

LYONS UTE HIGHWAY STREAMBANK STABILIZATION PROJECT

LYONS, COLORADO

FEBRUARY 2024



VICINITY MAP

As-built survey performed by
Flatirons, Inc. 12-2-2024.
ALTA survey attached. Overlay with
Streambank Stabilization design
performed by Werner Water
Engineering, LLC. 2-26-2025

GENERAL NOTES:

1. THE CONTRACTOR SHALL LOCATE ALL UTILITIES ON-SITE, COORDINATE CONSTRUCTION WITH ALL UTILITY OWNERS AND BE RESPONSIBLE FOR PROTECTING ALL UTILITIES DURING CONSTRUCTION. THE CONTRACTOR MUST SCHEDULE ANY REQUIRED UTILITY ADJUSTMENTS WITH THE UTILITY OWNER TO ELIMINATE CONFLICTS.
2. THE CONTRACTOR SHALL CONFORM TO ALL PLAN AND SPECIFICATIONS SHOWN HEREIN AND NOTIFY THE ENGINEER IMMEDIATELY UPON THE DISCOVERY OF CONFLICTS OR CHANGES NOT CONSISTENT WITH THE CONTRACT DOCUMENTS.
3. THE CONTRACTOR SHALL HAVE COPIES OF ANY REQUIRED PERMITS ON SITE AT ALL TIMES AND COMPLY WITH ALL REQUIREMENTS OF ALL PERMITS AT ALL TIMES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING ALL REQUIRED PLANS, INCLUDING DELIVERY AND STORAGE OF MATERIALS AND SITE EQUIPMENT, SITE ACCESS, EROSION CONTROL, TRAFFIC CONTROL, WATER CONTROL, AND DE-WATERING.
5. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING SITE INFRASTRUCTURE AND VEGETATION AS DIRECTED BY THE OWNER'S REPRESENTATIVE, INCLUDING BUT NOT LIMITED TO, CONCRETE, ASPHALT, SITE CIRCULATION PATHS, CURB AND GUTTER, PIPES, TREES, SHRUBS, GRASSES AND ALL SOFT OR HARDSCAPE OUTSIDE OF THE IMMEDIATE CONSTRUCTION AREA AND ITS REPLACEMENT IN THE EVENT OF DAMAGE TO EQUAL OR BETTER CONDITION.
6. IN AREAS OF DISTURBANCE, THE CONTRACTOR SHALL REMOVE AND STOCKPILE THE TOP 6" OF TOPSOIL AND REPLACE AND RE-VEGETATE AFTER CONSTRUCTION. SALVAGED TOPSOIL SHALL BE STOCKPILED IN AREAS THAT SHALL NOT INTERFERE WITH CONSTRUCTION PHASES AND AT LEAST 15 FEET AWAY FROM AREAS OF CONCENTRATED FLOWS OR PAVEMENT. THE SLOPES OF THE STOCKPILE SHALL NOT EXCEED 2:1 HORIZONTAL TO VERTICAL. A SILT FENCE OR OTHER ADEQUATE EROSION CONTROL SHALL BE INSTALLED AROUND THE PERIMETER OF EACH STOCKPILE. TOPSOIL FROM ANY RIPARIAN AREAS SHALL BE STOCKPILED SEPARATELY FROM OTHER TOPSOIL AND SHALL BE REINSTALLED IN RIPARIAN AREAS.
7. IF PREVIOUSLY UNKNOWN HISTORIC OR ARCHEOLOGICAL REMAINS ARE DISCOVERED DURING CONSTRUCTION, THE CONTRACTOR MUST IMMEDIATELY STOP WORK AND NOTIFY BOTH THE OWNER'S REPRESENTATIVE OF THESE ITEMS AND WORK MAY NOT COMMENCE UNTIL WRITTEN APPROVAL IS GIVEN TO PROCEED.
8. THE CONTRACTOR MUST BE AVAILABLE TO PROVIDE ALL NECESSARY RESOURCES FOR PERIODIC INSPECTIONS FROM REGULATORY AGENCIES, INCLUDING BUT NOT LIMITED TO THE UNITED STATES ARMY CORPS OF ENGINEERS OR THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, AT ANY TIME DURING THE CONSTRUCTION TIME PERIOD. THIS PERIOD INCLUDES PRE-CONSTRUCTION AND POST-CONSTRUCTION.
9. THE CONTRACTOR MUST MEET ALL REQUIREMENTS FOR BMP'S AS DESCRIBED IN THE CONSTRUCTION SPECIFICATIONS.
10. THE CONTRACTOR IS RESPONSIBLE FOR MONITORING ALL SITE SAFETY REQUIREMENTS AND REGULATIONS THROUGH THE ENTIRE DURATION OF ON-SITE CONSTRUCTION ACTIVITIES.
11. THE CONTRACTOR SHALL OBTAIN AT THEIR EXPENSE ANY AND ALL DISCHARGE PERMITS NECESSARY TO PERFORM THE WORK DESCRIBED HEREIN, WHICH MAY BE SUBJECT TO THE PROVISIONS OF THE COLORADO WATER QUALITY ACT AND THE COLORADO DISCHARGE PERMIT REGULATIONS.
12. ANY ADDITIONAL COSTS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
13. THE CONTRACTOR IS RESPONSIBLE FOR MANAGING A SAFE SITE IN ACCORDANCE WITH LOCAL CODES AND REGULATIONS.
14. THE CONTRACTOR SHALL CALL 2-BUSINESS DAYS IN ADVANCE FOR MARKING OF UNDERGROUND MEMBER UTILITIES BEFORE BEGINNING CONSTRUCTION, GRADING, OR EXCAVATING.

CALL UTILITY NOTIFICATION

COLORADO ONE-CALL DIG:
1-800-922-1987

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PLOT DATE: 2/26/2025
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| Lyons Ute Highway LLC |

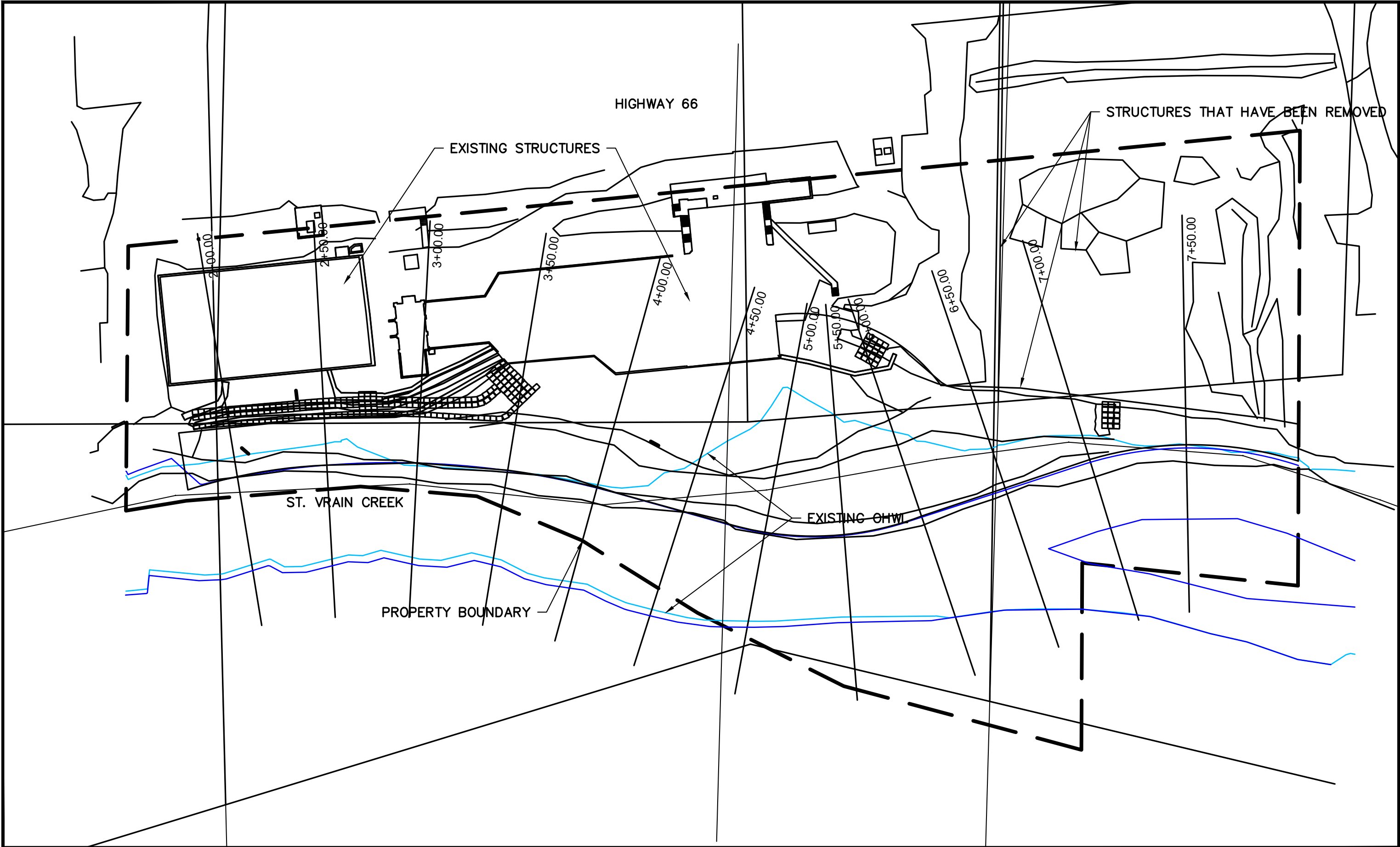
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| LYONS UTE HIGHWAY STREAMBANK STABILIZATION AS-BUILT |
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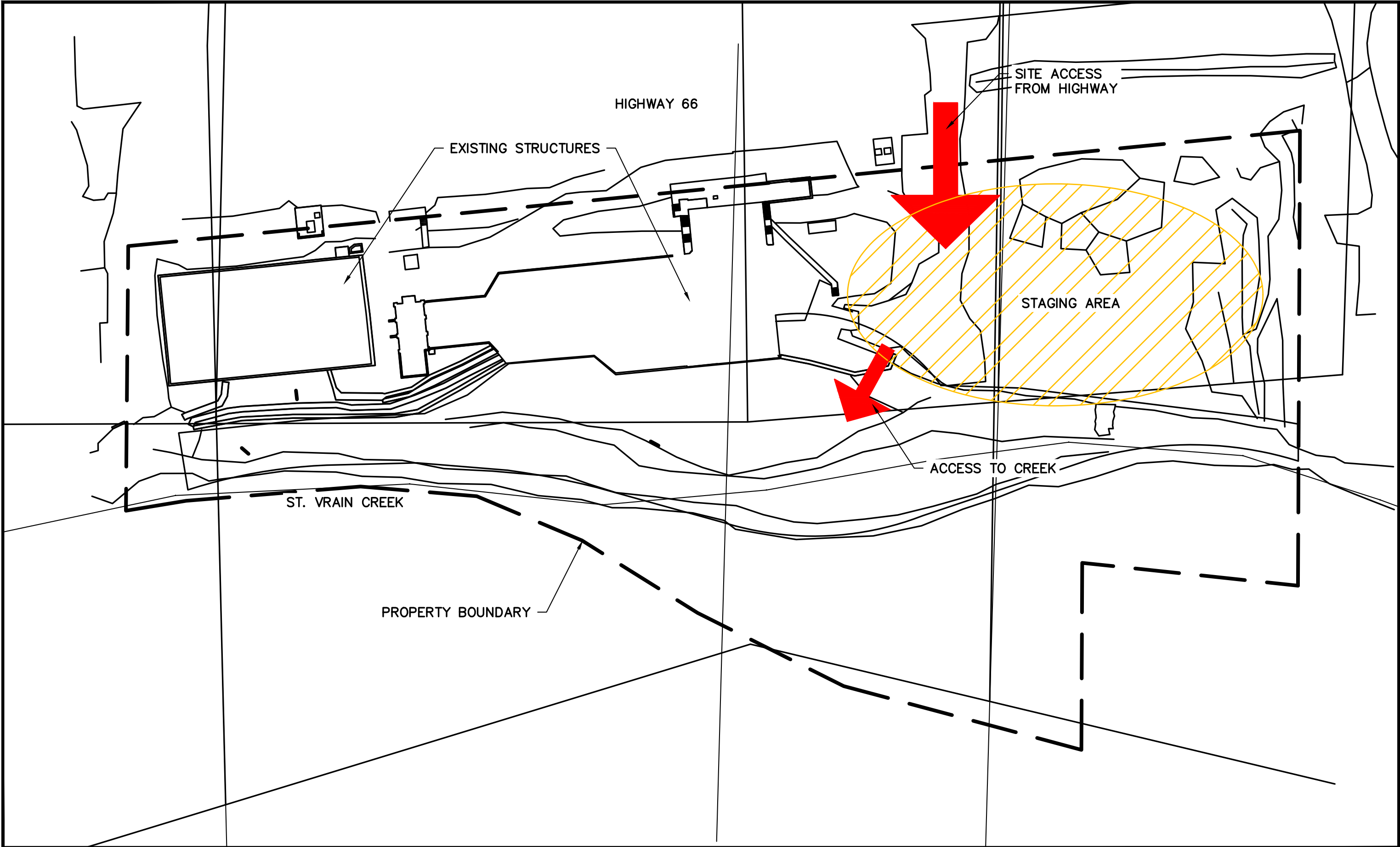
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LYONS UTE HIGHWAY STREAMBANK
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| Sheet 2 | 2 of 12 |
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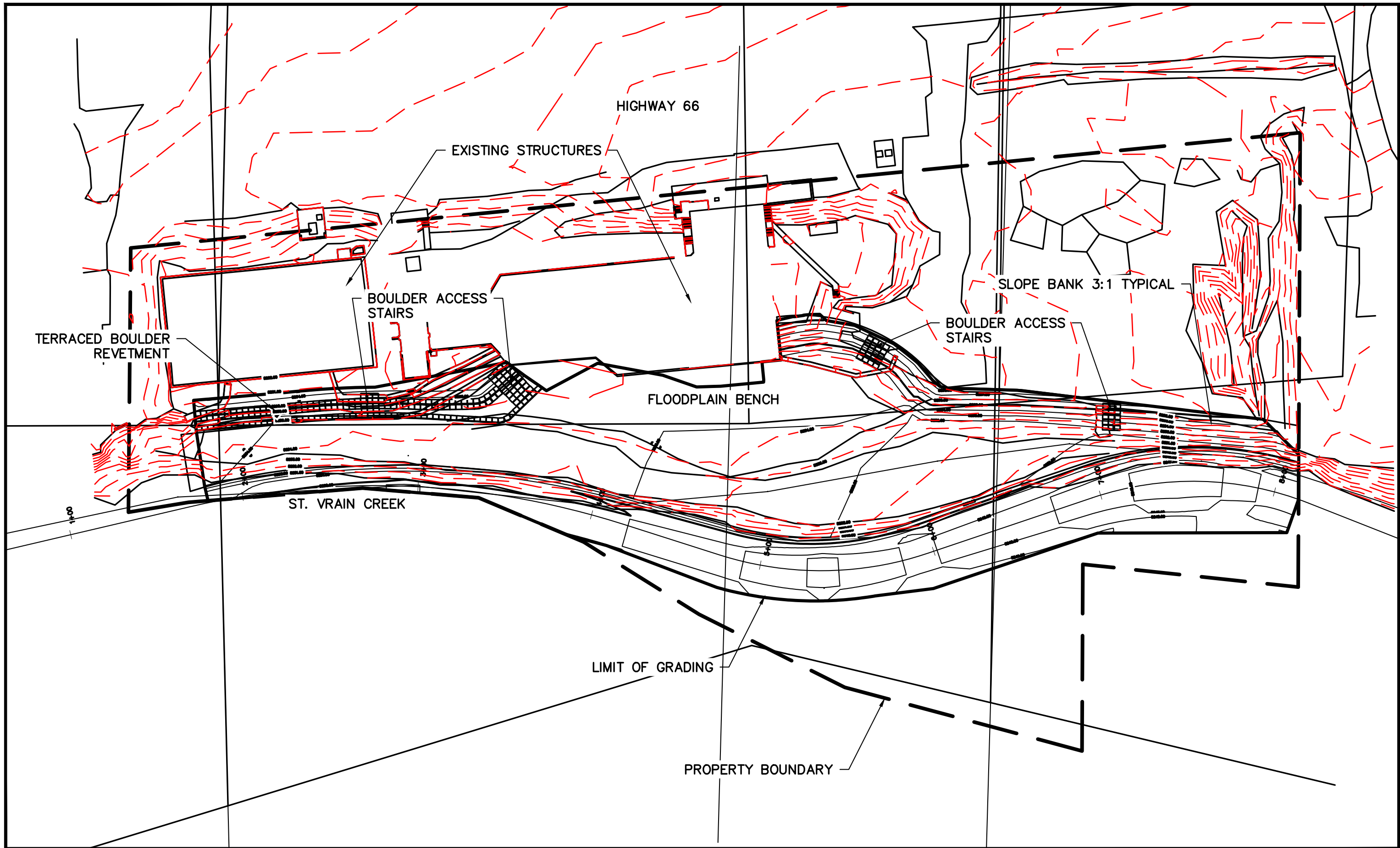
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LYONS UTE HIGHWAY STREAMBANK
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| Sheet 3 | of 12 |
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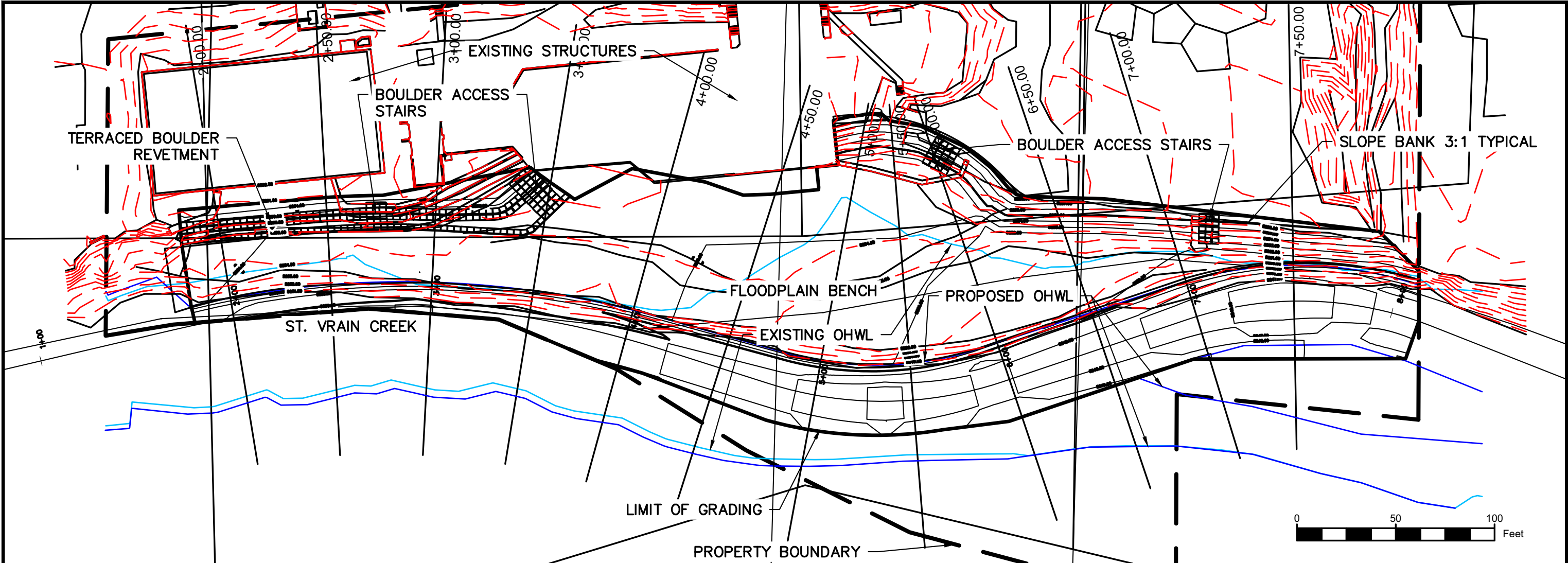
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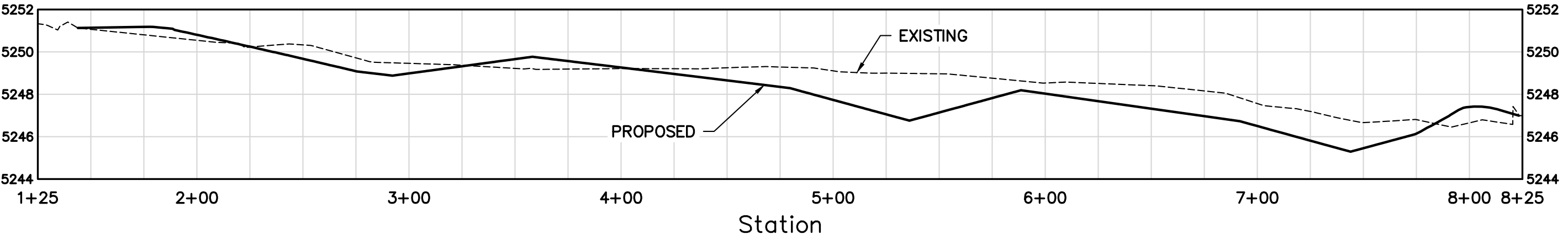
LYONS UTE HIGHWAY STREAMBANK
STABILIZATION
AS-BUILT

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| Sheet 4 | 4 of 12 |
| Date February 28, 2025 | |

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Proposed Thalweg Profile



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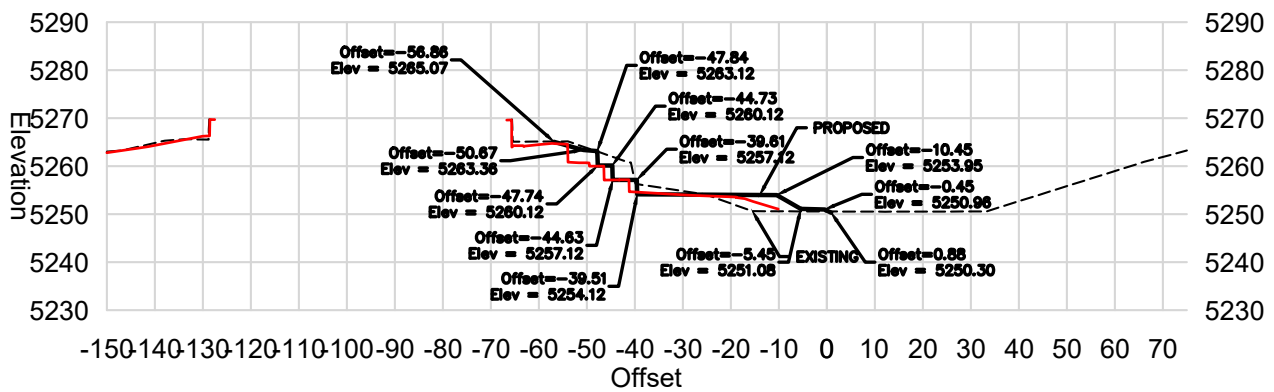
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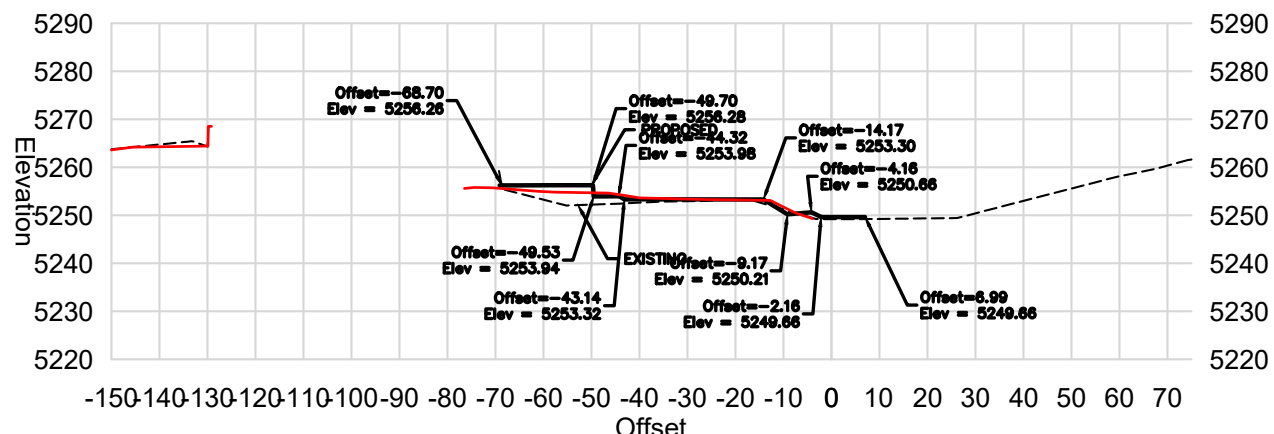
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AS-BUILT

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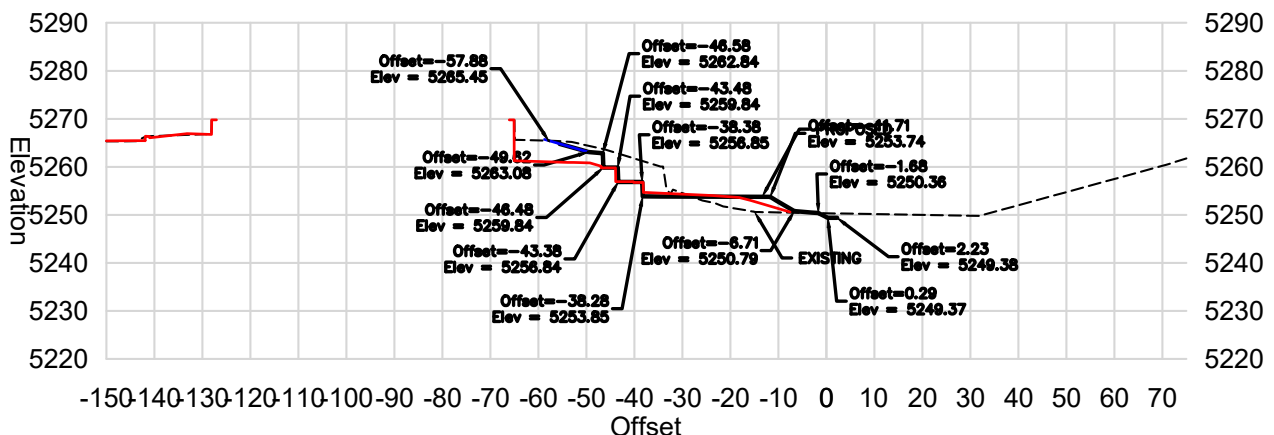
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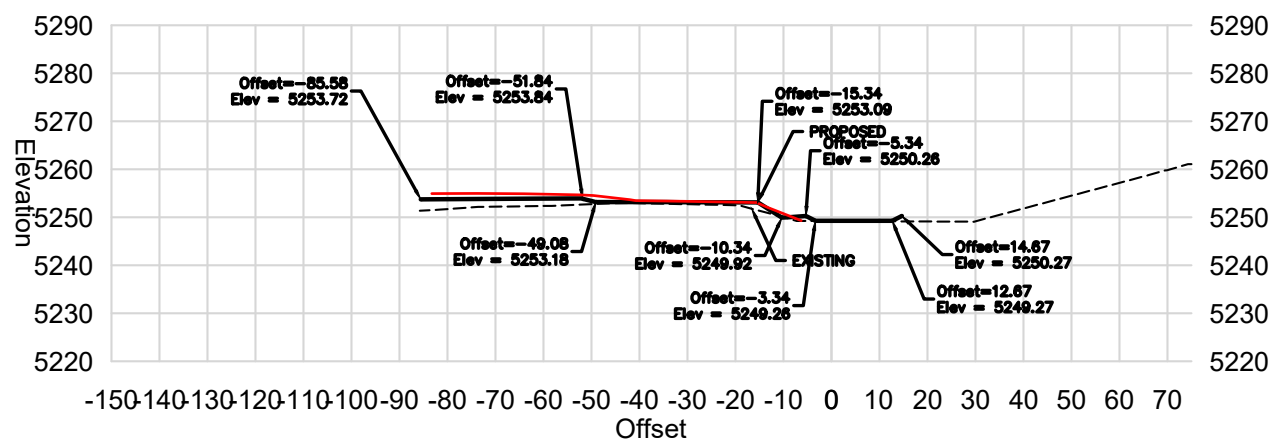
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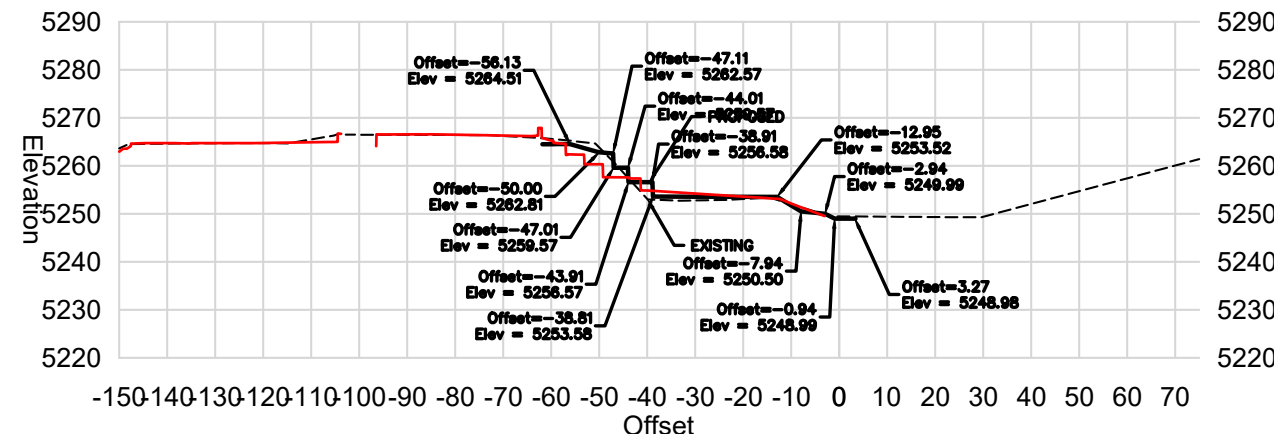
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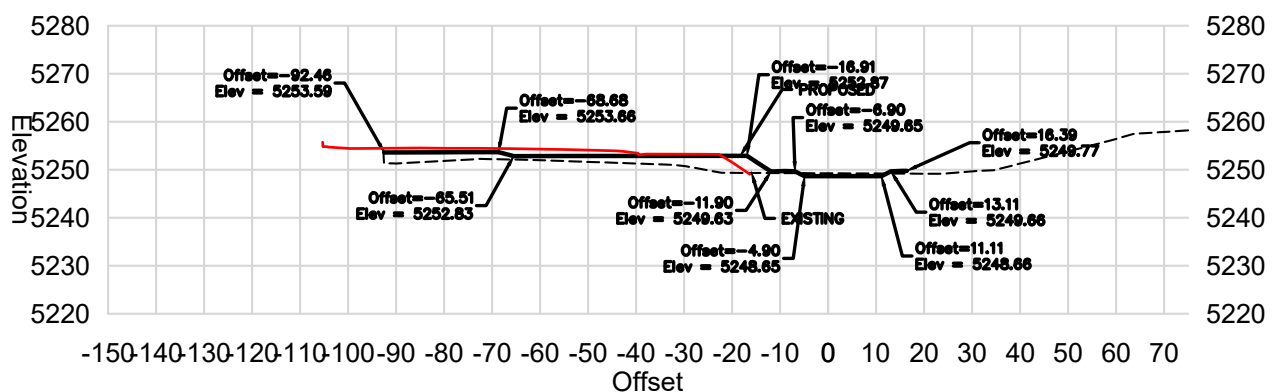
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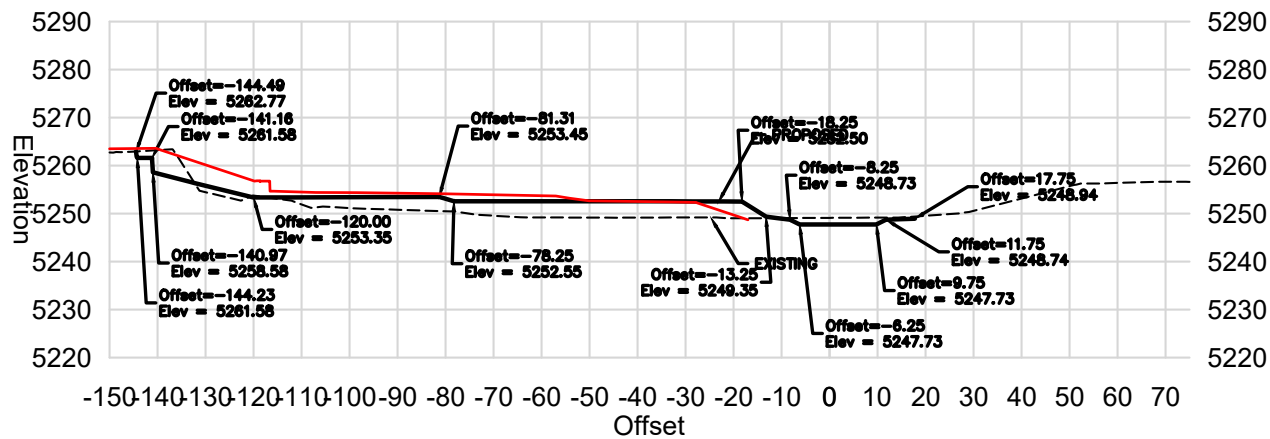
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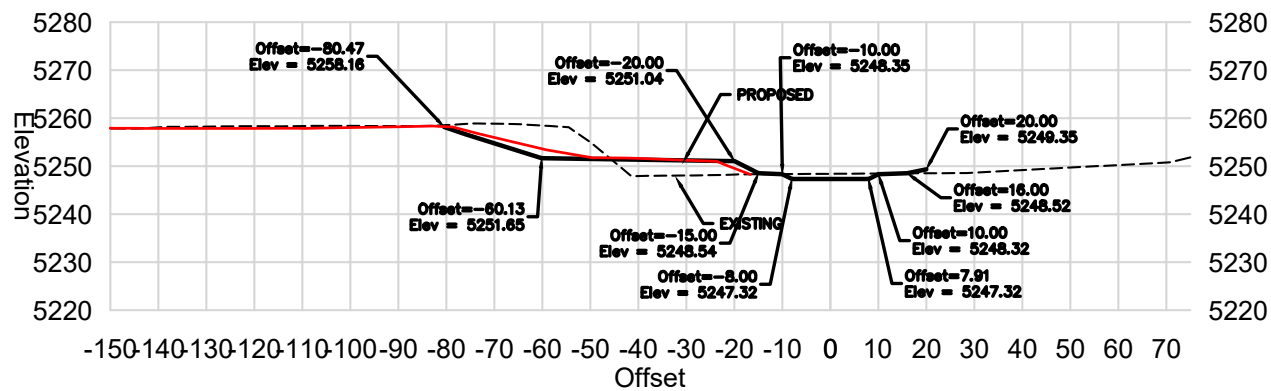


LYONS UTE HIGHWAY STREAMBANK
STABILIZATION
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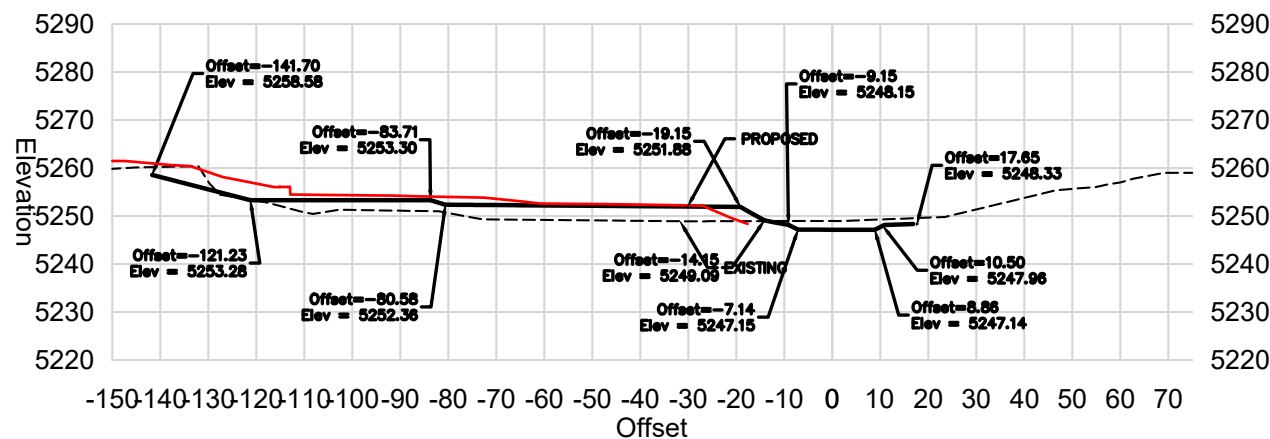
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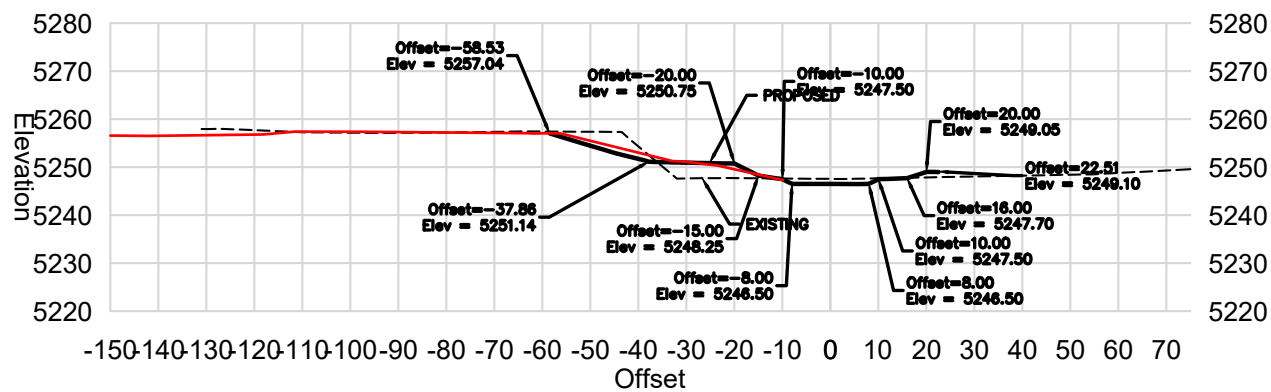
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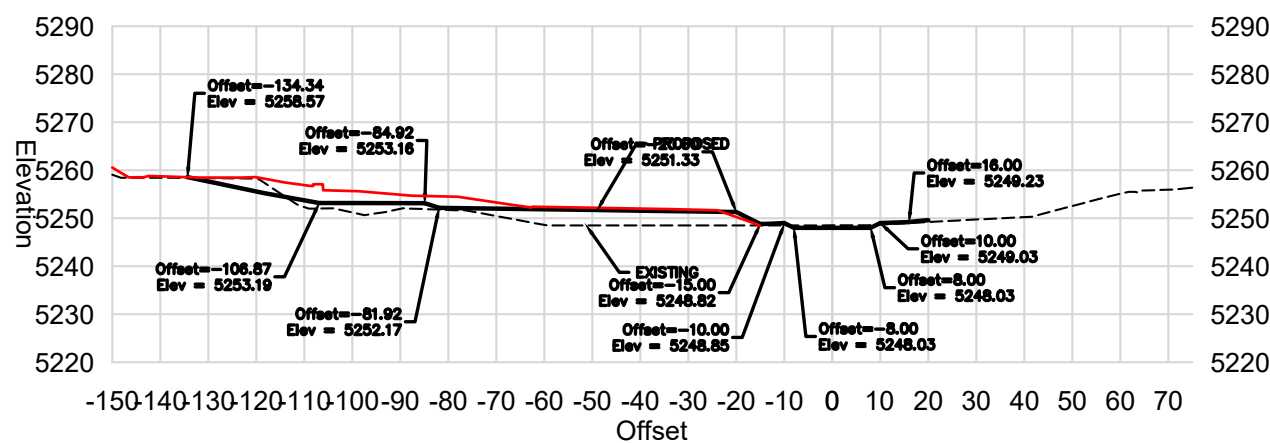
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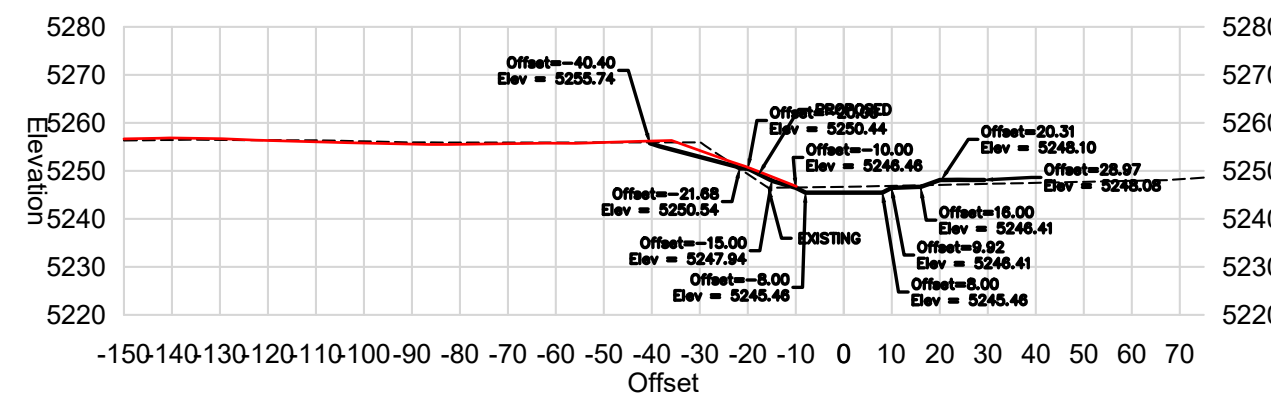
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STATION 6+00.00

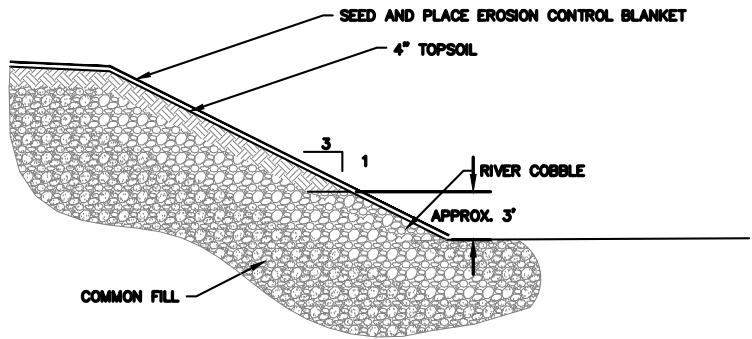


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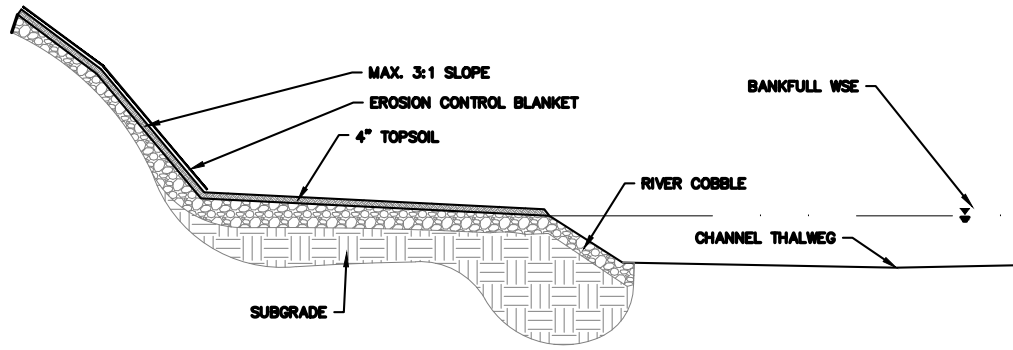


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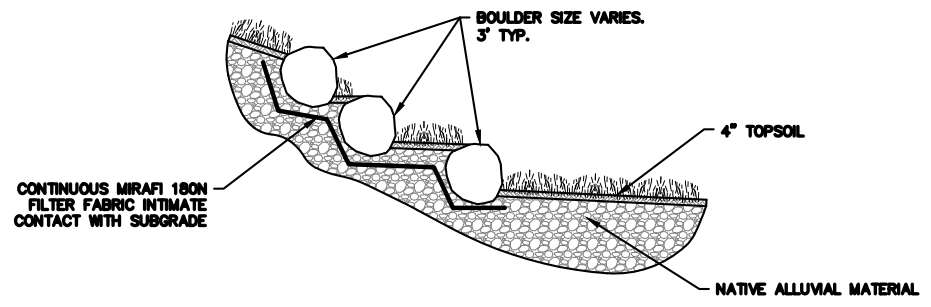
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VEGETATED BANK TYP.
SECTION



BENCH TYPICAL
SECTION NTS



TERRACED BOULDERS WITH VEGETATION TYP.
SECTION SCALE: 1:5

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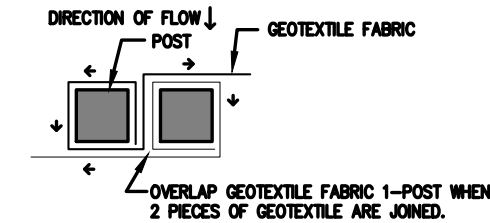
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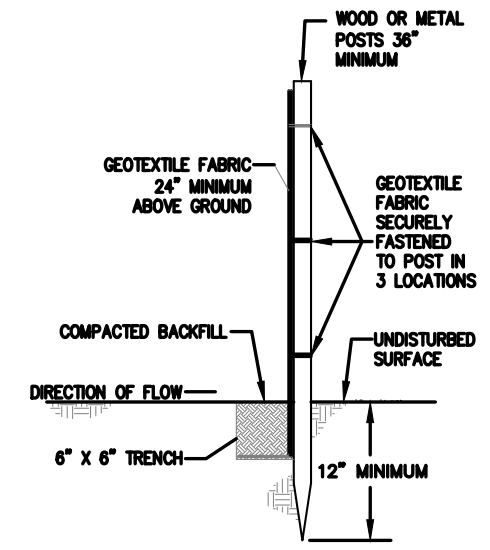
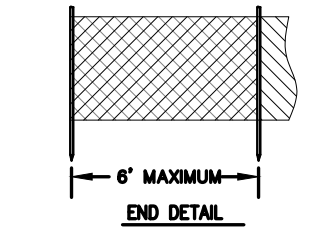
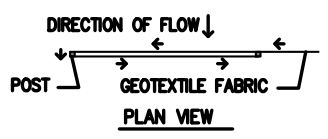
LYONS UTE HIGHWAY STREAMBANK
STABILIZATION
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| Sheet 8 | 8 of 12 |
| Date February 28, 2025 | |

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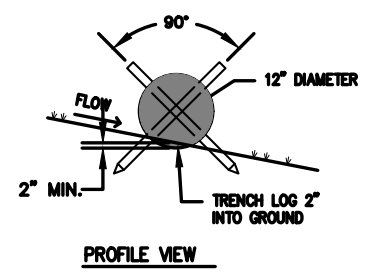


PLAN VIEW: TRANSITION DETAIL

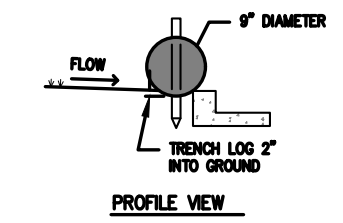


- NOTES:
1. WOOD POSTS SHALL HAVE A MINIMUM DIAMETER OR CROSS-SECTION OF 2 INCHES. METAL POSTS SHALL BE STUDDED "I" OR "U" TYPE.
 2. GEOTEXTILE FABRIC SHALL COMPLY WITH CDOT 712.006.
 3. GEOTEXTILE FABRIC SHALL EXTEND A MINIMUM OF 6" BELOW GRADE AND ANOTHER 6" HORIZONTALLY IN A "L" SHAPE BEFORE BACKFILLING AND COMPACTING THE TRENCH. (SLICING METHOD IS ALSO ACCEPTED)
 4. SILT FENCE SHALL NOT BE USED IN CONCENTRATED FLOWS-HEIGHT OF THE GEOTEXTILE FABRIC.
 5. SILT FENCE SHALL ONLY BE PLACED PARALLEL TO SURFACE CONTOURS.
 6. CLEAN AND REMOVE SILT WHEN THE SILT REACHES
 7. UPON PERMANENT STABILIZATION OF AREAS UPSLOPE OF THE SILT FENCE, THE SILT FENCE SHALL BE REMOVED AND DISTURBED AREAS PERMANENTLY STABILIZED.

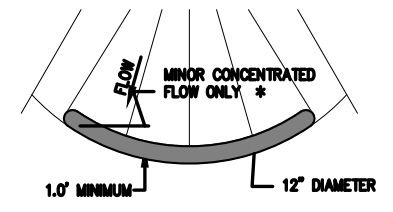
8 SILT FENCE DETAILS NTS



PROFILE VIEW



PROFILE VIEW

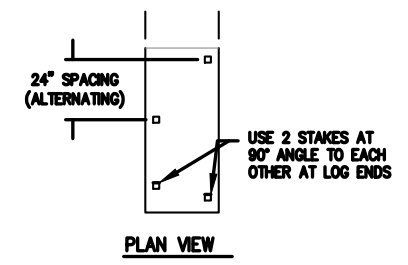


PROFILE VIEW

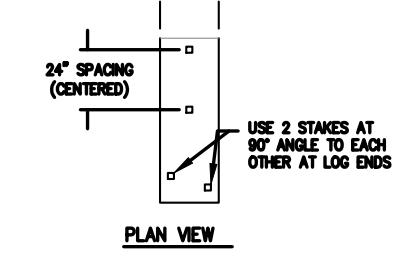
* FOR MAJOR CONCENTRATED FLOWS, USE A ROCK CHECK DAM

- NOTES:
1. STAKES SHALL BE 1-1/2" x 1-1/2" x 24" MINIMUM AND EMBEDDED INTO GROUND A MINIMUM OF 12".
 2. SEDIMENT CONTROL LOG SHALL BE TRENCHED 2" INTO GROUND.
 3. FOR CONTINUOUS CONTROL, ADJACENT SEDIMENT CONTROL LOGS SHALL BE PLACED FIRMLY TOGETHER WITH NO GAPS.
 4. SEDIMENT SHALL BE CLEANED/ REMOVED WHEN SEDIMENT DEPTH IS 1/2 THE HEIGHT OF THE SEDIMENT CONTROL LOG.

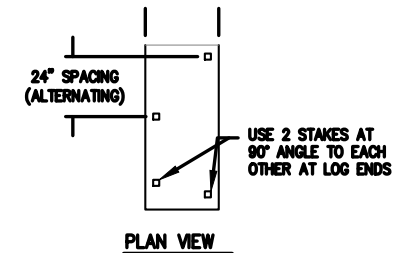
9 SEDIMENT CONTROL LOG DETAILS NTS



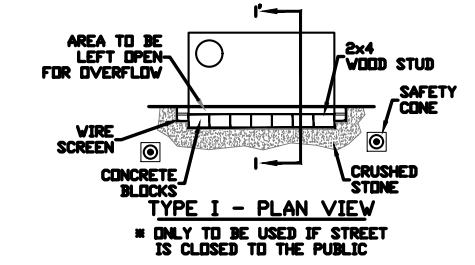
PLAN VIEW



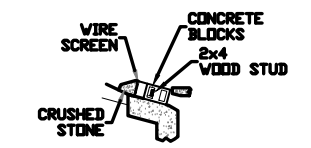
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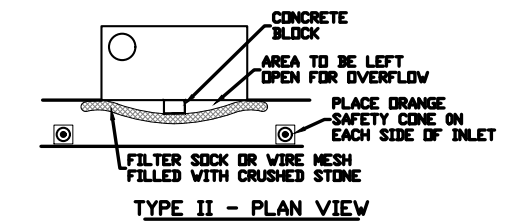
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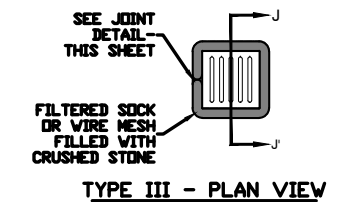
TYPE I - PLAN VIEW



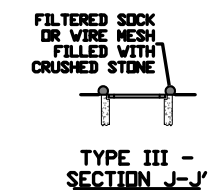
TYPE I - SECTION I-I'



TYPE II - PLAN VIEW



TYPE III - PLAN VIEW



TYPE III - SECTION J-J'



JOINT DETAIL

- NOTES:
1. CRUSHED STONE SHALL BE NO. 4 STONE WITH 0% PASSING THE 3/4" SIEVE.
 2. SEDIMENT SHALL BE REMOVED WHEN SEDIMENT ACCUMULATION REACHES 1/2 THE INLET PROTECTION HEIGHT.
 3. INLET PROTECTION SHALL BE PLACED IN A MANNER NOT TO CAUSE SIGNIFICANT FLOODING IN PUBLIC STREETS OR AREAS.
 4. INSET FILTER BAGS WITH OVERFLOW PORTS MAY BE USED IN HIGH TRAFFIC AREAS AS A SUBSTITUTE.
 5. IF LARGE DEPOSITS OF SEDIMENT ENTERS THE STORM SEWER, THE CONTRACTOR SHALL CLEAN THE STORM SEWER TO THE SATISFACTION OF THE CITY.

7 INLET PROTECTION DETAILS NTS

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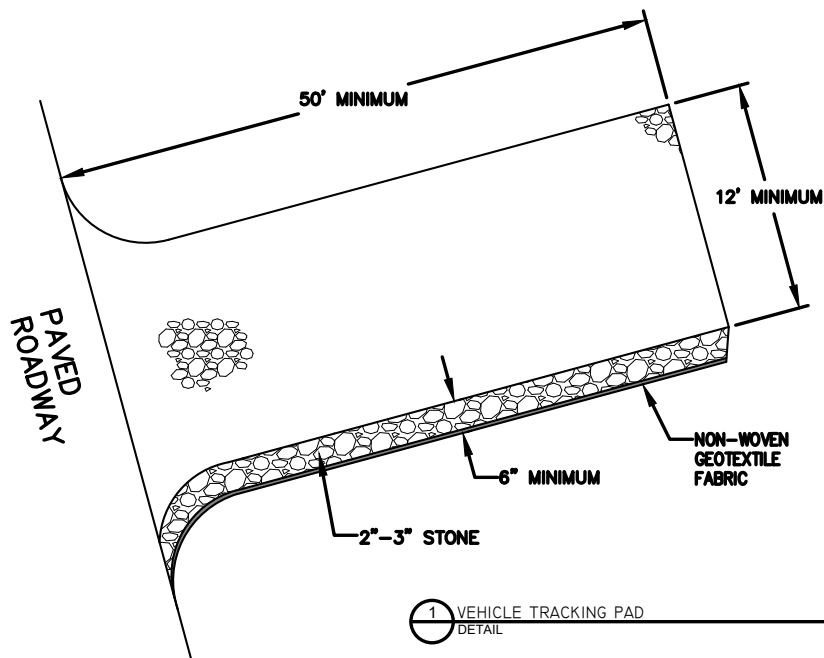
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LYONS UTE HIGHWAY STREAMBANK
STABILIZATION
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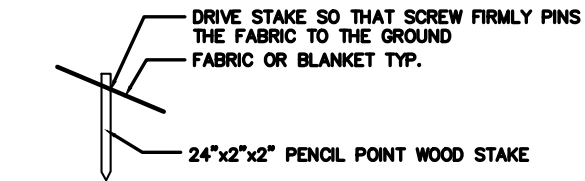
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| Sheet 9 of 12 |
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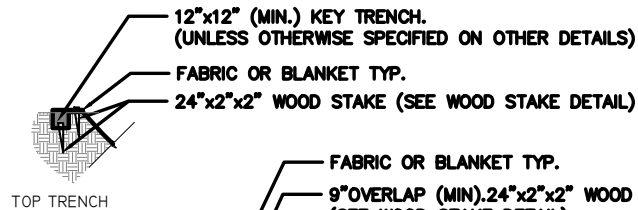


- NOTES:
1. PAVED ROADWAY TO BE KEPT CLEAN OF MUD, DIRT, ROCKS, AND DEBRIS AT ALL TIMES.
 2. GEOTEXTILE FABRIC SHALL COMPLY WITH CDOT 712.08b.
 3. 2'-3' STONE SHALL CONTAIN LESS THAN 10% FINES.
 4. CONSTRUCTION EXIT SHALL BE MAINTAINED AT ALL TIMES. STONE SHOULD BE BLADED AND/OR ADDITIONAL 2'-3' STONE SHOULD BE PLACED IF VOIDS BEGIN FILLING WITH DEBRIS.
 5. IF A DRAINAGE DITCH EXISTS NEXT TO ROADWAY, INSTALL TEMPORARY CULVERT UNDERNEATH STONE CONSTRUCTION EXIT TO CONVEY FLOW.
 6. PROVIDE INLET PROTECTION FOR ANY INLETS LOCATED IMMEDIATELY ADJACENT TO THE CONSTRUCTION EXIT.
 7. IF TRACKOUT DOES OCCUR, ROADWAY SHOULD BE SWEEPED IMMEDIATELY.
 8. RECYCLED CONCRETE OR RECYCLED ASPHALT SHALL NOT BE USED.

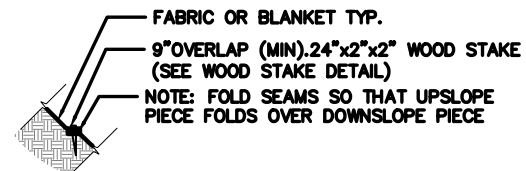
1 VEHICLE TRACKING PAD
DETAIL NTS



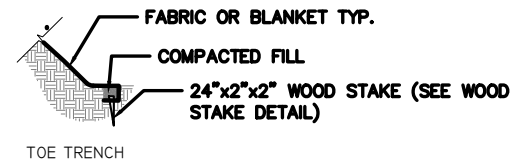
WOOD STAKE DETAIL



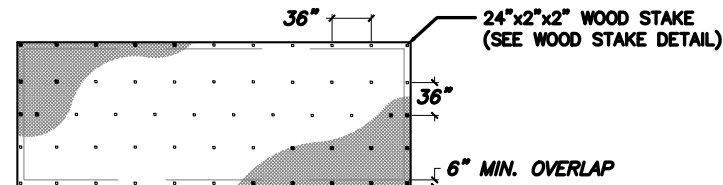
TOP TRENCH



SEAM OVERLAP



TOE TRENCH



EROSION CONTROL FABRIC

- NOTES:
1. WHERE FEASIBLE, FABRIC WILL BE ROLLED OUT AND INSTALLED PARALLEL WITH THE STREAM.
 2. UPSTREAM FABRIC PIECES WILL OVERLAP DOWNSTREAM PIECES AND UPSLOPE PIECES WILL OVERLAP DOWNSLOPE PIECES.
 3. FOLD OVERLAPPING SEAMS AT LEAST TWICE AND THEN STAKE.
 4. AFTER INITIAL STAKING, STAKE FABRIC AS NECESSARY SO THAT IT IS COMPLETELY FLUSH WITH THE GROUND SURFACE.
 5. SEED, RAKE, MULCH FINISHED GRADE PRIOR TO LAYING FABRIC.
 6. SEE, RAKE, MULCH KEY TRENCHES PRIOR TO CLOSING FABRIC.

7 EROSION CONTROL FABRIC
DETAILS NTS

| DATE | REVISION DESCRIPTION |
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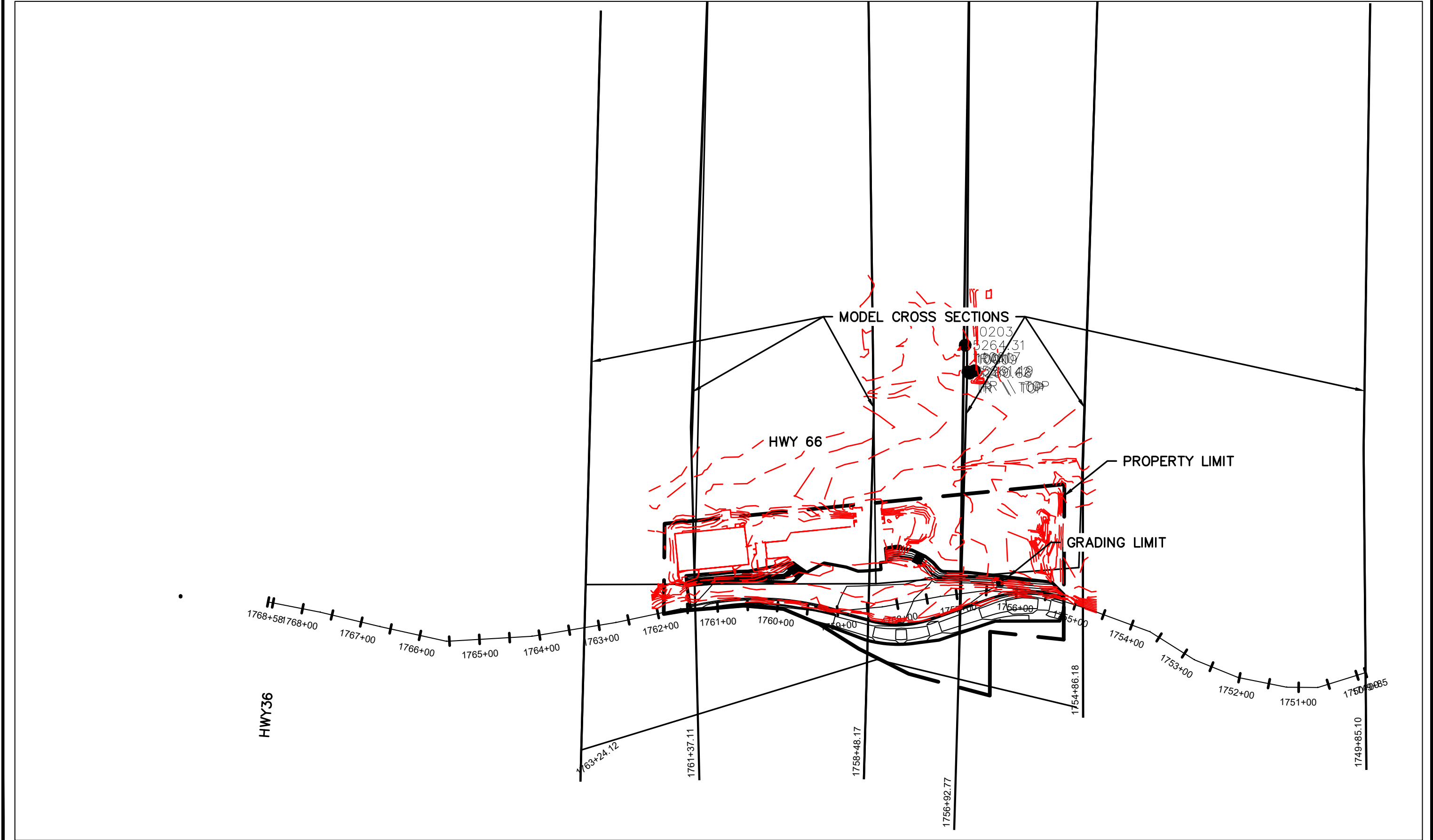
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| Drawing Name BMP Details (2) | |
| Job Number | |
| Prepared For | |
| Designer NLW | Drafter NLW |
| | Checked |



LYONS UTE HIGHWAY STREAMBANK
STABILIZATION
AS-BUILT

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| Sheet 10 of 12 |
| Date February 28, 2025 |

PATH: C:\USERS\NATHAN\ONE DRIVE\WERNER WATER ENGINEERING\WERNER WATER PROJECTS\LYONS WATER PLANT\DESIGN\ACTIVE DRAWINGS\LYONS UTE HIGHWAY AS-BUILT.DWG
PLOT DATE: _____
XREFS: _____



| DATE | REVISION DESCRIPTION |
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| Drawing Name Floodplain Site Plan |
| Job Number |
| Prepared For |

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| Designer NLW | Drafter NLW | Checked |
|------------------------|-----------------------|---------|

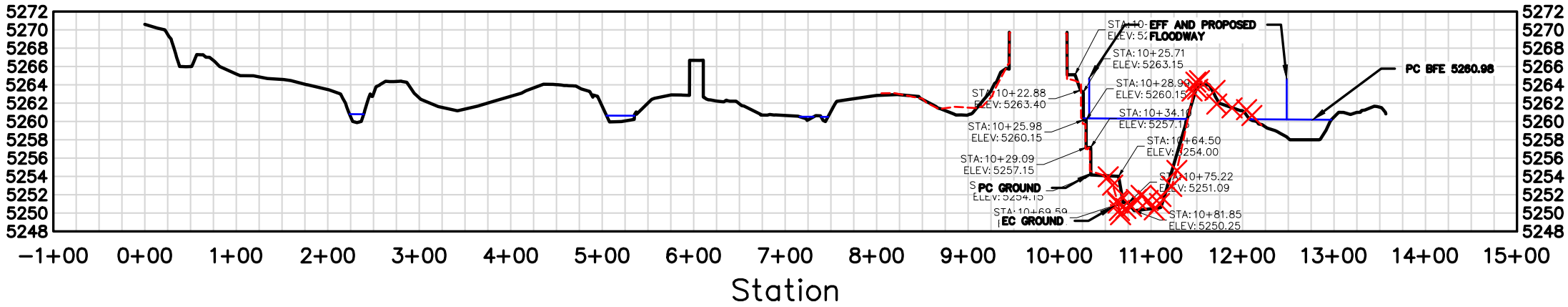


LYONS UTE HIGHWAY STREAMBANK
STABILIZATION
AS-BUILT

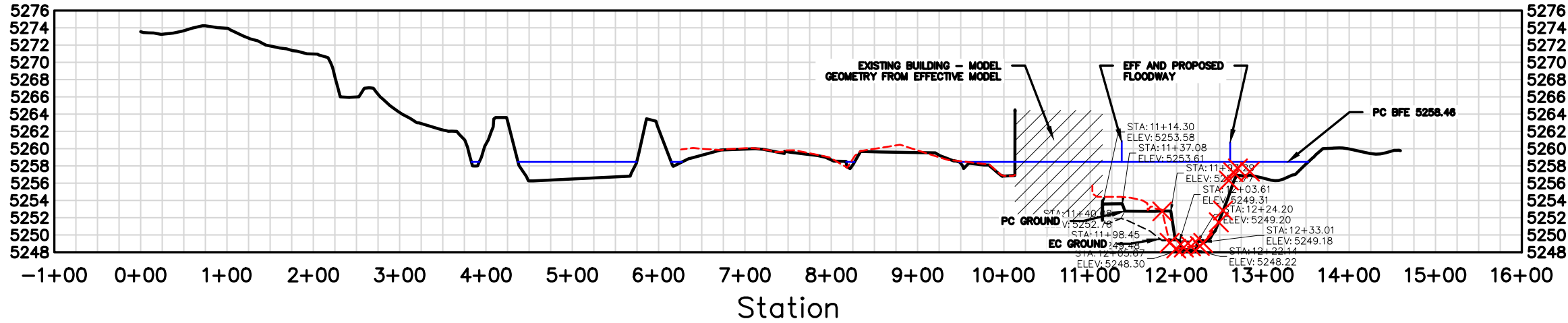
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| Sheet 11 | of 12 |
| Date February 28, 2025 | |

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PLOT DATE: 2/26/2025
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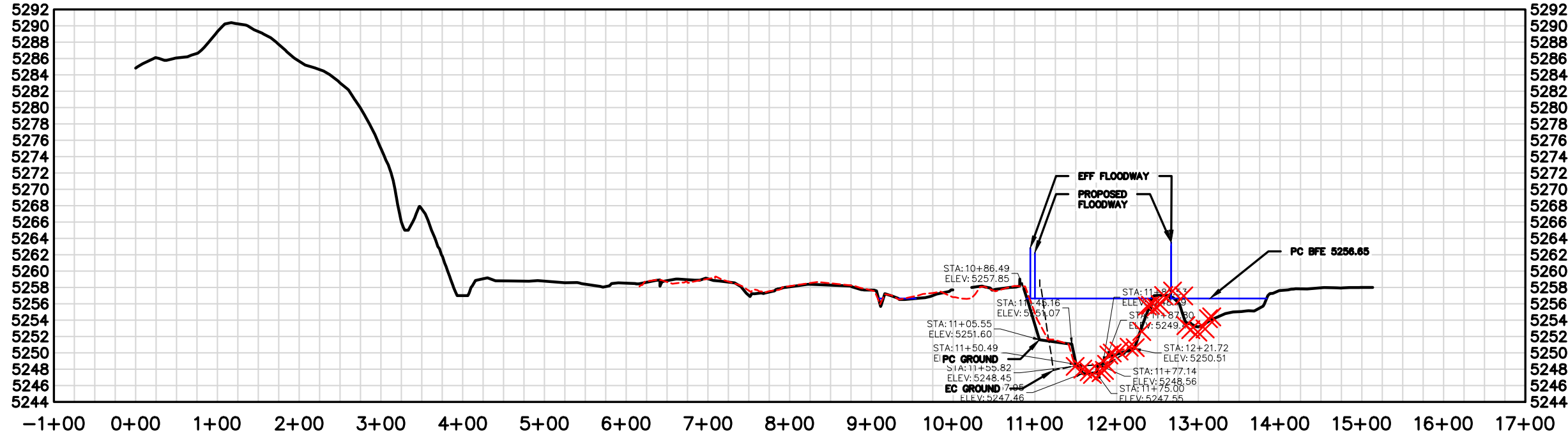
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175848.2 Profile



175692.77 Profile



| DATE | REVISION DESCRIPTION |
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| Drawing Name Floodplain Cross Sections | |
| Job Number | |
| Prepared For | |
| Designer NLW | Drafter NLW |
| | Checked |



LYONS UTE HIGHWAY STREAMBANK
STABILIZATION
AS-BUILT