



CITY OF BROKEN ARROW

Where opportunity lives

HOUSTON STREET WIDENING FROM GARNETT ROAD TO OLIVE AVENUE

PROJECT NUMBER ST2028

CONFORMED PLANS

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BROKEN ARROW CITY COUNCIL	
MAYOR	DEBRA WIMPEE
VICE MAYOR	CHRISTI GILLESPIE
MEMBER	LISA FORD
MEMBER	JUSTIN GREEN
MEMBER	JOHNNIE PARKS

APPROVED

DATE _____
MICHAEL SPURGEON
CITY MANAGER

RECOMMENDED FOR APPROVAL

DATE _____
CHARLIE BRIGHT
DIRECTOR OF ENGINEERING AND CONSTRUCTION DEPARTMENT

DATE _____
TIM WILSON
DIRECTOR OF STREETS & STORMWATER DEPARTMENT

DATE _____
TIMOTHY ROBINS, P.E.
DIRECTOR OF UTILITIES DEPARTMENT

ENGINEER OF RECORD

GREGORY J. COKER, P.E.

POE & ASSOCIATES INC.
4606 S. GARNETT RD., STE. 600
TULSA, OK 74146 (918) 665-8800
FAX: (918) 665-6076
CERTIFICATE OF AUTHORIZATION NO. CA 541 P.E., L.S.

CITY OF BROKEN ARROW STANDARD CONSTRUCTION SPECIFICATIONS, FEBRUARY 20, 2024. SHALL GOVERN ALL CONSTRUCTION AS SUPPLEMENTED BY OKLAHOMA STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION, APPROVED BY THE DEPARTMENT OF TRANSPORTATION 2009.

SURVEY CONTROL DATA

- HORIZONTAL CONTROL MONUMENTS**
OKLAHOMA STATE PLANE COORDINATE SYSTEM - LAMBERT NORTH PROJECTION
- BASIS OF BEARING:**
LOCAL GRID BEARING
- VERTICAL CONTROLS (BM):**
NAVD 1988
- SECTION NUMERICAL DESCRIPTION (S-T-R):**
SECTION 8 & 17 T-18-N, R-14-E

BEFORE YOU DIG! CALL OKIE 1-800-522-6543

UTILITIES LOCATION SHOWN ON PLAN AND PROFILE WERE OBTAINED FROM INFORMATION PROVIDED BY UTILITY SYSTEM OWNER IN CONJUNCTION WITH EXISTING PHYSICAL FEATURES VISIBLE AT THE TIME OF THE TOPOGRAPHIC SURVEY. LOCATIONS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

UTILITY CONTACTS

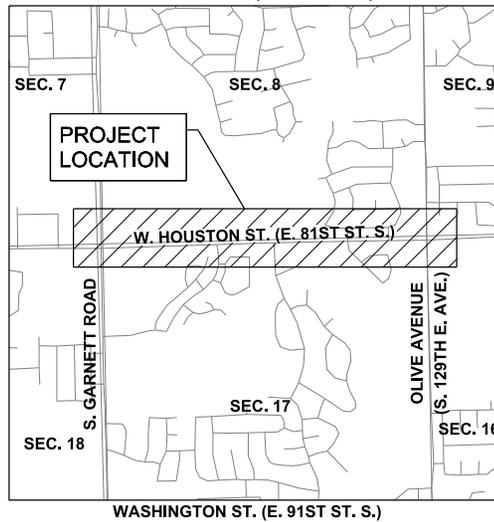
CITY OF BROKEN ARROW, OKLAHOMA E & C, DIRECTORY CHARLIE BRIGHT 455 N. POPLAR AVE BROKEN ARROW, OKLAHOMA 74012 (918) 259-7000 EXT. 7389 (918) 259-6453 (FAX)	CITY OF BROKEN ARROW, OKLAHOMA WATER & SEWER, TIMOTHY ROBINS, P.E. 455 N. POPLAR AVE BROKEN ARROW, OKLAHOMA 74012 (918) 259-7000 X7382 (918) 251-3383 (FAX)
CITY OF BROKEN ARROW, OKLAHOMA STREETS & STORMWATER, TIM WILSON 455 N. POPLAR AVE BROKEN ARROW, OKLAHOMA 74012 (918) 259-7000 X7380 (918) 251-3383 (FAX)	OKLAHOMA NATURAL GAS (GOVT RELOCATIONS) ATTN: TIM HELBIG 5848 EAST 15TH STREET TULSA, OKLAHOMA 74112 (918) 831-8215 (918) 949-5735 (CELL)
COX COMMUNICATIONS ATTN: CHRIS LONG 11811 E. 51ST STREET TULSA, OK 74146 (918) 286-4666 (918) 286-4016 (FAX)	OKLAHOMA NATURAL GAS (EXISTING CONST.) ATTN: DUANE COOPER P.O. BOX 871 TULSA, OKLAHOMA 74102 (918) 451-3814 (918) 451-0899 (FAX)
WINDSTREAM COMMUNICATION ATTN: JOSEPH MINOR 1814 W. TACOMA STREET BROKEN ARROW, OKLAHOMA 74012 (918) 586-4960	AEP / PSO ATTN: LONNY HICKS 5223 S GARNETT TULSA, OK 74149 (918) 599-2912 (918) 247-8466 (FAX)

CONVENTIONAL SYMBOLS

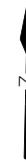
---	SECTION LINES
---	PROPOSED ROAD
R/W	RIGHT-OF-WAY LINES - NEW
PRES. R/W	RIGHT-OF-WAY LINES - EXISTING
-X-	FENCES
-DE-	OVERHEAD ELECTRIC LINES
-DT-	OVERHEAD TELEPHONE LINES
-SS-	SANITARY SEWERS
-G-	GAS LINES
-V-	WATER LINES
-UT-	UNDERGROUND TELEPHONE LINES
-CTV-	CABLE TELEVISION LINES
-UE-	UNDERGROUND ELECTRIC
-UCT-	UNDERGROUND CABLE TELEVISION LINES
-STM-	STORM SEWER

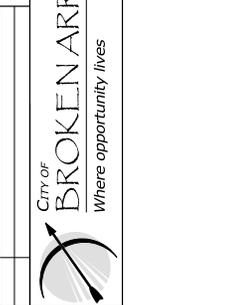
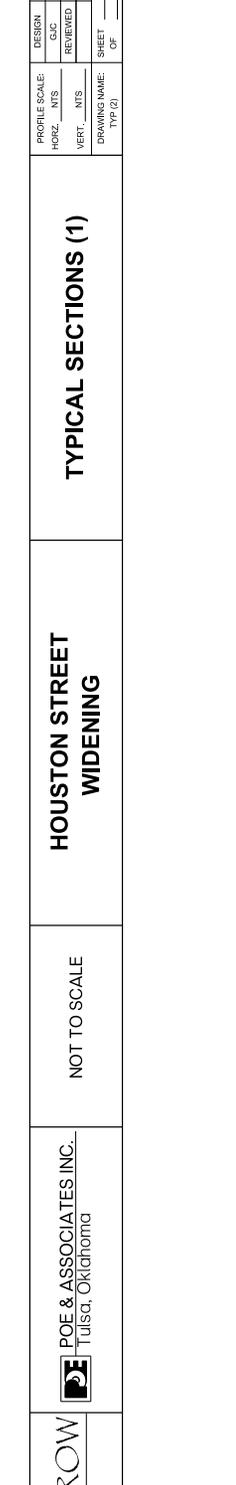
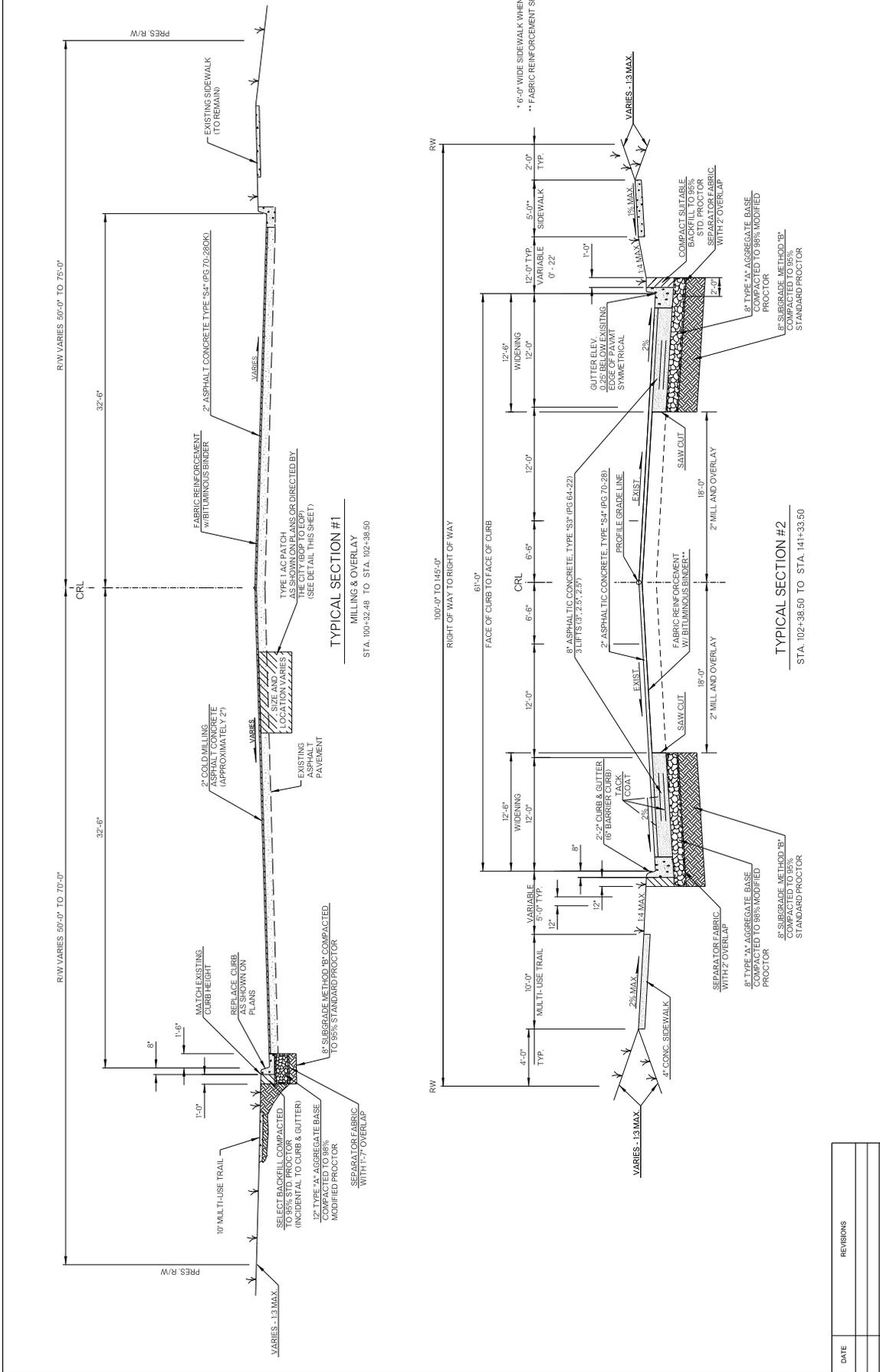
DESIGN DATA

SECONDARY ARTERIAL
AADT 2029 = 19,100
DESIGN SPEED = 45 MPH
K crest = 61
K sag = 79
Grade Min = 0.40%
Grade Max = 4.0%



T
18
N





DATE	REVISIONS


CITY OF BROKEN ARROW
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POE & ASSOCIATES INC.
 Tulsa, Oklahoma

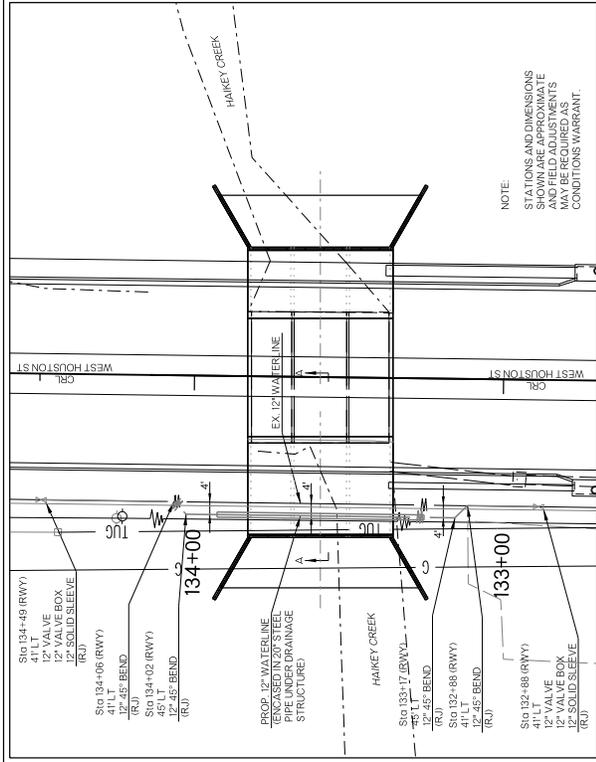
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HOUSTON STREET WIDENING

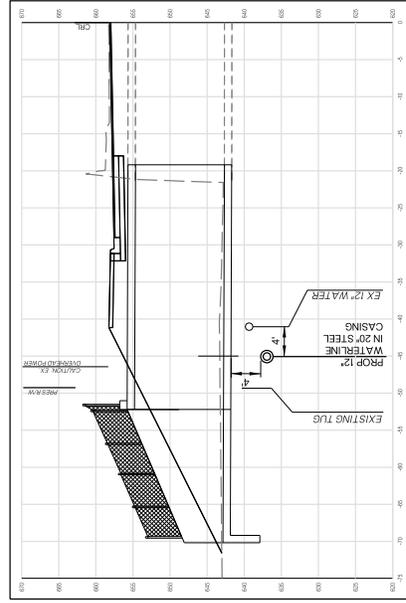
TYPICAL SECTIONS (1)

DESIGN		DATE		DATE	
HORZ.	VERT.	DATE	DATE	DATE	DATE

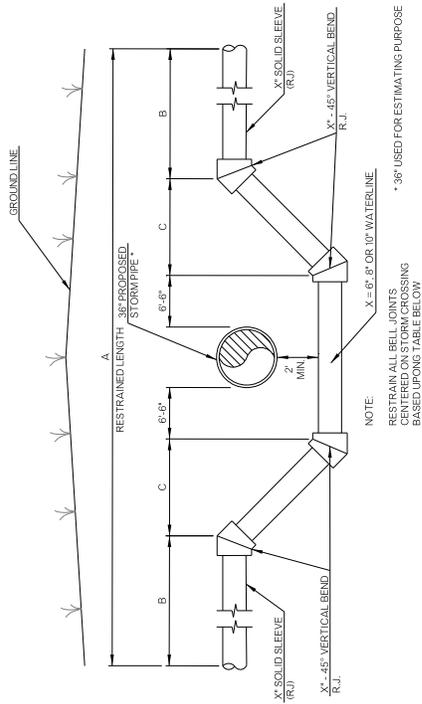
PROFILE SCALE: _____
 DRAWING NAME: _____
 SHEET _____ OF _____
 PROJECT NO. _____
 ST 2028



WATERLINE RELOCATION @ BRIDGE A - LITTLE HAIKEY CREEK ROB PLAN VIEW
N.T.S.



WATERLINE RELOCATION @ BRIDGE A - LITTLE HAIKEY CREEK ROB SECTION A - A
N.T.S.



PIPE SIZE	6"	8"	10"
A	66"	76"	86"
B	20"	25"	30"
C	5"	5"	5"

WATERLINE LOWERING DETAIL
N.T.S.

NOTE:
RESTRAIN ALL BELL JOINTS
RESTRAIN ALL BELL JOINTS
CERTIFIED ON STORM CROSSING
BASED UPON TABLE BELOW
* 36" USED FOR ESTIMATING PURPOSE

DATE _____

REVISIONS _____

CITY OF
BROKEN ARROW
Where opportunity lives

POE & ASSOCIATES INC.
Tulsa, Oklahoma

**HOUSTON STREET
WIDENING**

MISCELLANEOUS DETAILS (2)

PROFILE SCALE:		DESIGN		DATE		DATE	
HORIZ.	1" = 20'	G/C	2020	W/S	2020	DRAFTED	
VERT.	1" = 5'	REVISED		APPROVED		APPROVED	
DRAWING NAME:		TYP (2)		SHEET		PROJECT NO.	
				OF 5		ST 2028	

ITEM	SPEC. NO.	DESCRIPTION	PAY ITEM NOTES	UNIT	QUANTITY
1	201(A)	CLEARING AND GRUBBING		LSUM	1.00
2	202(A)	UNCLASSIFIED EXCAVATION	1,8,25,39	CY	9,700.00
3	202(D)	UNCLASSIFIED BORROW	8,25	CY	2,200.00
4	205(A)	TYPE A SALVAGED TORSOL		LSUM	1.00
5	221(C)	TEMPORARY SILT FENCE	9	LF	2,500.00
6	221(G)	TEMPORARY ROCK FILTER DAM (TYPE 1)	9	CY	250.00
7	221(K)	TEMPORARY FIBER LOG	9	LF	250.00
8	230(A)	SOLID SLAB SOILING	10,11,12	SY	28,000.00
9	303(A)	AGGREGATE BASE TYPE A	2	CY	4,400.00
10	310(B)	SUBGRADE METHOD B		SY	18,500.00
11	325	SEPARATOR FABRIC	3	SY	19,600.00
12	402(E)	TRAFFIC ROUND SURFACE COURSE TYPE E	16	TON	500.00
13	408(A)	FABRIC REINFORCEMENT (W/IRREGULAR BINDER)	6	SY	25,000.00
14	411(B)	SURFPAVE TYPE S3 (FG 84-220K)	13,14,15	TON	5,850.00
15	411(C)	SURFPAVE TYPE S4 (FG 10-26K) INSOLUBLE	13,14,15	TON	4,100.00
16	412	COLD MILLING PAVEMENT	4	SY	20,800.00
17	414(B)	DOVEL JOINED P.C. CONCRETE PAVEMENT (PLACEMENT)	19	SY	2,200.00
18	414(G)	P.C. CONCRETE CURB PAVEMENT		CY	525.00
19	501(A)	STRUCTURAL EXCAVATION UNCLASSIFIED	02,15	CY	22.00
20	509.06(A)	CLASS A CONCRETE		CY	10.00
21	509(C)	CLASS A CONCRETE SMALL STRUCTURES		CY	30.00
22	509(D)	CLASS C CONCRETE	35	CY	3,000.00
23	511(A)	REINFORCING STEEL		LBS	6,440.00
24	601(A)	TYPE 1 PLAIN RPPAP		TON	550.00
25	606(A)	CONCRETE CURB (6" BARRIER INTEGRAL)		LF	5,000.00
26	606(B)	2-2" COMBINED CURB AND GUTTER (6" BARRIER)	18,19,20	LF	11,500.00
27	610(A)	4" CONCRETE SIDEWALK	19,20	SY	6,750.00
28	610(B)	8" CONCRETE DRIVEWAY (H.E.S.)	10,20	SY	1,750.00
29	610(I)	TACTILE WARNING DEVICE		SF	680.00
30	611(A)	4" DIA MANHOLE - COMPLETE IN PLACE	21	EA	2.00
31	611(A)	5" DIA MANHOLE - COMPLETE IN PLACE	21	EA	4.00
32	611(A)	6" DIA MANHOLE - COMPLETE IN PLACE	21	EA	8.00
33	611(B)	ADDITIONAL DEPTH IN 5" DIA. MANHOLE (STORM SEWER)		VF	10.00
34	611(B)	ADDITIONAL DEPTH IN 6" DIA. MANHOLE (STORM SEWER)		EA	9.00
35	611(G)	INLET RCI (4")	21	EA	5.00
36	611(G)	INLET RCI (6")	21	EA	2.00
37	611(G)	INLET RCI (8")	21	EA	10.00
38	611(G)	INLET RCI (8")	21	EA	3.00
39	611(G)	INLET (SMD-TYPE 1)		VF	8.00
40	611(H)	ADDITIONAL DEPTH IN RCI (4")		VF	14.65
41	611(H)	ADDITIONAL DEPTH IN RCI (4") W/ MANHOLE		VF	2.30
42	611(H)	ADDITIONAL DEPTH IN RCI (6")		VF	30.80
43	611(H)	ADDITIONAL DEPTH IN RCI (8")		VF	7.00
44	612(A)	MANHOLE ADJUSTED TO GRADE (R&LQ)	17,21	EA	10.00
45	612(B)	VALVE BOXES ADJUSTED TO GRADE	17,21	EA	10.00
46	612(F)	METER BOXES ADJUSTED TO GRADE		EA	827.00
47	613(E)	18" CORRUGATED POLYETHYLENE PIPE (PPR), COMPLETE IN PLACE		LF	1,650.00
48	613(E)	24" CORRUGATED POLYETHYLENE PIPE (PPR), COMPLETE IN PLACE		LF	483.00
49	613(E)	30" CORRUGATED POLYETHYLENE PIPE (PPR), COMPLETE IN PLACE		LF	865.00
50	613(E)	36" CORRUGATED POLYETHYLENE PIPE (PPR), COMPLETE IN PLACE		LF	885.00
51	613(E)	42" CORRUGATED POLYETHYLENE PIPE (PPR), COMPLETE IN PLACE		LF	352.00
52	613(E)	48" CORRUGATED POLYETHYLENE PIPE (PPR), COMPLETE IN PLACE		EA	1.00
53	613(L)	36" PREFAB. GULVERT END SECTION, ROUND		EA	1.00
54	618(A)	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	8,17,20,36	LS	1.00

DATE	REVISIONS



POE & ASSOCIATES INC.
Tulsa, Oklahoma

NOT TO SCALE

HOUSTON STREET WIDENING

PAY ITEMS

PROFILE SCALE:	DESIGN	DATE	DRAFTED	DATE
HORIZ.	GAC	2020	WSL	2020
VERT.	NTS	2020	APPROVED	2020
DRAWING NAME:	SHEET	OF	PROJECT NO.	ST. 2028
	6	108		

ITEM	SPEC. NO.	DESCRIPTION	PAY ITEM NOTES	UNIT	QUANTITY
55	619(B)	REMOVAL OF ASPHALT PAVEMENT	8,17,30	SY	3,540.00
56	619(B)	REMOVAL OF DRAINAGE INLET	8,17,30	EA	10.00
57	619(B)	REMOVAL OF SIDEWALK	8,17,30	SY	2,860.00
58	619(B)	REMOVAL OF CONCRETE DRIVEWAY	8,17,30	SY	1,880.00
59	619(B)	REMOVAL OF CONCRETE CURB AND GUTTER	8,17,30	LF	8,000.00
60	619(B)	REMOVAL OF MANHOLES	8,17,30	EA	5.00
61	619(B)	REMOVAL OF HEADWALLS	8,17,30	EA	1.00
62	619(C)	SAVING PAVEMENT	33	LF	12,000.00
63	624(F)	FENCE-STYLE CULY (5' HIGH, CLASS A) (BLACK VINYL COATED)		LF	255.00
64	641	MOBILIZATION	28,31	LSUM	1.00
65	642(B)	CONSTRUCTION STAKING LEVEL II	5,27	LSUM	1.00
66	650(A)	SHEET ALUMINUM SIGN		SF	150.00
67	651(C)	2" SQUARE TUBEPOST		LF	405.00
68	656(A)	TRAFFIC STRIPE (MULTI-POLYMER) (ARROWS)	22	LF	19,000.00
69	656(B)	TRAFFIC STRIPE (MULTI-POLYMER) (4" WIDE)	22	EA	45.00
70	657(A)	(P.C.) CONSTRUCTION TRAFFIC STRIPE (PAINT)(4" WIDE)	26	LF	16,000.00
71	657(B)	(P.C.) CONSTRUCTION ZONE PAVEMENT MARKERS (FLEX TABS) TYPE 2-1	26	EA	10,000.00
72	680(J)	CONSTRUCTION TRAFFIC CONTROL	28,28	LSUM	1.00
73	682(A)	PORT CHANGEBLANK MESSAGE SIGN	1,7,32	SY	500.00
74	SPECIAL	TYPE 1 AC PATCH	26	EA	2.00
75	SPECIAL	PROJECT SIGN	34	EA	40.00
76	SPECIAL	CURB RAMP		EA	4.00
77	SPECIAL	QUICK SET FLOWABLE FILL	32	CY	31.00
78	SPECIAL	CRACK SEALING	32	LF	1,000.00

ITEM	SPEC. NO.	DESCRIPTION	PAY ITEM NOTES	UNIT	QUANTITY
79	202(A)	UNCLASSIFIED EXCAVATION	25	CY	1,470.00
80	601(A)	STRUCTURAL EXCAVATION (UNCLASSIFIED)	25	CY	265.00
81	609(A)	CLASS AA CONCRETE		CY	505.40
82	624(E)	FENCE-STYLE CULY (5' HIGH CLASS A) (BLACK COATED)		LF	171.00
83	511(A)	REINFORCING STEEL		LBS	104,920.00
84	619(B)	REMOVAL OF EXISTING BRIDGE STRUCTURE	6	LSUM	1.00

ITEM	SPEC. NO.	ITEM DESCRIPTION	PAY ITEM NOTES	UNIT	QUANTITY
85	BA 311	COMMON EXCAVATION (TRENCH)		CY	100
86	BA 312	COMMON BACKFILL AND COMPACTION		CY	60
87	BA 315	20" STEEL CASING (OPEN CUT)		LF	67
88	BA 401(A)	12", AWWA C900 DR-14 PVC, COMPLETE, IN PLACE, RJ	1,2,3,8,10	LF	164
89	BA 401(B)	10", AWWA C900 DR-14 PVC, COMPLETE, IN PLACE, RJ	1,2,3,8,10	LF	86
90	BA 401(C)	8", AWWA C900 DR-14 PVC, COMPLETE, IN PLACE, RJ	1,2,3,8,10	LF	76
91	BA 401(D)	6", AWWA C900 DR-14 PVC, COMPLETE, IN PLACE, RJ	1,2,3,8,10	LF	66
92	BA 410(A)	12" 45 DEGREE D.I. BEND (RJ)	2,8	EA	4
93	BA 410(A)	10" 45 DEGREE D.I. BEND (RJ)	2,8	EA	4
94	BA 410(A)	8" 45 DEGREE D.I. BEND (RJ)	2,8	EA	4
95	BA 410(A)	6" 45 DEGREE D.I. BEND (RJ)	2,8	EA	4
96	BA 410(D)	12" D.I. SLEEVE (RJ)	2,8	EA	2
97	BA 410(D)	10" D.I. SLEEVE (RJ)	2,8	EA	2
98	BA 410(D)	8" D.I. SLEEVE (RJ)	2,8	EA	2
99	BA 410(D)	6" D.I. SLEEVE (RJ)	2,8	EA	2
100	BA 411(A)	WATERLINE CONNECTION TO EX. SYSTEM, 12"	12	EA	2
101	BA 411(A)	WATERLINE CONNECTION TO EX. SYSTEM, 10"	12	EA	2
102	BA 411(A)	WATERLINE CONNECTION TO EX. SYSTEM, 8"	12	EA	2
103	BA 411(A)	WATERLINE CONNECTION TO EX. SYSTEM, 6"	12	EA	2
104	BA 420(A)	12" GATE VALVE (RJ)	8	EA	2
105	BA 430(B)	TYPE 2 VALVE BOX	21	EA	2

GENERAL CONSTRUCTION NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 2024 CITY OF BROKEN ARROW STANDARD CONSTRUCTION SPECIFICATIONS SUPPLEMENTED BY THE 2019 OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
2. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS GOVERNING SAFETY, HEALTH AND SANITATION. THE CONTRACTOR SHALL PROVIDE ALL SAFEGUARDS, SAFETY DEVICES AND PROTECTIVE EQUIPMENT, AND TAKE ANY OTHER NEEDED ACTION ON HIS OWN RESPONSIBILITY OR AS THE CONTRACT ADMINISTRATOR MAY DETERMINE REASONABLY NECESSARY TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACT.
3. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK IN EACH AREA. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT RESULT FROM HIS FAILURE TO LOCATE AND PRESERVE ANY AND ALL UTILITIES.
4. THE LOCATIONS OF THE UTILITIES ARE SHOWN ACCORDING TO ALL AVAILABLE INFORMATION. THE CONTRACTOR SHALL NOTIFY EACH UTILITY OWNER PRIOR TO COMMENCEMENT OF WORK TO VERIFY BOTH HORIZONTAL AND VERTICAL LOCATIONS.
5. THE CONTRACTOR SHALL GIVE THE NOTIFICATION CENTER OF OKLAHOMA ONE-CALL SYSTEM, INC. NOTICE OF ANY EXCAVATION NO SOONER THAN TEN DAYS NOR LATER THAN 48 HOURS, EXCLUDING SUNDAYS, SUNDAYS AND LEGAL HOLIDAYS. PRIOR TO THE COMMENCEMENT OF WORK, PHONE: 1-800-522-6543.
6. THE CONTRACTOR SHALL TAKE REASONABLE PRECAUTIONS TO PREVENT EXCESS MOISTURE FROM INCIDENT WEATHER OR OTHER SOURCES FROM ENTERING ANY STREET EXCAVATION. IF EXCESS MOISTURE DOES ENTER THE EXCAVATION THROUGH THE NEGLIGENCE OF THE CONTRACTOR AND THE ADJOINING PAVEMENT IS ADVERSELY AFFECTED BY THE EXCESS MOISTURE, THE CONTRACTOR SHALL REPLACE THE ADJOINING PAVEMENT AND SUBBASE AT HIS SOLE EXPENSE.
7. THE CONTRACTOR SHALL PRESERVE THE INTEGRITY OF THE SANITARY SEWER STRUCTURES AND ALL OTHER UTILITY STRUCTURES WITHIN THE PROJECT EXTENTS.
8. THE CONTRACTOR SHALL WORK IN COOPERATION WITH THE CITY OF BROKEN ARROW TO ESTABLISH, INSTALL, MAINTAIN, AND OPERATE COMPLETE, ADEQUATE, AND SAFE TRAFFIC CONTROLS DURING THE ENTIRE CONSTRUCTION PERIOD. ALL FLAGGERS, BARRICADES, AND TRAFFIC CONTROL DEVICES SHALL BE APPROVED BY THE CITY'S CONTRACT ADMINISTRATOR.
9. CONSTRUCTION SIGNAGE WILL BE INSTALLED IN A MANNER APPROVED BY THE CONTRACT ADMINISTRATOR IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT, ADDITION, AND APPLICABLE ODOT STANDARD DRAWINGS.
10. LOCAL AND THROUGH TRAFFIC SHALL BE MAINTAINED THROUGH THE PROJECT AT ALL TIMES.
11. ALL PUBLIC AND PRIVATE STREETS AND DRIVES SHALL BE ACCESSIBLE AT ALL TIMES.
12. ALL BROKEN CONCRETE, WASTE MATERIAL, AND OTHER DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DISPOSED OF IN A MANNER APPROVED BY THE CONTRACT ADMINISTRATOR. NO ADDITIONAL PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.
13. ALL EXCAVATED MATERIAL NOT REQUIRED IN THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DISPOSED OF IN A MANNER APPROVED BY THE CONTRACT ADMINISTRATOR WITHOUT COST TO THE CITY. THE CONTRACTOR WILL BE REQUIRED TO OBTAIN AN EARTH CHANGE PERMIT IF ANY MATERIAL IS STORED ON THE PROJECT SITE AND/OR DISPOSED OF WITHIN THE CITY LIMITS.
14. ALL TREES, BRUSH AND OTHER DEBRIS THAT MIGHT INTERFERE WITH THE FLOW OF WATER IS TO BE CLEANED OUT TO THE RIGHT-OF-WAY LINE IN A MANNER APPROVED BY THE CONTRACT ADMINISTRATOR. ALL COST TO BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF WORK. TREES OUTSIDE THE FILL SLOPES AND THE TOP OF CUT SLOPES SHALL NOT BE DISTURBED EXCEPT WITH THE WRITTEN APPROVAL OF THE CONTRACT ADMINISTRATOR.

GENERAL CONSTRUCTION NOTES (CONT'D)

15. WHERE MATERIALS ARE TRANSPORTED IN THE PROSECUTION OF WORK, VEHICLES SHALL NOT BE LOADED BEYOND THE CAPACITY RECOMMENDED BY THE VEHICLE MANUFACTURER OR AS PRESCRIBED BY ANY FEDERAL, STATE OR LOCAL LAW OR REGULATION.
16. ANY DAMAGE TO THE ROADWAY PAVEMENT, CURB, DRIVEWAYS OR SIDEWALK CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED TO THE CONTRACT ADMINISTRATOR'S SATISFACTION AND SHALL BE ACCOMPLISHED AT THE CONTRACTOR'S SOLE EXPENSE. ALL DISTURBED ITEMS SHALL BE REPAIRED TO MATCH EXISTING MATERIALS AND PATTERNING.
17. IF THE CONTRACTOR ENCOUNTERS VIBRATIONS WHEN PAVING STREETS, THE CONTRACTOR SHALL NOTIFY THE CITY FOR AN INSPECTION BEFORE PROCEEDING WITH WORK.
18. THE PROJECT SHALL BE CONSTRUCTED WITH CONTINUOUS FLOW OF MATERIAL SUPPLIED TO THE PROJECT SUCH THAT THE LAYDOWN MACHINE WILL REMAIN IN MOTION. ANY DELAY IN FORWARD PROGRESSION OF THE LAYDOWN MACHINE MAY REQUIRE A TRANSVERSE JOINT AS DIRECTED BY THE CONTRACT ADMINISTRATOR.
19. NO FLY ASH IS ALLOWED TO BE USED ON THIS PROJECT.
20. PHYSICAL TESTING FOR QUALITY ASSURANCE SHALL BE FURNISHED BY THE CITY.
22. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY QUALITY CONTROL TESTING TO ENSURE THAT PROJECT REQUIREMENTS ARE MET.
23. MASONRY STRUCTURES SHALL NOT BE CONSTRUCTED WITHIN THE STREET RIGHT-OF-WAY.
24. ALL CONCRETE CURB AND GUTTERS SHALL BE MONOLITHIC POURS. DOWELED-ON CURBS WILL NOT BE ALLOWED.
25. CURB RAMP CONSTRUCTION SHALL COMPLY WITH THE CURRENT AMERICANS WITH DISABILITIES ACT STANDARDS.
26. REFLECTORIZED SHEETING ON SIGNS AND BARRICADES SHALL BE OF A CUBIC PRISMATIC TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956-01 TYPE IX RETROREFLECTIVE SHEETINGS. REFLECTORIZED SHEETING ON DRUMS AND TUBE CHANNELIZERS SHALL BE OF A HIGH-INTENSITY TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956-01 TYPE III RETROREFLECTIVE SHEETING.
27. THE SIGN PLACEMENT, LOCATION AND LOCATIONS SHOWN ON THE PLAN SHEETS AND SUMMARY SHEETS ARE APPROXIMATE EXACT STATING AND LOCATIONS SHALL BE VERIFIED BY THE CONTRACTOR SO THAT THE SIGN IS INSTALLED IN ACCORDANCE WITH CITY AND ODOT STANDARDS. CURRENT AMERICANS WITH DISABILITIES ACT STANDARDS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES IN ORDER TO PROVIDE OPTIMUM VISIBILITY TO THE ONCOMING/ APPROACHING MOTORIST. IF A PROPOSED LOCATION CONFLICTS WITH OTHER SIGNS, UTILITIES, OR OTHER ROADWAY FEATURES, THE CONTRACT ADMINISTRATOR SHALL BE NOTIFIED.
28. POST LENGTHS SHOWN ON SIGN SUMMARY ARE APPROXIMATE EXACT LENGTHS SHALL BE DETERMINED BY A FIELD SURVEY CONDUCTED BY THE CONTRACTOR.
29. ALL ASPHALT STREETS THAT ARE TO BE RECONSTRUCTED SHALL BE LEFT WITH A DRIVABLE SURFACE AT ALL TIMES. THE CONTRACTOR WILL NOT BE ALLOWED TO MILL OFF ALL THE ASPHALT BEFORE EXCAVATION BEGINS.
30. THE CONTRACTOR SHALL REPLACE ANY SECTION CORNERS OR OTHER PERMANENT RIGHT OF WAY MARKERS REMOVED OR DISTURBED AS A RESULT OF THE CONSTRUCTION OF THIS PROJECT. REPLACEMENT OF SECTION CORNERS OR ANY OTHER MONUMENTS SHALL BE PERFORMED BY A LICENSED LAND SURVEYOR AUTHORIZED TO PERFORM WORK IN THE STATE OF OKLAHOMA.
31. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL AND MAINTENANCE OF THE STORMWATER DRAINAGE. STORMWATER PONDING ON THE CONSTRUCTION SITE THAT IS THE RESULT OF CONSTRUCTION WILL NOT BE ALLOWED.
32. STRAW OR HAY BALES AS STORMWATER BEST MANAGEMENT PRACTICES ARE NO LONGER ALLOWED ON CONSTRUCTION PROJECTS.
33. THE CONTRACTOR MUST CALL 1-800-459-4251 IMMEDIATELY IF A NATURAL GAS PIPELINE IS CUT, DAMAGED, OR OTHERWISE DISTURBED.

GENERAL CONSTRUCTION NOTES (CONT'D)

34. PRIOR TO FINAL ACCEPTANCE, ALL EXPOSED CURB SURFACES SHALL BE CLEANED OF ALL DISCOLORATION SUCH AS ASPHALT STAIN, TIRE MARKS, OR OTHER DISFIGUREMENT.
35. ALL FEATURES OF THIS PROJECT INCLUDING, BUT NOT LIMITED TO, SIDEWALKS, CURB RAMPS, AND CROSSWALKS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT, ACCESSIBILITY GUIDELINES, AND THE PROPOSED ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY, PUBLISHED ON JULY 26, 2011 BY THE U.S. ACCESS BOARD, WHERE SPATIAL LIMITATIONS OR EXISTING FEATURES WITHIN THE LIMITS OF THE PROJECT PREVENT FULL COMPLIANCE WITH THIS ACT. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CONTRACT ADMINISTRATOR OF ANY ASPECT OF THE WORK WHICH DOES NOT FULLY COMPLY WITH THE ADA WITHOUT PRIOR WRITTEN APPROVAL FROM THE CONTRACT ADMINISTRATOR. ANY WORK WHICH IS NOT PERFORMED WITHIN THE GUIDELINES OF THE ADA FOR WHICH THE CONTRACTOR DOES NOT HAVE WRITTEN APPROVAL SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
36. CONTRACTOR SHALL REPAIR ANY IRRIGATION SYSTEMS DAMAGED OR REQUIRING RELOCATION DURING THE CONSTRUCTION OF THIS PROJECT TO THE SATISFACTION OF THE PROPERTY OWNER AND CITY'S CONTRACT ADMINISTRATOR. COST SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

DATE	REVISIONS

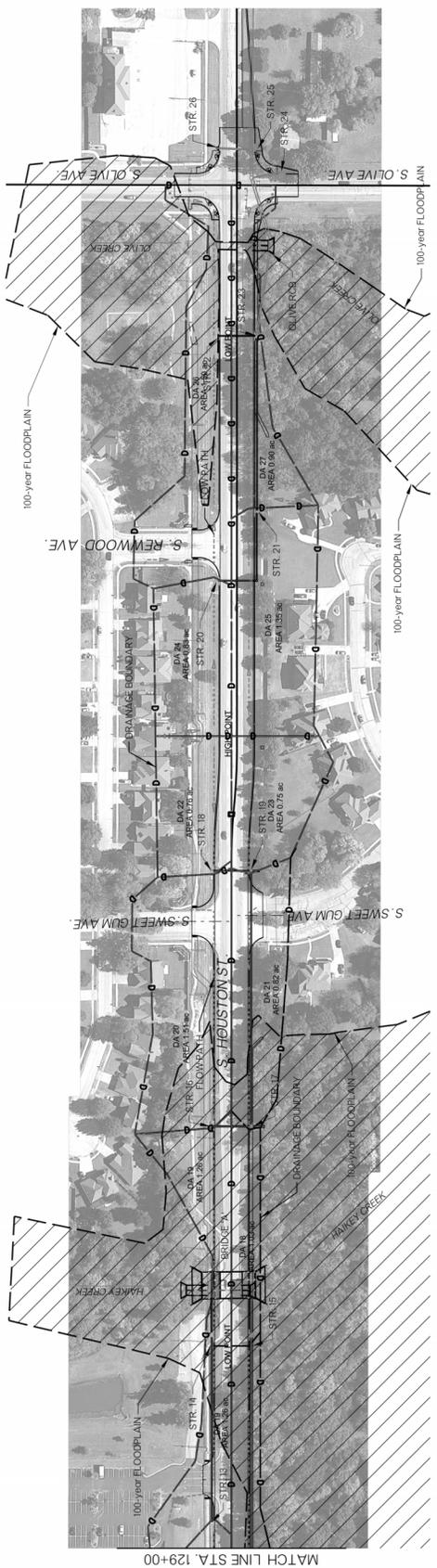
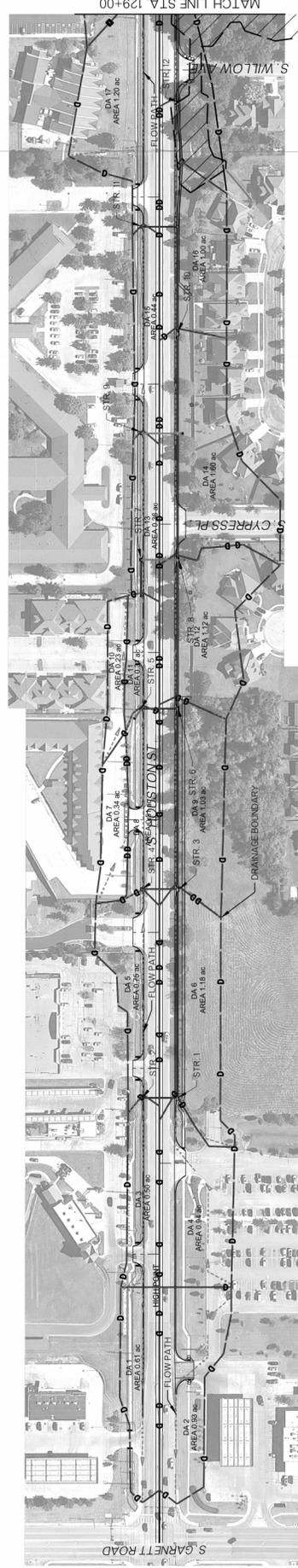


POE & ASSOCIATES INC.
Tulsa, Oklahoma

**HOUSTON STREET
WIDENING**

**GENERAL CONSTRUCTION
NOTES**

PROFILE SCALE:		DESIGN		DATE		DATE	
HORIZ.	VERT.	DATE	DATE	DATE	DATE	DATE	DATE
1" = 40'	1" = 4'	2020	2020	2020	2020	2020	2020
DRAWING NAME: SHEET		OF		PROJECT NO.		ST. 2028	



DATE	REVISIONS

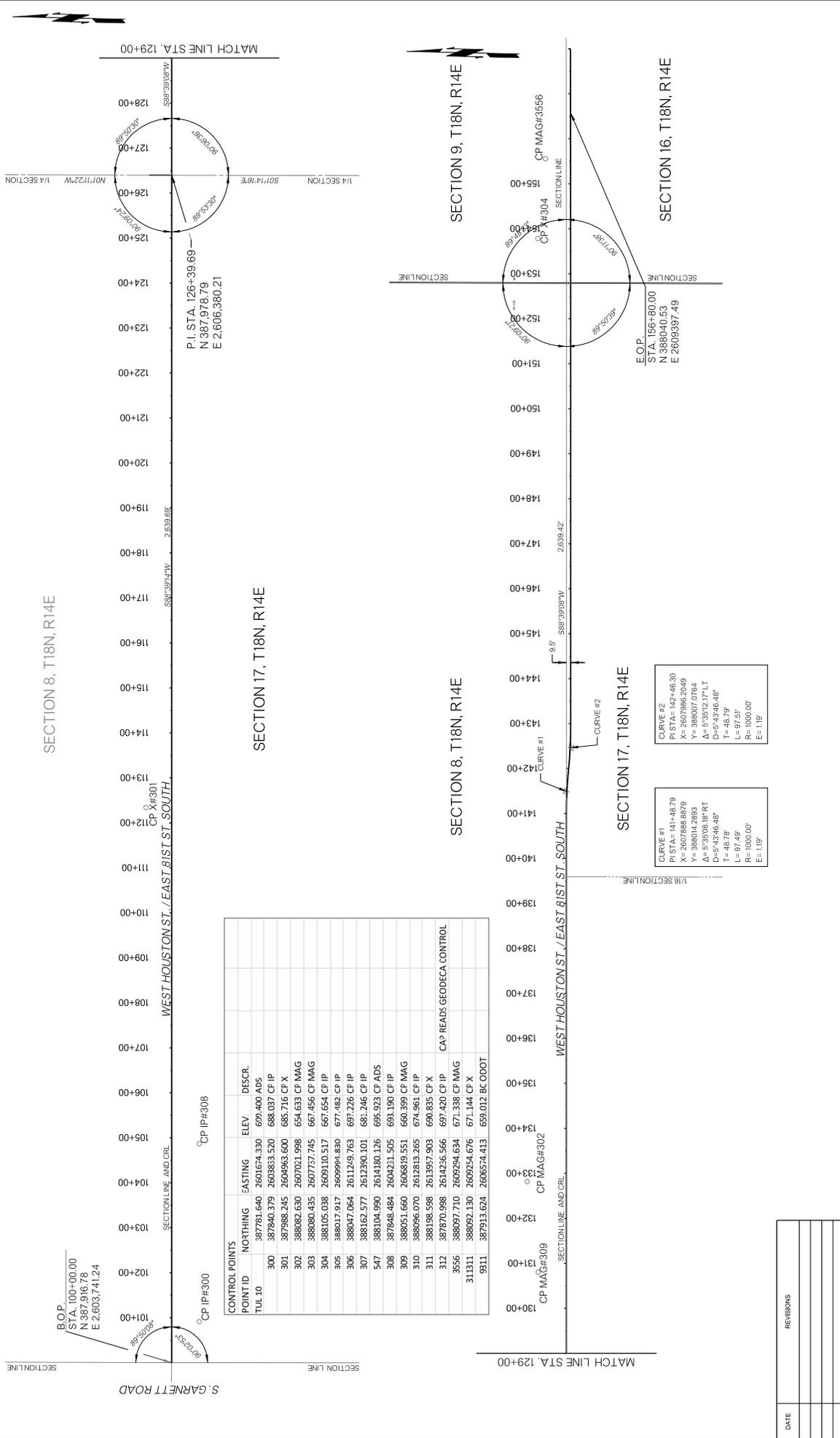


POE & ASSOCIATES INC.
Tulsa, Oklahoma

HOUSTON STREET WIDENING

DRAINAGE AREA MAP

PROFILE SCALE:	DESIGN	DATE	DRAFTED	DATE
HORIZ. 1"=100'	G/C	2020	WSL	2020
VERT.	REVIEWED	DATE	APPROVED	DATE
DRAWING NAME:	SHEET	10	PROJECT NO.	ST 2028
	OF	108		



SECTION 8, T18N, R14E

SECTION 17, T18N, R14E

SECTION 8, T18N, R14E

SECTION 17, T18N, R14E

SECTION 16, T18N, R14E

SECTION 9, T18N, R14E

B.O.P.
STA. 100+00.00
N 387.91678
E 2.603.74124

P.I. STA. 126+39.69
N 387.97879
E 2.606.380.21

E.O.P.
STA. 156+80.00
N 386040.53
E 2609397.49

POINT ID	NORTHING	EASTING	ELEV.	DISCR.
TUL 10	387781.640	2601674.330	679.400	ADS
300	387840.379	2603833.520	688.037	CP IP
301	387988.245	2604963.600	685.716	CP X
302	388082.630	2607021.998	654.633	CP MAG
303	388080.455	2607737.745	667.456	CP MAG
304	388105.058	2609110.517	667.654	CP IP
305	388017.917	2609994.830	677.482	CP IP
306	388047.064	2611249.763	697.226	CP IP
307	388162.577	2612390.101	681.246	CP IP
308	387848.484	2604231.505	695.923	CP ADS
309	388051.660	2606819.551	660.399	CP MAG
310	388096.070	2612813.265	674.961	CP X
311	388198.598	2613957.903	690.835	CP X
312	387870.998	2614236.566	697.420	CP IP
3556	388097.710	2609294.634	671.338	CP MAG
311311	388092.130	2609254.676	671.144	CP X
9111	387913.624	2606574.413	659.012	BC ODOT

CAP READS GEODECA CONTROL

CURVE #1
P.I. STA = 141+48.79
X = 2607888.8979
Y = 652932.1714
A = 87.00838987
D = 54.3346.48°
T = 48.78°
L = 97.51'
R = 1000.00'
E = 1.19'

CURVE #2
P.I. STA = 142+46.30
X = 2607986.2049
Y = 652932.1714
A = 53.9232.1714
D = 54.3346.48°
T = 48.78°
L = 97.51'
R = 1000.00'
E = 1.19'

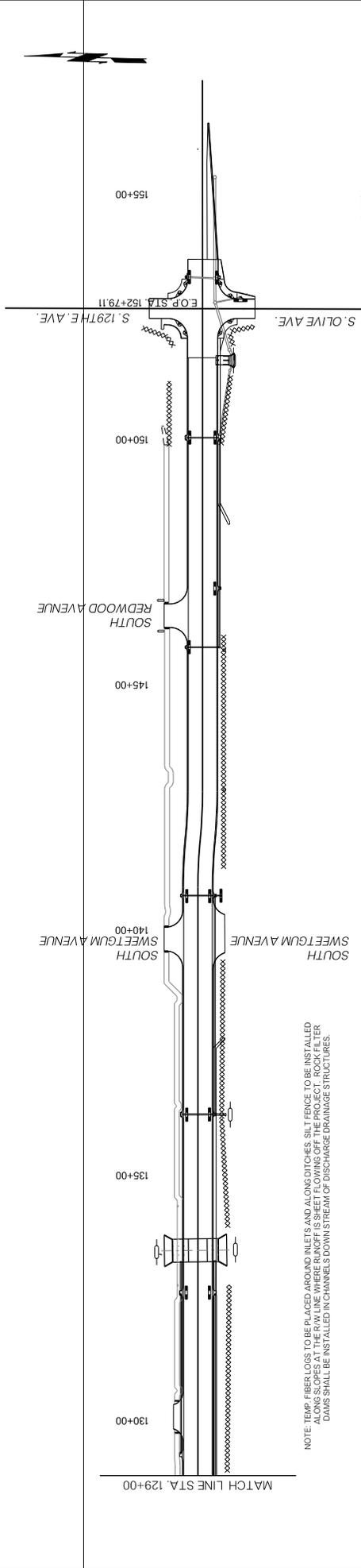
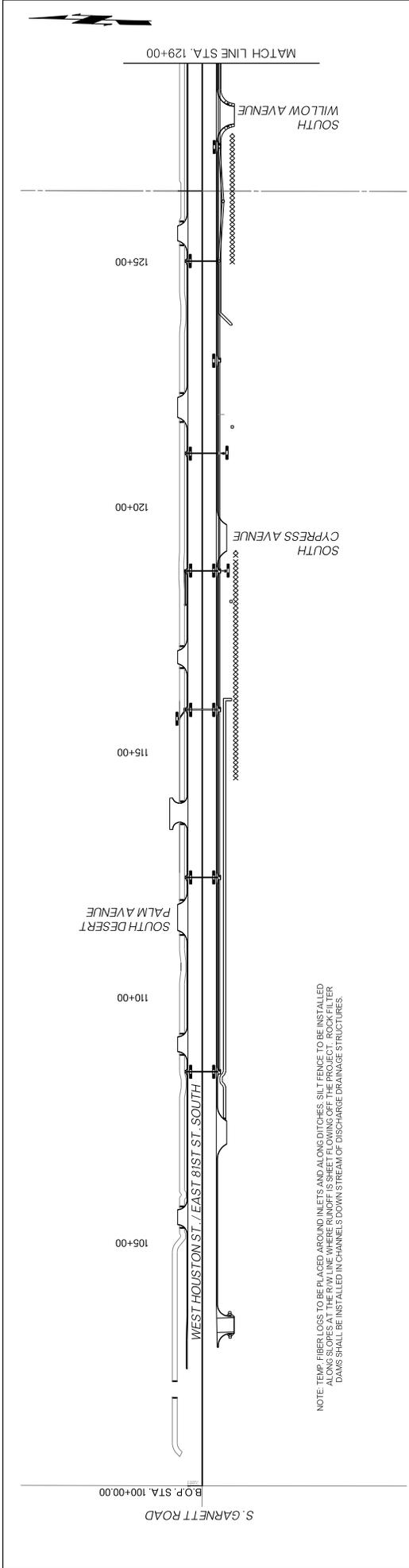
DATE	REVISIONS

CITY OF BROKEN ARROW
Where opportunity lives

POE & ASSOCIATES INC.
Tulsa, Oklahoma

SURVEY DATA

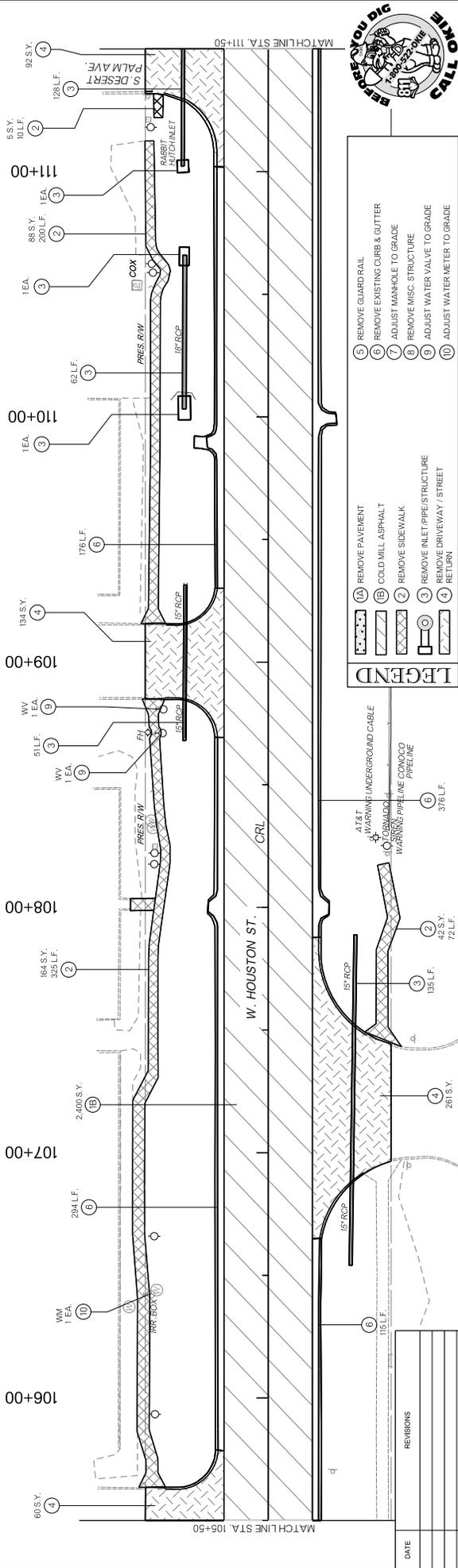
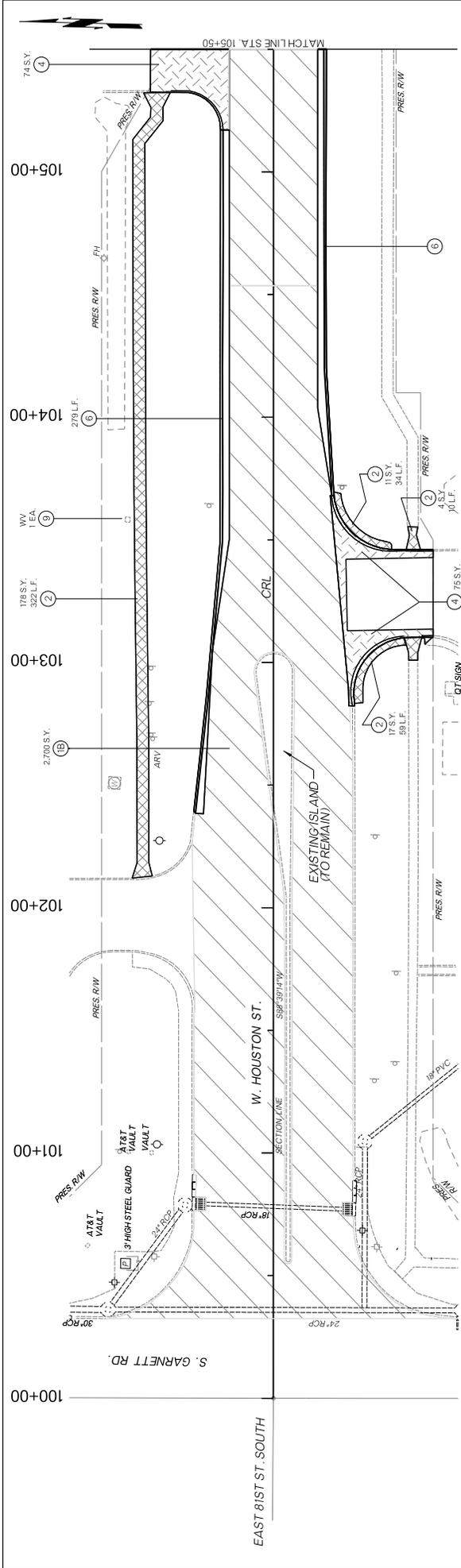
PROFILE SCALE:	DESIGN	DATE	DRAFTED	DATE
HORIZ. 1"=50'	CAC	2020	WSL	2020
VERT. 1"=5'	REVIEWED	DATE	APPROVED	DATE
DRAWING NAME:	SHEET	14	PROJECT NO.	ST. 2028
PLAN	OF	108		



- LEGEND
- SILT FENCE
 - TEMP ROCK-FILTER DAMS
 - FIBER LOGS (AROUND INLETS)

DATE	REVISIONS

 <p>CITY OF BROKEN ARROW Where opportunity lives</p>	 <p>POE & ASSOCIATES INC. Tulsa, Oklahoma</p>	<p>HOUSTON STREET WIDENING</p>	<p>EROSION CONTROL</p>
<p>PROFILE SCALE: DESIGN DATE 2020 DRAFTED DATE 2020 HORZ. 1" = 100' G/C 2020 W/S 2020 VERT. 1" = 10' DATE 2020 APPROVED DATE 2020 DRAWING NAME: SHEET 15 OF PROJECT NO. ST. 2028 303909-ERO.dgn</p>			



- LEGEND**
- (1A) REMOVE PAVEMENT
 - (1B) COLD MILL ASPHALT
 - (2) REMOVE SIDEWALK
 - (3) REMOVE INLET/PIPE/STRUCTURE
 - (4) REMOVE DRIVEWAY / STREET RETURN
 - (5) REMOVE GUARD RAIL
 - (6) REMOVE EXISTING CURB & GUTTER
 - (7) ADJUST MANHOLE TO GRADE
 - (8) REMOVE MISC. STRUCTURE
 - (9) ADJUST WATER VALVE TO GRADE
 - (10) ADJUST WATER METER TO GRADE

- (1) AT&T UNDERGROUND CABLE
- (2) COLD MILL ASPHALT
- (3) REMOVE SIDEWALK
- (4) REMOVE DRIVEWAY / STREET RETURN
- (5) REMOVE INLET/PIPE/STRUCTURE
- (6) REMOVE DRIVEWAY / STREET RETURN
- (7) ADJUST WATER VALVE TO GRADE
- (8) REMOVE MISC. STRUCTURE
- (9) ADJUST WATER METER TO GRADE
- (10) ADJUST WATER METER TO GRADE

- (1) AT&T UNDERGROUND CABLE
- (2) COLD MILL ASPHALT
- (3) REMOVE SIDEWALK
- (4) REMOVE DRIVEWAY / STREET RETURN
- (5) REMOVE INLET/PIPE/STRUCTURE
- (6) REMOVE DRIVEWAY / STREET RETURN
- (7) ADJUST WATER VALVE TO GRADE
- (8) REMOVE MISC. STRUCTURE
- (9) ADJUST WATER METER TO GRADE
- (10) ADJUST WATER METER TO GRADE

DATE	REVISIONS

DATE: _____
 REVISIONS: _____

CITY OF BROKEN ARROW
Where opportunity lives

HOUSTON STREET WIDENING

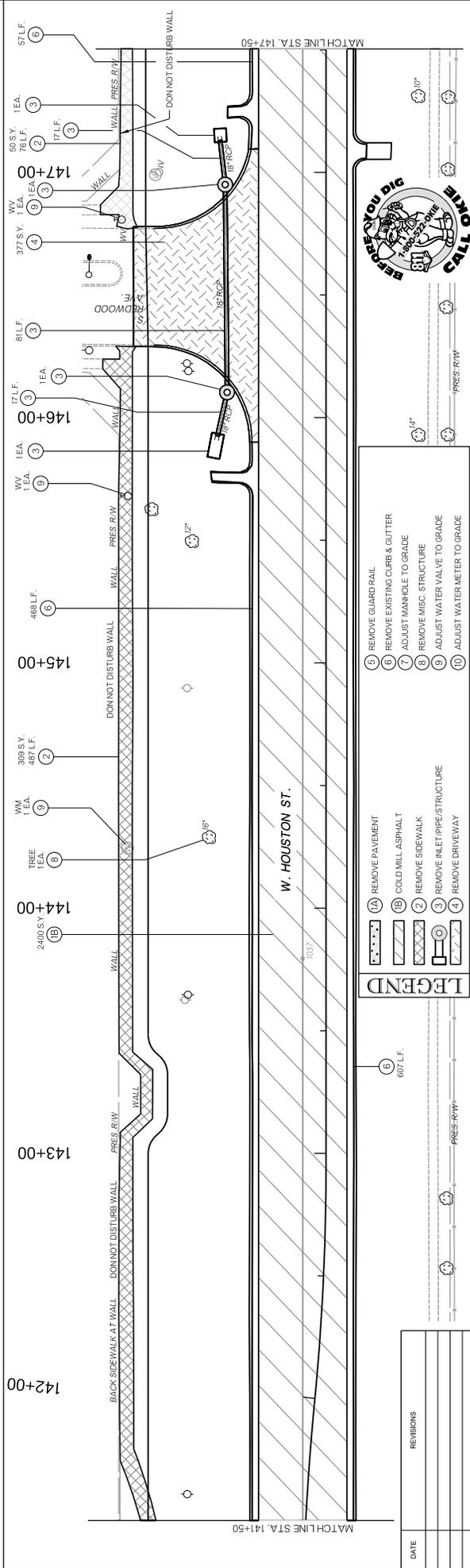
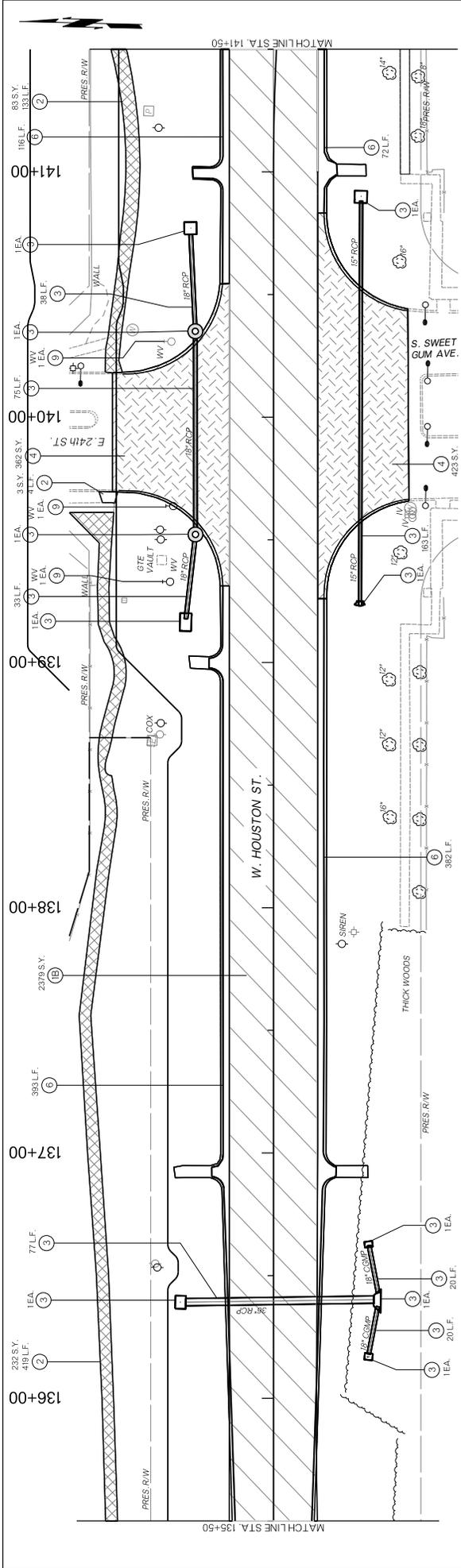
REMOVAL PLANS (1)

POE & ASSOCIATES INC.
 Tulsa, Oklahoma

DESIGN

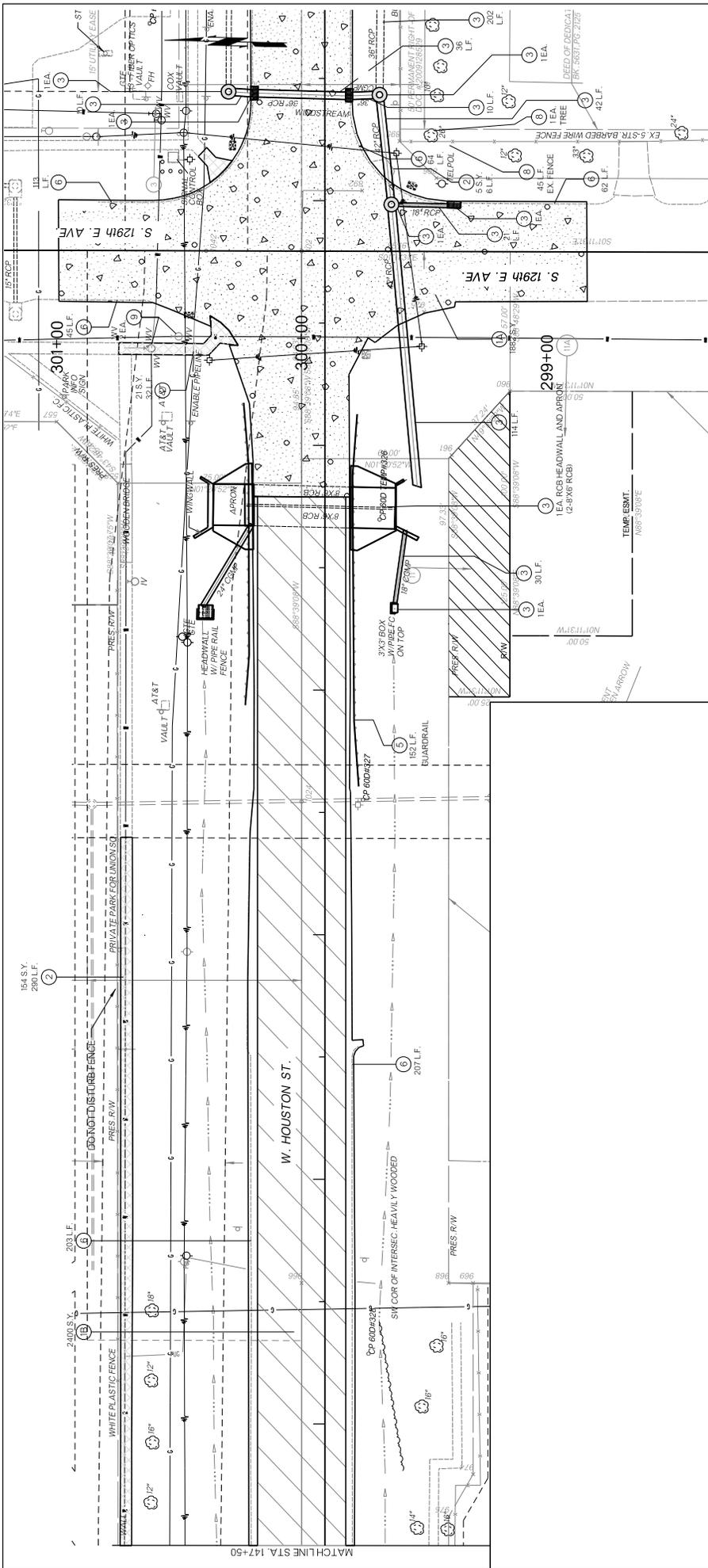
DATE	2020
DESIGNED BY	
CHECKED BY	
DATE	2020
DESIGNED BY	
CHECKED BY	
DATE	2020
DESIGNED BY	
CHECKED BY	

PROJECT NO. 303909-REM.DGN
SHEET 16 OF 108



- LEGEND**
- (1) REMOVE PAVEMENT
 - (2) GOLD MILL ASPHALT
 - (3) REMOVE SIDEWALK
 - (4) REMOVE INLET/PIPE STRUCTURE
 - (5) REMOVE DRIVEWAY
 - (6) REMOVE GUARD RAIL
 - (7) REMOVE EXISTING CURB & GUTTER
 - (8) ADJUST MANNHOLE TO GRADE
 - (9) REMOVE MISC. STRUCTURE
 - (10) ADJUST WATER VALVE TO GRADE
 - (11) ADJUST WATER METER TO GRADE

DATE	REVISIONS	
 CITY OF BROKEN ARROW <i>Where opportunity lives</i>		
 POE & ASSOCIATES INC. Tulsa, Oklahoma		
HOUSTON STREET WIDENING REMOVAL PLANS (4)		
PROFILE SCALE: 1"=20' HORIZ. 1"=20' VERT. 1"=10' HORIZONTAL SCALE IN FEET: 0 20 40 VERTICAL SCALE IN FEET: 0 5 10		
DESIGN DATE	DRAFTED DATE	DATE
REVIEWED DATE	APPROVED DATE	DATE
DRAWING NAME: SHEET	SHEET	PROJECT NO.
30309-REM.DGN	19	ST. 2028



- LEGEND**
- 1 REMOVE PAVEMENT
 - 2 REMOVE SIDEWALK
 - 3 REMOVE INLET PIPE/STRUCTURE
 - 4 REMOVE DRIVEWAY
 - 5 REMOVE GUARD RAIL
 - 6 REMOVE EXISTING CURB
 - 7 ADJUST TO MANHOLE GRADE
 - 8 REMOVE MISC. STRUCTURE
 - 9 ADJUST WATER VALVE TO GRADE
 - 10 ADJUST WATER METER TO GRADE

DESIGN	DATE	DRAFTED	DATE
GAC	2020	WSL	2020
REVIEWED	DATE	APPROVED	DATE
VERT. _NA_			
DRAWING NAME:	303909-REM.DWG		
SHEET	20	PROJECT NO.	303909-REM.DWG
OF	108	SY	2008

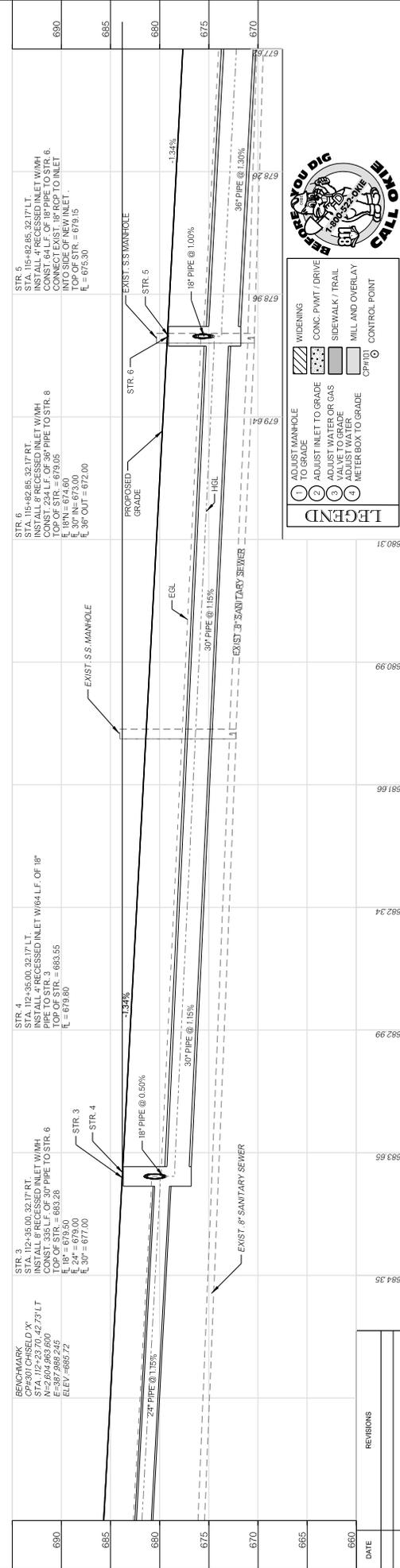
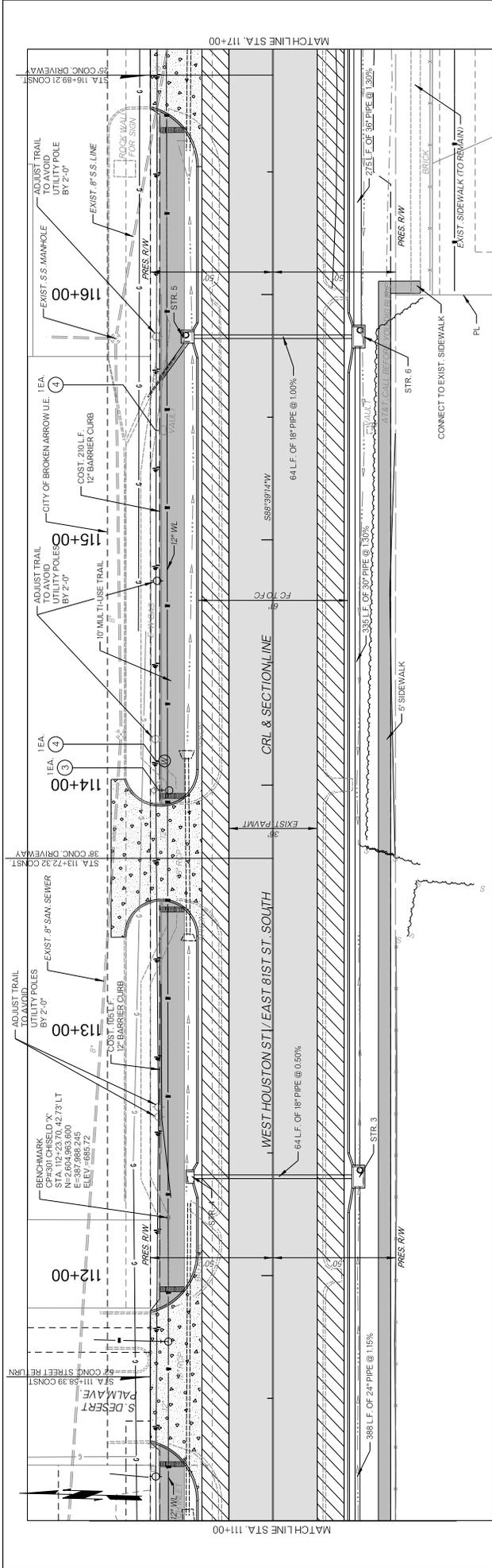
REMOVAL PLANS (5)

HOUSTON STREET WIDENING

POE & ASSOCIATES INC.
Tulsa, Oklahoma

CITY OF BROKEN ARROW
Where opportunity lives

DATE	REVISIONS



LEGEND

- 1 ADJUST MANHOLE TO GRADE
- 2 ADJUST INLET TO GRADE
- 3 VALVE TO GRADE
- 4 ADJUST WATER METER BOX TO GRADE
- WIDENING
- CONC. PAVT / DRIVE
- SIDEWALK / TRAIL
- MILL AND OVERLAY
- CONTROL POINT



DATE	REVISIONS	PROFILE SCALE:	DESIGN	DATE	DRAFTED	DATE
680		HORIZ. 1"=50'	HORIZ. 1"=50'	2020	WSL	2020
685		VERT. 1"=5'	REVIEWED	2020	DATE	APPROVED
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695			DATE	2020	DATE	2020
700			DATE	2020	DATE	2020
705			DATE	2020	DATE	2020
710			DATE	2020	DATE	2020
715			DATE	2020	DATE	2020
720			DATE	2020	DATE	2020
725			DATE	2020	DATE	2020
730			DATE	2020	DATE	2020
735			DATE	2020	DATE	2020
740			DATE	2020	DATE	2020
745			DATE	2020	DATE	2020
750			DATE	2020	DATE	2020
755			DATE	2020	DATE	2020
760			DATE	2020	DATE	2020
765			DATE	2020	DATE	2020
770			DATE	2020	DATE	2020
775			DATE	2020	DATE	2020
780			DATE	2020	DATE	2020
785			DATE	2020	DATE	2020
790			DATE	2020	DATE	2020
795			DATE	2020	DATE	2020
800			DATE	2020	DATE	2020
805			DATE	2020	DATE	2020
810			DATE	2020	DATE	2020
815			DATE	2020	DATE	2020
820			DATE	2020	DATE	2020
825			DATE	2020	DATE	2020
830			DATE	2020	DATE	2020
835			DATE	2020	DATE	2020
840			DATE	2020	DATE	2020
845			DATE	2020	DATE	2020
850			DATE	2020	DATE	2020
855			DATE	2020	DATE	2020
860			DATE	2020	DATE	2020
865			DATE	2020	DATE	2020
870			DATE	2020	DATE	2020
875			DATE	2020	DATE	2020
880			DATE	2020	DATE	2020
885			DATE	2020	DATE	2020
890			DATE	2020	DATE	2020
895			DATE	2020	DATE	2020
900			DATE	2020	DATE	2020
905			DATE	2020	DATE	2020
910			DATE	2020	DATE	2020
915			DATE	2020	DATE	2020
920			DATE	2020	DATE	2020
925			DATE	2020	DATE	2020
930			DATE	2020	DATE	2020
935			DATE	2020	DATE	2020
940			DATE	2020	DATE	2020
945			DATE	2020	DATE	2020
950			DATE	2020	DATE	2020
955			DATE	2020	DATE	2020
960			DATE	2020	DATE	2020
965			DATE	2020	DATE	2020
970			DATE	2020	DATE	2020
975			DATE	2020	DATE	2020
980			DATE	2020	DATE	2020
985			DATE	2020	DATE	2020
990			DATE	2020	DATE	2020
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1000			DATE	2020	DATE	2020

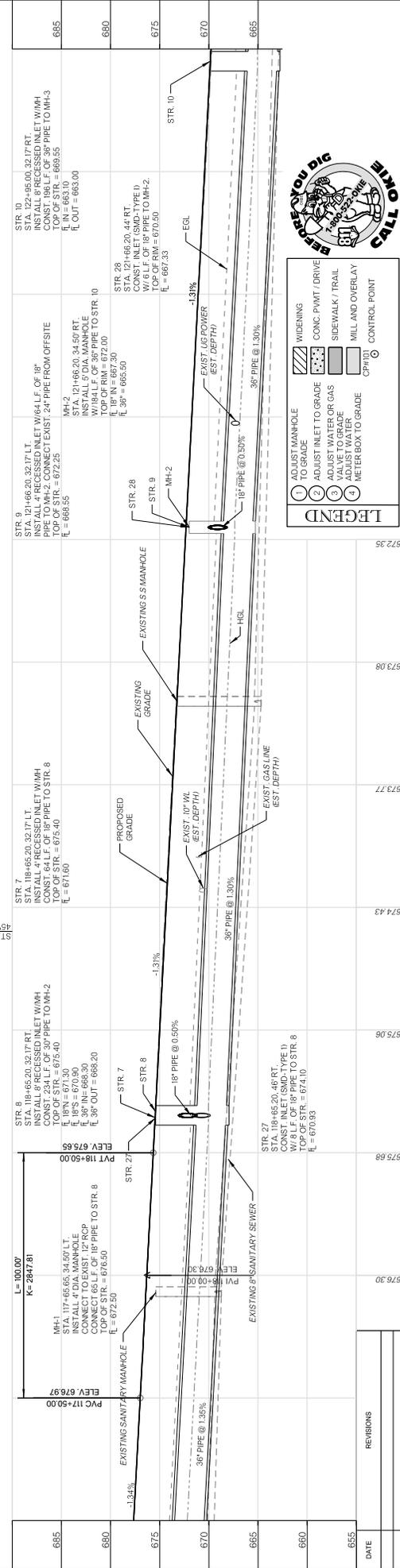
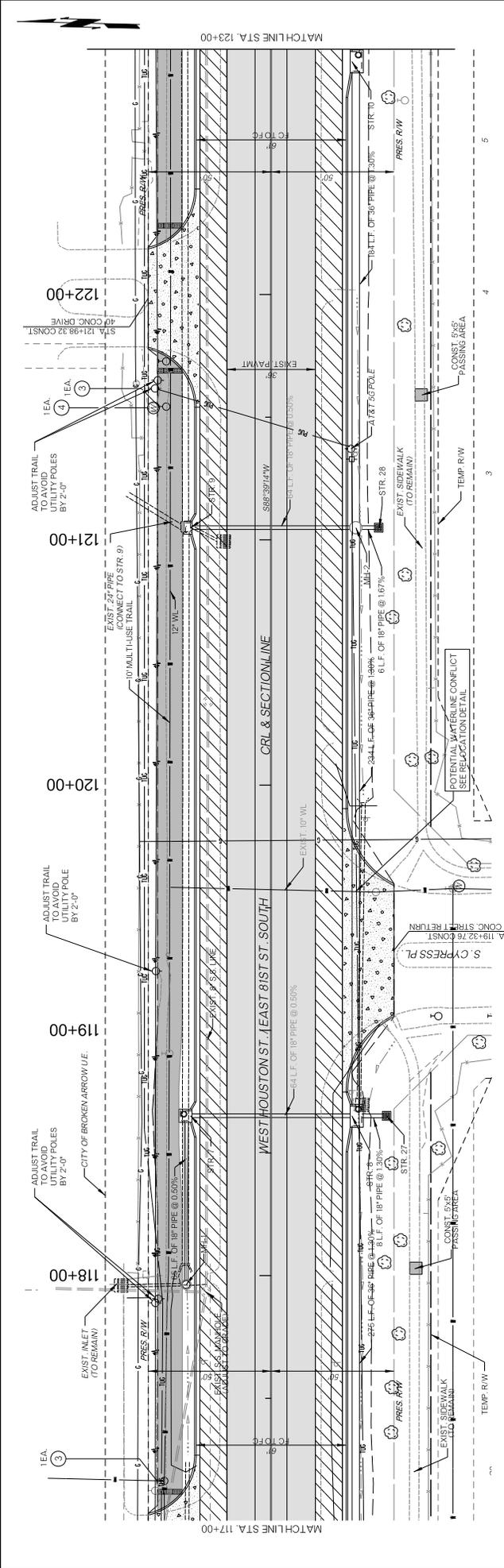
HOUSTON STREET WIDENING

HORIZONTAL SCALE IN FEET
 0 20 40
 0 5 10
 VERTICAL SCALE IN FEET

POE & ASSOCIATES INC.
 Tulsa, Oklahoma

CITY OF BROKEN ARROW
 Where opportunity lives





DATE	REVISIONS	STATION	ELEVATION

CITY OF BROKEN ARROW
Where opportunity lives

POE & ASSOCIATES INC.
Tulsa, Oklahoma

HOUSTON STREET WIDENING

PLAN & PROFILE (4)

PROFILE SCALE: 1"=20'

HORIZ. 1"=50'

VERT. 1"=5'

HORIZONTAL SCALE IN FEET

0 20 40

VERTICAL SCALE IN FEET

0 5 10

DESIGN DATE: 12/2020

W/S: 2020

REVIEWED DATE: 1/2021

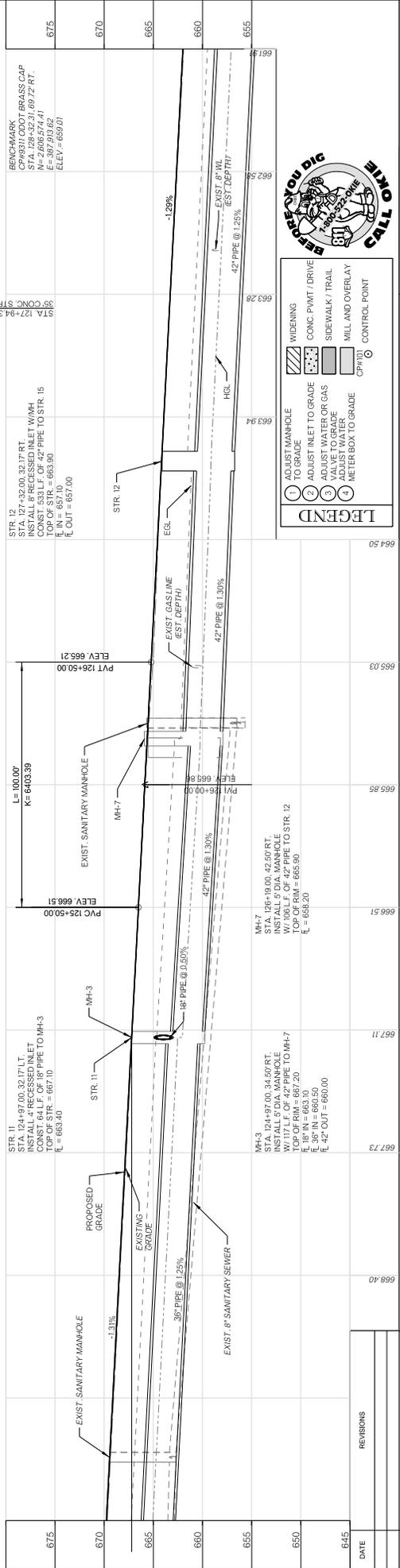
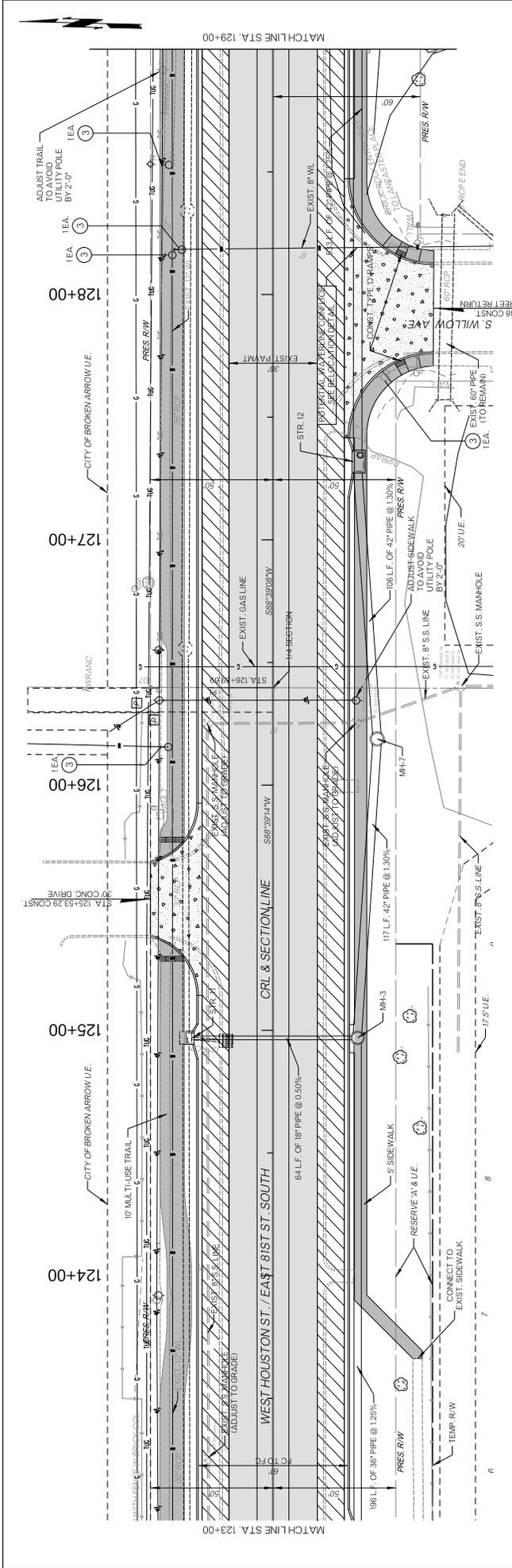
APPROVED DATE: 2/2021

DRAWING NAME: SHEET 24 OF 108

PROJECT NO. 303909-PNP-021

LEGEND

- 1 ADJUST MANHOLE TO GRADE
- 2 ADJUST INLET TO GRADE
- 3 SIDEWALK / TRAIL VALVE TO GRADE
- 4 METER BOX TO GRADE
- 5 WIDENING
- 6 CONC. PAVT / DRIVE
- 7 MILL AND OVERLAY
- 8 CONTROL POINT



DATE	REVISIONS	DESIGN	DATE	DATE	DATE	DATE
675		WSP	2020	2020	2020	2020
670		REV	2020	2020	2020	2020
665		APP	2020	2020	2020	2020
660		DES	2020	2020	2020	2020
655		CHK	2020	2020	2020	2020
650		DRW	2020	2020	2020	2020
645		CON	2020	2020	2020	2020

PROFILE SCALE: 1"=20'		DATE	
HORIZ. 1"=50'	VERT. 1"=5'	DESIGN	DATE
		REVISED	DATE
		APPROVED	DATE
		SHEET	PROJECT NO.
		OF	ST. 2028

HORIZONTAL SCALE IN FEET		VERTICAL SCALE IN FEET	
0	20	0	10
5	5	5	5
10	10	10	10

CITY OF BROKEN ARROW
Where opportunity lives

POE & ASSOCIATES INC.
Tulsa, Oklahoma

HOUSTON STREET WIDENING

PLAN & PROFILE (5)

LEGEND

- 1 ADJUST MANHOLE TO GRADE
- 2 ADJUST INLET TO GRADE
- 3 VALVE TO GRADE
- 4 METER BOX TO GRADE

LEGEND

- WIDENING
- CONC. PAVT / DRIVE
- SIDEWALK / TRAIL
- MILL AND OVERLAY
- CONTROL POINT



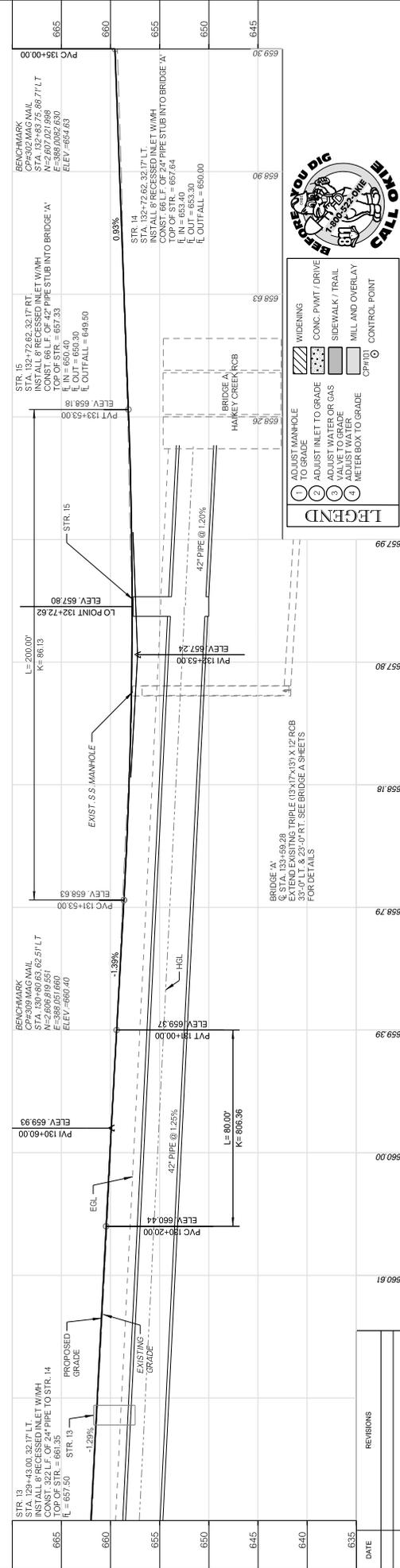
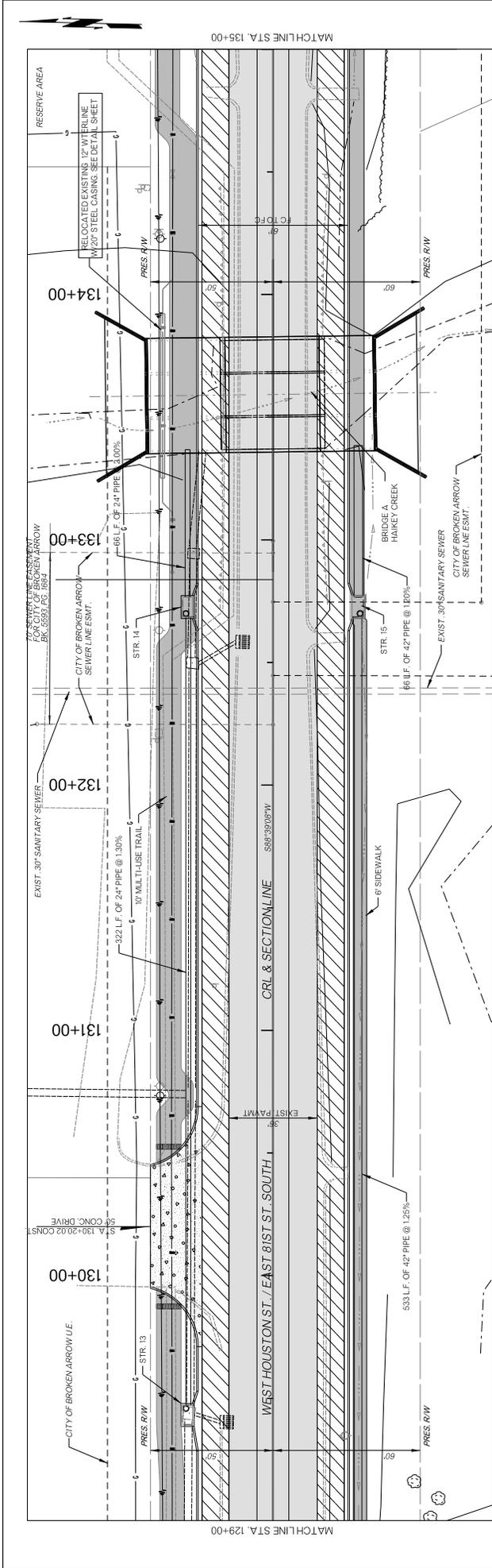
STR. 12 STA. 127+52.00, 32.77 RT. CONST. 5331 L.F. OF 42" PIPE TO STR. 15 TOP OF STR. = 663.90 E. IN = 657.10 E. OUT = 657.00

STR. 11 STA. 124+97.00, 34.50 RT. CONST. 64 L.F. OF 18" PIPE TO MH-3 TOP OF STR. = 667.10 E. = 663.40

STR. 12 STA. 126+19.00, 42.50 RT. CONST. 64 L.F. OF 42" PIPE TO STR. 12 TOP OF STR. = 665.90 E. = 658.20

STR. 12 STA. 127+94.38 CONST. 38" CONC. STREET REINFORC. E. IN = 657.10 E. OUT = 657.00

BENCHMARK CP#6310007 BRASS CAP ELEV. = 659.2 FT. N = 2686.574.41 E = 387.915.62 ELEV. = 659.01



DATE	REVISIONS	PROFILE SCALE:	DESIGN	DATE	DATE
6/35		HORIZ. 1"=50'	DESIGN	2020	2020
		VERT. 1"=5'	REVIEWED	2020	2020
			APPROVED	2020	2020
			SHEET	26	PROJECT NO.
			OF	108	3030909-PNP-051



HOUSTON STREET WIDENING

POE & ASSOCIATES INC.
Tulsa, Oklahoma

CITY OF BROKEN ARROW
Where opportunity lives

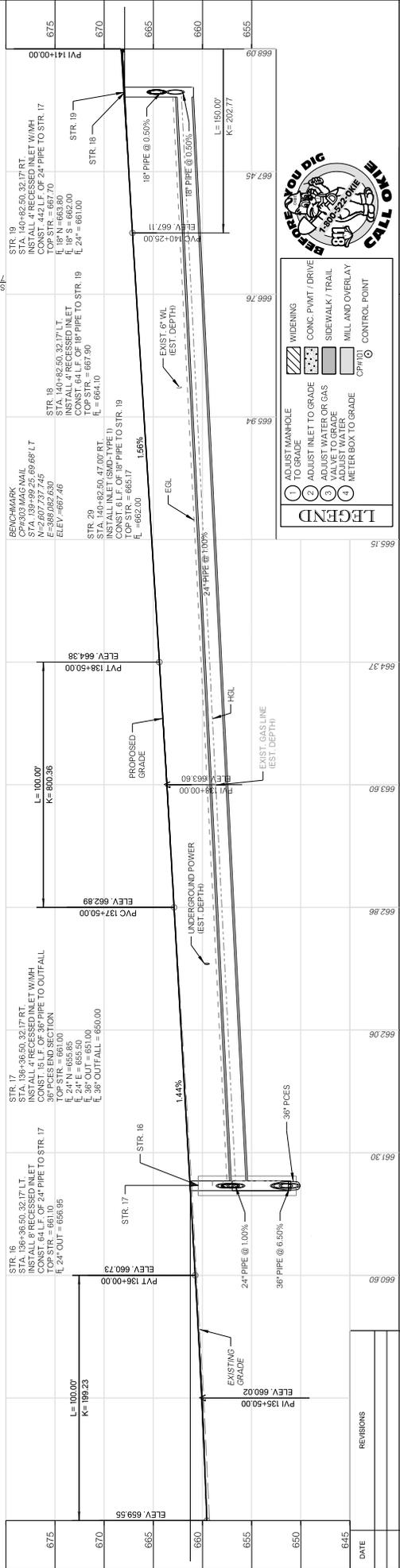
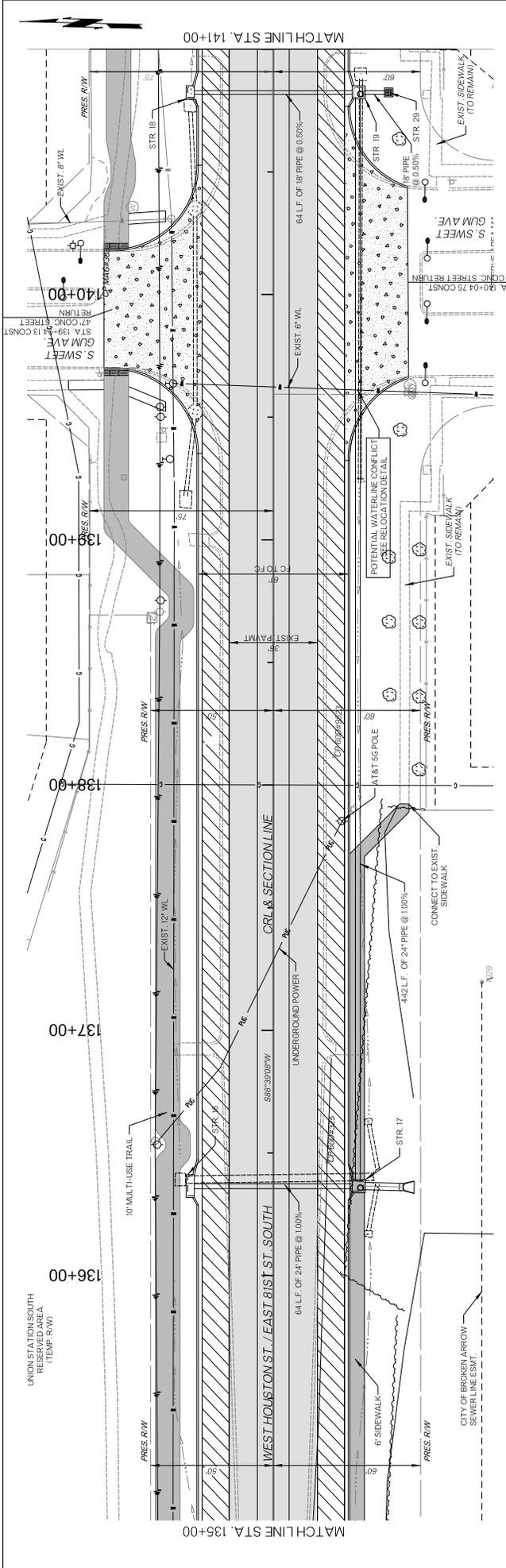
PLAN & PROFILE (6)

LEGEND

- 1 ADJUST MANHOLE TO GRADE
- 2 ADJUST INLET TO GRADE
- 3 SIDEWALK / TRAIL VALVE TO GRADE
- 4 ADJUST WATER METER BOX TO GRADE
- 5 CONC. PAVT / DRIVE
- 6 SIDEWALK / TRAIL
- 7 MILL AND OVERLAY
- 8 CONTROL POINT

LEGEND

- 1 ADJUST MANHOLE TO GRADE
- 2 ADJUST INLET TO GRADE
- 3 SIDEWALK / TRAIL VALVE TO GRADE
- 4 ADJUST WATER METER BOX TO GRADE
- 5 CONC. PAVT / DRIVE
- 6 SIDEWALK / TRAIL
- 7 MILL AND OVERLAY
- 8 CONTROL POINT



LEGEND

- 1 ADJUST MANHOLE TO GRADE
- 2 ADJUST INLET TO GRADE
- 3 VALVE TO GRADE
- 4 METER BOX TO GRADE
- WIDENING
- CONC. PAVT / DRIVE
- SIDEWALK / TRAIL
- MILL AND OVERLAY
- CONTROL POINT

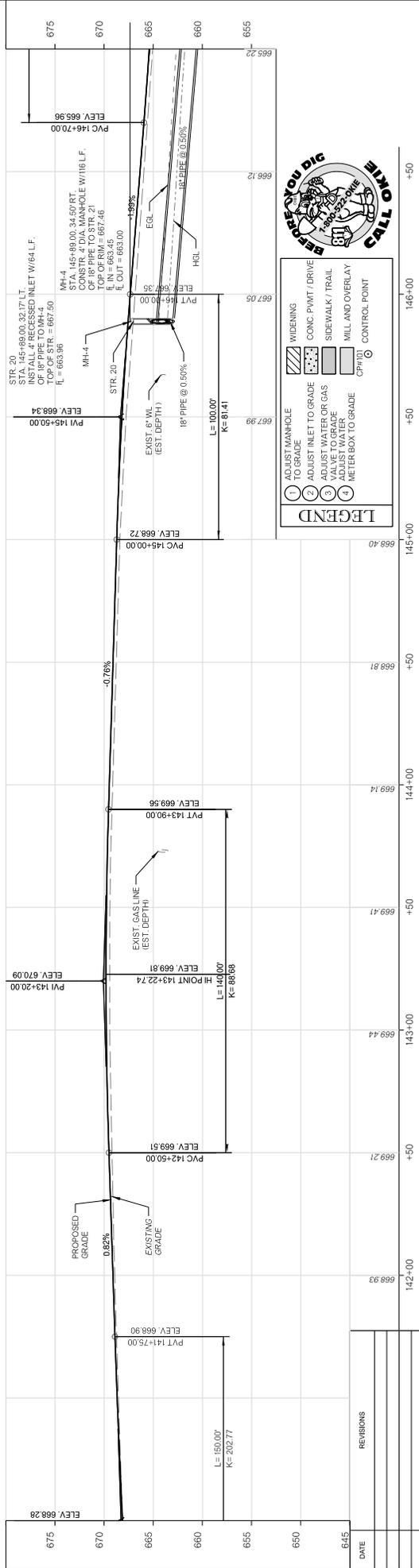
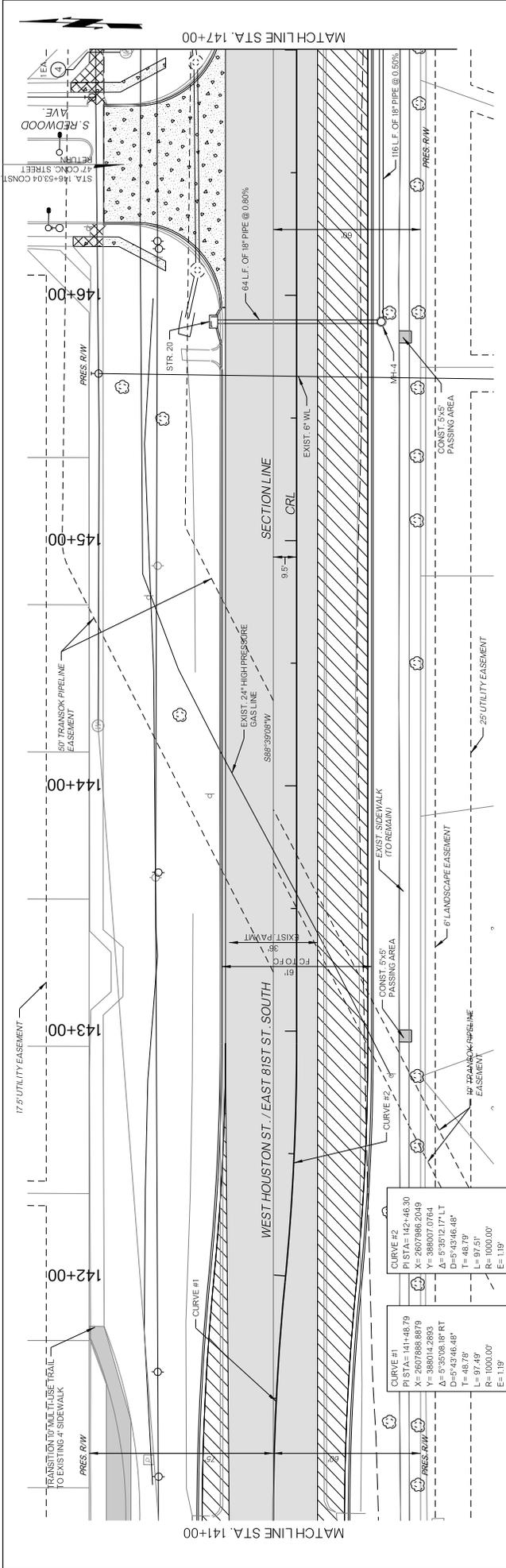
REVISIONS		DESIGN		DATE	
NO.	DESCRIPTION	BY	DATE	APPROVED	DATE

PROJECT NO.	30309-PNP-021
SHEET NO.	27
DATE	08
APPROVED	
DATE	2020
REVIEWED	
DATE	2020
DESIGN	
DATE	2020
W.S.L.	
DRAFTED	
DATE	2020

PLAN & PROFILE (7)

HOUSTON STREET WIDENING	

 POE & ASSOCIATES INC. Tulsa, Oklahoma	 CITY OF BROKEN ARROW Where opportunity lives



- LEGEND**
- 1 ADJUST MANHOLE TO GRADE
 - 2 ADJUST INLET TO GRADE
 - 3 ADJUST VALVE TO GRADE
 - 4 METER BOX TO GRADE
 - WIDENING
 - CONC. PAVT / DRIVE
 - SIDEWALK / TRAIL
 - MILL AND OVERLAY
 - CONTROL POINT

DATE		DESIGN		DATE		DATE	
142-00		143-00		144-00		145-00	
146-00		147-00		148-00		149-00	
150-00		151-00		152-00		153-00	
154-00		155-00		156-00		157-00	
158-00		159-00		160-00		161-00	
162-00		163-00		164-00		165-00	
166-00		167-00		168-00		169-00	
170-00		171-00		172-00		173-00	
174-00		175-00		176-00		177-00	
178-00		179-00		180-00		181-00	
182-00		183-00		184-00		185-00	
186-00		187-00		188-00		189-00	
190-00		191-00		192-00		193-00	
194-00		195-00		196-00		197-00	
198-00		199-00		200-00		201-00	
202-00		203-00		204-00		205-00	
206-00		207-00		208-00		209-00	
210-00		211-00		212-00		213-00	
214-00		215-00		216-00		217-00	
218-00		219-00		220-00		221-00	
222-00		223-00		224-00		225-00	
226-00		227-00		228-00		229-00	
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422-00		423-00		424-00		425-00	
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622-00		623-00		624-00		625-00	
626-00		627-00		628-00		629-00	
630-00		631-00		632-00		633-00	
634-00		635-00		636-00		637-00	
638-00		639-00		640-00		641-00	
642-00		643-00		644-00		645-00	

PLAN & PROFILE (8)

HOUSTON STREET WIDENING

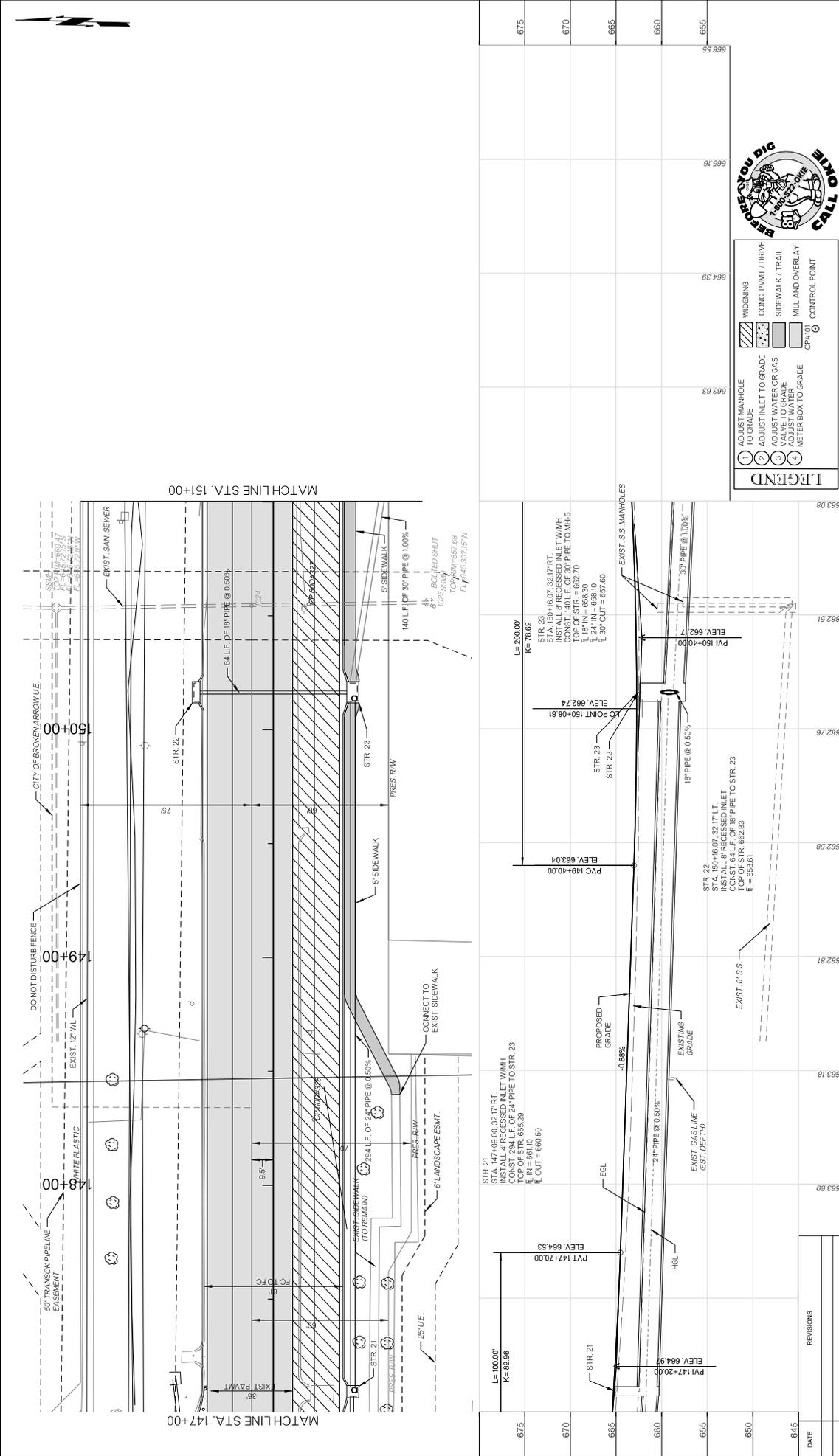
POE & ASSOCIATES INC.
Tulsa, Oklahoma

CITY OF BROKEN ARROW
Where opportunity lives

DATE: _____

REVISIONS:

NO.	DESCRIPTION



DATE	645	650	655	660	665	670	675
REVISIONS							

CITY OF BROKEN ARROW
Where opportunity lives

POE & ASSOCIATES INC.
Tulsa, Oklahoma

**HOUSTON STREET
WIDENING**

PROFILE SCALE: 1"=20'

HORIZONTAL SCALE IN FEET: 1"=20'

VERTICAL SCALE IN FEET: 1"=10'

LEGEND

- 1 ADJUST MANHOLE TO GRADE
- 2 ADJUST INLET TO GRADE
- 3 ADJUST VALVE TO GRADE
- 4 METER BOX TO GRADE

WIDENING

- CONC. PAVT DRIVE
- SIDEWALK / TRAIL
- MILL AND OVERLAY

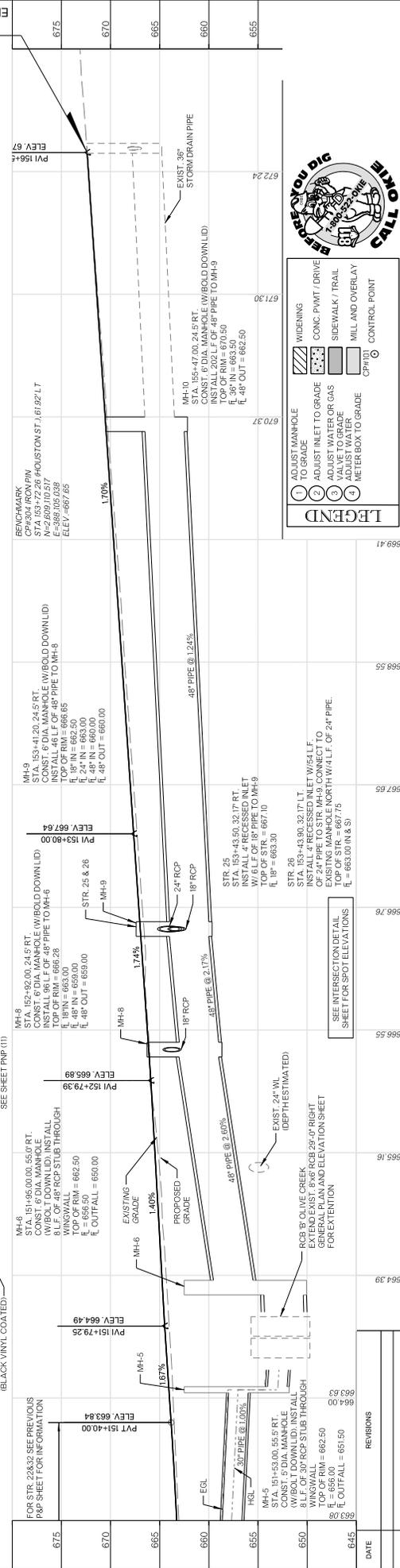
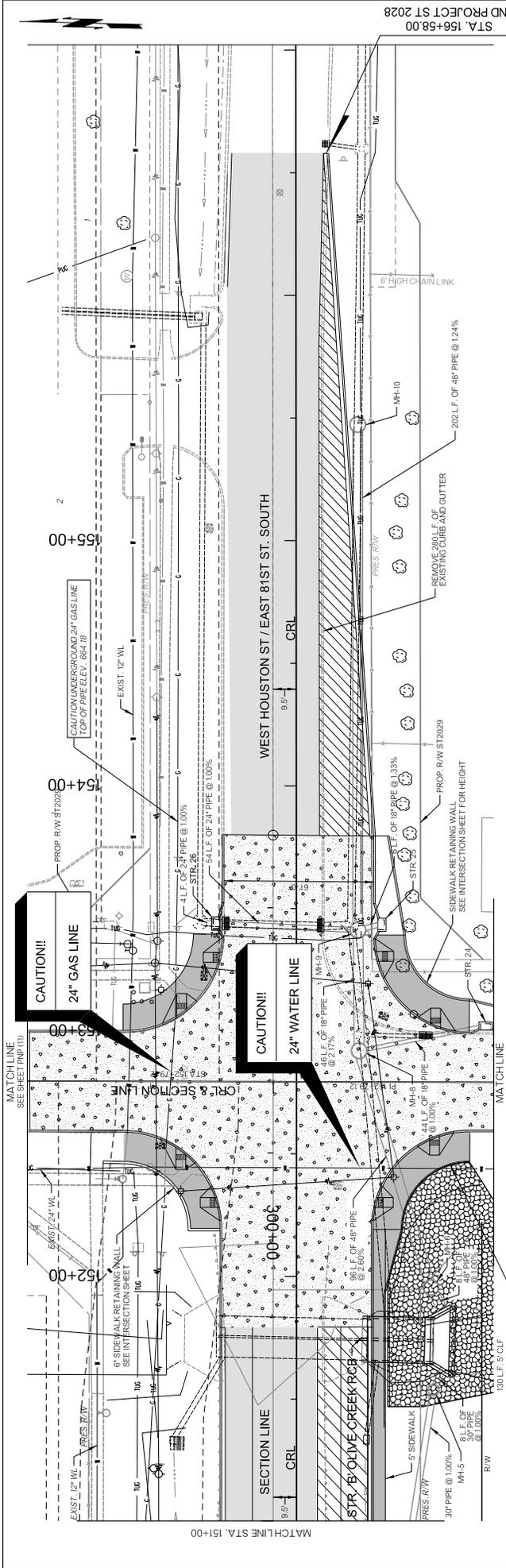
CONTROL POINT

- CP (PVI)

**BEFORE YOU DIG
CALL 811**

DATE: 10/29/2020
DRAFTED: WSL
DATE: 11/07/2020
DESIGN: GJC
DATE: 11/07/2020
REVIEWED: DATE: 11/07/2020
APPROVED: DATE: 11/07/2020

DRAWING NAME: SHEET 29 OF 108
PROJECT NO. 30309-PNP-001
ST. 2028



LEGEND

- 1 ADJUST MANHOLE TO GRADE
- 2 ADJUST INLET TO GRADE
- 3 VALVE TO GRADE
- 4 METER BOX TO GRADE
- WIDENING
- CONC. PAVT / DRIVE
- SIDEWALK / TRAIL
- MILL AND OVERLAY
- CONTROL POINT

DATE	REVISIONS	152+00	+50	153+00	+50	154+00	+50	155+00	+50	156+00	+50	157+00
645												
650												
655												
660												
665												
670												
675												



HOUSTON STREET WIDENING

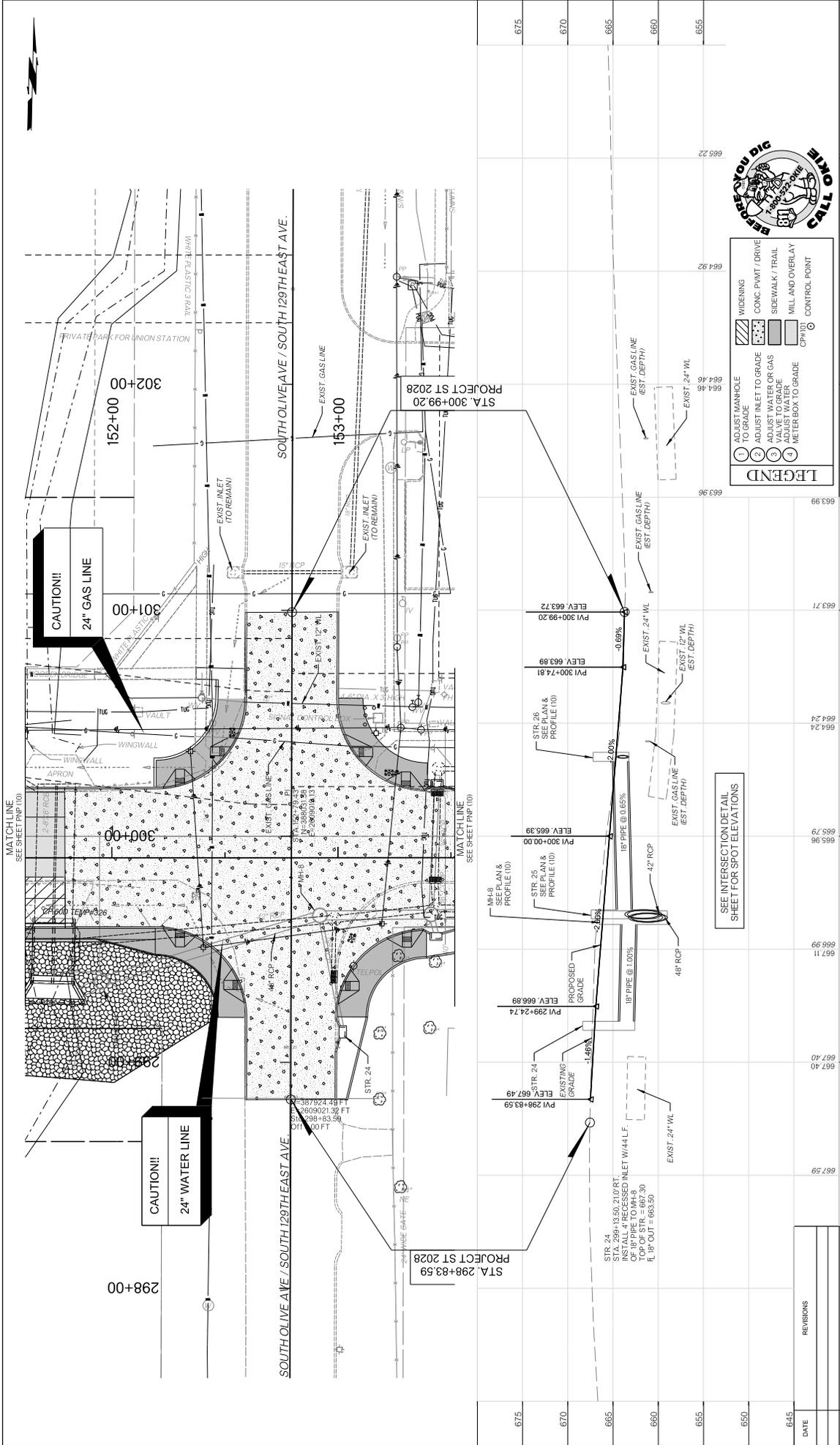
POE & ASSOCIATES INC.
Tulsa, Oklahoma

BROKEN ARROW
Where opportunity lives

PROFILE SCALE:
HORIZ. 1"=50'
VERT. 1"=5'

PLAN & PROFILE (10)

DRAWING NAME: SHEET 39 OF 108
PROJECT NO. 303909-PNP-091
DATE 2020
DATE 2020
DATE 2020
DATE 2020



DATE	REVISIONS	PROJECT NO.	SHEET NO.	OF
675		30309-PNP-001	11	108
670				
665				
660				
655				
650				
645				

PROFILE SCALE:	DESIGN	DATE	DATE
HORIZ. 1"=50'	GAC	2020	2020
VERT. 1"=5'	REVIEWED	2020	2020
DRAWING NAME:	SHEET	31	PROJECT NO.
30309-PNP-001	OF	108	ST 2028

DATE	DRAFTED	DATE	DATE
675	WSL	2020	2020
670	APPROVED	2020	2020
665			
660			
655			
650			
645			

HOUSTON STREET WIDENING

PLAN & PROFILE (11)

POE & ASSOCIATES INC.
Tulsa, Oklahoma

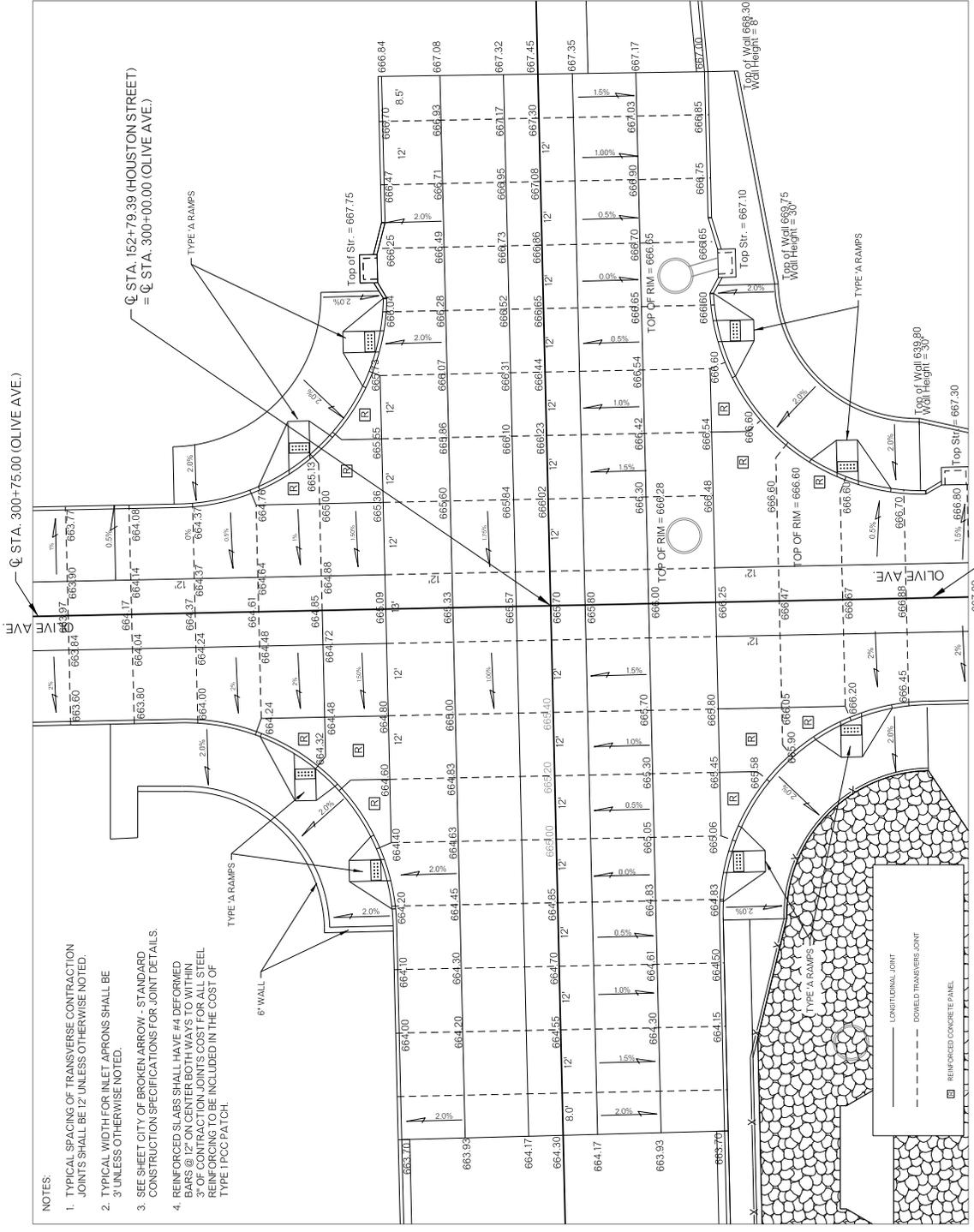
CITY OF BROKEN ARROW
Where opportunity lives



- LEGEND**
- 1 ADJUST MANHOLE TO GRADE
 - 2 ADJUST INLET TO GRADE
 - 3 ADJUST VALVE TO GRADE
 - 4 METER BOX TO GRADE
- WIDENING**
- CONC. PAVT DRIVE
 - SIDEWALK / TRAIL
 - MILL AND OVERLAY
 - CONTROL POINT

SEE INTERSECTION DETAIL SHEET FOR SPOT ELEVATIONS





- NOTES:
1. TYPICAL SPACING OF TRANSVERSE CONTRACTION JOINTS SHALL BE 12' UNLESS OTHERWISE NOTED.
 2. TYPICAL WIDTH FOR INLET APRONS SHALL BE 3' UNLESS OTHERWISE NOTED.
 3. SEE SHEET CITY OF BROKEN ARROW - STANDARD CONSTRUCTION SPECIFICATIONS FOR JOINT DETAILS.
 4. REINFORCED SLABS SHALL HAVE #4 DEFORMED BARS @ 12" ON CENTER BOTH WAYS TO WITHIN 3" OF CONTRACTION JOINTS. COST FOR ALL STEEL REINFORCING TO BE INCLUDED IN THE COST OF TYPE 1 PCC PATCH.

DATE	REVISIONS

CITY OF BROKEN ARROW
Where opportunity lives

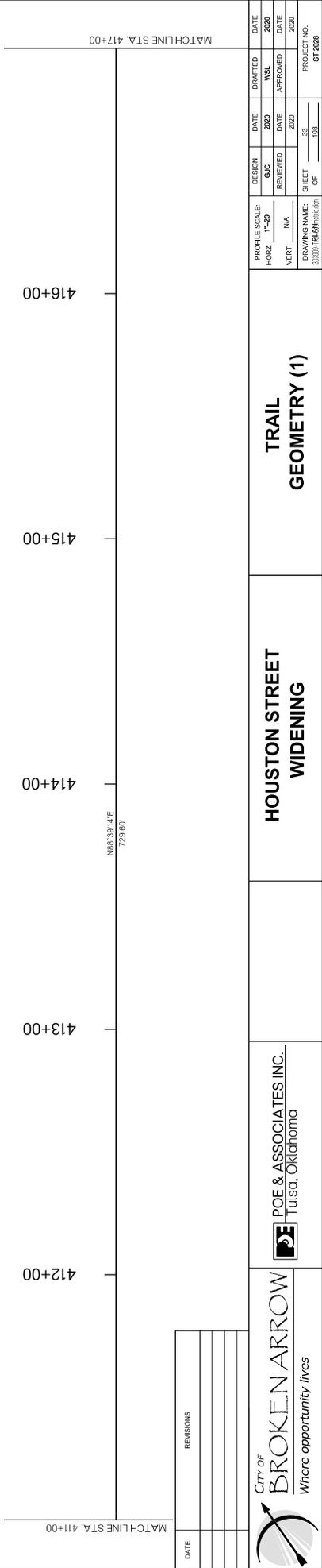
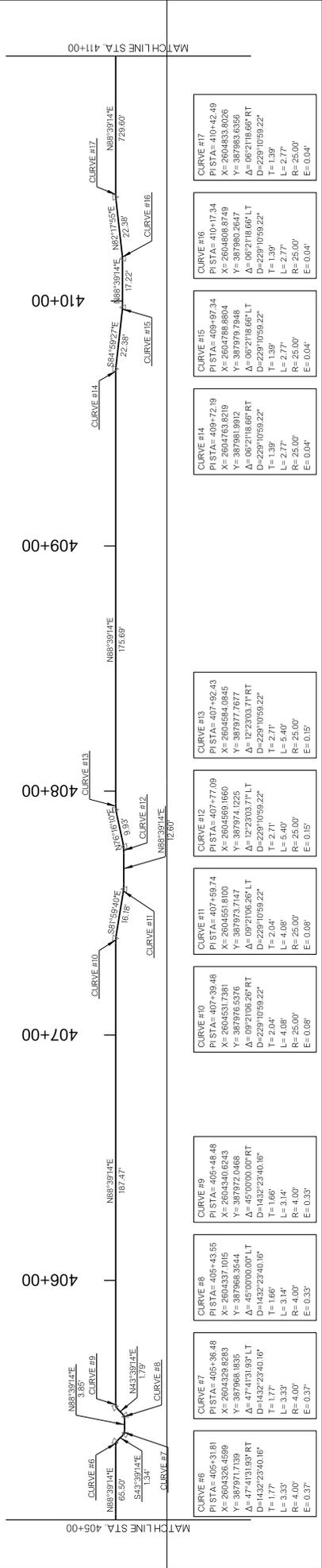
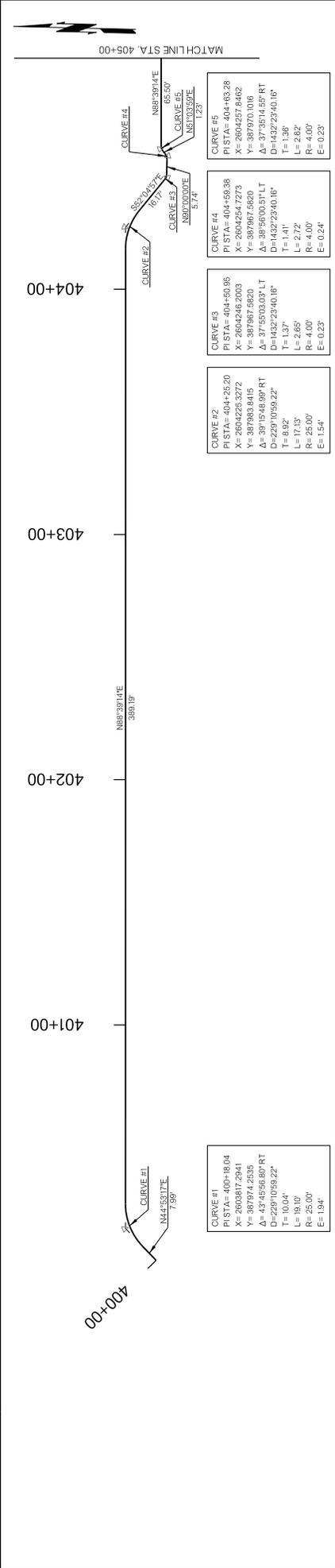
HOUSTON STREET WIDENING

INTERSECTION DETAIL

POE & ASSOCIATES INC.
Tulsa, Oklahoma

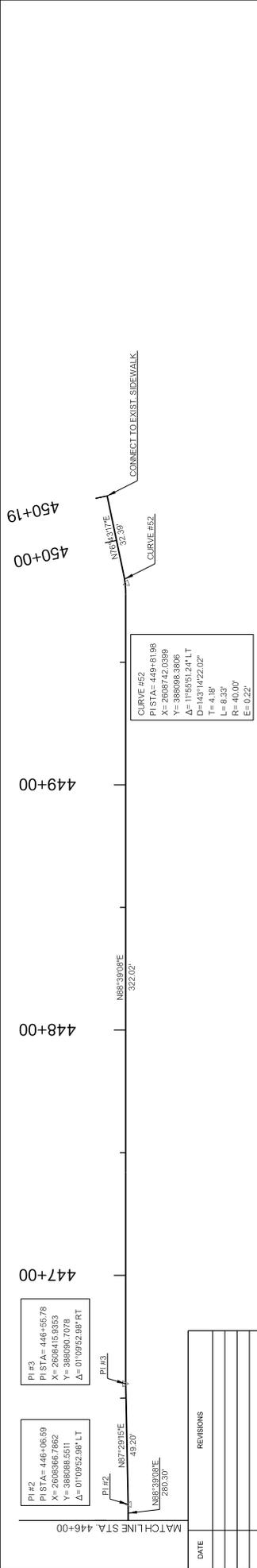
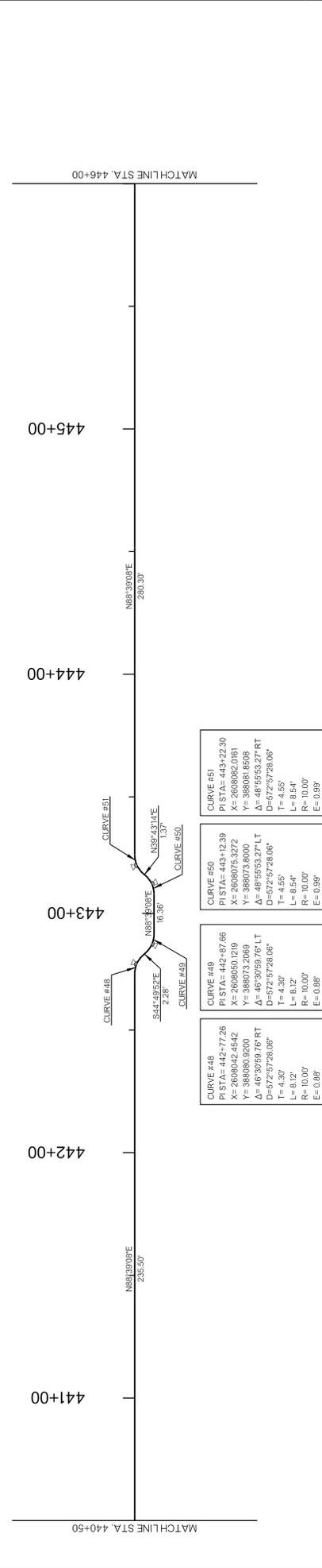
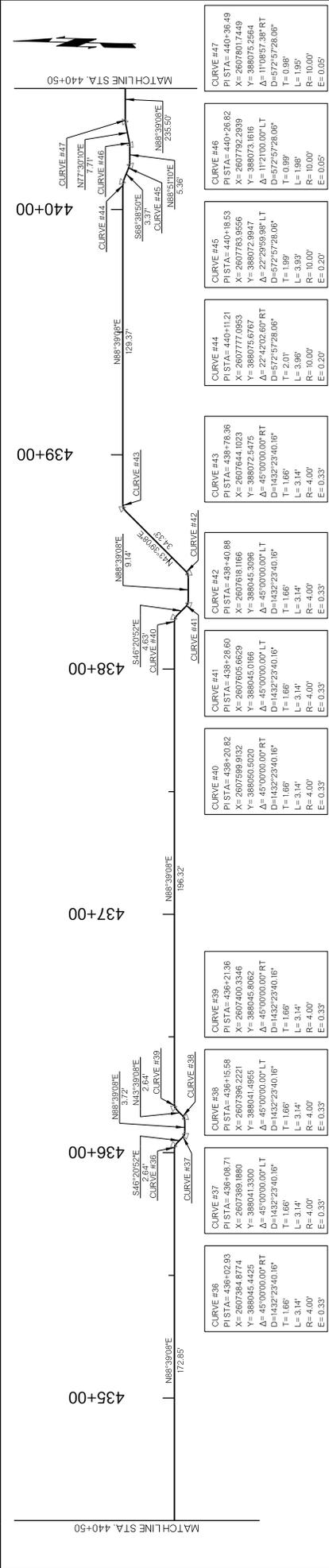
PROFILE SCALE:
HORIZ. 1"=10'
VERT. 1"=4'

DESIGN DATE: 08/2020
C/C DATE: 08/2020
REVIEWED DATE: 08/2020
WSL DATE: 08/2020
SHEET 32 OF 38
DRAWING NAME: PLAN
PROJECT NO. ST 2028



DATE	REVISIONS	DESIGN		PROFILE SCALE:		PROJECT NO.	
		HORZ.	VERT.	DATE	DATE	33	108
		SCALE	SCALE	APPROVED	APPROVED	SHEET	OF
		1"=50'	1"=10'			33	108
						PROJECT NO. ST 2008	

TRAIL GEOMETRY (1)		HOUSTON STREET WIDENING		POE & ASSOCIATES INC. Tulsa, Oklahoma		CITY OF BROKEN ARROW Where opportunity lives	
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DATE

REVISIONS

HORIZONTAL SCALE IN FEET

VERTICAL SCALE IN FEET

HOUSTON STREET WIDENING

TRAIL GEOMETRY (3)

PROJECT NO. 308

SHEET 35 OF 108

PI #2
PI STA= 446+06.59
X= 2606366.7662
Y= 3880888.5511
Δ= 01°09'52.98" LT

PI #3
PI STA= 446+55.78
X= 2608415.9353
Y= 3880930.7078
Δ= 01°09'52.98" RT

PI #4
PI STA= 448+12.39
X= 2608075.3272
Y= 388081.8608
Δ= 48°55'53.27" RT

PI #5
PI STA= 449+18.98
X= 2606742.0399
Y= 3880986.3806
Δ= 1°35'51.24" LT

PI #6
PI STA= 438+02.93
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" RT

PI #7
PI STA= 438+08.71
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #8
PI STA= 438+15.58
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #9
PI STA= 438+20.82
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" RT

PI #10
PI STA= 438+28.60
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #11
PI STA= 438+34.91
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #12
PI STA= 438+40.88
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #13
PI STA= 438+48.83
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #14
PI STA= 439+09.53
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #15
PI STA= 439+16.23
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" RT

PI #16
PI STA= 439+23.40
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #17
PI STA= 439+30.86
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" RT

PI #18
PI STA= 440+11.21
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #19
PI STA= 440+18.53
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #20
PI STA= 440+26.82
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #21
PI STA= 440+36.49
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" RT

PI #22
PI STA= 440+44.19
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #23
PI STA= 440+52.89
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #24
PI STA= 440+62.62
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #25
PI STA= 440+72.89
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" RT

PI #26
PI STA= 440+82.62
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #27
PI STA= 440+92.35
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #28
PI STA= 440+102.08
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #29
PI STA= 440+111.81
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #30
PI STA= 440+121.54
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #31
PI STA= 440+131.27
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #32
PI STA= 440+141.00
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #33
PI STA= 440+150.73
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" RT

PI #34
PI STA= 440+160.46
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #35
PI STA= 440+170.19
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #36
PI STA= 440+179.92
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #37
PI STA= 440+189.65
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" RT

PI #38
PI STA= 440+199.38
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #39
PI STA= 440+209.11
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #40
PI STA= 440+218.84
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #41
PI STA= 440+228.57
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #42
PI STA= 440+238.30
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #43
PI STA= 440+248.03
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #44
PI STA= 440+257.76
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #45
PI STA= 440+267.49
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" RT

PI #46
PI STA= 440+277.22
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #47
PI STA= 440+286.95
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #48
PI STA= 440+296.68
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #49
PI STA= 440+306.41
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" RT

PI #50
PI STA= 440+316.14
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #51
PI STA= 440+325.87
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #52
PI STA= 440+335.60
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" LT

PI #53
PI STA= 440+345.33
X= 2603281.4274
Y= 3880769.1680
Δ= 45°00'00.00" RT

DESIGN DATA

MATERIAL: CONCRETE
REINFORCING STEEL (GRADE 60) $f'_c = 4$ KSI
 $f_y = 60$ KSI

LOADING: HL-93 LOADING

DESIGN: SHOTO L'FED BRIDGE DESIGN SPECIFICATIONS,
8TH EDITION

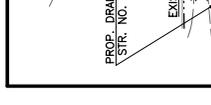
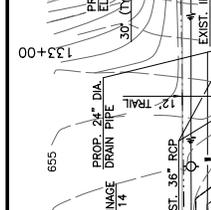
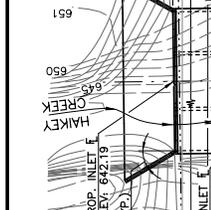
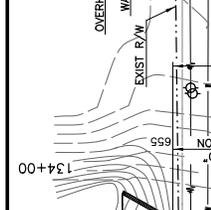
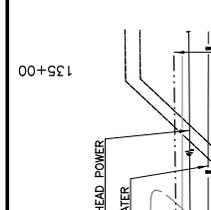
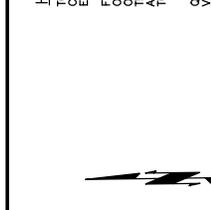
HYDRAULICS INFORMATION

TOTAL DRAINAGE AREA = 5.88 SQUARE MILES
CONTROLLED DRAINAGE AREA = 0.00 SQUARE MILES
EFFECTIVE DRAINAGE AREA = 5.88 SQUARE MILES

FLOWS BASED ON EXISTING FEMA DATA AND SHOW
OVERTOPPING AT 10 YEARS. BASED ON OBSERVATIONS
ON THE CULVERT DOES NOT OVERTOP AT
PIECE POINTS. THE CULVERT DOES NOT INCREASE
ANY INCREASE IN WATER SURFACE ELEVATION DUE
TO THE LENGTHENING OF THE EXISTING CULVERT.

Q10 = 4,673 CFS
Q50 = 6,857 CFS
Q100 = 7,752 CFS

CHW10 = 10,086 CFS
CHW50 = 6,620 FT
CHW100 = 4,679 CFS
CHW10 = 6,620 FT
CHW50 = 6,620 FT
CHW100 = 6,620 FT



SUMMARY OF QUANTITIES

ITEM	UNIT	TOTAL
UNCLASSIFIED EXCAVATION	CY	1,470.00
STRUCTURAL EXCAVATION UNCLASSIFIED	CY	230.00
REINFORCING STEEL (GRADE 60)	LB	105,160.00
REMOVAL OF EXISTING BRIDGE STRUCTURE	LSUM	1.00

REQUIRED ODOT STANDARDS
SBI-4-2

CAUTION: OVERHEAD ELECTRIC LINES

REVISIONS

DATE	REVISIONS

GENERAL PLAN AND ELEVATION
BRIDGE 'A' OVER HAIKEY CREEK
(13'x17'x13')x12'
RCB EXTENSION

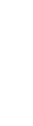
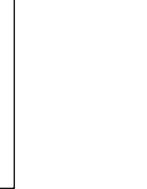
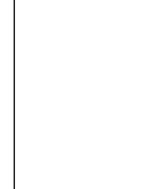
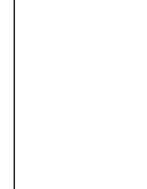
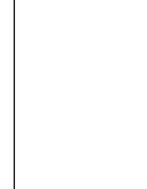
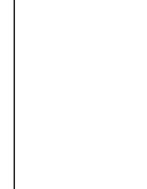
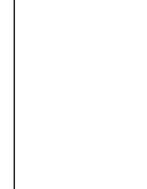
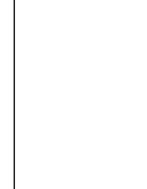
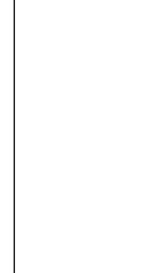
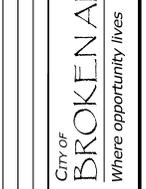
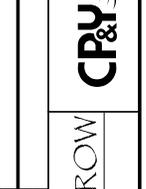
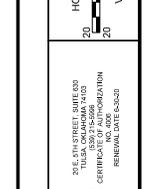
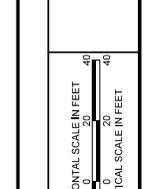
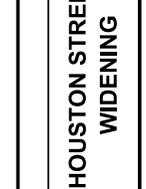
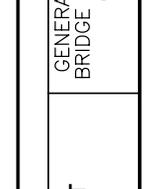
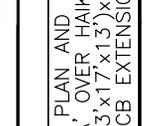
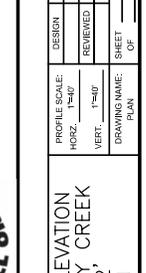
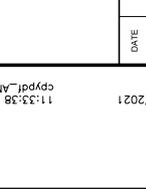
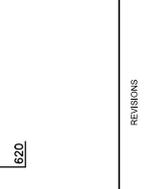
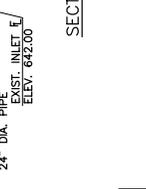
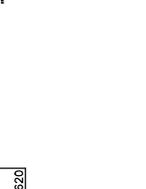
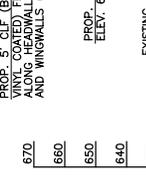
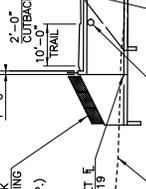
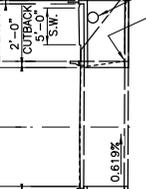
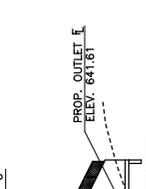
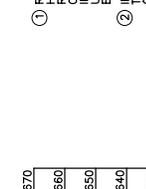
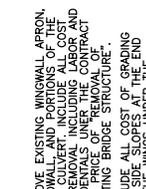
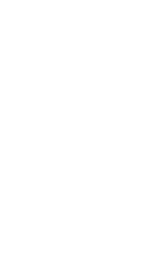
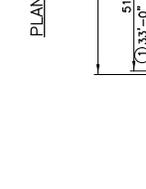
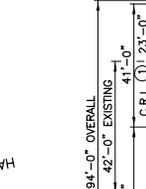
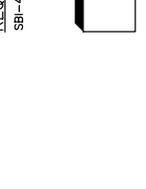
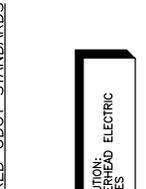
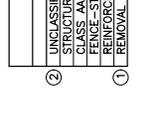
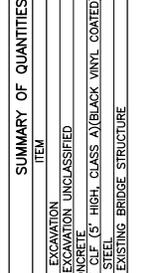
HOUSTON STREET
WIDENING

CITY OF
BROKEN ARROW
Where opportunity lives

CRP
CONSULTING & REPAIR ENGINEERING

PROF. ENGINEER
JOSE K. JOSEPH
2018
EXPIRES 12/31/2021

DATE: 2/18/2021
TIME: 11:33:38 AM
FILE: c:\p\l\ANSIB\pic19



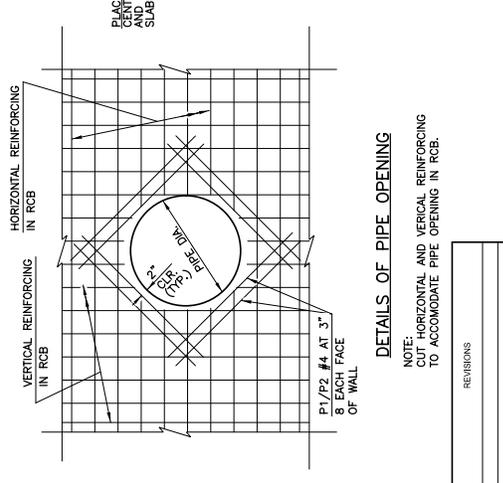
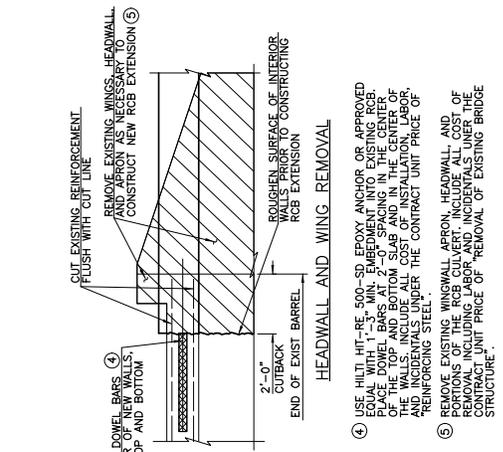
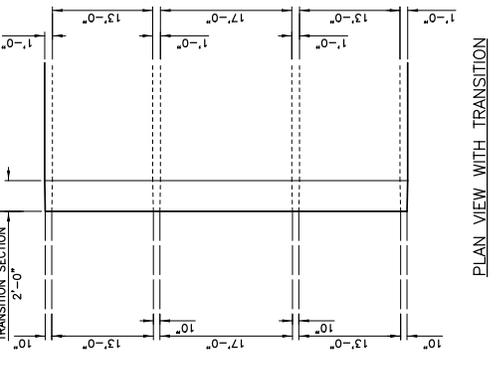
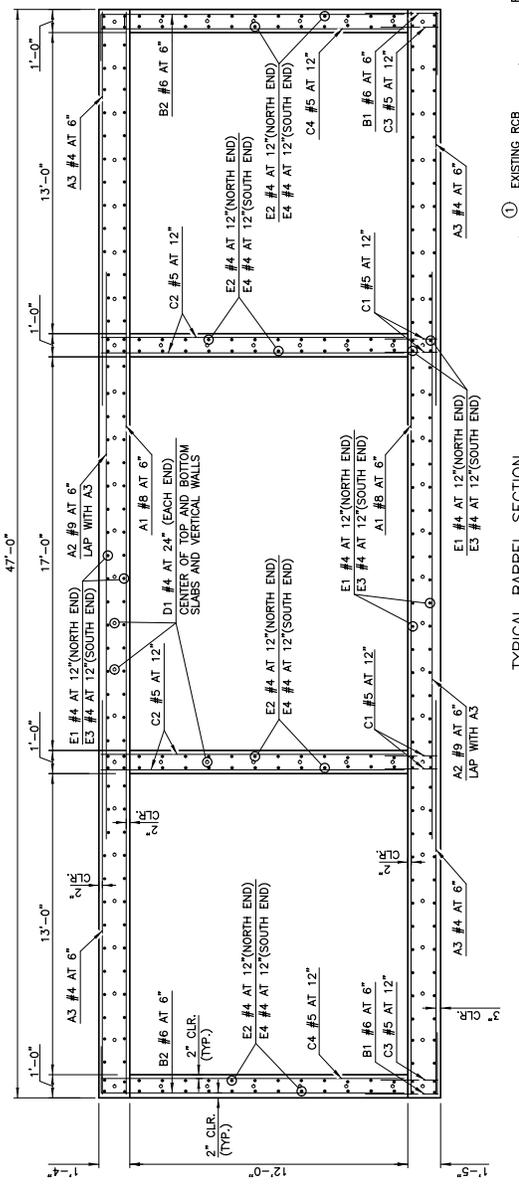
NORTH EXTENSION BARREL BAR LIST

MARK	SIZE	NO.	FORM	LENGTH
A1	#8	134	STR	46'-8"
A2	#9	134	STR	25'-0"
A3	#4	268	STR	17'-0"
B1	#6	134	BNT	6'-2"
B2	#6	134	BNT	16'-1"
C1	#5	136	STR	2'-6"
C2	#5	136	STR	13'-2"
C3	#5	68	STR	2'-10"
C4	#5	68	STR	13'-2"
D1	#4	74	STR	2'-6"
E1	#4	204	STR	2'-6"
E2	#4	96	STR	32'-6"
P1	#4	16	STR	4'-0"

SOUTH EXTENSION BARREL BAR LIST

MARK	SIZE	NO.	FORM	LENGTH
A1	#8	94	STR	46'-8"
A2	#9	94	STR	25'-0"
A3	#4	68	STR	17'-0"
B1	#6	94	BNT	16'-1"
C1	#5	96	STR	2'-6"
C2	#5	96	STR	13'-2"
C3	#5	48	STR	2'-10"
C4	#5	48	STR	13'-2"
D1	#4	74	STR	2'-6"
E3	#4	204	STR	22'-8"
E4	#4	96	STR	22'-8"
P2	#4	16	STR	5'-6"

- THE DIMENSIONS PROVIDED ARE FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY THE DIMENSIONS ON THE FIELD.
- APPLIES TO ONLY NORTH BARREL EXTENSION.
- APPLIES TO ONLY SOUTH BARREL EXTENSION.



DATE	REVISIONS	REVISIONS	DATE	DATE	DATE	DATE

PROFILE SCALE	DESIGN	DATE	DRAWN	DATE
HORIZ. 3/8"=1'				
VERT. 3/16"=1'				

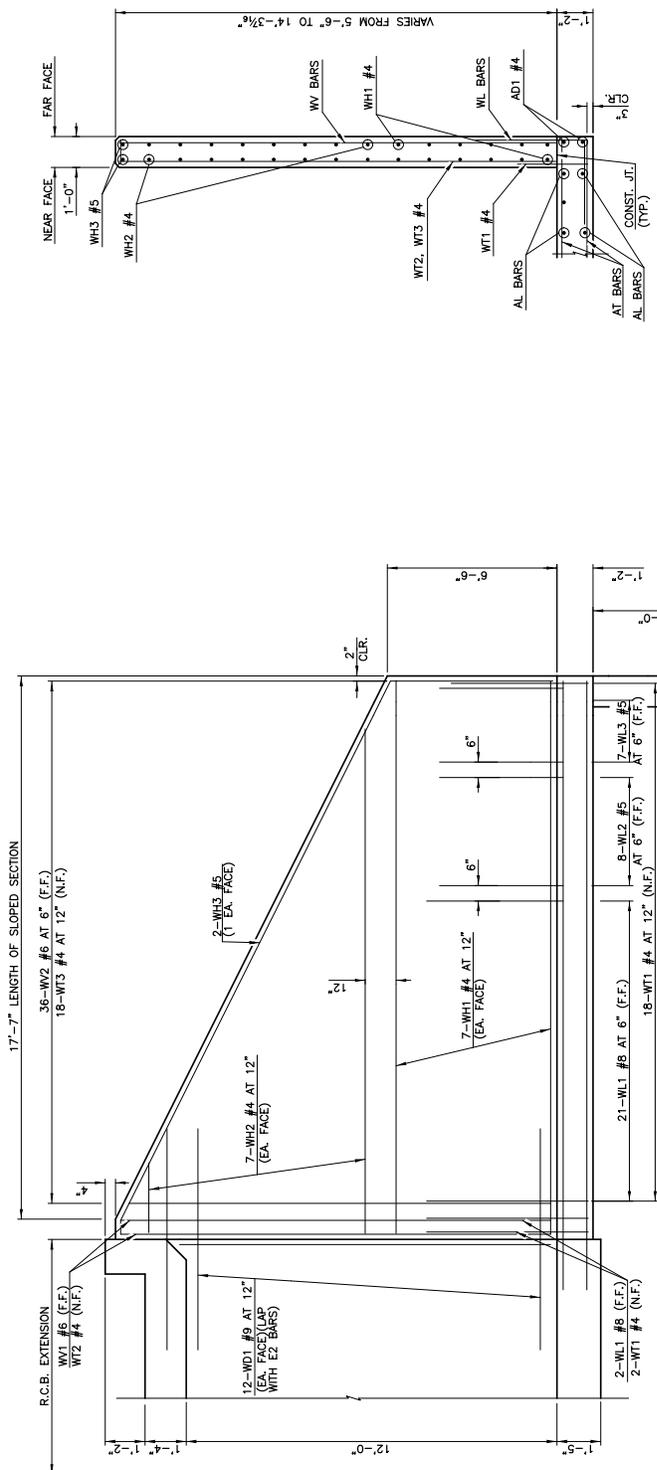
DRAWING NAME	SHEET	OF	PROJECT NO.	DATE
RCB DETAILS TYPICAL BARREL SECTIONS BRIDGE "A"	32	37	108	ST 2020

HORIZONTAL SCALE IN FEET	VERTICAL SCALE IN FEET
0 2.5 5	0 2.5 5

City of **BROKEN ARROW** Where opportunity lives

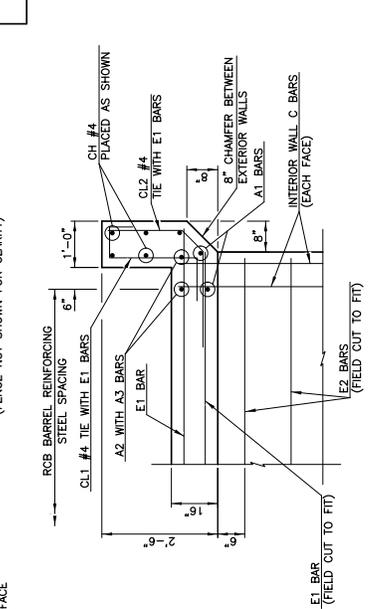
CR&Y

2515 SH 0104 (REV. 04/11) CSD
 1579 S. MAIN ST.
 OKLAHOMA CITY, OK 73104
 405.505.3200
 www.cry.com

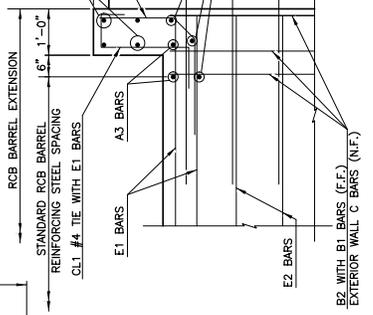


NOTE: F.F. = FAR FACE
N.F. = NEAR FACE

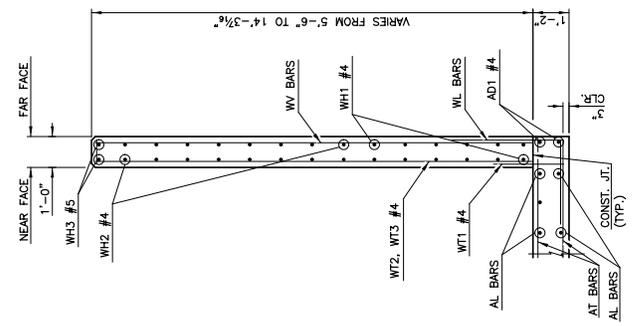
WING ELEVATION
(FENCE NOT SHOWN FOR CLARITY)



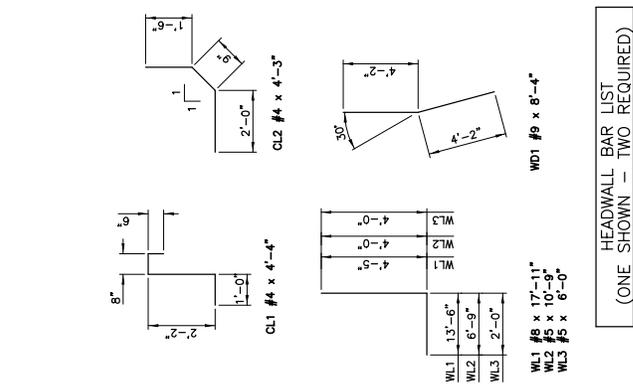
HEADWALL DETAIL AT INTERIOR WALL



HEADWALL DETAIL AT EXTERIOR WALL



TYPICAL SECTION THRU WING



HEADWALL BAR LIST
(ONE SHOWN - TWO REQUIRED)

MARK	SIZE	NO.	FORM	LENGTH
CH	#4	4	STR	46'-8"
CL1	#4	48	BNT	4'-4"
CL2	#4	48	BNT	4'-3"

WING BAR LIST (ONE SHOWN - FOUR REQUIRED)

MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
WH1	#4	14	STR	17'-11"	
WH2	#4	14	STR	9'-4" AVG.	2'-5" TO 16'-3"
WH3	#5	2	STR	19'-2"	
WL1	#8	23	BNT	17'-11"	
WL2	#5	6	BNT	10'-9"	
WL3	#5	7	BNT	6'-0"	
WT1	#4	20	STR	2'-10"	
WT2	#4	2	STR	13'-11"	6'-2" TO 13'-9"
WV1	#6	2	STR	13'-11"	
WV2	#6	36	STR	9'-11 1/2" AVG.	6'-2" TO 13'-9"

① ROTATE BARS IF NECESSARY AT ENDS.



DATE

REVISIONS

PROFILE SCALE:
HORZ. 3/8"=1'
VERT. 3/16"=1'

DRAWING NAME:
PLAN

DESIGN DATE

REVIEWED DATE

SHEET 38 OF 38

RCB DETAILS
TYPICAL WINGWALL SECTIONS
BRIDGE "A"

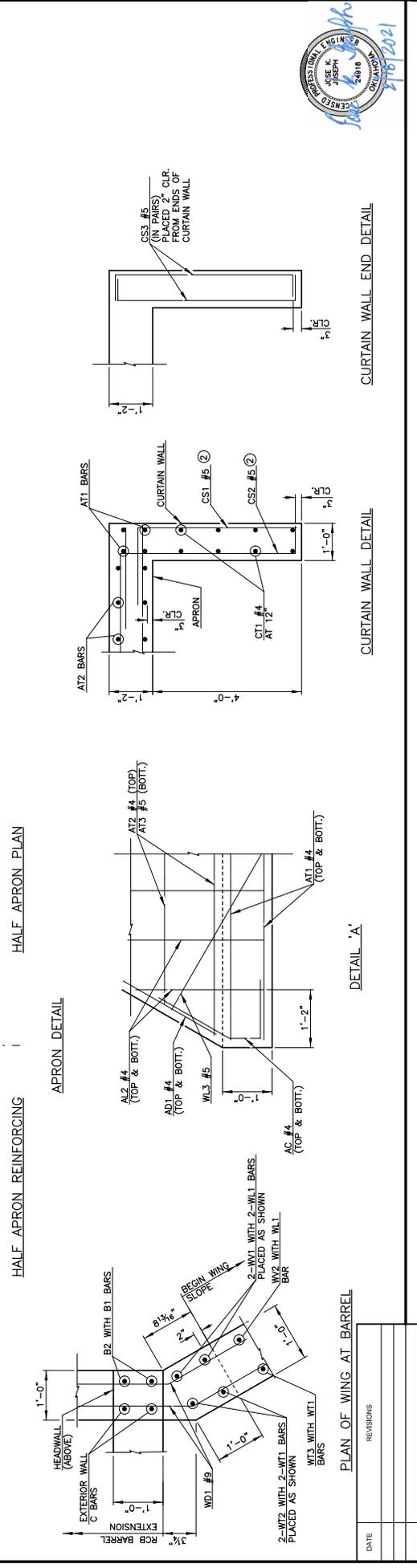
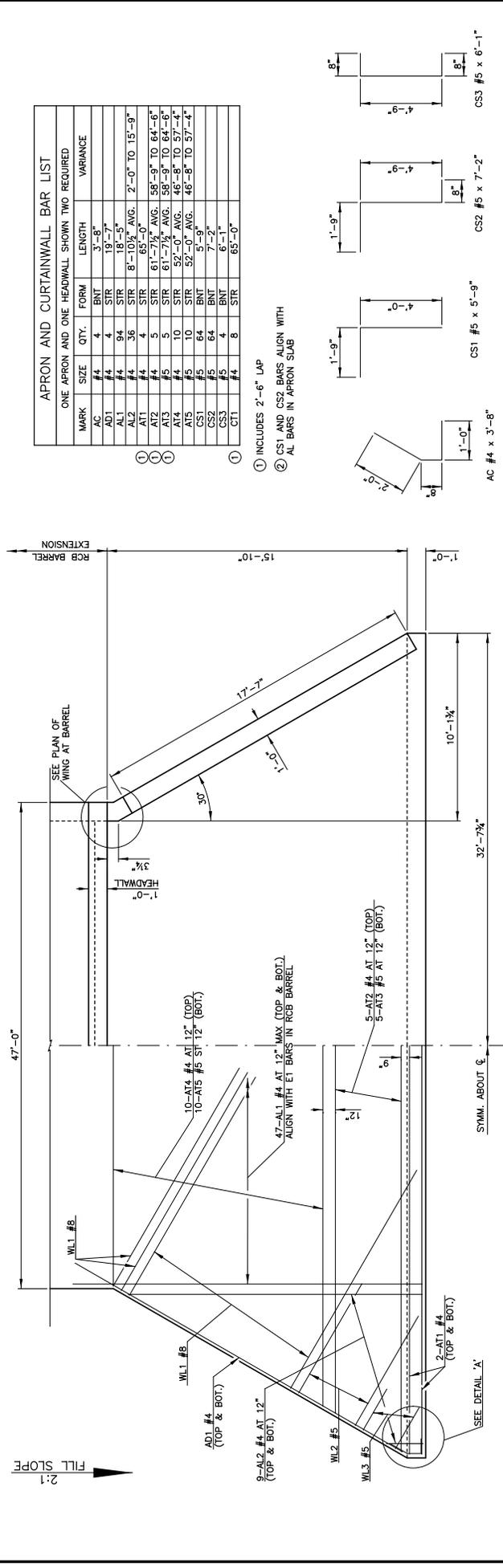
**HOUSTON STREET
WIDENING**

Where opportunity lives

HORIZONTAL SCALE IN FEET
0 2.5 5

VERTICAL SCALE IN FEET
0 2.5 5

STANDARD DRAWING NO. 2019-05-0000
REVISIONS



APRON AND CURTAINWALL BAR LIST

ONE APRON AND ONE HEADWALL SHOWN TWO REQUIRED

MARK	SIZE	QTY.	FORM	LENGTH	VARIANCE
AC	#4	4	BNT	3'-8"	
AD1	#4	4	STR	19'-2"	
AD2	#4	4	STR	19'-2"	
AL1	#4	36	STR	8'-10 1/2" AVG.	2'-0" TO 15'-9"
AL2	#4	4	STR	85'-0"	
AL3	#4	5	STR	61'-7 1/2" AVG.	58'-9" TO 64'-6"
AT1	#4	5	STR	61'-7 1/2" AVG.	58'-9" TO 64'-6"
AT2	#4	5	STR	61'-7 1/2" AVG.	58'-9" TO 64'-6"
AT3	#5	10	STR	52'-0" AVG.	46'-8" TO 57'-4"
AT4	#5	10	STR	52'-0" AVG.	46'-8" TO 57'-4"
AT5	#5	10	STR	52'-0" AVG.	46'-8" TO 57'-4"
CS1	#5	64	BNT	5'-9"	
CS2	#5	64	BNT	7'-2"	
CS3	#5	8	BNT	1'-1"	
CT1	#4	8	STR	65'-0"	

- ① INCLUDES 2'-6" LAP
- ② CS1 AND CS2 BARS ALIGN WITH AL BARS IN APRON SLAB



DATE	REVISIONS	DATE	DESIGN	DATE	DRAWN	DATE

PROFILE SCALE: HORIZ. 3/8"=1' VERT. 3/8"=1'

DRAWING NAME: APRON DETAILS BRIDGE "A" PLAN

SHEET 36 OF 108

PROJ. CT. NO. ST 2020

CR&Y
 2515 SHIRLEY BLVD. SUITE 100
 HOUSTON, TEXAS 77058
 TEL: 281-486-8800
 WWW.CR&Y.COM
 REMEDIATION DIVISION

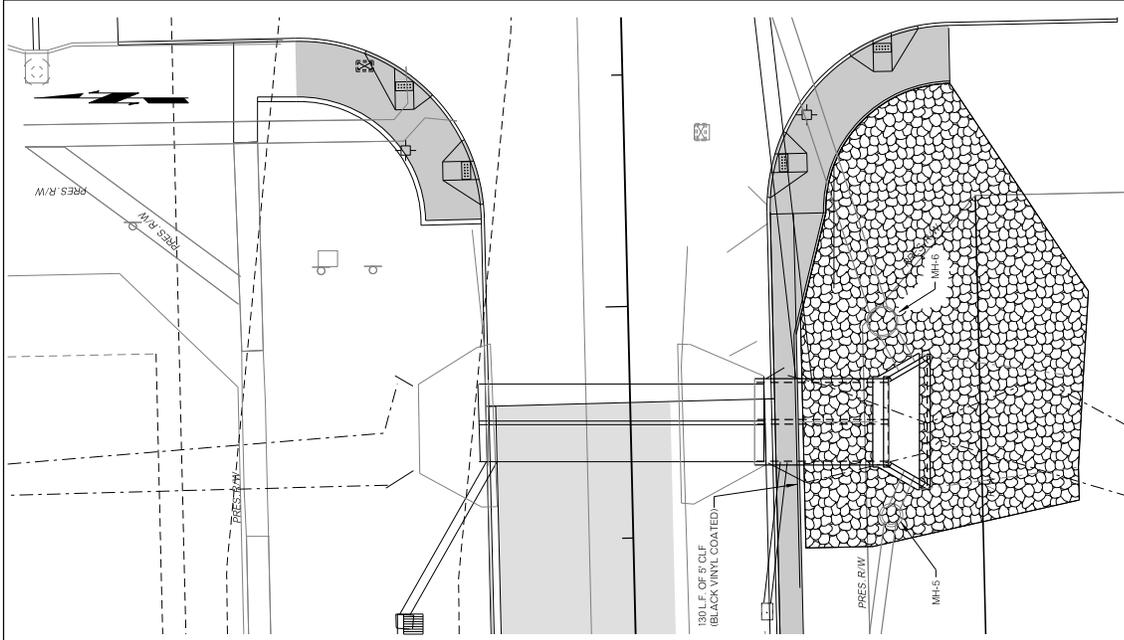
City of BROKEN ARROW
 Where opportunity lives

HOUSTON STREET WIDENING

RCB DETAILS APRON DETAILS BRIDGE "A" PLAN

HORIZONTAL SCALE IN FEET: 1" = 2'-0"

VERTICAL SCALE IN FEET: 1" = 2'-0"



PROFILE SCALE:		DESIGN	DATE	DRAFTED	DATE
HORIZ.	1"=50'	GJC	2020	RJM	2020
VERT.	1"=2'	REVIEWED	DATE	APPROVED	DATE
DRAWING NAME:		SHEET		PROJECT NO.	
303909-RCB.dgn		40		ST. 2028	

PAY ITEM NOTES

- USE HIT-RE-502 EPOXY ANCHOR OR APPROVED EQUAL WITH 1-3" EMBEDMENT INTO EXISTING RCB PLACE DOVETAIL BARS AT 2'-0" ON CENTER AND THE CENTER OF THE WALL AND BOTTOM SLAB AND THE CENTER OF THE WALL.
- REMOVE EXISTING WINGWALL, ASPON, HEADWALL AND PORTION OF WINGWALL, ASPON, HEADWALL AND BOTTOM SLAB AND THE CENTER OF THE WALL. COST OF THE REMOVAL INCLUDING LABOR AND INCIDENTALS UNDER THE CONTRACT UNIT PRICE FOR 'REMOVAL OF HEADWALL'.
- INCLUDES ALL COST OF GRADING THE SIDE SLOPES AT THE END OF THE WINGS UNDER CONTRACT UNIT PRICE FOR 'REMOVAL OF HEADWALL'. EXISTING PROFILES SHALL BE MAINTAINED UNLESS OTHERWISE NOTED. FULL MATERIALS AND LABOR TO BE USED. PROFILES AND EXCAVATION FROM WIDENING OPERATIONS.
- SEE FENCE AND ASPONS PLATE DETAIL ON BRIDGE A-SHEETS. PRICE TO BE INCLUDED IN 5 CHAIN LINK FENCE.

STANDARDS

BC-602 DESIGN 18 FOR BARREL EXTENSION AND HEADWALL
 = 0.94 SQUARE MILES
 CONTROLLED DRAINAGE AREA = 0.00 SQUARE MILES
 EFFECTIVE DRAINAGE AREA = 0.94 SQUARE MILES

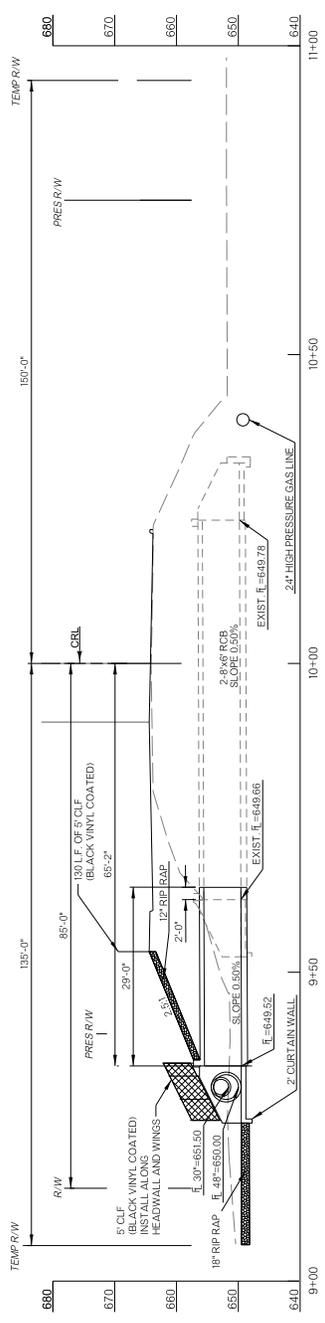
HYDRAULIC DATA

Q10 = 1044 CFS
 CHW10 = 657.73 FT
 V10 = 10.04 FPS
 Q50 = 1497 CFS
 V50 = 14.61 FPS
 CHW50 = 663.19 FT
 Q100 = 1690 CFS
 V100 = 14.53 FPS
 CHW100 = 663.44 FT
 Q500 = 2199 CFS
 V500 = 14.09 FPS
 CHW500 = 663.95 FT

SUMMARY OF PAY QUANTITIES

PAY ITEM	UNITS	QUANTITY
UNCLASSIFIED EXCAVATION	C.Y.	250.00
SUBSTRUCTURE EXCAVATION UNCLASSIFIED	C.Y.	22.00
CLASS AA CONCRETE*	C.Y.	62.10
REINFORCING STEEL	LBS.	6,440.00
TYPE LA PLAIN RIP RAP	TON	525.00
REMOVAL OF HEADWALL	EA	1
FENCE - STYLE CLF (5' HIGH CLASS A/BLACK VINYL COATED)	L.F.	255.00

* CLASS AA CONCRETE SHALL BE USED FOR BOTH BARREL EXTENSION AND HEADWALL CONSTRUCTION



DATE	REVISIONS

PLAN

**GENERAL PLAN & ELEVATION
 2-8'X6' RCB EXTENSION
 OLIVE CREEK**

**HOUSTON STREET
 WIDENING**

POE & ASSOCIATES INC.
 Tulsa, Oklahoma

BROKEN ARROW
Where opportunity lives

LEGEND

- 1/2" ELECT. CONDUIT
- 3" ELECT. CONDUIT
- 4" ELECT. CONDUIT
- EXISTING CONDUIT
- SIZE 1 PULL BOX
- EXISTING PULL BOX
- SIZE 111 PULL BOX
- SERVICE POLE
- CONTROLLER
- PEDESTRIAN PUSH BUTTON
- WALK AND DON'T WALK SIGNAL HEAD WITH BACKPLATE
- DOMINANCE WITH MAST ARM
- VIDEO DETECTION
- STREET NAME SIGN
- MAST ARM WITH POLE
- MAST ARM & POLE WITH ABOVE SYMBOLS
- DETECTOR LOOP / VIDEO DETECTION AREA

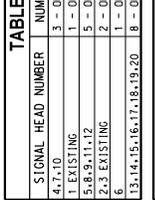
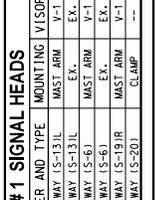
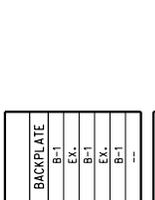
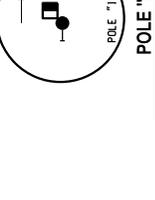
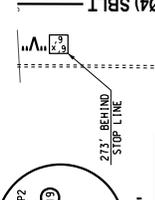
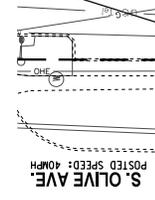


TABLE #1 SIGNAL HEADS

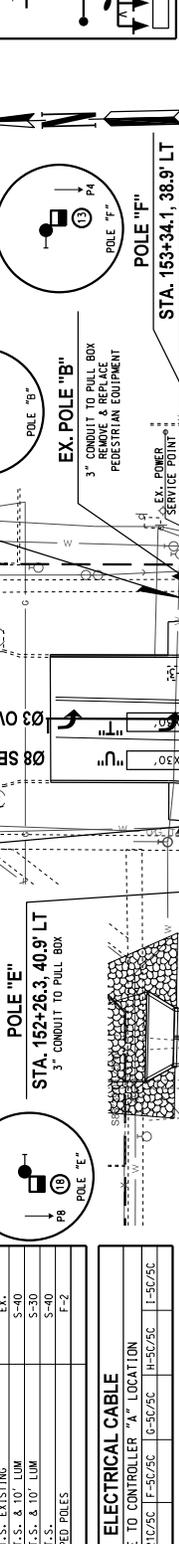
SIGNAL HEAD NUMBER	NUMBER AND TYPE	MOUNTING VISOR	BACKPLATE
4.7.10	3 - ONEWAY (S-13)IL	MAST ARM	B-1
1	1 - ONEWAY (S-13)IL	EX.	EX.
5.8.9.11.12	5 - ONEWAY (S-6)	MAST ARM	B-1
2.3	2 - ONEWAY (S-6)	EX.	EX.
6	1 - ONEWAY (S-19)R	MAST ARM	B-1
13.14.15.16.17.18.19.20	8 - ONEWAY (S-20)	CLAMP	---

TABLE #2 MAST ARMS & POLES

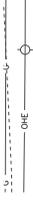
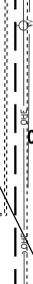
LOCATION	MOUNTING HT.	MAST ARMS LENGTHS	FOUNDATION
B EX.	21' EX.	40' T.S. & 10' LUM	EX.
C	32'	40' T.S. & 10' LUM	S-40
D	32'	30' T.S. & 10' LUM	S-30
E	21'	40' T.S.	S-40
F-1	10'	4 - PED POLES	F-2

TABLE #3 ELECTRICAL CABLE

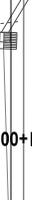
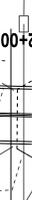
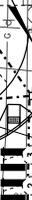
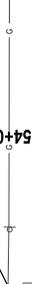
ELECTRICAL CABLE TO CONTROLLER "A" LOCATION	LOCATION
B-21C/5C	C-21C/5C
D-21C/5C	E-21C/5C
F-5C/5C	H-5C/5C
I-5C/5C	



EXISTING TRAFFIC EQUIPMENT TO BE REMOVED UNLESS OTHERWISE NOTED



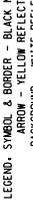
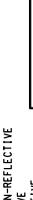
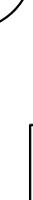
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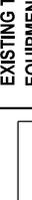
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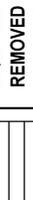
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EXISTING TRAFFIC EQUIPMENT TO BE REMOVED UNLESS OTHERWISE NOTED



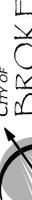
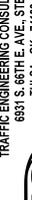
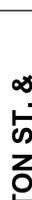
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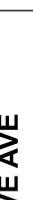
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EXISTING TRAFFIC EQUIPMENT TO BE REMOVED UNLESS OTHERWISE NOTED



EXISTING TRAFFIC EQUIPMENT TO BE REMOVED UNLESS OTHERWISE NOTED



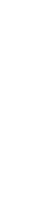
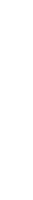
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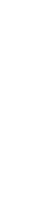
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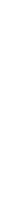
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EXISTING TRAFFIC EQUIPMENT TO BE REMOVED UNLESS OTHERWISE NOTED



TRAFFIC ENGINEERING CONSULTANTS INC.
 8831 S. 46TH E. AVE., STE 100
 TULSA, OK 74133
 PHONE: 918-481-8484
 FAX: 918-481-8484
 C.A.# 1160 EXP. 06-30-25



CITY OF
BROKEN ARROW
 Where opportunity lives

DATE: 5-30-24

DESIGN: JMS
 DATE: 07/03/24

APPROVED: [Signature]
 DATE: 07/03/24

PROJECT NO.: [Blank]

SHEET: [Blank] OF [Blank]

DRAWING NAME: [Blank]

PROF. ENGINEER
 ESTHER M. SHAM-SMITH, P.E. # 23771
 C.A.# 1160, RENEWAL 06-30-25

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 C.A.# 1160 EXP. 06-30-25

DATE: 5-30-24

PROFILE SCALE: [Blank]

HORIZ. [Blank]

VERT. [Blank]

DRAWING NAME: [Blank]

SHEET: [Blank] OF [Blank]

PROJECT NO.: [Blank]

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PROFILE SCALE: [Blank]

HORIZ. [Blank]

VERT. [Blank]

DRAWING NAME: [Blank]

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DATE: 5-30-24

PROFILE SCALE: [Blank]

HORIZ. [Blank]

VERT. [Blank]

DRAWING NAME: [Blank]

SHEET: [Blank] OF [Blank]

PROJECT NO.: [Blank]

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DATE: 5-30-24

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VERT. [Blank]

DRAWING NAME: [Blank]

SHEET: [Blank] OF [Blank]

PROJECT NO.: [Blank]

DATE: 5-30-24

DESIGN: JMS
 DATE: 07/03/24

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SHEET: [Blank] OF [Blank]

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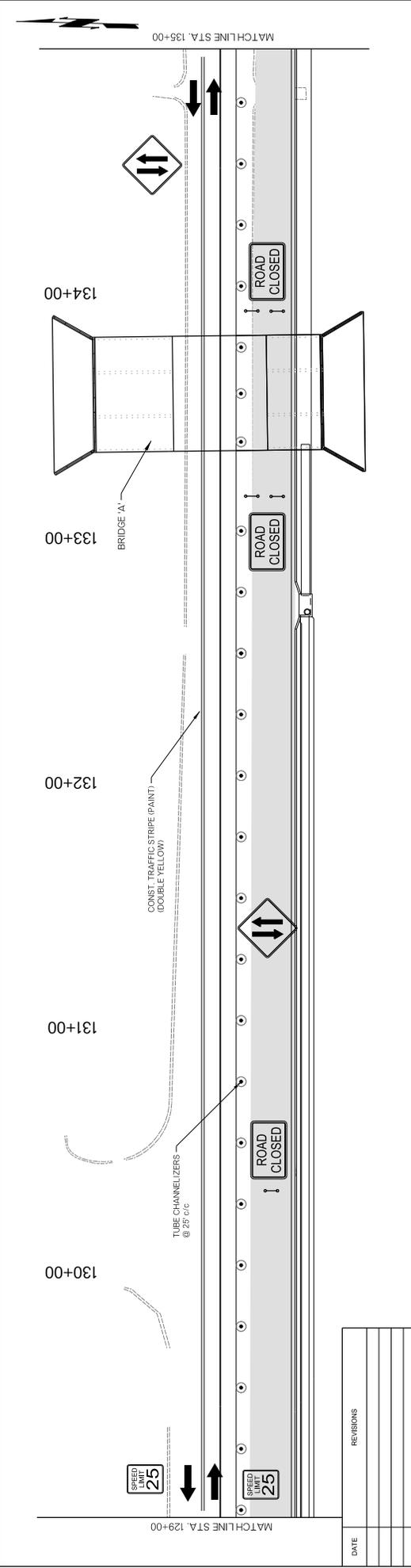
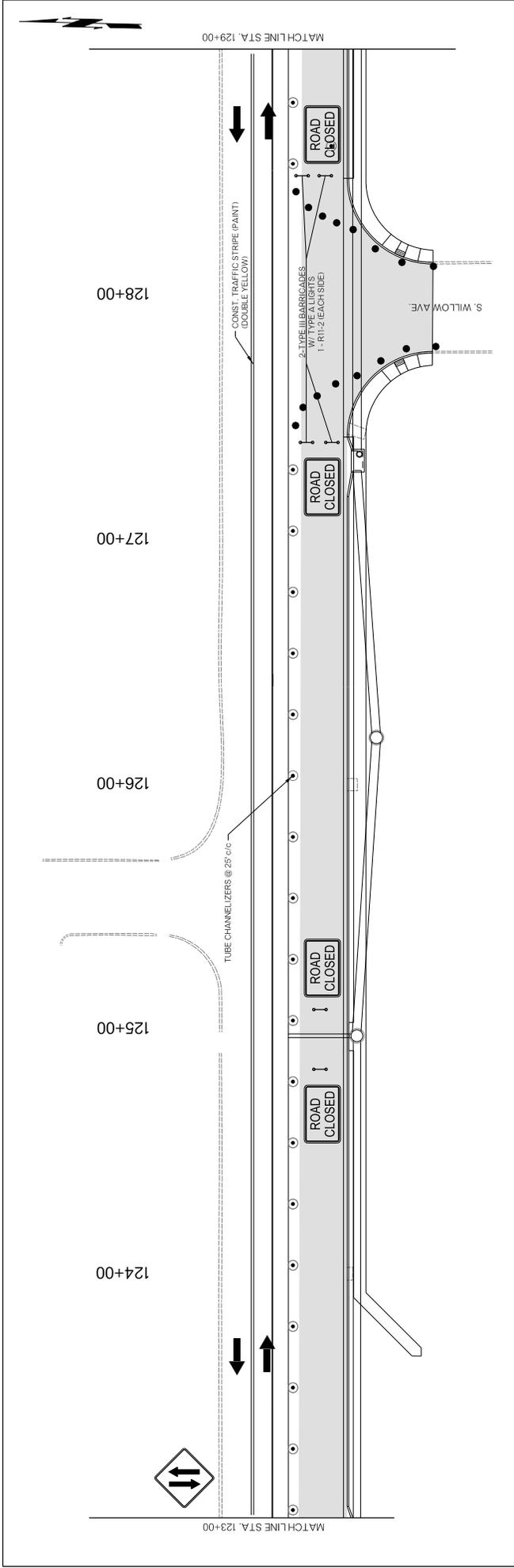
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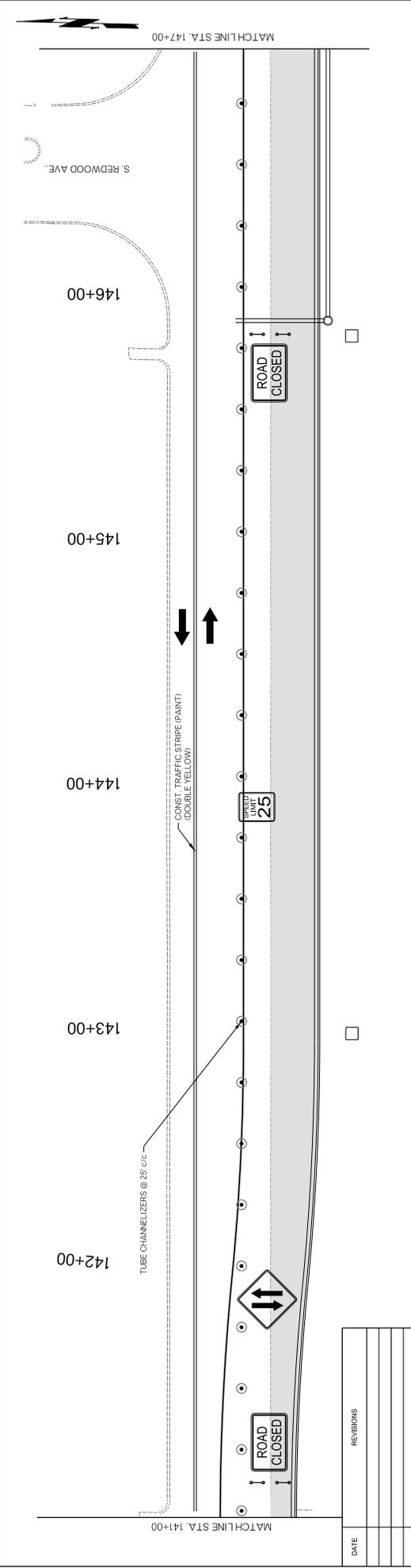
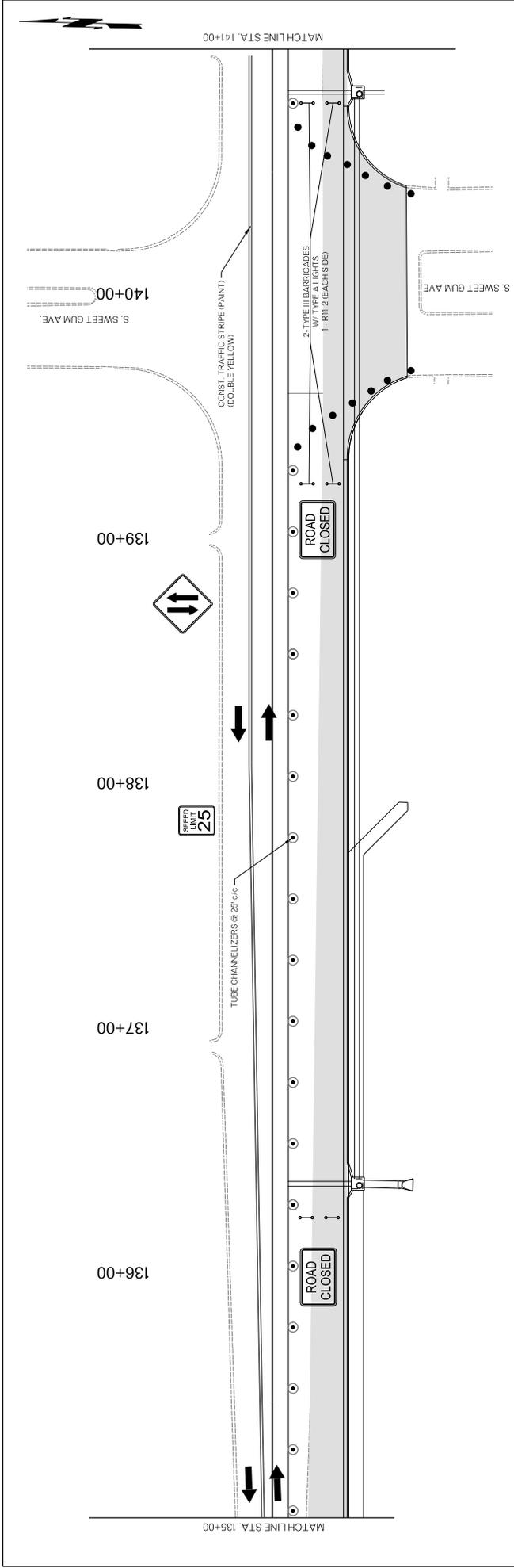
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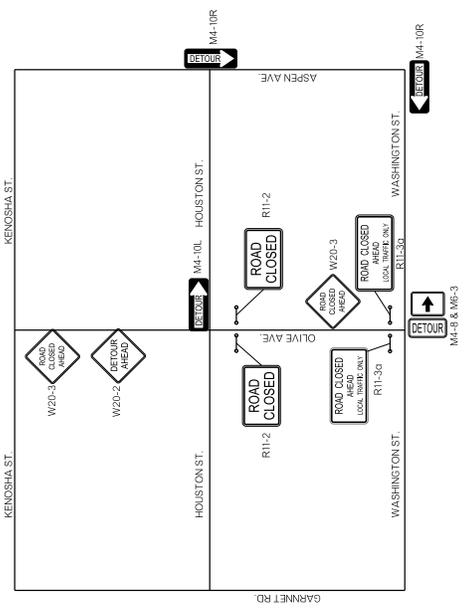
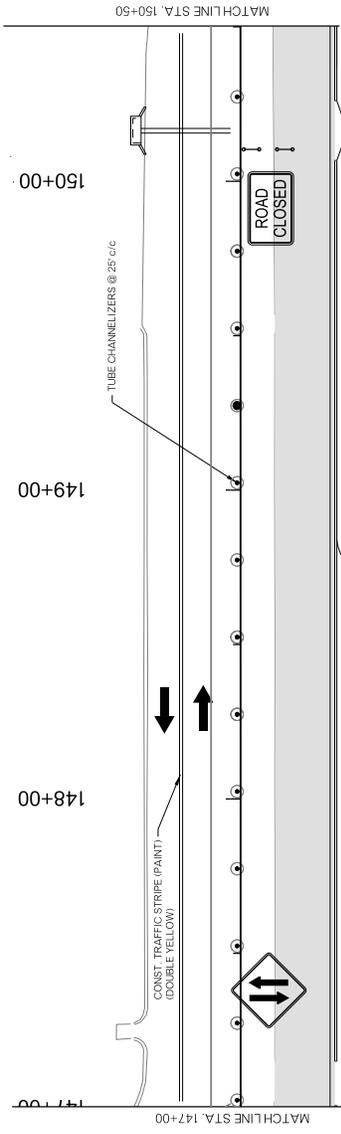
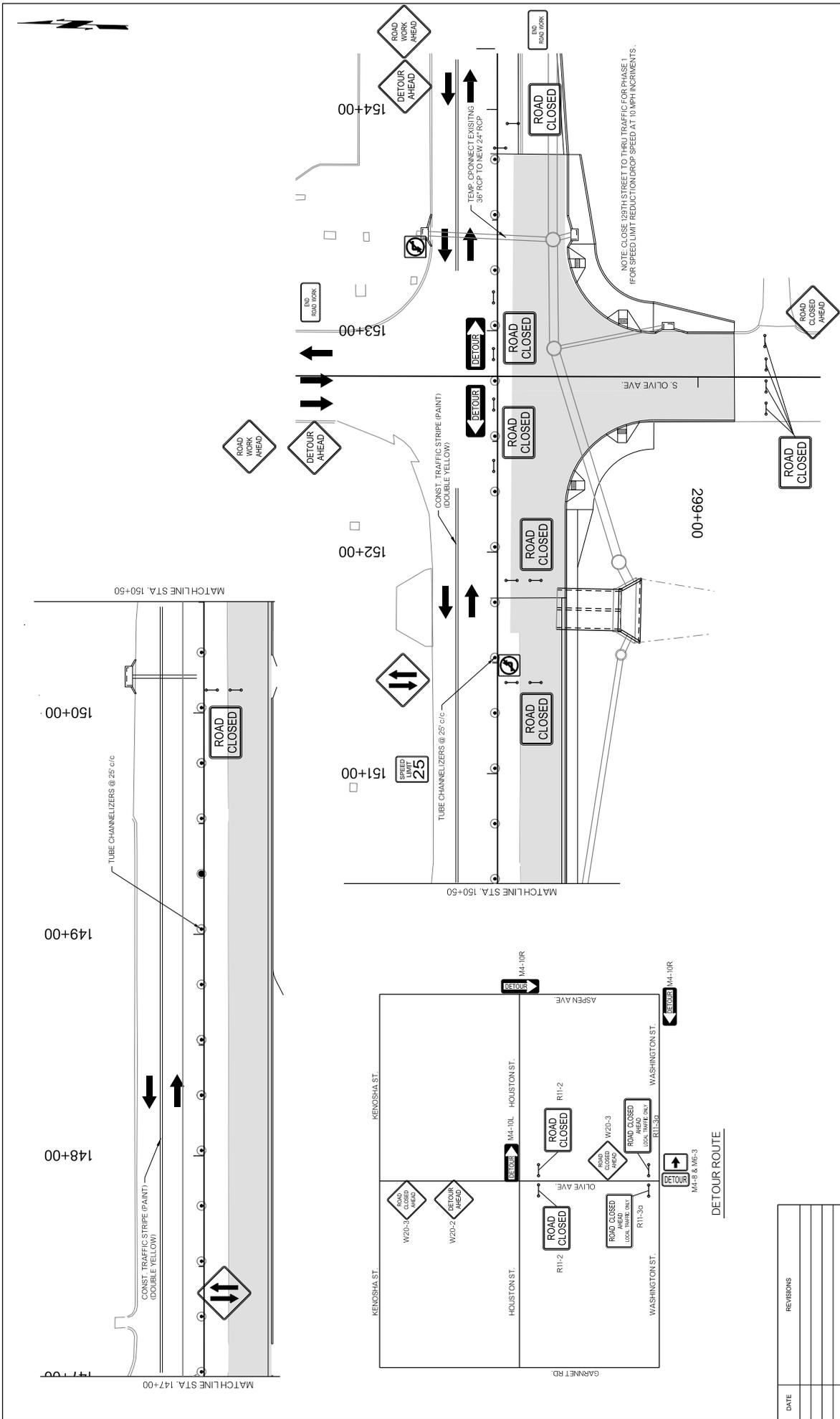
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DATE	REVISIONS	CITY OF BROKEN ARROW <i>Where opportunity lives</i>		HOUSTON STREET WIDENING		CONSTRUCTION SEQUENCE PHASE 1 (3)		PROFILE SCALE: HORIZ. 1"=40' VERT. 1"=4'	DESIGN DATE 2020	DRAFTED DATE 2020	DATE 2020
				POE & ASSOCIATES INC. Tulsa, Oklahoma		PROJECT NO. ST 2008		REVIEWED DATE 2020	APPROVED DATE 2020	PROJECT NO. ST 2008	



 CITY OF BROKEN ARROW <i>Where opportunity lives</i>		 POE & ASSOCIATES INC. Tulsa, Oklahoma		HOUSTON STREET WIDENING		CONSTRUCTION SEQUENCE PHASE 1 (4)		PROFILE SCALE: HORIZ. 1"=40' VERT. 1"=4' DRAWING NAME: SHEET 4B OF 108 PROJECT NO. ST 2008	
DATE	REVISIONS	DESIGN	DATE	DRAFTED	DATE	DATE	DATE	DATE	DATE
		G/C	2020	WSL	2020	APPROVED	2020	APPROVED	2020
		REVIEWED	DATE	DATE	DATE	DATE	DATE	DATE	DATE



DATE	REVISIONS



CITY OF BROKEN ARROW
Where opportunity lives

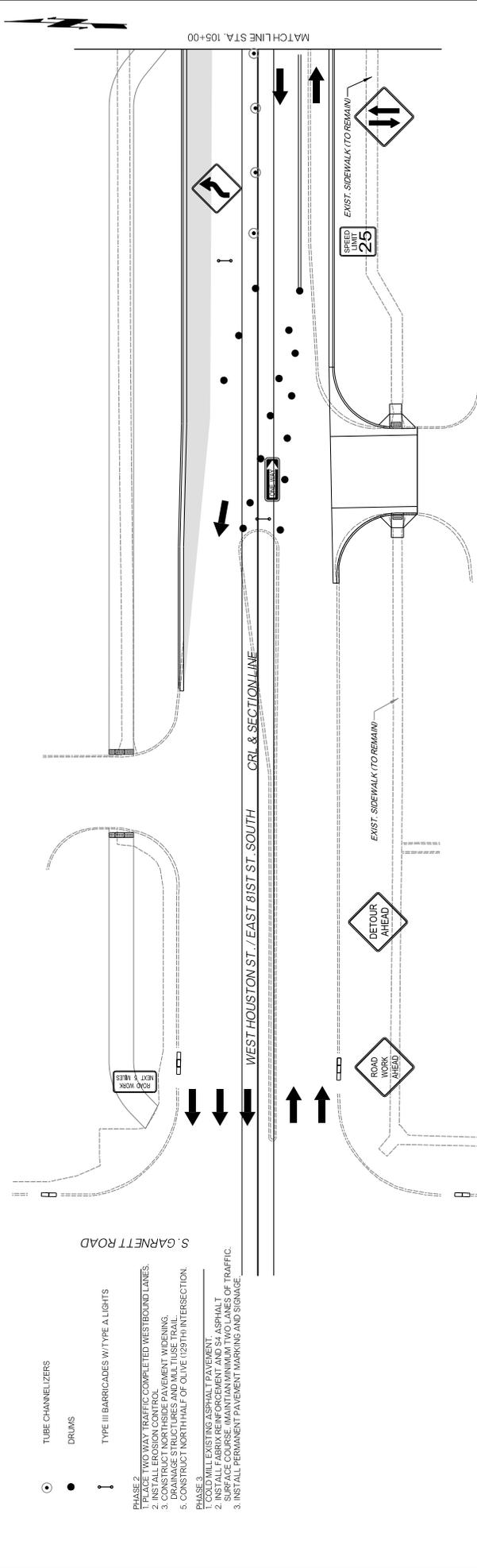


POE & ASSOCIATES INC.
Tulsa, Oklahoma

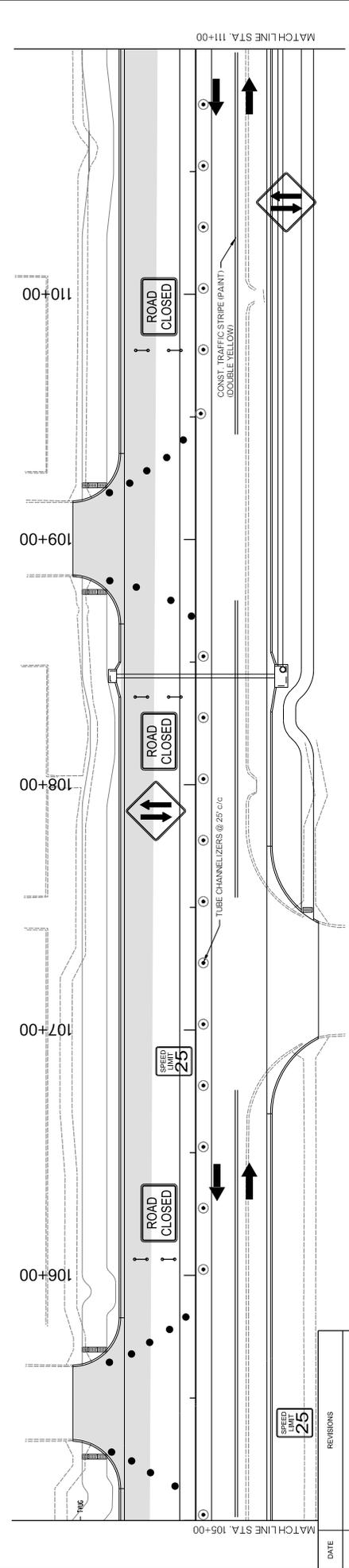
**HOUSTON STREET
WIDENING**

**CONSTRUCTION
SEQUENCE PHASE 1 (5)**

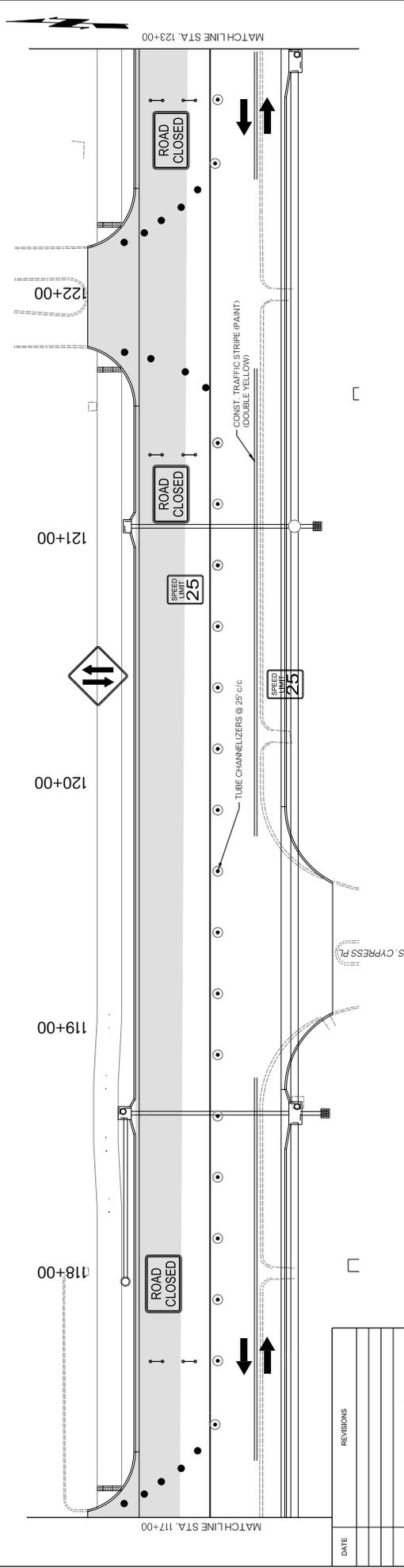
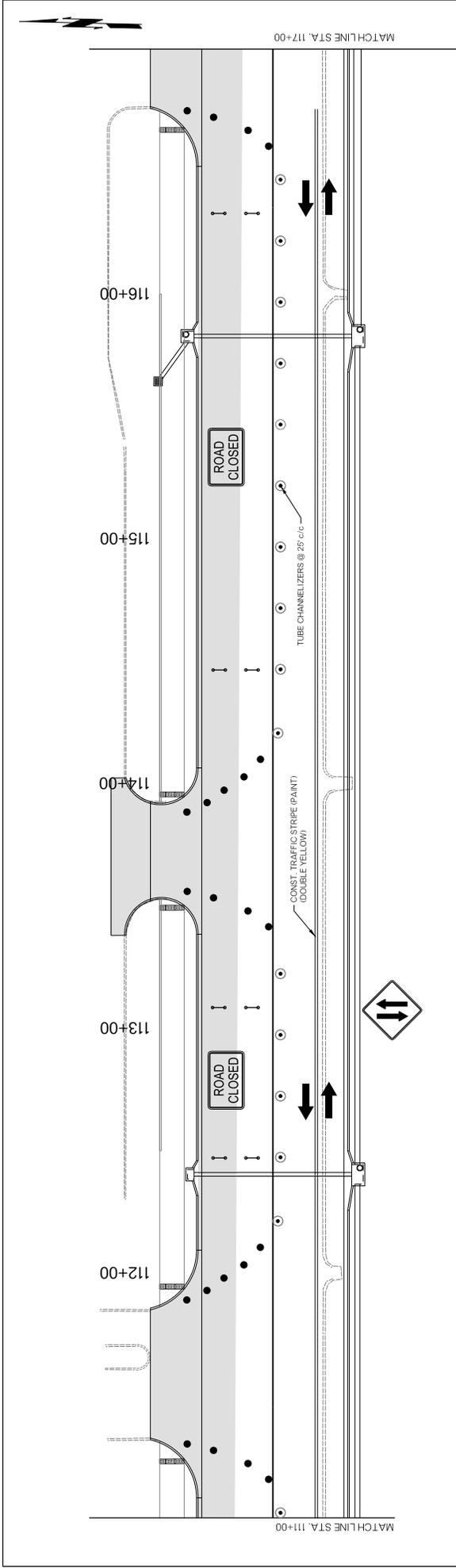
PROFILE SCALE:		DESIGN		DATE		DATE	
HORIZ.	1"=40'	CAC	2020	WSL	2020	DATE	DATE
VERT.	1"=40'	REVIEWED	DATE	APPROVED	DATE	PROJECT NO.	PROJECT NO.
DRAWING NAME: 030909-Broken Arrow Phase 1.dgn		SHEET	49	OF	108	ST	2028



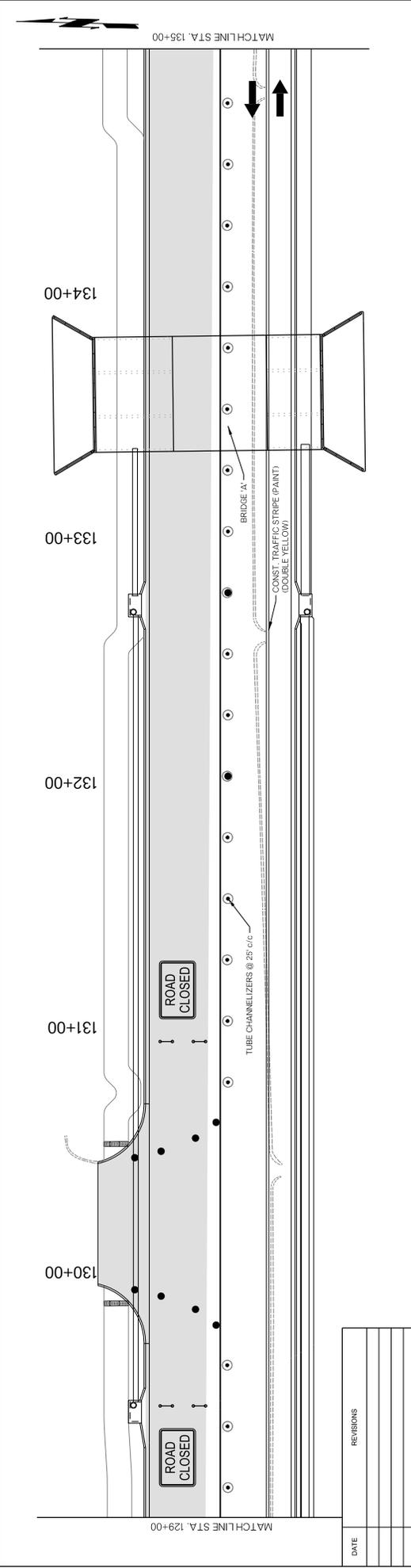
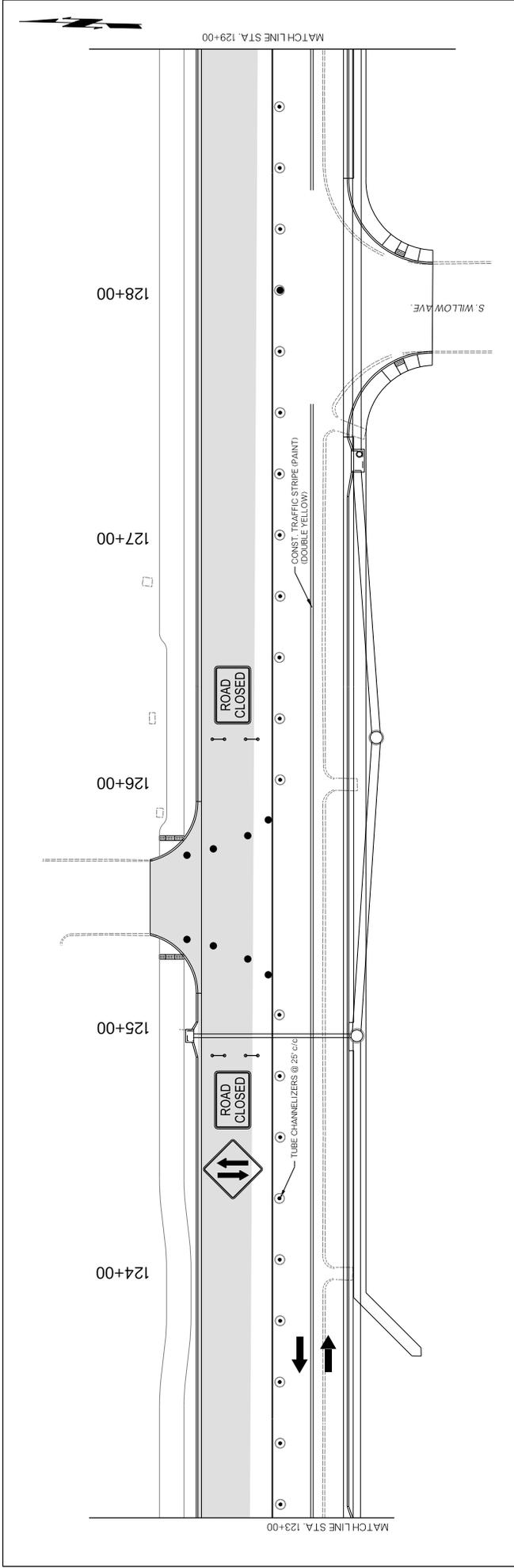
- TUBE CHANNELIZERS
 - DRUMS
 - ! TYPE III BARRICADES W/TYPE A LIGHTS
- PHASE 2**
1. PLACE TWO WAY TRAFFIC COMPLETED WEST BOUND LANES.
 2. INSTALL EROSION CONTROL.
 3. CONSTRUCT NORTH SIDE PAVEMENT WIDENING.
 4. CONSTRUCT WEST SIDE PAVEMENT WIDENING.
 5. CONSTRUCT NORTH HALF OF OLIVE (25' TH) INTERSECTION.
- PHASE 3**
1. COLD MILL EXISTING ASPHALT PAVEMENT.
 2. INSTALL FABRIX REINFORCEMENT AND S4 ASPHALT SURFACE COURSE (MAINTAIN MINIMUM TWO LANES OF TRAFFIC).
 3. INSTALL PERMANENT PAVEMENT MARKING AND SIGNAGE.



 CITY OF BROKEN ARROW <i>Where opportunity lives</i>		 POE & ASSOCIATES INC. Tulsa, Oklahoma		HOUSTON STREET WIDENING		CONSTRUCTION SEQUENCE PHASE 2 (1)		PROFILE SCALE: HORIZ. 1"=40' VERT. 1"=5' DRAWING NAME: SHEET 50 OF 108 PROJECT NO. ST 2028	
DATE	REVISIONS	DESIGN	DATE	DRAFTED	DATE	DATE	DATE	DATE	DATE
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		REVIEWED	DATE	APPROVED	DATE	DATE	DATE	DATE	DATE
			2020		2020	2020	2020	2020	2020

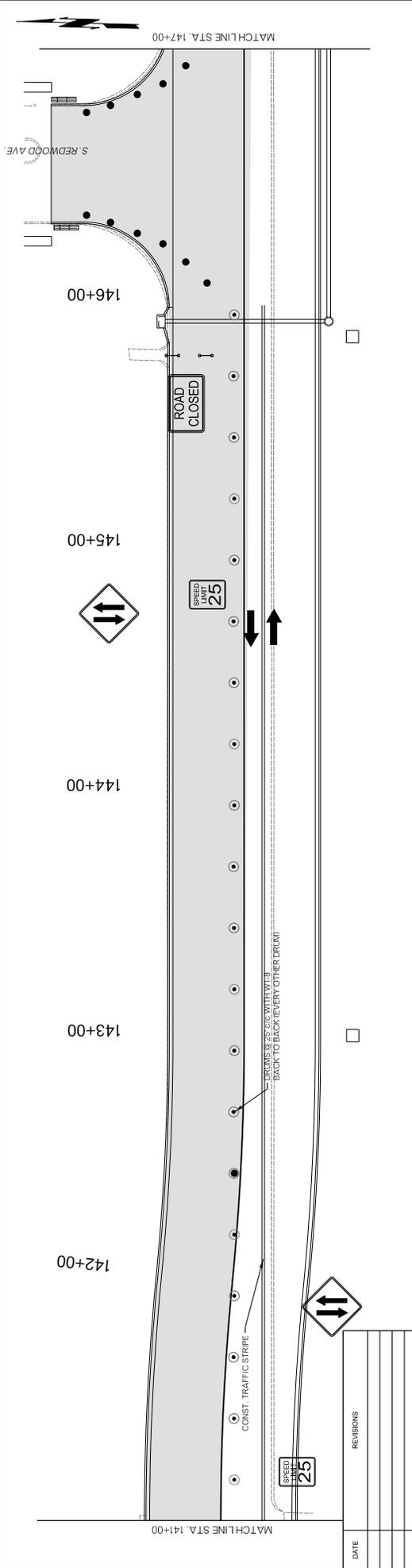
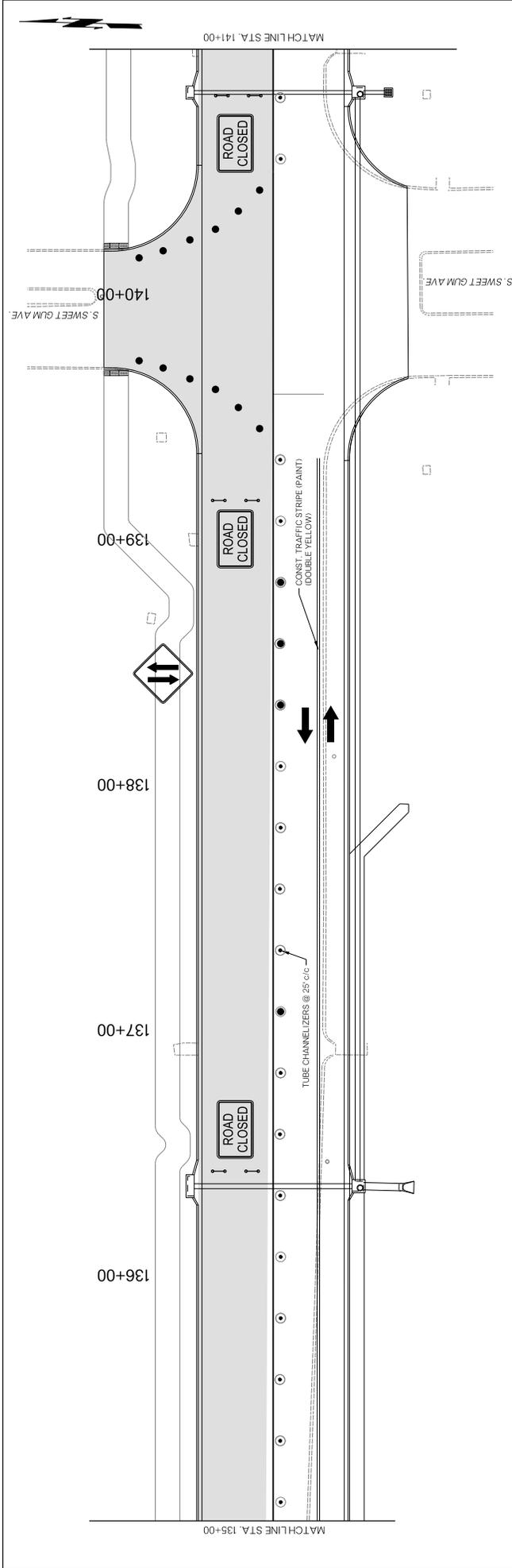


 CITY OF BROKEN ARROW <i>Where opportunity lives</i>		 POE & ASSOCIATES INC. Tulsa, Oklahoma		HOUSTON STREET WIDENING		CONSTRUCTION SEQUENCE PHASE 2 (2)		DESIGN: _____ DATE: _____ G/C: _____ DATE: _____ REVIEWED: _____ DATE: _____ DATE: _____ DATE: _____ PROJECT NO.: _____ SHEET 51 OF 108	
PROFILE SCALE: _____ HORIZ. 1"=40' VERT. _____ DRAWING NAME: _____		DATE: _____ DATE: _____ DATE: _____ DATE: _____							

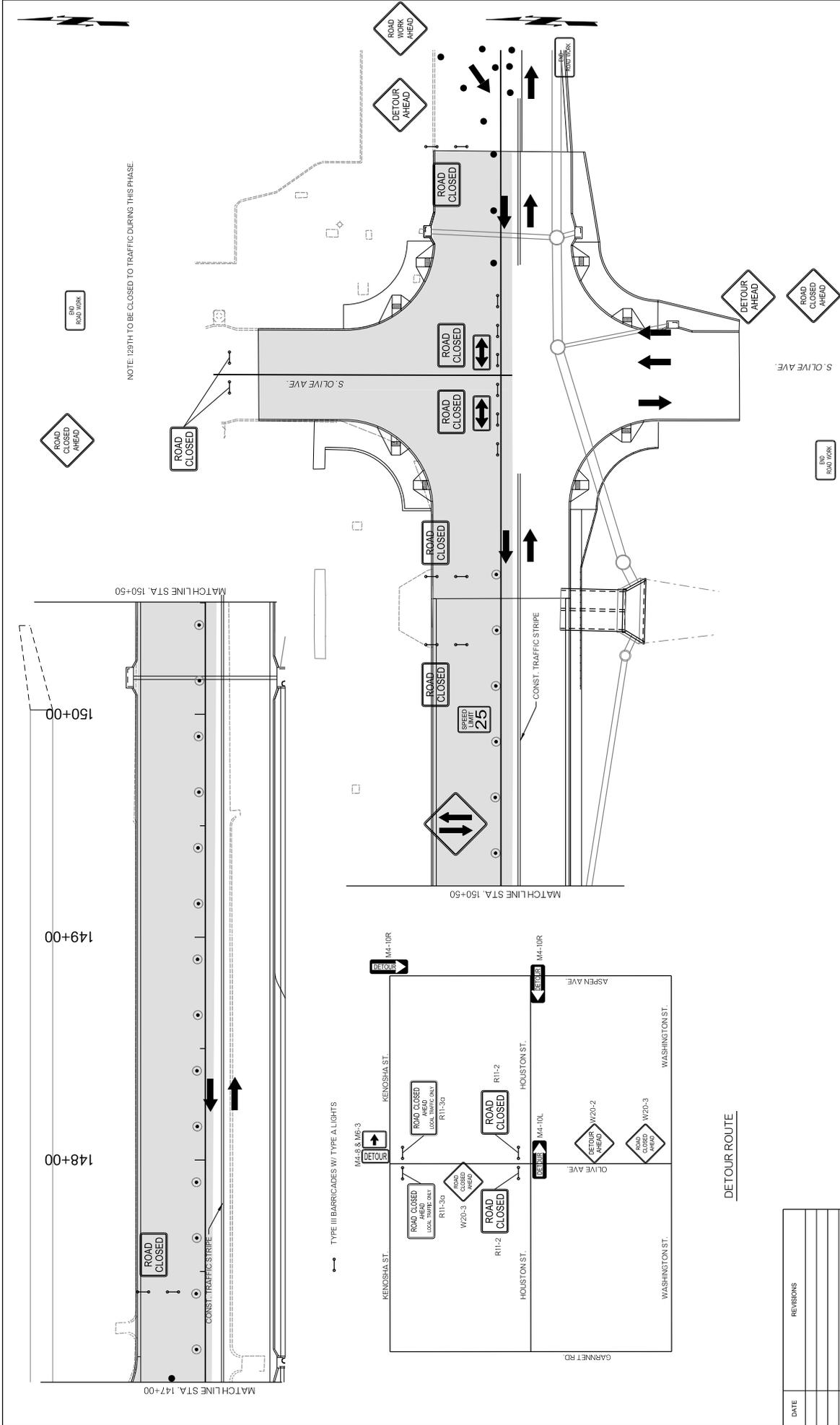


				HOUSTON STREET WIDENING		CONSTRUCTION SEQUENCE PHASE 2 (3)		DESIGN: _____ DATE: _____ G/C: _____ DATE: _____ REVIEWED: _____ DATE: _____ DATE: _____ PROJECT NO.: _____ SHEET 52 OF 108	
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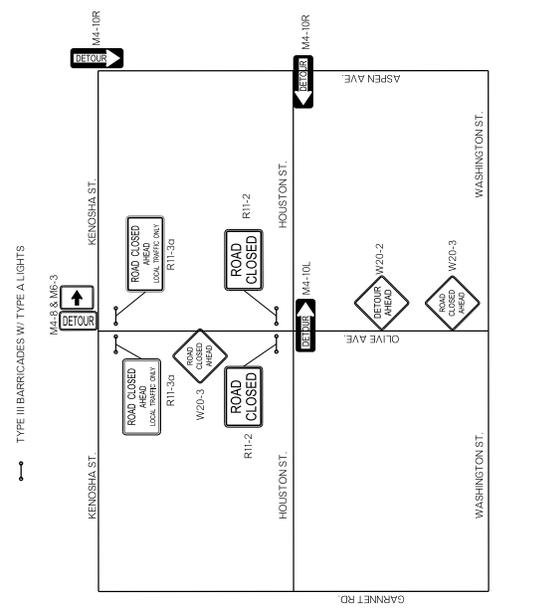
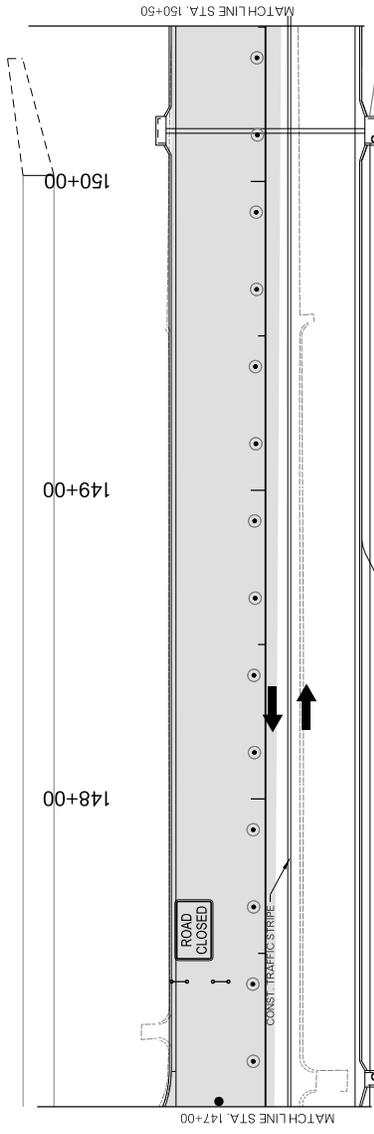
DATE	REVISIONS



 CITY OF BROKEN ARROW <i>Where opportunity lives</i>		 POE & ASSOCIATES INC. Tulsa, Oklahoma		HOUSTON STREET WIDENING		CONSTRUCTION SEQUENCE PHASE 2 (4)		PROFILE SCALE: HORIZ. 1"=40' VERT. 1"=4' DRAWING NAME: 03030909-SequencePhase2.dgn SHEET 53 OF 108	
DATE	REVISIONS	DESIGN DATE	DATE	DRAFTED	DATE	DATE	DATE	DATE	DATE
		G/C	2020	WSL	2020	APPROVED	DATE	DATE	DATE
		REVIEWED	2020	DATE	2020	PROJECT NO.			

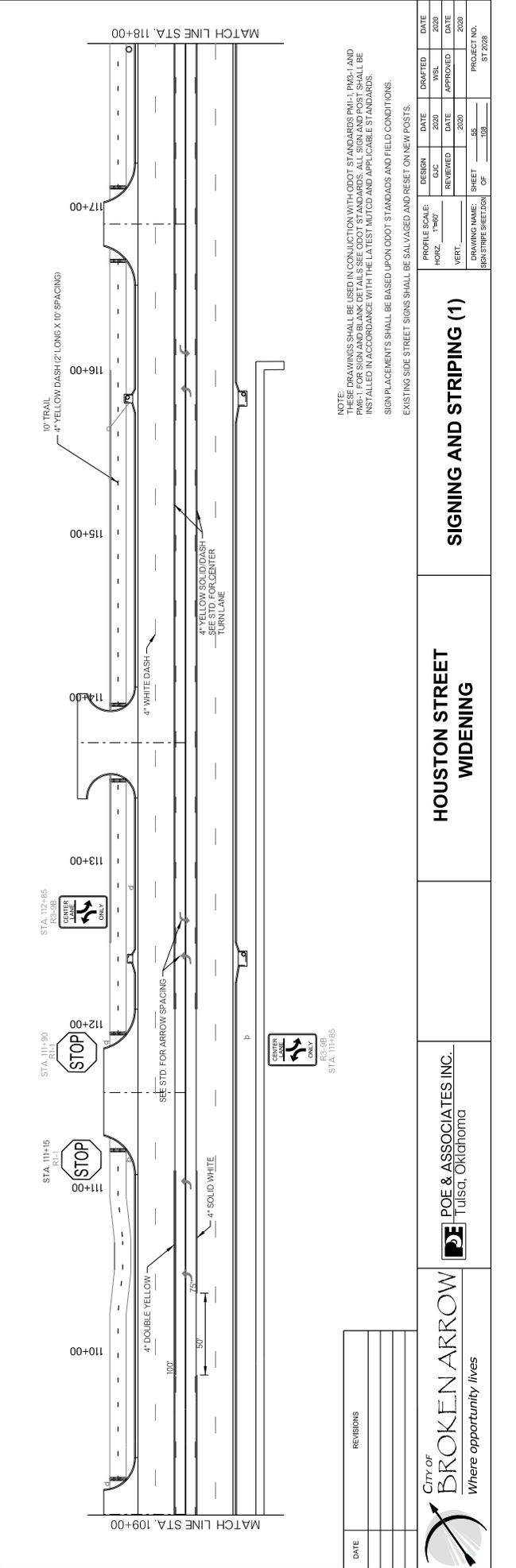
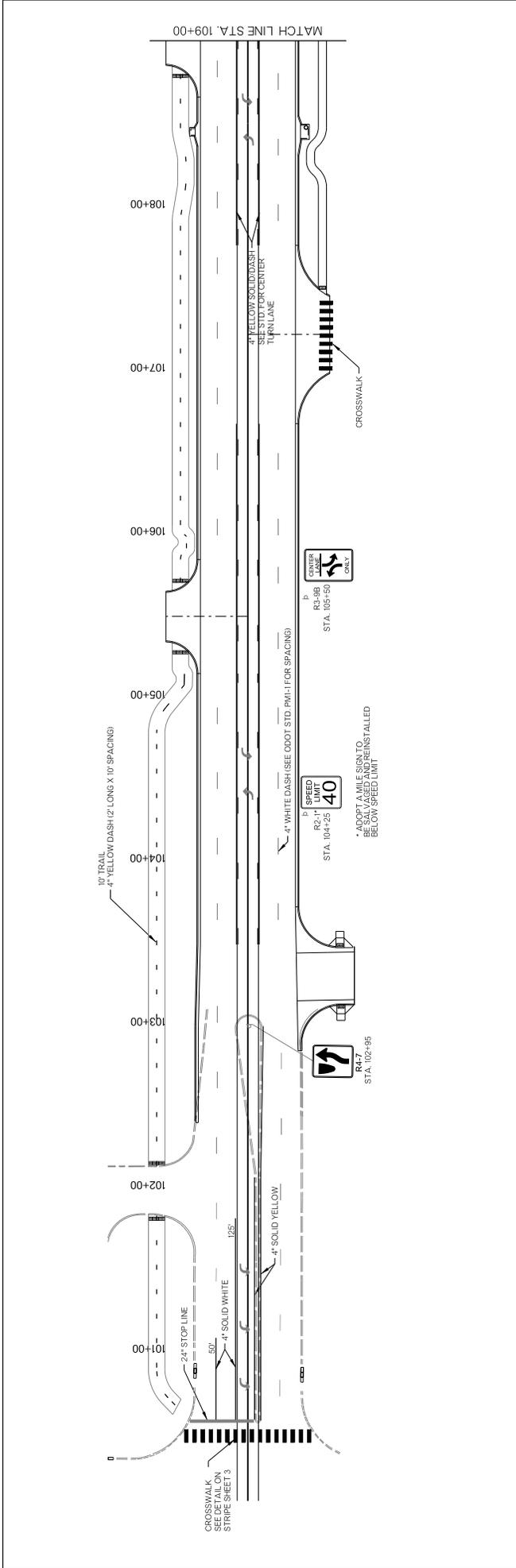


NOTE: 128TH TO BE CLOSED TO TRAFFIC DURING THIS PHASE.



DETOUR ROUTE

				<p>HOUSTON STREET WIDENING</p>		<p>CONSTRUCTION SEQUENCE PHASE 2 (5)</p>		<p>DESIGN DATE: 2020 G/C DATE: 2020 REVIEWED DATE: 2020 APPROVED DATE: 2020</p>		<p>DRAFTED: WSL DATE: 2020</p>	
<p>DATE: _____</p>		<p>REVISIONS: _____</p>		<p>PROFILE SCALE: HORIZ: 1"=40' VERT: _____</p>		<p>DRAWING NAME: _____ SHEET: 54 OF 108</p>		<p>PROJECT NO.: _____ ST: 2028</p>		<p>DATE: _____</p>	



NOTE:
 THESE DRAWINGS SHALL BE USED IN CONJUNCTION WITH ODOT STANDARDS PM-11, PM-1 AND
 PM-1. FOR SIGN AND BLANK DETAILS SEE ODOT STANDARDS. ALL SIGN AND POST SHALL BE
 INSTALLED IN ACCORDANCE WITH THE LATEST MUTCD AND APPLICABLE STANDARDS.
 SIGN PLACEMENTS SHALL BE BASED UPON ODOT STANDARDS AND FIELD CONDITIONS.
 EXISTING SIDE STREET SIGNS SHALL BE SALVAGED AND RESET ON NEW POSTS.

DATE	DESIGN	DATE	DRAFTED	DATE
	GUC	2020	WSL	2020
	REVIEWED	DATE	APPROVED	DATE
	VERT	2020	2020	2020
DRAWING NAME: SIGN STRIPE SECTION		SHEET	OF	PROJECT NO.
		56	108	ST 2028

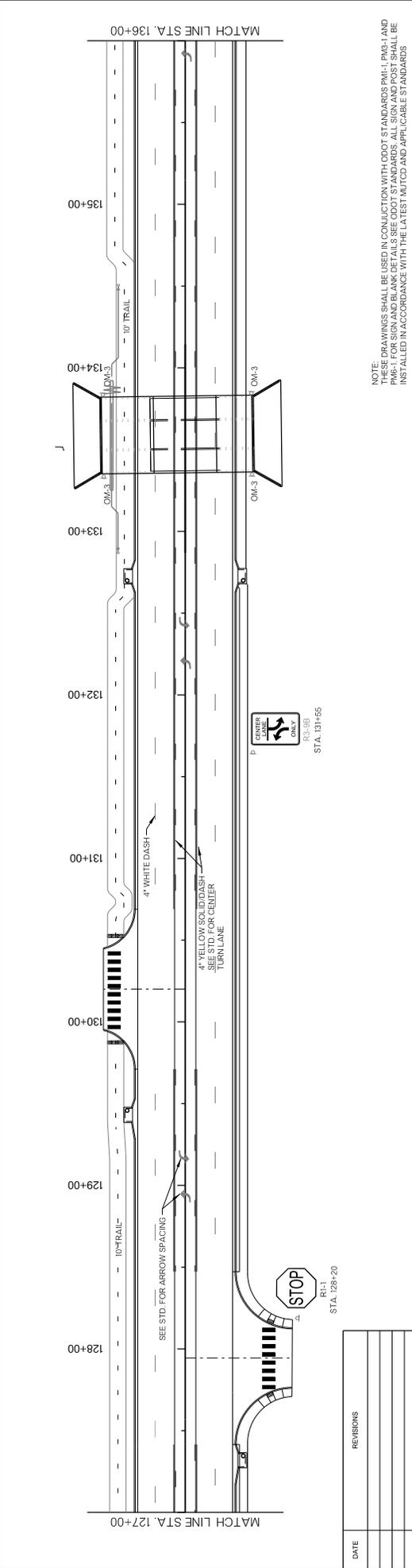
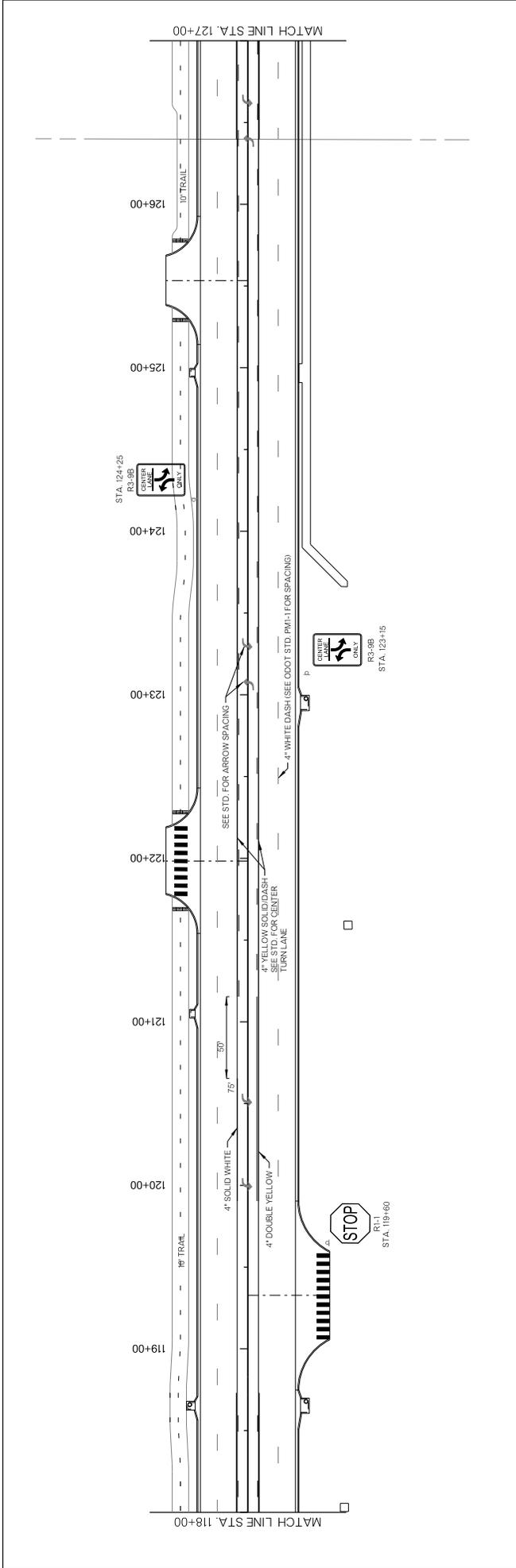
SIGNING AND STRIPING (1)

HOUSTON STREET WIDENING

POE & ASSOCIATES INC.
Tulsa, Oklahoma

CITY OF
BROKEN ARROW
Where opportunity lives

DATE	REVISIONS



NOTE: THESE DRAWINGS SHALL BE USED IN CONJUNCTION WITH ODOT STANDARDS PM-1, PM-3-1 AND PM-1.1 FOR SIGN AND BLANK DETAILS. SEE ODOT STANDARDS FOR SIGN AND BLANK DETAILS. SIGN AND BLANK DETAILS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST TxDOT AND APT/CABLE STANDARDS.

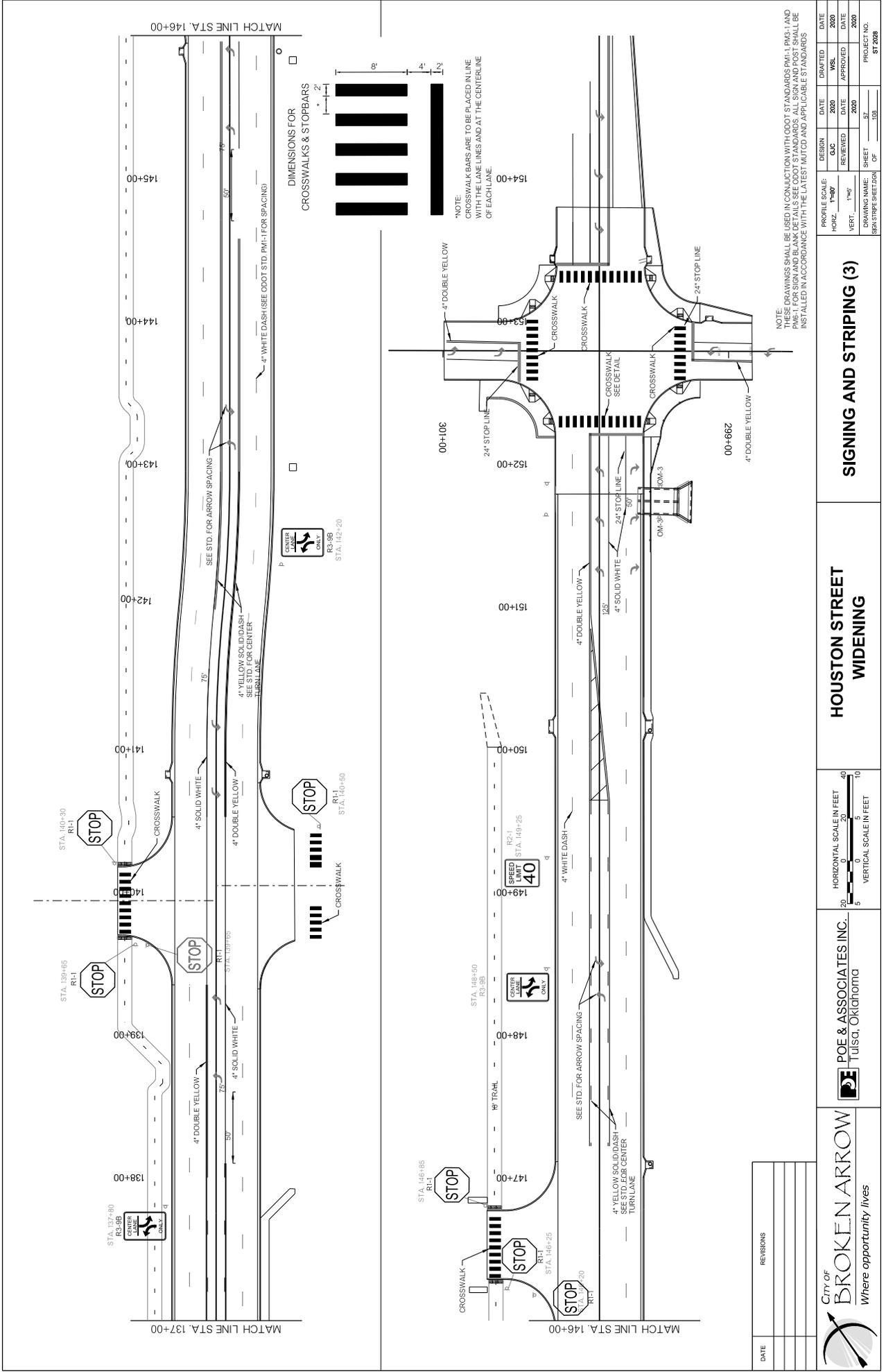
DATE	REVISIONS

PROFILE SCALE:	DESIGN	DATE	DRAFTED	DATE
HORIZ. 1"=60'	G/C	2020	WSL	2020
VERT. 1"=20'	REVIEWED	DATE	APPROVED	DATE
DRAWING NAME: HOUSTON STREET WIDENING		SHEET 56	OF 108	PROJECT NO. ST. 2028

HOUSTON STREET WIDENING

POE & ASSOCIATES INC.
 Tulsa, Oklahoma

CITY OF BROKEN ARROW
Where opportunity lives



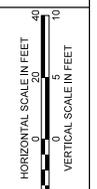
*NOTE:
CROSSWALK BARS ARE TO BE PLACED IN LINE WITH THE LANE LINES AND AT THE CENTERLINE OF EACH LANE.

NOTE:
THESE DRAWINGS SHALL BE USED IN CONJUNCTION WITH ODOT STANDARDS PM-1.1, PM-1.2 AND PM-1.3. ALL SIGNAGE AND STRIPING SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST MUTCD AND APPLICABLE STANDARDS.

PROFILE SCALE:		DESIGN		DATE		DATE	
HORIZ.	1"=80'	QC	2020	WSL	2020	DATE	DATE
VERT.	1"=5'	REVIEWED	DATE	APPROVED	DATE	DATE	DATE
DRAWING NAME:		SHEET		PROJECT NO.		SHEET NO.	
HOUSTON STREET WIDENING		OF 57		108		ST 2008	

HOUSTON STREET WIDENING

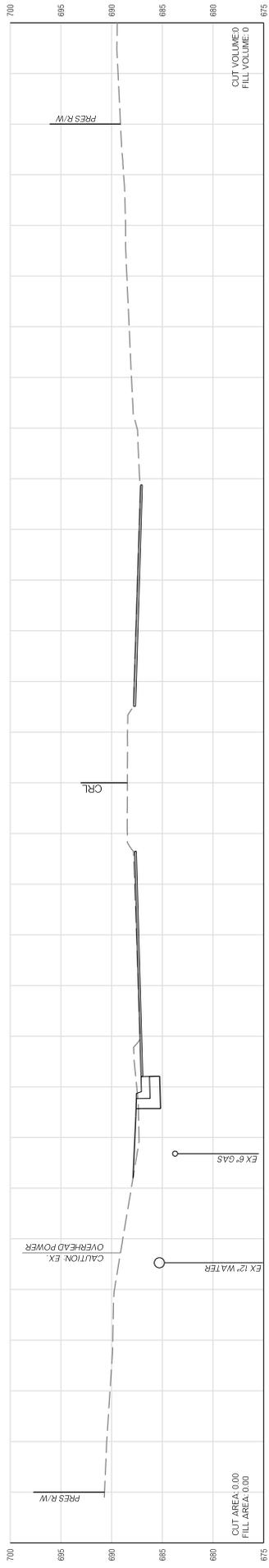
HOUSTON STREET WIDENING



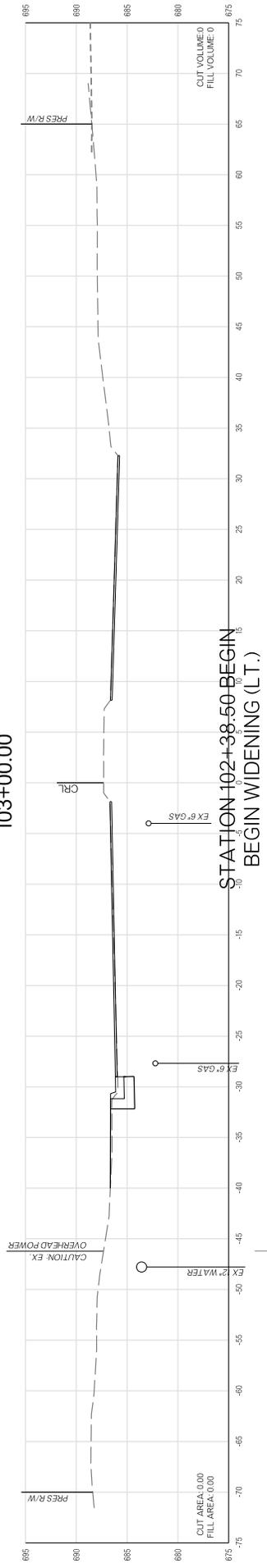
POE & ASSOCIATES INC.
Tulsa, Oklahoma

CITY OF BROKEN ARROW
Where opportunity lives

DATE	REVISIONS

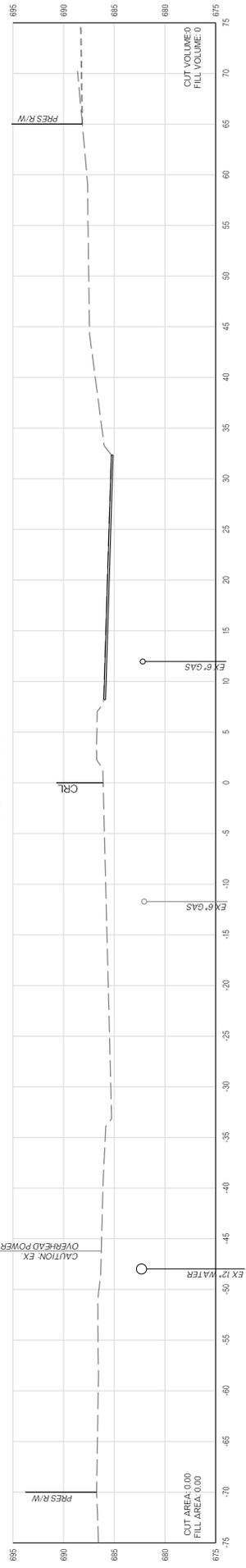


103+00.00



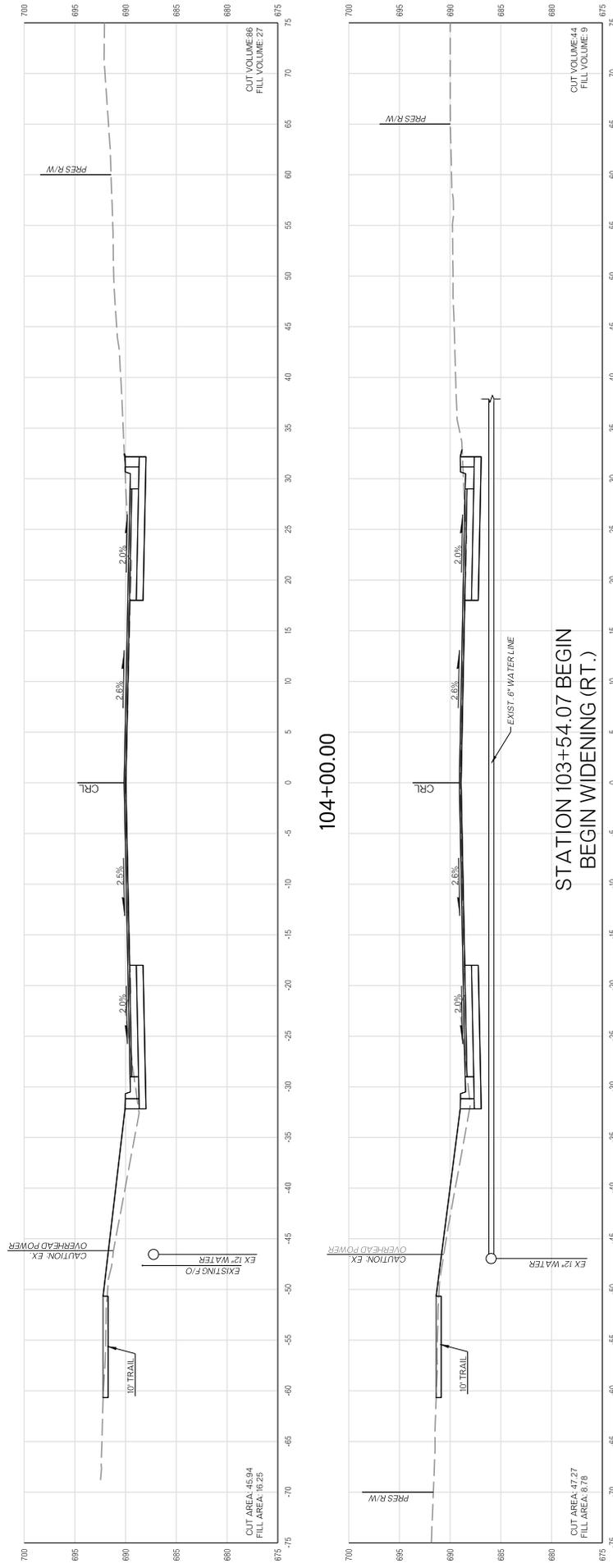
STATION 102+38.50 BEGIN
BEGIN WIDENING (L.T.)

102+50.00



102+26.51

STATION 100+32.48 BEGIN PROJECT
BEGIN MILL & OVERLAY



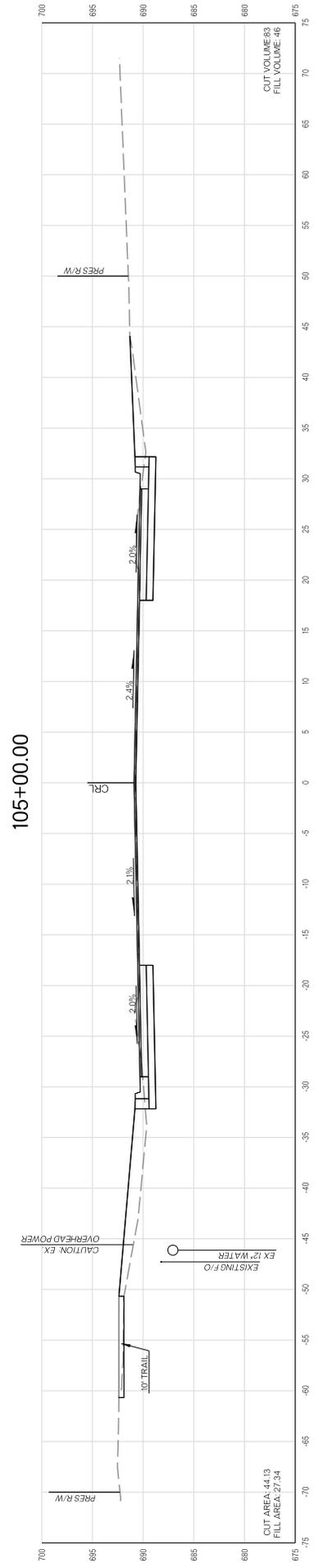
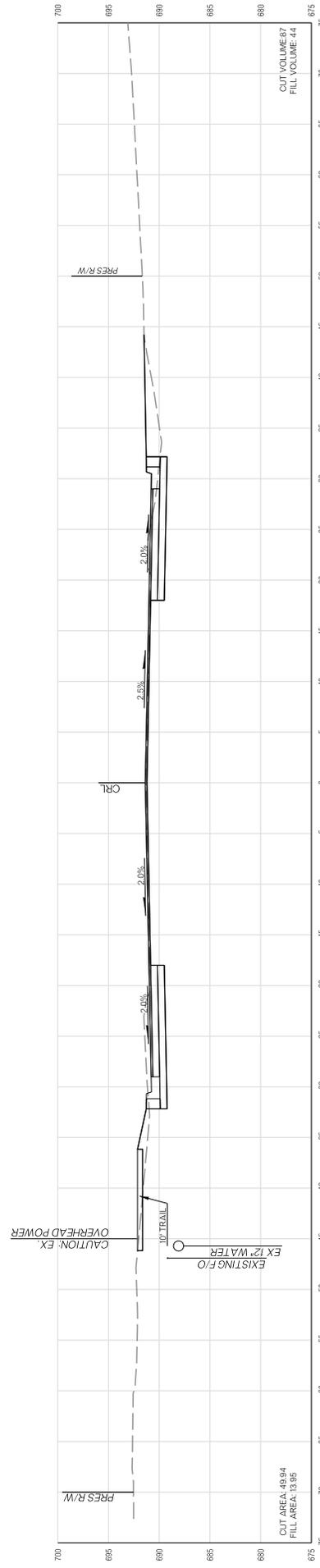
104+00.00

STATION 103+54.07 BEGIN
BEGIN WIDENING (RT.)

103+50.00

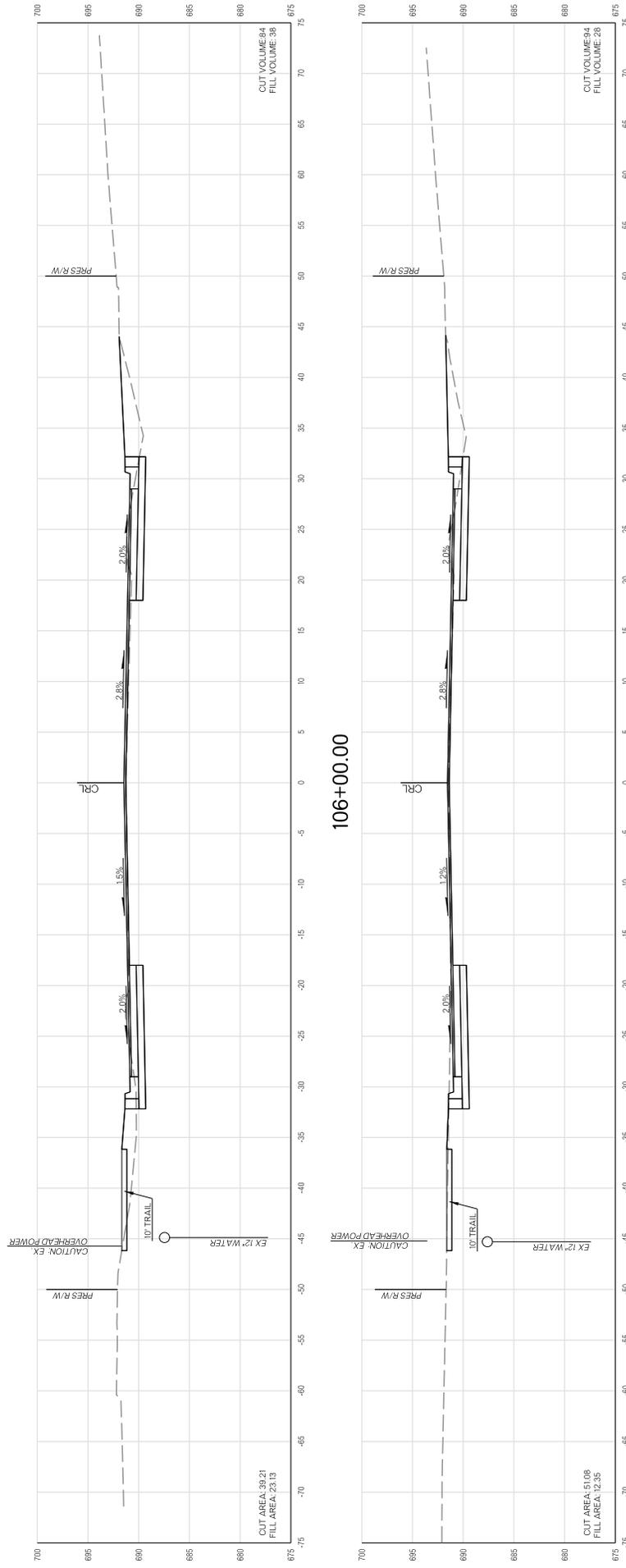
CROSS SECTIONS

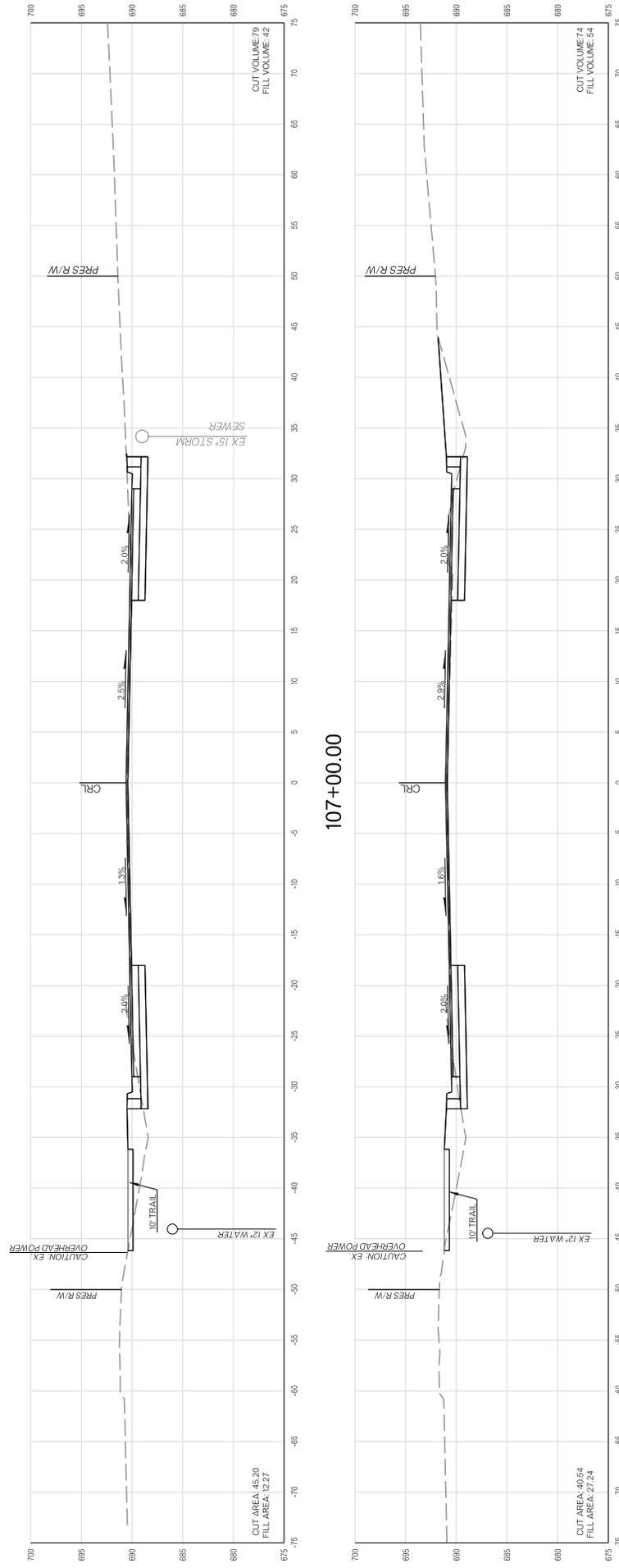
PROJECT NO. ST 2028 SHEET NO. X3



CROSS SECTIONS

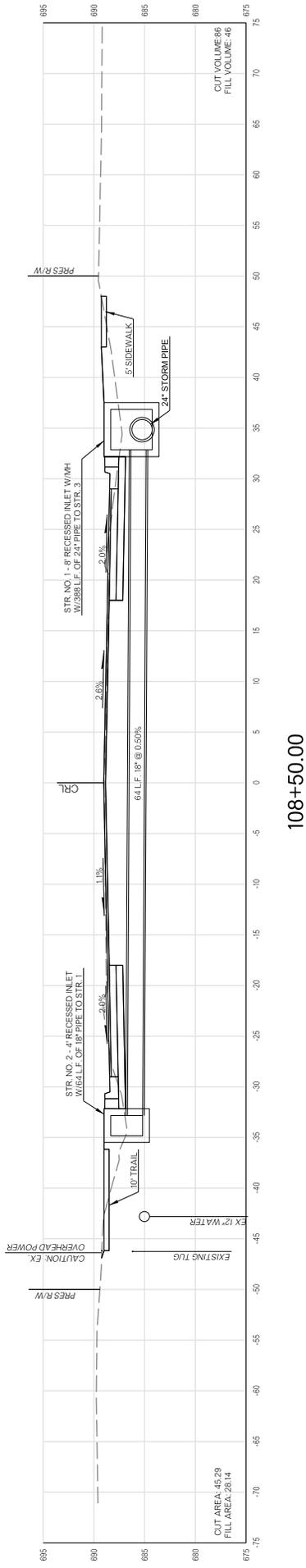
PROJECT NO. ST 2028 SHEET NO. X4



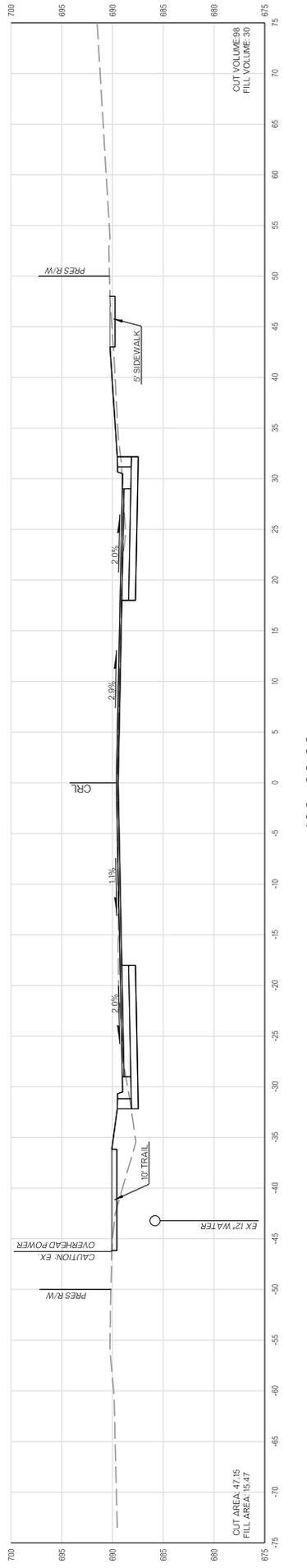


107+00.00

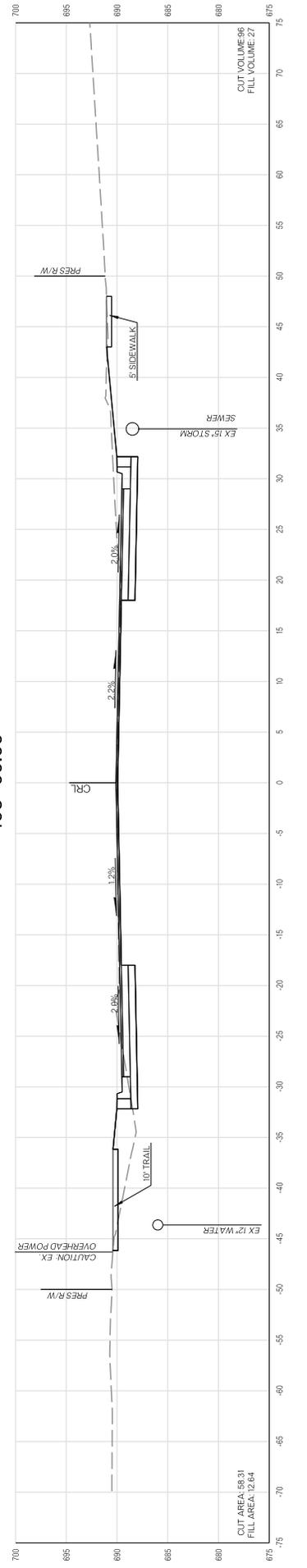
106+50.00



108+50.00

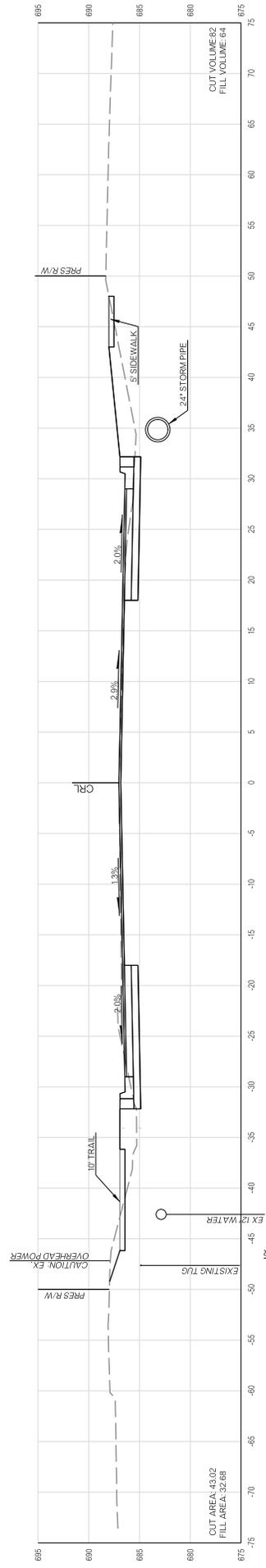


108+00.00

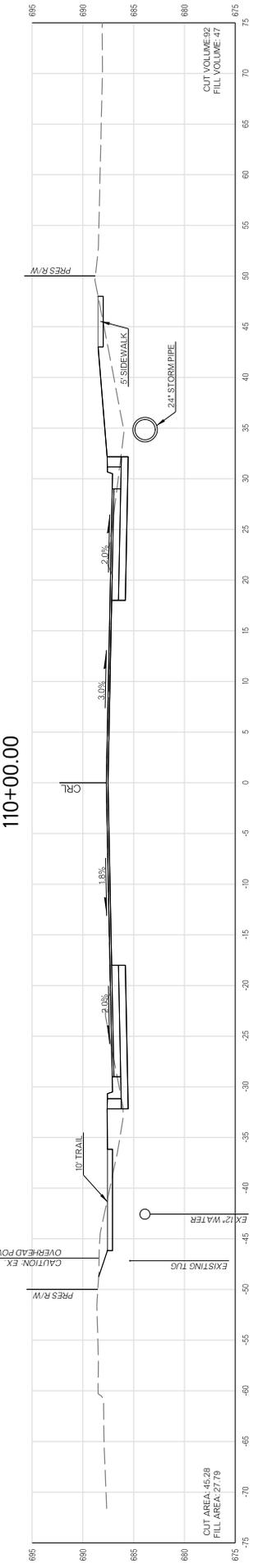


107+50.00

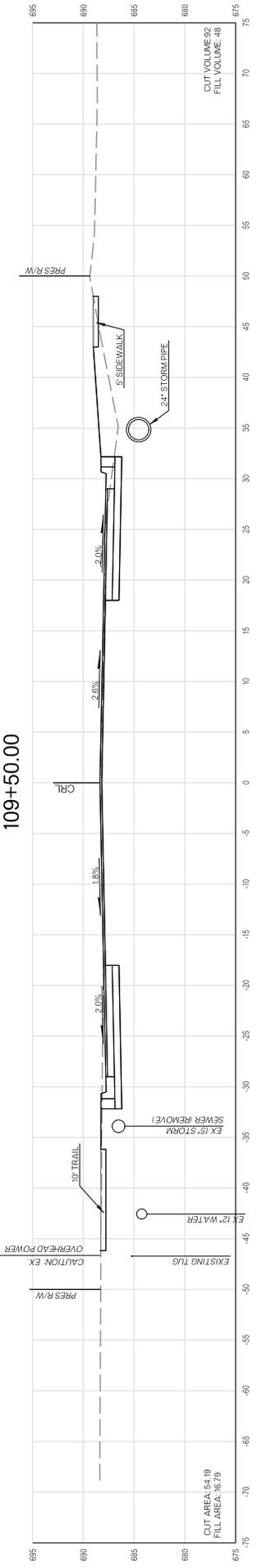
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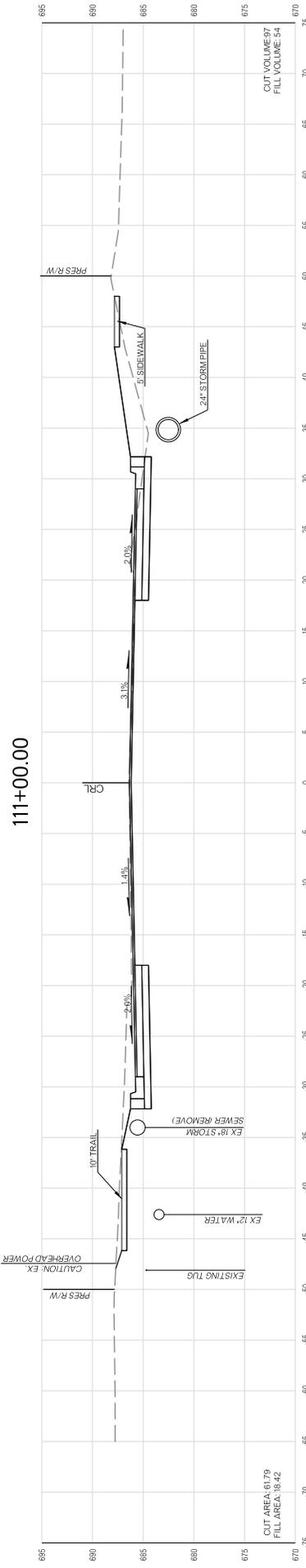
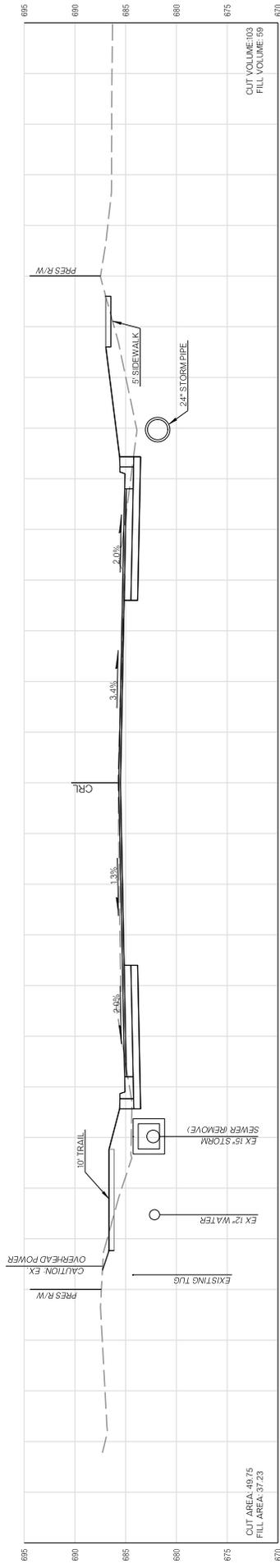
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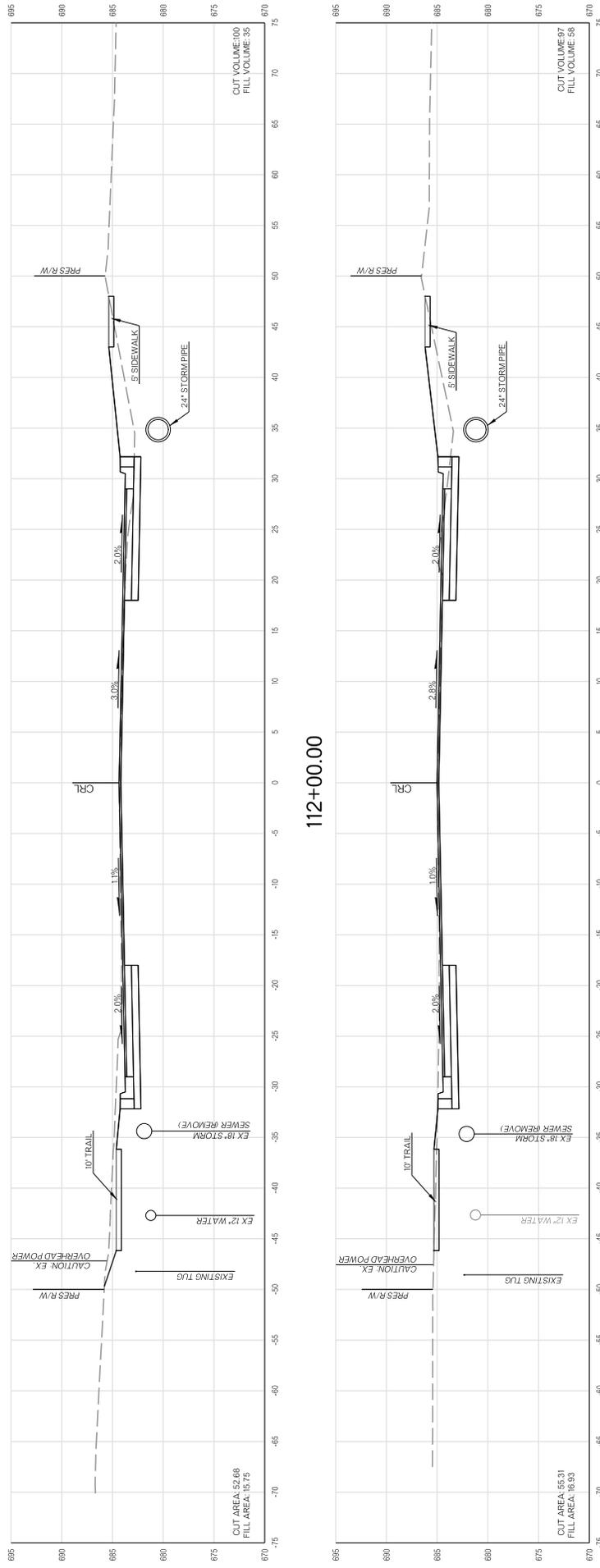


109+50.00



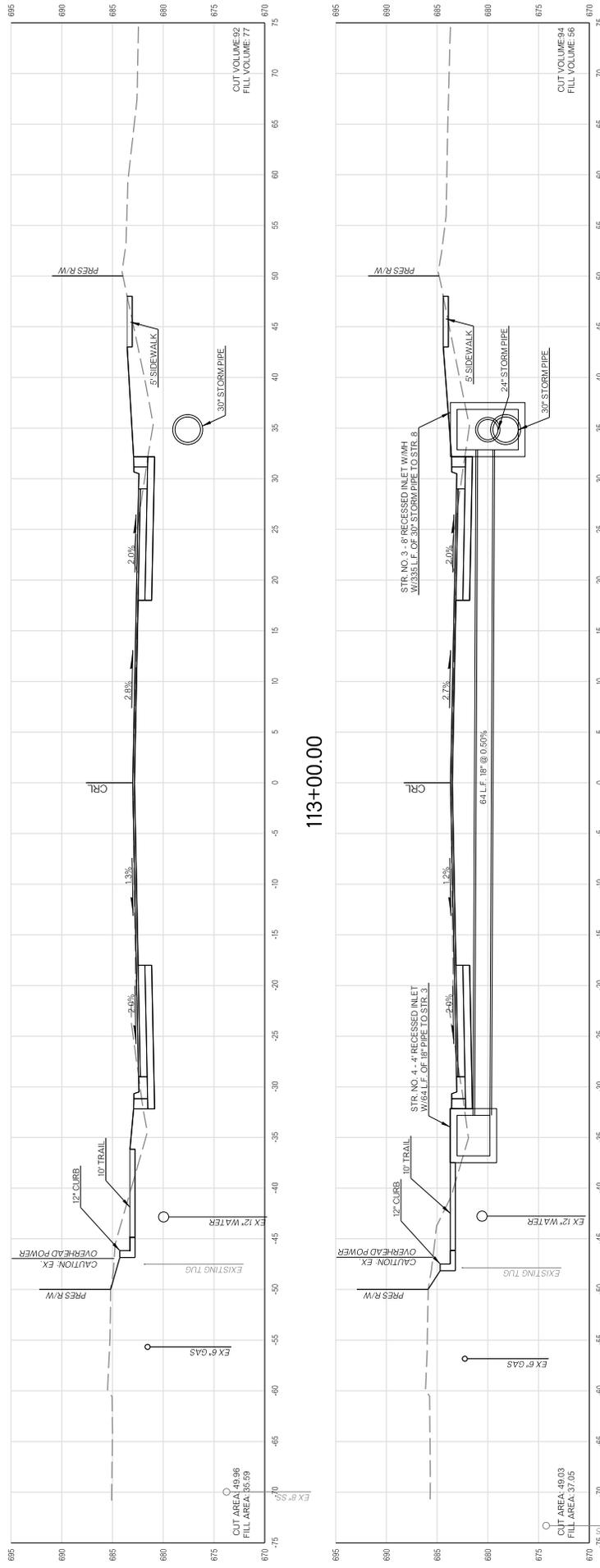
109+00.00





112+00.00

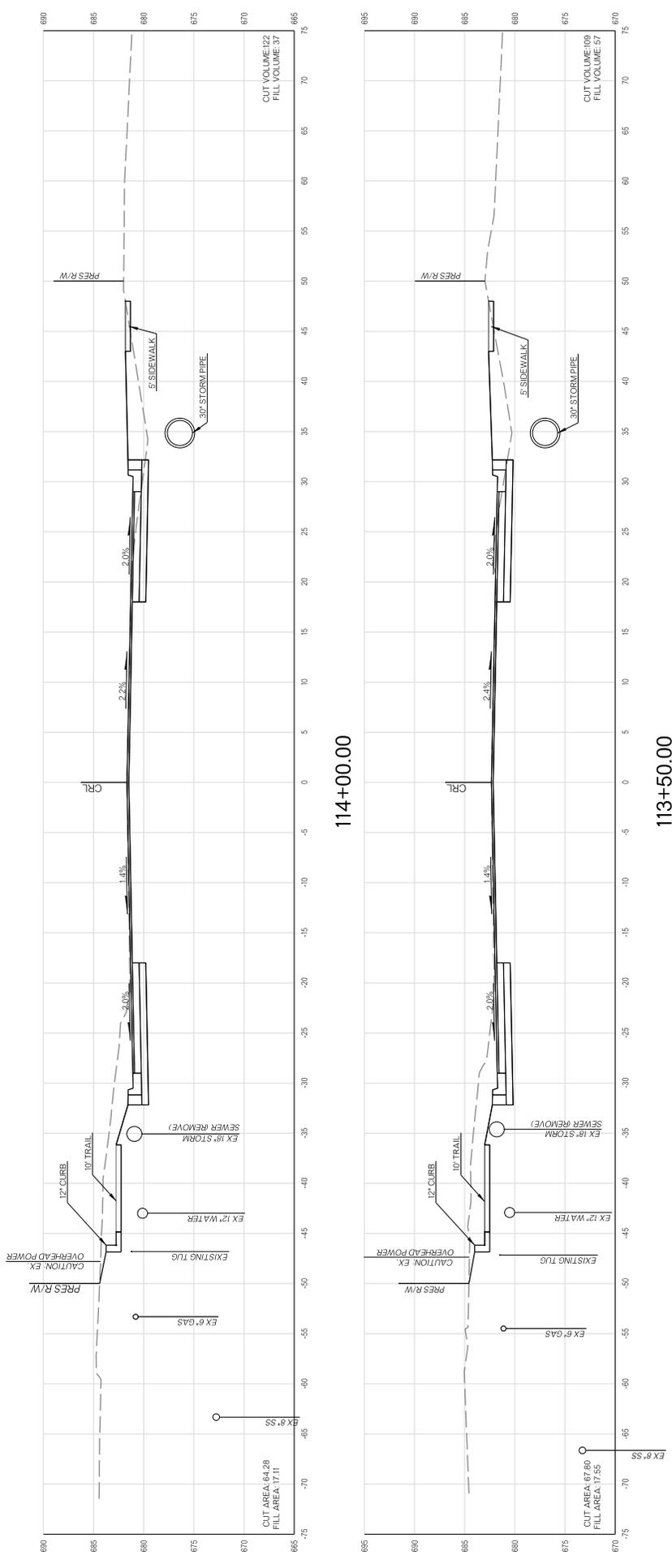
111+50.00

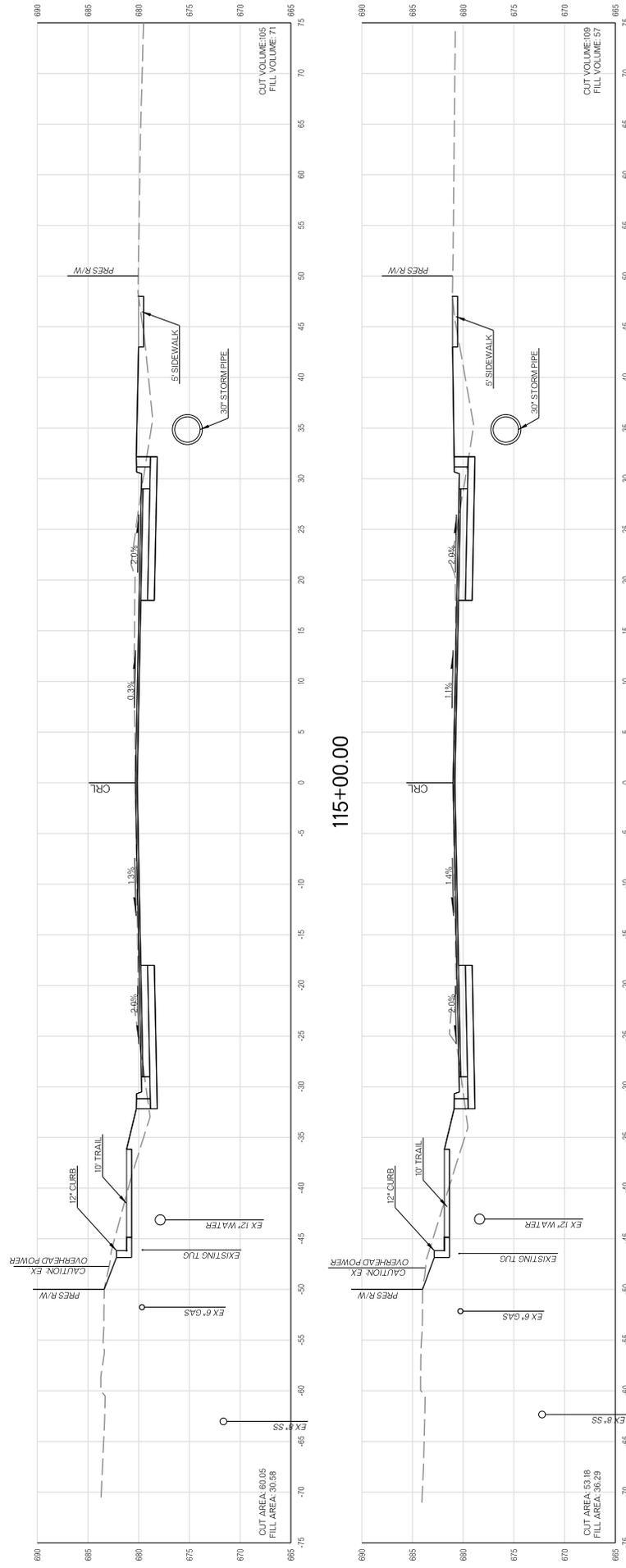


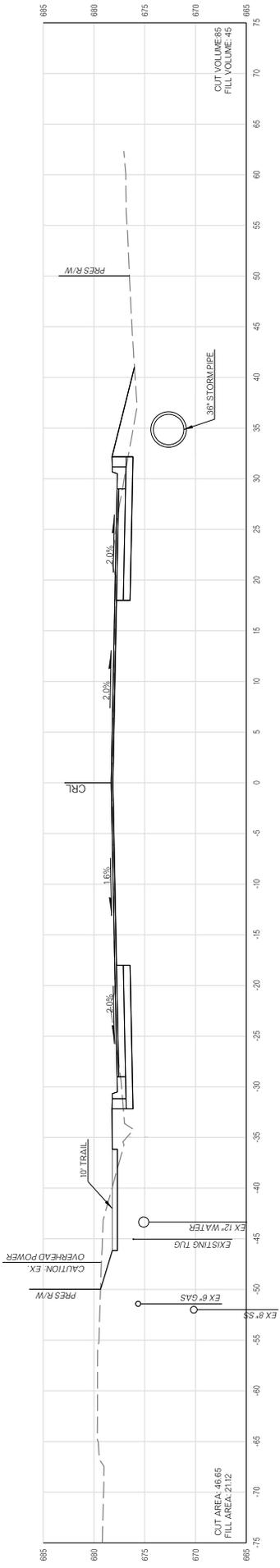
CROSS SECTIONS

CROSS SECTIONS

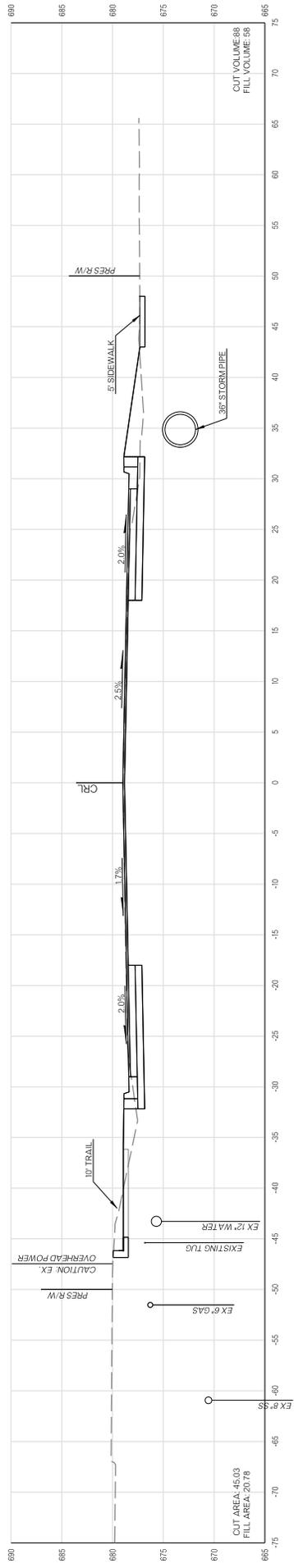
PROJECT NO. ST 2028 SHEET NO. XII



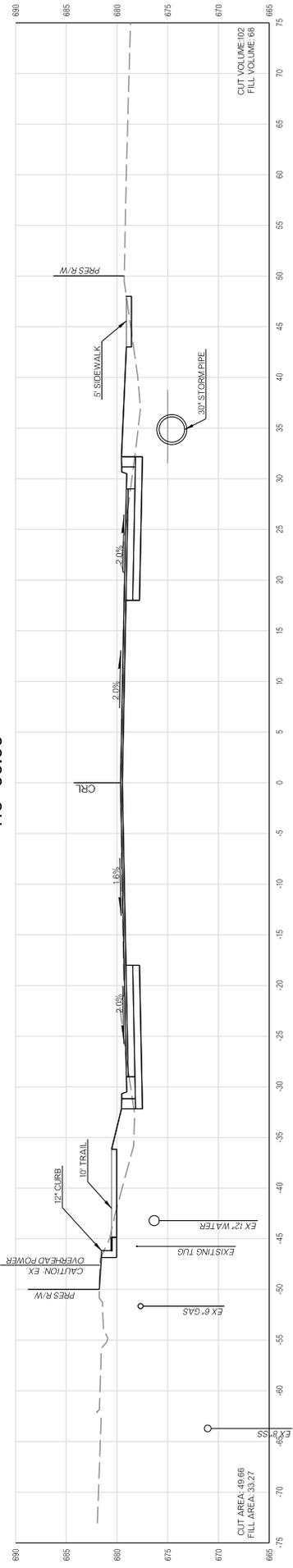




116+50.00



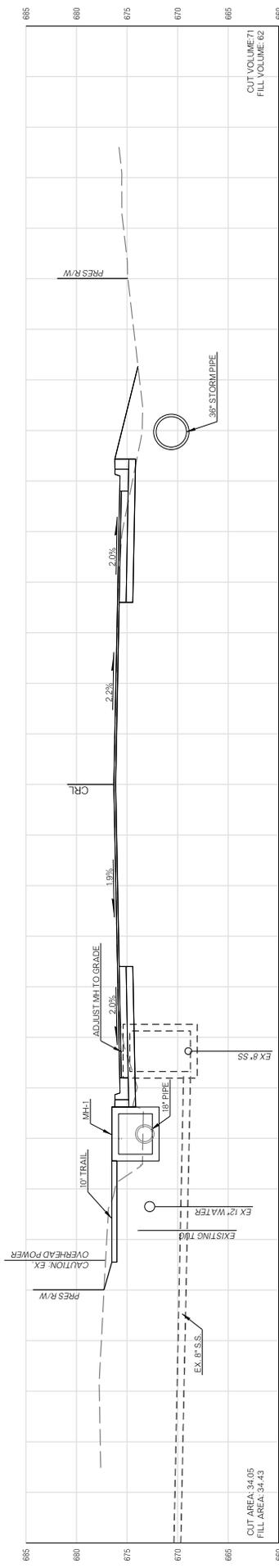
116+00.00



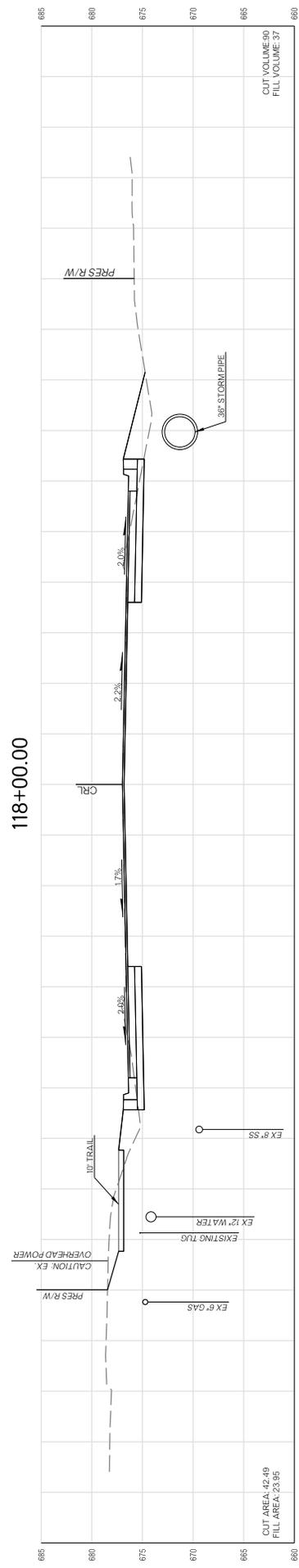
115+50.00

CROSS SECTIONS

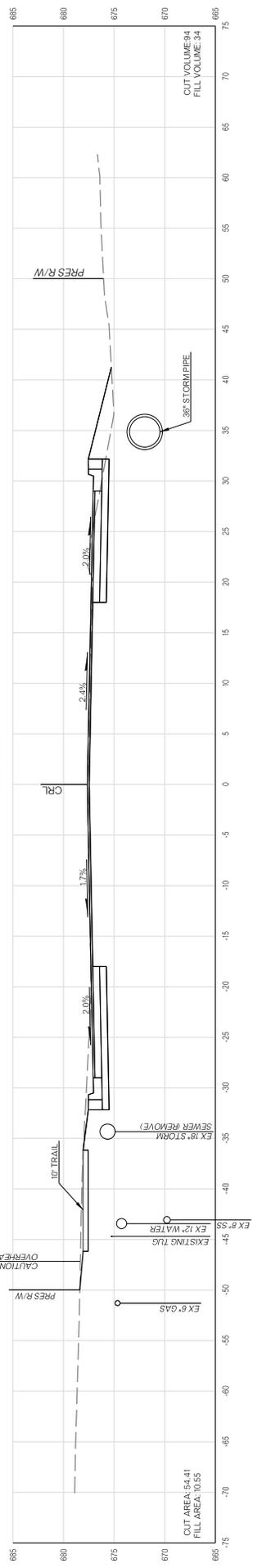
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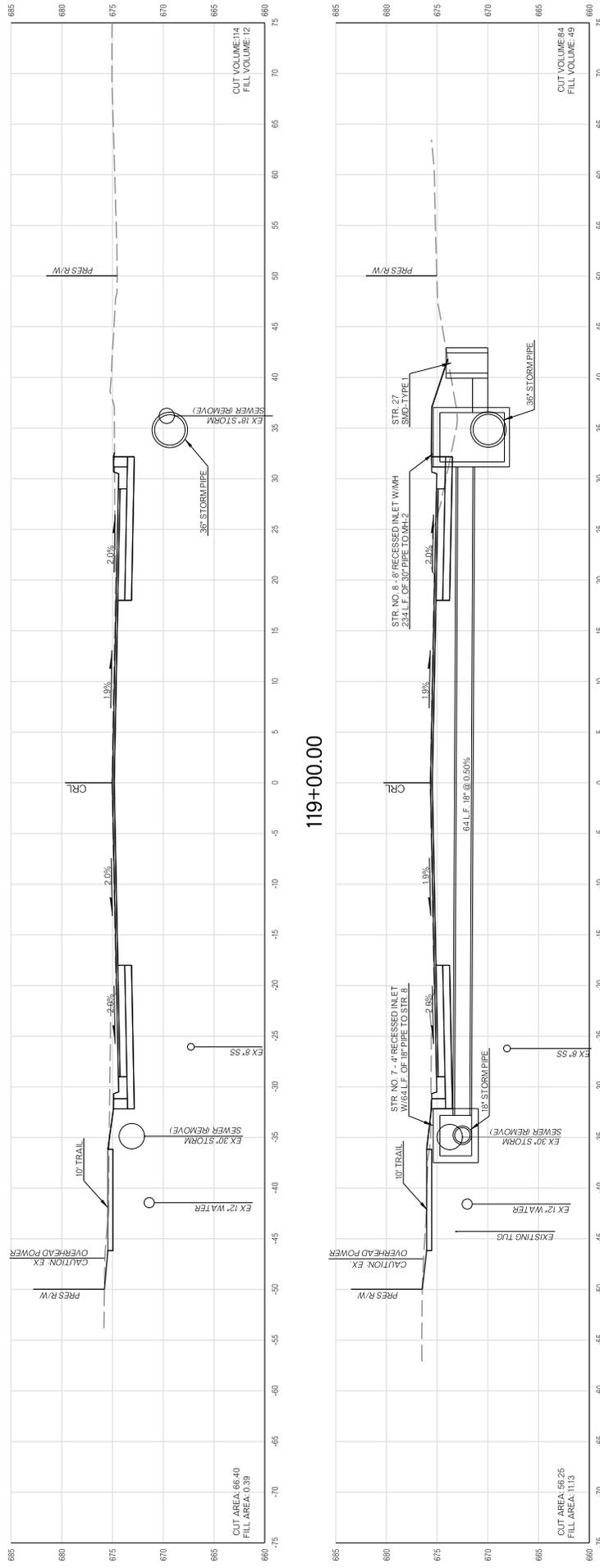
118+00.00



117+50.00

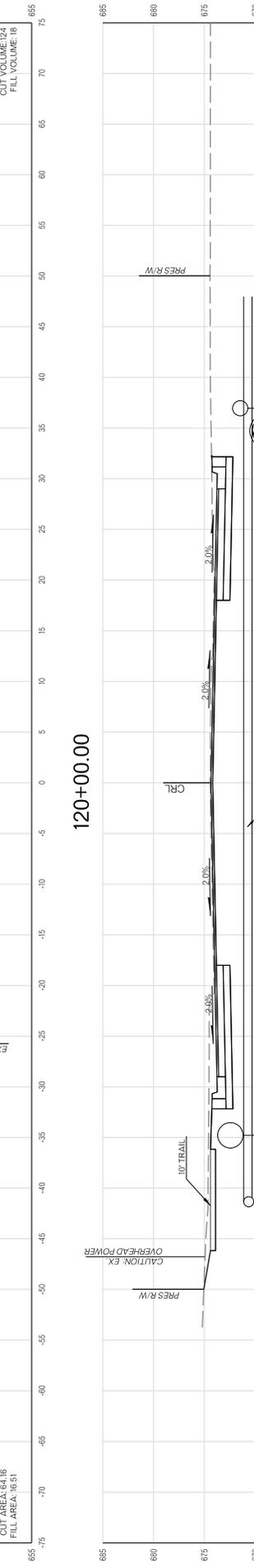
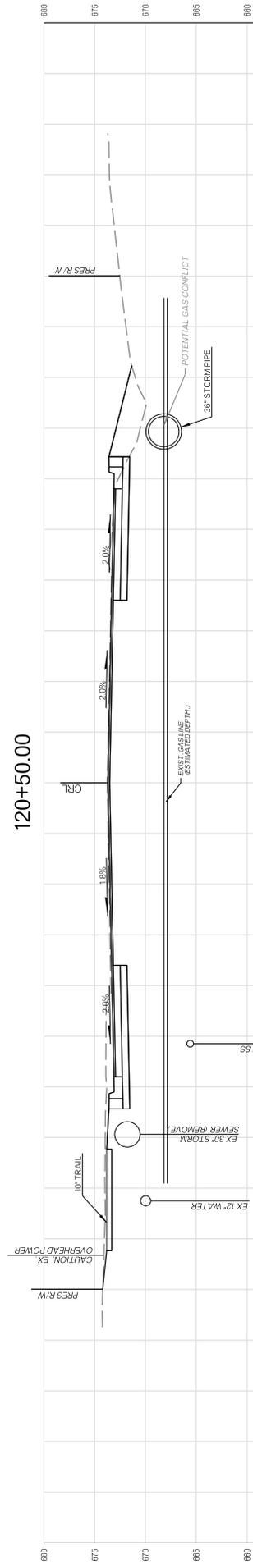
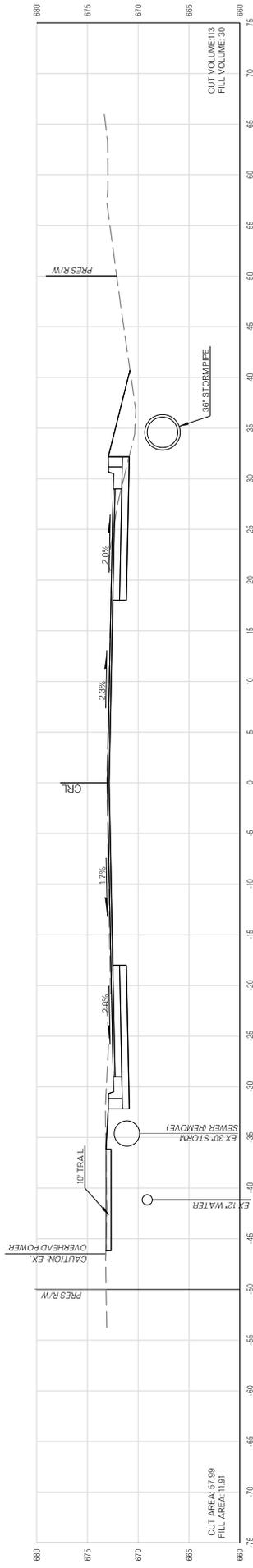


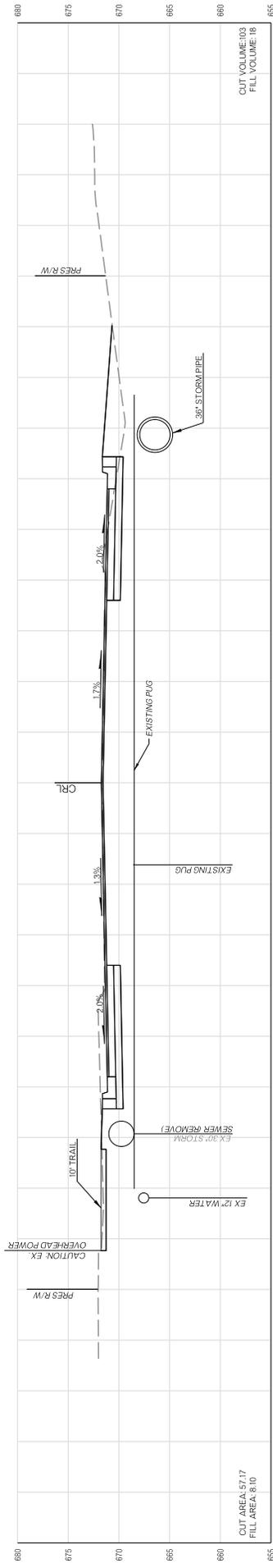
117+00.00



118+50.00

119+00.00

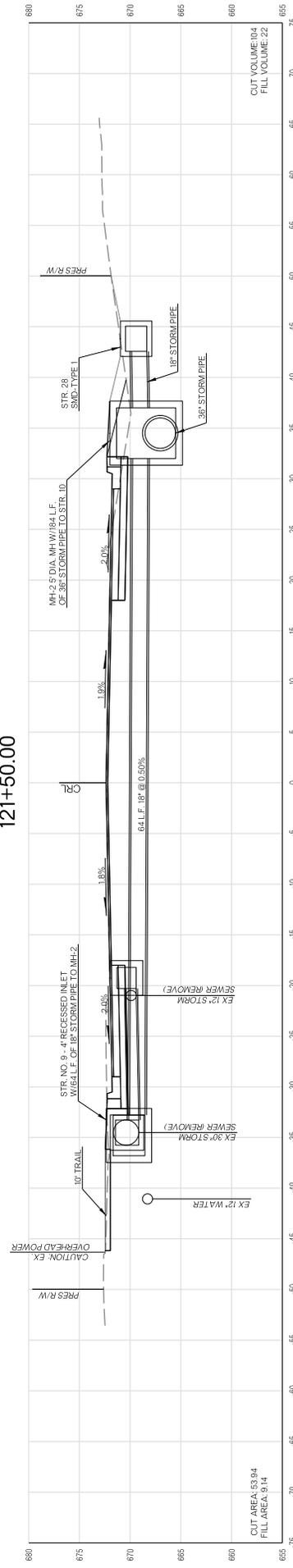




121+50.00

CUT AREA: 57.17
FILL AREA: 8.10

CUT VOLUME: 103
FILL VOLUME: 18

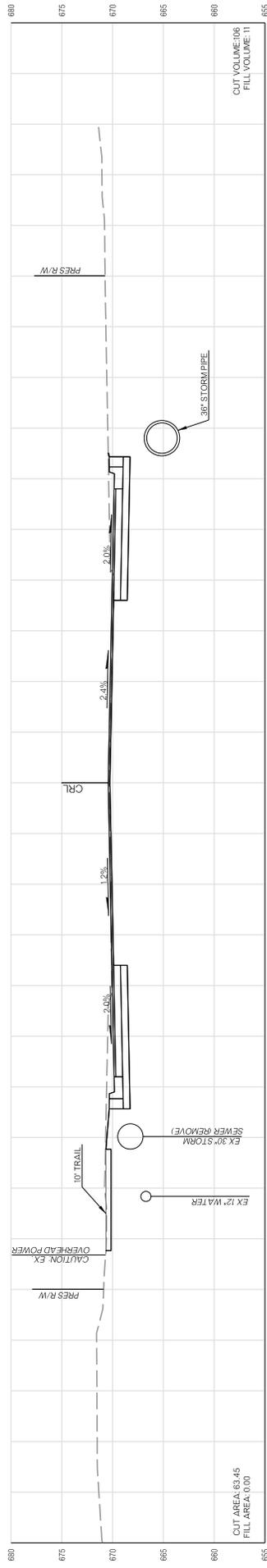


121+00.00

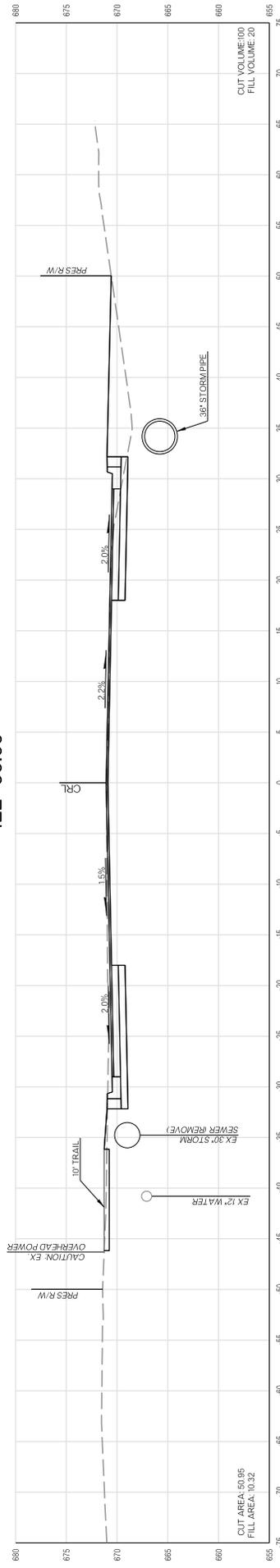
CUT AREA: 53.94
FILL AREA: 3.14

CUT VOLUME: 104
FILL VOLUME: 22

CROSS SECTIONS

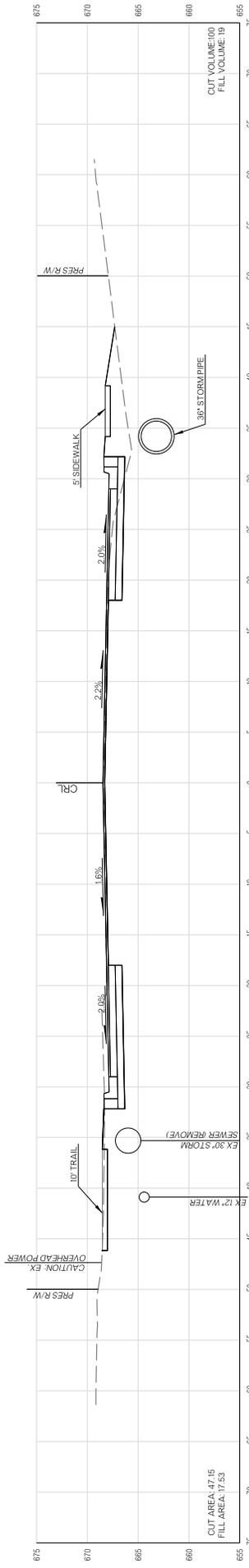


122+50.00

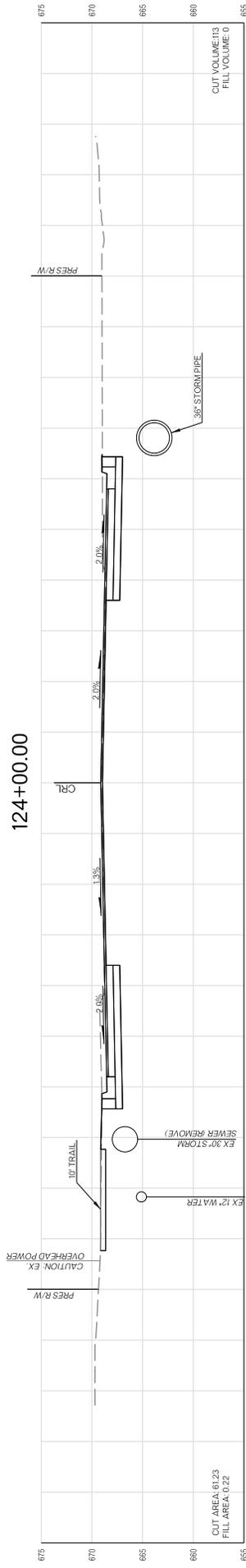


122+00.00

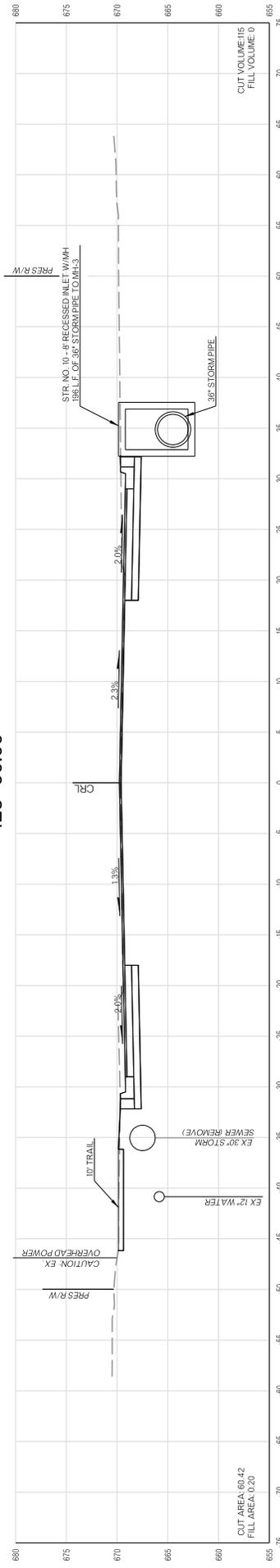
CROSS SECTIONS



124+00.00



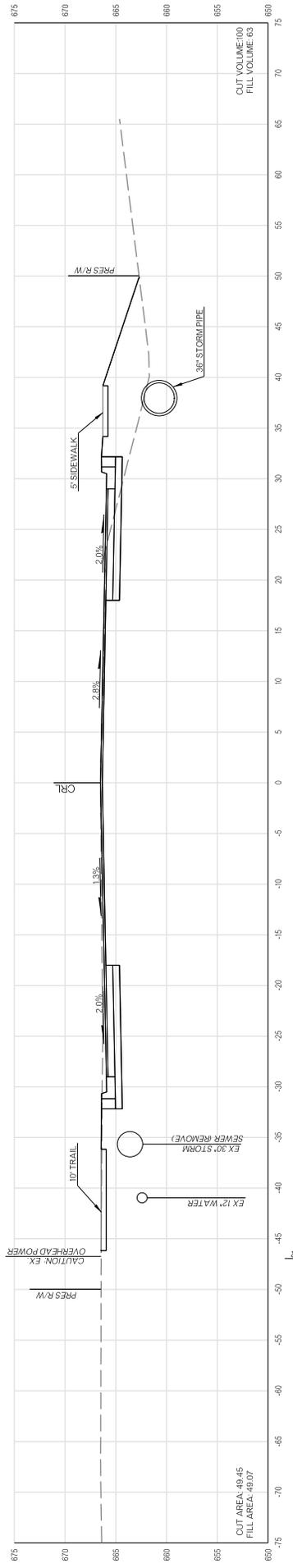
123+50.00



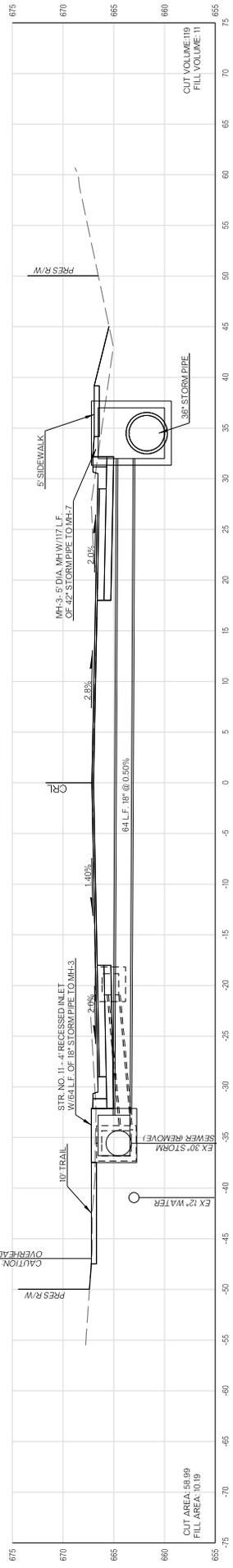
123+00.00

CROSS SECTIONS

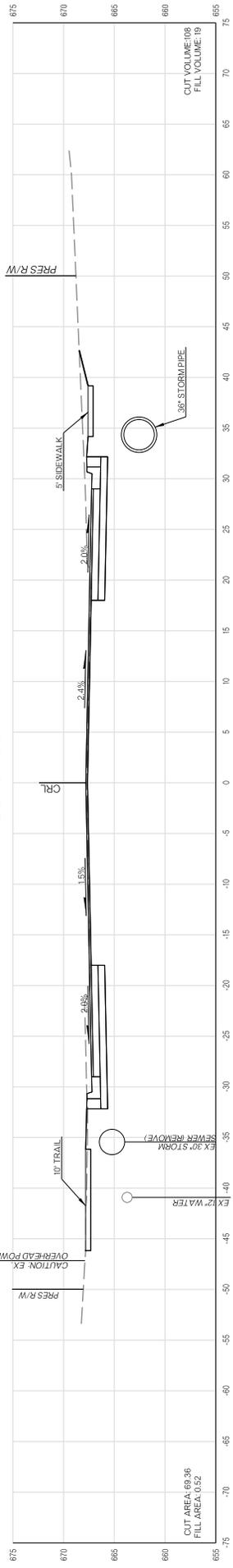
PROJECT NO. ST 2028 SHEET NO. X19



125+50.00

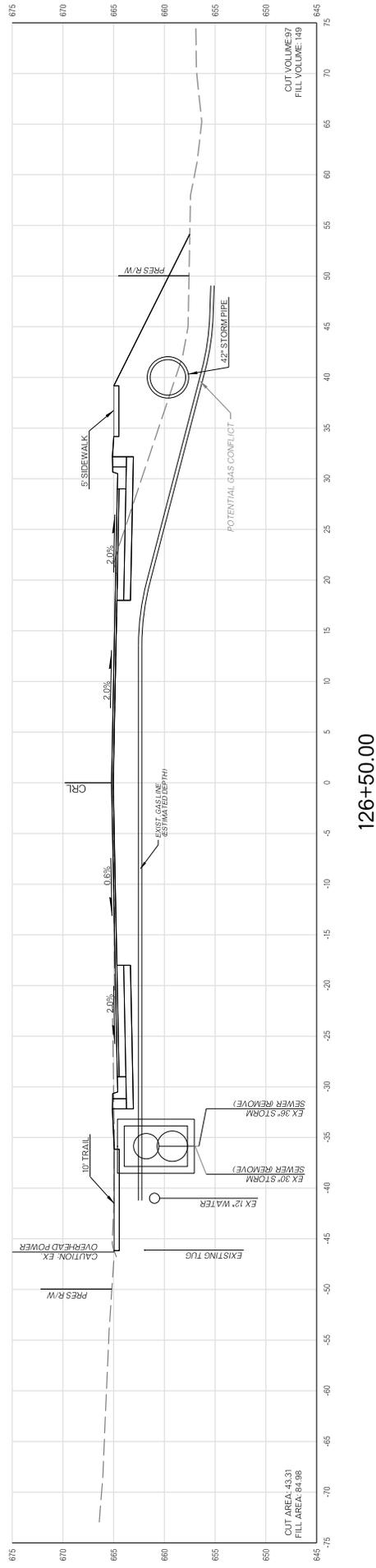


125+00.00

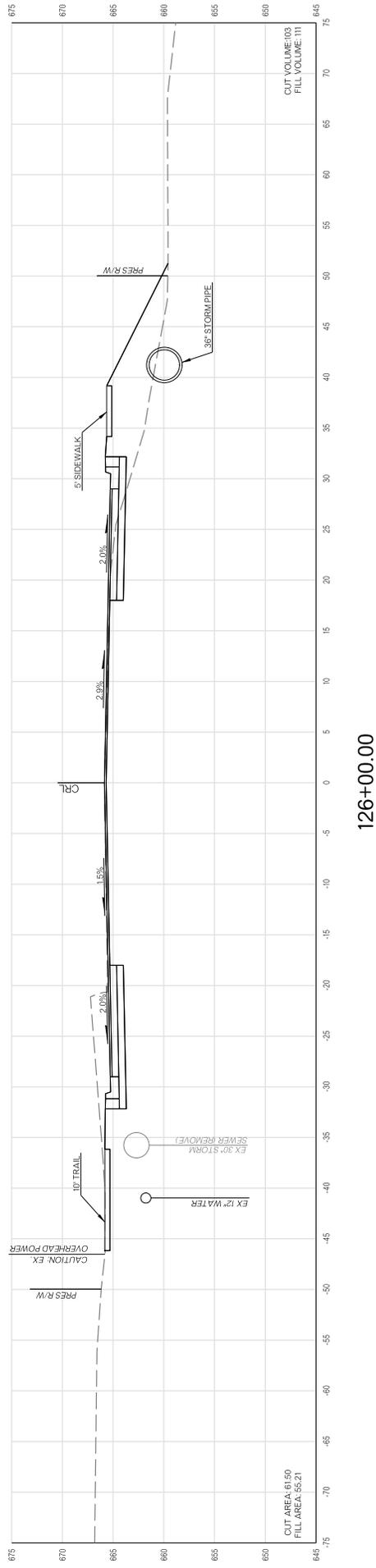


124+50.00

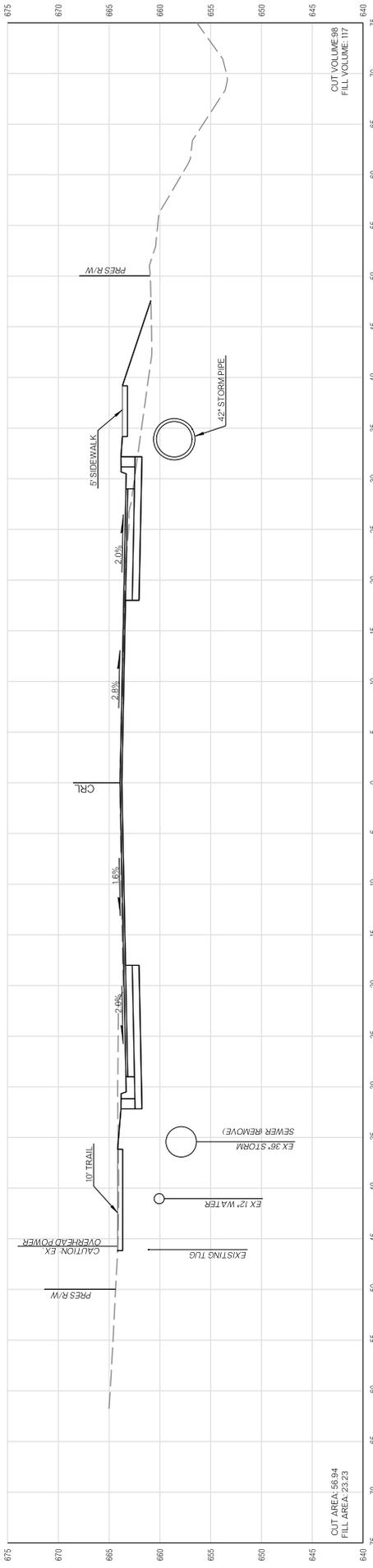
CROSS SECTIONS



126+50.00



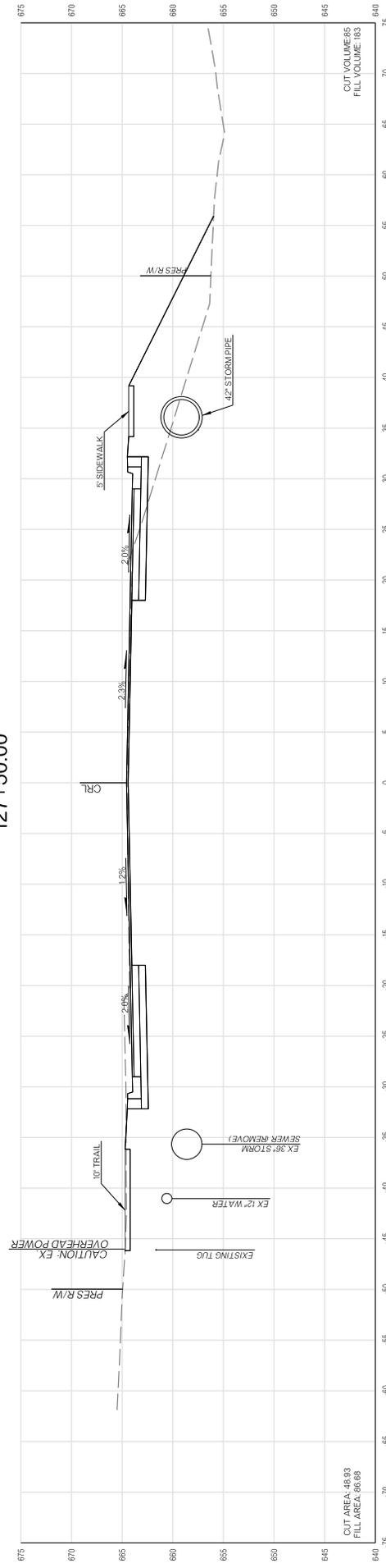
126+00.00



CUT AREA: 56.94
 FILL AREA: 23.23

CUT VOLUME: 98
 FILL VOLUME: 117

127+50.00

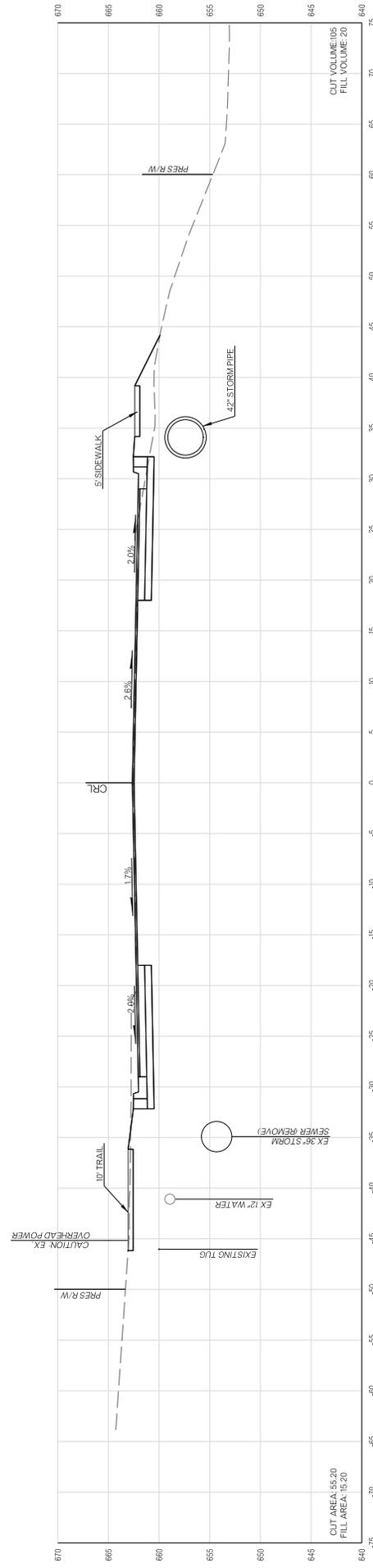


CUT AREA: 56.93
 FILL AREA: 86.68

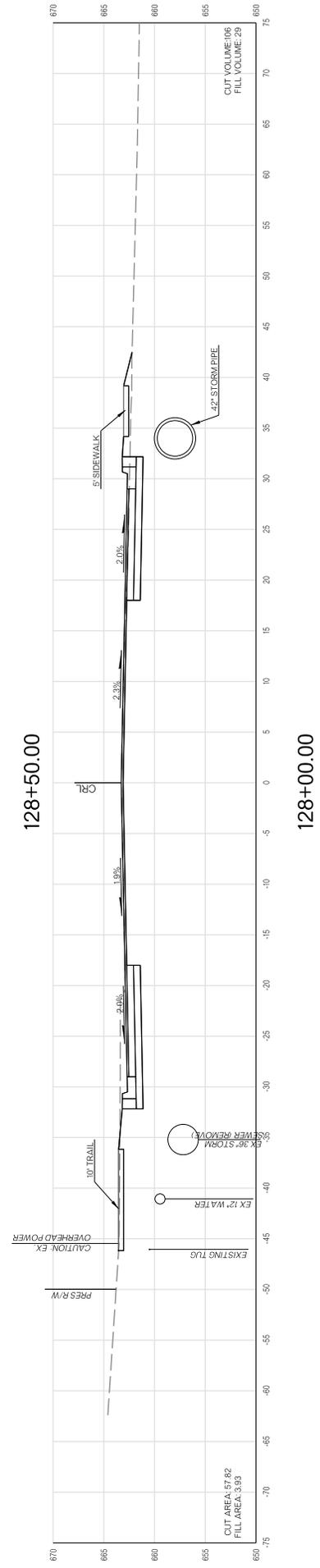
CUT VOLUME: 65
 FILL VOLUME: 163

127+00.00

CROSS SECTIONS

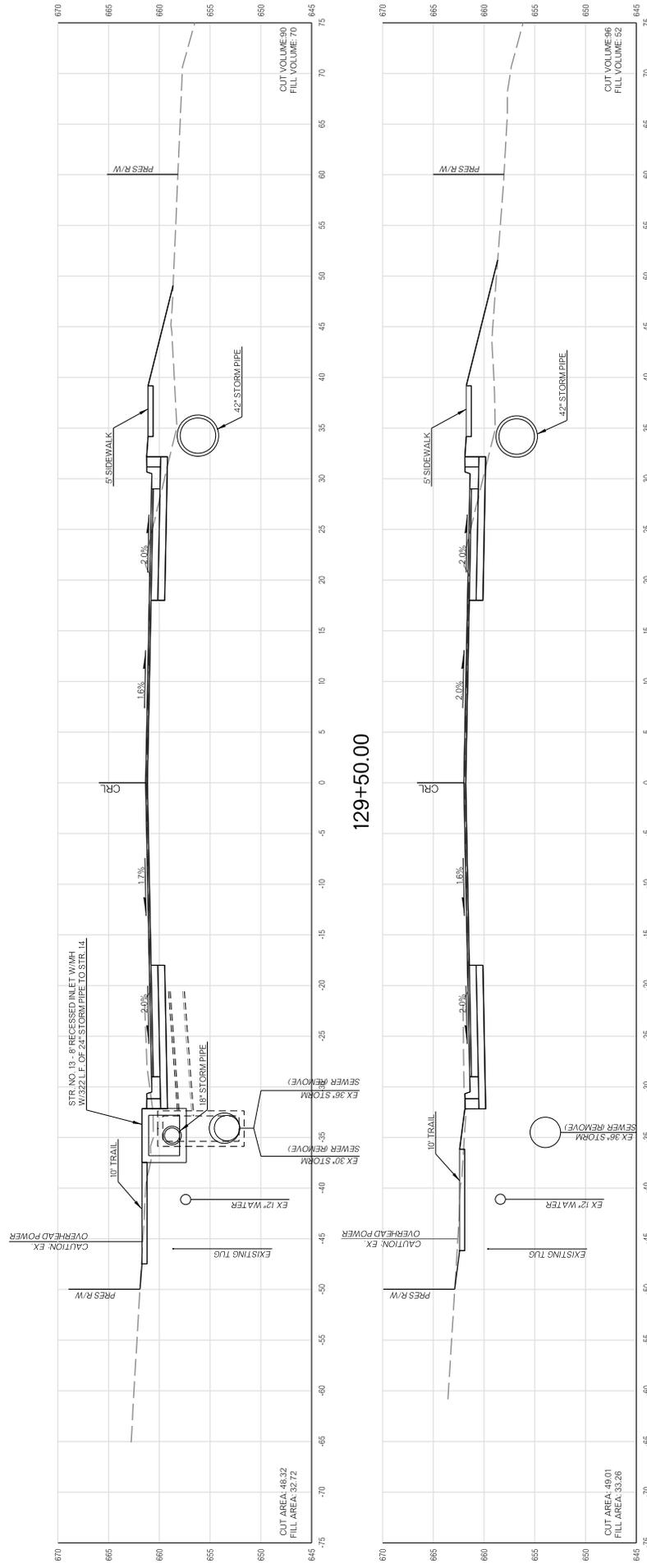


128+50.00



128+00.00

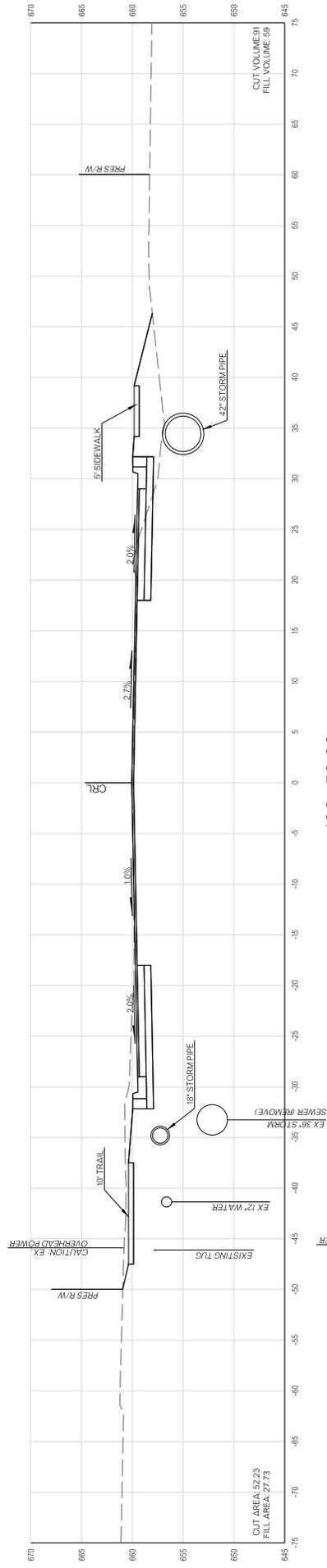
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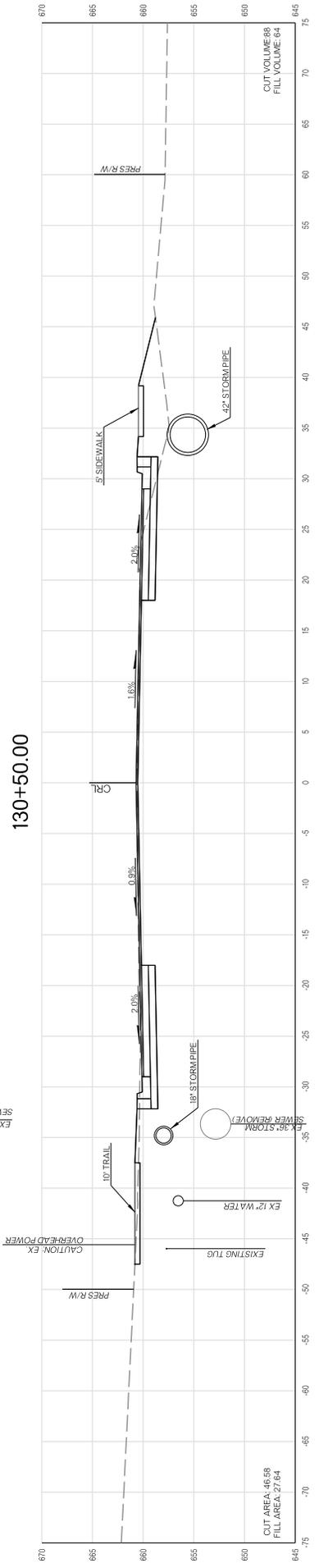
129+50.00

129+00.00

CROSS SECTIONS

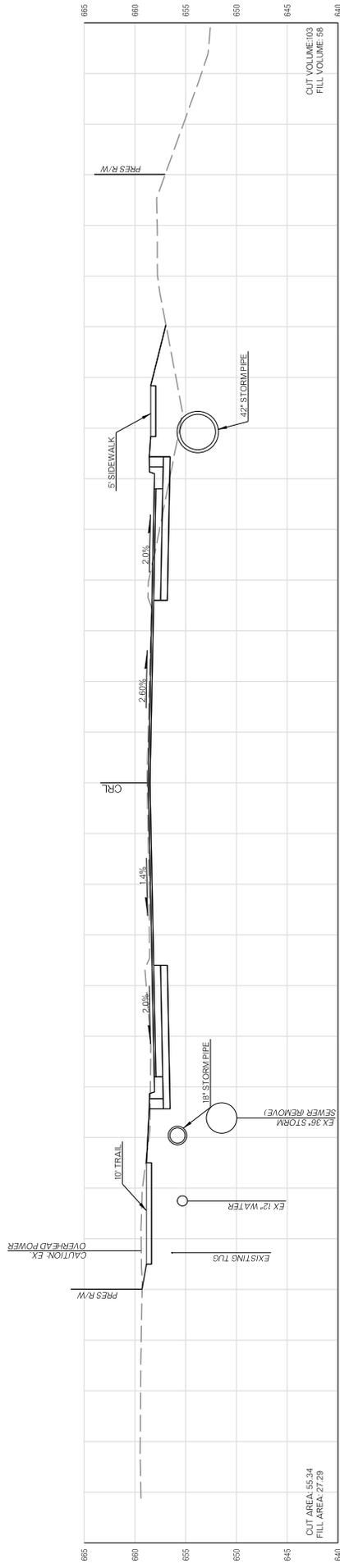


130+50.00

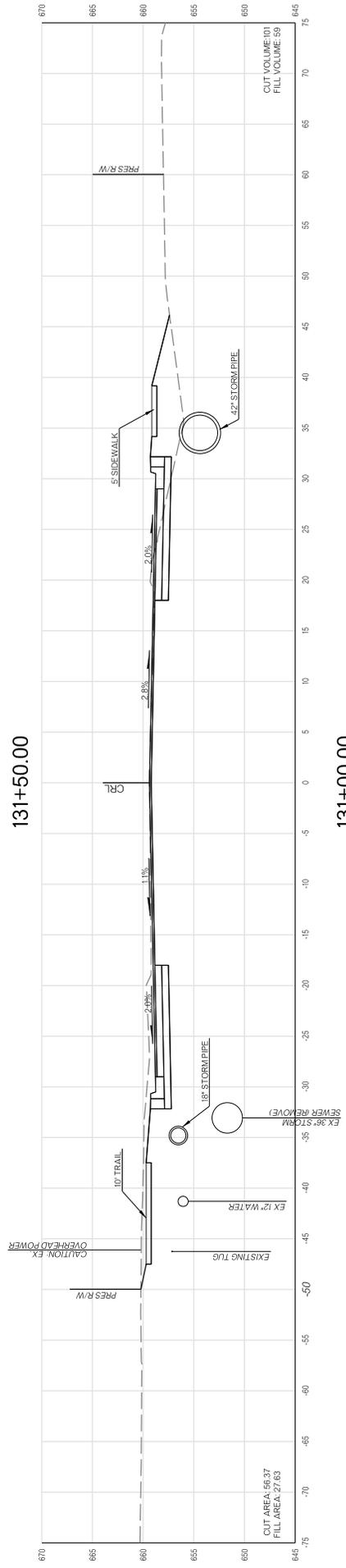


130+00.00

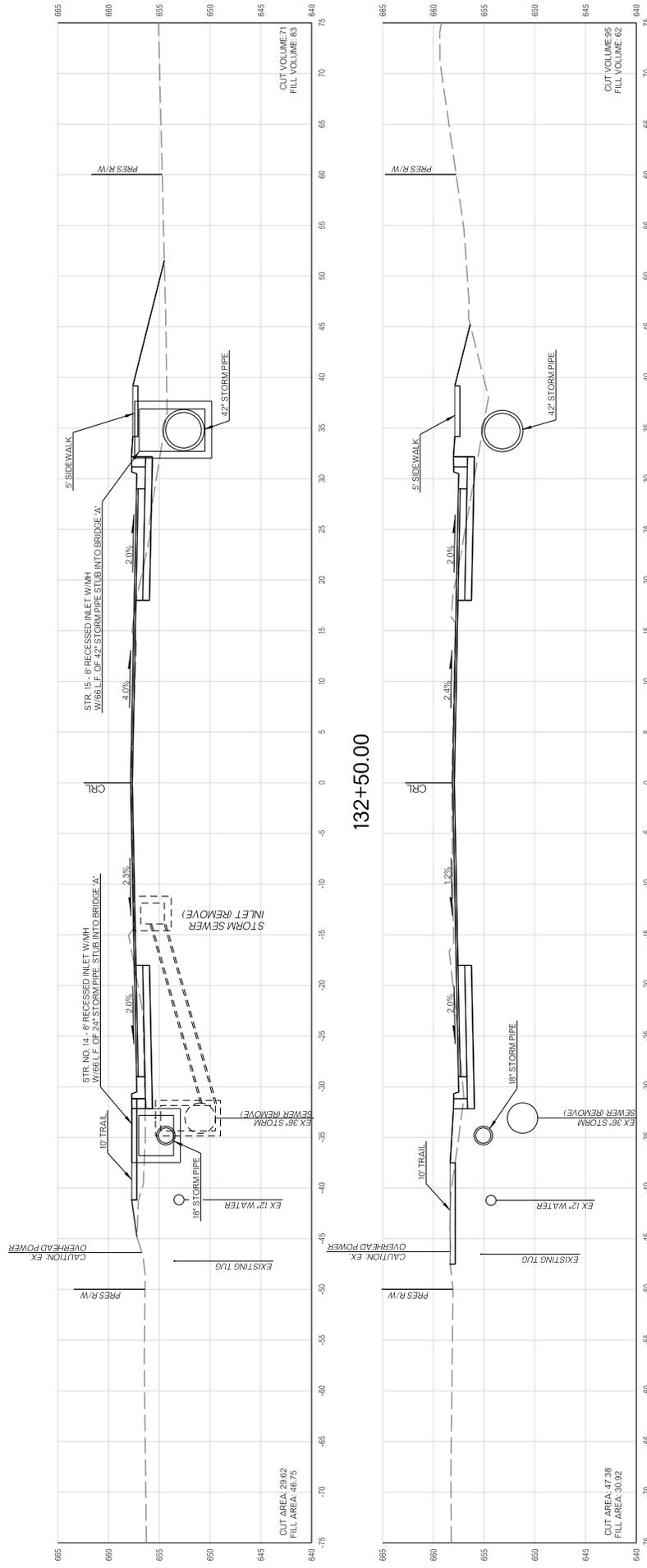
CROSS SECTIONS



131+50.00



131+00.00



132+50.00

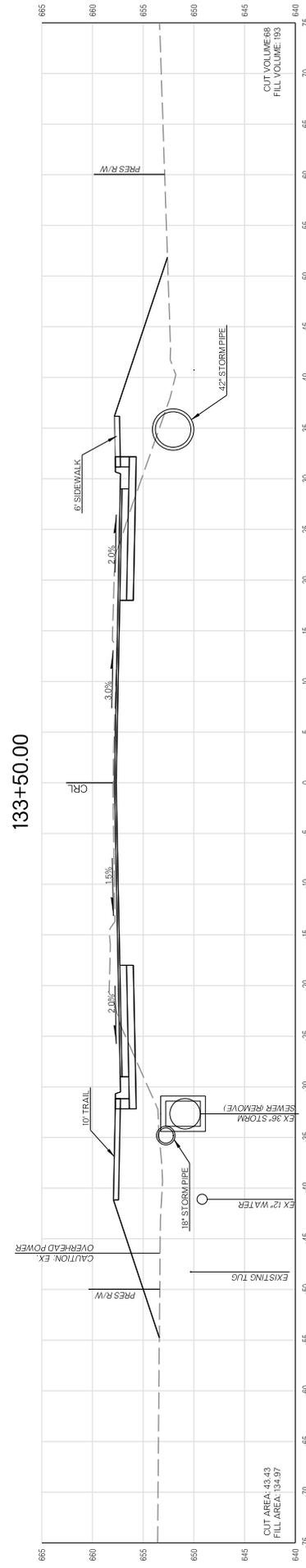
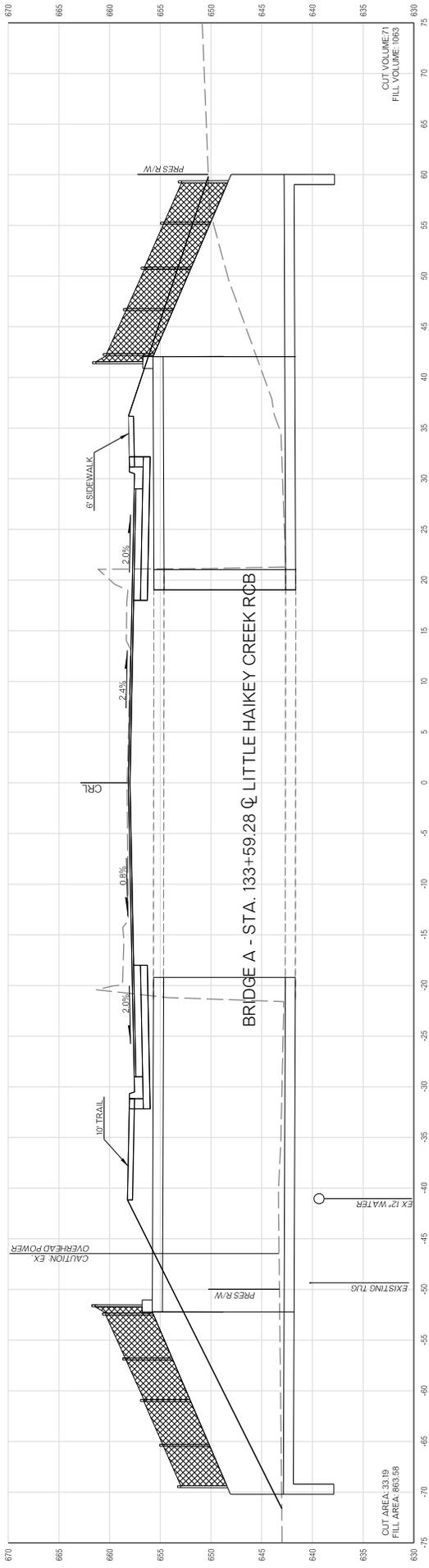
132+00.00

CUT VOLUME 71
FILL VOLUME 63

CUT VOLUME 65
FILL VOLUME 62

CUT AREA 29.62
FILL AREA 46.75

CUT AREA 47.58
FILL AREA 30.92

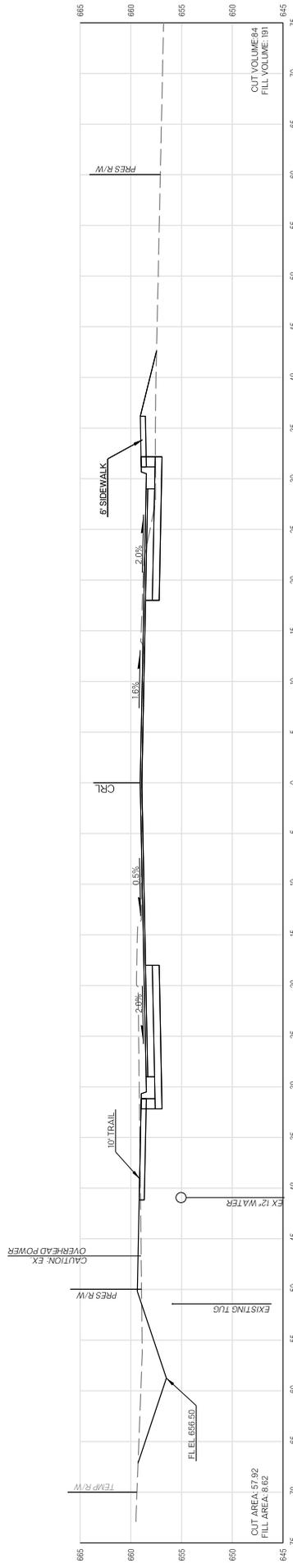


133+50.00

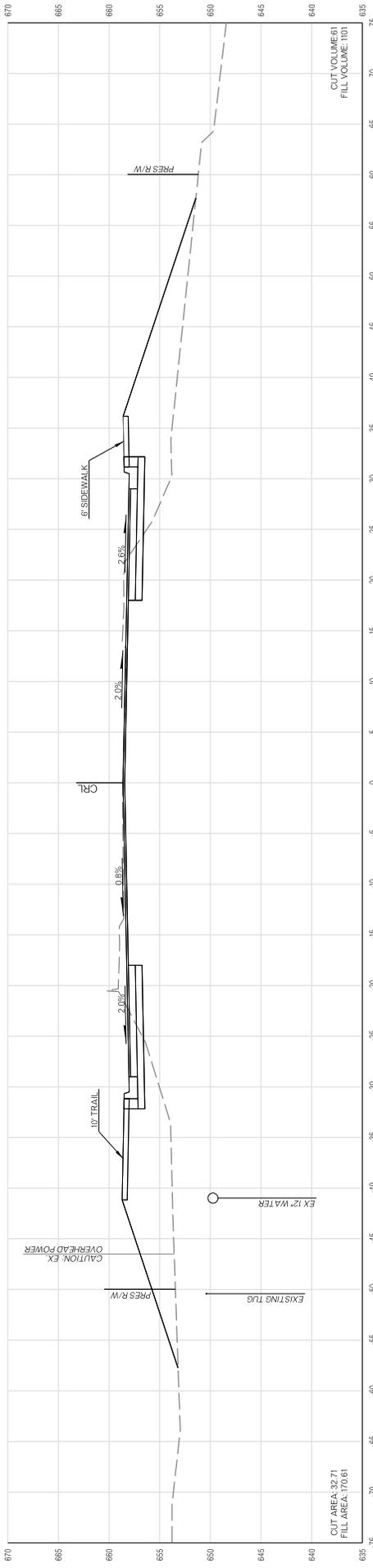
133+00.00

CROSS SECTIONS

PROJECT NO. ST 2028 SHEET NO. X29

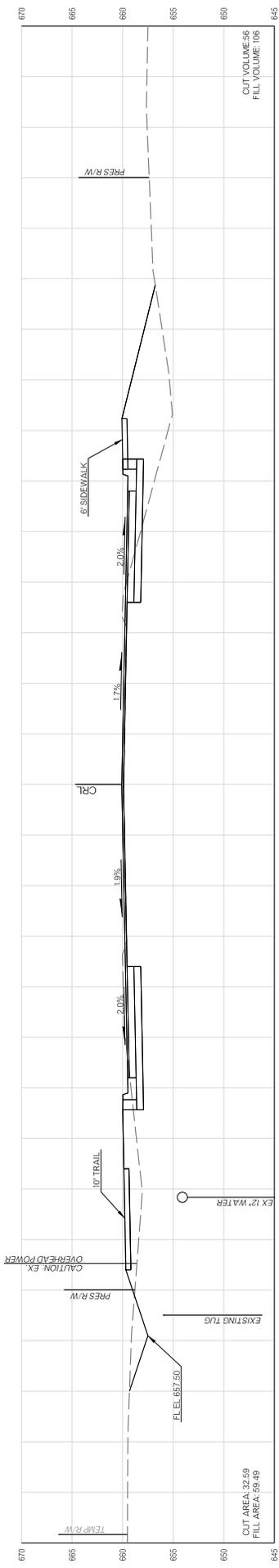


134+50.00

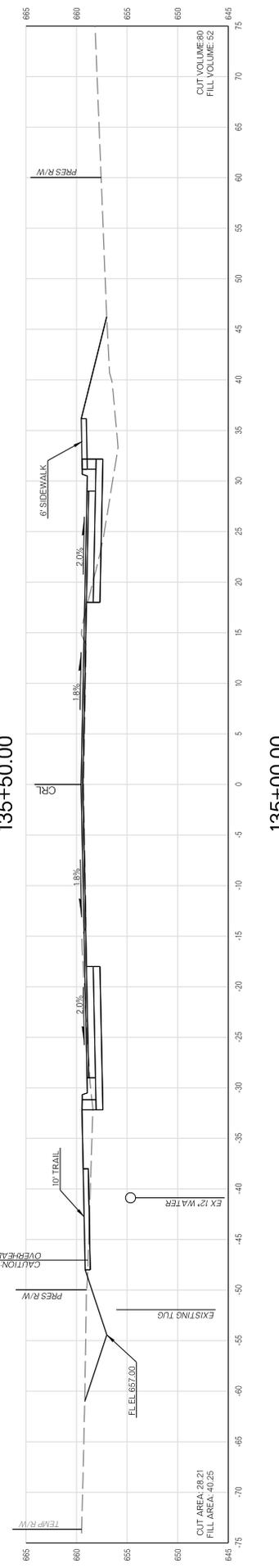


134+00.00

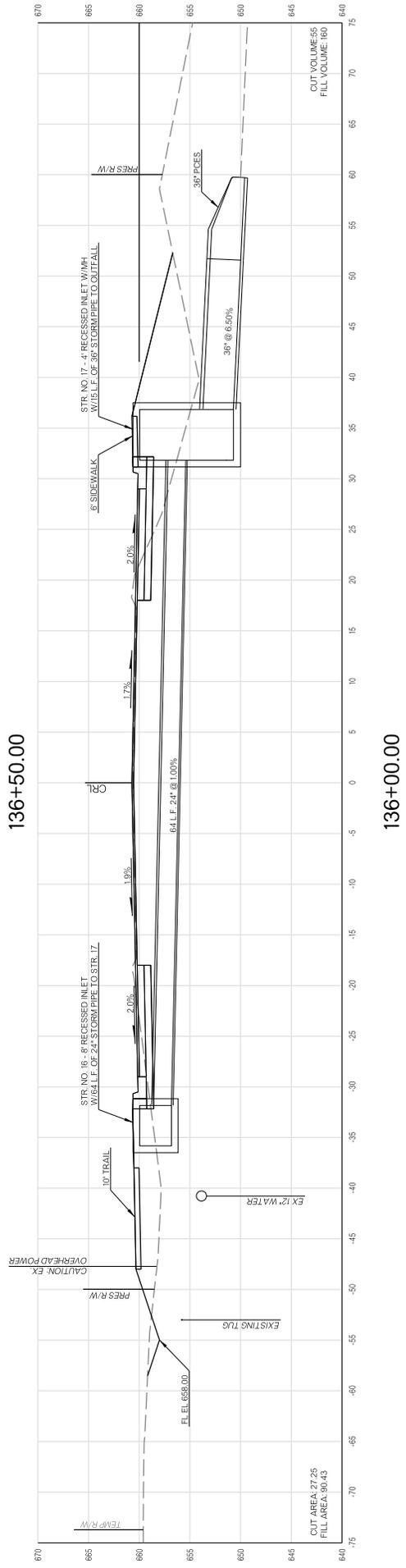
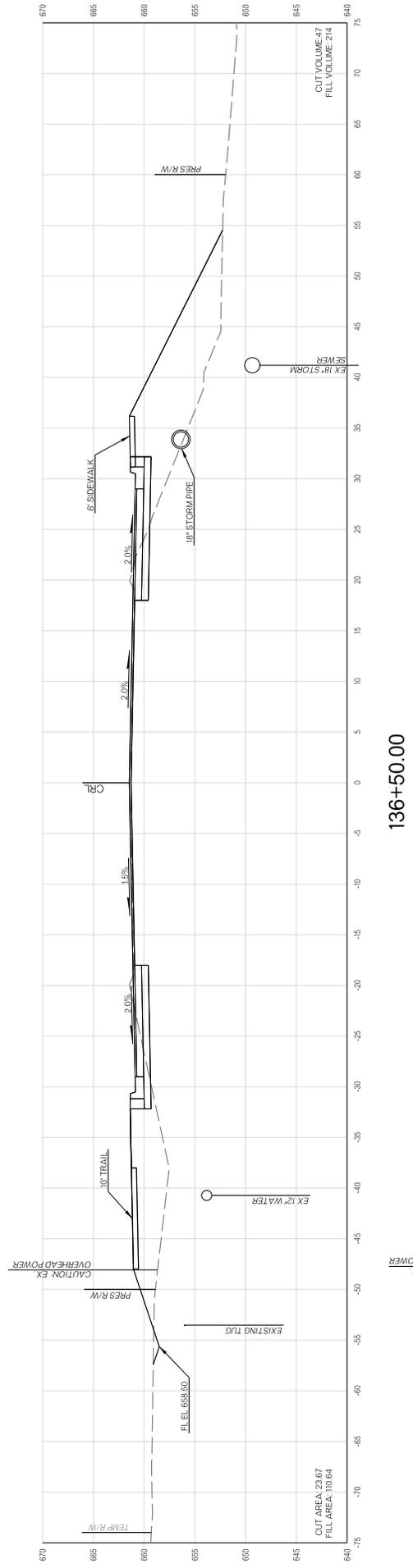
CROSS SECTIONS



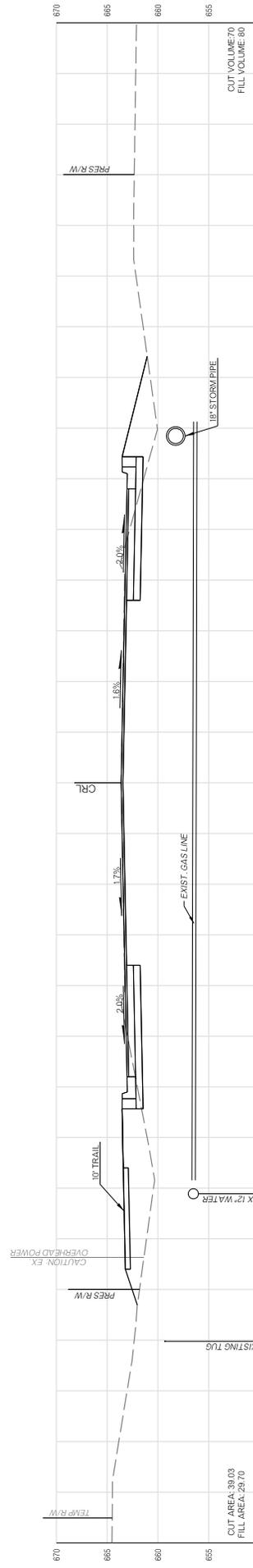
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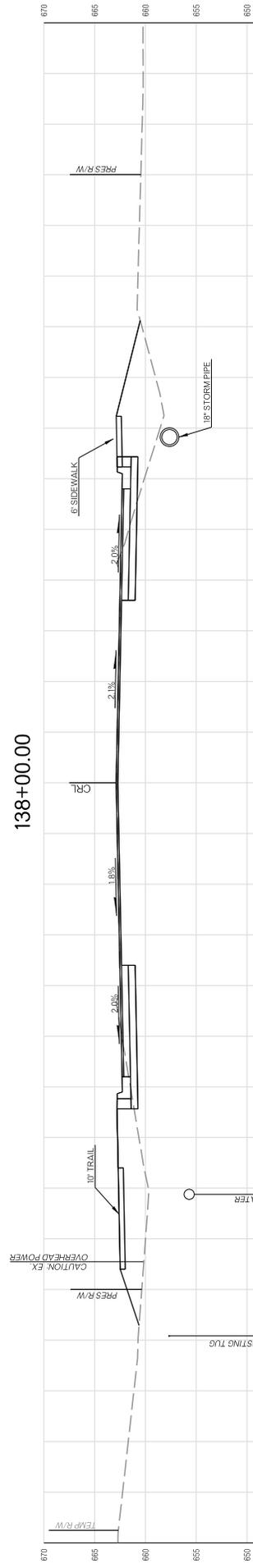
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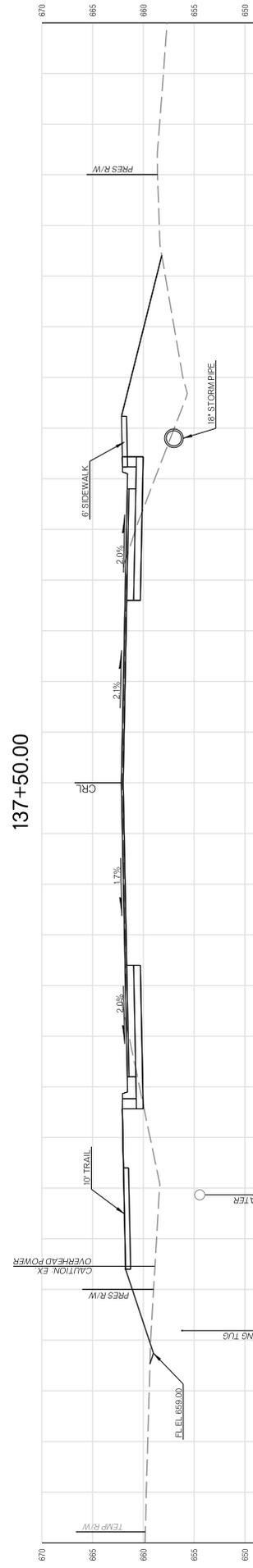
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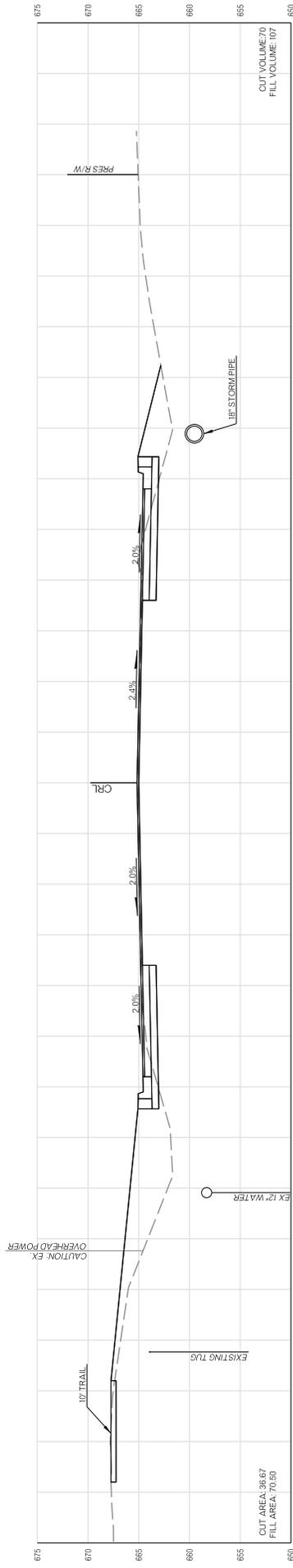
137+00.00



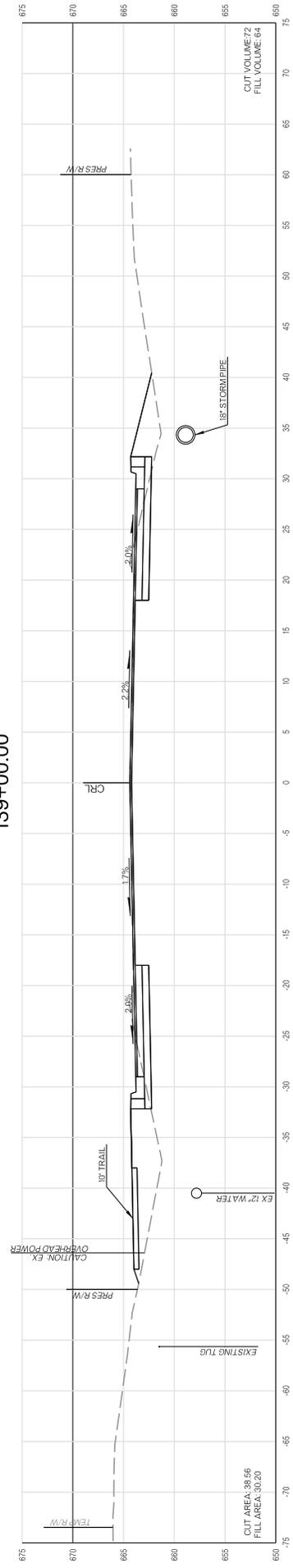
138+00.00



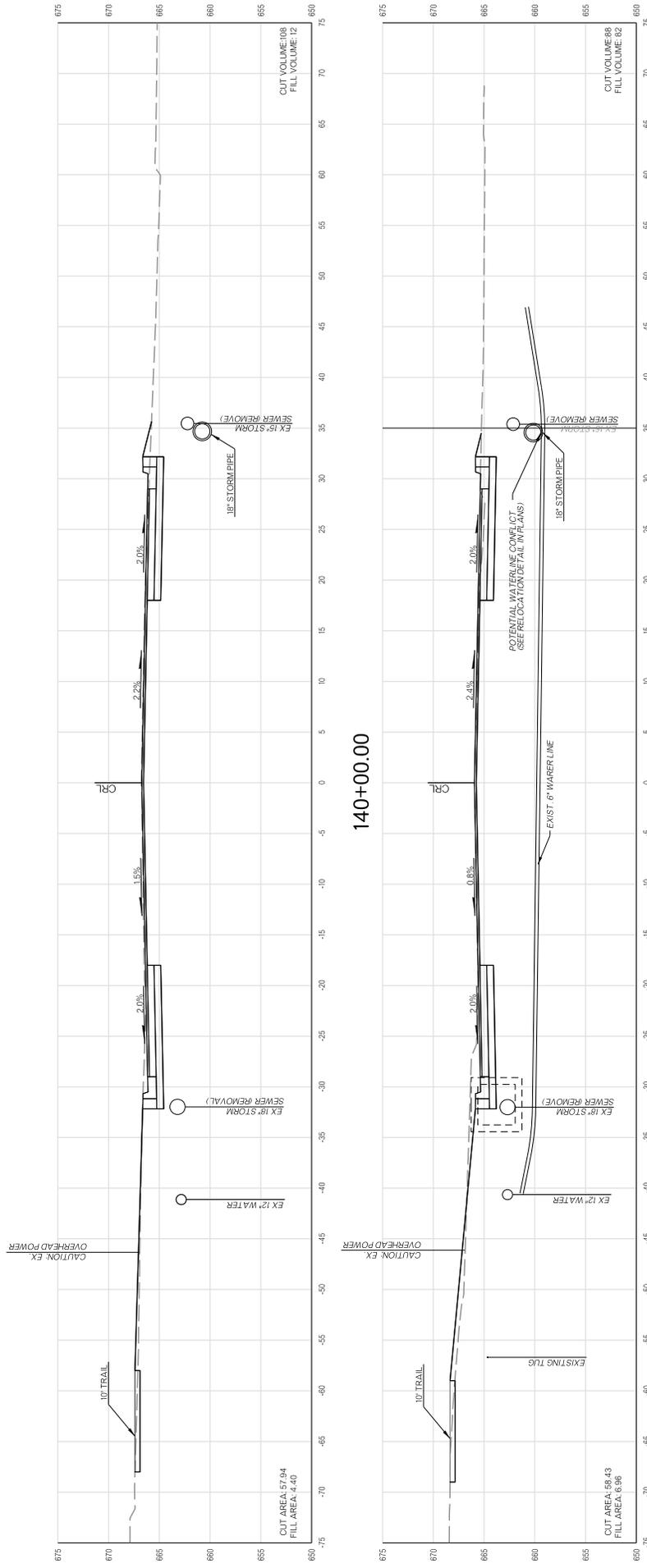
137+50.00



139+00.00



138+50.00

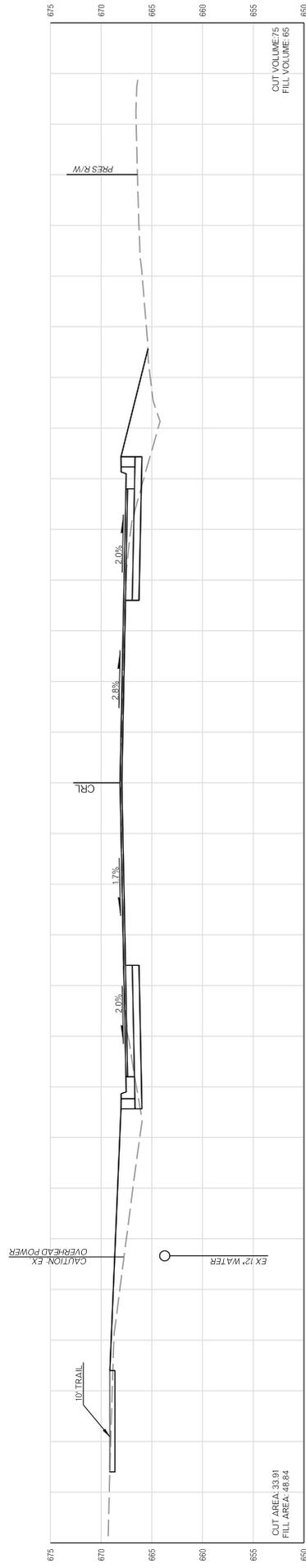


140+00.00

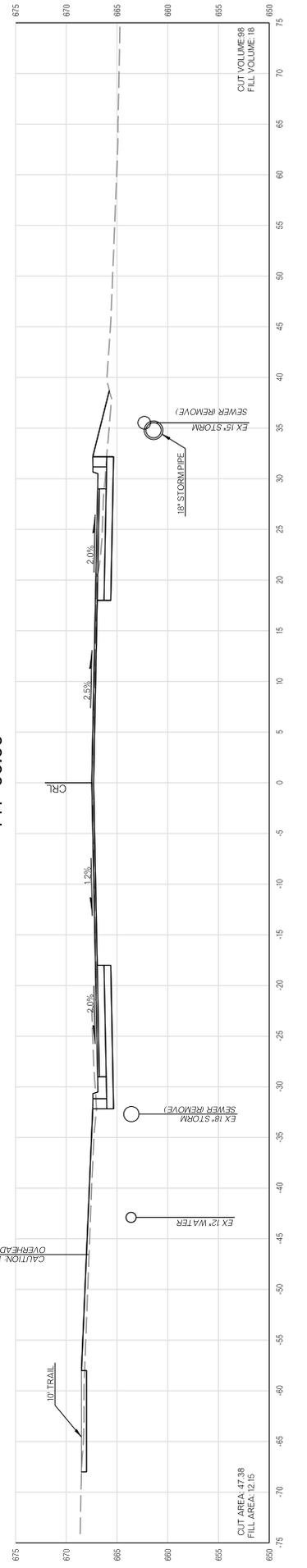
139+50.00

CROSS SECTIONS

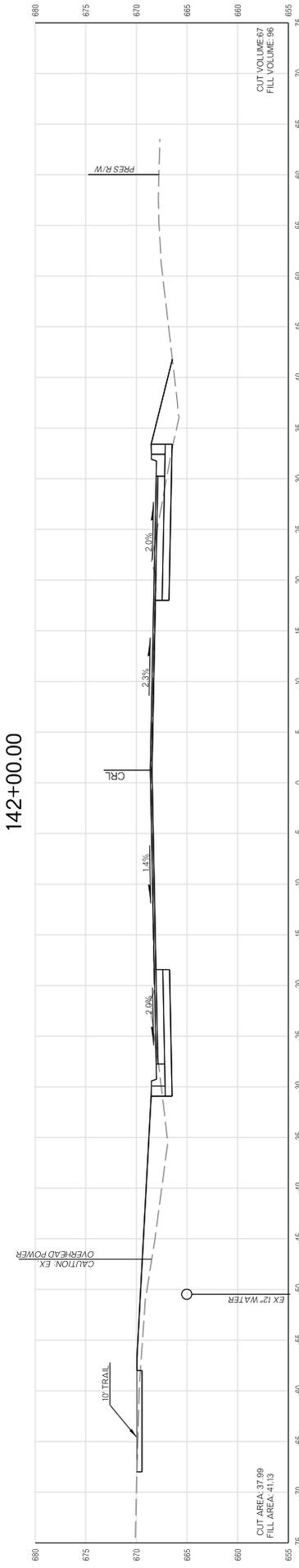
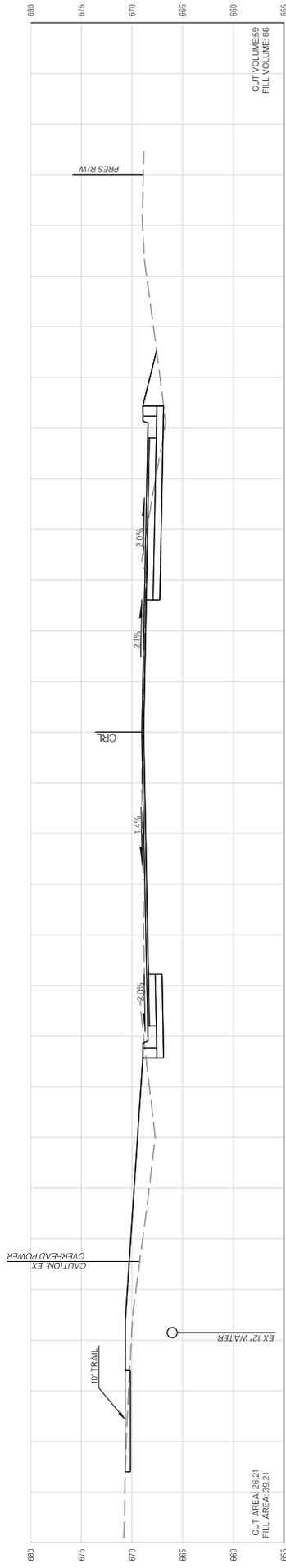
PROJECT NO. ST 2028 SHEET NO. X35



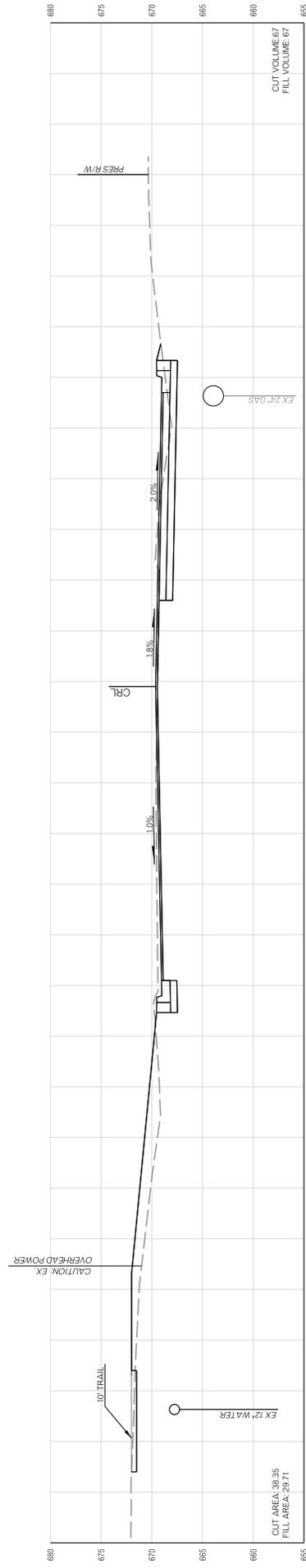
141+00.00



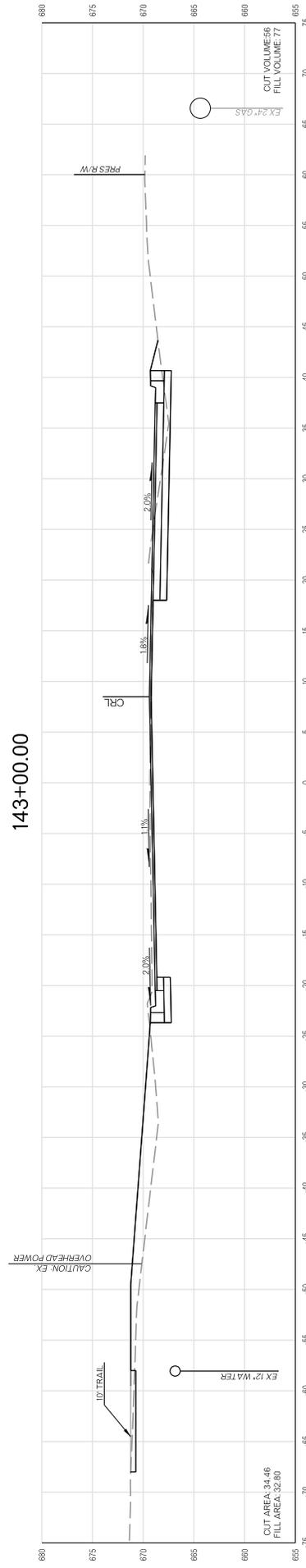
140+50.00



CROSS SECTIONS

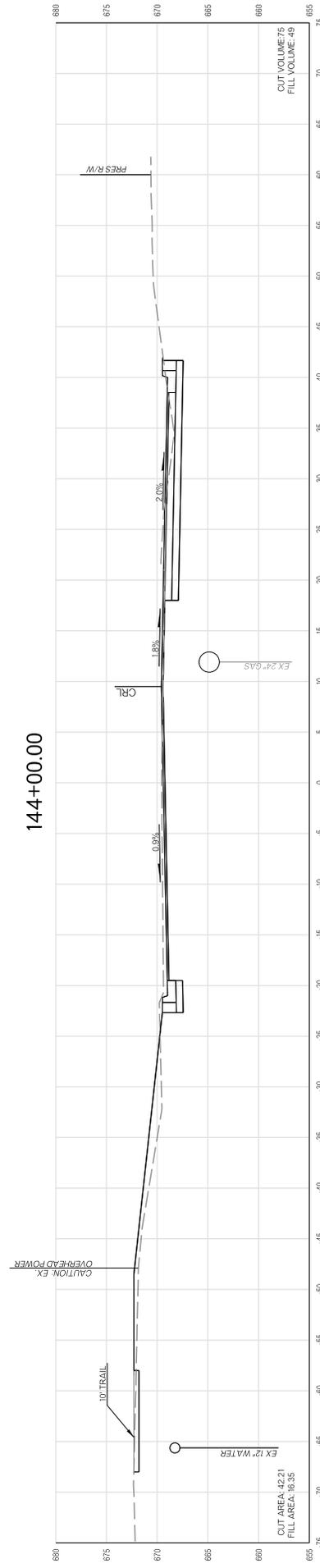
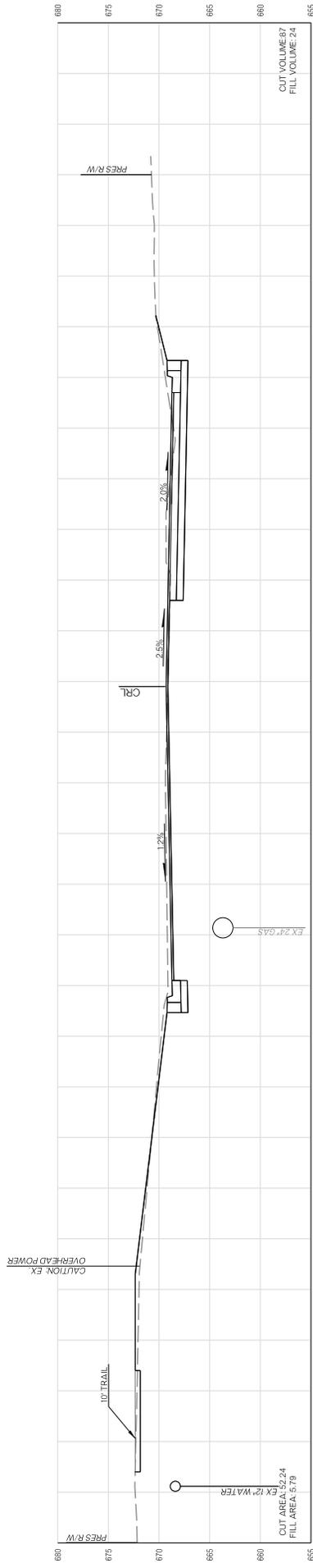


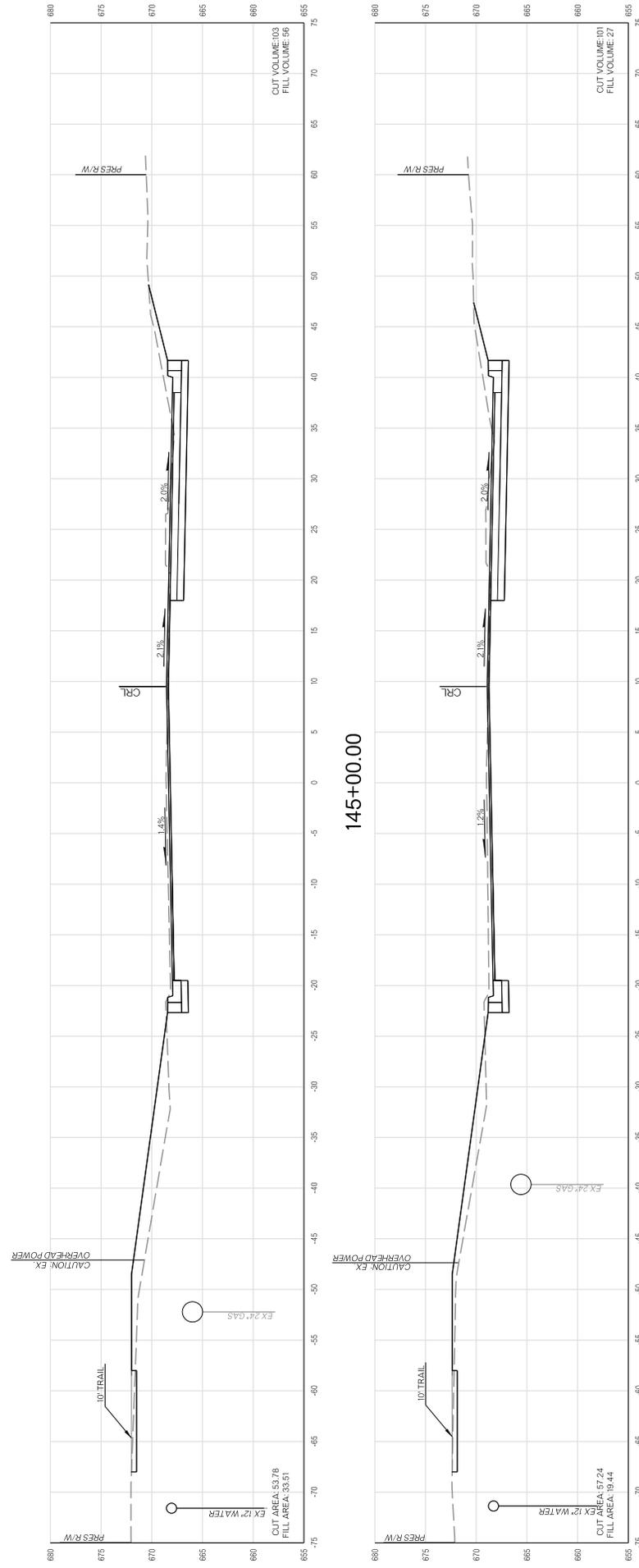
143+00.00

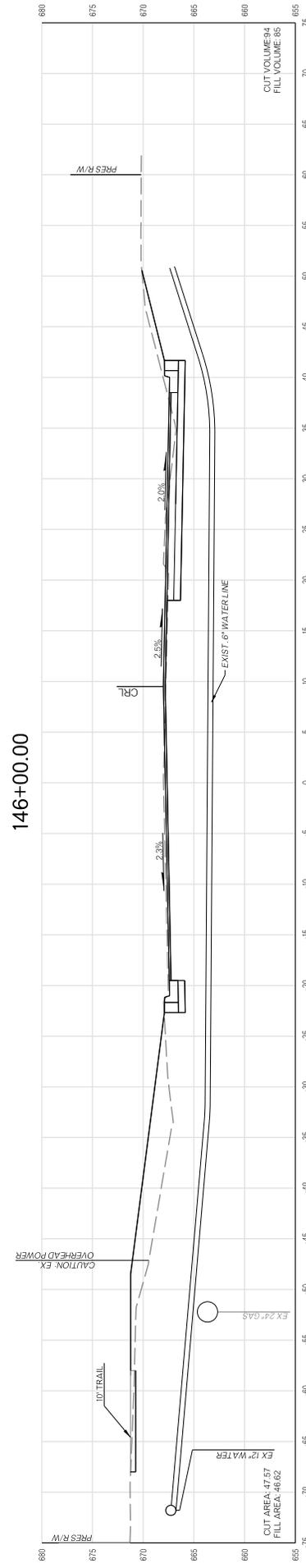
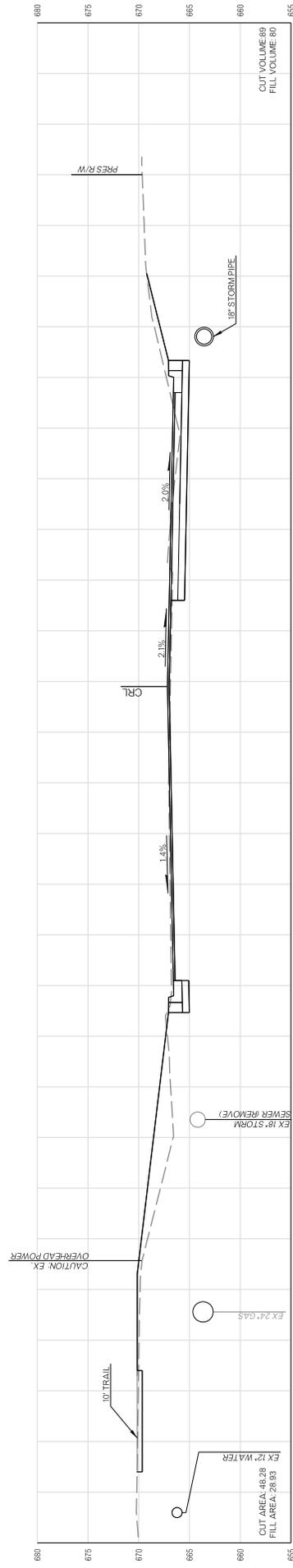


142+50.00

CROSS SECTIONS

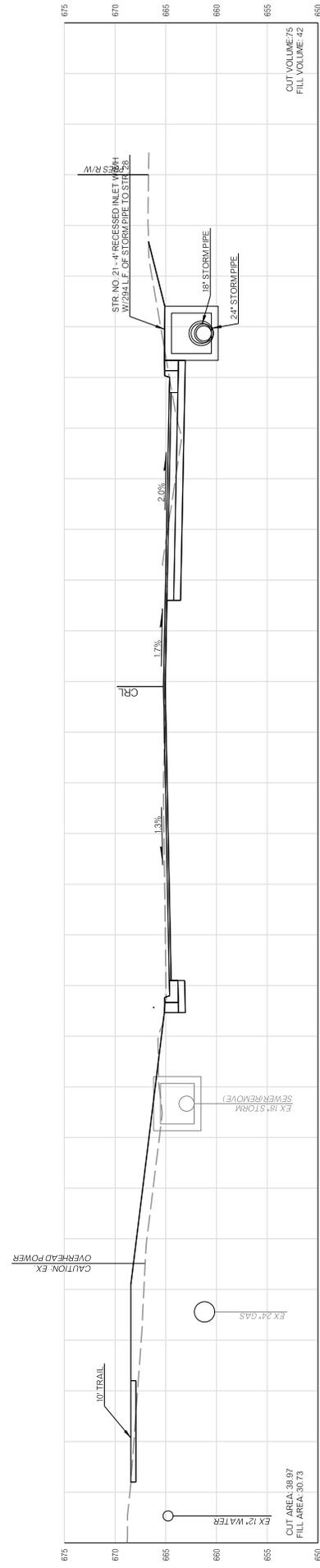




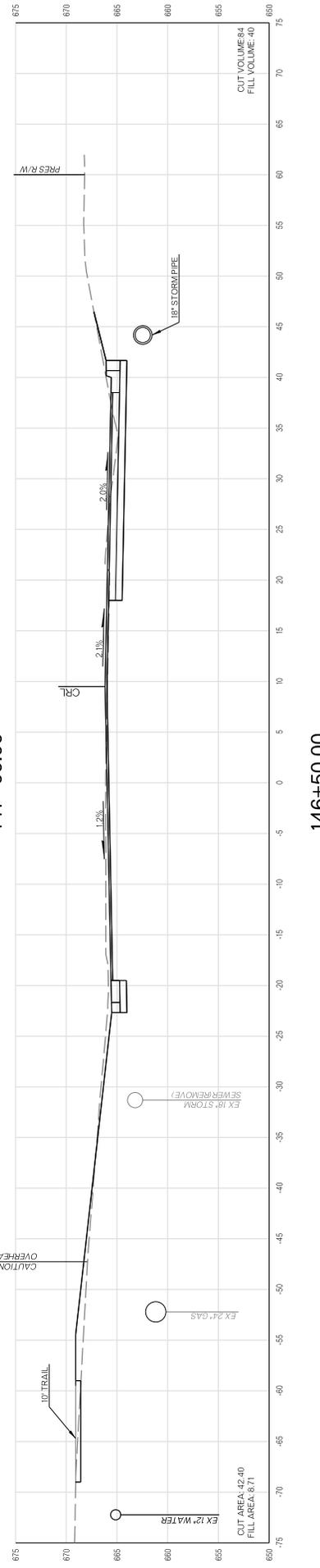


146+00.00

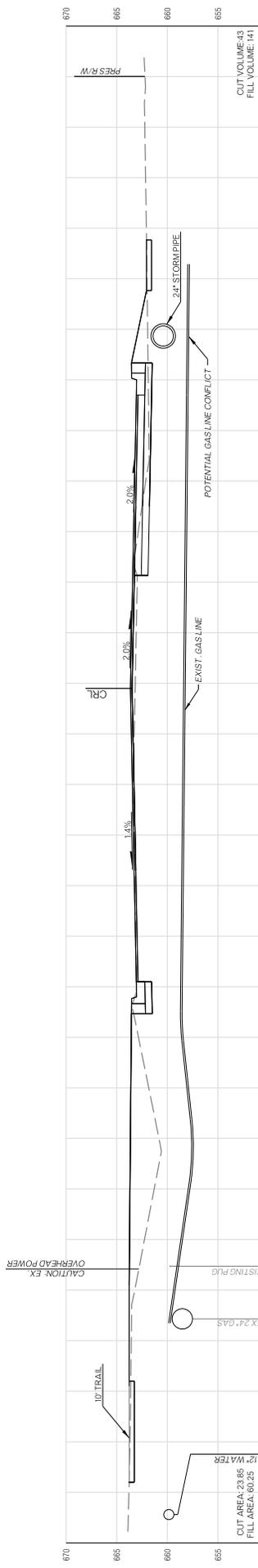
145+50.00



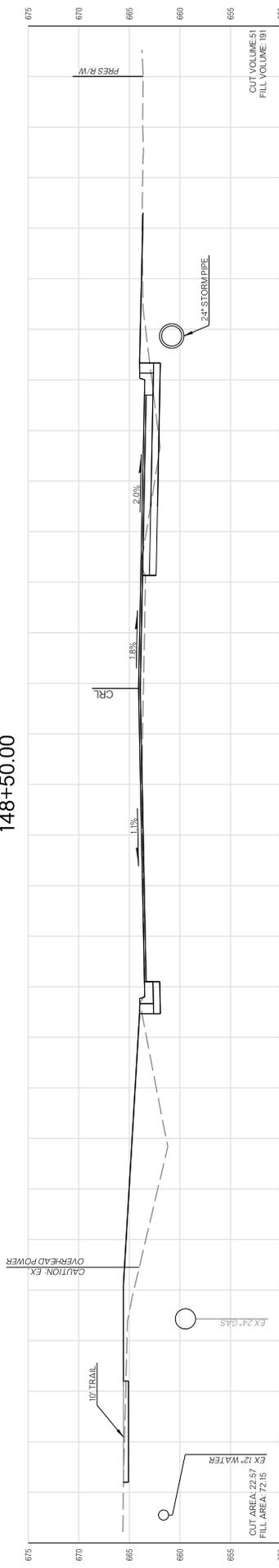
147+00.00



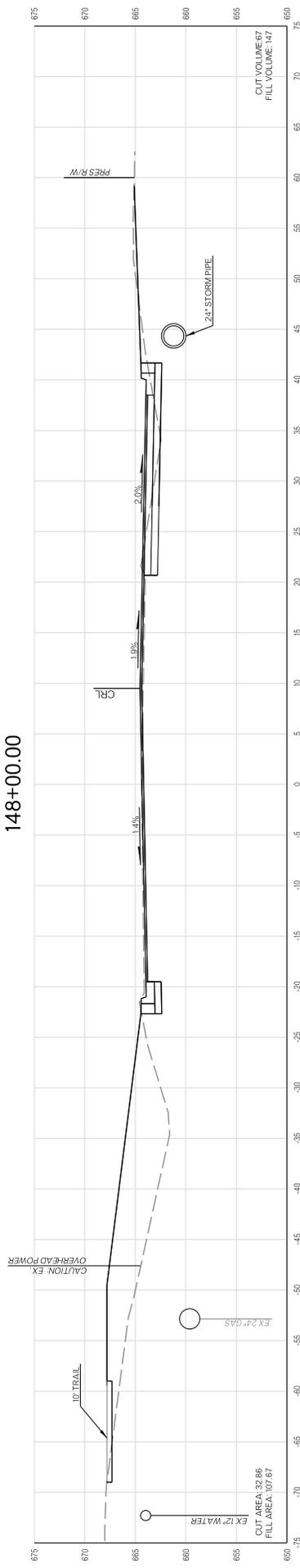
146+50.00



148+50.00



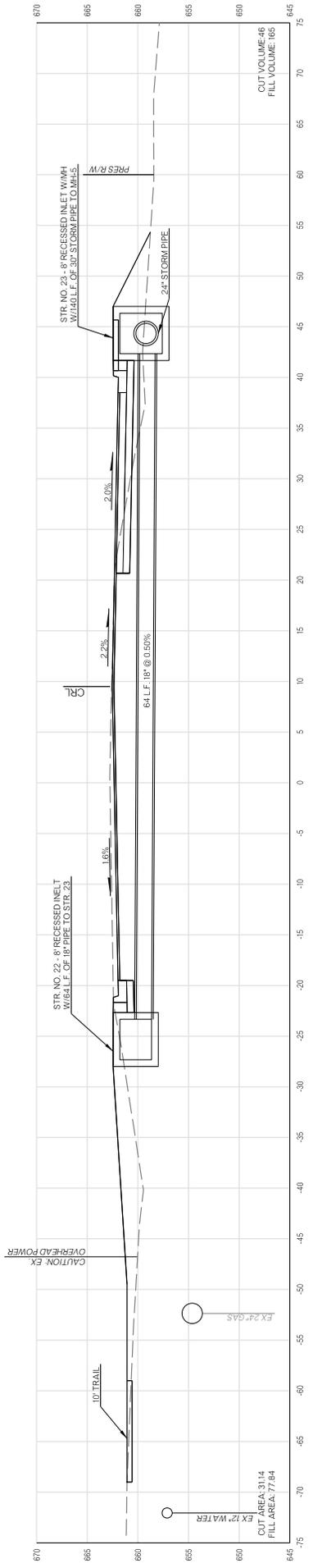
148+00.00



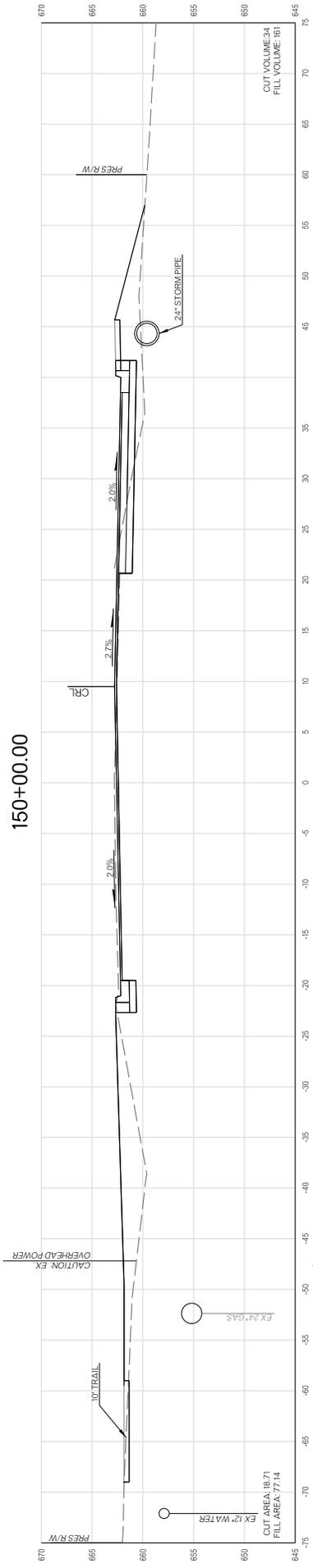
147+50.00

CROSS SECTIONS

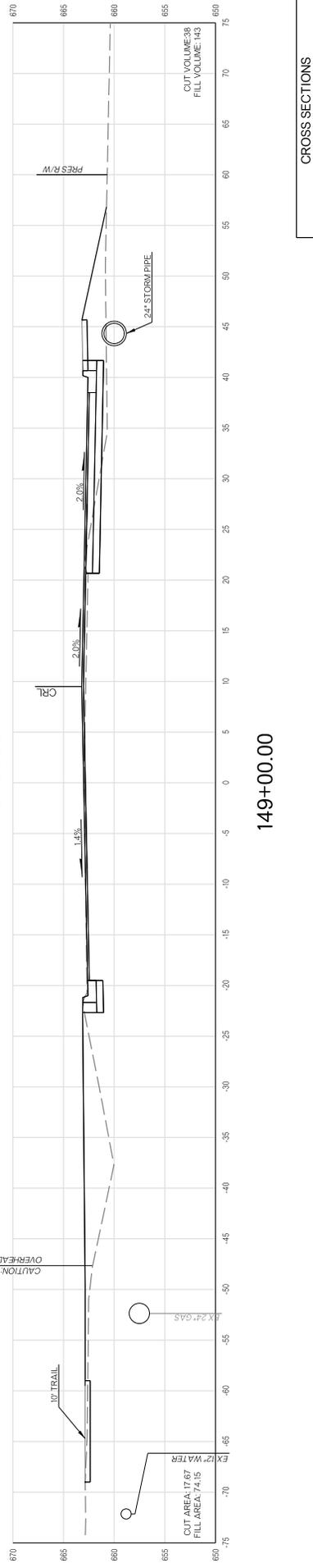
PROJECT NO. ST 2028 SHEET NO. X42



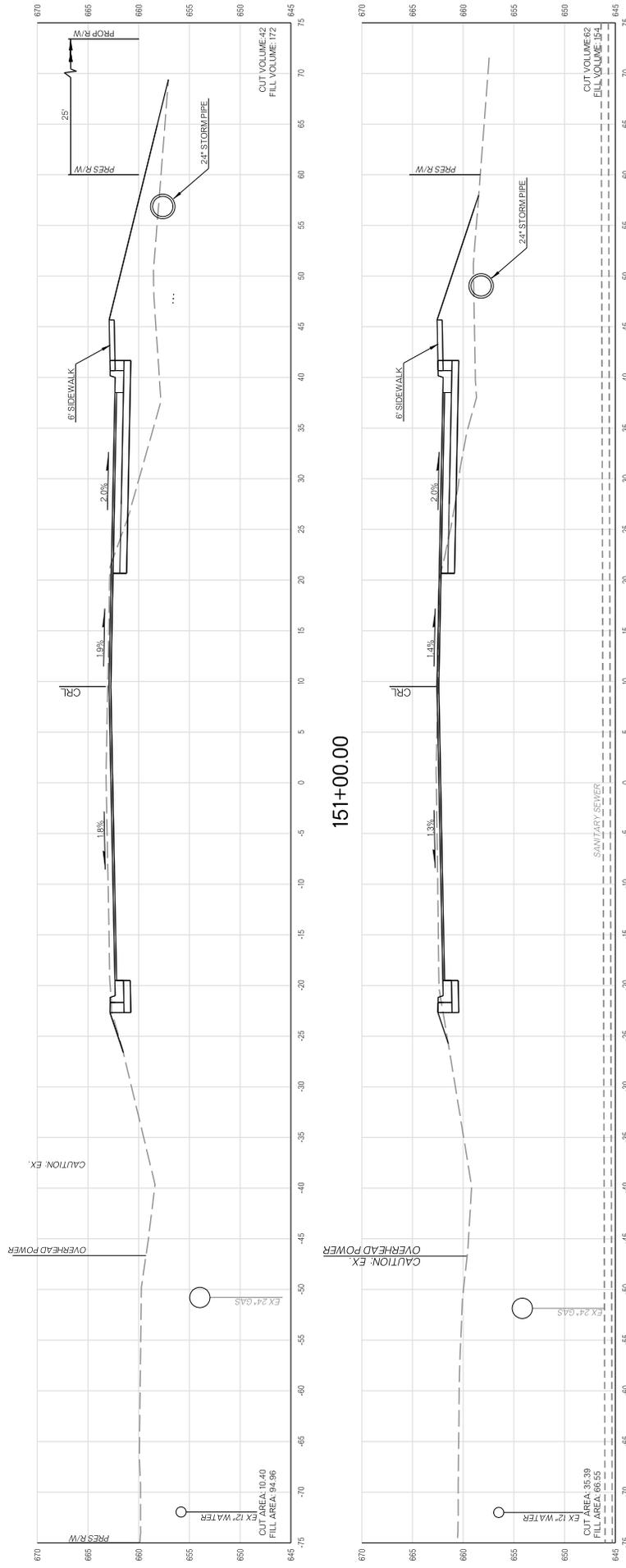
150+00.00



149+50.00

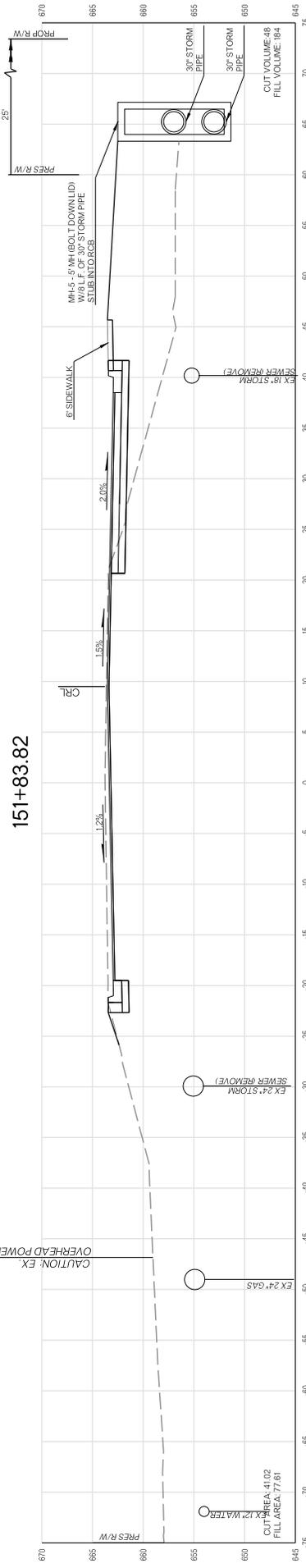
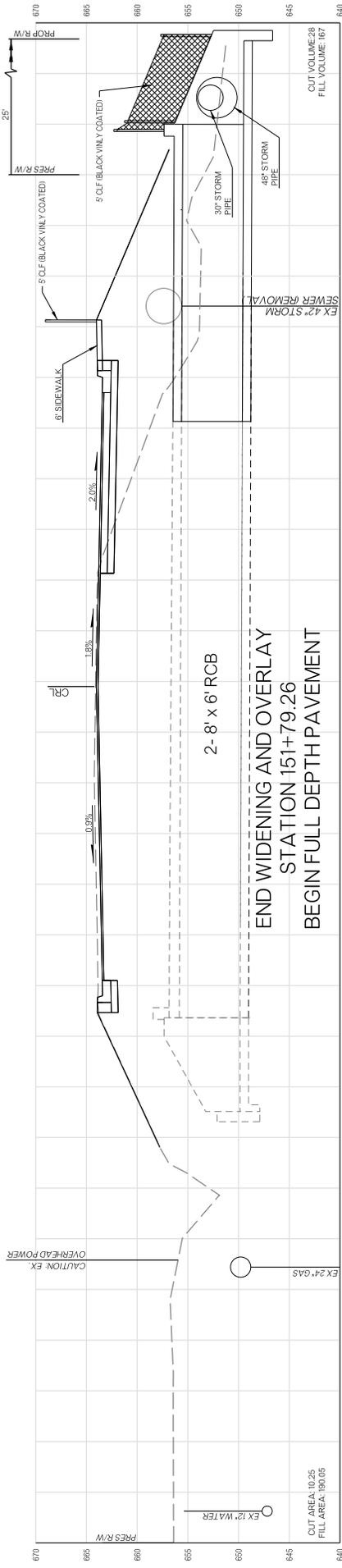


149+00.00



151+00.00

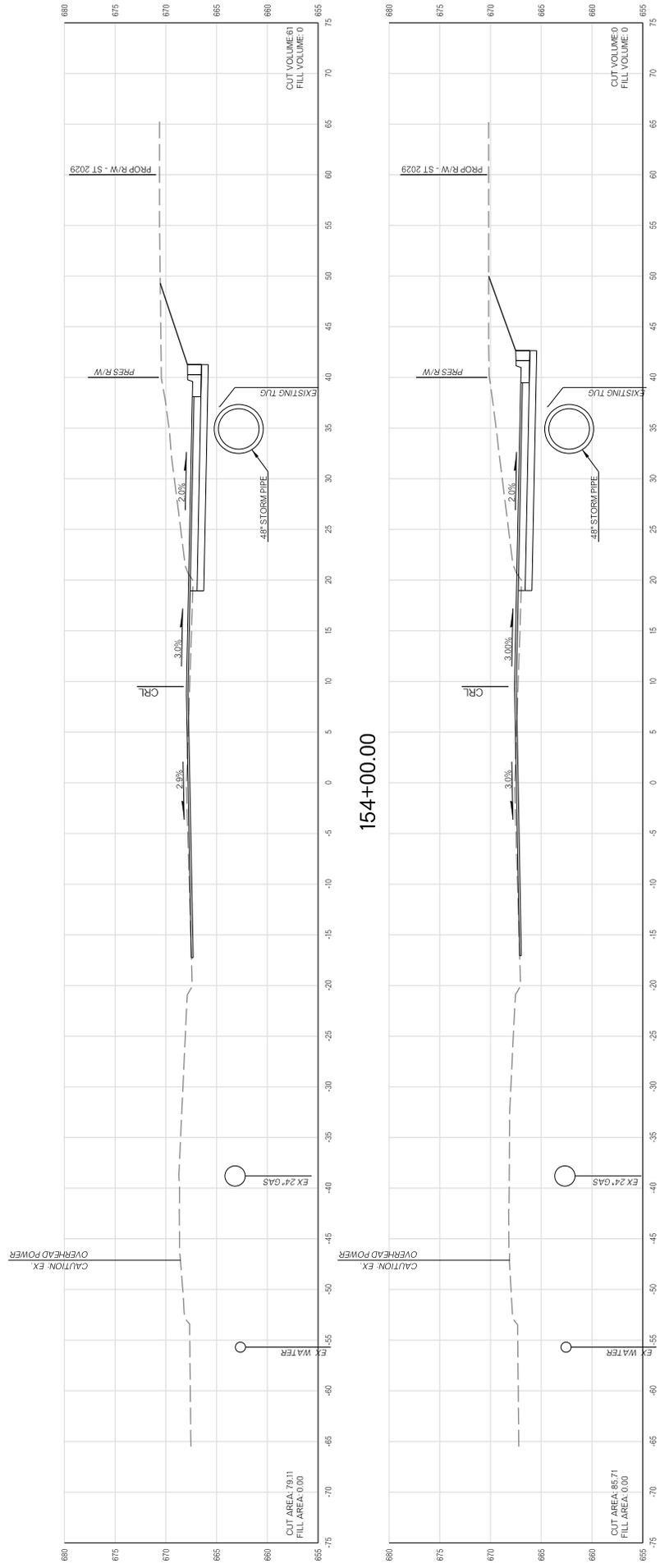
150+50.00



END WIDENING AND OVERLAY
 STATION 151+79.26
 BEGIN FULL DEPTH PAVEMENT

151+83.82

151+50.00



154+00.00

153+79.93

CUT AREA 79.11
FULL AREA 0.00

CUT VOLUME 61
FULL VOLUME 0

CUT AREA 85.71
FULL AREA 0.00

CUT VOLUME 60
FULL VOLUME 0

CAUTION EX
OVERHEAD POWER

CAUTION EX
OVERHEAD POWER

EX WATER

EX WATER

EX 24" GAS

EX 24" GAS

EXISTING TUG

EXISTING TUG

48" STORM PIPE

48" STORM PIPE

CRL

CRL

PROP R/W - ST 2029

PROP R/W - ST 2029

PRES R/W

PRES R/W

2.9%

3.00%

3.00%

2.0%

2.0%

2.0%

680

680

675

675

670

670

665

665

660

660

655

655

75

75

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-60

-65

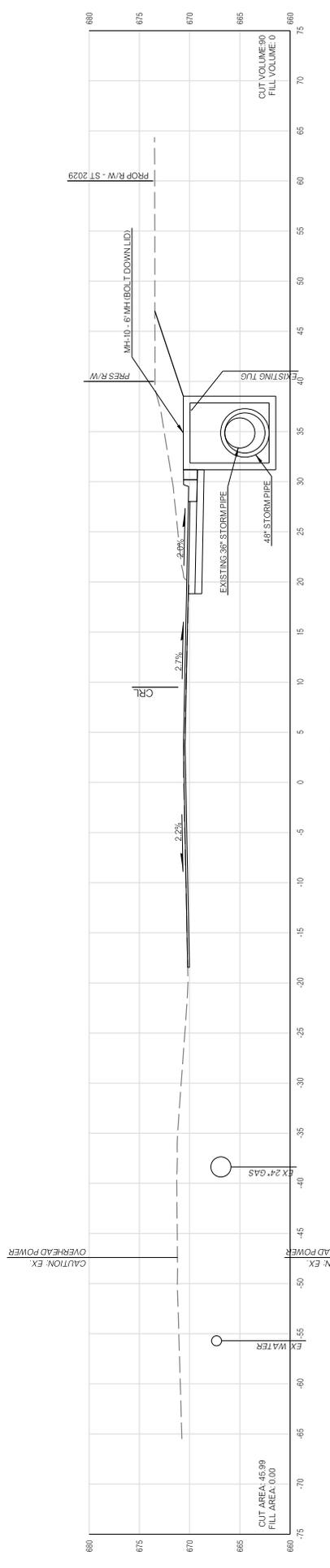
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-70

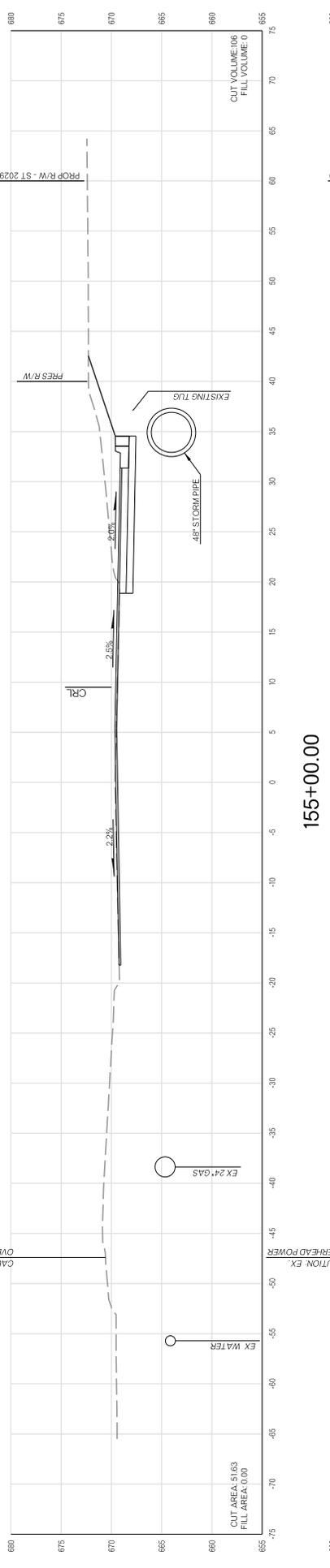
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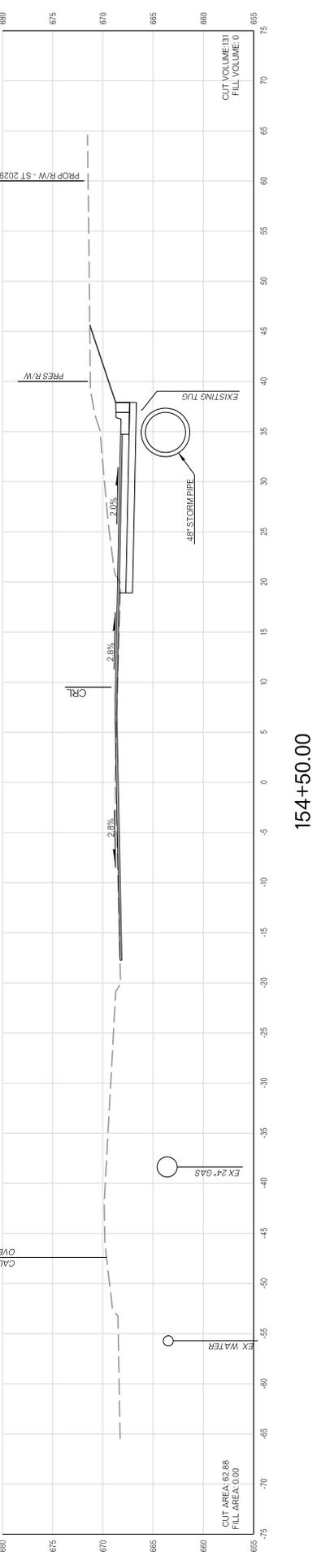
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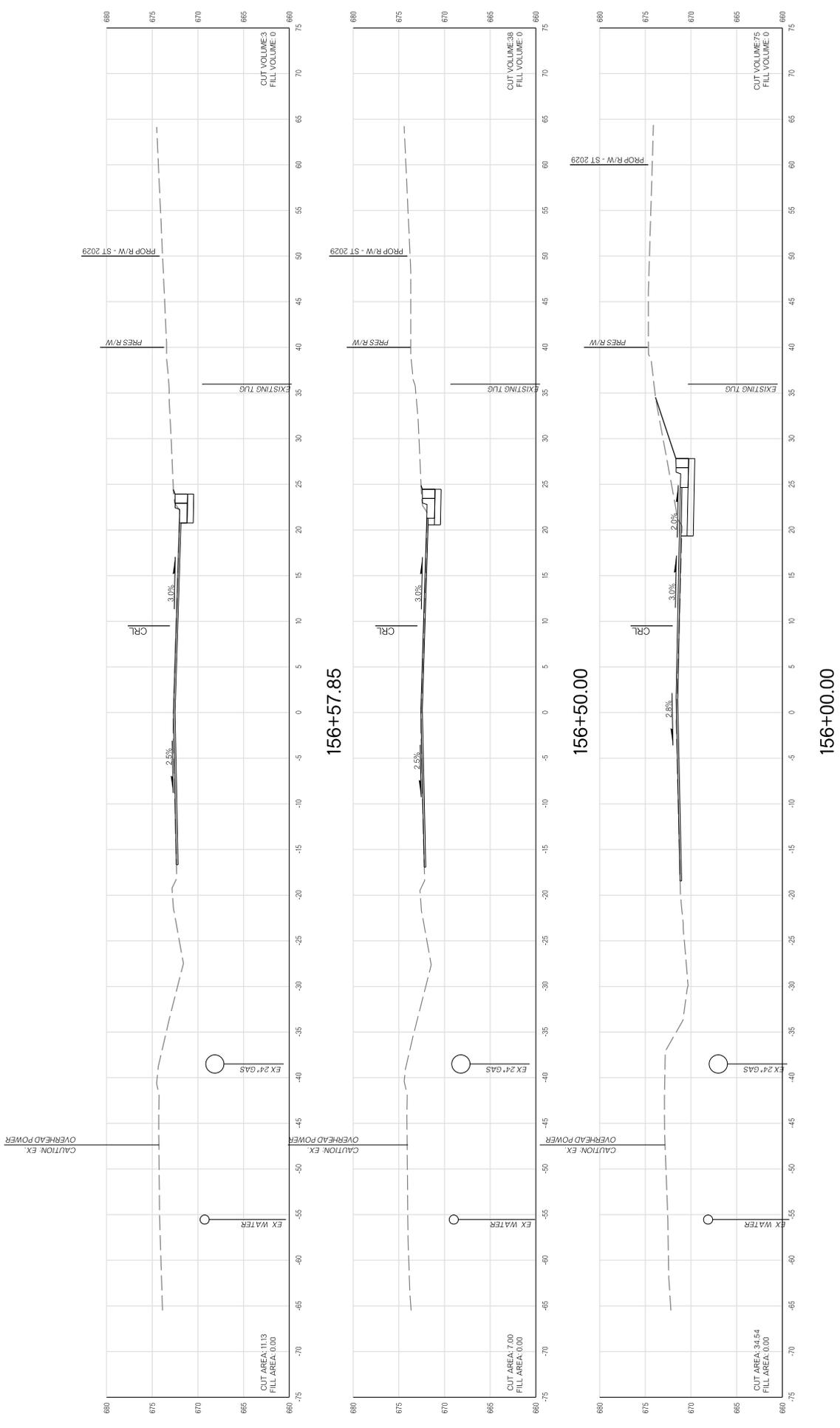
155+50.00



155+00.00



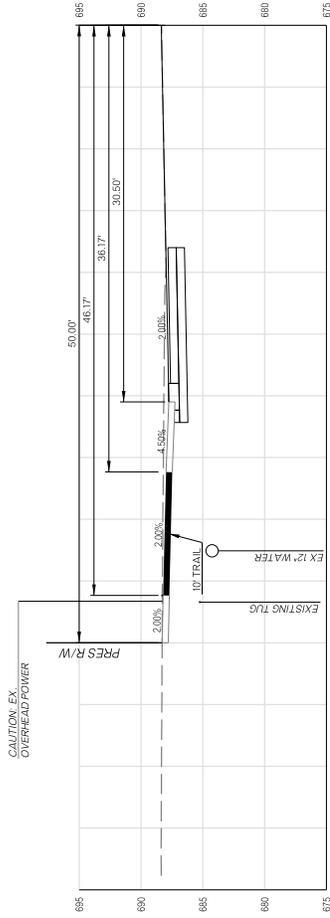
154+50.00



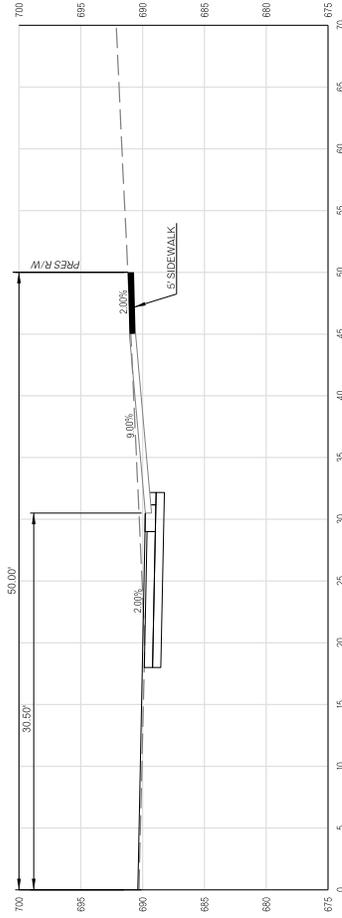
156+57.85

156+50.00

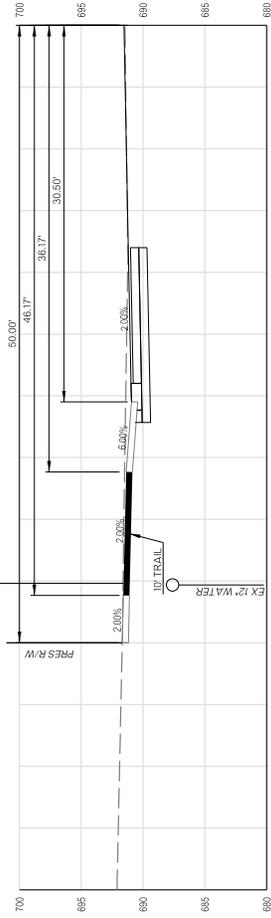
156+00.00



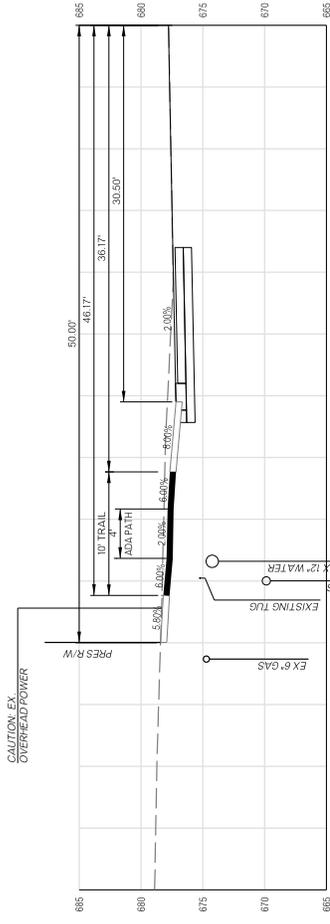
109+00.41



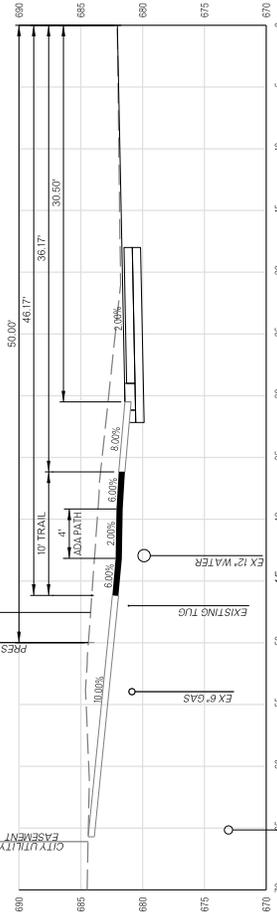
107+20.45



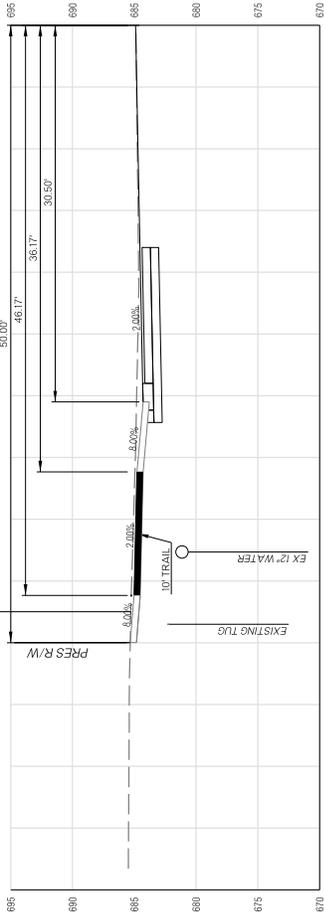
105+47.40



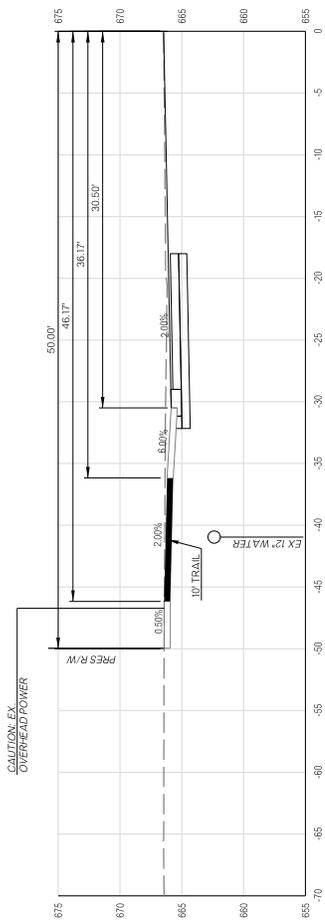
116+89.21



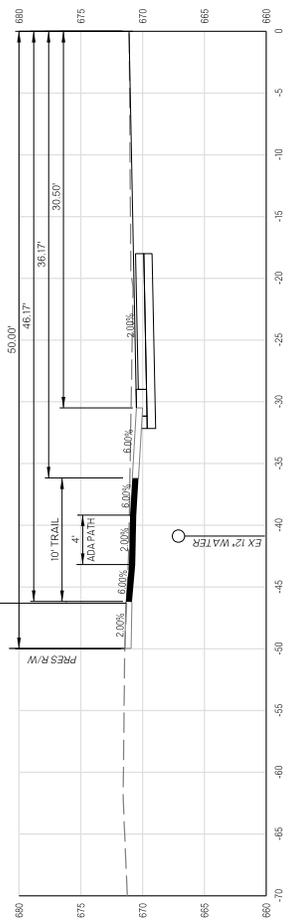
113+72.32



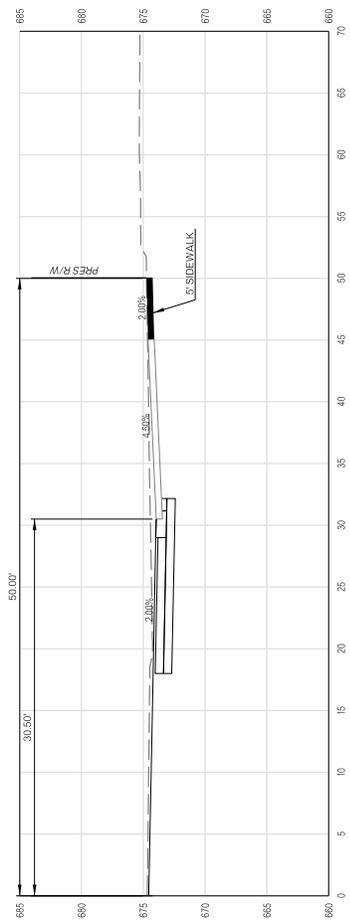
111+58.39 (S. DESSERT PALM AVE.)



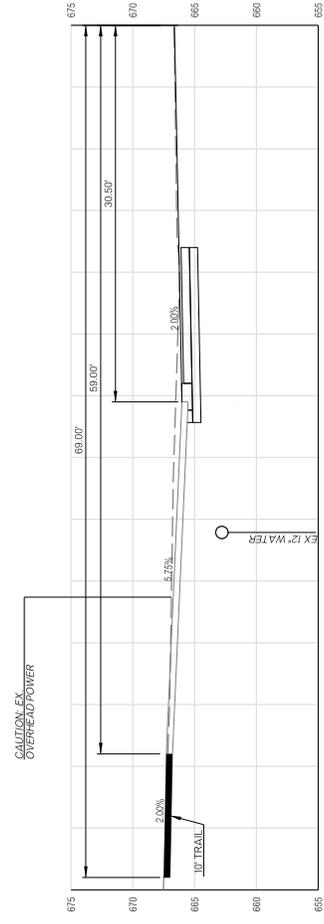
125+53.29



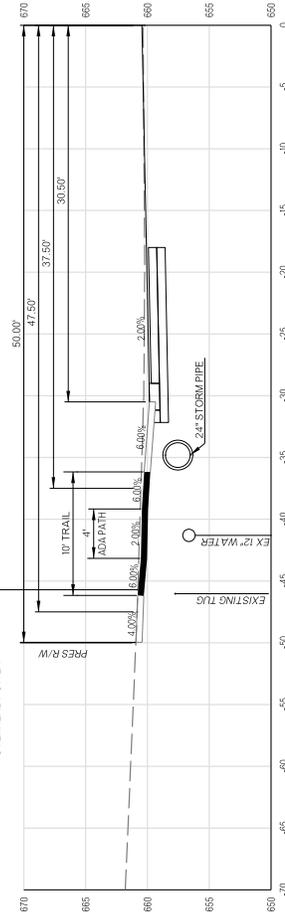
121+98.32



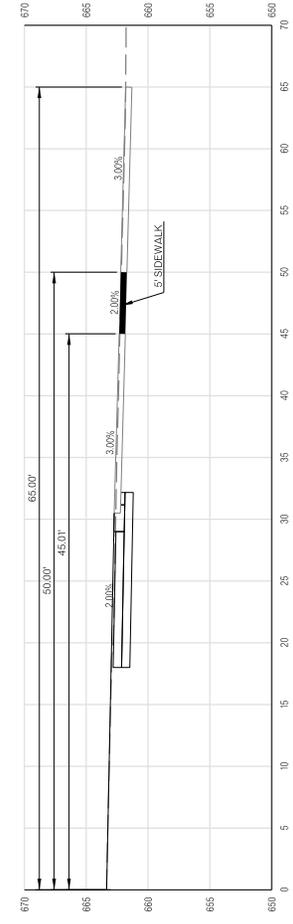
119+32.76 (S. CYPRESS PL.)



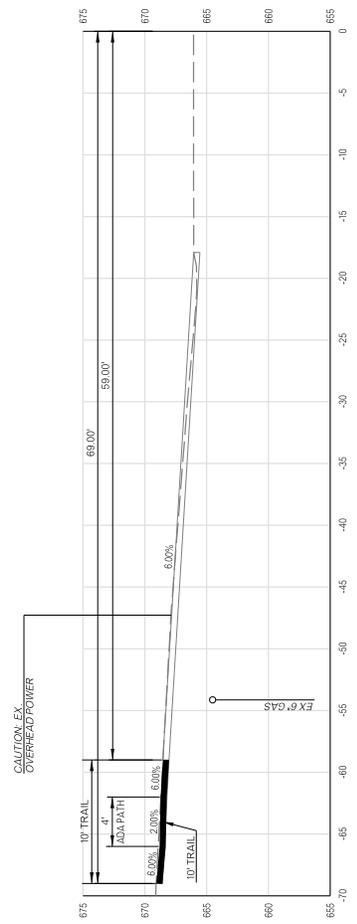
139+94.13 (S. SWEET GUM AVE.)



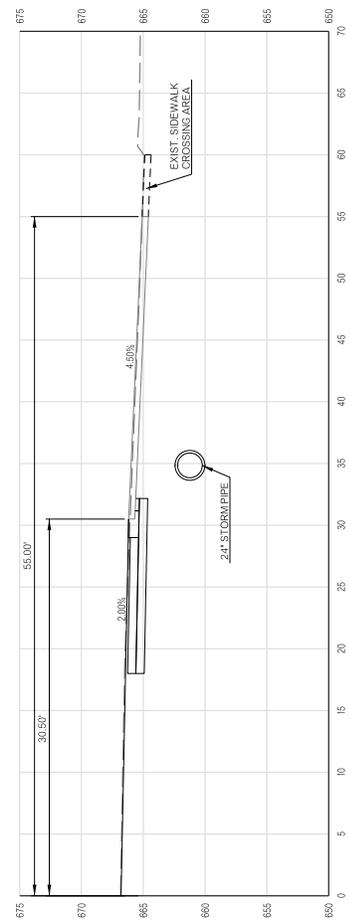
130+20.02



127+94.38 (S. WILLOW AVE.)



146+53.63 (S. REDWOOD AVE.)



140+04.75 (S. SWEET GUM AVE.)