizing Official </td> <td style="width: 10%; text-align: center;"> _____ Date </td> </tr> </table> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; text-align: center;"> _____ Highway Safety Manager Office of Highway Safety </td> <td style="width: 40%; text-align: center;"> _____ Date Approved </td> </tr> </table>					_____ Grant Manager	_____ Date	_____ Authorizing Official	_____ Date	_____ Highway Safety Manager Office of Highway Safety	_____ Date Approved																		
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OFFICE OF HIGHWAY SAFETY
Moscow Police Department STEP Grant
NHTSA Federal Project ID: PT-2025-03-00-00
State Program Number: SPT2503
FAIN: 69A37525300004021D0

PROBLEM STATEMENT

The Idaho Transportation Department, Office of Highway Safety (OHS) is committed to the elimination of deaths, serious injuries and economic losses from motor vehicle crashes through funding integrated high visibility enforcement on a sustained basis in and around the city of Boise for programs and activities that promote safe travel on Idaho's transportation systems. To make progress, OHS is committed to support interventions that promote safety on Idaho roads for all who use them.

Program Area: Police Traffic Services

Countermeasure strategy: Per the "Countermeasures the work...for State Highway Safety Offices" (11th Edition) high-visibility enforcement campaigns for speeding and aggressive driving produce safety-related benefits. Effective countermeasures include outreach and education, CH 4-4.1****, officer training and traffic law enforcement: Uniform Guidelines No. 15, 111.

Moscow is the county seat in Latah County located in the north-central region of Idaho along the border of Washington and has a population of 26,400. Moscow is home of the University of Idaho, an area where there are many young drivers, pedestrians and cyclists in/around the campus. Moscow is 8 miles east of Pullman, Washington and 80 south of Coeur d'Alene. US Hwy 95 and SH8 converge in downtown Moscow.

PERFORMANCE TARGET

To maintain the 5-year average number of traffic crash fatalities at 238 or fewer and the number of speed fatalities to 42 or fewer.

2023 Population (in 1,000's)	Number of Crashes			Number of Persons		Fatal and Injury Crash Rate per 1,000 population
	Total	Fatal	Injury	Killed	Total	
26.4	180	0	39	0	46	1.5

Source: 2023 Idaho Crash Summary

(2019-2023)

- Number of fatalities: 4
- 80% of all fatal crashes were impaired driver involved. People killed 5.

- 41% of suspected serious injury crashes were aggressive driver related. Crash count: 16

Source: itd.Aashtowaresafety.net

FY24 FATALITIES & SERIOUS INJURIES RANKING

Moscow ranked 1st in the area of Pedestrian fatalities and serious injuries in population group: 15,000 – 39,999.

Source: Bonferonis

OBJECTIVE

The goal of the Moscow Police Department is to reduce the number of fatalities and serious injuries in and around Moscow by September 30, 2025.

GRANT TASKS AND DELIVERABLES

The Moscow Police Department will:

1. Increase traffic safety officer hours to dedicate to traffic enforcement duties to promote safety and awareness throughout the city of Moscow to include the University of Idaho campus.
2. Focus patrols in/around the U of I, specifically pedestrians and bicyclists.
3. During high-activity community and university events (parent-family weekends, sports events, homecoming, concerns, academic competitions, fraternity and sorority gatherings, commencement ceremonies and the Lionel Hampton Jazz Festival), increase high visibility enforcement in/around the University.
4. Participate in mobilizations and conduct additional grant funded traffic enforcement activities outside of the scheduled mobilization periods as applicable.

Mobilization Description	Dates	Project
Occupant Protection – Thanksgiving	Nov 22-30, 2024	V249140
Impaired Driving – Holidays	Dec 13, 2024-Jan 2, 2025	SID25EA
Aggressive Driving – Spring	Mar 14-30, 2025	SSC25EA
Distracted Driving - Awareness	Apr 1-12, 2025	SDD25EA
Occupant Protection – Click it or Ticket	May 18-June 1, 2025	SOP25EA
Impaired Driving – July 4 Holiday	July 1-13, 2025	SID25EB
Aggressive Driving – Summer	July 18-Aug 13, 2025 (FHWA funds)	V249140
Impaired Driving – Labor Day	Aug 15-Sep 2, 2025	SID25EC

5. Community Engagement

- a. Attend “National Night Out”, a community policing awareness event to encourage partnership-building between residents and the Moscow Police Department while promoting safety. Make free child passenger car seats available to families in need. In addition, perform child passenger seat checks by certified technicians.

- b. Host the annual Officer Newbill Kids Safety Fair, partnering with local businesses and non-profits to educate children and parents about child bicycle safety, road safety (free bicycle helmets are provided to those in need) and resources in the community.
 - c. Partner with local high schools and SROs for Red Ribbon Week as an opportunity to improve community relations through educational contacts.
 - d. Continue to partner and work closely with the Office of Highway Safety and community partners to highlight the importance of safe driving.
- 6. Social Media
 - a. Include use of social and traditional media sources to educate the public about dangerous driving behaviors.
- 7. Crash Data
 - a. Utilize MPD's computer aided dispatching system to track the number of traffic stops, demographics of those stops, citations issued by individual officers and identify "hot spots".

CLAIMS AND MATCH

1. Reimbursement claims may be submitted monthly but no less than quarterly using form ITD-669 OHS Reimbursement Claim. The Overtime Worksheet must be completed and submitted with the claim. OHS reserves the right to request timesheet and payroll documents for patrol officers. Documentation must easily verify the officers' overtime hours on claim.
 - a. Traffic Patrol conducted during grant funding is to be submitted on the Performance Reports and submitted monthly or with the quarterly reports. Use the report to compile and submit the total number of reportable crashes, traffic contacts and citations issued during grant activity time.
 - b. Examples of match include mileage incurred during enforcement activities, salary for personnel conducting outreach related to the grant activities, percentage of salary of officers working the grant, patrol hours by officers not on grant time. Record the match on the grant reimbursement claim.
 - c. The federal fiscal year ends on September 30, 2025. Grantee must ensure that all funded activities are completed by the end of the federal fiscal year.
2. Submit the FINAL Report no later than October 15th following the end of the federal fiscal year. All claims and reports must be submitted before final reimbursement will be made to grantee.

OTHER GRANT REQUIREMENTS

1. Grantee agrees to the CERTIFICATIONS AND ASSURANCES and will comply with the certification and assurances, as applicable. **THE SIGNATURE PAGE MUST BE SIGNED AND SUBMITTED** with the other Highway Safety Grant documents.
2. System for Award Management (SAM) is required when receiving federal awards or federal funds. This may be accessed at <http://www.sam.gov>.
 - A. The Grantee agrees it will maintain a current registration in the System for Award Management (SAM.gov) during which it has active federal awards. The Grantee will have a UEI (Unique Entity Identifier) which is generated in SAM.gov.
 - B. If OHS discovers the Grantee, or its principals or affiliates is disbarred, suspended, or ineligible from federal contracting, the grant may be terminated immediately.
- 1) Code of Conduct: No employee, officer, or agent of the Grantee shall participate in the selection, award or administration of a contract supported by grant funds if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when any of the following have a financial or other interest in the firm selected for award:
 - a. The employee, officer or agent.
 - b. Any member of his or her immediate family.
 - c. His or her partner.
 - d. An organization which employs or is about to employ any of the above-listed.

The grantee's officers, employees, or agents shall neither solicit nor accept gratuities, favors or anything of monetary value from grantees, potential grantees, or parties to sub-Agreements.

The grantee guarantees it has not entered any form of collusion with anyone, involving any form of payment, dependent upon or resulting from the award of this grant, contract or subcontract(s).

- 2) Conferences, Inspection of Work, Grant Monitoring: Conferences may be held at the request of either party to this Agreement. A representative of OHS and/or the U.S. Department of Transportation can visit the site for the purpose of inspection and/or assessment of work being performed at any time.
- 3) Travel: Grant related local vicinity travel, travel to other parts of the state, and travel outside the state must conform to state policies and procedures. Allowable reimbursements cannot be greater than those authorized for state employees, and reimbursements will be made to the Grantee for grant project travel. State policy requires economical and practical modes of travel, as well as moderate dining and lodging.

- 4) Tax and Compensation Liability: OHS will not incur any liability for worker compensation, FICA, withholding tax, unemployment compensation, or any other payment, which is not a part of the Grant Agreement.
- 5) Responsibility for Claims and Liability: ITD, OHS, NHTSA, FHWA and the U.S. Department of Transportation shall be responsible only for the acts, omissions or negligence of such agency's own employees. The term "employee" is defined for the purposes of this section as set forth in Idaho Code section 6-902. Nothing in this Agreement shall extend the tort responsibility or liability of either ITD or ISP beyond that required by the Idaho Tort Claims Act, Idaho Code section 6-901 et seq. Each party shall be responsible for damage to property of the other party caused by its employees in the performance of the Agreement to the extent funds are legally available, therefore.
- 6) Failure to comply with any of the terms of this Agreement, which includes the Grant Procedure Manual, may jeopardize grantee in receiving future funding from OHS.
- 7) Personal Identifiable Information (PII). As noted under 2 CFR chapter 1, Chapter II, Part 200:
 - a. §200.79 Personally Identifiable Information (PII). PII means information that can be used to distinguish or trace an individual's identity, either alone or when combined with other personal or identifying information that is linked or linkable to a specific individual.
 - b. §200.82 Protected Personally Identifiable Information (Protected PII). Protected PII means an individual's first name or first initial and last name in combination with any one or more of types of information, including, but not limited to, social security number, passport number, credit card numbers, clearances, bank numbers, biometrics, date and place of birth, mother's maiden name, and criminal, medical and financial records, educational transcripts. This does not include PII that is required by law to be disclosed.
 - c. §200.303 Internal Controls. The non-Federal entity must take reasonable measures to safeguard protected personal identifiable information and other information the Federal awarding agency or pass-through entity designates as sensitive or the non-Federal entity considers sensitive consistent with applicable Federal, state, local, and tribal laws regarding privacy and obligations of confidentiality.

The Grantee agrees to comply with requirements of both the Grant Agreement and Grant Procedural Manual. Periodic changes and additions in the manual may be necessary to meet changing federal or state laws, or to improve program management and fiscal procedures. OHS will notify the Grantee in writing of any such changes or additions.

Attachments 1 and 2 are to be completed and submitted before you will be granted a notice to proceed.

Attachment 1: ITD 667 Idaho Highway Safety Grant

Attachment 2: Agency Certification and Assurances FFY25

ADMINISTRATIVE EVALUATION

Evaluation activities will be conducted on a routine basis to ensure that grant objectives are being met. The following information will be provided as part of the OHS Quarterly report and close out evaluations:

1. Provide the number of grant-funded overtime saturation patrols conducted and statewide saturation patrols (mobilizations) in which the Grantee participated. Other than the pre-scheduled traffic enforcement mobilizations periods set by OHS, when and where did the Grantee conduct the traffic enforcement saturation patrols?
2. Did the Grantee take a zero tolerance for unrestrained vehicle occupants (including children)?
3. Did the Grantee conduct public education and awareness activities? Please describe.
4. Were claims and reports submitted as instructed and in a timely manner?

IMPACT EVALUATION

The Moscow Police Department will track reportable crashes and citations monthly and will adjust the enforcement and education strategies appropriately. At the end of the project, MPD will conduct a final evaluation to determine the effectiveness of the enforcement operation by analyzing data regarding the types of crashes and violations observed through enforcement efforts.

OTHER

- This grant will not be used for research and development and does not include indirect costs.
- This project does not include indirect costs.

FUNDING SOURCE

Fiscal Year	Funding Source CFDA	Funding Award Amount	FAIN (Federal Award Identification Number)	Match Amount
FFY 2025	20.600	\$56,000*	69A3752530004020ID0	\$14,000

**Award amount does not include funding for mobilizations which must be applied through Webcars.*

AUDIT

This project will be audited by the State Legislative Audit Program on a biennial basis. This audit process is the customary mechanism employed by the state of Idaho in accordance with Idaho Code 67-449, which is in harmony with OMB circular A-128.

The grant will be audited during the annual audit conducted by the Grantee's audit company that conducts the yearly audit.

AGENCY

Please complete the following information:

Agency _____
Contact Name _____
Contact Phone # _____
Email: _____

FINANCIAL CONTACT

Financial claims will be processed by:

Agency _____
Contact Name _____
Contact Phone # _____
Email: _____

EEO/HUMAN RESOURCES LIAISON

Agency _____
Contact Name & Contact Title _____
Contact Phone # _____
Email: _____

ITD OFFICE OF HIGHWAY SAFETY CONTACT

Agency Representatives: Josephine Middleton, Highway Safety Manager
Josephine.middleton@itd.idaho.gov
208-334-8557

Denise Dinnauer, Grant Contracts Officer
Denise.dinnauer@itd.idaho.gov
(208) 334-4460

Physical Address: 3293 Jordan Street, Boise ID 83707-1129
Mailing Address: P.O. Box 7129, Boise, Idaho 83707-1129

FINANCIAL CONTACT

Nancy Farnsworth
Financial Services
Idaho Transportation Department
Email: Nancy.farnsworth@itd.idaho.gov



ITEMIZATION OF BUDGET

Idaho Transportation Department Office of Highway Safety



ITD-667B 08-24 (Schedule B)

Project Title: Moscow Police Department - STEP

		BUDGET	
		State/Local	Federal
PERSONNEL COSTS (HS H901)			
	STEP Enforcement OT Hrs	\$ 10,220.00	\$ 49,280.00
	STEP Enforcement Reg Hrs	\$ 3,780.00	\$ 6,720.00
		\$ -	\$ -
		\$ 14,000.00	\$ 56,000.00
TRAVEL (HS H902)			
		\$ -	\$ -
		\$ -	\$ -
	Subtotal Travel	\$ -	\$ -
CONTRACTUAL SERVICES (HS H903)			
		\$ -	\$ -
		\$ -	\$ -
	Subtotal Contractual Services	\$ -	\$ -
CONSUMABLES (HS H904)			
		\$ -	\$ -
		\$ -	\$ -
	Subtotal Commodities	\$ -	\$ -
DIRECT COSTS (HS H905)			
		\$ -	\$ -
	Subtotal Other Direct Costs	\$ -	\$ -
INDIRECT COSTS (HS H906)			
		\$ -	\$ -
		\$ -	\$ -
	Subtotal Indirect Costs	\$ -	\$ -
TOTAL		\$ 14,000.00	\$ 56,000.00

Federal Share not to exceed: \$ 56,000.00

Revision #: _____

Project Title: Moscow PD- STEP

Date: _____

Program No.: SPT2503
(list all) _____

APPENDIX A TO PART 1300

CERTIFICATIONS AND ASSURANCES FOR HIGHWAY SAFETY GRANTS

GENERAL REQUIREMENTS

The Grantee will comply with applicable statutes and regulations, including but not limited to: 23 U.S.C. Chapter 4-Highway Safety Act of 1966, as amended. Sec. 1906, Public law 109-59, as amended by Sec. 25024, Public Law 117-58. 23 CFR Part 1300-Uniform Procedures for State Highway Safety Grant Programs. 2 CFR Part 200-Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. 2 CFR Part 1201-Department of Transportation, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.

FEDERAL FUNDING ACCOUNTABILITY AND TRANSPARENCY ACT (FFATA)

The Sub-grantee will comply with FFATA guidance, *OMB Guidance on FFATA Subaward and Executive Compensation Reporting*, August 27, 2010, (https://www.fsr.gov/documents/OMB_Guidance_on_FFATA_Subaward_and_Executive_Compensation_Reporting_08272010.pdf) by reporting to FSR.gov for each sub-grant awarded:

Name of the entity receiving the award.

- Amount of the award.
- Information on the award including transaction type, funding agency, the North American Industry Classification System code or Catalog of Federal Domestic Assistance number (where applicable), program source.
- Location of the entity receiving the award and the primary location of performance under the award, including the city, State, congressional district, and country; and an award title descriptive of the purpose of each funding action.
 - Unique entity identifier (generated by **SAM.gov**).
- The names and total compensation of the five most highly compensated officers of the entity if:
 - (i) the entity in the preceding fiscal year received-
 - (I) 80 percent or more of its annual gross revenues in Federal awards.
 - (II) \$25,000,000 or more in annual gross revenues from Federal awards; and
 - (ii) the public does not have access to information about the compensation of the senior executives of the entity through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 ([15 U.S.C. 78m\(a\), 78o\(d\)](#)) or section 6104 of the Internal Revenue Code of 1986;
- Other relevant information specified by OMB guidance.

NONDISCRIMINATION

(applies to subrecipients as well as States)

The State highway safety agency [and its subrecipients] will comply with all Federal statutes and implementing regulations relating to nondiscrimination ("Federal Nondiscrimination Authorities"). These include but are not limited to:

- Title VI of the Civil Rights Act of 1964 ([42 U.S.C. 2000d](#) et seq., 78 stat. 252), (prohibits

- ++discrimination on the basis of race, color, national origin).
- [49 CFR part 21](#) (entitled Non-discrimination in Federally-Assisted Programs of the Department of Transportation Education of Title VI of the Civil Rights Act of 1964);
- [28 CFR 50.3](#) (U.S. Department of Justice Guidelines for Enforcement of Title VI of the Civil Rights Act of 1964);
- the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. ([42 U.S.C. 4601](#)), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 USC 324 et seq.). and Title IX of the Education Amendments of 1972, as amended ([20 U.S.C. 1681-1683](#) and [1685-1686](#)) (prohibit discrimination on the basis of sex).
- Section 504 of the Rehabilitation Act of 1973. ([29 U.S.C. 794](#) et seq.), as amended, (prohibits discrimination on the basis of disability) and [49 CFR part 27](#).
- The Age Discrimination Act of 1975. as amended, ([42 U.S.C. 6101](#) et seq.), (prohibits discrimination on the basis of age).
- The Civil Rights Restoration Act of 1987, (Pub. L. 100-209), (broadens scope, coverage, and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal aid recipients, subrecipients and contractors, whether such programs or activities are Federally-funded or not);
- Titles II and III c (the Americans with Disabilities Act ([42 U.S.C. 12131-12189](#))) (prohibits discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing) and [49 CFR parts 37](#) and [38](#).
- [Executive Order 12898](#), Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (preventing discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations).
- [Executive Order 13166](#), Improving Access to services for Persons with Limited English Proficiency (requiring that recipients of Federal financial assistance provide meaningful access for applicants and beneficiaries who have limited English proficiency (LEP)).
- [Executive Order 13985](#), Advancing Racial Equity and Support for Underserved Communities through the Federal Government (advancing equity across the Federal Government); and
- [Executive Order J3988](#), Preventing and Combating Discrimination on the Basis of Gender Identity or Sexual Orientation (clarifying that sex discrimination includes discrimination on the grounds of gender identity or sexual orientation).

The preceding statutory and regulatory cites hereinafter are referred to as the "Acts" and "Regulations," respectively.

GENERAL ASSURANCES

In accordance with the Acts, the Regulations, and other pertinent directives, circulars, policy, memoranda, and/or guidance, the Recipient hereby gives assurance that it will promptly take any measures necessary to ensure that:

"No person in the United States shall, on the grounds of race, color, or national origin, be excluded, from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the Recipient receives Federal financial assistance, from DOT including NHISA"

The Civil Rights Restoration Act of 1987 clarified the original intent of Congress, with respect to Title VI of the Civil Rights Act of 1964 and other non-discrimination requirements (the Age Discrimination Act of 1975, and Section 504 of the Rehabilitation Act of 1973), by restoring the broad, institutional-wide scope and coverage of these nondiscrimination statutes and requirements to include all programs and activities of the Recipient, so long as any portion of the program is Federally assisted.

SPECIFIC ASSURANCES

More specifically, and without limiting the above general Assurance, the Recipient agrees with and gives the following Assurances with respect to its Federally assisted Highway Safety Grant Program:

1. The Recipient agrees that each "activity," "facility," or "program," as defined in § 21.23(b) and (e) of [49 CFR part 21](#) will be (with regard to an "activity") facilitated, or will be (with regard to a "facility") operated, or will be (with regard to a "program") conducted in compliance with all requirements imposed by, or pursuant to the Acts and the Regulations.
2. The Recipient will insert the following notification in all solicitations for bids, Requests For Proposals for work, or material subject to the Acts and the Regulations made in connection with all Highway Safety Grant Programs and, in adapted form, in all proposals for negotiated agreements regardless of funding source:
"The [name of Recipient, in accordance with the provisions of Title VI of the Civil Rights Act 1964 (78 Stat. 252, 42 USC 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantage business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award."
3. The Recipient will insert the clauses of appendix A and E of this Assurance (also referred to as DOT Order 1050.2A) in every contract or agreement subject to the Acts and the Regulations.
4. The Recipient will insert the clauses of appendix B of DOT Order 1050.2A, as a covenant running with the land, in any deed from the United States effecting or recording a transfer of real property, structures, use, or improvements thereon or interest therein to a Recipient.
5. That where the Recipient receives Federal financial assistance to construct a facility, or part of a facility, the Assurance will extend to the entire facility and facilities operated in connection therewith.

6. That where the Recipient receives Federal financial assistance in the form of, or for the acquisition of, real property or an interest in real property, the Assurance will extend to rights to space on, over, or under such property.
7. That the Recipient will include the clauses set forth in appendix C and appendix D of this DOT Order 1050.2A, as a covenant running with the land, in any future deeds, leases, licenses, permits, or similar instruments entered into by the Recipient with other parties:
 - a. for the subsequent transfer of real property acquired or improved under the applicable activity, project, or program; and
 - b. for the construction or use of, or access to, space on, over, or under real property acquired or improved under the applicable activity, project, or program.
8. That this Assurance obligates the Recipient for the period during which Federal financial assistance is extended to the program, except where the Federal financial assistance is to provide, or is in the form of, personal property, or real property, or interest therein, or structures or improvements thereon, in which case the Assurance obligates the Recipient, or any transferee for the longer of the following periods:
 - a. the period during which the property is used for a purpose for which the Federal financial assistance is extended, or for another purpose involving the provision of similar services or benefits; or
 - b. the period during which the Recipient retains ownership or possession of the property.
9. The Recipient will provide for such methods of administration for the program as are found by the Secretary of Transportation or the official to whom he/she delegates specific authority to give reasonable guarantee that it, other recipients, sub-recipients, sub-grantees, contractors, subcontractors, consultants, transferees, successors in interest, and other participants of Federal financial assistance under such program will comply with all requirements imposed or pursuant to the Acts, the Regulations, and this Assurance.
10. The Recipient agrees that the United States has a right to seek judicial enforcement with regard to any matter arising under the Acts, the Regulations, and this Assurance.

By signing this ASSURANCE, the Sub-grantee also agrees to comply with all applicable provisions governing NHTSA's access to records, accounts, documents, information, facilities, and staff. You also recognize that you must comply with any program or compliance reviews, and/or complaint investigations conducted by NHTSA. You must keep records, reports, and submit the material for review upon request to NHTSA, or its designee in a timely, complete, and accurate way. Additionally, you must comply with all other reporting, data collection, and evaluation requirements, as prescribed by law or detailed in program guidance.

The sub-grantee gives this ASSURANCE in consideration of and for obtaining any Federal grants, loans, contracts, agreements, property, and/or discounts, or other Federal-aid and Federal financial assistance extended after the date hereof to the recipients by the U.S. Department of Transportation under the Highway Safety Grant Program. This ASSURANCE is binding on the State highway safety agency, other recipients, sub-recipients, sub-grantees, contractors, subcontractors and their subcontractors', transferees, successors in interest, and any other participants in the Highway Safety Grant Program. The person(s) signing below is/are authorized to sign this ASSURANCE on behalf of the Recipient.

The Sub-grantee will provide a drug-free workplace by:

- a. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition.
- b. Establishing a drug-free awareness program to inform employees about:
 1. The dangers of drug abuse in the workplace.
 2. The grantee's policy of maintaining a drug-free workplace; Any available drug counseling, rehabilitation, and employee assistance programs.
 3. The penalties that may be imposed upon employees for drug violations occurring in the workplace.
 4. Making it a requirement that each employee engaged in the performance of the grant be given a copy of the statement required by paragraph (a).
- c. Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will-
 1. Abide by the terms of the statement.
 2. Notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five days after such conviction.
- d. Notifying the agency within ten days after receiving notice under subparagraph (c)(2) from an employee or otherwise receiving actual notice of such conviction.
- e. Taking one of the following actions, within 30 days of receiving notice under subparagraph (c)(2), with respect to any employee who is so convicted-
 1. Taking appropriate personnel action against such an employee, up to and including termination.
 2. Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency.
- f. Making a good faith effort to continue to maintain a drug-free workplace through implementation of all the paragraphs above.

POLITICAL ACTIVITY (HATCH ACT)

(applies to subrecipients as well as States)

The Sub-grantee will comply with provisions of the Hatch Act ([5 U.S.C. 1501-1508](#)), which limits the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

CERTIFICATION REGARDING FEDERAL LOBBYING

(applies to subrecipients as well as States)

CERTIFICATION FOR CONTRACTS, GRANTS, LOANS, AND COOPERATIVE AGREEMENTS

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement;
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions;
3. The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, subgrants, and contracts under grant, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

RESTRICTION ON STATE LOBBYING

(applies to subrecipients as well as States)

None of the funds under this program will be used for any activity specifically designed to urge or influence a State or local legislator to favor or oppose the adoption of any specific legislative proposal pending before any State or local legislative body. Such activities include both direct and indirect (*e.g.*, "grassroots") lobbying activities, with one exception. This does not preclude a State official whose salary is supported with NHTSA funds from engaging in direct communications with State or local legislative officials, in accordance with customary State practice, even if such communications urge legislative officials to favor or oppose the adoption of a specific pending legislative proposal.

CERTIFICATION REGARDING DEBARMENT AND SUSPENSION

(applies to subrecipients as well as States)

INSTRUCTIONS FOR PRIMARY TIER PARTICIPANT CERTIFICATION (STATES)

1. By signing and submitting this proposal, the prospective primary tier participant is providing the certification set out below and agrees to comply with the requirements of / [CFR parts 180 and 1200](#).
2. The inability of a person to provide the certification required below will not necessarily result in

denial of participation in this covered transaction. The prospective primary tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary tier participant to furnish a certification or an explanation shall disqualify such person from participation in this transaction.

3. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default or may pursue suspension or debarment.
4. The prospective primary tier participant shall provide immediate written notice to the department or agency to which this proposal is submitted if at any time the prospective primary tier participant learns its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
5. The terms **covered transaction, civil judgment, debarment, suspension, ineligible, participant, person, principal, and voluntarily excluded**, as used in this clause, are defined in [2 CFR parts 180](#) and [1200](#). You may contact the department or agency to which this proposal is being submitted for assistance in obtaining a copy of those regulations.
6. The prospective primary tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is proposed for debarment under [48 CFR part 9, subpart 9.4](#), debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.
7. The prospective primary tier participant further agrees by submitting this proposal that it will include the clause titled "Instructions for Lower Tier Participant Certification" including the "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions and will require lower tier participants to comply with [2 CFR parts 180](#) and [1200](#).
8. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not proposed for debarment under [48 CFR part 9, subpart 9.4](#), debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any prospective lower tier participants, each participant may, but is not required to, check the System for Award Management Exclusions website (<https://www.sam.gov>).
9. Nothing contained in the foregoing shall be construed to require establishment of a system

of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

10. Except for transactions authorized under paragraph 6 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is proposed for debarment under [48 CFR part 9, subpart 9.4](#), suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate the transaction for cause or default.

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY

INSTRUCTIONS FOR LOWER TIER PARTICIPANT CERTIFICATION

1. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below and agrees to comply with the requirements of [2 CFR parts 180](#) and [1200](#).
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension or debarment.
3. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms **covered transaction, civil judgment, debarment, suspension, ineligible, participant, person, principal, and voluntarily excluded**, as used in this clause, are defined in [2 CFR parts 180](#) and [1200](#). You may contact the person to whom this proposal is submitted for assistance in obtaining a copy of those regulations.
5. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is proposed for debarment under [48 CFR part 9, subpart 9.4](#), debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
6. The prospective lower tier participant further agrees by submitting this proposal that it will include the clause titled "Instructions for Lower Tier Participant Certification" including the "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions and will require lower tier participants to comply with [2 CFR parts 180](#) and [1200](#).
7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not proposed for debarment under [48 CFR part 9,](#)

[subpart 9.4](#), debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any prospective lower tier participants, each participant may, but is not required to, check the System for Award Management Exclusions website

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8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is proposed for debarment under [48 CFR part 9, subpart 9.4](#), suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension or debarment.

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION-LOWER TIER COVERED TRANSACTIONS

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.
2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

BUY AMERICA

(applies to subrecipients as well as States)

The State and each subrecipient will comply with the Buy America requirement ([23 U.S.C. 313](#)) when purchasing items using Federal funds. Buy America requires a State, or subrecipient, to purchase with Federal funds only steel, iron and manufactured products produced in the United States, unless the Secretary of Transportation determines that such domestically produced items would be inconsistent with the public interest, that such materials are not reasonably available and of a satisfactory quality, or that inclusion of domestic materials will increase the cost of the overall project contract by more than 25 percent. In order to use Federal funds to purchase foreign produced items, the State must submit a waiver request that provides an adequate basis and justification for approval by the Secretary of Transportation.

CERTIFICATION ON CONFLICT OF INTEREST

(applies to subrecipients as well as States)

GENERAL REQUIREMENTS

No employee, officer, or agent of a State or its subrecipient who is authorized in an official capacity to negotiate, make, accept, or approve, or to take part in negotiating, making, accepting, or approving any subaward, including contracts or subcontracts, in connection with this grant shall have, directly or indirectly, any financial or personal interest in any such subaward. Such a financial or personal interest would arise when the employee, officer, or agent, any member of his or her immediate family, his or her partner, or an organization which employs or is about to employ any of the parties indicated herein, has a financial or personal interest in or a tangible personal benefit from an entity considered for a subaward. Based on this policy:

1. The recipient shall maintain a written code or standards of conduct that provide for disciplinary actions to be applied for violations of such standards by officers, employees, or agents.
 - a. The code or standards shall provide that the recipient's officers, employees, or agents may neither solicit nor accept gratuities, favors, or anything of monetary value from present or potential sub awardees, including contractors or parties to subcontracts.
 - b. The code or standards shall establish penalties, sanctions, or other disciplinary actions for violations, as permitted by State or local law or regulations.
2. The recipient shall maintain responsibility to enforce the requirements of the written code or standards of conduct.

DISCLOSURE REQUIREMENTS

No State or its subrecipient, including its officers, employees, or agents, shall perform or continue to perform under a grant or cooperative agreement, whose objectivity may be impaired because of any related past, present, or currently planned interest, financial or otherwise, in organizations regulated by **NHTSA** or in organizations whose interests may be substantially affected by NHTSA activities. Based on this policy:

1. The recipient shall disclose any conflict of interest identified as soon as reasonably possible, making an immediate and full disclosure in writing to NHTSA. The disclosure shall include a description of the action which the recipient has taken or proposes to take to avoid or mitigate such conflict.
2. NHTSA will review the disclosure and may require additional relevant information from the recipient. If a conflict of interest is found to exist, NHTSA may (a) terminate the award, or (b) determine that it is otherwise in the best interest of NHTSA to continue the award and include appropriate provisions to mitigate or avoid such conflict.
3. Conflicts of interest that require disclosure include all past, present, or currently planned organizational, financial, contractual, or other interest(s) with an organization regulated by NHTSA or with an organization whose interests may be substantially affected by NHTSA activities, and which are related to this award. The interest(s) that require disclosure include those of any recipient, affiliate, proposed consultant, proposed subcontractor, and key personnel of any of the above. Past interest shall be limited to within one year of the date of award. Key personnel shall include any person owning more than a 20 percent interest in a recipient, and the officers, employees or agents of a recipient who are responsible for making a decision or taking an action under an award where the decision or action can have an economic or other impact on the interests of a regulated or affected organization.

PROHIBITION ON USING GRANT FUNDS TO CHECK FOR HELMET USAGE

(applies to subrecipients as well as States)

The State and each subrecipient will not use 23 U.S.C. Chapter 4 grant funds for programs to check helmet usage or to create checkpoints that specifically target motorcyclists.

POLICY ON SEAT BELT USE

In accordance with [Executive Order 13043](#), Increasing Seat Belt Use in the United States, dated April 16, 1997, the Grantee is encouraged to adopt and enforce on-the-job seat belt use policies and programs for its employees when operating company-owned, rented, or personally-owned vehicles. The National Highway Traffic Safety Administration (NHTSA) is responsible for providing leadership and guidance in support of this Presidential initiative. For information and resources on traffic safety programs and policies for employers, please contact the Network of Employers for Traffic Safety (NETS), a public-private partnership dedicated to improving the traffic safety practices of employers and employees. You can download information on seat belt programs, costs of motor vehicle crashes to employers, and other traffic safety initiatives at www.trafficseety.org. The NHTSA website (www.nhtsa.gov) also provides information on statistics, campaigns, and program evaluations and references.

POLICY ON BANNING TEXT MESSAGING WHILE DRIVING

In accordance with [Executive Order 13513](#), Federal Leadership On Reducing Text Messaging While Driving, and DOT Order 3902.10, Text Messaging While Driving, Sub-grantees are encouraged to adopt and enforce workplace safety policies to decrease crashes caused by distracted driving, including policies to ban text messaging while driving company-owned or rented vehicles, Government-owned, leased or rented vehicles, or privately-owned vehicles when on official Government business or when performing any work on or behalf of the Government. Sub-grantees are also encouraged to conduct workplace safety initiatives in a manner commensurate with the size of the business, such as establishment of new rules and programs or re-evaluation of existing programs to prohibit text messaging while driving, and education, awareness, and other outreach to employees about the safety risks associated with texting while driving.

I understand that my statements in support of the State's application for Federal grant funds. I sign these Certifications and Assurances based on personal knowledge, and after appropriate inquiry.

Signature, Contractor Representative _____ **Date:** _____

Printed name of Contractor Representative: _____

COMMITTEE / CITY COUNCIL STAFF REPORT

DATE: Monday, October 21, 2024



AGENDA ITEM TITLE

Moscow Police Department Annual Small Grant Requests and Awards – Alisa Anderson

RESPONSIBLE STAFF

Alisa Anderson, Grants Manager

ADDITIONAL PRESENTER(S)

DESCRIPTION

The City of Moscow Police Department (MPD) applies for several small grants on an annual basis which assist the department with the purchase of equipment to include bullet-proof vests, to host various traffic enforcement mobilizations and other prevention and safety activities. The grants awarded to MPD provide funding and resources to protect our youngest citizens, operational and personal safety equipment, and program support to implement and host multiple safety programs. These resources assist MPD in their mission of community-oriented policing to improve the quality of life for Moscow residents through community partnerships and problem-solving approaches, while also making sure the officers are outfitted and equipped with everything they need to safely do their jobs. These programs are described as follows:

The Bulletproof Vest Partnership (BVP), created by the BVP Grant Act of 1998, is a unique U.S. Department of Justice initiative designed to provide a critical resource to state and local law enforcement. Program recipients are provided an armor vest that is uniquely fitted for each officer to provide the best possible fit and coverage. Through this program, the MPD is awarded 50% reimbursement of vests purchased each year.

The Traffic Enforcement Grant through the Idaho Transportation Department (ITD) Office of Highway Safety (OHS) enables MPD to participate in local and statewide traffic enforcement mobilizations. The MPD can select from various High Visibility Enforcement (HVE) mobilizations focused on seatbelt compliance, impaired, aggressive or distracted driving which are held throughout the year, or apply for a mini-grant to host a specific mobilization during a local event to emphasize safety enforcement. The City is reimbursed for officer overtime plus a percent of benefits (regular time is not eligible) during the events. See the attached Agreement, Certifications and Assurances, and Financial Risk Assessment required for execution in order to participate in these events.

The MPD also participates in a program hosted by the Idaho Office of Drug Policy through a Partnership for Success Law Enforcement grant aimed at preventing underaged drinking and drug use through compliance checks, interdiction activities, party patrols and shoulder tap operations. The MPD also works with the University of Idaho to provide educational presentations on topics related to the effects of marijuana, methamphetamine, and underage drinking. The MPD is reimbursed for staff time plus benefits for hours spent while performing a specific duty or educational presentation.

REVIEWED BY

PROPOSED ACTIONS

ACTION: Approve requests and awards for small grants applied for by the Moscow Police Department not to exceed a combined total of \$50,000 for the FY2025 fiscal year.

STAFF RECOMMENDATION

Approve requests and awards for small grants applied for by the Moscow Police Department not to exceed a combined total of \$50,000 for the FY2025 fiscal year.

OTHER RESOURCES

Not applicable.

FISCAL IMPACT

BVP program is 50% match and all others are in-kind or no match.

PERSONNEL IMPACT

Police, Grants and Finance Departments.

ATTACHMENTS

1. FY25 TEGPA
2. FY25 Financial Risk Assessment
3. FY25 Certification and Assurances



IDAHO TRANSPORTATION DEPARTMENT OFFICE OF HIGHWAY SAFETY FFY 2025 Traffic Enforcement Grant Project Agreement (TEGPA)

This agreement for FFY 2025 is made and enter into by and between: (Agency Name)
_____, hereinafter referred to as “Contractor” and the Idaho Transportation
Department Office of Highway Safety, hereinafter referred to as “OHS” on the ____ day of _____,
20__.

IT IS THE PURPOSE OF THIS AGREEMENT to provide National Highway Traffic Safety Administration (NHTSA), funded assistance to the Contractor for participation in local and statewide traffic projects as specified in the Triennial Highway Safety Plan (3HSP) target focus areas for the following safety related activities:

- High visibility traffic enforcement (HVE) mobilization
- Mini-grants that support special emphasis traffic enforcement
- Mini-grants that support traffic enforcement equipment projects
- Mini-grants that support public participation and engagement (PP&E)
- Mini-grants that support traffic safety related training

THE GOAL OF THIS AGREEMENT is to establish project requirements and a funding process to support the efforts of the contractor to reduce deaths, serious injuries, and economic loss as established in the 3HSP.

It is, therefore, mutually agreed that:

1. Contractor will conduct traffic enforcement mobilizations and/or mini-grants in accordance with the criteria established by OHS, for each mobilization and/or traffic mini grant.
2. Contractor will provide a commissioned police officer (active or paid reserve) with appropriate equipment (vehicle, radar, etc.) under conditions identified under Part 5 of this agreement to enforce impaired driving, alcohol beverage control, distracted driving, aggressive driving, safety restraint, school zone violations, bicycle, pedestrian, motorcycle laws with emphasis as designated by OHS and/or crash problem identification.
3. Contractor and/or partnering enforcement agencies will publicize the enforcement effort to increase effectiveness by.
 - a. Working with the media to increase the awareness of enforcement efforts; and
 - b. Provide pre and post public outreach such as press releases, social media posts, or other messaging efforts. Make note of efforts on the Performance Report.
4. Contractor will take a zero tolerance for unbuckled passengers and children during all OHS funded mobilizations and mini grants.
5. Based on the availability of funding and by signing this agreement, Contractor agrees to support statewide highway safety public awareness campaigns and will accept the benefits of having the earned and paid media run in their local communities.
6. OHS will reimburse Contractor for traffic enforcement grant activities at the rate of up to 1.5 times the officer’s regular hourly rate plus Contractor’s contribution to employee benefits,

which are FICA/Medicare, unemployment, worker's compensation and PERSI. Agencies that use reservists may pay up to 1.5 times their documented established hourly rate for traffic enforcement grant activities.

- a. For this agreement, regular-on-duty personnel hours are not eligible for reimbursement (unless a pre-arranged agreement is made, or it is otherwise state in the Contractor policy.)
 - b. For this agreement, salaried positions are ineligible for reimbursement unless overtime is allowed and documented through Contractor policies.
 - c. Necessary additional dispatch service overtime may be reimbursed if requested prior to the grant activity.
 - d. Any calls for service that last more than 30 minutes are not considered a "grant activity" and cannot be claimed as grant time.
7. Participation in future mobilizations and mini grants is contingent on at least satisfactory performance during the prior mobilization, as determined by OHS. MNTSA has published a guide that outlines specific strategies and countermeasures relevant to the focus areas.
8. Contractor must submit the following forms in accordance with OHS requirements:
 - a. Performance Reports – required to be completed and submitted via WebCars
 - i. Only the grant funded citations, warnings and contacts are required to be reported.
 - ii. Agencies are encouraged to conduct public participation and engagement along with outreach and report it in the Performance Reports.
 - b. Overtime Reimbursement Claim Form – complete and submit via WebCars.
 - i. The claim must be signed by an authorizing official whose signature can be verified through their individual login.
 - ii. The overtime claim must not be signed by anyone who worked the mobilization.
 - c. Payroll Register – Must be available for review upon request from OHS for the period claimed in the reimbursement claim.
 - i. Payroll verification may be computer generated payroll registers or copies of payroll warrants.
 - ii. Timesheets must be provided and are not considered payroll verification.
 - iii. When possible, payroll verification should be coded to differentiate between OHS grant funded overtime and other sources.
 - d. Contractor will submit reimbursement claim and performance reports withing 30 days of completion of the mobilization or grant activity. **Note:** Claims received after October 15th may not be eligible for reimbursement.
 - e. No documentation, reports or claims submitted to OHS may contain Contractor or its employees', agents or subcontractors' protected personally identifiable information (Protected PIII).
9. Assurances and other grant requirement require by NHTSA for all organizations receiving federal grant funds:
 - a. Attachment 1 - Agency Certification and Assurances FFY24
 - b. Attachment 2 – Risk Assessment (information provided by the Contractor's financial contact.)

10. Other Grant Requirements:

- a. Unique Entity Identifier (UEI)
 - i. The General Services Administration (GSA) requires federal funding recipients to have a UEI which is generated by SAM.gov, therefore recipients are to keep their registration current to ensure they receive their UEO.
 - ii. The Contractor agrees it shall maintain current registration in the System for Award Management, SAM.gov, at all times during which it has active federal awards.
 - iii. If the Contractor or its principals or affiliates is disbarred, suspended or ineligible from federal contracting, the Agreement may be terminated immediately.
- b. Personal Identifiable Information (PII) - as noted under 2 CPR Chapter 1, Chapter II, Part 200.79, 200.82, 200.303.
- c. Procurement of equipment and materials – equipment purchases shall be subject to requirements governing this agreement, including those for procurement of materials and leasing of equipment.
- d. Code of Conduct – No employee, officer or agent of the Contractor shall participate in the selection, award or administration of a contract supported by grant funds if a conflict of interest, real or apparent, would be involved. Such a conflict may arise when any of the following have a financial or other interest in the firm selected for award:
 - i. The employee, officer, or agent.
 - ii. Any member of his or her immediate family.
 - iii. His or her partner.
 - iv. An organization which employs or is about to employ any of the above listed.The contractor guarantees it has not entered into any form of collusion with anyone involving any form of payment, dependent upon or resulting from the award of this contract or subcontract(s).
- e. Conferences, inspection of work, grant monitoring – conferences may be held at the request of either party to this agreement. Conferences may be held in person or by virtual meeting. A representative of OHS and/or the US Department of Transportation (DOT) can conduct an onsite visit for the purpose of inspection and/or assessment of work being performed at any time.
- f. Travel – Grant related local vicinity travel, travel to other parts of the state, and travel outside the state must conform to state policies and procedures. Allowable reimbursements cannot be greater than those authorized for state employees and reimbursements will be made to the Contractor for grant project travel. State policy requires economical and practical modes of travel, as well as moderate dining and lodging.
- g. Tax and compensation liability – OHS will not incur any liability for workers compensation, FICA, withholding tax, unemployment compensation, or any other payment which is not a part of the grant agreement.
- h. Policy inclusion – to receive highway safety grant funds, OHS requires that the Contractor have a Seat Belt Use policy in effect or implement one prior to completion of the agreement. If requested OHS, Contractor will submit their policy to OPH prior to execution of the agreement.

- i. Responsibility for claims and liability – Contractor shall be required to save and hold harmless OHS, ITD, NHTSA, FHWA and US DOT from all claims and/or liability due to the negligent acts of the Contractor or the Contractor’s subcontractor(s), agents or employee(s).
- j. Failure to comply - with any terms of this agreement may jeopardize Contractor in receiving future funding from OHS.
- k. Eligible organizations – agree to indemnify, defend, and hold harmless ITD, its officers, agents, employees’ from and against any and all claims, suits, losses, damages or costs, including reasonable attorney’s fees arising from or by the use of grants.
- l. Any dispute, disagreement, or question of fact – concerning this agreement shall be decided by the OHS Highway Safety manager, OHS HSM. The decision shall be in writing and shall be distributed to the parties concerned. If the Contractor disagrees with the decision by the OHS Highway Safety Manager, the decision may be appealed to the Director of ITD. The appeal must be made in writing within 30 days of the OHS HSM decision and served by certified mail.
- m. Agreement including attachment – constitutes the entire agreement between the parties on the subject matter hereof. There are no understanding, agreements, or representations (oral or written), not specified herein regarding this agreement, shall bind either party unless in writing and signed by both parties and all necessary approvals have been obtained.
- n. Nothing in this agreement – shall be construed as limiting or expanding the statutory or regulatory responsibilities of any involved agency or individual in performing functions granted to them by law; or as requiring either entity to expend any sum in excess of its respective appropriation. Each provision to this agreement is subject to the laws and regulations of the State of Idaho and the United States.
- o. Either party may terminate – this agreement upon 30 days written notice to the other party. In the event of termination of this agreement, the terminating party shall be liable for the performance rendered prior to the effective date of termination.
- p. The parent entity for this contractor – certifies that it conducts an annual audit in accordance to, 2CFR part 200 Subpart F, which is available for review upon request. In addition, this contractor has no financial or compliance issues.

Agency Primary Contact (Required) *(Individual with signing authority for the Contractor)*

Name	
Title	
WebCar Account: Yes/No	
Phone	
Email Address	
Contractor Physical Address	
Warrant Mailing Address	
UEI <i>(Unique Entity Identifier)</i>	
*Benefit Percentage Rate for Overtime	
Parent Entity Name <i>(if applicable)</i>	

**Benefit includes FICA/Medicare, unemployment, worker’s compensation, and PERSI – is usually not more than 24%*

Contractor Grant Manager Contact (Required) *(Individual who manages day-to-day grant activities)*

Name	
Title	
WebCar Account: Yes/No	
Phone	
Email Address	

Additional Agency Contact (Optional) *(Individual who will act as a backup for day-to-day grant activities.)*

Name	
Title	
WebCar Account: Yes/No	
Phone	
Email Address	

Financial Contact (Required) *(individual who is the financial is responsible for claims and finances.)*

Name	
Title	
WebCar Account: Yes/No	
Organization	
Phone	
Email Address	

Contractor's Agent

Contractor Authorizing Signature: *(Individual with legal authorization to enter into agreement with the ITD on behalf of the contractor.)*

Print Name:

Title:

Date:

State's Agent, OHS

Josephine Middleton, Highway Safety Manager

Date:

Subrecipient Financial Risk Assessment FY25

Instructions: Subrecipient must provide information for areas in blue only.

Subrecipient Name:	Project:
	Award Period:

	Topic	Yes	No	NA	Comments
A.	Financial Information (Information under Section A must be provided by the Financial Contact for the Subrecipient)				
1	Did the Subrecipient's Parent Entity (City or County) expend more than \$750,000 in federal funding during the previous fiscal year ? If yes , please complete Comments section to indicate whether a single audit through the Federal Audit Clearinghouse (FAC) was conducted in accordance with 2 CFR 200.514. <i>Attach audit summary pages (if applicable).</i>				Amount of Federal Funding Expended \$ _____ Year 20 _____ Audit submitted to FAC? Yes / No Year Audit Completed : _____
2	If the Subrecipient's prior year financial audit did not have any material finding(s) that will affect ITD, check Yes. (If the answer is No, the subrecipient must indicate if/when they were resolved.) <i>Attach a copy of pages showing results and correction plan (if applicable).</i>				Findings: Yes / No Page# _____ Summary pages attached: _____ Findings Resolved: Yes/ No Date: _____
3	Subrecipient shall provide an active Unique Entity Identifier* (UEI) .				UEI # _____ Expiration Date _____
4	Subrecipient agrees to provide timesheets and payroll verification showing overtime was paid on grant-funded activity upon request by OHS.				
5	The Subrecipient agrees to retain documentation records for grant funded activities for up to three years for monitoring by OHS.				

B.	Organization & Grant Management				
1	Has the subrecipient's organization remained unchanged during the previous year ? (i.e. Chief, Sheriff, management staff)				
2	Is the subrecipient's grant management and accounting system the same as the previous year? If not, please explain.				
3	Subrecipient agrees to provide contact/citation activity and mileage logs upon request by OHS.				
4	Subrecipient is aware that equipment purchased through OHS grant funds must be made available for up to three years for inspection.				

Signature on original required by the Parent Entity Financial Contact

The information above is accurate to the best of my knowledge.	*Unique Entity Identifier (UEI) is now required instead of the DUNS or CAGE numbers, the UEI is available from www.SAM.gov
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Signature:	Date:	Print Name:
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To be completed by The Office of Highway Safety

C.	Experience				
1	Does the recipient have experience with the same or similar grants?				
2	Has the subrecipient had at least three years of experience with federal grants?				
3	Did the subrecipient consistently and accurately submit their claims and reports on time?				
4	Was payroll and timesheet documentation provided upon request the previous FY? Were there any issues identified?				
TOTALS					
Risk Score:					

Rating Scale (Based on the number of No's)

0 - 2	Subrecipient is considered low risk.	Low Risk	Provide standard monitoring
3 - 6	Subrecipient is considered medium risk.	Medium Risk	Provide additional monitoring including training is warranted.
7 - 10	Subrecipient is considered high risk.	High Risk	Provide close monitoring, training and action if required.

General overview of Subrecipient performance:

Commendations, problems or concerns:

Corrective action necessary:

OHS Reviewer:	Date:
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APPENDIX A TO PART 1300

CERTIFICATIONS AND ASSURANCES FOR HIGHWAY SAFETY GRANTS

GENERAL REQUIREMENTS

The Grantee will comply with applicable statutes and regulations, including but not limited to: 23 U.S.C. Chapter 4-Highway Safety Act of 1966, as amended. Sec. 1906, Public law 109-59, as amended by Sec. 25024, Public Law 117-58. 23 CFR Part 1300-Uniform Procedures for State Highway Safety Grant Programs. 2 CFR Part 200-Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. 2 CFR Part 1201-Department of Transportation, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.

FEDERAL FUNDING ACCOUNTABILITY AND TRANSPARENCY ACT (FFATA)

The Sub-grantee will comply with FFATA guidance, *OMB Guidance on FFATA Subaward and Executive Compensation Reporting*, August 27, 2010, (https://www.fsrs.gov/documents/OMB_Guidance_on_FFATA_Subaward_and_Executive_Compensation_Reporting_08272010.pdf) by reporting to FSRS.gov for each sub-grant awarded:

Name of the entity receiving the award.

- Amount of the award.
- Information on the award including transaction type, funding agency, the North American Industry Classification System code or Catalog of Federal Domestic Assistance number (where applicable), program source.
- Location of the entity receiving the award and the primary location of performance under the award, including the city, State, congressional district, and country; and an award title descriptive of the purpose of each funding action.
 - o Unique entity identifier (generated by **SAM.gov**).
- The names and total compensation of the five most highly compensated officers of the entity if:
 - (i) the entity in the preceding fiscal year received-
 - (I) 80 percent or more of its annual gross revenues in Federal awards.
 - (II) \$25,000,000 or more in annual gross revenues from Federal awards; and
 - (ii) the public does not have access to information about the compensation of the senior executives of the entity through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 ([15 U.S.C. 78m\(a\), 78o\(d\)](#)) or section 6104 of the Internal Revenue Code of 1986;
- Other relevant information specified by OMB guidance.

NONDISCRIMINATION

(applies to subrecipients as well as States)

The State highway safety agency [and its subrecipients] will comply with all Federal statutes and implementing regulations relating to nondiscrimination ("Federal Nondiscrimination Authorities"). These include but are not limited to:

- Title VI of the Civil Rights Act of 1964 ([42 U.S.C. 2000d](#) et seq., 78 stat. 252), (prohibits ++discrimination on the basis of race, color, national origin).
- [49 CFR part 21](#) (entitled Non-discrimination in Federally-Assisted Programs of the

- Department of Transportation Education of Title VI of the Civil Rights Act of 1964);
- [28 CFR 50.3](#) (U.S. Department of Justice Guidelines for Enforcement of Title VI of the Civil Rights Act of 1964);
- the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. ([42 U.S.C. 4601](#)), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 USC 324 et seq.). and Title IX of the Education Amendments of 1972, as amended ([20 U.S.C. 1681-1683](#) and [1685-1686](#)) (prohibit discrimination on the basis of sex).
- Section 504 of the Rehabilitation Act of 1973. ([29 U.S.C. 794](#) et seq.), as amended, (prohibits discrimination on the basis of disability) and [49 CFR part 27](#).
- The Age Discrimination Act of 1975. as amended, ([42 U.S.C. 6101](#) et seq.), (prohibits discrimination on the basis of age).
- The Civil Rights Restoration Act of 1987, (Pub. L. 100-209), (broadens scope, coverage, and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal aid recipients, subrecipients and contractors, whether such programs or activities are Federally-funded or not);
- Titles II and III c (the Americans with Disabilities Act ([42 U.S.C. 12131-12189](#))) (prohibits discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing) and [49 CFR parts 37](#) and [38](#).
- [Executive Order 12898](#), Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (preventing discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations).
- [Executive Order 13166](#), Improving Access to services for Persons with Limited English Proficiency (requiring that recipients of Federal financial assistance provide meaningful access for applicants and beneficiaries who have limited English proficiency (LEP)).
- [Executive Order 13985](#), Advancing Racial Equity and Support for Underserved Communities through the Federal Government (advancing equity across the Federal Government); and
- [Executive Order 13988](#), Preventing and Combating Discrimination on the Basis of Gender Identity or Sexual Orientation (clarifying that sex discrimination includes discrimination on the grounds of gender identity or sexual orientation).

The preceding statutory and regulatory cites hereinafter are referred to as the "Acts" and "Regulations," respectively.

GENERAL ASSURANCES

In accordance with the Acts, the Regulations, and other pertinent directives, circulars, policy, memoranda, and/or guidance, the Recipient hereby gives assurance that it will promptly take any

measures necessary to ensure that:

"No person in the United States shall, on the grounds of race, color, or national origin, be excluded, from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity, for which the Recipient receives Federal financial assistance, from DOT including NHISA"

The Civil Rights Restoration Act of 1987 clarified the original intent of Congress, with respect to Title VI of the Civil Rights Act of 1964 and other non-discrimination requirements (the Age Discrimination Act of 1975, and Section 504 of the Rehabilitation Act of 1973), by restoring the broad, institutional-wide scope and coverage of these nondiscrimination statutes and requirements to include all programs and activities of the Recipient, so long as any portion of the program is Federally assisted.

SPECIFIC ASSURANCES

More specifically, and without limiting the above general Assurance, the Recipient agrees with and gives the following Assurances with respect to its Federally assisted Highway Safety Grant Program:

1. The Recipient agrees that each "activity," "facility," or "program," as defined in § 21.23(b) and (e) of [49 CFR part 21](#) will be (with regard to an "activity") facilitated, or will be (with regard to a "facility") operated, or will be (with regard to a "program") conducted in compliance with all requirements imposed by, or pursuant to the Acts and the Regulations.
2. The Recipient will insert the following notification in all solicitations for bids, Requests For Proposals for work, or material subject to the Acts and the Regulations made in connection with all Highway Safety Grant Programs and, in adapted form, in all proposals for negotiated agreements regardless of funding source:
"The [name of Recipient, in accordance with the provisions of Title VI of the Civil Rights Act 1964 (78 Stat. 252. 42 USC 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantage business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award."
3. The Recipient will insert the clauses of appendix A and E of this Assurance (also referred to as DOT Order 1050.2A) in every contract or agreement subject to the Acts and the Regulations.
4. The Recipient will insert the clauses of appendix B of DOT Order 1050.2A, as a covenant running with the land, in any deed from the United States effecting or recording a transfer of real property, structures, use, or improvements thereon or interest therein to a Recipient.
5. That where the Recipient receives Federal financial assistance to construct a facility, or part of a facility, the Assurance will extend to the entire facility and facilities operated in connection therewith.
6. That where the Recipient receives Federal financial assistance in the form of, or for the acquisition of, real property or an interest in real property, the Assurance will extend to rights to space on, over, or under such property.
7. That the Recipient will include the clauses set forth in appendix C and appendix D of this DOT Order 1050.2A, as a covenant running with the land, in any future deeds, leases, licenses, permits, or similar instruments entered into by the Recipient with other parties:

- a. for the subsequent transfer of real property acquired or improved under the applicable activity, project, or program; and
 - b. for the construction or use of, or access to, space on, over, or under real property acquired or improved under the applicable activity, project, or program.
8. That this Assurance obligates the Recipient for the period during which Federal financial assistance is extended to the program, except where the Federal financial assistance is to provide, or is in the form of, personal property, or real property, or interest therein, or structures or improvements thereon, in which case the Assurance obligates the Recipient, or any transferee for the longer of the following periods:
 - a. the period during which the property is used for a purpose for which the Federal financial assistance is extended, or for another purpose involving the provision of similar services or benefits; or
 - b. the period during which the Recipient retains ownership or possession of the property.
9. The Recipient will provide for such methods of administration for the program as are found by the Secretary of Transportation or the official to whom he/she delegates specific authority to give reasonable guarantee that it, other recipients, sub-recipients, sub-grantees, contractors, subcontractors, consultants, transferees, successors in interest, and other participants of Federal financial assistance under such program will comply with all requirements imposed or pursuant to the Acts, the Regulations, and this Assurance.
10. The Recipient agrees that the United States has a right to seek judicial enforcement with regard to any matter arising under the Acts, the Regulations, and this Assurance.

By signing this ASSURANCE, the Sub-grantee also agrees to comply with all applicable provisions governing NHTSA's access to records, accounts, documents, information, facilities, and staff. You also recognize that you must comply with any program or compliance reviews, and/or complaint investigations conducted by NHTSA. You must keep records, reports, and submit the material for review upon request to NHTSA, or its designee in a timely, complete, and accurate way. Additionally, you must comply with all other reporting, data collection, and evaluation requirements, as prescribed by law or detailed in program guidance.

The sub-grantee gives this ASSURANCE in consideration of and for obtaining any Federal grants, loans, contracts, agreements, property, and/or discounts, or other Federal-aid and Federal financial assistance extended after the date hereof to the recipients by the U.S. Department of Transportation under the Highway Safety Grant Program. This ASSURANCE is binding on the State highway safety agency, other recipients, sub-recipients, sub-grantees, contractors, subcontractors and their subcontractors', transferees, successors in interest, and any other participants in the Highway Safety Grant Program. The person(s) signing below is/are authorized to sign this ASSURANCE on behalf of the Recipient.

THE DRUG-FREE WORKPLACE ACT OF 1988 (41 U.S.C. 8103)

The Sub-grantee will provide a drug-free workplace by:

- a. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such

prohibition.

- b. Establishing a drug-free awareness program to inform employees about:
 - 1. The dangers of drug abuse in the workplace.
 - 2. The grantee's policy of maintaining a drug-free workplace; Any available drug counseling, rehabilitation, and employee assistance programs.
 - 3. The penalties that may be imposed upon employees for drug violations occurring in the workplace.
 - 4. Making it a requirement that each employee engaged in the performance of the grant be given a copy of the statement required by paragraph (a).
- c. Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will-
 - 1. Abide by the terms of the statement.
 - 2. Notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five days after such conviction.
- d. Notifying the agency within ten days after receiving notice under subparagraph (c)(2) from an employee or otherwise receiving actual notice of such conviction.
- e. Taking one of the following actions, within 30 days of receiving notice under subparagraph (c)(2), with respect to any employee who is so convicted-
 - 1. Taking appropriate personnel action against such an employee, up to and including termination.
 - 2. Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency.
- f. Making a good faith effort to continue to maintain a drug-free workplace through implementation of all the paragraphs above.

POLITICAL ACTIVITY (HATCH ACT)

(applies to subrecipients as well as States)

The Sub-grantee will comply with provisions of the Hatch Act ([5 U.S.C. 1501-1508](#)), which limits the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

CERTIFICATION REGARDING FEDERAL LOBBYING

(applies to subrecipients as well as States)

CERTIFICATION FOR CONTRACTS, GRANTS, LOANS, AND COOPERATIVE AGREEMENTS

The undersigned certifies, to the best of his or her knowledge and belief, that:

- 1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any

- Federal contract, grant, loan, or cooperative agreement;
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions;
 3. The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, subgrants, and contracts under grant, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

RESTRICTION ON STATE LOBBYING

(applies to subrecipients as well as States)

None of the funds under this program will be used for any activity specifically designed to urge or influence a State or local legislator to favor or oppose the adoption of any specific legislative proposal pending before any State or local legislative body. Such activities include both direct and indirect (*e.g.*, "grassroots") lobbying activities, with one exception. This does not preclude a State official whose salary is supported with NHTSA funds from engaging in direct communications with State or local legislative officials, in accordance with customary State practice, even if such communications urge legislative officials to favor or oppose the adoption of a specific pending legislative proposal.

CERTIFICATION REGARDING DEBARMENT AND SUSPENSION

(applies to subrecipients as well as States)

INSTRUCTIONS FOR PRIMARY TIER PARTICIPANT CERTIFICATION (STATES)

1. By signing and submitting this proposal, the prospective primary tier participant is providing the certification set out below and agrees to comply with the requirements of / [CFR parts 180 and 1200](#).
2. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective primary tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary tier participant to furnish a certification or an explanation shall disqualify such person from participation in this transaction.
3. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later

determined that the prospective primary tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default or may pursue suspension or debarment.

4. The prospective primary tier participant shall provide immediate written notice to the department or agency to which this proposal is submitted if at any time the prospective primary tier participant learns its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
5. The terms **covered transaction, civil judgment, debarment, suspension, ineligible, participant, person, principal, and voluntarily excluded**, as used in this clause, are defined in [2 CFR parts 180](#) and [1200](#). You may contact the department or agency to which this proposal is being submitted for assistance in obtaining a copy of those regulations.
6. The prospective primary tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is proposed for debarment under [48 CFR part 9, subpart 9.4](#), debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.
7. The prospective primary tier participant further agrees by submitting this proposal that it will include the clause titled "Instructions for Lower Tier Participant Certification" including the "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions and will require lower tier participants to comply with [2 CFR parts 180](#) and [1200](#).
8. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not proposed for debarment under [48 CFR part 9, subpart 9.4](#), debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any prospective lower tier participants, each participant may, but is not required to, check the System for Award Management Exclusions website (<https://www.sam.gov>).
9. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
10. Except for transactions authorized under paragraph 6 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is proposed for debarment under [48 CFR part 9, subpart 9.4](#), suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate the transaction for cause or default.

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY

INSTRUCTIONS FOR LOWER TIER PARTICIPANT CERTIFICATION

1. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below and agrees to comply with the requirements of 2 CFR parts 180 and 1200.
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension or debarment.
3. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms **covered transaction, civil judgment, debarment, suspension, ineligible, participant, person, principal, and voluntarily excluded**, as used in this clause, are defined in 2 CFR parts 180 and 1200. You may contact the person to whom this proposal is submitted for assistance in obtaining a copy of those regulations.
5. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
6. The prospective lower tier participant further agrees by submitting this proposal that it will include the clause titled "Instructions for Lower Tier Participant Certification" including the "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions and will require lower tier participants to comply with 2 CFR parts 180 and 1200.
7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any prospective lower tier participants, each participant may, but is not required to, check the System for Award Management Exclusions website (<https://www.sam.gov>).
8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is proposed for debarment under [48 CFR part 9, subpart 9.4](#), suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension or debarment.

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION-LOWER TIER COVERED TRANSACTIONS

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.
2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

BUY AMERICA

(applies to subrecipients as well as States)

The State and each subrecipient will comply with the Buy America requirement ([23 U.S.C. 313](#)) when purchasing items using Federal funds. Buy America requires a State, or subrecipient, to purchase with Federal funds only steel, iron and manufactured products produced in the United States, unless the Secretary of Transportation determines that such domestically produced items would be inconsistent with the public interest, that such materials are not reasonably available and of a satisfactory quality, or that inclusion of domestic materials will increase the cost of the overall project contract by more than 25 percent. In order to use Federal funds to purchase foreign produced items, the State must submit a waiver request that provides an adequate basis and justification for approval by the Secretary of Transportation.

CERTIFICATION ON CONFLICT OF INTEREST

(applies to subrecipients as well as States)

GENERAL REQUIREMENTS

No employee, officer, or agent of a State or its subrecipient who is authorized in an official capacity to negotiate, make, accept, or approve, or to take part in negotiating, making, accepting, or approving any subaward, including contracts or subcontracts, in connection with this grant shall have, directly or indirectly, any financial or personal interest in any such subaward. Such a financial or personal interest would arise when the employee, officer, or agent, any member of his or her immediate family, his or her partner, or an organization which employs or is about to employ any of the parties indicated herein, has a financial or personal interest in or a tangible personal benefit from an entity considered for a subaward. Based on this policy:

1. The recipient shall maintain a written code or standards of conduct that provide for disciplinary

actions to be applied for violations of such standards by officers, employees, or agents.

- a. The code or standards shall provide that the recipient's officers, employees, or agents may neither solicit nor accept gratuities, favors, or anything of monetary value from present or potential sub awardees, including contractors or parties to subcontracts.
 - b. The code or standards shall establish penalties, sanctions, or other disciplinary actions for violations, as permitted by State or local law or regulations.
2. The recipient shall maintain responsibility to enforce the requirements of the written code or standards of conduct.

DISCLOSURE REQUIREMENTS

No State or its subrecipient, including its officers, employees, or agents, shall perform or continue to perform under a grant or cooperative agreement, whose objectivity may be impaired because of any related past, present, or currently planned interest, financial or otherwise, in organizations regulated by **NHTSA** or in organizations whose interests may be substantially affected by NHTSA activities. Based on this policy:

1. The recipient shall disclose any conflict of interest identified as soon as reasonably possible, making an immediate and full disclosure in writing to NHTSA. The disclosure shall include a description of the action which the recipient has taken or proposes to take to avoid or mitigate such conflict.
2. NHTSA will review the disclosure and may require additional relevant information from the recipient. If a conflict of interest is found to exist, NHTSA may (a) terminate the award, or (b) determine that it is otherwise in the best interest of NHTSA to continue the award and include appropriate provisions to mitigate or avoid such conflict.
3. Conflicts of interest that require disclosure include all past, present, or currently planned organizational, financial, contractual, or other interest(s) with an organization regulated by NHTSA or with an organization whose interests may be substantially affected by NHTSA activities, and which are related to this award. The interest(s) that require disclosure include those of any recipient, affiliate, proposed consultant, proposed subcontractor, and key personnel of any of the above. Past interest shall be limited to within one year of the date of award. Key personnel shall include any person owning more than a 20 percent interest in a recipient, and the officers, employees or agents of a recipient who are responsible for making a decision or taking an action under an award where the decision or action can have an economic or other impact on the interests of a regulated or affected organization.

PROHIBITION ON USING GRANT FUNDS TO CHECK FOR HELMET USAGE

(applies to subrecipients as well as States)

The State and each subrecipient will not use 23 U.S.C. Chapter 4 grant funds for programs to check helmet usage or to create checkpoints that specifically target motorcyclists.

POLICY ON SEAT BELT USE

In accordance with [Executive Order 13043](#), Increasing Seat Belt Use in the United States, dated April 16, 1997, the Grantee is encouraged to adopt and enforce on-the-job seat belt use policies and programs for its employees when operating company-owned, rented, or personally-owned vehicles. The National Highway Traffic Safety Administration (NHTSA) is responsible for providing leadership and guidance in support of this Presidential initiative. For information and resources on traffic safety programs and policies for employers, please contact the Network of Employers for Traffic Safety (NETS), a public-private partnership dedicated to improving the traffic safety practices of employers and employees. You can download information on seat belt programs, costs of motor vehicle crashes to employers, and other traffic safety initiatives at www.trafficsafety.org. The NHTSA website (www.nhtsa.gov) also provides information on statistics, campaigns, and program evaluations and references.

POLICY ON BANNING TEXT MESSAGING WHILE DRIVING

In accordance with [Executive Order 13513](#), Federal Leadership On Reducing Text Messaging While Driving, and DOT Order 3902.10, Text Messaging While Driving, Sub-grantees are encouraged to adopt and enforce workplace safety policies to decrease crashes caused by distracted driving, including policies to ban text messaging while driving company-owned or rented vehicles, Government-owned, leased or rented vehicles, or privately-owned vehicles when on official Government business or when performing any work on or behalf of the Government. Sub-grantees are also encouraged to conduct workplace safety initiatives in a manner commensurate with the size of the business, such as establishment of new rules and programs or re-evaluation of existing programs to prohibit text messaging while driving, and education, awareness, and other outreach to employees about the safety risks associated with texting while driving.

I understand that my statements in support of the State's application for Federal grant funds. I sign these Certifications and Assurances based on personal knowledge, and after appropriate inquiry.

Signature, Contractor Representative _____ **Date:** _____

Printed name of Contractor Representative: _____

COMMITTEE / CITY COUNCIL STAFF REPORT

DATE: Monday, October 21, 2024



AGENDA ITEM TITLE

Advanced Water Metering Infrastructure (AMI) Procurement Agreement (ACTION ITEM) - Evan Timar

RESPONSIBLE STAFF

Evan Timar

ADDITIONAL PRESENTER(S)

DESCRIPTION

The AMI procurement agreement encompasses a two-way, fixed-base AMI system with simultaneous one-way, drive-by reading capabilities, along with meters, a meter data management system that provides detailed analytics, and a customer portal. The implementation of an AMI system presents numerous benefits, including water conservation, prompt leak detection, enhanced customer service, transparent resolution of claims and billing disputes, improved personnel safety, and a reduction in greenhouse gas emissions.

The Advanced Metering Infrastructure (AMI) project will be executed in two phases. The first phase, known as the Alpha phase, will initiate the project with the procurement of collectors, repeaters, and up to 100 endpoints within a controlled environment, along with the implementation of the AMI software and meter data management system. The installation of meters and endpoints will be carried out by the City. The total cost for the Alpha Initial Deployment phase is estimated at \$107,650.45.

The second phase, referred to as the Beta phase, will expand the deployment by adding an additional 300 meters and integrating the customer portal. The total cost for the Beta phase is projected to be \$74,055.35.

Upon the successful completion and full acceptance of the initial deployment, the roll-out of the AMI system endpoints across all metered accounts will commence to ensure coverage for all service connections. The City intends to distribute the project and its costs over a total span of seven fiscal years. The anticipated annual workload for this project is expected to be divided equally across the fiscal years, resulting in an estimated deployment of approximately 1,077 meters per year following the completion of the Initial Deployment.

REVIEWED BY

PROPOSED ACTIONS

PROPOSED ACTIONS: Approve the AMI Procurement Agreement; or take other action deemed appropriate.

STAFF RECOMMENDATION

Approve the AMI Procurement Agreement.

OTHER RESOURCES

FISCAL IMPACT

PERSONNEL IMPACT

ATTACHMENTS

1. Procurement Agreement_AMI_Zenner USA_final with attachments

PROCUREMENT AGREEMENT
FOR ADVANCED METERING INFRASTRUCTURE, METER DATA
MANAGEMENT SYSTEM AND CUSTOMER PORTAL
BETWEEN CITY OF MOSCOW, IDAHO AND
ZENNER USA, INC.

THIS PROCUREMENT AGREEMENT FOR ADVANCED METERING INFRASTRUCTURE, METER DATA MANAGEMENT SYSTEM AND CUSTOMER PORTAL BETWEEN CITY OF MOSCOW, IDAHO AND ZENNER USA, INC. (hereinafter "Agreement") is made and entered into between City of Moscow, Idaho, a municipal corporation of the State of Idaho, 206 East Third Street, Moscow, Idaho, 83843 (hereinafter "CITY") and Zenner USA, Inc., 15280 Addison Road, Suite 240, Addison, Texas, 75001 (hereinafter "SELLER").

WHEREAS, pursuant to the invitation of CITY, extended through a "Request for Proposals" (RFP) see Attachment "A", SELLER submitted a Bid Proposal containing an offer invited by said RFP; and

WHEREAS, CITY has determined that said offer was the lowest responsive qualified proposal to meet the needs of CITY based on the evaluation criteria included in the RFP; and

WHEREAS, CITY has accepted SELLER'S Bid Proposal;

NOW THEREFORE, it is agreed, for and in consideration of the mutual covenants and promises between the Parties hereto, that the Parties enter into this Agreement subject to the following terms and conditions:

SECTION 1: Project Summary

CITY is procuring a two-way, fixed-base Advanced Metering Infrastructure (AMI) system with simultaneous one-way drive-by reading (Automatic Meter Reading – AMR) capability, meters, and associated equipment (hereinafter "Goods"). CITY is also procuring a Meter Data Management System (MDMS) with the capability to provide detailed analytics and a Customer Portal. The Goods being purchased, the MDMS, and Customer Portal are hereinafter referred to as "Project". The Project includes the deployment of all hardware and systems, integrations, testing, training, and support services. The Project includes SELLER training CITY personnel on the proper installation of the meters.

SECTION 2: Contract Documents

The Contract Documents which comprise the entire Agreement between CITY and SELLER concerning the work to be performed and the products being provided, are this Agreement, pages one (1) through thirteen (13) and the following:

1. Advanced Metering Infrastructure, Meter Data Management System and Customer Portal, Request for Proposal, Attachment "A", consisting of **29 pages**;

2. Bid Proposal of SELLER, dated June 19, 2024, consisting of 82 pages, and SELLER supplemental document, consisting of 14 pages, Attachment “B”, consisting of **96 total pages**;
3. Performance and Payment Bonds and Insurance Certificates;
4. Addenda, if any, Attachment “C”, consisting of **3 pages**; and
5. Change Orders, which may be delivered or issued after the effective date of this Agreement.

There are no Contract Documents other than those listed in Section 2. This Agreement may only be amended with written consent by all Parties.

SECTION 3: Purchase and Term

SELLER agrees to sell and CITY agrees to purchase the following items that comply with the requirements and capabilities detailed in the RFP, Attachment “A”, and SELLER’S proposal, for the Zenner AMI System Option Pricing, Attachment “B”:

1. One (1) two-way, fixed base Advanced Metering Infrastructure (AMI) system with simultaneous one-way drive-by reading, known as Automatic Meter Reading (AMR) capability, meters, and associated equipment (the “Goods”). Following the Initial Deployment Phase, CITY shall purchase meters to cover all service connections to be purchased over the course of 7 years as described below, unless CITY receives grant funding that would allow for an expedited schedule, including allowing for the purchase and installation of meters and associated equipment over the course of 3 years:
 - a. Initial Deployment Phase:
 - i. Alpha Initial Deployment: installation and testing of all collectors, repeaters, and endpoints (up to 100) in a controlled environment; the AMI head-end software; the MDMS software; and the integration of meter data from the AMI head-end to the MDMS. Meter and endpoint installations will be performed by CITY after SELLER has trained CITY staff and verified CITY staff has the knowledge and skill to properly install the meters. The Alpha Phase is estimated to begin November of 2024 and to be completed in approximately a 6-month timeframe. Payment shall be made after receipt of the Goods, subject to the Shipment and Delivery terms described herein, within thirty (30) days of receipt of the invoice. The following are the specific Goods that will be purchased during the Alpha Initial Deployment phase that reflects a total cost of \$107,650.45:
 1. Installation of the Automatic Meter Read Infrastructure, which includes four (4) data collectors and five (5) repeaters, all software for the meter data management system and customer portal for a total cost of \$18,250.00.
 2. One-Time fee of \$27,400 for the one-time expenses that are not listed elsewhere on SELLER’s Proposal, Attachment “B”, such as setup, training and mobilization.

3. Twenty-Two (22) 5/8" meters at unit price \$202.62, for a total cost of \$4,457.64.
 4. Eleven (11) 1" meters at unit price \$213.84, for a total cost of \$2,352.24.
 5. Twelve (12) 1.5" meters at unit price \$310.91, for a total cost of \$3,730.92.
 6. Fifty (50) 2" meters at unit price \$912.86, for a total cost of \$45,643.
 7. Three (3) 3" meters at unit price \$1,115.83, for a total cost of \$3,347.49.
 8. Two (2) 4" meters at unit price \$1,234.58, for a total cost of \$2,469.16.
- ii. Beta Initial Deployment: installation and testing of an additional 300 meters and the balance of systems interfaces representing basic MDM functionality, including integration with the customer portal. The Beta Initial Deployment of meters is expected to be geographically dispersed and incorporate multiple sizes and types of meters totaling approximately 300 meters. Prospective locations will be throughout CITY's service area that are representative of the variety of geographical terrain and proximity to DCUs (hilly areas, flat areas, etc.). This phase is estimated to begin following Alpha Initial Deployment completion and shall be completed in a 12-month timeframe. CITY will notify SELLER when CITY is ready to proceed with the Beta Initial Deployment and SELLER agrees to supply the following meters within ninety (90) days upon receipt of written notification. Payment shall be made after receipt of the Goods, subject to the Shipment and Delivery terms described herein, within thirty (30) days of receipt of the invoice. The following are the specific Goods that will be purchased during the Beta Initial Deployment Phase that reflects a total cost of \$74,055.35:
1. Two Hundred Fifty (250) 5/8" meters at unit price \$202.62, for a total cost of \$50,655.
 2. Twenty-Five (25) 1" meters at unit price \$213.84, for a total cost of \$5,346.
 3. Ten (10) 1.5" meters at unit price \$310.91, for a total cost of \$3,109.10.
 4. Ten (10) 2" meters at unit price \$912.86, for a total cost of \$9,128.60.
 5. Three (3) 3" meters at unit price \$1,115.83, for a total cost of \$3,347.49.
 6. Two (2) 4" meters at unit price \$1,234.58, for a total cost of \$2,469.16.
- b. Following the successful completion and full system acceptance of the Initial Deployment, deployment of the AMI system endpoints across all metered accounts will commence, to cover all service connections. CITY desires to spread the costs

of the Project over seven (7) fiscal years. The annual amount of work completed on this Project is projected to be divided equally between fiscal years, which amounts to approximately 1077 meters per year after the completion of the Initial Deployment, which shall be contingent on CITY receiving necessary funding.

- c. Future pricing of meters shall follow the Producer Price Index (PPI) by Industry: Totalizing Fluid Meters and Counting Devices. The meter price adjustments of the meter prices provided in SELLER's Proposal, Attachment "B", shall be effective on the first day of October each year of this Agreement, excluding the first year of this Agreement where no price adjustment shall be made. The price adjustment shall be based upon the PPI change from January of the preceding year to January of the year within which the price adjustment occurs, to be effective upon October 1 of that year [Meter Price Adjustment = (Jan. PPI Current year – Jan. PPI Prior Year) / PPI Jan. Prior Year]. Orders placed prior to October 1st each year shall not be subject to that year's price adjustment.
2. Meter Data Management System (MDMS) and Customer Portal with the capability to provide detailed analytics per the requirements and capabilities included in Attachment "A" and as specified by SELLER's proposal included in Attachment "B" with CITY paying for the Stealth Command software which has a base fee of \$1,500 per year, and \$1 per hosted meter fee. Customer Portal has a base fee of \$2,500 per year and \$1.50 per customer that signs up. SELLER shall submit an itemized invoice to CITY by September 30 of every year to be paid by October 31 of every year. The first billing cycle, which is the date of execution of this Agreement to September 30, 2025, shall be prorated. The recurring annual fees will stay fixed for the first three years of this Agreement. The following years will have an annual adjustment in October based on the percentage change in the Consumer Price Index (CPI). Therefore, the first CPI adjustment would occur for the October 1, 2027, through September 30, 2028, billing period.
3. Extended Warranty. CITY is purchasing SELLER's extended warranty for the Stealth Collector at the price of \$1,400 per year in addition to the Stealth Enhanced Repeater extended warranty at the price of \$750 per year. SELLER shall submit an itemized invoice to CITY by September 30 of every year to be paid by October 31 of every year. The first billing cycle, which is date of execution of this Agreement to September 30, 2025, shall be prorated. The recurring annual fees will stay fixed for the first three (3) years of this Agreement. The following years will have an annual adjustment in October based on the percentage change in the Consumer Price Index (CPI). Therefore, the first CPI adjustment would occur for the October 1, 2027, through September 30, 2028, billing period.
4. CITY is tax exempt therefore no tax shall be added to the quoted purchase price.
5. SELLER shall be responsible for all travel costs associated with SELLER's representative traveling to Moscow, Idaho to fulfill the terms herein.

SECTION 4: Shipment and Delivery

1. SELLER shall ship the Goods identified in the Alpha Initial Deployment Phase within three (3) months upon execution of this Agreement. SELLER at its cost will package Goods in accordance with good commercial practice, to secure the lowest transportation costs consistent with requirements of the common carrier and with the applicable specifications. If the quoted delivery terms do not include transportation costs, CITY shall reimburse SELLER for costs in the amount specified in the SELLER's proposal, or actual costs, whichever is lower. Each shipping container shall be marked as follows:
 - a. SELLER's name and address;
 - b. CITY's name and address; and
 - c. Purchase Order number.

CITY's count or weight shall be conclusive on shipments not accompanied by a packing list.

2. Title and risk of loss of the Goods shall not pass to CITY until CITY receives and takes possession of the Goods at the place of delivery, verified by signed delivery receipt, subject to SELLER's warranties for the Goods. CITY shall have the right to inspect and reject the Goods at delivery if specifications are not met. If the damage is not readily apparent at the time of delivery, SELLER shall permit the Goods be returned within a reasonable time at no cost to CITY. In the event of the delivery of nonconforming Goods, CITY will notify SELLER as soon as possible and SELLER agrees to replace the nonconforming Goods with conforming Goods as soon as possible, at no additional cost to CITY, which are subject to CITY's right to inspect and reject nonconforming Goods as provided herein.
3. In the event the Goods are rejected due to damage, defectiveness or nonconformance, SELLER shall arrange for and pay for the return shipment of the Goods.
4. The place of delivery shall be:

City of Moscow
Water Department
120 West A Street
Moscow, ID 83843

Any change thereto shall be affected by modification as provided in Section 10.5.

SECTION 5: Construction, Installation and Training

1. SELLER shall be responsible for installing the collector antenna on top of or attached to the agreed upon CITY property, which includes the following: Gateways on the Northwest Water Tower, Northeast Water Tower, Vista Pole, Southeast Tank. AC Enhanced Repeaters at Taylor Booster, White Avenue Booster, Ponderosa Booster, Well

10, and 120 W. A St., with the requirements and restrictions included in the RFP, Attachment "A".

2. CITY shall assist with the obtaining of any permits and permissions required for the installation of any equipment on CITY property.
3. SELLER shall provide training to CITY staff on the proper installation and maintenance of the Goods that CITY shall be responsible for installing and maintaining in accordance with the requirements included in the RFP, Attachment "A" and the training agreed to be provided by SELLER as included in SELLER's proposal, Attachment "B". The Parties understand SELLER will not be verifying the proper installation of the Goods, therefore, the Parties agree that SELLER shall accept the assumption that all meters and related equipment were installed correctly when done so by CITY staff who successfully completed the training provided by SELLER and SELLER shall honor all warranties with said assumption that the Goods were properly installed and maintained.
4. SELLER shall be required to obtain a Public Works license upon execution of this Agreement, within three (3) months of execution and prior to installation of the collector equipment (see page 13 of the RFP, Attachment "A"). Should SELLER fail to obtain a Public Works license within three (3) months, CITY may hire a licensed contractor to conduct the install, and SELLER shall be responsible for the payment to CITY to pay for the hired licensed contractor.

SECTION 6: Warranties, Support, and Maintenance Agreement

1. Goods and services to be provided hereunder shall be new and the current model and shall be warranted of merchantable quality, free from defects of material, design and workmanship and suitable for and will perform in accordance with the ordinary use for which they are intended for the specified amount of time included in the RFP, Attachment "A". The warranty covers all products, parts, labor and any associated travel costs for any manufacturer defects in materials and workmanship. The warranty shall include a twenty (20) year life of all meter batteries to provide a full ten (10) years and a prorated life for the remaining ten (10) years as specified in the RFP, Attachment "A".
2. SELLER shall provide a ten (10) year warranty for all maintenance required of the DCUs and AMI network. The Stealth Reader Water Meter Interface Unit (MIU) warranty is for 10 years, which includes a 10-year warranty for all maintenance required of the data collector units and AMI network, which shall include but not be limited to any repair, reset, troubleshooting, and on-site and off-site responsiveness, which shall be within 48 hours.
3. Warranty for the 5/8" to 1.5" meters is 15 years.
4. Warranty for the 2" - 8" meters is 2 yrs.

5. SELLER certifies that all goods, products, and services being purchased by CITY are in compliance with all Federal, State and City laws and are in conformance with the specifications and fit for the particular use as required by the RFP, Attachment “A”.
6. SELLER agrees to warrant the Goods the same as the manufacturer as set out in Attachment “B”, if applicable. SELLER agrees to assist CITY in reaching a resolution in any dispute over warranty terms with the manufacturer.
7. If there are any warranty terms included in SELLER’s proposal, Attachment “B”, that conflict with this Agreement or with the requirements, capabilities and specifications included in CITY’s RFP, Attachment “A”, the terms in this Agreement and in Attachment “A” shall control.
8. SELLER warrants that the title to all material, supplies and equipment furnished under this Agreement are free of liens and encumbrances.
9. SELLER shall provide the following response and technical support to AMI system failures:
 - a. Severity 3: The system is usable, and the issue does not affect critical overall operation. CITY communication with SELLER’s corrective status is required within 2 business days.
 - b. Severity 2: This level is for cases where CITY cannot bill, installers cannot install, or part of the system is not functional. CITY communication with SELLER’s corrective status is required within 1 business day.
 - c. Severity 1: Major system feature/function failure occurs when operations are severely restricted, there is a major disruption of work, no acceptable work-around is available, and failure requires immediate attention from SELLER.

SECTION 7: Indemnification, Insurance, Performance and Payment Bond

1. SELLER agrees to indemnify, defend, protect and save and hold harmless CITY and its employees, agents and officers against all suits in law or in equity, and from all damages, claims, demands and judgments for alleged or actual breach of warranty, negligence, insufficiency or illegality in the design, manufacture, fabrication, assembly, processing, labeling or infringement or patents of copyrights arising from the purchase, resale or other use of the Goods to be supplied hereunder. SELLER further agrees to indemnify, defend, protect and hold harmless CITY, its agents and employees from any and all claims arising out of any act or omission in the performance of this Agreement by SELLER or its agents or employees; this indemnification includes injury to death to persons or property alleged to have been caused by some defect in the Goods provided under this Agreement to the extent the Goods were used according to their specifications.
2. SELLER shall not commence work under this Agreement until it has provided evidence satisfactory to CITY that it has secured all insurance required under this Section and SELLER shall cause CITY to be named as an additional insured on all applicable insurance policies. In the event SELLER fails to provide or maintain all required

insurance, CITY may, in its sole discretion, obtain such insurance and deduct the amount therefor from the total compensation. SELLER shall, at its sole cost and expense, secure and maintain in force, during the term of this Agreement, including during the term of the warranty period, the following insurance:

- a. Worker's compensation and employer's liability insurance as required by the State of Idaho;
 - b. Comprehensive automobile and vehicle liability insurance covering claims for injuries to members of the public and damages to property of others arising from use of motor vehicles, including on-site and off-site operations, and owned, non-owned, or hired vehicles, with one million dollars (\$1,000,000) combined single limits;
 - c. Commercial general liability insurance covering claims for injuries to members of the public or damage to property of others arising out of any covered negligent act or omission of SELLER or of any of its employees, agents, or subcontractors, with one million dollars (\$1,000,000) per occurrence and two million (\$2,000,000) in the aggregate;
 - d. SELLER shall procure and maintain professional liability insurance covering liability for negligent acts, errors or omissions in providing or failing to provide professional services, with a minimum coverage limit of one million dollars (\$1,000,000). Coverage shall be in force during the term of this Agreement and for a period of at least twelve (12) months thereafter.
3. SELLER shall execute a separate performance bond and payment bond, each in penal amounts at least equal to one hundred percent (100%) of the full Agreement price, such bonds shall be executed by a corporate bonding company (surety) licensed to do business in the State of Idaho and which is acceptable to CITY. Such corporate bonding company (surety) shall be required to be named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Treasury Department Circular Number 570. The premiums of such bonds shall be paid by SELLER. The performance bond shall be conditioned upon SELLER's faithful performance of all the covenants and agreements on the part of SELLER to be kept and performed at the times and in the manner set forth in the Agreement, including the repair or replacement, where required, or the cost of repair or replacement, of all work performed under the terms of this Agreement. The payment bond shall be conditioned upon the payment to all persons, including subcontractors, who have, and fulfill, contracts for performing labor and furnishing materials in the prosecution of the work provided for in such Agreement, provided that every such payment bond shall be construed, regardless of its language, as incorporating within its provisions the obligation to pay those persons who furnish labor or materials as stated in the Contract Documents.
4. Such bonds shall remain in full force and effect during the term of this Agreement and during the terms of any warranty required by this Agreement and shall be held in the custody of CITY. The current power of attorney for the persons who sign for the surety company shall be attached to the bond. The power of attorney shall be sealed and certified

with a "first hand signature" by an officer of the surety. A facsimile signature shall not be acceptable to CITY.

5. If, at any time, a surety on any such bond is declared as bankrupt or loses its right to do business in the State of Idaho or is removed from the list of surety companies accepted on Federal bonds, the SELLER shall, within ten (10) days after notice from CITY to do so, substitute an acceptable bond (or bonds) in such form and sum signed by such other surety or sureties as may be satisfactory to CITY. The expense of such replacement bonds shall be borne by the SELLER. No further payments by CITY pursuant to this Agreement shall be deemed due nor shall be made until the new surety or sureties shall have furnished an acceptable bond to CITY.

SECTION 8: Default/Termination

1. The performance of work under this Agreement may be terminated in whole or in part by CITY by a written "Notice of Termination" specifying the extent to which performance of work under this Agreement is terminated and the date upon which such termination becomes effective. CITY shall not be liable to SELLER for any work done or materials purchased after such termination or for lost profits or other damages. Such right of termination is in addition to and not in lieu of rights of CITY otherwise set forth in this Agreement. SELLER's failure to effect delivery by dates specified will entitle CITY to cancel this order on twenty-four (24) hours' notice at CITY's option.
2. If either Party hereto is delayed in carrying out its obligation under this Agreement because of acts of God, war or riot or labor stoppages, the Party shall give notice and full particulars of such delay supported by sufficient evidence, in writing, to the other Party within a reasonable time after occurrence of the delay and the time for performance by the Party shall be extended by the number of days of the delay, except as herein provided.
3. Whenever CITY has reason to question SELLER's intent to perform, CITY may demand that SELLER give assurance of this intent to perform. In the event that a demand is made and no assurance is given with five (5) days, CITY may treat this failure as an anticipatory repudiation of this Agreement.

SECTION 9: Notice

Such communications as are required by this Agreement shall be satisfied by mailing or by personal delivery to the Parties at the following address:

SELLER:

Zenner USA, Inc.
15280 Addison Rd, Ste. 240
Addison, TX 75001

CITY:

City Clerk
City of Moscow
206 East Third Street
PO Box 9203
Moscow, ID 83843

SECTION 10: General Provisions

1. No Substitutions: SELLER shall not, at any time, substitute any materials which are a part of any Goods ordered, in this order or otherwise deviate in any manner from the specifications contained in the order.
2. No Employee-Employer or Agency Relationship: The Parties warrant by their signatures that no employer-employee or agency relationship is established between CITY and SELLER by the terms of this Agreement.
3. Costs and Attorney Fees: In the event either Party incurs legal expenses to enforce the terms and conditions of this Agreement, the prevailing Party is entitled to recover reasonable attorney's fees and other costs and expenses, whether the same are incurred with or without suit.
4. Jurisdiction, Venue and Non-Waiver: It is agreed that this Agreement shall be construed under and governed by the laws of the State of Idaho. In the event of litigation concerning it, it is agreed that proper venue shall be the District Court of the Second Judicial District of the State of Idaho, in and for the County of Latah. Failure of CITY to exercise any of the rights under this Agreement, or breach thereof, shall not be deemed to be a waiver of such right or a waiver of any subsequent breach.
5. Entire Agreement, Modification and Assignability: This Agreement and the attachments hereto contain the entire agreement between the Parties, and no statements, promises, or inducements made by either Party, or agents of either Party are valid or binding unless contained herein. This Agreement may not be enlarged, modified or altered except upon written agreement signed by the Parties hereto. SELLER may not subcontract or assign its rights (including the right to compensation) or duties arising hereunder, without the prior written consent and express authorization of CITY.
6. Adherence to Law Required: All applicable Federal, State, and local statutes and regulations are hereby made a part of this Agreement and shall be adhered to at all times. Violation of any of these statutes or regulations by SELLER shall be deemed material and shall subject SELLER to termination of this Agreement for cause. No pleas of misunderstanding or ignorance on the part of SELLER will in any way serve to modify the provisions of this requirement.
 - a. Ownership or Operation by China. Pursuant to Idaho Code § 67-2359, SELLER certifies that it is not currently owned or operated by the government of China and will not for the duration of this Agreement be owned or operated by the government of China. The terms in this section defined in Idaho Code § 67-2359 shall have the meaning defined therein.
 - b. Anti-Boycott Against Israel Act. SELLER certifies it is not currently engaged in, and will not for the duration of this Agreement engage in, a boycott of goods and services from Israel or territories under its control. Failure to comply with Idaho Code § 67-2346 will result in this Agreement being void as against public policy.

- c. Anit-Boycott of Certain Sectors. Pursuant to Idaho Code § 67-2347A, SELLER certifies that it is not engaged in, and will not for the duration of this Agreement engage in, a boycott of any individual or company because the individual or company 1) engages in or supports the exploration, production, utilization, transportation, sale or manufacture of fossil fuel-based energy, timber, minerals, hydroelectric power, nuclear power, or agriculture or 2) engages in or supports the manufacture, distribution, sale, or use of firearms, as defined in Idaho Code § 18-3302 (2)(d).
 - d. Prohibition of Environmental, Social, and Governance Standards in Public Contracts. Pursuant to Idaho Code § 67-2347A, SELLER certifies that it is not engaged in, and will not for the duration of this Agreement engage in, a boycott of any individual or company because the individual or company 1) engages in or supports the exploration, production, utilization, transportation, sale or manufacture of fossil fuel-based energy, timber, minerals, hydroelectric power, nuclear power, or agriculture or 2) engages in or supports the manufacture, distribution, sale, or use of firearms, as defined in Idaho Code § 18-3302 (2)(d).
 - e. Public Funds for Abortion Act. Pursuant to Idaho Code Title 18 Chapter 87, SELLER certifies that it is not an abortion provider or an affiliate of any abortion providers and does not, and will not for the duration of the Agreement, authorize the use of state facilities or public funds for abortion related activity.
 - f. Build America, Buy American. SELLER may be required to comply with Public Law 117-58, as amended, in the event CITY receives federal grant funding.
 - g. General Federal Requirements. If CITY receives federal funding to pay for the Project, SELLER shall comply with all applicable Federal laws, regulations, executive orders, policies, guidelines, and requirements as they relate to the application, acceptance, and use of Federal funds for the received grant. CITY shall notify SELLER of any such grant received.
7. Special Warranty. SELLER warrants that nothing of monetary value has been given, promised or implied as remuneration or inducement to enter into this Agreement. SELLER declares that no improper personal, political or social activities have been used or attempted in an effort to influence the outcome of the competition, discussion, or negotiation leading to the award of this Agreement. Any such activity by SELLER shall make this Agreement null and void. SELLER further warrants that all materials and goods supplied under this Agreement shall be of good merchantable quality and that all services will be performed in a good workmanlike manner and in accordance with the requirements, specifications, capabilities included in the RFP, as provided in Attachment "A". SELLER acknowledges that it will be liable for any breach of this warranty.

8. Employment Discrimination. It is illegal under the U.S. Federal law to discriminate against an employee, either intentionally or through disparate impact, on account of race, color, gender, religion, sex (including pregnancy), national origin, physical or mental disability, age, marital or familial status, sexual orientation, and gender expression or identity. SELLER shall not discriminate against any employee or applicant for employment. SELLER's action under this Section shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation and selection for training, including apprenticeship. SELLER agrees to post in conspicuous places, available to employees and other applicants for employment, notices setting forth the provisions of this non-discrimination Section.
9. Non-Appropriations: This Agreement is contingent upon CITY receiving the necessary funding to cover the obligations of CITY. In the event that such funding is not received or appropriated, then, and in that event, CITY's obligations under this Agreement shall cease and each Party shall be released from further performance under this Agreement without any liability to the other Party, and SELLER shall be entitled to receive just and equitable compensation for any work completed hereunder and product delivered satisfactorily.
10. Severability. If any provision in this Agreement is found by a court of competent jurisdiction to be illegal, unenforceable, or void then both Parties will be relieved from all obligations arising from that provision. If the remainder of the Agreement is capable of being performed, it will not be affected by such determination or finding and must be fully informed.
11. Conflicting Contract Provisions. If any terms of the SELLER's proposal, Attachment "B" conflict with this Agreement or with the RFP, Attachment "A", this Agreement and the terms in Attachment "A" shall govern.

IN WITNESS WHEREOF, said SELLER and CITY have caused this Agreement to be executed on the day and year of the last signature.

I, Richard Sanders, certify under penalty of perjury, pursuant to the law of the State of Idaho, the foregoing is true and correct and that I am the authorized agent to bind Zenner USA, Inc. to this Agreement.

SELLER:

CITY:

Richard Sanders, President

Arthur D. Bettge, Mayor

DATE: _____

DATE: _____

ACKNOWLEDGMENT

STATE OF _____)
) ss:
County of _____)

On this _____ day of _____, 2024, before me, a Notary Public in and for said State, appeared Richard Sanders, known to me to be the person named above and acknowledged that they executed the foregoing as the duly authorized representative of Zenner USA, Inc.

Notary Public for the State of _____
Residing at _____
My commission expires _____

Attachment "A"



ADVANCED METERING INFRASTRUCTURE, METER DATA MANAGEMENT SYSTEM, & CUSTOMER PORTAL

Request for Proposal

Proposal Delivery Due Date:

Friday, June 21, 2024 5:00 PM

Pacific Time

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1. Acronyms/Definitions

For the purposes of this request for proposal (RFP), the following acronyms and terms are defined as follows:

Table 1-Acronyms/Definitions

Acronym/Term	Definition
AMI	Advanced Metering Infrastructure
AMR	Automatic Meter Reading
AMI Endpoint	Device that sends data from the meter to a collection point
AMI Collector	Receives data via RF from AMI Repeater and AMI Endpoint
AMI Head-end	Accepts data from AMI Collectors via Backhaul Communications for processing
AMI Repeater	Relays RF from the AMI Endpoint to the AMI Collector
Awarded Proposer(s)	The contractor(s), vendor(s), organization(s), individual(s) that is/are awarded and has/have an approved contract(s) with the City for the products and services identified in this RFP
Backhaul Communications	Facilitates transfer of data from AMI Collector to AMI Head-end
City	City of Moscow
DCU	Data Collection Unit
ESRI	Environmental Systems Research Institute
Evaluation Committee	An independent committee comprised solely of representatives of the City established to review proposals submitted in response to this RFP, evaluate the proposals, and select the proposer(s)
FCC	Federal Communications Commission
GIS	Geographic Information Systems
IS	Information Systems
May	Indicates something that is not mandatory, but is permissible
MDMS	Meter Data Management System
MIU	Meter Interface Unit
ODBC	Open Database Connectivity
PCI	Payment Card Industry
Proposer	Contractor(s), Vendor(s), Organization(s), Individual(s) submitting a proposal in response to this RFP
QA	Quality Assurance
RF	Radio Frequency
RFP	Request for Proposal
SCADA	Supervisory Control and Data Acquisition

Shall/Must	Indicates a mandatory requirement; failure to meet a mandatory requirement may result in the rejection of a proposal as non-responsive.
Should	Indicates something that is recommended but not mandatory; if a Proposer fails to provide recommended information, the Utility may, at its sole option, ask the Proposer to provide the information or evaluate the proposal without the information
SLA	Service Level Agreement
SMS	Short Message Service
SSO	Single Sign-On
Subcontractor	Third-party not directly employed by the Proposer who will provide services identified in this RFP
VEE	Validation, Estimation, and Editing

2. Submittal Instructions

2.1 Proposal Timeline

Table 2 presents the tentative schedule for this RFP. The City reserves the right to modify these dates at any time, with appropriate notice to the prospective Proposer(s). Any change in the scheduled dates will be advertised in the form of an addendum to this RFP. The awarded vendor(s) will be notified following Council approval.

Table 2-The City RFP Schedule

Event	Estimated Date
RFP Release	May 20, 2024
Pre-Proposal Meeting	June 3, 2024
Issuance of any necessary Addenda	June 6, 2024
Proposal Responses Due by 5:00 PM PST	June 21, 2024
Presentations/Interviews	July 2024
Final Vendor Selection	July 2024
Contract Approvals	Aug 2024
Target Project Kickoff	Aug 2024

2.2 Pre-Proposal Conference

A pre-proposal conference will be held at 10:00 AM Pacific Time, Monday, June 3, 2024. The pre-proposal conference is not mandatory, but participation is strongly encouraged. The pre-proposal conference will take place via Zoom. Interested firms will have an opportunity to submit questions regarding the requirements outlined in this RFP.

Access the meeting via the Zoom link below:

Join Zoom Meeting

<https://ci-moscow-id-us.zoom.us/j/85651515655?pwd=Nnc5bkltTkndUJKMWUvcWxaMXpHdz09>

Meeting ID: 856 5151 5655

Passcode: 426420

To make the meeting more effective for all participants, attendees are encouraged to read this document thoroughly prior to the meeting. Substantial clarifications or changes required as a result of the meeting will be issued in the form of a written addendum to the RFP. A list of attendees will be distributed to all those who attended the pre-proposal meeting.

2.3 Proposer Questions

Questions should be directed to Jennifer Fleischman, City of Moscow Community Development Department, at (208)883-7035, jfleischman@ci.moscow.id.us, or by mail to:

City of Moscow
Attn: Jennifer Fleischman
P.O. Box 9203
Moscow, ID 83843

2.4 Proposal Responses Submission

Technical and Cost Proposal Submission:

Limit the total RFP Technical Response to 50 pages.

2.5 Technical Proposal Response Outline

This section describes the required technical proposal response outline. See Section 5 for required content. Proposers are instructed to follow this structure without deviation. The Technical Proposal shall include the following sections:

- A. Title Page
- B. Table of Contents
- C. Contractor and Subcontractor Information Form
- D. Executive Summary
- E. Experience
- F. Product Maturity and Future Roadmap
- G. Implementation Approach
- H. Requirements.
- I. Appendices, which shall include but not be limited to the following:
 - 1. Resumes
 - 2. Annual reports and/or financial statements

3. Service level agreements and warranty information
4. Training schedule & sample training plan
5. High-level test plan
6. Product cut-sheets

2.6 Bid Schedule Format

The Bid Schedule shall be completed in section 4. See Section 4 for additional details.

2.7 Proposal Evaluation and Award Process

Each proposal submitted shall be reviewed by the Evaluation Committee. Proposers shall include sufficient information to allow the Committee to thoroughly evaluate proposals. The Evaluation Committee will review the Proposer's responses to determine that all mandatory submittal requirements have been met (e.g., proposal submitted on time, required attachments completed, etc.). Proposals that have not met the mandatory requirements may be deemed non-responsive at the City's sole discretion.

The City also reserves the right to contact all or any of the references provided in the response; contact any Proposer to clarify any response; contact any current user of a Proposer's services or products; solicit information from any available source concerning any aspect of a proposal; and seek and review any other information deemed pertinent to the evaluation process.

The Evaluation Committee will evaluate all proposals using the following criteria:

Table 3-Evaluation Criteria

Evaluation Criteria	Weight (%)
Total Life Cycle Cost: Total present value of initial and ongoing costs to acquire, install, operate, and maintain the system over 20 years.	25
Meets or Exceeds Technical Requirements: Degree to which proposed system addresses technical specifications, performance requirements, and desirable features.	20
Implementation Plan: Proposed procedures and policies for security, safety, training, customer contact, troubleshooting and problem solving.	10
Integration: Plans for integration between AMI system, meter data management system (MDMS), customer portal and City information systems; minimization of customization; configuration procedures and testing; functionality; data integrity and protection.	15
Ease of Use and Facilitation of Customer Service: Ease of use in managing the AMI system, and identifying meter and software issues that need attention. User friendliness and ease of using the MDMS and Customer Portal.	15

Warranties and Support: Period and extent of warranty coverage on meter reading system components. Overall system performance guarantees. Protection in the event of excessive failures. How the vendor will deliver maintenance and operational support, as well as training. Response modes and times.	10
Experience and References: History of deployment of proposed system. Experience in the industry (with prior systems).	5
Total	100

Each evaluation criteria will be scored on a scale of 0-100, and the score multiplied by the weight shown in the table. The evaluation committee will develop a consensus score for each proposal. The City reserves the right to request additional information or clarification from any Proposer at any point following the initial submittal. The City reserves the right to reject any and all proposals. The City also reserves the right to waive any and all informalities. The City reserves the right to consider other factors and adjust the weighting and/or categories at its discretion.

Shortlist Proposer(s) shall be notified in advance of the shortlist date for presentations and the interview. Shortlisted Proposer(s) should expect to come to the meeting prepared with a presentation and the following: software available for demonstrations, metering hardware, etc. A detailed agenda and items to be addressed during the meeting will be provided to each shortlist Proposer in advance of the presentation and interview.

The selected Proposer(s) will be notified via email. Any award is contingent upon the successful negotiation of final contract terms. A draft contract is included as Attachment "A". Negotiations shall be confidential and not subject to disclosure to competing Proposers unless and until an agreement is reached. If contract negotiations cannot be concluded successfully, the City reserves the right to negotiate a contract with another Proposer or withdraw the RFP.

3. Project Overview

3.1 Project Scope

The City is soliciting proposals for a two-way, fixed-base Advanced Metering Infrastructure (AMI) system with simultaneous one-way drive-by reading (Automatic Meter Reading – AMR) capability, meters, and associated equipment. The City is also seeking a Meter Data Management System (MDMS) with the capability to provide detailed analytics and a Customer Portal. The scope of the program will include the deployment of all hardware and systems, integrations, testing, training, and support services (meters to be installed by City staff).

The City will consider proposals for an entire turnkey solution that meets the functional and technical requirements set forth in this RFP that best meet the business needs of the City. The three (3) components are the: (1) AMI System with Metering Equipment, (2) MDMS, and (3) Customer Portal.

The City is highlighting the following general requirements, utility preferences, and circumstances surrounding this effort:

- A. The proposed AMI system must be two-way, and must also be capable of a one-way drive-by reading (AMR).
- B. The City prefers a 'hosted' AMI head-end with a 'hosted' MDMS.
- C. The Proposer selected needs to provide full system redundancy and adhere to security best practices.
- D. The City will provide a list of existing meter locations and City assets. The Proposer is responsible for providing a sufficient number of data collectors or repeaters so that 99.5% of all expected reads are obtained. A preliminary propagation study should be developed to aid in determining the number of collectors or repeaters required. Proposer shall provide the study results in a clearly identified Appendix.
- E. The criteria for collector antenna mounting on top of the City assets (e.g. water tanks, pump stations) are the following:
 - 1. Welded mounts are not allowed. Corrosion resistant, stainless steel mechanical fasteners are preferred.
 - 2. Attachments must withstand at least 150 miles per hour wind.
 - 3. Collectors should be located near the ground – only an antenna is to be mounted on top of assets.
- F. This project will replace all water meters (approximately 6,326) to AMI meter technology.
- G. Solid state water meters for 5/8" – 2" (ultrasonic, magnetic) are preferred.
- H. Positive displacement water meters will also be considered.
- I. All equipment and services provided must meet all federal, state, and local regulatory requirements (including, but not limited to, Federal Communications Commission regulations). Water meters must meet the latest edition American Water Works Association standards. All water meter components and ancillary materials (e.g. gaskets) that will be in contact with potable water must be NSF Standard 61 certified.
- J. The MDMS will be the system-of-record for meter consumption information. It will receive information from the head-end system and send data to the City's billing system, BS&A.
- K. The City is seeking options to utilize a Customer Portal for its customers to display interval water usage, water budget information, send push notifications, compare usage to water budget, and mobile optimized options including leak and freeze alerts.
- L. The City requires single sign-on (SSO) capability for its customers between the Customer Portal and BS&A.

The pricing provided by Proposers shall include a 10-year warranty for all maintenance required of the DCUs and AMI network, which shall include but not be limited to any repair, reset, troubleshooting, and certain level of on-site and off-site responsiveness, which shall be within 48 hours, unless a shorter time period is provided. Future pricing of meters must also follow the Producer Price Index by Industry: Totalizing Fluid Meters and Counting Devices.

The City will use this pricing in addition to the cost of AMI network, DCUs, MDMS, Customer Portal, and meters to determine the 20-year life-cycle cost for the project from each Proposer, for comparison of proposals.

The objective of this procurement effort is to evaluate and select the products and services that meet the functional and business requirements for the City at the best value. An Evaluation Committee consisting of several City staff members will review proposals and make the selection. The final selection and award of a Contract will be through a negotiation process.

3.2 The City Background

The City supplies potable water to residents through a network of pipes, pump stations and elevated towers. Water usage is measured for each customer through a water meter located at each customer's property. There are approximately 6,326 meters throughout the City for residential and commercial customers. The service area of the City can be best described as having the combination characteristics of rolling hills and bowl areas. Thus, the result of the propagation study is important in determining the appropriate AMI network configurations that suits the City.

A table summarizing the existing City Metering:

SIZE	COUNT
5/8"	4,978
1"	849
1 1/2"	256
2"	225
3"	11
4"	7
TOTAL	6,326

A table of existing Information Systems in place at the City is summarized below.

Table 5-Current State IS Systems

Function	System Name	Manufacturer
Accounting/Financial	BS&A	BS&A
GIS	ArcGIS	Esri
Meter Reading	FCS	ITRON
SCADA- Water	Wonderware	Aveva

3.3 Project Drivers

The City expects to receive numerous benefits with the implementation of the AMI, MDMS and Meter Installation effort (the AMI program). The key AMI project justification that the City has identified include the following:

- A. Water Conservation
- B. Timely leak detection
- C. Improved customer service
- D. Transparent claims resolution and billing disputes
- E. Enhance personnel safety
- F. Greenhouse gas reduction

3.4 Project Phasing

The AMI Program will commence with an initial deployment phase that is further sub-divided into “Alpha” and “Beta”. The underlying philosophy of the initial deployment is to minimize financial risk to the City utility while reaching basic system functionality (Alpha) and complete integration (Beta) as early as possible in the Project. This approach allows the City to work with the Proposer selected to identify and address issues, to test the necessary interfaces with other systems, and to design, develop, and test the future-state business processes and stakeholder engagement strategies prior to full deployment. See below for an anticipated high-level timeline.

The City will incorporate specific milestones into the contract that will be tied to a payment structure during the initial deployment phases. For example, payment milestones may be established that tie to scheduled activities: software installation, CIS-MDMS integration, testing of installation procedures, etc.

A holistic summary of each deployment phase is as follows:

A. Alpha Initial Deployment

The Alpha Initial Deployment Phase involves the installation and testing of: all collectors, repeaters, and endpoints (up to 100) in a controlled environment; the AMI head-end software; the MDMS software; and the integration of meter data from the AMI head-end to the MDMS. Meter and endpoint installations will be performed by the City. The Alpha Phase is estimated to begin August of 2024 and complete in approximately 6 months. It will commence after the preliminary planning period which is anticipated to begin August 2024 directly after the contract is approved.

B. Beta Initial Deployment

The Beta Initial Deployment Phase will involve the installation and testing of: an additional 300 meters, and the balance of systems interfaces representing basic MDM functionality, including integration with the customer portal. The Beta Initial Deployment of meters are expected to be geographically dispersed and incorporate

multiple sizes/types of meters with a total of approximately 300 meters. The City intends to finalize the Beta Initial Deployment area with the selected Proposer during contracting. Prospective locations will be throughout the City's service area that are representative of the variety of geographical terrain and proximity to DCUs (hilly areas, flat areas, etc.). This phase is estimated to begin following Alpha Initial Deployment completion and complete in a 12-month timeframe.

C. Full Deployment Phase

Before proceeding to Full Deployment, the City intends to give authorization to proceed based on mutually agreed-upon acceptance criteria underlying the Alpha and Beta phases of the Initial Deployment.

Following the successful completion and full system acceptance of the Initial Deployment, deployment of the AMI system endpoints across all metered accounts will commence, to cover all service connections. The City desires to spread the costs of the Project over seven (7) fiscal years. The annual amount of work completed on this Project shall be divided equally between fiscal years. Future pricing for meters must following the Producer Price Index by Industry: Totalizing Fluid Meters and Counting Devices.

This deployment schedule may be subject to change if the City is successful in securing grant funding to assist with project costs.

4. Proposal Content Details

BID SCHEDULE

Item Description	Quantity & Unit	Unit Price	Total Price
Supply 5/8" Water Meter incl. MIU - Residential	4978 EA	\$	\$
Supply 1" Water Meter incl. MIU - Residential	849 EA	\$	\$
Supply 1.5" Water Meter incl. MIU - Residential	256 EA	\$	\$
Supply 2" Water Meter incl. MIU - Commercial	225 EA	\$	\$
Supply 3" Water Meter incl. MIU - Commercial	11 EA	\$	\$
Supply 4" Water Meter incl. MIU - Commercial	7 EA	\$	\$
Automatic Meter Read Infrastructure (supply, install, configure, and test collectors, collector antenna, mounting hardware, computer equipment, software and all other items necessary for the complete installation of a fixed base network automatic water meter reading infrastructure system per the technical specifications)	1 LS	\$	\$
Handheld Device	1 LS	\$	\$
Recurring Annual Fees (recurring expenses that the City will incur once the AMI system is deployed; e.g., annual maintenance/support fees, software upgrades)	1 LS	\$	\$
One-Time Fees (one-time expenses that the City will incur during the project that are not listed elsewhere; e.g. setup fees, training, mobilization, etc.)	1 LS	\$	\$
		<u>Bid Total</u>	<u>\$</u>

Firm Name of Bidder

Bidders Mailing Address

Signature of Bidder

Idaho Public Works License No.

Official Title

State of Incorporation if Incorporated

Unique Entity Identifier (UEI)

SEAL (if incorporated)

Dated at _____ This _____ day of _____, 2024

4.1 Contractor and Subcontractor Information Form

PROPOSAL TO
CITY OF MOSCOW WATER DEPARTMENT FOR THE CONSTRUCTION OF
Advanced Metering Infrastructure, Meter Data Management System, & Customer Portal

Name of Firm:

Business Address:

Phone No.:

Email and Website:

The site of the work to be constructed and referred to herein is in the City of Moscow, County of Latah, Idaho.

The work is to be in accordance with the specifications and contract documents and as described in the Request for Proposal entitled:

Advanced Metering Infrastructure, Meter Data Management System, & Customer Portal

Proposer shall submit to the City the following information as part of the Proposal:

1. The name and location of the place of business of each subcontractor performing work, labor or render construction services and each subcontractor's Idaho Public Works License Number.
2. The portion of the work to be done by each subcontractor.
3. The Proposer shall be solely responsible to correct any errors in the list providing the subcontractors Idaho Public Works License Number information within 24 hours of request by the City or discovery by the Proposer. The Proposer's failure to submit a corrected list in compliance with the process set forth above may cause the Proposal to be deemed nonresponsive. The Proposer shall list only one subcontractor for each portion of the work identified in the Request for Proposal.

DIVISION OF WORK OR TRADE	NAME OF SUBCONTRACTOR (IDAHO PUBLIC WORKS LICENSE NO.)	LOCATION OF OFFICE

4.2 Executive Summary

Provide the following information in the executive summary:

- A. A summary of your proposal.
- B. Why your firm is qualified to manage this Project – differentiators and strengths of your company and project team.
- C. Which subcontractors, if any, are part of the proposed project team.
- D. An affirmation of no conflict of interest/non-collusion, and the following certifications required to enter into an agreement with a governmental entity in Idaho: not owned or operated by China, currently not engaged in and will not engage in a boycott of goods and services from Israel, and not an abortion provider or an affiliate of an abortion provider.
- E. An original authorized signature.

4.3 Experience

A. Company Information

Provide the following information in your response:

1. Name of firm and mailing address, phone, website url, and e-mail of the Proposer's principal place of business.
2. A brief company history, including ownership, size, and number of national offices. Recent acquisitions or changes in ownership and product representation must be clearly disclosed.
3. Overall company experience in AMI, MDM, network operations, and systems integration.
4. The employee turnover rate within the last 5 years.
5. Confirmation that your company and personnel are legally allowed to work in the state of Idaho and whether your company is domiciled in Idaho or has a significant Idaho economic presence, as defined in Idaho Code § 67-2349.
6. The company's capital position and financial health. Provide annual reports and/or financial statements for the division of the company directly responsible for the products and services proposed in this RFP for each of the last three fiscal years as an appendix.
7. State whether there are pending or prior legal disputes or lawsuits with any existing or previous clients. If so, state all such disputes, including dates, parties involved, claims alleged, court and case number, as well as any facts and outcomes regarding these disputes.
8. State the standard method or methods of resolving disputes, should they arise.

B. Subcontractor Information

If proposals include the use of subcontractors, the Proposer must:

1. Identify the subcontractors and the specific requirements of this RFP for which each proposed subcontractor will perform services.
2. Provide the name of the firm, the name of a contact person, mailing address, phone, and e-mail of the subcontractor's principal place of business.
3. Describe the relationships amongst the different entities proposing jointly, how long you have worked together, what projects were successfully implemented jointly, projects that were not successful, and whether any of the companies submitting jointly have vested interest in one another.

C. Proposer References

Provide a minimum of three (3) references from similar projects performed for client utilities within the last seven (7) years.

The City prefers references for water utilities of comparable size and terrain to The City (at least 1,000 service connections in a challenging terrain).

The Evaluation Committee may contact or conduct site visits for listed AMI and MDM solution providers.

These references shall be provided with the following information:

Table 6-Requested Reference Installations Information

Utility Name	
Address	
Location (City/State/Zip)	
Contact Name	
Telephone	
E-mail Address	
Project Name	
Project Start Date	
Project End Date	
Project Scope	
Number of AMI Meters Installed	
Option for a Site Visit? (Yes/ No)	

4.4 Product Maturity and Future Roadmap

Provide information on the products and future roadmaps for your proposal.

A. AMI System

1. Provide a narrative description of the AMI solution, from meter to software systems.
 2. Include a discussion of cyber-security measures applicable to protect the City's network, equipment, software, and customer data.
 3. For a hosted AMI solution, an overview of respective third- party cloud services, uptime percentage, physical locations, security (both physical and cyber), and redundancy.
 4. Proposer should provide documentation to support future scalability and expandability beyond what is initially required to support the City's implementation.
 5. Provide the implementation process for releasing and applying software and firmware upgrades, bug fixes, and patches. Include overall implementation timeframe, vendor effort, time, and resources, and client effort, time, and resources. Discuss the quality assurance (QA) procedures currently in place to ensure bug fixes, patches, and upgrades are fully tested and validated prior to release. Discuss QA procedures currently in place to ensure the identification and correction of system security vulnerability.
 6. Summarize the system maintenance agreement including terms and conditions. Provide a copy of Proposer's user support Service Level Agreement (SLA) as an appendix. The SLA should clearly indicate the severity levels, description of each level, guaranteed response times, availability of maintenance and support staff, and associated cost.
 7. FCC Licenses. Indicate what FCC or other regulatory agency licenses, if any, the system will require. Indicate the expected length of time to acquire such licenses. Indicate what problems can occur in the process of obtaining such licenses. Note if licenses must be acquired prior to the installation of the AMI system equipment. Note if licenses have a renewal period.
- B. Meter and Endpoint Details
1. Provide the product cut sheet as an Appendix to the proposal.
 2. Describe how the product is configured.
 3. Confirm the product can be pre-configured in the factory.
 4. Describe the maximum number of digits that can be transmitted for a meter read.
 5. Describe ability to re-program registers in the field and hardware that is required to support this activity.
 6. Provide a complete list of events and alarms supported by the head-end system and endpoints.
 7. Provide the battery life warranty provided (in years). Describe the conditions of this warranty. Provide the reading frequency that the battery life warranty is based on. Explain if On-Demand Reads affect this warranty and, if so, to what extent.

8. Provide all warranty terms and conditions related to the proposed meters.
9. Confirm that the meter warranty would not be voided due to operating in water with the following substances (please see table below):

Substance	Unit of Measure	Level
Chlorine	PPM	4
Barium	PPM	2
Chromium	PPB	100
Fluoride	PPM	4
Copper	PPM	1.3
Lead	PPB	15
Iron	PPM	1
Manganese	PPM	.5
pH	Scale	6.5 – 8.5
Sulfate	PPM	250
Total Dissolved Solids	PPM	100

10. Describe any accessories that are necessary for operation and maintenance with the product. Verify that the production capacity for meters and endpoints can satisfy the number and timeline identified in this RFP.
11. Provide radio frequency, and cellular information to be used by the endpoints and whether licensing with FCC is required.
12. For the pit-installed products, provide:
 - a. Preferred mounting method.
 - b. Minimum requirements of the meter pit lid (material construction, maximum thickness, and diameter of hole if required).
 - c. Minimum clearance needed between the top of meter to bottom of pit lid.
 - d. Description of how the radio is wired to the register (e.g. splice, connector, if required).

C. AMI Network Devices

1. Provide the product cut sheet as an appendix to your proposal.
2. State the locations of AMI network devices and the antenna height.
3. State any special mounting requirements, including minimum height, pole, tower, and bracing restrictions, the recommended sighting, and the minimum separation from other radio, cellular, microwave, or other sources of interference.
4. Explain (if pole- or tower-mounted) if the unit can be installed at the base with the antennae mounted on the tower.

5. Describe the backhaul transports that are supported (e.g., Wi-Fi, cellular).
6. Explain if the product has the capability to store multiple readings in the case of a receiver being unavailable. If so, provide the storage limit of backup reads.
7. Describe any maintenance requirements for the collection units.
8. Verify that the production capacity for network devices can satisfy the number and timeline identified in this RFP.

D. MDM System (Hosted)

Provide, for the MDMS being proposed, the following information regarding the application and the application vendor:

1. The formal name and software version being proposed for implementation.
2. A narrative description of the proposed MDMS, system components, and capabilities. Clearly state what is included in the base offering. Include:
 - a. A discussion of Validation, Estimation, and Editing (VEE) capabilities.
 - b. A concise list and description of all operational reports (e.g., system monitoring, meter status, VEE exceptions, etc.) and analytics (e.g., historical use trends, revenue forecasting, leak detection, etc.) available.
 - c. Describe individual user ability to establish user-defined alarms based on user-defined thresholds for operational reports and virtual metering.
3. Discuss methodology and roll-out approach. Include:
 - a. A discussion on what interface mechanisms are available to facilitate integration with other City utility systems.
 - b. Describe your recommendations regarding the number and purpose of the environments that will be required during implementation and after go-live (e.g., production, development, testing, etc.).
4. Include discussion of cyber-security measures applicable to protect the City's software and customer data.
5. For a hosted MDMS solution, an overview of third-party cloud services, uptime percentage, physical locations, security (both physical and cyber), and redundancy.
6. Proposer should provide documentation to support future scalability and expandability beyond what is initially required to support the City's implementation.
7. Provide the implementation process for releasing and applying software and firmware upgrades, bug fixes, and patches. Include overall implementation timeframe, vendor effort, time, and resources, and City effort, time, and resources. Discuss the QA procedures currently in place to ensure bug fixes, patches, and upgrades are fully tested and validated prior to release. Discuss QA procedures currently in place to ensure the identification and correction of system security vulnerability.
8. Summarize the system maintenance agreement including terms and conditions. Provide a copy of Proposer's user support SLA as an appendix. The SLA should

clearly indicate the severity levels, description of each level, guaranteed response times, availability of maintenance and support staff, and associated cost.

E. Customer Portal (Hosted)

Provide, for the Customer Portal being proposed, the following information regarding the application and the application vendor:

1. The formal name and software version being proposed for implementation.
2. A narrative description of the proposed Customer Portal, system components, and capabilities. In addition to online presentment, provide details regarding utility-to-customer communication channels (e.g., emails, SMS messaging, etc.), including automated messaging/alerts and the degree of messaging customizability. Also, include information regarding any additional, integrated services that are offered as a part of the proposed customer portal. Clearly state what is included in your base offering.
3. List Customer Portal solutions deployed to date.
4. Include discussion or use cases where leak detection notification has been part of your customer portal offering.
5. Include discussion of cyber-security measures applicable to protect the City's software and customer data.
6. For a hosted Customer Portal solution, an overview of third-party cloud services, uptime percentage, physical locations, security (both physical and cyber), and redundancy.

F. Research & Development Activities/Strategic Product

Direction Provided for the AMI and MDMS systems:

1. A discussion on the evolution of the proposed AMI and MDM product from the first major release of the product through to the present. Include a historical timeline.
2. A discussion of the AMI and MDM product development roadmap outlining the vision and strategy for the future of the proposed system. Include a description of the upgrades/enhancements that are in the planning or design stage.
3. Past and future research and development budgets. What percent does the company invest of its profit into research and development for future products?
4. An overview of additional sensors (vendor-owned or third-party) supported by the system.

4.5 Implementation Approach

A. Project Team

Provide the following regarding the proposed project team:

1. An organizational chart outlining the structure of the proposed project team (including subcontractors) to be assigned to support this Project.
2. Names and positions of persons to be assigned to this Project, including a description of their chief role. Indicate desirable certifications such as Project Management Professional, Six Sigma, etc. Resumes of key staff are to be

included in the appendices.

3. Proposer shall attest to the availability of key staff to fulfill the obligations of this engagement in a professional and timely manner. If there are any scheduling issues of concern, then proposing firms shall disclose those other commitments in its Proposal and indicate how such other commitments will be addressed to mitigate their effect on services rendered to the City.
4. Confirm your company's commitment to having an on-site presence as required to fulfill project scope and deliverables.

B. Project Management

Provide your published methodology or describe at a high level your general approach to the management of an AMI, MDM and Installation Services Project. Ensure the following topics are covered in your response:

1. Risk management and risk mitigation. Please describe your methods of identifying, assessing, and mitigating project risks.
2. Communications and Reporting. This project has the potential to involve multiple vendors and multiple City departments. The City anticipates having monthly project status meetings and written status reports. Confirm you will provide representation and proactive communication for these activities.
3. Quality Assurance. Describe how quality is measured, reported, and enforced. Consider the following in your response: data quality, quality of installation, success of training.
4. Schedule. Describe how plans are monitored and maintained in order to keep the Project on track.
5. Scope change. Describe how changes in scope are managed.

C. Testing

Describe the proposed test plan, strategy, and testing tools to be employed to support and ensure user acceptance. Include Proposer's high-level test plan as an appendix. Please note, there is no template being provided by the City. Proposers should provide test plans in their preferred format.

D. Training & Support

Provide a list of all applicable training courses to be provided on-site, via the Internet, and at off-site locations. The training must be comprehensive enough to ensure that City staff can effectively install all products offered and operate all systems and software. Areas that shall be included (but are not limited to) in the training are:

1. AMI Training
 - a. Networked components;
 - b. Overview of the AMI product and head-end software;
 - c. System operations and troubleshooting; and
 - d. Identification and resolution of events and alarms
2. Endpoint Installation Training

- a. Installation; and
 - b. Troubleshooting
- 3. MDMS Training
- 4. Meter Installer Training
- 5. Technical support for the system over its expected life, including on-site and telephone support for City personnel.

Also provide an optimal user training schedule, and a sample training plan covering all items as outlined in this Training section as an appendix.

E. Documentation

The following will be required as provisions within the agreed-upon contract between the City and the Proposer for the AMI/ MDM solution. Confirm your ability to provide:

- 1. Description of major system components;
- 2. Hardware and software operations & maintenance manuals;
- 3. Training materials;
- 4. Samples of all standard reports with narrative descriptions of all fields displayed on the report, input parameters, and an explanation of how to execute each report;
- 5. All error codes, messages, and their explanations displayed online and/or on reports with action required or options available;
- 6. Updated system documentation available concurrent with the release of new software updates;
- 7. Troubleshooting and installation information;
- 8. Technical specifications and installation guides; and
- 9. Proposed system acceptance test plan for your product.

F. System Integration Services

Provide a summary of work and describe how integrations and data exchanges will be managed for the City. The City is requesting a hosted solution for AMI, MDMS and the optional Customer Portal.

Describe how your company handles the integration of AMI systems with other computer systems.

- 1. Does your company manage the integration of AMI software with BS&A?
 - a. If so, how will this integration be managed on behalf of the City?
 - b. Describe what functions are integrated.
 - c. What services will be required from BS&A (or the City) to facilitate integration with the AMI software?
- 2. Does your company manage the integration of MDMS software with BS&A?
 - a. If so, how will this integration be managed on behalf of the City?

- b. Describe the functions that must be integrated.
 - c. What services will be required from BS&A (or the City) to facilitate integration with the MDMS software?
- 3. Does your company manage the uploading of geospatial data acquired when AMI devices and meters are installed to GIS?
 - a. If so, how will this integration be managed on behalf of the City?
 - b. What services will be required from the GIS vendor, BS&A, MDMS vendor (or the City) to facilitate data transfer?

5. Requirements

Proposers must submit responses to all questions listed for the following categories. Response options will consist of one of the following:

Current Base – The function is provided in the base product today. No modification is required. No additional cost.

Future Base Release – The function will be provided in a future base release that will be a general release within 18 months from submission of this response. No modification required.

Modification - This business function can be supported by modifying an existing screen, existing view or existing native report. There would be no change in the system source code required and would not break the system upgrade path. One-time modification.

Third Party System - The function is provided in another product which is integrated with the base. No modification is required. Vendor must indicate estimated cost if applicable.

Customization - This requires a specific enhancement to be developed for the client and will be an additional cost. This enhancement would include, but not be limited to revisions to the source code of the core system, database objects, and/or custom reports. This type of customization is assumed to break the upgrade path of the core system. Vendor must indicate estimated cost.

Not Provided - This functionality is not provided by the vendor in the proposed solution.

5.1 AMI System Requirements and Capabilities

In general, the AMI system is considered to be a data collection field area network consisting of various apparatuses designed to automate the meter reading function while having the capability to execute remote commands acting either upon the attached meter or upon itself. The system shall include the following:

- A. Meets all applicable American Water Works Association (AWWA) standards.
- B. Not interfere with the City Utility's current billing system, SCADA or any other current communications system.
- C. Provide full system redundancy.
- D. Support scheduled batch loading of meter data to the MDMS.

- E. Be capable of obtaining interval data and logs from the DCUs at a configurable frequency, but at least 4x per day for delivery to the AMI headend.
- F. Support interval data collection for measured product.
- G. The AMI headend system must be able to store at least 90 days of hourly interval data.
- H. The AMI 'head-end' must distinguish between a missing interval and zero consumption.
- I. Initiate an on-demand read request initiated from another authorized system (i.e., MDMS, CIS).
- J. Log all messages sent to and received from all AMI components with the message date, time, event, message type, source and target(s) identifier.
- K. Log each instance when an event message has been sent to an AMI component when no acknowledgement is received within the configured time frame.
- L. Synchronize internal clock time for all meters and endpoints with a recognized external time source at least 1x per day.
- M. Process Daylight Savings time change.
- N. Utilize two-way secure communications with all authorized systems and devices.
- O. Meters can be read in both mobile drive-by AMR and fixed network AMI mode simultaneously without reprogramming.
- P. Meters cannot issue commands to the AMI headend.
- Q. Provide a method of obtaining readings by vehicle-mounted mobile collectors in the event fixed network communication with meters is down.
- R. Provide a method of obtaining readings by handheld computers in the event fixed network communication with meters is down.
- S. Support communications technology between network devices and the AMI headend including the following four technologies:
 - 1. Cellular (Specify capability i.e. 5G);
 - 2. Phone/Modem;
 - 3. Radio Frequency (RF); and
 - 4. Fiber.
- T. AMI communication system supports a platform that provides connectivity (status and control) to third party devices such as pressure sensors, remote disconnect meters, etc. Specify supported devices and manufacturer in comments.
- U. The AMI head-end system has the capability to assign user specific screen presentation criteria (i.e. personalized home dashboard) based on user sign-in (role-based presentation).
- V. Support user capability to export report and query data in SQL, Excel, XML, TXT, or other flat-file formats.
- W. Provide the capability to support a variety of number of dials that contain at least 9 digits on register read.

- X. Meter reads will be registered and transmitted 0.01 cubic feet increments or smaller.
- Y. Provide the capability to support minimum of 12 digit length serial number.
- Z. Detect and report all meter and system alarms and events in near-real time (up to 30 seconds) to the AMI head-end.
- AA. Provide mechanism to automatically communicate specified events and alarms to designated recipients via email or SMS text message.
- BB. Detect and report continuous flow (potential customer side leak).
- CC. Detect and report meter removal for a water meter.
- DD. Detect and report meter tilt/tamper of a water meter register.
- EE. Detect and report stopped/dead/non-registering meters.
- FF. Automatically resend event notification until a message is acknowledged by the AMI headend.
- GG. Receive and process requests from other systems (such as an MDMS or CIS).
- HH. Transmit specified data received from network devices to the MDMS (e.g. usage, logs, alerts, receipts, etc.).
- II. Support a lockout for a configurable number of failed login/access attempts.
- JJ. Supply mechanisms which audit and store all security related events including all messages, access, and modification events within the system.
- KK. Critical failures are reported to AMI headend immediately.
- LL. Endpoint device failure.
- MM. Endpoint firmware upgrade failure.
- NN. Be capable of securing an overall 98.5% success rate of all expected reads (interval and register) transmitted within 72 hours of read timestamp, processed at the head end and available for analysis/billing.
- OO. The AMI System and network design shall be capable of securing 100% of all expected billing and interval reads for 100% of deployed meters by the end of a 30-day billing period (only exceptions are for variables outside of the vendors control).
- PP. The AMI headend shall be capable of receiving and processing incoming meter data on a continuous basis.

The AMI Endpoint shall include the following:

- A. For meter pit installations, the endpoint must be capable of continuous operation in a submerged environment.
- B. Collect and report non-usage data (i.e. battery level, alarms, temperature, pressure, etc.).
- C. Have storage capacity at the meter for 45 days, which includes meter read and event data for purposes of disaster recovery.
- D. Keep time even if there is no communication with the AMI network.

- E. Radio battery enclosure on endpoints for water meters shall be fully sealed and waterproof.
- F. Have an option to be mounted through the lid via a pit mount interface device.
- G. Have an option to be pit mounted (under the lid).
- H. Through the lid endpoint devices must not extend more than ¼" above the lid and be ADA compliant.
- I. Have battery that is warrantied for 20 years operating life (full for 10 years and prorated for the remaining 10 years).

5.2 Meter Data Management System

- A. Accept and store meter data characteristics (e.g. Meter ID, Parcel ID, etc.) according to Utility's CIS data structure.
- B. Support at least 9 digits for meter reading display.
- C. Support configurable units of measure and interval lengths for meters.
- D. Provide a web-enabled platform for remote access by internal system users, including field services crew.
- E. Provide meter status for all meters.
- F. Provide robust ability to aggregate meters (i.e., virtual metering, totalization) to perform analytics.
- G. Provide reporting capabilities and exportability of data screens to other file formats (such as .csv and .xlsx).
- H. Retain a minimum of three (3) years of interval and register reads for immediate (online) access.
- I. Receive and retain a minimum of three (3) years of events and alarms originating from the AMI headend.
- J. Process all meter and collector communication issues received from the AMI headend system to include at a minimum:
 - 1. Non-communicating meters;
 - 2. Intermittent meter communications; and
 - 3. Collector communications issues.
- K. Process all meter issues received from the AMI headend system to include at a minimum:
 - 1. Meters with missing reads; and
 - 2. Unknown meters.
- L. Process all customer consumption related issues received from the AMI headend system to include at a minimum:
 - 1. Consumption on a vacant account;
 - 2. Zero consumption on an active account; and

3. High usage.
- M. Allow manual editing of missing or estimated allocated data with changed data marked by quality flag (original data should not be disturbed).
- N. Accept register reads via manual entry.
- O. Allow for configuration by an authorized user without the need for new code development for the following validation parameters:
 1. Type of Service;
 2. Meter Type;
 3. Customer;
 4. Customer group;
 5. Billing cycle;
 6. Rate category; and
 7. Process Daylight Savings time change.
- P. Support on-demand meter reads by authorized users.
- Q. Track meter events by billing account (i.e. flags, relocation, reconfiguration, tampering, etc.).
- R. Align water bill for usage starting with the same date each month for coincident billing.
- S. System performance is optimized for handling real-time event and alarm data (e.g. outages, system failures, etc.).
- T. Load all pages, including reports, within 15 seconds.
- U. On Demand reads can be received within 90 seconds from when the command is initiated.
- V. Support at a minimum, the following water event data from the AMI headend system, with Utility-configurable thresholds:
 1. Tamper detection;
 2. Leak (Abnormal flow) detection;
 3. Reverse flow (Backflow) detection;
 4. Low battery;
 5. Service disconnection and reconnection; and
 6. Health diagnostics.
- W. Provide the ability for users to view tabular and graphical data (at interval, daily, monthly levels) from current and prior 36 months of usage for individual meters.
- X. Provide reports that compare multiple years (>2) of historical data side-by-side.
- Y. Individual user will be able to establish defined alarms and thresholds for each virtual meter and will have the ability to establish user defined alarm levels.
- Z. Ability to send emails, SMS based on user defined alarm exceedance.

- AA. Identify customers with leaks due to continuous consumption alerts based on configurable threshold for customer leak detection.
- BB. Revenue analysis tools will support, at a minimum, revenue profiling daily, monthly and annually; revenue profiling for billing customer classes or based on user-selected virtual metering.
- CC. Incorporate external data (weather, property, climate) into reporting and analytical reporting tools.
- DD. The MDMS will support identification of customer impacted by main breaks and be capable of integrating with a customer portal for customer notification.
- EE. Provide a secure login.
- FF. Provide authorized users' access to audit logs in compliance with ISO27001 that shall track all changes to interval usage, register meter reads and configuration data.
- GG. Provide for at a minimum 10 simultaneous users and 5 system admins.
- HH. Store audit logs for up to three (3) years or a configurable length of time up to seven (7) years.
- II. Be supported with a bug and security patching process for test and release, including addressing vulnerabilities and patches associated with the server operating system.
- JJ. Have all upgrades and enhancements thoroughly tested and pass a Quality Assurance review (Unit Testing, Integration Testing, and Systems Acceptance Testing) before being released to the customer.

5.3 Customer Portal

- A. Support notifications to alert customer when they are approaching the next billing tier.
- B. Support customer configuration preferences for notifications via SMS text, phone, e-mail, smart assistant or any combination thereof.
- C. Support past due payment notifications for residential and commercial customers.
- D. Support water consumption budget notifications.
- E. Support water conservation messaging at relevant times.
- F. Support customer messaging regarding utility determined water-saving actions.
- G. Support customer opt-in for newsletters and other utility programs.
- H. Support push notification via text, e-mail, and phone alerts for service disruptions.
- I. Ensure Customer Portal has the capacity to provide services for the current number of deployed meters and the anticipated additional meters to be installed as a result of future City growth.
- J. Allow customer to set do not disturb times.
- K. Support establishment of savings goals for customers based on prior usage.
- L. Support residential bill comparison to similarly-sized homes.

- M. Support double entry of key information, such as email address and account numbers to ensure entry accuracy.
- N. Provide the ability to display bills directly from third party bill print processors.
- O. Integrate water usage and billing information.
- P. Feature a user-centric design, including mobile, smartphone (iOS and Android), and tablet functionality.
- Q. Support log-in with email and password.
- R. Present usage information with billing amounts in hourly, daily, weekly, and monthly increments for each account.
- S. Support comparison to past months and years, with simple transitions between timelines.
- T. Support comparison of customers' usage information for up to 3 years.
- U. Support comparison of customers' current usage to monthly water budget.
- V. Present usage data in hourly intervals for residential customers and commercial customers.
- W. Support multiple log-ins within a single customer account for commercial accounts.
- X. Support monitoring of multiple accounts with a single account sign-on.
- Y. Enable commercial customers to update information and provide emergency contact information.
- Z. Support branding with City of Moscow styling.
- AA. Enable customer to opt-in or opt-out from all events and notifications.
- BB. Support integration with the City's billing software BS&A
- CC. Ensure data from the customer portal and/or phone applications will not override BS&A.
- DD. Ensure all payment activities are handled via BS&A and are not processed through the customer engagement platform. The redirect will be a seamless experience for the customer.
- EE. Support integration with the City's GIS.
- FF. Vendor shall support the City throughout customer usability testing.
- GG. The vendor shall respond to the City's critical support requests within two (2) hours or sooner (including weekends and holidays).
- HH. The vendor shall respond to the City's non-critical support requests within one (1) business day or sooner.



CITY OF MOSCOW, IDAHO



REQUEST FOR PROPOSAL “Advanced Metering Infrastructure Project”

**RFP Due Date: Friday, June 21, 2024
Time: 5:00pm Local time**

**Submitted by:
Zenner USA
Bernard Nance
Manager of Marketing & Proposal Support
15280 Addison Road, Suite 240
Addison, Texas 75001
972-386-6611 ext. 125**



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June 05, 2024

ADDENDUM NO. 1

City of Moscow Project: **ADVANCED METERING INFRASTRUCTURE PROJECT**

The following changes, additions, clarifications, and/or deletions are hereby made a part of Moscow's project **ADVANCED METERING INFRASTRUCTURE PROJECT**, as fully and completely as if the same were entirely set forth in the Plans, Specifications, and Contract Documents. This addendum, as set forth herein, shall become an integral part of any contract entered into by and between the Owner and the Contractor.

CLARIFICATIONS:

Question 1:

- *Are we allowed to bid directly on this, or do we have to have a AMI Partner?*

Answer: We are seeking an entire turnkey solution that would consist of the AMI system, MDMS, and customer portal. So, you would need an AMI partner if you wanted to submit a proposal for this.

Question 2:

- *Is there a breakdown or further information on the material composition of the meter pit lids currently in use throughout the City's system?*

Answer: It is roughly 80% cast iron, 10% concrete, and 10% plastic.

Question 4:

- *What is the current Itron software that the City currently uses?*

Answer: FCS

Question 5:

- *What percentage of the meter pit lids currently have 1-3/4" - 1-7/8" holes for mounting endpoints?*

Answer: We have roughly 70% with 1-7/8" holes in the lid for mounting a radio in the lid.

Question 6:

- *Contact information for BS&A Finance and Utility Billing?*

Answer: bsaonlinesupport@bsasoftware.com
(855) 272-7638 Contact Municipal Software Provider | BS&A Software |
Michigan (bsasoftware.com)

Question 7:

- *Will the City be supplying additional meter boxes?*

Answer: The City is not asking for additional meter boxes to be installed at this time.

Question 8:

- *It is our understanding that the City of Moscow is currently utilizing Itron ERT modules for a drive by solution. Can you provide to us what your current ERT population is (ie 60W, 100W etc). How many of each module do you have?*

Answer: We have 40w, 60W,100W and 100W+ ERT's in the system. Roughly 60% are the 100W ERTs & 100W+

Question 9:

- *Is there a deadline for submitting questions?*

Answer: Questions will stop being responded to by EOD on June 18th.

Question 10:

- *How many originals, copies, and USB's are required for submission?*

Answer: One original copy is required for submission. One USB would be appreciated.

Question 11:

- *What type of meter pit lids are currently in the system?*

Answer: We have a variety of meter pit lids in the system.

Question 12:

- *What percent of coverage does the preliminary propagation study need to cover?*

Answer: A preliminary propagation study provided by proposers can be reduced from 99.5% to 98.5% coverage for expected reads.

ATTACHMENTS

Pre-Proposal Presentation
City of Moscow Purchase Agreement

Receipt of **ADDENDUM NO. 1** must be acknowledged. This document must be signed and attached to the bid to acknowledge its receipt:

Zenner USA

Firm Name of Bidder

Bernard Mance

Signature of Bidder

Mgr. of Marketing & Proposal Support

Title

6/19/24

Date



2. Contractor and Subcontractor Information Form

PROPOSAL TO

CITY OF MOSCOW WATER DEPARTMENT FOR THE CONSTRUCTION OF

Advanced Metering Infrastructure, Meter Data Management System, & Customer Portal

Name of Firm: Zenner USA, Inc.

Business Address: 15280 Addison Road, Suite 240, Addison, Texas 75001

Phone No.: 972-386-6611 x125

Email and Website: bnance@zennerusa.com; website: www.zennerusa.com

The site of the work to be constructed and referred to herein is in the City of Moscow, County of Latah, Idaho.

The work is to be in accordance with the specifications and contract documents and as described in the Request for Proposal entitled:

Advanced Metering Infrastructure, Meter Data Management System, & Customer Portal

Proposer shall submit to the City the following information as part of the Proposal:

1. The name and location of the place of business of each subcontractor performing work, labor or render construction services and each subcontractor's Idaho Public Works License Number.
2. The portion of the work to be done by each subcontractor.
3. The Proposer shall be solely responsible to correct any errors in the list providing the subcontractors Idaho Public Works License Number information within 24 hours of request by the City or discovery by the Proposer. The Proposer's failure to submit a corrected list in compliance with the process set forth above may cause the Proposal to be deemed nonresponsive. The Proposer shall list only one subcontractor for each portion of the work identified in the Request for Proposal.

DIVISION OF WORK OR TRADE	NAME OF SUBCONTRACTOR (IDAHO PUBLIC WORKS LICENSE NO.)	LOCATION OF OFFICE
N/A	N/A`	N/A



3. Executive Summary

The City of Moscow Idaho has issued a Request for Proposal for an “Advanced Metering Infrastructure (AMI) Project” Zenner USA is pleased to respond to the above-referenced RFP. Zenner has read and understands the Scope of Work in the RFP and is in compliance.

Zenner USA will provide the water meters, Meter Interface Units (MIU)s, software, LoRa Infrastructure, equipment and training. Zenner USA will install the LoRa infrastructure. Phoenix Water Solutions will perform the installation of the Meters/MIUs.

This proposal does not include installation of the Meters/MIUs and meter pit lids.

Pricing Option: Zenner is providing the following pricing options for the City’s consideration:

1. AMI option with Ultrasonic Meters
2. LoRaWAN option with Ultrasonic Meters

Refer to the applicable meter warranty for conditions that may void the meter warranty.

We also offer a Drive-by solution (AMR) for those areas that may not be accessible via AMI or LoRa systems.

We commend you for seeking to automate meter reading capabilities to increase meter reading efficiency, capture more timely water usage data, and to provide your customers with greater detail regarding individual water consumption and enhanced leak detection. Implementing an efficient AMI solution backed by innovative technology and superior customer service is critical to your quest to integrate timely metering data which will optimize management of the water distribution system. Further, our proposed LoRaWAN solution will improve your operational efficiencies, enhance your meter reading accuracy, reduce unaccounted water loss, and allow customers easy access to data. These improvements combined with the cost savings inherent in an automated system will enable you to manage the water distribution system more effectively.

The Zenner/Minol group is a global company established in 1903 focused on meter production, meter reading and sub-metering products and services. Zenner/Minol serves customers in over 100 countries and manufactures and assembles its products in manufacturing plants on 5 continents including our plants in Banning California and our newest plant (opened in November 2023) in Huntsville, Texas. Zenner is the largest water and gas meter manufacturer in the world, leading the way with world class engineering and support.

Zenner produces almost every kind of metering technology needed by our customer base. We are the only manufacturer globally that designs and manufactures all metering technologies so we can apply the best technology based on an individual utilities water condition providing the longest life and greatest efficiency from their metering network.

- Positive Displacement Meters
- Multi-Jet Meters
- Ultrasonic Meters from ½” to 12”
- Single Jet Meters
- Residential Fire Service Meters
- High Pressure Meters (360psi)
- Turbine Meters and Strainers
- Compound Meters
- Fire Hydrant Meters



Zenner deploys AMI systems globally using various technologies that benefit and fit the local environment providing optimum cost and performance. With more than 44 million active endpoints globally Zenner has become one of the largest deployers of AMI technology in the World, Zenner has developed and deployed systems using:

- Stealth land-based Mesh
- NBIOT/Cellular
- LoRaWAN
- Net Radio

Conclusion

Our goal is to meet /exceed all your expectations through a comprehensive approach to professional planning and operations, superior customer service, advanced equipment selection, highly developed quality assurance processes, and "Safety First" procedures. We believe that the City of Moscow would highly benefit by choosing our firm, and its team members, with the breadth of experience our team has to offer and the ability to satisfy the selection criteria outlined in your solicitation. We look forward to your favorable evaluation and to working with you on this project.

Your primary points of contact for this project are:

- Mike Medici, Zenner USA Regional Sales Manager. Mike can be reached at 970-903-8531 or by email at mmedici@zennerusa.com.
- Bernard Nance, Manager of Marketing and Proposal Support, Zenner USA. Bernard can be reached at 972-345-0465 or by email at bnance@zennerusa.com.
- Rich Sanders, President, Zenner USA. Rich can be reached at 772-285-1035 or by email at rsanders@zennerusa.com.

With my signature below, this affirms that I have the authority to make formal commitments on behalf of Zenner USA.

Should you have any questions regarding our submittal, please do not hesitate to contact us.

Sincerely,

Richard Sanders
President, Zenner USA
15280 Addison Road
Suite 240
Addison Texas 75001



4. Experience

The Zenner/Minol group is a global company established in 1903 focused on meter production, meter reading and sub-metering products and services. Zenner/Minol serves customers in over 100 countries and manufactures and assembles its products in manufacturing plants on 5 continents including ours plants in Banning California and our newest plant (opened in November 2023) I Huntsville, Texas. Zenner is the largest water and gas meter manufacturer in the world, leading the way with world class engineering and support.

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- Stealth land-based Mesh
- NBIOT/Cellular
- LoRaWAN
- Net Radio

We currently have more than 450 AMI systems deployed throughout the United States.



REFERENCES

Utility Name	Lake Arrowhead CSD
Address	28000 State Hwy 189
Location (City/State/Zip)	Lake Arrowhead, CA 92535
Contact Name	Francisco Izeta – Service Manager
Telephone	909-336-7100
Email Address	fizeta@lakearrowheadcsd.com
Project Name	AMI System
Project Start Date	June 2014
Project End Date	Fall 2015
Project Scope	AMI System Deployment with meters
Number of AMI Meters Installed	8500
Option for a Site Visit (Yes/No)	n/a – Customer must be contacted first

Utility Name	City of Alamogordo
Address	1376 East Ninth St.
Location (City/State/Zip)	Alamogordo, NM. 88310
Contact Name	Fabian Esquero
Telephone	575-491-2476
Email Address	fesquero@ci.alamogordo.nm.us
Project Name	Water Meter Replacement
Project Start Date	May 2013
Project End Date	Sept 2014
Project Scope	AMI System Deployment with meters
Number of AMI Meters Installed	8,000
Option for a Site Visit (Yes/No)	n/a – Customer must be contacted first

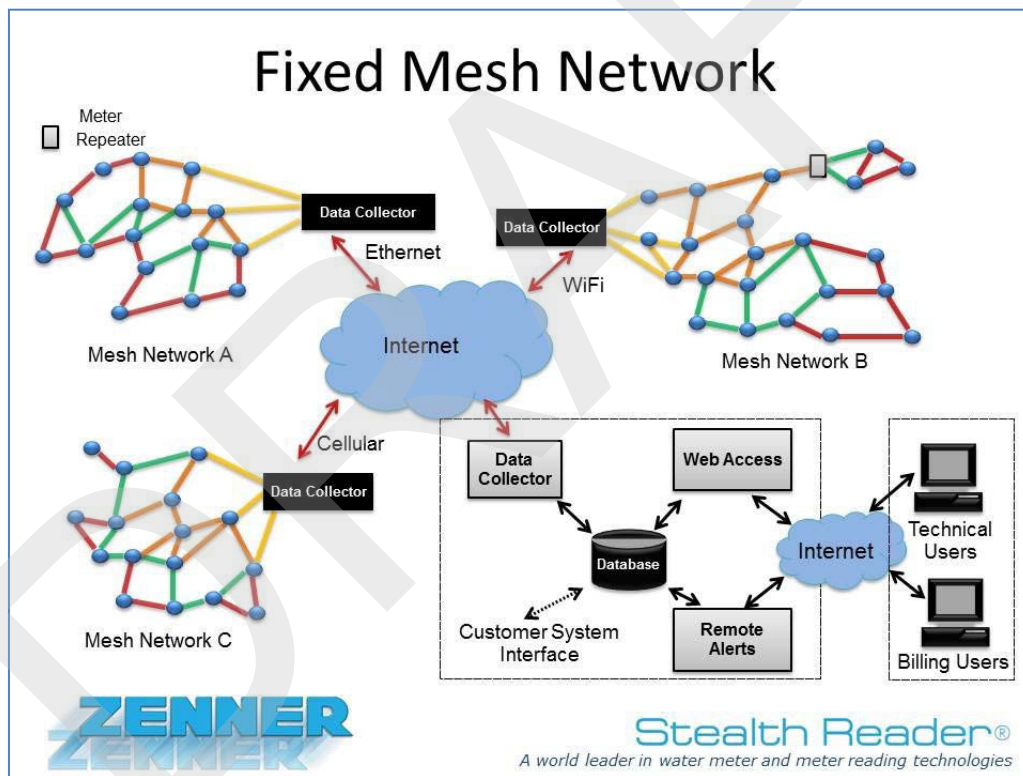
Utility Name	City of Marion IL
Address	1102 Tower Square
Location (City/State/Zip)	Marion IL. 62959
Contact Name	Terance Henry
Telephone	618-997-6281
Email Address	it@cityofmarionil.gov
Project Name	AMI System Project
Project Start Date	March 2018
Project End Date	June 2019
Project Scope	AMI System Deployment w meters
Number of AMI Meters Installed	8100
Option for a Site Visit (Yes/No)	n/a – Customer must be contacted first

5. Product Maturity and Future Roadmap

OPTION 1: ZENNER AMI SYSTEM OVERVIEW

The Zenner Stealth Reader AMI system begins with the endpoint, which is referred to as the Stealth Reader MIU. Once activated, the Stealth Reader MIU automatically starts probing the airwaves for local neighbors and establishes communications with the mesh network. Once on the mesh network, all of the installed Stealth Reader MIUs will work together passing either their own information, the information of other MIUs, or network settings which assure that all the MIUs remain on the network. Logging of the installation is achieved by using a hand held computer which stores the initial read, the MIU serial number as well as the customers billing information for installation verification. Each Stealth Reader MIU is capable of full two- way communications, allowing utilities to:

- Send software updates, functional enhancements to MIUs
- Update monitoring, reading schedules as seasons/conditions change
- Change monitoring parameters - usage thresholds, permitted days, etc.



System Redundancy

Since the system is designed to keep operating through component and backhaul failures by moving information to and storing it within available collectors, the requirement to operate as both a fixed base and Drive-by/Walk-by AMI system, becomes unnecessary. In worst case scenarios, the utility can go directly to each collector and download current reading into a laptop for retrieval and return to the office. This saves the utility from the need to send personnel out into the field and performing the arduous task of driving the entire system in the event of a failure. Should communications with the primary gateway fail, each Endpoint will reroute itself, automatically, to the next closest gateway. In this way, each endpoint can fail-over to another portion of the network should their primary communication link to the mainframe computers ceases.



functioning. This makes a Stealth Reader deployment a fully redundant, self-healing, self-configuring 2-way system.

The Stealth Reader MIU transmits the current reading through the mesh network back to the Network Collector at configurable 1, 4, 6, or 24 hour intervals. The meter data interval can be configured down to 15 minute intervals; transmission intervals can be configured down to 5 minutes. Both of these items can affect MIU battery life and impact the warranty if done for extended periods of time.

The Stealth Reader MIU stores up to one year of hourly consumption data and continually updates this on-board data every hour (oldest reading is replaced with newest once limit has been reached). The host computer stores all historical data so the utility can define how much and how long they wish to archive their data. In the MIU at any time the utility can request historical data from a specific MIU going back 365 days. The Stealth Reader MIUs and Network Collectors communicate using proprietary methods, but the basic protocol is Frequency Hopping Spread Spectrum (FHSS) in the 902-928 MHz range which is an unlicensed frequency. All proposed AMI equipped components and systems are approved to FCC part 15.

The proposed system uses 128-bit encryption to secure the customer and meter data in all transmissions. The system also uses Reed Solomon Forward Error Correction (FEC) techniques to both extend the range of the transmissions as well as verify data integrity, for lost packets due to range limits or excessive attenuation. The radio inside the MIU and Data Collector has a RF Shield that blocks most EM interference. The FCC Part 15 testing verifies that the units will work within specified noise environments.

The Zenner Stealth AMI system is a fully two-directional self-forming mesh networking system integrated with backend database systems to provide billing, reporting and network management. The backend systems are accessible using a web browser and SSL. The data is available to CIS type systems with a secure web portal interface.

The benefit of a mesh system is that the end points do not have to have direct connectivity to the DCU. The self-healing portion of the mesh uses the automated self-forming methods to find paths back to the DCU. There are no routing tables or specific associations to setup to form and have the mesh function. If a mesh DCU goes offline completely, the MIUs will look for another path to get back to a DCU. The self-forming and self-healing functionality removes some of the need for an extensive on-site propagation study.

The mesh network radios are designed to use the unlicensed ISM 902-928MHz band. They use frequency hopping spread spectrum across 50 channels in this band. Following the FCC requirements in the ISM band, allows the system to accept interference from other devices and still function while not causing undue interference with other items operating in this band. The Stealth radios are set at 500mW in power. All radio units are FCC certified.

Meter Reading Interval

The Stealth Reader MIU transmits the current reading through the mesh network back to the NetworkCollector at configurable 1, 4, 6, or 24 hour intervals.

Changing Meter Reading Interval

The meter data interval can be configured down to 15 minute intervals; transmission intervals can be configured down to 5 minutes. Both of these items can affect MIU battery life and impact the warranty if done for extended periods of time.

System Capacity

The Stealth Reader MIU stores up to one year of hourly consumption data and continually updates this on-board data every hour (oldest reading is replaced with newest once limit has been reached). The host



computer stores all historical data so the utility can define how much and how long they wish to archive their data. In the MIU at any time the utility can request historical data from a specific MIU going back 365 days.

Consumption Profiling

The utility can set the interval on all, a specific group or on an individual MIU to retrieve interval readings. This can be set by 15 minute intervals, 15 minutes to one hour. This information can be programed to transmit once or several times a day. Once is normal and will not affect battery life and multiple times will affect battery life.

Radio Communication Band

The Stealth Reader MIUs and Network Collectors communicate using proprietary methods, but the basic protocol is Frequency Hopping Spread Spectrum (FHSS) in the 902-928 MHz range which is an unlicensed frequency. All proposed AMI equipped components and systems are approved to FCC part 15.

Data Transmission Accuracy and Security

The proposed system uses 128-bit encryption to secure the customer and meter data in all transmissions. The system also uses Reed Solomon Forward Error Correction (FEC) techniques to both extend the range of the transmissions as well as verify data integrity, for lost packets due to range limits or excessive attenuation. The radio inside the MIU and Data Collector has a RF Shield that blocks most EM interference. The FCC Part 15 testing verifies that the units will work within specified noise environments.

Stored Data System Integrity and Security

Security features include user accounts with configurable privilege levels and passwords, 128-bit encrypted network communications, and optional database encryption.

Tamper Detection

The Stealth Reader MIU will detect a cut or shorted wire to the encoder and any tamper fault recognized at the MIU hourly. The MIU transmits any encoder wiring short at every scheduled transmit window. In addition, all other standard encoder errors and faults will also be read from the encoder and transmitted by the MIU at each scheduled encoder update interval. High and Low audit conditions are calculated at the back office software, based on billing system parameters. The tamper & fault codes are provided to the Network Collector & back office software by the individual MIUs until the attached encoder no longer transmits these error conditions. If the encoder faults are cleared, the MIU will no longer send the trouble code in the meter reading. The encoder drives the various fault codes with the exception of a short/cut wire, which is detected and re-checked by the MIU at each encoder update. The historical readings in the back office software will show trouble codes associated with time stamped reads for each meter.

Leak Detection

25 straight hours of usage will trigger an alarm at any MIU. The back office software will monitor abnormal usage via a high-low audit report; this looks for 24 hour periods with usage above a preset amount. Custom reports can also be configured to monitor high levels of consumption.

Other Detection Features

The MIU will sense and send a trouble code when its on-board battery has reached a critically low voltage. Other faults are detected in pulse style meters such as reverse rotation, etc. For encoded meters, a reverse condition is reported if the encoder has that capability.

Meter Interface Unit (MIU)

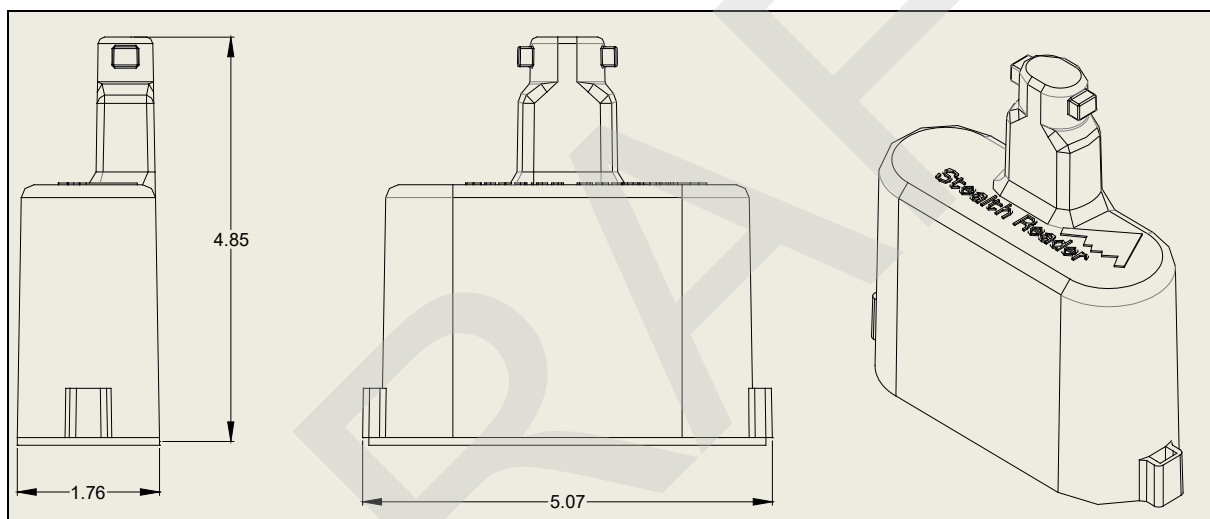
The Stealth Reader AMI system begins with the endpoint, which is referred to as the Stealth Reader MIU. Once activated, the Stealth Reader MIU automatically starts probing the airwaves for local neighbors and establishes communications with the mesh network. Once on the mesh network, all of the installed Stealth Reader MIUs will work together passing either their own information, the information of other MIUs, or



network settings which assure that all the MIUs remain on the network. Logging of the installation is achieved by using a hand held computer which stores the initial read, the MIU serial number as well as the customers billing information for installation verification. Each Stealth Reader MIU is capable of full two-way communications and operates in the 902 to 928 MHz utilizing a frequency hopping spread spectrum platform. Each MIU is equipped with a 500Mw radio.

Physical Characteristics

The Stealth Reader MIU is 4.85" High x 5.07" Wide x 1.76" Deep and weighs approximately 1 lb. It has an attached cable for connections to meters. There is currently one model of the Stealth Reader MIU. It has been designed for use in meter pits, indoor and outdoor installations. The current model has a wired cable to connect to the meter. An option to this model incorporates a Nicor cable attachment. Accessories are available to produce a professional installation appearance in all mounting applications. These accessories include lid locks and a wall/pole mount kit. All Stealth Readers contain the same electronics packages designed to operate one Stealth Reader per Meter.



MIUs for Different Meter Types and Installation Circumstances

The Stealth Reader MIU can automatically distinguish between different makes and models of meter registers upon connection. When the MIU is installed on an encoded register no programming is necessary. When installed upon a pulsed output or direct read register an initial reading must be programmed into the MIU for reading accuracy. This is done with a handheld programming unit that communicates with the MIU on a 2-way RF scheme using the same on-board radio used during mesh transmissions. To program the meter register number into the MIU, a handheld programming unit is utilized.

Batteries

The Stealth Reader MIU uses two single batteries totaling almost 40 amp hour of Lithium-Thionyl Chloride battery providing over 10 years of battery life. The usable power in the batteries equals a total of approximately 30 Amp hours. Battery life is calculated with 20 minute synch/hourly transmission of readings. Profile data extraction should not negatively impact battery life. The MIU also sends out a low voltage battery alert to notify the Utility of impending battery failure at least 8 months in advance. The battery is user removable and replaceable in the field. Battery replacement will clear on-board profile data



but firmware and software settings will not be impacted. Low battery voltage indicator is sent as an alarm during each reading transmission when a threshold of 3.6V is achieved. Batteries should be disposed of in accordance with state and local requirements for devices containing lithium thionyl chloride materials.

ID Number

Each MIU has a digit numeric unique serial number (32-bit address) that is marked permanently with a bar code on the outside of the MIU housing. This serial number is included in each transmission from each MIU. This serial number is tied to a meter number in the back office software database at installation.

Programmability

The Proposer has read understands this requirement and is in compliance. When the MIU is installed on an encoded register no programming is necessary. When installed upon a pulsed output or direct read register an initial reading must be programmed into the MIU for reading accuracy. This is done with a handheld programming unit that communicates with the MIU on a 2-way RF scheme using the same on-board radio used during mesh transmissions. To program the meter register number into the MIU, a handheld programming unit is utilized. The MIU forwards to the back office software the programmed meter register number that it is associated to in the initial set-up reading, until acknowledged. This meter register number is stored in a persistent database in the back office and is associated to the MIU serial number. It can also be accessed directly from the MIU, as it is stored and associated on-board. The MIU transmits its unique serial number with each data transmission, either via the mesh or to a field programming unit. The MIU stores up to one year of hourly consumption data and continually updates this on-board data every hour (oldest reading is replaced with newest once limit has been reached).

Environmental Tolerance

MIU is rated for immersion in liquids (IP68); each internal piece is separately encapsulated, UV inhibiting material is used for the enclosure. Unit is built with RoHS compliant components.

Mounting

The two main methods are: 1) Method one involves mounting the Stealth Reader MIU through a hole in the meter box lid using a Lid Lock. Method two uses a Lid Lock and a plastic lid with a dedicated AMI slot. The MIU in these cases are always separated from the meter to gain maximum radio transmission range.

Ease of Installation

For a wire-end connection, the wires are clearly labeled and color coded for each meter. When the MIU is installed on an encoded register no programming is necessary. When installed upon a pulsed output or direct read register an initial reading must be programmed into the MIU for reading consistency. This is done with a handheld programming unit that communicates with the MIU on a 2- way RF scheme using the same on-board radio used during mesh transmissions. To program the meter register number into the MIU, a handheld programming unit is utilized.

Interoperability

The Stealth Reader MIU recognizes all industry standard encoded registers automatically, upon proper wiring connection (via schematic). The encoded register will transmit the encoder serial number to the MIU automatically.

Manufacturer	AMI- Compatible register model	Degree of compatibility 1-no programming req'd 2-routine programming of MIU or meter req'd 3-Different MIU req'd 4-Technically feasible, non-routine modification (describe) 5-Infeasible	Functionality 1-All features operational 2-Some functions inoperable (describe)	Support 1. Cross-licensed 2-Not licensed or supported; no effect on warranties. 3-Warranties voided
AMCO	Absolute Encoder	1	1	1
Badger	ADE	1	1	2
Hersey	Translator	1	1	1
Neptune	E-Coder	1	1	2
Neptune	Pro-Read	1	2-3 wire	2
Sensus	ICE	1	1	2
Zenner	Encoder	1	1	2



Fixed Radio Data Collection Unit

Mode of Operation

The Stealth Reader Network Collector transmits data to the server when it receives data via Ethernet or GPRS backhaul method. If the backhaul is unavailable, the Network Collector will store information and transmit when backhaul is operational. The Network Collector can retain up to 9 months of data. The Network Collector receives data from the MIU during the MIU's standard "wake up cycle" which is every 20minutes.

Communication to Control Computer

Network Collectors come with Ethernet and GPRS back haul options. Some of the connection types require permanent power be provided directly to the Network Collector. Costs for Ethernet/GPRS are paid by the utility.

The hardware components of the system are as follows:

- **Stealth Collector**
 - This is the DCU.
 - The Stealth Collector is capable of collecting data from MIUs, storing that data, and then transmitting the data back over Ethernet or Cellular connections.
 - Rated for up to a 8dBi antenna with N type connector
 - The Stealth Collector contains 1GB of storage for MIU data capable of storing more than a year of mesh messages.
 - The Stealth Collector contains 2 backup batteries making it able to remain unpowered but able to maintain the mesh for long periods of power outages.
 - The unit contains a bank of LEDs to show the status of the system including the connectivity of the backhaul and the mesh, batteries and antenna link.
 - The unit contains a USB connection to allow for configuration and troubleshooting thru the System Manager application on a computer.
 - Designed to be wall or pole mounted
 - AC or DC powered DC 12V-28V.
 - GPS chipset for location and timing.
- **Stealth Powered Repeater**
 - This is a powered repeater used to communicate data directly back to a Stealth Collector or thru another Powered Repeater.
 - The powered repeater is a high bandwidth path for MIUs to get their data back to a Collector. Main usage is to lower latencies or to extend the range of the Collector to pull in more MIUs within good latencies.
 - The Stealth Repeater contains 2 backup batteries making it able to remain unpowered but able to maintain the mesh for long periods of power outages.
 - The unit contains a bank of LEDs to show the status of the system including the connectivity of the mesh, batteries and antenna link.
 - Rated for up to a 8dBi antenna with N type connector
 - LCD panel and control pushbuttons for configuration without requiring a laptop.
 - The unit contains a USB connection to allow for configuration and troubleshooting thru the System Manager application on a computer.
 - Designed to be wall or pole mounted
 - AC or DC powered DC 12V-28V.
 - GPS chipset for location.



- **Stealth Repeater**
 - Four cell battery operated device with field replaceable cells.
 - Runs on the same duty cycle as the MIUs
 - Uses high gain antenna to provide connectivity at a distance for MIUs.
 - Designed to be wall or pole mounted
 - Rated for up to a 8dBi antenna with N type connector
- **Stealth Reader MIU**
 - Operates on current AMI ready registers and passive pulse registers
 - Operates on PermaLog acoustic leak detection devices
 - Operates on remote shut off valves
 - MIU generated alarms include leak, tamper, battery, no-consumption(optional)
 - Pit operation includes ability to withstand full submersion for extended periods
 - Electronics are fully encapsulated
 - Can be programmed from daily reporting down to 15 minute reporting. Normal reporting is daily with 24 bins of hourly data.
 - Normal duty cycle is 20 minutes for maximum life.
 - Will data log 330 days of hourly data. Max resolution of data logging is 5 minute data.
 - Can be set to fixed network or in Drive-by mode for radio operator direct read.
 - Can be used specifically as a repeater without a MIU attached
 - Field replaceable batteries
 - Accessories
 - Short and long lid lock adapters for mounting in pit lids.
 - Riser plate to enhance range by moving the antenna slightly above the lid.
 - Wall mount enclosure for use as a wall mount or a pole mount. Can be used for basement installs or as a mounted enclosure for when a MIU is used in repeater only mode.
 - Has the option for security tamper tags
 - Has mounting holes for standard brick spacing's
 - Has slots for using bands on large poles.

SOFTWARE OVERVIEW

Stealth Reader networks are used for remote monitoring of commercial, industrial, and municipal equipment such as automatic utility metering. Hundreds of thousands of devices are currently being monitored by Stealth Reader networks. The Stealth Reader network is a mesh of connections between different equipment and technology. The data flows to the management system and is stored in the Database. From the Database, applications can access the data and present it to the users. The data is first gathered by the Stealth Readers in the field. The data then travels across the mesh through other Stealth Readers until it reaches the Collector. The Collector passes the data through the internet to the Stealth Server. In the Stealth Server the data is saved to the database and possibly sent to the System Manager. Supplementing the database on the server is the Remote Notification Service which sends alerts to cellphones and email as a self-monitoring system. Both the Stealth Reader Client and the Stealth Reader Web Application access the database and provide visibility and functionality to users.

The Zenner AMI Software application is a modular, fully integrated Meter Data Management Solution

- Scalable, flexible, & extensible architecture enables multi -protocol and multi –communication technology support
- Secure, multi -tenancy architecture supports solution as a service delivery
- Interoperable using open standard protocols to communicate with third party meters
- Enhanced consumer engagement via customer portal
- Integrates out of the box with other ZENNER products to reduce risk and improve business efficiency
- Automatic alarm generation for utility notification. The Z Mesh delivers detailed interval data for



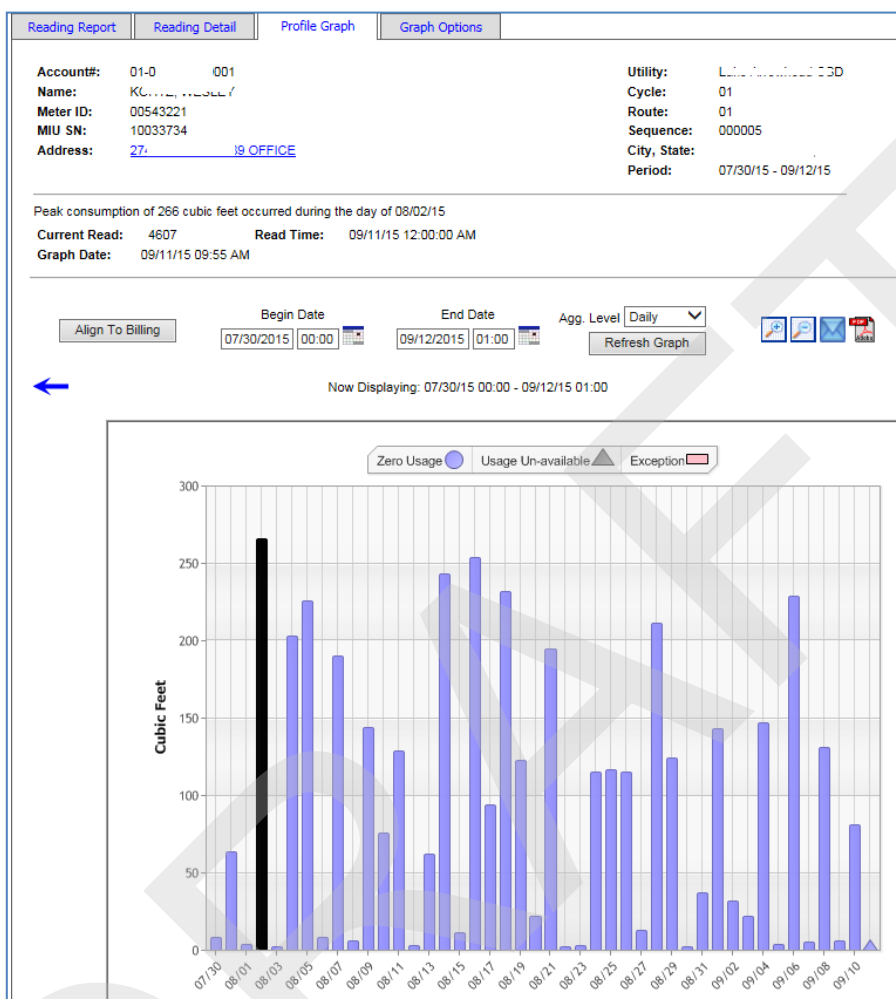
every meter.

Profiling can be used to:

- Curb water losses
- Detect leaks
- Identify theft -of-service/tampering
- Settle usage disputes
- Monitor/Enforce Conservation compliance
- Right-size meters
- Perform load studies
- Eliminate off -cycle reads (virtual turn-off)
- Deliver detailed billing for premium customers
- Support Time-of-Use billing programs
- Develop resource/infrastructure master plans
- Additional Software Features
- Extensive custom configuration to provide information management flexibility
- Import and Export capabilities of data in multiple formats
- User-definable Templates
- External report generation tool
- 'Point and Click' and 'Drag and Drop' Simplicity
- Multiple levels of Security
- Fast Route Loading and Unloading
- Real-Time Status Monitoring
- Windows Compatible

The software components of the system are as follows:

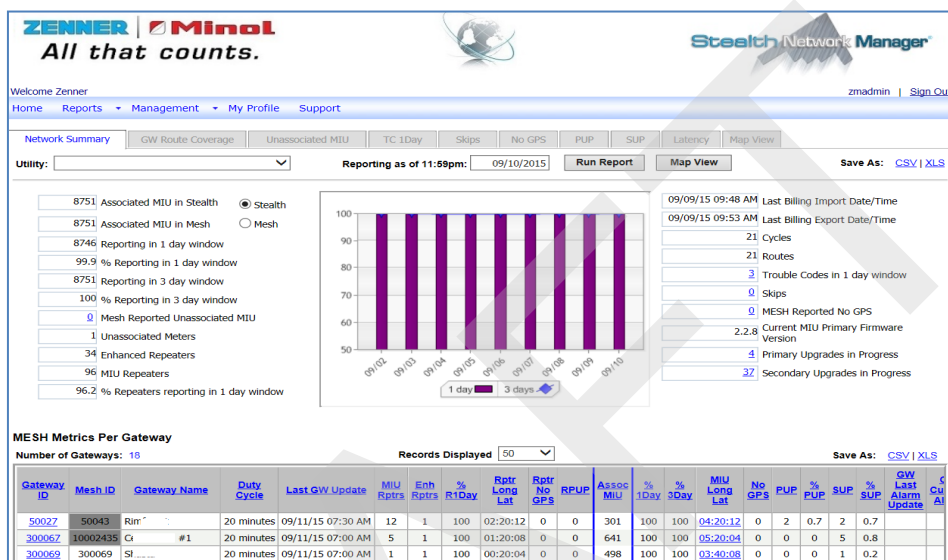
- **Stealth Reader Web** – This is the main web application for billing and reporting on Utility water interests. It contains all information on the accounts, meters and associations. The application will generate reports on the system, consumption, reads, alarms, billing files and more. Screens containing data will have the ability to download that data in csv or xls format for further external analysis. Most screens have multiple filter capabilities to be able to retrieve the data you want. Different filters on screens based on type of screen include; alarms, groups, cycle route, time/date, associated, hi/low audit fail and many more.
 - File based interface for billing systems to allow billing data flow to the billing system and update data to flow from the billing system.
 - Cycle summary gives overview, cycle by cycle or you can actually look at each route. Gives the total meters, total reads, total unread, total alarms, last billing import and export dates and the export counts.
 - The Consumption screen gives the utility a way to look at either total consumption for a period or the details of consumption. This can be searched on by cycle, route, account, name, meter id or address. Groups can be used to filter for a specific type of account that was user defined for that group. Has filters for min or max consumption amounts, what period the consumption is over as well as many more option to drill down to the information the utility needs. You can also save the searches to be able to recall and use them.



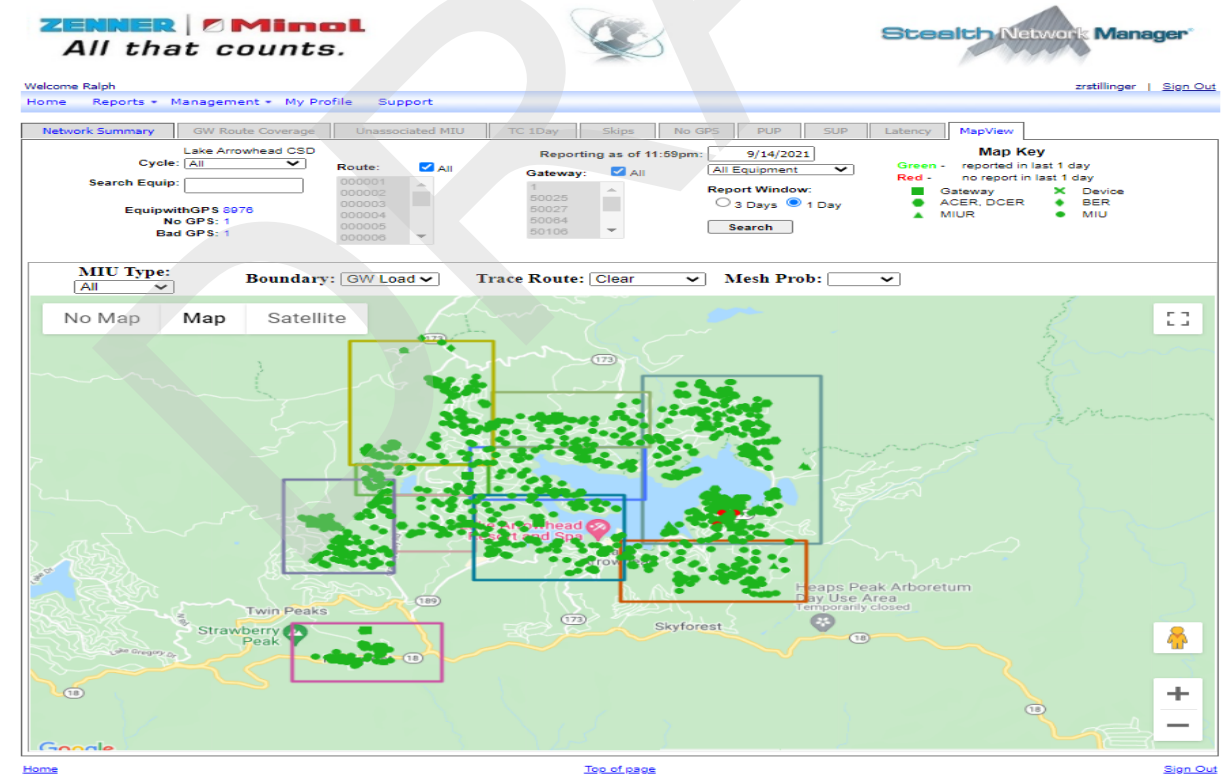
The Exception screen gives the utility the ability to view a list of meters that are un-read, failed audit, reporting trouble codes and/or are showing unusually high consumption over a specified date range. One or more troubles codes can be selected for viewing. Clicking on the meter id hyperlink opens a reading detail screen for that displays read time, gateway, reading, trouble code(s) and previous period consumption

Stealth Network Manager is a web application that is centered on the mesh performance and managing the mesh. This system does report on the associations made in Stealth Reader Web, but it also has the capability to report on mesh items that are not associated as well.

Network Summary Screen is a high level overview of the health of the mesh. It shows summary information and graphs at the top and details mesh by mesh below. The important information is normally the 1-day and 3-day reading percentages. By default these are calculated on associated units.



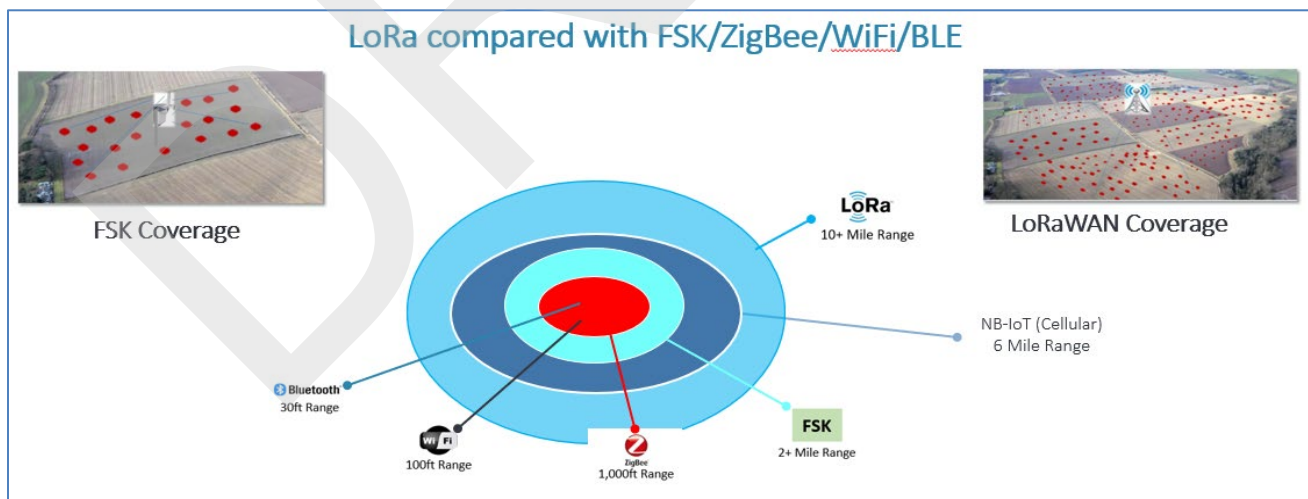
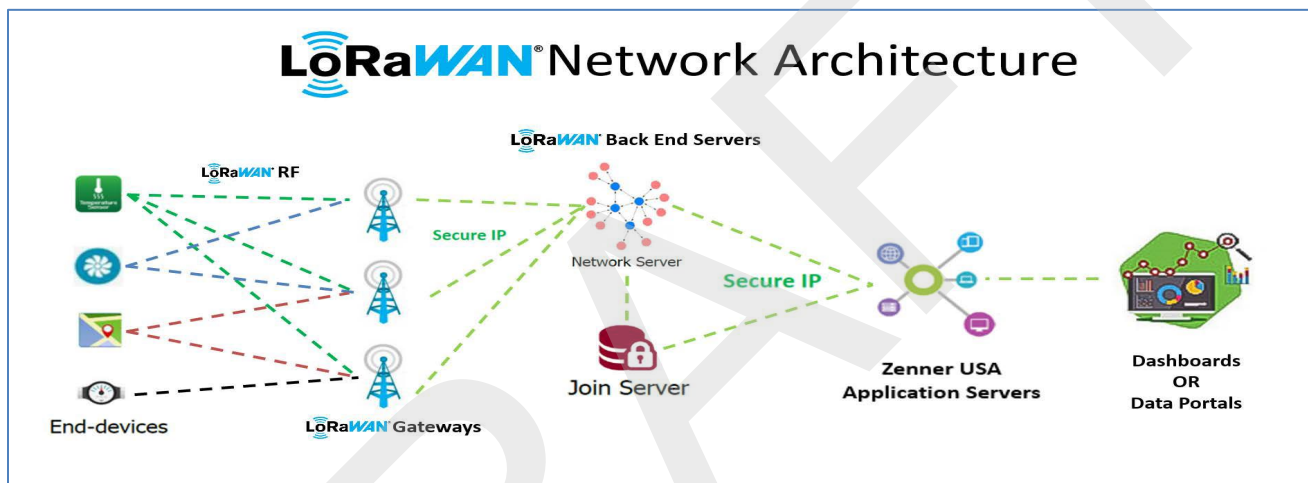
Map View allows the mapping of the nodes and the ability to see node connectivity. Options include showing load balance squares, selection of the type of equipment, dates, map/satellite view.



OPTION 2: ZENNER LoRaWAN® SYSTEM OVERVIEW

A Zenner LoRaWAN® (Long Range Wide Area Network) Certified System is an open network system that connects end devices (such as Zenner sensors and other IoT (Internet of Things) devices) to a private LNS (LoRaWAN® Network Server). LoRaWAN® is an open protocol network technology designed for city and rural wide areas. For Zenner, LoRaWAN® provides an additional ability for long-range communication for water, gas and electric utility devices.

The Zenner LoRaWAN® Certified System provide long-range communication, which means less infrastructure to place and maintain throughout the life of the system. Its hub and spoke methodology allow for redundancy, making sure critical data reaches the utility in times of need.



All Zenner LoRaWAN® Certified System can operate in conjunction with all Zenner Cellular and Mesh systems and endpoints. This makes combining all information into one utility facing portal much easier.

Backhaul options that are available include Cellular and Ethernet (a standard communications protocol). A Zenner LoRaWAN® Certified System gateway will automatically select the appropriate backhaul option, or



both for redundancy if Cellular and Ethernet collectively are installed.

LONG-RANGE COMMUNICATION: A single gateway (internet-based data traffic stream) can cover up to 10 - 12 miles in distance based on topology (the structure of a network) and can connect to multiple endpoints. The topology of a Zenner LoRaWAN® Certified System reduces the number of gateways required, which reduces the cost of physical and organizational supplies needed.

LoRaWAN' s open protocol capability supports multiple vendors and business models. It can be implemented as NaaS (Network as a Service) or PaaS (Platform as a Service) depending on the customer needs. A utility can control thousands of devices within one infrastructure without being locked into one proprietary vendor.

LoRaWAN® is a continuously growing technology that can support millions of devices. This makes it suitable for large-scale Zenner LoRaWAN® certified AMI deployments. Zenner currently supports more than 14 million endpoints and 80,000 gateways using the LoRaWAN® network, and this number grows daily. LoRaWAN provides Utilities the opportunity to do low-cost fixed networks with a longer life than traditional networks. It is an open standard that allows them not to be locked into one vendor or one product. In addition, utilities will be able over one owned network or provider Network as a service provide technology solutions across their operations over a single back hall and therefore able to tie all their data into one system for determining asset loss.

As an open platform that operates on the unlicensed band, the network deployment model for LoRaWAN devices is flexible, accommodating various business models. Networks can be deployed privately, such as for secure enterprise use, or made available by public LoRaWAN network operators as we are quoting in our response.

The LoRaWAN standard is approved by ITU (International Telecommunication Union) a specialized agency of the United Nations that is responsible for issues that concern information and communication technologies as an open international standard.

LoRaWAN has the most networks around the world and is the only LPWAN with network options – public, private, satellite, community, and hybrid. Today there are more than 6 million LoRaWAN gateways deployed worldwide with more than 300 million connected devices deployed worldwide. It is forecasted that by 2026 3 years from now LoRaWAN will have more than 50% of all Battery-operated devices deployed worldwide on their networks.

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The utility can easily move to offer other smart devices over their network to their customer base allowing them to closely monitor and control their own usage.

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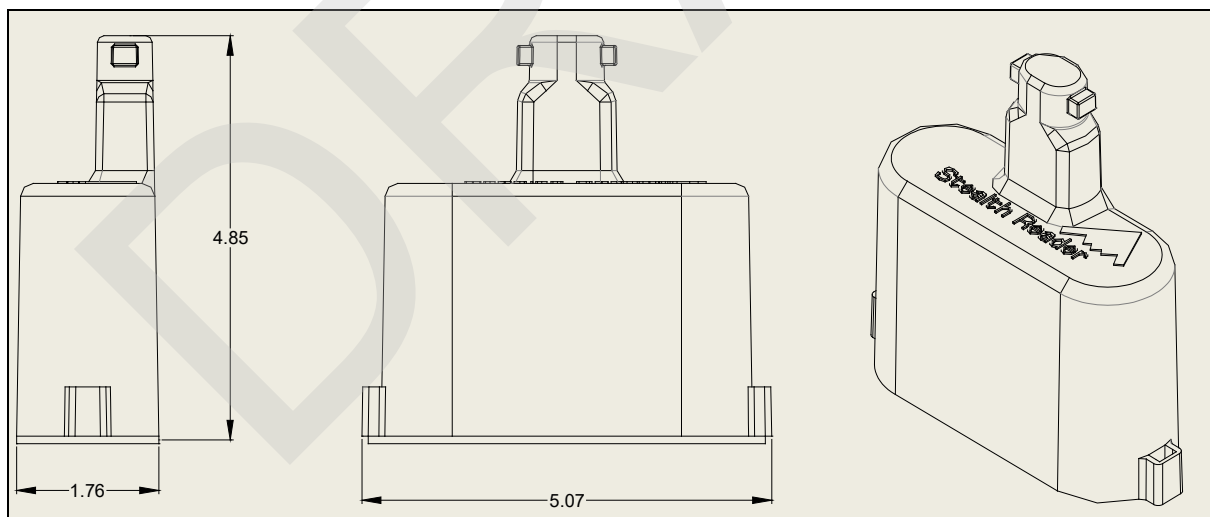
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Meter Interface Unit (MIU)

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way RF scheme using the same on-board radio used during mesh transmissions. To program the meter register number into the MIU, a handheld programming unit is utilized.

Interoperability

Zenner LoRa Collector

The ZENNER LoRaWAN® gateways use high performance LoRaWAN® technology, whose excellent building penetration and long-range network coverage ensure the connectivity of IoT sensors even under challenging environmental and installation conditions.

The ZENNER LoRaWAN® gateway outdoor is ideally suited for LoRa network coverage in rural and urban areas to receive values from multiple sensors. The device can be used across various sectors for a variety of IoT applications and is an integral part of ZENNER LoRaWAN® system solutions. With a few gateways, entire cities can be covered.

Due to the very robust housing made of coated aluminum, the gateway is very resilient to extreme weather conditions and is characterized by a high degree of reliability. In addition to the two external LoRa antennas,

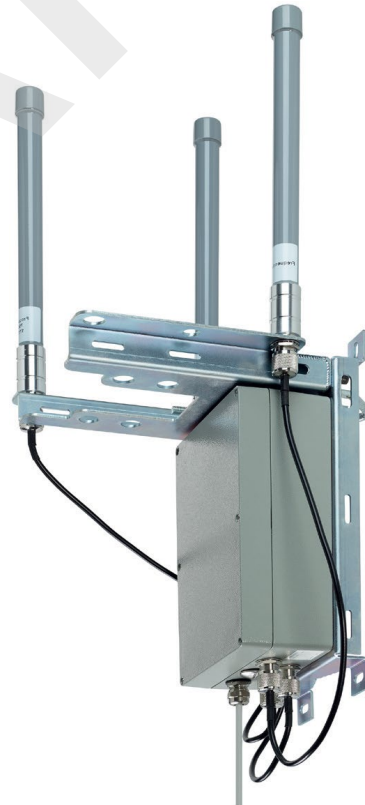
the ZENNER LoRaWAN® Gateway Outdoor also uses an external LTE antenna to ensure the best possible connection to the backend.

It sends data between radio-ready end devices in the area (heat cost allocators, water or heat meters, smoke detectors, room sensors, and much more) and the central LoRa network server.

The ZENNER LoRaWAN® Gateway Outdoor is able to integrate a wide range of end devices into the LoRaWAN® wireless system. The data is stored via the ZENNER system landscape to our data center in the United States, which is certified according to DIN EN ISO / IEC 27001.

Features and functions

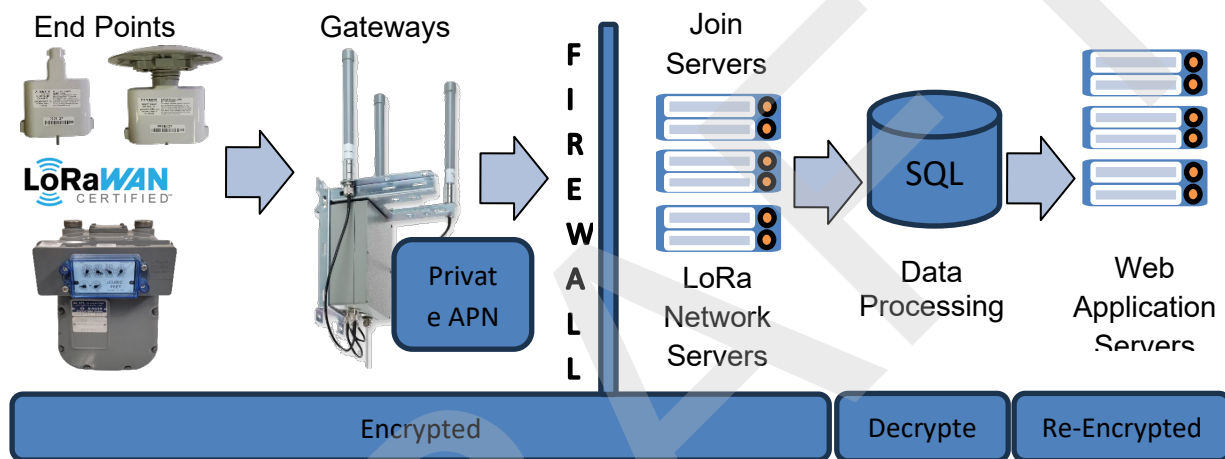
- Security patches and software updates are distributed in an automated manner
- Bi-Directional LoRaWan radio communication
- LoRaWAN®- gateway modules according to reference architecture 1.5
- Automatic change from cellular network to Ethernet backhaul (if available)
- Suitable for LoRaWAN® IoT solutions from ZENNER and network operation of Minol ZENNER Connect
- Encrypted end-to-end data transmission (AES 128)
- Plug & Play - Simple integration through pre-configured software
- Compatible with the Gateway Management System (GMS) from ZENNER (remote configuration)



Zenner & Security

Security is a priority at Zenner USA. Many of our clients require a private network with comprehensive security constraints to ensure the privacy and authenticity of customer data.

Zenner USA has recently released two new products for our IoT (Internet of Things) network. This white paper highlights how security is implemented within an open-standards framework to protect our customers' data as it travels from metering endpoints to our web application servers.



Customer Data Flow – Security Layers

Zenner USA has developed Internet of Things (IoT) Meter Interface Units (MIUs) for many Gas and Water meter registers. These MIUs have been fully certified to comply with the most recent LoRaWAN® (1.0.4) specification. As such we extend the security provided by the LoRaWAN® Specification to include additional security enhancements recommended for network infrastructure.

LoRaWAN (Long Range Wide Area Network) architecture is deployed in a star-of-stars topology in which gateways relay messages between end devices and a central network server.

All wireless transmissions from Zenner IoT endpoints are encrypted using AES-128 (Advanced Encryption Standard) cryptography and cannot be decrypted without each end device's unique Application Key. Communications remain encrypted as they pass through infrastructure devices such as gateways and cellular networks. Communication between gateways and Zenner's secure servers employs a secure private network via a private APN (Access Point Name), essentially a VPN (Virtual Private Network) within the cellular communications network that is accessible only to Zenner devices.

Zenner USA generates unique cryptographically secure encryption keys for each endpoint. The keys are stored only in the endpoint and in Zenner's secure servers. Endpoint keys are stored in secure flash memory internal to the microprocessor. The microprocessor and all electronics are potted in epoxy making physical hacking nearly impossible. All user interfaces are password-protected. Password access employs



best practices including only storing one-way hashes of salted passwords. It also introduces brief delays after multiple failed login attempts to discourage brute-force hacking.

Metering data enters Zenner USA's server network and is first decrypted as it passes through the LoRaWAN Network Servers (LNS). Data is automatically checked for errors or duplicates before being passed to the primary SQL data storage system.

Once data is requested by the Web application interface it is Re-Encrypted over an SSL (Secure Socket Layer) connection.

External access to data is accomplished through Zenner USA's secure web interface layer. Zenner USA uses the same Secure Socket Layer (SSL) that protects global financial transactions and ensures privacy and protection. Users must log in and authenticate before accessing metering customer data.

More details on the LoRaWAN® security specification: <https://lora-alliance.org/security/>

LoRaWAN® has all the fundamental building blocks required and used by any modern wireless communications technology and does so at AES-128 strength. LoRaWAN's inherent security, as provided in the specification, needs to be accompanied by secure implementation and secure deployment of these devices and/or networks to maintain the protocol's built-in security mechanisms.

LoRaWAN® relies on symmetric cryptography, which requires sharing keys safely and securely. To further aid with this process, LoRaWAN® backend interfaces isolate the storage of root keys in the join server, so that becomes a trusted player. As with any technology, the best practice is always to use certified devices and work with proven and trusted service providers. LoRaWAN is no different, and end users can be confident in their deployment if they leverage Zenner USA to correctly implement LoRaWAN solutions.

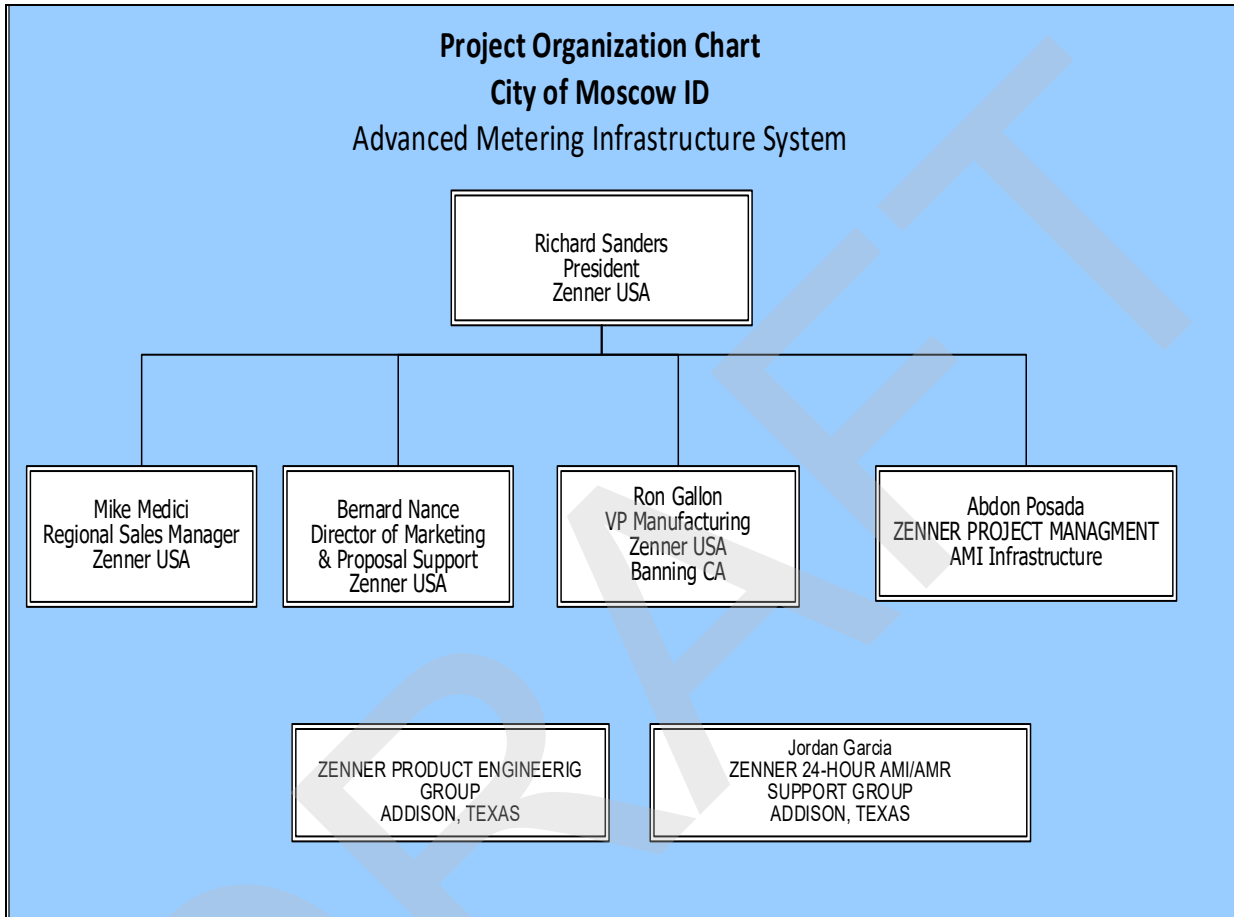
Security is a constantly moving target, with malicious actors continuously appearing. LoRaWAN® is always evolving to meet new threats and the LoRa Alliance is constantly reviewing, designing, and implementing security enhancements and best practices to ensure LoRaWAN® stays ahead of the changing security landscape.

Zenner & LoRa Alliance®

Zenner is involved in the LoRa Alliance® at many levels. As a Sponsor-level contributor, Zenner helps to guide industry acceptance of this open standard. Zenner holds a seat on the board of directors and chairs multiple working group committees including the Technical, Regulatory, Satellite, and Certification Committee. Zenner is at the forefront of the changing landscape with the LoRa Alliance.

6. Implementation Approach

ZENNER USA PROJECT METHODOLOGY APPROACH



Zenner USA's Project Management adds value in all phases of the AMI planning and deployment. Zenner will assign an individual with experience in managing an AMI project of similar size and scope of the City of Moscow. A prompt, quality installation of MIUs is an essential part of the success of an AMI project. Faster installation means faster recouping of costs. To ensure that any AMI Deployment that we partner on is completed within schedule and on budget, our Project Management approach encompasses the following elements:

Interdepartmental Project Coordination

Zenner USA understands AMI planning and its effect on other utility functions, such as meter reading, finance, utility billing and operations. Our management staff comes from both a utility and vendor background allowing us to understand the needs of all parties involved in an AMI deployment.

Startup and Schedule Management

Zenner USA has an experienced technical staff that has managed automated meter reading deployments and understands the impacts to the utility and the customer. Given in-depth experience in AMI project management and internal utility systems and processes, our project team adds value in all phases of a client's project.



Process Development and Implementation

Zenner USA understands the importance of building and maintaining strong customer relationships. Together we partner with each client to provide cost-effective solutions that increase productivity and flexibility, while reducing overhead costs. A management team with specialized experience is assigned to each project and works closely with each client to develop detailed processes to meet the client's objectives.

Field Management and Quality Control

Project management responsibilities include project inspections by staff and field supervisors, site visits by operation managers, ongoing field inspections of contractor employees, detailed documentation on all activities, and an on-call management team that is prepared to provide quick response to any project-related concern.

Strong Training Processes

Dedicated and trained professionals and technicians are assigned to conduct initial training and ongoing refresher training. Zenner USA believes that beyond selection, training is the next step to ensure a successful project. Formal training can range from one to three weeks. After the last week, the contractor is monitored carefully for the next ninety days.

Project Startup Method

The Director of Project Management manages the project startup. Team members are selected from corporate and field project staffs who are experts in their area. The key functional areas that are addressed in the startup are:

Project Scope/Installation

- Training
- Project Plan
- Project Timeline
- Project Grounding

Process Design and Control

Some of the processes that must be agreed upon during the startup phase are shown below. These are critical to the project's success in meeting goals and performance standards.

- Daily statistical analysis
- Daily reports and output checks
- Project schedule
- Field checks and observations of installers, readers and routes
- Performance reviews
- Uniform and personal appearance
- Attendance monitoring and review
- Counseling on reliability issues
- Timely resolution of customer complaints
- Periodic client/company meetings
- Communication
- Feedback and correction procedures

Management of Installation Procedures

Our Project Managers will be available throughout the duration of the implementation to discuss regarding issues related to the project. The Project Manager's responsibilities include overseeing the following:

- Scope management
- Data management and verification



- Contact with the City utility representatives
- Customer relations
- Daily work order transference, if required
- Reviewing all work completed daily
- Tracking of completed installations
- Repairs
- Quality control of field installations
- Cost controls
- Inventory
- Contractor Productivity

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7. Requirements Acknowledgement

5.1 AMI System Requirements and Capabilities

In general, the AMI system is considered to be a data collection field area network consisting of various apparatuses designed to automate the meter reading function while having the capability to execute remote commands acting either upon the attached meter or upon itself.

A. Meets all applicable American Water Works Association (AWWA) standards. – **Current Base**

B. Not interfere with the City Utility's current billing system, SCADA or any other current communications system. - **Current Base**

C. Provide full system redundancy. **Current Base**

D. Support scheduled batch loading of meter data to the MDMS. - **Current Base**

E. Be capable of obtaining interval data and logs from the DCUs at a configurable frequency, but at least 4x per day for delivery to the AMI headend. - **Current Base**

F. Support interval data collection for measured product. - **Current Base**

G. The AMI headend system must be able to store at least 90 days of hourly interval data.- **Current Base**

H. The AMI 'head-end' must distinguish between a missing interval and zero consumption.- **Current Base**

I. Initiate an on-demand read request initiated from another authorized system (i.e.,MDMS, CIS).- **Customization**

J. Log all messages sent to and received from all AMI components with the message date, time, event, message type, source and target(s) identifier. - **Current Base**

K. Log each instance when an event message has been sent to an AMI component when no acknowledgement is received within the configured time frame. **Current Base**

L. Synchronize internal clock time for all meters and endpoints with a recognized external time source at least 1x per day. **Current Base**

M. Process Daylight Savings time change.- **Current Base**

N. Utilize two-way secure communications with all authorized systems and devices. **Current Base**

O. Meters can be read in both mobile drive-by AMR and fixed network AMI mode simultaneously without reprogramming. **Current Base**

P. Meters cannot issue commands to the AMI headend. **Current Base**

Q. Provide a method of obtaining readings by vehicle-mounted mobile collectors in the event fixed network communication with meters is down. **Current Base**

R. Provide a method of obtaining readings by handheld computers in the event fixed network communication with meters is down. **Current Base**

S. Support communications technology between network devices and the AMI headend including the following four technologies: **Current Base**

1. Cellular (Specify capability i.e. 5G); 2. Phone/Modem; 3. Radio Frequency (RF); and 4. Fiber.

T. AMI communication system supports a platform that provides connectivity (status and control) to third party devices such as pressure sensors, remote disconnect meters, etc. Specify supported devices and manufacturer in comments. **Current Base**

U. The AMI head-end system has the capability to assign user specific screen presentation criteria (i.e. personalized home dashboard) based on user sign-in (role-based presentation). **Current Base**

V. Support user capability to export report and query data in SQL, Excel, XML, TXT, or other flat-file formats. **Current Base**

W. Provide the capability to support a variety of number of dials that contain at least 9 digits on register read. **Current Base**

X. Meter reads will be registered and transmitted 0.01 cubic feet increments or smaller. **Current Base**

Y. Provide the capability to support minimum of 12 digit length serial number. **Current Base**

Z. Detect and report all meter and system alarms and events in near-real time (up to 30 seconds) to the AMI head-end. **Current Base**

AA. Provide mechanism to automatically communicate specified events and alarms to designated recipients via email or SMS text message. **Current Base**

BB. Detect and report continuous flow (potential customer side leak). **Current Base**



- CC. Detect and report meter removal for a water meter. **Current Base**
- DD. Detect and report meter tilt/tamper of a water meter register. **Current Base**
- EE. Detect and report stopped/dead/non-registering meters. **Current Base**
- FF. Automatically resend event notification until a message is acknowledged by the AMI headend. **Current Base**
- GG. Receive and process requests from other systems (such as an MDMS or CIS). **Current Base**
- HH. Transmit specified data received from network devices to the MDMS (e.g. usage, logs, alerts, receipts, etc.). **Current Base**
- II. Support a lockout for a configurable number of failed login/access attempts. **Current Base**
- JJ. Supply mechanisms which audit and store all security related events including all messages, access, and modification events within the system. **Current Base**
- KK. Critical failures are reported to AMI headend immediately. **Current Base**
- LL. Endpoint device failure. **Current Base**
- MM. Endpoint firmware upgrade failure. **Current Base**
- NN. Be capable of securing an overall 98.5% success rate of all expected reads (interval and register) transmitted within 72 hours of read timestamp, processed at the head end and available for analysis/billing. **Current Base**
- OO. The AMI System and network design shall be capable of securing 100% of all expected billing and interval reads for 100% of deployed meters by the end of a 30-day billing period (only exceptions are for variables outside of the vendors control). **Current Base**
- PP. The AMI headend shall be capable of receiving and processing incoming meter data on a continuous basis. **Current Base**
- The AMI Endpoint shall include the following:
- A. For meter pit installations, the endpoint must be capable of continuous operation in a submerged environment. **Current Base**
- B. Collect and report non-usage data (i.e. battery level, alarms, temperature, pressure, etc.). **Current Base**
- C. Have storage capacity at the meter for 45 days, which includes meter read and event data for purposes of disaster recovery.- **Customization -this functionality is provided by the MIU**
- D. Keep time even if there is no communication with the AMI network. **Current Base**
- E. Radio battery enclosure on endpoints for water meters shall be fully sealed and waterproof. **Current Base**
- F. Have an option to be mounted through the lid via a pit mount interface device. **Current Base**
- G. Have an option to be pit mounted (under the lid). **Current Base**
- H. Through the lid endpoint devices must not extend more than ¼" above the lid and be ADA compliant. **Current Base**
- I. Have battery that is warrantied for 20 years operating life (full for 10 years and prorated for the remaining 10 years). **Current Base**
- 5.2 Meter Data Management System
- A. Accept and store meter data characteristics (e.g. Meter ID, Parcel ID, etc.) according to Utility's CIS data structure. **Current Base**
- B. Support at least 9 digits for meter reading display. **Current Base**
- C. Support configurable units of measure and interval lengths for meters. **Current Base**
- D. Provide a web-enabled platform for remote access by internal system users, including field services crew. **Current Base**
- E. Provide meter status for all meters. **Current Base**
- F. Provide robust ability to aggregate meters (i.e., virtual metering, totalization) to perform analytics. **Current Base**
- G. Provide reporting capabilities and exportability of data screens to other file formats (such as .csv and .xlsx). **Current Base**
- H. Retain a minimum of three (3) years of interval and register reads for immediate (online) access.- **Customization**
- I. Receive and retain a minimum of three (3) years of events and alarms originating from the AMI headend.- **Customization**

- J. Process all meter and collector communication issues received from the AMI headend system to include at a minimum: **Current Base**
1. Non-communicating meters; **Current Base**
 2. Intermittent meter communications; and **Current Base**
 3. Collector communications issues. **Current Base**
- K. Process all meter issues received from the AMI headend system to include at a minimum: **Current Base**
1. Meters with missing reads; and **Current Base**
 2. Unknown meters. **Current Base**
- L. Process all customer consumption related issues received from the AMI headend system to include at a minimum: **Current Base**
1. Consumption on a vacant account; **Current Base**
 2. Zero consumption on an active account; and **Current Base**
 3. High usage. **Current Base**
- M. Allow manual editing of missing or estimated allocated data with changed data marked by quality flag (original data should not be disturbed). **Current Base**
- N. Accept register reads via manual entry. **Current Base**
- O. Allow for configuration by an authorized user without the need for new code development for the following validation parameters:
1. Type of Service; **Current Base**
 2. Meter Type; **Current Base**
 3. Customer; **Current Base**
 4. Customer group; **Current Base**
 5. Billing cycle; **Current Base**
 6. Rate category; and **Current Base**
 7. Process Daylight Savings time change. **Current Base**
- P. Support on-demand meter reads by authorized users. **Current Base**
- Q. Track meter events by billing account (i.e. flags, relocation, reconfiguration, tampering, etc.). **Current Base**
- R. Align water bill for usage starting with the same date each month for coincident billing. **Current Base**
- S. System performance is optimized for handling real-time event and alarm data (e.g. outages, system failures, etc.). **Current Base**
- T. Load all pages, including reports, within 15 seconds. **Current Base**
- U. On Demand reads can be received within 90 seconds from when the command is initiated. **-Customization**
- V. Support at a minimum, the following water event data from the AMI headend system, with Utility-configurable thresholds:
1. Tamper detection; **Current Base**
 2. Leak (Abnormal flow) detection; **Current Base**
 3. Reverse flow (Backflow) detection; **Current Base**
 4. Low battery; **Current Base**
 5. Service disconnection and reconnection; and **Current Base**
 6. Health diagnostics. **Current Base**
- W. Provide the ability for users to view tabular and graphical data (at interval, daily, monthly levels) from current and prior 36 months of usage for individual meters. **Current Base**
- X. Provide reports that compare multiple years (>2) of historical data side-by-side. **Current Base**
- Y. Individual user will be able to establish defined alarms and thresholds for each virtual meter and will have the ability to establish user defined alarm levels. **Current Base**
- Z. Ability to send emails, SMS based on user defined alarm exceedance. **Current Base**
- AA. Identify customers with leaks due to continuous consumption alerts based on configurable threshold for customer leak detection. **Current Base**
- BB. Revenue analysis tools will support, at a minimum, revenue profiling daily, monthly and annually; revenue profiling for billing customer classes or based on user selected virtual metering. **Current Base**
- CC. Incorporate external data (weather, property, climate) into reporting and analytical reporting tools. **Current Base**

DD. The MDMS will support identification of customer impacted by main breaks and be capable of integrating with a customer portal for customer notification. **Current Base**

EE. Provide a secure login. **Current Base**

FF. Provide authorized users' access to audit logs in compliance with ISO27001 that shall track all changes to interval usage, register meter reads and configuration data. **Current Base**

GG. Provide for at a minimum 10 simultaneous users and 5 system admins. **Current Base**

HH. Store audit logs for up to three (3) years or a configurable length of time up to seven (7) years. - **Customization**

II. Be supported with a bug and security patching process for test and release, including addressing vulnerabilities and patches associated with the server operating system. **Current Base**

JJ. Have all upgrades and enhancements thoroughly tested and pass a Quality Assurance review (Unit Testing, Integration Testing, and Systems Acceptance Testing) before being released to the customer. **Current Base**

5.3 Customer Portal

A. Support notifications to alert customer when they are approaching the next billing tier. **Customization**

B. Support customer configuration preferences for notifications via SMS text, phone, e-mail, smart assistant or any combination thereof. **Current Base**

C. Support past due payment notifications for residential and commercial customers. **Current Base**

D. Support water consumption budget notifications. **Current Base**

E. Support water conservation messaging at relevant times. **Current Base**

F. Support customer messaging regarding utility determined water-saving actions. **Current Base**

G. Support customer opt-in for newsletters and other utility programs. **Current Base Current Base**

H. Support push notification via text, e-mail, and phone alerts for service disruptions. **Current Base**

I. Ensure Customer Portal has the capacity to provide services for the current number of deployed meters and the anticipated additional meters to be installed as a result of future City growth. **Current Base**

J. Allow customer to set do not disturb times. **Customization**

K. Support establishment of savings goals for customers based on prior usage. **Customization**

L. Support residential bill comparison to similarly-sized homes. **Current Base**

M. Support double entry of key information, such as email address and account numbers to ensure entry accuracy. **Customization**

N. Provide the ability to display bills directly from third party bill print processors. **Customization**

O. Integrate water usage and billing information. **Current Base**

P. Feature a user-centric design, including mobile, smartphone (iOS and Android), and tablet functionality. **Current Base**

Q. Support log-in with email and password. **Current Base**

R. Present usage information with billing amounts in hourly, daily, weekly, and monthly increments for each account. **Current Base**

S. Support comparison to past months and years, with simple transitions between timelines. **Current Base**

T. Support comparison of customers' usage information for up to 3 years. **Current Base**

U. Support comparison of customers' current usage to monthly water budget. **Current Base**

V. Present usage data in hourly intervals for residential customers and commercial customers. **Current Base**

W. Support multiple log-ins within a single customer account for commercial accounts. **Current Base**

X. Support monitoring of multiple accounts with a single account sign-on. **Current Base**

Y. Enable commercial customers to update information and provide emergency contact information. **Current Base**

Z. Support branding with City of Moscow styling. **Current Base**

AA. Enable customer to opt-in or opt-out from all events and notifications. **Current Base**

BB. Support integration with the City's billing software BS&A **Current Base**

CC. Ensure data from the customer portal and/or phone applications will not override BS&A. **Current Base**

DD. Ensure all payment activities are handled via BS&A and are not processed through the customer engagement platform. The redirect will be a seamless experience for the customer. **Current Base**



EE. Support integration with the City's GIS. **Current Base**

FF. Vendor shall support the City throughout customer usability testing. **Current Base**

GG. The vendor shall respond to the City's critical support requests within two (2) hours or sooner (including weekends and holidays). **Current Base**

HH. The vendor shall respond to the City's non-critical support requests within one (1) business day or sooner. **Current Base**

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8. ZENNER TRAINING OVERVIEW

Training sessions are 3 days and students are tested for understanding of the information before they are certified as trained by Zenner. For this project, Zenner will conduct the initial startup training with assistance from the supervisors and work leaders. All selected Utility employees will be trained in reading multiple dial meter registers. During normal operation, new hire and refresher training will be conducted, if necessary.

Systems' operations: Instruction for operation of entire system will be included in training. Reporting, administration functions, uploading and downloading of route and meter information and the interface to the CIS system will all be covered for Utility employees.

- Database Management
- Project control, installation scheduling and management

Field installation: Extensive installation training is administered in a classroom environment combined with field installations. Exams are administered to determine understanding and competency of all covered tasks and objectives.

Field diagnostics: Included in the training is guidance on maintenance and troubleshooting procedures. Utility staff will be able to manage all aspects of installation and maintenance on the system.

Handheld Units: Training on the Stealth Reader Handheld is covered during initial software training. Utility staff will be able to read meters, enter meter data including changes and other information, troubleshoot and resolve problems upon completion of the handheld training session.

Software training includes every aspect of application operation. File transfer to the CIS, verification of data, sending/receiving route information to and from the handheld units, and route management tasks will be covered during the training.

We suggest a core team be selected by the utility to direct the implementation from that end. This team usually includes the meter reading supervisor; a meter technician, the billing supervisor, a data processing-oriented person, and can include a head meter reader or the utility director.

4. Proposal Content Details

BID SCHEDULE

ZENNER AMI SYSTEM OPTION PRICING

Item Description	Quantity & Unit	Unit Price	Total Price
Supply 5/8" Water Meter incl. MIU - Residential	4978 EA	\$ 202.62	\$ 1,008,642.36
Supply 1" Water Meter incl. MIU - Residential	849 EA	\$ 213.84	\$ 181,550.16
Supply 1.5" Water Meter incl. MIU - Residential	256 EA	\$ 310.91	\$ 79,592.96
Supply 2" Water Meter incl. MIU - Commercial	225 EA	\$ 912.86	\$ 205,393.50
Supply 3" Water Meter incl. MIU - Commercial	11 EA	\$ 1,115.83	\$ 12,274.13
Supply 4" Water Meter incl. MIU - Commercial	7 EA	\$ 1,234.58	\$ 8,642.06
Automatic Meter Read Infrastructure (supply, install, configure, and test collectors, collector antenna, mounting hardware, computer equipment, software and all other items necessary for the complete installation of a fixed base network automatic water meter reading infrastructure system per the technical specifications)	1 LS	\$ 18,250.00	\$ 18,250.00
Handheld Device	1 LS	\$ 4,700.00	\$ 4,700.00
Recurring Annual Fees (recurring expenses that the City will incur once the AMI system is deployed; e.g., annual maintenance/support fees, software upgrades)	1 LS	\$ 10,726.00	\$ 10,726.00
One-Time Fees (one-time expenses that the City will incur during the project that are not listed elsewhere; e.g. setup fees, training, mobilization, etc.)	1 LS	\$ 27,400.00	\$ 27,400.00
		Bid Total	\$ 1,557,171.17

Zenner USA, Inc.

Firm Name of Bidder

Richard Anderson

Signature of Bidder

President

Official Title

15280 Addison Rd., Suite 240, Addison TX. 75001

Bidders Mailing Address

N/A

Idaho Public Works License No.

California

State of Incorporation if Incorporated

GL85RF2RPKT8

Unique Entity Identifier (UEI)

SEAL (if incorporated)

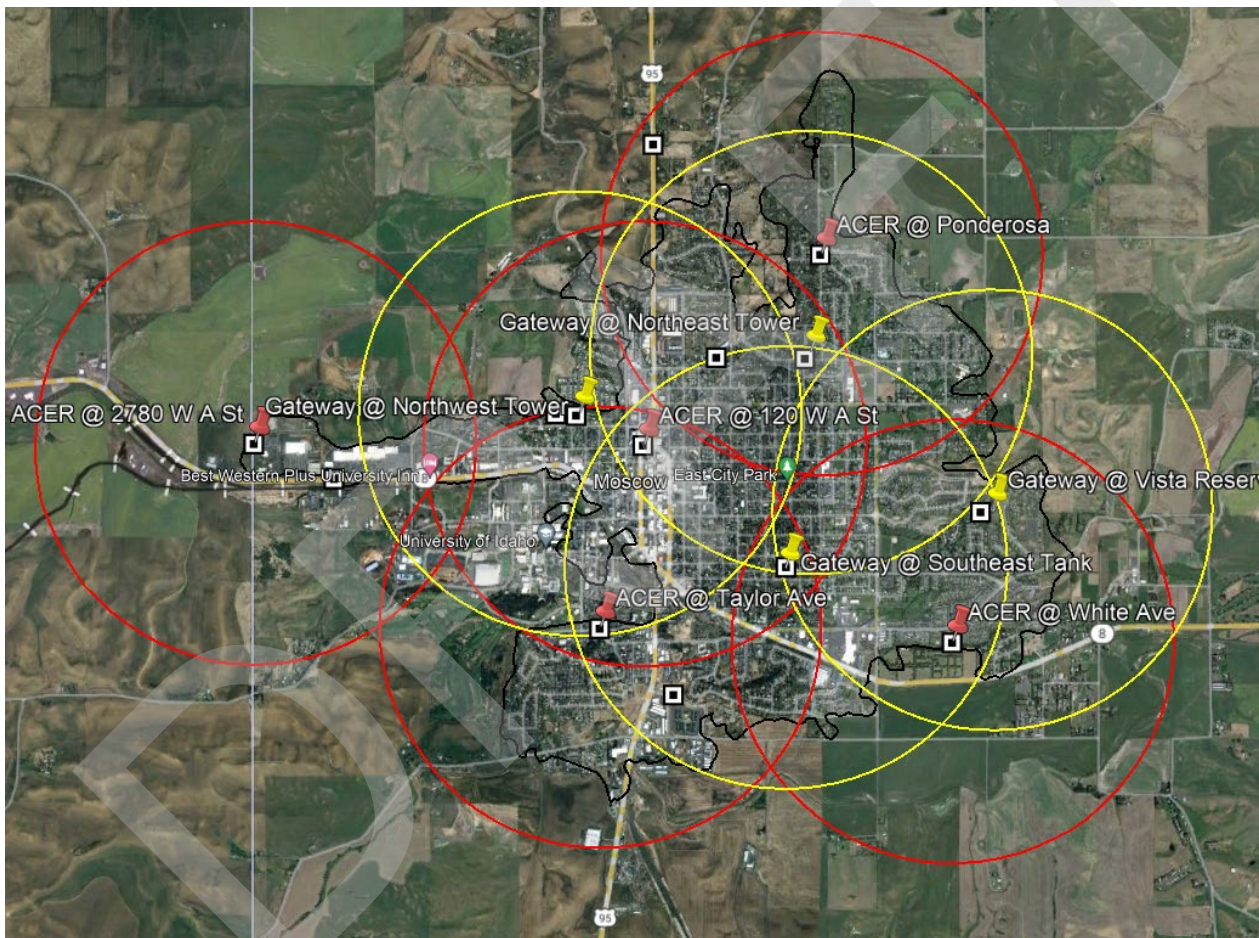


Dated at Zenner USA-Addison TX This 19 day of June, 2024

Propagation Analysis - AMI

City of Moscow ID:

- 4 Gateways (Data Collectors)
- 5 AC Powered Enhanced Repeaters
- 10 Days Project Management
- 4 Days Software Training
- 2 Days Field Training



4. Proposal Content Details

BID SCHEDULE ZENNER LoRa SYSTEM OPTION PRICING

Item Description	Quantity & Unit	Unit Price	Total Price
Supply 5/8" Water Meter incl. MIU - Residential	4978 EA	\$ 202.62	\$ 1,008,642.36
Supply 1" Water Meter incl. MIU - Residential	849 EA	\$ 213.84	\$ 181,550.16
Supply 1.5" Water Meter incl. MIU - Residential	256 EA	\$ 310.91	\$ 79,592.96
Supply 2" Water Meter incl. MIU - Commercial	225 EA	\$ 912.86	\$ 205,393.50
Supply 3" Water Meter incl. MIU - Commercial	11 EA	\$ 1,115.83	\$ 12,274.13
Supply 4" Water Meter incl. MIU - Commercial	7 EA	\$ 1,234.58	\$ 8,642.06
Automatic Meter Read Infrastructure (supply, install, configure, and test collectors, collector antenna, mounting hardware, computer equipment, software and all other items necessary for the complete installation of a fixed base network automatic water meter reading infrastructure system per the technical specifications)	1 LS	\$ 12,920.00	\$ 12,920.00
Handheld Device	1 LS	\$ 4,700.00	\$ 4,700.00
Recurring Annual Fees (recurring expenses that the City will incur once the AMI system is deployed; e.g., annual maintenance/support fees, software upgrades)	1 LS	\$ 9,976.00	\$ 9,976.00
One-Time Fees (one-time expenses that the City will incur during the project that are not listed elsewhere; e.g. setup fees, training, mobilization, etc.)	1 LS	\$ 21,800.00	\$ 21,800.00
		Bid Total	\$ 1,545,491.17

Zenner USA, Inc.

Firm Name of Bidder

Ruth Sanders

Signature of Bidder

President

Official Title



SEAL (if incorporated)

15280 Addison Rd., Suite 240, Addison TX. 75001

Bidders Mailing Address

N/A

Idaho Public Works License No.

California

State of Incorporation if Incorporated

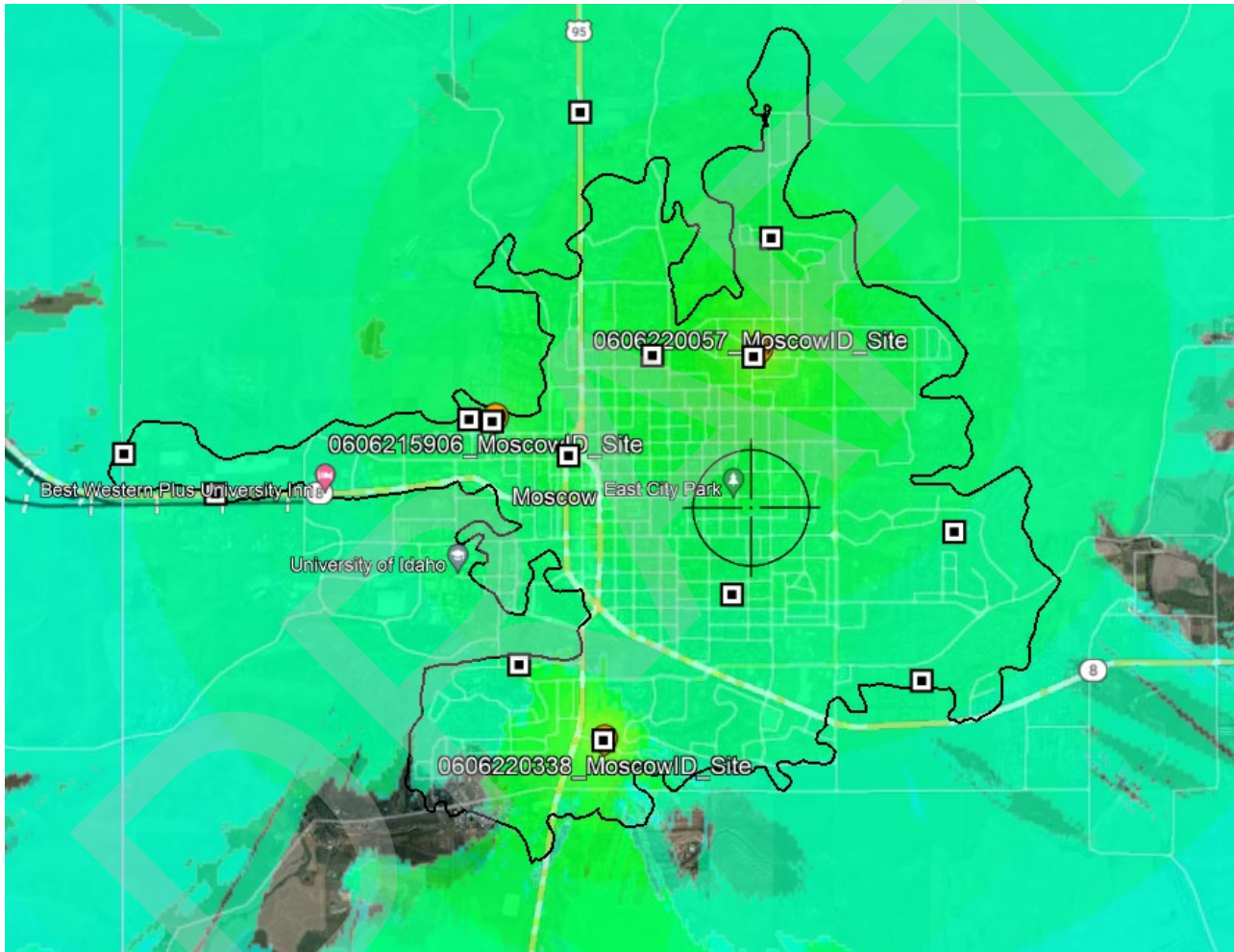
GL85RF2RPKT8

Unique Entity Identifier (UEI)

Dated at Zenner USA-Addison TX This 19 day of June, 2024

Propagation Analysis – LoRa

- 4 Gateways (Data Collectors)
- 6 Days Project Management
- 4 Days Software Training
- 2 Days Field Training





10. ATTACHMENTS

- a. Sample Zenner License and Maintenance Agreement
- b. Zenner MIU Warranty with Proration
- c. Zenner MIU Data Sheet
- d. Zenner AMI Data Collector Spec Sheet
- e. Zenner LoRa Collector Data Sheet
- f. Zenner Residential Ultrasonic Meter Data Sheet
- g. Zenner Residential Ultrasonic Meter Warranty
- h. Zenner Commercial Ultrasonic Meter Data Sheet
- i. Zenner Commercial Ultrasonic Meter Warranty
- j. Zenner Customer Portal Overview

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LICENSE AND WARRANTY AGREEMENT

This License and Warranty Agreement (“Agreement”) is entered into by and between **Zenner USA**, a California Corporation, with its principal place of business located at 15280 Addison Road, Suite 340, Addison, Texas 75001 (“Zenner”) and **Customer Entity Name**, a entity state and type, with its principal place of business located at principal place of business address (“Customer”) and effective as of the day of , (“Effective Date”). The Property name of property (“Property”) subject to this Agreement is located at property street address, city, ST and zip.

ARTICLE 1: SERVICES PROVIDED BY ZENNER

1.1 Independent Contractor. Zenner is and shall perform its obligations under this Agreement solely as an independent contractor. Nothing in this Agreement shall be construed to designate Zenner, or any of its employees, subcontractors or other agents of Zenner, as employees, agents, joint venture, or partners of Customer and neither Zenner nor any employee, subcontractor or other agent of Zenner shall represent itself as, act as, or purport to act as, or deemed to be the employee, agent, joint venture, or partner of Customer for any purpose whatsoever and no such party shall have any right or authority to make any representations, or to assume or create any obligations of any kind, express or implied, on behalf of Customer or to bind Customer in any respect whatsoever.

1.2 Services: Zenner shall provide the following services (“Services”) to Customer in accordance with the terms of this Agreement:

1.2.1 Initial Warranty: Zenner shall provide to Customer the repair or replacement of the products listed in EXHIBIT A during the respective periods below:

1.2.1.1 Hardware, excluding Meter Interface Units, and Software for a period from the date such products are delivered to Customer under a separate purchase order agreement until , (“Initial Warranty Period”).

1.2.2 Extended Warranty: Zenner shall provide to Customer the repair or replacement of the products listed in EXHIBIT A.

1.2.3 Hosting Services: Zenner shall provide Customer with the Hosting Services for Customer’s meter data. Zenner shall use commercially reasonable efforts to make the Hosting Services available 24 hours a day, 7 days a week, except for planned downtime, of which Zenner shall give at least eight (8) hours’ notice via the Hosting Services and shall be scheduled to the extent practical during the weekend. Customer agrees that its use of the Hosting Services is dependent on using a minimum specification of hardware, operating system and internet browser. The minimum hardware, operating system and internet browser configuration is available upon request.

1.2.3.1 Customer Responsibilities: Customer acknowledges and agrees that it shall be responsible for its employee’s use of the Hosting Services and compliance with this Agreement. Customer is responsible for the accuracy, integrity and legality of the Metering Information transmitted to the Host Site. Customer will use commercially reasonable efforts to prevent unauthorized access to or use of the Hosting Services and Customer agrees to notify Zenner promptly of any such unauthorized access or use.

1.2.3.2 Third-Party Users: In the event Customer enables parties other than Customer (“Third-Party Users”) to access or use the Hosting Services, Customer acknowledges and agrees that Zenner is not responsible for any transmission, disclosure, modification or deletion of metering information, including any Confidential Information, resulting from such access or use by Third Party Users.

1.2.4 Exclusions: Notwithstanding any other provision of this Agreement, the Services do not cover failures or damages caused by Customer, acts of God (lightning, flooding, etc.), acts of terrorism, war, vandalism, third parties, obsolete equipment, or Meter Interface Units (“MIU”). Any requested repairs of these exclusions must be mutually agreed by both parties under a separate work order or agreement.

1.3 **Fee(s) for Services:** Customer shall pay Zenner the following for the Services provided under this Agreement:

1.3.1 **Initial Warranty:** No fee is required for this service.

1.3.2 **Extended Warranty:** \$ _____ per year.

1.3.3 **Hosting:** The total sum of the following:

1.3.3.1 **Base Charge:** \$ _____ per year.

1.3.3.2 **Service Point Charge:** _____ per meter account year.

1.3.3.3 **Communications Charge:** \$ _____ per year.

1.3.4 **Payment:** Customer shall be invoiced for Services beginning at the end of the Initial Warranty Period and at the beginning of each renewal year with such payments being due and payable to Zenner within thirty (30) days of the invoice date.

ARTICLE 2: PROPERTY ACCESS

2.1 **Notice of Entry:** It is the Customer's responsibility to provide Zenner with access to the equipment needing repair.

ARTICLE 3: TERM AND TERMINATION

3.1 **Term:** The term of the Services shall be for a period of two (2) years from the beginning of the Initial Warranty Period and shall renew automatically for an additional one (1) year on the said anniversary date hereof, unless written notice to discontinue is provided by Customer no less than 60 days prior to the anniversary date. Fees are subject to change to Zenner's market prices in effect on the date of any renewal hereof and execution of this Agreement is consent to said revisions.

3.2 **Termination:** Either party may terminate this Agreement with cause by providing sixty (60) days advance written notice to other party. Upon termination of this Agreement, any Fees due for Services provided by Zenner up to the date of termination shall be prorated and payable by Customer within thirty (30) days of date of termination.

ARTICLE 4: NONEXCLUSIVE SOFTWARE LICENSE

4.1 **License:** Zenner hereby grants to Customer a personal, non-exclusive, non-transferrable license ("License") to use the Zenner software ("Licensed Software") in object code form only for the term of this Agreement. The License authorizes Customer to use the Licensed Software solely and exclusively at the Property listed in this Agreement and such use does not extend to any other real property. Any attempt to sublicense, assign, rent, sell or otherwise transfer the License or the rights or obligations of this Agreement to any other property or third party without the prior written consent of Zenner shall be void and of no effect.

4.2 **Ownership:** Customer agrees that Zenner retains ownership rights to the Licensed Software, and that Customer acquires no title to the Licensed Software, nor any other interest in the Licensed Software, other than the right to use and possess the Licensed Software in accordance with the terms and conditions of this Agreement. All rights not explicitly granted to Customer are retained by Zenner. Customer also agrees not to make any copies or reproductions of the Licensed Software other than one (1) copy to be used by Customer as a back-up for emergency situations that shall be immediately returned to Zenner upon termination of this Agreement.

ARTICLE 5: ADDITIONAL TERMS

5.1 **LEGAL WARRANTY EXCLUSIONS AND LIMITATIONS OF LIABILITY, EXCEPT AS SPECIFICALLY PROVIDED HEREIN, THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, MADE BY ZENNER WITH RESPECT TO THE SERVICES PROVIDED PURSUANT TO THIS AGREEMENT INCLUDING WITHOUT LIMITATION USE OF LICENSED SOFTWARE. ZENNER SHALL NOT, UNDER ANY CIRCUMSTANCES, BE LIABLE TO CUSTOMER FOR CONSEQUENTIAL, EXEMPLARY, SPECIAL, INDIRECT, INCIDENTAL OR PUNITIVE DAMAGES, REGARDLESS OF FAULT, AND REGARDLESS OF THE FORESEEABILITY OF SUCH DAMAGES, EVEN IF ZENNER HAS BEEN APPRISED OF THE LIKELIHOOD OF SUCH DAMAGE OCCURRING. THE SOLE AND EXCLUSIVE REMEDIES FOR BREACH OF ANY AND ALL WARRANTIES AND THE SOLE REMEDIES FOR ZENNER'S LIABILITY OF ANY KIND (INCLUDING LIABILITY FOR NEGLIGENCE) WITH RESPECT TO THE SYSTEM, HARDWARE, SOFTWARE OR SERVICES COVERED BY THIS AGREEMENT OR ANY PERFORMANCE BY ZENNER UNDER OR PURSUANT TO THIS AGREEMENT, WILL BE LIMITED TO THE REMEDIES SET FORTH IN THIS ARTICLE AND IN NO EVENT SHALL EXCEED THE AGGREGATE CONSIDERATION PAID BY PURCHASER FOR THE HARDWARE, SOFTWARE AND SERVICES.**

45

Initials

Initials

CUSTOMER ACKNOWLEDGES AND AGREES TO MAKE NO CLAIM FOR DAMAGES FOR DELAY, INTERFERENCE, DISRUPTION, INEFFICIENCY OR ACCELERATION DURING THE PERFORMANCE OF THIS AGREEMENT CAUSED BY OR CLAIMED TO BE CAUSED BY LICENSED SOFTWARE OR FOR ANY OTHER REASON EITHER WITHIN OR OUTSIDE THE CONTROL OF ZENNER.

- 5.2 **Protection of Confidential Information:** The parties hereto agree that all Confidential Information that is subject to the Hosting Services shall be held in trust and confidence by Zenner. Zenner agrees to take reasonable steps to ensure the secrecy of the Confidential Information of Customer. Such reasonable steps shall include, but are not limited to, the adoption of reasonable security procedures, and notification in writing to persons having access to the Confidential Information that the Confidential Information embodies Customer's Confidential Information. As used herein, "Confidential Information" shall mean and include certain metering information transmitted to, stored on and transmitted from the Zenner's Hosting Site that is the property of the Customer.
- 5.3 **Assignment:** This Agreement may be assigned by Customer with written consent of Zenner. Zenner may assign this Agreement at will. If assigned, this Agreement shall be binding upon and shall inure to the benefit of the successors and permitted assigns of Customer and Zenner.
- 5.4 **Indemnification:** Each Party shall indemnify and hold harmless the other Party and its affiliates, directors, officers, employees, partners, contractors or agents, from and against any and all claims, actions, causes of action, demands, or liabilities of whatsoever kind and nature, including judgments, interest, reasonable attorneys' fees, and all other costs, fees, expenses, and charges (collectively, "Claims") to the extent that such Claims arise out of or were caused by the negligence, gross negligence, or willful misconduct of the indemnifying Party or from any breach of the Agreement by the indemnifying Party. The indemnifying party shall have the sole right to defend such claims at its own expense. The other party shall provide, at the indemnifying party's expense, such assistance in investigating and defending such claims as the indemnifying party may reasonably request. This indemnity shall survive the termination of this Agreement.
- 5.5 **Arbitration:** The parties agree that any claims or disputes between them arising hereunder, be submitted for binding arbitration in Dallas, Texas, in accordance with the Commercial Arbitration Rules of the American Arbitration Association then in force, and the successful party shall be entitled to reimbursement from the other party for all costs involved in such arbitration, including reasonable attorney's fees.
- 5.6 **Choice of Law:** The laws of the state of Texas shall govern this Agreement.
- 5.7 **Compliance with Law:** Services shall be provided in accordance with applicable laws and government regulations.
- 5.8 **Waiver:** The waiver by a party of any term, covenant, or condition herein shall not be deemed to be a waiver on any subsequent breach of the same or any term of condition contained herein.
- 5.9 **Severability:** Any provision of this Agreement which is determined to be invalid, void, or illegal shall in no way affect, impair, invalidate any other provision hereof and such other provisions shall remain in full force and effect.
- 5.10 **Force Majeure:** Neither party shall be liable for any failure or delay in performance under this Agreement (other than for delay in the payment of money due and payable hereunder) to the extent said failures or delays are proximately caused by causes beyond that party's reasonable control and occurring without its fault or negligence, including, without limitation, acts of God, Government restrictions, failure of suppliers, subcontractors, internet service provider, and carriers, provided that, as a condition to the claim of non-liability, the party experiencing the difficulty shall give the other prompt written notice, with full details following the occurrence of the cause relied upon.
- 5.11 **Notices:** Any notices required or permitted to be given hereunder shall be given in writing and shall be delivered (a) in person, (b) by certified mail, postage prepaid, return receipt requested, (c) by facsimile, or (d) by a commercial overnight courier that guarantees next day delivery and provides a receipt, and such notices shall be addressed to the parties principal place of business.
- 5.12 **Prior Agreements:** This Agreement, any Attachments, Exhibits and Addenda hereto, comprise the entire Agreement of the parties with respect to any matter covered by the Agreement. Any prior agreements or understandings, whether written or verbal, pertaining to any such matters shall be void and of no effect. This Agreement may be modified only in writing, signed by both parties or their respective representatives or successors.

[Signatures on Next Page]

By signing below, the signing party hereby declares that he/she has the authority to bind such party to this Agreement.

Customer:

By: _____ Date: _____
Print Name: _____ Title: _____
Address: _____ Phone: _____

Zenner:

By: _____ Date: _____
Print Name: _____ Title: _____

DRAFT

EXHIBIT A

The following are the products referenced under Sections 1.2.1 and 1.2.2:

Product Name	Product Description	Product Pricing

DRAFT

ZENNER Stealth Reader Meter Interface Unit

The **ZENNER Stealth Reader Meter Interface Unit** allows for 2-way communication, migration from Drive-by to Fixed Network mode and is meter agnostic.

Fixed Network, Drive-by and Hybrid System capability in one MIU

- A Deploy first as drive-by and later upgrade to fixed mesh network using the same meter interfaces/inserts.
- Full two-way communications and field programming capability.
- 902-928MHz FHSS drive-by delivers maximum range and penetration.
- True battery fixed mesh network eliminates the need for towers and AC-powered repeaters.
- With Stealth, every meter enhances the network by acting as a repeater.
- Only the Stealth fixed mesh network is self-forming and self-healing. All meters automatically discover and join the network.

AMR Capabilities

- Log meter readings hourly or daily.
- Stores up to 1 year of hourly readings.
- Configurable reporting: Hourly, 4 hours, daily, etc.
- Detect/report leak, tamper, low battery.
- Water conservation monitoring and reporting.

Meter Agnostics

- Pulse Registers.
- Dual-pulse registers.
- Encoded registers using most common protocols: ABB, Actaris, AMCO, Badger, Neptune, Sensus.
- Utilities can mix new meters with installed bases.



STEALTH READER MIU LIMITED WARRANTY

PRODUCTS COVERED

This limited Warranty ("Warranty") shall apply to any Zenner USA "Stealth Reader" Water Meter Interface Unit ("MIU") sold by Zenner USA or its authorized agent on or after November 01, 2013 hereinafter referred to as "Product(s)". This Warranty is extended only to a utility, municipality, or other authorized commercial user, hereinafter referred to as a "Customer".

LIMITED WARRANTY

Zenner USA, hereinafter referred to as "Zenner", warrants Product supplied hereunder to be free from defects in materials and workmanship for a period of ten (10) years from the date of original shipment. Battery life is warranted for ten (10) years from the date of original shipment. A one-time, additional 10-year prorated Warranty is also offered according to the prorated chart in this document at Customer's sole expense. Customer shall provide written request to Zenner to extend Warranty within six (6) months of the expiration of the initial Warranty term.

PRODUCT RETURNS AND WARRANTY CREDIT

If the Customer believes that a Product has failed in such a manner as to be covered by the provisions of this Warranty, the Customer shall contact Zenner and obtain a Return Materials Authorization ("RMA") number prior to shipping any Product for claims under this Warranty. The Customer shall be solely responsible for shipping any Product to the designated Zenner return facility and for clearly identifying the nature of the Warranty claim. Zenner does not warrant the Product or its operation to be error free. Any Product received and proven to Zenner's sole satisfaction to have failed per the terms of the Warranty shall have earned a "Warranty Replacement Credit" and may, at Zenner's option, be repaired or replaced with a "Replacement Product". Replacement Product shall carry the same Warranty as the original Product except the Warranty term shall not extend. A Warranty Replacement Credit may be redeemed for Replacement Product and does not have any other value. During the Warranty Period, a Warranty Replacement Credit toward Replacement Product shall be 100%. Replacement Product shall be returned to the Customer at Zenner's expense. If the Product returned by the Customer is not a failed Product or the Customer has returned the Product to Zenner without a valid RMA the Customer shall pay shipping charges for returning the Product to the Customer. Customer shall assume and be responsible for all costs of removing the original Product and of reinstalling the Replacement Product.

LIMITS OF LIABILITY AND DISCLAIMER

This Warranty shall not apply to Products that have been repaired or altered by any party other than Zenner, including, but not limited to, the cutting of the attached bare wire to the MIU to a length less than twelve (12) inches. This Warranty shall not apply to Products that have been installed or programmed by or under the direct supervision of any person who was not a Certified STEALTH READER MIU Installer at the time of installation. The Warranty herein applies only to the extent that the Products are installed, operated and trouble-shot strictly in accordance with Zenner's specifications provided at the time of Product purchase, and any failure to meet such requirements shall automatically exclude such Products from this Warranty, including, but not limited to, Products not installed in the Stealth Reader Lid Lock or Stealth Mounting Box Antenna improperly mounted as required in Zenner's specification for the Products. This Warranty shall not apply to devices of any kind, including, but not limited to, meters, encoders or registers, to which the Products may be attached or to defects in same. Any use of meter reading equipment not approved by Zenner with the Products shall void this Warranty. This Warranty shall not apply to direct wiring, or repotting, of the MIU. The Warranty shall not apply to Product exposed to conditions other than those detailed in product technical literature and Installation, Operation, Instruction Manuals, including but not limited to Product which has been exposed to erosive or



corrosive liquids or gases, or which has been subject to vandalism, negligence, accident, acts of God, improper installation, operation or repair, alteration, unqualified and/or improperly functioning registers, obsolete devices and/or equipment, or other circumstances which are beyond Zenner's reasonable control.

NOTWITHSTANDING ANY OTHER PROVISION OF THIS WARRANTY, IN NO EVENT SHALL ZENNER'S LIABILITY EXCEED THE PURCHASE PRICE OF THE PRODUCT DEEMED DEFECTIVE.

EXCEPT FOR THE WARRANTY SET FORTH HEREINABOVE, ZENNER MAKES NO EXPRESS OR IMPLIED WARRANTY WHATSOEVER WITH RESPECT TO THE GOODS AND/OR PRODUCTS, INCLUDING ANY (A) WARRANTY OF MERCHANTABILITY, (B) WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, OR (C) WARRANTY AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS OF A THIRD PARTY; WHETHER EXPRESS OR IMPLIED BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE, USAGE OF TRADE OR OTHERWISE.

Any description of the Products, specifications, samples, models, bulletins, drawings, diagrams, engineering sheets or similar materials used in connection with any Customer's order, whether in writing or made orally by Zenner or Zenner's agents, are for the sole purpose of identifying the products and shall not be construed as an express Warranty. Except as provided herein, any suggestions, written or oral, by Zenner or Zenner's agents regarding use, application, or suitability of the Products shall not be construed as an express Warranty.

IN NO EVENT SHALL ZENNER BE LIABLE FOR ACTUAL DAMAGES ARISING FROM TORT CLAIMS OR THIRD PARTY BREACH OF CONTRACT CLAIMS, OR FOR CONSEQUENTIAL, EXEMPLARY, SPECIAL, INDIRECT, CONTINGENT, INCIDENTAL OR PUNITIVE DAMAGES, (INCLUDING, WITHOUT LIMITATION, LOST DATA, LOST SAVINGS, LOSS OF REVENUE, UTILITY COST RECOUPMENT, OR PROFITS), REGARDLESS OF FAULT, AND REGARDLESS AS TO WHETHER CUSTOMER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES AND WHETHER OR NOT SUCH DAMAGES WERE FORESEEABLE.

IN ADDITION TO THE WARRANTY TERMS CONTAINED HEREIN, THE STEALTH READER MIU WARRANTY IS ONLY VALID IF OPERATED IN 20-MINUTE MESH MODE OR 5-SECOND NON-MESH MODE.

YEAR	STEALTH READER REPLACEMENT PRORATED PERCENTAGE*
11	30% of List Price
12	40% of List Price
13	50% of List Price
14	50% of List Price
15	60% of List Price
16	70% of List Price
17	75% of List Price
18	80% of List Price
19	85% of List Price
20	90% of List Price
*List Price is defined as the current price of the Product in the corresponding year."	

ZENNER Stealth Collector Network Controller

Each Collector manages and connects thousands of Stealth Reader MIU devices to the monitoring and control computer system. Designed from the ground up for utility and industrial applications, the Stealth Collector is rugged, flexible, secure and reliable.

Rugged

- IP67 Waterproof
- Operating temperature: -40°C to +85°C
- Hinged aluminum chassis
- Stainless steel captive hardware
- Silicone rubber gasket seals
- Pole and structure mounts included
- Waterproof antenna connectors
- 6000V/3000A surge suppression
- Integral heater for humidity control
- Gore-Tex pressure vent

Flexible

- Wired and wireless connectivity
- Standards-compliant interfaces
- 120-240VAC 50/60Hz operation (<4W)
- External DC/POE/Solar power options

Meter Agnostics

- 128-bit encryption
- Digitally signed firmware
- Encrypted password authentication
- Physical intrusion detection/reporting

Reliable

- Dual batteries for up to 3 months continuous operation during extended power outages
- Redundant configurations with hot-failover
- Automatic battery monitoring and maintenance
- 5-year backup battery service

Simple

- At-a-glance LED status panel
- Integrated antenna analyzer
- Integrated GPS for location and timing
- Graphical installation software



Specifications

Collector		
Data Collection	1GC Standard Non-Volatile Flash Storage	- Collects data from thousands of remote devices - Retains up to 6 months of data - All data time stamped when generated and received - Options for up to 8GB
Monitoring and Control System Interface	Wired and Wireless	Standard-based interfaces support wired and wireless connections, up to 1 mile.
Mesh Coordinator	Mesh Timing	- GPS disciplined TCXO for ultra-stable timing - Redundant configurations with auto-failover
User Interface	USB RF Network	- Graphical User Interface - Revote and local management

General	
Power Requirements	120 VAC or 240 VAC +/- 10%
Surge Protection	ANSI C62.41 Surge Compliant Surge Rated to 6000 V at 3000 A
Dual Battery Backup	- Maintains full operation for up to 24 hours - Mesh control and data collection for up to 3 months of outage
Enclosure	IP67 Rated Die-Cast Aluminum
Physical Size	11"H x 9"W x 4"D
Mounting	Pole or Wall Mount
Environmental	-40°C to +85°C

Radio	
Frequency	902 MHz to 928 MHz license free ISM band
Spread Spectrum	Frequency Hopping
Transmit Power	27 dBm
Receiver Sensitivity	-112 dBm
Encryption	128 Bit Symmetric Key
Antenna	Up to 8dBi — N-type Connector

ZENNER Stealth Repeater High Speed Range Extender

Add a High Speed Backbone to your Water Fixed Network to extend its range.

Simple

- Automatically discovers and joins network
- Endpoint meters automatically discover repeater
- Easy-to read pushbutton/LCD controls
- Graphical installation software
- Integrated antenna analyzer
- Integrated GPS
- Local programming via USB or wireless tablet
- OTA (Over-the-Air) firmware updates

Secure

- Mesh: 128-bit symmetric-key encryption
- Management: Password protected
- Physical: Intrusion detection/reporting

Rugged

- D IP67 Waterproof
- Operating temperature: -40°C to +85°C
- Hinged aluminum chassis
- Stainless steel captive hardware
- 120V or 240V AC Power
- 6000V/3000A surge suppression
- DC/Solar power options
- Gore-Tex pressure vent
- Integral heater for extended temperature ranges

Reliable

- Dual batteries for up to 3 months
- 5-year backup battery service life
- Redundant configurations with fail-over
- Automatic battery monitoring and maintenance
- Hot swappable batteries



Specifications

Repeater		
Dual Function	Range Extender	High transmit power and high-gain antennas bridge gaps between sections of a mesh. (e.g. across lakes, on peaks between valleys)
	High Speed Backbone	Powered repeaters make a "fast-lane" for data in your water/gas fixed networks
Installation	Controls Location Indicators	- LCD Panel w/menu buttons for common actions - GPS receiver auto-detects and reports location - Status LED's confirm successful installation
User Interface	USB RF Network	- Graphical User Interface - Remote and local management

General	
Power Requirements	120 VAC or 240 VAC +/- 10%
Surge Protection	ANSI C62.41 Surge Compliant Surge Rated to 6000 V at 3000 A
Dual Battery Backup	- Maintains full operation for up to 24 hours - Mesh control and data collection for up to 3 months of outage
Enclosure	IP67 Rated Die-Cast Aluminum
Physical Size	11"H x 9"W x 4"D
Mounting	Pole or Wall Mount
Environmental	-40°C to +85°C
Weight	7.3 Pounds (Not including the Antenna)

Radio	
Frequency	902 MHz to 928 MHz license free ISM band
Spread Spectrum	Frequency Hopping
Transmit Power	27 dBm
Receiver Sensitivity	-112 dBm
Encryption	128 Bit Symmetric Key
Antenna	Up to 8dBi — N-type Connector

ZENNER LoRaWAN Gateway Outdoor

For implementation of IoT applications

The ZENNER LoRaWAN® gateways use high-performance LoRaWAN® technology, whose excellent building penetration and long-range network coverage ensure the connectivity of IoT sensors even under challenging environmental and installation conditions.

The ZENNER LoRaWAN® gateway outdoor is ideally suited for LoRa network coverage in rural and urban areas to receive values from multiple sensors. The device can be used across various sectors for a variety of IoT applications and is an integral part of ZENNER LoRaWAN® system solutions. With a few gateways, entire cities can be covered.

Due to the very robust housing made of coated aluminum, the gateway is very resilient to extreme weather conditions and is characterized by a high degree of reliability. In addition to the two external LoRa antennas, the ZENNER LoRaWAN® Gateway Outdoor also uses an external LTE antenna to ensure the best possible connection to the backend.

It sends data between radio-ready end devices in the area (heat cost allocators, water or heat meters, smoke detectors, room sensors, and much more) and the central LoRa network server.



The ZENNER LoRaWAN® Gateway Outdoor is able to integrate a wide range of end devices into the LoRaWAN® wireless system. The data is stored via the ZENNER system landscape to our data center in the United States, which is certified according to DIN EN ISO / IEC 27001.

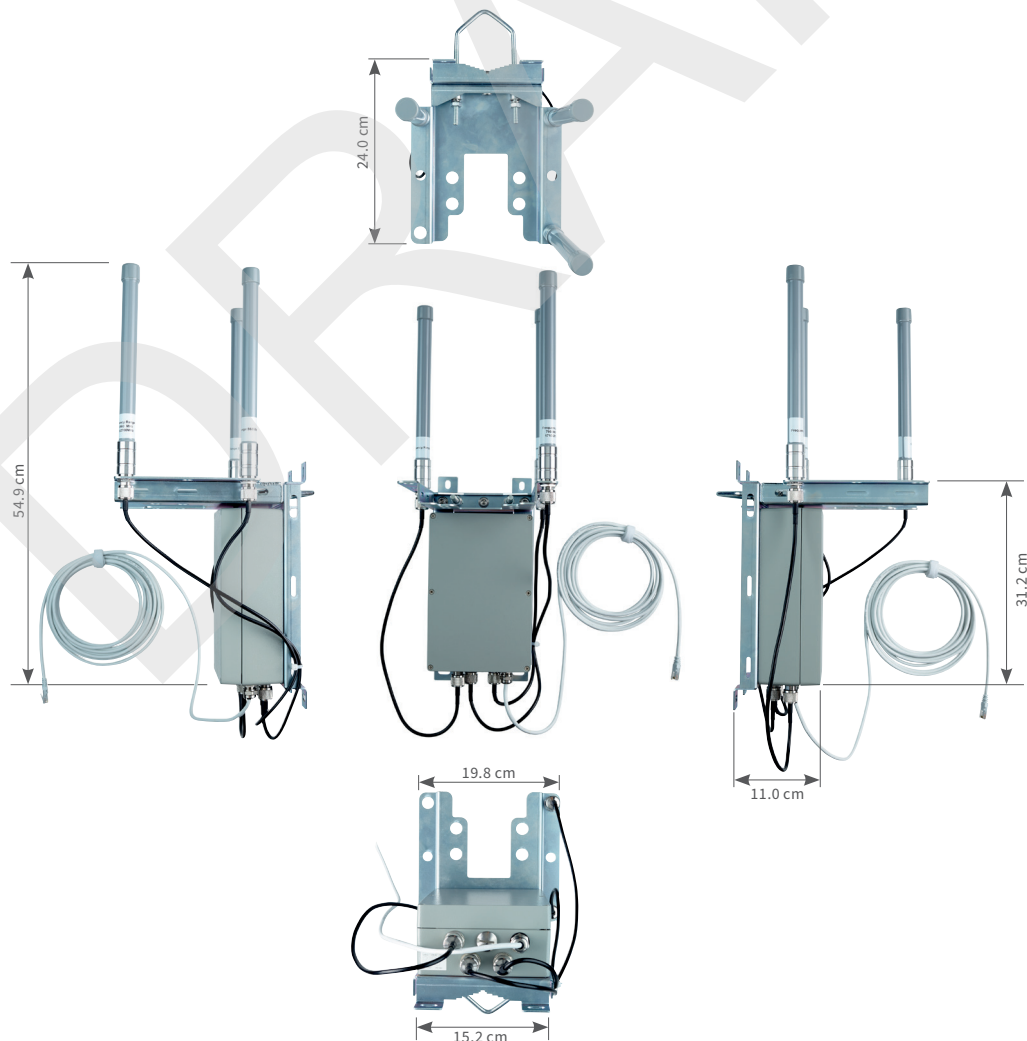
Features and functions

- Suitable for LoRaWAN® IoT solutions from ZENNER and network operation of Minol ZENNER Connect
- Bidirectional LoRaWAN® radio communication
- Encrypted end-to-end data transmission (AES 128)
- Plug & Play - Simple integration through pre-configured software
- Compatible with the Gateway Management System (GMS) from ZENNER (remote configuration)
- Security patches and software updates are distributed in an automated manner
- Use in Europe, USA, and China possible (country frequencies must be observed)
- LoRaWAN®- gateway modules according to reference architecture 1.5
- Automatic change from cellular network to Ethernet backhaul (if available)

ZENNER LoRaWAN® Gateway Outdoor

Technical data

Cellular network	Mini SIM – 2G, 3G (UMTS), 4G (LTE) – external antenna
Ethernet	RJ45 – priority over cellular network
# LoRa channel	16 channels - two external antennas
TX power	max. 27 dBm (500 mW) conducted
Frequency	902-928 MHz
Power supply	Power over Ethernet (PoE); 120 VAC or 240 VAC
Antennas	external: 2 x LoRa, 1 x cellular network (antennas incl. mounting bracket included in scope of delivery)
Protection class	IP67
Housing	Aluminium, coated
Operating temperature	-10 °C to +50 °C
Storage temperature	-40 °C to +80 °C
Installation	Wall, pole (bracket incl. grounding cable included in delivery, galvanized steel)
Maintenance	Remote firmware upgrades
Standards	EN 301 489-3, EN 300 220-2
Weight	ca. 4.1 kg; 9.03 lbs



ZENNER Stealth Ultrasonic Residential Meters

Model: ZSUR

Sizes 5/8", 3/4", 1", 1-1/2" and 2"

INTRODUCTION: ZENNER Ultrasonic Residential Meters are designed for applications where high accuracy, long life and a dynamic flow range is desired. The highly advanced, all-digital technology achieves precise measurement without any moving parts, ensuring optimum revenue without compromised performance over time. These meters are used for the measurement of both potable and non-potable clean water in commercial and industrial settings and are capable of bi-directional flow measurement. The meter design has minimal head loss, decreasing pressure complaints from customers and reducing pumping costs for the utility. An industry leading sampling rate of 4 times per second, ensures you are picking up flow changes as they occur making the ZENNER Ultrasonic Residential Meter the most accurate ultrasonic meter in the industry.



ZSUR03

OPERATION: ZENNER Ultrasonic Residential Meters use solid state, sound measuring technology to measure instantaneous flow and calculate cumulative flow volume. The LCD display has two rows. The first row shows total volume, where it is factory programmed for US Gallons, Cubic Feet or Cubic Meters. The second row displays additional information such as rate of flow, flow direction, remaining battery life, leak alarms, empty pipe alerts, etc. These meters are capable of ultra precise leak registration with low flow sensitivity as low as .03 GPM.

CONSTRUCTION: ZENNER Ultrasonic Residential Meters consist of three basic components: The tube, electronics & display package, and two transducers. The tube is made of lead free bronze.

COMMUNICATION: ZENNER Ultrasonic Residential Meters have a universal communication protocol package capable of producing outputs compatible for use with Encoded systems. These meters are designed to be connected to any existing AMR/AMI system.

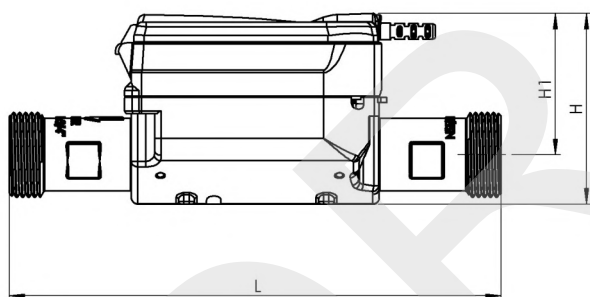
MAINTENANCE: ZENNER Ultrasonic Residential Meters are engineered and manufactured to provide long-term service and operate virtually maintenance free. There are no moving parts to service. The battery pack has a standard life-time of up to 12 years and is designed for easy user replacement. It does not require a return to a ZENNER facility for replacement.

CONFORMANCE: ZENNER Ultrasonic Residential Meters are tested and comply with AWWA Standards C715 and C750. These Meters comply with the lead free provisions of the Safe Drinking Water Act and are certified to NSF/ANSI Standards 61 and 372.

INSTALLATION: ZENNER Ultrasonic Residential Meters are designed to fit the same laying length as most standard multi-jet and positive displacement meters. With no moving parts to damage, these meters can be used safely and accurately with or without a strainer. These meters are submersible and exceed IP68 standards. These meters can be installed in any position, including horizontal and vertical.

CONNECTIONS: These meters have been designed with ease of installation in mind through the use of built-in wrench pads on meter sizes 5/8" through 1". Tailpiece/Unions for installations of meters are available as an option for various pipe types, sizes, and misaligned pipes.

MODEL		ZSUR01	ZSUR02	ZSUR03	ZSUR07	ZSUR09	ZSUR12
SIZE		5/8 x 1/2	5/8 x 3/4	3/4" Short	1"	1-1/2" Flanged	2" Flanged
Maximum continuous	USGPM	25	35	35	55	120	175
High flow rate	USGPM	25	35	35	55	120	175
Low flow rate	USGPM	.06	.06	.06	.12	.25	.50
Start-up flow rate	USGPM	.03	.03	.03	.06	.12	.25
Maximum working pressure	P.S.I.	225	225	225	225	225	225
Pressure loss at the high flow rate	P.S.I.	18	10	10	7	3	5
Environmental temperature limits	Deg. F	40 - 122	40 - 122	40 - 122	40 - 122	40 - 122	40 - 122
Length	Inches	7 1/2	7 1/2	7 1/2	10 3/4	13	17
Height (H1)	Inches	2 3/16	2 3/16	2 3/16	2 1/4	2 1/2	2 1/2
Height (H)	Inches	2 15/16	2 15/16	2 15/16	3 1/16	4 1/8	4 1/2
Width	Inches	3 9/16	3 9/16	3 9/16	4 1/4	5 1/2	6
Weight	Pounds	1.6	1.8	1.8	2.6	9	11



ZSUR07



ZSUR09

ZENNER USA

Warranty for ZENNER Stealth Residential Ultrasonic Water Meters

This warranty shall apply to ZENNER Stealth Ultrasonic Water Meters, model ZSUR (Collectively the "Water Meters") used to measure potable and non-potable water and the electronics, display, and transducers (collectively the "Components"), along with the Batteries provided by ZENNER USA ("ZENNER"), used with these Water Meters. This warranty shall be effective for all Water Meters shipped on or after March 20, 2020. This warranty is extended only to municipalities, utilities, other commercial users and ZENNER distributors, hereinafter referred to as "Customer(s)".

MATERIALS AND WORKMANSHIP

When used in normal potable and non-potable systems, ZENNER warrants its Water Meters, Components thereto, and Batteries free from defects in materials and workmanship, occurring within the following time periods:

- Water Meters: Fifteen (15) years from the original date of shipment.
- Components: Fifteen (15) years from the original date of shipment.
- Batteries: Ten (10) years from the original date of shipment.

AWWA METER ACCURACY

ZENNER's 5/8" to 1.5" Residential Ultrasonic Meters are warranted to meet or exceed AWWA new meter accuracy standards for a period of Fifteen (15) years from the original date of shipment.

WATER METER OR COMPONENT RETURNS

ZENNER's liability hereunder is expressly limited to the repair or replacement of the Water Meter, Components thereto, and Batteries at ZENNER's option, upon the Customer's return of the Water Meter, Components thereto, and Batteries. The Customer must ship Water Meter, Components thereto, and Batteries, prepaid F.O.B., to the service center designated by ZENNER. The Customer is responsible for all direct and indirect costs associated with removing the Water Meter, Components thereto, and Batteries and reinstalling the repaired or replacement Water Meter, Components thereto, and Batteries. The returned Water Meter, Components thereto, and Batteries become the property of ZENNER.

LIMITS OF LIABILITY AND DISCLAIMER

This warranty shall be null and void if the Water Meter, Components thereto, and Batteries are repaired or altered by any party other than ZENNER. This warranty is applicable only to the extent that the Water Meter, Components thereto, and Batteries are installed, serviced and operated in accordance with ZENNER's specifications provided at the time of purchase of Water Meter, Components thereto, and Batteries. This warranty shall not apply to any Water Meter, Components thereto, or Batteries damaged by, or subject to, conditions which in ZENNER's opinion have caused an adverse effect upon the Water Meter, Components thereto, and Batteries ability to perform, including, but not limited to: exposure to erosive or corrosive liquids or gases, or which has been subject to vandalism, negligence, accident, acts of God, improper or unauthorized installation and/or service, Customer or third party operation or repair, alteration, excessive operating conditions, unqualified and/or improperly functioning registers, obsolete devices and/or equipment, circumstances which are beyond ZENNER's reasonable control, or any cause other than inherent manufacturing defects in the Water Meter, Components thereto, and Batteries.

Any description of the Water Meter, Components thereto, and Batteries, specifications, samples, models, bulletins, drawings, diagrams, engineering sheets or similar materials used in connection with any Customer's order, whether in writing or made orally by ZENNER or ZENNER's agents, are for the sole purpose of identifying the products and shall not be construed as an express warranty. Except as provided herein, any suggestions, written or oral, by ZENNER or ZENNER's agents regarding use, application, or suitability of the Products shall not be construed as an express warranty.

NOTWITHSTANDING ANY OTHER PROVISION OF THIS WARRANTY, IN NO EVENT SHALL ZENNER'S LIABILITY EXCEED THE PURCHASE PRICE OF THE WATER METER, COMPONENTS THERETO, AND BATTERIES DEEMED DEFECTIVE.

EXCEPT FOR THE WARRANTY SET FORTH HEREINABOVE, ZENNER MAKES NO EXPRESS OR IMPLIED WARRANTY WHATSOEVER WITH RESPECT TO THE WATER METER OR COMPONENTS OR BATTERIES, INCLUDING ANY (A) WARRANTY OF MERCHANTABILITY, (B) WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, OR (C) WARRANTY AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS OF A THIRD PARTY; WHETHER EXPRESS OR IMPLIED BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE, USAGE OF TRADE OR OTHERWISE. IN NO EVENT SHALL ZENNER BE LIABLE FOR ACTUAL DAMAGES ARISING FROM TORT CLAIMS OR THIRD PARTY BREACH OF CONTRACT CLAIMS, OR FOR CONSEQUENTIAL, EXEMPLARY, SPECIAL, INDIRECT, CONTINGENT, INCIDENTAL OR PUNITIVE DAMAGES, (INCLUDING, WITHOUT LIMITATION, LOST DATA, LOST SAVINGS, LOSS OF REVENUE, UTILITY COST RECOUPMENT, OR PROFITS), REGARDLESS OF FAULT, AND REGARDLESS AS TO WHETHER CUSTOMER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES AND WHETHER OR NOT SUCH DAMAGES WERE FORESEEABLE.

Due to continuous research, evolving technology, updates and improvements, ZENNER reserves the right to change product or system specifications without notice, except to the extent an outstanding contractual obligation exists that states otherwise.

ZENNER ZSUR Stealth Ultrasonic Residential Meters Installation Manual



ZSUR02



ZSUR07

Product Description

ZENNER ZSUR Ultrasonic Residential Water Meters are designed for cold water applications up to 122°F.

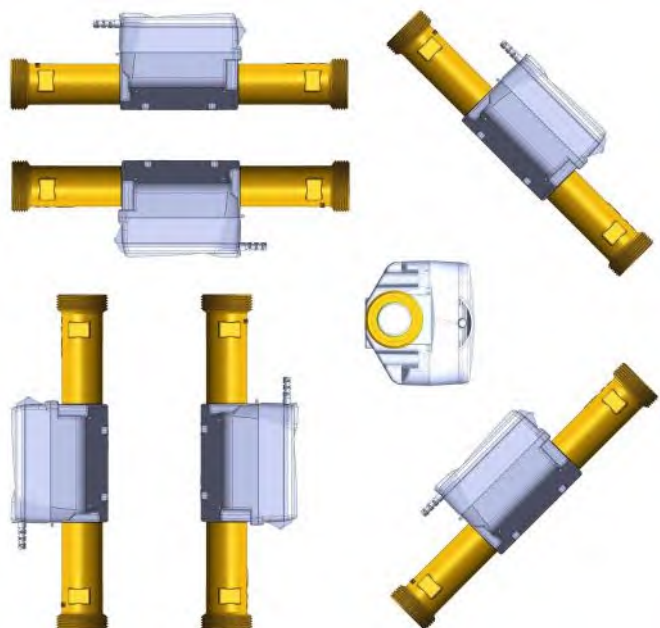
Intended purpose

- For the consumption measurement of drinking water up to 122°F.
- For the consumption measurement of non-potable water up to 122°F.

Comment

This installation manual is intended for qualified meter installers only. Basic installation steps are therefore not described. In order to ensure a proper flow measurement, the meter must be completely filled with water at all times.

Permissible installation positions



Activating the Meter

Upon delivery, the display of the meter will arrive in "sleep mode". To activate the meter, simply fill the meter with water for ten seconds. This will move the meter into active reading mode. During the installation, all air must be ventilated from the meter and the meter must be completely filled with water in order for activation to be achieved.

Once the meter has been activated, an automatic display check takes place (segment test). The segment test is represented by three flashes of all segments on the display indicator and is repeated every 60 seconds during operation.

Readout options of the ZSUR meter via the NFC (Near Field Communication) Interface Cable

The following data can be directly read from the measuring instrument via the NFC interface, e.g. with NFC-capable smartphone:

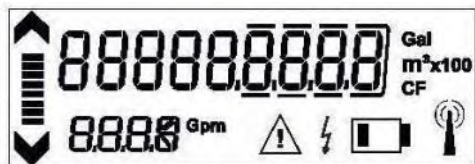
- Meter ID (serial number)
- Current consumption value or total volume in the case of an overrun
- Up to 15 previous month's values
- Software version
- Alarms or error messages

The meter can be retrofitted with NDC modules, or ordered with a factory-fitted module.

Meter Installation

- To achieve optimal measurement results, (3) times the pipe diameter should be allowed on the inlet and (2) times the pipe diameter should be allowed on the outlet side of the meter. However, ZSUR Ultrasonic Residential Meters are designed to be installed without straight sections in front and after the meter and still meet AWWA accuracy standards.
- Clean and flush the service line thoroughly on the inlet side of the meter before installing.
- The pipe cross section should not be reduced directly in front of and behind the meter.
- Valves or other flow regulators should be installed, where possible, behind the meter.
- The meter should be installed, where possible, at the deepest point of the pipe installation insuring air is not entrapped within the meter and the meter body is always completely water filled.
- During installation, ensure the flow arrow indicator on the meter housing is pointed toward the customer's side of the service line. Install using new gaskets.
- To insure unrestricted flow of water through the meter, use the proper size and type of gaskets. Connections should only be sufficiently tight to seal; do not over-tighten. Flange gaskets must not extend into the pipe.
- If necessary, the meter should be protected by a strainer. This will keep foreign matter, such as stones or debris, from entering the meter and potentially cause damage.
- The meter is designed for use in a frost-proof location with ambient temperature not to exceed +130°F and with water temperatures not to exceed +122°F.
- To prevent damage during the installation process, ensure that the meter is slowly filled with water.

Display description



Segment test display



Consumption value



Flow direction display in forward flow direction



Flow direction display in return flow direction



4-digit flowrate display in Gpm, Cfpm or m³



Alarm or error messages (are saved in the data logger and can be read out via the NFC interface)



External power supply: Symbol is activated once a communication module is connected via the NFC interface



Battery capacity display: Symbol is activated approx. 180 days prior to fully discharged battery. The battery capacity is 12 to a maximum of 15 years (depending on the ambient conditions as well as use and configuration of a connected NDC module)



Data transfer display: Symbol is only activated for the connected NDC module

Consumption value Cubic Feet

- 5/8", 3/4" and 1", 9-digit display with 3 digits after the decimal place.
- 1-1/2", 9-digit display with 2 digits after the decimal place.
- Unit of consumption display: CF

Consumption value Cubic Meters

- 5/8", 3/4" and 1", 9-digit display with 4 digits after the decimal place.
- 1-1/2", 9-digit display with 3 digits after the decimal place.
- Unit of consumption display: m³

Consumption value US Gallons

- 5/8", 3/4" and 1", 9-digit display with 2 digits after the decimal place.
- 1-1/2", 9-digit display with 1 digit after the decimal place.
- Unit of consumption display: Gal

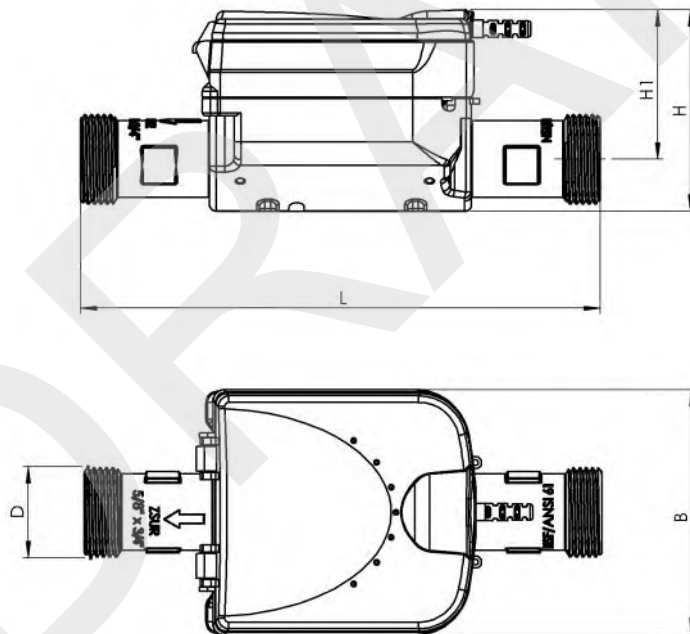
Overrun event

In the event of an overrun, all leading zeros are displayed in the consumption display (display 00000.0000, 000000.000, 0000000.00 or 00000000.0). The actual consumption is fully recorded in the internal memory and can be retrieved via the NFC interface.

Caution

In the case of exceeding the max. overload flowrate (Q4m), the flowrate display is deactivated to protect the measuring instrument (set to zero). While the flowrate is exceeded, the consumption progress is not registered. The exceeded overload is stored as an "Alarm or error message" in the data logger with details of the date and length of exceedance.

MODEL			ZSUR01	ZSUR02	ZSUR03	ZSUR07	ZSUR09
SIZE			5/8 x 1/2	5/8 x 3/4	3/4" Short	1"	1-1/2" Flanged
Nominal diameter	DN	Inches	5/8	5/8	3/4	1	1-1/2
Length	L	Inches	7 1/2	7 1/2	7 1/2	10 3/4	13
Height H1	H1	Inches	2 3/16	2 3/16	2 3/16	2 1/4	2 1/2
Height H	H	Inches	2 15/16	2 15/16	2 15/16	3 1/16	4 1/8
Width	B	Inches	3 9/16	3 9/16	3 9/16	4 1/4	5 1/2
Number of bolts per flange	—	Pcs.	—	—	—	—	2
Bolt size	—	Inches	—	—	—	—	5/8
Weight approx.	—	Pounds	1.6	1.8	1.8	2.6	9



ZENNER Stealth Ultrasonic Meters

Model: ZSU

Sizes 2" through 12"

INTRODUCTION: ZENNER Ultrasonic Meters are designed for applications where high accuracy, long life and a dynamic flow range is desired. The highly advanced, all-digital technology achieves precise measurement without any moving parts, ensuring optimum revenue without compromised performance over time. These meters are used for the measurement of both potable and non-potable clean water in commercial and industrial settings and are capable of bi-directional flow measurement. The meter design has minimal head loss, decreasing pressure complaints from customers and reducing pumping costs for the utility. An industry leading sampling rate of 8 times per second, ensures you are picking up flow changes as they occur making the ZENNER Ultrasonic Meter the most accurate commercial ultrasonic meter in the industry.

OPERATION: ZENNER Ultrasonic Meters use solid state, sound measuring technology to measure instantaneous flow and calculate cumulative flow volume. The LCD display has two rows. The first row shows total volume, where it is factory programmed for US Gallons, Cubic Feet or Cubic Meters. The second row displays additional information such as rate of flow, flow direction, remaining battery life, leak alarms, empty pipe alerts, etc. These meters are capable of ultra precise leak registration with low flow sensitivity as low as .12 GPM.

CONSTRUCTION: ZENNER Ultrasonic Meters consist of three basic components: The main housing, electronics & display package, and four transducers. The main housing is made of epoxy coated ductile iron.

COMMUNICATION: ZENNER Ultrasonic Meters have a universal communication protocol package capable of producing outputs compatible for use with Encoded systems. These meters are designed to be connected to any existing AMR/AMI system.

MAINTENANCE: ZENNER Ultrasonic Meters are engineered and manufactured to provide long-term service and operate virtually maintenance free. There are no moving parts to service. The battery pack has a standard life-time of up to 12 years and is replaceable.

CONFORMANCE: ZENNER Ultrasonic Meters are tested and comply with AWWA Standards C715 and C750. These Meters comply with the lead free provisions of the Safe Drinking Water Act and are certified to NSF/ANSI Standards 61 and 372.

INSTALLATION: ZENNER Ultrasonic Meters are designed to fit the same laying length as most standard turbine meters. With no moving parts to damage, these meters can be used safely and accurately with or without a strainer. These meters are submersible and exceed IP68 standards. These meters can be installed in any position, including horizontal and vertical.



MODEL		ZSU02	ZSU03	ZSU04	ZSU06	ZSU08	ZSU10	ZSU12
SIZE		2"	3"	4"	6"	8"	10"	12"
Maximum continuous	USGPM	250	600	1,000	2,400	3,800	6,000	9,600
High flow rate	USGPM	250	600	1,000	2,400	3,800	6,000	9,600
Low flow rate	USGPM	.25	.50	.75	2.25	3.5	5.5	9
Start-up flow rate	USGPM	.12	.25	.44	1.12	1.75	2.75	4.50
Maximum working pressure	P.S.I.	225	225	225	225	225	225	225
Pressure loss at the high flow rate	P.S.I.	4.9	1.9	1.9	1.0	1.0		
Environmental temperature limits	Deg. F	40 - 122	40 - 122	40 - 122	40 - 122	40 - 122	40 - 122	40 - 122
Length	Inches	10	12	14	18	20	17 3/4	19 11/16
Height	Inches	5 5/8	7 1/2	8 3/4	10 5/8	12 5/8	15 3/16	18 1/8
Width	Inches	6	7 1/2	9	11	13 1/2	16	19
Weight	Pounds	18	36	48	61	94	116	170
Number of holes per flange		2	4	8	8	8	12	12



ZENNER USA Warranty for ZENNER Stealth Ultrasonic Water Meters

This warranty shall apply to ZENNER Stealth Ultrasonic Water Meters, model ZSU (Collectively the "Water Meters") used to measure potable and non-potable water and the electronics, display, and transducers (collectively the "Components"), along with the Batteries provided by ZENNER USA ("ZENNER"), used with these Water Meters. This warranty shall be effective for all Water Meters shipped on or after October 10, 2018. This warranty is extended only to municipalities, utilities, other commercial users and ZENNER distributors, hereinafter referred to as "Customer(s)".

MATERIALS AND WORKMANSHIP

When used in normal potable and non-potable systems, ZENNER warrants its Water Meters, Components thereto, and Batteries free from defects in materials and workmanship, occurring within the following time periods:

- Water Meters: Two (2) years from the original date of shipment.
- Components: Two (2) years from the original date of shipment.
- Batteries: Ten (10) years from the original date of shipment.

AWWA METER ACCURACY

ZENNER's 2" to 8" Ultrasonic Meters are warranted to meet or exceed AWWA new meter accuracy standards for a period of two (2) years from the original date of shipment.

WATER METER OR COMPONENT RETURNS

ZENNER's liability hereunder is expressly limited to the repair or replacement of the Water Meter, Components thereto, and Batteries at ZENNER's option, upon the Customer's return of the Water Meter, Components thereto, and Batteries. The Customer must ship Water Meter, Components thereto, and Batteries, prepaid F.O.B., to the service center designated by ZENNER. The Customer is responsible for all direct and indirect costs associated with removing the Water Meter, Components thereto, and Batteries and reinstalling the repaired or replacement Water Meter, Components thereto, and Batteries. The returned Water Meter, Components thereto, and Batteries become the property of ZENNER.

LIMITS OF LIABILITY AND DISCLAIMER

This warranty shall be null and void if the Water Meter, Components thereto, and Batteries are repaired or altered by any party other than ZENNER. This warranty is applicable only to the extent that the Water Meter, Components thereto, and Batteries are installed, serviced and operated in accordance with ZENNER's specifications provided at the time of purchase of Water Meter, Components thereto, and Batteries. This warranty shall not apply to any Water Meter, Components thereto, or Batteries damaged by, or subject to, conditions which in ZENNER's opinion have caused an adverse effect upon the Water Meter, Components thereto, and Batteries ability to perform, including, but not limited to: exposure to erosive or corrosive liquids or gases, or which has been subject to vandalism, negligence, accident, acts of God, improper or unauthorized installation and/or service, Customer or third party operation or repair, alteration, excessive operating conditions, unqualified and/or improperly functioning registers, obsolete devices and/or equipment, circumstances which are beyond ZENNER's reasonable control, or any cause other than inherent manufacturing defects in the Water Meter, Components thereto, and Batteries.

Any description of the Water Meter, Components thereto, and Batteries, specifications, samples, models, bulletins, drawings, diagrams, engineering sheets or similar materials used in connection with any Customer's order, whether in writing or made orally by ZENNER or ZENNER's agents, are for the sole purpose of identifying the products and shall not be construed as an express warranty. Except as provided herein, any suggestions, written or oral, by ZENNER or ZENNER's agents regarding use, application, or suitability of the Products shall not be construed as an express warranty.

NOTWITHSTANDING ANY OTHER PROVISION OF THIS WARRANTY, IN NO EVENT SHALL ZENNER'S LIABILITY EXCEED THE PURCHASE PRICE OF THE WATER METER, COMPONENTS THERETO, AND BATTERIES DEEMED DEFECTIVE.

EXCEPT FOR THE WARRANTY SET FORTH HEREINABOVE, ZENNER MAKES NO EXPRESS OR IMPLIED WARRANTY WHATSOEVER WITH RESPECT TO THE WATER METER OR COMPONENTS OR BATTERIES, INCLUDING ANY (A) WARRANTY OF MERCHANTABILITY, (B) WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, OR (C) WARRANTY AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS OF A THIRD PARTY; WHETHER EXPRESS OR IMPLIED BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE, USAGE OF TRADE OR OTHERWISE. IN NO EVENT SHALL ZENNER BE LIABLE FOR ACTUAL DAMAGES ARISING FROM TORT CLAIMS OR THIRD PARTY BREACH OF CONTRACT CLAIMS, OR FOR CONSEQUENTIAL, EXEMPLARY, SPECIAL, INDIRECT, CONTINGENT, INCIDENTAL OR PUNITIVE DAMAGES, (INCLUDING, WITHOUT LIMITATION, LOST DATA, LOST SAVINGS, LOSS OF REVENUE, UTILITY COST RECOUPMENT, OR PROFITS), REGARDLESS OF FAULT, AND REGARDLESS AS TO WHETHER CUSTOMER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES AND WHETHER OR NOT SUCH DAMAGES WERE FORESEEABLE.

Due to continuous research, evolving technology, updates and improvements, ZENNER reserves the right to change product or system specifications without notice, except to the extent an outstanding contractual obligation exists that states otherwise.

ZENNER ZSU Stealth Ultrasonic Meters Installation Manual



Product Description

ZENNER ZSU Ultrasonic Bulk Water Meters are designed for cold water applications up to 122°F.

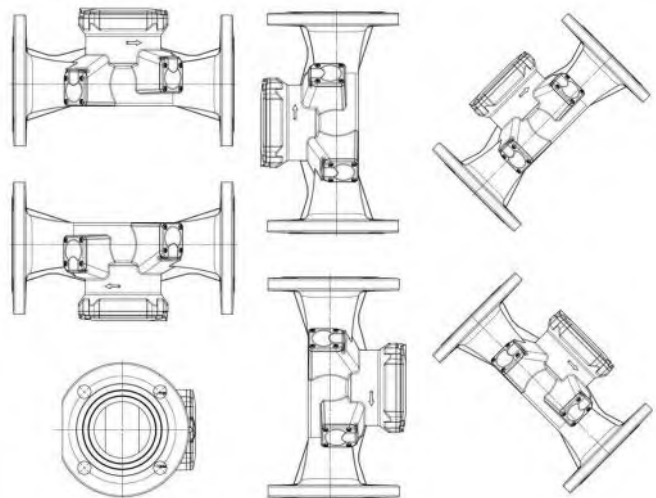
Intended purpose

- For the consumption measurement of drinking water up to 122°F.
- For the consumption measurement of non-potable water up to 122°F.

Comment

This installation manual is intended for qualified meter installers only. Basic installation steps are therefore not described. In order to ensure a proper flow measurement, the meter must be completely filled with water at all times.

Permissible installation positions



Activating the Meter

Upon delivery, the display of the meter will arrive in "sleep mode". To activate the meter, simply fill the meter with water for ten seconds. This will move the meter into active reading mode. During the installation, all air must be ventilated from the meter and the meter must be completely filled with water in order for activation to be achieved.

Once the meter has been activated, an automatic display check takes place (segment test). The segment test is represented by three flashes of all segments on the display indicator and is repeated every 60 seconds during operation.

Readout options of the ZSU meter via the NFC (Near Field Communication) Interface Cable

The following data can be directly read from the measuring instrument via the NFC interface, e.g. with NFC-capable smartphone:

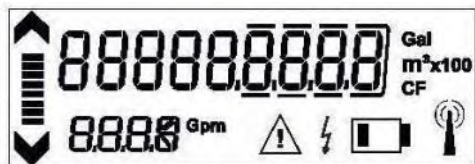
- Meter ID (serial number)
- Current consumption value or total volume in the case of an overrun
- Up to 15 previous month's values
- Software version
- Alarms or error messages

The meter can be retrofitted with NDC modules, or ordered with a factory-fitted module.

Meter Installation

- To achieve optimal measurement results, (3) times the pipe diameter should be allowed on the inlet and (2) times the pipe diameter should be allowed on the outlet side of the meter. However, ZSU Ultrasonic Meters are designed to be installed without straight sections in front and after the meter and still meet AWWA accuracy standards.
- Clean and flush the service line thoroughly on the inlet side of the meter before installing.
- The pipe cross section should not be reduced directly in front of and behind the meter.
- Valves or other flow regulators should be installed, where possible, behind the meter.
- The meter should be installed, where possible, at the deepest point of the pipe installation insuring air is not entrapped within the meter and the meter body is always completely water filled.
- During installation, ensure the flow arrow indicator on the meter housing is pointed toward the customer's side of the service line. Install using new bolts and gaskets.
- To insure unrestricted flow of water through the meter, use the proper size and type of gaskets. Connections should only be sufficiently tight to seal; do not over-tighten. Flange gaskets must not extend into the pipe.
- If necessary, the meter should be protected by a strainer. This will keep foreign matter, such as stones or debris, from entering the meter and potentially cause damage.
- The meter is designed for use in a frost-proof location with ambient temperature not to exceed +130°F and with water temperatures not to exceed +122°F.
- To prevent damage during the installation process, ensure that the meter is slowly filled with water.

Display description



Segment test display



Consumption value



Flow direction display in forward flow direction



Flow direction display in return flow direction



4-digit flowrate display in Gpm, Cfpm or m³



Alarm or error messages (are saved in the data logger and can be read out via the NFC interface)



External power supply: Symbol is activated once a communication module is connected via the NFC interface



Battery capacity display: Symbol is activated approx. 180 days prior to fully discharged battery. The battery capacity is 12 to a maximum of 15 years (depending on the ambient conditions as well as use and configuration of a connected NDC module)



Data transfer display: Symbol is only activated for the connected NDC module

Consumption value Cubic Feet

- 2" to 3", 9-digit, with 2 digits after the decimal place.
- 4" to 8", 9-digit, with 1 digit after the decimal place.
- 10" to 12", 9-digit, with no decimal place.
- Unit of consumption display: CF

Consumption value Cubic Meters

- 2" to 4", 9-digit, with 3 digits after the decimal place.
- 6" to 10", 9-digit, with 2 digits after the decimal place.
- 12", 9-digit, with 1 digit after the decimal place.
- Unit of consumption display: m³

Consumption value US Gallons

- 2" to 4", 9-digit, with 1 digit after the decimal place.
- 6" to 8", 9-digit, with no decimal place.
- 10" to 12", 9-digit, with X10 multiplier. The X10 multiplier will be displayed.
- Unit of consumption display: Gal

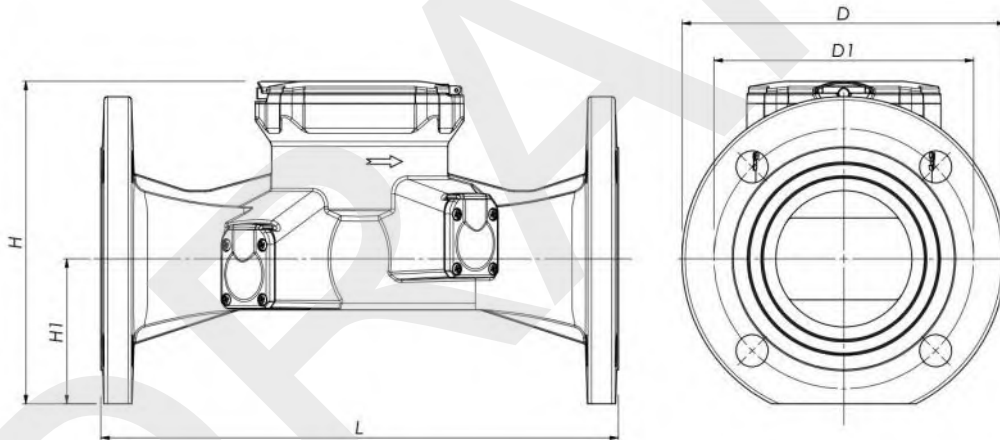
Overrun event

In the event of an overrun, all leading zeros are displayed in the consumption display (display 000000.000, 0000000.00, 00000000.0 or 000000000). The actual consumption is fully recorded in the internal memory and can be retrieved via the NFC interface.

Caution

In the case of exceeding the max. overload flowrate (Q4m), the flowrate display is deactivated to protect the measuring instrument (set to zero). While the flowrate is exceeded, the consumption progress is not registered. The exceeded overload is stored as an "Alarm or error message" in the data logger with details of the date and length of exceedance.

MODEL			ZSU02	ZSU03	ZSU04	ZSU06	ZSU08	ZSU10	ZSU12
Nominal diameter	DN	Inches	2"	3"	4"	6"	8"	10"	12"
Overall length	L	Inches	10	12	14	18	20	17 3/4	19 11/16
Height	H	Inches	5 5/8	7 1/2	8 3/4	10 5/8	12 5/8	15 3/16	18 1/8
Height	H1	Inches	2	3 5/16	4 3/32	5 5/16	6 5/16	7 5/8	9 1/16
Flange diameter (also width)	D	Inches	6	7 1/2	9	11	13 1/2	16	19
Bolt circle diameter	D1	Inches	4 1/2	6	7 1/2	9 1/2	11 3/4	14 1/4	17
Number of bolts per flange	--	Pcs.	2	4	8	8	8	12	12
Bolt size	-	Inches	5/8	5/8	5/8	3/4	3/4	7/8	7/8
Weight approx.	-	Pounds	18	36	48	61	94	116	170

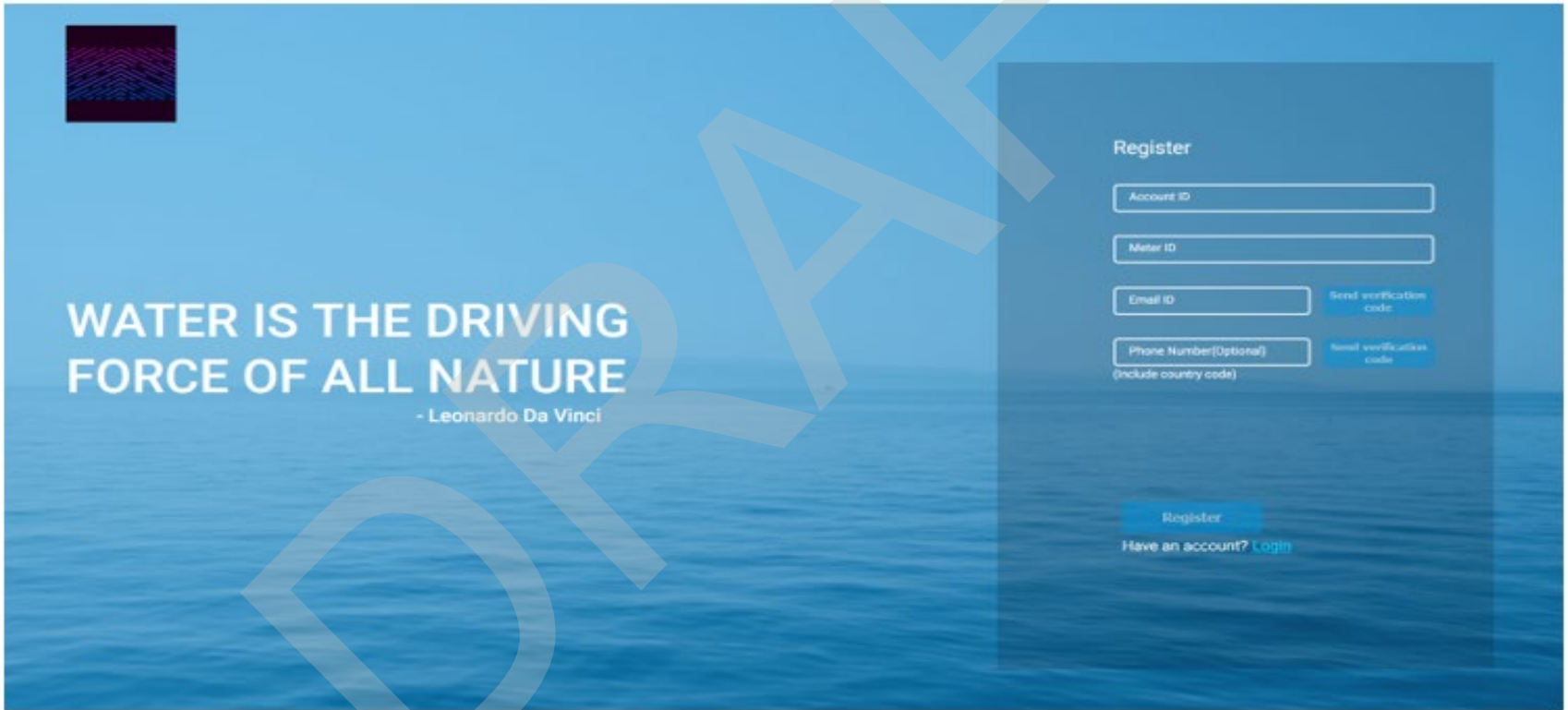


Zenner Customer portal UI samples.

This is the basic user interface. There are additional features under development.

1. Customer portal : individual customer interface.

Registration page



The registration page features a blue background with a subtle water texture. On the left, a quote by Leonardo Da Vinci reads: "WATER IS THE DRIVING FORCE OF ALL NATURE". To the right, a registration form is displayed with fields for Account ID, Meter ID, Email ID, and Phone Number (Optional). Each field has a corresponding "Send verification code" button. A "Register" button is located below the form, and a link for "Have an account? Login" is provided at the bottom right.

WATER IS THE DRIVING
FORCE OF ALL NATURE
- Leonardo Da Vinci

Register

Account ID

Meter ID

Email ID

Send verification code

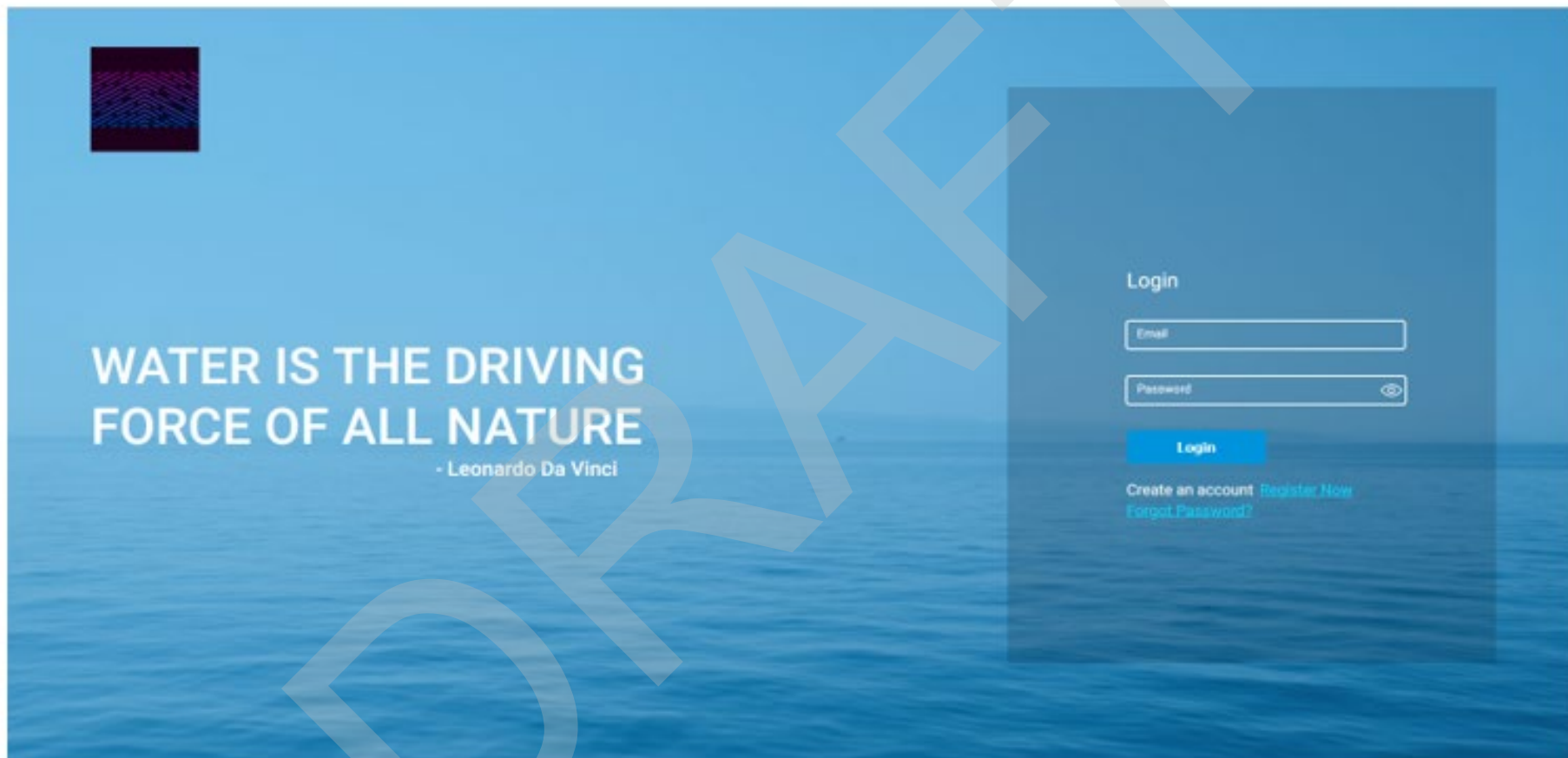
Phone Number(Optional)
(Include country code)

Send verification code

Register

Have an account? [Login](#)

Login page



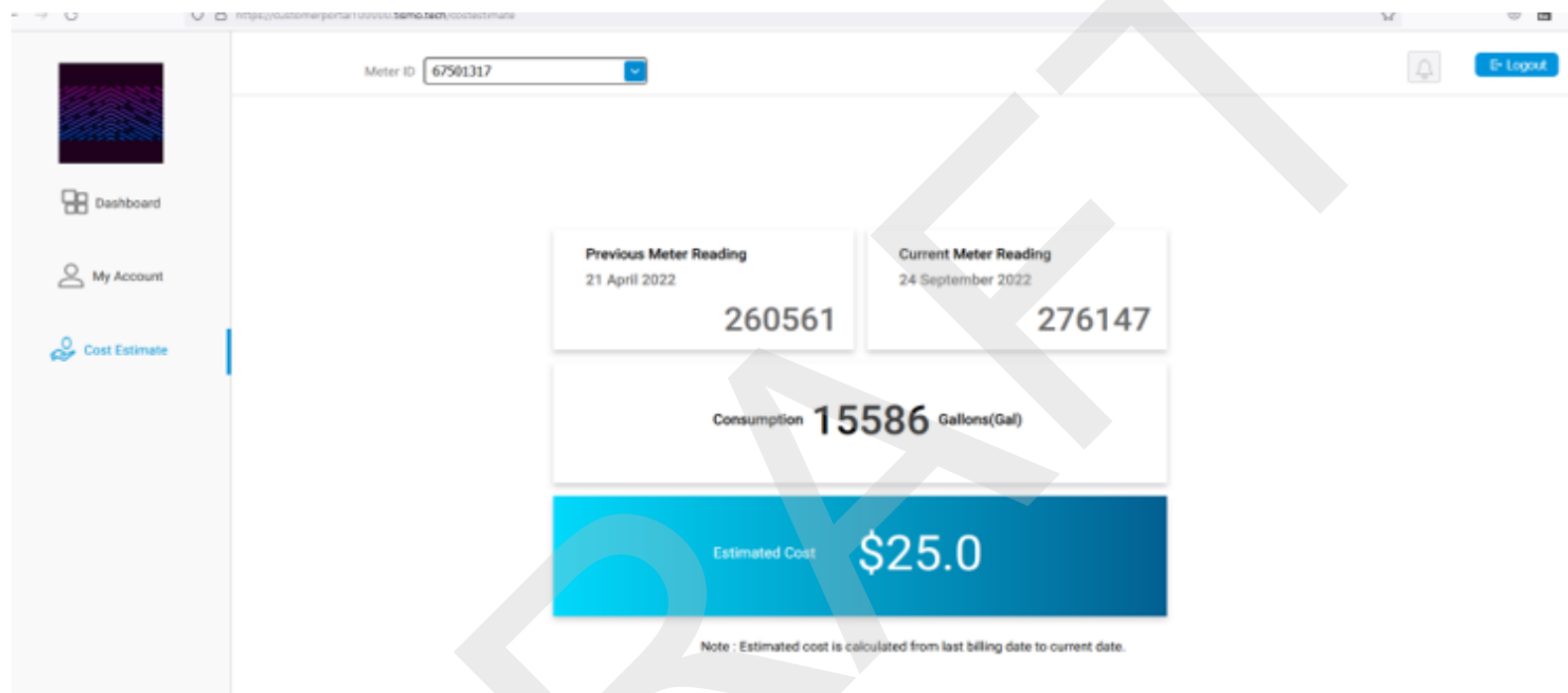
Dashboard page

A customer can click on a monthly bar to see weekly, daily, and hourly consumption.

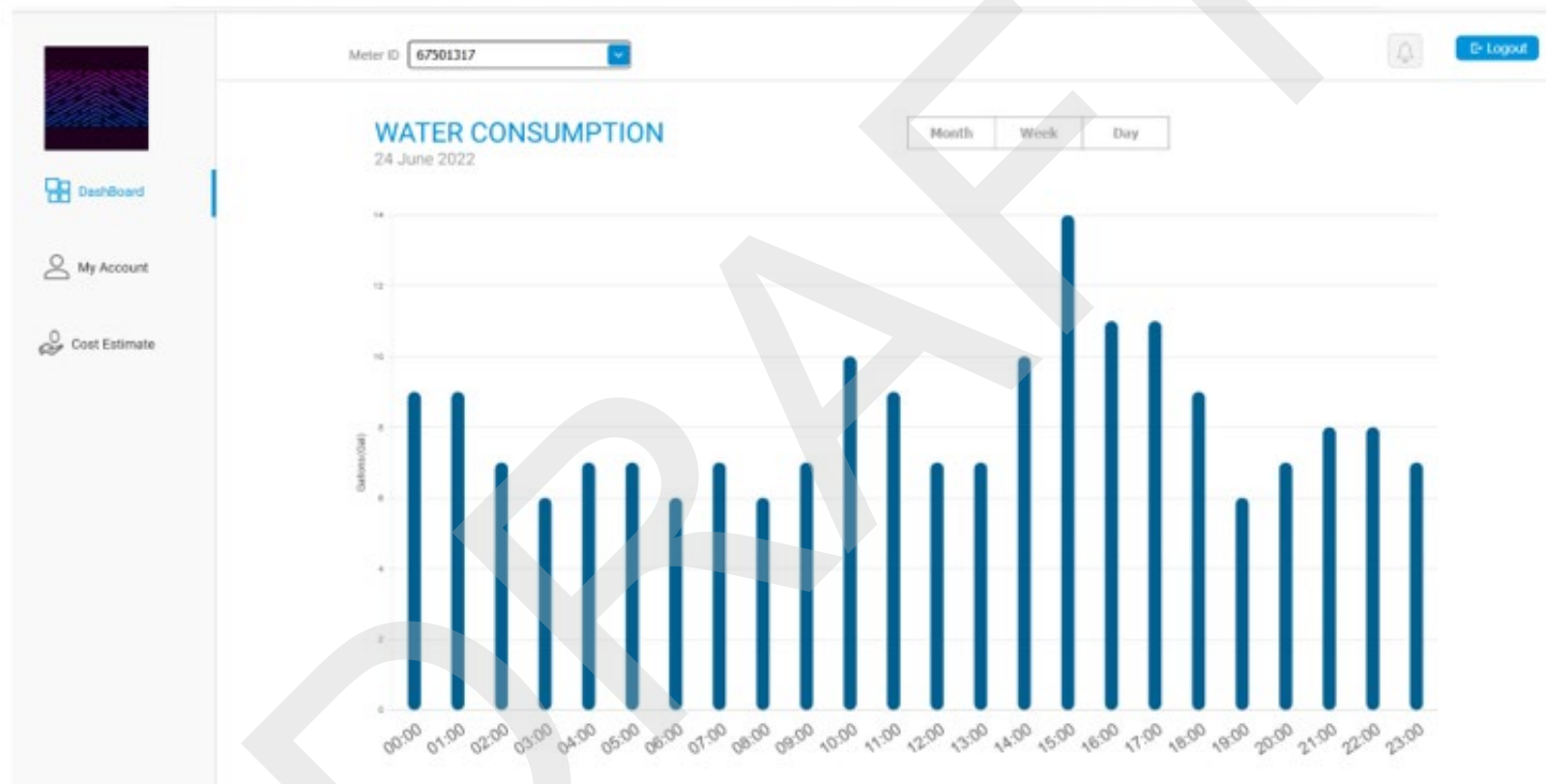


Billing estimate dashboard

Customer can see his or her estimated billing based on his or her current water usage.



Hourly read page



Customer account detail page

Customer can edit some fields, like changing their phone number or password.

The screenshot shows a web browser window with the URL <https://customerportal100000.tsmo.tech/myaccount>. The page has a sidebar on the left with a logo and three menu items: Dashboard, My Account (selected), and Cost Estimate. The main content area is divided into two sections: Account and Security & Privacy.

Account Section:

- Account ID: 1097
- MID: 2119555
- Name: Name_3913
- Address: 236 S EAGLE ST
- Meter ID: 67501317 (with a plus icon and a dropdown arrow)

Security & Privacy Section:

- Change your account password: [Change button]
- Email ID: customer@gmail.com [Verify button]
- Phone Number(With country code): +16201410000 [Verify button]

Notification Section:

- Email notification: [Toggle switch]
- SMS notification: [Toggle switch]
- [Update button]

A red callout box with a red arrow pointing to the Email notification toggle switch contains the text: "You can turn on email/sms notification for leaks, usage, etc."

2. Utility Admin interface:

Utility uses this site to manage their customers.

Utility admin dashboard

The screenshot displays the Utility Admin dashboard. On the left is a sidebar with a logo placeholder (labeled 'Utility logo goes here'), and navigation links for 'Customer List', 'Broadcast', 'Utility Billing', and 'Settings'. The main content area is titled 'Customer List' and includes a 'Logout' button. It features two summary cards: 'Total Number of Active Customers' (2312) and 'No. of Active Customers Registered on Customer Portal' (4). Below these is a search bar labeled 'Search customer by ID or name'. A table lists four accounts with IDs 1002, 1000, 1096, and 1097, each with edit and delete icons. A red arrow points to the first account, labeled 'Individual account'. A pagination control at the bottom shows '1'.

Account ID	Actions
Account ID:1002	[Edit] [Delete]
Account ID:1000	[Edit] [Delete]
Account ID:1096	[Edit] [Delete]
Account ID:1097	[Edit] [Delete]

Customer information details

A utility admin can also edit some field, like resetting a password or changing the address for the customer.

Customer List

Logout

[Customer List](#) > Edit Customer Details

1002

Name

Name_3787

Address

584 S RIDGE RD E,Geneva

Meter ID

69512066

Email ID

developers.tismo@gmail.com

Phone Number

+919741718377

Email Notification

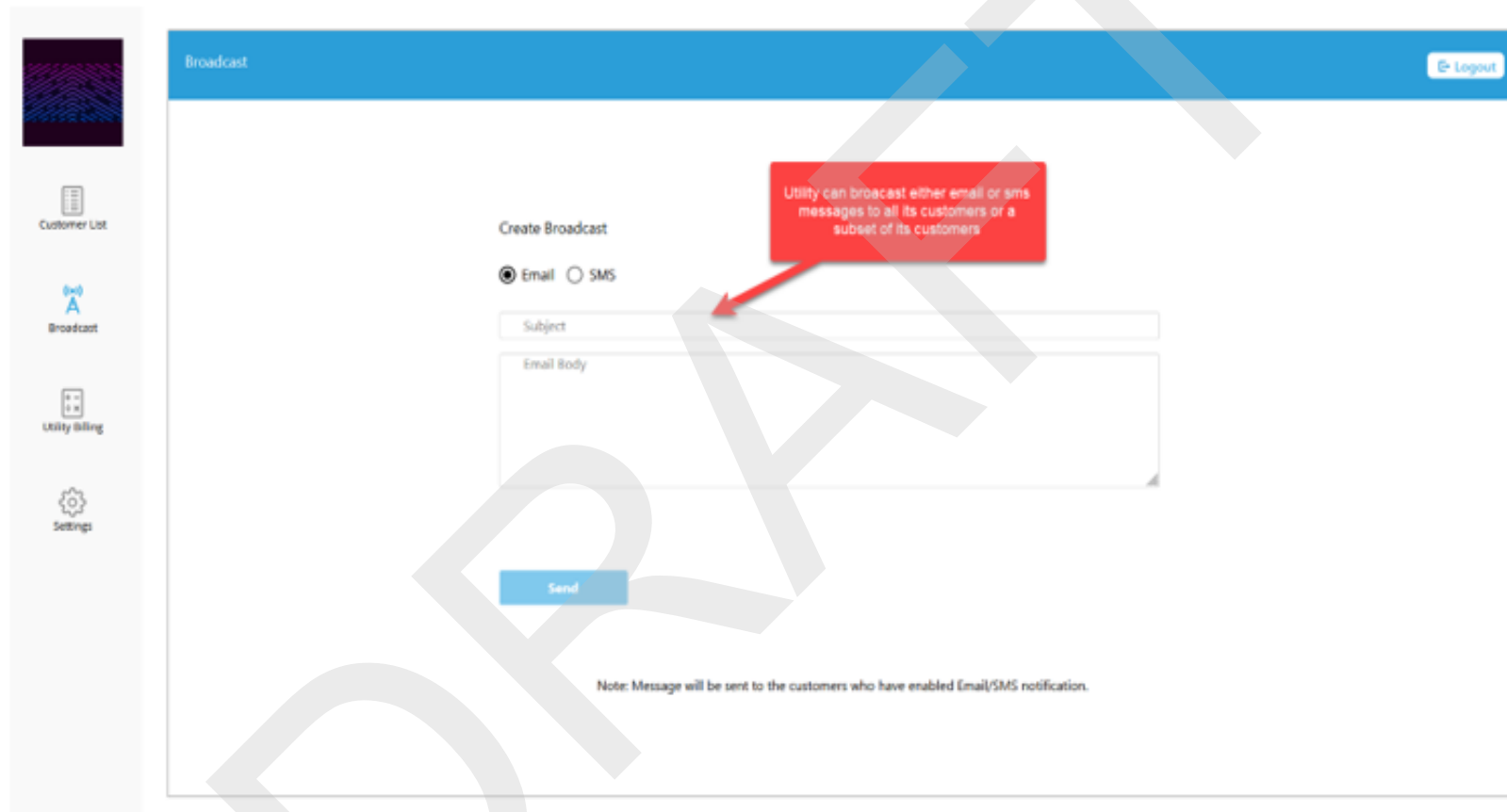
SMS Notification

CANCEL

UPDATE

Utility Broadcasting

Utility can send bulk messages to all users or a group of users.



The screenshot shows a web application interface for "Broadcast". On the left is a sidebar with icons for "Customer List", "Broadcast", "Utility Billing", and "Settings". The main content area has a blue header with "Broadcast" and a "Logout" button. Below the header is a "Create Broadcast" section. It includes radio buttons for "Email" (selected) and "SMS". There are input fields for "Subject" and "Email Body". A blue "Send" button is at the bottom. A red callout box with an arrow pointing to the "Email" radio button contains the text: "Utility can broadcast either email or sms messages to all its customers or a subset of its customers". At the bottom of the main area, a note states: "Note: Message will be sent to the customers who have enabled Email/SMS notification."

Broadcast

Logout

Create Broadcast

☒ Email ☐ SMS

Subject

Email Body

Send

Note: Message will be sent to the customers who have enabled Email/SMS notification.

Pricing rate setting

Utility can set the pricing rate for customers.

The screenshot displays the 'Utility Billing' interface. On the left is a sidebar with icons for 'Customer List', 'Broadcast', 'Utility Billing' (selected), and 'Settings'. The main content area has a blue header with 'Utility Billing' and a 'Logout' button. Below the header are two tables: 'Water Charge' and 'Sewer Charge'. Each table has a '+', a 'Save' button, and a trash icon. A red arrow points to the '+' button of the 'Water Charge' table with the label 'Edit pricing rate'. Both tables have columns for 'Gallons Used' and 'Consumption Rate'. The 'Water Charge' table lists 10 slabs, and the 'Sewer Charge' table lists 10 slabs. A note at the bottom states 'Note: Maximum 10 rate slabs.'

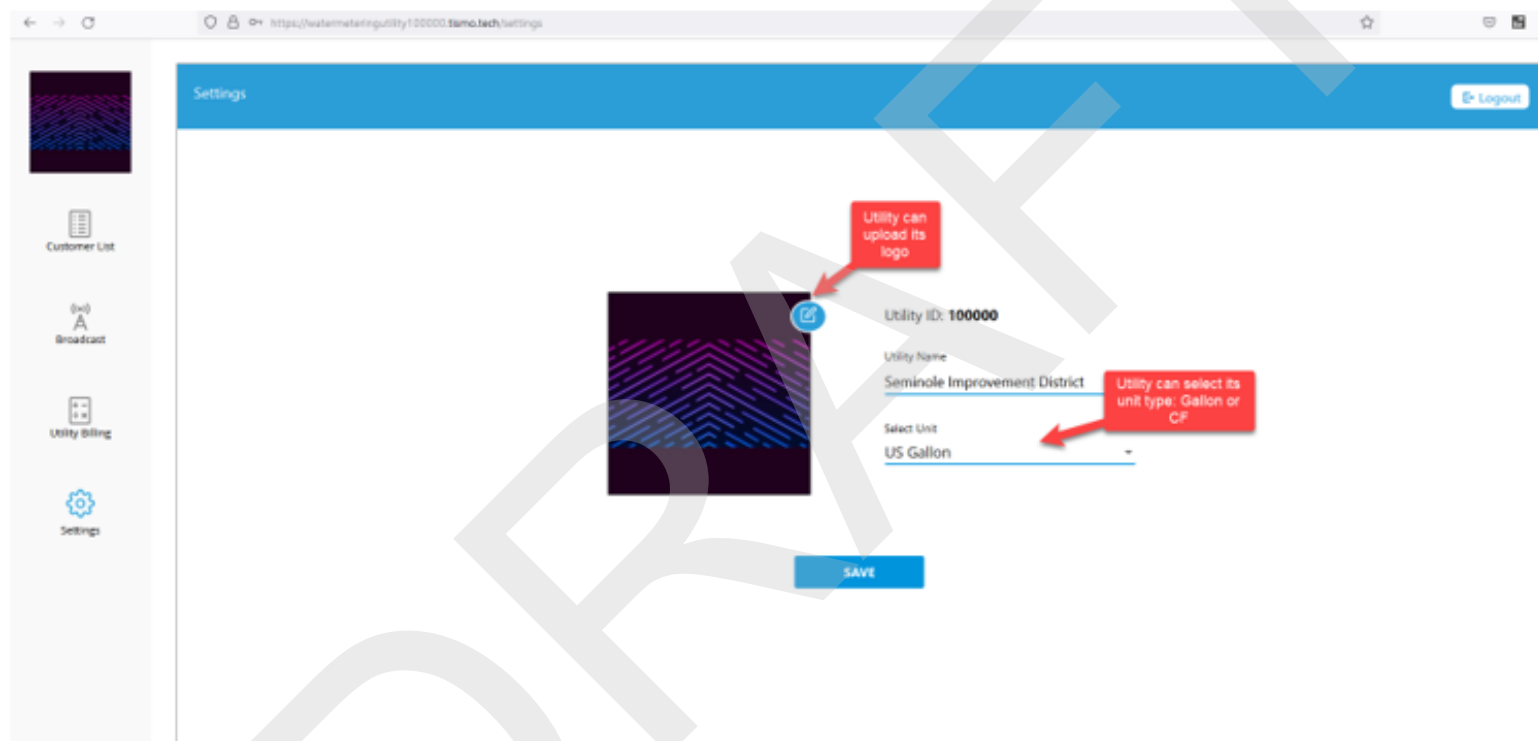
Gallons Used	Consumption Rate
0 - 5,000	\$ 4.90
5,001 - 10,000,000	\$ 5.10
10,000,001 - 10,000,002	\$ 0.00
10,000,003 - 10,000,004	\$ 0.00
10,000,005 - 10,000,006	\$ 2.22
10,000,007 - 10,000,009	\$ 10.00
10,000,010 - 10,000,011	\$ 0.00
10,000,012 - 10,000,013	\$ 0.00
10,000,014 - 10,000,015	\$ 0.00
10,000,016 - 10,000,017	\$ 0.00

Gallons Used	Consumption Rate
0 - 500	\$ 15.00
501 - 1,500	\$ 20.00
1,501 - 1,502	\$ 0.00
1,503 - 1,504	\$ 0.00
1,505 - 1,506	\$ 0.00
1,507 - 1,508	\$ 0.00
1,509 - 1,510	\$ 0.00
1,511 - 1,512	\$ 0.00
1,513 - 1,514	\$ 0.00
1,515 - 1,516	\$ 0.00

Note: Maximum 10 rate slabs.

Utility configuration.

Utility can set their unit type: we only support Gallon and CF at this time. They can also change their logo here.



The screenshot shows a web browser window with the URL `https://watermeterutility100000.stealth.tech/settings`. The page is titled "Settings" and has a "Logout" button in the top right corner. On the left side, there is a sidebar with icons for "Customer List", "Broadcast", "Utility Billing", and "Settings". The main content area displays the configuration for a utility with ID "100000". It includes a "Utility Name" field with the value "Seminole Improvement District" and a "Select Unit" dropdown menu currently set to "US Gallon". A "SAVE" button is located at the bottom. Two red callout boxes with arrows point to specific elements: one points to a logo upload icon with the text "Utility can upload its logo", and the other points to the "Select Unit" dropdown with the text "Utility can select its unit type: Gallon or CF".

Settings

Logout

Customer List

Broadcast

Utility Billing

Settings

Utility ID: 100000

Utility Name: Seminole Improvement District

Select Unit: US Gallon

SAVE

Utility can upload its logo

Utility can select its unit type: Gallon or CF



Zenner Quality Control Process –

Zenner is ISO 9001 certified. This covers Product Development, production and sales of water meters, energy meters, gas meters, fittings, accessories, software and services.

Overview of Zenner Quality Assurance / Control Procedures/Processes

Quality Objectives that are measured reviewed and acted on are:

- RFQ Performance
- Design and Development Activity
- Purchasing Performance
- Supplier Performance
- Internal Defects
- Product Rejection / QA Alert System
- PTI OTD
- Customer Returns
- Customer Complaints
- Customer Satisfaction
- Continual Improvement / Preventative Actions
- Corrective Actions
- Internal / External Audits
- Resource Management

Product Related Inspection Activities:

Material Management

- Incoming Inspection
- Cycle Counts
- Kit Audits

Paste / Stencil Inspection –

- SMT Assy

In-Process Inspection –

- SMT Assembly

1st Article Inspection –

- SMT Assy
- TH Component Stuff
- Wave Solder
- Conformal Coating
- Wire Harness
- Mechanical

X-Ray Inspection

- SMT Assy

Automatic Optical Inspection (AOI)

- SMT Assy
- TH Assy

Cluso 1st Article Inspection

- SMT Assy

AS9102 1st Article Process

UV Inspection

- Conformal Coating

Support Programs / Processes

Training –

- IPC-A-610E Certified Inspectors
- J-Std-001E Certified Solder Operators



- Internal Training Program

Control Plan (Product Traveler) –

- All Inspection / test points are defined on a control plan dedicated to each Customer / Product / Revision. All defined sequences on the control plan are accepted by qualified personnel by stamp / initial and date.

Trouble Sheet –

- Used to document non-compliances and manage related rework / re-inspection. Data is used to evaluate internal defect / rework activity.

Identification / Traceability –

- Various methods of identification are in-place, depending on the material / product / customer requirements. From an initial on received material packaging and a serial number on finished product, to recording date / lot code related to received material and a placement of a serial number on the bare board which is then documented on the control plan thru all manufacturing, inspection and test steps.

Inspection Activity –

- 100% inspection at all required inspection steps

Mature Processes are in place for the following –

- ESD
- MSD
- Age Control
- Calibration

DFM / Risk Assessment / Risk Management Program – In place

Process Design and Control

Some of the processes that must be agreed upon during the startup phase are shown below. These are critical to the project's success in meeting goals and performance standards.

- o Daily statistical analysis
- o Daily reports and output checks
- o Project schedule
- o Field checks and observations of installers, readers and routes
- o Performance reviews
- o Uniform and personal appearance
- o Attendance monitoring and review
- o Counseling on reliability issues
- o Timely resolution of customer complaints
- o Periodic client/company meetings
- o Communication
- o Feedback and correction procedures



1. Executive Summary

The City of Moscow Idaho has issued a Request for Proposal for an “Advanced Metering Infrastructure (AMI) Project” Zenner USA is pleased to respond to the above-referenced RFP. Zenner has read and understands the Scope of Work in the RFP and is in compliance.

Zenner USA will provide the water meters, Meter Interface Units (MIU)s, software, LoRa Infrastructure, equipment and training. Zenner USA will install the LoRa infrastructure.

This proposal does not include installation of the Meters/MIUs and meter pit lids.

Pricing Option: Zenner is providing the following pricing options for the City’s consideration:

1. AMI option with Ultrasonic Meters
2. LoRaWAN option with Ultrasonic Meters

We also offer a Drive-by solution (AMR) for those areas that may not be accessible via AMI or LoRa systems. We commend you for seeking to automate meter reading capabilities to increase meter reading efficiency, capture more timely water usage data, and to provide your customers with greater detail regarding individual water consumption and enhanced leak detection. Implementing an efficient AMI solution backed by innovative technology and superior customer service is critical to your quest to integrate timely metering data which will optimize management of the water distribution system. Further, our proposed LoRaWAN solution will improve your operational efficiencies, enhance your meter reading accuracy, reduce unaccounted water loss, and allow customers easy access to data. These improvements combined with the cost savings inherent in an automated system will enable you to manage the water distribution system more effectively.

The Zenner/Minol group is a global company established in 1903 focused on meter production, meter reading and sub-metering products and services. Zenner/Minol serves customers in over 100 countries and manufactures and assembles its products in manufacturing plants on 5 continents including our plants in Banning California and our newest plant (opened in November 2023) in Huntsville, Texas. Zenner is the largest water and gas meter manufacturer in the world, leading the way with world class engineering and support.

Affirmations:

1. Conflict of Interest – Zenner USA affirms that there are NO conflicts of interests that related to the City of Moscow AMI RFP.
2. Non Collusion - Zenner USA affirms that it has not participated in acts collusion related to the City of Moscow ID AMI RFP.
3. Suspension/Debarment – Zenner USA certifies that the organization and each of its principals are not suspended or debarred by the City of Moscow ID.
4. Zenner USA affirms that it is not owned or operated by The Peoples Republic of China.
5. Zenner USA affirms that it will not engage in a boycott of goods and services from Israel.
6. Zenner USA affirms that is not an abortion provider or an affiliate of an abortion provider.



Zenner produces almost every kind of metering technology needed by our customer base. We are the only manufacturer globally that designs and manufactures all metering technologies so we can apply the best technology based on an individual utilities water condition providing the longest life and greatest efficiency from their metering network.

- Positive Displacement Meters
- Multi-Jet Meters
- Ultrasonic Meters from ½" to 12"
- Single Jet Meters
- Residential Fire Service Meters
- High Pressure Meters (360psi)
- Turbine Meters and Strainers
- Compound Meters
- Fire Hydrant Meters

Zenner deploys AMI systems globally using various technologies that benefit and fit the local environment providing optimum cost and performance. With more than 44 million active endpoints globally Zenner has become one of the largest deployers of AMI technology in the World, Zenner has developed and deployed systems using:

- Stealth land-based Mesh
- NB-IOT/Cellular
- LoRaWAN
- Net Radio

Conclusion

Our goal is to meet /exceed all your expectations through a comprehensive approach to professional planning and operations, superior customer service, advanced equipment selection, highly developed quality assurance processes, and "Safety First" procedures. We believe that the City of Moscow would highly benefit by choosing our firm, and its team members, with the breadth of experience our team has to offer and the ability to satisfy the selection criteria outlined in your solicitation. We look forward to your favorable evaluation and to working with you on this project.

Your primary points of contact for this project are:

- Mike Medici, Zenner USA Regional Sales Manager. Mike can be reached at 970-903-8531 or by email at mmedici@zennerusa.com.
- Bernard Nance, Manager of Marketing and Proposal Support, Zenner USA. Bernard can be reached at 972-345-0465 or by email at bnance@zennerusa.com.
- Rich Sanders, President, Zenner USA. Rich can be reached at 772-285-1035 or by email at rsanders@zennerusa.com.

With my signature below, this affirms that I have the authority to make formal commitments on behalf of Zenner USA. Should you have any questions regarding our submittal, please do not hesitate to contact us.

Sincerely,

Richard Sanders
President, Zenner USA
15280 Addison Road
Suite 240



Zenner USA Response – Moscow ID

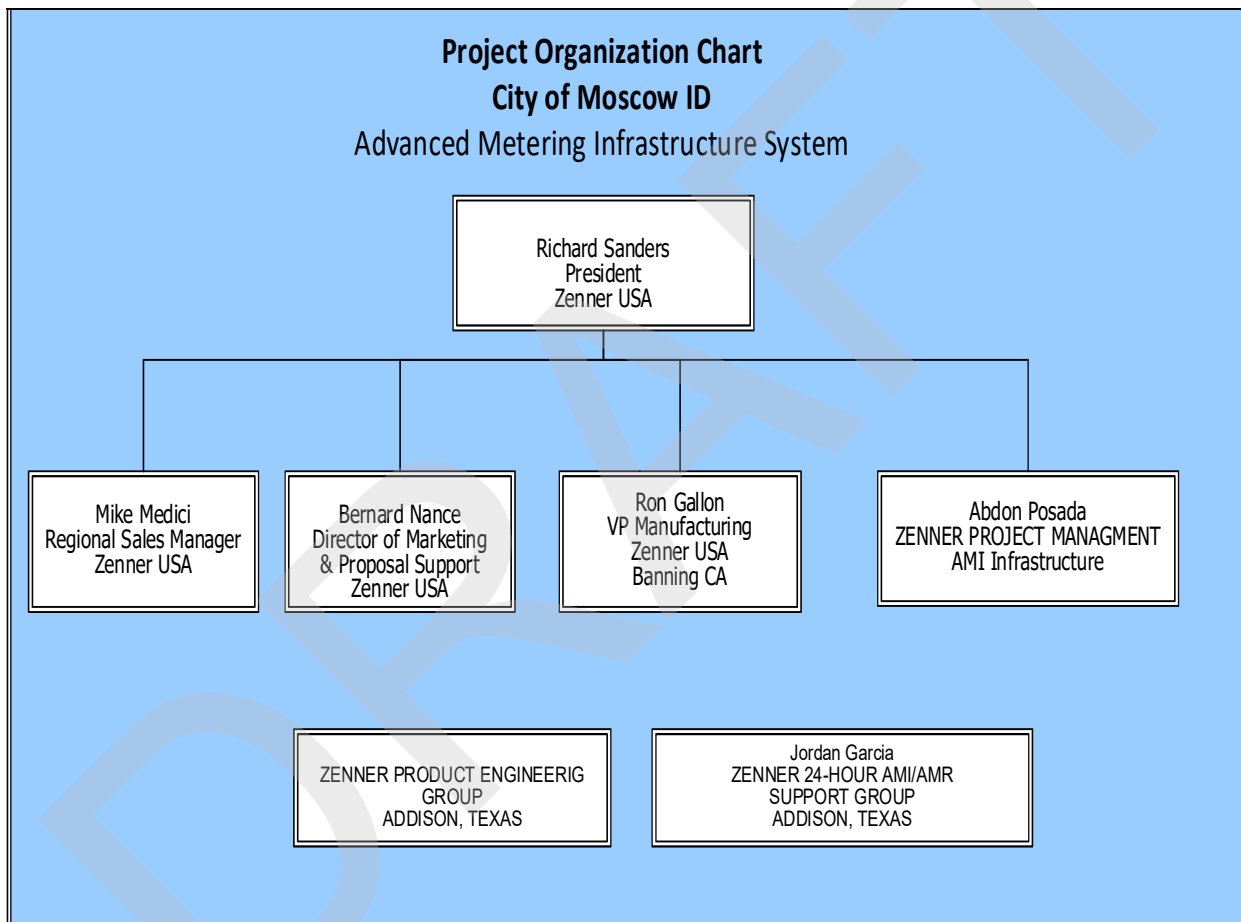
Section 4.5 Implementation Approach

4.5 Implementation Approach

A. Project Team

Provide the following regarding the proposed project team:

1. An organizational chart outlining the structure of the proposed project team (including subcontractors) to be assigned to support this Project.



2. Names and positions of persons to be assigned to this Project, including a description of their chief role. Indicate desirable certifications such as Project Management Professional, Six Sigma, etc. Resumes of key staff are to be included in the appendices.
 - Mike Medi – Regional Sales Manager, Zenner USA
 - Abdon Posada – Director Field Services, Zenner USA
 - Jordan Garcia – Director AMI Support
3. Proposer shall attest to the availability of key staff to fulfill the obligations of this engagement in a professional and timely manner. If there are any scheduling issues of concern, then proposing firms shall disclose those other commitments in its Proposal and indicate how such other commitments will be addressed to mitigate their effect on services rendered to the City.
The Proposer has read and understands this requirement and is in compliance.



4. Confirm your company's commitment to having an on-site presence as required to fulfill project scope and deliverables.

The Proposer has read and understands this requirement and is in compliance.

B. Project Management

Provide your published methodology or describe at a high level your general approach to the management of an AMI, MDM and Installation Services Project.

Ensure the following topics are covered in your response:

1. Risk management and risk mitigation. Please describe your methods of identifying, assessing, and mitigating project risks.
2. Communications and Reporting. This project has the potential to involve multiple vendors and multiple City departments. The City anticipates having monthly project status meetings and written status reports. Confirm you will provide representation and proactive communication for these activities.
3. Quality Assurance. Describe how quality is measured, reported, and enforced. Consider the following in your response: data quality, quality of installation, success of training.
4. Schedule. Describe how plans are monitored and maintained in order to keep the Project on track.
5. Scope change. Describe how changes in scope are managed.

Zenner USA's Project Management adds value in all phases of the AMI planning and deployment. Zenner will assign an individual with experience in managing an AMI project of similar size and scope of the City of Moscow. A prompt, quality installation of MIUs is an essential part of the success of an AMI project. Faster installation means faster recouping of costs. To ensure that any AMI Deployment that we partner on is completed within schedule and on budget, our Project Management approach encompasses the following elements:

Interdepartmental Project Coordination

Zenner USA understands AMI planning and its effect on other utility functions, such as meter reading, finance, utility billing and operations. Our management staff comes from both a utility and vendor background allowing us to understand the needs of all parties involved in an AMI deployment.

Startup and Schedule Management

Zenner USA has an experienced technical staff that has managed automated meter reading deployments and understands the impacts to the utility and the customer. Given in-depth experience in AMI project management and internal utility systems and processes, our project team adds value in all phases of a client's project.

Process Development and Implementation

Zenner USA understands the importance of building and maintaining strong customer relationships. Together we partner with each client to provide cost-effective solutions that increase productivity and flexibility, while reducing overhead costs. A management team with specialized experience is assigned to each project and works closely with each client to develop detailed processes to meet the client's objectives.

Field Management and Quality Control

Project management responsibilities include project inspections by staff and field supervisors, site visits by operation managers, ongoing field inspections of contractor employees, detailed documentation on all activities, and an on-call management team that is prepared to provide quick response to any project-related concern.

Strong Training Processes

Dedicated and trained professionals and technicians are assigned to conduct initial training and ongoing refresher training. Zenner USA believes that beyond selection, training is the next step to ensure a successful project. Formal training can range from one to three weeks. After the last week, the contractor is monitored carefully for the next ninety days.



Project Startup Method

The Director of Project Management manages the project startup. Team members are selected from corporate and field project staffs who are experts in their area. The key functional areas that are addressed in the startup are:

Project Scope/Installation

- Training
- Project Plan
- Project Timeline
- Project Grounding

Process Design and Control

Some of the processes that must be agreed upon during the startup phase are shown below. These are critical to the project's success in meeting goals and performance standards.

- Daily statistical analysis
- Daily reports and output checks
- Project schedule
- Field checks and observations of installers, readers and routes
- Performance reviews
- Uniform and personal appearance
- Attendance monitoring and review
- Counseling on reliability issues
- Timely resolution of customer complaints
- Periodic client/company meetings
- Communication
- Feedback and correction procedures

Management of Installation Procedures

Our Project Managers will be available throughout the duration of the implementation to discuss regarding issues related to the project. The Project Manager's responsibilities include overseeing the following:

- Scope management
- Data management and verification
- Contact with the City utility representatives
- Customer relations
- Daily work order transference, if required
- Reviewing all work completed daily
- Tracking of completed installations
- Repairs
- Quality control of field installations
- Cost controls
- Inventory
- Contractor Productivity

C. Testing

Describe the proposed test plan, strategy, and testing tools to be employed to support and ensure user acceptance. Include Proposer's high-level test plan as an appendix. Please note, there is no template being provided by the City. Proposers should provide test plans in their preferred format.

Meters, endpoints, and other devices are installed in the field. As the equipment is installed, route acceptance procedures begin and continue throughout the Deploy phase. Zenner provides technical expertise throughout the deployment activity to ensure the installation schedule is met. Based on program phases, the Deploy Phase of our methodology would be customized to deploy the defined, designed and built pilot solution along with system testing and acceptance before moving into full system deployment.



D. Training & Support

Provide a list of all applicable training courses to be provided on-site, via the Internet, and at off-site locations. The training must be comprehensive enough to ensure that City staff can effectively install all products offered and operate all systems and software. Areas that shall be included (but are not limited to) in the training are:

1. AMI Training
 - a. Networked components;
 - b. Overview of the AMI product and head-end software;
 - c. System operations and troubleshooting; and
 - d. Identification and resolution of events and alarms
2. Endpoint Installation Training
 - a. Installation; and
 - b. Troubleshooting
3. MDMS Training
4. Meter Installer Training
5. Technical support for the system over its expected life, including on-site and telephone support for City personnel.

Technical support for the system is provided as long as the City renews the Annual Maintenance Agreement. (see attached SAMPLE License and Maintenance Agreement).

Also provide an optimal user training schedule, and a sample training plan covering all items as outlined in this Training section as an appendix.

ZENNER TRAINING OVERVIEW

Training sessions are 3 days and students are tested for understanding of the information before they are certified as trained by Zenner. For this project, Zenner will conduct the initial startup training with assistance from the supervisors and work leaders. All selected Utility employees will be trained in reading multiple dial meter registers. During normal operation, new hire and refresher training will be conducted, if necessary.

Systems' operations: Instruction for operation of entire system will be included in training. Reporting, administration functions, uploading and downloading of route and meter information and the interface to the CIS system will all be covered for Utility employees.

Database Management

Project control, installation scheduling and management

Field installation: Extensive installation training is administered in a classroom environment combined with field installations. Exams are administered to determine understanding and competency of all covered tasks and objectives.

Field diagnostics: Included in the training is guidance on maintenance and troubleshooting procedures. Utility staff will be able to manage all aspects of installation and maintenance on the system.

Handheld Units: Training on the Stealth Reader Handheld is covered during initial software training. Utility staff will be able to read meters, enter meter data including changes and other information, troubleshoot and resolve problems upon completion of the handheld training session.

Software training includes every aspect of application operation. File transfer to the CIS, verification of data, sending/receiving route information to and from the handheld units, and route management tasks will be covered during the training.



We suggest a core team be selected by the utility to direct the implementation from that end. This team usually includes the meter reading supervisor; a meter technician, the billing supervisor, a data processing-oriented person, and can include a head meter reader or the utility director.

E. Documentation

The following will be required as provisions within the agreed-upon contract between the City and the Proposer for the AMI/ MDM solution. Confirm your ability to provide:

1. Description of major system components;
2. Hardware and software operations & maintenance manuals;
3. Training materials;
4. Samples of all standard reports with narrative descriptions of all fields displayed on the report, input parameters, and an explanation of how to execute each report;
5. All error codes, messages, and their explanations displayed online and/or on reports with action required or options available;
6. Updated system documentation available concurrent with the release of new software updates;
7. Troubleshooting and installation information;
8. Technical specifications and installation guides; and
9. Proposed system acceptance test plan for your product.

The Proposer has read and understands the above documentation Requirements E.1-9 and is in compliance.

F. System Integration Services

Provide a summary of work and describe how integrations and data exchanges will be managed for the City. The City is requesting a hosted solution for AMI, MDMS and the optional Customer Portal.

The Proposer has read and understands this requirement and is in compliance. The Proposed Zenner AMI system solution is to be hosted by Zenner USA.

Describe how your company handles the integration of AMI systems with other computer systems.

1. Does your company manage the integration of AMI software with BS&A?

Yes, Zenner will manage the integration of the AMI software with BS&A. The system works utilizing the existing billing interface and software format which means the City will not have to make any changes to the billing process or software.

- a. If so, how will this integration be managed on behalf of the City?

The operator will need to simply re associate the equipment with the new information in the billing system. The system provides an import feature for account data. The import feature accepts a comma-separated-value (CSV) formatted file. Changes to an existing account are updated in the AMR system database during the import process. Select Account information may also be included in the import file used to identify the sites to be billed during a billing cycle. As with the other import, changes to an existing account are updated in the AMR system database.

- b. Describe what functions are integrated.

Billing system integration.

- c. What services will be required from BS&A (or the City) to facilitate integration with the AMI software?

The system works utilizing the existing billing interface and software format which means the City will not have to make any changes to the billing process or software.

2. Does your company manage the integration of MDMS software with BS&A?

Yes, Zenner will manage the integration of the AMI software with BS&A.

- a. If so, how will this integration be managed on behalf of the City?

The Zenner AMI Software application is a modular, fully integrated Meter Data Management Solution: Scalable, flexible, & extensible architecture enables multi -protocol and multi -communication technology support

- Secure, multi -tenancy architecture supports solution as a service delivery
- Interoperable using open standard protocols to communicate with third party meters
- Enhanced consumer engagement via customer portal



- Integrates out of the box with other ZENNER products to reduce risk and improve business efficiency
- Automatic alarm generation for utility notification. The Z Mesh delivers detailed interval data for every meter.

b. Describe the functions that must be integrated.

Profiling can be used to:

- Curb water losses
- Detect leaks
- Identify theft -of-service/tampering
- Settle usage disputes
- Monitor/Enforce Conservation compliance
- Right-size meters
- Perform load studies
- Eliminate off -cycle reads (virtual turn-off)
- Deliver detailed billing for premium customers
- Support Time-of-Use billing programs
- Develop resource/infrastructure master plans
- Additional Software Features
- Extensive custom configuration to provide information management flexibility
- Import and Export capabilities of data in multiple formats

c. What services will be required from BS&A (or the City) to facilitate integration with the MDMS software?
[System is web based.](#)

3. Does your company manage the uploading of geospatial data acquired when AMI devices and meters are installed to GIS?

Yes.

a. If so, how will this integration be managed on behalf of the City?

[The mapping of the nodes and the ability to see node connectivity. Options include showing load balance squares, selection of the type of equipment, dates, map/satellite view.](#)

b. What services will be required from the GIS vendor, BS&A, MDMS vendor (or the City) to facilitate data transfer?

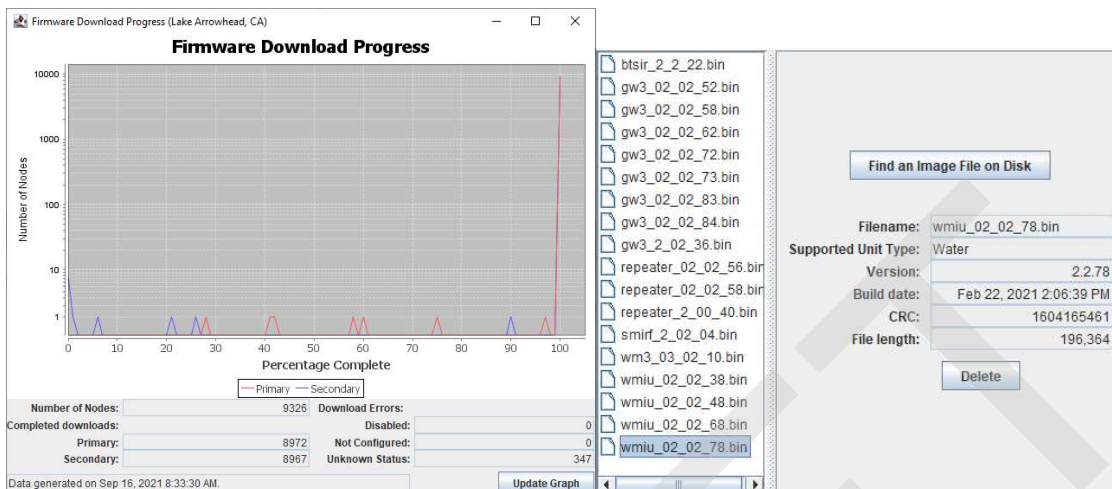
[The operator will need to simply re associate the equipment with the new information in the billing system. The system provides an import feature for account data. The import feature accepts a comma-separated-value \(CSV\) formatted file. Changes to an existing account are updated in the AMR system database during the import process. Select Account information may also be included in the import file used to identify the sites to be billed during a billing cycle. As with the other import, changes to an existing account are updated in the AMR system database.](#)



Zenner Responses

- 4.2 Executive Summary section D. An affirmation of no conflict of interest/non-collusion, and the following certifications required to enter into an agreement with a governmental entity in Idaho: not owned or operated by China, currently not engaged in and will not engage in a boycott of goods and services from Israel, and not an abortion provider or an affiliate of an abortion provider.
See attached revised Zenner USA Executive summary.
- 4.3 Experience –
 - The employee turnover rate within the last 5 years.
Total turnover rate at Zenner USA within the last five years has been less than 5%.
 - Confirmation that your company and personnel are legally allowed to work in the state of Idaho and whether your company is domiciled in Idaho or has a significant Idaho economic presence, as defined in Idaho Code § 67-2349.
Zenner USA is legally to work in the state of Idaho. Zenner USA is not domiciled in Idaho and does not have a significant Idaho economic presence.
 - The company's capital position and financial health. Provide annual reports and/or financial statements for the division of the company directly responsible for the products and services proposed in the RFP for each of the last three fiscal years as an appendix.
Zenner USA is a privately held corporation and as such, does not release its financials. However, Richard Sanders, President of Zenner USA is available to answer any questions regarding Zenner USA's financial stability. Rich can be reached at 772-285-1035 or by email at rsanders@zennerusa.com.
 - State whether there are pending or prior legal disputes or lawsuits with any existing or previous clients. If so, state all such disputes, including dates, parties involved, claims alleged, court and case number, as well as any facts and outcomes regarding these disputes.
Zenner USA, Inc. has no pending or prior legal disputes with any existing or previous clients.
 - State the standard method or methods of resolving disputes, should they arise.
Mike Medici, Regional Sales Manager (mmedici@zennerusa.com) should be immediately made aware of any disputes. Mike will then escalate the issue to our internal AMI Support Team and if necessary our company President, Rich Sanders.
- 4.4 Future Roadmap
 - 5. Provide the implementation process for releasing and applying software and firmware upgrades, bug fixes, and patches. Include overall implementation timeframe, vendor effort, time, and resources, and client effort, time, and resources.

Note: Firmware upgrades may be issued through the network automatically using our patented OTA (over the air) upgrade process that uniquely tracks and sends separate packets based on the MIU needs to complete the upgrade with high performance. The new firmware is loaded on the Collector's database. The Collector configuration is modified to utilize the new Firmware record. The firmware is loaded automatically on the Collector's secondary memory and the firmware upgrade process is started. This patented upgrade process also yields progress and overall effectiveness. As an example, in layman's terms a firmware update is broken up into 1,536 individual packets. Each MIU may request the next packet required and other MIU's may respond if they have it already saved the specific packets in their upgrade. This ability to converse between multiple Endpoints during the awake times uniquely enables a large file upgrade over small packet sizes to multiple Endpoints. upgrade frequency is 1-2 times per year. Patches and fixes are deployed via our web server with notice to each customer. Upgrades are deployed in the same manner as patches and fixes. In addition, all customers under contract receive all new software updates immediately upon release.



- Discuss the quality assurance (QA) procedures currently in place to ensure bug fixes, patches, and upgrades are fully tested and validated prior to release. Discuss QA procedures currently in place to ensure the identification and correction of system security vulnerability.
[See attached Zenner USA QA/QC Process](#)

- 6. Summarize the system maintenance agreement including terms and conditions. Provide a copy of Proposer's user support Service Level Agreement (SLA) as an appendix. The SLA should clearly indicate the severity levels, description of each level, guaranteed response times, availability of maintenance and support staff, and associated cost.
[This License and Warranty Agreement \("Agreement"\) is entered into by and between Zenner USA., a California Corporation, with its principal place of business located at 15280 Addison Road, Suite 240, Addison, Texas 75001 \("Zenner"\) and Customer Entity Name, a entity state and type, with its principal place of business located at principal place of business address \("Customer"\) and effective as of the day of , \("Effective Date"\). The Property name of property \("Property"\) subject to this Agreement is located at property street address, city, ST and zip.](#)

ARTICLE 1: SERVICES PROVIDED BY ZENNER

1.1 Independent Contractor. Zenner is and shall perform its obligations under this Agreement solely as an

independent contractor. Nothing in this Agreement shall be construed to designate Zenner, or any of its employees, subcontractors or other agents of Zenner, as employees, agents, joint venture, or partners of Customer and neither Zenner nor any employee, subcontractor or other agent of Zenner shall represent itself as, act as, or purport to act as, or deemed to be the employee, agent, joint venture, or partner of Customer for any purpose whatsoever and no such party shall have any right or authority to make any representations, or to assume or create any obligations of any kind, express or implied, on behalf of Customer or to bind Customer in any respect whatsoever.

1.2 Services: Zenner shall provide the following services ("Services") to Customer in accordance with the terms of this Agreement:

1.2.1 Initial Warranty: Zenner shall provide to Customer the repair or replacement of the products listed in EXHIBIT A during the respective periods below:

1.2.1.1 Hardware, excluding Meter Interface Units, and Software for a period from the date such products are delivered to Customer under a separate purchase order agreement until , ("Initial Warranty Period").



1.2.2 Extended Warranty: Zenner shall provide to Customer the repair or replacement of the products listed in EXHIBIT A.

1.2.3 Hosting Services: Zenner shall provide Customer with the Hosting Services for Customer's meter data. Zenner shall use commercially reasonable efforts to make the Hosting Services available 24 hours a day, 7 days a week, except for planned downtime, of which Zenner shall give at least eight (8) hours' notice via the Hosting Services and shall be scheduled to the extent practical during the weekend. Customer agrees that its use of the Hosting Services is dependent on using a minimum specification of hardware, operating system and internet browser. The minimum hardware, operating system and internet browser configuration is available upon request.

1.2.3.1 Customer Responsibilities: Customer acknowledges and agrees that it shall be responsible for its employee's use of the Hosting Services and compliance with this Agreement. Customer is responsible for the accuracy, integrity and legality of the Metering Information transmitted to the Host Site. Customer will use commercially reasonable efforts to prevent unauthorized access to or use of the Hosting Services and

Customer agrees to notify Zenner promptly of any such unauthorized access or use.

1.2.3.2 Third-Party Users: In the event Customer enables parties other than Customer ("Third-Party Users") to access or use the Hosting Services, Customer acknowledges and agrees that Zenner is not responsible for any transmission, disclosure, modification or deletion of metering information, including any Confidential Information, resulting from such access or use by Third Party Users.

1.2.4 Exclusions: Notwithstanding any other provision of this Agreement, the Services do not cover failures or damages caused by Customer, acts of God (lightning, flooding, etc.), acts of terrorism, war, vandalism, third parties, obsolete equipment, or Meter Interface Units ("MIU"). Any requested repairs of these exclusions must be mutually agreed by both parties under a separate work order or agreement.

- 4.4 B 9 Meters

- Confirm that the meter warranty would not be voided due to operating in water with the following substances (please see table below):

Substance	Unit of Measure	Level	Will the Meter Warranty be voided due to operating in water with substances listed in this table?: YES / NO
Chlorine	PPM	4	NO
Barium	PPM	2	NO
Chromium	PPB	100	NO
Fluoride	PPM	4	NO
Copper	PPM	1.3	NO
Lead	PPB	15	NO
Iron	PPM	1	NO
Manganese	PPM	.5	NO
pH	Scale	6.5 – 8.5	NO
Sulfate	PPM	250	NO
Total Dissolved Solids	PPM	100	NO

- Can you provide an answer for all requirements in 4.5 Implementation Approach section F 1-3?
See attached Zenner USA Implementation Approach



Lastly, can you please provide me a cost breakdown of the recurring annual fees for this proposal that include everything we would need to operate the system, including a customer portal.

RECURRING ANNUAL FEES

Zenner AMI System			
Description	Qty	Unit Price	Annual Maintenance
Android Stealth Handheld Software Android Tablet Device BTIR	2	\$375.00	\$750.00
Stealth Collector - Cellular Ready (ZS-COLLECTOR-CEL)	4	\$350.00	\$1,400.00
Stealth Enhanced Repeater-A/C Powered (ZSER-AC)	5	\$150.00	\$750.00
Stealth Command Software Cloud Hosted by Zenner Base Fee	1	\$1,500.00	\$1,500.00
Stealth Command Software Cloud Hosted per Meter	6,326	\$1.00	\$6,326.00
Total Annual Maintenance			\$10,726.00

Zenner LoRa System Option			
Description	Qty	Unit Price	Annual Maintenance
Android Stealth Handheld Software Android Tablet Device BTIR	2	\$375.00	\$750.00
LoRaWAN Collector	4	\$350.00	\$1,400.00
Stealth Command Software Cloud Hosted by Zenner Base Fee	1	\$1,500.00	\$1,500.00
Stealth Command Software Cloud Hosted per Meter	6,326	\$1.00	\$6,326.00
Total Annual Maintenance			\$ 9,976.00

CUSTOMER PORTAL

Description	Qty	Unit Price
Customer Portal – Base Fee	1	2,500.00
Customer Portal – Per customer		\$1.50 per customer that signs up

Attachment "C"

June 05, 2024

ADDENDUM NO. 1

City of Moscow Project: **ADVANCED METERING INFRASTRUCTURE PROJECT**

The following changes, additions, clarifications, and/or deletions are hereby made a part of Moscow's project **ADVANCED METERING INFRASTRUCTURE PROJECT**, as fully and completely as if the same were entirely set forth in the Plans, Specifications, and Contract Documents. This addendum, as set forth herein, shall become an integral part of any contract entered into by and between the Owner and the Contractor.

CLARIFICATIONS:

Question 1:

- *Are we allowed to bid directly on this, or do we have to have a AMI Partner?*

Answer: We are seeking an entire turnkey solution that would consist of the AMI system, MDMS, and customer portal. So, you would need an AMI partner if you wanted to submit a proposal for this.

Question 2:

- *Is there a breakdown or further information on the material composition of the meter pit lids currently in use throughout the City's system?*

Answer: It is roughly 80% cast iron, 10% concrete, and 10% plastic.

Question 4:

- *What is the current Itron software that the City currently uses?*

Answer: FCS

Question 5:

- *What percentage of the meter pit lids currently have 1-3/4" - 1-7/8" holes for mounting endpoints?*

Answer: We have roughly 70% with 1-7/8" holes in the lid for mounting a radio in the lid.

Question 6:

- *Contact information for BS&A Finance and Utility Billing?*

Answer: bsaonlinesupport@bsasoftware.com
(855) 272-7638 Contact Municipal Software Provider | BS&A Software |
Michigan (bsasoftware.com)

Question 7:

- *Will the City be supplying additional meter boxes?*

Answer: The City is not asking for additional meter boxes to be installed at this time.

Question 8:

- *It is our understanding that the City of Moscow is currently utilizing Itron ERT modules for a drive by solution. Can you provide to us what your current ERT population is (ie 60W, 100W etc). How many of each module do you have?*

Answer: We have 40w, 60W,100W and 100W+ ERT's in the system. Roughly 60% are the 100W ERTs & 100W+

Question 9:

- *Is there a deadline for submitting questions?*

Answer: Questions will stop being responded to by EOD on June 18th.

Question 10:

- *How many originals, copies, and USB's are required for submission?*

Answer: One original copy is required for submission. One USB would be appreciated.

Question 11:

- *What type of meter pit lids are currently in the system?*

Answer: We have a variety of meter pit lids in the system.

Question 12:

- *What percent of coverage does the preliminary propagation study need to cover?*

Answer: A preliminary propagation study provided by proposers can be reduced from 99.5% to 98.5% coverage for expected reads.

ATTACHMENTS

Pre-Proposal Presentation
City of Moscow Purchase Agreement

Receipt of **ADDENDUM NO. 1** must be acknowledged. This document must be signed and attached to the bid to acknowledge its receipt:

Firm Name of Bidder

Signature of Bidder

Title

Date

COMMITTEE / CITY COUNCIL STAFF REPORT

DATE: Monday, October 21, 2024



AGENDA ITEM TITLE

WRF Influent Pump Station Upgrade - Proposal Results & Contract Award (ACTION ITEM) - Scott Bontrager

RESPONSIBLE STAFF

Scott Bontrager, City Engineer

ADDITIONAL PRESENTER(S)

DESCRIPTION

The Water Reclamation Facility (WRF) Influent Pump Station (IPS) Upgrade project includes the replacement of the existing three Archimedes screw pumps, which are original to the 2002 Phase III facility upgrade. The IPS system is relied upon to maintain a seamless and consistent operation by moving all of Moscow's wastewater to the peak of the Reclamation Facilities hydraulic grade line further distributing it to downstream treatment processes. On average, the IPS system pumps 650 million gallons of wastewater per year into the facility. The City published an advertisement for bids on August 29, 2024, and the Engineer's Estimate for construction is \$3,600,000.

Bids were opened on September 24, 2024, at which four (4) bids were received. The Base Bids ranged from \$1,985,000 to \$2,440,000 and Add Alternate #1 (3-year extended warranty) bids ranged from \$36,000 to \$273,000 and Add Alternate #2 (5-year extended warranty) bids ranged from \$59,000 to \$329,000. Of those, the lowest responsive bid received was submitted by Apollo, Inc. with a Base Bid of \$1,985,000 and an Add Alternate #2 bid of \$59,000. A bid analysis is included in the Council packet.

REVIEWED BY

PROPOSED ACTIONS

PROPOSED ACTIONS: Accept the bid from Apollo, Inc., award the contract in the amount of \$2,044,000 for Base Bid and Add Alternate #2, and authorize staff approval of change orders in an amount not to exceed 10% of the contract amount, or take other action deemed appropriate.

STAFF RECOMMENDATION

Accept the bid from Apollo, Inc., award the contract in the amount of \$2,044,000 for Base Bid and Add Alternate #2, and authorize staff approval of change orders in an amount not to exceed 10% of the contract amount.

OTHER RESOURCES

FISCAL IMPACT

Funds for the Water Reclamation Facility Influent Pump Station Upgrade project will be expended from the WRRF Facility Improvements Program (330-230-770-66).

PERSONNEL IMPACT

ATTACHMENTS

1. BidAnalysis_WRFIPS
2. Construction Agreement - WRF IPS_final with attachments_R

September 25, 2024

Scott Bontrager
City of Moscow, Idaho
504 S. Washington Street
Moscow, ID 83843

RE: WATER RECLAMATION FACILITY INFLUENT PUMP STATION UPGRADE

Dear Scott:

On September 24, 2024, the City of Moscow received four bids for the Water Reclamation Facility Influent Pump Station Upgrade project. The apparent low bid was submitted by Apollo, Inc. with a total Base Bid price of \$1,985,000.00, and additive alternative bids for Alt #1 and #2 at \$36,000.00 and \$59,000.00 respectively. A summary of the bids received is included below:

Bidder	Base Bid Total	Add Alt #1	Add Alt #2
Apollo, Inc.	\$1,985,000.00	\$36,000.00	\$59,000.00
RSCI	\$2,182,700.00	\$38,700.00	\$62,700.00
TML Construction	\$2,325,000.00	\$150,000.00	\$250,000.00
Clearwater Construction	\$2,440,000.00	\$273,000.00	\$329,000.00

We focused our review on the base bid cost and the contents of the bid packets to ensure that the required information was present. The required information was outlined in the Advertisement to Bid, Bidder's Checklists, Instructions to Bidders, and Bid Form, which were all provided in the Bid and Contract Documents. We have reviewed the bids to determine general compliance with the administrative requirements of the bidding phase (i.e., whether each bid received was responsive) based on the following:

- Bid received on time in a properly sealed envelope.
- Addenda properly acknowledged.
- Bid Form was completed in general conformance with the Instructions to Bidders.
- Bid Security signed and included.
- Bidder's Idaho Contractor License number included.
- Bid signed.
- Statutory Naming of Subcontractors Form completed (Plumbing, Electrical, HVAC are listed).
- Non-Collusion, Anti-Discrimination, and Drug Free Workplace affidavits completed.

Our review did not include the following:

- Verification of the Bidder's business legal status,
- The signatory's authority to sign, and
- Other possible legal reasons for considering the bids unresponsive.

The bid documents for the lowest bid, from Apollo, Inc., appear to be complete and responsive. The other three bids also appear to be complete and responsive.

J-U-B verified the status of the Idaho Public Works license for all four Bidders. We reviewed the license status on the Idaho Division of Building Safety (DBS) Public Works Contractor License Search (eTRAKiT) website on September 25, 2024, for all listed contractors and the apparent low bidder's subcontractors.

We additionally looked up the bidders on the System for Award Management (SAM) website and confirmed that they have no active exclusions. Registration summaries available from the SAM website are attached.

Based on this evaluation, it is our opinion that Apollo, Inc. is the lowest responsive bidder, and we recommend that they be considered for award of the contract. Based on our review of the contract documents, and upon completion of further review and concurrence by City legal staff, we recommend the City consider awarding the base bid project to Apollo, Inc. for a total contract price of One Million Nine Hundred Eighty-Five Thousand and No/100 Dollars (\$1,985,000.00). We also recommend the City consider awarding Apollo, Inc. Additive Alternative Bid #2 (5-Year Extended Warranty) for a contract price of Fifty-Nine Thousand and No/100 Dollars (\$59,000.00). A copy of Apollo, Inc.'s bid form and the Bid Evaluation are enclosed for reference.

Please conduct any additional review deemed necessary and provide your authorization of Award and we will move forward with the preparation of the Notice of Award and Contract Documents for Apollo, Inc.

If you would like to discuss our review or have additional questions, please do not hesitate to contact me at (208) 746-9010.

Sincerely,



Braxton Klas, P.E.
Project Engineer
J-U-B ENGINEERS, Inc.

Enclosures

- (1) Bid Evaluation
- (1) Apollo, Inc. bid documents
- (1) SAM registration for each bidder

Bid Evaluation Summary

PROJECT: **WRF IPS Upgrade**
 CLIENT: **City of Moscow**
 DATE OPENED: **September 24, 2024**

Criteria #	Evaluation Criteria	Contractor			
		TML Construction, Inc. PO Box 2970 Hayden, ID 83835	Apollo, Inc. 1133 W. Columbia Dr Kennewick, WA 99336	RSCI 333 West Rossi St, Suite 200 Boise, ID 83706	Clearwater Construction 5711 W. Garden Springs Rd Spokane, WA 99224
1	Bid received on time in a properly sealed envelope?	YES	YES	YES	YES
2	Addenda properly acknowledged?	YES	YES	YES	YES
3	Bid schedule completed in general conformance with the Instructions to Bidders?	YES	YES	YES	YES
4	Bid security signed & included?	YES	YES	YES	YES
5	Idaho' Contractor's license number included, if required?	YES	YES	YES	YES
6	Bid signed?	YES	YES	YES	YES
7	Statutory Naming of Subcontractors Form completed, if applicable (Plumbing, Electrical, HVAC)?	YES	YES	YES	YES
8	Non-Collusion Affidavit included?	YES	YES	YES	YES
9	Drug-Free Workplace Affidavit included?	YES	YES	YES	YES
10	Anti-Discrimination Affidavit included?	YES	YES	YES	YES
Total Base Bid Amount		\$ 2,325,000.00	\$ 1,985,000.00	\$ 2,182,700.00	\$ 2,440,000.00
Is Bid Responsive? (Yes/No)		YES	YES	YES	YES

BID ENCLOSED - Water Reclamation Facility Influent Pump Station Upgrade
City of Moscow
504 S Washington St, Moscow ID 83843

**City of Moscow
Latah County, Idaho
Water Reclamation Facility Influent Pump Station Upgrade**

ISPWC - BIDDER'S CHECK LIST

The Bidder's Check List is offered to assist the prospective bidder in checking his/her Bid. This checklist does not relieve the bidder from properly completing his/her Bid.

Check off when completed:

1. ☒ Are all blank spaces filled out on Bid Form?
2. ☒ Have questions arising from the bidding, contract, specifications or plans been submitted to the proper authority and resolved in the proper manner?
3. ☒ Are Bid amounts shown correctly as well as extensions and totals? Recheck for errors or omissions. Both lump sum and unit prices must be shown in words and figures.
4. ☒ Are authorized signatures properly affixed to the Bid form, giving also title, and Idaho Public Works Contractor license number, evidence of authority to sign, etc.?
5. ☒ Have all plumbing, heating, air conditioning and electrical subcontractors to whom work will be awarded been listed, as well as their Idaho Public Works Contractor license number?
6. ☒ Have all Addenda been received and acknowledged with the proper signature on the Bid Form?
7. ☒ In order for a Bid to be considered, the Bid form, Bid Security, naming of subcontractors form, and other required attachments must be placed in a properly addressed sealed envelope and delivered to the specified authority prior to the time designated for the bid opening.
8. ☒ Has Bid Security been enclosed?
9. ☒ Has Bidder performed examinations in accordance with the Instructions to Bidders?
10. ☒ Has Bidder included additional information required in Article 14 of the Instructions to Bidders?

**City of Moscow
Latah County, Idaho
Water Reclamation Facility Influent Pump Station Upgrade**

BID FORM FOR CONSTRUCTION CONTRACT

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 1—OWNER AND BIDDER

1.01 This Bid is submitted to:

- A. City of Moscow
504 S Washington St.
Moscow, ID 83843

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2—ATTACHMENTS TO THIS BID

2.01 The following documents are submitted with and made a condition of this Bid:

- A. Required Bid security;
- B. List of Proposed Subcontractors (Document 00440);
- C. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such authority within the time for acceptance of Bids;
- D. Contractor's license number as evidence of Bidder's State Contractor's License or a covenant by Bidder to obtain said license within the time for acceptance of Bids;
- E. Required Bidder Qualification Statement with supporting data.

ARTICLE 3—BASIS OF BID—LUMP SUM BID

3.01 *Bid Schedule*

- A. Bidder will perform the following Work at the indicated lump sum price:

Bid Item No.	Description	Unit	Quantity	Bid Amount
<u>Base Bid</u>				
1	IPS Upgrade	LS	1	\$1,985,000.00
	Base Bid Total			\$1,985,000.00
<u>Additive Alternates</u>				

2	Add Alt #1: 3-Year Extended Warranty	LS	1	\$ 36,000.00
3	Add Alt #2: 5-Year Extended Warranty	LS	1	\$ 59,000.00

B. Bidder acknowledges that:

1. Lump Sum Bid includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit.

3.02 *Total Bid Price (Lump Sum)*

Total Base Bid (Written in words)	one million nine hundred and eighty five thousand dollars
Total Additive Alternate #1 (Written in words)	Thirty six thousand dollars
Total Additive Alternate #2 (Written in words)	Fifty nine thousand dollars

Time of Completion

- 3.03 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- 3.04 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 4—BIDDER'S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA

4.01 *Bid Acceptance Period*

- A. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

4.02 *Instructions to Bidders*

- A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.

4.03 *Receipt of Addenda*

- A. Bidder hereby acknowledges receipt of the following Addenda: **(Bidder is to complete table)**

Addendum Number	Addendum Date
1	09/13/24

- 4.04 Bidder agrees to comply with Idaho Code 44-1006, regarding employment of Idaho residents.
- 4.05 Bidder agrees to comply with Idaho Code 67-2301, failure to comply with Idaho Code Section 67-2310 shall render such bid unresponsive and void.

ARTICLE 5—BIDDER’S REPRESENTATIONS AND CERTIFICATIONS

5.01 *Bidder’s Representations*

A. In submitting this Bid, Bidder represents the following:

1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.
2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder’s (Contractor’s) safety precautions and programs.
7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.

8. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

5.02 *Bidder's Certifications*

A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.
2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
3. Bidder has not solicited or induced any individual or entity to refrain from bidding.
4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:
 - a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.
 - b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.
 - c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.
 - d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

BIDDER hereby submits this Bid as set forth above:

Bidder:

Apollo Inc.

(typed or printed name of organization)

By:

Amy Jenne

(individual's signature)

Name:

Amy Jenne

(typed or printed)

Title:

Vice president

(typed or printed)

Date:

09/20/24

(typed or printed)

If Bidder is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.

Attest:

Taylor von Olshausen

(individual's signature)

Name:

Taylor von Olshausen

(typed or printed)

Title:

Project Engineer

(typed or printed)

Date:

09/20/24

(typed or printed)

Address for giving notices:

1133 W Columbia Dr.

Kennelworth, VA 99336

Bidder's Contact:

Name:

Amy Jenne

(typed or printed)

Title:

Vp

(typed or printed)

Phone:

909-987-1417

Email:

amy.jenne@apollo-gc.com

Address:

1133 W. Columbia Dr.

Kennelworth VA 99336

Bidder's State of Idaho Public Works Contractor

License No.: (if applicable)

PWC-C-14034-unlimited-1-2-3

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BID BOND (PENAL SUM FORM)

Bidder Name: Apollo, Inc. Address (principal place of business): 1133 W. Columbia Drive Kennewick, WA 99336	Surety Name: Western Surety Company Address (principal place of business): 151 N. Franklin Street Chicago, IL 60606
Owner Name: City of Moscow Address (principal place of business): 504 S Washington St. Moscow, ID 83843	Bid Project (name and location): Water Reclamation Facility Influent Pump Station Upgrade Moscow, ID Bid Due Date: September 24, 2024
Bond Penal Sum: Five percent of the amount of the bid proposal Date of Bond: September 24, 2024 Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth in this Bid Bond, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.	
Bidder Apollo, Inc.	Surety Western Surety Company
By: <u>(Full formal name of Bidder)</u> <u>(Signature)</u>	By: <u>(Full formal name of Surety) (corporate seal)</u> <u>(Signature) (Attach Power of Attorney)</u>
Name: <u>Angie Hausch</u> <u>(Printed or typed)</u>	Name: <u>Kenneth J. Frick</u> <u>(Printed or typed)</u>
Title: <u>CFD Corp Sec</u>	Title: <u>Attorney-in-Fact</u>
Attest: <u>(Signature)</u>	Attest: <u>(Signature)</u>
Name: <u>Taylor von Olshausen</u> <u>(Printed or typed)</u>	Name: <u>Lori McKimmy</u> <u>(Printed or typed)</u>
Title: <u>Project Engineer</u>	Title: <u>Attorney-in-Fact</u>
Notes: (1) Note: Addresses are to be used for giving any required notice. (2) Provide execution by any additional parties, such as joint venturers, if necessary.	

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond will be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder occurs upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation will be null and void if:
 - 3.1. Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2. All Bids are rejected by Owner, or
 - 3.3. Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions does not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.
6. No suit or action will be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety, and in no case later than one year after the Bid due date.
7. Any suit or action under this Bond will be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder must be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Postal Service registered or certified mail, return receipt requested, postage pre-paid, and will be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond will be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute governs and the remainder of this Bond that is not in conflict therewith continues in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

Donna S Martinez, Rod Lewis, Kenneth J Frick, Lori McKimmy, Individually

of Yakima, WA, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind it thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the corporation and all the acts of said Attorney, pursuant to the authority hereby given, are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 21st day of July, 2022.



WESTERN SURETY COMPANY

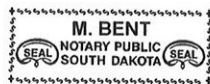
Paul T. Bruflat, Vice President

State of South Dakota }
County of Minnehaha } ss

On this 21st day of July, 2022, before me personally came Paul T. Bruflat, to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires

March 2, 2026



M. Bent, Notary Public

CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said corporation this 24th day of September, 2024.



WESTERN SURETY COMPANY

L. Nelson, Assistant Secretary

Authorizing By-Law

ADOPTED BY THE SHAREHOLDERS OF WESTERN SURETY COMPANY

This Power of Attorney is made and executed pursuant to and by authority of the following By-Law duly adopted by the shareholders of the Company.

Section 7. All bonds, policies, undertakings, Powers of Attorney, or other obligations of the corporation shall be executed in the corporate name of the Company by the President, Secretary, and Assistant Secretary, Treasurer, or any Vice President, or by such other officers as the Board of Directors may authorize. The President, any Vice President, Secretary, any Assistant Secretary, or the Treasurer may appoint Attorneys in Fact or agents who shall have authority to issue bonds, policies, or undertakings in the name of the Company. The corporate seal is not necessary for the validity of any bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation. The signature of any such officer and the corporate seal may be printed by facsimile.

City of Moscow
Latah County, Idaho
Water Reclamation Facility Influent Pump Station Upgrade

Naming of Subcontractors Form

Per Idaho Code, 67-2310, Bidder shall include in his or her Bid the names and address, and Idaho Public Works Contractor License Number of the Subcontractors who shall, in the event the Bidder secures the Contract, subcontract the plumbing, heating and air-conditioning work, and electrical work under the general Contract. Failure to name Subcontractors as required, or indicate "Not Applicable" shall render any Bid submitted by the Bidder unresponsive and void.

Subcontractor Name and Address

Classification

License Number

Plumbing

N/A

N/A

N/A

Heating and Air-Conditioning

N/A

N/A

N/A

Electrical

^{AB}
~~Strom Electric~~
Shannon Industrial Contractors

^{AB}
~~Electrical~~
Electrical

^{AB}
~~022495 AAA-4~~
PWC-C-17037-U-1-3-4

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City of Moscow
Latah County, Idaho
Water Reclamation Facility Influent Pump Station Upgrade

BIDDER'S NON-COLLUSION AFFIDAVIT

State of WA)SS
County of Benton)

Bid for City of Moscow WRF IPS being first duly sworn, deposes and says that he/she is (sole owner, a partner, president, secretary, etc.) of Apollo Inc.

The party making the foregoing bid; that such bid is not made in the interest of or on behalf of any undisclosed person, partnership, company, association, organization, or corporation; that such bid is genuine and not collusive or sham; that said bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, nor that anyone shall refrain from bidding; that said bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of said bidder or of any other bidder, nor to fix any overhead, profit, or cost element of such bid price, nor of that of any other bidder, nor to secure any advantage against the public body awarding the contract or anyone interested in the proposed contract; that all statements contained in such bid are true; and, further, that said bidder has not directly or indirectly, submitted his bid price or any breakdown thereof, nor the contents thereof, nor divulged information or data relative thereto, nor paid and will not pay fee in connection therewith to any corporation, partnership, company, association, organization, bid depository, nor to any member or agent thereof, nor to any other individual except to such person or persons as have a partnership or other financial interest with said bidder in his general business.

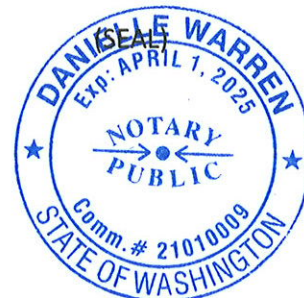
Signed: Amy Anne

Title: Vp

Subscribed and sworn to before me this

Date: 09/20/2024

Notary Public



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City of Moscow
Latah County, Idaho
Water Reclamation Facility Influent Pump Station Upgrade

BIDDER'S DRUG-FREE WORKPLACE AFFIDAVIT

CONTRACTOR'S AFFIDAVIT
CONCERNING ALCOHOL AND DRUG-FREE WORKPLACE

STATE OF Washington

COUNTY OF Benton

The undersigned being duly sworn upon oath, deposes and says that Apollo Inc complies
(Contractor Name)

with the provision of Section 72-1717 Idaho Code (Drug Free Workplace program) that

Apollo Inc provides a drug-free workplace program that complies with the provisions
(Contractor Name)

of Idaho Code, Title 72, Chapter 17 and will maintain such program throughout the life of a state

construction contract and that Apollo Inc shall subcontract work only to subcontractors
(Contractor Name)

meeting the requirements of Idaho Code, Section 72-1717(1) (a).

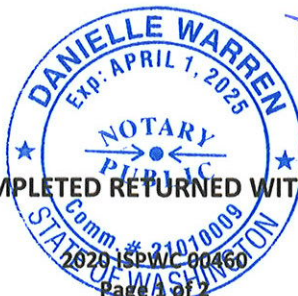
Apollo Inc.
Name of Contractor

1133 W. Columbia Dr.
Address

Kennelworth, WA 99336

By Amyanne
(Signature)

Subscribed and sworn to before me this 20th day of September, 2024.



Daniel Warren
Notary Public for Benton Co. - Apollo Inc.
Residing at Benton Co.
My Commission Expires 04/01/2025

THIS PAGE MUST BE COMPLETED RETURNED WITH YOUR BID DOCUMENTS

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City of Moscow
Latah County, Idaho
Water Reclamation Facility Influent Pump Station Upgrade

ANTI-DISCRIMINATION AFFIDAVIT

STATE OF Washington :

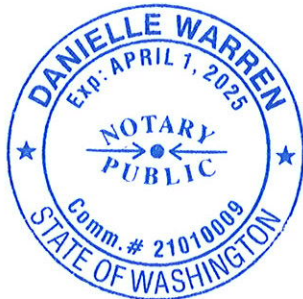
COUNTY OF Benton :

The Bidder hereby covenants, stipulates and agrees that no person shall be discriminated against in the bidding of the services and/or materials herein under and that the Bidder shall not refuse to hire any person therefore because of such person's race, color, gender, religion, sex (including pregnancy), national origin, physical or mental disability, age, marital or familial status, sexual orientation, and gender expression or identity. Also, the Bidder will in no manner discriminate against any person because of such person's race, color, gender, religion, sex (including pregnancy), national origin, physical or mental disability, age, marital or familial status, sexual orientation, and gender expression or identity. Any such discrimination shall be deemed a violation of this Bid and shall render this Bid subject to forfeiture.

Amy [Signature]

Contractor's Signature

Subscribed and sworn to before me this 20th day of September, 2024.



Danielle Warren

Notary Public

State of Washington

Residing at Benton Co.

My Commission Expires 04/01/2025

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AUTHORIZATION TO SIGN

March 2023

Please know that, Angie Haisch; Secretary/Treasurer/CFO, Ryan Ratchford; Vice President, Amy Jenne; Vice President, David Haight; Vice President have full authorization to sign legally binding documents on behalf of Apollo, Inc.



Bruce Ratchford, President Apollo, Inc.

3/29/2023

Date



APOLLO INC

Unique Entity ID HFPRGNBX57F5	CAGE / NCAGE 1BFU9	Purpose of Registration All Awards
Registration Status Active Registration	Expiration Date Oct 19, 2024	
Physical Address 1133 W Columbia DR Kennewick, Washington 99336-3472 United States	Mailing Address 1133 W Columbia DR PO Box 7305 Kennewick, Washington 99336-3459 United States	

Business Information

Doing Business as (blank)	Division Name (blank)	Division Number (blank)
Congressional District Washington 04	State / Country of Incorporation Washington / United States	URL www.apollo-gc.com

Registration Dates

Activation Date Oct 24, 2023	Submission Date Oct 20, 2023	Initial Registration Date Mar 11, 2002
--	--	--

Entity Dates

Entity Start Date Aug 30, 1993	Fiscal Year End Close Date Dec 31
--	---

Immediate Owner

CAGE (blank)	Legal Business Name (blank)
------------------------	---------------------------------------

Highest Level Owner

CAGE (blank)	Legal Business Name (blank)
------------------------	---------------------------------------

Executive Compensation

Registrants in the System for Award Management (SAM) respond to the Executive Compensation questions in accordance with Section 6202 of P.L. 110-252, amending the Federal Funding Accountability and Transparency Act (P.L. 109-282). This information is not displayed in SAM. It is sent to USAspending.gov for display in association with an eligible award. Maintaining an active registration in SAM demonstrates the registrant responded to the questions.

Proceedings Questions

Registrants in the System for Award Management (SAM.gov) respond to proceedings questions in accordance with FAR 52.209-7, FAR 52.209-9, or 2. C.F.R. 200 Appendix XII. Their responses are displayed in the responsibility/qualification section of SAM.gov. Maintaining an active registration in SAM.gov demonstrates the registrant responded to the proceedings questions.

Exclusion Summary

Active Exclusions Records?

No

SAM Search Authorization

I authorize my entity's non-sensitive information to be displayed in SAM public search results:

Yes

Entity Types

Business Types

Entity Structure Corporate Entity (Not Tax Exempt)	Entity Type Business or Organization	Organization Factors Subchapter S Corporation
Profit Structure For Profit Organization		

Socio-Economic Types

Native American Owned

Check the registrant's Reps & Certs, if present, under FAR 52.212-3 or FAR 52.219-1 to determine if the entity is an SBA-certified HUBZone small business concern. Additional small business information may be found in the SBA's Dynamic Small Business Search if the entity completed the SBA supplemental pages during registration.

Federally Recognized Native American Entity

American Indian Owned

Financial Information

Accepts Credit Card Payments Yes	Debt Subject To Offset No
EFT Indicator 0000	CAGE Code 1BFU9

Points of Contact

Electronic Business

 JANELLE LAFLAMME, Business Development	1201 W Columbia Drive Kennewick, Washington 99336 United States
---	---

Government Business

 David Haight, Vice President	WWW.APOLLO-GC.COM Kennewick, Washington 99336 United States
RYAN RATCHFORD	1201 W. Columbia Drive Kennewick, Washington 99336 United States

Past Performance

 RYAN RATCHFORD	1201 W Columbia Drive Kennewick, Washington 99336 United States
---	---

Service Classifications

NAICS Codes

Primary	NAICS Codes	NAICS Title
Yes	221310	Water Supply And Irrigation Systems
	236210	Industrial Building Construction
	236220	Commercial And Institutional Building Construction
	237110	Water And Sewer Line And Related Structures Construction
	237310	Highway, Street, And Bridge Construction
	237990	Other Heavy And Civil Engineering Construction
	238910	Site Preparation Contractors
	562910	Remediation Services

Disaster Response

Yes, this entity appears in the disaster response registry.

Yes, this entity require bonding to bid on contracts.

Bonding Levels	Dollars
Construction Aggregate	\$350,000,000.00
Construction Per Contract	\$125,000,000.00

States	Counties	Metropolitan Statistical Areas
Idaho	(blank)	(blank)
Oregon		
Washington		



RECORD STEEL AND CONSTRUCTION, INC.

Unique Entity ID G47MZHxDUE63	CAGE / NCAGE OJR90	Purpose of Registration All Awards
Registration Status Active Registration	Expiration Date Jun 19, 2025	
Physical Address 333 W Rossi ST STE 200 Boise, Idaho 83706-3806 United States	Mailing Address 333 W ROSSI, Suite 200 Boise, Idaho 83706 United States	

Business Information

Doing Business as RSCI	Division Name (blank)	Division Number (blank)
Congressional District Idaho 02	State / Country of Incorporation Idaho / United States	URL http://www.rscigroup.com

Registration Dates

Activation Date Jun 21, 2024	Submission Date Jun 19, 2024	Initial Registration Date Jan 3, 2002
--	--	---

Entity Dates

Entity Start Date May 16, 1988	Fiscal Year End Close Date Dec 31
--	---

Immediate Owner

CAGE (blank)	Legal Business Name (blank)
------------------------	---------------------------------------

Highest Level Owner

CAGE (blank)	Legal Business Name (blank)
------------------------	---------------------------------------

Executive Compensation

Registrants in the System for Award Management (SAM) respond to the Executive Compensation questions in accordance with Section 6202 of P.L. 110-252, amending the Federal Funding Accountability and Transparency Act (P.L. 109-282). This information is not displayed in SAM. It is sent to USAspending.gov for display in association with an eligible award. Maintaining an active registration in SAM demonstrates the registrant responded to the questions.

Proceedings Questions

Registrants in the System for Award Management (SAM.gov) respond to proceedings questions in accordance with FAR 52.209-7, FAR 52.209-9, or 2. C.F.R. 200 Appendix XII. Their responses are displayed in the responsibility/qualification section of SAM.gov. Maintaining an active registration in SAM.gov demonstrates the registrant responded to the proceedings questions.

Exclusion Summary

Active Exclusions Records?

No

SAM Search Authorization

I authorize my entity's non-sensitive information to be displayed in SAM public search results:

Yes

Entity Types

Business Types

Entity Structure Corporate Entity (Not Tax Exempt)	Entity Type Business or Organization	Organization Factors (blank)
Profit Structure For Profit Organization		

Socio-Economic Types**Self-Certified HUBZone Joint Venture**

Check the registrant's Reps & Certs, if present, under FAR 52.212-3 or FAR 52.219-1 to determine if the entity is an SBA-certified HUBZone small business concern. Additional small business information may be found in the SBA's Dynamic Small Business Search if the entity completed the SBA supplemental pages during registration.

Financial Information

Accepts Credit Card Payments
No

Debt Subject To Offset
No

EFT Indicator
0000

CAGE Code
0JR90

Points of Contact**Electronic Business**


ZEKE JOHNSON

**333 W ROSSI, Suite 200
Boise, Idaho 83706
United States**

Ginger Henderson

333 W ROSSI, Suite 200
Boise, Idaho 83706
United States

Government Business


ZEKE JOHNSON

**333 W ROSSI, Suite 200
Boise, Idaho 83706
United States**

Lauren Jared

333 W ROSSI, Suite 200
Boise, Idaho 83706
United States

Past Performance


ZEKE JOHNSON

**333 W ROSSI, Suite 200
Boise, Idaho 83706
United States**

Lauren Jared, Marketing Director

333 W Rossi ST Suite 200
Boise, Idaho 83706
United States

Service Classifications**NAICS Codes**

Primary	NAICS Codes	NAICS Title
Yes	236220	Commercial And Institutional Building Construction
	221320	Sewage Treatment Facilities
	237110	Water And Sewer Line And Related Structures Construction
	237120	Oil And Gas Pipeline And Related Structures Construction
	237310	Highway, Street, And Bridge Construction
	237990	Other Heavy And Civil Engineering Construction
	238110	Poured Concrete Foundation And Structure Contractors
	238120	Structural Steel And Precast Concrete Contractors
	238190	Other Foundation, Structure, And Building Exterior Contractors
	238210	Electrical Contractors And Other Wiring Installation Contractors
	238220	Plumbing, Heating, And Air-Conditioning Contractors
	238290	Other Building Equipment Contractors

Disaster Response

This entity does not appear in the disaster response registry.



CLEARWATER CONSTRUCTION AND MANAGEMENT, L.L.C.

Unique Entity ID RKU7A4R4MUZ6	CAGE / NCAGE 4LDF8	Purpose of Registration All Awards
Registration Status Active Registration	Expiration Date Jan 4, 2025	
Physical Address 5711 W Garden Springs RD Spokane, Washington 99224-5302 United States	Mailing Address 5711 W Garden Springs RD Spokane, Washington 99224 United States	

Business Information

Doing Business as CLEARWATER CONSTRUCTION & MANAGEMENT LLC	Division Name (blank)	Division Number (blank)
Congressional District Washington 05	State / Country of Incorporation Washington / United States	URL (blank)

Registration Dates

Activation Date Jan 9, 2024	Submission Date Jan 5, 2024	Initial Registration Date Jun 12, 2014
---------------------------------------	---------------------------------------	--

Entity Dates

Entity Start Date Oct 1, 2006	Fiscal Year End Close Date Dec 31
---	---

Immediate Owner

CAGE (blank)	Legal Business Name (blank)
------------------------	---------------------------------------

Highest Level Owner

CAGE (blank)	Legal Business Name (blank)
------------------------	---------------------------------------

Executive Compensation

Registrants in the System for Award Management (SAM) respond to the Executive Compensation questions in accordance with Section 6202 of P.L. 110-252, amending the Federal Funding Accountability and Transparency Act (P.L. 109-282). This information is not displayed in SAM. It is sent to USAspending.gov for display in association with an eligible award. Maintaining an active registration in SAM demonstrates the registrant responded to the questions.

Proceedings Questions

Registrants in the System for Award Management (SAM.gov) respond to proceedings questions in accordance with FAR 52.209-7, FAR 52.209-9, or 2. C.F.R. 200 Appendix XII. Their responses are displayed in the responsibility/qualification section of SAM.gov. Maintaining an active registration in SAM.gov demonstrates the registrant responded to the proceedings questions.

Exclusion Summary

Active Exclusions Records?

No

SAM Search Authorization

I authorize my entity's non-sensitive information to be displayed in SAM public search results:

Yes

Entity Types

Business Types

Entity Structure Corporate Entity (Not Tax Exempt)	Entity Type Business or Organization	Organization Factors Limited Liability Company
--	--	--

Profit Structure

For Profit Organization

Socio-Economic Types

Self Certified Small Disadvantaged Business

Check the registrant's Reps & Certs, if present, under FAR 52.212-3 or FAR 52.219-1 to determine if the entity is an SBA-certified HUBZone small business concern. Additional small business information may be found in the SBA's Dynamic Small Business Search if the entity completed the SBA supplemental pages during registration.

Financial Information

Accepts Credit Card Payments	Debt Subject To Offset
No	No
EFT Indicator	CAGE Code
0000	4LDF8

Points of Contact

Electronic Business

	5711 W Garden Springs RD
Korie Palmer, Project Manager	Spokane, Washington 99224
	United States

Government Business

	5711 W Garden Springs RD
Korie Palmer, Project Manager	Spokane, Washington 99224
	United States

Past Performance

	5711 W. Garden Springs Road
Paul Clary, President	Spokane, Washington 99224
	United States
Korie Palmer, Project Manager	5711 W Garden Springs RD
	Spokane, Washington 99224
	United States

Service Classifications

NAICS Codes

Primary	NAICS Codes	NAICS Title
Yes	221320	Sewage Treatment Facilities
	221111	Hydroelectric Power Generation
	221310	Water Supply And Irrigation Systems
	236210	Industrial Building Construction
	237110	Water And Sewer Line And Related Structures Construction
	237310	Highway, Street, And Bridge Construction
	237990	Other Heavy And Civil Engineering Construction
	238110	Poured Concrete Foundation And Structure Contractors

Disaster Response

Yes, this entity appears in the disaster response registry.

No, this entity does not require bonding to bid on contracts.

Bonding Levels	Dollars
	(blank)

Montana
Washington



TML CONSTRUCTION, INC.

Unique Entity ID P1EVV2BYLH89	CAGE / NCAGE 1P3W5	Purpose of Registration All Awards
Registration Status Active Registration	Expiration Date Jun 11, 2025	
Physical Address 10186 N Atlas RD Hayden, Idaho 83835-9851 United States	Mailing Address PO Box 2970 Hayden, Idaho 83835-2970 United States	

Business Information

Doing Business as TML CONSTRUCTION INC	Division Name (blank)	Division Number (blank)
Congressional District Idaho 01	State / Country of Incorporation Idaho / United States	URL (blank)

Registration Dates

Activation Date Jun 13, 2024	Submission Date Jun 11, 2024	Initial Registration Date Apr 28, 2000
--	--	--

Entity Dates

Entity Start Date Jul 13, 1999	Fiscal Year End Close Date Oct 31
--	---

Immediate Owner

CAGE (blank)	Legal Business Name (blank)
------------------------	---------------------------------------

Highest Level Owner

CAGE (blank)	Legal Business Name (blank)
------------------------	---------------------------------------

Executive Compensation

Registrants in the System for Award Management (SAM) respond to the Executive Compensation questions in accordance with Section 6202 of P.L. 110-252, amending the Federal Funding Accountability and Transparency Act (P.L. 109-282). This information is not displayed in SAM. It is sent to USAspending.gov for display in association with an eligible award. Maintaining an active registration in SAM demonstrates the registrant responded to the questions.

Proceedings Questions

Registrants in the System for Award Management (SAM.gov) respond to proceedings questions in accordance with FAR 52.209-7, FAR 52.209-9, or 2. C.F.R. 200 Appendix XII. Their responses are displayed in the responsibility/qualification section of SAM.gov. Maintaining an active registration in SAM.gov demonstrates the registrant responded to the proceedings questions.

Exclusion Summary

Active Exclusions Records?

No

SAM Search Authorization

I authorize my entity's non-sensitive information to be displayed in SAM public search results:

Yes

Entity Types

Business Types

Entity Structure Corporate Entity (Not Tax Exempt)	Entity Type Business or Organization	Organization Factors (blank)
Profit Structure For Profit Organization		

Socio-Economic Types

Check the registrant's Reps & Certs, if present, under FAR 52.212-3 or FAR 52.219-1 to determine if the entity is an SBA-certified HUBZone small business concern. Additional small business information may be found in the SBA's Dynamic Small Business Search if the entity completed the SBA supplemental pages during registration.

Financial Information

Accepts Credit Card Payments No	Debt Subject To Offset No
EFT Indicator 0000	CAGE Code 1P3W5

Points of Contact

Electronic Business

 BRIAN PETERSEN	PO Box 2970 Hayden, Idaho 83835 United States
BRIAN PETERSEN	PO Box 2970 Hayden, Idaho 83835 United States

Government Business

 BRIAN PETERSEN	PO Box 2970 Hayden, Idaho 83835 United States
Brian Petersen	PO Box 2970 Hayden, Idaho 83835 United States

Service Classifications

NAICS Codes

Primary	NAICS Codes	NAICS Title
Yes	221320	Sewage Treatment Facilities
	236210	Industrial Building Construction
	236220	Commercial And Institutional Building Construction
	237110	Water And Sewer Line And Related Structures Construction
	237310	Highway, Street, And Bridge Construction
	237990	Other Heavy And Civil Engineering Construction
	238110	Poured Concrete Foundation And Structure Contractors
	238160	Roofing Contractors

Disaster Response

This entity does not appear in the disaster response registry.

**CONSTRUCTION AGREEMENT
FOR THE WATER RECLAMATION FACILITY
INFLUENT PUMP STATION UPGRADE PROJECT
BETWEEN CITY OF MOSCOW, IDAHO
AND APOLLO, INC.**

THIS CONSTRUCTION AGREEMENT FOR THE WATER RECLAMATION FACILITY INFLUENT PUMP STATION UPGRADE PROJECT BETWEEN CITY OF MOSCOW, IDAHO AND APOLLO, INC. (hereinafter "Agreement"), dated this ____ day of _____, 2024, is made and entered into by and between City of Moscow, Idaho, a municipal corporation of the State of Idaho, 206 East Third Street, Moscow, Idaho, 83843 (hereinafter "CITY"), and Apollo, Inc., 1133 West Columbia Drive, Kennewick, Washington, 99336 (hereinafter "CONTRACTOR"):

W I T N E S S E T H:

WHEREAS, pursuant to the invitation of CITY, extended through an "Invitation to Bid", see Attachment "A", CONTRACTOR submitted a Bid Proposal containing an offer invited by said invitation; and

WHEREAS, CITY has determined that said offer was the lowest responsive Bid Proposal; and

WHEREAS, CITY has accepted CONTRACTOR's Bid Proposal;

NOW THEREFORE, the Parties to this Agreement, in consideration of the mutual covenants and stipulations set out, agree as follows:

**ARTICLE 1.
CONTRACT DOCUMENTS**

The Contract Documents which comprise the entire Agreement between CITY and CONTRACTOR concerning the work to be performed, are this Agreement, pages one (1) through seven (7) and the following:

1. Water Reclamation Facility Influent Pump Station Upgrade: August 2024 Bid and Contract Documents, Attachment "A" consisting of 434 pages;
2. Bid Proposal of CONTRACTOR, dated September 20, 2024, Attachment "B", consisting of 21 pages;
3. Performance and Payment Bonds and Insurance Certificates;
4. Addenda, if applicable, Attachment "C", consisting of 12 pages; and
5. Change Orders, which may be delivered or issued after the effective date of this Agreement.

There are no Contract Documents other than those listed in Article 1. This Agreement may only be amended by change order as provided in the General Conditions of Attachment "A".

ARTICLE 2. WORK

CONTRACTOR shall complete the entire work as specified, indicated and required under the Contract Documents, contained herein under Article 1. for CITY project (hereinafter "Project") titled:

THE WATER RECLAMATION FACILITY INFLUENT PUMP STATION UPGRADE PROJECT

ARTICLE 3. CONTRACT TIME/SUBSTANTIAL COMPLETION

The work to be performed pursuant to this Agreement shall be completed as follows, unless adjustment of the Agreement time is made in accordance with the provisions of the Contract Documents:

1. CONTRACTOR shall begin work in conformance with the Contract Documents.
2. Submittal, Fabrication, and Delivery of Pumps shall occur within 330 calendar days of the Notice to Proceed for the first pump, with delivery of the remaining pumps within an additional 30 calendar days.
3. Substantial Completion shall be within 150 calendar days of receipt of equipment (beginning with receipt of the first pump).
4. Final Completion of all work shall be accomplished within thirty (30) calendar days after receiving Substantial Completion.

CONTRACTOR and CITY recognize that time is of the essence and that CITY will suffer financial loss if the Project is not completed within the time specified above, unless approved extensions thereof are permitted in accordance with the terms of the Contract Documents. The Parties also recognize the delays, expense, and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by CITY if the Project is not completed on time. Accordingly, instead of requiring any such proof, CITY and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty), CONTRACTOR shall pay CITY Two Thousand Dollars (\$2,000) for each day that expires after the time specified above for the Submittal, Fabrication, and Delivery of Pumps Milestone and Two Thousand Dollars (\$2,000) for each day that expires after the time specified above for Substantial Completion until the Project is substantially complete. After Substantial Completion, if CONTRACTOR shall neglect, refuse, or fail to complete the remaining Project within the Time of Completion or by any proper extension thereof granted by CITY, CONTRACTOR shall pay CITY One Thousand Dollars (\$1,000) for each day that expires after the time specified above for completion, until the Project is completed and ready for final payment.

ARTICLE 4. CONTRACT SUM

CITY shall pay CONTRACTOR for completion of the work for the Project in accordance with the Contract Documents in current funds in the amount of Two Million, Forty-Four Thousand Dollars (\$2,044,000.00), as submitted by CONTRACTOR. One Million, Nine Hundred Eight-Five Thousand Dollars (\$1,985,000) is for the Base Bid and Fifty-Nine Thousand Dollars (\$59,000) is

for the Add Alternate #2. In no event shall the Contract amount exceed CONTRACTOR's total bid amount of Two Million, Forty-Four Thousand Dollars (\$2,044,000.00), unless otherwise authorized by CITY by written agreement. Said Contract Sum shall be paid in accordance with the Contract Documents.

ARTICLE 5. TERMINATION

Termination provisions are governed by the attached Contract Documents.

ARTICLE 6. INDEPENDENT CONTRACTOR

The Parties warrant by their signatures that no employer-employee relationship is established between CONTRACTOR and CITY by the terms of this Agreement. It is understood by the Parties hereto that CONTRACTOR is an independent contractor and, as such, neither CONTRACTOR nor CONTRACTOR's employees, agents, representatives or subcontractors, if any, are employees of CITY for purposes of tax, retirement system, or social security (FICA) withholding.

ARTICLE 7. SCOPE OF SERVICES

CONTRACTOR shall perform all work required by the Contract Documents. All work shall be completed in accordance with the specifications and plans established for this Project.

ARTICLE 8. HOLD HARMLESS/INDEMNIFICATION

In addition to other rights granted to CITY by the Contract Documents, CONTRACTOR agrees to indemnify, defend, and hold harmless CITY, its officers, agents, employees, and engineers, from and against any and all losses, lawsuits, actions, claims, judgements for damages, or any injuries or damages received or sustained by any person, persons, or property, and losses, expenses, and other costs, including litigation costs and attorney's fees, arising out of, resulting from, or in connection with the acts, performances, activities, errors or omissions by CONTRACTOR, CONTRACTOR's servants, agents, officers, employees, representatives, guests, business invitees or its subcontractors; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any claims or amounts recovered from any infringements of patent, trademark or copyright; or from any claims or amounts arising out of or recovered under the Workmen's Compensation Act or any other law, ordinance, order, or decree.

ARTICLE 9. CONFLICT OF INTEREST

CONTRACTOR covenants that it presently has no interest and shall not acquire any interest, direct or indirect, in the Project, which would conflict in any manner or degree with the performance of CONTRACTOR's services hereunder. CONTRACTOR further covenants that, in performing this Agreement, CONTRACTOR shall employ no person who has any such interest. Should any

conflict of interest arise during the performance of this Agreement, CONTRACTOR shall immediately disclose such conflict to CITY.

ARTICLE 10. ENTIRE AGREEMENT, MODIFICATION AND ASSIGNABILITY

This Agreement and the attachments hereto contain the entire Agreement between the Parties, and no statements, promises, or inducements made by either Party, or agents of either Party are valid or binding unless contained herein. This Agreement may not be enlarged, modified or altered except upon written agreement signed by the Parties hereto. CONTRACTOR may not subcontract or assign its rights (including the right to compensation) or duties arising hereunder, other than as provided within the Contract Documents, without the prior written consent and express authorization of CITY.

ARTICLE 11. LICENSES AND ADHERENCE TO LAW REQUIRED

CONTRACTOR represents that it possesses the skill and experience necessary and all licenses required to perform the services under this Agreement. CONTRACTOR further agrees to comply with all applicable Federal, State and Local statutes and regulations in the performance of the services hereunder, and are hereby made a part of this Agreement and shall be adhered to at all times. Violation of any of these statutes or regulations by CONTRACTOR shall be deemed material and shall subject CONTRACTOR to termination of this Agreement for cause. No pleas of misunderstanding or ignorance on the part of CONTRACTOR will, in any way, serve to modify the provisions of this requirement. CONTRACTOR and its surety shall indemnify, defend and hold harmless CITY and its employees, agents, engineers and representatives against any claim or liability arising from or based on the violation of any such laws, codes, ordinances, or regulations, whether by CONTRACTOR, CONTRACTOR's employees, or its subcontractors.

Anti-Boycott Against Israel Act. CONTRACTOR certifies it is not currently engaged in, and will not for the duration of this Agreement engage in, a boycott of goods and services from Israel or territories under its control. Failure to comply with Idaho Code § 67-2346 will result in this Agreement being void as against public policy.

Ownership or Operation by China. Pursuant to Idaho Code § 67-2359, CONTRACTOR certifies that it is not currently owned or operated by the government of China and will not for the duration of this Agreement be owned or operated by the government of China. The terms in this section defined in Idaho Code § 67-2359 shall have the meaning defined therein.

Employment of Residents of Idaho. Pursuant to Idaho Code § 44-1001, CONTRACTOR certifies that it will employ ninety-five percent (95%) bona fide Idaho residents, as that term is defined in Idaho Code § 44-1003, as employees for the completion of the terms required in this Agreement. If CONTRACTOR employs less than fifty (50) employees on this Project, CONTRACTOR may employ up to ten percent (10%) nonresidents for the completion of the terms required in this Agreement. In all cases, CONTRACTOR agrees to give a preference to bona fide Idaho residents. The Parties agree that if Project involves the expenditure of federal aid funds, that this clause will not be enforced in a manner that conflicts with federal statutes prescribing a labor preference for veterans or prohibiting unlawful discrimination or preferences among United States citizens.

Not an Abortion Provider or Affiliate. Pursuant to Idaho Code Title 18 Chapter 87, CONTRACTOR certifies that it is not an abortion provider or an affiliate of any abortion provider and does not, and will not for the duration of this Agreement, authorize the use of state facilities or public funds for abortion related activity.

Anti-Boycott of Certain Sectors. Pursuant to Idaho Code § 67-2347A, CONTRACTOR certifies that it is not engaged in, and will not for the duration of this Agreement engage in, a boycott of any individual or company because the individual or company 1) engages in or supports the exploration, production, utilization, transportation, sale or manufacture of fossil fuel-based energy, timber, minerals, hydroelectric power, nuclear power, or agriculture or 2) engages in or supports the manufacture, distribution, sale, or use of firearms, as defined in Idaho Code § 18-3302 (2)(d).

ARTICLE 12. EMPLOYMENT DISCRIMINATION

It is illegal under the U.S. Federal law to discriminate against an employee, either intentionally or through disparate impact, on account of race, color, gender, religion, sex (including pregnancy), national origin, physical or mental disability, age, marital or familial status, sexual orientation, and gender expression or identity. CONTRACTOR shall not discriminate against any employee or applicant for employment. CONTRACTOR's action under this Section shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation and selection for training, including apprenticeship. CONTRACTOR agrees to post in conspicuous places, available to employees and other applicants for employment, notices setting forth the provisions of this non-discrimination Section.

ARTICLE 13. LEGAL FEES

In the event either Party incurs legal expenses to enforce the terms and conditions of this Agreement, the prevailing Party is entitled to recover reasonable attorney's fees and other costs and expenses, whether the same are incurred with or without a lawsuit.

ARTICLE 14. JURISDICTION, VENUE AND NONWAIVER

It is agreed that this Agreement shall be construed under and governed by the laws of the State of Idaho. In the event of litigation concerning it, it is agreed that proper venue shall be the District Court of the Second Judicial District of the State of Idaho, in and for the County of Latah. Failure of CITY to exercise any of the rights under this Agreement, or breach thereof, shall not be deemed to be a waiver of such right or a waiver of any subsequent breach.

ARTICLE 15. SPECIAL WARRANTY

CONTRACTOR warrants that nothing of monetary value has been given, promised or implied as remuneration or inducement to enter into this Agreement. CONTRACTOR declares that no

improper personal, political or social activities have been used or attempted in an effort to influence the outcome of the competition, discussion, or negotiation leading to the award of this Agreement. Any such activity by CONTRACTOR shall make this Agreement null and void. CONTRACTOR further warrants that all materials and goods supplied under this Agreement shall be of good merchantable quality and that all services will be performed in a good workmanlike manner. CONTRACTOR acknowledges that it will be liable for any breach of this warranty.

ARTICLE 16. COMMUNICATIONS

Such communications as are required by this Agreement shall be satisfied by mailing or by personal delivery to the Parties at the following address:

CONTRACTOR:

Apollo, Inc.
Amy Jenne
1133 W. Columbia Drive
Kennewick, WA 99336

CITY:

City of Moscow
Engineering Division
206 East Third Street
PO Box 9203
Moscow, ID 83843

ARTICLE 17. NON-APPROPRIATIONS

This Agreement is contingent upon CITY receiving the necessary funding to cover the obligations of CITY. In the event that such funding is not received or appropriated, then, and in that event, CITY's obligations under this Agreement shall cease and each Party shall be released from further performance under this Agreement without any liability to the other Party, and CONTRACTOR shall be entitled to receive just and equitable compensation for any work satisfactorily completed hereunder.

ARTICLE 18. APPROVAL REQUIRED AND SEVERABILITY

This Agreement shall not become effective or binding until approved by CITY. If any part of this Agreement is held unenforceable, the remaining portions of the Agreement will, nevertheless, remain in full force and effect so long as the remainder of this Agreement is capable of completion.

ARTICLE 19. EXECUTION

IN WITNESS WHEREOF, said CONTRACTOR and CITY have caused this Agreement to be executed on the day and year first above written.

This Agreement may be executed by the use of electronic signatures pursuant to Idaho Code § 28-50-107. If electronic signatures are utilized, the acknowledgement before a notary is not required.

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Page 310

Attachment "A"

City of Moscow

Latah County, Idaho



Water Reclamation Facility Influent Pump Station Upgrade

AUGUST 2024

BID AND CONTRACT DOCUMENTS

ENGINEER:



J-U-B ENGINEERS, Inc

7825 Meadowlark Way
Coeur d'Alene, Idaho 83815
(208) 762-8787
www.jub.com

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BID AND CONTRACT DOCUMENTS

City of Moscow Latah County, Idaho Water Reclamation Facility Influent Pump Station Upgrade AUGUST 2024

NOTICE AND DISCLAIMER

THE PLANS AND/OR SPECIFICATIONS (DOCUMENTS) ARE THE PROPERTY OF J-U-B ENGINEERS, INC. ("J-U-B") AND BY USING THE DOCUMENTS YOU AGREE TO BE BOUND BY THE TERMS AND CONDITIONS IN THIS NOTICE AND DISCLAIMER.

THE USE OF THE DOCUMENTS CREATES NO DUTY IN CONTRACT, TORT, EQUITY OR OTHERWISE OF J-U-B TO THE USER. THE USER SHALL NOT (I) DISSEMINATE THE DOCUMENTS, OR ANY PART THEREOF, TO OTHERS WITHOUT THE WRITTEN CONSENT OF J-U-B, OR (II) USE THE DOCUMENTS, OR ANY PART THEREOF, FOR ANY USE OTHER THAN AS DESIGNATED HEREIN FOR THE INTENDED PROJECT. THE DOCUMENTS ARE NOT INTENDED FOR USE IN CREATING DTM FOR GRADING OR EARTHWORK, SURVEY STAKING LAYOUT (UN-LESS SPECIFICALLY IDENTIFIED AS SUCH IN THE DOCUMENTS), OR PROPERTY BOUNDARY LAYOUTS.

J-U-B AND ITS AGENTS SHALL NOT BE LIABLE FOR ANY DAMAGES OR CLAIMS ARISING OUT OF THE UNAUTHORIZED USE OR MISUSE OF THE DOCUMENTS, OR ANY PART THEREOF, WHETHER SUCH DAMAGE OR CLAIM IS BASED IN CONTRACT, TORT OR OTHERWISE. THE USER HEREBY RELEASES AND SHALL DEFEND, INDEMNIFY AND HOLD J-U-B AND ITS AGENTS HARMLESS FROM ANY DAMAGES OR CLAIMS ARISING OUT OF, OR RELATED IN ANY WAY TO, THE USER'S UNAUTHORIZED USE OR MISUSE OF THE DOCUMENTS, OR ANY PART THEREOF.

IF THE DOCUMENTS ARE PROVIDED IN ELECTRONIC FORMAT, THE ELECTRONIC DOCUMENTS ARE SUBJECT TO THE PROVISIONS OF J-U-B'S "ELECTRONIC DOCUMENT/DATA LIMITED LICENSE" FOUND AT EDOCS.

Engineer:



J-U-B ENGINEERS, Inc
7825 Meadowlark Way
Coeur d'Alene, Idaho 83815
(208) 762-8787



8/23/2024

Owner:



City of Moscow
504 S Washington St
Moscow, Idaho 83843
(208) 883-7080

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**City of Moscow
Latah County, Idaho
Water Reclamation Facility Influent Pump Station Upgrade**

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City of Moscow
Latah County, Idaho
Water Reclamation Facility
Influent Pump Station Upgrade

Section 1-A

Bid Forms

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**City of Moscow
Latah County, Idaho
Water Reclamation Facility Influent Pump Station Upgrade**

ADVERTISEMENT FOR BIDS

The City of Moscow (City), Idaho is accepting sealed bids from prequalified bidders to be submitted by hardcopy to the business office of the Community Development Engineering Division at **504 S Washington St., Moscow, ID 83843** and clearly marked “**Bid Enclosed – Water Reclamation Facility Influent Pump Station Upgrade**”, until **2:00 P.M. Pacific Time, September 24, 2024**, for the following project:

Water Reclamation Facility Influent Pump Station Upgrade

It is up to the bidder to verify receipt of their bid prior to the bid due date. Bids will be publicly opened and read aloud at **2:05 P.M.** on the same day, at the same location.

The City of Moscow has prequalified Prime Contractors in accordance with Idaho Code 67-2805(2)(b) Category B competitive bidding procedures. Bids for the Project will only be accepted from the following prequalified Prime Contractors.

- Apollo, Inc.
- Clearwater Construction & Management, LLC
- Prospect Construction Group, Inc.
- Record Steel and Construction, Inc.
- TML Construction, Inc.

A pre-bid conference for the Project will be held on **September 5, 2024, at 2:00 PM Pacific Time at the City of Moscow Council Chambers, 206 E 3rd Street, Moscow, ID 83843**. Attendance at the pre-bid conference is encouraged but not required.

The Project generally consists of removing and replacing the three existing screw pumps and appurtenances with associated electrical work at the Water Reclamation Facility Influent Pump Station.

Electronic copies of the Bidding Documents, including addenda (as applicable), shall be obtained at www.questcdn.com upon payment of \$22.00 (log on and enter Quest project #9267886). The standard set of Bidding Documents is electronic .pdf files.

Bids must be accompanied by Bid Security in the form of a bid bond, certified check, or cashier's check in the amount of 5% of the amount of the bid proposal. Said bid security shall be forfeited to the City of Moscow should the successful bidder fail to enter into contract in accordance with their proposal as specified in the Instructions to Bidders. An Idaho Public Works License is required to bid.

In accordance with Idaho Code Section 67-2805(1)(c), written objections to specifications or bidding procedures must be received by the person authorizing this advertisement (see below) at least three (3) business days before the date and time upon which bids are scheduled to be opened.

The Owner reserves the right to reject any or all Bid Proposals, to waive any formality in the Bidding Contract Documents, and to make selection to the lowest responsive, and responsible Bidder as it may best serve the interest of the Owner.

Refer questions to Scott Krallman, P.E., J-U-B ENGINEERS, Inc. at 7825 Meadowlark Way, Coeur d'Alene, ID 83815; phone 208-762-8787; email skrallman@jub.com.

Dates of Advertisement: August 29, 2024 and September 7, 2024

Britany Luft, Engineering Capital Projects
Administrative Assistant
Email: bluft@ci.moscow.id.us
Phone: 208.883.7034

**City of Moscow
Latah County, Idaho
Water Reclamation Facility Influent Pump Station Upgrade**

ISPWC - BIDDER'S CHECK LIST

The Bidder's Check List is offered to assist the prospective bidder in checking his/her Bid. This checklist does not relieve the bidder from properly completing his/her Bid.

Check off when completed:

1. ☐ Are all blank spaces filled out on Bid Form?
2. ☐ Have questions arising from the bidding, contract, specifications or plans been submitted to the proper authority and resolved in the proper manner?
3. ☐ Are Bid amounts shown correctly as well as extensions and totals? Recheck for errors or omissions. Both lump sum and unit prices must be shown in words and figures.
4. ☐ Are authorized signatures properly affixed to the Bid form, giving also title, and Idaho Public Works Contractor license number, evidence of authority to sign, etc.?
5. ☐ Have all plumbing, heating, air conditioning and electrical subcontractors to whom work will be awarded been listed, as well as their Idaho Public Works Contractor license number?
6. ☐ Have all Addenda been received and acknowledged with the proper signature on the Bid Form?
7. ☐ In order for a Bid to be considered, the Bid form, Bid Security, naming of subcontractors form, and other required attachments must be placed in a properly addressed sealed envelope and delivered to the specified authority prior to the time designated for the bid opening.
8. ☐ Has Bid Security been enclosed?
9. ☐ Has Bidder performed examinations in accordance with the Instructions to Bidders?
10. ☐ Has Bidder included additional information required in Article 14 of the Instructions to Bidders?

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**City of Moscow
Latah County, Idaho
Water Reclamation Facility Influent Pump Station Upgrade**

INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION CONTRACT

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ARTICLE 1—DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
- A. *Issuing Office*—The office from which the Bidding Documents are to be issued, and which registers plan holders.
 - 1. The Issuing Office for the Bidding Documents is:
J-U-B ENGINEERS, Inc.
7825 Meadowlark Way
Coeur d’Alene, ID 838415
(208) 762-8787
 - B. *ISPMC General Conditions* - The 2020 Idaho Standards for Public Works Construction (ISPMC) Standard General Conditions of the Construction Contract, incorporated herein by reference.

ARTICLE 2—BIDDING DOCUMENTS

- 2.01 Bidder shall obtain a complete set of Bidding Requirements and proposed Contract Documents (together, the Bidding Documents). See the Agreement for a list of the Contract Documents. It is Bidder’s responsibility to determine that it is using a complete set of documents in the preparation of a Bid. Bidder assumes sole responsibility for errors or misinterpretations resulting from the use of incomplete documents, by Bidder itself or by its prospective Subcontractors and Suppliers.
- 2.02 Bidding Documents are made available for the sole purpose of obtaining Bids for completion of the Project and permission to download or distribution of the Bidding Documents does not confer a license or grant permission or authorization for any other use. Authorization to download documents, or other distribution, includes the right for plan holders to print documents solely for their use, and the use of their prospective Subcontractors and Suppliers, provided the plan holder pays all costs associated with printing or reproduction. Printed documents may not be re-sold under any circumstances.
- 2.03 Bidding Documents, including addenda (as applicable), have been made available as indicated in the Advertisement for Bids.
- 2.04 ~~Bidder may register as a plan holder and obtain complete sets of Bidding Documents, in the number and format stated in the Advertisement or invitation to bid, from the Issuing Office. Bidders may rely that sets of Bidding Documents obtained from the Issuing Office are complete, unless an omission is blatant. Registered plan holders Bidder will receive Addenda issued by Owner.~~
- 2.05 ~~Plan rooms (including construction information subscription services, and electronic and virtual plan rooms) may distribute the Bidding Documents, or make them available for examination. Those prospective bidders that obtain an electronic (digital) copy of the Bidding Documents from a plan room are encouraged to register as plan holders from the Bidding Documents Website or~~

~~Issuing Office. Owner is not responsible for omissions in Bidding Documents or other documents obtained from plan rooms, or for a Bidder's failure to obtain Addenda from a plan room.~~

2.06 *Electronic Documents*

- A. When the Bidding Requirements indicate that electronic (digital) copies of the Bidding Documents are available, such documents will be made available to the Bidders as Electronic Documents in the manner specified.
 - 1. Bidding Documents will be provided in PDF (Portable Document Format) (.pdf) that is readable by Adobe Acrobat Reader (or similar product). It is the intent of the Engineer and Owner that such Electronic Documents are to be exactly representative of the paper copies of the documents. However, because the Owner and Engineer cannot totally control the transmission and receipt of Electronic Documents nor the Contractor's means of reproduction of such documents, the Owner and Engineer cannot and do not guarantee that Electronic Documents and reproductions prepared from those versions are identical in every manner to the paper copies.
- B. Unless otherwise stated in the Bidding Documents, the Bidder may use and rely upon complete sets of Electronic Documents of the Bidding Documents, described in Paragraph 2.06.A above. However, Bidder assumes all risks associated with differences arising from transmission/receipt of Electronic Documents versions of Bidding Documents and reproductions prepared from those versions and, further, assumes all risks, costs, and responsibility associated with use of the Electronic Documents versions to derive information that is not explicitly contained in printed paper versions of the documents, and for Bidder's reliance upon such derived information.

ARTICLE 3—QUALIFICATIONS OF BIDDERS

- 3.01 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.
- 3.02 Idaho Code 54-1902 requires Bidder and subcontractors to have the appropriate Public Works Contractor's License to submit a Bid or proposal for this project. If this project is financed in whole or in part with federal aid funds, a Public Works Contractor License is not required to Bid or propose, but will be required prior to award.
- 3.03 The City of Moscow has prequalified Prime Contractors in accordance with Idaho Code 67-2805(2)(b) Category B competitive bidding procedures. Bids for the Project will only be accepted by the prequalified Prime Contractors as noted in the Advertisement for Bids.

ARTICLE 4—PRE-BID CONFERENCE

- 4.01 A pre-bid conference will be held at the time and location indicated in the Advertisement or Bid. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference; however, attendance at this conference is not required to submit a Bid.
- 4.02 Information presented at the pre-Bid conference does not alter the Contract Documents. Owner will issue Addenda to make any changes to the Contract Documents that result from discussions

at the pre-Bid conference. Information presented, and statements made at the pre-bid conference will not be binding or legally effective unless incorporated in an Addendum.

ARTICLE 5—SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

5.01 *Site and Other Areas*

- A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

5.02 *Existing Site Conditions*

A. *Subsurface and Physical Conditions; Hazardous Environmental Conditions*

1. The Supplementary Conditions identify the following regarding existing conditions at or adjacent to the Site:
 - a. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data.
 - b. Those drawings known to Owner of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data.
 - c. Reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.
 - d. Technical Data contained in such reports and drawings.
2. Owner will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Conditions, has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.
3. If the Supplementary Conditions do not identify Technical Data, the default definition of Technical Data set forth in Article 1 of the General Conditions will apply.

- B. *Underground Facilities:* Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05 of the General Conditions, and not in the drawings referred to in Paragraph 5.02.A of these Instructions to Bidders. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data. In accordance with Paragraph 5.05 of the General Conditions, the Contractor is responsible for verifying the actual location of all Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work.

5.03 *Other Site-related Documents*

- A. No other Site-related documents are available.

5.04 *Site Visit and Testing by Bidders*

- A. It is the responsibility of the Bidder ~~Bidder is required~~ to visit the Site and conduct a thorough visual examination of the Site and adjacent areas. During the visit the Bidder must not disturb any ongoing operations at the Site.
- B. A Site visit is scheduled following the pre-bid conference.
- C. Bidders visiting the Site are required to arrange their own transportation to the Site.
- D. All access to the Site other than during a regularly scheduled Site visit must be coordinated through the following Owner contact for visiting the Site: Rodney Cook, WRF Supervisor, (208) 883-7000 Extension 7220. Bidder must conduct the required Site visit during normal working hours.
- E. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.
- F. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder general access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site. Bidder is responsible for establishing access needed to reach specific selected test sites.
- G. Bidder must comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.
- H. Bidder must fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

5.05 *Owner's Safety Program*

- A. Site visits and work at the Site may be governed by an Owner safety program. If an Owner safety program exists, it will be noted in the Supplementary Conditions.

5.06 *Other Work at the Site*

- A. Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

ARTICLE 6—BIDDER’S REPRESENTATIONS AND CERTIFICATIONS

6.01 *Express Representations and Certifications in Bid Form, Agreement*

- A. The Bid Form that each Bidder will submit contains express representations regarding the Bidder’s examination of Project documentation, Site visit, and preparation of the Bid, and certifications regarding lack of collusion or fraud in connection with the Bid. Bidder should review these representations and certifications, and assure that Bidder can make the representations and certifications in good faith, before executing and submitting its Bid.
- B. If Bidder is awarded the Contract, Bidder (as Contractor) will make similar express representations and certifications when it executes the Agreement.

ARTICLE 7—INTERPRETATIONS AND ADDENDA

- 7.01 Owner and/or Engineer on its own initiative may issue Addenda to clarify, correct, supplement, or change the Bidding Documents.
- 7.02 Bidder shall submit all questions about the meaning or intent of the Bidding Documents to Engineer in writing. Contact information and submittal procedures for such questions are as follows:
 - A. J-U-B ENGINEERS, INC.
Scott Krallman
7825 Meadowlark Way
Coeur d’Alene, ID 83815
P: (208) 762-8787
E: skrallman@jub.com
- 7.03 Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all registered plan holders. Questions received less than three (3) business days prior to the date for opening of Bids may not be answered.
- 7.04 Only responses set forth in an Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect. Responses to questions are not part of the Contract Documents unless set forth in an Addendum that expressly modifies or supplements the Contract Documents.

ARTICLE 8—BID SECURITY

- 8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of five (5) percent of Bidder’s maximum Bid price (determined by adding the base bid and all alternates) and in the form of a Bid bond issued by a surety meeting the requirements of Paragraph 6.01 of the General Conditions. Such Bid bond will be issued in the form included in the Bidding Documents.
- 8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract, furnished the required Contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract and furnish the required Contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder

will be forfeited, in whole in the case of a penal sum bid bond, and to the extent of Owner's damages in the case of a damages-form bond. Such forfeiture will be Owner's exclusive remedy if Bidder defaults.

- 8.03 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of 7 days after the Effective Date of the Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.
- 8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within 7 days after the Bid opening.

ARTICLE 9—CONTRACT TIMES

- 9.01 The number of days within which, or the dates by which, the Work is to be (a) substantially completed and (b) ready for final payment, and (c) Milestones (if any) are to be achieved, are set forth in the Agreement.
- 9.02 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

ARTICLE 10—SUBSTITUTE AND “OR EQUAL” ITEMS

- 10.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or “or-equal” items. In cases in which the Contract allows the Contractor to request that Engineer authorize the use of a substitute or “or-equal” item of material or equipment, application for such acceptance may not be made to and will not be considered by Engineer until after the Effective Date of the Contract.
- 10.02 All prices that Bidder sets forth in its Bid will be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of “or-equal” or substitution requests are made at Bidder's sole risk.

ARTICLE 11—SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- 11.01 A Bidder must be prepared to retain specific Subcontractors and Suppliers for the performance of the Work if required to do so by the Bidding Documents or in the Specifications. If a prospective Bidder objects to retaining any such Subcontractor or Supplier and the concern is not relieved by an Addendum, then the prospective Bidder should refrain from submitting a Bid.
- 11.02 The apparent Successful Bidder, and any other Bidder so requested, must submit to Owner a list of the Subcontractors or Suppliers proposed for the following portions of the Work within five days after Bid opening:
 - A. N/A
- 11.03 If requested by Owner, such list must be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor or Supplier. If Owner or Engineer, after due investigation, has reasonable

objection to any proposed Subcontractor or Supplier, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder will submit a substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.

- 11.04 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors and Suppliers. Declining to make requested substitutions will constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor or Supplier, so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to subsequent revocation of such acceptance as provided in Paragraph 7.07 of the General Conditions.
- 11.05 Per Idaho Code 67-2310, Bidder shall include in their bid the name(s), address(es), and Idaho Public Works Contractors License number(s) of the Subcontractors who will, in the event the Bidder secures the Contract, subcontract the plumbing, heating and air conditioning work, and the electrical work under the general Contract. Failure to name Subcontractors as required by this section shall render any Bid unresponsive and void. Use *Naming of Subcontractors Form 00440*.

ARTICLE 12—PREPARATION OF BID

- 12.01 The Bid Form is included with the Bidding Documents.
- A. All blanks on the Bid Form must be completed in ink and the Bid Form signed in ink. Erasures or alterations must be initialed in ink by the person signing the Bid Form. A Bid price must be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.
- B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words "No Bid" or "Not Applicable."
- 12.02 If Bidder has obtained the Bidding Documents as Electronic Documents, then Bidder shall prepare its Bid on a paper copy of the Bid Form printed from the Electronic Documents version of the Bidding Documents. The printed copy of the Bid Form must be clearly legible, printed on 8½ inch by 11-inch paper and as closely identical in appearance to the Electronic Document version of the Bid Form as may be practical. The Owner reserves the right to accept Bid Forms which nominally vary in appearance from the original paper version of the Bid Form, providing that all required information and submittals are included with the Bid.
- 12.03 A Bid by a corporation must be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation must be shown.
- 12.04 A Bid by a partnership must be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership must be shown.

- 12.05 A Bid by a limited liability company must be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown.
- 12.06 A Bid by an individual must show the Bidder's name and official address.
- 12.07 A Bid by a joint venture must be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The joint venture must have been formally established prior to submittal of a Bid, and the official address of the joint venture must be shown.
- 12.08 All names must be printed in ink below the signatures.
- 12.09 The Bid must contain an acknowledgment of receipt of all Addenda, the numbers of which must be filled in on the Bid Form.
- 12.10 Postal and e-mail addresses and telephone number for communications regarding the Bid must be shown.
- 12.11 The Bid must contain evidence of Bidder's authority to do business in the state where the Project is located, or Bidder must certify in writing that it will obtain such authority within the time for acceptance of Bids and attach such certification to the Bid.
- 12.12 If Bidder is required to be licensed to submit a Bid or perform the Work in the state where the Project is located, the Bid must contain evidence of Bidder's licensure, or Bidder must certify in writing that it will obtain such licensure within the time for acceptance of Bids and attach such certification to the Bid. Bidder's state contractor license number, if any, must also be shown on the Bid Form.

ARTICLE 13—BASIS OF BID

13.01 Lump Sum

- A. Bidders must submit a Bid on a lump sum basis as listed in the lump sum section of the Bid Form.

ARTICLE 14—SUBMITTAL OF BID

- 14.01 The Bidding Documents include the Bid Form, and the Bid Bond Form. The Bid Form is to be completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 2 of the Bid Form.
- 14.02 A Bid must be received no later than the date and time prescribed and at the place indicated in the Advertisement or invitation to bid and must be enclosed in a plainly marked package with the Project title, and, if applicable, the designated portion of the Project for which the Bid is submitted, the name and address of Bidder, and must be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid must be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid must be addressed to the location designated in the Advertisement.
- 14.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

ARTICLE 15—MODIFICATION AND WITHDRAWAL OF BID

- 15.01 An unopened Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.
- 15.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 15.01 and submit a new Bid prior to the date and time for the opening of Bids.
- 15.03 Refer to Idaho Code Sections 54-1904B, 54-1904C, and 54-1904D for relief from bids.

ARTICLE 16—OPENING OF BIDS

- 16.01 Bids will be opened at the time and place indicated in the advertisement or invitation to bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 17—BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 17.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 18—EVALUATION OF BIDS AND AWARD OF CONTRACT

- 18.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner also reserves the right to waive all minor Bid informalities not involving price, time, or changes in the Work.
- 18.02 Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible.
- 18.03 If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, whether in the Bid itself or in a separate communication to Owner or Engineer, then Owner will reject the Bid as nonresponsive.
- 18.04 If Owner awards the contract for the Work, such award will be to the responsible Bidder submitting the lowest responsive Base Bid; the bid price for potential Additive Alternates will not be considered in determining the lowest bid. Owner may chose not to award an Additive Alternate or award either Additive Alternate, in its sole discretion.
- 18.05 *Evaluation of Bids*
 - A. In evaluating Bids, Owner will consider whether the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.
- 18.06 The purchase of construction services shall be made pursuant Idaho Statute Title 67, Chapter 28. The acquisition of construction services must be subject to a competitive bidding process made from a qualified public works contractor submitting the lowest bid price complying the bidding

procedures and meeting prequalification criteria, if any are provided in accordance with I.C. 67-2805, that are established in the bidding documents.

ARTICLE 19—BONDS AND INSURANCE

- 19.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds, other required bonds (if any), and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by required bonds and insurance documentation. The date upon which the bonds are binding shall be the effective date of the Agreement.
- 19.02 Article 8, Bid Security, of these Instructions, addresses any requirements for providing bid bonds as part of the bidding process.

ARTICLE 20—SIGNING OF AGREEMENT

- 20.01 When Owner issues a Notice of Award to the Successful Bidder, it will be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 15 days thereafter, Successful Bidder must execute and deliver the required number of counterparts of the Agreement and any bonds and insurance documentation required to be delivered by the Contract Documents to Owner. Within 30 days thereafter, Owner will deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

ARTICLE 21—SALES AND USE TAXES

- 21.01 Refer to Article 7 of the General Conditions for tax requirements.

ARTICLE 22—CONTRACTS TO BE ASSIGNED

- 22.01 Not used.

ARTICLE 23—STATE OF IDAHO STATUTORY PROVISIONS

- 23.01 Additional State of Idaho Statutory provisions to be aware of:
- A. Title 54, Chapter 19, Public Works Contractors.
 - 1. Idaho Code Section 54-1920(2) regarding a public officer who lets a contract to an unlicensed firm may be held personally liable.
 - 2. Idaho Code Section 54-1926 regarding the requirement for payment and performance bonds on all public works projects over \$50,000.
 - 3. Idaho Code Section 54-1928 regarding agencies and officials may be held liable for failure to obtain bonds.
 - B. Idaho Code Title 46, Chapter 10, State Disaster Preparedness Act, regarding emergency exceptions.
 - C. Idaho Code Section 67-2348, Preference for Idaho Domiciled Contractors on Public Works,

- D. Idaho Code Section 67-2349, *Preference for Idaho Suppliers and Recycled Paper Products for Purchases.*
- E. Idaho Code Section 67-2346, Anti-Boycott Against Israel Act.

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**City of Moscow
Latah County, Idaho
Water Reclamation Facility Influent Pump Station Upgrade**

BID FORM FOR CONSTRUCTION CONTRACT

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 1—OWNER AND BIDDER

- 1.01 This Bid is submitted to:
- A. City of Moscow
504 S Washington St.
Moscow, ID 83843
- 1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2—ATTACHMENTS TO THIS BID

- 2.01 The following documents are submitted with and made a condition of this Bid:
- A. Required Bid security;
 - B. List of Proposed Subcontractors (Document 00440);
 - C. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such authority within the time for acceptance of Bids;
 - D. Contractor's license number as evidence of Bidder's State Contractor's License or a covenant by Bidder to obtain said license within the time for acceptance of Bids;
 - E. Required Bidder Qualification Statement with supporting data.

ARTICLE 3—BASIS OF BID—LUMP SUM BID

- 3.01 *Bid Schedule*
- A. Bidder will perform the following Work at the indicated lump sum price:

Bid Item No.	Description	Unit	Quantity	Bid Amount
<u>Base Bid</u>				
1	IPS Upgrade	LS	1	\$
	Base Bid Total			\$
<u>Additive Alternates</u>				

2	Add Alt #1: 3-Year Extended Warranty	LS	1	\$
3	Add Alt #2: 5-Year Extended Warranty	LS	1	\$

B. Bidder acknowledges that:

1. Lump Sum Bid includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit.

3.02 *Total Bid Price (Lump Sum)*

Total Base Bid (Written in words)	
Total Additive Alternate #1 (Written in words)	
Total Additive Alternate #2 (Written in words)	

Time of Completion

3.03 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

3.04 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 4—BIDDER'S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA

4.01 *Bid Acceptance Period*

- A. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

4.02 *Instructions to Bidders*

- A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.

4.03 *Receipt of Addenda*

- A. Bidder hereby acknowledges receipt of the following Addenda: **(Bidder is to complete table)**

Addendum Number	Addendum Date

4.04 Bidder agrees to comply with Idaho Code 44-1006, regarding employment of Idaho residents.

4.05 Bidder agrees to comply with Idaho Code 67-2301, failure to comply with Idaho Code Section 67-2310 shall render such bid unresponsive and void.

ARTICLE 5—BIDDER’S REPRESENTATIONS AND CERTIFICATIONS

5.01 *Bidder’s Representations*

A. In submitting this Bid, Bidder represents the following:

1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.
2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder’s (Contractor’s) safety precautions and programs.
7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.

8. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

5.02 *Bidder's Certifications*

A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.
2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
3. Bidder has not solicited or induced any individual or entity to refrain from bidding.
4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:
 - a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.
 - b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.
 - c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.
 - d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

BIDDER hereby submits this Bid as set forth above:

Bidder:

(typed or printed name of organization)

By: _____
(individual's signature)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Date: _____
(typed or printed)

If Bidder is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.

Attest: _____
(individual's signature)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Date: _____
(typed or printed)

Address for giving notices:

Bidder's Contact:

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Phone: _____

Email: _____

Address:

Bidder's State of Idaho Public Works Contractor

License No.: (if applicable)

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BID BOND (PENAL SUM FORM)

Bidder Name: Address <i>(principal place of business)</i> :	Surety Name: Address <i>(principal place of business)</i> :
Owner Name: City of Moscow Address <i>(principal place of business)</i> : 504 S Washington St. Moscow, ID 83843	Bid Project <i>(name and location)</i> : Water Reclamation Facility Influent Pump Station Upgrade Moscow, ID Bid Due Date: [Bid Due Date]
Bond Penal Sum: Date of Bond:	
Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth in this Bid Bond, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.	
Bidder	Surety
<i>(Full formal name of Bidder)</i>	<i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <i>(Signature)</i>	By: _____ <i>(Signature) (Attach Power of Attorney)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
Attest: _____ <i>(Signature)</i>	Attest: _____ <i>(Signature)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
Notes: (1) Note: Addresses are to be used for giving any required notice. (2) Provide execution by any additional parties, such as joint venturers, if necessary.	

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond will be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder occurs upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation will be null and void if:
 - 3.1. Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2. All Bids are rejected by Owner, or
 - 3.3. Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions does not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.
6. No suit or action will be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety, and in no case later than one year after the Bid due date.
7. Any suit or action under this Bond will be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder must be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Postal Service registered or certified mail, return receipt requested, postage pre-paid, and will be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond will be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute governs and the remainder of this Bond that is not in conflict therewith continues in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

**City of Moscow
Latah County, Idaho
Water Reclamation Facility Influent Pump Station Upgrade**

Naming of Subcontractors Form

Per Idaho Code, 67-2310, Bidder shall include in his or her Bid the names and address, and Idaho Public Works Contractor License Number of the Subcontractors who shall, in the event the Bidder secures the Contract, subcontract the plumbing, heating and air-conditioning work, and electrical work under the general Contract. Failure to name Subcontractors as required, or indicate "Not Applicable" shall render any Bid submitted by the Bidder unresponsive and void.

<u>Subcontractor Name and Address</u>	<u>Classification</u>	<u>License Number</u>
---------------------------------------	-----------------------	-----------------------

Plumbing

_____	_____	_____

Heating and Air-Conditioning

_____	_____	_____

Electrical

_____	_____	_____

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**City of Moscow
Latah County, Idaho
Water Reclamation Facility Influent Pump Station Upgrade**

BIDDER'S NON-COLLUSION AFFIDAVIT

State of _____)SS
County of _____)

Bid for _____ being first duly sworn, deposes and says that he/she is (sole owner, a partner, president, secretary, etc.) of _____.

The party making the foregoing bid; that such bid is not made in the interest of or on behalf of any undisclosed person, partnership, company, association, organization, or corporation; that such bid is genuine and not collusive or sham; that said bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, nor that anyone shall refrain from bidding; that said bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of said bidder or of any other bidder, nor to fix any overhead, profit, or cost element of such bid price, nor of that of any other bidder, nor to secure any advantage against the public body awarding the contract or anyone interested in the proposed contract; that all statements contained in such bid are true; and, further, that said bidder has not directly or indirectly, submitted his bid price or any breakdown thereof, nor the contents thereof, nor divulged information or data relative thereto, nor paid and will not pay fee in connection therewith to any corporation, partnership, company, association, organization, bid depository, nor to any member or agent thereof, nor to any other individual except to such person or persons as have a partnership or other financial interest with said bidder in his general business.

Signed: _____

Title: _____

Subscribed and sworn to before me this

Date: _____

Notary Public

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**City of Moscow
Latah County, Idaho
Water Reclamation Facility Influent Pump Station Upgrade**

BIDDER'S DRUG-FREE WORKPLACE AFFIDAVIT

**CONTRACTOR'S AFFIDAVIT
CONCERNING ALCOHOL AND DRUG-FREE WORKPLACE**

STATE OF _____

COUNTY OF _____

The undersigned being duly sworn upon oath, deposes and says that _____ complies
(Contractor Name)
with the provision of Section 72-1717 Idaho Code (Drug Free Workplace program) that

_____ provides a drug-free workplace program that complies with the provisions
(Contractor Name)

of Idaho Code, Title 72, Chapter 17 and will maintain such program throughout the life of a state
construction contract and that _____ shall subcontract work only to subcontractors
(Contractor Name)

meeting the requirements of Idaho Code, Section 72-1717(1) (a).

Name of Contractor

Address

By _____
(Signature)

Subscribed and sworn to before me this ____ day of _____, 20____.

Notary Public for _____
Residing at _____
My Commission Expires _____

THIS PAGE MUST BE COMPLETED RETURNED WITH YOUR BID DOCUMENTS

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DRAFT

**City of Moscow
Latah County, Idaho
Water Reclamation Facility Influent Pump Station Upgrade**

ANTI-DISCRIMINATION AFFIDAVIT

STATE OF _____:

COUNTY OF _____:

The Bidder hereby covenants, stipulates and agrees that no person shall be discriminated against in the bidding of the services and/or materials herein under and that the Bidder shall not refuse to hire any person therefore because of such person's race, color, gender, religion, sex (including pregnancy), national origin, physical or mental disability, age, marital or familial status, sexual orientation, and gender expression or identity. Also, the Bidder will in no manner discriminate against any person because of such person's race, color, gender, religion, sex (including pregnancy), national origin, physical or mental disability, age, marital or familial status, sexual orientation, and gender expression or identity. Any such discrimination shall be deemed a violation of this Bid and shall render this Bid subject to forfeiture.

Contractor's Signature

Subscribed and sworn to before me this _____ day of _____, 20____.

Notary Public

State of _____

Residing at _____

My Commission Expires _____

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City of Moscow
Latah County, Idaho
Water Reclamation Facility
Influent Pump Station Upgrade

Section 1-B

Contract Forms

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Owner: **City of Moscow**

By *(signature)*: _____

Name *(printed)*: _____

Title: _____

Copy: Engineer

DRAFT

**CONSTRUCTION AGREEMENT
FOR WATER RECLAMATION FACILITY INFLUENT PUMP STATION UPGRADE
BETWEEN CITY OF MOSCOW, IDAHO
AND _____**

THIS CONSTRUCTION AGREEMENT FOR **WATER RECLAMATION FACILITY INFLUENT PUMP STATION UPGRADE** BETWEEN CITY OF MOSCOW, IDAHO, AND _____ (hereinafter "Agreement"), dated this ____ day of _____, 2024, is made and entered into by and between City of Moscow, Idaho, a municipal corporation of the State of Idaho, 206 East Third Street, Moscow, Idaho, 83843 (hereinafter "CITY"), and _____ Company Name, Full Address (hereinafter "CONTRACTOR"):

WITNESSETH:

WHEREAS, pursuant to the invitation of CITY, extended through an "Invitation to Bid", see Attachment "A", CONTRACTOR submitted a Bid Proposal containing an offer invited by said invitation; and

WHEREAS, CITY has determined that said offer was the lowest responsive Bid Proposal; and

WHEREAS, CITY has accepted CONTRACTOR's Bid Proposal;

NOW THEREFORE, the Parties to this Agreement, in consideration of the mutual covenants and stipulations set out, agree as follows:

**ARTICLE 1.
CONTRACT DOCUMENTS**

The Contract Documents which comprise the entire Agreement between CITY and CONTRACTOR concerning the work to be performed, are this Agreement, pages one (1) through seven (7) and the following:

1. Drawings, Specifications and Proposal for: WATER RECLAMATION FACILITY INFLUENT PUMP STATION UPGRADE, City of Moscow Project No. 121-023, Attachment "A" consisting of # of pages pages;
2. Bid Proposal of CONTRACTOR, dated date, 2024, Attachment "B", consisting of # of pages pages;
3. Performance and Payment Bonds and Insurance Certificates;
4. Addenda, if applicable, Attachment "C", consisting of # of pages pages; and
5. Change Orders, which may be delivered or issued after the effective date of this Agreement.

There are no Contract Documents other than those listed in Article 1. This Agreement may only be amended by change order as provided in the General Conditions of Attachment "A".

**ARTICLE 2.
WORK**

CONTRACTOR shall complete the entire work as specified, indicated and required under the Contract Documents, contained herein under Article 1. for CITY project (hereinafter "Project") titled: Water Reclamation Facility Influent Pump Station Upgrade

CONSTRUCTION AGREEMENT – COMPANY

WATER RECLAMATION FACILITY INFLUENT PUMP STATION UPGRADE

PAGE 1 OF 7

ARTICLE 3.
CONTRACT TIME/SUBSTANTIAL COMPLETION

The work to be performed pursuant to this Agreement shall be completed as follows, unless adjustment of the Agreement time is made in accordance with the provisions of the Contract Documents. CONTRACTOR shall begin work in conformance with the Contract Documents.

- Submittal, Fabrication, and Delivery of Pumps: within 330 calendar days of the Notice to Proceed for the first pump, with delivery of the remaining pumps within an additional 30 calendar days.
- Construction Phase: Substantial Completion within 150 calendar days of receipt of equipment (beginning with receipt of the first pump); Final Completion of all work shall be accomplished within thirty (30) calendar days after receiving Substantial Completion.

CONTRACTOR and CITY recognize that time is of the essence and that CITY will suffer financial loss if the Project is not completed within the time specified above, unless approved extensions thereof are permitted in accordance with the terms of the Contract Documents. The Parties also recognize the delays, expense, and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by CITY if the Project is not completed on time. Accordingly, instead of requiring any such proof, CITY and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty), CONTRACTOR shall pay CITY \$2,000 for each day that expires after the time specified above for the Submittal, Fabrication, and Delivery of Pumps Milestone and \$2,000 for each day that expires after the time specified above for Substantial Completion until the Project is substantially complete. After Substantial Completion, if CONTRACTOR shall neglect, refuse, or fail to complete the remaining Project within the Time of Completion or by any proper extension thereof granted by CITY, CONTRACTOR shall pay CITY \$1,000 for each day that expires after the time specified above for completion, until the Project is completed and ready for final payment.

ARTICLE 4.
CONTRACT SUM

CITY shall pay CONTRACTOR for completion of the work for the Project in accordance with the Contract Documents in current funds in the amount of Dollar Amount Dollars (\$), as submitted by CONTRACTOR. In no event shall Contract amount exceed CONTRACTOR's bid amount of Dollar Amount Dollars (\$), unless otherwise authorized by CITY by written agreement. Said Contract Sum shall be paid in accordance with the Contract Documents.

ARTICLE 5.
TERMINATION

Termination provisions are governed by the attached Contract Documents.

ARTICLE 6.
INDEPENDENT CONTRACTOR

The Parties warrant by their signatures that no employer-employee relationship is established between CONTRACTOR and CITY by the terms of this Agreement. It is understood by the Parties hereto that

CONSTRUCTION AGREEMENT – COMPANY

WATER RECLAMATION FACILITY INFLUENT PUMP STATION UPGRADE

PAGE 2 OF 7

CONTRACTOR is an independent contractor and, as such, neither CONTRACTOR nor CONTRACTOR's employees, agents, representatives or subcontractors, if any, are employees of CITY for purposes of tax, retirement system, or social security (FICA) withholding.

**ARTICLE 7.
SCOPE OF SERVICES**

CONTRACTOR shall perform all work required by the Contract Documents. All work shall be completed in accordance with the specifications and plans established for this Project.

**ARTICLE 8.
HOLD HARMLESS/INDEMNIFICATION**

In addition to other rights granted to CITY by the Contract Documents, CONTRACTOR agrees to indemnify, defend, and hold harmless CITY, its officers, agents, employees, and engineers, from and against any and all losses, lawsuits, actions, claims, judgments for damages, or any injuries or damages received or sustained by any person, persons, or property, and losses, expenses, and other costs, including litigation costs and attorney's fees, arising out of, resulting from, or in connection with the acts, performances, activities, errors or omissions by CONTRACTOR, CONTRACTOR's servants, agents, officers, employees, representatives, guests, business invitees or its subcontractors; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any claims or amounts recovered from any infringements of patent, trademark or copyright; or from any claims or amounts arising out of or recovered under the Workmen's Compensation Act or any other law, ordinance, order, or decree.

**ARTICLE 9.
CONFLICT OF INTEREST**

CONTRACTOR covenants that it presently has no interest and shall not acquire any interest, direct or indirect, in the Project, which would conflict in any manner or degree with the performance of CONTRACTOR's services hereunder. CONTRACTOR further covenants that, in performing this Agreement, CONTRACTOR shall employ no person who has any such interest. Should any conflict of interest arise during the performance of this Agreement, CONTRACTOR shall immediately disclose such conflict to CITY.

**ARTICLE 10.
ENTIRE AGREEMENT, MODIFICATION AND ASSIGNABILITY**

This Agreement and the attachments hereto contain the entire Agreement between the Parties, and no statements, promises, or inducements made by either Party, or agents of either Party are valid or binding unless contained herein. This Agreement may not be enlarged, modified or altered except upon written agreement signed by the Parties hereto. CONTRACTOR may not subcontract or assign its rights (including the right to compensation) or duties arising hereunder, other than as provided within the Contract Documents, without the prior written consent and express authorization of CITY.

**ARTICLE 11.
LICENSES AND ADHERENCE TO LAW REQUIRED**

CONSTRUCTION AGREEMENT – COMPANY
WATER RECLAMATION FACILITY INFLUENT PUMP STATION UPGRADE

PAGE 3 OF 7

CONTRACTOR represents that it possesses the skill and experience necessary and all licenses required to perform the services under this Agreement. CONTRACTOR further agrees to comply with all applicable Federal, State and Local statutes and regulations in the performance of the services hereunder, and are hereby made a part of this Agreement and shall be adhered to at all times. Violation of any of these statutes or regulations by CONTRACTOR shall be deemed material and shall subject CONTRACTOR to termination of this Agreement for cause. No pleas of misunderstanding or ignorance on the part of CONTRACTOR will, in any way, serve to modify the provisions of this requirement. CONTRACTOR and its surety shall indemnify, defend and hold harmless CITY and its employees, agents, engineers and representatives against any claim or liability arising from or based on the violation of any such laws, codes, ordinances, or regulations, whether by CONTRACTOR, CONTRACTOR's employees, or its subcontractors.

Anti-Boycott Against Israel Act. CONTRACTOR certifies it is not currently engaged in, and will not for the duration of this Agreement engage in, a boycott of goods and services from Israel or territories under its control. Failure to comply with Idaho Code § 67-2346 will result in this Agreement being void as against public policy.

Ownership or Operation by China. Pursuant to Idaho Code § 67-2359, CONTRACTOR certifies that it is not currently owned or operated by the government of China and will not for the duration of this Agreement be owned or operated by the government of China. The terms in this section defined in Idaho Code § 67-2359 shall have the meaning defined therein.

Employment of Residents of Idaho. Pursuant to Idaho Code § 44-1001, CONTRACTOR certifies that it will employ ninety-five percent (95%) bona fide Idaho residents, as that term is defined in Idaho Code § 44-1003, as employees for the completion of the terms required in this Agreement. If CONTRACTOR employs less than fifty (50) employees on this Project, CONTRACTOR may employ up to ten percent (10%) nonresidents for the completion of the terms required in this Agreement. In all cases, CONTRACTOR agrees to give a preference to bona fide Idaho residents. The Parties agree that if Project involves the expenditure of federal aid funds, that this clause will not be enforced in a manner that conflicts with federal statutes prescribing a labor preference for veterans or prohibiting unlawful discrimination or preferences among United States citizens.

Not an Abortion Provider or Affiliate. Pursuant to Idaho Code Title 18 Chapter 87, CONTRACTOR certifies that it is not an abortion provider or an affiliate of any abortion provider and does not, and will not for the duration of this Agreement, authorize the use of state facilities or public funds for abortion related activity.

Anti-Boycott of Certain Sectors. Pursuant to Idaho Code § 67-2347A, CONTRACTOR certifies that it is not engaged in, and will not for the duration of this Agreement engage in, a boycott of any individual or company because the individual or company 1) engages in or supports the exploration, production, utilization, transportation, sale or manufacture of fossil fuel-based energy, timber, minerals, hydroelectric power, nuclear power, or agriculture or 2) engages in or supports the manufacture, distribution, sale, or use of firearms, as defined in Idaho Code § 18-3302 (2)(d).

ARTICLE 12.

EMPLOYMENT DISCRIMINATION

It is illegal under the U.S. Federal law to discriminate against an employee, either intentionally or through disparate impact, on account of race, color, gender, religion, sex (including pregnancy), national origin, physical or mental disability, age, marital or familial status, sexual orientation, and gender expression or identity. CONTRACTOR shall not discriminate against any employee or applicant for employment. CONTRACTOR's action under this Section shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation and selection for training, including apprenticeship. CONTRACTOR agrees to post in conspicuous places, available to employees and other applicants for employment, notices setting forth the provisions of this non-discrimination Section.

ARTICLE 13. LEGAL FEES

In the event either Party incurs legal expenses to enforce the terms and conditions of this Agreement, the prevailing Party is entitled to recover reasonable attorney's fees and other costs and expenses, whether the same are incurred with or without a lawsuit.

ARTICLE 14. JURISDICTION, VENUE AND NONWAIVER

It is agreed that this Agreement shall be construed under and governed by the laws of the State of Idaho. In the event of litigation concerning it, it is agreed that proper venue shall be the District Court of the Second Judicial District of the State of Idaho, in and for the County of Latah. Failure of CITY to exercise any of the rights under this Agreement, or breach thereof, shall not be deemed to be a waiver of such right or a waiver of any subsequent breach.

ARTICLE 15. SPECIAL WARRANTY

CONTRACTOR warrants that nothing of monetary value has been given, promised or implied as remuneration or inducement to enter into this Agreement. CONTRACTOR declares that no improper personal, political or social activities have been used or attempted in an effort to influence the outcome of the competition, discussion, or negotiation leading to the award of this Agreement. Any such activity by CONTRACTOR shall make this Agreement null and void. CONTRACTOR further warrants that all materials and goods supplied under this Agreement shall be of good merchantable quality and that all services will be performed in a good workmanlike manner. CONTRACTOR acknowledges that it will be liable for any breach of this warranty.

ARTICLE 16. COMMUNICATIONS

Such communications as are required by this Agreement shall be satisfied by mailing or by personal delivery to the Parties at the following address:

CONTRACTOR:

CITY:

Company Name

City of Moscow

CONSTRUCTION AGREEMENT – COMPANY

WATER RECLAMATION FACILITY INFLUENT PUMP STATION UPGRADE

PAGE 5 OF 7

Authorized Agent
Street Address
City, State, Zip

Engineering Division
206 East Third Street
P O Box 9203
Moscow, Idaho 83843

ARTICLE 17.
NON-APPROPRIATIONS

This Agreement is contingent upon CITY receiving the necessary funding to cover the obligations of CITY. In the event that such funding is not received or appropriated, then, and in that event, CITY's obligations under this Agreement shall cease and each Party shall be released from further performance under this Agreement without any liability to the other Party, and CONTRACTOR shall be entitled to receive just and equitable compensation for any work satisfactorily completed hereunder.

ARTICLE 18.
APPROVAL REQUIRED AND SEVERABILITY

This Agreement shall not become effective or binding until approved by CITY. If any part of this Agreement is held unenforceable, the remaining portions of the Agreement will, nevertheless, remain in full force and effect.

ARTICLE 19.
EXECUTION

IN WITNESS WHEREOF, said CONTRACTOR and CITY have caused this Agreement to be executed on the day and year first above written.

I, Authorized Agent, certify under penalty of perjury pursuant to the law of the State of Idaho, that I am an authorized agent to bind Company to this Agreement.

CONTRACTOR:

Company

CITY:

City of Moscow, Idaho

Authorized Agent

Arthur D. Bettge, Mayor

ATTEST:

Laurie M. Hopkins, City Clerk

Approved as to Form:

Mia Bautista, City Attorney

ACKNOWLEDGMENT

STATE OF _____)
) ss.
COUNTY OF _____)

On this _____ day of _____, 2024, before me, a Notary Public in and for said State, appeared Authorized Agent, known to me to be the person named above and acknowledged that they executed the foregoing document as the duly authorized representative for Company .

Notary Public for the State of _____
Residing at _____
My commission expires _____

NOTICE TO PROCEED

Owner: City of Moscow Owner's Project No.: 121-023
Engineer: J-U-B Engineers, Inc. Engineer's Project No.: 20-24-026
Contractor: _____ Contractor's Project No.: _____
Project: Water Reclamation Facility Influent Pump Station Upgrade
Contract Name: _____
Effective Date of Contract: _____

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on [Date of Notice to Proceed] pursuant to Paragraph 4.01 of the General Conditions.

On that date, Contractor shall start performing its obligations under the Contract Documents. No Work will be done at the Site prior to such date.

In accordance with the Agreement:

The number of days to achieve Substantial Completion is [Days till Substantial Completion from 00520 – Agreement] from the date stated above for the commencement of the Contract Times, resulting in a date for Substantial Completion of [Date, calculated from the number of days above]; and the number of days to achieve readiness for final payment is [Days till Final Payment from 00520 – Agreement] from the commencement date of the Contract Times, resulting in a date for readiness for final payment of [Date, calculated from the number of days above].

Before starting any Work at the Site, Contractor must comply with the following:

[Note any access limitations, security procedures, or other restrictions]

Owner: _____
By (signature): _____
Name (printed): _____
Title: _____
Date Issued: _____

Copy: Engineer

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PERFORMANCE BOND

Contractor Name: _____ Address (<i>principal place of business</i>): _____	Surety Name: _____ Address (<i>principal place of business</i>): _____
Owner Name: City of Moscow Mailing address (<i>principal place of business</i>): 504 S Washington St. Moscow, ID 83843	Contract Description (<i>name and location</i>): Water Reclamation Facility Influent Pump Station Upgrade Moscow, ID Contract Price: [Amount] Effective Date of Contract: [Date]
Bond Bond Amount: _____ Date of Bond: _____ (Date of Bond cannot be earlier than Effective Date of Contract) Modifications to this Bond form: ☐ None ☐ See Paragraph 16	
Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Performance Bond, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.	
Contractor as Principal	Surety
_____ (Full formal name of Contractor)	_____ (Full formal name of Surety) (corporate seal)
By: _____ (Signature)	By: _____ (Signature)(Attach Power of Attorney)
Name: _____ (Printed or typed)	Name: _____ (Printed or typed)
Title: _____	Title: _____
Attest: _____ (Signature)	Attest: _____ (Signature)
Name: _____ (Printed or typed)	Name: _____ (Printed or typed)
Title: _____	Title: _____
Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.	

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.
2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond will arise after:
 - 3.1. The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice may indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 will be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement does not waive the Owner's right, if any, subsequently to declare a Contractor Default;
 - 3.2. The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
 - 3.3. The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.
4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 does not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.
5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
 - 5.1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;
 - 5.2. Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;
 - 5.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

- 5.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:
 - 5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
 - 5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.
6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment, or the Surety has denied liability, in whole or in part, without further notice, the Owner shall be entitled to enforce any remedy available to the Owner.
7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner will not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety will not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:
 - 7.1. The responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
 - 7.2. Additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and
 - 7.3. Liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.
8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.
9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price will not be reduced or set off on account of any such unrelated obligations. No right of action will accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.
10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
11. Any proceeding, legal or equitable, under this Bond must be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and must be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit will be applicable.
12. Notice to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted therefrom and provisions conforming to such statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.
14. Definitions
- 14.1. *Balance of the Contract Price*—The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.
- 14.2. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.
- 14.3. *Contractor Default*—Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.
- 14.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
- 14.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.
16. Modifications to this Bond are as follows: None.

PAYMENT BOND

Contractor Name: _____ Address (<i>principal place of business</i>): _____ 	Surety Name: _____ Address (<i>principal place of business</i>): _____
Owner Name: City of Moscow Mailing address (<i>principal place of business</i>): 504 S Washington St. Moscow, ID 83843	Contract Description (<i>name and location</i>): Water Reclamation Facility Influent Pump Station Upgrade Moscow, ID Contract Price: [Amount] Effective Date of Contract: [Date]
Bond Bond Amount: _____ Date of Bond: _____ (Date of Bond cannot be earlier than Effective Date of Contract) Modifications to this Bond form: ☐ None ☐ See Paragraph 18	
Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Payment Bond, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.	
Contractor as Principal	Surety
<i>(Full formal name of Contractor)</i> By: _____ <i>(Signature)</i> Name: _____ <i>(Printed or typed)</i> Title: _____ Attest: _____ <i>(Signature)</i> Name: _____ <i>(Printed or typed)</i> Title: _____	<i>(Full formal name of Surety) (corporate seal)</i> By: _____ <i>(Signature)(Attach Power of Attorney)</i> Name: _____ <i>(Printed or typed)</i> Title: _____ Attest: _____ <i>(Signature)</i> Name: _____ <i>(Printed or typed)</i> Title: _____
Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.	

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond will arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond will arise after the following:
 - 5.1. Claimants who do not have a direct contract with the Contractor
 - 5.1.1. Have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
 - 5.1.2. Have sent a Claim to the Surety (at the address described in Paragraph 13).
 - 5.2. Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
 - 7.1. Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
 - 7.2. Pay or arrange for payment of any undisputed amounts.
 - 7.3. The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 will not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

8. The Surety's total obligation will not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond will be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract will be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfying obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
12. No suit or action will be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit will be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, will be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted here from and provisions conforming to such statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.
16. Definitions
 - 16.1. *Claim*—A written statement by the Claimant including at a minimum:
 - 16.1.1. The name of the Claimant;
 - 16.1.2. The name of the person for whom the labor was done, or materials or equipment furnished;
 - 16.1.3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
 - 16.1.4. A brief description of the labor, materials, or equipment furnished;

- 16.1.5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- 16.1.6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
- 16.1.7. The total amount of previous payments received by the Claimant; and
- 16.1.8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.
- 16.2. *Claimant*—An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond is to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
- 16.3. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.
- 16.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
- 16.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
- 17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.
- 18. Modifications to this Bond are as follows: None.

Form WH-5 Public Works Contract Report

Contractors awarded Idaho public works contracts must submit this form to the Tax Commission within 30 days of receiving the award. (Idaho Code sections 54-1904A and 63-3624(g)).

Contract awarded by (public body and address)

Contract awarded to (contractor's name and address)

State of incorporation	Federal Employer Identification Number (EIN)	Date qualified to do business in Idaho
Business operates as ☐ Sole Proprietorship ☐ Partnership ☐ Corporation ☐ LLC		Public works contractor license number
Sole proprietor's Social Security number	Idaho sellers permit number	Idaho withholding tax permit number
Awarding agency project number		Amount of contract \$
Description and location of work to be performed		

Project Dates

Scheduled project start date: _____ Completion date: _____

If the following information isn't available at this time, please enter date it will be: _____

All Subcontractors

Name			Federal EIN
Address			Public works contractor license number
City	State	ZIP Code	Amount of subcontract \$
Description of work			
Name			Federal EIN
Address			Public works contractor license number
City	State	ZIP Code	Amount of subcontract \$
Description of work			
Name			Federal EIN
Address			Public works contractor number
City	State	ZIP Code	Amount of subcontract \$
Description of work			
Name			Federal EIN
Address			Public works contractor license number
City	State	ZIP Code	Amount of subcontract \$
Description of work			

All Subcontractors (continued)

Name			Federal EIN	
Address			Public works contractor license number	
City	State	ZIP Code	Amount of subcontract \$	
Description of work				

Name			Federal EIN	
Address			Public works contractor license number	
City	State	ZIP Code	Amount of subcontract \$	
Description of work				

Name			Federal EIN	
Address			Public works contractor license number	
City	State	ZIP Code	Amount of subcontract \$	
Description of work				

Suppliers

List your major suppliers of materials, equipment, and supplies. Include items removed from inventory and items provided to you by the government agency for use in this project.

Name		Federal EIN	Total value \$
Address		Materials and equipment purchased and used	
City, State, ZIP Code	Phone number	Please select how sales or use tax was paid. ☐ Tax paid to supplier ☐ Tax paid to state* ☐ No tax was paid	

Name		Federal EIN	Total value \$
Address		Materials and equipment purchased and used	
City, State, ZIP Code	Phone number	Please select how sales or use tax was paid. ☐ Tax paid to supplier ☐ Tax paid to state* ☐ No tax was paid	

Name		Federal EIN	Total value \$
Address		Materials and equipment purchased and used	
City, State, ZIP Code	Phone number	Please select how sales or use tax was paid. ☐ Tax paid to supplier ☐ Tax paid to state* ☐ No tax was paid	

*If you're reporting any untaxed materials, equipment, or supplies as "items subject to use tax" on your Idaho return, provide the period when you did or will report it: _____

If you paid tax to a state other than Idaho, write the name state next to "total value" boxes, above. For any tax due that you haven't reported yet, include payment with this form. You can make copies of this form if you need more room.

Sign Here	Authorized signature	Print name	Phone number	Date
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File with the Idaho State Tax Commission, PO Box 36, Boise ID 83722-0410
 For more information, call (208) 334-7618 | Fax: (208) 332-6619 | Email: contractdesk@tax.idaho.gov

Contractor's Application for Payment

Owner: _____ Engineer: _____ Contractor: _____ Project: _____ Contract: _____	Owner's Project No.: _____ Engineer's Project No.: _____ Contractor's Project No.: _____																																				
Application No.: _____ Application Date: _____																																					
Application Period: From _____ to _____																																					
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 70%;">1. Original Contract Price</td><td style="width: 10%; text-align: center;">\$</td><td style="width: 20%; text-align: right;">-</td></tr><tr><td>2. Net change by Change Orders</td><td style="text-align: center;">\$</td><td style="text-align: right;">-</td></tr><tr><td>3. Current Contract Price (Line 1 + Line 2)</td><td style="text-align: center;">\$</td><td style="text-align: right;">-</td></tr><tr><td>4. Total Work completed and materials stored to date (Sum of Column G Lump Sum Total and Column J Unit Price Total)</td><td style="text-align: center;">\$</td><td style="text-align: right;">-</td></tr><tr><td>5. Retainage</td><td></td><td></td></tr><tr><td> a. _____ X \$ _____ Work Completed</td><td style="text-align: center;">\$</td><td style="text-align: right;">-</td></tr><tr><td> b. _____ X \$ _____ Stored Materials</td><td style="text-align: center;">\$</td><td style="text-align: right;">-</td></tr><tr><td> c. Total Retainage (Line 5.a + Line 5.b)</td><td style="text-align: center;">\$</td><td style="text-align: right;">-</td></tr><tr><td>6. Amount eligible to date (Line 4 - Line 5.c)</td><td style="text-align: center;">\$</td><td style="text-align: right;">-</td></tr><tr><td>7. Less previous payments (Line 6 from prior application)</td><td></td><td></td></tr><tr><td>8. Amount due this application</td><td style="text-align: center;">\$</td><td style="text-align: right;">-</td></tr><tr><td>9. Balance to finish, including retainage (Line 3 - Line 4)</td><td style="text-align: center;">\$</td><td style="text-align: right;">-</td></tr></table>		1. Original Contract Price	\$	-	2. Net change by Change Orders	\$	-	3. Current Contract Price (Line 1 + Line 2)	\$	-	4. Total Work completed and materials stored to date (Sum of Column G Lump Sum Total and Column J Unit Price Total)	\$	-	5. Retainage			a. _____ X \$ _____ Work Completed	\$	-	b. _____ X \$ _____ Stored Materials	\$	-	c. Total Retainage (Line 5.a + Line 5.b)	\$	-	6. Amount eligible to date (Line 4 - Line 5.c)	\$	-	7. Less previous payments (Line 6 from prior application)			8. Amount due this application	\$	-	9. Balance to finish, including retainage (Line 3 - Line 4)	\$	-
1. Original Contract Price	\$	-																																			
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a. _____ X \$ _____ Work Completed	\$	-																																			
b. _____ X \$ _____ Stored Materials	\$	-																																			
c. Total Retainage (Line 5.a + Line 5.b)	\$	-																																			
6. Amount eligible to date (Line 4 - Line 5.c)	\$	-																																			
7. Less previous payments (Line 6 from prior application)																																					
8. Amount due this application	\$	-																																			
9. Balance to finish, including retainage (Line 3 - Line 4)	\$	-																																			
Contractor's Certification The undersigned Contractor certifies, to the best of its knowledge, the following: (1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment; (2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such liens, security interest, or encumbrances); and (3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.																																					
Contractor: _____																																					
Signature: _____ Date: _____																																					
Recommended by Engineer By: _____ Title: _____ Date: _____	Approved by Owner By: _____ Title: _____ Date: _____																																				
Approved by Funding Agency By: _____ Title: _____ Date: _____	By: _____ Title: _____ Date: _____																																				

Progress Estimate - Unit Price Work

Contractor's Application for Payment

Owner: _____ Engineer: _____ Contractor: _____ Project: _____ Contract: _____	Owner's Project No.: _____ Engineer's Project No.: _____ Contractor's Project No.: _____
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Application No.:		Application Period:		From		to		Application Date:			
A	B	C	D	E	F	G	H	I	J	K	L
Bid Item No.	Description	Contract Information				Work Completed		Materials Currently Stored (not in G) (\$)	Work Completed and Materials Stored to Date (H + I) (\$)	% of Value of Item (J / F) (%)	Balance to Finish (F - J) (\$)
		Item Quantity	Units	Unit Price (\$)	Value of Bid Item (C X E) (\$)	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) (\$)				
Original Contract											
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Progress Estimate - Unit Price Work

Contractor's Application for Payment

Owner: _____ Engineer: _____ Contractor: _____ Project: _____ Contract: _____	Owner's Project No.: _____ Engineer's Project No.: _____ Contractor's Project No.: _____
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Application No.:		Application Period:		From		to		Application Date:				
A	B		C	D	E	F	G	H	I	J	K	L
Bid Item No.	Description	Contract Information				Work Completed		Materials Currently Stored (not in G) (\$)	Work Completed and Materials Stored to Date (H + I) (\$)	% of Value of Item (J / F) (%)	Balance to Finish (L - J) (\$)	
		Item Quantity	Units	Unit Price (\$)	Value of Bid Item (C X E) (\$)	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) (\$)					
Change Orders												
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CERTIFICATE OF SUBSTANTIAL COMPLETION

Owner:	City of Moscow	Owner's Project No.:	121-023
Engineer:	J-U-B Engineers, Inc.	Engineer's Project No.:	20-24-026
Contractor:		Contractor's Project No.:	
Project:	Water Reclamation Facility Influent Pump Station Upgrade		
Contract Name:			

This ☐ Preliminary ☐ Final Certificate of Substantial Completion applies to:

☐ All Work ☐ The following specified portions of the Work:

[Describe the portion of the work for which Certificate of Substantial Completion is issued]

Date of Substantial Completion: **[Enter date, as determined by Engineer]**

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Work or portion thereof designated above is hereby established, subject to the provisions of the Contract pertaining to Substantial Completion. The date of Substantial Completion in the final Certificate of Substantial Completion marks the commencement of the contractual correction period and applicable warranties required by the Contract.

A punch list of items to be completed or corrected is attached to this Certificate. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

Amendments of contractual responsibilities recorded in this Certificate should be the product of mutual agreement of Owner and Contractor; see Paragraph 15.03.D of the General Conditions.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance, and warranties upon Owner's use or occupancy of the Work must be as provided in the Contract, except as amended as follows:

Amendments to Owner's Responsibilities: ☐ None ☐ As follows:

[List amendments to Owner's Responsibilities]

Amendments to Contractor's Responsibilities: ☐ None ☐ As follows:

[List amendments to Contractor's Responsibilities]

The following documents are attached to and made a part of this Certificate:

[List attachments such as punch list; other documents]

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents, nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

Engineer

By (signature): _____

Name (printed): _____

Title: _____

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DRAFT

NOTICE OF ACCEPTABILITY OF WORK

Owner: City of Moscow Owner's Project No.: 121-023
Engineer: J-U-B Engineers, Inc. Engineer's Project No.: 20-24-026
Contractor: _____ Contractor's Project No.: _____
Project: Water Reclamation Facility Influent Pump Station Upgrade
Contract Name: _____
Notice Date: _____ Effective Date of the Construction Contract: _____

The Engineer hereby gives notice to the Owner and Contractor that Engineer recommends final payment to Contractor, and that the Work furnished and performed by Contractor under the Construction Contract is acceptable, expressly subject to the provisions of the Construction Contract's Contract Documents ("Contract Documents") and of the Agreement between Owner and Engineer for Professional Services dated **[date of professional services agreement]** ("Owner-Engineer Agreement"). This Notice of Acceptability of Work (Notice) is made expressly subject to the following terms and conditions to which all who receive and rely on said Notice agree:

1. This Notice has been prepared with the skill and care ordinarily used by members of the engineering profession practicing under similar conditions at the same time and in the same locality.
2. This Notice reflects and is an expression of the Engineer's professional opinion.
3. This Notice has been prepared to the best of Engineer's knowledge, information, and belief as of the Notice Date.
4. This Notice is based entirely on and expressly limited by the scope of services Engineer has been employed by Owner to perform or furnish during construction of the Project (including observation of the Contractor's Work) under the Owner-Engineer Agreement, and applies only to facts that are within Engineer's knowledge or could reasonably have been ascertained by Engineer as a result of carrying out the responsibilities specifically assigned to Engineer under such Owner-Engineer Agreement.
5. This Notice is not a guarantee or warranty of Contractor's performance under the Construction Contract, an acceptance of Work that is not in accordance with the Contract Documents, including but not limited to defective Work discovered after final inspection, nor an assumption of responsibility for any failure of Contractor to furnish and perform the Work thereunder in accordance with the Contract Documents, or to otherwise comply with the Contract Documents or the terms of any special guarantees specified therein.
6. This Notice does not relieve Contractor of any surviving obligations under the Construction Contract, and is subject to Owner's reservations of rights with respect to completion and final payment.

Engineer

By (signature): _____

Name (printed): _____

Title: _____

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WORK CHANGE DIRECTIVE NO.: [Number of Work Change Directive]

Owner: City of Moscow Owner's Project No.: 121-023
Engineer: J-U-B Engineers, Inc. Engineer's Project No.: 20-24-026
Contractor: Contractor's Project No.:
Project: Water Reclamation Facility Influent Pump Station Upgrade
Contract Name:
Date Issued: Effective Date of Work Change Directive:

Contractor is directed to proceed promptly with the following change(s):

Description:

[Description of the change to the Work]

Attachments:

[List documents related to the change to the Work]

Purpose for the Work Change Directive:

[Describe the purpose for the change to the Work]

Directive to proceed promptly with the Work described herein, prior to agreeing to change in Contract Price and Contract Time, is issued due to:

Notes to User—Check one or both of the following

☐ Non-agreement on pricing of proposed change. ☐ Necessity to proceed for schedule or other reasons.

Estimated Change in Contract Price and Contract Times (non-binding, preliminary):

Contract Price: \$ _____ **[increase] [decrease] [not yet estimated].**

Contract Time: _____ days **[increase] [decrease] [not yet estimated].**

Basis of estimated change in Contract Price:

☐ Lump Sum ☐ Unit Price ☐ Cost of the Work ☐ Other

Recommended by Engineer

Authorized by Owner

By:

Title:

Date:

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CHANGE ORDER NO.: [Number of Change Order]

Owner: City of Moscow Owner's Project No.: 121-023
Engineer: J-U-B Engineers, Inc. Engineer's Project No.: 20-24-026
Contractor: Contractor's Project No.:
Project: Water Reclamation Facility Influent Pump Station Upgrade
Contract Name:
Date Issued: Effective Date of Change Order:

The Contract is modified as follows upon execution of this Change Order:

Description:

[Description of the change]

Attachments:

[List documents related to the change]

Change in Contract Price	Change in Contract Times [State Contract Times as either a specific date or a number of days]
Original Contract Price: \$ _____	Original Contract Times: Substantial Completion: _____ Ready for final payment: _____
[Increase] [Decrease] from previously approved Change Orders No. 1 to No. [Number of previous Change Order] : \$ _____	[Increase] [Decrease] from previously approved Change Orders No.1 to No. [Number of previous Change Order] : Substantial Completion: _____ Ready for final payment: _____
Contract Price prior to this Change Order: \$ _____	Contract Times prior to this Change Order: Substantial Completion: _____ Ready for final payment: _____
[Increase] [Decrease] this Change Order: \$ _____	[Increase] [Decrease] this Change Order: Substantial Completion: _____ Ready for final payment: _____
Contract Price incorporating this Change Order: \$ _____	Contract Times with all approved Change Orders: Substantial Completion: _____ Ready for final payment: _____

Recommended by Engineer (if required)

Authorized by Owner

By: _____

Title: _____

Date: _____

Authorized by Owner

Approved by Funding Agency (if applicable)

By: _____

Title: _____

Date: _____

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FIELD ORDER NO.: [Number of Field Order]

Owner: City of Moscow Owner's Project No.: 121-023
Engineer: J-U-B Engineers, Inc. Engineer's Project No.: 20-24-026
Contractor: Contractor's Project No.:
Project: Water Reclamation Facility Influent Pump Station Upgrade
Contract Name:
Date Issued: Effective Date of Field Order:

Contractor is hereby directed to promptly perform the Work described in this Field Order, issued in accordance with Paragraph 11.04 of the General Conditions, for minor changes in the Work without changes in Contract Price or Contract Times. If Contractor considers that a change in Contract Price or Contract Times is required, submit a Change Proposal before proceeding with this Work.

Reference:

Specification Section(s):

Drawing(s) / Details (s):

Description:

[Description of the change to the Work]

Attachments:

[List documents supporting change]

Issued by Engineer

By: _____

Title: _____

Date: _____

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STATE OF IDAHO }
 } SS
COUNTY OF _____ }

Signed: _____

Titled: _____

Subscribed and sworn to before me this _____ day of _____, 20____

My commission expires: _____

Notary Public

(SEAL)

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City of Moscow
Latah County, Idaho
Water Reclamation Facility
Influent Pump Station Upgrade

Section 2

General Conditions

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This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

ISPWC DIVISION 100 - STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Modified From

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

2020 UPDATE TO THE IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION (ISPWC)

NOTE: The base document is the 2018 EJCDC version. Items added to EJCDC to form the 2020 ISPWC are underlined. Items deleted from the EJCDC to form the 2020 ISPWC are shown in strikeout format.

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The document prepared by Contractor, in a form acceptable to Engineer, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The Advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 10. *Claim*
 - a. A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times; contesting an initial decision by Engineer concerning the

- requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract.
- b. A demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal, or seeking resolution of a contractual issue that Engineer has declined to address.
 - c. A demand or assertion by Owner or Contractor, duly submitted in compliance with the procedural requirements set forth herein, made pursuant to Paragraph 12.01.A.4, concerning disputes arising after Engineer has issued a recommendation of final payment.
 - d. A demand for money or services by a third party is not a Claim.
11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. *Contract*—The entire and integrated written contract between Owner and Contractor concerning the Work.
13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
17. *Cost of the Work*—See Paragraph 13.01 for definition.
18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
20. *Electronic Document*—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.
21. *Electronic Means*—Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the

recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.

22. *Engineer*—The individual or entity named as such in the Agreement.
23. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
24. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto.
 - a. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated into the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, is not a Hazardous Environmental Condition.
 - b. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.
 - c. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working conditions at the Site, is not a Hazardous Environmental Condition.
25. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
26. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
27. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date, or by a time prior to Substantial Completion of all the Work.
28. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
29. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
30. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
31. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising Contractor's plan to accomplish the Work within the Contract Times.
32. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

33. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative (RPR) includes any assistants or field staff of Resident Project Representative.
34. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
35. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals.
36. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
37. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
38. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands or areas furnished by Owner which are designated for the use of Contractor.
- 39.a *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
- 39.b *Standard Specifications*— Wherever in these Contract Documents reference is made to the Standard Specifications, said reference shall be understood as referring to the Idaho Standards for Public Works Construction which applicable parts are incorporated herein and made a part of these Documents by specific reference thereto. If requirements contained in the Standard Specifications are modified by or are in conflict with supplemental information in these Contract Documents, the requirements of these Contract Documents shall prevail.
40. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
41. *Submittal*—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers' instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.

42. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion of such Work.
43. *Successful Bidder*—The Bidder to which the Owner makes an award of contract.
44. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
45. *Supplier*—A manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
46. *Technical Data*
- a. Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (1) existing subsurface conditions at or adjacent to the Site, or existing physical conditions at or adjacent to the Site including existing surface or subsurface structures (except Underground Facilities) or (2) Hazardous Environmental Conditions at the Site.
 - b. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then Technical Data is defined, with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06, as the data contained in boring logs, recorded measurements of subsurface water levels, assessments of the condition of subsurface facilities, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical, environmental, or other Site or facilities conditions report prepared for the Project and made available to Contractor.
 - c. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated on the Drawings.
47. *Underground Facilities*—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.
48. *Unit Price Work*—Work to be paid for on the basis of unit prices.
49. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment

into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

50. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 Terminology

- A. The words and terms discussed in Paragraphs 1.02.B, C, D, and E are not defined terms that require initial capital letters, but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives*: The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day*: The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective*: The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
1. does not conform to the Contract Documents;
 2. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 3. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or Paragraph 15.04).
- E. *Furnish, Install, Perform, Provide*
1. The word “furnish,” when used in connection with services, materials, or equipment, means to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 2. The word “install,” when used in connection with services, materials, or equipment, means to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, means to furnish and install said services, materials, or equipment complete and ready for intended use.

4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.
- F. *Contract Price or Contract Times*: References to a change in “Contract Price or Contract Times” or “Contract Times or Contract Price” or similar, indicate that such change applies to (1) Contract Price, (2) Contract Times, or (3) both Contract Price and Contract Times, as warranted, even if the term “or both” is not expressed.
- G. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2—PRELIMINARY MATTERS

2.01 *Delivery of Performance and Payment Bonds; Evidence of Insurance*

- A. *Performance and Payment Bonds*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner the performance bond and payment bond (if the Contract requires Contractor to furnish such bonds).
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each additional insured (as identified in the Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Contractor in accordance with Article 6, except to the extent the Supplementary Conditions expressly establish other dates for delivery of specific insurance policies.
- C. *Evidence of Owner’s Insurance*: After receipt of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each additional insured (as identified in the Contract), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise required by the Contract Documents), Contractor shall submit to Engineer for timely review:
 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;

2. a preliminary Schedule of Submittals; and
3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work, and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other Submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review the schedules submitted in accordance with Paragraph 2.03.A. No progress payment will be made to Contractor until acceptable schedules are submitted to Engineer.
 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.
 4. If a schedule is not acceptable, Contractor will have an additional 10 days to revise and resubmit the schedule.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may send, and shall accept, Electronic Documents transmitted by Electronic Means.
- B. If the Contract does not establish protocols for Electronic Means, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. Subject to any governing protocols for Electronic Means, when transmitting Electronic Documents by Electronic Means, the transmitting party makes no representations as to long-

term compatibility, usability, or readability of the Electronic Documents resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the Electronic Documents.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 Intent

- A. The Contract Documents are complementary; what is required by one Contract Document is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic versions of the Contract Documents (including any printed copies derived from such electronic versions) and the printed record version, the printed record version will govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.
- F. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Owner and Contractor, which agree that the Contract Documents will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.
- G. Nothing in the Contract Documents creates:
 - 1. any contractual relationship between Owner or Engineer and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or
 - 2. any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

3.02 Reference Standards

- A. *Standards Specifications, Codes, Laws and Regulations*
 - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, means the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 - 2. No provision of any such standard specification, manual, reference standard, or code, and no instruction of a Supplier, will be effective to change the duties or responsibilities of Owner, Contractor, or Engineer from those set forth in the part of the Contract

Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner or Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies*

1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer in writing all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as

possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work.

- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly notify Owner and Contractor in writing that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
 - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media versions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
 - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein precludes Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the 30th day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the 60th day after the day of Bid opening or the 30th day after the Effective Date of the Contract, whichever date is earlier.

4.02 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work may be done at the Site prior to such date.

4.03 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times must be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work will be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Such an adjustment will be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
 - 1. Severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 - 2. Abnormal weather conditions;
 - 3. Acts or failures to act of third-party utility owners or other third-party entities (other than those third-party utility owners or other third-party entities performing other work at or

adjacent to the Site as arranged by or under contract with Owner, as contemplated in Article 8); and

4. Acts of war or terrorism.
- D. Contractor's entitlement to an adjustment of Contract Times or Contract Price is limited as follows:
1. Contractor's entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.
 2. Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.
 3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.
- E. Each Contractor request or Change Proposal seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:
1. The circumstances that form the basis for the requested adjustment;
 2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;
 3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;
 4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and
 5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07.
- Contractor shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.
- F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.
- G. Paragraph 8.03 addresses delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

ARTICLE 5—SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor in writing of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas*

- 1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible. Contractor shall not enter upon nor use property not under Owner control until appropriate easements have been executed and a copy is on file at the site.
- 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by,

or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris will conform to applicable Laws and Regulations.
- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading of Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
 - 1. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data;
 - 2. Those drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data; and
 - 3. Technical Data contained in such reports and drawings.
- B. *Underground Facilities:* Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05, and not in the drawings referred to in Paragraph 5.03.A. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.
- C. *Reliance by Contractor on Technical Data:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b.
- D. *Limitations of Other Data and Documents:* Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
 - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;
 - 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings;

3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or
4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site:

1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate;
2. is of such a nature as to require a change in the Drawings or Specifications;
3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine whether it is necessary for Owner to obtain additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.

C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.

D. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.

E. *Possible Price and Times Adjustments*

1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. Such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,
 - c. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise;
 - b. The existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice required by Paragraph 5.04.A.
3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

F. *Underground Facilities; Hazardous Environmental Conditions:* Paragraph 5.05 governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs 5.03 and 5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* Unless it is otherwise expressly provided in the Supplementary Conditions, the cost of all of the following are included in the Contract Price, and Contractor shall have full responsibility for:
1. reviewing and checking all information and data regarding existing Underground Facilities at the Site;

2. complying with applicable state and local utility damage prevention Laws and Regulations;
 3. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction;
 4. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 5. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated on the Drawings, or was not shown or indicated on the Drawings with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing regarding such Underground Facility.
- C. *Engineer's Review:* Engineer will:
1. promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy;
 2. identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary issue any preliminary instructions to Contractor) regarding the Contractor's resumption of Work in connection with the Underground Facility in question;
 3. obtain any pertinent cost or schedule information from Contractor; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and
 4. advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the Underground Facility may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the Underground Facility in question and conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.

F. *Possible Price and Times Adjustments*

1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
 - b. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E; and
 - c. Contractor gave the notice required in Paragraph 5.05.B.
2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.
4. The information and data shown or indicated on the Drawings with respect to existing Underground Facilities at the Site is based on information and data (a) furnished by the owners of such Underground Facilities, or by others, (b) obtained from available records, or (c) gathered in an investigation conducted in accordance with the current edition of ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, by the American Society of Civil Engineers. If such information or data is incorrect or incomplete, Contractor's remedies are limited to those set forth in this Paragraph 5.05.F.

5.06 *Hazardous Environmental Conditions at Site*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site;
2. drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
3. Technical Data contained in such reports and drawings.

B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of

their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;
 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
1. The Contractor's scope of work shall include implementation of necessary safety, public health and environmental procedures and requirements relating to sanitary sewage encountered during the work.
 2. The Contractor's scope of work shall include necessary safety and environmental requirements for handling and disposal of asbestos pipe removed from service or excavated during the course of the work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition

and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.

- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.
- H. If, after receipt of such written notice, Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I obligates Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligent acts or omissions ~~negligence~~.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J obligates Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6—BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of Contractor's obligations under the Contract. These bonds must remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, the Supplementary Conditions, or other provisions of the Contract.
- B. Contractor shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Contract.
- C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Owner prior to execution of the Contract, except as provided otherwise by Laws or Regulations, and must be issued and signed by a surety named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.
- E. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer in writing and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which must comply with the bond and surety requirements above.
- F. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- G. Upon request to Owner from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Owner shall provide a copy of the payment bond to such person or entity.
- H. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.

6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized in the state or jurisdiction in which the Project is located to issue insurance policies for the

required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.

- C. Alternative forms of insurance coverage, including but not limited to self-insurance and "Occupational Accident and Excess Employer's Indemnity Policies," are not sufficient to meet the insurance requirements of this Contract, unless expressly allowed in the Supplementary Conditions.
- D. Contractor shall deliver to Owner, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Contractor has obtained and is maintaining the policies and coverages required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant exclusions, and evidence of insurance required to be purchased and maintained by Subcontractors or Suppliers. In any documentation furnished under this provision, Contractor, Subcontractors, and Suppliers may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those applicable to this Contract.
- E. Owner shall deliver to Contractor, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Owner has obtained and is maintaining the policies and coverages required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, and full disclosure of all relevant exclusions. In any documentation furnished under this provision, Owner may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those relevant to this Contract.
- F. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- G. In addition to the liability insurance required to be provided by Contractor, the Owner, at Owner's option, may purchase and maintain Owner's own liability insurance. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.
- H. Contractor shall require:
 - 1. Subcontractors to purchase and maintain worker's compensation, commercial general liability, and other insurance that is appropriate for their participation in the Project, and to name as additional insureds Owner and Engineer (and any other individuals or entities identified in the Supplementary Conditions as additional insureds on Contractor's liability policies) on each Subcontractor's commercial general liability insurance policy; and
 - 2. Suppliers to purchase and maintain insurance that is appropriate for their participation in the Project.

- I. If either party does not purchase or maintain the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- J. If Contractor has failed to obtain and maintain required insurance, Contractor's entitlement to enter or remain at the Site will end immediately, and Owner may impose an appropriate set-off against payment for any associated costs (including but not limited to the cost of purchasing necessary insurance coverage), and exercise Owner's termination rights under Article 16.
- K. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect (but is in no way obligated) to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price will be adjusted accordingly.
- L. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests. Contractor is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Contractor deems necessary.
- M. The insurance and insurance limits required herein will not be deemed as a limitation on Contractor's liability, or that of its Subcontractors or Suppliers, under the indemnities granted to Owner and other individuals and entities in the Contract or otherwise.
- N. All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured and Engineer.

6.03 Contractor's Insurance

- A. *Required Insurance:* Contractor shall purchase and maintain Worker's Compensation, Commercial General Liability, and other insurance pursuant to the specific requirements of the Supplementary Conditions.
- B. *General Provisions:* The policies of insurance required by this Paragraph 6.03 as supplemented must:
 - 1. include at least the specific coverages required;
 - 2. be written for not less than the limits provided, or those required by Laws or Regulations, whichever is greater;
 - 3. remain in effect at least until the Work is complete (as set forth in Paragraph 15.06.D), and longer if expressly required elsewhere in this Contract, and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract;
 - 4. apply with respect to the performance of the Work, whether such performance is by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed

by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable; and

5. include all necessary endorsements to support the stated requirements.
- C. *Additional Insureds*: The Contractor's commercial general liability, automobile liability, employer's liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies, if required by this Contract, must:
1. include and list as additional insureds Owner and Engineer, and any individuals or entities identified as additional insureds in the Supplementary Conditions;
 2. include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds;
 3. afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);
 4. not seek contribution from insurance maintained by the additional insured; and
 5. as to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Contractor's acts or omissions, or the acts and omissions of those working on Contractor's behalf, in the performance of Contractor's operations.

6.04 *Builder's Risk and Other Property Insurance*

- A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the Work's full insurable replacement cost (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). The specific requirements applicable to the builder's risk insurance are set forth in the Supplementary Conditions.
- B. *Property Insurance for Facilities of Owner Where Work Will Occur*: Owner is responsible for obtaining and maintaining property insurance covering each existing structure, building, or facility in which any part of the Work will occur, or to which any part of the Work will attach or be adjoined. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, providing coverage consistent with that required for the builder's risk insurance, and will be maintained until the Work is complete, as set forth in Paragraph 15.06.D.
- C. *Property Insurance for Substantially Complete Facilities*: Promptly after Substantial Completion, and before actual occupancy or use of the substantially completed Work, Owner will obtain property insurance for such substantially completed Work, and maintain such property insurance at least until the Work is complete, as set forth in Paragraph 15.06.D. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, and provide coverage consistent with that required for the builder's risk insurance. The builder's risk insurance may terminate upon written confirmation of Owner's procurement of such property insurance.
- D. *Partial Occupancy or Use by Owner*: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will

provide advance notice of such occupancy or use to the builder's risk insurer, and obtain an endorsement consenting to the continuation of coverage prior to commencing such partial occupancy or use.

- E. *Insurance of Other Property; Additional Insurance:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, then the entity or individual owning such property item will be responsible for insuring it. If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.04, it may do so at Contractor's expense.

6.05 *Property Losses; Subrogation*

- A. The builder's risk insurance policy purchased and maintained in accordance with Paragraph 6.04 (or an installation floater policy if authorized by the Supplementary Conditions), will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors.
 - 1. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils, risks, or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder's risk or installation floater insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused.
 - 2. None of the above waivers extends to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Any property insurance policy maintained by Owner covering any loss, damage, or consequential loss to Owner's existing structures, buildings, or facilities in which any part of the Work will occur, or to which any part of the Work will attach or adjoin; to adjacent structures, buildings, or facilities of Owner; or to part or all of the completed or substantially completed Work, during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06, will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them, and that the insured is allowed to waive the insurer's rights of subrogation in a written contract executed prior to the loss, damage, or consequential loss.
 - 1. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from fire or any of the perils, risks, or causes of loss covered by such policies.

- C. The waivers in this Paragraph 6.05 include the waiver of rights due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other insured peril, risk, or cause of loss.
- D. Contractor shall be responsible for assuring that each Subcontract contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from fire or other peril, risk, or cause of loss covered by builder's risk insurance, installation floater, and any other property insurance applicable to the Work.

6.06 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of property insurance required by Paragraph 6.04 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.
- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.04 shall maintain such proceeds in a segregated account, and distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, Contractor shall repair or replace the damaged Work, using allocated insurance proceeds.

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

7.01 *Contractor's Means and Methods of Construction*

- A. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. If the Contract Documents note, or Contractor determines, that professional engineering or other design services are needed to carry out Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures, or for Site safety, then Contractor shall cause such services to be provided by a properly licensed design professional, at Contractor's expense. Such services are not Owner-delegated professional design services under this Contract, and neither Owner nor Engineer has any responsibility with respect to (1) Contractor's determination of the need for such services, (2) the qualifications or licensing of the design professionals retained or employed by Contractor, (3) the performance of such services, or (4) any errors, omissions, or defects in such services.

7.02 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who will not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.03 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall maintain good discipline and order at the Site.
- B. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of Contractor's employees; of Suppliers and Subcontractors, and their employees; and of any other individuals or entities performing or furnishing any of the Work, just as Contractor is responsible for Contractor's own acts and omissions.
- C. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site will be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.04 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work must be new and of good quality, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications will expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment must be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.05 *"Or Equals"*

- A. *Contractor's Request; Governing Criteria:* Whenever an item of equipment or material is specified or described in the Contract Documents by using the names of one or more proprietary items or specific Suppliers, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or

description contains or is followed by words reading that no like, equivalent, or “or equal” item is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material, or items from other proposed Suppliers, under the circumstances described below.

1. If Engineer in its sole discretion determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer will deem it an “or equal” item. For the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that the proposed item:
 - 1) is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) has a proven record of performance and availability of responsive service; and
 - 4) is not objectionable to Owner.
 - b. Contractor certifies that, if the proposed item is approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) the item will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor’s Expense*: Contractor shall provide all data in support of any proposed “or equal” item at Contractor’s expense.
- C. *Engineer’s Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each “or-equal” request. Engineer may require Contractor to furnish additional data about the proposed “or-equal” item. Engineer will be the sole judge of acceptability. No “or-equal” item will be ordered, furnished, installed, or utilized until Engineer’s review is complete and Engineer determines that the proposed item is an “or-equal,” which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
- D. *Effect of Engineer’s Determination*: Neither approval nor denial of an “or-equal” request will result in any change in Contract Price. The Engineer’s denial of an “or-equal” request will be final and binding, and may not be reversed through an appeal under any provision of the Contract.
- E. *Treatment as a Substitution Request*: If Engineer determines that an item of equipment or material proposed by Contractor does not qualify as an “or-equal” item, Contractor may request that Engineer consider the item a proposed substitute pursuant to Paragraph 7.06.

7.06 Substitutes

- A. *Contractor’s Request; Governing Criteria*: Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that

Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.

1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.
2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
3. Contractor shall make written application to Engineer for review of a proposed substitute item of equipment or material that Contractor seeks to furnish or use. The application:
 - a. will certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design;
 - 2) be similar in substance to the item specified; and
 - 3) be suited to the same use as the item specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;
 - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from the item specified; and
 - 2) available engineering, sales, maintenance, repair, and replacement services.
 - d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a

Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.

- C. *Special Guarantee*: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- E. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination*: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request will be final and binding, and may not be reversed through an appeal under any provision of the Contract. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.06.D, by timely submittal of a Change Proposal.

7.07 *Concerning Subcontractors and Suppliers*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner. The Contractor's retention of a Subcontractor or Supplier for the performance of parts of the Work will not relieve Contractor's obligation to Owner to perform and complete the Work in accordance with the Contract Documents.
- B. Contractor shall retain specific Subcontractors and Suppliers for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor or Supplier to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 5 days.
- E. Owner may require the replacement of any Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors or Suppliers for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor or Supplier so identified solely on the basis of substantive, reasonable objection after due investigation.

Contractor shall submit an acceptable replacement for the rejected Subcontractor or Supplier.

- F. If Owner requires the replacement of any Subcontractor or Supplier retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor or Supplier, whether initially or as a replacement, will constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.
- H. On a monthly basis, Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors and Suppliers.
- J. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.
- K. All Work performed for Contractor by a Subcontractor or Supplier must be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract for the benefit of Owner and Engineer.
- L. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier.
- M. Contractor shall restrict all Subcontractors and Suppliers from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract.

7.08 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If an invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights will be disclosed in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as

being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.09 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits, licenses, and certificates of occupancy. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

7.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.
- B. In the event of the Contractor's default on the payment of taxes, excises, and license fees as set forth in Idaho Code 63-1503, the Owner shall have the authority to withhold from any payment due the Contractor under this contract, the estimated amount of such accrued and accruing taxes, excises, and license fees for the benefit of all taxing authorities to which said Contractor is liable.

7.11 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It is not Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this does not relieve Contractor of its obligations under Paragraph 3.03.

- C. Owner or Contractor may give written notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such written notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.
- D. While not intended to be inclusive of all Laws or Regulations for which Contractor may be responsible under paragraph 7.11, the following Laws or Regulations are included as mandated by statute or for the convenience of the Contractor:

Idaho Code Section 63-1501. Definitions. As used in this act, the following terms shall have the following meanings:

"Contracting units" shall include the state or any officer or department thereof, the counties or other subdivisions of the state, and all municipal and quasi-municipal corporations therein.

"Contractor" shall mean any person, firm, co-partnership, association, or corporation, foreign or domestic, entering into a contract for the construction, erection, repair, or improvement of any kind or character of public works in this state.

"Taxes" shall mean all taxes, assessments, excises, and license fees authorized to be levied, assessed, and collected under the laws of this state, other than taxes on real property.

"Taxing unit" shall mean the state or any officer or department thereof, the counties or other subdivisions of the state, and all municipal and quasi-municipal corporations therein authorized by law to assess, levy and collect taxes.

Idaho Code Section 63-1502. Conditions precedent to contract for public works. Before entering into a contract for the construction of any public works in this state, the contracting unit shall require as conditions precedent that the contractor be authorized to do business in this state and that he furnish satisfactory evidence that he has paid or secured to the satisfaction of the respective taxing units all taxes for which he or his property is liable then due or delinquent.

Idaho Code Section 63-1503. Contractor for public works to pay or secure taxes—Agreement. Every contract for the construction of public works by a contracting unit of this state shall contain substantially the following provisions:

1. The contractor, in consideration of securing the business of erecting or constructing public works in this state, recognizing that the business in which he is engaged is of a transitory character, and that in the pursuit thereof, his property used therein may be

without the state when taxes, excises, or license fees to which he is liable become payable, agrees:

2. To pay promptly when due all taxes (other than on real property), excises and license fees due to the state, its subdivisions, and municipal and quasi-municipal corporations therein accrued or accruing during the term of this contract, whether or not the same shall be payable at the end of such term;
3. That if the said taxes, excises, and license fees are not payable at the end of said term, but liability for the payment thereof exists, even though the same constitute liens upon his property, to secure the same to the satisfaction of the respective officers charged with the collection thereof; and
4. That in the event of his default in the payment or securing of such taxes, excises, and license fees, to consent that the department, officer, board, or taxing unit entering into this contract may withhold from any payment due him hereunder the estimated amount of such accrued and accruing taxes, excises, and license fees for the benefit of all taxing units to which said contractor is liable.

Idaho Code Section 44-1002 requires the following: The Contractor must employ ninety-five percent (95%) bona fide Idaho residents as employees on any job under any such contract except where under such contracts fifty (50) or less persons are employed, the Contractor may employ ten percent (10%) nonresidents, provided, however, in all cases employers must give preference to the employment of bona fide residents in the performance of said work, and no contract shall be let to any person, firm, association, or corporation refusing to execute an agreement with the above mentioned provisions in it; provided, that, in contracts involving the expenditure of federal aid funds this act shall not be enforced in such a manner as to conflict with or be contrary to the federal statutes prescribing a labor preference to honorably discharged soldiers, sailors, and marines, prohibiting as unlawful any other preference or discrimination among citizens of the United States.

Idaho Code Chapter 19 of Title 54 requires proper licensing of Public Works Contractors.

7.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve

Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations.

- B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of Work-related accidents and the maintenance and supervision of safety precautions and programs.
- C. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- D. All damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- E. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.
- F. Contractor shall notify Owner; the owners of adjacent property; the owners of Underground Facilities and other utilities (if the identity of such owners is known to Contractor); and other contractors and utility owners performing work at or adjacent to the Site, in writing, when Contractor knows that prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- G. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Any Owner's safety programs that are applicable to the Work are identified or included in the Supplementary Conditions or Specifications.
- H. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- I. Contractor's duties and responsibilities for safety and protection will continue until all the Work is completed, Engineer has issued a written notice to Owner and Contractor in accordance with Paragraph 15.06.C that the Work is acceptable, and Contractor has left the Site (except as otherwise expressly provided in connection with Substantial Completion).

- J. Contractor's duties and responsibilities for safety and protection will resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.14 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of safety data sheets (formerly known as material safety data sheets) or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused by an emergency, or are required as a result of Contractor's response to an emergency. If Engineer determines that a change in the Contract Documents is required because of an emergency or Contractor's response, a Work Change Directive or Change Order will be issued.

7.16 *Submittals*

A. *Shop Drawing and Sample Requirements*

1. Before submitting a Shop Drawing or Sample, Contractor shall:
 - a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determine and verify:
 - 1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal;
 - 2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - 3) all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;
 - c. confirm that the Submittal is complete with respect to all related data included in the Submittal.
2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that Submittal, and that Contractor approves the Submittal.
3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the

Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.

B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.

1. *Shop Drawings*

- a. Contractor shall submit the number of copies required in the Specifications.
- b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide, and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.C.

2. *Samples*

- a. Contractor shall submit the number of Samples required in the Specifications.
- b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by Paragraph 7.16.C.

3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Engineer's Review of Shop Drawings and Samples*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, comply with the requirements of the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions or programs incident thereto.
3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.

5. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for complying with the requirements of Paragraphs 7.16.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, will not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance, or approval of a Shop Drawing or Sample will result in such item becoming a Contract Document.
8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.

D. Resubmittal Procedures for Shop Drawings and Samples

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous Submittals.
2. Contractor shall furnish required Shop Drawing and Sample submittals with sufficient information and accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer's time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved Shop Drawing or Sample, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

E. Submittals Other than Shop Drawings, Samples, and Owner-Delegated Designs

1. The following provisions apply to all Submittals other than Shop Drawings, Samples, and Owner-delegated designs:
 - a. Contractor shall submit all such Submittals to the Engineer in accordance with the Schedule of Submittals and pursuant to the applicable terms of the Contract Documents.
 - b. Engineer will provide timely review of all such Submittals in accordance with the Schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted. Any such Submittal that is not returned within the time established in the Schedule of Submittals will be deemed accepted.
 - c. Engineer's review will be only to determine if the Submittal is acceptable under the requirements of the Contract Documents as to general form and content of the Submittal.
 - d. If any such Submittal is not accepted, Contractor shall confer with Engineer regarding the reason for the non-acceptance, and resubmit an acceptable document.

2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.03, 2.04, and 2.05.
- F. Owner-delegated Designs: Submittals pursuant to Owner-delegated designs are governed by the provisions of Paragraph 7.19.

7.17 Contractor's General Warranty and Guarantee

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer is entitled to rely on Contractor's warranty and guarantee.
- B. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 15.08. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.17 is limited only by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period under Paragraph 15.08:
1. Owner shall give Contractor written notice of any defective Work within 60 days of the discovery that such Work is defective; and
 2. Such notice will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the notice.
- C. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
1. abuse, or improper modification, maintenance, or operation, by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- D. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of Contractor's obligation to perform the Work in accordance with the Contract Documents, or a release of Owner's warranty and guarantee rights under this Paragraph 7.17:
1. Observations by Engineer;
 2. Recommendation by Engineer or payment by Owner of any progress or final payment;
 3. The issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 4. Use or occupancy of the Work or any part thereof by Owner;
 5. Any review and approval of a Shop Drawing or Sample submittal;
 6. The issuance of a notice of acceptability by Engineer;
 7. The end of the correction period established in Paragraph 15.08;
 8. Any inspection, test, or approval by others; or
 9. Any correction of defective Work by Owner.

- E. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract will govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

7.19 *Delegation of Professional Design Services*

- A. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. Such delegation will specify the performance and design criteria that such services must satisfy, and the Submittals that Contractor must furnish to Engineer with respect to the Owner-delegated design.
- B. Contractor shall cause such Owner-delegated professional design services to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and Submittals prepared by such design professional. Such design professional must issue all certifications of design required by Laws and Regulations.
- C. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Engineer, then such Shop Drawing or other Submittal must bear the written approval of Contractor's design professional when submitted by Contractor to Engineer.
- D. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by the design

professionals retained or employed by Contractor under an Owner-delegated design, subject to the professional standard of care and the performance and design criteria stated in the Contract Documents.

- E. Pursuant to this Paragraph 7.19, Engineer's review, approval, and other determinations regarding design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:
 - 1. Checking for conformance with the requirements of this Paragraph 7.19;
 - 2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and
 - 3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.
- F. Contractor shall not be responsible for the adequacy of performance or design criteria specified by Owner or Engineer.
- G. Contractor is not required to provide professional services in violation of applicable Laws and Regulations.

7.20 Quality Control

- A. Contractor shall provide quality control, which shall include the initial and subsequent inspections of Contractor's Work to ensure that the Work conforms to the Contract Documents.
- B. Contractor shall designate the person responsible for Contractor's quality control while Work is in progress, and shall notify Engineer, in writing, prior to any change in quality control representative assignment.

ARTICLE 8—OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.

- D. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.
- E. If the proper execution or results of any part of Contractor's Work depends upon work performed by others, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.
- F. The provisions of this article are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.05.C.3.

8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. The identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. An itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. The extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

- A. If, in the course of performing other work for Owner at or adjacent to the Site, the Owner's employees, any other contractor working for Owner, or any utility owner that Owner has arranged to perform work, causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment will take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the

Contract, and any remedies available to Contractor under Laws or Regulations concerning utility action or inaction. When applicable, any such equitable adjustment in Contract Price will be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times or Contract Price is subject to the provisions of Paragraphs 4.05.D and 4.05.E.

- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.
 - 1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this Paragraph 8.03.B.
 - 2. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due Contractor.
- C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9—OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 *Replacement of Engineer*

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents will be that of the former Engineer.

9.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.

B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.

C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.

B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

10.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe, as an experienced and qualified design professional, the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.07. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Resident Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in the Supplementary Conditions and in Paragraph 10.07.
- B. If Owner designates an individual or entity who is not Engineer's consultant, agent, or employee to represent Owner at the Site, then the responsibilities and authority of such individual or entity will be as provided in the Supplementary Conditions.

10.04 *Engineer's Authority*

- A. Engineer has the authority to reject Work in accordance with Article 14.
- B. Engineer's authority as to Submittals is set forth in Paragraph 7.16.
- C. Engineer's authority as to design drawings, calculations, specifications, certifications and other Submittals from Contractor in response to Owner's delegation (if any) to Contractor of professional design services, is set forth in Paragraph 7.19.
- D. Engineer's authority as to changes in the Work is set forth in Article 11.

E. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.05 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.06 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.07 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, will create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation, and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Contractor under Paragraph 15.06.A, will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 10.07 also apply to the Resident Project Representative, if any.

10.08 *Compliance with Safety Program*

A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs of which Engineer has been informed.

ARTICLE 11—CHANGES TO THE CONTRACT

11.01 *Amending and Supplementing the Contract*

- A. The Contract may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
- B. If an amendment or supplement to the Contract includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order.
- C. All changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of the Engineer.

11.02 *Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
 - 1. Changes in Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 - 2. Changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 - 3. Changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.05, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters; and
 - 4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Work Change Directive; Paragraph 11.09, concerning Change Proposals; Article 12, Claims; Paragraph 13.02.D, final adjustments resulting from allowances; Paragraph 13.03.D, final adjustments relating to determination of quantities for Unit Price Work; and similar provisions.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.

11.03 *Work Change Directives*

- A. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.07 regarding change of Contract Price.

- B. If Owner has issued a Work Change Directive and:
 - 1. Contractor believes that an adjustment in Contract Times or Contract Price is necessary, then Contractor shall submit any Change Proposal seeking such an adjustment no later than 30 days after the completion of the Work set out in the Work Change Directive.
 - 2. Owner believes that an adjustment in Contract Times or Contract Price is necessary, then Owner shall submit any Claim seeking such an adjustment no later than 60 days after issuance of the Work Change Directive.

11.04 *Field Orders*

- A. Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly.
- B. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.05 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Changes involving the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer's recommendation.
- B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work must be performed under the applicable conditions of the Contract Documents.
- C. Nothing in this Paragraph 11.05 obligates Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.06 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.C.2.

11.07 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:

1. Where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03);
 2. Where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.07.C.2); or
 3. Where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.07.C).
- C. *Contractor's Fee:* When applicable, the Contractor's fee for overhead and profit will be determined as follows:
1. A mutually acceptable fixed fee; or
 2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. For costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee will be 15 percent;
 - b. For costs incurred under Paragraph 13.01.B.3, the Contractor's fee will be 5 percent;
 - c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.07.C.2.a and 11.07.C.2.b is that the Contractor's fee will be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of 5 percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted Work the maximum total fee to be paid by Owner will be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the Work;
 - d. No fee will be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
 - e. The amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in Cost of the Work will be the amount of the actual net decrease in Cost of the Work and a deduction of an additional amount equal to 5 percent of such actual net decrease in Cost of the Work; and
 - f. When both additions and credits are involved in any one change or Change Proposal, the adjustment in Contractor's fee will be computed by determining the sum of the costs in each of the cost categories in Paragraph 13.01.B (specifically, payroll costs, Paragraph 13.01.B.1; incorporated materials and equipment costs, Paragraph 13.01.B.2; Subcontract costs, Paragraph 13.01.B.3; special consultants costs, Paragraph 13.01.B.4; and other costs, Paragraph 13.01.B.5) and applying to each such cost category sum the appropriate fee from Paragraphs 11.07.C.2.a through 11.07.C.2.e, inclusive.

11.08 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment in the Contract Times must comply with the provisions of Article 12.
- B. Delay, disruption, and interference in the Work, and any related changes in Contract Times, are addressed in and governed by Paragraph 4.05.

11.09 *Change Proposals*

- A. *Purpose and Content:* Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; contest an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; challenge a set-off against payment due; or seek other relief under the Contract. The Change Proposal will specify any proposed change in Contract Times or Contract Price, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents. Each Change Proposal will address only one issue, or a set of closely related issues.
- B. *Change Proposal Procedures*
 - 1. *Submittal:* Contractor shall submit each Change Proposal to Engineer within 30 days after the start of the event giving rise thereto, or after such initial decision.
 - 2. *Supporting Data:* The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal.
 - a. Change Proposals based on or related to delay, interruption, or interference must comply with the provisions of Paragraphs 4.05.D and 4.05.E.
 - b. Change proposals related to a change of Contract Price must include full and detailed accounts of materials incorporated into the Work and labor and equipment used for the subject Work.

The supporting data must be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event.

- 3. *Engineer's Initial Review:* Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal. If in its discretion Engineer concludes that additional supporting data is needed before conducting a full review and making a decision regarding the Change Proposal, then Engineer may request that Contractor submit such additional supporting data by a date specified by Engineer, prior to Engineer beginning its full review of the Change Proposal.
- 4. *Engineer's Full Review and Action on the Change Proposal:* Upon receipt of Contractor's supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor's supporting data, either approve the Change Proposal in whole, deny it in whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change

Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

5. *Binding Decision*: Engineer's decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- C. *Resolution of Certain Change Proposals*: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties in writing that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice will be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.
- D. *Post-Completion*: Contractor shall not submit any Change Proposals after Engineer issues a written recommendation of final payment pursuant to Paragraph 15.06.B.

11.10 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12—CLAIMS

12.01 *Claims*

- A. *Claims Process*: The following disputes between Owner and Contractor are subject to the Claims process set forth in this article:
 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents;
 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters; and
 4. Subject to the waiver provisions of Paragraph 15.07, any dispute arising after Engineer has issued a written recommendation of final payment pursuant to Paragraph 15.06.B.
- B. *Submittal of Claim*: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim rests with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge

and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

- C. *Review and Resolution*: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim will be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation*
 - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate will stay the Claim submittal and response process.
 - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process will resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process will resume as of the date of the conclusion of the mediation, as determined by the mediator.
 - 3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action will be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim will be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim will be incorporated in a Change Order or other written document to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13—COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 Cost of the Work

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
 - 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, ~~under cost-plus-fee~~, time-and-materials, or other cost-based terms; or

2. When needed to determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included:* Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work will be in amounts no higher than those commonly incurred in the locality of the Project, will not include any of the costs itemized in Paragraph 13.01.C, and will include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor in advance of the subject Work. Such employees include, without limitation, superintendents, foremen, safety managers, safety representatives, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work will be apportioned on the basis of their time spent on the Work. Payroll costs include, but are not limited to, salaries and wages plus the cost of fringe benefits, which include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, will be included in the above to the extent authorized by Owner.
 2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts will accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment will accrue to Owner, and Contractor shall make provisions so that they may be obtained.
 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, which will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee will be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
 4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed or retained for services specifically related to the Work.
 5. Other costs consisting of the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, which are

consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

- 1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.

c. *Construction Equipment Rental*

- 1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts must cease when the use thereof is no longer necessary for the Work.
- 2) Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book specified in the Supplementary Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.
- 3) With respect to Work that is the result of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.

- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of builder's risk or other property insurance established in accordance with Paragraph 6.04), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. *Costs Excluded:* The term Cost of the Work does not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
- 2. The cost of purchasing, renting, or furnishing small tools and hand tools.
- 3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 5. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
- 6. Expenses incurred in preparing and advancing Claims.
- 7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee*

- ~~1. When the Work as a whole is performed on the basis of cost plus a fee, then:~~
 - ~~a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.~~
 - ~~b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor's fee will be determined as follows:~~
 - ~~1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.~~
 - ~~2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.~~
- ~~2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost plus a fee, then Contractor's fee for any Work covered by a Change~~

~~Order, Change Proposal, Claim, set off, or other adjustment in Contract Price on the basis of Cost of the Work will be determined in accordance with Paragraph 11.07.C.2.~~

- E. *Documentation and Audit:* Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor and pertinent Subcontractors will establish and maintain records of the costs in accordance with generally accepted accounting practices. Subject to prior written notice, Owner will be afforded reasonable access, during normal business hours, to all Contractor's accounts, records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and Contractor's fee. Contractor shall preserve all such documents for a period of three years after the final payment by Owner. Pertinent Subcontractors will afford such access to Owner, and preserve such documents, to the same extent required of Contractor.

13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances:* Contractor agrees that:
1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment for any of the foregoing will be valid.
- C. *Owner's Contingency Allowance:* Contractor agrees that an Owner's contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor for Work covered by allowances, and the Contract Price will be correspondingly adjusted.

13.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision

thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, and the final adjustment of Contract Price will be set forth in a Change Order, subject to the provisions of the following paragraph.

E. *Adjustments in Unit Price*

1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:
 - a. the quantity of the item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 - b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.
2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.
3. Adjusted unit prices will apply to all units of that item.

ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply with such procedures and programs as applicable.

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 3. by manufacturers of equipment furnished under the Contract Documents;
 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests will be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering will be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 Defective Work

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt written notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs,

losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work will be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
 - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work,

or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work will not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 Owner May Correct Defective Work

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace defective Work as required by Engineer, then Owner may, after 7 days' written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15—PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 Progress Payments

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments for Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments*
 - 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.
 - 2. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment must also be accompanied by: (a) a bill of sale, invoice, copies of subcontract or purchase order payments, or other documentation

establishing full payment by Contractor for the materials and equipment; (b) at Owner's request, documentation warranting that Owner has received the materials and equipment free and clear of all Liens; and (c) evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

3. Beginning with the second Application for Payment, each Application must include an affidavit of Contractor stating that all previous progress payments received by Contractor have been applied to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
4. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. Review of Applications

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work;
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid by Owner; or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
 - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due*

1. ~~Ten~~ Twenty-one days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. *Reductions in Payment by Owner*

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. Claims have been made against Owner based on Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages resulting from Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

- b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. The Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. The Contract Price has been reduced by Change Orders;
 - i. An event has occurred that would constitute a default by Contractor and therefore justify a termination for cause;
 - j. Liquidated or other damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens; or
 - l. Other items entitle Owner to a set-off against the amount recommended.
2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed will be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
 3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by Paragraph 15.01.D.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than 7 days after the time of payment by Owner.

15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time

submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which will fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have 7 days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without

significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through 15.03.E for that part of the Work.
2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.04 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *Final Payment*

A. *Application for Payment*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.12), and other documents, Contractor may make application for final payment.
2. The final Application for Payment must be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.

- d. a list of all duly pending Change Proposals and Claims; and
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
- 3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.
- B. *Engineer's Review of Final Application and Recommendation of Payment:* If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the final Application for Payment to Owner for payment. Such recommendation will account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.
- C. *Notice of Acceptability:* In support of its recommendation of payment of the final Application for Payment, Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 15.07.
- D. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment and issuance of notice of the acceptability of the Work.
- E. *Final Payment Becomes Due:* Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's receipt of the final Application for Payment from Engineer.

15.07 Waiver of Claims

- A. By making final payment, Owner waives its claim or right to liquidated damages or other damages for late completion by Contractor, except as set forth in an outstanding Claim,

appeal under the provisions of Article 17, set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.

- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted as a Claim, or appealed under the provisions of Article 17.

15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor's repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such adjacent areas;
 - 2. correct such defective Work;
 - 3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.
- B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.
- C. If, after receipt of a notice of defect within 60 days and within the correction period, Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others). Contractor's failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay.
- D. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

- F. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph are not to be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times directly attributable to any such suspension. Any Change Proposal seeking such adjustments must be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment, or failure to adhere to the Progress Schedule);
 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) 10 days' written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:
1. declare Contractor to be in default, and give Contractor (and any surety) written notice that the Contract is terminated; and
 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within 7 days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure. Such cure must occur within no more than thirty (30) days of said notice unless otherwise extended by the Engineer.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs,

losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond will govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate for Convenience*

- A. Upon 7 days' written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid for any loss of anticipated profits or revenue, post-termination overhead costs, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon 7 days' written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, 7 days after written notice to Owner and Engineer, stop the Work until

payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17—FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this article:
 - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full, pursuant to Article 12; and
 - 2. Disputes between Owner and Contractor concerning the Work, or obligations under the Contract Documents, that arise after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this article, Owner or Contractor may:
 - 1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions;
 - 2. agree with the other party to submit the dispute to another dispute resolution process; or
 - 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18—MISCELLANEOUS

18.01 *Giving Notice*

- A. Whenever any provision of the Contract requires the giving of written notice to Owner, Engineer, or Contractor, it will be deemed to have been validly given only if delivered:
 - 1. in person, by a commercial courier service or otherwise, to the recipient's place of business;
 - 2. by registered or certified mail, postage prepaid, to the recipient's place of business; or
 - 3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

18.02 *Computation of Times*

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision will not constitute a waiver of that provision, nor will it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination of the Contract or of the services of Contractor.

18.07 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Assignment of Contract*

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party to this Contract of any rights under or interests in the Contract will be binding on the other party without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract.

18.09 *Successors and Assigns*

- A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

18.10 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

City of Moscow
Latah County, Idaho
Water Reclamation Facility
Influent Pump Station Upgrade

Section 3

Supplementary Conditions

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SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

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SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

These Supplementary Conditions amend or supplement ISPWC Division 100 ~~EJCDC® C-700~~, Standard General Conditions of the Construction Contract ~~(2018)~~. The General Conditions remain in full force and effect except as amended.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added—for example, "Paragraph SC-4.05."

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

SC-1.01 Add the following language at the end of Paragraph 1.01.A.2:

The Agreement may also be referred to as "Contract" within these Contract Documents.

SC-1.01 Add a new paragraph immediately after paragraph 1.01.A.22. of the General Conditions as follows:

a. Engineer Consultant(s): The person, firm(s) or corporation(s) named as such below:

1) J-U-B ENGINEERS, Inc.,

SC-1.01 Delete Paragraphs 1.01.A.42. in its entirety and insert the following in its place:

42. *Substantial Completion* — Sufficient completion of the construction project or the portion thereof to permit utilization of the project, or portion thereof for its intended purpose. Substantial completion requires not only that the work be sufficiently completed to permit utilization, but that the Owner can effectively utilize the substantially completed work. Determination of substantial completion is solely at the discretion of the Owner. Substantial completion does not mean complete in accordance with the contract nor shall substantial completion of all or any part of the project entitle the Contractor to acceptance under the contract. See SC 15.03 for project specific terms of substantial completion.

SC-1.01 Add the following definitions to Paragraph 1.01.A.:

51. *Incidental* – Work, Materials or Services required by the Contract which are not specifically identified as payment item(s). No specific measurement and/or payment will be made for incidental items. The cost thereof should be included in other items of work listed in the Bid Schedule.

1.02 *Terminology*

SC-1.02 Add the following paragraph to Paragraph 1.02.D.:

4. When materials or equipment are to be incorporated into work, they shall be in new or unused operable condition unless otherwise specified.

ARTICLE 2—PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

SC-2.01 Delete Paragraphs 2.01.B. and 2.01.C. in their entireties and insert the following in their place:

- B. *Evidence of Contractor's Insurance:* When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner copies of the policies (including all endorsements, and identification of applicable self-insured retentions and deductibles) of insurance required to be provided by Contractor in this Contract. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- C. *Evidence of Owner's Insurance:* After receipt from Contractor of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor copies of the policies of insurance to be provided by Owner in this Contract (if any). Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

2.02 *Copies of Documents*

SC-2.02 Amend the first sentence of Paragraph 2.02.A. to read as follows:

Owner shall furnish to Contractor one (1) printed copy of the Agreement), and one (1) copy of the Contract Documents in electronic portable document format (PDF).

2.03 *Before Starting Construction*

SC-2.03 Add the following new paragraph immediately after Paragraph 2.03.A:

- B. Within ten (10) days after the effective date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to the Owner (or Engineer) the following:
 - 1. A copy of the completed WH-5 Public Works Contract Report that was submitted to the Idaho State Tax Commission in conformance with Idaho Code Sections 54-1904A and 63-3624(g), and
 - 2. Affidavit of Payment of Securement of all taxes in conformance with Title 63, Chapter 15 Idaho Code – Document 00951.

2.06 *Electronic Transmittals*

SC-2.06 Delete Paragraphs 2.06.B and 2.06.C in their entirety and insert the following in their place:

- B. *Electronic Documents Protocol:* The parties shall conform to the following provisions in Paragraphs 2.06.B and 2.06.C, together referred to as the Electronic Documents Protocol (“EDP” or “Protocol”) for exchange of electronic transmittals.
 - 1. *Basic Requirements*
 - a. To the fullest extent practical, the parties agree to and will transmit and accept Electronic Documents in an electronic or digital format using the procedures described in this Protocol. Use of the Electronic Documents and any information contained therein is subject to the requirements of this Protocol and other provisions of the Contract.

- b. The contents of the information in any Electronic Document will be the responsibility of the transmitting party.
- c. Electronic Documents as exchanged by this Protocol may be used in the same manner as the printed versions of the same documents that are exchanged using non-electronic format and methods, subject to the same governing requirements, limitations, and restrictions, set forth in the Contract Documents.
- d. Except as otherwise explicitly stated herein, the terms of this Protocol will be incorporated into any other agreement or subcontract between a party and any third party for any portion of the Work on the Project, or any Project-related services, where that third party is, either directly or indirectly, required to exchange Electronic Documents with a party or with Engineer. Nothing herein will modify the requirements of the Contract regarding communications between and among the parties and their subcontractors and consultants.
- e. When transmitting Electronic Documents, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the receiving party's use of software application packages, operating systems, or computer hardware differing from those established in this Protocol.
- f. Nothing herein negates any obligation 1) in the Contract to create, provide, or maintain an original printed record version of Drawings and Specifications, signed and sealed according to applicable Laws and Regulations; 2) to comply with any applicable Law or Regulation governing the signing and sealing of design documents or the signing and electronic transmission of any other documents; or 3) to comply with the notice requirements of Paragraph 18.01 of the General Conditions.

2. *System Infrastructure for Electronic Document Exchange*

- a. Each party will provide hardware, operating system(s) software, internet, e-mail, and large file transfer functions ("System Infrastructure") at its own cost and sufficient for complying with the EDP requirements. With the exception of minimum standards set forth in this EDP, and any explicit system requirements specified by attachment to this EDP, it is the obligation of each party to determine, for itself, its own System Infrastructure.
 - 1) The maximum size of an email attachment for exchange of Electronic Documents under this EDP is 5 MB. Attachments larger than that may be exchanged using large file transfer functions or physical media.
 - 2) Each Party assumes full and complete responsibility for any and all of its own costs, delays, deficiencies, and errors associated with converting, translating, updating, verifying, licensing, or otherwise enabling its System Infrastructure, including operating systems and software, for use with respect to this EDP.
- b. Each party is responsible for its own system operations, security, back-up, archiving, audits, printing resources, and other Information Technology ("IT") for maintaining operations of its System Infrastructure during the Project, including coordination with the party's individual(s) or entity responsible for managing its System Infrastructure and capable of addressing routine communications and other IT issues affecting the exchange of Electronic Documents.

- c. Each party will operate and maintain industry-standard, industry-accepted, ISO-standard, commercial-grade security software and systems that are intended to protect the other party from: software viruses and other malicious software like worms, trojans, adware; data breaches; loss of confidentiality; and other threats in the transmission to or storage of information from the other parties, including transmission of Electronic Documents by physical media such as CD/DVD/flash drive/hard drive. To the extent that a party maintains and operates such security software and systems, it shall not be liable to the other party for any breach of system security.
- d. In the case of disputes, conflicts, or modifications to the EDP required to address issues affecting System Infrastructure, the parties shall cooperatively resolve the issues; but, failing resolution, the Owner is authorized to make and require reasonable and necessary changes to the EDP to effectuate its original intent. If the changes cause additional cost or time to Contractor, not reasonably anticipated under the original EDP, Contractor may seek an adjustment in price or time under the appropriate process in the Contract.
- e. Each party is responsible for its own back-up and archive of documents sent and received during the term of the contract under this EDP, unless this EDP establishes a Project document archive, either as part of a mandatory Project website or other communications protocol, upon which the parties may rely for document archiving during the specified term of operation of such Project document archive. Further, each party remains solely responsible for its own post-Project back-up and archive of Project documents after the term of the Contract, or after termination of the Project document archive, if one is established, for as long as required by the Contract and as each party deems necessary for its own purposes.
- f. If a receiving party receives an obviously corrupted, damaged, or unreadable Electronic Document, the receiving party will advise the sending party of the incomplete transmission.
- g. The parties will bring any non-conforming Electronic Documents into compliance with the EDP. The parties will attempt to complete a successful transmission of the Electronic Document or use an alternative delivery method to complete the communication.

C. *Software Requirements for Electronic Document Exchange; Limitations*

- 1. Each party will acquire the software and software licenses necessary to create and transmit Electronic Documents and to read and to use any Electronic Documents received from the other party (and if relevant from third parties), using the software formats required in this section of the EDP.
 - a. Prior to using any updated version of the software required in this section for sending Electronic Documents to the other party, the originating party will first notify and receive concurrence from the other party for use of the updated version or adjust its transmission to comply with this EDP.

2. The parties agree not to intentionally edit, reverse engineer, decrypt, remove security or encryption features, or convert to another format for modification purposes any Electronic Document or information contained therein that was transmitted in a software data format, including Portable Document Format (PDF), intended by sender not to be modified, unless the receiving party obtains the permission of the sending party or is citing or quoting excerpts of the Electronic Document for Project purposes.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

No changes to this Article.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

SC-4.01 Delete Paragraphs 4.01.A in its entirety and insert the following in its place:

- A. A Notice to Proceed shall be issued by the Owner to the Contractor establishing the day Contract Times will commence to run. The day indicated on the Notice to Proceed shall be any day after the Effective Date of the Agreement, but in no event will the Contract Times commence to run later than 60 days after the Effective Date of the Agreement. The Owner will work with the Contractor to select a mutually acceptable date that the Contract Times will commence to run within the above time frame.

4.03 *Reference Points*

SC-4.03 Delete Paragraph 4.03.A in its entirety and insert the following in its place:

- A. Owner will not provide engineering surveys to establish reference points for construction.

ARTICLE 5—SITE, SUBSURFACE AND PHYSICAL CONDITIONS, HAZARDOUS ENVIRONMENTAL CONDITIONS

5.02 *Use of Site and Other Areas*

SC-5.02 Add the following paragraph after paragraph 5.02.A.2

3. Utilization of the site shall conform to the provisions set forth in the Contract Documents shall not hinder the Owner's occupancy and full operational capacity or maintenance activities of the Owner's existing infrastructure. The Contractor shall at all times, conduct his Work to ensure the least possible obstruction and inconvenience to residents, businesses and the general public.

5.03 *Subsurface and Physical Conditions*

SC-5.03 Add the following new paragraphs immediately after Paragraph 5.03.D:

- E. The following table lists the reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data, and specifically identifies the Technical Data in the report upon which Contractor may rely:

Report Title	Date	Technical Data
None.		

Report Title	Date	Technical Data

- F. The following table lists the drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data, and specifically identifies the Technical Data upon which Contractor may rely:

Drawings Title	Date	Technical Data
Wastewater Treatment Facilities Phase III	2001	Structural information

- G. Contractor may examine copies of reports and drawings identified in SC-5.03.E and SC-5.03.F that were not included with the Bidding Documents at City Hall during regular business hours, or may request copies from Engineer.

5.06 Hazardous Environmental Conditions

SC-5.06 Add the following new paragraphs immediately after Paragraph 5.06.A.3:

4. The following table lists the reports known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and the Technical Data (if any) upon which Contractor may rely:

Report Title	Date	Technical Data
None.		

5. The following table lists the drawings known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and Technical Data (if any) contained in such Drawings upon which Contractor may rely:

Drawings Title	Date	Technical Data
None.		

ARTICLE 6—BONDS AND INSURANCE

6.01 Performance, Payment, and Other Bonds

SC-6.01 Add the following paragraphs immediately after Paragraph 6.01.A:

- Required Performance Bond Form:* The performance bond that Contractor furnishes will be in the form of ISPWC 00610 EJCDC® C-610, *Performance Bond (2010, 2013, or 2018 edition)*.
- Required Payment Bond Form:* The payment bond that Contractor furnishes will be in the form of ISPWC 00615 EJCDC® C-615, *Payment Bond (2010, 2013, or 2018 edition)*.

6.02 Insurance—General Provisions

SC-6.02 Add the following paragraph immediately after Paragraph 6.02.B:

1. Contractor may obtain worker's compensation insurance from an insurance company that has not been rated by A.M. Best, provided that such company (a) is domiciled in the state in which the Project is located, (b) is certified or authorized as a worker's compensation insurance provider by the appropriate state agency, and (c) has been accepted to provide worker's compensation insurance for similar projects by the state within the last 12 months.

6.03 Contractor's Insurance

SC-6.03 Supplement Paragraph 6.03 with the following provisions after Paragraph 6.03.C:

- D. *Other Additional Insureds:* As a supplement to the provisions of Paragraph 6.03.C of the General Conditions, the commercial general liability, automobile liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies must include as additional insureds (in addition to Owner and Engineer) the following:
 1. N/A
- E. The Contractor shall not commence work until it has obtained all insurance required under this section or it has satisfied CITY in this respect; nor shall it allow any subcontractor to commence work until such subcontractor has also obtained such required insurance applicable to such subcontractor's work. The Contractor shall maintain such required insurance coverage throughout the term of this Agreement. The Contractor will hold CITY harmless and shall indemnify CITY for any losses arising out of the Contractor's operations, including any contingent liability arising there from. The cost of such insurance shall be borne by the Contractor. The Contractor shall furnish copies of all insurance policies and/or certificates of insurance to CITY at the time of execution of this Agreement. Each policy shall include a provision to the effect that it shall not be subject to cancellation, or reduction in the amounts of its liabilities, or any other material change, until notice has been given in writing to CITY and the Engineer not less than fifteen (15) days prior to such action. Contractor shall further cause CITY to be named as an additional insured on all applicable insurance policies.
- F. The Contractor shall take out and maintain during the term of this Agreement, statutory worker's compensation insurance, in the statutory limits for as required by law of Contractor, for all employees who will work on this Project, and if any work is subcontracted, the Contractor shall require the subcontractor similarly to provide such insurance for all of the latter's employees unless they are included under the protection afforded by the Contractor.
- G. The Contractor shall take out and maintain during the term of this Agreement comprehensive public and general liability insurance and automobile liability insurance. The comprehensive public and general liability insurance shall have, at a minimum, a coverage limit of at least ONE MILLION DOLLARS (\$1,000,000.00) per occurrence, and TWO MILLION DOLLARS (\$2,000,000.00) aggregate. The automobile liability insurance shall have, at a minimum, a coverage of ONE MILLION DOLLARS (\$1,000,000) combined single limit. Policies containing deductible clauses will not be acceptable.

- H. The Contractor shall take out and maintain, during the term of this Agreement, builders' risk insurance which shall be written in completed value form, shall protect the Contractor and CITY against 'all-risks' of direct physical loss to buildings, structures, equipment and materials to be used in providing, performing or completing the Project. This insurance shall be written with limits not less than the insurable value of the Project at completion. This insurance shall include coverage while equipment or materials are in warehouses, during installation, during testing, and after the Project is completed, but prior to final payment.
- I. Contractor's Responsibility for Materials. The Contractor shall be responsible for all materials and work performed until final acceptance by CITY.
- J. Contractor shall require all subcontractors to maintain the above referenced insurance requirements and shall verify that such requirements have been met by requiring all subcontractors to provide certification therefore.

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

7.03 Labor; Working Hours

SC-7.03 Add the following new subparagraphs immediately after Paragraph 7.03.C:

1. Regular working hours are defined in the Technical Specifications.
2. Owner's legal holidays are as follows:

New Year's Day
Idaho Human Rights Day / Martin Luther King Day
President's Day
Memorial Day
Juneteenth
Independence Day
Labor Day
Veterans Day
Thanksgiving Day and the day following Thanksgiving
Christmas Day

7.16 Submittals

SC-7.16 Add the following new Paragraphs immediately after Paragraph 7.16.C.8:

9. Engineer's review of Shop Drawings and Samples, Standard Specifications and descriptive literature submitted by Contractor will be only for general conformance with design concept, except as otherwise provided, and shall not be construed as:
 - a. Permitting any departure from the Contract Requirements;
 - b. Relieving Contractor of the responsibility for any error in details, dimensions or otherwise that may exist in such submittals;
 - c. Constituting a blanket approval of dimensions, quantities, or details of the material or equipment shown; or
 - d. Approving departures from additional details or instructions previously furnished by Engineer. Such check or review shall not relieve Contractor of the full

responsibility of meeting all the requirements of the Contract Documents.

7.20 Quality Control

SC-7.20 Add the following at the end of paragraph 7.20.A.:

1. Additional testing to ensure that the materials meet the specification requirements shall be the responsibility of the Contractor.
2. Contractor shall provide testing results to Engineer within 24 hours after field sampling is complete.

ARTICLE 8—OTHER WORK AT THE SITE

8.01 Other Work

SC-8.01 Add the following new paragraphs immediately after paragraph 8.01.F:

- G. Should Contractor cause damage to the work or property of any separate contractor at the site, or should any claim arising out of or resulting from Contractor's performance of the Work at the site be made by any separate contractor against Contractor, Owner, Engineer, or Engineer's Consultants or any other person, Contractor shall promptly attempt to settle with such other contractor by agreement, or to otherwise resolve the dispute by mediation, arbitration or at law. Contractor shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold Owner, Engineer, and Engineer's Consultants and the officers, directors, employees, agents, and other consultants of each and any of them harmless from and against all claims, costs, losses and damages, (including, but not limited to, all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) arising directly, indirectly or consequentially out of or resulting from any action, legal or equitable, brought by a separate contractor against Owner, Engineer, or Engineer's Consultants or the officers, directors, employees, agents, or other consultants of each and any of them to the extent based on a claim caused by, arising out of, or resulting from Contractor's performance of the Work.
- H. Should a separate contractor cause damage to the Work or property of Contractor or should the performance of work by any separate contractor at the site give rise to any other claim, Contractor shall not institute any action, legal or equitable, against Owner, Engineer, or Engineer's Consultants or the officers, directors, employees, agents, or other consultants of each and any of them or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any mediator or arbitrator which seeks to impose liability on or to recover damages from Owner, Engineer, or Engineer's Consultants or the officers, directors, employees, agents, or other consultants of each and any of them on account of any such damage or claim.
- I. If Contractor is delayed at any time in performing or furnishing Work by any act or neglect of a separate contractor and Owner and Contractor are unable to agree as to the extent of any adjustment in Contract Times attributable thereto, Contractor may make a claim for an extension of time in accordance with Article 13. An extension of the Contract Times shall be Contractor's exclusive remedy with respect to Owner, Engineer, or Engineer's Consultants or the officers, directors, employees, agents, or other consultants of each and any of them for any delay, disruption, interference, or hindrance caused by any separate contractor. This paragraph does not prevent recovery from Owner, Engineer, or Engineer's Consultants or

the officers, directors, employees, agents, or other consultants of each and any of them for activities that are their respective responsibilities.

- J. It is the responsibility of Contractor to coordinate its work with work done by others at the Site at no additional cost to Owner. Work to be completed by others is generally identified on the Plans. All work shown on the Plans that is not specifically identified to be completed by others shall be the responsibility of Contractor. Work by others general consists of:
1. None.

ARTICLE 9—OWNER’S RESPONSIBILITIES

No changes to this Article.

ARTICLE 10—ENGINEER’S STATUS DURING CONSTRUCTION

10.03 Resident Project Representative

SC-10.03 Delete Paragraph 10.03.A in its entirety and replace with the following new paragraph:

- A. On this Project, by agreement with the Owner, the Engineer will not furnish a Resident Project Representative to represent Engineer at the Site or assist Engineer in observing the progress and quality of the Work.

SC-10.03 Add the following immediately after Paragraph 10.03.B:

1. Owner’s designated representative and the responsibilities and authority of such an individual or entity are as follows:
 - a. Name: N/A
 - b. Responsibilities and authority: N/A

ARTICLE 11—CHANGES TO THE CONTRACT

11.02 Change Orders

SC-11.02 Add the following new paragraph immediately after Paragraph 11.02.B.

- C. Change Orders must be authorized by Owner in writing prior to beginning the additional work.

11.05 Owner-Authorized Changes in the Work

SC 11.05 Delete Paragraph 11.05.A in its entirety and insert the following in its place:

- A. The Owner reserves the right to make, at any time during the work, such changes in quantities and such alterations in the work as are necessary to satisfactorily complete the project. Such changes in quantities and alterations shall not invalidate the contract nor release the surety, and the Contractor agrees to perform the work as altered.
1. If the alterations or changes in quantities significantly change the character of the work under the contract, whether or not changed by any such different quantities or alterations, an adjustment, excluding loss of anticipated profits, will be made to the contract. The basis for the adjustment shall be agreed upon prior to the performance of

the work. If a basis cannot be agreed upon, then an adjustment will be made either for or against the Contractor in such amount as the Engineer may determine to be fair and equitable.

2. If the alteration or changes in quantities do not significantly change the character of the work to be performed under the contract, the altered work will be paid for as provided elsewhere in the contract.
3. The term “significant changes” shall be construed to apply only to the following circumstances:
 - a. When the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction; or
 - b. When a major item of work, as defined elsewhere in the contract, is increased in excess of One Hundred Twenty Five (125) percent or decreased below Seventy Five (75) percent of the original contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of One Hundred Twenty Five (125) percent of original contract item quantity, or in case of a decrease below Seventy Five (75) percent, to the actual amount of work performed.

11.07 *Change of Contract Price*

SC-11.07 Amend the last sentence of Paragraph 11.07.C.2.c to read as follows:

“...however, that for any such subcontracted Work the maximum total fee to be paid by Owner will be no greater than Twenty-Five (25) percent of the costs incurred by the Subcontractor that actually performs the Work;”

ARTICLE 12—CLAIMS

No changes to this Article.

ARTICLE 13—COST OF WORK; ALLOWANCES, UNIT PRICE WORK

13.01 *Cost of the Work*

SC-13.01 Supplement Paragraph 13.01.B.5.c.(2) by adding the following sentence:

The equipment rental rate book that governs the included costs for the rental of machinery and equipment owned by Contractor (or a related entity) under the Cost of the Work provisions of this Contract is the most current edition of AED Green Book: Rental Rates & Specifications for Construction Equipment.

SC-13.01 Supplement Paragraph 13.01.C.2 by adding the following definition of small tools and hand tools:

- a. For purposes of this paragraph, “small tools and hand tools” means any tool or equipment whose current price if it were purchased new at retail would be less than \$500.

13.03 *Unit Price Work*

SC-13.03 Delete Paragraph 13.03.E.1 in its entirety and insert the following in its place:

1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:
 - a. The extended price of a particular item of Unit Price Work amounts to Five (5) percent or more of the Contract Price (based on estimated quantities at the time of Contract formation) and the variation in the quantity of that particular item of Unit Price Work actually furnished or performed by Contractor differs by more than Twenty Five (25) percent from the estimated quantity of such item indicated in the Agreement; and
 - b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.
2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.
3. Adjusted unit prices will apply to all units of that item.

ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

No changes to this Article.

ARTICLE 15—PAYMENTS TO CONTRACTOR, SET OFFS; COMPLETIONS; CORRECTION PERIOD

15.01 Progress Payments

SC-15.01.D. Delete paragraph 15.02.D.1 of the General Conditions in its entirety and insert the following in its place:

1. 45 days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of paragraph 15.02.D) become due, and when due will be paid by Owner to Contractor.

15.06 *Final Payment*

SC-15.06 Delete the last sentence of Paragraph 15.06.E and replace with the following:

Owner shall pay the resulting balance due to Contractor within 45 days of Owner's receipt of the final Application for Payment from Engineer.

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

ARTICLE 17—FINAL RESOLUTIONS OF DISPUTES

17.02 JURISDICTION AND DISPUTE RESOLUTION

SC-17.02 Add the following new paragraph immediately after Paragraph 17.01.

- A. Either CITY, or Contractor, may request mediation of any Claim submitted to Engineer for a decision before such decision becomes final and binding. A mediator with a background in construction litigation shall be selected by mutual agreement. In the event the parties cannot mutually agree upon a mediator, the Trial Court Administrator for the Second Judicial District shall submit a list of three (3) mediators to the parties. Each party will be allowed to strike one (1) of the listed mediators, Contractor proceeding first and CITY second. The remaining person shall then be the mediator. Costs of the mediation shall be borne equally by the parties.
- B. CITY and Contractor shall participate in the mediation process in good faith. The process shall be concluded within sixty (60) days of filing of the request.
- C. If the Claim is not resolved by mediation, Engineer's action or denial shall become final and binding thirty (30) days after termination of the mediation unless, within that time period, CITY or Contractor:
1. agrees with the other party to submit the Claim to another dispute resolution process; or
 - i. gives written notice to the other party of the intent to file an action in the Second Judicial District of the State of Idaho which court, the parties agree, is the court with jurisdiction to hear the dispute. The action must then be filed not later than sixty (60) days after substantial completion of the Project.

ARTICLE 18—MISCELLANEOUS

No changes to this Article.

City of Moscow
Latah County, Idaho
Water Reclamation Facility
Influent Pump Station Upgrade

Section 4

Technical Specifications

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**INDEX OF PROFESSIONAL REGISTRATIONS
SEAL AND SIGNATURE SHEET**

SPECIFICATION SECTION	SECTION DESCRIPTION
01 10 00	Summary of Work
01 20 00	Measurement and Payment
01 30 00	Coordination and Meetings
01 32 17	Work Sequence
01 33 00	Submittal Procedures
01 33 05	Cloud Based Construction Administration Software
01 33 10	Construction Progress Schedule
01 35 60	Health and Safety
01 40 00	Quality Assurance and Quality Control
00 15 00	Temporary Facilities and Controls
01 60 00	Product Requirements
01 65 00	Commissioning of Equipment
01 70 00	Closeout Requirements
01 73 00	Installation Operation and Maintenance Manuals
03 60 00	Grouting
23 07 11	Removable Insulation System for Equipment
43 05 10	Equipment General Provisions
43 24 41	Enclosed Archimedes Screw Pumps

The Technical specifications sections listed above have been prepared under the direction of the professional Engineer, registered in the State of Idaho, whose seal and signature appear below:



07/26/2024

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DATE:	July 25, 2024
PROJECT:	City of Moscow, WRF IPS Replacement
ENGINEER:	Raymond J. Watkins, P.E.

<u>SPECIFICATION SECTION</u>	<u>SECTION DESCRIPTION</u>
26 01 00	ELECTRICAL GENERAL
26 06 00	GROUNDING AND BONDING
26 07 50	ELECTRICAL IDENTIFICATION
26 08 00	ELECTRICAL TESTING
26 12 00	CONDUCTORS AND CABLES
26 13 00	RACEWAYS AND BOXES
26 14 00	WIRING DEVICES
26 29 13	MANUAL AND MAGNETIC MOTOR CONTROLLERS
26 41 00	ENCLOSED SWITCHES AND CIRCUIT BREAKERS
26 85 00	HEAT TRACE
26 92 10	CONTROL SYSTEM

The technical specification sections listed above have been prepared under the direction of the Professional Engineer, licensed in the State of Idaho, whose seal and signature appear below:



7-25-2024

**SECTION 01 10 00
SUMMARY OF WORK**

PART 1 GENERAL

1.1 PROJECT SUMMARY

- A. At the influent pump station, remove and replace the three existing screw pumps and appurtenances with associated electrical work.
- B. It is intended that the new pumps will be exact replacements, no modification to the existing structure will be required and the new pumps will utilize the existing anchor bolts.
- C. Two influent pumps are to be in-service at all times; therefore, the pumps and associated electrical equipment must be removed, replaced, tested and put back into service one at a time.
- D. The project is funded entirely by the City of Moscow. There are no American Iron and Steel (AIS), Build American Buy American (BABA) requirements, or other funding agency requirements.

1.2 REGULATORY REQUIREMENTS AND PERMITS

- A. Comply with all Federal, State, and local laws, regulations, and ordinances applicable to the Work.
- B. References in the Contract Documents to local codes shall mean the codes in effect in the State of Idaho, Latah County, and the City of Moscow.
- C. Owner shall obtain and pay for all building permit(s). The permit(s) shall be assigned to the Contractor, and the Contractor shall coordinate inspections and execute permit requirements, as necessary.
- D. Contractor shall coordinate with utilities (power, natural gas, water, etc.) for connection to systems and shall coordinate inspections and execute any and all requirements by the utilities. Owner shall pay-for connection fees related to power, natural gas and water for elements incorporated into the facility, but not for Contractor's use during construction.
- E. Contractor shall apply for, pay for, and execute all other permits applicable to the work.
- F. Other standards and codes that apply to the work are designated elsewhere in the Contract Documents.

1.3 CULTURAL RESOURCES

- A. The Contractor's attention is directed to the National Historic Preservation Act of 1966 (54 U.S.C. 300101) and 36 CFR Part 800 "Protection of Historic Properties" which provides for the preservation of potential historical architectural, archeological, or cultural resources (hereinafter called "cultural resources").
- B. The Contractor shall conform to the applicable requirements of the National Historic Preservation Act of 1966 as it relates to the preservation of cultural resources and fair compensation to the Contractor for delays resulting from such cultural resources investigations.
- C. In the event potential cultural resources are discovered during subsurface excavations at the site of construction, the following procedures shall be instituted:
 - 1. The Contractor shall immediately cease all construction operations at the location of such potential cultural resources find and notify the Owner and Engineer.
 - 2. A Stop Work Order shall be effective until such time as a qualified archeologist can be called to assess the potential cultural resources and make recommendations to the State Archeologist. Any Stop Work Order shall contain a clear description of the work to be suspended.
 - 3. If the archeologist determines that the potential find is a bona fide cultural resource, at the direction of the State Archeologist and State Historic Preservation Office, the Owner/Engineer shall extend the duration of the Stop Work Order in writing, and the Contractor shall suspend work at the location of the find.
 - 4. Equitable adjustment of the construction contract time shall be made in the following manner: If the work temporarily suspended is on the "critical path" as determined by the Contractor's most recent work progress schedule submitted to the Engineer prior to the find, the total number of days for which the suspension is in effect shall be added to the number of allowable contract days.

1.4 WORK BY OWNER

- A. Normal day-to-day operations of the existing facility will be ongoing. Construction shall not isolate or interrupt existing wastewater conveyance and treatment activities, including, but not limited to, Owner's staff operation, maintenance, and repair except as specifically described herein.

- B. A University of Idaho research project is adjacent to the work area. The project requires daily access by student operators. Students will be required to comply with contractor's safety requirements. When contractor's schedule includes overhead work and access must be prohibited for safety reasons, contractor shall provide 10-days advanced notice prior to the activity and limit the access for a maximum of one day (each event).
- C. Whenever existing systems and equipment are scheduled to be taken out of service, the Owner will operate all valves and equipment to shut off and isolate the system from plant flow stream.

1.5 CONTRACTOR USE OF SITE AND PREMISES

- A. Limit use of site and premises to allow:
 - 1. Access by property owners.
 - 2. Work by others and work by Owner.
 - 3. Always maintain access for facility traffic.
- B. Contractor shall have access to a 'Staging Area' as generally depicted in the Plans, or as agreed upon between the Owner and the Contractor. Contractor shall grade and prepare the area as necessary for Contractor's use. At completion of the project, the area shall be graded to match existing site contours and returned to an equal or better condition compared to the beginning of construction.
- C. Contractor's traffic paths, gate locations, and parking areas shall be coordinated with and approved by the Owner prior to construction taking place.
- D. Owner's activities (including hauling biosolids, equipment deliveries, chemical deliveries, maintenance, etc.) requires uninterrupted use of the facility's access road(s) unless specifically noted otherwise. Access road(s) shall be one lane, 12' wide minimum, and gravel surfaced (until final surface repair is provided). Short-term closures limited to one to two days may be permitted, provided a request is made 14 days prior, Owner is able to reschedule activities requiring use of the road, and upon written acceptance by the Owner.
- E. Construction operations shall be limited to rights-of-way, easements, and property lines of Owner's property.
- F. Time Restrictions for Performing Work:

1. Contractor's (and Subcontractor's) work shall be limited to the hours of 7:00 am to 6:00 pm, local time, on weekdays only unless otherwise approved by the Owner, or as described in the General Conditions and Supplementary Conditions. No work shall be performed outside these hours, on weekends, or on Owner-recognized holidays unless authorized in writing by the Owner. Requests for alterations to the allowable working hours or days shall be submitted in writing to the Owner seven working days prior to the requested start date of the modifications. Contractor shall state the circumstances that warrant this request. This request shall include any additional measures to mitigate noise generated by construction activity if deemed necessary by the Engineer.
2. If an emergency occurs that warrants extended hours, the Contractor shall notify the Engineer and Owner immediately upon determining the need for this work.
- G. Contractor shall secure temporary power from the utility with a separate metered connection. Use of Owner's power is not permitted.
- H. Refer to Section 01 50 00 – Temporary Facilities and Controls for additional site use requirements.

1.6 OWNER OCCUPANCY

- A. Owner will occupy the premises during the entire period of construction for normal operation of the facility. Cooperate with Owner in all construction activities including, but not limited to, startups, testing, and demonstration period operation to minimize conflict and to facilitate Owner usage.
- B. Owner's personnel will be responsible for operating the existing facility throughout the execution of this Contract. Equipment presently installed in the facility must be available to Owner's personnel at all times for use, maintenance, and repairs, unless specifically noted otherwise in the Contract Documents.
- C. Contractor shall schedule the Work to accommodate Owner occupancy.

1.7 WORK BY OTHERS

- A. Additional work by other Contractors may be performed at the facility site under separate contract and will require coordination and scheduling by Contractor with those separate efforts, at no additional cost.

1.8 SITE ELEVATION AND CLIMATIC CONDITIONS

- A. The Project site is at an elevation of approximately 2,579 feet above mean sea level.
- B. Climate conditions are described as follows:

	Range of Conditions
Extreme Min. Winter Temperature	-40F
Extreme Max. Summer Temperature	110F

1.9 ABBREVIATIONS

- A. Wherever the following abbreviations are used, they shall have the meanings indicated, unless specifically noted otherwise:

AASHTO	American Association of the State Highway and Transportation Officials
ACI	American Concrete Institute
AGA	American Gas Association
AGMA	American Gear Manufacturers' Association
AI	The Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron & Steel Institute
AITC	American Institute of Timber Construction
ANSI	American National Standards Institute
APA	American Plywood Association
API	American Petroleum Institute
APWA	American Public Works Association
AREA	American Railway Engineering Association
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASQC	American Society for Quality Control
ASTM	American Society for Testing and Materials
AWPA	American Wood Preservers Association
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
CBM	Certified Ballast Manufacturers
CLFMI	Chain Link Fence Manufacturers Institute
CRSI	Concrete Reinforcing Steel Institute
DIPRA	Ductile Iron Pipe Research Association
ETL	Electrical Test Laboratories
FHWA	Federal Highway Administration
IBC	International Building Code
ICEA	Insulated Cable Engineers Association
IEEE	Institute of Electrical and Electronics Engineers

IPCEA	Insulated Power Cable Engineers Association
ISA	Instrument Society of America
ISO	Insurance Services Office
ISPWC	Idaho Standards for Public Works Construction
ITE	Institute of Transportation Engineers
MUTCD	Manual on Uniform Traffic Control Devices
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NFPA	National Forest Products Association
OSHA	Occupational Safety and Health Act of 1970
PCA	Portland Cement Association
SAE	Society of Automotive Engineers
SEPA	State Environmental Policy Act
SSPC	Steel Structures Painting Council
UBC	Uniform Building Code, International Conference of Building Officials
UL	Underwriters' Laboratories, Inc.
UPC	Uniform Plumbing Code
WCLIB	West Coast Lumber Inspection Bureau
WCRSI	Western Concrete Reinforcing Steel Institute
WRI	Wire Reinforcement Institute
WWPA	Western Wood Products Association

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

**SECTION 01 20 00
MEASUREMENT AND PAYMENT**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. General Description of Measurement and Payment
- B. Schedule of Values
- C. Schedule of Estimated Progress Payments
- D. Applications for Payment
- E. Nonpayment for Rejected or Unused Goods
- F. Partial Payment for Stored Materials and Equipment
- G. Bid Schedule

1.2 GENERAL DESCRIPTION OF MEASUREMENT AND PAYMENT

- A. Measurement and Payment for the bid items listed in the Bid Form shall be on the basis of the description in the Contract Documents. Unless the work to be done is specifically called out to be measured and paid for in the Bid Form, payment for such work shall be included in other applicable items, and there shall be no separate measurement and payment for the work.
- B. Items listed in the Bid Form as lump sum (LS) shall include all work for the complete installation as generally described in the Contract Documents.
- C. Payment shall be made at the contract unit bid price listed in the Bid Form. The price listed therein shall be payment in full for all labor, tools, equipment, materials, etc., which are required to construct the respective bid items according to the Contract Documents including all work and materials incidental thereto.
- D. Partial payment for unit bid items and lump sum bid items only partially completed at the end of monthly pay periods shall be made based upon the percentage of work completed as recommended by the Engineer and approved by Owner.

1.3 SCHEDULE OF VALUES

- A. Prepare a Schedule of Values for the Work. Schedule of Values shall list values for all Work for complete installation to serve as the basis for computing values for progress payments during construction.

- B. Submit Schedule of Values in accordance with the General Conditions. Submit on Contractor's standard forms and provide a PDF copy and a spreadsheet copy (format compatible with latest version of Excel).
- C. List bonds and insurance premiums, mobilization, demobilization, and contract closeout separately in the Schedule of Values.
- D. An unbalanced or front-end loaded schedule, as determined by the Engineer, will not be acceptable.
- E. Summation of the complete Schedule of Values representing all the work shall equal the Contract Price.
- F. Unit Price Work:
 - 1. Where the Contract Documents provide that portions of the Work are to be paid as Unit Price Work, include the unit price and the estimated quantity of each item as indicate in the Agreement in the Schedule of Values.
 - 2. Final payment for Unit Price Work will be established per the General Conditions.
- G. Lump Sum Work:
 - 1. Where the Contract Documents provide that portions of the Work are to be paid as Lump Sum Work, the Schedule of Values shall include the corresponding equipment, additive alternates (as applicable), specified allowances (as applicable), labor, tools, materials, piping, fittings, temporary bypassing/components, environmental controls and permitting, appurtenances, and all other items of expense for a complete and properly functioning installation as shown and described in the Contract Documents.
 - 2. Payment shall be made at the approved Schedule of Value prices. Provide a breakdown of costs by Process Area (below) with subsequent breakdown by corresponding Technical Division; i.e. Process Area X with Division 1 through Division 46 (as applicable). Include the Process Areas shown below as a minimum; additional areas may be used if appropriate.

Process Area
Influent Pump Station

- 3. Within the Process Area and Technical Division Schedule of Values breakdown described above:

- a. Itemize each equipment item separately with separate amounts for
 - i. Equipment Purchase and Delivery
 - ii. Equipment Installation
 - iii. Equipment Training and Commissioning.
- b. For Contractor provided equipment, the following payment schedule (**Table 1**) describes the maximum cumulative percentages that shall be paid in progress payments for the listed project milestones. Scheduled Values for individual process equipment items shall include the material and labor for all packaged components (instruments, control panels, etc.) supplied by a single vendor associated with that equipment item.

Table 1 – Equipment Payment Schedule

Scheduled Value	Submittal with “No Exceptions Taken”	Delivered and Stored On-Site ^(c)	Completed Initial Starting and Testing ^(a) ^(b)	Completed Owner Training	Completed Commissioning	Final O&M Manual with “No Exceptions Taken”
Equipment Purchase and Delivery	10%	85%	90%	95%	100%	---
Equipment Installation	0%	0%	85%	90%	95%	100%
Equipment Training and Commissioning	0%	0%	85%	90%	95%	100%

^(a) Reference Section 01 65 00. Corresponds to Notice of Completed Installation.

^(b) Must include “no exceptions taken” Preliminary O&M Manual for equipment. Reference Section 01 73 00.

^(c) Must include “no exceptions taken” Installation manual for equipment. Reference Section 01 73 00.

- c. For Pre-Procured Equipment (as applicable), payment terms shall be per the Assigned Procurement Agreement specific to that equipment package.

1.4 SCHEDULE OF ESTIMATED PROGRESS PAYMENTS

- A. Show estimated payment requests throughout Contract Times aggregating initial Contract Price.
- B. Base estimated progress payments on initially acceptable progress schedule.

- C. Submit an updated Schedule of Estimated Progress Payments when requested. Update accordingly to reflect subsequent modifications to the progress schedule, as well as modifications to the Contract Price.

1.5 APPLICATIONS FOR PAYMENT

- A. Submit Applications for Payment in accordance with the General Conditions and per the approved Schedule of Values.
- B. Submit Application for Payment, including a Transmittal Summary Form and detailed Application for Payment Form(s), a listing of materials on hand but not incorporated into the Work, and such supporting data as may be required by Funding Agency (or Agencies) and Engineer.
- C. Final Application for Payment:
 - 1. Submit Final Application for Payment in accordance with the General Conditions.
 - 2. Reference Section 01 70 00 Closeout Requirements.
- D. Use detailed Application for Payment Form suitable to Engineer, Owner, and Funding Agencies (as applicable).
- E. Preparation:
 - 1. Round values to nearest dollar.
 - 2. List each Change Order executed prior to date of submission as a separate line item.
 - 3. Take all measurements and compute quantities to estimate percent complete of each item listed in the Schedule of Values. The Engineer will review measurements, quantities, and percent complete with Contractor's Application for Payment per the General Conditions.
 - 4. Content and Format: Utilize Schedule of Values for listing items in Application for Payment. For each item, provide a column for listing: Item Number, Description of Work, Unit Price, Quantity, Amount, Previous Applications, Work in Place under this Application, Authorized Change Orders, Total Completed to Date of Application, Percentage of Completion, Balance to Finish, and Retainage.
 - 5. Waiver of Liens: The Contractor shall provide a Waiver of Lien to the Owner as part of the Application for Payment.
 - 6. Affidavits attesting to off-Site stored products shall be submitted, as applicable, with each Application for Payment.

7. When Owner, Engineer, or funding agency (as applicable) requires substantiating information for review, approval, or processing an Application for Payment, submit such information as requested.
8. The date of the month for Contractor's submission of monthly Application for Payment shall be per the Agreement.
9. Progress payments will be made monthly, provided Contractor's submissions are in accordance with the Contract Documents and acceptable to the funding agencies and Owner.

1.6 NONPAYMENT FOR REJECTED OR UNUSED PRODUCTS

- A. Payment will not be made for the following:
1. Loading, hauling, and disposing of rejected or defective material.
 2. Quantities of material wasted or disposed of in a manner not called for under the Contract Documents.
 3. Rejected loads of material, including material rejected after it has been placed by reason of failure of Contractor to conform to provisions of Contract Documents.
 4. Material not unloaded from transporting vehicle.
 5. Defective work not accepted by the Owner.
 6. Items purchased by Contractor and remaining on-hand after completion of Work.
 7. Products placed beyond lines and levels of required Work.

1.7 PARTIAL PAYMENT FOR STORED MATERIALS AND EQUIPMENT

- A. Partial Payment: No partial payments will be made for materials and equipment delivered and stored on site (but not incorporated into the Work) unless:
1. Submittals and Shop Drawings have been noted as "no exceptions taken".
 2. The items are properly stored and secured on site (per vendor or supplier requirements) and in a manner acceptable to the Owner and Funding Agencies (as applicable).
 3. Payment shall not be made for materials or equipment which are never delivered to the site or for products which are delivered but improperly stored. Reference Section 01 60 00 Product Requirements.

4. Final Payment: Final payment will be made only for products incorporated in work; remaining products, for which partial payments have been made, shall revert to Contractor unless otherwise agreed, and partial payments made for those items will be deducted from final payment.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

**SECTION 01 30 00
COORDINATION AND MEETINGS**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Coordination
- B. Operational Coordination
- C. Preconstruction Conference
- D. Progress Meetings

1.2 COORDINATION

- A. Contractor shall coordinate the Work schedule, including submittals, for all sections of the Contract Documents to ensure the efficient and orderly sequence of installation of interdependent construction elements. Reference Section 01 33 10 Construction Progress Schedule.
- B. Contractor shall coordinate space requirements and installation of all components of the Work, including process mechanical, mechanical, and electrical work (including locations of outlets and fixtures), which are indicated diagrammatically or schematically on the Drawings to prevent conflicts. Contractor shall follow routing shown for pipes, ducts, and conduit, as closely as practicable and denote any deviations from the Contract documents within submittals – references Section 01 33 00 Submittal Procedures. Contractor shall utilize space efficiently to maximum accessibility for other installations, for maintenance, and for repairs.
- C. Contractor shall coordinate completion and clean-up of the Work of separate Sections in the Contract Documents in preparation for Substantial Completion.
- D. Contractor shall coordinate startup with the Owner, Engineer, state agencies, and funding agencies. Reference Section 01 65 00 Commissioning of Systems.
- E. Contractor shall verify that utility requirements (including, but not limited to power, process water, etc.) of operating equipment are compatible with building utilities.
- F. Coordinate Work of various portions / disciplines of the Contract Documents having independent responsibilities for installing, connecting to, and placing in service, such equipment.
- G. Contractor shall coordinate the Work with additional work being performed by others on-site. Reference Section 01 10 00 Summary of Work.

1.3 OPERATIONAL COORDINATION

- A. Owner will be responsible for operating the existing treatment plant throughout the execution of this Contract. Refer to Section 01 32 17 Work Sequence for operational coordination.
- B. Contractor shall maintain road access at all times for plant operations vehicles to all treatment process units from at least one direction or provide alternate temporary road access at no additional cost to the Owner.

1.4 PRECONSTRUCTION CONFERENCE

- A. Engineer will schedule and conduct a conference after Notice of Award and prior to the Notice to Proceed.
- B. Attendance is required by at least one person from each of the entities listed below:
 - 1. Owner or their representative
 - 2. Engineer
 - 3. Engineer's Resident Project Representative(s) (as applicable)
 - 4. Contractor including Project Manager, Site Superintendent, and Project Safety Officer. Contractor should consider including key subconsultants.
 - 5. Funding agencies, as applicable.
- C. Agenda:
 - 1. Statutes of the Agreement and required supplemental documents, e.g. bonds, insurance certificates, etc.
 - 2. Distribution of Contract Documents
 - 3. List of Subcontractors
 - 4. Schedule of Values
 - 5. Contractor's Schedule
 - 6. Designation of personnel representing the parties in Contract, and the Engineer, including communication procedures.
 - 7. Procedures and processing of field decisions, submittals, substitutions, applications for payment, change proposal requests, Change Orders and Contract closeout.

8. Surveying, including number of mobilizations, layout/reference points and scheduling requirements.
9. Specific funding agency requirements
10. Owner-furnished equipment/materials (as applicable)
11. Pre-procured Equipment (as applicable)
12. Utility Company Coordination
13. Quality Control Testing Responsibilities
14. Other items as deemed necessary by the Owner, Engineer, and Contractor.

1.5 PROGRESS MEETINGS

- A. The Engineer will schedule and administer progress meetings.
- B. Meetings will be every other week, or as necessary depending on progress of the Work. If on-site construction is not occurring, attendance via video call is permissible.
- C. Attendance Required: Contractor's site superintendent, Contractor's major subcontractors and suppliers, Owner, Engineer, and others as considered necessary by Owner or Engineer during the work and as appropriate to agenda topics for each meeting.
- D. Agenda:
 1. Review minutes of previous meetings.
 2. Review of Work progress and changes made or proposed to the Contract Documents.
 3. Field observations, problems, and decisions.
 4. Identification of problems which impede planned progress.
 5. Review of submittals schedule and status of submittals.
 6. Review of off-site fabrication and delivery schedules.
 7. Contractor's maintenance of progress schedule.
 8. Contractor's proposed corrective measures to regain projected schedules.
 9. Planned progress during succeeding work period.

10. Coordination of projected progress, including scheduling of special inspections, planned shutdowns/outages, and major work items.
11. Maintenance of quality and work standards.
12. Effect of proposed changes on progress schedule and coordination.
13. Funding agency, local, state, and federal requirements affecting the Work.
14. Applications for payment.
15. Other business relating to the Work.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

**SECTION 01 32 17
WORK SEQUENCE**

PART 1 GENERAL

1.1 EXISTING FACILITY

- A. The existing facility is currently and continuously receiving wastewater from the collection system and treating the wastewater prior to discharge. Those functions necessary for treatment in the existing facility prior to discharge are not to be interrupted except as specified herein.
- B. Retain and protect existing facilities not designated for Work in this project.

1.2 DISCHARGE PERMIT CONDITIONS

- A. Discharge from the facility must satisfy the following conditions:
 - 1. The Owner's NPDES / IDPES Discharge Permit number is ID0021491. Compliance with the Permit shall be maintained at all times during construction. A copy of the Permit may be obtained at:
 - a. www.deq.idaho.gov/permits/issued-permits-and-water-quality-certifications/
 - b. Bypassing of untreated or partially treated wastewater to surface waters is prohibited.
- B. Owner will notify Contractor immediately if Permit limits are violated, or if an imminent violation is anticipated. The Owner and/or Engineer shall determine if the violation or imminent violation is caused by the actions or inactions of the Contractor, its employees, subcontractors, and/or agents.
- C. If the actions or inactions of the Contractor, its employees, subcontractors, and/or agents, result in a violation of the Permit or an imminent violation, the Contractor shall, at no cost to Owner, mitigate any damages, suspend or modify certain aspects of work (if deemed necessary by Owner and/or Engineer), and fully cooperate with Owner and Engineer to bring the facility into compliance with the Permit.
- D. Penalties and all related costs, including but not limited to legal and engineering expenses, imposed on or incurred by the Owner as a result of any bypass or Permit violation caused by the actions or inactions of the Contractor, its employees, subcontractors or agents, are to be borne in full by the Contractor.

1.3 SUBMITTALS

- A. Incorporate provisions of this specification in Section 01 33 10 Construction Progress Schedule.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.1 GENERAL

- A. Owner will occupy the premises during the entire construction period and continue operations of the existing facility until the new facility is complete. Contractor shall cooperate, schedule, and coordinate all activities with Owner to avoid conflicts in the normal operation of the facility.

3.2 SHUTDOWNS/OUTAGES

- A. Provide a detailed outage plan for each work item that may impact facility operation, including utility outages required for construction purposes. Each outage plan shall be submitted to the Engineer and Owner for review.
- B. Unless otherwise specified, Contractor shall dewater process tanks and pipelines at the beginning of each shutdown. Contractor shall be responsible for washing down and cleaning all tanks, basins, pipelines, and other work areas.
- C. Contractor shall not shut off or disconnect any operating system of the facility unless approved by the Owner, in writing. All facility equipment operations and shutdowns shall be executed by the Owner unless otherwise noted. Contractor shall seal Owner-operated gates and valves upon approval by the Owner to prevent unnecessary leakage. After Contractor's work has been completed, Contractor shall remove the seal(s) to the satisfaction of the Engineer.
- D. Operating processes, systems, individual equipment items, piping, or controls shall be isolated, dewatered, decommissioned, de-energized, or depressurized only during scheduled, planned outages.
- E. The Owner, or designated representative, shall have the right to cancel or terminate an outage at no cost to the Owner when in their opinion the potential for a safety hazard or violation of the discharge permit exists. However, this does not relieve the Contractor of the responsibility to maintain a safe working environment and to maintain facility operations.
- F. If requested by the Owner or Engineer, the Contractor shall send a representative to meet with facility and Engineer's staff to plan activities prior to the requested outage.

- G. Outages shall not be permitted on Fridays, weekends, or Holidays. Shutdowns shall not occur on consecutive days unless previously approved by the Engineer and accepted by the Owner.
- H. Contractor shall be responsible for coordinating all shutdowns with the Owner and Engineer. Contractor shall, whenever possible, combine discrete shutdown procedures identified in this section or by Contractor into a single shutdown when the duration of the shutdowns or the work requirements allow such combining to occur on a unit process or work area. The intent of combining procedures is to minimize the impacts upon facility operations and processes by limiting the number of shutdowns required.
- I. Except for the shutdown durations specified in this section, Contractor's means and methods shall be implemented such that the existing facility, in its entirety, shall remain in continuous satisfactory operation, as determined by the Owner, during the entire duration of the Contract.
- J. Coordinate with the Engineer, Owner, and Utility Provider to obtain approval to disconnect or reconnect utilities.
- K. Coordinate with the Engineer and Owner regarding the shutdown and safety tagout/lockout of pressurized systems, electrical, mechanical, pneumatic, hydraulic, etc. systems, and other equipment and utilities.

3.3 TEMPORARY FACILITIES

- A. Contractor has the option of providing additional temporary facilities that can eliminate a constraint, provided the temporary facilities are implemented without additional cost to the Owner and all requirements of the Contract Documents are fulfilled.
- B. If the Contractor elects to provide additional temporary facilities in accordance with the above requirements, the Contractor shall provide a temporary facility plan to the Engineer and Owner for review.

3.4 WORK SEQUENCE

- A. Remove, replace, and commission the three Archimedes screw pumps at the Influent Pump Station one at a time. The order of replacement shall be:
 - 1. Pump 203 (middle)
 - 2. Pump 202 (north)
 - 3. Pump 204 (south)
- B. Owner reserves the right to change the order of replacement.
- C. The Moscow WRF experiences high flows due to Infiltration and Inflow during the winter and spring months. All three influent pumps must be available for operation for

the period of December 1 through April 30 and Work during this time is not permitted. Contractor's schedule shall accommodate delivery and completed installation of the pumps prior to this period. If all three pumps cannot be completed prior to December 1, 2025, Contractor will be granted a no-cost change order for a Winter Shutdown. Construction for the remaining pumps shall resume May 1, 2026, unless another date is mutually agreed to by Owner and Contractor.

END OF SECTION

SECTION 01 33 00
SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 GENERAL

- A. Contractor shall develop submittals as necessary to document proposed goods, materials, systems, plans, etc. for completion of the Work.
- B. Contractor shall utilize a cloud based cloud construction administration software (Software) for the submittal process. See Section 01 33 05 Cloud Based Construction Administration Software.
- C. The Owner and Engineer reserve the right to require paper copies of any documents they deem necessary. Contractor shall utilize the construction administration Software to assist tracking, posting, review, and return of review comments for all hard (paper copy) submittals and samples. When paper submittals are required, submit four (4) copies. Examples of such paper copies that are currently intended to be transmitted in hard copy are as follows:
 - 1. Fully executed contracts, pay requests, change orders, and other contractual documents
 - 2. Final Operations and Maintenance submittals
 - 3. Contractor's final record drawing information

1.2 SUBMITTAL PREPARATION

- A. Contractor shall submit a "Schedule of Submittals" per the General Conditions.
- B. Sequentially number the submittals with XXXXX-YY-ZZ where:
 - 1. XXXXX is the specification number
 - 2. YY is for different submittals from the same specification: 01, 02, 03, etc.
 - 3. ZZ is the number of times that submittal has been made, the initial submittal shall be "00". The first resubmittal would be "01". The second resubmittal would be "02", etc.
- C. Submittals shall be made electronically in condensed portable document format (PDF). The specifications for PDF generation are as follows:
 - 1. Compatible with: Adobe Acrobat, Adobe Acrobat Exchange, or Revu Bluebeam.

2. Create one PDF document (PDF file) for each submittal. Use scanning or other methods of conversion. Rotate pages to the appropriate position for easy reading. Word searches of the PDF document must operate successfully (proof of OCR).
 3. Scans shall be a resolution of 400 dpi or greater. Perform Optical Character Recognition (OCR) capture on all scans so that the document can word searched. Achieve OCR with the "original image with hidden text" option (as seen in Adobe Acrobat Exchange 4.05).
 4. Create a bookmark in the navigation frame for each entry in the table of contents. The bookmark shall be three levels deep (i.e., "chapter", "section", and "subsection") unless otherwise approved by the Owner.
 5. Generate thumbnails for each completed PDF file.
 6. Set the opening view for PDF files as follows:
 - a. Initial view: bookmarks and page
 - b. Magnification: fit in window
 - c. Open to the cover page of the document, with bookmarks to the left, and the first bookmark linked to the table of contents.
- D. The Contractor shall submit a copy of the applicable specification(s) with each paragraph clearly marked with a check mark (✓) for conformance to the subsection. Alternately, if Contractor takes exception to the specification requirement, Contractor shall indicate such with an "x". For each deviation, provide an explanation and include supporting documentation to defend the position that the proposed change meets or exceeds the specified requirements. The submittal will not be reviewed without this specification markup. Engineer shall review the deviations as an "or-equal" or "substitution" request (as appropriate and as determined solely by Engineer), in accordance with the General Conditions. The Engineer retains the right to reject the proposed deviation in favor of the specification as written.
- E. Coordinate and group submission of related items. Provide a complete table of contents for each submittal. For PDF submittals, provide bookmarks for each section and subsection listed in the table of contents.
- F. Owner and Engineer reserve the right to request such additional submittal items as deemed necessary throughout the course of the Work, at no additional cost to the Owner.

- G. Apply Contractor's stamp, signed or initialed, certifying that review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.

1.3 SUBMITTAL REVIEW

- A. The Engineer's review is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections or comments made on the shop drawings during this review do not relieve Contractor from compliance with the requirements of the Contract Documents.
- B. Engineer's review will result in the following submittal review designations:
 - 1. No Exceptions Taken: This response indicates that the submittal generally appears to meet the requirements of the Contract Documents. A resubmittal is not required.

Submittals shall be noted as "No Exceptions Taken" prior to delivery and incorporation in the Work.
 - 2. Revise and Re-Submit: Contractor shall address Engineer's comments and resubmit.
 - 3. Submit Specific Item: This response indicates that additional information is required for Engineer's review of the submittal. Contractor shall provide requested information resubmit.
 - 4. Rejected: If during Engineer's review, the submittal is found to be grossly inadequate, incomplete, and/or include substantial deviations from the Contract Documents, Engineer will cease review and deem the submittal rejected. Contractor shall prepare a suitable submittal for review and resubmit.
- C. Contractor shall distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with the Contract Documents and Engineer's review comments.
- D. Engineer's review time: Engineer will endeavor to review each submittal within 15 working days (20 days for O&M submittals). However, the review time may be longer depending on the timing and number of submittals issued by Contractor, the quality of Contractor's submittal, the nature and complexity of the submittal including necessary coordination with other subconsultants, evaluation of or-equal or substitution requests contained within the submittal, and other factors. Contractor will not be granted additional Contract Days arising from Engineer's review. Contractor is encouraged to identify critical submittals for prioritization during Engineer's review.

1.4 SUBMITTAL LIMITS

- A. Three submittals will be permitted for each specified item/product at no cost to the Contractor.
- B. Items requiring resubmittal shall be submitted to the Engineer within thirty (30) calendar days from the date of return to Contractor.
- C. If Contractor fails to address Engineer's comments with the first three submittals and additional reviews are required, the Owner may charge the Contractor on a Time and Materials Basis (estimated at \$2,000.00 for each resubmittal review) that is required.

PART 2 PRODUCTS

2.1 SHOP AND FABRICATION DRAWINGS

- A. Shop drawings are required for all process mechanical installations, piping connections to existing piping, fabrications, etc.
- B. Fabrication drawings are required for all metal fabrications.
- C. Drawings shall include dimensions, fit, and installation, and shall be coordinated with all adjacent Work elements.
- D. Shop drawings are not required for yard piping beyond 20 feet from any structure, unless specifically requested by Engineer.

2.2 PRODUCT DATA

- A. Contractor shall submit product data, supporting documentation, and certifications as required to show compliance with the Contract Documents for every product provided as part of the Work.

2.3 SAMPLES

- A. Contractor shall submit samples when specified in individual sections or as requested by the Engineer.
- B. Contractor shall submit samples to illustrate functional and aesthetic characteristics of the Product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- C. Contractor shall submit samples of finishes from the full range of manufacturers' standard colors, textures, and patterns for Owner's selection. Provide custom color samples where custom colors are required by the Contract Documents.
- D. Contractor shall include identification on each sample, with full Project information.

2.4 DEFERRED SUBMITTALS

- A. Where indicated in the Contract Documents, Contractor shall provide calculations and drawings signed and sealed by a Registered Professional Engineer licensed in the State where the project is to be constructed. Professional Engineer shall be responsible for designing the components as shown on the Shop Drawings.

2.5 MATERIAL SAFETY DATA SHEETS

- A. Contractor shall provide OSHA information and material safety data sheets (SDS) as applicable for all chemicals, as requested by the Engineer or noted in the Contract Documents.

2.6 INSTALLATION, OPERATION, AND MAINTENANCE MANUALS WITH PRODUCT SUBMITTALS

- A. Installation, operation, and maintenance information included with product submittals shall be considered information only. Draft and Final Installation, Operation, and Maintenance information shall be submitted separately from the product data per Section 01 73 00.

2.7 MANUFACTURERS' INSTRUCTIONS

- A. Contractor shall submit manufacturers' printed instructions for delivery, storage, assembly, and installation for all products, except equipment, to be provided as part of the Work. This includes, but is not limited to, coatings, concrete repair products, etc.
- B. Contractor shall identify conflicts between manufacturers' instructions and Contract Documents as part of the submittal.

2.8 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Provide spare parts, maintenance, and extra materials in quantities specified in individual specification sections.
- B. Deliver to project site prior to Operator/Owner Training – reference Section 01 65 00 Commissioning of Systems.

PART 3 PRODUCTS – NOT USED

PART 4 EXECUTION – NOT USED

END OF SECTION

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SECTION 01 33 05
CLOUD BASED CONSTRUCTION ADMINISTRATION SOFTWARE

PART 1 GENERAL

1.1 SCOPE

- A. Contractor shall pay for and utilize a Cloud Based Construction Administration Software (Software) throughout the construction project to aid the communication, submittal review process and documentation.
- B. Contractor shall be responsible for all costs and fees associated with the software through the duration of the Contract.
- C. The Software shall have training videos in the use of the Software available throughout the project.
- D. Contractor shall be responsible for all startup and setup required for the successful operation of the software. The Contractor shall provide assistance to and coordinate assistance as required throughout the project to the Engineer, the Owner, and their designated representatives to successfully apply the software and its application to the Project. The Engineer, Owner and their representatives are responsible for their own hardware, web access, and internal operating systems necessary to access the Cloud web-based software website.
- E. The use of Construction Administration Software does not eliminate the Contractors' responsibilities for maintaining (in a safe place at the site) one record hard copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction under the General Conditions.
- F. Contractor shall provide Engineer with administrative rights to the Software for the Owner/Engineering team. Engineer shall have the same capabilities within the Software package as the Contractor, with respect to the Owner/Engineering team.
- G. Contractor shall make all items stored and/or transmitted within the Software available to all project team members, as determined by the Engineer.
- H. Intended workflow: It is intended that the Contractor will forward submittals and information through the Software to the Project Engineer. The Project Engineer will distribute the submittals to members of the engineering team. Members of the engineering teams will make comment in the Software or upload comments and return comments with a recommended review action to the Project Engineer for final review. The Project Engineer shall have the ability to amend comments made by members of the engineering team. Upon final review, the Project Engineer will issue the final review status and return the submittal to the Contractor.

- I. The Software shall allow the Project Engineer to distribute the submittal to more than one member of the engineering team at one time (parallel review) or sequentially.
- J. The Software shall track the current status of submittals and RFIs indicating dates and "Ball in Court".
- K. At the end of each three-month period during the construction process, the Contractor shall deliver to the Engineer as a required submittal, one electronic progress copy of all information exchanged through the Cloud based system by all parties using the system for the project.
- L. Prior to Final Completion of the project, the Contractor shall deliver to the Engineer as a required submittal, three complete electronic copies of all information exchanged through the Cloud based system by all parties using the system for the project. The information shall be on a USB flash drive or other suitable electronic storage media agreeable to the Engineer and the Owner. The information must be readily reviewable in standard operating system software generally and publicly available to the Owner and Engineer. The Engineer shall review the submitted electronic information for completeness and format and respond to the Contractor as to the acceptability of the submittal and/or any modifications or resubmittal that is required to be made and/or resubmitted by the Contractor.
- M. In the event that the Cloud based system becomes unavailable, unusable, or otherwise unsuitable for continued use for this project at the sole discretion of the Engineer, the Contractor is responsible for delivering all electronic information previously transmitted for the project through the Construction Administration Software in an acceptable electronic format to the Engineer and/or paper copies of that information acceptable to the Engineer and Owner.
- N. The Owner and Engineer reserve the right to require paper copies and transmittal procedures of any documents they deem necessary. Examples of such paper copies that are currently intended to be transmitted in hard copy are: fully executed contracts, pay requests, change orders, control system drawings, all over-sized submittals (larger than 8-1/2" x 11" sheets), motor control center submittals, rebar submittal drawings, final Operations and Maintenance information, and the Contractor's final record drawing information.
- O. For Hard (Paper Copy) Submittals and Samples:
 - 1. Contractor shall utilize the Construction Administration Software to assist tracking, posting, review, and return of review comments for all Hard (Paper Copy) Submittals and Samples.
 - a. For Samples, contractor shall submit one sample to Engineer (which will be retained).
 - b. For Paper Copies of Submittals (where deemed necessary by Engineer), submit four (4) copies to be retained by Engineer, plus the number required to be returned to the Contractor.

PART 2 PRODUCTS

2.1 SUPPLIER

- A. The following Software Package shall be used:
 - 1. Procore Cloud-Based Construction Software
 - 2. Approved equal

2.2 ACCESS

- A. The Software shall be accessible by users via mobile devices (cell phone) while on the job site, allowing users to view documents, upload photos, etc...
- B. The items below provide a general list of documents intended to be stored, transmitted, and accessed with the Software:
 - 1. Bid Set Electronic Copy of Project Plans, Specifications, and Addenda
 - 2. Submittals including Shop Drawings
 - 3. Submittal Log Maintenance
 - 4. Requests for Information
 - 5. Electronic copies of executed Field Orders
 - 6. Electronic copies of executed Work Change Directives
 - 7. Electronic copies of executed Change Orders
 - 8. Contractor's Applications for Payment
 - 9. Electronic copies of executed Payment Applications
 - 10. Daily progress photos
 - 11. Construction meeting agenda and notes

PART 3 - EXECUTION

Not used.

END OF SECTION

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**SECTION 01 33 10
CONSTRUCTION PROGRESS SCHEDULE**

PART 1 - GENERAL

1.1 SCOPE

- A. The critical path method for project management (CPM) shall be employed by the Contractor for planning and scheduling all work required under the Contract Documents.
- B. Include critical construction items that maybe noted in Section 01 10 00 Summary of Work and 01 32 17 Work Sequence.
- C. The work shall be so scheduled and conducted by Contractor such that it shall not impede any treatment process, create potential hazards to operating equipment and/or facility personnel, or reduce the quality of the effluent from the facility.
- D. Provide updated schedule every 3-month or when requested by the Engineer.

1.2 SUBMITTAL PROCEDURES

- A. In accordance with Section 01 33 00 Submittal Procedures.
- B. Provide initial submittal at the pre-construction conference.
- D. Submit electronically in 11 x 17, PDF format.

1.3 CHANGE ORDERS

- A. Upon approval of a change order, the approved change order shall be reflected in the next submittal by the Contractor.

1.4 CPM STANDARDS

- A. CPM, as required by this section, shall be interpreted to be generally as outlined in the Associated General Contractors of America publication, *The Use of CPM in Construction*. Such other terms used in this section are as defined in this publication, if not stated therein as generally utilized in the industry.
- B. Work schedules shall include a graphic network and tabulated schedules, as described below.
- C. Networks
 - 1. The CPM network, or arrow diagram, shall be in the form of a time-scaled arrow diagram, shall be of the customary activity-on-arrow type, and may be divided into a number of separate pages with suitable notation relating the interface

points among the pages. Notation on each activity arrow shall include a brief work description and a duration estimate (see below).

2. All construction activities and procurement shall be indicated in a time-scaled format, and a calendar shall be shown on all sheets along the entire sheet length. Each activity arrow shall be plotted so that the beginning and completion dates of said activity can be determined graphically by comparison with the calendar scale. All activities shall be shown using the symbols that clearly distinguish between critical path activities, non-critical activities, and free float for each non-critical activity. All non-critical path activities shall show estimated performances time and free float time in scaled form.

D. The initial schedule shall include the following minimum data for each activity:

1. Activity beginning and ending event numbers (i-j numbers).
2. Estimated duration.
3. Activity description.
4. Early start date (calendar dated).
5. Early finish date (calendar dated).
6. Latest allowable start date (calendar dated).
7. Latest allowable finish date (calendar dated).
8. Status (whether critical).
9. Total float.
10. Free float for each activity.
11. Cost value for each monthly time period.

E. Each tabulation shall be prefaced with the following summary data:

1. Project name.
2. Contractor.
3. Type of tabulation (initial or updated).
4. Project duration.
5. Project scheduled completion date.

6. The effective or starting date of the schedule.
 7. If an updated (revised) schedule, the new project completion date and project status.
- F. The CPM schedule shall include a detailed outage plan and time schedule for each operation, which will make it necessary to remove a tank, pipeline, channel, electrical circuit, instrument loop, equipment, or structure from service. The number of outages shall be minimized through planning and use of isolation valves and terminal boxes. The schedule shall be a part of the CPM schedule. The detailed plan shall describe the Contractor's method for preventing bypassing of other treatment units, the length of time required to complete said operation, and the necessary plant and equipment that the Contractor shall provide in order to prevent bypassing of associated treatment units. Systems or individual equipment items shall be isolated, dewatered, decommissioned, de-energized, or de-pressurized in accordance with the detailed outage plan and schedule.

1.5 COST VALUE FOR MONTHLY TIME PERIODS

- A. The Contractor shall establish a cost value for the time period of each month of the estimated project period, as predicted by the Contractor's CPM network and schedule. The purpose of the cost schedule is to aid the Owner and Engineer in predicting project cash flows and to aid in measuring project progress and preparing progress payments.
- B. The Engineer may require the Contractor to update or revise the CPM network and schedule to reflect project delays or accelerations and change orders. As part of the revision, the Contractor shall re-evaluate and revise the schedule of monthly cost values to reflect the change in the CPM network and project schedule.

1.6 NOT USED

1.7 TRADES AND SUBCONTRACTS

- A. For each general category the construction schedule shall at a minimum, identify the following trades or subcontracts whose work is represented:
 1. Structural work (to include structural excavation, backfill, concrete and steel erection work, etc.).
 2. Pre-cast concrete and masonry (to include both architectural and structural).
 3. Architectural work (all except painting).
 4. Process Mechanical work (to include piping, pumps, process equipment, support equipment, etc.).
 5. Undelivered material (when eligible for off-site progress payments).
 6. Plumbing work.

7. Heating, ventilation, and air conditioning work.
8. Electrical work.
9. Instrumentation and controls.
10. Painting and waterproof system.

1.8 ACTIVITIES AND EVENTS

A. The construction schedule shall indicate the following procurement, construction, and testing activities and events in their logical sequence for materials and equipment for each of the trades and subcontracts identified above:

1. Preparation and transmittal of submittals.
2. Submittal review periods.
3. Shop fabrication periods.
4. Erection or installation.
5. Product data (manufacturer's operations and maintenance instruction, etc.).
6. Installed materials testing.
7. Installed equipment testing, adjusting, and balancing.
8. Plant operator instruction (as applicable).
9. Operational testing.
10. Commissioning.
11. Final inspection.

END OF SECTION

**SECTION 01 35 60
HEALTH AND SAFETY**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Contractor shall develop, administer, and monitor a Safety Program for the project. Contractor shall include an Accident Prevention Program, Confined Space Entry Safety Plan, and Safety Plan as part of their overall Safety Program.
- B. It is not the intent of the Owner or the Engineer to develop and/or manage the safety and health programs of Contractors or in any way assume the responsibility for the safety and health of Contractor's employee, including subcontractors, suppliers, manufacturers, or any other personnel employed either directly or indirectly by the Contractor. It is required that the Contractor adheres to applicable Federal, State, and local safety and health regulations.

1.2 REFERENCES

- A. Comply with and enforce on-the-job site current applicable local, State, and Federal Health and Safety Standards, including, but not limited to, the following:

Reference	Title
29 USC 651 et seq.	Federal Occupational Safety and Health Act
29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1926	Safety and Health Regulations for Construction
SARA Title III	Emergency Planning and Community Right-to-Know

1.3 SUBMITTALS

- A. Submit in accordance with Section 01 33 00 Submittal Procedures.
- B. All submittals in this section are considered informational and shall be submitted to the Engineer for informational purposes only. Contractor is responsible for obtaining review and approval from federal, state, and/or local entities as required prior to submission of each plan to the Engineer.
 - 1. Revise each plan prior to the start of work to accommodate changes requested by the Owner and/or regulatory agencies or jurisdiction(s). In the event that involved regulatory agencies or jurisdictions determine the aforementioned plans or associated documents, organizational structure, or work plan to be inadequate to protect employees and the public, Contractor shall:

- a. Modify the plan(s) to meet the requirements of said regulatory agencies or jurisdictions.
 - b. Provide the Engineer and the Owner with the revisions to the plan(s) within seven days of the notice of deficiency.
 - i. Each plan shall be submitted to the Engineer prior to the start of work onsite, unless specifically noted otherwise.
 - ii. Contractor shall post a copy of each plan at the Contractor's job site office and each of the subcontractor's offices.
- C. Accident Prevention Plan. This plan shall outline the anticipated hazards and safety controls necessary to safeguard Contractor's employees, the public, and other personnel. The plan shall be specific to the job and site and meet federal, state, and local jurisdictional requirements. In addition to any regulatory requirements, the Accident Prevention Plan shall include the following, at minimum:
 - 1. Respiratory Protection
 - 2. Accident/Injury Reporting
 - 3. Emergency Plan (SARA Title-III—Community Right-to-Know)
 - 4. Personal Protective Equipment
 - 5. Fall Restraint and Fall Arrest: Work activities on this project may expose employees to fall hazards. Contractor must provide a written Fall Protection Plan for each fall hazard encountered throughout the project.
 - 6. Fire Safety and Prevention
 - 7. Hand and Power Tools
 - 8. Welding and Cutting
 - 9. Electrical
 - 10. Vehicles and Other Motorized Equipment
 - 11. Tagout/Lockout Procedures
 - 12. Hearing Conservation and Protection
 - 13. Material Safety Data Sheets: The plan shall include a list and corresponding Material Safety Data Sheets (MSDS) for hazardous chemicals to be used on site. If no hazardous chemicals are to be used, provide statement to that effect.
 - 14. Emergency Management Plan for Gases: Contaminant gases that may be encountered include but are not limited to hydrogen sulfide, methane, carbon monoxide, carbon dioxide and sulfur dioxide. Provide a written Emergency Management Plan to address these and other potential hazardous substances on site.

- a. Confined Space Entry Plan. The nature of work under this Contract may expose workers to permit-required confined spaces having possible toxic and oxygen fluctuation conditions. This plan shall classify hazardous confined spaces and describe specific procedures to ensure the safety of employees who enter them in accordance with applicable federal, state, and local regulations.
 - b. Pathogen Program. Wastewater carries a wide spectrum of disease-producing organisms. Submit a written hazard communication and biological blood borne pathogen program detailing the preventive measures to be taken by the Contractor to provide an appropriate work environment for its employees as well as other employees on site. These may include, but are not limited to the following:
 - 15. Instruction in appropriate measures to avoid contamination.
 - 16. A preventative inoculation program (tetanus/diphtheria, etc.) available to all personnel.
 - 17. Clothing and personal protective gear to protect against exposure and infection.
 - 18. Facilities for workers to clean up and wash.
- D. Confined Space Entry Safety Plan.
- E. Safety Plan

1.4 QUALITY ASSURANCE

- A. Ensure that subcontractors receive a copy of this Specification section. The Contractor is responsible for ensuring compliance at the project site with the Accident Prevention Plan, Confined Space Entry Plan, and the Safety Plan.
- B. Maintain good housekeeping in work areas. Entrances and egresses shall be free from debris and garbage.
- C. Provide a qualified health and safety supervisor, with responsibility and full authority to coordinate, implement and enforce the Contractor's Accident Prevention Plan, Confined Space Entry Plan, and Safety Plan for the duration of this Contract. The name and telephone number of the safety supervisor shall appear in each plan.

1.5 ON-SITE CHEMICALS

- A. All chemicals used during project construction or furnished for project operation, whether defoliant, soil sterilant, herbicide, pesticide, disinfectant, polymer, reactant or of other classification, shall show approval of either the U.S. Environmental Protection Agency or the U.S. Department of Agriculture. Use of all such chemicals and disposal of residues shall be in strict accordance with the printed instructions of the manufacturer.

- B. Owner will provide Material Safety Data Sheets for all chemicals currently in use at the facility. Contractor shall include the chemicals in Contractor's Accident Prevention Plan.

1.6 UTILITIES

- A. Take appropriate precautions in working near or with utilities and dangerous substances during the performance of work in order to protect the health and safety of the worker, the public, property, and the environment.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.1 SAFETY AND HEALTH COMPLIANCE

- A. Owner may choose to review the Contractor's Accident Prevention Plan during construction. The Owner reserves the right to stop that portion of the Contractor's work if Owner believes there is imminent risk to injury or death.
- B. Contractor shall ensure that necessary air monitoring, ventilation equipment, protective clothing, and other supplies and equipment as specified within the plans described prior are available to all personnel.
- C. Contractor shall notify the Engineer and Owner immediately of accidents resulting in any serious injury or immediate or probable fatality to any employee or the public, or which result in hospitalization of any employees or the public.

3.2 EMERGENCY SERVICES NOTIFICATION

- A. Contractor shall notify local Emergency Service providers as necessary during the Work. Additionally, Contractor shall provide notification prior to road closures and when work occurs where explosive hazards exist.

END OF SECTION

SECTION 01 40 00
QUALITY ASSURANCE AND QUALITY CONTROL

PART 1 GENERAL

1.1 QUALITY CONTROL

- A. The Contractor shall provide quality control, which shall include the initial and subsequent inspections of Contractor's Work to ensure that the Work conforms to the Contract Documents.
- B. Contractor shall designate the person responsible for Contractor's quality control while Work is in progress, and shall notify Engineer, in writing, prior to any change in quality control representative assignment.
- C. Contractor shall monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship to produce Work of specified quality.
- D. Comply fully with manufacturers' instructions, including each step in sequence.
- E. Should manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- F. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- G. Perform work by persons qualified to produce workmanship of specified quality.
- H. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.
- I. Verify field measurements are as indicated on Shop Drawings or as instructed by manufacturer.

1.2 QUALITY ASSURANCE

- A. The Owner, Owner's Representative or Owner's Observer will perform Quality Assurance as deemed necessary by the Owner or the Owner's Representative.
- B. Contractor shall cooperate with the Owner's Representative and Owner's Observer.
- C. Quality Assurance will include the observation and testing of Contractor's work. Testing will occur after Contractor's Quality Control Measures. Quality Assurance may be any of the following:
 - 1. Tests by an independent laboratory testing agency or Engineer of Record
 - 2. Observation of work

- D. The Contractor shall coordinate his work with the Engineer and cooperate with testing personnel. The Contractor shall:
 - 1. Submit weekly schedules and updates by noon Friday for the following week's work elements with days requiring testing services clearly identified.
 - 2. Notify Engineer and testing company 24 hours prior to expected time for operations requiring services.
 - 3. Failure of Contractor to provide adequate notice (as specified above) shall not be grounds for claims of delay by the Contractor.
- E. Re-testing required because of non-conformance to specified requirements shall be performed at no cost to the Owner. Contractor shall be responsible for payments due by re-testing. Payment for re-testing will be charged to the Contractor by deducting the inspection and testing charges from the Contract Price.

1.3 REFERENCES

- A. Conform to reference standard by date of issue current on date of Contract Documents.
- B. Should specified reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.4 FIELD SAMPLES

- A. Install field samples at the site as required by individual specifications Sections for review.
- B. Acceptable samples represent a quality level for the Work.
- C. Where field sample is specified in individual Sections to be removed, clear area after field sample has been accepted by Engineer.

1.5 CONSTRUCTION OBSERVATION AND PRESSURE TESTING

- A. The Owner shall provide observation during construction for quality assurance as defined in the Contract Documents. Contractor shall cooperate with the observer.
- B. The Contractor shall provide the equipment and manpower to conduct all acceptance (leak, pressure, etc.) tests on underground utilities as required in the Specifications.

1.6 SPECIAL INSPECTION AND TESTING LABORATORY SERVICES

- A. Owner will support, appoint, employ, and pay for services of an independent firm to perform special inspecting and testing, and to check the performance of the Contractor and

the quality of materials. The independent firm will perform tests and other services specified in individual specification sections, as required on the Plans, per International Building Code (IBC) Section 1701, and any testing required beyond the scope of IBC.

- B. Reports will be submitted by the independent firm to the Contractor, Owner, Building Official, and Engineer indicating observations and compliance or non-compliance with Contract Documents.
- C. Concrete test reports shall show time and date samples were taken, specific location of concrete placement, slump, air content, ambient air temperature, concrete temperature, date received by lab, field data submitted by, mix number, delivery ticket number, specified strength requirement, one 7-day break, two 28-day breaks, any field cylinder breaks as requested by Special Inspector or Engineer, day projected high and low temperatures and weather conditions.
- D. Cooperate with independent firm. Furnish samples of materials, design mix, equipment, tools, storage, and assistance as requested.
 - 1. Submit weekly schedules and updates by 12:00 PM (noon) Friday for the following week's work elements with days requiring testing services clearly identified. Schedule shall be submitted to Engineer and independent testing firm. Schedule submittal is meant for informational purposes only and not as a request for testing services.
 - 2. Notify Engineer and independent firm 24 hours prior to expected time for operations requiring services.
 - 3. Coordinate scheduling for services with independent firm.
 - 4. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
 - 5. Failure of Contractor to provide adequate notice to independent firm (as specified above) shall not be grounds for claims of delay by the Contractor.
 - 6. Independent testing services shall be performed between the hours of 7:00 AM and 5:00 PM Monday through Friday at the Owner's expense, excluding travel time to the job site. Contractor shall reimburse Owner for independent services required outside the specified timeframe.
- E. Retesting required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the Engineer. Contractor shall be responsible for payments due for retesting. Payment for retesting will be charged to the Contractor by deducting inspection or testing charges from the Contract Price.
- F. Special Inspections: In addition to the testing specified herein, the Owner will employ one or more special inspectors who will provide inspections during construction on the following types of work:
 - 1. Concrete: During the taking of test specimens and placing of reinforced concrete and pneumatically placed concrete. Non-structural slabs on grade and site work concrete fully supported on earth do not require special inspection.

2. Post Installed Bolts Installed in Concrete: During installation of bolts and placing of concrete around such bolts as indicated.
 3. Reinforcing Steel: During placing of reinforced steel, for all concrete required to have special inspection by Item No. 1. The Special Inspector need not be present during entire reinforcing steel-placing operations, provided he has inspected for conformance with the approved plans, prior to the closing of forms and final inspection of forms prior to the delivery of concrete to the jobsite.
 4. Welding: All structural welding, including welding of reinforcing steel as indicated.
 5. High-Strength Bolting: During all bolt installations and tightening operations. The Special Inspector need not be present during the entire installation and tightening operation for load indicator bolts, provided he has:
 - a. Inspected the surfaces and bolt type for conformance to plans, specifications, and shipping certification prior to start of bolting.
 - b. Observed initial bolting operation for proper sequencing.
 - c. And will, upon completion of all bolting, verify visually all connections.
 6. Special Grading, Excavation, and Filling: During earthwork excavations, trench backfilling, grading, and backfilling operations.
- G. Approved Fabricator Shop Certificate: Special inspection per IBC Section 1701 shall not be required where the work is done on the premises of a fabricator registered and approved by the Building Official to perform such work without inspection. Provide a certificate from the Building Official that shows the shop approval.
- H. Non-Approved Fabricator Special Inspection: The Contractor shall reimburse the Owner for the costs incurred for special inspection of fabrication in a non-approved shop.

1.7 MANUFACTURERS' FIELD SERVICES AND REPORTS

- A. When specified in individual specification Sections, require material or Product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment, as applicable, and to initiate instructions when necessary.
- B. Individuals to report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- C. Submit report within 15 days of observation to Engineer for review.

1.8 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. When manufacturers' tolerances conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.

- C. Adjust products to appropriate dimensions; position before securing products in place.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

END OF SECTION

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SECTION 01 50 00
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Temporary Utilities
- B. Barriers
- C. Water Control
- D. Water Usage
- E. Dust Control
- F. Erosion and Sediment Control
- G. Pollution Control
- H. Security
- I. Noise Control
- J. Protection of Existing Surfaces and Vegetation
- K. Protection of Existing and Installed Work
- L. Access Roads
- M. Parking
- N. Progress Cleaning
- O. Fire Prevention
- P. Field Offices and Sheds
- Q. Removal of Utilities, Facilities and Controls
- R. Pedestrian Access

1.2 TEMPORARY UTILITIES

- A. Provide, maintain, and pay for suitable quality water required for construction operations.

- B. Provide potable water for consumption at the construction job sites in conformance with Standard 1926.51 of the OSHA Safety and Health Regulations for Construction.
- C. Provide and maintain required sanitary facilities and enclosures. Fixed or portable chemical toilets shall be provided by the Contractor for use by employees and visitors to the site. Toilets at construction job sites shall conform to the requirements of Standard 1926.51 of the OSHA Safety and Health Regulations for Construction. All toilets shall be provided with hand sanitizer at all times. Sanitary facilities shall be stabilized to prevent being knocked over. Sanitary facilities shall be cleaned, and all debris removed regularly to the satisfaction of the Engineer. Existing facilities shall not be used.
- D. The Contractor shall establish a regular collection of all sanitary waste, organic wastes, and other garbage/refuse created from construction activities or personnel. All wastes and refuse from sanitary facilities provided by the Contractor, or organic material wastes from any other source related to the Contractor's operations, shall be disposed of away from the site in accordance with all laws and regulations pertaining thereto. Disposal of all such wastes shall be at the Contractor's expense.
- E. Provide, maintain, and pay for temporary electricity as needed for construction. Contractor may utilize the existing power service; however, all of Contractor's electrical shall be metered separately from the Owner's electrical usage. Contractor shall reimburse Owner for electrical costs associated with the Work. Contractor's use of electrical service shall not disrupt Owner's use of electrical service. Contractor shall coordinate with Owner and utility provider.
- F. Provide heating, cooling, and ventilation as necessary for job-site personnel and to protect existing and new Work as required in the Contract Documents. Before operating permanent equipment for construction heating, cooling, or ventilating purposes, verify installation is ready for operation with the Engineer. Provide and pay for operation and maintenance of the systems.
- G. Provide telephone and internet service to Contractor's job office/shed throughout construction. Contractor shall make telephone and internet services available to Engineer / RPR.
- H. Ventilate enclosed areas to achieve curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

1.3 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to protect Contractor's, Engineer's, and Owner's personnel from potential hazards thereby allowing for Owner's use of site, to protect public safety, and to protect existing facilities and adjacent properties from damage due to construction activities.
- B. Provide protection for plant life designated to remain. Replace damaged plant life to a condition equal to or better than that present prior to beginning work.

- C. Protect vehicular traffic, stored materials, site, and structures from damage.

1.4 WATER CONTROL

- A. Maintain site drainage during temporary excavations, stockpiling, grading, backfill, etc.
- B. Maintain excavations free of water. Provide, operate, and maintain pumping equipment as needed.
- C. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion and puddling.
- D. Contractor shall follow Best Management Practices as established in the Stormwater Pollution Protection Plan for water control and dewatering activities.

1.5 WATER USAGE

- A. Potable water shall be applied at the locations and in the amounts required to properly compact the Work. An adequate potable water supply shall be provided by the Contractor. The equipment used for watering shall be of ample capacity and of such design as to assure uniform application of water in the amounts required.
- B. In watering of subgrades, the Engineer may request the Contractor to apply water in such quantities that the subgrade shall be compacted at a moisture content in excess of the optimum moisture point. In no case will the Contractor be required to apply water in excess of three percent (3%) of optimum moisture.
- C. Potable water shall be utilized for all construction activities, including but not limited to watertightness, leak, and pressure tests, unless specifically noted otherwise or agreed to by the Engineer and Owner. Disposal of potable water that has been utilized for construction activities shall be coordinated with the Owner and shall be in accordance with all local, state, and federal laws, codes, and regulations.
- D. If acceptable to the Owner and the Water Purveyor (if different than Owner), the Contractor may acquire potable water from onsite hydrants for construction use. Contractor shall pay the Water Purveyor directly for water used onsite for construction activities. Hydrants shall be metered and shall have a reduced pressure backflow assembly (RPBA) provided to prevent contamination. Meter, RPBA, and any other appurtenances required by the Water Purveyor shall be provided by the Contractor at no additional expense to the Owner. RPBA shall be required at minimum, regardless of Water Purveyor's requirements.

1.6 DUST CONTROL

- A. The Contractor shall furnish and apply POTABLE water for dust control if necessary.
- B. The Contractor shall apply water during the course of the work to control dust, maintaining all embankment and base courses in a damp condition.

- C. The Contractor shall provide sufficient equipment to apply water as directed for controlling dust caused by construction activities.
- D. Dust control shall be done on Saturdays, Sundays, and Holidays at the same frequency and amounts as specified for workdays at the Contractor's expense.
- E. Watering equipment shall consist of water-tight tanks mounted on trucks, adequately powered, and capable of applying water as required. The water shall be applied under pressure from the tank through a spray apparatus. The spray apparatus shall be equipped as to provide uniform, unbroken spread of water over the surface being watered. A suitable device for positive shut-off and for regulating the flow of water shall be located to permit positive drive control from the cab.

1.7 EROSION AND SEDIMENT CONTROL

- A. Contractor shall comply with all provisions and requirements of the State of Idaho Pollutant Discharge Elimination System (IPDES) Construction General Permit for Storm Water Discharges from Construction Activities and a Construction Storm Water Pollution Prevention Plan (SWPPP), as required.
- B. Contractor shall submit all required elements, including a Notice of Intent (NOI), and complete the IPDES Permit (as necessary) and SWPPP for Engineer's review prior to construction. The SWPPP must be submitted for Engineer review and Owner's approval prior to filing the NOI. Construction will not be permitted without Engineer's review and Owner's approval. Contractor shall comply with all requirements of the IPDES Construction General Permit and SWPPP or such additional requirements as may be required throughout construction as specified by the IDEQ, US Environmental Protection Agency, and US Army Corps of Engineers. Engineer and Owner shall not be responsible for Contractor's failure to maintain compliance with such permits or additional requirements.
- C. In addition, the Contractor is required to submit an Erosion Control Plan prior to construction that provides a list of the controls and Best Management Practices (BMPs) that will be implemented during construction.
- D. Plan and execute construction methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
- E. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.
- F. Construct fill and waste areas to avoid erosion of surface materials.
- G. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

1.8 POLLUTION CONTROL

- A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.
- B. Equipment and fuel storage shall be kept secured. Waste oil and waste fluids shall not be stored or changed at any construction site.
- C. Spills of hazardous, dangerous, or toxic materials shall be promptly reported to the IDEQ. Contractor shall take emergency measures to stop and contain the spill and limit the amount of material released into the surrounding environment, at Contractor's own expense. Contractor shall be solely responsible for removing and disposing of hazardous, dangerous, and/or toxic materials, as well as any contaminated material in accordance with all applicable laws, codes, and regulations. Contractor shall be solely responsible for cleaning the spill site in accordance with all federal, state, and local laws, regulations, and requirements.
- D. Spillage of any liquid other than potable water to the ground is not allowed. Contractor shall implement all necessary Best Management Practices as necessary to prevent spillage. If any spills occur, notify Owner and IDEQ immediately. Contractor shall contain, clean, and remediate the area / site as required by applicable federal, state, and local regulations.

1.9 SECURITY

- A. Provide security and temporary fencing of facilities to protect work from unauthorized entry, vandalism, and/or theft.

1.10 NOISE CONTROL

- A. Construction involving noisy operations, including starting and warming up of equipment, shall be restricted to the hours noted in Section 01 10 00 – Summary of Work. Noisy operations shall be scheduled to minimize their duration and to ensure their completion within the contract working hours.

1.11 PROTECTION OF EXISTING SURFACES AND VEGETATION

- A. All landscaped areas, including trees, grass, or other plants, and other surfaces which are not noted for demolition or modification, but which are damaged by actions of the Contractor, shall be restored to a condition equal to or better than it was prior to construction.
- B. Areas shall not be cleared until related construction activities require the work.

1.12 PROTECTION OF EXISTING AND INSTALLED WORK

- A. Contractor shall retain and protect all existing components not specifically noted for modification, demolition, and/or removal. Any damage to existing components or facilities within the active construction site which occurs during the course of construction shall be repaired or replaced, at Owner's discretion, to a condition acceptable to the Owner at Contractor's expense.
 - 1. The active construction site shall include any area where Work is shown to occur in the Contract Documents, all access roads or paths used by construction personnel, and any areas where construction materials or equipment are stored.
 - 2. Contractor shall submit their proposed plan for repair or replacement to the Engineer and Owner for review and acceptance prior to making repairs or replacements.
- B. Protect Work installed as part of this project and provide special protection where required in the Contract Documents.
- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Provide temporary partitions to separate work areas from Owner-occupied areas as required in the Contract Documents, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment. Temporary partitions shall consist of framing and reinforced polyethylene, at minimum.
- E. Existing and new components, including but not limited to electrical vaults, manholes, or other components, may not be rated for construction traffic or point loading due to equipment used during construction. Contractor is responsible for protecting all existing and new components from loads which exceed their rated values.
- F. If the Contractor is required to provide Work within an existing structure and the Contractor is either required by the Contract Documents, or as part of their means and methods decides to remove windows, doors, or other items to obtain access for construction, the Contractor shall provide weather protection, heating and cooling to the satisfaction of the Owner and at no additional cost. Openings in exterior surfaces shall be closed when not in use with a material acceptable to the Engineer.
- G. Where new Work abuts or aligns with existing Work, provide smooth and even transitions. Patch Work to match the original condition of the existing adjacent Work in texture and appearance, unless specifically noted otherwise.
- H. Where a smooth transition with the new Work is not possible, the Contractor shall coordinate with the Engineer to determine termination and transition requirements.

1.13 ACCESS ROADS

- A. Construct and maintain temporary roads accessing public thoroughfares to serve construction area. Contractor shall provide temporary roadways when, in the opinion of the Owner, construction activities limit the Owner's access and use of existing roads or access to buildings.
- B. Provide and maintain access to fire hydrants free of obstructions.
- C. Provide and maintain access for emergency vehicles, mail delivery, trash pickup, etc.
- D. Provide and maintain access to existing driveways and approaches to private residences.
- E. Tracking of dirt and mud offsite is not permitted. Provide means of removing dirt and mud from vehicles before leaving the Project site. If tracking off the Project site occurs, Contractor shall be responsible for cleaning impacted areas offsite at no additional cost to Owner.

1.14 PARKING

- A. Do not allow construction personnel to park in any way which may affect the access and egress of plant personnel, deliveries, emergency vehicles, etc. The Contractor designates a separate parking area for Contractor's personnel and equipment, which shall be reviewed and approved by Owner if located on the Project site. Provide off-site parking as necessary in compliance with local requirements.

1.15 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition. Establish regular intervals of collection and disposal of waste.
- B. Remove debris from pipe chases, attics, crawl spaces, and other closed or remote spaces before enclosing.
- C. At no additional cost to Owner, remove waste materials, debris, and rubbish from the site and dispose it off-site at a solid waste facility in accordance with local codes and ordinances governing locations and methods of disposal.

1.16 FIRE PREVENTION

- A. Prohibit smoking, including the use of e-cigarettes and vaping, except in a designated smoking area. Smoking area shall be in an area acceptable to the Owner. Contractor shall provide approved ashtrays in designated smoking area.
- B. Establish fire watch for cutting, welding, and other hazardous operations capable of starting fires. Maintain fire watch before, during, and after hazardous operations until threat of fire does not exist.

- C. Portable Fire Extinguishers: NFPA 10; 10-pound capacity, 4A-60B: C UL rating.
 - 1. Provide one fire extinguisher at each stairway on each floor of buildings under construction.
 - 2. Provide a minimum of one fire extinguisher in each field office and enclosed storage space.
 - 3. Provide a minimum of one fire extinguisher on each roof during roofing operations using heat-producing equipment.

1.17 FIELD OFFICES AND SHEDS

- A. Contractor's Field Office
 - 1. Contractor shall provide a temporary office to house record drawings as well as other project documents, and for their job superintendent's use.
- B. Existing facilities shall not be used for field offices.
- C. Coordinate location of field offices with Owner and Engineer. Fill and grade site for temporary structures, sloping away from buildings for drainage. Contractor shall always maintain access to field offices.

1.18 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary above grade or buried utilities, equipment, facilities, and/or materials prior to Substantial Completion.
- B. Clean and repair damage caused by installation or use of temporary work.
- C. Restore existing facilities used during construction to original condition unless specifically noted otherwise.

1.19 PEDESTRIAN ACCESS

- A. Provide access by pedestrian foot traffic to the facility during construction.
- B. Protect pedestrians from potentially dangerous areas by barricades, walkways, signs, or other means as appropriate and necessary.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 60 00
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Products
- B. Transportation and handling
- C. Storage and protection
- D. Product options
- E. Substitutions

1.2 PRODUCTS

- A. Products: For the purposes of this Specification Section, "product" is defined as any material, machinery, components, equipment, fixtures, and/or system(s), including any and all spare parts, forming the Work. Products do not include machinery and equipment used for the preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components required for reuse.
- B. All products, except those specifically identified within the Contract Documents as existing or intended for reuse, shall be new, unused, unopened, and in their original containers.
- C. Products which have a "best by" or "expiration" date shall be incorporated into the Work prior to the date stated on the product or its container. Products which have been opened prior to the date stated on the product or its container, but not incorporated into the Work prior to the "best by" or "expiration" date, shall be disposed of in accordance with all federal, state, and local laws, regulations, and requirements. The use of products past their "best by" or expiration date is strictly prohibited.
- D. Provide products produced by qualified manufacturers that are suitable for the intended use. Provide products of each type by a single manufacturer unless specifically noted otherwise. Products from different manufacturers which are intended for the same use shall not be mixed.
- E. Do not use materials and equipment from the existing premises, except as specifically permitted by the Contract Documents.

1.3 TRANSPORTATION AND HANDLING

- A. Transport and handle products in accordance with manufacturer's instructions, requirements, and recommendations.
- B. Promptly review shipments to assure that products comply with the Contract Documents and submittals, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products in accordance with the manufacturer's requirements and recommendations, and by methods which prevent soiling, disfigurement, or damage.

1.4 STORAGE AND PROTECTION

- A. Existing facilities shall not be used for storage unless agreed to in writing by the Owner. If use of existing facilities is agreed to by Owner, Contractor assumes all responsibility for monitoring and maintaining suitable environmental conditions for products in accordance with the manufacturer's requirements.
- B. Store and protect products in accordance with manufacturer's instructions, requirements, and recommendations. All seals and labels shall remain intact and legible. Store products to prevent soiling, disfigurement, or damage.
- C. Spare parts shall be stored by the Contractor until Substantial Completion. Any spare parts which are used during start-up or commissioning shall be replaced in kind by the Contractor prior to Substantial Completion.
- D. For exterior storage of products where permitted by the manufacturer, place on sloped supports, above ground.
- E. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.
 - 1. All PVC products shall be stored in a manner that prevents UV damage including, but not limited to, sun fading and discoloration.
 - 2. All products with a primer or coating shall be stored in a manner which protects the primer or coating. Primed surfaces shall not be exposed to weather for more than two months before being top-coated, or less time if recommended by the coating manufacturer.
- F. Store loose granular materials on solid, flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- G. Arrange storage of products to permit access for review by Owner and Engineer. Contractor shall periodically review stored products (not less frequently than monthly) to assure products are undamaged and are maintained under specified conditions.

- H. Contractor shall be solely responsible for any damage which occurs due to, in the opinion of the Engineer, improper storage, transportation, or handling. Contractor shall repair or replace, at Engineer's discretion, any damaged product at no additional cost to the Owner.

1.5 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any product, which in the opinion of the Engineer, satisfies those standards or description.
- B. Products Specified by Naming One or More Manufacturers with a Provision for 'Or Equals' or Substitutions: Contractor shall provide the listed product or submit a request for "or equal" or "substitution" for any manufacturer or product not named.

1.6 FUNDING AGENCY REQUIREMENTS

- A. N/A

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

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SECTION 01 65 00
COMMISSIONING OF EQUIPMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This section outlines the sequence of events necessary to put equipment into service and transfer it to the Owner.
- B. The order of events shall be as follows:
 - 1. Initial starting and testing of equipment.
 - 2. Owner Training
 - 3. Acceptance Testing
 - 4. Commissioning

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.1 GENERAL

- A. Throughout the activities discussed in this section, Contractor, and Contractor's subcontractors (as deemed appropriate by Owner and Engineer) shall be present for repair, correction of incomplete work, alteration, or unscheduled/unforeseen adjustments to any equipment and associated systems.
- B. "Equipment" consists of individual items (e.g. a pump, blower, etc.), which must function properly with interconnected and ancillary equipment and components to form a "system". "Process Areas" consist of one or more interconnected systems.
- C. Contractor shall provide all labor, power, fuel, supervision, utilities, chemicals, maintenance, equipment, vehicles, water, or any other item necessary to proceed with the steps discussed in this section and other applicable portions of the Contract Documents. This includes all temporary systems, plugs, piping, and equipment required for testing individual systems in closed loops as noted herein, or as otherwise deemed necessary by the Engineer.

- D. If Contractor must reschedule any activities covered in this specification once a date has been agreed upon by all parties, Contractor shall provide a minimum of one working day's notice of cancellation prior to the agreed-upon date. The activity shall then be rescheduled based on Owner's and Engineer's availability.

3.2 INITIAL STARTING AND TESTING

- A. Establish a schedule for initial starting and testing of all equipment / systems in the project. The schedule shall be included in Contractor's Construction Progress Schedule.
- B. Prior to energizing the equipment or system:
 - 1. Verify that each piece of equipment in a system has been checked for proper lubrication, drive rotation, belt tension, control sequence, or other conditions that may cause damage.
 - 2. Verify wiring and support components for equipment are complete and have been previously tested.
 - 3. Verify all instrumentation, controls and programming are complete and operating. See additional requirements in Division 26.
 - 4. Manufacturer shall provide an authorized representative to be present at site to inspect, check, and approve equipment / system installation prior to initial starting and testing, and to supervise placing equipment or system in operation.
- C. Contractor shall confirm that all tests and inspections as required by the manufacturer and technical specifications have been completed.
- D. Execute initial starting and testing under supervision of responsible manufacturer's representative and in accordance with manufacturers' instructions, recommendations, and requirements.
 - 1. Minimum time on-site and number of trips to site by manufacturer's representative are listed in the respective technical specifications.
 - 2. If not listed in the technical specifications, provide at least one 8-hour day for each equipment item.
- E. Equipment / systems shall be capable of full-time operation with all associated controls, instruments, sensors, etc.
- F. Notice of Completed Installation
 - 1. Once equipment / system has undergone Initial Starting and Testing, Contractor shall submit the manufacturer's start-up report to the Engineer certifying that

the requirements are complete. Certificate shall be signed by Contractor and Manufacturer/Supplier.

2. Engineer shall review the Contractor's report, and if all obligations have been fulfilled to the satisfaction of the Engineer, the Engineer will return the submittal with "No Exceptions Taken".
3. Upon obtaining a submittal review of "No Exceptions Taken" Contractor may proceed with Owner Training for that system/piece of equipment.

3.3 OWNER TRAINING

- A. Owner Training shall not commence until "Initial Starting and Testing of Equipment/Systems" is complete and the equipment or system is able to operate satisfactorily with all associated controls, instruments, sensors, etc.
- B. Contractor shall coordinate the training day and time with the Owner for an occasion when Owner's operating personnel are available. Notify Owner and Engineer a minimum of ten working days prior to intended start date of training. Training shall only occur on Tuesdays, Wednesdays, or Thursdays, unless previously approved by the Owner.
- C. Contractor shall provide a printed copy of the Preliminary O&M for each operator who attends the training. Utilize the preliminary operation and maintenance manuals as the basis for instruction.
- D. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance. Owner Training shall include the use of slides, videos, literature, diagrams, and/or oral presentations as necessary to present comprehensive, detailed instruction of operation and maintenance requirements of the equipment.
- E. Training shall be divided into two parts: Classroom and Field Training.
 1. Classroom training shall include a slide presentation and shall utilize the Preliminary operation and maintenance manual as the basis of instruction. Contractor shall provide a printed hard copy of the slide presentation to the Owner, as well as a digital copy of the presentation on a USB.
 2. Upon satisfactory completion of the classroom training, continue training with a field training session utilizing the installed equipment. Equipment shall be run in all available control modes and sequences of operation as part of the Training.
- F. The Owner/Engineer may record the training sessions. The recording produced shall be the sole property of the Owner and Engineer.
- G. Upon completion of "Owner Training", submit a certified report that the requirements are complete. Include an attendance list of all persons who attended the training.

- H. Engineer shall review the Contractor's submittal, and if all obligations have been fulfilled to the satisfaction of the Engineer, the Engineer will return the submittal with "No Exceptions Taken".
- I. Upon obtaining a submittal review of "No Exceptions Taken" Contractor may proceed with Acceptance Testing for that system/piece of equipment.

3.4 ACCEPTANCE TESTING

- A. At least seven calendar days prior to intended start date of Acceptance Testing of Systems, Contractor shall schedule a meeting with Owner and Engineer to review Contractor's plan for Acceptance Testing.
- B. Acceptance Testing has two purposes:
 - 1. Demonstrate functional integrity of the instrumentation, control and programming under all operational conditions, including normal, alternate, and emergency conditions, as defined by the Engineer.
 - 2. Demonstrate reliability by operating continuously for a minimum of 7 calendar days without interruption, unless a longer period or more restrictive performance testing requirements are specified in a separate technical specification.
 - 3. Dates for the beginning and ending of Acceptance Testing shall be agreed upon by Contractor, Owner, and Engineer in advance of the Acceptance Testing Period.
 - 4. If, during Acceptance Testing, the aggregate amount of time used for repair, correction of incomplete work, alteration, or unscheduled adjustments to any equipment or system renders the affected equipment or system inoperative for more than 2 hours, the test will be deemed to have failed. In the event of failure, a new Acceptance Testing Period shall commence after correction of the cause of failure. The new Acceptance Testing Period shall have the same requirements and duration as the Acceptance Testing Period previously conducted. Repairs, alterations, and adjustments, as well as failed and restarted Acceptance Testing periods shall be at no additional cost to the Owner and shall not be eligible for claims of delay by the Contractor.
- C. Because the influent pump station is a critical component of the WRF, the Owner's personnel will operate the equipment during the Acceptance Testing; however, the equipment shall not be considered commissioned and transferred to the Owner until it has passed the Acceptance Test. The Contractor shall be responsible for all adjustments and repairs to the equipment during the Acceptance Test.
- D. Because the screw pumps are to be replaced one at a time, they must be tested, accepted and commissioned.

- E. Owner and Engineer reserve the right to simulate operational variables, equipment failures, routine maintenance scenarios, etc. to verify the functional integrity of automatic and manual backup systems and alternate operating modes during Acceptance Testing. Should any simulation cause the system to fail or operate in an unsatisfactory manner, in the opinion of the Engineer or Owner, the Contractor shall be responsible for repairs and/or corrections.
- F. Provide knowledgeable personnel to answer Owner's questions throughout the Acceptance Testing Period.
- G. Provide field instruction on systems and respond to any system problems or failures that may occur.
- H. Upon completion of Acceptance Testing, submit a certified report to Engineer that the requirements are complete and that system is ready for Commissioning.
- I. Engineer shall review the Contractor's submittal, and if all obligations have been fulfilled to the satisfaction of the Engineer, the Engineer will return the submittal with "No Exceptions Taken".
- J. Upon obtaining a submittal review of "No Exceptions Taken" Contractor may proceed with Commissioning for that system/piece of equipment.

3.5 COMMISSIONING

- A. When adequate Training and successful Acceptance Testing of the equipment is completed to the satisfaction of the Owner and Engineer, the equipment may be Commissioned.
- B. Commissioning is defined as the formal transfer of equipment from the Contractor to the Owner. To be commissioned, the equipment must have successfully gone through Initial Starting and Testing, Owner Training and Acceptance Testing.
- C. Owner reserves the right to withhold payment on individual equipment items until such time as Commissioning is complete.
- D. Submit a certified report to Engineer stating that all preceding requirements have been completed and that the system is ready for Commissioning by Owner.
- E. Engineer shall review the Contractor's submittal, and if all obligations have been fulfilled to the satisfaction of the Engineer, the Engineer will return the submittal with "No Exceptions Taken".
- F. Upon obtaining a submittal review of "No Exceptions Taken" the equipment shall be considered Commissioned.

END OF SECTION

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**SECTION 01 70 00
CLOSEOUT REQUIREMENTS**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Closeout Procedures
- B. Final Cleaning
- C. Project Record Documents

1.2 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been reviewed, and that Work is complete in accordance with Contract Documents and ready for review by the Engineer and Owner.
- B. Submit Warranty certificates.
- C. Provide submittals to Engineer that are required by governing, funding or other authorities.
- D. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.3 FINAL CLEANING

- A. Execute final cleaning prior to requesting Final Inspection by the Engineer.
- B. Clean site, including, but not limited to, the following:
 - 1. Sweep paved and concrete surfaces. Sweep and wash interior floors.
 - 2. Clean and disinfect all sanitary facilities constructed by Contractor's personnel during the course of the Work.
 - 3. Clean debris from drainage systems.
 - 4. Clean all windows and other glass surfaces, interior and exterior.
 - 5. Remove temporary labels, stains, and foreign substances.
 - 6. Vacuum soft surfaces.
 - 7. Remove debris from gutters.

8. Clean debris from the interior of electrical cabinets, junction boxes, MCCs...etc.
9. Remove waste and surplus materials, rubbish, and construction facilities from the site.

1.4 PROJECT RECORD DOCUMENTS

- A. Maintain and provide record documents in accordance with the General Conditions and as required by this Section. Contractor's record documents shall be in hard copy format and all annotations shall be legible to the Engineer; use of electronic format is permissible if the markups include author, date, time, and are searchable. Contractor is responsible for obtaining hard copy of all required record documents, including all printing and/or copying fees.
- B. Contractor shall record the following at minimum:
 1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 2. Measured locations of utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 3. Field changes including dimensions and descriptive details/information.
 4. Modifications or changes made to the Work and items uncovered during the course of the Work, including location, elevation, and dimensions.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress. Record documents shall be updated by the Contractor weekly, at minimum. Record documents shall be readily available to the Engineer for review at any time.
- E. Submit final record/as-built drawings for all manufacturer-provided, pre-packaged building plans or other systems designed by a manufacturer. Submit in 11"x17" PDF format and Paper Copy.
- F. Submit the backup of all documents housed on the Web-Based Construction Administration Software – reference Section 01 33 00 Submittal Procedures
- G. Submit all documents noted prior to Engineer with final Application for Payment.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

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SECTION 01 73 00
INSTALLATION, OPERATION, AND MAINTENANCE MANUALS

PART 1 GENERAL

1.1 DESCRIPTION

A. Description of Work

1. Provide Installation Manuals, Preliminary Operation and Maintenance Manuals, and Final Operation and Maintenance (O&M) Manuals for use by the Contractor and the Owner.
2. Installation Manuals, as well as Preliminary and Final O&M Manuals shall be provided for all equipment incorporated into the Work. Manufacturer's Instructions shall be submitted for all other products. Reference Section 01 33 00 Submittal Procedures. Installation Manuals and/or Manufacturer's Installation Instructions shall be maintained at the job site.
3. The term "Operation and Maintenance Manual" includes all product-related information and documents that are required herein, as well as data that is required for inclusion by current regulations of any participating government agency or as a provision of a system warranty.
4. Required delivery schedule for Installation and O&M Manuals is as follows:
 - a. Installation Manuals are due a minimum of 30 days before individual Goods are delivered to the project.
 - b. Preliminary O&M Manuals are due a minimum of 30 days before Initial Starting and Testing (reference Section 01 65 00 Commissioning of Systems).
 - c. Final O&M Manuals are due 30 days after the completion of Final Acceptance Testing. Final payment will not be made until all O&M Manuals are complete and noted as "no exceptions taken" by the Engineer.

B. The Installation Manual shall include, at minimum, the following:

1. The Project's established tag and descriptive name for each product and component, as well as the manufacturer's serial number. The use of cryptic model or catalog numbers or letters for identification shall not be acceptable.
2. Manufacturer's instructions for delivery, storage, assembly, and installation.

3. Name, address, telephone number, and email for manufacturer and manufacturer's local service representative.
- C. The O&M Manual shall include, at minimum, the following:
1. Equipment description, including equipment function, operating characteristics, limiting operating conditions (minimum, average, and maximum input, output, temperatures, speeds, and production limits... etc.).
 2. Equipment operating instructions and procedures for startup, normal and emergency conditions, shutdown, and storage.
 3. Photos or diagrams of equipment shall identify each component comprising the equipment. Provide description and function information for each component.
 4. Equipment safety considerations relating to storage, handling, installation, operation, and maintenance procedures.
 5. Installation procedures.
 6. Calibration procedures, or a statement that calibration is not required.
 7. Routine and preventive maintenance instructions for all maintenance activities, including instructions to keep equipment properly lubricated, adjusted, and maintained so that the item functions as intended throughout its full design life. Routine and preventive maintenance instructions shall include, but not limited to, the following:
 - a. Written explanations with illustrations or photographs for each preventive maintenance task.
 - b. Recommended schedule for execution of preventive and routine maintenance tasks.
 - c. Lubrication charts including a table of alternative lubricants naming at least two alternate lubricant manufacturers, with applicable product numbers, for each application.
 - d. Troubleshooting instructions.
 - e. List of required maintenance tools and equipment.
 - f. Procedures for disassembly, reassembly, alignment, adjustment, and inspection instructions. Instructions shall include photographs and/or video of the stages of the procedures. Provide photos or diagrams which indicate alignment and adjustment equipment/component locations.

- g. Recommended spare parts list to maintain equipment in service. Include serial numbers and other pertinent ordering information.
 - h. Special Tools: For equipment, provide a list of special tools, materials, and supplies included and required for installation, checking, testing, parts replacement, and maintenance.
 - i. Name, address, and telephone number for local sources of equipment and/or replacement parts.
 - j. Name, address, telephone number, and email for manufacturer and manufacturer's local service representative.
 - k. Material Safety Data Sheets (SDS) for any applicable item (chemicals, oils, lubricants, etc.) provided by the supplier. SDS shall be in the standard 16-section format as described under the Hazard Communication Standard (29 CFR 1910.1200(g) and 29 CFR 1910.1200 Appendix D).
 - l. Warranty Information, starting and ending dates of the warranty, Bond(s), and Service contract(s), if applicable. Warranty periods shall be as required by the Contract Documents.
 - m. Project-specific tag number, and the associated manufacturer's model and serial number for the equipment provided.
 - n. Factory Test Reports, if required per the equipment-specific technical specification.
 - o. Commissioning Test Reports shall be included in the Final O&M Manual, including:
 - 8. Results of all installation inspection, field calibration, and field-testing reports prepared during the commissioning of the facility.
 - 9. Results of Acceptance Testing.
 - a. "No exceptions taken" shop drawings (including equipment drawings, schematics, circuit diagrams).
 - b. Non-Project-Related Information Deleted: Non-project-related components, information, descriptions, or other reference information shall be deleted or crossed out or otherwise deleted. Indicate all components of the equipment on catalog pages by bold markings or some other clearly definable medium for ease of identification. All markings shall be readable if photocopied.
- D. Coordination: The Contractor shall coordinate the delivery and incorporation of all O&M Manuals prepared for this project from their component equipment suppliers.

- E. If applicable, the Contractor shall develop an O&M Manual for the equipment and systems designed and provided by the Contractor under this contract.

1.2 SUBMITTALS

- A. Installation Manuals and Preliminary O&M Manuals shall be submitted digitally per Section 01 33 00.
- B. Final O&M Manuals shall be submitted per Section 01 33 00 as a digital copy and as hardcopies in three ring binders. The Final O&M shall be an updated version of the Preliminary O&M Manual. Contractor shall prepare and insert additional data in the Final O&M when the need for additional data becomes apparent during Operator/Owner Training, or as otherwise deemed necessary by the Engineer. Contractor shall indicate in their transmittal all modifications made from the Preliminary O&M and on which pages those modifications can be found. Contractor shall provide additional information as part of the transmittal detailing how these modifications reflect the as-built conditions.
 - 1. Final O&M Hardcopies shall meet the following requirements:
 - a. The table of contents shall be included in each volume of multi-volume manuals.
 - b. Manuals shall use dividers and indexed tabs for each section or item delineated in the table of contents. Dividers shall be cardstock or plastic.
 - c. Manuals shall use 8½-inch by 11-inch acid free paper of high rag content and quality. All text must be legible, type-written or machine printed originals or high-quality copies. Paper shall be white.
 - d. Each page shall have a binding margin of approximately 1½ inches and be punched for placement in a three-ring “D” style loose-leaf binder, which shall be provided by the Contractor along with the submittal. Each binder shall be no more than 3 inches. Binders for a single manual shall be all of the same color.
 - e. Drawings provided as part of the Final O&M Manual shall be half-size black line (11” x 17”) reproductions.
 - 2. Provide three (3) hard copies of the Final O&M Manuals. Contractor shall deliver the O&M manuals directly to Owner.
 - 3. Final O&M Digital Copies shall be in PDF format and satisfy the requirements of Section 01 33 00 Submittal Procedures. The document shall include bookmarks corresponding to the hard-copy dividers and be completely searchable. A copy of the digital Final O&M shall be included on a USB inside of the hardcopy binder.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

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SECTION 03 60 00
GROUTING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Non-shrink cementitious grout.
 2. Rapid-curing epoxy grout.

1.2 REFERENCES

- A. American Concrete Institute:
1. ACI 301 - Specifications for Structural Concrete.
 2. ACI 318 - Building Code Requirements for Structural Concrete.
- B. American Society of Testing and Materials:
1. ASTM C33 - Standard Specification for Concrete Aggregates.
 2. ASTM C40 - Test Method for Organic Impurities in Fine Aggregates for Concrete.
 3. ASTM C150 - Standard Specification for Portland Cement.
 4. ASTM C191 - Test Method for Time of Setting of Hydraulic Cement by Vicat Needle.
 5. ASTM C307 - Test Method for Tensile Strength of Chemical-Resistant Mortar, Grouts, and Monolithic Surfacing.
 6. ASTM C531 - Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes.
 7. ASTM C579 - Test Method for Compressive Strength of Chemical-Resistant Mortars, Grouts, monolithic Surfacing and Polymer Concretes.
 8. ASTM C827 - Test Method for Change in Height at Early Ages of Cylindrical Specimens from Cementitious Mixtures.

1.3 SUBMITTALS

- A. Product Data: Submit product data on grout.
- B. Manufacturer's Installation Instructions: Submit manufacturer's instructions for mixing, handling, surface preparation and placing epoxy type and non-shrink type grouts.
- C. Proposed flowable fill mix design report.

1.4 QUALITY ASSURANCE

- A. Grouting of the screw pump base plates shall be observed by the Engineer at all times.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver grout in manufacturer's unopened containers with proper labels intact.
- B. Store grout in a dry shelter, protect from moisture.

1.6 PRODUCTS

- A. NON-SHRINK CEMENTITIOUS GROUT
 - 1. Non-shrink Cementitious Grout: Pre-mixed ready for use formulation requiring only addition of water; non-shrink, non-corrosive, non-metallic, non-gas forming, no chlorides.
 - 2. Properties: Certified to maintain initial placement volume or expand after set and meet the following minimum properties when tested in accordance with CRD-C621, for Type D non-shrink grout:

Property	Test	Time	Result
Setting Time	ASTM C191	Initial	2 hours (Approx)
		Final	3 hours (Approx)
Expansion			0.10% - 0.4% Maximum
Compressive Strength	CRD-C621	1 day	4,000 psi
		7 days	7,000 psi
		28 days	10,000 psi to 10,800 psi

1.7 RAPID-CURING EPOXY GROUT

- A. Rapid-Curing Epoxy Grout: Precision, high strength, minimal shrinkage, 100% solids, three-component epoxy grout. Rapid-curing, low creep, high effective bearing area, high-vibration and chemical resistance.
- B. Properties: Certified to meet the following minimum properties when tested in accordance with the respective indicated ASTM standard:

Property	Test	Result
Compressive Strength	ASTM C 579 [Procedure B] (Field-QC test)*	[12,000] psi minimum at 7 days*
Tensile Strength	ASTM C 307	[2,000] psi minimum
Coefficient of Expansion	ASTM C 531	[30x10 ⁻⁶] maximum per degree F
Shrinkage	ASTM C 827	Very Low - None

*Compliance shall be proven via the field-quality-control testing indicated in PART 3 herein.

PART 2 EXECUTION

2.1 EXAMINATION

- A. Verify areas to receive grout.

2.2 QUALITY ASSURANCE

- A. Notify Engineer 7-days in advance.
- B. Contractor shall hold at the following points for Engineer to observe the work:
 - 1. prepared concrete surface,
 - 2. forms,
 - 3. placement of grout.

2.3 PREPARATION

- A. Remove defective concrete, laitance, dirt, oil, grease and other foreign material from concrete surfaces by brushing, hammering, chipping or other similar means until sound, clean concrete surface is achieved.
- B. Rough concrete lightly, but not enough to interfere with placement of grout.

- C. Remove foreign materials from metal surfaces in contact with grout.
- D. Align, level and maintain final positioning of components to be grouted.
- E. Saturate concrete surfaces with clean water; remove excess water, leave none standing.

2.4 INSTALLATION - FORMWORK

- A. Construct leak-proof forms anchored and shored to withstand grout pressures.
- B. Install formwork with clearances to permit proper placement of grout.

2.5 PLACING GROUT

- A. Place grout material quickly and continuously.
- B. Do not use pneumatic-pressure or dry-packing methods.
- C. Apply grout from one side only to avoid entrapping air.
- D. Do not vibrate placed grout mixture, or permit placement when area is being vibrated by nearby equipment.
- E. Thoroughly compact final installation and eliminate air pockets.
- F. Do not remove leveling shims for at least 48 hours after grout has been placed.

2.6 CURING

- A. Immediately after placement, protect grout from premature drying, excessively hot or cold temperatures, and mechanical injury.
- B. After grout has attained its initial set, keep damp for minimum of 3 days.

2.7 FIELD QUALITY CONTROL

- A. Submit proposed mix design of each class of grout to inspection and testing firm for review prior to commencement of Work.

- B. Tests of grout components may be performed to ensure conformance with specified requirements.

END OF SECTION

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SECTION 23 07 11
REMOVABLE INSULATION SYSTEM FOR EQUIPMENT

PART 1 GENERAL

1.1 DESCRIPTION OF WORK

- A. This section specifies removable thermal insulation covers for the oil lubrication system: two reservoirs and distribution lines.
- B. The insulation system shall incorporate heating cable. The heating cable will be provided by the electrical contractor. The heating cable design is in the electrical drawings and specifications.

1.2 SUBMITTALS

- A. General: Submit in accordance with Section 01 33 00.
- B. Product Data and Shop Drawings.

1.3 WARRANTY

- A. The insulation system will be covered by a non-prorated five (5) year warranty against defects in materials and workmanship that shall include 100 percent parts and labor. This is in addition to the Contractors guarantee/warranty that shall be for a minimum period of one (1) year from substantial completion per the General Conditions.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- B. Subject to compliance with requirements within this section, manufacturers offering insulation products that may be incorporated in the work include, but are not limited to, the following:

Fit Tight covers, 812-492-3370
or approved equal

2.2 CONSTRUCTION

- A. Insulation system shall be custom fit for the equipment.

- B. Removable sections shall be no more than five feet in length.

2.2 INSULATING MATERIALS

- A. **Jacket and Liner:** Silicone-impregnated fiberglass fabric designed to provide resistance to flame, abrasion, flexing, tearing, puncture, and direct sunlight with the following characteristics:

Characteristic	Method	English
Weight	ASTM-D-3776-96	17.5 OZ/SY $\pm$ 10 percent
Thickness	ASTM-D-1777-96	0.018" $\pm$ 0.001"
Tensile Strength	ASTM-D-5034-95	Warp – 300 lb/in Fill – 225 lb/in
Tear Strength	ASTM-D-5587-96	Warp 0 50 lb Fill – 50 lb
Burst Strength	ASTM-D-3786-87	600 psi
Flame Resistance	FED 191/5903.2	Char Length – 1/16 inch max Afterglow – 1 second max Flame Out – 1 second max
Temperature Resistance	FED SPEC HHB-100B	Cold – 67 degrees F Hot - +500 degrees F
Base Fabric and Weave	Fiberglass/Satin Weave	
Color and Coating	Gray Silicone	

- B. **Insulation:** Insulation shall conform to the requirements of Military Specification MIL-1-16411 Type II and Coast Guard Specification for Incombustible Materials #164.009 and MIL-I-24244:

Thickness.....	2-layer, each layer one inch thick
Type.....	L-5 Utilicore fiberglass insulation as manufactured by Owens Corning, or approved equal
Weight.....	15 ounces/square foot
Density	11 pounds/cubic foot
Service Temperature.....	Up to 1,200 degrees F

- C. **Fastening:** Insulation shall be fastened in place using 2-inch straps with Nomex Velcro, stainless steel D-rings, 3/16-inch braided Kevlar drawstrings, 12 gauge stainless steel Lace Hooks and Quilt Pins and sewn with Kevlar/stainless steel thread.

END OF SECTION

SECTION 26 01 00
ELECTRICAL GENERAL

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. Reference 01 32 17 for Work Sequence.
- C. Reference 01 33 00 for Submittals.

1.2 GENERAL DESCRIPTION OF WORK

- A. The Contractor shall provide all labor, material, tools, equipment and services required to complete the furnishing, installation, wiring, connection, calibration, adjustment, testing and operation of all electrical equipment, devices and components as indicated and implied by the plans and these specifications.
- B. Complete the wiring to, connection to, adjustment and calibration of, testing of equipment having electric motors and/or built-in or furnished electrical components. Install electrical components that are furnished with mechanical equipment.
- C. Complete the procurement, installation, wiring, connection, calibration, adjustment, testing and operation of all electrical devices, components, accessories and equipment which is not shown or specified but which is nonetheless required to make the systems shown and specified function properly.
- D. The Contractor shall install and make all connections to the equipment furnished by the Owner.
- E. Provide the size, type and rating of motor control devices, equipment and wiring necessary to match the ratings of motors furnished with mechanical equipment.
- F. Provide adequate space for the electrical installation, including but not limited to, determination of access-ways and doorways, shipping sections, wall and floor space, and space occupied by mechanical equipment. Provide electrical equipment that fits in the areas shown on the drawings. All equipment shall be readily accessible for maintenance, shall have electrical clearances in accordance with NEC and shall be installed in locations that will provide adequate cooling.
- G. Check electrical equipment prior to installation so that defective equipment is not installed. Acceptance testing for electrical equipment shall be performed as discussed in Sections 26 08 00 and 26 92 10.
- H. Provide start-up, follow-up and training of the Owner's personnel for electrical systems. Make all corrective measures required during start-up. See specific requirements for training and start-up in other specification sections.

- I. Provide field services of qualified technicians to supervise and check out the installation of the equipment, to supervise and check out interconnecting wiring, to conduct start-up of operation of the equipment, and to correct any problems, which occur during start-up.
- J. Provide circuit breakers, conduit, wire and installation for all items, which require 120 VAC power.
- K. The control devices, and instrumentation shall be supplied through the Control System Integrator.

1.3 DEFINITIONS

- A. The words “plans” and “drawings” are used interchangeably in this specification and in all cases shall be interpreted to mean “drawings”.
- B. The word “provide” shall be interpreted to mean furnish and install.
- C. “Owner” shall be the City of Moscow, Idaho.
- D. “Contractor” is the party who furnishes and installs all tools, materials and equipment. This includes the Prime Contractor, the Electrical Contractor, Control System Integrator, and all other Contractors and Sub Contractors.
- E. “Control System Integrator” (CSI) also referred to as the System Integrator or Integrator is the Party that furnishes all control components and designs the detailed control wiring diagrams plus the layout and assembly of the custom control panels.
- F. “Control System” includes all equipment, instruments and wiring for control and monitoring of all operating pumps and equipment. This includes custom control panels, motor control center, packaged control panels, and control equipment furnished with other systems and mechanical equipment. All sensing, transmitting, indicating, control and recording of all functions as specified and shown are also included in the control system.

1.4 PROJECT DESCRIPTION

- A. In general the project consists of the influent pump station upgrade, including in the but not limited to:
 - 1. Replacement of Pumps 202, 203 and 204.
 - 2. Replacement of pump motor disconnects.
 - 3. Refurbish and E-stop control additions to three MCC pump starter buckets.
 - 4. Replacement of the oil lube system with level switch, flow control and heat trace.
 - 5. Replacement of the influent flow, level and temperature measurement.

6. Addition of influent level analog measurement.
7. New pump disconnects, jog stations and an E-stop system.
8. PLC and SCADA PC operator interface programming and commissioning.

1.5 PROJECT CONDITIONS

- A. Do not install electrical or control equipment and hardware that are wet, moisture damaged, or mold damaged.
- B. Environmental Limitations: Do not deliver or install electrical distribution, motor control, control panels, and other electrical apparatus until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work above ceilings is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.
- C. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit work to be performed according to manufacturer's written instructions and warranty requirements.
- D. Field Measurements: Verify actual dimensions of openings and available space by field measurements before fabrication.

1.6 COORDINATION

- A. Equipment Coordination
 1. The Contractor is responsible to coordinate the equipment supplied from various manufacturers. This includes but is not limited to:
 - a. Obtaining specific information on equipment ratings and sizes and verifying the electrical components supplied meet, or match the requirements such as voltage, phase, frequency, starter types, etc.
 - b. Verifying the equipment supplied will fit within the space allocated.
 - c. Coordination of equipment and the electrical power and control requirements. Provided in all sections of the specifications and drawings.
 - d. Providing power and control equipment, wiring, and raceways to meet the requirements of the mechanical equipment supplied.
 - e. Providing all necessary control wiring and components for any special requirements from an equipment manufacturer.
 2. The Contractor shall verify as a minimum:

- a. Correct voltage, phase and frequency
 - b. Size and space requirements
 - c. Mounting requirements
 - d. Correct motor starter type
 - e. Proper coordination with the controls and control system Integrator.
3. Any discrepancies between the electrical and other equipment shall be brought to the immediate attention of the Engineer.

1.7 FINAL ACCEPTANCE

- A. Prior to final acceptance the Engineer will perform one or more site observation trips to develop a "punch list" of items deemed incomplete. The Electrical Contractor and Control System Integrator shall be present while these inspections are taking place and shall be available for opening cabinets and operating and adjusting the system as is necessary for the Engineer to verify all equipment is installed and operates to the requirements of the contract documents. The contractor shall anticipate a minimum of 16 hours to complete the final acceptance testing.
- B. Prior to the Contractor calling for this observation, the Contractor shall have completed all items of work, including wire markers, nameplates, final tests and final test reports. All equipment shall be checked for proper operation and all signals verified for correct calibration and wiring.
- C. Final acceptance will not be given until:
 1. All work is complete.
 2. All punch-lists are checked off and returned to the Engineer.
 3. All test reports are received.
 4. All O&M manuals are received.
 5. All spare parts are received.
 6. All instrument test forms are received.
 7. All project record drawings are received.
- D. Punch Lists
 1. Each punch list item shall be completed by the Contractor and checked off the list. When all the items on the list are completed or commented on, the list shall be signed by the Contractor and returned to the Engineer for verification.

1.8 PROJECT RECORD DRAWINGS

- A. A set of drawings shall be maintained at the job site (by the Electrical Contractor) showing any deviations in the electrical systems from the original design.
- B. This set of drawings shall always be readily available for inspection by the Engineer.
- C. Another complete set of drawings shall be marked up in the office showing the changes made on the field set of drawings. All changes shall be clearly marked in red on the drawings. Drawings shall be submitted to the Engineer at the completion of the project.
- D. A set of electrical drawings marked in red to indicate the routing of conduit runs, shall be submitted to the Engineer for review at the completion of conduit rough-in and prior to cover or pouring of concrete.

1.9 GUARANTEE

- A. The Contractor shall guarantee his work and all components thereof, excluding incandescent and fluorescent lamps for a period of 1 year from date of acceptance of installation. The Contractor shall remedy any defects in workmanship and repair or replace any faulty equipment that shall appear within the guarantee period without additional cost to the Owner.

1.10 CLEANUP

- A. The premises must be kept free of accumulated materials, rubbish and debris at all times. Surplus material, tools and equipment must not be stored at the job site. At the completion of the job, all equipment and fixtures shall be left clean and in proper condition for their intended use.
- B. All motor control equipment, panelboards, and control panels shall be cleaned inside and out at the completion of the project.

1.11 TESTS

- A. Testing for installed feeder cables and motors is required as specified in Sections 26 08 00 and 26 12 00. Instrumentation devices and wiring shall be tested as specified in Sections 26 08 00 and 26 92 10. Test reports shall be submitted to the Engineer prior to final acceptance. All tests shall be performed in accordance with the applicable sections of NETA.

1.12 MAINTAINED OPERATION REQUIREMENTS

- A. This is an operation facility. Two of the three pumps must remain operational during construction.

1.13 SHOP DRAWINGS AND SAMPLES

- A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with Section 01 33 00 and other Division 1 Sections. Each submittal will be identified as Engineer may require.
1. Shop Drawings
 - a. Submit number of copies specified in the General Requirements.
 - b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 1.14.D.
 2. Samples
 - a. Submit number of Samples specified in the Specifications.
 - b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require enabling Engineer to review the submittal for the limited purposes required by Paragraph 1.14.D.
- B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineers review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. Submittal Procedures
1. Before submitting each Shop Drawing or Sample, Contractor shall have determined and verified:
 - a. All field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - b. The suitability of all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;
 - c. All information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto; and

- d. Shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.
 2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
 3. With each submittal, Contractor shall give Engineer specific written notice of any variations, that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.
 4. Provide cut sheets for all products with a Bill of materials showing quantity, manufacturer, catalog number, and the supplier name and phone number and relevant spec. paragraph number. Number each item in the bill of materials and relate the bill of materials to the submitted product index.
 5. Identify on the cut sheets the exact model number, including any options, and the intended use of each item. Identification shall be by tag number of the equipment as shown on the drawings or a description of where it will be used. Submittals that are not clear as to the intended use of each item it contains will be rejected.
- D. Engineer's Review
1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
 3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 1.14.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample.

Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 1.14.C.1.

E. Resubmitted Procedures

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

1.14 OPERATION AND MAINTENANCE MANUALS

A. The Contractor shall prepare and assemble detailed operation and maintenance manuals in accordance with the project general requirements and other requirements in Section 01 73 00. The manuals shall be bound in a 3-ring binder and tabbed with an index, in general the O&M manual format shall meet that of the submittal data in Division 26 sections. The manuals shall include, but not be limited to, the following:

1. Catalog data and complete parts list for all equipment and devices.
2. All cut sheets of equipment and components.
3. Preventative maintenance procedures
4. Trouble-shooting
5. Calibration
6. Testing
7. Replacement of components
8. Automatic mode operation
9. Manual mode operation
10. System schematics / shop drawings and record drawings.
11. As-built wiring diagrams of cabinet and enclosure contained assemblies
12. As-built wiring diagrams of overall system
13. Listing of recommended spare parts
14. Listing of recommended maintenance tools and equipment.

1.15 OPERATION AND MAINTENANCE TRAINING (OWNER INSTRUCTION)

A. General:

1. The Contractor and appropriate factory-trained representatives shall instruct the Owner's representative in the proper operation and maintenance of all electrical and control systems and equipment and shall explain all warranties.

B. Training Agenda Outline:

1. Prior to instruction of Owner Personnel, the Contractor shall prepare a typed outline, listing the subjects that will be included in this instruction, and shall submit the outline for review by the Engineer at least 2 weeks prior to the time of the training.

C. Training Requirements:

1. Training shall be provided per the specific requirements in other sections of these specifications. In addition to training required in other sections of the specifications, the Contractor shall conduct specifically organized training sessions in the overall operation and maintenance of the electrical and control system for personnel employed by the Owner. The training sessions shall be conducted to educate and train the personnel in operations and maintenance of all components of the electrical system outside the training requirements in the other Sections.
2. Training shall include, but not be limited to, the following:
 - a. Preventative maintenance procedures
 - b. Trouble-shooting
 - c. Calibration
 - d. Testing
 - e. Replacement of components
 - f. Equipment operation
3. At a minimum, 2 training session, each at least 6 hours in duration, shall be conducted at the facility after start-up of the electrical and control systems. The Contractor shall prepare and assemble specific instruction materials for each training session and shall supply such materials to the Owner at least 2 weeks prior to the time of the training.

D. Certification:

1. At the conclusion of the instruction period, the Contractor shall obtain the signature of each person being instructed on each copy of the approved training outline to signify that the personnel has a proper understanding of the operation and maintenance of the systems and resubmit the signed outlines.

E. Other Requirements:

1. Refer to other Division 26 Sections for additional Operator Training requirements for specific pieces of equipment or specific systems.
2. The Contractor shall coordinate the Operator Training requirements listed above with the Owner Instruction requirements of Division 1.

1.16 DELIVERY, STORAGE, AND HANDLING

- A. Deliver equipment to the job site at the appropriate time for installation. Equipment items shall be crated or affixed to pallets with protective wrappings. Exercise care to prevent damage from handling. Store mechanical and electrical components off the ground in weathertight enclosures. Keep equipment dry at all times.

PART 2 - PRODUCTS

- A. Not Used

PART 3 - EXECUTION

- A. Not Used

END OF SECTION

SECTION 26 06 00
GROUNDING AND BONDING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes: Grounding systems and equipment.
- B. Section includes grounding systems and equipment, plus the following special applications:
 - 1. Overhead-line grounding.
 - 2. Underground distribution grounding.
 - 3. Ground bonding common with lightning protection system.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Informational Submittals: Plans showing dimensioned as-built locations of grounding features specified in "Field Quality Control" Article, including the following:
 - 1. Test wells.
 - 2. Ground rods.
 - 3. Ground rings.
 - 4. Grounding arrangements and connections for separately derived systems.
 - 5. Grounding for sensitive electronic equipment.
- C. Qualification Data: For qualified testing agency and testing agency's field supervisor.
- D. Field quality-control reports.
- E. Operation and Maintenance Data: For grounding to include in emergency, operation, and maintenance manuals. In addition to items specified in Division 1 Section "Operation and Maintenance Data," include the following:

1. Instructions for periodic testing and inspection of grounding features at ground rings, grounding connections for separately derived systems based on NETA MTS NFPA 70B Insert reference.
 - a. Tests shall determine if ground-resistance or impedance values remain within specified maximums, and instructions shall recommend corrective action if values do not.
 - b. Include recommended testing intervals.

1.4 QUALITY ASSURANCE

- A. Testing Agency Qualifications: An independent agency, with the experience and capability to conduct the testing indicated, that acceptable to authorities having jurisdiction and the Engineer.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- C. Comply with UL 467 for grounding and bonding materials and equipment.
- D. ANSI/IEEE Standard 142 Recommended Practice for Grounding of Industrial and Commercial Power Systems.
- E. Comply with Article 250 of the NEC (NFPA 70) for grounding.
- F. Approval: All grounding shall be in accordance with the requirements of, and shall be subject to the approval of the Engineer and the local electrical inspection.

PART 2 - PRODUCTS

2.1 CONDUCTORS

- A. Insulated Conductors: Copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.
- B. Bare Copper Conductors:
 1. Solid Conductors: ASTM B 3.
 2. Stranded Conductors: ASTM B 8.
 3. Tinned Conductors: ASTM B 33.
 4. Bonding Cable: 28 kcmil, 14 strands of No. 17 AWG conductor, 1/4 inch in diameter.
 5. Bonding Conductor: No. 4 or No. 6 AWG, stranded conductor.

6. Bonding Jumper: Copper tape, braided conductors terminated with copper ferrules; 1-5/8 inches wide and 1/16 inch thick.
7. Tinned Bonding Jumper: Tinned-copper tape, braided conductors terminated with copper ferrules; 1-5/8 inches wide and 1/16 inch thick.
- C. Bare Grounding Conductor and Conductor Protector for Wood Poles:
 1. No. 4 AWG minimum, soft-drawn copper.
 2. Conductor Protector: Half-round PVC or wood molding; if wood, use pressure-treated fir, cypress, or cedar.
- D. Grounding Bus: Predrilled rectangular bars of annealed copper, 1/4 by 4 inches in cross section, with 9/32 inch holes spaced 1-1/8 inches apart. Stand-off insulators for mounting shall comply with UL 891 for use in switchboards, 600 V. Lexan or PVC, impulse tested at 5000 V.

2.2 CONNECTORS

- A. Listed and labeled by a nationally recognized testing laboratory acceptable to authorities having jurisdiction for applications in which used, and for specific types, sizes, and combinations of conductors and other items connected.
- B. Bolted Connectors for Conductors and Pipes: Copper or copper alloy, pressure type with at least two bolts.
 1. Pipe Connectors: Clamp type, sized for pipe.
- C. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.
- D. Bus-bar Connectors: Mechanical type, cast silicon bronze, solderless compression-type wire terminals, and long-barrel, two-bolt connection to ground bus bar.

2.3 GROUNDING ELECTRODES

- A. Ground Rods: Copper-clad steel; 3/4 inch in diameter by 10 feet in length.

PART 3 - EXECUTION

3.1 APPLICATIONS

- A. Conductors: Install solid conductor for No. 8 AWG and smaller; and stranded conductors for No. 6 AWG and larger unless otherwise indicated.
- B. Underground Grounding Conductors: Install bare copper conductor, No. 2/0 AWG minimum.
 1. Bury at least 24 inches below grade.

2. Duct-Bank Grounding Conductor: Bury 12 inches above duct bank when indicated as part of duct-bank installation.
- C. Isolated Grounding Conductors: Green-colored insulation with continuous yellow stripe. On feeders with isolated ground, identify grounding conductor where visible to normal inspection, with alternating bands of green and yellow tape, with at least three bands of green and two bands of yellow.
- D. Grounding Bus: Install in electrical and telephone equipment rooms, in rooms housing service equipment, and elsewhere as indicated.
 1. Install bus on insulated spacers 2 inches minimum from wall, 6 inches above finished floor unless otherwise indicated.
 2. Where indicated on both sides of doorways, route bus up to top of door frame, across top of doorway, and down to specified height above floor; connect to horizontal bus.
- E. Conductor Terminations and Connections:
 1. Pipe and Equipment Grounding Conductor Terminations: Bolted connectors.
 2. Underground Connections: Welded connectors except at test wells and as otherwise indicated.
 3. Connections to Ground Rods at Test Wells: Bolted connectors.
 4. Connections to Structural Steel: Welded connectors.

3.2 GROUNDING OVERHEAD LINES

- A. Comply with IEEE C2 grounding requirements.
- B. Install two parallel ground rods if resistance to ground by a single, ground-rod electrode exceeds 25 ohms.
- C. Drive ground rods until tops are 12 inches below finished grade in undisturbed earth.
- D. Ground-Rod Connections: Install bolted connectors for underground connections and connections to rods.
- E. Lightning Arrester Grounding Conductors: Separate from other grounding conductors.
- F. Secondary Neutral and Transformer Enclosure: Interconnect and connect to grounding conductor.
- G. Protect grounding conductors running on surface of wood poles with molding extended from grade level up to and through communication service and transformer spaces.

3.3 GROUNDING UNDERGROUND DISTRIBUTION SYSTEM COMPONENTS

- A. Comply with IEEE C2 grounding requirements.
- B. Grounding Manholes and Handholes: Install a driven ground rod through manhole or handhole floor, close to wall, and set rod depth so 4 inches will extend above finished floor. If necessary, install ground rod before manhole is placed and provide No. 1/0 AWG bare, tinned-copper conductor from ground rod into manhole through a waterproof sleeve in manhole wall. Protect ground rods passing through concrete floor with a double wrapping of pressure-sensitive insulating tape or heat-shrunk insulating sleeve from 2 inches above to 6 inches below concrete. Seal floor opening with waterproof, nonshrink grout.
- C. Grounding Connections to Manhole Components: Bond exposed-metal parts such as inserts, cable racks, pulling irons, ladders, and cable shields within each manhole or handhole, to ground rod or grounding conductor. Make connections with No. 4 AWG minimum, stranded, hard-drawn copper bonding conductor. Train conductors level or plumb around corners and fasten to manhole walls. Connect to cable armor and cable shields according to written instructions by manufacturer of splicing and termination kits.
- D. Pad-Mounted Transformers and Switches: Install two ground rods and ground ring around the pad. Ground pad-mounted equipment and noncurrent-carrying metal items associated with substations by connecting them to underground cable and grounding electrodes. Install tinned-copper conductor not less than No. 2 AWG for ground ring and for taps to equipment grounding terminals. Bury ground ring not less than 6 inches from the foundation.

3.4 EQUIPMENT GROUNDING

- A. Install insulated equipment grounding conductors with all feeders and branch circuits.
- B. Install insulated equipment grounding conductors with the following items, in addition to those required by NFPA 70:
 - 1. Feeders and branch circuits.
 - 2. Lighting circuits.
 - 3. Receptacle circuits.
 - 4. Single-phase motor and appliance branch circuits.
 - 5. Three-phase motor and appliance branch circuits.
 - 6. Flexible raceway runs.
 - 7. Armored and metal-clad cable runs.

8. Busway Supply Circuits: Install insulated equipment grounding conductor from grounding bus in the switchgear, switchboard, or distribution panel to equipment grounding bar terminal on busway.
 9. Computer and Rack-Mounted Electronic Equipment Circuits: Install insulated equipment grounding conductor in branch-circuit runs from equipment-area power panels and power-distribution units.
 10. X-Ray Equipment Circuits: Install insulated equipment grounding conductor in circuits supplying x-ray equipment.
- C. Air-Duct Equipment Circuits: Install insulated equipment grounding conductor to duct-mounted electrical devices operating at 120 V and more, including air cleaners, heaters, dampers, humidifiers, and other duct electrical equipment. Bond conductor to each unit and to air duct and connected metallic piping.
- D. Water Heater, Heat-Tracing, and Antifrost Heating Cables: Install a separate insulated equipment grounding conductor to each electric water heater and heat-tracing cable. Bond conductor to heater units, piping, connected equipment, and components.
- E. Isolated Grounding Receptacle Circuits: Install an insulated equipment grounding conductor connected to the receptacle grounding terminal. Isolate conductor from raceway and from panelboard grounding terminals. Terminate at equipment grounding conductor terminal of the applicable derived system or service unless otherwise indicated.
- F. Isolated Equipment Enclosure Circuits: For designated equipment supplied by a branch circuit or feeder, isolate equipment enclosure from supply circuit raceway with a nonmetallic raceway fitting listed for the purpose. Install fitting where raceway enters enclosure and install a separate insulated equipment grounding conductor. Isolate conductor from raceway and from panelboard grounding terminals. Terminate at equipment grounding conductor terminal of the applicable derived system or service unless otherwise indicated.
- G. Signal and Communication Equipment: In addition to grounding and bonding required by NFPA 70, provide a separate grounding system complying with requirements in TIA/ATIS J-STD-607-A.
1. For telephone, alarm, voice and data, and other communication equipment, provide No. 4 AWG minimum insulated grounding conductor in raceway from grounding electrode system to each service location, terminal cabinet, wiring closet, and central equipment location.
 2. Service and Central Equipment Locations and Wiring Closets: Terminate grounding conductor on a 1/4-by-4-by-12-inch grounding bus.
 3. Terminal Cabinets: Terminate grounding conductor on cabinet grounding terminal.

- H. Metal and Wood Poles Supporting Outdoor Lighting Fixtures: Install grounding electrode and a separate insulated equipment grounding conductor in addition to grounding conductor installed with branch-circuit conductors.
- I. Separately Derived System Grounding: Bond the case and neutral of each transformer directly to the nearest available effectively grounded structural metal member of the structure, the nearest available effectively grounded metal water pipe, or in accordance with the local electrical inspection department. Flexible conduit shall not be used as a ground path to a transformer.
- J. Standby Electric Power System: This is a separately derived system and shall have its neutral grounded to the generator frame and extended to the standby service equipment and bonded to the grounding electrode system.

3.5 INSTALLATION

- A. Grounding Conductors: Route along shortest and straightest paths possible unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.
- B. Ground Bonding Common with Lightning Protection System: Comply with NFPA 780 and UL 96 when interconnecting with lightning protection system. Bond electrical power system ground directly to lightning protection system grounding conductor at closest point to electrical service grounding electrode. Use bonding conductor sized same as system grounding electrode conductor and install in conduit.
- C. Ground Rods: Drive rods until tops are 2 inches below finished floor or final grade unless otherwise indicated.
 - 1. Interconnect ground rods with grounding electrode conductor below grade and as otherwise indicated. Make connections without exposing steel or damaging coating if any.
 - 2. For grounding electrode system, install at least two rods spaced at least one-rod length from each other and located at least the same distance from other grounding electrodes, and connect to the service grounding electrode conductor.
- D. Test Wells: Ground rod driven through drilled hole in bottom of handhole. Handholes are specified in 26 13 00, and shall be at least 12 inches deep, with cover.
 - 1. Test Wells: Install at least one test well for each service unless otherwise indicated. Install at the ground rod electrically closest to service entrance. Set top of test well flush with finished grade or floor.
- E. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance except where routed through short lengths of conduit.

1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
 2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install bonding so vibration is not transmitted to rigidly mounted equipment.
 3. Use exothermic-welded connectors for outdoor locations; if a disconnect-type connection is required, use a bolted clamp.
- F. Grounding and Bonding for Piping:
1. Metal Water Service Pipe: Install insulated copper grounding conductors, in conduit, from building's main service equipment, or grounding bus, to main metal water service entrances to building. Connect grounding conductors to main metal water service pipes; use a bolted clamp connector or bolt a lug-type connector to a pipe flange by using one of the lug bolts of the flange. Where a dielectric main water fitting is installed, connect grounding conductor on street side of fitting. Bond metal grounding conductor conduit or sleeve to conductor at each end.
 2. Water Meter Piping: Use braided-type bonding jumpers to electrically bypass water meters. Connect to pipe with a bolted connector.
 3. Bond each aboveground portion of gas piping system downstream from equipment shutoff valve.
- G. Bonding Interior Metal Ducts: Bond metal air ducts to equipment grounding conductors of associated fans, blowers, electric heaters, and air cleaners. Install tinned bonding jumper to bond across flexible duct connections to achieve continuity.
- H. Grounding for Steel Building Structure: Install a driven ground rod at base of each corner column and at intermediate exterior columns at distances not more than 60 feet apart.
- I. Ground Ring: Install a grounding conductor, electrically connected to each building structure ground rod and to each steel column, extending around the perimeter of building.
1. Install copper conductor not less than No. 2/0 AWG for ground ring and for taps to building steel.
 2. Bury ground ring not less than 24 inches from building's foundation, unless otherwise indicated on drawings.
- J. Ufer Ground (Concrete-Encased Grounding Electrode): Fabricate according to NFPA 70; use a minimum of 20 feet of bare copper conductor not smaller than No. 4 AWG.
1. If concrete foundation is less than long, coil excess conductor within base of foundation.

2. Bond grounding conductor to reinforcing steel in at least four locations and to anchor bolts. Extend grounding conductor below grade and connect to building's grounding grid or to grounding electrode external to concrete.

3.6 LABELING

- A. Comply with requirements in Division 26 Section "Electrical Identification" Article for instruction signs. The label or its text shall be green.
- B. Install labels at the telecommunications bonding conductor and grounding equalizer and at the grounding electrode conductor where exposed.
 1. Label Text: "If this connector or cable is loose or if it must be removed for any reason, notify the facility manager."

3.7 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing and inspecting agency to perform the following field tests and inspections and prepare test reports:
- B. Perform the following tests and inspections and prepare test reports:
 1. After installing grounding system but before permanent electrical circuits have been energized, test for compliance with requirements.
 2. Test completed grounding system at each location where a maximum ground-resistance level is specified, at service disconnect enclosure grounding terminal, at ground test wells, and at individual ground rods. Make tests at ground rods before any conductors are connected.
 - a. Measure ground resistance not less than two full days after last trace of precipitation and without soil being moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural ground resistance.
 - b. Perform tests by fall-of-potential method according to IEEE 81.
 3. Prepare dimensioned drawings locating each test well, ground rod and ground rod assembly, and other grounding electrodes. Identify each by letter in alphabetical order, and key to the record of tests and observations. Include the number of rods driven and their depth at each location and include observations of weather and other phenomena that may affect test results. Describe measures taken to improve test results.
- C. Grounding system will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.
- E. Report measured ground resistances that exceed the following values:

1. Power and Lighting Equipment or System with Capacity of 500 kVA and Less: 10 ohms.
 2. Power and Lighting Equipment or System with Capacity of 500 to 1000 kVA: 5 ohms.
 3. Power and Lighting Equipment or System with Capacity More Than 1000 kVA: 3 ohms.
 4. Power Distribution Units or Panelboards Serving Electronic Equipment: 3 ohm(s).
 5. Substations and Pad-Mounted Equipment: 5 ohms.
 6. Manhole Grounds: 10 ohms.
- F. Excessive Ground Resistance: If resistance to ground exceeds specified values, notify Engineer promptly and include recommendations to reduce ground resistance.

3.8 COORDINATION:

- A. General: Coordinate installation of grounding connections for equipment with equipment installation work. Inspect grounding and bonding system conductors and connections for tightness and proper installation.
- B. Connections: Use exothermic welds or irreversible compression products for connecting bonding and grounding conductors to ground rods, to counterpoise, structural steel, piping systems, and elsewhere where shown on Drawings. Provide all accessories required for a complete installation.

3.9 TESTING:

- A. Perform tests per section 26 08 00.

END OF SECTION

SECTION 26 07 50
ELECTRICAL IDENTIFICATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Identification for raceways.
 - 2. Identification of power and control cables.
 - 3. Identification for conductors.
 - 4. Underground-line warning tape.
 - 5. Warning labels and signs.
 - 6. Instruction signs.
 - 7. Equipment identification labels.
 - 8. Miscellaneous identification products.

1.3 SUBMITTALS

- A. Product Data: For each electrical identification product indicated.
- B. Samples: For each type of label and sign to illustrate size, colors, lettering style, mounting provisions, and graphic features of identification products.
- C. Identification Schedule: An index of nomenclature of electrical equipment and system components used in identification signs and labels.

1.4 QUALITY ASSURANCE

- A. Comply with ANSI A13.1 and IEEE C2.
- B. Comply with NFPA 70.
- C. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.
- D. Comply with ANSI Z535.4 for safety signs and labels.

- E. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.

1.5 COORDINATION

- A. Coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual; and with those required by codes, standards, and 29 CFR 1910.145. Use consistent designations throughout Project.
- B. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- C. Coordinate installation of identifying devices with location of access panels and doors.
- D. Install identifying devices before installing acoustical ceilings and similar concealment.

PART 2 - PRODUCTS

2.1 RACEWAY IDENTIFICATION MATERIALS

- A. Metal Tags: Brass or aluminum, 2 by 2 by 0.05 inch, with stamped legend, punched for use with self-locking cable tie fastener.

2.2 POWER AND CONTROL CABLE IDENTIFICATION MATERIALS

- A. Metal Tags: Brass or aluminum, 2 by 2 by 0.05 inch, with stamped legend, punched for use with self-locking cable tie fastener.

2.3 CONDUCTOR IDENTIFICATION MATERIALS

- A. Color-Coding Conductor Tape: Colored, self-adhesive vinyl tape not less than 3 mils thick by 1 to 2 inches wide.
- B. Heat Shrink Sleeves
 - 1. Field installed wire makers shall be pre-printed, heat shrink type sleeves, Thomas & Betts Type HVM, TYTON HELLERMAN Type THS, or approved equal.

2.4 FLOOR MARKING TAPE

- A. 2 inch wide, 5-mil pressure-sensitive vinyl tape, with black and white stripes and clear vinyl overlay.

2.5 UNDERGROUND-LINE WARNING TAPE

- A. Tape:

1. Recommended by manufacturer for the method of installation and suitable to identify and locate underground electrical and communications utility lines.
 2. Printing on tape shall be permanent and shall not be damaged by burial operations.
 3. Tape material and ink shall be chemically inert, and not subject to degrading when exposed to acids, alkalis, and other destructive substances commonly found in soils.
- B. Color and Printing:
1. Comply with ANSI Z535.1 through ANSI Z535.5.
 2. Inscriptions for Red-Colored Tapes: ELECTRIC LINE, HIGH VOLTAGE.
 3. Inscriptions for Orange-Colored Tapes: TELEPHONE CABLE, CATV CABLE, COMMUNICATIONS CABLE, OPTICAL FIBER CABLE.
- C. Tag: Type I:
1. Pigmented polyolefin, bright-colored, continuous-printed on one side with the inscription of the utility, compounded for direct-burial service.
 2. Thickness: 4 mils.
 3. Weight: 18.5 lb per 1000 sq. ft.
 4. 3 Inch Tensile According to ASTM D 882: 30 lbf, and 2500 psi.

2.6 WARNING LABELS AND SIGNS

- A. Comply with NFPA 70 and 29 CFR 1910.145.
- B. Self-Adhesive Warning Labels: Factory-printed, multicolor, pressure-sensitive adhesive labels, configured for display on front cover, door, or other access to equipment unless otherwise indicated.
- C. Baked-Enamel Warning Signs:
1. Preprinted aluminum signs, punched or drilled for fasteners, with colors, legend, and size required for application.
 2. 1/4 inch grommets in corners for mounting.
 3. Nominal size, 7 by 10 inches.
- D. Warning label and sign shall include, but are not limited to, the following legends:

1. Multiple Power Source Warning: "DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES."
2. Workspace Clearance Warning: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36 INCHES."

2.7 INSTRUCTION SIGNS

- A. Engraved, laminated acrylic or melamine plastic, minimum 1/16 inch thick for signs up to 20 sq. in. and 1/8 inch thick for larger sizes.
 1. Engraved legend with black letters on white face.
 2. Punched or drilled for mechanical fasteners.
 3. Framed with mitered acrylic molding and arranged for attachment at applicable equipment.
- B. Adhesive Film Label with Clear Protective Overlay: Machine printed, in black, by thermal transfer or equivalent process. Minimum letter height shall be 3/8 inch. Overlay shall provide a weatherproof and UV-resistant seal for label.

2.8 EQUIPMENT IDENTIFICATION LABELS

- A. Engraved, Laminated Acrylic or Melamine Label: Punched or drilled for screw mounting. White letters on a dark-gray background. Minimum letter height shall be 3/8 inch.

2.9 CABLE TIES

- A. General-Purpose Cable Ties: Fungus inert, self extinguishing, one piece, self locking, Type 6/6 nylon.
 1. Minimum Width: 3/16 inch.
 2. Tensile Strength at 73 degrees F, According to ASTM D 638: 12,000 psi.
 3. Temperature Range: Minus 40 to plus 185 degrees F.
 4. Color: Black except where used for color-coding.
- B. UV-Stabilized Cable Ties: Fungus inert, designed for continuous exposure to exterior sunlight, self extinguishing, one piece, self locking, Type 6/6 nylon.
 1. Minimum Width: 3/16 inch.
 2. Tensile Strength at 73 degrees F, According to ASTM D 638: 12,000 psi.
 3. Temperature Range: Minus 40 to plus 185 degrees F.
 4. Color: Black.

- C. Plenum-Rated Cable Ties: Self extinguishing, UV stabilized, one piece, self locking.
 - 1. Minimum Width: 3/16 inch.
 - 2. Tensile Strength at 73 degrees F, According to ASTM D 638: 7000 psi.
 - 3. UL 94 Flame Rating: 94V-0.
 - 4. Temperature Range: Minus 50 to plus 284 degrees F.
 - 5. Color: Black.

2.10 MISCELLANEOUS IDENTIFICATION PRODUCTS

- A. Paint: Comply with requirements in painting Sections for paint materials and application requirements. Select paint system applicable for surface material and location (exterior or interior).
- B. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Verify identity of each item before installing identification products.
- B. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.
- C. Apply identification devices to surfaces that require finish after completing finish work.
- D. Self-Adhesive Identification Products: Clean surfaces before application, using materials and methods recommended by manufacturer of identification device.
- E. Heat Shrink Identification Products: Clean Surfaces before application, using materials and methods recommended by manufacturer of identification device.
- F. Attach signs and plastic labels that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.
- G. System Identification Color-Coding Bands for Raceways and Cables: Each color-coding band shall completely encircle cable or conduit. Place adjacent bands of two-color markings in contact, side by side. Locate bands at changes in direction, at penetrations of walls and floors, at 50 foot maximum intervals in straight runs, and at 25 foot maximum intervals in congested areas.
- H. Aluminum Wraparound Marker Labels and Metal Tags: Secure tight to surface of conductor or cable at a location with high visibility and accessibility.

- I. Cable Ties: For attaching tags. Use general-purpose type, except as listed below:
 - 1. Outdoors: UV-stabilized nylon.
 - 2. In Spaces Handling Environmental Air: Plenum rated.
- J. Underground-Line Warning Tape: During backfilling of trenches install continuous underground-line warning tape directly above line at 6 to 8 inches below finished grade. Use multiple tapes where width of multiple lines installed in a common trench or concrete envelope exceeds 16 inches overall.
- K. Painted Identification: Comply with requirements in painting Sections for surface preparation and paint application.

3.2 IDENTIFICATION SCHEDULE

- A. Provide conduit markers for all conduit identified in conduit and wire schedules.
- B. Power-Circuit and Control Conductor Identification, 600 V or Less: For conductors in vaults, pull and junction boxes, manholes, and handholes, control panels, equipment enclosures, motor control centers use color-coding conductor tape to identify the phase.
 - 1. Color-Coding:
 - a. Color shall be factory applied or field applied for sizes larger than No. 8 AWG, if authorities having jurisdiction permit.
 - b. Insulation on phase conductor sizes AWG No. 10 and smaller shall be colored, No.8 AWG and larger may have black insulation with plastic tape of the appropriate color from the table below.
 - c. Insulation on the grounded conductor (neutral) sizes AWG No. 8 and smaller shall be colored, AWG No. 6 and larger may have black insulation with plastic tape of white or gray in accordance with the table below.
 - d. All control wiring in control panels or other enclosures that is powered from an external source and is not disconnected by the control panel disconnect shall be terminated at a disconnecting terminal block upon entering the enclosure. The color of the wire shall then be changed to yellow to identify it as being powered from an external source. Provide identification nameplate on exterior of enclosure to indicate sources of external power.
 - e. All wiring in industrial machines and equipment shall be in accordance with NFPA 79. Notify Owner of any deficiencies noted during installation.

- f. Wiring shall conform to the following color code. Colors specified in table below are those generally used for phase conductors at this voltage.

Description	120/208V	277/480V	Control
Phase A (Left)	Black	Brown	--
Phase B (Center)	Red	Orange	--
Phase C (Right)	Blue	Yellow	--
Neutral	White	Gray	White
Ground	Green	Green	Green
120 VAC Control	--	--	Red
120 VAC Control	Neutral	--	White
DC Control (+)	--	--	Blue
DC Control (-)	--	--	Gray
External Source	--	--	Orange

- g. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches from terminal points and in boxes where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding. Locate bands to avoid obscuring factory cable markings.
- C. Power-Circuit Conductor Identification, More than 600 V: For conductors in vaults, pull and junction boxes, manholes, and handholes, use nonmetallic plastic tag holder with adhesive-backed phase tags, and a separate tag with the circuit designation.
- D. Install instructional sign including the color code for grounded and ungrounded conductors using adhesive-film-type labels.
- E. Conductors to Be Extended in the Future: Attach write-on tags to conductors and list source.
- F. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, and signal connections.
1. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, and pull points. Identify by system and circuit designation.
 2. Use system of marker tape designations that is uniform and consistent with system used by manufacturer for factory-installed connections.
 3. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual.
- G. Locations of Underground Lines: Identify with underground-line warning tape for power, lighting, communication, and control wiring and optical fiber cable.

1. Install underground-line warning tape for both direct-buried cables and cables in raceway.
- H. Workspace Indication: Install floor marking tape to show working clearances in the direction of access to live parts. Workspace shall be as required by NFPA 70 and 29 CFR 1926.403 unless otherwise indicated. Do not install at flush-mounted panelboards and similar equipment in finished spaces.
- I. Warning Labels for Indoor Cabinets, Boxes, and Enclosures for Power and Lighting: Self-adhesive warning labels.
 1. Comply with 29 CFR 1910.145.
 2. Identify system voltage with black letters on an orange background.
 3. Apply to exterior of door, cover, or other access.
 4. For equipment with multiple power or control sources, apply to door or cover of equipment including, but not limited to, the following:
 - a. Power transfer switches.
 - b. Controls with external control power connections.
- J. Operating Instruction Signs: Install instruction signs to facilitate proper operation and maintenance of electrical systems and items to which they connect. Install instruction signs with approved legend where instructions are needed for system or equipment operation.
- K. Emergency Operating Instruction Signs: Install instruction signs with white legend on a red background with minimum 3/8 inch high letters for emergency instructions at equipment used for power transfer.
- L. Equipment Identification Labels: On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and the Operation and Maintenance Manual. Apply labels to disconnect switches and protection equipment, central or master units, control panels, control stations, terminal cabinets, and racks of each system. Systems include power, lighting, control, communication, signal, monitoring, and alarm systems unless equipment is provided with its own identification.
 1. Labeling Instructions:
 - a. Indoor Equipment: Engraved, laminated acrylic or melamine label. Unless otherwise indicated, provide a single line of text with 1/2 inch high letters on 1-1/2 inch high label; where two lines of text are required, use labels 2 inches high.
 - b. Outdoor Equipment: Engraved, laminated acrylic or melamine label.

- c. Elevated Components: Increase sizes of labels and letters to those appropriate for viewing from the floor.
- d. Unless provided with self-adhesive means of attachment, fasten labels with appropriate mechanical fasteners that do not change the NEMA or NRTL rating of the enclosure.

2. Equipment to Be Labeled:

- a. Panelboards: Typewritten directory of circuits in the location provided by panelboard manufacturer. Panelboard identification shall be engraved, laminated acrylic or melamine label.
- b. Enclosures and electrical cabinets.
- c. Access doors and panels for concealed electrical items.
- d. Switchgear.
- e. Switchboards.
- f. Transformers: Label that includes tag designation shown on Drawings for the transformer, feeder, and panelboards or equipment supplied by the secondary.
- g. Substations.
- h. Emergency system boxes and enclosures.
- i. Motor-control centers.
- j. Enclosed switches.
- k. Enclosed circuit breakers.
- l. Enclosed controllers.
- m. Variable-speed controllers.
- n. Push-button stations.
- o. Power transfer equipment.
- p. Contactors.
- q. Remote-controlled switches, dimmer modules, and control devices.
- r. Battery-inverter units.
- s. Battery racks.

- t. Power-generating units.
- u. Monitoring and control equipment.
- v. UPS equipment.

END OF SECTION

SECTION 26 08 00
ELECTRICAL TESTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The Conditions of the Contract and applicable requirements of the "General Conditions" and Section 26 01 00 govern this Section.

1.2 DESCRIPTION OF WORK

- A. General: Provide testing of electrical work installed under division 26, as specified herein and in other Division 26 sections. Feeders and equipment shall not be placed in service until they have been checked out and tested, as applicable.

1.3 QUALITY ASSURANCE

- A. Personnel: Submit evidence to show that personnel who will test the systems are qualified.
- B. The Engineer reserves the right to require that the originally approved personnel be replaced with other qualified personnel if, in his opinion, the original personnel are not qualified or are not properly conducting the system testing.

1.4 SUBMITTALS

- A. Testing Procedures: Submit four copies of all proposed testing procedures to the Engineer for review at least 30 days prior to conducting any testing on the project.
- B. Reporting Forms: Submit four copies of the proposed forms to be used in recording testing data and results to the Engineer for review at least 30 days prior to conducting any testing on the project.
- C. Test Data and Results: Submit four copies of complete data and certified test results for each test performed, including, but not limited to:
 - 1. Test performed.
 - 2. Test procedure.
 - 3. System and area tested.
 - 4. Date(s) and time(s) of test.
 - 5. Weather conditions.
 - 6. Test criteria.

- 7. Test results.
- 8. Additional pertinent information.
- D. Operational Certification: Submit four certified copies of an operational certification which documents that all equipment and systems have been fully tested to verify proper operation in accordance with the design shown in the Contract documents and manufacturer's recommendations.
- E. Certification: Certifications stating that submitted test data and results are true and correct shall be provided for all submittals under this section. Certification shall be executed by an authorized officer if the Contractor is a corporation, by a partner if the Contractor is a partnership, by the owner if the Contractor is a sole proprietorship or by the authorized representative if the Contractor is a joint venture.
- F. Calibration List: Submit four copies of a listing of testing devices to be used for the project to the Engineer for approval. Listing shall include documentation that the devices are properly calibrated.
- G. Test Log: The Contractor shall maintain a test log at the site to document the results of all successful and unsuccessful testing and balancing at it is performed. This log shall be available for review by the Engineer and a copy of the log shall be submitted to the Engineer prior to the Substantial Completion inspection. A space shall be provided on the test log signoff by the Engineer or Owners representative.

1.5 NOTICE

- A. General: Notify the Engineer in writing two weeks prior to all scheduled testing to allow time for Engineer to schedule witnessing of testing, where elected by Engineer.

PART 2 - PRODUCTS

2.1 TESTING MATERIALS

- A. General: Provide all materials and test equipment required for testing of specified electrical systems, including re-testing until acceptable results are obtained.
- B. Products: Tested products which fail to provide acceptable test results shall be repaired or replaced with suitable materials as required to obtain acceptable results.

PART 3 - EXECUTION

3.1 TESTING

- A. General: Test shall be made during the course of construction as specified and as required by authorities having jurisdiction. Such test shall be conducted by this Division as part of the Work and shall include all personnel, material, and equipment required to perform test until satisfactory results are obtained. Any defects detected during testing

shall be satisfactorily repaired or the equipment involved shall be replaced and the test re-executed.

B. Test: Testing forms included:

1. Electrical System Test Report.
2. Electrical Ground Rod Test Report.
3. Motor Data and Test Report.
4. Instrument Test Report.

END OF SECTION

MOTOR DATA AND TEST REPORT

EQUIPMENT NAME AND NUMBER: _____

EQUIPMENT SPECIFICATION SECTION: _____

MOTOR STARTER LOCATION _____

CONTRACTORS REPRESENTATIVE _____ Date _____

MOTOR NAMEPLATE DATA

MFR Name/Model No. _____

Voltage/Phase/HP _____

FLA/LRA _____

Service Factor _____

Efficiency Index (or percent) _____

NEMA Design _____

Code Letter _____

Insulation Type _____

Temperature Rise _____

Ambient Temperature _____

RPM _____

Enclosure _____

Thermal Trip Setting _____

Space HTR: Watts/Volts _____

Other Data _____

MOTOR STARTER INFORMATION

Manufacturer/Type _____

Overload Heater No _____

* RECORDED FULL LOAD DATA	VOLTS	A-G	_____	B-G	_____	C-G	_____
FULL LOAD OPERATING VOLTAGE	VOLTS	A-B	_____	B-C	_____	C-A	_____
FULL LOAD OPERATING CURRENT	AMPS	A	_____	B	_____	C	_____
INSULATION RESISTANCE	MEGOHMS	A-G	_____	B-G	_____	C-G	_____
MOTOR CIRCUIT RESISTANCE	OHMS	A-B	_____	B-C	_____	C-A	_____

*VOLTAGE & CURRENT READINGS SHALL BE TAKEN AT THE CLOSEST ACCESSIBLE POINT TO THE LOAD

TRANSMITTER CALIBRATION / TEST DATA FORM

Tag. No. and/or Description:

Serial No.

Make and Model No.:

Associated Panel:

Type of testing equipment used:

Input:

Output:

Range:

Scale:

Calibrated Value (flow/pressure/turbidity etc.) at 4mA

Calibrated Value (flow/pressure/turbidity etc.) at 20mA

Simulate process variable (flow, pressure, turbidity, etc.) and measure output with appropriate meter.

Related value is (example: the level associated with the pressure).

% Range	Input (enrg. units)	Related value	Expected Output	Actual Output
---------	---------------------	---------------	-----------------	---------------

0

25

50

75

100

COMMENTS:

TESTED BY

DATE:

OWNERS REPRESENTATIVE

DATE:

ELECTRICAL SYSTEM TEST REPORT – 600V CABLE

ELECTRICAL SYSTEM

DESCRIPTION DATA

SERVICE DESCRIPTION:

Nominal Voltage, Phase To Phase

Phase To Neutral – Single Or Three Phases-

Number Of Conductors

SERVICE CONDUCTORS:

Phase Size And Insulation Type

Neutral Size And Insulation Type

Ground Size And Insulation Type

SERVICE DISCONNECT DESCRIPTION:

Circuit Breaker Or Disconnect Switch

Size (amps)

Fuse (amps)

MEASURED CONDITIONS

DATA

Operating Load Voltage

Volts

Vab

Vbc

Vca

Van

Vbn

Vcn

Operating Load Feeder Current

Amps

Ia

Ib

Ic

a-b

b-c

c-a

Conductor Insulation Mega ohms

Mega Ω

a-g

b-g

c-g

Resistance - record the indicated measurement for each of the following circuits:

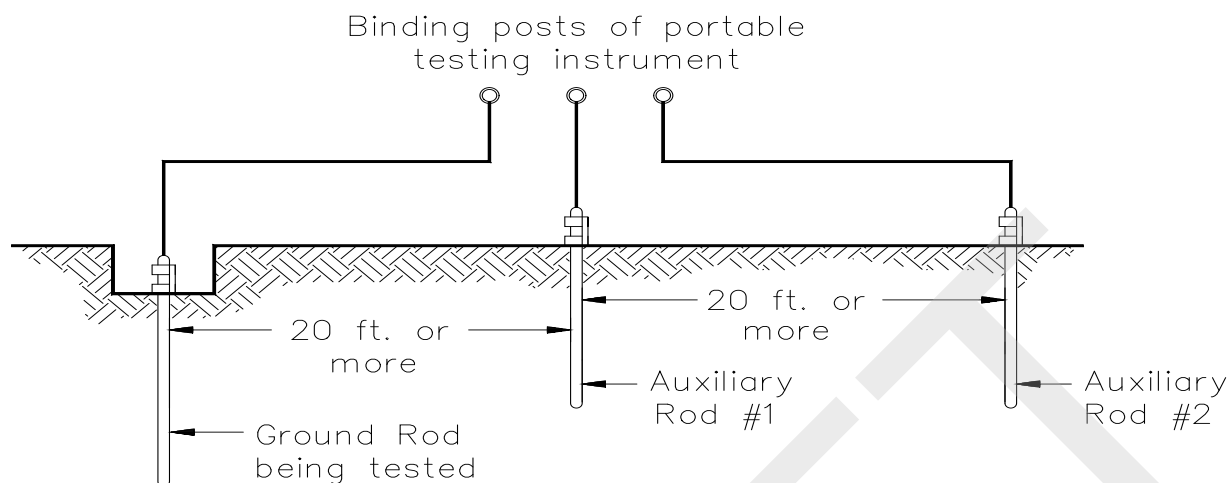
Service Feeder

Pump Feeders

Motor Feeders

480V Feeders

ELECTRICAL GROUND ROD TEST REPORT



GROUND ROD RESISTANCE TESTING

PROCEDURE:

To measure ground resistance, two additional temporary grounds, consisting of short rods 2 or 3 feet long, shall be driven in the ground at least 20 feet away from the rod being tested. A direct-reading ground resistance tester shall then be connected to the three ground rods by means of insulated leads. The battery-operated ground resistance tester reads the resistance of the ground rod being tested directly in ohms. The ground rod location / designation and its measured ohm value shall be recorded in chart below.

GROUND ROD LOCATION / DESIGNATION	OHM VALUE
1.	*
2.	*
3.	*
COMPOSITE GROUND	*

*Ohm value of a single ground rod shall not exceed 25 Ohms. If additional ground rod(s) are added, the "composite" ground electrode shall have a maximum acceptable reading of 15 Ohms which shall be recorded in chart above.

SECTION 26 12 00
CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Building wires and cables rated 600 V and less.
 - 2. Connectors, splices, and terminations rated 600 V and less.
- B. Related Sections include the following:
 - 1. Division 26 Section "Electrical Identification" for cable tags and nameplates.

1.3 DEFINITIONS

- A. EPDM: Ethylene-propylene-diene terpolymer rubber.
- B. NBR: Acrylonitrile-butadiene rubber.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.

1.5 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70.

1.6 COORDINATION

- A. Set sleeves in cast-in-place concrete, masonry walls, and other structural components as they are constructed.

PART 2 - PRODUCTS

2.1 POWER CONDUCTORS AND CABLES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. American Insulated Wire Corp.; a Leviton Company.
 - 2. General Cable Corporation.
 - 3. Senator Wire & Cable Company.
 - 4. Southwire Company.
 - 5. Belden, Inc.
 - 6. Okonite Company
- B. Copper Conductors: Comply with NEMA WC 70.
- C. Conductor Insulation: Comply with NEMA WC 70 for Types THHN-THWN and XHHW.
- D. Multiconductor Cable: Comply with NEMA WC 70 for armored cable, Type AC metal-clad cable, Type MC mineral-insulated, metal-sheathed cable, Type MI Type SO and Type USE with ground wire.

2.2 SIGNAL AND CONTROL SYSTEM CABLE

- A. Shielded Signal Cable
 - 1. Signal conductor cable shall be 16 AWG individually twisted, shielded pairs, Belden 9342, or equal. Conductors shall be tinned copper with color coded 194 Degrees F PVC insulation and individual conductor jacket of nylon. Shielding shall be aluminum polyester 100 percent shield coverage with drain wire. The cable shall have an overall PVC jacket. The insulation system shall be tray cable rated for 600V.
 - 2. Multi-pair signal conductor cable shall be 18 AWG (unless otherwise noted) individually twisted, shielded pairs, Belden 1048A through 1054A, and 1038A, or equal. Conductors shall be tinned copper with color coded 194 Degrees F PVC insulation and individual conductor jacket of nylon. Shielding shall be aluminum polyester 100 percent shield coverage with drain wire. The cable shall have an overall PVC jacket. The insulation system shall be tray cable rated for 600V.
- B. Unshielded Multiconductor Control Cable

1. XLPE/PVC Industrial grade sunlight and oil resistant, 600V type TC, UL control cable. Tinned copper conductors. Number of conductors and gage per conduit and wire schedule. Belden 27000CD series or equal.

2.3 (MC-HL) METAL CLAD CABLE

- A. Metal Clad Cable shall be UL Listed as Type MC-HL cable per E38916. Must comply with NEC Articles 501, 502, and 503 hazardous locations approved for Class I, II, III, Division 1 and 2, and Class I, Zone 1 and 2 hazardous locations. Cable manufactured by the Okonite Company, Houston Wire and Cable or approved.
- B. MC-HL cables used in classified areas must use fittings rated for use with MC-HL cable and approved for the classified area they are used in. Fittings shall be stainless steel and come complete with approved epoxy sealing compound. Appleton type TMCX or approved equal.

2.4 CONNECTORS AND SPLICES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. AFC Cable Systems, Inc.
 2. Hubbell Power Systems, Inc.
 3. O-Z/Gedney; EGS Electrical Group LLC.
 4. 3M; Electrical Products Division.
 5. Tyco Electronics Corp.
 6. Raychem
- B. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.
- C. Motor Terminal Splice Insulation:
 1. Provide motor terminal splice insulation in the motor connection box that will withstand constant vibration and abrasion without degrading the insulation of the splice. A product shall be used that is specifically designed for the purpose of motor terminations.
 2. For motor splices in general purpose areas use a bolted splice with a TY-RAP boot type insulator, Thomas & Betts splice insulator series MSC. For splices using wire larger than AWG No. 8 it is also acceptable to use a heat shrinkable motor connection stub splices, RAYCHEM, MCK-V series or equal.

3. For motors in outdoor, damp, or corrosive environments, use a water proof motor stub insulator, Thomas & Betts multi splice insulator MSLT112-4 or equal. For splices using wire larger than AWG No. 8 it is also acceptable to use a heat shrinkable motor connection stub splices, RAYCHEM, MCK-V series or equal.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

- A. Feeders: Copper Solid or Stranded for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
- B. Branch Circuits: Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
- C. Control Conductors: Copper Stranded.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

- A. Service Entrance: Type XHHW, single conductors in raceway.
- B. Exposed Feeders: Type THHN-THWN, single conductors in raceway.
- C. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspace: Type THHN-THWN, single conductors in raceway.
- D. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THWN, single conductors in raceway.
- E. Feeders in Cable Tray: Type TC, multi-conductor cable with THHN-THWN insulation rated 600VAC.
- F. Exposed Branch Circuits, Including in Crawlspace: Type THHN-THWN, single conductors in raceway.
- G. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN-THWN, single conductors in raceway.
- H. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN-THWN, single conductors in raceway.
- I. Cord Drops and Portable Appliance Connections: Type SO, hard service cord with stainless-steel, wire-mesh, strain relief device at terminations to suit application.
- J. Class 1 Control Circuits: Type THHN-THWN, in raceway.
- K. Class 2 Control Circuits: Type THHN-THWN, in raceway.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

- A. Conceal cables in finished walls, ceilings, and floors, unless otherwise indicated.
- B. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- C. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
- D. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.
- E. Identify and color-code conductors and cables according to Division 26 Section "Electrical Identification."
- F. Conductor Spacing:
 - 1. Unless specifically shown otherwise on the drawings, in all areas maintain a minimum 2 inch separation between all conductors of different voltages. For parallel runs over 6 feet maintain the following minimum separation between conductors:
 - a. Signal (12/24) VDC and 120 VAC - 6 inches
 - b. Signal (12/24) VDC and 480 VAC - 12 inches
 - c. 120 VAC control wire and 480 VAC - 2 inches
- G. Wire Bending Radius:
 - 1. The radius of bends in all wire (conductors and cables) shall not be less than five (5) times the outside diameter of the wire. Any wire installed with bends less than five times the diameter which the Engineer deems has caused that insulation to be damaged shall be removed and new wire shall be installed.

3.4 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.
- B. Make splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.
- C. Wiring at Outlets: Install conductor at each outlet, with at least 12 inches of slack.

3.5 FIELD QUALITY CONTROL

- A. Perform tests and inspections and prepare test reports.
- B. Tests and Inspections:
 - 1. After installing conductors and cables and before electrical circuitry has been energized, test service entrance, feeder conductors, and motor feeder conductors for compliance with requirements.
 - 2. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
 - 3. Infrared Scanning: After Substantial Completion, but not more than 60 days after Final Acceptance, perform an infrared scan of each splice in cables and conductors No. 3 AWG and larger. Remove box and equipment covers so splices are accessible to portable scanner.
 - a. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan of each splice 11 months after date of Substantial Completion.
 - b. Instrument: Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.
 - c. Record of Infrared Scanning: Prepare a certified report that identifies splices checked and that describes scanning results. Include notation of deficiencies detected, remedial action taken and observations after remedial action.
- C. General Tests:
 - 1. Test Scope:
 - a. The Contractor shall provide all material, equipment, labor and technical supervision to perform tests and inspections as specified herein.
 - b. It is the intent of these tests to assure that all electrical equipment as supplied and installed by the Contractor is operational within the industry and manufacturer's tolerances and is installed in accordance with the design documents.
 - c. The tests and inspection shall determine the suitability for energization.
 - d. If the test results indicate corrective measures are required, the Contractor shall undertake all such corrective measures. No additional compensation will be paid for corrective measures.

2. Control and Signal Wiring:

- a. Each individual control and signal wire shall be tested by the Contractor from the field device back to the control panel or point to point to verify correct wiring.
- b. For control and signal wiring terminating at a PLC, the Contractor shall force or jumper each input at the field device and verify that the PLC has received the signal at the correct input. Each output shall be forced and checked at the field device.

3. Power Conductor Tests:

- a. Following the completion of installation; test the following:
 - 1) All 480V Power Feeders scheduled in Conduit & Cable Schedule.
 - 2) Service feeder and pump feeder power cabling.
 - 3) All new grounding; measure ground resistance at each ground rod.
 - 4) Motor feeders

4. The Contractor shall perform voltage, current and resistance tests as required to complete the Electrical System Test Report form included herein. Test reports must be submitted to the Engineer prior to start up. The Contractor shall inform the Engineer when testing is taking place a minimum of 5 days in advance. Testing shall not take place unless the Engineer or other Owner representative is present to witness the testing.

5. Visual and Mechanical Inspections:

- a. Inspect exposed section for physical damage.
- b. Verify cable is supplied and connected in accordance with specifications and one line diagram, and that phases are labeled correctly.

6. Electrical Tests:

- a. Perform insulation resistance test on each cable with respect to ground and adjacent cables.
- b. Perform continuity test to ensure proper cable connection.

7. Test Values:

- a. Insulation resistance tests shall be performed at 500V DC for one-half minute.

- b. Minimum megger readings at 68 Degrees F shall be one Mega-ohm.
 - c. The maximum acceptable reading for an individual ground rod shall be 25 ohms as required by the NEC and measured by the three rod method. The composite ground electrode shall have a maximum acceptable reading of 15 ohms.
- D. Test Reports: Prepare a written report to record the following:
 - 1. Test procedures used.
 - 2. Test results that comply with requirements.
 - 3. Test results that do not comply with requirements and corrective action taken to achieve compliance with requirements.
- E. Remove and replace malfunctioning units and retest as specified above.

END OF SECTION

ELECTRICAL SYSTEM TEST REPORT – 600V CABLE

ELECTRICAL SYSTEM

DESCRIPTION DATA

SERVICE DESCRIPTION:

Nominal Voltage, Phase To Phase

Phase To Neutral – Single Or Three Phases-

Number Of Conductors

SERVICE CONDUCTORS:

Phase Size And Insulation Type

Neutral Size And Insulation Type

Ground Size And Insulation Type

SERVICE DISCONNECT DESCRIPTION:

Circuit Breaker Or Disconnect Switch

Size (amps)

Fuse (amps)

MEASURED CONDITIONS

DATA

Operating Load Voltage

Volts

Vab

Vbc

Vca

Van

Vbn

Vcn

Operating Load Feeder Current

Amps

Ia

Ib

Ic

a-b

b-c

c-a

Conductor Insulation Mega ohms

Mega Ω

a-g

b-g

c-g

Resistance - record the indicated measurement for each of the following circuits:

Service Feeder

Pump Feeders

Motor Feeders

480V Feeders

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SECTION 26 13 00
RACEWAYS AND BOXES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes raceways, fittings, boxes, enclosures, and cabinets for electrical wiring.
- B. Hangers and supports for electrical equipment and systems.
- C. Construction requirements for concrete bases.

1.3 DEFINITIONS

- A. EMT: Electrical metallic tubing.
- B. EPDM: Ethylene-propylene-diene terpolymer rubber.
- C. FMC: Flexible metal conduit.
- D. IMC: Intermediate metal conduit.
- E. LTFMC: Liquidtight flexible metal conduit.
- F. LFNC: Liquidtight flexible nonmetallic conduit.
- G. NBR: Acrylonitrile-butadiene rubber.
- H. RNC: Rigid nonmetallic conduit.
- I. RMC: Rigid metal conduit (Galvanized Rigid Steel).

1.4 AREA CLASSIFICATIONS:

- A. The following classification of areas shall be used as a reference in determining application of material covered by this Section unless specifically shown otherwise on the drawings. Areas which fall under two or more of the following classifications shall conform to the minimum requirements of all of the area classifications listed for that area. Hazardous area classifications shall be defined by NFPA 70 and 820.
- B. Hazardous Areas (reference area classification drawing):
 - 1. Influent Pump Station, Class 1, Division 2.

C. Outdoor Wet and/or Damp Areas:

1. All outdoor areas.

D. Indoor Wet and/or Damp Areas:

1. Tunnel.

E. Corrosive Areas:

1. Influent Pump Station.

F. General Purpose Areas:

1. None.

1.5 SUBMITTALS

A. Product Data: For raceways, surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, steel slotted support systems, and cabinets.

B. Shop Drawings: For the following raceway components. Include plans, elevations, sections, details, and attachments to other work.

1. Custom enclosures and cabinets.
2. For handholes and boxes for underground wiring, including the following:
 - a. Duct entry provisions, including locations and duct sizes.
 - b. Frame and cover design.
 - c. Grounding details.
 - d. Dimensioned locations of cable rack inserts, and pulling-in and lifting irons.
 - e. Joint details.
3. Trapeze hangers. Include Product Data for components.
4. Steel slotted channel systems. Include Product Data for components.
5. Equipment supports.

C. Coordination Drawings: Conduit routing plans, drawn to scale, on which the following items are shown and coordinated with each other, based on input from installers of the items involved:

1. Structural members in the paths of conduit groups with common supports.

2. HVAC and plumbing items and architectural features in the paths of conduit groups with common supports.
- D. For each area, submit a tabbed section for raceway, boxes, support materials, etc. to be used in each of the designated areas defined above in "Area Classifications".

1.6 CONDUIT SCHEDULE

- A. Refer to conduit and cable schedule on plans for raceway sizing and routing description.

1.7 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as de-fined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 METAL CONDUIT AND TUBING

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. AFC Cable Systems, Inc.
 2. Alflec Inc.
 3. Allied Tube & Conduit; a Tyco International Ltd. Co.
 4. Anamet Electrical, Inc.; Anaconda Metal Hose.
 5. Electri-Flex Co.
 6. Manhattan/CDT/Cole-Flex.
 7. Maverick Tube Corporation.
 8. O-Z Gedney; a unit of General Signal.
 9. Wheatland Tube Company.
- B. Rigid Metal Conduit: ANSI C80.1.
- C. IMC: ANSI C80.6.
- D. PVC-Coated Rigid Metal Conduit:
 1. Comply with NEMA RN 1.

2. Coating Thickness: 0.040 inch, minimum.
- E. EMT: ANSI C80.3.
- F. FMC: Zinc-coated steel.
- G. LTFMC: Flexible steel conduit with PVC jacket.
- H. Fittings for Conduit (Including all Types and Flexible and Liquidtight), EMT, and Cable: NEMA FB 1; listed for type and size raceway with which used, and for application and environment in which installed.
 1. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 886.
 2. Fittings for EMT: Steel, compression type.
 3. Coating for Fittings for PVC-Coated Conduit: Minimum thickness, 0.040 inch, with overlapping sleeves protecting threaded joints.
- I. Joint Compound for Rigid Metal Conduit or IMC: Listed for use in cable connector assemblies and compounded for use to lubricate and protect threaded raceway joints from corrosion and enhance their conductivity.

2.2 NONMETALLIC CONDUIT AND TUBING

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. AFC Cable Systems, Inc.
 2. Anamet Electrical, Inc.; Anaconda Metal Hose.
 3. Arnco Corporation.
 4. CANTEX Inc.
 5. J.M. Eagle.
 6. Condux International, Inc.
 7. ElecSYS, Inc.
 8. Electri-Flex Co.
 9. Lamson & Sessions; Carlon Electrical Products.
 10. Manhattan/CDT/Cole-Flex.
 11. RACO; a Hubbell Company.
 12. Thomas & Betts Corporation.

- B. RNC: NEMA TC 2, Type EPC-40-PVC, unless otherwise indicated.
- C. LFNC: UL 1660.
- D. Fittings for RNC: NEMA TC 3; match to conduit or tubing type and material.
- E. Fittings for LFNC: UL 514B.
- F. Expansion Fittings:
 - 1. Expansion fittings in exposed runs shall be of the weatherproof type and shall be provided with an external bonding jumper. The expansion fittings shall allow for 4 inches longitudinal movement and shall be designed so that when completely assembled the end of each conduit entering the fitting is bushed. Fittings shall be O.Z. GEDNEY Type EX.
 - 2. Expansion fittings in embedded runs shall be of the watertight type and shall be provided with an internal bonding jumper. The expansion material shall be neoprene and shall allow for 3/4-inch movement in any direction. Fittings shall be O.Z. GEDNEY Type DX

2.3 OPTICAL FIBER/COMMUNICATIONS CABLE RACEWAY AND FITTINGS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Arnco Corporation.
 - 2. Endot Industries Inc.
 - 3. IPEX Inc.
 - 4. Lamson & Sessions; Carlon Electrical Products.
- B. Description: Comply with UL 2024; flexible type, approved for plenum, riser, or general-use installation as required.

2.4 METAL WIREWAYS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Cooper B-Line, Inc.
 - 2. Hoffman.
 - 3. Square D; Schneider Electric.
- B. Description: Sheet metal sized and shaped as indicated, NEMA 250, Type 12, unless otherwise indicated.

- C. Fittings and Accessories: Include couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.
- D. Wireway Covers: Hinged type or as indicated.
- E. Finish: Manufacturer's standard enamel finish.

2.5 NONMETALLIC WIREWAYS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Hoffman.
 - 2. Lamson & Sessions; Carlon Electrical Products.
- B. Description: Fiberglass polyester, extruded and fabricated to size and shape indicated, with no holes or knockouts. Cover is gasketed with oil-resistant gasket material and fastened with captive screws treated for corrosion resistance. Connections are flanged, with stainless-steel screws and oil-resistant gaskets.
- C. Fittings and Accessories: Include couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.

2.6 SURFACE RACEWAYS

- A. Surface Metal Raceways: Galvanized steel with snap-on covers. Manufacturer's standard enamel finish in color selected by Engineer.
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Thomas & Betts Corporation.
 - b. Walker Systems, Inc.; Wiremold Company (The).
 - c. Wiremold Company (The); Electrical Sales Division.

2.7 BOXES, ENCLOSURES, AND CABINETS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Cooper Crouse-Hinds; Div. of Cooper Industries, Inc.

2. EGS/Appleton Electric.
 3. Erickson Electrical Equipment Company.
 4. Hoffman.
 5. Hubbell Incorporated; Killark Electric Manufacturing Co. Division.
 6. O-Z/Gedney; a unit of General Signal.
 7. RACO; a Hubbell Company.
 8. Robroy Industries, Inc.; Enclosure Division.
 9. Scott Fetzer Co.; Adalet Division.
 10. Spring City Electrical Manufacturing Company.
 11. Thomas & Betts Corporation.
 12. Walker Systems, Inc.; Wiremold Company (The).
 13. Woodhead, Daniel Company; Woodhead Industries, Inc. Subsidiary.
- B. Sheet Metal Outlet and Device Boxes: NEMA OS 1.
- C. Cast-Metal Outlet and Device Boxes: NEMA FB 1, aluminum, Type FD, with gasketed cover.
- D. Nonmetallic Outlet and Device Boxes: NEMA OS 2.
- E. Metal Floor Boxes: Cast or sheet metal, fully adjustable, rectangular.
- F. Nonmetallic Floor Boxes: Nonadjustable, round.
- G. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.
- H. Cast-Metal Access, Pull, and Junction Boxes: NEMA FB 1, cast aluminum with gasketed cover.
- I. Hinged-Cover Enclosures: NEMA 250, Type 12, with continuous-hinge cover with flush latch, unless otherwise indicated.
1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.
- J. Cabinets:
1. NEMA 250, Type 12, galvanized-steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel, unless otherwise indicated.

2. Hinged door in front cover with flush latch and concealed hinge.
 3. Key latch to match panelboards.
 4. Metal barriers to separate wiring of different systems and voltage.
 5. Accessory feet where required for freestanding equipment.
- K. Fittings and boxes in hazardous places shall be:
1. Rated for Class I, Division 1 or 2 to match Area Classification and made from copper free aluminum.
 2. Conduit fittings shall be rigid steel or PVC coated rigid steel. Seal fittings for hazardous areas shall be CROUSE HINDS "EYS" or "EYSEF" as required for proper fill.
 3. All hardware shall be stainless steel.
- L. Fittings and boxes in CORROSIVE AREAS shall be:
1. Non-metallic or stainless steel for unclassified areas.
 2. PVC coated copper free aluminum for Class 1, Division 1 areas.
 3. Stainless steel or copper free aluminum for Class 1, Division 2 areas.
 4. All metallic hardware (hinges, screws, bolts, etc.) shall be 316 stainless steel.

2.8 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

- A. Steel Slotted Support Systems: Comply with MFMA-4, factory-fabricated components for field assembly.
1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Allied Tube & Conduit.
 - b. Cooper B-Line, Inc.; a division of Cooper Industries.
 - c. ERICO International Corporation.
 - d. GS Metals Corp.
 - e. Thomas & Betts Corporation.
 - f. Unistrut; Tyco International, Ltd.
 - g. Wesanco, Inc.

2. Stainless Steel.
 3. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
 4. Channel Dimensions: Selected for applicable load criteria.
- B. Conduit and Cable Support Devices: Hot dipped malleable-iron hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.
- C. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for non-armored electrical conductors or cables in riser conduits. Plugs shall have number, size, and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body shall be hot dipped malleable iron.
- D. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.
- E. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:
1. Powder-Actuated Fasteners: Threaded-stainless steel stud, for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Hilti Inc.
 - 2) ITW Ramset/Red Head; a division of Illinois Tool Works, Inc.
 - 3) MKT Fastening, LLC.
 - 4) Simpson Strong-Tie Co., Inc.; Masterset Fastening Systems Unit.
 2. Mechanical-Expansion Anchors: Insert-wedge-type, stainless steel, for use in hardened portland cement concrete with tension, shear, and pullout capacities appropriate for supported loads and building materials in which used.
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Cooper B-Line, Inc.; a division of Cooper Industries.
 - 2) Empire Tool and Manufacturing Co., Inc.
 - 3) Hilti Inc.
 - 4) ITW Ramset/Red Head; a division of Illinois Tool Works, Inc.

- 5) MKT Fastening, LLC.
3. Concrete Inserts: Hot dipped steel or malleable-iron, slotted support system units similar to MSS Type 18; complying with MFMA-4 or MSS SP-58.
4. Clamps for Attachment to Steel Structural Elements: MSS SP-58, type suitable for attached structural element.
5. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A 325. Stainless Steel.
6. Toggle Bolts: All-stainless-steel springhead type.
7. Hanger Rods: Threaded stainless steel.

2.9 HANDHOLES AND BOXES FOR EXTERIOR UNDERGROUND WIRING

- A. Polymer-Concrete Handholes and Boxes with Polymer-Concrete Cover: Molded of sand and aggregate, bound together with polymer resin, and reinforced with steel or fiberglass or a combination of the two.
 1. Basis-of-Design Product: Subject to compliance with requirements, provide a product by one of the following:
 - a. Armorcast Products Company.
 - b. Carson Industries LLC.
 - c. CDR Systems Corporation.
 - d. NewBasis.

2.10 CONCRETE VAULTS WITH GALVANIZED STEEL FRAME AND COVER:

- A. Vaults shall be 24 by 36 by 36 inches deep minimum size or as shown on drawings. All vaults shall be of reinforced concrete construction and shall have concrete bottoms with sumps. All vaults shall be provided with galvanized "C" channels and galvanized irons. Reference standard details.
 1. Frame and covers shall be hinged watertight of 3/16-inches diamond plate or galvanized steel and shall be suitable for H-20 wheel loading. Covers shall be provided with a piston for easy opening; piston and latching mechanism shall hold the cover in the open position at 90 Degrees.
 2. Vaults shall be constructed per standards and quality of Utility Vault Company 233-LA or approved equal. Covers shall be constructed per standards and quality of Utility Vault Company 3030-P or approved equal.

2.11 SLEEVES FOR RACEWAYS

- A. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.
- B. Cast-Iron Pipe Sleeves: Cast or fabricated "wall pipe," equivalent to ductile iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.
- C. Sleeves for Rectangular Openings: Galvanized sheet steel with minimum 0.052 inch or 0.138-inch thickness as indicated and of length to suit application.

2.12 SLEEVE SEALS

- A. Basis-of-Design Product: Subject to compliance with requirements, or provide a product by one of the following:
 - 1. Advance Products & Systems, Inc.
 - 2. Calpico, Inc.
 - 3. Metraflex Co.
 - 4. Pipeline Seal and Insulator, Inc.
- B. Description: Modular sealing device, designed for field assembly, to fill annular space between sleeve and cable.
 - 1. Sealing Elements: EPDM interlocking links shaped to fit surface of cable or conduit. Include type and number required for material and size of raceway or cable.
 - 2. Pressure Plates: Stainless steel. Include two for each sealing element.
 - 3. Connecting Bolts and Nuts: Stainless steel of length required to secure pressure plates to sealing elements. Include one for each sealing element.

2.13 DUCTBANK SPACERS

- A. Spacers shall be interlocking plastic designed for the conduit sizes used.
 - 1. Formex.
 - 2. Carlon.

PART 3 - EXECUTION

3.1 SUPPORT APPLICATION

- A. Comply with NECA 1 and NECA 101 for application of hangers and supports for electrical equipment and systems except if requirements in this Section are stricter.

- B. Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for EMT, IMC, and RMC as scheduled in NECA 1, where it's Table 1 lists maximum spacing less than stated in NFPA 70. Minimum rod size shall be 1/4 inch in diameter.
- C. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.
 - 1. Secure raceways and cables to these supports with single-bolt conduit clamps.

3.2 SUPPORT INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this Article.
- B. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb.

3.3 RACEWAY APPLICATION

- A. All materials shall be new, free from defects, of current manufacture, of quality specified or shown. Each type of material shall be of the same manufacturer throughout the work.
- B. Hazardous Areas:
 - 1. Hazardous areas shall have electrical installations which conform to Class and Division as shown on the drawings or as defined by the NEC and NFPA 820.
 - 2. Provide seal fittings per NEC requirements.
 - 3. Raceway shall be rigid metal conduit. Raceway required by NEC to be rigid in hazardous areas which are also corrosive environments shall be PVC coated rigid metal conduit.
 - 4. Enclosure shall be determined by area requirements.
 - 5. Raceway Supports:
 - a. Threaded fastening hardware and rods shall be stainless steel. Raceway supports such as channel, clamps, and brackets shall be stainless steel.
- C. Outdoor Wet and/or Damp Areas:
 - 1. Apply raceway products as specified below, unless otherwise indicated.
 - 2. Conduit entrances shall be threaded, and fittings shall have gasketed covers.

3. Threaded fastening hardware and rods shall be stainless steel. Raceway supports such as channel, clamps, and brackets shall be stainless steel.
 4. Exposed Conduit: Rigid metal conduit (RMC).
 5. Concealed Conduit, Aboveground: Rigid metal conduit (RMC) or intermediate metal conduit (IMC).
 6. Underground Conduit: RNC, Type EPC-40-PVC, direct buried.
 - a. Sweeps and risers for transition of PVC from below grade to above grade shall be rigid metal conduit.
 7. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment) shall be LTFMC.
 8. Panels and boxes shall be NEMA 4X – stainless steel (or as shown on the drawings). Device boxes shall be cast, copper free aluminum.
 9. Application of Handholes and Boxes for Underground Wiring:
 - a. Handholes and Pull Boxes in Driveway, Parking Lot, and Off-Roadway Locations, Subject to Occasional, Nondeliberate Loading by Heavy Vehicles: Polymer concrete, SCTE 77, Tier 15 structural load rating.
 - b. Handholes and Pull Boxes in Sidewalk and Similar Applications with a Safety Factor for Nondeliberate Loading by Vehicles: Polymer-concrete units, SCTE 77, Tier 8 structural load rating.
- D. Indoor Wet and/or Damp Areas:
1. Comply with the following indoor applications, unless otherwise indicated:
 2. Conduit entrances shall be threaded, and fittings shall have gasketed covers.
 3. Threaded fastening hardware and rods shall be stainless steel. Raceway supports such as channel, clamps, and brackets shall be stainless steel.
 4. Boxes and Enclosures: NEMA 250, Type 4X, stainless steel.
 5. Device boxes shall be cast, copper free aluminum.
 6. Exposed, Not Subject to Physical Damage: EMT or RNC Schedule 40.
 7. Exposed, Not Subject to Severe Physical Damage: EMT, RNC Schedule 80.
 8. Exposed and Subject to Severe Physical Damage: Rigid metal (RMC) conduit. Includes raceways in the following locations:
 - a. Areas below 6'0".

- b. Corridors used for traffic of mechanized carts, forklifts, and pallet-handling units.
- 9. Concealed in Ceilings and Interior Walls and Partitions: EMT or RNC Schedule 40.
- 10. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LTFMC in damp or wet locations.
- 11. Raceways for Optical Fiber or Communications Cable: EMT or RMC if exposed to severe physical damage.
- E. Corrosive Areas:
 - 1. Raceway shall be schedule 80 PVC.
 - 2. Raceway supports such as channel, clamps and brackets shall be stainless steel.
 - 3. Threaded fastening hardware and rods shall be stainless steel. Enclosures shall be NEMA 4X stainless steel, or non-metallic (or as shown on the drawings).
- F. General Purpose Areas:
 - 1. Raceway shall be rigid metal conduit or IMC. Raceway concealed in walls or ceilings for general purpose lighting and receptacle circuits may be EMT.
 - 2. Exposed boxes shall be NEMA 12. Concealed boxes may be NEMA 1. Boxes poured in concrete shall be cast.
- G. Minimum Raceway Size: 3/4-inch trade size.
- H. Raceway Fittings: Compatible with raceways and suitable for use in area classification and location.
 - 1. Rigid and Intermediate metal conduit: Use threaded rigid steel conduit fittings, unless otherwise indicated.
 - 2. PVC Externally Coated, Rigid metal conduits: Use only fittings listed for use with that material. Patch and seal all joints, nicks, and scrapes in PVC coating after installing conduits and fittings. Use sealant recommended by fitting manufacturer.
- I. Install nonferrous conduit or tubing for circuits operating above 60 Hz. Where aluminum raceways are installed for such circuits and pass through concrete, install in nonmetallic sleeve.
- J. Do not install rigid aluminum conduits in contact with concrete.
- K. Motor feeders sourced from VFC's not utilizing shielded power cable shall be rigid metal conduit.

3.4 INSTALLATION

- A. Comply with NECA 1 for installation requirements applicable to products specified in Part 2 except where requirements on Drawings or in this Article are stricter.
- B. Keep raceways at least 6 inches away from parallel runs of flues and steam or hot water pipes. Install horizontal raceway runs above water and steam piping.
- C. Complete raceway installation before starting conductor installation.
- D. Arrange stub-ups so curved portions of bends are not visible above the finished slab.
- E. Install no more than the equivalent of three 90 Degree bends in any conduit run except for communications conduits, for which fewer bends are allowed.
- F. Conceal conduit and EMT within finished walls, ceilings, and floors, unless otherwise indicated.
- G. Raceways Embedded in Slabs:
 - 1. Run conduit larger than 1-inch trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support.
 - 2. Arrange raceways to cross building expansion joints at right angles with expansion fittings.
 - 3. Change from RNC, Type EPC-40-PVC to rigid metal conduit before rising above the floor.
- H. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.
- I. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors, including conductors smaller than No. 4 AWG.
- J. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 12 inches of slack at each end of pull wire.
- K. Raceways for Optical Fiber and Communications Cable: Install raceways, metallic and nonmetallic, rigid and flexible, as follows:
 - 1. 3/4-Inch Trade Size and Smaller: Install raceways in maximum lengths of 50 feet.
 - 2. 1 Inch Trade Size and Larger: Install raceways in maximum lengths of 75 feet.
 - 3. Install with a maximum of two 90 Degree bends or equivalent for each length of raceway unless Drawings show stricter requirements. Separate lengths with

pull or junction boxes or terminations at distribution frames or cabinets where necessary to comply with these requirements.

- L. Install raceway sealing fittings at suitable, approved, and accessible locations and fill them with listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces. Install raceway sealing fittings at the following points:
 - 1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
 - 2. Where otherwise required by NFPA 70.
- M. Expansion-Joint Fittings for RNC: Install in each run of aboveground conduit that is located where environmental temperature change may exceed 30 Degrees F, and that has straight-run length that exceeds 25 feet.
 - 1. Install expansion-joint fittings for each of the following locations, and provide type and quantity of fittings that accommodate temperature change listed for location:
 - a. Outdoor Locations Not Exposed to Direct Sunlight: 125 Degrees F temperature change.
 - b. Outdoor Locations Exposed to Direct Sunlight: 155 Degrees F temperature change.
 - c. Indoor Spaces: Connected with the Outdoors without Physical Separation: 125 Degrees F temperature change.
 - d. Attics: 135 Degrees F temperature change.
 - 2. Install fitting(s) that provide expansion and contraction for at least 0.00041 inch per foot of length of straight run per Degree F of temperature change.
 - 3. Install each expansion-joint fitting with position, mounting, and piston setting selected according to manufacturer's written instructions for conditions at specific location at the time of installation.
- N. Flexible Conduit Connections: Use maximum of 72 inches of flexible conduit for recessed and semi-recessed lighting fixtures, equipment subject to vibration, noise transmission, or movement; and for transformers and motors.
 - 1. Use LTFMC in damp or wet locations subject to severe physical damage.
 - 2. Use LTFMC or LFNC in damp or wet locations not subject to severe physical damage.
- O. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block and install box flush with surface of wall.

- P. Set metal floor boxes level and flush with finished floor surface.
- Q. Set nonmetallic floor boxes level. Trim after installation to fit flush with finished floor surface.

3.5 INSTALLATION OF UNDERGROUND CONDUIT

- A. Direct-Buried Conduit:
 - 1. Excavate trench bottom to provide firm and uniform support for conduit. Prepare trench bottom as specified in Division 2 Section "Earthwork" for pipe less than 6 inches in nominal diameter.
 - 2. Install backfill as specified in Division 2 Section "Earthwork."
 - 3. After installing conduit, backfill and compact. Start at tie-in point, and work toward end of conduit run, leaving conduit at end of run free to move with expansion and contraction as temperature changes during this process. Firmly hand tamp backfill around conduit to provide maximum supporting strength. After placing controlled backfill to within 12 inches of finished grade, make final conduit connection at end of run and complete backfilling with normal compaction as specified in Division 2 Section "Earthwork."
 - 4. Install manufactured rigid metal conduit elbows for stub-ups at poles and equipment and at building entrances through the floor.
 - a. Couple steel conduits to ducts with adapters designed for this purpose and encase coupling with 3 inches of concrete.
 - b. For stub-ups at equipment mounted on outdoor concrete bases, extend steel conduit horizontally a minimum of 60 inches from edge of equipment pad or foundation. Install insulated grounding bushings on terminations at equipment.
 - 5. Exposed threads on rigid metal and PVC coated rigid metal conduits located below grade shall be coated in the field following installation with either BITUMASTIC or brush applied ROB-ROY coating. Spray-on coating is not allowed.
 - 6. Underground electrical power feeders shall be separated by a minimum of 7-1/2 inches spacing on center. Control and instrumentation conduits shall maintain a minimum of 2 inches separation between conduit walls.
 - 7. Underground electrical conduit shall be kept 3'-0" horizontally and 1'-0" vertically at crossings from other underground utilities except telephone. Minimum cover shall be 2'-0". After trench excavation, the bottom of the trench shall be trimmed by hand to prepare a smooth, even bed.
 - 8. Excavated material shall be examined to be acceptable for backfill by the Engineer. If deemed not acceptable, then borrow material which possess a 1/2-

inch screen shall be used. Six inches of backfill shall be required above and below conduit or direct buried cable installation. After 12 inches of compacted backfill is installed above the conduit, a yellow warning tape shall be placed in the trench. The warning tape shall be of a non-biodegradable material and shall have the words "caution buried electrical conductors below."

9. A separate foil type warning tape is to be installed directly above PVC conduits which have been installed as spares, for future location of the conduit.
10. Exercise the necessary precautions to prevent the lodging of dirt, concrete or trash in the conduit, fittings and boxes during installation.
11. After the conduit has been installed, the conduit shall be tested for obstructions or flattening by pulling a mandrel of appropriate size through the conduit. If an obstruction is found, that section is to be replaced. Cleaning conduits shall be performed by drawing a brush with stiff bristles and a swab through each duct and conduit to make certain no foreign materials are left in the conduit. Cleaning and mandrelling operations may be performed simultaneously.
12. Where conduit enters the facility below grade, the conduit shall be sealed with a waterproof sealant.
13. When rigid metal and PVC coated rigid metal conduit is threaded in the field, the threads shall be re-galvanized by the GALV-A-WELD process or by GAL-VAN-IZE as manufactured by LAWSON Products, Inc.
14. Where conduit rises from below grade to above grade, the transition from Schedule 40 PVC conduit to schedule 80 PVC or rigid metal conduit shall be rigid metal conduit for the sweep and riser.
15. Rigid metal conduit installed below grade and not encased in concrete shall be wrapped.

B. Ductbank Systems:

1. Ductbanks shall be of individual conduit encased in reinforced concrete. Conduit shall be rigid PVC Schedule 40 except that rigid metal conduit shall be used for the final 10 feet at the beginning and end of each ductbank and for all 90 Degree elbows. Unless shown otherwise, the type of conduit used shall not be mixed in any one ductbank and shall be rectangular in cross section, having a minimum concrete thickness of 3 inches. Conduit shall be separated by a minimum concrete thickness of 2 inches, except that the light and power conduit shall be separated from control and signal conduits by a minimum concrete thickness of 3 inches. Encasement concrete shall be red in color.
2. Ductbank shall be routed underground and the top of the concrete envelope shall be not less than 30 inches below grade.
3. Changes in direction of ductbank runs exceeding a total of 10 Degrees, either vertical or horizontal, shall be accomplished by long sweep bends having a

minimum radius of curvature of 5 feet. All bends in a run shall be separated by a minimum of 10 feet of straight conduit, where possible.

4. During construction, partially completed ductbanks shall be protected from the entrance of debris such as mud, sand, and dirt by means of suitable conduit plugs. As each section of the ductbank is completed, a testing mandrel shall be drawn through each conduit. A brush with stiff bristles shall be drawn through each conduit is clear of all particles of earth, sand, or gravel. Conduit plugs shall then be immediately installed.
5. Ducts in concrete encased ductbanks shall be independently supported by interlocking module spacers by Carlon or equal. Spacers shall provide separation between adjacent ducts as specified herein above. Spacers shall be installed at 6 foot maximum intervals.
6. Ducts in concrete encased ductbanks shall be terminated in manholes, pull boxes, and vaults with interlocking terminators by Formex or equal. A watertight tapered plug shall be furnished and installed in unused duct openings. Where terminators are installed in new work, they shall be poured-in-place.
7. Install underground conduit with sealing glands equal to OZ Type FSK" exterior to the conduit OZ Type "CSB", or equal internally at the point where conduits enter the building to prevent water seepage into the building.
8. Furnish the exact dimensions and location of ductbank to be encased in time to prevent delay in the concrete work.

3.6 INSTALLATION OF UNDERGROUND VAULTS

- A. Sizes of vaults shown on the drawings are minimum sizes. If space allows the Contractor may upsize the structures for ease of pulling or if required by the NEC.
- B. Install vaults level and plumb and with orientation and depth coordinated with connecting conduits to minimize bends and deflections required for proper entrances.
- C. Unless otherwise indicated, support units on a minimum of 10-inch level bed of crushed stone or gravel, graded from 1/2-inch sieve to No. 4 sieve and compacted to same density as adjacent undisturbed earth.
- D. Elevation: In paved areas, set so cover surface will be flush with finished grade. Set covers of other enclosures 1 inch above finished grade.
- E. Install vaults with bottom below the frost line, 36 inches minimum below grade.
- F. Install removable hardware, including pulling eyes, cable stanchions, cable arms, and insulators, as required for installation and support of cables and conductors and as indicated. Select arm lengths to be long enough to provide spare space for future cables, but short enough to preserve adequate working clearances in the enclosure.

- G. Field-cut openings for conduits according to enclosure manufacturer's written instructions. Cut wall of enclosure with a tool designed for material to be cut. Size holes for terminating fittings to be used, and seal around penetrations after fittings are installed.
- H. Conduits entering energized equipment shall have both conduit ends sealed with a waterproof duct sealing compound - Waterguard Industrial Encapsulant or equal.
- I. All wire installed in vaults shall be neatly bundled and racked to the vault side walls.
- J. Provide welded stainless-steel nameplate on each handhole and vault cover with the tag number and contents (480v, 120v, power, control, signal, etc.) clearly indicated.

3.7 CONCRETE BASES

- A. Construct concrete bases of dimensions indicated but not less than 4 inches larger in both directions than supported unit, and so anchors will be a minimum of 10 bolt diameters from edge of the base.
- B. Use 3000-psi, 28-day compressive-strength concrete. Concrete materials, reinforcement, and placement requirements are specified in Division 3.
- C. Anchor equipment to concrete base.
 - 1. Place and secure anchorage devices. Use supported equipment manufacturer's setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 2. Install anchor bolts to elevations required for proper attachment to supported equipment.
 - 3. Install anchor bolts according to anchor-bolt manufacturer's written instructions.

3.8 SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Concrete Slabs and Walls: Install sleeves for penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of slabs and walls.
- B. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
- C. Rectangular Sleeve Minimum Metal Thickness:
 - 1. For sleeve cross-section rectangle perimeter less than 50 inches and no side greater than 16 inches, thickness shall be 0.052 inch.
 - 2. For sleeve cross-section rectangle perimeter equal to, or greater than, 50 inches and 1 or more sides equal to, or greater than, 16 inches, thickness shall be 0.138 inch.

- D. Fire-Rated Assemblies: Install sleeves for penetrations of fire-rated floor and wall assemblies unless openings compatible with firestop system used are fabricated during construction of floor or wall.
- E. Cut sleeves to length for mounting flush with both surfaces of walls.
- F. Extend sleeves installed in floors 2 inches above finished floor level.
- G. Size pipe sleeves to provide 1/4-inch annular clear space between sleeve and raceway unless sleeve seal is to be installed or unless seismic criteria require different clearance.
- H. Seal space outside of sleeves with grout for penetrations of concrete and masonry and with approved joint compound for gypsum board assemblies.
- I. Interior Penetrations of Non-Fire-Rated Walls and Floors: Seal annular space between sleeve and raceway, using joint sealant appropriate for size, depth, and location of joint. Refer to Division 7 Section "Joint Sealants" for materials and installation.
- J. Fire-Rated-Assembly Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at raceway penetrations. Install sleeves and seal with firestop materials. Comply with Division 7 Section "Through-Penetration Firestop Systems."
- K. Roof-Penetration Sleeves: Seal penetration of individual raceways with flexible, boot-type flashing units applied in coordination with roofing work.
- L. Aboveground, Exterior-Wall Penetrations: Seal penetrations using sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.
- M. Underground, Exterior-Wall Penetrations: Install cast-iron "wall pipes" for sleeves. Size sleeves to allow for 1-inch annular clear space between race-way and sleeve for installing mechanical sleeve seals.

3.9 SLEEVE-SEAL INSTALLATION

- A. Install to seal underground, exterior wall penetrations.
- B. Use type and number of sealing elements recommended by manufacturer for raceway material and size. Position raceway in center of sleeve. Assemble mechanical sleeve seals and install in annular space between raceway and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

3.10 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly.

3.11 PROTECTION

- A. Provide final protection and maintain conditions that ensure coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.

1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
2. Repair damage to PVC or paint finishes with matching touchup coating recommended by manufacturer.

3.12 FIELD INSPECTION:

- A. Prior to backfilling and encasing conduits installed underground or covering conduits concealed in walls and ceilings, all raceways shall be inspected by the Engineer. Engineer shall be contacted a minimum of one week in advance for field inspection of concealed raceway. No raceway shall be concealed or backfilled until inspected by the Engineer.

END OF SECTION

SECTION 26 14 00
WIRING DEVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Receptacles, receptacles with integral GFCI, and associated device plates.

1.3 DEFINITIONS

- A. EMI: Electromagnetic interference.
- B. GFCI: Ground-fault circuit interrupter.
- C. Pigtail: Short lead used to connect a device to a branch-circuit conductor.
- D. RFI: Radio-frequency interference.
- E. TVSS: Transient voltage surge suppressor.
- F. UTP: Unshielded twisted pair.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: List of legends and description of materials and process used for premarking wall plates.
- C. Operation and Maintenance Data: For wiring devices to include in all manufacturers' packing label warnings and instruction manuals that include labeling conditions.

1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of wiring device and associated wall plate through one source from a single manufacturer. Insofar as they are available, obtain all wiring devices and associated wall plates from a single manufacturer and one source.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

- C. Comply with NFPA 70.

1.6 COORDINATION

- A. Receptacles for Owner-Furnished Equipment: Match plug configurations.
 - 1. Cord and Plug Sets: Match equipment requirements.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:
 - 1. Cooper Wiring Devices; a division of Cooper Industries, Inc. (Cooper).
 - 2. Hubbell Incorporated; Wiring Device-Kellems (Hubbell).
 - 3. Leviton Mfg. Company Inc. (Leviton).
 - 4. Pass & Seymour/Legrand; Wiring Devices & Accessories (Pass & Seymour).

2.2 STRAIGHT BLADE RECEPTACLES

- A. Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 configuration 5-20R, and UL 498.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Cooper; 5351 (single), 5352 (duplex).
 - b. Hubbell; HBL5351 (single), CR5352 (duplex).
 - c. Leviton; 5891 (single), 5352 (duplex).
 - d. Pass & Seymour; 5381 (single), 5352 (duplex).
- B. Isolated-Ground, Duplex Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 configuration 5-20R, and UL 498.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Hubbell; CR 5253IG.
 - b. Leviton; 5362-IG.
 - c. Pass & Seymour; IG6300.

2. Description: Straight blade; equipment grounding contacts shall be connected only to the green grounding screw terminal of the device and with inherent electrical isolation from mounting strap. Isolation shall be integral to receptacle construction and not dependent on removable parts.

2.3 GFCI RECEPTACLES

- A. General Description: Straight blade, feed-through type. Comply with NEMA WD 1, NEMA WD 6, UL 498, and UL 943, Class A, and include indicator light that is lighted when device is tripped.
- B. Duplex GFCI Convenience Receptacles, 125 V, 20 A:
 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Cooper; GF20.
 - b. Pass & Seymour; 2084.

2.4 HAZARDOUS (CLASSIFIED) LOCATION RECEPTACLES

- A. Wiring Devices for Hazardous (Classified) Locations: Comply with NEMA FB 11 and UL 1010.
 1. Products: Subject to compliance with requirements, provide products by one of the following:
 - a. Cooper Crouse-Hinds.
 - b. EGS/Appleton Electric.
 - c. Killark; a division of Hubbell Inc.
 2. Hazardous Area Receptacles:
 - a. Receptacles for areas classified as hazardous per NEC, as shown on the drawings, shall be delayed action circuit breaking type with spring door. Receptacle shall be 20 amp single outlet, NEMA configuration 5-20P. One 20 amp plug shall be furnished to the Owner with each outlet. Receptacle shall be as manufactured by Crouse-Hinds, ARK-GARD2, type "ENR", with type "ENP" plug, or approved equal

2.5 WALL PLATES

- A. Wet-Location, Weatherproof Cover Plates: NEMA 250, complying with type 3R weather-resistant, die-cast aluminum with lockable cover.
- B. Municipal and Industrial Equipment Area Cover Plates: 0.035-inch thick, satin-finished 320/304 stainless steel.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with NECA 1, including the mounting heights listed in that standard, unless otherwise noted below:
 - 1. 24 inches above finished floor in municipal and industrial equipment areas.
- B. Coordination with Other Trades:
 - 1. Take steps to ensure that devices and their boxes are protected. Do not place wall finish materials over device boxes and do not cut holes for boxes with routers that are guided by riding against outside of the boxes.
 - 2. Keep outlet boxes free of plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
 - 3. Install device boxes in brick or block walls so that the cover plate does not cross a joint unless the joint is troweled flush with the face of the wall.
 - 4. Install wiring devices after all wall preparation, including painting, is complete.
- C. Conductors:
 - 1. Do not strip insulation from conductors until just before they are spliced or terminated on devices.
 - 2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
 - 3. The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 300, without pigtails.
 - 4. Existing Conductors:
 - a. Cut back and pigtail or replace all damaged conductors.
 - b. Straighten conductors that remain and remove corrosion and foreign matter.
 - c. Pigtailing existing conductors is permitted provided the outlet box is large enough.
- D. Device Installation:

1. Replace all devices that have been in temporary use during construction or that show signs that they were installed before building finishing operations were complete.
 2. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.
 3. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
 4. Connect devices to branch circuits using pigtails that are not less than 6 inches in length.
 5. When there is a choice, use side wiring with binding-head screw terminals. Wrap solid conductor tightly clockwise, $\frac{2}{3}$ to $\frac{3}{4}$ of the way around terminal screw.
 6. Use a torque screwdriver when a torque is recommended or required by the manufacturer.
 7. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
 8. Tighten unused terminal screws on the device.
 9. When mounting into metal boxes, remove the fiber or plastic washers used to hold device mounting screws in yokes, allowing metal-to-metal contact.
- E. Receptacle Orientation:
1. Install ground pin of vertically mounted receptacles down, and on horizontally mounted receptacles to the left.
- F. Device Plates: Do not use oversized or extra-deep plates. Repair wall finishes and remount outlet boxes when standard device plates do not fit flush or do not cover rough wall opening.
- G. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical and with grounding terminal of receptacles on top. Group adjacent switches under single, multigang wall plates.
- H. Adjust locations of floor service outlets and service poles to suit arrangement of partitions and furnishings.

3.2 IDENTIFICATION

- A. Comply with Division 26 Section "Electrical Identification."

1. Receptacles: Identify panelboard and circuit number from which served. Use hot, stamped or engraved machine printing with black-filled lettering on face of plate, and durable wire markers or tags inside outlet boxes.

3.3 FIELD QUALITY CONTROL

- A. Perform tests and inspections and prepare test reports.
 1. Test Instruments: Use instruments that comply with UL 1436.
 2. Test Instrument for Convenience Receptacles: Digital wiring analyzer with digital readout or illuminated LED indicators of measurement.
- B. Tests for Convenience Receptacles:
 1. Line Voltage: Acceptable range is 105 to 132 V.
 2. Percent Voltage Drop under 15-A Load: A value of 6 percent or higher is not acceptable.
 3. Ground Impedance: Values of up to 2 ohms are acceptable.
 4. GFCI Trip: Test for tripping values specified in UL 1436 and UL 943.
 5. Using the test plug, verify that the device and its outlet box are securely mounted.
 6. The tests shall be diagnostic, indicating damaged conductors, high resistance at the circuit breaker, poor connections, inadequate fault current path, defective devices, or similar problems. Correct circuit conditions, remove malfunctioning units and replace with new ones, and retest as specified above.

END OF SECTION

SECTION 26 29 13
MANUAL AND MAGNETIC MOTOR CONTROLLERS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Related Sections:
 - 1. Section 26 01 00 "Electrical General".
 - 2. Section 26 07 50 "Electrical Identification".
 - 3. Section 26 08 00 "Electrical Testing"
 - 4. Section 26 92 10 "Control System"

1.2 SUMMARY

- A. Section Includes:
 - 1. Manual motor controllers.
 - 2. Enclosed full-voltage magnetic motor controllers.
 - 3. Combination full-voltage magnetic motor controllers.
 - 4. Enclosures.
 - 5. Accessories.
 - 6. Identification.

1.3 DEFINITIONS

- A. CPT: Control power transformer.
- B. MCCB: Molded-case circuit breaker.
- C. MCP: Motor circuit protector.
- D. NC: Normally closed.
- E. OCPD: Overcurrent protective device.

- F. SCCR: Short-circuit current rating.
- G. SCPD: Short-circuit protective device.

1.4 SUBMITTALS

- A. In accordance with the submittal requirements of Section 26 01 00 and 26 92 10, the CSI shall work with the motor control manufacturer to develop and submit to the Engineer, through the Contractor, the following project data:
 - 1. Itemized list of all motor control features and components.
 - 2. System wiring diagrams for each unit of motor control equipment including, but not limited to: all instruments, relays, starters, switches, lights, breakers, terminals, etc. Indicate on submitted diagrams the terminals for remote devices as shown on the wiring diagrams in the contract drawings. Wire and terminal numbers shall be included on the schematic diagrams. Relay contacts shall be indicated for type and number available for each relay used.
 - 3. Information on ratings and sizes of all equipment such as control transformers, fuses, breakers, etc. on the wiring diagrams for each unit.
 - 4. Shop Drawings shall be provided on 11 by 17 inch sheets maximum size and shall be scaled using standard engineering or architectural scales.
 - 5. Connection diagrams showing physical wiring layout for each unit.
 - 6. Technical data sheets for all components with the complete part number of the component clearly designated with all required options as specified in PART 2. Provide at a minimum one tab section for each product listed in PART 2 of this section.
 - 7. Scaled elevation drawings of the motor control equipment exterior and interior with all devices clearly labeled.
 - 8. Scaled arrangement drawings of all panel front- and internal-mounted instruments, switches, devices and equipment indicated. Show all mounting details required. Deviations from approved arrangements require resubmittal and approval prior to installation.
 - 9. Bill of materials showing quality, manufacturer, catalog number and the supplier name and phone number for all components of the motor control.
- B. Product Data: For each type of product.
 - 1. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

C. Shop Drawings:

1. For each motor controller.
 - a. Include plans, elevations, sections, and mounting details.
 - b. Indicate dimensions, weights, required clearances, and location and size of each field connection.
 - c. Wire Termination Diagrams and Schedules: Include diagrams for signal, and control wiring. Identify terminals and wiring designations and color-codes to facilitate installation, operation, and maintenance. Indicate recommended types, wire sizes, and circuiting arrangements for field-installed wiring, and show circuit protection features. Differentiate between manufacturer-installed and field-installed wiring.
 - d. Include features, characteristics, ratings, and factory settings of individual overcurrent protective devices and auxiliary components.
 - e. Comply with other "Shop Drawing" requirements of Section 26 92 10.

D. Product Schedule: List the following for each enclosed controller:

1. Each installed magnetic controller type.
2. NRTL listing.
3. Factory-installed accessories.
4. Nameplate legends.
5. SCCR of integrated unit.
6. For each combination magnetic controller include features, characteristics, ratings, and factory setting of the SCPD and OCPD.
 - a. Listing document proving Type 2 coordination.
7. For each series-rated combination state the listed integrated short-circuit current (withstand) rating of SCPD and OCPDs by an NRTL acceptable to authorities having jurisdiction.

E. Qualification Data: For testing agency.

F. Seismic Qualification Data: Certificates, for magnetic controllers, from manufacturer.

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.

2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
- G. Field quality-control reports.
- H. Operation and Maintenance Data: For magnetic controllers to include in operation and maintenance manuals.
1. In addition to items specified in Section 01 73 00 "Installation Operation and Maintenance Manuals," include the following:
 - a. Routine maintenance requirements for magnetic controllers and installed components.
 - b. Manufacturer's written instructions for testing and adjusting circuit breaker and MCP trip settings.
 - c. Manufacturer's written instructions for setting field-adjustable overload relays.
 - d. Load-Current and List of Settings of Adjustable Overload Relays: Compile after motors have been installed, and arrange to demonstrate that switch settings for motor-running overload protection suit actual motors to be protected.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Fuses for Fused Switches: Equal to 10 percent of quantity installed for each size and type, but no fewer than three of each size and type.
 2. Control Power Fuses: Equal to 10 percent of quantity installed for each size and type, but no fewer than two of each size and type.
 3. Indicating Lights: Two of each type and color installed.
 4. Auxiliary Contacts: Furnish one spare(s) for each size and type of magnetic controller installed.
 5. Power Contacts: Furnish three spares for each size and type of magnetic contactor installed.

1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Accredited by NETA.
 - 1. Testing Agency's Field Supervisor: Certified by NETA to supervise on-site testing.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store controllers indoors in clean, dry space with uniform temperature to prevent condensation. Protect controllers from exposure to dirt, fumes, water, corrosive substances, and physical damage.
- B. If stored in areas subject to weather, cover controllers to protect them from weather, dirt, dust, corrosive substances, and physical damage. Remove loose packing and flammable materials from inside controllers; install temporary electric heating, with at least 50W per controller.

1.8 FIELD CONDITIONS

- A. Ambient Environment Ratings: Rate equipment for continuous operation under the following conditions unless otherwise indicated:
 - 1. Ambient Temperature: Not less than 23 deg F and not exceeding 104 deg F.
 - 2. Altitude: Not exceeding 6600 feet for electromagnetic and manual devices.
 - 3. The effect of solar radiation is not significant.

PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
- B. UL Compliance: Fabricate and label magnetic motor controllers to comply with UL 508 and UL 60947-4-1.
- C. NEMA Compliance: Fabricate motor controllers to comply with ICS 2.
- D. Seismic Performance: Magnetic controllers shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
 - 1. The term "withstand" means "the controller will remain in place without separation of any parts when subjected to the seismic forces specified and the unit will be fully operational after the seismic event."
 - 2. Component Importance Factor: 1.5.

3. <Insert requirements for Component Amplification Factor and Component Response Modification Factor>.

2.2 MANUAL MOTOR CONTROLLERS

- A. Motor-Starting Switches (MSS): "Quick-make, quick-break" toggle action; marked to show whether unit is off or on.
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Eaton.
 - b. General Electric Company.
 - c. Rockwell Automation, Inc.
 - d. Siemens Industry, Inc., Energy Management Division.
 - e. Square D; by Schneider Electric.
 2. Standard: Comply with NEMA ICS 2, general purpose, Class A.
 3. Configuration: Non-reversing.
 4. Surface mounting.
 5. Red pilot light.
- B. Fractional Horsepower Manual Controllers (FHPMC): "Quick-make, quick-break" toggle or push-button action; marked to show whether unit is off, on, or tripped.
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Eaton.
 - b. General Electric Company.
 - c. Rockwell Automation, Inc.
 - d. Siemens Industry, Inc., Energy Management Division.
 - e. Square D; by Schneider Electric.
 2. Configuration: Non-reversing.

3. Overload Relays: Inverse-time-current characteristics; NEMA ICS 2, Class 10 tripping characteristics; heaters matched to nameplate full-load current of actual protected motor; external reset push button; bimetallic type.
 4. Overload Relays: NEMA ICS 2, bimetallic class as schedule on Drawings.
 5. Pilot Light: Red.
- C. Integral Horsepower Manual Controllers (IHPMC): "Quick-make, quick-break" toggle or push-button action; marked to show whether unit is off, on, or tripped.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Eaton.
 - b. General Electric Company.
 - c. Rockwell Automation, Inc.
 - d. Siemens Industry, Inc., Energy Management Division.
 - e. Square D; by Schneider Electric.
 2. Configuration: Non-reversing.
 3. Overload Relays: Inverse-time-current characteristics; NEMA ICS 2, Class 10 tripping characteristics; heaters matched to nameplate full-load current of actual protected motor; external reset push button; bimetallic type.

2.3 FULL-VOLTAGE MAGNETIC MOTOR CONTROLLERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
1. Eaton.
 2. General Electric Company.
 3. Rockwell Automation, Inc.
 4. Siemens Industry, Inc., Energy Management Division.
 5. Square D; by Schneider Electric.
- B. Descriptions:

1. Enclosed Full-Voltage Magnetic Motor Controllers: Across-the-line start, electrically held, for nominal system voltage of 600-V ac and less.
 2. Combination Full-Voltage Magnetic Motor Controllers: Factory-assembled, combination full-voltage magnetic motor controller consisting of the controller described in this article, indicated disconnecting means, SCPD and OCPD, in a single enclosure or MCC compartment.
 3. Enclosed Reduced-Voltage Magnetic Motor Controllers: Electrically held; closed-transition; adjustable time delay on transition, 600-V ac or less.
 4. Combination Reduced-Voltage Magnetic Motor Controllers: Factory-assembled, combination reduced-voltage magnetic motor controller consisting of the controller described in this article, indicated disconnecting means, and SCPD and OCPD, in a single enclosure.
- C. Disconnects:
1. MCCB Disconnecting Means: UL 489, with interrupting capacity to comply with available fault currents; thermal-magnetic MCCB, with inverse time-current element for low-level overloads and instantaneous magnetic trip element for short circuits.
 - a. Front-mounted, adjustable magnetic trip setting for circuit-breaker frame sizes 250A and larger.
 2. MCP Disconnecting Means: UL 489 and NEMA AB 3, with interrupting capacity to comply with available fault currents, instantaneous-only circuit breaker with front-mounted, field-adjustable, short-circuit trip coordinated with motor locked-rotor amperes.
 3. Lockable Handle: For three padlocks and interlocks with cover in closed position.
 4. Auxiliary contacts “a” and “b” arranged to activate with MCCB or MCP handle.
 5. Normally closed alarm contact that operates only when MCCB or MCP has tripped.
- D. Contactor Coils: Pressure-encapsulated type with coil transient suppression where indicated.
- E. Controllers
1. Comply with UL 508.
 2. Full-Voltage Magnetic Controllers: Electrically held, full voltage, NEMA ICS 2, general purpose, Class A.

- a. Classification: Non-reversing.
- 3. Reduced-Voltage Magnetic Controllers: Electrically held, NEMA ICS 2, general purpose, Class A; open transition; adjustable time delay on transition. Electrically held.
 - a. Wye-Delta Controller: Four contactors, with a three-phase starting resistor/reactor.
 - b. Part-Winding Controller: Separate START and RUN contactors with separate overload relays for starting and running sequences.
 - c. Autotransformer Reduced-Voltage Controller: Medium-duty service with integral overtemperature protection, taps for starting at 50, 65, and 80 percent of the line voltage; one RUN and two START contactors.
- F. Overload Relays
 - 1. Solid-State Overload Relays:
 - a. Switch or dial selectable for motor-running overload protection.
 - b. Sensors in each phase.
 - c. Class 10/20 selectable tripping characteristic selected to protect motor against voltage and current unbalance and single phasing.
 - d. NO isolated overload alarm contact.
 - e. External overload reset push button.
- G. Control Power
 - 1. 120-VAC; obtained from CPT integral with controller size to be determined by the C.S.I based on loads served. The CPT shall be of sufficient capacity to operate integral devices and remotely located pilot, indicating and control devices with spare capacity as indicated.
 - a. Spare Capacity: 25% excess capacity.
 - 2. Primary and secondary fuses for current-limiting and overload protection of transformer and fuses for protection of control circuits.

2.4 ENCLOSURES

- A. Reference specification Section 26 92 10 for enclosure requirements.

- B. Provide corrosion inhibitors in all motor control enclosures prior to shipping. Amount of inhibitor shall be provided for the volume of the enclosure for one year.
- C. The construction of the enclosures shall comply with NEMA ICS 6.
- D. Controllers in hazardous (classified) locations shall comply with UL 1203.

2.5 ACCESSORIES

- A. General Requirements for Control Circuit and Pilot Devices: NEMA ICS 5; factory installed in controller enclosure cover unless otherwise indicated.
 - 1. Push Buttons, Pilot Lights, and Selector Switches: Heavy-duty, oil-tight type. Standard-duty, except as needed to match enclosure type. Heavy-duty or oil-tight.
 - a. Push Buttons: Unguarded types; momentary contact unless otherwise indicated.
 - b. Pilot Lights: LED Types; push to test.
 - c. Selector Switches: Rotary Type.
 - 2. Elapsed Time Meters: Heavy duty with digital readout in hours; non-resettable.
 - 3. Meters: Panel type, 2-1/2-inch minimum size with 90- or 120-degree scale and plus or minus two percent accuracy. Where indicated, provide selector switches with an off position.
 - 4. Start Count Meters: Start count meters shall be 2" x 1" nominal size, rectangular case type for flush panel mounting. The meter face shall be of the style that most closely resembles other motor control equipment indicating instruments. The meters shall have an 8-digit resettable register. Red Lion, CUB7 series or approved equal.
- B. Motor protection relays shall be with solid-state sensing circuit and isolated output contacts for hardwired connections.
 - 1. Phase-failure.
 - 2. Phase-reversal, with bicolor LED to indicate normal and fault conditions. Automatic reset when phase reversal is corrected.
 - 3. Under/overvoltage, operate when the circuit voltage reaches a preset value, and drop out when the operating voltage drops to a level below the preset value. Include adjustable time-delay setting.

- C. Space heaters, with NC auxiliary contacts, to mitigate condensation in enclosures installed outdoors or in unconditioned interior spaces subject to humidity and temperature swings.
- D. Sun shields installed on fronts, sides, and tops of enclosures installed outdoors and subject to direct and extended sun exposure.
- E. Terminal Blocks: Terminal blocks shall be 300 or 600 volt modular terminal blocks with tubular screw and pressure plate. Terminals shall be sized to accept #2-14 AWG wire minimum. Provide a minimum of 20% or four (whichever is more) spare terminals in each enclosure. Allen Bradley Bulletin 1492-CA1 or approved equal. All spare terminals shall be wired.

2.6 IDENTIFICATION

- A. Controller Nameplates: Laminated acrylic or melamine plastic signs, as described in Section 26 07 50 "Electrical Identification," for each compartment, mounted with corrosion-resistant screws.

PART 3 EXECUTION

3.1 GENERAL

- A. It is the Contractor's responsibility to verify that the motor starters, protection equipment and other components provided are suitable (correct phase, voltage, starter type, breakers and overload relays) for the motors and equipment loads being served.
- B. Operator interface devices such as metering and devices with control and displays shall be installed between 5' and 5'-8" above finished floor. Operator interface devices on full height sections shall be installed between 4'-6" and 6' above finished floor.
- C. Provide wire and terminal numbering on all wires and terminals.
- D. Provide schematic and layout drawings for each individual unit.

3.2 FACTORY ACCEPTANCE TESTING

- A. Motor control equipment shall be tested in the CSI's shop along with the control system per the requirements in this section and section 26 92 10 "Control System". Operation of the motor control equipment shall be tested in the shop by the Control System Integrator. The testing shall include, but not be limited to, operation of all input and output (I/O) points, control devices and motor controllers 24 hours per day for a continuous period of at least one (1) week.
- B. Testing and inspection of motor control equipment shall include all components. All motor controllers shall be interconnected with the control system and powered with rated incoming voltage.

- C. After completion of initial testing, the CSI shall conduct subsequent testing for inspection by the Engineer. The CSI shall provide for time, equipment and support in their shop for the Engineer to test the motor control equipment for a period of up to 3 days. All control functions and all status and alarm monitoring and indication shall be demonstrated under simulated operating conditions. Simulating equipment shall be provided and wired into the motor control equipment for this testing. The CSI shall revise, modify and adjust the motor control equipment as required by the Engineer during the testing period.
- D. Once all changes and modifications required by the Engineer identified during the testing are made and the corrective action taken is to the satisfaction of the Engineer, motor control equipment may be released for delivery to the site upon receiving approval from the Engineer.

3.3 EXAMINATION

- A. Examine areas and space conditions to receive motor control equipment, with installer present, for compliance with requirements for motor controllers, their relationship with the motors, and other conditions affecting performance of the Work.
- B. Examine all motor controllers before installation. Reject motor controllers that are wet, moisture damaged or mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.4 INSTALLATION

A. GENERAL

- 1. The motor control equipment shall not be shipped to the site until it has been inspected and tested to the satisfaction of the Engineer (reference Section 26 92 10 for requirements) and a suitable environment is available for installation of the equipment. A suitable environment for the purposes of this contract for motor control equipment shall be dry, covered and heated to maintain a minimum ambient temperature of 60 degrees F. Prior to shipment of electrical equipment, the Contractor shall contact the Engineer for field verification of a suitable environment.
- 2. The motor control equipment shall be installed in accordance with the installation drawings and instructions. Installation shall be performed by workers who are skilled and experienced in the installation of motor control equipment. It is the contractor's responsibility to provide sufficient space for the equipment and size of equipment to fit within the space requirements and meet all code requirements.
- 3. Installation shall include all elements and components of motor control equipment and all conduit and interconnecting wiring between all elements, components and sensors. All wiring between cabinets, sensors, pumps and

equipment shall be multiple color coded with at least twenty individual colors for ease of servicing. All terminations shall be made with solderless pressure connectors. All wiring shall be in accordance with the requirements of Section 26 12 00 and 26 14 00. Intrinsically safe wiring shall be separated with barriers per NEC requirements.

- B. Setting of Overload Relays: Select and set overloads on the basis of full-load current rating as shown on motor nameplate. Adjust setting value for special motors as required by NFPA 70 for motors that are high-torque, high-efficiency, and so on.
- C. Set thermal-overload relays: Select settings based on actual nameplate full-load amperes after motors have been installed.
- D. Install, connect and fuse thermal-protector monitoring relays furnished with motor-driven equipment.
- E. Comply with NECA 1.
- F. Wall-Mounted Controllers: Install magnetic controllers on walls with tops at uniform height indicated, and by bolting units to wall or mounting on lightweight structural-steel channels bolted to wall.
- G. Floor-Mounted Controllers: Install controllers on cast-in-place concrete equipment base(s).
- H. Maintain minimum clearances and workspace at equipment according to manufacturer's written instructions and NFPA 70.
- I. Wiring within Enclosures: Bundle, lace, and train conductors to terminal points with no excess and without exceeding manufacturer's limitations on bending radii. Install lacing bars and distribution spools. Maintain a minimum of 1-inch separation between conductors of different voltages.
- J. Connect selector switches and other automatic control selection devices where applicable.
 - 1. Connect selector switches within motor control circuits in both manual and automatic positions for safety-type control devices such as low- and high-pressure cutouts, high-temperature cutouts and motor overload protectors.
- K. Comply with requirements for installation of conduit in Division 26 Section, "Raceways and Boxes." Drawings indicate general arrangement of conduit, fittings and specialties.
- L. Comply with requirements in Division 26 Section, "Grounding and Bonding".

3.5 IDENTIFICATION

- A. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Section 26 07 50 "Electrical Identification."
 - 1. Identify field-installed conductors, interconnecting wiring and components.
 - 2. Provide warning signs.
 - 3. Label each enclosure-mounted control and pilot device.
 - 4. Mark up a set of manufacturer's connection wiring diagrams with field assigned wiring identifications and return to manufacturer for inclusion in Record Drawings.

3.6 FIELD QUALITY CONTROL

- A. Perform tests and inspections as specified in Section 26 08 00 "Electrical Testing".

3.7 DEMONSTRATION

- A. Train Owner's maintenance personnel to adjust, operate, and maintain enclosed controllers.

END OF SECTION

SECTION 26 41 00
ENCLOSED SWITCHES AND CIRCUIT BREAKERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Nonfusable switches.
 - 2. Molded-case circuit breakers (MCCBs).
 - 3. Enclosures.

1.3 DEFINITIONS

- A. NC: Normally closed.
- B. NO: Normally open.
- C. SPDT: Single pole, double throw.

1.4 SUBMITTALS

- A. Product Data: For each type of enclosed switch, circuit breaker, accessory, and component indicated. Include dimensioned elevations, sections, weights, and manufacturers' technical data on features, performance, electrical characteristics, ratings, accessories, and finishes.
 - 1. Enclosure types and details for types other than NEMA 250, Type 1.
 - 2. Current and voltage ratings.
 - 3. Short-circuit current ratings (interrupting and withstand, as appropriate).
 - 4. Include evidence of NRTL listing for series rating of installed devices.
 - 5. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices, accessories, and auxiliary components.
 - 6. Include time-current coordination curves (average melt) for each type and rating of overcurrent protective device; include selectable ranges for each type of overcurrent protective device.

- B. Shop Drawings: For enclosed switches and circuit breakers. Include plans, elevations, sections, details, and attachments to other work.
 - 1. Wiring Diagrams: For power, signal, and control wiring.
- C. Seismic Qualification Certificates: For enclosed switches and circuit breakers, accessories, and components, from manufacturer.
 - 1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
 - 2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
 - 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
- D. Field quality-control reports.
 - 1. Test procedures used.
 - 2. Test results that comply with requirements.
 - 3. Results of failed tests and corrective action taken to achieve test results that comply with requirements.
- E. Manufacturer's field service report.
- F. Operation and Maintenance Data: For enclosed switches and circuit breakers to include in emergency, operation, and maintenance manuals. In addition to items specified in Division 1 Section "Installation Operation and Maintenance Manuals," include the following:
 - 1. Manufacturer's written instructions for testing and adjusting enclosed switches and circuit breakers.
 - 2. Time-current coordination curves (average melt) for each type and rating of overcurrent protective device; include selectable ranges for each type of overcurrent protective device.

1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain enclosed switches and circuit breakers, overcurrent protective devices, components, and accessories, within same product category, from single source from single manufacturer.
- B. Product Selection for Restricted Space: Drawings indicate maximum dimensions for enclosed switches and circuit breakers, including clearances between enclosures, and adjacent surfaces and other items. Comply with indicated maximum dimensions.

- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- D. Comply with NFPA 70.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Rate equipment for continuous operation under the following conditions unless otherwise indicated:
 - 1. Ambient Temperature: Not less than minus 22 degrees F and not exceeding 104 degrees F.
 - 2. Altitude: Not exceeding 3300 feet.

1.7 COORDINATION

- A. Coordinate layout and installation of switches, circuit breakers, and components with equipment served and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

1.8 EXTRA MATERIALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Fuses: Equal to 10 percent of quantity installed for each size and type, but no fewer than three of each size and type.
 - 2. Fuse Pullers: Two for each size and type.

PART 2 - PRODUCTS

2.1 NONFUSIBLE SWITCHES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Eaton Electrical Inc.; Cutler-Hammer Business Unit.
 - 2. General Electric Company; GE Consumer & Industrial - Electrical Distribution.
 - 3. Siemens Energy & Automation, Inc.
 - 4. Square D; a brand of Schneider Electric.
- B. Type HD, Heavy Duty, Single Throw, 600-V ac, 1200 A and Smaller: UL 98 and NEMA KS 1, horsepower rated, lockable handle with capability to accept three padlocks, and interlocked with cover in closed position.

- C. Type HD, Heavy Duty, Six Pole, Single Throw, 600-V ac, 200 A and Smaller: UL 98 and NEMA KS 1, horsepower rated, lockable handle with capability to accept three padlocks, and interlocked with cover in closed position.
- D. Type HD, Heavy Duty, Double Throw, 600-V ac, 1200 A and Smaller: UL 98 and NEMA KS 1, horsepower rated, lockable handle with capability to accept three padlocks, and interlocked with cover in closed position.
- E. Accessories:
 - 1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors.
 - 2. Neutral Kit: Internally mounted; insulated, capable of being grounded and bonded; labeled for copper and aluminum neutral conductors.
 - 3. Isolated Ground Kit: Internally mounted; insulated, capable of being grounded and bonded; labeled for copper and aluminum neutral conductors.
 - 4. Auxiliary Contact Kit: One NO/NC (Form "C") auxiliary contact(s), arranged to activate before switch blades open.
 - 5. Hookstick Handle: Allows use of a hookstick to operate the handle.
 - 6. Lugs: Mechanical type, suitable for number, size, and conductor material.

2.2 MOLDED-CASE CIRCUIT BREAKERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Eaton Electrical Inc.; Cutler-Hammer Business Unit.
 - 2. General Electric Company; GE Consumer & Industrial - Electrical Distribution.
 - 3. Siemens Energy & Automation, Inc.
 - 4. Square D; a brand of Schneider Electric.
- B. General Requirements: Comply with UL 489, NEMA AB 1, and NEMA AB 3, with interrupting capacity to comply with available fault currents.
- C. Thermal-Magnetic Circuit Breakers: Inverse time-current element for low-level overloads and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.
- D. Adjustable, Instantaneous-Trip Circuit Breakers: Magnetic trip element with front-mounted, field-adjustable trip setting.

- E. Electronic Trip Circuit Breakers: Field-replaceable rating plug, rms sensing, with the following field-adjustable settings:
 - 1. Instantaneous trip.
 - 2. Long- and short-time pickup levels.
 - 3. Long- and short-time time adjustments.
 - 4. Ground-fault pickup level, time delay, and I₂t response.
- F. Current-Limiting Circuit Breakers: Frame sizes 400 A and smaller, and let-through ratings less than NEMA FU 1, RK-5.
- G. Integrally Fused Circuit Breakers: Thermal-magnetic trip element with integral limiter-style fuse listed for use with circuit breaker and trip activation on fuse opening or on opening of fuse compartment door.
- H. Ground-Fault, Circuit-Interrupter (GFCI) Circuit Breakers: Single- and two-pole configurations with Class A ground-fault protection (6-mA trip).
- I. Ground-Fault, Equipment-Protection (GFEP) Circuit Breakers: With Class B ground-fault protection (30-mA trip).
- J. Features and Accessories:
 - 1. Standard frame sizes, trip ratings, and number of poles.
 - 2. Lugs: Mechanical type, suitable for number, size, trip ratings, and conductor material.
 - 3. Application Listing: Appropriate for application; Type SWD for switching fluorescent lighting loads; Type HID for feeding fluorescent and high-intensity discharge lighting circuits.
 - 4. Ground-Fault Protection: Comply with UL 1053; integrally mounted, self-powered type with mechanical ground-fault indicator; relay with adjustable pickup and time-delay settings, push-to-test feature, internal memory, and shunt trip unit; and three-phase, zero-sequence current transformer/sensor.
 - 5. Shunt Trip: Trip coil energized from separate circuit, with coil-clearing contact.
 - 6. Undervoltage Trip: Set to operate at 35 to 75 percent of rated voltage without intentional time delay.
 - 7. Auxiliary Contacts: One SPDT switch with "a" and "b" contacts; "a" contacts mimic circuit-breaker contacts, "b" contacts operate in reverse of circuit-breaker contacts.

2.3 ENCLOSURES

- A. Enclosed Switches and Circuit Breakers: NEMA AB 1, NEMA KS 1, NEMA 250, and UL 50, to comply with environmental conditions at installed location.
 - 1. Indoor, Dry and Clean Locations: NEMA 250, Type 12.
 - 2. Outdoor Locations: NEMA 250, Type 4X, Stainless Steel.
 - 3. Other Wet, Damp, or corrosive Locations: NEMA 250, Type 4X, Stainless Steel.
 - 4. Indoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: NEMA 250, Type 4.
 - 5. Hazardous Areas Indicated on Drawings: NEMA 250, Type 7/Type 9.

2.4 EXPLOSION PROTECTED DISCONNECT SWITCHES

- A. For motor disconnect, light and device switching in Class 1, Division 2 areas.
 - 1. Cooper Crouse-Hinds, GHG series, or equal.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine elements and surfaces to receive enclosed switches and circuit breakers for compliance with installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install individual wall-mounted switches and circuit breakers with tops at uniform height unless otherwise indicated.
- B. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from enclosures and components.
- C. Install fuses in fusible devices.
- D. Comply with NECA 1.

3.3 IDENTIFICATION

- A. Comply with requirements in Division 26 Section "Electrical Identification."
 - 1. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs.

2. Label each enclosure with engraved metal or laminated-plastic nameplate.

3.4 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.
- C. Perform tests and inspections.
 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
- D. Acceptance Testing Preparation:
 1. Test insulation resistance for each enclosed switch and circuit breaker, component, connecting supply, feeder, and control circuit.
 2. Test continuity of each circuit.
- E. Tests and Inspections:
 1. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
 2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
 3. Perform the following infrared scan tests and inspections and prepare reports:
 - a. Initial Infrared Scanning: After Substantial Completion, but not more than 60 days after Final Acceptance, perform an infrared scan of each enclosed switch and circuit breaker. Remove front panels so joints and connections are accessible to portable scanner.
 - b. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan of each enclosed switch and circuit breaker 11 months after date of Substantial Completion.
 - c. Instruments and Equipment: Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.
 4. Test and adjust controls, remote monitoring, and safeties. Replace damaged and malfunctioning controls and equipment.

- F. Enclosed switches and circuit breakers will be considered defective if they do not pass tests and inspections.
- G. Prepare test and inspection reports, including a certified report that identifies enclosed switches and circuit breakers and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

3.5 ADJUSTING

- A. Adjust moving parts and operable components to function smoothly and lubricate as recommended by manufacturer.
- B. Set field-adjustable circuit-breaker trip ranges.

END OF SECTION

SECTION 26 85 00
HEAT TRACE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 DESCRIPTION OF WORK

- A. This section covers furnishing and installing complete electrical heat trace system as per drawings, and as specified herein.

1.3 STANDARDS AND CODES

- A. All materials and equipment specified herein shall within the scope of UL Examination Services, be approved by the Underwriter's Laboratories for the purpose for which they are used and shall bear the UL label.
- B. All materials and equipment specified herein shall conform with all applicable NEMA, ANSI and IEEE standards.
- C. All materials and equipment specified herein and their installation methods shall conform to the latest published version of the National Electric Code, N.E.C.
- D. Quality Assurance:
 - 1. The Heat Trace Cable Manufacturer shall have a complete quality assurance program that includes product qualification testing and routine testing of heater cable against minimum standards of acceptance.
 - 2. Manufacturer's qualification testing on representative samples shall include power output, T-rating, jacket insulation resistance, low temperature flexibility, and startup inrush characteristics for a temperature range of Minus 40 to plus 150 deg F.
 - 3. Quality Control tests on every foot of heating cable shipped shall include both a visual inspection and a high-frequency sine wave spark test as checks on jacket uniformity. In addition, all braided products shall pass a dry dielectric test. Quality Control tests on representative samples shall include a check of cable dimensions and power output.
 - 4. Heat tracing systems shall be furnished from a single source from a single manufacturer.

1.4 ACTION SUBMITTALS

- A. Submit catalog data showing material information and conformance with specifications. The intended use of each item shall be indicated.
- B. Heat Trace System Calculations
 - 1. Contractor shall coordinate with manufacture to provide thermal calculations showing the heat trace system is properly sized for freeze protection. Calculation submittals shall include the following at a minimum:
 - a. Heating cable calculations.
 - b. Calculations showing number of heat cable wraps per foot.
 - c. Pipe insulation calculations.

1.5 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

1.6 CLOSEOUT SUBMITTALS

- A. Operations and Maintenance Data: For heat trace and heat trace control units to include in operations and maintenance manuals.

1.7 WARRANTY

- A. Heat trace cable and associated components shall be warranted against faulty manufacturing workmanship, or the use of defective materials for a period of ten (10) years from the date of installation of the heat trace system.

PART 2 - PRODUCTS

2.1 HAZARDOUS AREA (CL 1, DIV 2) PIPING HEAT TRACE SYSTEMS

- A. Heat Trace Controller and Temperature Sensors
 - 1. Controller kit shall consist of a digital thermostat with microprocessor-based temperature control and power connection kit. Controller shall be used for freeze protection protected by self-regulating heat trace. Unit shall be rated for Class 1, Division 2 hazardous area locations. Unit shall be capable of switching 30 amperes of current. 100-Ohm platinum RTD temperature sensors shall be included with the heat trace controllers. Heat trace controllers shall be Chromalox #DTS-HAZ, or approved equal.
 - 2. Wall Mount Kit: MP-2, or approved equal.

B. Heating Cable (Heat Trace)

1. Heating cables shall be self-regulating, parallel circuit, semi-conductive resistance type, with heating element extruded in a continuous strip between parallel copper conductors. Heating cables shall be capable of being overlapped without overheating at overlap places. Cable shall be furnished with tinned copper shield and an outer polyolefin jacket and be capable of being cut to desired length in the field. Constant watt type heating cable will not be acceptable. Cable shall be purposely made for the application of providing freeze protection for metal process piping. Raychem self-regulating XL-TRACE heat cable or Engineer reviewed equal.
2. Heating cable shall be suitable for operation from heat trace controller. Line voltage fluctuations shall not appreciably affect cable heat output.
3. The heater shall not require the use of heat transfer cement or compounds in any form.
4. The heater shall vary its output in response to temperature variations along a pipe, due to heat sinks such as fittings or pipe supports.
5. Contractor shall furnish and install, in sufficient quantities, power connection kits, end seals, splice/tee kits, and all other material required for the complete installation and wiring of heat trace cables.

C. Heat Trace Pipe Insulation

1. Unless otherwise specified or detailed in other specification divisions, the Contractor shall coordinate with heat trace system manufacture to provide a fully functional and application rated pipe insulation product and installation. Insulation shall fiberglass and shall be covered by 0.016-inch thick aluminum jacketing. Aluminum jacketing shall be installed in a waterproof manner.

PART 3 - EXECUTION

3.1 GENERAL

- A. Contractor shall coordinate all heat trace installation work with Division 15.

3.2 HEATING CABLE

- A. Install heating cable under pipe insulation in accordance with Cable Supplier's installation instructions and electrical drawings. Any discrepancy and/or conflict shall be brought to the attention of the Engineer for final resolution.

3.3 MAXIMUM LENGTH OF CABLE RUNS

- A. In order to limit the start-up current of branch circuits feeding heater cables, the maximum length of run of individual heater cables shall not exceed 95 percent of the maximum length recommended by the Heater Cable Manufacturer for cable ambient temperature of minus 40 deg F.

3.4 MAXIMUM RATING OF BRANCH OVERCURRENT DEVICE

- A. The rating of branch circuit breakers for any heat trace circuit shall not exceed 40A.

3.5 TESTING

- A. Heat Trace: Prior to installation, contractor shall conduct insulation resistance and ohm testing per manufacture's instructions. Testing results shall be submitted, reviewed, and approved prior to heat trace installation.
- B. Functionally test each section of heat trace system under load, and according to Manufacturer's recommended test procedures.

END OF SECTION

**SECTION 26 92 10
CONTROL SYSTEM**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Work and materials specified in this section include the system for control and monitoring of motor driven pumps and equipment and all component instruments and sensing devices.
- B. Included in this work is the furnishing and testing of all motor controller components, relays, pushbuttons, instrumentation and all interconnecting control wiring between the control system equipment, Packaged Equipment, PLC's, LCP's, and other devices.
- C. Revisions to the PLC and SCADA PC operator interface software, including testing and commissioning is included in this scope of work.

1.3 DEFINITIONS

- A. Contractor: The Contractor, sometimes referred to as the "Prime Contractor" or "General Contractor", is the party who furnishes and installs all tools, materials and equipment, and has a formal contract with the Owner. The Contractor is responsible for the work of the Electrical Contractor, Control System Integrator (C. S. I.), and all other Contractors and Sub-Contractors.
- B. Electrical Contractor: The Electrical Contractor is the party who furnishes and installs all non-control electrical equipment and power distribution equipment and infrastructure.
- C. C. S. I.: Control System Integrator is the party that furnishes all control components, configures the control system and provides all documentation, designs the detailed control wiring diagrams plus the layout and assembly of the custom control panels.
- D. Control System: The Control System includes all equipment, instruments and wiring for control and monitoring of all operating pumps and equipment. This includes custom control panels, motor control center, packaged control panels, and control equipment furnished with other systems and mechanical equipment. All sensing, transmitting, indicating, control and recording of all functions as specified and shown are also included in the control system.

1.4 SYSTEM DESCRIPTION

- A. The control system shall include the instruments, control devices, programmable controllers, input and output devices, sensors, interfacing devices, cabinets, enclosures and other components indicated and implied by the Plans and these Specifications.

- B. The control system shall be designed and assembled by the C. S. I. to provide:
 - 1. Control of motor driven pumps and equipment.
 - 2. Monitoring of operation of motor driven pumps and equipment.
 - 3. The capabilities indicated and implied by the plans and specifications.
- C. The control system shall be designed and assembled by the C. S. I. to be an integrated system composed completely of components which are specifically designed and used for and in conjunction with control and operation of motor-driven pumps and equipment. All components shall be standard, catalog-listed products, new and free of defects.
- D. The control system shall be supplied by the C. S. I. as an integral, complete system with all required components including all interfacing equipment, appurtenances and accessories and all such devices which may be required for proper interfacing as part of the control system.
- E. The control system shall include the following major components:
 - 1. Motor control and e-stop safety system.
 - 2. Level, flow, pressure instruments, switches, etc.
 - 3. Oil lube control and heat trace.

1.5 RESPONSIBILITY OF ELECTRICAL CONTRACTOR AND C. S. I.

- A. The C. S. I. shall be fully and completely responsible for the design and assembly of the control system as specified herein and shall be enjoined by the Electrical Contractor as a subcontractor. The assignment of specific responsibilities herein to the C. S. I. shall not, in any way and under any conditions, diminish or usurp the General or Electrical Contractor's full and complete responsibility for all work performed and all materials installed under the contract. The contract between the Electrical Contractor and the C. S. I. shall specifically require that the C. S. I. conform to and meet all requirements specified herein.
- B. The Electrical Contractor's responsibilities include the following:
 - 1. Reviewing the C. S. I.'s submittals and wiring diagrams for coordination with space requirements, raceway requirements of field wiring, etc.
 - 2. Supplying the C. S. I. with submittals of equipment related to the power and control systems which the C. S. I. must include in their submittals and integrate. Such as motors, packaged control panels which the C. S. I. does not build, etc.
 - 3. Installation of the control panels.
 - 4. Installation of the standby power set, automatic transfer switch and power distribution.

5. Installation of the interconnecting wiring per the C. S. I.'s wiring diagrams.
 6. Installation of sensors and actuators per detailed contract drawings or drawings or instruction supplied by the C.S.I.
 7. Coordinate with Owner's Representative as required for system integration. Provide all submittal data necessary to Owner's Representative as required. Install and wire Owner furnished panel per wiring diagrams furnished by the Owner.
- C. The C. S. I.'s responsibilities include the following:
1. Detailed design of control panels the drawings show general layout of the control panels. The C. S. I. shall provide detailed & scaled design of all components on and in the control panels and determine specific requirements.
 2. All interconnecting wiring of control equipment including remote control panel, pump panel, packaged equipment panels, mechanical equipment with control components, etc.
 3. Coordinate with the Electrical Contractor for specific requirements and locations of raceway penetrations and field wiring in control panels/enclosures.
 4. The C. S. I. shall supply the Electrical Contractor with all necessary detailed installation drawings and/or written instruction for installation of all control components and sensing devices for proper system operation.

1.6 STANDARDS AND CODES

- A. All equipment and materials shall conform to the latest revised editions of applicable standards published by the following organizations:
1. American National Standards Institute (ANSI).
 2. Institute of Electrical and Electronic Engineers (IEEE).
 3. National Electrical Manufacturers Association (NEMA)
 4. Underwriters' Laboratories (U/L).
 5. Instrument Society of America (ISA).
 6. National Fire Protection Association (NFPA)
- B. All electrical equipment and materials, and the design, construction, installation, and application thereof shall comply with all applicable provisions of the National Electrical Code (NEC), the Occupational Safety and Health Act (OSHA), and any applicable Federal, State, and local ordinances, rules and regulations.

- C. All materials and equipment specified herein shall within the scope of UL examination services, be approved by the Underwriter's Laboratories for the purpose for which they are used and shall bear the UL label.
- D. All control panels shall bear a label by UL or by an approved testing authority for the completed assembled panel.

1.7 SUBMITTALS

- A. Per the submittal requirements of Sections 01 33 00 and 26 01 00 and the following, The C. S. I. shall develop and shall submit to the Engineer, through the Electrical Contractor, the following project data:
 - 1. All shop drawings: (provide an electronic copy, in AutoCAD, of all shop drawings on disk to the Engineer with the submittals and with final as-built drawings).
 - 2. Cut sheets for all products with a Bill of materials showing quantity, manufacturer, catalog number, and the supplier name and phone number and relevant spec. paragraph number. Number each item in the bill of materials and relate the bill of materials to the submitted product index.
 - 3. I/O checklist that verifies that all control and status/indication points in the control panels both implemented and spare have been tested. One copy of the I/O Checklist shall be submitted for the start of the Factory Test. One copy of the I/O Checklist shall be submitted prior to the Control system startup.
 - 4. PLC I/O list showing any modifications after Factory Testing has been completed.
- B. Provide reference numbering on all cut sheets to relate them to the bill of materials. Provide same reference numbering by the equipment shown on the shop drawings.
- C. Provide cut sheets bound in a 3-hole binder with tabs and bill of materials in the front – provide at least 1 tab for every 4 products.

1.8 SHOP DRAWINGS

- A. The C. S. I. shall develop all shop drawings required for design, fabrication, assembly and installation of the control system. Shop drawings shall include all drawings required in manufacture of specialized components and for assembly and installation of them. Shop drawings shall be CAD drawn and include the following:
 - 1. System schematic diagrams for the entire control system including but not limited to: all sensors, control panels, motor control center and motor control equipment; with all components and their locations indicated. Wire and terminal numbers shall be included on the schematic diagrams.
 - 2. Technical data sheets for all components with the complete part number of the component clearly designated with all required options.

3. Arrangement drawings of all panel front- and internal-mounted instruments, switches, devices, and equipment indicated. Show all panel mounting details required. Include outer dimensions of all panels on the drawing. Deviations from approved arrangements require re-submittal and approval prior to installation.
4. Arrangement drawings shall be drawn to scale using standard Architectural or Engineering scales. See example drawings.
5. Detailed dimensional drawings of the installation of all sensors (level, pressure, flow, valve position, motion, etc.), actuators and of mounting brackets and other devices required for installation of sensors and actuators.
6. Shop drawings shall be provided on NON-FOLDED sheets no larger than 11 by 17 inches. Shop drawings shall include specific product detail such as rating, size, and number of contacts, etc. Wiring diagrams shall be included for all components in the system including control equipment supplied with mechanical devices.
7. Wiring diagrams shall:
 - a. Be in format per example drawings at the end of this section.
 - b. Have a minimum of one sheet per each motor controller, or subsystem.
 - c. Have numbering by equipment to relate equipment shown on shop drawings to the bill of materials.
 - d. Include wiring diagrams for packaged control panels and other related control equipment supplied with mechanical systems.
 - e. Include instrument loop diagrams per LOOP example dwg.
 - f. Include for all motor control wiring diagrams, both the motor power and control wiring in the motor control equipment and other related control wiring for the motor on the same sheet. Per typical MOTOR CONTROL example drawings at the end of this section.
 - g. Provide wire and terminal numbering per the requirements in Section 26 12 00.
8. For shop drawing packages which include more than 10 sheets provide the drawings in a separate 11 by 17-inch binder with an index for the drawings at the front.
9. Installation details shall include the size, number, type and location of interconnecting wiring and conduit, installation of cabinets and enclosures, installation of sensors, instruments, limit switches, and other installation requirements. Shop drawings shall be submitted to the Electrical Contractor for

review and approval. After approval by the Electrical Contractor, copies of all shop drawings shall be submitted to the Engineer.

1.9 CONTRACTOR REVIEW OF SUBMITTALS

- A. The Contractor and Electrical Contractor shall review all shop drawings prior to submittal to the Engineer. This review shall include:
 - 1. Coordination of wire routing on the wiring diagrams and the raceway system.
 - 2. Equipment shall be checked for layout and size for coordination and verification that equipment will fit within the space designated.
 - 3. Coordination for getting equipment into the structures.
 - 4. Coordinate with panel wire entrances and interior wireways and space (size and location) for field connections.
 - 5. Coordination of equipment mounting and installation.

1.10 WARRANTY

- A. As part of the guarantee required by these Specifications, the Electrical Contractor shall cause the C. S. I. to make any and all repairs, replacements, modifications and adjustments required to eliminate any and all defects in design, materials and workmanship for his work, which are disclosed within the one year guarantee period beginning at the date of substantial completion. The C. S. I. shall begin all repairs, replacements, modifications and adjustments within twenty-four (24) hours of notification by telephone by the Owner and shall complete such repairs, replacements, modifications and adjustments within forty-eight (48) hours of notification. Should the C. S. I. fail to begin the work within 24 hours or complete the work within 48 hours, the Owner may proceed to undertake or complete the work. In such event, the Electrical Contractor and his surety shall be liable for all costs incurred by the Owner.

1.11 COORDINATION WITH MOTOR CONTROL AND OTHER EQUIPMENT

- A. The C. S. I. shall be solely and completely responsible for coordination and integration of control system with the motor control and other related equipment. The C. S. I. shall communicate directly with the manufacturer(s) and supplier(s) of all related control equipment to determine all intended details of the equipment which may influence or affect the control system.
- B. The C. S. I. shall determine all requirements for and shall cause integration of the control system and all other control equipment into a unified operating system. The C. S. I. shall define all requirements for all interfacing equipment and shall supply all appurtenances, accessories and all such devices which may be required for proper interfacing as part of the control system.
- C. The C. S. I. shall be responsible to obtain submittal information on equipment supplied by other disciplines and to integrate them into the control system to form a complete

working package as outlined by the contract documents. This includes but is not limited to the following list of major pieces of equipment.

1. Pump equipment.
- D. The C. S. I. shall provide reference connection diagrams in the submittal set of drawings for all associated equipment to the control system including but not limited to the following equipment:
1. Pump control equipment.
 2. Instrumentation

1.12 QUALITY ASSURANCE

- A. Control Systems Integrator Qualifications:
1. Description of ownership and organization of company.
 2. Resumes of principals and/or key employees.
 3. Description of expertise in design, assembly, testing and installation of control systems for municipal waterworks and sewerage facilities.
 4. Description of similar size municipal control systems designed, assembled and installed in the last five (5) years. Description shall include:
 - a. Names of employees involved in each system.
 - b. Detailed description and drawings of each system.
 - c. Cost of each system.
 - d. Names and telephone numbers of persons involved in operation and maintenance of each system.
- B. Description of the service capabilities normally provided by the company including resumes of employees assigned to field service and listing of service equipment.
- C. Description of spare parts normally stocked and of restocking procedures.
- D. Testing Agency Qualifications: Member Company of NETA or an NRTL.
1. Testing Agency's Field Supervisor: Currently certified by NETA to supervise on-site testing
- E. Additional information that may assist the Owner in ascertaining the C. S. I.'s general ability to perform the work.
- F. Acceptability of the C. S. I. will be determined solely by the Owner.

- G. The Electrical Contractor, C. S. I., and the selected manufacturer shall anticipate that the Owner may withhold approval of the selected manufacturer if, in the opinion of the Owner, the manufacturer does not have the experience, capability or for performance and execution of similar projects in the past.
- H. The Electrical Contractor, C. S. I., and any manufacturer not approved by the Owner shall not be entitled to an extension of time or to any claim for damages because of extra and unanticipated costs, hindrances, delays or complications caused by or resulting from failure by the Owner to approve any manufacturer for whatever reason.

1.13 APPROVED CONTROL SYSTEM INTEGRATORS

- A. The Control System Integrator shall be selected by the Contractor from the following acceptable companies:
 - 1. Townsend Controls, Inc.; Pasco, WA; 509-524-9949
 - 2. Taurus Power and Controls; Kent, WA; 425-656-4170
 - 3. Control Freek, Inc.; Spokane, WA; 509-499-9849
 - 4. Bigfoot Technical Services; Post Falls, ID; 208-981-0304
 - 5. B&E Electric; Spokane, WA; 509-927-9350
 - 6. Woodhawk Controls; Coeur d' Alene, ID; 208-665-0015
 - 7. QualiTEC; Liberty Lake, WA; 509-227-5686.
- B. Other alternate System Integrators not listed above shall be considered for acceptability by the Owner based on the qualifications noted in 1.12 above and will be listed by addendum as necessary. Qualification shall be submitted to Engineer 15 days prior to the date to receive bids to be considered.

1.14 PROGRAMMING

- A. The WRF has an existing PLC and SCADA system which will require minor modification as part of this upgrade project. The following programmers shall be used to perform the required work.
- B. PLC programming:
 - 1. Guy Ostrom 1 425-328-9036 (gostrom@verusaec.com) for any work brought into the PLC.
 - 2. Programmers scope:
 - a. Add LE-201 level input to MCP-AE1.
 - b. Add E-stop status programming to MCP-AE1.

- c. Add other I/O to the PLC system as may be indicated or required for a fully functional system.
 - d. Assist CSI with testing all new instrumentation and controls.
- C. SCADA programming:
 - 1. Adam Buhler for our SCADA system 1 509 521 8987 (adam@bluelogixllc.com).
 - 2. Programmers scope:
 - a. Add LE-201 level input and E-stop status to SCADA.
 - b. Add other SCADA system modifications as may be indicated or required for a fully functional system.
 - c. Revise SCADA screen to reflect new pump system.
 - d. Assist CSI with testing all new instrumentation and controls.

1.15 DELIVERY, STORAGE, AND HANDLING

- A. Deliver equipment to the job site at the appropriate time for installation. Equipment items shall be crated or affixed to pallets with protective wrappings. Exercise care to prevent damage from handling. Store mechanical and electrical components off the ground in weathertight enclosures. Keep equipment dry at all times.

PART 2 - PRODUCTS

2.1 GENERAL

- A. DESIGN AND ASSEMBLY.
 - 1. All equipment and materials utilized in the system shall be the products of reputable, experienced manufacturers with at least five (5) years' experience in the manufacture of similar equipment. Similar items in the system shall be the products of the same manufacturer. All equipment shall be of industrial grade and of standard construction, shall be capable of long, reliable, trouble-free service, and shall be specifically intended for control and monitoring of operation of motor-driven pumps and equipment. All equipment shall be of modular design to facilitate interchangeability of parts and to assure ease of servicing. All equipment, where practical, shall be of solid state, integrated circuit design.
 - 2. The system shall be completely assembled in the shop by the C. S. I. All components and equipment shall be prewired to the maximum extent possible.
 - 3. All components, including both internally and face-mounted instruments and devices, shall be clearly identified with phenolic nameplates of white background with black letters.

B. INTERCONNECTING WIRING/TERMINALS

1. The C. S. I. shall determine all requirements for field-installed interconnecting wiring between control system components, sensors, pumps and equipment. The C. S. I. shall determine the number, size, and type of wires and the number, size, type, and location of conduits and wireways.
2. The wire and conduit shown on the plans shall be considered only as general guidelines for signal and control circuits. The C. S. I. shall determine all specific requirements and shall confirm or modify the wiring and conduit shown on the plans to conform to such requirements.
3. All interconnecting wires installed by the manufacturer and installer shall be numbered at each end using custom pre-printed heat shrink sleeve markers. Markers shall be T&B, SHRINK-KON HVM or approved equal. Terminations shall be made using solderless pressure connectors at all terminations. All conductors shall be stranded wire with thermoplastic insulation and shall be cabled to groups and supported so as to prevent breaking and to present an orderly arrangement and neat appearance. All outgoing wiring shall be terminated on a marked terminal strip capable of connection of at least 2 No. 14 wires and all terminal connections shall be numbered consecutively throughout the system.
4. Provide 5 spare terminals in each enclosure that has terminals or 10 percent whichever is the greater amount. In addition, provide extra din rail with enough space for 20 percent more terminals.
5. For all energized circuits (power and control) powered from the panel and extend outside of the panel provide an individual fused terminal with appropriate fast blow fuse. Provide one fused terminal for each group of digital inputs associated with the control of a motor load.
6. (1/2 amp for PLC inputs) and "blown fuse" indicator light for each circuit.
7. For all signal circuits that extend outside of the panel provide an individual fused terminal with appropriate fusing and integral blown fuse indication. All 4 to 20 mA circuits shall be individually fused with a 1/16-amp fast blow fuse.
8. For all energized circuits powered outside of the panel which extend into the panel, provide a disconnecting terminal to isolate each individual circuit.
9. In general, all control wiring shall be #14 AWG except PLC I/O wiring between the PLC cards and the terminal strips within the same cabinet shall be #18 AWG.
10. Provide wire ways as necessary in the enclosure to contain all internal wiring and all field wiring. Size wireways such that there is ample room for the wiring required by this contract. Wireways shall be filled to a maximum of 70 percent to allow 30 percent more future wire.

11. Low voltage DC control and signal conductors shall be bundled separately from alternating current circuits. Separate raceways and wire gutters shall be dedicated for AC and DC wiring and labeled as such on the shop drawings. Wiring may cross at right angles if necessary. Special caution shall be used for PLC I/O card wiring and field terminations to accommodate the separation of AC and DC circuits. Intrinsically safe wiring shall be physically separated from non-intrinsically safe wiring.
12. All wiring shall be neatly tied in position with nylon cable ties. Instruments with portable cord connections shall be fed through the instrument panel plug strip which shall be located near the top of the panel directly above the instruments. Instrument supply cords shall be the only panel wiring which is not continuously supported and tied.
13. All wiring and tubing crossing hinges shall be installed in a manner to prevent chafing. Bundles of similar conductors shall be clamped securely to the door and to the panel, and the bundles shall run parallel to the hinge for at least 12 inches. Spiral nylon cable wrap shall be provided in the hinge section of the bundle to fully protect the conductors or tubing against chafing.

2.2 OPERATOR INTERFACE DEVICES

- A. All operator interface devices mounted on the panel front shall be rated for the environment in which they will be located. In general, devices mounted on indoor panels shall be NEMA 13 rated. Operator devices mounted outdoors, or in wet or corrosive environments shall be NEMA 4X rated.

2.3 EQUIPMENT ENCLOSURES

- A. Sizes of enclosures shown on the drawings are minimum. C. S. I. shall upsize the enclosures for the installed components as necessary if approved by the Engineer and the larger enclosure will fit within the space dedicated to the enclosure.
- B. Enclosures, Boxes and Hand Stations
 1. All terminal, pull, and junction boxes and control stations shall be:
 - a. Manufactured by Hoffman, Inc. or approved equal.
 - b. Installed indoor in dry areas shall be NEMA 12 steel.
 - c. Installed in damp, or corrosive or outdoor areas shall be NEMA 4X non-metallic or stainless steel construction with:
 - 1) Screws, bolts, and other hardware shall be stainless steel.
 - 2) The hinges shall have stainless steel pins.
 - d. All enclosures with covers more than 1square foot total area shall be hinged when available.

C. Enclosures, Boxes and Hand Stations (Hazardous Areas)

1. Enclosures, boxes and hand stations in hazardous areas shall be model GUA, GUB or GUE, as manufactured by Crouse Hinds, or approved equal.
2. In dry, indoor, or non-corrosive areas they shall be rated for the area installed.
3. In damp, outdoor, or corrosive environments, provide with corrosion resistant materials, Stainless steel hinges, screws, bolts, and other hardware, and neoprene gaskets.

D. Enclosure Door Latches

1. Small boxes and control stations shall have 2 screw driver or hand operated latches.
2. All outdoor cabinets shall be provided with pad lockable hasps.

E. Wireways

1. Provide molded plastic wireways, slotted for wire connections for all wiring in the panels. They shall be complete with covers. Wireways shall be as manufactured by Panduit, Taylor, or equal.

F. Terminals

1. Provide terminals for all wire connections to field wiring and internal power distribution. Analog loops that are 24 VDC powered shall have a knife switch to disable the loop if necessary. Connections shall have box type lugs capable of terminating 2 #14 AWG stranded wires. Terminals shall be strip mounted as manufactured by Phoenix Contact or equal.
2. Provide terminals on a 1-1/2 inch raised track in control cabinets. Track shall be aluminum and bonded to the cabinet.
3. Fuse terminal blocks shall be hinged disconnect level type with "blown fuse" indicators. PHOENIX CONTACT UK 5 series or equal.
4. Disconnecting terminal blocks shall be knife type with light indicator PHOENIX CONTACT type MTK or equal.
5. Provide 1 spare, or 3 percent whichever is the greater amount, spare (non-installed) replacement terminals for each type used.

2.4 OPERATOR INTERFACE DEVICES

- A. All operator interface devices mounted on the panel front shall be rated for the environment in which they will be located. In general, devices mounted on indoor panels shall be NEMA 13 rated. Operator devices mounted outdoors, or in wet or corrosive environments shall be NEMA 4X rated.

B. Digital Panel Meters

1. Panel meters for use with a 4-20mA DC signals shall be 3-1/2-digit, field scalable digital displays. LED readout shall have 0.56-inch-high numbers and have a selectable decimal point. Displays shall operate on 120VAC power. Panel meters shall be Apollo Model APLCL series, by Red Lion Controls, or equal.

C. Selector Switches

1. Selector switches shall be NEMA 13, or NEMA 4X as required by mounting location. Selector switches shall be 2, 3, or 4 position as required by the application. Selector switches installed outdoors shall have knob lever operator handle. Selector switches installed indoors shall have standard knob operator. Units shall be heavy duty type, Allen-Bradley 800H or 800T, G.E. Series CR104P, or approved equal.

D. Push Buttons and Pilot Lights: Heavy-duty, oil tight type.

1. Push Buttons: Recessed types; momentary contact unless otherwise indicated.
2. Pilot Lights: LED Transformer types; push to test.

2.5 PANEL POWER DISTRIBUTION

A. Control Panel Circuit Breakers

1. Control panel circuit breakers shall be thermal-magnetic type, supplementary overcurrent devices. Circuit breakers shall be snap mountable on five different types of mounting rails. Circuit breakers shall be sized for actual circuit load. Or as shown on the drawings. Provide 1 spare circuit breaker of each size used, or the number of spares shown on the drawings, whichever is greater
2. Control panel circuit breakers shall be Allen-Bradley 1492-CB or 1492-GH or equal.

B. Fuses

1. Fuses shall be of the type and amperage indicated on the drawings. The voltage rating shall be appropriate for the application indicated. The fuse types indicated on the drawings imply a certain set of fuse characteristics. No substitutions of fuse types will be allowed without written approval from the Engineer.
2. Provide blown fuse indicators on all fuses.

C. Power Supplies

1. Power supplies for 24 VDC and 12 VDC power shall be linear type, sized to be able to supply the demand. The power supply for the current loops shall be separate from the other DC loads.

2. Unit shall be as manufactured Allen Bradley, Bulletin 1606, or equal.

2.6 RELAYS

A. Relays for General Purpose

1. Relays for general purpose use shall have 10 Amp contacts with the appropriate coil voltage for the application. All relays shall have an integral indicating light to show if there is coil voltage present. They shall have an 8-pin/blade base and matching socket. Appropriate relay shall be selected based on application from the control wiring diagrams.
2. Units shall be Allen-Bradley 700 type HA, HB, IDEC RH Series, or equal.

B. Time Delay Relays

1. Time delay relays shall be multi-function, multi-range with plug-in base, pin style terminations timing and timed out LED indicators, and calibrated scales. Relays shall have minimum 0.5 seconds to 60 minutes, 8 selectable timing ranges, and 5 amp contacts. Select coil voltage for the application. Minimum accuracy requirements (plus or minus) shall be as follows: 1) Repeat accuracy 1/2 percent 2) Timing change over full voltage range 1/2 percent change over full temperature range 2 percent 3) Scale tolerance 5 percent. Appropriate relay shall be selected based on application from the control wiring diagrams.
2. Units shall be Allen-Bradley Bulletin 700 type HR series; IDEC, GT3A, or equal.

C. Intrinsically Safe Repeater Relays (ISR)

1. Intrinsically safe repeater relays shall be provided with N.O. and/or N.C. contacts as required. Provide enclosures or barriers as required.
2. Acceptable manufacturers are IMO GEMS SAFE-PAK or R. STAHL INTRINSIC Safety Repeater Relays No. 9230 or equal.

D. Intrinsically Safe Barriers (ISB)

1. Intrinsically safe barriers shall be GEMS "SAFE-PAK" ZENER Barrier 54800 series as manufactured by TRANSAMERICA DELAVAL or equal.

2.7 LEVEL INSTRUMENTS AND DEVICES

A. Discrete Level Transducer

1. Ultrasonic non-contacting switch with two switch points for level detection.
2. 2 SPDT Form C contacts, rated 5 A at 250 V AC or 30 V DC, transistor.
3. Siemens Pointek ULS200 (Class 1, Division 1 rated).
4. Approved Equal.

B. Analog Level Transducer

1. Radar level transducer/transmitter.
2. VEGAPLUS C 21 (Class 1, Division 1 rated).
3. Approved Equal.

C. Oil Tank Level Switch

1. .
2. 2 SPDT Form C contacts, rated 5 A at 250 V AC or 30 V DC, transistor.
3. Approved Equal.

2.8 FLOW METER

A. Typical Application – water and wastewater, Parshall Fume flow meter.

B. Manufacturer and Model:

1. Transmitter, Siemens, LUT440-OCM.
2. Transducer, Siemens, XRS-5 transducer, TS-3 temperature sensor.
3. Approved Equal.

2.9 TEMPERATURE TRANSMITTERS

A. Transmitter, Endress Hauser T15 (Class 1, Division 1 rated).

B. Transducer, Endress Hauser, remote submersible RTD.

C. Approved Equal.

2.10 SPARE PARTS

A. In addition to spare parts mentioned elsewhere in this section, the Contractor shall supply the following spare parts for use by the Owner:

- a. Qty. 1, Relay of each type used or 10 percent whichever is the greater amount.
- b. Qty. 10, lamps of each type used or 100 percent whichever is the greater amount.
- c. Qty. 200 percent, spare fuses (two spare fuses for each fuse supplied).
- d. Qty. 10, spare nameplates 3" square or less with 20 letters 1/2" or less to be specified by the Engineer.

- B. Spare parts shall be shipped with the control panels in a separate container, with a Bill of Materials, and specifically marked "SPARE PARTS".

PART 3 - EXECUTION

3.1 OPERATIONAL TESTING

A. Field Testing of the Control System

1. The C. S. I. and Electrical Contractor shall perform operational testing of the control system in the field. Testing shall be conducted in two phases. The initial testing shall include, but not be limited to, operation of all input and output (I/O) points, control devices and motor controls.
2. The initial testing of the control system shall include configuration of the PLC and its communications equipment, energizing each digital input and output and simulating each analog input and output using a loop simulator and calibrator. The I/O shall be tested in conjunction with the Electrical Contractor who is installing the instrumentation and control wiring. Circuits not energized shall be tested for continuity. Energized circuits shall be tested through all components from the field instrument to the hardware I/O memory locations in the PLC. If a point cannot be verified within 5 minutes of starting the check that point shall be noted as a punch list item to be corrected and re-tested at a later time.
3. The C. S. I. shall provide an I/O checklist for all points in the control panel. The list shall include for each point, the tag name of the points, a description of the point, comments, date and time of the test, and a signature line for the person performing the test. Show that each Digital point was set and reset. Show verification of all Analog points at 0 percent, 25 percent, 50 percent, and 100 percent of range. The Checklist shall be submitted to the Engineer 1 week prior to the startup of the control system. The C. S. I. and the Electrical Contractor shall both be present for the verification of the I/O system by the Engineer.
4. The C. S. I. shall ensure that control panels have been installed correctly and tested 1 week prior to the commencement of the system startup. Startup testing shall not begin until the panel installation has been completed and verified by the Engineer.

3.2 INSTALLATION

- A. The control system shall be installed in accordance with the installation drawings and instructions prepared by the C. S. I. Installation shall be performed by workers who are skilled and experienced in the installation of electrical instrumentation and control systems.
- B. Installation shall include all elements and components of control system and all conduit and interconnecting wiring between all elements, components, sensors and valve operators. All wiring between cabinets, sensors, pumps and equipment shall be multiple color coded for ease of servicing. All terminations shall be made with

solderless pressure connectors. All wiring shall be in accordance with the requirements of Section 26 12 00. Intrinsically safe wiring shall be separated with barriers per NEC requirements.

- C. Install a copy of the O&M wiring diagram for each controlled load in the associated drawing pocket of each MCC bucket.

3.3 CALIBRATION AND START-UP

- A. All components of the control system shall be calibrated by the C. S. I. after completion of installation. Each component shall be adjusted to be within the manufacturer's required range and for the specific application.
- B. Components that cannot be properly calibrated or that are found to exceed the manufacturer's specified range or accuracy shall be removed and replaced at no additional cost to the Owner.
- C. The control system shall be placed into operation by the C. S. I.
- D. All components shall be recorded on loop check-off forms and shall be witnessed tested by the Owner or representative.

3.4 SYSTEM VALIDATION

- A. When the installation is ready for validation testing (as determined by Engineer), the Contractor shall commence integration testing of the control system. This shall determine that all system components connect up correctly to each other so that the system works as designed.
- B. The C. S. I. shall calibrate all instruments, indicators, recorders, loops, etc. and fill out appropriate test forms provided at the end of this section. Test forms shall be received by the Engineer prior to validation testing.
- C. After the integration testing is complete, validation testing shall be by the C. S. I. and Contractor, with the Owner and Engineer present. Validation testing shall include operation and verification of all control components and features of the entire control system. The Contractor shall inform the Engineer of the testing schedule at least one week prior to the commencement of testing. Validation testing shall be considered complete when the Owner and Engineer have determined that all of the original system requirements have been met.
- D. The Contractor shall revise, modify, adjust and reprogram the system as required during and following start-up to provide the operation required by the Engineer.
- E. Note: the Engineer shall not be called out by the Contractor for validation testing on equipment until all components are installed, all wiring points have been checked, and operation has been tested and verified by the Contractor.

3.5 SYSTEM MAINTENANCE

- A. The C.S.I. shall be solely and completely responsible for all maintenance of the hardware system from time of start-up to the date of acceptance, by formal action of the Owner, of all work under the contract. The C. S. I. shall correct all deficiencies and defects and make any and all repairs, replacements, modifications, and adjustments as malfunctions or failures occur. The C. S. I. shall perform all such work required or considered to be required by the Owner to cause and maintain proper operation of the system and to properly maintain the system.
- B. The Contractor and the C. S. I. shall anticipate that the Owner may delay acceptance of all work under the contract if, in the judgment of the Owner, malfunctions or failures in operation of the control system repeatedly occur after start-up. Both the Contractor and the Integrator shall not be entitled to an extension of time or to any claim for damages because of hindrances, delays or complications caused by or resulting from delay of the work because of malfunctions or failures in operation of the control system.

3.6 OPERATION AND MAINTENANCE TRAINING

- A. The C. S. I. shall conduct specifically organized training sessions in operation and maintenance of the control system for personnel employed by the Owner. The training sessions shall be conducted to educate and train the personnel in maintenance and operation of all components of the control system. Training shall include, but not be limited to, the following:
 - 1. Preventative maintenance procedures.
 - 2. Trouble-shooting.
 - 3. Calibration.
 - 4. Testing.
 - 5. Replacement of components.
 - 6. Automatic mode operation.
 - 7. Manual mode operation.
- B. At least 2 separate training sessions, each at least 4 hours in duration, shall be conducted at the facility after start-up of the system. The C. S. I. shall prepare and assemble specific instruction materials for each training session and shall supply such materials to the Owner at least (2) weeks prior to the time of the training.

3.7 OPERATION AND MAINTENANCE DATA

- A. The C. S. I. shall prepare and assemble detailed operation and maintenance manuals in accordance with the project general requirements. The manuals shall include, but not be limited to, the following:
 - 1. Preventative maintenance procedures.

2. Trouble-shooting.
 3. Calibration.
 4. Testing.
 5. Replacement of components.
 6. Automatic mode operation.
 7. Programming.
 8. Manual mode operation.
 9. System schematics / shop drawings.
 10. Electronic copy on disk of all shop drawings in version of AUTOCAD acceptable to Owner.
 11. As-built wiring diagrams of cabinet and enclosure contained assemblies.
 12. As-built wiring diagrams of overall system.
- B. Note: Updated system schematics and wiring diagrams shall be included as described in the Shop drawing and Submittal sections of this specification.
1. Catalog data and complete parts list for all equipment and control devices.
 2. Listing of recommended spare parts.
 3. Listing of recommended maintenance tools and equipment.
- C. Programmer Will Provide
1. Program documentation printout with tag numbers and descriptive comments.
 2. Backup program on compact disk.

3.8 OPERATING DEVICE LOCATION:

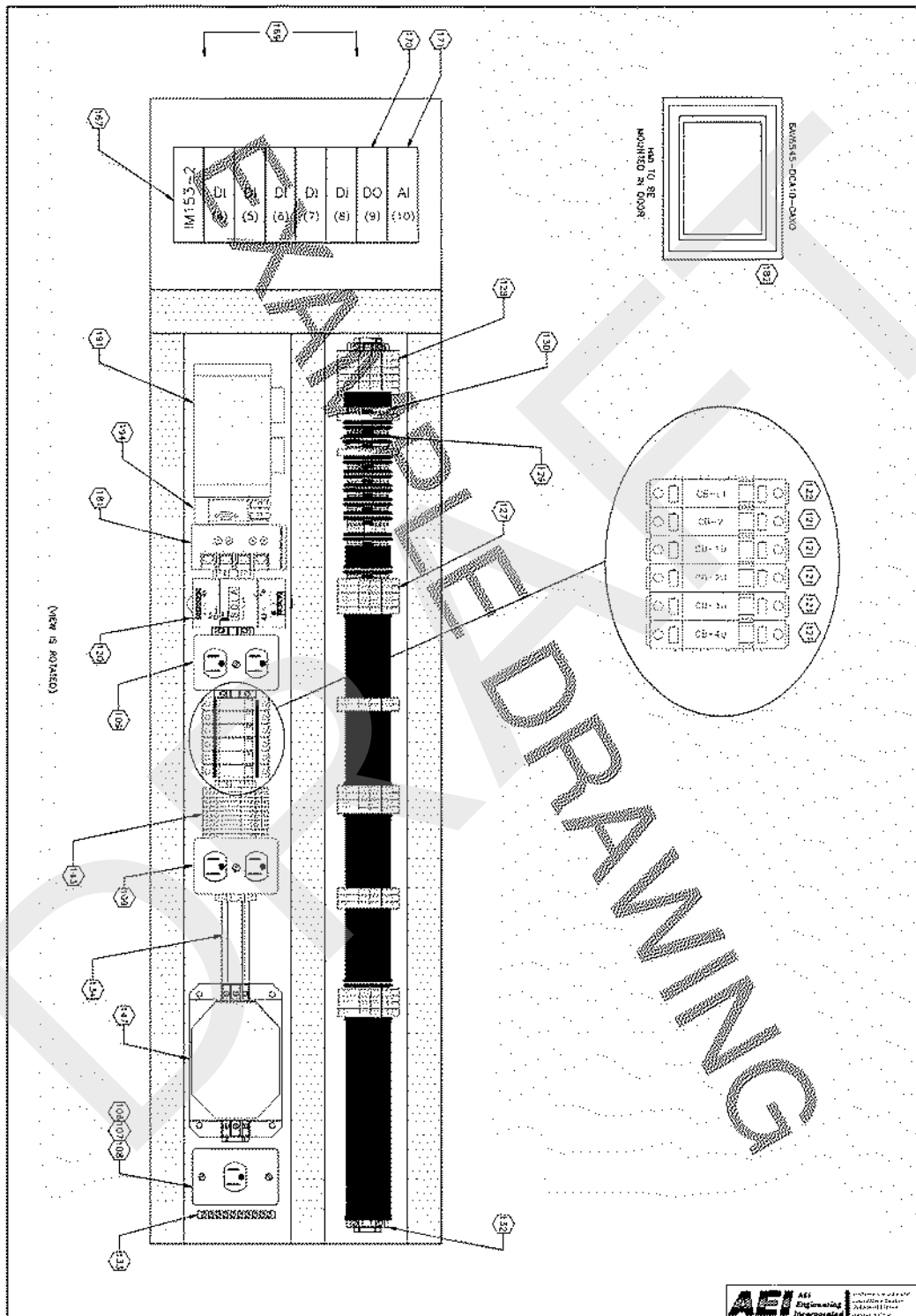
- A. Operating devices shall be mounted no higher than 6'-4" and no lower than 4'-0" above finished floor when panel is installed unless otherwise approved by the Engineer. Operating devices with displays (such as PLC interface and power monitoring devices) shall be mounted so that the display is between 5'-3" and 5'-8" above finished floor unless otherwise approved by the Engineer.

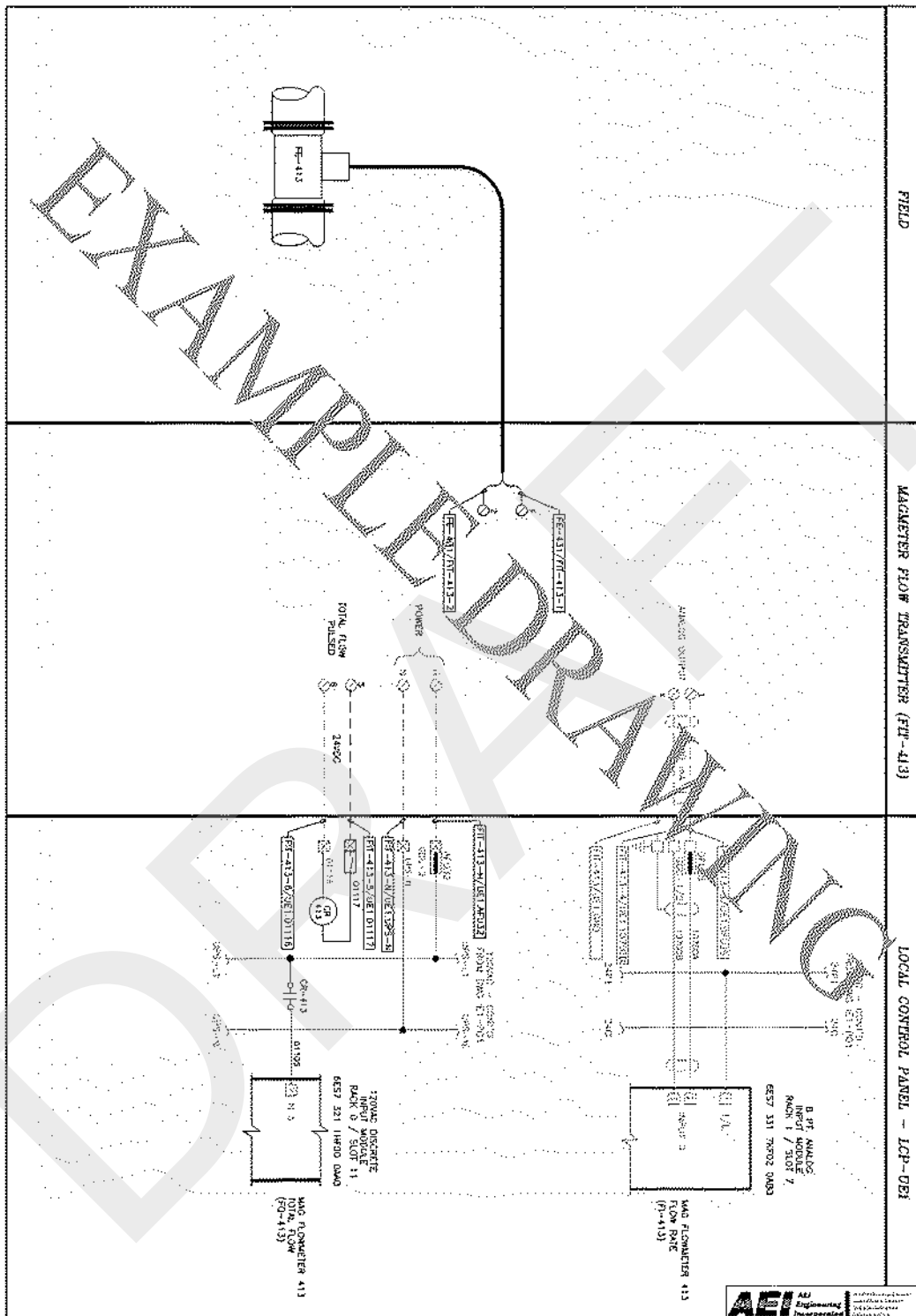
3.9 MECHANICAL INTERFACE REQUIREMENTS:

- A. Provide a pressure gauge (if not already provided) to measure the same system pressure for pressure switches and transmitters.

- B. Provide an in-line isolation valve for each pressure gauge, transmitter and switch.
- C. Provide a test TEE with a plug in the pipe between the isolation valve and the pressure switch or transmitter.
- D. Provide factory glycol (or equal) filled isolation switches and transmitters with isolation diaphragms when measuring pressures of corrosive materials or for any lines not conveying potable water.

PART 4 - SAMPLE DRAWINGS





END OF SECTION

SECTION 43 05 10
EQUIPMENT GENERAL PROVISIONS

PART 1 GENERAL

1.1 SUMMARY

- A. This section specifies general requirements which are applicable to all mechanical equipment specified in Divisions 43 and 46.
- B. The Supplier is responsible for ensuring that all mechanical equipment meets the requirements of this section in addition to the specific requirements of each individual equipment specification section.
- C. Equipment lists presented in the Contract Documents are included for the convenience of the Contractor and are not complete listings of all equipment, devices, items, materials, etc. required to be provided for the Work. The Contractor shall prepare specific material and equipment takeoff lists as necessary to satisfy the requirements of this Project.
- D. All equipment and appurtenances shall be rated for the NFPA 820 area classification assigned to the location in which they will be installed.
- E. All equipment and assemblies of equipment shall be UL listed, or approved equivalent.

1.2 QUALITY ASSURANCE

- A. Arrangement: The arrangement of equipment on the Drawings is based upon information available to the Owner at the time of design and is not intended to show exact dimensions peculiar to a specific manufacturer. The Drawings are, in part, diagrammatic, and some features of the illustrated equipment installation may require revision to meet actual equipment installation requirements. Structural supports, foundations, connected piping and valves, electrical and instrument equipment connections shown may have to be altered to accommodate the equipment provided. No additional payment will be made for such revisions and alterations. Substantiating calculations and drawings shall be submitted prior to beginning the work.
- B. References: This section contains references to the following documents (the most current version shall apply). They are a part of this section as specified and modified. In case of conflict between the requirements of this section and those of the listed documents, the most restrictive requirements shall prevail.

Reference	Title
ABMA Std 9	Load Ratings and Fatigue Life for Ball Bearings
ABMA Std 11	Load Ratings and Fatigue Life for Roller Bearings
ANSI B1.1	Unified Inch Screw Threads (UN and UNR Thread Form)
ANSI B1.20.1	Pipe Threads, General Purpose (Inch)
ANSI B16.1	Gray Iron Pipe Flanges and Flanged Fittings, (Classes 25, 125, and 250)
ANSI B18.2.1	Square and Hex Bolts and Screws (Inch Series)
ANSI B18.2.2	Square and Hex Nuts (Inch Series)
ANSI S2.19	Mechanical Vibration – Balance Quality Requirements of Rigid Rotors, Part 1: Determination of Permissible Unbalance, Including Marine Applications

- C. Unit Responsibility: When noted in the specifications, equipment systems made up of two or more components shall be provided as a “single unit” by the responsible manufacturer. The responsible manufacturer shall select all components of the system to assure compatibility, ease of construction, and efficient maintenance. The responsible manufacturer shall coordinate selection and design of all system components such that all equipment furnished and/or provided under the specification for the equipment system (including equipment specified elsewhere to be provided by the manufacturer) is compatible and operates properly to achieve the performance requirements specified. Unless otherwise specified, the responsible manufacturer shall be the manufacturer of the driven equipment. Agents, representatives, or other entities who are not a direct component of the manufacturing corporation will not be acceptable as a substitute for the manufacturer's corporation in meeting this requirement. This requirement for unit responsibility shall in no way relieve the Contractor of his responsibility to the Engineer for performance of all systems. Contractor is responsible to the Owner for testing and guarantee of all systems.
- D. Identification of Listed Products: Electrical equipment and materials shall be listed for the purpose for which they are to serve, by an independent testing laboratory. Three such organizations are Underwriters Laboratories (UL), Canadian Standards Association (CSA), and Electrical Testing Laboratories (ETL). Independent testing laboratory shall be acceptable to the inspection authority having jurisdiction. When a product is not available with a testing laboratory listing for the purpose for which it is to serve, the product may be required by the inspection authority to undergo a special inspection at the manufacturer's place of assembly. All costs and expenses incurred for such inspections shall be included in the original contract price.
- E. Factory Tests: Where specified in the individual product specification section, factory tests shall be performed at the place of fabrication and performed upon completion of manufacture or assembly. Factory tests shall be included in the original contract price.

1.3 SUBMITTALS

- A. Submittals shall be in accordance with Section 01 33 00 Submittal Procedures, individual technical specifications, and as supplemented herein.

- B. Product data submittals including the following:
1. Descriptive literature, brochures, and/or catalogs of the equipment
 2. Equipment design / sizing calculations and performance curves, as applicable.
 3. Motor characteristics and performance information
 4. Gear reducer data, including service factor, efficiency, torque rating, and materials, as applicable
 5. Parts list, including a list of recommended spare parts
 6. Control philosophy, if required by the associated technical specification, provided in both written and schematic form
 7. Compliance with electrical area classification requirements for all equipment and appurtenances
 8. Anchor bolt sizing and seismic restraint calculations per this Specification and as required in individual technical specifications
- C. Shop drawing submittals, including the following:
1. Manufacturer's installation drawings showing equipment dimensions, weights, materials of construction and assembly, and lifting points.
 2. Wiring and schematic diagrams
 3. Nameplate data of each electric motor
- D. Quality Assurance/Control Submittals
1. Test Reports: Submit proposed testing procedures and protocol as well as equipment testing reports.
 2. Installation reference list, where required in individual technical specifications.
 3. Manufacturer's installation instructions
 4. Recommendations for short- and long-term storage
 5. A copy of manufacturer's field reports, where required in individual technical specifications
- E. Closeout Submittals
1. Operations and Maintenance Manual per Section 01 73 00.

1.4 PROTECTION DURING SHIPMENT

- A. Reference Section 01 60 00 Product Requirements for additional requirements.
- B. Shipping: Equipment shall be shipped in sealed, weathertight, enclosed conveyances and protected against damaging stresses during transport. Manufacturer shall protect the equipment from being contaminated by dust, dirt, vibration, moisture, etc. during shipping to the site.
- C. Bearing housings shall be wrapped or otherwise sealed to prevent contamination by grit and dirt; and ventilation and other types of openings shall be taped closed.
- D. Damage shall be corrected to conform to the requirements of the Contract before the assembly is incorporated into the work. The Contractor shall bear the costs arising out of dismantling, inspection, repair and reassembly.
- E. Factory Applied Coatings: Each item of equipment shall be shipped to the site of the work with either the manufacturer's shop-applied prime coating or shop-applied finish coating. Manufacturer's shop-applied prime coating shall be compatible with the field-applied finish coating. The prime coating shall be applied over clean dry surfaces in accordance with the paint manufacturer's recommendations. The prime coating will serve as a base for field-applied finish coats. All factory finishes shall be approved by the Engineer.
 - 1. All components delivered to the site with finish coating provided by the factory shall be cleaned and touched-up prior to Final Completion utilizing the manufacturer's provided touch-up kits. Work shall be provided in compliance with the manufacturer's requirements and recommendations.

1.5 REFERENCE STANDARDS

- A. AISI, American Iron & Steel Institute
- B. AGMA, American Gear Manufacturers Association
- C. ASME, American Society of Mechanical Engineers
- D. ASTM, American Society of Testing and Materials
- E. ANSI, American National Standards Institute
- F. NEC, National Electric Code
- G. ABMA, American Bearing Manufacturers Association
- H. FM, Factory Mutual
- I. HI, Hydraulic Institute Standards for Centrifugal, Rotary, and Recip Pumps
- J. NFPA, National Fire Protection Agency

- K. NEMA, National Electrical Manufacturers Association
- L. IEEE, Institute of Electrical and Electronic Engineers
- M. SSPC, Steel Structures Painting Council
- N. Underwriters Laboratories (UL)
 - 1. UL 508A Industrial Control Equipment

PART 2 PRODUCTS

2.1 FLANGES AND PIPE THREADS

- A. Flanges on equipment and appurtenances provided under this section shall conform in dimensions and drilling to ANSI B16.1, Class 125. Pipe threads shall conform in dimension and limits of size to ANSI B1.1, coarse thread series, Class 2 fit.
- B. Threaded flanges shall have a standard taper pipe thread conforming to ANSI B1.20.1. Unless otherwise specified, flanges shall be flat faced.
- C. Flange assembly bolts shall be heavy pattern, hexagonal head, carbon steel machine bolts with heavy pattern, hot pressed, hexagonal nuts conforming to ANSI B18.2.1 and B18.2.2. Threads shall be Unified Screw Threads, Standard Coarse Thread Series, Class 2A and 2B, ANSI B1.1.

2.2 BEARINGS

- A. Unless otherwise specified, equipment bearings shall be oil or grease lubricated, ball or roller type, designed to withstand the stresses of the service specified. Each bearing shall be rated in accordance with the latest revisions of American Bearing Manufacturers Association (ABMA) Methods of Evaluating Load Ratings of Ball and Roller Bearings. Unless otherwise specified, equipment bearings shall have a minimum L 10 rating life of 50,000 hours. The rating life shall be determined using the maximum equipment operating speed.
- B. Grease lubricated bearings, except those specified to be factory sealed and lubricated, shall be fitted with easily accessible grease supply, flush, drain and relief fittings. Extension tubes shall be used when necessary. Grease supply fittings shall be standard hydraulic alemite type.
- C. Oil lubricated bearings shall be equipped with either a pressure lubricating system or a separate oil reservoir type system. Each oil lubrication system shall be of sufficient size to safely absorb the heat energy normally generated in the bearing under a maximum ambient temperature of 60 degrees C and shall be equipped with a filler pipe and an external level indicator gage.
- D. All bearings accessible to touch, and located within seven feet measured vertically from floor or working level or within 15 inches measured horizontally from stairways, ramps,

fixed ladders or other access structures, shall either incorporate bearing housings with sufficient cooling to maintain surface temperature at 65°C or less for continuous operation at bearing rated load and a 50°C ambient temperature or shall be provided with appropriate shielding shall be provided that will prevent inadvertent human contact.

2.3 V-BELT ASSEMBLIES

- A. V-belt assemblies shall be Dodge Dyna-V belts with matching Dyna-V sheaves and Dodge Taper-lock bushings, Wood's Ultra V-belts with matching Ultra-V sheaves and Wood's Sure-Grip bushings, or equal. Where stationary control variable pitch sheaves are specified, they shall be dry lubricated, and shall have locking collars to clamp all movable parts securely in place to eliminate relative motion between sheave parts. The sheaves shall be adjustable only when the unit is stopped, and the sheaves are unloaded.
- B. Sheaves and bushings shall be statically balanced. Additionally, sheaves and bushings which operate at a peripheral speed of more than 5500 feet per minute shall be dynamically balanced. Sheaves shall be separately mounted on their bushings by means of three pull-up grab or cap tightening screws. Bushings shall be key seated to the drive shaft.
- C. Belts shall be selected for not less than 150% of rated driver horsepower and, where two sheaves sized are specified, shall be capable of operating with either set of sheaves. Belts shall be of the antistatic-type where explosion-proof equipment is specified.

2.4 SEALS

- A. General:
 - 1. Seals for water and wastewater pump shafts shall be mechanical seals. For industrial wastewater service, or for fluids other than water or municipal wastewater, the recommendations of the seal manufacturer shall be followed for selection of appropriate seals. Unless specified otherwise, mechanical seals shall conform to the requirements set forth in this paragraph.
- B. Mechanical Seals:
 - 1. Unless otherwise specified in the detailed pump specifications, mechanical seals shall be split mechanical seals requiring no field assembly, other than assembly around the shaft and insertion into the pump. They shall be self-aligning, and self-centering, single seals. They shall be of a nondestructive (nonfretting) type requiring no wearing sleeve for the shaft. Shafts for pumps specified with mechanical seals shall be furnished with no reduction in size through the seal area (no shaft sleeve). Where the detailed specifications call for cartridge instead of split seals, all other requirements of this paragraph apply.
 - 2. Metal parts shall be Type 316 or 316L stainless steel. Springs shall be Hastelloy C, Elgiloy, or other Duplex SS selected for resistance to chloride attack. Rotary

faces shall be silicon carbide or chrome oxide. Stationary faces shall be silicon carbide for solids bearing fluid service and carbon for clean water service. Elastomers shall be ethylene propylene or fluorocarbon. Mechanical seals shall be suitable for operation between full vacuum (0 pounds per square inch absolute [psia]) up to 200 percent of the maximum specified operating pressure, but in any event not less than 200 pounds per square inch gauge (psig).

3. Seal chambers shall be provided with vented solids removal restriction bushings except for enclosed line shaft pumps where the seal barrier fluid is used for line shaft bearing lubrication. The bushing shall both control the amount of flushing water flow and restrict solids and gas accumulation from the seal face area.
4. Candidate seals include:
 - a. Chesterton 442 seals provided with Chesterton/SpiralTrac solids removal restriction bushings Version N or D, as recommended by EnviroSeal Engineering Products, Ltd, Nova Scotia, Canada.
 - b. AESSEAL RDS seals with Cyclops bushing.
 - c. John Crane 3710 seals with Type 24SL bushing.

2.5 COUPLINGS

- A. Unless otherwise specified in the particular equipment sections, equipment with a driver greater than 2 horsepower, and where the input shaft of a driven unit is directly connected to the output shaft of the driver, shall have its two shafts connected by a flexible coupling which can accommodate angular misalignment, parallel misalignment and end float, and which cushions shock loads and dampens torsional vibrations. The flexible member shall consist of a tire with synthetic tension members bonded together in rubber. The flexible member shall be attached to flanges by means of clamping rings and cap screws, and the flanges shall be attached to the stub shaft by means of taper lock bushings which shall give the equivalent of a shrunk on fit. There shall be no metal to-metal contact between the driver and the driven unit. Each coupling shall be sized and provided as recommended by the coupling manufacturer for the specific application, considering horsepower, speed of rotation, and type of service.
- B. Where torque or horsepower capacities of couplings of the foregoing type is exceeded, Thomas Rex, Falk Steel Flex, or equal, couplings will be acceptable provided they are sized in accordance with the equipment manufacturer's recommendations and sizing data are submitted. They shall be installed in conformance to the coupling manufacturer's instructions.

2.6 GUARDS

- A. Exposed moving parts shall be provided with guards which meet all applicable Occupational Safety and Health Administration (OSHA) requirements. Guards shall be fabricated of 14 gage steel, 1/2 13 15 expanded metal screen to provide visual inspection of moving parts without removal of the guard. Guards shall be galvanized after fabrication and shall be designed to be readily removable to facilitate maintenance of moving parts. Reinforced holes shall be provided. Lube fittings shall be extended through guards.

2.7 CAUTION SIGNS

- A. Equipment with guarded moving parts which operates automatically or by remote control shall be identified by signs reading "Caution: Automatic Equipment May Start At Any Time". Signs shall be constructed of fiberglass material, minimum 3/8-inch thick, rigid, suitable for post mounting. Letters shall be white on a red background. The sign size and pattern shall be as shown on the drawings. Signs shall be installed near guarded moving parts.

2.8 GAGE TAPS, TEST PLUGS AND GAGES

- A. Gage taps shall be provided on the suction and discharge sides of pumps, blowers and compressors. Pressure and vacuum gages shall be provided where specified. Gage taps, test plugs, and gages shall be as specified in Division 40.

2.9 EQUIPMENT SIGNAGE

- A. Bridge Cranes, Jib Cranes and Hoists
 - 1. Every bridge crane or jib crane shall be provided with a sign indicating the lifting capacity in pounds or tons with the words "Lifting Capacity".
 - 2. Every hoist shall have a lifting capacity painted on the hoist in 3-inch-high letters.
- B. Equipment and Instrument Nametags
 - 1. A stainless-steel plate shall be attached to all equipment with lettering embossed into the plate. Lettering shall be the equipment number in the contract documents. Method of attachment shall be as recommended by the signage supplier.
 - 2. Large equipment may have lettering stenciled directly onto the equipment, in letter size and color determined by the ENGINEER. Furnish the proposed wording to the ENGINEER for approval.

3. All components within a packaged equipment system, including valves, instruments, and motors, shall be physically tagged with a 1½-inch- diameter minimum stainless-steel tag. Each tag shall be keyed to a valve, instrument, or equipment schedule designating the function and location of the item. The number and letters shall be on block-type, ¼" high, and stamped thereon.
- C. Valve and Gate Nametags:
1. Each valve and gate shall be provided with a 1½-inch- diameter minimum stainless-steel tag.
 2. Each tag shall be keyed to the valve / gate schedule designating the function and location of the valve or gate. The number and letters shall be on block-type, ¼" high, and stamped thereon. The valve and gate numbers shall be provided by the Engineer during construction.
 3. For exposed valves and gates, the tags shall be attached to the operator with key rings so that the tag cannot be removed.
 4. For buried valves, permanently attached SST valve designator to valve box interior with sheet metal screw, and 1/8" SST cable and crimp ferrules. Cable length shall allow tag to be pulled completely out of the valve box for reading.

2.10 LUBRICANTS

- A. The Manufacturer shall provide for each item of mechanical equipment a supply of the required lubricant adequate to last through the specified commissioning period. Lubricants shall be of the type recommended by the equipment. The Manufacturer shall limit the various types of lubricants by consolidating them, with the equipment manufacturer's approval, into the least number of different types. Not less than 90 days before the date shown in his construction schedule for starting, testing and adjusting equipment, the Manufacturer shall provide the Owner with three copies of a list showing the required lubricants, after consolidation, for each item of mechanical equipment. The list shall show estimated quantity of lubricant needed for a full year's operation, assuming the equipment will be operating continuously.

2.11 ANCHOR BOLTS

- A. Anchor bolts shall be designed for lateral forces for both pullout and shear for all equipment items.
- B. Manufacturer shall perform and submit calculations for anchor bolts and seismic restraint for their equipment and shall be signed and sealed by a Registered Structural Professional Engineer Licensed in the State of Idaho. Calculations shall be based upon local American Society of Civil Engineers (ASCE) 7 (current edition) considerations for seismic design criteria and Section 01 60 10 Design Requirements for Non-Structural Components and Non-Building Structures.
- C. Provide stainless steel bolts complying with ASTM A 320, Type 316.

- D. Unless specifically noted otherwise, Contractor shall provide all anchor bolts. Anchor bolts shall meet the requirements of the Manufacturer's calculations, requirements, and recommendations.

2.12 EQUIPMENT LIFTING PROVISIONS

- A. All equipment shall be equipped with a single point lifting bale/eye to allow picking of the equipment and/or motor combination from a single lifting point.

2.13 SPARE PARTS

- A. Spare parts, wherever required by detailed specification sections, shall be stored in accordance with the provisions of this paragraph. Spare parts shall be tagged by project equipment number and identified by part number, equipment manufacturer, and subassembly component (if appropriate). Spare parts subject to deterioration, such as ferrous metal items and electrical components, shall be properly protected by lubricants or desiccants and encapsulated in hermetically sealed plastic wrapping. Spare parts with individual weights less than 50 pounds and dimensions less than two feet wide, or 18 inches high, or three feet in length shall be stored in a wooden box with a hinged wooden cover and locking hasp. Hinges shall be strap type. The box shall be painted and identified with stenciled lettering stating the name of the equipment, equipment numbers, and the words "spare parts." A neatly typed inventory of spare parts shall be taped to the underside of the cover.

PART 3 EXECUTION

3.1 GENERAL

- A. Installation of equipment accessories included in this section shall be as recommended by the equipment manufacturer unless otherwise specified in the individual equipment specification section.

3.2 FIELD TESTING

- A. Equipment testing and plant startup in accordance with Section 01 65 00 Commissioning of Systems are requisite to satisfactory completion of the Contract and, therefore, shall be completed within the Contract time. Except where otherwise provided, all work specified in this section shall be performed at no additional cost to the Owner.
- B. In addition to all other testing requirements noted elsewhere, perform the following field-testing services for all pump systems.

1. The manufacturer's representative shall analyze the complete pump and piping system and recommend such supports and modifications as necessary to eliminate harmonics and vibration in the system when operated over the operational speed range. Pump bases and foundations, as well as piping and supports as shown on the plans shall be modified and enlarged as necessary to provide adequate support and vibration control. Manufacturer's recommendations shall be submitted to the Engineer for review prior to implementation in the field.
2. After installation and before startup, all pumps shall be realigned within the manufacturer's specifications by the representative.
3. The installed pumping units shall operate without excessive vibration. Balance of rotating parts shall be maintained throughout the pumps rated performance curve, which will include shut-off points. Vibration amplitude shall not exceed Hydraulic Institute limits (as applicable), at any operating point along pump curve. If requested by Engineer, Contractor shall provide for an independent vibration analysis at no cost to the Owner to verify vibration requirements are met. Contractor shall be responsible to make required adjustments to ensure vibration is less than the maximum allowable amount. Excessive vibration will be defined as that which exceeds the limits outlined by the Hydraulic Institute for the specific type of pump.
4. Perform hydraulic testing for each pump verifying performance on the pump curve. Data shall include flow measurement and discharge pressure at three (3) different operation points for each pump, as selected by the Engineer. Data shall also include voltage, amperage, and motor speed for each pump taken at each of the recorded operating points. Manufacturer shall compare performance measured in the field against the Factory Test in a field report and identify any deviations for review the Engineer. Engineer shall be present during field hydraulic testing.

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SECTION 43 24 41
ENCLOSED ARCHIMEDES SCREW PUMPS

PART 1 GENERAL

1.1 SUMMARY

- A. Provide enclosed Archimedes screw pumps to replace existing enclosed Archimedes screw pumps, as shown on the drawings and specified herein.
- B. The screw pump assembly shall be an in-kind replacement for the existing equipment. Contractor / vendor shall reuse the existing pump anchorage.
- C. The existing pumps are 54-in enclosed Archimedes screw pumps manufactured by US Filter and installed in 2001.
- D. Equipment Tag References:
 - 1. P-IPS-202
 - 2. P-IPS-203
 - 3. P-IPS-204

1.2 RELATED SECTIONS

- A. Section 01 33 00 – Submittal Procedures
- B. Section 01 60 00 – Product Requirements
- C. Section 01 65 00 – Commissioning of Systems
- D. Section 01 73 00 – Installation, Operation, and Maintenance Manuals
- E. Division 26 – Electrical

1.3 SUBMITTALS

- A. Provide in accordance with Section 01 33 00 Submittal Procedures and 43 05 10 Equipment General Provisions.
- B. Field measurements of each existing pump: pump pedestals, pump angle, anchorage pattern and size, base plate thickness and location and any other dimensions requested by the pump manufacturer and/or Engineer. Furnish to equipment manufacturer for preparation of the equipment submittal.

- C. Shop drawings and technical information including but not limited to: dimensions, materials of construction, hydraulic calculations, weight, brake horsepower at the maximum capacity and lift, radial bearing load and thrust bearing load at the maximum capacity and lift, electrical schematics, coating system.
- D. Summary and conclusions of the finite element analysis of stresses throughout the screw pump barrel, flights, and drive shaft.
- E. Warranty certificate.
- F. Installation instructions.
- G. Preliminary operation and maintenance manual.
- H. Startup report including results of field testing.
- I. Final operation and maintenance manual with the following documents inserted into the manual:
 - 1. Final warranty certificate indicating the start and end dates of the warranty. Insert into the final operation and maintenance manual.
 - 2. Certificate from Section 01 65 00 documenting the commissioning date the equipment was transferred to the Owner. Insert into the final operation and maintenance manual.
 - 3. Attendance list from Owner's training session.

1.4 PRE-QUALIFICATION

- A. Excepting the original manufacturer, all other equipment manufacturers wishing to bid on this equipment shall submit to the ENGINEER not less than fourteen (14) days prior to the bid date a complete pre-qualification package. The pre-qualification package shall include but not be limited to the following:
 - 1. List of ten (10) U.S. installations of similar type equipment comparable to the units specified. The term "installations" shall mean individual projects/contracts. Multiple pumps on a project will be considered as one (1) installation toward the experience requirements. The installation information shall include, but not be limited to the following:
 - a. Name and location of installation.
 - b. Name of person in direct responsible charge for the equipment.
 - c. Address and phone number of the person in direct responsible charge for the equipment.
 - d. Month and year the equipment was placed in operation, and

- e. Brief description of equipment.
2. List of deviations from the drawings and specifications.
3. A complete set of drawings confirming direct replacement pumps for installation on the existing anchorage.
4. Vendor's standard pump specification, hydraulic calculations, brake horsepower at the maximum capacity and lift, detailed information for all items such as hardware, motors, reducers, and bearings, list showing materials of construction of all components, catalog cut sheets.
5. Electrical requirements and schematic diagrams.
6. Structural loads: bearing dead loads, radial bearing load and thrust bearing load at the maximum capacity and lift.
7. Maintenance schedule showing the required maintenance, frequency of maintenance, lubricants and other items required at regular preventative maintenance periods including all buy-out items.
8. Information on equipment field erection requirements including total weight of assembled components and weight of each sub-assembly.

1.5 WARRANTY

- A. The Seller shall warranty the equipment (including all sub-components) for a minimum period of 1-year from the date of Substantial Completion for the entire project. The Owner may elect to purchase an extended warranty; the extended warranty period(s) are defined in the Bid Form. The term "warranty" herein shall mean the base 1-year warranty plus the extended warranty (if selected by Owner).
- B. Components which fail to perform or are found to be defective during the warranty period shall be replaced or repaired to the satisfaction of the Owner. The warranty shall include all work required to remedy the situation, including but not limited to initial on-site review, removal, reinstallation, freight to/from project site, startup, testing, adjustment, calibration, etc., at no additional cost to Owner.
- C. The following are excluded from the warranty:
 1. Routine maintenance, such as greasing and oil changes.
 2. Labor for minor repairs. Minor repairs shall be defined as work that requires less than 8 man-hours to complete. Parts for minor repairs are not excluded and shall be provided under the warranty.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Approved manufacturers:
1. Evoqua Water Technologies of Thomasville, GA. Model: 54-inch diameter Internalift® Screw Pumps.
- B. Alternate manufacturers may participate in bidding as “or equals” only if pre-approved. Review as an “or equal” for pre-approval shall be in accordance with the procedures outlined in the General Conditions Article 7.05. Manufacturers listed below (as applicable) must meet or exceed this Technical Specification and related sections.
1. Pre-approved “or equals” are as follows:
 - a. Lakeside Corporation.

2.2 DESIGN PARAMETERS FOR EACH PUMP

A.

1.	Capacity	6,000 gpm/each pump
2.	Pool-to-Apex Lift	16.55± ft
3.	Pump Efficiency	85% minimum
4.	Screw Pump Diameter	54 inches
5.	Number of Flights	2
6.	Flight Thickness (min)	0.1875 inches
7.	Shaft Size	9 inches
8.	Maximum Rotational Speed	48 rpm
9.	Motor Size	50 Hp
10.	Angle of Inclination	38 degrees

2.3 GENERAL DESCRIPTION

- A. The screw pump(s) shall be of the enclosed type with the flights and cylinder forming a one-piece integral unit.
- B. Flights shall be continuously welded to the cylinder throughout their entire length.
- C. To eliminate air binding of the screw pump under widely fluctuating flows and inlet level conditions, the screw pumps shall be of open center design. Designs utilizing a solid shaft or torque tube extending over 33 percent of the full length of the screw pump with such shaft welded to the inner periphery of the flights shall not be considered.

- D. Under load enclosed type screw pumps are subjected to dynamic stresses due to their structural geometry, particularly around the discharge area of the screw pump where the motor torque is transferred to the screw pump itself. Since these stresses will change based on the specific project requirements, a finite element analysis (FEA) shall be performed to ensure that the stresses throughout the screw pump barrel, flights, and drive shaft are below allowable stress levels.
- E. Allowable stress levels are defined as; the maximum mean and alternating stress levels for screw pumps of similar design operating in the field for more than five years with no stress related problems.

2.4 SCREW PUMP CYLINDER

- A. Each screw pump shall consist of a 54-in minimum diameter internal screw inclined at a 38° angle (nominal) from the horizontal.
- B. Each screw pump shall consist of not more than two conical helix (helicoid) flights continually welded to an external steel cylinder.
- C. Longitudinal and circumferential welds of the screw pump cylinder shall be continuous and watertight.
- D. A steel shaft shall be welded to the delivery end of the screw pump to provide both support and drive capability.
- E. A non-contact lip seal shall be provided at the discharge end of the screw pump cylinder to prevent backflow or leakage down the outside of the screw pump cylinder.

2.5 LOWER BEARING ASSEMBLY

- A. The lower bearing assembly used to support the lower end of the screw pump shall be located above the high-water level in the inlet chamber.
- B. The lower bearings shall be a self-aligning, roller type, mounted on a spherical supporting structure in such manner as to allow the necessary self-alignment in all planes.
- C. The bearing surface of the screw pump cylinder shall be a removable heat-treated, forged steel wear ring having a Brinell hardness between 321 and 363.
- D. Each lower roller shall be heat-treated steel having a Brinell hardness between 321 and 363.
- E. Each lower roller shall be supported on a stationary shaft by two sealed, grease-lubricated bearings designed for a B-10 life of 100,000 hours, based on full load conditions.

- F. Fittings and extension tubing shall be provided to allow manual lubrication of the sealed, grease-lubricated bearings of each lower roller at a conveniently accessible location.
- G. A non-contact lip seal shall be provided on the upper side of the lower bearing assembly to prevent intrusion of contamination.
- H. All lower bearing assemblies shall be interchangeable with like items on screw pumps of the same diameter and lift.
- I. All lower bearing assemblies shall be designed to be readily replaceable without removing the screw pump cylinder from the lift station.

2.6 LOWER BEARING LUBRICATION SYSTEM

- A. Pumps shall be provided with an oil lubrication system for the lower bearing ring and rollers. The system shall include:
 - 1. reservoirs
 - 2. supply lines
 - 3. manual isolation valves
 - 4. oil flow rate control valves
 - 5. oil flow rate sight gauges
 - 6. electrically controlled oil flow on/off valves
 - 7. insulation
 - 8. heat trace
 - 9. Unless stated otherwise, all materials shall be stainless steel for corrosion resistance.
- B. The lubrication system shall be gravity feed.
- C. The system design shall be either:
 - 1. A common system consisting of two (2) reservoirs connected by a common supply line and individual feed lines to each pump, or
 - 2. An individual system for each pump consisting of three (3) reservoirs and individual supply lines to each pump.

- D. Oil reservoirs shall:
1. Have a minimum volume of 5-gallons for a common system with two-reservoirs or 1-gallon for an individual system with three reservoirs.
 2. Be constructed of unpainted, non-corroding aluminum or stainless steel suitable for outdoor service.
 3. Have a filler/breather cap.
 4. Have a protected sight glass.
 5. Have a low-level switch.
- E. Supply lines shall be stainless fittings and tubing. Size shall be specified by the manufacturer.
- F. Manual isolation valve shall be stainless steel ball valves.
- G. Oil flow rate control valves shall allow oil flow to the ring to be adjusted for optimum service. Oil application rate shall be recommended by the manufacturer at start-up and included in the operations and maintenance manuals.
- H. Oil flow rate sight gauges shall provide visual verification of the oil flow rate.
- I. On/Off flow of oil to each pump shall be controlled individually by a solenoid valve. The solenoid valve shall be 3/8 inch minimum with stainless steel body, 60 Hz / 120 VAC and rated for an explosion-proof environment. Solenoid valves shall be normally-open and rated for up to 150 psig.
- J. The oil system shall be located above the lower bearing of the pumps to provide positive oil pressure and flow to each pump.
- K. The lubrication system shall be insulated, and heat traced for cold weather operation.

2.7 UPPER BEARING ASSEMBLY

- A. The upper bearing shall be a self-aligning design of the thrust spherical roller type.
- B. The upper bearing shall be designed to take the entire thrust load of the screw pump and a proportional share of the radial load.
- C. The upper bearing shall be designed for a minimum B-10 life of 100,000 hours at full design load.
- D. The upper bearing may be oil-lubricated or grease-lubricated.
1. Oil-lubricated designs shall be furnished with an oil level sight gauge in the upper bearing housing.

2. Grease-lubricated designs shall consist of a split housing fitted with dual bearings (one for thrust and one for radial load). Grease lines shall be extended to locations that are easily accessed by the Operator.
- E. All upper bearing assemblies shall be interchangeable with like items on screw pumps of the same diameter and lift.
- F. All upper bearing assemblies shall be designed to be readily replaceable without removing the screw pump cylinder from the lift station.

2.8 GEAR REDUCER

- A. The screw pump shall be driven through a totally enclosed gear reducer having anti-friction bearings throughout, utilizing automatic splash lubrication (permanently lubricated bearings, or an oil pump where splash lubrication is ineffective).
- B. The gear reducer shall be manufactured and rated in accordance with A.G.M.A. standards.
- C. The gear reducer shall be designed with a minimum 1.5 service factor based on the motor horsepower.
- D. Connection of the screw pump drive shaft to the gear reducer output shaft shall be made through a shock absorbing, vibration-damping flexible coupling, similar to Dodge Para-Flex or equal.
- E. The drive line shall include an anti-reverse rotation backstop as a safety feature to prevent reverse rotation of the screw pump during unit shutdown or inadvertent power cutoff.

2.9 MOTOR

- A. The screw pump shall be driven by a Class 1 Div 2, 50 HP, 240/480 Volt, 3 Phase, 60 HZ, totally enclosed fan cooled (TEFC), NEMA frame electric motor suitable for installation in an inclined position.
- B. Power transmission from motor to speed reducer shall be through a V-belt drive.
- C. Suitable belt guards shall be provided to protect operating personnel from accidental contact with either the belt or the sheaves.

2.10 SPARE PARTS

- A. Provide the following spare parts:
 1. One (1) set of bearings and seals for the upper bearing assembly.
 2. One (1) set of bearings and seals for the lower rollers.

3. One (1) flex coupler that goes between the reducer output shaft and the upper bearing assembly.
4. Three (3) drive belts.
5. One (1) set of motor and gearbox pulleys.
6. Oil and grease for the first year of service.
7. Touch-up paint(s) for use by the installing contractor.

2.11 PROTECTIVE COATINGS

- A. The interior of the enclosed screw pump shall be near-white blasted (SSPC-SP10) prior to fabrication and completely flow coated with Tnemec Series 46-465 H.B. Tnemecol Coal Tar Epoxy at 8-mils minimum dry film thickness (DFT), color black.
- B. The exterior of the screw pump tube and all fabricated carbon steel or cast-iron components for submerged and non-submerged service shall be near-white blasted (SSPC-SP10) and prime coated with Tnemec Pota-Pox Series 140 at 3-mils minimum DFT, color red oxide.
- C. Equipment and that portion of the exterior tube that is below the wear ring shall be considered submerged service and shall be final coated using Tnemec Series N69 Epoxy Coating at 3 mils D.F.T. minimum, for a final finished coat (primer & topcoat) of 6 mils D.F.T. minimum. Final coat color to be selected by owner at time of submittal.
- D. Equipment and that portion of the exterior tube that is above the wear ring shall be considered non-submerged service and shall receive an intermediate coat using Tnemec Series N69 Epoxy Coating at 3 mils D.F.T. minimum and a final top-coat of Tnemec Endura-shield Series 73 at 3-mils D.F.T, for a final finished coat (primer, intermediate coat and topcoat) of 9 mils D.F.T. minimum. Final coat color to be selected by owner at time of submittal.
- E. Electric motors, speed reducers, and other self-contained or enclosed components shall be supplied with the manufacturer's standard finish coating.
- F. Rust preventative compound shall be applied to all machined, polished, and non-ferrous surfaces that are not to be painted.
- G. Finish coats shall be applied in the manufacturer's shop. Provide touchup coatings to the Contractor. Contractor shall touchup the coatings in the field as necessary.

PART 3 EXECUTION

3.1 FACTORY TESTING

- A. As a minimum, perform the following factory tests. Prior to shipment submit the results with a summary report that indicates pass or fail of each test.

1. Magnetic Particle Inspection at Highest Stress Points

- a. Drive shaft - area where flange joins shaft, if applicable.
- b. Cylinder drive end - first 180° of welds joining flight to shaft and first flight-to-flight butt weld.

3.2 INSTALLATION

- A. Handling, storage, and installation of the pumps shall be performed in accordance with the manufacturer's instructions and best practices.
- B. Touch-up all shipping damage to the paint as soon as the equipment arrives on the job site and prior to startup.

3.3 STARTUP SERVICES

- A. The manufacturer shall provide the services of a factory-trained field service technician for inspection of installed equipment, to assist the Contractor with aligning the equipment, startup assistance and operator training.
- B. For each pump, provide a minimum of one trip consisting of three (3) days on-site.
- C. Each screw pump and the associated electrical equipment shall be removed, replaced, tested, and commissioned separately. The order of replacement is specified in the work sequence specification and on the drawings.

3.4 OPERATOR TRAINING

- A. Following the starting and testing by the manufacturer's representative and when all programming is complete, all monitoring and alarms are functional and the system is integrated with the SCADA system, operator training for OWNER'S personnel shall be provided by the manufacturer's field service technician.

3.5 ACCEPTANCE TESTING

- A. Perform Acceptance Testing after successfully completing Initial Starting and Testing and Owner Training.
- B. While one screw pump is undergoing acceptance testing, the other two screw pumps shall be kept in service and fully functional to provide reliability and redundancy.
- C. Because the influent Pump Station is critical to the operation of the Facility, the Owner's personnel will operate the equipment during the test on behalf of the Contractor. If the equipment requires adjustment or repairs, the Owner's personnel will place one of the backup pumps in service and the Contractor shall make all adjustments and repairs necessary.

- D. The Acceptance Testing shall be a 7-day period during which the equipment must run continuously without failures or errors. If, during Acceptance Testing, the aggregate amount of time used for repair, correction of incomplete work, alteration, or unscheduled adjustments to any equipment or system renders the affected equipment or system inoperative for more than 2 hours, the test will be deemed to have failed. In the event of failure, a new Acceptance Testing Period shall commence after correction of the cause of failure. The new Acceptance Testing Period shall have the same requirements and duration as the Acceptance Testing Period previously conducted. Repairs, alterations, and adjustments, as well as failed and restarted Acceptance Testing periods shall be at no additional cost to the Owner and shall not be eligible for claims of delay by the Contractor.
- E. The equipment shall not be considered commissioned until it has successfully passed the Acceptance Test.

3.6 FOLLOWUP VISIT

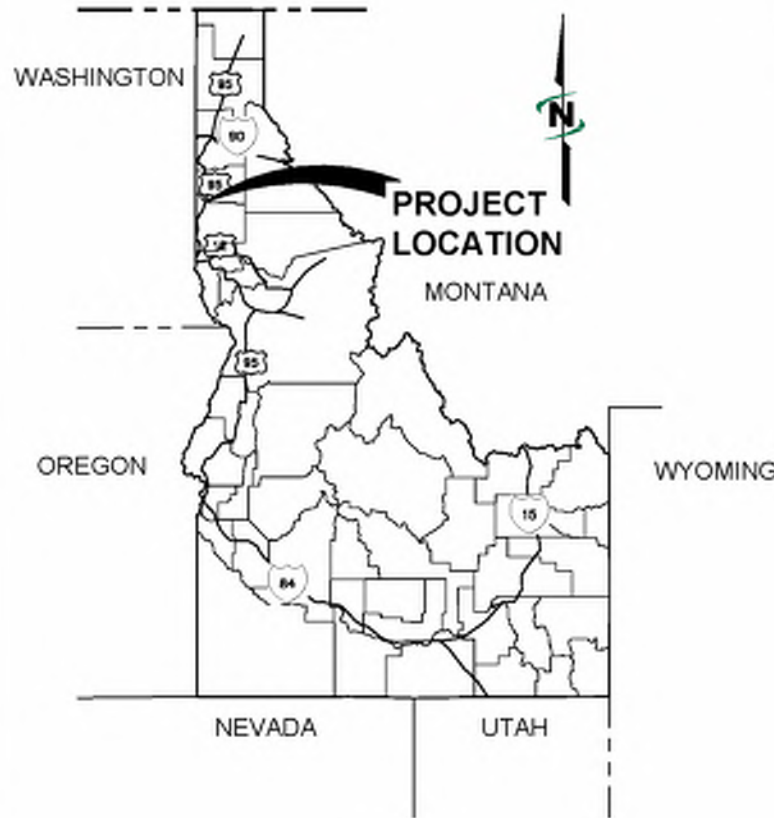
- A. Provide one (1) follow up site visit consisting of one (1) eight (8) hour day to inspect the equipment, advise the Owner, provide additional training and/or assist the Owner with maintenance.
- B. This follow up site visit shall be separate from the startup services and the manufacturer's warranty, i.e. a warranty claim is not required to initiate the site visit.
- C. The Owner reserves the right to request this follow-up visit service at any time within the warranty period.

END OF SECTION

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CITY OF MOSCOW, IDAHO WATER RECLAMATION FACILITY INFLUENT PUMP STATION UPGRADE

JULY 2024



AREA MAP
NTS



**CALL 2 BUSINESS DAYS IN ADVANCE BEFORE
YOU DIG, GRADE, OR EXCAVATE FOR THE
MARKING OF UNDERGROUND MEMBER
UTILITIES**

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MOSCOW, ID 83843
CITY OF MOSCOW PROJECT NO. 121-023

JUB PROJECT NO. 20-24-026



J-U-B ENGINEERS, INC.

7825 Meadowlark Way, Coeur d'Alene, ID 83815

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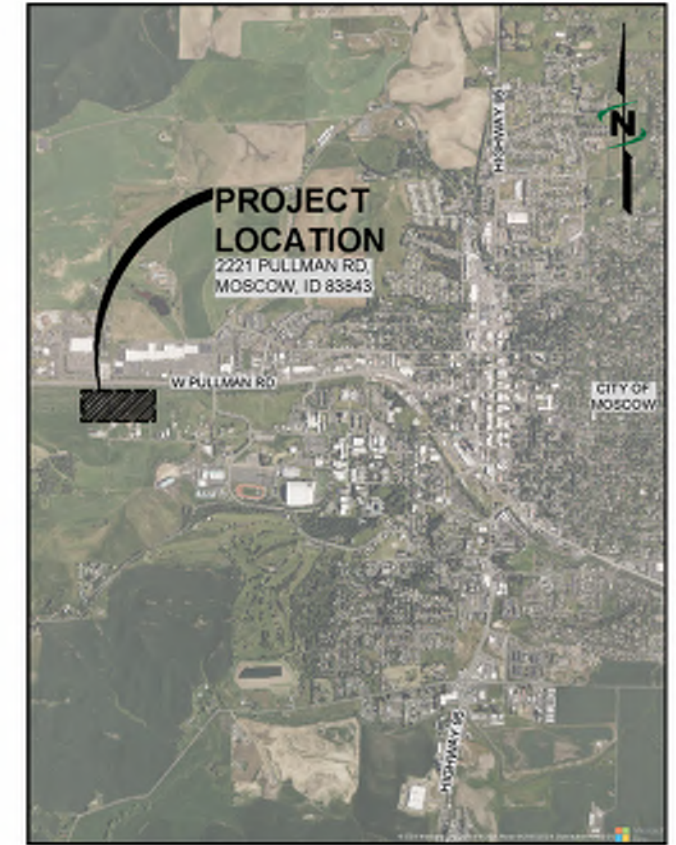
J-U-B COMPANIES



THE
LANGDON
GROUP



GATEWAY
MAPPING
INC.



VICINITY MAP
NTS

EXISTING FACILITIES

- 1 HEADWORKS BUILDING
- 2 PRIMARY CLARIFIER
- 3 PRIMARY SLUDGE PUMP STATION
- 4 CONTROL BUILDING
- 5 INFLUENT PUMP STATION
- 6 AERATION BASIN
- 7 EFFLUENT REAERATION TANK
- 8 SECONDARY CLARIFIER NO. 1
- 9 SECONDARY CLARIFIER NO. 2
- 10 DISTRIBUTION BOX 0
- 11 FILTER REJECT SETTLING SYSTEM
- 12 CHEMICAL FEED BUILDING
- 13 EFFLUENT FILTERS
- 14 DEWATERING BUILDING
- 15 CHLORINE CONTACT TANKS
- 16 UTILITY WATER PUMP STATION
- 17 PLANT DRAIN PUMP STATION
- 18 CHLORINATION/DECHLORINATION BUILDING
- 19 BLOWER BUILDING
- 20 AEROBIC DIGESTER NO. 1
- 21 AEROBIC DIGESTER NO. 2

NEW OR MODIFIED FACILITIES

- A INFLUENT PUMP STATION - PUMP REPLACEMENTS

KEYED NOTE:

N1 UNIVERSITY OF IDAHO RESEARCH PROJECT. THE PROJECT REQUIRES DAILY ACCESS BY STUDENT OPERATORS. STUDENTS WILL BE REQUIRED TO COMPLY WITH CONTRACTOR'S SAFETY REQUIREMENTS. WHEN CONTRACTOR'S SCHEDULE INCLUDES OVERHEAD WORK AND ACCESS MUST BE PROHIBITED FOR SAFETY REASONS, CONTRACTOR SHALL PROVIDE 10-DAYS NOTICE AND LIMIT THE ACCESS FOR A MAXIMUM OF ONE DAY (EACH EVENT).



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1	REVISION		
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INFLUENT PUMP STATION UPGRADE CITY OF MOSCOW, IDAHO

GENERAL (G) FACILITY LOCATION MAP

FILE: 2024-08-13-003
JUB PROJ: 2024-08
DRAWN BY: WSH
CHECKED BY: WSH
DATE: 08/13/24
SCALE: AS SHOWN
DATE: 08/13/24
SHEET: 3
DRAWING: G-003



EXISTING SITE
SCALE NOT TO SCALE

DESIGN CRITERIA		DESIGN VALUES
FLOW (MGD)		
EXISTING		
AVERAGE DAY		1.08
MAX MONTH		4.1
PEAK DAY		7.6
PEAK HOUR		16.0
DESIGN (2040)		
AVERAGE DAY		2.15
MAX MONTH		4.6
PEAK DAY		8.1
PEAK HOUR		16.5
INFLUENT PUMP STATION		
TYPE OF PUMP	ARCHIMEDES SCREW	
DIAMETER	54"Ø	
NUMBER	3	
CAPACITY, EACH	6,000 GPM	
UFT	8.65 MGD	
	16.55 FT	



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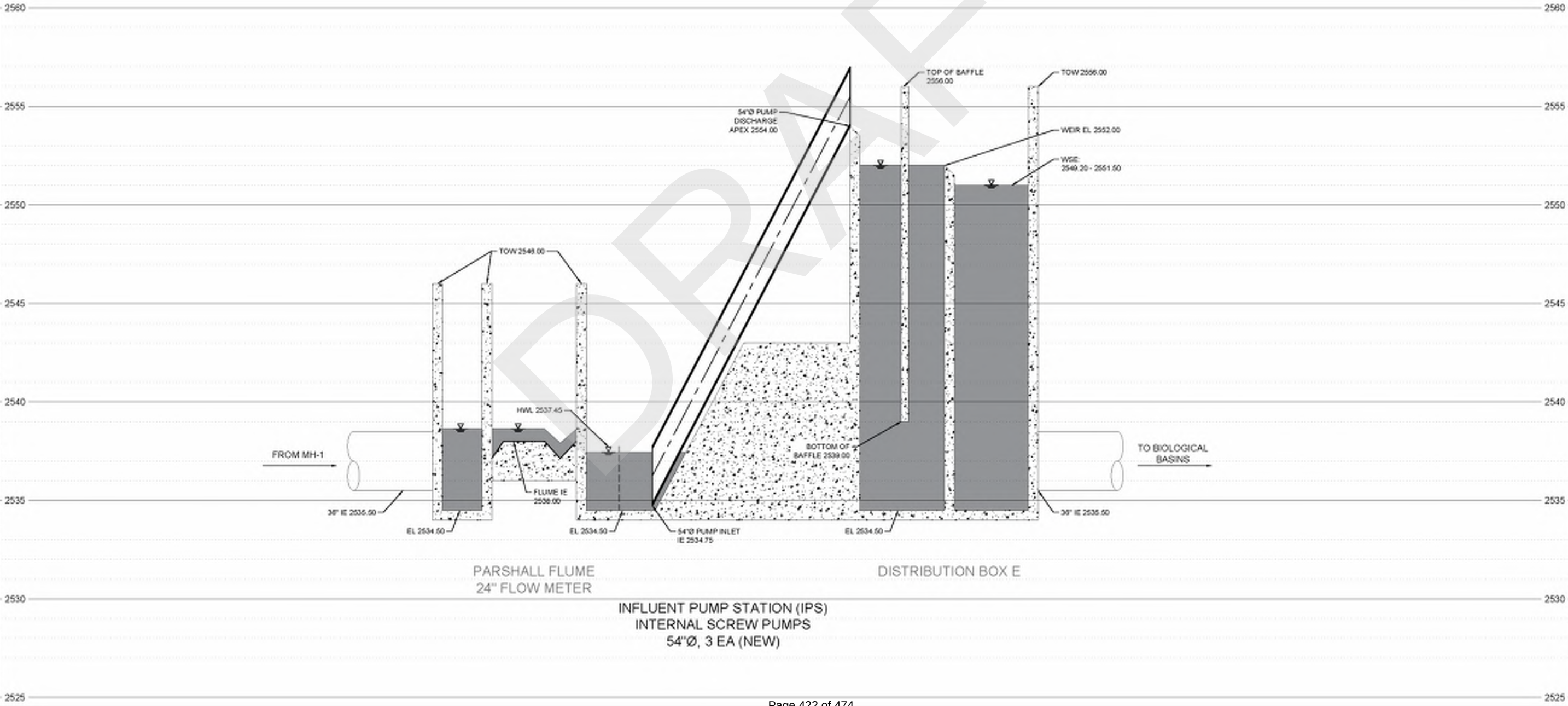
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NO.	DESCRIPTION	BY	DATE
1	REVISION		

INFLUENT PUMP STATION UPGRADE
CITY OF MOSCOW, IDAHO
GENERAL (G)
DESIGN CRITERIA & HYDRAULIC PROFILE

FILE: 2024-08-13-0000
JUB PROJ: # 2024-08
DRAWN BY: WSH
CHECKED BY: WSH
DATE: 08/13/24
SCALE: AS SHOWN
SHEET: 4
DRAWING: G-004



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TO THE SERVICES OF THE DRAFTING AND THE SAME SHALL NOT BE RELEASED WITHOUT JURY'S PRIOR WRITTEN CONSENT. ANY RELEASE WITHOUT WRITTEN CONSENT BY JURY WILL BE AT CLIENT'S SOLE RISK, AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO JURY.

GENERAL (G)

JG-PG-01 # 2024-005

DATE: 11/11/11

CHRONIC: 314

DATE: _____

AT FULL SIZE, IF NEEDED

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SHEET:

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DRAWING:

G-005

G-003

GENERAL NOTES:

1. THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. NOT ALL UTILITIES ARE SHOWN. CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH AFFECTED UTILITY COMPANIES. CALL DIG LINE AT 811 AT LEAST 48 HOURS PRIOR TO EXCAVATING TO REQUEST LOCATIONS OF UNDERGROUND UTILITIES.
2. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES TO DISCONNECT, REMOVE, AND/OR CAP OFF EXISTING UTILITY SERVICE LINES, POWER, TELEPHONE, NATURAL GAS, ETC.
3. CROSS-REFERENCE AND COORDINATE ALL WORK IN THE CONTRACT DOCUMENTS AMONG THE VARIOUS TRADES AND DISCIPLINES.
4. THESE PLANS ARE SCHEMATIC AND ARE NOT INTENDED TO DEPICT ALL DETAILS OF THE WORK REQUIRED. THE CONTRACTOR IS RESPONSIBLE TO BECOME FAMILIAR WITH ACTUAL SITE CONDITIONS AND FACTORS AFFECTING WORK.
5. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH OWNER'S OPERATIONS STAFF PRIOR TO COMMENCING WORK. REFERENCE TECHNICAL SPECIFICATION 01 32 17.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE SAFETY LAWS AND STANDARDS OF ANY JURISDICTIONAL BODY ASSOCIATED WITH THE PROJECT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BARRICADES, SAFETY DEVICES AND CONTROL OF TRAFFIC WITHIN AND AROUND THE CONSTRUCTION AREA.
7. CONTRACTOR SHALL LOCATE AND PRESERVE ALL SURVEY MONUMENTS IDENTIFIED ON THE PLANS AND ENCOUNTERED DURING CONSTRUCTION. ANY SURVEY MONUMENTS DAMAGED DURING CONSTRUCTION SHALL BE RESET BY A PROFESSIONAL LAND SURVEYOR AT CONTRACTOR'S EXPENSE. CONTRACTOR SHALL PROTECT OWNER'S / ENGINEER'S PROJECT CONTROL AT ALL TIMES. REPLACEMENT OF PROJECT SURVEY CONTROL PROVIDED BY OWNER / ENGINEER SHALL BE A CONTRACTOR'S EXPENSE.
8. THE CONTRACTOR SHALL LIMIT WORK AREA TO THE LIMITS OF THE OWNER'S PROPERTY, RIGHT OF WAY, AND APPROVED EASEMENTS.
9. NO REVISIONS SHALL BE MADE TO THESE PLANS WITHOUT THE APPROVAL OF THE OWNER AND ENGINEER.
10. GRASS, VEGETATION, AND TREES, TOGETHER WITH THE MAJOR PORTIONS OF THE ROOT STRUCTURE, SHALL BE REMOVED PRIOR TO CONSTRUCTION OF IMPROVEMENTS, WHERE REQUIRED.
11. CONTRACTOR SHALL RETAIN AND PROTECT ALL IMPROVEMENTS ACROSS ENTIRE SITE UNLESS SPECIFICALLY NOTED FOR MODIFICATION, DEMOLITION, OR REMOVAL. DAMAGE BY CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
12. THE CONTRACTOR IS REQUIRED TO LEGALLY DISPOSE ALL DEBRIS REMOVED FOR CONSTRUCTION OF THE WORK.
13. THE OWNER RESERVES THE RIGHT TO SALVAGE ITEMS NOTED FOR DEMOLITION. CONTRACTOR SHALL LEGALLY DISPOSE OF ALL ITEMS NOT SALVAGED BY THE OWNER.
14. CONTRACTOR SHALL COORDINATE WITH STATE AND LOCAL INSPECTION AGENCIES AS REQUIRED FOR INSPECTION AND APPROVAL OF THE WORK (E.G., PLUMBING, MECHANICAL, ELECTRICAL, BUILDING, ETC.).
15. UNLESS INDICATED OTHERWISE ON THE DRAWINGS, SLOPE FINISH GRADES AWAY FROM BUILDINGS/STRUCTURES AT A MINIMUM OF 5% (MAXIMUM OF 10%) FOR A DISTANCE OF 20'.
16. SITE SHALL BE CLEANED AND RESTORED TO ORIGINAL CONDITION UPON COMPLETION OF WORK. UNLESS NOTED OTHERWISE, PROVIDE FINAL SURFACE REPAIR TO ALL AREAS IMPACTED DURING THE COURSE OF THE WORK TO A CONDITION EQUAL TO OR BETTER THAN THAT PRESENT PRIOR TO BEGINNING WORK TO THE SATISFACTION OF THE OWNER.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL LOCAL, STATE, AND FEDERAL PERMITS REQUIRED FOR STORMWATER POLLUTION PREVENTION AS A RESULT OF CONSTRUCTION ACTIVITIES. SEE SPECIFICATION 01 50 00 FOR DETAILS.

MECHANICAL NOTES:

1. MECHANICAL MATERIAL/EQUIPMENT SHOWN IS FOR SCHEMATIC PURPOSES. CONTRACTOR IS RESPONSIBLE FOR CORRECT QUANTITIES AND DIMENSIONS. CONSULT MANUFACTURER'S DETAIL DRAWINGS FOR DIMENSIONS AND INSTALLATION DETAILS.
2. CONTRACTOR SHALL VERIFY ALL EQUIPMENT DIMENSIONS AND ELEVATIONS AND CROSS REFERENCE THESE WITH ALL OTHER EQUIPMENT AND TRADES ASSOCIATED WITH THE WORK TO ENSURE PROPER INSTALLATION, OPERATION, ALIGNMENT, MOUNTING REQUIREMENTS, CONNECTION DETAILS, ETC. SUBMIT MANUFACTURER'S CONNECTION DETAILS AND SHOP DRAWINGS PER THE SPECIFICATIONS.
3. CLEAN, PRIME, AND COAT ALL NEW EXPOSED METAL, PIPING, FITTINGS, AND OTHER EQUIPMENT PER THE SPECIFICATIONS.
4. PIPE SUPPORTS AND HANGARS SHOWN ARE A GENERALIZATION. PIPE SUPPORTS AND HANGARS SHALL BE DESIGNED BY THE CONTRACTOR AND SUBMITTED WITH THE PIPING SHOP DRAWINGS. PROVIDE PIPE SUPPORTS AND HANGARS IN ACCORDANCE WITH THE STANDARD DETAILS AND AS REQUIRED TO ADEQUATELY SUPPORT AND STABILIZE THE PIPING.



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REVISIONS			
NO.	DESCRIPTION	BY	DATE

INFLUENT PUMP STATION UPGRADE
CITY OF MOSCOW, IDAHO
GENERAL (G)
GENERAL AND MECHANICAL NOTES

FILE: 2024-08-09-0007
JUB PROJ: 2024-08-09
DRAWN BY: WSH
CHECKED BY: WSH
DATE: 08/09/24
SHEET: 7
DRAWING: G-007



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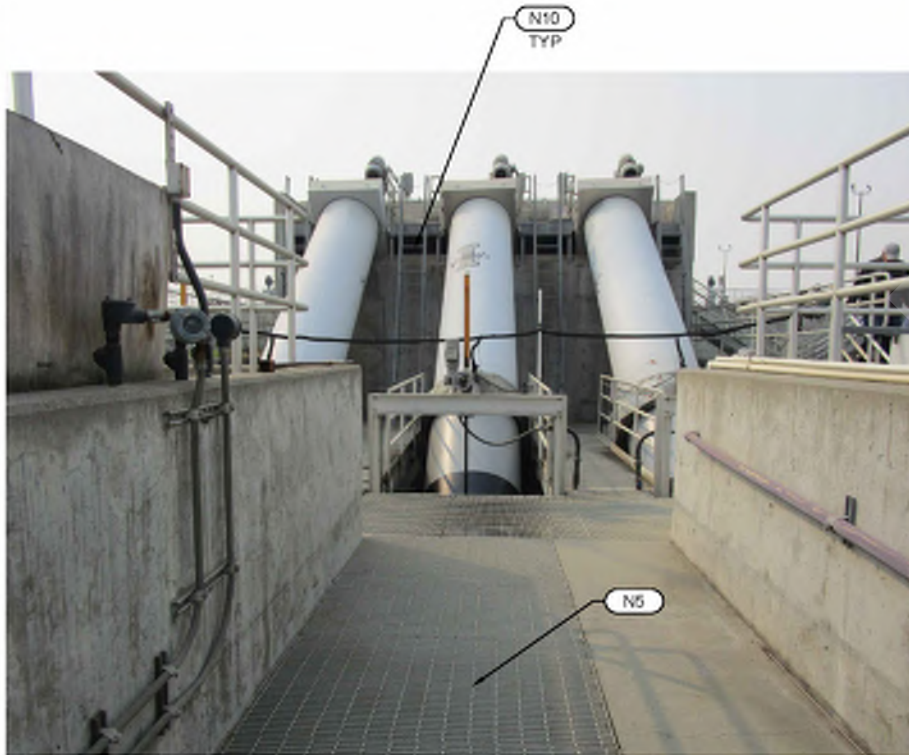
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KEYED NOTES: (DEMOLITION)

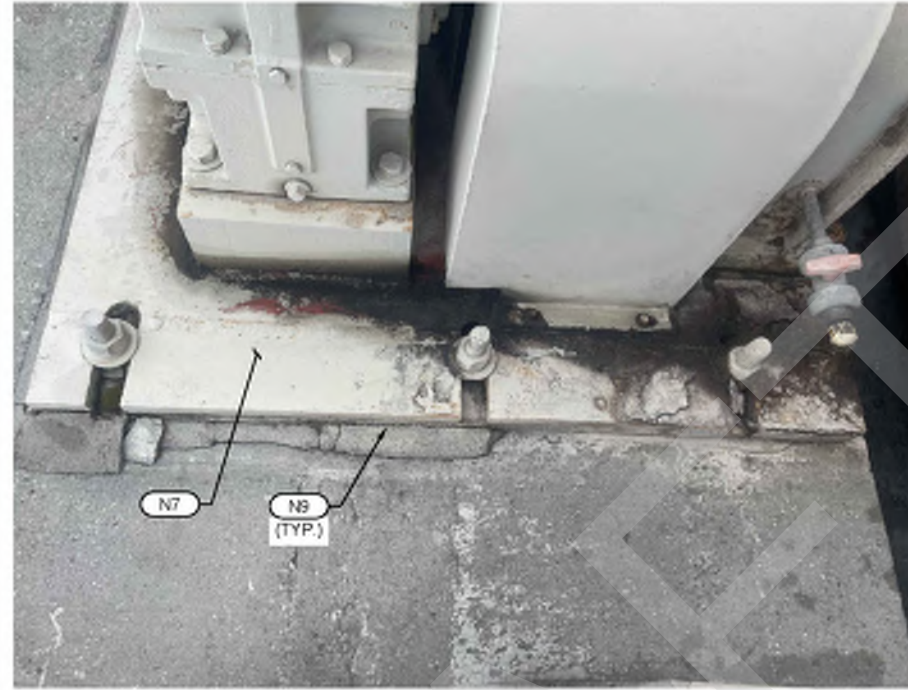
- N1 SCREW LIFT PUMPS. DEMOLISH AND REPLACE ONE AT A TIME. THE ORDER OF REMOVAL AND REPLACEMENT SHALL BE PUMP 203 (MIDDLE) FIRST, THEN PUMP 202 (NORTH) AND THEN PUMP 204 (SOUTH). ALSO, SEE THE WORK SEQUENCE SPECIFICATION.
- N2 AUTOMATIC LUBRICATION SYSTEM WITH ELECTRICALLY ACTUATED SOLENOIDS. TYPE OF EACH PUMP. RETAIN UNTIL NEW PUMPS AND LUBRICATION SYSTEM ARE FUNCTIONAL.
- N3 MUD VALVE LOCATED IN EACH CHANNEL TO DRAIN AND KEEP CHANNEL DEWATERED. PRESERVE AND PROTECT.
- N4 INLET GATE AT EACH CHANNEL. PRESERVE AND PROTECT.
- N5 EXISTING PARSHALL FLUME. PRESERVE AND PROTECT.
- N6 U OF I RESEARCH PROJECT. PRESERVE AND PROTECT.
- N7 DRIVE END BASE PLATE AT UPPER END. ANCHOR BOLTING ON THE OTHER SIDE IS NOT SHOWN.
- N8 LOWER BEARING BASE PLATE. UPPER END. BOLTING ON THE LOWER SIDE IS NOT SHOWN.
- N9 OBSERVE AND TAKE NOTE OF GROUTING UNDER THE BASE PLATES OF EACH PUMP TO AID INSTALLATION OF NEW PUMPS. THE GROUT THICKNESS VARIES. SOME BASE PLATES APPEAR TO BE SET BELOW THE SURFACE OF THE CONCRETE.
- N10 THERE ARE SPLASH CURTAINS UNDER THE GRATING ON THE SIDES AND BETWEEN PUMPS. PRESERVE OR REMOVE AND REINSTALL BETWEEN NEW PUMPS.

GENERAL NOTES: (DEMOLITION)

1. PRESERVE AND PROTECT ANCHOR BOLTS. IT IS INTENDED THAT THE NEW PUMPS WILL USE THE EXISTING ANCHOR BOLTS.



7 PHOTO DETAIL
SCALE: NOT TO SCALE



8 PHOTO DETAIL
SCALE: NOT TO SCALE



9 PHOTO DETAIL
SCALE: NOT TO SCALE



10 PHOTO DETAIL
SCALE: NOT TO SCALE

KEYED NOTES AND GENERAL NOTES: (SEE DX-IPS-001)



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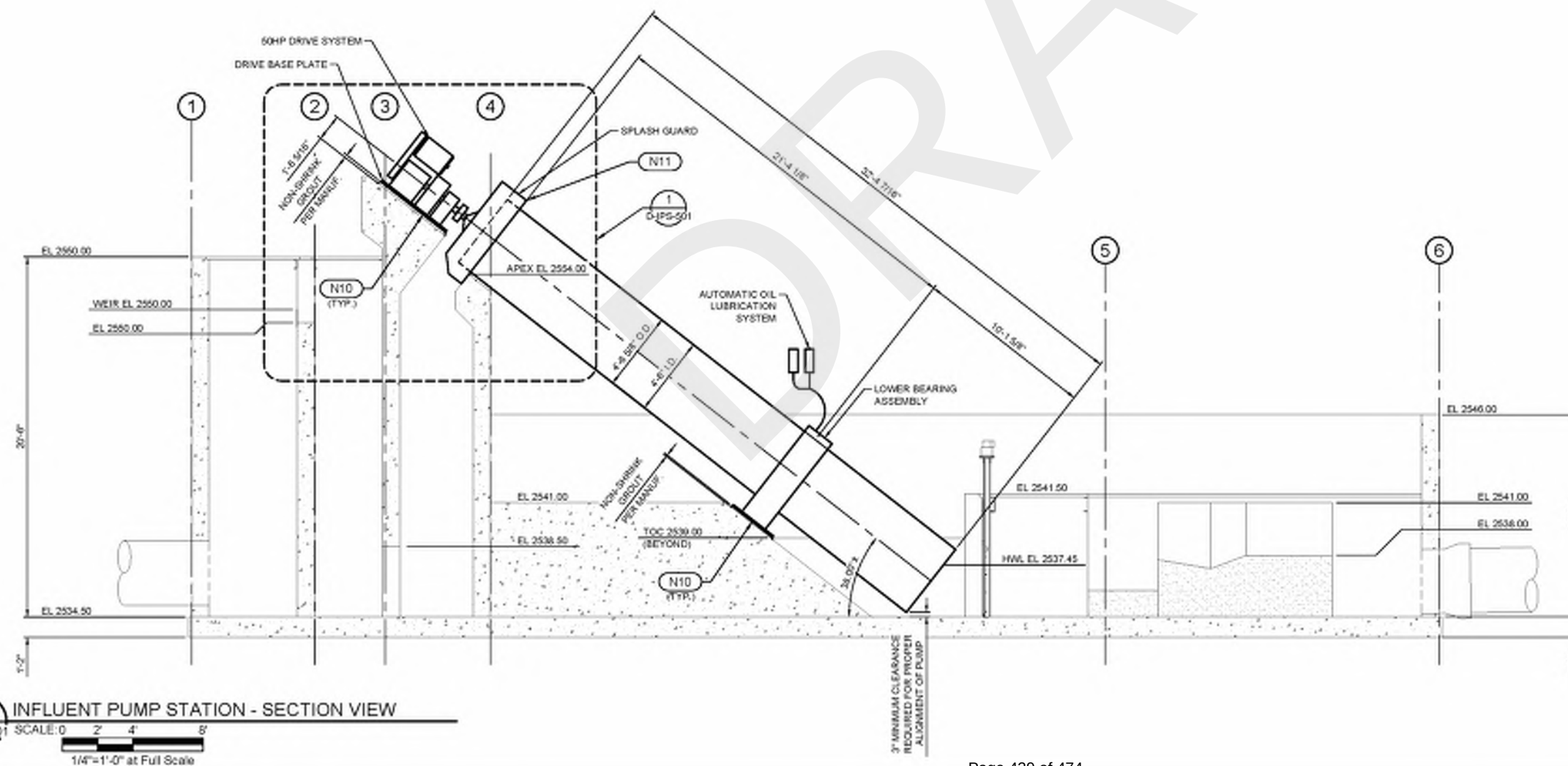
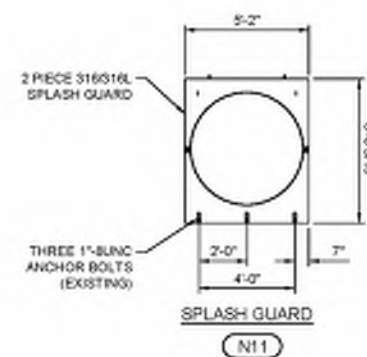


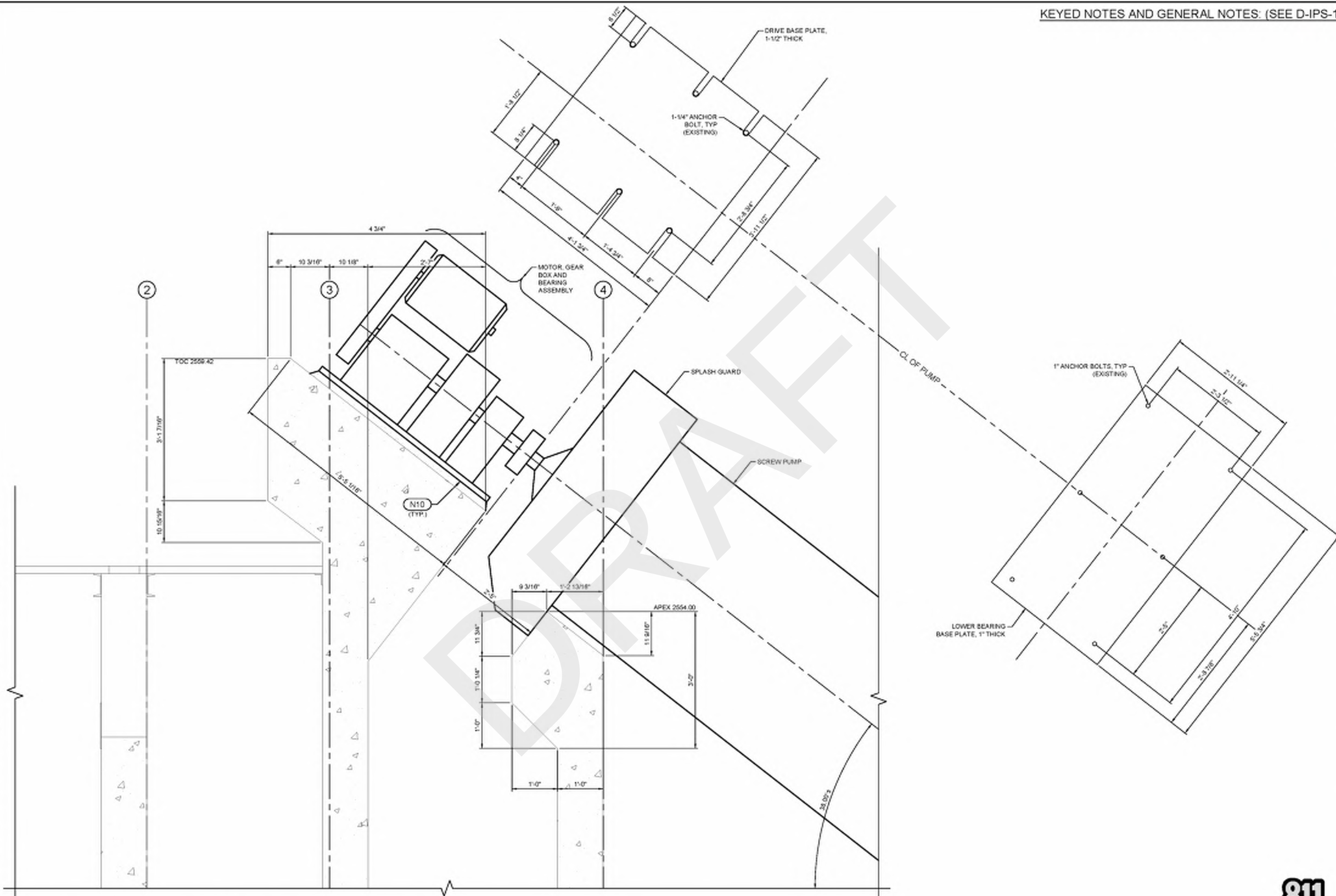
NO.	DESCRIPTION	BY	DATE
1	REVISION		

INFLUENT PUMP STATION UPGRADE
CITY OF MOSCOW, IDAHO
INFLUENT PUMP STATION (IPS)
DEMOLITION DETAILS

FILE: 2024-05-12-IPS-002
JUB PROJ: # 2024-05
DRAWN BY: WSH
CHECKED BY: WSH
DATE: 05/12/24
SHEET: 9
DRAWING: DX-IPS-002







1 CONCRETE DIMENSIONS AT UPPER END
D-IPS-301 SCALE: 0 6" 1'-0" 2'-0"
1"=1'-0" at Full Scale

GENERAL NOTE: (THIS DETAIL)

- THIS IS A PHOTO OF THE EXISTING GREASING STATION AT ONE OF THE PUMPS. PROVIDE A SIMILAR GREASING STATION AT EACH NEW PUMP. IF THE NEW STATIONS ARE NOT LOCATED IN THE SAME LOCATION COMPLETELY IN THE LOWER TWO RAILS BETWEEN THE POSTS. LOCATE NEW GREASING STATION AS DIRECTED BY THE OPERATOR. SUBMIT PROPOSED LOCATION TO ENGINEER FOR REVIEW. ALL HARDWARE SHALL BE STAINLESS STEEL. FILE ALL SHARP EDGES.



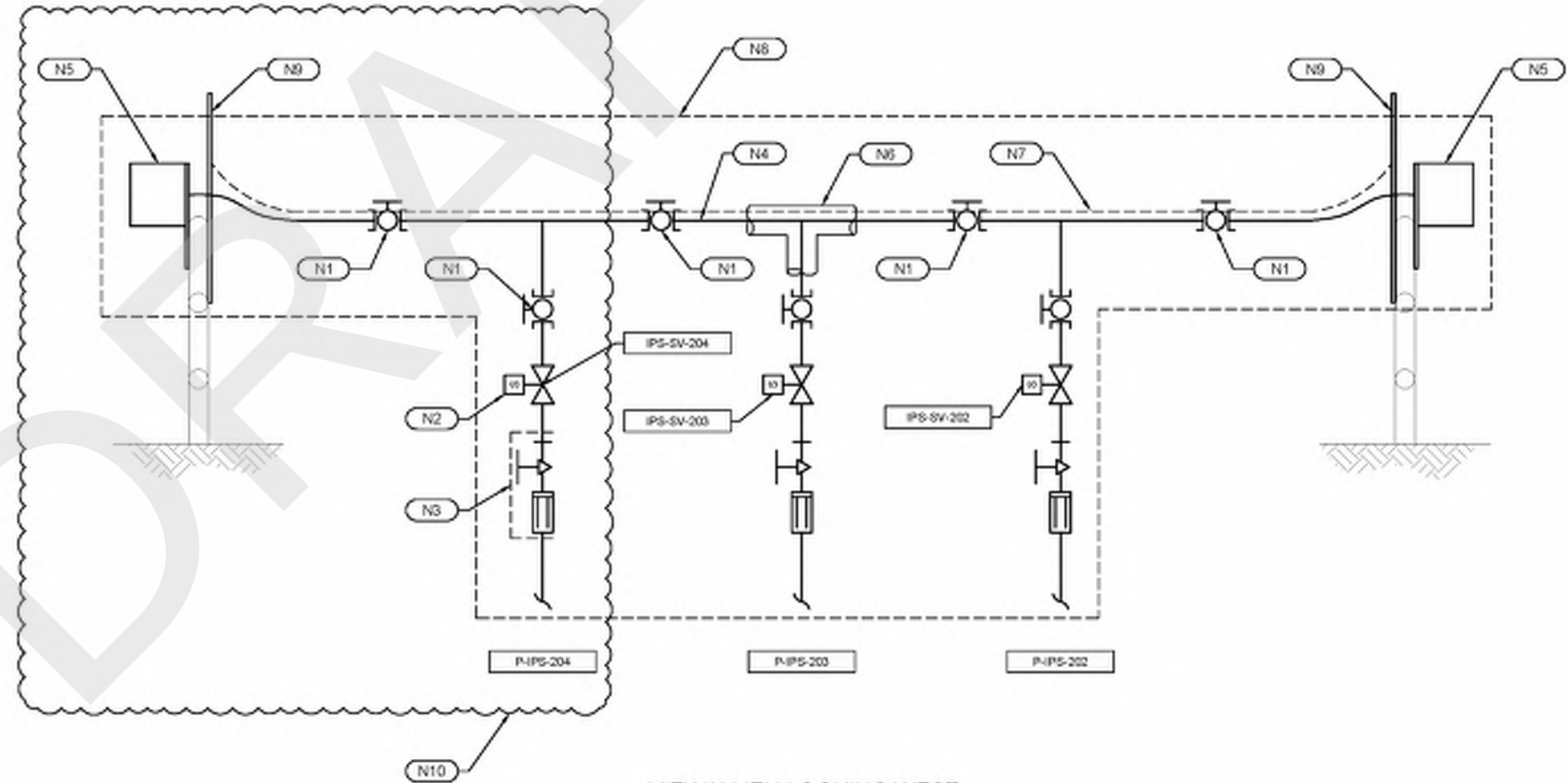
1 PHOTO DETAIL
SCALE: NOT TO SCALE

KEYED NOTE: (THIS DETAIL)

- (N1) STAINLESS STEEL ISOLATION BALL VALVE, TYP.
- (N2) STAINLESS STEEL SOLENOID CONTROL VALVE, TYP.
- (N3) STAINLESS STEEL FLOW REGULATING NEEDLE VALVE AND SIGHT GLASS, TYP.
- (N4) STAINLESS STEEL TUBING, SIZE TO BE SPECIFIED BY PUMP SUPPLIER.
- (N5) OIL RESERVOIR.
- (N6) INSULATION AND HEAT TRACE OVER ALL OF LUBRICATION SYSTEM.
- (N7) STAINLESS STEEL SUPPORT CABLE, 3/16 STAINLESS STEEL WIRE ROPE.
- (N8) LUBRICATION SYSTEM SUPPLIED BY PUMP MANUFACTURER.
- (N9) STAINLESS STEEL UNI-STRUT.
- (N10) COMPONENTS OF AN INDIVIDUAL RESERVOIR LUBRICATION SYSTEM EXCEPT ONLY ONE BALL VALVE (N1) IS REQUIRED. TYP. 3 PLACES.

GENERAL NOTE: (THIS DETAIL)

- ALL COMPONENTS AND MATERIALS SHALL BE STAINLESS STEEL OR A CORROSION RESISTANT ALTERNATIVE. PAINTED STEEL IS NOT ACCEPTABLE.
- THIS IS A GENERAL ARRANGEMENT. THE LUBRICATION SYSTEM SHALL BE DESIGNED BY THE PUMP MANUFACTURER.
- COMMON RESERVOIR OIL LUBRICATION SYSTEM SHOWN. INDIVIDUAL RESERVOIR SYSTEM IS SIMILAR.



VIEW WHEN LOOKING WEST

2 OIL LUBRICATION SYSTEM WITH COMMON RESERVOIRS
SCALE: NOT TO SCALE



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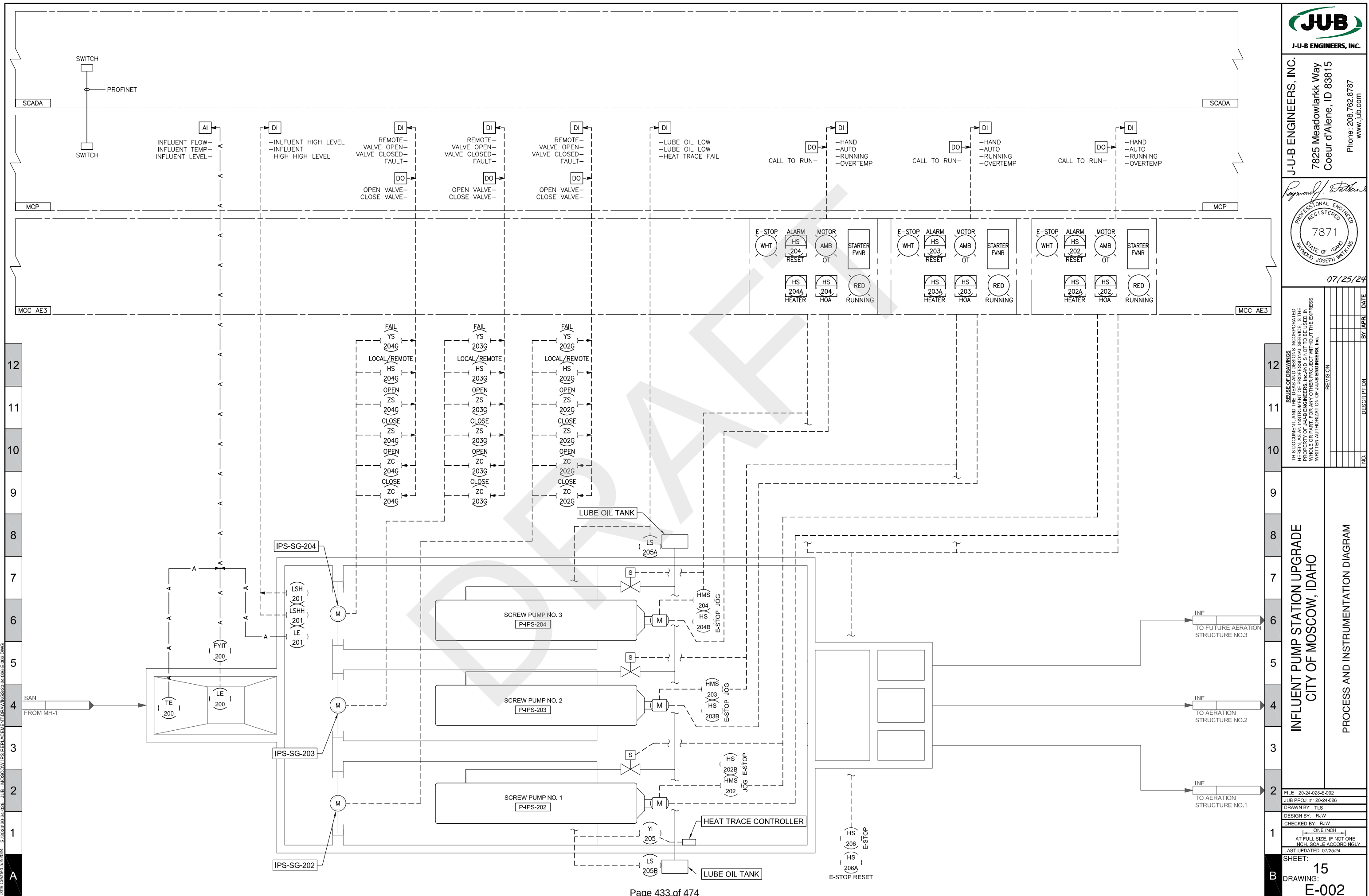


NO.	DESCRIPTION	BY	DATE

INFLUENT PUMP STATION UPGRADE
CITY OF MOSCOW, IDAHO
INFLUENT PUMP STATION (IPS)
DETAILS

FILE: 2024-05-10-IPS-02
JUB PROJ: 2024-05
DRAWN BY: WSH
CHECKED BY: WTK
DESIGNED BY: LTR
AT FULL SIZE, IF NOT ONE
INDICATED, SCALE AS SHOWN
LAST UPDATED: 10/20/24
SHEET: 13
DRAWING: D-IPS-502







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[illegible]

**INFLUENT PUMP STATION UPGRADE
CITY OF MOSCOW, IDAHO**

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E : 20-24-026-E-004
\$ PROJ. # : 20-24-026
DRAWN BY: TLS
DESIGNED BY: RJW
CHECKED BY: RJW
SCALE: 1" = 1'-0"
DATE: 07/25/24
SHEET: 17
DRAWING: E-004

ABBREVIATIONS: 3PH-THREE PHASE 4X-WATERTIGHT & CORROSION RESISTANT DISCH-DISCHARGE DO2-DISSOLVED OXYGEN FVAR-FULL VOLTAGE NON-REVERSING STARTER HTR-HEATER H-HIGH INSF-INTRINSICALLY SAFE LEV-LEVEL LO-LOW MAG-MAGNETIC MFR-MFG

OD-OXIDATION DITCH ORP-OXIDATION REDUCTION POTENTIAL PRESS-PRESSURE SUB-SUBMERSIBLE SW-SWITCH TEFC-TOTALLY ENCLOSED FAN COOLED TEMP-TEMPERATURE US-ULTRASONIC XMTX-TRANSMITTER XP-EXPLOSION PROOF

NOTES

NOT TO SCALE

ABBREVIATIONS: CAB-CABLE CTL-CONTROL DISC-DISCONNECT JB-JUNCTION BOX LEV-LEVEL MFG-MANUFACTURER MTR-MOTOR PRESS-PRESSURE PR-PAIR PWR-POWER RCPT-RECEPTACLE

SIG-SIGNAL SPC-SHIELDED POWER CABLE STP-SHIELDED TWISTED PAIR CABLE SW-SWITCH XMTX-TRANSMITTER (2-7C) INDICATES TWO-SEVEN CONDUCTOR CABLES

[illegible]

NOT TO SCALE



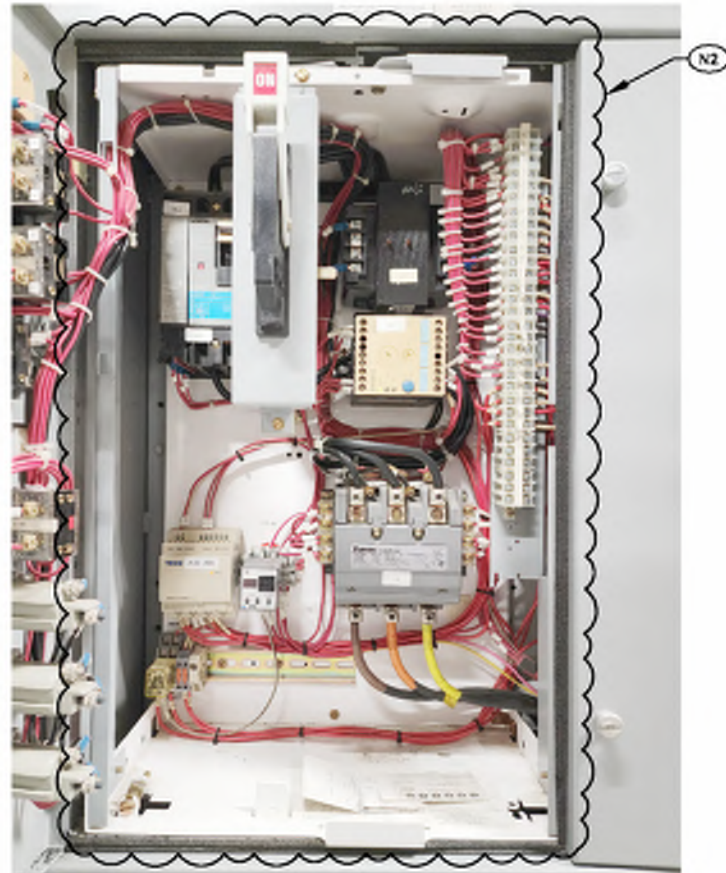
2.1 PHOTO DETAIL
NOT TO SCALE



2.2 PHOTO DETAIL
NOT TO SCALE



2.3 PHOTO DETAIL
NOT TO SCALE



4.1 PHOTO DETAIL
NOT TO SCALE



4.2 PHOTO DETAIL
NOT TO SCALE

NOTES: (for this sheet)

- (N1) FVNR STARTER BUCKETS FOR PUMPS 202, 203 AND 204 TO BE REFURBISHED.
- (N2) INTERIOR VIEW OF STARTER BUCKET (TYP) TO BE REFURBISHED (ONLY ONE BUCKET CAN BE OUT OF SERVICE AT A TIME). REPLACE CONTACTOR, CIRCUIT BREAKER, OVERLOAD RELAY AND ALL MECHANICAL RELAYS. ADD NEW E-STOP CIRCUIT.
- (N3) REPLACE EXISTING SIEMENS POINTK ULTRASONIC LEVEL TRANSDUCER. MODEL: POINTK ULS200.
- (N4) REMOVE EXISTING DISCONNECT AND SUPPORTS. GRIND STUDS FLUSH AND REPAIR ANY CONCRETE DAMAGE.
- (N5) REPLACE CONDUIT SEAL AND LTFMC. PROVIDE NEW TEE FITTING AND JOG PUSHBUTTON STATION. JOG PUSHBUTTON STATION SHALL BE CLASS 1, DIVISION 2 RATED WITH COPPER FREE ALUMINUM, OR STAINLESS STEEL ENCLOSURE.

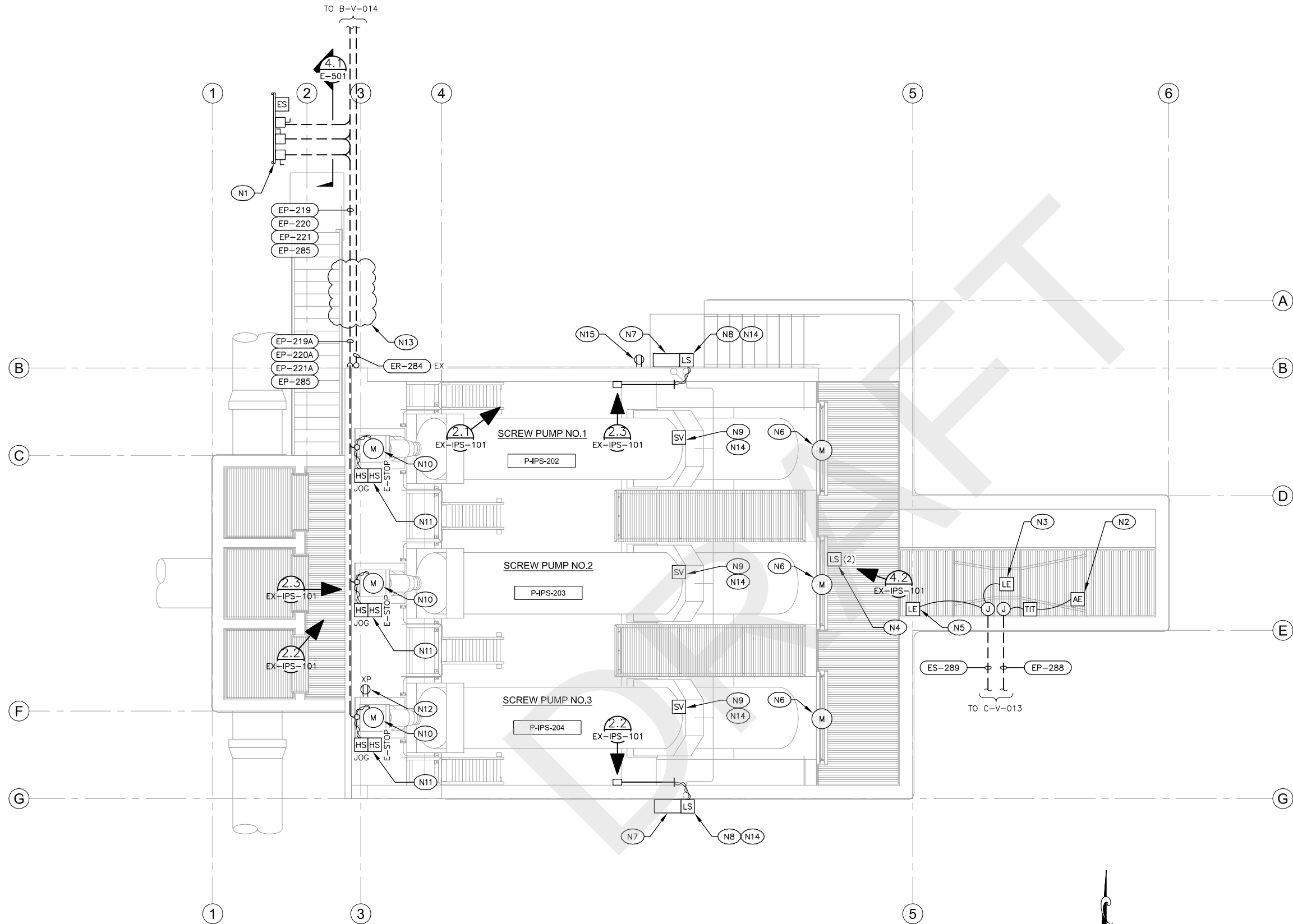
4.3 NOTES (for this sheet)
NOT TO SCALE

Plot Date: 7/25/2024 8:47 AM Plotted By: Ted Schawender
Date Created: 5/2/2024 S:\2024\2024-08-JUB-MOSCOW IPS REPLACEMENT DRAWINGS\2024-08-E-IPS-101.DWG

4.1

INFLUENT PUMP STATION ELECTRICAL PLAN VIEW

SCALE: 1/4"=1'-0"



NOTES: (for this sheet)

- (N1) NEW SCREW PUMP DISCONNECT LOCATION.
- (N2) INFLUENT CHANNEL TEMPERATURE ELEMENT.
- (N3) PARSHALL FLUME FLOW ELEMENT WITH TEMPERATURE.
- (N4) INFLUENT CHANNEL HIGH AND HIGH-HIGH LEVEL FLOATS.
- (N5) INFLUENT CHANNEL LEVEL ELEMENT "LE-201" (RADAR).
- (N6) SCREW PUMP CHANNEL SLIDE GATE ACTUATOR.
- (N7) SCREW PUMP LUBE OIL RESERVOIR.
- (N8) SCREW PUMP LUBE OIL RESERVOIR LOW LEVEL INDICATION.
- (N9) SCREW PRESS LUBE OIL CONTROL SOLENOID VALVE.
- (N10) SCREW PUMP DRIVE MOTOR.
- (N11) SCREW PUMP DRIVE MOTOR JOG PUSHBUTTON AND E-STOP. SUPPORT NEW JOG PUSHBUTTON STATION WITH STAINLESS STEEL STRUT.
- (N12) EXISTING RECEPTACLE, PRESERVE AND PROTECT.
- (N13) PULL ONE PUMP MOTOR FEEDER BACK AT A TIME TO VAULT "B-V-014". INTERCEPT EXISTING CONDUITS AND REROUTE THROUGH NEW DISCONNECTS. PULL NEW CONDUCTORS FROM DISCONNECT TO NEW PUMP MOTOR AND JOG SWITCH.
- (N14) PROVIDE NEW RACEWAY AND CONDUCTORS FROM EXISTING JUNCTION BOX.
- (N15) REPLACE EXISTING RECEPTACLE WITH NEW XP/GFCI RECEPTACLE. PROVIDE NEW HEAT TRACE CIRCUIT FOR OIL LUBE TANKS, FEED LINES, FLOW VALVES AND SOLENOID VALVES. PROVIDE GFI PROTECTED HEAT TRACE TEMPERATURE CONTROLLER. HEAT TRACE SYSTEM SHALL BE POWERED FROM THE RECEPTACLE CIRCUIT AHEAD OF THE GFCI RECEPTACLE.



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Professional Engineer



07/25/24

NO.	REVISION	DESCRIPTION	BY	DATE

INFLUENT PUMP STATION UPGRADE
CITY OF MOSCOW, IDAHO
INFLUENT PUMP STATION (IPS)
ELECTRICAL PLAN VIEW

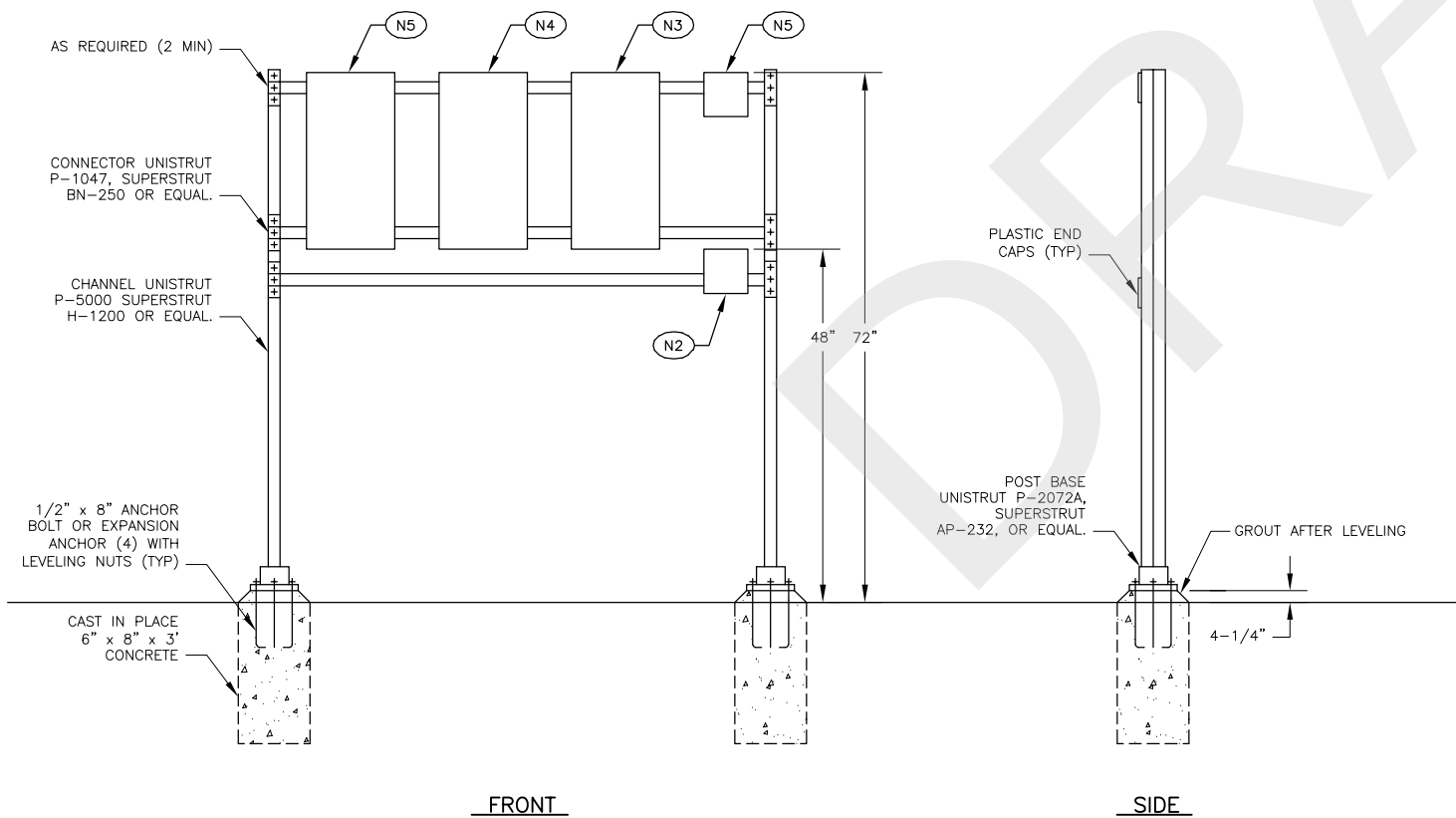
FILE : 20-24-026-E-IPS-101
JUB PROJ. # : 20-24-026
DRAWN BY: TLS
DESIGN BY: RJW
CHECKED BY: RJW
AT FULL SIZE, IF NOT ONE
INCH, SCALE ACCORDINGLY
LAST UPDATED: 07/25/24
SHEET:
21
DRAWING:
E-IPS-101

Plot Date: 7/25/2024 9:59 AM Plotted By: Ted Schawwender
Date Created: 5/12/2024 S:\2024\2024-08-JUB - MOSCOW IPS REPLACEMENT DRAWINGS\2024-08-E-IPS-501.DWG

2.1 NOT USED
NOT TO SCALE

2.2 NOT USED
NOT TO SCALE

2.3 NOT USED
NOT TO SCALE



NOTES: (this detail)

- (N1) RACK CHANNELS AND FITTINGS SHALL BE STAINLESS STEEL UNLESS OTHERWISE SPECIFIED.
- (N2) MUSHROOM HEAD, MEMENTARY CONTACT, NEMA 4, ILLUMINATED E-STOP "HS-206".
- (N3) PUMP 202 DISCONNECT.
- (N4) PUMP 203 DISCONNECT.
- (N5) PUMP 204 DISCONNECT.
- (N6) MOMENTARY CONTACT, NEMA 4, ILLUMINATED E-STOP RESET PUSHBUTTON.

4.1 SCREW PUMP DISCONNECT RACK
NOT TO SCALE

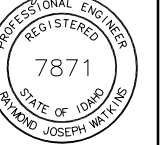
4.3 NOT USED
NOT TO SCALE



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Raymond J. Watkins

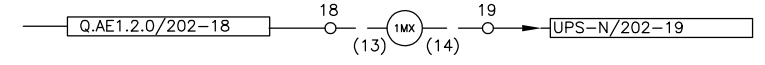
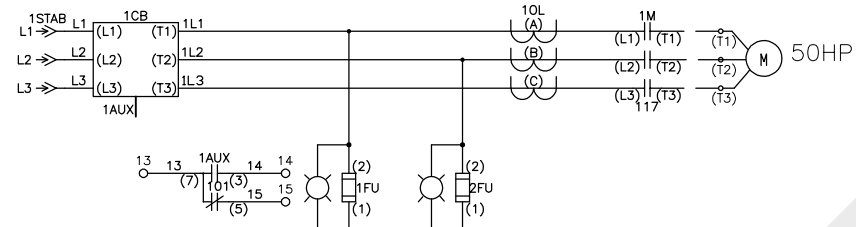


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NO.	REVISION	DESCRIPTION	DATE

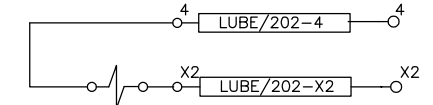
INFLUENT PUMP STATION UPGRADE
CITY OF MOSCOW, IDAHO
ELECTRICAL DETAILS

FILE : 20-24-026-E-IPS-501
JUB PROJ. # : 20-24-026
DRAWN BY: TLS
DESIGN BY: RJW
CHECKED BY: RJW
AT FULL SIZE, IF NOT ONE INCH, SCALE ACCORDINGLY
LAST UPDATED: 07/25/24
SHEET: 22
DRAWING: E-IPS-501

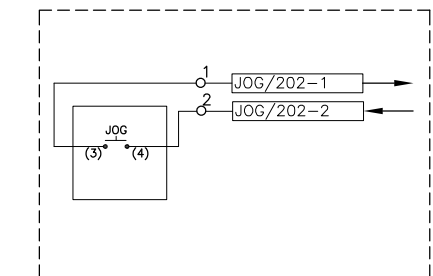


CALL TO RUN (AUTO MODE)
ON/OFF D/O

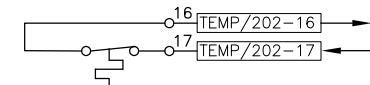
SEE SHT. 17



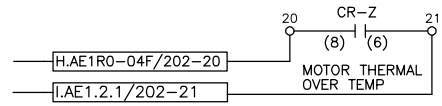
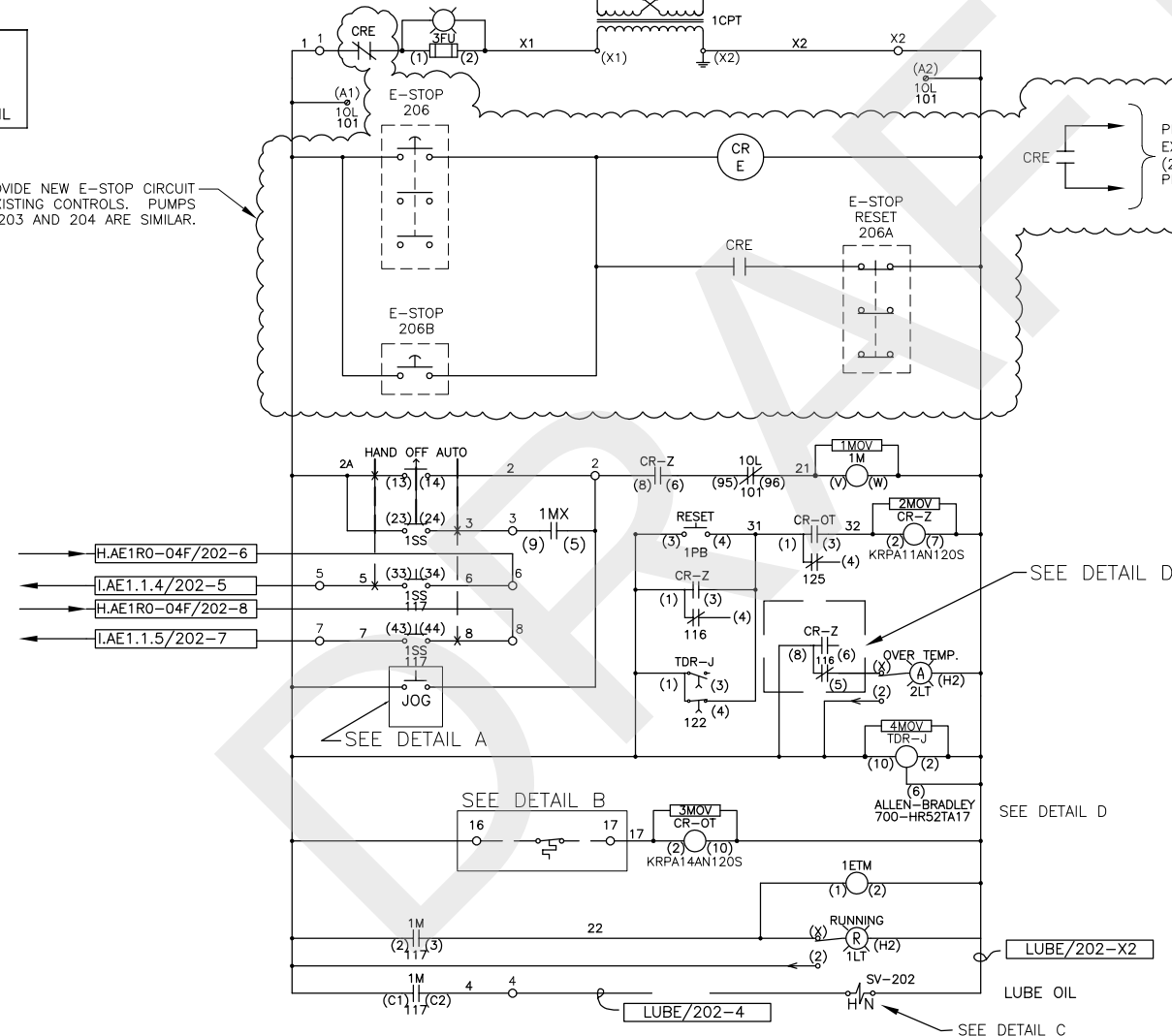
DETAIL C



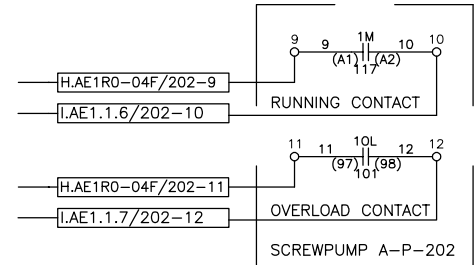
DETAIL A - JOG (SWITCH)



DETAIL B - TEMP (SWITCH)



DETAIL D



Auto OL Reset

(Y1) Y1 Y1 Y2 Y2 (Y2)

10L 101 10L 101

Attachment "B"



BID ENCLOSED - Water Reclamation Facility Influent Pump Station Upgrade
City of Moscow
504 S Washington St, Moscow ID 83843

City of Moscow
Latah County, Idaho
Water Reclamation Facility Influent Pump Station Upgrade

ISPWC - BIDDER'S CHECK LIST

The Bidder's Check List is offered to assist the prospective bidder in checking his/her Bid. This checklist does not relieve the bidder from properly completing his/her Bid.

Check off when completed:

1. ☒ Are all blank spaces filled out on Bid Form?
2. ☒ Have questions arising from the bidding, contract, specifications or plans been submitted to the proper authority and resolved in the proper manner?
3. ☒ Are Bid amounts shown correctly as well as extensions and totals? Recheck for errors or omissions. Both lump sum and unit prices must be shown in words and figures.
4. ☒ Are authorized signatures properly affixed to the Bid form, giving also title, and Idaho Public Works Contractor license number, evidence of authority to sign, etc.?
5. ☒ Have all plumbing, heating, air conditioning and electrical subcontractors to whom work will be awarded been listed, as well as their Idaho Public Works Contractor license number?
6. ☒ Have all Addenda been received and acknowledged with the proper signature on the Bid Form?
7. ☒ In order for a Bid to be considered, the Bid form, Bid Security, naming of subcontractors form, and other required attachments must be placed in a properly addressed sealed envelope and delivered to the specified authority prior to the time designated for the bid opening.
8. ☒ Has Bid Security been enclosed?
9. ☒ Has Bidder performed examinations in accordance with the Instructions to Bidders?
10. ☒ Has Bidder included additional information required in Article 14 of the Instructions to Bidders?

**City of Moscow
Latah County, Idaho
Water Reclamation Facility Influent Pump Station Upgrade**

BID FORM FOR CONSTRUCTION CONTRACT

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 1—OWNER AND BIDDER

1.01 This Bid is submitted to:

- A. City of Moscow
504 S Washington St.
Moscow, ID 83843

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2—ATTACHMENTS TO THIS BID

2.01 The following documents are submitted with and made a condition of this Bid:

- A. Required Bid security;
- B. List of Proposed Subcontractors (Document 00440);
- C. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such authority within the time for acceptance of Bids;
- D. Contractor's license number as evidence of Bidder's State Contractor's License or a covenant by Bidder to obtain said license within the time for acceptance of Bids;
- E. Required Bidder Qualification Statement with supporting data.

ARTICLE 3—BASIS OF BID—LUMP SUM BID

3.01 *Bid Schedule*

- A. Bidder will perform the following Work at the indicated lump sum price:

Bid Item No.	Description	Unit	Quantity	Bid Amount
<u>Base Bid</u>				
1	IPS Upgrade	LS	1	\$1,985,000.00
	Base Bid Total			\$1,985,000.00
<u>Additive Alternates</u>				

2	Add Alt #1: 3-Year Extended Warranty	LS	1	\$ 36,000.00
3	Add Alt #2: 5-Year Extended Warranty	LS	1	\$ 59,000.00

B. Bidder acknowledges that:

1. Lump Sum Bid includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit.

3.02 Total Bid Price (Lump Sum)

Total Base Bid (Written in words)	one million nine hundred and eighty five thousand dollars
Total Additive Alternate #1 (Written in words)	Thirty six thousand dollars
Total Additive Alternate #2 (Written in words)	Fifty nine thousand dollars

Time of Completion

- 3.03 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- 3.04 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 4—BIDDER'S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA

4.01 Bid Acceptance Period

- A. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

4.02 Instructions to Bidders

- A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.

4.03 Receipt of Addenda

- A. Bidder hereby acknowledges receipt of the following Addenda: (Bidder is to complete table)

Addendum Number	Addendum Date
1	09/13/24

- 4.04 Bidder agrees to comply with Idaho Code 44-1006, regarding employment of Idaho residents.
- 4.05 Bidder agrees to comply with Idaho Code 67-2301, failure to comply with Idaho Code Section 67-2310 shall render such bid unresponsive and void.

ARTICLE 5—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

5.01 Bidder's Representations

A. In submitting this Bid, Bidder represents the following:

1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.
2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder's (Contractor's) safety precautions and programs.
7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.

8. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

5.02 *Bidder's Certifications*

A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.
2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
3. Bidder has not solicited or induced any individual or entity to refrain from bidding.
4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:
 - a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.
 - b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.
 - c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.
 - d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

BIDDER hereby submits this Bid as set forth above:

Bidder:

Apollo Inc.

(typed or printed name of organization)

By:

Amy Jenne

(individual's signature)

Name:

Amy Jenne

(typed or printed)

Title:

Vice president

(typed or printed)

Date:

09/20/24

(typed or printed)

If Bidder is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.

Attest:

Taylor von Olshausen

(individual's signature)

Name:

Taylor von Olshausen

(typed or printed)

Title:

Project Engineer

(typed or printed)

Date:

09/20/24

(typed or printed)

Address for giving notices:

1133 W Columbia Dr.

Kennelworth, VA 99336

Bidder's Contact:

Name:

Amy Jenne

(typed or printed)

Title:

Vp

(typed or printed)

Phone:

909-987-1417

Email:

amy.jenne@apollo-gc.com

Address:

1133 W. Columbia Dr.

Kennelworth VA 99336

Bidder's State of Idaho Public Works Contractor
License No.: (if applicable)

PWC-C-14034-unlimited-1-2-3

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DRAFT

BID BOND (PENAL SUM FORM)

Bidder Name: Apollo, Inc. Address (principal place of business): 1133 W. Columbia Drive Kennewick, WA 99336	Surety Name: Western Surety Company Address (principal place of business): 151 N. Franklin Street Chicago, IL 60606
Owner Name: City of Moscow Address (principal place of business): 504 S Washington St. Moscow, ID 83843	Bid Project (name and location): Water Reclamation Facility Influent Pump Station Upgrade Moscow, ID Bid Due Date: September 24, 2024
Bond Penal Sum: Five percent of the amount of the bid proposal Date of Bond: September 24, 2024 Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth in this Bid Bond, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.	
Bidder Apollo, Inc.	Surety Western Surety Company
By: <u>[Signature]</u> (Full formal name of Bidder) (Signature)	By: <u>[Signature]</u> (Full formal name of Surety) (corporate seal) (Signature) (Attach Power of Attorney)
Name: <u>Angie Hauschen</u> (Printed or typed)	Name: <u>Kenneth J. Frick</u> (Printed or typed)
Title: <u>CFD/Corp Sec</u>	Title: <u>Attorney-in-Fact</u>
Attest: <u>[Signature]</u> (Signature)	Attest: <u>[Signature]</u> (Signature)
Name: <u>Taylor van Olmhausen</u> (Printed or typed)	Name: <u>Lori McKimmy</u> (Printed or typed)
Title: <u>Project Engineer</u>	Title: <u>Attorney-in-Fact</u>
Notes: (1) Note: Addresses are to be used for giving any required notice. (2) Provide execution by any additional parties, such as joint venturers, if necessary.	

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond will be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder occurs upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation will be null and void if:
 - 3.1. Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2. All Bids are rejected by Owner, or
 - 3.3. Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions does not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.
6. No suit or action will be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety, and in no case later than one year after the Bid due date.
7. Any suit or action under this Bond will be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder must be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Postal Service registered or certified mail, return receipt requested, postage pre-paid, and will be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond will be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute governs and the remainder of this Bond that is not in conflict therewith continues in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

Donna S Martinez, Rod Lewis, Kenneth J Frick, Lori McKimmy, Individually

of Yakima, WA, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind it thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the corporation and all the acts of said Attorney, pursuant to the authority hereby given, are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 21st day of July, 2022.



WESTERN SURETY COMPANY

Paul T. Bruflat, Vice President

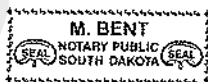
State of South Dakota }
County of Minnehaha }

SS

On this 21st day of July, 2022, before me personally came Paul T. Bruflat, to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires

March 2, 2026



M. Bent, Notary Public

CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said corporation this 24th day of September, 2024.



WESTERN SURETY COMPANY

L. Nelson, Assistant Secretary

Authorizing By-Law

ADOPTED BY THE SHAREHOLDERS OF WESTERN SURETY COMPANY

This Power of Attorney is made and executed pursuant to and by authority of the following By-Law duly adopted by the shareholders of the Company.

Section 7. All bonds, policies, undertakings, Powers of Attorney, or other obligations of the corporation shall be executed in the corporate name of the Company by the President, Secretary, and Assistant Secretary, Treasurer, or any Vice President, or by such other officers as the Board of Directors may authorize. The President, any Vice President, Secretary, any Assistant Secretary, or the Treasurer may appoint Attorneys in Fact or agents who shall have authority to issue bonds, policies, or undertakings in the name of the Company. The corporate seal is not necessary for the validity of any bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation. The signature of any such officer and the corporate seal may be printed by facsimile.

City of Moscow
Latah County, Idaho
Water Reclamation Facility Influent Pump Station Upgrade

Naming of Subcontractors Form

Per Idaho Code, 67-2310, Bidder shall include in his or her Bid the names and address, and Idaho Public Works Contractor License Number of the Subcontractors who shall, in the event the Bidder secures the Contract, subcontract the plumbing, heating and air-conditioning work, and electrical work under the general Contract. Failure to name Subcontractors as required, or indicate "Not Applicable" shall render any Bid submitted by the Bidder unresponsive and void.

Subcontractor Name and Address

Classification

License Number

Plumbing

N/A N/A N/A

Heating and Air-Conditioning

N/A N/A N/A

Electrical

~~Strom Electric~~ ^{AB} ~~Electrical~~ ^{AB} ~~022495 AAA-4~~

Shannon Industrial Contractors Electrical PWC-C-17037-U-1-3-4

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City of Moscow
Latah County, Idaho
Water Reclamation Facility Influent Pump Station Upgrade

BIDDER'S NON-COLLUSION AFFIDAVIT

State of WA)SS
County of Benton)

Bid for City of Moscow WRF IPS being first duly sworn, deposes and says that he/she is (sole owner, a partner, president, secretary, etc.) of Apollo Inc.

The party making the foregoing bid; that such bid is not made in the interest of or on behalf of any undisclosed person, partnership, company, association, organization, or corporation; that such bid is genuine and not collusive or sham; that said bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, nor that anyone shall refrain from bidding; that said bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of said bidder or of any other bidder, nor to fix any overhead, profit, or cost element of such bid price, nor of that of any other bidder, nor to secure any advantage against the public body awarding the contract or anyone interested in the proposed contract; that all statements contained in such bid are true; and, further, that said bidder has not directly or indirectly, submitted his bid price or any breakdown thereof, nor the contents thereof, nor divulged information or data relative thereto, nor paid and will not pay fee in connection therewith to any corporation, partnership, company, association, organization, bid depository, nor to any member or agent thereof, nor to any other individual except to such person or persons as have a partnership or other financial interest with said bidder in his general business.

Signed: Amy Anne

Title: Vp

Subscribed and sworn to before me this

Date: 09/20/2024

Notary Public



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City of Moscow
Latah County, Idaho
Water Reclamation Facility Influent Pump Station Upgrade

BIDDER'S DRUG-FREE WORKPLACE AFFIDAVIT

CONTRACTOR'S AFFIDAVIT
CONCERNING ALCOHOL AND DRUG-FREE WORKPLACE

STATE OF Washington

COUNTY OF Benton

The undersigned being duly sworn upon oath, deposes and says that Apollo Inc complies
(Contractor Name)

with the provision of Section 72-1717 Idaho Code (Drug Free Workplace program) that

Apollo Inc provides a drug-free workplace program that complies with the provisions
(Contractor Name)

of Idaho Code, Title 72, Chapter 17 and will maintain such program throughout the life of a state

construction contract and that Apollo Inc shall subcontract work only to subcontractors
(Contractor Name)

meeting the requirements of Idaho Code, Section 72-1717(1) (a).

Apollo Inc.
Name of Contractor

1133 W. Columbia Dr.
Address

Kennelworth, WA 99336

By Amy Pann
(Signature)

Subscribed and sworn to before me this 20th day of September, 2024.



Daniel A. Warren
Notary Public for Benton Co. Apollo Inc.
Residing at Benton Co.
My Commission Expires 04/01/2025

THIS PAGE MUST BE COMPLETED RETURNED WITH YOUR BID DOCUMENTS

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DRAFT

City of Moscow
Latah County, Idaho
Water Reclamation Facility Influent Pump Station Upgrade

ANTI-DISCRIMINATION AFFIDAVIT

STATE OF Washington:

COUNTY OF Benton:

The Bidder hereby covenants, stipulates and agrees that no person shall be discriminated against in the bidding of the services and/or materials herein under and that the Bidder shall not refuse to hire any person therefore because of such person's race, color, gender, religion, sex (including pregnancy), national origin, physical or mental disability, age, marital or familial status, sexual orientation, and gender expression or identity. Also, the Bidder will in no manner discriminate against any person because of such person's race, color, gender, religion, sex (including pregnancy), national origin, physical or mental disability, age, marital or familial status, sexual orientation, and gender expression or identity. Any such discrimination shall be deemed a violation of this Bid and shall render this Bid subject to forfeiture.

Amy [Signature]
Contractor's Signature

Subscribed and sworn to before me this 20th day of September, 2024.



Danielle Warren
Notary Public

State of Washington

Residing at Benton Co.

My Commission Expires 04/01/2025

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AUTHORIZATION TO SIGN

March 2023

Please know that, Angie Haisch; Secretary/Treasurer/CFO, Ryan Ratchford; Vice President, Amy Jenne; Vice President, David Haight; Vice President have full authorization to sign legally binding documents on behalf of Apollo, Inc.



Bruce Ratchford, President Apollo, Inc.

3/29/2023

Date

Attachment "C"

City of Moscow Water Reclamation Facility Influent Pump Stations Upgrade

Addendum No. 1

September 13, 2024

Addendum No. 1 to the **City of Moscow Water Reclamation Facility Influent Pump Station Upgrade** Plans, Contract Documents, and Specifications as prepared by J-U-B ENGINEERS, Inc. is hereby submitted for use in bid preparation and submittal. The following changes, additions, and/or deletions are hereby made as fully and completely as if the same were entirely set forth in the Contract Documents and Specifications, and shall become an integral part of any contract entered into between the Owner and Contractor.

GENERAL

A pre-bid meeting was held on September 5, 2024. Meeting minutes (including responses to Bidder Questions) and the attendance sheet from the meeting are **attached** at the end of this addendum.

Section 1-A – BID FORMS

DOCUMENT 00410 – BID FORM FOR CONSTRUCTION CONTRACT

CLARIFICATION: The extended warranties in Additive Alternates #1 and #2 are for the Enclosed Archimedes Screw Pumps in Specification 43 24 41.

Section 4 – TECHNICAL SPECIFICATIONS

SECTION 43 05 10 EQUIPMENT GENERAL PROVISIONS

Delete Paragraph 2.11.B in its entirety and replace with "RESERVED".

SECTION 43 24 41 ENCLOSED ARCHIMEDES SCREW PUMPS

Paragraph 1.5: Delete the text in Paragraph A and insert the following:

- A. The Contractor and Seller shall warranty the equipment (including all sub-components) for a minimum period of 1-year from the date of Substantial Completion for the entire project. The Owner may elect to purchase an extended warranty; the extended warranty period(s) are defined in the Bid Form. If the Owner elects to purchase an extended warranty the Contractor and Seller shall warranty the equipment for the base 1-year warranty plus the duration of the extended warranty (if selected by Owner) from the date of Substantial Completion for the entire project.

Paragraph 2.4: Insert the following new paragraph:

- F. Each screw pump shall be furnished with a discharge splash guard to contain splashing at the discharge. The splash guard shall be a two-piece design for easy installation and

removal. It shall be constructed of 316/316L stainless steel with a minimum thickness of 0.1875 inches.

Paragraph 2.5: Add the following to the end of Paragraph A: "The entire lower bearing assembly shall be enclosed by a guard. The guard shall be constructed of 316/316L stainless steel with a minimum thickness of 11GA. It shall be a two- piece design (or similar) for easy installation and removal."

Paragraph 2.9: Add the following subparagraphs to Paragraph A:

1. Provide embedded thermostats for thermal alarm/shutdown.
2. Minimum motor efficiency shall be per IECC-2018, Table C405.7(1).
3. Provide NEMA Class F insulation with additional nonhygroscopic moisture protection which will maintain a minimum resistance of 1.0 megohms after 168 hours of exposure at 100 percent humidity.
4. The temperature rise, as measured by resistance when operating at rated service factor, and load shall conform to the limiting observable temperatures in NEMA-MG1, for class B insulation.

Paragraph 2.9: Add the following to the end of Paragraph C: "The guards shall be constructed of 316/316L stainless steel with a minimum thickness of 11GA."

Paragraph 2.10: Add the following to the end of Paragraph A.3: "If the rubber element that goes between the steel flanges is replaceable, supply just the rubber element as the spare part. Otherwise, provide a complete flex coupler."

PLANS

Drawing E-004

Detail 4.1: Clarification – All conductors in existing conduits EP-288, EP-289, EP-219, EP-219A, EP-220, EP-220A, EP-221 and EP-221A are new; the existing conductors shall be removed and replaced.

Drawing EX-IPS-101

Detail 4.3: Add the following sentence to Note N4: "Typical of three disconnects."

Drawing EX-IPS-102

Detail 4.3: Add the following sentence to Notes N3 and N4: "Provide new conductors to float connection junction boxes and to vault B-V-014."

Drawing E-IPS-101

- Detail 4.1: Note that photo details 2.2/EX-IPS-101 and 2.3/EX-IPS-101 associated with the screw pump drives are typical for all three screw pump drives.

- Detail 4.1: move sheet note callout N13 and associated cloud north approximately 12' to line up with the new pump motor disconnect rack and conduit intercept location. Move conduit tags EP-219, EP-220, EP-221 and EP-285 north approximately 12'.
- Detail 4.1: Revise the photo details identified as 2.1/EX-IPS-101, 2.2/EX-IPS-101 and 2.3/EX-IPS-101 located between column lines 4 and 5 to read as follows: 2.1/EX-IPS-102, 2.2/EX-IPS-102 and 2.3/EX-IPS-102.
- Replace Note N13 with the following: "Replace one pump motor feeder at a time. Intercept existing conduits and reroute through new disconnects on new equipment rack. Pull all new conductors for feeders, e-stops, e-stop reset, jog switches, and solenoid valves."
- Add the following sentence to sheet Note N14: "Reference drawings D-IPS-101 and D-IPS-502 for additional layout information."

Drawing E-IPS-501

- Detail 4.1: add the following sentence to notes N3, N4 and N5: "Pump Motor disconnects shall be NEMA 4X stainless steel, unfused, 100A, 600V."
- Detail 4.1: revise the second instance of sheet note callout N5 located in the upper right corner of the equipment rack to N6.
- Detail 4.1: provide $\frac{3}{4}$ " conduits between disconnects, e-stop pushbutton, and e-stop reset for control conductors. Provide wiring as required to complete the e-stop control circuiting indicated on E-IPS-701.

NOTICE is hereby given that this Addendum must be acknowledged in the Article 4 of the Bid Form as evidence that the Bidder is familiar with all changes incorporated herein.

Submitted by:

J-U-B ENGINEERS, Inc.



Levi T. Shoolroy, P.E.
Project Engineer

PRE-BID MEETING **MINUTES**

Subject: City of Moscow Water Reclamation Facility Influent Pump Station Upgrade

Date and Time: September 5, 2024, 2:00pm PDT

Location: 206 E Third Street, Moscow, ID 83843; Council Chambers

Attendees: See attached sign-in sheet

AGENDA

Meeting Purpose: Discuss the project scope and schedule, review the bid requirements and portions of the Bidding Documents, answer questions from Bidders related to the project, and conduct a site visit (if requested). Topics of discussion will highlight the Project but should not be taken out of context of the entire bid package.

Project Overview

Contract Document Review

Addenda

Bidder Questions

PROJECT OVERVIEW

- **Sign-In Sheet**
- **Project Summary**
 - The Project generally consists of removing and replacing the existing screw pumps and appurtenances with associated electrical work at the Water Reclamation Facility Influent Pump Station.

- **Project Funding**
 - The City is self-funding the project.
 - Davis Bacon wages **do not** apply.
 - American Iron and Steel provisions **do not** apply.
- **Bid and Contract Document Overview**
 - Section 1-A Bid Forms
 - Section 1-B Contract Forms
 - Section 2 General Conditions (ISPWC Division 100)
 - Section 3 Supplementary Conditions
 - Section 4 Technical Specifications
 - Plans

SECTION 1-A BID FORMS

- **Document 00030 – Advertisement for Bids**
 - Bids for the construction of the Project from prequalified bidders will be received at the office of the Community Development Engineering Division at 504 S Washing St., Moscow, ID 83843 until 2:00 pm Pacific Time, September 24, 2024. At that time the Bids received will be publicly opened and read.
 - Prequalified Bidders:
 - Apollo, Inc.
 - Clearwater Construction & Management, LLC
 - Prospect Construction Group, Inc.
 - Record Steel and Construction, Inc.
 - TML Construction, Inc.
 - Attendance at the pre-bid meeting is not mandatory.
- **Document 00140 – Bidders Checklist:**
 - Provided to assist bidder, but does not relieve bidder from properly completing Bid.

- **Document 00200 – Instructions to Bidders:**

- Describes conditions related to the project, bid submittal, bid security, etc.
- Issuing Office: J-U-B ENGINEERS in Coeur d’Alene, ID; phone: (208) 762-8787. Questions should be directed to Scott Krallman (skrallman@jub.com); copies of the documents are available from Quest CDN (www.questcdn.com), project #9267886.
- Article 3 – Qualifications of Bidders
 - Bids will only be accepted by prequalified Prime Contractors as noted in the Advertisement for Bid
- Article 13 – Basis of Bid
 - Lump Sum
- Article 18 – Evaluation of Bids and Award of Contract
 - 18.04: If Owner awards the contract for the Work, such award will be to the responsible Bidder submitting the lowest responsive Base Bid; the bid price for potential Additive Alternates will not be considered in determining the lowest bid. Owner may choose not to award an Additive Alternate or award either Additive Alternate, in its sole discretion.
- Article 23 – State of Idaho Statutory Provisions
 - Review additional State of Idaho Statutory provisions

- **Document 00410 – Bid Form for Construction Contract:**

- Basis of Bid is lump sum
- Additive Alternatives for 3-year extended warranty, and for 5-year extended warranty

- **Document 00440 – Naming of Subcontractors Form:**
 - Per Idaho Code, 67-2310, Bidder shall include in his or her Bid the names and address, and Idaho Public Works Contractor License Number of the Subcontractors who shall, in the event the Bidder secures the Contract, subcontract the plumbing, heating and air-conditioning work, and electrical work under the general Contract. Failure to name Subcontractors as required, or indicate “Not Applicable” shall render any Bid submitted by the Bidder unresponsive and void.

SECTION 1-B CONTRACT FORMS

- **Contract Forms**
 - Utilized after bidding.
 - Construction Agreement
 - Contract Times:
 - Submittal, Fabrication, and Delivery of Pumps: Within 330 calendar days of Notice to Proceed for the first pump, with delivery of the remaining pumps within an additional 30 calendar days.
 - Construction Phase: Substantial Completion within 150 calendar days of receipt of equipment (beginning with receipt of the first pump); Final Completion of all work shall be accomplished within thirty (30) calendar days after receiving Substantial Completion.

SECTION 2 GENERAL CONDITIONS

- **ISPWC Division 100 – Standard General Conditions of the Construction Contract**
 - General Conditions pertaining to the Construction Contract

SECTION 3 SUPPLEMENTARY CONDITIONS

- **Supplementary Conditions modifying the General Conditions**
 - Insurance requirements for Contractor

SECTION 4 TECHNICAL SPECIFICATIONS

- **Technical Specifications**
 - Division 01 General Requirements
 - 01 32 17 Work Sequence:
 - Order of pump replacement
 - The Moscow WRF experiences high flows due to Infiltration and Inflow during the winter and spring months. All three influent pumps must be available for operation for the period of December 1 through April 30 and Work during this time is not permitted. Contractor's schedule shall accommodate delivery and completed installation of the pumps prior to this period. If all three pumps cannot be completed prior to December 1, 2025, Contractor will be granted a no-cost change order for a Winter Shutdown. Construction for the remaining pumps shall resume May 1, 2026, unless another date is mutually agreed to by Owner and Contractor.
 - Division 03 Concrete
 - Division 26 Electrical
 - Section 269210 – Control System
 - a. 1.13.A lists the seven approved C.S.I.'s
 - b. See requirements for C.S.I.

- Division 43 Equipment
 - Section 430510 – Equipment General Provisions
 - Section 432441 – Enclosed Archimedes Screw Pumps
 - a. 1.4 Pre-Qualification: All other equipment manufacturers, except the original manufacturer, shall submit to ENGINEER not less than (14) days prior to the bid date a complete pre-qualification package.
 - b. 2.1 Manufacturer:
 - Approved Manufacturer: Evoqua Water Technologies
 - Pre-approved “or-equals”: Lakeside Corporation

PLANS

- G-003: staging area, access route, and coordination requirements with Uofl research project.
- Pump must be removed, replaced, started-up and tested one at a time.
- D-IPS-101/N10: We intend to reuse the existing anchor bolts. There is a hold point after the base plate has been removed for the engineer to check the existing anchor bolts.

ADDENDA

- None issued to date

BIDDER QUESTIONS

1. *Are the contract days for the procurement of the first pump based on lead times provided from a supplier?*
 - a. *Yes; see answer to question 2 below.*
2. *Which supplier provided the lead times for the pumps?*
 - a. *Evoqua provided the lead times.*
3. *If the 330 calendar days for procurement of the first pump is accurate, and the project is not awarded until October or November, that will put the bulk of construction work in spring of 2026 based on the required winter shutdown period; is that correct?*
 - a. *Based on the expected submittal, fabrication, and delivery estimates provided by the major equipment vendors during design, we believe delivery in mid- to late-2025 is possible. Please reference Specification 01 32 17 Paragraph 3.4.C, which specifies periods in which work is not permitted and provisions for a no-cost Winter Shutdown. Bidder must factor these items in accordingly.*
4. *Sheet DX-IPS-001 note N10 appears to be point to the ladder, but the keyed note indicates this item is a splash curtain. Is the note wrong, or is where the arrow points wrong?*
 - a. *The note is correct. The splash curtains are on the other side of the wall, in the channel.*
5. *What is the process for bidding the project if Lakeside Corporation as the pump supplier instead of Evoqua?*
 - a. *The bidding process is the same for using either approved manufacturer (see SECTION 43 24 41 Paragraph 2.1 for pre-approved manufacturers), with the price being included in the Lump Sum Base Bid Total price in Article 3 of the Bid Form. Contractor will need to provide a list of proposed subcontractors and suppliers*

per the Contract Documents after execution of the agreement (see General Conditions Article 7.07).

6. *Can the road directly south of the WRF IPS be closed during construction?*
 - a. *Yes, so long as it is in accordance with SECTION 01 10 00 Paragraph 1.5.D.*
7. *Is the intention to remove and inspect all anchor bolts on the pump (i.e., top plate and bottom plate of pump mounting area), or just the top base plate anchor bolts?*
 - a. *After the existing base plates (both top and bottom plates) are removed, Contractor has a hold point for review of the anchor bolts by Engineer. See KEYED NOTE N10 on sheet D-IPS-101.*
8. *Where is the physical location of the items called out in Notes N1 and N10 on sheet E-IPS-101?*
 - a. *Keyed Notes N1 and N10 are shown on the sheet in their respective locations.*



Pre-Bid Meeting Attendance

PROJECT NAME: Water Reclamation Facility Influent Pump Station Upgrade

OWNER: City of Moscow

DATE/ TIME: September 5, 2024 at 2:00 PM

LOCATION: 206 E Thrid Street, Moscow, ID 83843; Council Chambers

Name	Organization	Email	Phone
Braxton Klas	J-U-B ENGINEERS, Inc.	bklas@jub.com	208-746-9010
Steven Schramm	J-U-B ENGINEERS, Inc.	sschramm@jub.com	208-746-9010
Scott Bontrager	City of Moscow	sbontrager@ci.moscow.id.us	208-883-7030
Evan Timar	City of Moscow	etimar@ci.moscow.id.us	208-883-7091
Joel Mearns	Apollo, Inc.	bids@agpollo-gc.com	509-586-1104
Victora Fragione	Clearwater Construction	torif@clearwaterconstruction.us	775-304-9297
Paul Clary	Clearwater Construction	paul@clearwaterconstruction.us	509-714-7412
Pete Trevino	TML Construction, Inc.	pete@tmlconst.com	208-762-3611

COMMITTEE / CITY COUNCIL STAFF REPORT

DATE: Monday, October 21, 2024



AGENDA ITEM TITLE

Discussion Regarding Potential Impact of Latah County Jail Closure (ACTION ITEM) - Bill Belknap / Joe Sieverding

RESPONSIBLE STAFF

Bill Belknap, City Administrator

ADDITIONAL PRESENTER(S)

Anthony Dahlinger, Police Chief

DESCRIPTION

Latah County has recently discussed the possibility of closing the Latah County jail located in the Latah County Courthouse at 522 S. Adams Street. While the consideration is ongoing and a final decision has not been made, Staff is concerned that the closure of the jail could present significant challenges to the operations of the Moscow Police Department. It is Staff's understanding, that the County is currently negotiating a contract with the Nez Perce County Detention Center to perform booking and house the County's inmates. If Latah County decides to close the jail facility, the Moscow Police Department would likely be required to transport any individuals in custody to the Nez Perce County facility for booking and detention. The City's Police force is already operating on minimum shift staffing and the potential loss of patrol staff to transport individuals to Lewiston will either result in a reduction of public safety or additional costs to the City to maintain on-call law enforcement personnel for the transport of individuals in custody to Lewiston. The City has already adopted our FY2025 budget which did not anticipate this potential issue as we had not received any indication from the County that they were considering closing the jail. Staff will review the potential impacts of this matter with the Council for the Council's consideration.

REVIEWED BY

PROPOSED ACTIONS

PROPOSED ACTIONS: Receive report and provide staff with direction.

STAFF RECOMMENDATION

Receive report and provide staff with direction.

OTHER RESOURCES

FISCAL IMPACT

PERSONNEL IMPACT

ATTACHMENTS

1. Jail Closure Memo - Signed



MEMORANDUM



Moscow Police Department *Office of the Chief of Police*

October 17, 2024

To: Bill Belknap, City Administrator

From: Anthony Dahlinger, Chief of Police *AD #107*

Subject: Jail Closure Impacts

The potential closure of the Latah County Jail presents significant budget, logistic and personnel issues for the Moscow Police Department and the City of Moscow. The following is my attempt at projecting the breadth of those possible impacts.

To begin, I researched the average number of physical arrests MPD officers made in the past five years. I did exclude the year 2020 due to the fact the pandemic and court orders restricted physical arrests at that time. So, I looked at 2018 – 2023. I found MPD averages 246 physical arrests per year which equates to 1.3 arrests every two days. With our current jail inside our city, the amount of time for an officer to get to the jail is mere minutes. The amount of time it takes the officer to transfer the custody of an arrested person to the Sheriff's Office is dependent on each situation and factors such as whether the individual is non-compliant and combative, if they require medical attention prior to incarceration, etc. However, typically, the process takes much less than an hour to complete.

If the jail closes and our officers are required to transport arrestees to the Nez Perce County Jail, this will increase the time needed to complete that task significantly. The Nez Perce County Jail is approximately 30 miles from the south Moscow City limits. This equates to an approximate 30–40-minute drive each way, in non-inclement weather. For the sake of this analysis, I proceeded with utilizing an average two-hour timeframe in which it would take an officer to transport an arrestee to the jail and return to Moscow. As stated previously, this timeframe can be significantly impacted by many factors; too many to list here.

As you are aware, due to many retirements and difficulties in recruitment, the Moscow Police Department has not been fully staffed for multiple years now. Because of this staffing shortage it has become commonplace for patrol teams to be operating at our minimum staffing level which is 3 officers on shift. This of course creates hardships as the ability for officers to take time off away from work for much needed rest and recuperation is greatly impacted. The phrases "overworked" and "burned out" have been uttered by many and most certainly that mindset has a direct effect on morale. Our officers have been doing an amazing job at continuing to provide the level of police services our community deserves despite this fact. I am very proud of their efforts and continued sacrifices.

Being at minimum staffing, especially during nights, weekends and holidays does not allow for an officer on duty to transport an arrestee to jail as it would leave the patrol shift short an officer. This shortage would create an unbearable safety risk to the officers and the community. There appear to be two solutions to this dilemma,

especially if the jail closure occurs soon. The first option would be to establish an on-call system where an officer would need to be available to transport arrestees at nights, on weekends and holidays.

This option creates a significant impact to the MPD and City of Moscow budget. For this portion of my analysis, I utilized the average benefitted hourly rate for police staff from the officer level to the rank of sergeant which is \$57.19/hr. It should be clarified, this is not a true 1.5x overtime rate of pay, but I believe this is sufficient at this time to show a realistic ball-park financial impact. Below you will find my computations:

On-Call:

1 officer @ night, 5 days a week (Mon-Fri)

5 X 2hours (on call compensation) = 10 hours

10 hours X \$57.19 (benefitted, non-OT rate average) = \$571.90/week

2 officers on weekends (one dayshift, one night shift, Sat-Sun)

2 officers X 8 hours (2 hours dayshift, 2 hours nightshift) = 16 hours

16 hours X \$57.19 = \$915.04/week

\$571.90 + \$915.04 = \$1,486.94/week

\$1,486.94 X 52 weeks = **\$77,320.88 (annually)**

Call Back:

246 Arrests X 2 hours (transfer) = 492 manhours

492 manhours X \$57.19 = **\$28, 137.48 (annually)**

Current MPD Overtime Budget for FY25 = \$115,000

\$28,137.48 / \$115,000 = **24%** of total OT budget for FY25

Total financial impact: **\$105,458.36 (annually)**

Of course, the addition of an on-call schedule where officers will be unable to fully enjoy some of the time off from work will likely have a direct, negative impact on our already precarious state of morale.

The second option would be to immediately restructure our patrol shift schedule. We are currently operating on a 12-hour shift schedule with 4 patrol teams working either dayshift 6AM-6PM or nightshift 6PM-6AM. The optimal choice would be to convert back to a 10-hour, 3 patrol team schedule MPD used many years ago. This type of schedule creates an overlap of officers between the swing shift and graveyard shifts that would likely provide enough officers on shift to allow for an arresting officer, on duty, to transfer an arrestee to jail. However, due to our current staffing levels, which are exacerbated by the budgetary hold-back of two vacant officer positions, this 10-hour schedule is currently impossible. I have tasked the MPD Operations Commander in the creation of potential hybrid-type schedules which could potentially allow for a similar on-duty transportation option. However, I have not received any schedule ideas as of this writing.

Another consideration is the increase in wear and tear on our fleet vehicles. For example:

246 arrests X 60 miles (round trip) = 14,760 additional miles on our fleet annually

This would certainly increase the amount of fuel, tires and general maintenance and hasten the obsolescence of our patrol vehicles which are currently rotated out at either 5 years or 85,000 miles whichever comes first. I do not currently have the metrics needed to compute a ball-park figure on what the financial impact to the City would be in this regard, but it most certainly would be considerable.

It is my belief, the most significant potential impact of this jail closure will be the safety of officers, arrestees and the community at large. Currently, an officer driving an arrestee to the Latah County Jail (typically no more than a mile) isn't without its potential hazards such as vehicle collisions, inclement weather, the arrestee becoming violent or attempting to escape etc. However, moving our jail facility to Nez Perce County increases the chances of problems arising dramatically. Instead of having a one-mile drive where something may go wrong, officers would now have 30 miles of driving, on a highway, usually at night, with harsh weather, without backup nearby, where problems may arise. This factor alone greatly increases the liability risk for the City of Moscow.

I am optimistic that the Sheriff's Office may be able to avoid this closure which, as I have depicted above, would save MPD and the City of Moscow a significant increase in potential safety issues, liability risk and budgetary impacts.