

# Staff Report

**TO:** Board of Directors

**FROM:** Keane Sommers, P.E., Hydroelectric Manager  
Nathan Droivold, E.I.T., Project Manager  
Kaylie Hague, Hydroelectric Compliance Technician I

**DATE:** October 27, 2021

**SUBJECT:** Fall Creek Flume Repair (Project #2404) (Consent)

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## ***HYDROELECTRIC***

### **RECOMMENDATION:**

Approve a sole-sourced purchase to Frank M. Booth, Inc. in the amount of \$140,930.32 to procure the materials needed for the Fall Creek Flume Repair Project (Project) and authorize the General Manager to execute the appropriate documents.

### **BACKGROUND:**

The Fall Creek Crossing Flume (Flume) is located in the upper section of the Bowman-Spaulding Canal (BS Canal). It is a critical connection between the upper and middle sections of one of NID's largest water conveyance systems. The steel Lennon flume was originally installed in 1965 to meet contractual obligations for hydroelectric power generation and downstream water deliveries. After 30 years of service, the structure had become deteriorated and required replacement in 1995.

Today (about 30 years later), the Flume is once again corroded and defective to the point of leakage and has ultimately reached the end of its useful life. In 2020, the NID Maintenance Department attempted to repair the rotting holes in the Flume by applying a waterproofing coating to the interior walls. This effort proved to be time-consuming, the product was difficult to apply, and the repair was ultimately unsuccessful in resolving the underlying problem.

Deferral of the Project could lead to worsening leakage and potential failure of the BS Canal, which would have detrimental effects to power generation, water supply downstream, and environmental consequences in Fall Creek below the Flume. The exceptionally large size of the Flume would make emergency repairs difficult

because it requires custom-made hardware and materials that have extended lead times (several months) and would result in costly manufacturing processes. These lead times would cause significant financial burdens and loss of income should the condition of the Flume worsen or fail while parts are ordered for replacement. At this time, the District does not own any of the parts necessary to replace the existing flume in the event of an emergency repair. Therefore, staff identified this preventative maintenance project as essential to avoid delays and expenses associated with the failure of the Flume.

The District reached out to Pacific Gas & Electric (PG&E), Placer County Water Agency, and other local organizations to discuss solutions for the Project, and discovered that the only regional supplier of flume sheets and materials of this scale is Frank Booth Incorporated (Frank Booth) in Marysville. A site visit was conducted with Frank Booth in early 2021, where it was determined that the Project was necessary.

Therefore, the Hydroelectric Department recommends awarding a sole-sourced purchase to Frank Booth to procure the materials necessary for the Project.

District staff conducted a thorough review of the Flume's original construction documentation and developed a bill of materials that staff believed was required for the Flume replacement. This bill of materials also included a small supply of spare materials for future use. After consulting Frank Booth on-site, it was discovered that some of the existing hardware was reusable, thus reducing the quantities of materials needed and overall cost.

After these discussions, NID then solicited a quote from Frank Booth. The proposed purchase would include the procurement of parts and materials necessary to complete the Project. District staff have reviewed the costs of the materials, and have concluded that the quoted prices from Frank Booth appear to be reasonable given their lack of availability from other sources.

This sole-source award complies with the following District Procurement Policy Section:

3080.3.J.3 - In order to obtain a necessary item that is only available from one source.

This expenditure is in alignment with Goal No. 1 of the District's Strategic Plan, as replacement of the Fall Creek Flume is preventative maintenance that avoids catastrophic failure and associated consequences, and continues the reliable delivery of water for power generation and downstream District customers.

**BUDGETARY IMPACT:**

The 2021 Hydroelectric Department Budget includes \$50,000 for the Project. To date, none of the 2021 Project budget has been spent, and an additional \$90,930.32 from the Rucker Creek Spillgate Replacement Project Budget (Project #2339) will

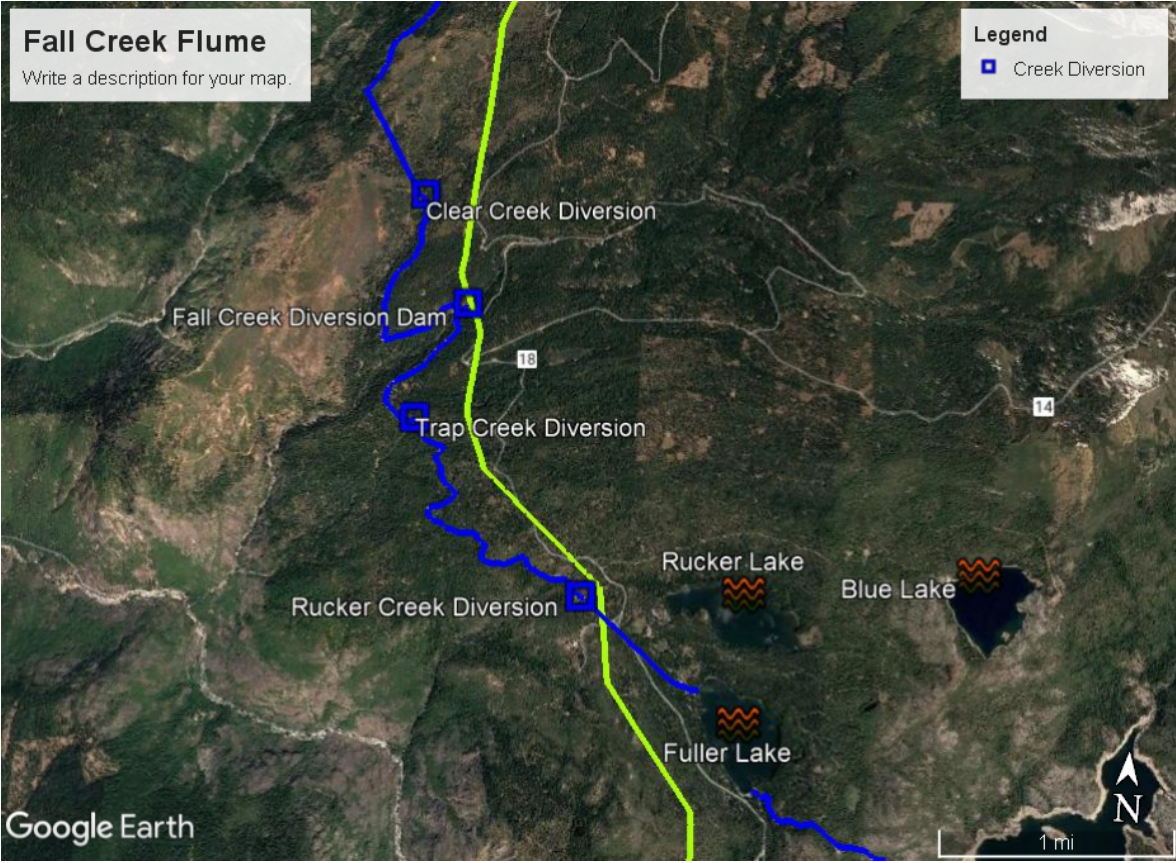
be used to cover the cost of this contract. These funds will not be needed for the Rucker Creek Spillgate Replacement Project due to delays caused by COVID-19 related staffing issues. In 2022, the Project will move into its planning and construction phases which is expected to cost about \$150,000.

KH

Attachments: (2)

- Location Map and Photos of Fall Creek Crossing Flume
- October 4, 2021, Frank Booth Inc. Quote

**Attachment 1 Location Map and Photos of Fall Creek Crossing Flume**



**Vicinity Map of Fall Creek Flume**



Fall Creek Crossing Flume



Typical Fall Creek Crossing Flume Corrosion and Leakage



Fall Creek Crossing and Diversion Flume Scale



# FLUME PROPOSAL

**Date:** October 4, 2021

**Project:** #264-Fall Creek Diversion Flume

**To:** Nevada Irrigation District  
28311 Secret Town Road  
Colfax, CA 95713

**Attention:** Nathan Droivold

We are pleased to quote your flume requirements as follows.

Item	Qty	Unit	Total
264" Flume Sheets	43	\$733.74	\$31,551.00
264" Angles	8	\$1,027.09	\$8,216.71
Joint Rod 5/8" x 22'-8"	110	\$276.44	\$30,408.10
Compression Rod HR 1" x 22'-1 1/2"	60	\$608.67	\$36,520.19
Intermediate Rod 5/8" x 23'-9"	100	\$278.57	\$27,856.89
Heavy Duty Hex Nuts - 5/8" dia	420	\$0.48	\$200.03
Hanger Bracket 4"W x 13.25"L	50	\$44.97	\$2,248.66
4" x4" beveled washer (custom)	50	\$92.49	\$4,624.64
J Bolts 5/8" x 5"	50	\$7.88	\$393.75
Transportation of Rods to Galvanizer / Plater	2	\$1,200.00	\$2,400.00
<b>Total</b>			<b>\$144,419.96</b>
Delivery to Colfax, CA	1	\$760.00	\$760.00
<b>Total incl. Delivery</b>			<b>\$145,179.96</b>
Optional Deduct for Bracer Hillside washer I.L.O. 4x4 custom			(\$4,249.64)
<b>Total after Deduct</b>			<b>\$140,930.32</b>

All prices are F.O.B. our shop in Marysville, CA, delivery is shown as an add, and all are subject to all applicable taxes unless specifically noted otherwise.

We thank you for the opportunity of quoting you on your flume requirements and will be happy to discuss details with you at any time.

**FRANK M. BOOTH, INC.**

\_\_\_\_\_  
Name Brian McGrath

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Signature

\_\_\_\_\_  
Date October 4, 2021

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Title Estimating / Pre-Construction