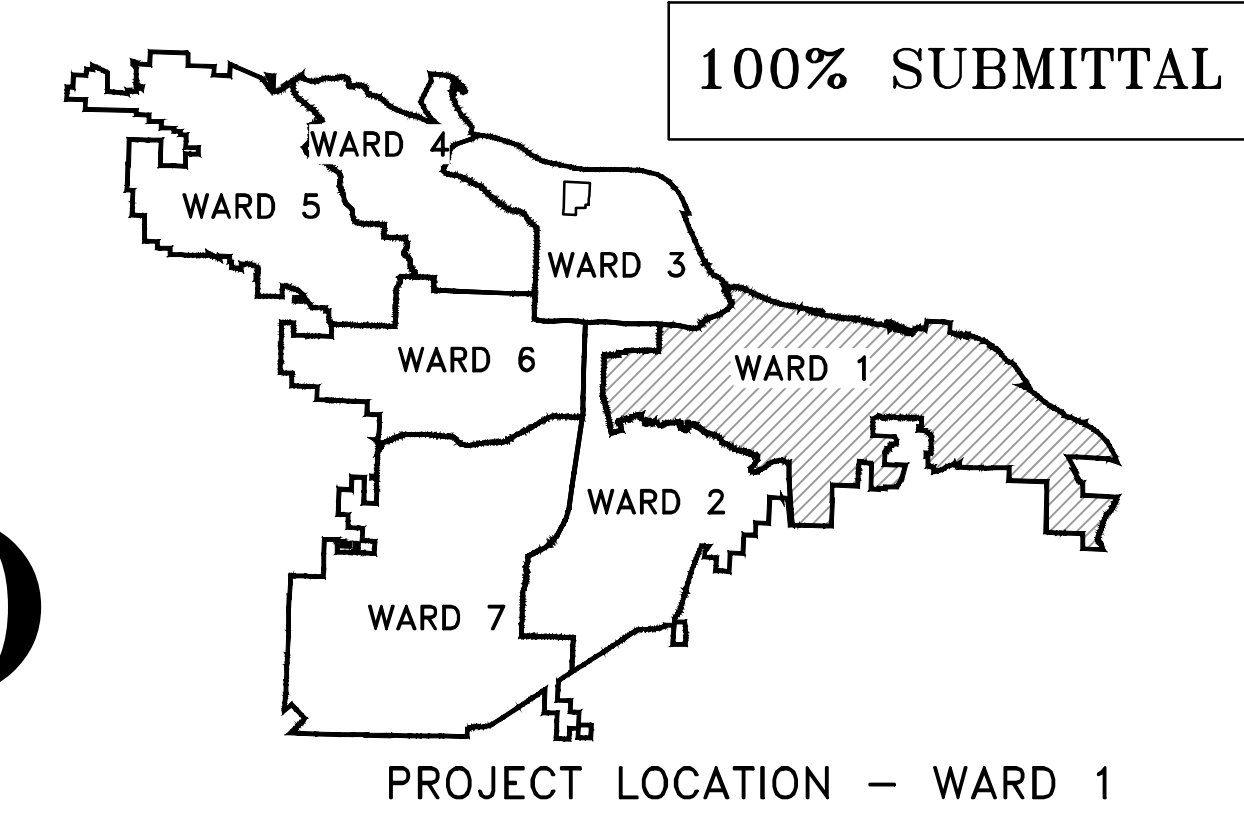
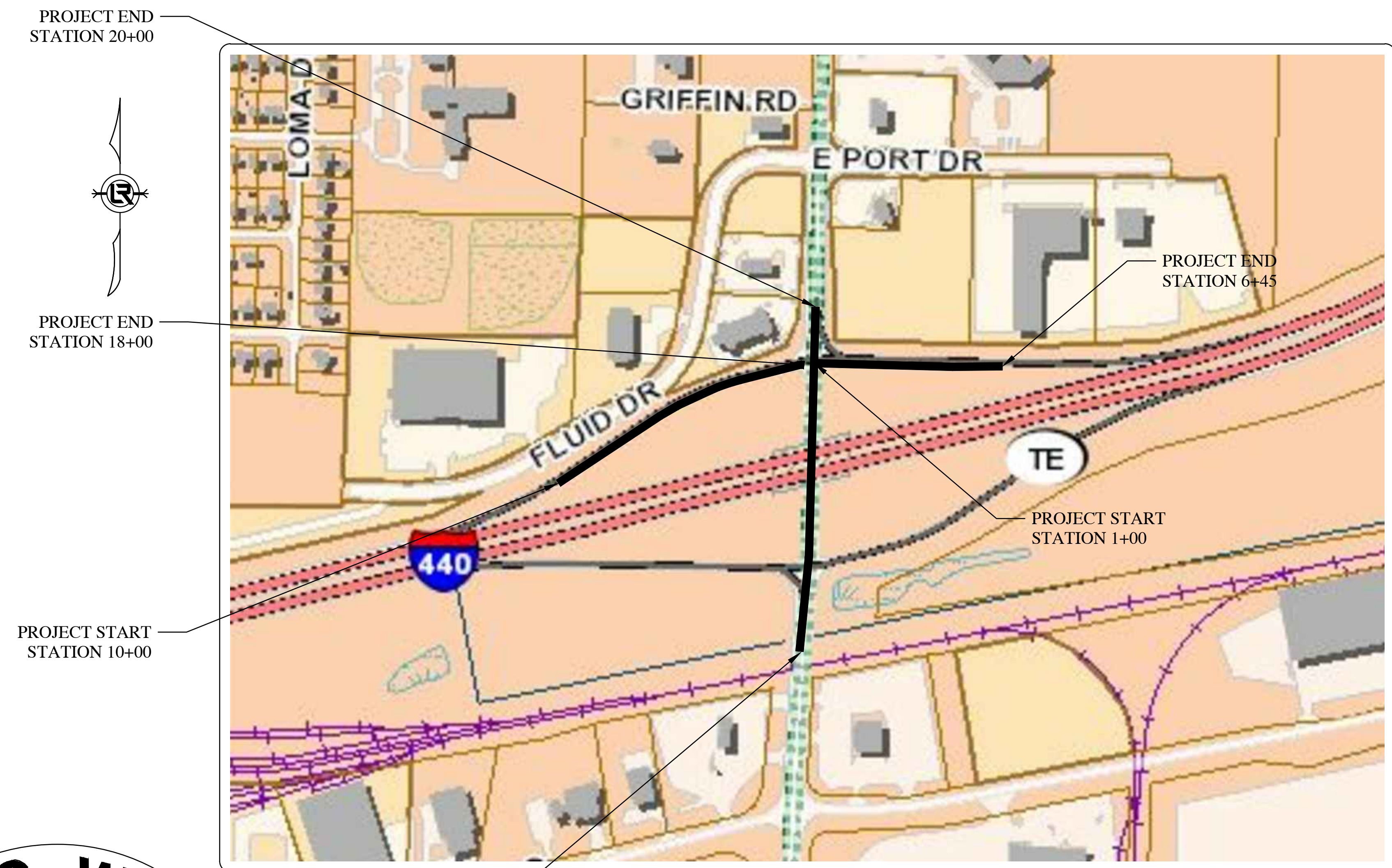


ARDOT 061706, I-440/FOURCHE DAM PIKE INTCHNG. IMPVTS. (LITTLE ROCK) (S)



REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
FOURCHE DAM PIKE IMPROVEMENTS
COVER SHEET



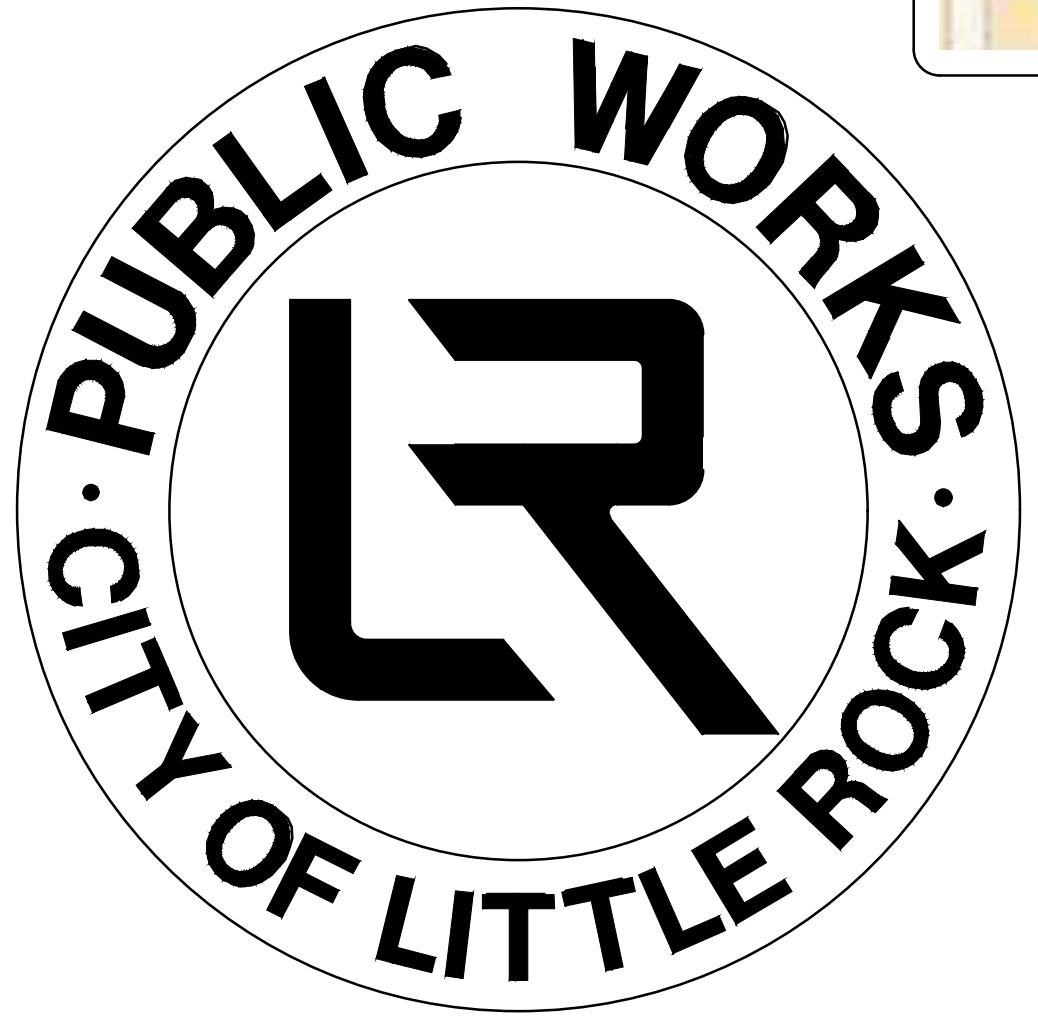
Sheet List Table	
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C2	QUANTITIES AND LEGENDS
C3 & C4	TYPICAL SECTION SHEETS
C5-C7	PLAN AND PROFILE SHEETS
C8	RAIL CROSSING SHEET
C9	RAIL CROSSING PREEMPTION CALCULATIONS
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C1



PROJECT START STATION 11+10
PROJECT LOCATION



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701 WEST MARKHAM STREET
LITTLE ROCK, ARKANSAS 72201



REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
FOURCHE DAM PIKE IMPROVEMENTS
QUANTITIES AND LEGENDS

FOURCHE DAM PIKE IMPROVEMENTS			
	1/8/2021		
2.01	SITE PREPARATION (INCLD. MOBILIZATION)	1	L.S.
3.01	UNCLASSIFIED EXCAVATION	265	C.Y.
3.06	SELECT FILL	950	C.Y.
6.01	ACHM SURFACE COURSE	10	TON
7.03	CONCRETE ISLAND	110	S.Y.
16.01	MAINTENANCE OF TRAFFIC	1	L.S.
19.01	CLEAN UP	1	L.S.
24.01	SILT FENCE - TYPE A (SFA)	800	L.F.
24.02	TEMPORARY SEEDING	0.1	AC.
24.02	CHECK DAM	5	C.Y.
308	AGGREGATE IN CEMENT STABILIZED CRUSHED STONE BASE COURSE	220	TON
308	CEMENT IN CEMENT STABILIZED CRUSHED STONE BASE COURSE	15	TON
308	PROCESSING CEMENT STABILIZED CRUSHED STONE BASE COURSE	718	S.Y.
501.00	P.C.C PAVEMENT-13"	718	S.Y.
14.01	SOLID SODDING, BERMUDA	560	S.Y.
634.00	CC CURB & GUTTER-A (1'-6")	90	L.F.
SP & 701	SYSTEM LOCAL CONTROLLER TS2-TYPE 2 (8-PHASE)	2	EA.
SP & 701	ETHERNET SWITCH, 100/1000 HARDENED CISCO INDUSTRIAL(IE) 3000 SERIES	2	EA.
SP	PTZ CAMERA SYSTEM AND WIRING	2	EA.
706.00	TRAFFIC SIGNAL HEAD LED (3-SECTION, 1-WAY)	14	EA.
706.00	TRAFFIC SIGNAL HEAD LED (4-SECTION, 1-WAY)	1	EA.
708.00	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G., E.G.C.)	240	L.F.
708.00	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	820	L.F.
708.00	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/12 A.W.G., E.G.C.)	400	L.F.
708.00	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	896	L.F.
708.00	TRAFFIC SIGNAL CABLE (6C/14 A.W.G.)	1613	L.F.
708.00	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	125	L.F.
708.00	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	915	L.F.
708.00	FIBER OPTIC CABLE, 72F	1590	L.F.
710.00	HDPR NON-METALLIC CONDUIT (4")	200	L.F.
710.00	HDPR NON-METALLIC CONDUIT (3")	540	L.F.
710.00	HDPR NON-METALLIC CONDUIT (2")	2070	L.F.
710.00	HDPR NON-METALLIC CONDUIT (1.25")	40	L.F.
711.00	CONCRETE PULL BOX (TYPE 2HD)	13	EA.
714.00	LED LUMINAIRE ASSEMBLY	6	EA.
714.00	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (32')	1	EA.
714.00	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (40')	1	EA.
714.00	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (42')	1	EA.
714.00	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (46')	2	EA.
714.00	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (50')	1	EA.
715.00	SERVICE POINT ASSEMBLY (2 CIRCUITS)	2	EA.
SP & 715.00	TESCO BATTERY BACK-UP SERVICE PEDESTAL COMBINATION UNIT (MODEL 27-22BBS)	2	EA.
719.04W	THERMOPLASTIC PAVEMENT STRIPING WHITE (6")	3658	L.F.
719.04Y	THERMOPLASTIC PAVEMENT STRIPING YELLOW (6")	2870	L.F.
719.24	THERMOPLASTIC PAVEMENT MARKING WHITE (24")	144	L.F.
719.30YD	THERMOPLASTIC PAVEMENT MARKING WHITE (YIELD)	50	L.F.
719.30AW	THERMOPLASTIC PAVEMENT ARROW (WHITE)	10	EA.
719.30EB	THERMOPLASTIC PAVEMENT EMBLEM (WHITE)	6	EA.
726.01	STANDARD SIGN	18	SF.
726.02	RELOCATE STANDARD SIGN	6	EA.
SP & 726.00	18" STREET NAME SIGN	6	EA.
729.01	CHANNEL POST SIGN SUPPORT (TYPE C)	2	EA.
SP	BELDEN 4C/14 A.W.G	430	L.F.
SP	WAVETRONIX DETECTION SYSTEM (MATRIX AND ADVANCE) (CLICK 656)	2	L.S.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	915	L.F.
SP	RAILROAD PREEMPTION INTERCONNECT SYSTEM AND WIRING	1	L.S.
SP	AIR HOSE WITH TERMINATIONS (1 1/2')	350	L.F.

6.30 HOT MIX ASPHALT STABILIZED BASE COURSE (1-1/2") 235 TON

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

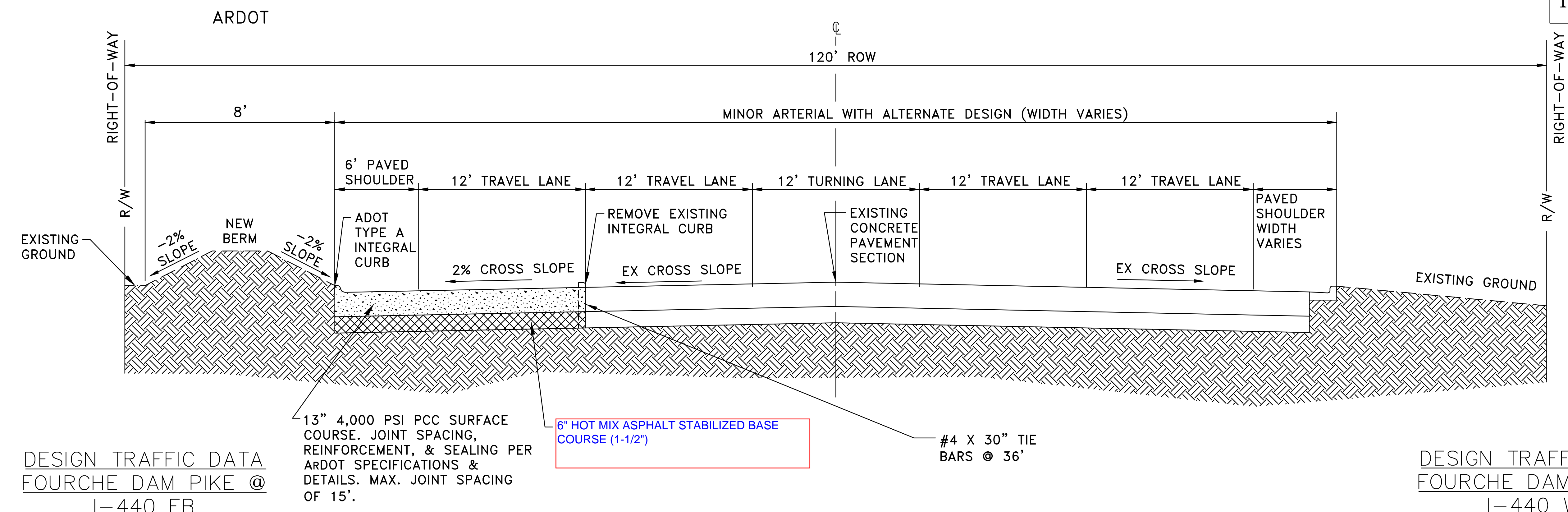
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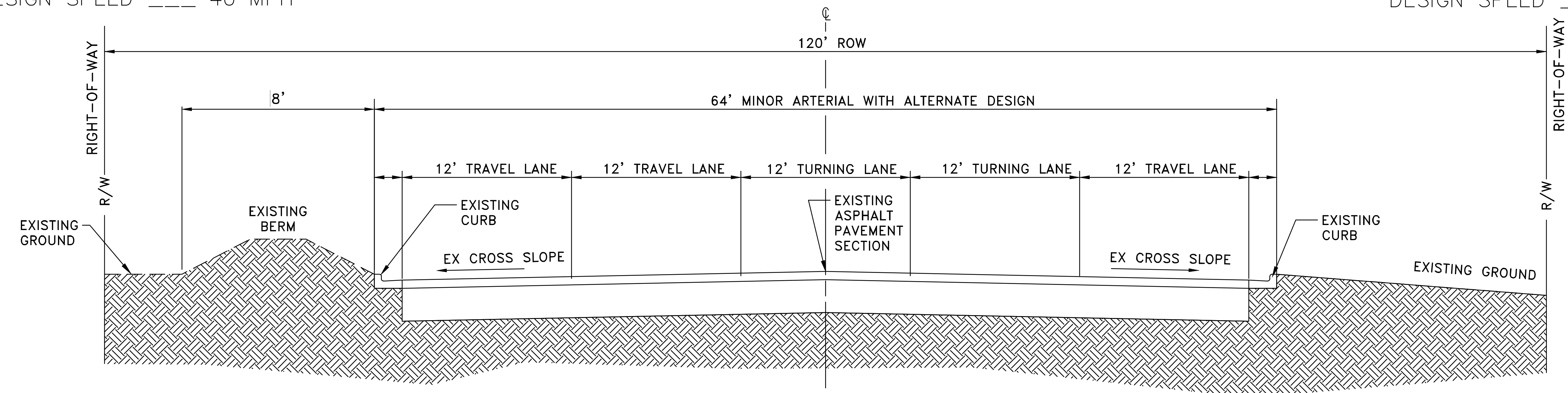


TYPICAL SECTION - FOURCHE DAM PIKE

NTS STA. 11+10.00 TO STA. 12+00.00 (FACING NORTH)

DESIGN YEAR	2024
2019 ADT	372 (NB)
2024 ADT	865 (NB)
TRUCKS	21% (NB)
2019 ADT	441 (SB)
2024 ADT	806 (SB)
TRUCKS	12% (SB)
DESIGN SPEED	40 MPH

DESIGN YEAR	2024
2019 ADT	289 (NB)
2024 ADT	568 (NB)
TRUCKS	18% (NB)
2019 ADT	250 (SB)
2024 ADT	301 (SB)
TRUCKS	12% (SB)
DESIGN SPEED	40 MPH



TYPICAL SECTION - FOURCHE DAM PIKE

NTS STA. 12+81.75 TO STA. 17+98.88 (FACING NORTH)

CITY OF LITTLE ROCK, ARKANSAS
FOURCHE DAM PIKE IMPROVEMENTS
TYPICAL SECTION SHEET 1

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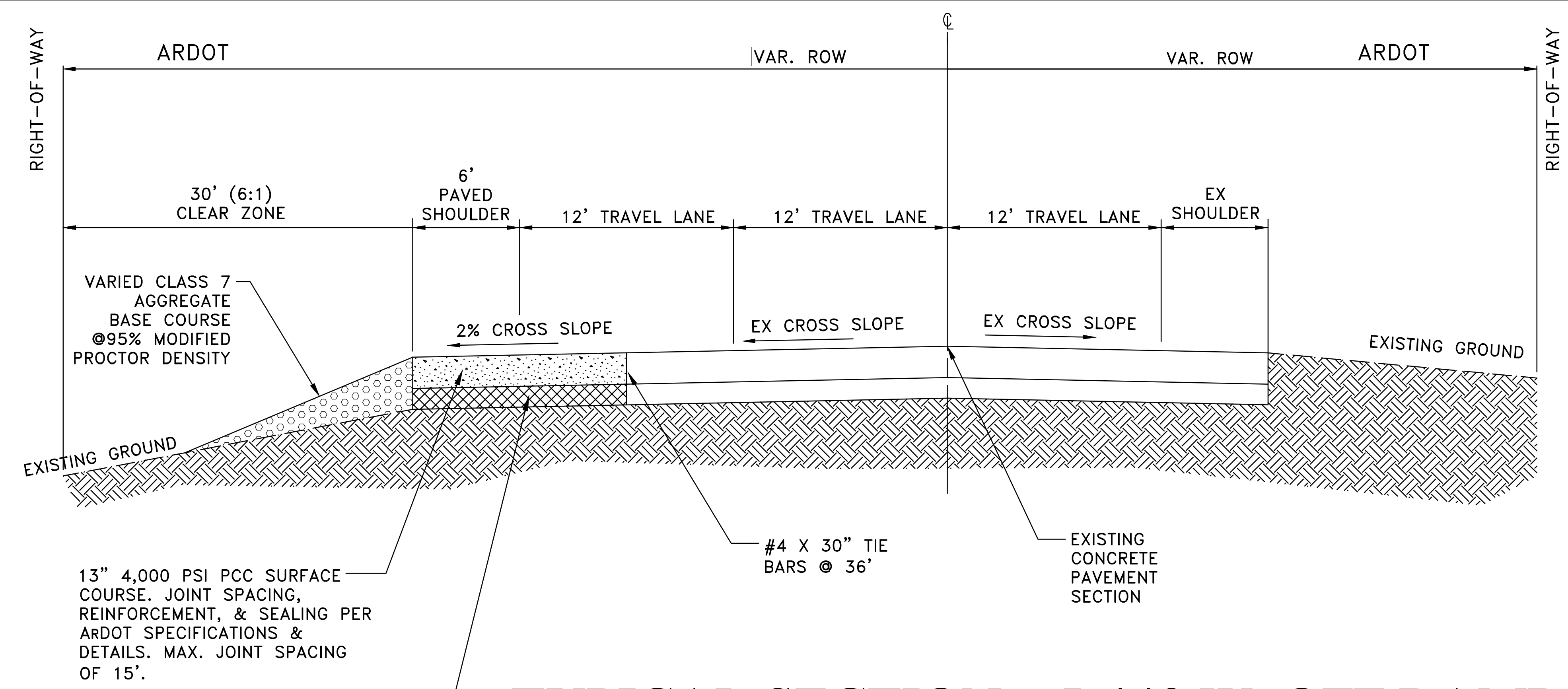
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13217
BRADLEY A. PETERSON
2/23/21

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C3

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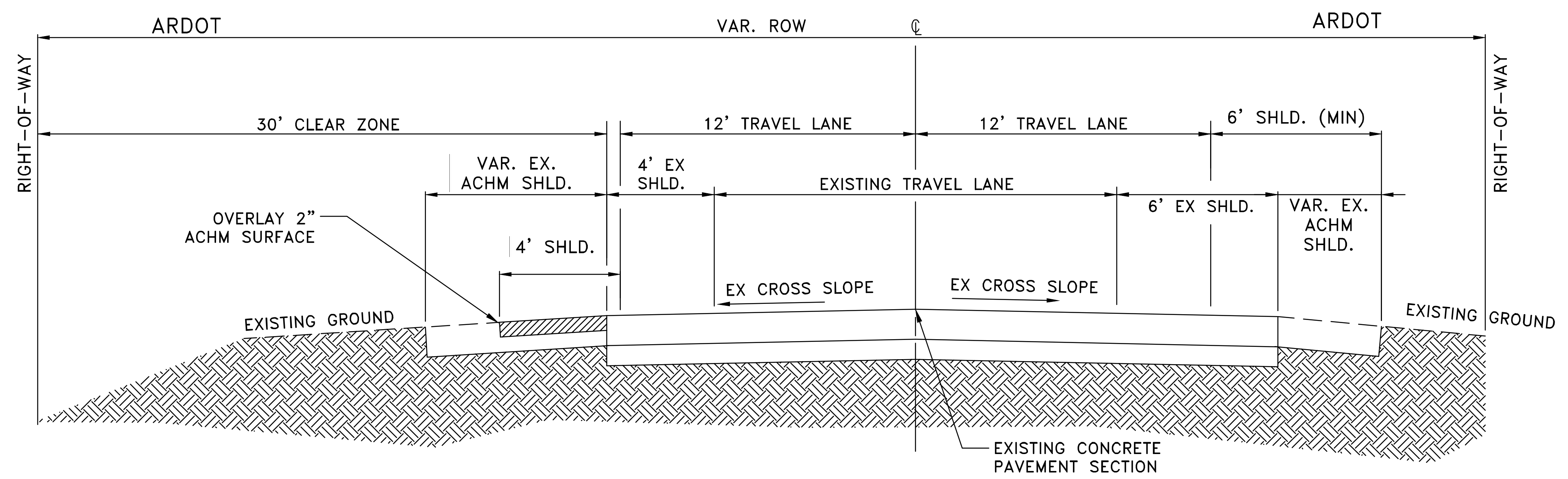
100% SUBMITTAL



DESIGN TRAFFIC DATA
 I-440 WB OFF RAMP
 DESIGN YEAR _____ 2024
 2019 ADT _____ 450
 2024 ADT _____ 807
 TRUCKS _____ 11%
 DESIGN SPEED _____ 40 MPH

TYPICAL SECTION - I-440 W. OFF RAMP

NTS STA. 1+00.00 TO STA. 6+45.00 (FACING WEST)



TYPICAL SECTION - I-440 W. ON RAMP

NTS STA. 10+00.00 TO STA. 18+00.00 (FACING WEST)

CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 TYPICAL SECTION SHEET 2

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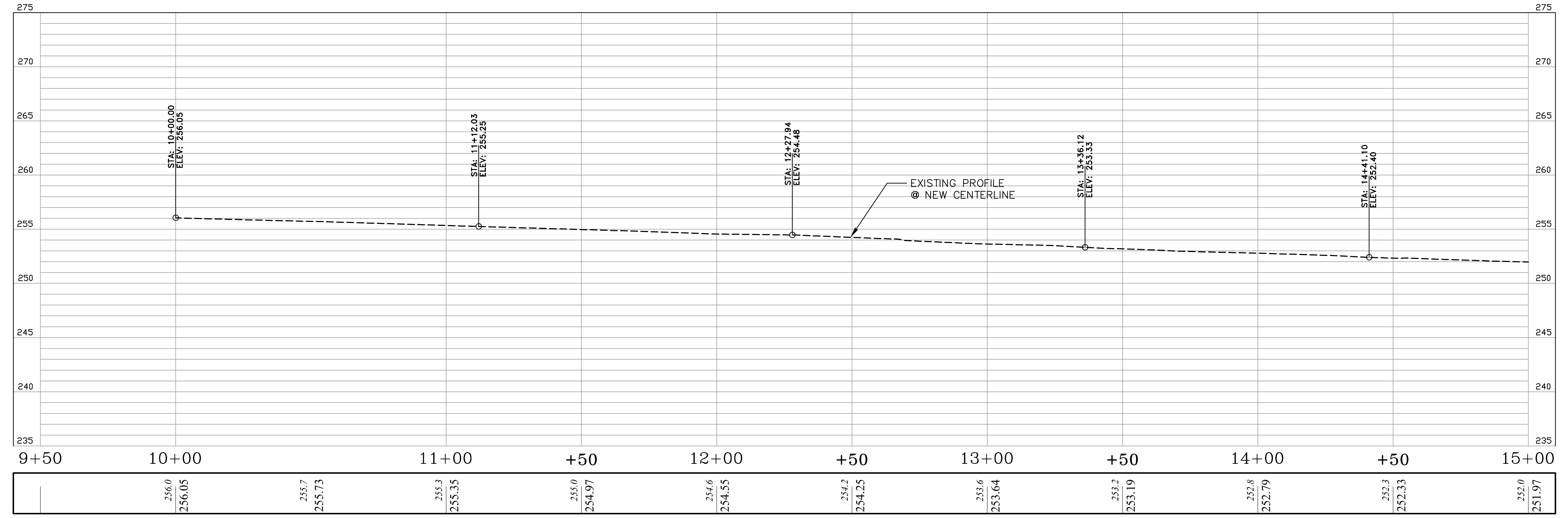
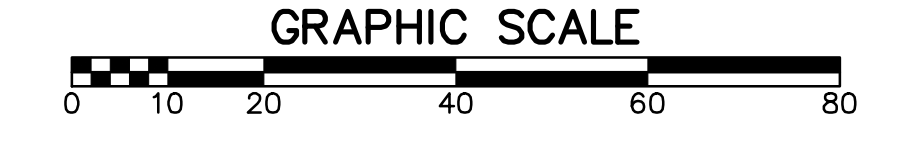
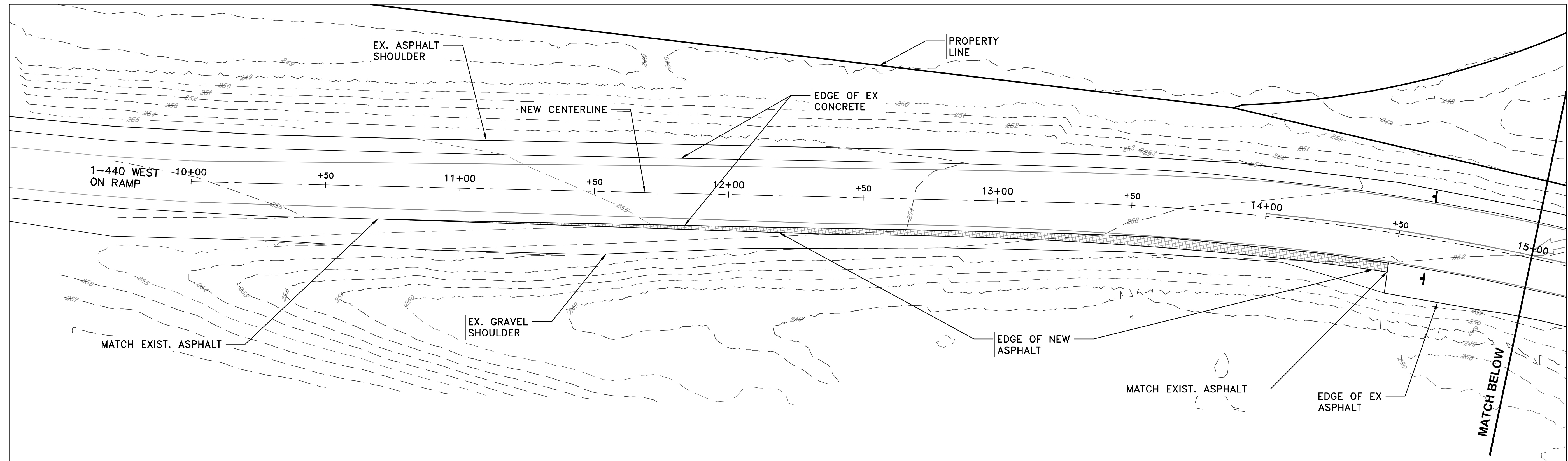
CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 PLAN AND PROFILE SHEET 1

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 C5



440 WEST BOUND ON RAMP

REVISIONS	DATE

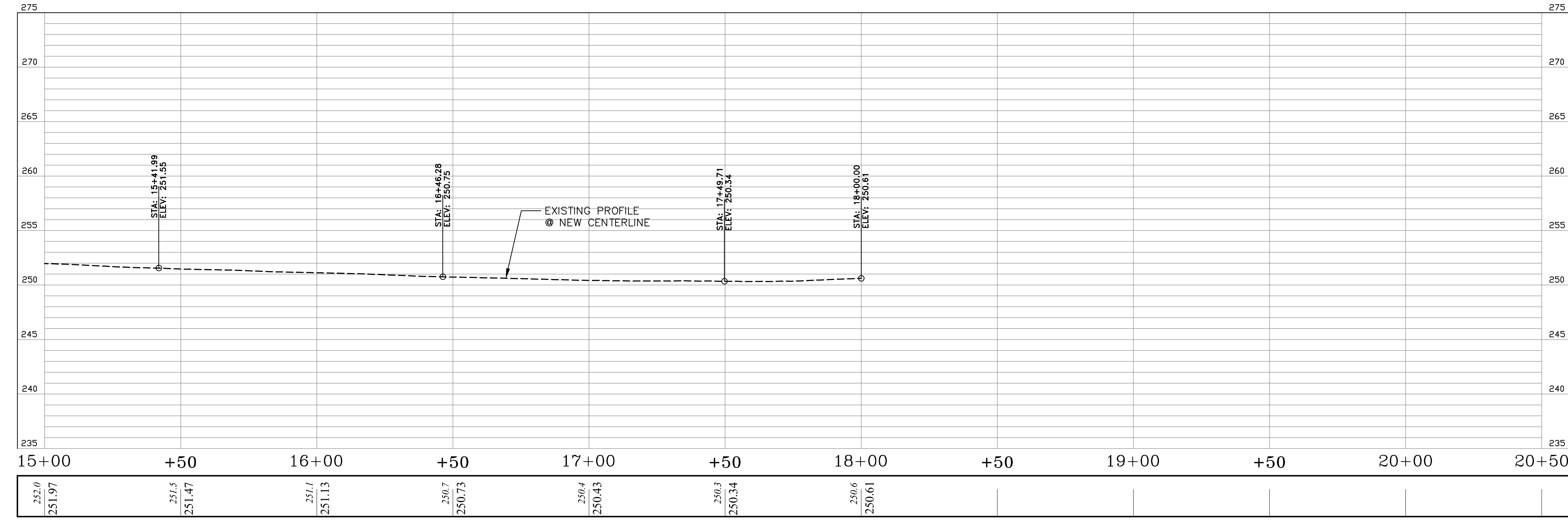
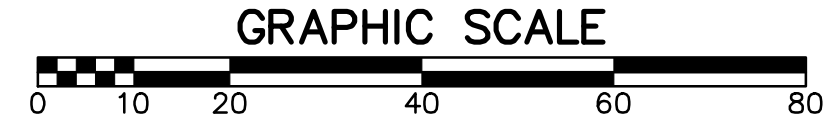
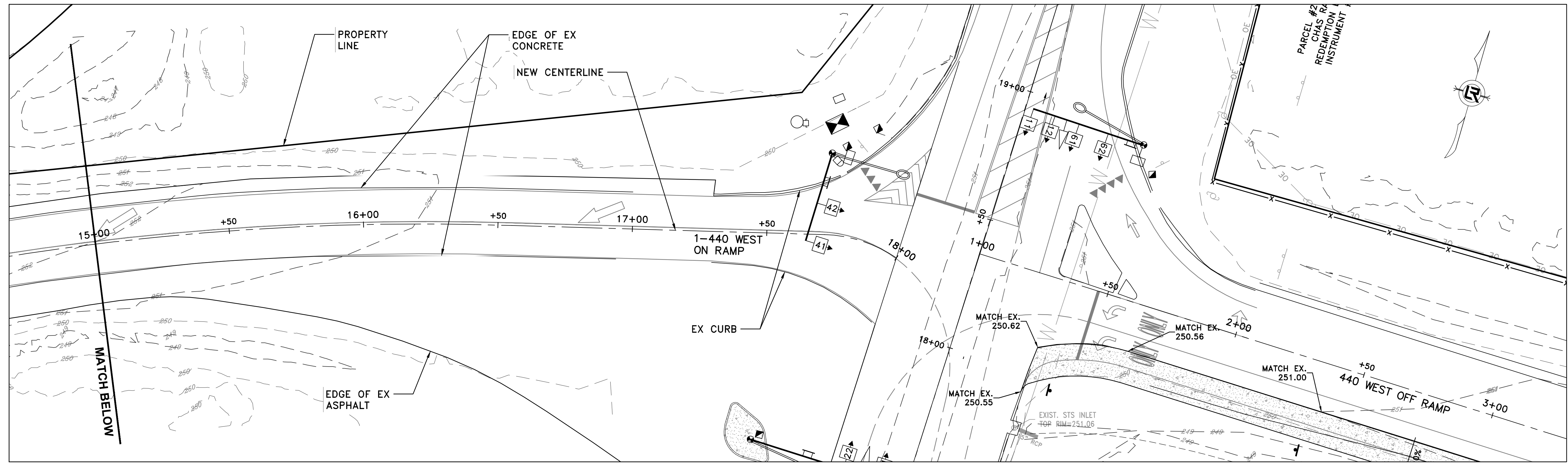
CITY OF LITTLE ROCK, ARKANSAS
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 PLAN AND PROFILE SHEET 2

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 C6



440 WEST BOUND ON RAMP

REVISIONS	DATE

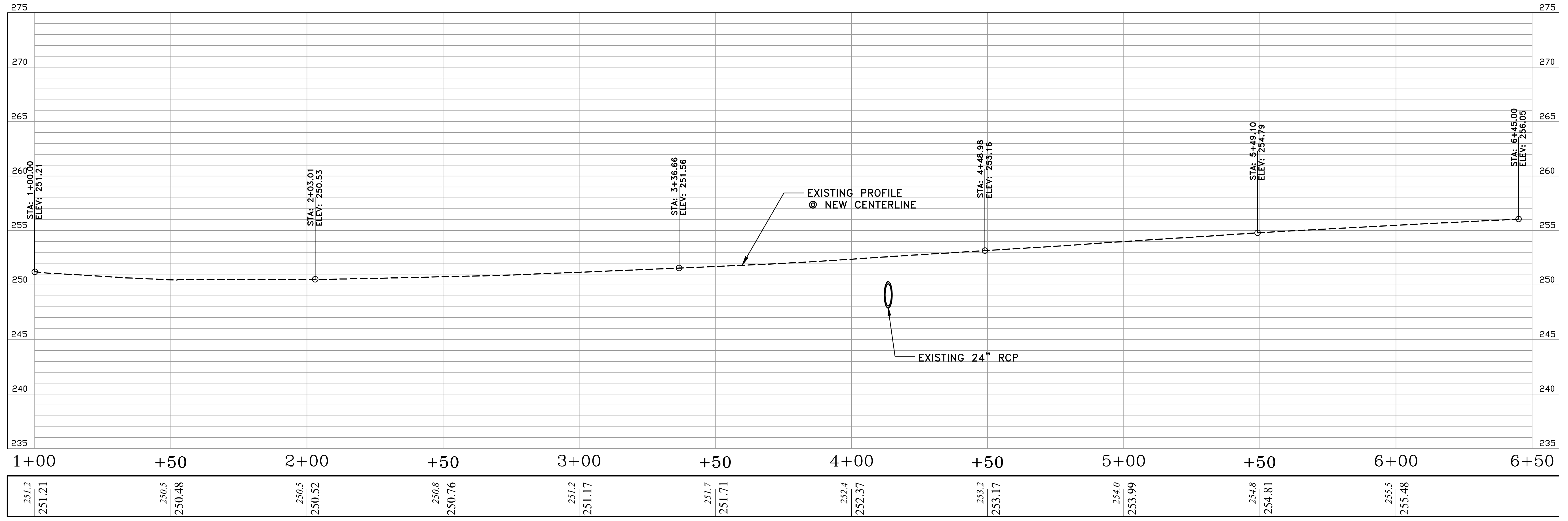
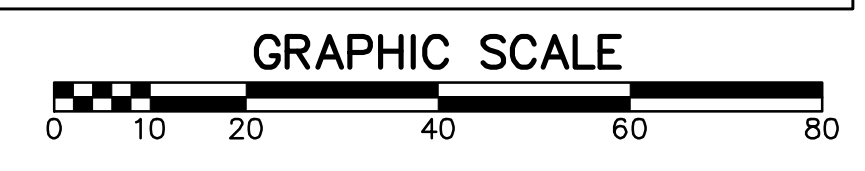
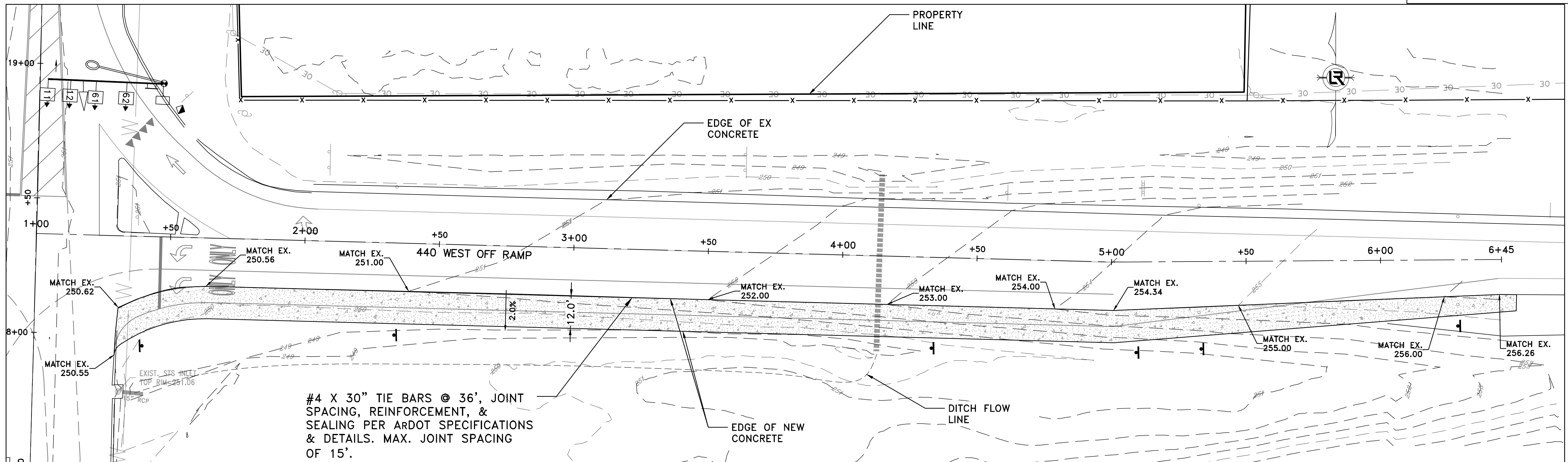
CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 PLAN AND PROFILE SHEET 3

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 C7



440 WEST OFF RAMP

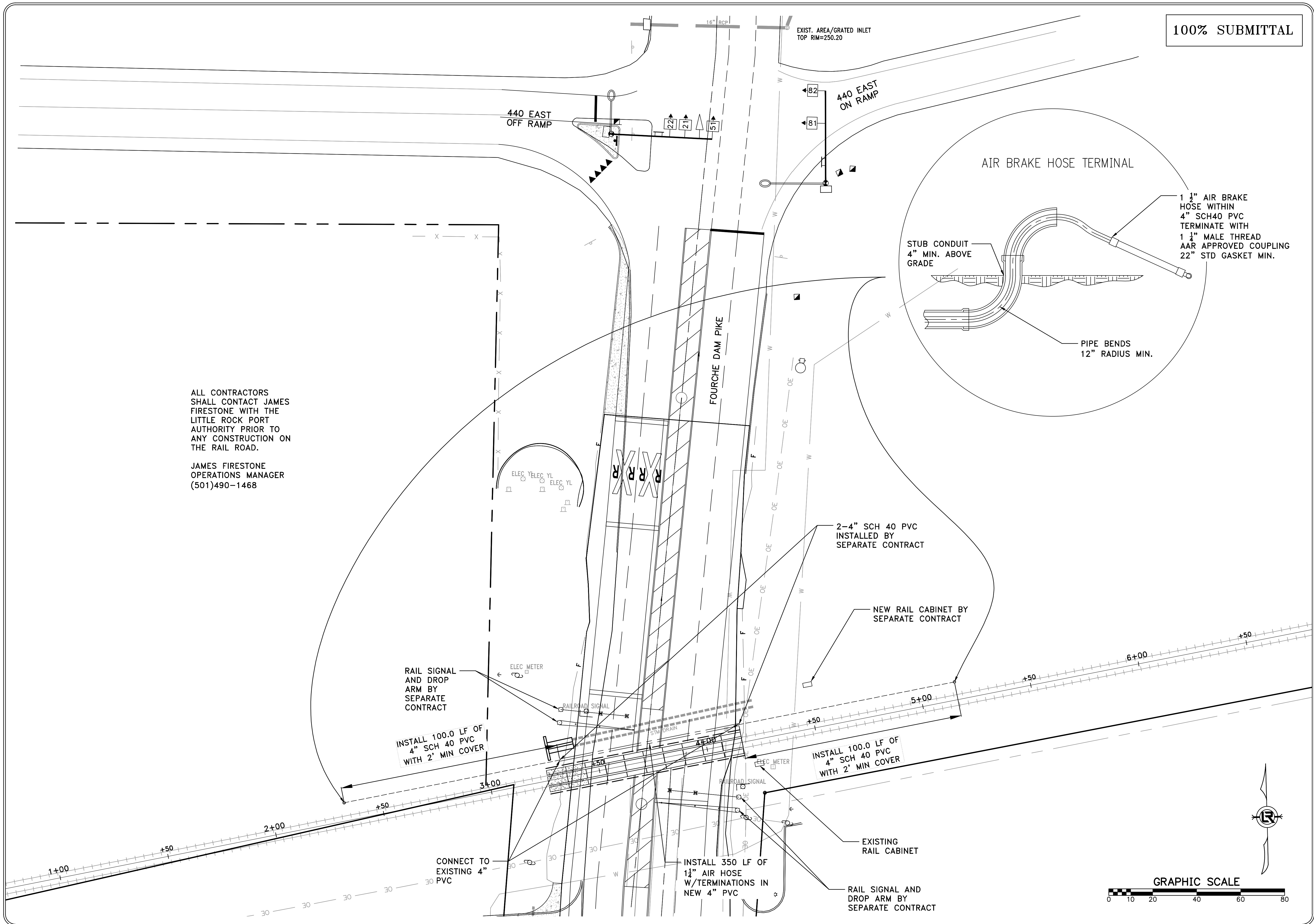
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CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 RAIL CROSSING

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 PROJECT NO.
 SHEET NO.
 C8



ALL CONTRACTORS SHALL CONTACT JAMES FIRESTONE WITH THE LITTLE ROCK PORT AUTHORITY PRIOR TO ANY CONSTRUCTION ON THE RAIL ROAD.
 JAMES FIRESTONE
 OPERATIONS MANAGER
 (501)490-1468

100% SUBMITTAL

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CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 RAIL CROSSING PREEMPTION CALCULATIONS

DEPARTMENT OF PUBLIC WORKS
 CIVIL ENGINEERING
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 LITTLE ROCK, ARKANSAS 72201

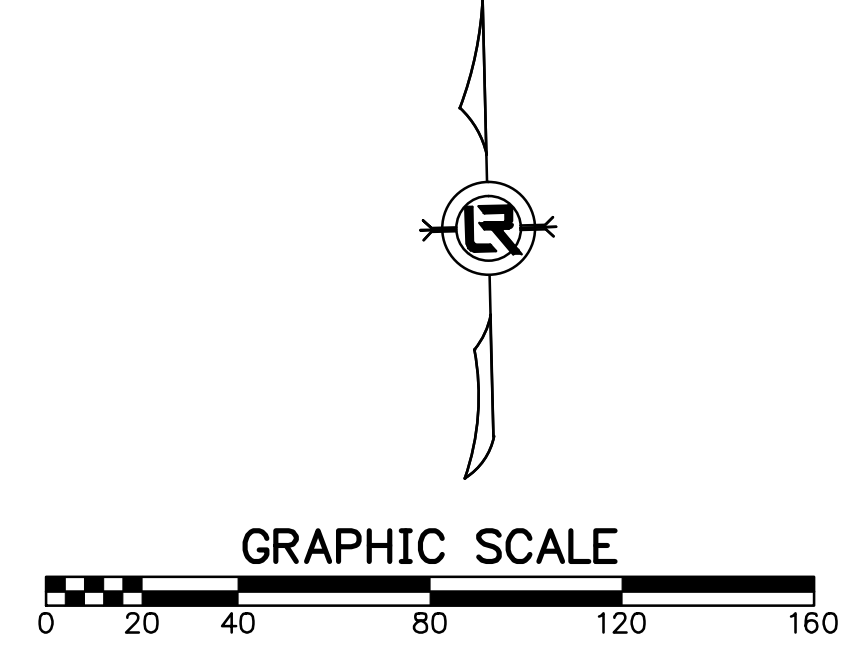
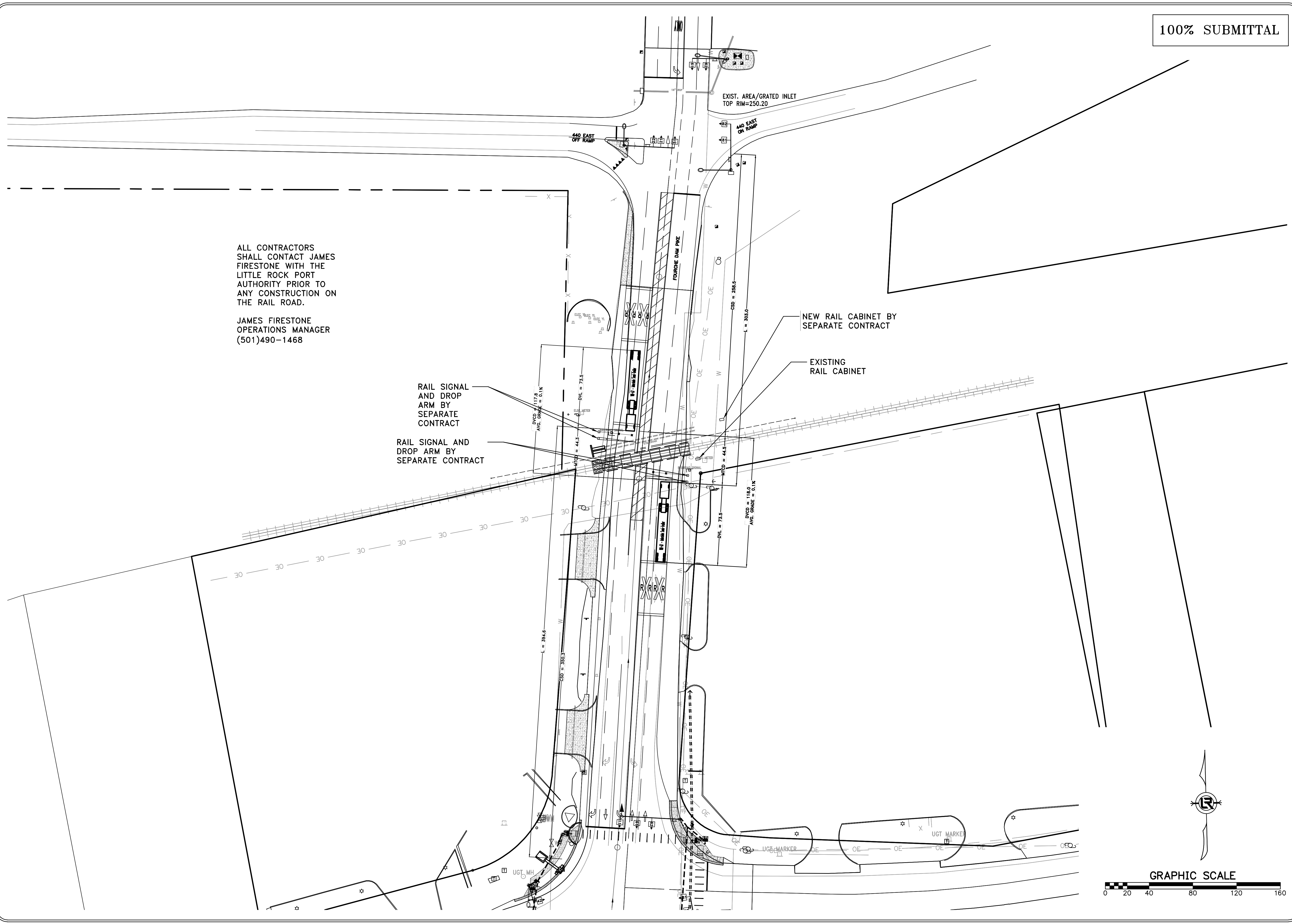


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 C9

ALL CONTRACTORS SHALL CONTACT JAMES FIRESTONE WITH THE LITTLE ROCK PORT AUTHORITY PRIOR TO ANY CONSTRUCTION ON THE RAIL ROAD.
 JAMES FIRESTONE
 OPERATIONS MANAGER
 (501)490-1468

RAIL SIGNAL AND DROP ARM BY SEPARATE CONTRACT
 RAIL SIGNAL AND DROP ARM BY SEPARATE CONTRACT

NEW RAIL CABINET BY SEPARATE CONTRACT
 EXISTING RAIL CABINET



REVISIONS	DATE

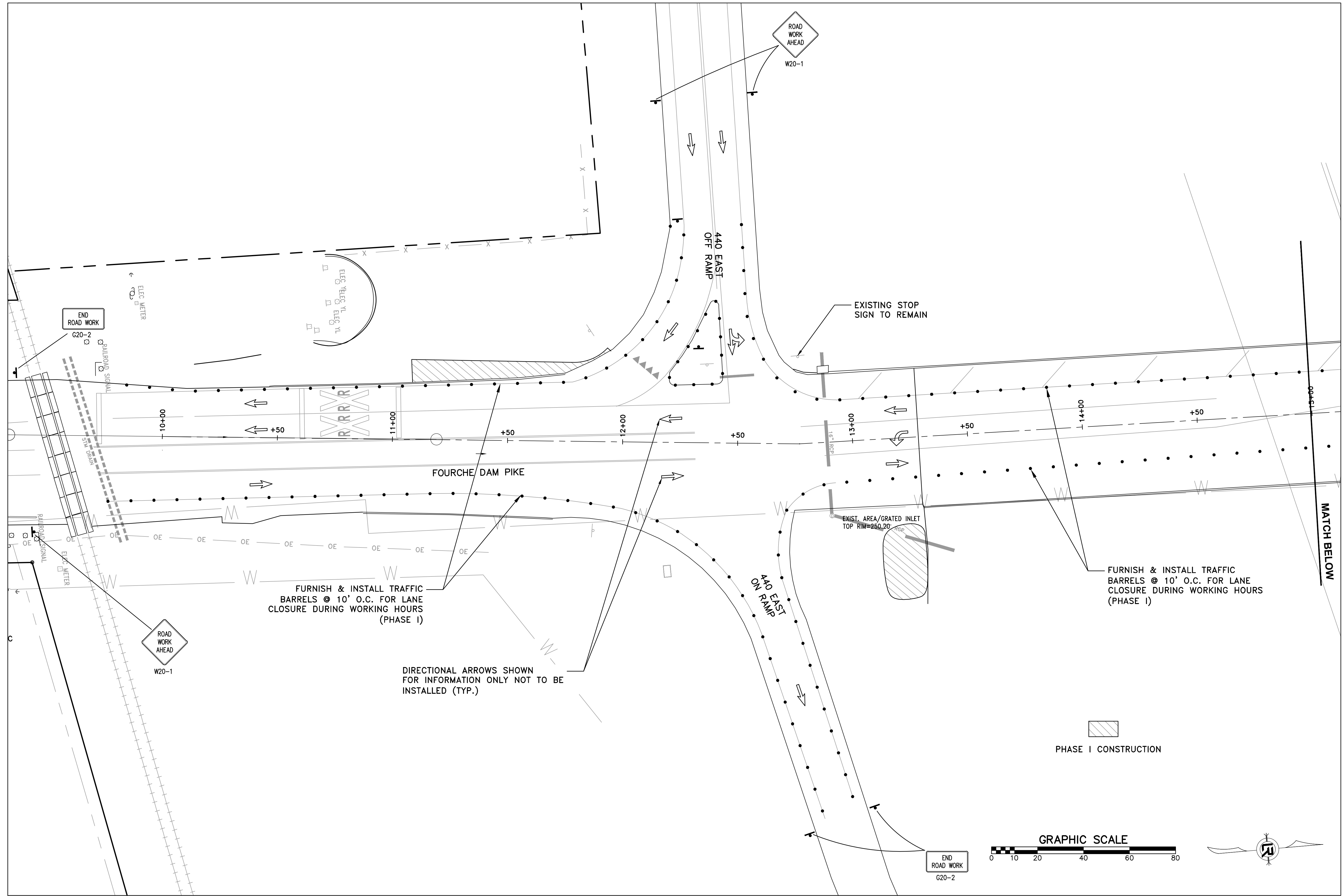
CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 MAINTENANCE OF TRAFFIC PH 1 - SHEET 1

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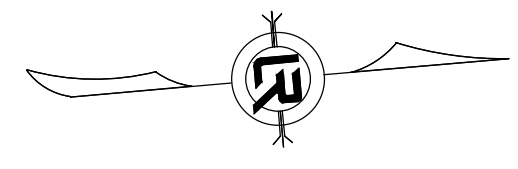
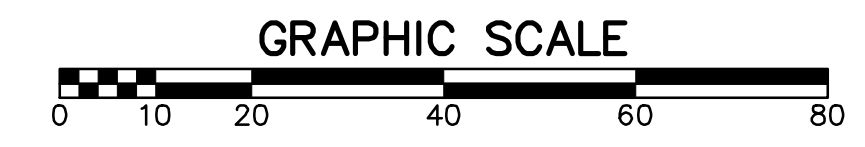
SHEET NO.
 C10



FURNISH & INSTALL TRAFFIC BARRELS @ 10' O.C. FOR LANE CLOSURE DURING WORKING HOURS (PHASE I)

DIRECTIONAL ARROWS SHOWN FOR INFORMATION ONLY NOT TO BE INSTALLED (TYP.)

PHASE I CONSTRUCTION



END ROAD WORK
 G20-2

100% SUBMITTAL

REVISIONS	DATE

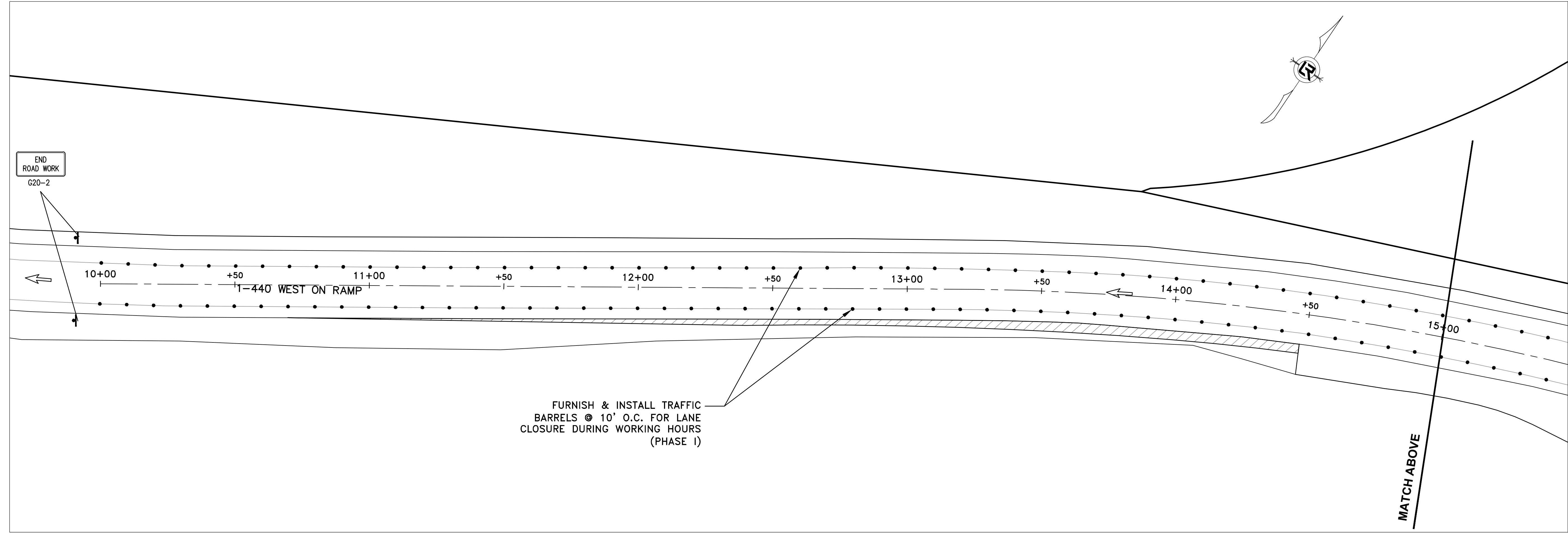
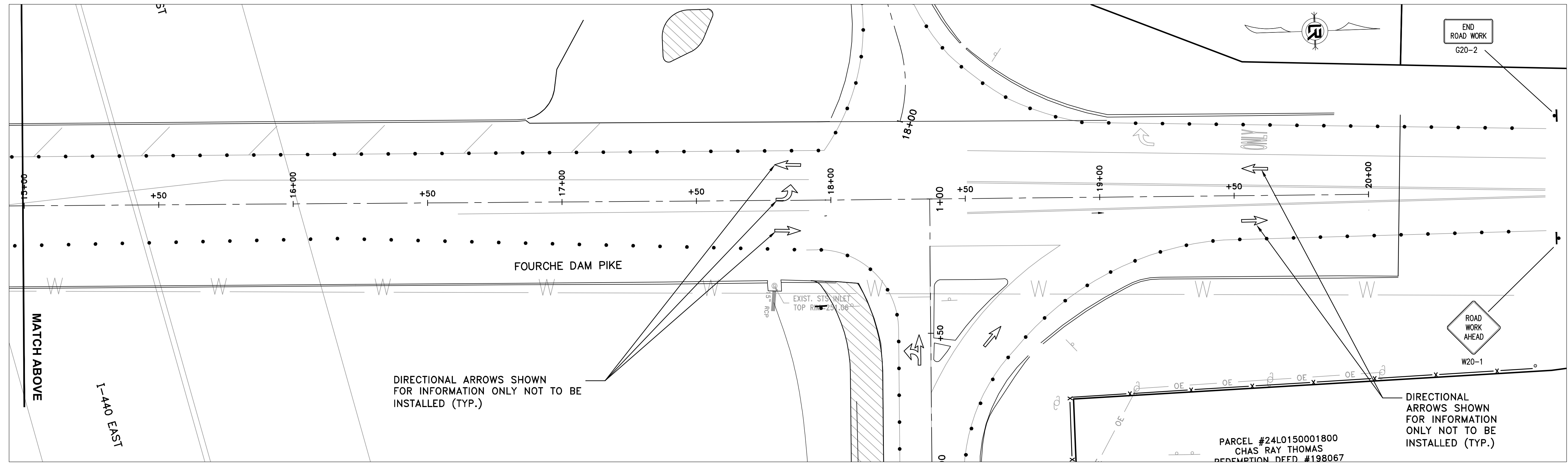
CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 MAINTENANCE OF TRAFFIC PH 1 - SHEET 2

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SHEET NO.
 C11



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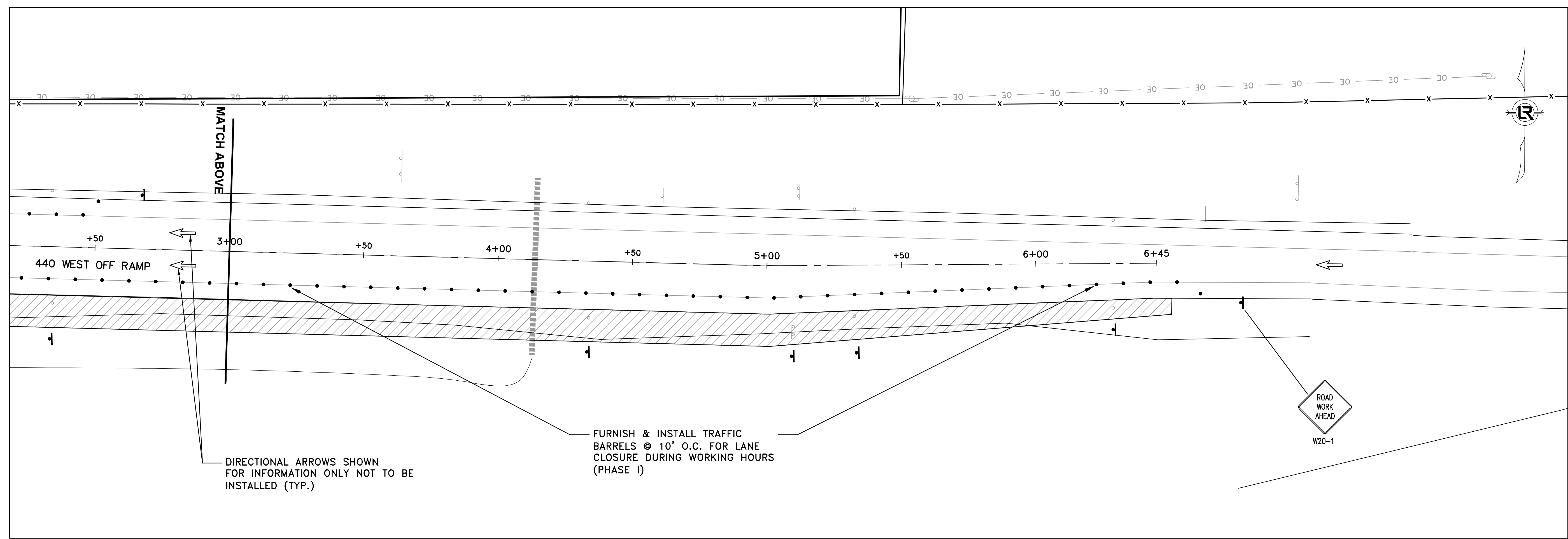
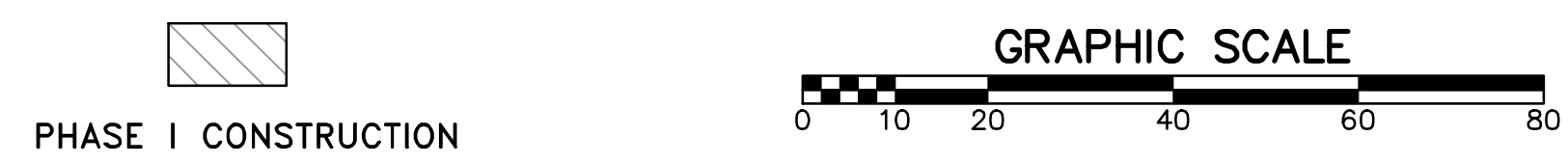
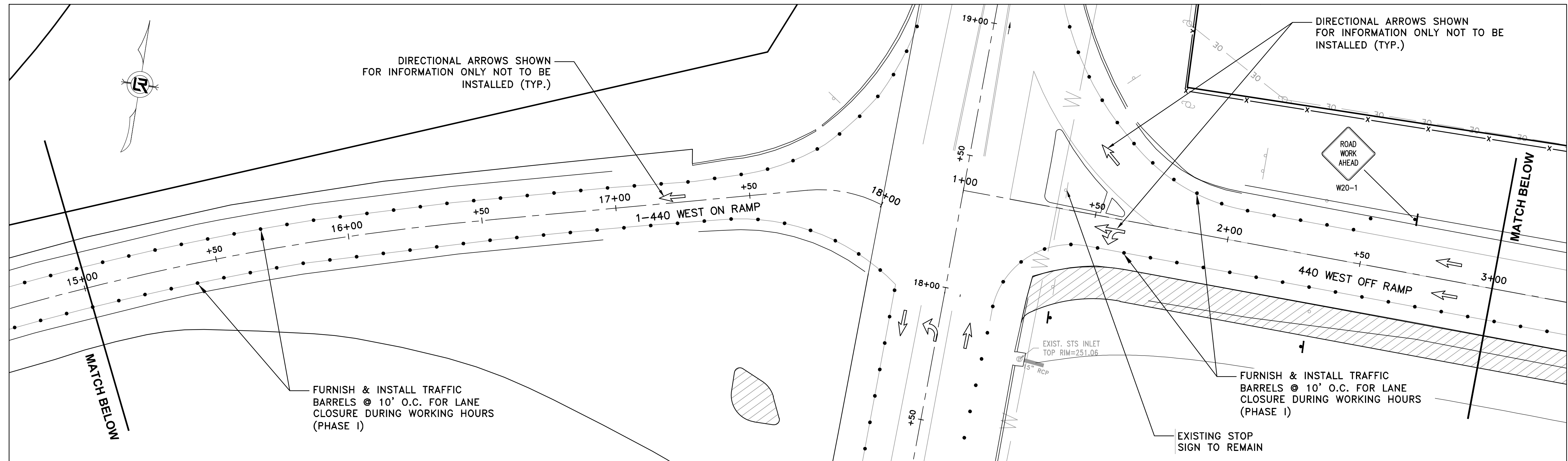
CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 MAINTENANCE OF TRAFFIC PH 1 - SHEET 3

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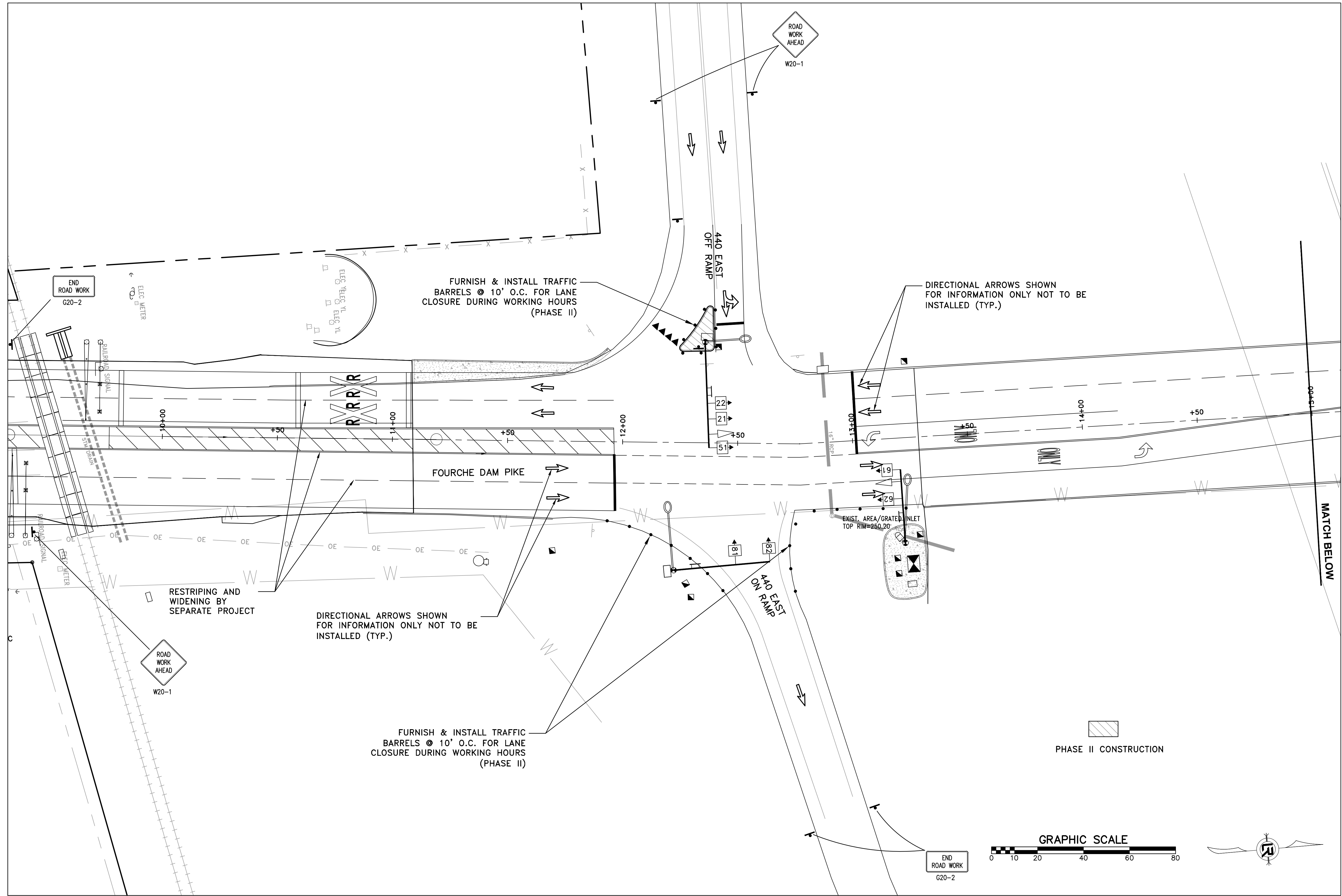
CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
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 12-23-2020
SCALE
 H: 1"=20'
 V: 1"=5'
PROJECT NO.

SHEET NO.
 C13



100% SUBMITTAL

REVISIONS	DATE

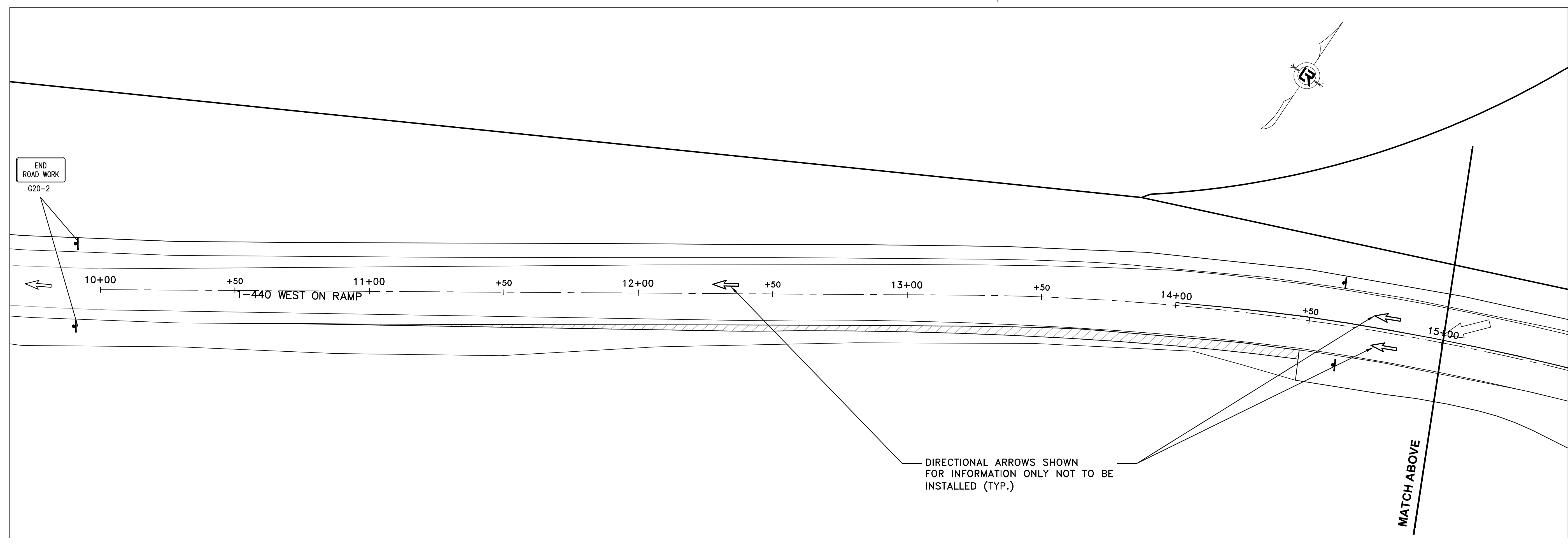
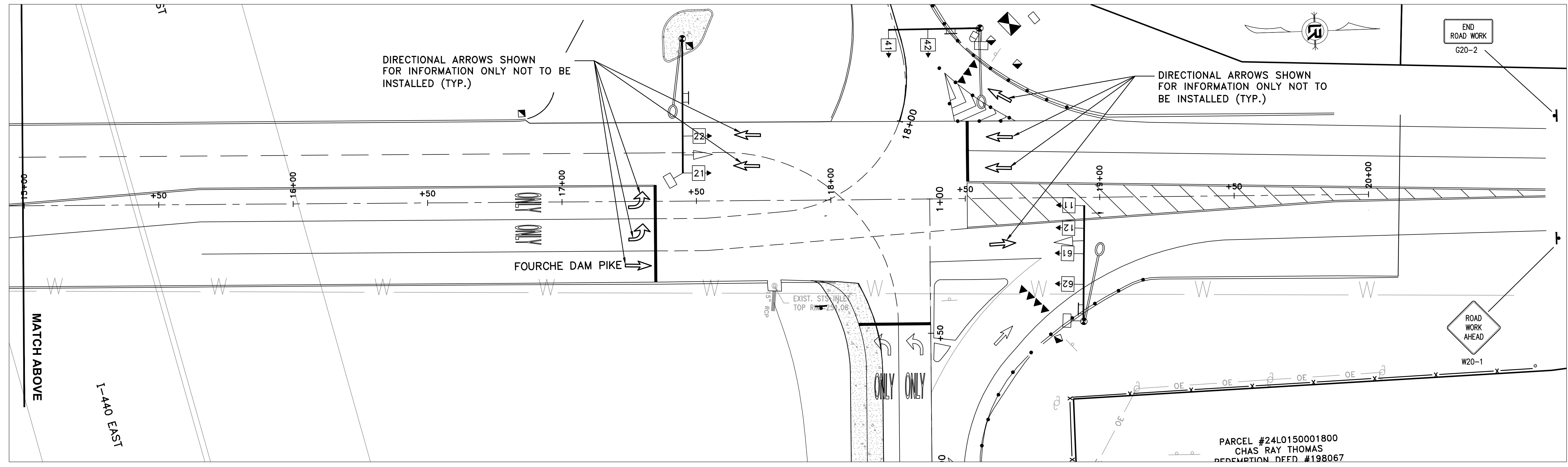
CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 MAINTENANCE OF TRAFFIC PH 2 - SHEET 2

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



DRAWN BY
 AT
 DESIGNED
 SAK
 CHECKED
 BAP
 DATE
 12-23-2020
 SCALE
 H: 1"=20'
 V: 1"=5'
 PROJECT NO.

SHEET NO.
 C14



REVISIONS	DATE

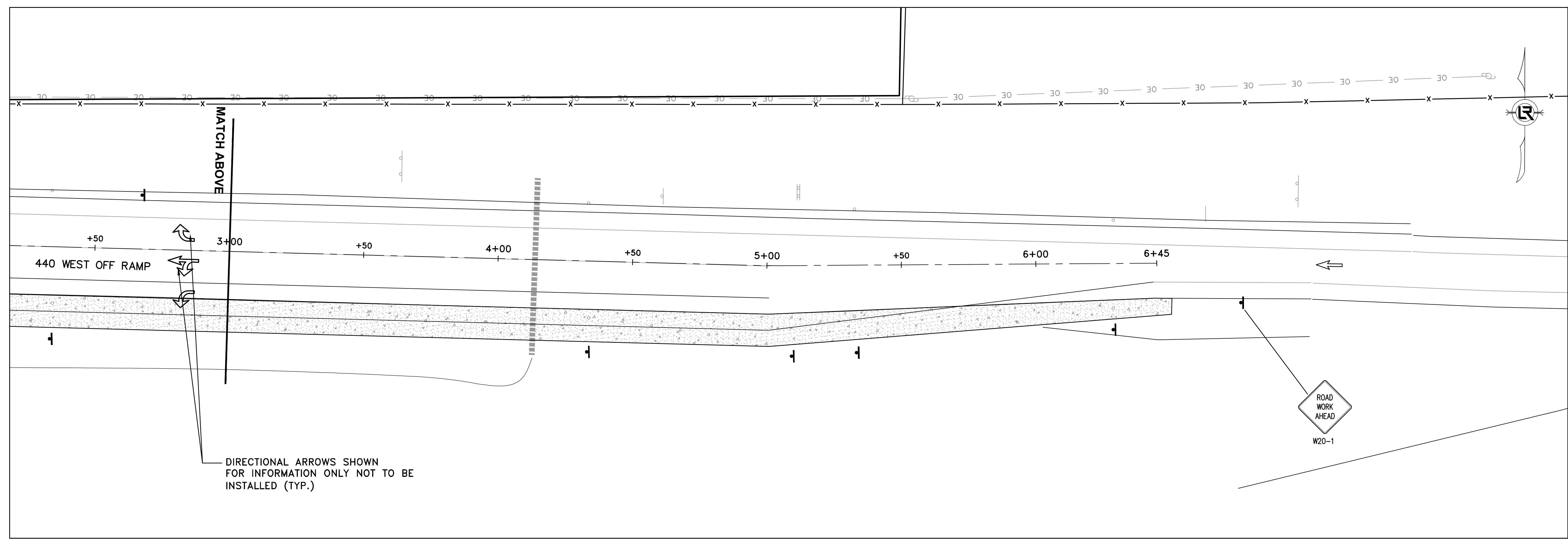
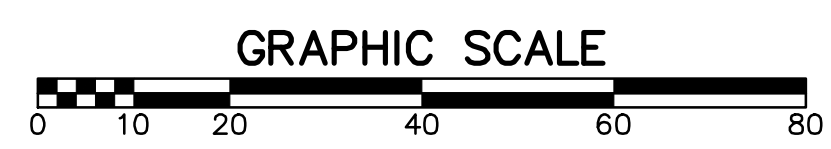
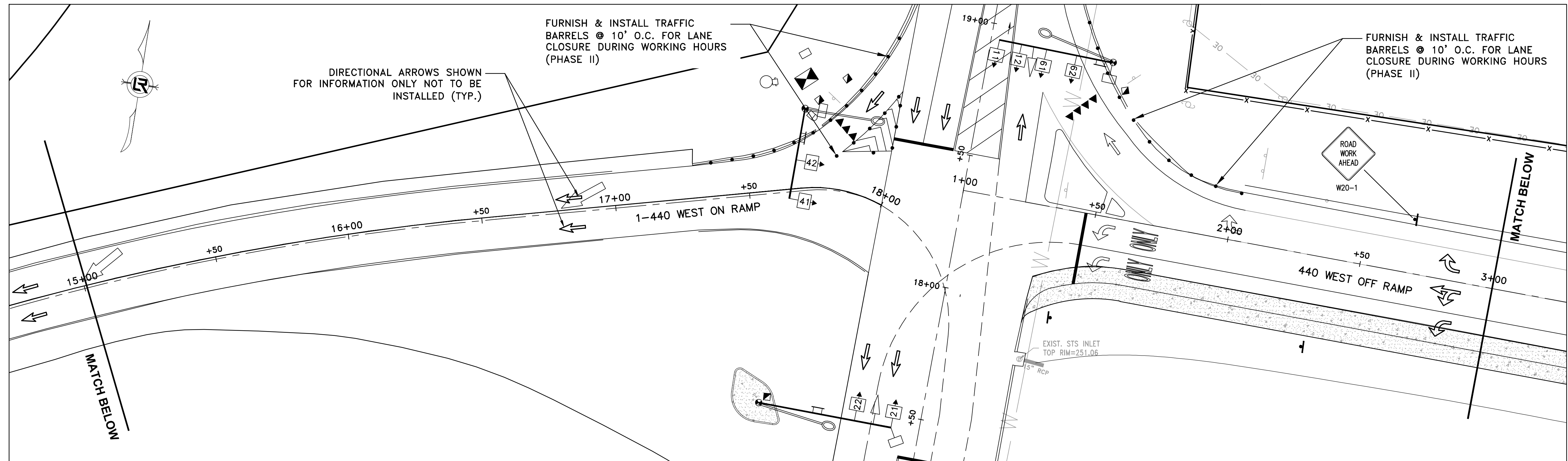
CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 MAINTENANCE OF TRAFFIC PH 2 - SHEET 3

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



DRAWN BY
 AT
 DESIGNED
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 CHECKED
 BAP
 DATE
 12-23-2020
 SCALE
 H: 1"=20'
 V: 1"=5'
 PROJECT NO.

SHEET NO.
 C15



REVISIONS	DATE

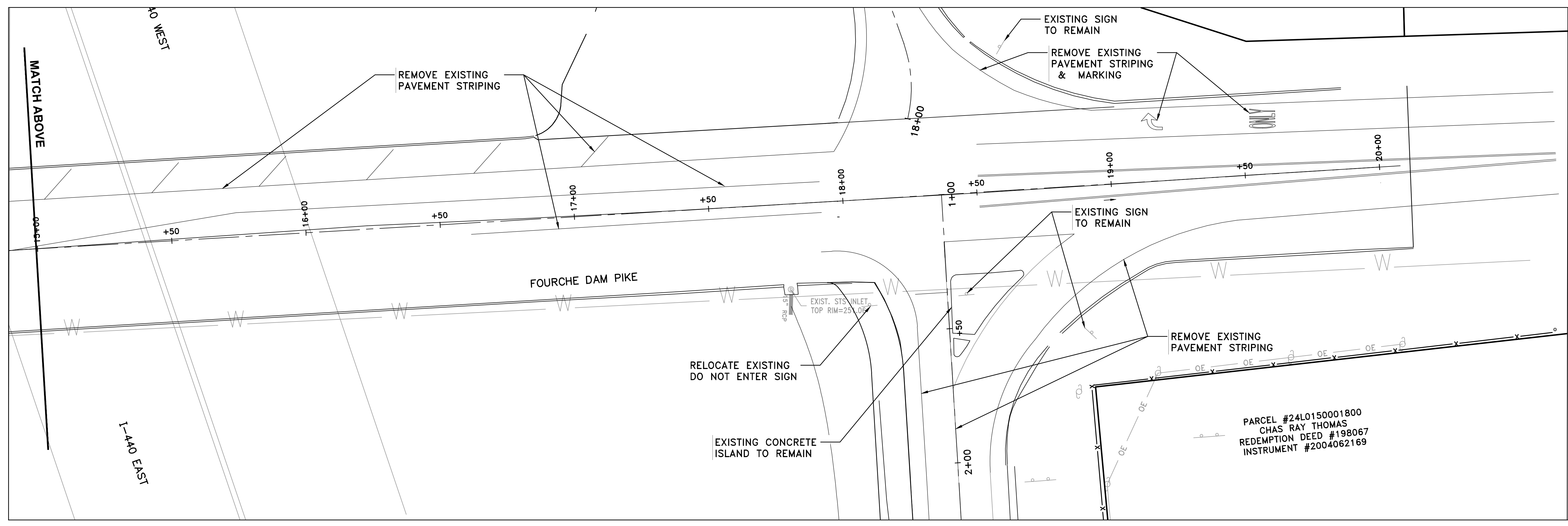
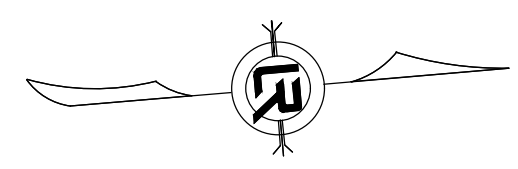
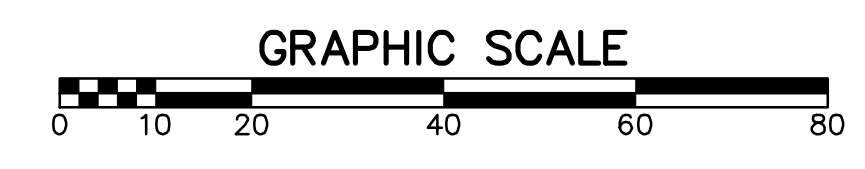
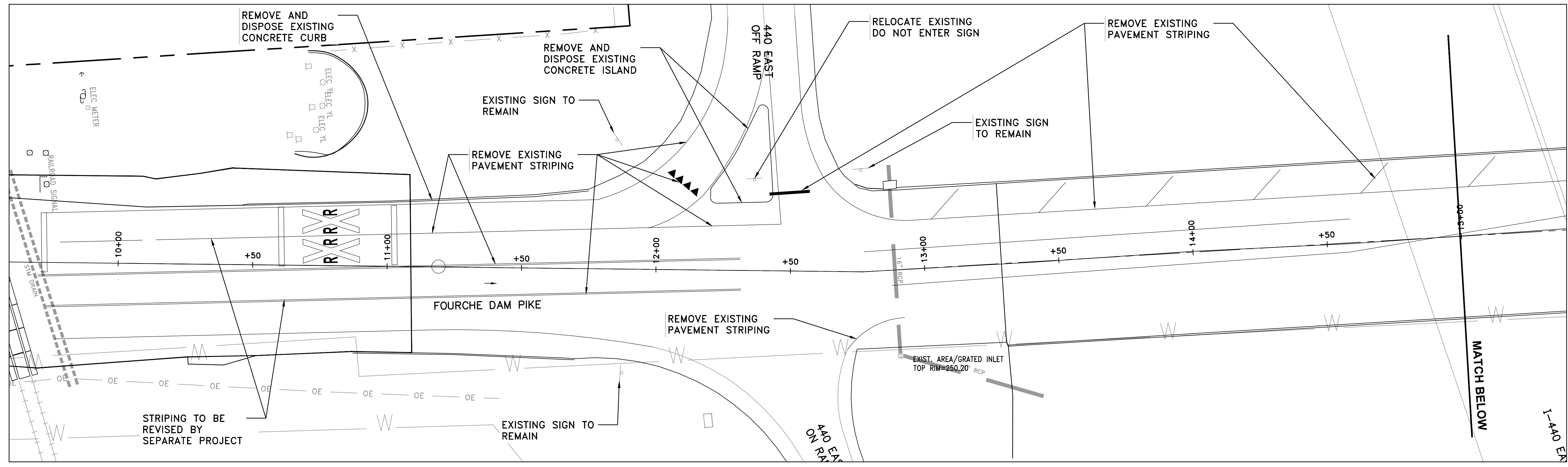
CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 STRIPING REMOVAL SHEET 1

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



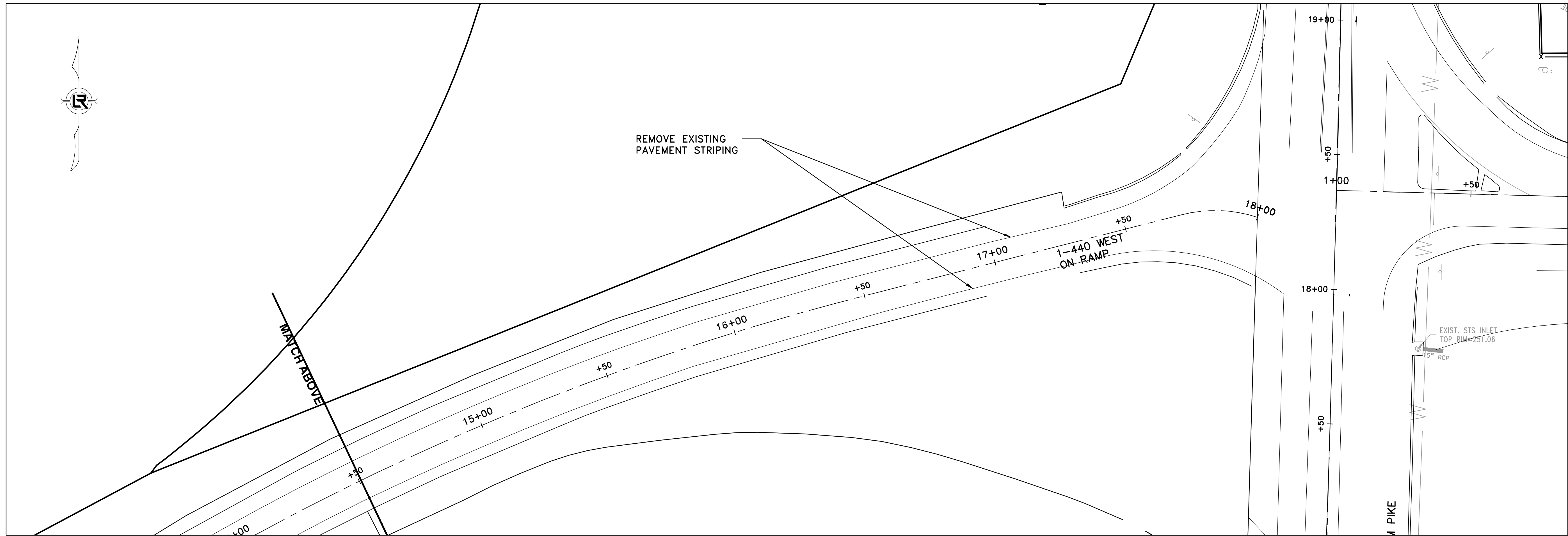
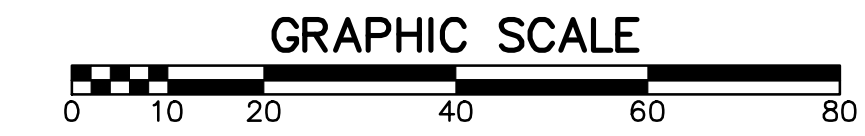
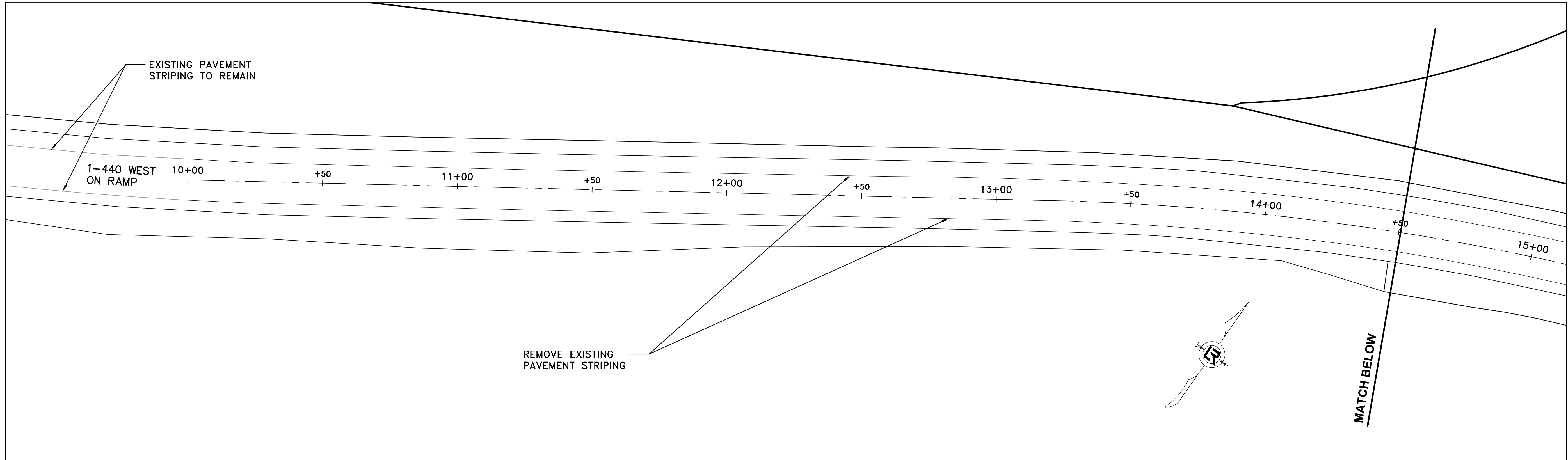
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 CHECKED
 BAP
 DATE
 12-23-2020
 SCALE
 H: 1"=20'
 V: 1"=5'
 PROJECT NO.

SHEET NO.
 C16



PARCEL #24L0150001800
 CHAS RAY THOMAS
 REDEMPTION DEED #198067
 INSTRUMENT #2004062169

100% SUBMITTAL



REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 STRIPING REMOVAL SHEET 2

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



DRAWN BY
 AT
 DESIGNED
 SAK
 CHECKED
 BAP
 DATE
 12-23-2020
 SCALE
 H: 1"=20'
 V: 1"=5'
 PROJECT NO.

SHEET NO.
 C17

100% SUBMITTAL

REVISIONS	DATE

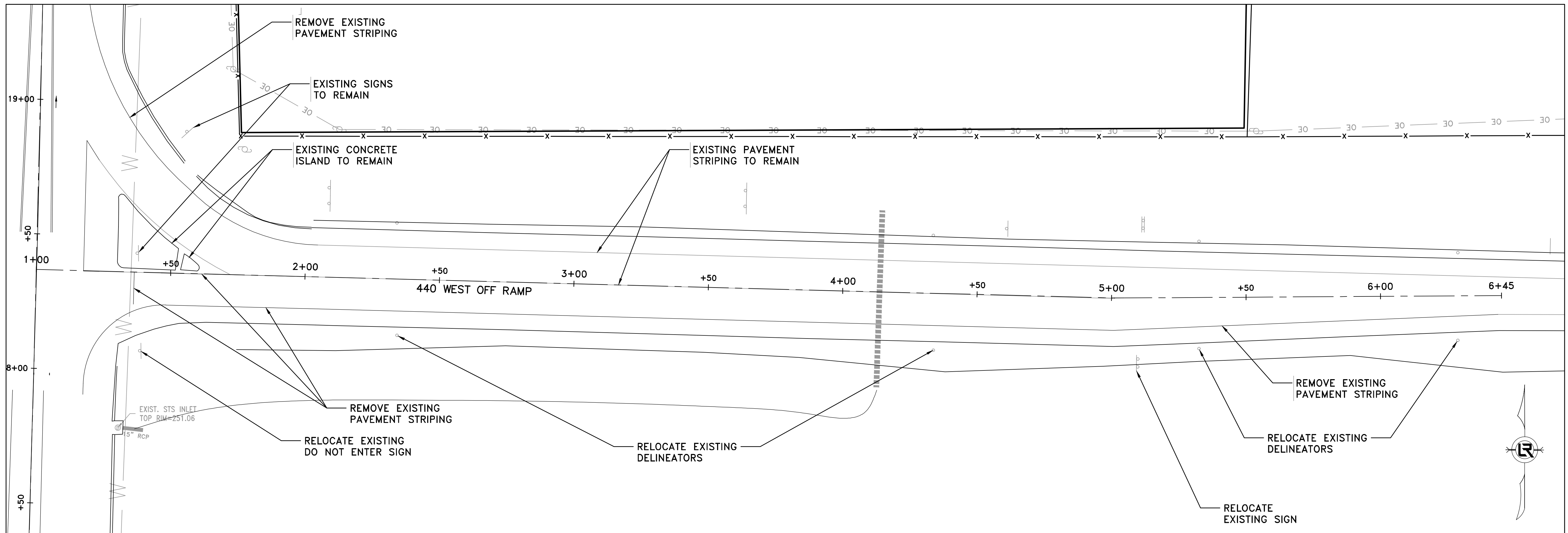
CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 STRIPING REMOVAL SHEET 3

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

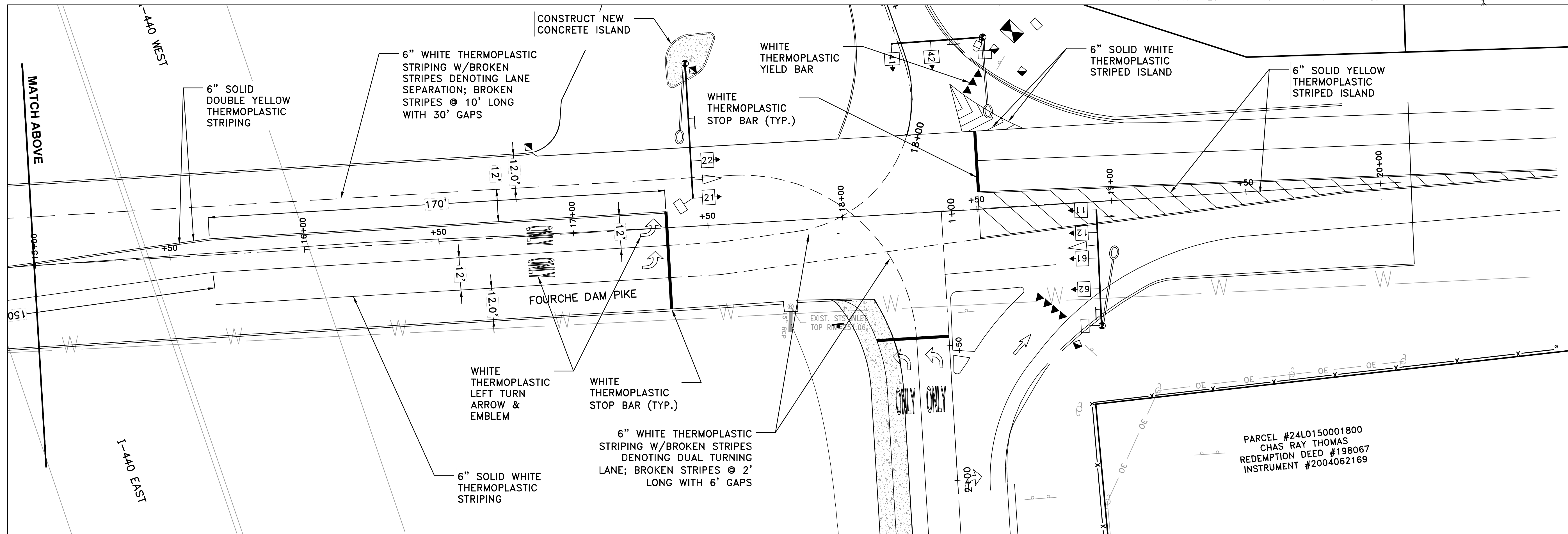
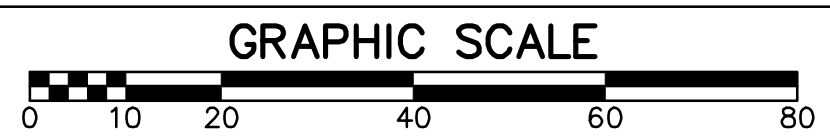
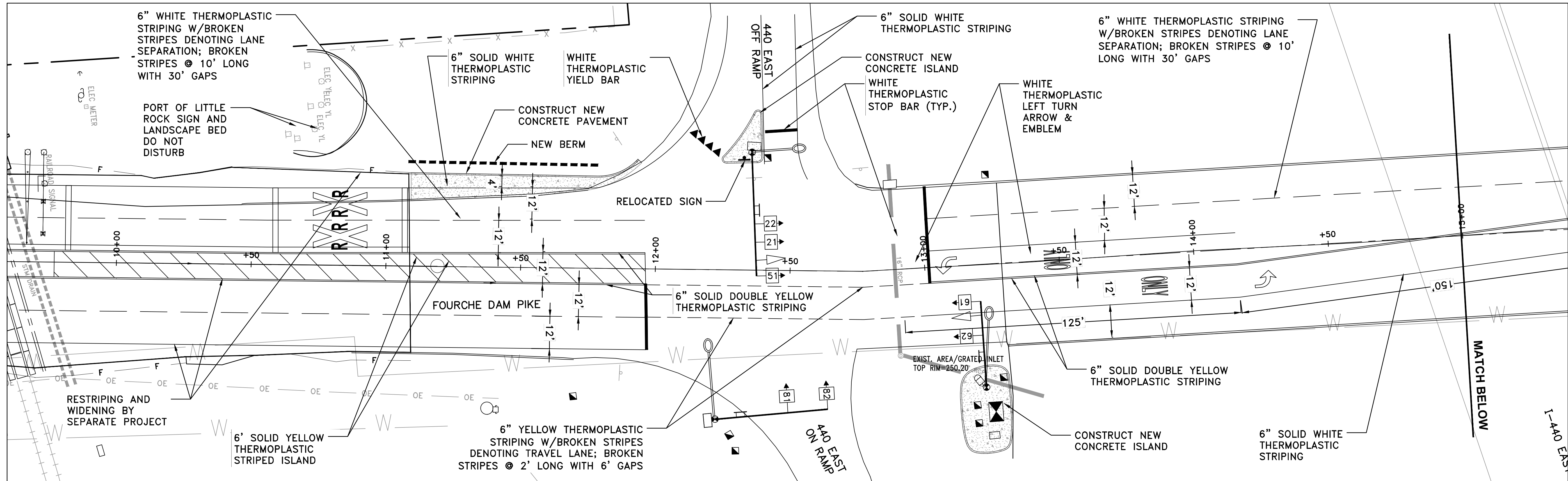


DRAWN BY
 AT
 DESIGNED
 SAK
 CHECKED
 BAP
 DATE
 12-23-2020
 SCALE
 H: 1"=20'
 V: 1"=5'
 PROJECT NO.

SHEET NO.
 C18



REVISIONS	DATE



PARCEL #24L0150001800
 CHAS RAY THOMAS
 REDEMPTION DEED #198067
 INSTRUMENT #2004062169

CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 STRIPING AND SIGNAGE SHEET

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

STATE OF ARKANSAS
 REGISTERED PROFESSIONAL ENGINEER
 No. 13217
 BRADLEY A. PETERSON
 2/23/21

DRAWN BY
 AT
 DESIGNED
 SAK
 CHECKED
 BAP
 DATE
 12-23-2020
 SCALE
 H: 1"=20'
 V: 1"=5'
 PROJECT NO.

REVISIONS	DATE

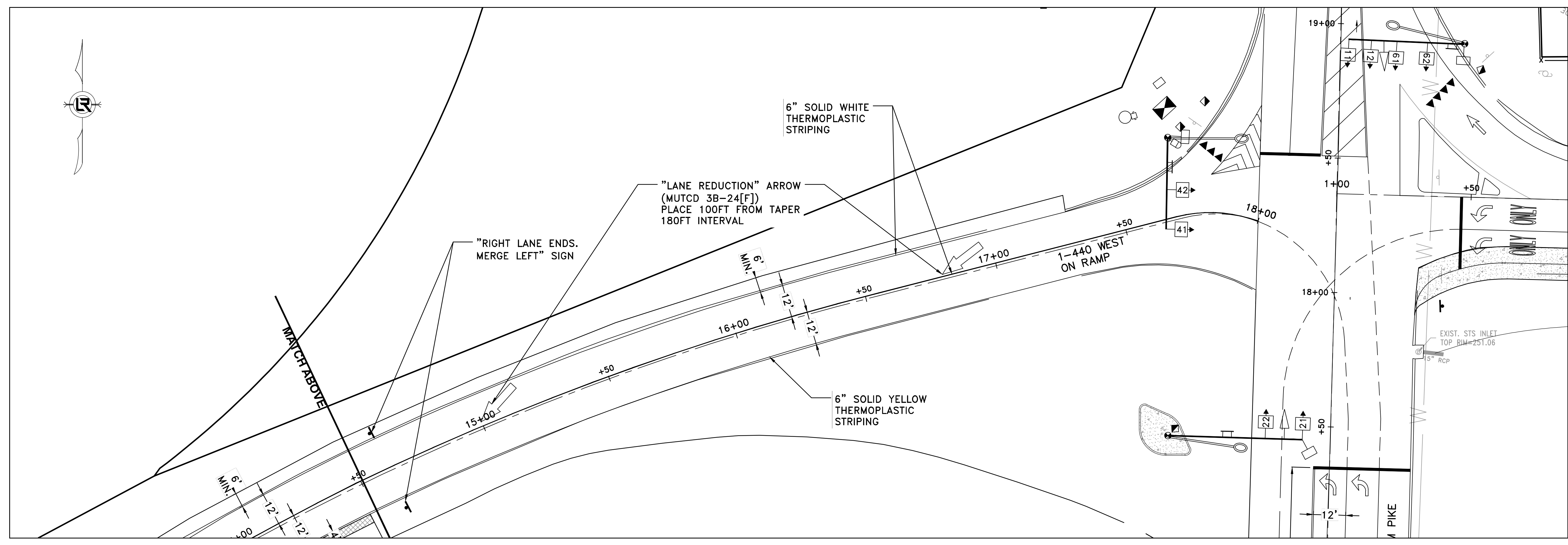
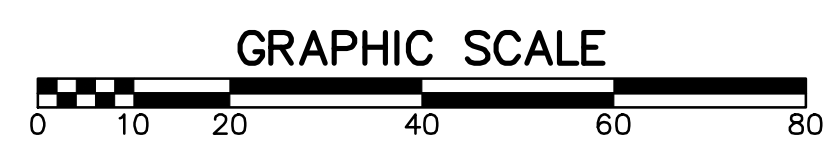
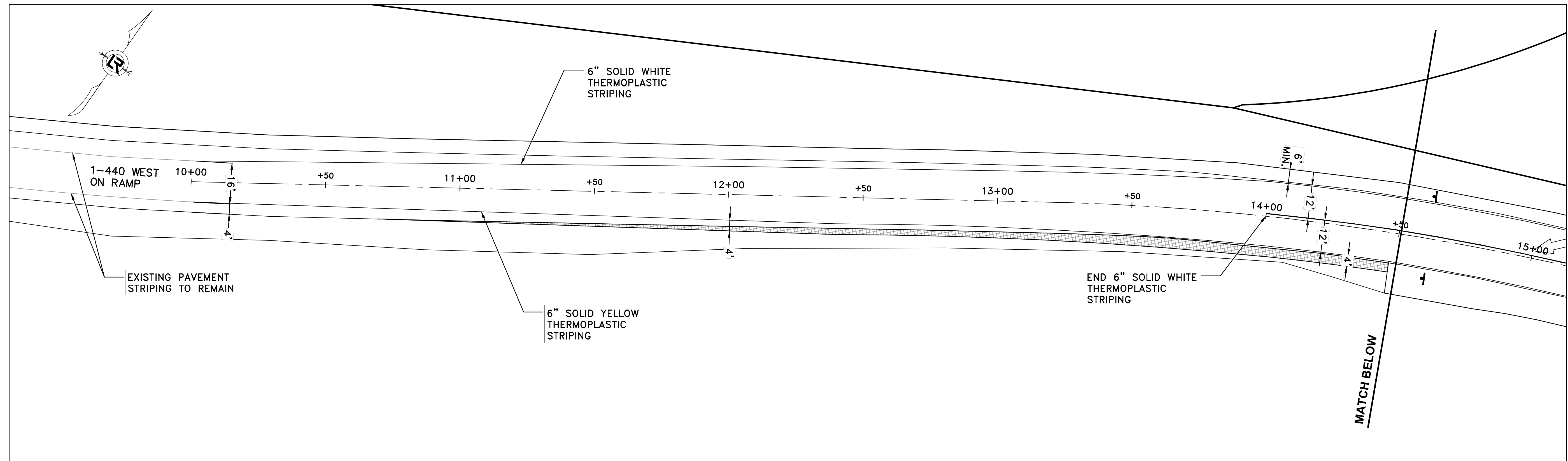
CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 WEST BOUND ON RAMP

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



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 AT
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 CHECKED
 BAP
 DATE
 12-23-2020
 SCALE
 H: 1"=20'
 V: 1"=5'
 PROJECT NO.

SHEET NO.
 C20



REVISIONS	DATE

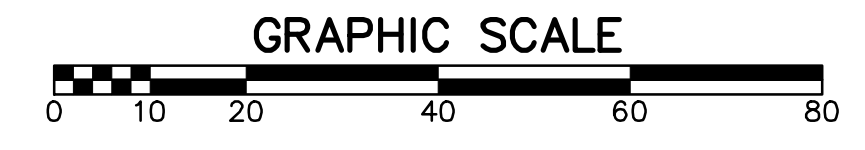
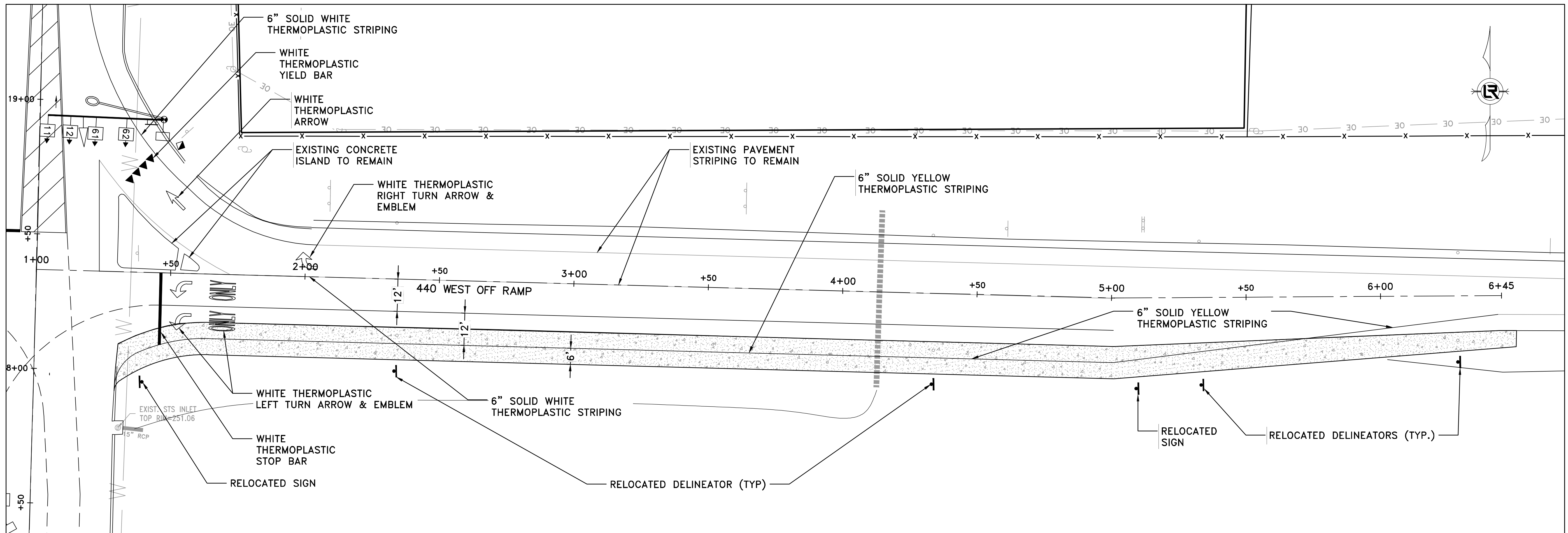
CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 WEST BOUND OFF RAMP

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



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 AT
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 BAP
 DATE
 12-23-2020
 SCALE
 H: 1"=20'
 V: 1"=5'
 PROJECT NO.

SHEET NO.
 C21



REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 EROSION CONTROL PH 1 - SHEET 1

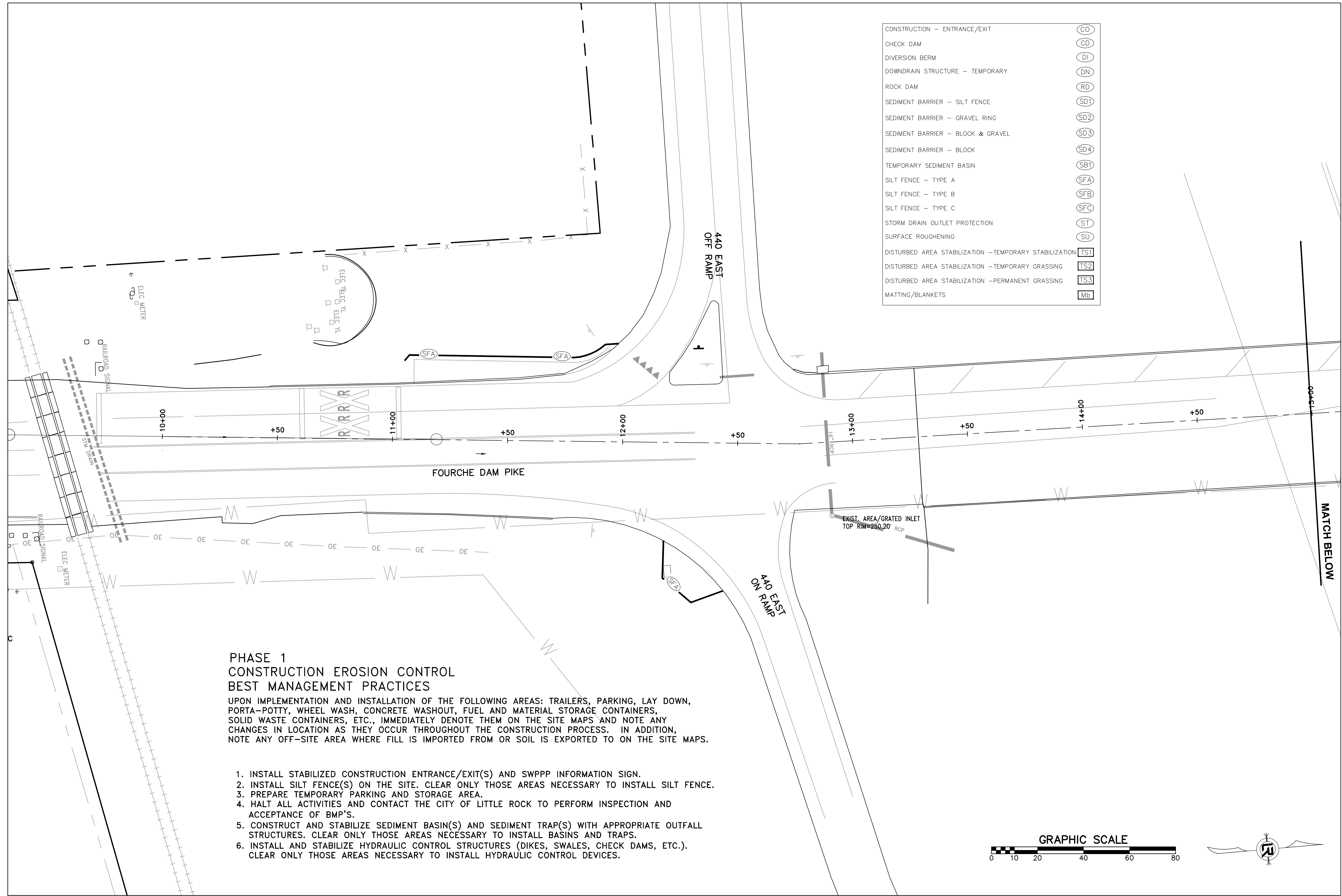
DEPARTMENT OF PUBLIC WORKS
 CIVIL ENGINEERING
 701 W. MARKHAM
 LITTLE ROCK, ARKANSAS 72201



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 AT
 DESIGNED
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 BAP
 DATE
 12-23-2020
 SCALE
 H: 1"=20'
 V: 1"=5'
 PROJECT NO.

SHEET NO.
 C22

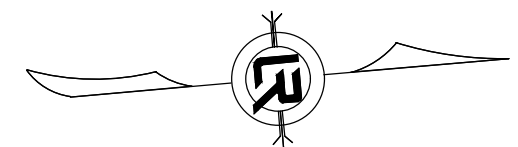
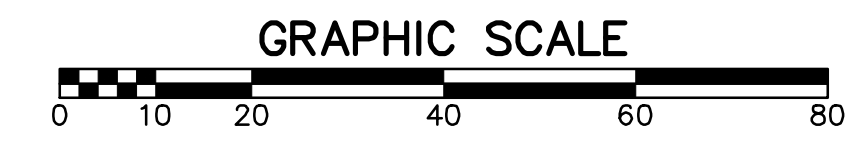
CONSTRUCTION - ENTRANCE/EXIT	(CO)
CHECK DAM	(CD)
DIVERSION BERM	(DI)
DOWNDRAIN STRUCTURE - TEMPORARY	(DN)
ROCK DAM	(RD)
SEDIMENT BARRIER - SILT FENCE	(SD1)
SEDIMENT BARRIER - GRAVEL RING	(SD2)
SEDIMENT BARRIER - BLOCK & GRAVEL	(SD3)
SEDIMENT BARRIER - BLOCK	(SD4)
TEMPORARY SEDIMENT BASIN	(SB1)
SILT FENCE - TYPE A	(SFA)
SILT FENCE - TYPE B	(SFB)
SILT FENCE - TYPE C	(SFC)
STORM DRAIN OUTLET PROTECTION	(ST)
SURFACE ROUGHENING	(SU)
DISTURBED AREA STABILIZATION - TEMPORARY STABILIZATION	(TS1)
DISTURBED AREA STABILIZATION - TEMPORARY GRASSING	(TS2)
DISTURBED AREA STABILIZATION - PERMANENT GRASSING	(TS3)
MATTING/BLANKETS	(Mb)



**PHASE 1
 CONSTRUCTION EROSION CONTROL
 BEST MANAGEMENT PRACTICES**

UPON IMPLEMENTATION AND INSTALLATION OF THE FOLLOWING AREAS: TRAILERS, PARKING, LAY DOWN, PORTA-POTTY, WHEEL WASH, CONCRETE WASHOUT, FUEL AND MATERIAL STORAGE CONTAINERS, SOLID WASTE CONTAINERS, ETC., IMMEDIATELY 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 MAPS.

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE/EXIT(S) AND SWPPP INFORMATION SIGN.
2. INSTALL SILT FENCE(S) ON THE SITE. CLEAR ONLY THOSE AREAS NECESSARY TO INSTALL SILT FENCE.
3. PREPARE TEMPORARY PARKING AND STORAGE AREA.
4. 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 (DIKES, SWALES, CHECK DAMS, ETC.). CLEAR ONLY THOSE AREAS NECESSARY TO INSTALL HYDRAULIC CONTROL DEVICES.



REVISIONS	DATE

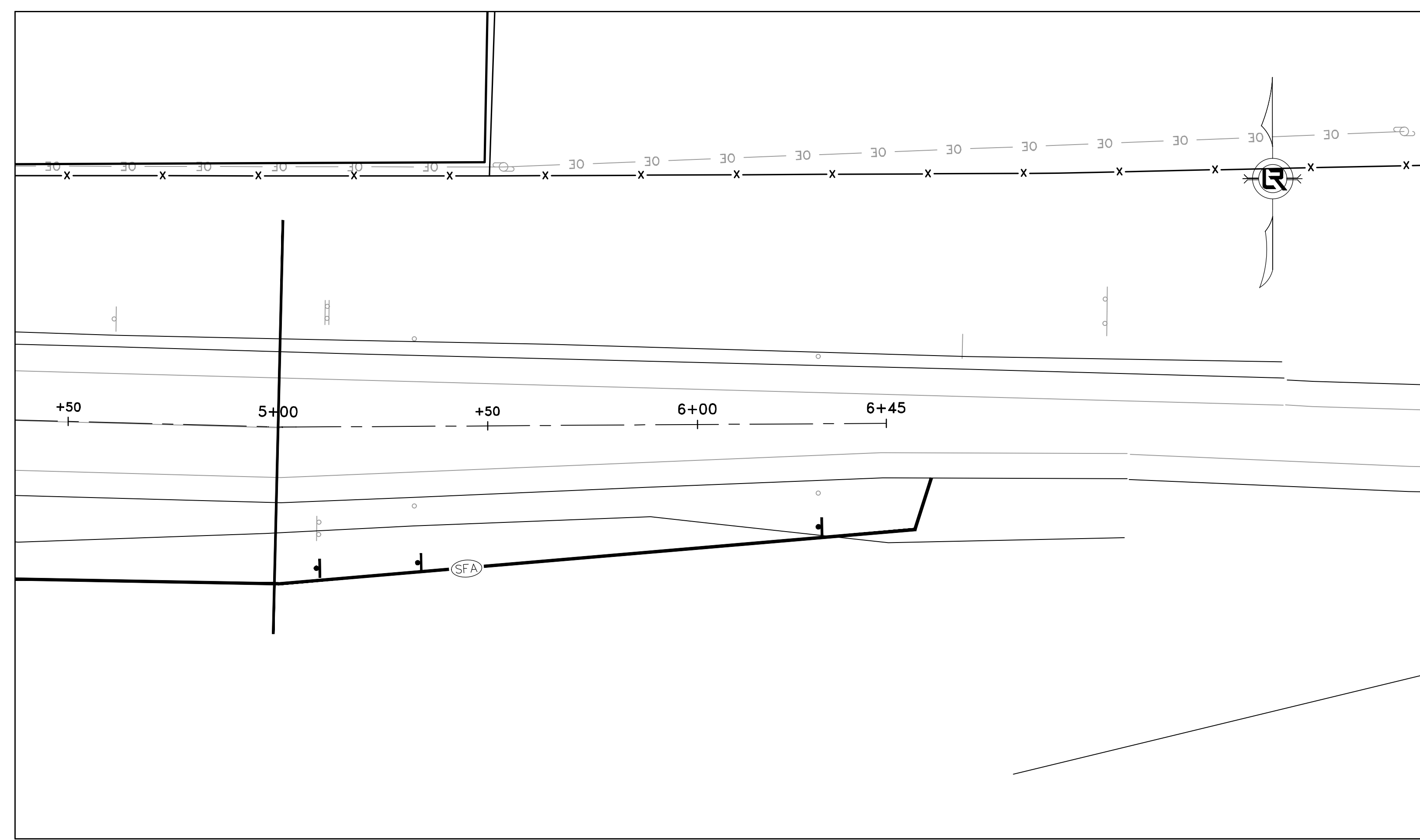
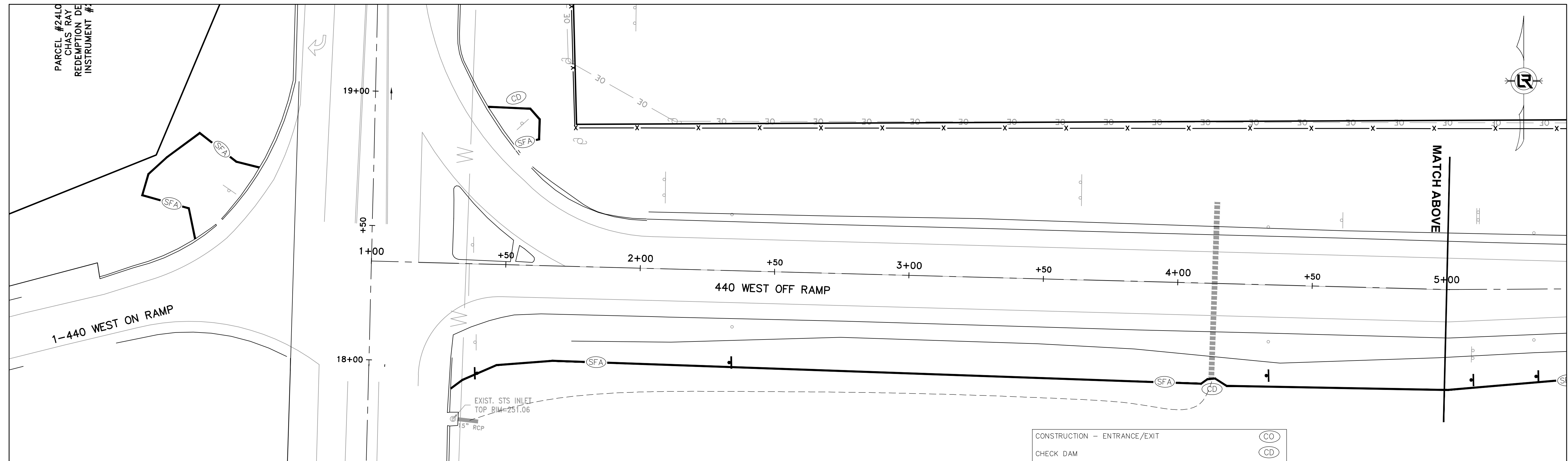
CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 EROSION CONTROL PH 1 - SHEET 2

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

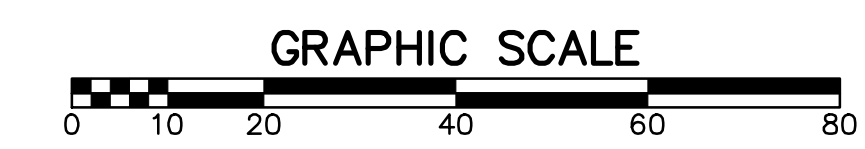


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 DATE
 12-23-2020
 SCALE
 H: 1"=20'
 V: 1"=5'
 PROJECT NO.

SHEET NO.
 C23



CONSTRUCTION - ENTRANCE/EXIT	(CO)
CHECK DAM	(CD)
DIVERSION BERM	(DI)
DOWNDRAIN STRUCTURE - TEMPORARY	(DN)
ROCK DAM	(RD)
SEDIMENT BARRIER - SILT FENCE	(SD1)
SEDIMENT BARRIER - GRAVEL RING	(SD2)
SEDIMENT BARRIER - BLOCK & GRAVEL	(SD3)
SEDIMENT BARRIER - BLOCK	(SD4)
TEMPORARY SEDIMENT BASIN	(SB1)
SILT FENCE - TYPE A	(SFA)
SILT FENCE - TYPE B	(SFB)
SILT FENCE - TYPE C	(SFC)
STORM DRAIN OUTLET PROTECTION	(ST)
SURFACE ROUGHENING	(SU)
DISTURBED AREA STABILIZATION -TEMPORARY STABILIZATION	(TS1)
DISTURBED AREA STABILIZATION -TEMPORARY GRASSING	(TS2)
DISTURBED AREA STABILIZATION -PERMANENT GRASSING	(TS3)
MATTING/BLANKETS	(Mb)



**PHASE 1
 CONSTRUCTION EROSION CONTROL
 BEST MANAGEMENT PRACTICES**

UPON IMPLEMENTATION AND INSTALLATION OF THE FOLLOWING AREAS: TRAILERS, PARKING, LAY DOWN, PORTA-POTTY, WHEEL WASH, CONCRETE WASHOUT, FUEL AND MATERIAL STORAGE CONTAINERS, SOLID WASTE CONTAINERS, ETC., IMMEDIATELY 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 MAPS.

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE/EXIT(S) AND SWPPP INFORMATION SIGN.
2. INSTALL SILT FENCE(S) ON THE SITE. CLEAR ONLY THOSE AREAS NECESSARY TO INSTALL SILT FENCE.
3. PREPARE TEMPORARY PARKING AND STORAGE AREA.
4. 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 (DIKES, SWALES, CHECK DAMS, ETC.). CLEAR ONLY THOSE AREAS NECESSARY TO INSTALL HYDRAULIC CONTROL DEVICES.

REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 EROSION CONTROL PH 2 - SHEET 1

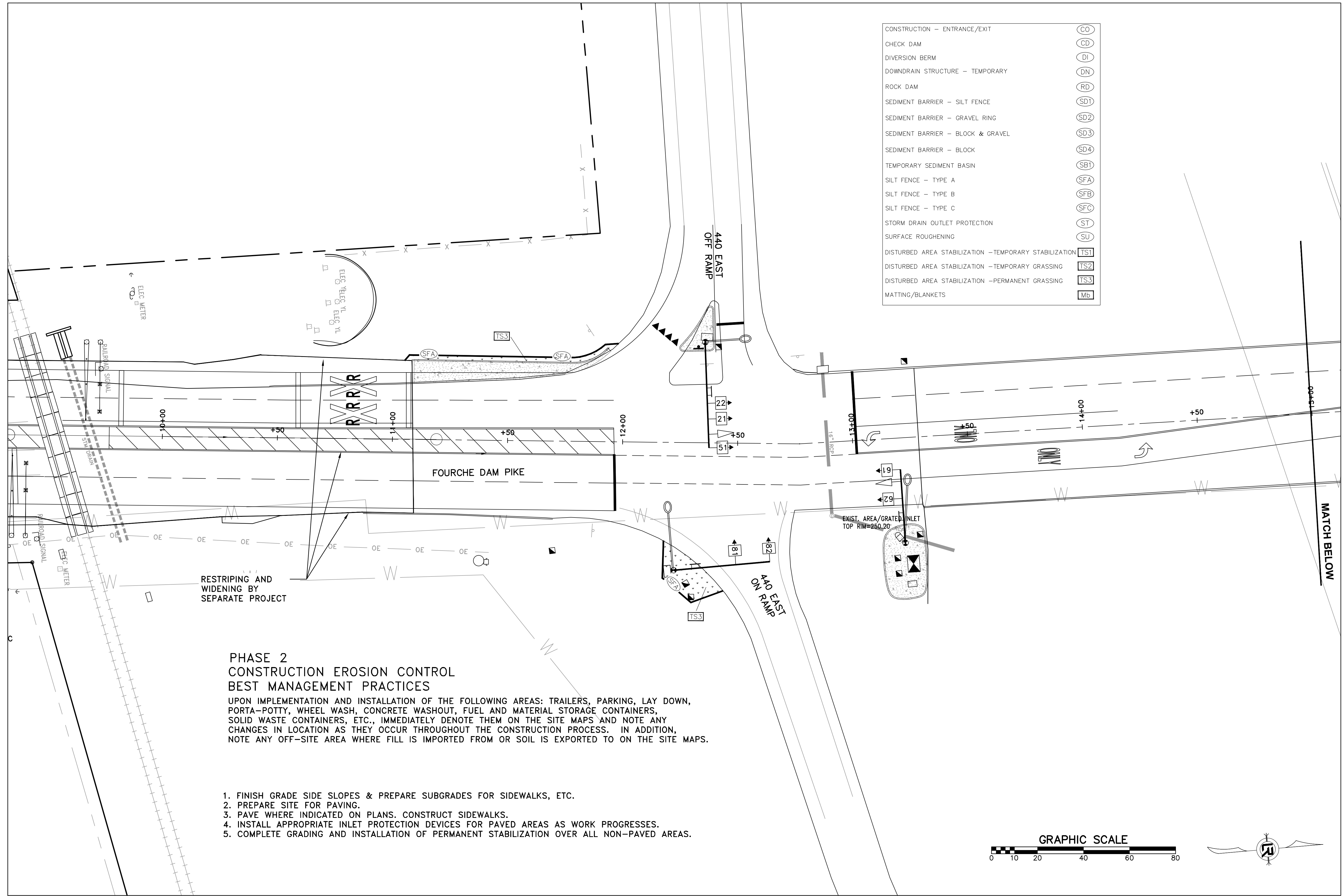
DEPARTMENT OF PUBLIC WORKS
 CIVIL ENGINEERING
 701 W. MARKHAM
 LITTLE ROCK, ARKANSAS 72201



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 12-23-2020
 SCALE
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 V: 1"=5'
 PROJECT NO.

SHEET NO.
 C24

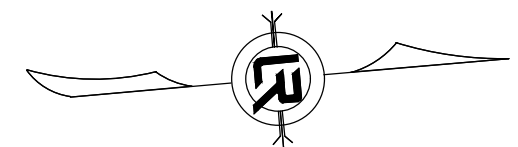
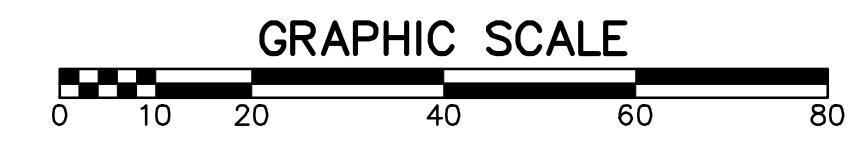
CONSTRUCTION - ENTRANCE/EXIT	(CO)
CHECK DAM	(CD)
DIVERSION BERM	(DI)
DOWNDRAIN STRUCTURE - TEMPORARY	(DN)
ROCK DAM	(RD)
SEDIMENT BARRIER - SILT FENCE	(SD1)
SEDIMENT BARRIER - GRAVEL RING	(SD2)
SEDIMENT BARRIER - BLOCK & GRAVEL	(SD3)
SEDIMENT BARRIER - BLOCK	(SD4)
TEMPORARY SEDIMENT BASIN	(SB1)
SILT FENCE - TYPE A	(SFA)
SILT FENCE - TYPE B	(SFB)
SILT FENCE - TYPE C	(SFC)
STORM DRAIN OUTLET PROTECTION	(ST)
SURFACE ROUGHENING	(SU)
DISTURBED AREA STABILIZATION - TEMPORARY STABILIZATION	(TS1)
DISTURBED AREA STABILIZATION - TEMPORARY GRASSING	(TS2)
DISTURBED AREA STABILIZATION - PERMANENT GRASSING	(TS3)
MATTING/BANKETS	(Mb)



**PHASE 2
 CONSTRUCTION EROSION CONTROL
 BEST MANAGEMENT PRACTICES**

UPON IMPLEMENTATION AND INSTALLATION OF THE FOLLOWING AREAS: TRAILERS, PARKING, LAY DOWN, PORTA-POTTY, WHEEL WASH, CONCRETE WASHOUT, FUEL AND MATERIAL STORAGE CONTAINERS, SOLID WASTE CONTAINERS, ETC., IMMEDIATELY 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 MAPS.

1. FINISH GRADE SIDE SLOPES & PREPARE SUBGRADES FOR SIDEWALKS, ETC.
2. PREPARE SITE FOR PAVING.
3. PAVE WHERE INDICATED ON PLANS. CONSTRUCT SIDEWALKS.
4. INSTALL APPROPRIATE INLET PROTECTION DEVICES FOR PAVED AREAS AS WORK PROGRESSES.
5. COMPLETE GRADING AND INSTALLATION OF PERMANENT STABILIZATION OVER ALL NON-PAVED AREAS.



REVISIONS	DATE

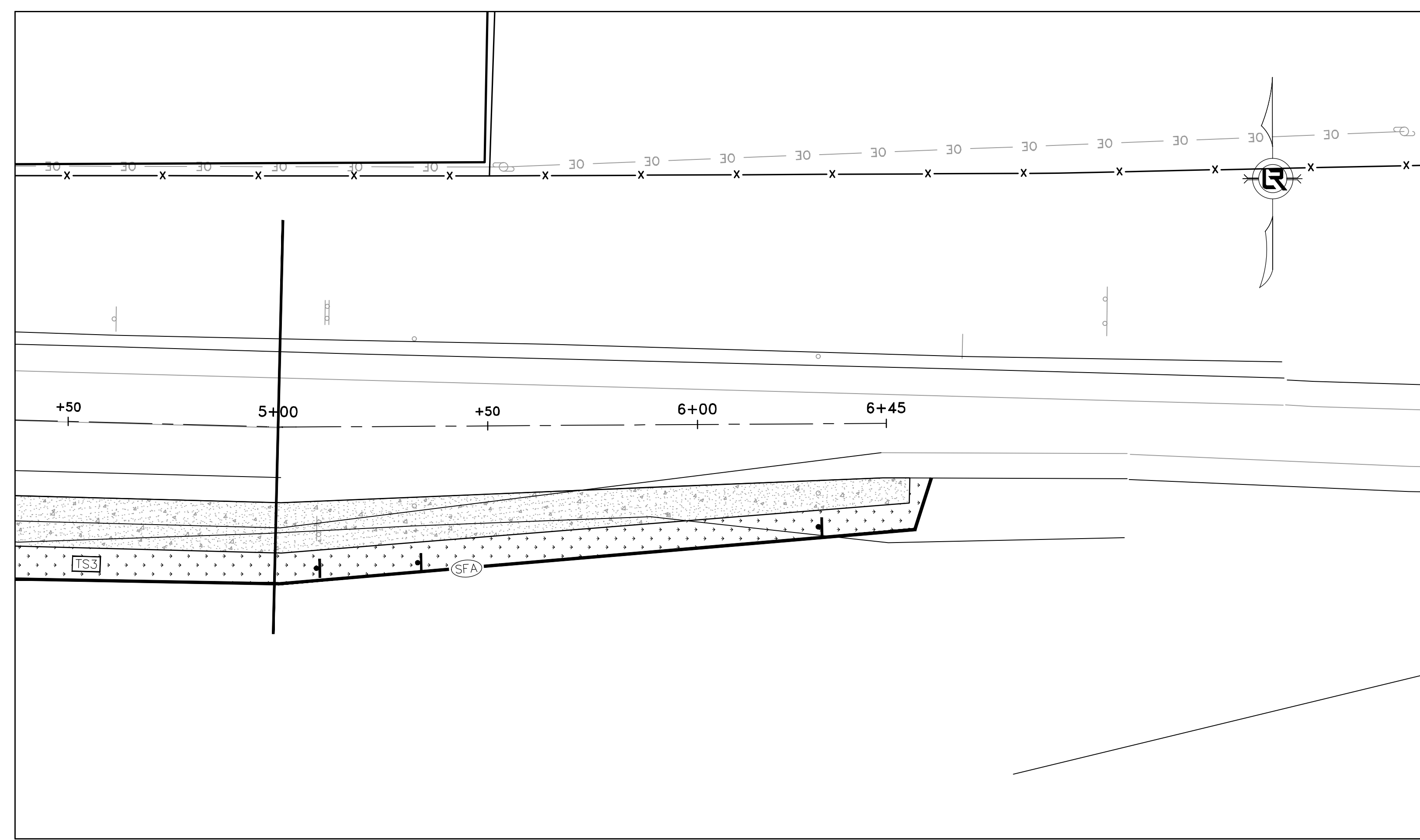
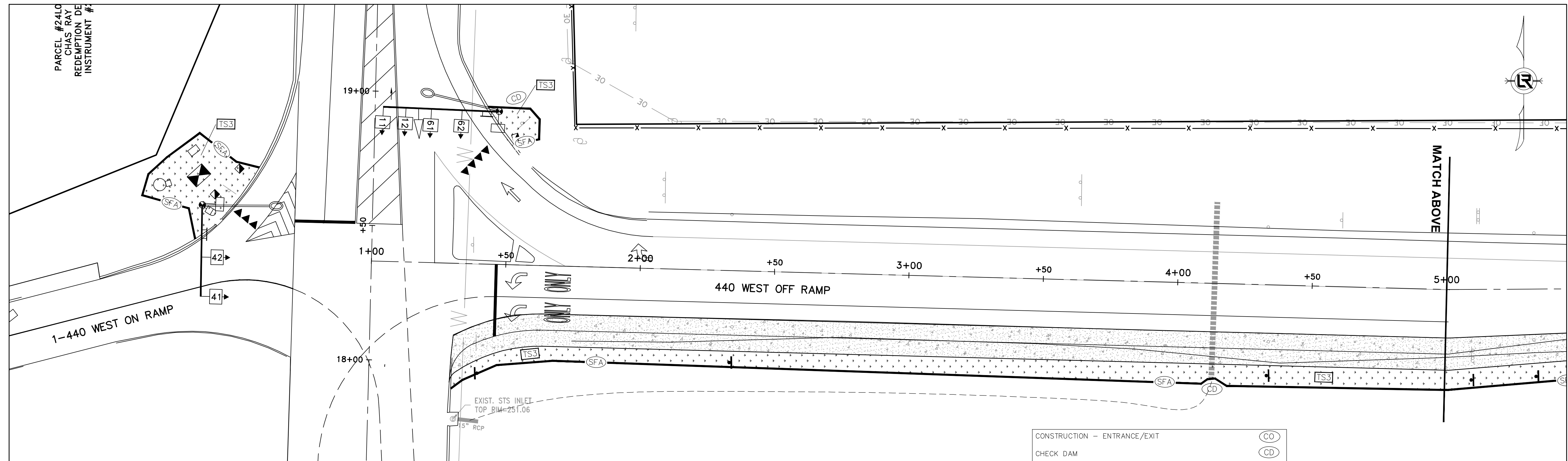
CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 EROSION CONTROL PH 2 - SHEET 2

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

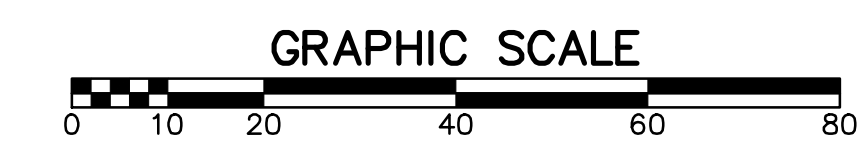


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 SCALE
 H: 1"=20'
 V: 1"=5'
 PROJECT NO.

SHEET NO.
 C25



CONSTRUCTION - ENTRANCE/EXIT	(CO)
CHECK DAM	(CD)
DIVERSION BERM	(DI)
DOWNDRAIN STRUCTURE - TEMPORARY	(DN)
ROCK DAM	(RD)
SEDIMENT BARRIER - SILT FENCE	(SD1)
SEDIMENT BARRIER - GRAVEL RING	(SD2)
SEDIMENT BARRIER - BLOCK & GRAVEL	(SD3)
SEDIMENT BARRIER - BLOCK	(SD4)
TEMPORARY SEDIMENT BASIN	(SB1)
SILT FENCE - TYPE A	(SFA)
SILT FENCE - TYPE B	(SFB)
SILT FENCE - TYPE C	(SFC)
STORM DRAIN OUTLET PROTECTION	(ST)
SURFACE ROUGHENING	(SU)
DISTURBED AREA STABILIZATION - TEMPORARY STABILIZATION	(TS1)
DISTURBED AREA STABILIZATION - TEMPORARY GRASSING	(TS2)
DISTURBED AREA STABILIZATION - PERMANENT GRASSING	(TS3)
MATTING/BLANKETS	(Mb)

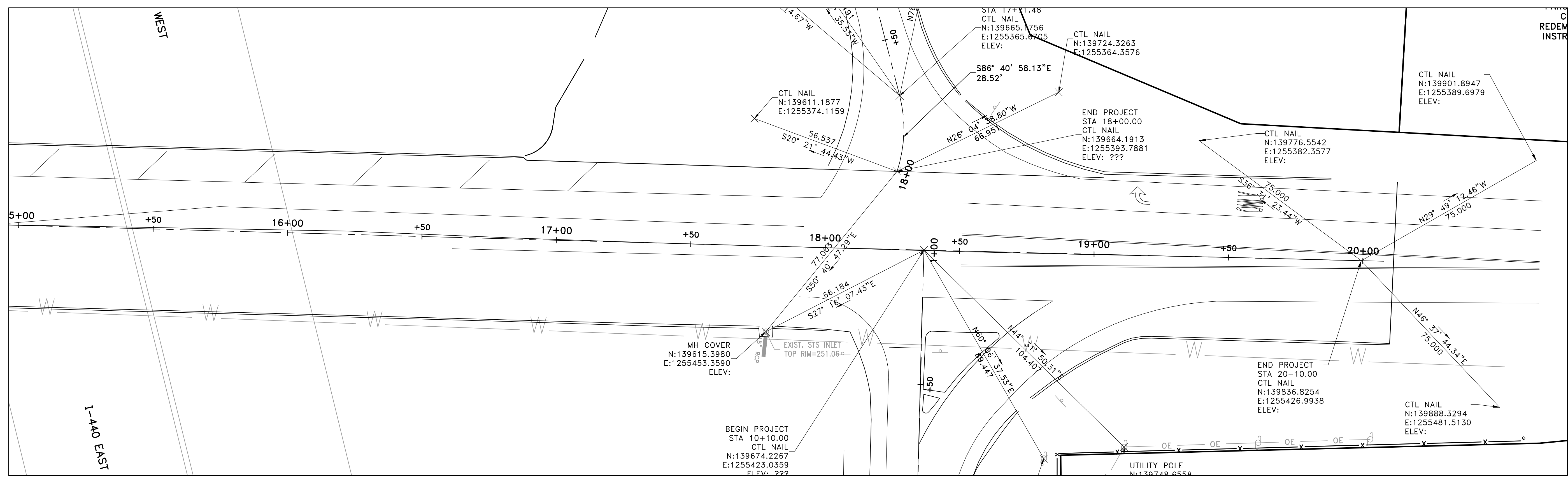
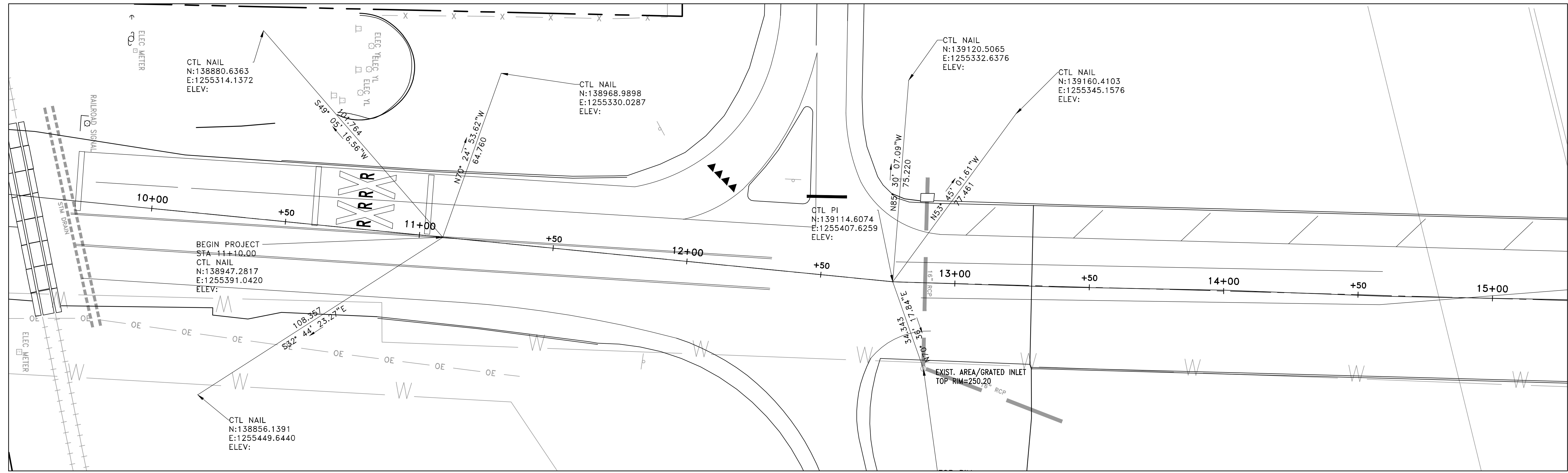


**PHASE 2
 CONSTRUCTION EROSION CONTROL
 BEST MANAGEMENT PRACTICES**

UPON IMPLEMENTATION AND INSTALLATION OF THE FOLLOWING AREAS: TRAILERS, PARKING, LAY DOWN, PORTA-POTTY, WHEEL WASH, CONCRETE WASHOUT, FUEL AND MATERIAL STORAGE CONTAINERS, SOLID WASTE CONTAINERS, ETC., IMMEDIATELY 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 MAPS.

1. FINISH GRADE SIDE SLOPES & PREPARE SUBGRADES FOR SIDEWALKS, ETC.
2. PREPARE SITE FOR PAVING.
3. PAVE WHERE INDICATED ON PLANS. CONSTRUCT SIDEWALKS.
4. INSTALL APPROPRIATE INLET PROTECTION DEVICES FOR PAVED AREAS AS WORK PROGRESSES.
5. COMPLETE GRADING AND INSTALLATION OF PERMANENT STABILIZATION OVER ALL NON-PAVED AREAS.

REVISIONS	DATE



CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 CENTERLINE TIES SHEET 1

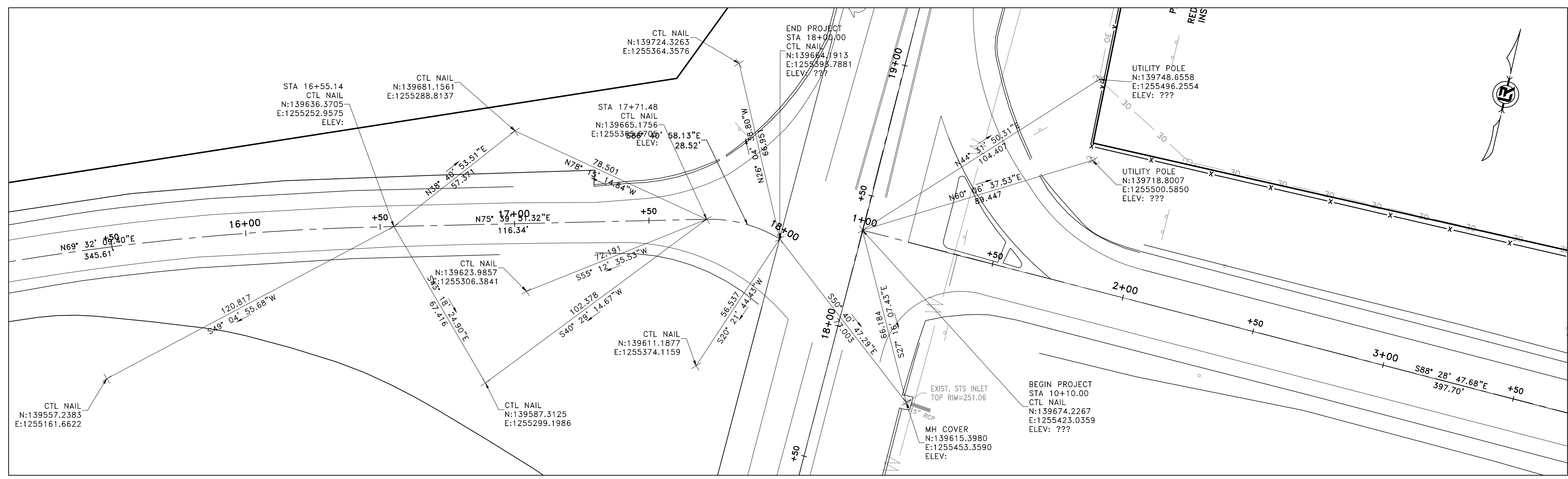
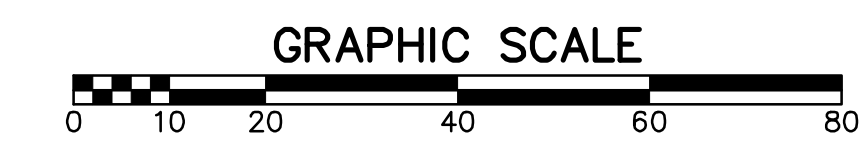
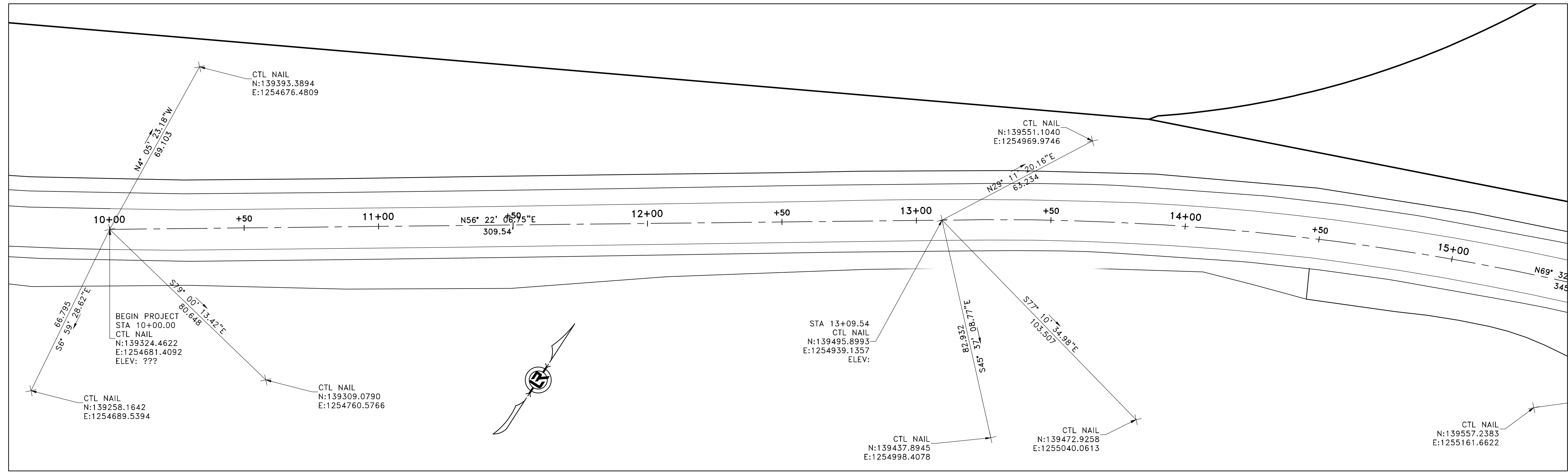
DEPARTMENT OF PUBLIC WORKS
 CIVIL ENGINEERING
 701 W. MARKHAM
 LITTLE ROCK, ARKANSAS 72201



DRAWN BY
 AT
 DESIGNED
 SAK
 CHECKED
 BAP
 DATE
 12-23-2020
 SCALE
 H: 1"=20'
 V: 1"=5'
 PROJECT NO.

SHEET NO.
 C26

REVISIONS	DATE



CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 CENTERLINE TIES SHEET 2

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



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 C27

100% SUBMITTAL

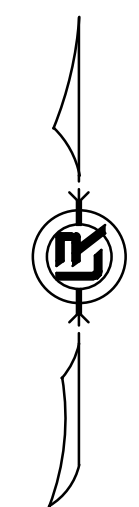
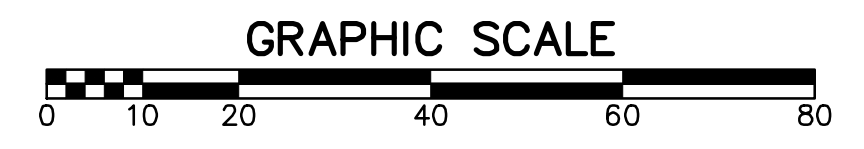
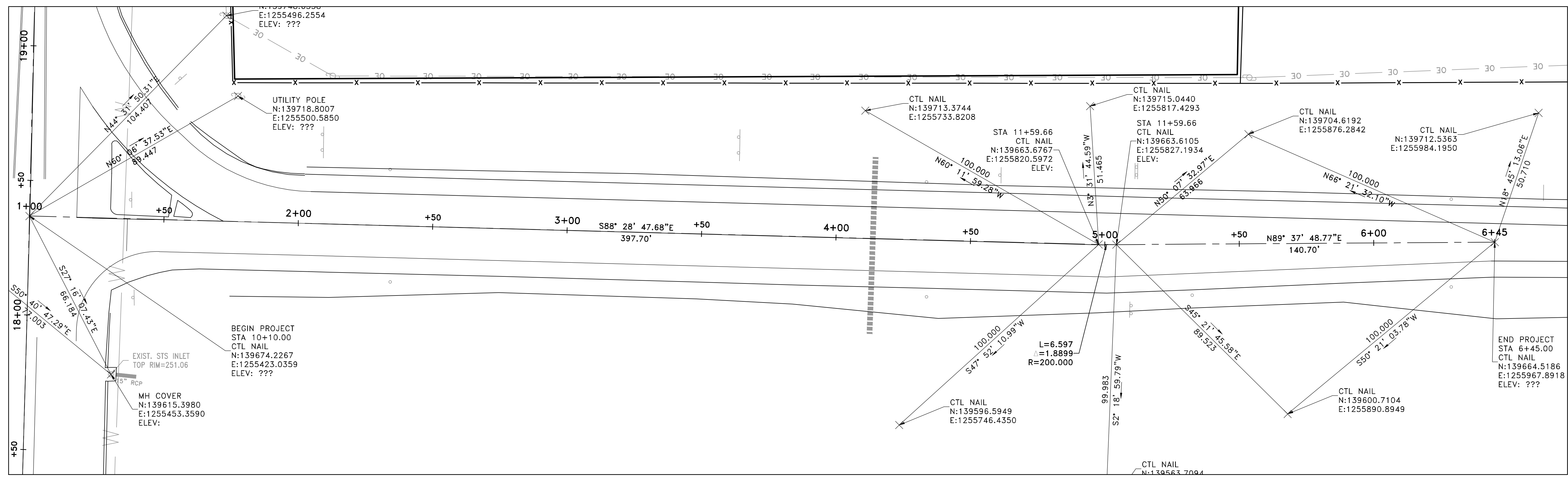
REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 CENTERLINE TIES SHEET 3

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



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 SHEET NO.
 C28



100% SUBMITTAL

REVISIONS	DATE

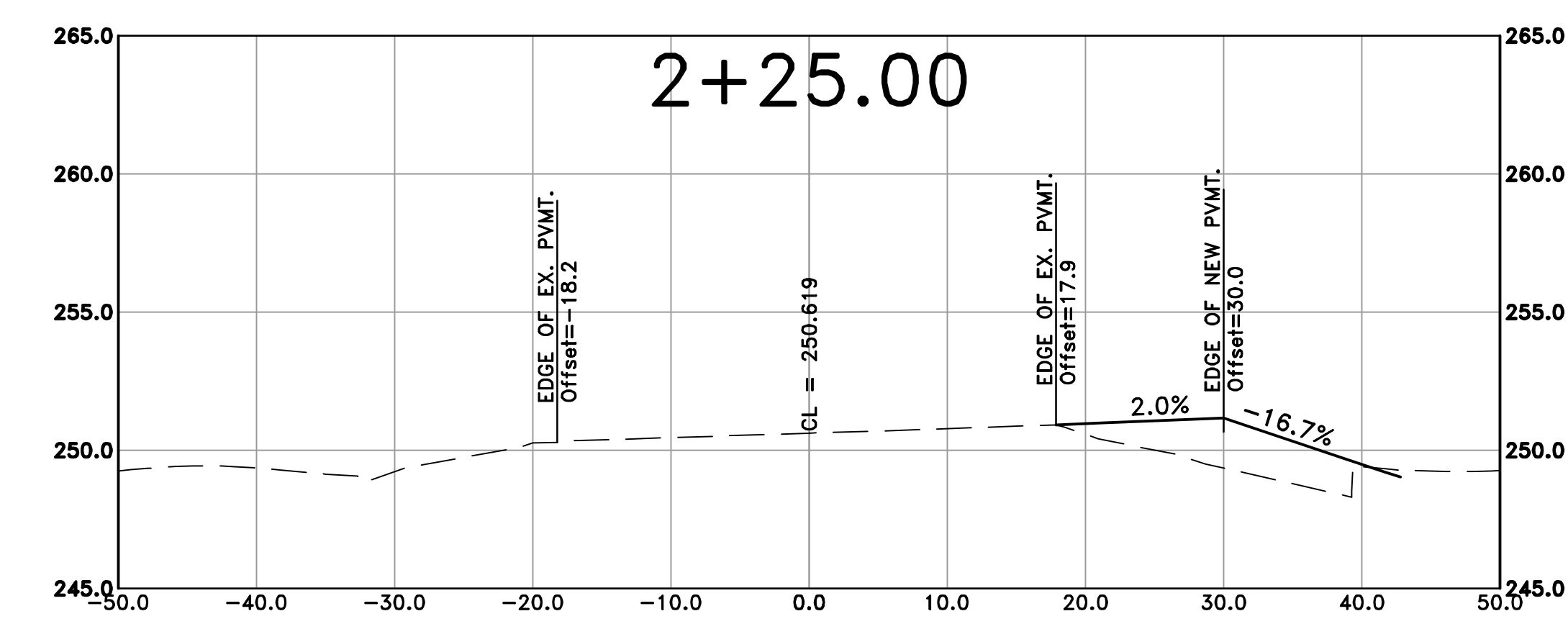
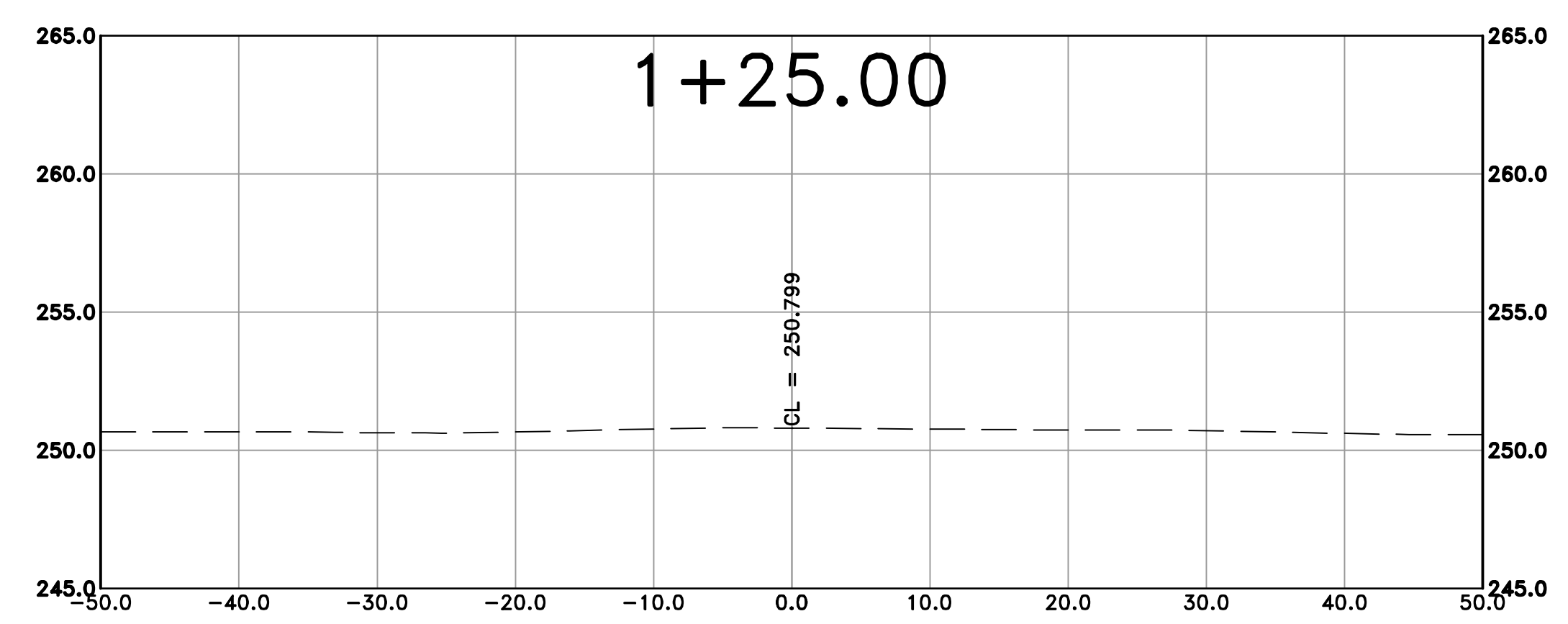
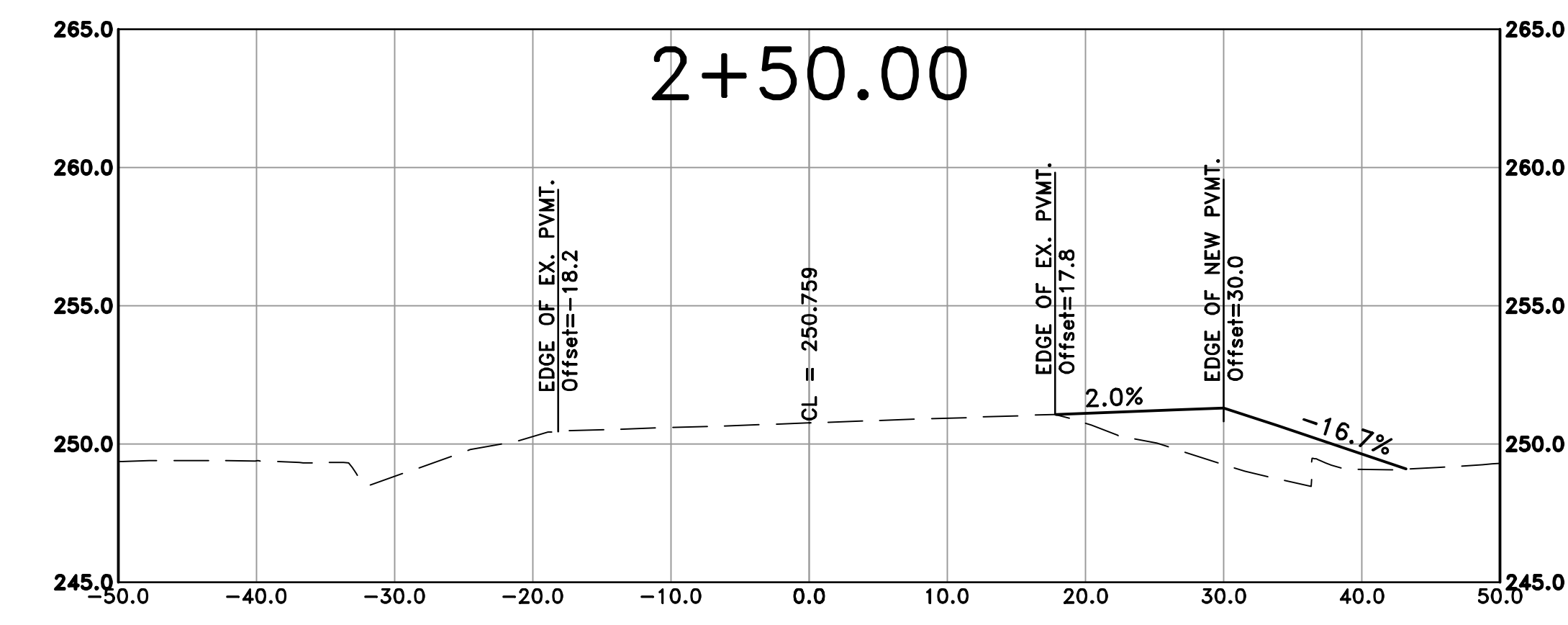
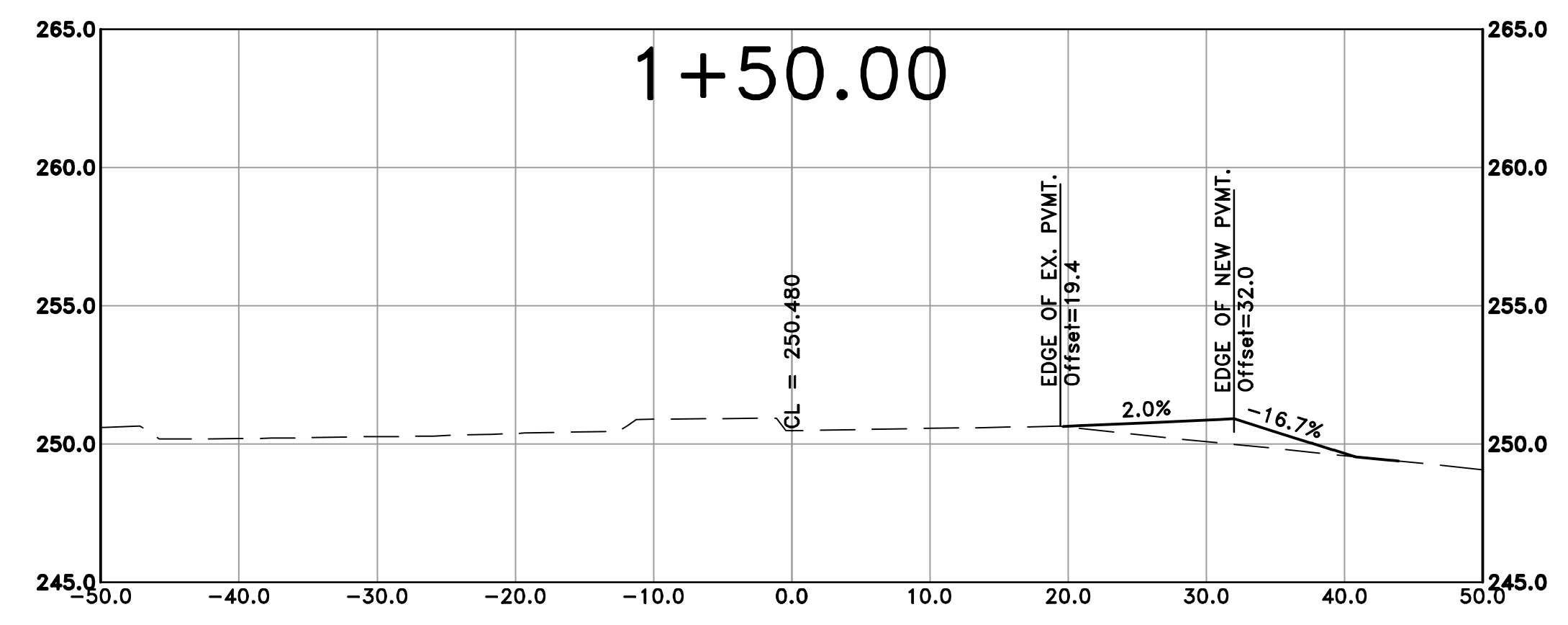
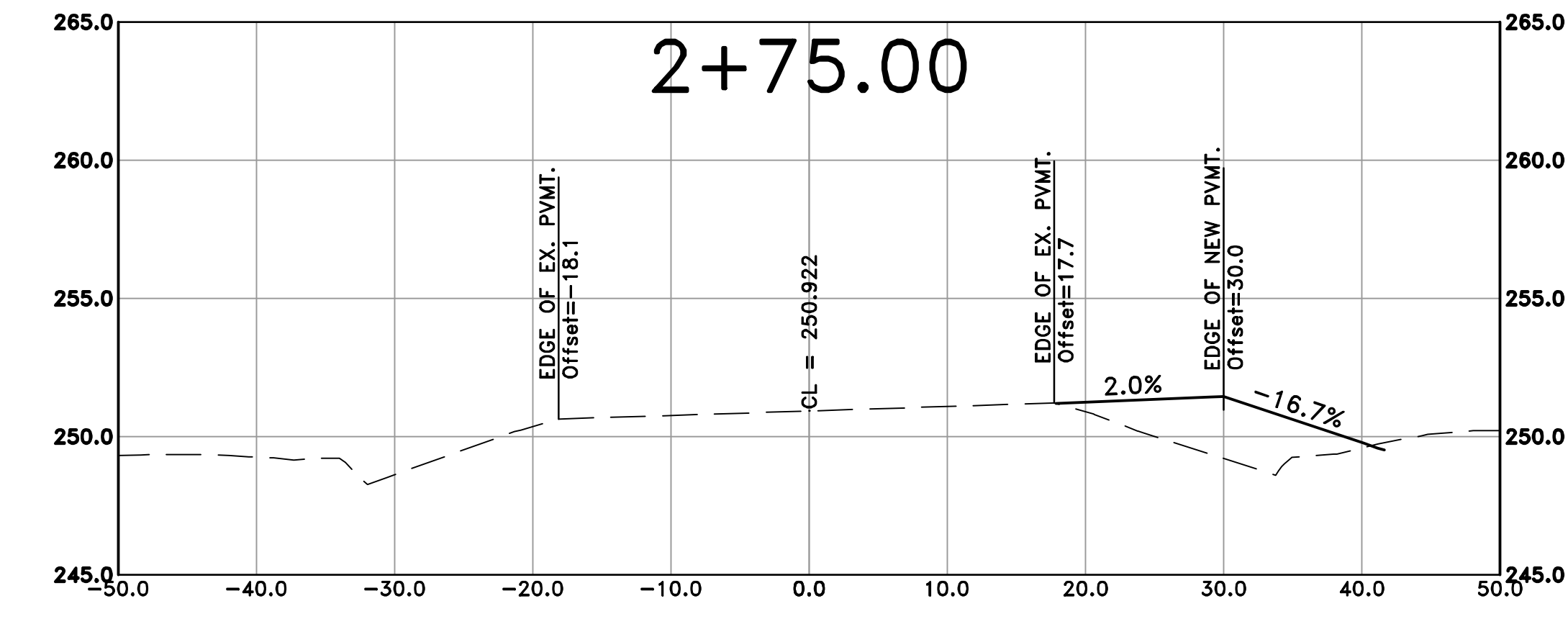
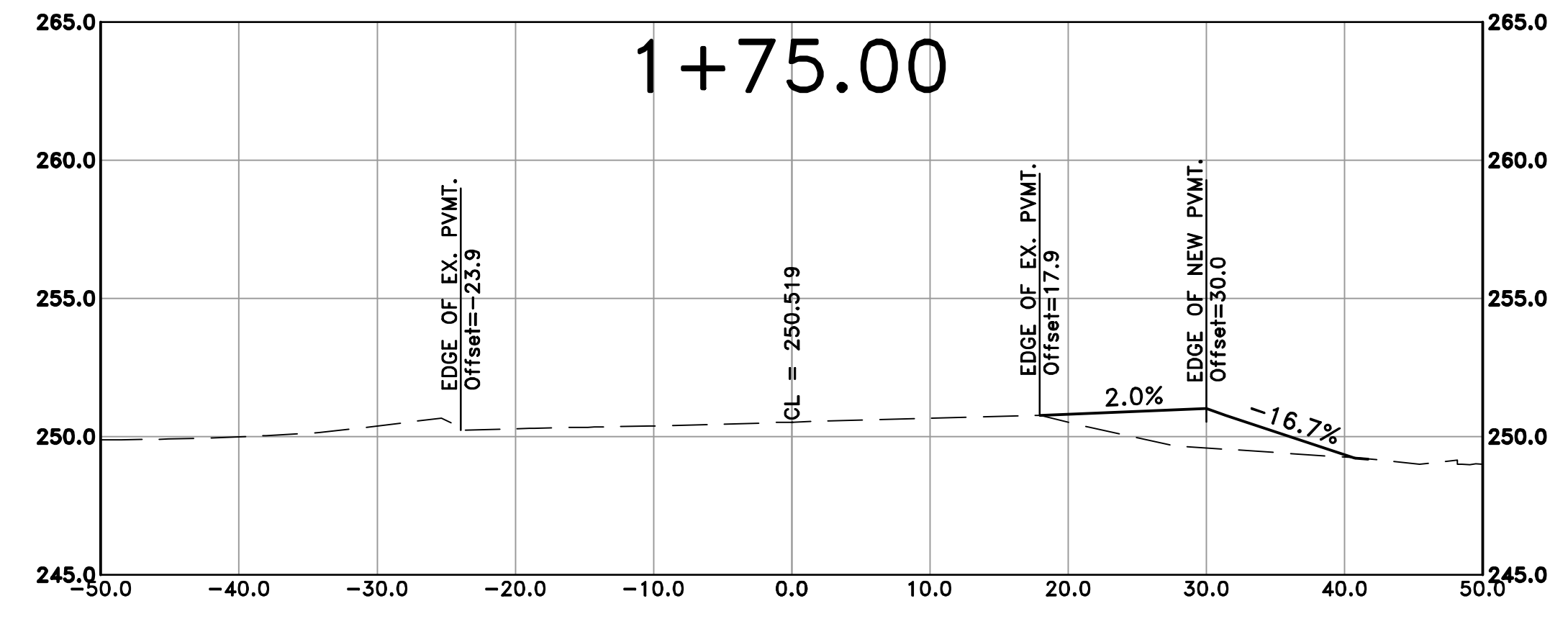
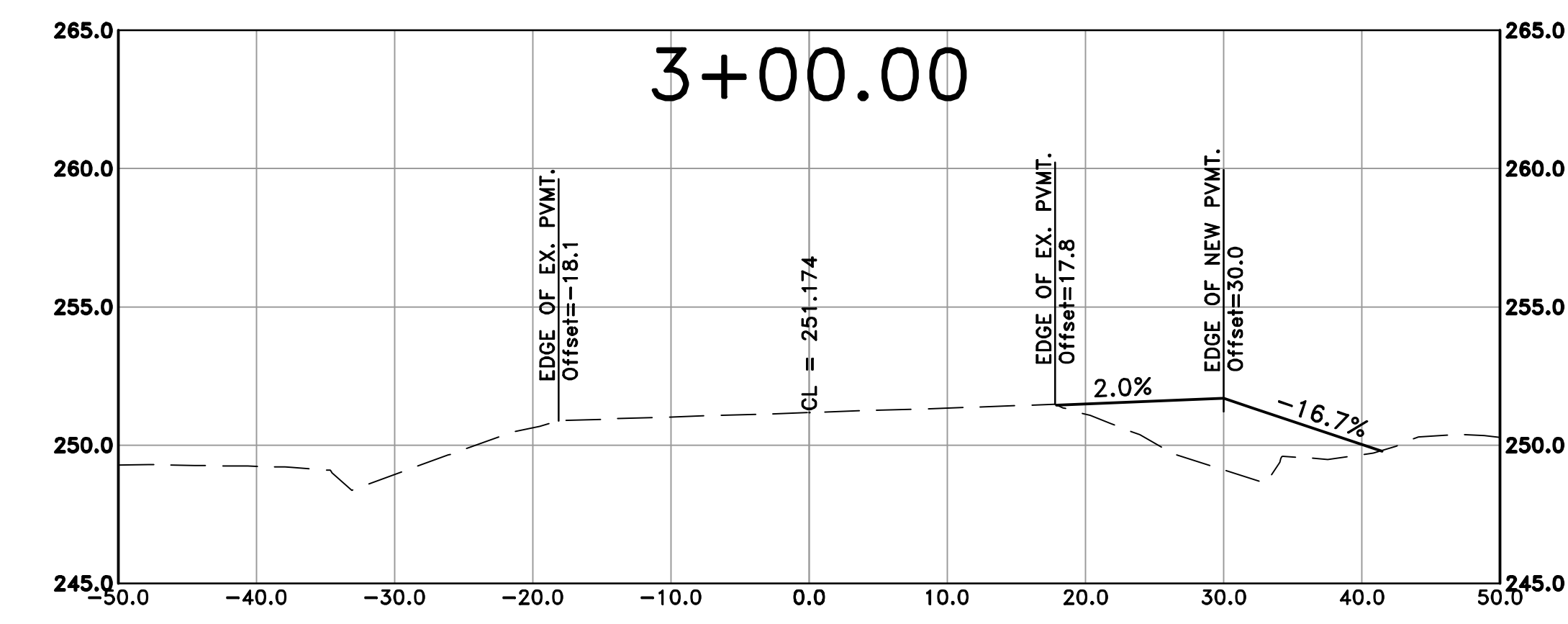
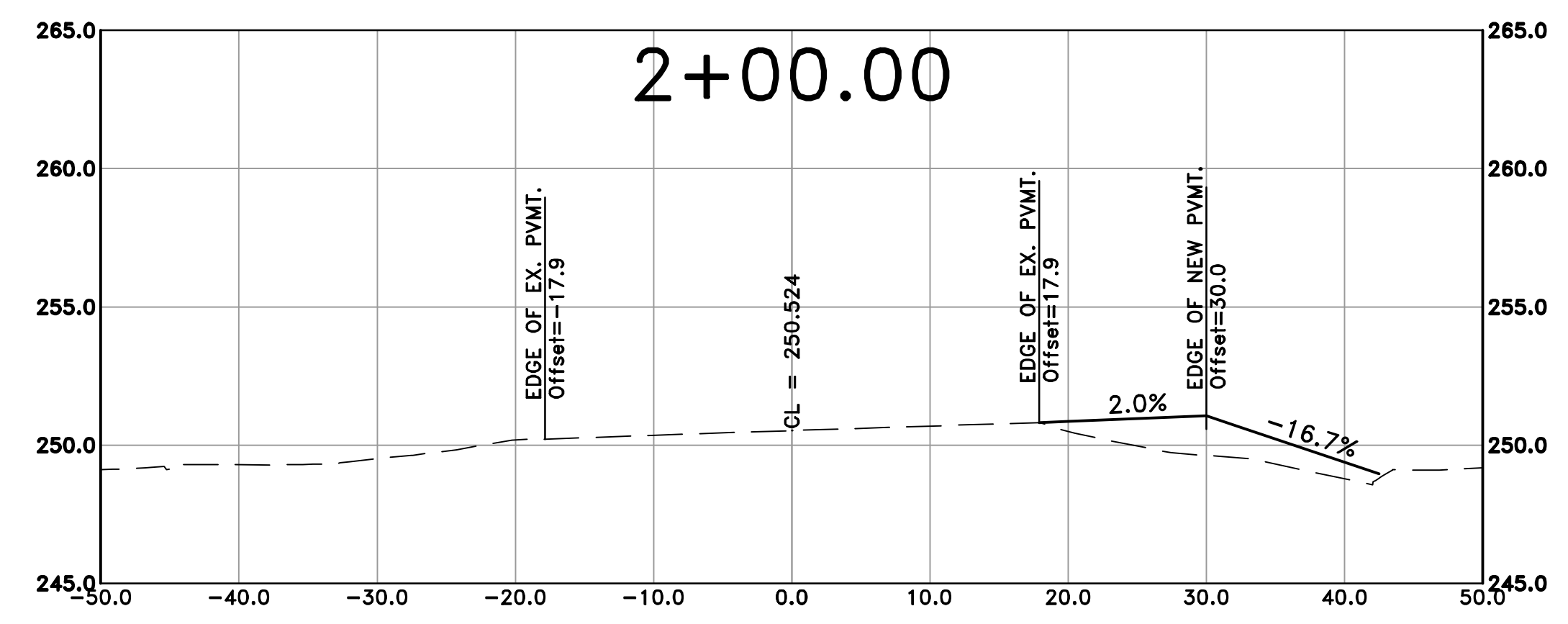
CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 CROSS SECTION SHEET 1

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

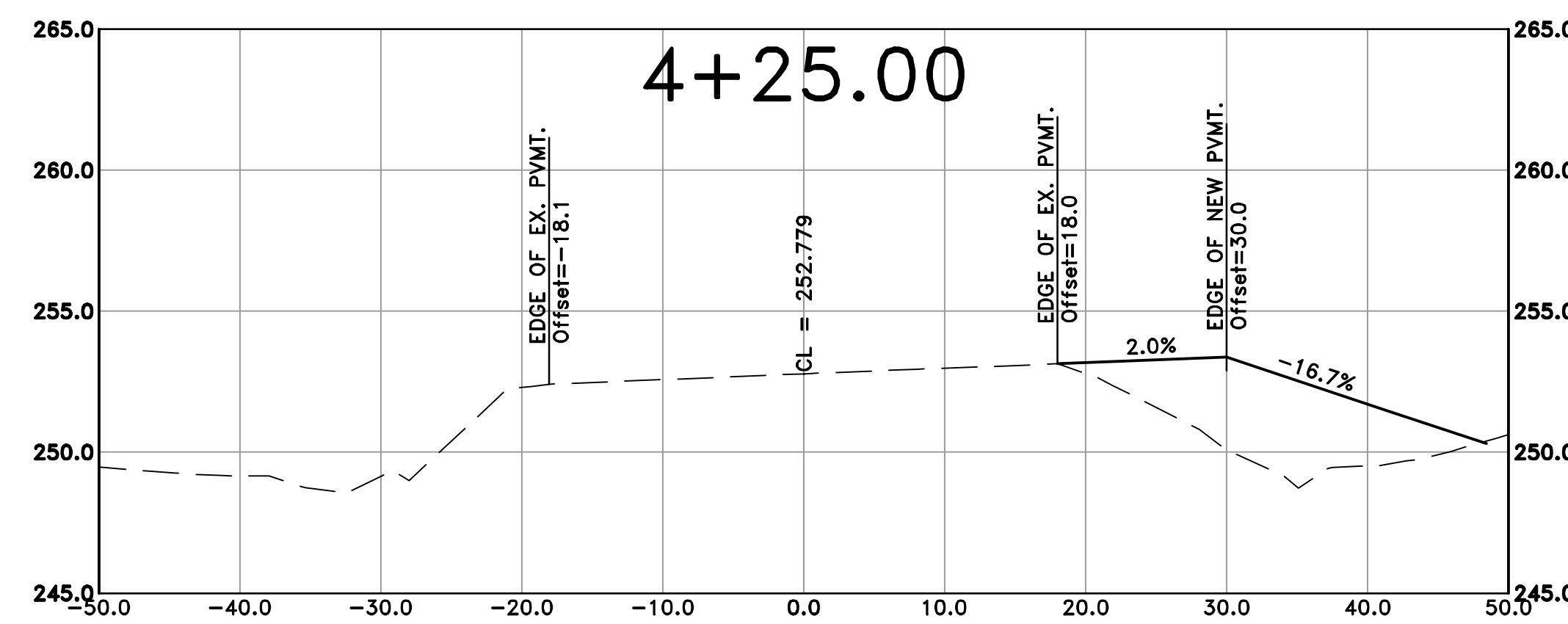
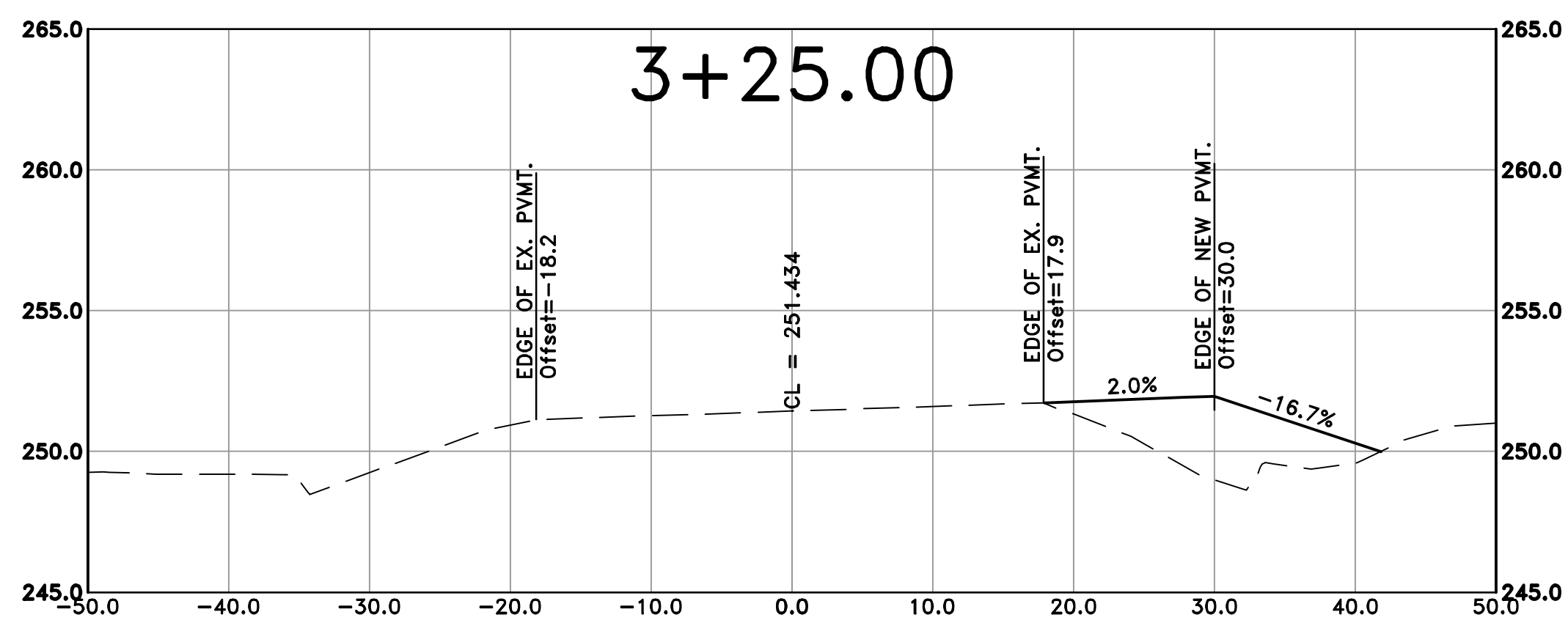
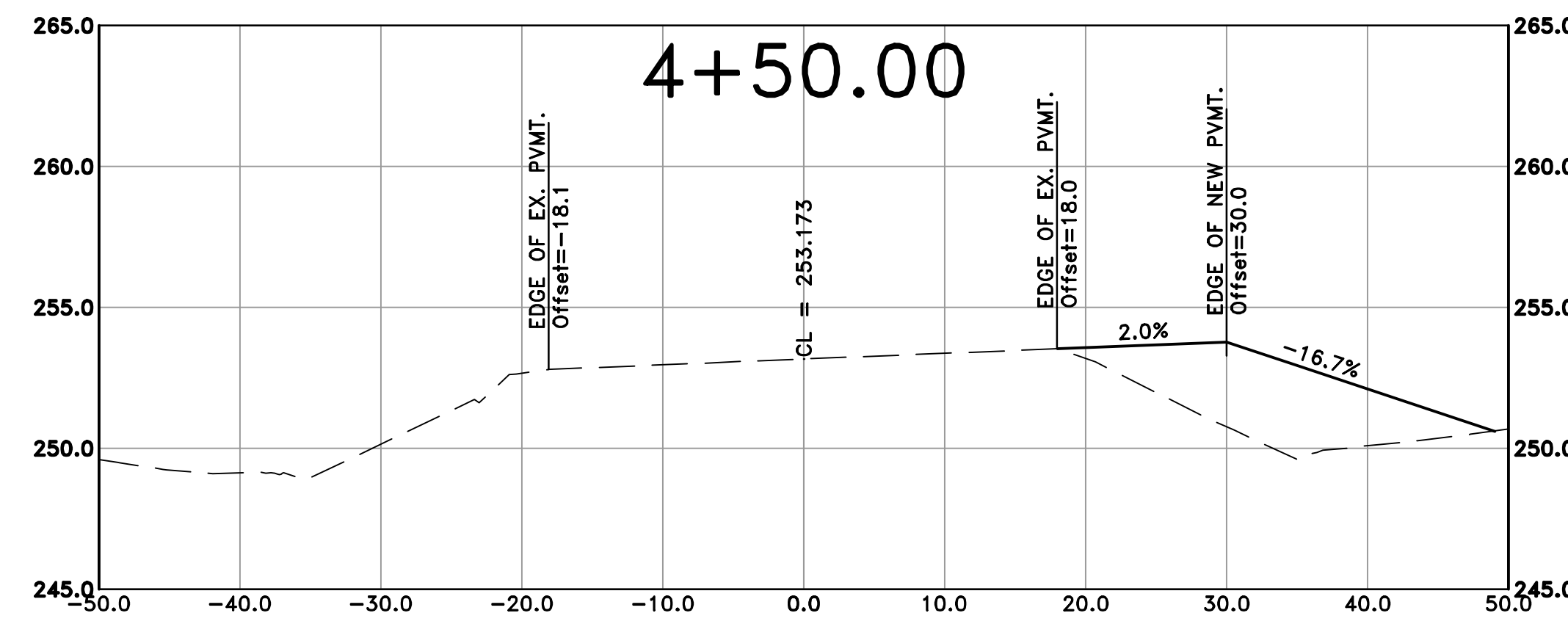
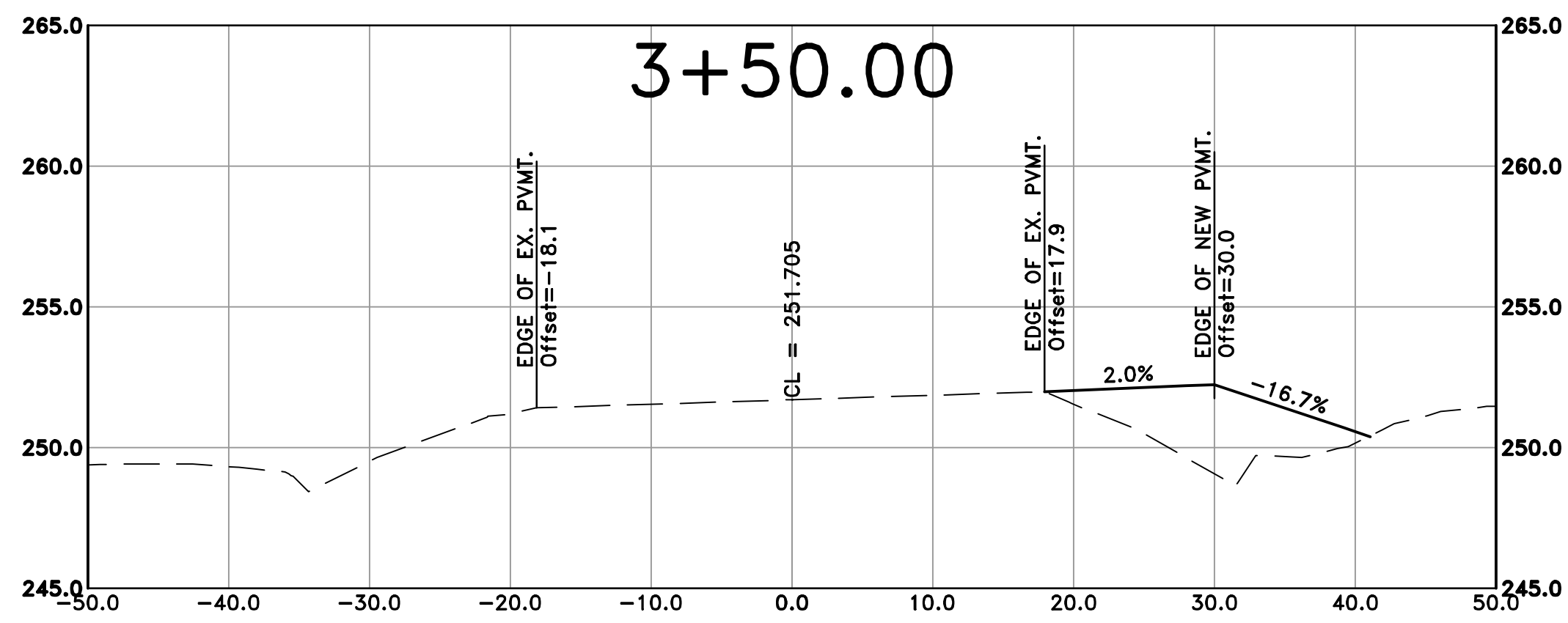
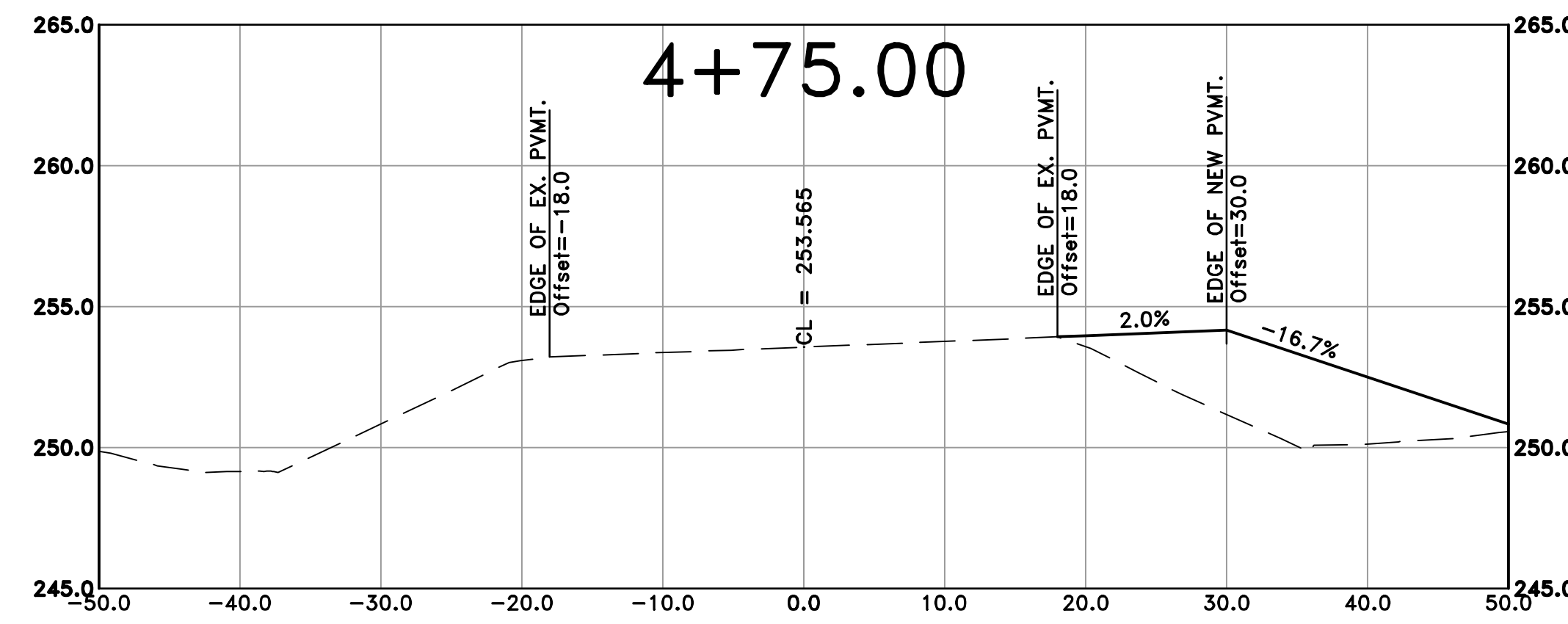
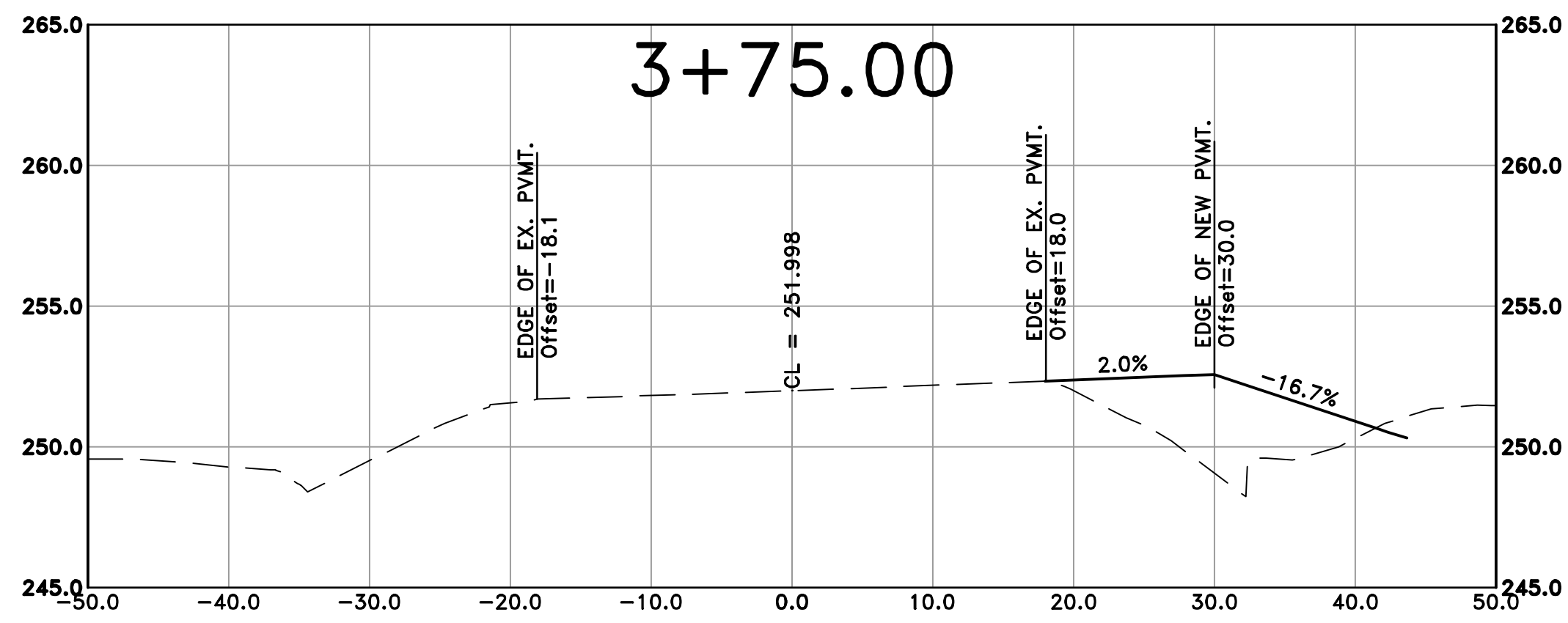
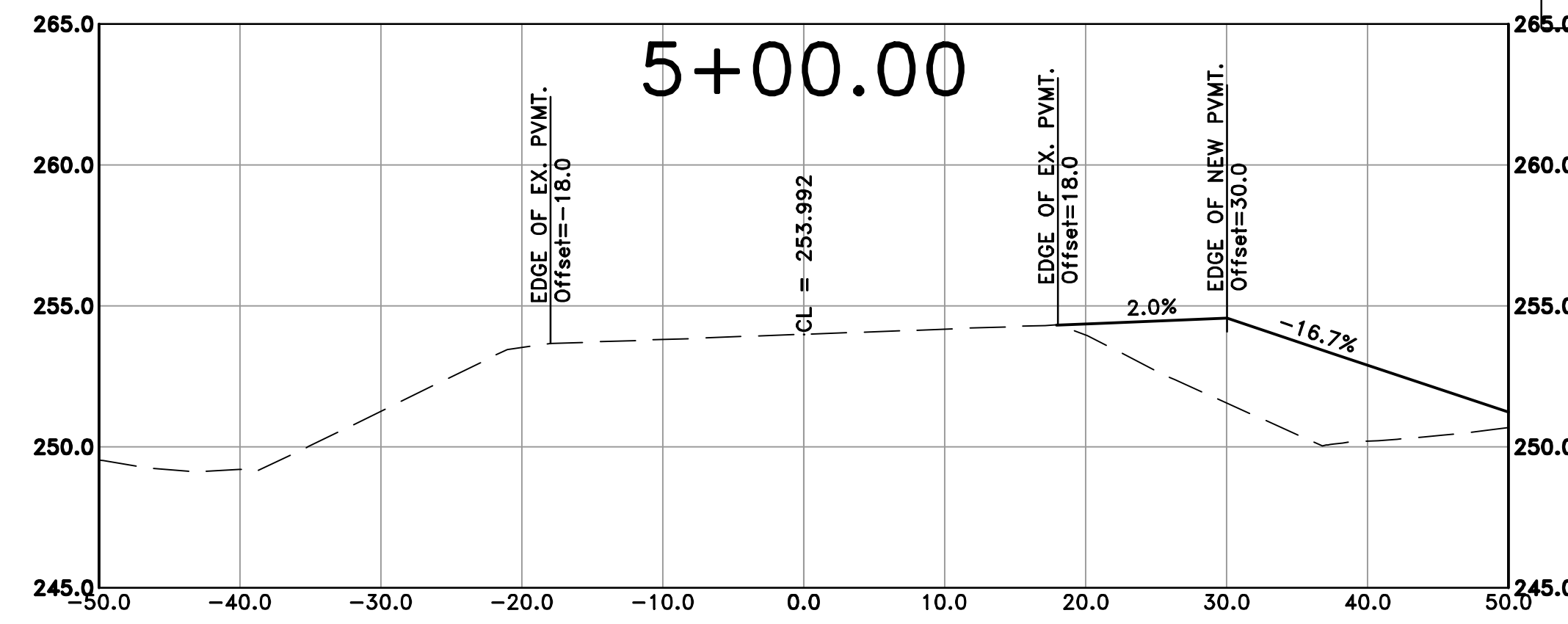
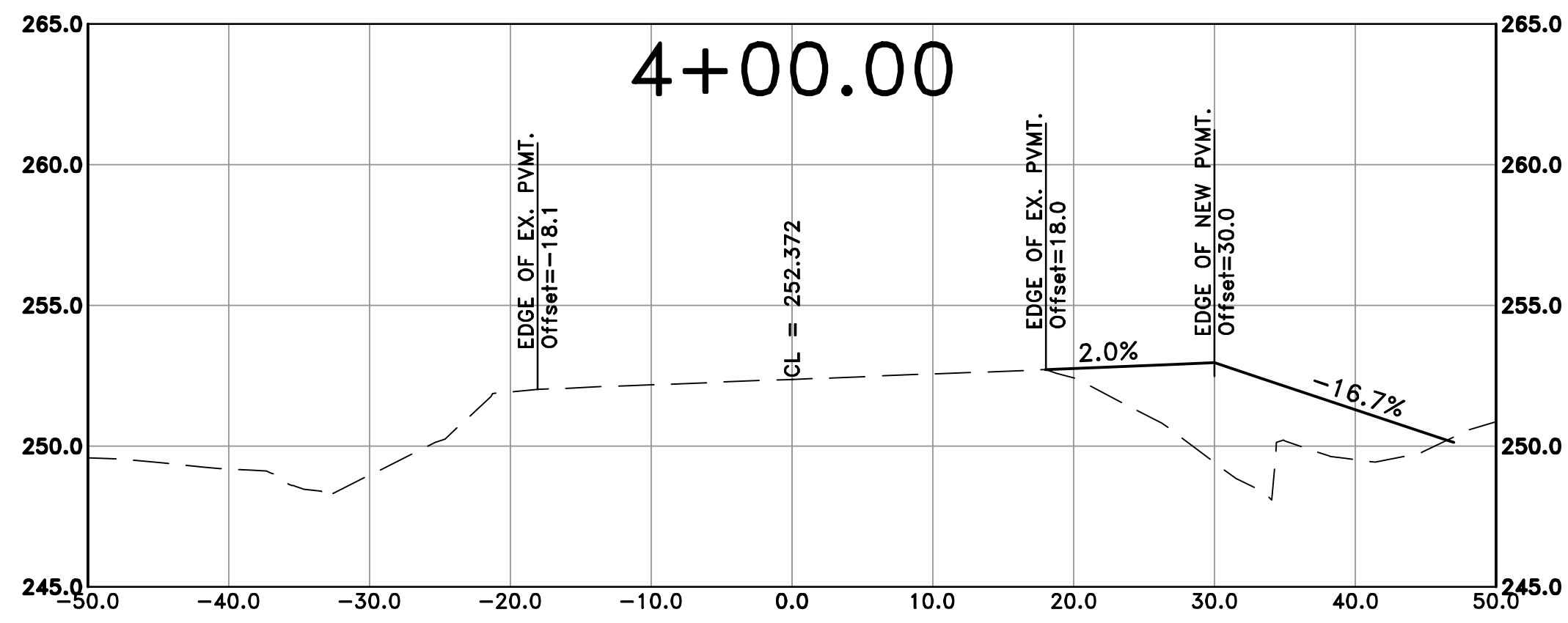


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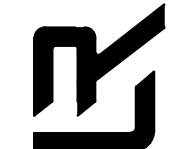
100% SUBMITTAL



REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
FOURCHE DAM PIKE IMPROVEMENTS
CROSS SECTION SHEET 2

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



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13217
BRADLEY A. PETERSON
2/23/21

DRAWN BY
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CHECKED
BAP
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12-23-2020
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PROJECT NO.

SHEET NO.
C30

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REVISIONS	DATE

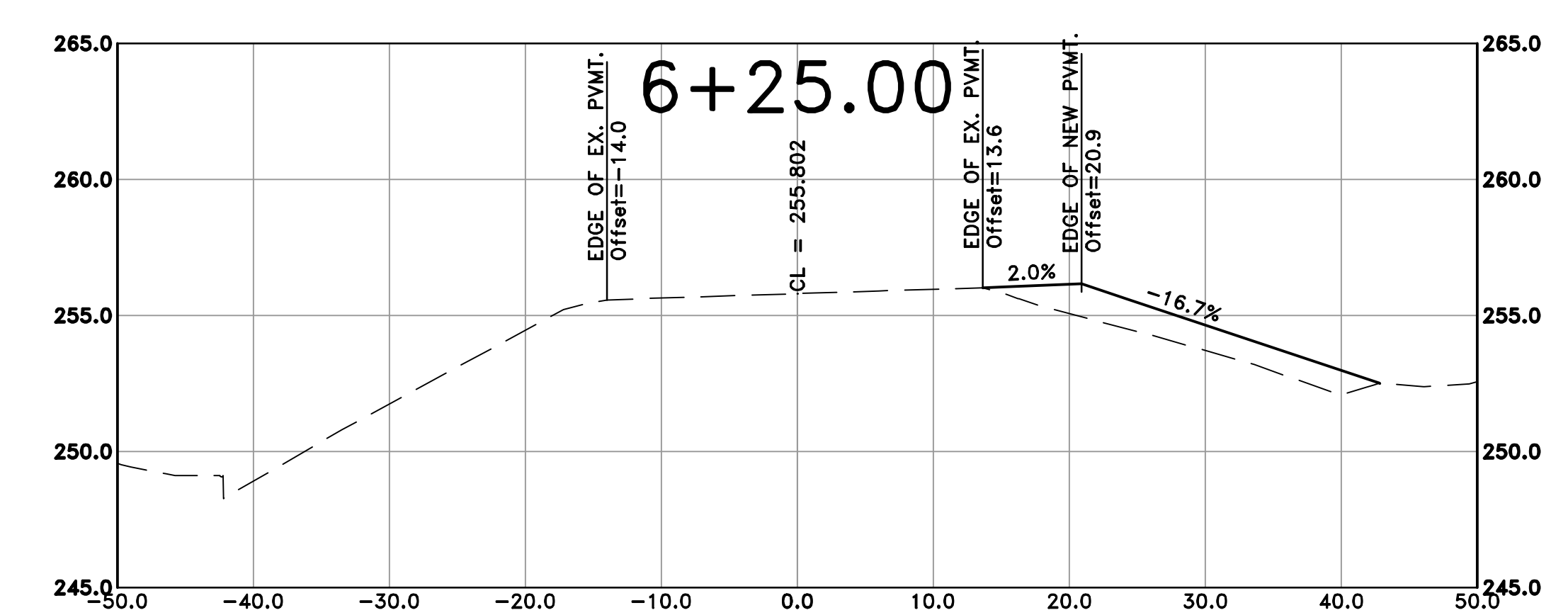
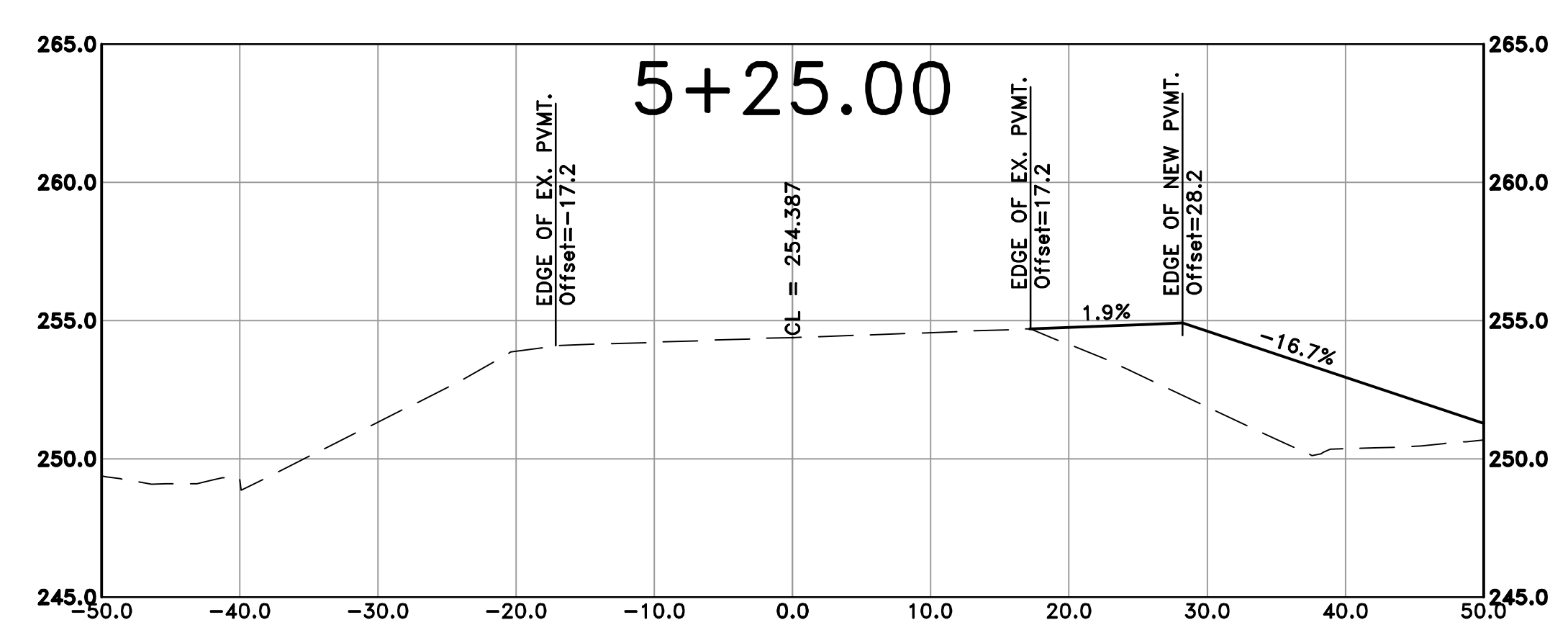
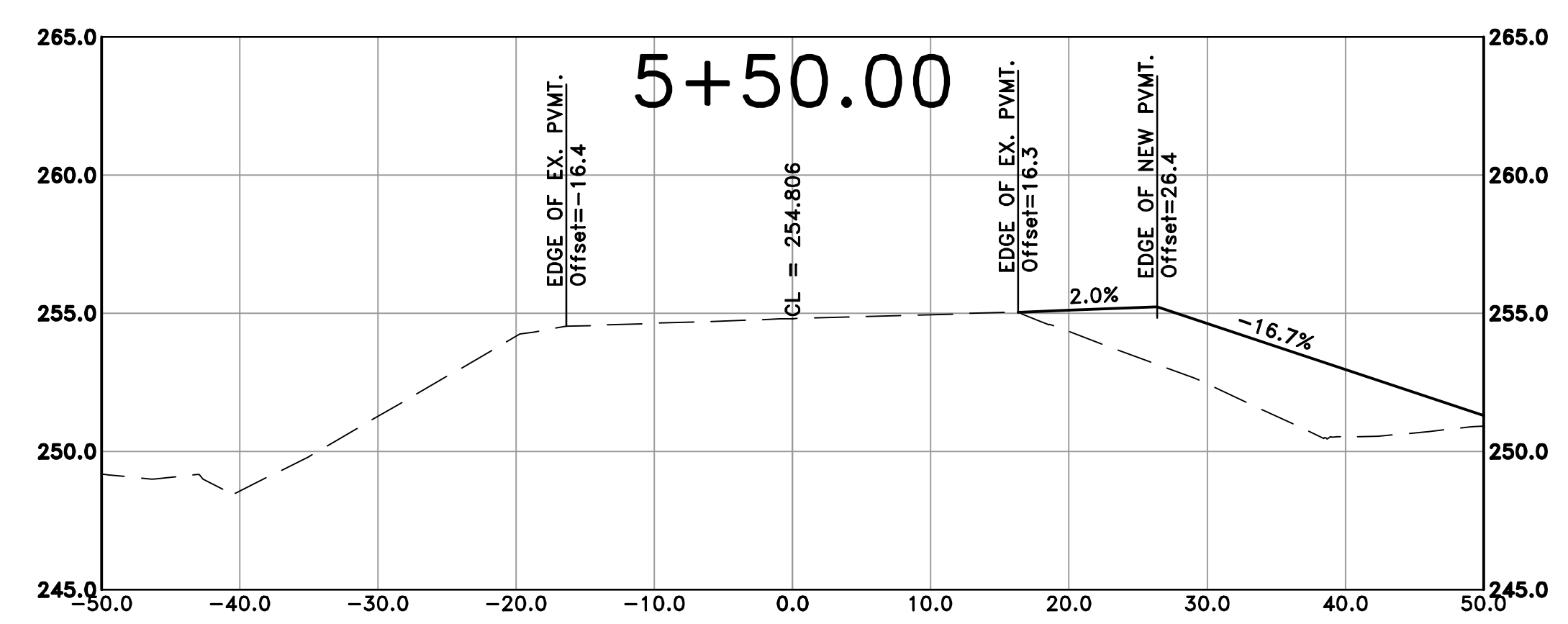
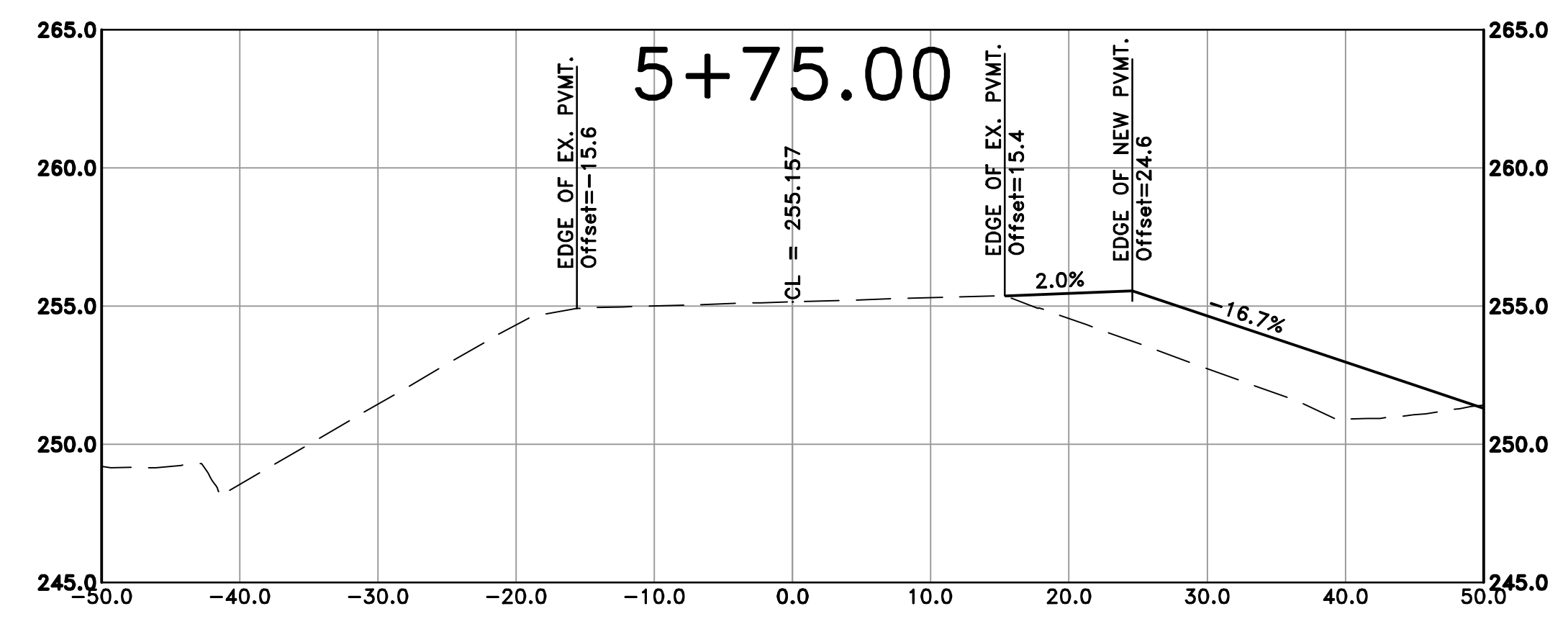
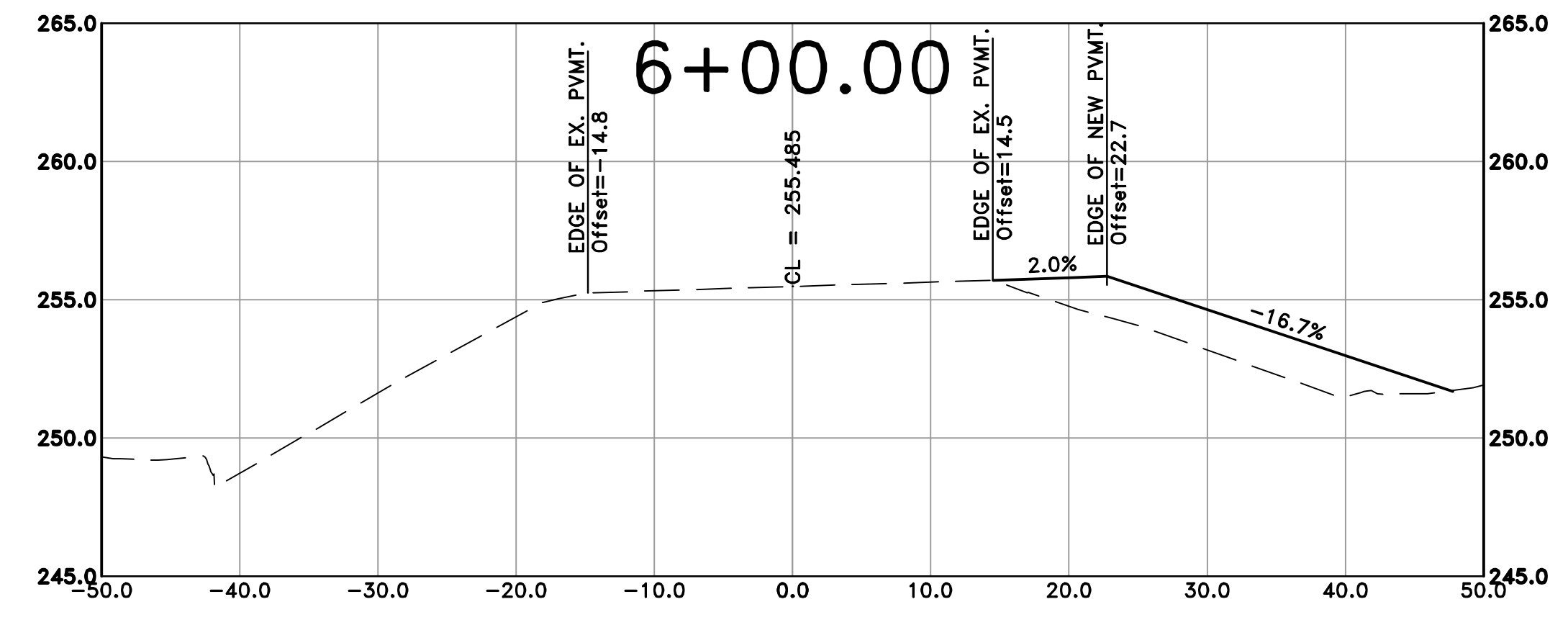
CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 CROSS SECTION SHEET 3

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



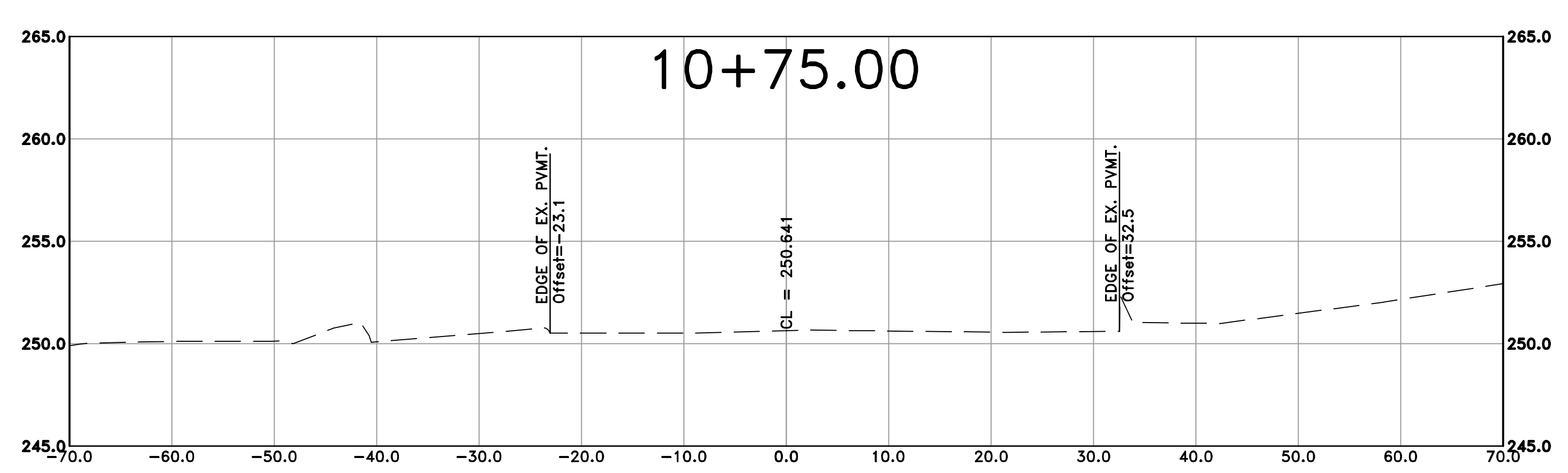
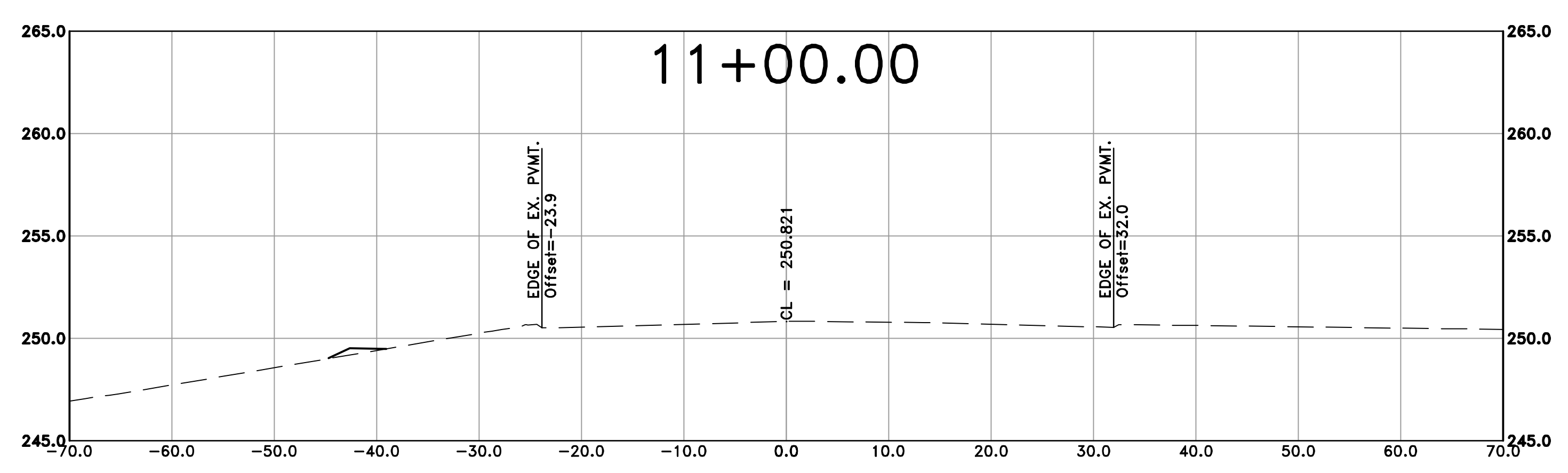
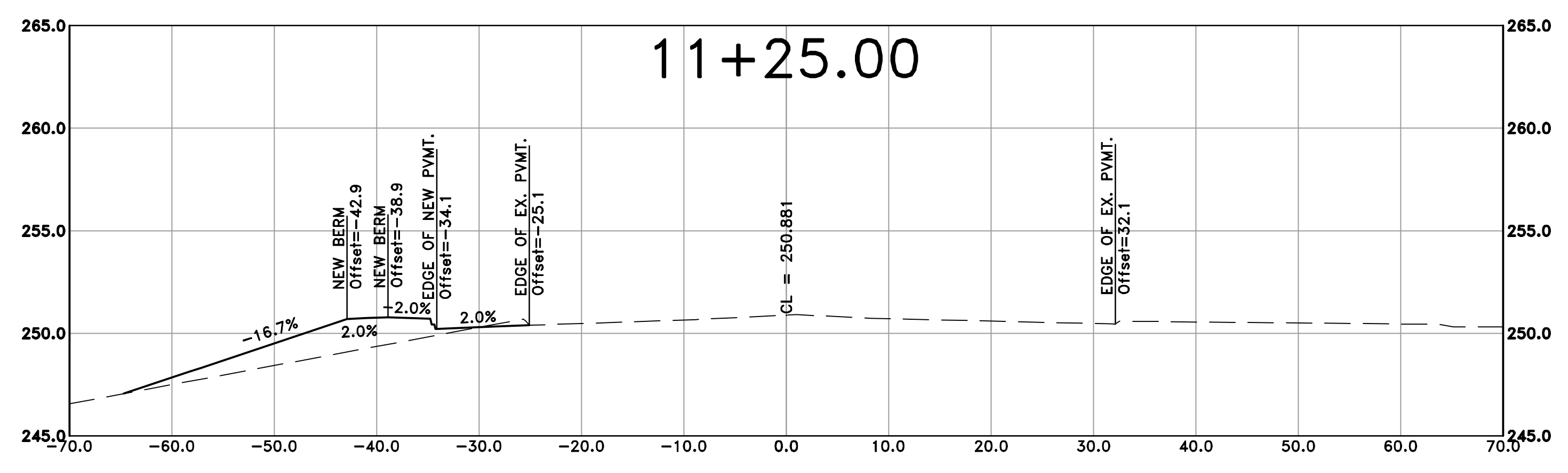
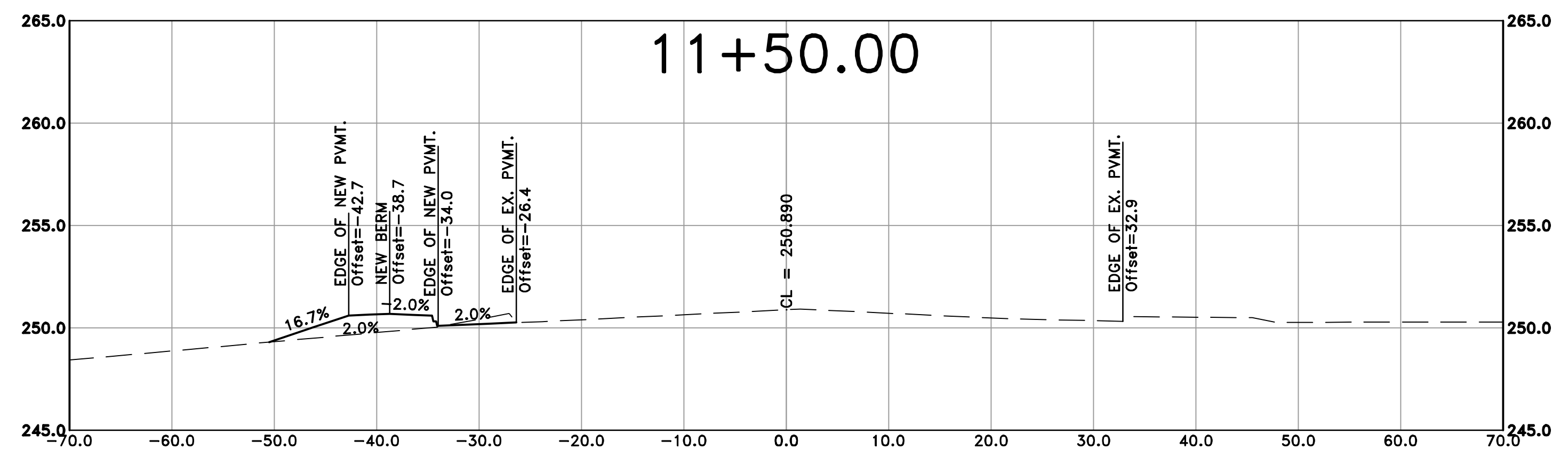
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SHEET NO.
C31



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REVISIONS	DATE



CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 CROSS SECTION SHEET 4

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



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SHEET NO.
C32

100% SUBMITTAL

REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE IMPROVEMENTS
 CROSS SECTION SHEET 5

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

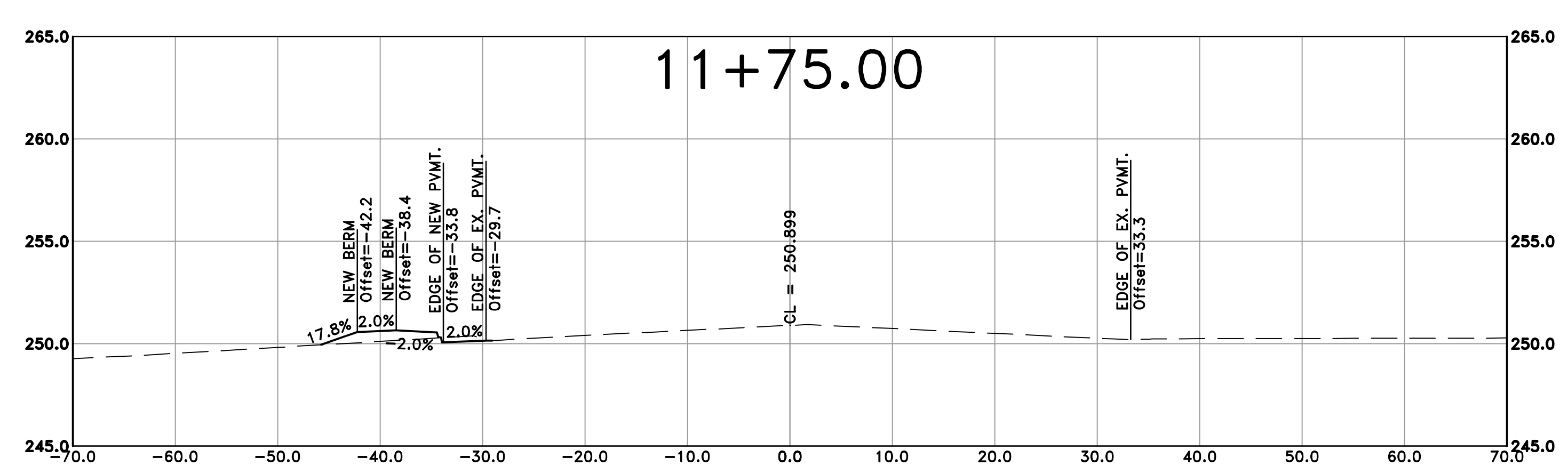
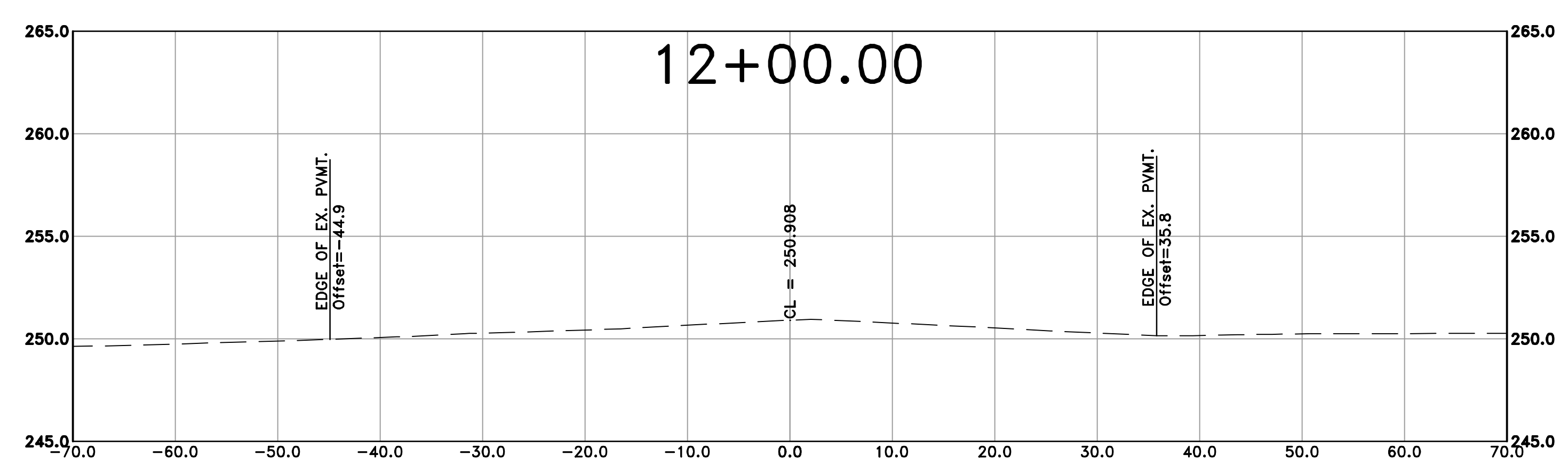
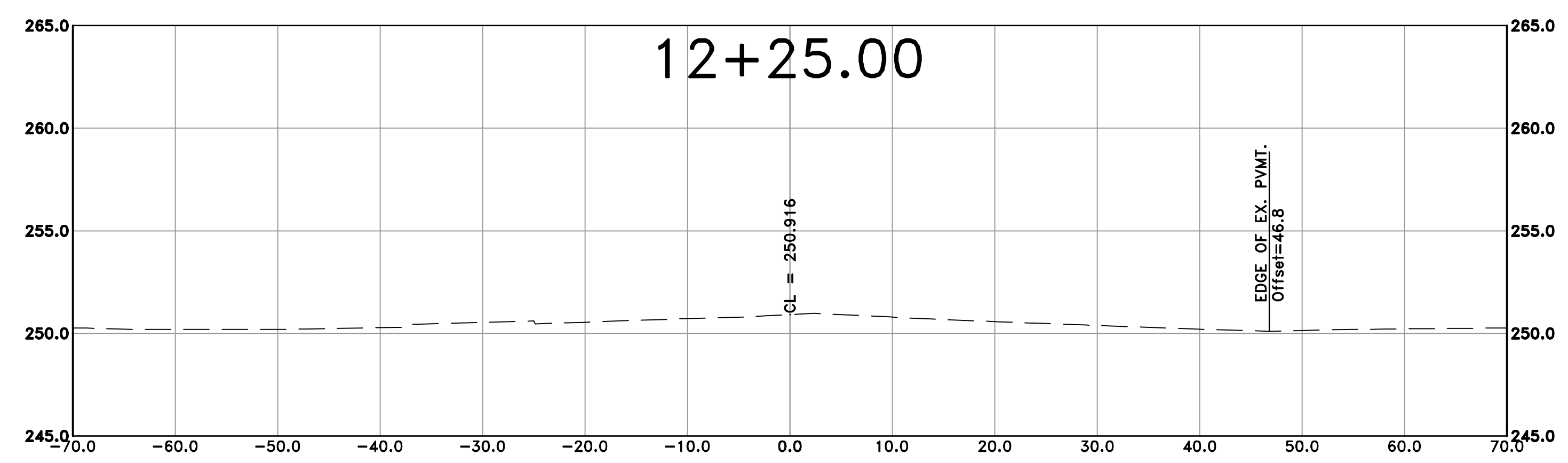
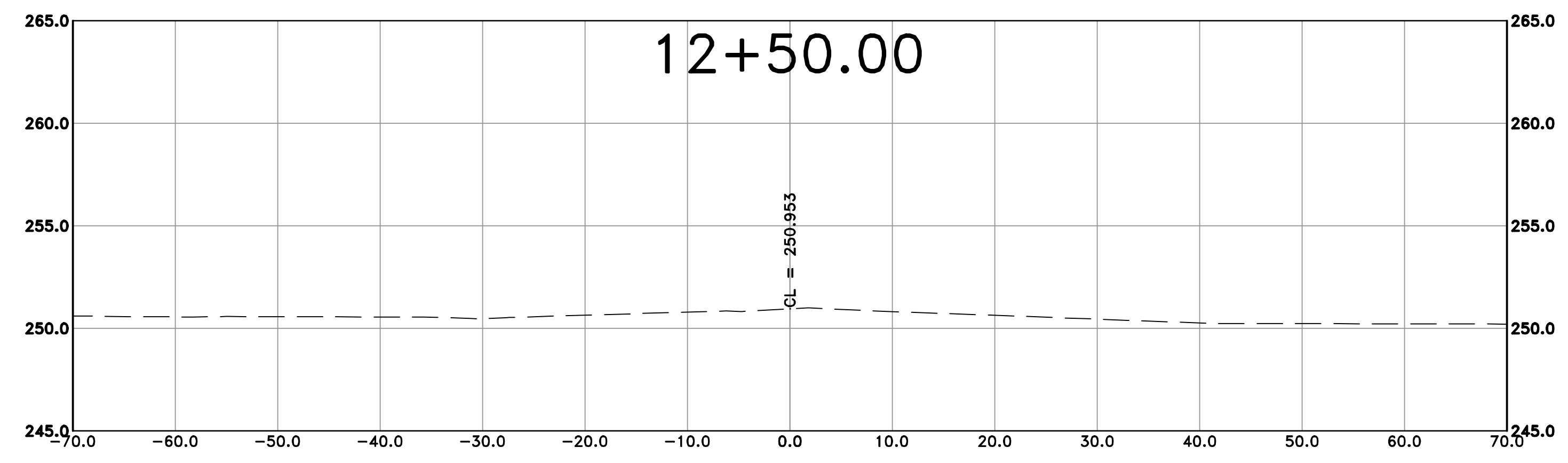


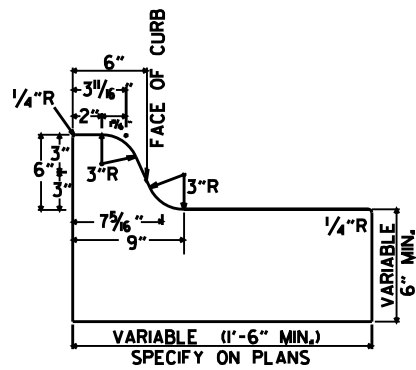
STATE OF ARKANSAS
 REGISTERED PROFESSIONAL ENGINEER
 BRADLEY A. PETERSON
 No. 13217
 2/23/21



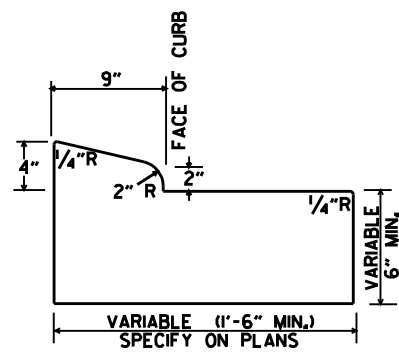
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C33

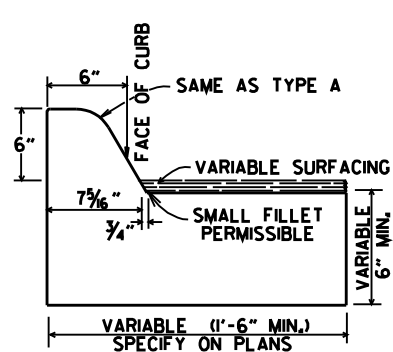




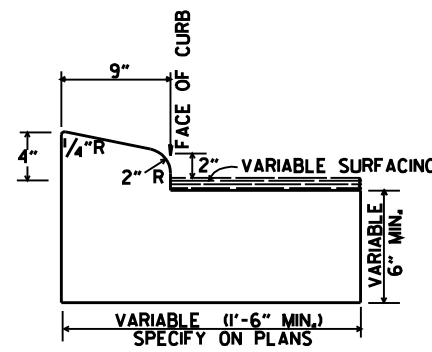
TYPE A



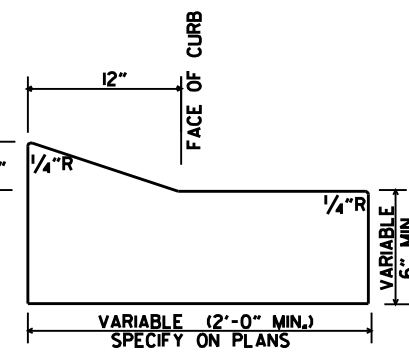
TYPE B-1



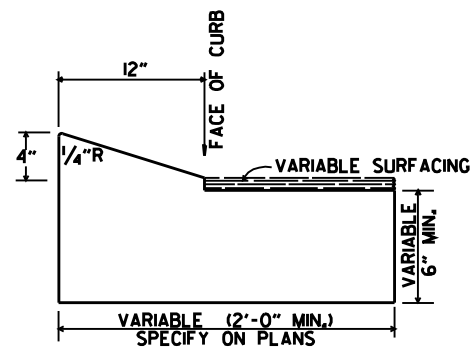
TYPE C



TYPE B-2

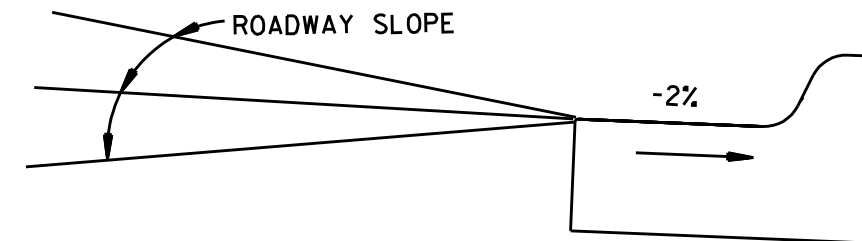


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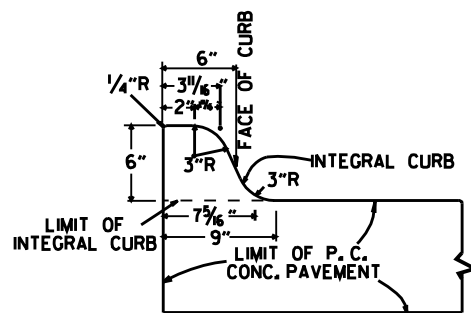


TYPE E-2

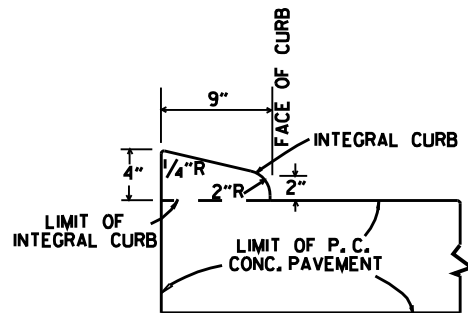
CONCRETE COMBINATION CURB AND GUTTER



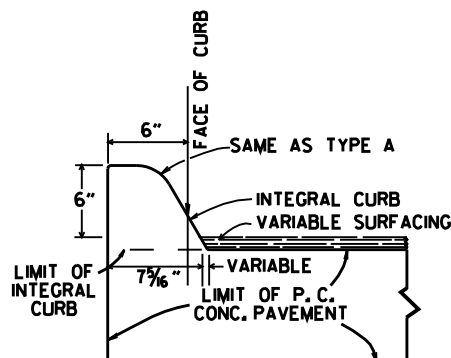
DETAIL OF GUTTER SLOPE
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

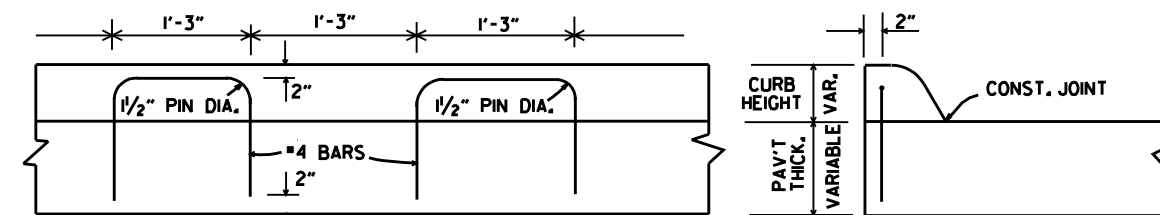


TYPE B



TYPE C

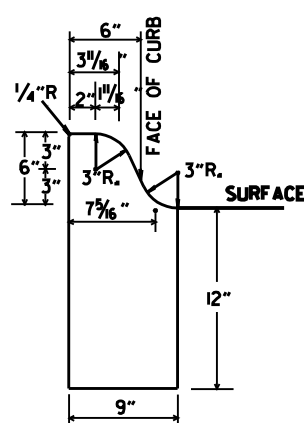
INTEGRAL CURB



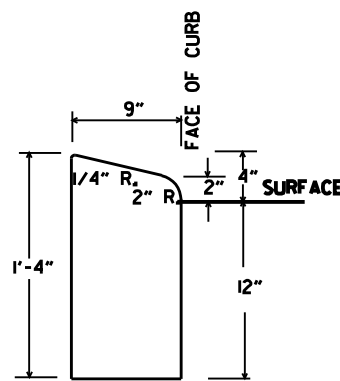
LONGITUDINAL SECTION

ELEVATION

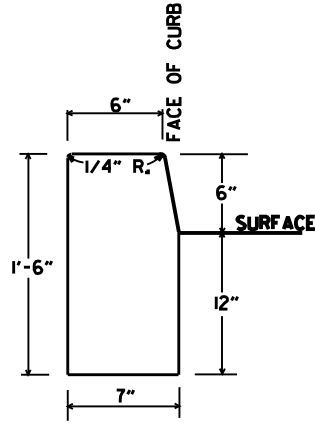
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



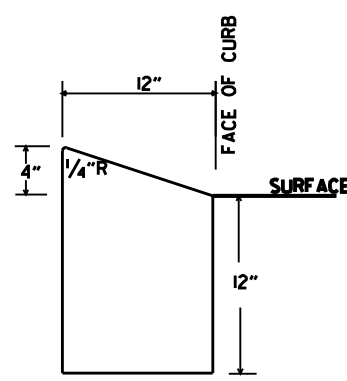
TYPE A



TYPE B

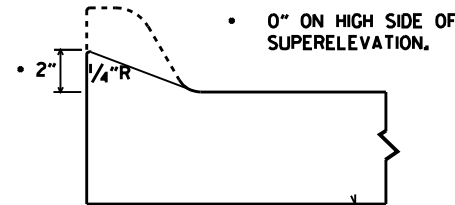


TYPE D



TYPE E

CONCRETE CURB



NOTE: USE MODIFIED CURB AS SPECIFIED ON STD. DR-1.
COMPENSATION FOR MODIFIED CURB WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE TYPE OF CURB OR CURB AND GUTTER SPECIFIED.

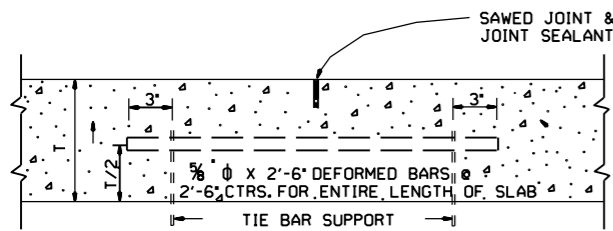
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
11-18-98	REVISED MODIFIED CURB	
6-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	
8-5-93	CORRECTED GUTTER SLOPE	8-5-93
10-1-92	ADDED DETAILS OF GUTTER SLOPE	10-1-92
5-24-90	ADDED DETAILS OF MODIFIED CURB	5-24-90
11-30-89	VARIABLE DEPTH TYPE A & B 1	11-30-89
7-15-88	REVISED MODIFIED CURB	630-7-15-88
11-1-73	REVISED MODIFIED CURB	500-11-1-73
10-2-72	REVISED AND REDRAWN	512-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

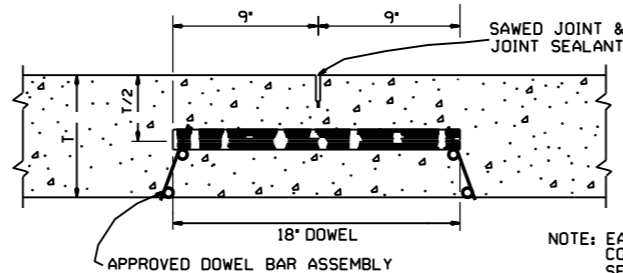
CURBING DETAILS

STANDARD DRAWING CG-1



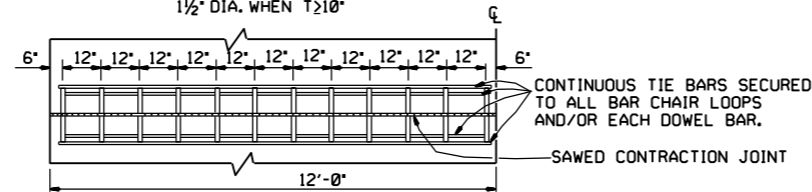
LONGITUDINAL JOINT

NOTE: THE TIE BAR SUPPORT SHOWN ABOVE MAY BE ELIMINATED IF OTHER APPROVED METHODS FOR PLACING AND SUPPORTING THE TIE BARS ARE PROVIDED.
TIE BARS SHALL BE 15' FROM TRANSVERSE JOINTS.



ROUND STEEL BAR DOWEL
1 1/4" DIA. WHEN T < 10"
1 1/2" DIA. WHEN T ≥ 10"

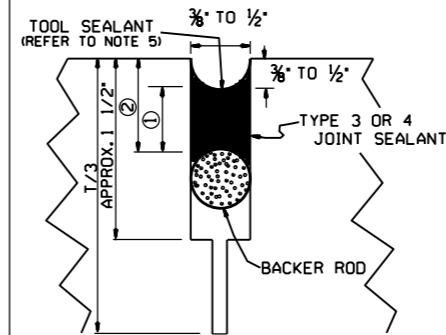
NOTE: EACH DOWEL TO BE COATED ACCORDING TO SECTION 502 OF THE STANDARD SPECIFICATIONS.



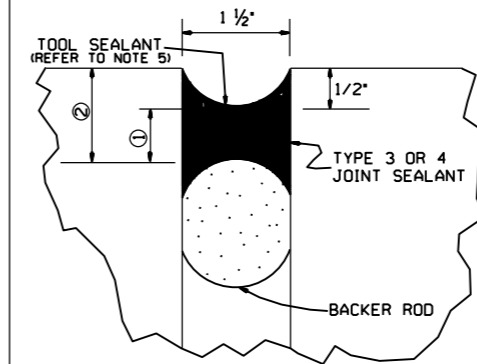
ONE-HALF 24' PAVEMENT
12 DOWELS
PLAN

NOTE: FOR 20' PAVEMENT USE 20 DOWELS @ 12' CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR. FOR 15' PAVEMENT USE 15 DOWELS @ 12' CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR. FOR 26' PAVEMENT USE 26 DOWELS @ 12' CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR. FOR PAVEMENT WIDTHS OTHER THAN THOSE SHOWN ABOVE, USE DOWELS AT 12' CTRS. WITH 6" MAX. SPACING FROM C.L. TO FIRST BAR. DISTANCE FROM EDGE OF SLAB TO FIRST BAR SHALL BE ADJUSTED TO MAINTAIN 12" DOWEL BAR SPACING

CONTRACTION JOINT DETAILS



DETAIL OF SAWED CONTRACTION JOINT



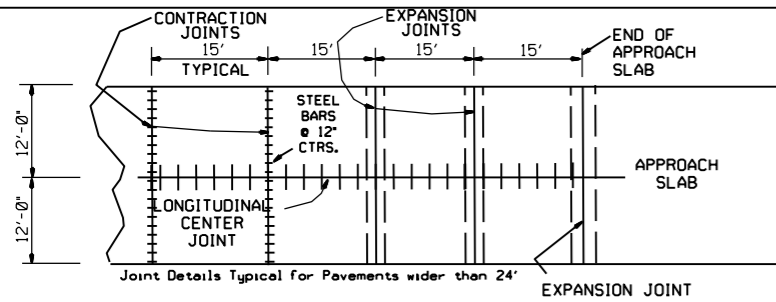
DETAIL OF EXPANSION JOINT

JOINT CONFIGURATION FOR TYPE 3 OR 4 JOINT SEALANT

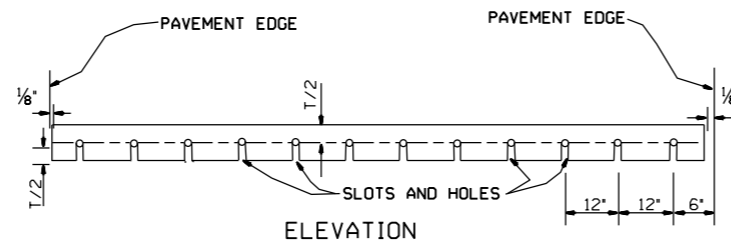
JOINT WIDTH	SEALANT THICKNESS ①	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH ②
INCHES			
1/4	1/4	3/8	1/2
3/8	1/4	1/2	1/2
1/2	1/4	5/8	1/2
5/8	3/8	3/4	3/4
3/4	3/8	7/8	3/4
1 1/2	3/4	2	1 1/4

JOINT CONFIGURATION FOR TYPE 5 JOINT SEALANT

JOINT WIDTH	SEALANT THICKNESS ①	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH ②
INCHES			
1/4	1/4	3/8	3/4
3/8	3/8	1/2	1

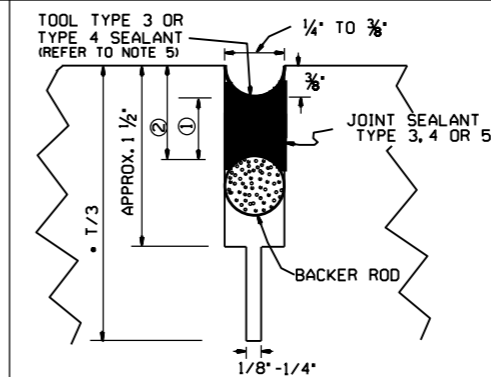


PLAN SHOWING EXPANSION JOINTS AT BRIDGE APPROACH SLABS



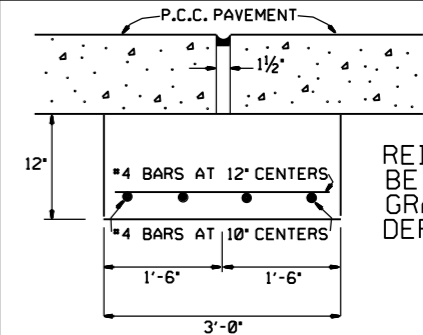
ELEVATION

NOTE: ALL DOWEL BARS SHALL CONFORM TO THE DETAILS FOR CONTRACTION JOINTS.



*NOTE: T/3 SAW CUT NOT REQUIRED FOR LONGITUDINAL CONSTRUCTION JOINT.

DETAIL OF SAWED LONGITUDINAL JOINT AND LONGITUDINAL CONSTRUCTION JOINT

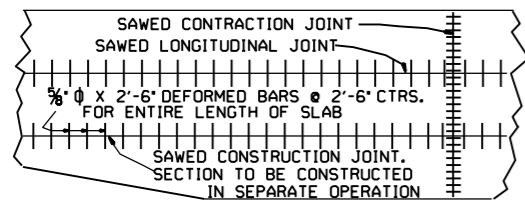


DETAIL OF JOINT SUPPORT FOR EXPANSION JOINTS

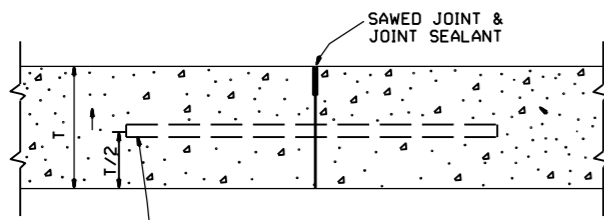
REINFORCING SHALL BE GRADE 40 OR GRADE 60 DEFORMED BARS.

GENERAL NOTES

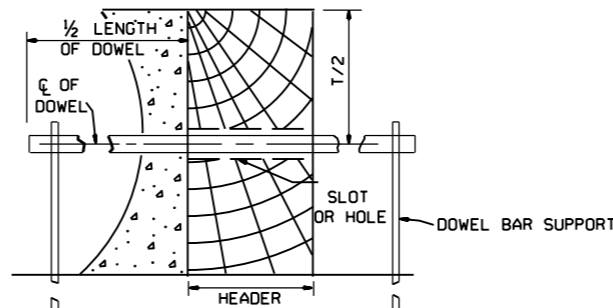
- *T* DENOTES THICKNESS OF SLAB.
- DOWEL BARS SHALL BE PLACED IN ACCORDANCE WITH THE DIMENSIONS SHOWN. A TOLERANCE OF PLUS OR MINUS ONE INCH WILL BE ALLOWED FOR THE VERTICAL AND LATERAL PLACEMENT AND A TOLERANCE OF PLUS OR MINUS 1/4" WILL BE ALLOWED FOR THE TILT AND SKEW. DOWEL BARS SHALL BE FIELD COATED FOR A MINIMUM DISTANCE OF 2" GREATER THAN HALF THE LENGTH OF THE BAR WITH AN APPROVED GREASE AS A BOND BREAKER JUST PRIOR TO PLACEMENT OF CONCRETE.
- THE EXPANSION JOINT SUPPORT MAY BE CONSTRUCTED WITH CLASS 'A', 'S' OR PAVING CONCRETE. PAYMENT FOR THE JOINT SUPPORT SHALL BE FOR THE CONTRACT UNIT PRICE BID FOR THE CLASS OF CONCRETE SPECIFIED IN THE PLANS. PAYMENT FOR ALL OTHER WORK AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE JOINT SUPPORT SHALL BE INCLUDED IN THE PRICE BID FOR THE ABOVE ITEMS.
- CONTRACTION JOINTS SHALL BE CONSTRUCTED ON 15' CENTERS.
- TOOLING NOT REQUIRED FOR SELF-LEVELING SILICONE.
- UNLESS OTHERWISE SPECIFIED IN THE PLANS, CONCRETE SHOULDERS SHALL BE CONSTRUCTED ACCORDING TO THE DETAILS SHOWN HEREON. CONTRACTION JOINTS SHALL MATCH CONTRACTION JOINTS IN THE LANES.
- TIE WIRES IN DOWEL BAR ASSEMBLIES SHALL NOT BE CUT PRIOR TO PLACEMENT OF PAVING CONCRETE.



SAWED CONSTRUCTION JOINT. SECTION TO BE CONSTRUCTED IN SEPARATE OPERATION



5/8" Ø X 2'-6" DEFORMED BARS @ 2'-6" CTRS. FOR ENTIRE LENGTH OF SLAB
NOTE: TIE BARS SHALL BE 15' FROM TRANSVERSE JOINTS.
LONGITUDINAL CONSTRUCTION JOINT

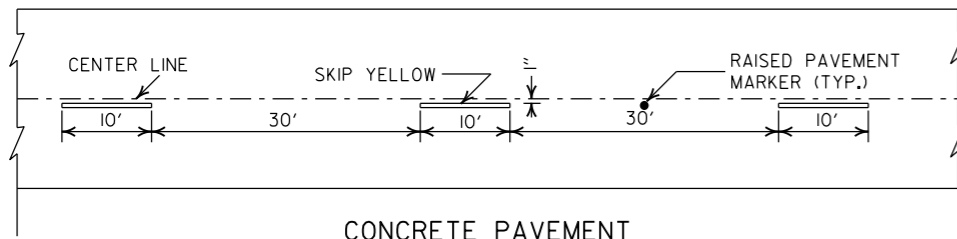


SECTION

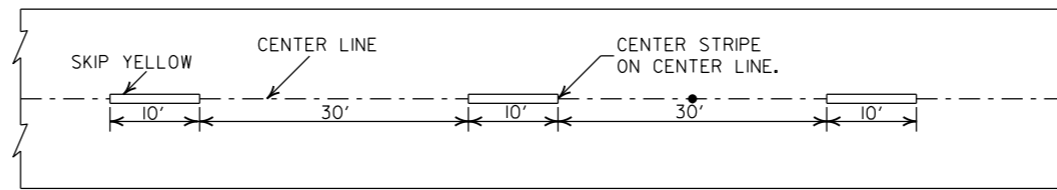
TRANSVERSE CONSTRUCTION JOINT

DATE	REVISION	DATE FILMED
11-07-19	REV. EXP. JOINT REF ON APP. SLAB	
5-25-06	ADDED GENERAL NOTE 7	
10-9-03	REMOVED TIE BAR COATING & REVISED GENERAL NOTES	
11-16-01	ADDED TOOL SEALANT AND NOTE 5; REVISED NOTE 3	
4-26-96	REVISED CONTRACTION JOINT NOTE	
11-3-94	ADDED NOTE RE: REINF. BARS	
4-1-93	REVISED DOWEL BARS & GEN. NOTES	4-1-93
10-1-92	REVISED DOWEL SPACING	10-1-92
8-15-91	ADDED SPAC FOR CONTR JTS & DEL KEYWAY	
05-24-90	REVISED TIE BAR, DOWEL & JOINT SIZE	
01-25-90	ADDED EXPANSION JOINT	01-25-90
11-30-89	CHANGED T/4+1 TO T/3+1	11-30-89
03-23-89	ALTERED SAWED JOINT & ADDED NOTE	512-03-23-89
07-15-88	REVISED AND REDRAWN	632-07-15-88

ARKANSAS STATE HIGHWAY COMMISSION
TRANSVERSE & LONGITUDINAL JOINTS FOR CONCRETE PAVEMENT (NON-REINFORCED)
STANDARD DRAWING CPTJ - 6A

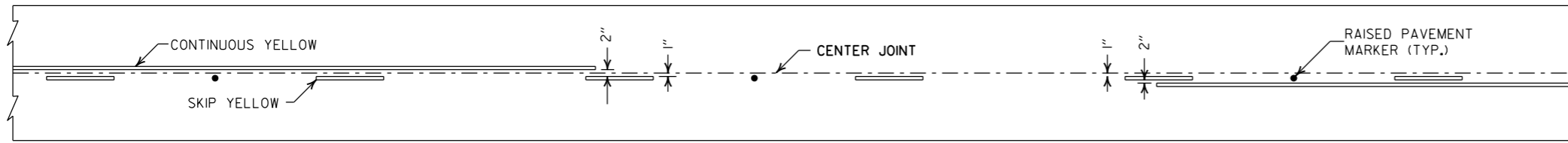


CONCRETE PAVEMENT

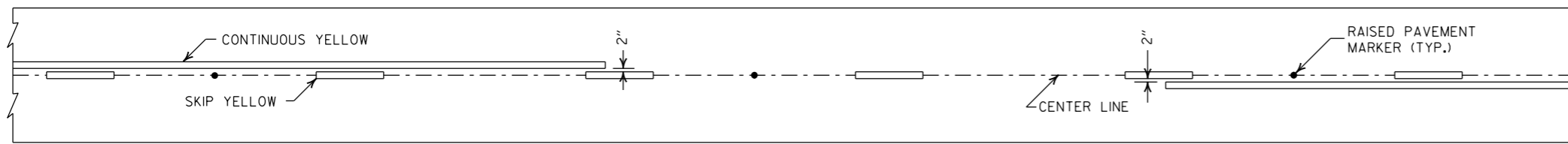


ASPHALT PAVEMENT

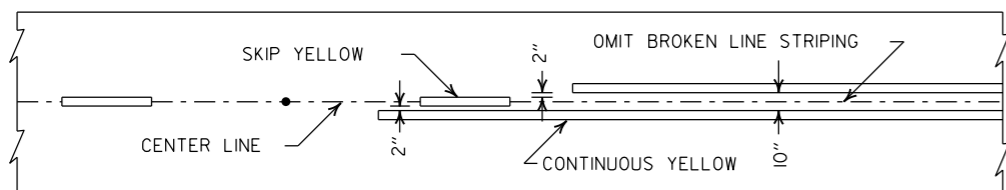
BROKEN LINE STRIPING



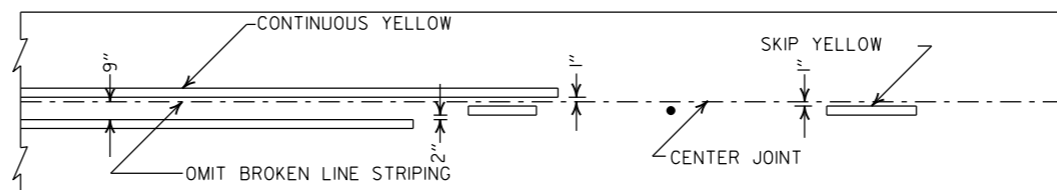
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

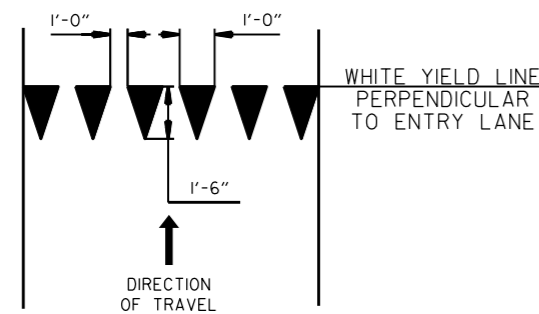


ASPHALT PAVEMENT

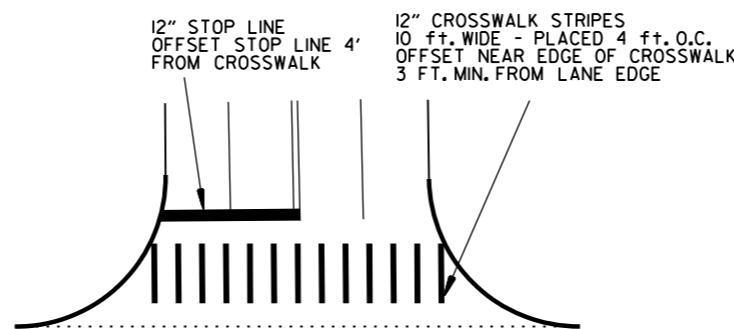


CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

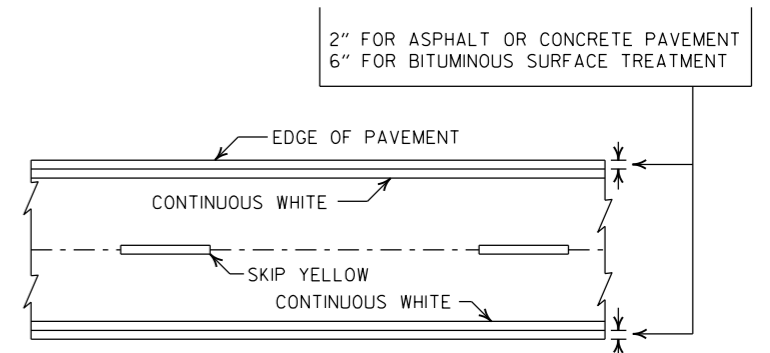


YIELD LINE DETAIL

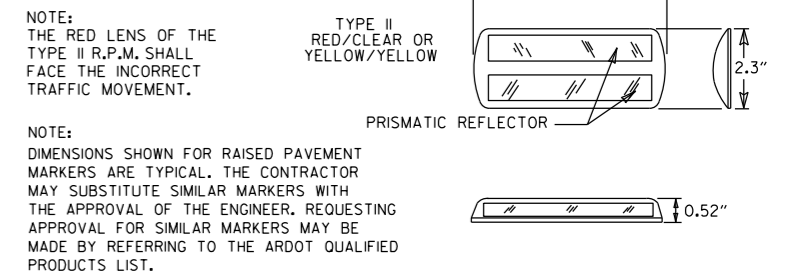


CROSSWALK AND STOP LINE DETAILS

- NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
 2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
 3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.



PAVEMENT EDGE LINE MARKING



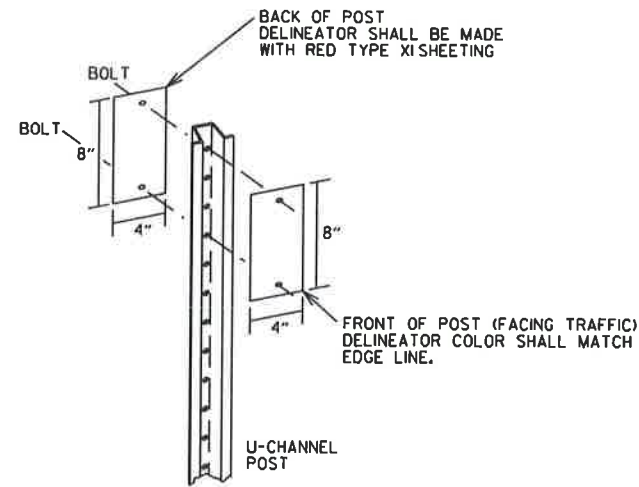
DETAIL OF STANDARD RAISED PAVEMENT MARKERS

DATE	REVISION	FILMED
2-27-20	REVISED STOP LINE DETAILS	
6-1-17	ADDED YIELD LINE DETAIL	
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTL.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

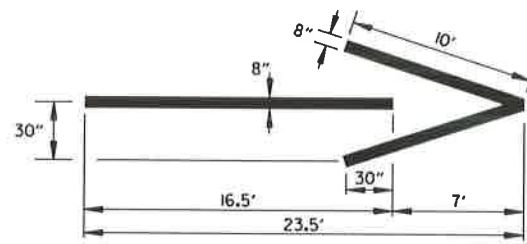
ARKANSAS STATE HIGHWAY COMMISSION

PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

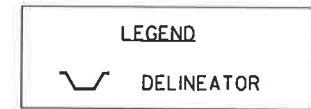


TYPE 2 DELINEATOR DETAILS

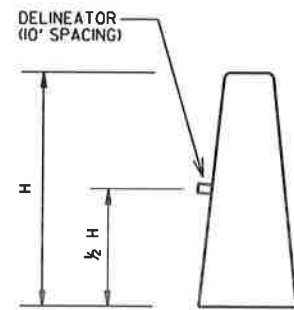


THERMOPLASTIC WRONG-WAY PAVEMENT ARROWS

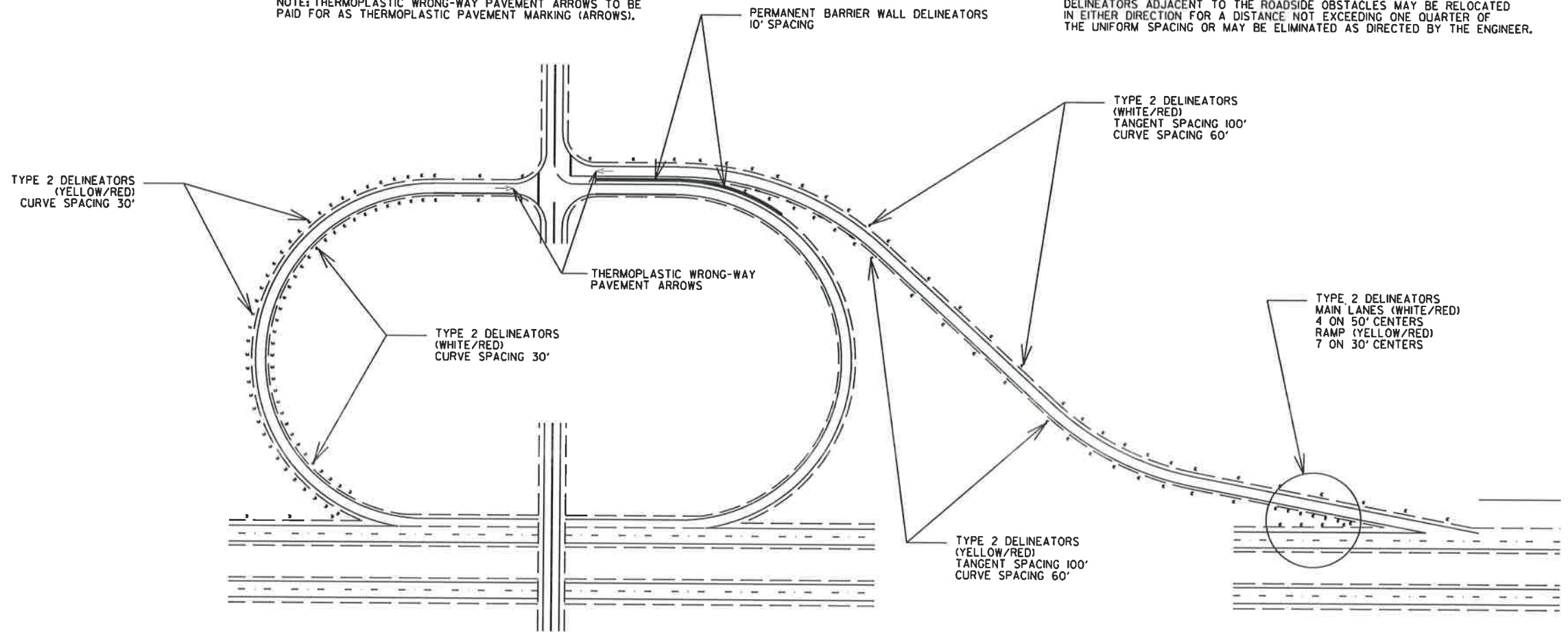
NOTE: THERMOPLASTIC WRONG-WAY PAVEMENT ARROWS TO BE PAID FOR AS THERMOPLASTIC PAVEMENT MARKING (ARROWS).



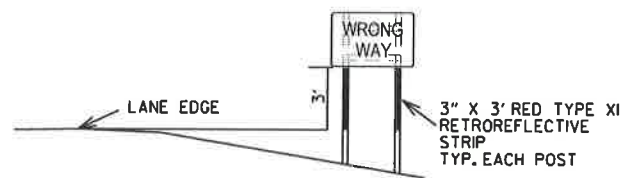
NOTE: WHEN UNIFORM SPACING IS INTERRUPTED BY ROADSIDE OBSTACLES, DELINEATORS ADJACENT TO THE ROADSIDE OBSTACLES MAY BE RELOCATED IN EITHER DIRECTION FOR A DISTANCE NOT EXCEEDING ONE QUARTER OF THE UNIFORM SPACING OR MAY BE ELIMINATED AS DIRECTED BY THE ENGINEER.



PERMANENT BARRIER WALL DELINEATOR DETAIL

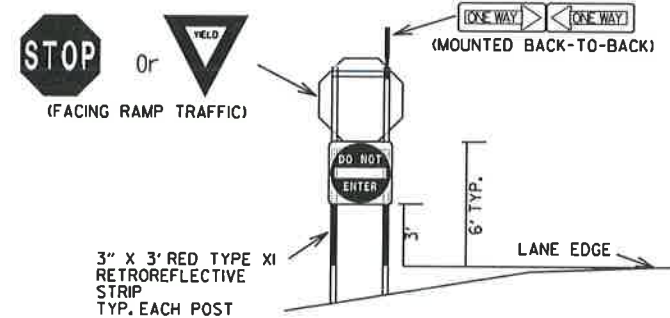


TYPICAL EXIT RAMP DELINEATOR PLACEMENT



WRONG-WAY SIGN ASSEMBLY DETAILS

- NOTES
1. WRONG-WAY SIGNS MAY BE MOUNTED ON THE BACK SIDE OF EXISTING SIGN SUPPORTS WHERE POSSIBLE.
 2. WRONG-WAY SIGNS ARE NORMALLY GATED, BUT MAY BE OFFSET WHEN BARRIER WALLS ARE PRESENT ON THE INSIDE SHOULDER. IN SUCH CASES, THE SIGN ON THE INSIDE SHOULDER SIDE MAY BE LOCATED PAST THE END OF THE BARRIER WALL. IN RARE CASES WHERE THE BARRIER WALL EXTENDS TO OR NEAR THE MAIN LANES, BOTH SIGNS MAY BE LOCATED ON THE OUTSIDE SHOULDER SIDE OF THE RAMP, WITH APPROXIMATELY 300' SPACING BETWEEN THE SIGNS.



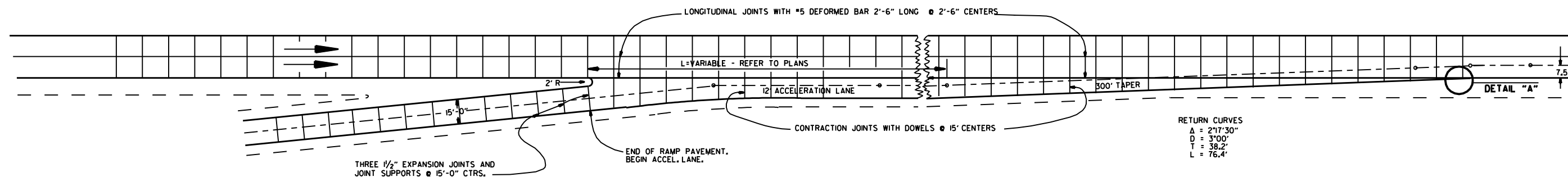
RAMP INTERSECTION SIGN ASSEMBLY DETAILS

THE DELINEATORS SHALL BE PLACED AT A 4' HEIGHT MEASURED FROM THE PAVEMENT EDGE TO THE BOTTOM OF THE DELINEATOR. DELINEATOR POSTS SHALL BE PLACED 2 TO 8 FT. OUTSIDE THE OUTER EDGE OF THE SHOULDER, OR IF APPROPRIATE, IN LINE WITH THE ROADSIDE BARRIER THAT IS 8 FT. OR LESS OUTSIDE THE OUTER EDGE OF THE SHOULDER.

DELINEATOR SPACING IN CURVES SHALL BE REDUCED TO 30' WHEN THE RAMP ADVISORY SPEED IS 30 MPH OR LESS.

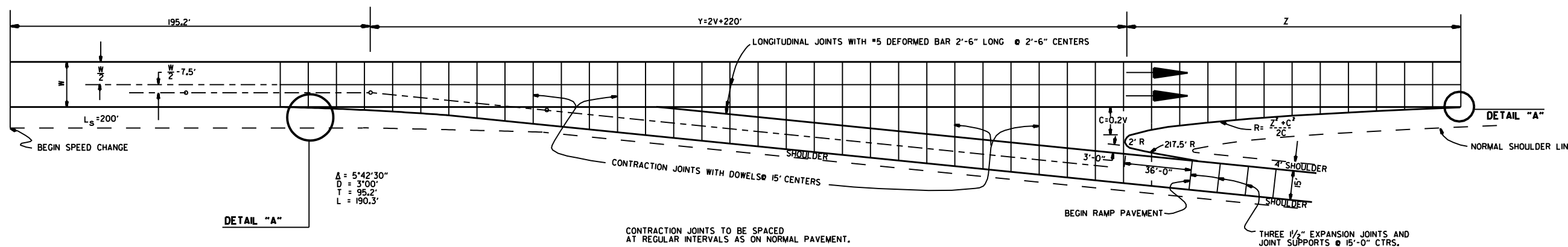
IF MULTIPLE LANES EXIST AT THE RAMP TERMINAL, THE THERMOPLASTIC WRONG-WAY ARROW SHALL BE PLACED AS CLOSE TO THE RAMP TERMINAL TURNOUT AS POSSIBLE.

			ARKANSAS STATE HIGHWAY COMMISSION
			TYPICAL EXIT RAMP SIGN AND DELINEATOR DETAILS
			STANDARD DRAWING SHS-8
11-16-17	ADDED NOTES		
06-01-17	RE-DRAWN		
09-12-13	ISSUED AS STANDARD DRAWING		
DATE	REVISION	FILMED	



ENTRANCE RAMP

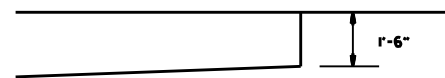
NOTE: JOINT SPACING ON THE MAIN LANES SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO THESE JOINT LAYOUTS. THE MAIN LANE JOINT SPACING MAY BE REDUCED TO A 12' MINIMUM.



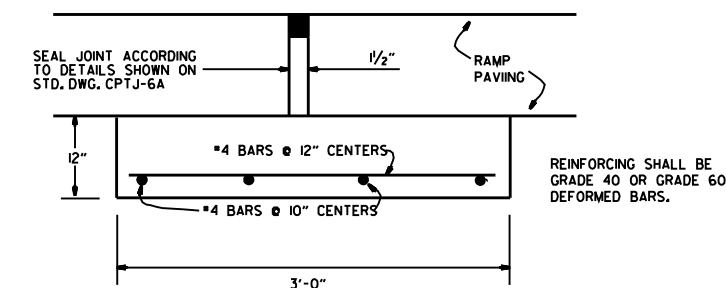
EXIT RAMP

EXIT RAMP

DESIGN SPEED V	Y	NOSE OFFSET C	LENGTH NOSE TAPER Z	RETURN RADIUS R	ADDITIONAL SURFACING SQ. YDS.
40	300.0	8.0	96.0	580.0	602.43
50	320.0	0.0	120.0	725.0	687.29
60	340.0	2.0	168.0	1182.0	790.55
70	360.0	4.0	210.0	1582.0	902.27



DETAIL "A"



DETAIL OF EXPANSION JOINT & JOINT SUPPORT

NOTE: THE EXPANSION JOINTS SHALL BE MEASURED AND PAID FOR AS P.C.C. PAVEMENT (RAMP THICKNESS), WHEN RAMP PAVING IS ASPHALT, EXPANSION JOINT IS NOT REQUIRED. THE JOINT SUPPORT MAY BE CONSTRUCTED WITH CLASS "A", "S", OR PAVING CONCRETE. PAYMENT FOR THE JOINT SUPPORT SHALL BE FOR THE CONTRACT UNIT PRICE BID FOR THE CLASS OF CONCRETE USED. ALL OTHER WORK AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE JOINT SUPPORT SHALL BE INCLUDED IN THE PRICE BID FOR THE ABOVE ITEMS.

DATE	REVISION	DATE FILMD
8-22-02	DELETED NOTE	
11-16-01	CORRECTED SPELLING ON ENTRANCE RAMP NOTE	
5-13-99	ADDED, EDITED AND DELETED NOTES	
11-03-94	ADDED NOTE RE: REINF. BARS	
10-1-92	ADDED DETAIL 'A' & OTHER MINOR CHANGES	10-1-92
1-25-90	REVISED EXPANSION JOINT	1-25-90
7-15-88	CONFORM D TO 1988 SPECIFICATIONS	85C-7-15-88
3-2-81	ISSUED	511-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION
 DETAILS OF STANDARD TURNOUT
 FOR
 ENTRANCE & EXIT RAMPS (NON-REINFORCED)
 STANDARD DRAWING TR-1A

100% SUBMITTAL

REVISIONS	DATE

INDEX OF SHEETS

SHEET	TITLE
T-01	INDEX OF SHEETS AND GOVERNING SPECIFICATIONS
T-02	TRAFFIC SIGNAL NOTES
T-03	FOURCHE DAM PIKE AND I-440 WB RAMPS TRAFFIC SIGNAL SUMMARY OF QUANTITIES
T-04	FOURCHE DAM PIKE AND I-440 WB RAMPS TRAFFIC SIGNAL PLAN, MAST ARMS AND CONDUIT
T-05	FOURCHE DAM PIKE AND I-440 WB RAMPS TRAFFIC SIGNAL WIRING PLAN
T-06	FOURCHE DAM PIKE AND I-440 WB RAMPS TRAFFIC SIGNAL CHARTS
T-07	FOURCHE DAM PIKE AND I-440 EB RAMPS TRAFFIC SIGNAL SUMMARY OF QUANTITIES
T-08	FOURCHE DAM PIKE AND I-440 EB RAMPS TRAFFIC SIGNAL PLAN, MAST ARMS AND CONDUIT
T-09	FOURCHE DAM PIKE AND I-440 EB RAMPS TRAFFIC SIGNAL WIRING PLAN
T-10	FOURCHE DAM PIKE AND I-440 EB RAMPS TRAFFIC SIGNAL CHARTS
T-11	CONDUIT DETAILS IN RAILROAD ROW
T-12	CONTROLLER CABINET UTILITY DRAWER (SD-5)
T-13	HEAVY DUTY PULL BOX (SD-6)
T-14	SIGNAL HEAD PLACEMENT (SD-8)
T-15	SERVICE POINT (SD-9)
T-16	STEEL POLE WITH MAST ARM (SD-11)
T-17	TESCO CABINET (27-22-BBS)

GENERAL NOTES

1. WORK ON STATE HIGHWAYS MUST CONFORM TO STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014.
2. THERE ARE NUMEROUS PUBLIC AND PRIVATE UTILITIES WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. SOME EXISTING UTILITIES MAY NOT BE SHOWN ON THE PLANS. PRIOR TO BEGINNING ANY TYPE OF EXCAVATION, THE CONTRACTOR SHALL CONTACT THE VARIOUS UTILITY COMPANIES AND MAKE ARRANGEMENTS FOR THE LOCATION OF THE UTILITY ON THE GROUND. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN THE UTILITY MARKINGS UNTIL THEY ARE NO LONGER NEEDED. CONTRACTOR WILL BE RESPONSIBLE FOR ALL DAMAGES AND/OR REPAIR OF THE UTILITIES.
3. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION 2014.
4. ALL TREES AND OTHER LANDSCAPE MATERIALS THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT REMOVED SHALL BE PROTECTED DURING THE CONSTRUCTION OPERATIONS.
5. CONTRACTOR SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH ALL UTILITY LINES AND APPURTENANCES REQUIRING ADJUSTMENTS BECAUSE OF THIS CONSTRUCTION. CONTRACTOR SHALL FULLY COORDINATE SUCH ADJUSTMENTS WITH THE INVOLVED UTILITIES AS TO WHO SHALL ADJUST. NO SEPARATE PAYMENT SHALL BE MADE AS A RESULT OF ANY ADJUSTMENTS REQUIRED.
6. ALL EXISTING PAVEMENT AND CURB AND GUTTER OR OTHER EXISTING PHYSICAL FEATURES WHICH CONFLICT WITH THE NEW CONSTRUCTION, SHALL BE REMOVED. NO SEPARATE PAYMENT WILL BE MADE FOR REMOVALS, WHICH WILL BE CONSIDERED SUBSIDIARY TO SITE PREPARATION.
7. EXISTING UTILITY LOCATIONS ARE FROM UTILITY COMPANIES' RECORDS AND/OR ABOVE GROUND INSPECTION.
8. P.E. CERTIFIED SHOP DRAWINGS MUST BE SUBMITTED FOR APPROVAL. CERTIFICATION SHALL ALSO INDICATE COMPLIANCE WITH ARKANSAS DEPARTMENT OF TRANSPORTATION MATERIAL SPECIFICATION REQUIREMENTS AND CONFORMANCE TO AASHTO DESIGN REQUIREMENTS FOR 90 MPH WIND LOADING FOR SIGNALS, MASTS AND SIGNS AS INDICATED.
9. ALL TRAFFIC SIGNAL EQUIPMENT SHALL COMPLY WITH THE LATEST EDITION OF THE THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014, AND APPLICABLE SPECIAL PROVISIONS.


GOVERNING SPECIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION. EDITION OF 2014. AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS:

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARDS SPECIFICATIONS
SP	SYSTEM LOCAL CONTROLLER TS2-TYPE 2 (8-PHASE)
SP	ETHERNET SWITCH, 100/1000 HARDENED CISCO INDUSTRIAL (IE) 3000 SERIES
SP	TESCO BATTERY BACKUP SERVICE PEDESTAL COMBINATION UNIT
SP	STREET NAME SIGN (MAST ARM MOUNTED)
SP	WAVETRONICS DETECTION SYSTEM
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES
SP	RAILROAD PREEMPTION INTERCONNECT SYSTEM AND WIRING
SP	PAN-TILT-ZOOM CAMERA SYSTEM

CITY OF LITTLE ROCK, ARKANSAS
FOURCHE DAM PIKE AND I-440 RAMPS
INDEX OF SHEETS
FOURCHE DAM PIKE AND I-440
EASTBOUND AND WESTBOUND RAMPS

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




Ernest J. Peters

2-22-2021

DRAWN BY	RMT
DESIGNED	EJP
CHECKED	EJP
DATE	2-22-2021
SCALE	NTS
PROJECT NO.	P2025 (P&A#) 19800105 (CTA#)
SHEET NO.	T-01

TRAFFIC SIGNAL NOTES

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (CURRENT EDITION) NATIONAL ELECTRICAL CODE, NFPA 101 (CURRENT EDITION) LIFE SAFETY CODE, STATE ELECTRICAL CODE AND LOCAL ELECTRICAL CODE.
- EXTEND GREEN EQUIPMENT GROUNDING CONDUCTOR (E.G.C.) FROM GROUND BAR AT MAIN BREAKER TO CONTROL PANEL AND TO FIRST POLE. SOLIDLY BOND E.G.C. TO GROUND LUG OF CONTROL CABINET AND TO POLE GROUND. ENSURE THAT ONLY ONE NEUTRAL-TO-GROUND BOND EXISTS IN THE SYSTEM AND THAT IT IS AT THE MAIN BREAKER.
- ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAIN-TIGHT BREAKER (MAIN BREAKER), GALVANIZED STEEL SERVICE RISER, METER LOOP (IF REQUIRED), AND WEATHERHEAD AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. IF THE SERVICE POINT IS OVER 10 FEET FROM THE CONTROLLER, THE CONTRACTOR SHALL PROVIDE AND INSTALL A SEPARATE TWO CIRCUIT EXTERNAL BREAKER (SECONDARY BREAKER) ON OR NEAR THE TRAFFIC SIGNAL CONTROLLER CABINET AND SHALL INSTALL CONDUIT, ELECTRICAL SERVICE WIRE (2c/#6 A.W.G. USE RATED, WITH GROUND TYPICAL), AND PERFORM WIRING TO TAP INTO THE CITY'S/COUNTY'S MAIN BREAKER AS PART OF THIS CONTRACT. CONDUIT IS PAID FOR AS A SEPARATE ITEM OF THIS CONTRACT. TWO CIRCUIT BREAKERS, CONSIDERED SUBSIDIARY TO THE CONTROL EQUIPMENT, ARE NEEDED WHERE STREET LIGHTING IS INCLUDED. AS PART OF THE SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (2c/#12 A.W.G. UF RATED, TYPICAL) SHALL BE KEPT FROM THE CIRCUIT SERVING THE TRAFFIC SIGNAL CONTROL EQUIPMENT FROM THE POINT OF TIE-IN AT THE SECONDARY BREAKER PROVIDED BY THE CONTRACTOR.
- CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE.
- TRAFFIC CONTROLLER CABINET AND LAYOUT SHALL BE SUCH THAT IT IS NOT NECESSARY TO SHUT DOWN POWER OR REMOVE LOAD SWITCHES IN ORDER TO EASILY TEST OR MODIFY DETECTOR INPUTS TO THE CONTROLLER.
- CONTROLLER CABINET SHALL BE WIRED SUCH THAT DURING FLASH OPERATIONS POWER TO THE LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUSS.
- ALL PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, STANDARD DRAWINGS AND WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION.
- CONDUIT INSTALLED UNDER ROADWAY SURFACES SHALL BE INSTALLED BY PUSHING OR BORING METHODS. IF THE ENGINEER DETERMINES THIS IS NOT FEASIBLE, THEN A TRENCHING METHOD AS SHOWN IN THE STANDARD DRAWINGS MAY BE USED.
- TRAFFIC SIGNAL POLES SHALL BE GALVANIZED. BACKPLATES SHALL BE SUPPLIED FOR ALL SIGNAL HEADS.
- PAVEMENT MARKINGS SHOWN FOR REFERENCE ONLY. SEE PERMANENT PAVEMENT MARKING DETAILS.
- FOUNDATION FOR ALL POLES SHALL BE EXTENDED IF NECESSARY TO ACCOMMODATE THE REQUIREMENTS FOR SIGNAL HEAD CLEARANCE ABOVE ROADWAY ONLY AT LOCATIONS WHERE THE GROUND ELEVATION AT THE POLE IS BELOW THE ELEVATION OF THE ROADWAY (SEE NOTES ON STANDARD DRAWING). PAYMENT WILL BE INCLUDED IN SECTION 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CURRENT EDITION.
- ALL CONCRETE PULL BOXES SHALL BE (TYPE 2 HD) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE THREE (3") INCH DIAMETER UNLESS SPECIFIED ON PLANS.
- CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.
- LED LUMINAIRE ASSEMBLIES SHALL HAVE A BUG RATING OF U0.
- HARDWARE INPUTS MAY BE DETERMINED BY SUPPLIER. EACH DETECTOR OUTPUT SHALL INPUT THE CONTROLLER THROUGH A SEPARATE INPUT UNLESS OTHERWISE NOTED AND BE PROGRAMMED TO ACTUATE THE ASSOCIATED PHASE. COMBINATION (COMB.) DETECTORS SHALL ALSO BE PROGRAMMED TO PROVIDE VEHICLE COUNT/OCCUPANCY DATA.
- THE LOCAL RADIO WITH ANTENNA SHALL BE COMPATIBLE WITH THE EXISTING CLOSED LOOP COORDINATION SYSTEM IN THE CITY/COUNTY.
- TO DETERMINE UTILITY CLEARANCES ABOVE THE TRAFFIC SIGNAL POLE, REFER TO THE POLE SCHEDULE FOR VERTICAL SHAFT HEIGHT. WHERE THE POLE SCHEDULE INDICATES THAT A LUMINAIRE ARM WILL BE USED, THIRTY-EIGHT (38') FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE LUMINAIRE ARM. WHERE THE POLE SCHEDULE INDICATES A TRAFFIC SIGNAL POLE WITHOUT A LUMINAIRE ARM, A HEIGHT OF TWENTY-ONE (21') FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE TRAFFIC SIGNAL MAST ARM. AN ADDITIONAL SIX (6') FEET SHOULD BE USED DIRECTLY ABOVE "VIDEO DETECTOR" AT LOCATIONS SHOWN ON THE SIGNAL PLANS.
- THE DESIRABLE MINIMUM DISTANCE FROM THE FACE OF ROADWAY CURB OR SHOULDER EDGE TO THE FACE OF NON-BREAKAWAY POLE OR OBSTRUCTION IS SIX (6') FEET. REFER TO TRAFFIC SIGNAL PLANS FOR SPECIFIC LOCATION OF POLES, CONTROLLER AND ANY OTHER NON-BREAKAWAY OBSTRUCTIONS. REFER TO "DESIGN PARAMETERS, MINIMUM CLEAR ZONE DISTANCE" FOR MINIMUM DISTANCE FROM THE EDGE OF TRAVELED WAY TO THE FACE OF A NON-BREAKAWAY POLE OR OBSTRUCTION. TRAFFIC SIGNAL POLES OR ANY OTHER NON-BREAKAWAY OBSTRUCTION SHALL NOT BE INSTALLED WITHIN THE CLEAR ZONE.
- AS DETERMINED BY THE ENGINEER, FOUNDATION EMBEDMENT MAY BE DECREASED BY A MAXIMUM OF TWO FEET IF COMPETENT ROCK IS ENCOUNTERED PRIOR TO ACHIEVING PLAN EMBEDMENT AND AT LEAST HALF OF THE REMAINING PLAN EMBEDMENT LENGTH IS KEYED INTO COMPETENT ROCK.
- CONNECTION OF TRAFFIC SIGNAL DISPLAY TO FIELD WIRING SHALL UTILIZE AN APPROVED TERMINAL STRIP BEHIND HAND-HOLE COVER AT BASE OF POLE. TERMINAL STRIP SHALL PROVIDE PROTECTION TO PREVENT EXPOSURE TO THE PUBLIC IN THE EVENT THAT POLE COVER IS MISSING. PAYMENT FOR TERMINAL STRIPS SHALL BE INCLUDED IN ITEM 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CURRENT EDITION.
- CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO IMSA STANDARDS.
- TRAFFIC SIGNAL CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER OR ASSIGNED DEPARTMENT PROJECT INSPECTOR EACH DAY PRIOR TO SIGNAL RELATED WORK. NO WORK ON TRAFFIC SIGNALS WILL BE ALLOWED OR APPROVED WITHOUT THIS PRIOR NOTIFICATION.
- ALL STEEL POLES SHALL BE DESIGNED TO MEET THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4th EDITION (2001) WITH 2003 AND 2006 INTERIMS.
- DOOR PANEL TEST PUSH BUTTONS SHALL ACTUATE INDICATED PHASES. DETECTOR ASSIGNMENTS AND/OR SIDE PANEL JUMPERS MAY REQUIRE MODIFICATION.
- ALL SYSTEM DETECTOR RACKS AND ASSOCIATED EQUIPMENT SHALL BE PROTECTED BY THE MAIN CONTROLLER CABINET POWER SURGE PROTECTION.
- IN PULL BOXES, POLE BASES, JUNCTION BOXES AND CONTROLLER CABINETS, THE DIRECTION OF EACH CABLE RUN SHALL BE INDICATED BY ATTACHING A PERMANENT TAG OF RIGID PLASTIC OR NON-FERROUS METAL TO THE CONDUIT. TAGS SHALL BE EMBOSSED, STAMPED OR ENGRAVED WITH LETTERS 1/4" OR GREATER IN HEIGHT AND SECURED TO THE CONDUIT WITH NYLON OR PLASTIC TIES. IN INSTANCES WHERE THE CONDUIT OR CONDUIT ENTRANCES ARE NOT VISIBLE OR ACCESSIBLE, A DIRECTION TAG SHALL BE ATTACHED TO EACH CABLE.
- THE CONTRACTOR SHALL PERFORM ALL WORK POSSIBLE THAT WILL MINIMIZE THE TIME THAT THE TRAFFIC SIGNAL IS OUT OF OPERATION. IF, IN THE OPINION OF THE ENGINEER, TRAFFIC CONDITIONS WARRANT THE CONTRACTOR SHALL PROVIDE FLAGMEN TO DIRECT TRAFFIC WHILE THE TRAFFIC SIGNAL IS OUT OF OPERATION.
- ALL NON-METALLIC CONDUIT RUNS SHALL HAVE BELL RING FITTINGS INSTALLED ON THE TERMINATING ENDS OF THE CONDUIT. THIS INCLUDES PULL BOXES, POLE BASES, AND TRAFFIC SIGNAL CABINETS.
- ALL CONCRETE PULL BOXES SHALL BE SET ON A GRAVEL OR CRUSHED STONE BEDDING AS SPECIFIED IN SECTION 711, CONCRETE PULL BOX, OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014.

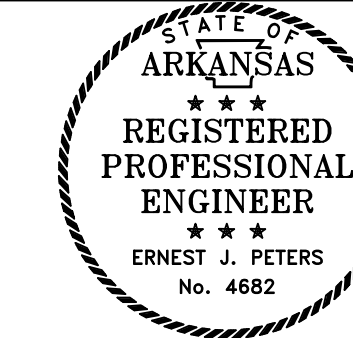
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ADDITIONAL SIGNAL NOTES

- CONTRACTOR TO CALL ONE-CALL TO LOCATE UTILITIES BEFORE CONSTRUCTION.
- ALL CONDUIT SHOWN ON PLANS IS 3" NON-METALLIC UNLESS NOTED OTHERWISE. ALL BORED CONDUIT MATERIAL SHALL BE POLYETHYLENE WITH NO UNDERGROUND SPLICES.
- THERE SHALL BE NO DEVIATION FROM THIS PLAN WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER.
- CONTRACTOR SHALL FIELD VERIFY ALL POLE AND MAST ARM LOCATIONS WITH REGARD TO HORIZONTAL PLACEMENT FOR CLEARANCE FROM UTILITIES AND OTHER APPURTENANCES AND VERIFY VERTICAL CLEARANCE FOR POLE SHAFT AND MAST ARM FOR ABSENCE OF CONFLICT WITH OVERHEAD UTILITIES AND OTHER APPURTENANCES. CONTRACTOR SHALL OBTAIN APPROVAL OF PERMITTING JURISDICTIONS PRIOR TO ORDERING POLES AND MAST ARMS.
- IF DEVIATION FROM THIS PLAN IS NECESSARY, ENGINEER SHALL BE NOTIFIED AND FINAL REVISED LOCATIONS OF POLES AND MAST ARMS SHALL BE DOCUMENTED.
- HAND HOLE COVERS TO BE METAL.
- SURVEY, STREET IMPROVEMENTS AND PAVEMENT MARKINGS SHOWN ON PLANS BY CRAFTON, TULL & ASSOCIATES, INC.
- ETHERNET SWITCH T100/1000 HARDENED CISCO INDUSTRIAL ETHERNET (IE) 3000 SERIES (SPECIFIC MODEL TO BE APPROVED BY CITY OF LITTLE ROCK) TO BE PROVIDED.
- DESIGN AND LAYOUT OF 18" STREET NAME SIGNS TO BE MOUNTED ON MAST ARMS SHALL BE PROVIDED TO THE CITY FOR APPROVAL PRIOR TO FABRICATION AND MOUNTING.
- AN EMERGENCY BATTERY BACKUP SYSTEM (BBS) (MODEL 27-22 BBS TESCO BATTERY BACK-UP SERVICE PEDESTAL COMBINATION UNIT WITH FULL CONDITIONED POWER), FOR A TRAFFIC SIGNAL CONTROL AND COMMUNICATIONS EQUIPMENT WITH BATTERIES, MOUNTED INSIDE A SEPARATE EQUIPMENT CABINET OF THE TYPE AND SIZE CALLED FOR AT THE LOCATION SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER, AND SHALL BE PROVIDED AND CONFORM TO THE PROJECT SPECIAL PROVISION SPECIFICATIONS. BATTERY BACK-UP AND SERVICE PEDESTAL TO BE ONE UNIT.
- MASTER RADIO WILL BE LOCATED AT THE INTERSECTION OF FOURCHE DAM PIKE AND LINDSEY ROAD WITH FIBER OPTIC CONNECTION FROM THE FOURCHE DAM PIKE AND I-440 EASTBOUND AND WESTBOUND INTERSECTIONS.
- THE CITY OF LITTLE ROCK WILL CONSIDER A REQUEST FOR A CHANGE ORDER TO ALLOW SUBSTITUTION BY THE CONTRACTOR (AFTER CONTRACT IS AWARDED) OF RHYTHM HAWKEYE DETECTION SYSTEM INSTEAD OF WAVETRONICS DETECTION SYSTEM IF NO CONTRACT COST CHANGE IS INVOLVED. THIS REQUEST WOULD REQUIRE DOCUMENTATION OF ACCEPTABLE TECHNICAL AND PERFORMANCE SPECIFICATIONS AND ACCEPTANCE BY THE CITY OF LITTLE ROCK.

RAILROAD PREEMPTION NOTES

- INCLUDE 20C WIRE IN 2" NON-METALLIC CONDUIT TO RAILROAD'S BUNGALOW.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING OF THE SIGNAL CONTROLLER AS NECESSARY FOR THE RAILROAD PREEMPTION.
- CONTRACTOR MUST THOROUGHLY INSPECT AND TEST THE FUNCTIONALITY OF THE TRAFFIC SIGNAL CONTROLLER AND FIRMWARE SOFTWARE TO ENSURE ADVANCED RAILROAD PREEMPTION FEATURES ARE PROVIDED.
- CONTRACTOR TO PROVIDE INTERCONNECTION CIRCUITS BETWEEN THE TRAFFIC SIGNAL CONTROLLER AND THE RAILROAD WARNING SYSTEM.
- CONTRACTOR TO REVIEW THE PREEMPTION OPERATION OF THE TRAFFIC SIGNAL CONTROLLER AND MAKE THE APPROPRIATE MODIFICATIONS. TRACK CLEARANCE SHALL BE IN ACCORDANCE WITH TRAFFIC SIGNAL PREEMPTION AT HIGHWAY RAIL GRADE CROSSING FORM THAT HAS BEEN APPROVED BY ARDOT AND SHALL BE THE NUMBER OF SECONDS SHOWN ON LINE 51.
- CONTRACTOR TO VERIFY TIMING AND ENSURE THE THE ACTUAL RIGHT-OF-WAY TRANSFER TIME DURING RAILROAD PREEMPTION DOES NOT EXCEED THE DESIGN VALUE. ALL RAILROAD RELATED TIMING SHALL BE IN ACCORDANCE WITH TRAFFIC SIGNAL PREEMPTION AT HIGHWAY RAIL GRADE CROSSING FORM THAT HAS BEEN APPROVED BY ARDOT.
- CONTRACTOR TO PROGRAM THE CONTROLLER FOR RAILROAD PREEMPTION TO HAVE CAPABILITY FOR TRAIN RESTART.
- CONTRACTOR TO IMPLEMENT A MAXIMUM PREEMPTION TIMER. ALL RAILROAD RELATED CIRCUITS SHALL BE INSTALLED AND TESTED. REFER TO ARDOT RAILROAD PREEMPTION INTERCONNECT SYSTEM SPECIAL PROVISION.
- CONTRACTOR TO INCLUDE THE ELECTRICAL ARRANGEMENT WITH MID-SOUTH RAILROAD SERVICE OF THE CIRCUITS AS A PART OF THE INTERCONNECTION. THE RAILROAD REQUEST FORM SHOWS CIRCUITS FOR THIS LOCATION).
- CONTRACTOR TO PROVIDE THE INTERCONNECTION CIRCUITS BETWEEN THE TRAFFIC SIGNAL CONTROLLER AND THE RAILROAD WARNING SYSTEM AND TO ENSURE THE INTERCONNECTION CABLE HAS ADEQUATE NUMBER OF CONDUCTORS FOR THE CIRCUITS REQUESTED. THE TRAFFIC SIGNAL CONTROLLER ADVANCE PREEMPTION CIRCUIT BEGINS THE PREEMPTION SEQUENCE WHEN THE RAILROAD WARNING SYSTEM FIRST NOTIFIES THE TRAFFIC SIGNAL CONTROLLER OF THE APPROACHING TRAIN.
- CONTRACTOR TO INSTALL A WARNING LABEL AS RECOMMENDED BY THE U.S. DEPARTMENT OF TRANSPORTATION HIGHWAY-RAIL GRADE CROSSING TECHNICAL WORKING GROUP (USDOT TWG) IN THE TRAFFIC SIGNAL CONTROLLER CABINET TO ALERT TRAFFIC SIGNAL TECHNICIANS TO THE PRESENCE OF THE INTERCONNECTION WITH THE RAILROAD CONTROL EQUIPMENT.
- THE SIGNAL CONTROLLER MANUFACTURER SHALL CONFORM THE TRAFFIC SIGNAL CONTROLLER CAPABILITIES FOR TRAIN RESTART.
- REVIEW TRAFFIC SIGNAL CONTROLLER CAPABILITIES FOR TRAIN RESTART. DUE TO THE POTENTIAL OF TRAIN STOPPING AND RESTARTING WITHIN THE APPROACH OF THE CROSSING, THE TRAFFIC SIGNAL CONTROLLER MAY NOT BE ABLE TO TRANSITION BACK TO THE TRACK CLEARANCE INTERVAL TO PROVIDE A SUFFICIENT AMOUNT OF TIME TO CLEAR THE DESIGN VEHICLE (WB-67). MODIFICATIONS OR ADDITIONAL LOGIC MAY BE NEEDED FOR THE TRAFFIC SIGNAL CONTROLLER TO PROVIDE THE TRANSITION TO THE TRACK CLEARANCE INTERVAL DURING THE EVENT.
- TIE INTO 9"x12" ALUMINUM BOX AT THE RAILROAD CONTROLLER.
- HIGHWAY-RAIL GRADE CROSSING TRAFFIC SIGNAL PREEMPTION HAS BEEN AGREED UPON AND A REQUEST FORM HAS BEEN REVIEWED AND AGREED UPON BY THE CITY AND LITTLE ROCK PORT (MID-SOUTH RR SERVICES).
- PLANS FOR WIRING CIRCUITS LABELS, WIRING AND ASSOCIATED PREEMPTION CIRCUIT PROVIDED BY MID-SOUTH RR SERVICES.
- THE FORM "GUIDE FOR DETERMINING TIME REQUIREMENTS FOR TRAFFIC SIGNAL PREEMPTION AT HIGHWAY RAIL GRADE CROSSINGS" HAS BEEN SUBMITTED TO ARDOT. THE TRAFFIC SIGNAL CONTROLLER SHALL BE COMPATIBLE WITH THE RAILROAD PREEMPTION INTERCONNECT SYSTEM.

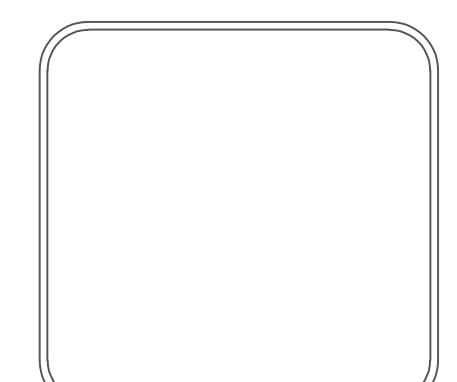


2-22-2021

REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE AND I-440 RAMP
 NOTES
 FOURCHE DAM PIKE AND I-440
 EASTBOUND AND WESTBOUND RAMP

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



DRAWN BY RMT
DESIGNED EJP
CHECKED EJP
DATE 2-22-2021
SCALE NTS
PROJECT NO. P2025 (P&A#) 19800105 (CTA#)
SHEET NO. T-02

100% SUBMITTAL

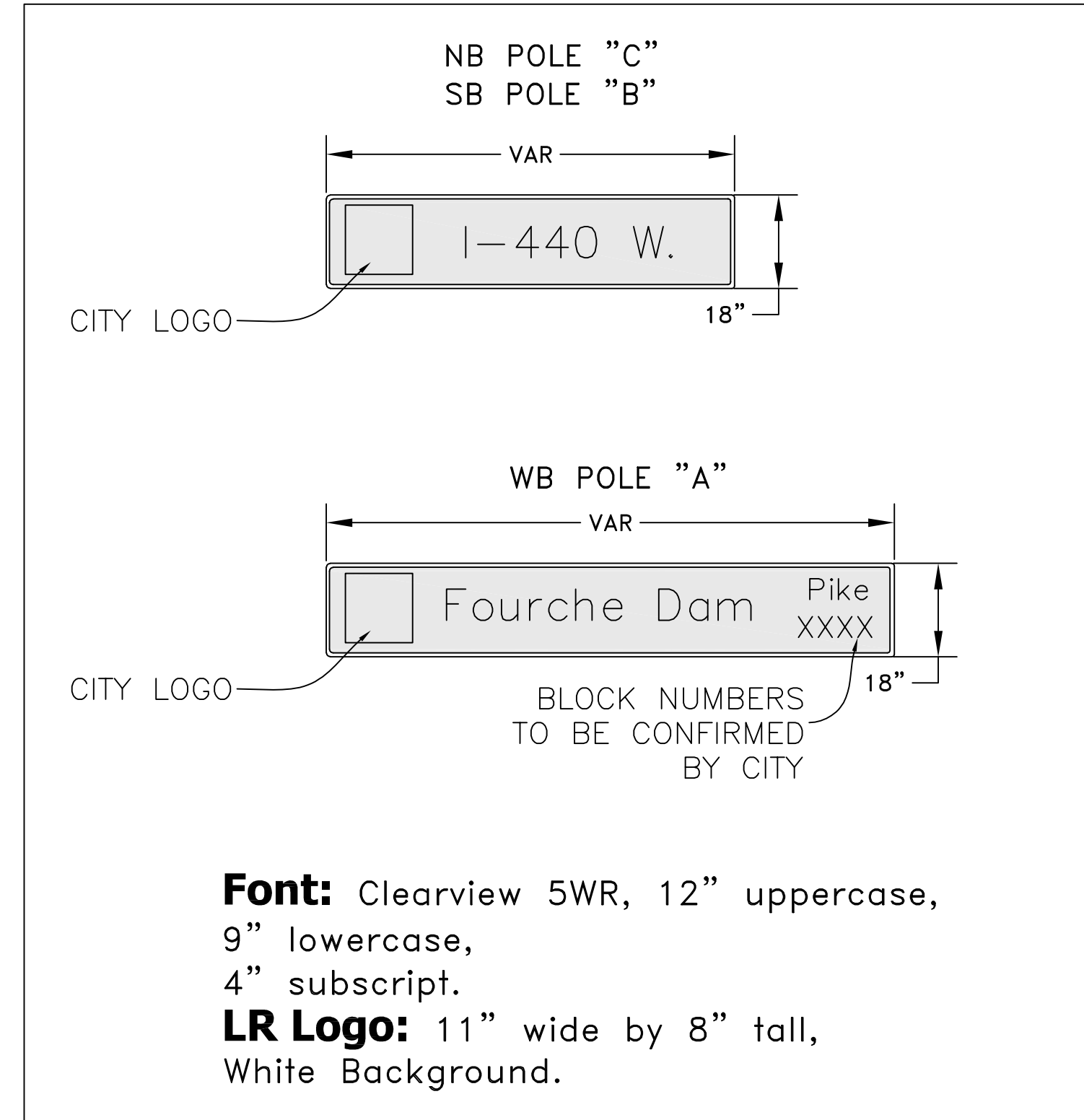
REVISIONS	DATE

SUMMARY OF QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
601	MOBILIZATION	1	LUMP SUM
SS & 603	MAINTENANCE OF TRAFFIC	1	LUMP SUM
SP & 701	SYSTEM LOCAL CONTROLLER TS2-TYPE 2 (8-PHASE)	1	EACH
SP&701	ETHERNET SWITCH, T100/1000 HARDENED CISCO INDUSTRIAL (IE) 3000 SERIES	1	EACH
SP	PTZ CAMERA SYSTEM AND WRING	1	EACH
706	TRAFFIC SIGNAL HEAD LED (3-SECTION, 1-WAY)	8	EACH
708	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G., E.G.C.)	30	LIN. FT.
708	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	380	LIN. FT.
708	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)	200	LIN. FT.
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	521	LIN. FT.
708	TRAFFIC SIGNAL CABLE (6C/14 A.W.G.)	708	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	65	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	600	LIN. FT.
710	HDPR NON-METALLIC CONDUIT (3")	260	LIN. FT.
710	HDPR NON-METALLIC CONDUIT (2")	460	LIN. FT.
710	HDPR NON-METALLIC CONDUIT (1.25")	20	LIN. FT.
711	CONCRETE PULL BOX (TYPE 2HD)	5	EACH
714	LED LUMINAIRE ASSEMBLY	3	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (40')	1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (46')	1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (50')	1	EACH
SP&715	TESCO BATTERY BACK-UP SERVICE PEDESTAL COMBINATION UNIT (MODEL 27-22BBS)	1	EACH
715	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH
SP & 726	18" STREET NAME SIGN	3	EACH
SP	WAVETRONIX DETECTION SYSTEM (MATRIX AND ADVANCE) (CLICK 656)	1	LUMP SUM
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	455	LIN. FT.
SP	FIBER OPTIC CABLE, 72F	460	LIN. FT.

QUANTITIES NOTES
 QUANTITIES SHOWN ARE FOR REVIEW PURPOSES ONLY AND ARE NOT INTENDED TO BE QUANTITIES UPON WHICH CONTRACTOR PRICING TO OWNER TO BE BASED.

STREET SIGN DETAILS



CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE AND I-440 RAMPS
 SUMMARY OF QUANTITIES
 FOURCHE DAM PIKE AND I-440 WESTBOUND RAMP

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

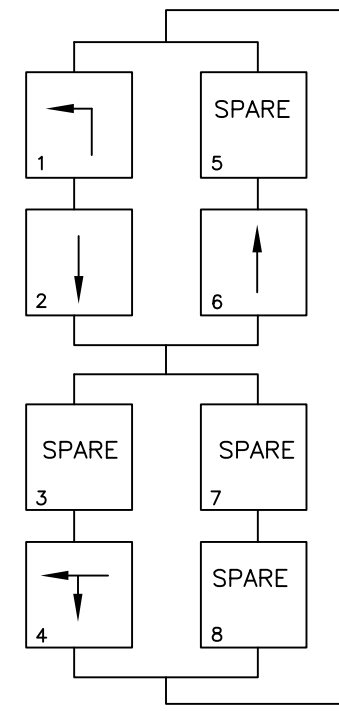


Ernest J. Peters

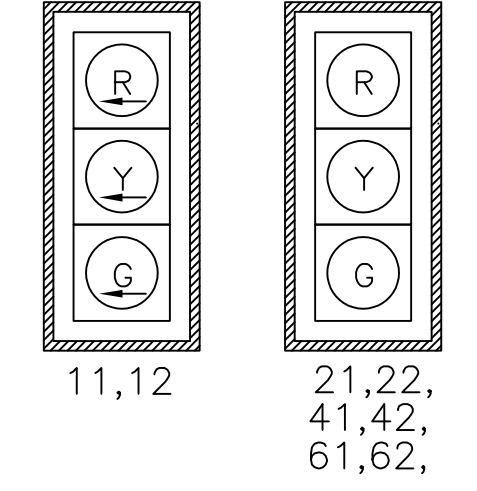
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 PROJECT NO.
 P2025 (P&A#)
 19800105 (CTA#)
 SHEET NO.
T-03

PHASING DIAGRAM



SIGNAL DISPLAY



NOTES:
 1. ALL SIGNAL HEADS SHALL HAVE METAL BACKPLATES.
 2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

100% SUBMITTAL

TRAFFIC SIGNAL LEGEND

- TRAFFIC SIGNAL CONTROLLER
- PULL BOX
- 3" NON-METALLIC CONDUIT
- 2" NON-METALLIC CONDUIT
- 1.25" NON-METALLIC CONDUIT
- MAST ARM AND POLE
- SIGNAL HEAD
- SIGNAL POLE NUMBER 'n'
- LUMINAIRE
- TRAFFIC SIGN
- WAVETRONIX MATRIX STOP BAR RADAR SENSOR
- WAVETRONIX ADVANCED RADAR SENSOR
- PTZ CAMERA

WAVETRONIX NOTE:
 A SITE SURVEY WILL NEED TO BE CONDUCTED BY THE INSTALLATION CREW BEFORE INSTALLING SENSORS TO INSURE NO FIELD CONFLICTS. SENSORS MAY NEED TO BE RELOCATED DEPENDING ON THE ACTUAL FIELD ADJUSTMENT. IF NEEDED, PLEASE CONTACT WAVETRONIX ABOUT ANY NEEDED CONFLICTS WITH PLACEMENT OR RELOCATION.

PAVEMENT MARKING NOTE:
 SEE PLANS BY CRAFTON TULL & ASSOCIATES, INC. FOR ROADWAY IMPROVEMENTS AND PAVEMENT MARKINGS.

EQUIPMENT NOTES

1. THE POSITION OF THE DETECTION ZONES MAY BE FIELD ADJUSTED TO ACHIEVE MAXIMUM EFFICIENCY IN COUNT DATA AND VEHICLE ACTUATION, AS APPROVED BY THE ENGINEER.
2. ALL CONDUIT 3" NON-METALLIC UNLESS OTHERWISE SPECIFIED ON PLANS.
3. ALL TRAFFIC SIGNAL HEADS SHALL BE LED WITH THE LATEST ARDOT SPECIFICATION.
4. MASTER RADIO WILL BE LOCATED AT THE INTERSECTION OF FOURCHE DAM PIKE AND LINDSEY ROAD WITH FIBER OPTIC CONNECTION FROM THE FOURCHE DAM PIKE AND I-440 EASTBOUND AND WESTBOUND RAMPS INTERSECTIONS

POLE - MAST ARM SCHEDULE

POLE	TYPE	MAST ARM LENGTH	POLE HEIGHT	MA DEGREES CW FROM HANDHOLE	LED STREETLIGHT ARM CW FROM HANDHOLE	X-COORD	Y-COORD
A	ARDOT	40'	35'	270°	25' ARM W/ LED @ 180°	1255360.1199	139695.1019
B	ARDOT	50'	35'	270°	25' ARM W/ LED @ 270°	1255360.2030	139584.2788
C	ARDOT	46'	35'	180°	25' ARM W/ LED @ 180°	1255470.5769	139729.9243

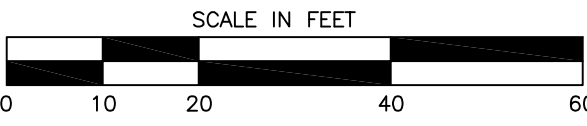
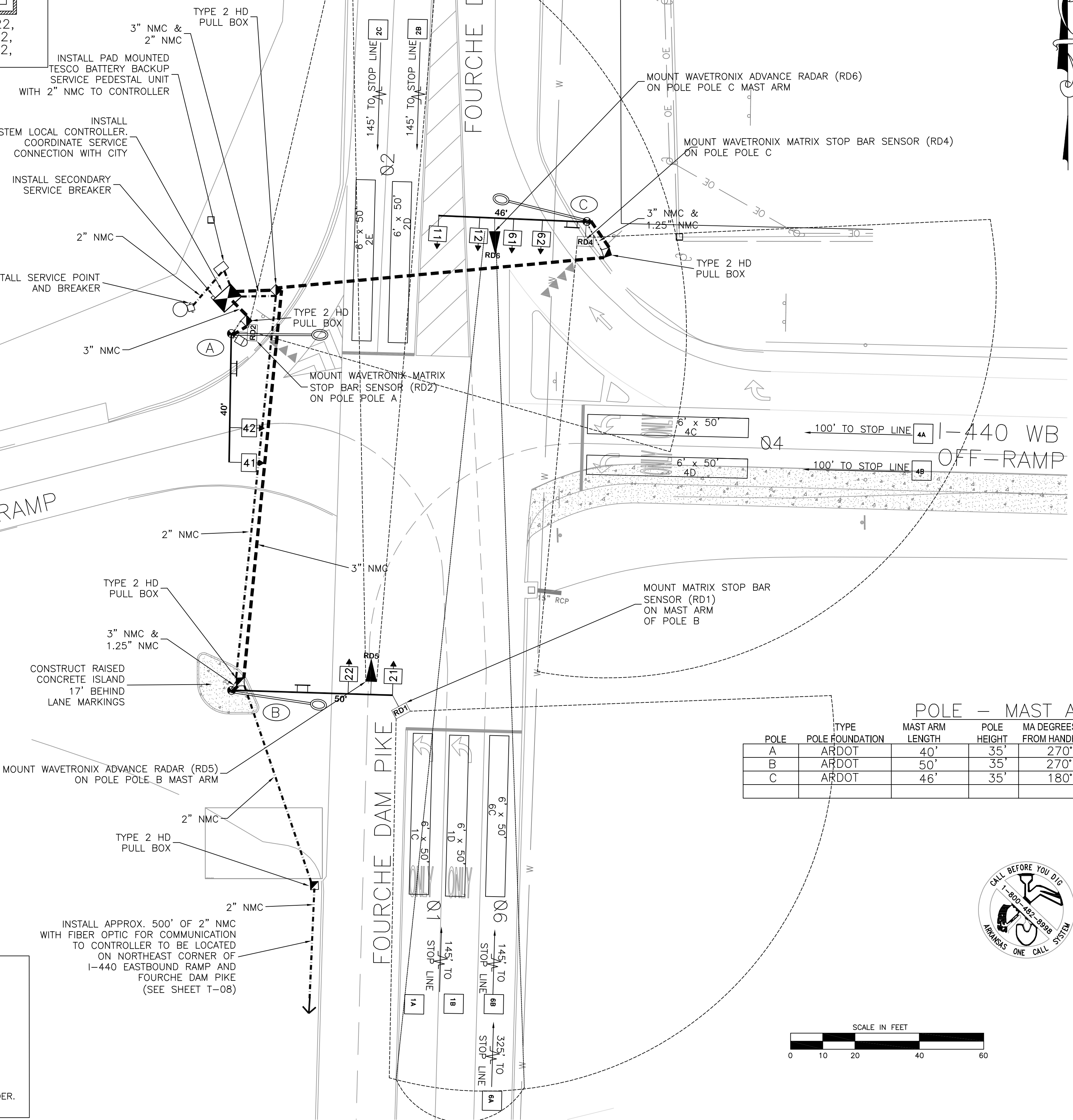
DETECTOR SPACING CHART

FOURCHE DAM PIKE		
POSTED SPEED	DISTANCE FROM STOP LINE	LEAD LAG
40 MPH	325'	145'
I-440 WB OFF-RAMP		
POSTED SPEED	DISTANCE FROM STOP LINE	LEAD LAG
25 MPH (assumed)	100'	N/A

DESIGN PARAMETERS
 POSTED SPEED LIMIT:
 40 MPH NORTHBOUND AND SOUTHBOUND APPROACHES
 25 MPH (ASSUMED) WESTBOUND APPROACH

NO RAILROAD TRACKS
 NO BUS STOPS
 NO FIRE STATION
 NO PARKING
 NO SIGHT DISTANCE RESTRICTIONS

MINIMUM CLEAR ZONE DISTANCE:
 4 FEET BEHIND CURB
 6:1 SLOPE OR FLATTER-16 FEET BEHIND LANE LINE WITH SHOULDER.
 4:1 OR 5:1 SLOPE-18 FEET BEHIND LANE LINE WITH SHOULDER.



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REVISIONS

NO.	DATE	DESCRIPTION

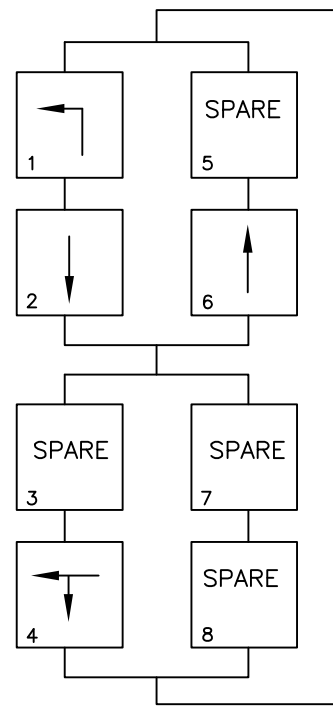
CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE AND I-440 RAMPS
 TRAFFIC SIGNAL PLAN
 FOURCHE DAM PIKE AND I-440 WESTBOUND RAMP

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

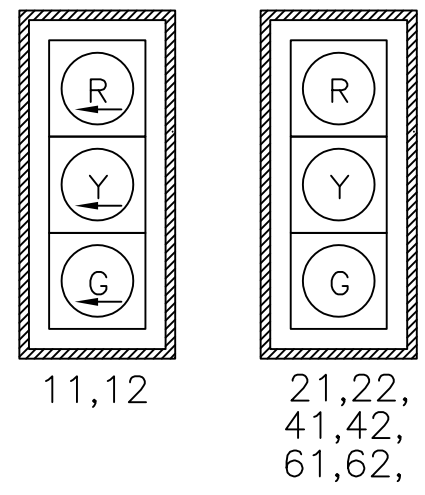
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 SCALE
 1"=20'

PROJECT NO.
 P2025 (P&A#)
 19800106 (CTA#)
 SHEET NO.
T-04

PHASING DIAGRAM



SIGNAL DISPLAY



NOTES:
 1. ALL SIGNAL HEADS SHALL HAVE METAL BACKPLATES.
 2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

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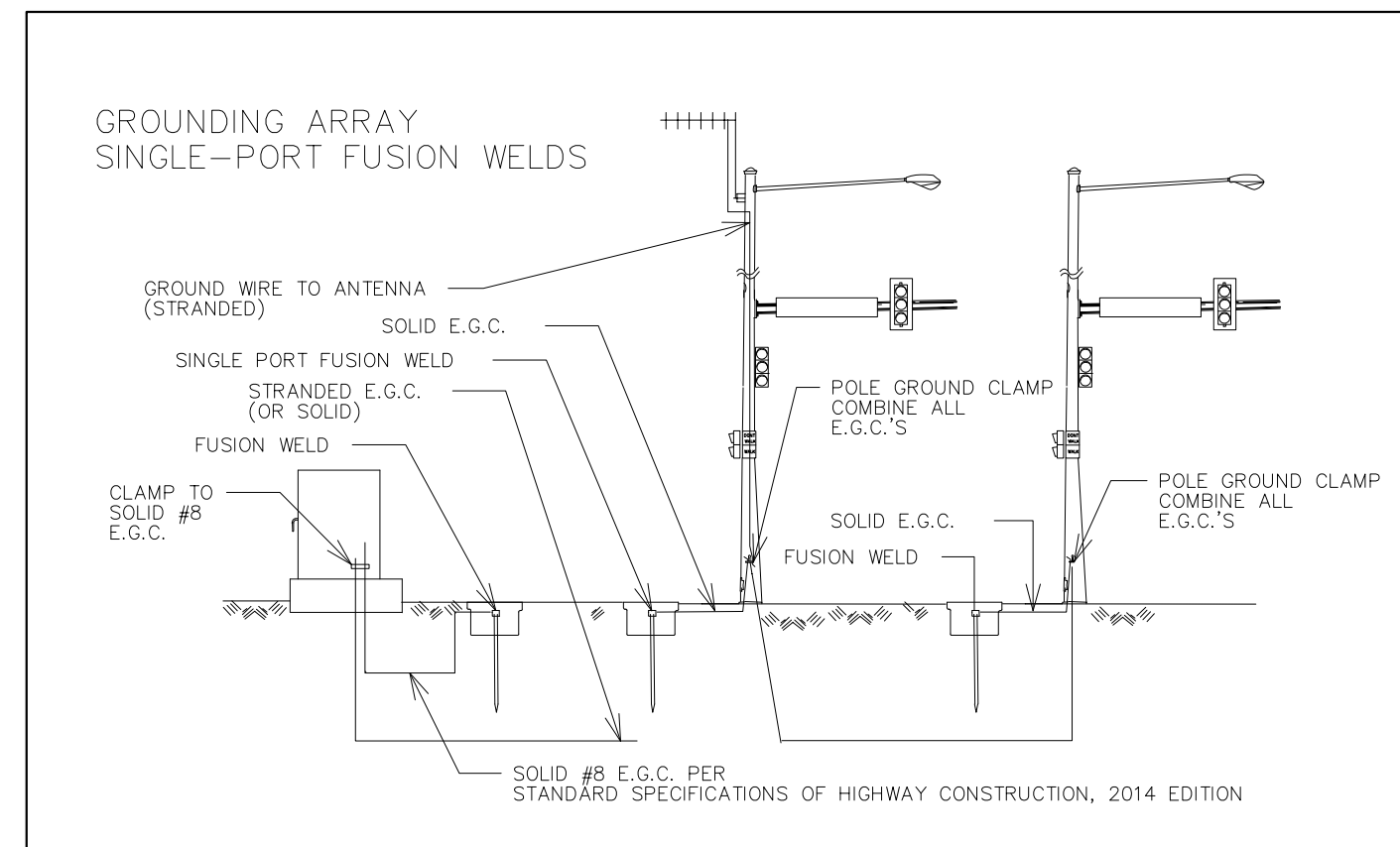
TRAFFIC SIGNAL LEGEND

- TRAFFIC SIGNAL CONTROLLER
- PULL BOX
- 3" NON-METALLIC CONDUIT
- 2" NON-METALLIC CONDUIT
- 1.25" NON-METALLIC CONDUIT
- MAST ARM AND POLE
- SIGNAL HEAD
- SIGNAL POLE NUMBER 'n'
- LUMINAIRE
- TRAFFIC SIGN
- WAVETRONIX MATRIX STOP BAR RADAR SENSOR
- WAVETRONIX ADVANCED RADAR SENSOR
- PTZ CAMERA

I-440 WB ON-RAMP

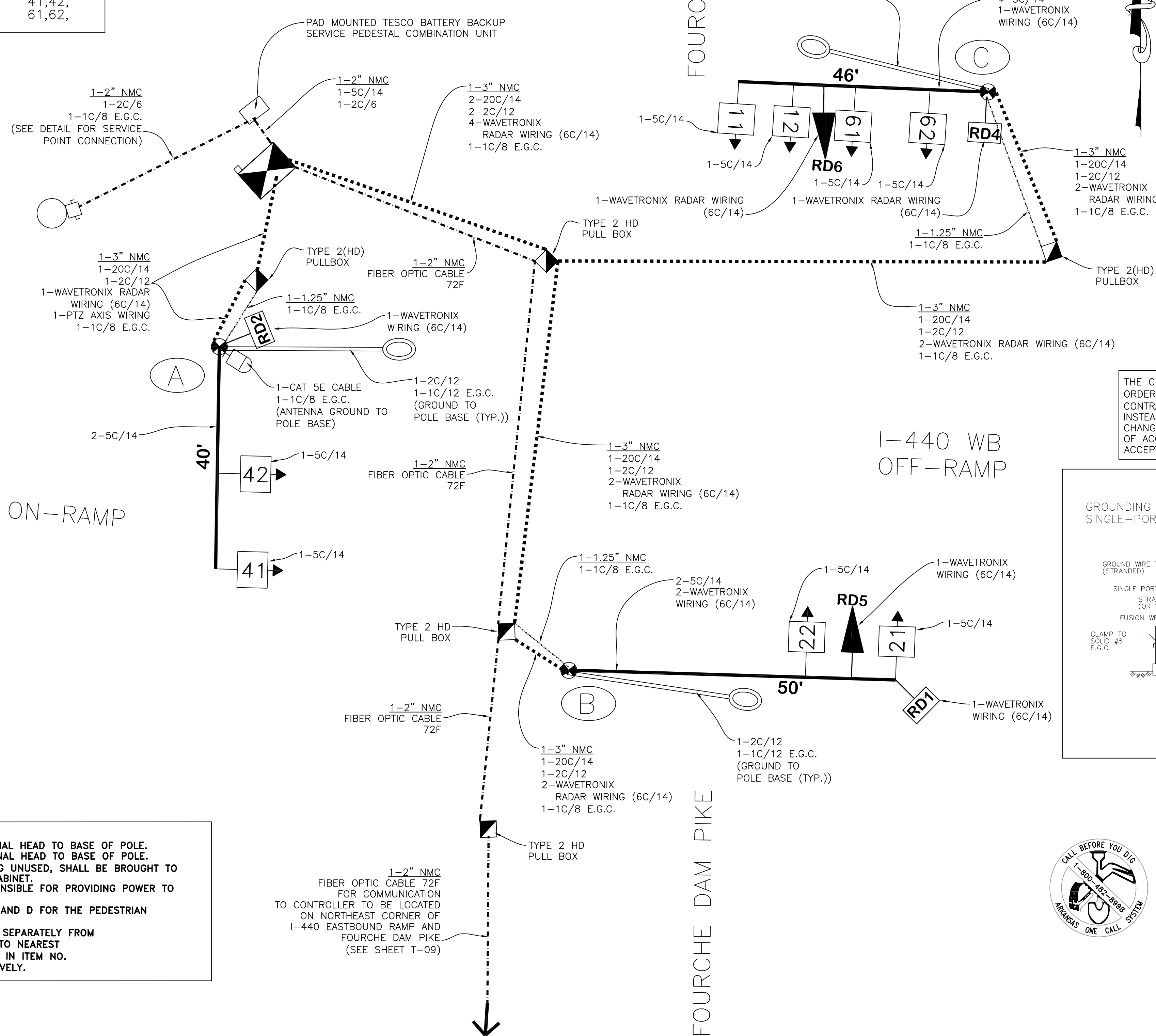
I-440 WB OFF-RAMP

THE CITY OF LITTLE ROCK WILL CONSIDER A REQUEST FOR A CHANGE ORDER TO ALLOW SUBSTITUTION BY THE CONTRACTOR (AFTER CONTRACT IS AWARDED) OF RHYTHM HAWKEYE DETECTION SYSTEM INSTEAD OF WAVETRONIX DETECTION SYSTEM IF NO CONTRACT COST CHANGE IS INVOLVED. THIS REQUEST WOULD REQUIRE DOCUMENTATION OF ACCEPTABLE TECHNICAL AND PERFORMANCE SPECIFICATIONS AND ACCEPTANCE BY THE CITY OF LITTLE ROCK.



TYPICAL WIRING INCLUDES:
 1. SEPARATE 5C/14 FROM EACH 3-SEC SIGNAL HEAD TO BASE OF POLE.
 2. SEPARATE 7C/14 FROM EACH 4-SEC SIGNAL HEAD TO BASE OF POLE.
 3. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA ON CABINET.
 4. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.
 5. ONE SEPARATE 1-5C IS RUN TO POLE C AND D FOR THE PEDESTRIAN PUSH BUTTON.
 1-1C/8 E.G.C. SHOWN SEPARATELY FROM CONTROLLER OR POLE TO NEAREST PULL BOX IS INCLUDED IN ITEM NO. 701 OR 714, RESPECTIVELY.

1-2" NMC FIBER OPTIC CABLE 72F FOR COMMUNICATION TO CONTROLLER TO BE LOCATED ON NORTHEAST CORNER OF I-440 EASTBOUND RAMP AND FOURCHE DAM PIKE (SEE SHEET T-09)



REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE AND I-440 RAMPS
 TRAFFIC SIGNAL WIRING PLAN
 FOURCHE DAM PIKE AND I-440 WESTBOUND RAMP

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



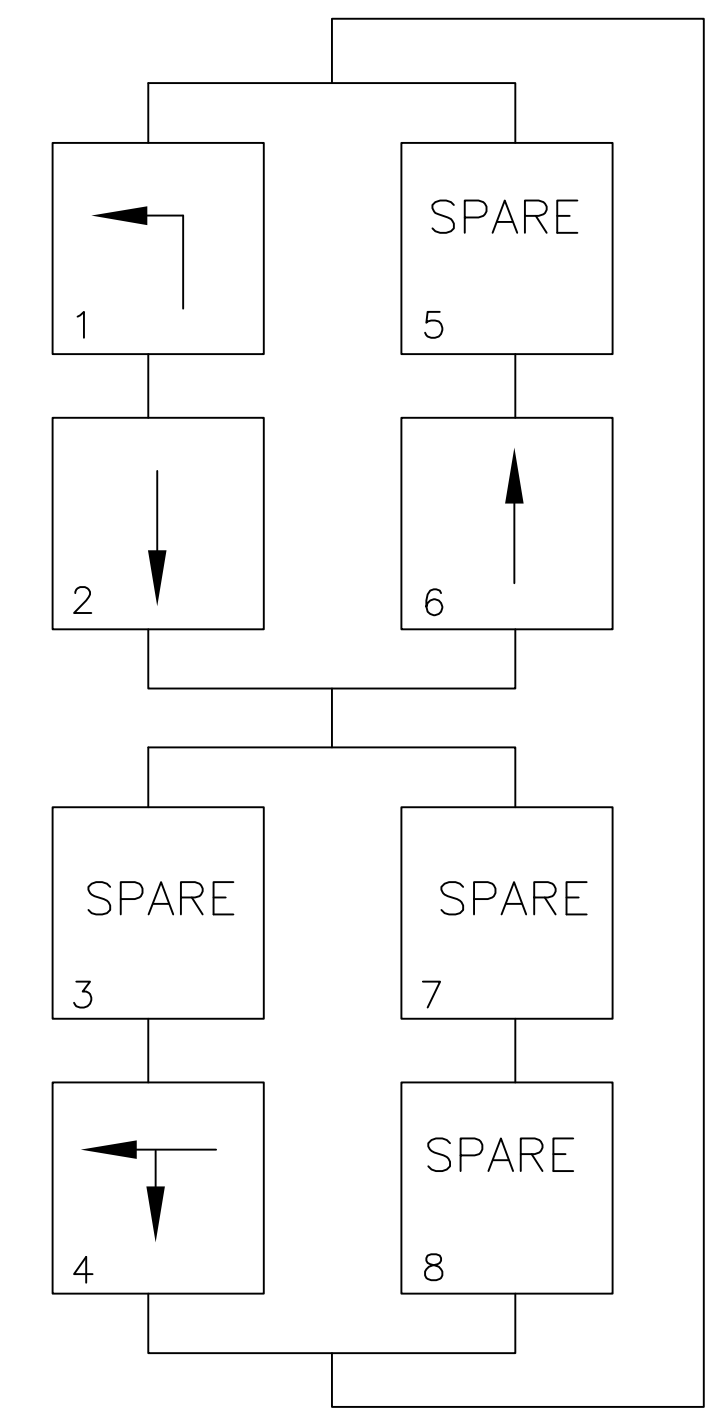
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 SHEET NO.
T-05

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REVISIONS	DATE

PHASING DIAGRAM



INTERVAL CHART

SIGNAL FACES	FDP AND I-440 WB RAMPS						FLASH SEQ.
	1+6	CLR.	2+6	CLR.	4	CLR.	
11&12	←G	←Y	←R	←R	←R	←R	←R
21&22	R	R	G	Y	R	R	R
41&42	R	R	R	R	G	Y	R
61&62	G	**	G	**	R	R	R

** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE

DETECTOR CHART

RADAR DETECTOR SYSTEM DESCRIPTION FOURCHE DAM PIKE AND I-440 WESTBOUND RAMP DETECTOR ASSIGNMENTS CHART		
DET. ZONE ID #	DETECTOR #	ZONE LOCATION
1A & 1B	RD6	NB LEFT TURN FAR
1C & 1D	RD1	NB LEFT TURN STOP LINE
2A	RD5	SB ADVANCE
2B & 2C	RD5	SB NEAR
2E & 2F	RD2	SB STOP LINE
4A & 4B	RD4	WB ADVANCE
4C & 4D	RD4	WB NEAR
6A	RD6	NB ADVANCE
6B	RD6	NB NEAR
6C	RD1	NB STOP LINE

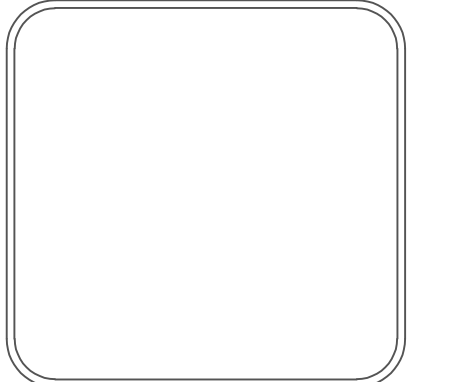
CITY OF LITTLE ROCK, ARKANSAS
FOURCHE DAM PIKE AND I-440 RAMPS
TRAFFIC SIGNAL CHARTS
FOURCHE DAM PIKE AND I-440 WESTBOUND RAMP

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



Ernest J. Peters

2-22-2021



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PROJECT NO. P2025 (P&A#) 19800106 (CTA#)
SHEET NO. T-06

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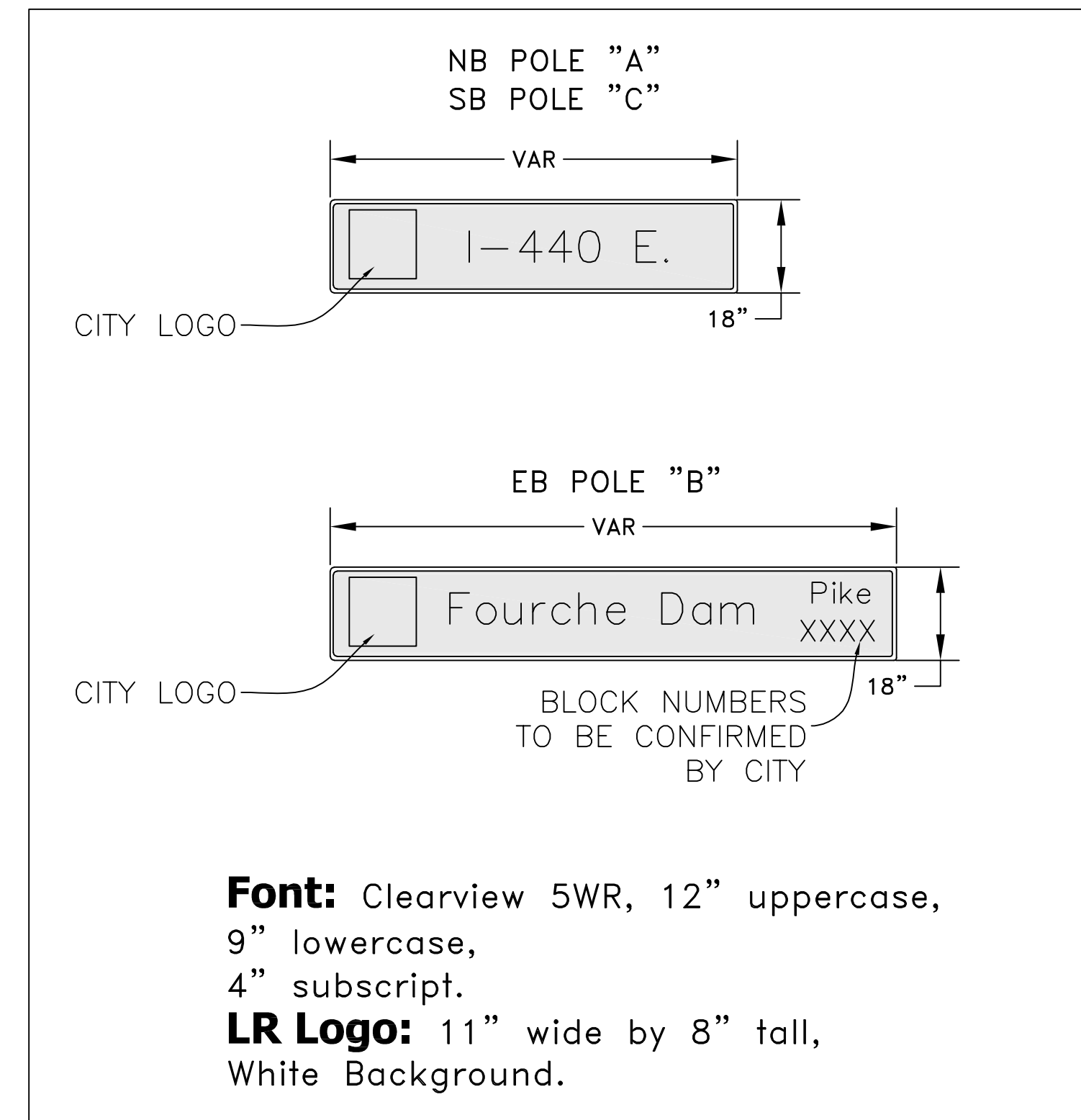
REVISIONS	DATE

SUMMARY OF QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
601	MOBILIZATION	1	LUMP SUM
SS & 603	MAINTENANCE OF TRAFFIC	1	LUMP SUM
SP & 701	SYSTEM LOCAL CONTROLLER TS2-TYPE 2 (8-PHASE)	1	EACH
SP&701	ETHERNET SWITCH, T100/1000 HARDENED CISCO INDUSTRIAL (IE) 3000 SERIES	1	EACH
SP	PTZ CAMERA SYSTEM AND WIRING	1	EACH
706	TRAFFIC SIGNAL HEAD LED (3-SECTION, 1-WAY)	6	EACH
706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	1	EACH
708	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G., E.G.C.)	210	LIN. FT.
708	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	440	LIN. FT.
708	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)	200	LIN. FT.
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	375	LIN. FT.
708	TRAFFIC SIGNAL CABLE (6C/14 A.W.G.)	905	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	60	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	315	LIN. FT.
710	HDPR NON-METALLIC CONDUIT (3")	280	LIN. FT.
710	HDPR NON-METALLIC CONDUIT (2")	1,610	LIN. FT.
710	HDPR NON-METALLIC CONDUIT (1.25")	20	LIN. FT.
711	CONCRETE PULL BOX (TYPE 2HD)	8	EACH
714	LED LUMINAIRE ASSEMBLY	3	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (32')	1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (42')	1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (46')	1	EACH
SP&715	TESCO BATTERY BACK-UP SERVICE PEDESTAL COMBINATION UNIT (MODEL 27-22BBS)	1	EACH
715	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH
SP & 726	18" STREET NAME SIGN	3	EACH
SP	WAVETRONIX DETECTION SYSTEM (MATRIX AND ADVANCE) (CLICK 656)	1	LUMP SUM
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	460	LIN. FT.
SP	RAILROAD PREEMPTION INTERCONNECT SYSTEM AND WIRING	1	EACH
SP	BELDEN 4C/14 A.W.G.	430	LIN. FT.
SP	FIBER OPTIC CABLE, 72F	1,130	LIN. FT.

QUANTITIES NOTES
 QUANTITIES SHOWN ARE FOR REVIEW PURPOSES ONLY AND ARE NOT INTENDED TO BE QUANTITIES UPON WHICH CONTRACTOR PRICING TO OWNER TO BE BASED.

STREET SIGN DETAILS



CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE AND I-440 RAMPS
 SUMMARY OF QUANTITIES
 FOURCHE DAM PIKE AND I-440 EASTBOUND RAMP

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

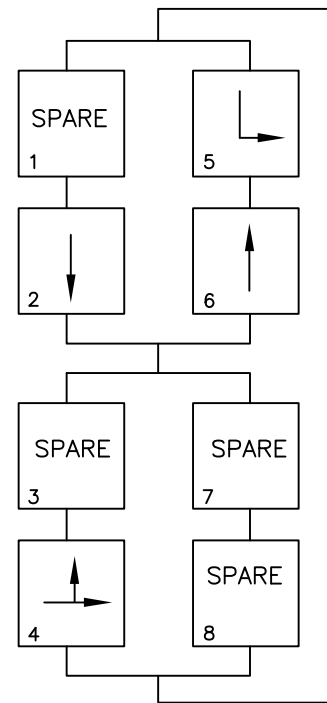


Ernest J. Peters

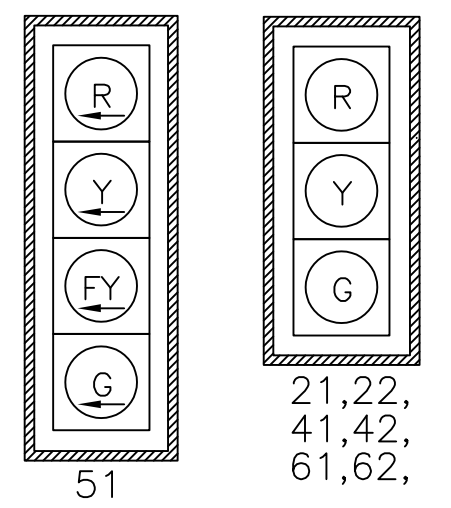
2-22-2021

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 EJP
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 EJP
 DATE
 2-22-2021
 SCALE
 NTS
 PROJECT NO.
 P2025 (P&A#)
 19800105 (CTA#)
 SHEET NO.
T-07

PHASING DIAGRAM



SIGNAL DISPLAY



NOTES:

1. ALL SIGNAL HEADS SHALL HAVE METAL BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

INSTALL APPROX. 500' OF 2" NMC WITH FIBER OPTIC COMMUNICATION TO CONTROLLER TO BE LOCATED ON NORTHWEST CORNER OF I-440 WESTBOUND RAMP AND FOURCHE DAM PIKE (SEE SHEET T-04)

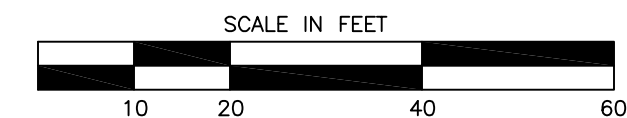
POLE - MAST ARM SCHEDULE

POLE	TYPE	MAST ARM LENGTH	POLE HEIGHT	MA DEGREES CW FROM HANDHOLE	LED STREETLIGHT ARM CW FROM HANDHOLE	X-COORD	Y-COORD
A	ARDOT	32'	35'	180°	25' ARM W/ LED @ 180°	1255452.5264	139157.9303
B	ARDOT	42'	35'	180°	25' ARM W/ LED @ 180°	1255457.5489	139055.2463
C	ARDOT	46'	35'	270°	15' ARM W/ LED @ 180°	1255360.0173	139077.6338

100% SUBMITTAL

TRAFFIC SIGNAL LEGEND

- TRAFFIC SIGNAL CONTROLLER
- PULL BOX
- 3" NON-METALLIC CONDUIT
- 2" NON-METALLIC CONDUIT
- 1.25" NON-METALLIC CONDUIT
- MAST ARM AND POLE
- SIGNAL HEAD
- SIGNAL POLE NUMBER 'n'
- LUMINAIRE
- TRAFFIC SIGN
- WAVETRONIX MATRIX STOP BAR RADAR SENSOR
- WAVETRONIX ADVANCED RADAR SENSOR
- PTZ CAMERA



WAVETRONIX NOTE:
A SITE SURVEY WILL NEED TO BE CONDUCTED BY THE INSTALLATION CREW BEFORE INSTALLING SENSORS TO INSURE NO FIELD CONFLICTS. SENSORS MAY NEED TO BE RELOCATED DEPENDING ON THE ACTUAL FIELD ADJUSTMENT. IF NEEDED, PLEASE CONTACT WAVETRONIX ABOUT ANY NEEDED CONFLICTS WITH PLACEMENT OR RELOCATION.

PAVEMENT MARKING NOTE:
SEE PLANS BY CRAFTON TULL & ASSOCIATES, INC. FOR ROADWAY IMPROVEMENTS AND PAVEMENT MARKINGS.

- EQUIPMENT NOTES**
1. THE POSITION OF THE DETECTION ZONES MAY BE FIELD ADJUSTED TO ACHIEVE MAXIMUM EFFICIENCY IN COUNT DATA AND VEHICLE ACTUATION, AS APPROVED BY THE ENGINEER.
 2. ALL CONDUIT 3" NON-METALLIC UNLESS OTHERWISE SPECIFIED ON PLANS.
 3. ALL TRAFFIC SIGNAL HEADS SHALL BE LED WITH THE LATEST ARDOT SPECIFICATION.
 4. MASTER RADIO WILL BE LOCATED AT THE INTERSECTION OF FOURCHE DAM PIKE AND LINDSEY ROAD WITH FIBER OPTIC CONNECTION FROM THE FOURCHE DAM PIKE AND I-440 EASTBOUND AND WESTBOUND RAMP INTERSECTIONS

I-440 EB OFF-RAMP

I-440 EB ON-RAMP

FOURCHE DAM PIKE

FOURCHE DAM PIKE

DETECTOR SPACING CHART

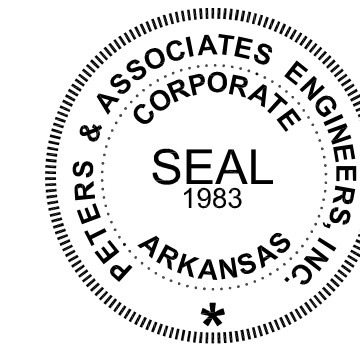
NB FOURCHE DAM PIKE		
POSTED SPEED	DISTANCE FROM STOP LINE LEAD	LAG
40 MPH	325'	145'
SB FOURCHE DAM PIKE		
POSTED SPEED	DISTANCE FROM STOP LINE LEAD	LAG
40 MPH	325'	145'
I-440 EB OFF-RAMP		
POSTED SPEED	DISTANCE FROM STOP LINE LEAD	LAG
25 MPH (assumed)	100'	N/A

DESIGN PARAMETERS
POSTED SPEED LIMIT:
40 MPH NORTHBOUND AND SOUTHBOUND APPROACHES
25 MPH (ASSUMED) EASTBOUND APPROACH

RAILROAD TRACKS
NO BUS STOPS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

MINIMUM CLEAR ZONE DISTANCE:
4 FEET BEHIND CURB.
6:1 SLOPE OR FLATTER-16 FEET BEHIND LANE LINE WITH SHOULDER.
4:1 OR 5:1 SLOPE-18 FEET BEHIND LANE LINE WITH SHOULDER.

INSTALL APPROX. 180' OF 2" NMC TO RAILROAD CONTROLLER TO BE LOCATED ON NE CORNER OF FOURCHE DAM PIKE AND RAILROAD TRACK.
NOTE:
CITY OF LITTLE ROCK HAS DEVELOPED RAILROAD PREEMPTION TIMING SETTING WHICH WILL BE MADE AVAILABLE FOR INPUT TO THE SIGNAL CONTRACTOR.



Ernest J. Peters

2-22-2021

REVISIONS DATE

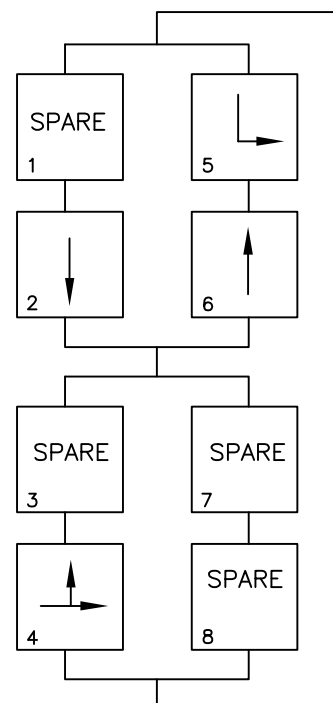
CITY OF LITTLE ROCK, ARKANSAS
FOURCHE DAM PIKE AND I-440 RAMPS
TRAFFIC SIGNAL PLAN
FOURCHE DAM PIKE AND I-440 EASTBOUND RAMP

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

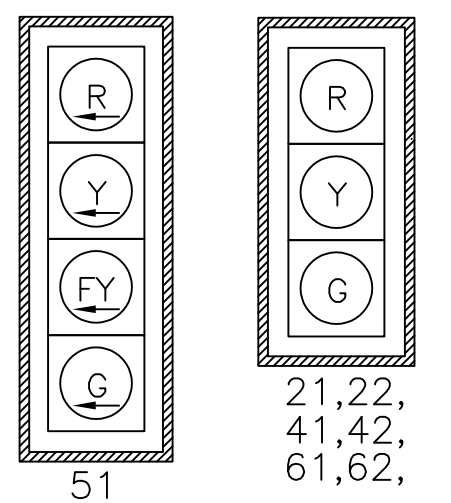
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RMT
DESIGNED
EJP
CHECKED
EJP
DATE
2-22-2021
SCALE
1"=20'

PROJECT NO.
P2025 (P&A#)
19800106 (CTA#)
SHEET NO.
T-08

PHASING DIAGRAM



SIGNAL DISPLAY



NOTES: 1. ALL SIGNAL HEADS SHALL HAVE METAL BACKPLATES. 2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

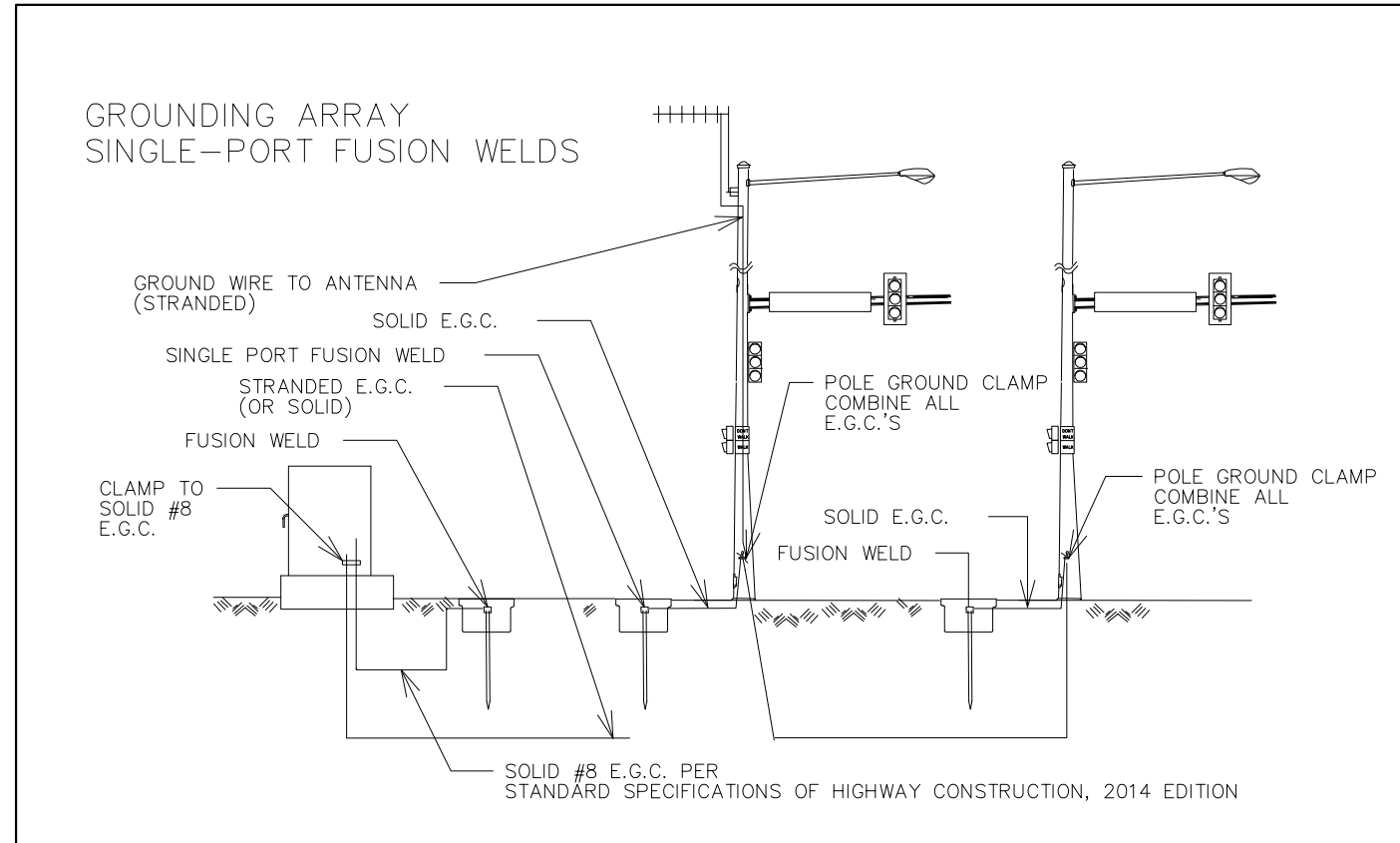
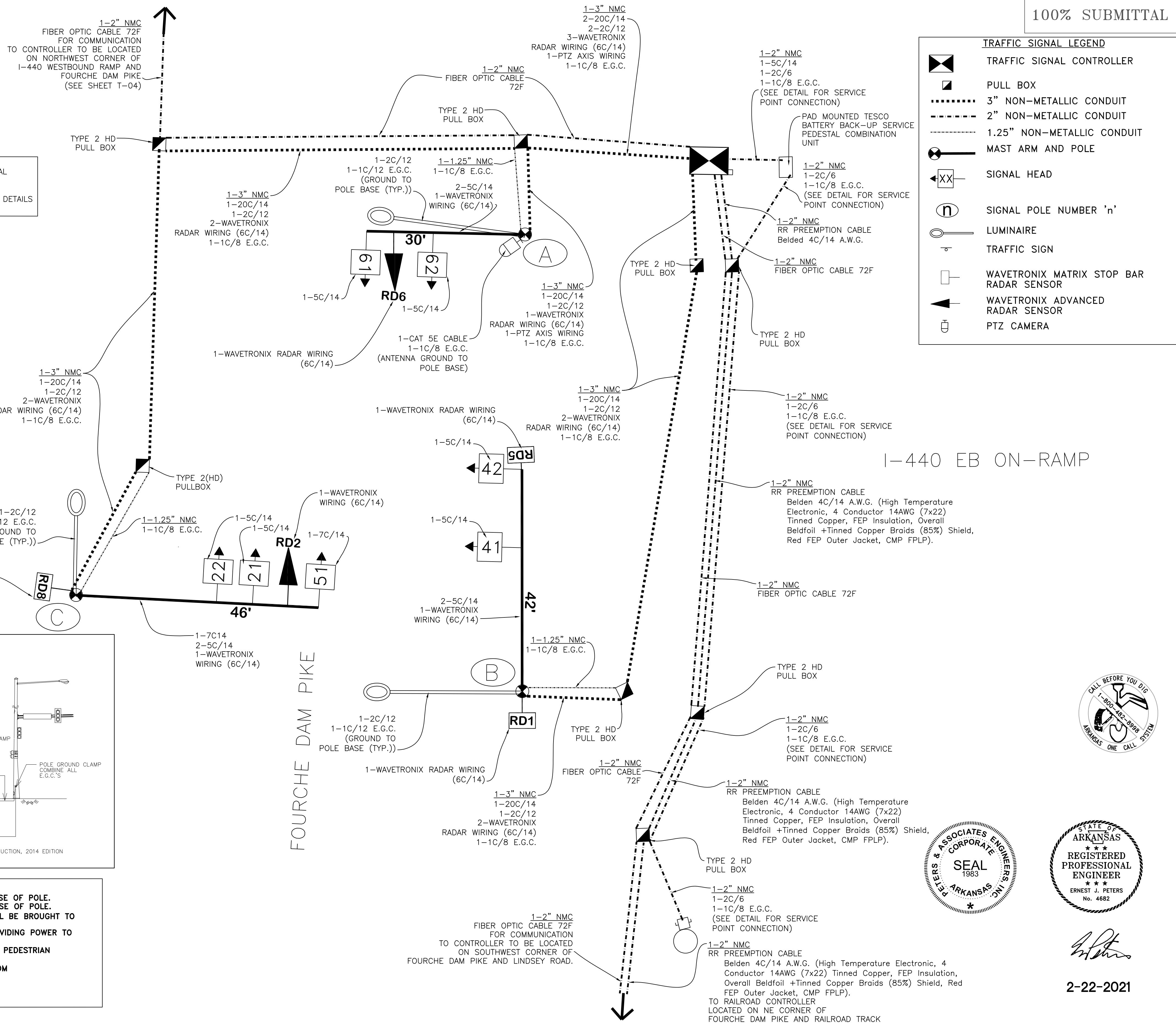


I-440 EB OFF-RAMP

I-440 EB ON-RAMP

100% SUBMITTAL

TRAFFIC SIGNAL LEGEND table listing symbols for traffic signal controller, pull box, conduit types, mast arm and pole, signal head, signal pole number 'n', luminaire, traffic sign, wavetronix matrix stop bar radar sensor, wavetronix advanced radar sensor, and PTZ camera.

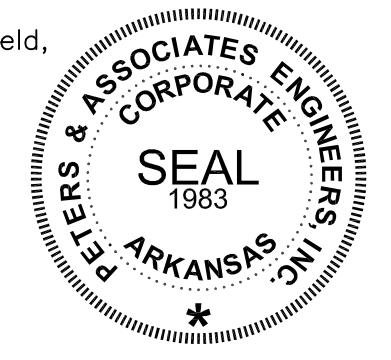


TYPICAL WIRING INCLUDES: 1. SEPARATE 5C/14 FROM EACH 3-SEC SIGNAL HEAD TO BASE OF POLE. 2. SEPARATE 7C/14 FROM EACH 4-SEC SIGNAL HEAD TO BASE OF POLE. 3. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA ON CABINET. 4. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT. 5. ONE SEPARATE 1-5C IS RUN TO POLE C AND D FOR THE PEDESTRIAN PUSH BUTTON. 1-1C/8 E.G.C. SHOWN SEPARATELY FROM CONTROLLER OR POLE TO NEAREST PULL BOX IS INCLUDED IN ITEM NO. 701 OR 714, RESPECTIVELY.

REVISIONS DATE table with two empty columns.

CITY OF LITTLE ROCK, ARKANSAS
FOURCHE DAM PIKE AND I-440 RAMPS
TRAFFIC SIGNAL WIRING PLAN
FOURCHE DAM PIKE AND I-440 EASTBOUND RAMP

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



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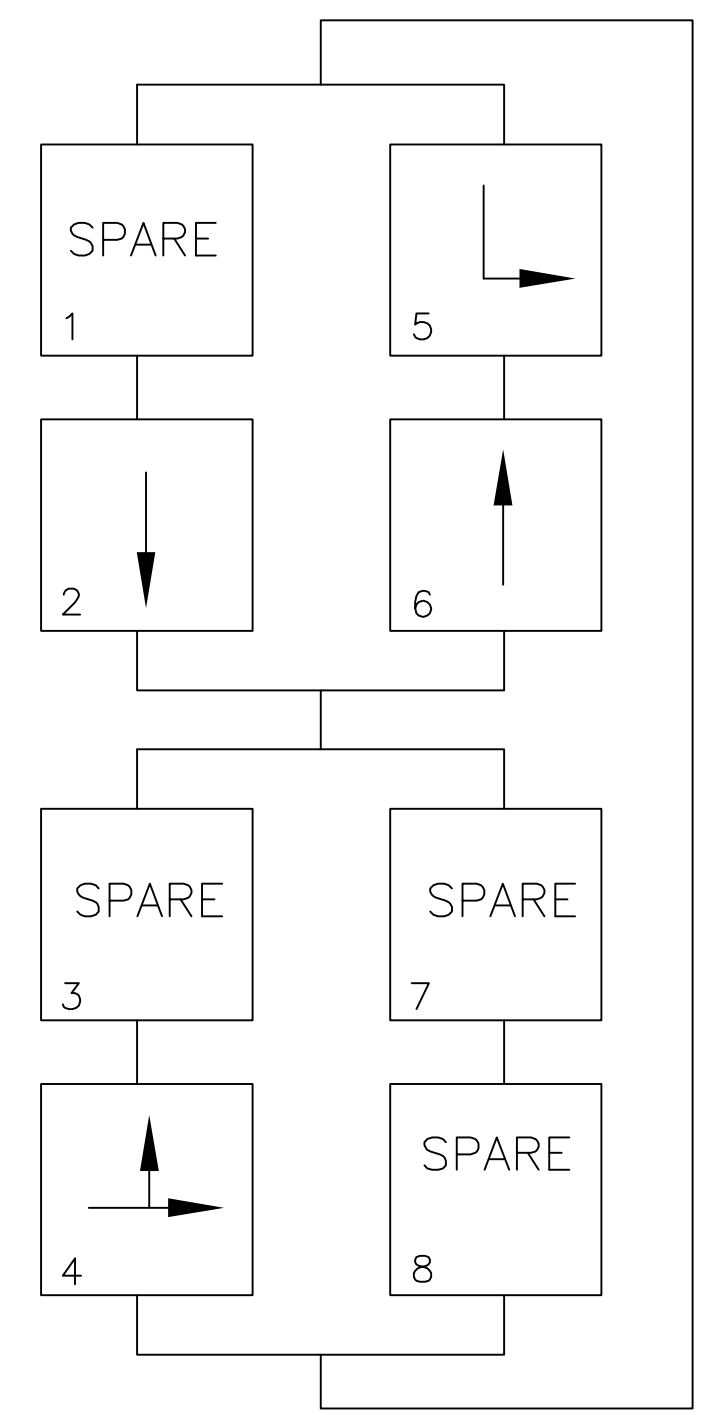
2-22-2021

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DESIGNED EJP
CHECKED EJP
DATE 2-22-2021
SCALE NTS
PROJECT NO. P2025 (P&A#) 19800106 (CTA#)
SHEET NO. T-09

100% SUBMITTAL

REVISIONS	DATE

PHASING DIAGRAM



DETECTOR CHART

RADAR DETECTOR SYSTEM DESCRIPTION FOURCHE DAM PIKE AND I-440 EASTBOUND RAMP DETECTOR ASSIGNMENTS CHART		
DET. ZONE ID #	DETECTOR #	ZONE LOCATION
2A & 2B	RD2	SB ADVANCE
2C & 2D	RD2	SB NEAR
2E & 2F	RD5	SB STOP LINE
5A	RD2	SB LEFT TURN FAR
5B	RD5	SB LEFT TURN STOP LINE
6A & B	RD6	NB ADVANCE
6C & D	RD6	NB NEAR
6E & F	RD1	NB STOP LINE
4A	RD8	EB FAR
4B	RD8	EB STOP LINE

INTERVAL CHART

FOURCHE DAM PIKE AND I-440 EASTBOUND RAMP											
SIGNAL FACES	NORMAL CYCLE						RAILROAD PREEMPTION				FLASH SEQ.
	2+5	CLR.	2+6	CLR.	4	CLR.	6	CLR.	4	CLR.	
21&22	G	**	G	**	R	R	R	R	R	R	R
51	←G	←Y	←FY	***	←R	←R	←R	←R	←R	←R	←R
41&42	R	R	R	R	G	Y	R	R	G	Y	R
61&62	R	R	G	Y	R	R	G	Y	R	R	R

** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
 *** DENOTES FLASHING YELLOW ARROW OR YELLOW ARROW DEPENDING ON NEXT PHASE
 CLEAR = CLEAR INTERVAL
 DWELL = DWELL INTERVAL

CITY OF LITTLE ROCK, ARKANSAS
 FOURCHE DAM PIKE AND I-440 RAMP
 TRAFFIC SIGNAL CHARTS
 FOURCHE DAM PIKE AND I-440 EASTBOUND RAMP

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



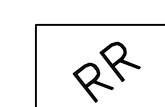


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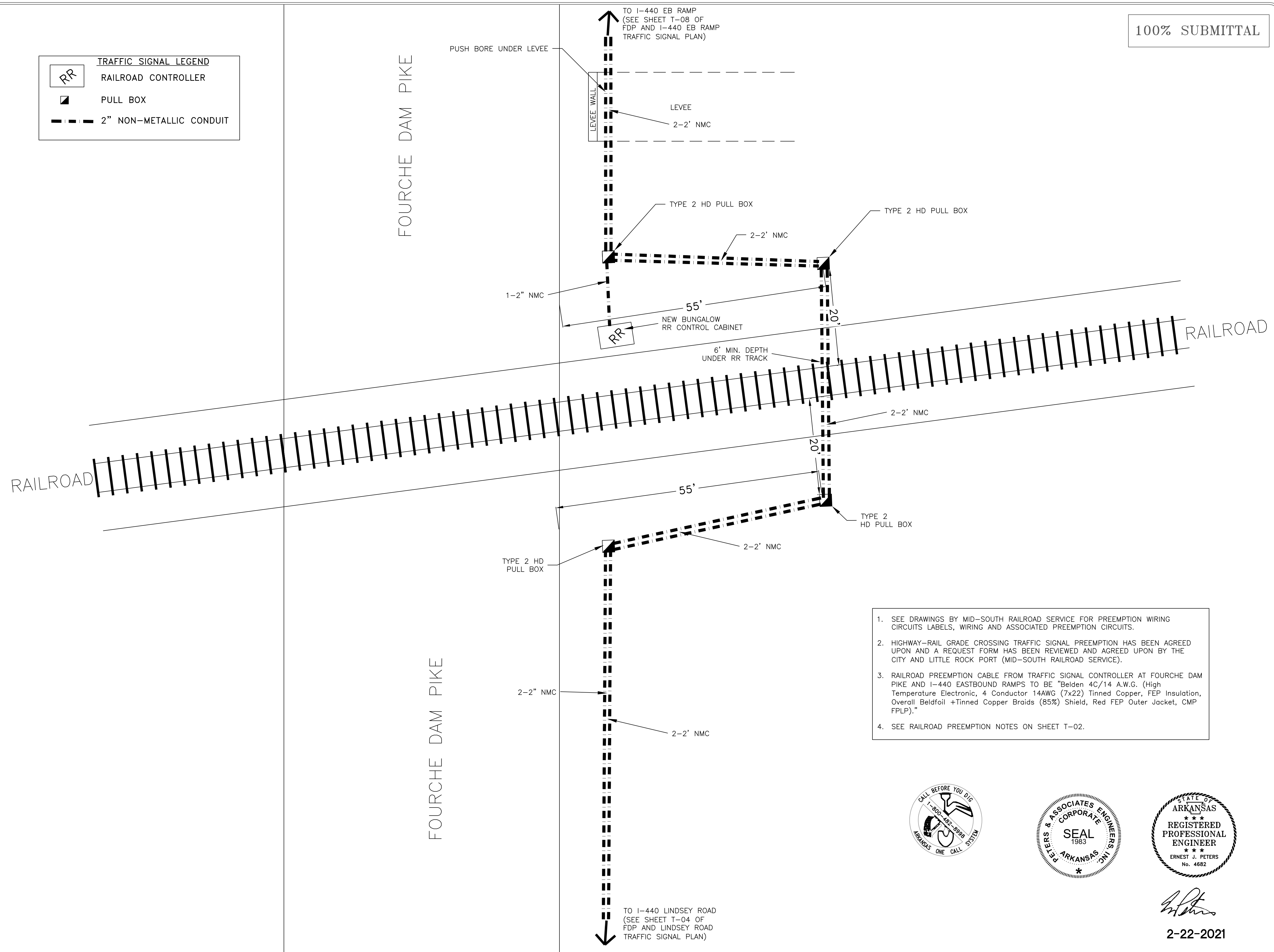
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 DATE
 2-22-2021
 SCALE
 NTS
 PROJECT NO.
 P2025 (P&A#)
 19800106 (CTA#)
 SHEET NO.
T-10

100% SUBMITTAL

TRAFFIC SIGNAL LEGEND

-  RAILROAD CONTROLLER
-  PULL BOX
-  2" NON-METALLIC CONDUIT



1. SEE DRAWINGS BY MID-SOUTH RAILROAD SERVICE FOR PREEMPTION WIRING CIRCUITS LABELS, WIRING AND ASSOCIATED PREEMPTION CIRCUITS.
2. HIGHWAY-RAIL GRADE CROSSING TRAFFIC SIGNAL PREEMPTION HAS BEEN AGREED UPON AND A REQUEST FORM HAS BEEN REVIEWED AND AGREED UPON BY THE CITY AND LITTLE ROCK PORT (MID-SOUTH RAILROAD SERVICE).
3. RAILROAD PREEMPTION CABLE FROM TRAFFIC SIGNAL CONTROLLER AT FOURCHE DAM PIKE AND I-440 EASTBOUND RAMP TO BE "Belden 4C/14 A.W.G. (High Temperature Electronic, 4 Conductor 14AWG (7x22) Tinned Copper, FEP Insulation, Overall Beldfoil +Tinned Copper Braids (85%) Shield, Red FEP Outer Jacket, CMP FPLP)."
4. SEE RAILROAD PREEMPTION NOTES ON SHEET T-02.




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2-22-2021

REVISIONS	DATE

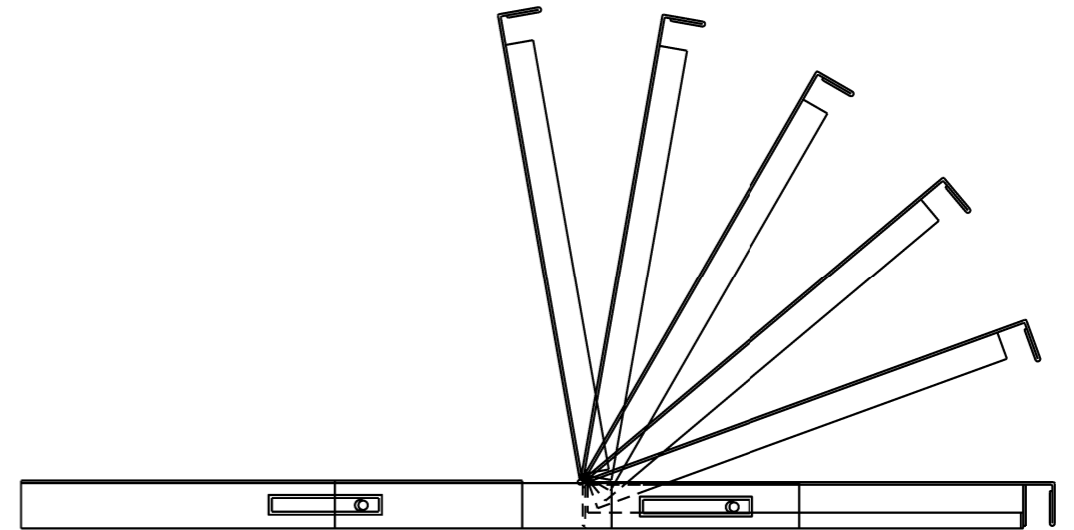
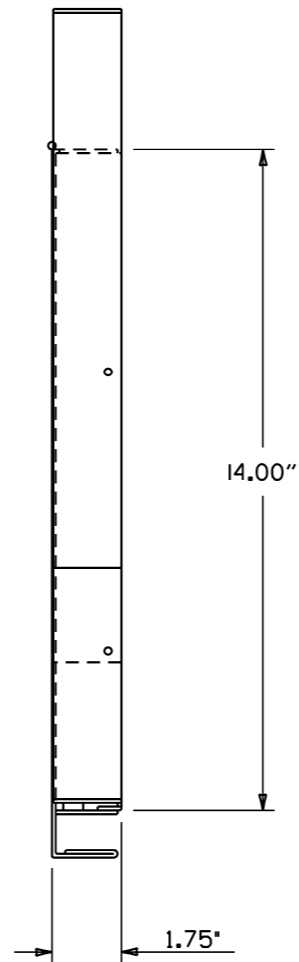
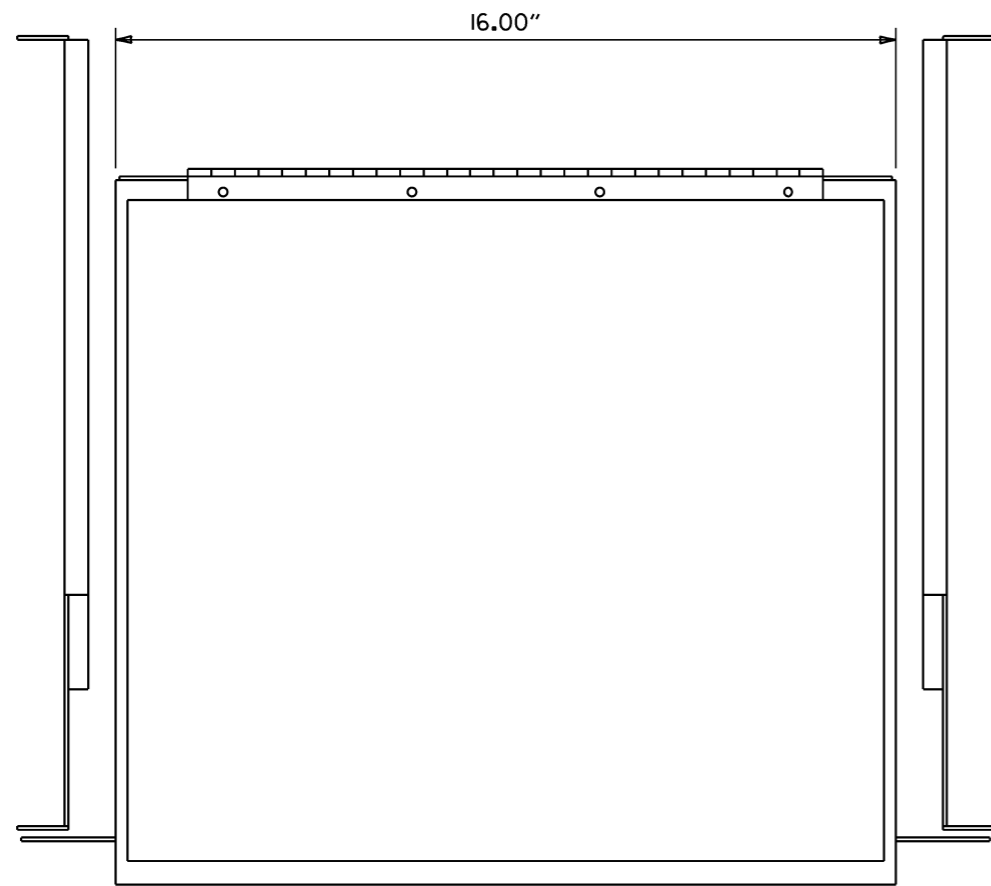
CITY OF LITTLE ROCK, ARKANSAS
FOURCHE DAM PIKE AND I-440 RAMP
CONDUIT DETAILS AT RAILROAD AREA
FOURCHE DAM PIKE AT RAILROAD

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

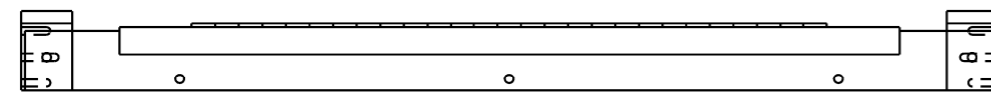


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DESIGNED EJP
CHECKED EJP
DATE 2-22-2021
SCALE NTS
PROJECT NO. P2025 (P&A#) 19800106 (CTA#)
SHEET NO. T-11

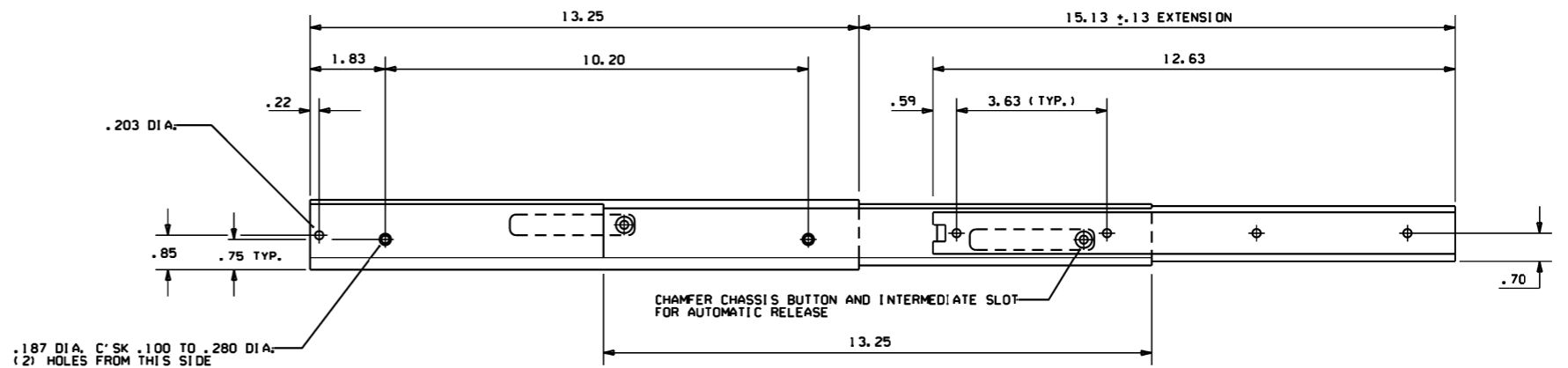
DRAWER PLAN VIEW



- NOTES:
 1. RIGHT HAND SLIDE SHOWN, LEFT SLIDE OPPOSITE.
 2. GENERAL DEVICES (CC3002-99-0102) OR EQUAL AND CONTAINS (1) RIGHT HAND SLIDE ASSEMBLY, (1) LEFT HAND SLIDE ASSEMBLY.
 3. ALL HARDWARE NECESSARY TO FASTEN SLIDE ASSEMBLY TO UNDERSIDE OF CONTROLLER SHELF SHALL BE INCLUDED.



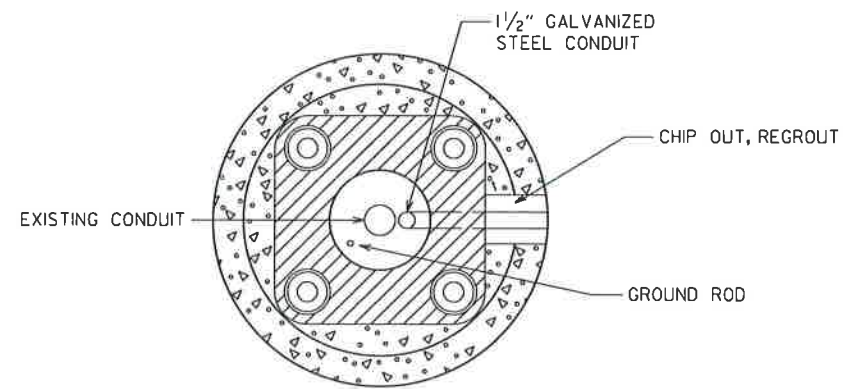
FRONT VIEW



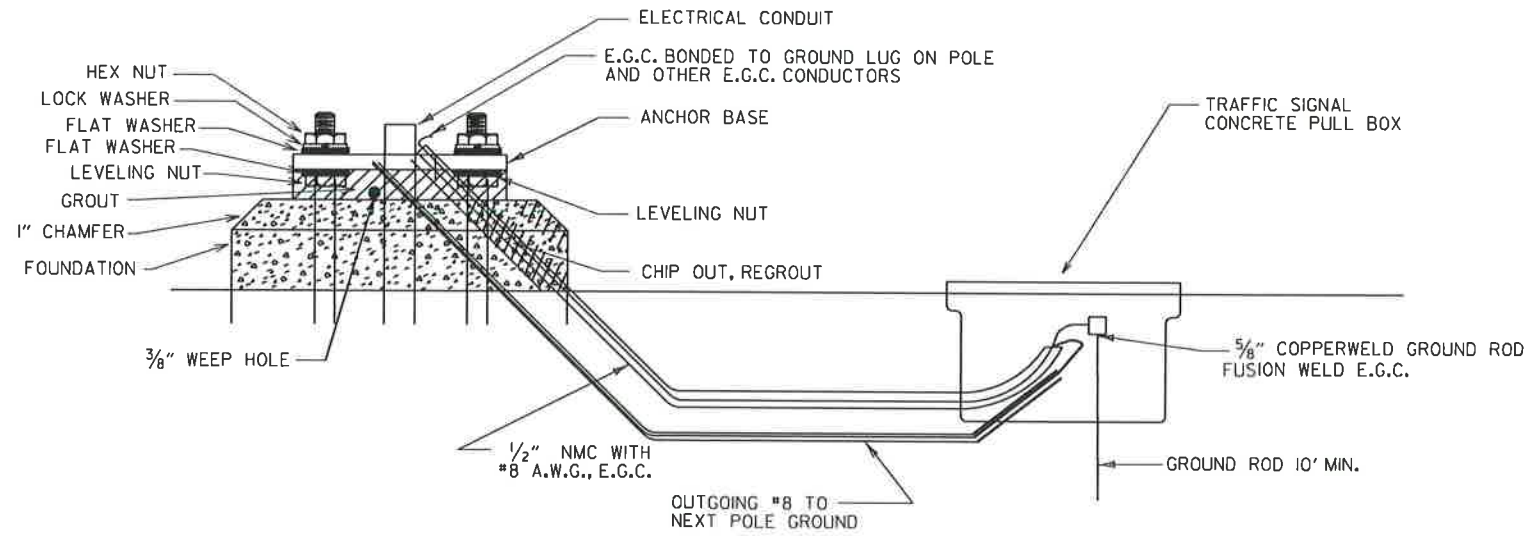
RIGHT SIDE ASSEMBLY

			ARKANSAS STATE HIGHWAY COMMISSION
			CONTROLLER CABINET UTILITY DRAWER
9-12-13	ISSUED AS STANDARD DRAWING		
6-15-05	ISSUED		
DATE	REVISION	DATE FILED	STANDARD DRAWING SD-5

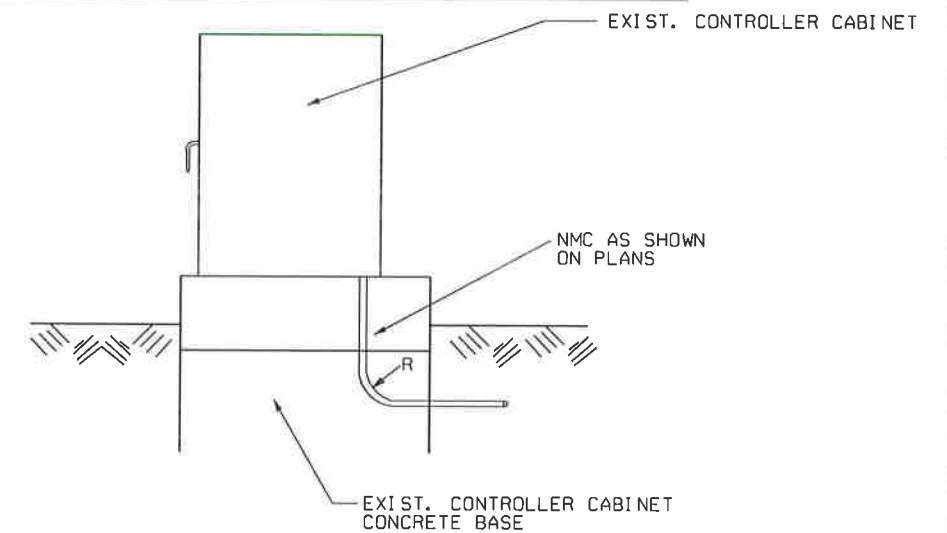
CONDUIT ENTRY TO EXISTING POLE BASE



ANCHOR BASE

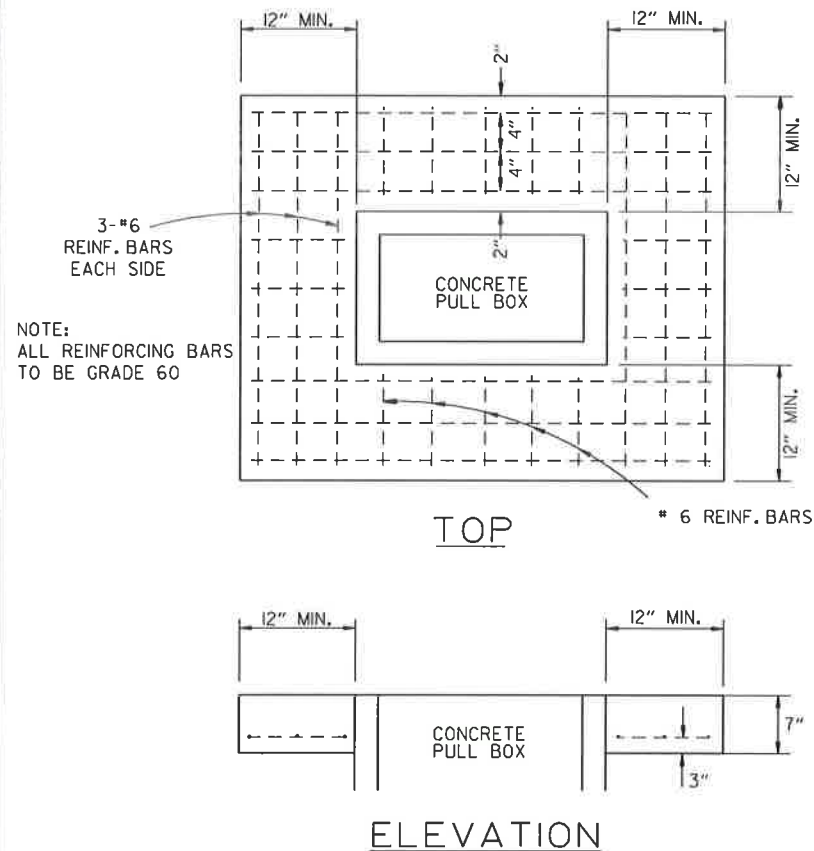
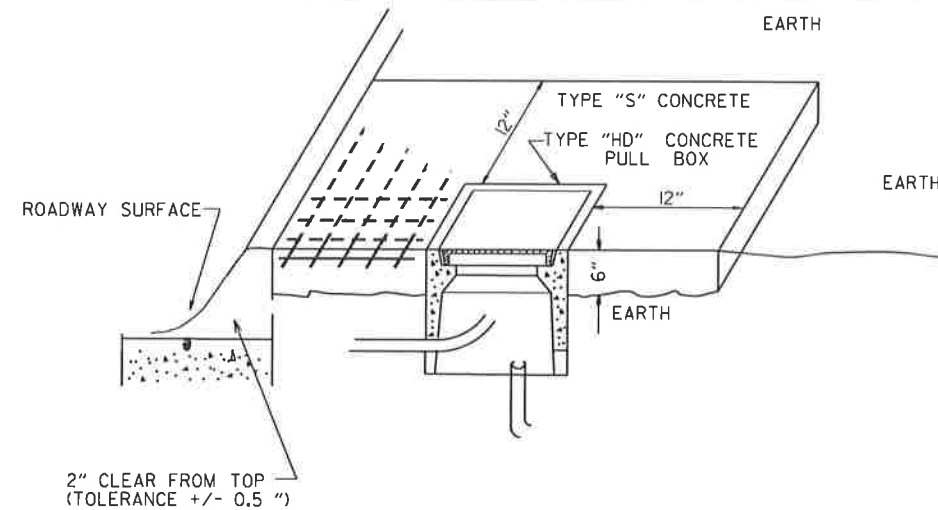


CONDUIT ENTRY TO EXISTING CONTROLLER CABINET



NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.

TYPE "HD" CONCRETE PULL BOX DETAIL

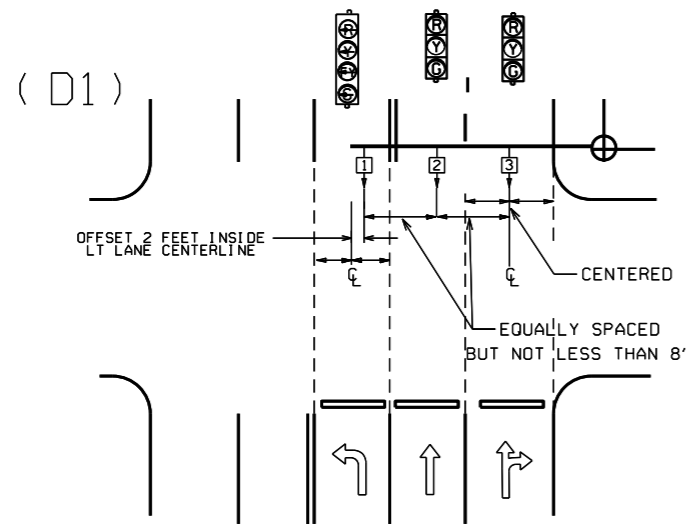
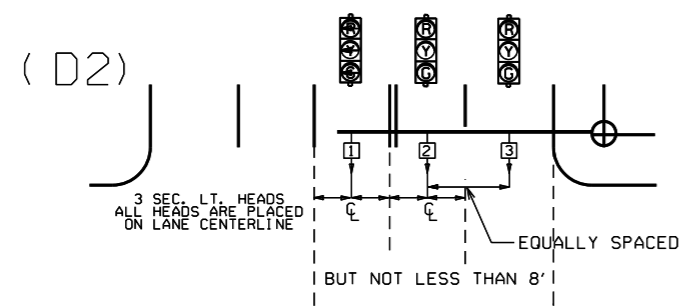
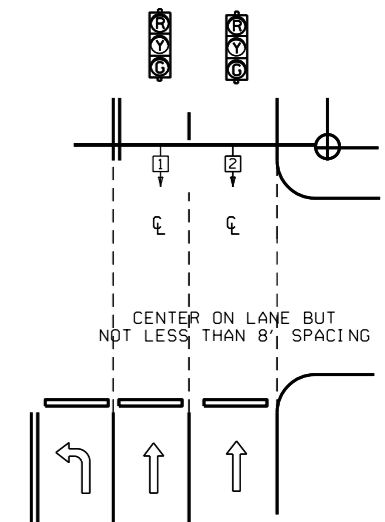
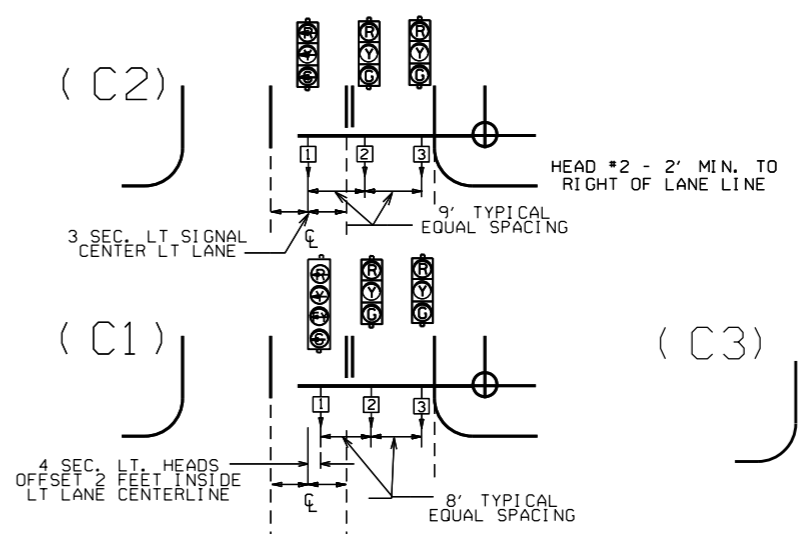
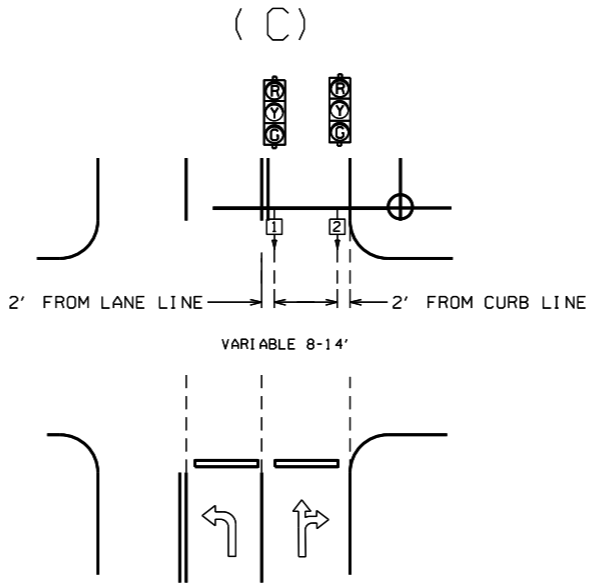
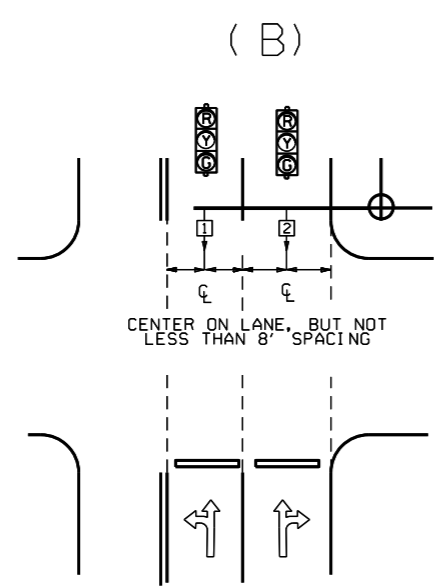
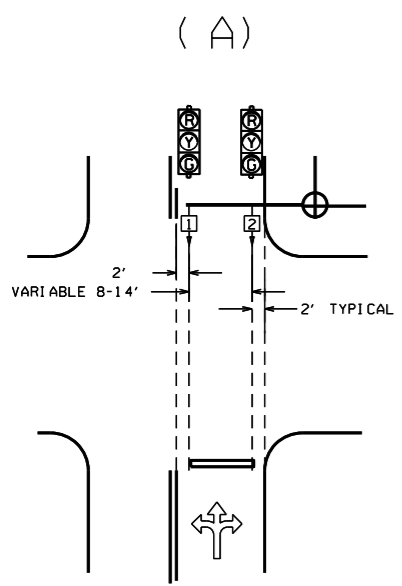


NOTE: ALL REINFORCING BARS TO BE GRADE 60

NOTE: ALL TYPE 1 AND TYPE 2 HD CONCRETE PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 12" WIDE AND 7" IN DEPTH. ALL PAYMENT SHALL BE INCLUDED IN THE PRICE OF THE TYPE HD CONCRETE PULL BOX. THE CONCRETE PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. THE CONCRETE SHALL BE CLASS "S". THREE #6 REINFORCING BARS IN THE APRON ON ALL SIDES OF THE CONCRETE PULL BOX IS REQUIRED IN CONCRETE.

11-16-17	REVISED NOTES		
09-02-15	REVISED PULL BOX DEPTH		
09-12-13	ISSUED AS STANDARD DRAWING		
05-21-09	REVISED DRAWING		
07-31-08	ADDED & REVISED CONDUIT ENTRY		
06-23-04	REVISED CLEARANCE AT CURB ENTRY		
01-04-02	ADDED REINFORCING TO BOX APRON		
07-02-01	REVISED		
12-27-99	REVISED NOTES		
11-18-98	ISSUED		
DATE	REVISION	FILMED	

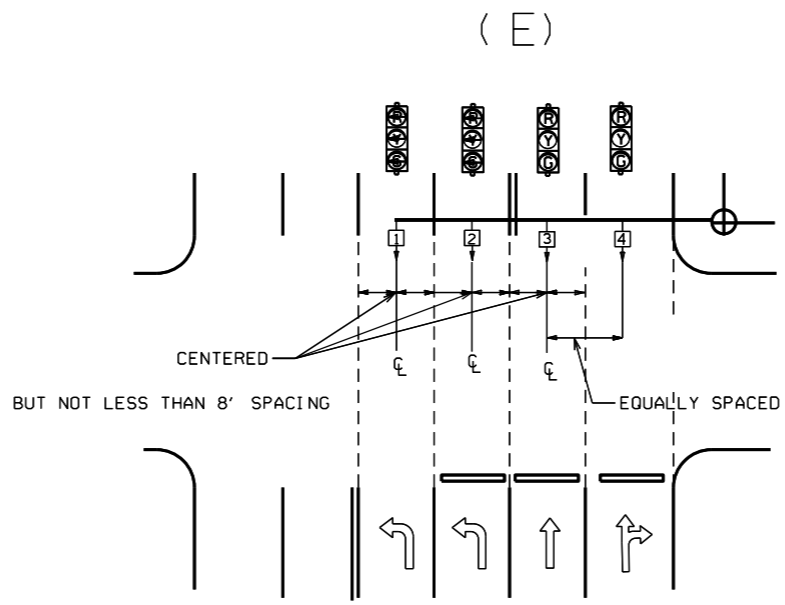
ARKANSAS STATE HIGHWAY COMMISSION
HEAVY DUTY PULL BOX
STANDARD DRAWING SD-6



NOTE: WHERE LEFT TURN HEAD (HEAD 1 ON D1 AND D2) IS NOT CALLED FOR ON PLANS, MAST ARM LENGTH MAY STILL BE ALLOWED FOR FUTURE INSTALLATION. HEADS FOR THROUGH MOVEMENTS SHALL STILL BE ALIGNED WITH THROUGH LANES AS SHOWN ON DETAILS.

GENERAL NOTES:

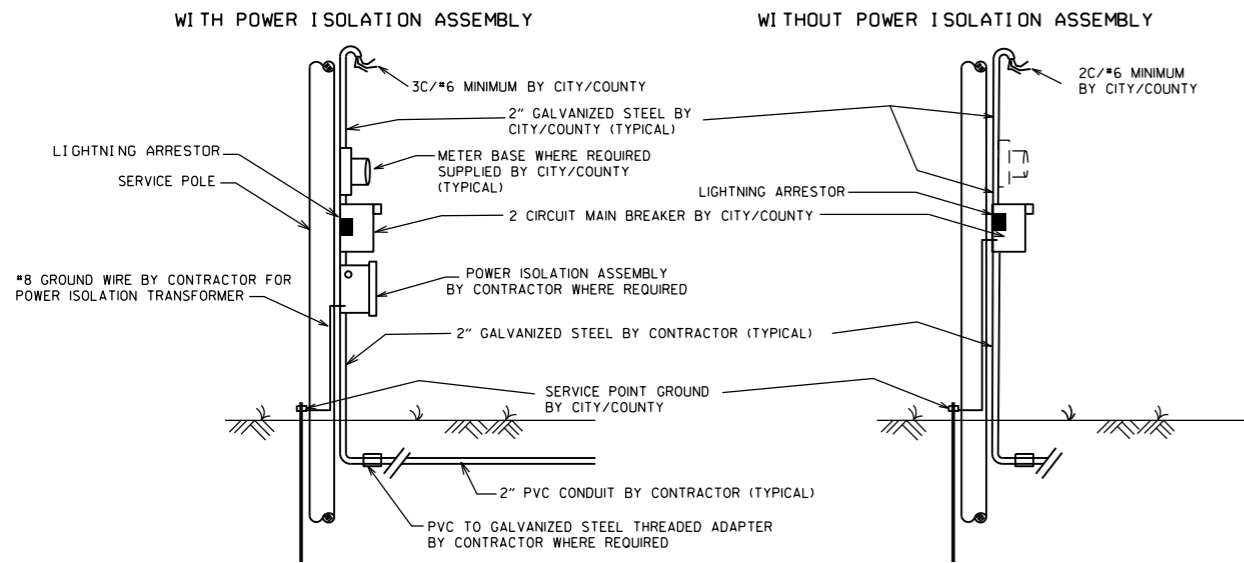
- FOUR SECTION "PROTECTED/PERMISSIVE" LEFT TURN HEADS SHOULD BE PLACED A MINIMUM OF TWO (2') FEET TO THE RIGHT OF THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.
- THREE SECTION "PROTECTED" LEFT TURN HEADS SHOULD BE PLACED ON THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.
- WHEN IT IS NECESSARY TO PLACE POLES OTHER THAN AS SHOWN ON PLAN SHEET(S) RESULTING IN MAST ARM EXTENDING MORE THAN TWO FEET PAST (TO THE LEFT OF) THE CENTERLINE OF THE APPROACHING LEFT TURN LANE, MAST ARM SHALL BE CUT TO APPROPRIATE LENGTH AS DETERMINED BY THE ENGINEER, AND A NEW END CAP PROVIDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THIS PRIOR TO INSTALLING THE MAST ARM IF ADDITIONAL COMPENSATION IS REQUIRED.
- SIGNAL HEAD SPACING SHALL, IN NO CASE, BE LESS THAN EIGHT (8') FEET BETWEEN HEADS ON CENTER, MEASURED HORIZONTALLY PERPENDICULAR TO THE APPROACH.
- ALL SIGNAL HEADS SHOWN ON THIS DETAIL SHEET SHALL BE LOCATED ACCORDING TO THE DIMENSIONS SHOWN IN RELATION TO THE APPROACH SIDE OF THE INTERSECTION.
- MAXIMUM MOUNTING HEIGHT OF SIGNAL FACES LOCATED BETWEEN 40 FEET AND 53 FEET FROM STOP BAR SHALL BE IN ACCORDANCE WITH FIGURE 4D-5 OF 2009 MUTCD.



℄ = CENTER OF LANE FROM APPROACH SIDE

DATE	REVISION	DATE FILM	ARKANSAS STATE HIGHWAY COMMISSION
12-8-16	REVISED NOTE 6		SIGNAL HEAD PLACEMENT
9-12-13	ISSUED AS STANDARD DRAWING		
3-11-10	2009 MUTCD		STANDARD DRAWING SD-8
12-9-99	ISSUED		

MAIN BREAKER NOT NEAR CONTROLLER CABINET SECONDARY REQUIRED



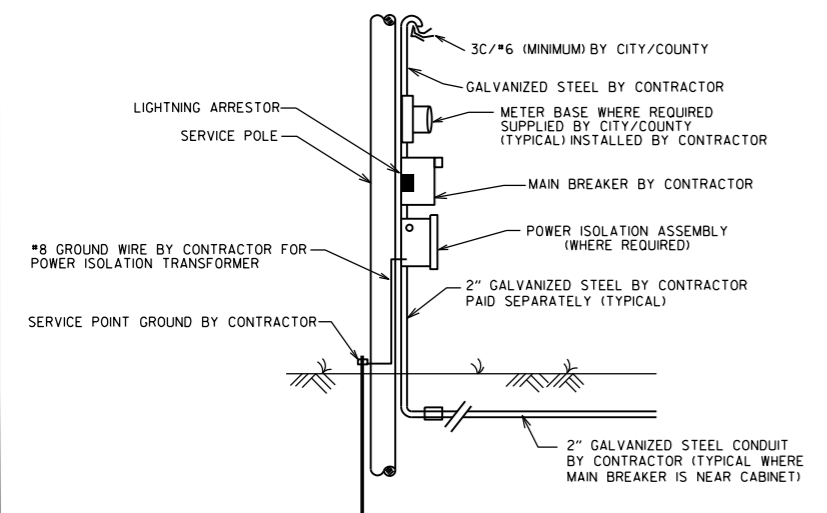
NOTES TO CONTRACTOR AND AGENCY RESPONSIBLE FOR MAINTENANCE OF THE INTERSECTION (CITY/COUNTY):

ELECTRICAL SERVICE TYPICALLY FALLS INTO TWO CATEGORIES: MAIN BREAKER NEAR CONTROLLER CABINET; AND MAIN BREAKER NOT NEAR CONTROLLER CABINET. THE CONTRACTOR'S AND THE CITY'S/COUNTY'S RESPONSIBILITY VARIES ACCORDINGLY AS INDICATED ON THESE DETAILS.

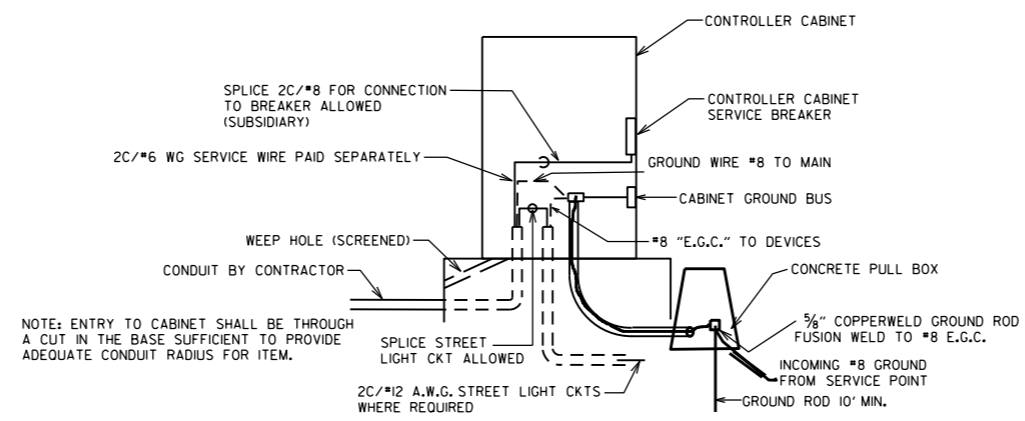
ALL SITUATIONS: ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAIN-TIGHT BREAKER (MAIN BREAKER) AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. SERVICE POINT INCLUDES GALVANIZED STEEL CONDUIT TO A POINT 18" BELOW GROUND LINE, TWO CIRCUIT MAIN BREAKER, LIGHTNING ARRESTOR, POWER ISOLATION ASSEMBLY WHERE REQUIRED, METER LOOP IF REQUIRED BY LOCAL UTILITY COMPANY, ELECTRICAL CONDUCTORS AND WEATHERHEAD. WHERE STREET LIGHTING IS INCLUDED AS PART OF SIGNAL INSTALLATION STREET LIGHTING CIRCUIT (2C/#12 A.W.G. UF RATED, TYPICAL) SHALL BE KEPT SEPARATE FROM THE CIRCUIT SERVING TRAFFIC SIGNAL. SERVICE WIRE AND WIRING FROM THE CONTROLLER TO MAIN BREAKER IS PROVIDED BY THE CONTRACTOR AS A PART OF THIS CONTRACT. WIRE AND WIRING FROM MAIN BREAKER, AND CONNECTION TO THE UTILITY IS THE RESPONSIBILITY OF THE CITY/COUNTY.

MAIN BREAKER NOT NEAR CONTROLLER CABINET: THE MAIN BREAKER ASSEMBLY, GALVANIZED STEEL CONDUIT, WEATHERHEAD AND WIRE ABOVE MAIN BREAKER AND CONNECTION TO THE UTILITY SHALL BE PROVIDED BY CITY/COUNTY. CONTRACTOR SHALL PROVIDE AS PART OF CONTRACT SECONDARY BREAKER, CONDUIT, WIRE AND WIRING TO THE MAIN BREAKER.

MAIN BREAKER NEAR CONTROLLER CABINET: ALL COMPONENTS OF THE SERVICE POINT WITH THE EXCEPTION OF THE WIRE AND WIRING ABOVE THE MAIN BREAKER IS FURNISHED AND INSTALLED BY THE CONTRACTOR. WIRING FROM MAIN BREAKER INCLUDING CONNECTION TO THE UTILITY, IS THE RESPONSIBILITY OF THE CITY/COUNTY. IF METER LOOP IS REQUIRED, METER BASE AND HARDWARE IS PROVIDED BY THE CITY/COUNTY AND INSTALLED BY THE CONTRACTOR.



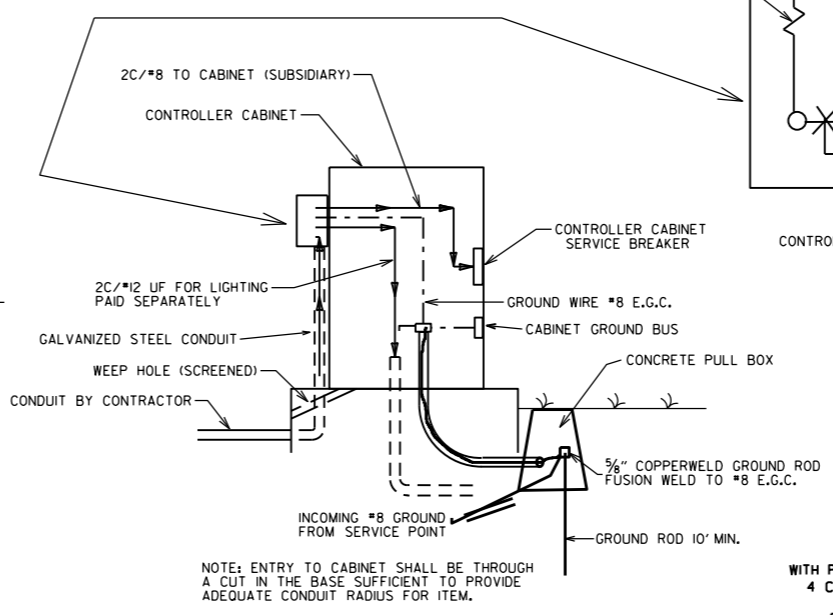
MAIN BREAKER NEAR CONTROLLER CABINET SECONDARY NOT REQUIRED



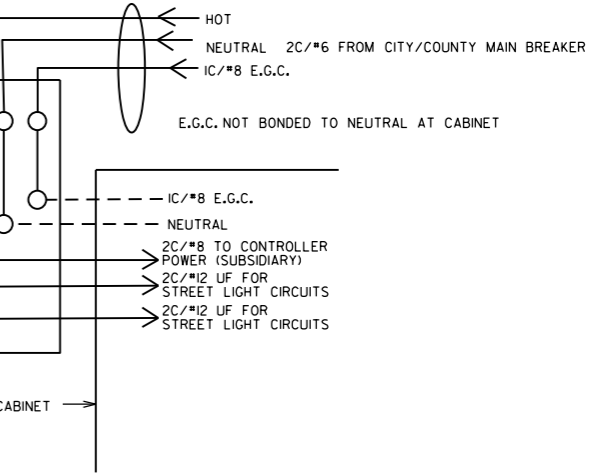
NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.

GROUND ROD - A 10' X 5/8" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND 1/2" NMC SHALL BE INCLUDED IN ITEM 70L. THE CONCRETE PULL BOX AND CONDUCTOR BOX SHALL BE PAID FOR SEPARATELY.

SECONDARY BREAKER BY CONTRACTOR (SUBSIDIARY)



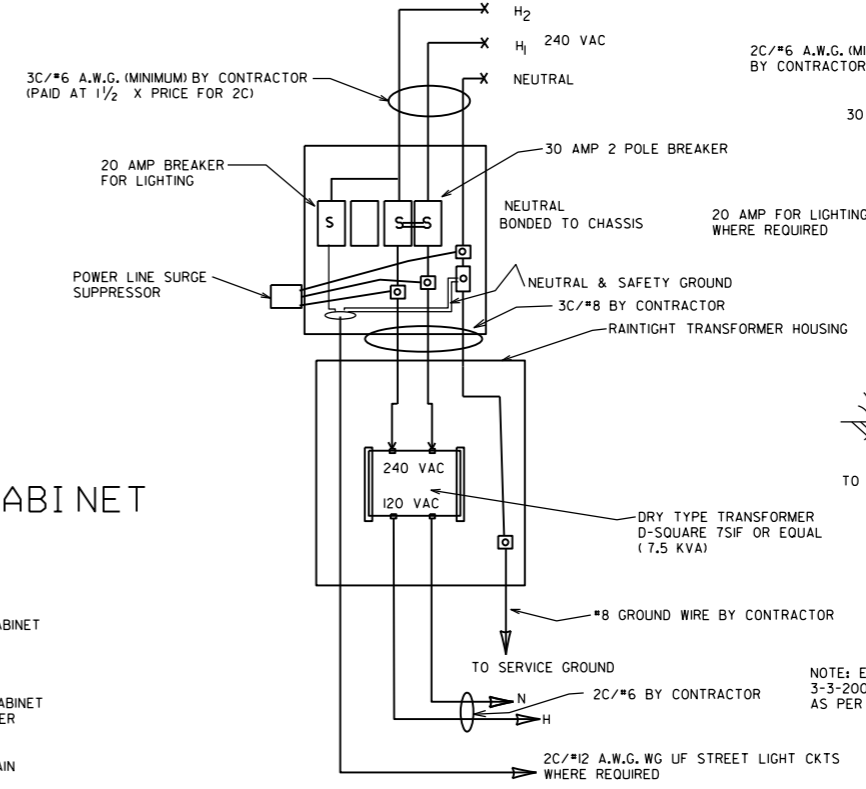
NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.



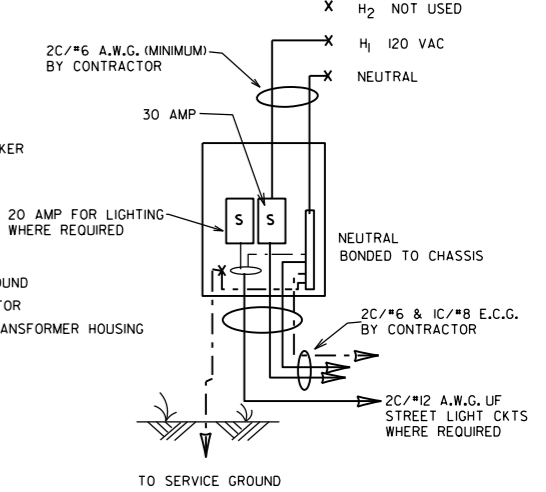
MAIN BREAKER WIRING (TYPICAL)

SERVICE GROUND IS TYPICALLY TIED TO NEUTRAL AT THE MAIN BREAKER. AS SUCH, CONTROLLER GROUND IS NOT TIED TO NEUTRAL AT SECONDARY BREAKER OR IN CONTROLLER CABINET.

WITH POWER ISOLATION ASSEMBLY 4 CIRCUIT MAIN BREAKER



WITHOUT POWER ISOLATION ASSEMBLY 2 CIRCUIT MAIN BREAKER



NOTE: ELECTRICAL GROUND CONDUCTOR (E.G.C.) ADDED 3-3-2003, CONSISTING OF A 1C/#8 A.W.G. CU GREEN WIRE AS PER NATIONAL ELECT. CODES.

DATE	REVISION	FILMED
11-07-19	REVISED	
11-16-17	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
04-18-13	ADDED LIGHTNING ARRESTOR	
05-21-09	REVISED GROUNDING	
07-31-08	REVISED GROUNDING	
03-03-03	ADDED EGC NOTE	
09-26-01	REVISED	
12-27-99	REVISED	
07-28-99	REVISED	
02-05-99	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION
SERVICE POINT
STANDARD DRAWING SD-9

NOTES:
 PEDESTRIAN AND TRAFFIC SIGNAL HEAD SIGNS:
 EACH ITEM "TRAFFIC SIGNAL HEAD (4 SEC., 1-WAY)" SHALL INCLUDE A SPECIAL SIGN AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD UNLESS REMOVED WITHIN THE SIGNAL PLAN NOTES.

EACH ITEM "TRAFFIC SIGNAL HEAD (3 SEC., 1-WAY)" TO BE USED AS A LEFT TURN INDICATION ONLY SHALL INCLUDE A SIGN (RIO-10) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD.

EACH PEDESTRIAN PUSHBUTTON SHALL HAVE ONE RIO-3E SIGN ATTACHED TO THE POLE ABOVE THE BUTTON. ALL SIGNS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 723 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

ALL SIGN BLANKS SHALL BE CONSTRUCTED OF ALUMINUM ALLOY (ASTM DESIGNATION B-209, ALLOY 5052-H38) WITH THICKNESS OF 0.100 INCH.

GENERAL NOTES:
 1. MAST ARM POLES SHALL BE MOUNTED A MINIMUM OF FOUR (4') FEET BEHIND CURB OR SHOULDER.

2. OCTAGONAL POLES AND ARMS MEETING THE REQUIREMENTS OF THE PLANS SPECIFICATIONS CAN BE INSTALLED IN LIEU OF ROUND. ALL POLES AND ARMS IN A JOB MUST BE THE SAME SHAPE.

3. MINIMUM STRUCTURAL REQUIREMENTS:
 DESIGN SPECIFICATIONS; AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

USE FATIGUE CATEGORY I FOR ALL STRUCTURES ON ROUTES WHERE THE SPEED LIMIT IS 65 MPH AND GREATER AT THE STRUCTURE LOCATION AND ON ROUTES WHERE THE SPEED LIMIT IS GREATER THAN 45 MPH WITH AN MAST ARM OF 60' OR LONGER.

USE FATIGUE CATEGORY II FOR ALL STRUCTURES ON ROUTES WHERE THE SPEED LIMIT IS LESS THAN 65 MPH AND GREATER THAN 45 MPH WITH MAST ARMS LESS THAN 60' AND ON ROUTES WHERE THE SPEED LIMITS OF 45 MPH AND LESS WITH AN MAST ARM OF 60' OR LONGER.

USE FATIGUE CATEGORY III FOR ALL STRUCTURES WHERE THE SPEED LIMIT IS 45 MPH AND LESS AND MAST ARMS LESS THAN 60'.

CONSTRUCTION SPECIFICATIONS:
 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

BASE WIND SPEED: 90 MPH.

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH A THICKNESS GREATER THAN 1/2" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

DEAD LOAD: AS A MINIMUM, DESIGN SHALL BE BASED ON THE FIXED ATTACHMENTS SHOWN BELOW OR AS MODIFIED IN THE PLANS.

ALL SIGNAL HEADS TO BE ONE WAY, TWELVE (12") INCH AND HAVE FIVE (5") INCH BACK PLATES.

SIGNAL HEADS AT THE END OF MAST ARM - ONE 4 SEC., 85 LB., 14.5 SQ. FT., ONE SIGN MOUNTED 3 FEET FROM SIGNAL HEAD (2'-0" X 2'-6" 20 LB.) REMAINING SIGNAL HEADS SPACED AT 8 FT. (13 SEC., 56 LB., 8.3 SQ. FT.); DESIGN TO ACCOMMODATE:
 2 SIGNAL HEADS FOR MAST ARMS 10 FT. TO 16 FT.
 3 SIGNAL HEADS FOR MAST ARMS 18 FT. TO 24 FT.
 4 SIGNAL HEADS FOR MAST ARMS OVER 26 FT.

STREET NAME SIGN - 72" X 18", 36 LB., MOUNTED SUCH THAT OUTSIDE EDGE IS NOT GREATER THAN 12 FT. FROM POLE, DEPENDING UPON POSITION OF SIGNAL HEAD ADJACENT TO POLE, SIGN MAY OVERLAP POLE SHAFT.
 ROADWAY LUMINAIRES (WHERE REQUIRED ON PLAN SHEET) - VARIABLE ARM LENGTH (MAX. WT. 75 LB., 3.3 SQ. FT.)
 PEDESTRIAN SIGNALS - TWO 1 SEC., 12 INCH MOUNTED 8 FT. FROM BASE OF POLE, POST MOUNTED 3 SEC. SIGNAL HEAD AT 10 FT. ON SIDE OF POLE.

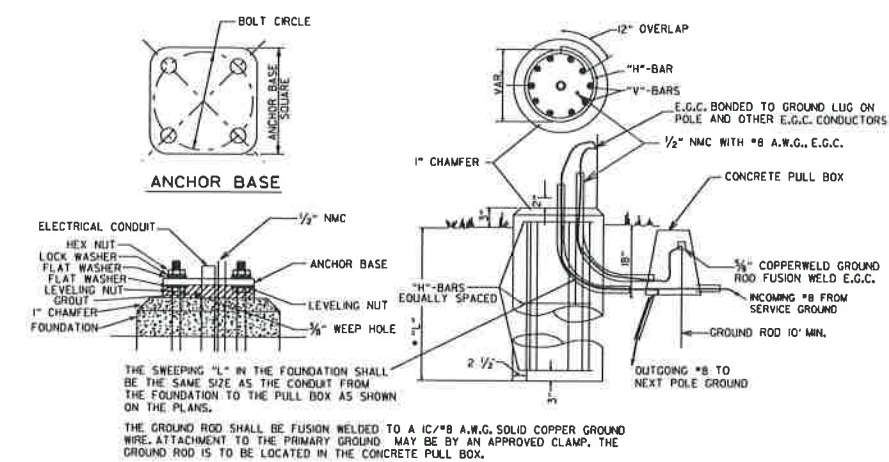
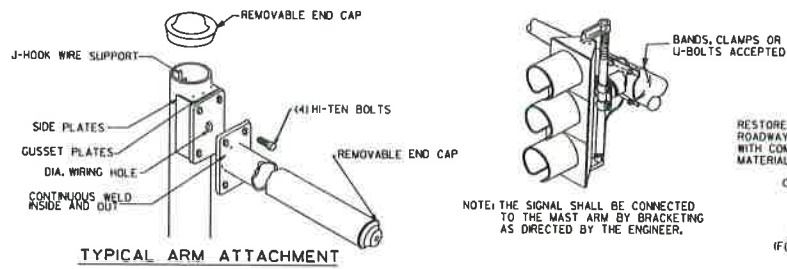
4. POLE/MAST ARM CAP - POLE AND MAST ARM CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

5. HAND HOLE - HAND HOLES SHALL BE 4 IN. X 6 IN. FOR STANDARD, AND 3 IN. X 5 IN. FOR PED POLES, MINIMUM PLACED APPROXIMATELY 12 INCHES FROM BASE, AND SHALL BE FIXED WITH A BOLT DOWN COVER. A VACUUM FORMED ABS COVER IS AN ACCEPTABLE ALTERNATE TO STEEL. POLES GREATER THAN 21 FT. IN HEIGHT (FOR ROADWAY LUMINAIRE ATTACHMENT) SHALL INCLUDE A HAND HOLE WITHIN 12 INCHES OF MAST ARM(S) ATTACHMENT(S).

6. POLE/MAST ARM TAPER SLOPE - AVERAGE TAPER OF SIGNAL MAST ARMS AND POLE SHAFT SHALL BE 0.25 TO 0.15 INCHES PER FOOT.

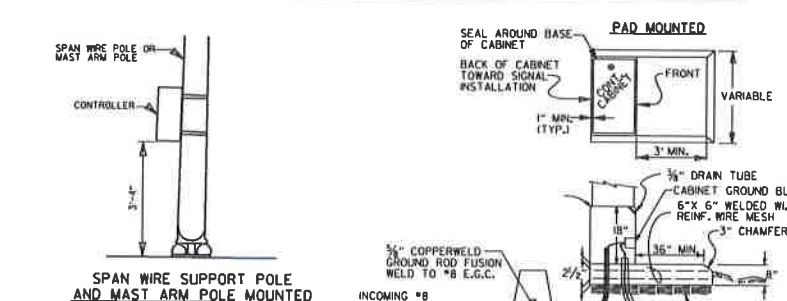
MAST ARM CENTERLINE ANGLE AT ATTACHMENT POINT WITH POLE SHALL MAINTAIN NOT LESS THAN 0.5 DEGREES OR MORE THAN 4 DEGREES POSITIVE SLOPE WITH A LINE PERPENDICULAR TO THE POLE CENTERLINE. THE MAST ARM SHALL MAINTAIN A POSITIVE SLOPE AFTER IT IS PLACED UNDER LOAD.

7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT DOWN NUT COVER FOR EACH ANCHOR BOLT.



TYPICAL FOUNDATION DETAILS
 POLE FOUNDATION MINIMUM DIMENSIONS AND STEEL REINFORCING. ALL REINFORCING STEEL SHALL BE GRADE 40 MIN.

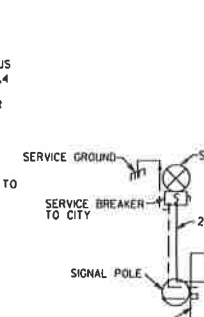
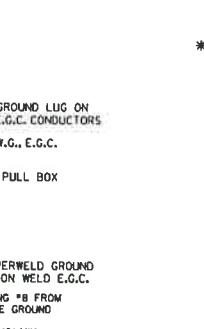
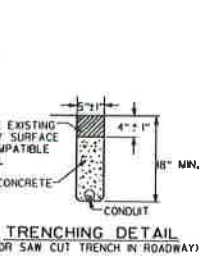
ARM LENGTH	FOUNDATION DIAMETER	DEPTH "L"*	STEEL		
			VERTICAL	HORIZONTAL	O.C.
PED	30"	7'-0"	12-#7 (6'-6")	10-#4	8.44"
2' TO 12'	30"	10'-6"	12-#7 (10'-0")	15-#4	8.42"
OVER 12' TO 20'	30"	11'-6"	12-#7 (11'-0")	16-#4	8.66"
OVER 20' TO 35'	36"	12'-6"	13-#8 (12'-0")	17-#4	8.88"
OVER 35' TO 50'	36"	13'-6"	13-#8 (13'-0")	19-#4	8.56"
OVER 50' TO 72'	42"	14'-6"	18-#8 (14'-0")	20-#4	8.74"
TWINS TO 20'	30"	16'-0"	12-#6 (15'-6")	22-#4	8.76"
TWINS OVER 20' TO 44'	36"	16'-0"	13-#8 (15'-6")	22-#4	8.76"
TWINS OVER 44' TO 50'	42"	16'-0"	18-#8 (15'-6")	22-#4	8.76"
TWINS OVER 50' TO 72'	42"	16'-6"	18-#8 (16'-0")	23-#4	8.64"



8. GROUND ROD - A 10' X 3/4" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND 1/2" NMC SHALL BE INCLUDED IN ITEM 714 FOR SIGNAL POLES AND ITEM 701 FOR THE CONTROLLER. THE CONCRETE PULL BOX AND CONDUCTOR BOX SHALL BE PAID SEPARATELY.

9. POLE BASE/FOUNDATION - ANCHOR BOLTS SHALL INCLUDE AS A MINIMUM, ONE LEVELING NUT, TWO FLAT WASHERS, ONE LOCK WASHER, AND ONE HEX NUT. PERIMETER OF ANCHOR BASE SHALL BE GROUDED WITH A 1/4" WEEP HOLE. ALL CONCRETE SHALL BE CLASS "S" OR GREATER.

10. CONCRETE - ALL CONCRETE FOR CONTROLLER CABINET AND POLE FOUNDATIONS SHALL BE CLASS "S" OR GREATER.



11. PEDESTRIAN PHASES - PEDESTRIAN MOVEMENTS SHALL BE PUSH BUTTON ACTUATED AND CONCURRENTLY TIMED, UNLESS OTHERWISE INDICATED ON THE PLAN SHEET(S). FURNISHING AND INSTALLING PEDESTRIAN PUSH SWITCH SHALL BE CONSIDERED SUBSIDIARY TO THE ITEM 707 PEDESTRIAN SIGNAL HEAD.

* WHEN THE GROUND ELEVATION AT THE POLE IS LOWER THAN THE ROADWAY ELEVATION, THE LENGTH OF FOUNDATION ABOVE THE ROADWAY MAY BE INCREASED TO PROVIDE THE REQUIRED SIGNAL HEAD CLEARANCE ABOVE THE ROADWAY. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 18" OR LESS, NO INCREASE IN DEPTH "L" WILL BE REQUIRED. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 5'-6" OR LESS, INCREASE DEPTH "L" BY 1'-0". FOR LENGTHS GREATER THAN 5'-6", DEPTH "L" SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER. LONGITUDINAL REINFORCING, AS SHOWN IN THE TABLE, SHALL BE PROVIDED FOR THE LENGTH OF THE EXTENDED SHAFT AND #4 TIES SHALL BE PROVIDED AT A SPACING NOT TO EXCEED 9" ON CENTERS. PAYMENT WILL BE IN ACCORDANCE WITH SECTION 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS.

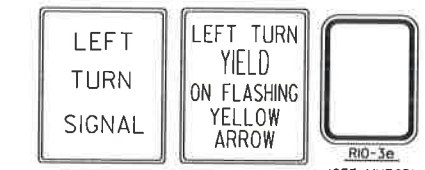
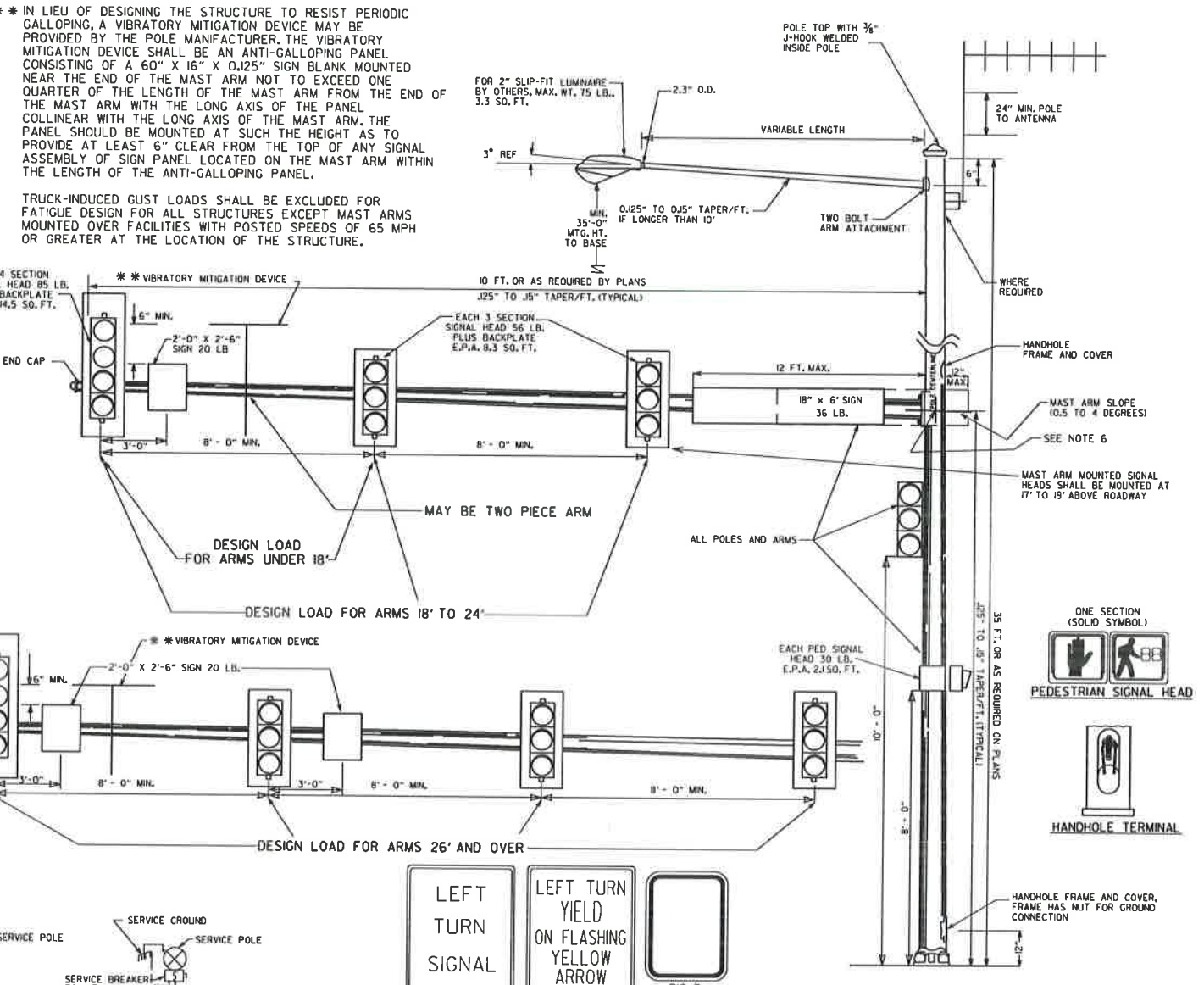
** IN LIEU OF DESIGNING THE STRUCTURE TO RESIST PERIODIC GALLOPING, A VIBRATORY MITIGATION DEVICE MAY BE PROVIDED BY THE POLE MANUFACTURER. THE VIBRATORY MITIGATION DEVICE SHALL BE AN ANTI-GALLOPING PANEL CONSISTING OF A 60" X 16" X 0.125" SIGN BLANK MOUNTED NEAR THE END OF THE MAST ARM NOT TO EXCEED ONE QUARTER OF THE LENGTH OF THE MAST ARM FROM THE END OF THE MAST ARM WITH THE LONG AXIS OF THE PANEL COLLINEAR WITH THE LONG AXIS OF THE MAST ARM. THE PANEL SHOULD BE MOUNTED AT SUCH THE HEIGHT AS TO PROVIDE AT LEAST 6" CLEAR FROM THE TOP OF ANY SIGNAL ASSEMBLY OF SIGN PANEL LOCATED ON THE MAST ARM WITHIN THE LENGTH OF THE ANTI-GALLOPING PANEL.

TRUCK-INDUCED GUST LOADS SHALL BE EXCLUDED FOR FATIGUE DESIGN FOR ALL STRUCTURES EXCEPT MAST ARMS MOUNTED OVER FACILITIES WITH POSTED SPEEDS OF 65 MPH OR GREATER AT THE LOCATION OF THE STRUCTURE.

SIGNAL OPERATION NOTES:
 FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORK DAYS OR AS DIRECTED BY THE ENGINEER. SIGNAL SHALL BE PLACED IN OPERATION ONLY ON A REGULAR WORK DAY, EXCEPT FRIDAY.

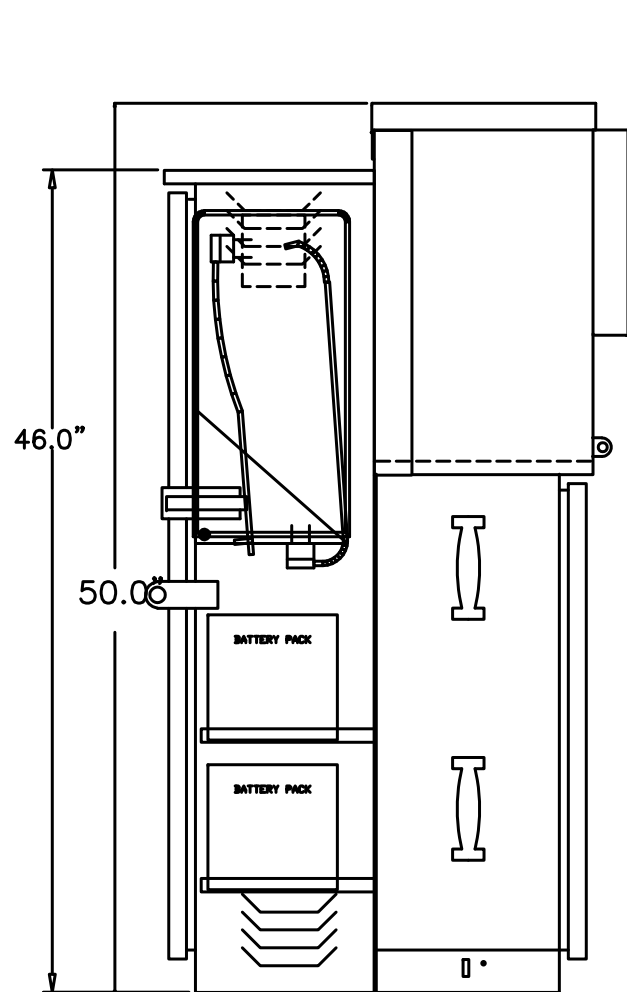
THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD, AT THE TIME THE INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATION IN FLASH SEQUENCE.

SPECIAL NOTE: 90 MPH WIND ZONE DESIGN, SEE NOTE 3. MINIMUM STRUCTURAL REQUIREMENTS.

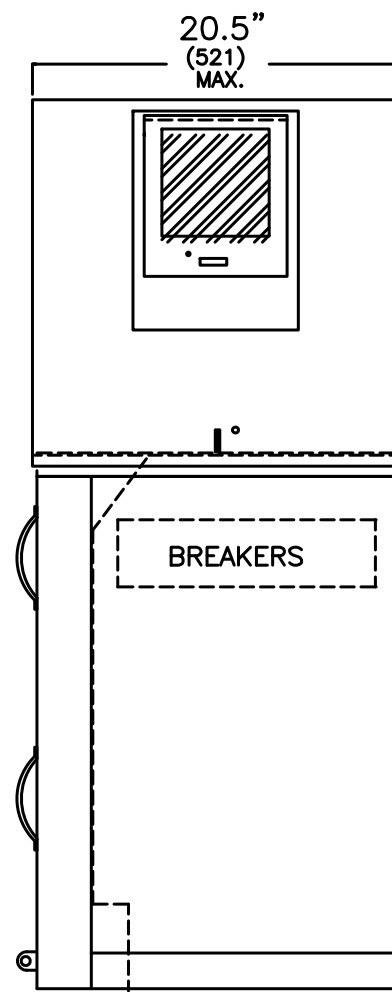


DATE	REVISION	FILMED
11-16-17	REVISED NOTES, ADDED PEDESTRIAN SIGNAL HEAD DETAIL, ADDED HANDHOLE TERMINAL DETAIL, ADDED TRENCHING DETAIL	
02-27-14	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
12-08-16	REVISED NOTES	
02-27-14	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
07-21-11	REVISED VMD, SIGNAL HEADS	
05-21-09	REVISED GROUNDING	
07-31-08	REVISED GROUNDING	
04-25-08	ADDED VIBRATORY MITIGATION DEVICE & NOTES	
04-18-08	REVISED AASHTO NOTES	
04-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REVISED CABINET ORIENTATION	
06-23-04	REVISED	
05-11-04	REV. NOTE 3/AASHTO REQUIREMENTS	
06-11-01	REV. NOTES & POLE MAST ARM SLOPE	
04-11-01	REVISED POLE TAPERS	
04-25-00	REV. NOTES & SIGNAL HEAD PLACEMENT	
11-22-99	REVISED FOUNDATION DETAILS	
11-17-98	REVISED DETAILS AND NOTES	
11-21-95	ISSUED	

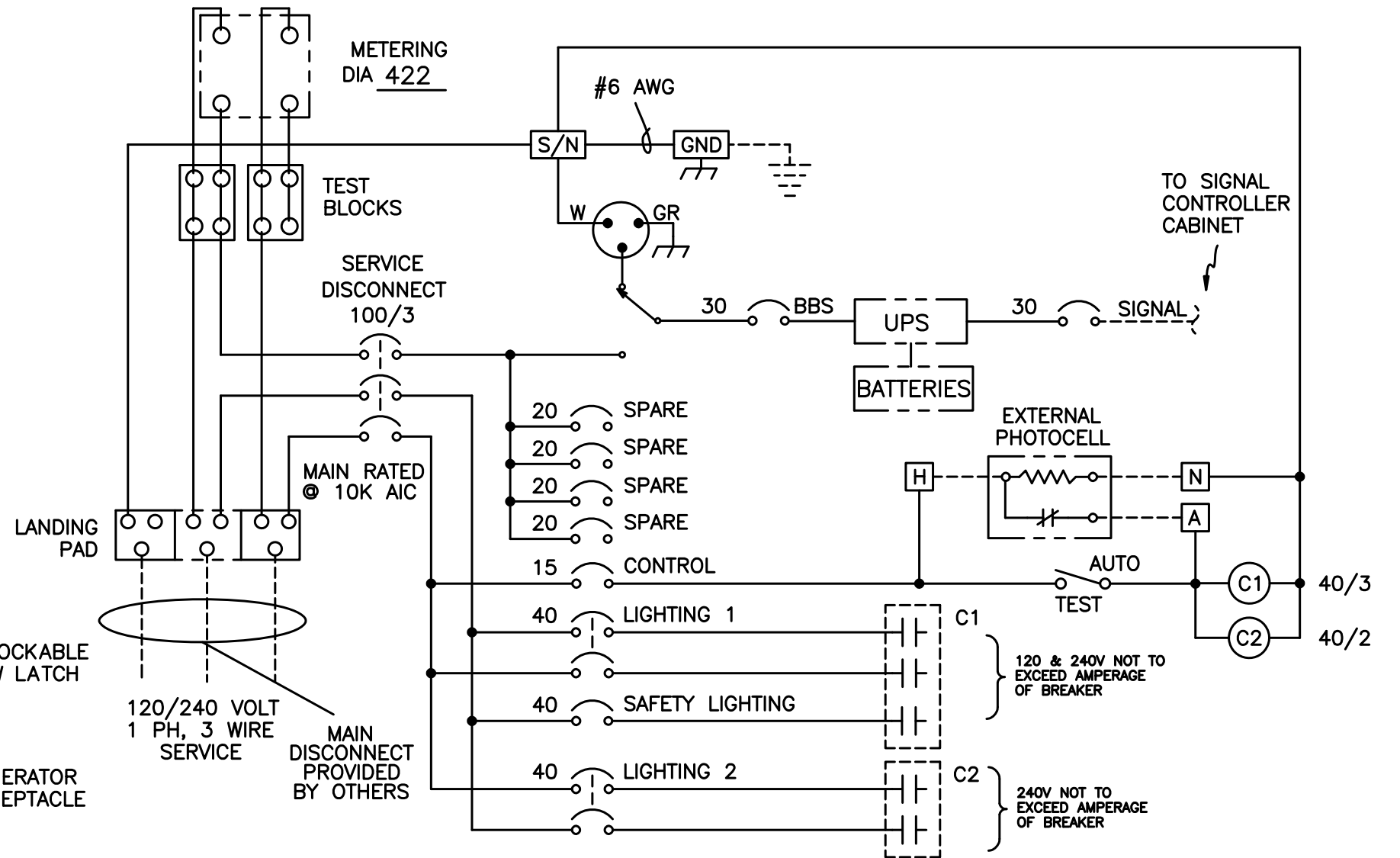
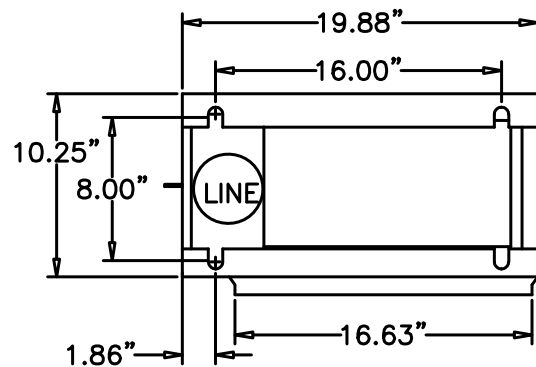
ARKANSAS STATE HIGHWAY COMMISSION
STEEL POLE WITH MAST ARM
 STANDARD DRAWING SD-11



LEFT SIDE



FRONT VIEW



NOTE: LOAD CURRENT FOR ALL BREAKERS NOT TO EXCEED 80% OF BREAKER AMPERAGE

SERVICE EQUIPMENT WIRING DIAGRAM

TESCO TESCO CONTROLS INC.
919 305-8800
SACRAMENTO, CA

I-
27-000

INDUSTRIAL CONTROL PANEL

VOLTAGE	PHASE	WIRES	MAINS AMPERES	HZ
120/240	1	3	100	60

SUITABLE FOR USE ON A CIRCUIT CAPABLE OF DELIVERING NOT MORE THAN:

AMPERES	A _T	VOLTAGE
10,000	RMS SYM.	240 V

METER SOCKET RATING 100 A CONT.
ENCLOSURE TYPE 3R

SUITABLE ONLY FOR USE AS SERVICE EQUIPMENT

ENCLOSURE CONSTRUCTION NOTES

- EXTERIOR, 1/8" ALUMINUM, AND INTERIOR 14 GA COLD ROLLED STEEL ELECTRICALLY WELDED AND REINFORCED WHERE REQUIRED.
- CONSTRUCTION WILL BE NEMA 3R, RAIN TIGHT.
- ALL NUTS, BOLTS AND SCREWS WILL BE STAINLESS STEEL.
- NUTS, BOLTS & SCREWS WILL NOT BE VISIBLE FROM OUTSIDE OF ENCLOSURE.
- NAMEPLATES WILL BE PROVIDED AS REQUIRED.
- CONTROL WIRING WILL BE MARKED AT BOTH ENDS BY PERMANENT WIRE MARKERS.
- A PLASTIC COVERED WIRING DIAGRAM WILL BE ATTACHED TO THE INSIDE OF THE FRONT DOOR.
- ENCLOSURE WILL BE FACTORY WIRED AND CONFORM TO REQUIRED NEMA AND UL 508A STANDARDS.
- ANODIZE AFTER FABRICATION

REV	DATE	BY	DESCRIPTION

TESCO
CONTROLS INC.
(916) 395-8800
8440 FLORIN RD.
SACRAMENTO, CA 95828

LITTLE ROCK 27-22 BBS 27-000/22-000 ELEVATION DRAWING					
DATE	DESIGN BY	DRAWN BY	CHK'D BY	SHEET #	DRAWING #
7/8/19		TL		1 OF	LITROC27/22