

Hopper Slough Bridge Replacement Project

State Route 128 (Rutherford Road)





Presentation Outline

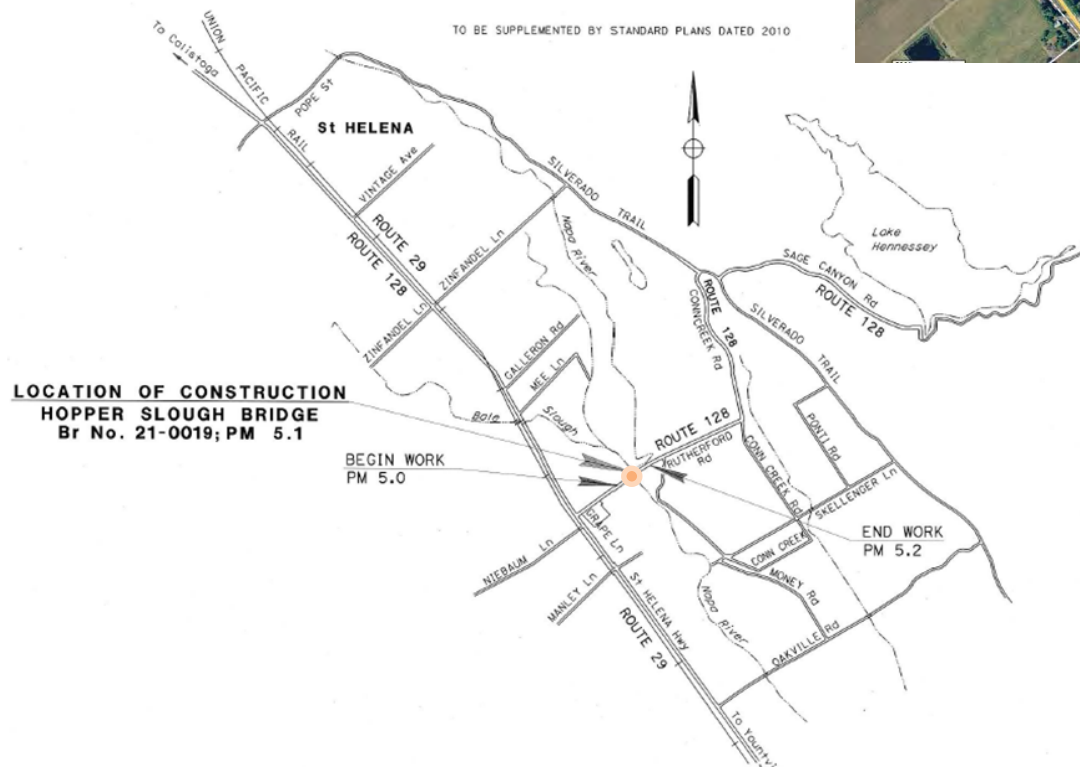
1. Project Location
2. Project Description
3. Interim Repair Completed in May 2014
4. Proposed Project
5. Schedule

Project Location

Hopper Slough Bridge (BR# 21-0019)
In Napa County Route 128 PM 5.12



AT HOPPER SLOUGH BRIDGE



Project Description

Replace Hopper Slough Bridge at Post Mile 5.12 on State Route 128 in Napa County.

Programming: SHOPP 201.110 (Bridge Rehabilitation)

Current Estimate: \$7.8 M (Capital Construction)

Project Description

Environmental:

- EIR and EA is expected.
- Loss of oak tree canopy has potential to cause controversy and significant environmental impacts.
- Permits include 1602(Streambed Alteration), 404(Army Corps of Engineers), 401(Water Quality), and Biological Opinions from NMFS and USFWS.
- Compensatory, visual, and off-site tree mitigation expected.
- Community Impact Assessment required during PA&ED.

R/W:

- Two parcels anticipated, and both require temporary construction easements.
- Verification of utilities required. Potholing will be completed during PS&E.

2014 Repair Work



2014 Repair Work



The reinforced concrete Hopper Slough Bridge was built in 1921



The structure carries more than 2,000 vehicles a day.



A section of the roadway has settled.



The spall in the face of Abutment 1 was repaired in Spring 2014.



Additional cracking was noted in early May during the temporary repair of Abutment 1.

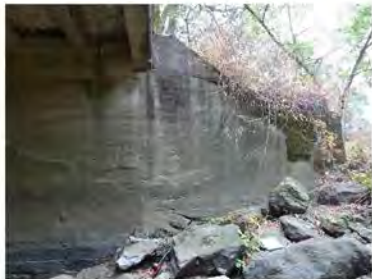
Existing Condition

Looking East



Existing Condition

Looking West



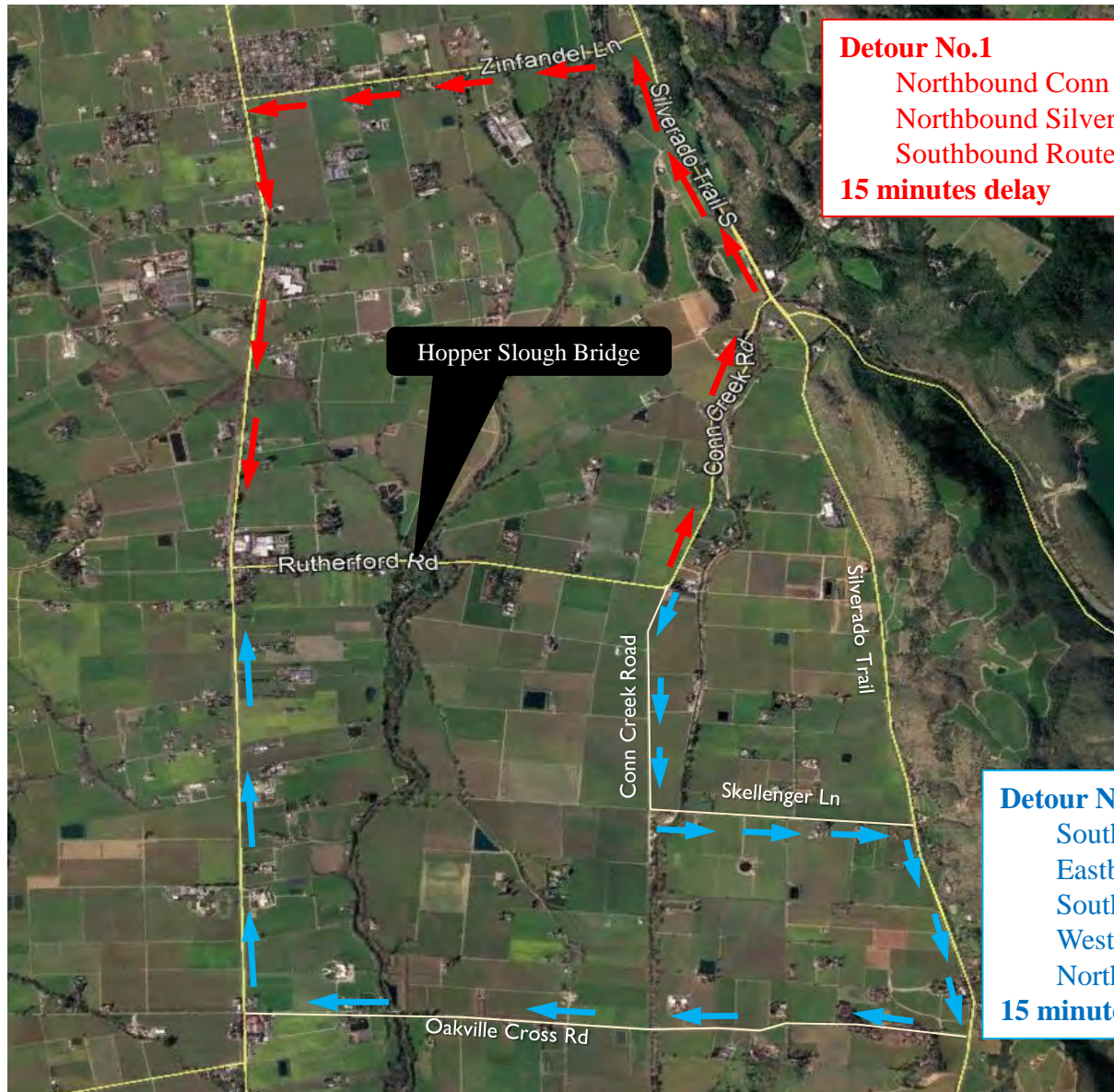
Proposed Project

- Replacing the existing 41-foot-long and 23-foot-wide bridge with a 63.5-foot-long and 44-foot-wide single-span bridge.
- No change to the alignment of the roadway is needed.
- Using Accelerated Bridge Construction methods including precast abutments and precast voided slabs for the bridge construction during the full closure of the bridge .
- Placing the foundations on H Piles that utilize driving shoes to minimize time to construct the foundation elements.
- Two alternatives are proposed for traffic control procedures during the construction:
 - Alternative 1: Traffic to be detoured around the project location through local roads.
 - Alternative 2 : A temporary one lane prefabricated modular steel bridge with temporary abutments be constructed to route traffic off the existing structure.

Alternative 1

- This alternative will require full closure of SR 128
- It will take one season
- Existing bridge will be removed & reconstructed in one stage
- New structure will be constructed using Accelerated Bridge Construction methods including H pile foundation, precast abutments & precast voided slabs
- Traffic will be detoured around the project location as the highway will be closed
- Two alternative detour routes are developed- both Detour 1 or Detour 2 cause additional 15 minutes of travel time
- This alternative reduces the construction footprint, time and cost, as well as environmental impacts
- Existing R/W will accommodate all staging and storage of construction materials

Detour Plan



Detour No.1

Northbound Conn Creek Rd
Northbound Silverado trail
Southbound Route 29

15 minutes delay

Detour No.2

Southbound Conn Creek Rd
Eastbond Skellenger Lane
Southbound Silverado Trail
Westbound Oakville Cross Rd
Northbound Route 29

15 minutes delay

Alternative 2

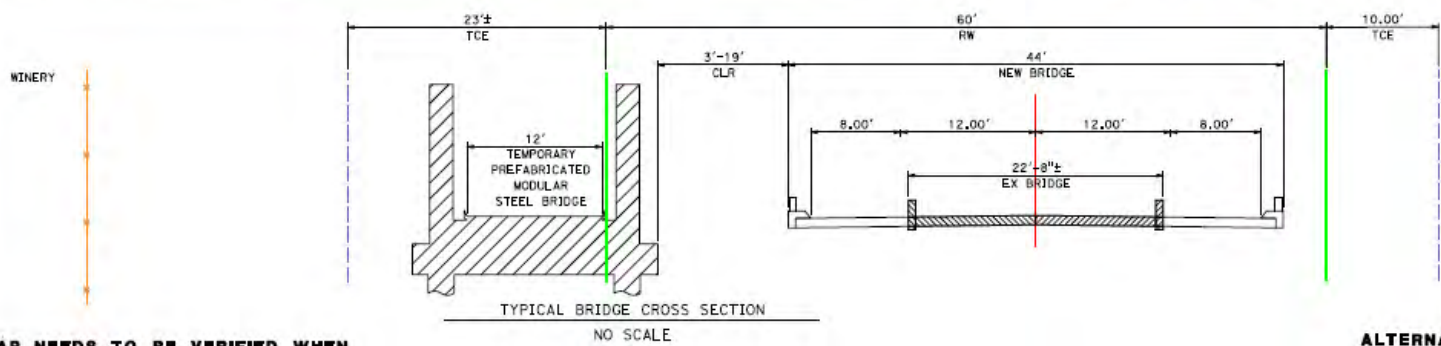
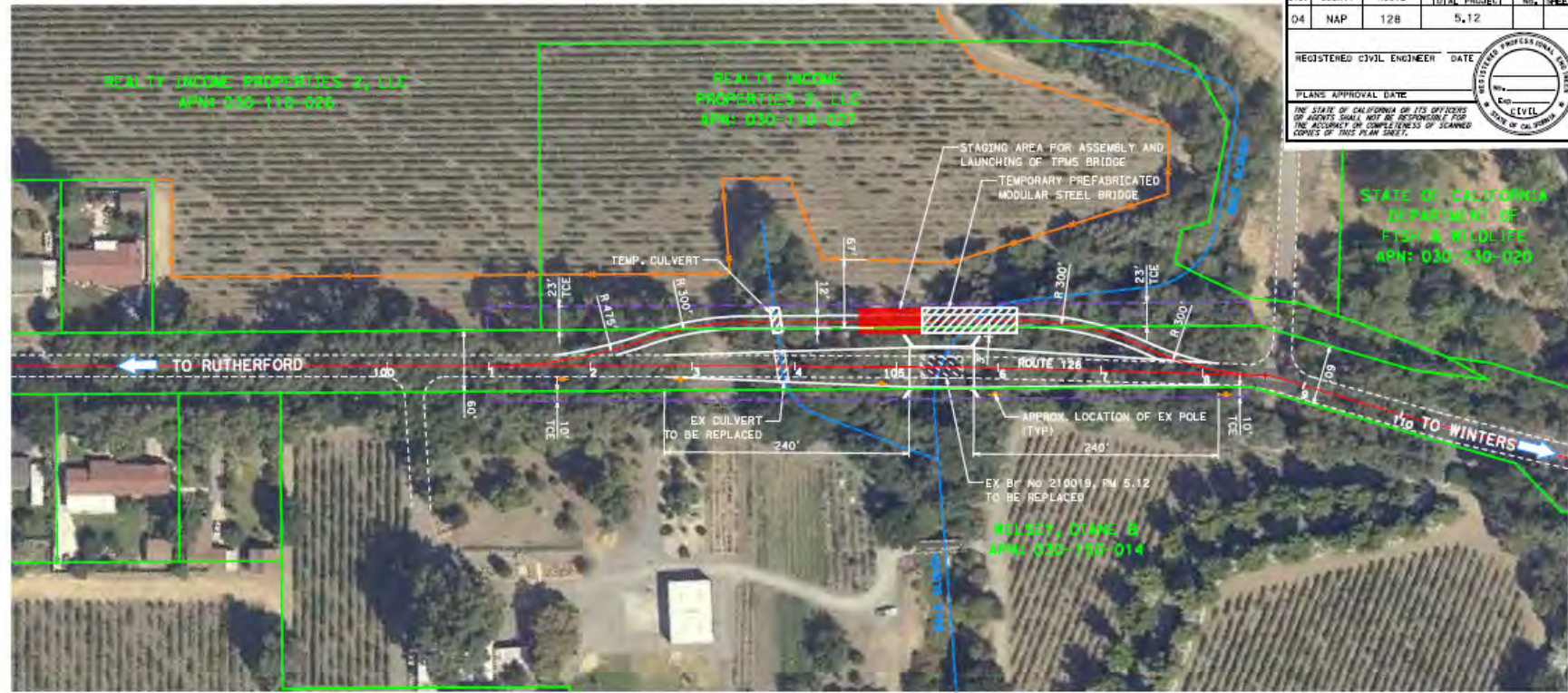
- SR 128 remains open with some delay due to the one-way traffic
- Construction duration will be longer
- There will be increased cost associated with the construction and removal of the temporary bridge
- One-way traffic control signal will be installed & maintained
- Larger area will be disturbed, so more trees need to be removed & there will be greater environmental impacts
- Additional temporary easement will be required to accommodate the new alignment of the highway and temporary bridge, as well as greater disturbed area for the contractor to store equipment and materials

SHEET	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	NAP	128	5.12		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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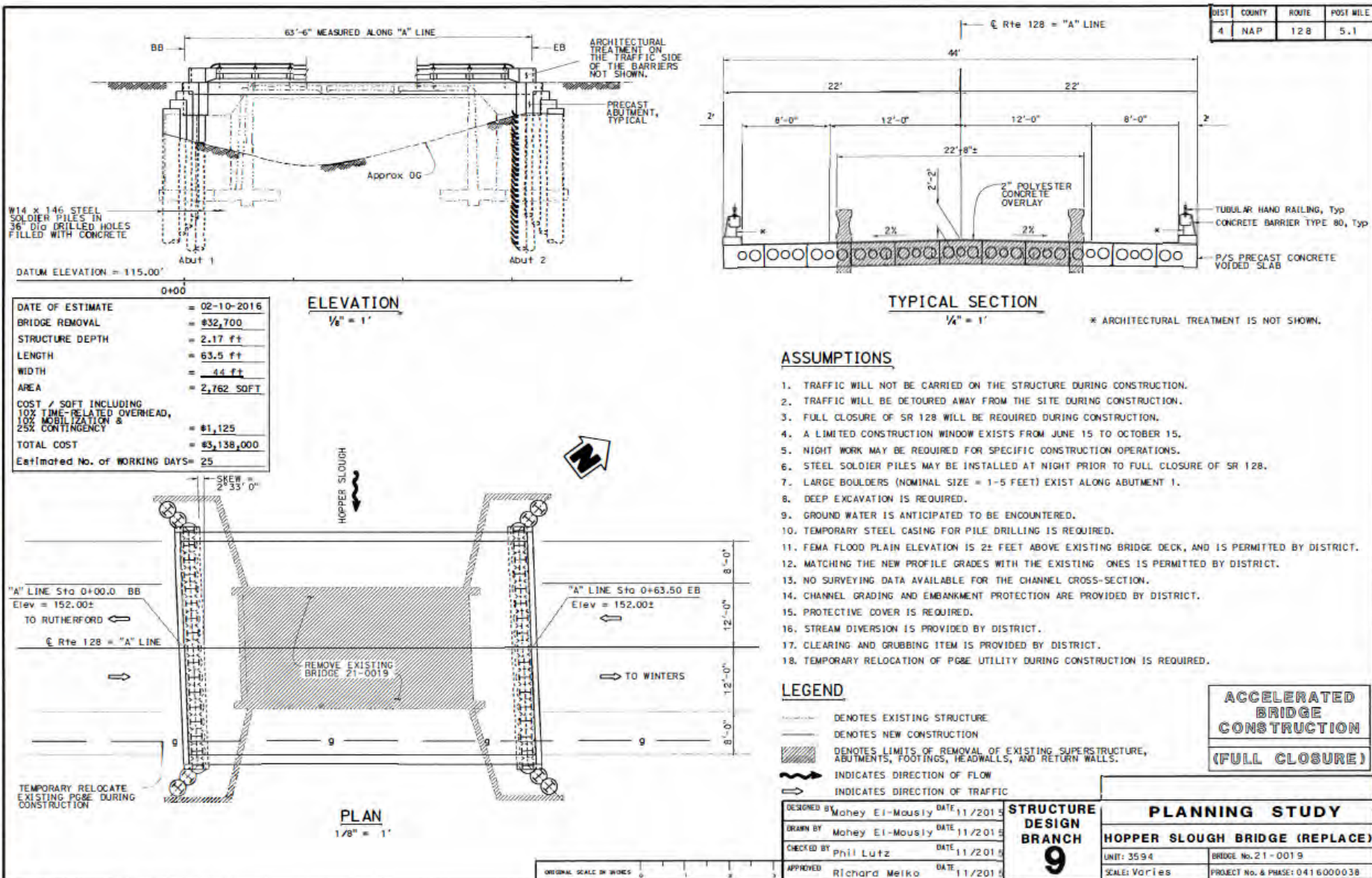
MAP NEEDS TO BE VERIFIED WHEN THE FIELD SURVEY IS READY.

**ALTERNATIVE 2
TEMPORARY PREFABRICATED MODULAR STEEL BRIDGE**

DATE PLOTTED => 04-26-2018
100-00-001 Task PLOTTED => 10513

No matter which alternative is chosen the bridge would be built to current Caltrans highway design standards:

- Two standard 12-foot-wide travel lanes
- 8-foot-wide shoulders
- 240' roadway tapers to accommodate the new 8-foot shoulders
- New Type 80 barriers
- Existing arch culvert crossing SR 128, located 96-foot west of the existing bridge will be replaced with an 8-foot by 6-foot precast reinforced box culvert backfilled with 2-foot of natural creek bed material



Schedule

Project Milestones		Milestone Date (Month/Year)
PROGRAM PROJECT	M015	07/2018
BEGIN ENVIRONMENTAL	M020	07/2018
PA & ED	M200	10/2020
PS&E TO DOE	M377	10/2021
DRAFT STRUCTURES PS&E	M378	12/2021
RIGHT OF WAY CERTIFICATION	M410	04/2022
READY TO LIST	M460	05/2022
AWARD	M495	11/2022
APPROVE CONTRACT	M500	12/2022
CONTRACT ACCEPTANCE	M600	12/2024
END PROJECT	M800	12/2026



End of Presentation/Questions