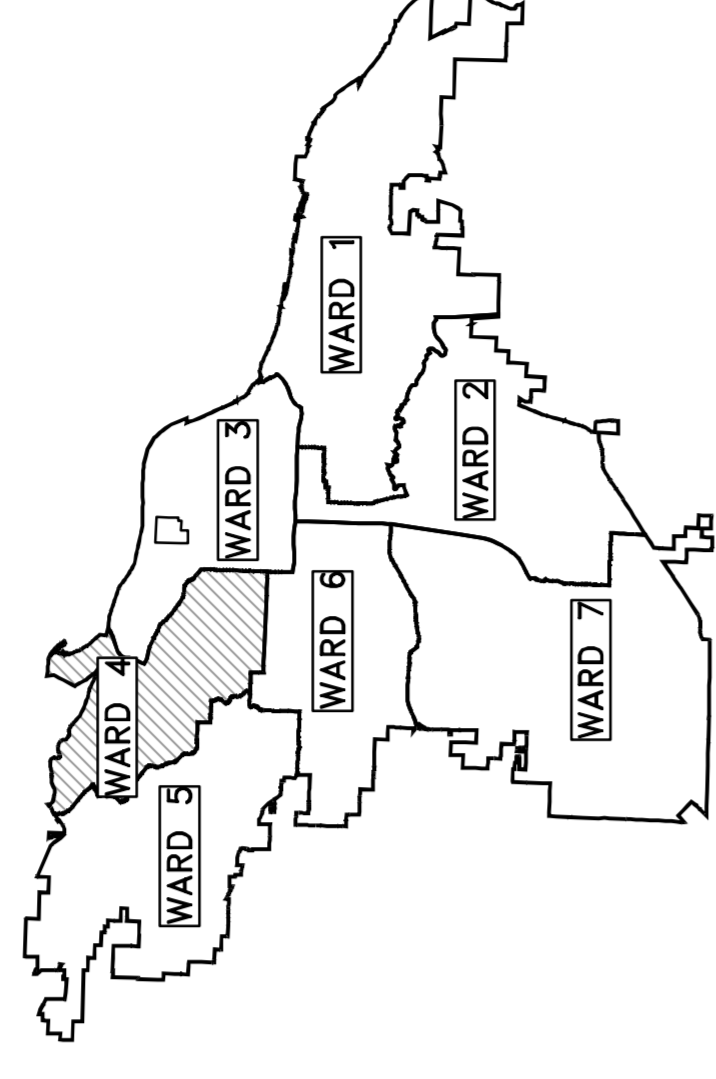
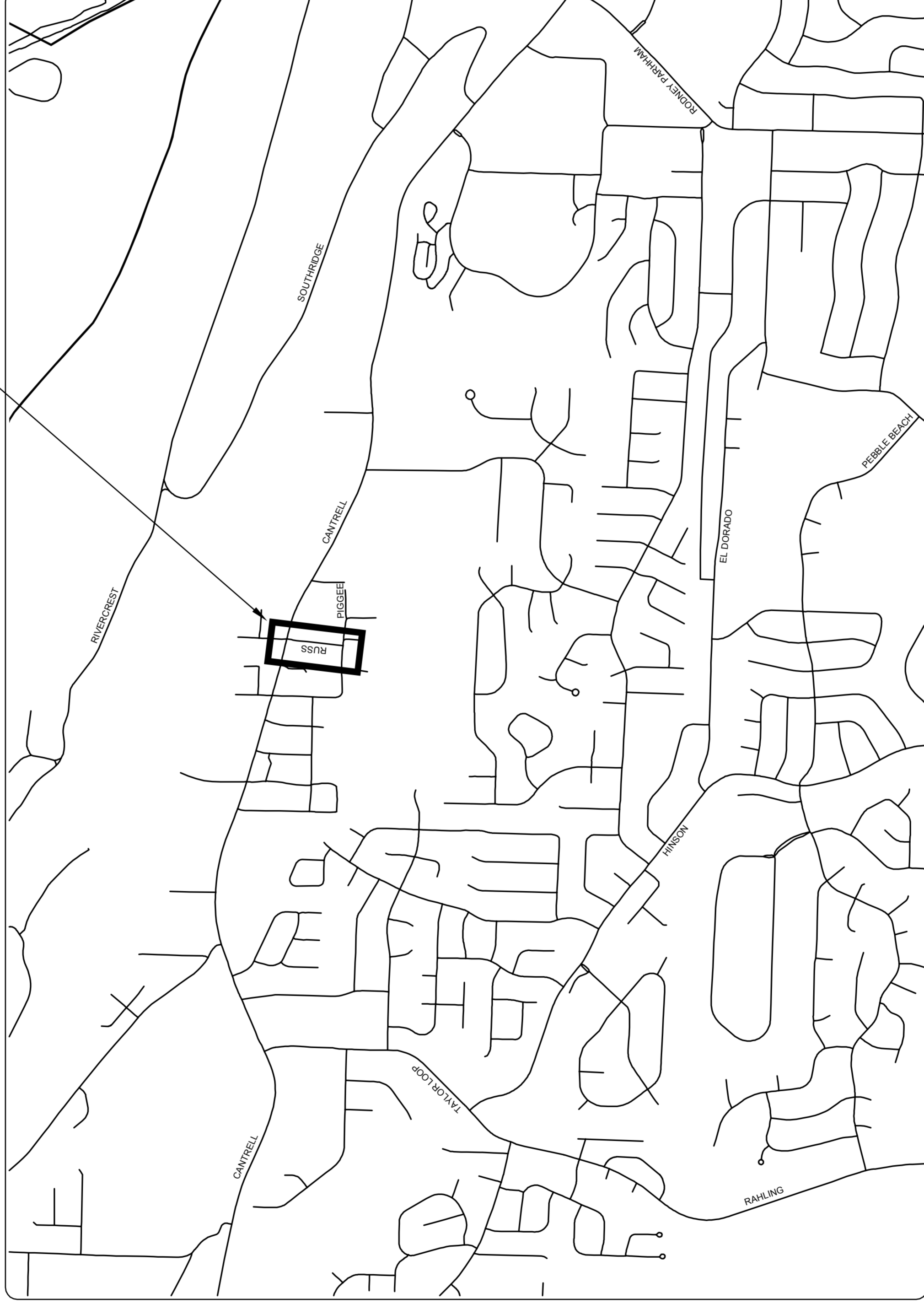


13-4-106 RUSS STREET

PROJECT
LOCATION

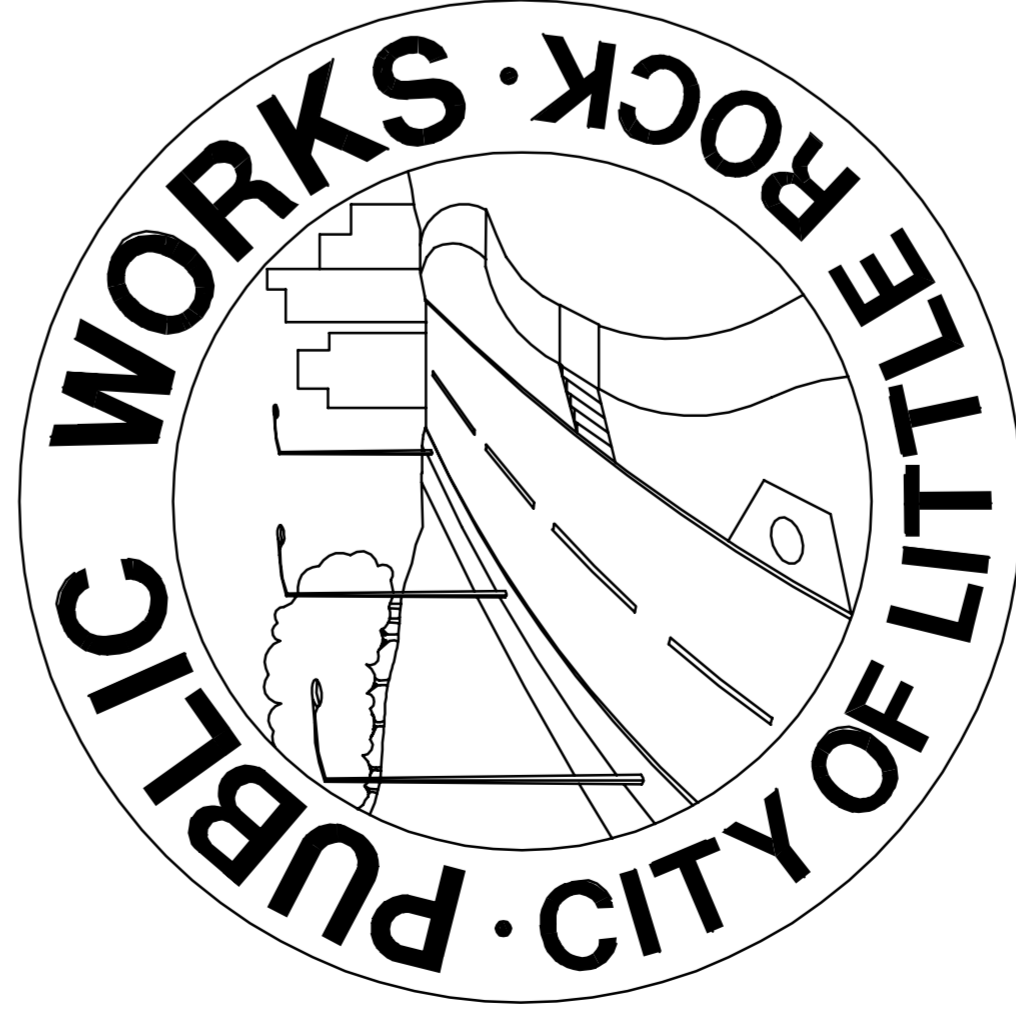


PROJECT LOCATION - WARD 1

- C1 COVER SHEET
- C2 QUANTITIES
- C3 RUSS STREET 1
- C4 RUSS STREET 2
- C5 DRIVEWAY PLANS
- C6 EROSION CONTROL
- C7 DRAINAGE PROFILES
- C8 HEADWALL DETAILS
- C9 MISCELLANEOUS
- C10 ARDOT STANDARD DETAILS



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



REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
RUSS STREET
COVER SHEET



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SHEET NO.	C1

REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
2013 STREET PROJECTS RUSS STREET
QUANTITIES AND DETAILS

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SHEET NO. C2

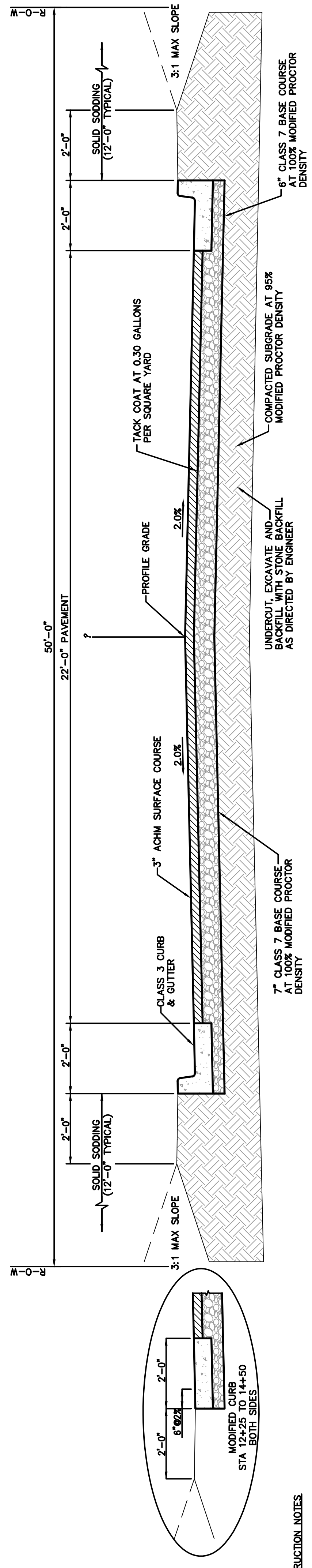
EXISTING

- | | |
|------------------------------|----------|
| IRON ROD | ○ IR |
| PK NAIL | ○ PK |
| R.R. SPIKE | ○ RR(Sp) |
| CONC. MONUMENT | □ CM |
| WATER VALVE | ⊗ WV |
| WATER METER | ⊗ WM |
| FIRE HYDRANT | ⊗ FH |
| GAS METER | ⊗ GM |
| GAS VALVE | ⊗ GV |
| CLEAN-OUT | ○ CO |
| GUARD POST (BOLLARD) | ● GP |
| SIGN POST | ⊕ |
| BENCHMARK | ⊕ |
| STORM SEWER MANHOLE | ⊕ (D) |
| SANITARY SEWER MANHOLE | ⊕ (S) |
| TELEPHONE MANHOLE | ⊕ (T) |
| ELECTRIC MANHOLE | ⊕ (E) |
| TELEPHONE BOX | ⊕ |
| ELECTRIC BOX | ⊕ |
| CABLE BOX | ⊕ |
| UTILITY POLE | ⊕ |
| GUY WIRE | ⊕ |
| LIGHT POLE | ⊕ |
| POST OR POLE (TYPE AS NOTED) | ⊕ |
| MAILBOX | ⊕ |
| DECIDUOUS TREE | ⊕ |
| EVERGREEN/CONIFEROUS TREE | ⊕ |
| BUSH | ⊕ |
| PROPERTY LINE | --- |
| SETBACK LINE | --- |
| EASEMENT LINE | --- |
| CURB | --- |
| FENCE | --- |
| OVERHEAD UTILITY | --- |
| UNDERGROUND TELEPHONE | --- |
| UNDERGROUND ELECTRIC | --- |
| WATER LINE | --- |
| SEWER LINE | --- |
| GAS LINE | --- |
| STORM SEWER/CULVERT | --- |
| CONTOUR LINE | --- |

PROPOSED

- | | |
|--|-----|
| CONTOUR | --- |
| SPOT ELEVATION | --- |
| SPOT CURB ELEVATION | --- |
| STORM SEWER - PIPE | --- |
| STORM SEWER - MITERED END SECTION | --- |
| STORM SEWER - GRATE INLET | --- |
| STORM SEWER - JUNCTION BOX | --- |
| STORM SEWER - FLARED END SECTION | --- |
| STORM SEWER - HEADWALL | --- |
| STORM SEWER - INLET WITH SINGLE EXTENSION | --- |
| STORM SEWER - INLET WITH DOUBLE EXTENSION | --- |
| STORM SEWER - AREA INLET | --- |
| GRADE BREAK LINE | --- |
| HIGH POINT | --- |
| LOW POINT | --- |
| CUT LINE | --- |
| FILL LINE | --- |
| SANITARY SEWER PIPE | --- |
| SANITARY SEWER MANHOLE | --- |
| CURB | --- |
| CONCRETE | --- |
| CONSTRUCTION - ENTRANCE/EXIT | --- |
| CHECK DAM | --- |
| DIVERSION BERM | --- |
| DOWNDRAIN STRUCTURE - TEMPORARY | --- |
| ROCK DAM | --- |
| SEDIMENT BARRIER - SILT FENCE | --- |
| SEDIMENT BARRIER - GRAVEL RING | --- |
| SEDIMENT BARRIER - BLOCK & GRAVEL | --- |
| SEDIMENT BARRIER - BLOCK | --- |
| TEMPORARY SEDIMENT BASIN | --- |
| SILT FENCE - TYPE A | --- |
| SILT FENCE - TYPE B | --- |
| SILT FENCE - TYPE C | --- |
| STORM DRAIN OUTLET PROTECTION | --- |
| SURFACE ROUGHENING | --- |
| DISTURBED AREA STABILIZATION - TEMPORARY STABILIZATION | --- |
| DISTURBED AREA STABILIZATION - TEMPORARY GRASSING | --- |
| DISTURBED AREA STABILIZATION - PERMANENT GRASSING | --- |
| MATTING/BLANKETS | --- |

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
2.01	SITE PREPARATION (INCLUDING MOBILIZATION)	1	LS
3.01	UNCLASSIFIED EXCAVATION	1000	CY
3.06	BORROW MATERIAL	250	CY
4.01	AGGREGATE BASE COURSE (CLASS 7)	560	TON
5.01	TACK COAT	410	GAL
6.01	ASPHALT SURFACE COURSE	230	TON
7.04	CONCRETE DRIVE (PRIVATE 6")	270	SY
8.01	CONCRETE CURB & GUTTER (MODIFIED)	700	LF
8.02	CONCRETE CURB & GUTTER (MODIFIED)	500	LF
11.01	REINFORCED CONCRETE HEADWALLS AND WINGWALLS	45	CY
13.24	STORM DRAIN PIPES, 24" CROSS DRAIN	40	LF
13.30	STORM DRAIN PIPES, 30" CROSS DRAIN	32	LF
14.02	REINFORCED CONCRETE BOX CULVERT	120	LS
15.01	REINFORCED CONCRETE AND TRAFFIC CONTROL	120	LS
18.08	1" THICK RIP RAP (GRouted)	120	SY
18.10	WATER FOR DUST CONTROL	10000	GAL
19.01	FINAL CLEAN-UP	1	LS
23.01	B STONE	350	TON
24.01	CONSTRUCTION ENTRANCE	1	EA
24.02	CHECK DAM (GD)	25	EA
24.11	SILT FENCE - TYPE A (SFA)	500	LF
24.16	DISTURBED AREA STABILIZATION - TEMPORARY STABILIZATION (TST)	0.6	AC
26.01	TRENCH AND EXCAVATION SAFETY SYSTEM	100	SY
27.10	COLD MILLING ASPHALT PAVEMENT	275	LF
28.00	GUARDRAIL	4	EA
28.02	GUARDRAIL TERMINAL ANCHOR POST	2	EA
32.24	FLARED END SECTIONS, 24"	2	EA
32.30	FLARED END SECTIONS, 30"	2	EA
46.00	HYDROSEEDING	0.6	AC
48.00	EROSION CONTROL MATTING	320	SY
49.00	TOP SOIL	350	CY
52.00	PROJECT INFORMATION KIOSK	1	LS
SP	REMOVE AND REPLACE LIGHT POLE	2	EA
SP	CONCRETE FURNISHING	20	EA
SP	SEGMENTAL RETAINING WALL	325	SF




TYPICAL SECTION
RUSS STREET
DETAIL
N.T.S.

- CONSTRUCTION NOTES**
- FIELD DENSITY TESTS ARE REQUIRED TO VERIFY COMPACTION. WHEN THE REQUIRED DENSITY IS NOT MET, THE CONTRACTOR SHALL REWORK THE FAILING PORTION SHOULD BE REWORKED AND TESTED UNTIL THE RESULTS ARE WITHIN THE SPECIFICATIONS.
 - PRIOR TO INSTALLING THE BASE COURSE THE CONTRACTOR SHALL PROOF-ROLL THE SUBGRADE. ANY SOFT AND YIELDING AREAS SHALL BE REMOVED AND REPAIRED PER THE SPECIFICATIONS. PROOF-ROLLING SHOULD BE ACCOMPISHED WITH A LOADED DUMP TRUCK EXERTING A MINIMUM OF 10,000 LBS. PER AXLE.

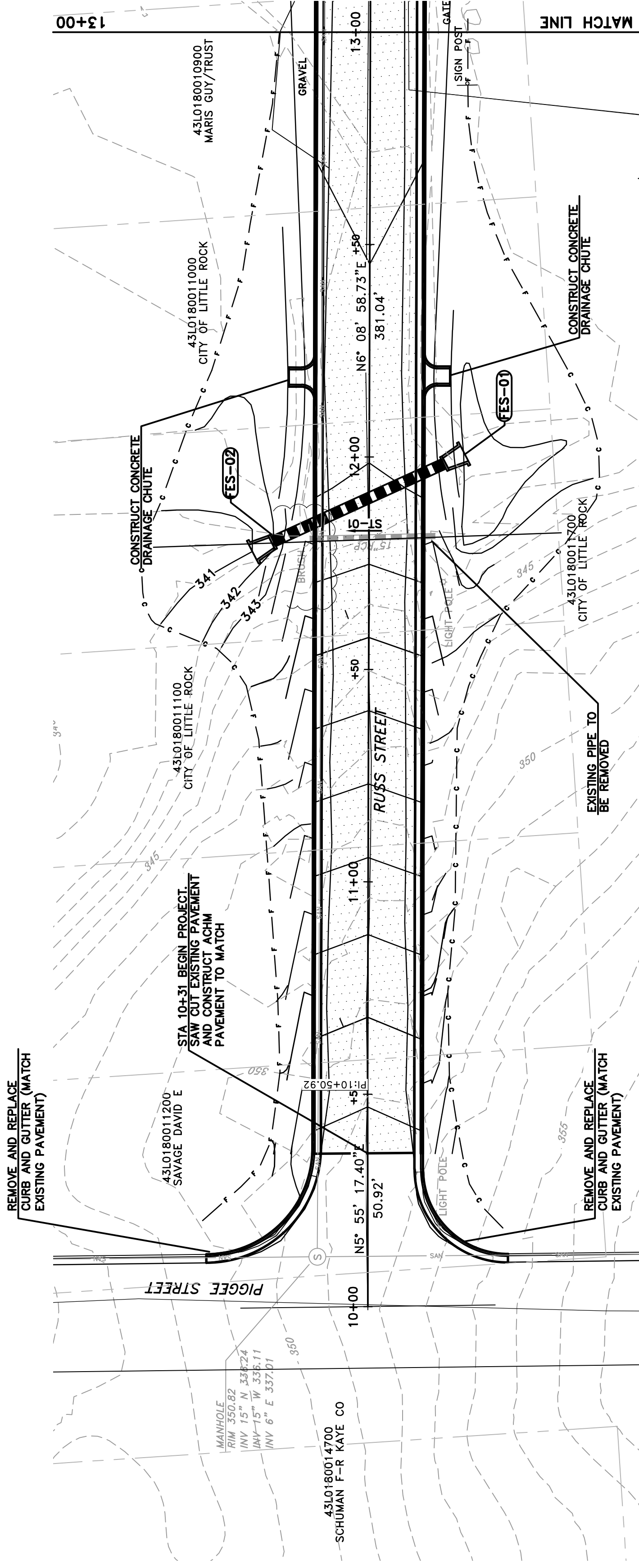
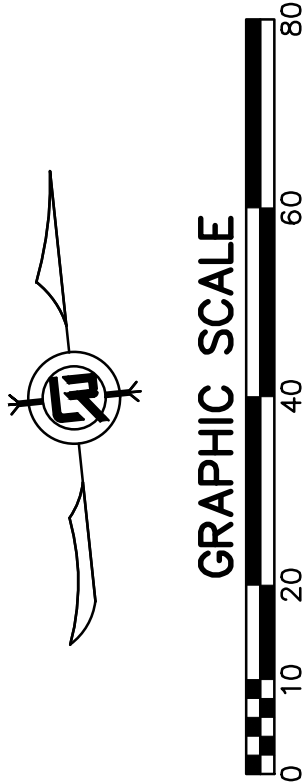
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CITY OF LITTLE ROCK, ARKANSAS
2013 STREET PROJECTS RUSS STREET
PLAN AND PROFILE
STA 0+00 TO STA 13+00

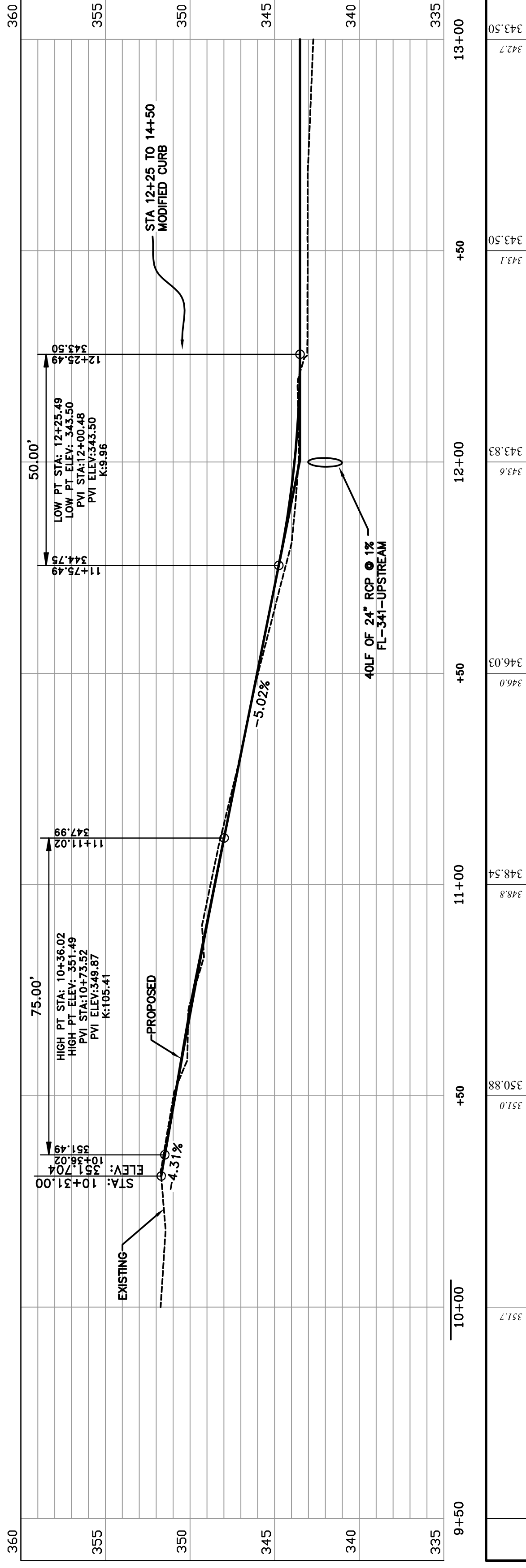
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PROJECT NO.	CLR #13-4-106
SHEET NO.	C3




PLAN
1"=20'



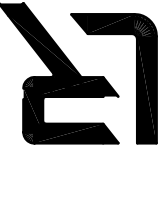
PROFILE
H: 1"=20'; V: 1"=5'

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CITY OF LITTLE ROCK, ARKANSAS
2013 STREET PROJECTS, RUSS STREET
PLAN AND PROFILE
STA 13+00 TO END

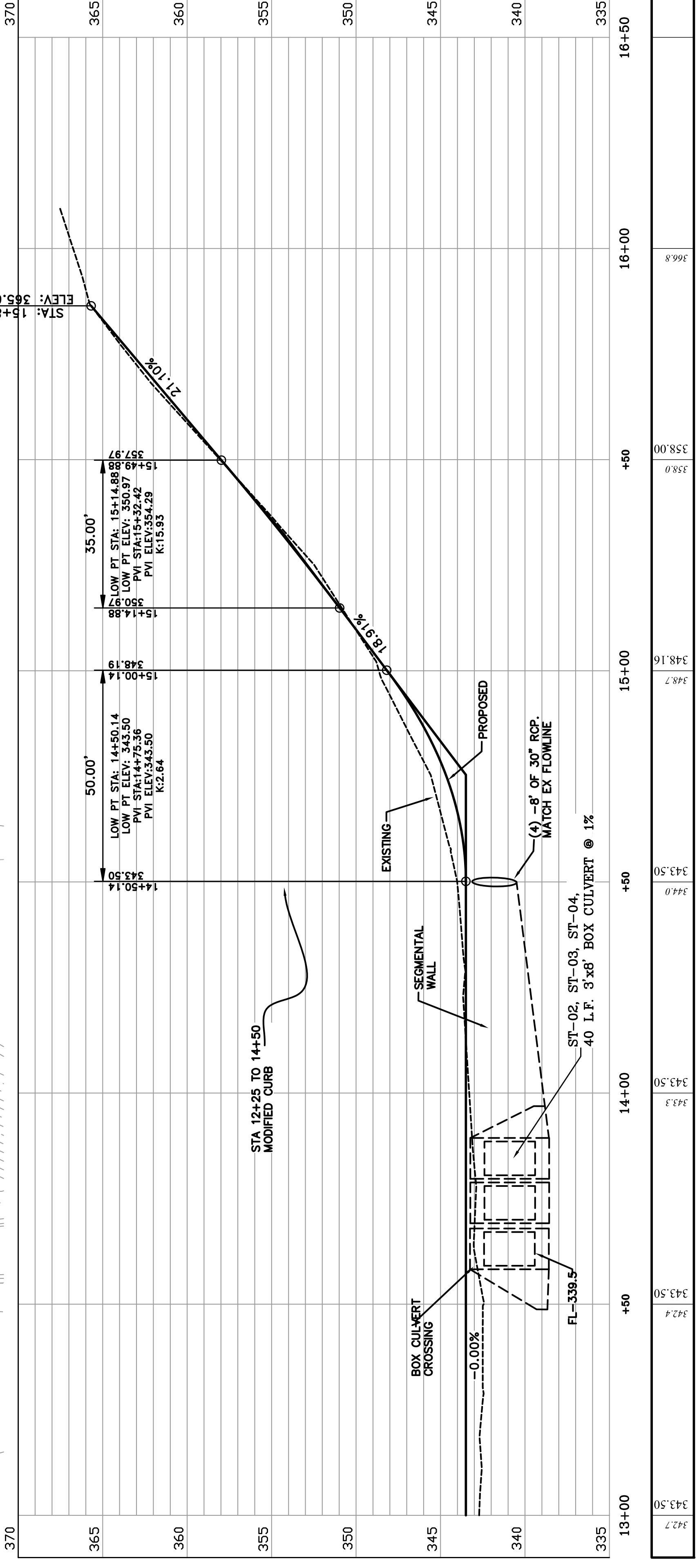
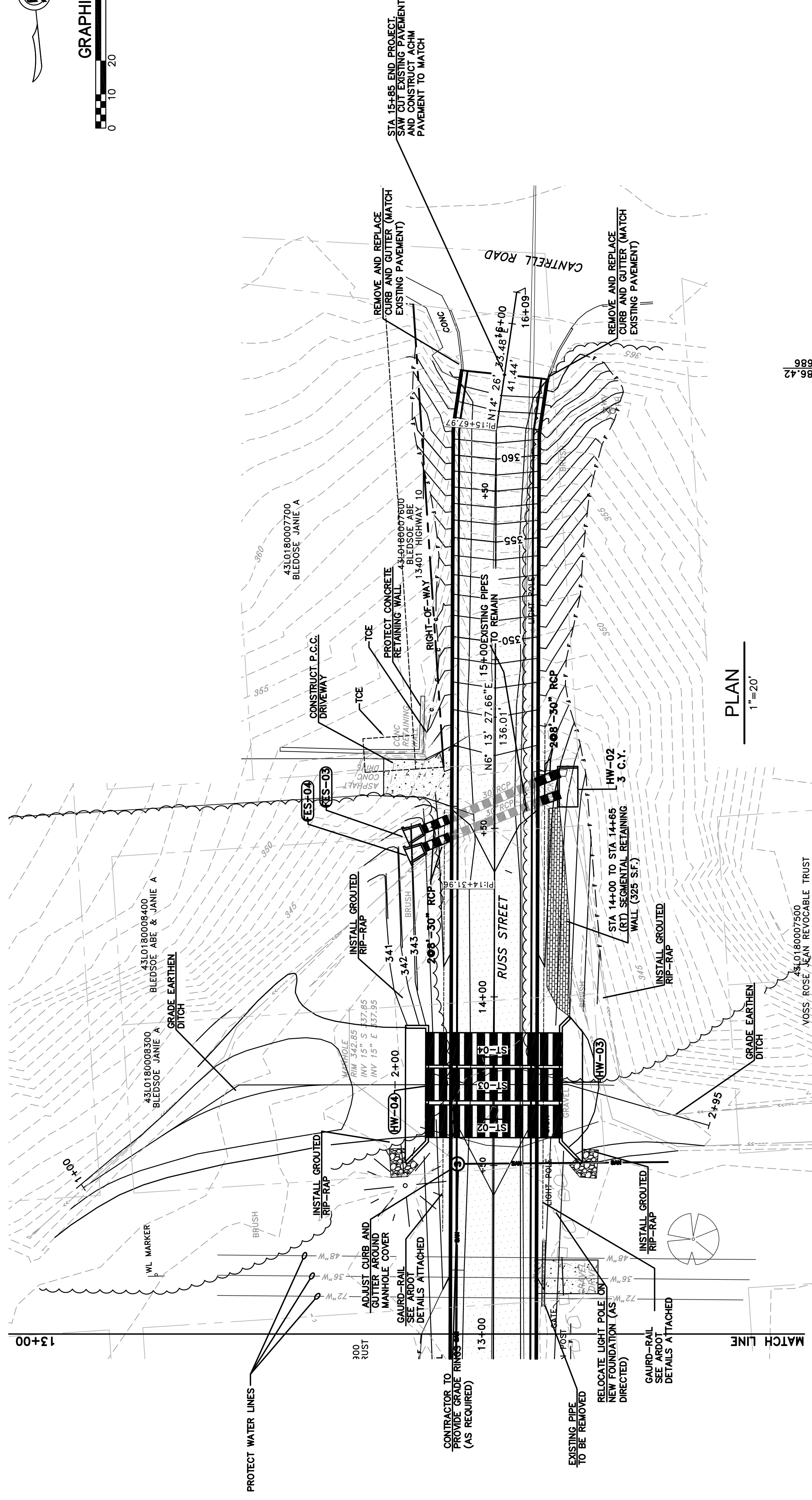
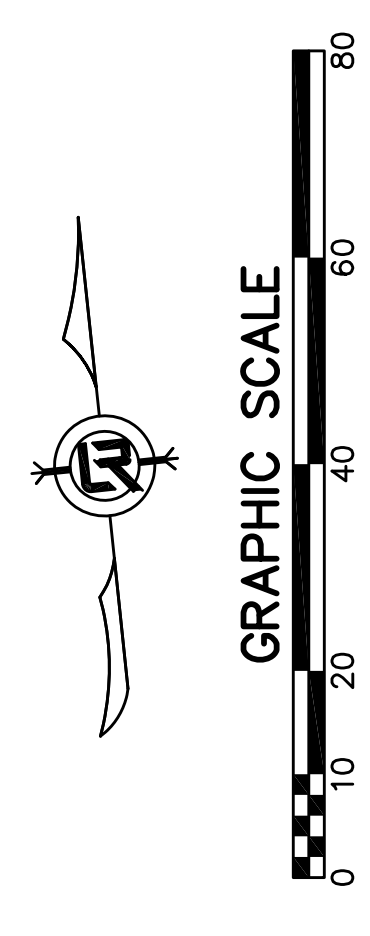


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CHECKED
DATE
04-05-2018
SCALE
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PROJECT NO.
CLR #13-4-106
SHEET NO.
C4



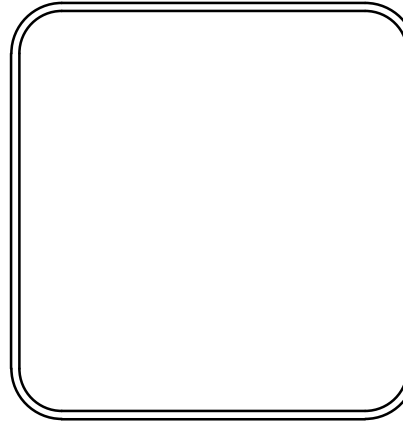
PROFILE
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REVISIONS	DATE

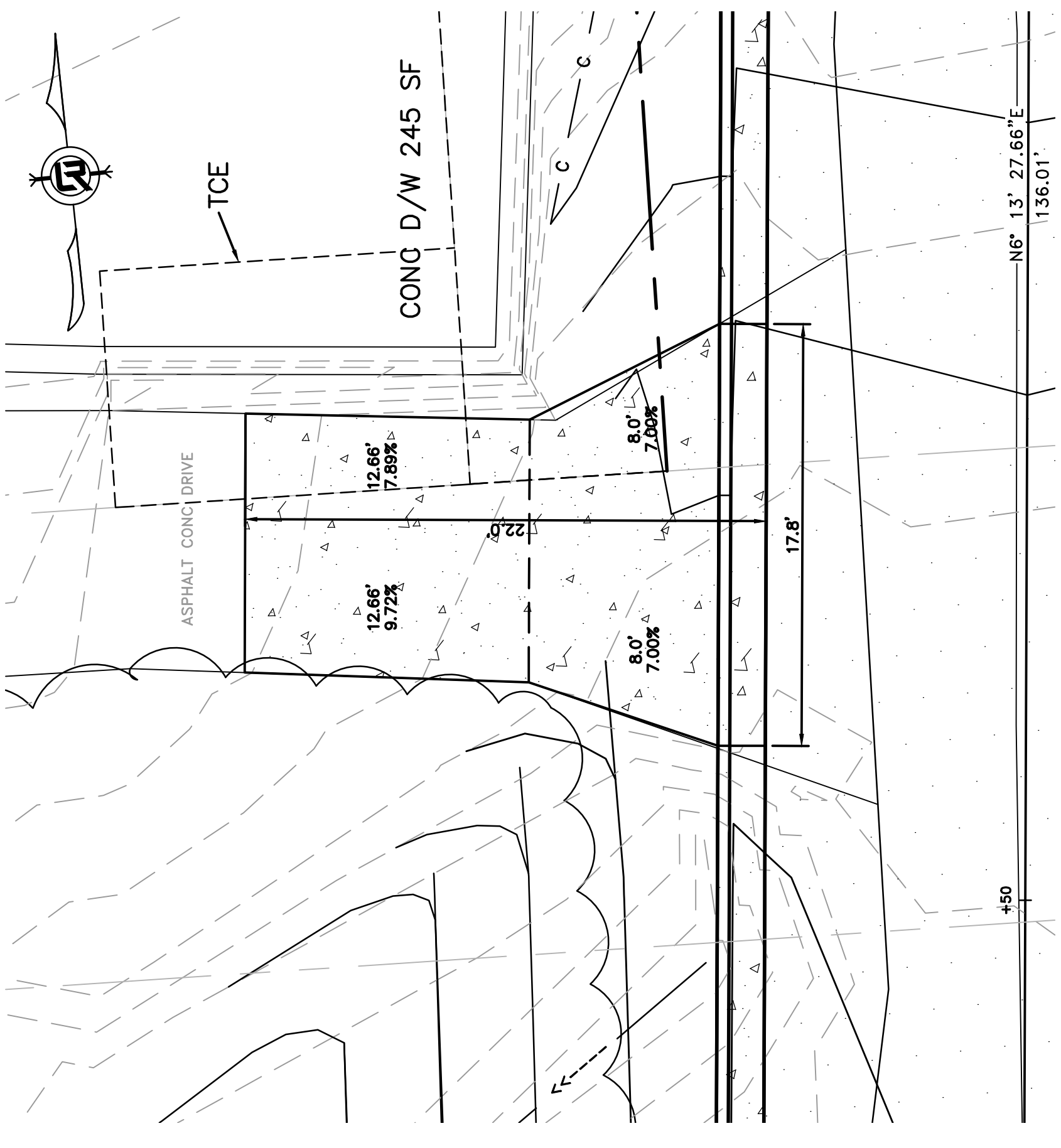
CITY OF LITTLE ROCK, ARKANSAS
 2013 STREET PROJECTS RUSS STREET
 DRIVEWAY PLANS



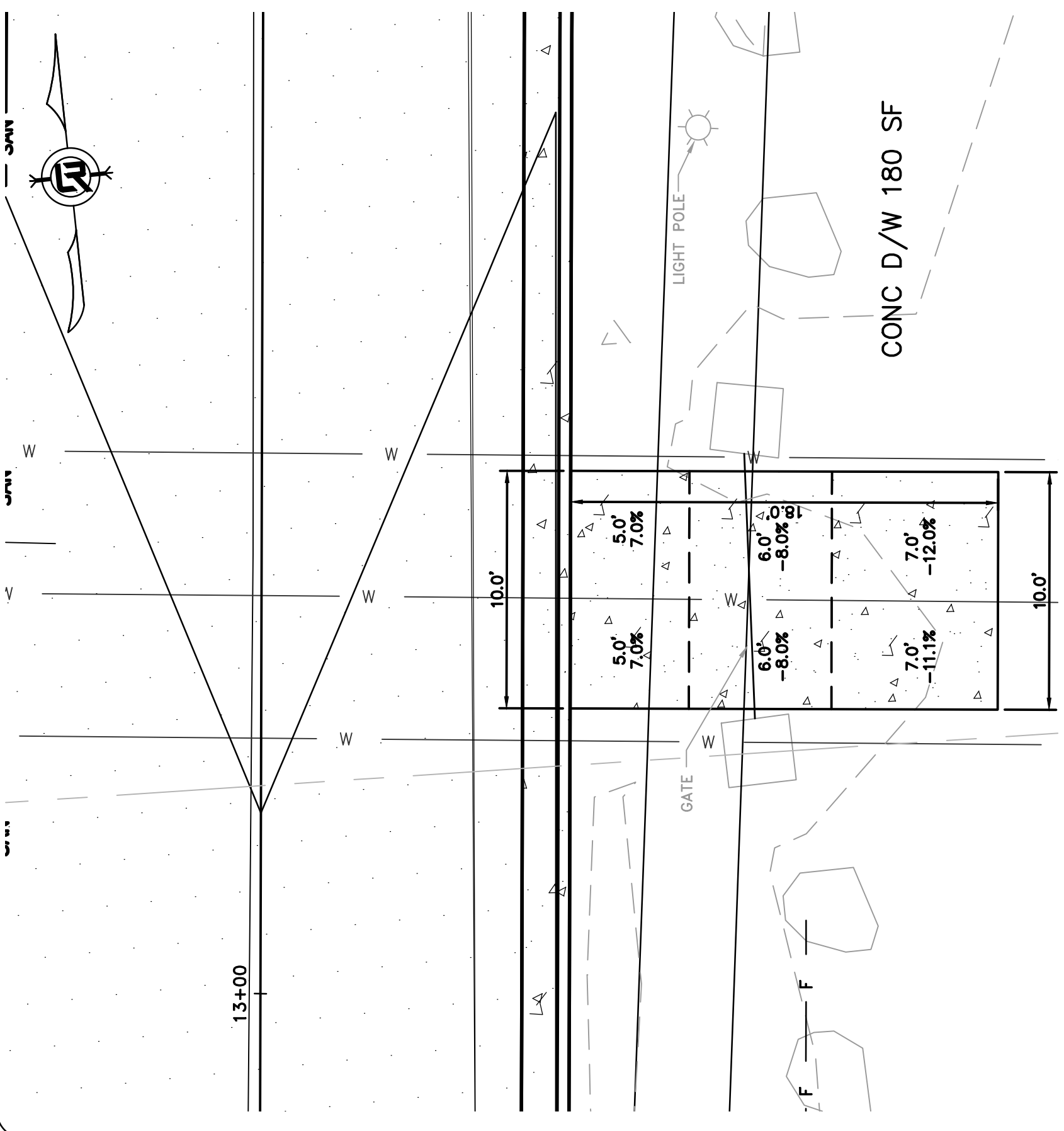
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SCALE	1"=5'
PROJECT NO.	CLR #13-4-106
SHEET NO.	C5




STA 14+65 LT
 PLAN
 1"=5'



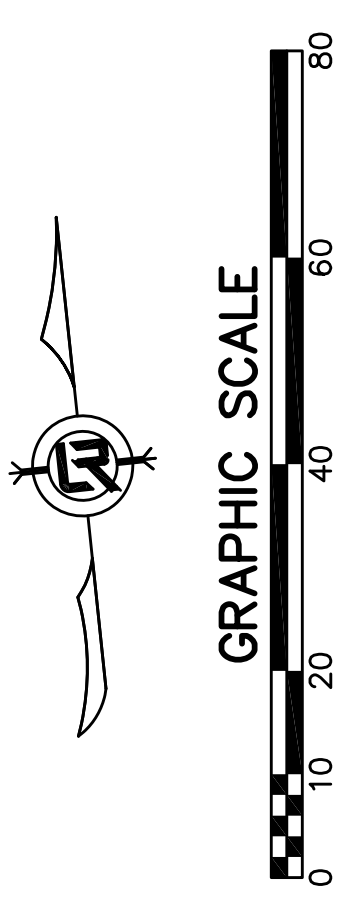
STA 13+17 RT
 PLAN
 1"=5'

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CITY OF LITTLE ROCK, ARKANSAS
2013 STREET PROJECTS, RUSS STREET
TEMPORARY EROSION CONTROL PLAN


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SCALE
PROJECT NO. CLR #13-4-106
SHEET NO. C6



NOTE:
 THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN AND MAY BE REVISED BY THE ENGINEER OR CONTRACTOR TO MAXIMIZE EFFECTIVENESS.

BEST MANAGEMENT PRACTICES SEQUENCE

NOTES:

UPON IMPLEMENTATION AND INSTALLATION OF THE FOLLOWING AREA: TRAILER, PARKING, LAY DOWN, PORTA-POTTY, WHEEL WASH, CONCRETE WASHOUT, FUEL AND MATERIAL STORAGE, GRASS, MULCH, AND OTHER APPROPRIATE MEASURES. DENOTE THEM ON THE SITE MAPS AND NOTE ANY CHANGES IN LOCATION AS THEY OCCUR THROUGHOUT THE CONSTRUCTION PROCESS. IN ADDITION, NOTE ANY OFF-SITE AREA WHERE FILL IS IMPORTED FROM OR SOIL IS EXPORTED TO ON THE SITE MAP.

PHASE 1

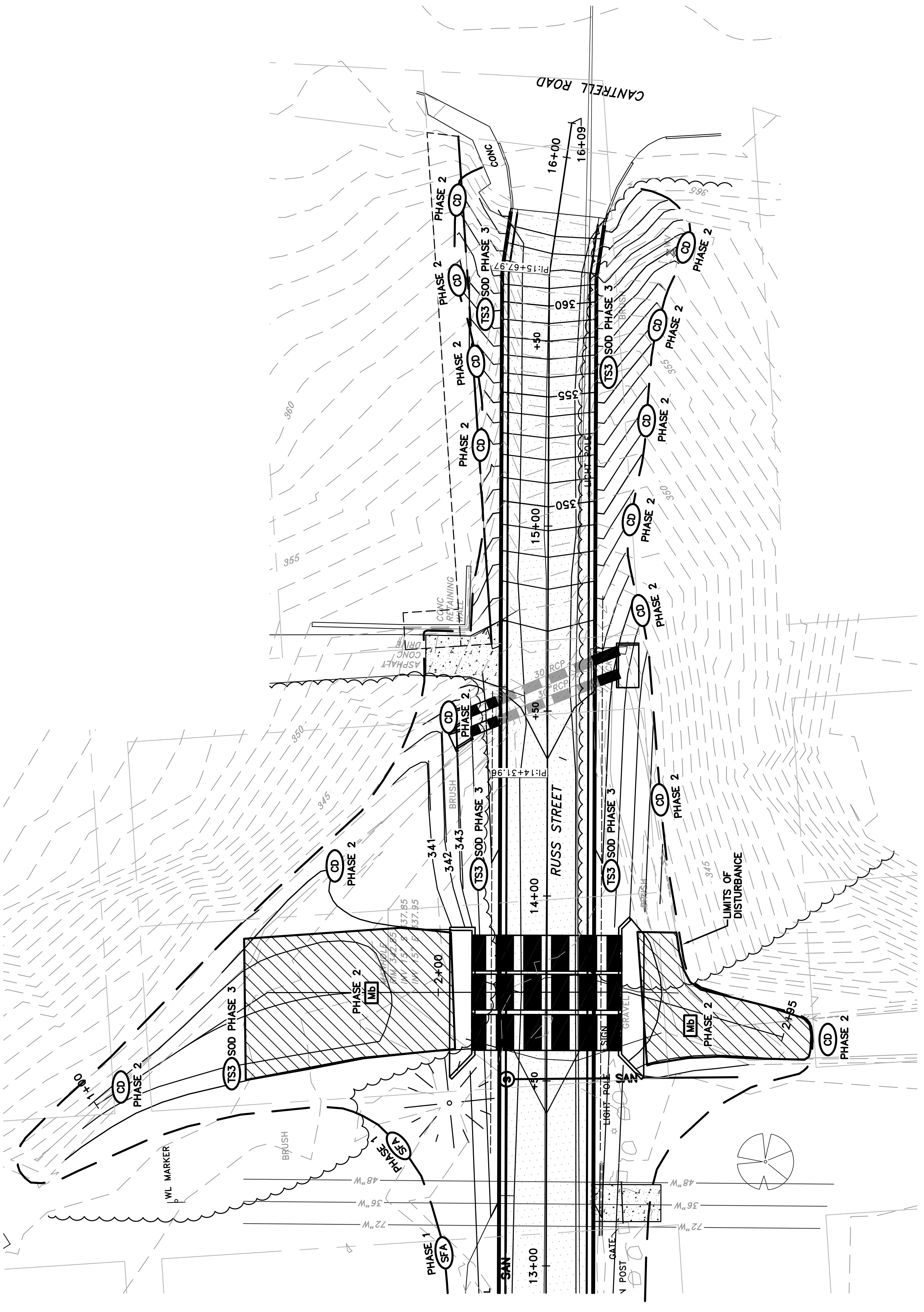
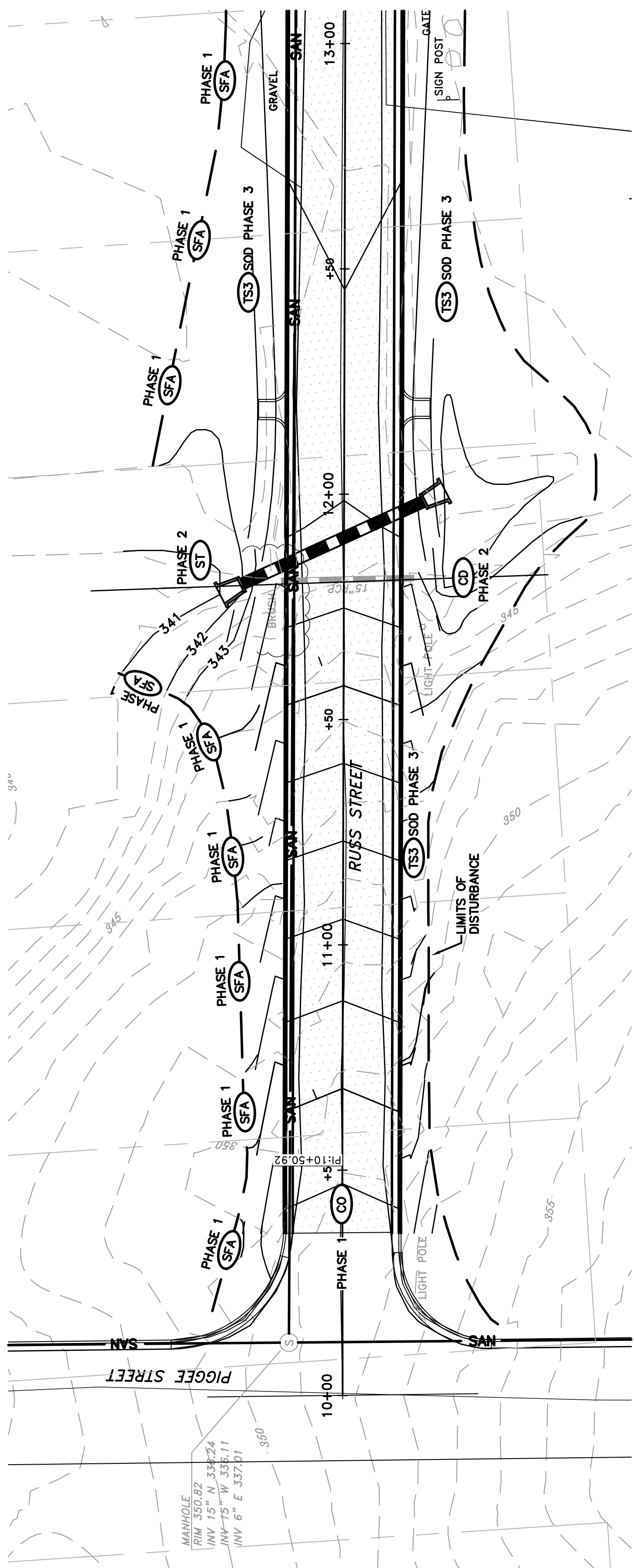
1. INSTALL STABILIZED CONSTRUCTION ENTRANCE/EXIT(S) AND SWPPP INFORMATION SIGN.
2. INSTALL SILT FENCE(S) ON THE SITE. CLEAR ONLY THOSE AREA NECESSARY TO INSTALL SILT FENCE.
3. REPAIR ANY EXISTING AND NEW EROSION CONTROL AREA. HALT ALL ACTIVITIES AND CONTACT THE CITY OF LITTLE ROCK TO PERFORM INSPECTION AND ACCEPTANCE OF BMP'S.
5. CONSTRUCT AND STABILIZE SEDIMENT BASIN(S) AND SEDIMENT TRAP(S) WITH APPROPRIATE OUTFALL STRUCTURES. CLEAR ONLY THOSE AREAS NECESSARY TO INSTALL BASINS AND TRAPS.
6. INSTALL AND STABILIZE HYDRAULIC CONTROL STRUCTURES (CHECK DAMS, CHECK PILES, ETC.) CLEAR ONLY THOSE AREAS NECESSARY TO INSTALL HYDRAULIC CONTROL DEVICES.

PHASE 2

1. BEGIN SITE DEMOLITION, CLEARING AND GRUBBING.
2. CONTINUE GRADING THE SITE.
3. INSTALL UTILITIES, UNDERDRAINS, STORM SEWERS, CURBS AND GUTTERS.
4. INSTALL APPROPRIATE INLET PROTECTION DEVICES FOR PAVED AREAS AS WORK PROGRESSES.

PHASE 3



1. CONTINUE GRADING THE SITE.
2. PREPARE SITE FOR PAVING.
3. PAVE THE SITE.
4. INSTALL APPROPRIATE INLET PROTECTION DEVICES FOR PAVED AREAS AS WORK PROGRESSES.
5. COMPLETE GRADING AND INSTALLATION OF PERMANENT STABILIZATION OVER ALL AREA.



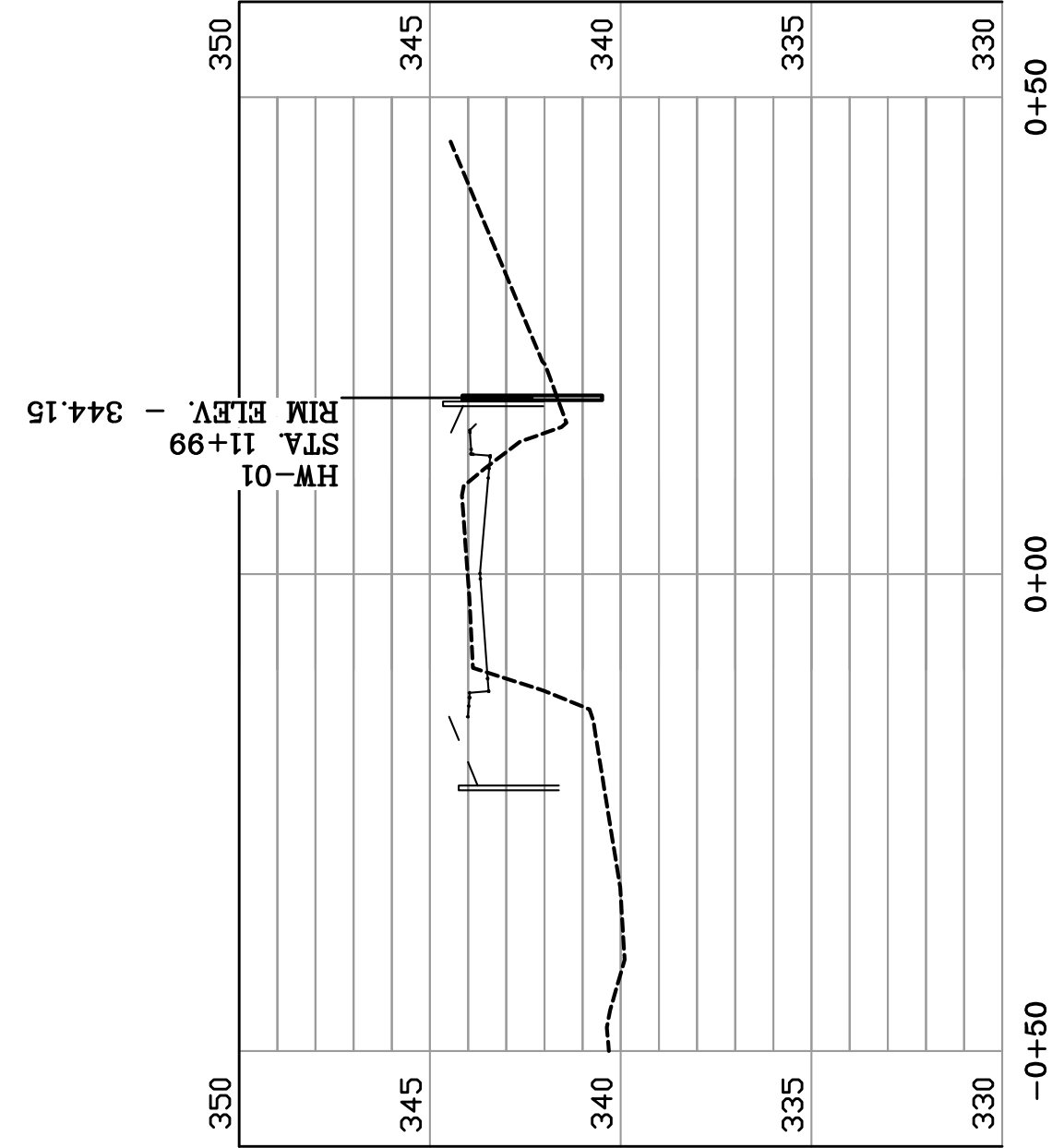
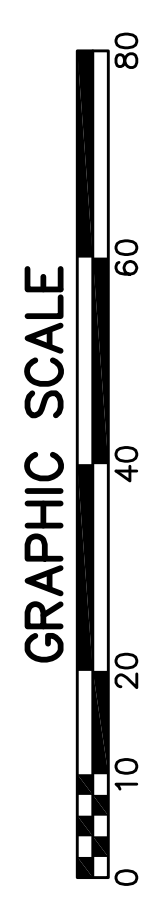
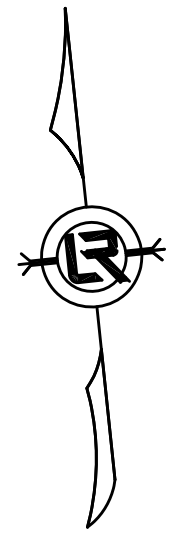
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CITY OF LITTLE ROCK, ARKANSAS
 2013 STREET PROJECTS RUSS STREET
 DRAINAGE PROFILES

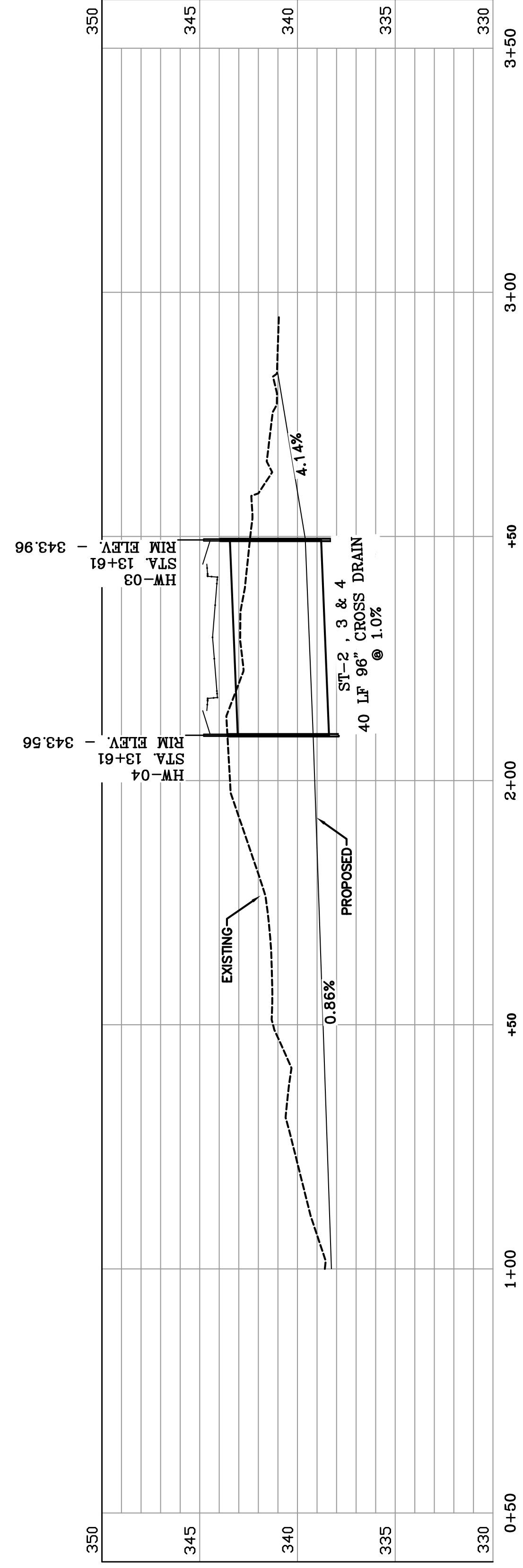
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PROJECT NO.	CLR #13-4-106
SHEET NO.	C7



PROFILE
 H: 1"=20'; V: 1"=5'



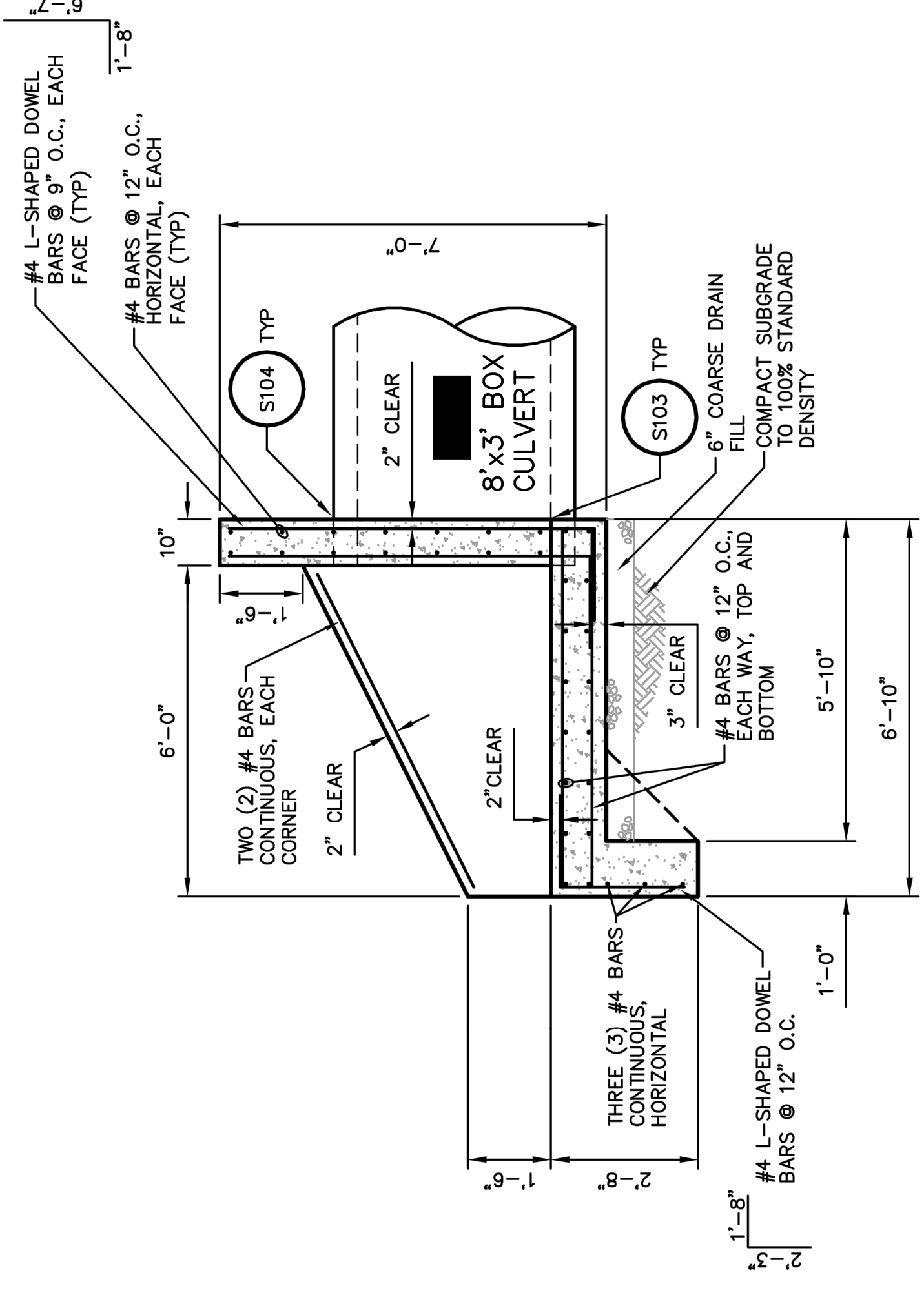
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REVISIONS	DATE

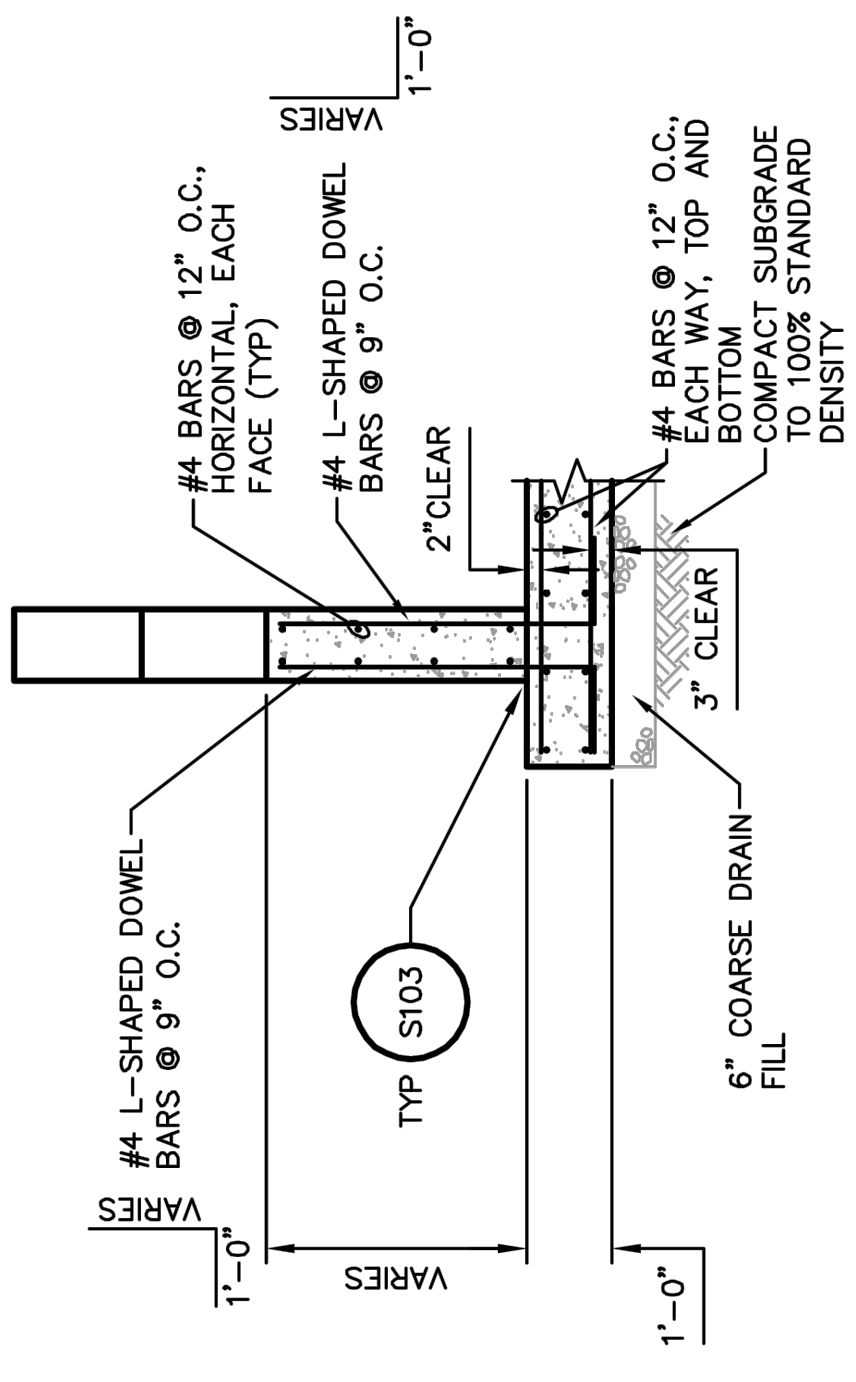
CITY OF LITTLE ROCK, ARKANSAS
2013 STREET PROJECTS RUSS STREET
HEADWALL DETAILS

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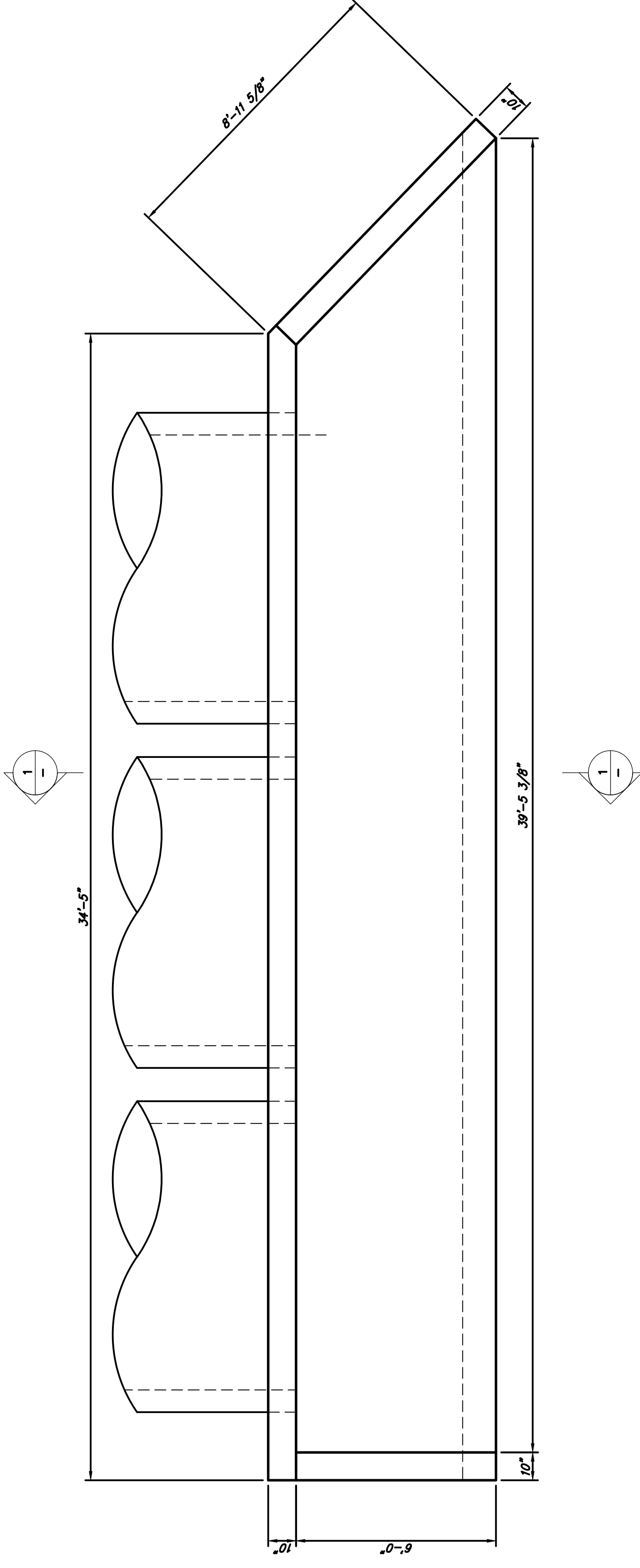
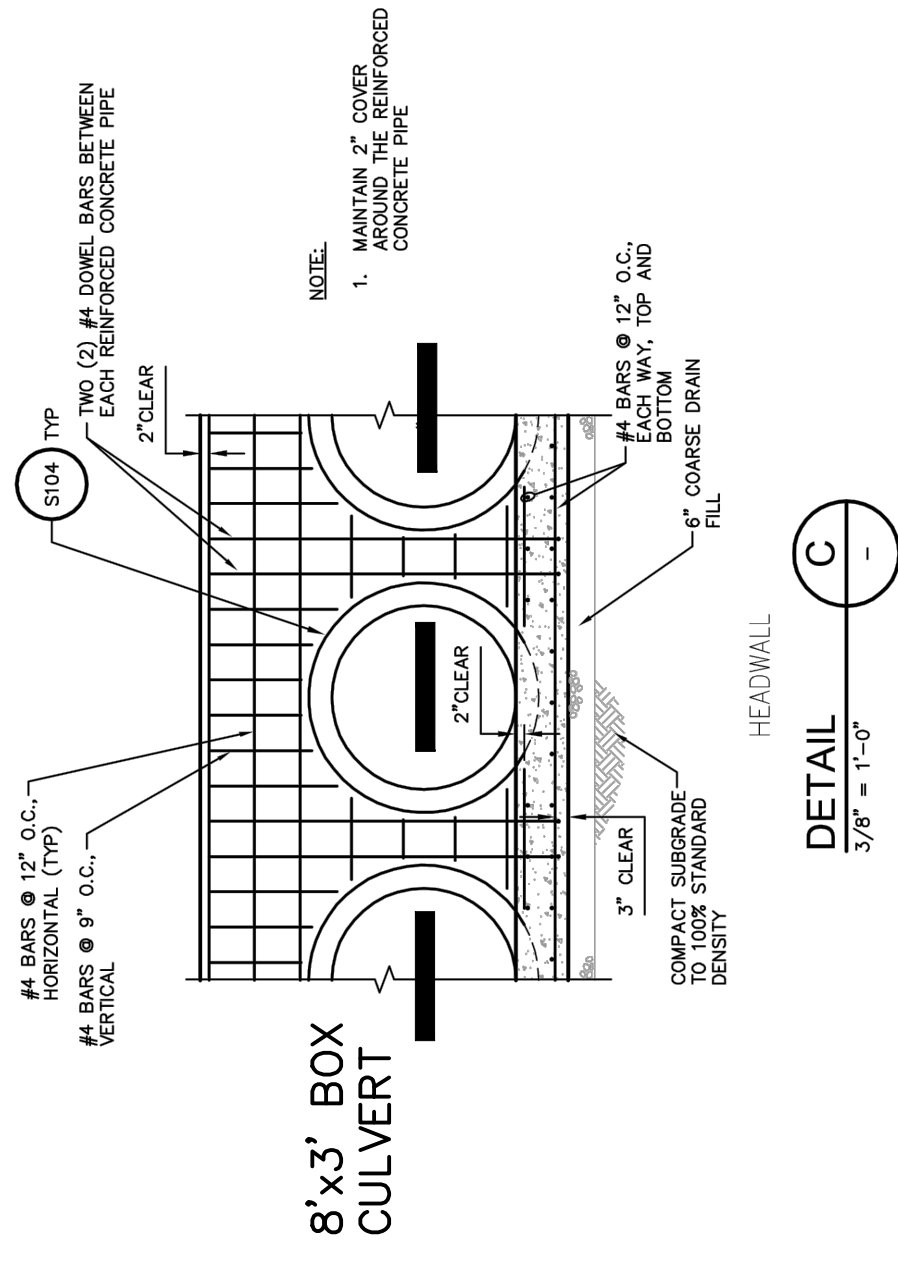
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CHECKED
DATE
SCALE
PROJECT NO.
CLR #13-4-106
SHEET NO.
C8



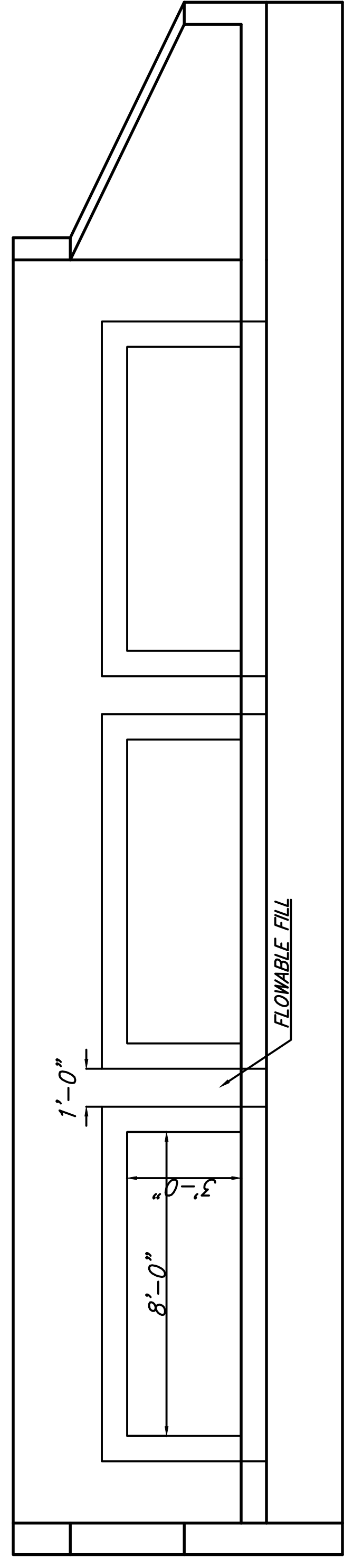
SECTION 1
 3/8"=1'-0"



SECTION 2
 3/8"=1'-0"



HEADWALL
 DETAIL A
 3/8"=1'-0"

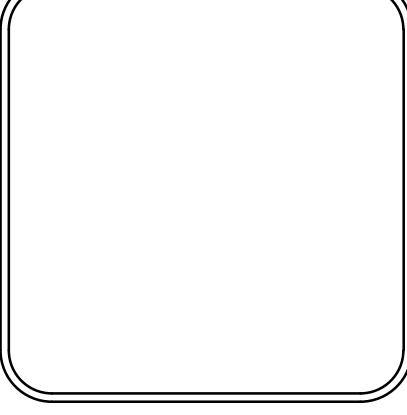


HEADWALL
 DETAIL C
 3/8"=1'-0"

REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
2013 STREET PROJECTS RUSS STREET
MISCELLANEOUS DETAILS

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AS SHOWN
PROJECT NO.
CLR #13-4-106
SHEET NO.
C9

STANDARD DETAILS SHOWN ON THESE DRAWINGS SHALL BE USED AT ALL APPLICABLE LOCATIONS, UNLESS NOTED OTHERWISE ON DRAWINGS.

**LAP SPUCE LENGTHS
IN WALLS AND SLABS (INCHES)**

BAR SIZE	2" COVER
3	20
4	24
5	30
6	36
7	42
8	48
10	78
11	88

- NOTES:**
- TABLE IS BASED ON ACI 318R-11 & $f'_c = 4000$ PSI. BARS ARE UNCOATED.
 - MINIMUM BAR SPACING = 6" O.C.
 - LENGTHS FOR BEAMS AND COLUMNS SHALL BE AS SHOWN ON THE DRAWINGS.
 - LAP SPUCE LENGTHS SHALL BE INCREASED FOR LOWER CONCRETE COMPRESSIVE STRENGTH AS FOLLOWS:

f'_c	MULTIPLIER
3000 PSI	1.16
3500 PSI	1.07

LAP SPUCE LENGTHS
DETAIL S101
 N.T.S.

- SETS OF FIELD CONTROL CONCRETE CYLINDER SPECIMENS WILL BE TAKEN DURING THE PROGRESS OF THE WORK IN COMPLIANCE WITH ASTM 318. THE NUMBER OF SETS OF CONCRETE TEST CYLINDERS TAKEN OF EACH CLASS OF CONCRETE PLACED EACH DAY SHALL NOT BE LESS THAN ONCE A DAY, NOR LESS THAN ONCE FOR EACH 50 CUBIC YARDS OF CONCRETE. A "SET" OF TEST CYLINDERS CONSISTS OF FIVE (5) CYLINDERS; ONE TO BE BROKEN AT 7 DAYS AND THREE (3) TO BE BROKEN AND THEIR STRENGTHS AVERAGED AT 28 DAYS. THE FIFTH MAY BE USED TO VERIFY STRENGTH AFTER 28 DAYS IF 28-DAY BREAKS ARE LOW. THE CONTRACTOR IS RESPONSIBLE FOR THE COST OF ALL QUALITY CONTROL TESTING.

- REINFORCING STEEL SHALL BE BILLET STEEL CONFORMING TO THE LATEST EDITION OF ASTM A615, GRADE 60.
- REINFORCING STEEL FABRICATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CRSI MANUAL OF STANDARD PRACTICE.
- REINFORCING STEEL SHALL HAVE THE FOLLOWING MINIMUM CLEAR CONCRETE COVER:
 - CONCRETE CAST AGAINST EARTH (I.E. FOUNDATIONS) - 3 INCHES
 - ALL OTHER CONCRETE SURFACES - 2 INCHES
- MINIMUM LAP SPUCE LENGTHS FOR GRADE 60 REINFORCING BARS SHALL BE IN ACCORDANCE WITH DETAIL S101.
- ALL EXPOSED CORNERS OF CONCRETE SHALL HAVE 1" CHAMFER, UNLESS OTHERWISE NOTED.

CONCRETE JOINT NOTES

- UNLESS OTHERWISE NOTED, PROVIDE SEALANT IN JOINTS AS SHOWN ON THE DRAWINGS AND AS FOLLOWS:
 - EXPANSION JOINTS SHALL HAVE SEALANT APPLIED TO BOTH SIDES OF THE JOINT, EXCEPT FOR THE SOIL SIDE OF A BASE SLAB JOINT.
 - CONTROL JOINTS AND CONSTRUCTION JOINTS WILL NOT REQUIRE SEALANT, UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
- STRUCTURAL EXCAVATION, BACKFILLING, AND GRADING**
- CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING TEMPORARY EXCAVATION SUPPORT SYSTEMS, INCLUDING SHEETING, SHORING AND BRACING, TO INSURE THE SAFETY OF PERSONNEL AND TO PROTECT ADJACENT STRUCTURES, PIPING, ETC. (NEW OR EXISTING) IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS, REGULATIONS AND REQUIREMENTS.

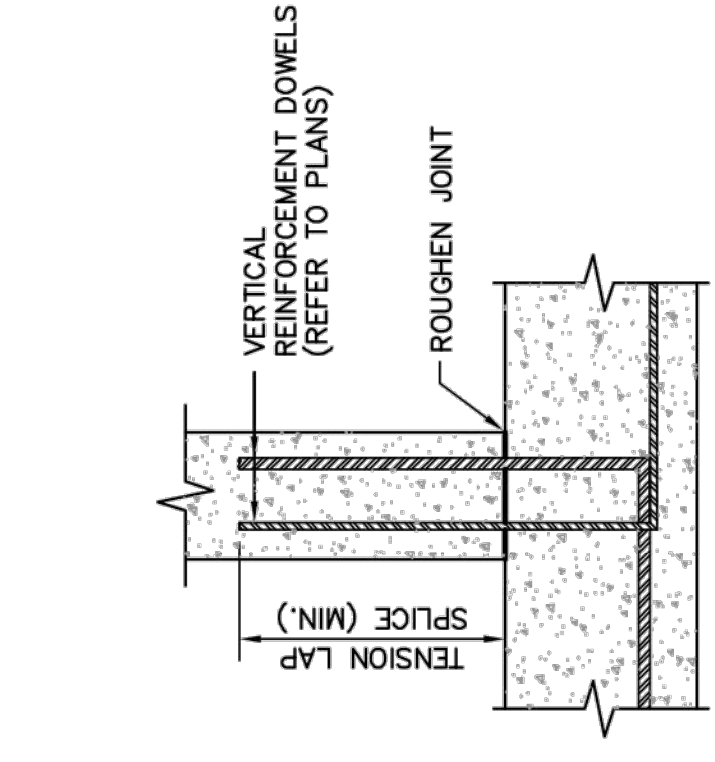
GENERAL NOTES

- ALL STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE OTHER PROJECT DRAWINGS AND SPECIFICATIONS.
 - WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED SIZES.
- CAST-IN-PLACE CONCRETE NOTES:**
- REINFORCED CONCRETE SHALL CONFORM TO ACI 318R-11.
 - MINIMUM CONCRETE STRENGTH AT 28 DAYS:
 - CONCRETE MIX DESIGN SHALL BE IN ACCORDANCE WITH TABLE 1 BELOW:

TABLE 1

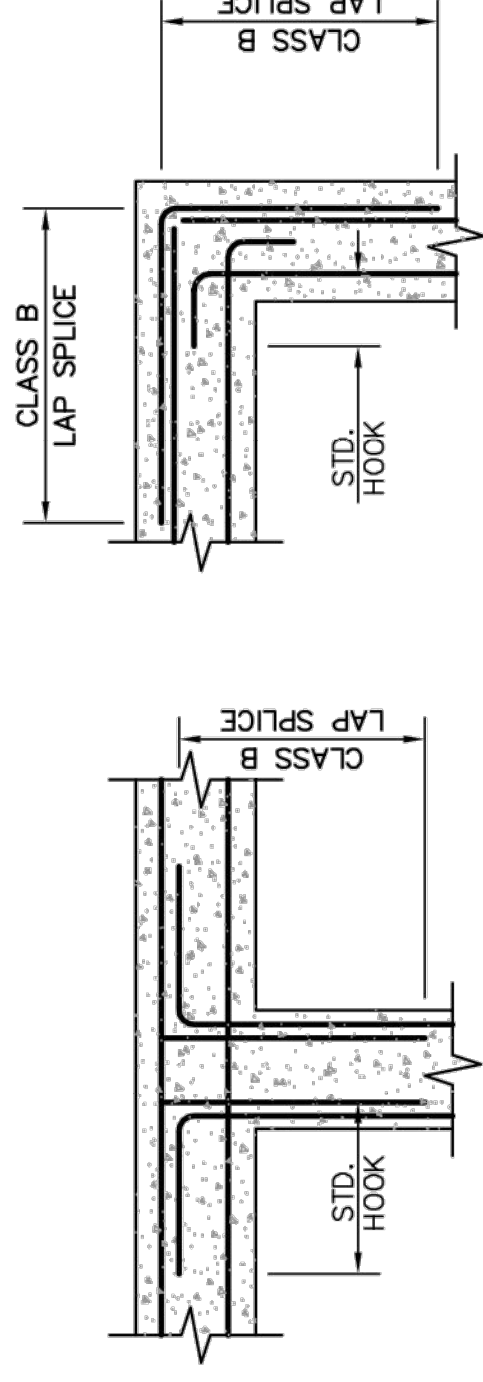
CONCRETE CLASS	CEMENT	COMPRESSIVE STRENGTH	MINIMUM BAGS OF PORTLAND CEMENT	FINE AGGREGATE	COARSE AGGREGATE
C	C150 TYPE1	4,000	6	C33	57
CONCRETE CLASS	W/C RATIO (1)	FLY ASH (2)	AE (3)	HRWR (4)	HRWR (5)
C	0.45 MAX	15-25	YES	YES	YES

- W/C IS WATER CEMENTITIOUS RATIO BY WEIGHT.
- FLY ASH, PERCENT OF TOTAL CEMENTITIOUS MATERIAL BY WEIGHT. REDUCE FLY ASH PERCENTAGE TO 15-20% FROM OCTOBER THROUGH MARCH.
- AE IS AIR ENTRAINING ADMIXTURE, AND SHALL BE SIMILAR AND EQUAL TO MASTER BUILDERS MB-AE-90.
- HR IS WATER REDUCING ADMIXTURE, AND SHALL BE SIMILAR AND EQUAL TO MASTER BUILDERS POZZOLITH 80.
- HRWR IS HIGH RANGE WATER REDUCER, AND SHALL BE SIMILAR AND EQUAL TO MASTER BUILDERS RHEOBUILD 1000.
- SLUMP OF CONCRETE SHALL BE 4-INCH MAXIMUM.



WALL CONSTRUCTION JOINT AT SLAB

DETAIL S103
 N.T.S.

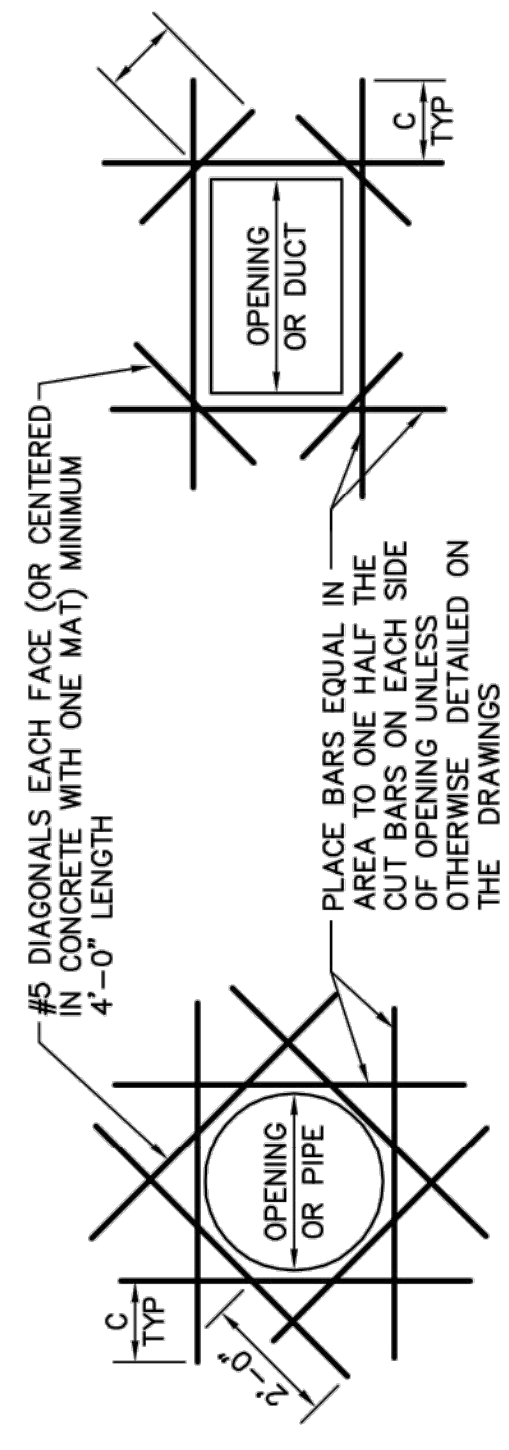


CORNER REINFORCEMENT PLANS

- NOTES:
- SPUCE BARS TO BE SAME SIZE AND SPACING AS LARGER OF BARS BEING SPUCED. SPUCE BARS SHALL BE LAPPED WITH TYPICAL WALL REINFORCEMENT.
 - EXTEND BAR HOOKED ENDS TO FAR FACE OF WALL.
 - REINFORCING STEEL LAYOUT FOR WALLS WITH SINGLE MAT OF REINFORCEMENT SIMILAR TO ABOVE PATTERN FOR EXTERIOR MAT OF REINFORCEMENT.

DETAIL S102

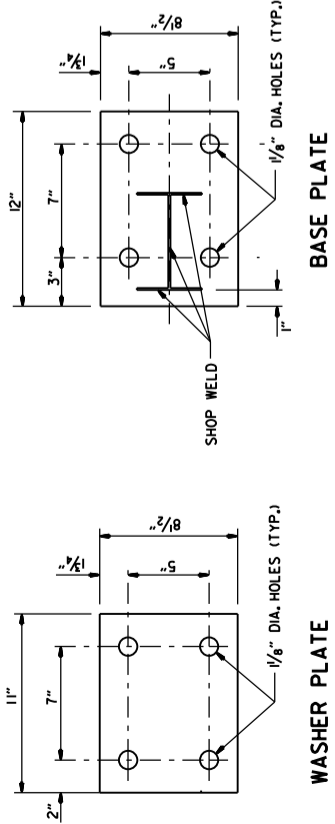
N.T.S.



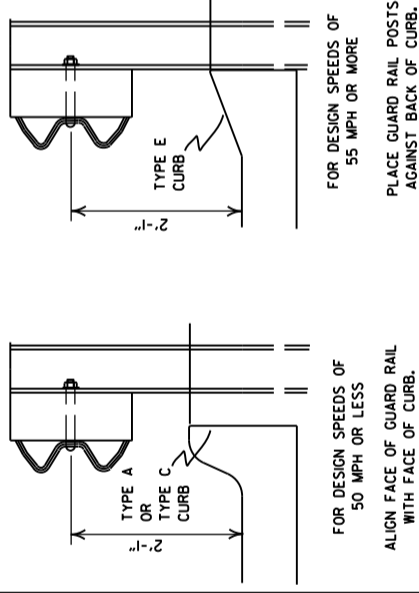
- NOTES:**
- C = TENSION DEVELOPMENT LENGTH. PROVIDE STANDARD HOOK IF FULL DEVELOPMENT LENGTH IS NOT POSSIBLE.
 - REINFORCING STEEL IS TO BE CARRIED ACROSS ALL CONSTRUCTION JOINTS.
 - DETAIL IS TYPICAL FOR ALL OPENINGS GREATER THAN 10 INCHES IN CONCRETE WALLS AND SLABS UNLESS OTHERWISE NOTED.
 - EXTRA BARS ARE NOT REQUIRED AT AN OPENING EDGE PARALLEL TO AND WITHIN 6 INCHES OF A WALL OR BEAM.

EXTRA REINFORCEMENT AT OPENINGS

DETAIL S104
 N.T.S.

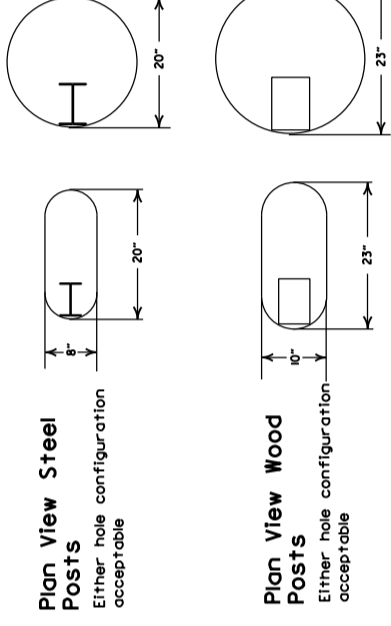
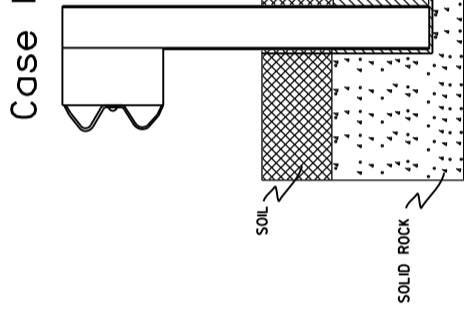
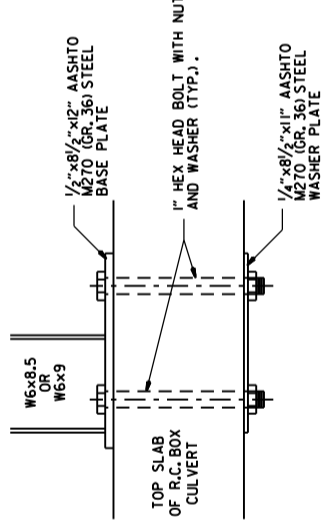
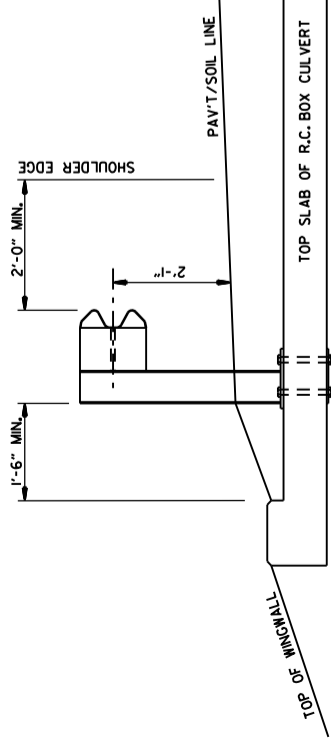


Note: Bolts, nuts, washers and plates shall be galvanized in accordance with Section 807 of the Standard Specifications.



DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB (W-BEAM)

FOR DESIGN SPEEDS OF 50 MPH OR LESS ALL CURB FACES, AS SHOWN ON STD. DRWG. CG-1, MAY BE USED. FOR DESIGN SPEEDS OF 55 MPH OR MORE TYPE "E" CURB FACE SHALL BE USED.



Notes: For overlying soil depths (A) ranging from 0 to 18", the depth of required drilling (B) is equal to 24".

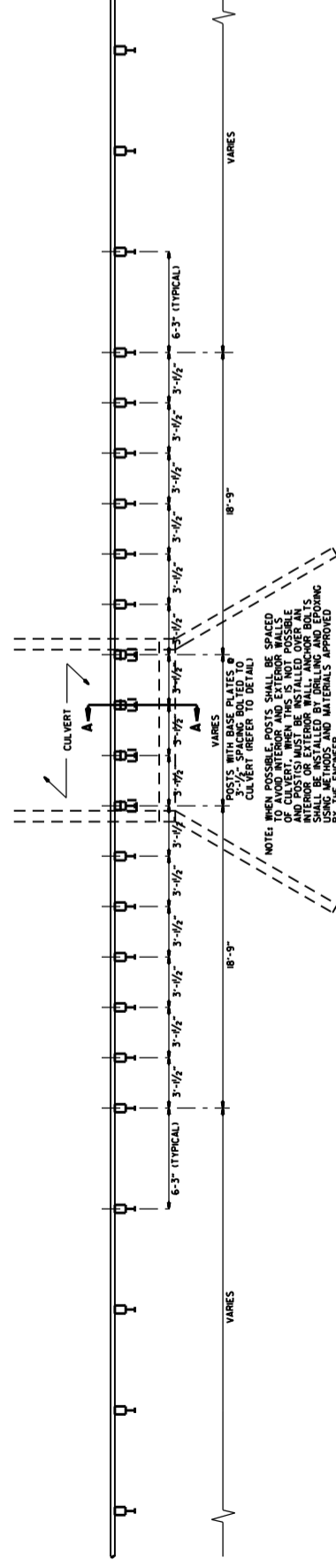
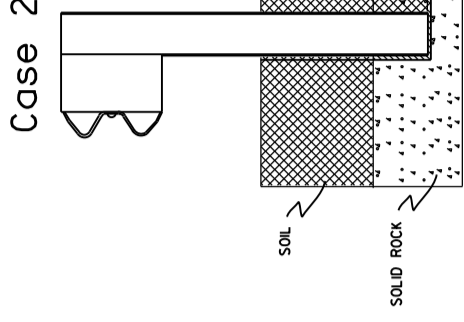
Zone A:
 Backfill according to Section 617.03(c).

Zone B:
 Backfill hole in 6" lifts with material meeting the requirements of Section 802.02(c) - Alternate gradation. Compact to 95% maximum dry density per ASTM D-698.

DETAIL OF POST PLACEMENT IN SOLID ROCK (W-BEAM)

Notes: For overlying soil depths (A) ranging from 18" to 44", the depth of required drilling (B) is equal to either 12" or 44" minus the depth of soil whichever is less.

Zone A & B:
 Backfill according to Section 617.03(a).



NOTE: THIS DETAIL IS TO BE USED ONLY WHEN THE COVER OVER THE CULVERT DOES NOT PERMIT FULL EMBEDMENT OF GUARD RAIL POSTS AS SHOWN ON STD. DRWG. CR-8.

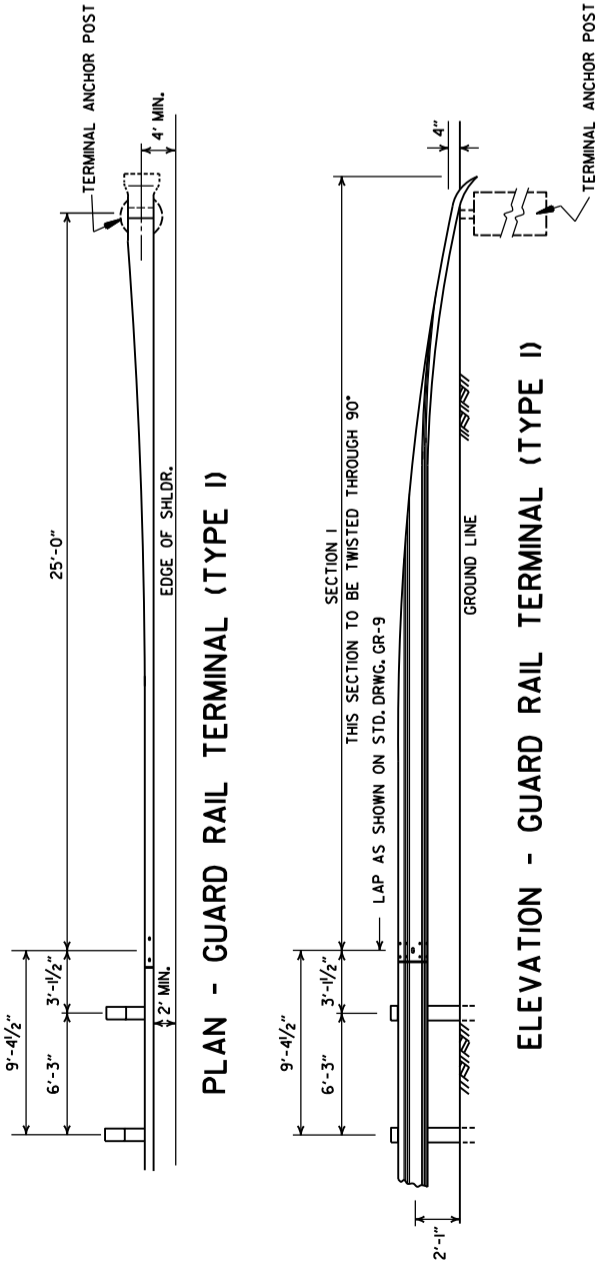
DATE	REVISION
10-09-87	REVISION
10-30-87	REVISED ANCHOR ASSEMBLY
03-04-88	REVISED ANCHOR NOTE
08-02-90	DEL. WASHER ON ANCHOR ASSEMBLY
10-01-92	REMOVED & REVISED
08-05-93	REVISED STEEL POST SIZE
06-02-94	REVISED ALTERNATE POST SIZE
10-22-95	ADDED OPTIONAL HOLES
10-18-96	REV. ASTM REF. TO AASHTO
04-03-96	PLACED ARROWS AT CUT STEEL WASHERS
08-12-98	CHANGED CONCRETE INSERT ANCHOR BLOCKOUT; ADDED DET. OF GUARD RAIL CONNECTION TO R.C. BOX CULVERT; DELETED DET. OF GUARD RAIL PLATE BEHIND CURB & DET. OF POST PLACEMENT IN SOLID ROCK
03-30-00	REMOVED CONCRETE INSERT ANCHOR LOW-FILL CULVERTS
11-18-04	ADDED DETAIL FOR GUARD RAIL PLACEMENT AT CULVERT CONNECTION DETAILS. ADDED REVISED POST PLACEMENT IN ROCK & CURB; REVISED DETAIL OF CONNECTION
11-10-05	ADDED GUARD RAIL PLACEMENT BEHIND CURB; REVISED DETAIL OF CONNECTION
04-12-07	REVISED DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB
07-14-10	REVISED GUARD RAIL HEIGHT
11-16-17	REVISED GUARD RAIL HEIGHT

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING CR-8A

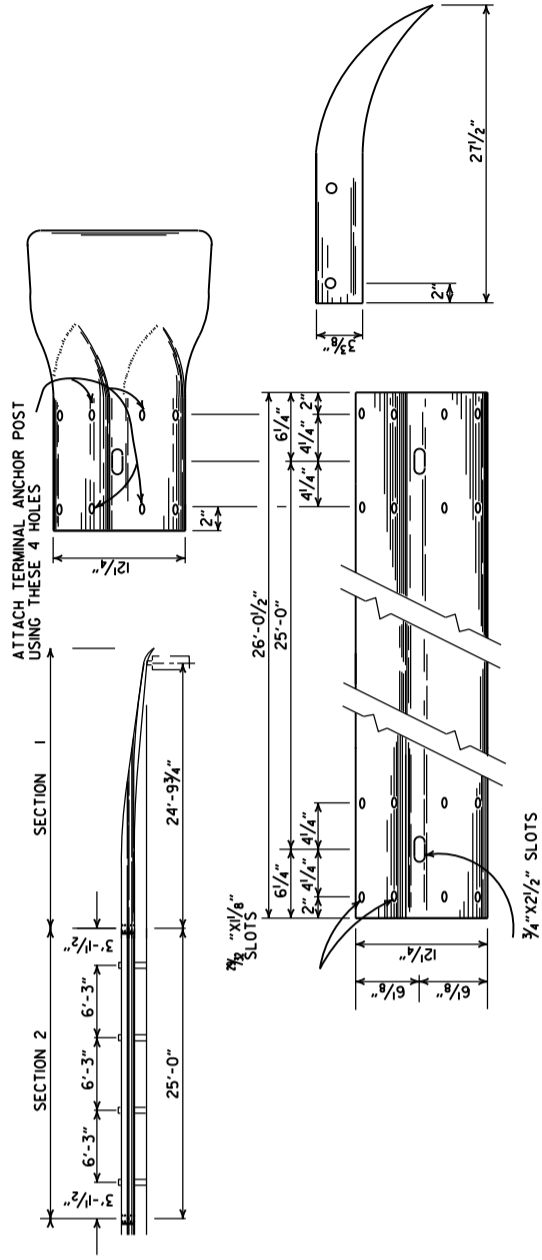
FILMED



PLAN - GUARD RAIL TERMINAL (TYPE I)

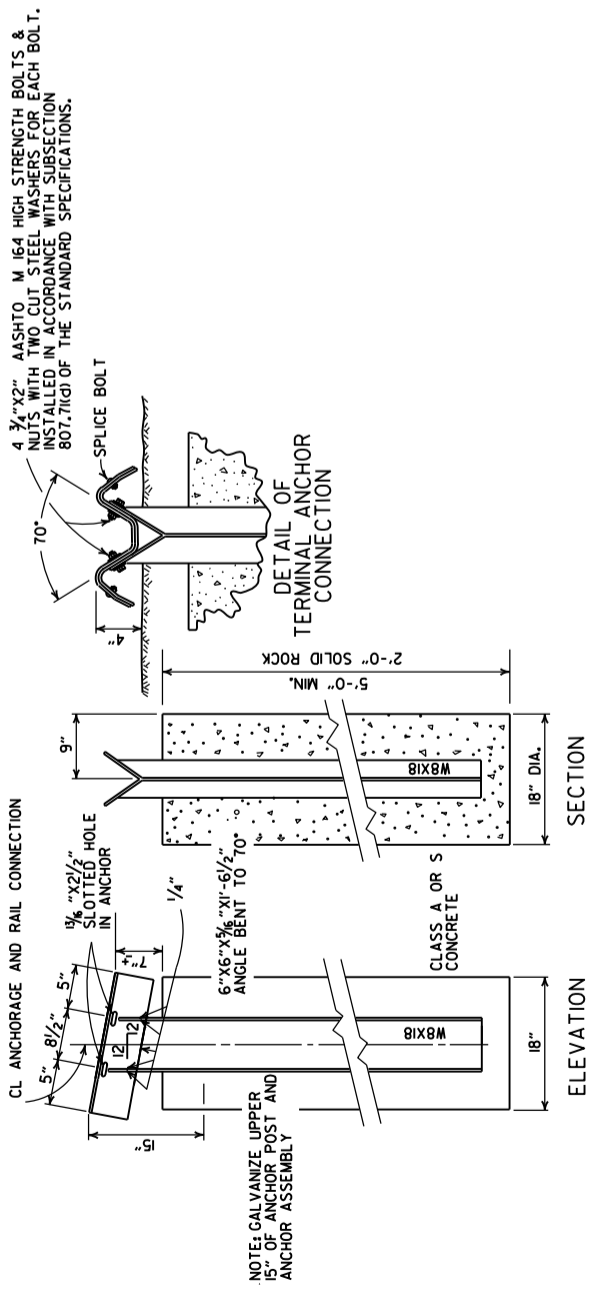
ELEVATION - GUARD RAIL TERMINAL (TYPE I)

NOTE: SECTIONS 1 AND 2 OF GUARD RAIL TERMINAL SHALL BE PAID FOR AT THE PRICE BID PER LINEAR FOOT OF THE TYPE OF GUARD RAIL SPECIFIED.



SECTION 1

TERMINAL SECTION



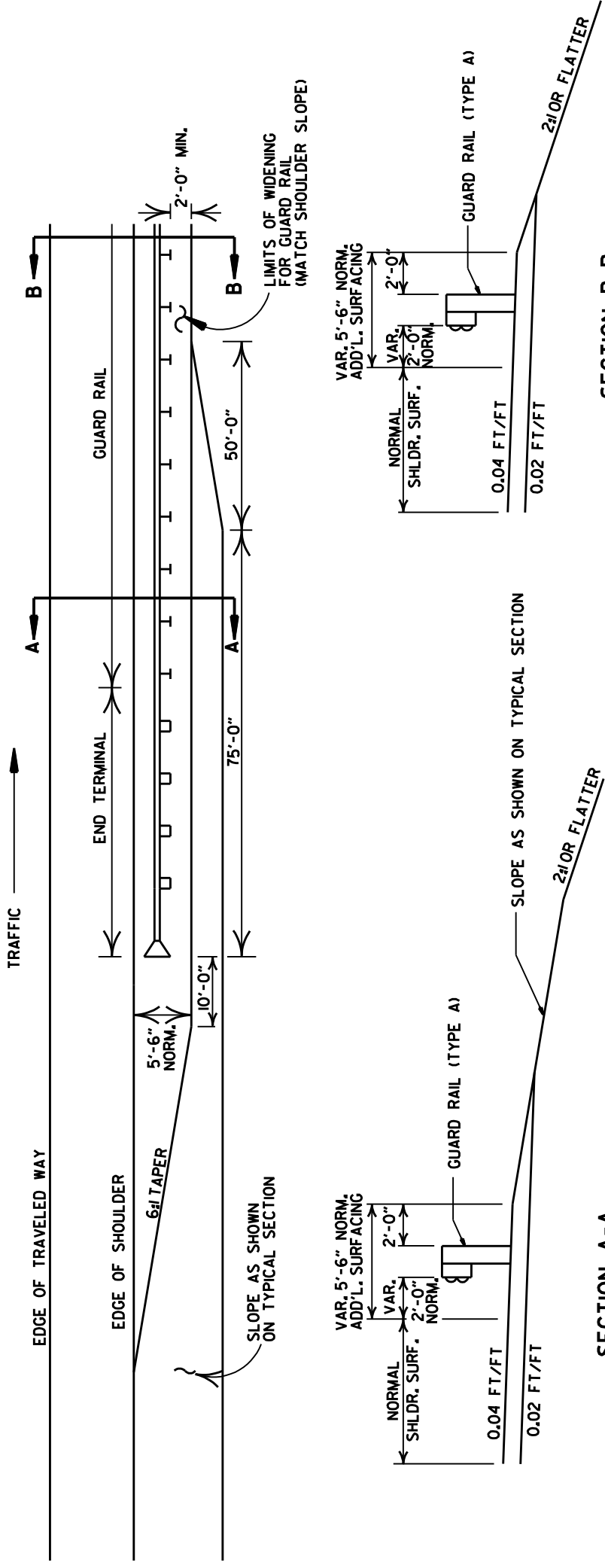
SECTION

ELEVATION

NOTE: RAIL MEMBERS MAY BE BOLTED TO ANGLE AT TERMINAL ANCHOR AND THE TWO ASSEMBLIES POSITIONED TO PROPER ALIGNMENT PRIOR TO PLACING CONCRETE AROUND 8 WF 17 POST IF CONTRACTOR SO DESIRES.

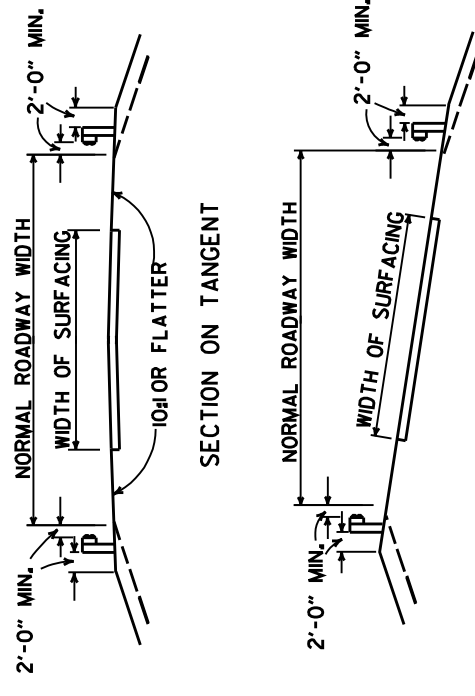
DETAIL OF TERMINAL ANCHOR POST (TYPE I)

ARKANSAS STATE HIGHWAY COMMISSION	
GUARD RAIL DETAILS	
STANDARD DRAWING GRT-1	
11-16-17	REVISED GUARD RAIL HEIGHT AND LOCATION OF POSTS
07-14-10	RAISED HEIGHT OF GUARD RAIL 1"
06-26-97	REVISED LAP NOTE
10-18-96	REVISED ASTM REF. TO AASHTO
11-03-94	DIMENSION TERMINAL DETAIL
11-11-92	ADDED NOTE FOR PAYMENT
10-01-92	DRAWN & ISSUED
DATE	REVISION
	FILMED

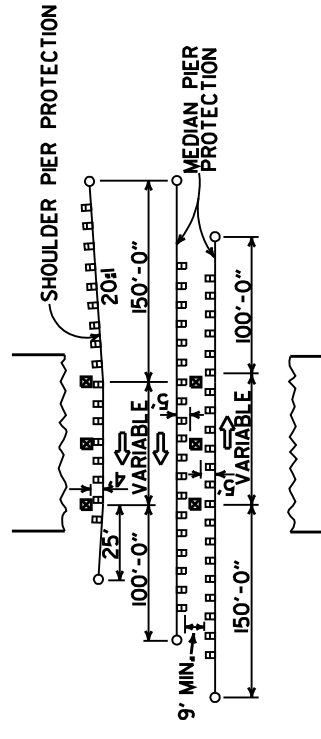


DETAILS OF WIDENING FOR GUARD RAIL

NOTE: NORMAL SECTION TO BE WIDENED APPROX. 5'-6" EACH SIDE TO SUPPORT GUARD RAIL.



DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY



METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE

ARKANSAS STATE HIGHWAY COMMISSION	
GUARD RAIL DETAILS	
DATE	REVISION
4-17-08	MINOR REVISION
8-10-05	DRAWN
DATE	DATE FILED