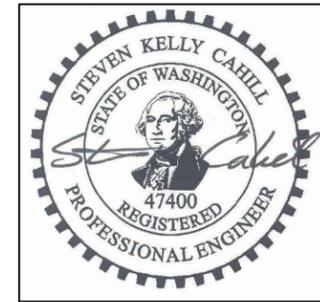


WASHINGTON STATE
N.T.S.

KRISTOFERSON FISH PASSAGE PROJECT
ISLAND COUNTY, WASHINGTON
 Triangle Cove, Camano Island, WA 98282
FISH PASSAGE & STREAM CROSSING

PREPARED BY
 SNOHOMISH CONSERVATION DISTRICT



Preliminary Plans – 30%

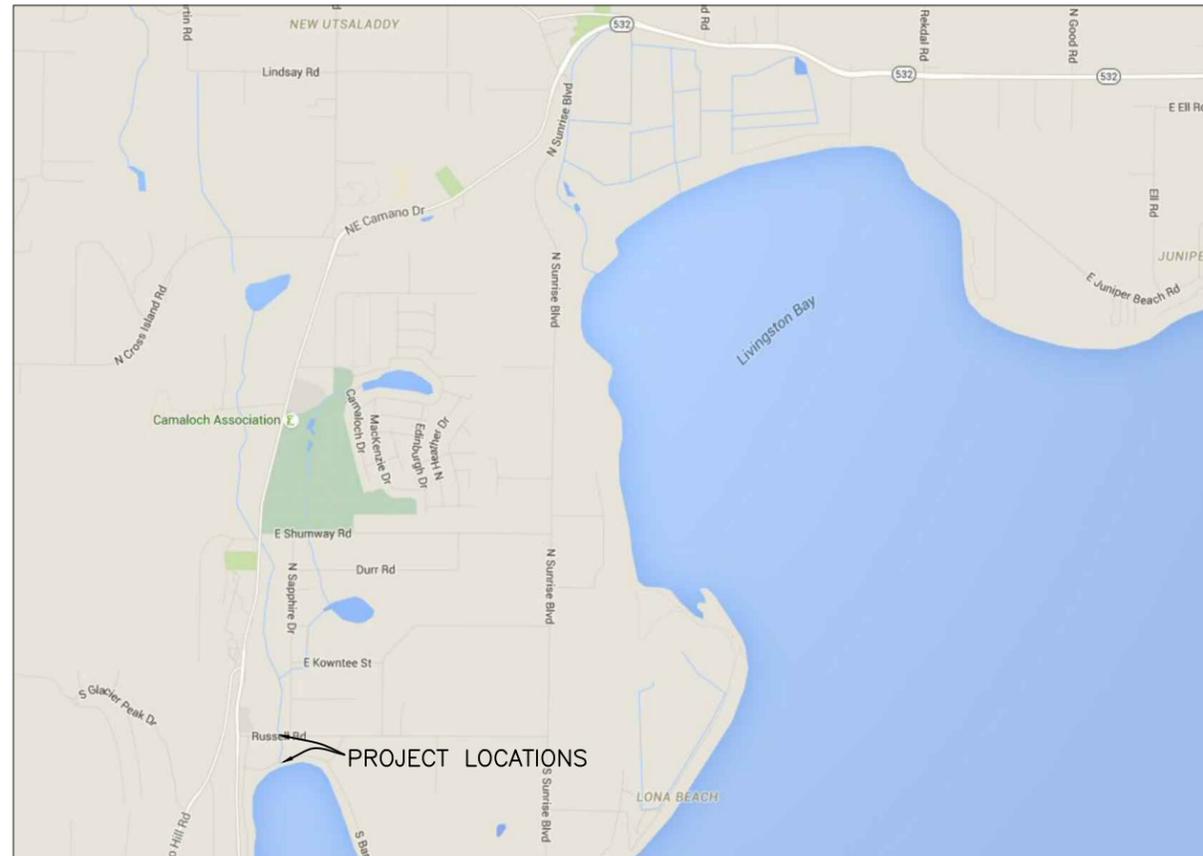
LEGEND

Existing		Proposed
--- ---	County Road Edge	---
— — — —	Access Road	— — — —
— — — —	Road Centerline	— — — —
— — — —	Road Surface Rock	[Stippled Pattern]
[Diagonal Hatching]	Culvert	[Diagonal Hatching]
[Stippled Pattern]	Box Culvert	[Stippled Pattern]
— — — —	Existing Ground (Profile/Detail)	— — — —
— — — —	Stream Bank	— — — —
○	Excavation Boundary	○
○	Hub (Control Point)	○
— — — —	Q100 (BFE) Boundary	— — — —
[Stippled Pattern]	Low Flow Channel	[Diagonal Hatching]
— — — —	Contours	— — — —
~ ~ ~ ~	Shrub Boundary	~ ~ ~ ~
●	Tree	●
— — — —	Silt Fence	— — — —

LOCATION OF UTILITIES

The Snohomish Conservation District does not make any representation to the existence or non-existence of any public and/or private buried or overhead utilities. Where utilities are shown on the drawing, their location, depth and/or height are approximate. The exact location, depth and/or height shall be determined by the responsible utility. Any construction and/or O&M activities within the utility easement shall be in compliance with the utilities requirements. Call Utility at 1 (800) 424-5555 at least two business days before excavating, as required by Washington State Law.

Vicinity Map (1" = 400')



NOTE: Structural Design of Corrugated Metal Pipe Culvert and Concrete Box Culvert to be Provided By Others.

INDEX OF DRAWINGS

SHEET NO.	TITLE
1.	Cover Page
2.	Notes
3.	Vicinity Map
4.	Long Profile
5.	Site Plan – Upper Site
6.	Section Detail – Upper Site
7.	Profile Detail – Upper Site
8.	Site Plan – Lower Site
9.	Section Detail – Lower Site
10.	Profile Detail – Lower Site

Kristoferson Fish Passage Project
Coversheet

SNOHOMISH CONSERVATION
 DISTRICT

DESIGNED	DATE	DATE	DATE	DATE
_____	6/16	6/16	6/16	6/16
DRAWN	DATE	DATE	DATE	DATE
_____	6/16	6/16	6/16	6/16

REVISION NO.
1

PROJECT NO.

SHEET **1** of **10**

SURVEY NOTES

1. Survey was performed March 25th, 29th, and April 28th, using a Survey Grade Topcon Hiper GPS receiver to establish vertical control and a Sokkia total station for horizontal control and ground shots.
2. The coordinate system used is Northern Washington State Plane Coordinates, horizontal datum is NAD83(NA2011) epoch 2010.00. Vertical datum is NAVD88 Geoid 12a.
3. This survey is topographic and is intended for use with this project only. This is not a boundary survey. Property and ROW lines have not been determined.
4. Utilities were not examined or considered as part of this survey.
5. Contour Interval, unless noted otherwise, is 1 foot.
6. Establishment of temporary benchmarks (TBM) shall be the responsibility of the Contractor.
7. When moved or damaged, it shall be the Contractor's responsibility to reset any construction stakes set by the Engineer.

CONSTRUCTION SEQUENCE

1. Submit for written approval an anticipated construction schedule to Project Manager at least 1 month prior to start. In-channel work shall occur between July 15th and September 30th, or as allowed by permit conditions.
2. Call for pre-construction meeting with Project Manager, Engineer and Landowner;
3. Establish TBM's and perform construction staking as necessary;
4. De-water and De-fish. De-fishing shall be the responsibility of the contractor.
5. Excavate to place corrugated metal pipe (CMP) and box culvert and re-align stream channel. Install bank armor as necessary.
6. Place CMP and box culvert, while completing finished stream channel through structures. Construct armored banks.
7. Backfill structures and construct road fill. Construct headwalls. Backfill any excavation that is beyond the footprint of the road fill with native material and compact equal with surrounding earth.
8. Incrementally remove sandbag diversion dam, releasing stream water into finished channel. Remove gravity pipe.
9. Apply final soil stabilization applications to all exposed soils within seven (7) days of completing construction activities. Temporary stabilization techniques are required throughout the project in event of rain.
10. Remove all equipment, trash, debris and excess materials from the site within seven (7) days of completing construction activities.

GENERAL CONSTRUCTION NOTES

1. It is the responsibility of the Contractor to comply with local, state and federal law at all times.
2. It shall be the responsibility of the contractor to obtain any required permits not provided by the project manager.
3. The Contractor shall be responsible for complying with all permit terms and conditions.
4. This project shall be constructed to the lines and grades shown in the drawings and detailed in the construction specifications and any specifications included by reference.
5. Quantities may vary based on contractor's choice of construction method.

GENERAL STRUCTURE NOTES

1. Corrugate Metal Pipe shall be pre-manufactured and capable of supporting HS-25 Live Load with the specified depth of fill. Corrugated metal pipe shall be galvanized steel.. Length shall be 66 feet; Diameter shall be 12.0 feet; Thickness shall be a minimum 10-gauge (0.138 inches). Corrugations: 5 inch x1 inch.
2. Corrugated Metal Pipe manufacturer shall provide structure shop drawings and installation directions.
3. Concrete Box Culvert shall be pre-manufactured and capable of supporting HS-25 Live Load with the specified depth of fill. Length shall be 36 feet; Span shall be 12.0 feet and Rise 6.0 feet;
4. Concrete Box Culvert manufacturer shall provide structure shop drawings and installation directions.

DE-WATER/DE-FISH NOTES:

1. Install fish nets and build a sandbag cofferdam at general location as shown. Secure end of gravity diversion pipe near top elevation of sandbag diversion. Install diversion sump for pumping. Slowly draw down water by pumping during installation, in concurrence with de-fishing. Release clean water into the stream channel. Water must be released onto energy dissipating device to avoid scour of channel.
2. Gravity diversion pipe may be buried, or run through the site. However, pipe must be effectively managed during all operations to ensure continuous diversion of water.
3. As needed, use pump to bypass water while repositioning gravity bypass pipe, or during temporary dis-use of gravity by-pass pipe.
4. De-fishing and de-watering shall be maintained for the entirety of the project, or until completion of in-channel work.
5. Groundwater de-watering shall be conducted as needed in conjunction with any excavation. This water shall be considered sediment laden and pumped to a forested location at least 100 feet from the stream, or as necessary to achieve full dispersion of the dirty water on the forest floor.
6. Alternative de-watering plans shall be submitted for conditional written approval by the contract administrator prior to implementation.

EROSION CONTROL NOTES:

1. It is the Contractor's responsibility to ensure no sediment is allowed to enter live water.
2. Prior to construction, assemble erosion control materials onsite. Installation shall be in accordance with manufacturers recommendations, if applicable.
3. Prior to any precipitation, the Contractor must install silt fence at least 50 feet either side of the stream crossing, and along the road edge, or as necessary to prohibit silt laden water from entering the adjacent waterway. This requirement will remain in-force until all project soils are stabilized.
4. At the completion of construction, install coir rolls, silt fence and gabion rock as detailed, to slow water flow and allow sediment deposition. Do Not Remove at completion of operations.
5. At completion of operations, cover all bare soil generated by the project with 6 inches of weed-free straw and grass seed.
6. Once all bare soils are stabilized, temporary silt fencing may be removed.

MATERIAL SPECIFICATIONS

1. Backfill and Bedding Rock, also known as Structural Fill, shall meet either of the following material specification: 9-03.9(1) "Ballast" or 9-03.9(3) "Crushed Surfacing" of the 2012 WSDOT Standard Specifications.
2. Embankment Rock shall be crushed or partially crushed with a minimum percentage of fractured faces of at least 75%, and shall meet the gradation requirements for "Large Jaw Run Rock" or "Small Jaw Run Rock" listed below or 9-03.9(1) "Ballast" or 9-03.14(1) "Gravel Borrow" of the 2012 WSDOT Standard Specifications.
3. Stream rock shall be a custom mixture of rock, in the percentages listed in this plan, meeting the specifications for Streambed Sediment, and Streambed Cobbles, 9-03.11(1) and 9-03.11(2) of the 2012 WSDOT Standard Specifications
4. Earth fill shall meet the material requirements for Common Borrow, section 9-03.14(3) of the 2012 WSDOT Standard Specifications.



Kristoferson Fish Passage Project Notes

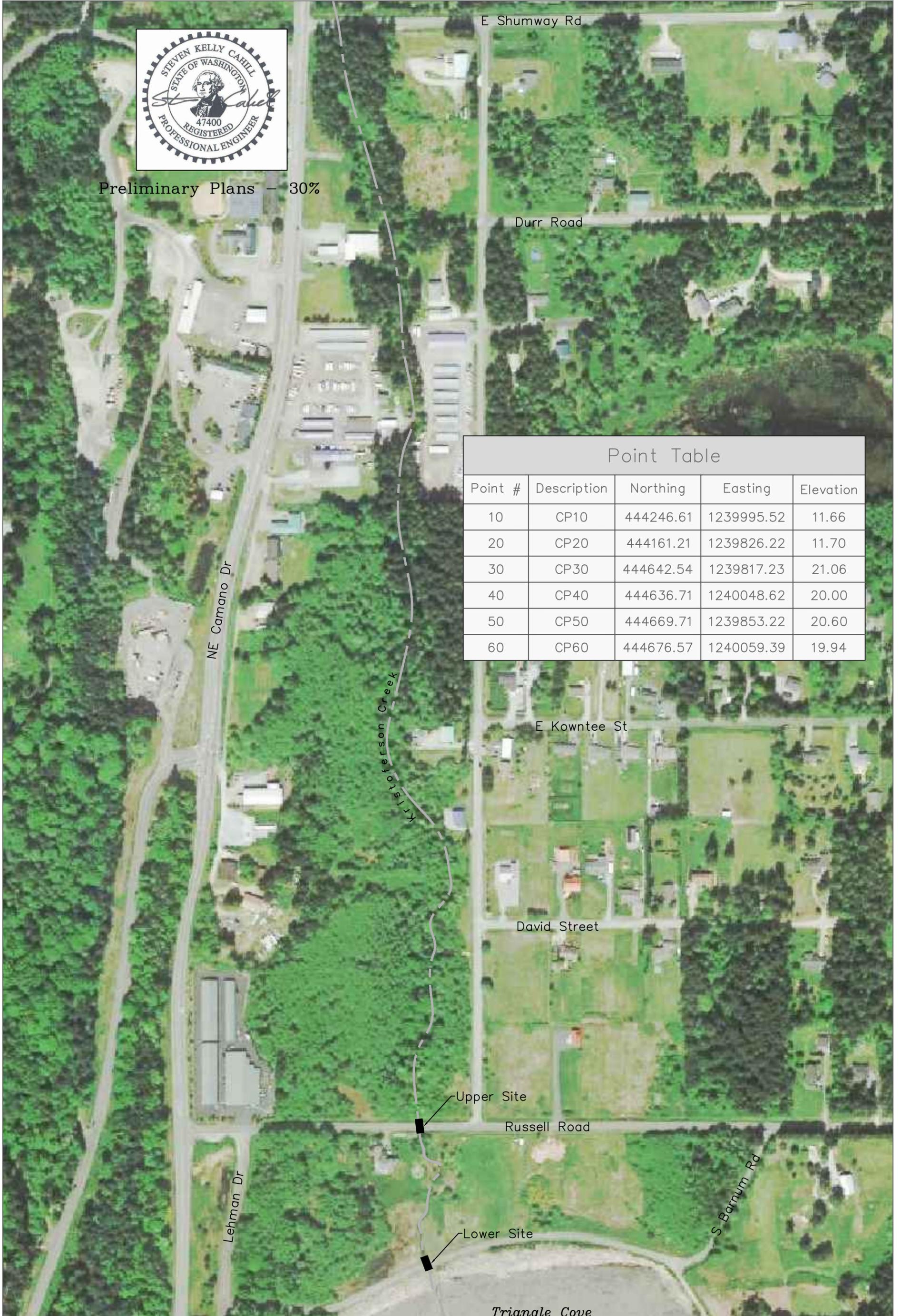
SNOHOMISH CONSERVATION DISTRICT

DESIGNED	DATE	DATE	DATE	DATE
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REVISION NO.	2
PROJECT NO.	



Preliminary Plans – 30%

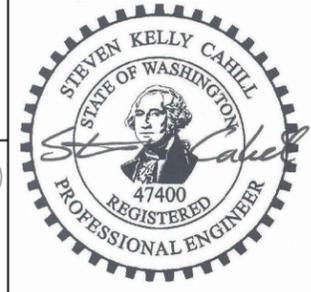
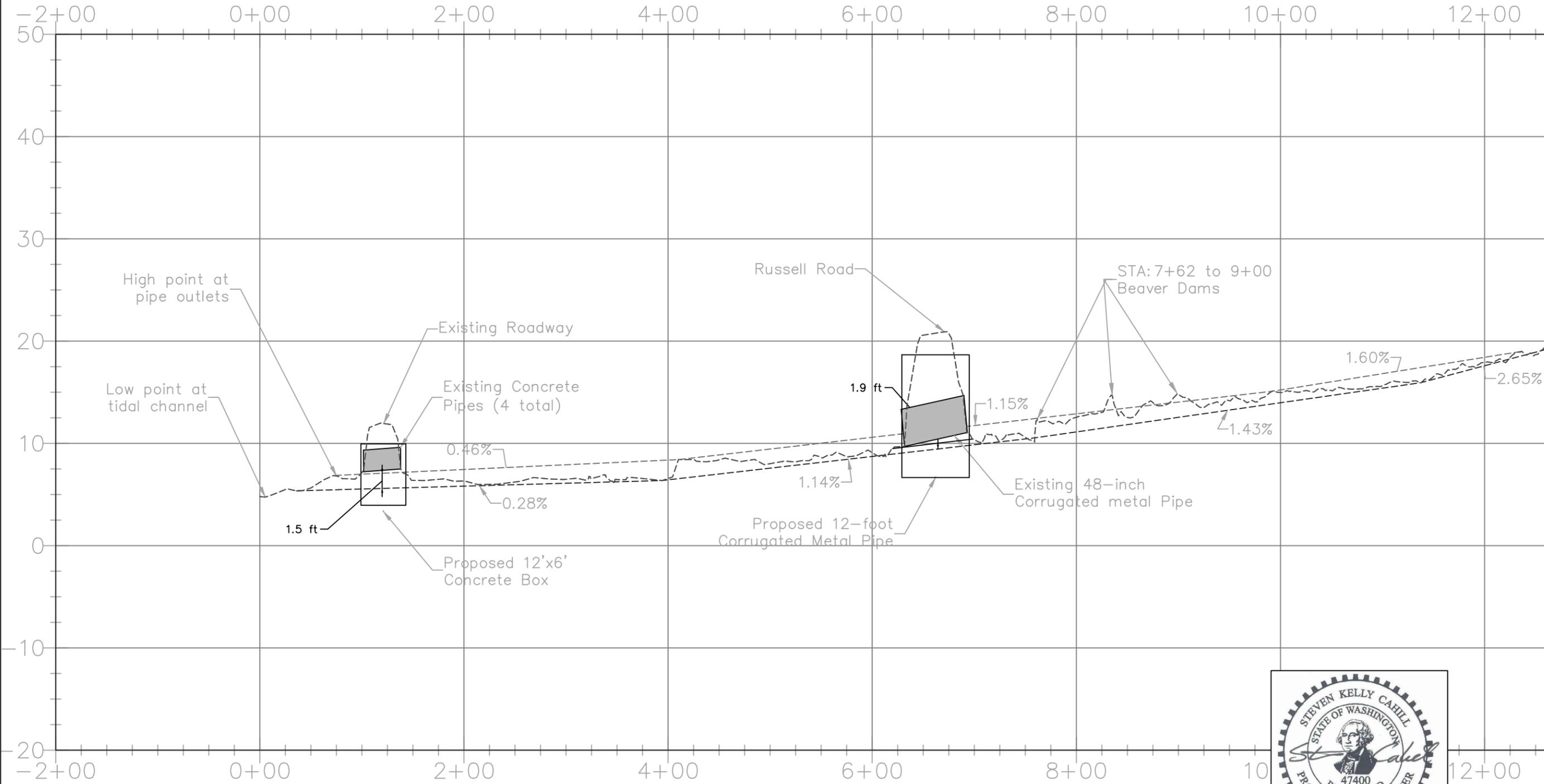


Point Table				
Point #	Description	Northing	Easting	Elevation
10	CP10	444246.61	1239995.52	11.66
20	CP20	444161.21	1239826.22	11.70
30	CP30	444642.54	1239817.23	21.06
40	CP40	444636.71	1240048.62	20.00
50	CP50	444669.71	1239853.22	20.60
60	CP60	444676.57	1240059.39	19.94

SHEET 3 OF 10	PROJECT NO. 7	REVISION NO. 1	<i>Kristoferson Fish Passage Project</i> <i>Vicinity Map</i>		DESIGNED <u>SKC</u> DATE <u>6/16</u>	_____
			SNOHOMISH CONSERVATION DISTRICT		DRAWN <u>SKC</u> DATE <u>6/16</u>	_____
				DATE _____	_____	_____
				DATE _____	_____	_____

Kristoferson_Creek PROFILE

Station



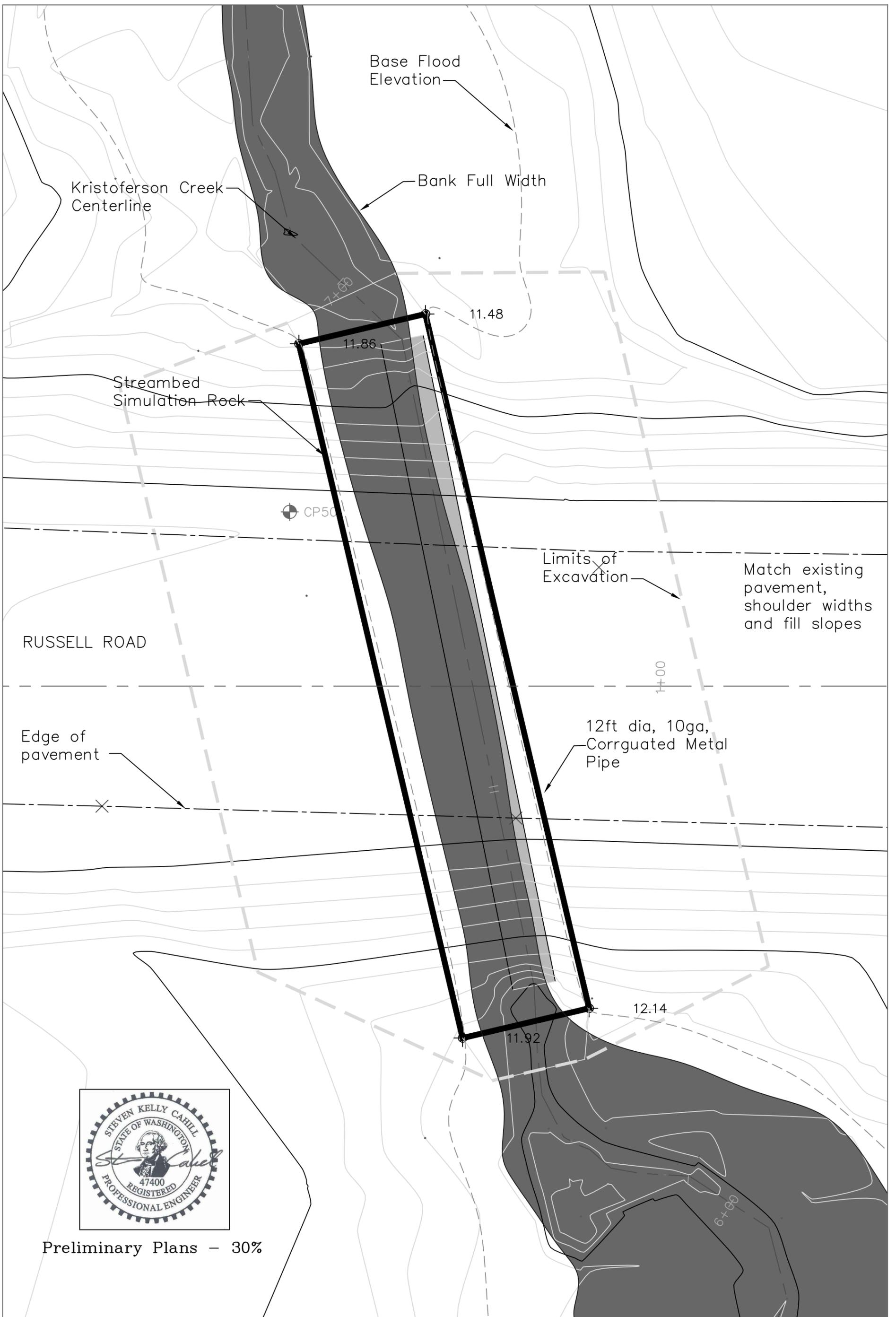
Preliminary Plans - 30%

Kristoferson Fish Passage Project
Long Profile

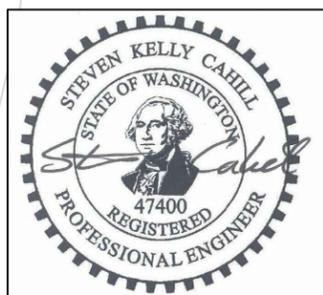
SNOHOMISH CONSERVATION DISTRICT

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DRAWN	S.K.C.	DATE	6/16
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REVISION NO.	1
PROJECT NO.	
SHEET	4 of 10



RUSSELL ROAD



Preliminary Plans - 30%

*Kristoferson Fish Passage Project
Upper Site - Plan View*

SNOHOMISH CONSERVATION DISTRICT

DESIGNED	<i>SKC</i>	DATE	<i>6/16</i>
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SHEET 5 OF 10

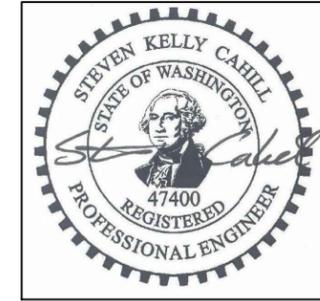
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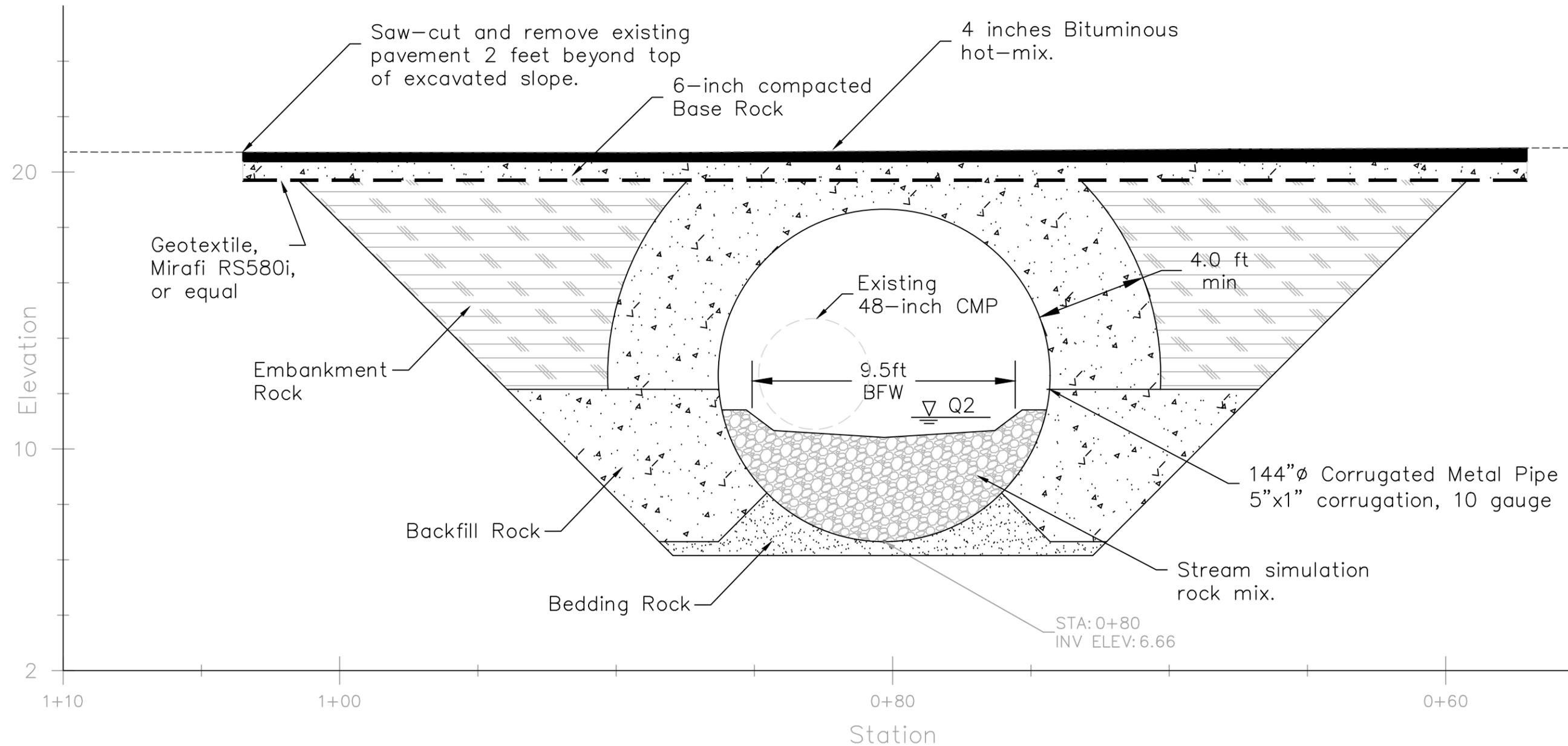
NOTES:

1. Saw-cut pavement prior to excavation.
2. At the contractor's discretion, benching may be utilized for equipment access and construction needs.
3. Stream simulation rock mix shall be in accordance with section 9-03.11, 9-03.11(1) and 9-03.11(2) of the 2012 WSDOT Standard Specifications.

Structure Section
Russell Road Centerline



Preliminary Plans - 30%



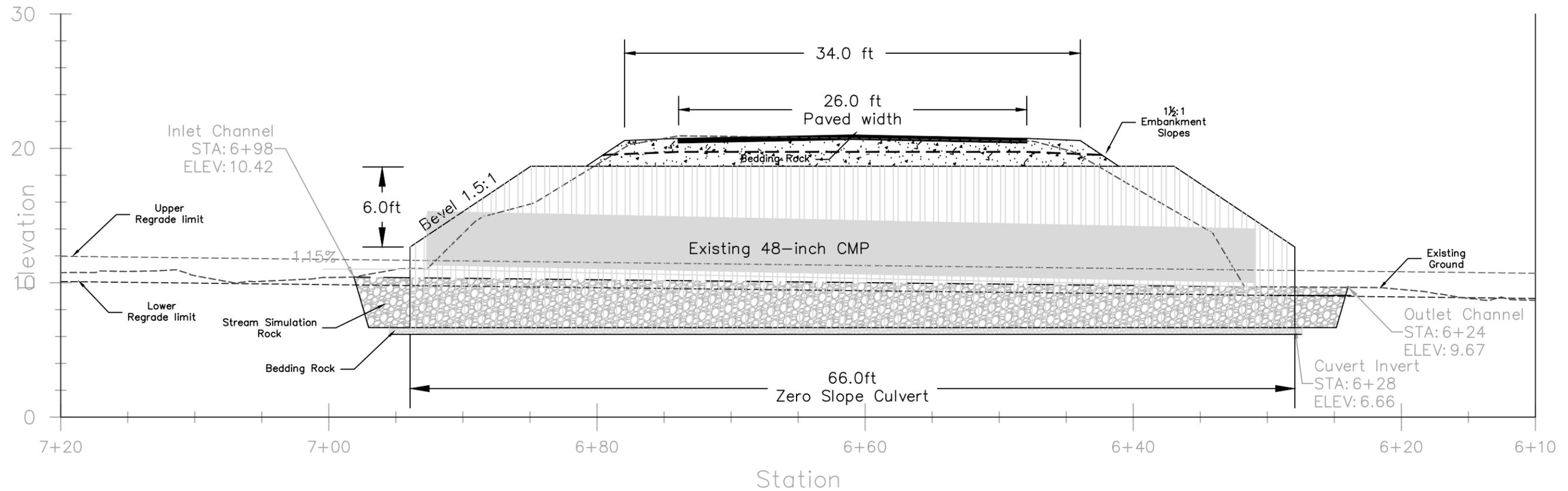
Kristoferson Fish Passage Project
Upper Site - Section View

SNOHOMISH CONSERVATION
DISTRICT

DESIGNED	S.K.C.	DATE	6/16
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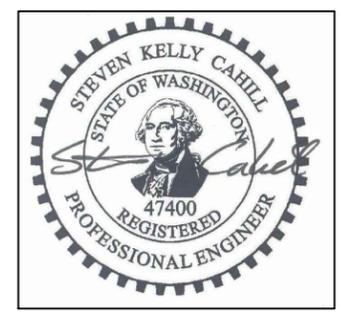
REVISION NO.	1
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SHEET	6 of 10

Structure Section Russell Road Centerline



NOTES:

1. Specified Corrugate Metal Pipe is an 10 gauge (.138 Inch Thickness) corrugated steel pipe, with nominal diameter of 12 feet. Corrugations are 5"x1" or 3"x1". End treatments shall include a 6 ft step and 1½:1 bevel. Total length is 66 feet.
2. Existing ground shall be excavated a minimum 1 foot, compacted, and backfilled with bedding rock prior to placement of pipe.
3. All backfill, bedding shall be compacted 95% Relative Density. Embankment Rock, Surface Rock, Earth Fill and waste sites shall be compacted as specified in the specifications.
4. Contractor shall work with utility provider to route any underground utilities in conjunction with road construction.

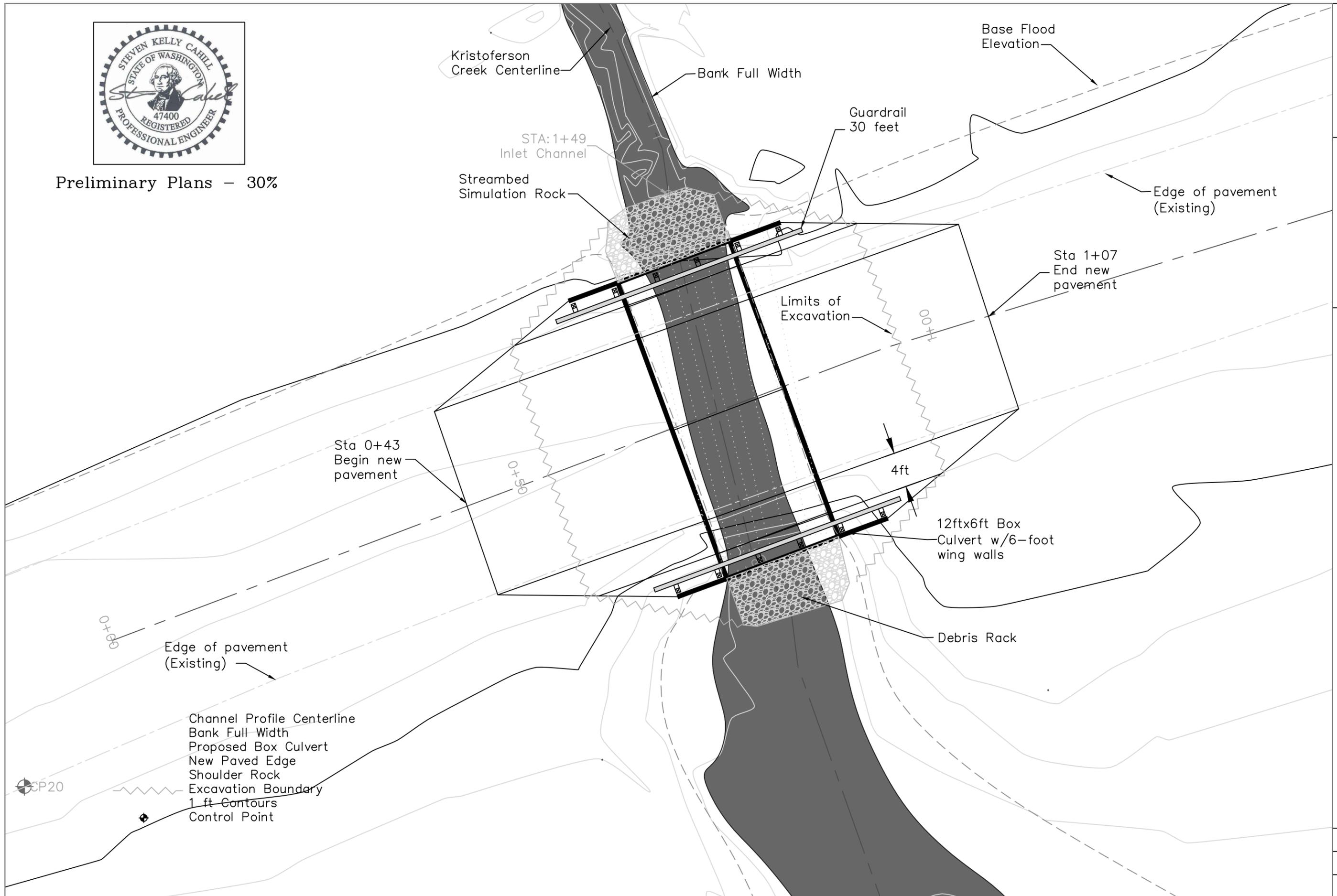


Preliminary Plans - 30%

<p><i>Kristoferson Fish Passage Project</i> <i>Upper Site - Profile</i></p> <p style="text-align: center;">SNOHOMISH CONSERVATION DISTRICT</p>	<p>DESIGNED: S.K.C. DATE: 6/16</p> <p>DRAWN: S.K.C. DATE: 6/16</p> <p>DATE: _____</p> <p>DATE: _____</p>
<p>REVISION NO. 1</p> <p>PROJECT NO.</p>	
<p>SHEET 7 OF 10</p>	



Preliminary Plans - 30%



*Kristoferson Fish Passage Project
Lower Site - Plan View*

SNOHOMISH CONSERVATION DISTRICT

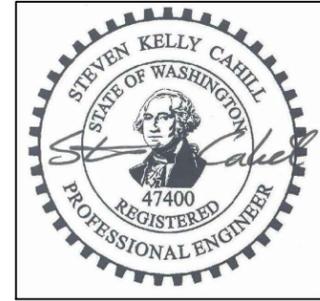
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PROJECT NO.	
SHEET	8 OF 10

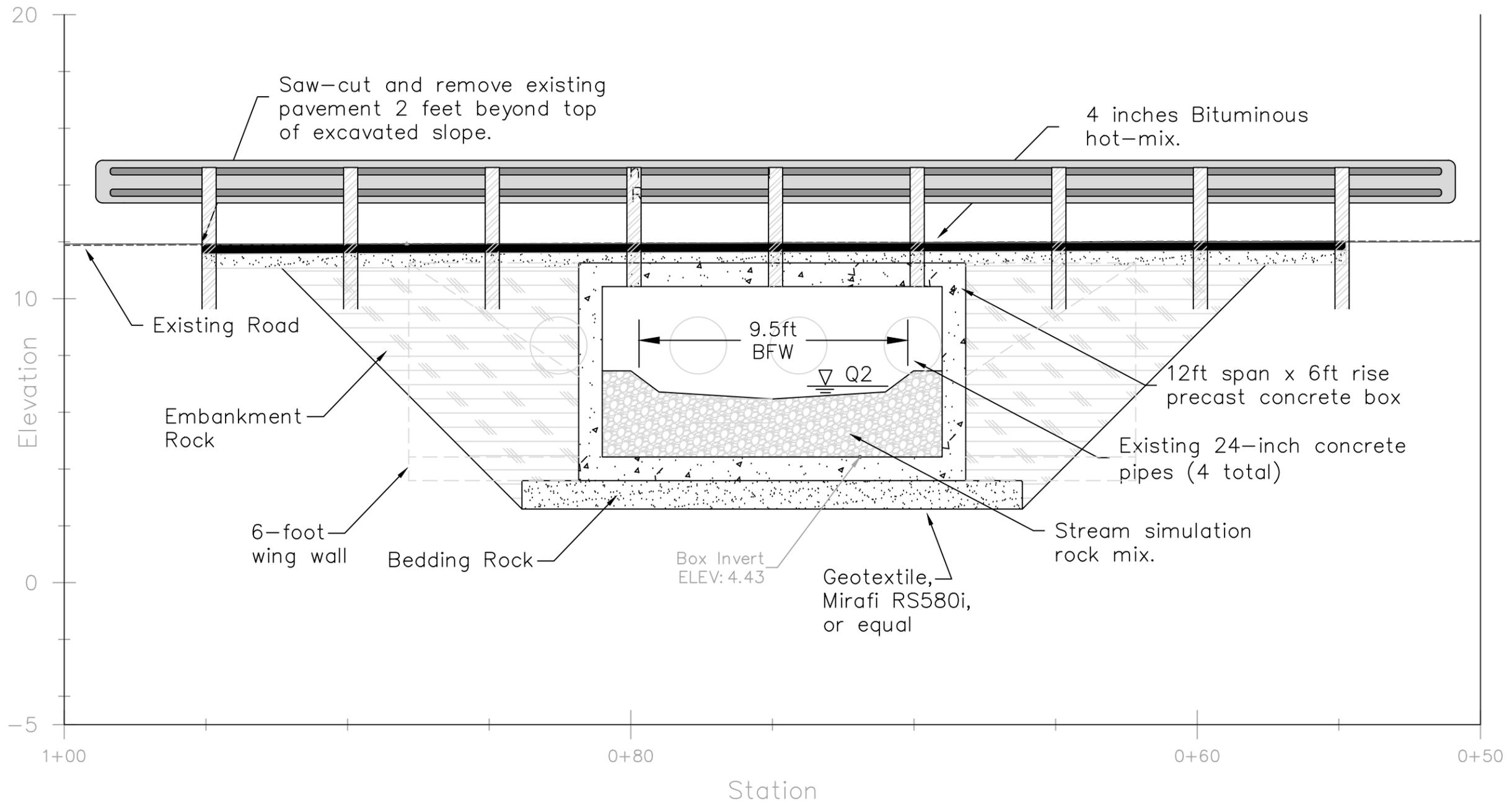
NOTES:

1. Saw-cut pavement prior to excavation.
2. At the contractor's discretion, benching may be utilized for equipment access and construction needs.
3. Stream simulation rock mix shall be in accordance with section 9-03.11, 9-03.11(1) and 9-03.11(2) of the 2012 WSDOT Standard Specifications.

STRUCTURE SECTION LOWER ROADWAY



Preliminary Plans - 30%



Kristoferson Fish Passage Project
 Lower Site - Section

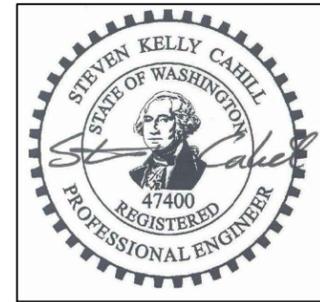
SNOHOMISH CONSERVATION
 DISTRICT

DESIGNED	S.K.C.	DATE	6/16
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REVISION NO.	1
PROJECT NO.	
SHEET	9 of 10

NOTES:

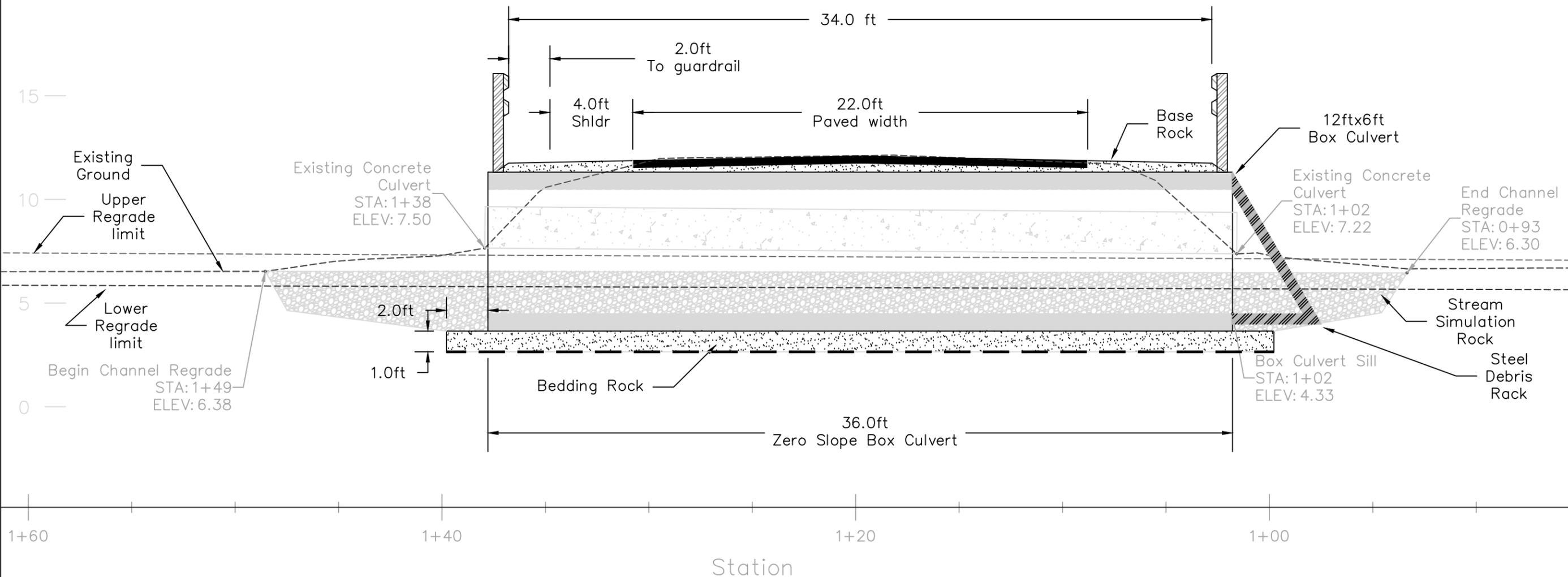
1. Specified Pre-cast Concrete Box Culvert has an interior span of 12 feet and an inside height of 6 feet. Total length is 36 feet.
2. Existing ground shall be excavated a minimum 1 foot, compacted, and backfilled with bedding rock prior to placement of pipe.
3. All backfill, bedding shall be compacted 95% Relative Density. Embankment shall be compacted as specified in the specifications.
4. Contractor shall work with utility provider to route any underground utilities in conjunction with road construction.



Preliminary Plans - 30%

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STRUCTURE SECTION
LOWER ROADWAY



Kristoferson Fish Passage Project
Lower Site - Profile

SNOHOMISH CONSERVATION DISTRICT

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