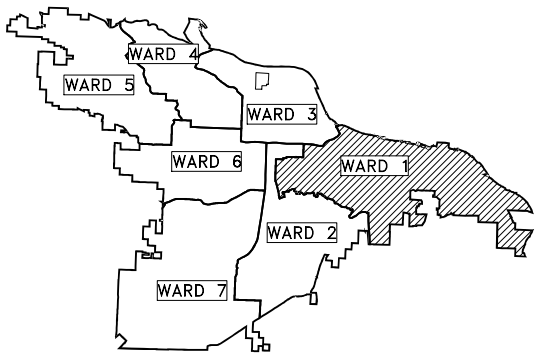


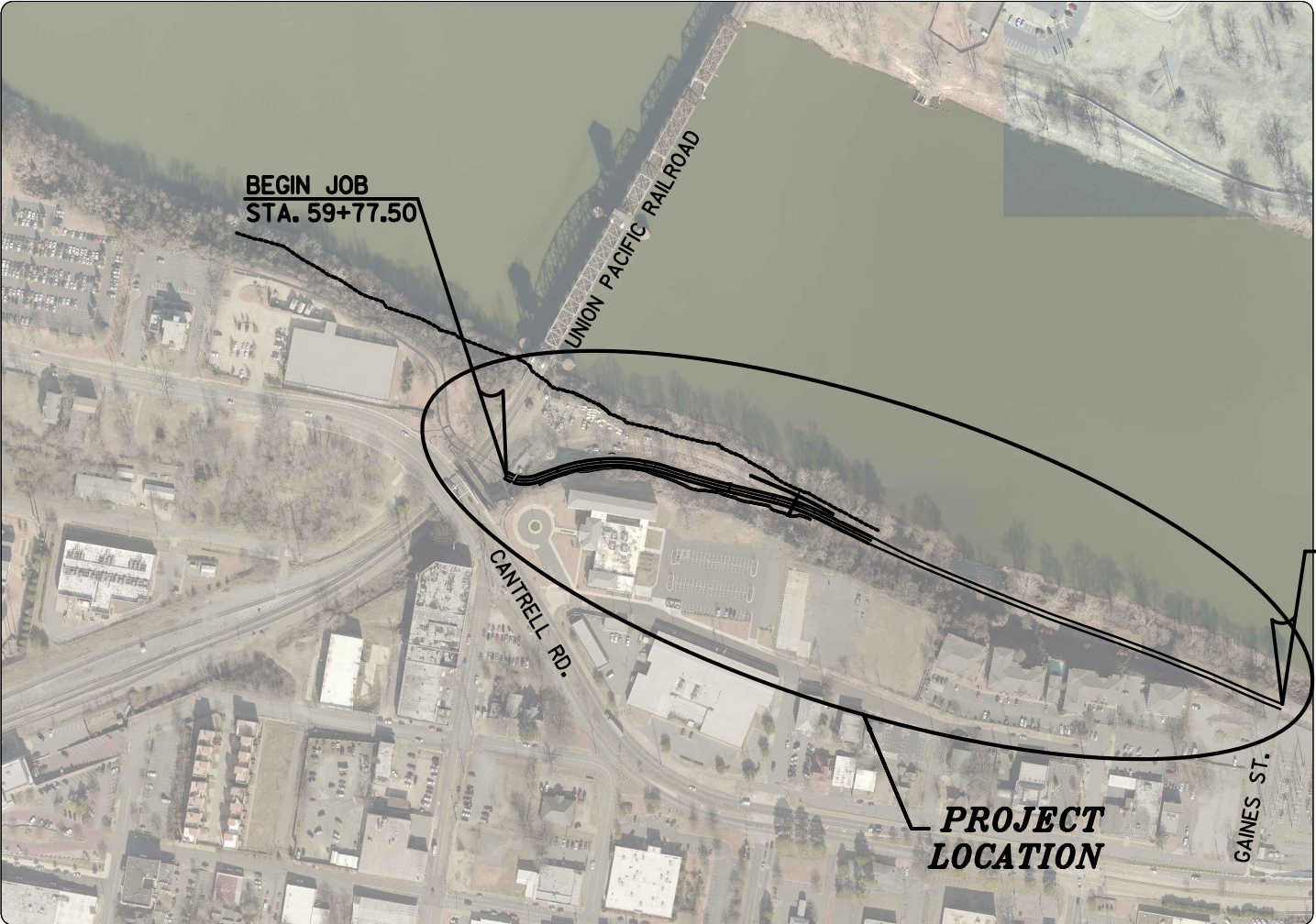
LITTLE ROCK CENTRAL HIGH CORRIDOR PH. 1 (S)

LITTLE ROCK, ARKANSAS

JOB 061623



PROJECT LOCATION – WARD 1



SHEET NO.	TITLE
C-01	COVER SHEET
C-02	LEGEND AND QUANTITIES
C-03	TYPICAL SECTIONS
C-04	SPECIAL DETAILS
C-05 - C-06	TEMPORARY EROSION CONTROL SHEETS
C-07 - C-08	FIELD TIES / LAYOUT SHEETS
C-09	PLAN AND PROFILE 1 ARKANSAS RIVER TRAIL
C-10	PLAN AND PROFILE 2 ARKANSAS RIVER TRAIL
C-11 - C-20	ARKANSAS RIVER TRAIL CROSS SECTIONS
CDP-1	CONCRETE DITCH PAVING
FES-1	FLARED END SECTION
FES-2	FLARED END SECTION
PCC-1	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING
SI-2	REINFORCED CONCRETE RETAINING WALL (WITHOUT LIVELOAD SURCHARGE)
55001	DUMPED RIPRAP AND FILTER BLANKET AND COMPUTING EXCAVATION FOR STRUCTURES

REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS

LITTLE ROCK CENTRAL HIGH CORRIDOR PH. 1 (S)

COVER SHEET

DEPARTMENT OF PUBLIC WORKS

CIVIL ENGINEERING

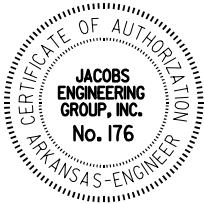
701 W. MARKHAM

LITTLE ROCK, ARKANSAS 72201

12/06/2024

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DESIGNED	RFR
CHECKED	BAP
DATE	12 / 06 / 24
SCALE	NTS
PROJECT NO.	061623
SHEET NO.	C-01

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 WEST MARKHAM STREET
LITTLE ROCK, ARKANSAS 72201



Jacobs

Jacobs Engineering Group, Inc.
1701 Centerview Dr., Suite 202
Little Rock, Arkansas 72211
Phone: 501.223.0515
www.jacobs.com

SUMMARY OF QUANTITIES			
ITEM NUMBER	ITEM	QUANTITY	UNIT
2.01	SITE PREPARATION (INCL. MOBILIZATION)	1.00	L.S.
3.01	UNCLASSIFIED EXCAVATION	66	C.Y.
3.07	COMPACTED EMBANKMENT	18115	C.Y.
4.01	AGGREGATE BASE COURSE (CLASS 7)	470	TON
5.01	TACK COAT	300	GAL.
6.01	ASPHALT SURFACE COURSE (3/8")	365	TON
13.36	STORM DRAIN PIPES, 36" (CROSS DRAIN)	41	L.F.
16.01	MAINTENANCE OF TRAFFIC	1.00	L.S.
18.08	RIPRAP (DUMPED)	200	C.Y.
18.10	WATER FOR DUST CONTROL	1000	GAL.
19.01	FINAL CLEANUP	1.00	L.S.
24.01	MULCH COVER	1.50	AC
24.02	WATER FOR TEMPORARY EROSION CONTROL	22000.0	GAL.
24.03	TEMPORARY SEEDING	1.50	AC
24.04	SILT FENCE	2875	L.F.
32.36	FLARED END SECTION, 36"	1	EA
SP 01	RETAINING WALL (ARDOT TYPE SI-2)	1225	SF
SP 01	RETAINING WALL (SPECIAL)	400	SF
SP 02	CONCRETE DITCH PAVING (ARDOT TYPE B)	285	SY
SP 03	SAFETY RAIL (54")	255	LF

EXISTING	PROPOSED
IRON ROD	PROPOSED CONTOUR
PK NAIL	PROPOSED SPOT ELEVATION
R.R. SPIKE	PROPOSED SPOT CURB ELEVATION
CONC. MONUMENT	STORM SEWER – PIPE
WATER VALVE	STORM SEWER – MITERED END SECTION
WATER METER	STORM SEWER – GRATE INLET
FIRE HYDRANT	STORM SEWER – JUNCTION BOX
GAS METER	STORM SEWER – FLARED END SECTION
GAS VALVE	STORM SEWER – HEADWALL
CLEAN-OUT	STORM SEWER – SINGLE WING
GUARD POST (BOLLARD)	STORM SEWER – DOUBLE WING
SIGN POST	STORM SEWER – AREA INLET
BENCHMARK	GRADE BREAK LINE
STORM SEWER MANHOLE	HIGH POINT
SANITARY SEWER MANHOLE	LOW POINT
TELEPHONE MANHOLE	CUT LINE
ELECTRIC MANHOLE	FILL LINE
TELEPHONE BOX	SANITARY SEWER PIPE
ELECTRIC BOX	SANITARY SEWER MANHOLE
CABLE BOX	PROPOSED CURB
UTILITY POLE	PROPOSED CONCRETE
GUY WIRE	CONSTRUCTION – ENTRANCE/EXIT
LIGHT POLE	CHECK DAM
POST OR POLE (TYPE AS NOTED)	DIVERSION BERM
MAILBOX	DOWNDRAIN STRUCTURE – TEMPORARY
DECIDUOUS TREE	ROCK DAM
EVERGREEN/CONIFEROUS TREE	SEDIMENT BARRIER – SILT FENCE
BUSH	SEDIMENT BARRIER – GRAVEL RING
PROPERTY LINE	SEDIMENT BARRIER – BLOCK & GRAVEL
SETBACK LINE	SEDIMENT BARRIER – BLOCK
EASEMENT LINE	TEMPORARY SEDIMENT BASIN
CURB	SILT FENCE – TYPE A
FENCE	SILT FENCE – TYPE B
OVERHEAD ELECTRIC	SILT FENCE – TYPE C
OVERHEAD TELEPHONE	STORM DRAIN OUTLET PROTECTION
OVERHEAD CABLE	SURFACE ROUGHENING
UNDERGROUND TELEPHONE	DISTURBED AREA STABILIZATION –TEMPORARY STABILIZATION
UNDERGROUND ELECTRIC	DISTURBED AREA STABILIZATION –TEMPORARY GRASSING
UNDERGROUND CABLE	DISTURBED AREA STABILIZATION –PERMANENT GRASSING
WATER LINE	MATTING/BLANKETS
SEWER LINE	
GAS LINE	
STORM SEWER/CULVERT	
EDGE OF WOODS	
CONTOUR LINE	

REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS	LEGEND AND QUANTITIES
LITTLE ROCK CENTRAL HIGH CORRIDOR PH. 1 (S)	

DEPARTMENT OF PUBLIC WORKS	CIVIL ENGINEERING	701 W. MARKHAM	LITTLE ROCK, ARKANSAS 72201
			
			

12/06/2024

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DATE	12 / 06 / 24
SCALE	NTS
PROJECT NO.	061623
SHEET NO.	C-02



DEPARTMENT OF PUBLIC WORKS

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701 W. MARKHAM

LITTLE ROCK, ARKANSAS

72201



12/06/2024

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RFR

CHECKED

BAP

DATE

12 / 06 / 24

SCALE

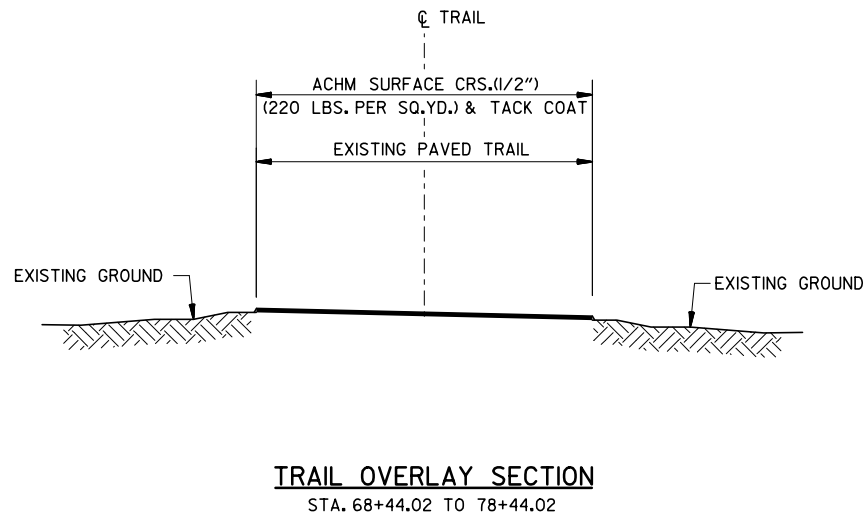
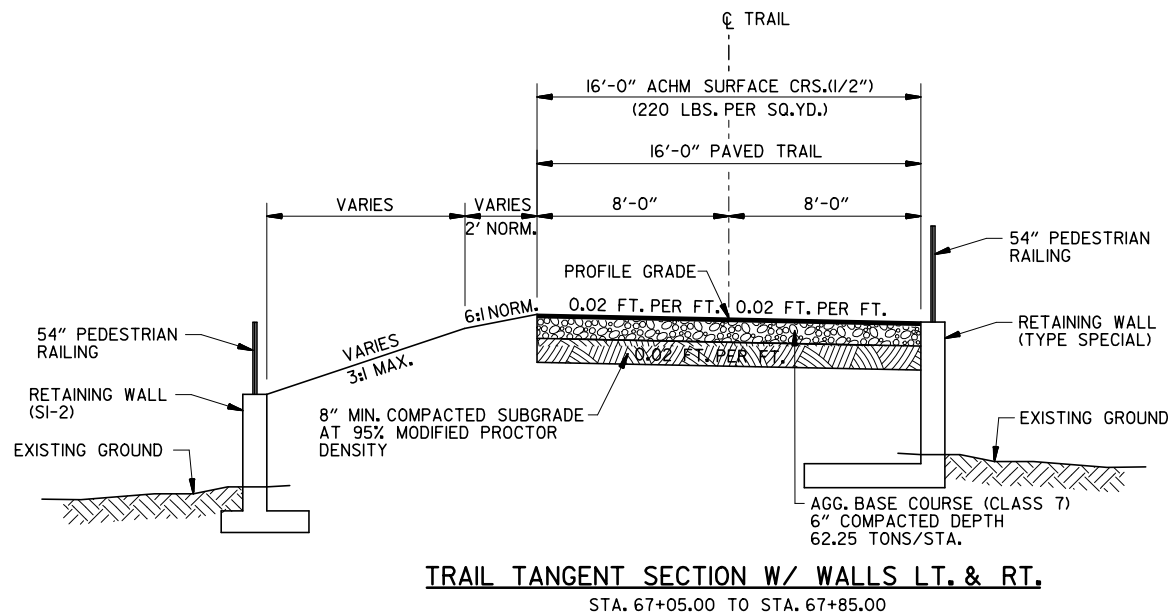
1" = 8'

PROJECT NO.

061623

SHEET NO.

C - 03



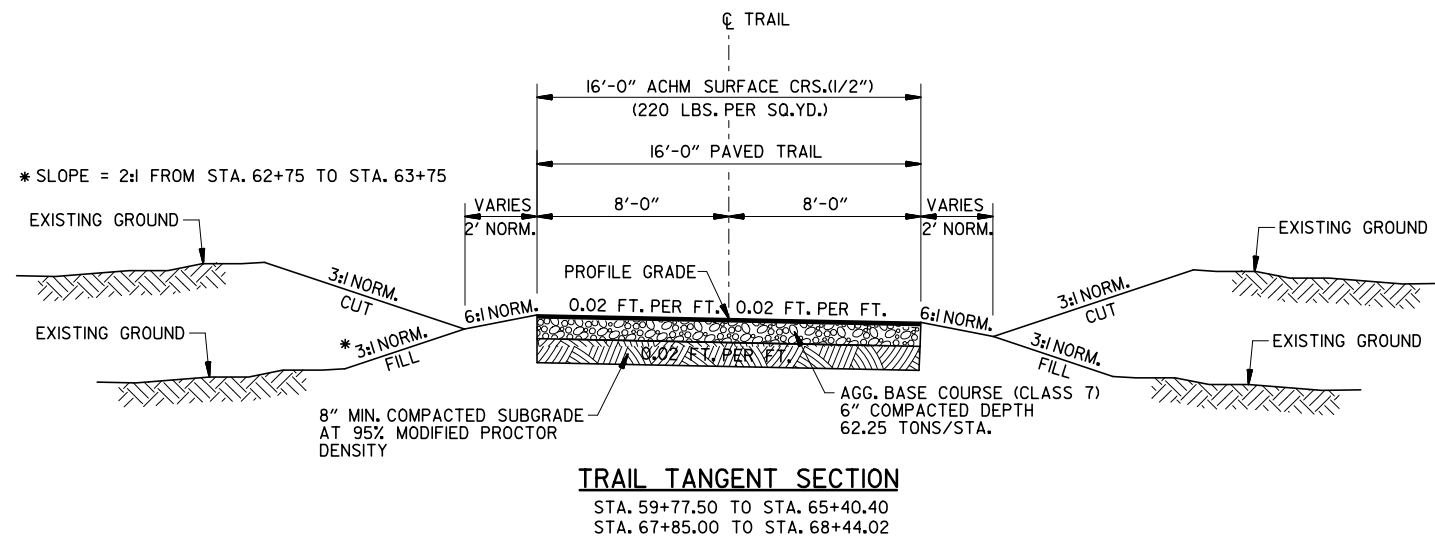
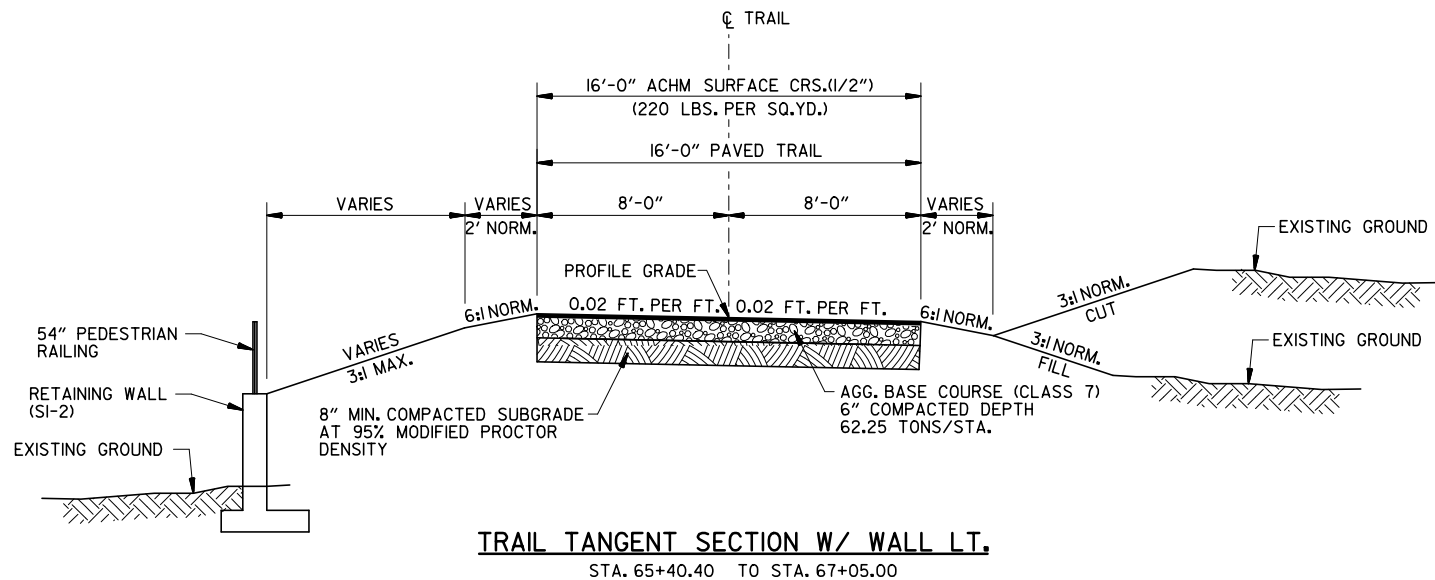
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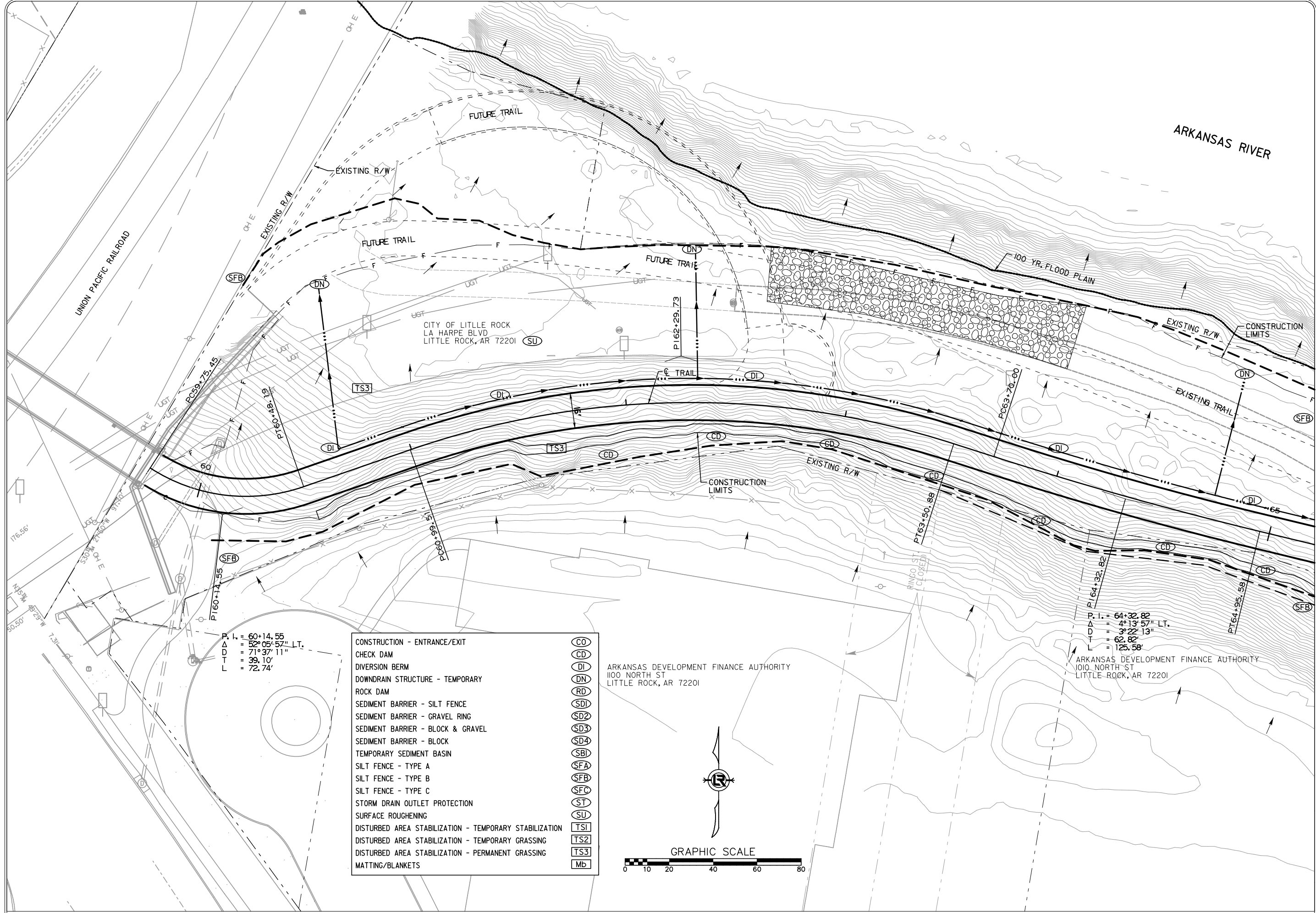
TYPICAL SECTIONS SHOWN LOOKING AHEAD STATION

REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

SUBGRADE CROSS SLOPE TO MATCH FINISHED GRADE CROSS SLOPE UNLESS OTHERWISE STATED.

THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.





REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS

LITTLE ROCK CENTRAL HIGH CORRIDOR PH. 1 (S)

TEMPORARY EROSION CONTROL PLAN

DEPARTMENT OF PUBLIC WORKS

CIVIL ENGINEERING

701 W. MARKHAM

LITTLE ROCK, ARKANSAS 72201

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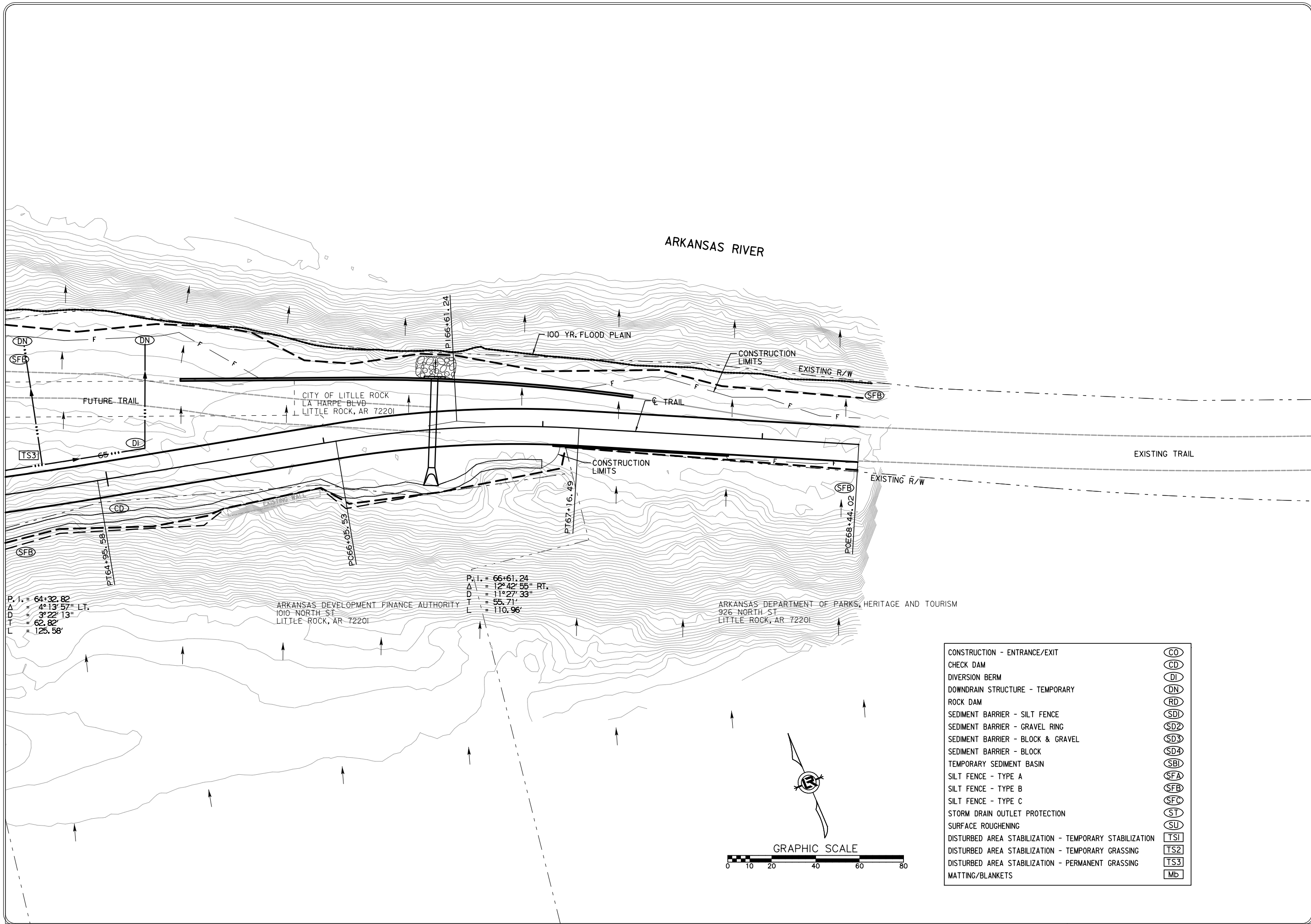
CHECKED
BAP

DATE
12 / 06 / 24

SCALE
1" = 40'

PROJECT NO.
061623

SHEET NO.
C-05



REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS

LITTLE ROCK CENTRAL HIGH CORRIDOR PH. 1 (S)

TEMPORARY EROSION CONTROL PLAN

DEPARTMENT OF PUBLIC WORKS

CIVIL ENGINEERING

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LITTLE ROCK, ARKANSAS 72201





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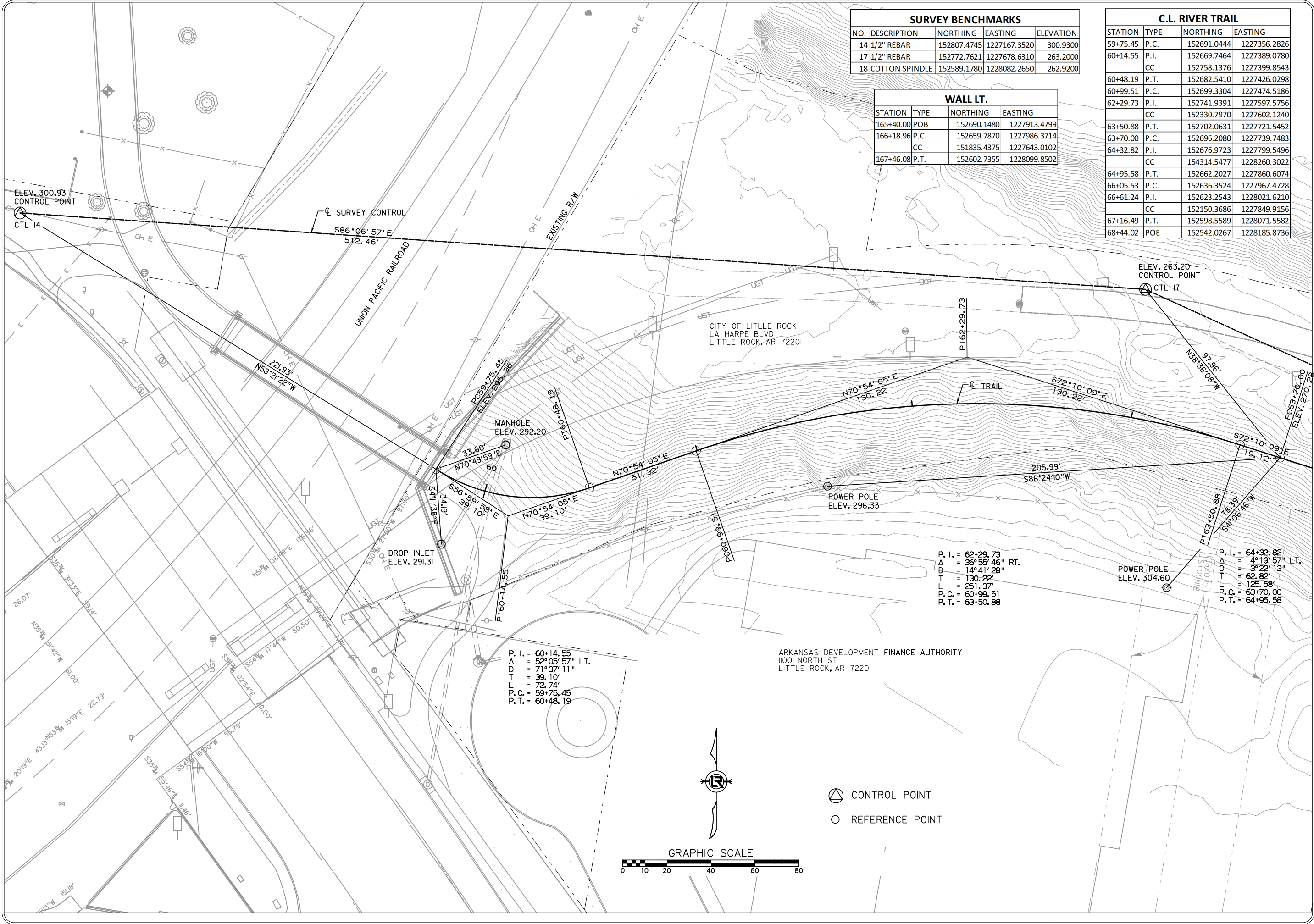
CHECKED
BAP

DATE
12 / 06 / 24

SCALE
1" = 40'

PROJECT NO.
061623

SHEET NO.
C-06



SURVEY BENCHMARKS			
NO.	DESCRIPTION	NORTHING	EASTING
14	1/2" REBAR	152807.4745	1227167.3520
17	1/2" REBAR	152772.7621	1227678.6310
18	COTTON SPINDLE	152589.1780	1228082.2650

WALL LT.			
STATION	TYPE	NORTHING	EASTING
165+40.00	POB	152690.1480	1227913.4799
166+18.96	P.C.	152659.7870	1227986.3714
	CC	151835.4375	1227643.0102
167+46.08	P.T.	152602.7355	1228099.8502

C.L. RIVER TRAIL			
STATION	TYPE	NORTHING	EASTING
59+75.45	P.C.	152691.0444	1227356.2826
60+14.55	P.I.	152669.7464	1227389.0780
	CC	152758.1376	1227399.8543
60+48.19	P.T.	152682.5410	1227426.0298
60+99.51	P.C.	152699.3304	1227474.5186
62+29.73	P.I.	152741.9391	1227597.5756
	CC	152330.7970	1227602.1240
63+50.88	P.T.	152702.0631	1227721.5452
63+70.00	P.C.	152696.2080	1227739.7483
64+32.82	P.I.	152676.9723	1227799.5496
	CC	154314.5477	1228260.3022
64+95.58	P.T.	152662.2027	1227860.6074
66+05.53	P.C.	152636.3524	1227967.4728
66+61.24	P.I.	152623.2543	1228021.6210
	CC	152150.3686	1227849.9156
67+16.49	P.T.	152598.5589	1228071.5582
68+44.02	POE	152542.0267	1228185.8736

REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS

LITTLE ROCK CENTRAL HIGH CORRIDOR PH. 1 (S)

FIELD TIES / LAYOUT SHEET 1

DEPARTMENT OF PUBLIC WORKS

CIVIL ENGINEERING

701 W. MARKHAM

LITTLE ROCK, ARKANSAS 72201

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RFR

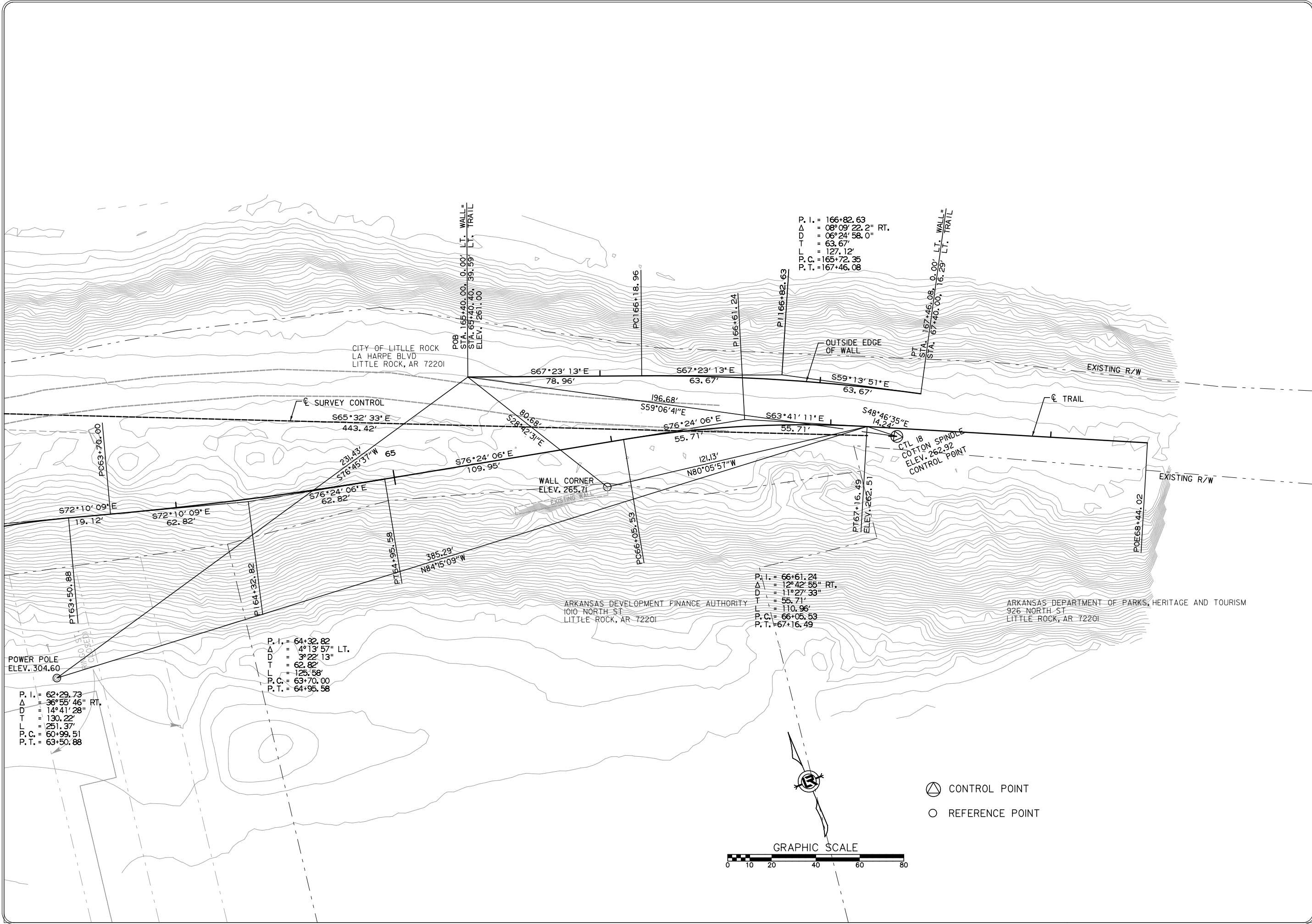
CHECKED
BAP

DATE
12 / 06 / 24

SCALE
1" = 40'

PROJECT NO.
061623

SHEET NO.
C-07



REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS

LITTLE ROCK CENTRAL HIGH CORRIDOR PH. 1 (S)

FIELD TIES / LAYOUT SHEET 2

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CIVIL ENGINEERING

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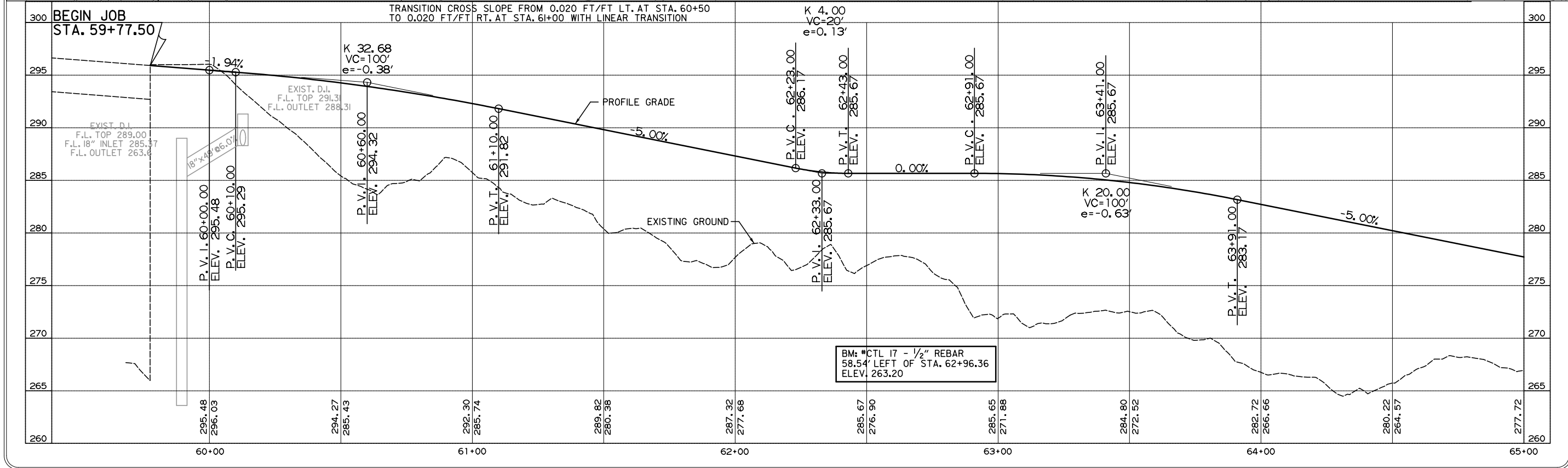
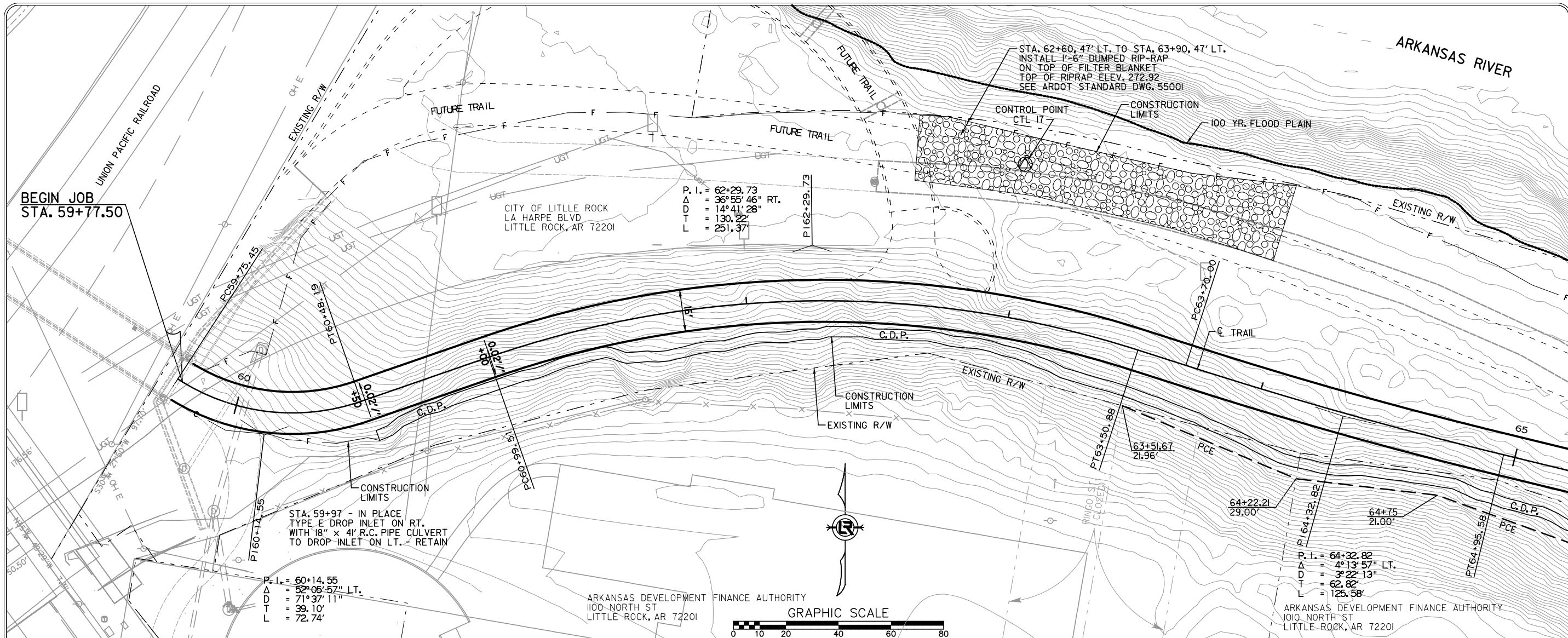
CHECKED
BAP

DATE
12 / 06 / 24

SCALE
1" = 40'

PROJECT NO.
061623

SHEET NO.
C-08



REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
LITTLE ROCK CENTRAL HIGH CORRIDOR PH. 1 (S)

PLAN & PROFILE
ARKANSAS RIVER TRAIL SHEET 1

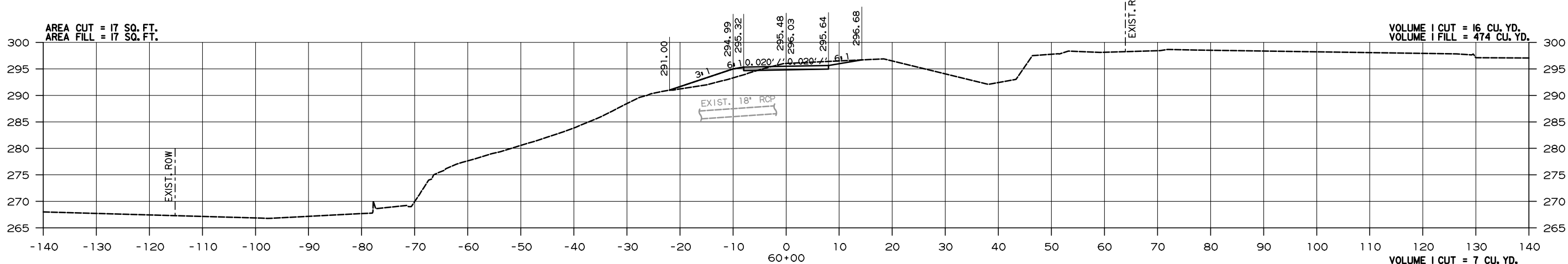
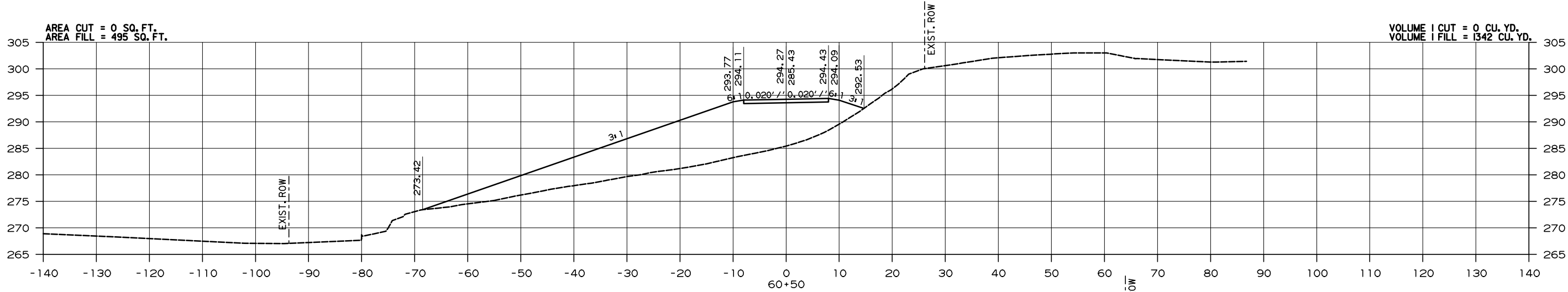
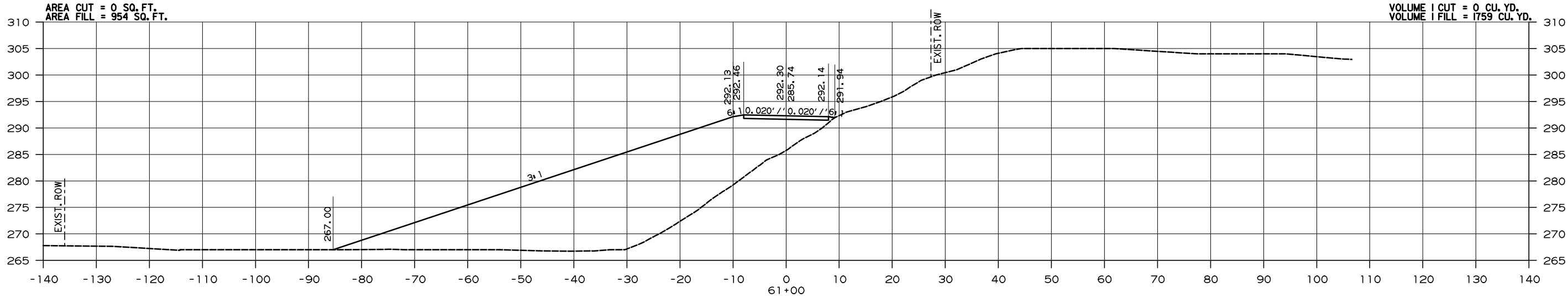


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CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201



12/06/2024

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BAP
DATE
12 / 06 / 24
SCALE
1" = 40'
PROJECT NO.
061623
SHEET NO.
C-09



REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS

LITTLE ROCK CENTRAL HIGH CORRIDOR PH. 1 (S)

CROSS SECTIONS

ARKANSAS RIVER TRAIL



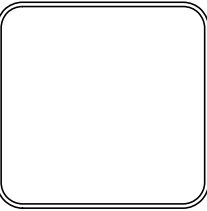
DEPARTMENT OF PUBLIC WORKS

CIVIL ENGINEERING

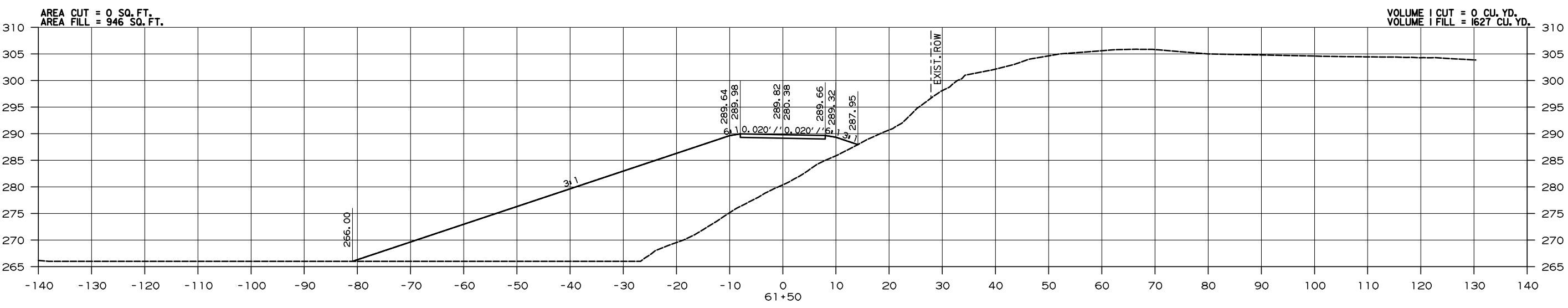
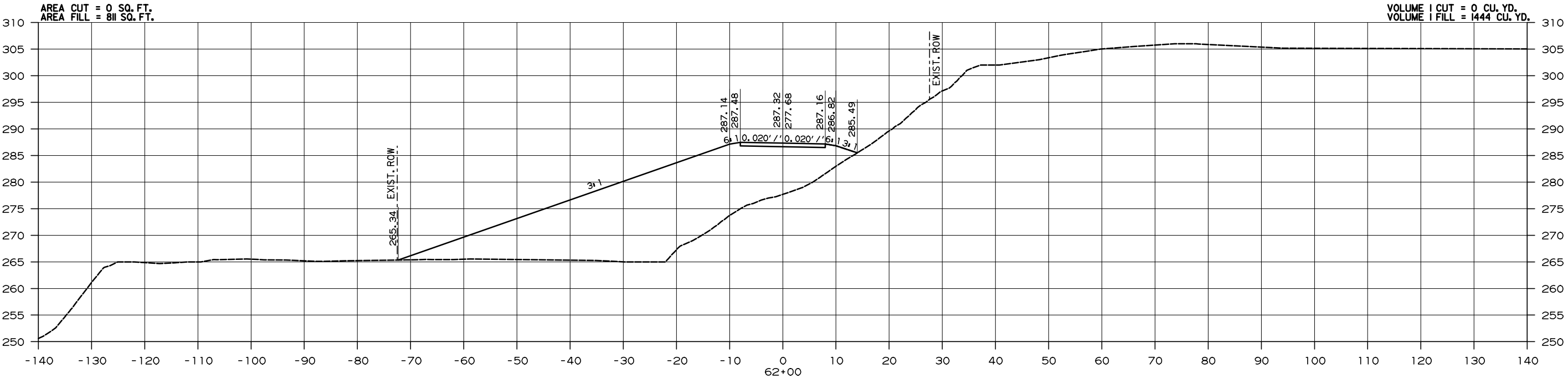
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DATE	12 / 06 / 24
SCALE	1" = 20'
PROJECT NO.	061623
SHEET NO.	C-11



REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS

LITTLE ROCK CENTRAL HIGH CORRIDOR PH. 1 (S)

CROSS SECTIONS

ARKANSAS RIVER TRAIL

DEPARTMENT OF PUBLIC WORKS

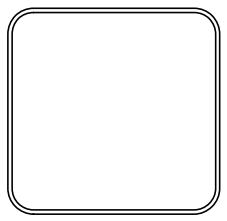
CIVIL ENGINEERING

701 W. MARKHAM

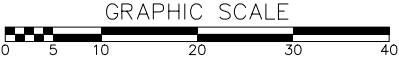
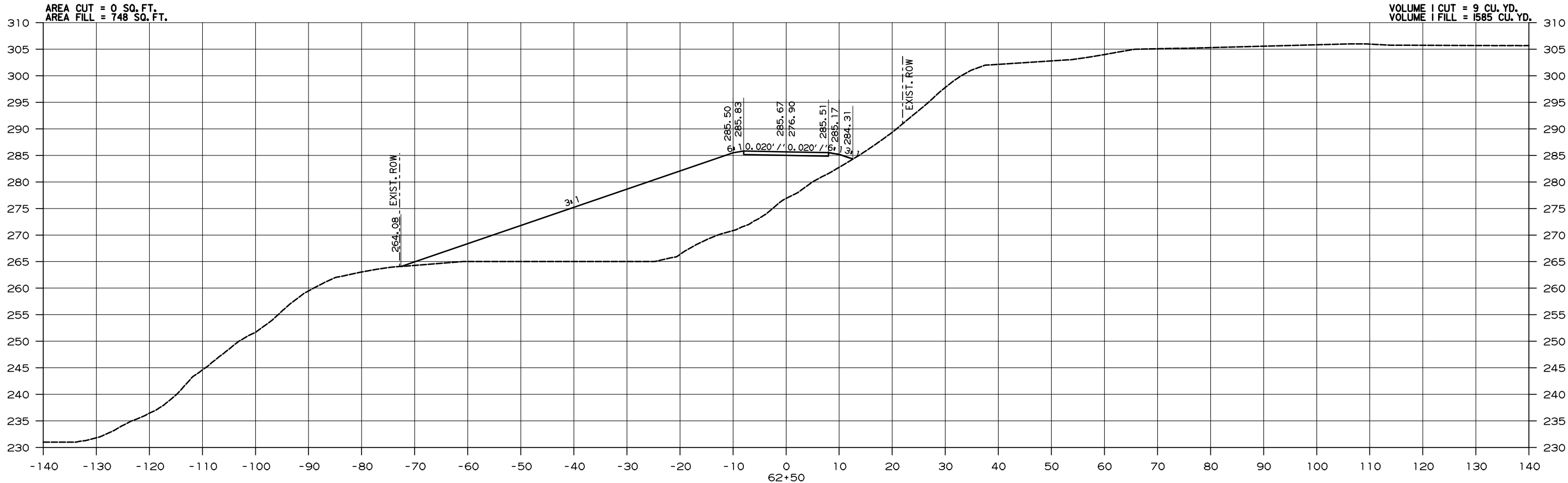
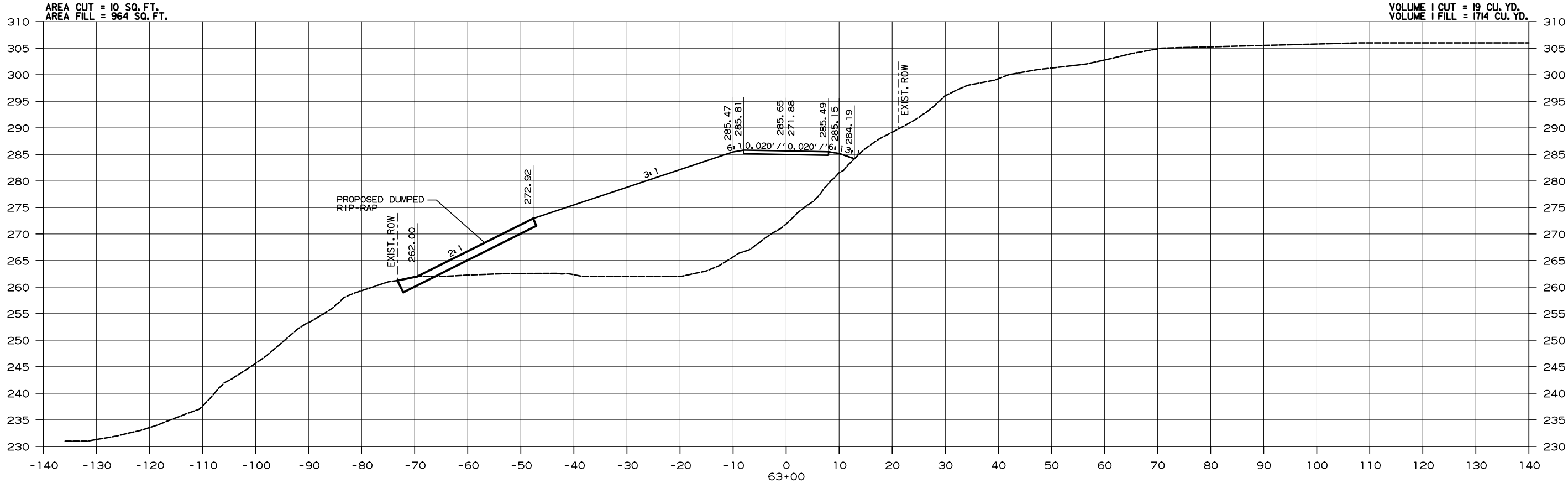
LITTLE ROCK, ARKANSAS 72201







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DATE	12 / 06 / 24
SCALE	1" = 20'
PROJECT NO.	061623
SHEET NO.	C-12



REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS

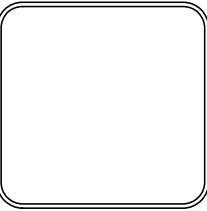
LITTLE ROCK CENTRAL HIGH CORRIDOR PH. 1 (S)

CROSS SECTIONS

ARKANSAS RIVER TRAIL


DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201





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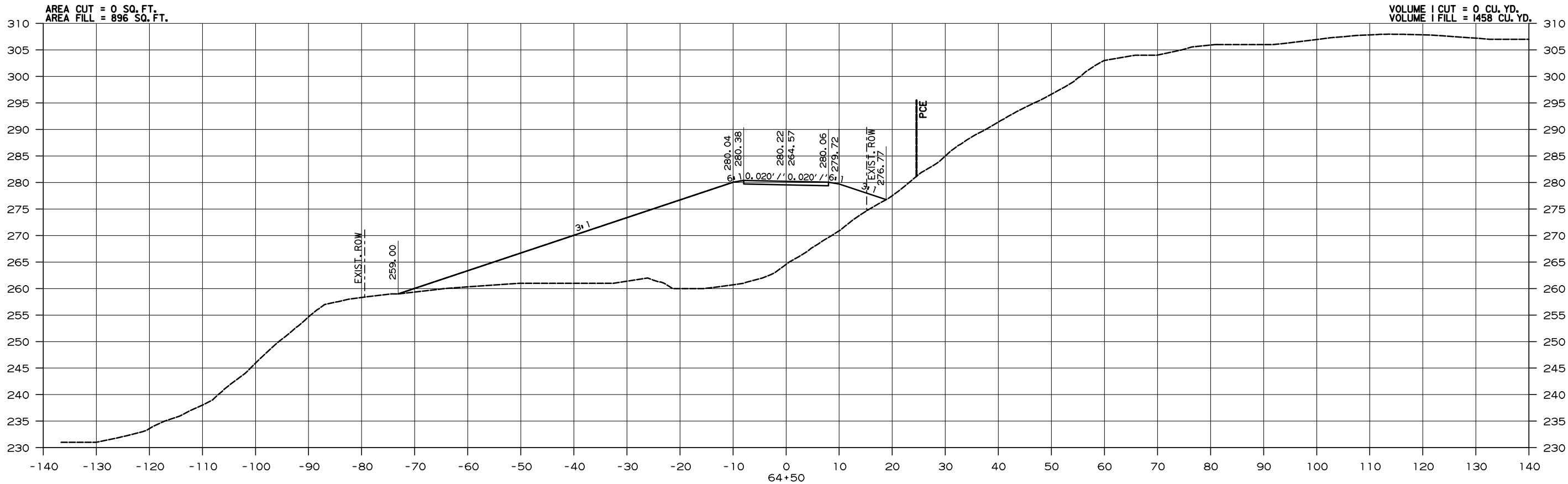
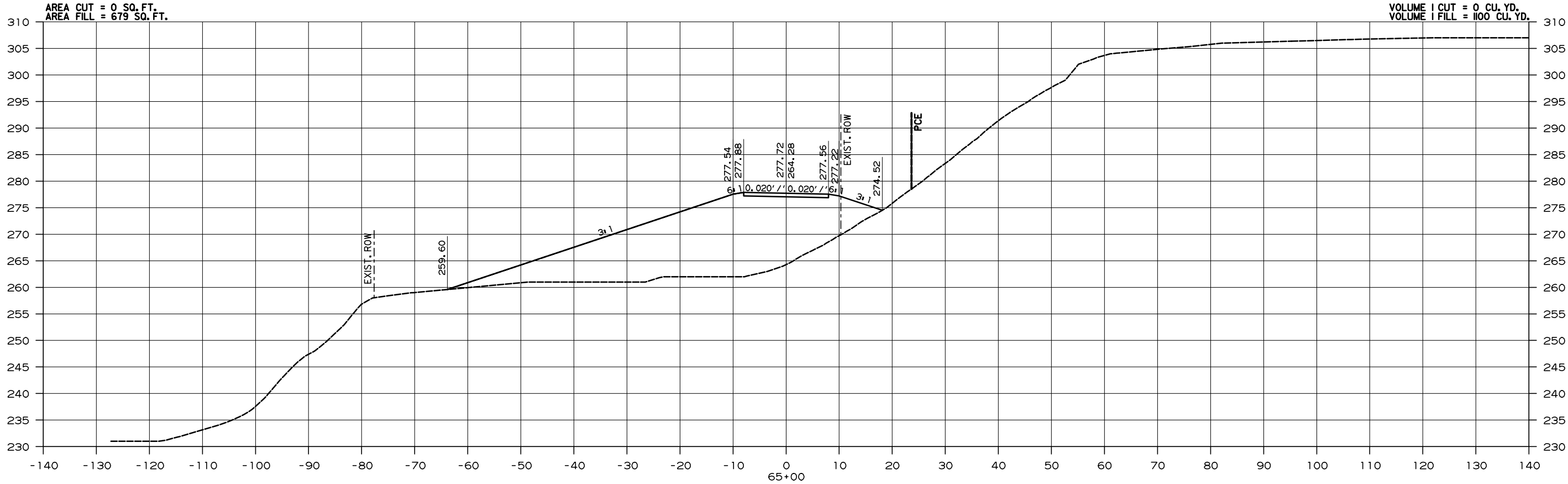
CHECKED
BAP

DATE
12 / 06 / 24

SCALE
1" = 20'

PROJECT NO.
061623

SHEET NO.
C-13



REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS

LITTLE ROCK CENTRAL HIGH CORRIDOR PH. 1 (S)

CROSS SECTIONS

ARKANSAS RIVER TRAIL

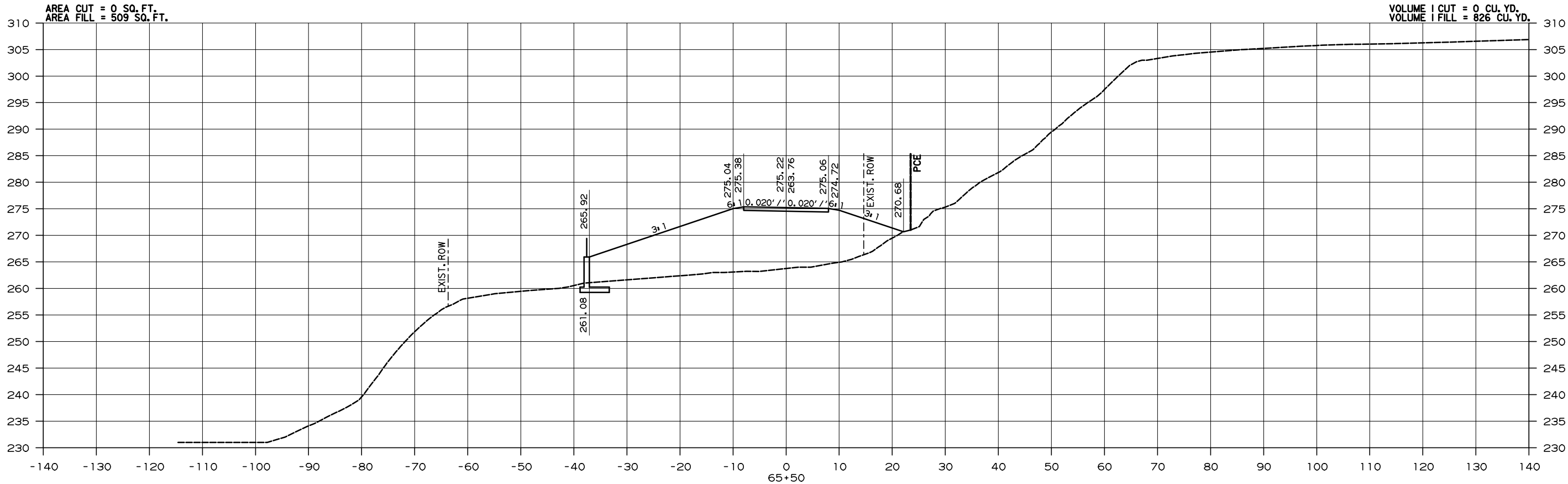
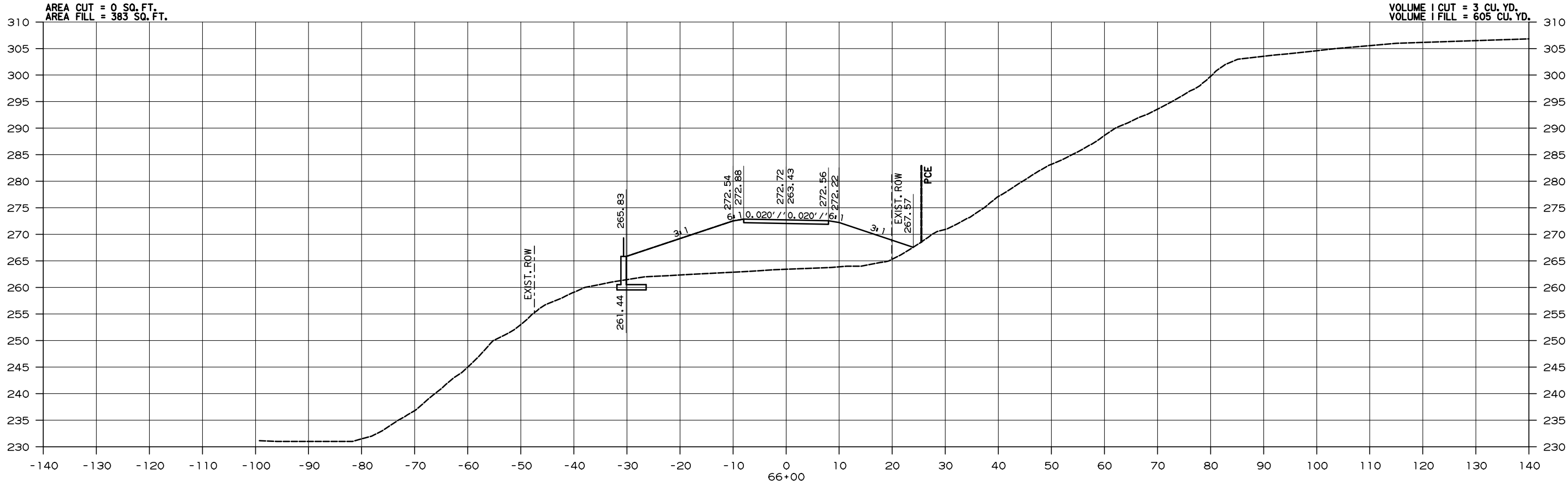
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CHECKED	BAP
DATE	12 / 06 / 24
SCALE	1" = 20'
PROJECT NO.	061623
SHEET NO.	C-15



REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS

LITTLE ROCK CENTRAL HIGH CORRIDOR PH. 1 (S)

CROSS SECTIONS

ARKANSAS RIVER TRAIL



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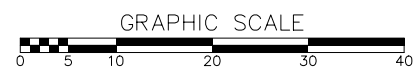
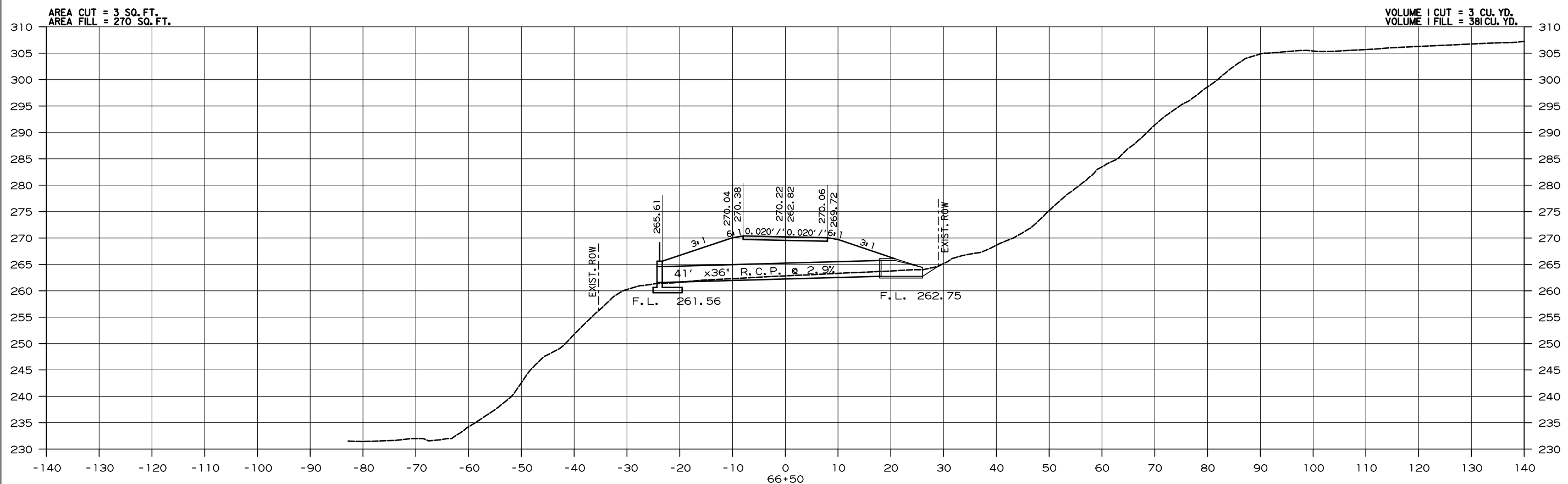
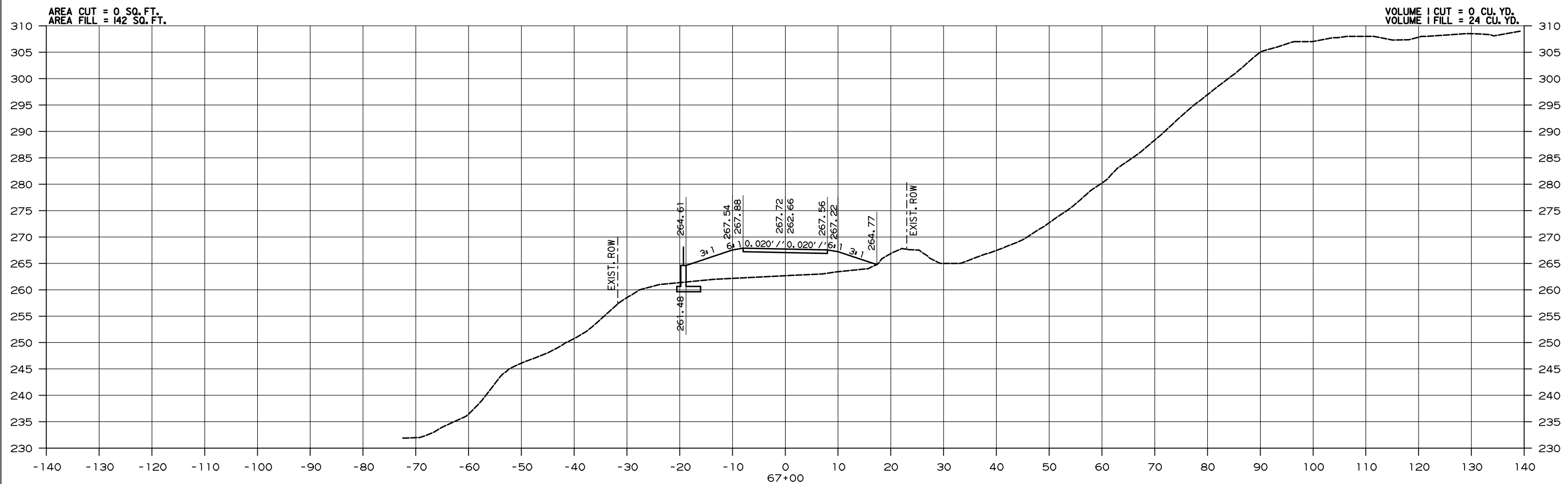
CIVIL ENGINEERING

701 W. MARKHAM

LITTLE ROCK, ARKANSAS 72201



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DESIGNED	RFR
CHECKED	BAP
DATE	12 / 06 / 24
SCALE	1" = 20'
PROJECT NO.	061623
SHEET NO.	C-16



REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
LITTLE ROCK CENTRAL HIGH CORRIDOR PH. 1 (S)

CROSS SECTIONS ARKANSAS RIVER TRAIL



DEPARTMENT OF PUBLIC WORKS

CIVIL ENGINEERING

701 W. MARKHAM

LITTLE ROCK, ARKANSAS 72201



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DESIGNED

RFR

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BAP

DATE _____

12 / 06 / 24

SCALE

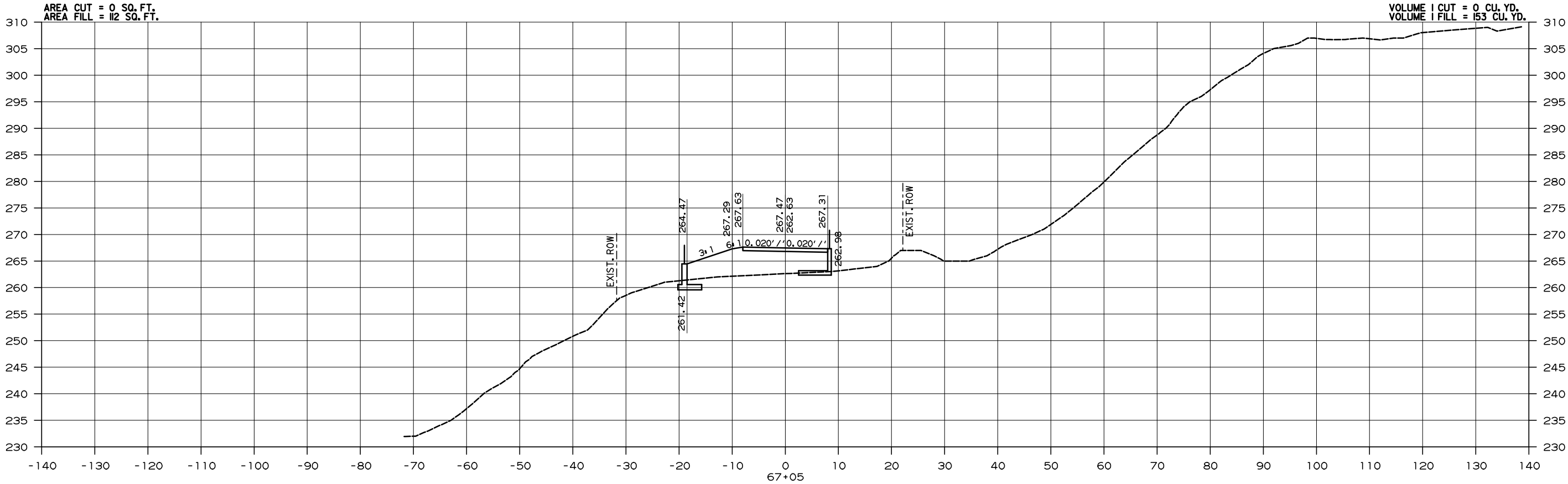
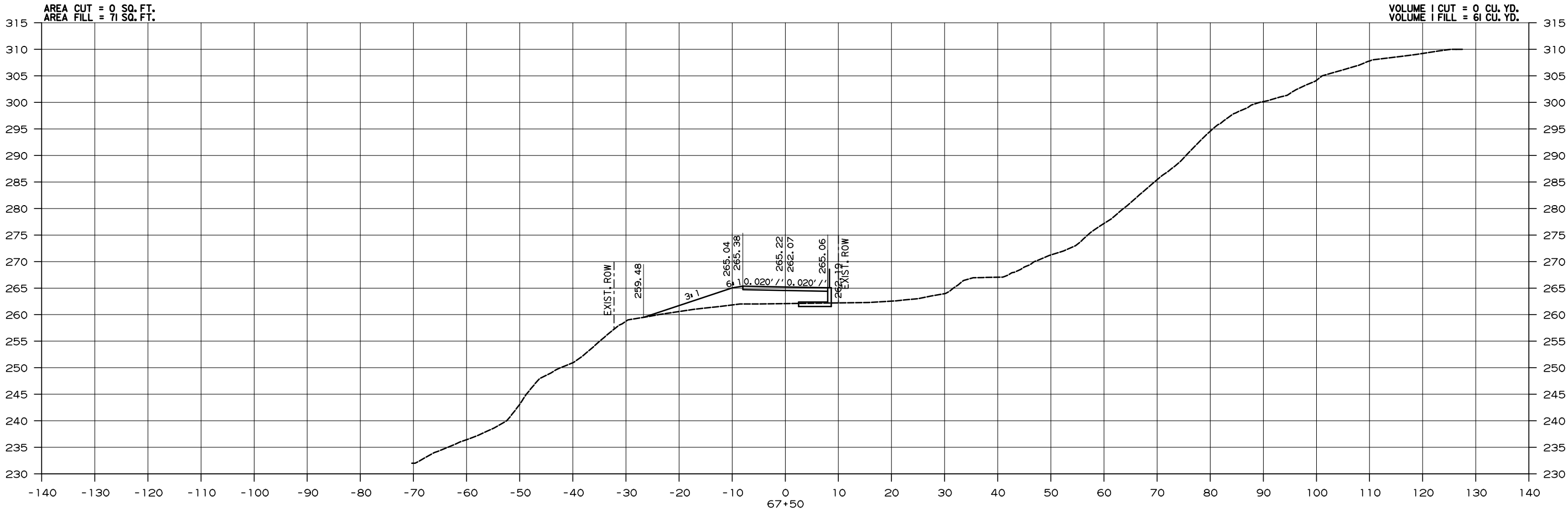
1" = 20'

PROJECT NO.

061623

SHEET NO.

C-17



REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
LITTLE ROCK CENTRAL HIGH CORRIDOR PH. 1 (S)

CROSS SECTIONS
ARKANSAS RIVER TRAIL

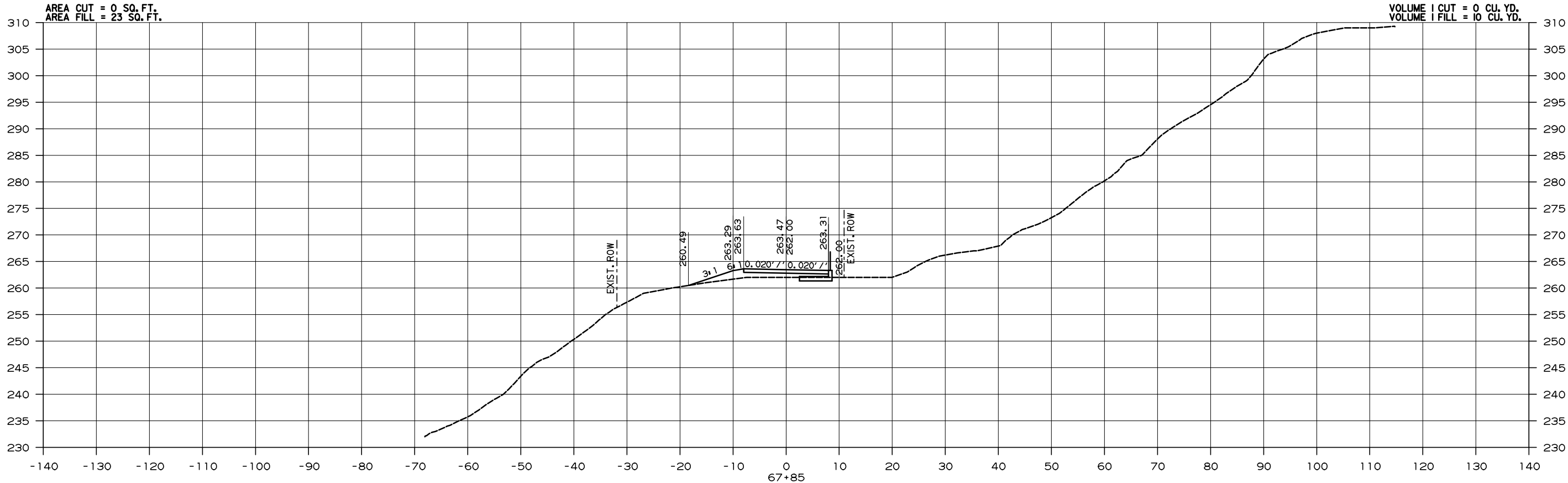
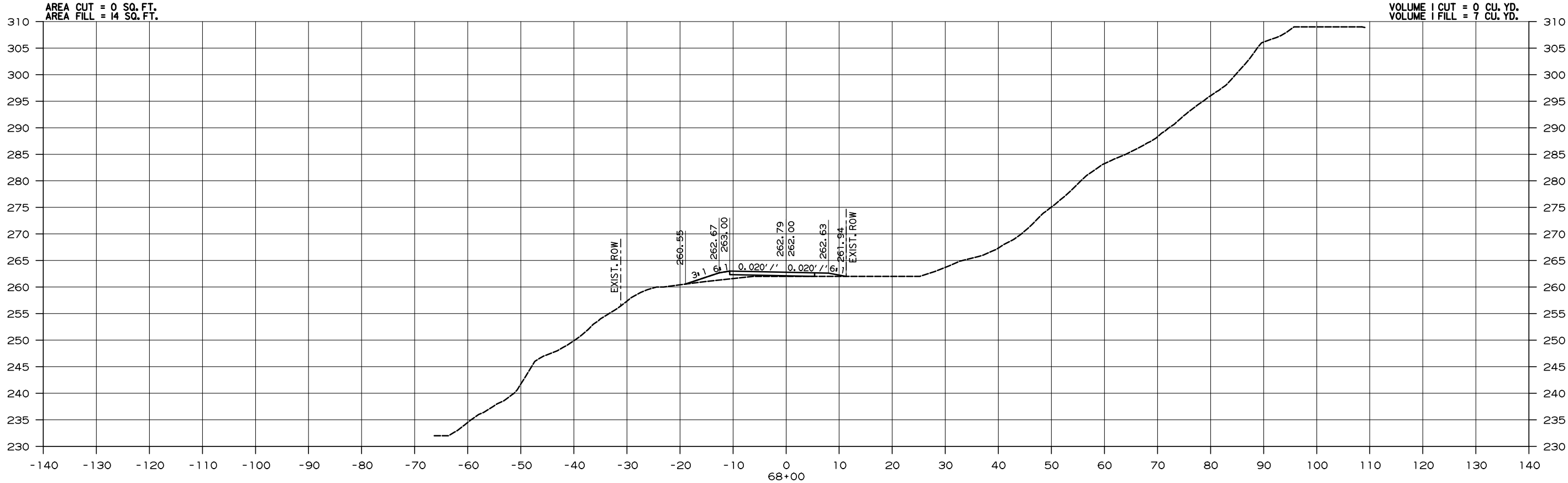


DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201



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DESIGNED
RFR
CHECKED
BAP
DATE
12 / 06 / 24
SCALE
1" = 20'
PROJECT NO.
061623

SHEET NO.
C-18



REVISIONS	DATE

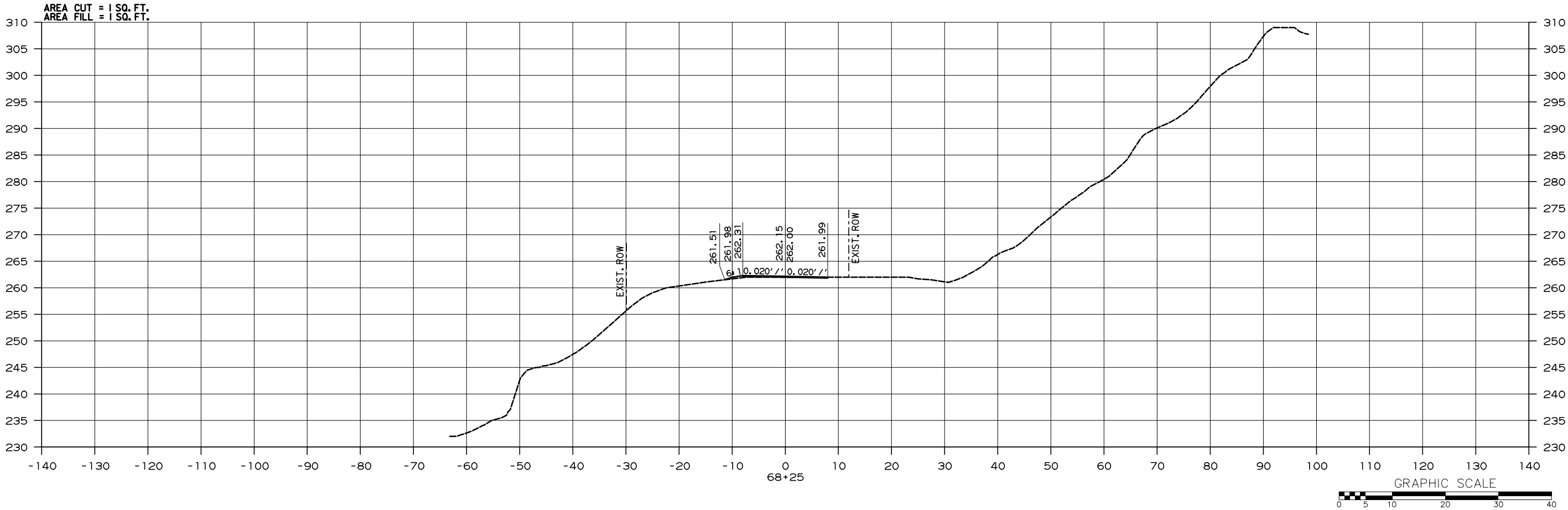
CITY OF LITTLE ROCK, ARKANSAS
LITTLE ROCK CENTRAL HIGH CORRIDOR PH. 1 (S)
CROSS SECTIONS
ARKANSAS RIVER TRAIL



DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201



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DESIGNED RFR
CHECKED BAP
DATE 12 / 06 / 24
SCALE 1" = 20'
PROJECT NO. 061623
SHEET NO. C-19



REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS

LITTLE ROCK CENTRAL HIGH CORRIDOR PH. 1 (S)

CROSS SECTIONS

ARKANSAS RIVER TRAIL

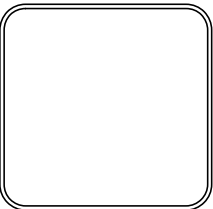
DEPARTMENT OF PUBLIC WORKS

CIVIL ENGINEERING

701 W. MARKHAM

LITTLE ROCK, ARKANSAS 72201





DRAWN BY

RFR

DESIGNED

RFR

CHECKED

BAP

DATE

12 / 06 / 24

SCALE

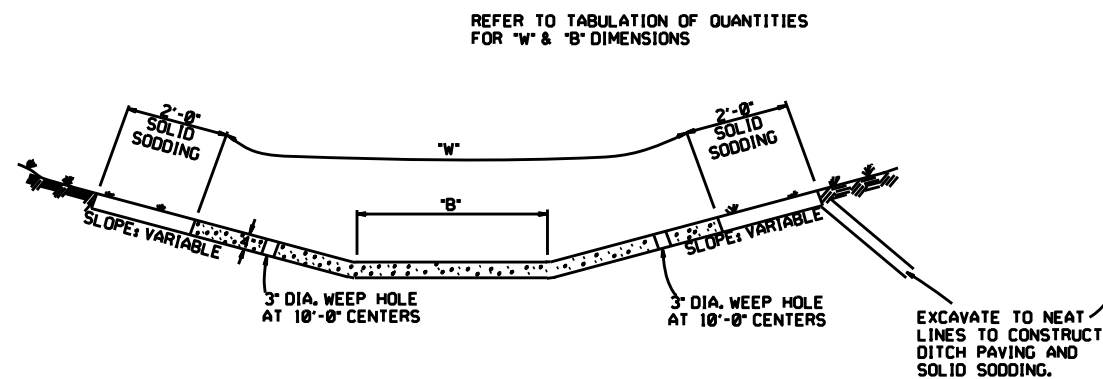
1" = 20'

PROJECT NO.

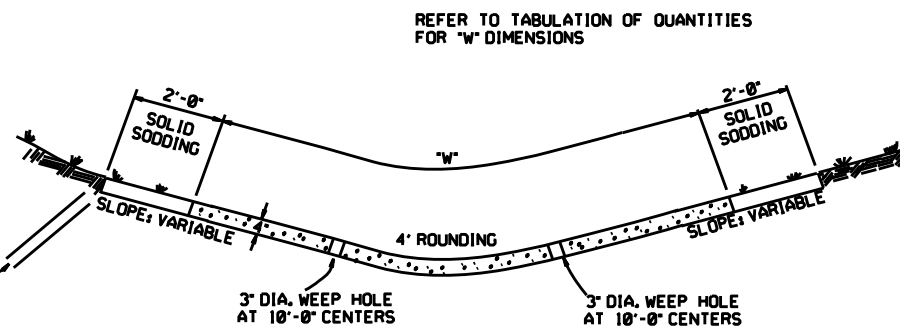
061623

SHEET NO.

C-20

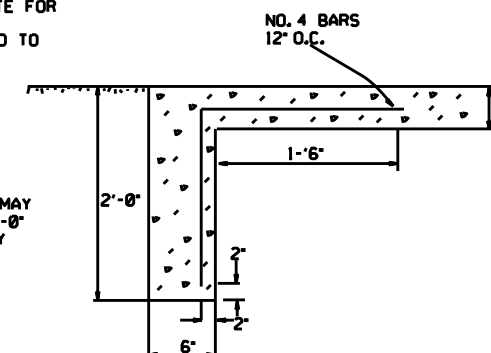


TYPE A

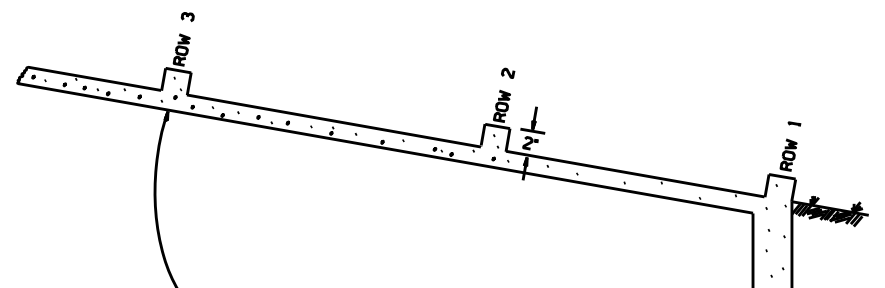


TYPE B

THE STEEL AND ADDITIONAL CONCRETE FOR THE WALLS SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR "CONCRETE DITCH PAVING."

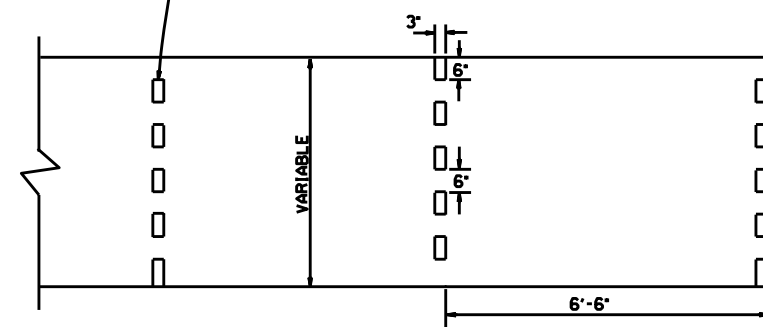


TOE WALL DETAIL FOR CONCRETE DITCH PAVING



NUMBER OF ELEMENTS PER ROW VARIES WITH WIDTH OF PAVING SPECIFIED

ENERGY DISSIPATORS TO BE USED FOR THE ENTIRE LENGTH OF DITCH WHEN SLOPE OF DITCH PAVING EXCEEDS 7%. THE DISSIPATORS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR CONCRETE DITCH PAVING.



ENERGY DISSIPATORS
(NO SCALE)

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.
TOE WALLS TO BE CONSTRUCTED FULL WIDTH AT EACH END OF DITCH PAVING, AND POURED MONOLITHICALLY.

SOLID SOD ALONG DITCH PAVING TO BE PLACED WITHIN 14 DAYS OF DITCH PAVING CONSTRUCTION.

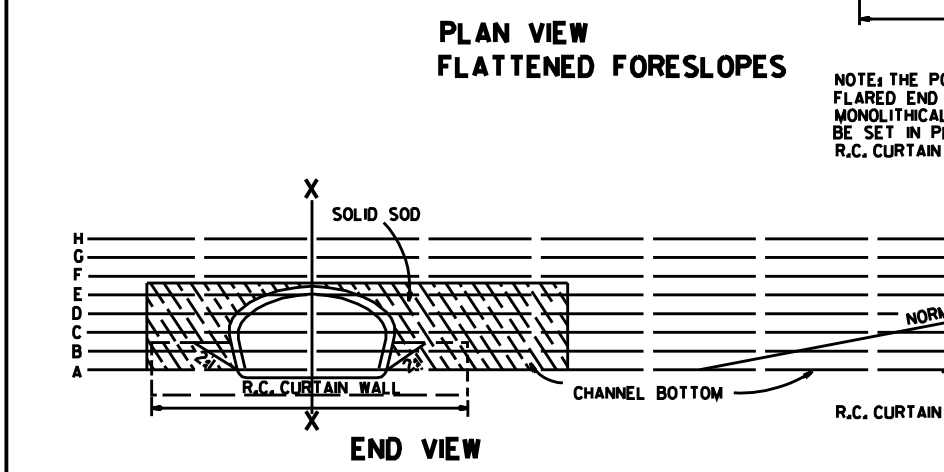
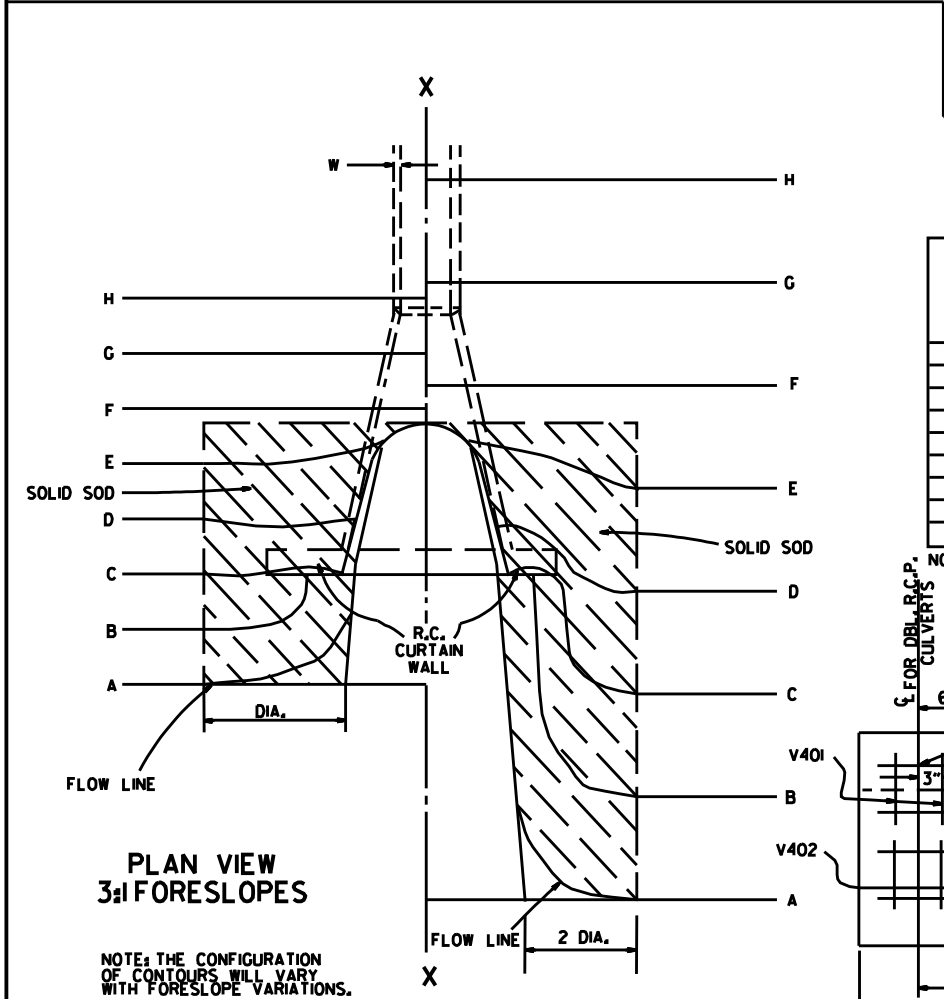
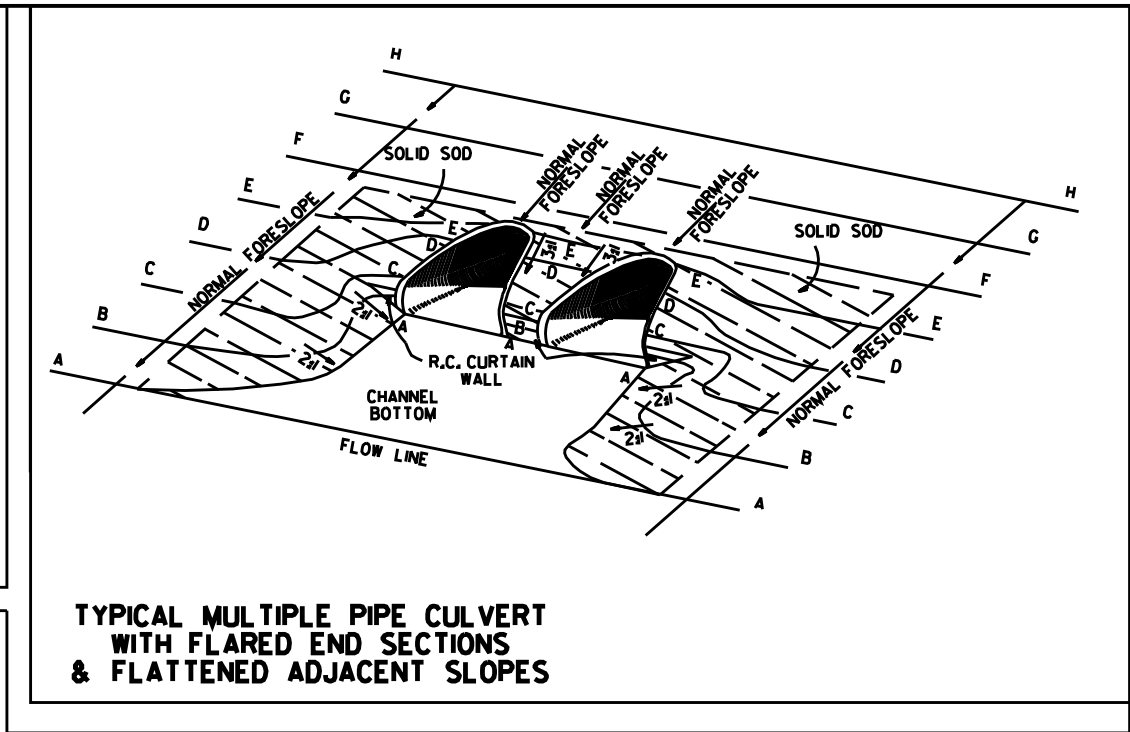
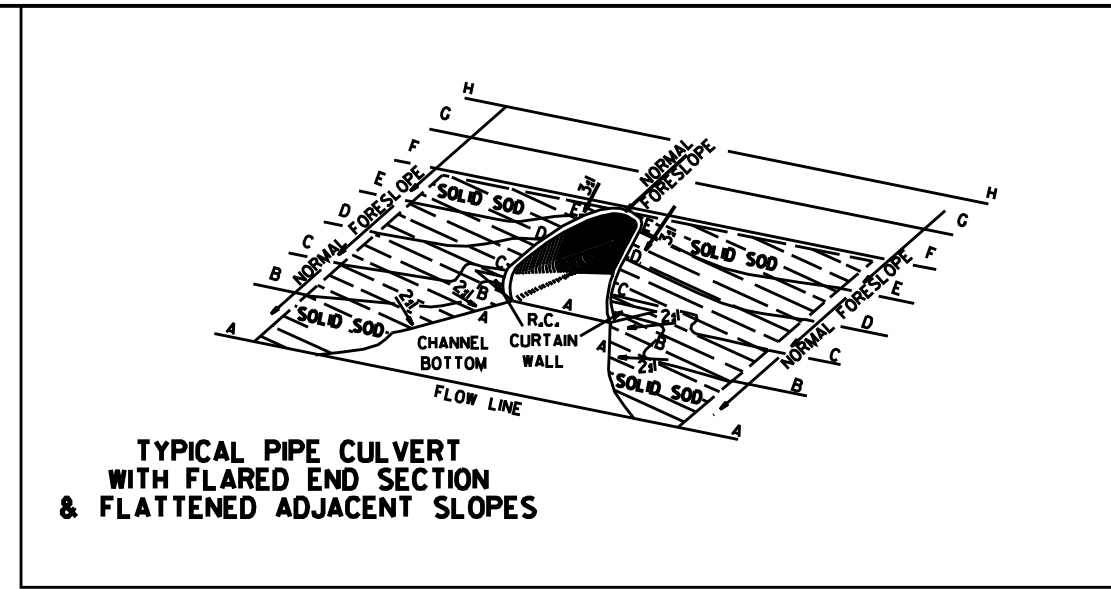
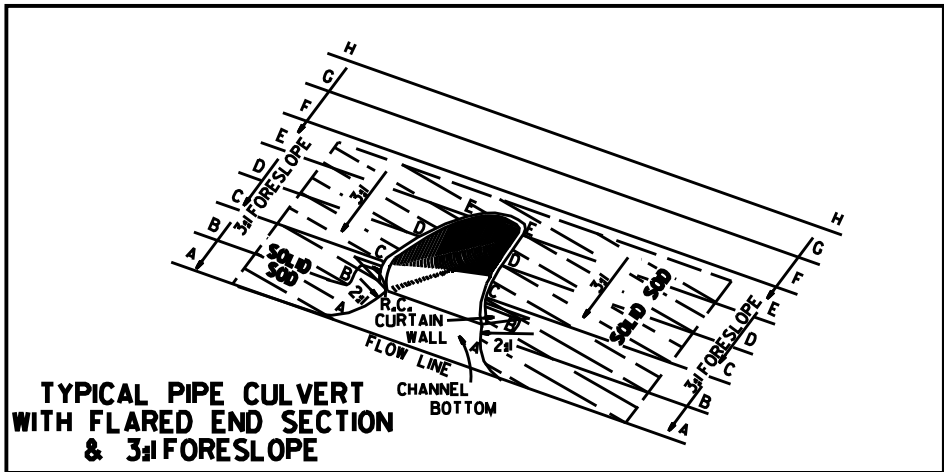
1' WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

DATE	REVISION	DATE FILM'D
12-8-16	CORRECTED ENERGY DISSIPATOR DRAWING AND NOTE	
11-17-10	ADDED GENERAL NOTE	
6-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING	
11-30-88	ELIMINATED MIN. ROWS OF ELEMENTS	111-30-89
7-15-88	REVISED DISSIPATOR NOTE	653-7-15-88
4-3-87	REVISED ENERGY DISSIPATOR	671-4-3-87
1-9-87	MODIFIED NOTE ON ENERGY DISS.	632-1-9-87
11-3-86	ADDED NOTE TO ENERGY DISS.	639-12-1-86
11-1-84	ENERGY DISSIPATOR DETAILS ADDED	508-11-1-84
11-1-84	EXCAVATION DETAILS ADDED	
10-2-72	TYPED A & B	
	REVISED AND REDRAWN	508-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

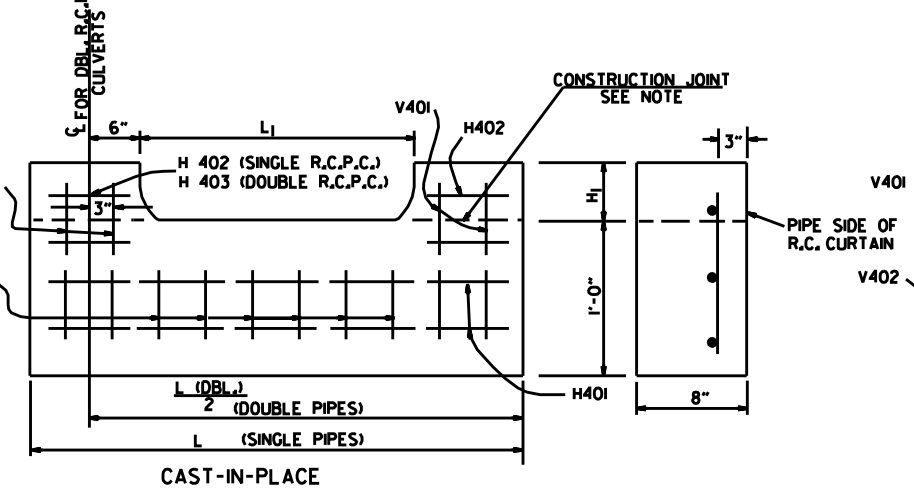
STANDARD DRAWING CDP-1



R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

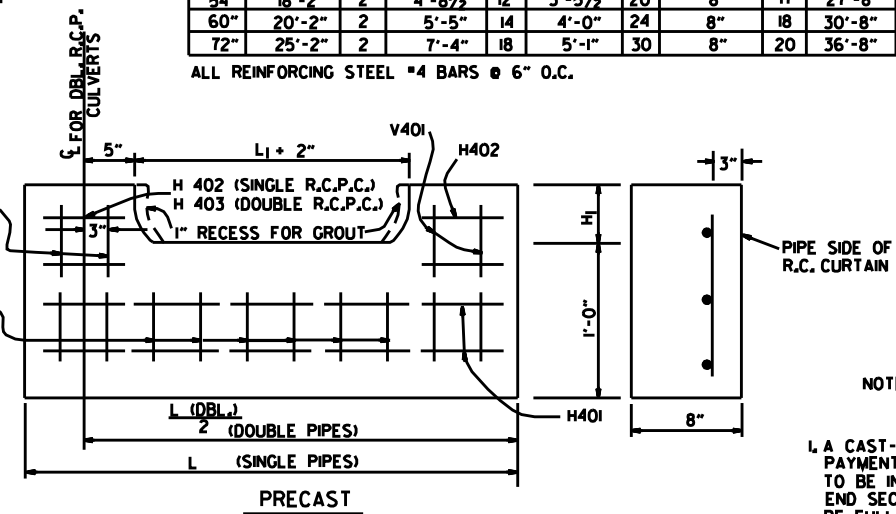
PIPE DIA.	H ₁	L ₁	L	L (DBL.) 2	SINGLE R.C.P.C.		DOUBLE R.C.P.C.	
					CONC.	REINF. STEEL	CONC.	REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11 1/2"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0 1/2"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3 1/2"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1 1/2"	7'-3"	15'-6"	12'-0"	0.82	77.1	1.10	100.7
48"	2'-5"	7'-10"	17'-0"	13'-0"	0.98	94.9	1.27	120.4
54"	2'-9 1/2"	8'-5"	18'-6"	14'-0"	1.16	115.8	1.47	143.7
60"	3'-4"	9'-0"	20'-6"	15'-6"	1.47	149.7	1.84	180.3
72"	4'-5"	10'-2"	25'-6"	18'-6"	2.31	232.6	2.73	271.0

NOTE: QUANTITIES SHOWN ARE FOR ONE (1) CURTAIN WALL.



NOTE: THE PORTION OF THE R.C. CURTAIN WALL BENEATH THE FLARED END SECTION (LOWER 1'-0") SHALL BE PLACED MONOLITHICALLY. THE FLARED END SECTION SHALL THEN BE SET IN PLACE & THE REMAINING PORTIONS OF THE R.C. CURTAIN WALL PLACED.

R.C. CURTAIN WALL DETAILS



NOTE: THE PRECAST CURTAIN WALL WILL BE SET AND BACKFILLED WITH COMPACTED MATERIAL. THE FLARED END SECTION SHALL THEN BE SET IN PLACE AND THE 1" RECESS FILLED WITH GROUT. WHERE "L" EXCEEDS 11' THE CURTAIN WALL MAY BE CAST IN TWO (2) OR MORE SECTIONS. THE METHOD OF JOINING THE SECTIONS FOR INSTALLATION SHALL BE APPROVED BY THE ENGINEER.

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT								DOUBLE R.C. PIPE CULVERT									
	H401		H402		V401		V402		H401		H402		H403		V401		V402	
	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.
18"	7'-8"	2	1'-11½"	4	1'-7½"	8	8"	8	12'-2"	2	1'-11½"	4	8"	2	1'-7½"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8½"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8½"	12	8"	18
30"	10'-8"	2	2'-4½"	4	1'-11½"	10	8"	12	17'-8"	2	2'-4½"	4	8"	2	1'-11½"	14	8"	22
36"	12'-8"	2	2'-10"	6	2'-3"	12	8"	14	20'-8"	2	2'-10"	6	8"	3	2'-3"	14	8"	28
42"	15'-2"	2	3'-9½"	8	2'-9½"	16	8"	15	23'-8"	2	3'-9½"	8	8"	4	2'-9½"	18	8"	30
48"	16'-8"	2	4'-3"	10	3'-1"	18	8"	16	25'-8"	2	4'-3"	10	8"	5	3'-1"	20	8"	32
54"	18'-2"	2	4'-8½"	12	3'-5½"	20	8"	17	27'-8"	2	4'-9"	12	8"	6	3'-5½"	22	8"	34
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26	8"	36
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33	8"	40

ALL REINFORCING STEEL #4 BARS @ 6" O.C.

SOLID SODDING

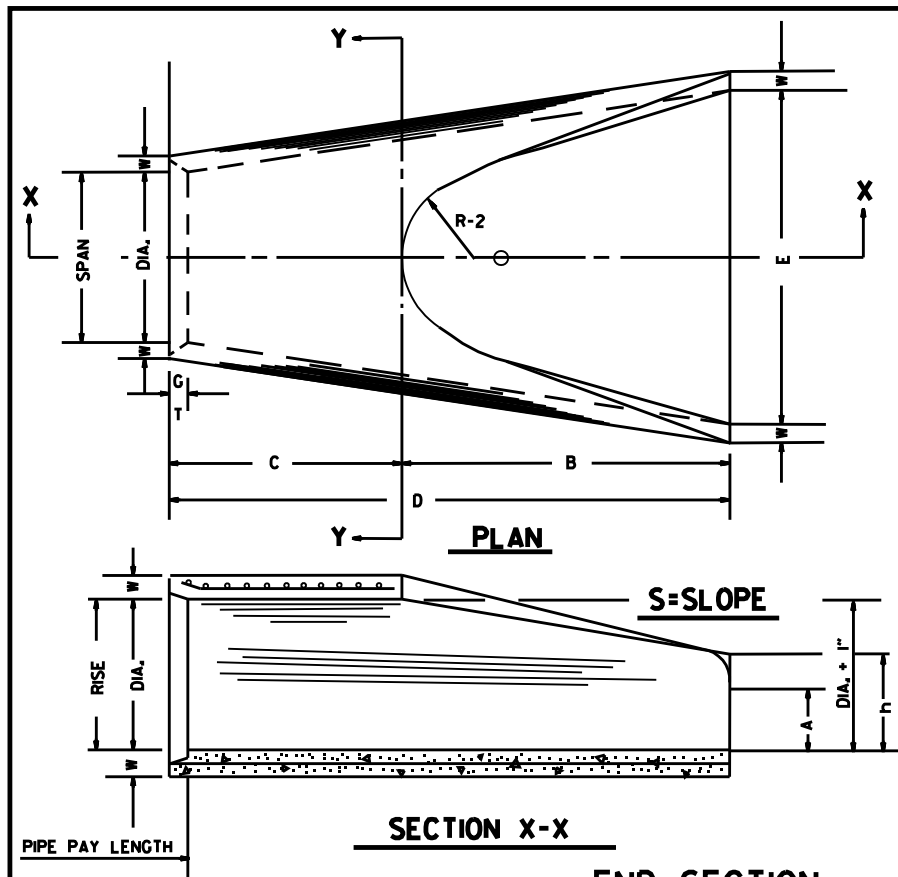
PIPE DIA.	SINGLE R.C.P.C.						DOUBLE R.C.P.C.					
	3:1			4:1			3:1			4:1		
	SO. YDS.	SO. YDS.	SO. YDS.	SO. YDS.	SO. YDS.	SO. YDS.	SO. YDS.	SO. YDS.	SO. YDS.	SO. YDS.	SO. YDS.	SO. YDS.
18"	5	7	12	6	8	13	5	7	12	6	8	13
24"	8	12	19	9	13	20	8	12	19	9	13	20
30"	13	18	29	14	19	30	13	18	29	14	19	30
36"	17	26	41	18	28	43	17	26	41	18	28	43
42"	23	35	55	25	37	57	23	35	55	25	37	57
48"	29	46	68	31	48	70	29	46	68	31	48	70
54"	35	57	85	37	59	87	35	57	85	37	59	87
60"	45	62	104	48	65	107	45	62	104	48	65	107
72"	64	92	156	67	95	159	64	92	156	67	95	159

NOTE: QUANTITIES SHOWN ABOVE ARE FOR ONE (1) END OF F.E.S.

GENERAL NOTES

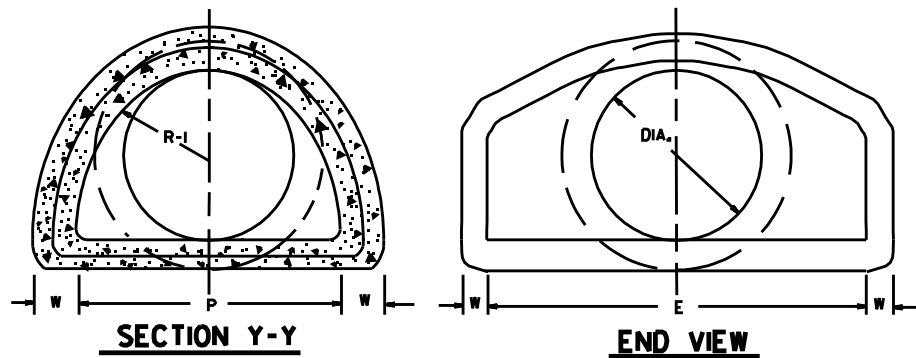
1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE; FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4".
3. CONCRETE FOR CURTAIN WALL SHALL MEET THE REQUIREMENTS FOR CLASS A OR S CONCRETE AS PROVIDED IN SECTION 802 OF THE STANDARD SPECIFICATIONS OR FOR PAVING CONCRETE AS PROVIDED IN SECTION 501 OF THE STANDARD SPECIFICATIONS.
4. WELDED WIRE MESH 3 x 3 W/10 x W/10 MAY BE USED IN LIEU OF REINFORCING BARS.

10-18-98 ADDED NOTE TO SOLID SODDING		ARKANSAS STATE HIGHWAY COMMISSION
10-12-98 CORRECTED SPELLING		
11- 3-94 ADDED GENERAL NOTE NO. 4		
18-15-94 REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.		
3-2-81 ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES		
5-15-80 ADDED PRECAST WALL & GENERAL NOTES		
10-2-72 REVISED AND REDRAWN		
DATE	REVISION	FILMED
		STANDARD DRAWING FES-1



END SECTION
FOR REINFORCED CONCRETE PIPE CULVERTS

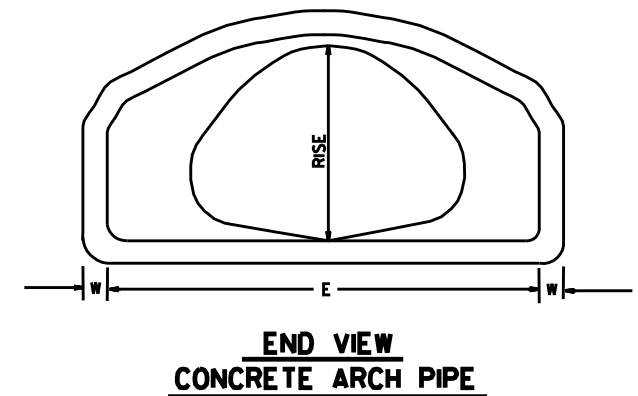
DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h
18"	2 1/2"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3d	19"	29"	15 1/2"	12"	2"	1000	1'-0 1/2"
24"	3"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	3d	25"	33 3/8"	16 1/8"	14"	2 1/2"	1600	1'-1 1/2"
30"	3 1/2"	1'-0"	4'-6"	1'-7 1/4"	6'-1 3/4"	5'-0"	3d	31"	37"	18 1/2"	15"	3 1/4"	1940	1'-4 5/8"
36"	4"	1'-3"	5'-3"	2'-10 1/4"	8'-1 1/2"	6'-0"	3d	37"	47 1/4"	24 1/4"	20"	3 1/2"	4100	1'-8"
42"	4 1/2"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3d	43"	53 3/8"	27 1/2"	22"	3 1/2"	5380	2'-2 1/2"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3d	49"	56 1/2"	28 1/2"	22"	3 1/2"	6550	2'-6"
54"	5 1/2"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3d	55"	65 1/2"	33 3/8"	24"	4"	8750	2'-10 1/2"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3d	61"	72 1/2"	36 1/8"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3d	73"	77 1/8"	38 3/8"	24"	5"	13250	4'-6"



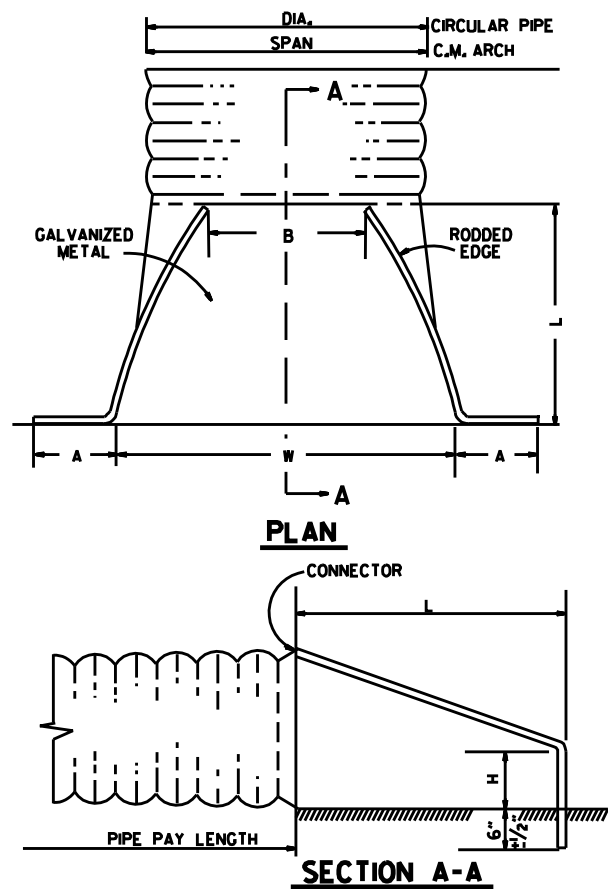
NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

ARCH PIPE														
EQUIV. DIA.	• SPAN		• RISE		W	A	B	C	D	E	P	R2	G-T	S
	AASHTO M 206	AHD NOMINAL	AASHTO M 206	AHD NOMINAL										
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1 1/2"	2' 2 1/2"
18	22	22	13 1/2	14	2 1/2"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32 1/8"	13"	2 1/2"	2' 2 1/2"
21	26	26	15 1/2	16	2 3/4"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34 1/8"	14"	2 1/2"	2' 2 1/2"
24	28 1/2	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 1/8"	15"	2 1/2"	2' 2 1/2"
30	36 1/4	36	22 1/2	23	3 1/2"	10"	3'-1"	3'-0 1/2"	6'-1 1/2"	6'-0"	47 1/8"	20"	3"	2' 2 1/2"
36	43 1/4	44	26 3/8	27	4"	10 1/2"	4'-0"	2'-1 1/2"	6'-1 1/2"	6'-6"	54 1/8"	22"	3 1/2"	2' 2 1/2"
42	51 1/8	51	31 1/2	31	4 1/2"	11 1/2"	4'-7"	1'-10 1/4"	6'-5 1/4"	7'-2"	59 1/2"	23"	3 3/4"	2' 2 1/2"
48	58 1/2	59	36	36	5"	1'-3"	5'-3"	2'-10 1/4"	8'-1 1/4"	7'-10"	70 1/8"	24"	4 1/4"	2' 2 1/2"
54	65	65	40	40	5 1/2"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/8"	24"	4 3/4"	2' 2 1/2"
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 1/8"	24"	5"	2' 1/2"

* THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT
FROM THE VALUES SPECIFIED BY AASHTO M 206.



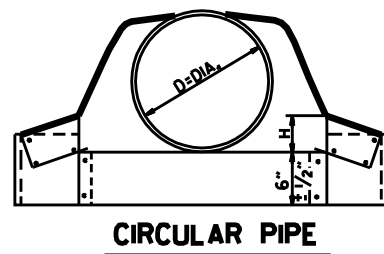
END VIEW
CONCRETE ARCH PIPE



NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD
PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.

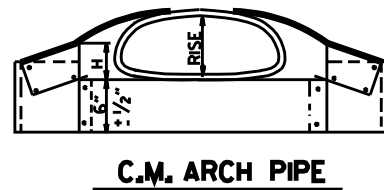
END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS

CIRCULAR PIPE										
D. DIA.	GAUGE	A 1" ±	B MAX.	H 1" ±	L 1 1/2" ±	W 2" ±	S			
12	16	6	6	6	21	24	2 1/2d			
15	16	7	8	6	26	30	2 1/2d			
18	16	8	10	6	31	36	2 1/2d			
21	16	9	12	6	36	42	2 1/2d			
24	16	10	13	6	41	48	2 1/2d			
30	14	12	16	8	51	60	2 1/2d			
36	14	14	19	9	60	72	2 1/2d			
42	12	16	22	11	69	84	2 1/2d			
48	12	18	27	12	78	90	2 1/2d			
54	12	18	30	12	84	102	2 1/2d			
60	12	18	33	12	87	114	1 1/2d			
66	12	18	36	12	87	120	1 1/2d			
72	12	18	39	12	87	126	1 1/3d			

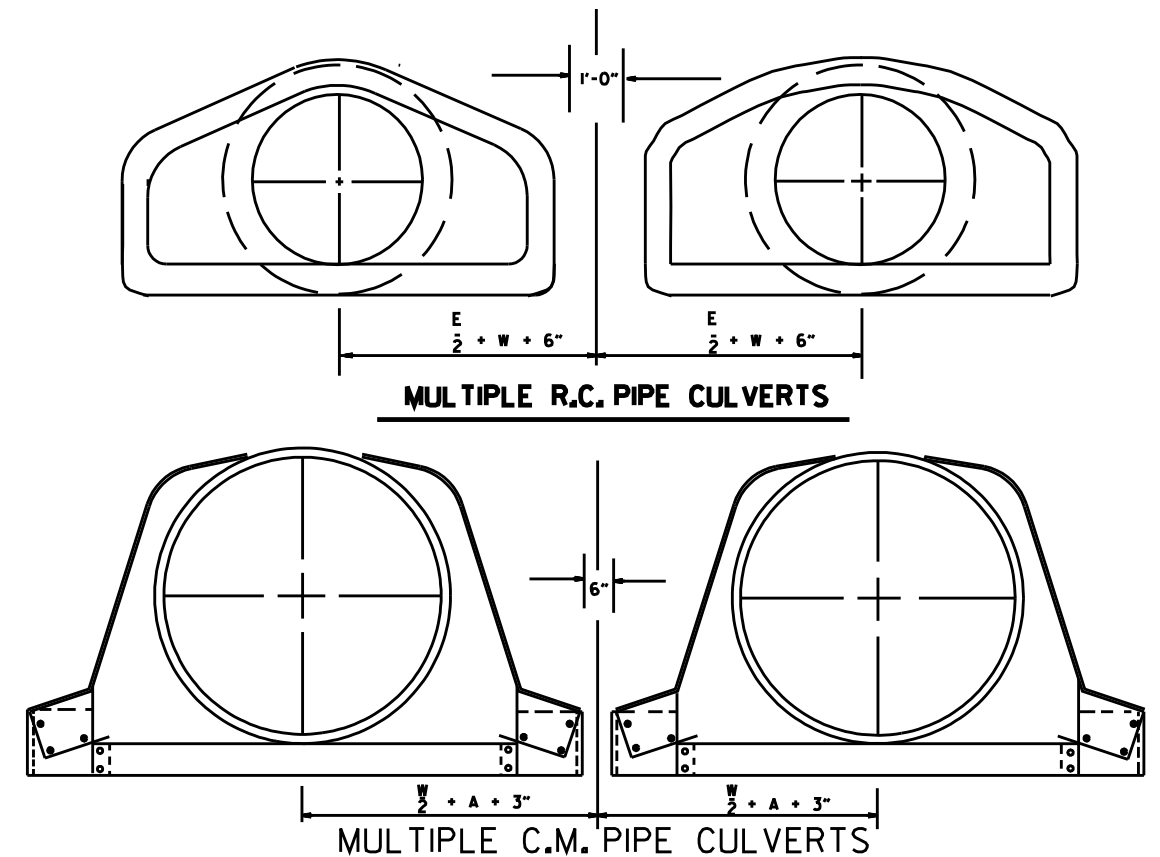


CIRCULAR PIPE

C.M. ARCH PIPE										
EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1 1/2" ±	W 2" ±	S		GAUGE
15"	17	13	7	9	6	19	30	2 1/2d		16
18"	21	15	7	10	6	23	36	2 1/2d		16
21"	24	18	8	12	6	28	42	2 1/2d		16
24"	28	20	9	14	6	32	48	2 1/2d		16
30"	35	24	10	16	6	39	60	2 1/2d		14
36"	42	29	12	18	8	46	75	2 1/2d		14
42"	49	33	13	21	9	53	85	2 1/2d		12
48"	57	38	18	26	12	63	90	2 1/2d		12
54"	64	43	18	30	12	70	102	2 1/2d		12
60"	71	47	18	33	12	77	114	2 1/2d		12



C.M. ARCH PIPE



MULTIPLE R.C. PIPE CULVERTS

MULTIPLE C.M. PIPE CULVERTS

10-18-96	REVISED ASTM REF. TO AASHTO			
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80		ARKANSAS STATE HIGHWAY COMMISSION
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78		
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75		FLARED END SECTION
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	500-12-5-74		
5-24-73	CMP END SECTION, SHOW PIPE PAY LENGTH	627-5-24-73		
10-2-72	REVISED AND REDRAWN	760-10-2-72		STANDARD DRAWING FES-2
DATE	REVISION	FIGURE		

REINFORCED CONCRETE
ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	ARDOT NOMINAL	AASHTO M 206	ARDOT NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43¾	44	26¾	27
42	51½	51	31¾	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87½	87
120	154	154	96¾	97
132	168¾	169	106½	107

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN + 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M206.

REINFORCED CONCRETE
HORIZONTAL ELLIPTICAL
PIPE DIMENSIONS

EQUIV. DIA.	AASHTO M 207	
	SPAN	RISE
INCHES	INCHES	
18	23	14
24	30	19
27	34	22
30	38	24
33	42	27
36	45	29
39	49	32
42	53	34
48	60	38
54	68	43
60	76	48
66	83	53
72	91	58
78	98	63
84	106	68

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M207.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SUBSECTION 606.03.(F)(1).

NOTE: HAUNCH AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF CONCRETE PIPE.

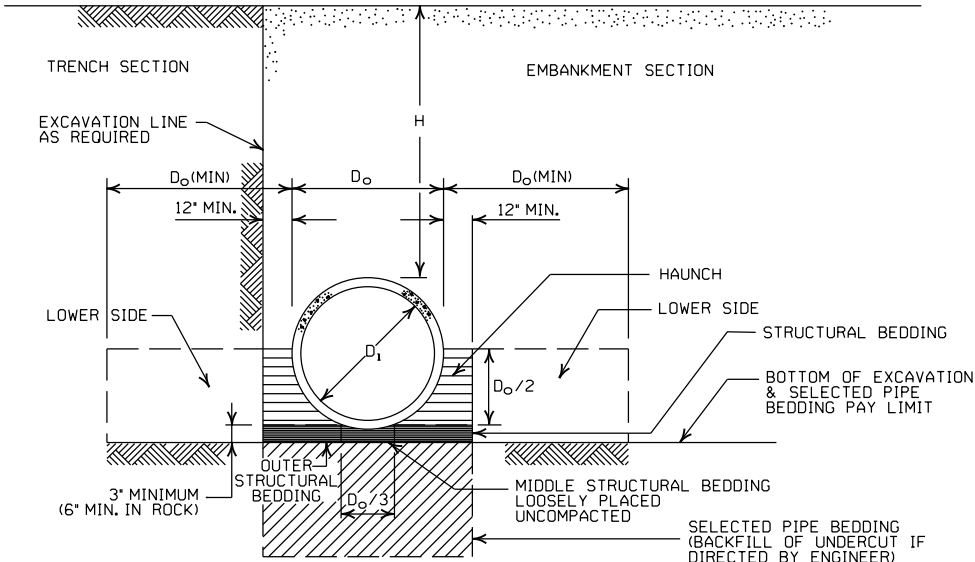
- LEGEND -

D_i = NORMAL INSIDE DIAMETER OF PIPE
D_o = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
= UNDISTURBED SOIL

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 5 OR CLASS 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL*
TYPE 3**	AASHTO CLASSIFICATION A-1 THRU A-6 SOIL OR TYPE 1 OR 2 INSTALLATION MATERIAL

* SM-3 WILL NOT BE ALLOWED.

** MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STONES LARGER THAN 3 INCHES.



EMBANKMENT AND TRENCH INSTALLATIONS

1. MATERIAL IN THE HAUNCH AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. FOR TRENCHES WITH WALLS OF NATURAL SOIL, THE DENSITY OF THE SOIL IN THE LOWER SIDE ZONE SHALL BE AS FIRM AS THE 95% DENSITY REQUIRED FOR THE HAUNCH. IF THE EXISTING SOIL DOES NOT MEET THIS CRITERIA, IT SHALL BE REMOVED AND RECOMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OF MATERIAL USED.
3. FOR EMBANKMENTS, THE MATERIAL IN THE LOWER SIDE ZONE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M170. R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

MINIMUM HEIGHT OF FILL "H"
OVER CIRCULAR R.C. PIPE CULVERTS

	CLASS OF PIPE			
	CLASS III		CLASS IV	CLASS V
INSTALLATION TYPE	TYPE 1 OR 2	TYPE 3	ALL	ALL
PIPE ID (IN.)	FEET			
12-15	2	2.5	2	1
18-24	2.5	3	2	1
27-33	3	4	2	1
36-42	3.5	5	2	1
48	4.5	5.5	2	1
54-60	5	7	2	1
66-78	6	8	2	1
84-108	7.5	8	2	1

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MINIMUM HEIGHT OF FILL "H"
OVER R.C. ARCH & HORIZONTAL
ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2 OR TYPE 3	2.5	1.5

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF
FILL "H" OVER CIRCULAR
R.C. PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
	FEET		
TYPE 1	21	32	50
TYPE 2	16	25	39
TYPE 3	12	20	30

NOTE: IF FILL HEIGHT EXCEEDS 50 FEET, A SPECIAL DESIGN CONCRETE PIPE WILL BE REQUIRED USING TYPE 1 INSTALLATION.

MAXIMUM HEIGHT OF FILL "H"
OVER R.C. ARCH & HORIZONTAL
ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2	13	21
TYPE 3	10	16

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

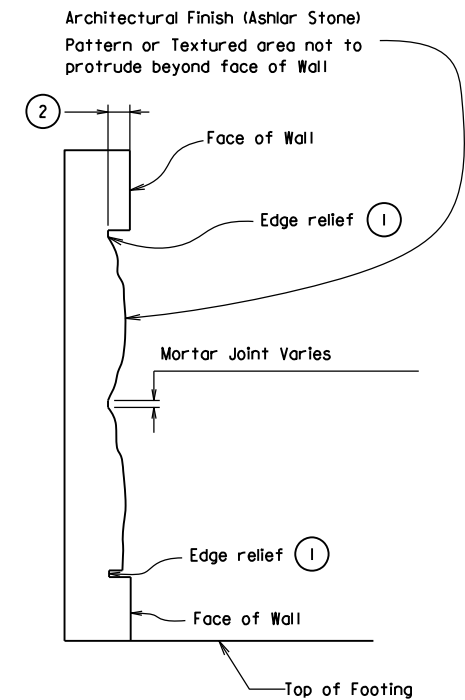
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT
FILL HEIGHTS & BEDDING

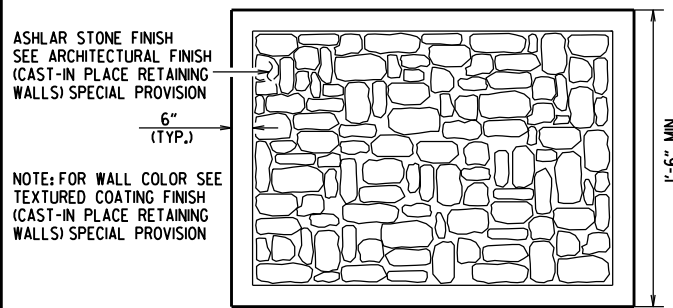
STANDARD DRAWING PCC-1





ARCHITECTURAL FINISH DETAILS
N.T.S.

- Provide edge relief around perimeter of Texture. Edge relief dimensions shall match manufacturers edge distance.
- Depth of Ashlar Stone pattern approx. 1 1/2". See SP "Architectural Finish".



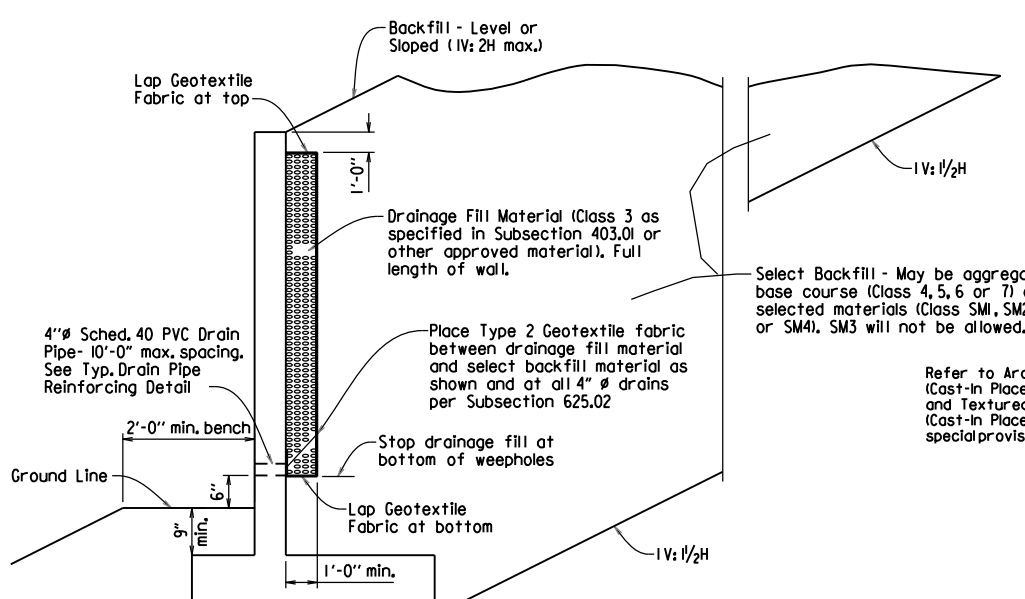
ASHLAR STONE FINISH DETAIL

NOTES:

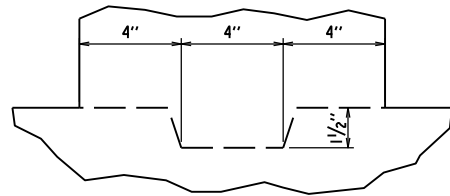
Wall pattern shall be applied to the exposed surfaces of wall in accordance with SP "Architectural Finish (Cast-In Place Retaining Walls)" and as shown in the plans. Care shall be taken with form liner handling and installation to ensure aesthetic quality of the wall texture is maintained. Where form liner panels require modification to conform to the location, dimensions and lines shown in the plans, the Contractor shall provide edge relief matching that of the unaltered form liner. Payment for walltexturing shall be in accordance with SP "Architectural Finish (Cast-In Place Retaining Walls)".

No adjustments will be made in concrete volume due to the use of "Architectural Finish". Class "S" Concrete shall be measured in accordance with Subsection 802.24(a). Care shall be taken in placing concrete to avoid segregation and to eliminate flow lines.

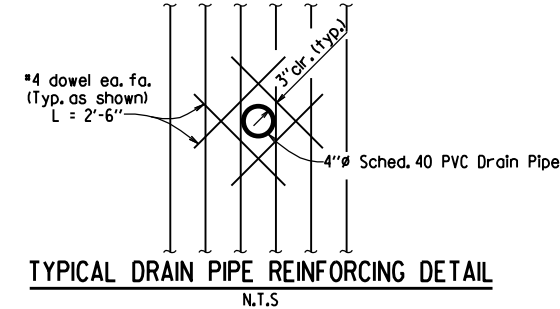
Class 3 Textured Coating Finish shall be applied to wall surfaces as specified in SP "Textured Coating Finish (Cast-In Place Retaining Walls)" and in accordance with Subsection 802.9(b)(3).



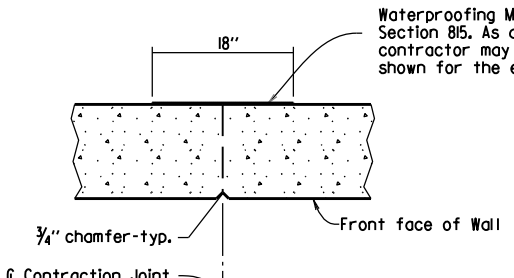
TYPICAL DRAINAGE & BACKFILL DETAILS
N.T.S.



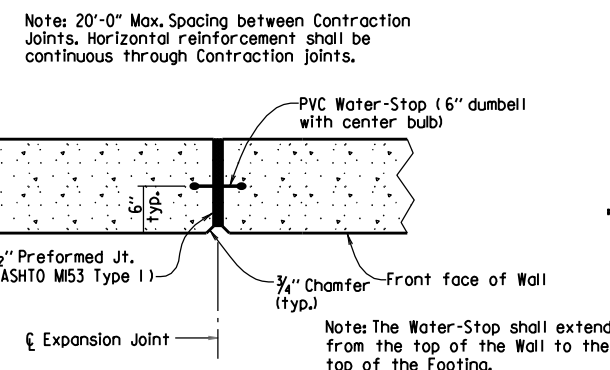
KEYED CONSTRUCTION JOINT DETAIL
N.T.S.



TYPICAL DRAIN PIPE REINFORCING DETAIL
N.T.S.

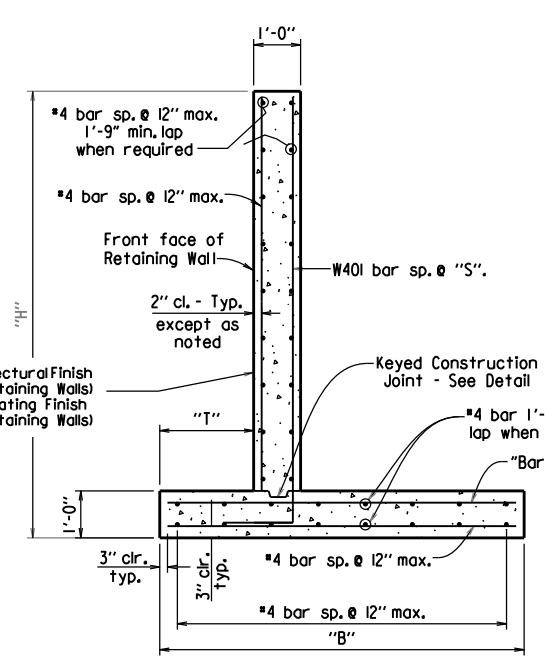


TYPICAL CONTRACTION JOINT DETAIL
N.T.S.

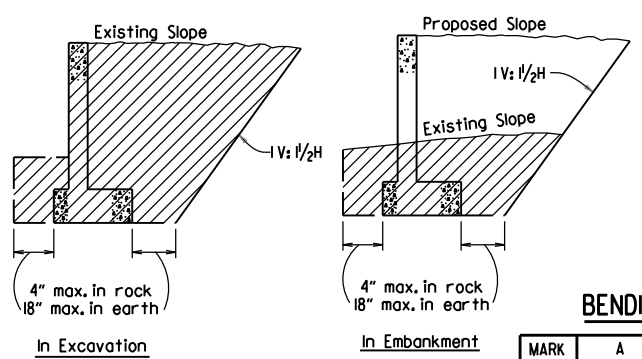


TYPICAL EXPANSION JOINT DETAIL
N.T.S.

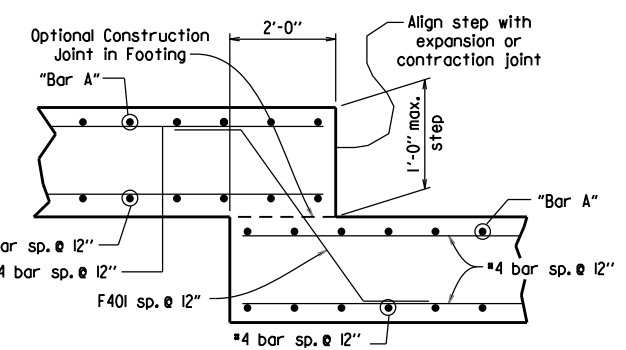
Note: 60'-0" Max. Spacing between Expansion Joints. Horizontal reinforcing shall stop 2" from Expansion Joint.



TYPICAL SECTION
N.T.S.



DETAILS OF EXCAVATION
N.T.S.



FOOTING STEP DETAIL
N.T.S.

DATE	REVISION	DATE FILMED
5-14-20	ADDED ASHLAR STONE FINISH DETAIL AND NOTES. REVISED TYP. SECTION AND GEN. NOTES.	
5-12-16	REVISED SLOPES FOR SELECT BACKFILL	
2-27-14	REVISED GENERAL NOTES	
7-26-12	DRAWING ISSUED	

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas Department of Transportation Standard Specifications for Highway Construction (Current Edition) with applicable supplemental specifications and special provisions. Unless otherwise noted in the plans, Section and Subsection refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Sixth Edition (2012).

LIVE LOAD: Live Load Surcharge is not included in the design of these walls. Vehicular Live Load shall not be allowed within a distance equal to one-half the height of the wall.

CONCRETE: Concrete shall be poured in the dry and all exposed corners to be chamfered 1/2". All concrete shall be Class S with a minimum 28 day compressive strength f'c = 3,500 psi. A Class 2 Surface finish shall be used on all surfaces of the concrete unless otherwise noted. Refer to Architectural Finish (Cast-In Place Retaining Walls) and Textured Coating Finish (Cast-In Place Retaining Walls) special provisions.

REINFORCING STEEL: All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60.

Foundations for footings shall be prepared in accordance with subsection 80L04. Backfill for retaining walls shall be in accordance with subsection 80L08.

Waterproof Membrane (Type C), waterstops, preformed joints, weep holes & geotextile fabric shall not be paid for directly, but shall be considered subsidiary to Class S Concrete.

Drainage fill material (Class 3) and select backfill shall be measured and paid for as Compacted Embankment.

These details are not intended for use along streams or ditches without consideration for scour.

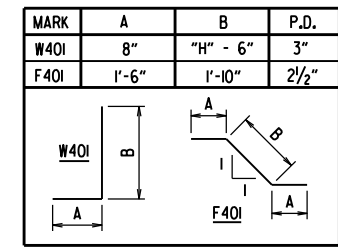
TABLE OF RETAINING WALL VARIABLES
(SLOPED BACKFILL) (1V: 2H MAX.)

"H"	"T"	"B"	"S"	"Bar A" Size & Spacing
3'-0"	9"	2'-6"	12"	#4 @ 12"
4'-0"	9"	3'-6"	12"	#4 @ 12"
5'-0"	9"	4'-6"	12"	#4 @ 12"
6'-0"	9"	5'-6"	12"	#4 @ 6"
7'-0"	9"	6'-6"	12"	#5 @ 6 1/2"
8'-0"	1'-6"	8'-0"	7 1/2"	#6 @ 6"
9'-0"	1'-11"	9'-6"	5"	#8 @ 6"

TABLE OF RETAINING WALL VARIABLES
(LEVEL BACKFILL)

"H"	"T"	"B"	"S"	"Bar A" Size & Spacing
3'-0"	9"	2'-6"	12"	#4 @ 12"
4'-0"	9"	3'-6"	12"	#4 @ 12"
5'-0"	9"	4'-0"	12"	#4 @ 12"
6'-0"	9"	4'-6"	12"	#4 @ 12"
7'-0"	9"	5'-6"	12"	#4 @ 10"
8'-0"	9"	6'-0"	12"	#5 @ 10"
9'-0"	1'-0"	7'-0"	12"	#5 @ 6 1/2"

BENDING DIAGRAMS

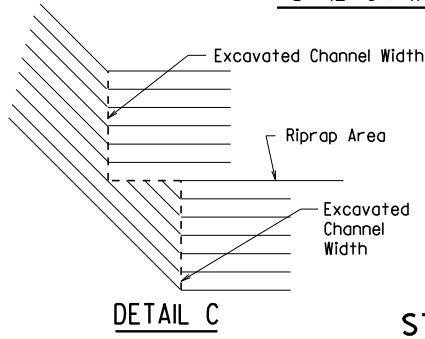
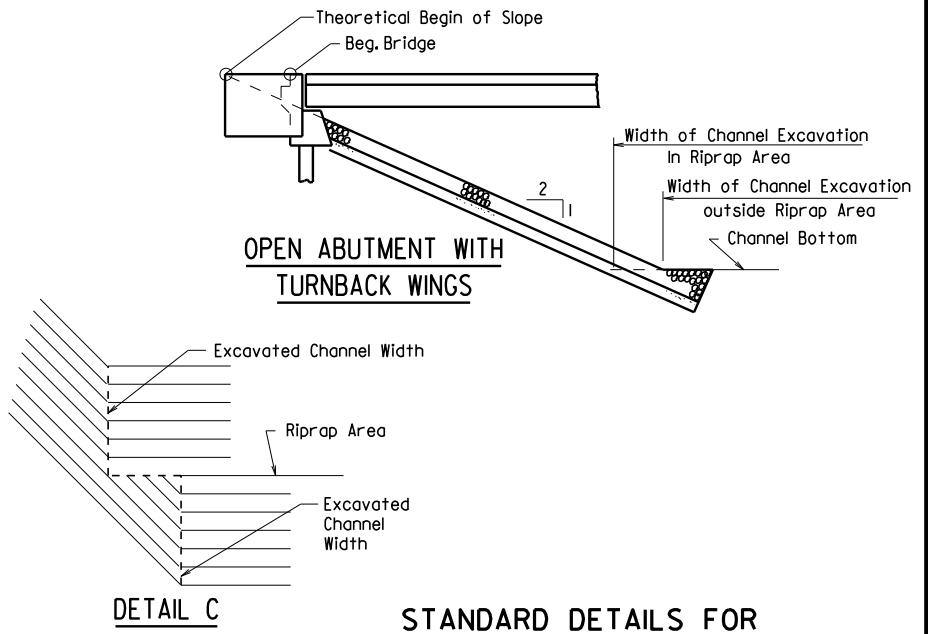
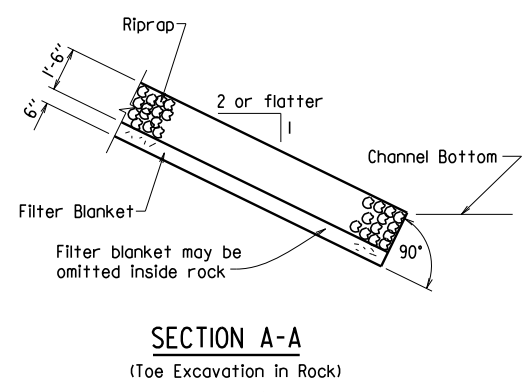
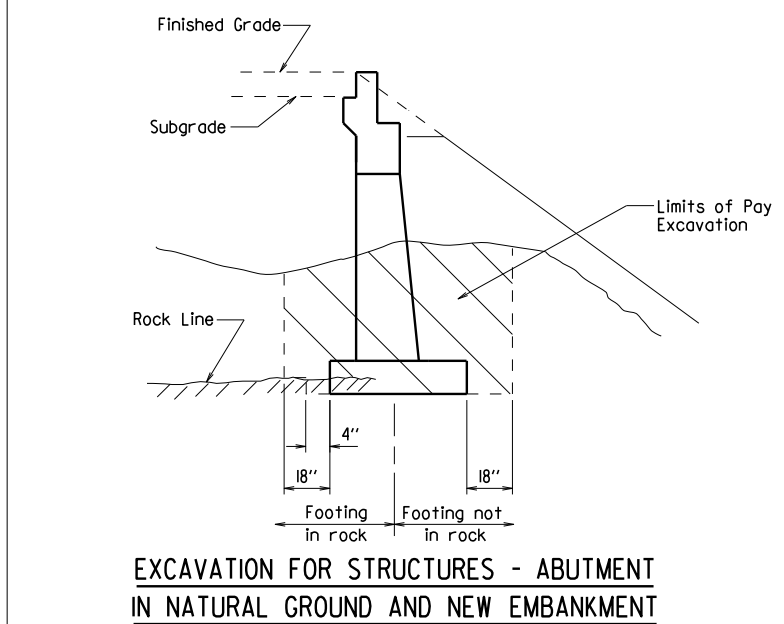
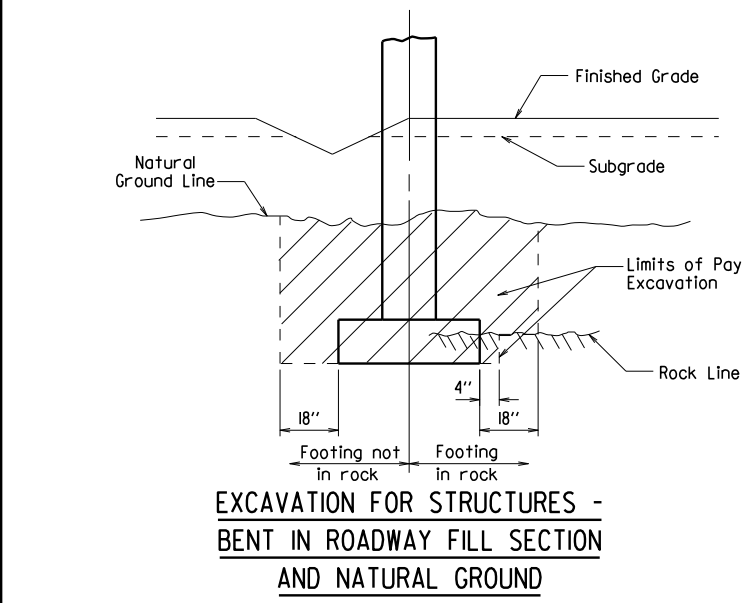
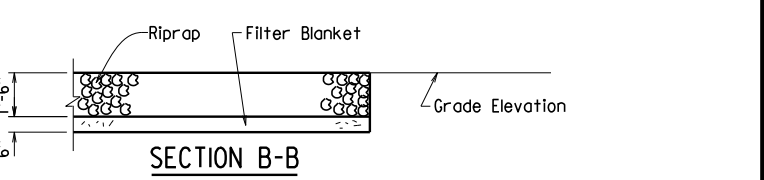
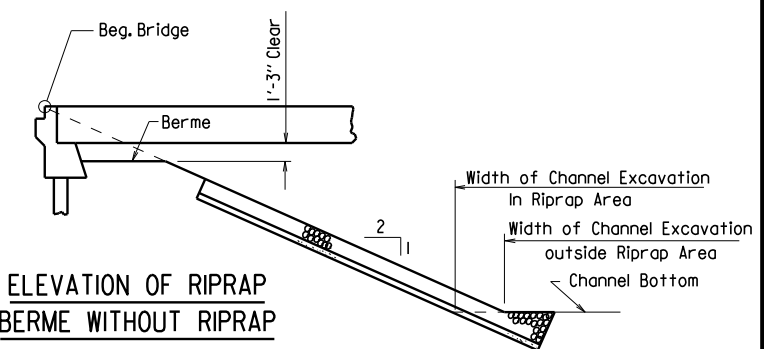
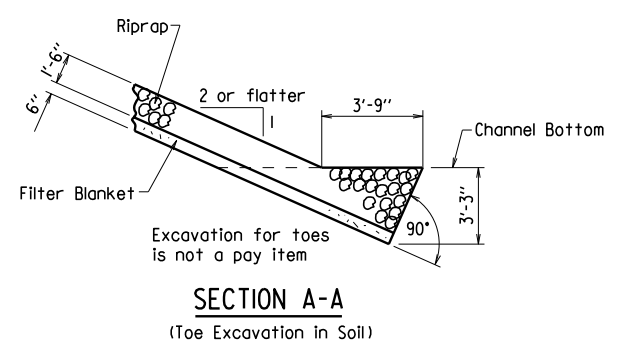
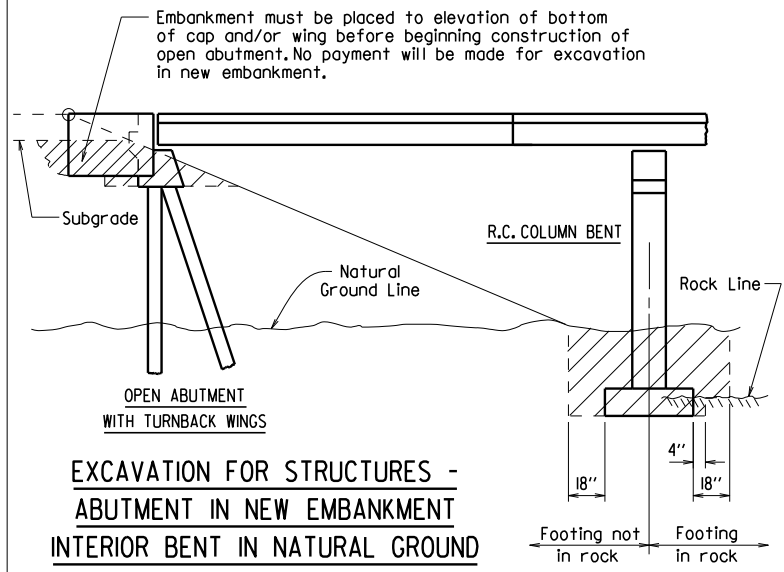
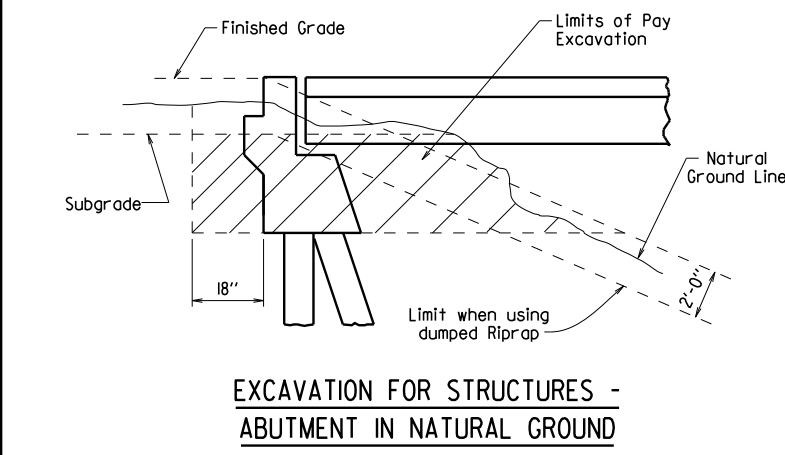
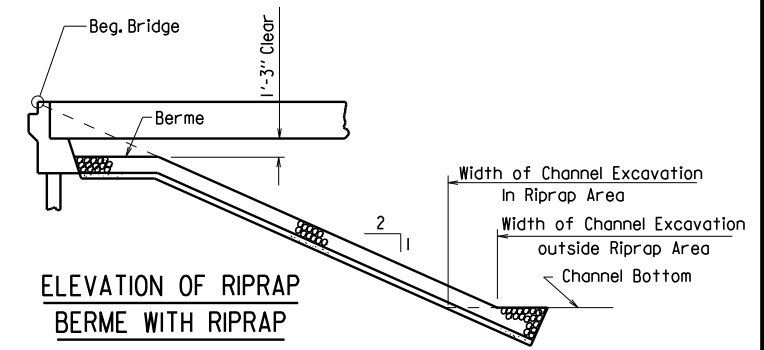
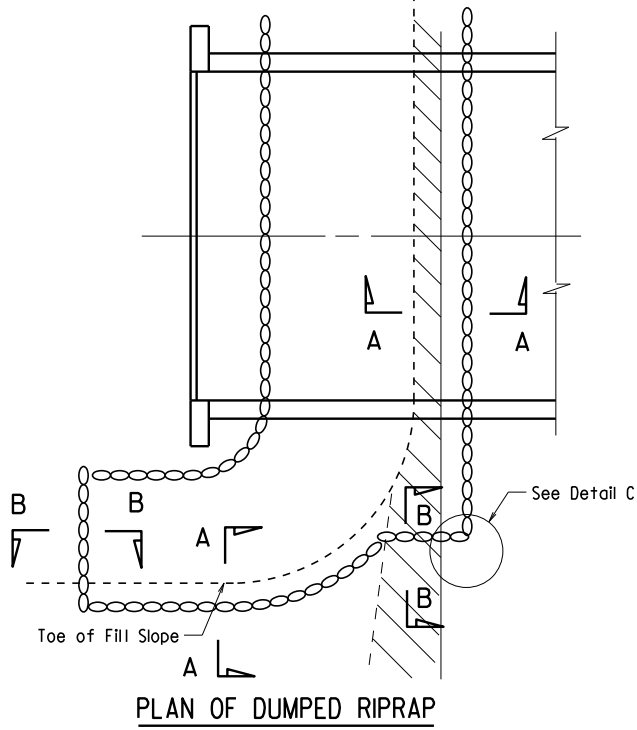
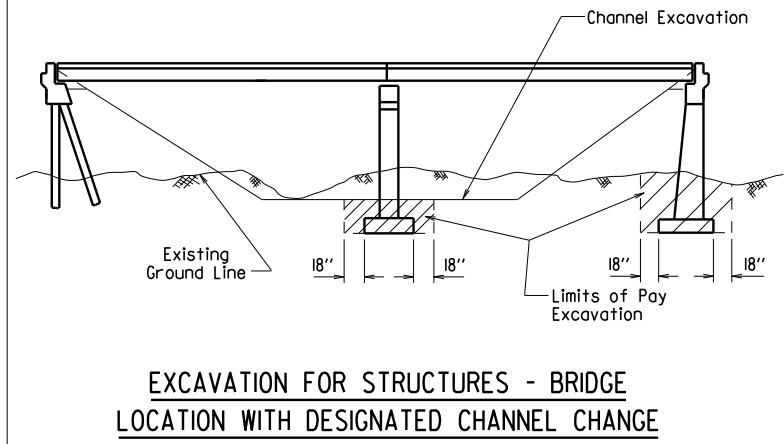
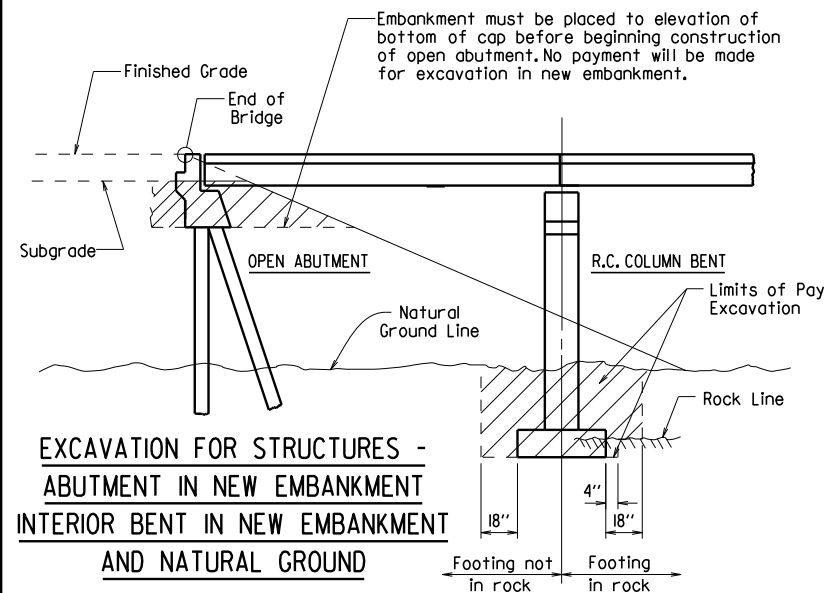


SEISMIC ZONE: These walls have been designed for the following site adjusted peak ground accelerations (A_S):
Level Backfill - A_S ≤ .40g
Sloped Backfill (1V: 2H max.) - A_S ≤ .30g

ARKANSAS STATE HIGHWAY COMMISSION

REINFORCED CONCRETE
RETAINING WALL
(WITHOUT LIVE LOAD
SURCHARGE)

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				
				RIPRAP & EXCAV. 5500I				



Note : Use this type of toe when rock is encountered which is in a stable condition.

Note : In lieu of an aggregate filter blanket, a synthetic fiber geotextile fabric complying with the requirements of Subsection 816.02(e) may be used.

Note : Details for computing excavation for structures are included for information as to how plan quantities were calculated and for use when adjusting quantities when changing footing elevation.

**STANDARD DETAILS FOR
 DUMPED RIPRAP AND FILTER BLANKET
 AND COMPUTING
 EXCAVATION FOR STRUCTURES**
ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b5500I.dgn
 CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE
 DESIGNED BY: STD. DATE: DATE:

DRAWING NO. 5500I