



## Public Works / Finance Committee

### Regular Meeting

Laurie M. Hopkins

### ~Agenda~

City Clerk

[www.ci.moscow.id.us](http://www.ci.moscow.id.us)

208.883.7015

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**Monday**

**Council Chambers**

**4:15 PM**

**October 22, 2018**

**206 E. Third St.**

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### Action Items

**1. Approval Of Public Works/Finance Committee October 8, 2018 Minutes – Laurie M. Hopkins**

Documents:

[PWF MINUTES OF 10-08-18.PDF](#)

**2. WRRF Slide Gates Replacement Project - 2018 (ACTION ITEM) - Nate Suhr**

The City published an advertisement for bids on October 9, 2018 for the Water Reclamation and Reuse Facility (WRRF) Slide Gates Replacement Project. The base bid for the project includes the removal and replacement of six existing (48" x 50") slide gates within "Box G" at the WRRF. The six new (48" x 50") slide gates had been previously purchased by the City and the manufacturer's plans and specifications for the new gates were provided as part of the bid proposal package. The Engineer's estimate for the project was \$34,690.50.

Bid opening for the project took place on October 16, 2018, at which two bids were received. Of the responsive bids received, numbers ranged from \$27,650.48 to \$48,590.50. Clearwater Construction & Management was the low bidder on the project and a bid tabulation is attached.

**PROPOSED ACTIONS:** Recommend acceptance of the low bid from Clearwater Construction & Management, award the contract in the amount of \$27,650.48, and authorize staff approval for construction change orders in an amount not to exceed 10% of the contract amount; or provide staff further direction.

Documents:

[WRRF SLIDE GATES REPLACEMENT.PDF](#)

**3. Assistance To Firefighters Grant Request (ACTION ITEM) - Alisa**

## Anderson

The Assistance to Firefighters Grant (AFG) program goal is to enhance the safety of the public and firefighters with respect to fire and fire-related hazards and provides direct financial assistance to eligible fire departments. The purpose of the funding is to provide critically needed resources to equip and train emergency personnel to recognize standards, enhance operational efficiencies, foster interoperability, and support community resilience.

The Moscow Fire Department is requesting to submit a funding request to the AFG program to purchase new communications equipment to replace obsolete, unusable, and/or unrepairable equipment to meet current standards which require radio systems to be P25 compliant. The P25 standard refers to the manufacturing of interoperable digital two-way wireless communications products. Project 25 Compliance (P25) is a suite of standards which enable interoperability among digital two-way land mobile radio communications products created by and for public safety professionals. P25 radios are a direct replacement for analog FM radios but add the ability to transfer data as well as voice, allowing for more natural implementation of encryption or messaging.

The Moscow Fire Department is proposing to request mobile repeaters, mobile radios, portable radios, and pagers for use by staff and volunteer firefighters. The total cost is estimated not to exceed \$258,000. The AFG program requires a 10% match of the awarded amount. Attached to this report is the Notice of Funding Availability (NOFA) outlining the program requirements and guidelines. The grant application is due on October 26, 2018.

**PROPOSED ACTIONS:** Recommend approval to submit a funding request to the Assistance to Firefighters Grant program for communications equipment not to exceed \$258,000 or provide staff further direction.

Documents:

[ASST FIREFIGHTERS GRANT.PDF](#)

## 4. Castleford Street Encroachment Request - Abbott (ACTION ITEM) - Bob Buvel

Dwayne and Monica Abbott, the owners of the lot at 2830 Hampton Court, have applied for a right of way encroachment to construct a retaining wall in the Castleford Street right-of-way along the north side of their property. Their house at 2830 Hampton Court was built in the first constructed phase of the Southgate 3rd Subdivision. Road construction in the second phase of the subdivision undermined the slope supporting the house, creating an unstable situation. Their proposed solution to the problem is a joint effort between the Abbotts and the developer to build a wall that will retain an engineered sloped embankment below the house foundation. If the wall is built with the encroachment into the right of way (near the back of the sidewalk) it will save the developer and the property owner \$10,500 to \$13,000 versus building the wall on the Abbott's private property. The franchise utility companies have all written letters stating they have no intention of exercising use of the public utility easement along the subject frontage.

**PROPOSED ACTIONS:** Recommend approval of the encroachment request and attached encroachment agreement; recommend denial of the

encroachment request; or provide staff further direction.

Documents:

[CASTLEFORD ST ENCROACHMENT REQUEST.PDF](#)

**5. South Main Pedestrian Underpass Project (ACTION ITEM) - Bill Belknap**

During the recent floodplain study near the intersection of South Main and the Troy Highway, the City Council expressed interest in exploring the construction of a pedestrian underpass of South Main/U.S. 95 using the existing bridge structure in a similar fashion to the underpass that is currently under construction underneath State Highway 8 at the Styner/White intersection. On June 4, 2018, the City Council agreed to jointly fund an assessment of a potential south main underpass with the Moscow Urban Renewal Agency. The underpass assessment has been completed and it has concluded that the underpass is feasible and would not increase flood elevations within the area. Staff is seeking direction from the Council regarding if the Council would like to pursue a grant application for the project.

**PROPOSED ACTIONS:** Receive report and provide recommendation to the City Council; or provide staff further direction.

Documents:

[S MAIN PED UNDERPASS.PDF](#)

**6. Fire Station #2 Re-Roof Project Professional Services Agreement (ACTION ITEM) - David Schott**

Staff is requesting authorization to retain Associated Architects for full service architectural services for the Fire Station #2 re-roof project at a cost of \$7,660. Full architectural services include: construction documents, cost estimation, bidding and negotiation, and construction administration.

Over the past years, facilities staff have patched numerous leaks in the 3,442 square foot roof. Staff proposes an R Mer Lite roofing system by the Garland Company. The R Mer Lite roofing system is a robust metal roof with a 30 year warranty and similar roofs have been installed on the 1912 Center, Intermodal Transit Center, many of the University of Idaho buildings, and many of the Moscow School District buildings.

The FY19 budget for the project is \$69,900 and includes architectural services and construction. The budgetary line item for the architectural expense will be General Fund Capital Projects, 350-310-20-770-72.

If approved, staff anticipates construction documents and cost estimates to be completed by the end of January 2019 and issue of a Solicitation for Bids in February.

**PROPOSED ACTIONS:** Recommend approval of Associated Architects to provide full service architectural services for Fire Station #2 Re-Roof Project at a cost of \$7,660; and issuance of Solicitation for Bids, or provide staff with further direction.

Documents:

[FIRE STATION 2 REROOF.PDF](#)

## **Reports**

### **1. A Street Reconstruction - Stage 2 Status Report - Les MacDonald**

**Adjourn**

**NOTICE:** Moscow City Council and committee meetings are televised, videotaped and/or recorded. Individuals attending the meeting who require special assistance to accommodate physical, hearing, or other impairments, please contact the City Clerk, at (208) 883-7015 or TDD 883-7019, as soon as possible so that arrangements may be made.



## Public Works/Finance Committee

Regular Meeting  
~Minutes~

Laurie M. Hopkins  
City Clerk

[www.ci.moscow.id.us](http://www.ci.moscow.id.us)

208.883.7015

**Monday**  
**October 8, 2018**

**4:30 PM**

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

**The meeting was called to order at 4:30 PM**

**PRESENT:** Kathryn Bonzo Chair, Jim Boland Councilmember, Brandy Sullivan Councilmember

**OTHERS:** Mayor Lambert, Council Member Gina Taruscio, Council Member Art Bettge; Council Member Anne Zabala

**STAFF:** Jen Pfiffner, Sarah Banks, Mia Vowels, Leah Carlson, Bill Belknap

**1. Approval of Public Works/Finance Committee September 10, 2018 and September 24, 2018 Minutes (ACTION ITEM) – Laurie M. Hopkins**

**RESULT:** ACCEPTED [UNANIMOUS]

**AYES:** Kathryn Bonzo, Jim Boland, Brandy Sullivan

**2. Disbursement Report for September 2018 (ACTION ITEM) - Sarah Banks**

Presentation of the Accounts Payable Report for the month ending September 30, 2018. This was reviewed, signed and recommended for approval by the Public Works/Finance Committee on October 8, 2018.

**ACTION:** Approve and sign the Disbursements Report for the month of September 2018.

Banks gave details regarding the major expenditures for the month. The Committee recommended approval, signed the report and forwarded to the Council consent agenda.

**3. Proposed Lot Division at 209 Rodeo Drive (ACTION ITEM) - Leah Carlson**

Cody Merrill is requesting a lot division to divide an existing 4.69 acre parcel into two parcels of approximately 2.11 acres and 2.58 acres in size. The lot division is intended to accommodate a Self-Storage Facility which was approved for a Conditional Use Permit by the Board of Adjustment on August 29th, 2018. The subject property is within the Motor Business (MB) Zoning District which has no minimum lot width or size requirements, therefore all proposed lots meet current requirements. Property owners within 600 feet of the property have been notified of the proposed division and the site was posted seven (7) days prior to the public meeting date. This was reviewed and recommended for approval by the Public Works/Finance Committee on October 8, 2018.

**PROPOSED ACTIONS:** Take public comment if applicable and recommend approval of the lot division request with no conditions; or recommend approval of the lot division request with conditions; or recommend denial of the lot division request; or provide staff further direction.

Carlson introduced the item as written above. There was no public comment and the Committee felt it was straightforward. The Committee recommended approval and that it be placed on the Council consent agenda.

**4. Palouse Regional Housing Needs Assessment (ACTION ITEM) - Jen Pfiffner**

Communities and employers throughout the Palouse have voiced concerns regarding a lack of affordable housing. As housing impacts the well-being and economic security of every individual

Minutes Acceptance: Minutes of Oct 8, 2018 4:30 PM (Regular Items)

and family on the Palouse, attending to the region's housing challenges provides a significant opportunity for improving the quality of lives and the economy of the region.

The issue of affordable housing is not unique to Idaho, especially on the Palouse, considering the proximity of Idaho and Washington. Given the regional impacts of the issue, coupled with PEP's commitment and foundation in partnership and the severity of the issue as reported by members of PEP and highlighted in the ALICE Report developed by United Way, the organization looks forward to taking the lead in coordinating a Palouse Regional Housing Needs Assessment.

PEP is requesting the City of Moscow participate in the study and provide a financial commitment of \$10,000. The goal of the assessment is to provide a clear understanding of the affordable housing issue and to provide the information needed to begin working head on to address the problem.

**PROPOSED ACTIONS:** Recommend approval of financial participation in the Palouse Regional Housing Needs Assessment in the amount of \$10,000 or provide staff further direction.

Gina Taruscio, Executive Director and Paul Kimmell, Vice President of PEP presented the request. PEP is approaching the lack of affordable housing as a regional approach and commitment. The Asset Limited, Income Constrained Employed (ALICE) report shows 50% of the area workforce is working poor. Housing cost pushes the working poor to rural areas but transportation and energy costs depletes the savings. A report by the National Low Income Housing Coalition looked at the cost of housing and how it impacts a family budget. PEP has been talking with the surrounding cities, universities, hospitals, and service agencies on how to address the approach in a holistic regional collaborative way. There have been studies in the past that have had a narrow focus. This will be an assessment with a sophisticated understanding so that a sophisticated solution can be found with a focus on Latah and Whitman Counties. Many engagement opportunities with the community will take place. Kimmell highlighted the timeline and list of tasks.

Boland agrees affordable housing is a complex issue. He is interested in seeing strategies that have been implemented from other communities to determine the return of investment. Sullivan said benchmarks for comparing is useful, but asked if this assessment will include qualitative descriptive things of what those communities are doing. She feels the assessment appears to be data on the problem and would like to know how much of the assessment will include what we can do. Taruscio explained as the research is reviewed, the solutions will be guided by that qualitative information, such as the focus groups and interviews. Kimmell explained they have a steering committee with good representation such as Bill Belknap, Pullman city officials, Community Action, commercial real estate and county reps as well. More members for the committee are welcome if there is interest. Bonzo broached the subject of funding and if the mission statement of PEP changed. Kimmell explained the larger stakeholders have committed the most with other stakeholders committing less. PEP also has funding. Taruscio and Kimmell explained how affordable housing, transportation, etc. are all facets that fall within economic development.

The Committee recommended forwarding to the full Council for discussion in a month. They would like Kimmell and Taruscio to come back with strategies on how this assessment is leading to solutions; action plans from other communities and how it improved their economy; what will be provided at the end of the assessment.

### **Adjourn**

The meeting was closed at 5:21 PM

**MOSCOW CITY COUNCIL AGENDA****Meeting Date:** 10/22/2018**Title:** WRRF Slide Gates Replacement Project - 2018 (ACTION ITEM)**Responsible Staff:** Nate Suhr

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***Information***

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**DESCRIPTION:** The City published an advertisement for bids on October 9, 2018 for the Water Reclamation and Reuse Facility (WRRF) Slide Gates Replacement Project. The base bid for the project includes the removal and replacement of six existing (48" x 50") slide gates within "Box G" at the WRRF. The six new (48" x 50") slide gates had been previously purchased by the City and the manufacturer's plans and specifications for the new gates were provided as part of the bid proposal package. The Engineer's estimate for the project was \$34,690.50.

Bid opening for the project took place on October 16, 2018, at which two bids were received. Of the responsive bids received, numbers ranged from \$27,650.48 to \$48,590.50. Clearwater Construction & Management was the low bidder on the project and a bid tabulation is attached.

**STAFF RECOMMENDATION:** Recommend acceptance of the low bid from Clearwater Construction & Management, award the contract in the amount of \$27,650.48, and authorize staff approval for construction change orders in an amount not to exceed 10% of the contract amount.

**PROPOSED ACTIONS:** Recommend acceptance of the low bid from Clearwater Construction & Management, award the contract in the amount of \$27,650.48, and authorize staff approval for construction change orders in an amount not to exceed 10% of the contract amount; or provide staff further direction.

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***Necessary Resources/Impacts***

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(PERSONNEL) City staff will administer the construction contract and inspection  
 11/05/18      230.230.60.68.40 · Sewer Fund R&M Equipment      \$27,650.48

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***Attachments***

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WRRF Slide Gates Replacement Project - 2018 -- Bid Tabulations  
 DRAFT ConstructionAgreement-ClearwaterWRRFBoxGSlideGateReplacement

|                                                                                          |                                    |          |      |                    |              |
|------------------------------------------------------------------------------------------|------------------------------------|----------|------|--------------------|--------------|
| PROJECT:<br>WRRF Slide Gates Replacement Project - 2018<br>Bids Opened 10-16-2018 3:15PM |                                    |          |      | Engineers Estimate |              |
| BASE BID                                                                                 |                                    | Quantity | Unit |                    |              |
| Item No.                                                                                 | Description                        |          |      |                    |              |
| 1                                                                                        | Mobilization                       | 1        | LS   | \$ 1,500.00        | \$ 1,500.00  |
| 2                                                                                        | Remove Slide Gate                  | 6        | EA   | \$ 1,250.00        | \$ 7,500.00  |
| 3                                                                                        | Install Slide Gate                 | 6        | EA   | \$ 4,000.00        | \$ 24,000.00 |
| 4                                                                                        | Sales Tax For City Furnished Gates | 1        | LS   | \$ 1,690.50        | \$ 1,690.50  |
|                                                                                          |                                    |          |      |                    |              |
| BID TOTALS                                                                               |                                    |          |      | TOTAL \$ 34,690.50 |              |

|                                                      |              |
|------------------------------------------------------|--------------|
| BID FROM:<br>Clearwater Construction &<br>Management |              |
| Unit Price                                           | Total        |
| \$ 1,400.00                                          | \$ 1,400.00  |
| \$ 920.00                                            | \$ 5,520.00  |
| \$ 3,173.33                                          | \$ 19,039.98 |
| \$ 1,690.50                                          | \$ 1,690.50  |
|                                                      |              |
| TOTAL \$ 27,650.48                                   |              |

|                               |              |
|-------------------------------|--------------|
| BID FROM:<br>TML Construction |              |
| Unit Price                    | Total        |
| \$ 4,000.00                   | \$ 4,000.00  |
| \$ 2,500.00                   | \$ 15,000.00 |
| \$ 4,650.00                   | \$ 27,900.00 |
| \$ 1,690.50                   | \$ 1,690.50  |
|                               |              |
| TOTAL \$ 48,590.50            |              |

CONSTRUCTION AGREEMENT  
FOR WRRF SLIDE GATES REPLACEMENT PROJECT - 2018  
BETWEEN CITY OF MOSCOW, IDAHO  
AND CLEARWATER CONSTRUCTION AND MANAGEMENT, LLC.

THIS CONSTRUCTION AGREEMENT FOR WRRF SLIDE GATES REPLACEMENT PROJECT – 2018 BETWEEN CITY OF MOSCOW, IDAHO AND CLEARWATER CONSTRUCTION AND MANAGEMENT, LLC. INC. (hereinafter “Agreement”), dated this \_\_\_\_ day of \_\_\_\_\_, 2018, by and between the City of Moscow, Idaho, a municipal corporation of the State of Idaho, 206 East Third Street, Moscow, Idaho, 83843 (hereinafter "CITY"), and Clearwater Construction and Management, LLC., 5711 West Garden Springs Road, Spokane Washington, 99224 (hereinafter "CONTRACTOR");

WITNESSETH:

WHEREAS, pursuant to the invitation of CITY, extended through a "Solicitation for Bids", CONTRACTOR submitted a proposal containing an offer invited by said solicitation; and

WHEREAS, CITY has determined that said offer was the lowest responsive bid; and

WHEREAS, CITY has accepted CONTRACTOR's bid;

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 five (5), and the following:

1. Advertisement for Bids;
2. Project Specifications titled: WRRF Slide Gates Replacement Project – 2018  
City of Moscow Project No. 110-018
3. Bid/Proposal of CONTRACTOR, dated October 16, 2018, attached to this Agreement;
4. The Engineering Plans;
5. Performance and Payment Bonds, and Insurance Certificates, physically attached to this Agreement;
6. No Addendum issued prior to opening of bids;
7. 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.

## 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:

“WRRF Slide Gates Replacement Project - 2018”

## ARTICLE 3. CONTRACT TIME/SUBSTANTIAL COMPLETION

The work to be performed pursuant to this Agreement shall not start prior to November 5, 2018 and shall be substantially completed by December 28, 2018. The work shall be completed within Forty Five (45) calendar days from the commencement of work, 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 and shall complete the work prior to the date of completion.

## ARTICLE 4. CONTRACT SUM

CITY shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents in current funds in the amount of Twenty-Seven Thousand Six Hundred Fifty and 48/100 Dollars (\$27,650.48) for Base Bid, as submitted by CONTRACTOR. In no event shall Contract amount exceed CONTRACTOR’s bid amount of Twenty-Seven Thousand Six Hundred Fifty and 48/100 Dollars (\$27,650.48) unless otherwise authorized by CITY. Any such increase in work shall be compensated in accordance with unit pricing terms specified in bid documents. Said Contract Sum shall be paid in accordance with the Contract Documents.

## ARTICLE 5. INDEPENDENT CONTRACTOR

The Parties warrant by their signature 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 6. SCOPE OF SERVICES

CONTRACTOR shall perform all services required by the Contract Documents. All work shall be completed in accordance with the specifications and plans established for this Project.

## ARTICLE 7. HOLD HARMLESS/INDEMNIFICATION

In addition to other rights granted 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, and 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 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 8. CONFLICT OF INTEREST

CONTRACTOR covenants that it presently has no interest and will 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 will 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 the Project Engineer/Engineer and CITY.

#### ARTICLE 9. ENTIRE AGREEMENT, MODIFICATION AND ASSIGNABILITY

This Agreement and the exhibits 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 10. 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 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.

#### ARTICLE 11. 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 12. 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 13. JURISDICTION AND VENUE

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.

#### ARTICLE 14. SPECIAL WARRANTY

CONTRACTOR warrants that nothing of monetary value has been given, promised, or implied as remuneration or inducement to enter into the 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.

#### ARTICLE 15. COMMUNICATIONS

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

|                                                          |                       |
|----------------------------------------------------------|-----------------------|
| Contractor: Clearwater Construction and Management, LLC. | City: City Engineer   |
| 5711 W. Garden Springs Road                              | City of Moscow        |
| Spokane, Washington 99224                                | 206 East Third Street |
|                                                          | P O Box 9203          |
|                                                          | Moscow, Idaho 83843   |

#### ARTICLE 16. APPROPRIATIONS AND APPROVAL

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 17.  
APPROVAL REQUIRED

This Agreement shall not become effective or binding until approved by the City of Moscow.

IN WITNESS WHEREOF, said CONTRACTOR and CITY have caused this Agreement to be executed on the day and year first above written.

Contractor: Clearwater Construction and  
Management, LLC.

City: City of Moscow, Idaho

By: \_\_\_\_\_

\_\_\_\_\_  
Bill Lambert, Mayor

ATTEST:

By: \_\_\_\_\_

\_\_\_\_\_  
Laurie M. Hopkins, City Clerk

Approved As To Form:

\_\_\_\_\_  
Mia Vowels, City Attorney

ACKNOWLEDGMENT

STATE OF \_\_\_\_\_ )  
 ) ss:  
County of \_\_\_\_\_ )

On this \_\_\_\_ day of \_\_\_\_\_, 2018, before me, the undersigned, a Notary in and for said State, personally appeared \_\_\_\_\_ and \_\_\_\_\_ known to me to be the person(s) whose name(s) is/are subscribed to the foregoing Agreement and acknowledged to me that he/she/they executed the same in his/her/their capacity as \_\_\_\_\_ for Clearwater Construction and Management, LLC.

(seal)

\_\_\_\_\_  
Notary Public residing at: \_\_\_\_\_  
My commission expires: \_\_\_\_\_

**MOSCOW CITY COUNCIL AGENDA****Meeting Date:** 10/22/2018**Title:** Assistance to Firefighters Grant Request (ACTION ITEM)**Responsible Staff:** Alisa Anderson

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***Information***

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**DESCRIPTION:** The Assistance to Firefighters Grant (AFG) program goal is to enhance the safety of the public and firefighters with respect to fire and fire-related hazards and provides direct financial assistance to eligible fire departments. The purpose of the funding is to provide critically needed resources to equip and train emergency personnel to recognize standards, enhance operational efficiencies, foster interoperability, and support community resilience.

The Moscow Fire Department is requesting to submit a funding request to the AFG program to purchase new communications equipment to replace obsolete, unusable, and/or unrepairable equipment to meet current standards which require radio systems to be P25 compliant. The P25 standard refers to the manufacturing of interoperable digital two-way wireless communications products. Project 25 Compliance (P25) is a suite of standards which enable interoperability among digital two-way land mobile radio communications products created by and for public safety professionals. P25 radios are a direct replacement for analog FM radios but add the ability to transfer data as well as voice, allowing for more natural implementation of encryption or messaging.

The Moscow Fire Department is proposing to request mobile repeaters, mobile radios, portable radios, and pagers for use by staff and volunteer firefighters. The total cost is estimated not to exceed \$258,000. The AFG program requires a 10% match of the awarded amount. Attached to this report is the Notice of Funding Availability (NOFA) outlining the program requirements and guidelines. The grant application is due on October 26, 2018.

**STAFF RECOMMENDATION:** Approval to submit a funding request to the Assistance to Firefighters Grant program for communications equipment not to exceed \$258,000.

**PROPOSED ACTIONS:** Approval to submit a funding request to the Assistance to Firefighters Grant program for communications equipment not to exceed \$258,000 or provide staff further direction.

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***Necessary Resources/Impacts***

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Required match of \$25,800 or 10% of awarded amount.

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***Attachments***

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FY\_2018\_AFG\_NOFO CCSR

**The Department of Homeland Security (DHS)**  
**Notice of Funding Opportunity (NOFO)**  
**Fiscal Year 2018 Assistance to Firefighters Grants**

**NOTE:** Eligible recipients who plan to apply for this funding opportunity, but who have not obtained a Data Universal Numbering System (DUNS) number and/or are not currently registered in the System for Award Management (SAM), should take immediate action to obtain a DUNS Number, if applicable, and then to register immediately in SAM. It may take four weeks or more after the submission of a SAM registration before the registration becomes active in SAM, then an additional 24 hours for [Grants.gov](http://www.grants.gov) to recognize the information. Information on obtaining a DUNS number and registering in SAM is available from [Grants.gov](http://www.grants.gov) at <http://www.grants.gov/web/grants/register.html>. Detailed information regarding DUNS and SAM is also provided in Section D of this Notice of Funding Opportunity (NOFO), subsection, Content and Form of Application Submission.

**A. Program Description**

**Issued By**

US Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA)/Grant Programs Directorate (GPD)

**Catalog of Federal Domestic Assistance (CFDA) Number**

97.044

**CFDA Title**

Assistance to Firefighters Grants (AFG)

**Notice of Funding Opportunity Title**

FY 2018 Assistance to Firefighters Grants

**Notice of Funding Opportunity Number**

DHS-18-GPD-044-00-99

**Authorizing Authority for Program**

Section 33 of the *Federal Fire Prevention and Control Act of 1974*, Pub. L. No. 93-498, as amended (15 U.S.C § 2229)

**Appropriation Authority for Program**

*Department of Homeland Security Appropriations Act, 2018* (Pub. L. No. 115-141)

**Program Type**

New

## Program Overview, Objectives, and Priorities

### *Program Overview*

The FY 2018 Assistance to Firefighters Grant (AFG) Program is set against the backdrop of a year in which the United States faced numerous and unprecedented homeland security challenges. These included the three major hurricanes that devastated parts of Texas, Florida, and much of Puerto Rico and the U.S. Virgin Islands, as well as massive wildfires across the State of California. In addition to these natural disasters, the Nation also responded to multiple incidents as part of the evolving threat landscape, including witnessing the first known terrorist attack executed against mass transportation on our soil; cyberattacks against critical port infrastructure; and mass casualty events involving both vehicles and active shooters.

The National Preparedness Goal (the Goal) defines what it means to be prepared for such diverse and complicated events. The National Preparedness System is the instrument the Nation employs to build, sustain, and deliver the core capabilities needed to achieve the goal of a more secure and resilient Nation. The development and sustainment of these core capabilities is not exclusive to any single level of government or organization, but rather requires the combined effort of the whole community. To that end, the FY 2018 AFG Program represents one part of a comprehensive set of measures authorized by Congress and implemented by the Administration. Among the five basic homeland security missions noted in the DHS Quadrennial Homeland Security Review, the AFG Program supports the goal to Strengthen National Preparedness and Resilience.

The recently released [2018-2022 FEMA Strategic Plan](#) creates a shared vision for the field of emergency management and sets an ambitious, yet achievable, path forward to unify and further professionalize emergency management across the country. The AFG Program supports the goals of Building a Culture of Preparedness and Readying the Nation for Catastrophic Disasters. We invite all of our stakeholders and partners to also adopt these priorities and join us in fostering a more prepared and resilient Nation.

### *Program Objectives*

The purpose of the AFG Program is to enhance the safety of the public and firefighters with respect to fire and fire-related hazards. The program provides direct financial assistance to eligible fire departments, nonaffiliated emergency medical service (EMS) organizations, and State Fire Training Academies (SFTA). The funds provide critically needed resources that equip and train emergency personnel to recognized standards, enhance operational efficiencies, foster interoperability, and support community resilience.

In awarding grants, the Administrator of FEMA is required to consider the following:

- The findings and recommendations of the Technical Evaluation Panel (TEP).
- The degree to which an award will reduce deaths, injuries, and property damage by reducing the risks associated with fire related and other hazards.
- The extent of an applicant's need for an AFG grant and the need to protect the United States as a whole.

- The number of calls requesting or requiring a firefighting or emergency medical response received by an applicant.

Performance metrics for this program are as follows:

- Percentage of AFG PPE recipients who equipped 100 percent of on-duty active members with PPE in compliance with applicable NFPA and OSHA standards
- Percentage of AFG equipment recipients who reported that the AFG grant brought them into compliance with either state, local, NFPA, or OSHA standards
- Percentage of AFG award recipients who reported having successfully replaced their fire vehicles 25 years old or older in accordance with industry standards

### **Priorities**

Information on program priorities and objectives for the FY 2018 AFG can be found in [Appendix B](#), FY 2018 AFG Programmatic Information and Priorities.

The AFG Program also addresses the following “Core Capabilities” of the National Preparedness Goal:

- Fire Management and Suppression
- Environmental Response/Health and Safety
- Threats and Hazards Identification
- Public Health, Healthcare, and Emergency Medical Services
- Operational Coordination
- Operational Communications
- Mass Search and Rescue Operations
- Community Resilience
- Long-term Vulnerability Reduction

## **B. Federal Award Information**

### **Award Amounts, Important Dates, and Extensions**

**Available Funding for the NOFO:** \$315,000,000<sup>1</sup>

**Projected number of Awards:** 2,500

**Period of Performance:** Twelve months from the date of award. For additional information on period of performance extensions, refer to Section H. Additional Information and [Appendix C: Award Administration Information](#), VIII. Payments and Amendments.

**Projected Period of Performance Start Date(s):** 11/12/2018

<sup>1</sup> Note that this figure differs from the total amount appropriated under the *Department of Homeland Security Appropriations Act, 2018*, Pub. L. No. 115-141. In this FY 2018 AFG NOFO, percentages of “available grant funds” refers to the total amount appropriated—\$350,000,000—by Pub. L. No. 115-141 to meet the statutory requirements of § 33 of the *Federal Fire Prevention and Control Act of 1974*, as amended. A portion of these “available grant funds” will be allocated to the Fire Prevention & Safety (FP&S) program, which will have a separate NOFO and application period. \$35,000,000 will be allocated to FP&S for FY 2018.

**Projected Period of Performance End Date(s): 11/11/2019**

**Funding Instrument:** Grant

**C. Eligibility Information**

**Eligible Applicants**

Fire Departments: Fire departments operating in any of the 50 states, as well as fire departments in the District of Columbia, the Commonwealth of the Northern Mariana Islands, the U.S. Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico,<sup>2</sup> or any federally recognized Indian tribe or tribal organization. A fire department is an agency or organization having a formally recognized arrangement with a state, territory, local, or tribal authority (city, county, parish, fire district, township, town, or other governing body) to provide fire suppression to a population within a geographically fixed primary first due response area.

Nonaffiliated EMS organizations: Nonaffiliated EMS organizations operating in any of the 50 states, as well as the District of Columbia, the Commonwealth of the Northern Mariana Islands, the U.S. Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico,<sup>2</sup> or any federally recognized Indian tribe or tribal organization. A nonaffiliated EMS organization is an agency or organization that is a public or private nonprofit emergency medical service entity providing medical transport that is not affiliated with a hospital and does not serve a geographic area in which emergency medical services are adequately provided by a fire department.

FEMA considers the following as hospitals under the AFG Program:

- Clinics
- Medical centers
- Medical college or university
- Infirmary
- Surgery centers
- Any other institution, association, or foundation providing medical, surgical, or psychiatric care and/or treatment for the sick or injured.

State Fire Training Academies: A State Fire Training Academy (SFTA) operates in any of the 50 states, as well as the District of Columbia, the Commonwealth of the Northern Mariana Islands, the U.S. Virgin Islands, Guam, American Samoa, and the Commonwealth of Puerto Rico.<sup>2</sup> Applicants must be designated either by legislation or by a Governor's declaration as the sole fire service training agency within a state, territory, or the District of Columbia. The designated SFTA shall be the only agency/bureau/division, or entity within that state, territory, or the District of Columbia.

<sup>2</sup> The District of Columbia, the Commonwealth of the Northern Mariana Islands, the U.S. Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico are all defined as "States" in the Federal Fire Prevention and Control Act of 1974.

## Eligible Activities

AFG has three program activities:

- Operations and Safety
- Vehicle Acquisition
- Regional Projects

Each activity has its own eligibility requirements. These requirements are outlined in [Appendix B](#): Programmatic Information and Priorities.

## Other Eligibility Criteria

### ***National Fire Incident Reporting System (NFIRS)***

NFIRS reporting is not a requirement to apply for any AFG Program; however, fire departments that receive funding under this program must agree to provide information to the NFIRS for the period covered by the assistance. If a recipient does not currently participate in the incident reporting system and does not have the capacity to report at the time of the award, that recipient must agree to provide information to the system for a twelve-month period commencing as soon as possible after they develop the capacity to report. Capacity to report to the NFIRS must be established prior to the termination of the one-year performance period. The recipient may be asked by FEMA to provide proof of compliance in reporting to NFIRS. Any recipient that stops reporting to NFIRS during their grant's period of performance may be subject to the remedies for noncompliance at 2 C.F.R. § 200.338, unless they have yet to develop the capacity to report to NFIRS, as described above.

There is no NFIRS reporting requirement for nonaffiliated EMS organizations or SFTAs.

**Note:** While data collection is an important tool for understanding and justifying assistance, participation in other data sources, (e.g., National Fire Operations Reporting System (NFORS)) does not satisfy the requirement for reporting to NFIRS).

### ***National Incident Management System (NIMS) Implementation***

AFG applicants are not required to be in compliance with the NIMS to apply for AFG funding or to receive an AFG award. Any applicant who receives an FY 2018 AFG award must achieve the level of [NIMS compliance](#) required by the Authority Having Jurisdiction (AHJ) over the applicant's emergency service operations (e.g., a local government), prior to the end of the grant's period of performance.

## Maintenance of Effort

As required by 15 U.S.C. § 2229(k)(3), an applicant seeking an AFG grant shall agree to maintain, during the term of the grant, the applicant's aggregate expenditures relating to activities allowable under this NOFO, at not less than 80 percent of the average amount of such expenditures in the two preceding fiscal years to the year this grant is awarded.

## Cost Share or Match

Grant recipients must share in the costs of the projects funded under this grant program as required by 15 U.S.C. 2229(k)(1) and in accordance with applicable federal regulations at 2 CFR Part 200, but they are not required to have the cost-share at the time of application nor at the time of award. However, before a grant is awarded, FEMA will contact potential awardees to determine whether the grant recipient has the funding in hand or if the grant recipient has a viable plan to obtain the funding necessary to fulfill the cost-sharing requirement.

Recipient cost sharing is generally required as described below.

In general, eligible applicants shall agree to make available non-federal funds to carry out an AFG award in an amount equal to not less than 15 percent of the grant awarded. Exceptions to this general requirement apply to entities serving smaller communities as follows:

- When serving a jurisdiction of 20,000 residents or fewer, the applicant shall agree to make available non-federal funds in an amount equal to not less than 5 percent of the grant awarded;
- When serving a jurisdiction of more than 20,000 residents, but not more than 1,000,000 residents, the applicant shall agree to make available non-federal funds in an amount equal to not less than 10 percent of the grant awarded;
- When serving a jurisdiction of more than 1,000,000 residents, the applicant shall agree to make available non-federal funds in an amount equal to not less than 15 percent of the grant awarded.

The cost share for SFTAs will apply the requirements above based on the total population of the state.

The cost share for a Regional application will apply the requirements above based on the aggregate population of the primary first due response areas of the Host and participating partner organizations that execute a Memorandum of Understanding (MOU) as described in [Appendix B](#), Section J, Regional projects.

FEMA has developed a cost share calculator tool in order to assist applicants with determining their cost share. The cost share tool is available at: <https://www.fema.gov/media-library/assets/documents/153366>

### *Types of Cost Share*

- i. Cash (Hard Match): Cost share of non-federal cash is the only allowable recipient contribution for AFG activity (Vehicle Acquisition, Operations and Safety, and Regional).
- ii. Trade-In Allowance/Credit: On a case-by-case basis, FEMA may allow recipients already owning assets acquired with non-federal cash, to use the trade-in allowance/credit value of those assets as cash for the purpose of meeting their cost share obligation. In order for FEMA to consider a trade-in allowance/credit value as cash, the allowance amount must be reasonable, and

the allowance amount must be a separate entry clearly identified in the acquisition documents.

- iii. In-kind (Soft Match): In-kind cost share is not allowable for AFG.
- iv. Overmatch: In the application narrative, an organization may indicate a voluntary pledge to commit additional financial support toward a project(s) cost, which is in addition to their required cost share obligation as detailed in the NOFO and required by law. FEMA will not account for this promised additional funding in the terms of the award.
- v. The award budget will not account for any voluntary committed cost sharing or overmatch. The use of an overmatch is not given additional consideration when scoring applications.

### ***Economic Hardship Waivers***

The Administrator of FEMA may waive or reduce recipient cost share or maintenance of effort requirements in cases of demonstrated economic hardship. Please see [Appendix C: Award Administration Information](#) for additional information.

## **D. Application and Submission Information**

### ***Key Dates and Times***

|                                     |                           |
|-------------------------------------|---------------------------|
| Date Posted to Grants.gov:          | 09/24/2018                |
| Application Start Date:             | 09//24/2018               |
| Application Submission Deadline:    | 10/26/2018 at 5:00 PM EST |
| Anticipated Funding Selection Date: | 03/01/2019                |
| Anticipated Award Date:             | 06/01/2019                |

In general, FEMA will not review applications received after the deadline or consider them for funding. FEMA may, however, extend the application deadline on request for any applicant who can demonstrate that good cause exists to justify extending the deadline. Good cause for an extension may include technical problems outside of the applicant's control that prevent submission of the application by the deadline, or other exigent or emergency circumstances. Applicants experiencing technical issues should notify the FEMA Help Desk as soon as possible. The AFG Help Desk can be reached at 1-866-274-0960 or by e-mail: [firegrants@dhs.gov](mailto:firegrants@dhs.gov).

**MOSCOW CITY COUNCIL AGENDA****Meeting Date:** 10/22/2018**Title:** Castleford Street Encroachment Request - Abbott (ACTION ITEM)**Responsible Staff:** Bob Buvel

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***Information***

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**DESCRIPTION:** Dwayne and Monica Abbott, the owners of the lot at 2830 Hampton Court, have applied for a right of way encroachment to construct a retaining wall in the Castleford Street right-of-way along the north side of their property. Their house at 2830 Hampton Court was built in the first constructed phase of the Southgate 3<sup>rd</sup> Subdivision. Road construction in the second phase of the subdivision undermined the slope supporting the house, creating an unstable situation. Their proposed solution to the problem is a joint effort between the Abbotts and the developer to build a wall that will retain an engineered sloped embankment below the house foundation. If the wall is built with the encroachment into the right of way (near the back of the sidewalk) it will save the developer and the property owner \$10,500 to \$13,000 versus building the wall on the Abbott's private property. The franchise utility companies have all written letters stating they have no intention of exercising use of the public utility easement along the subject frontage.

**STAFF RECOMMENDATION:** Recommend approval of the encroachment request and the attached encroachment agreement.

**PROPOSED ACTIONS:** Recommend approval of the encroachment request and attached encroachment agreement; recommend denial of the encroachment request; or provide staff further direction.

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***Necessary Resources/Impacts***

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N/A

---

***Attachments***

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Preliminary Plan and Cost Est. From RE  
Abbott - 2830 Hampton ROW Permit App  
EncroachmentAgreement;Abbott;2830HamptonCourt(clean)



October 18, 2018  
Project No.18059

City of Moscow Engineering Dept.  
221 E. Second St.  
P.O. Box 9203  
Moscow, ID 83843

Re: Abbott Residence Retaining Wall ROW Encroachment Request

To Whom It May Concern:

We are in the process of designing a retaining wall for the Abbott Residence at 2830 Hampton Court, Moscow, ID. Due to the cutting of the hillside below the residence for Castleford Street construction the owner has lost the ability to create any level area in the backyard of the subject property. Thus a retaining wall is required and with that, the placement of it gets considerably taller as it is moved back away from Castleford Street. Therefore, the owner wishes to seek a ROW encroachment to move the retaining wall to within 2 feet of the back of the existing sidewalk. Reliant Engineering, pllc (RE) has put together some preliminary drawings which are attached showing the location of the wall if the ROW encroachment is not provided and what it would look like if the encroachment is granted.

RE was also asked to provide an engineer's estimate of the cost difference for the two wall designs. Although there is not an actual engineered design prepared at this time due to the unknown position of the retaining wall, from experience with other similar walls we expect that there will be 2 additional courses of block required to move the wall back into the hillside. Given the wall is roughly 86 feet long and the 2 courses would be 3 feet more in height. The going rate for this type of wall and construction conditions usually ranges in the \$40 to \$50 per square foot of wall face and thus the added costs to move the wall back into the hillside would be around \$10,500 to 13,000 plus applicable taxes.

The above mentioned comments and recommendations are brief overviews meant to give an overall scope of the intent and are not to be considered complete descriptions. Reliant Engineering would be pleased to provide additional detail for the construction of the actual work upon request.

If you desire any further verbal or written clarification to clear up any questions which may have come to mind from the review of this letter, please do not hesitate to call.

Thank you for consulting with **Reliant Engineering, pllc.**

Sincerely,

Evan D. Laubach, P. E.

cc: Dwayne Abbott, Home Owner

Attachments: Drawings S1.0 & S2.0

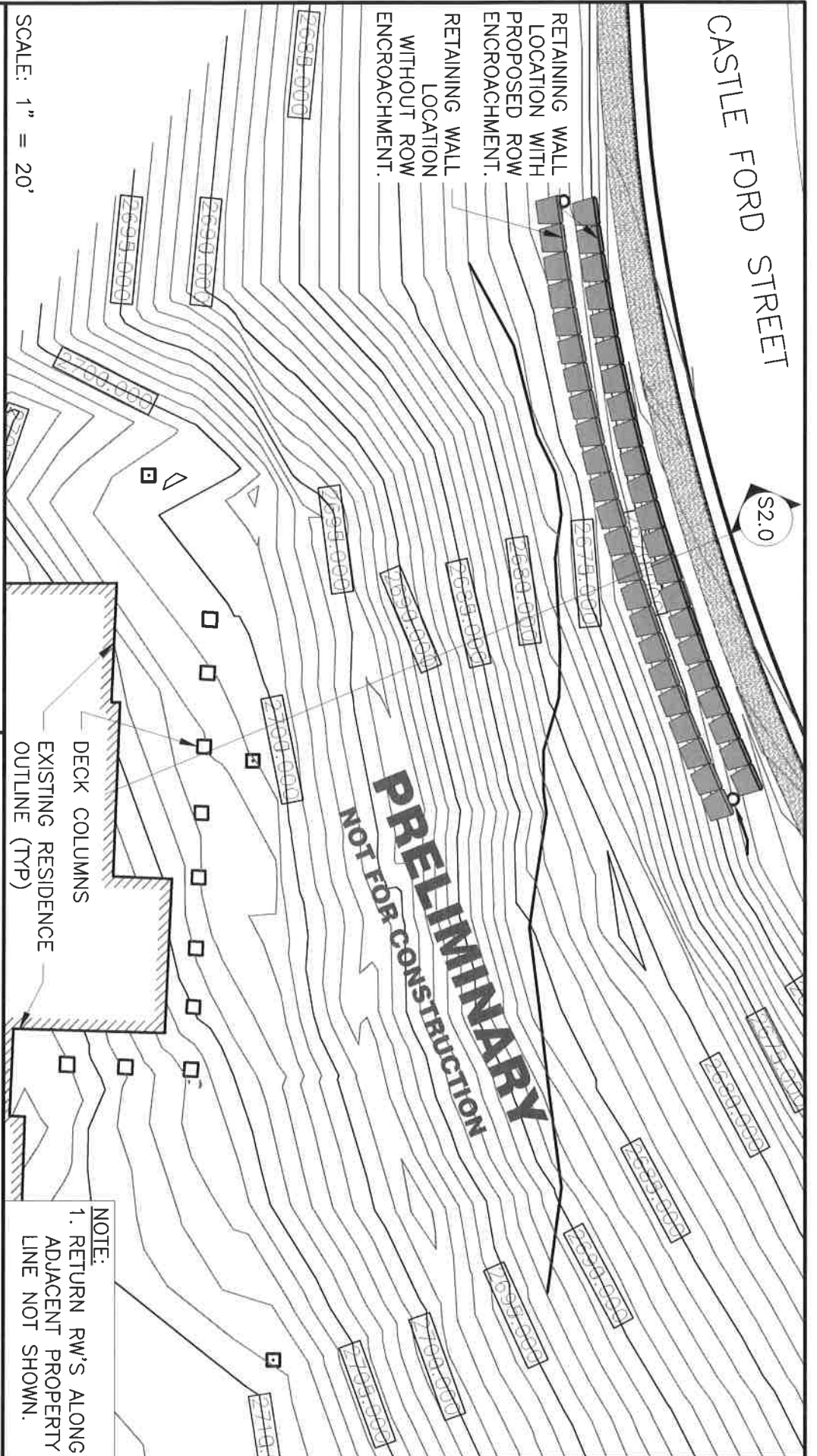


CASTLE FORD STREET

S2.0

RETAINING WALL  
LOCATION WITH  
PROPOSED ROW  
ENCROACHMENT.

RETAINING WALL  
LOCATION  
WITHOUT ROW  
ENCROACHMENT.



SCALE: 1" = 20'

SHEET TITLE

PROJECT

# RETAILING WALL OVERALL SITE PLAN

## ABBOTT RESIDENCE RETAINING WALL 2830 HAMPTON COURT PULLMAN, WA 99163

**RELIANT ENGINEERING, PLLC**  
PROVIDING CONSTRUCTIBLE SOLUTIONS

248 NW Sunrise Drive  
Pullman, WA 99163  
(509) 334-5745  
engineer@reliantengr.com

DRAWN BY

EL, JW

DATE

10/18/18

SHEET

CHECKED BY

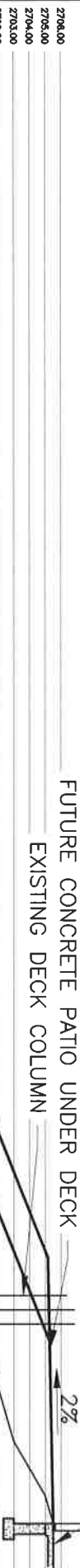
EDL

JOB NO.

18059

**S1.0**

NOTE:  
1. RETURN RW'S ALONG  
ADJACENT PROPERTY  
LINE NOT SHOWN.



DESIRED PROPOSED GRADE  
PROPOSED GRADE IF TOP OF WALL IS HELD THE SAME AS THE DESIRED RETAINING WALL  
EXISTING GRADE

**PRELIMINARY**  
**NOT FOR CONSTRUCTION**



SCALE: 1" = 10'

SHEET TITLE

# RETAINING WALL ALTERNATE LOCATIONS

PROJECT

## ABBOTT RESIDENCE RETAINING WALL 2830 HAMPTON COURT PULLMAN, WA 99163



**RELIANT ENGINEERING, PLLC**  
PROVIDING CONSTRUCTIBLE SOLUTIONS

248 NW Sunrise Drive  
Pullman, WA 99163

(509) 334-5745  
engineer@reliantengr.com

| DRAWN BY   | DATE     | SHEET       |
|------------|----------|-------------|
| EL, JW     | 10/18/18 | <b>S2.0</b> |
| CHECKED BY | JOB NO.  |             |
| EDL        | 18059    |             |



The information on this form is Public Record and may be posted to a public website

**CITY OF MOSCOW PUBLIC WORKS DEPARTMENT  
APPLICATION FOR RIGHT-OF-WAY USE PERMIT**

**SITE ADDRESS/LOCATION**

2830 Hampton Ct Moscow Idaho

☐ City Right-of-Way ☐ ITD Right-of-Way

**PROJECT NAME** Retaining Wall

**PROJECT INFORMATION**

**Date(s) for proposed project:**

Times for proposed project:

Brief description of project:

Applicant: Name Dwayne Abbott

Mail Address 1049 Presby Rd

City Visla State ID Zip 83872

Phone 208 882 8563 Fax

E-Mail dwayne.abbott@gmail.com

**Contractor:**

Name DKW Excavating - Dan Wise

Mail Address

City State Zip

Phone Fax

E-Mail

PUBLIC WORKS/IDAHO STATE REGISTRATION NO. RCT-18299

**Property Owner:**

Name Same as above

Mail Address

City State Zip

Phone Fax

E-Mail

Contact Person Name

Phone Cell

**SIGNATURES**

Dwayne E. Abbott

17 Oct 2016

Applicant

Date

(Signing this application confirms your agreement to all conditions on this form)

Staff

Date

ROW Closure ☐ Yes ☐ No

Closure Type: ☐ Street ☐ Sidewalk ☐ Lane ☐ Alley

Date(s) of Closure:

Times:

*For Completion by City Staff:*

Fees Due:

Date Fees Paid:

**APPROVALS:**

Engineering/Public Works: ☐ Approve ☐ Disapprove Date:

Police Department: ☐ Approve ☐ Disapprove Date:

Fire Department: ☐ Approve ☐ Disapprove Date:

Streets Department: ☐ Approve ☐ Disapprove Date:

ROW closure necessary: ☐ Yes ☐ No

ITD Permit Required: ☐ Yes ☐ No

ITD Approval Received: ☐ Yes ☐ No ☐ Pending ☐ N/A ☐ Other, explain:

Staff Comments:

Permit Approved & Issued ☐ Not Approved ☐

City Clerk/Deputy City Clerk

## RIGHT OF WAY PERMIT

- |                                                         |                                           |
|---------------------------------------------------------|-------------------------------------------|
| <input type="checkbox"/> Curb Cut/Driveway              | <input type="checkbox"/> Alley Closure    |
| <input type="checkbox"/> Excavation within Right-of-Way | <input type="checkbox"/> Lane Closure     |
| <input type="checkbox"/> Sidewalk – Repair/Replacement  | <input type="checkbox"/> Sidewalk Closure |
| <input type="checkbox"/> Tree Trimming                  | <input type="checkbox"/> Street Closure   |
| <input type="checkbox"/> Utility Boring                 |                                           |
| <input type="checkbox"/> Other (specify) _____          |                                           |

|                            |       |       |  |
|----------------------------|-------|-------|--|
| Type/Size of Utility _____ |       |       |  |
| Size of Excavations        | X     | X     |  |
| Length                     | Width | Depth |  |
| X                          | X     |       |  |
| Length                     | Width | Depth |  |
| X                          | X     |       |  |
| Length                     | Width | Depth |  |

Start Date & Time \_\_\_\_\_ Completion Date & Time \_\_\_\_\_

## Backfill Requirements

| TYPE OF FILL                                   | DEPTH | ADDITIONAL REQUIREMENTS |
|------------------------------------------------|-------|-------------------------|
| <input type="checkbox"/> Native                | _____ | _____                   |
| <input type="checkbox"/> Crushed Rock          | _____ | _____                   |
| <input type="checkbox"/> Cold Mix              | _____ | _____                   |
| <input type="checkbox"/> Hot Mix - AC          | _____ | _____                   |
| <input type="checkbox"/> PCC Concrete          | _____ | _____                   |
| <input type="checkbox"/> CDF                   | _____ | _____                   |
| <input type="checkbox"/> Other (specify) _____ | _____ | _____                   |

Compaction Requirement 95% Minimum

## TRAFFIC CONTROL

Will vehicular and/or pedestrian movements be interrupted?

☐ Yes ☐ No

Describe interruption with a Traffic Control Plan: **Required.**

(Attach a Traffic Control Plan map.)

## Other Requirements

- All work shall be in accordance with city standards.
- All work shall be inspected by the City.
- All traffic control must comply with MUTCD.

Will tree removal or disturbance be required to perform this work?

☐ Yes ☐ No

\*Removals require separate permits. Disturbances require approval.

## FEES

|                                                                                      |                     |
|--------------------------------------------------------------------------------------|---------------------|
| <input type="checkbox"/> Right-of-Way Permit                                         | \$35.00 each _____  |
| <input type="checkbox"/> Right of Way Closure                                        | \$40.00 each _____  |
| <input type="checkbox"/> Idaho Transportation Department Highway Right-of-Way Permit | \$100.00 each _____ |
| <input type="checkbox"/> Sewer Tap                                                   | \$190.00 each _____ |
| <input type="checkbox"/> Sewer Service Inspection                                    | \$75.00 _____       |
| <input type="checkbox"/> Water Service Inspection                                    | \$75.00 _____       |

## FEES &amp; SERVICES

|                                                                                          |                            |
|------------------------------------------------------------------------------------------|----------------------------|
| <input type="checkbox"/> Site Plan Review (\$75+ \$5 per parking space)                  | Total _____                |
| <input type="checkbox"/> Subdivision and Plat Review (\$260 + \$26 per lot)              | Total _____                |
| <input type="checkbox"/> Public Improvement Review-2 Submittals (\$120 + \$35 per sheet) | Total _____                |
| <input type="checkbox"/> As Constructed Plan Prep (\$250 + \$35 per plan sheet)          | Total _____                |
| <input type="checkbox"/> Easement Document Review/Prep                                   | \$65 each _____            |
| <input type="checkbox"/> Development Agreements                                          | \$240 each _____           |
| <input type="checkbox"/> Telecommunications Review                                       | \$1680 _____               |
| <input type="checkbox"/> Telecommunications Modification/Revisions to Existing           | \$185 _____                |
| <input type="checkbox"/> Grading Plan Review                                             | \$125 each _____           |
| <input type="checkbox"/> Encroachment Permit, Administrative                             | \$70 each _____            |
| <input checked="" type="checkbox"/> Encroachment Permit, Council Action                  | \$125 each <u>\$125.00</u> |

## SECURITY DEPOSIT

☐ Required ☐ Not Applicable ☐ ROW Surety Bond on File

## Total Valuation of Permitted Work

## Deposit

|                                                     |            |
|-----------------------------------------------------|------------|
| \$100 to \$500                                      | \$245.00   |
| \$501 to \$1,000                                    | \$367.50   |
| \$1,001 to \$1,500                                  | \$490.00   |
| \$1,501 to \$2,000                                  | \$615.00   |
| \$2,001 to \$2,500                                  | \$735.00   |
| \$2,501 to \$3,000                                  | \$860.00   |
| \$3,001 to \$3,500                                  | \$980.00   |
| \$3,501 to \$4,000                                  | \$1,100.00 |
| \$4,001 to \$4,500                                  | \$1,230.00 |
| Greater than \$4,500                                | \$1,850.00 |
| Multiple Projects/ [up to four (4) active projects] | \$3,675.00 |



Transaction Date: 10/17/2018  
Comment: 2456  
Payee: DWAYNE ABBOTT

|                |                            |                   |           |
|----------------|----------------------------|-------------------|-----------|
| Application #: | ENG2018-0217               | Receipt #:        | REC010587 |
| ENG_0013       | ROW Encroachment - Council | 101-000-00-421-18 | \$125.00  |
|                |                            | Permit Total:     | \$125.00  |

OTHER

Transaction Total: \$125.00

Signature: 

**ENCROACHMENT AGREEMENT  
2830 HAMPTON COURT, MOSCOW, IDAHO**

THIS ENCROACHMENT AGREEMENT 2830 HAMPTON COURT, MOSCOW, IDAHO (hereinafter "Agreement"), 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 Dwayne E. Abbott and Monica Y. Abbott, whose current address is 1049 Presby Road, Viola, Idaho, 83872, owners of property located at 2830 Hampton Court, Moscow, Idaho, 83843 (hereinafter "OWNERS").

WITNESSETH:

WHEREAS, CITY is the owner of the Castleford Street public right-of-way, within Southgate 3<sup>rd</sup> Addition to the City of Moscow, Idaho, north of and adjacent to 2830 Hampton Court; and

WHEREAS, OWNERS are the exclusive and sole owners of the premises commonly known as 2830 Hampton Court, and more particularly described as Lot 8, Block 4, Southgate 3rd Addition to the City of Moscow, Idaho; and,

WHEREAS, OWNERS desire to partially encroach upon CITY's street right-of-way by the presence of a gravity-block retaining wall and retained sloped embankment; and

WHEREAS, CITY is willing to allow OWNERS to install and maintain the proposed gravity-block retaining wall and retained sloped embankment on the street right-of-way; and

WHEREAS, CITY is willing to permit such encroachments only under the terms of this Encroachment Agreement;

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

1. Description. CITY will permit OWNERS to maintain the following described encroachments upon CITY right-of-way to the extent and in the manner described below:
  - A. Premises. CITY-owned property described as the Castleford Street public right-of-way contiguous with the length of OWNERS' property at 2830 Hampton Court.
  - B. Encroached Space. The portion of CITY's Premises (as defined in 1.A., above) upon which OWNERS' gravity-block retaining wall and retained sloped embankment will encroach, as shown on Exhibit "A" to this Encroachment Agreement, attached hereto and incorporated by reference to this Encroachment Agreement.

2. Use. OWNERS shall have the right and privilege to utilize the above-ground Encroached Space only for the purpose of installing and maintaining the gravity-block retaining wall and retained sloped embankment behind said wall.
3. Cleanliness. OWNERS agree that said Encroached Space shall be kept in good repair and in a neat, safe, sanitary and structurally sound condition, and that the Encroached Space shall be utilized in a manner so as not to endanger the safety or property of others. OWNERS agree that CITY is not responsible for maintenance, repair, structural capacity or any other characteristics of the gravity-block wall and retained sloped embankment.
4. Surrender of Premises and Return to Previous Condition.
  - A. CITY may cause said Encroached Space to be vacated at any time and for any reason at OWNERS' expense, following CITY's request that OWNERS vacate said Encroached Space, within ninety (90) days of CITY's issuance of written notice to OWNERS' last known address, as shown in the records of the Latah County Assessor's office.
  - B. Should OWNERS fail to vacate said Encroached Space within ninety (90) days of written notice sent by CITY requesting vacation of Encroached Space, CITY may cause said vacation without further notice to OWNERS and OWNERS shall be responsible for all expenses incurred by CITY in ensuring vacation of Encroached Space, including costs associated with the replacement of the retaining wall with a new retaining wall and sloped embankment located off of CITY's street right of way.
  - C. OWNERS understand and agree that CITY shall have the unqualified right to revoke this Encroachment Agreement and demand that OWNERS vacate the Encroached Space.
5. Limitation of Right. This Encroachment Agreement and the rights and privileges accruing to OWNERS therefrom, shall not be construed to grant OWNERS a property right, easement or any other interest in the public right-of-way, but shall only act as a revocable license to encroach as set out in this Encroachment Agreement. CITY specifically and explicitly retains the right to enter the premises described herein for purposes of inspection of said premises and the Encroached Space at reasonable times.
6. Assignability Clause. Neither this Encroachment Agreement nor the rights, privileges, or obligations herein shall be assigned to any other party without prior written consent of CITY; however, such assignment shall not be unreasonably withheld by CITY as long as the party to which this Encroachment Agreement is assigned agrees in writing to abide by all obligations contained in this Encroachment Agreement. Any attempted assignment of this Encroachment Agreement without prior written approval by CITY shall be void and without legal effect.
7. OWNERS agree to indemnify, defend, and hold harmless CITY, and its officers, agents and employees, from and against any and all claims, losses, actions, or judgments for damages or injury to persons or property arising out of or in connection with the acts and/or any performances or activities of OWNERS and related to construction and maintenance of the Encroached Space and anything within such Encroached Space and any other encroachment in CITY right-of-way, specifically excepting any claims arising out of the negligence, gross negligence, and/or intentional acts of CITY or its officers, agents, or employees.

8. The mutual promises and covenants in this Encroachment Agreement shall constitute a covenant running with the land for the benefit of CITY, its successors and assigns, and the terms, conditions, and covenants herein shall be binding upon and shall inure to the benefit of the successors and assigns of the parties hereto.

IN WITNESS WHEREOF, OWNERS and CITY have caused this Agreement to be executed on the \_\_\_\_ day of \_\_\_\_\_, 2018.

OWNERS:

CITY OF MOSCOW, IDAHO

\_\_\_\_\_  
Dwayne Abbott

\_\_\_\_\_  
Bill Lambert, Mayor

\_\_\_\_\_  
Monica Y. Abbott

ATTEST:

\_\_\_\_\_  
Laurie M. Hopkins, City Clerk

Approved As To Form:

\_\_\_\_\_  
Mia Vowels, City Attorney

Attachment: EncroachmentAgreement;Abbott;2830HamptonCourt(clean) (1831 : Castleford Street Encroachment Request - Abbott (ACTION

## ACKNOWLEDGMENTS

STATE OF IDAHO    )  
                                   ) ss:  
 County of Latah        )

On this \_\_\_\_ day of \_\_\_\_\_, 2018, before me, a Notary Public in and for said State, appeared Dwayne E. Abbott, known to me to be the person named above and acknowledged that he executed the foregoing Encroachment Agreement.

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

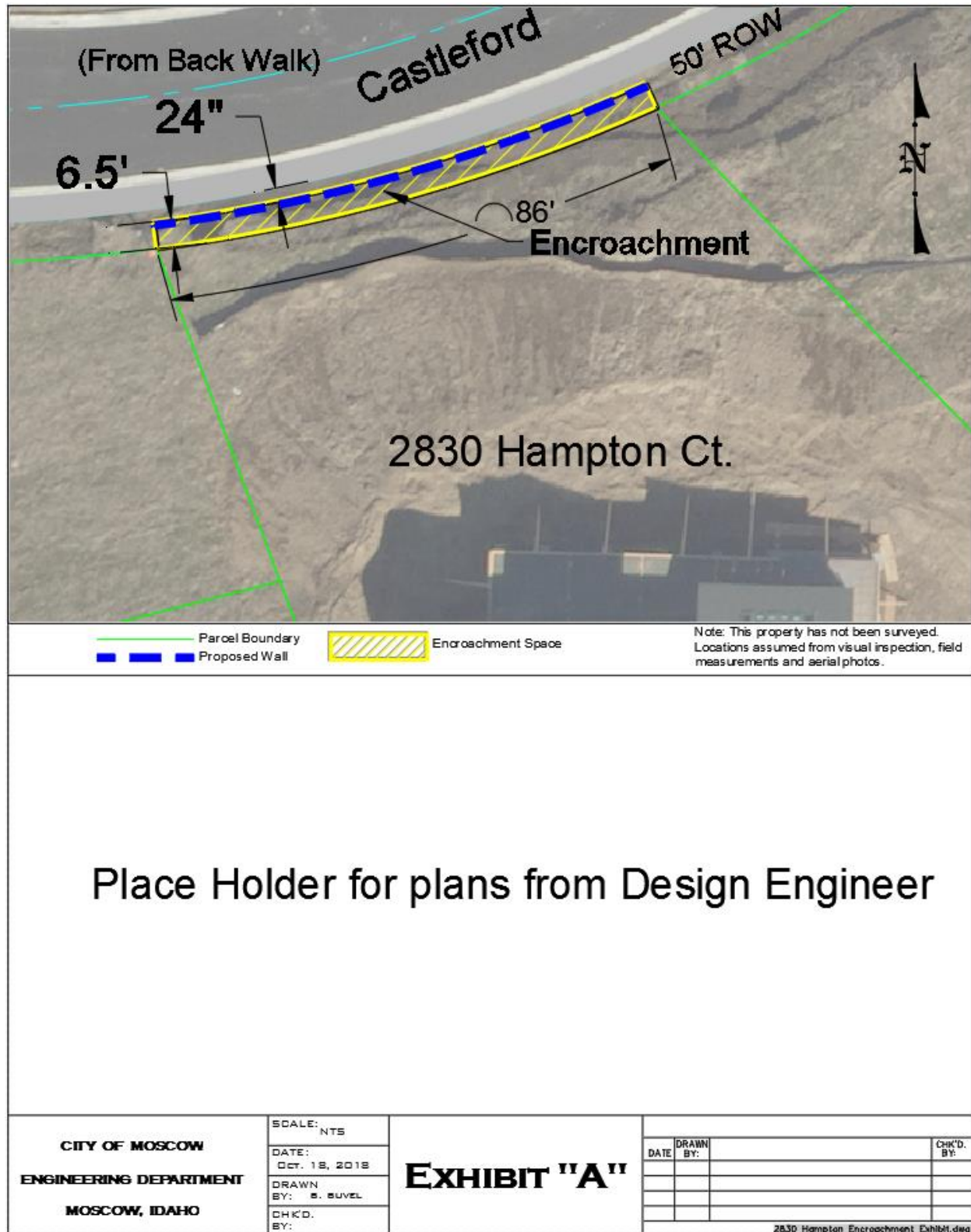
STATE OF IDAHO    )  
                                   ) ss:  
 County of Latah        )

On this \_\_\_\_ day of \_\_\_\_\_, 2018, before me, a Notary Public in and for said State, appeared Monica Y. Abbott, known to me to be the person named above and acknowledged that she executed the foregoing Encroachment Agreement.

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

Attachment: EncroachmentAgreement;Abbott;2830HamptonCourt(clean) (1831 : Castleford Street Encroachment Request - Abbott (ACTION

## EXHIBIT "A"



**MOSCOW CITY COUNCIL AGENDA****Meeting Date:** 10/22/2018**Title:** South Main Pedestrian Underpass Project (ACTION ITEM)**Responsible Staff:** Bill Belknap

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***Information***

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**DESCRIPTION:** During the recent floodplain study near the intersection of South Main and the Troy Highway, the City Council expressed interest in exploring the construction of a pedestrian underpass of South Main/U.S. 95 using the existing bridge structure in a similar fashion to the underpass that is currently under construction underneath State Highway 8 at the Styner/White intersection. On June 4, 2018, the City Council agreed to jointly fund an assessment of a potential south main underpass with the Moscow Urban Renewal Agency. Alta Science and Engineering has completed the assessment work which included a concept design, modeling analysis, cost estimate, and wetland delineation within the project area. This is the same approach that was utilized with the Styner/White project which was awarded a Transportation Alternatives Program (TAP) grant to fund a large portion of the underpass construction.

The underpass assessment has been completed and it has concluded that the underpass is feasible and would not increase flood elevations within the area. The study concluded that the likely current cost of construction of the underpass including contingency would be approximately \$626,000. Under the TAP program, projects are generally programmed 3-4 year years in advance. When including future cost escalation and design and grant administration costs it is estimated that the future total project cost if awarded could be approximately \$815,000. The Moscow Urban Renewal Agency has agreed in concept to contribute \$150,000 in funding toward the project, which after the maximum TAP award of \$500,000 would leave \$165,000 of required City funding remaining. It is anticipated that if the grant is awarded the City would likely have 3 fiscal years to accumulate the required match funding prior to construction. Staff is seeking direction from the Council regarding if the Council would like to pursue a grant application for the project.

**STAFF RECOMMENDATION:** Receive report and provide recommendation to the City Council.

**PROPOSED ACTIONS:** Receive report and provide recommendation to the City Council; or provide staff further direction.

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***Necessary Resources/Impacts***

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Estimated \$165,000 of Grant Match Funding

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***Attachments***

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Underpass Study Documents

## MEMORANDUM

**To:** Bill Belknap, City of Moscow, Moscow, ID  
**From:** Jess Dzara, Alta Science & Engineering, Moscow, ID  
 Susan Firor, Alta Science & Engineering, Moscow, ID  
**Date:** July 2, 2018  
**Job Code:** 18059  
**Subject:** City of Moscow US95 Underpass Feasibility Memo

The City of Moscow is investigating the feasibility of constructing a bike/pedestrian underpass on existing streambanks and within the current concrete bridge for Paradise Creek at the US Highway 95 (US 95) crossing. This underpass would allow pedestrians and bike traffic to cross under US 95 on Paradise Path without needing to cross US 95, disrupting traffic flow on the highway. A similar underpass was designed and is being built in summer 2018 in the concrete bridge for Paradise Creek at the intersection of Highway 8 and White Avenue/Styner Avenue. The success of this project has motivated the City of Moscow to consider additional underpass opportunities to enhance pedestrian movement and safety in Moscow.

Alta Science & Engineering (Alta) was tasked to complete a review of the site hydrology and develop a hydraulic model to ensure project feasibility prior to engineering design. This memorandum summarizes the tasks and analyses completed. Elements necessary for this analysis include existing field survey, hydrologic estimates, and developing and interpreting the hydraulic model.

In order to move forward with this project, it is assumed the proposed condition must have no negative effects on the existing bridge during the 50-year flood event. The modeled proposed condition is a concrete and asphalt path approximately 10 feet wide, with a top finished grade surface 8 feet below the bottom chord of the bridge, located along the left (southwest) side of the bridge. Alta assumed the following project constraints and conditions for this analysis:

- The underpass trail shall be a minimum of 8 feet wide.
- The trail surface shall be a minimum of 8 feet below the low chord of the bridge.
- The trail shall be placed along the south bank of the stream and inside the bridge.
- The project shall cause no new flooding impacts upstream or downstream of the project.
- The project shall meet FEMA requirements for construction in a floodway.

### Section 1 Field Survey

Alta completed a topographic and cross-sectional survey in February 2018 as part of the LOMR analysis on Paradise Creek. Existing survey data were used to model and analyze the bridge, associated infrastructure, and Paradise Creek for the existing condition and proposed US 95 underpass. This survey included stream channel cross-sections, a thalweg profile, and infrastructure inventory. The US 95 bridge structure was surveyed, including the concrete wingwalls, road surface elevation, bridge bottom chord elevation, width, and height of the

## City of Moscow US95 Underpass Feasibility Memo

structure. All of this information was used in the hydraulic model to assess the hydraulic capacity of the existing structure. A supplemental survey is tentatively planned for the beginning of July 2018 to survey the existing sidewalk, path, and topography for conceptual design.

## Section 2 Hydrologic Analysis

The objectives of hydrologic modeling are to determine reasonable estimates of peak flood flows and ensure that the proposed project will meet the requirements set forth by the City of Moscow and Idaho Transportation Department (ITD) for the modified bridge structure. Alta used several methods to estimate peak flows for use in the hydraulic model. The same methods were used in the Highway 8 Paradise Creek underpass design, but this analysis adds four years of flow data.

A real-time U.S. Geological Survey (USGS) gauge, #13346800 (USGS 1979–Current), is located on Paradise Creek in Moscow at the University of Idaho. This gauge has been in operation since 1979 and collects daily streamflow data from which USGS derives annual peak streamflows. These 39 years of peak streamflow data were used in accordance with Bulletin 17b (Interagency Advisory Committee on Water Data 1982) to estimate the 10-, 25-, 50-, and 100-year ( $Q_{10}$ ,  $Q_{25}$ ,  $Q_{50}$ , and  $Q_{100}$ ) return interval flood flows at the gauge. See Attachment A for a complete list of recorded peak flows and storm event estimates. Because the site is upstream from the gauge, Alta adjusted these data to the specific project location using the similar watersheds method (Berenbrock 2002) for this region. Table 1 summarizes the peak streamflows calculated using the gauge data.

Peak flows were also estimated using regional regression equations developed by the USGS for Idaho (Berenbrock 2002) using the web-based StreamStats program (USGS, 2009). This analysis resulted in the peak streamflow values shown in Table 1 and complete output is included in Attachment A.

**Table 1. Peak Flow Estimates at US Highway 95 Paradise Creek Bridge**

| Peak Flow Estimates at US Highway 95 Paradise Creek Bridge |          |          |          |           |
|------------------------------------------------------------|----------|----------|----------|-----------|
| Method                                                     | $Q_{10}$ | $Q_{25}$ | $Q_{50}$ | $Q_{100}$ |
| Gage Data Corrected for Watershed Size (cfs)               | 489      | 630      | 737      | 846       |
| Regional Regression - StreamStats (cfs)                    | 409      | 589      | 743      | 904       |
| ITD Structure Survey (cfs)                                 | n/a      | n/a      | 890      | 1100      |
| FEMA Flood Insurance Study (cfs)                           | 540      | n/a      | 890      | 1070      |

As shown in Table 1, the peak flow estimates for the 50- and 100-year storm events vary significantly. The ITD structure survey (included in Attachment A) has the highest flow rates of all methods compared (ITD 1978). It is not known what methods and calculations ITD used. The analysis was done over 30 years ago; since then, much more stream gauge data have been collected and can be used to refine the analysis. The FEMA Flood Insurance Study for the City of Moscow has similar 50- and 100-year flow rates to the ITD structure survey (City of Moscow, 2002). Therefore, the maximum 50-yr storm event, 890 cubic feet per second (cfs), and the 100-year FEMA FIS flow of 1070 cfs were chosen as the design flows to provide the

## City of Moscow US95 Underpass Feasibility Memo

most conservative model results and to remain consistent with the method used in the Paradise Creek Highway 8 Underpass hydraulic analysis.

### Section 3 Hydraulic Analysis

The steady-state hydraulic analyses for the existing and proposed conditions were modeled using HEC-RAS 4.1.0 (USACE 2010). The existing survey data and hydrologic analyses described above were used to develop the base existing condition model to define the current conditions of Paradise Creek and the bridge. The proposed condition was modeled by modifying the cross-sections immediately upstream and downstream of the bridge with the addition of the trail.

The existing conditions for Paradise Creek at the US 95 Highway bridge consist of a fairly deep channel, nearly trapezoidal in shape, with a smaller, low-flow channel at the bottom that conveys the summer baseflow. Channel slopes range from adverse to 1.2% in the project reach. Alta assumed Manning's roughness coefficients (Manning's  $n$ ) ranging from 0.013 for concrete or asphalt to 0.060 where thick reed canarygrass covers the streambanks.

The hydraulic model was run for the range of peak flows for both the existing and proposed conditions but, for the purpose of this memorandum, the focus is on the 50-year event, which is the required design flood event set forth by ITD; the highest estimated 50-year flood event (ITD and FEMA Flood Insurance Survey) was used to get the most conservative model results.

### Section 4 Results

After completion of the full hydraulic analysis for the existing bridge with and without the proposed underpass, Alta concludes the project will result in minimal change in flow characteristics as a result of changes through the structure. This conclusion is based on comparison of the 50-year and 100-year return interval flows in existing and proposed conditions. At  $Q_{50}$ , the model indicates the proposed project will increase water surface elevation by a maximum of 0.10 feet, while velocity increases by a maximum of 1.07 feet per second. At  $Q_{100}$ , the model shows an increase of 0.10 feet in water surface elevation at the cross section 13 feet upstream of the bridge inlet. This minimal increase is not considered an issue at this phase of the design and will be minimized as the design progresses. Complete HEC-RAS model output is provided in Attachment B.

The proposed path is expected to flood for at least a few days almost every year. Based on 39 years of mean daily discharge records from the USGS gauge, the trail would be inundated for an average of 4.1 days per year (Table 2). This analysis was based upon a project site flow rate of 73 cfs, which correlates to a gauge flow rate of 85 cfs. It is noteworthy that these flooding events mainly occur between January and April when pedestrian and bicycle activity is at its lowest due to inclement weather.

## City of Moscow US95 Underpass Feasibility Memo

**Table 2. Bike Path Inundation at the Upstream End of US Highway 95 Paradise Creek Bridge**

| <b>Bike Path Inundation at US Highway 95 Paradise Creek Bridge</b> |                                |                                |                                |
|--------------------------------------------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>Days with Mean Daily Discharge Above 85 cfs</b>                 | <b>Minimum<br/>(Days/Year)</b> | <b>Maximum<br/>(Days/Year)</b> | <b>Average<br/>(Days/Year)</b> |
| Total Days                                                         | 0                              | 17                             | 4.1                            |
| Consecutive Days                                                   | 0                              | 8                              | 2.1                            |

**Section 5 References**

Berenbrock, Charles, 2002. Estimating the Magnitude of Peak Flows at Selected Recurrence Intervals for Streams in Idaho, USGS Water-Resources Investigations Report 02-4170.

City of Moscow, 2002. Flood Insurance Study, Revised April 15, 2002. Federal Emergency Management Agency Community Number 160090V000.

Idaho Transportation Department (ITD), 1978. Hydraulic Structure Survey: Paradise Creek Bridge, July 18, 1978.

Interagency Advisory Committee on Water Data, 1982. Guidelines for determining flood flow frequency Bulletin 17B of the Hydrology Subcommittee: U.S. Geological Survey, Office of Water Data Coordination, 183 p.

U.S. Army Corps of Engineers (USACE), 2010. HEC-RAS, River Analysis System. Version 4.1.0

U.S. Geological Survey (USGS), 1979–Current. “USGS 13346800 Paradise Cr at University of Idaho at Moscow ID”  
<[http://waterdata.usgs.gov/nwis/uv/?site\\_no=13346800&agency\\_cd=USGS](http://waterdata.usgs.gov/nwis/uv/?site_no=13346800&agency_cd=USGS)> accessed June 2018.

USGS, 2009. “StreamStats for Idaho” < <http://water.usgs.gov/osw/streamstats/index.html>>, accessed June 2018.

[alta-se.com](http://alta-se.com)

220 East Fifth Street, Suite 325  
Moscow, Idaho 83843  
Ph: (208) 882-7858; Fax: (208) 883-3785

## Attachment A

### Hydrology

Attachment: Underpass Study Documents (1824 : South Main Pedestrian Underpass Project (ACTION ITEM))

## U of I Gage Peak Flows\_PeakFQ.txt

|           |                                                 |      |         |
|-----------|-------------------------------------------------|------|---------|
| Z13346800 | USGS                                            |      |         |
| H13346800 | 4643551170127001616057SW1706010817.7            | 17.7 | 2543.46 |
| N13346800 | PARADISE CR AT UNIVERSITY OF IDAHO AT MOSCOW ID |      |         |
| Y13346800 |                                                 |      |         |
| 313346800 | 19790226                                        | 307  | 7.96    |
| 313346800 | 19800218                                        | 287  | 7.85    |
| 313346800 | 19810214                                        | 290  | 7.78    |
| 313346800 | 19820220                                        | 386  | 8.88    |
| 313346800 | 19830218                                        | 368  | 8.58    |
| 313346800 | 19840124                                        | 429  | 9.18    |
| 313346800 | 19850318                                        | 211  | 6.61    |
| 313346800 | 19860223                                        | 414  | 9.07    |
| 313346800 | 19870201                                        | 392  | 8.84    |
| 313346800 | 19871210                                        | 135  | 6.09    |
| 313346800 | 19890309                                        | 436  | 9.38    |
| 313346800 | 19900108                                        | 534  | 10.27   |
| 313346800 | 19910115                                        | 412  | 9.00    |
| 313346800 | 19920822                                        | 184  | 6.64    |
| 313346800 | 19930504                                        | 260  | 7.44    |
| 313346800 | 19940517                                        | 92.0 | 5.55    |
| 313346800 | 19950219                                        | 332  | 8.19    |
| 313346800 | 19960209                                        | 970  | 11.26   |
| 313346800 | 19970101                                        | 753  | 10.44   |
| 313346800 | 19971030                                        | 186  | 6.85    |
| 313346800 | 19981228                                        | 428  | 8.89    |
| 313346800 | 20000202                                        | 306  | 8.11    |
| 313346800 | 20010627                                        | 130  | 6.83    |
| 313346800 | 20020223                                        | 382  | 8.62    |
| 313346800 | 20030131                                        | 378  | 8.98    |
| 313346800 | 20040218                                        | 258  | 8.27    |
| 313346800 | 20050118                                        | 721  |         |
| 313346800 | 20060117                                        | 1101 |         |
| 313346800 | 20070103                                        | 1471 |         |
| 313346800 | 20080229                                        | 202  | 8.30    |
| 313346800 | 20090108                                        | 273  | 9.01    |
| 313346800 | 20100105                                        | 182  | 8.07    |
| 313346800 | 20110116                                        | 339  | 9.58    |
| 313346800 | 20120326                                        | 398  | 10.04   |
| 313346800 | 20130930                                        | 111  | 7.15    |
| 313346800 | 20140309                                        | 152  | 8.05    |
| 313346800 | 20150209                                        | 181  | 8.54    |
| 313346800 | 20151207                                        | 73   | 8.59    |
| 313346800 | 20170310                                        | 735  | 10.86   |

Attachment: Underpass Study Documents (1824 : South Main Pedestrian Underpass Project (ACTION ITEM))

U OF I GAGE PEAK FLOWS\_PEAKEFQ\_same specs as Uderpass 2014.PRT.txt

1

|                |                                     |                  |
|----------------|-------------------------------------|------------------|
| Program PeakFq | U. S. GEOLOGICAL SURVEY             | Seq.002.000      |
| Version 7.2    | Annual peak flow frequency analysis | Run Date / Time  |
| 3/28/2018      |                                     | 06/14/2018 09:01 |

--- PROCESSING OPTIONS ---

|                     |                      |
|---------------------|----------------------|
| Plot option         | = Graphics device    |
| Basin char output   | = None               |
| Print option        | = Yes                |
| Debug print         | = No                 |
| Input peaks listing | = Long               |
| Input peaks format  | = WATSTORE peak file |

Input files used:

peaks (ascii) - P:\Engineering\City of Moscow US95  
Underpass\Hydrology\Gage\PeakFQ\U OF I GAGE PEAK FLOWS\_PEAKEFQ.TXT

specifications - P:\Engineering\City of Moscow US95  
Underpass\Hydrology\Gage\PeakFQ\PKFQWPSF.TMP

Output file(s):

main - P:\Engineering\City of Moscow US95  
Underpass\Hydrology\Gage\PeakFQ\U OF I GAGE PEAK FLOWS\_PEAKEFQ.PRT

\*\*\* User responsible for assessment and interpretation of the following analysis  
\*\*\*

1

|                |                                     |                  |
|----------------|-------------------------------------|------------------|
| Program PeakFq | U. S. GEOLOGICAL SURVEY             | Seq.001.001      |
| Version 7.2    | Annual peak flow frequency analysis | Run Date / Time  |
| 3/28/2018      |                                     | 06/14/2018 09:01 |

Station - 13346800 PARADISE CR AT UNIVERSITY OF IDAHO AT MOSCOW ID

TABLE 1 - INPUT DATA SUMMARY

|                            |   |      |
|----------------------------|---|------|
| Number of peaks in record  | = | 39   |
| Peaks not used in analysis | = | 0    |
| Gaged peaks in analysis    | = | 39   |
| Historic peaks in analysis | = | 0    |
| Beginning Year             | = | 1979 |
| Ending Year                | = | 2017 |

U OF I GAGE PEAK FLOWS\_PEAKEFQ\_same specs as Uderpass 2014.PRT.txt

|                                      |   |                |
|--------------------------------------|---|----------------|
| Historical Period Length             | = | 39             |
| Skew option                          | = | WEIGHTED       |
| Regional skew                        | = | -0.293         |
| Standard error                       | = | 0.550          |
| Mean Square error                    | = | 0.303          |
| Gage base discharge                  | = | 0.0            |
| User supplied high outlier threshold | = | --             |
| User supplied PILF (LO) criterion    | = | --             |
| Plotting position parameter          | = | 0.00           |
| Type of analysis                     |   | BULL.17B       |
| PILF (LO) Test Method                |   | GBT            |
| Perceptible Ranges                   | = | Not Applicable |
| Interval Data                        | = | Not Applicable |

## TABLE 2 - DIAGNOSTIC MESSAGE AND PILF RESULTS

|                                                             |        |
|-------------------------------------------------------------|--------|
| WCF134I-NO SYSTEMATIC PEAKS WERE BELOW GAGE BASE.           | 0.0    |
| WCF195I-NO LOW OUTLIERS WERE DETECTED BELOW CRITERION.      | 49.9   |
| WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE. | 1383.0 |
| **WCF164W-HISTORIC PERIOD IGNORED.                          | 39.0   |
| WCF002J-CALCS COMPLETED. RETURN CODE = 2                    |        |

## Kendall's Tau Parameters

|             | TAU    | P-VALUE | MEDIAN<br>SLOPE | No. of<br>PEAKS |
|-------------|--------|---------|-----------------|-----------------|
| GAGED PEAKS | -0.217 | 0.053   | -4.000          | 39              |

1

|                |                                     |                  |
|----------------|-------------------------------------|------------------|
| Program PeakFq | U. S. GEOLOGICAL SURVEY             | Seq.001.002      |
| Version 7.2    | Annual peak flow frequency analysis | Run Date / Time  |
| 3/28/2018      |                                     | 06/14/2018 09:01 |

Station - 13346800 PARADISE CR AT UNIVERSITY OF IDAHO AT MOSCOW ID

## TABLE 3 - ANNUAL FREQUENCY CURVE PARAMETERS -- LOG-PEARSON TYPE III

| FLOOD BASE | LOGARITHMIC |
|------------|-------------|
| -----      | -----       |

U OF I GAGE PEAK FLOWS\_PEAKEFQ\_same specs as Uderpass 2014.PRT.txt

|                                          | EXCEEDANCE |             | STANDARD |           |        |
|------------------------------------------|------------|-------------|----------|-----------|--------|
|                                          | DISCHARGE  | PROBABILITY | MEAN     | DEVIATION | SKEW   |
| SYSTEMATIC RECORD                        | 0.0        | 1.0000      | 2.4193   | 0.2701    | -0.249 |
| BULL.17B ESTIMATE                        | 0.0        | 1.0000      | 2.4193   | 0.2701    | -0.263 |
| BULL.17B ESTIMATE OF MSE OF AT-SITE SKEW |            |             | 0.1488   |           |        |

TABLE 4 - ANNUAL FREQUENCY CURVE -- DISCHARGES AT SELECTED EXCEEDANCE PROBABILITIES

| ANNUAL      |          | <-- FOR BULLETIN 17B ESTIMATES --> |              |                      |           |
|-------------|----------|------------------------------------|--------------|----------------------|-----------|
| EXCEEDANCE  | BULL.17B | SYSTEMATIC                         | LOG VARIANCE | CONFIDENCE INTERVALS |           |
| PROBABILITY | ESTIMATE | RECORD                             | OF EST.      | 5% LOWER             | 95% UPPER |
| 0.9950      | 45.4     | 45.8                               | ----         | 29.0                 | 62.3      |
| 0.9900      | 54.8     | 55.2                               | ----         | 36.5                 | 73.4      |
| 0.9500      | 90.3     | 90.5                               | ----         | 66.4                 | 113.4     |
| 0.9000      | 116.5    | 116.6                              | ----         | 89.8                 | 142.4     |
| 0.8000      | 157.1    | 157.0                              | ----         | 126.8                | 187.3     |
| 0.6667      | 205.5    | 205.3                              | ----         | 171.2                | 242.3     |
| 0.5000      | 269.8    | 269.4                              | ----         | 228.6                | 319.2     |
| 0.4292      | 301.1    | 300.7                              | ----         | 255.6                | 358.4     |
| 0.2000      | 446.1    | 445.9                              | ----         | 373.7                | 553.6     |
| 0.1000      | 571.4    | 572.1                              | ----         | 469.2                | 737.1     |
| 0.0400      | 735.9    | 738.4                              | ----         | 588.4                | 993.2     |
| 0.0200      | 861.4    | 865.8                              | ----         | 676.1                | 1198.0    |
| 0.0100      | 988.6    | 995.3                              | ----         | 762.6                | 1413.0    |
| 0.0050      | 1118.    | 1127.                              | ----         | 848.6                | 1638.0    |
| 0.0020      | 1292.    | 1306.                              | ----         | 961.8                | 1951.0    |

1

Program PeakFq  
Version 7.2  
3/28/2018

U. S. GEOLOGICAL SURVEY  
Annual peak flow frequency analysis

Seq.001.003  
Run Date / Time  
06/14/2018 09:01

Station - 13346800 PARADISE CR AT UNIVERSITY OF IDAHO AT MOSCOW ID

TABLE 5 - INPUT DATA LISTING

| WATER | PEAK  | PEAKEFQ |         |
|-------|-------|---------|---------|
| YEAR  | VALUE | CODES   | REMARKS |
| 1979  | 307.0 |         |         |

U OF I GAGE PEAK FLOWS\_PEAKEFQ\_same specs as Uderpass 2014.PRT.txt

|      |       |
|------|-------|
| 1980 | 287.0 |
| 1981 | 290.0 |
| 1982 | 386.0 |
| 1983 | 368.0 |
| 1984 | 429.0 |
| 1985 | 211.0 |
| 1986 | 414.0 |
| 1987 | 392.0 |
| 1988 | 135.0 |
| 1989 | 436.0 |
| 1990 | 534.0 |
| 1991 | 412.0 |
| 1992 | 184.0 |
| 1993 | 260.0 |
| 1994 | 92.0  |
| 1995 | 332.0 |
| 1996 | 970.0 |
| 1997 | 753.0 |
| 1998 | 186.0 |
| 1999 | 428.0 |
| 2000 | 306.0 |
| 2001 | 130.0 |
| 2002 | 382.0 |
| 2003 | 378.0 |
| 2004 | 258.0 |
| 2005 | 72.0  |
| 2006 | 110.0 |
| 2007 | 147.0 |
| 2008 | 202.0 |
| 2009 | 273.0 |
| 2010 | 182.0 |
| 2011 | 339.0 |
| 2012 | 398.0 |
| 2013 | 111.0 |
| 2014 | 152.0 |
| 2015 | 181.0 |
| 2016 | 73.0  |
| 2017 | 735.0 |

Explanation of peak discharge qualification codes

| PeakFQ<br>CODE | NWIS<br>CODE | DEFINITION                              |
|----------------|--------------|-----------------------------------------|
| D              | 3            | Dam failure, non-recurrent flow anomaly |
| G              | 8            | Discharge greater than stated value     |
| X              | 3+8          | Both of the above                       |

U OF I GAGE PEAK FLOWS\_PEAKEFQ\_same specs as Uderpass 2014.PRT.txt

L 4 Discharge less than stated value

K 6 OR C Known effect of regulation or urbanization

H 7 Historic peak

- Minus-flagged discharge -- Not used in computation  
-8888.0 -- No discharge value given
- Minus-flagged water year -- Historic peak used in computation

1

Program PeakFq  
Version 7.2  
3/28/2018

U. S. GEOLOGICAL SURVEY  
Annual peak flow frequency analysis

Seq.001.004  
Run Date / Time  
06/14/2018 09:01

Station - 13346800 PARADISE CR AT UNIVERSITY OF IDAHO AT MOSCOW ID

TABLE 6 - EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

| WATER<br>YEAR | RANKED<br>DISCHARGE | SYSTEMATIC<br>RECORD | B17B<br>ESTIMATE |
|---------------|---------------------|----------------------|------------------|
| 1996          | 970.0               | 0.0250               | 0.0250           |
| 1997          | 753.0               | 0.0500               | 0.0500           |
| 2017          | 735.0               | 0.0750               | 0.0750           |
| 1990          | 534.0               | 0.1000               | 0.1000           |
| 1989          | 436.0               | 0.1250               | 0.1250           |
| 1984          | 429.0               | 0.1500               | 0.1500           |
| 1999          | 428.0               | 0.1750               | 0.1750           |
| 1986          | 414.0               | 0.2000               | 0.2000           |
| 1991          | 412.0               | 0.2250               | 0.2250           |
| 2012          | 398.0               | 0.2500               | 0.2500           |
| 1987          | 392.0               | 0.2750               | 0.2750           |
| 1982          | 386.0               | 0.3000               | 0.3000           |
| 2002          | 382.0               | 0.3250               | 0.3250           |
| 2003          | 378.0               | 0.3500               | 0.3500           |
| 1983          | 368.0               | 0.3750               | 0.3750           |
| 2011          | 339.0               | 0.4000               | 0.4000           |
| 1995          | 332.0               | 0.4250               | 0.4250           |
| 1979          | 307.0               | 0.4500               | 0.4500           |
| 2000          | 306.0               | 0.4750               | 0.4750           |
| 1981          | 290.0               | 0.5000               | 0.5000           |
| 1980          | 287.0               | 0.5250               | 0.5250           |
| 2009          | 273.0               | 0.5500               | 0.5500           |
| 1993          | 260.0               | 0.5750               | 0.5750           |
| 2004          | 258.0               | 0.6000               | 0.6000           |

U OF I GAGE PEAK FLOWS\_PEAKEFQ\_same specs as Uderpass 2014.PRT.txt

|      |       |        |        |
|------|-------|--------|--------|
| 1985 | 211.0 | 0.6250 | 0.6250 |
| 2008 | 202.0 | 0.6500 | 0.6500 |
| 1998 | 186.0 | 0.6750 | 0.6750 |
| 1992 | 184.0 | 0.7000 | 0.7000 |
| 2010 | 182.0 | 0.7250 | 0.7250 |
| 2015 | 181.0 | 0.7500 | 0.7500 |
| 2014 | 152.0 | 0.7750 | 0.7750 |
| 2007 | 147.0 | 0.8000 | 0.8000 |
| 1988 | 135.0 | 0.8250 | 0.8250 |
| 2001 | 130.0 | 0.8500 | 0.8500 |
| 2013 | 111.0 | 0.8750 | 0.8750 |
| 2006 | 110.0 | 0.9000 | 0.9000 |
| 1994 | 92.0  | 0.9250 | 0.9250 |
| 2016 | 73.0  | 0.9500 | 0.9500 |
| 2005 | 72.0  | 0.9750 | 0.9750 |

1

End PeakFQ analysis.

|                      |    |
|----------------------|----|
| Stations processed : | 1  |
| Number of errors :   | 0  |
| Stations skipped :   | 0  |
| Station years :      | 39 |

Data records may have been ignored for the stations listed below.

(Card type must be Y, Z, N, H, I, 2, 3, 4, or \*.)

(2, 4, and \* records are ignored.)

For the station below, the following records were ignored:

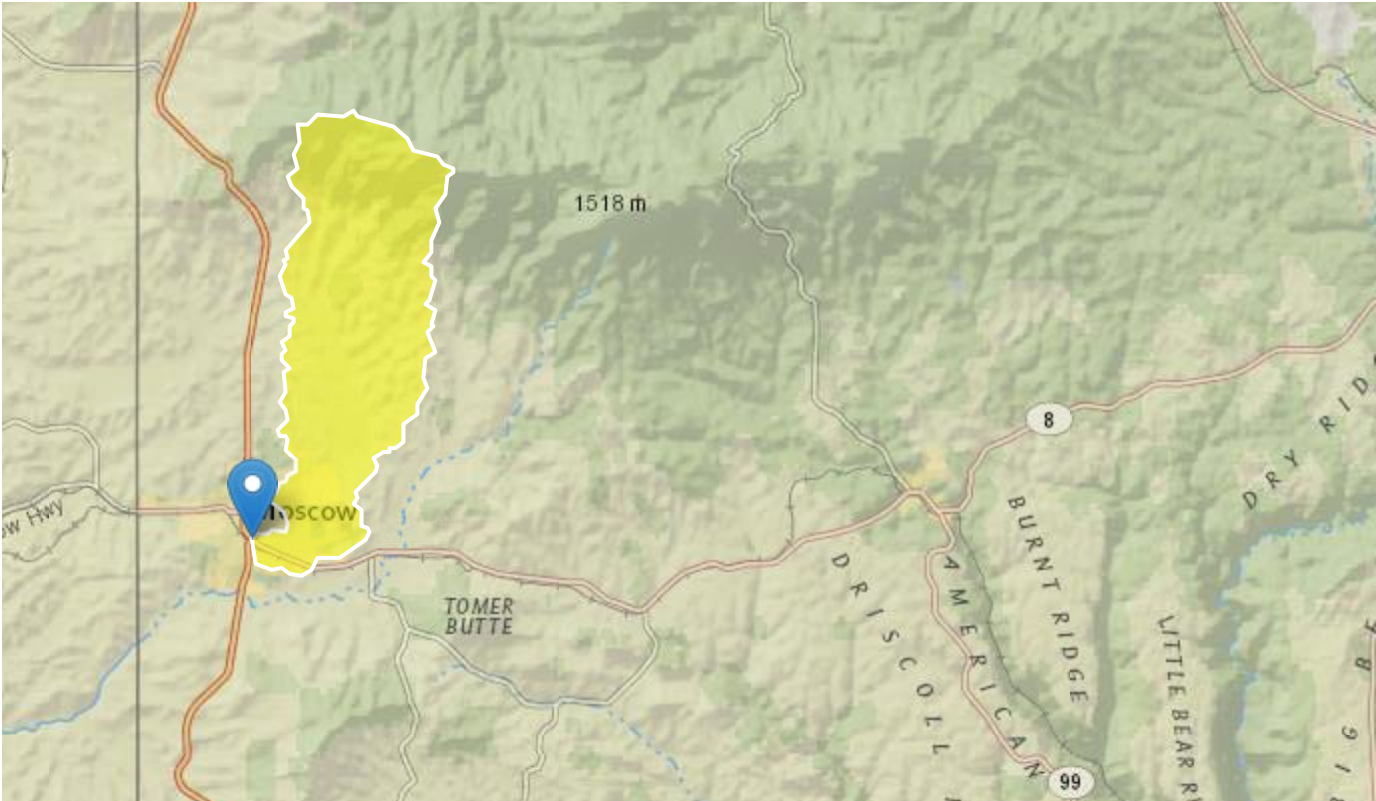
FINISHED PROCESSING STATION: 13346800 USGS PARADISE CR AT UNIVERSITY OF

For the station below, the following records were ignored:

FINISHED PROCESSING STATION:

# Hwy 95 Underpass StreamStats Report with Basin Characteristics

Region ID: ID  
Workspace ID: ID20180613184445174000  
Clicked Point (Latitude, Longitude): 46.72593, -117.00027  
Time: 2018-06-13 11:45:01 -0700



Basin Characteristics

| Parameter Code | Parameter Description                                                                               | Value | Unit         |
|----------------|-----------------------------------------------------------------------------------------------------|-------|--------------|
| DRNAREA        | Area that drains to a point on a stream                                                             | 14.68 | square miles |
| AG_OF_DA       | Agricultural Land in Percentage of Drainage Area (Idaho Logistic Regression Equations SIR 2006-5035 | 68.9  | percent      |
| BSLDEM10M      | Mean basin slope computed from 10 m DEM                                                             | 15    | percent      |
| BSLDEM30M      | Mean basin slope computed from 30 m DEM                                                             | 13.6  | percent      |

| Parameter Code | Parameter Description                                                                            | Value | Unit    |
|----------------|--------------------------------------------------------------------------------------------------|-------|---------|
| DV_OF_DA       | Developed Land in Percentage of Drainage Area (Idaho Logistic Regression Equations SIR 2006-5035 | 11.6  | percent |
| ELEV           | Mean Basin Elevation                                                                             | 2890  | feet    |
| ELEVMAX        | Maximum basin elevation                                                                          | 4350  | feet    |
| FOREST         | Percentage of area covered by forest                                                             | 15    | percent |
| MINBELEV       | Minimum basin elevation                                                                          | 2560  | feet    |
| RELIEF         | Maximum - minimum elevation                                                                      | 1800  | feet    |

Peak-Flow Statistics Parameters [Peak Flow Region 3 2016 5083]

| Parameter Code | Parameter Name | Value | Units        | Min Limit | Max Limit |
|----------------|----------------|-------|--------------|-----------|-----------|
| DRNAREA        | Drainage Area  | 14.68 | square miles | 2.13      | 2500      |

Peak-Flow Statistics Flow Report [Peak Flow Region 3 2016 5083]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

| Statistic            | Value | Unit   | PII  | Plu  | SEp  |
|----------------------|-------|--------|------|------|------|
| 1.25 Year Peak Flood | 73.4  | ft^3/s | 13.9 | 388  | 114  |
| 1.5 Year Peak Flood  | 102   | ft^3/s | 21.7 | 481  | 103  |
| 2 Year Peak Flood    | 146   | ft^3/s | 35.6 | 599  | 91.2 |
| 2 33 Year Peak Flood | 169   | ft^3/s | 43.3 | 658  | 86.7 |
| 5 Year Peak Flood    | 287   | ft^3/s | 90.2 | 913  | 70.4 |
| 10 Year Peak Flood   | 409   | ft^3/s | 148  | 1130 | 60.4 |
| 25 Year Peak Flood   | 589   | ft^3/s | 251  | 1380 | 48.8 |
| 50 Year Peak Flood   | 743   | ft^3/s | 355  | 1550 | 41.5 |
| 100 Year Peak Flood  | 904   | ft^3/s | 482  | 1700 | 34.5 |
| 200 Year Peak Flood  | 1080  | ft^3/s | 624  | 1880 | 29.1 |
| 500 Year Peak Flood  | 1330  | ft^3/s | 853  | 2080 | 22.8 |

Peak-Flow Statistics Citations

**Wood, M.S., Fosness, R.L., Skinner, K.D., and Veilleux, A.G., 2016, Estimating peak-flow frequency statistics for selected gaged and ungaged sites in naturally flowing streams and rivers in Idaho: U.S. Geological Survey Scientific Investigations Report 2016–5083, 56 p. (<http://dx.doi.org/10.3133/sir20165083>)**

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Application Version: 4.2.1

## HYDRAULIC STRUCTURES SURVEY



5.a

 BRIDGE ☒  
 CULVERT ☐

 PROJECT NO. BRM-7744(1) STATION 30+62 DATE OF SURVEY July 18, 1978  
 PROJECT TITLE Paradise Creek Bridge LOCAL NAME \_\_\_\_\_  
 LOCATION South-East portion of Moscow COUNTY Latah  
 ROADWAY IDENTIFICATION S.H. 8 CROSSING Paradise ☒ CREEK A TRIBUTARY OF Palouse River  
☐ RIVER

## HYDROLOGIC DATA

 FOR: UNOBSTRUCTED STREAM (PREFERRED) \_\_\_\_\_ EXISTING STRUCTURE ☒ ANTICIPATED STRUCTURE \_\_\_\_\_  
 Q<sub>MIN</sub> - 0 - CFS; V - 0 - FPS; ELEV 2569.2 FT; SOURCE "A flood analysis of  
\*Q<sub>50</sub> 890 CFS; V 3.68 FPS; ELEV 2578.4 FT; SOURCE Paradise Creek, an  
Q<sub>100</sub> 1,100 CFS; V 4.55 FPS; ELEV 2579.5 FT; SOURCE ungaged stream near  
Q 680<sup>+</sup> CFS; V 3.04 FPS; ELEV 2578.0<sup>+</sup> FT; DATE 1/29/65 Moscow, Idaho", by  
MAX RECORDED estimate by Abbott, 1968 measured from photographs J.W. Abbott, 1968  
 CHARACTER OF WATERSHED 19% Forest, 81% Palouse Prairie DRAINAGE AREA 14.5 ☐ ACRES  
☒ SQ MI  
 \*(IF 500 CFS OR GREATER, A HYDRAULIC REPORT SHOULD ACCOMPANY THIS FORM)

## HYDRAULIC DATA

 NATURAL STREAM OR CANAL Natural stream (with rechanneled MONTHS DRY, IF ANY Summer (some year  
sections)  
 IS STREAM CUTTING OR FILLING filling STREAMBED ELEV 2569.2 E  
 DOES STREAM CARRY AN APPRECIABLE AMOUNT OF ICE No ICE THICKNESS --- IN  
 DOES STREAM CARRY AN APPRECIABLE AMOUNT OF DRIFTWOOD No  
 CHARACTER OF STREAMBED MATERIAL silty-sand  
 IS FLOW CONTROLLED No IF SO, DESCRIBE MANNER AND DEGREE OF CONTROL: ---

 AVERAGE GRADIENT OF EXISTING CHANNEL TO BE ALTERED 3.22 FEET PER THOUSAND FEET. DESCRIBE THE  
 SECTION OF THE STREAM TO BE ALTERED BY REFERENCE TO A SECTION CORNER, OR OTHER PERMANENT REFERENCE.

## PRESENT STRUCTURE

 DESCRIPTION (BRIDGE, CULVERT SIZE, LENGTH, ETC) Bridge; 34.5' span, 29.8' wide, 30° skew  
 CONDITION Insufficient width for traffic volumes  
 BRIDGE: NUMBER AND TYPE OF PIERS None EFFECTIVE WATERWAY AREA 224 sq. ft.  
 SPREAD FOOTING OR PILES Piles CLEARANCE ABOVE DESIGN HIGH WATER ---  
 CULVERT: HAS EXISTING CULVERT CARRIED FLOW ADEQUATELY ---  
 REMARKS: Photographs of flood indicate that the existing effective waterway area should  
be retained if not increased.

TYPE RECOMMENDED Bridge, single spanBRIDGE: NUMBER AND LENGTH OF SPANS one, 34.5' span, (minimum) SKEW 30°CLEARANCE ABOVE DESIGN HIGH WATER -0.0- WATERWAY AREA 224.0 min. F.NUMBER OF PIERS -0- TYPE OF PIERS --- FLOW ANGLE TO PIERS ---CHARACTER OF FOUNDATION MATERIAL blue clay\*  
\*(From File No. 604, Drawing No. 2724, Proj. No. 190-A, 193)CULVERT: TYPE --- DIMENSIONS --- TYPE INLET ---INLET ELEV --- OUTLET ELEV --- AVAILABLE HEADWATER --- FTCULVERT FLOWING UNDER ☐ INLET CONTROL ☐ OUTLET CONTROL TAILWATER DEPTH --- FTWILL ALL FLOOD WATER PASS THROUGH THE PROPOSED STRUCTURE Yes IF NOT, ATTACH PROVISIONS FOR OVERFLOWMINIMUM ACCEPTABLE BALLAST AT SHOULDER --- IS PAINTING OF CONCRETE RECOMMENDED ---RECOMMENDED FILL SLOPE: UNDER STRUCTURE 2:1 max. AT WINGS 2:1 max.IS RIPRAP REQUIRED Outlet channel IF SO, ATTACH RECOMMENDED SECTION, LIMITS, SIZE, TOE EMBEDMENTIS CANAL LINING REQUIRED --- ( IF SO, ATTACH TYPICAL SECTION OF LINING AND LIMITS)WILL STRUCTURE REQUIRE CANAL COMPANY APPROVAL --- COMPANY NAME ---

IN ADDITION TO THE ABOVE INFORMATION, SUBMIT AND CHECK EACH OF THE FOLLOWING:

- ☒ A TYPICAL PROPOSED ROADWAY SECTION AT THE STRUCTURE
- ☒ A 22"x36" CONTOUR MAP OF A (BRIDGE)(CULVERT) SITE; ~~A CANAL USED FOR NAVIGATION, OR THE EFFECTS OF A DIVERSION STRUCTURE;~~ SHOWING 1-FOOT CONTOURS. IF THE STRUCTURE CROSSES A NATURAL STREAM, SHOW ON THE MAP THE NAMES AND ADDRESSES OF PROPERTY OWNERS WHO ADJOIN THE WATERWAY
- ☒ A CENTERLINE PROFILE TO THE SAME SCALE AS THE CONTOUR MAP
- ☒ IF THE STRUCTURE PROFILE CROSSES A NATURAL STREAM, A REPRODUCIBLE OF AN AREA MAP, SUCH AS A COUNTY MAP, WITH THE LOCATION OF THE STRUCTURE CLEARLY INDICATED
- ☒ A STREAMBED PROFILE 1000 FEET ABOVE AND BELOW THE STRUCTURE (OR WATERLINE PROFILE)
- ☐ IF PRACTICAL, PHOTOGRAPHS OF EXISTING STRUCTURE AND CHANNEL UPSTREAM & DOWNSTREAM FROM SITE

A LEGAL DESCRIPTION OF THE LOCATION

LOCATED IN THE NE 1/4, SW 1/4 (1/16 SECTION OR LOT NO.)  
OF SECTION 17, TOWNSHIP 39N, RANGE 5 W, B.M.  
IN Latah COUNTY.

## APPROVALS

NOTES BY Iane Fortin

CONSULTANT'S

SIGNATURE AND SEAL

NOTES AND RECOMMENDATIONS APPROVED BY

D.J. McAttee  
DISTRICT DESIGN ENGINEER

HYDRAULICS-RELATED DATA APPROVED BY

---  
WATER RESOURCE ENGINEER

APPROVED

---  
ROADWAY DESIGN SUPERVISOR

DISTRIBUTION: CONSULTANT - SIGNED ORIGINAL TO DISTRICT DESIGN ENGINEER (NO ADDITIONAL CO  
DISTRICT - SIGNED ORIGINAL TO WATER RESOURCE ENGINEER



alta-se.com

220 East Fifth Street, Suite 325  
Moscow, Idaho 83843  
Ph: (208) 882-7858; Fax: (208) 883-3785

## Attachment B

### Hydraulics

Attachment: Underpass Study Documents (1824 : South Main Pedestrian Underpass Project (ACTION ITEM))

## 50-yr Flow Event Hydraulic Model Outputs

| Reach      | River Sta | Profile   | Plan     | Q Total<br>(cfs) | Min Ch El<br>(ft) | W.S. Elev<br>(ft) | W.S. Elev Diff<br>(ft) | Vel Chnl<br>(ft/s) | Vel Chnl Diff<br>(ft/s) | Flow Area<br>(sq ft) | Top Width<br>(ft) |
|------------|-----------|-----------|----------|------------------|-------------------|-------------------|------------------------|--------------------|-------------------------|----------------------|-------------------|
| PARADISECR | 4099.7    | FIS 50-yr | Existing | 890              | 2570.39           | 2580.04           |                        | 4.77               |                         | 189.7                | 34                |
| PARADISECR | 4099.7    | FIS 50-yr | Design   | 890              | 2570.39           | 2580.04           | 0.00                   | 4.77               | 0.00                    | 189.7                | 34                |
| PARADISECR | 4074      | FIS 50-yr | Existing | 890              | 2571.35           | 2579.98           |                        | 4.82               |                         | 186.2                | 39                |
| PARADISECR | 4074      | FIS 50-yr | Design   | 890              | 2571.35           | 2579.98           | 0.00                   | 4.82               | 0.00                    | 186.2                | 39                |
| PARADISECR | 4026.7    | FIS 50-yr | Existing | 890              | 2571.02           | 2579.77           |                        | 5.15               |                         | 175.0                | 38                |
| PARADISECR | 4026.7    | FIS 50-yr | Design   | 890              | 2571.02           | 2579.77           | 0.00                   | 5.15               | 0.00                    | 175.0                | 38                |
| PARADISECR | 3774.6    | FIS 50-yr | Existing | 890              | 2569.77           | 2579.10           |                        | 4.56               |                         | 200.4                | 42                |
| PARADISECR | 3774.6    | FIS 50-yr | Design   | 890              | 2569.77           | 2579.10           | 0.00                   | 4.56               | 0.00                    | 200.4                | 42                |
| PARADISECR | 3588      | FIS 50-yr | Existing | 890              | 2569.20           | 2578.54           |                        | 4.55               |                         | 199.4                | 69                |
| PARADISECR | 3588      | FIS 50-yr | Design   | 890              | 2569.20           | 2578.54           | 0.00                   | 4.55               | 0.00                    | 199.4                | 69                |
| PARADISECR | 3475.6    | FIS 50-yr | Existing | 890              | 2570.13           | 2578.03           |                        | 5.12               |                         | 175.0                | 40                |
| PARADISECR | 3475.6    | FIS 50-yr | Design   | 890              | 2570.13           | 2578.03           | 0.00                   | 5.12               | 0.00                    | 175.0                | 40                |
| PARADISECR | 3368.5    | FIS 50-yr | Existing | 890              | 2569.34           | 2577.80           |                        | 4.49               |                         | 206.5                | 49                |
| PARADISECR | 3368.5    | FIS 50-yr | Design   | 890              | 2569.34           | 2577.80           | 0.00                   | 4.49               | 0.00                    | 206.5                | 49                |
| PARADISECR | 3230.7    | FIS 50-yr | Existing | 890              | 2569.24           | 2577.25           |                        | 5.30               |                         | 170.3                | 48                |
| PARADISECR | 3230.7    | FIS 50-yr | Design   | 890              | 2569.24           | 2577.25           | 0.00                   | 5.30               | 0.00                    | 170.3                | 48                |
| PARADISECR | 3147      | FIS 50-yr | Existing | 890              | 2571.97           | 2577.34           |                        | 2.89               |                         | 331.3                | 122               |
| PARADISECR | 3147      | FIS 50-yr | Design   | 890              | 2571.97           | 2577.34           | 0.00                   | 2.89               | 0.00                    | 331.3                | 122               |
| PARADISECR | 3132.4    | FIS 50-yr | Existing | 890              | 2570.41           | 2577.13           |                        | 4.40               |                         | 227.4                | 106               |
| PARADISECR | 3132.4    | FIS 50-yr | Design   | 890              | 2570.41           | 2577.13           | 0.00                   | 4.40               | 0.00                    | 227.5                | 106               |
| PARADISECR | 2954.9    | FIS 50-yr | Existing | 890              | 2566.39           | 2576.74           |                        | 3.99               |                         | 275.0                | 114               |
| PARADISECR | 2954.9    | FIS 50-yr | Design   | 890              | 2566.39           | 2576.74           | 0.00                   | 3.99               | 0.00                    | 275.1                | 114               |
| PARADISECR | 2649.9    | FIS 50-yr | Existing | 890              | 2567.77           | 2576.28           |                        | 3.11               |                         | 413.1                | 244               |
| PARADISECR | 2649.9    | FIS 50-yr | Design   | 890              | 2567.77           | 2576.28           | 0.00                   | 3.11               | 0.00                    | 413.4                | 244               |
| PARADISECR | 2375.9    | FIS 50-yr | Existing | 890              | 2565.97           | 2575.87           |                        | 3.20               |                         | 287.6                | 82                |
| PARADISECR | 2375.9    | FIS 50-yr | Design   | 890              | 2565.97           | 2575.87           | 0.00                   | 3.20               | 0.00                    | 287.7                | 82                |
| PARADISECR | 2293.5    | FIS 50-yr | Existing | 890              | 2566.76           | 2575.58           |                        | 4.30               |                         | 206.9                | 51                |
| PARADISECR | 2293.5    | FIS 50-yr | Design   | 890              | 2566.76           | 2575.58           | 0.00                   | 4.30               | 0.00                    | 207.0                | 51                |
| PARADISECR | 2140.8    | FIS 50-yr | Existing | 890              | 2566.79           | 2575.07           |                        | 4.63               |                         | 203.4                | 100               |
| PARADISECR | 2140.8    | FIS 50-yr | Design   | 890              | 2566.79           | 2575.07           | 0.00                   | 4.62               | -0.01                   | 203.7                | 100               |
| PARADISECR | 1977.7    | FIS 50-yr | Existing | 890              | 2566.44           | 2573.66           |                        | 8.01               |                         | 117.1                | 26                |
| PARADISECR | 1977.7    | FIS 50-yr | Design   | 890              | 2566.44           | 2573.67           | 0.01                   | 7.99               | -0.02                   | 117.4                | 26                |
| PARADISECR | 1723.3    | FIS 50-yr | Existing | 890              | 2564.70           | 2572.96           |                        | 5.68               |                         | 174.0                | 56                |
| PARADISECR | 1723.3    | FIS 50-yr | Design   | 890              | 2564.70           | 2572.98           | 0.02                   | 5.63               | -0.05                   | 175.6                | 56                |
| PARADISECR | 1453.9    | FIS 50-yr | Existing | 890              | 2563.95           | 2571.78           |                        | 6.47               |                         | 138.5                | 31                |
| PARADISECR | 1453.9    | FIS 50-yr | Design   | 890              | 2563.95           | 2571.84           | 0.06                   | 6.38               | -0.09                   | 140.6                | 31                |
| PARADISECR | 1413.65*  | FIS 50-yr | Existing | 890              | 2564.05           | 2571.75           |                        | 5.44               |                         | 164.0                | 40                |
| PARADISECR | 1413.65*  | FIS 50-yr | Design   | 890              | 2564.05           | 2571.83           | 0.08                   | 5.35               | -0.09                   | 166.9                | 40                |
| PARADISECR | 1373.4    | FIS 50-yr | Existing | 890              | 2564.15           | 2571.23           |                        | 6.85               |                         | 129.9                | 44                |
| PARADISECR | 1373.4    | FIS 50-yr | Design   | 890              | 2564.15           | 2571.33           | 0.10                   | 6.71               | -0.14                   | 132.7                | 45                |
| PARADISECR | 1360.4    | FIS 50-yr | Existing | 890              | 2564.04           | 2571.41           |                        | 4.47               |                         | 199.1                | 27                |
| PARADISECR | 1360.4    | FIS 50-yr | Design   | 890              | 2564.04           | 2571.40           | -0.01                  | 5.54               | 1.07                    | 160.6                | 27                |
| PARADISECR | 1313      |           | Bridge   |                  |                   |                   |                        |                    |                         |                      |                   |
| PARADISECR | 1266.4    | FIS 50-yr | Existing | 890              | 2562.91           | 2571.36           |                        | 3.90               |                         | 228.2                | 27                |
| PARADISECR | 1266.4    | FIS 50-yr | Design   | 890              | 2562.91           | 2571.24           | -0.12                  | 4.73               | 0.83                    | 188.0                | 27                |
| PARADISECR | 1246      | FIS 50-yr | Existing | 890              | 2562.66           | 2570.73           |                        | 7.10               |                         | 125.4                | 44                |
| PARADISECR | 1246      | FIS 50-yr | Design   | 890              | 2562.66           | 2570.73           | 0.00                   | 7.10               | 0.00                    | 125.4                | 44                |
| PARADISECR | 1191.6    | FIS 50-yr | Existing | 890              | 2563.17           | 2569.61           |                        | 9.05               |                         | 99.0                 | 30                |
| PARADISECR | 1191.6    | FIS 50-yr | Design   | 890              | 2563.17           | 2569.61           | 0.00                   | 9.05               | 0.00                    | 99.0                 | 30                |
| PARADISECR | 1111.1    | FIS 50-yr | Existing | 890              | 2564.17           | 2569.76           |                        | 5.77               |                         | 176.1                | 49                |
| PARADISECR | 1111.1    | FIS 50-yr | Design   | 890              | 2564.17           | 2569.76           | 0.00                   | 5.77               | 0.00                    | 176.1                | 49                |
| PARADISECR | 1064.45*  | FIS 50-yr | Existing | 890              | 2563.05           | 2570.00           |                        | 2.34               |                         | 390.1                | 81                |
| PARADISECR | 1064.45*  | FIS 50-yr | Design   | 890              | 2563.05           | 2570.00           | 0.00                   | 2.34               | 0.00                    | 390.1                | 81                |
| PARADISECR | 1017.8    | FIS 50-yr | Existing | 890              | 2561.92           | 2569.87           |                        | 3.25               |                         | 273.7                | 119               |
| PARADISECR | 1017.8    | FIS 50-yr | Design   | 890              | 2561.92           | 2569.87           | 0.00                   | 3.25               | 0.00                    | 273.7                | 119               |
| PARADISECR | 972       |           | Bridge   |                  |                   |                   |                        |                    |                         |                      |                   |
| PARADISECR | 906.3     | FIS 50-yr | Existing | 890              | 2563.22           | 2568.52           |                        | 7.72               |                         | 115.3                | 36                |
| PARADISECR | 906.3     | FIS 50-yr | Design   | 890              | 2563.22           | 2568.52           | 0.00                   | 7.72               | 0.00                    | 115.3                | 36                |
| PARADISECR | 817.4     | FIS 50-yr | Existing | 890              | 2560.97           | 2568.48           |                        | 3.88               |                         | 239.7                | 92                |
| PARADISECR | 817.4     | FIS 50-yr | Design   | 890              | 2560.97           | 2568.48           | 0.00                   | 3.88               | 0.00                    | 239.7                | 92                |
| PARADISECR | 607.4     | FIS 50-yr | Existing | 890              | 2560.50           | 2568.31           |                        | 2.56               |                         | 362.2                | 109               |
| PARADISECR | 607.4     | FIS 50-yr | Design   | 890              | 2560.50           | 2568.31           | 0.00                   | 2.56               | 0.00                    | 362.2                | 109               |

Attachment: Underpass Study Documents (1824 : South Main Pedestrian Underpass Project (ACTION ITEM))

# 100-yr Flow Event Hydraulic Model Outputs

| Reach      | River Sta | Profile    | Plan     | Q Total<br>(cfs) | Min Ch El<br>(ft) | W.S. Elev<br>(ft) | W.S. Elev Diff<br>(ft) | Vel Chnl<br>(ft/s) | Vel Chnl Diff<br>(ft/s) | Flow Area<br>(sq ft) | Top Width<br>(ft) |
|------------|-----------|------------|----------|------------------|-------------------|-------------------|------------------------|--------------------|-------------------------|----------------------|-------------------|
| PARADISECR | 4099.7    | FIS 100-yr | Existing | 1070             | 2570.39           | 2580.58           |                        | 5.25               |                         | 208.2                | 35                |
| PARADISECR | 4099.7    | FIS 100-yr | Design   | 1070             | 2570.39           | 2580.58           | 0.00                   | 5.25               | 0.00                    | 208.2                | 35                |
| PARADISECR | 4074      | FIS 100-yr | Existing | 1070             | 2571.35           | 2580.52           |                        | 5.22               |                         | 207.8                | 41                |
| PARADISECR | 4074      | FIS 100-yr | Design   | 1070             | 2571.35           | 2580.52           | 0.00                   | 5.22               | 0.00                    | 207.8                | 41                |
| PARADISECR | 4026.7    | FIS 100-yr | Existing | 1070             | 2571.02           | 2580.30           |                        | 5.57               |                         | 195.5                | 40                |
| PARADISECR | 4026.7    | FIS 100-yr | Design   | 1070             | 2571.02           | 2580.30           | 0.00                   | 5.57               | 0.00                    | 195.5                | 40                |
| PARADISECR | 3774.6    | FIS 100-yr | Existing | 1070             | 2569.77           | 2579.58           |                        | 5.00               |                         | 221.6                | 47                |
| PARADISECR | 3774.6    | FIS 100-yr | Design   | 1070             | 2569.77           | 2579.58           | 0.00                   | 5.00               | 0.00                    | 221.6                | 47                |
| PARADISECR | 3588      | FIS 100-yr | Existing | 1070             | 2569.20           | 2579.06           |                        | 4.68               |                         | 240.0                | 97                |
| PARADISECR | 3588      | FIS 100-yr | Design   | 1070             | 2569.20           | 2579.06           | 0.00                   | 4.68               | 0.00                    | 240.0                | 97                |
| PARADISECR | 3475.6    | FIS 100-yr | Existing | 1070             | 2570.13           | 2578.49           |                        | 5.59               |                         | 193.8                | 42                |
| PARADISECR | 3475.6    | FIS 100-yr | Design   | 1070             | 2570.13           | 2578.49           | 0.00                   | 5.59               | 0.00                    | 193.8                | 42                |
| PARADISECR | 3368.5    | FIS 100-yr | Existing | 1070             | 2569.34           | 2578.25           |                        | 4.90               |                         | 229.1                | 50                |
| PARADISECR | 3368.5    | FIS 100-yr | Design   | 1070             | 2569.34           | 2578.25           | 0.00                   | 4.90               | 0.00                    | 229.1                | 50                |
| PARADISECR | 3230.7    | FIS 100-yr | Existing | 1070             | 2569.24           | 2577.62           |                        | 5.84               |                         | 193.4                | 72                |
| PARADISECR | 3230.7    | FIS 100-yr | Design   | 1070             | 2569.24           | 2577.62           | 0.00                   | 5.84               | 0.00                    | 193.4                | 72                |
| PARADISECR | 3147      | FIS 100-yr | Existing | 1070             | 2571.97           | 2577.74           |                        | 3.09               |                         | 383.5                | 137               |
| PARADISECR | 3147      | FIS 100-yr | Design   | 1070             | 2571.97           | 2577.74           | 0.00                   | 3.09               | 0.00                    | 383.6                | 137               |
| PARADISECR | 3132.4    | FIS 100-yr | Existing | 1070             | 2570.41           | 2577.52           |                        | 4.69               |                         | 273.5                | 125               |
| PARADISECR | 3132.4    | FIS 100-yr | Design   | 1070             | 2570.41           | 2577.52           | 0.00                   | 4.69               | 0.00                    | 273.5                | 125               |
| PARADISECR | 2954.9    | FIS 100-yr | Existing | 1070             | 2566.39           | 2577.14           |                        | 4.17               |                         | 323.3                | 126               |
| PARADISECR | 2954.9    | FIS 100-yr | Design   | 1070             | 2566.39           | 2577.14           | 0.00                   | 4.17               | 0.00                    | 323.4                | 126               |
| PARADISECR | 2649.9    | FIS 100-yr | Existing | 1070             | 2567.77           | 2576.82           |                        | 2.77               |                         | 546.3                | 249               |
| PARADISECR | 2649.9    | FIS 100-yr | Design   | 1070             | 2567.77           | 2576.82           | 0.00                   | 2.77               | 0.00                    | 546.6                | 249               |
| PARADISECR | 2375.9    | FIS 100-yr | Existing | 1070             | 2565.97           | 2576.43           |                        | 3.40               |                         | 337.2                | 97                |
| PARADISECR | 2375.9    | FIS 100-yr | Design   | 1070             | 2565.97           | 2576.43           | 0.00                   | 3.40               | 0.00                    | 337.4                | 97                |
| PARADISECR | 2293.5    | FIS 100-yr | Existing | 1070             | 2566.76           | 2576.12           |                        | 4.52               |                         | 246.5                | 94                |
| PARADISECR | 2293.5    | FIS 100-yr | Design   | 1070             | 2566.76           | 2576.13           | 0.01                   | 4.52               | 0.00                    | 246.7                | 94                |
| PARADISECR | 2140.8    | FIS 100-yr | Existing | 1070             | 2566.79           | 2575.73           |                        | 4.56               |                         | 278.2                | 128               |
| PARADISECR | 2140.8    | FIS 100-yr | Design   | 1070             | 2566.79           | 2575.73           | 0.00                   | 4.56               | 0.00                    | 278.7                | 128               |
| PARADISECR | 1977.7    | FIS 100-yr | Existing | 1070             | 2566.44           | 2574.20           |                        | 8.62               |                         | 131.6                | 28                |
| PARADISECR | 1977.7    | FIS 100-yr | Design   | 1070             | 2566.44           | 2574.21           | 0.01                   | 8.60               | -0.02                   | 132.0                | 28                |
| PARADISECR | 1723.3    | FIS 100-yr | Existing | 1070             | 2564.70           | 2573.64           |                        | 5.46               |                         | 215.7                | 65                |
| PARADISECR | 1723.3    | FIS 100-yr | Design   | 1070             | 2564.70           | 2573.67           | 0.03                   | 5.41               | -0.05                   | 217.5                | 65                |
| PARADISECR | 1453.9    | FIS 100-yr | Existing | 1070             | 2563.95           | 2572.40           |                        | 6.82               |                         | 160.4                | 41                |
| PARADISECR | 1453.9    | FIS 100-yr | Design   | 1070             | 2563.95           | 2572.48           | 0.08                   | 6.73               | -0.09                   | 163.4                | 42                |
| PARADISECR | 1413.65*  | FIS 100-yr | Existing | 1070             | 2564.05           | 2572.42           |                        | 5.64               |                         | 191.4                | 44                |
| PARADISECR | 1413.65*  | FIS 100-yr | Design   | 1070             | 2564.05           | 2572.49           | 0.07                   | 5.55               | -0.09                   | 194.7                | 44                |
| PARADISECR | 1373.4    | FIS 100-yr | Existing | 1070             | 2564.15           | 2571.80           |                        | 7.36               |                         | 145.4                | 48                |
| PARADISECR | 1373.4    | FIS 100-yr | Design   | 1070             | 2564.15           | 2571.90           | 0.10                   | 7.22               | -0.14                   | 148.1                | 48                |
| PARADISECR | 1360.4    | FIS 100-yr | Existing | 1070             | 2564.04           | 2572.00           |                        | 4.98               |                         | 215.0                | 27                |
| PARADISECR | 1360.4    | FIS 100-yr | Design   | 1070             | 2564.04           | 2571.98           | -0.02                  | 6.07               | 1.09                    | 176.2                | 27                |
| PARADISECR | 1313      |            |          | Bridge           |                   |                   |                        |                    |                         |                      |                   |
| PARADISECR | 1266.4    | FIS 100-yr | Existing | 1070             | 2562.91           | 2571.94           |                        | 4.39               |                         | 243.9                | 27                |
| PARADISECR | 1266.4    | FIS 100-yr | Design   | 1070             | 2562.91           | 2571.80           | -0.14                  | 5.27               | 0.88                    | 203.1                | 27                |
| PARADISECR | 1246      | FIS 100-yr | Existing | 1070             | 2562.66           | 2571.19           |                        | 7.81               |                         | 137.2                | 46                |
| PARADISECR | 1246      | FIS 100-yr | Design   | 1070             | 2562.66           | 2571.19           | 0.00                   | 7.81               | 0.00                    | 137.2                | 46                |
| PARADISECR | 1191.6    | FIS 100-yr | Existing | 1070             | 2563.17           | 2570.10           |                        | 9.54               |                         | 114.3                | 33                |
| PARADISECR | 1191.6    | FIS 100-yr | Design   | 1070             | 2563.17           | 2570.10           | 0.00                   | 9.54               | 0.00                    | 114.3                | 33                |
| PARADISECR | 1111.1    | FIS 100-yr | Existing | 1070             | 2564.17           | 2570.34           |                        | 6.07               |                         | 204.9                | 52                |
| PARADISECR | 1111.1    | FIS 100-yr | Design   | 1070             | 2564.17           | 2570.34           | 0.00                   | 6.07               | 0.00                    | 204.9                | 52                |
| PARADISECR | 1064.45*  | FIS 100-yr | Existing | 1070             | 2563.05           | 2570.60           |                        | 2.51               |                         | 439.1                | 84                |
| PARADISECR | 1064.45*  | FIS 100-yr | Design   | 1070             | 2563.05           | 2570.60           | 0.00                   | 2.51               | 0.00                    | 439.1                | 84                |
| PARADISECR | 1017.8    | FIS 100-yr | Existing | 1070             | 2561.92           | 2570.43           |                        | 3.63               |                         | 295.0                | 120               |
| PARADISECR | 1017.8    | FIS 100-yr | Design   | 1070             | 2561.92           | 2570.43           | 0.00                   | 3.63               | 0.00                    | 295.0                | 120               |
| PARADISECR | 972       |            |          | Bridge           |                   |                   |                        |                    |                         |                      |                   |
| PARADISECR | 906.3     | FIS 100-yr | Existing | 1070             | 2563.22           | 2569.00           |                        | 8.11               |                         | 132.0                | 38                |
| PARADISECR | 906.3     | FIS 100-yr | Design   | 1070             | 2563.22           | 2569.00           | 0.00                   | 8.11               | 0.00                    | 132.0                | 38                |
| PARADISECR | 817.4     | FIS 100-yr | Existing | 1070             | 2560.97           | 2569.07           |                        | 3.82               |                         | 295.0                | 96                |
| PARADISECR | 817.4     | FIS 100-yr | Design   | 1070             | 2560.97           | 2569.07           | 0.00                   | 3.82               | 0.00                    | 295.0                | 96                |
| PARADISECR | 607.4     | FIS 100-yr | Existing | 1070             | 2560.50           | 2568.92           |                        | 2.61               |                         | 429.7                | 113               |
| PARADISECR | 607.4     | FIS 100-yr | Design   | 1070             | 2560.50           | 2568.92           | 0.00                   | 2.61               | 0.00                    | 429.7                | 113               |

## MEMORANDUM

**To:** Bill Belknap, City of Moscow  
**From:** Tom Jenkins, Alta  
 Susan Firor, Alta  
**Date:** July 16, 2018  
**Job Code:** 18059  
**Subject:** Wetland Investigation – City of Moscow US-95 Path Underpass

### Section 1 Introduction

The City of Moscow is investigating the feasibility of constructing a bike/pedestrian underpass on existing streambanks and within the current concrete bridge for Paradise Creek at the US Highway 95 (US 95) crossing. In consideration of potential underpass construction, Alta has been tasked to perform a wetland investigation/delineation. The approximate project footprint is located in Moscow, Idaho, to the east and west of the bridge on US 95, and between Sweet Avenue and the existing Paradise Path to the south and Highway 8 to the northeast. Figure 1 shows the spatial extent of this wetland investigation.

The National Wetlands Inventory (USFWS 2018) indicates the potential for riverine wetlands to occur along the banks of Paradise Creek.

On July 5, 2018, field personnel conducted a visual assessment to determine whether wetlands occur in the project area. Determinations were based on the US Army Corps of Engineers guidance in the Wetland Delineation Manual (USACE 1987).

### Section 2 Wetland Indicators

The presence of a wetland is determined based on three main characteristics as described in the Western Mountains, Valleys, and Coast Regional Supplement (USACE 2010): (1) site must exhibit dominance of hydrophytic vegetation, (2) site must have hydric soils, and (3) site must have evidence of wetland hydrology. This section presents observed site information for each of these wetland indicators.

#### 2.1 Vegetation

Non-native vegetation is dominant within the proposed boundaries of the project area. Non-native species include reed canarygrass (*Phalaris arundinacea*), prickly lettuce (*Lactuca serriola*), stinking chamomile (*Anthemis cotula*), oxeye daisy (*Leucanthemum vulgare*), and spotted knapweed (*Centaurea stoebe*). Vegetation facultative to wetlands primarily exists within the stream channel and low stream banks. The dominant species within the stream channel is Pacific willow (*Salix lucida*). Identification of grasses outside the stream channel is made difficult due to regular mowing activities that occur during the growing season. Reed canarygrass and Pacific willow are both wetland plant species found within the banks of the creek.

## 2.2 Hydric Soils

A brief check of the U.S. Department of Agriculture (USDA) Web Soil Survey for this site indicates the soil properties have no hydric soil rating (USDA 2018). The man-made banks of Paradise Creek in the project reach consist primarily of riprap and do not promote water storage in the soils or flooding outside the existing stream channel. Within the channel, soils are too rocky to dig test pits and show no indicators of wetland hydrology. Hydrologic conditions that promote hydric soils along the banks are very short lived in this reach in most years. Visual observations made during annual peak-flow periods indicate no water migration beyond the banks of Paradise Creek. Due to a lack of inundation, soils outside the stream channel are not exposed to anaerobic conditions for periods long enough to develop hydric indicators.

## 2.3 Hydrology

Typical hydrologic indicators of wetlands include surface water, saturation, drainage patterns, and others as listed in the supplement (USACE 2010). None of these indicators were present at this site during the field visit. Even during wetter periods of the year, due to the hydrology of the Paradise Creek, no substantial water storage is likely to occur beyond the lowest portion of the stream channel.

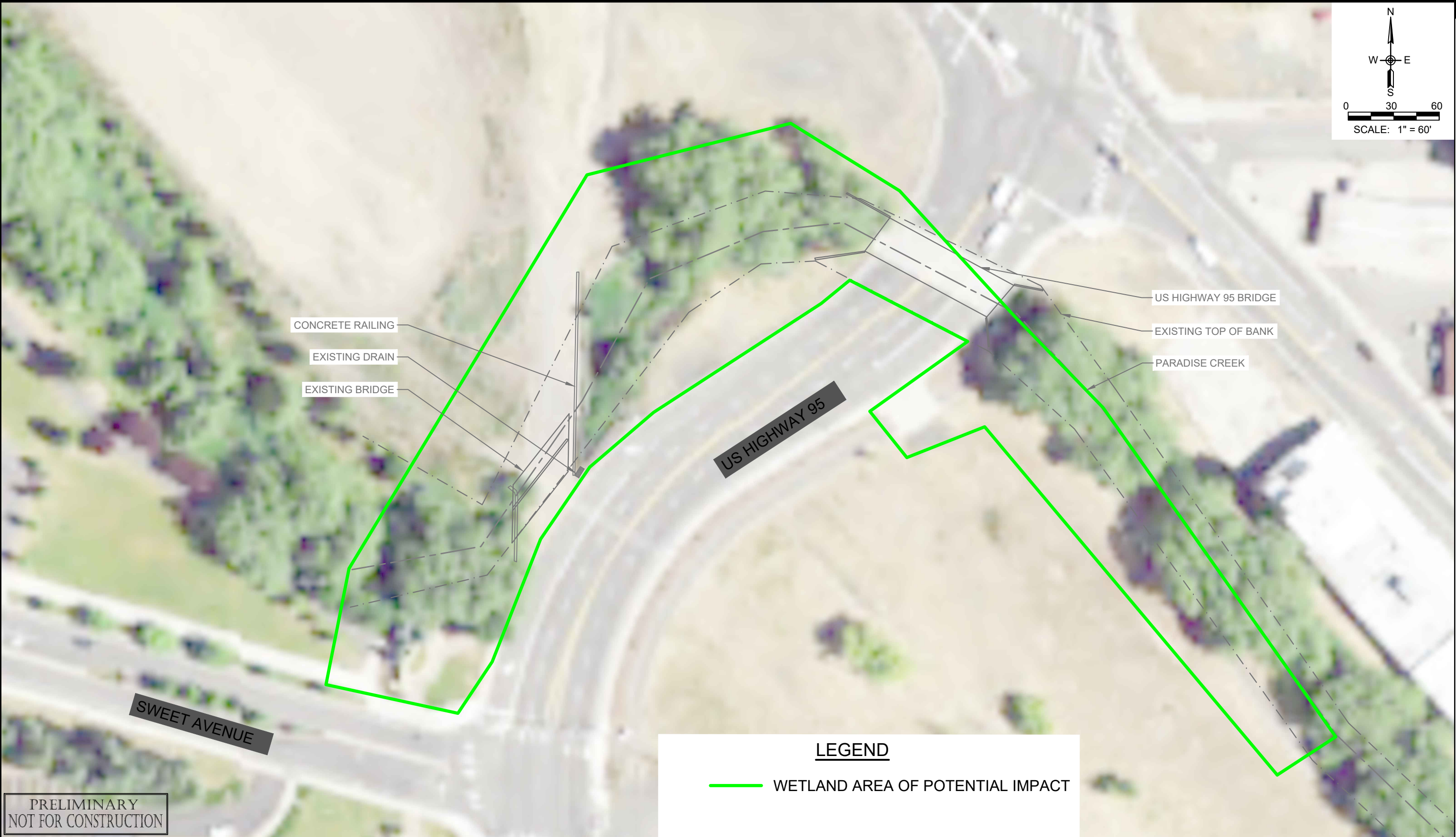
## Section 3 Conclusions

The presence or occurrence of wetlands in the project area is unlikely due to the factors discussed in Section 2. No formal wetland delineation is recommended due to conditions observed in the field.

## Section 4 References

- U.S. Army Corps of Engineers (USACE), 1987. Corps of Engineers Wetlands Delineation Manual.
- USACE, 2010. Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0).
- U.S. Department of Agriculture (USDA), 2018. Plants Database. Accessed July 12, 2018.  
<https://plants.usda.gov/core/profile?symbol=RAAC3>
- USDA. 2018. Web Soil Survey website. Accessed July 5, 2018.  
<http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>
- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory wetland mapper. Accessed July 5, 2018, at <http://www.fws.gov/wetlands/Data/Mapper.html>

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| NO. | DATE     | REVISIONS | BY | CHK |

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| DRAFTER:  | J. DZARA | COORDINATE SYSTEM: | NA       |
| DESIGNER: | B. DAVIS | SCALE:             | 1" = 60' |
| CHECKED:  | S. FIROR | APPROVED:          | ----     |
| DATE:     | 07/02/18 | DATE:              | ----     |



Science & Engineering, Inc.



|                                    |
|------------------------------------|
| CITY OF MOSCOW US95 PATH UNDERPASS |
| MOSCOW, IDAHO                      |

|                                                         |
|---------------------------------------------------------|
| FIGURE 1. US95 PARADISE PATH WETLAND INVESTIGATION AREA |
|---------------------------------------------------------|

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|--------------|-----------|
| SHEET:       | 1         |
| DATE:        | 7/10/2018 |
| PROJECT NO.: | 18059     |
| SHEET NO.:   | 1 OF 1    |

Attachment: Underpass Study Documents (1824 : South Main Pedestrian Underpass Project (ACTION ITEM))

# CITY OF MOSCOW BIKE PATH US95 UNDERPASS

## CONCEPTUAL DESIGN

AUGUST 2018

PREPARED FOR:

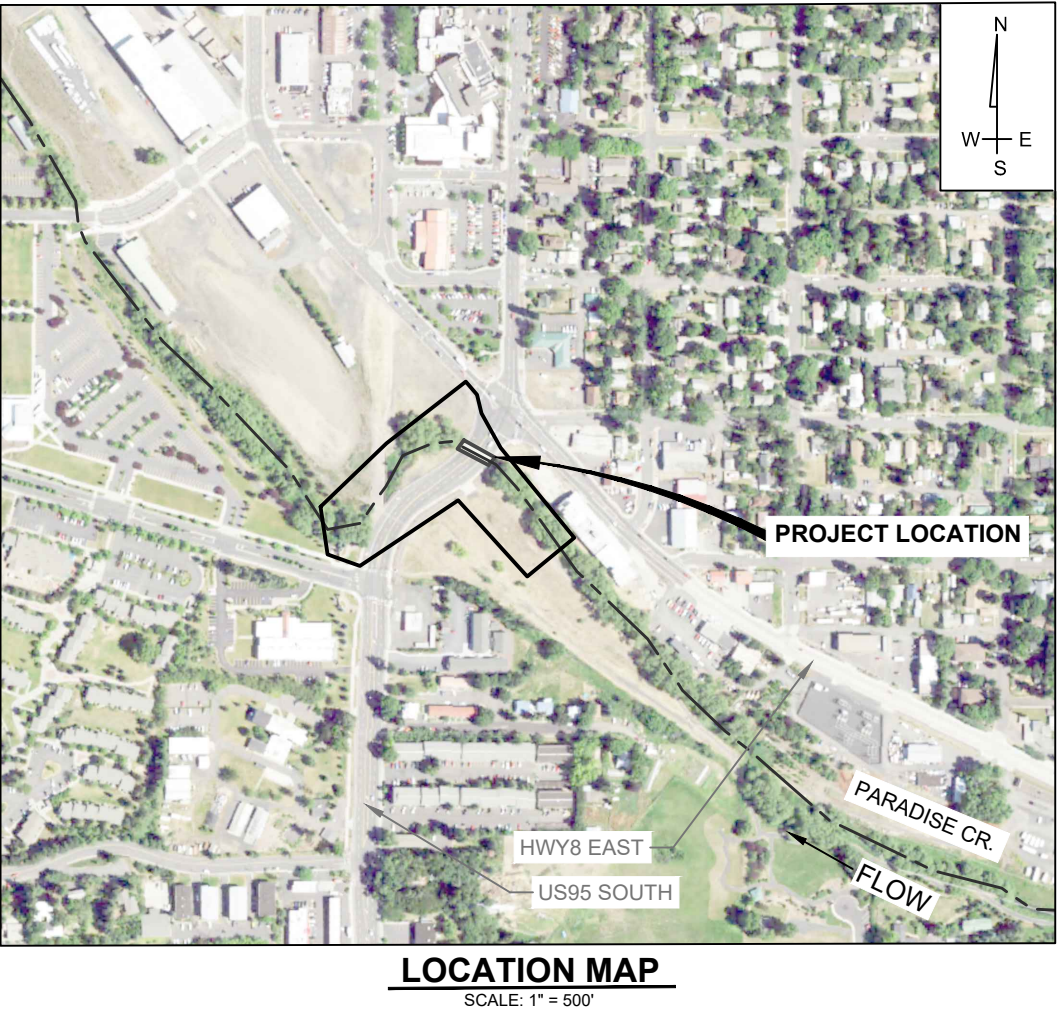
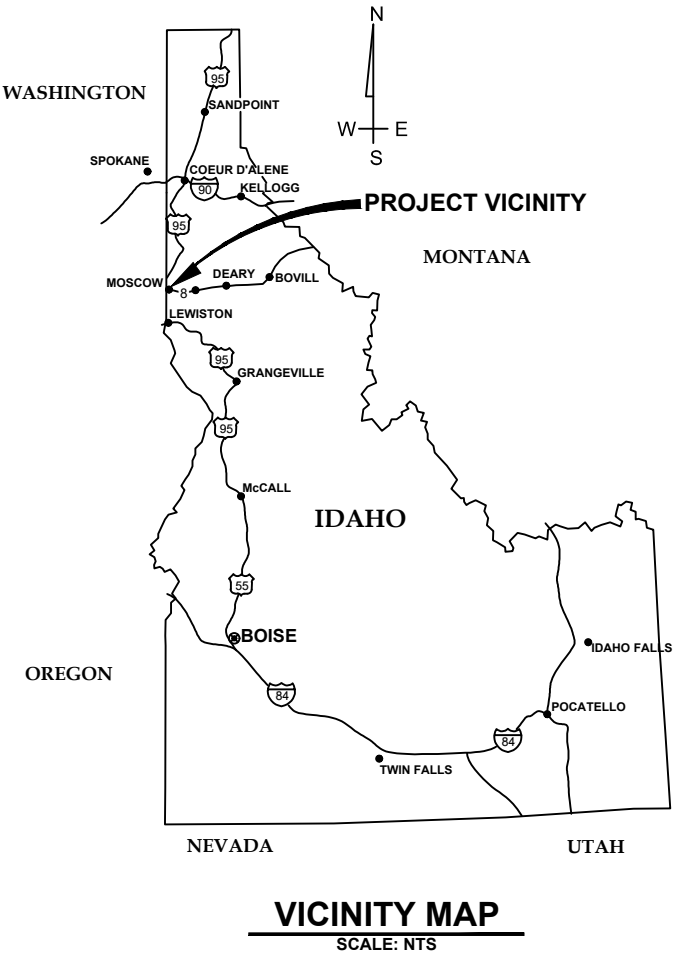


**CITY OF MOSCOW**  
206 EAST 3RD STREET  
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TELEPHONE: (208) 883-7019

ENGINEER:



**Alta Science & Engineering, Inc.**  
220 EAST 5TH STREET, SUITE 325  
MOSCOW, IDAHO 83843  
TELEPHONE: (208) 882-7858



SHEET INDEX

| SHEET # | SHEET NAME                             | SHEET INDEX |
|---------|----------------------------------------|-------------|
| 1       | COVER SHEET                            | CS          |
| 2       | PROJECT OVERVIEW & SHEET INDEX         | C1          |
| 3       | PATH PLAN & PROFILE - STA 0+00 TO 3+00 | C2          |
| 4       | PATH PLAN & PROFILE - STA 3+00 TO 7+00 | C3          |
| 5       | DETAILS                                | D1          |

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|     |      |           |    |     | DRAWN BY: | J. DZARA   | COORDINATE SYSTEM: | ISP WEST, NAD 83, US FT |  |  | CITY OF MOSCOW US95 PATH UNDERPASS | COVER SHEET | SHEET NAME: | CS |
|     |      |           |    |     | ENGINEER: | B. DAVIS   | SCALE:             | AS SHOWN                |                                                                                       |                                                                                       | DATE:                              |             | 8/14/2018   |    |
|     |      |           |    |     | CHECKED:  | S. FIROR   | APPROVED:          | X. XXXX                 |                                                                                       |                                                                                       | PROJECT NO.:                       |             | 18059       |    |
|     |      |           |    |     | DATE:     | 08/15/2018 | DATE:              | xx/xx/xxxx              |                                                                                       |                                                                                       | SHEET:                             |             | 1 OF 05     |    |
| NO. | DATE | REVISIONS | BY | CHK |           |            |                    |                         |                                                                                       |                                                                                       |                                    |             |             |    |

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Attachment: Underpass Study Documents (1824 : South Main Pedestrian Underpass Project (ACTION ITEM))

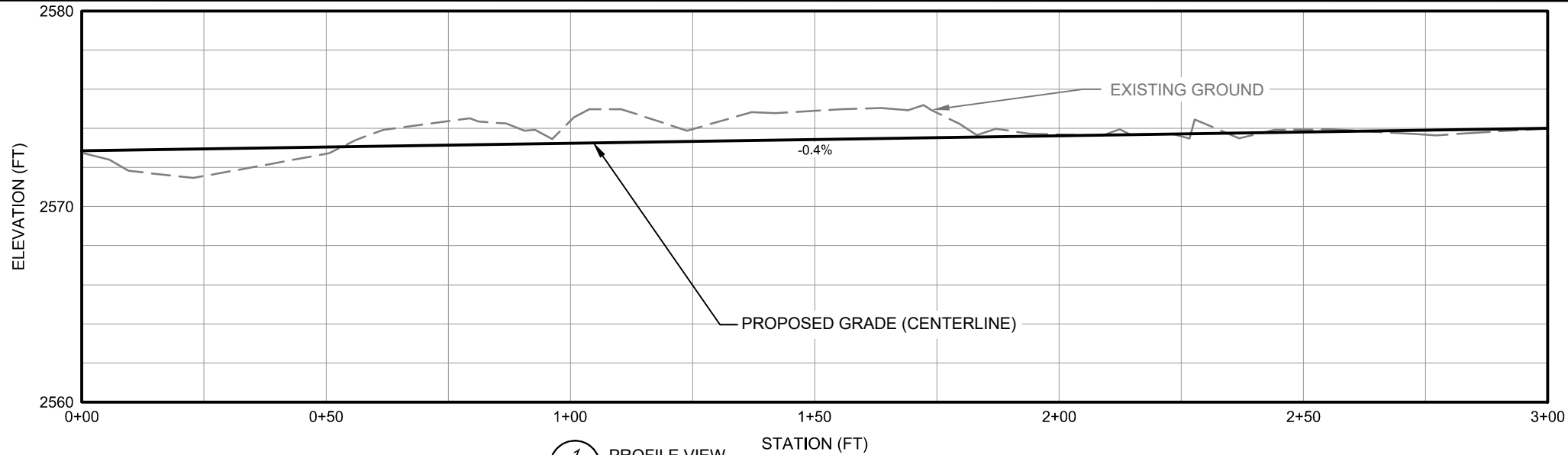
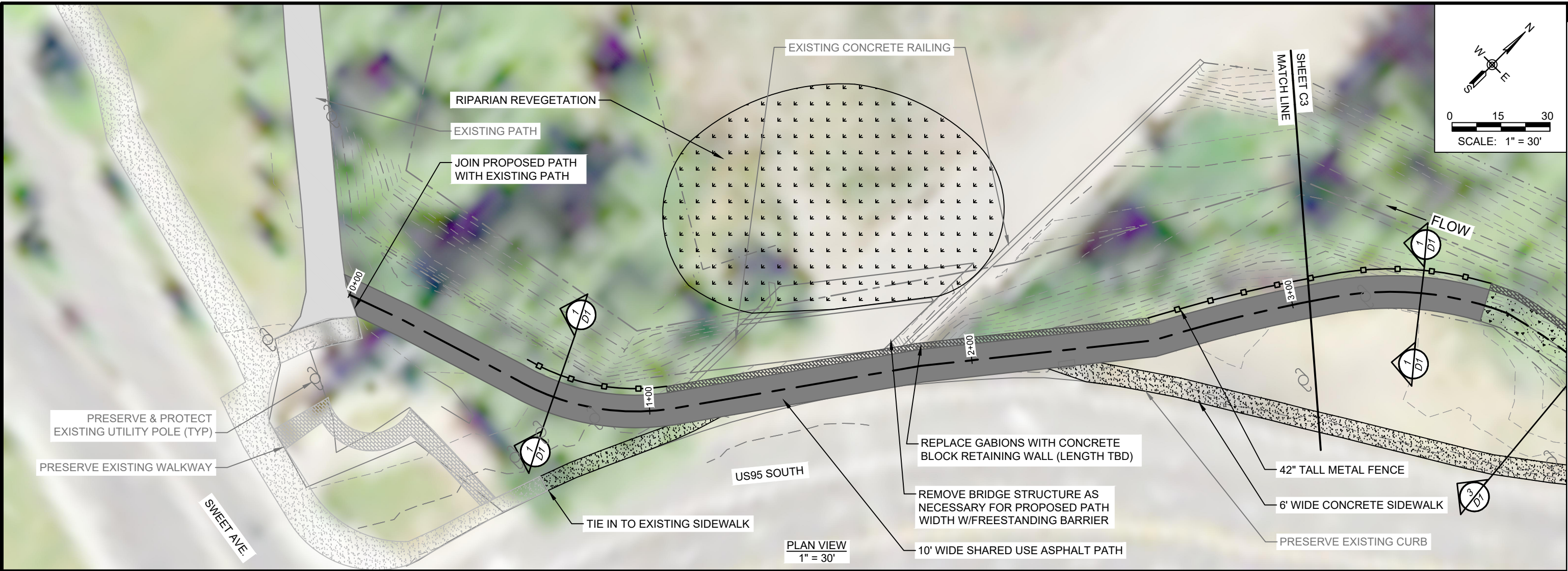
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|     |      |           |    |     |       | DRAFTER:  | J. DZARA  | COORDINATE SYSTEM: | ISP WEST, NAD 83, US FT |  |  | CITY OF MOSCOW US95 PATH UNDERPASS | PROJECT OVERVIEW & SHEET INDEX | SHEET:    | C1 |
|     |      |           |    |     |       | DESIGNER: | B. DAVIS  | SCALE:             | 1" = 60'                |                                                                                       |                                                                                       | DATE:                              |                                | 8/14/2018 |    |
|     |      |           |    |     |       | CHECKED:  | S. FIROR  | APPROVED:          | X. XXXX                 |                                                                                       |                                                                                       | PROJECT NO.:                       |                                | 18059     |    |
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| DESIGNER: | B. DAVIS  | SCALE:             | 1" = 30'                |
| CHECKED:  | S. FIROR  | APPROVED:          | X. XXXX                 |
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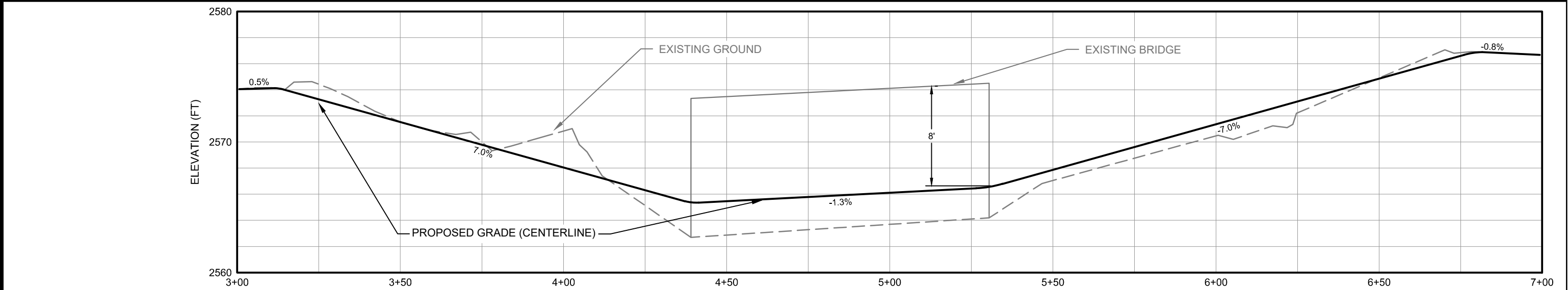
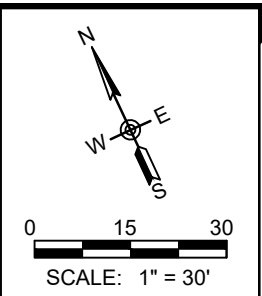
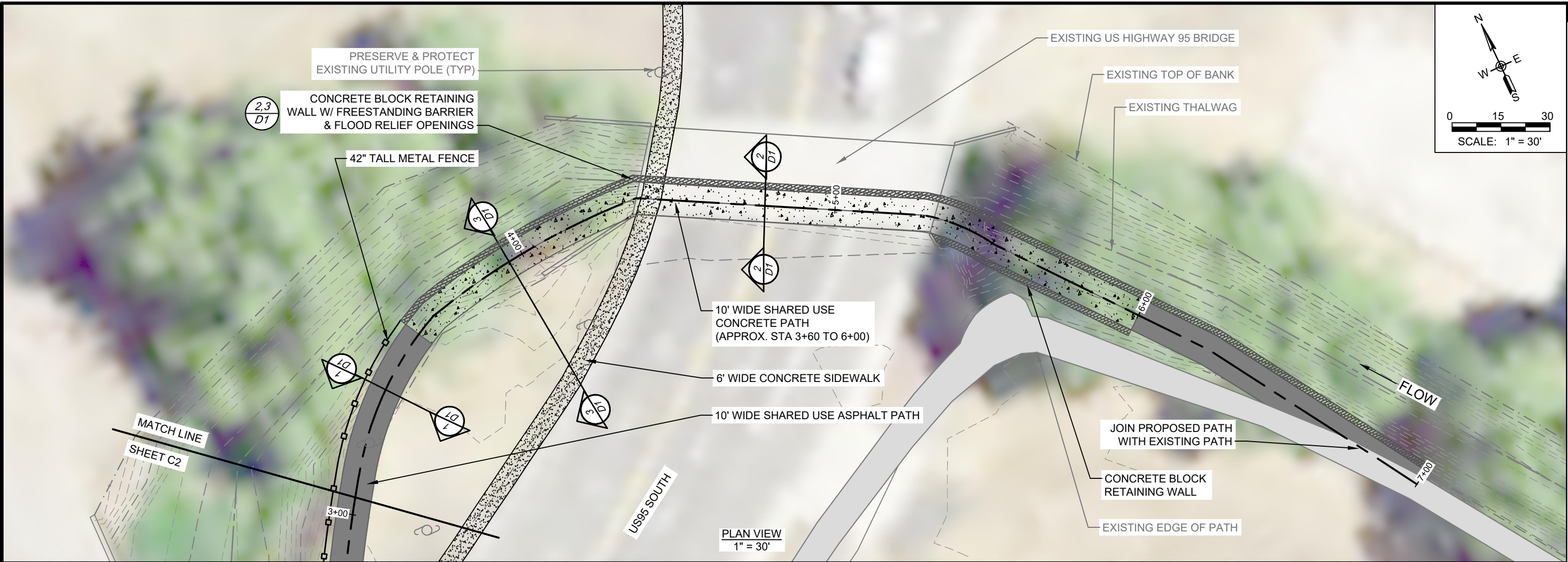
CITY OF MOSCOW US95 PATH  
UNDERPASS  
MOSCOW, IDAHO

PATH PLAN & PROFILE  
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Attachment: Underpass Study Documents (1824 : South Main Pedestrian Underpass Project (ACTION ITEM))

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| DRAFTER:  | J. DZARA  | COORDINATE SYSTEM: | ISP WEST, NAD 83, US FT |
| DESIGNER: | B. DAVIS  | SCALE:             | 1" = 30'                |
| CHECKED:  | S. FIROR  | APPROVED:          | X. XXXX                 |
| DATE:     | 8/15/2018 | DATE:              | XX/XX/XXXX              |



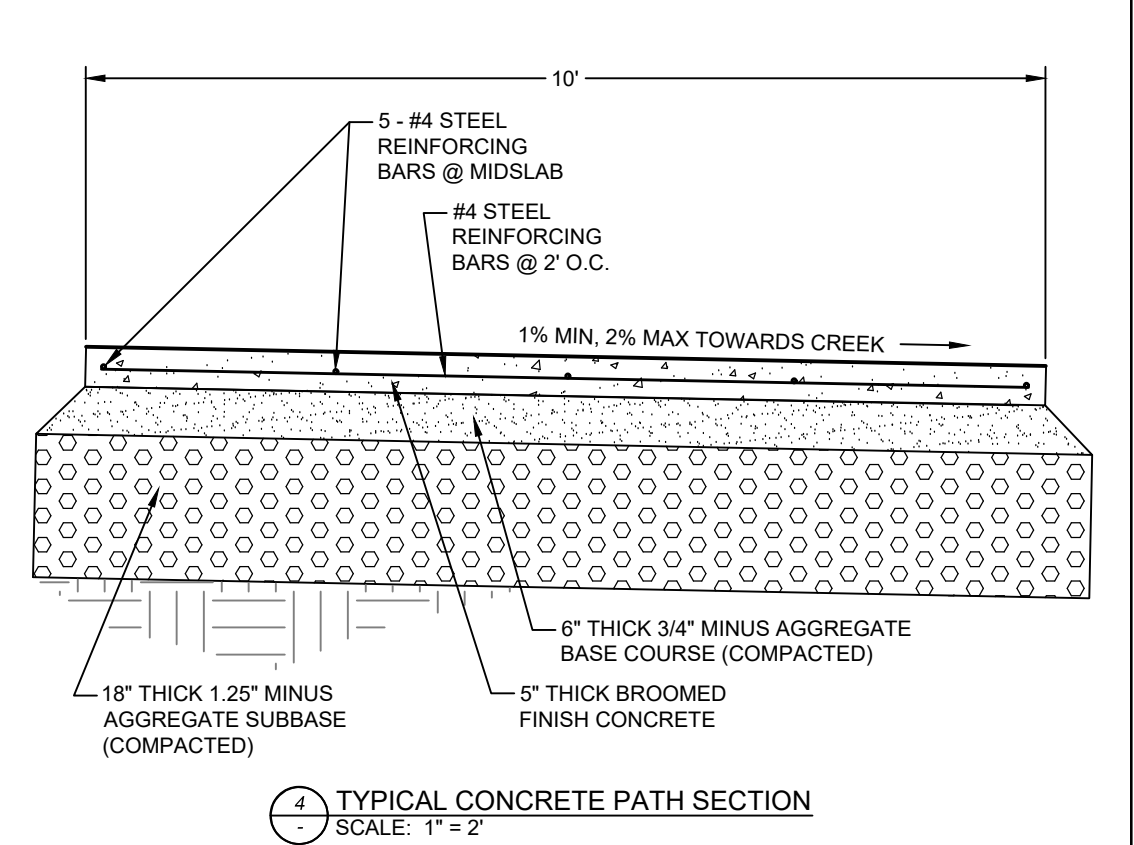
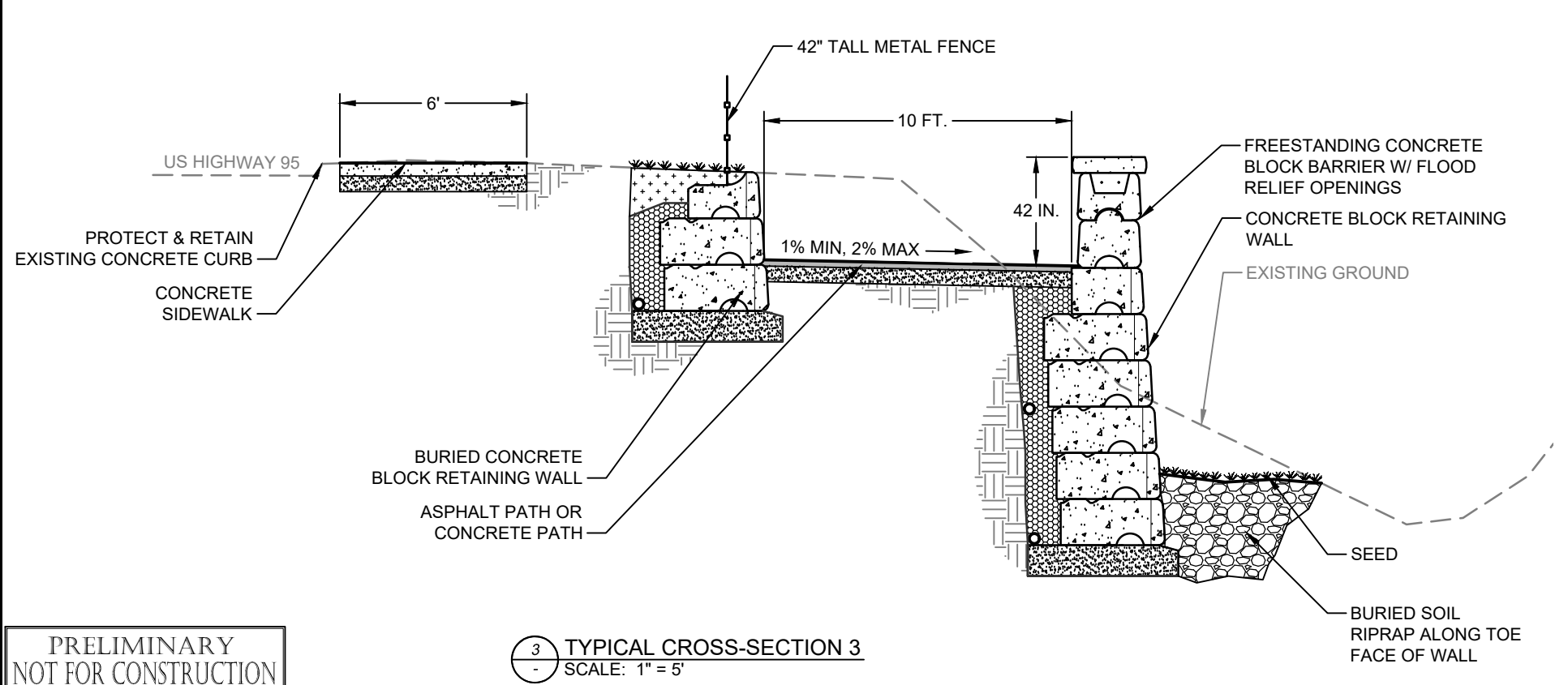
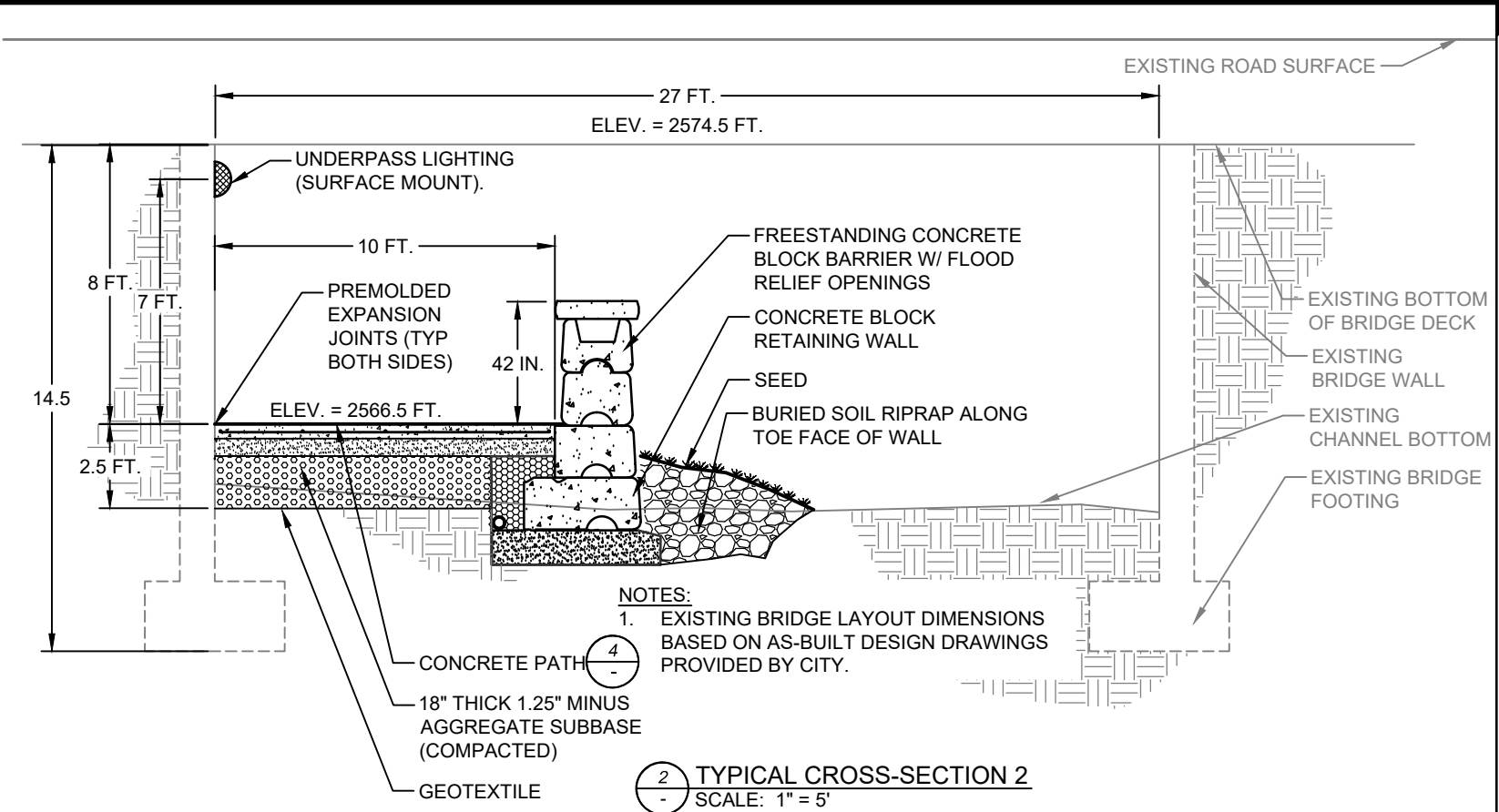
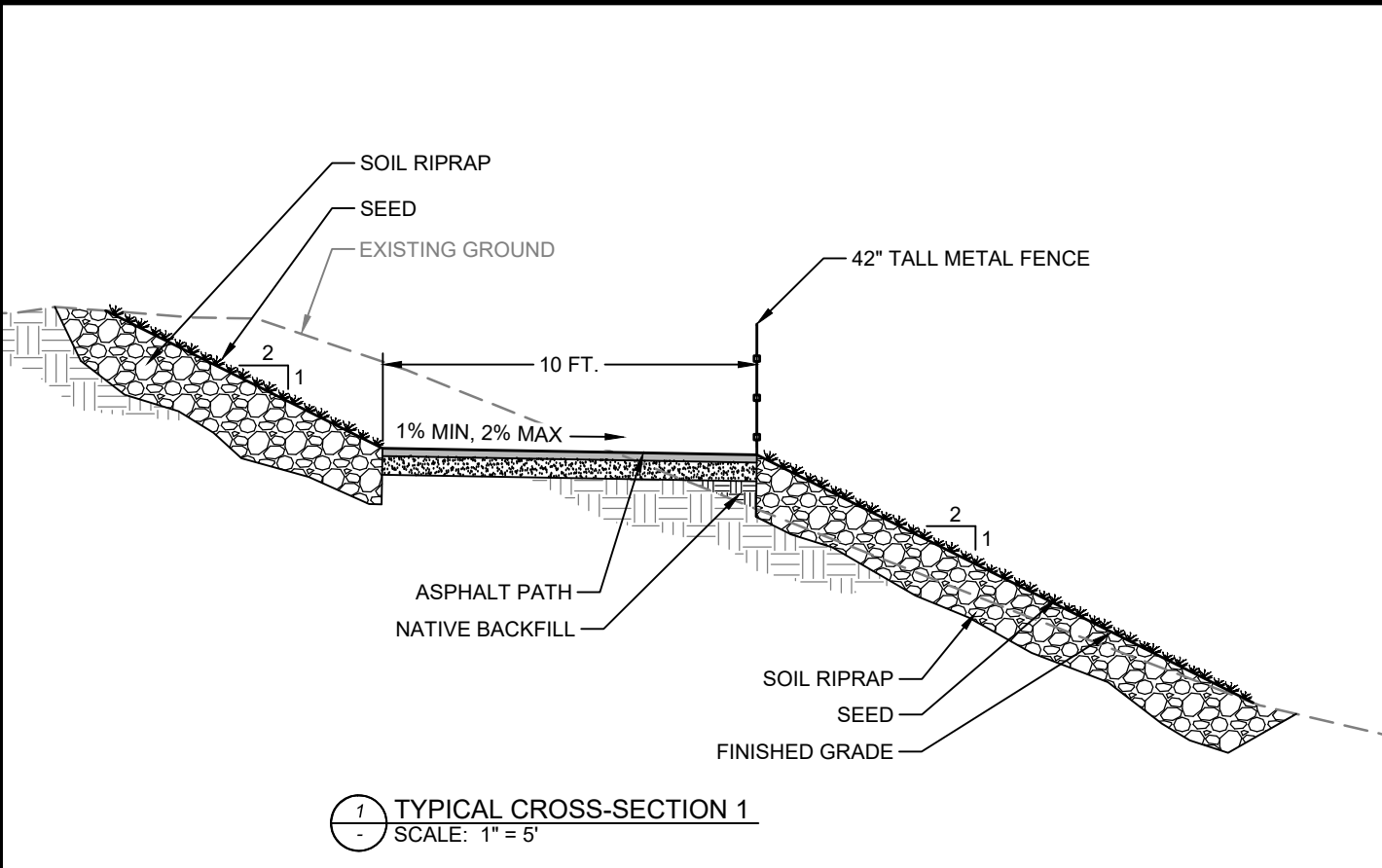
CITY OF MOSCOW US95 PATH  
UNDERPASS  
  
MOSCOW, IDAHO

PATH PLAN & PROFILE  
STA 3+00 TO 7+00

|              |           |
|--------------|-----------|
| SHEET:       | C3        |
| DATE:        | 8/14/2018 |
| PROJECT NO.: | 18059     |
| SHEET NO.:   | 04 OF 05  |

Attachment: Underpass Study Documents (1824 : South Main Pedestrian Underpass Project (ACTION ITEM))

P:\Engineering\City of Moscow US95 Underpass\Drawings\Conceptual\Moscow\_US95 Bike Underpass\_Details\_2018-08-16.dwg 8/16/2018



PRELIMINARY  
NOT FOR CONSTRUCTION

|     |      |           |    |     |           |           |                    |                        |
|-----|------|-----------|----|-----|-----------|-----------|--------------------|------------------------|
| NO. | DATE | REVISIONS | BY | CHK | DRAFTER:  | J. DZARA  | COORDINATE SYSTEM: | NAD83, ISP WEST, US FT |
|     |      |           |    |     | DESIGNER: | B. DAVIS  | SCALE:             | AS SHOWN               |
|     |      |           |    |     | CHECKED:  | S. FIROR  | APPROVED:          | XXXX                   |
|     |      |           |    |     | DATE:     | 8/15/2018 | DATE:              | XX/XX/XXXX             |



CITY OF MOSCOW US95 PATH  
UNDERPASS  
MOSCOW, IDAHO

DETAILS

|              |           |
|--------------|-----------|
| SHEET:       | D1        |
| DATE:        | 8/16/2018 |
| PROJECT NO.: | 18059     |
| SHEET NO.:   | 05 OF 05  |

**ENGINEER'S OPINION OF PROBABLE COST**

Based on Conceptual Design

Project Name: US95 Path Underpass, Moscow

Project #: 18059

Prepared by: Jess Dzara, E.I.T.

Date: 8/10/2018

Reviewed by: Ben Davis, P.E.

Date: 8/13/2018

| BID ITEM | DESCRIPTION                                            | EST. QUANTITY | UNITS | UNIT PRICE   | TOTAL        |
|----------|--------------------------------------------------------|---------------|-------|--------------|--------------|
| 1        | <b>Mobilization</b>                                    | 1             | LS    | \$49,490.00  | \$49,490.00  |
| 2        | <b>10' Asphalt Path</b>                                | 460           | LF    | \$43.23      | \$19,888.00  |
|          | Site Prep/Grading                                      | 520           | SY    | \$3.40       | \$1,768.00   |
|          | Excavation, Haul, and Disposal                         | 200           | CY    | \$15.00      | \$3,000.00   |
|          | Geotextile - Woven, 200 lb tensile                     | 520           | SY    | \$2.50       | \$1,300.00   |
|          | Aggregate base, 6" thick base, compacted, 3/4" minus   | 90            | CY    | \$38.00      | \$3,420.00   |
|          | Asphalt Paving - 2.5" HMA mat                          | 520           | SY    | \$20.00      | \$10,400.00  |
| 3        | <b>10' Concrete Path</b>                               | 240           | LF    | \$117.22     | \$28,133.00  |
|          | Site Prep/Grading                                      | 270           | SY    | \$3.40       | \$918.00     |
|          | Excavation, Haul, and Disposal                         | 160           | CY    | \$15.00      | \$2,400.00   |
|          | Geotextile - Woven, 200 lb tensile                     | 270           | SY    | \$2.50       | \$675.00     |
|          | Aggregate subbase - 18" thick, compacted, 1-1/4" minus | 140           | CY    | \$33.50      | \$4,690.00   |
|          | Aggregate base - 6" thick, compacted, 3/4" minus       | 50            | CY    | \$38.00      | \$1,900.00   |
|          | Concrete - 5" thick, reinforced, broom finish          | 270           | SY    | \$65.00      | \$17,550.00  |
| 4        | <b>Concrete Block Retaining Wall</b>                   | 540           | LF    | \$445.47     | \$240,554.00 |
|          | Excavation, Haul, and Disposal                         | 310           | CY    | \$20.00      | \$6,200.00   |
|          | Geotextile - Nonwoven, 115 lb tensile                  | 740           | SY    | \$1.60       | \$1,184.00   |
|          | Aggregate base - 24" thick, compacted, 3/4" minus      | 220           | CY    | \$33.00      | \$7,260.00   |
|          | Drain Rock - 1" clean                                  | 140           | CY    | \$40.00      | \$5,600.00   |
|          | Perforated Drain Pipe                                  | 540           | LF    | \$1.50       | \$810.00     |
|          | Concrete Block Wall & Freestanding Barrier - Materials | 1             | LS    | \$80,000.00  | \$80,000.00  |
|          | Concrete Block Wall - Installation                     | 3,690         | SFF   | \$25.00      | \$92,250.00  |
|          | Freestanding Concrete Block Barrier - Installation     | 1,890         | SFF   | \$25.00      | \$47,250.00  |
| 5        | <b>6' Wide Sidewalk</b>                                | 400           | LF    | \$46.42      | \$18,568.00  |
|          | Excavation, Haul, and Disposal                         | 60            | CY    | \$15.00      | \$900.00     |
|          | Site Prep/Grading                                      | 270           | SY    | \$3.40       | \$918.00     |
|          | Aggregate base - 6" thick, compacted, 3/4" minus       | 50            | CY    | \$38.00      | \$1,900.00   |
|          | Concrete Sidewalk - 5" thick, reinforced               | 270           | SY    | \$55.00      | \$14,850.00  |
| 6        | <b>Underpass Lighting - Surface Mount</b>              | 4             | EA    | \$2,350.00   | \$9,400.00   |
|          | Holophane HLWPC2 Wallpack LED Lights, Delivered        | 4             | EA    | \$600.00     | \$2,400.00   |
|          | Installation - Electrician                             | 1             | LS    | \$7,000.00   | \$7,000.00   |
| 7        | <b>42" Steel Fence</b>                                 | 150           | LF    | \$140.00     | \$21,000.00  |
| 8        | <b>Remove and Dispose of Existing Bridge</b>           | 1             | LS    | \$100,000.00 | \$100,000.00 |
| 9        | <b>Tree Removal</b>                                    | 3             | EA    | \$500.00     | \$1,500.00   |
| 10       | <b>Provide and Place Soil Riprap</b>                   | 100           | CY    | \$75.00      | \$7,500.00   |
| 11       | <b>Seeding</b>                                         | 11,000        | SF    | \$0.30       | \$3,300.00   |
| 12       | <b>Stormwater BMPs</b>                                 | 1             | LS    | \$10,000.00  | \$10,000.00  |
| 13       | <b>Water Management</b>                                | 1             | LS    | \$15,000.00  | \$15,000.00  |
| 14       | <b>Construction Traffic Control</b>                    | 1             | LS    | \$20,000.00  | \$20,000.00  |

**SUBTOTAL** \$544,333.00  
**CONTINGENCY 15%** \$81,649.95  
**TOTAL** \$625,982.95

**Construction Cost (Rounded) \$626,000**

**MOSCOW CITY COUNCIL AGENDA****Meeting Date:** 10/22/2018**Title:** Fire Station #2 Re-Roof Project Professional Services Agreement (ACTION ITEM)**Responsible Staff:** David Schott

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***Information***

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**DESCRIPTION:** Staff is requesting authorization to retain Associated Architects for full service architectural services for the Fire Station #2 re-roof project at a cost of \$7,660. Full architectural services include: construction documents, cost estimation, bidding and negotiation, and construction administration.

Over the past years, facilities staff have patched numerous leaks in the 3,442 square foot roof. Staff proposes an R Mer Lite roofing system by the Garland Company. The R Mer Lite roofing system is a robust metal roof with a 30 year warranty and similar roofs have been installed on the 1912 Center, Intermodal Transit Center, many of the University of Idaho buildings, and many of the Moscow School District buildings.

The FY19 budget for the project is \$69,900 and includes architectural services and construction. The budgetary line item for the architectural expense will be General Fund Capital Projects, 350-310-20-770-72.

If approved, staff anticipates construction documents and cost estimates to be completed by the end of January 2019 and issue of a Solicitation for Bids in February.

**STAFF RECOMMENDATION:** Recommend approval of Associated Architects to provide full service architectural services for Fire Station #2 Re-Roof Project at a cost of \$7,660; and issuance of Solicitation for Bids.

**PROPOSED ACTIONS:** Recommend approval of Associated Architects to provide full service architectural services for Fire Station #2 Re-Roof Project at a cost of \$7,660; and issuance of Solicitation for Bids, or provide staff with further direction.

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***Necessary Resources/Impacts***

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<Type your fiscal/personnel/miscellaneous impacts here or N/A>

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***Attachments***

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Fee Proposal Fire Station No. 2 Revised

**Associated Architects LLP**

129 West Third Street - P.O. Box 9432

Moscow, ID 83843

Ph: (208) 882-5051

Fax: (208) 882-8543

Email: assocarch@moscow.com

October 16, 2018

Mr. David Schott, Asst. Parks & Rec. Director  
1724 East F. Street  
Moscow, ID 83844

**RE: Architectural Fee Proposal  
Fire Station No. 2 Re-Roof  
Moscow, Idaho**

Dear David:

Thank you for the opportunity to submit a fee proposal to provide "Full Service" Architectural Services for the re-roof of Fire Station No. 2, located at 1380 White Avenue, Moscow, Idaho.

Based on my site visit and review of existing record documents, Associated Architects, LLP proposes to provide full service Architectural Services for a fixed fee of \$7,360.00

The services will include:

- Construction Documents: Prepare plans and specifications for a complete re-roof of the existing 3,442 square foot roof including any alternates as required.
- Cost Estimate: Provide a cost estimate for budgetary purposes.
- Bidding and Negotiating: Assist the owner with distribution of contract documents as necessary for bidding purposes. Conduct pre-bid conference and walkthrough. Issue addenda as required. Assist with Bid Opening and make recommendation to the City.
- Construction Administration: Provide preconstruction meeting and progress meetings as required. Review product data submittals and make on-site inspections for code compliance and quality control. Associated Architects will review contractor pay requests, conduct substantial and final inspections including writing up punch lists and ensuring closeout documents are submitted.
- Printing and reproductions, postage and long distant calls shall be reimbursed at 1.1 times invoice cost. I do not anticipate reimbursable expenses to be more than \$300.00.

If this proposal is acceptable, please contact me so we can include the project into our work schedule.

Sincerely,



Chick Mabbutt, PA