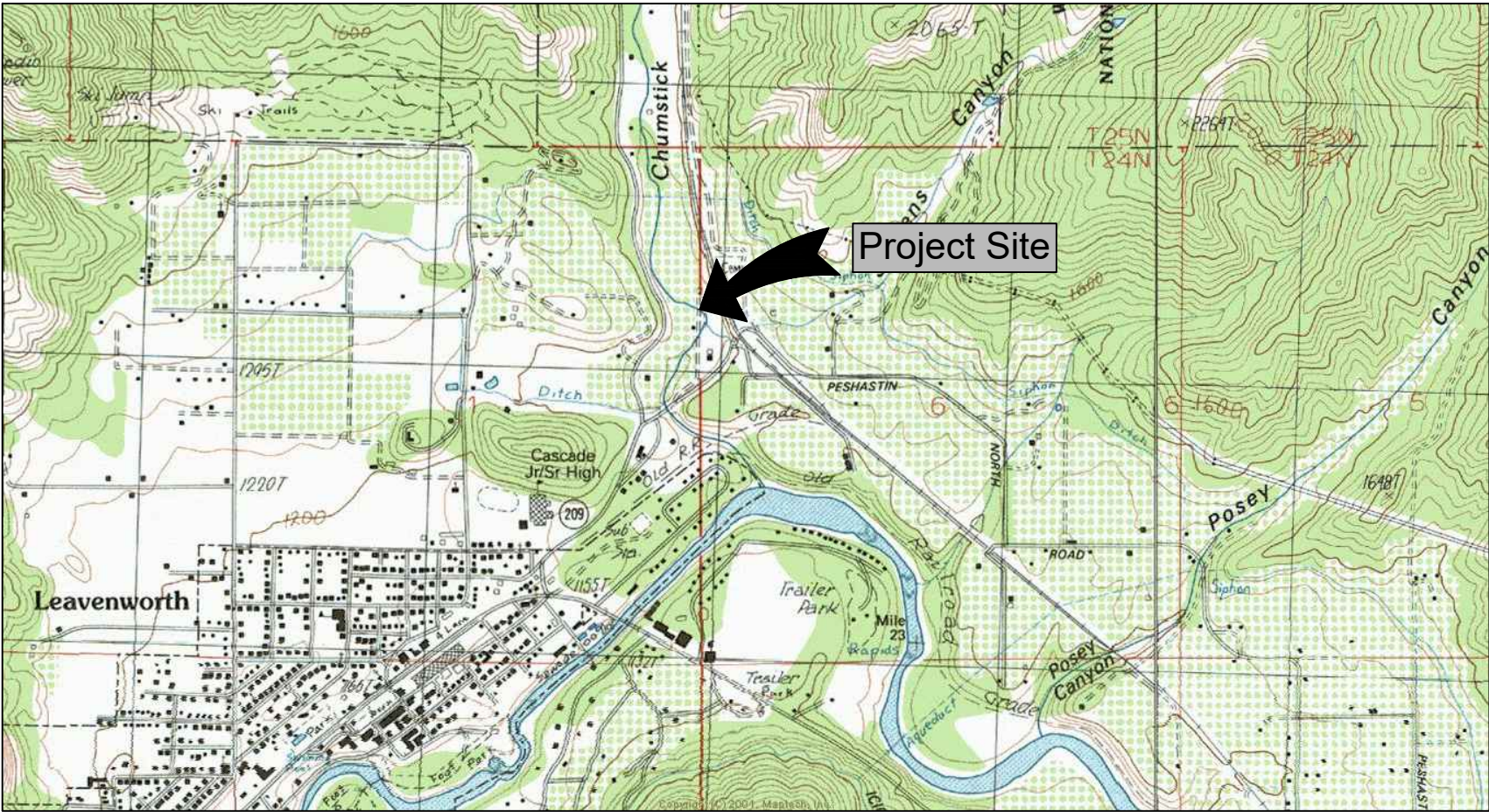


Construction Documents

Chumstick Creek Culvert - RM 0.52

Motteler Drive

Project Number 19-1584



Landowner: Chelan County
Sec Twnshp Range: E 1/2 Section 1, T24N, R18E
Lat and Long: 47.60799, -120.647189

Address: Motteler Orchards LLC
10430 Motteler Rd
Leavenworth, WA 98826

VICINITY MAP
NOT TO SCALE



DRAWING INDEX:

- 1. Cover Sheet
- 2. Legend and Notes
- 3. Existing Site Plan
- 4. Site Plan Proposed
- 5. Stream Profiles
- 6. Road Profiles
- 7. Sections and Details
- 8. Details



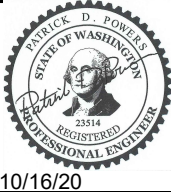
Road View South of Creek



Road View North of Creek



Chumstick Creek Culvert
RM 0.48 - Motteler Drive

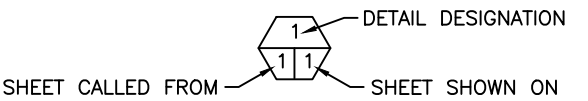


REV	DATE	BY	APP'D	DESCRIPTION
SCALE VERIFICATION				IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.
BAR IS ONE INCH ON ORIGINAL DRAWING.				0 1"

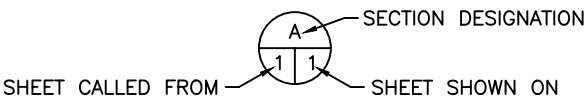
DESIGN BY: Waterfall Engineering
DRAWN BY:
DATE: 10/16/20

Cover Sheet

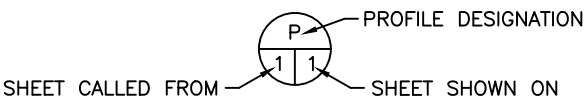
SHEET SYMBOLS



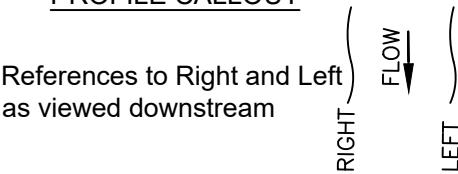
DETAIL CALLOUT



SECTION CALLOUT



PROFILE CALLOUT



ABBREVIATIONS

"	-	INCHES	MISC.	-	MISCELLANEOUS
,	-	FEET	MPH	-	MILES PER HOUR
APPROX.	-	APPROXIMATELY	O.C.	-	ON CENTER
B&B	-	BALLED AND BURLAPPED	O.D.	-	OUTSIDE DIAMETER
BM	-	BENCH MARK	OHW	-	ORDINARY HIGH WATER
CL	-	CENTERLINE	PK	-	PARKER-KALON
CAL.	-	CALIPER	R.O.W.	-	RIGHT OF WAY
CFS	-	CUBIC FEET PER SECOND	REQ'D	-	REQUIRED
CLR.	-	CLEARANCE	SEC.	-	SECTION
CMP	-	CORRUGATED METAL PIPE	S.F.	-	SQUARE FEET
CONC.	-	CONCRETE	SHT.	-	SHEET
DIA.	-	DIAMETER	SPEC'S.	-	PROJECT SPECIFICATIONS
ELEV.	-	ELEVATION	STA.	-	STATION
EQ.	-	EQUAL	SS	-	STAINLESS STEEL
FTG.	-	FOOTING	TEMP.	-	TEMPORARY
HDPE	-	HIGH DENSITY POLYETHYLENE	TYP.	-	TYPICAL
HT.	-	HEIGHT	W.S.	-	WATER SURFACE
GAL.	-	GALLON	WSDOT	-	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
I.D.	-	INSIDE DIAMETER	WSEL	-	WATER SURFACE ELEVATION
I.E.	-	INVERT ELEVATION			
LBS.	-	POUNDS			
LWD	-	LARGE WOODY DEBRIS			
MAX.	-	MAXIMUM			
MFG.	-	MANUFACTURER'S			
MHW	-	MEAN HIGH WATER			
MHHW	-	MEAN HIGHER HIGH WATER			
MIN.	-	MINIMUM			
MISC.	-	MISCELLANEOUS			

LEGEND

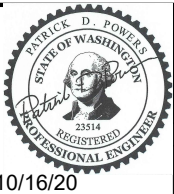
---	PROPERTY LINE		FOUND SURVEY MONUMENT
---	RIGHT OF WAY LINE		SET CONTROL POINT
---	CENTERLINE		POWER POLE
---	EXISTING FENCE		MANHOLE
---	BUILDING LINE		UTILITY CABINET
---	INDEX CONTOUR LINE		LIGHT POST
---	UNDERGROUND POWER		TREE
---	EXISTING WATER LINE		WATER VALVE
---	EXISTING CALLOUT		OWNERSHIP REFERENCE
---	NEW CALLOUT		CONCRETE
---	SURVEY POINT		FILL
---	EXISTING TREES TO REMAIN		ROCK/GRAVEL
---	PROJECT BENCH MARK		UNDISTURBED GRADE
---	BORING LOCATIONS		WETLAND DELINEATION
---	SANDBAGS		DEMO
---	NOTE CALLOUT		ELEVATION MARKER
---	STATION CALLOUT		TREE TO BE REMOVED
---	PHOTO CALLOUT		TREE TO REMAIN

Survey Completed by M2C December 2019. State Plane Coordinates.

Control Points				
POINT	EASTING	NORTHING	ELEV	Description
24	1686349.14	221721.72	1139.53	MNCC SET
100	1686334.71	221834.17	1143.02	WFRC
25	1686358.34	221944.69	1145.62	MNCC SET

Bridge Coordinates – Corners on Steel Deck				
Number	EASTING	NORTHING	ELEV	Description
①				
②				
③				
④				

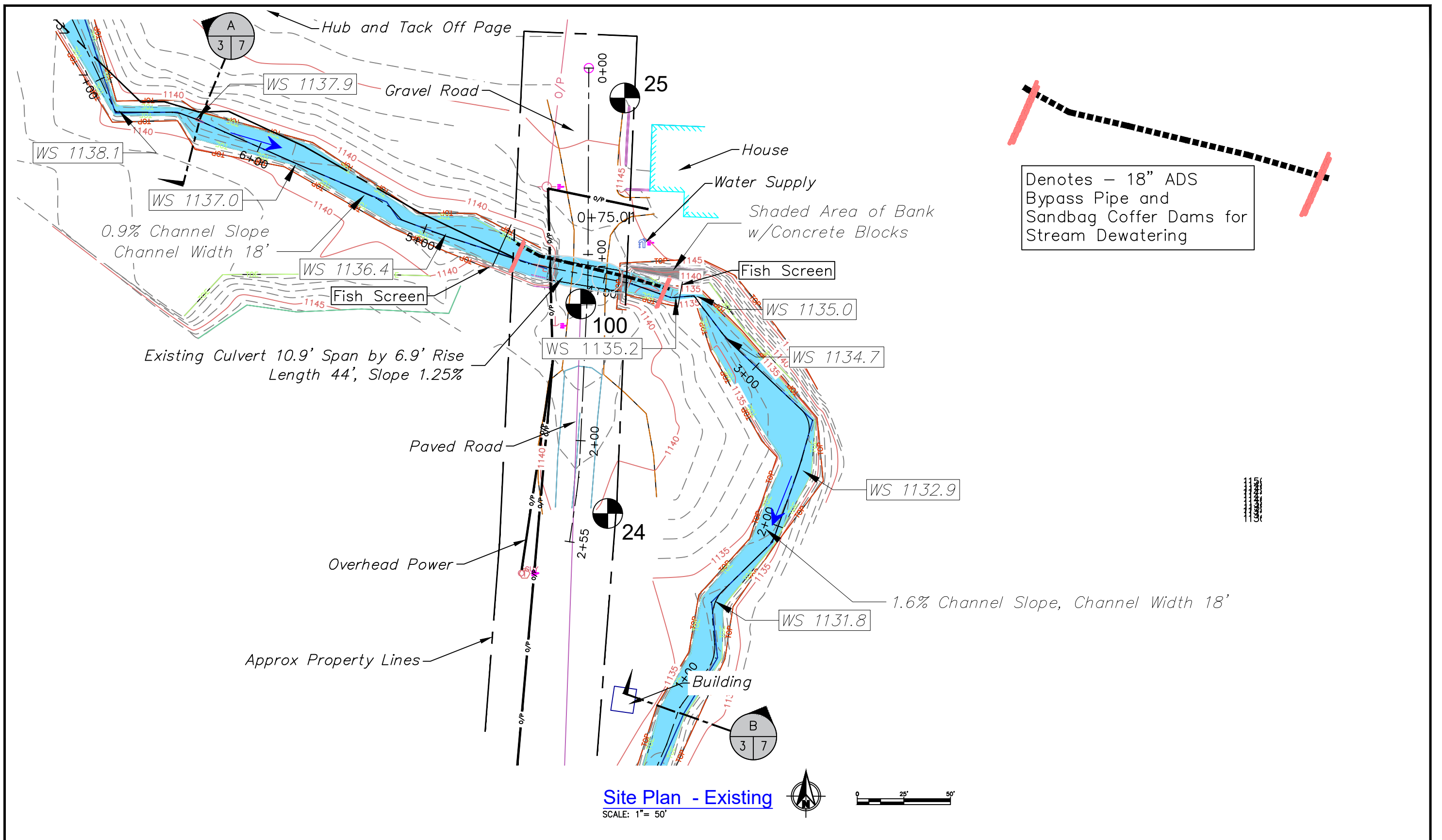
Chumstick Creek Culvert
RM 0.48 - Motteler Drive

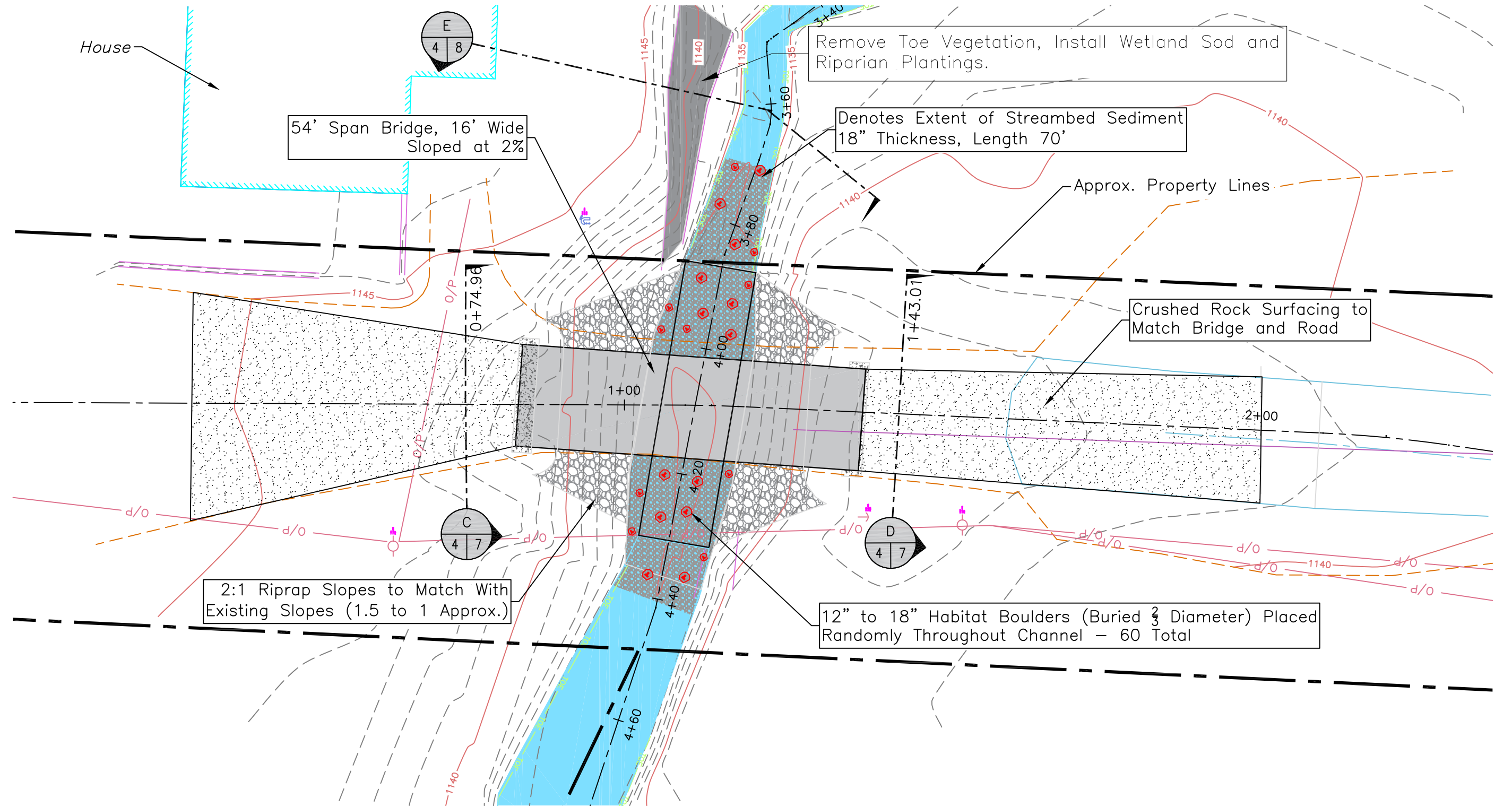


REV	DATE	BY	APP'D	DESCRIPTION
SCALE VERIFICATION				IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.
BAR IS ONE INCH ON ORIGINAL DRAWING.				0 1"

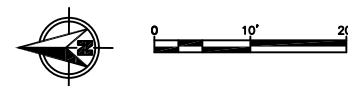
DESIGN BY:	Waterfall Engineering
DRAWN BY:	
DATE:	10/16/20

Legend and Notes

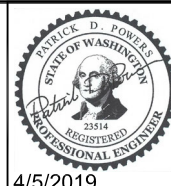




Site Plan - Proposed
 SCALE: 1" = 20'



Chumstick Creek Culvert RM 0.48 - Motteler Drive



REV	DATE	BY	APP'D	DESCRIPTION
SCALE VERIFICATION				IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.
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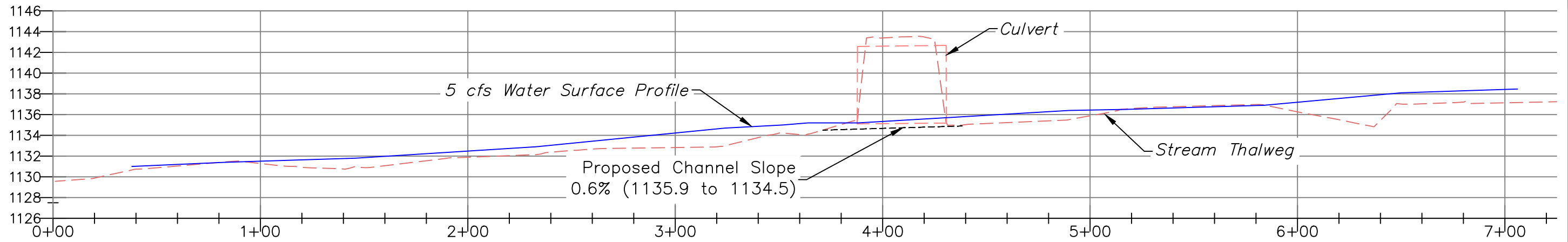
DESIGN BY:
Waterfall Engineering

DRAWN BY:

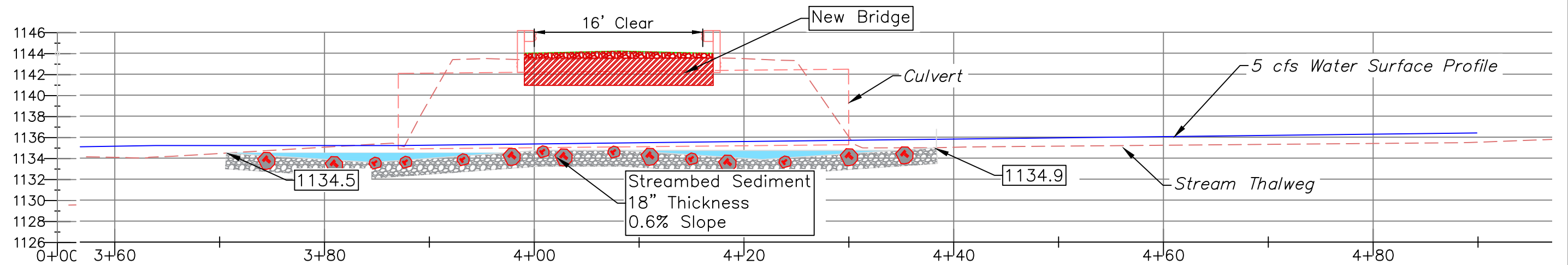
DATE:
2/18/21

Site Plan - Proposed

4 **8**
 SHEET OF



Existing Stream Profile
 Scale: Vertical 1" = 10', Horizontal 1" = 50'

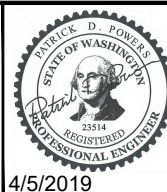


Existing Stream Profile
 Scale: 1" = 10'

Streambed Sediment	
% Greater Than	Size (in)
100	10"
75	3"
50	1.5"
25	3/4"
15	Select Fines from Channel Excavation



Chumstick Creek Culvert RM 0.48 - Motteler Drive



REV	DATE	BY	APP'D	DESCRIPTION
SCALE VERIFICATION				IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.
BAR IS ONE INCH ON ORIGINAL DRAWING.				0 1"

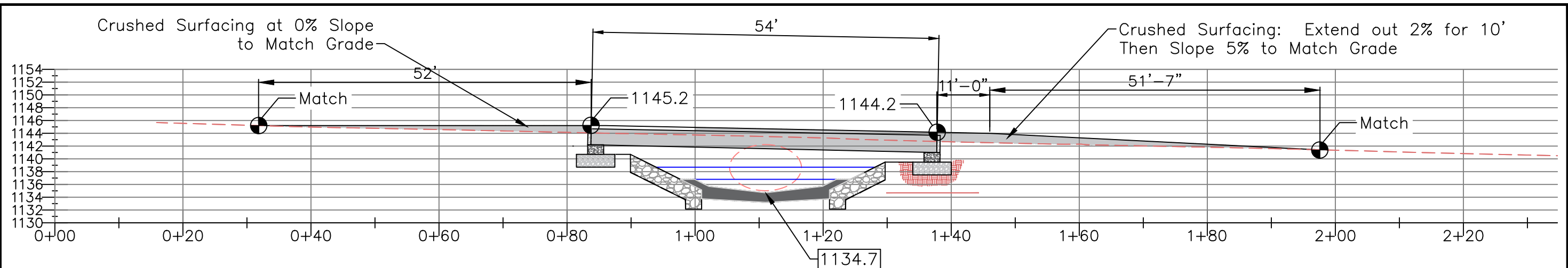
DESIGN BY:
 Waterfall Engineering

DRAWN BY:

DATE:
 10/16/20

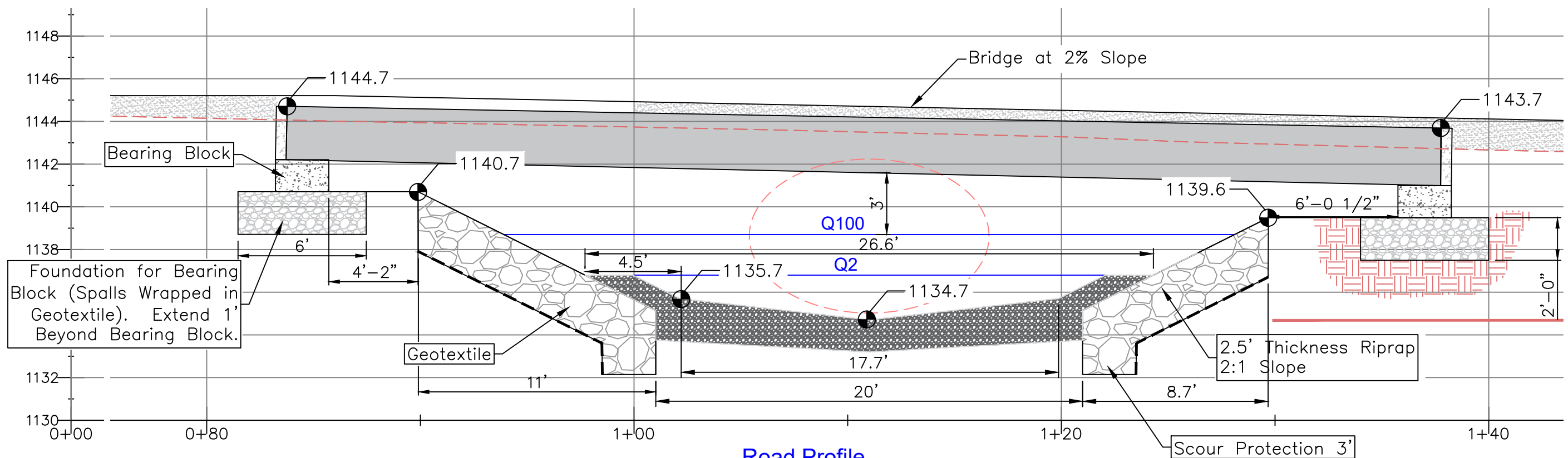
Stream Profile

5 **8**
 SHEET OF



Road Profile (View Downstream)

Scale: 1" = 16'

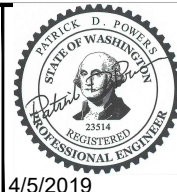


Road Profile

Scale: 1" = 10'



Chumstick Creek Culvert RM 0.48 - Motteler Drive



4/5/2019

REV	DATE	BY	APP'D	DESCRIPTION

SCALE VERIFICATION
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

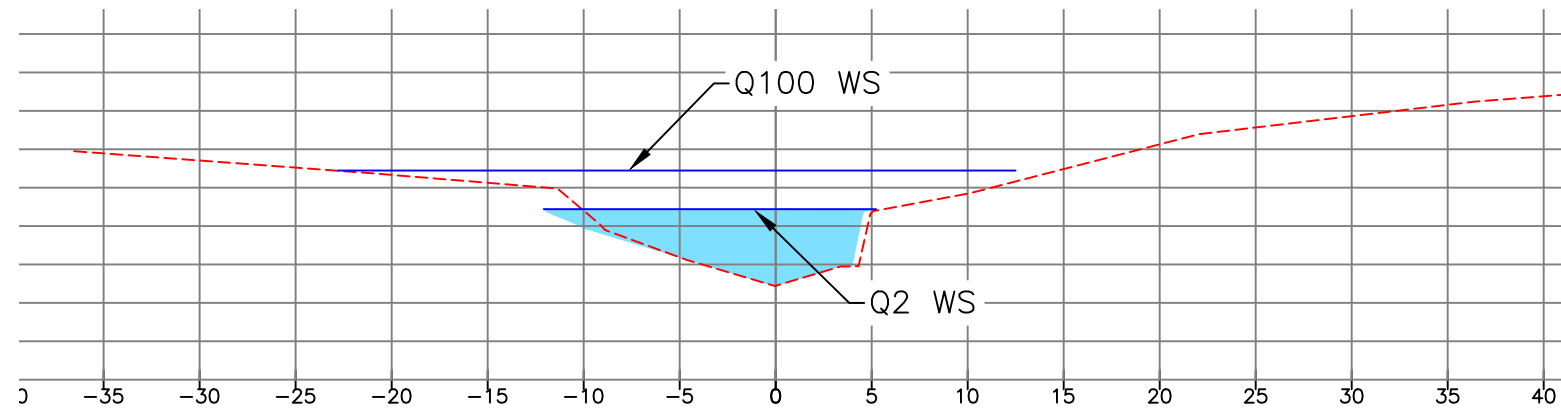
DESIGN BY:
Waterfall Engineering

DRAWN BY:

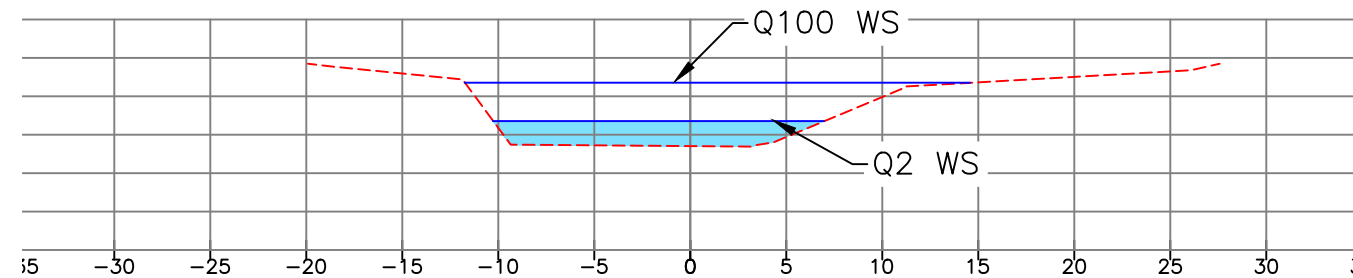
DATE:
10/16/20

Road Profiles

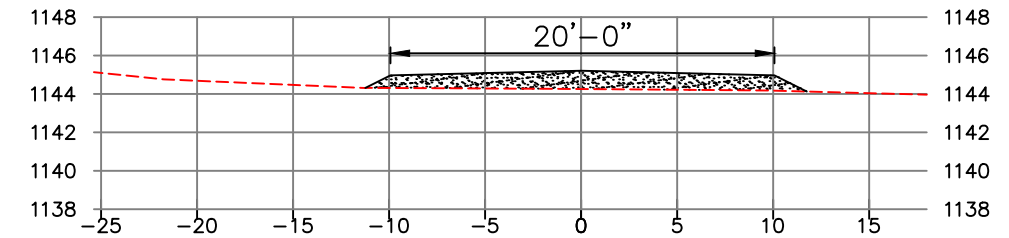
6 8
SHEET OF



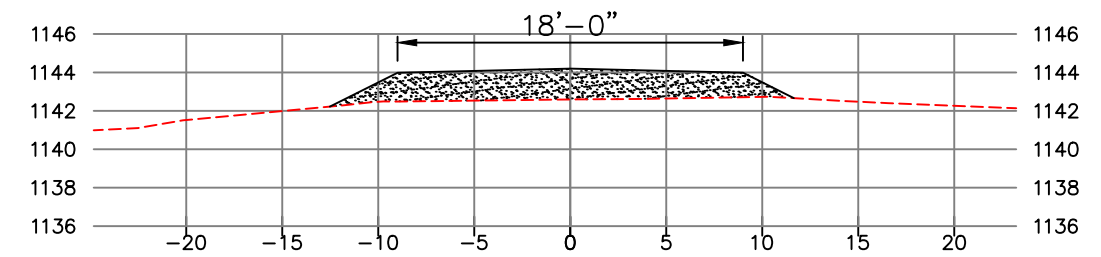
Stream Section STA 6+35 (View Upstream)
Scale: 1" = 10'



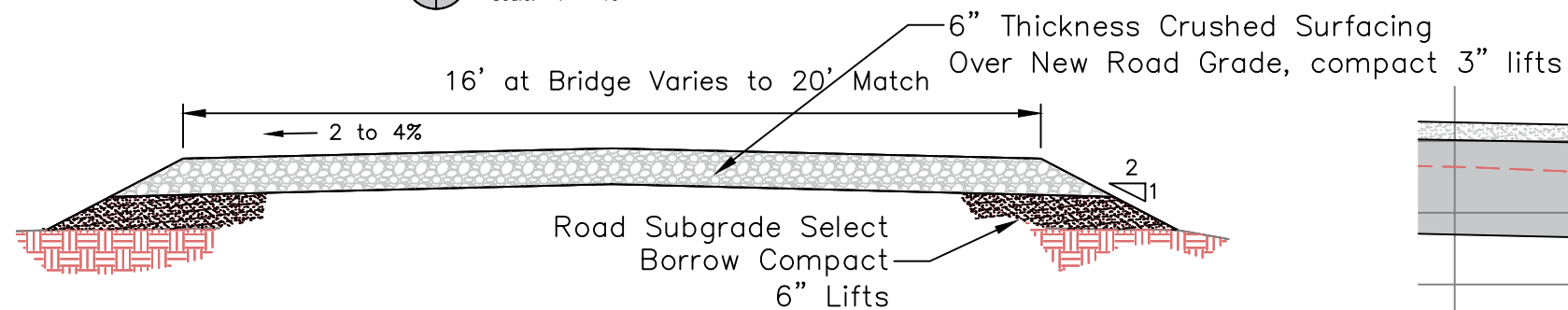
Stream Section STA 0+81 (View Upstream)
Scale: 1" = 10'



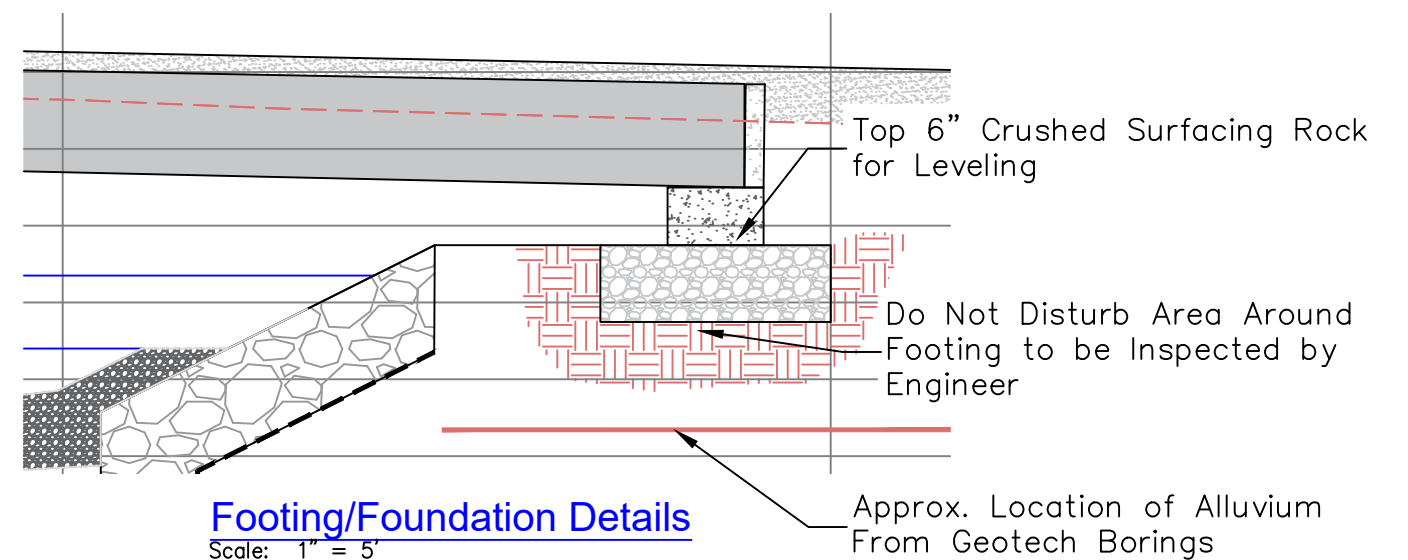
Road Section STA 0+75
Scale: 1" = 10'



Road Section STA 1+43
Scale: 1" = 10'



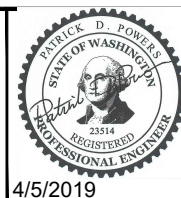
TYPICAL ROAD SECTION (Approach and Bridge)
Not to Scale - Engineer to Verify Final Dimensions



Footing/Foundation Details
Scale: 1" = 5'



Chumstick Creek Culvert RM 0.48 - Motteler Drive



REV	DATE	BY	APP'D	DESCRIPTION

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SCALE VERIFICATION

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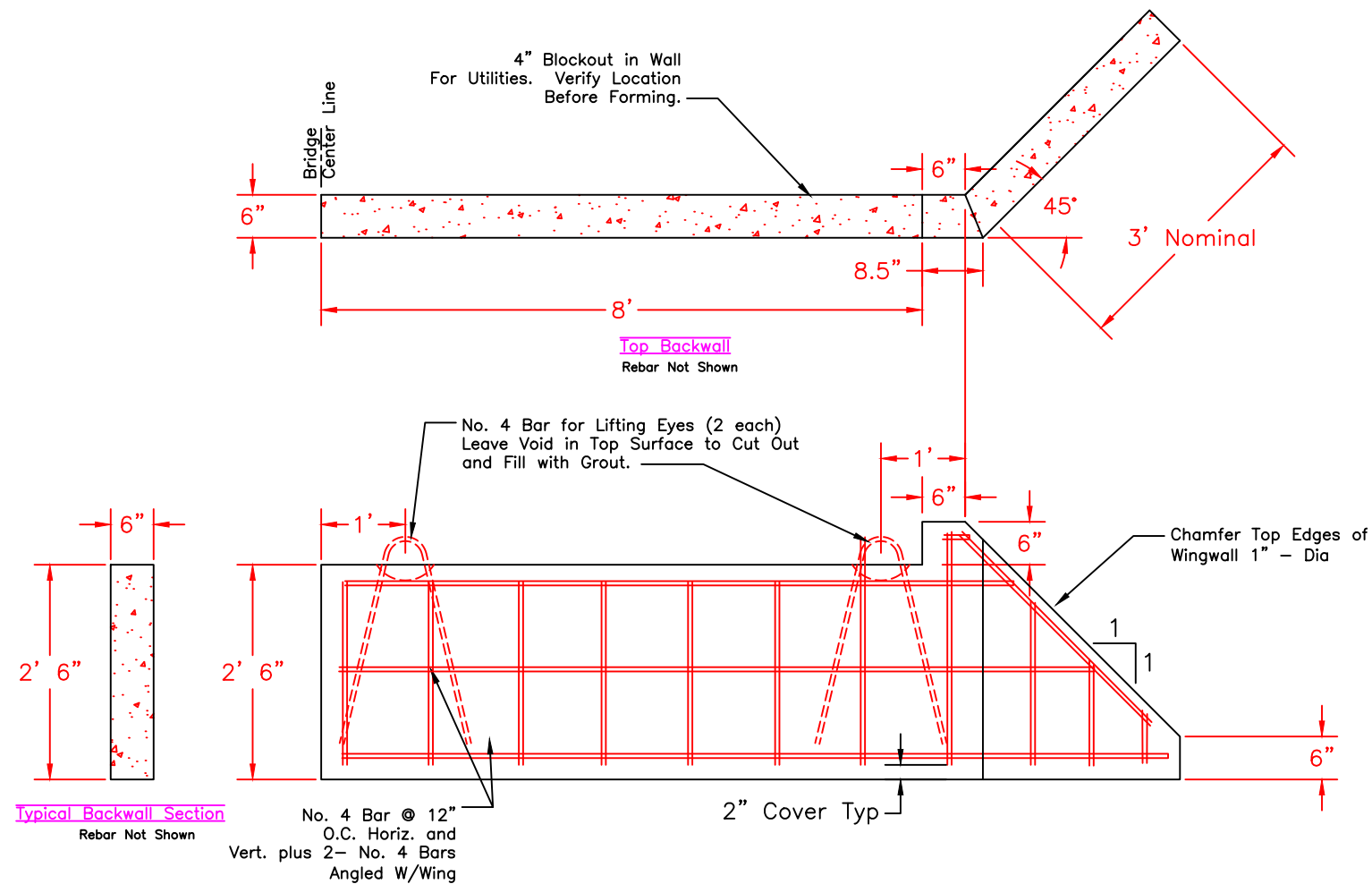
DESIGN BY:
Waterfall Engineering

DRAWN BY:

DATE:
10/16/20

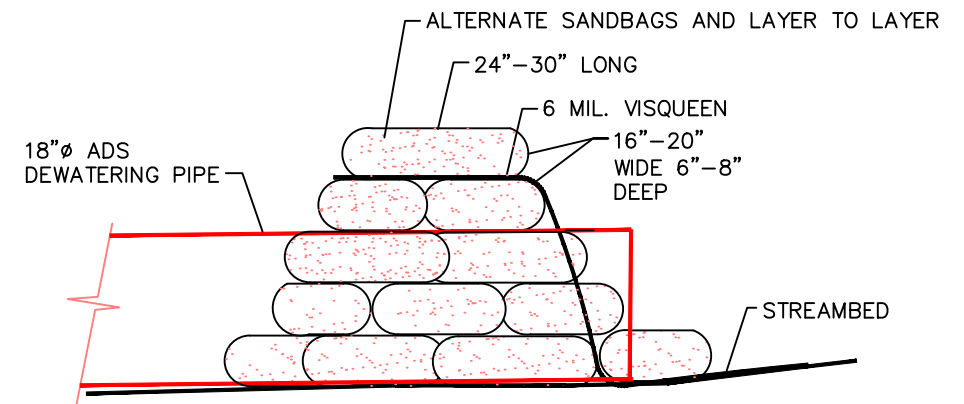
Sections/Details

7 8
SHEET OF



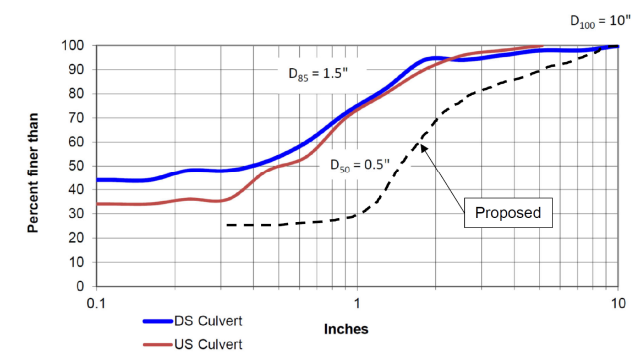
PRE-CAST CONCRETE BACKWALL NOTES:

- Two Sections Req'd as shown, plus two sections "opposite".

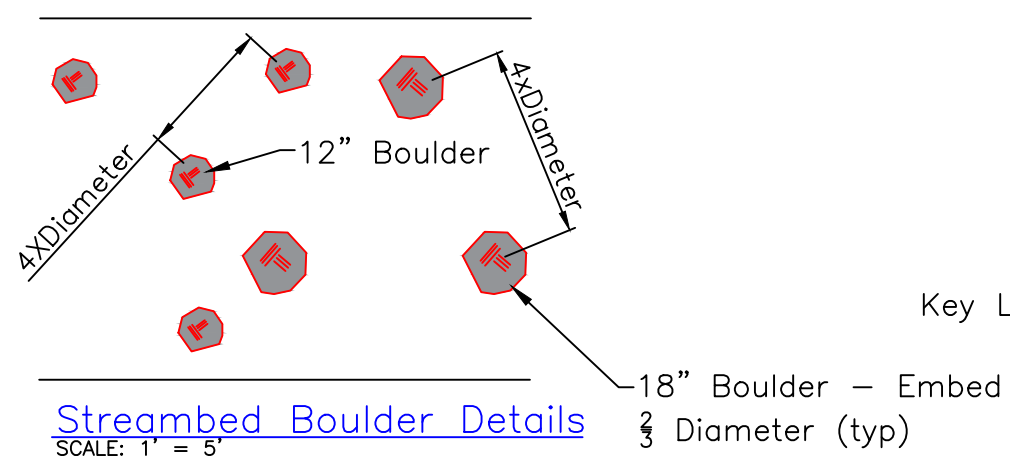


SANDBAG COFFER DAM

SCALE: 1/4"=1'-0"

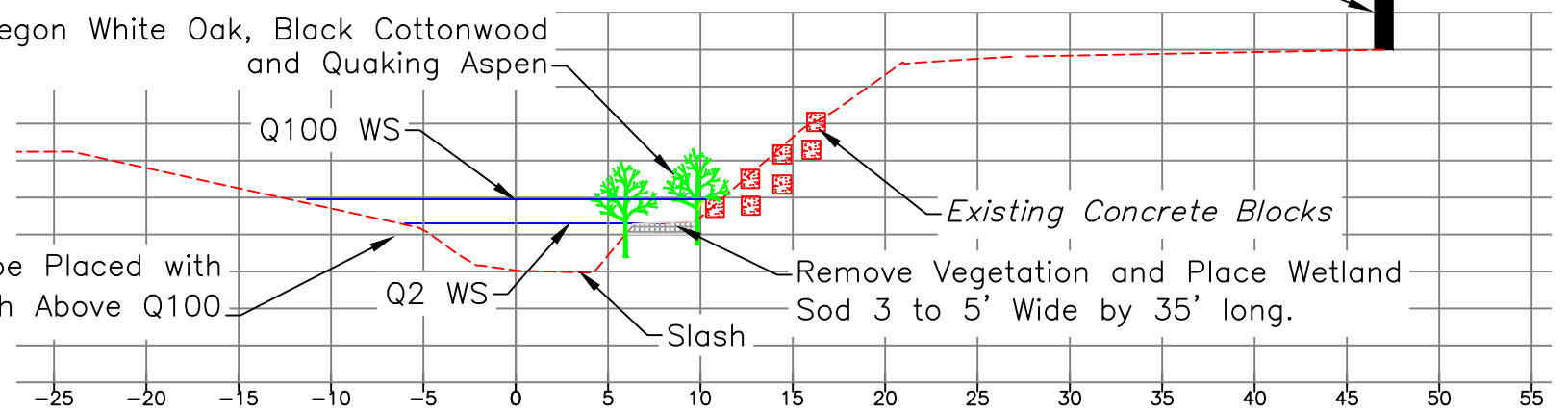


Pebble Counts Upstream and Downstream of Culvert and Proposed Sediment

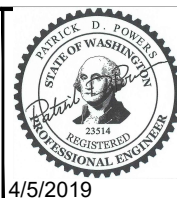


Oregon White Oak, Black Cottonwood and Quaking Aspen

Key Logs to be Placed with 1/3 Length Above Q100



Chumstick Creek Culvert RM 0.48 - Motteler Drive



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0 1"

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DESIGN BY:
Waterfall Engineering

DRAWN BY:

DATE:
10/16/20

Details

8 8
SHEET OF