

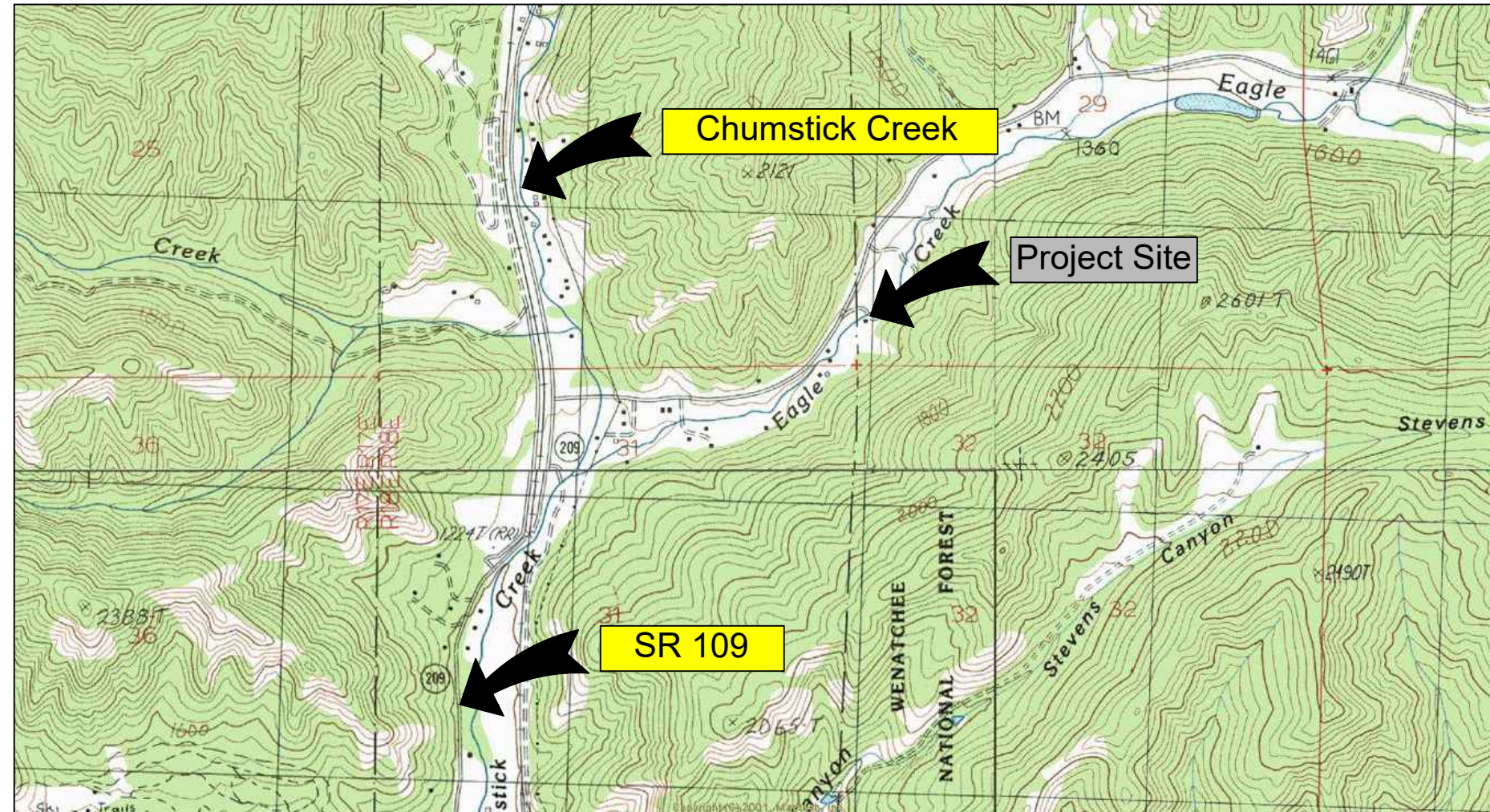
Construction Documents

Eagle Creek Culvert Replacement

Project Number 18-1640

DRAWING INDEX:

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



VICINITY MAP
NOT TO SCALE

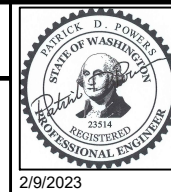


Ozburn Paved Driveway



Ozburn - Eagle Creek

Landowner: Jack and Susanna Ozburn
 Sec Twship Range: Section 30, T25N, R18W
 Lat and Long: 47° 37' 47.26"N, 120° 37' 55.74"W



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Waterfall Engineering

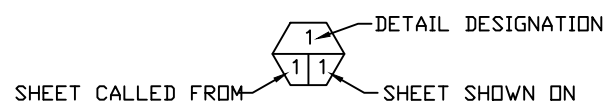
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DATE:
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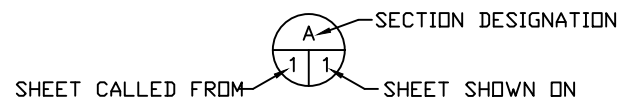
Cover Sheet

1 SHEET OF 9

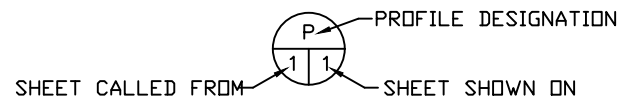
SHEET SYMBOLS



DETAIL CALLOUT

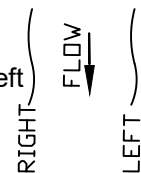


SECTION CALLOUT



PROFILE CALLOUT

References to Right and Left as viewed downstream



ABBREVIATIONS

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

LEGEND

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

Survey is Based on State Plane Coordinates Developed by Waterfall Engineering Using LiDAR.

| Control Points | | | | |
|----------------|------------|-----------|---------|---------------|
| POINT | EASTING | NORTHING | ELEV | Description |
| WF1 | 1690030.78 | 229795.03 | 1293.50 | Nail Pavement |
| WF2 | 1690084.44 | 229830.57 | 1293.13 | Rebar and Cap |
| WF3 | 1689933.35 | 229752.73 | 1292.17 | Rebar and Cap |
| WF4 | 1690086.12 | 229755.82 | 1294.70 | Rebar and Cap |

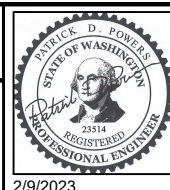
| Control Points for Culvert Layout – Elev is Subgrade | | | | |
|------------------------------------------------------|------------|-----------|--------|-------------|
| POINT | EASTING | NORTHING | ELEV | Description |
| 1 | 1690036.91 | 229789.06 | 1281.6 | Subgrade |
| 2 | 1690029.33 | 229807.28 | 1281.6 | Subgrade |
| 3 | 1690020.30 | 229782.14 | 1281.6 | Subgrade |
| 4 | 1690012.70 | 229800.36 | 1281.6 | Subgrade |

Control Points Shown on Sheet 5



Ozburn - Eagle Creek

Landowner: Jack and Susanna Ozburn
 Sec Twship Range: Section 30, T25N, R18W
 Lat and Long: 47° 37' 47.26"N, 120° 37' 55.74"W



| REV | DATE | BY | APPD | DESCRIPTION |
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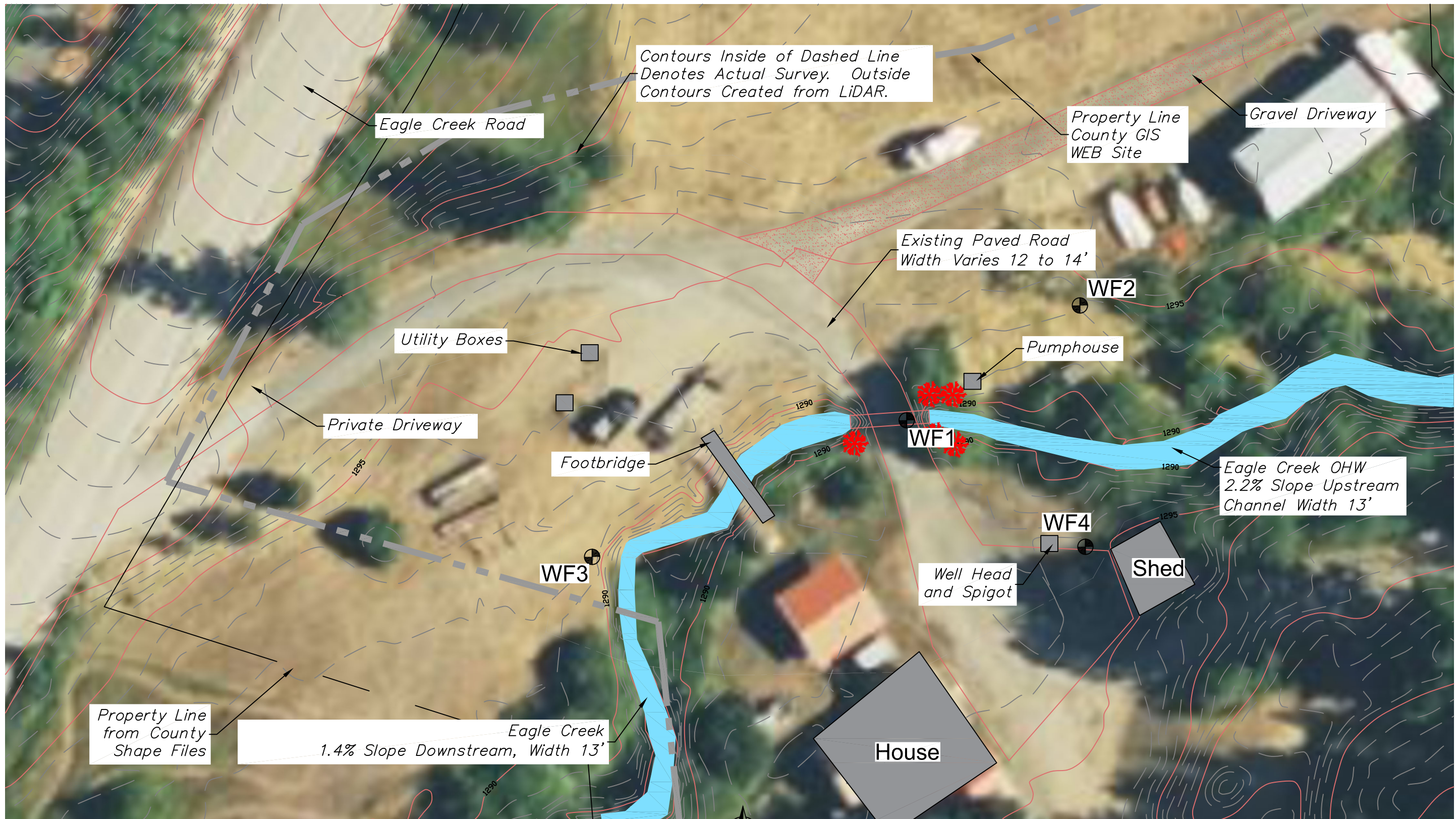
DESIGN BY:
Waterfall Engineering

DRAWN BY:

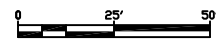
DATE:
2/9/2023

Legend

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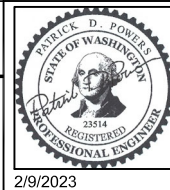


Site Plan - Existing
SCALE: 1" = 50'



Ozburn - Eagle Creek

Landowner: Jack and Susanna Ozburn
 Sec Twship Range: Section 30, T25N, R18W
 Lat and Long: 47° 37' 47.26"N, 120° 37' 55.74"W



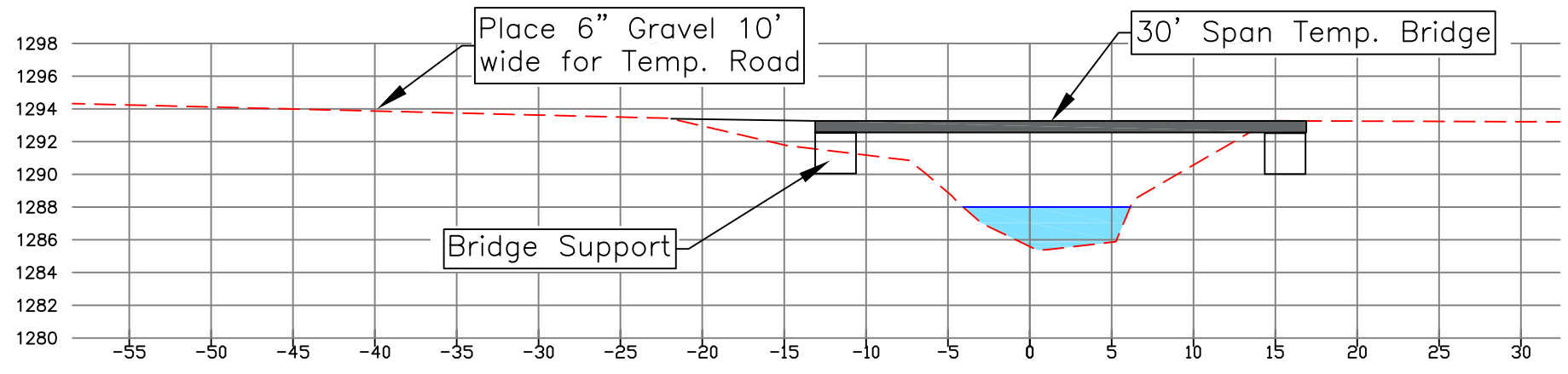
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Waterfall Engineering
 DRAWN BY:
 DATE:
3/6/23

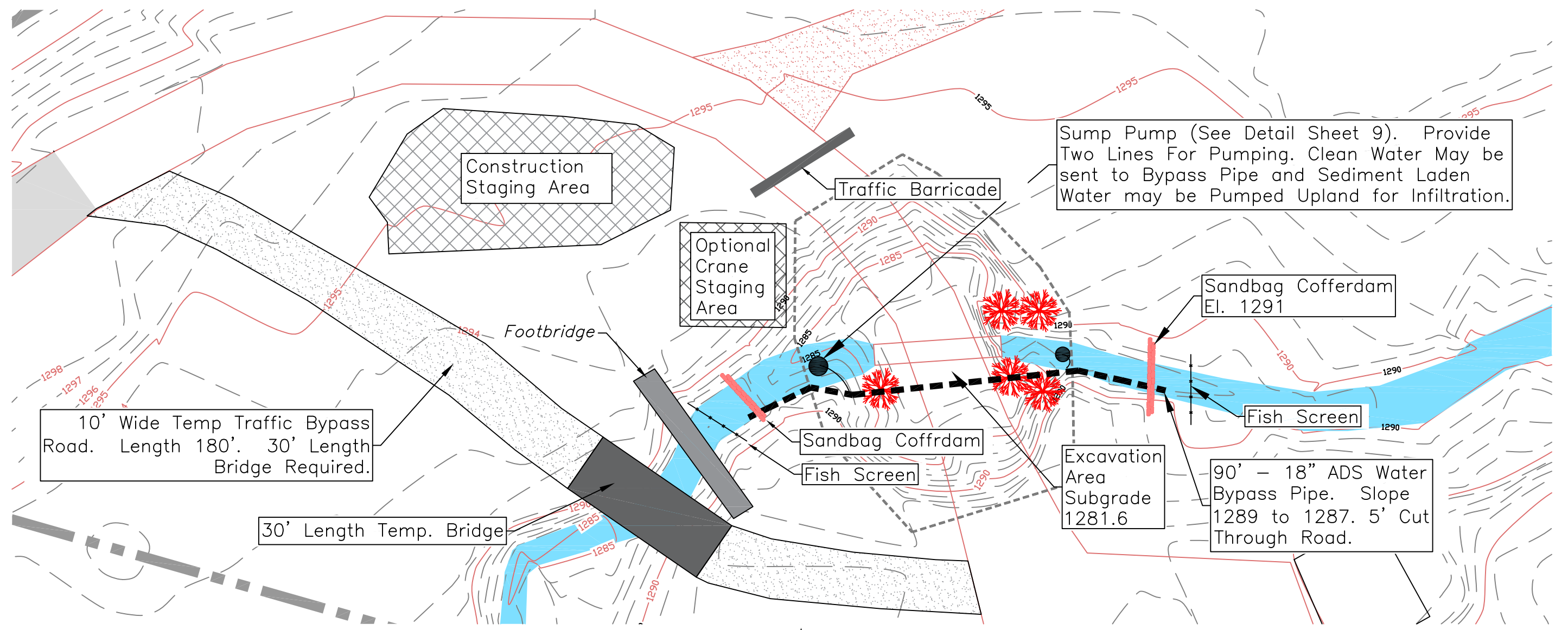
Existing Site Plan

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SHEET OF

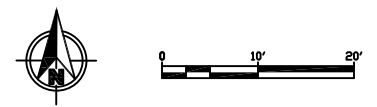


Temp Traffic Bypass Road Crossing at Stream

Scale: 1" = 10'
View Upstream

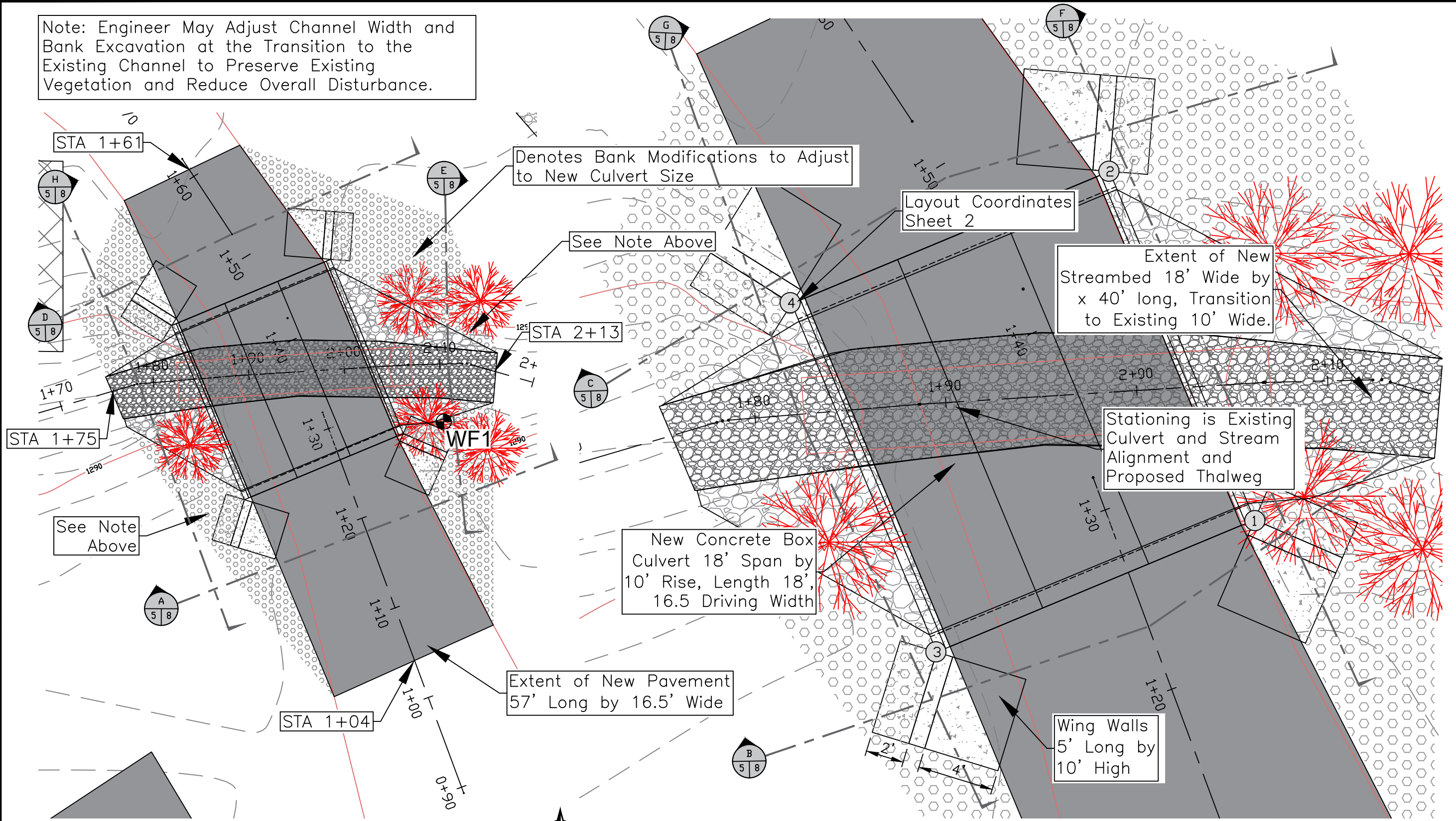


Construction Plan
SCALE: 1" = 20'



| | <h2>Ozburn - Eagle Creek</h2> | | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>BY</th> <th>APPD</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> | REV | DATE | BY | APPD | DESCRIPTION | | | | | | DESIGN BY: Waterfall Engineering DRAWN BY: DATE: 3/6/23 | <h3>Construction Plan</h3> | 4 SHEET 9 OF |
|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-------------|------|-------------|--|--|--|--|--|-----------------------------------------------------------------------------|----------------------------|-------------------------------------|
| | REV | | DATE | BY | APPD | DESCRIPTION | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| Landowner: Jack and Susanna Ozburn Sec Twship Range: Section 30, T25N, R18W Lat and Long: 47° 37' 47.26"N, 120° 37' 55.74"W | | BAR IS ONE INCH ON ORIGINAL DRAWING. SCALE VERIFICATION: 0 1" 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY. | | | | | | | | | | | | | | |

Note: Engineer May Adjust Channel Width and Bank Excavation at the Transition to the Existing Channel to Preserve Existing Vegetation and Reduce Overall Disturbance.



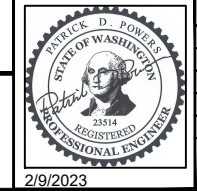
Site Plan - Proposed
SCALE: 1" = 10'

Site Plan - Proposed
SCALE: 1" = 5'



Ozburn - Eagle Creek

Landowner: Jack and Susanna Ozburn
 Sec Twship Range: Section 30, T25N, R18W
 Lat and Long: 47° 37' 47.26"N, 120° 37' 55.74"W



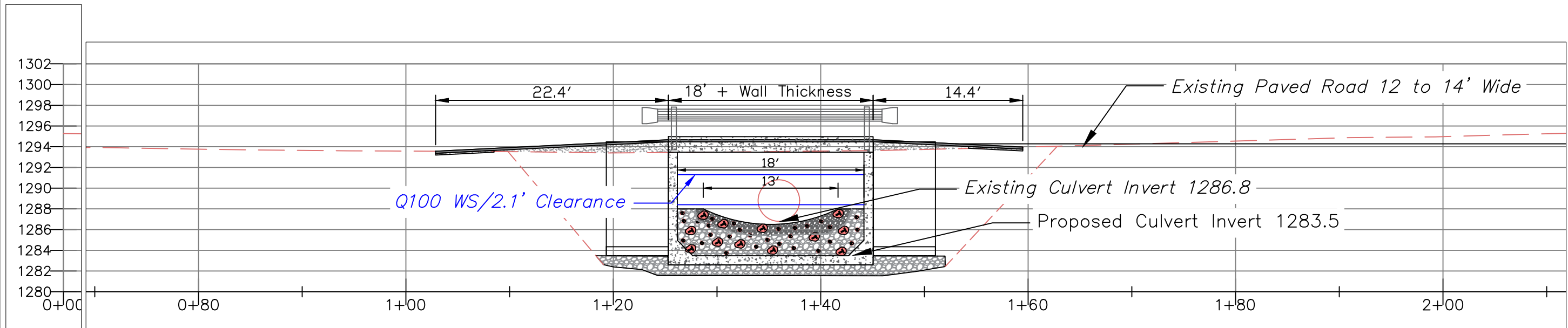
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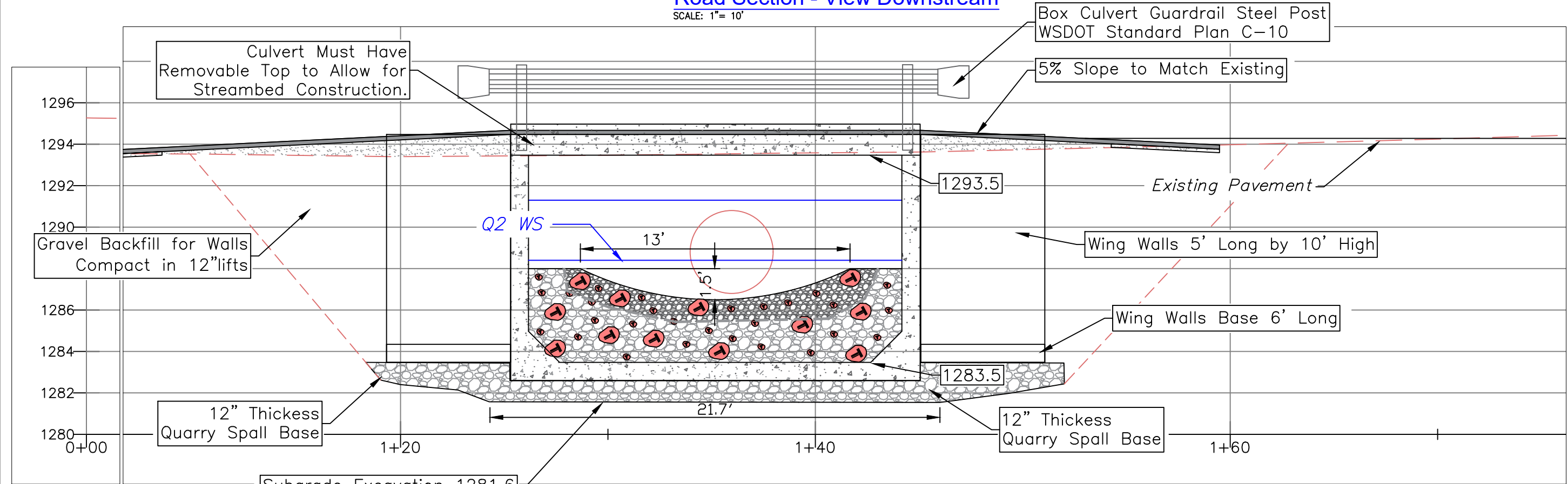
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 DATE:
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Prop Site Plan

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Road Section - View Downstream
SCALE: 1" = 10'



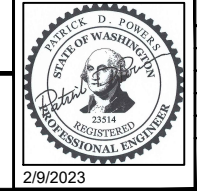
Road Section - View Downstream
SCALE: 1" = 5'

Note: Elevations to be Confirmed by Engineer After Review of Culvert Drawings Supplied by Contractor.



Ozburn - Eagle Creek

Landowner: Jack and Susanna Ozburn
 Sec Twnshp Range: Section 30, T25N, R18W
 Lat and Long: 47° 37' 47.26"N, 120° 37' 55.74"W



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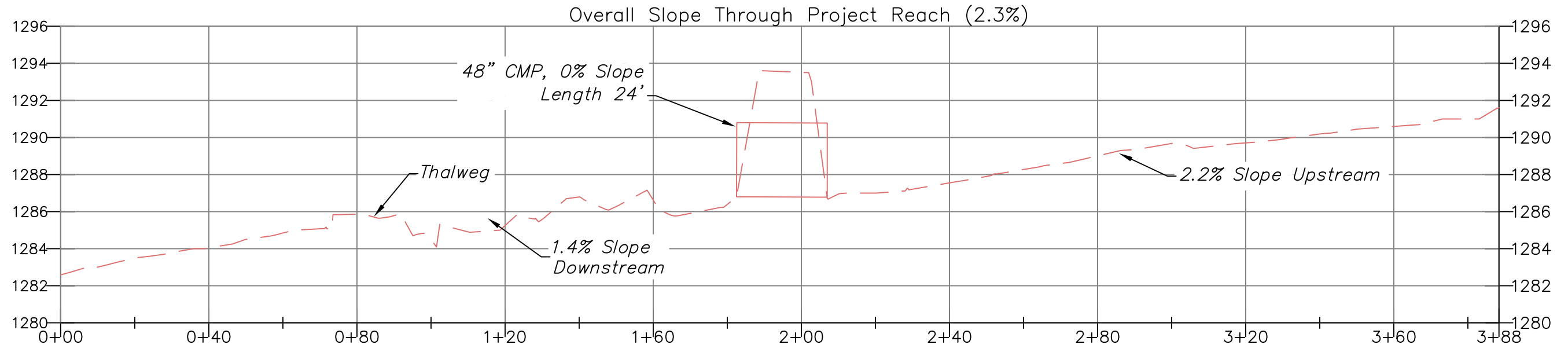
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Waterfall Engineering

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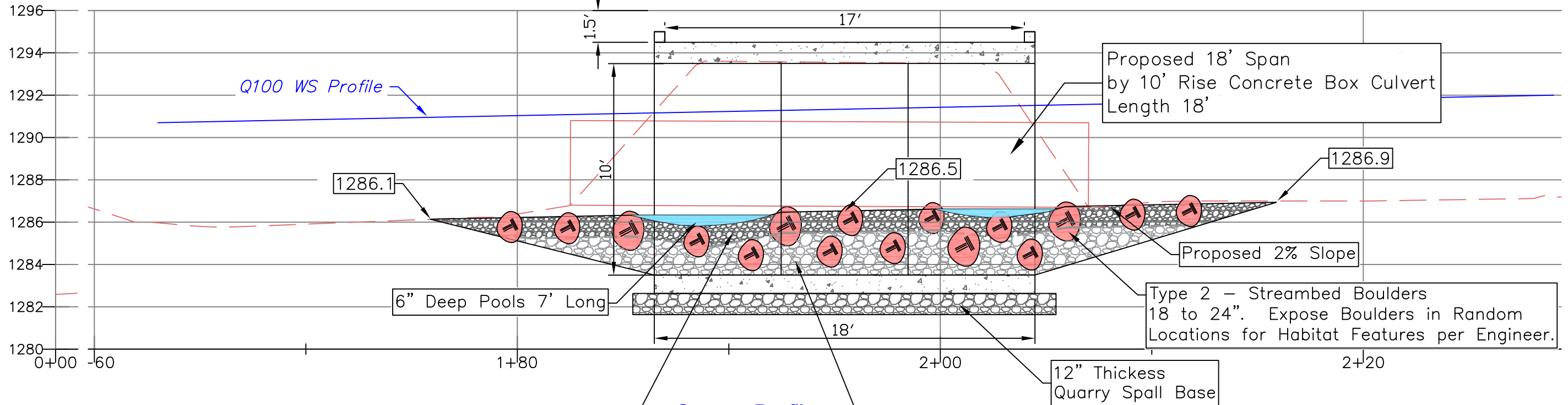
DATE:
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Road Profile



Long Stream Profile

Scale: Vertical 1" = 6', Horizontal 1" = 30'



Stream Profile

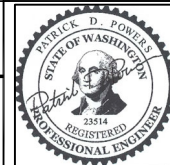
Scale: 1" = 10'

Note: Wing Walls Not Shown This View



Ozburn - Eagle Creek

Landowner: Jack and Susanna Ozburn
 Sec Twship Range: Section 30, T25N, R18W
 Lat and Long: 47° 37' 47.26"N, 120° 37' 55.74"W



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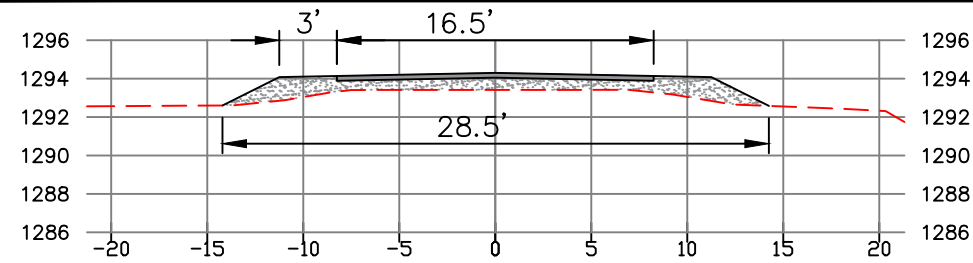
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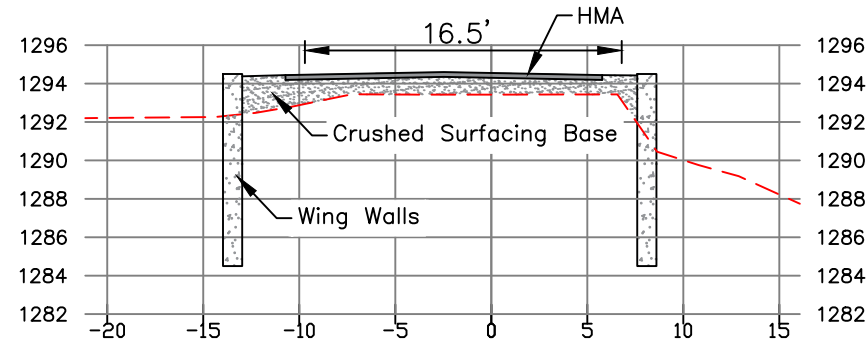
Stream Profile

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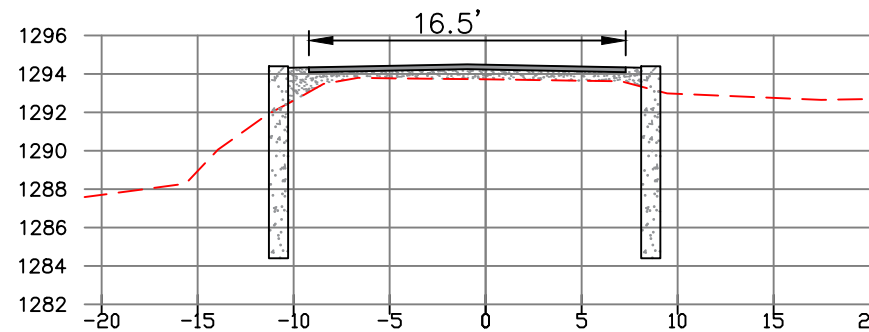
Road Sections



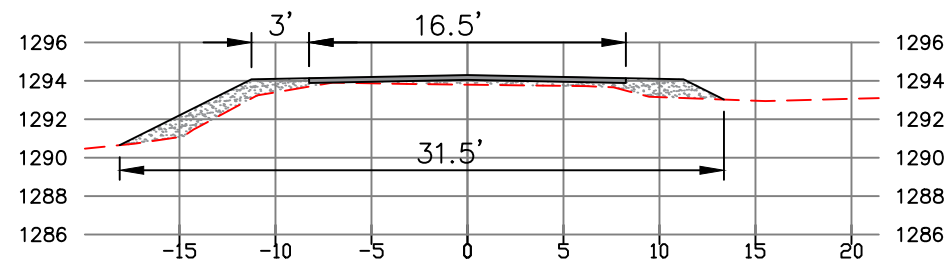
A Road Section STA 1+18 - View North
Scale: 1" = 10'



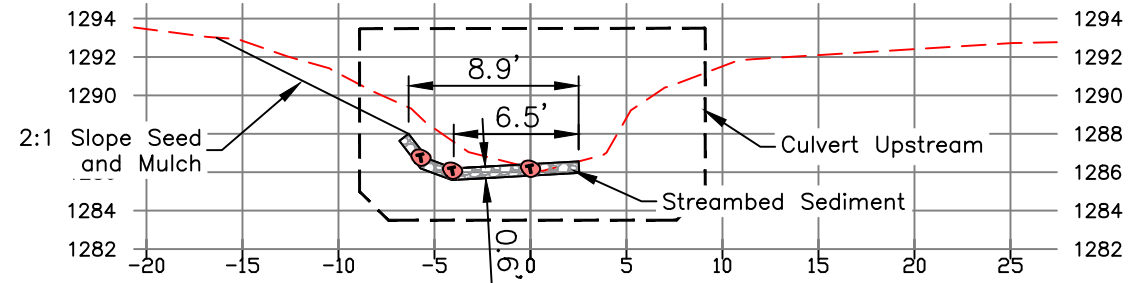
B Road Section STA 1+23 - View North
Scale: 1" = 10'



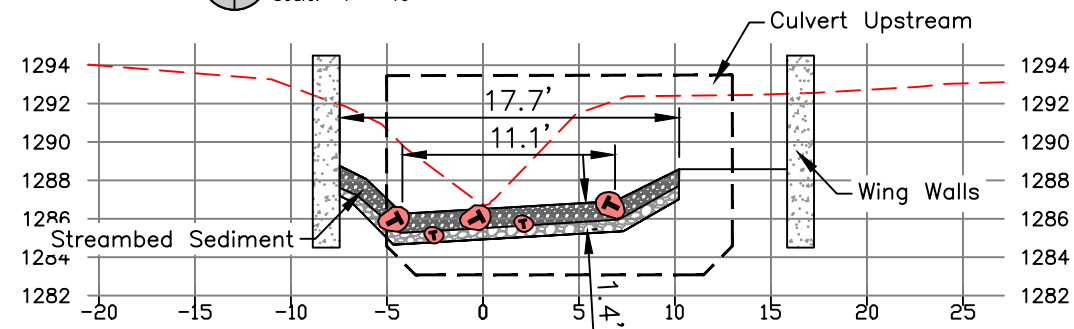
C Road Section STA 1+49 - View North
Scale: 1" = 10'



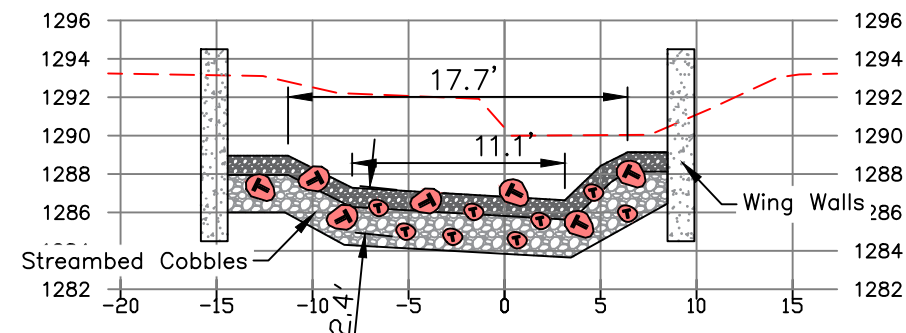
D Road Section STA 1+53 - View North
Scale: 1" = 10'



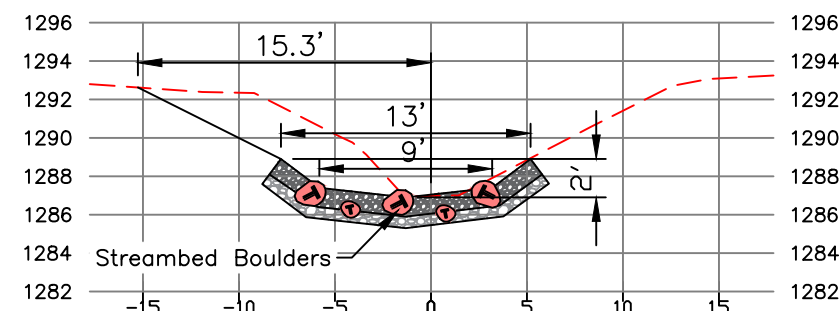
H Stream Section STA 1+78 - View Upstream
Scale: 1" = 10'



G Stream Section STA 1+82 - View Upstream
Scale: 1" = 10'



F Stream Section STA 2+04 - View Upstream
Scale: 1" = 10'



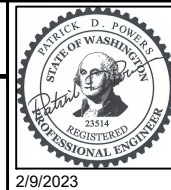
E Stream Section STA 2+10 - View Upstream
Scale: 1" = 10'

Stream Sections



Ozburn - Eagle Creek

Landowner: Jack and Susanna Ozburn
 Sec Twship Range: Section 30, T25N, R18W
 Lat and Long: 47° 37' 47.26"N, 120° 37' 55.74"W



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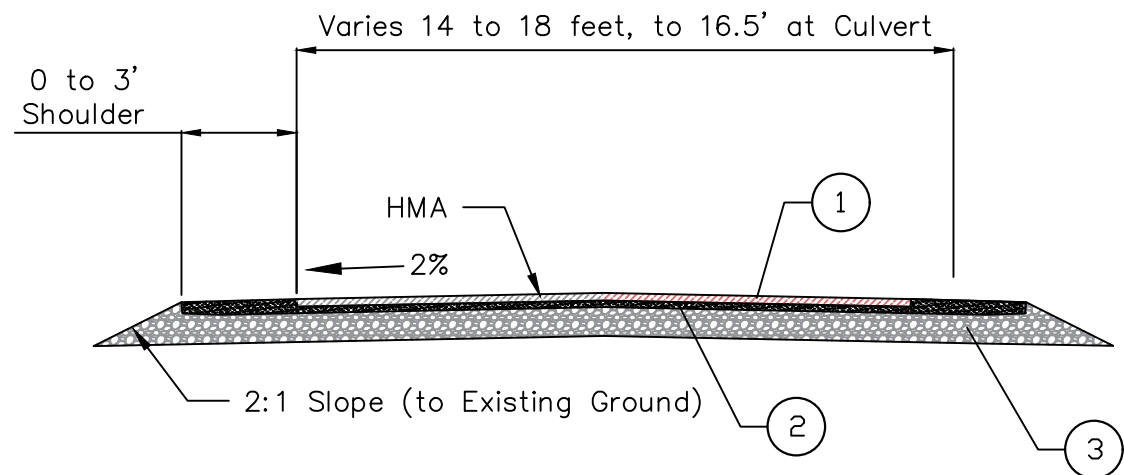
DESIGN BY:
Waterfall Engineering

DRAWN BY:

DATE:
2/9/2023

Road/Stream Sections

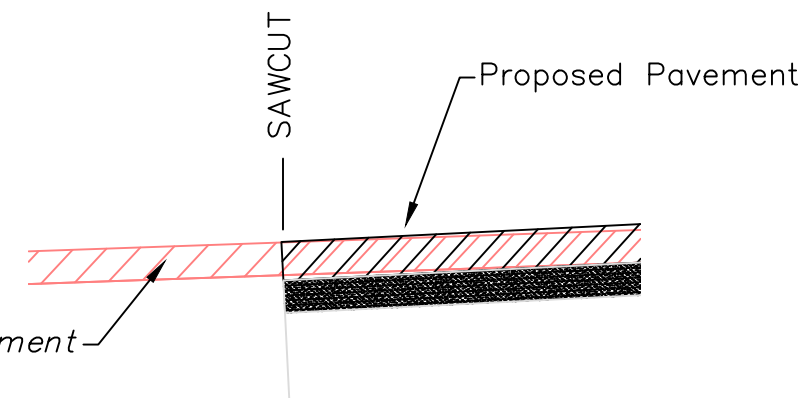
8 **9**
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Typical Road Section

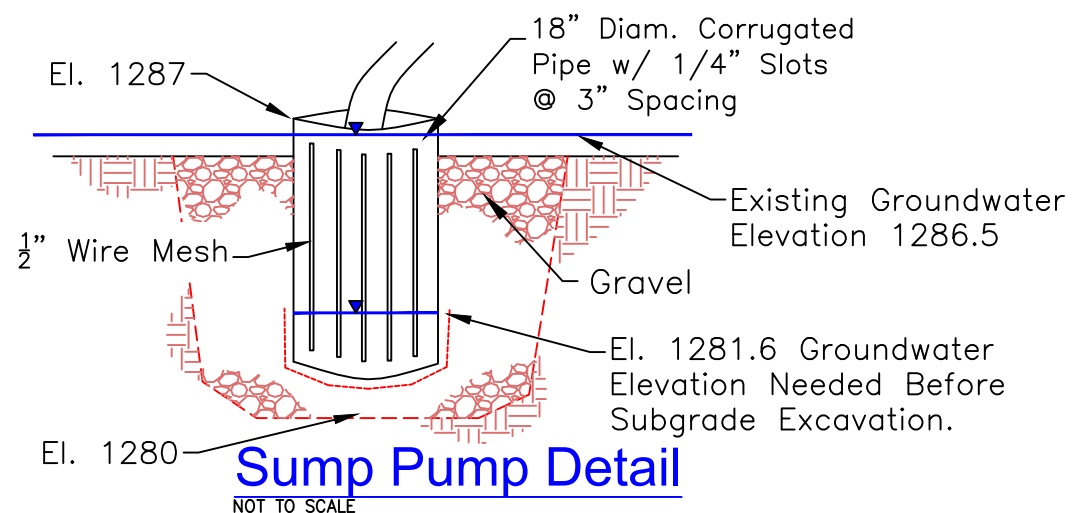
Scale 1" = 5'

- Minimum Required Compacted Depth
- ① 0.25' HMA
 - ② 0.17' Crushed Surfacing Top Course
 - ③ 0.75' Crushed Surfacing Base Course (Only Where Fill Height Exceeds 1')
Compact 3" Lifts.



Pavement Transition Details

Scale: 1" = 1'



Sump Pump Detail

NOT TO SCALE

Culvert Design Criteria

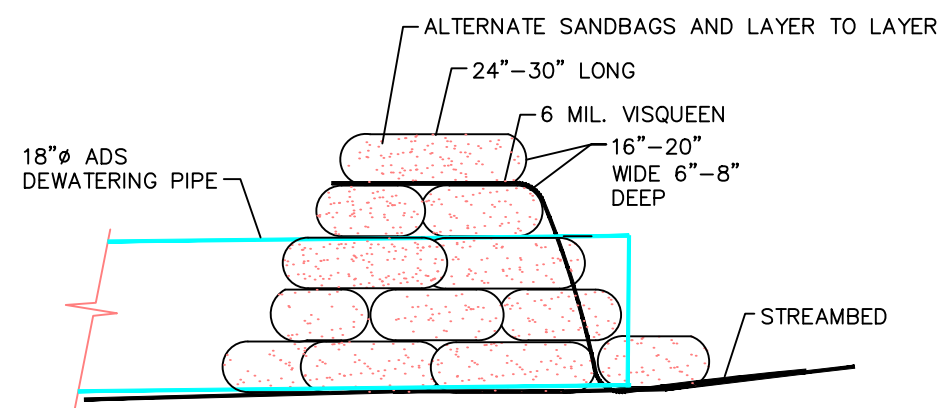
1. Size: 18' Span 10' Rise, 18' Long
2. Wing Walls per Project Plans
3. Removable Top (Three Sided Box).
4. Loads: AASHTO HL-93 LRFD Bridge Design Specifications Compliant with Current WSDOT/APWA Standard Specifications.
5. Fill: 0.0'
6. Soil Bearing Assume 2000 psf.
7. A load rating that complies with WSDOT's Bridge Design Manual Chapter 13 must be completed. This includes analysis of Specialized Haul Vehicles and Emergency Vehicles. The structure will be required to have the capacity to handle all these legal loads.
8. Culvert shall be Designed and Constructed per WSDOT Standard Specifications Section 6-20 and any Applicable General Special Provisions.

Specifications:

1. Concrete: F'c=5000 psi @ 28 days for Short Span Top Section.
2. Rebar: ASTM A-615 or A-706 Grade 60
3. Backfill with granular free draining material according to Project Specifications.

General Notes:

1. Finish - Class 2 - WSDOT
2. Installation and Grouting by Contractor
3. See Lifting and Handling Requirements from Culvert Vendor.



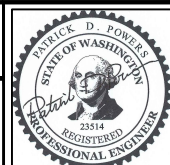
Sandbag Cofferdam

NOT TO SCALE



Ozburn - Eagle Creek

Landowner: Jack and Susanna Ozburn
 Sec Twnshp Range: Section 30, T25N, R18W
 Lat and Long: 47° 37' 47.26"N, 120° 37' 55.74"W



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DESIGN BY:
Waterfall Engineering

DRAWN BY:

DATE:
2/9/2023

Details

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SHEET OF