DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061423	1	XX

(2) N. CANTRELL RD. STR. & APPRS. (LITTLE ROCK) (S)

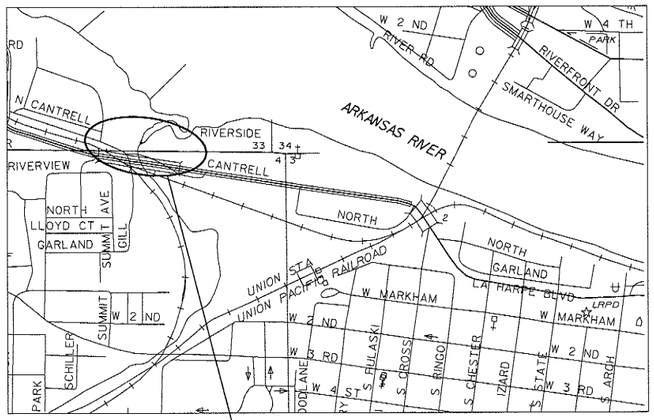
CITY OF LITTLE ROCK
CONSTRUCTION PLANS

N. CANTRELL RD. STR. & APPRS. (LITTLE ROCK) (S)

PULASKI COUNTY

FEDERAL AID PROJ. STPR-9253(70)

JOB 061423



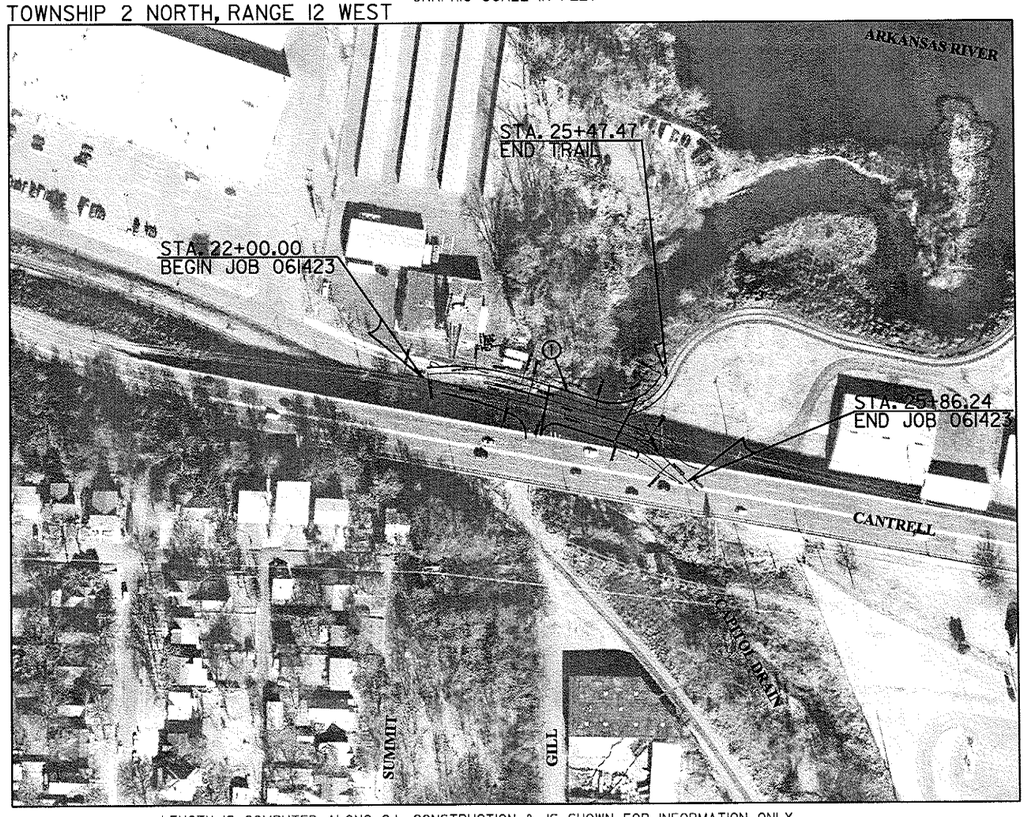
PROJECT AREA

VICINITY MAP

0 100 200 300

GRAPHIC SCALE IN FEET

TOWNSHIP 2 NORTH, RANGE 12 WEST



TOWNSHIP 1 NORTH, RANGE 12 WEST

DESIGN TRAFFIC DATA

DESIGN YEAR	2017
2017 ADT	1200
2037 ADT	1700
2037 DHV	115
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	2%
DESIGN SPEED	25 MPH

BRIDGE DATA

(1) C.L. RDWY. STA. 23+72.95 BR. END
INTEGRAL COMPOSITE STEEL PLATE GIRDER (SPAN VARIES)
16'-4¾" CLEAR TRAIL WIDTH
25'-0" CLEAR ROADWAY WIDTH
101'-4½" TOTAL BRIDGE LENGTH
C.L. RDWY. STA. 24+74.33 BR. END

BEGIN POINT OF PROJECT	
LATITUDE	34°45' 17" N
LONGITUDE	92°17' 38" W

END POINT OF PROJECT	
LATITUDE	34°45' 08" N
LONGITUDE	92°16' 50" W

LENGTH IS COMPUTED ALONG C.L. CONSTRUCTION & IS SHOWN FOR INFORMATION ONLY

GROSS	LENGTH OF	PROJECT	386.24	FEET	OR	0.073	MILES
NET	"	" ROADWAY	284.86	"	"	0.054	"
NET	"	" BRIDGE	101.38	"	"	0.019	"
NET	"	" PROJECT	386.24	"	"	0.073	"

PRELIMINARY
SUBJECT TO REVISION

JACOBS

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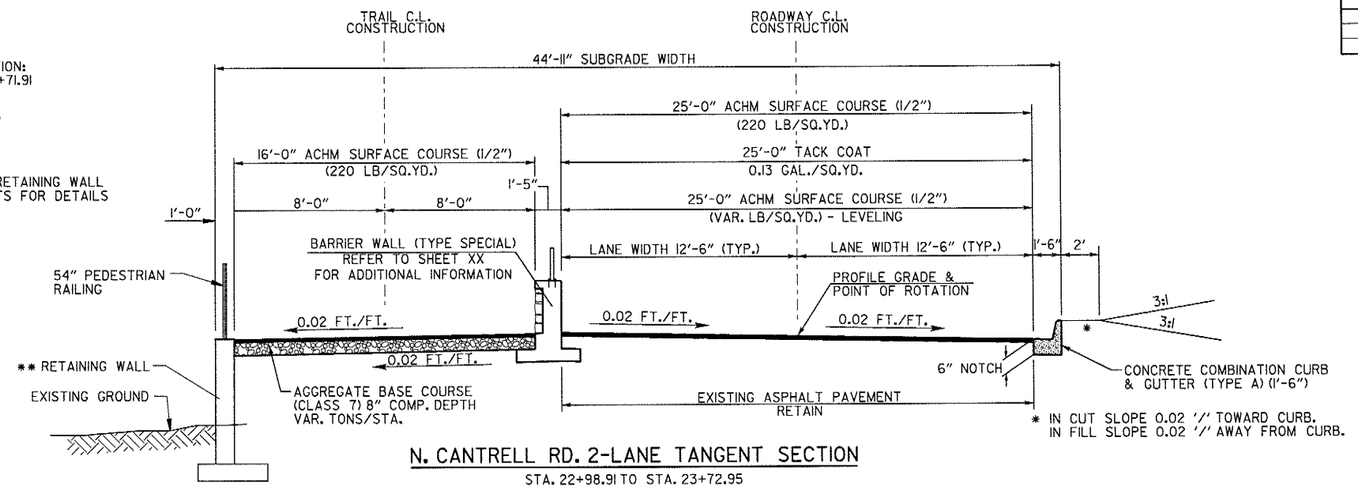
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061423	2	XX

(2) TYPICAL SECTIONS OF IMPROVEMENT

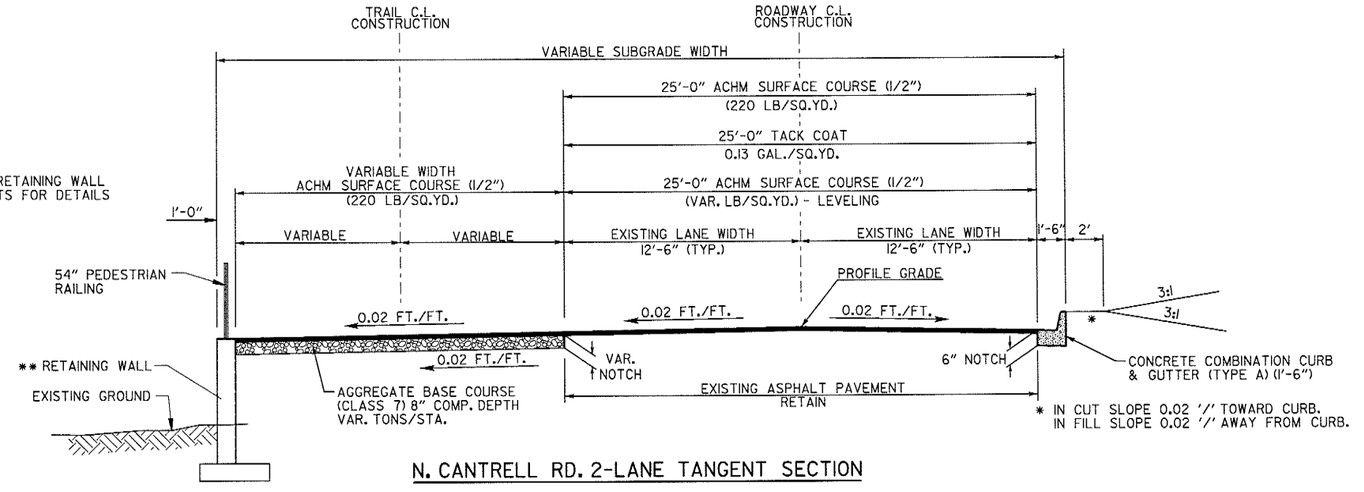
SUPERELEVATION TRANSITION:
STA. 22+98.91 TO STA. 23+71.91

REVERSE CROWN:
STA. 23+71.91 TO 23+72.95



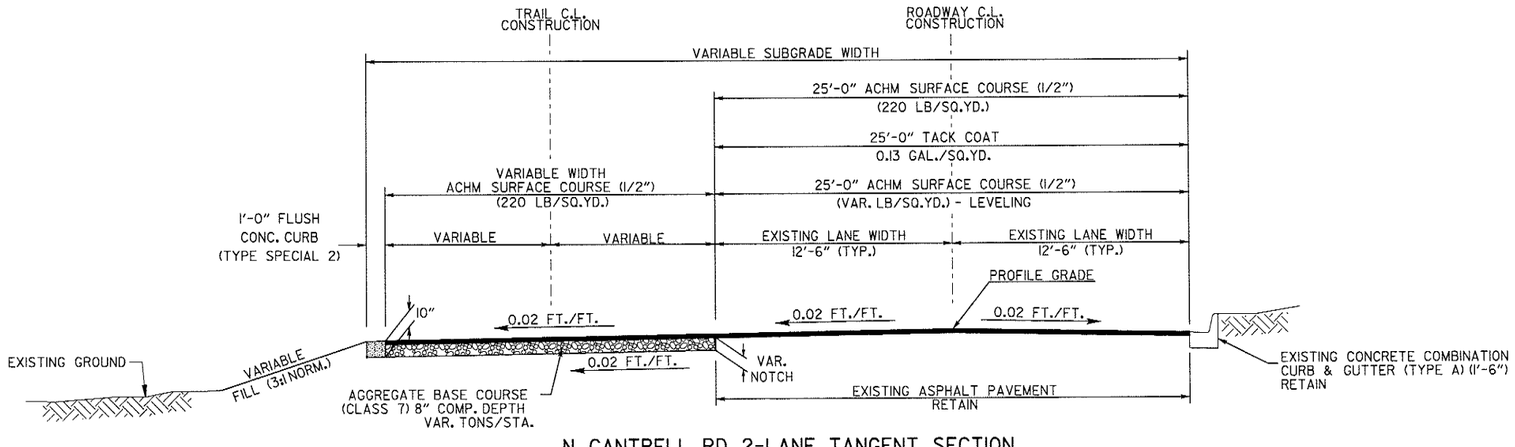
N. CANTRELL RD. 2-LANE TANGENT SECTION

STA. 22+98.91 TO STA. 23+72.95



N. CANTRELL RD. 2-LANE TANGENT SECTION

STA. 22+50.01 TO STA. 22+98.91



N. CANTRELL RD. 2-LANE TANGENT SECTION

STA. 22+00.00 TO STA. 22+50.00

NOTES:

TYPICAL SECTIONS SHOWN LOOKING AHEAD STATION.

THE CROSS SLOPE OF THE PAVED TRAIL SHALL NOT EXCEED 0.02'/' OR 2.00%.

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.

FOR CROSS SLOPES, SEE PLAN & PROFILE SHEETS AND CROSS SECTIONS. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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.

TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE CURB AT 60' INTERVALS.

FLUSH CONCRETE CURB SHALL BE CONSTRUCTED LEVEL AT THE FINISH GRADE OF THE TRAIL.

PRELIMINARY SUBJECT TO REVISION

TYPICAL SECTIONS OF IMPROVEMENT

JACOBS

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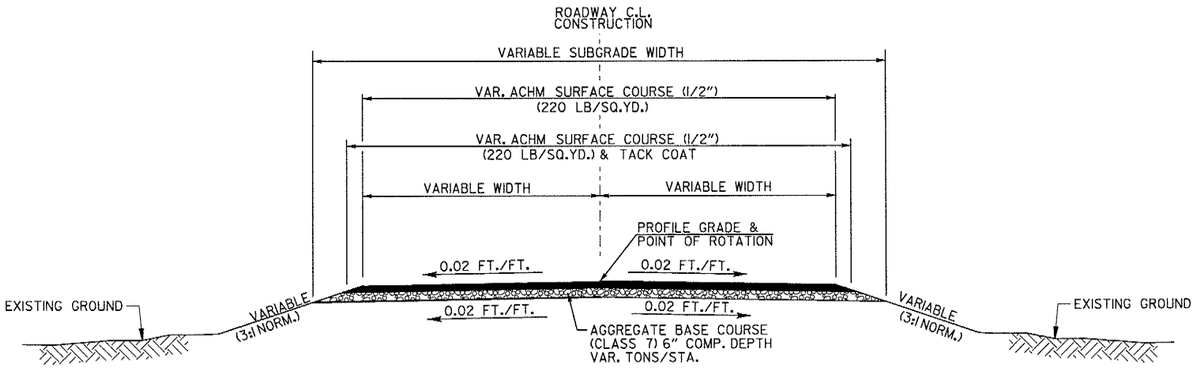
				JOB NO.		061423	3	XX

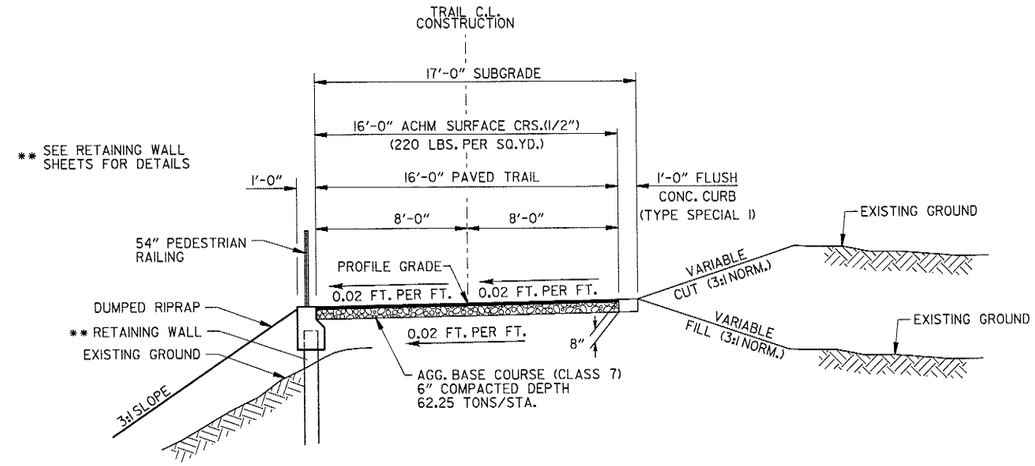
(2) TYPICAL SECTIONS OF IMPROVEMENT

PRELIMINARY SUBJECT TO REVISION



N. CANTRELL RD. 2-LANE TANGENT SECTION

STA. 25+31.23 TO STA. 25+86.24

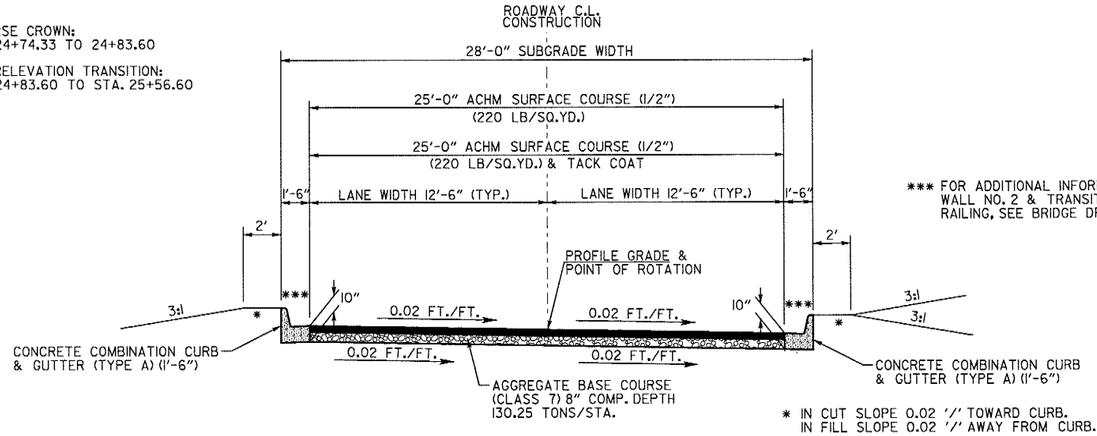


TRAIL TYPICAL SECTION AT WALL NO. 2

STA. 24+93.52 TO STA. 25+47.47

REVERSE CROWN:
STA. 24+74.33 TO 24+83.60

SUPERELEVATION TRANSITION:
STA. 24+83.60 TO STA. 25+56.60



*** FOR ADDITIONAL INFORMATION OF BARRIER WALL NO. 2 & TRANSITIONAL APPROACH RAILING, SEE BRIDGE DRAWINGS.

* IN CUT SLOPE 0.02 '/' TOWARD CURB.
IN FILL SLOPE 0.02 '/' AWAY FROM CURB.

N. CANTRELL RD. 2-LANE TANGENT SECTION

STA. 24+74.33 TO STA. 25+31.23

NOTES:

TYPICAL SECTIONS SHOWN LOOKING AHEAD STATION.

THE CROSS SLOPE OF THE PAVED TRAIL SHALL NOT EXCEED 0.02'/' OR 2.00%.

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.

FOR CROSS SLOPES, SEE PLAN & PROFILE SHEETS AND CROSS SECTIONS. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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.

TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE CURB AT 60' INTERVALS.

FLUSH CONCRETE CURB SHALL BE CONSTRUCTED LEVEL AT THE FINISH GRADE OF THE TRAIL.

TYPICAL SECTIONS OF IMPROVEMENT

JACOBS

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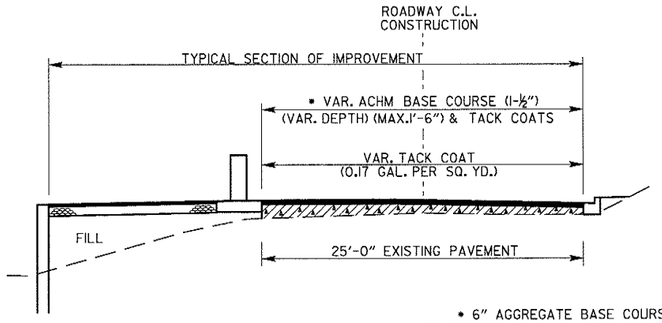
				JOB NO.		061423	4	XX
				(2)	SPECIAL DETAILS			



* 6" AGGREGATE BASE COURSE (CLASS 7) TO BE REPLACED WITH A.C.H.M. BASE COURSE (1-½")

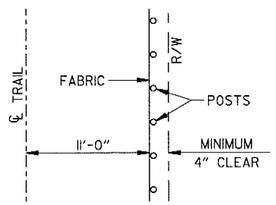
NOTES:

(1) THIS DETAIL TO BE USED ONLY WHERE DIRECTED BY THE ENGINEER.

(2) QUANTITIES FOR METHOD OF GRADE RAISE USING ASPHALT WERE CALCULATED ON THIS PROJECT AT LOCATIONS WHERE THE DISTANCE BETWEEN THE EXISTING ASPHALT ROADWAY AND THE PROPOSED SUBGRADE WAS ONE FOOT OR LESS.

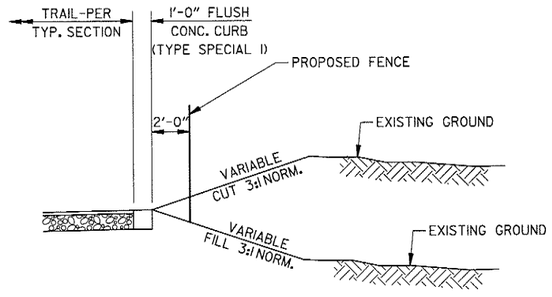
(3) IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE AND THE EXISTING ASPHALT ROADWAY IS MORE THAN ONE FOOT, SCARIFICATION OF THE EXISTING ASPHALT ROADWAY WILL BE REQUIRED AS STATED IN SECTION 210, SUBSECTION 210.09 OF THE STANDARD SPECIFICATIONS.

METHOD OF RAISING GRADE

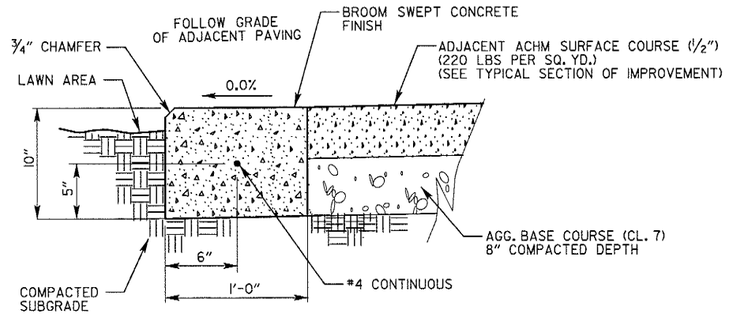


TYPICAL FENCE INSTALLATION DIAGRAM

SEE STANDARD DRAWING WF-3 FOR CHAIN LINK FENCE

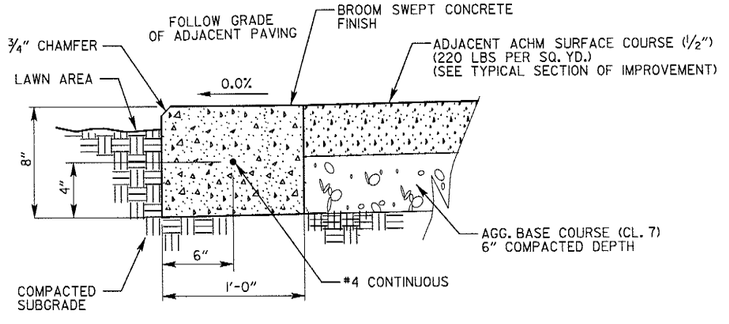


FENCE LOCATION DETAIL



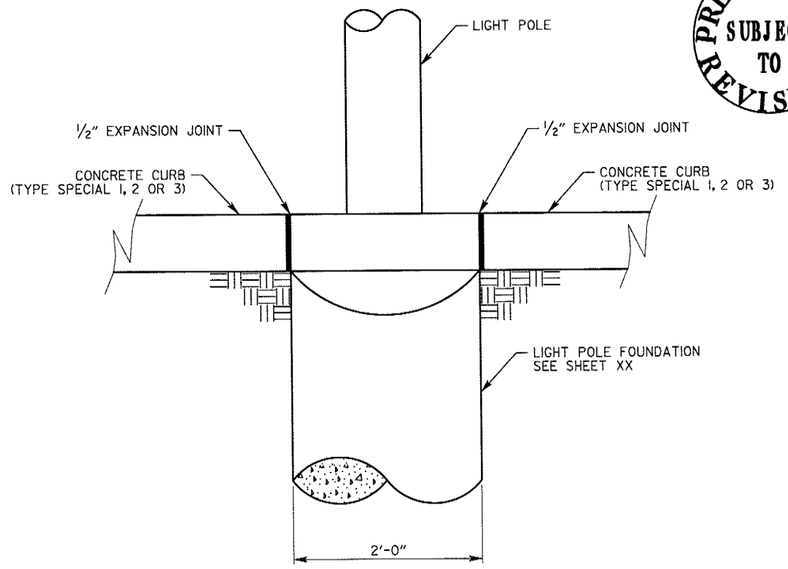
CONCRETE CURB (TYPE SPECIAL 1)

NOTE: CONTRACTOR SHALL ALIGN TOP AND EDGES OF CURBS, LIGHT POLE FOUNDATIONS, AND RETAINING WALLS.



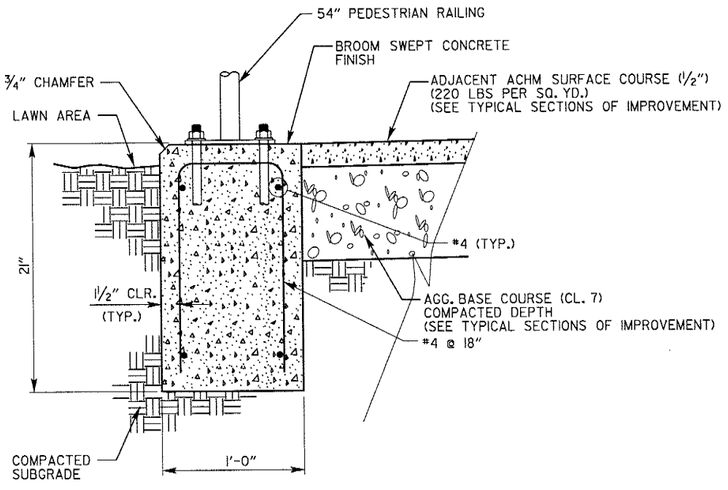
CONCRETE CURB (TYPE SPECIAL 2)

NOTE: CONTRACTOR SHALL ALIGN TOP AND EDGES OF CURBS, LIGHT POLE FOUNDATIONS, AND RETAINING WALLS.



CONCRETE CURB AT LIGHT POLE FOUNDATIONS

NOTE: CONTRACTOR SHALL ALIGN TOP AND EDGES OF CURBS, LIGHT POLE FOUNDATIONS, AND RETAINING WALLS.



CONCRETE CURB (TYPE SPECIAL 3)

NOTE: CONTRACTOR SHALL ALIGN TOP AND EDGES OF CURBS, LIGHT POLE FOUNDATIONS, AND RETAINING WALLS.

PRELIMINARY SUBJECT TO REVISION

JACOBS

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				6	ARK.			
				JOB NO.		061423	5	XX

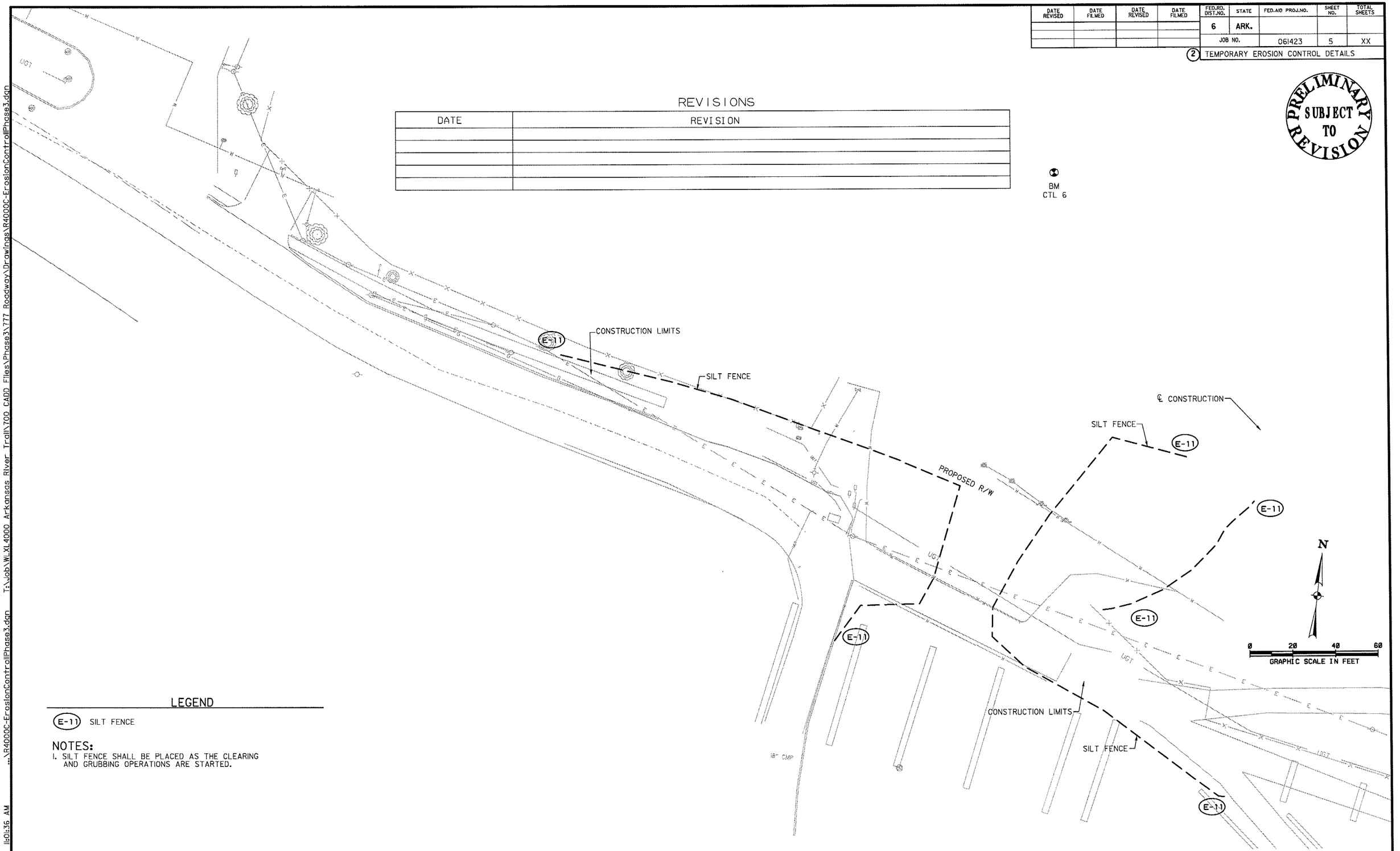
(2) TEMPORARY EROSION CONTROL DETAILS

PRELIMINARY SUBJECT TO REVISION

REVISIONS

DATE	REVISION

BM
CTL 6



LEGEND

(E-11) SILT FENCE

NOTES:

1. SILT FENCE SHALL BE PLACED AS THE CLEARING AND GRUBBING OPERATIONS ARE STARTED.

TEMPORARY EROSION CONTROL DETAILS PRIOR TO CONSTRUCTION

JACOBS

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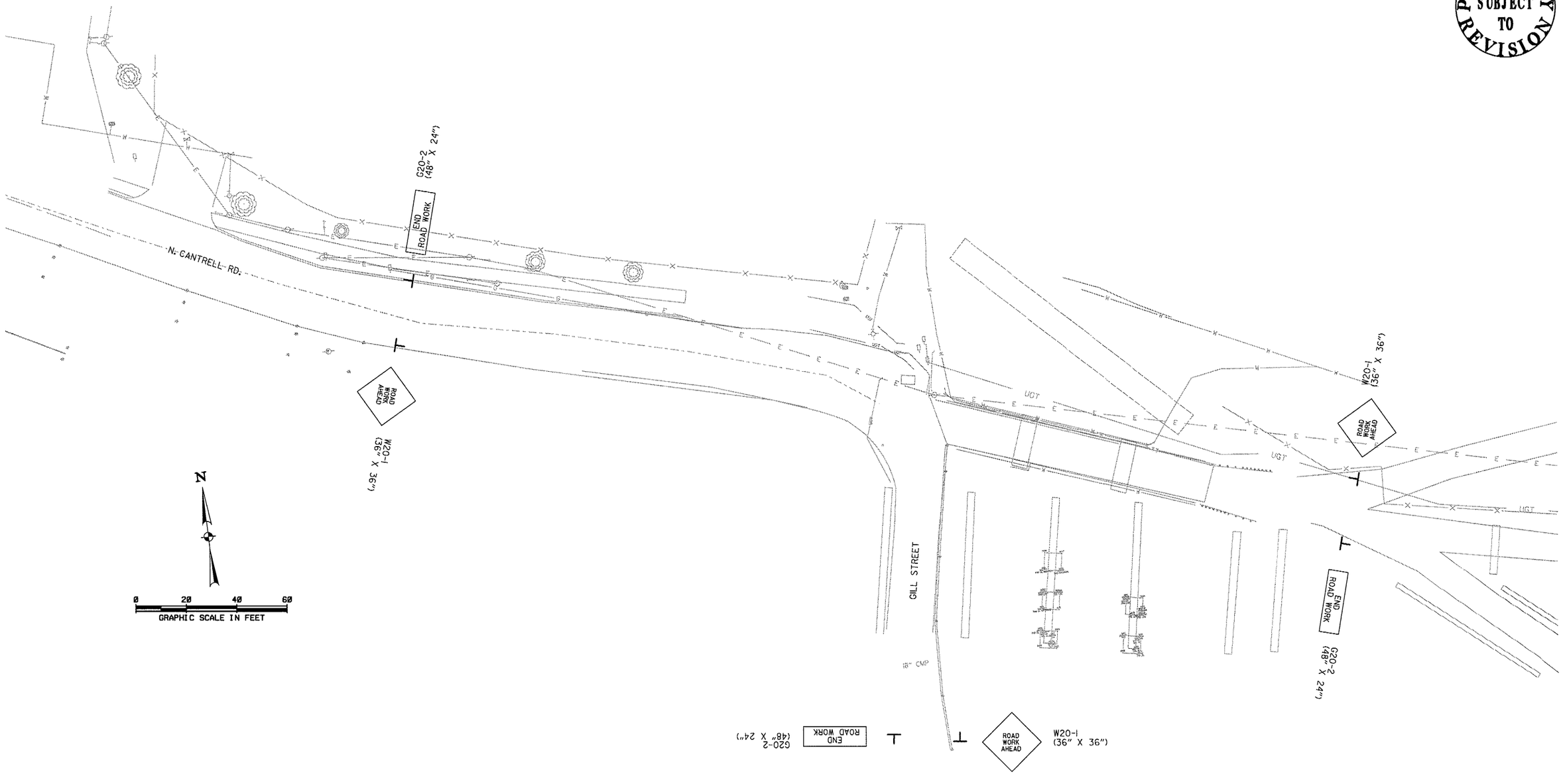
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061423	6	XX

(2) MAINTENANCE OF TRAFFIC

PRELIMINARY SUBJECT TO REVISION



MAINTENANCE OF TRAFFIC
ADVANCE WARNING SIGN

JACOBS

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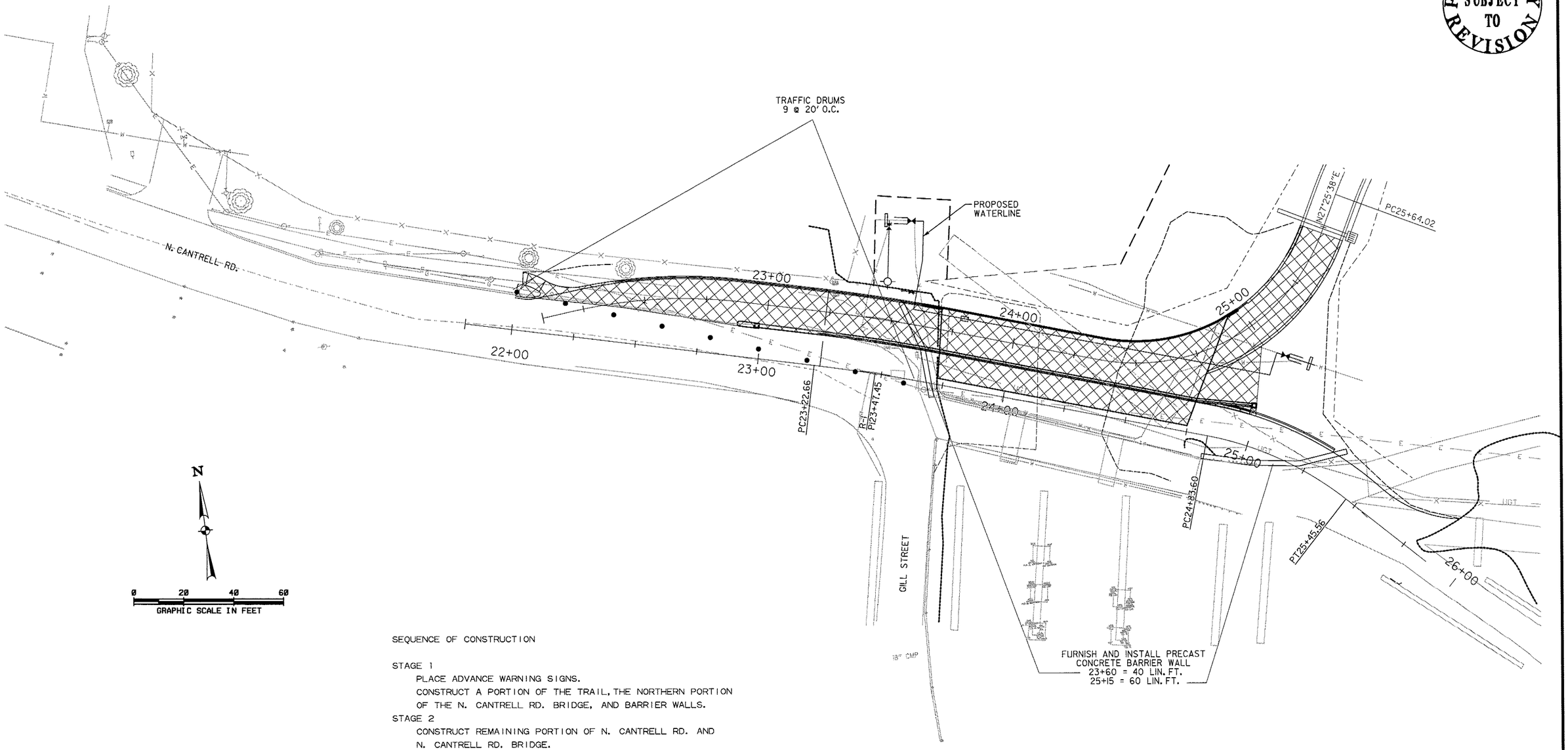
				JOB NO.		061423	7	XX

(2) MAINTENANCE OF TRAFFIC

PRELIMINARY SUBJECT TO REVISION



SEQUENCE OF CONSTRUCTION

STAGE 1
PLACE ADVANCE WARNING SIGNS.
CONSTRUCT A PORTION OF THE TRAIL, THE NORTHERN PORTION OF THE N. CANTRELL RD. BRIDGE, AND BARRIER WALLS.

STAGE 2
CONSTRUCT REMAINING PORTION OF N. CANTRELL RD. AND N. CANTRELL RD. BRIDGE.

DENOTES - CONSTRUCTION

MAINTENANCE OF TRAFFIC
STAGE I

JACOBS

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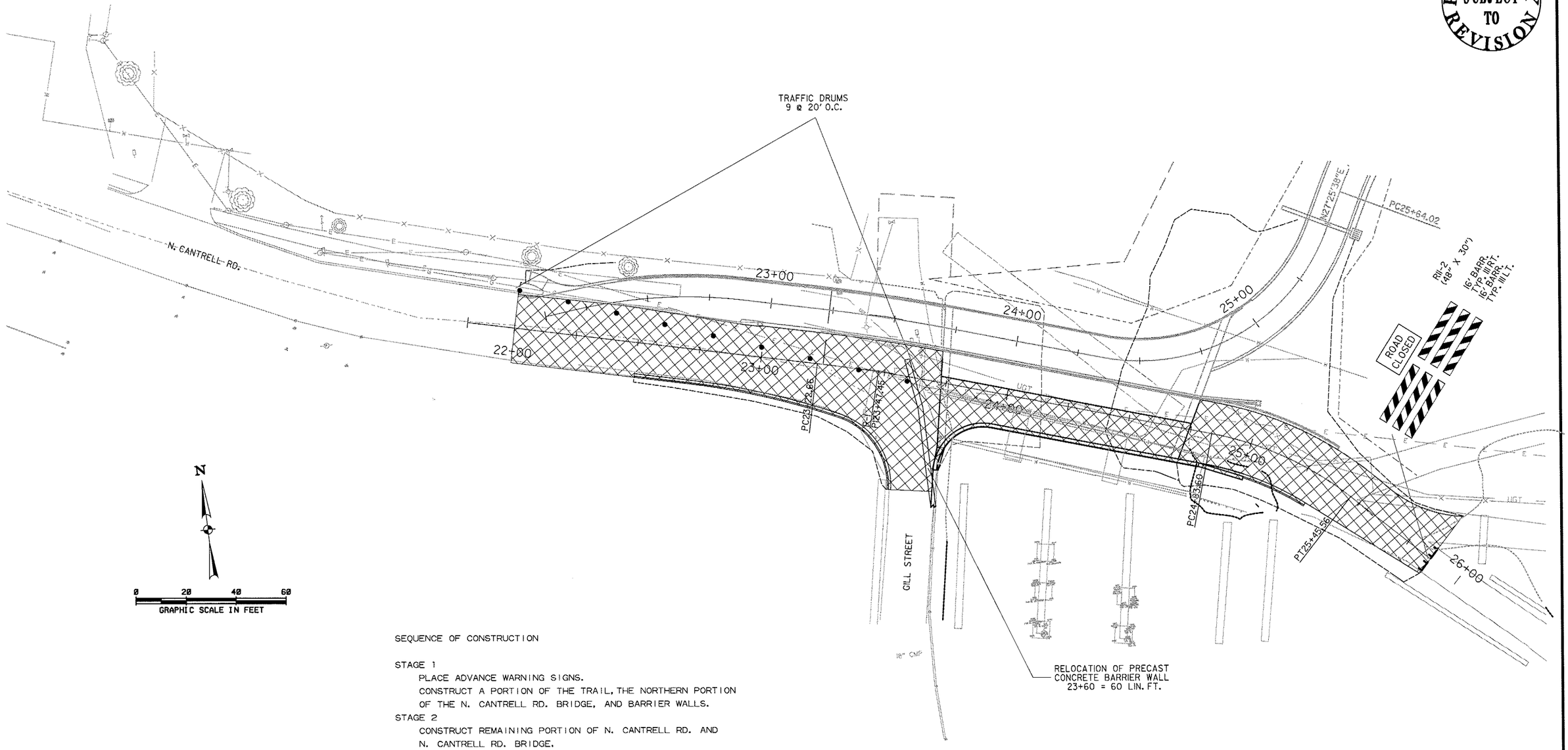
				(2)	MAINTENANCE OF TRAFFIC			

PRELIMINARY SUBJECT TO REVISION



SEQUENCE OF CONSTRUCTION

STAGE 1
PLACE ADVANCE WARNING SIGNS.
CONSTRUCT A PORTION OF THE TRAIL, THE NORTHERN PORTION OF THE N. CANTRELL RD. BRIDGE, AND BARRIER WALLS.

STAGE 2
CONSTRUCT REMAINING PORTION OF N. CANTRELL RD. AND N. CANTRELL RD. BRIDGE.

DENOTES - CONSTRUCTION

MAINTENANCE OF TRAFFIC
STAGE 2

JACOBS

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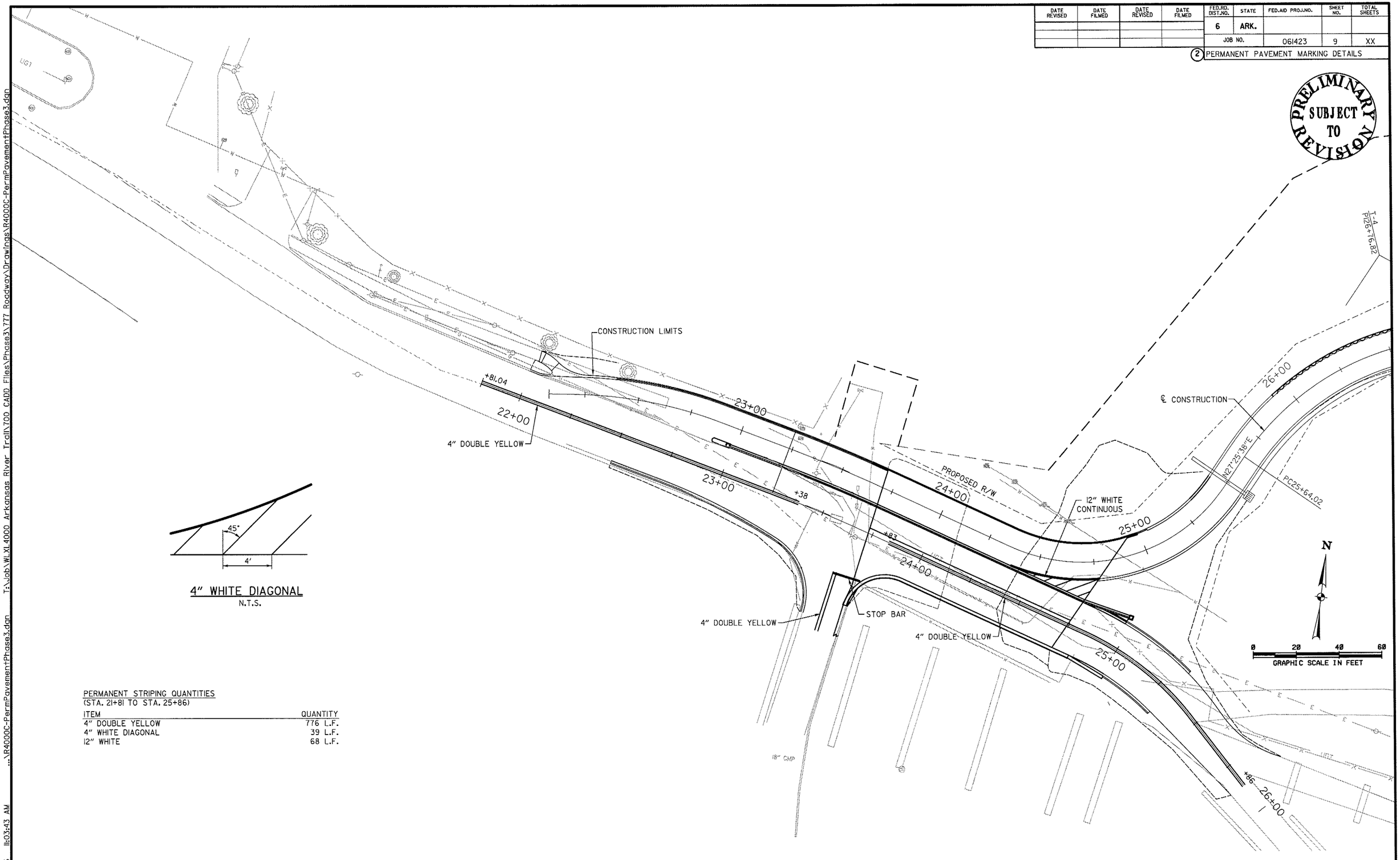
				JOB NO.		061423	9	XX

(2) PERMANENT PAVEMENT MARKING DETAILS

PRELIMINARY SUBJECT TO REVISION



4" WHITE DIAGONAL
N.T.S.

PERMANENT STRIPING QUANTITIES
(STA. 21+81 TO STA. 25+86)

ITEM	QUANTITY
4" DOUBLE YELLOW	776 L.F.
4" WHITE DIAGONAL	39 L.F.
12" WHITE	68 L.F.

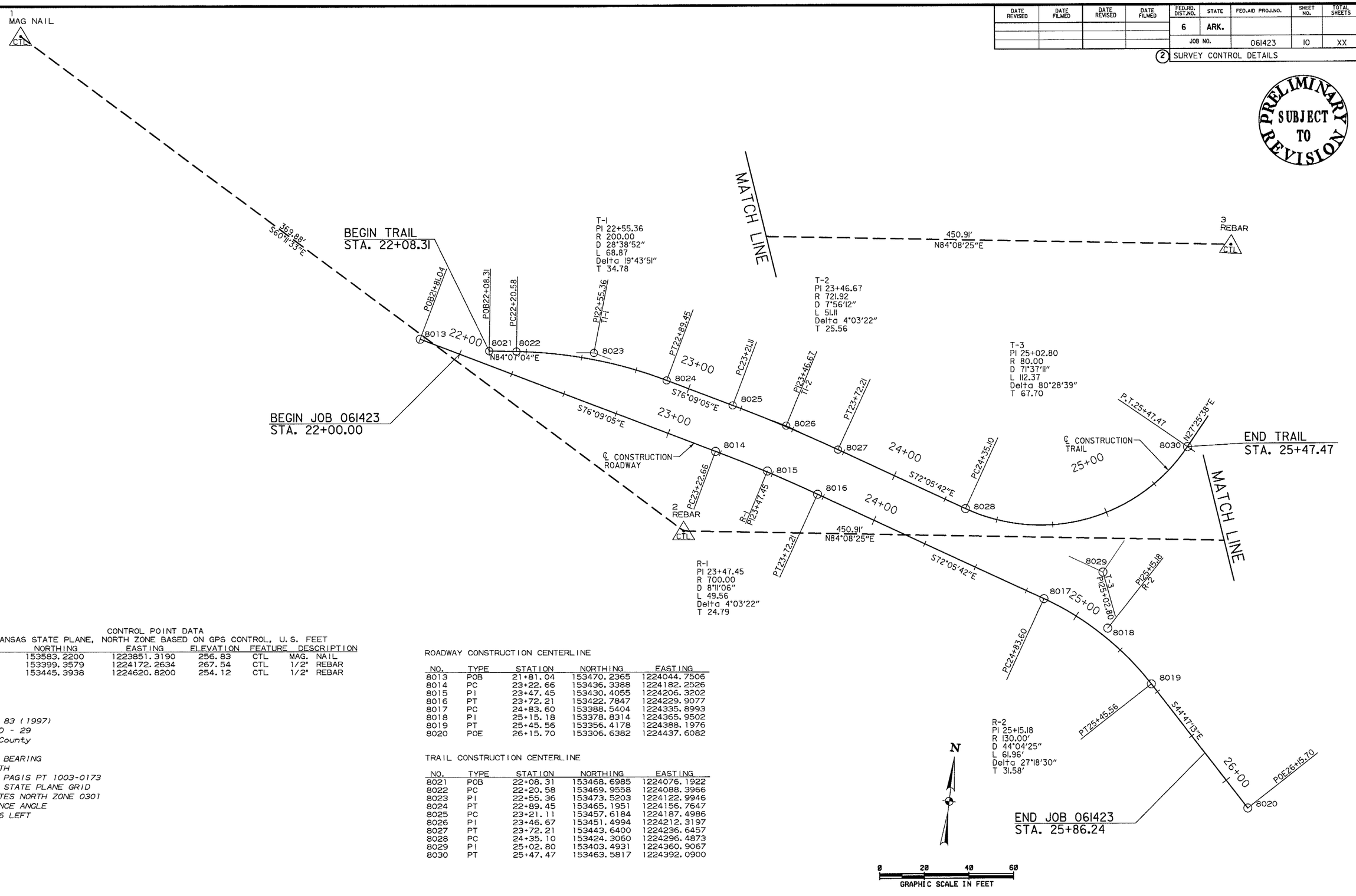
PERMANENT PAVEMENT MARKING DETAILS

JACOBS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061423	10	XX

(2) SURVEY CONTROL DETAILS

PRELIMINARY SUBJECT TO REVISION



CONTROL POINT DATA
ARKANSAS STATE PLANE, NORTH ZONE BASED ON GPS CONTROL, U.S. FEET

POINT	NORTHING	EASTING	ELEVATION	FEATURE	DESCRIPTION
1	153583.2200	1223851.3190	256.83	CTL	MAG. NAIL
2	153399.3579	1224172.2634	267.54	CTL	1/2" REBAR
3	153445.3938	1224620.8200	254.12	CTL	1/2" REBAR

HD = NAD 83 (1997)
VD = NGVD - 29
Pulaski County

BASIS OF BEARING
GRID NORTH
BASED ON PAGIS PT 1003-0173
ARKANSAS STATE PLANE GRID
COORDINATES NORTH ZONE 0301
CONVERGENCE ANGLE
= 0-09-36 LEFT

ROADWAY CONSTRUCTION CENTERLINE

NO.	TYPE	STATION	NORTHING	EASTING
8013	POB	21+81.04	153470.2365	1224044.7506
8014	PC	23+22.66	153436.3388	1224182.2526
8015	PI	23+47.45	153430.4055	1224206.3202
8016	PT	23+72.21	153422.7847	1224229.9077
8017	PC	24+83.60	153388.5404	1224335.8993
8018	PI	25+15.18	153378.8314	1224365.9502
8019	PT	25+45.56	153356.4178	1224388.1976
8020	POE	26+15.70	153306.6382	1224437.6082

TRAIL CONSTRUCTION CENTERLINE

NO.	TYPE	STATION	NORTHING	EASTING
8021	POB	22+08.31	153468.6985	1224076.1922
8022	PC	22+20.58	153469.9558	1224088.3966
8023	PI	22+55.36	153473.5203	1224122.9946
8024	PT	22+89.45	153465.1951	1224156.7647
8025	PC	23+21.11	153457.6184	1224187.4986
8026	PI	23+46.67	153451.4994	1224212.3197
8027	PT	23+72.21	153443.6400	1224236.6457
8028	PC	24+35.10	153424.3060	1224296.4873
8029	PI	25+02.80	153403.4931	1224360.9067
8030	PT	25+47.47	153463.5817	1224392.0900

SURVEY CONTROL DETAILS

JACOBS

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				6	ARK.			
				JOB NO.		061423	11	XX
				PLAN AND PROFILE SHEETS				

STA. 22+11 LT. CONSTRUCT
TYPE 3 WHEELCHAIR RAMP =7.6 SQ. YDS.

STA. 22+94 LT. CONSTRUCT
CONCRETE ISLAND = 1.5 SQ. YD.

BEGIN TRAIL
STA. 22+08.31 =
STA. 22+11.94 C.L.
CONST. ROADWAY

CONSTRUCTION LIMITS

EXISTING R/W

N. CANTRELL RD.

100 YR. FLOODPLAIN

*NOTE: REFER TO BRIDGE DRAWINGS FOR ADDITIONAL INFORMATION.

23+37.00
-49.00

PERMANENT UTILITY ESMT.

23+65.00
-52.00

PROPOSED WATERLINE

23+41.00
13.04

FOR ADDITIONAL INFORMATION REFER TO BRIDGE DRAWINGS FOR BARRIER WALL NO. 1.

23+69.00 ℄ CONSTRUCTION TRAIL
-20.37

CAPITOL DRAIN

PCE

24+38.23
39.40

RIPRAP

N27°25'38"E

PC25+64.02

25+50.48
15.00

CONSTRUCTION LIMITS
25+33.90
15.00

PRELIMINARY SUBJECT TO REVISION

EXISTING TIMBER BRIDGE-REMOVE

REMOVE TEMPORARY TRAIL

FOR ADDITIONAL INFORMATION REFER TO BRIDGE DRAWINGS FOR BARRIER WALL NO. 2.

END JOB
STA. 25+86.24

BEGIN JOB
STA. 22+00.00

+75.00
+00.00
25' PVMNT. TANSITION

22+00
23+00
24+00
25+00
26+00

12'-6"
16'
1'R
+91.00
13'-2"
+98.91
12'-6"

BEGIN BRIDGE
STA. 23+72.95

8'
8'
12.5'
+31.23

25+00.90
18.00

25+45.90
15.00

25+02.90
50.00

25+07.93
88.00

EXISTING R/W

100 YR. FLOODPLAIN

50' R

12'

55.01' TAPER

BM
CTL 2

GILL ST.

EXISTING CONCRETE BRIDGE - REMOVE

℄ CONSTRUCTION ROADWAY

100 YR. FLOODPLAIN

END BRIDGE
STA. 24+74.33

FOR ADDITIONAL INFORMATION REFER TO BRIDGE DRAWINGS FOR TRANSITIONAL APPROACH RAILING.

CONSTRUCTION LIMITS

N. CANTRELL ROADWAY

N

0 20 40 60
GRAPHIC SCALE IN FEET

STA. 23+66.89 TO STA. 24+46.42 - IN PLACE LT.
115'-0" x 10'-0" CLEAR WIDTH BRIDGE CONSISTING OF
TEN 11'-6" TIMBER BEAM SPANS WITH TIMBER PILE TRESTLE BENTS
REMOVE AS EXISTING BRIDGE STRUCTURE (SITE 1) = 1.00 LUMP SUM

STA. 23+71.96 TO STA. 24+83.36 - IN PLACE RT.
110'-6" x 15'-0" CLEAR ROADWAY BRIDGE CONSISTING OF
2-35'-0" & 1-40'-6" REINFORCED CONCRETE DECK GIRDER
SPANS WITH SOLID MASONRY BENTS
REMOVE AS EXISTING BRIDGE STRUCTURE (SITE 1) = 1.00 LUMP SUM

STA. 23+72.95 TO STA. 24+74.33 - CONSTRUCT
101'-4½" x 45'-0" (25'-0" CLEAR ROADWAY) BRIDGE
INTEGRAL COMPOSITE STEEL PLATE GIRDER (SPAN VARIES)

C. L. ROADWAY
PI = 23+47.45
Δ = 4°03'22" RT.
D = 8°11'06"
T = 24.79'
L = 49.56'
PC = 23+22.66
PT = 23+72.22

C. L. ROADWAY
PI = 25+15.18
Δ = 27°18'30" RT.
D = 44°04'25"
T = 31.58'
L = 61.96'
PC = 24+83.60
PT = 25+45.56

STA. 22+98.91 BEGIN SUPERELEVATION (N.C.)
STA. 23+71.91 REVERSE CROWN (0.020'/')
STA. 24+83.60 REVERSE CROWN (0.020'/')
STA. 25+56.60 END SUPERELEVATION (N.C.)

STA. 22+35.90 BEGIN
N. CANTRELL RD.
IMPROVEMENTS
ELEV. 264.03

-1.0%

PVC 22+70.00
Elev 263.65

PVI 23+20.00
Elev 263.10
P.G. 262.84

100.00' V.C.
K=48

PVT 23+70.00
Elev 261.50

BEGIN BRIDGE
STA. 23+72.95
P.G. 261.41

END BRIDGE
STA. 24+74.33
P.G. 258.16

PVC 24+80.00
Elev 257.98

-3.20%

PVI 25+30.00
Elev 256.38
P.G. 256.61

K=54
100.00' V.C.

PVT 25+80.00
Elev 255.70

PROFILE GRADE

-1.36%

EXISTING GROUND

STA. 25+86.24 END
N. CANTRELL RD.
IMPROVEMENTS
ELEV. 255.70

DHW = 243.26

BM: *CTL 2 - ½" REBAR
38.30' RT. OF N. CANTRELL ROADWAY STA. 23+15.91
ELEV. 267.54

275
270
265
260
255
250
245
240
235
230

21+00 22+00 23+00 24+00 25+00 26+00

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12/16/2016

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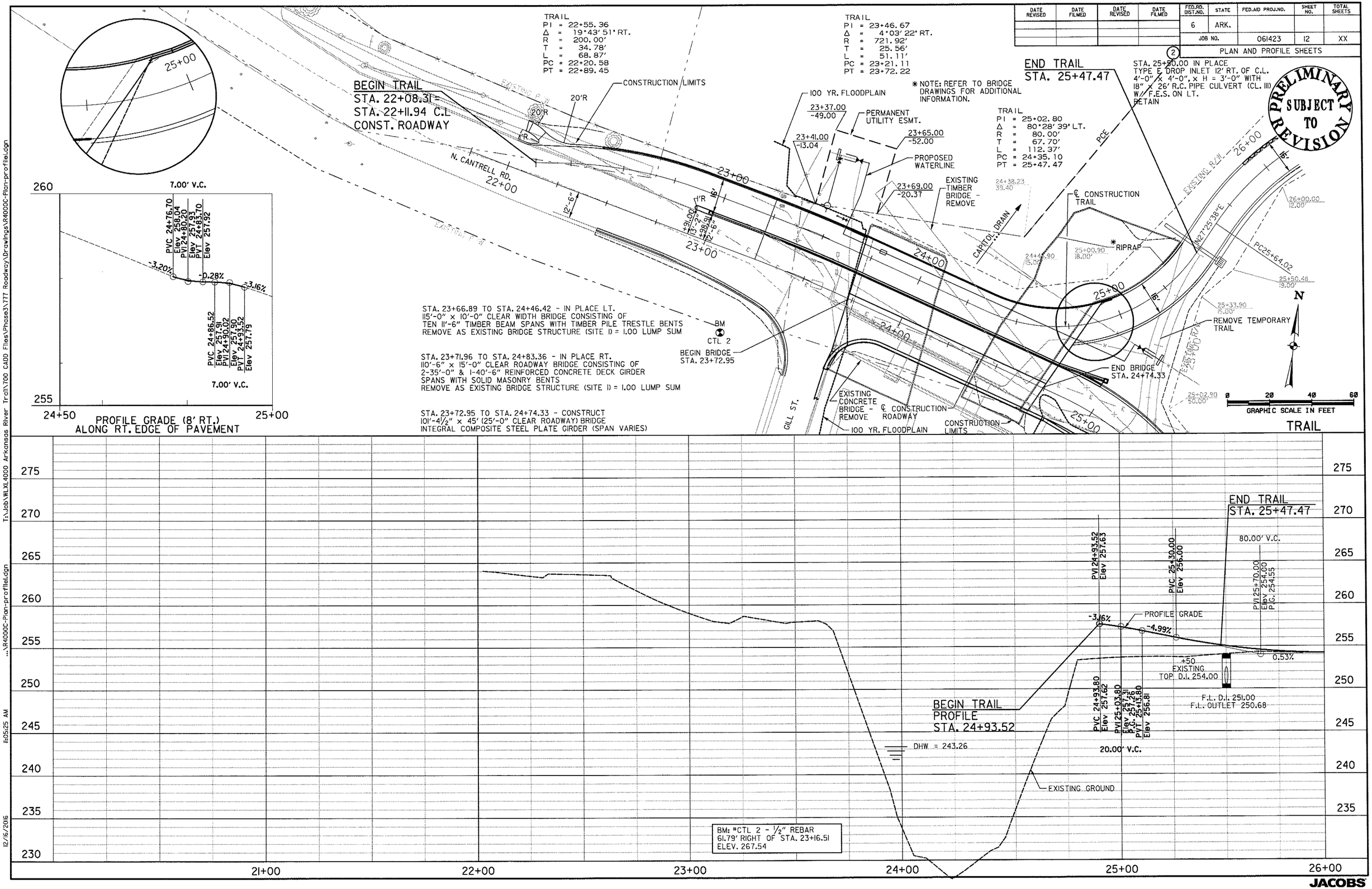
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061423	12	XX

PLAN AND PROFILE SHEETS



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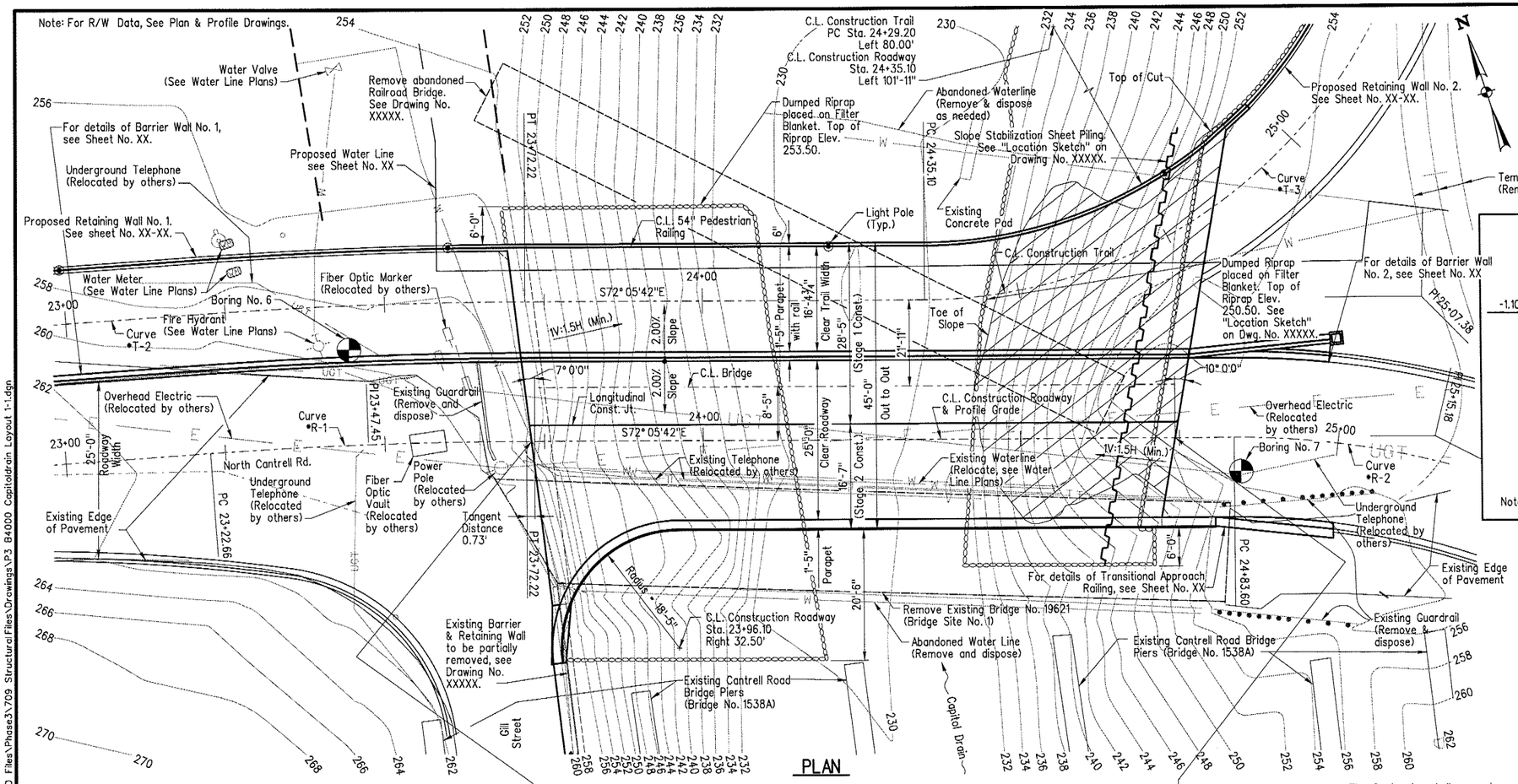
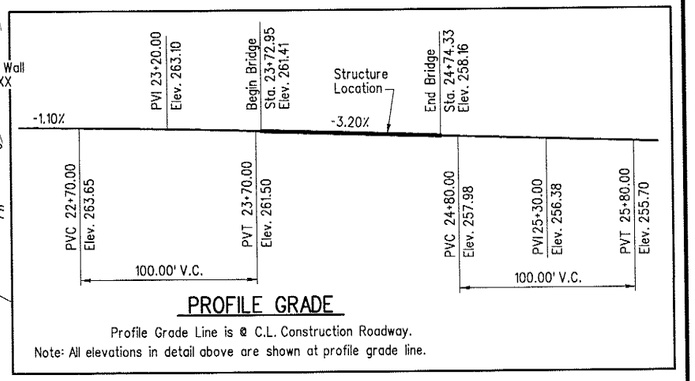
12/16/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061423	13	XX
				(1) XXXXX	-	LAYOUT	-	XXXXX

Note: For R/W Data, See Plan & Profile Drawings.





PROFILE GRADE

Profile Grade Line is @ C.L. Construction Roadway.

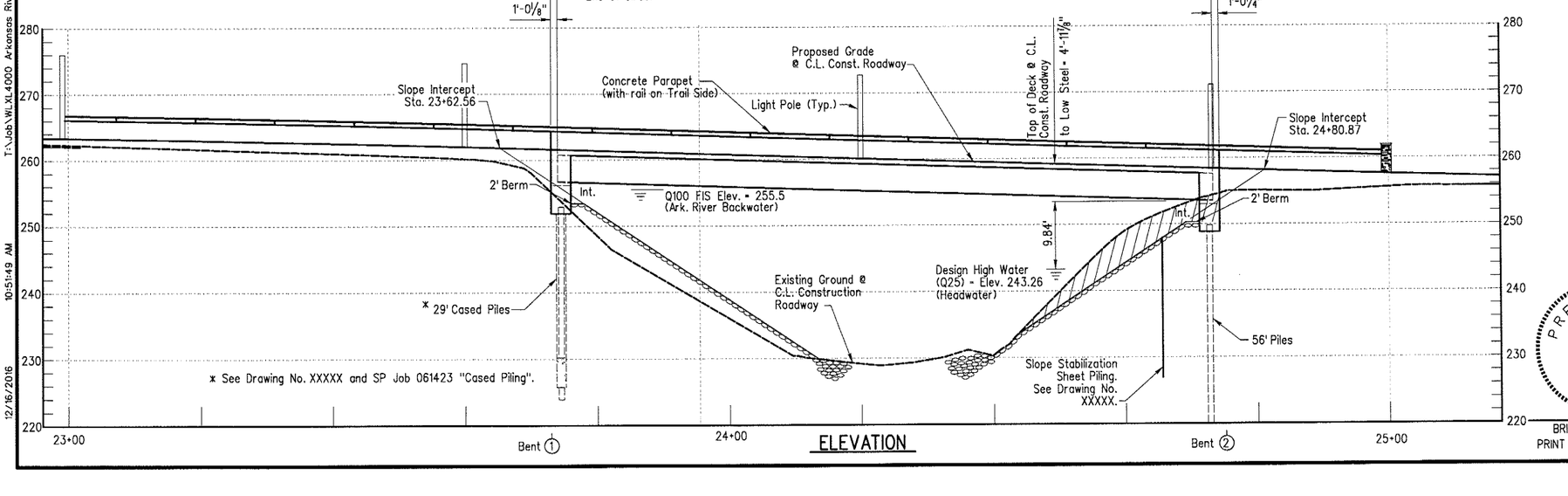
Note: All elevations in detail above are shown at profile grade line.

C.L. CONSTRUCTION TRAIL HORIZONTAL CURVE •T-2 DATA
P.I. = STA. 23+46.67
R = 721.92'
D = 7°56'12"
Δ = 4°03'22" Rt.
L = 51.11'
T = 25.56'
P.C. = STA. 23+21.11
P.T. = STA. 23+72.22

C.L. CONSTRUCTION ROADWAY HORIZONTAL CURVE •R-1 DATA
P.I. = STA. 23+47.45
R = 700.00'
D = 8°11'06"
Δ = 4°03'22" Rt.
L = 49.56'
T = 24.79'
P.C. = STA. 23+22.66
P.T. = STA. 23.72.22

C.L. CONSTRUCTION TRAIL HORIZONTAL CURVE •T-3 DATA
P.I. = STA. 25+02.80
R = 80.00'
D = 71°37'11"
Δ = 80°28'39" Lt.
L = 112.37'
T = 67.70'
P.C. = STA. 24+35.10
P.T. = STA. 25+47.47

C.L. CONSTRUCTION ROADWAY HORIZONTAL CURVE •R-2 DATA
P.I. = STA. 25+15.18
R = 130.00'
D = 44°04'25"
Δ = 27°18'30" Rt.
L = 61.96'
T = 31.58'
P.C. = STA. 24+83.60
P.T. = STA. 25+45.56



The Contractor shall excavate the existing embankment as shown to Elev. 250.50 at end of bridge. Approx. XXX cubic yards of excavation at Bent 2.

Notes:
For General Notes and Boring Logs, see Drawing No. XXXXX and XXXXX.

Elevation view is at C.L. Bridge and skew is not shown for clarity.

PRELIMINARY SUBJECT TO REVISION

BRIDGE ENGINEER
PRINT DATE: 12/16/2016

SHEET 1 OF 3
LAYOUT OF BRIDGE OVER CAPITOL DRAIN
N. CANTRELL RD. STR. & APPRS. (LITTLE ROCK) (S)
PULASKI COUNTY
CITY OF LITTLE ROCK, ARKANSAS

DRAWN BY: LHG DATE: 3/25/16 FILENAME: XXXXXXX
CHECKED BY: CJC DATE: 3/29/16
DESIGNED BY: CJC DATE: 6/27/13 SCALE: 1"=10'
BRIDGE NO. XXXXX DRAWING NO. XXXXX

Checked By: Date:

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061423	14	XX
				(1) XXXXX	-	LAYOUT	-	XXXXX

GENERAL NOTES

BENCH MARK: 1/2" Rebar 61.79' Right of C.L. Construction Roadway Sta. 23+16.51, Elev. 267.54.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable Supplemental Specifications and Special Provisions. Section and Subsection numbers refer to the Standard Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Sixth Edition (2012), with 2013 interim revisions.

LIVE LOADING: HL-93 SEISMIC PERFORMANCE ZONE = 2 S_{D1} = 0.217 SITE CLASS: D

OPERATIONAL IMPORTANCE: Typical Bridge

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (superstructure)	f'c = 4000 psi
Class S Concrete (substructure)	f'c = 3500 psi
Reinforcing Steel (Gr. 60, AASHTO M 31 or M 322, Type A)	fy = 60,000 psi
Structural Steel (AASHTO M270, Gr. 50W)	Fy = 50,000 psi
Structural Steel (AASHTO M270, Gr. 36)	Fy = 36,000 psi
Structural Steel (AASHTO M270, Gr. 50)	Fy = 50,000 psi

BORING LOGS: See Drawing No. XXXXX.

STEEL PILING: All piling shall be HP 14x73 and shall be driven with an approved air, steam, or diesel hammer to minimum safe bearing capacity of 77 tons per pile. The Contractor shall use approved steel H-Pile driving points on all piles. At Bent 1 all piles shall be driven into the material designated as medium hard sandstone on the boring logs. At Bent 2 all piles shall be driven into the material designated as medium soft shale on the boring logs. Lengths of piling shown are assumed for estimating quantities and for use in determining payment for cut-off and build-up in accordance with Section 805.

PREBORING: Preboring is required for all piling in Bent 1 to an elevation of 228.0. Prebored holes shall be 6" greater than the diameter of the pile cross-section and shall be backfilled with Class S Concrete to within 20' of the top of pile after piles are in place. The Contractor shall be responsible for keeping holes free of other materials using a permanent casing and cap plate. See Drawing No. XXXXX and SP Job 061423 "Cased Piling" for additional details.

Preboring is required for all piling in Bent 2 to a depth of 10' below bottom of cap. Prebored holes shall be 6" greater than the diameter of the pile cross-section and shall be backfilled with sand or pea gravel after piles are in place. This required preboring will be paid for at the unit price bid for "Preboring". The Contractor shall be responsible for keeping holes free of debris prior to backfilling, which may require the use of temporary casings or other methods. Temporary casings, if required, shall not be paid for directly but shall considered subsidiary to the item "Preboring".

BRIDGE DECK: The concrete bridge deck (roadway surface) shall be given a tine finish in accordance with Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. Movement of the finishing machine across new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the girder.

CLASS 1 PROTECTIVE SURFACE TREATMENT: Class 1 Protective Surface Treatment shall be applied as required in the details. Class 1 Protective Surface Treatment shall meet the requirements of Section 803.

EXISTING BRIDGES: Existing vehicular bridge No. 19621 (Site No. 1) is 16.7' wide and 111.9' long and consists of two 35' reinforced concrete deck girder spans and one 40'-6" reinforced concrete deck girder span supported by solid concrete wall bents. The existing vehicular bridge is located approximately 22' upstream from the proposed bridge.

Abandoned railroad bridge located downstream of the existing vehicular bridge is 10' wide and 115' long and consists of ten 11'-6" timber beam spans supported by timber trestle bents.

REMOVAL AND SALVAGE: Remove abandoned railroad bridge in accordance with Section 205. After Stage 1 Construction of the new bridge is opened to pedestrian traffic, Existing Bridge No. 19621 shall be removed in accordance with Section 205. All material from the existing bridges shall become the property of the Contractor. Cost of removal of abandoned railroad bridge shall be considered subsidiary to the item "Removal of Existing Bridge Structure (Site No. 1)".

MAINTENANCE OF TRAFFIC: The road will be closed to vehicular traffic during Stage 2 Construction. See Roadway Plans.

HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY	DISCHARGE	* EXISTING WATER SURFACE ELEVATION	** WATER SURFACE ELEV. WITH BACKWATER	*** WATER SURFACE ELEV. WITH BACKWATER
	YEARS	CFS	FEET	FEET	FEET
DESIGN	25	2750	244.5	242.7	251.1
BASE	100	3250	245.1	243.9	255.4
OVERTOPPING	160	3500	---	---	258.1
EXTREME	500	4500	247.1	246.3	260.0

* Constricted water surface with existing structure and roadway approaches.

** Constricted water surface with proposed structure and roadway approaches.

*** Constricted water surface with proposed structure, roadway approaches, and Arkansas River backwater.

Proposed low bridge chord elevation = 253.1 ft.

Drainage area = 2.3 square miles

Historical H.W. Elev. of 256.9' is the 1927 flood elevation at Arkansas River station 117.6, which is the approximate confluence for the Capitol Drain.

STRUCTURAL STEEL: All structural steel shall be AASHTO M270, Gr. 50W unless otherwise noted and shall be paid for as "Structural Steel in Plate Girder Spans (M270, Gr. 50W)" unless otherwise noted. Structural steel completely embedded in concrete may be AASHTO M270 Gr. 36, Gr. 50 or Gr. 50W unless otherwise noted. All surfaces shall be cleaned in accordance with Subsection 807.84(e) unless noted otherwise.

Drawings show general features of design only. Shop drawings shall be made in accordance with Subsection 807.04, submitted and approval secured before fabrication is begun.

Requests for substitution of structural steel plates or shapes shown with plates or shapes of greater size must be submitted by the Contractor to the Engineer for approval. Steels of equal or greater strengths will be accepted only when shown on the approved shop drawings. Shapes, plate sizes, and materials shown in the plans will be the basis of payment and no additional compensation will be made for any adjustments due to substitutions.

All girder web and flange plates, and all field splice plates are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in Subsection 807.05. This work and material will not be paid for directly, but shall be considered subsidiary to the item "Structural Steel in Plate Girder Spans (M270, Gr. 50W)".

Web and flange plates for main members and flange splice plates for main members shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of main tensile and/or compressive stresses.

All girders with field splices shall be assembled in the shop as specified in Subsection 807.54(b)(2) and blocked in their true position with webs horizontal. The camber, length of sections, and distance between bearings shall be measured and this information shall become part of the permanent records. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram.

All girders in simple spans without field splices shall be blocked in their true position with webs horizontal. The camber and distance between bearings shall be measured and this information shall become part of the permanent records.

All girder dimensions are based on a temperature of 60° F. A tolerance of +/- 1/4" is allowed for camber.

Girder webs may be made by shop splicing with a minimum length of 25 feet for sections. Flange plates longer than 50 feet may be made by shop splicing with a minimum length of 25 feet for sections. No additional payment will be made for shop welded splices.

Unless noted otherwise, field connections shall be bolted with 7/8" Dia. high-strength bolts using 15/16" Dia. open holes. Holes for 7/8" Dia. high-strength bolts may be 1 1/16" Dia. if a washer is supplied for use under both the nut and head of the bolt. The use of oversized holes will not be allowed on main members unless otherwise noted. Bolts shall be placed with heads on the outside face of the exterior girder webs and on the bottom of the girder flanges.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, whether permanent or temporary, a formal request with detailed drawings shall be submitted to the Engineer for approval; however, additional welds used for attaching falsework support devices or screed rail supports to the structural steel that do not exceed the limitations of Subsection 802.13 will not require approval prior to construction. All welding shall conform to Subsection 807.26.

Groove welds in web and flange plates shall be Quality Control (Q.C.) tested by nondestructive testing, as required in Subsection 807.23(b). Fillet welds at flange to web plate connections shall be Q.C. tested by the magnetic particle method. All Q.C. testing shall be considered subsidiary to the item "Structural Steel in Plate Girder Spans (M270, Gr. 50W)".

Bent plate diaphragms and utility support diaphragms shall be cut and fabricated in accordance with Subsection 807.35.

Bent plate diaphragms and utility support diaphragms shall be installed as girders are erected. All bolts shall be installed and tightened in accordance with Subsection 807.71 prior to pouring the deck unless noted otherwise. See Drawing No. XXXXX for details of Bent Plate Diaphragms (D1) between girders erected in different stages of construction.

All contact surfaces between plates at bolted field splices shall be free of oil, rust or scale before assembly, and shall meet Class B faying surface requirements. All bolts in field splices shall be installed and tightened in accordance with Subsection 807.71 prior to pouring the concrete deck.

All stud shear connectors shall be granular flux filled, solid fluxed, or equal and shall be automatically end welded in accordance with the recommendations of the manufacturer.

REINFORCING STEEL: All reinforcing steel in the bridge substructure shall be Grade 60 conforming to AASHTO M 31 or M 322, Type A, with mill test reports. Top reinforcing bars in beam caps shall be properly placed to avoid interference with anchor bolts.

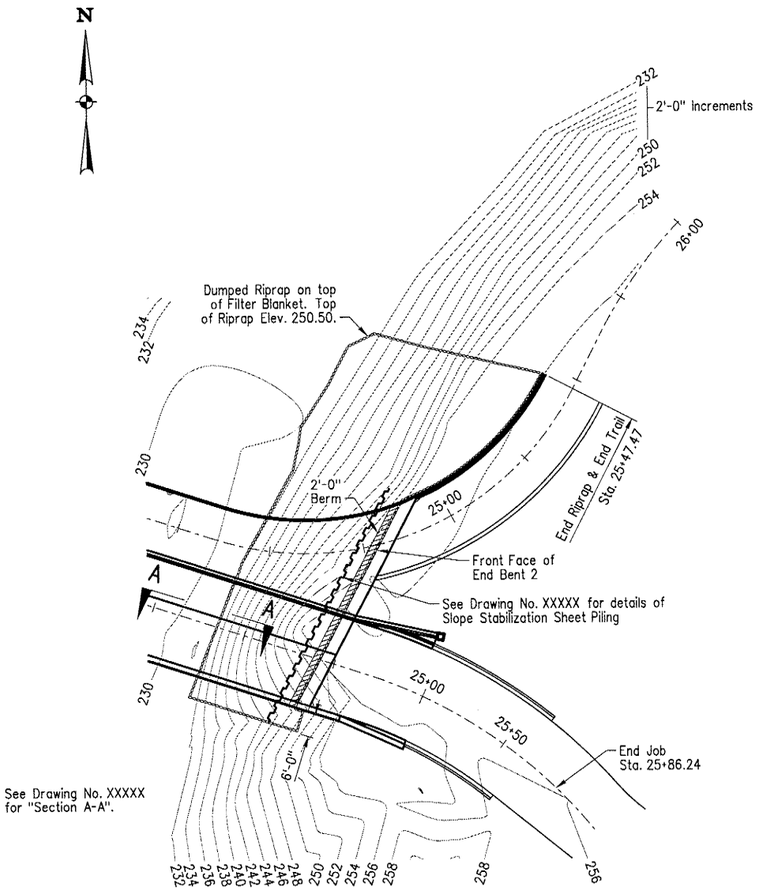
All reinforcing steel in the bridge superstructure shall be Grade 60 conforming to AASHTO M 31 or M 322, Type A, with mill test reports and shall be epoxy coated. The reinforcing steel shall be accurately located in the forms and firmly held in place by steel wire supports sufficient in size and number to prevent displacement during the course of construction. The wire supports will not be paid for directly but will be considered subsidiary to the item of "Epoxy Coated Reinforcing Steel (Grade 60)".

CONCRETE: Concrete in beam caps shall be Class S with a minimum 28 day compressive strength of f'c = 3,000 psi. Concrete shall be poured in the dry and all exposed corners shall be chamfered 3/4" unless noted otherwise.

All superstructure concrete shall be Class S(AE) with a minimum 28 day compressive strength of f'c = 4,000 psi. Concrete shall be poured in the dry and all exposed corners shall be chamfered 3/4" unless noted otherwise.

The superstructure details shown are for use when removable deck forming is used and are the basis for measurement of Class S(AE) Concrete. See Standard Drawing No. 55005 for allowable modifications and for tolerances when Permanent Steel Bridge Deck Forms are used.

DETAIL DRAWINGS:	DRAWING NO.
Stage Construction	XXXXX-XXXXX
End Bent 1	XXXXX-XXXXX
End Bent 2	XXXXX-XXXXX
Integral Composite Plate Girder Span	XXXXX-XXXXX
54" Pedestrian Railing	XXXXX
Slope Stabilization Sheet Piling	XXXXX
Retaining Wall No. 1	XXXXX-XXXXX
Retaining Wall No. 2	XXXXX-XXXXX
Barrier Wall No. 1	XXXXX
Barrier Wall No. 2	XXXXX
Transitional Approach Railing	XXXXX
Embankment Construction and Backfill at Bridge Ends	55000
Dumped Riprap and Filter Blanket	55001
Permanent Steel Bridge Deck Forms	55005
Type C Bridge Name Plates	55011
Steel H-Piles and Pile Encasements	55020



LOCATION SKETCH

No Scale

PRELIMINARY SUBJECT TO REVISION

BRIDGE ENGINEER
PRINT DATE: 12/16/2016

SHEET 2 OF 3
LAYOUT OF BRIDGE OVER CAPITOL DRAIN
N. CANTRELL RD. STR. & APPRS. (LITTLE ROCK) (S)
PULASKI COUNTY
CITY OF LITTLE ROCK, ARKANSAS

DRAWN BY: LHG DATE: 3/23/16 FILENAME: XXXXXXX
CHECKED BY: CJC DATE: 3/24/16
DESIGNED BY: CJC DATE: 6/27/13 SCALE: No Scale
BRIDGE NO. XXXXX DRAWING NO. XXXXX

Checked By: Date:

JACOBS

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				6	ARK.			
				JOB NO.		061423	15	XX
				(1) XXXXX	-	LAYOUT	-	XXXXX

08-099

Grubbs, Hoskyn, Barton & Wyatt, Inc.
Consulting Engineers

LOG OF BORING NO. 6
Little Rock Bikeway
Little Rock, Arkansas

TYPE: Auger to 7.5 ft /Wash — LOCATION: Sta 23+45, 15 ft Lt

SURF. EL: 257±

DEPTH, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT
	3 inches: Asphalt Concrete 27 inches: Crushed Stone Subbase (fill)	36 30	
5	Medium dense dark gray silty clay and shale fragments (fill)	41	
	Very soft tan, gray and dark gray highly weathered shale w/very thinly bedded sandstone seams - soft, less weathered below 6 ft - auger refusal at 7.5 ft	50/6" 25/0"	
10		25/0"	
15	Medium soft dark gray and tan weathered shale - hard fine-grained sandstone layer at 11.5 - 12 ft	25/0"	
20	Medium hard gray fine-grained sandstone w/very thinly bedded dark gray shale seams and layers, dip ~ 45°, ferrous stains in very close fractures	25/0"	
25	- sandstone seam at 25 ft		
30	- sandstone seam at 31 ft	25/0"	
35	- sandstone seam at 35 ft		
40		25/0"	
45		25/0"	
50		25/0"	
55			

COHESION, TON/SQ FT: 0.2 0.4 0.6 0.8 1.0 1.2 1.4
PLASTIC LIMIT — WATER CONTENT — LIQUID LIMIT: 10 20 30 40 50 60 70

- No. 200 %	% Recovery	% RQD
	80	0

COMPLETION DEPTH: 50.0 ft
DATE: 10-14-11

DEPTH TO WATER IN BORING: Dry to 8 ft

DATE: 10/14/2011

RECRGD3N200 09-099.GPJ 10-19-11

PLATE 8

08-099

Grubbs, Hoskyn, Barton & Wyatt, Inc.
Consulting Engineers

LOG OF BORING NO. 7
Little Rock Bikeway
Little Rock, Arkansas

TYPE: Auger to 30 ft /Wash — LOCATION: Sta 24+85, 5 ft Rt

SURF. EL: 254±

DEPTH, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT
	Very soft brown and reddish brown silty clay w/sandstone fragments (fill)	30 24	
5	Medium dense brown fine sandy silt w/occasional shale and sandstone fragments (fill)	19	
10	Medium dense brown fine sandy silt w/silty fine sand pockets, slightly clayey - loose below 9 ft - moist below 15 ft	13 9	
15		9	
20	- medium dense at 18-22 ft - water at 20 ft - loose below 22 ft	11	
25	- silty fine sand seams below 25 ft	9	
30	Dense brown silty fine sand	7	
35	- with a silty clay seams at 34 to 38 ft	44	
40		43	
45	Medium dense dark brown fine sandy silt	24	
50	Very stiff gray and tan clay	44	
55	Dense gray and tan clayey fine to coarse gravel	50/10"	
60	Medium soft dark gray and tan weathered shale w/very thinly bedded sandstone seams	25/0"	
65	Medium soft to medium hard dark gray shale w/very thinly bedded fine-grained sandstone seams	25/0"	
70		25/0"	
75		25/0"	

COHESION, TON/SQ FT: 0.2 0.4 0.6 0.8 1.0 1.2 1.4
PLASTIC LIMIT — WATER CONTENT — LIQUID LIMIT: 10 20 30 40 50 60 70

- No. 200 %

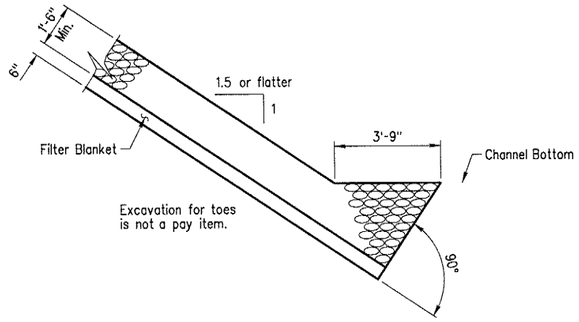
COMPLETION DEPTH: 75.0 ft
DATE: 10-12-11

DEPTH TO WATER IN BORING: 20 ft

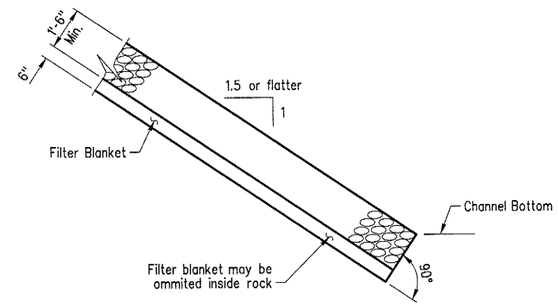
DATE: 10/12/2011

LGBNREN 08-099.GPJ 10-19-11

PLATE 9



SECTION A-A
(Toe Excavation in Soil)



SECTION A-A
(Toe Excavation in Rock)

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

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

Details for computing excavation for structures are included for information as to how plan quantities were calculated.

PRELIMINARY
SUBJECT TO REVISION

BRIDGE ENGINEER
PRINT DATE: 12/16/2016

SHEET 3 OF 3
LAYOUT OF
BRIDGE OVER CAPITOL DRAIN
N. CANTRELL RD. STR. & APPRS. (LITTLE ROCK) (S)
PULASKI COUNTY
CITY OF LITTLE ROCK, ARKANSAS

DRAWN BY: LHG DATE: 3/23/16 FILENAME: XXXXXXX
CHECKED BY: CJC DATE: 3/24/16
DESIGNED BY: --- DATE: --- SCALE: No Scale
BRIDGE NO. XXXXX DRAWING NO. XXXXX

Checked By: Date:

JACOBS

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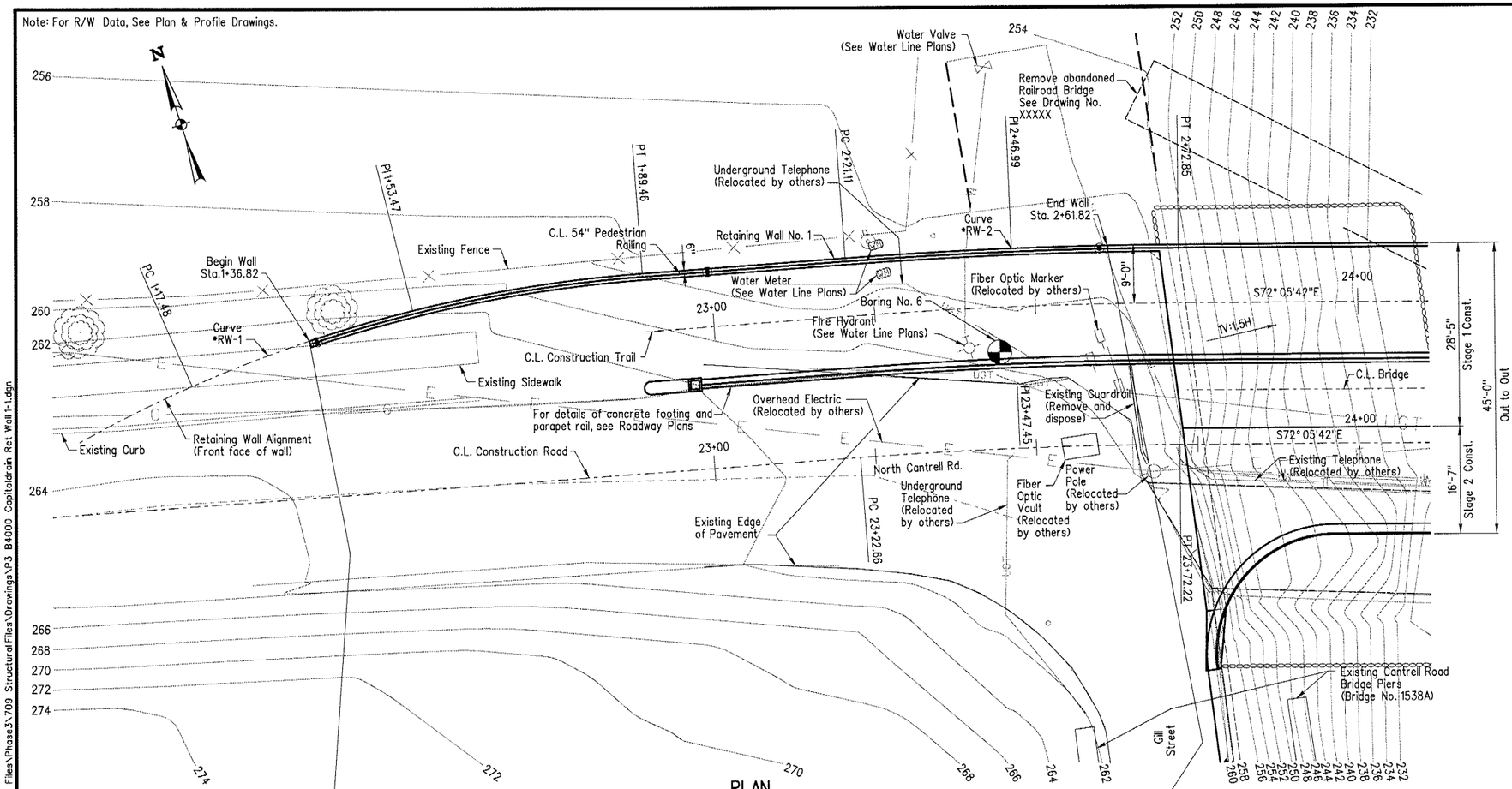
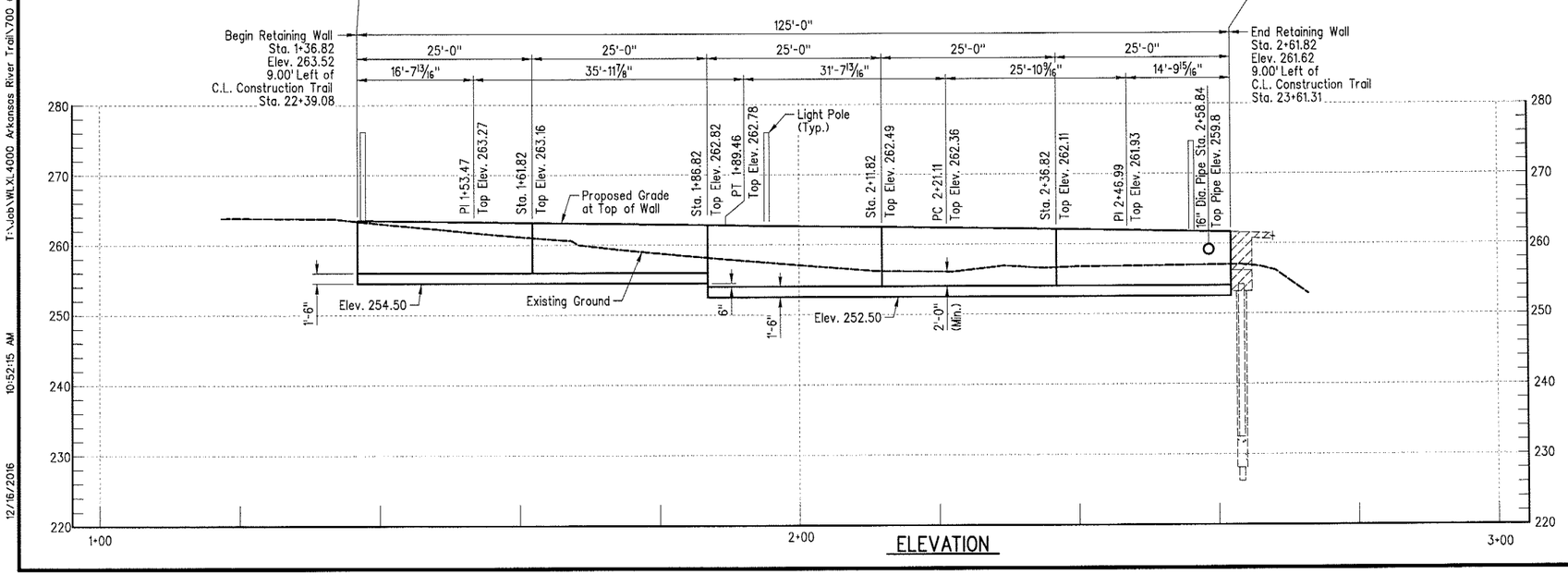
Note: For R/W Data, See Plan & Profile Drawings.



PLAN



ELEVATION

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061423	19	XX

(1) - RETAINING WALL NO. 1 - XXXXX

GENERAL NOTES:

CONSTRUCTION SPECIFICATIONS
Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, 2014 Edition, with applicable supplemental specifications and special provisions. Secitons and Subsections refer to the Standard Construction Specifications unless noted otherwise.

DESIGN SPECIFICATIONS
AASHTO LRFD Bridge Design Specifications, Seventh Edition (2014 with Interims)
Seismic Zone 2 As = .203g
Design water elevation is 255. The Contractor shall verify all existing conditions and dimensions prior to beginning work or fabrication of materials. Notify the Engineer of any variations which will require design modifications.

The Contractor shall provide all measures necessary to protect the structure and safety of workmen during construction. The Contractor shall comply with all applicable requirements of OSHA and other governing bodies having jurisdiction at the job site.

The design, adequacy and safety of erection bracing, shoring, temporary supports, forms and other methods of construction is the responsibility of the Contractor.

CONCRETE
All cast-in-place concrete shall be of the following mix type as indicated in Section 802-Concrete for Structures, AHTD Standard Specifications for Highway Construction, Edition 2014:
Class S (f'c - 3,500 psi)

All Expansion Joints shall be filled with an AASHTO M 153, Type 1 Joint Material unless otherwise noted.

REINFORCING STEEL
All reinforcing steel shall be Grade 60 (yield strength 60,000 psi) conforming to AASHTO M321 or M322, Type A, with mill test reports.

The reinforcing steel shall be accurately located in the forms and secured in place to prevent displacement during the course of construction.

FOOTINGS
Top of footings for retaining walls shall be set 2'-0" below finished ground surface or lower. Foundations shall be inspected by the Engineer prior to placing any footing. Footing shall be founded on competent weathered shale. Where shale is not present, foundations shall be undercut to competent material and backfilled with Class 7 aggregate base course or select material Class SM-1. Depth of potential undercut shall be determined in the field. Foundations for footings shall be prepared in accordance with Section 801.04.

BACKFILL
Granular backfill for retaining wall shall consist of select material Class SM-1, Class 7 Aggregate Base Course or other approved material.

Notes:
For Boring Logs see Drawing No. XXXXX and XXXXX.

For Lighting details see Sheet No. XX.

For Pedestrian Railing details see Drawing No. XXXXX.

C.L. CONSTRUCTION RETAINING WALL HORIZONTAL CURVE •RW-1 DATA
P.I. = STA. 1+53.47
R = 209.00'
D = 27° 24'51"
Δ = 19° 43'51" Rt.
L = 71.98'
T = 36.35'
P.C. = STA. 1+17.48
P.T. = STA. 1+89.46

C.L. CONSTRUCTION RETAINING WALL HORIZONTAL CURVE •RW-2 DATA
P.I. = STA. 2+46.99
R = 730.92'
D = 7° 50'20"
Δ = 4° 03'22" Rt.
L = 51.74'
T = 25.88'
P.C. = STA. 2+21.11
P.T. = STA. 2+72.85

PRELIMINARY SUBJECT TO REVISION

BRIDGE ENGINEER
PRINT DATE: 12/16/2016

SHEET 1 OF 5
DETAILS OF RETAINING WALL NO. 1
N. CANTRELL RD. STR. & APPRS. (LITTLE ROCK) (S)
PULASKI COUNTY
CITY OF LITTLE ROCK, ARKANSAS

DRAWN BY: LHG DATE: 5/17/16 FILENAME: XXXXXXX
CHECKED BY: CJC DATE: X/X/XX
DESIGNED BY: CGW DATE: 5/16/16 SCALE: 1"=10'
DRAWING NO. XXXXX

Checked By: Date:

JACOBS

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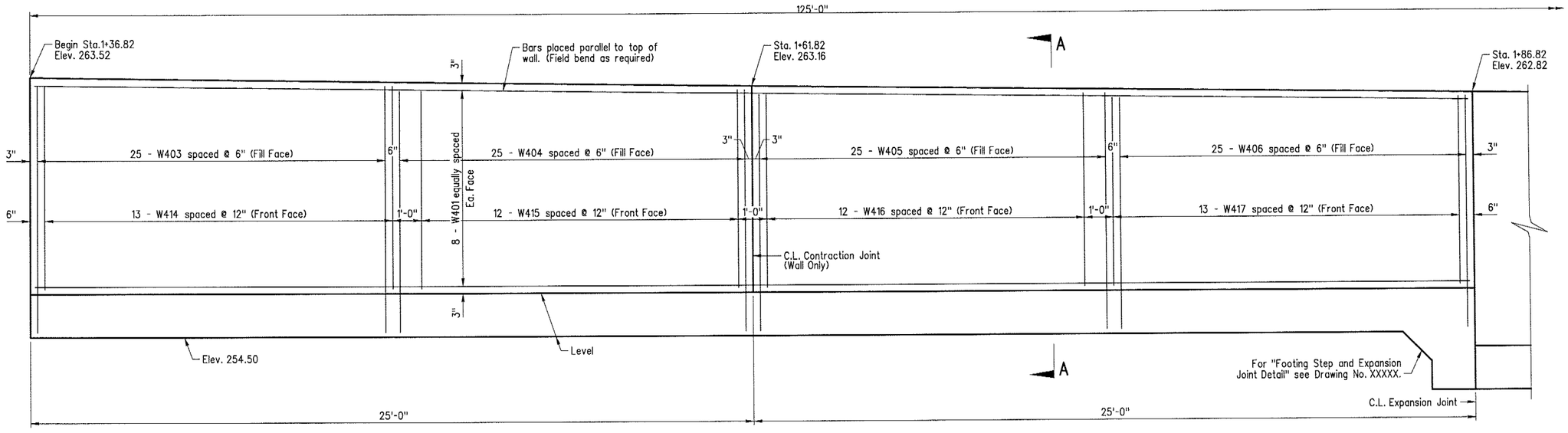
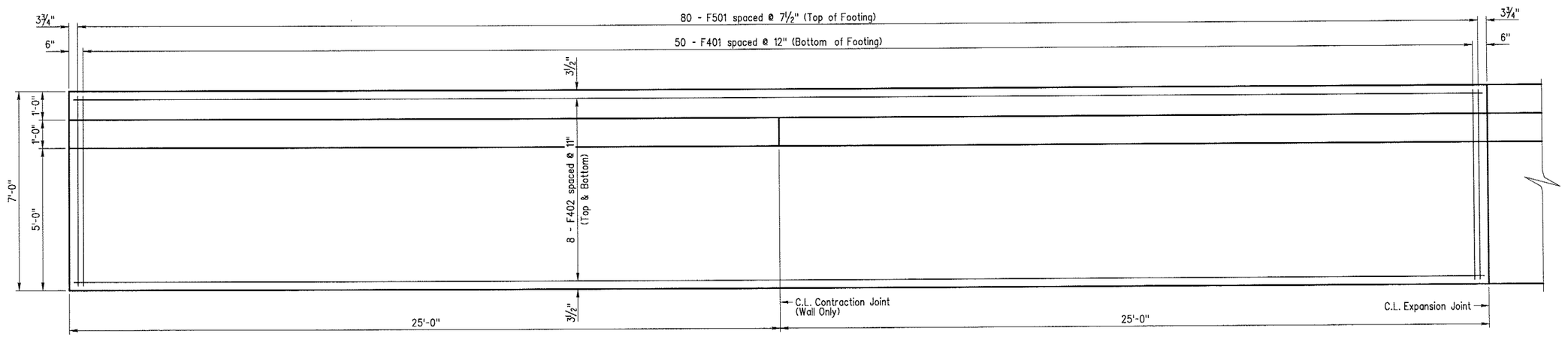
12/16/2016 10:52:15 AM

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061423	20	XX

(1) - RETAINING WALL NO. 1 - XXXXX



ELEVATION



PLAN OF FOOTING SHOWING REINFORCEMENT

Notes:
Longitudinal dimensions shown are horizontal along Fill Face of wall.

Contraction Joints and Expansions Joints are to be built vertical.

For Section A-A, see Drawing No. XXXXX.

PRELIMINARY SUBJECT TO REVISION

BRIDGE ENGINEER
PRINT DATE: 12/16/2016

SHEET 2 OF 5
DETAILS OF RETAINING WALL NO. 1
N. CANTRELL RD. STR. & APPRS. (LITTLE ROCK) (S)
PULASKI COUNTY
CITY OF LITTLE ROCK, ARKANSAS

DRAWN BY: LHG DATE: 5/23/16 FILENAME: XXXXXXXXX
CHECKED BY: CJC DATE: X/X/XX
DESIGNED BY: CGW DATE: 5/20/16 SCALE: ½" = 1'-0"
DRAWING NO. XXXXX

Checked By: Date:

JACOBS

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12/16/2016 10:52:16 AM

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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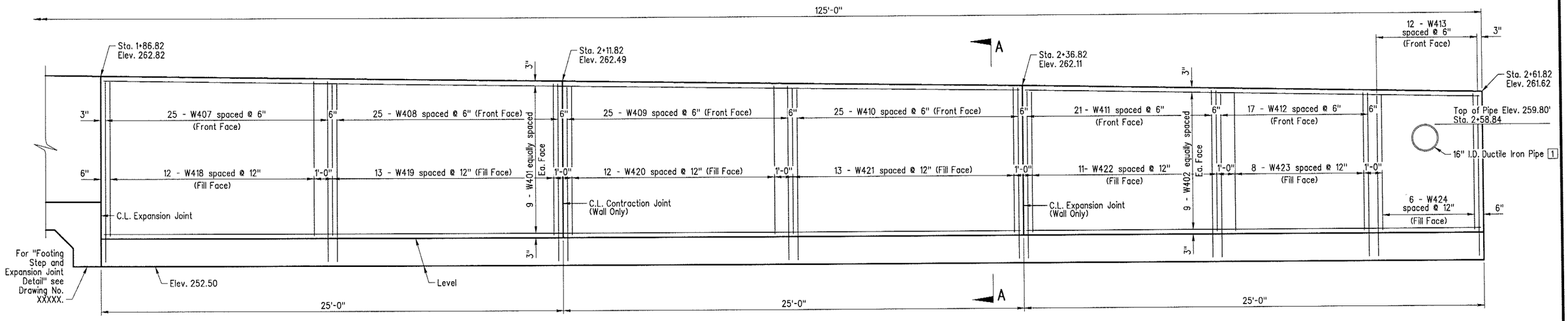
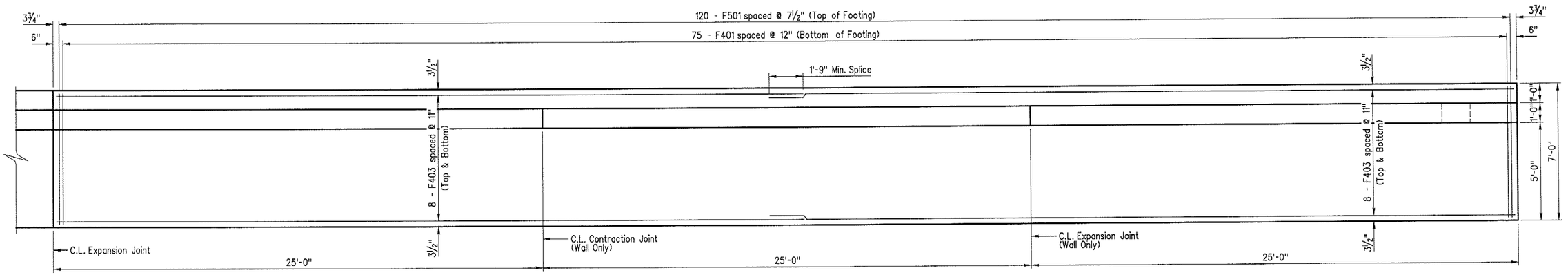
				JOB NO.		061423	21	XX
				(1) - RETAINING WALL NO. 1 -				XXXXX



ELEVATION

[1] For details of pipe penetration see "Part Elevation of Wall at Waterline" on Sheet XX.



PLAN OF FOOTING SHOWING REINFORCEMENT

Notes:
Longitudinal dimensions shown are horizontal along Fill Face of wall.

Contraction Joints and Expansions Joints are to be built vertical.

For Section A-A, see Drawing No. XXXXX.

PRELIMINARY
SUBJECT TO REVISION

BRIDGE ENGINEER
PRINT DATE: 12/16/2016

SHEET 3 OF 5
DETAILS OF RETAINING WALL NO. 1
N. CANTRELL RD. STR. & APPRS. (LITTLE ROCK) (S)
PULASKI COUNTY
CITY OF LITTLE ROCK, ARKANSAS

DRAWN BY: LHG DATE: 5/23/16 FILENAME: XXXXXXXXX
CHECKED BY: CJC DATE: X/X/XX
DESIGNED BY: CGW DATE: 5/20/16 SCALE: 3/8" = 1'-0"
DRAWING NO. XXXXX

Checked By: Date:

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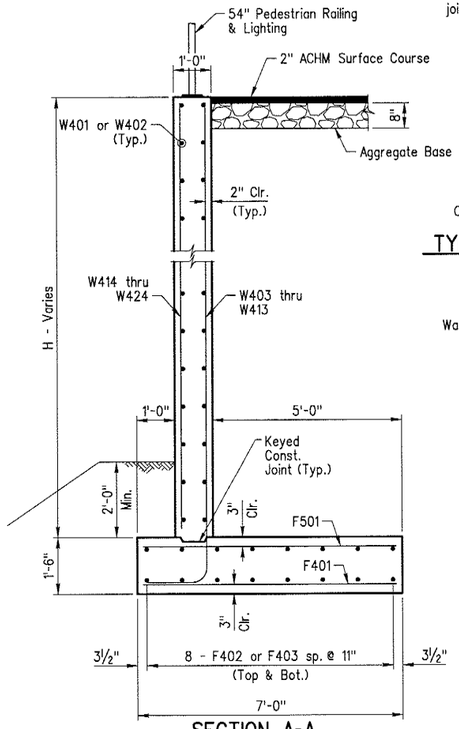
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061423	22	XX

(1) - RETAINING WALL NO. 1 - XXXXX

For Pedestrian Railing details see Drawing No. XXXXX.

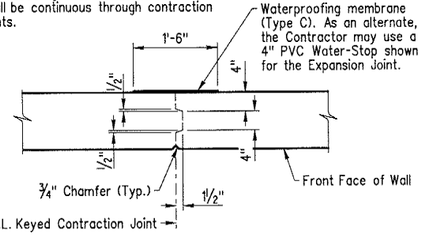
For Lighting Details see Sheet No. XX.



SECTION A-A

Scale: ½" = 1'-0"

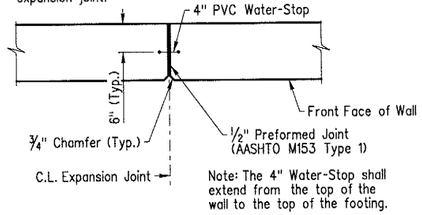
Note: 25'-0" maximum spacing between contraction joints. Horizontal reinforcement shall be continuous through contraction joints.



TYPICAL KEYED CONTRACTION JOINT DETAIL

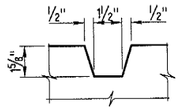
Scale: ¾" = 1'-0"

Note: 60'-0" maximum spacing between expansion joints. Terminate horizontal reinforcement 2" from expansion joint.



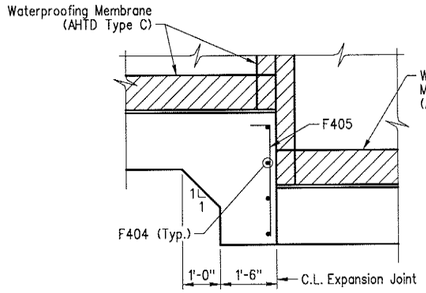
TYPICAL EXPANSION JOINT DETAIL

Scale: ¾" = 1'-0"

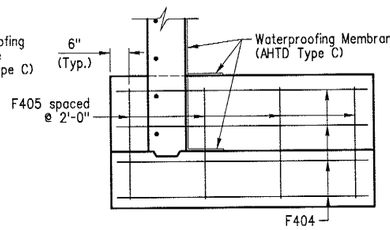


KEYED JOINT

Scale: 3" = 1'-0"



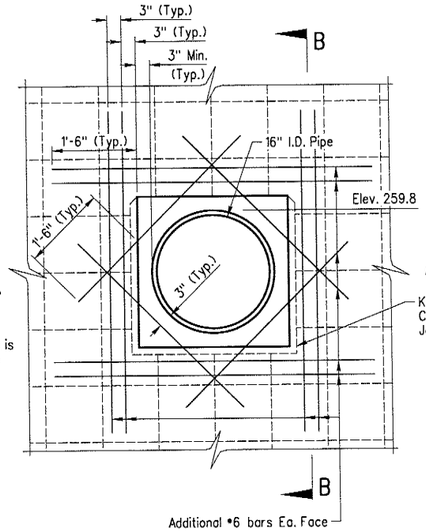
PARTIAL ELEVATION



PARTIAL SECTION

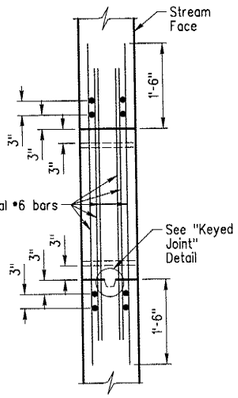
Notes:
The Block-Out may be eliminated at the contractors election. If Block-Out is eliminated, reinforcement shall be as shown except plan reinforcement may be bent to clear pipe.

Additional reinforcement required for Block-Out is not included in estimated quantities and will be considered subsidiary to "Reinforcing Steel - Roadway (Gr. 60).



PART ELEVATION OF WALL AT WATERLINE

No Scale

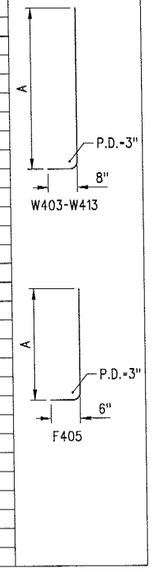


SECTION B-B

No Scale

BAR LIST

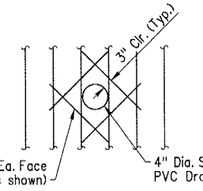
MARK	NO. REQ'D.	LENGTH	A	PIN DIA.	BENDING DIAGRAM (Dimensions are out to out)
W401	34	49'-8"	-	Str.	
W402	18	24'-8"	-	Str.	
W403	25	9'-0"	8'-5"	3"	
W404	25	8'-10"	8'-3"	3"	
W405	25	8'-8"	8'-1"	3"	
W406	25	8'-6"	7'-11"	3"	
W407	25	10'-4"	9'-9"	3"	
W408	25	10'-2"	9'-7"	3"	
W409	25	10'-0"	9'-5"	3"	
W410	25	9'-9"	9'-2"	3"	
W411	21	9'-7"	9'-0"	3"	
W412	17	9'-5"	8'-10"	3"	
W413	12	9'-4"	8'-9"	3"	
W414	13	7'-0"	-	Str.	
W415	12	6'-10"	-	Str.	
W416	12	6'-8"	-	Str.	
W417	13	6'-6"	-	Str.	
W418	12	8'-4"	-	Str.	
W419	13	8'-2"	-	Str.	
W420	12	8'-0"	-	Str.	
W421	13	7'-10"	-	Str.	
W422	11	7'-7"	-	Str.	
W423	8	7'-5"	-	Str.	
W424	6	7'-4"	-	Str.	
F401	125	6'-8"	-	Str.	
F402	16	49'-8"	-	Str.	
F403	16	38'-3"	-	Str.	
F404	4	6'-8"	-	Str.	
F405	4	3'-5"	3'-0"	3"	
F501	200	6'-8"	-	Str.	
D401	104	2'-6"	-	Str.	



APPROXIMATE QUANTITIES FOR RETAINING WALL

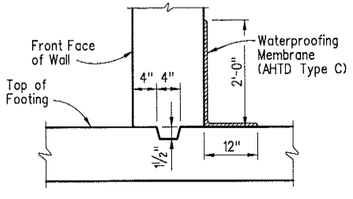
(For Information Only)

Length of Wall	Reinforcing Steel - Roadway (Gr. 60) (Lbs.)	Class S Concrete - Roadway (Cu. Yds.)	Unclassified Excavation for Structures - Roadway (Cu. Yds.)	Select granular Backfill (Cu. Yds.)	Undercut Backfill (Cu. Yds.)
125'-0"	6705	85.59	513	364	54



TYPICAL DRAIN PIPE REINFORCING DETAIL

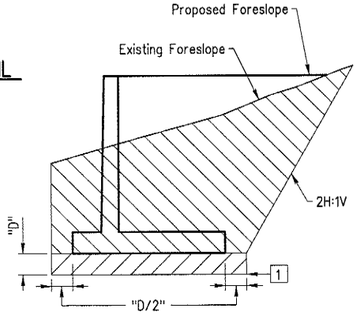
No Scale



CONSTRUCTION JOINT AND WATERPROOFING DETAIL AT BASE OF STEM

No Scale

Note: Waterproofing Membrane shall not cover weep holes.



DETAILS OF EXCAVATION

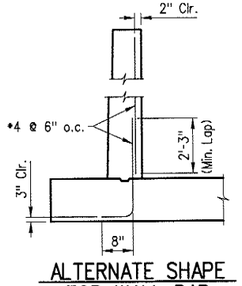
No Scale

Note: Hatched area denotes maximum limits of pay excavation.

Excavation required for area of Select Granular Backfill will be paid for under the pay item "Unclassified Excavation for Structures - Roadway".

Pay limits for "Unclassified Excavation for Structures - Roadway".

Pay limits for Undercut Backfill. See SP Job 061423 "Undercut Backfill".

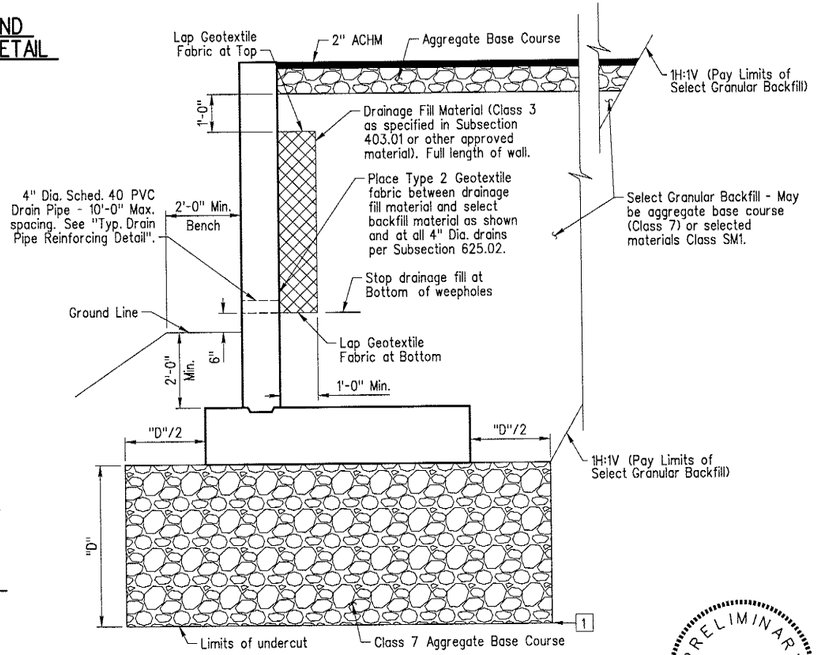


ALTERNATE SHAPE FOR WALL BAR

No Scale

FOOTING STEP AND EXPANSION JOINT DETAIL

Scale: ½" = 1'-0"



"D" = Depth of undercut. To be determined by the Engineer in the field.

FOUNDATION DETAILS

Scale: ½" = 1'-0"

[1] Elevation at bottom of under cut assumed to be 252' for the purpose of estimating Quantities.

PRELIMINARY SUBJECT TO REVISION

BRIDGE ENGINEER
PRINT DATE: 12/16/2016

SHEET 4 OF 5
DETAILS OF RETAINING WALL NO. 1
N. CANTRELL RD. STR. & APPRS. (LITTLE ROCK) (S)
PULASKI COUNTY
CITY OF LITTLE ROCK, ARKANSAS

DRAWN BY: LHG DATE: 5/23/16 FILENAME: XXXXXXXXX
CHECKED BY: CJC DATE: X/X/XX
DESIGNED BY: CGW DATE: 5/20/16 SCALE: As Noted
DRAWING NO.XXXXX

Checked By: Date:

JACOBS

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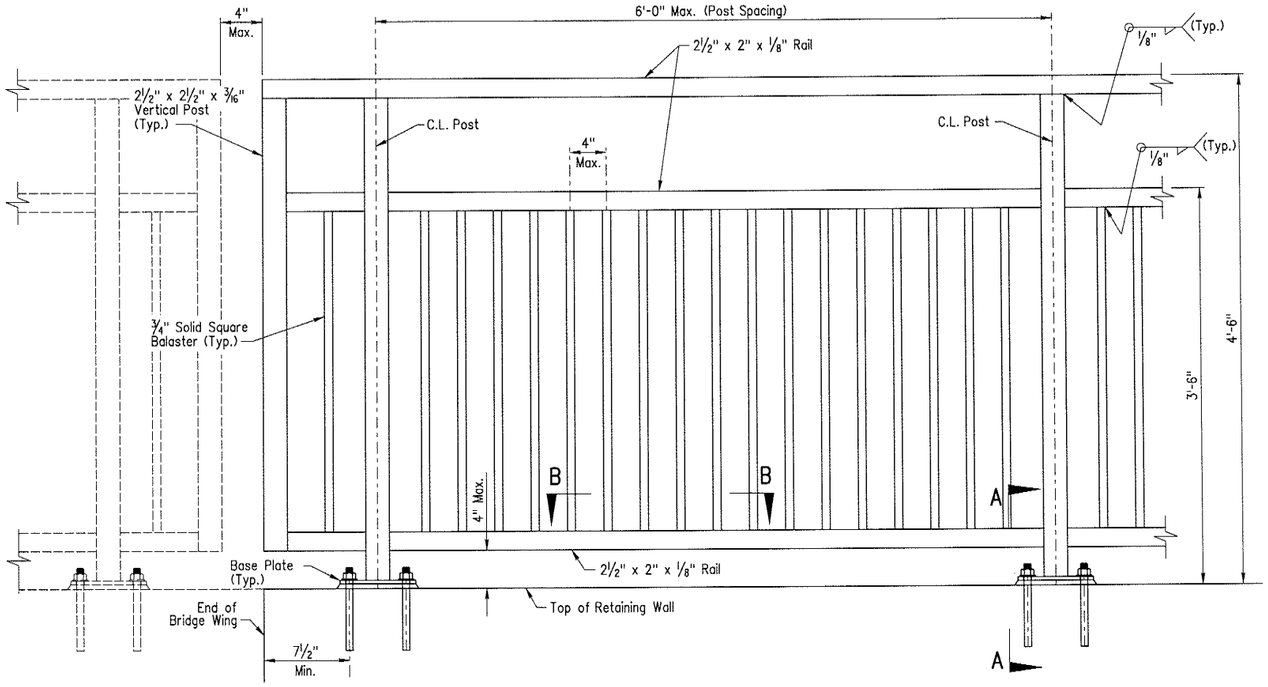
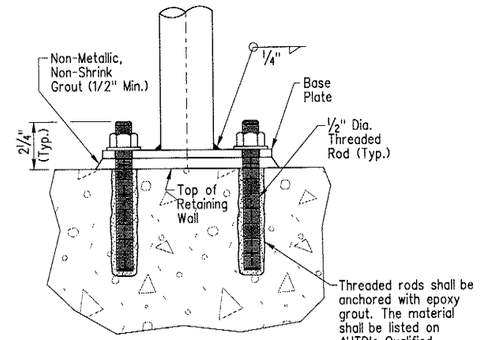
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061423	23	XX

(1) - RETAINING WALL NO. 1 - XXXXX



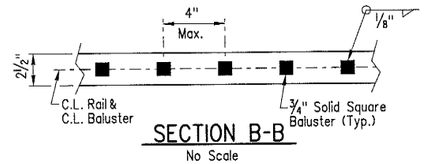
PART ELEVATION OF 54" PEDESTRIAN RAILING

No Scale



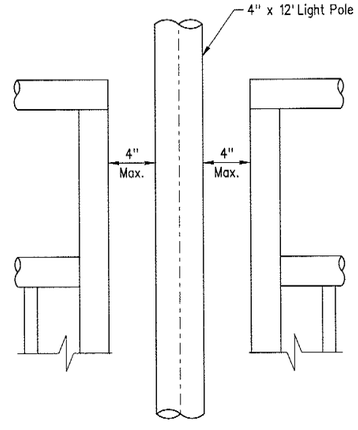
SECTION A-A

No Scale



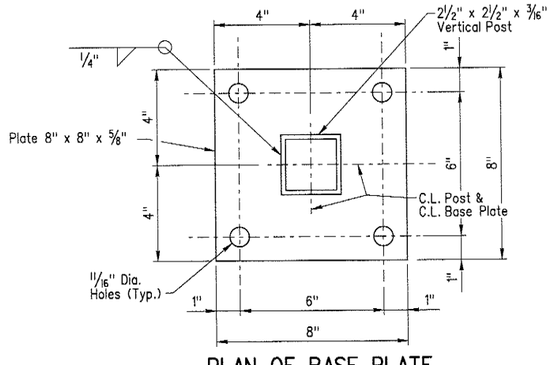
SECTION B-B

No Scale



RAILING AT LIGHT POLE

No Scale



PLAN OF BASE PLATE

No Scale

RAILING GENERAL NOTES

Tubing for Railing and Posts shall be A500, grade B steel (Fy=46,000 psi).

Structural Steel for balusters and base plates shall be ASTM A709 Grade 36 (Fy=36,000 psi) or Grade 50 (Fy=50,000 psi).

Anchors to be included in unit price bid for 54" Pedestrian Railing.

Railing posts shall be vertical. Grout of ½" maximum thickness shall be placed under the base plates to provide for vertical alignment of posts. All horizontal rails shall match the slope of the finished grade.

Place vent holes as required to prevent accumulation of water inside railing tubes.

Shop drawings of the Pedestrian Railing, including base plates and threaded rods, shall be submitted to the Engineer for approval prior to fabrication.

All railings shall have a smooth outside surface with no protrusions or depressions. All ends of tubes shall be closed and ground smooth.

Drilled holes for the epoxy resin anchors shall not affect the integrity of the reinforcing bars in the concrete coping.

Pullout strength of threaded rod and epoxy grout system shall be a minimum of 5000 lb. Embedment and installation of anchors shall be in accordance with manufacturer's recommendations.

Measurement of 54" Pedestrian Railing is to the nearest linear foot measured parallel to grade from end of railing to end of railing.

The contract unit price per linear foot for 54" Pedestrian Railing shall include furnishing, coating and erecting the railing complete with ½" Dia. threaded rods, washers, hex nuts and resin anchor system.

All pickets, posts, rails and base plates shall be galvanized after fabrication and in accordance with ASTM A123.

All threaded rods, hardened washers and nuts shall be galvanized in accordance with ASTM A153.

Precautions shall be taken with the galvanizing to ensure that the rail components are not water or chromate quenched after galvanizing.

Repair of damaged areas of hot-dip galvanized coatings shall be in accordance with ASTM A780.

Coating shall not proceed until at least 48 hours after galvanizing. Galvanized surfaces to be coated shall be cleaned to SSPC-SP-1 and followed by a light abrasive brush blast to meet SSPC-SP-7 in accordance with Subsection 807.87.

All pickets, posts, rails and other components of the rail shall be coated in accordance with Section 807.75 of the Standard Specifications which includes prime, tie and finish coats. Color of the finish shall be Brown (Federal Standard #30045) or as approved by the owner.

During the coating of the rail components, all surfaces of concrete and other areas not to receive the coating shall be protected from drippings of coating material and over spray. All coating material on surfaces not to be coated shall be immediately cleaned to remove all coating material to the satisfaction of the Engineer.

At the option of the Contractor, the tie coat and finish field coats may be applied in the shop. The Contractor shall exercise extreme care during all phases of loading, hauling, handling and erection of the rail to minimize damage and shall be fully responsible for all repairs and cleaning of the coating systems as required by the Engineer. Exposed threaded rods shall be field coated with a paint closely matching the color of the rail.

PRELIMINARY SUBJECT TO REVISION

BRIDGE ENGINEER
PRINT DATE: 12/16/2016

SHEET 5 OF 5
DETAILS OF RETAINING WALL NO. 1
N. CANTRELL RD. STR. & APPRS. (LITTLE ROCK) (S)
PULASKI COUNTY
CITY OF LITTLE ROCK, ARKANSAS

DRAWN BY: LHG DATE: 6/3/16 FILENAME: XXXXXXXXX
CHECKED BY: CJC DATE: 6/23/16
DESIGNED BY: CGW DATE: 5/26/16 SCALE: No Scale
DRAWING NO. XXXXX

Checked By: Date:

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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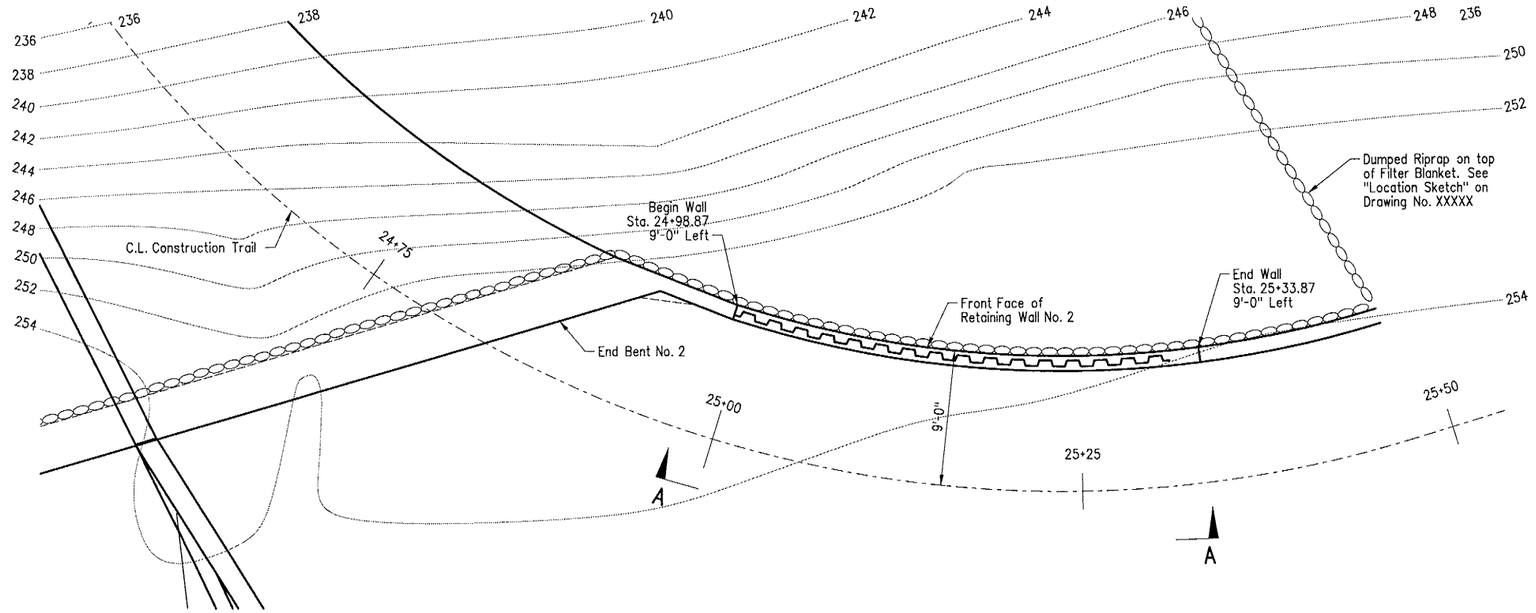
				JOB NO.		061423	24	XX
				1	RETAINING WALL NO. 2			XXXXX



PLAN

ESTIMATED QUANTITIES FOR RETAINING WALL NO. 2	
Sheet Piling (PZ 22)	XXXX SF
Class S(AE) Concrete	XX.XX CY
Steel Reinforcing (Grade 60)	XXXX LB

Notes:
Pedestrian Railing and Lighting not shown for clarity.

For 54" Pedestrian Railing details, See Sheet No. XX.

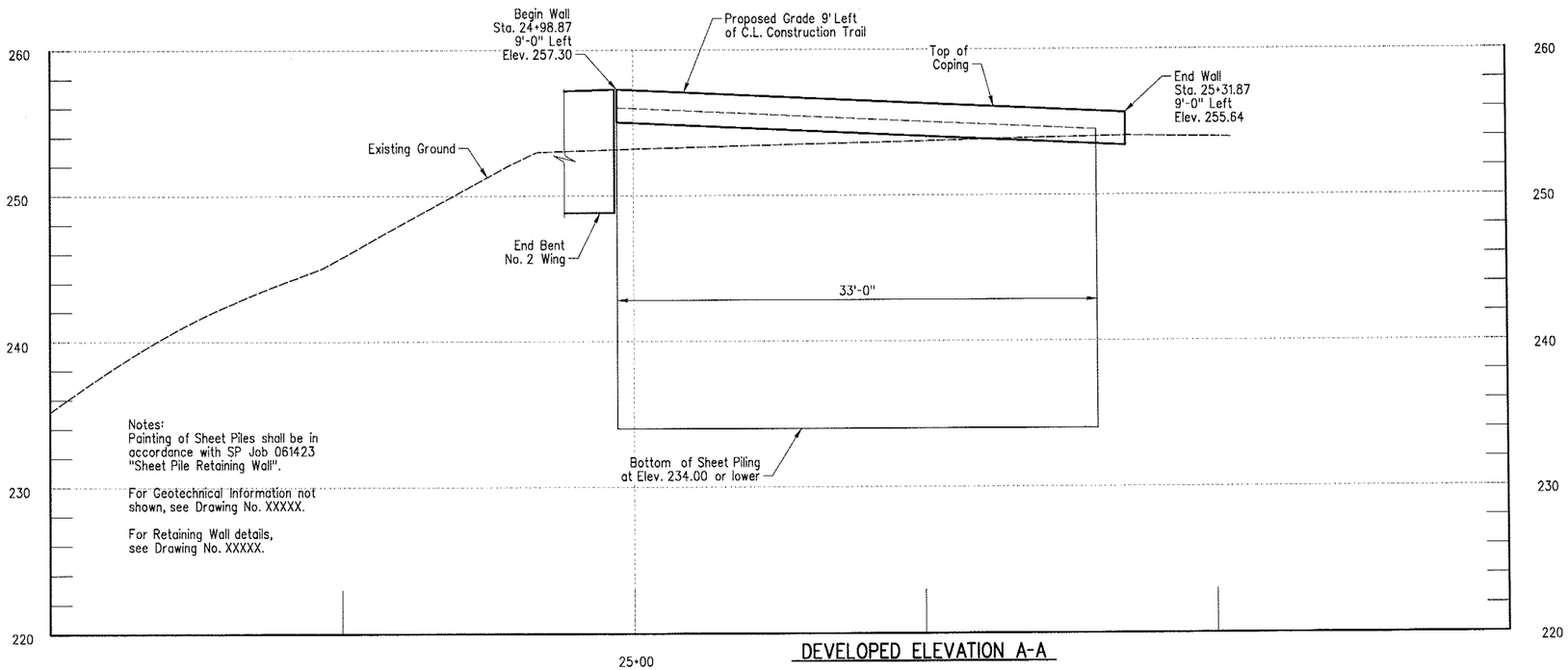
For Lighting details, See Sheet No. XX-XX.

Wall alignment stations and offsets are measured to Front Face of Retaining Wall.

Note:
The table of Estimated Quantities for Retaining Wall No. 2 represents the quantities used in preparing the cost estimate. Payment for all materials and labor to construct the retaining wall will be considered completely covered by the unit price per square foot of the wall in accordance with SP Job 061423 "Sheet Pile Retaining Wall". Variations may be considered in the estimated quantities but variations cannot be used for on adjustment in the contract unit price.

TABLE OF QUANTITIES

Sheet Pile Retaining Wall No. 2	XXXX sq. ft.



Notes:
Painting of Sheet Piles shall be in accordance with SP Job 061423 "Sheet Pile Retaining Wall".

For Geotechnical Information not shown, see Drawing No. XXXXX.

For Retaining Wall details, see Drawing No. XXXXX.

DEVELOPED ELEVATION A-A

PRELIMINARY
SUBJECT TO REVISION

BRIDGE ENGINEER
PRINT DATE: 12/16/2016

SHEET 1 OF 3
DETAILS OF RETAINING WALL NO. 2
STA. 24+98.87 TO STA. 25+31.87
PULASKI COUNTY
CITY OF LITTLE ROCK, ARKANSAS

DRAWN BY: LHG DATE: 6/2/16 FILENAME: XXXXX
CHECKED BY: CJC DATE: 6/23/16
DESIGNED BY: GHBW DATE: 5/26/16 SCALE: 1"=5'
BRIDGE NO. DRAWING NO. XXXXX

Checked By: Date:

JACOBS

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				JOB NO.		061423	25	XX
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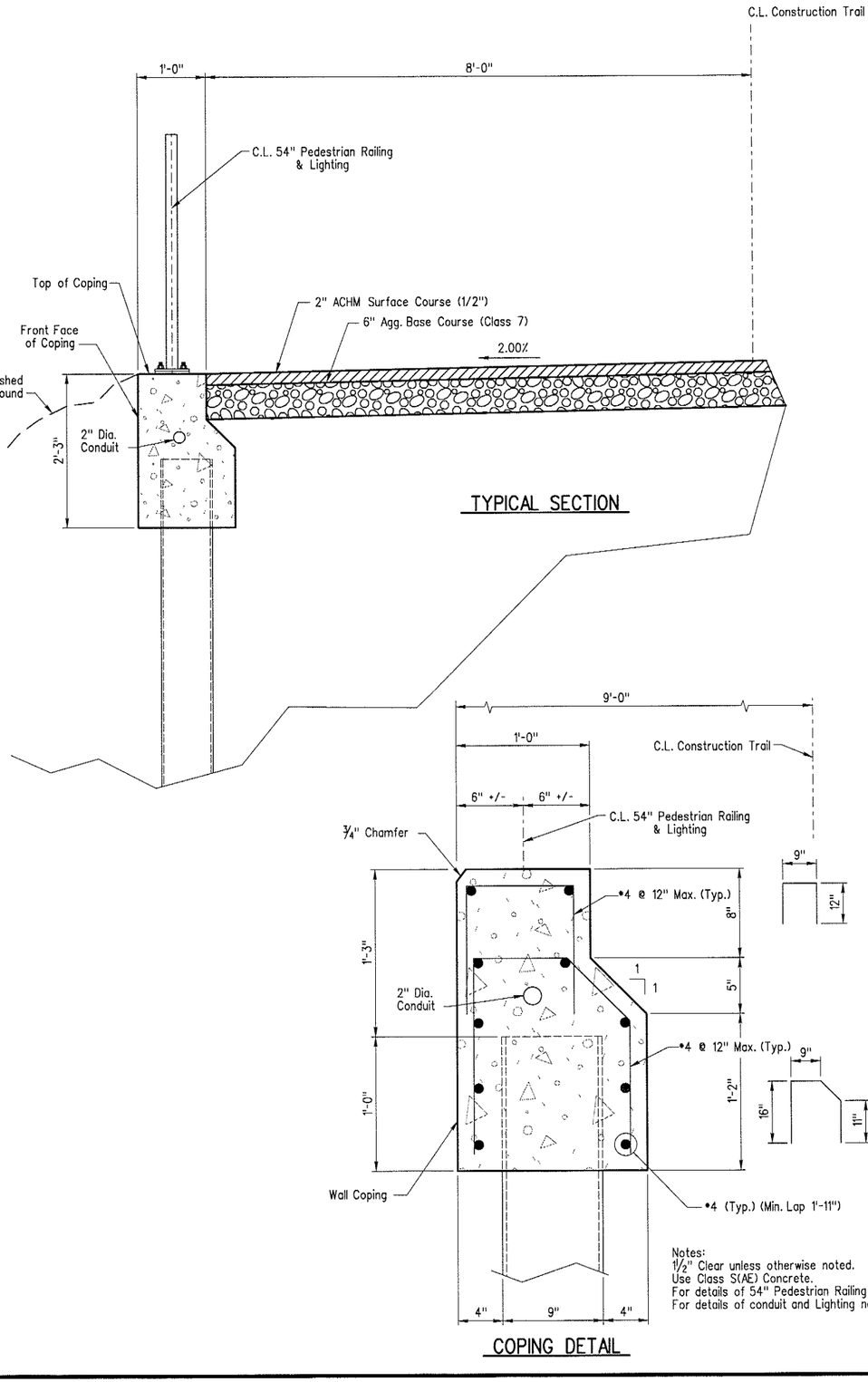

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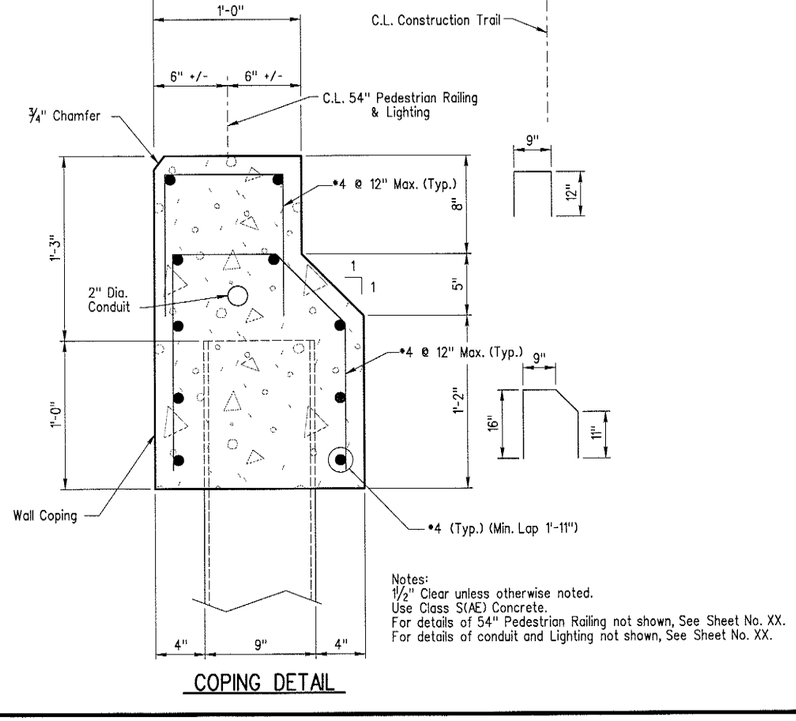
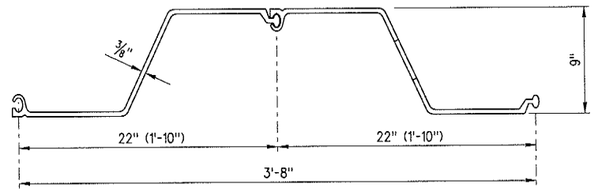


COPING DETAIL

Notes:
1½" Clear unless otherwise noted.
Use Class S(AE) Concrete.
For details of 54" Pedestrian Railing not shown, See Sheet No. XX.
For details of conduit and Lighting not shown, See Sheet No. XX.



PZ 22 SHEET PILING DETAIL

No Scale

RETAINING WALL GENERAL NOTES

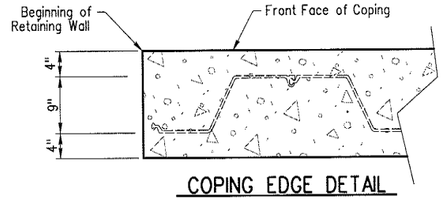
CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable Supplemental Specifications and Special Provisions. Unless otherwise noted in the Plans, Section and Subsection refer to Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Sixth Edition (2012), with 2013 interim revisions.

CONSTRUCTION CRITERIA:
PZ 22 Sheet Piling shall be in accordance with SP JOB 061423 "Sheet Pile Retaining Wall".

The Contractor shall verify all existing conditions and dimensions prior to beginning work or fabrication of materials. Notify Engineer of any variations which will require design modifications.

Concrete, reinforcing and sheet piling, complete and in-place, shall be considered completely covered by the price bid for "Sheet Pile Retaining Wall". See Roadway Plans for quantities of Compacted Embankment behind retaining wall.



COPING EDGE DETAIL

PLAN VIEW
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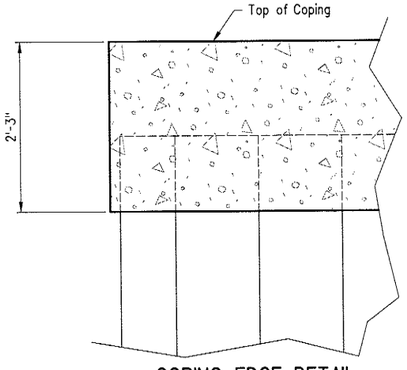

COPING EDGE DETAIL

ELEVATION VIEW
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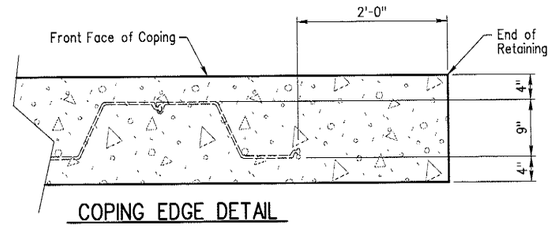

COPING EDGE DETAIL

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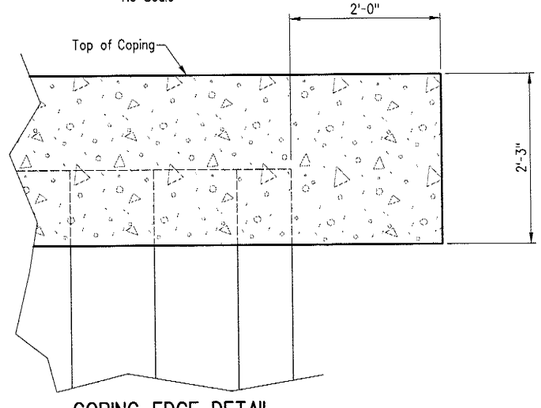

COPING EDGE DETAIL

ELEVATION VIEW
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PRELIMINARY
SUBJECT TO REVISION

BRIDGE ENGINEER
PRINT DATE: 12/16/2016

SHEET 2 OF 3
DETAILS OF RETAINING WALL NO. 2
STA. 24+98.87 TO STA. 25+31.87
PULASKI COUNTY
CITY OF LITTLE ROCK, ARKANSAS

DRAWN BY: LHG DATE: 6/2/16 FILENAME: XXXXX
CHECKED BY: CJC DATE: 6/23/16
DESIGNED BY: GHBW DATE: 5/26/16 SCALE: No Scale
BRIDGE NO. DRAWING NO. XXXXX

Checked By: Date:

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				JOB NO.		061423	26	XX
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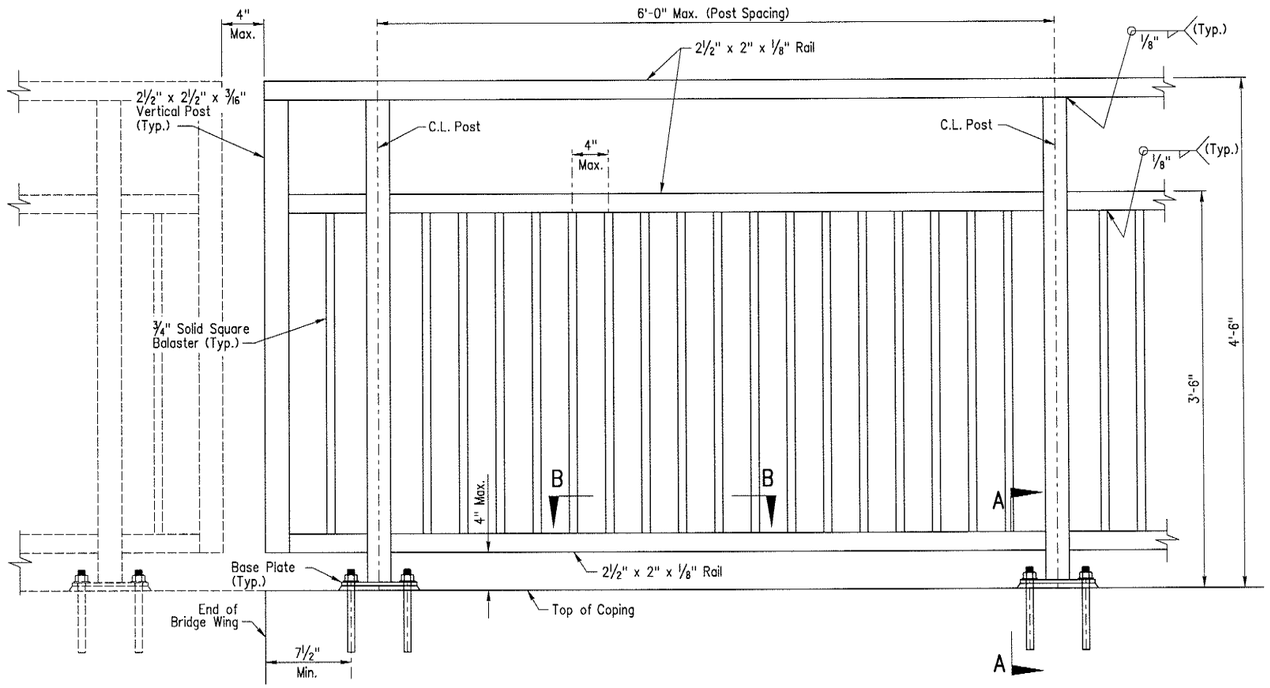

PART ELEVATION OF 54" PEDESTRIAN RAILING

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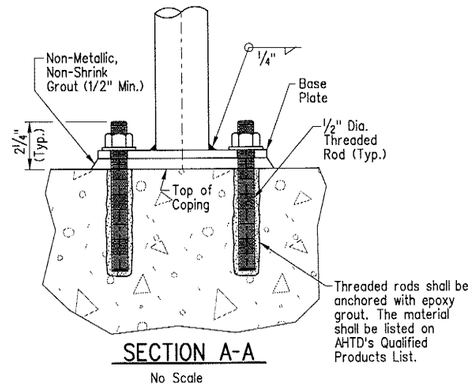

SECTION A-A

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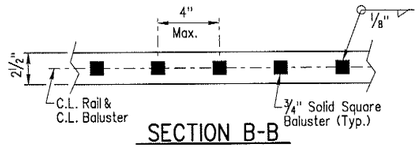

SECTION B-B

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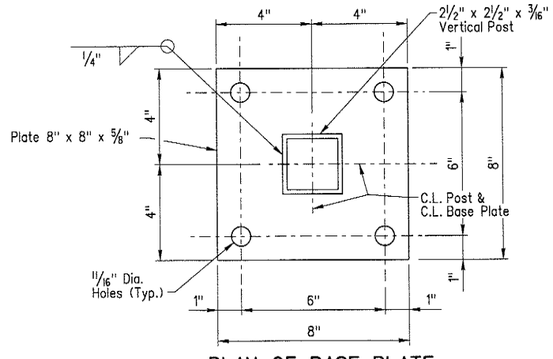

PLAN OF BASE PLATE

No Scale

RAILING GENERAL NOTES

Tubing for Railing and Posts shall be A500, grade B steel (Fy=46,000 psi).

Structural Steel for balusters and base plates shall be ASTM A709 Grade 36 (Fy=36,000 psi) or Grade 50 (Fy=50,000 psi).

Anchors to be included in unit price bid for 54" Pedestrian Railing.

Railing posts shall be vertical. Grout of ½" maximum thickness shall be placed under the base plates to provide for vertical alignment of posts. All horizontal rails shall match the slope of the finished grade.

Place vent holes as required to prevent accumulation of water inside railing tubes.

Shop drawings of the Pedestrian Railing, including base plates and threaded rods, shall be submitted to the Engineer for approval prior to fabrication.

All railings shall have a smooth outside surface with no protrusions or depressions. All ends of tubes shall be closed and ground smooth.

Drilled holes for the epoxy resin anchors shall not affect the integrity of the reinforcing bars in the concrete coping.

Pullout strength of threaded rod and epoxy grout system shall be a minimum of 5000 lb. Embedment and installation of anchors shall be in accordance with manufacturer's recommendations.

Measurement of 54" Pedestrian Railing is to the nearest linear foot measured parallel to grade from end of railing to end of railing.

The contract unit price per linear foot for 54" Pedestrian Railing shall include furnishing, coating and erecting the railing complete with ½" Dia. threaded rods, washers, hex nuts and resin anchor system.

All pickets, posts, rails and base plates shall be galvanized after fabrication and in accordance with ASTM A123.

All threaded rods, hardened washers and nuts shall be galvanized in accordance with ASTM A153.

Precautions shall be taken with the galvanizing to ensure that the rail components are not water or chromate quenched after galvanizing.

Repair of damaged areas of hot-dip galvanized coatings shall be in accordance with ASTM A780.

Coating shall not proceed until at least 48 hours after galvanizing. Galvanized surfaces to be coated shall be cleaned to SSPC-SP-1 and followed by a light abrasive brush blast to meet SSPC-SP-7 in accordance with Subsection 807.87.

All pickets, posts, rails and other components of the rail shall be coated in accordance with Section 807.75 of the Standard Specifications which includes prime, tie and finish coats. Color of the finish shall be Brown (Federal Standard #30045) or as approved by the owner.

During the coating of the rail components, all surfaces of concrete and other areas not to receive the coating shall be protected from drippings of coating material and over spray. All coating material on surfaces not to be coated shall be immediately cleaned to remove all coating material to the satisfaction of the Engineer.

At the option of the Contractor, the tie coat and finish field coats may be applied in the shop. The Contractor shall exercise extreme care during all phases of loading, hauling, handling and erection of the rail to minimize damage and shall be fully responsible for all repairs and cleaning of the coating systems as required by the Engineer. Exposed threaded rods shall be field coated with a paint closely matching the color of the rail.

PRELIMINARY SUBJECT TO REVISION

BRIDGE ENGINEER
PRINT DATE: 12/16/2016

SHEET 3 OF 3
DETAILS OF RETAINING WALL NO. 2
N. CANTRELL RD. STR. & APPRS. (LITTLE ROCK) (S)
PULASKI COUNTY
CITY OF LITTLE ROCK, ARKANSAS

DRAWN BY: LHG DATE: 6/3/16 FILENAME: XXXXXXXXX
CHECKED BY: CJC DATE: 6/23/16
DESIGNED BY: GHBW DATE: 5/26/16 SCALE: No Scale
DRAWING NO. XXXXX

Checked By: Date:

JACOBS

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12/16/2016 10:52:23 AM

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061423	-	XX

(2) CROSS SECTIONS

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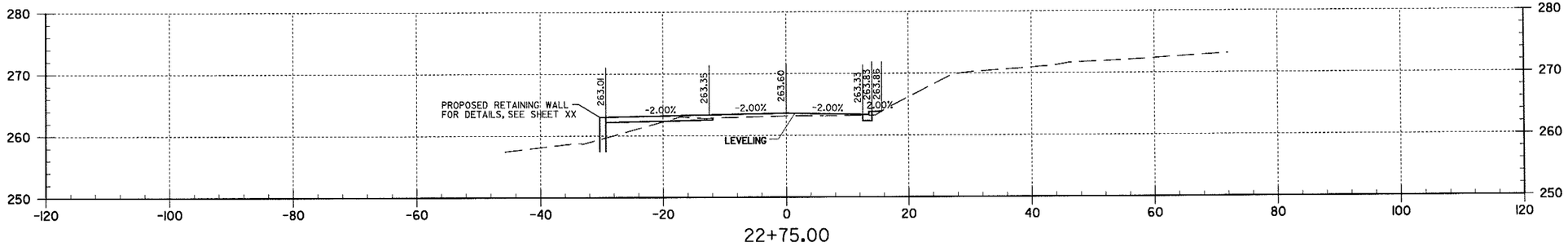

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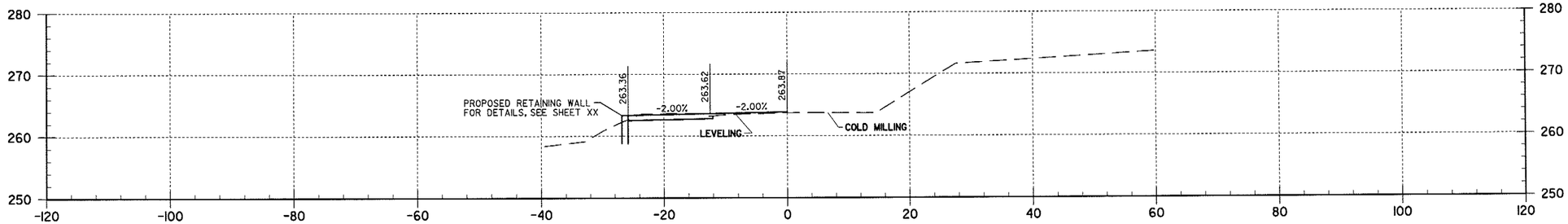

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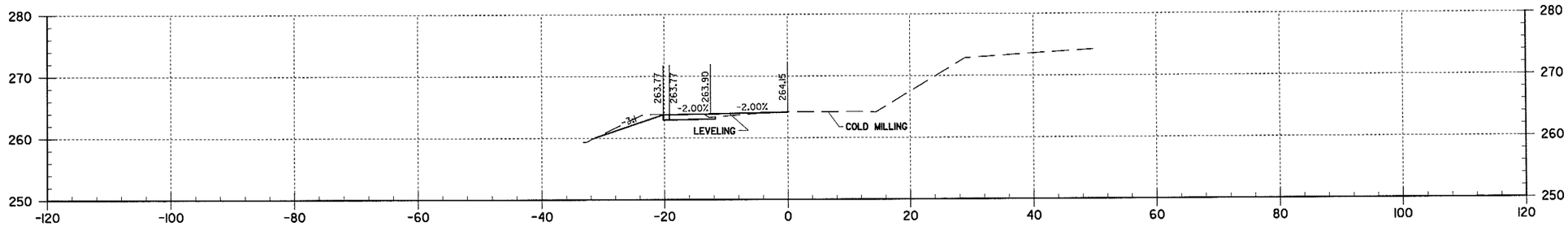

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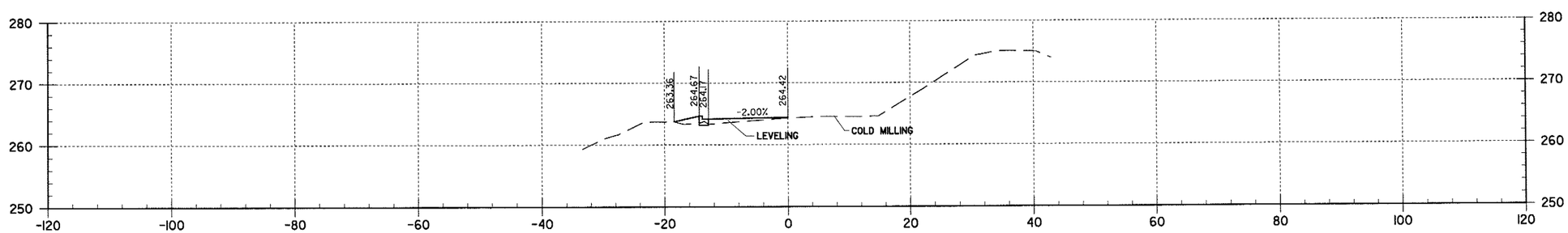

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061423	-	XX

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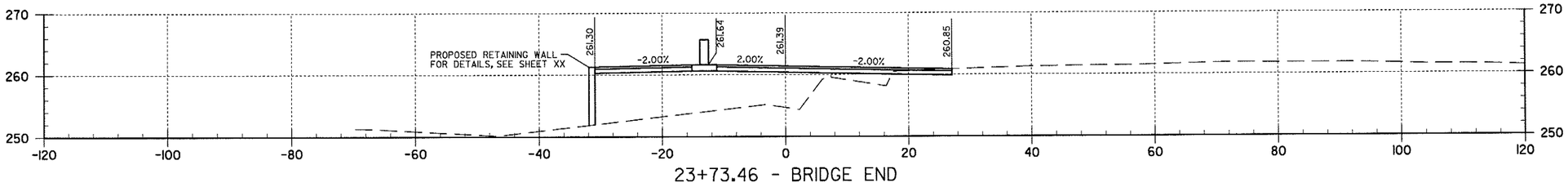

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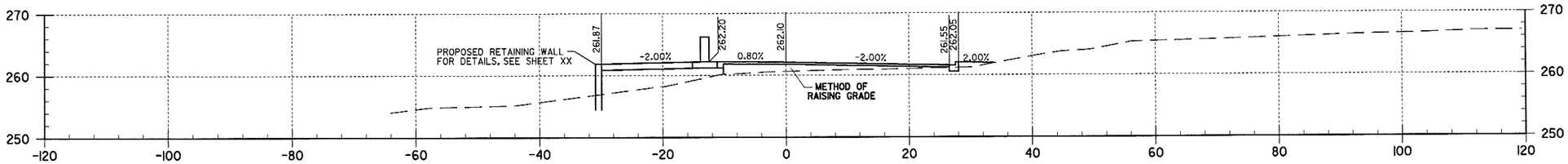

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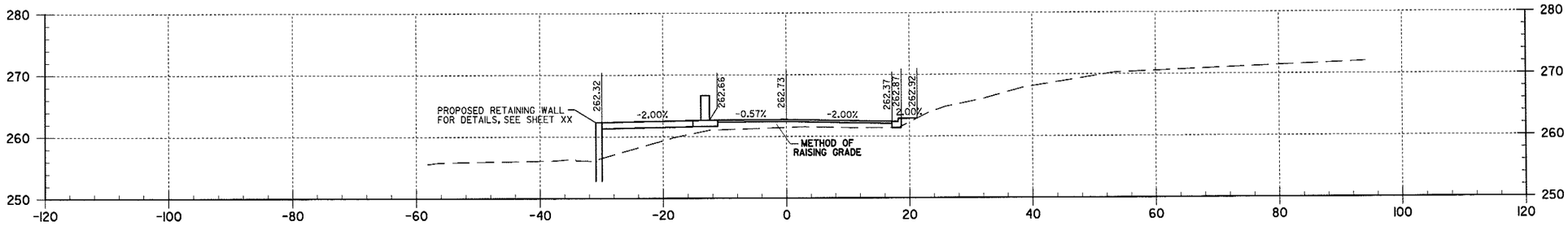

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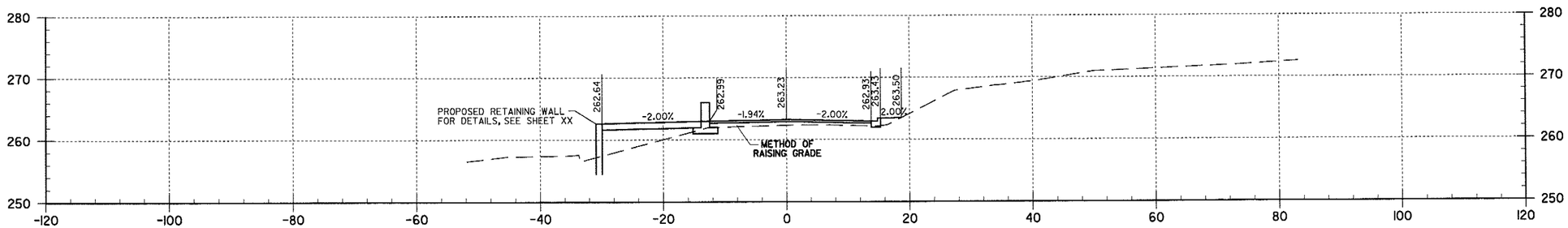

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061423	-	XX

(2) CROSS SECTIONS

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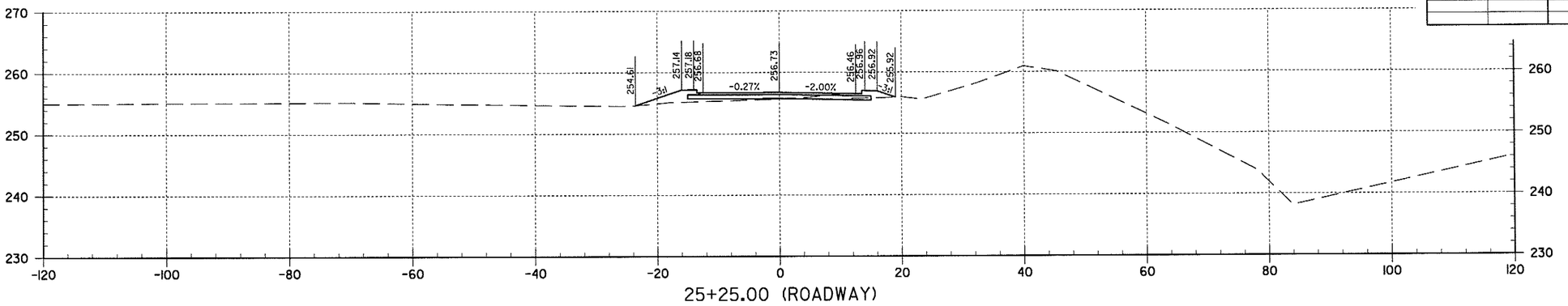

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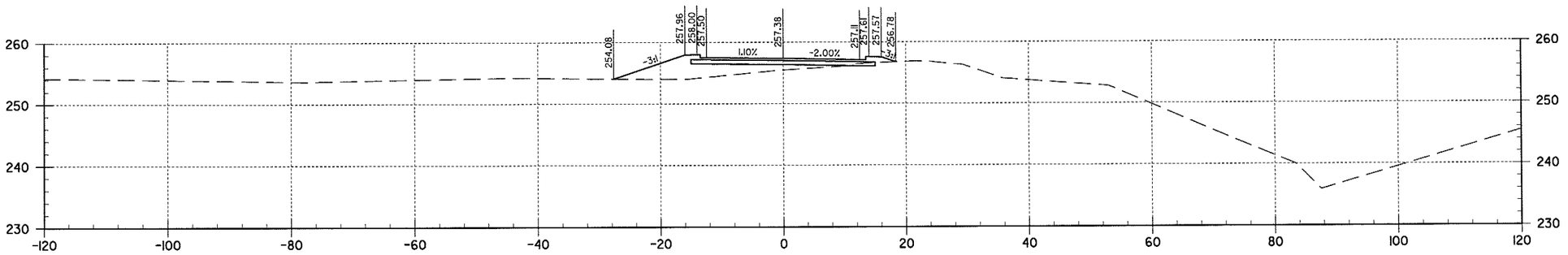

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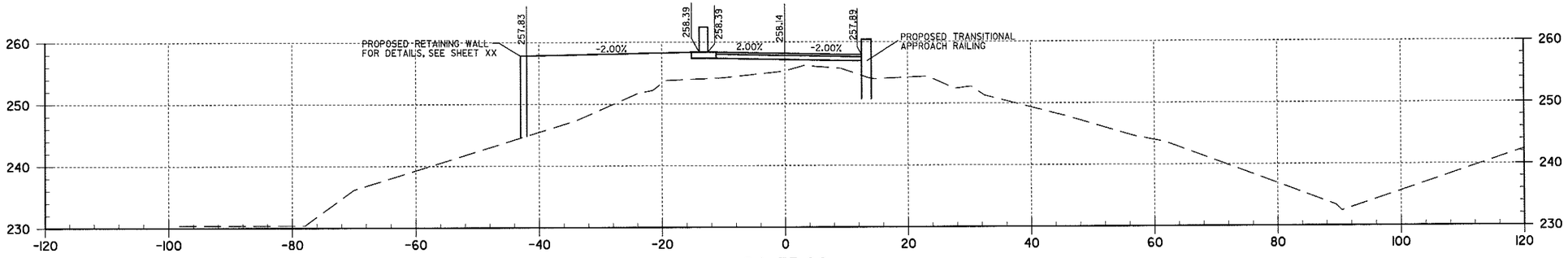

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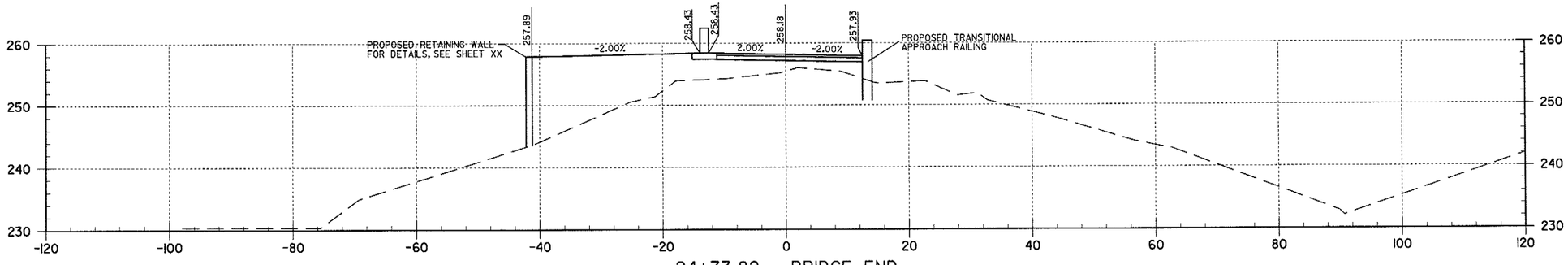

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061423	-	XX

(2) CROSS SECTIONS

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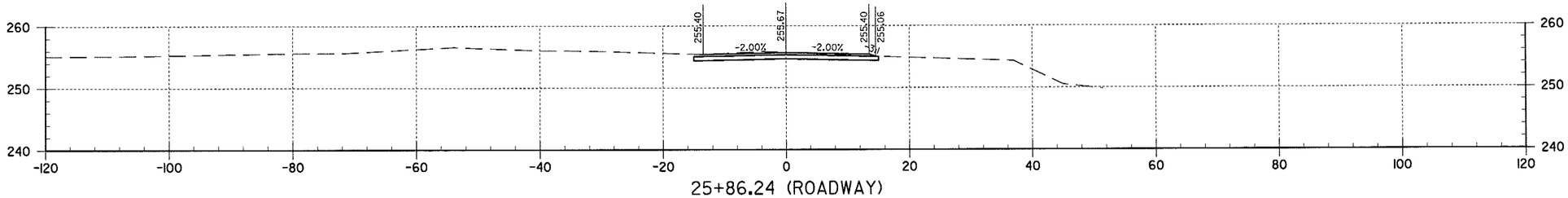

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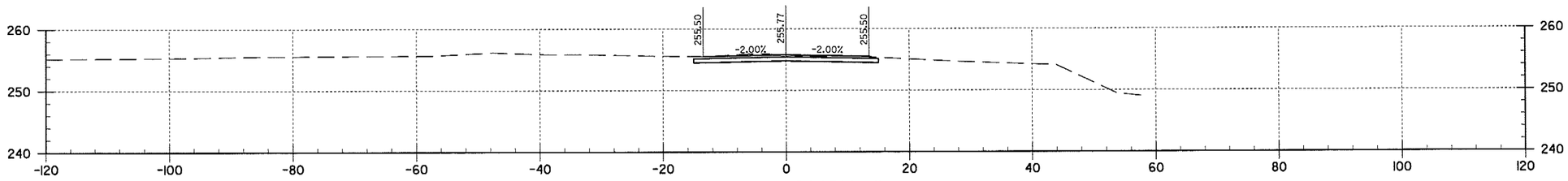

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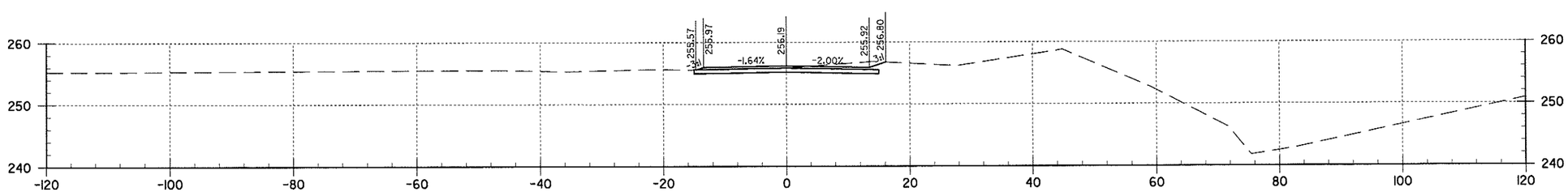

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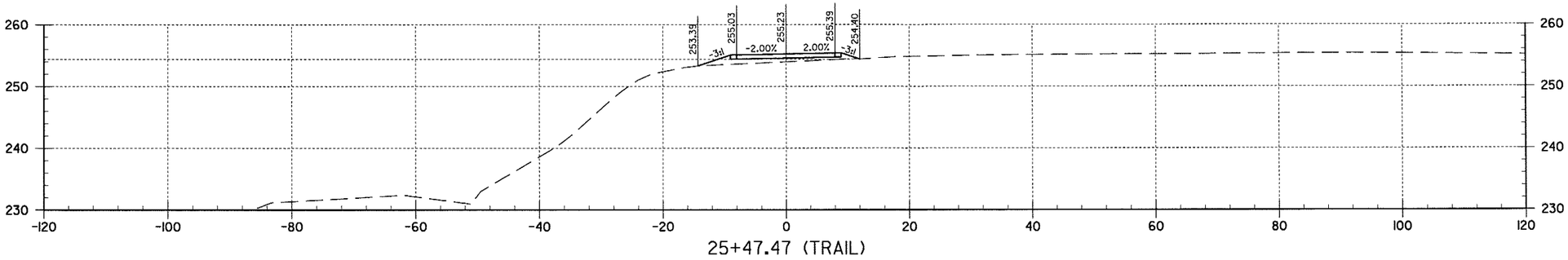
JACOBS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061423	-	XX

(2) CROSS SECTIONS

END AREA (S.F.)		VOLUME (C.Y.)	
CUT	FILL	CUT	FILL



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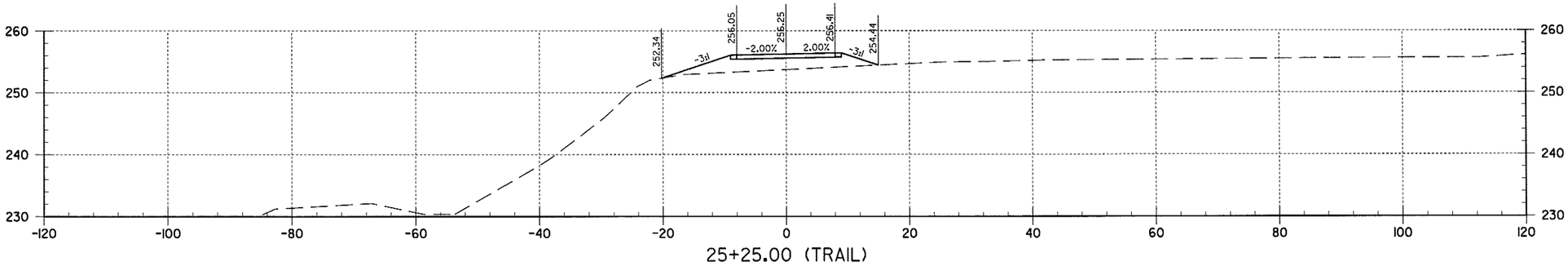

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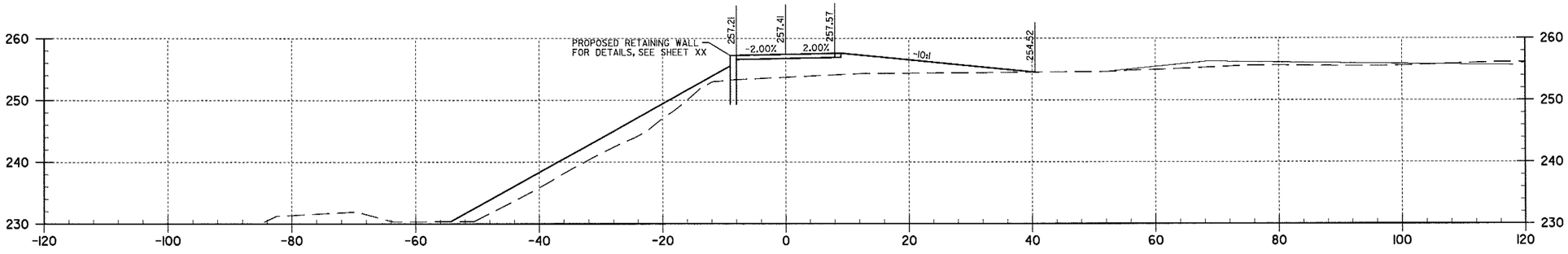

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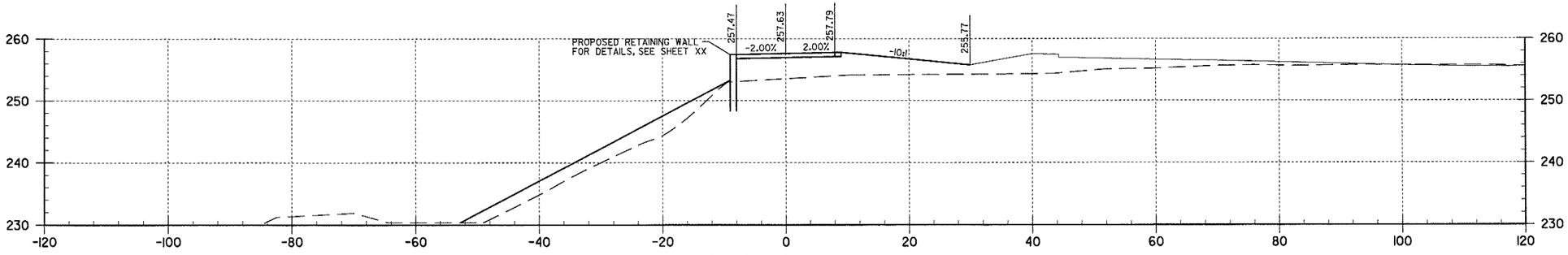

24+93.52 (TRAIL)

12/16/2016 11:07:57 AM ...\R4000C-CrossSectionsPhase3.dgn T:\Job\WLXL4000 Arkansas River Trail\700 CADD Files\Phase3\777 Roadway\Drawings\R4000C-CrossSectionsPhase3.dgn

JACOBS