

LITTLE BUFFALO CREEK

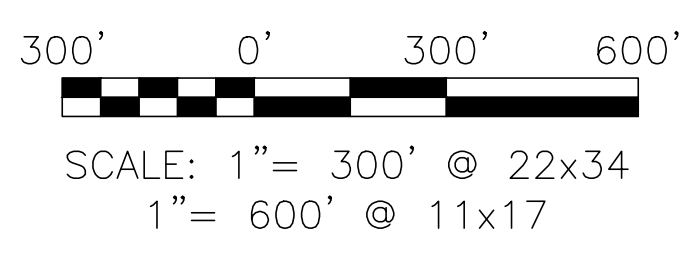
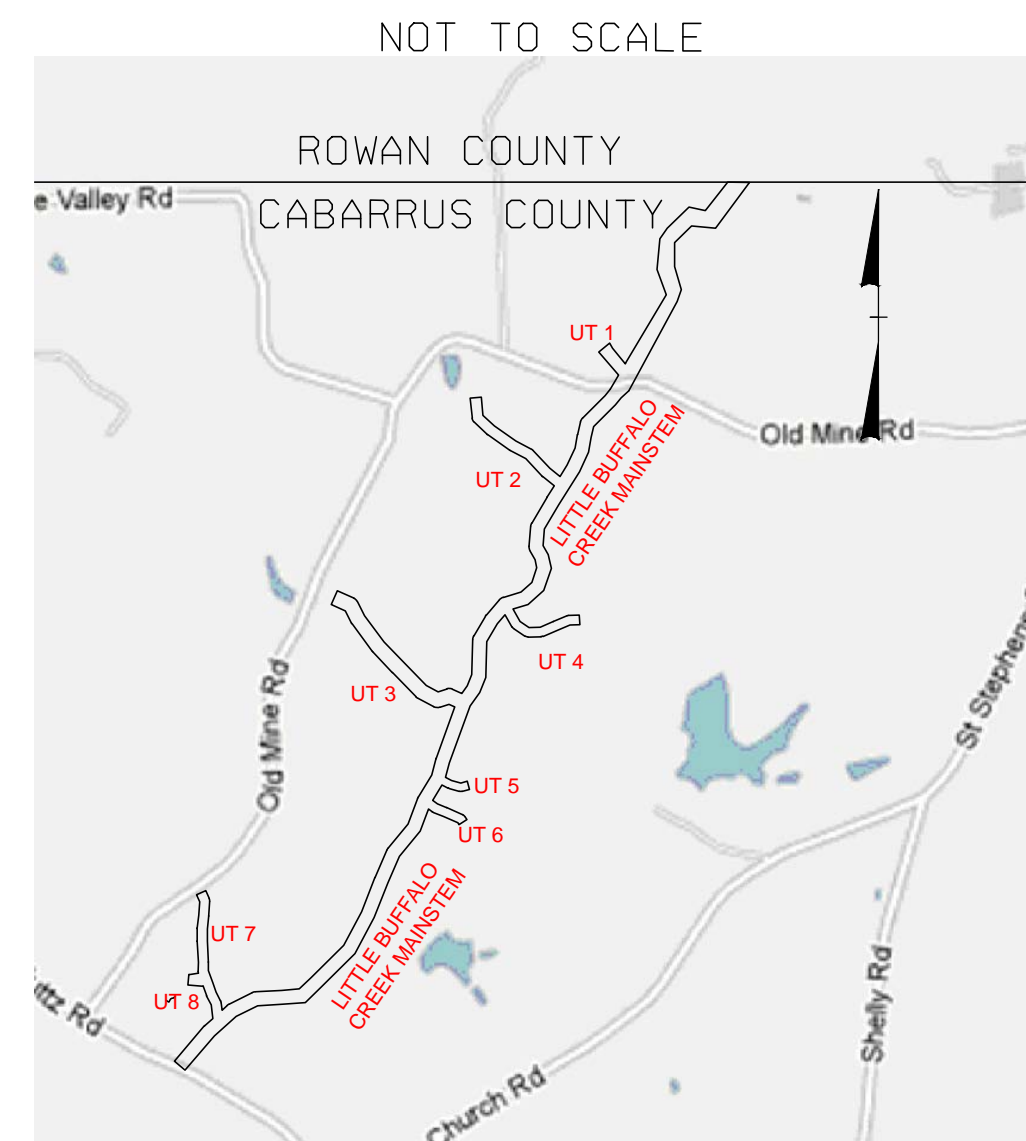
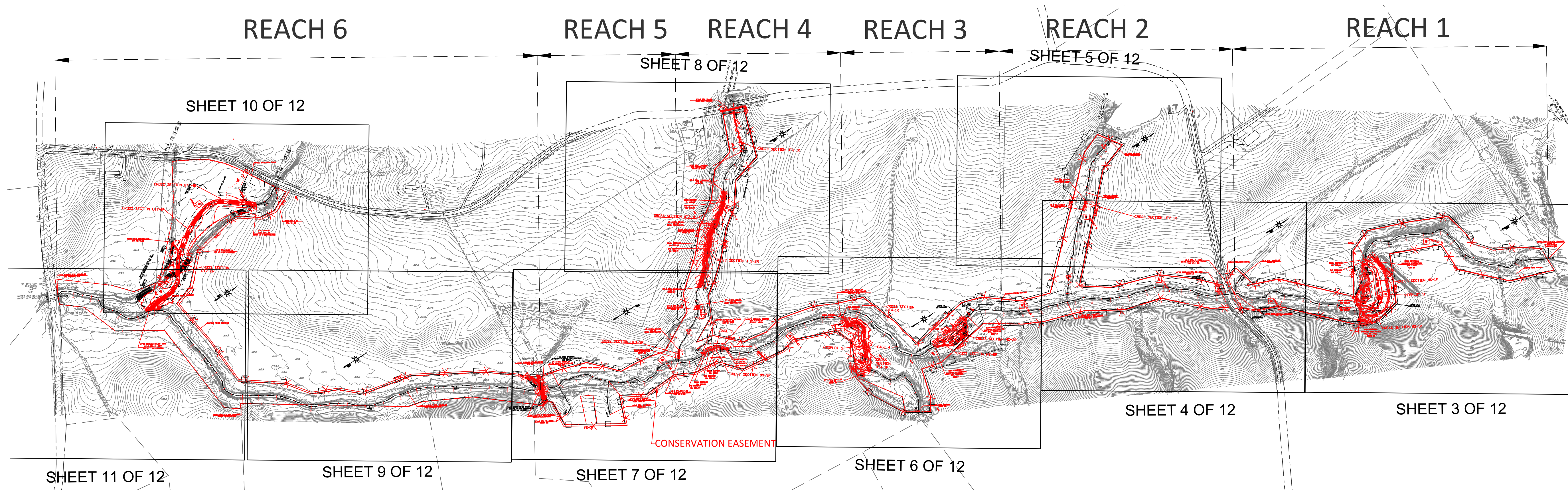
STREAM RESTORATION PROJECT

CABARRUS COUNTY

JULY 2015

PROJECT NO. 94147

AS BUILT – DESIGN PLAN



INDEX OF SHEETS	
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12 - 13	AS BUILT PROFILES

LOUIS BERGER PROJECT MANAGER: EDWARD SAMANNS
 CONTACT EMAIL: ESAMANNS@LOUISBERGER.COM



NO.	REVISIONS	DRN	CHK	DATE

NC DENR-DMS

THE LOUIS BERGER GROUP, Inc.
 1001 Wade Avenue
 Raleigh, North Carolina 27605

LITTLE BUFFALO CREEK
 STREAM RESTORATION PROJECT
 CABARRUS COUNTY
 DIVISION OF MITIGATION SERVICES

TITLE SHEET

DATE: JULY 2015
 PROJECT NO.: 94147
 SHEET: 1 OF 13

EXISTING PLAN LEGEND

- PROPERTY LINE
- TREE LINES / WOODS
- SINGLE TREE
- SHRUB
- EXISTING IRON PIPE
- EXISTING IRON ROD
- POLE
- CULVERT
- FENCE
- CONCRETE MONUMENT

PROPOSED PLAN LEGEND

- OPTIONAL CONSERVATION EASEMENT FENCING
- CONSERVATION EASEMENT
- STREAM ALIGNMENT
- LIMITS OF DISTURBANCE
- PROPOSED DITCH PLUG
- PROPOSED LOG VANES
- PROPOSED ROOT WAD
- PROPOSED ROCK CROSS VANE
- PROPOSED LIVESTOCK CROSSING

AS BUILT LEGEND

- THALWEG
- CONSERVATION EASEMENT
- CONSERVATION FENCE
- PUBLIC EXCLUSION FENCE
- CONSTRUCTED RIFFLE
- BEDROCK
- ROOTWADS
- CONTROL POINT
- STREAM GAGE
- VEGPLOT

MAINSTEM RESTORATION PLAN INDEX

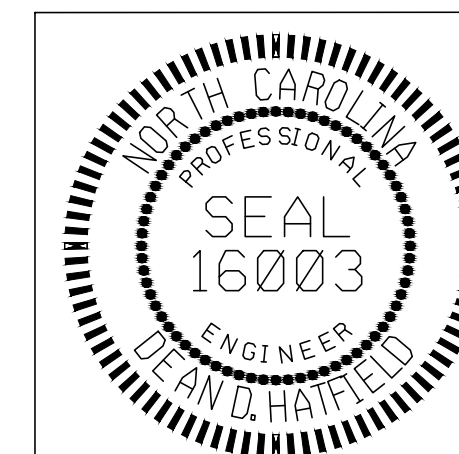
ALIGNMENT	MITIGATION ACTIVITY	START STATION	END STATION
MAINSTEM	ENHANCEMENT LEVEL 2	10+00	22+00.00
	RESTORATION	22+00.00	25+77.37
	ENHANCEMENT LEVEL 2	25+77.37	33+04.88
	ENHANCEMENT LEVEL 2	33+66.34	48+12.45
	RESTORATION	48+12.45	50+56.51
	ENHANCEMENT LEVEL 2	50+56.51	63+70.48
	ENHANCEMENT LEVEL 1	63+70.48	65+21.37
	ENHANCEMENT LEVEL 2	65+21.37	74+87.83
	PRESERVATION	75+19.23	82+55.35
PRESERVATION	91+88.65	104+96.09	

TRIBUTARY RESTORATION PLAN INDEX

ALIGNMENT	MITIGATION ACTIVITY	START STATION	END STATION
UT-1	ENHANCEMENT LEVEL 2	10+00	11+10.63
UT-2	PRESERVATION	10+00	13+34.67
UT-2	ENHANCEMENT LEVEL 2	13+34.67	13+78.56
UT-2	RESTORATION	13+78.56	14+27.35
UT-2	ENHANCEMENT LEVEL 2	14+27.35	19+50.70
UT-3	RESTORATION	10+00	12+15.05
UT-3	ENHANCEMENT LEVEL 2	12+15.05	14+66.62
UT-3	ENHANCEMENT LEVEL 1	14+66.62	16+60
UT-3	RESTORATION	16+60	16+79
UT-3	ENHANCEMENT LEVEL 1	16+79	20+21.97
UT-3	ENHANCEMENT LEVEL 2	20+21.97	21+29
UT-3	RESTORATION	21+29	21+55
UT-3	ENHANCEMENT LEVEL 2	21+55	24+05
UT-3	RESTORATION	24+05	24+50
UT-3	ENHANCEMENT LEVEL 2	24+50	24+74.90
UT-4	ENHANCEMENT LEVEL 2	10+00	14+21.25
UT-4	ENHANCEMENT LEVEL 1	14+21.25	18+30.57
UT-5	ENHANCEMENT LEVEL 2	10+00	11+84.46
UT-6	ENHANCEMENT LEVEL 2	10+00	11+51.33
UT-7	ENHANCEMENT LEVEL 1	10+00	11+46.80
UT-7	RESTORATION	11+46.80	21+26.71
UT-8	RESTORATION	10+19.08	10+80.78

MITIGATION ACTIVITY	GENERAL DESCRIPTION
RESTORATION	CHANNEL RE-ALIGNMENT AND CREATION. DITCH PLUG INSTALLATION. IN-STREAM STRUCTURE INSTALLATION, INCLUDING LOG VANES, ROCK CROSS VANES, STEP POOLS AND ROOT WADS. STREAM BANK RE-GRADING. PLANTING AND INVASIVE PLANT REMOVAL.
ENHANCEMENT LEVEL 1 (E1)	STREAM BANK GRADING. MINOR CHANNEL REGRADING. CONCRETE REMOVAL FROM CHANNEL. PLANTING AND INVASIVE PLANT REMOVAL.
ENHANCEMENT LEVEL 2 (E2)	PLANTING AND INVASIVE PLANT REMOVAL.

NOTE: REFER TO PROPOSED CONDITIONS AND PLANTING PLANS FOR SPECIFIC ACTIVITIES AS PART OF THIS PROJECT. ADDITIONAL PROJECT COMPONENTS INCLUDE REMOVAL OF EXISTING FENCING, FENCE INSTALLATION, INSTALLATION OF TWO CATTLE CROSSINGS AND FLOOD GATES AS SHOWN ON THE PLANS.



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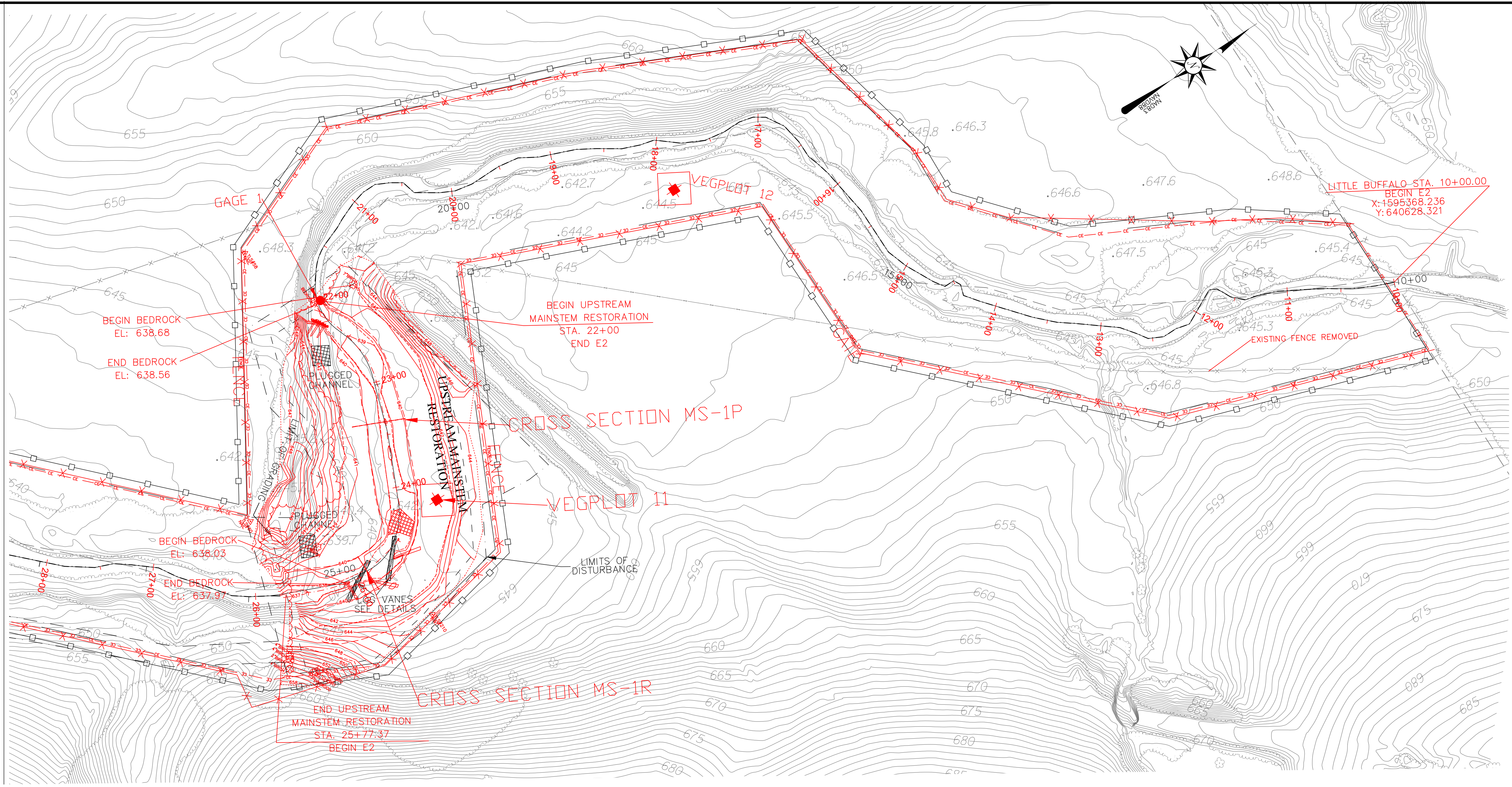
LEGENDS AND SYMBOLS

NC DENR-DMS

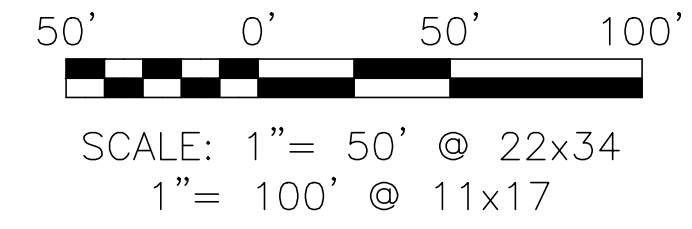
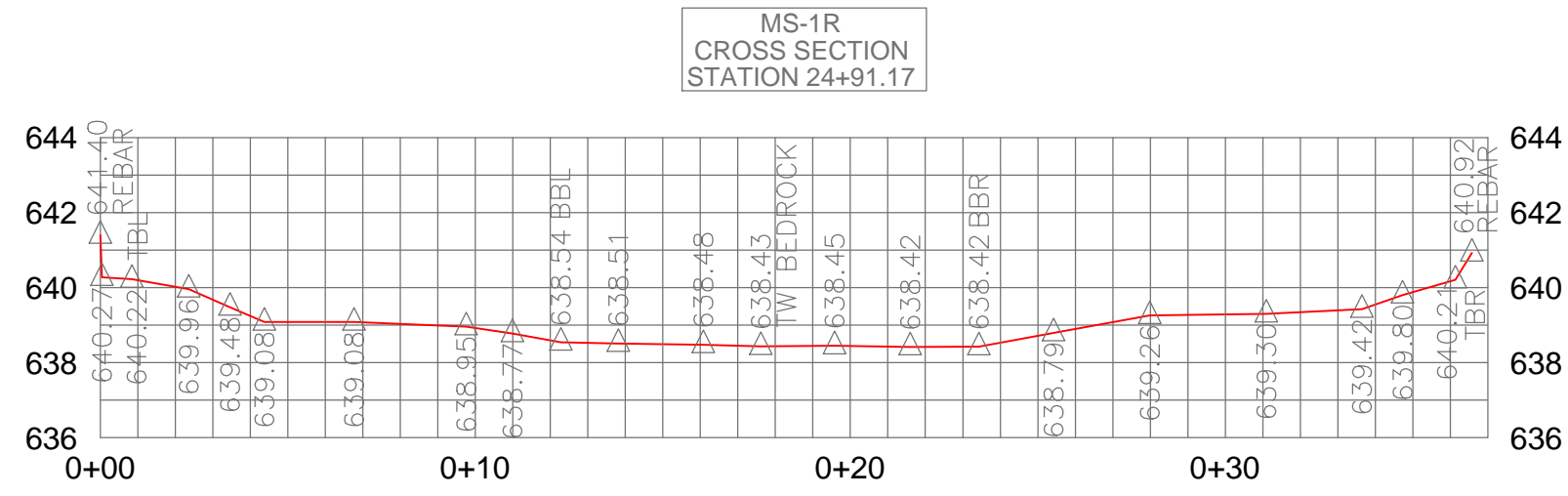
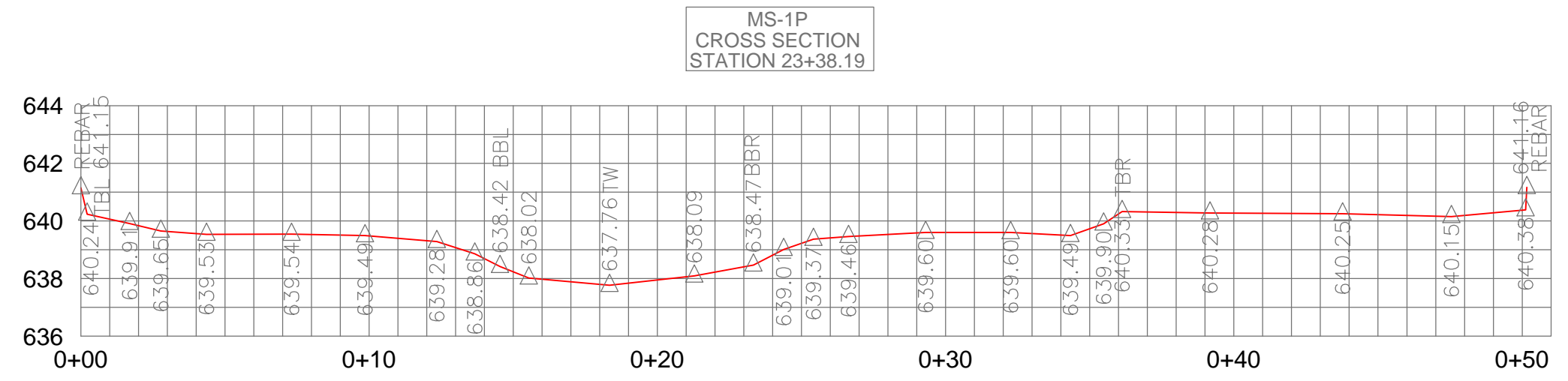
DATE: JULY 2015
 PROJECT NO.: 94147
 SHEET: 2 OF 13

DRN CHK: _____
 REVISIONS: _____
 NO.: _____

MATCHLINE SEE SHEET 4 OF 12



CROSS SECTION SCALE
 HORIZONTAL: 1"=5'(22x34)
 1"=10'(11x17)
 VERTICAL: 1"=5'(22x34)
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NCDENR-DMS

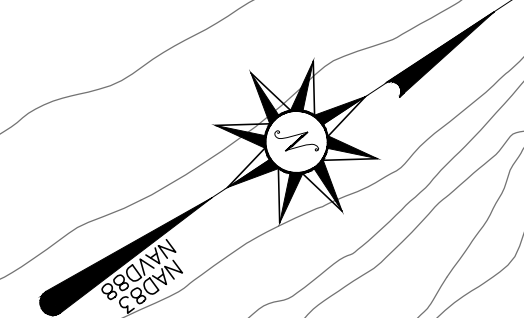
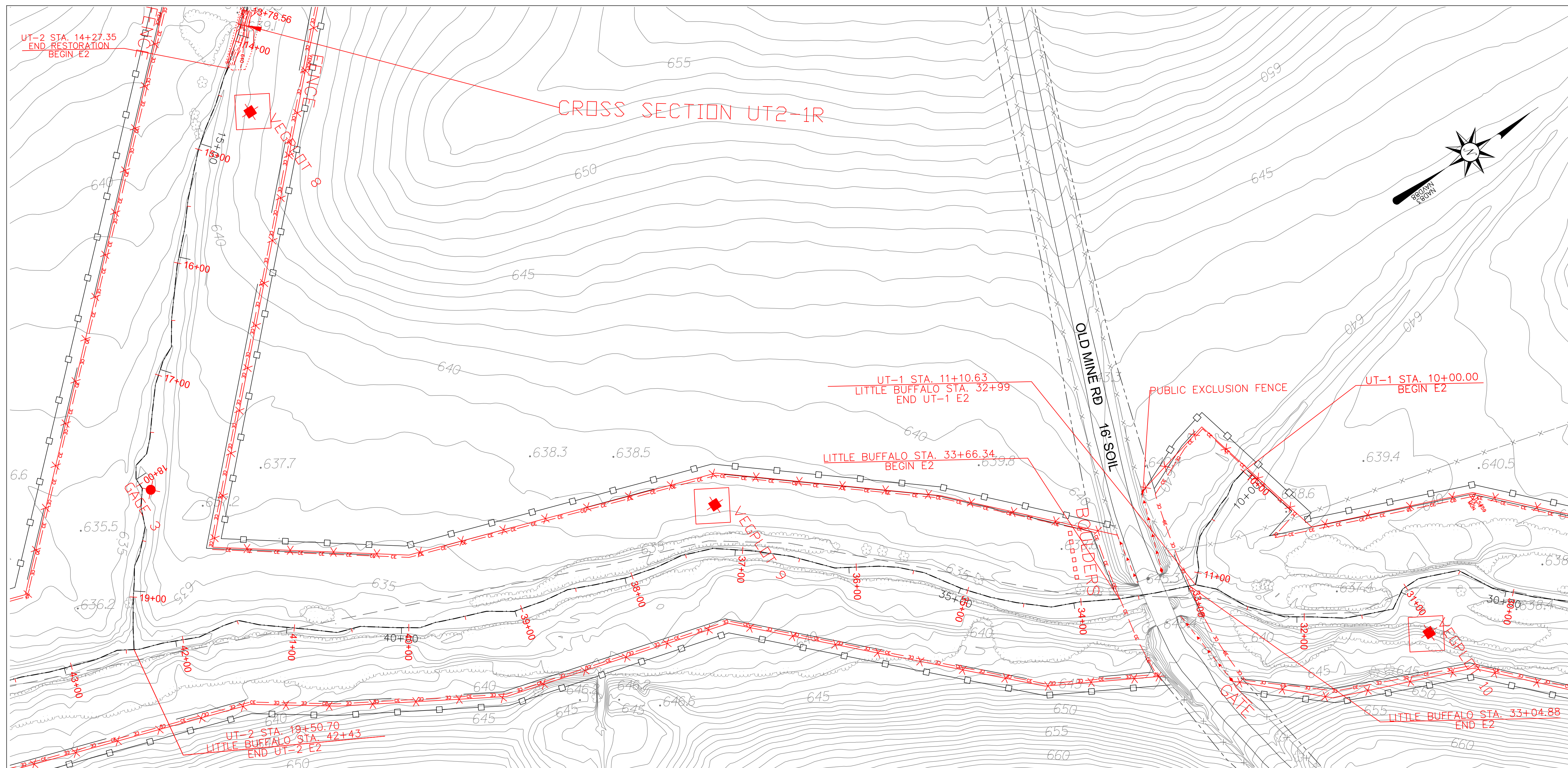
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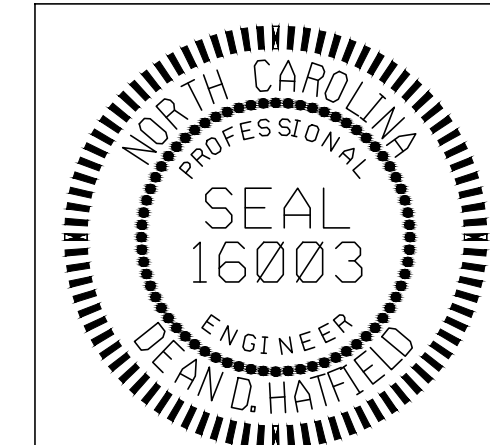
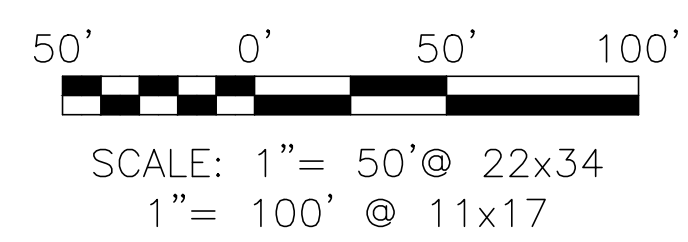
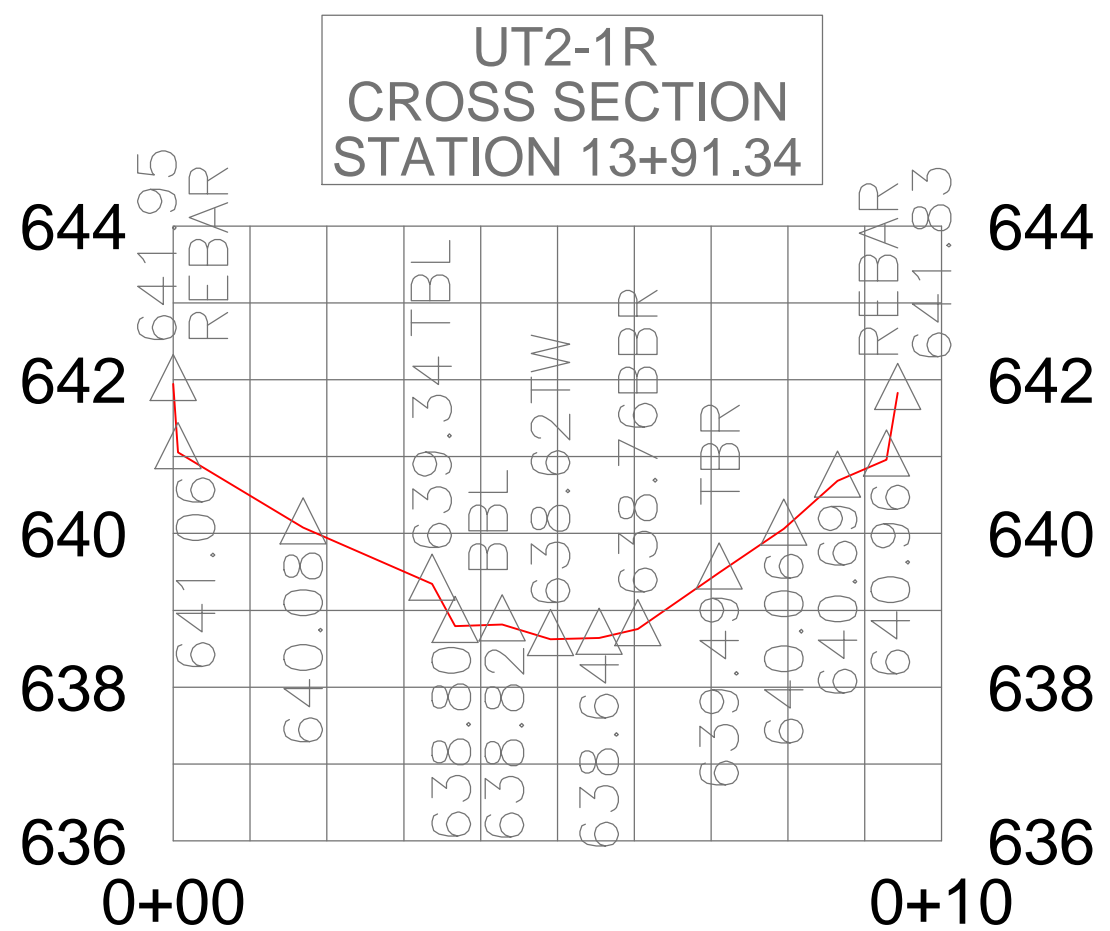
DATE: JULY 2015
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MATCHLINE SEE SHEET 3 OF 12



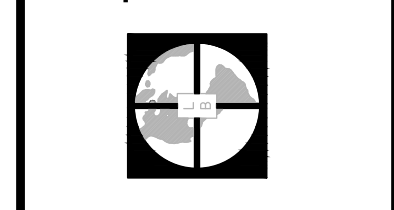
CROSS SECTION SCALE
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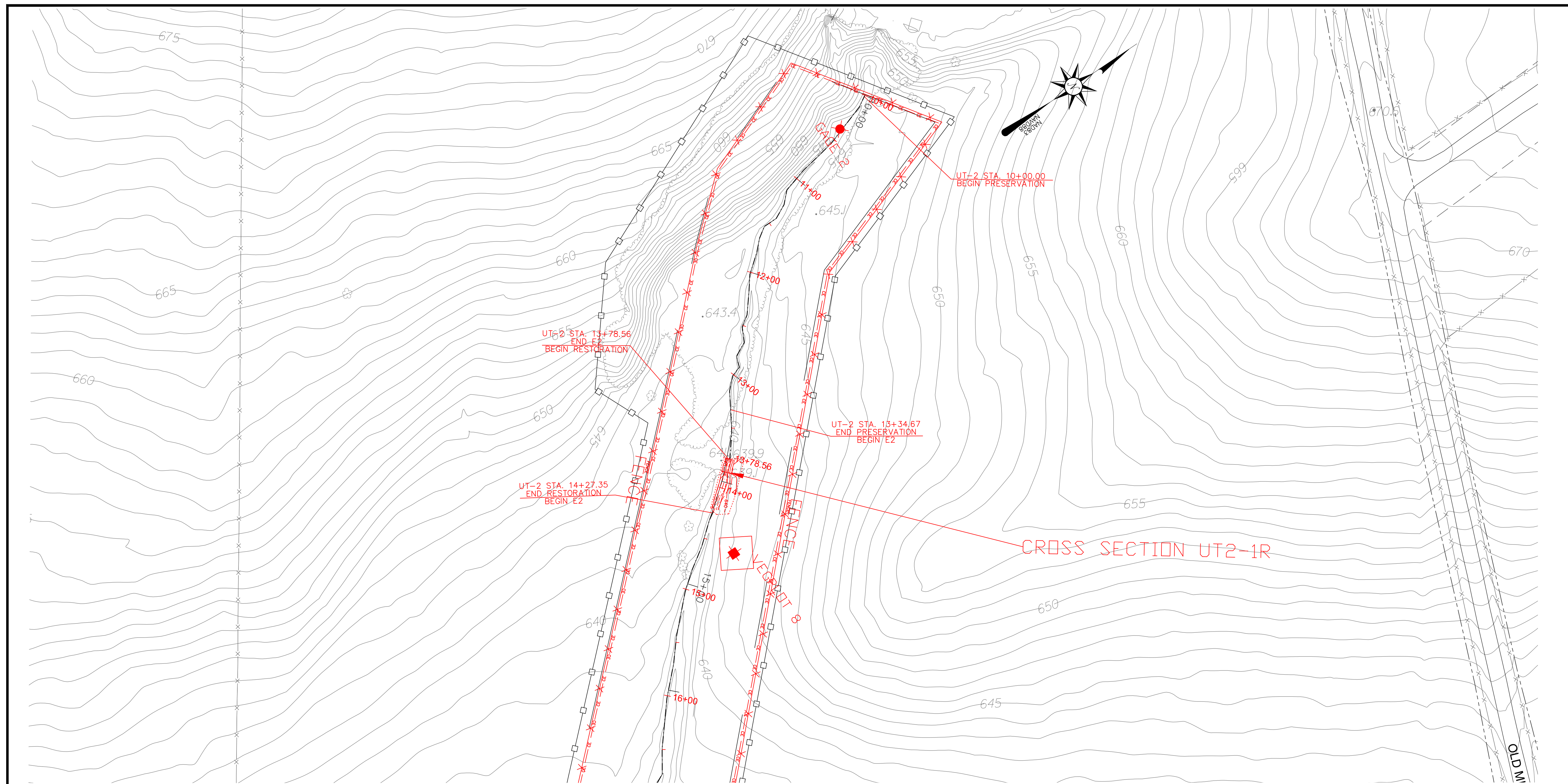
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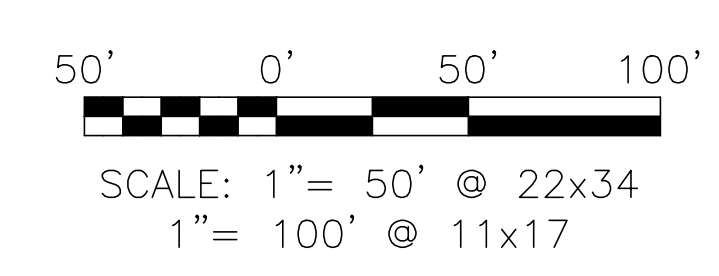
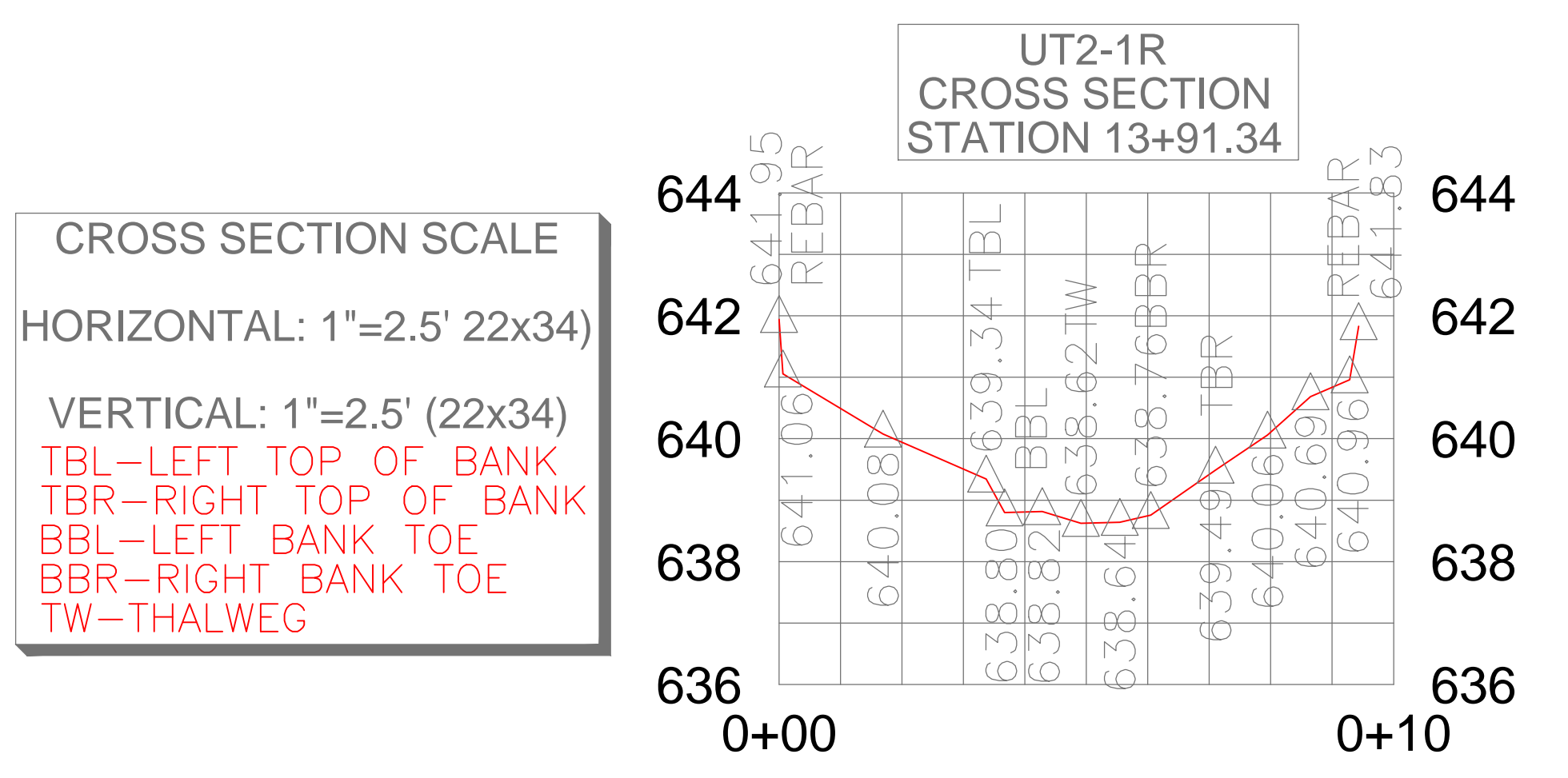
AS BUILT — DESIGN PLAN

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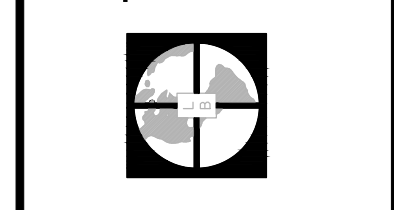
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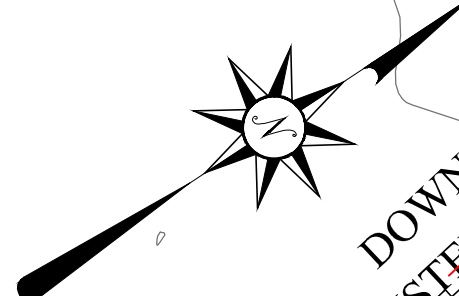
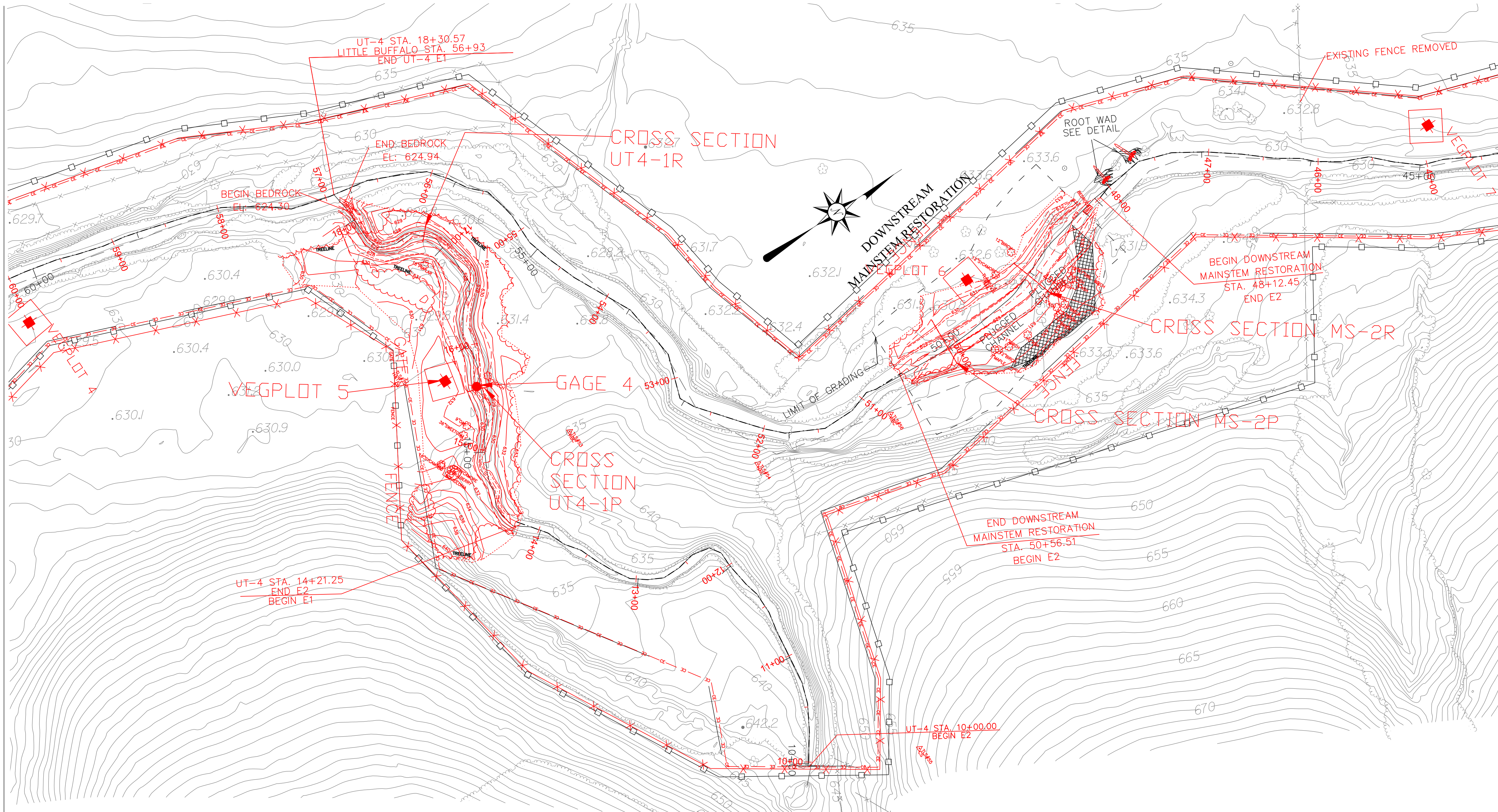


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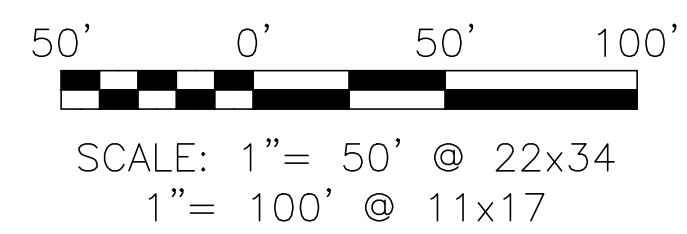
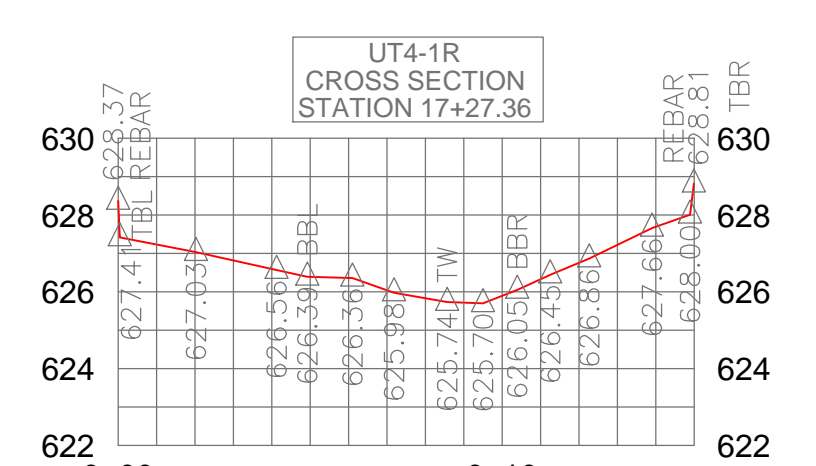
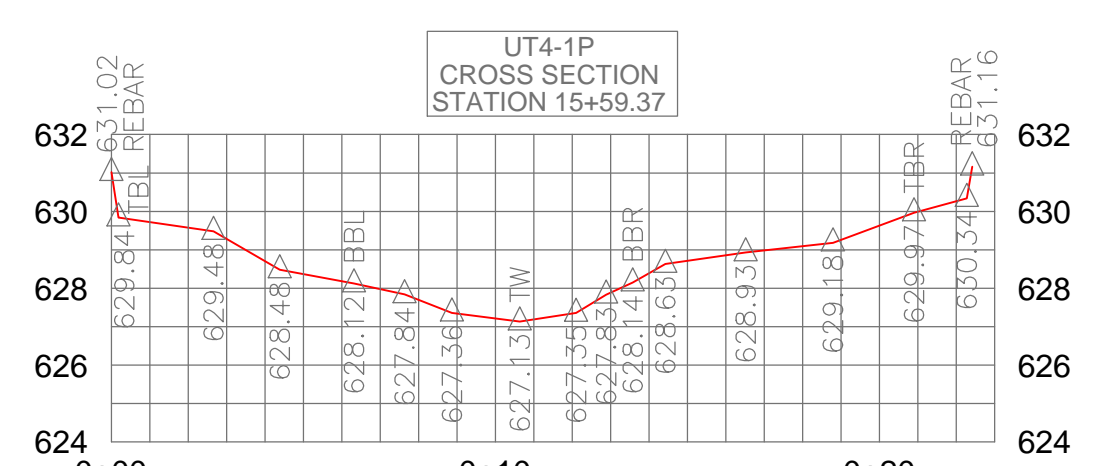
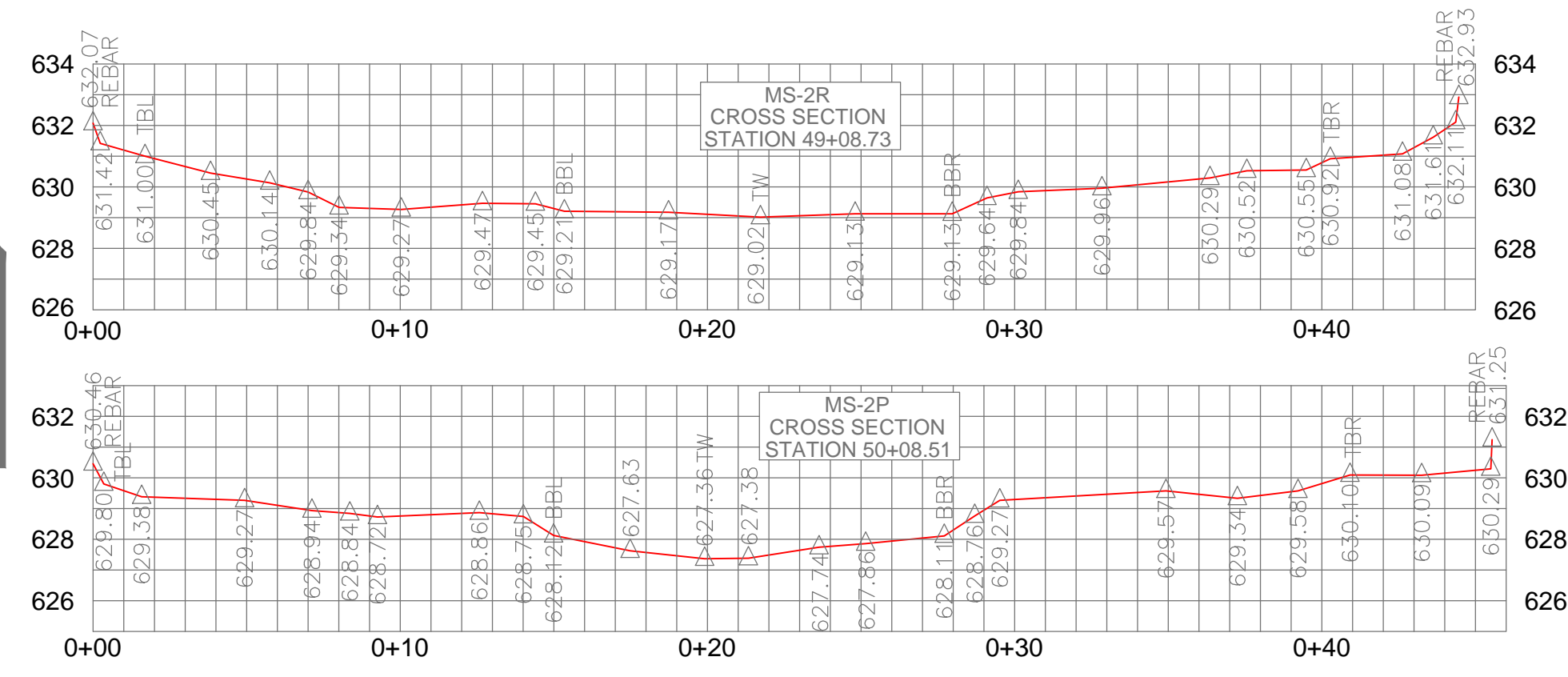
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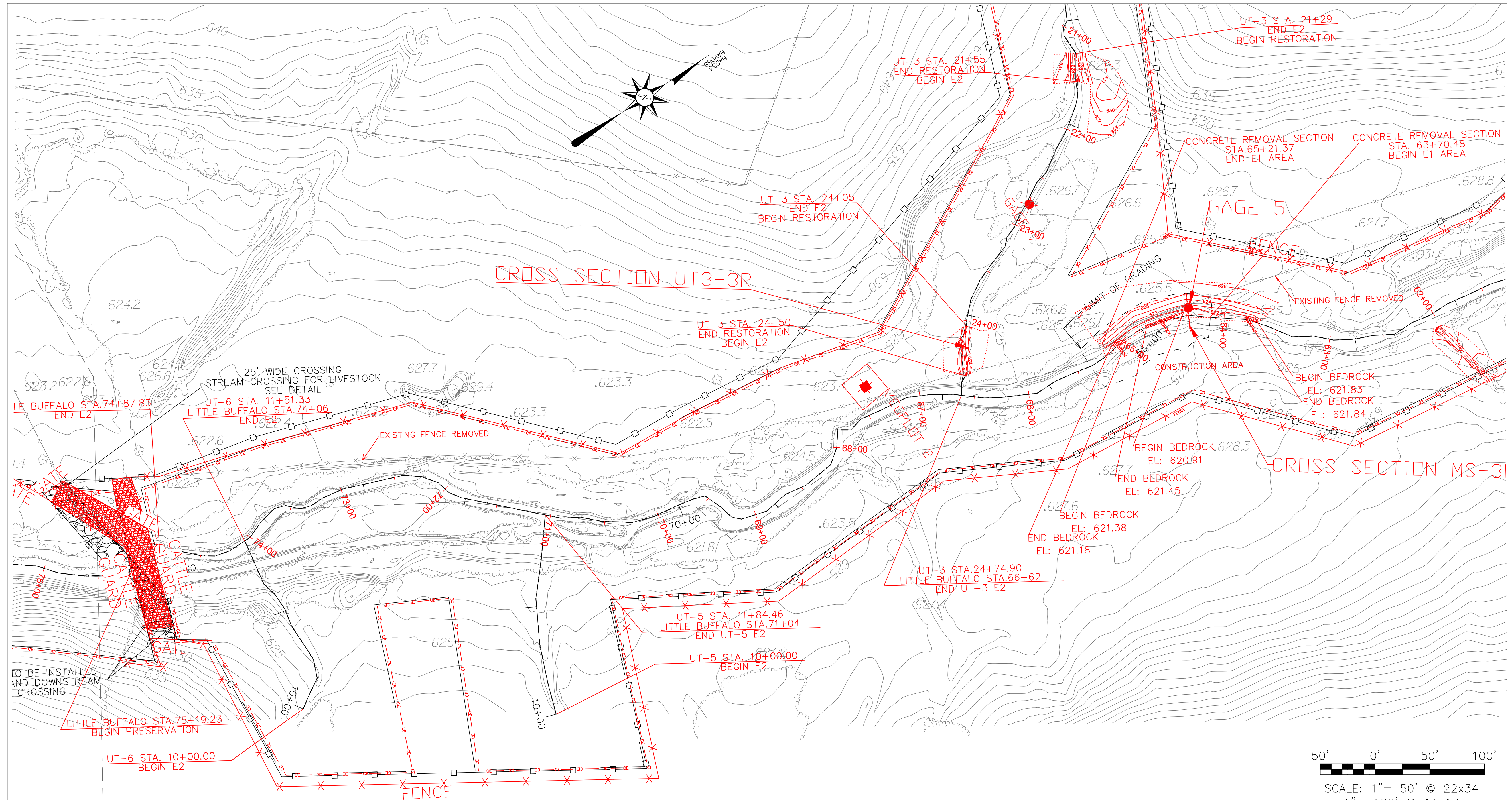


CROSS SECTION SCALE
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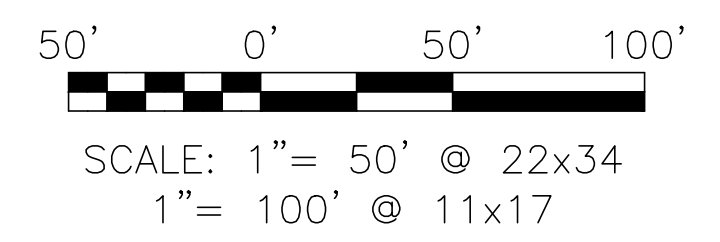
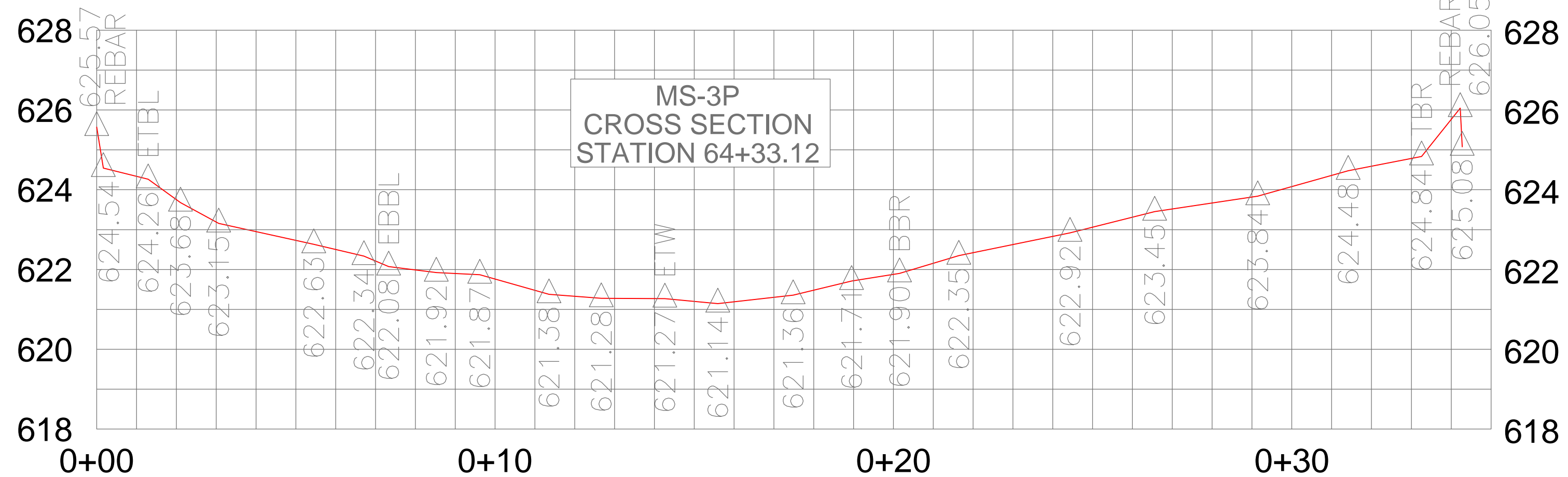
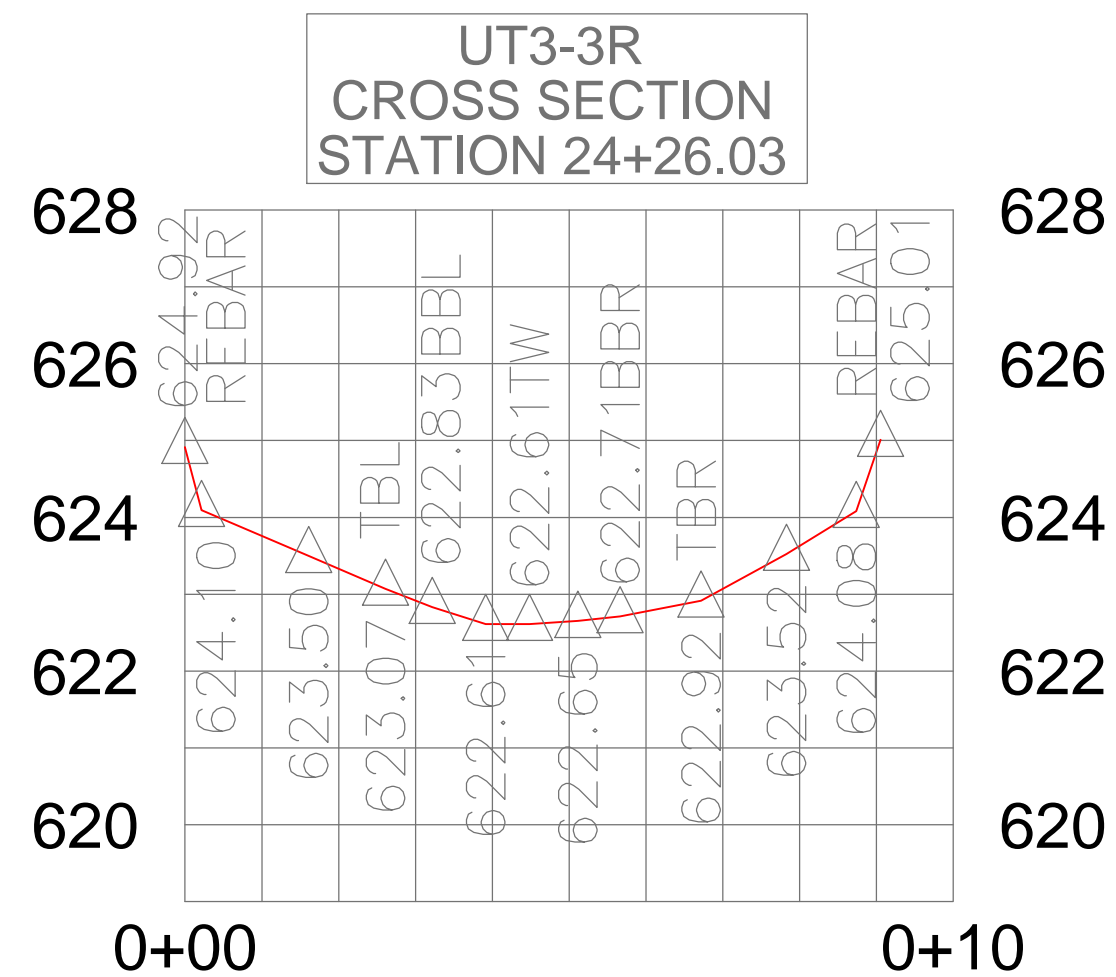


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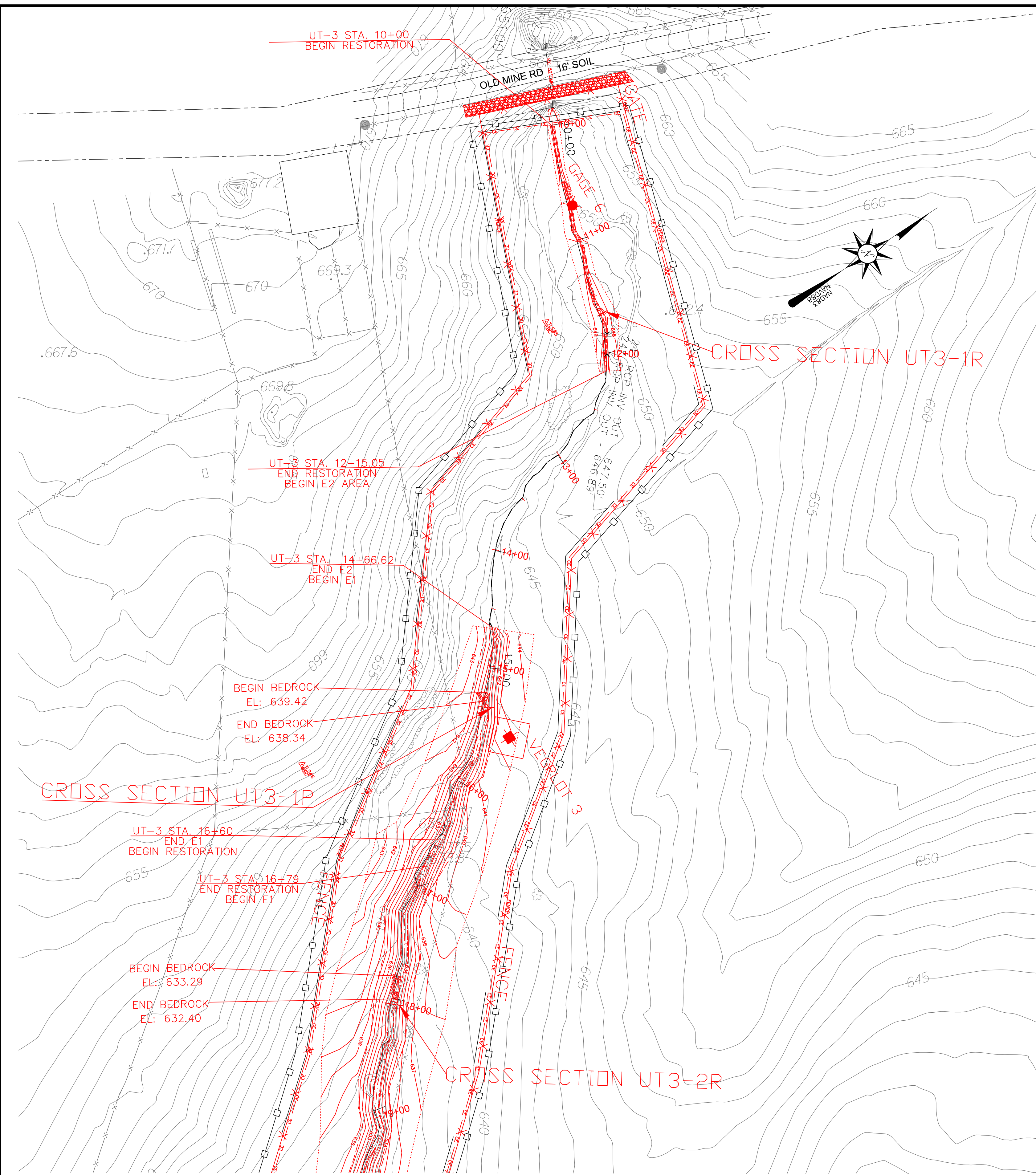
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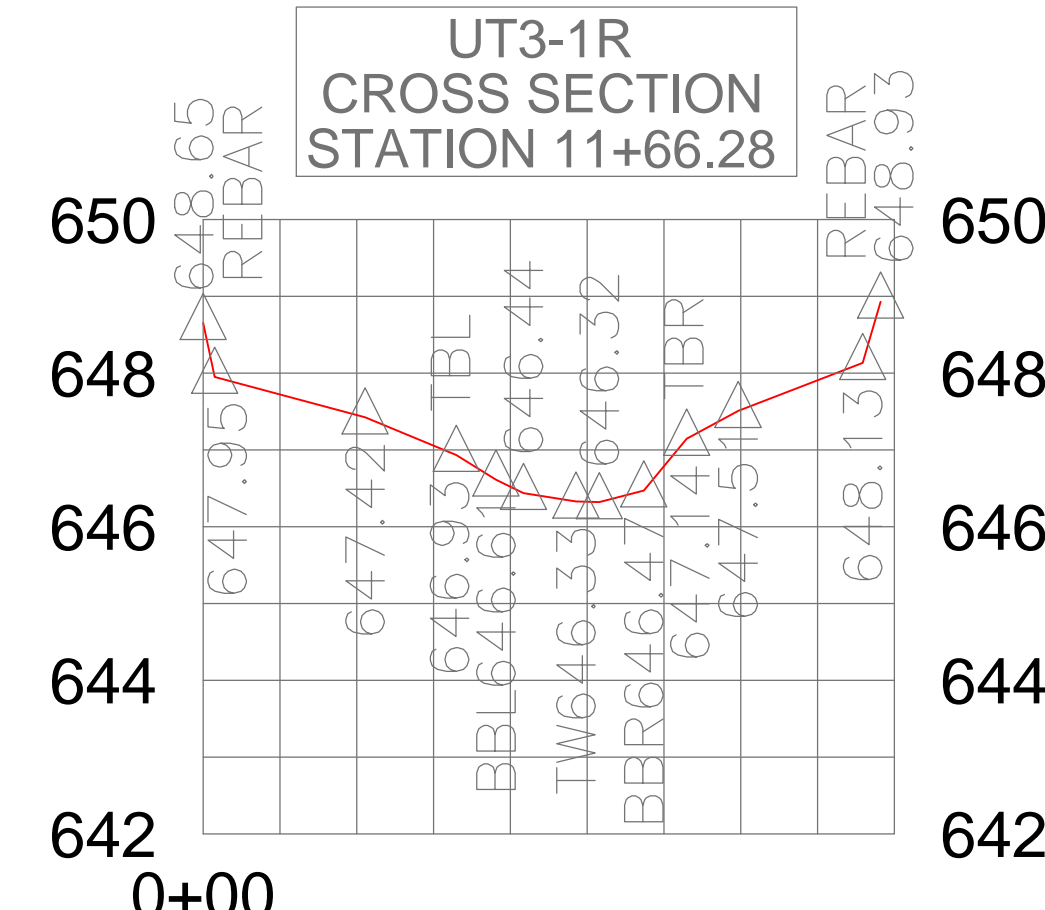
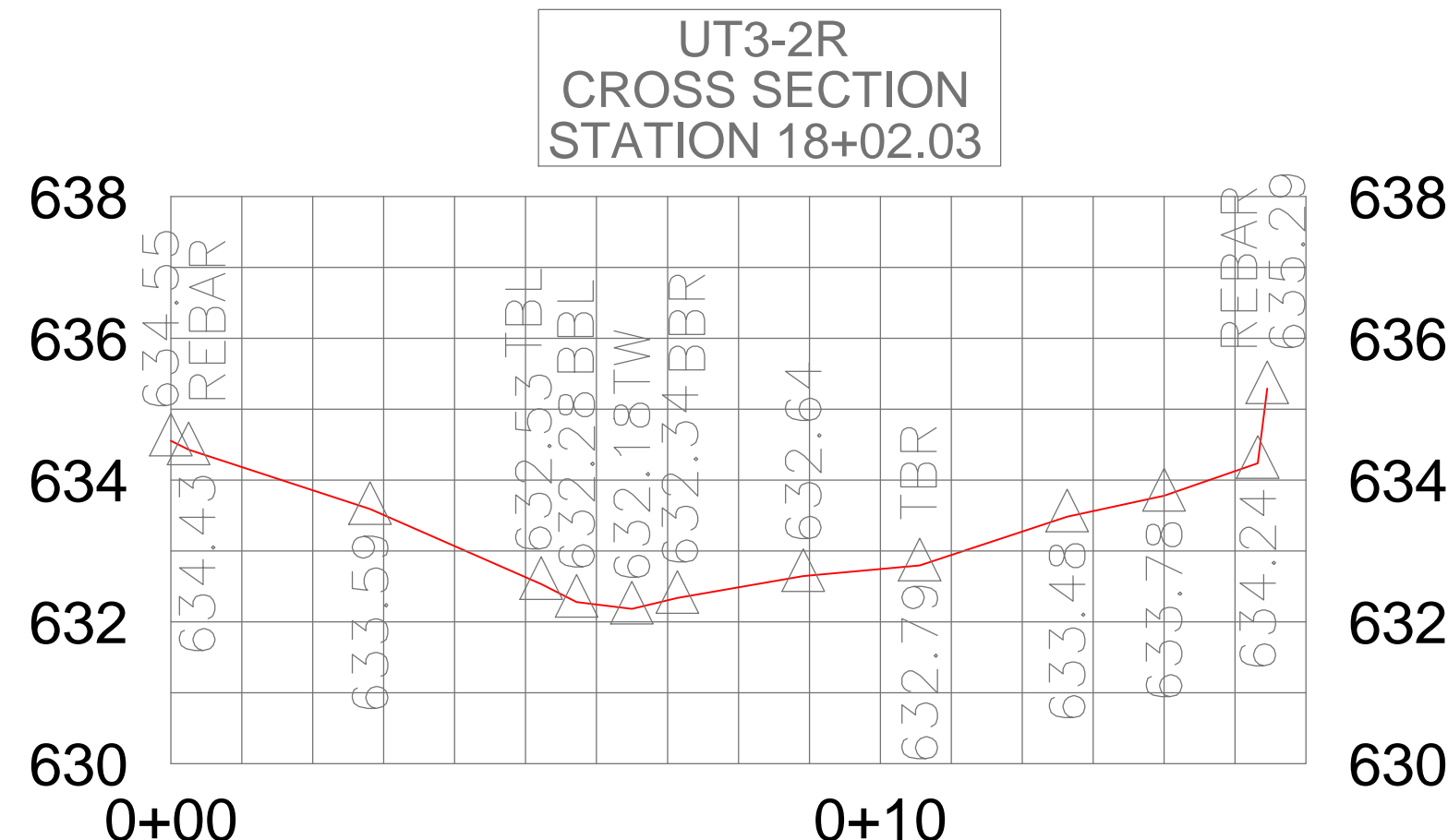
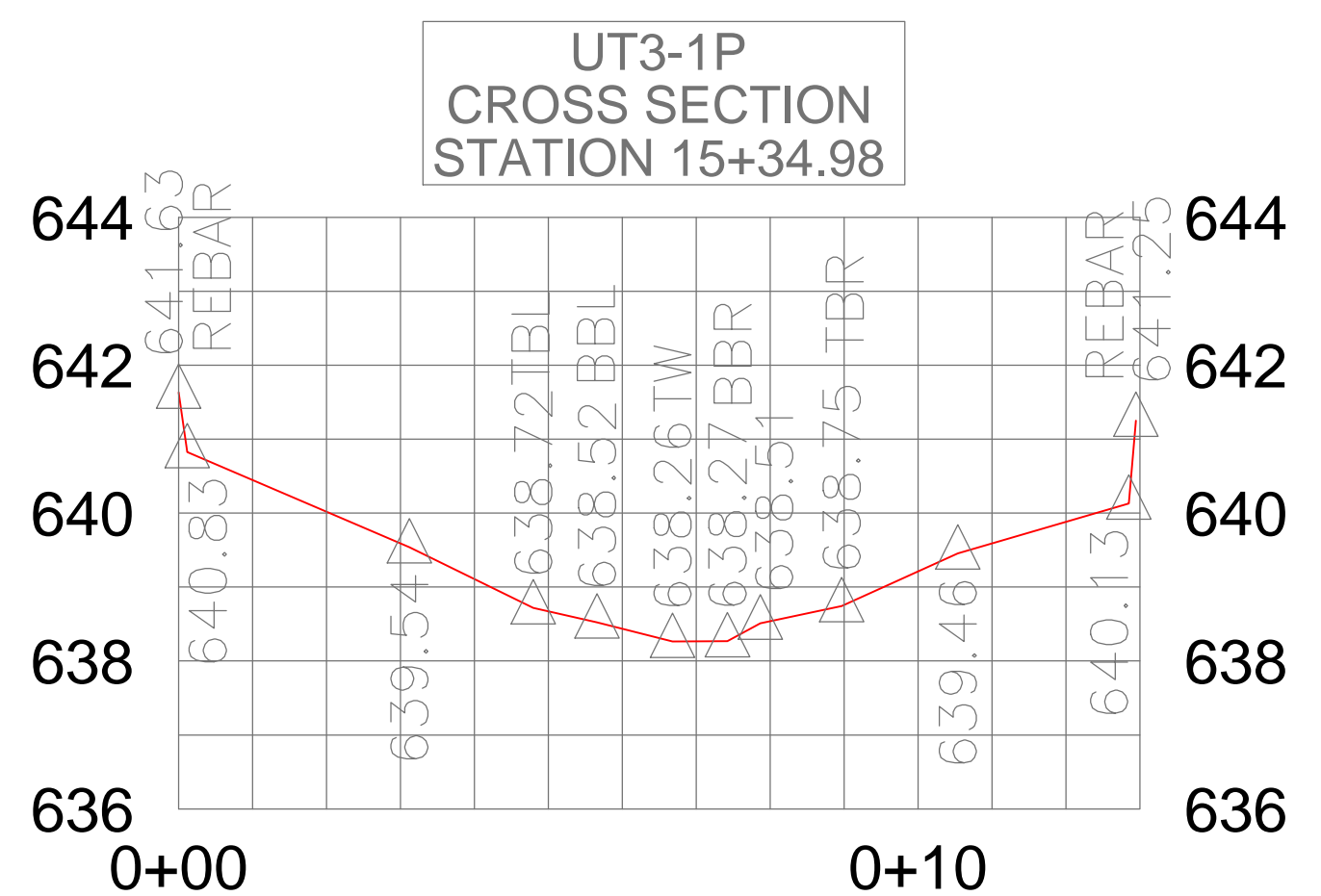
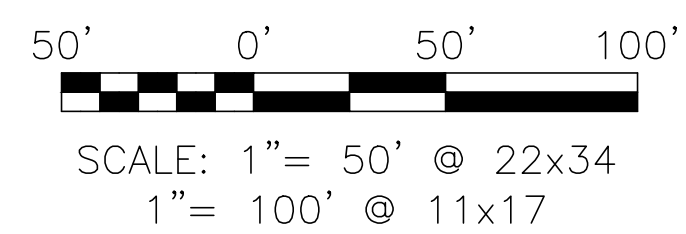
AS BUILT - DESIGN PLAN



MATCHLINE SEE SHEET 7 OF 12

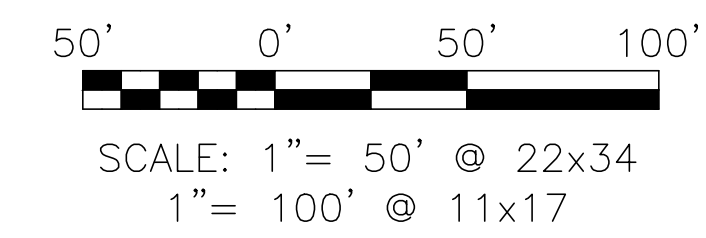
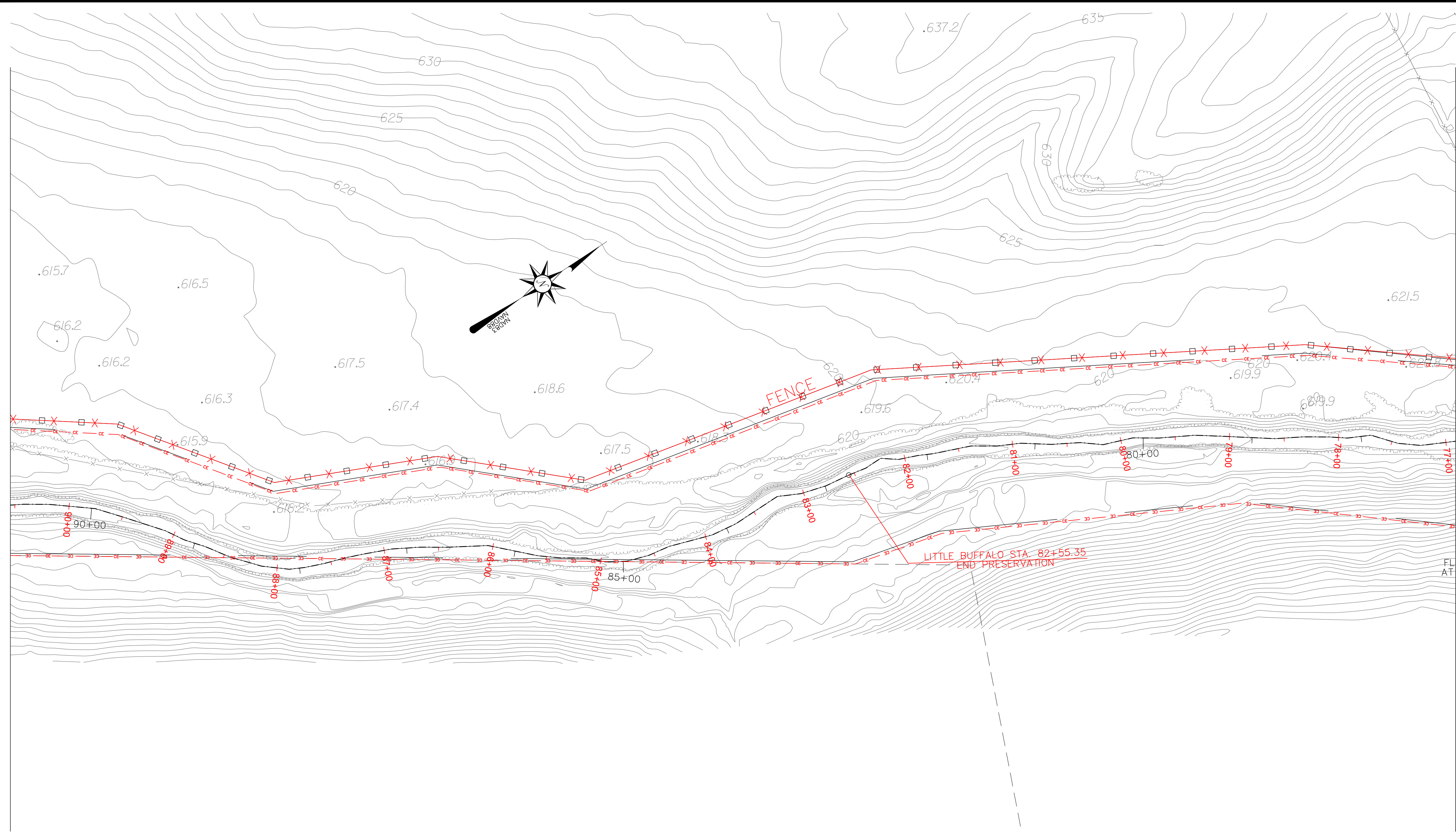
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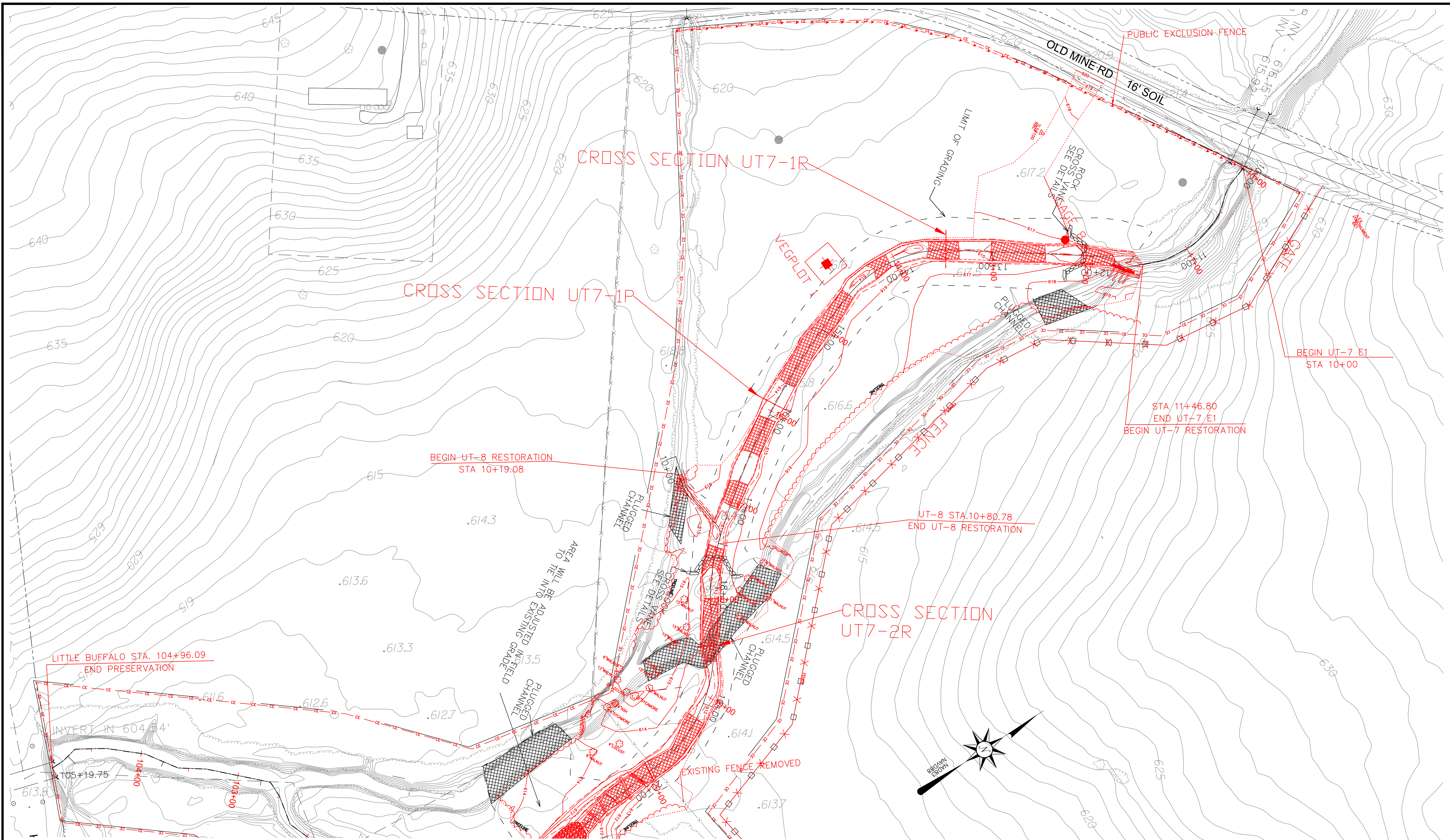
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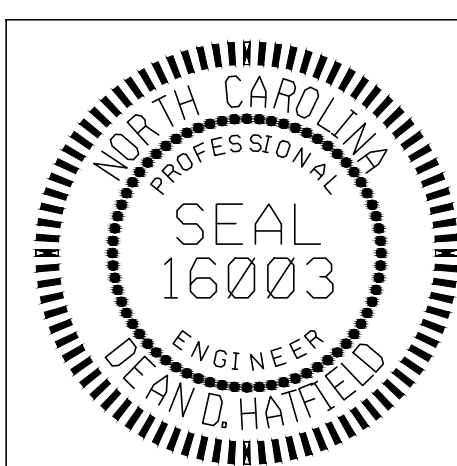
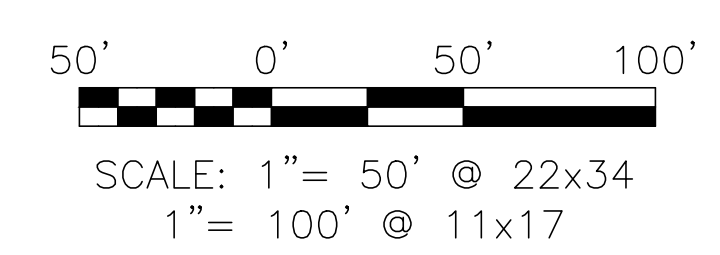
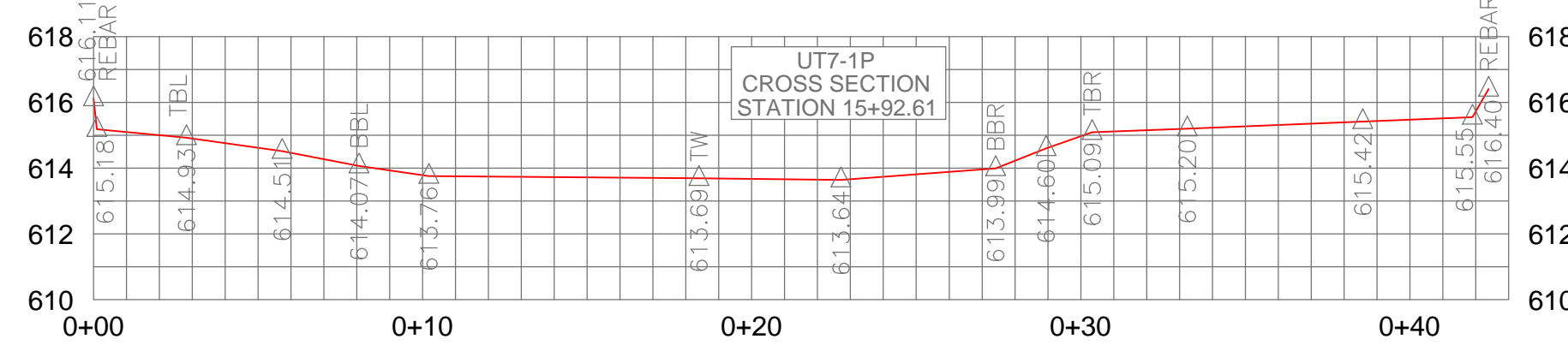
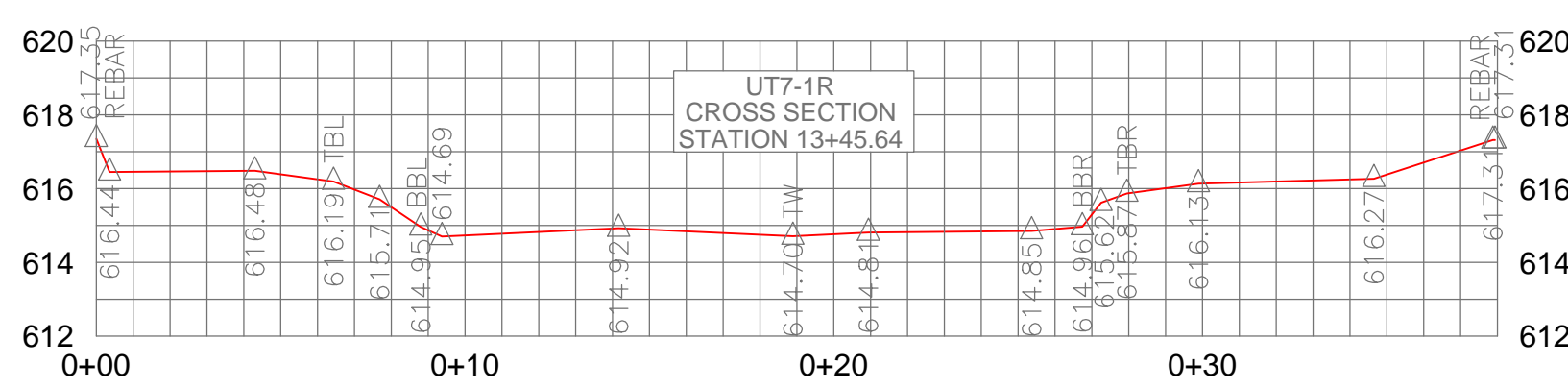
LITTLE BUFFALO CREEK STREAM RESTORATION PROJECT CABARRUS COUNTY DIVISION OF MITIGATION SERVICES AS BUILT - DESIGN PLAN		 THE LOUIS BERGER GROUP, Inc. 1001 Wade Avenue Raleigh, North Carolina 27605		NCDENR-DMS NO. REVISIONS DRN/CHK DATE	
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MATCHLINE SEE SHEET 9 OF 12

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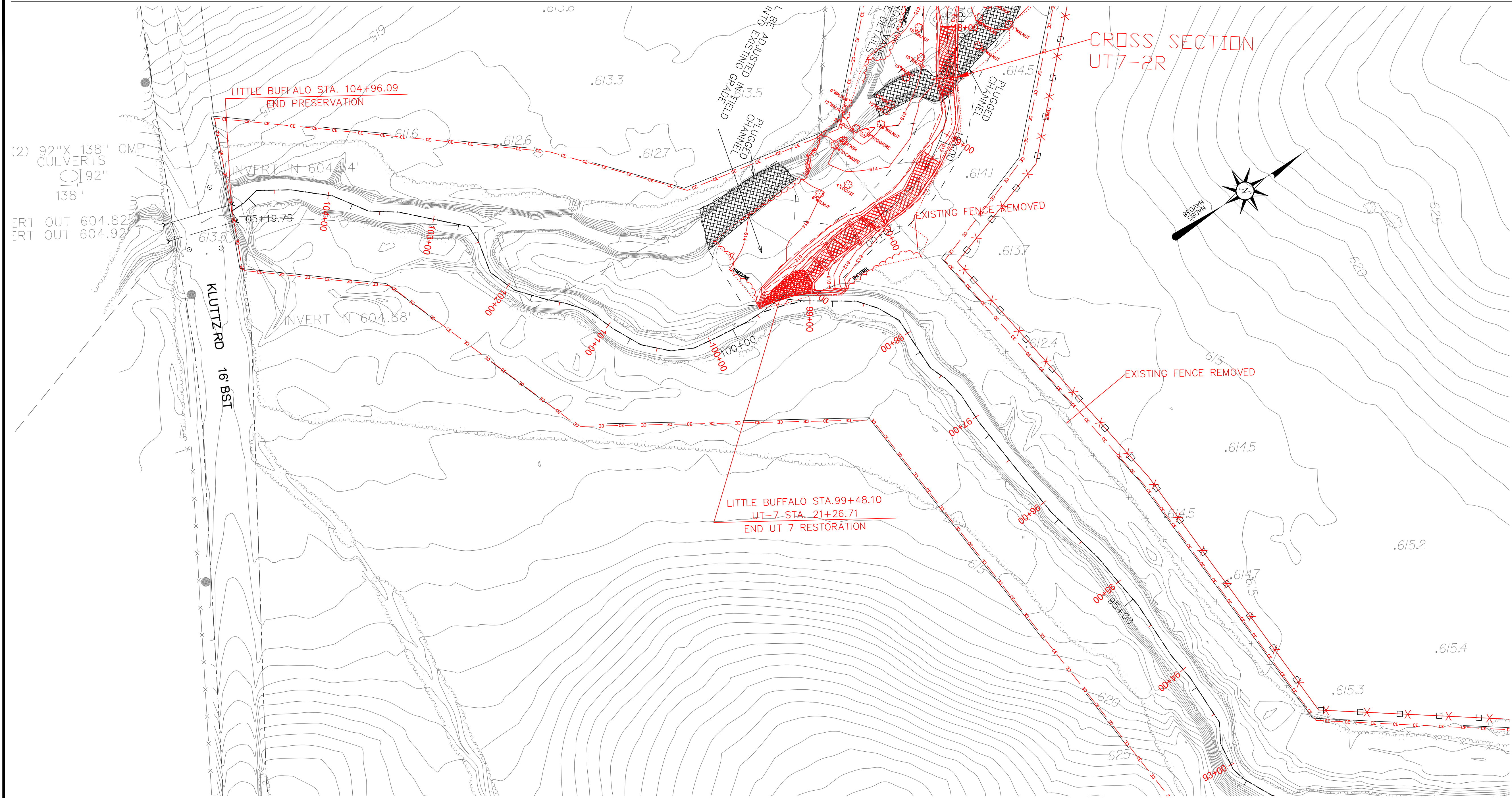
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DATE: JULY 2015
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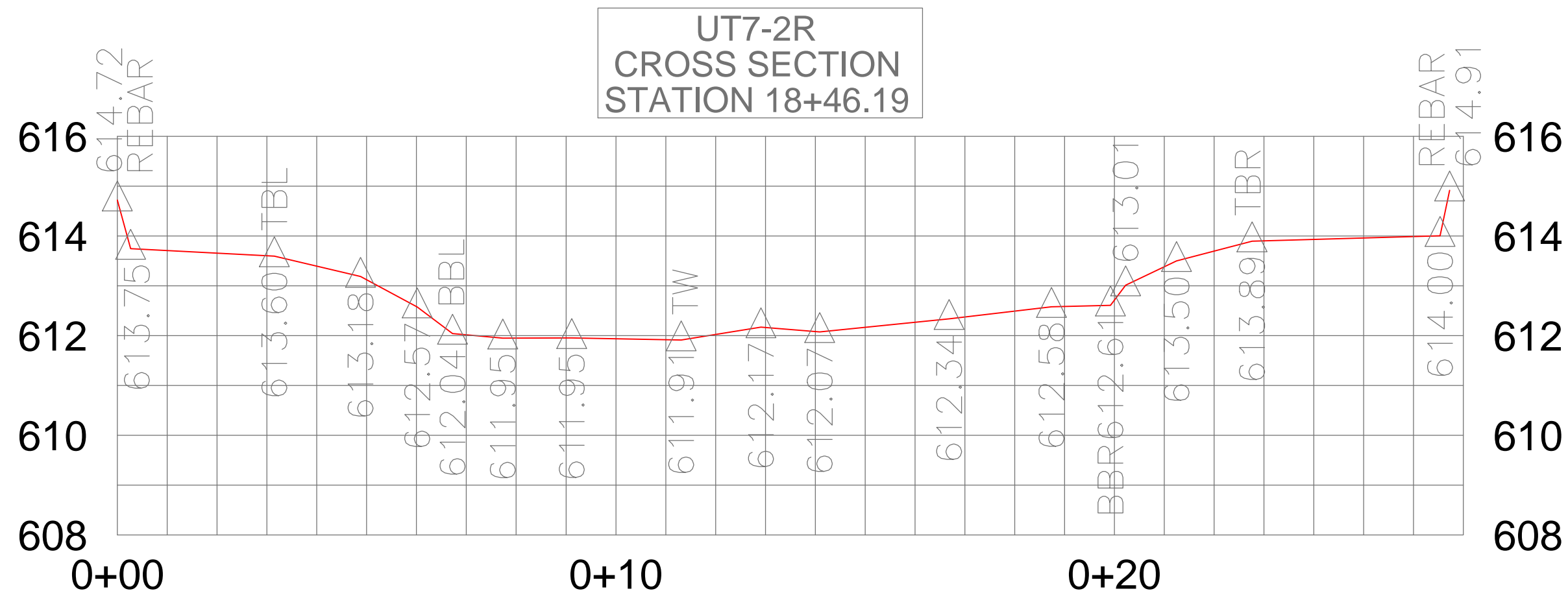
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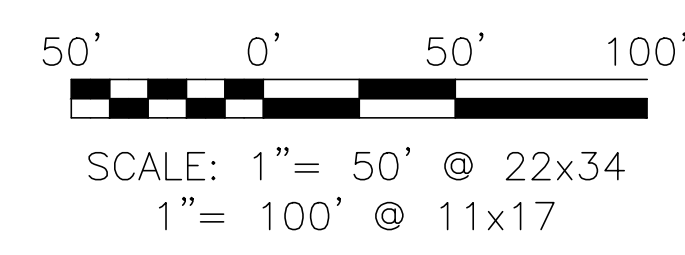
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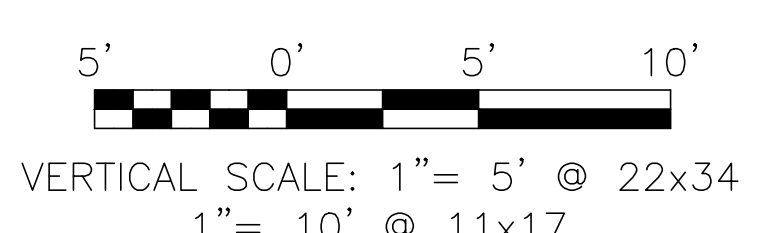
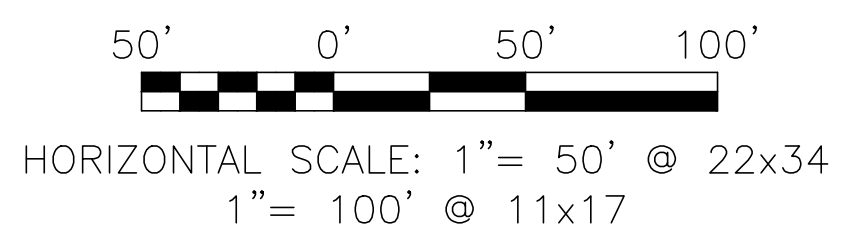
AS BUILT - DESIGN PLAN

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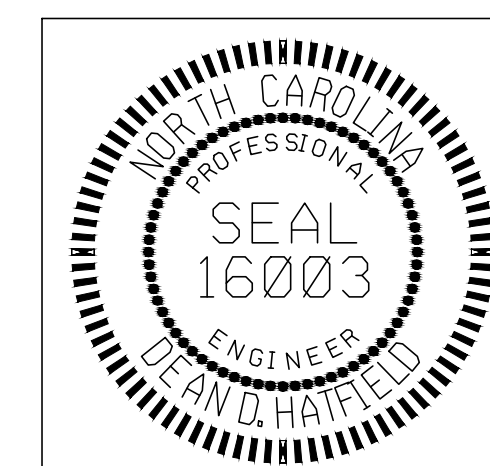
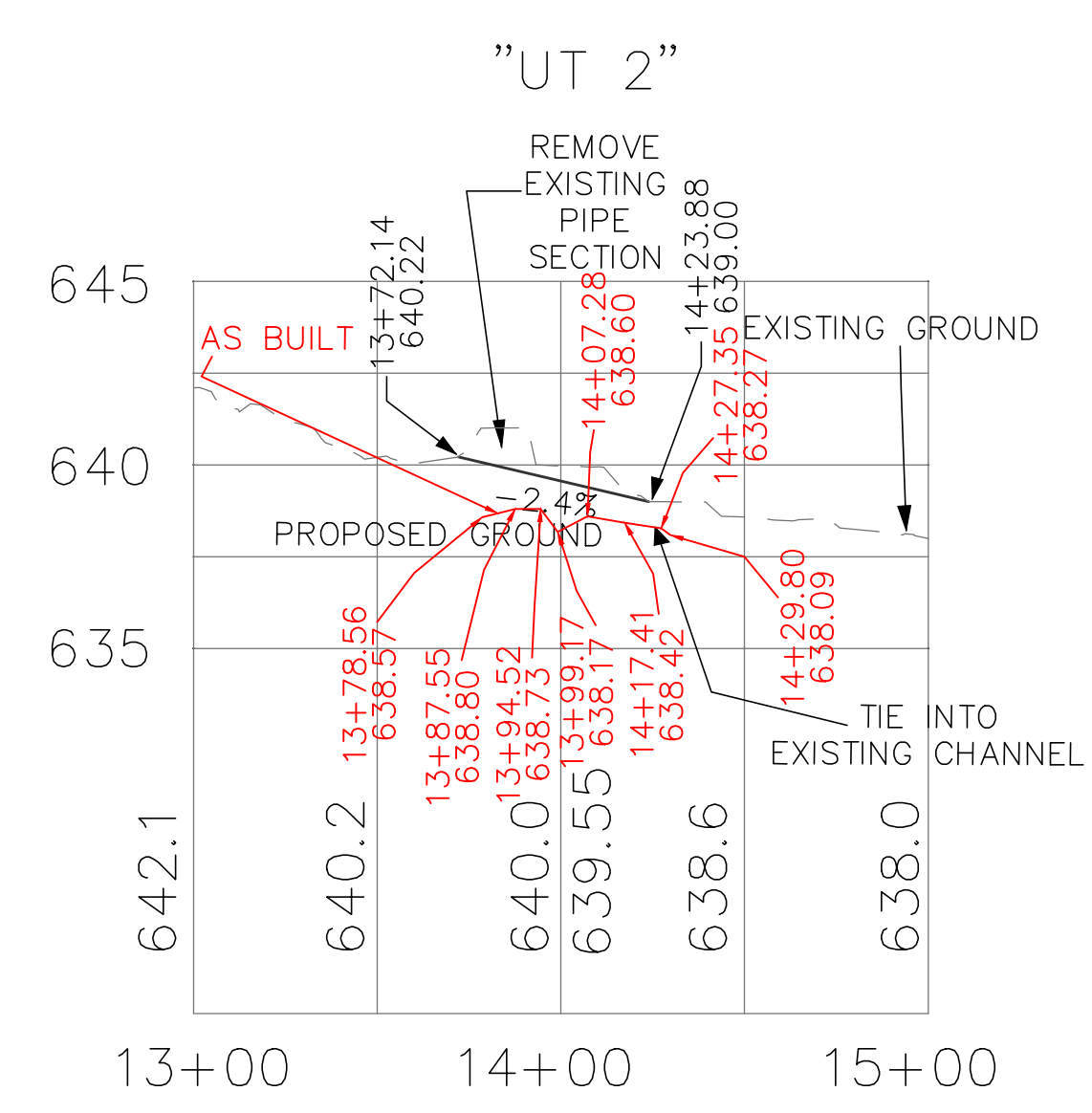
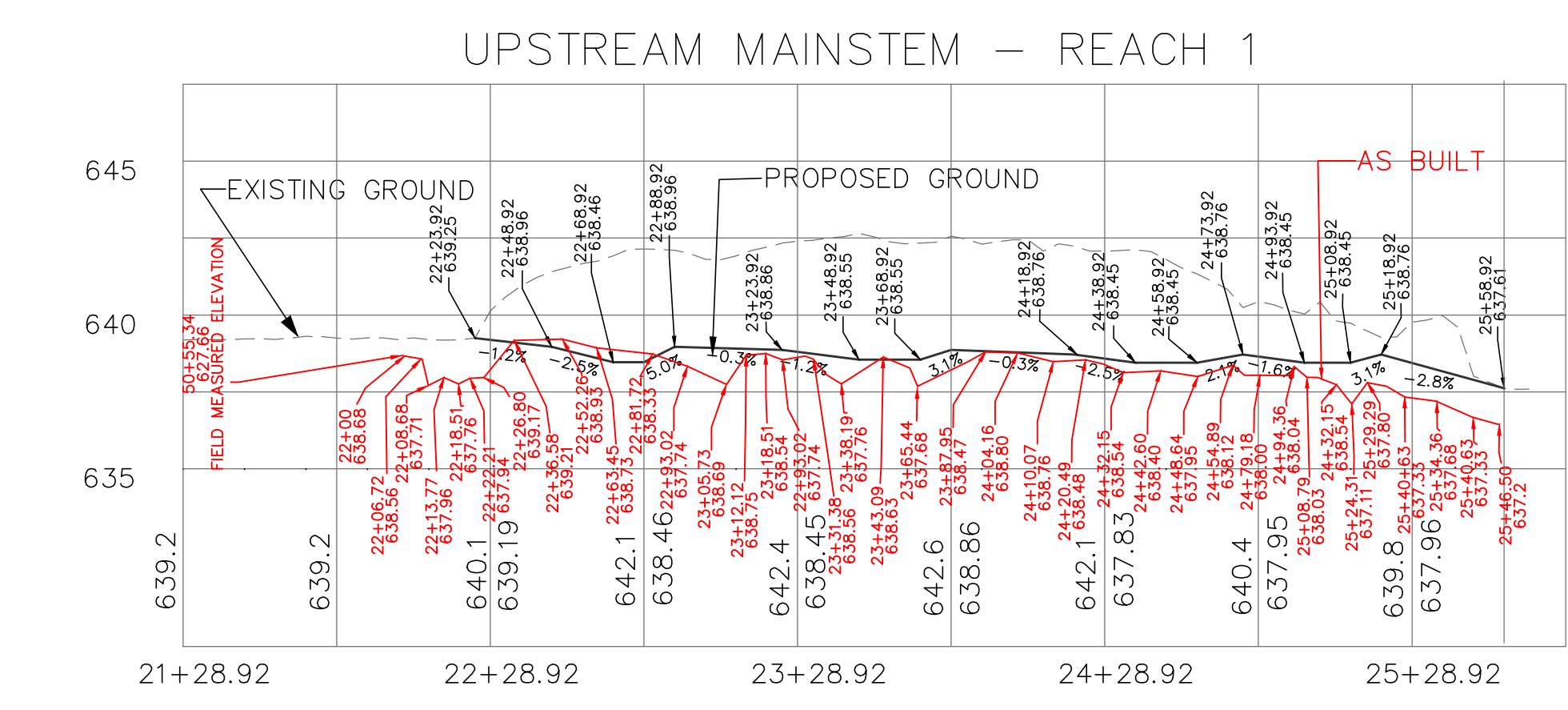
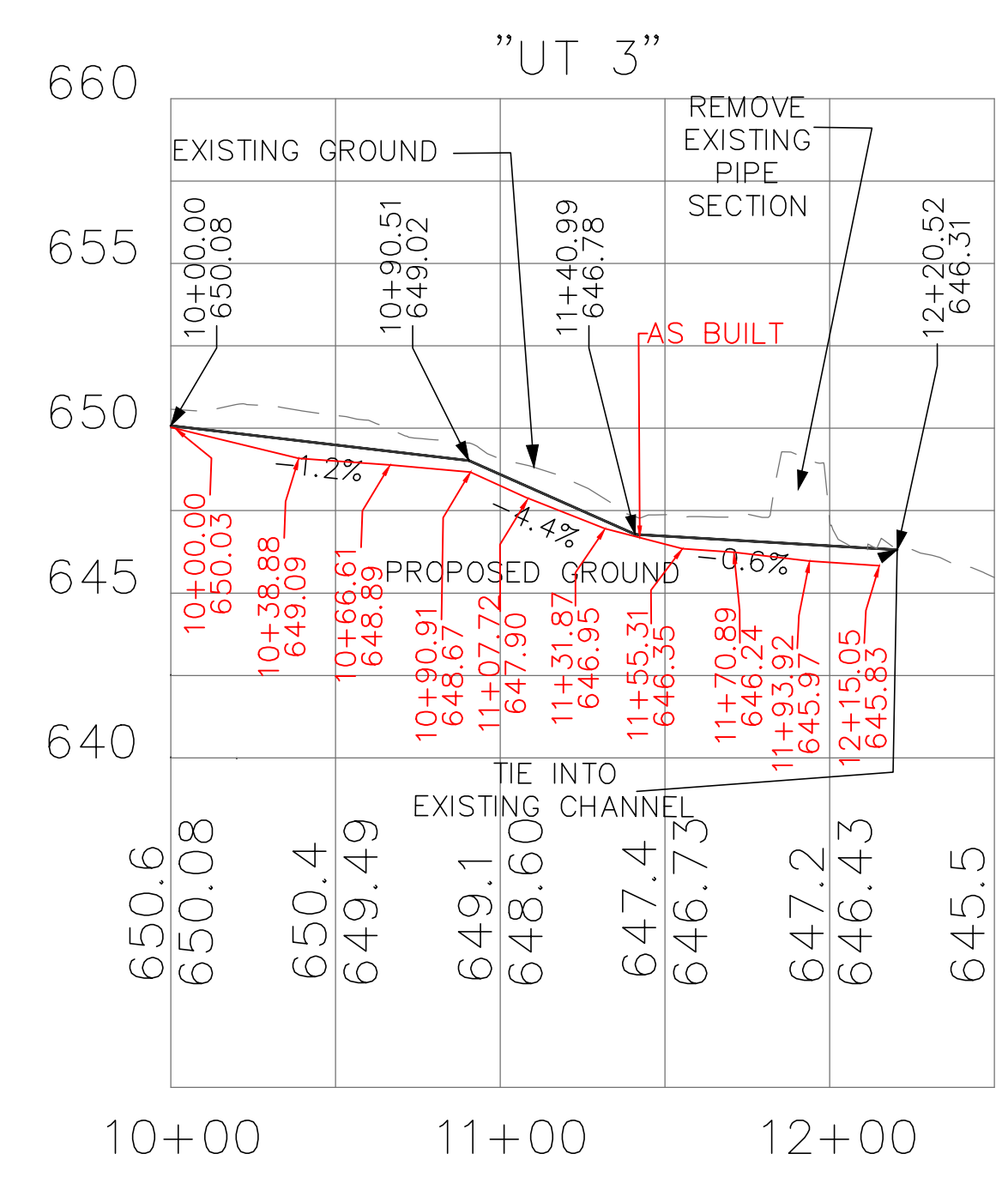
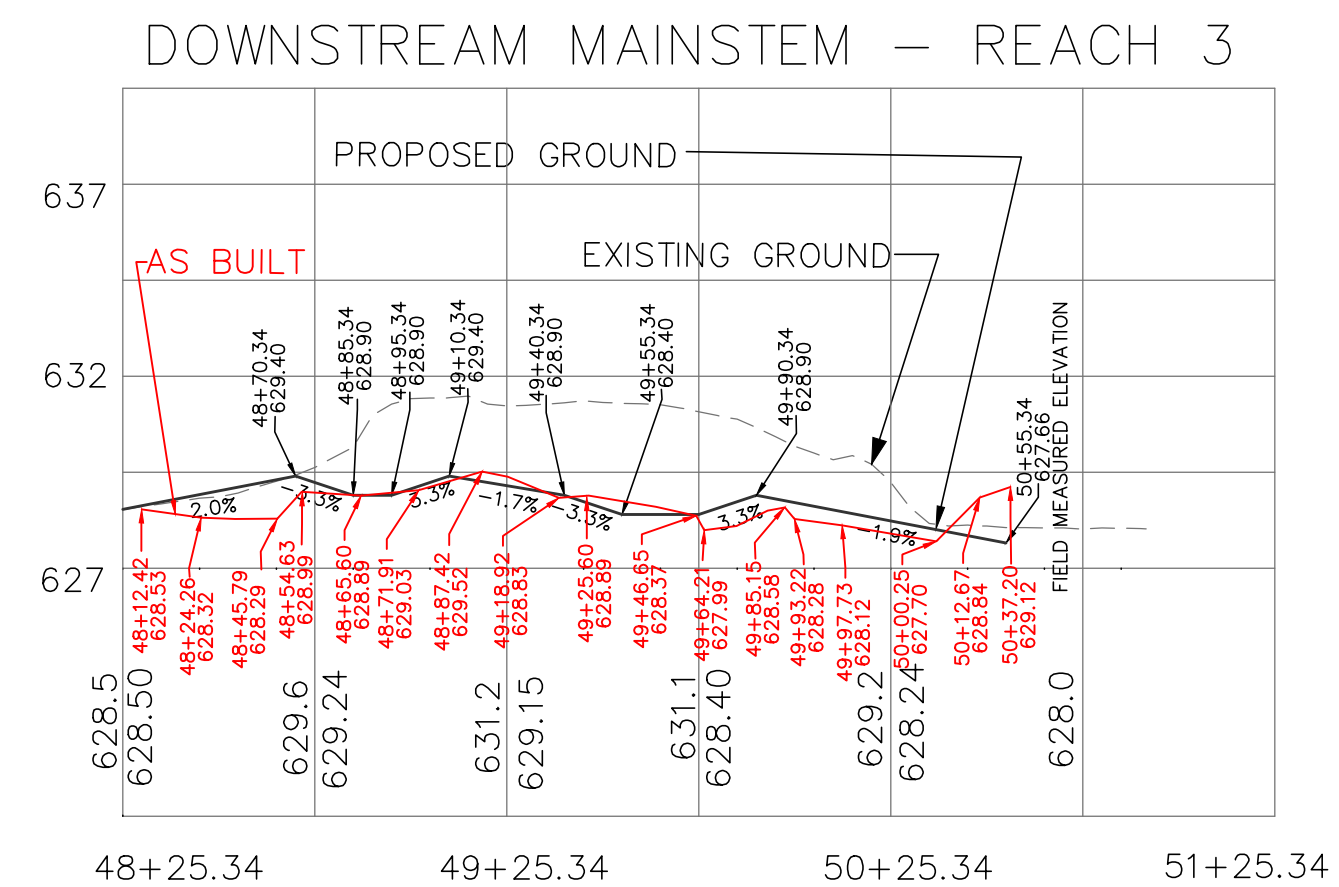
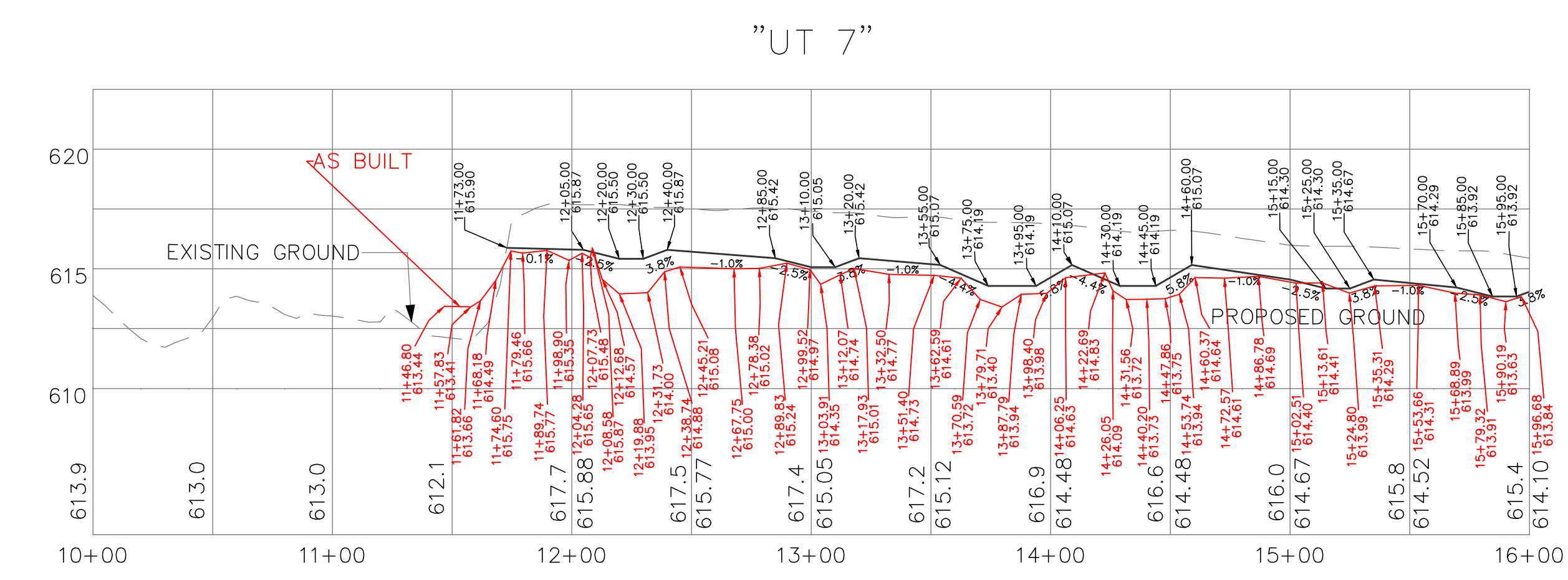
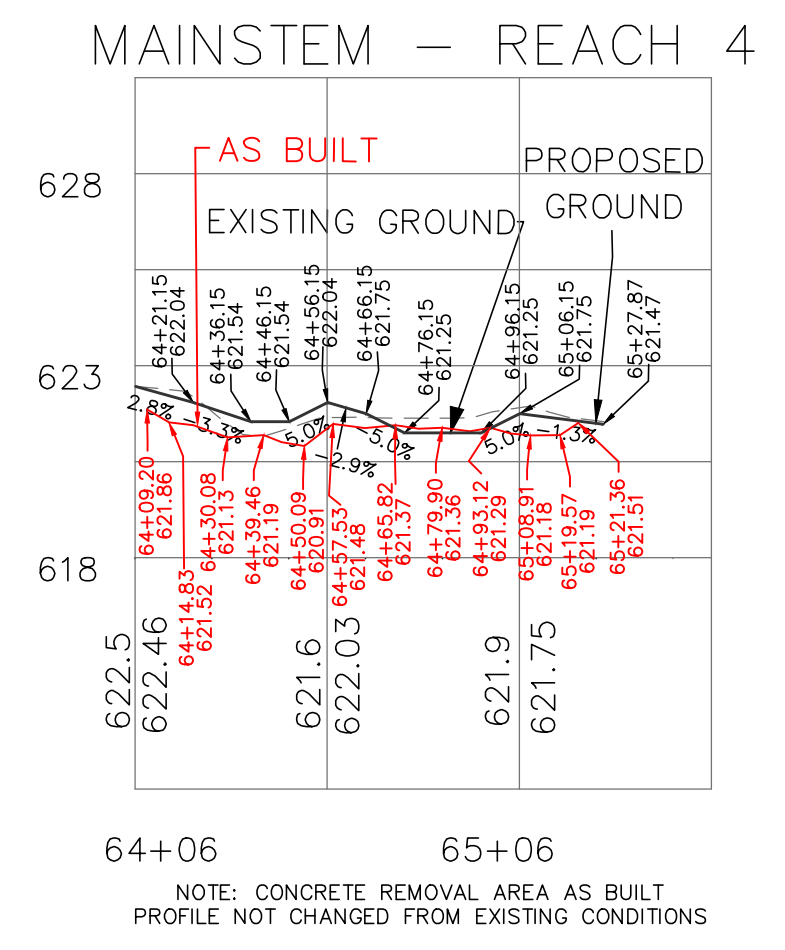
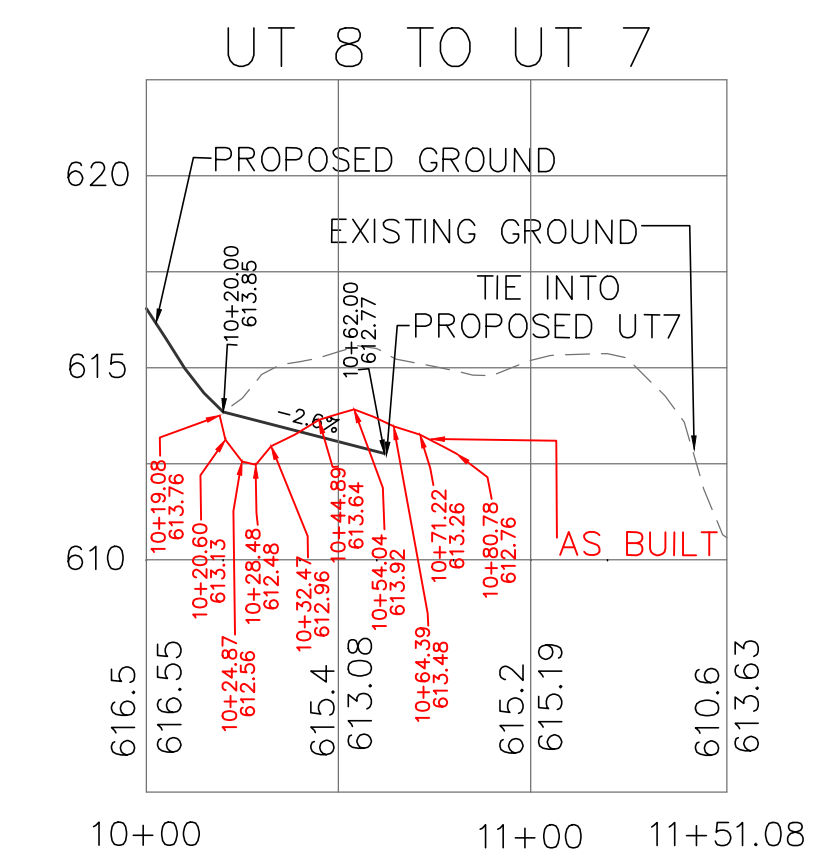
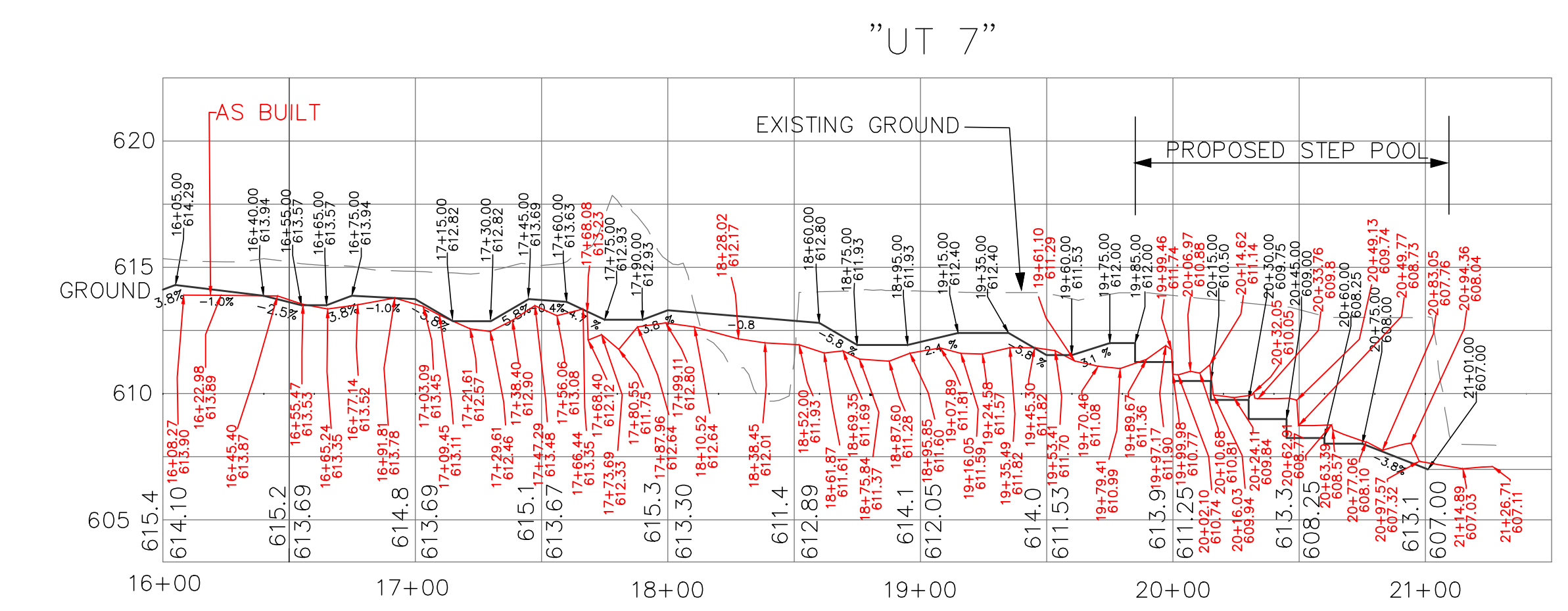


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— DESIGN
 — AS-BUILT
 - - - EXISTING



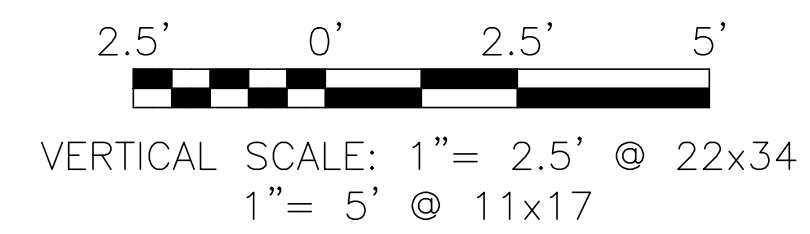
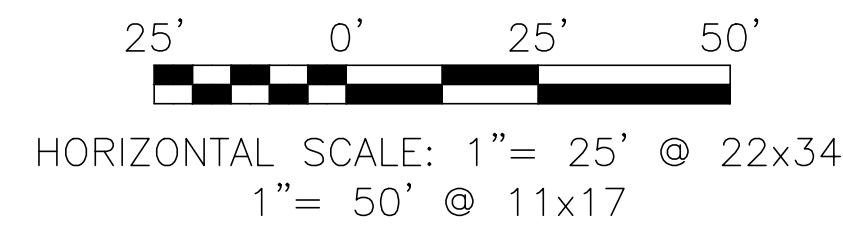
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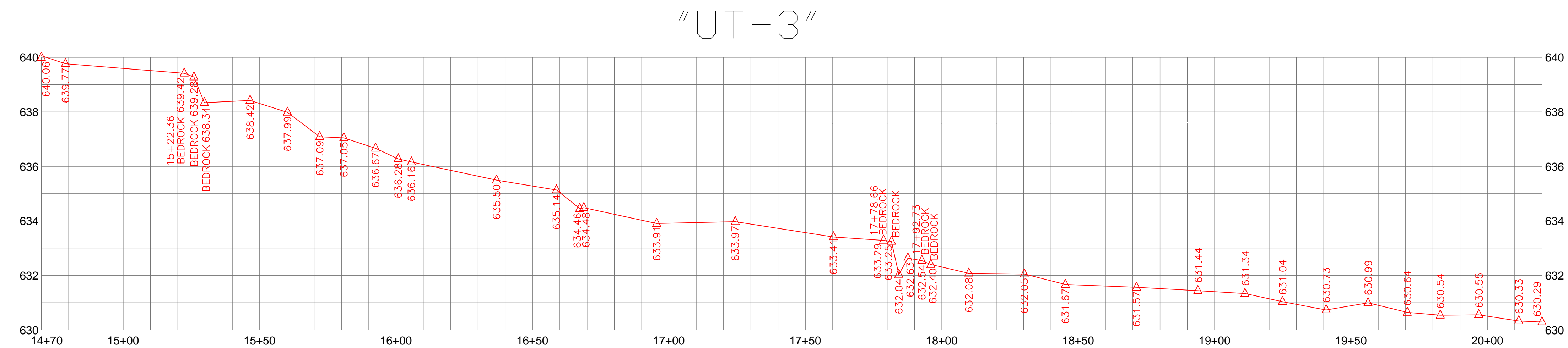
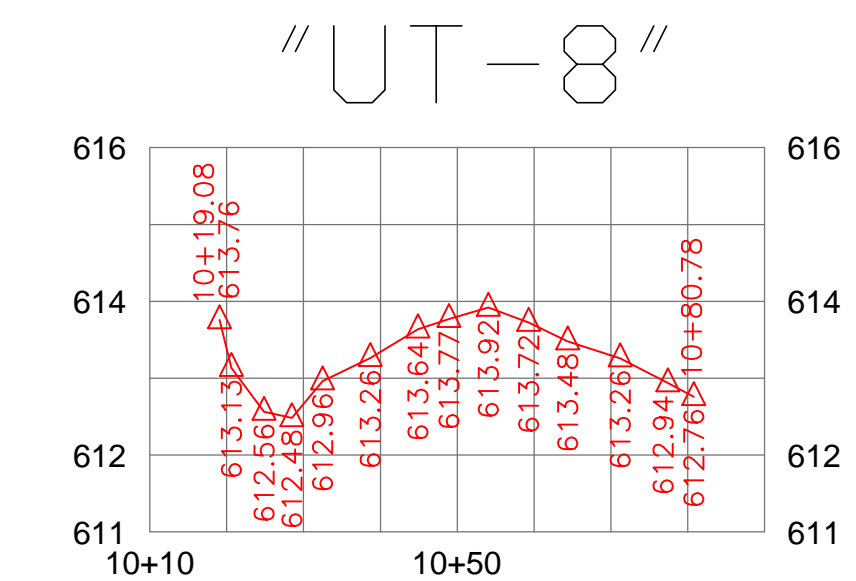
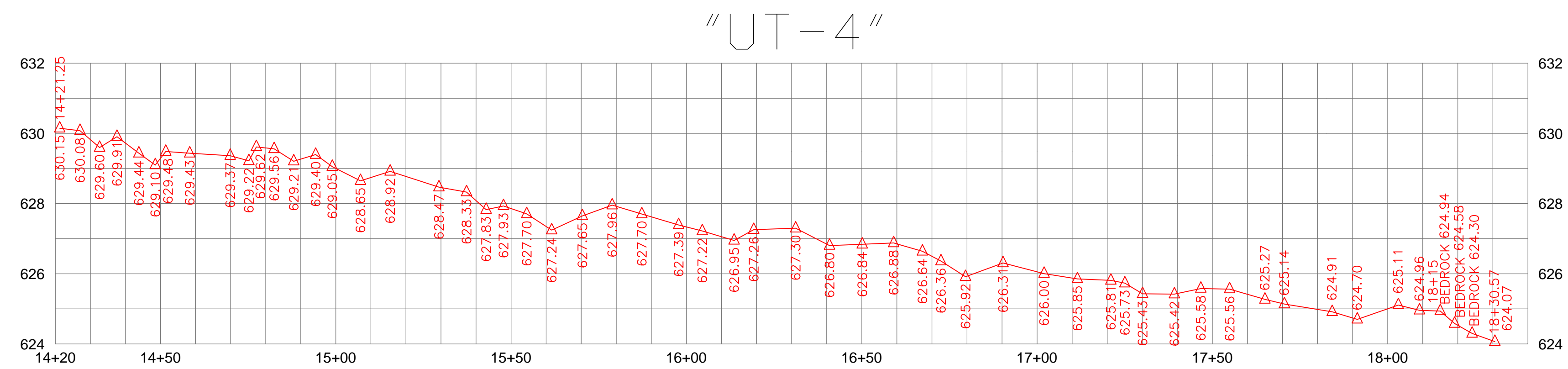
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