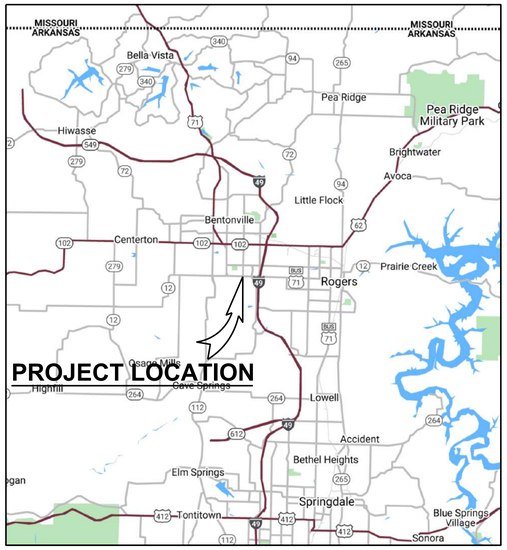
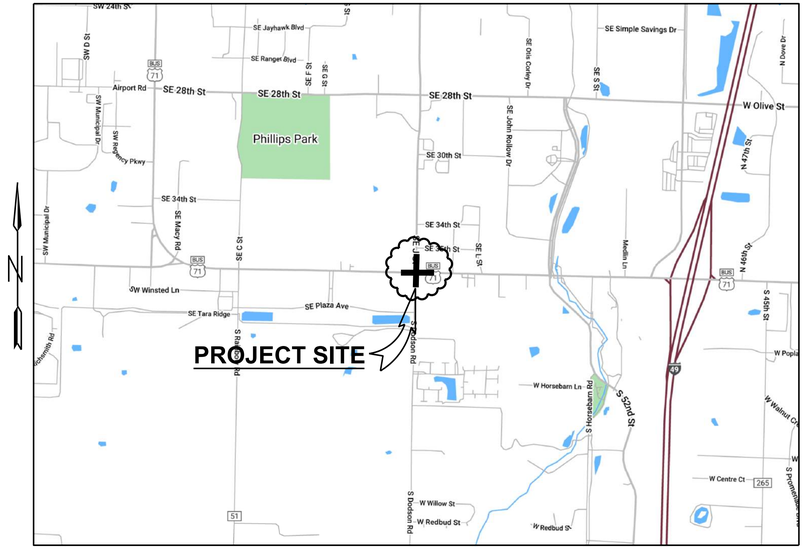
WALTON BOULEVARD AND SE J STREET IMPROVEMENTS

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

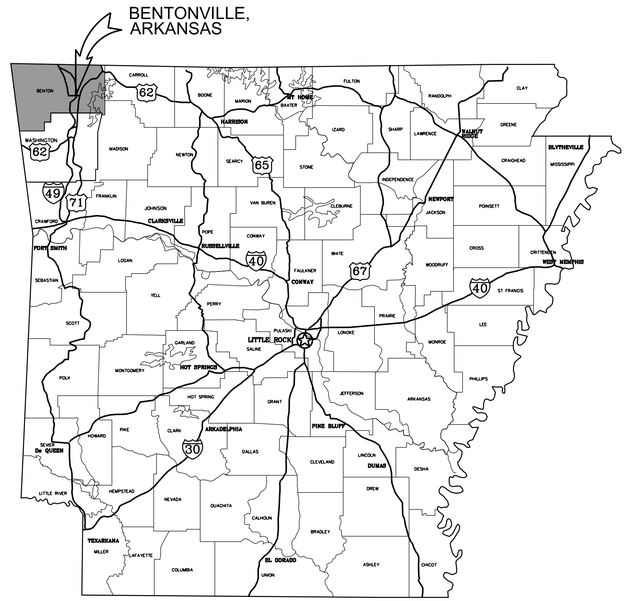


LOCATION MAP



VICINITY MAP

NO SCALE



STATE MAP

GARVER PROJECT NO. 21T21090
MAY 2022

ARKANSAS ONE CALL
811
Know what's **below.**
Call before you dig.

SEE GENERAL NOTE 1, SHEET G-002 OF THESE PLANS.

GARVER
4300 South J.B. Hunt Drive
Suite. 240
Rogers, AR 72758
(479) 257-9188

THE CITY OF BENTONVILLE

FINAL PLANS
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

COVER SHEET

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
G-001

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WORKSPACE:Garver_2012
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REVISED DATE:

CONSTRUCTION GENERAL NOTES:

1. CAUTION: UNDERGROUND UTILITIES EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. AN ATTEMPT HAS BEEN MADE TO LOCATE THESE UTILITIES ON THE PLANS; HOWEVER, ALL EXISTING UTILITIES MAY NOT BE SHOWN AND THE ACTUAL LOCATIONS OF THE UTILITIES MAY VARY FROM THE LOCATIONS SHOWN. SOME UTILITIES MAY HAVE BEEN RELOCATED SINCE THE TIME OF DESIGN AND THE CONTRACTOR'S NOTICE TO PROCEED. PRIOR TO BEGINNING ANY TYPE OF EXCAVATION, THE CONTRACTOR SHALL CONTACT THE UTILITIES INVOLVED AND MAKE ARRANGEMENTS FOR THE LOCATION OF THE UTILITIES ON THE GROUND. THE CONTRACTOR SHALL MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL THEY ARE NO LONGER NECESSARY. ARKANSAS STATE LAW, THE UNDERGROUND FACILITIES DAMAGE PREVENTION ACT, REQUIRES TWO WORKING DAYS ADVANCE NOTIFICATION THROUGH THE ARKANSAS ONE-CALL SYSTEM CENTER BEFORE EXCAVATING USING MECHANIZED EQUIPMENT OR EXPLOSIVES (EXCEPT IN THE CASE OF EMERGENCY). THE ONE-CALL SYSTEM PHONE NUMBER IS 1-800-482-8998. THE CONTRACTOR IS ADVISED THAT THERE IS A SEVERE PENALTY FOR NOT MAKING THIS CALL. NOT ALL UTILITY COMPANIES ARE MEMBERS OF THE ARKANSAS ONE-CALL SYSTEM; THEREFORE, THE CONTRACTOR IS ADVISED TO CONTACT ALL NON-MEMBER UTILITIES AS WELL AS THE ONE-CALL SYSTEM. THE LOCATION OF THE EXISTING UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE, AND ARE THE LOCATIONS AT THE TIME OF DESIGN.
2. ALL PROPERTY CORNERS (IRON PINS) OR OTHER MONUMENTS LOCATED WITHIN THE PROPOSED CONSTRUCTION SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE ARDOT STANDARD SPECIFICATIONS.
3. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE PROTECTED AND SAVED. CARE AND DISCRETION SHALL BE USED TO PROTECT TREES NOT IDENTIFIED FOR REMOVAL.
4. THE SOD QUANTITY INCLUDES THE EASEMENT ADJACENT TO THE ROAD. THE CONTRACTOR SHALL BE RESPONSIBLE TO GRADE TOPSOIL AND SOD ALL OTHER DISTURBED AREAS AT NO ADDITIONAL COMPENSATION.
5. CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ELEVATIONS OF ALL UTILITIES, WATER LINES AND SANITARY SEWER LINES PRIOR TO CONSTRUCTION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U.S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. THE ENGINEER WILL DETERMINE WHICH MAILBOXES WILL BE REMOVED AND REPLACED.
7. THE CONTRACTOR SHALL MOW GRASS WITHIN THE LIMITS OF THE PROJECT RIGHT OF WAY A MINIMUM OF TWO (2) TIMES AS DIRECTED BY THE OWNER AND THE ENGINEER. MOWING SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF SEEDING AND SODDING.

GOVERNING SPECIFICATIONS

CITY OF BENTONVILLE, MINIMUM STANDARD SPECIFICATIONS FOR STREETS, LATEST EDITION. SUPPLEMENTED BY THE ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014.

(THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE ARDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014.)

DESIGN SPEED

SE. DODSON ROAD= 30 MPH
SE. J STREET= 40 MPH
SE. WALTON BLVD.= 45 MPH

LEGEND

- EXISTING TOE-OF-SLOPE (TOS)
- EXISTING TOP-OF-BANK (TOB)
- EXISTING MINOR CONTOUR (1295)
- EXISTING MAJOR CONTOUR (1294)
- EXISTING PROPERTY LINE (P L)
- EXISTING EASEMENT
- EXISTING GAS UTILITY (G)
- EXISTING ELECTRIC UTILITY (OHE)
- EXISTING FIBER OPTIC (F O)
- EXISTING BACK OF CURB
- EXISTING RIGHT OF WAY (R / W)
- EXISTING EDGE OF PAVEMENT
- EXISTING GRAVEL DRIVE
- EXISTING FENCE
- EXISTING SIDEWALK
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER (8"SS)
- EXISTING WATER LINE (8"W)
- PROPOSED FORCE MAIN (FM)
- PROPOSED SANITARY SEWER (12"SS)
- PROPOSED WATER LINE (12"W)
- PROPOSED RIGHT OF WAY (R / W)
- PROPOSED CENTERLINE
- PROPOSED BACK OF CURB
- PROPOSED SIDEWALK
- PROPOSED TOP-OF-BANK (TOB)
- PROPOSED TOE-OF-SLOPE (TOS)
- PROPOSED EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- PROPOSED FENCE
- PROPOSED DITCH
- PROPOSED MAILBOX
- PROPOSED LUMINAIRE POLE
- PROPOSED HANDICAP RAMP
- PROPOSED SIGN
- PROPOSED DRAINAGE INLET
- DEMOLITION AREAS
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- EXISTING SIGN
- CONTROL POINT & BENCHMARK
- EXISTING TRANSFORMER
- EXISTING POWER POLE
- EXISTING LIGHT POLE
- EXISTING TELECOMM BOX
- EXISTING FIBER OPTIC PEDESTAL (FOC)
- EXISTING GAS METER (GM)
- EXISTING WATER VALVE
- WATER METER (WM)
- EXISTING FIRE HYDRANT
- EXISTING STORM DRAIN INLET (SD)
- EXISTING SANITARY SEWER CLEANOUT (S)
- EXISTING SANITARY SEWER MANHOLE (SS)
- EXISTING DECIDUOUS TREE
- EXISTING CONIFEROUS TREE
- B-4 SOIL BORING LOCATION

SHEET INDEX

ARDOT STANDARD ROADWAY DRAWINGS

DRAWING NUMBER	TITLE
DR-1	DETAILS OF DRIVEWAYS & ISLANDS
FES-1	FLARED END SECTION
FES-2	FLARED END SECTION
FPC-9	DETAILS OF DROP INLETS AND JUNCTION BOXES
FPC-9E	DETAILS OF DROP INLETS (TYPE C)
FPC-9M	DETAILS OF DROP INLET (TYPE MO)
PBC-1	PRECAST CONCRETE BOX CULVERTS
PM-1	PAVEMENT MARKING DETAILS
SD-4	LOOP DETECTOR INSTALLATION
SD-5	CONTROLLER CABINET UTILITY DRAWER
SD-6	HEAVY DUTY PULL BOX
SD-7	SPAN WIRE ASSEMBLY WOOD POLE
SD-8	SIGNAL HEAD PLACEMENT
SD-9	SERVICE POINT
SD-11	STEEL POLE WITH MAST ARM
SHS-1	STANDARD HIGHWAY SIGNS AND SUPPORT ASSEMBLIES
SHS-2	U-CHANNEL POST ASSEMBLIES
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION
TC-4	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER
TC-5	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER
TEC-1	TEMPORARY EROSION CONTROL DEVICES
TEC-2	TEMPORARY EROSION CONTROL DEVICES
TEC-3	TEMPORARY EROSION CONTROL DEVICES
TEC-4	TEMPORARY EROSION CONTROL DEVICES

GARVER

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THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

GENERAL NOTES, LEGEND, AND INDEX

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: ZTM
DRAWN BY: TWM

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G-002

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REVISED DATE:

SURVEY CONTROL POINTS				
POINT#	NORTHING	EASTING	ELEVATION	DESCRIPTION
13	735987.4770	665007.0620	1276.533	1/2 REBAR WITH GARVER CONTROL CAP
14	735876.3430	665026.5440	1275.688	1/2 REBAR WITH GARVER CONTROL CAP
15	735242.8380	665009.8090	1272.947	1/2 REBAR WITH GARVER CONTROL CAP
16	735889.0300	665143.5490	1275.945	1/2 REBAR WITH GARVER CONTROL CAP
17	735883.6050	665341.4300	1276.933	1/2 REBAR WITH GARVER CONTROL CAP
18	736004.4930	665126.1230	1276.276	1/2 REBAR WITH GARVER CONTROL CAP

0' 30' 60' 120' 180'
(IN FEET)

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SURVEY CONTROL

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DRAWN BY: TSA

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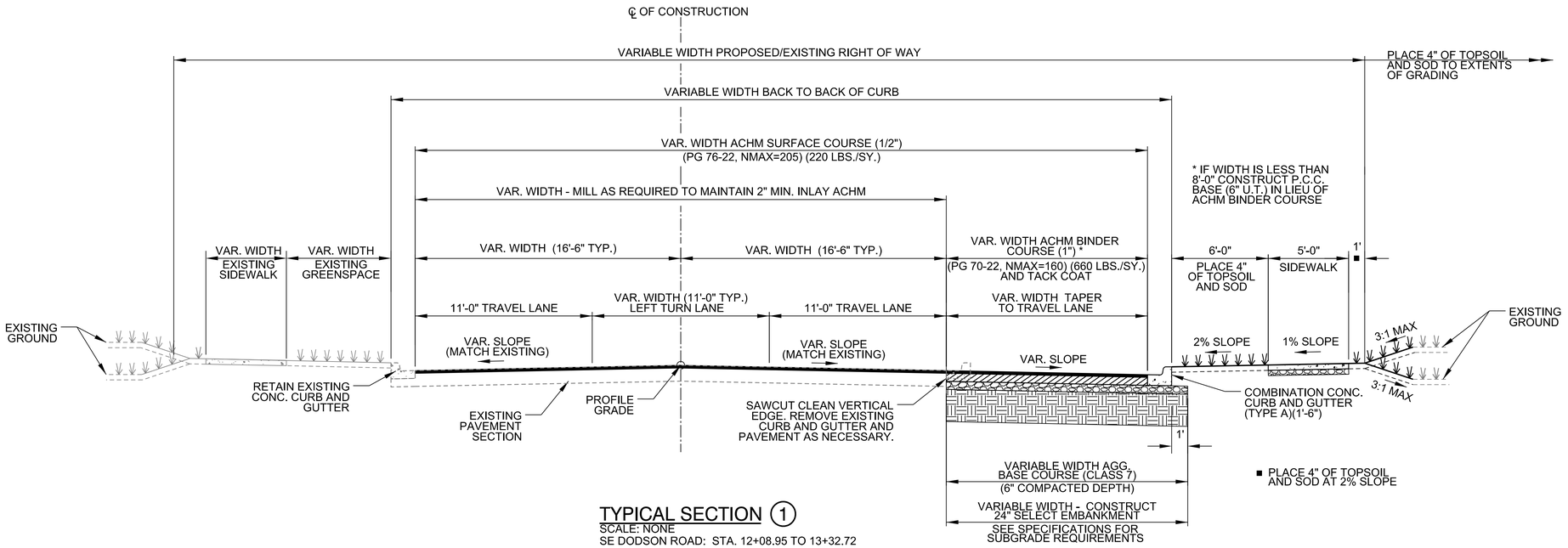
REVISED DATE:



TYPICAL SECTION ①

SCALE: NONE

SE DODSON ROAD: STA. 12+08.95 TO 13+32.72

TYPICAL SECTION GENERAL NOTES

1. CROSS SLOPES OF ROADWAY WIDENING SHALL MATCH EXISTING ROADWAY CROSS SLOPES UNLESS OTHERWISE NOTED. REFER TO CROSS SECTIONS AND GRADING PLANS FOR DEVIATIONS FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
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WALTON BOULEVARD AND J STREET IMPROVEMENTS

TYPICAL SECTIONS

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: ZTM
DRAWN BY: TWM

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DRAWING NUMBER
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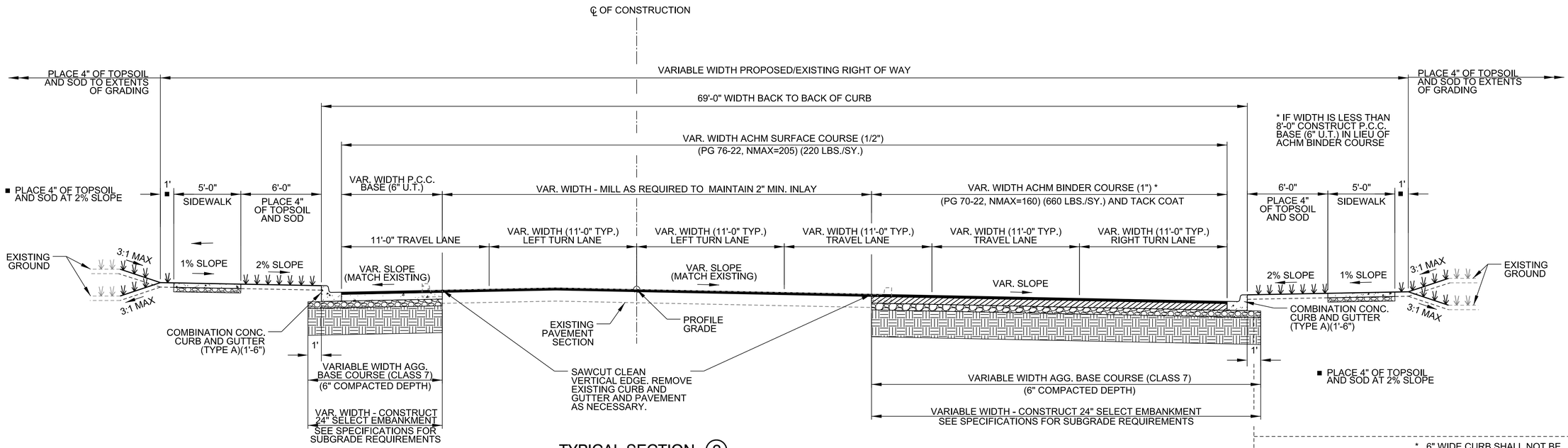
REVISED DATE:

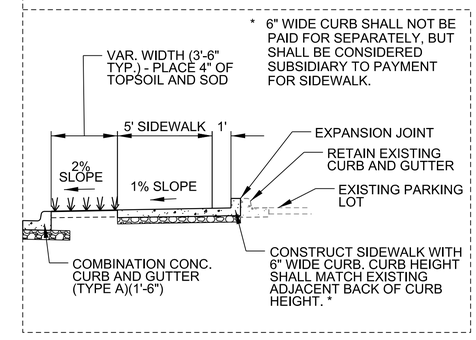


TYPICAL SECTION ②

SCALE: NONE

SE DODSON ROAD: STA. 13+32.72 TO 15+76.26

* 6" WIDE CURB SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED SUBSIDIARY TO PAYMENT FOR SIDEWALK.



ALTERNATE SIDEWALK WITH CURB SECTION

SE DODSON ROAD: STA. 14+13.50 TO STA. 14+75.00 RT.

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TYPICAL SECTIONS

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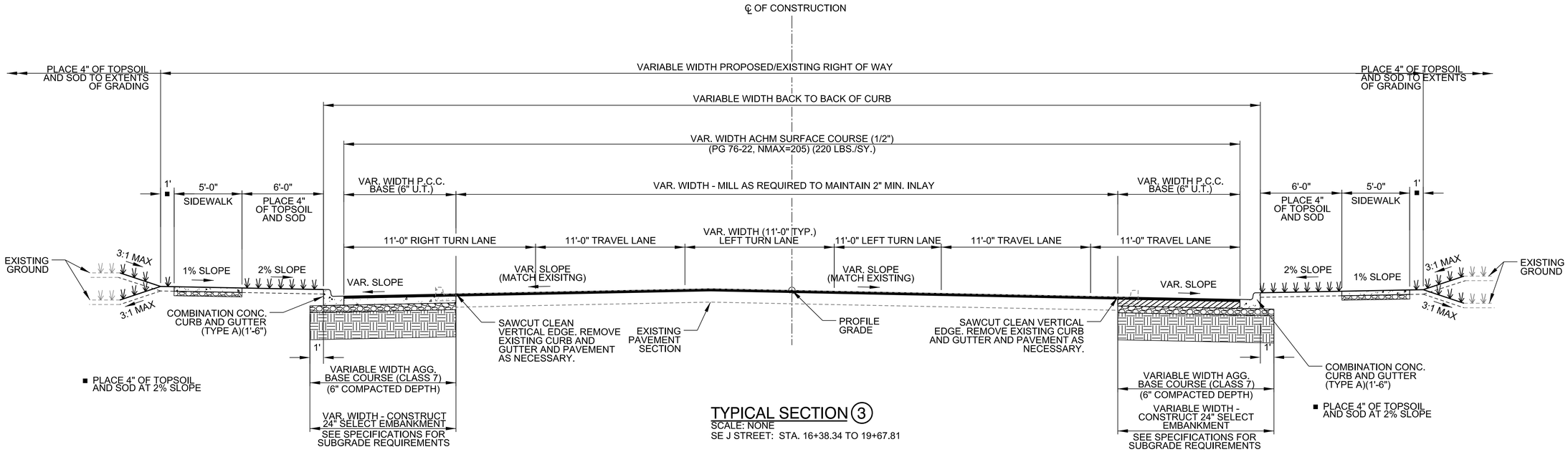
REVISED DATE:



TYPICAL SECTION ③

SCALE: NONE

SE J STREET: STA. 16+38.34 TO 19+67.81

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DRAWING NUMBER
C-103

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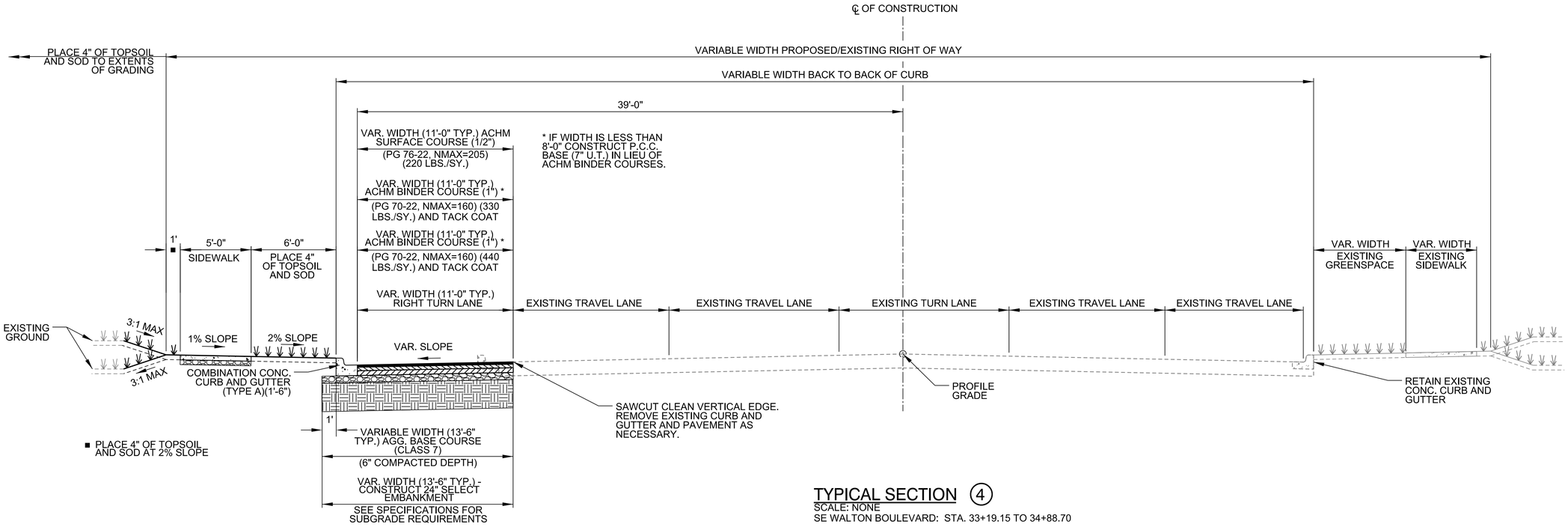

TYPICAL SECTION ④

SCALE: NONE

SE WALTON BOULEVARD: STA. 33+19.15 TO 34+88.70

TYPICAL SECTION GENERAL NOTES

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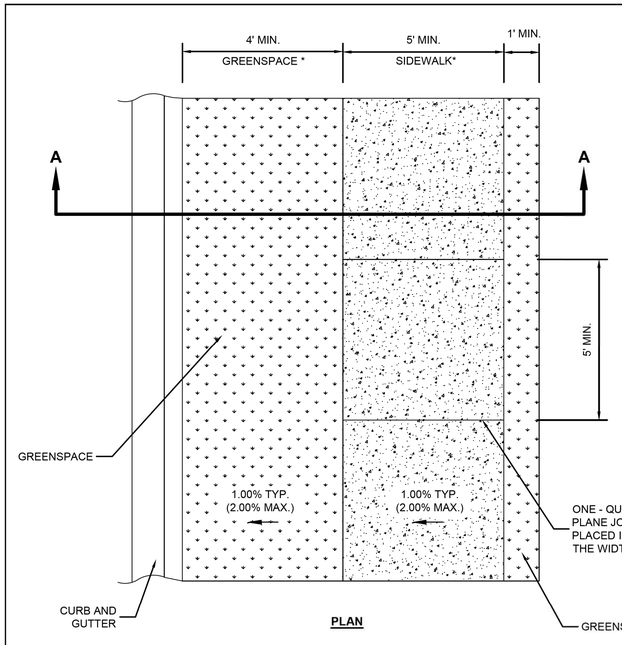
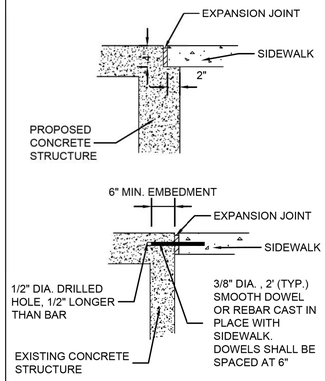
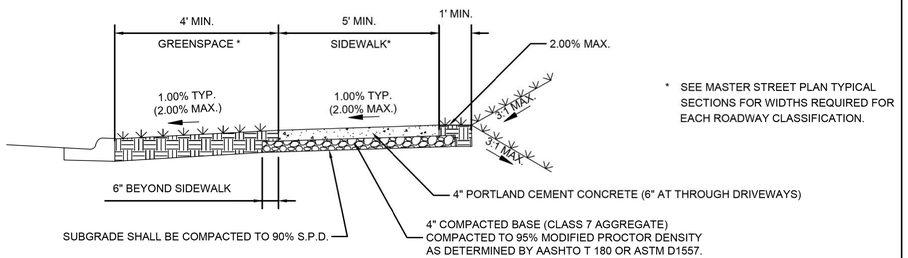


PLAN

CONNECTION TO CONCRETE STRUCTURES





* SEE MASTER STREET PLAN TYPICAL SECTIONS FOR WIDTHS REQUIRED FOR EACH ROADWAY CLASSIFICATION.

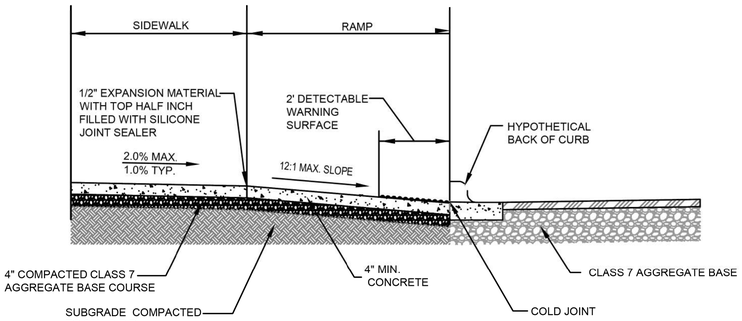
SECTION A-A

SIDEWALK CONSTRUCTION NOTES:

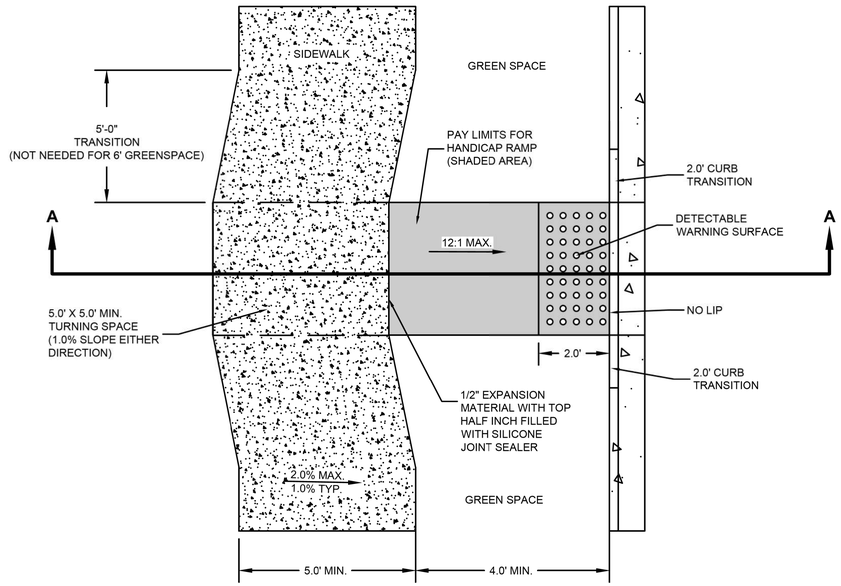
1. CONTRACTION (WEAKENED PLAN) JOINTS SHALL HAVE TOOLED OR SAW-CUT TRANSVERSE JOINTS WITH JOINT SPACING MATCHING SIDEWALK WIDTH. THE CONTRACTION JOINTS SHALL BE CONSTRUCTED TO 1/4 DEPTH OF THE SIDEWALK THICKNESS AND SHALL BE 1/8" TO 3/8" WIDE. EXPANSION JOINTS SHALL BE INSTALLED PERPENDICULAR TO THE SIDEWALK AT INTERVALS EQUAL TO FIVE (5) TIMES THE SIDEWALK WIDTH. EXPANSION JOINTS SHALL BE A MINIMUM OF 1/2" WIDTH AND EXTEND THE FULL DEPTH OF THE CONCRETE.
2. EXPANSION JOINT MATERIAL SHALL MEET AASHTO M213 FOR AN ASPHALTIC FIBER EXPANSION JOINT MATERIAL AND BE INSTALLED WITH A ZIP STRIP WHICH IS REMOVED AFTER THE CONCRETE HAS CURED AND SEALED WITH A MASTIC SEALER. EXPANSION JOINT MATERIAL SHALL BE LEFT 1/2" LOWER THAN GRADE OR TRIMMED 1/2" LOWER, AND FILLED WITH SELF-LEVELING SEALANT TO FINISHED GRADE.
3. ALL SIDEWALKS SHALL RECEIVE A BROOM FINISH AND ALL EDGES SHALL HAVE A 1/2" RADIUS EDGE. CONCRETE CURING COMPOUND SHALL BE SEALTIGHT 1600-WHITE MANUFACTURED BY W.R. MEADOWS, OR AN APPROVED EQUAL.
4. CONCRETE FOR SIDEWALK SHALL CONFORM TO ARDOT CLASS "S", 3500 PSI, 6.5 BAG MIX WITH 4-7% AIR ENTRAINMENT.
5. ALL CONTRACTION JOINTS AND COLD JOINTS SHALL BE FILLED TO FINISHED GRADE WITH SELF-LEVELING SEALANT SUCH AS SONNEBORN SL-1 OR EQUIVALENT MEETING THE REQUIREMENTS OF ASTM C 920, TYPE S.
6. CLOSED CELL BACKER ROD SHALL BE USED IN DEEP JOINTS, AS NEEDED, ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
7. WHEN PLACING SIDEWALK AGAINST AN EXISTING CONCRETE STRUCTURE WHERE IT IS DESIRABLE THAT THE SIDEWALK REMAIN FLUSH, THE SIDEWALK SHALL BE DOWELED INTO THE STRUCTURE.

CITY OF BENTONVILLE ARKANSAS	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	DESCRIPTION: SIDEWALK WITH GREENSPACE	DATE: FEBRUARY, 2021
		TITLE: ***SIDEWALK DETAILS***	SHEET: **SW-1**

1 C-151 SIDEWALK DETAILS
SCALE: NONE



SECTION A-A



PLAN

NOTES:

1. CONCRETE FOR SIDEWALK RAMPS SHALL CONFORM TO ARDOT CLASS "S", 3500 PSI, 6.5 BAG MIX WITH 4-7% AIR ENTRAINMENT. ALL SIDEWALK RAMPS SHALL RECEIVE A BROOM FINISH AND ALL EDGES SHALL HAVE A 1/2" RADIUS EDGE. CONCRETE CURING COMPOUND SHALL BE SEALTIGHT 1600-WHITE MANUFACTURED BY W.R. MEADOWS, OR AN APPROVED EQUAL.
2. DETECTABLE WARNING SURFACES SHALL BE PLACED AT ALL LOCATIONS WHERE RAMPS CROSS A STREET OR A SIGNALIZED COMMERCIAL DRIVEWAY FOR THE FULL WIDTH OF THE RAMP. THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS LOCATED AT THE BACK OF CURB AND PERPENDICULAR TO THE EDGE OF THE SIDEWALK RAMP. AT CURB RADII WHERE THE DISTANCE FROM THE PERPENDICULAR DETECTABLE WARNING SURFACE TO THE BACK OF CURB EXCEEDS 5-FT., THE DETECTABLE WARNING SURFACE SHALL BE PLACED AT THE BACK OF CURB.
3. ALL SIDEWALK RAMPS REQUIRE A CITY INSPECTION PRIOR TO CONCRETE PLACEMENT.

CITY OF BENTONVILLE ARKANSAS	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	DESCRIPTION: SIDEWALK RAMP WITH 2' CURB TRANSITION	DATE: FEBRUARY, 2021
		TITLE: ***SIDEWALK RAMP DETAIL***	SHEET: **SR-1**

2 C-151 SIDEWALK RAMP WITH 2' CURB TRANSITION
SCALE: NONE

FINAL PLANS
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

MISCELLANEOUS DETAILS

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-151

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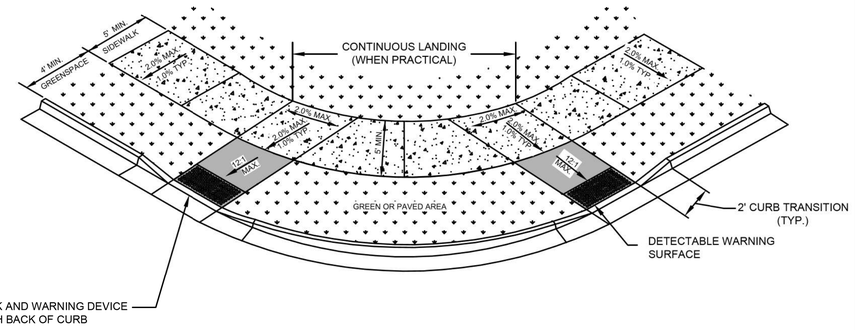
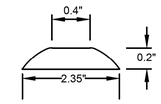


NOTES:
1. CONCRETE FOR SIDEWALK RAMPS SHALL CONFORM TO ARDOT CLASS "S", 3500 PSI, 6.5 BAG MIX WITH 4-7% AIR ENTRAINMENT. ALL SIDEWALK RAMPS SHALL RECEIVE A BROOM FINISH AND ALL EDGES SHALL HAVE A 1/2" RADIUS EDGE. CONCRETE CURING COMPOUND SHALL BE SEALTIGHT 1600-WHITE MANUFACTURED BY W.R. MEADOWS, OR AN APPROVED EQUAL.
2. DETECTABLE WARNING SURFACES SHALL BE PLACED AT ALL LOCATIONS WHERE RAMPS CROSS A STREET OR A SIGNALIZED COMMERCIAL DRIVEWAY FOR THE FULL WIDTH OF THE RAMP. THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS LOCATED AT THE BACK OF CURB AND PERPENDICULAR TO THE EDGE OF THE SIDEWALK RAMP. AT CURB RADII WHERE THE DISTANCE FROM THE PERPENDICULAR DETECTABLE WARNING SURFACE TO THE BACK OF CURB EXCEEDS 5-FT., THE DETECTABLE WARNING SURFACE SHALL BE PLACED AT THE BACK OF CURB.
3. ALL SIDEWALK RAMPS REQUIRE A CITY INSPECTION PRIOR TO CONCRETE PLACEMENT.

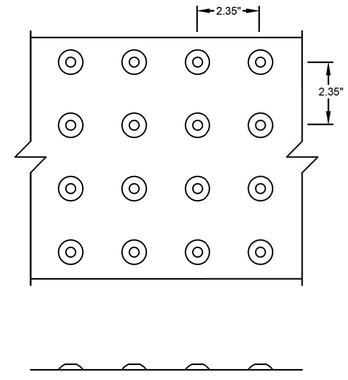
CITY OF BENTONVILLE ARKANSAS	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	DESCRIPTION: **SIDEWALK RAMP LOCATIONS AT RADIUS** TITLE: ***SIDEWALK RAMP DETAIL***	DATE: MARCH, 2021 SHEET: **SR-4**

1 / C-152 SIDEWALK RAMP LOCATIONS AT RADIUS
SCALE: NONE

NOTES:
1. THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS LOCATED AT THE BACK OF CURB.
2. TRUNCATED DOMES SHALL HAVE A DIAMETER OF 0.9 INCH AT THE BOTTOM, A DIAMETER OF 0.4 INCH AT THE TOP, A HEIGHT OF 0.2 INCH, AND A CENTER-TO-CENTER SPACING OF 2.35 INCHES MEASURED ALONG ONE SIDE OF A SQUARE ARRANGEMENT.
3. DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
4. DETECTABLE WARNING DEVICE SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE. (MIN 4')
5. TYPE OF DETECTABLE WARNING DEVICE SHALL BE APPROVED BY THE CITY OF BENTONVILLE PRIOR TO INSTALLATION. STAMPED CONCRETE SHALL NOT BE USED AS A DETECTABLE WARNING DEVICE.



TRUNCATED DOME SECTION



TRUNCATED DOME SPACING

DETECTABLE WARNING DEVICE DETAIL

CITY OF BENTONVILLE ARKANSAS	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	DESCRIPTION: ***DETECTABLE WARNING DEVICE*** TITLE: **SIDEWALK RAMP DETAIL**	DATE: MARCH, 2021 SHEET: **SR-5**

2 / C-152 DETECTABLE WARNING DEVICE
SCALE: NONE

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CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

MISCELLANEOUS DETAILS

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-152

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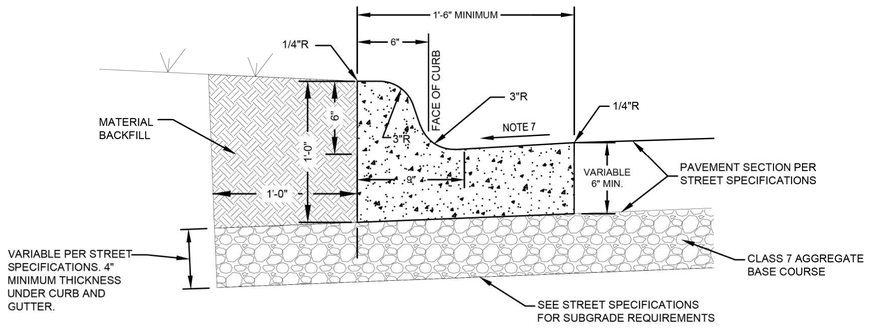
REVISED DATE:

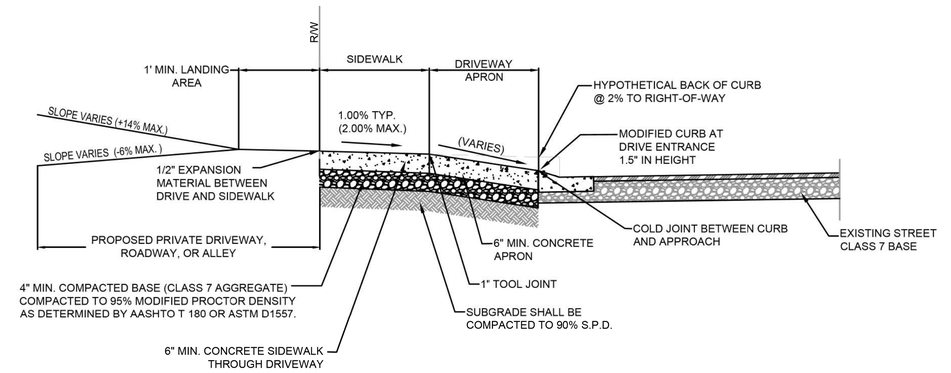


CURB & GUTTER NOTES:

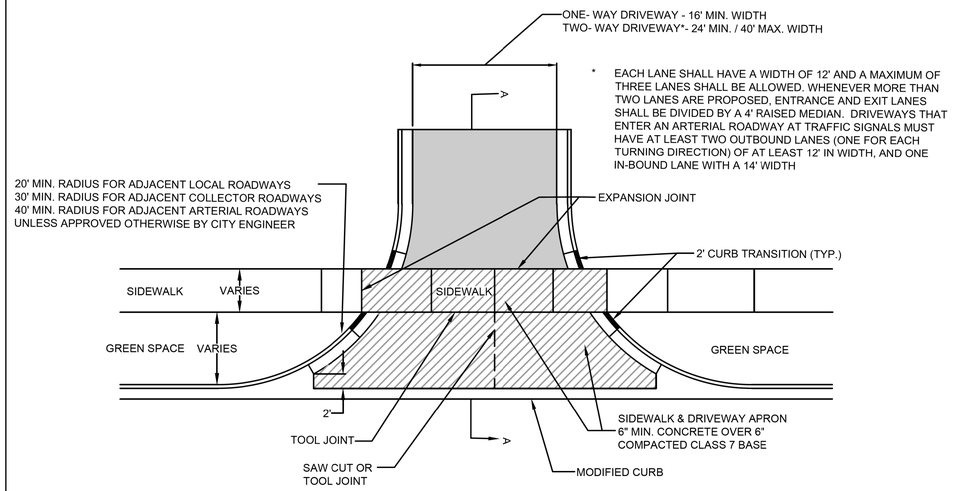
1. CONCRETE SHALL BE CLASS "S" PORTLAND CEMENT CONCRETE IN ACCORDANCE WITH SECTION 802 OR 501, ARDOT STANDARD SPECIFICATIONS WITH A 28-DAY COMPRESSIVE STRENGTH OF 3,500 p.s.i. ADMIXTURES SHALL NOT BE USED UNLESS SPECIFICALLY APPROVED BY THE CITY ENGINEER. MAXIMUM SLUMP SHALL NOT EXCEED 4". CONCRETE MAY NOT BE POURED IF A FALLING AIR TEMPERATURE FALLS BELOW 40°F NOR RESUMED UNTIL AN ASCENDING AIR TEMPERATURE RISES ABOVE 35°F WITHOUT SPECIFIC AUTHORITY FROM THE CITY REPRESENTATIVE.
2. ½" WIDE EXPANSION JOINTS SHALL BE REQUIRED AT 75 FT. INTERVALS AND AT ALL STATIONARY STRUCTURES AND ENDS OF CURB RETURNS. EXPANSION JOINTS SHALL BE MADE WITH 1/2 " ASPHALT IMPREGNATED FIBERBOARD CONFORMING TO AASHTO M-213 . ACCEPTABLE MATERIAL MAY BE FOUND ON THE CURRENT ARDOT "QUALIFIED PRODUCTS LIST". EXPANSION JOINT MATERIAL SHALL BE LEFT 1/2" LOWER THAN GRADE OR TRIMMED 1/2" LOWER THAN GRADE.
3. EXPANSION JOINT MATERIAL SHALL BE FULL DEPTH OF THE CURB AND PERPENDICULAR TO THE CURB LINE.
4. FINISH SHALL BE MEDIUM BROOM FINISH.
5. CURING COMPOUND SHALL BE A WHITE PIGMENTED MEMBRANE-FORMING LIQUID CONFORMING TO THE REQUIREMENTS OF ASTM DESIGNATION C309, TYPE 2.
6. CONTRACTION JOINTS SHALL BE 1/8" TO 3/8" X 1 1/2" AT 15 FT. INTERVALS. ALL CONTRACTION JOINTS AND COLD JOINTS SHALL BE FILLED WITH JOINT SEALANT TO FINISHED GRADE. JOINT SEALING COMPOUND FOR CONTRACTION JOINTS SHALL BE SONNEBORN "SONOLASTIC SLI" OR APPROVED EQUAL. CLOSED CELL BACKER ROD SHALL BE USED IN DEEP JOINTS, AS NEEDED, ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
7. GUTTER SHALL MATCH THE CROSS SLOPE OF THE ROAD WITHIN ± 0.5%. GUTTER DRAINING THE OPPOSITE DIRECTION AS THE ROAD WILL NOT BE ACCEPTED.
8. CONTRACTOR SHALL GIVE THE CITY AT LEAST TWENTY-FOUR (24) HOURS ADVANCE NOTICE BEFORE PLACING CONCRETE, AND THE SUBGRADE SHALL BE CHECKED AND APPROVED BY THE CITY REPRESENTATIVE BEFORE ANY CONCRETE IS PLACED.
9. AFTER CURBS HAVE SET SUFFICIENTLY, THEY SHALL BE BACKFILLED WITH APPROVED MATERIAL AND GRADED SO THAT NO PONDING WILL OCCUR. AREAS ON WHICH SIDEWALK OR DRIVEWAYS ARE TO BE CONSTRUCTED SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY AS MEASURED BY AASHTO T99 OR ASTM D698 (STANDARD PROCTOR).
10. FOR CONCRETE STREETS, IF THE CURB AND GUTTER IS CAST SEPARATELY, 1/2 " DIAMETER DOWEL RODS 30" LONG SHALL BE PROVIDED A MINIMUM OF EVERY 30" ON-CENTER.

CITY OF BENTONVILLE ARKANSAS	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	DESCRIPTION: **TYPE "A" CURB & GUTTER** TITLE: ***CURB & GUTTER DETAILS***	DATE: FEBRUARY, 2021 SHEET: **CG-1**

1 C-153 TYPE "A" CURB & GUTTER
SCALE: NONE



SECTION A-A



PLAN VIEW

NOTES:
1. FULL DEPTH EXPANSION JOINTS (SIX INCHES) SHALL BE PROVIDED AT THE BACK OF THE SIDEWALK THROUGH THE DRIVEWAY AND AT THE EDGE OF DRIVEWAY AS SHOWN ABOVE. EXPANSION MATERIAL SHALL BE ASPHALT IMPREGNATED FIBERBOARD OR APPROVED EQUAL. (NO WOOD)
2. CONCRETE TO BE SAW CUT OR PLACE A TOOL JOINT AT THE CENTER OF DRIVE AND SEALED. IF POSSIBLE CONTRACTOR SHALL TRY TO ALIGN THE JOINT AT THE CENTER OF THE DRIVE WITH THE A JOINT IN THE ADJACENT SIDEWALK. JOINTS SHALL BE PLACED SO THAT NO SLAB DIMENSION IS GREATER THAN 15'.
3. CONCRETE FOR DRIVEWAYS SHALL BE CLASS "S" PORTLAND CEMENT CONCRETE IN ACCORDANCE WITH SECTION 802 OR 501, ARDOT STANDARD SPECIFICATIONS WITH A 28-DAY COMPRESSIVE STRENGTH OF 3,500 PSI AND 4% TO 7% AIR ENTRAINED.
4. ALL SIDEWALKS REQUIRE A CONCRETE CURING COMPOUND, SUCH AS SEALTIGHT 1600-WHITE MANUFACTURED BY W.R. MEADOWS, OR AN APPROVED EQUAL
5. ALL DRIVEWAY APRONS SHALL BE CONSTRUCTED WITH A BROOM FINISH. TEXTURED, STAMPED, OR EXPOSED AGGREGATE CONCRETE IS NOT ALLOWED WITHIN STREET RIGHT OF WAY.
6. ALL CURB CUTS FOR DRIVEWAY APPROACHES REQUIRE AN INSPECTION PRIOR TO AND AFTER CONCRETE PLACEMENT.
7. CONCRETE DRIVEWAYS SHALL BE A MINIMUM OF 6 INCHES OF CONCRETE OVER 4 INCHES OF COMPACTED CLASS 7 AGGREGATE BASE COURSE OVER PREPARED SUBGRADE. COMMERCIAL ASPHALT DRIVEWAYS BEYOND THE CONCRETE APRON SHALL BE A MINIMUM OF 3 INCHES OF ASPHALT SURFACE COURSE OVER 6 INCHES OF COMPACTED CLASS 7 AGGREGATE BASE COURSE OVER PREPARED SUBGRADE.
8. DRIVEWAY APRON AND MODIFIED CURB SHALL BE PLACED MONOLITHICALLY.

CITY OF BENTONVILLE ARKANSAS	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	DESCRIPTION: **STANDARD COMMERCIAL DRIVEWAY WITH GREEN SPACE** TITLE: ***COMMERCIAL DRIVEWAY DETAIL***	DATE: MARCH, 2021 SHEET: **DW-2**

2 C-153 STANDARD COMMERCIAL DRIVEWAY WITH GREENSPACE
SCALE: NONE

FINAL PLANS
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REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

MISCELLANEOUS DETAILS

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: JAA
DRAWN BY: TSA

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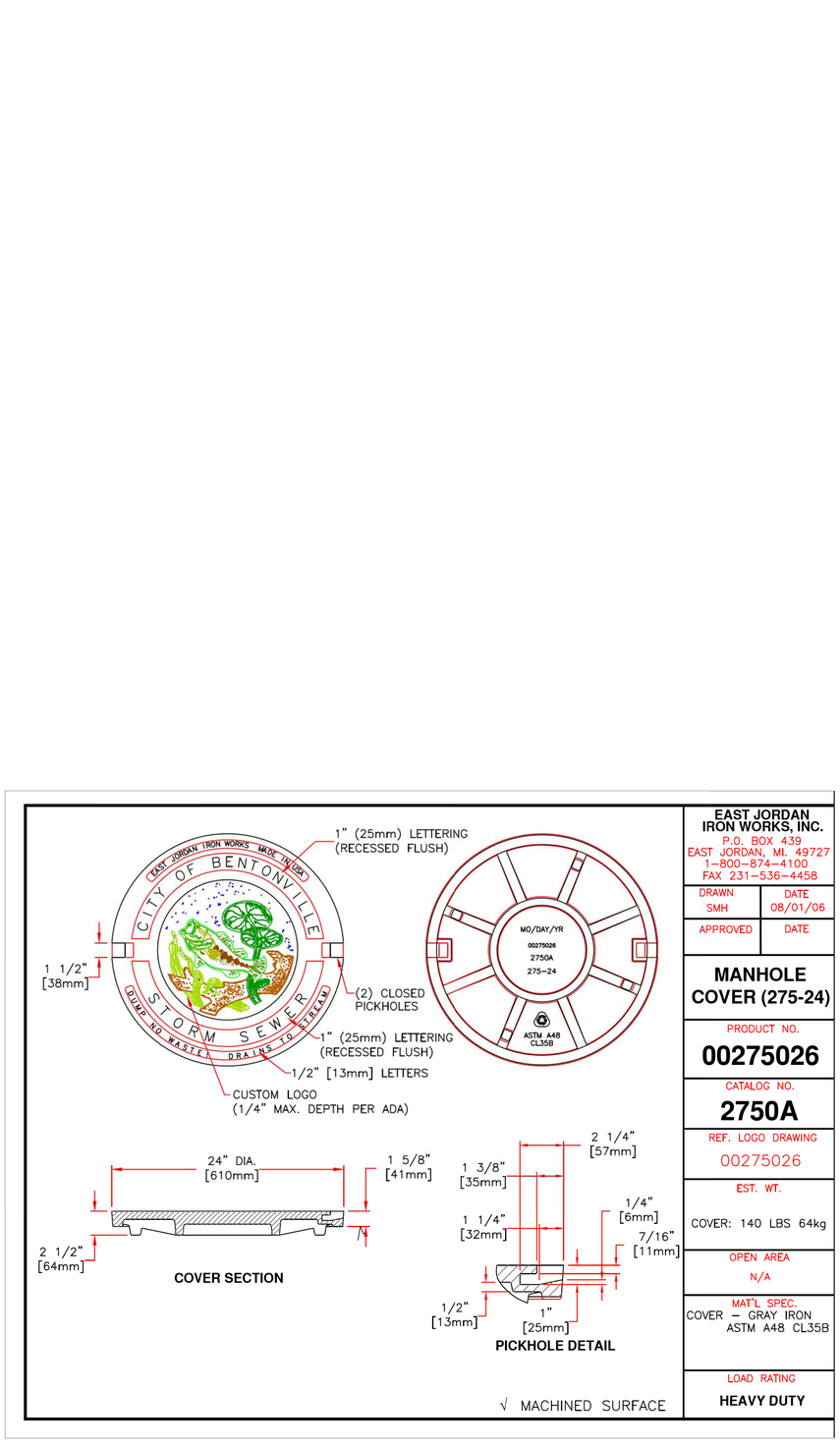
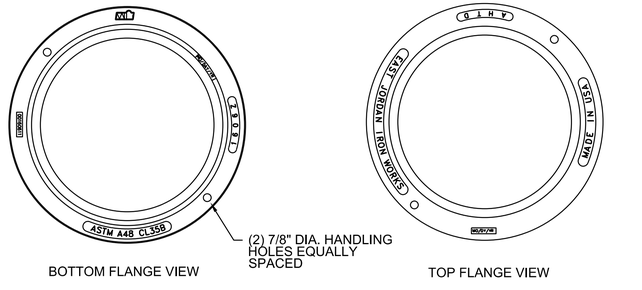
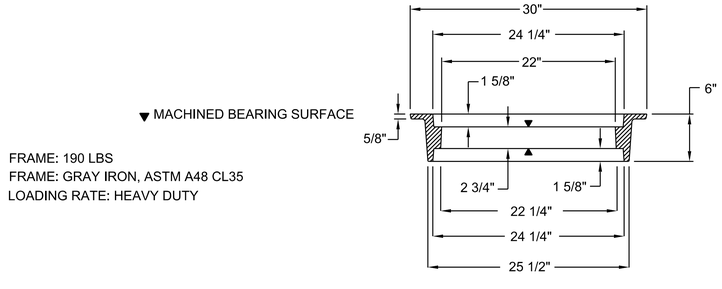


EAST JORDAN IRON WORKS, INC. P.O. BOX 439 EAST JORDAN, MI. 49727 1-800-874-4100 FAX 231-536-4458	
DRAWN SMH	DATE 08/01/06
APPROVED	DATE
MANHOLE COVER (275-24)	
PRODUCT NO.	**00275026**
CATALOG NO.	**2750A**
REF. LOGO DRAWING	00275026
EST. WT.	COVER: 140 LBS 64kg
OPEN AREA	N/A
MAT'L SPEC.	COVER – GRAY IRON ASTM A48 CL35B
LOAD RATING	**HEAVY DUTY**





FRAME: 190 LBS
FRAME: GRAY IRON, ASTM A48 CL35
LOADING RATE: HEAVY DUTY

REVERSIBLE RING SECTION

1
C-154

STORM SEWER COVER

SCALE: NONE

FINAL PLANS
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CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

MISCELLANEOUS DETAILS

JOB NO.: 21T21090
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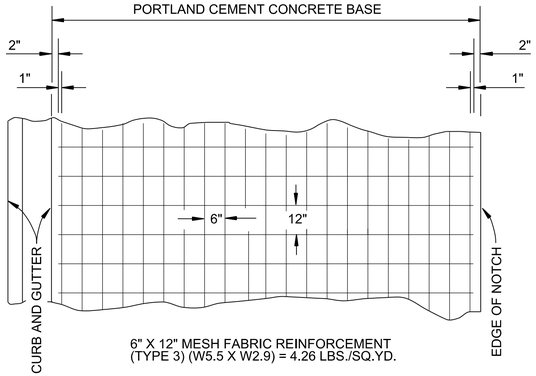
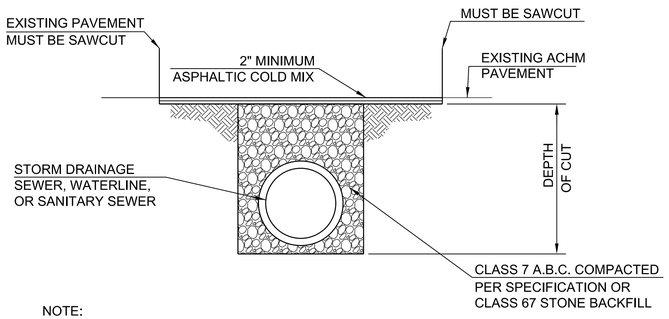
REVISED DATE:



NOTES:

1. LAP MESH FABRIC MIN. 12" LONGITUDINALLY AND MIN. 6" TRANSVERSELY.
2. MESH FABRIC IS NOT REQUIRED WHEN WIDTH OF PORTLAND CEMENT CONCRETE BASE IS LESS THAN 12".
3. MESH FABRIC WILL NOT BE PAID FOR DIRECTLY, BUT FULL COMPENSATION THEREFORE WILL BE CONSIDERED INCLUDED IN THE CONTRACT PRICE BID PER SQ. YD. FOR PORTLAND CEMENT CONCRETE BASE (6" U.T. OR 7" U.T.).

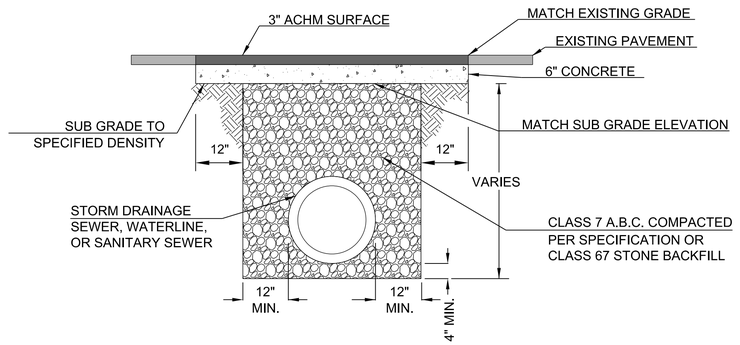
1 / C-155 — **P.C.C. BASE DETAIL**
NO SCALE



NOTE:

1. ASPHALTIC COLD MIX SHALL BE PAID FOR AS SQUARE YARDS OF TEMPORARY PAVEMENT REPAIR PER SECTION I-8 - PAVEMENT REPAIRS OF THE SPECIFICATIONS. PIPE BACKFILL SHALL BE CONSIDERED SUBSIDIARY TO THE PIPE.

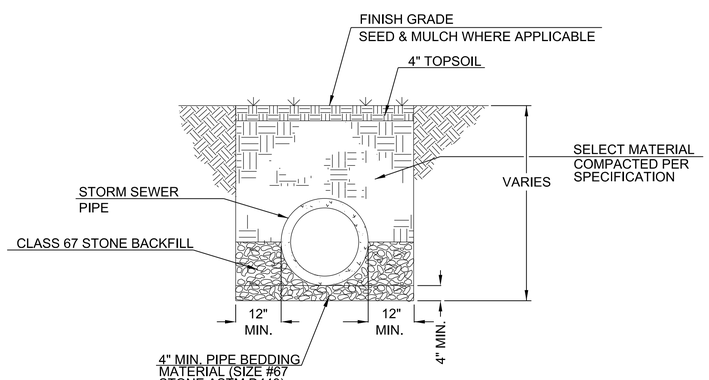
2 / C-155 — **ASPHALT PAVEMENT TEMPORARY REPAIR DETAIL**
NO SCALE



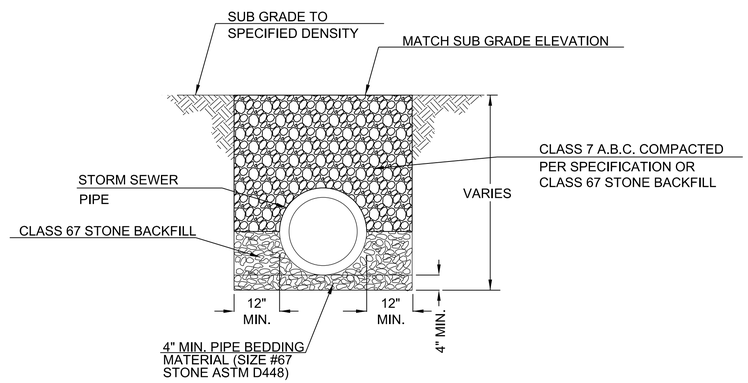
NOTES:

1. ASPHALT SURFACE COURSE AND CONCRETE SHALL BE PAID FOR AS SQUARE YARDS OF "ASPHALT PAVEMENT REPAIR" PER SECTION I-8 - PAVEMENT REPAIRS. PIPE BACKFILL SHALL BE CONSIDERED SUBSIDIARY TO INSTALLATION OF PIPE.

3 / C-155 — **ASPHALT PAVEMENT PERMANENT REPAIR**
NO SCALE



4 / C-155 — **TYPICAL DRAINAGE PIPE TRENCH - NOT UNDER PAVEMENT**
NO SCALE



5 / C-155 — **TYPICAL DRAINAGE PIPE TRENCH - PAVED AREAS**
NO SCALE

FINAL PLANS
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REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

MISCELLANEOUS DETAILS

JOB NO.: 21T21090
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DESIGNED BY: JAA
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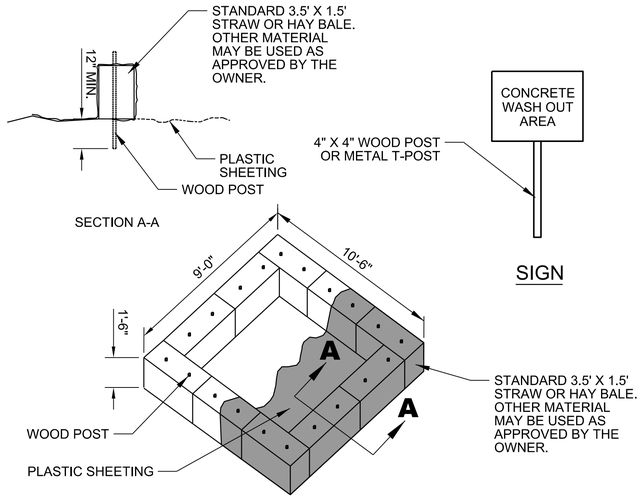
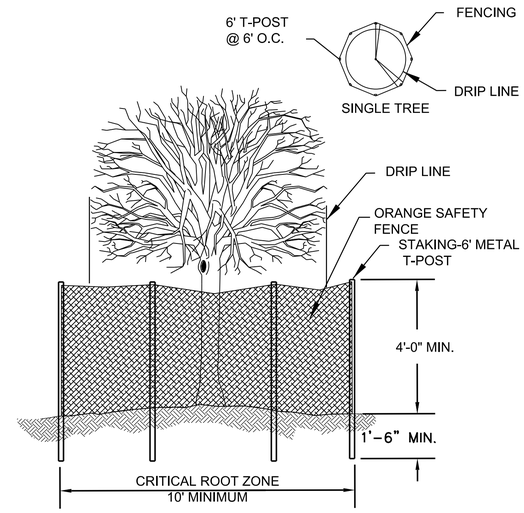


CONCRETE WASH OUT AREA NOTES:

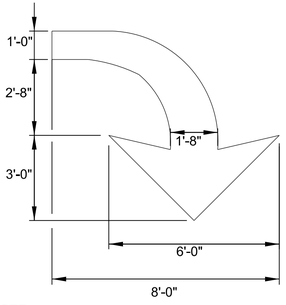
1. PLASTIC SHEETING MUST BE 10 MIL THICK OR TWO 6 MIL PIECES OVERLAPPED.
2. ONCE CONCRETE DRIES, IT CAN BE ROLLED UP IN THE PLASTIC.
3. HAY BALES MUST BE STAKED WITH POSTS HOLDING PLASTIC LINER IN PLACE AND COVERING ALL BALES. WOODEN POSTS MUST BE 3 FEET IN LENGTH.
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A WASH OUT AREA.
5. THE CONCRETE TRUCK DRIVER AND CONTRACTOR CAN BE CITED FOR WASH OUTS CONDUCTED IN A NON-DESIGNATED AREA.
6. AFTER THE DESIGNATED AREA FOR THE WASH OUT IS DETERMINED, SIGNAGE INDICATING CONCRETE WASH OUT AREA SHALL BE INSTALLED THAT IS VISIBLE TO EXITING VEHICLES. THE SIGN SHALL BE PLACED ON A WOOD POST AND EMBEDED 12".

1 / C-156 CONCRETE WASH OUT AREA DETAIL
NO SCALE



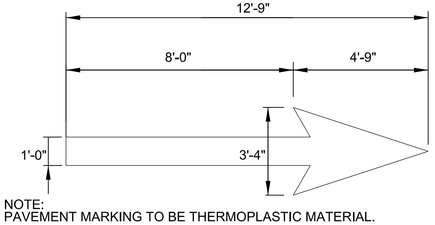
2 / C-156 TREE PROTECTION FENCING
NO SCALE

1. ALL TREES WITHIN THE PROJECT LIMITS TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION WITH TEMPORARY FENCING. TREE PROTECTION FENCING SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO EROSION CONTROL.
2. PROTECTIVE FENCES SHALL BE INSTALLED PRIOR TO THE START OF ANY SITE PREPARATION WORK AND SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF THE CONSTRUCTION PROJECT.
3. EROSION AND SEDIMENTATION CONTROL BARRIERS SHALL BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILD-UP WITHIN TREE DRIPLINES.
4. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN 2 DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
5. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND EQUIPMENT SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS.
6. ALL FINISHED PRUNING MUST BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES).



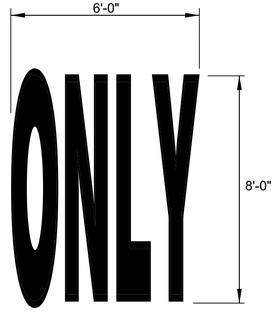
NOTE:
PAVEMENT MARKING TO BE THERMOPLASTIC MATERIAL.

3 / C-156 TURN LANE USE ARROW
NO SCALE



NOTE:
PAVEMENT MARKING TO BE THERMOPLASTIC MATERIAL.

4 / C-156 THROUGH LANE USE ARROW
NO SCALE



NOTE:
PAVEMENT MARKING TO BE WHITE THERMOPLASTIC MATERIAL.

5 / C-156 "ONLY" MARKING DETAIL
NO SCALE

FINAL PLANS
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

MISCELLANEOUS DETAILS

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-156

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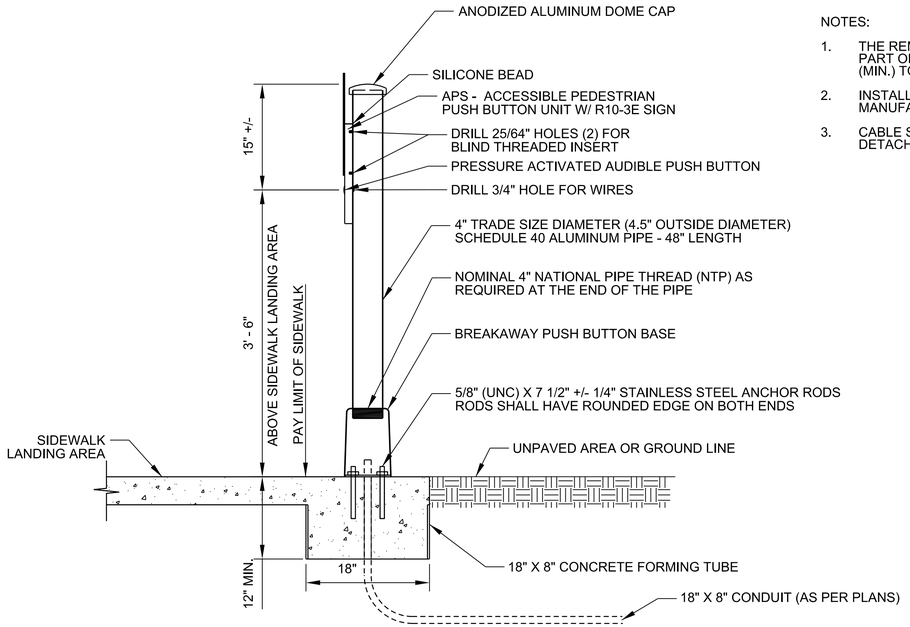
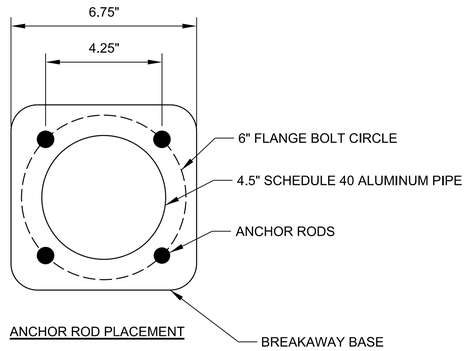
REVISED DATE:



NOTES:

1. THE REMOTE PUSH BUTTON POST FOUNDATION IS CONSTRUCTED AS PART OF THE SIDEWALK. INCREASE THE SIDEWALK THICKNESS TO 12" (MIN.) TO PROVIDE FOR THE REMOTE PUSH BUTTON POST FOUNDATION.
2. INSTALLATION OF THE REMOTE PUSH BUTTON POST SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
3. CABLE SHALL HAVE A SLIP-FIT CONNECTION IN THE PEDESTAL THAT WILL DETACH IN THE EVENT THE POLE IS STRUCK.



ANCHOR ROD PLACEMENT

1
C-157

SHALLOW FOUNDATION PEDESTRIAN POLE

NO SCALE

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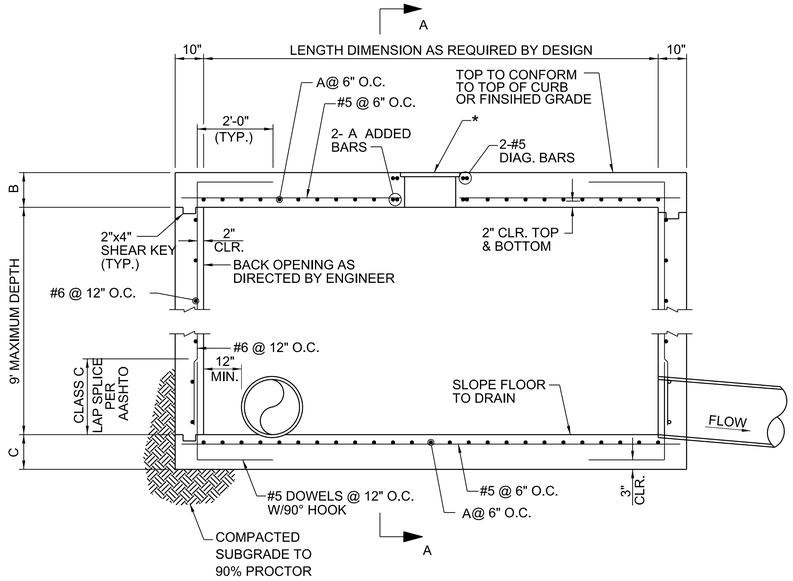

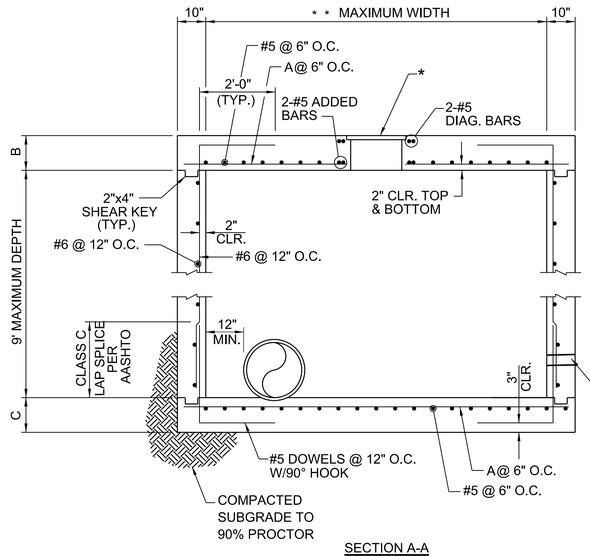

SECTION A-A

PROVIDE 3" DIAMETER WEEPHOLE IN THE CENTER OF EACH WALL 1' ABOVE FLOW LINE OF INLET. PROVIDE 1 C.F. 1 1/2" CRUSHED STONE IN BURLAP SACK OR B-STONE AT EACH WEEPHOLE.

REINFORCEMENT OR DIMENSION VARIABLE	* * MAXIMUM WIDTH					
	5'	6'	9'	12'	13.5'	14.5'
A	#5	#6	#7	#8	#9	#10
B	8"	9"	10"	11"	12"	12"
C	9"	10"	11"	12"	14"	16"

NOTE: ALL STRUCTURES ON THIS SHEET ARE DESIGNED AS CAST-IN-PLACE REINFORCED CONCRETE. PRECAST CONCRETE INLET TOPS WILL NOT BE PERMITTED. STEPS SHALL BE INSTALLED IN ALL BOXES GREATER THAN 4' IN DEPTH AND OVER ON 16" O.C. AS DIRECTED BY THE ENGINEER.

* CITY OF BENTONVILLE STANDARD HEAVY DUTY RING AND COVER.

1
C-158

SPECIAL JUNCTION BOX DETAIL

NO SCALE

FINAL PLANS
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THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD
AND J STREET
IMPROVEMENTS

MISCELLANEOUS
DETAILS

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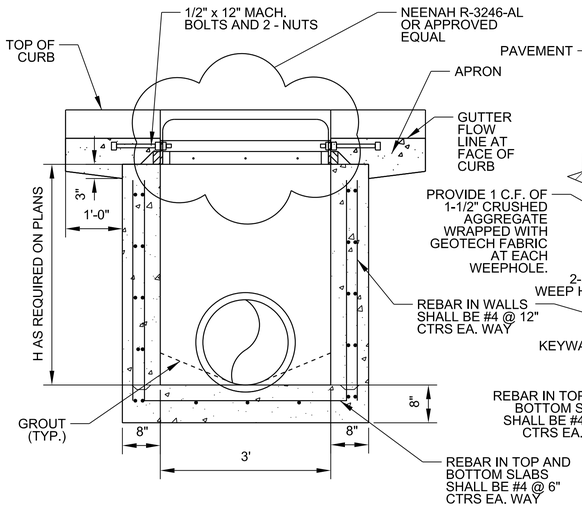
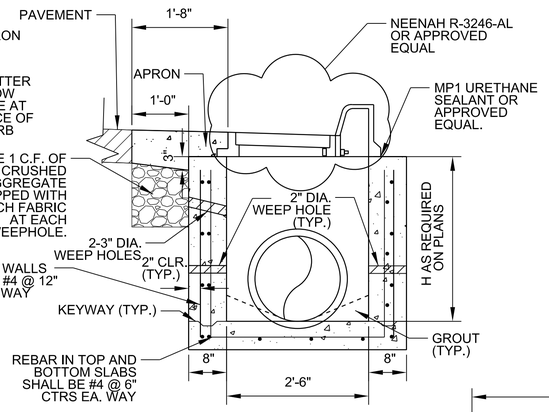
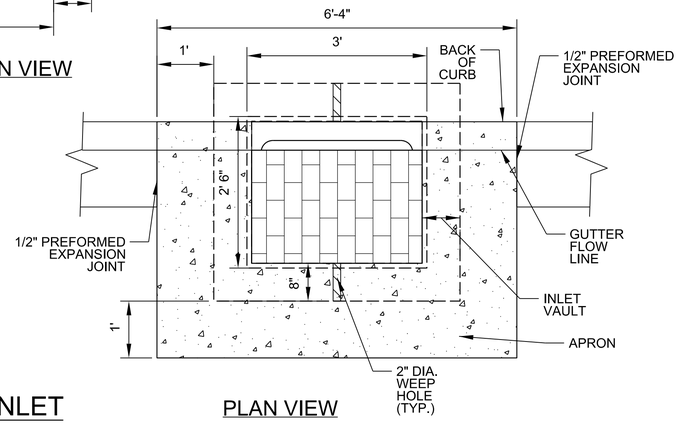


FRONT VIEW

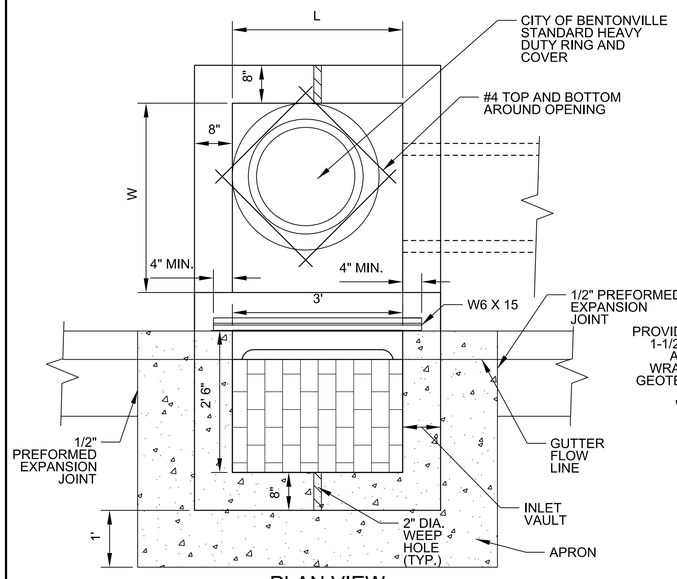


SECTION VIEW

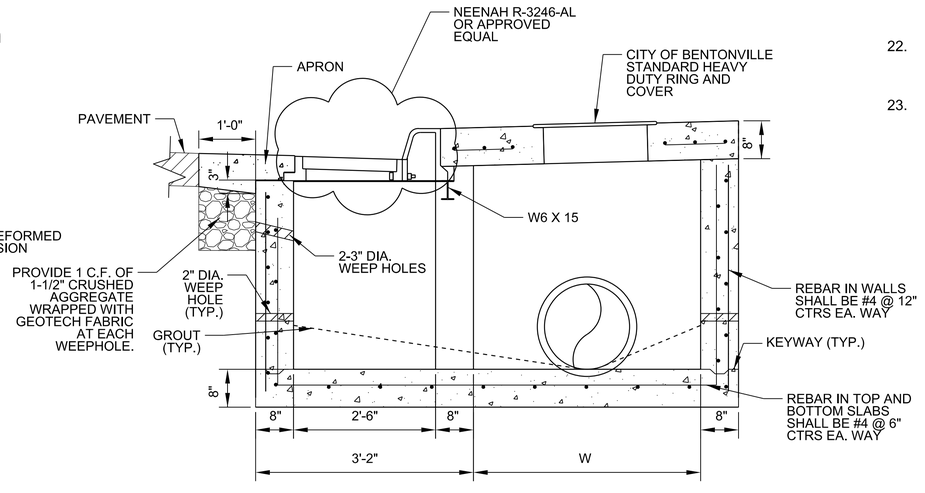


PLAN VIEW

1 C-159 **SINGLE GRATE COMBINATION INLET**
NO SCALE



PLAN VIEW

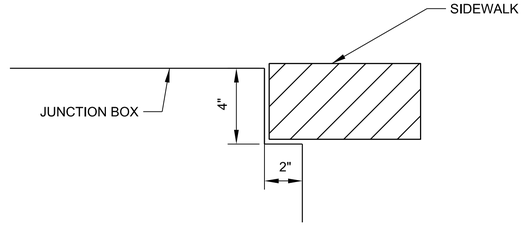


SECTION VIEW

2 C-159 **SINGLE GRATE COMBINATION INLET WITH JUNCTION BOX**
NO SCALE

COMBINATION INLET NOTES:

1. THE APRON AROUND THE INLET SHALL BE THE SAME SIZE AS SHOWN AND BUILT OF P.C. CONCRETE TO A MINIMUM 8" THICKNESS. COST OF APRON TO BE INCLUDED IN THE PRICE BID FOR INLET.
2. BOLTS WITH EXPANSION DEVICES OR EPOXY TYPE PUTTY TO BE USED TO INSTALL CURB OPENINGS INTO CONCRETE CURB.
3. THE GRATE DESIGN, JUNCTION BOX DIMENSIONS (IF APPLICABLE), AND NUMBER OF ADDITIONAL CURB OPENINGS SHALL BE INDICATED IN THE PLANS.
4. ALL NUTS AND BOLTS REQUIRED FOR THESE STRUCTURES SHALL BE CADMIUM PLATED, GALVANIZED, OR APPROVED EQUAL.
5. CURB OPENING SHALL BE PLACED ON UPSTREAM SIDE OF GRATE INLETS FOR TYPICAL INSTALLATIONS UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE ENGINEER.
6. GUTTER FLOW LINES SHALL REMAIN CONSTANT THROUGH CURB OPENINGS AND INLETS.
7. SINGLE GRATE COMBINATION INLET FRAME, CRATE, AND CURB BOX SHALL BE NEENAH R-3246-AL OR APPROVED EQUAL.
8. DOUBLE GRATE COMBINATION INLET FRAME, GRATE, AND CURB BOX SHALL BE NEENAH R-3293-2 OR APPROVED EQUAL.
9. TRIPLE GRATE COMBINATION INLET FRAME, GRATE, AND CURB BOX SHALL BE NEENAH R-3293-3 OR APPROVED EQUAL.
10. ADDITIONAL CURB OPENINGS SHALL BE NEENAH DF-2445 OR APPROVED EQUAL.
11. COST OF STRUCTURAL STEEL I-BEAMS AND ANGLE IRON TO BE INCLUDED IN THE PRICE BID FOR INLET. ANGLE IRON SHALL CONFORM TO ASTM-A7 OR A36
12. CASTING SHALL CONFORM TO ASTM SPECIFICATION FOR GREY IRON CASTINGS, SERIAL DESIGNATION A-48-CLASS 20.
13. IF PRECAST INLET IS USED, CLASS 67 STONE MUST BE USED AS BACKFILL AROUND THE ENTIRE INLET.
14. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
15. ALL REINFORCEMENT BARS SHALL BE GRADE 60 AND SHALL HAVE A MINIMUM 2" COVER UNLESS OTHERWISE NOTED.
16. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI.
17. INVERTS SHALL BE POURED MONOLITHICALLY WITH FOOTING.
18. PIPE MAY ENTER BOX FROM ANY ANGLE OR ELEVATION AS DIRECTED BY THE ENGINEER. REINFORCING BARS SHALL BE CUT TO CLEAR PIPE BY 2".
19. EXPANSION JOINTS SHALL HAVE A THICKNESS OF 1/2" AND CONFORM TO AASHTO M213.
20. REFER TO PLAN AND PROFILE SHEETS TO DETERMINE QUANTITY OF ADDITIONAL CURB OPENINGS (IF ANY) AND ACCOMPANYING JUNCTION BOX DIMENSIONS.
21. STEPS ARE REQUIRED IN STORM DRAIN MANHOLES THAT ARE AT 4 FT DEPTH AND GREATER (FROM INVERT TO RIM). CENTERLINE OF MANHOLE LID SHALL BE 2 FT FROM THE WALL WHERE STEPS ARE LOCATED. STEPS (5" X 12") SHALL BE COPOLYMER POLYPROPYLENE PLASTIC WITH STEEL CORE AT 16" APART.
22. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF INLETS, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHODS USED FOR THIS WORK SHALL BE APPROVED BY THE ENGINEER.
23. ALL GRATES, FRAMES, AND CURB BOX OPENINGS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.



3 C-159 **NOTCH FOR SIDEWALK**
NO SCALE

FINAL PLANS
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REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

MISCELLANEOUS DETAILS

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: JAA
DRAWN BY: TSA

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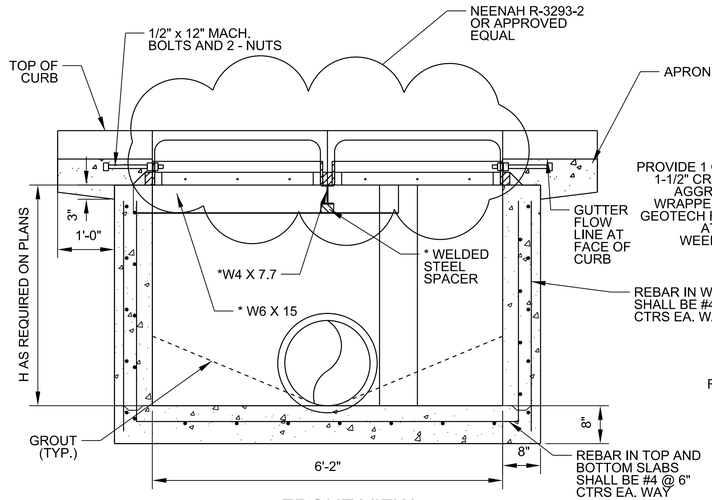
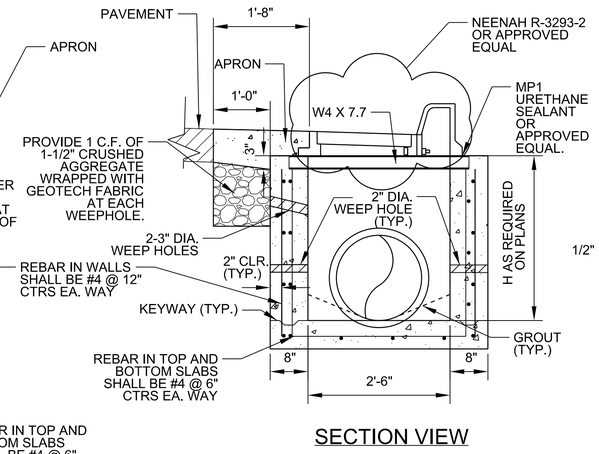
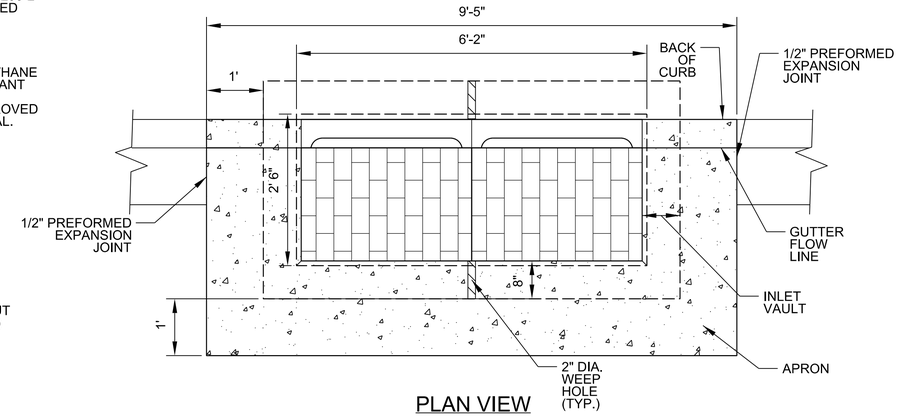
REVISED DATE:



FRONT VIEW



SECTION VIEW

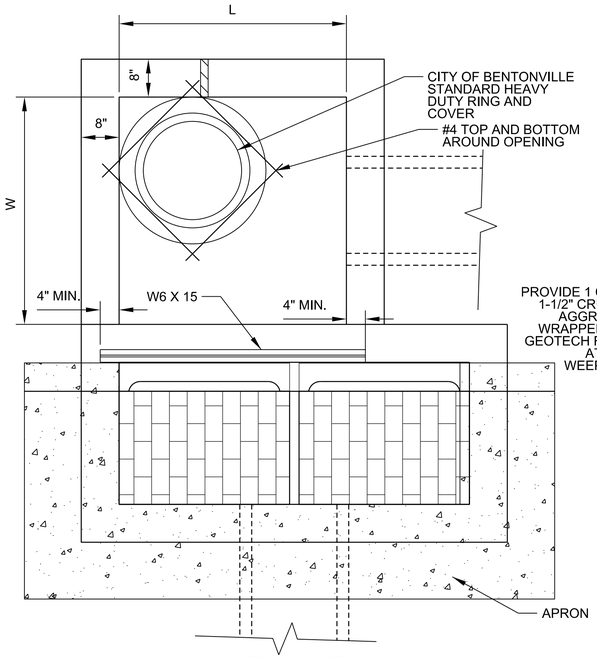


PLAN VIEW

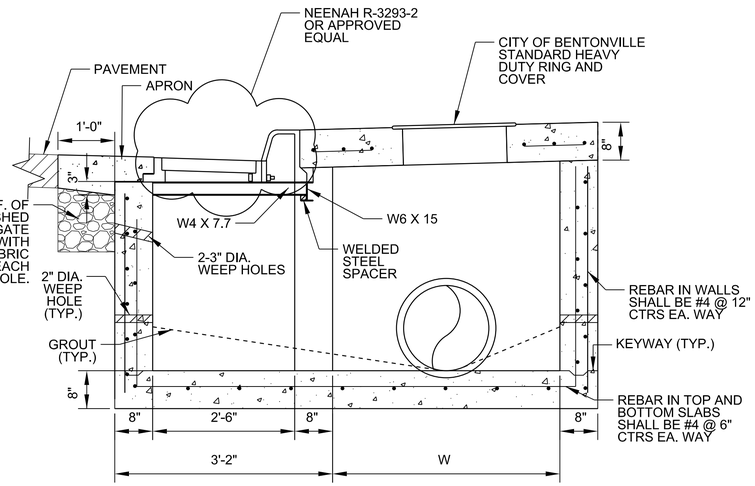
* WELDED STEEL SPACER AND W6 X 15 USED IN CONJUNCTION WITH ADDITION OF JUNCTION BOX PER BEAM SUPPORT DETAIL. (CUT TOP FLANGE OF W4 X7.7 TO FIT AS SHOWN)

1 / C-160 — DOUBLE GRATE COMBINATION INLET

NO SCALE



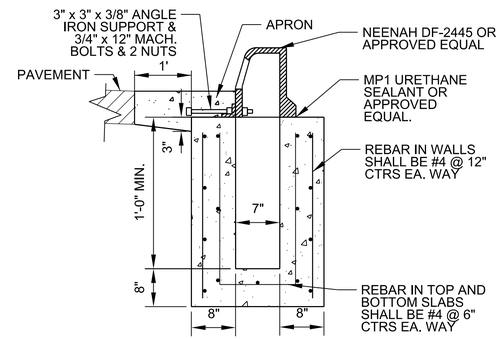
PLAN VIEW



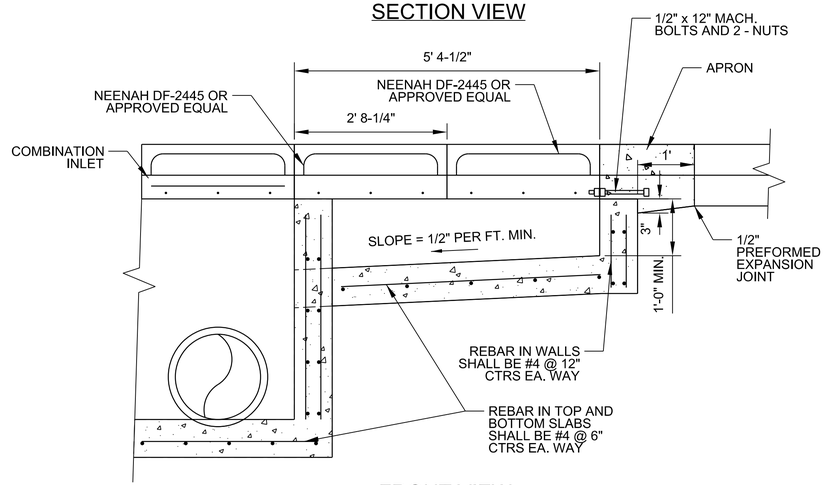
SECTION VIEW

2 / C-160 — DOUBLE GRATE COMBINATION INLET WITH JUNCTION BOX

NO SCALE



SECTION VIEW



FRONT VIEW

3 / C-160 — ADDITIONAL CURB OPENING(S)

NO SCALE

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WALTON BOULEVARD AND J STREET IMPROVEMENTS

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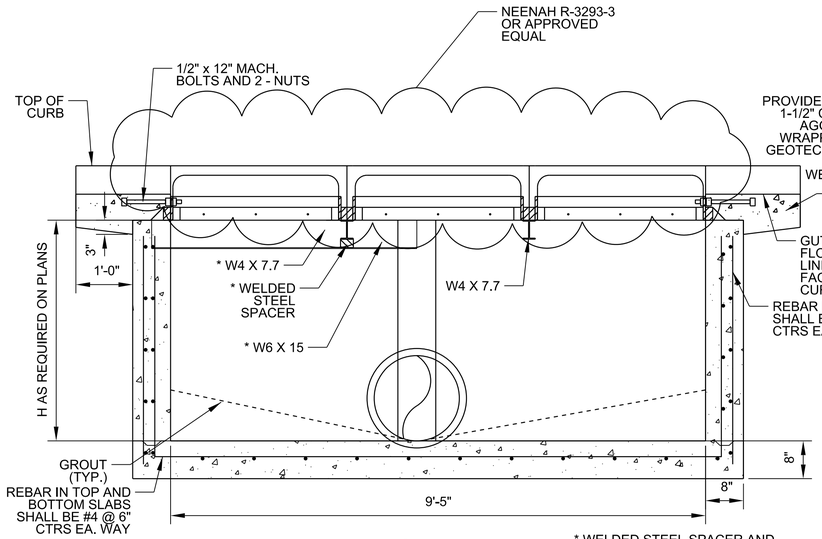

FRONT VIEW

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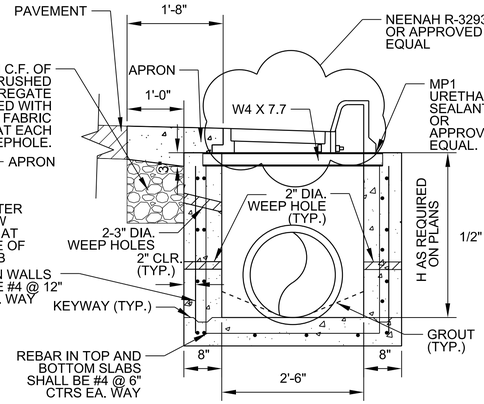

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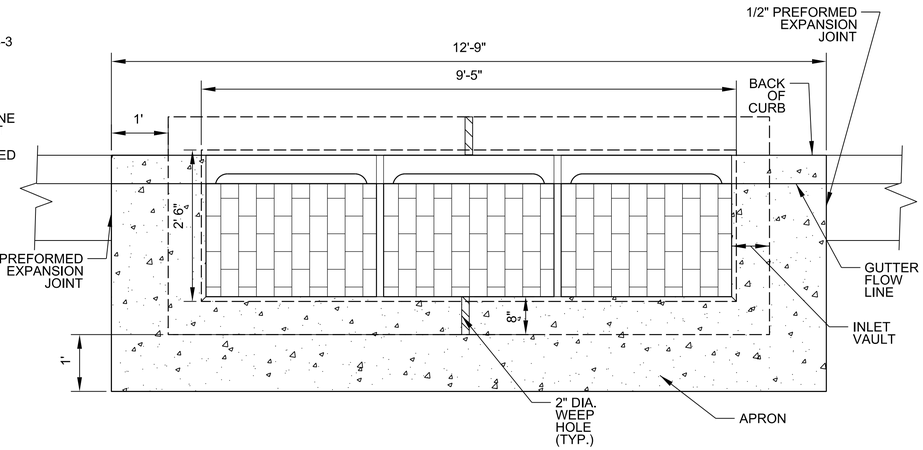
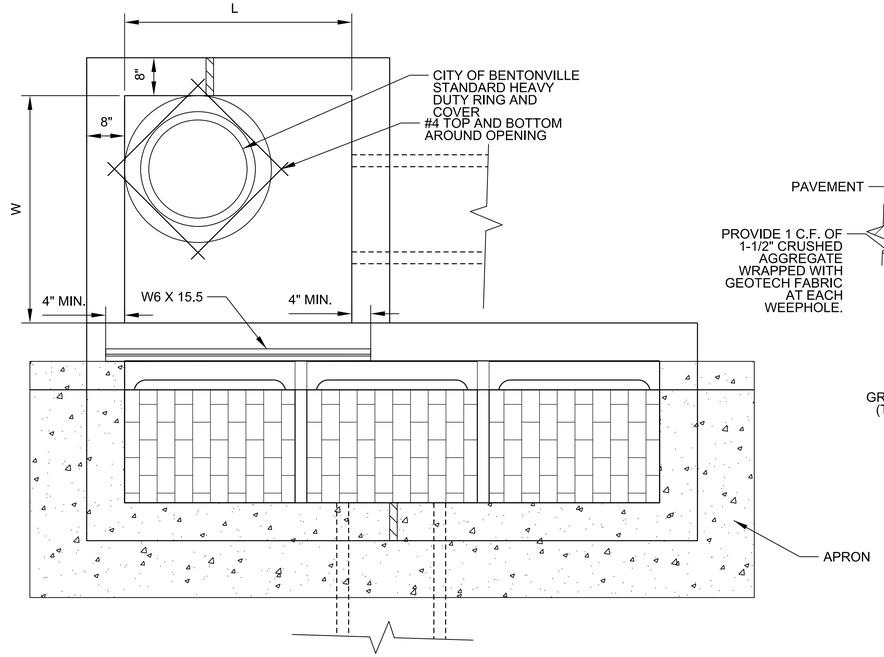


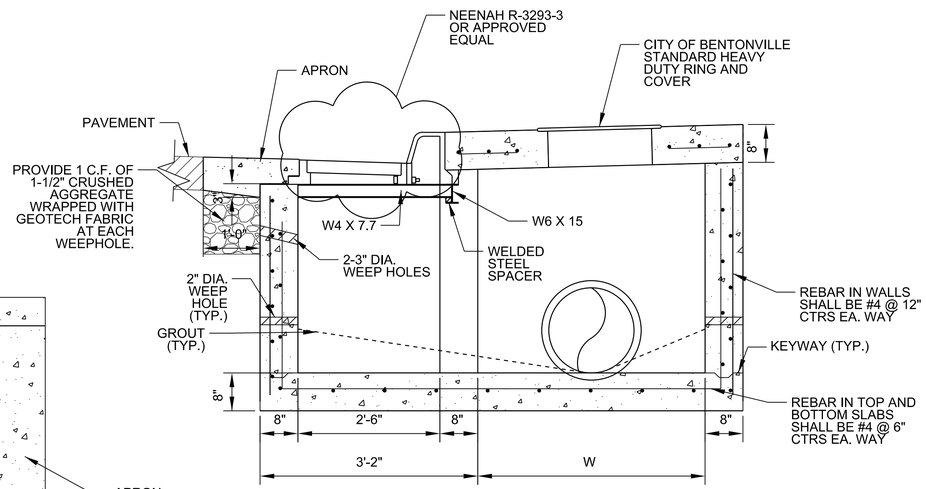
PLAN VIEW

1 / C-161 TRIPLE GRATE COMBINATION INLET

NO SCALE



PLAN VIEW



SECTION VIEW

2 / C-161 TRIPLE GRATE COMBINATION INLET WITH JUNCTION BOX

NO SCALE

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CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

MISCELLANEOUS DETAILS

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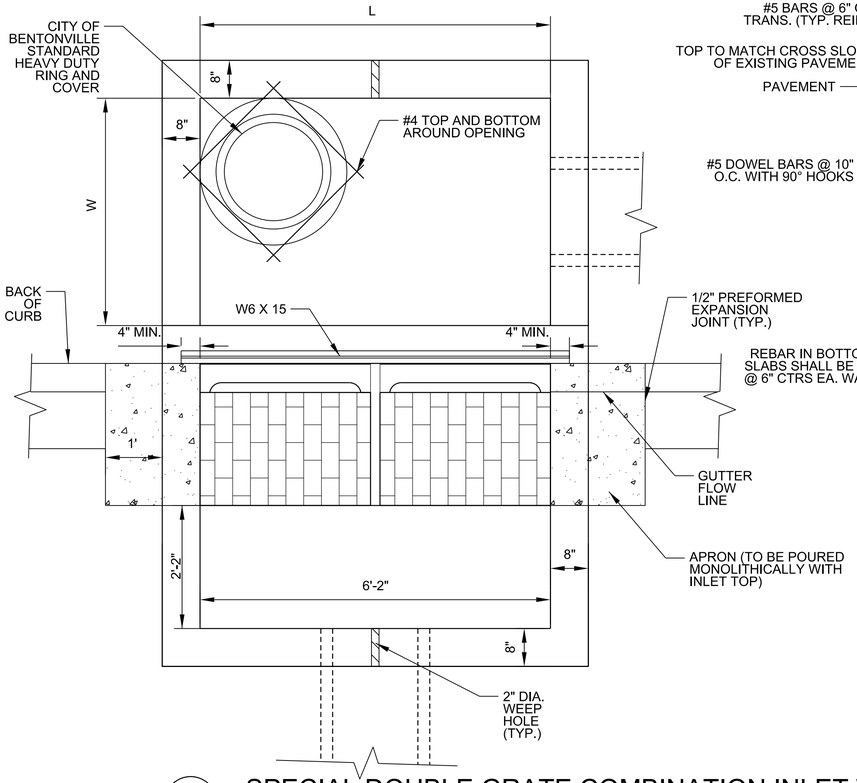
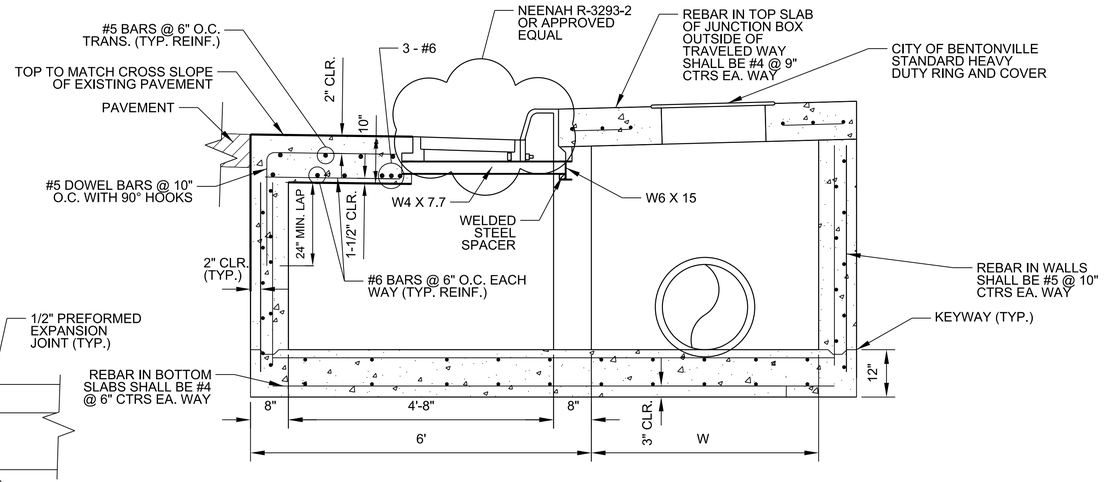
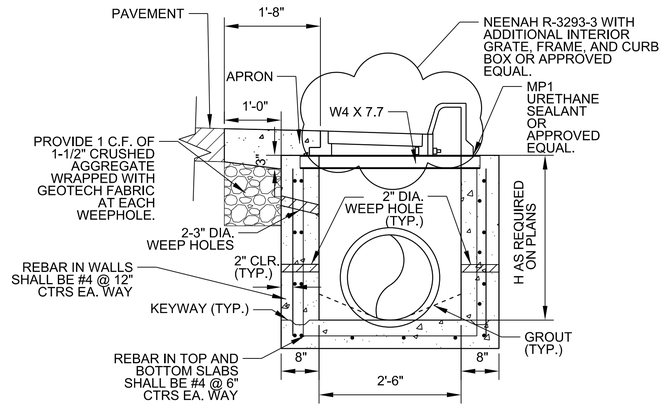




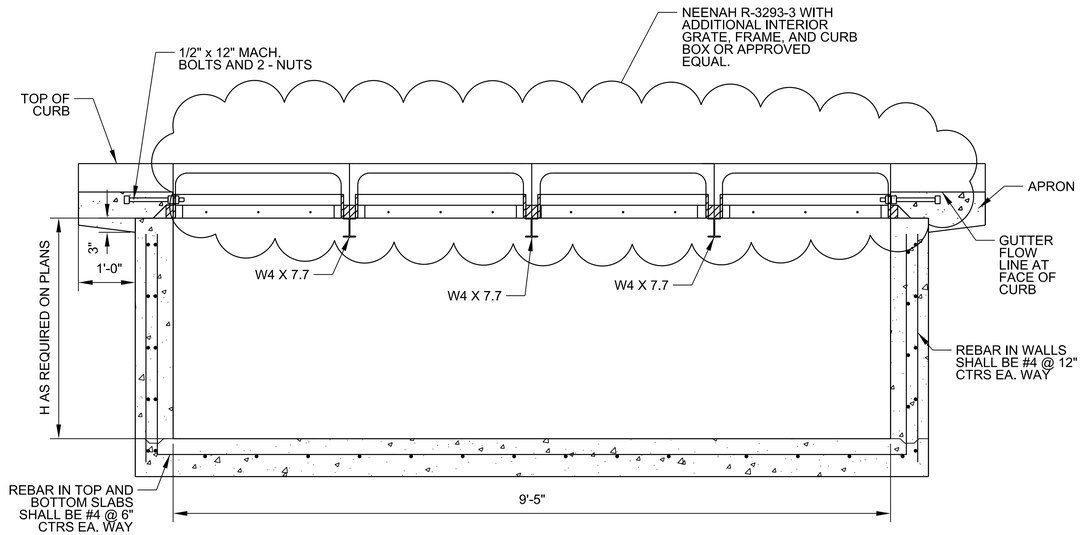
1 C-162

SPECIAL DOUBLE GRATE COMBINATION INLET WITH JUNCTION BOX

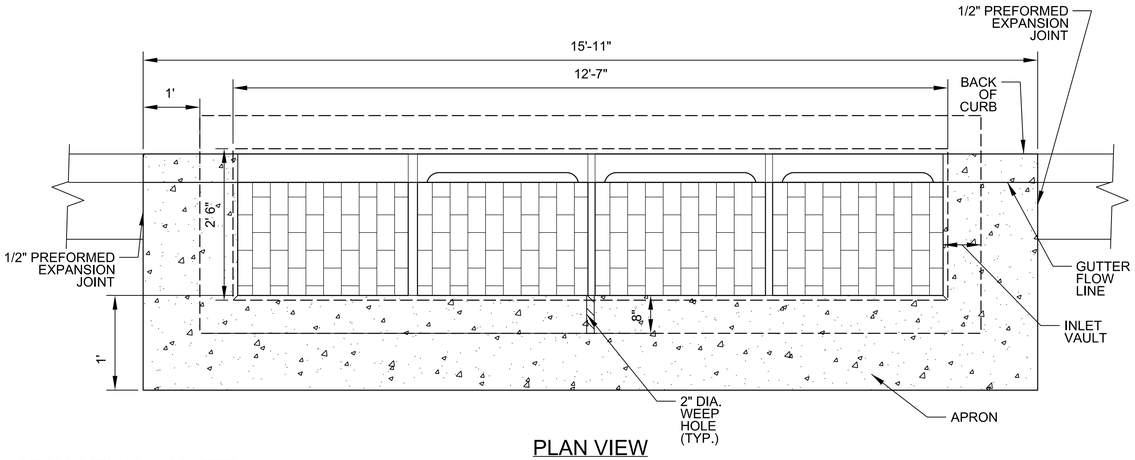
NO SCALE



SECTION VIEW



FRONT VIEW



PLAN VIEW

2 C-162

QUADRUPLE GRATE COMBINATION INLET

NO SCALE

FINAL PLANS
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

MISCELLANEOUS DETAILS

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
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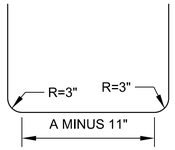
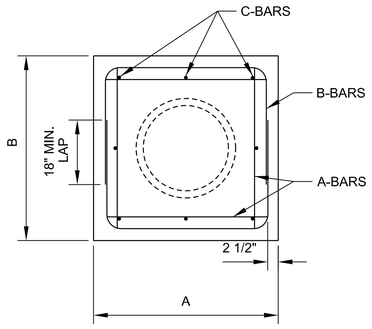
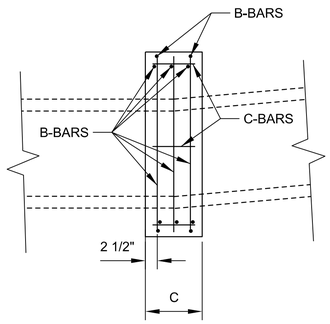
REVISED DATE:



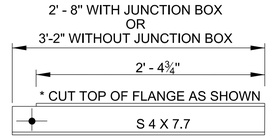
BENDING DIAGRAM FOR B-BARS

TABLE OF DIMENSIONS					
SIZE OF PIPE	DIMENSIONS		LENGTH OF BARS		
DIAMETER (IN.)	A & B (FT. - IN.)	C (FT. - IN.)	A (#5) 12 REQUIRED (FT. - IN.)	B (#6) 4 REQUIRED (FT. - IN.)	C (#4) 8 REQUIRED (FT. - IN.)
18	3-3	1-0	3-0	7-0	0-9
24	3-10	1-0	3-6	8-2	0-9

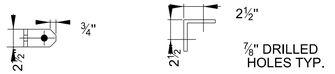




1 C-163 **PIPE COLLAR**
NO SCALE



* ONLY WHEN CONNECTING TO W6 X15



4" x 4" x ⅜" x 2 ½" CONNECTION CLIPS

1 - S 4 x 7.7 AND 2 - 4" x 4" x ⅜" x 2½
CONNECTION CLIPS FOR ANY DOUBLE GRATE CONFIGURATION

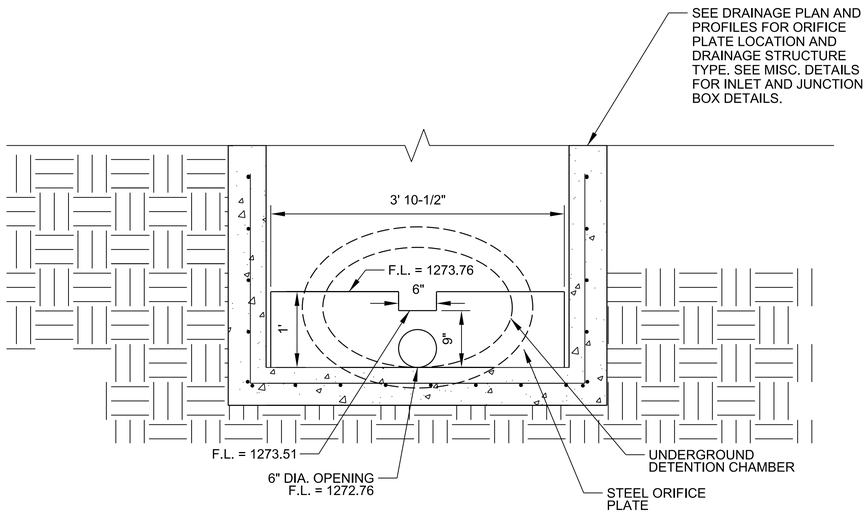
2 - S 4 x 7.7 AND 4 - 4" x 4" x ⅜" x 2½
CONNECTION CLIPS FOR ANY TRIPLE GRATE CONFIGURATION

3 - S 4 x 7.7 AND 6 - 4" x 4" x ⅜" x 2½
CONNECTION CLIPS FOR ANY QUADRUPLE GRATE CONFIGURATION

W6 x 15 x (LENGTH OF JUNCTION BOX PLUS 8") FOR ANY GRATE CONFIGURATION

1. LOWER DRILLED HOLES ⅜" WHEN STRUCTURE IS BUILT ON A CURVED CURB.

2 C-163 **COMBINATION INLET BEAM SUPPORT**
NO SCALE



FRONT VIEW

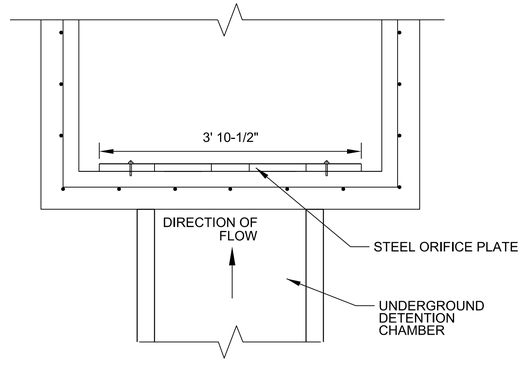
NOTES:

1. STEEL PLATE TO OVERLAP UNDERGROUND DETENTION CHAMBER 6" MIN. ON EITHER SIDE.

2. ANCHOR BOLTS SHALL CONNECT THE STEEL PLATE TO THE OUTLET STRUCTURE AND SHALL HAVE A MAXIMUM VERTICAL SPACING OF 12".

3. STEEL SHALL BE STAINLESS OR GALVANIZED.

4. ORIFICE PLATES SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO THE PRICE BID PER EACH INLET OR JUNCTION BOX.



TOP VIEW

3 C-163 **ORIFICE PLATE DETAIL**
NO SCALE

FINAL PLANS
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CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

MISCELLANEOUS DETAILS

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: JAA
DRAWN BY: TSA

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REVISED DATE:

EROSION CONTROL NOTES

1. THE SYMBOLS SHOWN ON THE EROSION CONTROL PLAN SHEETS REPRESENT EROSION CONTROL DEVICES AS DETAILED IN THE ARDOT STANDARD ROADWAY DRAWINGS. THE SYMBOLS ARE NOT TO SCALE AND REPRESENT THE GENERAL LOCATION TO WHICH THE DEVICES SHALL BE PLACED.
2. EROSION AND SEDIMENT CONTROL FEATURES SHALL BE PLACED PRIOR TO THE EXCAVATION OPERATIONS.
3. EROSION CONTROL MEASURES IN ADDITION TO THOSE SHOWN IN THE PLANS WILL BE REQUIRED AT INTERMEDIATE STAGES AS REQUIRED BY THE CONTRACTOR'S CONSTRUCTION SEQUENCE.
4. ALL DISTURBED AREAS CONTAINING EXPOSED SOIL SHALL RECEIVE TEMPORARY EROSION AND SEDIMENT CONTROL APPLICATIONS. CONTRACTOR MAY CHOOSE TO UTILIZE ALTERNATIVE EROSION CONTROL PRODUCTS SUCH AS SILT FENCE AS APPROVED BY THE ENGINEER.
5. ALL EROSION CONTROL DEVICES SHALL BE INSTALLED AS SHOWN ON ARDOT STANDARD DRAWING TEC-1 ACCORDING TO THE DEVICE DESIGNATION.
6. CONCRETE WASHOUT SHALL BE LOCATED IN THE STAGING AREA IN A LOCATION APPROVED BY THE ENGINEER.
7. POST GRADING SLOPES WILL NOT BE SIGNIFICANTLY STEEPER THAN EXISTING GRADES.
8. AREAS WHERE CONSTRUCTION CEASES FOR MORE THAN 14 DAYS SHALL BE STABILIZED IN ACCORDANCE WITH SWPPP AND SPECIFICATIONS.
9. CONTRACTOR SHALL EMPLOY BEST MANAGEMENT PRACTICES TO PREVENT AND CONTROL DUST IN AREAS SUBJECT TO SURFACE AND AIR MOVEMENT OF DUST.
10. IN THE EVENT OF A SPILL WHICH MAY BE HAZARDOUS, ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF AS SPECIFIED BY LOCAL OR STATE REGULATIONS OR BY THE PRODUCT MANUFACTURER.
11. SEDIMENT SHALL BE REMOVED FROM SEDIMENT TRAPS WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%.
12. PRIOR TO LEAVING THE CONSTRUCTION SITE, STORMWATER RUNOFF MUST PASS THROUGH APPROPRIATE SEDIMENT REMOVAL BEST MANAGEMENT PRACTICE.

SEQUENCE OF CONSTRUCTION OF EROSION AND SEDIMENT CONTROL FEATURES:

STAGE 1

1. INSTALL FILTER SOCKS.
2. CLEARING/GRUBBING ACTIVITIES.
3. INSTALL DITCH CHECKS.
4. PERFORM EARTHWORK OPERATIONS AND INSTALL DRAINAGE.

STAGE 2

1. INSTALL INLET PROTECTION.
2. CONSTRUCT REMAINDER OF ROADWAY.
3. TEMPORARY SEEDING/SODDING.
4. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL FEATURES AFTER FINAL STABILIZATION.

EROSION CONTROL MEASURES ARE TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

CONSTRUCTION POLLUTION PREVENTION PLAN:

THE TEMPORARY EROSION CONTROL POLICIES SHOWN ON THE PLANS SHOW THE ENGINEERS ESTIMATE OF A MINIMUM EFFORT NEEDED TO MAINTAIN PROPER EROSION CONTROL DURING CONSTRUCTION. SEE THE SPECIFICATIONS FOR FURTHER INFORMATION.

REVISION BOX

DATE OF REVISION	REVISION

LEGEND

- FLOW DIRECTION ARROW
- E-3 - FILTER SOCK
- E-6 - ROCK DITCH CHECK
- TREE PROTECTION FENCING
- LIMITS OF SOIL DISTURBANCE
- E-7 - FILTER SOCK DROP INLET PROTECTION
- PROJECT LIMITS
- CW - CONCRETE WASHOUT

ROADWAY SIDE SLOPES
ALL ROADWAYS: VARIES: 33.00% TYPICAL, 33.00% MAXIMUM

PROJECT AREA: 3.18 ACRES
DISTURBED AREA: 1.04 ACRES

FINAL PLANS
FOR REVIEW ONLY
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REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

EROSION CONTROL NOTES

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: LTF
DRAWN BY: TSA

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0' 10' 20' 40' 60'

(IN FEET)

FINAL PLANS
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DISCHARGE POINT

DISCHARGE POINT

SE DODSON ROAD

SE WALTON BOULEVARD

10+50 11+00 12+00 13+00 14+00 15+00

POB 10+50.00

E-7 E-3 TOS TOB 1273 1274 1275 1276 1277 1278

LEGEND

- FLOW DIRECTION ARROW
- E-3 - FILTER SOCK
- E-6 - ROCK DITCH CHECK
- TREE PROTECTION FENCING
- LIMITS OF SOIL DISTURBANCE
- E-7 - FILTER SOCK DROP INLET PROTECTION
- PROJECT LIMITS
- CW - CONCRETE WASHOUT

ROADWAY SIDE SLOPES
ALL ROADWAYS: VARIES: 33.00% TYPICAL, 33.00% MAXIMUM

PROJECT AREA: 3.18 ACRES
DISTURBED AREA: 1.04 ACRES

BY	DESCRIPTION	DATE	REV.

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

EROSION CONTROL PLAN

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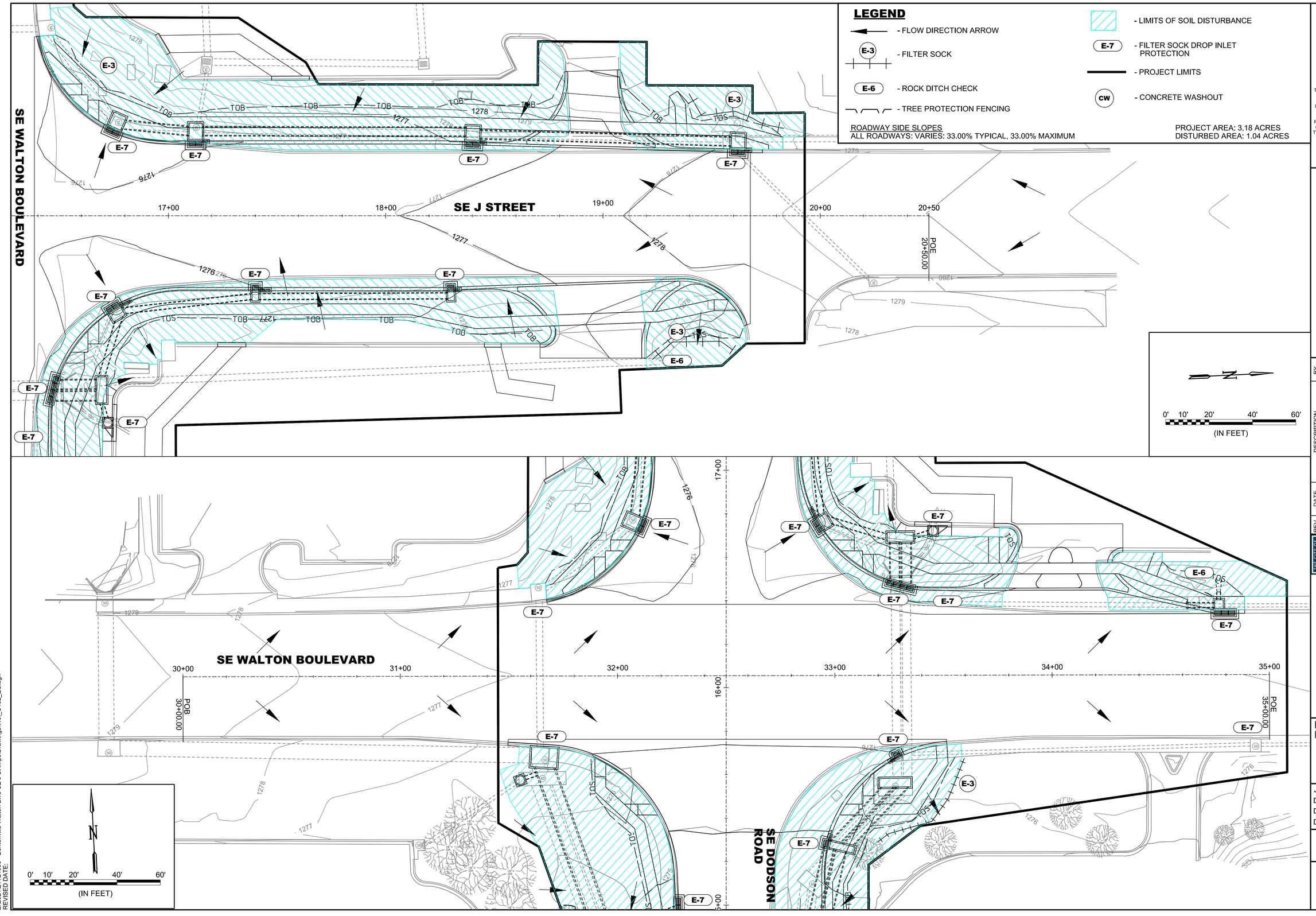

LEGEND

- E-3 - FILTER SOCK
- E-6 - ROCK DITCH CHECK
- - TREE PROTECTION FENCING
- - FLOW DIRECTION ARROW
- - LIMITS OF SOIL DISTURBANCE
- E-7 - FILTER SOCK DROP INLET PROTECTION
- - PROJECT LIMITS
- CW - CONCRETE WASHOUT

ROADWAY SIDE SLOPES
ALL ROADWAYS: VARIES: 33.00% TYPICAL, 33.00% MAXIMUM

PROJECT AREA: 3.18 ACRES
DISTURBED AREA: 1.04 ACRES

GARVER

FINAL PLANS
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THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

EROSION CONTROL PLAN

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: LTF
DRAWN BY: TSA

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ADVANCED WARNING SIGN NOTES:

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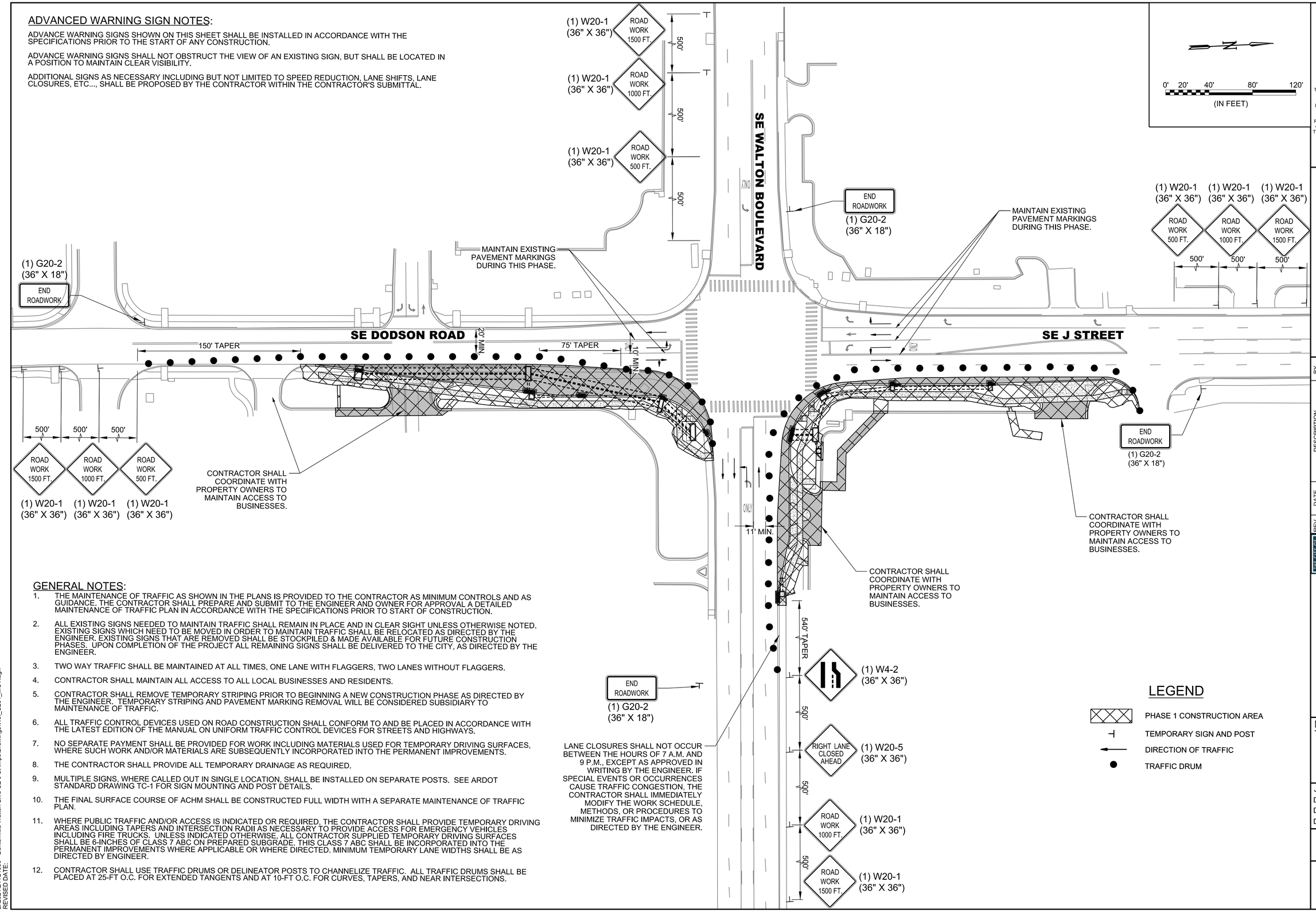

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3. TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, ONE LANE WITH FLAGGERS, TWO LANES WITHOUT FLAGGERS.
4. CONTRACTOR SHALL MAINTAIN ALL ACCESS TO ALL LOCAL BUSINESSES AND RESIDENTS.
5. CONTRACTOR SHALL REMOVE TEMPORARY STRIPING PRIOR TO BEGINNING A NEW CONSTRUCTION PHASE AS DIRECTED BY THE ENGINEER. TEMPORARY STRIPING AND PAVEMENT MARKING REMOVAL WILL BE CONSIDERED SUBSIDIARY TO MAINTENANCE OF TRAFFIC.
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7. NO SEPARATE PAYMENT SHALL BE PROVIDED FOR WORK INCLUDING MATERIALS USED FOR TEMPORARY DRIVING SURFACES, WHERE SUCH WORK AND/OR MATERIALS ARE SUBSEQUENTLY INCORPORATED INTO THE PERMANENT IMPROVEMENTS.
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9. MULTIPLE SIGNS, WHERE CALLED OUT IN SINGLE LOCATION, SHALL BE INSTALLED ON SEPARATE POSTS. SEE ARDOT STANDARD DRAWING TC-1 FOR SIGN MOUNTING AND POST DETAILS.
10. THE FINAL SURFACE COURSE OF ACHM SHALL BE CONSTRUCTED FULL WIDTH WITH A SEPARATE MAINTENANCE OF TRAFFIC PLAN.
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12. CONTRACTOR SHALL USE TRAFFIC DRUMS OR DELINEATOR POSTS TO CHANNELIZE TRAFFIC. ALL TRAFFIC DRUMS SHALL BE PLACED AT 25-FT O.C. FOR EXTENDED TANGENTS AND AT 10-FT O.C. FOR CURVES, TAPERS, AND NEAR INTERSECTIONS.

LEGEND

- PHASE 1 CONSTRUCTION AREA
- TEMPORARY SIGN AND POST
- DIRECTION OF TRAFFIC
- TRAFFIC DRUM

FINAL PLANS
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CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

MAINTENANCE OF TRAFFIC PLAN PHASE 1

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: LTF
DRAWN BY: TSA

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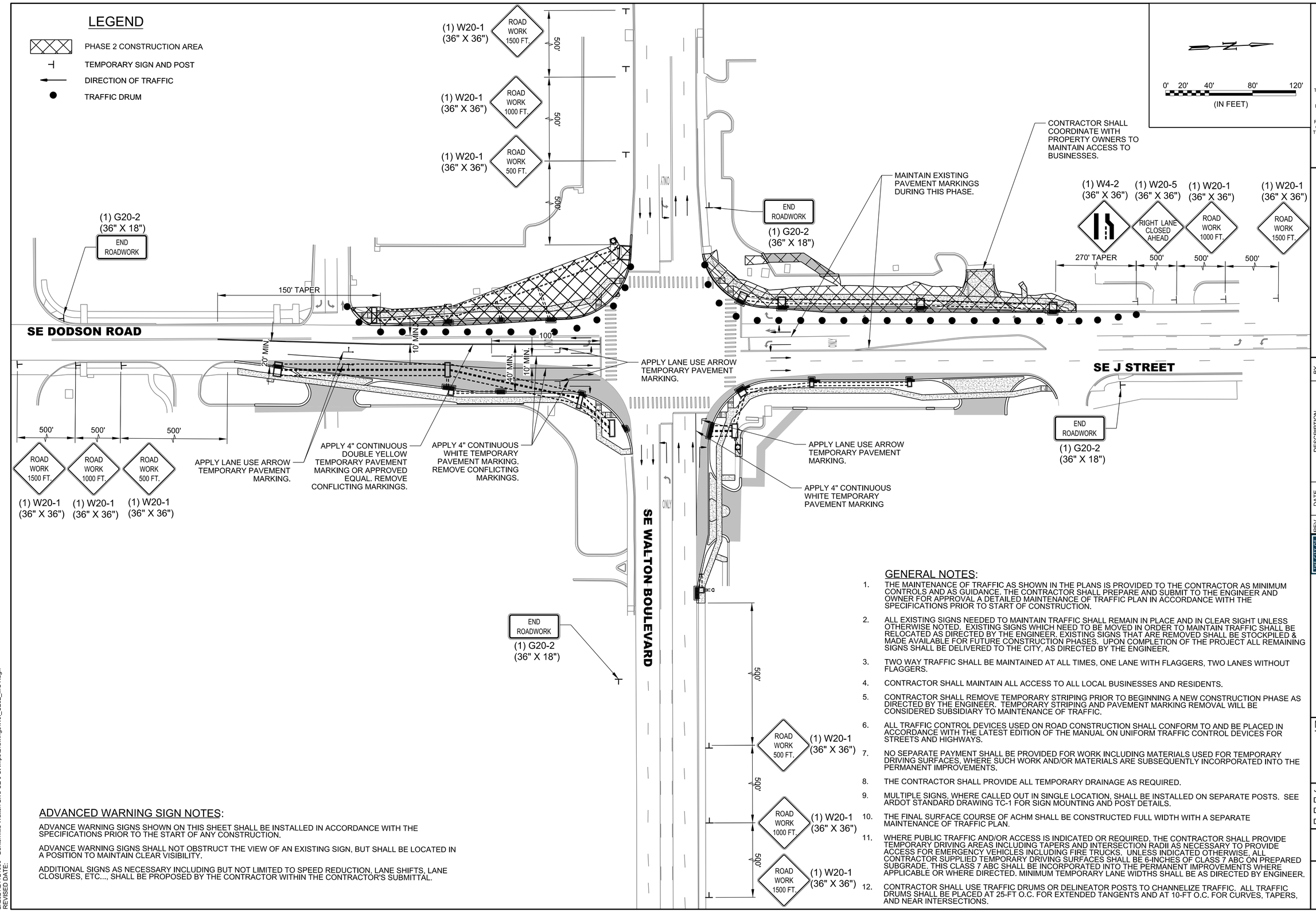
REVISED DATE:

LEGEND

- PHASE 2 CONSTRUCTION AREA
- TEMPORARY SIGN AND POST
- DIRECTION OF TRAFFIC
- TRAFFIC DRUM



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THE CITY OF BENTONVILLE

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BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

MAINTENANCE OF TRAFFIC PLAN PHASE 2

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: LTF
DRAWN BY: TSA

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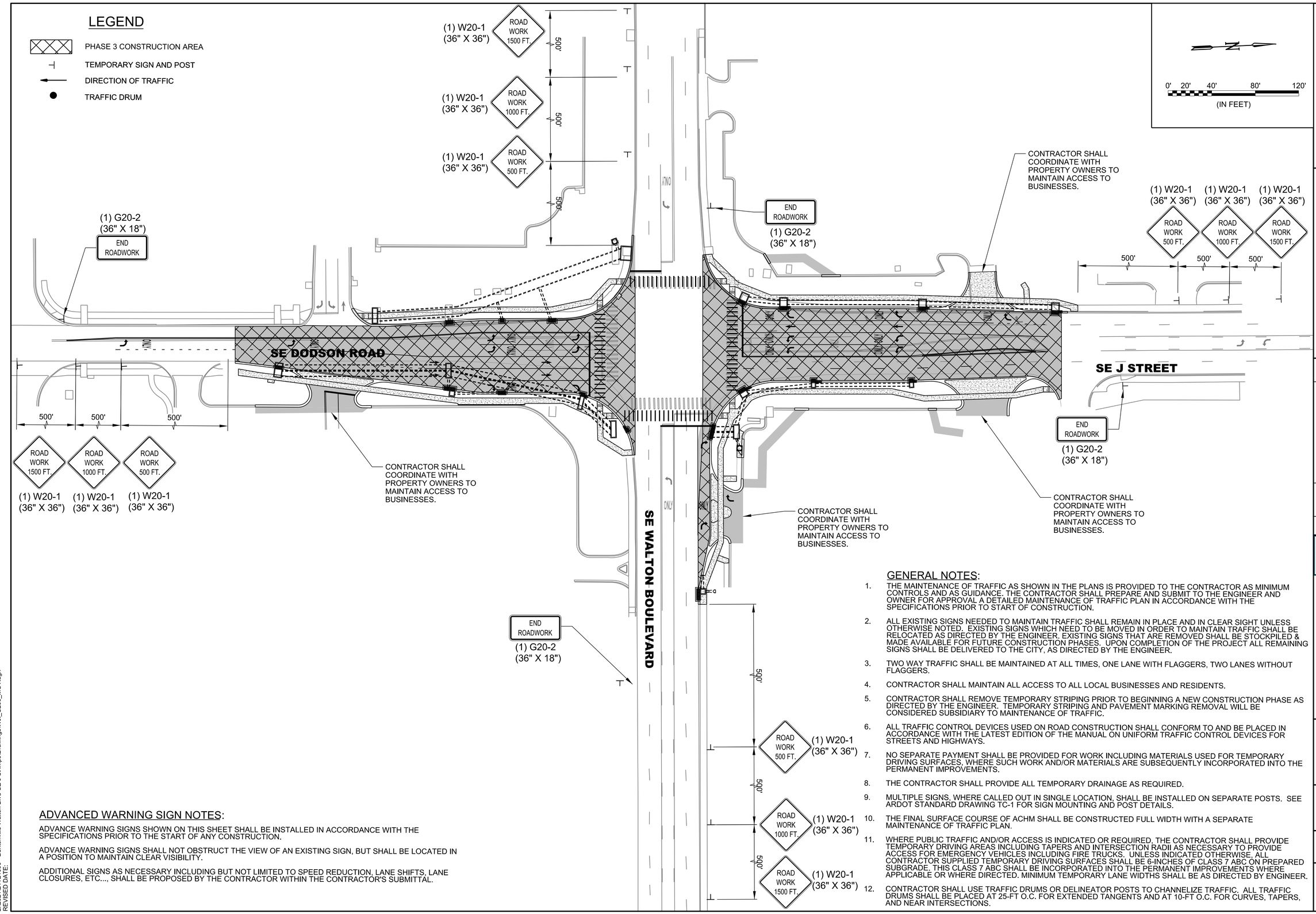
REVISED DATE:

LEGEND

- PHASE 3 CONSTRUCTION AREA
- TEMPORARY SIGN AND POST
- DIRECTION OF TRAFFIC
- TRAFFIC DRUM



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GENERAL NOTES:

1. THE MAINTENANCE OF TRAFFIC AS SHOWN IN THE PLANS IS PROVIDED TO THE CONTRACTOR AS MINIMUM CONTROLS AND AS GUIDANCE. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER AND OWNER FOR APPROVAL A DETAILED MAINTENANCE OF TRAFFIC PLAN IN ACCORDANCE WITH THE SPECIFICATIONS PRIOR TO START OF CONSTRUCTION.
2. ALL EXISTING SIGNS NEEDED TO MAINTAIN TRAFFIC SHALL REMAIN IN PLACE AND IN CLEAR SIGHT UNLESS OTHERWISE NOTED. EXISTING SIGNS WHICH NEED TO BE MOVED IN ORDER TO MAINTAIN TRAFFIC SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXISTING SIGNS THAT ARE REMOVED SHALL BE STOCKPILED & MADE AVAILABLE FOR FUTURE CONSTRUCTION PHASES. UPON COMPLETION OF THE PROJECT ALL REMAINING SIGNS SHALL BE DELIVERED TO THE CITY, AS DIRECTED BY THE ENGINEER.
3. TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, ONE LANE WITH FLAGGERS, TWO LANES WITHOUT FLAGGERS.
4. CONTRACTOR SHALL MAINTAIN ALL ACCESS TO ALL LOCAL BUSINESSES AND RESIDENTS.
5. CONTRACTOR SHALL REMOVE TEMPORARY STRIPING PRIOR TO BEGINNING A NEW CONSTRUCTION PHASE AS DIRECTED BY THE ENGINEER. TEMPORARY STRIPING AND PAVEMENT MARKING REMOVAL WILL BE CONSIDERED SUBSIDIARY TO MAINTENANCE OF TRAFFIC.
6. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO AND BE PLACED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
7. NO SEPARATE PAYMENT SHALL BE PROVIDED FOR WORK INCLUDING MATERIALS USED FOR TEMPORARY DRIVING SURFACES, WHERE SUCH WORK AND/OR MATERIALS ARE SUBSEQUENTLY INCORPORATED INTO THE PERMANENT IMPROVEMENTS.
8. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY DRAINAGE AS REQUIRED.
9. MULTIPLE SIGNS, WHERE CALLED OUT IN SINGLE LOCATION, SHALL BE INSTALLED ON SEPARATE POSTS. SEE ARDOT STANDARD DRAWING TC-1 FOR SIGN MOUNTING AND POST DETAILS.
10. THE FINAL SURFACE COURSE OF ACHM SHALL BE CONSTRUCTED FULL WIDTH WITH A SEPARATE MAINTENANCE OF TRAFFIC PLAN.
11. WHERE PUBLIC TRAFFIC AND/OR ACCESS IS INDICATED OR REQUIRED, THE CONTRACTOR SHALL PROVIDE TEMPORARY DRIVING AREAS INCLUDING TAPERS AND INTERSECTION RADII AS NECESSARY TO PROVIDE ACCESS FOR EMERGENCY VEHICLES INCLUDING FIRE TRUCKS. UNLESS INDICATED OTHERWISE, ALL CONTRACTOR SUPPLIED TEMPORARY DRIVING SURFACES SHALL BE 6-INCHES OF CLASS 7 ABC ON PREPARED SUBGRADE. THIS CLASS 7 ABC SHALL BE INCORPORATED INTO THE PERMANENT IMPROVEMENTS WHERE APPLICABLE OR WHERE DIRECTED. MINIMUM TEMPORARY LANE WIDTHS SHALL BE AS DIRECTED BY ENGINEER.
12. CONTRACTOR SHALL USE TRAFFIC DRUMS OR DELINEATOR POSTS TO CHANNELIZE TRAFFIC. ALL TRAFFIC DRUMS SHALL BE PLACED AT 25-FT O.C. FOR EXTENDED TANGENTS AND AT 10-FT O.C. FOR CURVES, TAPERS, AND NEAR INTERSECTIONS.

FINAL PLANS
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

MAINTENANCE OF TRAFFIC PLAN PHASE 3

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: LTF
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-203

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REVISED DATE:

N

0' 10' 20' 40' 60'

(IN FEET)

NOTES:

1. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE PROTECTED.
2. REMOVED LANDSCAPING SHALL BE REPLACED AS DIRECTED BY THE ENGINEER AND THE PROPERTY OWNER.

RETAIN EXISTING PIPE AND EXISTING BOX CULVERT.

REMOVE EXISTING INLET, JUNCTION BOX, AND BOX CULVERT.

REMOVE EXISTING CURB AND GUTTER, SIDEWALK, AND RAMPS.

REMOVE EXISTING INLET AND ASSOCIATED PIPES.

REMOVE EXISTING SIDEWALK, RAMP, AND CURB AND GUTTER.

RETAIN EXISTING SIDEWALK, RAMP, AND CURB AND GUTTER.

REMOVE EXISTING CURB AND GUTTER.

REMOVE EXISTING SIDEWALK.

REMOVE EXISTING INLET.

RETAIN EXISTING BOX CULVERTS.

REMOVE EXISITNG INLET.

REMOVE EXISTING CURB AND GUTTER.

10+50 11+00 12+00 13+00 14+00 15+00

POB 10+50.00

SE DODSON ROAD

SE WALTON BOULEVARD

REMOVE EXISTING CURB AND GUTTER.

REMOVE, SALVAGE, AND REINSTALL EXISTING BENCH AS DIRECTED BY THE ENGINEER.

REMOVE EXISTING CURB AND GUTTER, SIDEWALK AND RAMPS.

REMOVE EXISTING SIDEWALK, RAMPS, AND LANDSCAPING.

REMOVE EXISTING INLET AND ASSOCIATED PIPES.

REMOVE EXISTING LANDSCAPING.

RETAIN EXISTING PIPES.

REMOVE EXISTING PAVEMENT AND CURB AND GUTTER.

REMOVE, SALVAGE, AND REINSTALL EXISTING MONUMENT SIGN AS DIRECTED BY THE ENGINEER. REMOVE EXISTING LANDSCAPING. RETAIN EXISTING STREET LIGHT.

REMOVE EXISTING SIDEWALK, RAMP, AND CURB AND GUTTER.

REMOVE EXISTING DRIVEWAY PAVEMENT AND CURB AND GUTTER

RETAIN EXISTING LIGHT POLE.

REMOVE EXISTING JUNCTION BOX AND ASSOCIATED PIPES.

REMOVE EXISTING LANDSCAPING.

REMOVE EXISTING JUNCTION BOX.

REMOVE EXISTING INLET.

RETAIN EXISTING BOX CULVERTS.

REMOVE EXISTING LANDSCAPING.

REMOVE EXISTING CURB AND GUTTER, SIDEWALK AND RAMPS.

RETAIN EXISTING PIPE.

NOTES:

1. ✕ - REMOVE TREE

FINAL PLANS
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REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

DEMOLITION PLAN

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-251

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REVISED DATE:

NOTES:

1. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE PROTECTED.
2. REMOVED LANDSCAPING SHALL BE REPLACED AS DIRECTED BY THE ENGINEER AND THE PROPERTY OWNER.

FINAL PLANS
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NOT FOR CONSTRUCTION

0' 10' 20' 40' 60'
(IN FEET)

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

DEMOLITION PLAN

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-252

LTFreedle 5/11/2022 5:40:36 PM
WORKSPACE:Garver_2012
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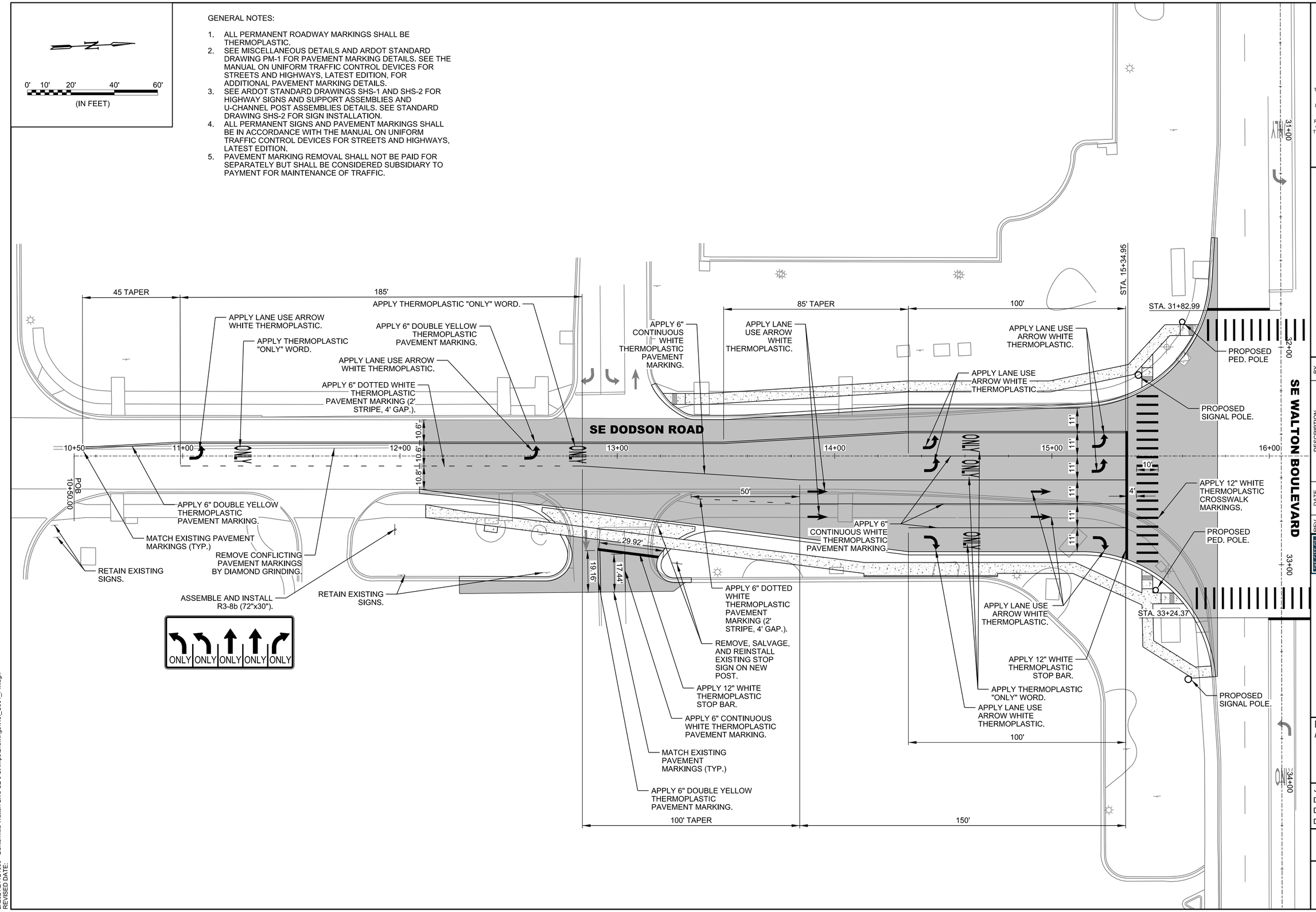
REVISED DATE:

0' 10' 20' 40' 60'

(IN FEET)

GENERAL NOTES:

1. ALL PERMANENT ROADWAY MARKINGS SHALL BE THERMOPLASTIC.
2. SEE MISCELLANEOUS DETAILS AND ARDOT STANDARD DRAWING PM-1 FOR PAVEMENT MARKING DETAILS. SEE THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITION, FOR ADDITIONAL PAVEMENT MARKING DETAILS.
3. SEE ARDOT STANDARD DRAWINGS SHS-1 AND SHS-2 FOR HIGHWAY SIGNS AND SUPPORT ASSEMBLIES AND U-CHANNEL POST ASSEMBLIES DETAILS. SEE STANDARD DRAWING SHS-2 FOR SIGN INSTALLATION.
4. ALL PERMANENT SIGNS AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITION.
5. PAVEMENT MARKING REMOVAL SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO PAYMENT FOR MAINTENANCE OF TRAFFIC.



FINAL PLANS
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

PAVEMENT MARKING AND SIGNAGE PLAN

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER

C-301

twmccormick 5/12/2022 1:52:30 PM
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REVISED DATE:

PROPOSED SIGNAL POLE
STA. 31+82.99
PROPOSED SHALLOW FOUNDATION PED. POLE
SE WALTON BOULEVARD
APPLY 12" WHITE THERMOPLASTIC STOP BAR.
STA. 16+74.46
150'
APPLY WHITE THERMOPLASTIC "ONLY" WORD.
APPLY LANE USE ARROW WHITE THERMOPLASTIC.
APPLY 6" CONTINUOUS WHITE THERMOPLASTIC PAVEMENT MARKING.
APPLY WHITE THERMOPLASTIC "ONLY" WORD.
APPLY LANE USE ARROW WHITE THERMOPLASTIC.
REMOVE, SALVAGE, AND REINSTALL EXISTING RIGHT LANE MUST TURN RIGHT SIGN AND ASSOCIATED SIGNS ON NEW POST.
REMOVE, SALVAGE, AND REINSTALL EXISTING SMOOTHIE KING SIGN ON NEW POST.
APPLY 6" DOTTED WHITE THERMOPLASTIC PAVEMENT MARKING (2' STRIPE, 4' GAP.).
ASSEMBLE AND INSTALL R3-8b (66"x30").
ONLY ONLY ONLY ONLY
SE J STREET
130' TAPER
50'
19+00
12'
14'-4"
20+00
20+50
POE
20+50.00
R 100'
11'
16+00
17+00
18+00
4'
10'
APPLY 12" WHITE THERMOPLASTIC CROSSWALK MARKINGS.
PROPOSED SIGNAL POLE.
PROPOSED PED. POLE.
STA. 33+24.37
33+00
APPLY 6" CONTINUOUS WHITE THERMOPLASTIC PAVEMENT MARKING.
APPLY LANE USE ARROW WHITE THERMOPLASTIC.
APPLY 6" SKIP WHITE THERMOPLASTIC PAVEMENT MARKING.
REMOVE, SALVAGE, AND REINSTALL EXISTING ADOPT A STREET SIGNS ON NEW POST.
APPLY 6" DOUBLE YELLOW THERMOPLASTIC PAVEMENT MARKING.
REMOVE, SALVAGE, AND REINSTALL EXISTING SPEED LIMIT SIGN ON NEW POST.
0' 10' 20' 40' 60'
(IN FEET)

GENERAL NOTES:

1. ALL PERMANENT ROADWAY MARKINGS SHALL BE THERMOPLASTIC.
2. SEE MISCELLANEOUS DETAILS AND ARDOT STANDARD DRAWING PM-1 FOR PAVEMENT MARKING DETAILS. SEE THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITION, FOR ADDITIONAL PAVEMENT MARKING DETAILS.
3. SEE ARDOT STANDARD DRAWINGS SHS-1 AND SHS-2 FOR HIGHWAY SIGNS AND SUPPORT ASSEMBLIES AND U-CHANNEL POST ASSEMBLIES DETAILS. SEE STANDARD DRAWING SHS-2 FOR SIGN INSTALLATION.
4. ALL PERMANENT SIGNS AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITION.
5. PAVEMENT MARKING REMOVAL SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO PAYMENT FOR MAINTENANCE OF TRAFFIC.

SE J STREET
ONLY ONLY ONLY
17+00
STA. 16+74.46
PROPOSED SIGNAL POLE.
PROPOSED SHALLOW FOUNDATION PED. POLE.
10'
4'
APPLY 12" WHITE THERMOPLASTIC CROSSWALK MARKINGS.
REMOVE CONFLICTING PAVEMENT MARKINGS BY DIAMOND GRINDING.
REMOVE CONFLICTING PAVEMENT MARKINGS BY DIAMOND GRINDING.
SE WALTON BOULEVARD
30+00
31+00
32+00
33+00
34+00
35+00
16+00
POB
30+00.00
POE
35+00.00
APPLY 12" WHITE THERMOPLASTIC STOP BAR.
PROPOSED PED. POLE.
STA. 31+82.99
STA. 33+24.37
PROPOSED SIGNAL POLE.
PROPOSED PED. POLE.
PROPOSED SIGNAL POLE.
SE DODSON ROAD
PROPOSED SIGNAL POLE.
PROPOSED PED. POLE.
APPLY LANE USE ARROW WHITE THERMOPLASTIC.
ASSEMBLE AND INSTALL R3-2 (24"x24").
APPLY 12" WHITE THERMOPLASTIC STOP BAR.
APPLY LANE USE ARROW WHITE THERMOPLASTIC.
11'
100'
50'
APPLY WHITE THERMOPLASTIC "ONLY" WORD.
ASSEMBLE AND INSTALL R5-1 (36"X36")
DO NOT ENTER
N
0' 10' 20' 40' 60'
(IN FEET)

FINAL PLANS
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

PAVEMENT MARKING AND SIGNAGE PLAN

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-302

tvmccormick 5/12/2022 1:53:06 PM
WORKSPACE:Garver 2012
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REVISED DATE:

0' 10' 20' 40' 60'
(IN FEET)

01-11447-012
SOUTHERN PIONEER PROPERTY
& CASUALTY INSURANCE COMPANY

01-11447-007
BANK OF THE OZARKS

01-12939-000
WAL-MART REAL
ESTATE BUSINESS TRUST

01-12940-000
WAL-MART REAL ESTATE BUSINESS TRUST

SE DODSON ROAD

SE WALTON BOULEVARD

RECONSTRUCT 21 L.F. OF CURB AND GUTTER TYPE A (2'-0") AS NECESSARY TO RECONSTRUCT RAMP.

PROPOSED DRAINAGE EASEMENT

CONSTRUCT 2 S.Y. OF SIDEWALK FOR EXISTING BENCH REINSTALLATION. COST FOR REMOVING, SALVAGING, AND REINSTALLING EXISTING BENCH SHALL BE SUBSIDIARY TO COST FOR SIDEWALK.

STA. 13+32.72
END TYPICAL SECTION ①. BEGIN TYPICAL SECTION②.

EXISTING EASEMENT

EXISTING R.O.W.

+48.95

85' TAPER

+33.95

60' RADIUS
15+12.28
83.95' LT.

PROPOSED DRAINAGE EASEMENT

PROPOSED PED. POLE.

CP#14

PROPOSED SIGNAL POLE.

STA. 15+76.26
END TYPICAL SECTION②.

CENTERLINE OF ALIGNMENT.

10+50 11+00 12+00 13+00 14+00 15+00 16+00

1000.00'
N2°42'13"E

STA. 10+50.00
BEGIN JOB
N=735380.8671
E=665049.0708

POB
10+50.00

STA. 12+08.95
BEGIN TYPICAL SECTION①.
MATCH EXISTING WIDTHS AND CROSS SLOPES.

STA. 12+96.82; RT.
RECONSTRUCT ASPHALT COMMERCIAL DRIVEWAY.

RECONSTRUCT 8 L.F. OF CURB AND GUTTER TYPE A (2'-0")

32'

16.72'

22'

22'

22.51'

44'

5.92'

2.75'

6'

9'

5'

2'

RECONSTRUCT 40 L.F. OF CURB AND GUTTER TYPE A (2'-0")

SAWCUT AND REMOVE EXISTING PAVEMENT AND CONSTRUCT ASPHALT PAVEMENT PERMANENT REPAIR AS NECESSARY TO INSTALL PROPOSED WATERLINE. PAVEMENT REPAIR IN THIS LOCATION SHALL BE PAID FOR AS ASPHALT DRIVEWAY.

98.56'

EXISTING EASEMENT

EXISTING R.O.W.

PROPOSED UTILITY EASEMENT

PROPOSED UTILITY EASEMENT

PROPOSED T.C.E.

PROPOSED R.O.W.

PROPOSED PED. POLE.

CP#16

PROPOSED SIGNAL POLE

60' RADIUS
15+13.93
105.50' RT.

EXISTING EASEMENT

+00.95

2+00

225' TAPER

+33.95

NOTES:
1. Ⓡ - CONSTRUCT SIDEWALK CURB RAMP.

EXISTING GRADE AT C.L. CONSTRUCTION

EXISTING 8" WATERLINE

EXISTING GRADE ELEVATION AT PROPOSED C.L.

1285 1280 1275 1270 1265 1260 1255 1250

1272.8 1273.2 1273.3 1273.4 1274.6 1276.6

11+00 12+00 13+00 14+00 15+00

FINAL PLANS
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REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE DODSON ROAD
PLAN AND PROFILE

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-501

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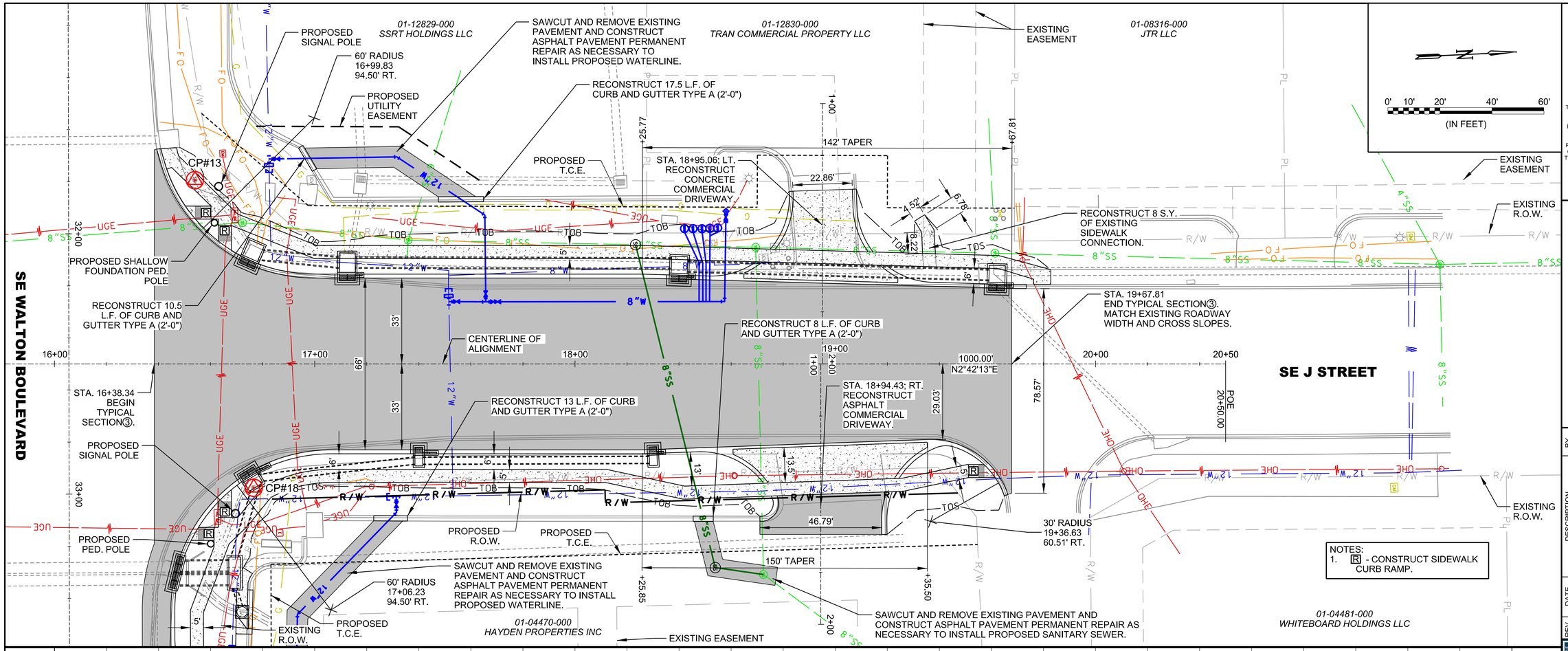
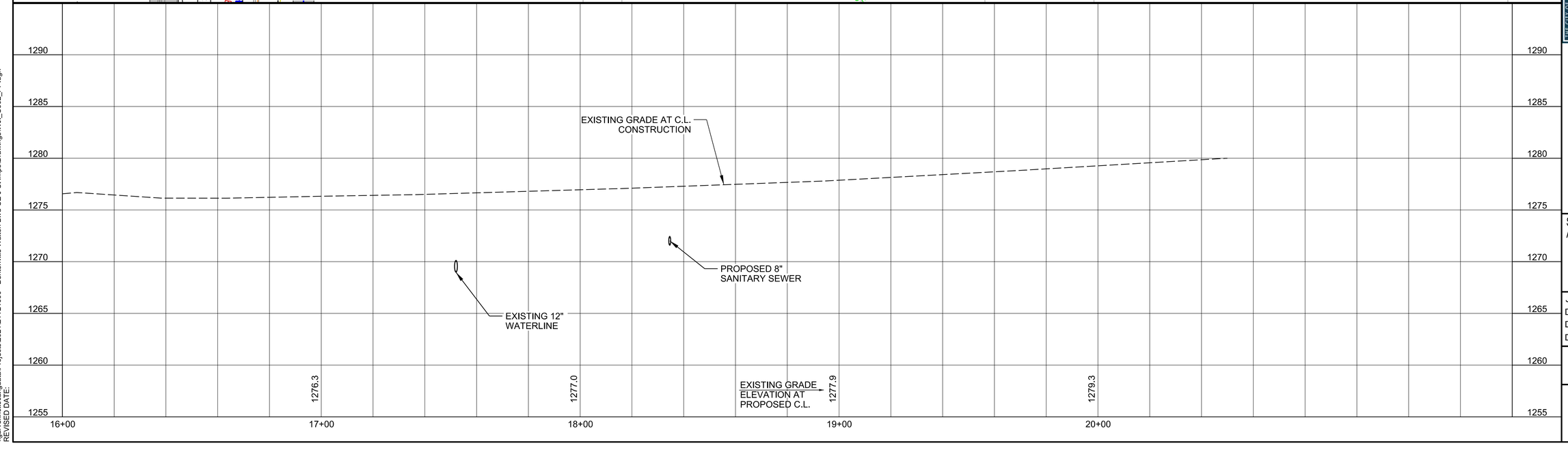
REVISED DATE:





CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE J STREET PLAN AND PROFILE

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-502

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REVISED DATE:

N

0' 10' 20' 40' 60'

(IN FEET)

NOTES:
1. Ⓡ - CONSTRUCT SIDEWALK CURB RAMP.

EXISTING EASEMENT

01-12829-000
SSRT HOLDINGS LLC

PROPOSED UTILITY EASEMENT

PROPOSED SIGNAL POLE

PROPOSED T.C.E.

EXISTING R.O.W.

CP#13

PROPOSED SHALLOW FOUNDATION PED. POLE

SE WALTON BOULEVARD

STA. 30+00.00
N= 735947.0617
E= 664825.5304

POB 30+00.00

SE WALTON BOULEVARD STA. 32+50.00 = DODSON ROAD/ J STREET STA. 16+05.54

CENTERLINE OF ALIGNMENT

SE J STREET

PROPOSED PED. POLE.

PROPOSED SIGNAL POLE

CP#18

PROPOSED R.O.W.

PROPOSED T.C.E.

SAWCUT AND REMOVE EXISTING PAVEMENT AND CONSTRUCT ASPHALT PAVEMENT PERMANENT REPAIR AS NECESSARY TO INSTALL PROPOSED WATERLINE.

RECONSTRUCT 7 S.Y. OF EXISTING SIDEWALK CONNECTION.

01-04470-000
HAYDEN PROPERTIES INC

EXISTING EASEMENT

50' TAPER

RECONSTRUCT 6 S.Y. OF EXISTING SIDEWALK CONNECTION.

PROPOSED T.C.E.

EXISTING R.O.W.

STA. 33+19.15 BEGIN TYPICAL SECTION④.

PROPOSED PED. POLE.

PROPOSED R.O.W.

STA. 34+88.70 END TYPICAL SECTION④.

RECONSTRUCT 12 S.Y. OF EXISTING SIDEWALK AND 17 L.F. OF CURB AND GUTTER TYPE A (2'-0") AS NECESSARY TO CONSTRUCT PROPOSED INLET AND JUNCTION BOX.

STA. 34+06.96; LT. RECONSTRUCT ASPHALT COMMERCIAL DRIVEWAY.

500.00' S87°24'54"E

POE 35+00.00

PROPOSED PED. POLE.

CP#14

PROPOSED SIGNAL POLE.

PROPOSED DRAINAGE EASEMENT

01-11447-007
BANK OF THE OZARKS

SE DODSON ROAD

CP#16

PROPOSED SIGNAL POLE.

PROPOSED PED. POLE.

PROPOSED T.C.E.

PROPOSED R.O.W.

EXISTING EASEMENT

01-12940-000
WAL-MART REAL ESTATE BUSINESS TRUST

CP#17

EXISTING R.O.W.

EXISTING EASEMENT

EXISTING GRADE AT C.L. CONSTRUCTION

EXISTING 8" WATERLINE

EXISTING GRADE ELEVATION AT PROPOSED C.L.

1278.9 1277.5 1276.7 1276.7 1276.9

1290 1285 1280 1275 1270 1265 1260 1255

30+00 31+00 32+00 33+00 34+00 35+00

FINAL PLANS
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REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE WALTON BOULEVARD PLAN AND PROFILE

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-503

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5/11/2022 5:40:49 PM
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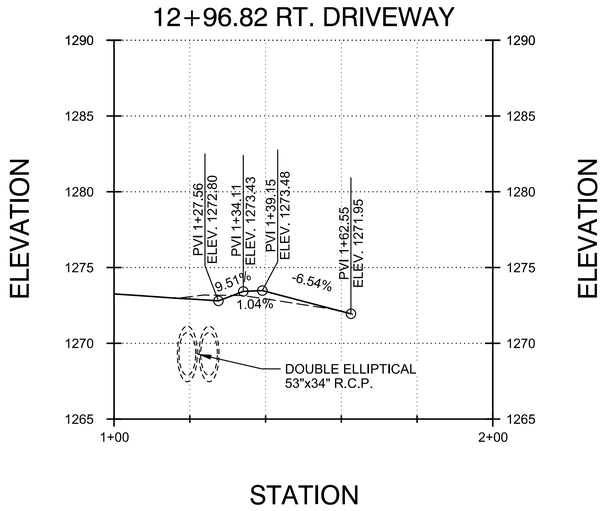
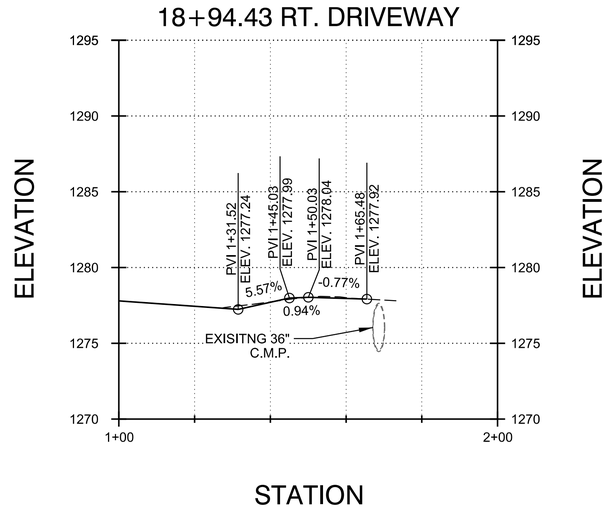
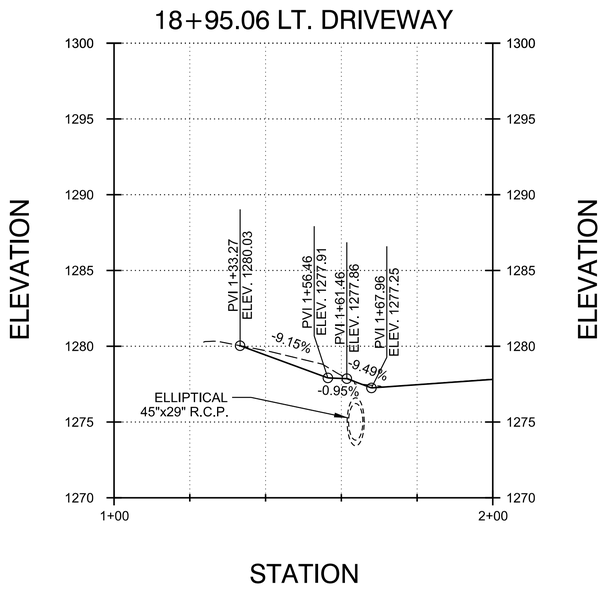
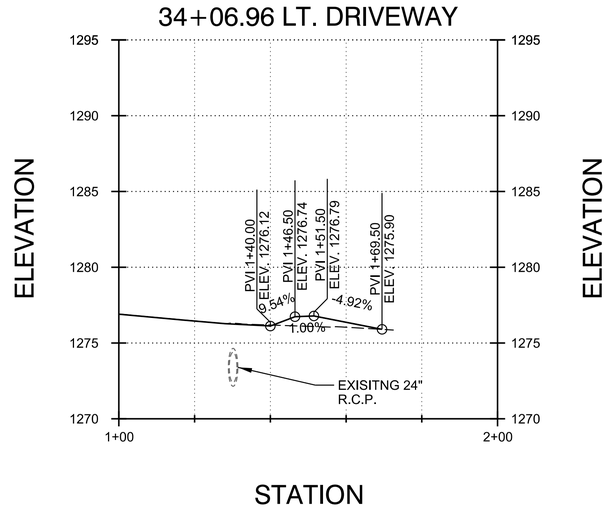
REVISED DATE:









FINAL PLANS
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REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD
AND J STREET
IMPROVEMENTS

DRIVEWAY PROFILES

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-521

LTFreedle 5/11/2022 5:40:51 PM
\\WORKSPACE:Garver_2012
L:\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C521_DWY.dgn
REVISED DATE:

N

0' 5' 10' 20' 30'

(IN FEET)

SE DODSON ROAD

12+00

13+00

14+00

1+00

2+00

20.29'

5.94'

5'

R 30'

1'-6" CURB AND GUTTER

6.5'

46.28'

2'-0" CURB AND GUTTER

R 10'

39.85'

5.92'

58.87'

98.56'

R 6'

7.91'

2.78'

SAWCUT AND REMOVE EXISTING PAVEMENT AND CONSTRUCT ASPHALT PAVEMENT PERMANENT REPAIR AS NECESSARY TO INSTALL PROPOSED WATERLINE. PAVEMENT REPAIR IN THIS LOCATION SHALL BE PAID FOR AS ASPHALT DRIVEWAY.

STA. 12+96.82; RT. RECONSTRUCT ASPHALT COMMERCIAL DRIVEWAY.

GARVER

FINAL PLANS
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

DRIVEWAY PLAN SHEET

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: LTF
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER

C-522

LTFreedle 5/11/2022 5:40:52 PM
WORKSPACE:Garver_2012
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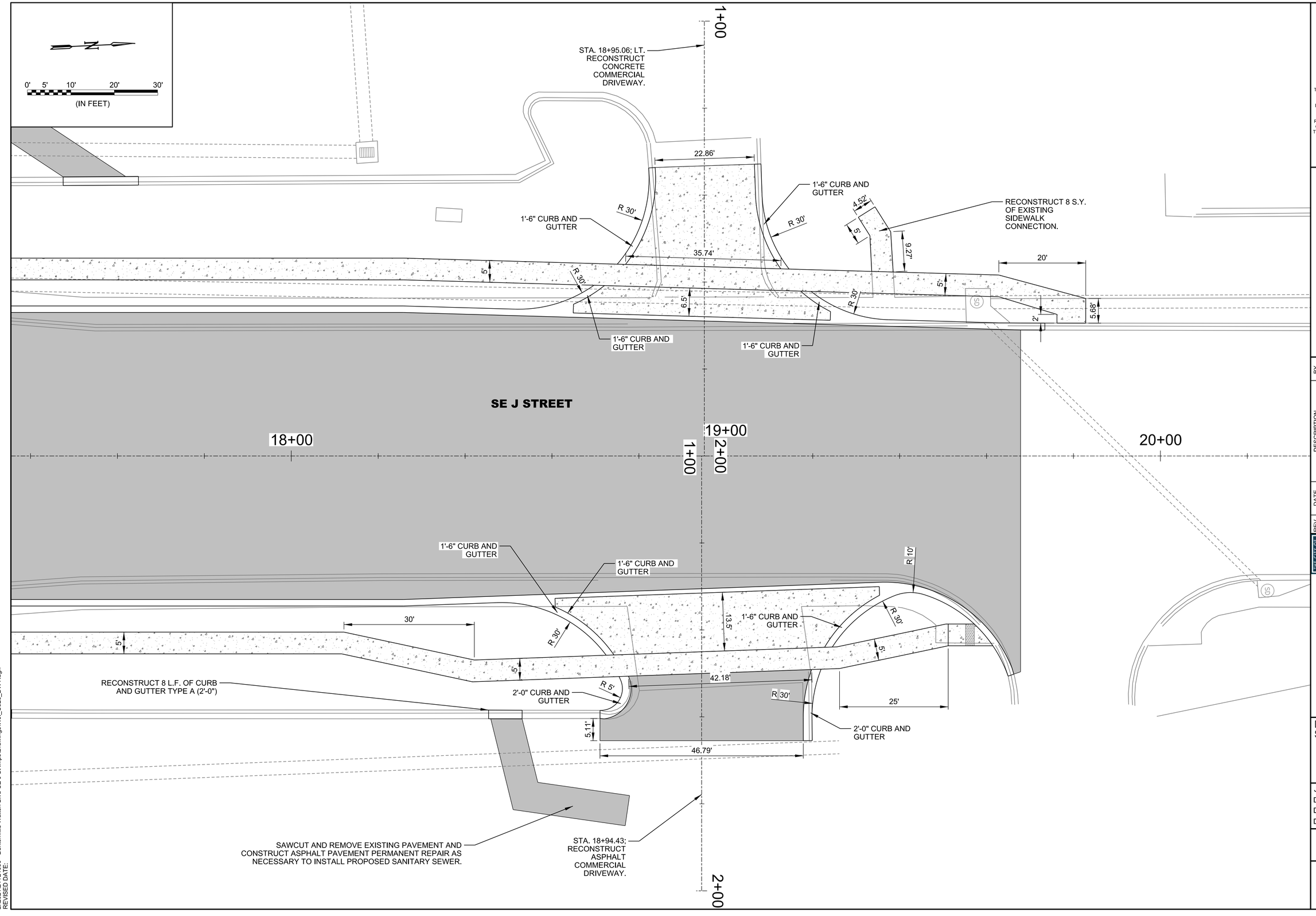
REVISED DATE:



FINAL PLANS
FOR REVIEW ONLY
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REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

DRIVEWAY PLAN SHEET

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: LTF
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-523

LTFreedle
5/11/2022 5:40:53 PM
WORKSPACE:Garver_2012
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REVISED DATE:

N

0' 10' 20' 40' 60'

(IN FEET)

SE WALTON BOULEVARD

34+00

1+00

35+00

POE 35+00.00

SAWCUT AND REMOVE EXISTING PAVEMENT AND CONSTRUCT ASPHALT PAVEMENT PERMANENT REPAIR AS NECESSARY TO INSTALL PROPOSED WATERLINE.

RECONSTRUCT 12 S.Y. OF EXISTING SIDEWALK AND 17 L.F. OF CURB AND GUTTER TYPE A (2'-0") AS NECESSARY TO CONSTRUCT PROPOSED INLET AND JUNCTION BOX.

RECONSTRUCT 7 S.Y. OF EXISTING SIDEWALK CONNECTION.

2'-0" CURB AND GUTTER

1'-6" CURB AND GUTTER

CONSTRUCT 6" CONCRETE ISLAND PER ARDOT STANDARD DRAWING DR-1.

CONSTRUCT 6" CONCRETE ISLAND PER ARDOT STANDARD DRAWING DR-1.

2+00

STA. 34+06.96; LT. RECONSTRUCT ASPHALT COMMERCIAL DRIVEWAY.

1'-6" CURB AND GUTTER

2'-0" CURB AND GUTTER

RECONSTRUCT 6 S.Y. OF EXISTING SIDEWALK CONNECTION.

5' 12.12' 11.5' 14.5' 23.47' 17.02' 15.26' 9.2' 49.18' 25.71' 13' 11.1' 7.2' 4.29' 2' 15.79' 6.17'

R 30' R 5' R 2' R 1' R 15'

TOS

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CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

DRIVEWAY PLAN SHEET

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: LTF
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-524

LTFreedle 5/11/2022 5:40:54 PM
WORKSPACE:Garver_2012
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REVISED DATE:

DRAINAGE GENERAL NOTES:

1. ALL DRAINAGE STRUCTURE STATIONS AND OFFSETS ARE TO CENTER OF INLET VAULT OR JUNCTION BOX VAULT WHERE NO INLET IS PRESENT.
2. DOUBLE R.C.P. INSTALLED UNDER PAVEMENT SHALL BE BACKFILLED WITH FLOWABLE FILL BETWEEN THE PIPES. FLOWABLE FILL BACKFILL FOR STORM SEWER WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE R.C.P. INSTALLED.
3. ALL RIM ELEVATION CALLOUTS ON COMBINATION GRATE / CURB INLETS ARE LOCATED AT THE BACK OF CURB.

0' 10' 20' 40' 60'
(IN FEET)

01-11447-012
SOUTHERN PIONEER PROPERTY & CASUALTY INSURANCE COMPANY

01-11447-007
BANK OF THE OZARKS

STA.13+37.32; 26.44' LT. CONSTRUCT 4'X13.5' JUNCTION BOX OVER EXISTING BOX CULVERTS. TOP=1273.59 F.L. IN=1268.00 F.L. OUT=1268.00(FIELD VERIFY)

STA.14+13.63; 30.42' LT. INSTALL 8'X4' PRE-CAST R.C. BOX CULVERT 16° BEND.

PROPOSED DRAINAGE EASEMENT

STA. 14+88.24; 52.69' LT. INSTALL 18" R.C.P. INTO SIDE OF BOX CULVERT. F.L.=1270.54

INSTALL 232 L.F. OF 8'X4' PRE-CAST R.C. BOX CULVERT AT 0.50% SLOPE.

STA. 14+49.61; 38.96' LT. INSTALL 18" R.C.P. INTO SIDE OF BOX CULVERT F.L.=1270.34

PROPOSED PED. POLE.

EXISTING EASEMENT

PROPOSED DRAINAGE EASEMENT

STA. 14+05.29; 25.89' LT. INSTALL 18" R.C.P. INTO SIDE OF BOX CULVERT. F.L.=1270.30

INSTALL 16 L.F. OF 18" R.C.P. AT 0.50% SLOPE.

INSTALL 31 L.F. OF 18" R.C.P. AT 1.50% SLOPE.

EXISTING R.O.W.

INSTALL 4 L.F. OF 18" R.C.P. AT 0.50% SLOPE.

PROPOSED SIGNAL POLE

STA.14+05.63; 20.47' LT. CONSTRUCT DOUBLE GRATE COMBINATION INLET. TOP=1273.51 F.L. OUT=1270.32

STA. 14+54.00; 22.23' LT. CONSTRUCT SINGLE GRATE COMBINATION INLET. TOP=1273.93 F.L. OUT=1270.44

STA.15+00.00; 22.23' LT. CONSTRUCT DOUBLE GRATE COMBINATION INLET. TOP=1274.88 F.L. OUT=1271.07

SE WALTON BOULEVARD

SE DODSON ROAD

STA.14+04.87; 23.95' RT. CONSTRUCT 4'X12.5' JUNCTION BOX. TOP=1272.96 F.L. IN=1268.40(N) F.L. IN=1269.64(E) F.L. OUT=1268.30(S)

REMOVE AND REPLACE BACKFILL OVER EXISTING 42" R.C.P. WITH COMPACTED CLASS 7 AGGREGATE BASE COURSE UNDER PROPOSED ROADWAY. COST SHALL BE CONSIDERED SUBSIDIARY TO PROPOSED ROADWAY AGGREGATE BASE.

CENTERLINE OF ALIGNMENT

INSTALL 121 L.F. OF DOUBLE ELLIPTICAL 53"X34" R.C.P. AT 0.60% SLOPE.

INSTALL 34 L.F. OF DOUBLE 42" R.C.P. AT 2.61% SLOPE.

INSTALL 8 L.F. OF 18" R.C.P. AT 0.50% SLOPE.

PROPOSED PED. POLE.

EXISTING EASEMENT

EXISTING R.O.W.

PROPOSED R.O.W.

PROPOSED UTILITY EASEMENT

STA. 12+48.93; 20.72' RT. CONSTRUCT SPECIAL DOUBLE GRATE COMBINATION INLET OVER EXISTING PIPES WITH 6'-2"X7' JUNCTION. TOP=1273.07 F.L. IN=1267.70(N) F.L. OUT=1267.60(S) (FIELD VERIFY)

INSTALL 151 L.F. OF DOUBLE ELLIPTICAL 53"X34" R.C.P. AT 0.40% SLOPE.

STA. 14+05.88; 40.66' RT. CONSTRUCT TRIPLE GRATE COMBINATION INLET WITH 4'X4' JUNCTION BOX. TOP=1273.10 F.L. IN=1269.80(N) F.L. OUT=1269.70(W)

INSTALL 40 L.F. OF 18" R.C.P. AT 0.50% SLOPE.

PROPOSED T.C.E.

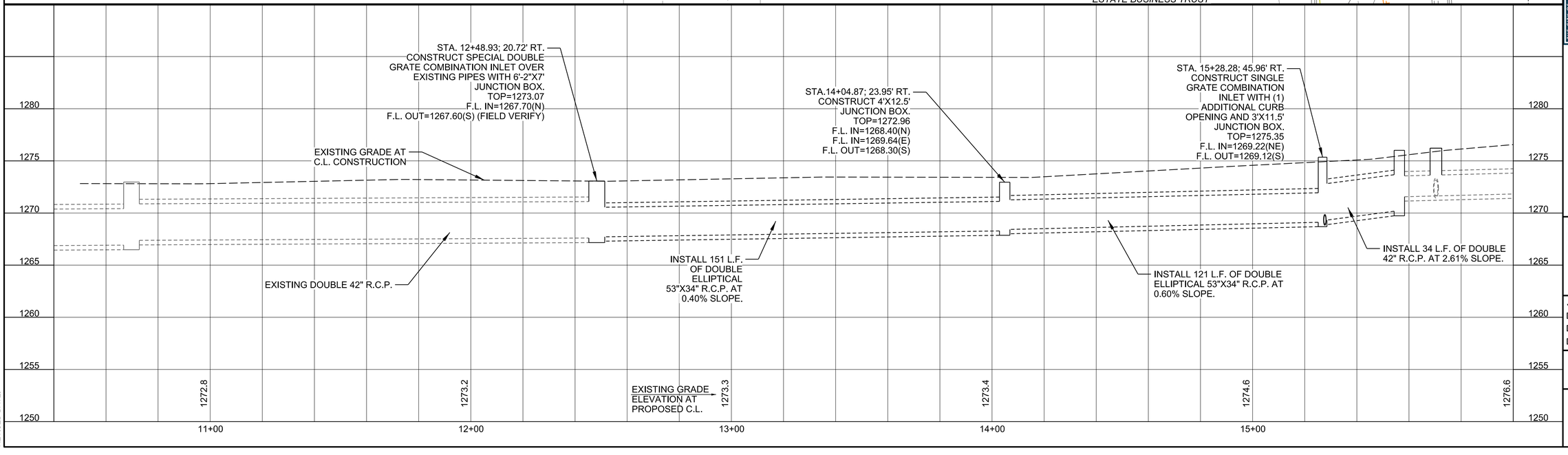
STA.14+54.00; 44.23' RT. CONSTRUCT DOUBLE GRATE COMBINATION INLET. TOP=1273.71 F.L. OUT=1270.00(S)

STA. 15+28.28; 45.96' RT. CONSTRUCT SINGLE GRATE COMBINATION INLET WITH (1) ADDITIONAL CURB OPENING AND 3'X11.5' JUNCTION BOX. TOP=1275.35 F.L. IN=1269.22(NE) F.L. OUT=1269.12(S)

PROPOSED SIGNAL POLE

01-12940-000
WAL-MART REAL ESTATE BUSINESS TRUST

EXISTING EASEMENT



FINAL PLANS
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

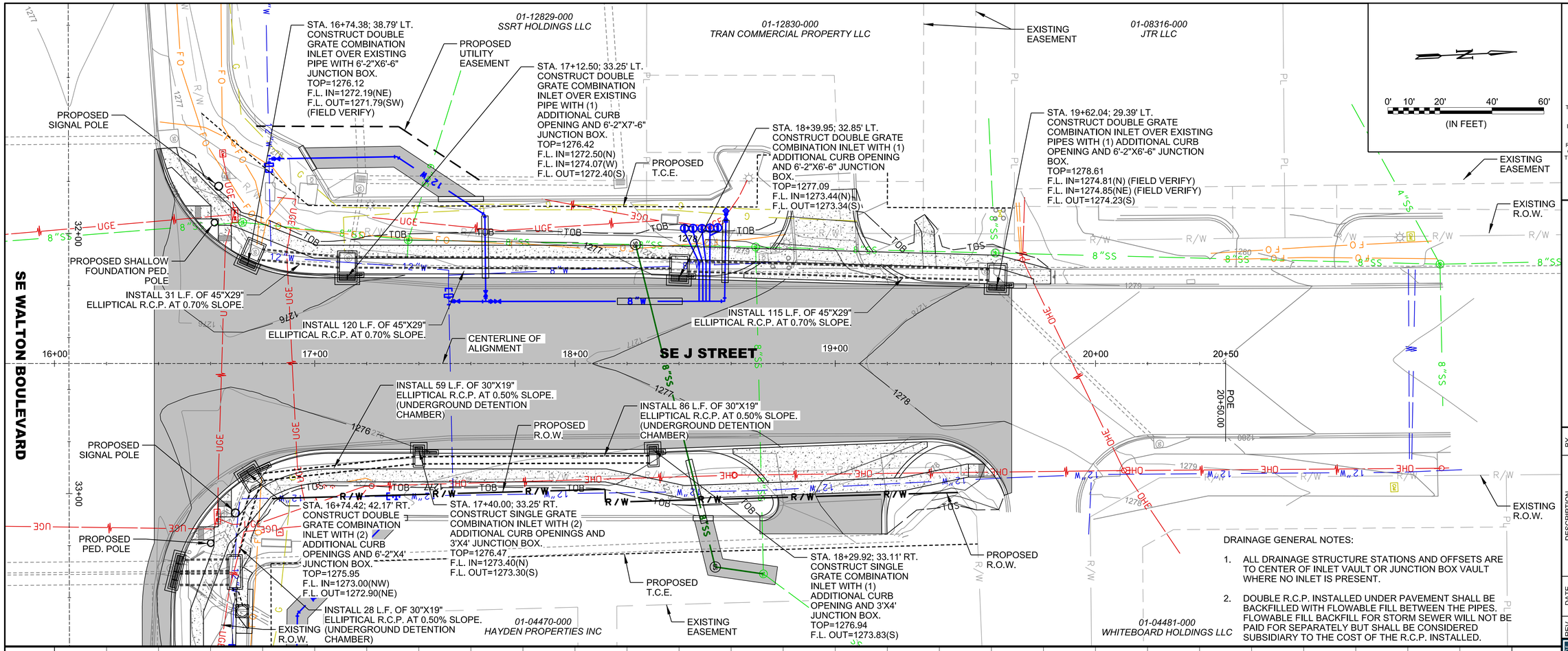
SE DODSON ROAD DRAINAGE PLAN AND PROFILE

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-551

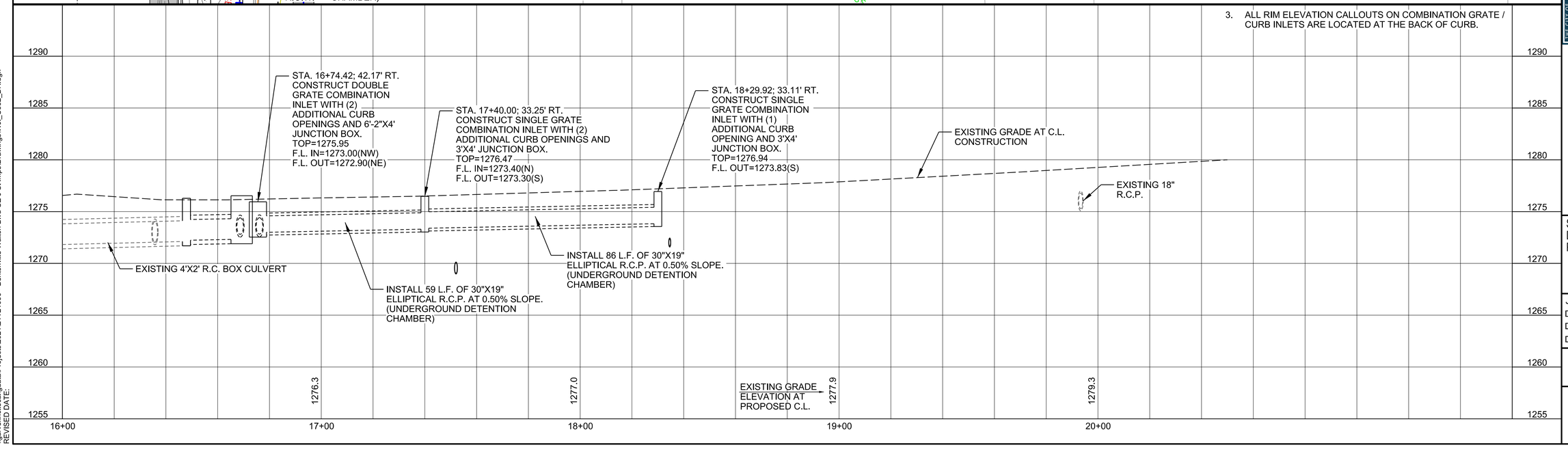
JAAdams
5/13/2022 1:14:14 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C551_DR.dgn
REVISED DATE:



FINAL PLANS
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

DRAINAGE GENERAL NOTES:

1. ALL DRAINAGE STRUCTURE STATIONS AND OFFSETS ARE TO CENTER OF INLET VAULT OR JUNCTION BOX VAULT WHERE NO INLET IS PRESENT.
2. DOUBLE R.C.P. INSTALLED UNDER PAVEMENT SHALL BE BACKFILLED WITH FLOWABLE FILL BETWEEN THE PIPES. FLOWABLE FILL BACKFILL FOR STORM SEWER WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE R.C.P. INSTALLED.
3. ALL RIM ELEVATION CALLOUTS ON COMBINATION GRATE / CURB INLETS ARE LOCATED AT THE BACK OF CURB.



REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE J STREET
DRAINAGE PLAN AND PROFILE

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-552

JAAdams 5/13/2022 1:14:44 PM
\\WORKSPACE\Garver_2012\garvinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C552_DR.dgn
REVISED DATE:

N

0' 10' 20' 40' 60'

(IN FEET)

EXISTING EASEMENT

PROPOSED UTILITY EASEMENT

PROPOSED SIGNAL POLE

EXISTING R.O.W.

PROPOSED SHALLOW FOUNDATION PED. POLE

PROPOSED R.O.W.

PROPOSED T.C.E.

EXISTING EASEMENT

PROPOSED R.O.W.

PROPOSED T.C.E.

EXISTING R.O.W.

PROPOSED R.O.W.

PROPOSED T.C.E.

EXISTING EASEMENT

EXISTING R.O.W.

EXISTING EASEMENT

PROPOSED R.O.W.

PROPOSED T.C.E.

EXISTING EASEMENT

EXISTING EASEMENT

EXISTING R.O.W.

EXISTING R.O.W.

PROPOSED PED. POLE.

PROPOSED SIGNAL POLE.

PROPOSED DRAINAGE EASEMENT

PROPOSED SIGNAL POLE.

PROPOSED PED. POLE.

EXISTING EASEMENT

EXISTING EASEMENT

01-12829-000
SSRT HOLDINGS LLC

01-04470-000
HAYDEN PROPERTIES INC

01-11447-007
BANK OF THE OZARKS

01-12940-000
WAL-MART REAL ESTATE BUSINESS TRUST

DRAINAGE GENERAL NOTES:

1. ALL DRAINAGE STRUCTURE STATIONS AND OFFSETS ARE TO CENTER OF INLET VAULT OR JUNCTION BOX VAULT WHERE NO INLET IS PRESENT.
2. DOUBLE R.C.P. INSTALLED UNDER PAVEMENT SHALL BE BACKFILLED WITH FLOWABLE FILL BETWEEN THE PIPES. FLOWABLE FILL BACKFILL FOR STORM SEWER WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE R.C.P. INSTALLED.
3. ALL RIM ELEVATION CALLOUTS ON COMBINATION GRATE / CURB INLETS ARE LOCATED AT THE BACK OF CURB.

SE J STREET

SE WALTON BOULEVARD

SE DODSON ROAD

STA. 33+30.26; 63.56' LT.
CONSTRUCT 12'X4.5' JUNCTION BOX WITH ORIFICE PLATE OVER EXISTING PIPE. SEE SPECIAL DETAILS FOR MORE INFORMATION.
TOP=1276.53
F.L. IN=1272.62(N)(FIELD VERIFY)
F.L. IN=1273.00(E)
F.L. IN=1272.76(W)
F.L. OUT=1272.33(S)

INSTALL 6 L.F. OF 18" R.C.P. AT 1.00% SLOPE.

STA. 33+45.33; 66.37' LT.
CONSTRUCT 4' TYPE MO CURB INLET WITH (1) 4' EXTENSION.
TOP=1275.90
F.L. OUT=1273.07(W)

INSTALL 18 L.F. OF PRECAST DOUBLE 4'X2' R.C. BOX CULVERT AT 0.63% SLOPE. BACKFILL BETWEEN BARRELS WITH CLASS 67 STONE.

STA. 33+30.14; 41.33' LT.
CONSTRUCT QUADRUPLE GRATE COMBINATION INLET OVER EXISTING BOX CULVERTS.
TOP=1276.27
F.L. IN=1272.22(N)
F.L. IN=1272.58(E)(FIELD VERIFY)
F.L. OUT=1272.11(S)(FIELD VERIFY)

STA. 34+76.72; 44.13' LT.
INSTALL 18" R.C. FLARED END SECTION. GRADE AREA TO DRAIN TO FLARED END SECTION.
F.L. IN=1275.26

INSTALL 3 L.F. OF 18" R.C.P. AT 15.92% SLOPE.

INSTALL 12 L.F. OF 24" R.C.P. CONNECT TO EXISTING PIPE WITH PIPE COLLAR AS SHOWN. FIELD VERIFY SLOPE.

STA. 31+66.13; 37.50' RT.
CONSTRUCT 9'X12' TYPE C CURB INLET OVER EXISTING CULVERT AND PIPE.
TOP=1276.56
F.L. IN=1270.69(W)
F.L. IN=1270.69(N)
F.L. OUT=1269.14

INSTALL 5 L.F. OF 18" R.C.P. AT 5.20% SLOPE.

STA. 31+55.11; 47.90' RT.
CONSTRUCT 4' TYPE MO JUNCTION BOX OVER EXISTING PIPE.
TOP=1276.84
F.L. IN=1270.64(FIELD VERIFY)
F.L. OUT=1270.54(FIELD VERIFY)

STA. 31+63.06; 44.87' RT.
INSTALL 18" R.C.P. INTO SIDE OF BOX CULVERT.
F.L.=1270.29

STA.33+28.48; 36.75' RT.
CONSTRUCT SINGLE GRATE COMBINATION INLET ON EXISTING BOX CULVERT WITH (1) ADDITIONAL CURB OPENING. SEE ARDOT STANDARD DETAIL FPC-9 FOR MORE INFORMATION ON DROP INLET INSTALLATION.
TOP=1276.22
F.L. IN=1271.64(N)(FIELD VERIFY)
F.L. IN=1271.65(E)(FIELD VERIFY)
F.L. OUT=1271.63(SW)(FIELD VERIFY)

STA.33+27.67; 49.38' RT.
CONSTRUCT 14.5'X4' JUNCTION BOX OVER EXISTING BOX CULVERTS.
TOP=1276.01
F.L. IN=1271.56(N)(FIELD VERIFY)
F.L. OUT=1270.06(S)

STA. 34+79.54; 28.52' LT.
CONSTRUCT TRIPLE GRATE COMBINATION INLET OVER EXISTING PIPE WITH 4'X4' JUNCTION BOX.
TOP=1277.00 (FIELD VERIFY)
F.L. IN=1273.68(N)
F.L. IN=1272.80(E)(FIELD VERIFY)
F.L. OUT=1272.70(W)(FIELD VERIFY)

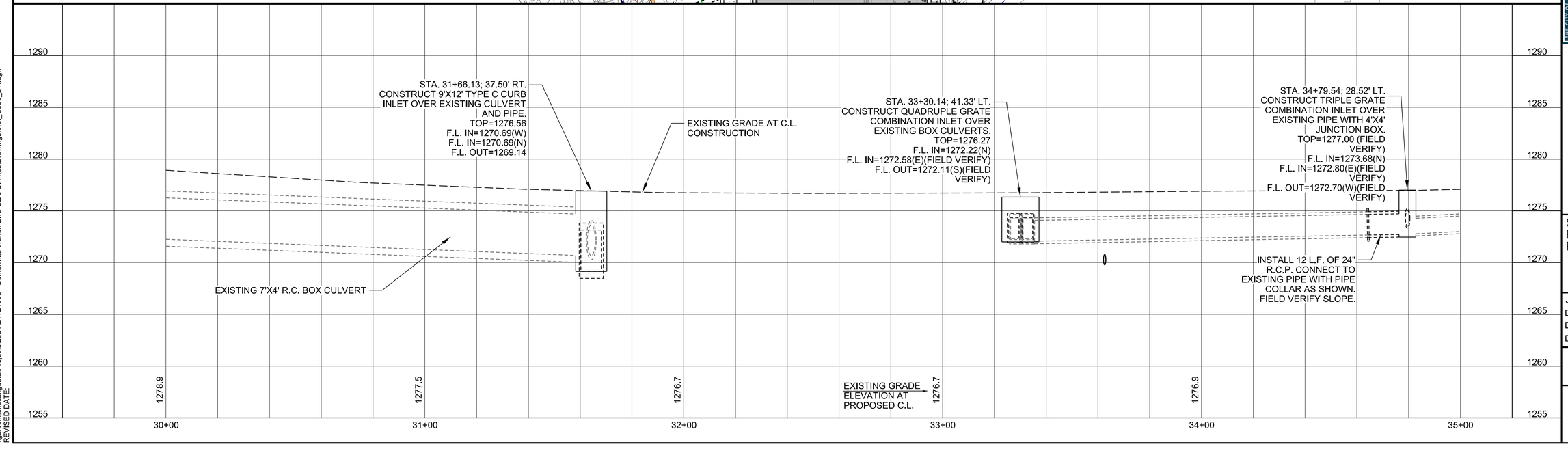
CENTERLINE OF ALIGNMENT

POB 30+00.00

POE 35+00.00

30+00 31+00 32+00 33+00 34+00 35+00

15+00 16+00 17+00



FINAL PLANS
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REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE WALTON BOULEVARD DRAINAGE PLAN AND PROFILE

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
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DRAWING NUMBER

C-553

JA Adams 5/13/2022 1:14:45 PM
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REVISED DATE:

N

0' 5' 10' 20' 30'

(IN FEET)

12+00

13+00

14+00

CENTERLINE ALIGNMENT OF SE DODSON ROAD

+08.95
F.G.=1273.14

+49.12
F.G.=1273.05

+00.00
F.G.=1273.28

+40.00
F.G.=1273.44

+70.00
F.G.=1273.43

+05.95
F.G.=1273.42

+25.00
F.G.=1273.54

+33.95
F.G.=1273.67

+60.00
F.G.=1274.03

+80.00
F.G.=1274.30

-2.31%

-1.55%

-1.69%

-1.39%

-0.96%

-1.91%

-1.71%

-2.07%

-1.30%

+08.95
F.G.=1272.79

+49.12
F.G.=1272.81

+00.00
F.G.=1273.02

+70.00
F.G.=1273.28

+05.95
F.G.=1273.13

+60.00
F.G.=1273.66

-3.56%

-1.57%

+40.00
F.G.=1273.23

+00.00
F.G.=1272.83

+33.95
F.G.=1273.39

+80.00
F.G.=1274.06

-1.41%

-2.24%

-2.88%

-1.61%

-1.25%

-0.97%

+49.12
F.G.=1272.63

+40.00
F.G.=1273.00

+70.00
F.G.=1272.82

+05.95
F.G.=1272.62

+33.95
F.G.=1272.94

+60.00
F.G.=1273.33

+80.00
F.G.=1273.81

+70.00
F.G.=1273.27

+05.95
F.G.=1273.04

+25.00
F.G.=1273.14

+33.95
F.G.=1273.24

+60.00
F.G.=1273.61

+80.00
F.G.=1273.99

-0.88%

-1.85%

-1.89%

-1.96%

-1.90%

-1.42%

NOTE: ALL STATIONS AND OFFSETS REFERENCE THE SE J STREET ALIGNMENT

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THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE DODSON ROAD
GRADING PLAN

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: LTF
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
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DRAWING NUMBER
C-581

LTFreedle 5/11/2022 5:41:02 PM
WORKSPACE:Garver_2012
L:\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C581_GP.dgn
REVISED DATE:

N

0' 5' 10' 20' 30'

(IN FEET)

CENTERLINE ALIGNMENT OF SE WALTON BOULEVARD

+69.63; 61.73' LT.
F.G.=1276.00

+61.45
F.G.=1275.72

+45.00
F.G.=1275.22

+15.08; 22.51' LT.
F.G.=1274.65

+30.00
F.G.=1274.92

+00.00
F.G.=1274.36

+80.00
F.G.=1273.99

-1.42%

-0.96%

-0.15%

-0.22%

-0.18%

32+00

SE DODSON ROAD

15+00

+30.00
F.G.=1274.96

+61.45
F.G.=1275.63

+76.26
F.G.=1276.05

16+00

+80.00
F.G.=1274.30

+00.00
F.G.=1274.57

+45.00
F.G.=1275.15

CENTERLINE ALIGNMENT OF SE J STREET

-1.30%

-0.59%

-0.09%

+80.00
F.G.=1274.06

+00.00
F.G.=1274.45

+30.00
F.G.=1274.94

-0.97%

-0.69%

-0.13%

-0.16%

-0.14%

+45.00
F.G.=1275.20

+80.00
F.G.=1273.81

+00.00
F.G.=1274.29

+13.93; 44.00' RT.
F.G.=1274.58

+30.00
F.G.=1274.91

+61.45
F.G.=1275.57

+45.00
F.G.=1275.24

-0.14%

+61.45
F.G.=1275.54

+75.26; 101.47' RT.
F.G.=1276.19

NOTE: ALL STATIONS AND OFFSETS REFERENCE THE SE J STREET ALIGNMENT

SE WALTON BOULEVARD

33+00

+39.30; 82.53' LT.
F.G.=1276.11

+47.96
F.G.=1275.98

+72.96
F.G.=1275.65

+97.96; 34.50' LT.
F.G.=1275.82

+27.96
F.G.=1275.99

+47.96
F.G.=1275.92

0.26%

1.37%

1.48%

1.38%

+47.96
F.G.=1276.14

17+00

+38.34
F.G.=1276.14

+72.96
F.G.=1276.19

+97.96
F.G.=1276.31

+27.96
F.G.=1276.45

-1.63%

-1.66%

-1.57%

SE J STREET

+97.96
F.G.=1275.76

+06.23; 33.00' RT.
F.G.=1275.81

+27.96
F.G.=1275.93

-0.31%

+72.96
F.G.=1275.49

+47.96
F.G.=1276.03

-1.16%

+53.87
F.G.=1275.97

+38.34; 69.08' RT.
F.G.=1276.08

+47.96
F.G.=1275.84

+46.04
F.G.=1275.76

+44.73; 94.63' RT.
F.G.=1275.82

FINAL PLANS
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE J STREET AND SE WALTON BOULEVARD INTERSECTION GRADING PLAN

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: LTF
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-582

LTFreedle
5/11/2022 5:41:06 PM
WORKSPACE:Garver_2012
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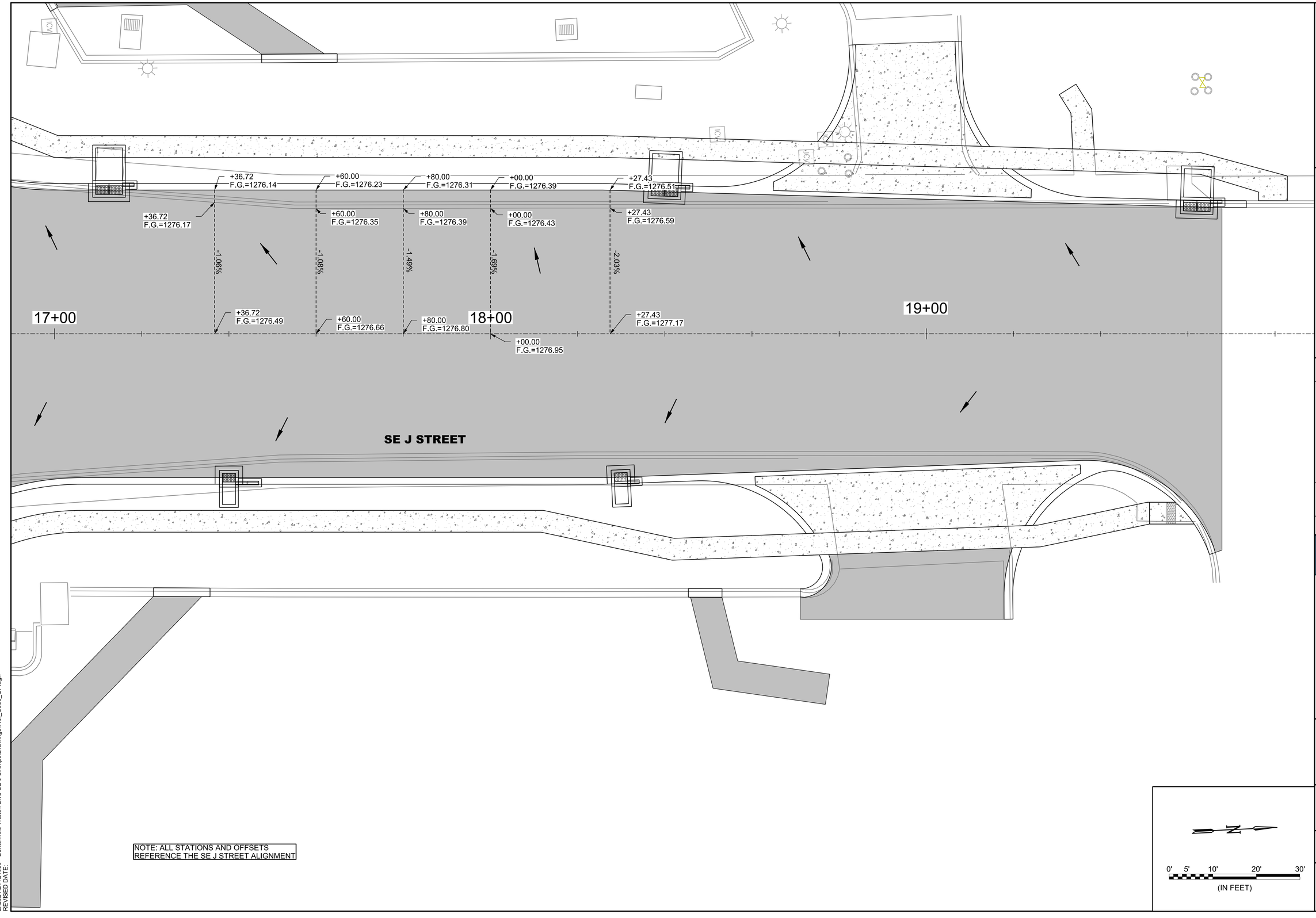
REVISED DATE:



NOTE: ALL STATIONS AND OFFSETS REFERENCE THE SE J STREET ALIGNMENT

0' 5' 10' 20' 30'
(IN FEET)

FINAL PLANS
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REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE J STREET GRADING PLAN

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: LTF
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-583

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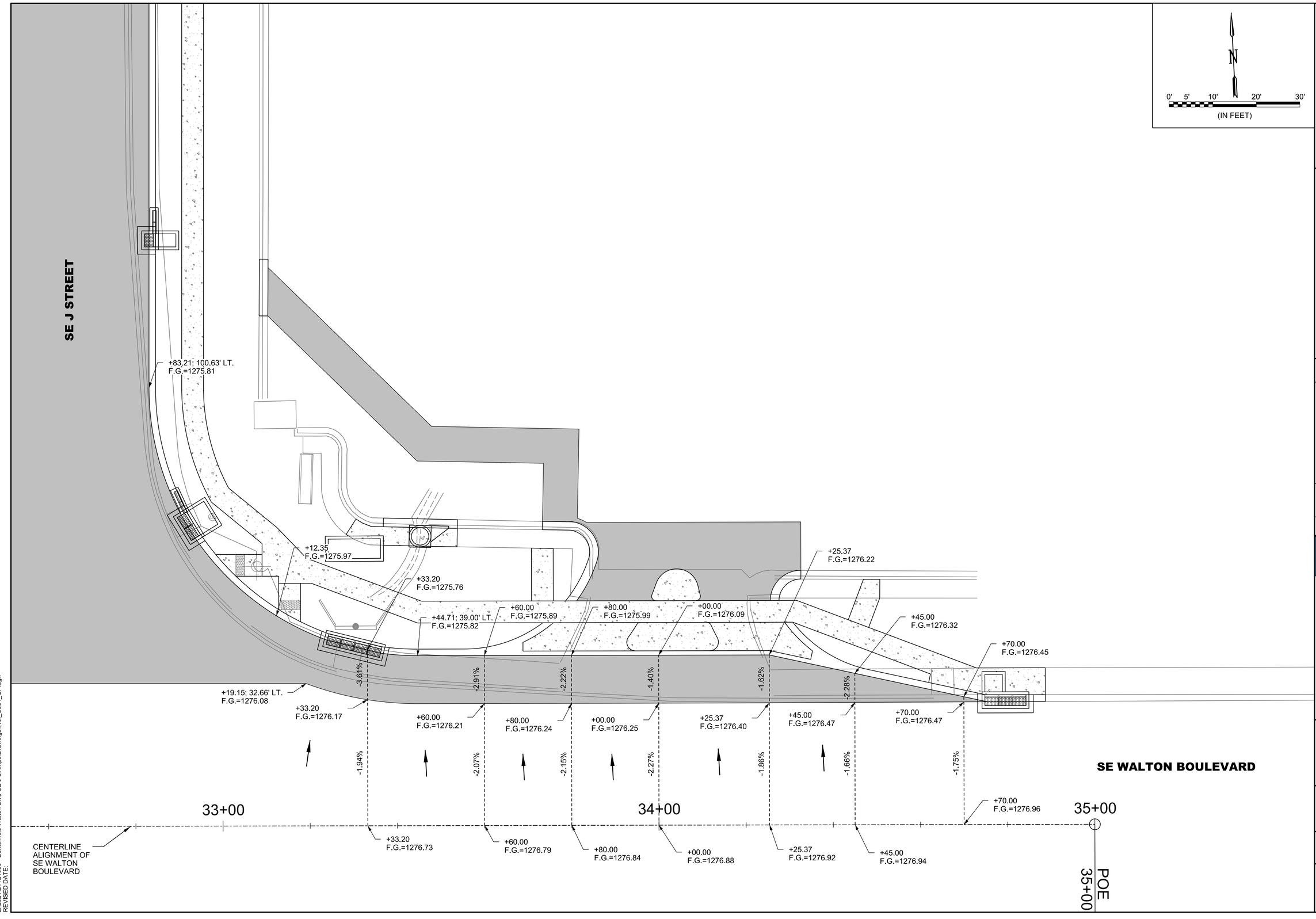

FINAL PLANS
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REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD
AND J STREET
IMPROVEMENTS

SE WALTON
BOULEVARD
GRADING PLAN

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: LTF
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
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DRAWING NUMBER
C-584

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REVISED DATE:

N

0' 5' 10' 20' 30'

(IN FEET)

01-11447-007
BANK OF THE OZARKS

01-12829-000
SSRT HOLDINGS LLC

01-12940-000
WAL-MART REAL ESTATE BUSINESS TRUST

01-04470-000
HAYDEN PROPERTIES INC

SE DODSON ROAD

SE J STREET

SE WALTON BOULEVARD

15+00

16+00

17+00

32+00

33+00

60' RADIUS
15+12.28
83.95' RT.

EXISTING
R.O.W.

PROPOSED
PED. POLE

STA. 31+87.65;
37.18' RT.

PROPOSED
SIGNAL POLE

CONSTRUCT 5'
CONCRETE
SIDEWALK.

STA. 15+03.75;
23.50' LT.

STA. 15+15.00;
24.04' LT.

STA. 15+13.93;
45.50' RT.

60' RADIUS
15+13.93
105.50' RT.

PROPOSED
R.O.W.

STA. 33+51.50;
31.95' RT.

CENTERLINE
ALIGNMENT OF SE
WALTON BOULEVARD

EXISTING
R.O.W.

PROPOSED
SIGNAL POLE

STA. 31+67.44;
35.42' LT.

60' RADIUS
16+99.83
94.50' LT.

REMOVE AND
RECONSTRUCT 10.5 L.F.
OF CURB AND GUTTER
TYPE A (1'-6") AS SHOWN.

REMOVE AND
RECONSTRUCT 17.5 L.F.
OF CURB AND GUTTER
TYPE A (1'-6") AS SHOWN.

EXISTING
R.O.W.

PROPOSED
SHALLOW
FOUNDATION
PED POLE

CONSTRUCT 5'
CONCRETE
SIDEWALK.

STA. 16+99.83
34.50' LT.

CENTERLINE ALIGNMENT
OF SE J STREET

STA. 17+06.23
34.50' RT.

PROPOSED
SIGNAL POLE

EXISTING
R.O.W.

PROPOSED
R.O.W.

REMOVE AND
RECONSTRUCT 13 L.F. OF
CURB AND GUTTER TYPE
A (1'-6") AS SHOWN.

PROPOSED
PED. POLE

CONSTRUCT 5'
CONCRETE
SIDEWALK.

STA. 33+44.71;
40.50' LT.

CONSTRUCT 5'
CONCRETE
SIDEWALK.

60' RADIUS
17+06.23
94.50' RT.

REMOVE AND RECONSTRUCT
17 L.F. OF CURB AND GUTTER
TYPE A (1'-6") AS SHOWN.

RECONSTRUCT 12 S.Y. OF EXISTING
SIDEWALK AS NECESSARY TO
CONSTRUCT PROPOSED INLET AND
JUNCTION BOX.

NOTES:
1. [R] - CONSTRUCT SIDEWALK CURB RAMP.

GARVER

FINAL PLANS
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REV	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD
AND J STREET
IMPROVEMENTS

SE J STREET AND SE
WALTON BOULEVARD
INTERSECTION LAYOUT
PLAN

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: LTF
DRAWN BY: TWM

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C-590

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TRAFFIC SIGNAL NOTES:

1. 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.
2. 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.
3. ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT 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
4. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE.
5. 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.
6. CONTROLLER CABINET SHALL BE WIRED SUCH THAT DURING FLASH OPERATIONS POWER TO THE LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUSS.
7. 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.
8. 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.
9. TRAFFIC SIGNAL POLES SHALL BE GALVANIZED. BACKPLATES SHALL BE SUPPLIED FOR ALL SIGNAL HEADS.
10. PAVEMENT MARKINGS SHOWN FOR REFERENCE ONLY. SEE PERMANENT PAVEMENT MARKING DETAILS.
11. 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.
12. ALL CONCRETE PULL BOXES SHALL BE (TYPE 3 HD) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE THREE (3") INCH DIAMETER UNLESS SPECIFIED ON PLANS.
13. CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.
14. LED LUMINAIRE ASSEMBLIES SHALL HAVE A BUG RATING OF U0.
15. 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.
16. THE LOCAL RADIO WITH ANTENNA SHALL BE COMPATIBLE WITH THE EXISTING CLOSED LOOP COORDINATION SYSTEM IN THE CITY/COUNTY.
17. 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.
18. 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.
19. 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.
20. 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.
21. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO IMSA STANDARDS.
22. ONE VIDEO PROGRAMMNG MODULE SHALL BE PROVIDED FOR AIMING AND SETUP OF DETECTORS IF THE VIDEO SYSTEM CANNOT BE ADJUSTED THROUGH HARDWARE AND SOFTWARE PROVIDED BY ITEMS WITHIN THE JOB.
23. 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.
24. 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.
25. DOOR PANEL TEST PUSH BUTTONS SHALL ACTUATE INDICATED PHASES. DETECTOR ASSIGNMENTS AND/OR SIDE PANEL JUMPERS MAY REQUIRE MODIFICATION.
26. ALL SYSTEM DETECTOR RACKS AND ASSOCIATED EQUIPMENT SHALL BE PROTECTED BY THE MAIN CONTROLLER CABINET POWER SURGE PROTECTION.
27. 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
28. 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.
29. 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.
30. 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.
31. THE CONTROLLER SHALL BE SIEMENS EAGLE M62 CONTROLLER CONSISTENT AND COMPATIBLE WITH THE CITY OF BENTONVILLE EXISTING EQUIPMENT, SOFTWARE, HARDWARE,
32. VIDEO DETECTION SHALL BE ITERIS VANTAGE NEXT VIDEO DETECTION. MUST BE FULLY COMPATIBLE WITH EXISTING EQUIPMENT, SOFTWARE, AND NETWORK.
33. VIDEO CABLE SHALL BE AS RECOMMENDED BY THE MANUFACTURER OF THE VIDEO PROCESSOR UNIT AND COMPATIBLE WITH THE SPECIFIED VIDEO DETECTORS.
34. TRAFFIC SIGNAL POLES, MAST ARMS, PEDESTRIAN POLES, AND LUMINAIRE ARMS SHALL BE PELCO DECORATIVE PER SPECIAL PROVISIONS.
35. PEDESTRIAN SIGNAL HEADS SHALL BE BLACK CLAMSHELL TYPE HOUSING WITH POLARA APS PUSH BUTTON WITH SPECIAL MESSAGES.
36. INSTALL AN EAGLE SIZE SUPER P CABINET (WITH INTEGRATED BBS COMPARTMENT) BLACK IN COLOR WITH FRONT, REAR, AND RIGHT SIDE OPENING DOORS.
37. BATTERY BACKUP SYSTEM SHALL BE CLARY UPS SYSTEM OPERATING AS LINE FILTER FOR INCOMING SINGALS. MUST BE FULLY COMPATIBLE WITH EXISTING EQUIPMENT, SOFTWARE, AND NETWORK.
38. PREEMPTION SHALL BE GLOBAL TRAFFIC TECHNOLOGIES OPTICOM GPS PREEMPTION AND MUST BE FULLY COMPATIBLE WITH EXISTING EQUIPMENT, SOFTWARE, SERVER, AND
39. LUMINARIES SHALL BE HOLOPHANE MEMPHIS STYLE DECORATIVE LED LUMINARIES.
40. THE POSITION OF DETECTOR ZONES MAY BE FIELD ADJUSTED TO ACHIEVE MAXIMUM EFFICIENCY IN COUNT DATA AND VEHICLE ACTUATION, AS APPROVED BY THE ENGINEER.
41. THERE SHALL BE NO DEVIATION FROM THIS PLAN WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER.
42. CONTRACTOR SHALL COORDINATE WITH T.E.C. INC., FOR COORDINATION TIMING DATA. CONTROLLER SHALL BE PROGRAMMED AND TESTED WITH COORDINATION DATA PRIOR TO
43. CONTRACTOR SHALL INSTALL, TERMINATE, AND TEST FIBER FROM NEAREST SERVICE POINT INTO CABINET, PRIOR TO TURN ON.
44. CITY OF BENTONVILLE WILL PROVIDE STREET NAME SIGNS AND THE CONTRACTOR SHALL INSTALL. CONTRACTOR SHALL PROVIDE AND INSTALL ALL OTHER SIGNS.
45. ALL POLES, MAST ARMS, AND ACCESSORIES SHALL BE BLACK IN COLOR.
46. CONTRACTOR SHALL REPAIR ALL SCUFFS, SCRATCHES, ETC., WITH CITY APPROVED MATERIALS.
47. CONTRACTOR SHALL PROVIDE EQUIPMENT SUBMITTALS TO THE CITY OF BENTONVILLE FOR APPROVAL PRIOR TO PURCHASING.
48. CONTRACTOR SHALL PROVIDE FINAL AS-BUILT DRAWINGS TO THE CITY OF BENTONVILLE.
49. THE CITY OF BENTONVILLE RESERVES THE RIGHT TO REJECT ANY MATERIALS OR EQUIPMENT THAT HAS BEEN DAMAGED IN SHIPPING, HANDLING, OR UNLOADING AND MAY REQUIRE REPLACEMENT AT NO COST TO THE CITY.
50. NEW TRAFFIC SIGNALS SHALL BE OPERATIONAL PRIOR TO REMOVAL OF EXISTING SIGNALS.
51. TRAFFIC SIGNAL EQUIPMENT REMOVED FROM THE INTERSECTIONS SHALL BECOME THE PROPERTY OF THE CITY OF BENTIONVILLE. (SEE SPECIFICATIONS)

* CLARIFICATION TO TRAFFIC SIGNAL NOTE 3:
ELECTRICAL SERVICE SHALL BE INSTALLED BY THE CONTRACTOR AND THE CONTRACTOR TO COORDINATE THE SERVICE CONNECTION WITH THE ELECTRIC DEPARTMENT. ADDITIONALLY, FOR ELECTRICAL SERVICE, A FREE-STANDING RACK SIMILAR TO A DS-1003 STANDARD SHOULD BE INSTALLED PER THE BEUD.

TRAFFIC SIGNAL QUANTITIES

	ITEM NUMBER	ITEM	PHASE 1 QUANTITIES	PHASE 2 QUANTITIES	FINAL QUANTITIES	TOTAL QUANTITIES	UNIT
	SP & 701	SYSTEM LOCAL CONTROLLER-FIBER (8 PHASES)	1			1	EA
	SP	ETHERNET SWITCH	1			1	EA
	SP	GPS PREEMPTION SYSTEM	1			1	EA
	SP	BATTERY BACKUP SYSTEM	1			1	EA
	SP	WIC FIBER ENCLOSURE	1			1	EA
	SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	8		11	19	EA
	SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	4		2	6	EA
	SP & 706	TRAFFIC SIGNAL HEAD, LED, (5 SECTION, 1 WAY)		2	3	5	EA
	SP	RELOCATION OF TRAFFIC SIGNAL HEAD		3		3	EA
	SP & 707	CENTRAL CONTROL UNIT	1			1	EA
	SP & 707	POLE MOUNTED ASSEMBLY			8	8	EA
	SP & 707	INFRARED PROGRAMMING DEVICE	1			1	EA
	SP & 707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED			8	8	EA
	708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)			2888	2888	LF
	708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	2026	543	339	2908	LF
	708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)			718	718	LF
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	64		758	822	LF
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)			220	220	LF
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	37			37	LF
	SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES			932	932	LF
	SP	COMMUNICATION CABLE, FIBER (12 CHANNEL)	549			549	LF
	SP	FIBER TRACER WIRE, #14 AWG, POLYETHYLENE INSULATION ORANGE IN COLOR	549			549	LF
	SP	FIBER OPTIC PIGTAIL, 12 SM	30			30	LF
	709	GALVANIZED STEEL CONDUIT (2")	37			37	LF
	709	GALVANIZED STEEL CONDUIT (3")	112			112	LF
	710	NON-METALLIC CONDUIT (2")	73			73	LF
	710	NON-METALLIC CONDUIT (3")	71		742	813	LF
	710	NON-METALLIC CONDUIT (3" HDPE)	235			235	LF
	711	CONCRETE PULL BOX (TYPE 1 HD)	1			1	EA
	SP & 711	CONCRETE PULL BOX (TYPE 3 HD)	2		6	8	EA
	SP & 711	PULL BOX FOR FIBER, DS-1609, 24"x36"x24"	6			6	EA
	SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (44')			1	1	EA
	SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (46')			1	1	EACH
	SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (58')			1	1	EA
	SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (66')			1	1	EA
	SP	LED LUMINAIRE ASSEMBLY			4	4	EA
	SP & 715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION			4	4	EA
	SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1			1	EA
	SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.33	0.33	0.34	1.00	LUMP SUM
	716	TREATED WOOD POLE (CLASS 2, 45')	4			4	EACH
	SP	18" STREET NAME SIGN (INSTALL ONLY)			4	4	EA
	SP	VIDEO DETECTOR ROTATION		2		2	EACH
	SP & 733	VIDEO DETECTOR RACK (16 CHANNEL)	1			1	EA
*	SP & 733	VIDEO DETECTOR (IP)	4		5	9	EA
	SP & 733	VIDEO CABLE (EXTERIOR CAT 5E)	1075			1075	LF
	733	VIDEO MONITOR (CLR)	1			1	EA
	SP & 733	CENTRAL CONTROL UNIT (4 CHANNEL)	2			2	EA
*	SP & 733	VIDEO PROCESSOR, EDGE CARD IP (2 CAMERA)	5			5	EA

* ONE SPARE VIDEO DETECTOR AND ONE SPARE VIDEO PROCESSOR SHALL BE SUPPLIED

FINAL PLANS
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THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNAL NOTES AND QUANTITIES

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: CEM
DRAWN BY: HRH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-600

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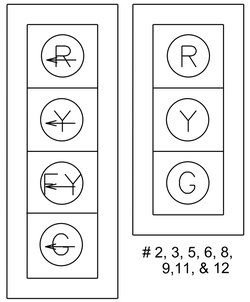
REVISED DATE:

PHASES 1 - SIGNAL FACES

12" LENSES



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

NOTES:
1. TRAFFIC SIGNAL OPERATIONS SHALL BE MAINTAINED THROUGHOUT ALL STAGES OF CONSTRUCTION.
2. CONTRACTOR SHALL HAVE PHASE 1 TRAFFIC SIGNAL OPERATIONAL PRIOR TO PHASE 1 CONSTRUCTION BEGINNING.
3. EXISTING SIGNAL EQUIPMENT SHALL BE REMOVED AFTER TEMPORARY SIGNALS ARE OPERATIONAL.
4. ALL GUY WIRE INSTALLATIONS SHALL BE STANDARD GUY INSTALLATION UNLESS OTHERWISE NOTED.
5. INSTALL 2-3" G.S. CONDUIT OUT OF THE PULL BOX NEAR CONTROLLER AND UP THE WOOD POLE.
6. PRIOR TO PHASE 1 CONSTRUCTION : BEGINNING CONTRACTOR SHALL INSTALL FIBER OPTIC COMMUNICATIONS AS SHOWN ON SHEET C-611.
7. SERVICE POINT TO BE INSTALLED IN FINAL LOCATION.
8. EXISTING CONDUIT TO BE ABANDONED.

PHASES 1 & 2 - PHASING DIAGRAM

PHASES 1 & 2 DETECTOR SPACING CHART

WALTON BLVD. VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
45 MPH	260'	115'
J ST./DODSON RD. VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
40 MPH	85'	N/A

WALTON BLVD. AND SE J ST./SE DODSON RD. PHASES 1, 2, & 3 - POLE DIMENSIONS

POLE	MAST ARM	MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	LUM. ANGLE
I	-	-	45'	15'	AS SHOWN
J	-	-	45'	15'	AS SHOWN
K	-	-	45'	15'	AS SHOWN
L	-	-	45'	-	-

SCALE IN FEET
0 30 60 120

FINAL PLANS
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 1

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: CEM
DRAWN BY: HRH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-601

JAAdams 5/13/2022 12:58:45 PM
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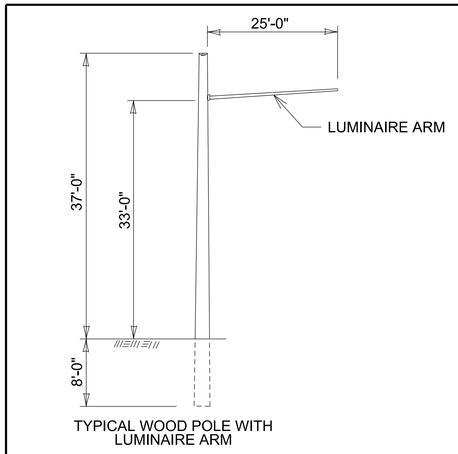
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd+SE J St Imps\Drawings\WJI_C601_SG.dgn
REVISED DATE:



TYPICAL WOOD POLE WITH LUMINAIRE ARM

NOTE TO CONTRACTOR:
LUMINAIRE ARMS (OR APPROVED MOUNTING HARDWARE) SHALL BE USED TO MOUNT VIDEO DETECTORS.
LUMINAIRE ARM SHALL NOT INCLUDE LUMINAIRE ASSEMBLIES. THE COST FOR LUMINAIRE ARMS, MOUNTING, AND ALL HARDWARE IS INCLUDED IN PRICE BID FOR ITEM 716 TREATED WOOD POLE.

PHASES 1 & 2
DESIGN PARAMETERS

POSTED SPEED LIMIT:
45 MPH EAST AND WEST APPROACH
40 MPH NORTH AND SOUTH APPROACH

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

LOCATION OF STOP LINES SHOWN ON PERMANENT PAVEMENT MARKING DETAILS (SEE SEPARATE SHEET).

MINIMUM CLEAR ZONE DISTANCE
1.5 FEET BEHIND CURB

WALTON BLVD. AND SE J ST./SE DODSON RD.
PHASES 1 & 2 - POLE LOCATIONS

POLE	LOCATION & STATION	OFFSET	X,Y COORDINATES
I	WALTON BLVD. - STA. 31+90.86	72' RT.	665012.99, 735867.35
J	WALTON BLVD. - STA. 31+87.65	70' RT.	665016.12, 736008.05
K	WALTON BLVD. - STA. 33+05.73	80' RT.	665134.55, 736012.92
L	WALTON BLVD. - STA. 33+23.18	70' RT.	665145.20, 735862.15

FINAL PLANS
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 1

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: CEM
DRAWN BY: HRH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-602

SCALE IN FEET
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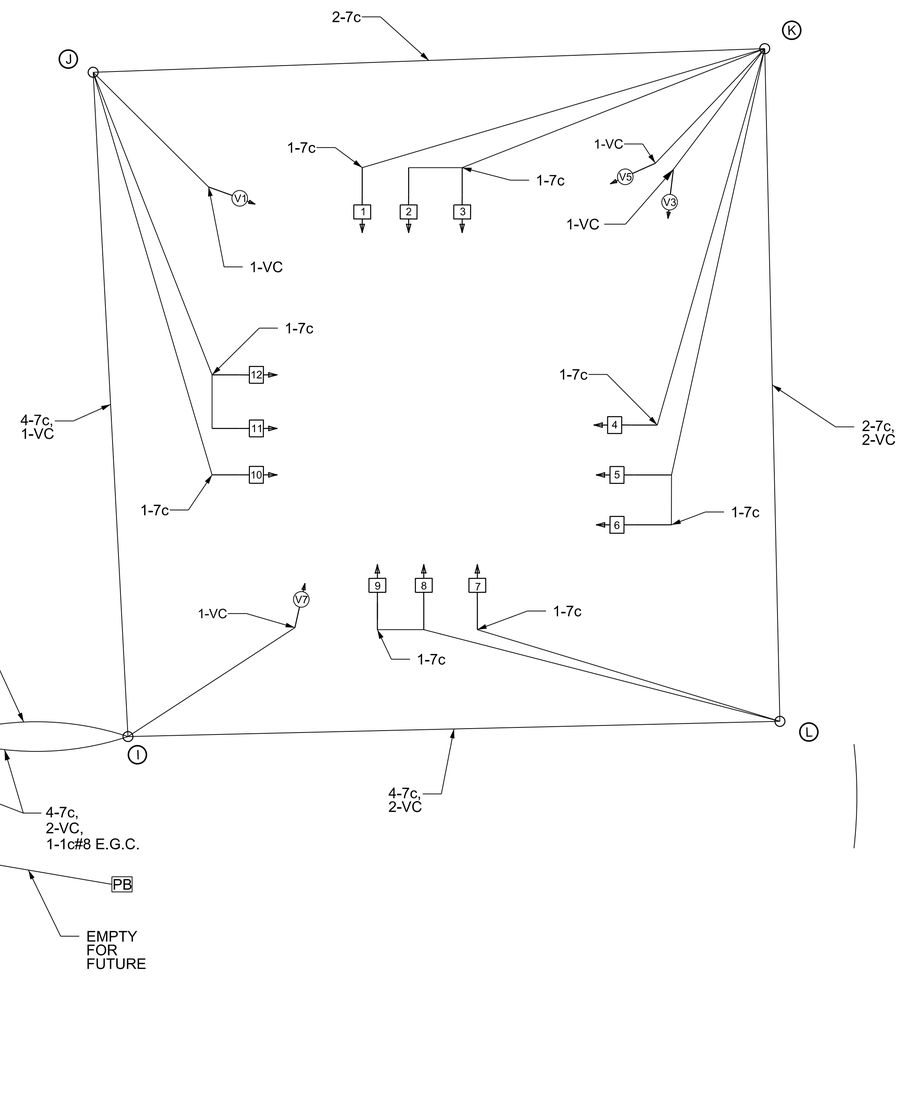
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C602_SG.dgn
REVISED DATE:

NOTES TO CONTRACTOR:

1. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
2. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.
2. SEE SHEET NUMBER C-612 FOR GROUNDING ARRAY DETAIL

PHASE 1 - WIRING DIAGRAM

(NOT TO SCALE)



FINAL PLANS
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 1

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: CEM
DRAWN BY: HRH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER

C-603

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REVISED DATE:

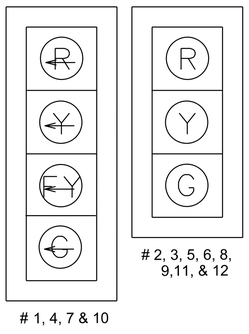
PHASE 1 - INTERVAL CHART

SIGNAL FACES	WALTON BLVD. AND SE J ST./SE DODSON RD.																FLASH SEQUENCE
	1+5	CLR.	1+6	CLR.	2+5	CLR.	2+6	CLR.	3+7	CLR.	3+8	CLR.	4+7	CLR.	4+8	CLR.	
1	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	*	~~G~~	*	~~FY~~	***	~~FY~~	***	~~R~~
2 & 3	R	R	R	R	R	R	R	R	R	R	G	**	R	R	G	**	R
4	~~G~~	*	~~FY~~	***	~~G~~	*	~~FY~~	***	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
5 & 6	R	R	R	R	G	**	G	**	R	R	R	R	R	R	R	R	R
7	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	*	~~FY~~	***	~~G~~	*	~~FY~~	***	~~R~~
8 & 9	R	R	R	R	R	R	R	R	R	R	R	R	G	**	G	**	R
10	~~G~~	*	~~G~~	*	~~FY~~	***	~~FY~~	***	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
11 &12	R	R	G	**	R	R	G	**	R	R	R	R	R	R	R	R	R

* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
*** DENOTES YELLOW OR FLASHING YELLOW ARROW DEPENDING ON NEXT PHASE

PHASE 1 - SIGNAL FACES

12" LENSES

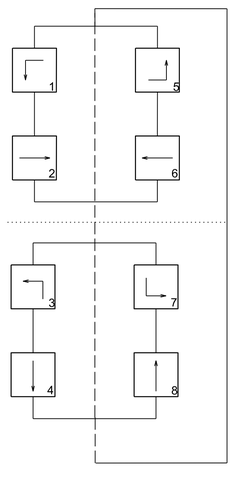


1, 4, 7 & 10

2, 3, 5, 6, 8, 9,11, & 12

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

PHASE 1 - PHASING DIAGRAM



PHASE 1 - DETECTOR CHART

DETECTOR SYSTEM DESCRIPTION											
WALTON BLVD. AND SE J ST./SE DODSON RD. DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			VIDEO DET. TUBE LENGTHS	COMMENTS
							LOCAL		MASTER SYSTEM		
DET. ID #	LOCATION DIRECTION	TPYE	DET. #	CAB. TRM. #	AMP CHN. #	CON. IMP. #	PHS	SYSTEM DET. #	DETECTOR NUMBERS		
Vz11	WB TURN LEFT FAR	COMB.			1	V9	1	1		23"	V1
Vz12	WB LEFT TURN	LOCAL			2	V1	1			23"	V1
Vz21 A&B	EB ADVANCE	LOCAL			5	V2	2			23"	V5
Vz22 A&B	EB NEAR	COMB.			6	V10	2	2		23"	V5
Vz31A	NB LEFT FAR	COMB.			9	V11	3	3		23"	V3
Vz32A	NB LEFT	LOCAL			10	V3	3			23"	V3
Vz41	SB ADVANCE	COMB.			13	V12	4	4		23"	V7
Vz42	SB NEAR	LOCAL			14	V4	4			23"	V7
Vz51	EB LEFT TURN FAR	COMB.			7	V13	5	5		23"	V5
Vz52	EB LEFT TURN	LOCAL			8	V5	5			23"	V5
Vz61A	WB ADVANCE	LOCAL			3	V6	6			23"	V1
Vz62A	WB NEAR	COMB.			4	V14	6	6		23"	V1
Vz71A	SB LEFT FAR	COMB.			15	V15	7	7		23"	V7
Vz72A	SB LEFT	LOCAL			16	V7	7			23"	V7
Vz81A	NB ADVANCE	COMB.			11	V16	8	8		23"	V3
Vz82A	NB NEAR	LOCAL			12	V8	8			23"	V3
				SPARE: AMP CHN. # = NONE							

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

NOTE: "AMP CHN =" REFERS TO THE RACK OUTPUT POSITION.
THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE.
EXAMPLE: V9 = SYSTEM DETECTOR 1, V10 = SYSTEM DETECTOR 2

FINAL PLANS
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 1

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: CEM
DRAWN BY: HRH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER

C-604

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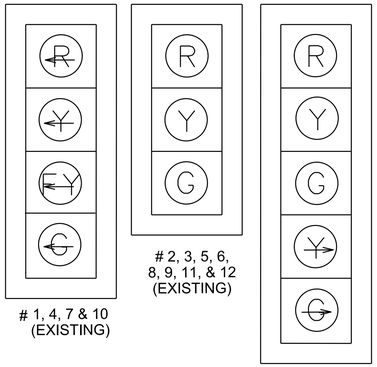
REVISED DATE:

PHASE 2 - SIGNAL FACES

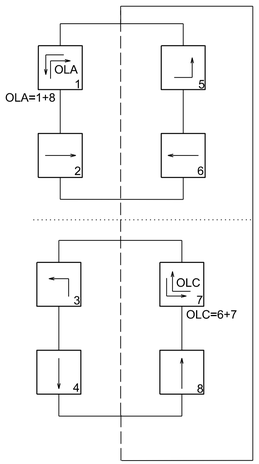
12" LENSES



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

NOTES:
1. TRAFFIC SIGNAL OPERATIONS SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF CONSTRUCTION.
2. CONTRACTOR SHALL HAVE PHASE 2 TRAFFIC SIGNAL OPERATIONAL PRIOR TO PHASE 2 CONSTRUCTION BEGINNING.
3. SIGNAL HEADS 1, 2, AND 3, SHALL BE RELOCATED ALONG SPAN WIRE AS SHOWN.
4. ROTATE VIDEO DETECTORS V3 AND V7 AS SHOWN TO ACCOMMODATE LANE SHIFTS.
5. THE GREEN AND YELLOW ARROW SIGNAL FACES ON SIGNAL HEADS 13 AND 14 SHALL BE HARDWIRED TO RUN WITH PHASES 7 AND 1, RESPECTIVELY, IN ORDER TO SIMULATE AN OVERLAP. THE SOLID SIGNAL FACES ON SIGNAL HEADS 13 AND 14 SHALL BE HARDWIRED TO RUN WITH PHASES 6 AND 8, RESPECTIVELY.
6. DURING PHASE 2 THE PERMANENT SIGNALS SHALL BE INSTALLED. UPON COMPLETION OF PHASE 2, THE TEMPORARY SIGNAL POLES SHALL BE REMOVED.
7. SEE FINAL PLANS FOR PERMANENT SIGNAL INFORMATION.

PHASE 2 - PHASING DIAGRAM



PHASES 1 & 2 - DETECTOR SPACING CHART

WALTON BLVD. VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
45 MPH	260'	115'
J ST./DODSON RD. VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
40 MPH	85'	N/A

N

SCALE IN FEET
0 30 60 120

FINAL PLANS
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 2

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: CEM
DRAWN BY: HRH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-605

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\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd+SE J St Imps\Drawings\WJI_C605_SG.dgn
REVISED DATE:

PHASES 1 & 2
DESIGN PARAMETERS

POSTED SPEED LIMIT:
45 MPH EAST AND WEST APPROACH
40 MPH NORTH AND SOUTH APPROACH

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

LOCATION OF STOP LINES SHOWN ON PERMANENT PAVEMENT MARKING DETAILS (SEE SEPARATE SHEET).

MINIMUM CLEAR ZONE DISTANCE
1.5 FEET BEHIND CURB

PROPOSED ROW

EXISTING ROW

Vz62A&B LOCATED 115' BEHIND STOP LINE

EXISTING ROW

WALTON BLVD.

SE J ST.

SE DODSON RD.

Vz51 COMB.

Vz52

Vz22B COMB.

Vz22A

Vz41 COMB.

Vz71A COMB.

Vz42

Vz72A

Vz12

Vz11 COMB.

Vz62B COMB.

Vz62A

Vz32A

Vz82A

Vz82B

Vz31A COMB.

Vz81A COMB.

Vz81B

Vz31A LOCATED 85' BEHIND STOP LINE

Vz81A&B LOCATED 85' BEHIND STOP LINE

VIRTUAL 6'X50' PRESENCE VDZ (TYP.)

PROPOSED ROW

EXISTING ROW

SCALE IN FEET
0 20 40 80

N

FINAL PLANS
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REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 2

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: CEM
DRAWN BY: HRH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-606

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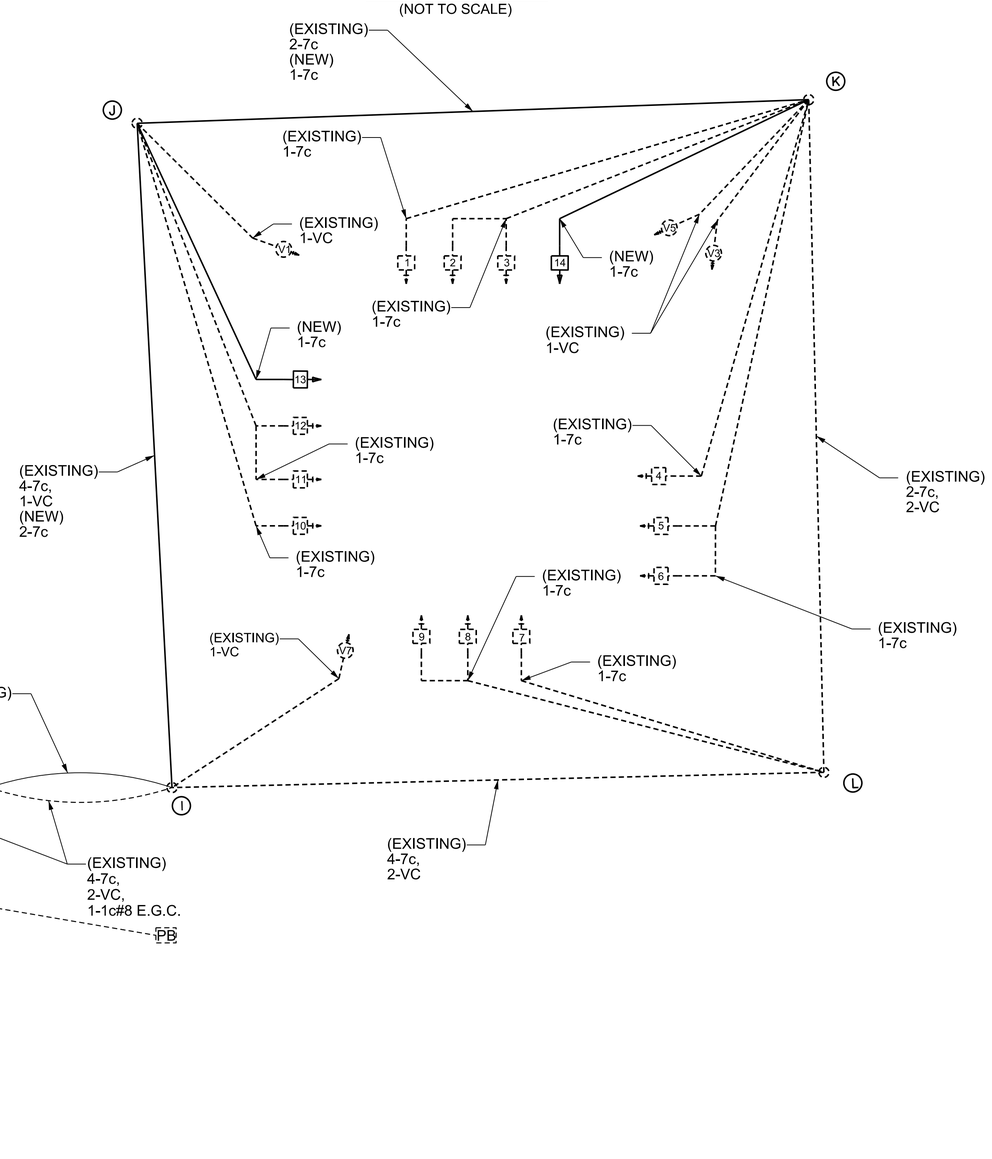
REVISED DATE:

NOTES TO CONTRACTOR:

1. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
2. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.
3. PHASE 2 WIRING SHOWS ITEMS INSTALLED DURING PHASE 1.

PHASE 2 - WIRING DIAGRAM

(NOT TO SCALE)



FINAL PLANS
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REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 2

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: CEM
DRAWN BY: HRH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER

C-607

JAAdams 5/13/2022 12:59:23 PM
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REVISED DATE:

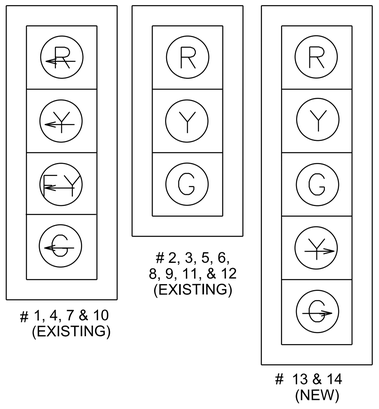
PHASE 2 - INTERVAL CHART

SIGNAL FACES	WALTON BLVD. AND SE J ST./SE DODSON RD. 1+5	CLR.	1+6	CLR.	2+5	CLR.	2+6	CLR.	3+7	CLR.	3+8	CLR.	4+7	CLR.	4+8	CLR.	FLASH SEQUENCE
1	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	*	~~G~~	*	~~FY~~	***	~~FY~~	***	~~R~~
2 & 3	R	R	R	R	R	R	R	R	R	R	G	**	R	R	G	**	R
14	~~G~~	*	~~G~~	*	R	R	R	R	R	R	G	**	R	R	G	**	R
4	~~G~~	*	~~FY~~	***	~~G~~	*	~~FY~~	***	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
5 & 6	R	R	R	R	G	**	G	**	R	R	R	R	R	R	R	R	R
7	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	*	~~FY~~	***	~~G~~	*	~~FY~~	***	~~R~~
8 & 9	R	R	R	R	R	R	R	R	R	R	R	R	G	**	G	**	R
10	~~G~~	*	~~G~~	*	~~FY~~	***	~~FY~~	***	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
11 &12	R	R	G	**	R	R	G	**	R	R	R	R	R	R	R	R	R
13	R	R	G	**	R	R	G	**	R ~~G~~	R *	R	R	R ~~G~~	R *	R	R	R
14	R ~~G~~	R *	R ~~G~~	R *	R	R	R	R	R	R	G	**	R	R	G	**	R

* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
*** DENOTES YELLOW OR FLASHING YELLOW ARROW DEPENDING ON NEXT PHASE

PHASE 2 - SIGNAL FACES

12" LENSES



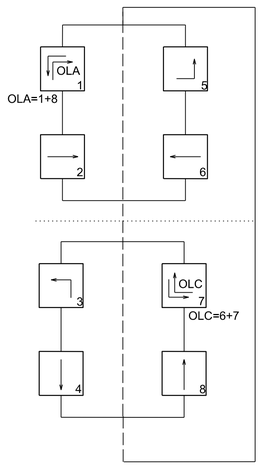
1, 4, 7 & 10 (EXISTING)

2, 3, 5, 6, 8, 9, 11, & 12 (EXISTING)

13 & 14 (NEW)

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

PHASE 2 - PHASING DIAGRAM



PHASE 2 - DETECTOR CHART

DETECTOR SYSTEM DESCRIPTION											
WALTON BLVD. AND SE J ST./SE DODSON RD. DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			VIDEO DET. TUBE LENGTHS	COMMENTS
							LOCAL		MASTER SYSTEM DETECTOR NUMBERS		
DET. ID #	LOCATION DIRECTION	TPYE	DET. #	CAB. TRM. #	AMP CHN. #	CON. IMP. #	PHS	SYSTEM DET. #			
Vz11	WB TURN LEFT FAR	COMB.			1	V9	1	1		23"	V1
Vz12	WB LEFT TURN	LOCAL			2	V1	1			23"	V1
Vz21 A&B	EB ADVANCE	LOCAL			5	V2	2			23"	V5
Vz22 A&B	EB NEAR	COMB.			6	V10	2	2		23"	V5
Vz31A	NB LEFT FAR	COMB.			9	V11	3	3		23"	V3
Vz32A	NB LEFT	LOCAL			10	V3	3			23"	V3
Vz41	SB ADVANCE	COMB.			13	V12	4	4		23"	V7
Vz42	SB NEAR	LOCAL			14	V4	4			23"	V7
Vz51	EB LEFT TURN FAR	COMB.			7	V13	5	5		23"	V5
Vz52	EB LEFT TURN	LOCAL			8	V5	5			23"	V5
Vz61 A&B	WB ADVANCE	LOCAL			3	V6	6			23"	V1
Vz62 A&B	WB NEAR	COMB.			4	V14	6	6		23"	V1
Vz71A	SB LEFT FAR	COMB.			15	V15	7	7		23"	V7
Vz72A	SB LEFT	LOCAL			16	V7	7			23"	V7
Vz81	NB ADVANCE	COMB.			11	V16	8	8		23"	V3
Vz82	NB NEAR	LOCAL			12	V8	8			23"	V3
				SPARE: AMP CHN. # = NONE							

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

NOTE: "AMP CHN =" REFERS TO THE RACK OUTPUT POSITION.
THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE.
EXAMPLE: V9 = SYSTEM DETECTOR 1, V10 = SYSTEM DETECTOR 2

FINAL PLANS
FOR REVIEW ONLY
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REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 2

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: CEM
DRAWN BY: HRH

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DRAWING NUMBER
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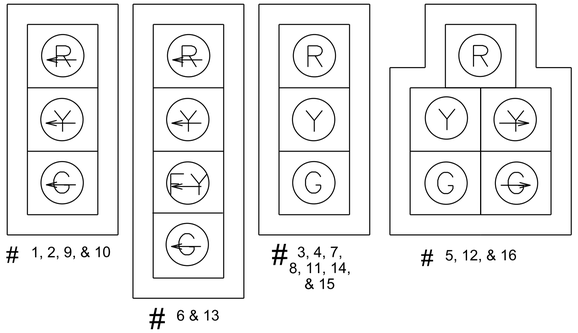
REVISED DATE:

SIGNAL FACES

12" LENSES



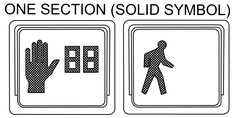
1, 2, 9, & 10

6 & 13

3, 4, 7, 8, 11, 14, & 15

5, 12, & 16

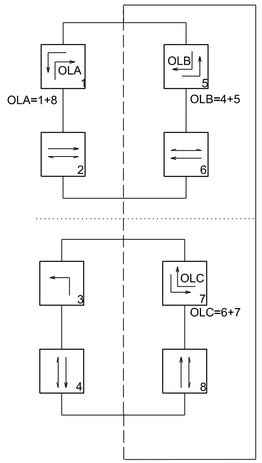
ONE SECTION (SOLID SYMBOL)



17-24

PHASING DIAGRAM

(SEE NOTE 8 FOR OVERLAPS)



NOTES:

1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION FOR RETRO -REFLECTIVE BACKPLATES FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.
3. REFER TO SPECIAL PROVISONS FOR DETAILS ON NEW REQUIRMENTS FOR PEDESTRIAN SIGNAL HEADS.
4. ALL PEDESTRIAN SIGNAL HEADS CAN BE PLACED INTO OPERATION IF THERE ARE BOTH WHEELCHAIR RAMPS AND A CROSSWALK THAT MEET A.D.A.S. STANDARDS.
5. CROSSWALKS NOT SHOWN FOR CLARITY.
6. SEE DRAWING NUMBER C-611 FOR FIBER COMMUNICATION DETAILS.
7. PULL BOXES FOR FIBER SHALL BE LABELED "CITY FIBER".
8. THE GREEN AND YELLOW ARROW SIGNAL FACES ON SIGNAL HEADS 5, 12, AND 16 SHALL BE HARDWIRED TO RUN WITH PHASES 1, 5, AND 7, RESPECTIVELY, IN ORDER TO SIMULATE AN OVERLAP. THE SOLID SIGNAL FACES ON SIGNAL HEADS 5, 12, AND 16 SHALL BE HARDWIRED TO RUN WITH PHASES 8, 4, AND 6, RESPECTIVELY.

WALTON BLVD. AND SE J ST./SE DODSON RD.
POLE DIMENSIONS

POLE	MAST ARM	* MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	* LUM. ANGLE
A	46'	270°	35'	15'	270°
B	-	-	10'	-	-
C	58'	180°	35'	15'	180°
* * D	-	-	4'	-	-
E	66'	180°	35'	15'	180°
F	-	-	10'	-	-
G	44'	270°	35'	15'	270°
H	-	-	10'	-	-

* ANGLE MEASURED CLOCKWISE FROM HAND HOLE.

* * SEE PEDESTRIAN PUSHBUTTON PEDESTAL DETAIL ON DRAWING NUMBER C-605

DETECTOR SPACING CHART

WALTON BLVD. VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
45 MPH	260'	115'
J ST./DODSON RD. VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
40 MPH	85'	N/A

N

SCALE IN FEET

0 30 60 120

FINAL PLANS
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THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNALIZATION PLANS

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: CEM
DRAWN BY: HRH

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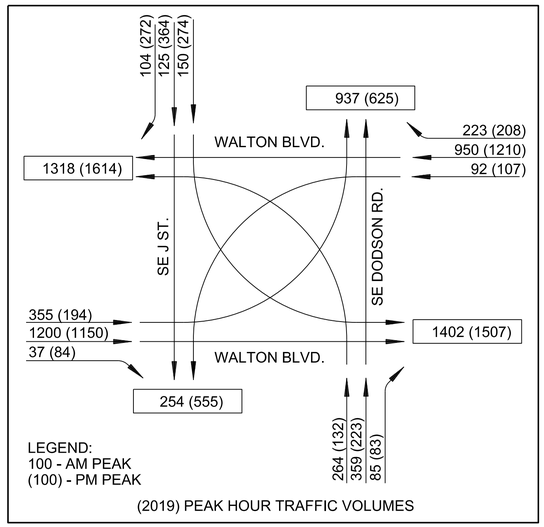
TRAFFIC FLOW DIAGRAM



DESIGN PARAMETERS

POSTED SPEED LIMIT:
45 MPH EAST AND WEST APPROACH
40 MPH NORTH AND SOUTH APPROACH

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

LOCATION OF STOP LINES SHOWN ON PERMANENT PAVEMENT MARKING DETAILS (SEE SEPARATE SHEET).

MINIMUM CLEAR ZONE DISTANCE
1.5 FEET BEHIND CURB

WALTON BLVD. AND SE J ST./SE DODSON RD.
POLE LOCATIONS

POLE	LOCATION & STATION	OFFSET	X,Y COORDINATES
A	WALTON BLVD. - STA. 32+12.64	66' RT.	665034.99, 735871.90
B	WALTON BLVD. - STA. 31+88.21	46' RT.	665018.70, 735962.26
C	WALTON BLVD. - STA. 31+81.96	58' LT.	665006.26, 735997.51
D	WALTON BLVD. - STA. 31+95.90	56' LT.	665025.37, 735994.59
E	WALTON BLVD. - STA. 33+09.15	64' LT.	665137.24, 735996.97
F	WALTON BLVD. - STA. 33+19.32	56' LT.	665150.70, 735992.89
G	WALTON BLVD. - STA. 33+52.61	43' RT.	665175.18, 735888.99
H	WALTON BLVD. - STA. 33+11.56	58' RT.	665215.54, 735931.58

NOTE:
1. CROSSWALKS NOT SHOWN FOR CLARITY. SEE DRAWING NUMBER C-302 FOR DETAILS.
2. SEE DRAWING NUMBER C-611 FOR AERIAL FIBER COMMUNCIATION DETAILS.

SCALE IN FEET
0 20 40 80

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CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNALIZATION PLANS

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DRAWN BY: HRH

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C-610

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REVISED DATE:

NOTES:
1. THIS PROJECT INVOLVES THE MODIFICATION & INSTALLATION OF FIBER OPTIC CABLE TO INTERCONNECT THE PROPOSED TRAFFIC SIGNAL AT WALTON AND J ST./DODSON RD. TO THE EXISTING SYSTEM. ALL FIBER OPTIC WORK MUST BE COORDINATED WITH THE CITY'S TRAFFIC ENGINEERING AND IT DEPARTMENTS RESPECTFULLY BEFORE MODIFYING THE CURRENT FIBER INSTALLATION.
2. ALL FIBER SHOULD BE COMMSCOPE, LIGHTSCOPE, OR CORNING ALTOS, OUTSIDE WITH MESSENGER WIRE (AS NEEDED) SINGLE-MODE 12 STRAND FIBER (12 SMF) OR APPROVED EQUAL.
3. ALL FIBER OPTIC PULL BOXES SHALL BE DS-1609, 24"x36"x24". ALL LIDS TO REFERENCE CITY FIBER OPTIC LINE.
4. ALL FIBER OPTIC CABLE NEEDS TO BE ARMORED FIBER OPTIC CABLING. A NO. 14 GAUGE, STRANDED COPPER CABLE SHALL BE USED TO COMPLETE GROUNDING AND UTILITY LOCATE CAPABILITIES FROM THE CONTROLLER CABINET TO THE FIBER OPTIC CABLE IN GROUND. ONCE ATTACHED TO THE ARMORED JACKET ON THE FIBER, THE UTILITY LOCATE CAPABILITY NEEDS TO BE CONFIRMED CAPABLE FOR THE DISTANCE OF THE FIBER RUN IN CONDUIT.
5. LOCATION OF EXISTING UTILITY POLES IS APPROXIMATE AND SHALL BE FIELD VERIFIED BY CONTRACTOR.
6. FIBER OPTIC SPLICES WILL BE REQUIRED AT J ST./DODSON RD. EXISTING TRAFFIC SIGNAL CABINET. TERMINATION POINT WILL BE THE FIRST 24"X36"X24" PULL BOX OUTSIDE TRAFFIC CABINET. PIGTAIL SHALL BE SC PRE-TERMINATED SINGLE MODE FIBER OPTIC CABLE.
7. SEE DRAWING NUMBERS C-609 AND C-610 FOR TRAFFIC SIGNAL LAYOUT DETAILS AT MEDICAL CENTER PKWY.
8. CONTRACTOR SHALL REMOVE EXISTING FIBER AND RE-PULL INTO THE NEAREST PULL BOX TO POLE 01. SPLICE THE NEW 12 SMF CABLE TO THE TRAFFIC SIGNAL CABINET. SPLICE IN NEW FIBER CONTINUING TO POLE 02.
9. CONTRACTOR TO PROVIDE TO THE CITY PROPOSED SPLICE CONNECTIONS DISPLAYING WHICH CABLES ARE TO BE CONNECTED AND THEIR COLOR DESIGNATION BEFORE INSTALLATION.
10. PULL BOXES FOR FIBER SHALL BE LABELED "CITY FIBER".

J ST.
WALTON BLVD.
DODSON RD.
EXISTING ROW
PROPOSED ROW
UTILITY POLE 01 (FOR FIBER)
UTILITY POLE 02 (FOR FIBER)
2" NMC (FOR FIBER)
DS-1609, 24"x36"x24", PULL BOX (FOR FIBER)
3" HDPE FOR FIBER
12 "W
TRAFFIC SIGNAL CABINET
PDB 1+00.00
POE 35+00.00
R/W
ONLY
SCALE IN FEET 0 20 40 80

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BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNALIZATION PLANS

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DRAWN BY: HRH

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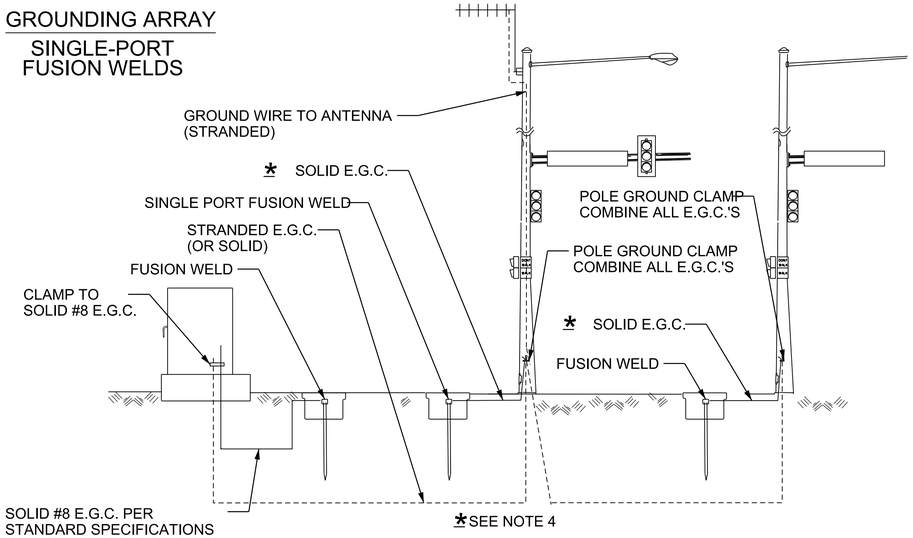
GROUNDING ARRAY

SINGLE-PORT FUSION WELDS

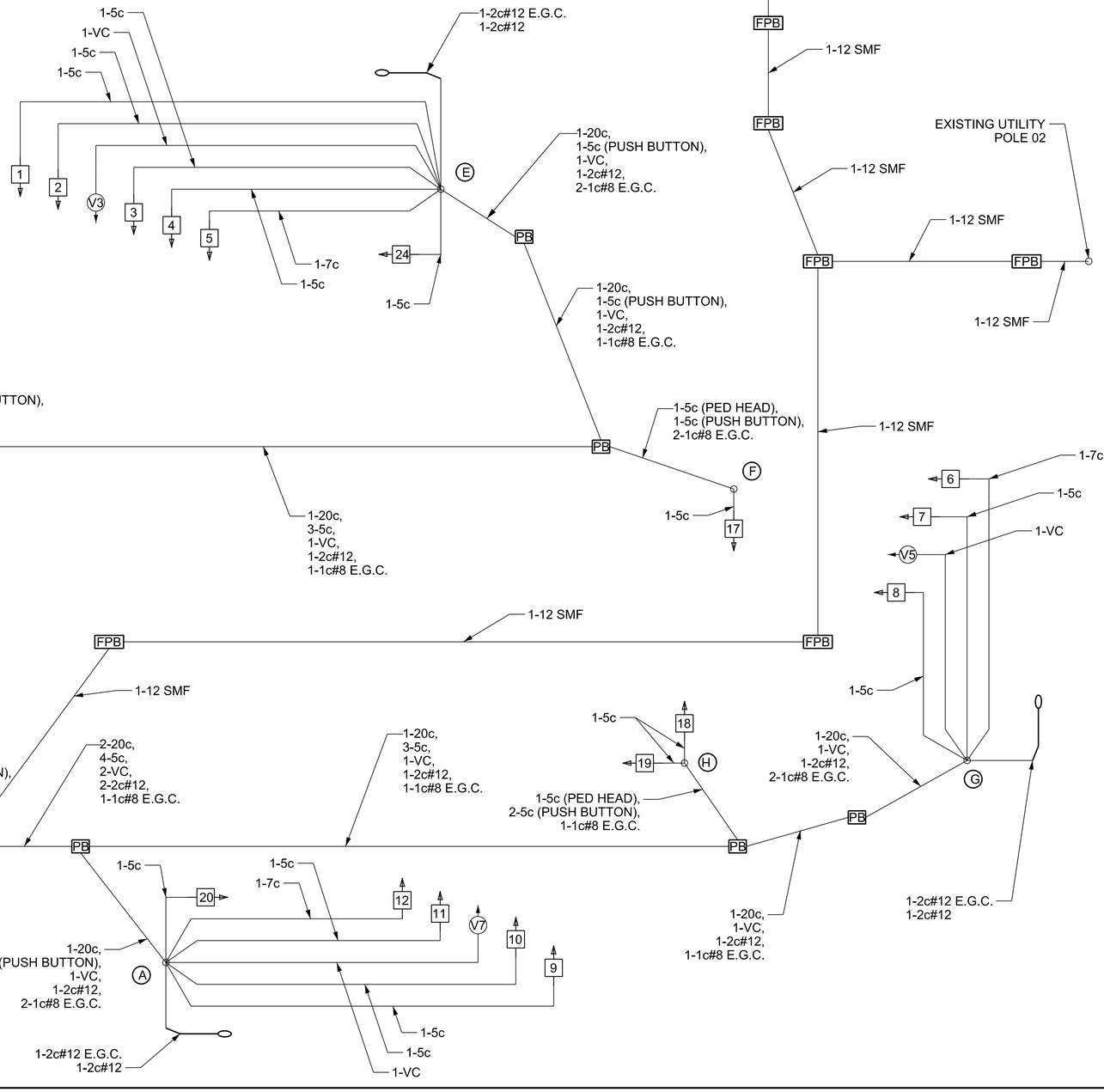


NOTES TO CONTRACTOR:

1. SEPARATE 5c/#14 A.W.G. TO EACH POLE WITH PEDESTRIAN PUSH BUTTONS.
2. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
3. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

WIRING DIAGRAM

(NOT TO SCALE)



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C-612

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INTERVAL CHART

SIGNAL FACES	WALTON BLVD. AND SE J ST./SE DODSON RD.																FLASH SEQUENCE
	1+5	CLR.	1+6	CLR.	2+5	CLR.	2+6	CLR.	3+7	CLR.	3+8	CLR.	4+7	CLR.	4+8	CLR.	
1 & 2	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	*	~~G~~	*	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
3 & 4	R	R	R	R	R	R	R	R	R	R	G	**	R	R	G	**	R
5	R / ~~G~~	R / *	R / ~~G~~	R / *	R	R	R	R	R	R	G	**	R	R	G	**	R
6	~~G~~	*	~~FY~~	***	~~G~~	*	~~FY~~	***	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
7 & 8	R	R	R	R	G	**	G	**	R	R	R	R	R	R	R	R	R
9 & 10	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	*	~~R~~	~~R~~	~~G~~	*	~~R~~	~~R~~	~~R~~
11	R	R	R	R	R	R	R	R	R	R	R	R	G	**	G	**	R
12	R / ~~G~~	R / *	R	R	R / ~~G~~	R / *	R	R	R	R	R	R	G	**	G	**	R
13	~~G~~	*	~~G~~	*	~~FY~~	***	~~FY~~	***	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
14 & 15	R	R	G	**	R	R	G	**	R	R	R	R	R	R	R	R	R
16	R	R	G	**	R	R	G	**	R / ~~G~~	R / *	R	R	R / ~~G~~	R / *	R	R	R
17 & 18	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	W	FDW	BLK
19 & 20	DW	DW	DW	DW	W	FDW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	BLK
21 & 22	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	W	FDW	BLK
23 & 24	DW	DW	W	FDW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	BLK

* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
*** DENOTES YELLOW OR FLASHING YELLOW ARROW DEPENDING ON NEXT PHASE

DETECTOR CHART

DETECTOR SYSTEM DESCRIPTION											
WALTON BLVD. AND SE J ST./SE DODSON RD. DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS LOCAL			VIDEO DET. TUBE LENGTHS	COMMENTS
DET. ID #	LOCATION DIRECTION	TPYE	DET. #	CAB. TRM. #	AMP CHN. #	CON. IMP. #	PHS	SYSTEM DET. #	MASTER SYSTEM DETECTOR NUMBERS		
Vz11	WB TURN LEFT FAR	COMB.			1	V9	1	1		37"	V1
Vz12	WB LEFT TURN	LOCAL			2	V1	1			37"	V1
Vz21 A&B	EB ADVANCE	LOCAL			5	V2	2			37"	V5
Vz22 A&B	EB NEAR	COMB.			6	V10	2	2		37"	V5
Vz31 A&B	NB LEFT FAR	COMB.			9	V11	3	3		37"	V3
Vz32 A&B	NB LEFT	LOCAL			10	V3	3			37"	V3
Vz41	SB ADVANCE	COMB.			13	V12	4	4		37"	V7
Vz42	SB NEAR	LOCAL			14	V4	4			37"	V7
Vz51	EB LEFT TURN FAR	COMB.			7	V13	5	5		37"	V5
Vz52	EB LEFT TURN	LOCAL			8	V5	5			37"	V5
Vz61 A&B	WB ADVANCE	LOCAL			3	V6	6			37"	V5
Vz62 A&B	WB NEAR	COMB.			4	V14	6	6		37"	V1
Vz71 A&B	SB LEFT FAR	COMB.			15	V15	7	7		37"	V7
Vz72 A&B	SB LEFT	LOCAL			16	V7	7			37"	V7
Vz81 A&B	NB ADVANCE	COMB.			11	V16	8	8		37"	V3
Vz82 A&B	NB NEAR	LOCAL			12	V8	8			37"	V3
PB2	DODSON S. LEG	PED.				P2	2				
PB4	WALTON W. LEG	PED.				P4	4				
PB6	J ST. S. LEG	PED.				P6	6				
PB8	WALTON E. LEG	PED.				P8	8				
					SPARE: AMP CHN. # = NONE						

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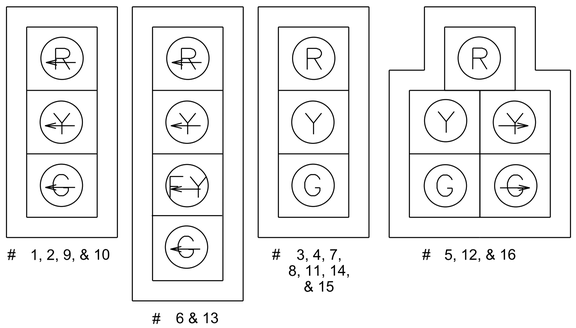
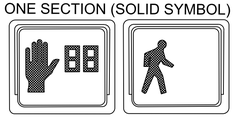
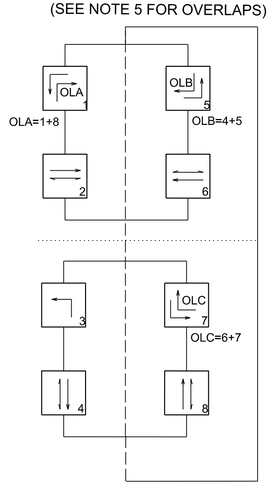
SIGNAL FACES
12" LENSES



ONE SECTION (SOLID SYMBOL)



PHASING DIAGRAM
(SEE NOTE 5 FOR OVERLAPS)



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CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNALIZATION PLANS

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: CEM
DRAWN BY: HRH

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LEGEND

- BENCHMARK
- CONTROL POINTS
- MAIL BOX
- SIGN
- GAS METER
- SANITARY MANHOLE
- WATER VALVE
- HYDRANT
- WATER METER
- STORM DRAIN MANHOLE
- STORM DRAIN GRATE
- TELEPHONE RISER
- TELEPHONE JUNCTION BOX
- FIBER OPTIC MANHOLE
- UTILITY POLE
- GUY ANCHOR
- LIGHT POLE
- GUY POLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- BOREHOLE

- EXISTING CENTERLINE
- EXISTING MAJOR CONTOUR (1260)
- EXISTING MINOR CONTOUR (1259)
- EXISTING STRUCTURE
- EXISTING TOB/TOS
- EXISTING GRAVEL DRIVE
- EXISTING GAS UTILITY
- EXISTING SANITARY UTILITY
- EXISTING WATER UTILITY
- EXISTING FENCE
- EXISTING STORM DRAIN
- EXISTING UNDERGROUND FIBER UTILITY
- EXISTING UNDERGROUND TELEPHONE UTILITY
- EXISTING TREE LINE
- EXISTING UNDERGROUND ELECTRIC UTILITY
- EXISTING OVERHEAD ELECTRIC UTILITY
- EXISTING PROPERTY LINE
- EXISTING RIGHT-OF-WAY
- PROPOSED TEMP. CONST. EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED RIGHT-OF-WAY
- PROPOSED CENTERLINE
- PROPOSED CURB AND GUTTER
- PROPOSED ROADWAY OUTLINE
- PROPOSED STORM DRAIN
- PROPOSED TOP-OF-BANK
- PROPOSED TOE-OF-SLOPE
- PROPOSED UTILITY LINE ABANDONMENT
- PROPOSED C.L. DITCH / CHANNEL

GENERAL UTILITY NOTES:

1. SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR IN STRICT ACCORDANCE WITH OSHA STANDARDS. THE OWNER AND ENGINEER SHALL NOT BE RESPONSIBLE FOR SAFETY, MEANS AND METHODS OF THE CONTRACTOR.

2. CAUTION: UNDERGROUND UTILITIES MAY EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. AN ATTEMPT HAS BEEN MADE TO LOCATE THESE UTILITIES ON THE PLANS. HOWEVER, ALL EXISTING UTILITIES MAY NOT BE SHOWN AND THE ACTUAL LOCATIONS OF THE UTILITIES MAY VARY FROM THE LOCATIONS SHOWN. PRIOR TO BEGINNING ANY TYPE OF EXCAVATION THE CONTRACTOR SHALL CONTACT THE UTILITIES INVOLVED AND MAKE ARRANGEMENTS FOR THE LOCATION OF THE UTILITIES ON THE GROUND. THE CONTRACTOR SHALL MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL THEY ARE NO LONGER NECESSARY. ARKANSAS STATE LAW, THE UNDERGROUND FACILITIES DAMAGE PREVENTION ACT, REQUIRES TWO WORKING DAYS ADVANCE NOTIFICATION THROUGH THE ARKANSAS ONE-CALL SYSTEM CENTER BEFORE EXCAVATING USING MECHANIZED EQUIPMENT OR EXPLOSIVES (EXCEPT IN THE CASE OF EMERGENCY). THE ONE-CALL SYSTEM PHONE NUMBER IS 1-800-482-8998 OR 811. THE CONTRACTOR IS ADVISED THAT THERE IS A SEVERE PENALTY FOR NOT MAKING THIS CALL. NOT ALL UTILITY COMPANIES ARE MEMBERS OF THE ARKANSAS ONE-CALL SYSTEM. THEREFORE, THE CONTRACTOR IS ADVISED TO CONTACT ALL NON-MEMBER UTILITIES AS WELL AS THE ONE-CALL SYSTEM. THE LOCATION OF THE EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE, AND ARE THE LOCATIONS AT THE TIME OF DESIGN. SOME UTILITIES MAY HAVE BEEN RELOCATED BETWEEN THE TIME OF DESIGN AND THE CONTRACTOR'S NOTICE TO PROCEED. PRIOR TO ANY CONSTRUCTION, COORDINATE WITH UTILITY OWNER AND SPOT DIG AND VERIFY LOCATIONS WITH ENGINEER.

3. ALL UTILITY WORK SHALL BE PER THE 2021 EDITION OF THE CITY OF BENTONVILLE STANDARD WATER AND SEWER SPECIFICATIONS WHICH ARE INCLUDED IN THE CONTRACT DOCUMENTS BY REFERENCE.

4. CONTRACTOR SHALL NOTIFY APPLICABLE UTILITY OWNERS PRIOR TO ANY SPOT DIGGING. CONTRACTOR SHALL NOTIFY BLACK HILLS ENERGY ANYTIME WORKING NEAR GAS LINES. CONTRACTOR SHALL NOTIFY UTILITY OWNER IMMEDIATELY TO REPORT ANY DAMAGE TO EXISTING UTILITY. CONTRACTOR SHALL MAINTAIN AND PROTECT ALL EXISTING UTILITIES INCLUDING STORM SEWERS.

5. CONTRACTOR SHALL PROVIDE CONSTRUCTION STAKING BY A QUALIFIED SURVEYOR LICENSED AS A PLS IN ARKANSAS. VERIFY SURVEY CONTROL PRIOR TO ANY CONSTRUCTION STAKING. PROPERTY MONUMENTS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED. CONTRACTOR SHALL PROVIDE SURVEY FOR VALVES, METERS, AND FIRE HYDRANTS FOR RECORD DRAWINGS.

6. CONTRACTOR SHALL ENSURE THAT STORMWATER DEBRIS AND WATER DO NOT ENTER PIPE ENDS AT ALL TIMES WITH TEMPORARY CAPS. CONTRACTOR SHALL PROTECT PIPE FROM FLOATING UNTIL FINAL COVER HAS BEEN PLACED.

7. ALL VALVES AND FITTINGS SHALL BE RESTRAINED WITH RESTRAINT GLANDS. ALL FITTINGS SHALL ALSO HAVE CONCRETE THRUST BLOCKING.

8. PIPE BACKFILL SHALL BE COMPACTED CLASS 7 AGGREGATE BASE COURSE AT EXISTING, PROPOSED, AND FUTURE TRAFFIC LOCATIONS AS SHOWN ON PROFILES IN 8" MAXIMUM LIFTS AND COMPACTED TO 95% MODIFIED PROCTOR DENSITY. TEMPORARY AND PERMANENT PAVEMENT REPAIR SHALL BE PER DETAILS.

9. CONTRACTOR SHALL SPOT DIG AND VERIFY LOCATIONS OF ALL UTILITIES AT CONNECTIONS AND INTERSECTIONS OF PROPOSED WATER AND SEWER FACILITIES PRIOR TO ANY CONSTRUCTION. PIPE ELEVATIONS ARE FOR REFERENCE ONLY. VERIFY EXISTING CONFLICTS AND COORDINATE WITH ENGINEER.

10. CONTRACTOR SHALL SPOT DIG AND VERIFY EXISTING JOINTS AT PROPOSED TAPPING SLEEVE LOCATIONS PRIOR TO ANY WORK. MAINTAIN 5' MINIMUM HORIZONTAL SEPARATION BETWEEN TAPPING SLEEVE AND EXISTING PIPE JOINTS. ADJUST TAPPING LOCATIONS AS APPROVED BY ENGINEER.

11. CONTRACTOR SHALL MAINTAIN ALL CONSTRUCTION ACTIVITIES WITHIN RIGHT-OF-WAY AND EASEMENTS.

12. WATER LINE PIPES SHALL BE CLASS 50 DUCTILE IRON (RATED AT 350 PSI) OR AWWA C-900 DR-14 PVC AS SPECIFIED IN THE DRAWINGS, IN ACCORDANCE WITH OWNER'S REQUIREMENTS. JOINTS SHALL BE FIELD-LOK WITHIN STEEL ENCASEMENT.

13. CONTRACTOR SHALL PROVIDE GPS COORDINATES FOR ALL NEW SANITARY SEWER MANHOLES, WATER VALVES, AND HORIZONTAL WATER LINE BENDS FOR RECORD DRAWINGS.

14. INSTALL LINE/VALVE MARKERS AT LOCATIONS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER OR OWNER.

15. CONTINGENT UPON GROUNDWATER CONDITIONS, INSTALL WATER MITIGATION DAMS AT LOCATIONS AS DIRECTED BY ENGINEER/OWNER. MITIGATION DAMS SHALL BE FLOWABLE FILL, KEYED INTO UNDISTURBED SOIL 12", 4' ABOVE TOP OF PIPE, AND 3' MINIMUM LONGITUDINAL LENGTH.

16. CONTRACTOR SHALL IMMEDIATELY HALT CONSTRUCTION ACTIVITIES AND NOTIFY OWNER WHEN ANY CAVES OR ARCHEOLOGICAL REMAINS AND OR ARTIFACTS ARE DISCOVERED. THE OWNER WILL IMMEDIATELY NOTIFY USFWS FOR CAVES AND USACE FOR ARTIFACTS.

17. STORAGE AREA LOCATIONS OUTSIDE EASEMENTS SHALL BE APPROVED BY OWNER/ENGINEER.

18. PAINT FIRE HYDRANT BONNET AND CAP PER FLOW RATE AS SPECIFIED BY OWNER.

19. CONTRACTOR SHALL INSTALL SERVICE SADDLES AND CORP STOPS FOR PRESSURE TESTS, BLOWOFF, AND DISINFECTION AS APPROVED BY THE ENGINEER AND OWNER.

20. ALL WATER LINE TAPS SHALL BE PERFORMED BY CITY OF BENTONVILLE.

21. REGARDING SANITARY SEWER BYPASS PUMPING:

    A. NO PUMPING WILL BE ALLOWED OVERNIGHT. THE GRAVITY SEWER SYSTEM SHALL BE OPERATIONAL AT THE END OF EACH WORKING DAY.

    B. A REDUNDANT PUMP OF EQUAL OR GREATER CAPACITY SHALL BE AVAILABLE ON-SITE.

    C. PUMPING OPERATIONS SHALL NOT BE PERFORMED WHEN THERE IS A 20 PERCENT OR GREATER CHANCE OF RAIN.

    D. THE CONTRACTOR SHALL SUCCESSFULLY DEMONSTRATE THE SYSTEM'S ABILITY TO PUMP FOR FOUR (4) HOURS BEFORE BYPASS PUMPING WILL BE ALLOWED TO BEGIN.

    E. THE CONTRACTOR SHALL SUPPLY SUBMITTALS AND BYPASS PUMPING PLANS FOR APPROVAL BEFORE BYPASS PUMPING WILL BE ALLOWED.

    F. ADEQUATELY-TRAINED PERSONNEL SHALL BE ON-SITE AT ALL TIMES DURING SETUP, OPERATION, AND BREAK-DOWN OF BYPASS PUMPING .

ARKANSAS ONE CALL

811

Know what's **below.**
Call before you dig.

SEE GENERAL UTILITY NOTE 2

GARVER

FINAL PLANS
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD
AND J STREET
IMPROVEMENTS

WATERLINE AND
SEWERLINE
GENERAL NOTES

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: LFG
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-900

LTFreedle 5/11/2022 5:43:04 PM
\WORKSPACE\Garver_2012
L:\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C900_WN.dgn
REVISED DATE:

N

0' 10' 20' 40' 60'

(IN FEET)

NOTE:
CONTRACTOR SHALL SAWCUT, REMOVE AND REPLACE PAVEMENT AND CURB TO LIMITS AS APPROVED BY THE ENGINEER FOR PROPOSED STORM AND SANITARY SEWER LINES THAT CROSS THE ROADWAY OUTSIDE OF FULL DEPTH ROADWAY RECONSTRUCTION LIMITS.

GARVER

FINAL PLANS
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

BY	DESCRIPTION	DATE	REV.

SSMH RIM=1278.52
8" DI NORTHEAST=1274.42
8" PVC SOUTHWEST=1274.37

50' SIDEWALK, BUILDING SETBACK DRAINAGE AND UTILITY EASEMENT PER REPLAT OF LOTS 4, 5, 8, AND 9, BLOCK 1, TWIN CITY HEIGHTS 2ND REVISION BOOK 22L - PAGE 16

7' SIDEWALK, BUILDING SETBACK DRAINAGE AND UTILITY EASEMENT PER PLAT OF TWIN CITY HEIGHTS 2ND REVISION, BOOK 22L - PAGE 16

20' UTILITY EASEMENT PER SURVEY PLAT 2016-600

SSMH RIM=1277.46
4" PVC EAST=1274.21
8" DI NORTHEAST=1273.91
8" PVC WEST=1273.84

15' UTILITY EASEMENT DOC 362-386

01-04470-000
HAYDEN PROPERTIES INC

EXISTING EASEMENT

PROPOSED T.C.E.

EXISTING R.O.W.

STA. 10+92.03
INSTALL 12" 90° MJ BEND
N=736016.92
E=665206.82

STA. 11+16.96
END WATER LINE A.
INSTALL 12"X12" TAPPING SLEEVE AND VALVE.
N=735992.04
E=665205.20

ADJUST VALVE PAD TO PROPOSED GRADE

STA. 10+60.62
INSTALL 12" 45° MJ BEND
N=736018.97
E=665175.49

CUT AND CAP EX. 12" WATER LINE WITH ANCHOR COLLAR WEST OF INTERSECTION WITH 8" WATER LINE PER BWU DETAIL GWS04

STA. 10+06.00
INSTALL 12" 45° MJ BEND
N=736058.83
E=665138.14

PROPOSED SIGNAL POLE

PROPOSED R.O.W.

PROPOSED T.C.E.

ADJUST VALVE PAD TO PROPOSED GRADE

PROPOSED PED. POLE

COVER AT PROPOSED GUTTER = 3.45' ±

PROPOSED SIGNAL POLE

PROPOSED SHALLOW FOUNDATION PED. POLE

WATER LINE B
SEE SHEET NO. C902

STA. 10+00.00
BEGIN WATER LINE A.
INSTALL 12"X12" TAPPING SLEEVE AND VALVE, AND CAP EX. WATER LINE PER BWU DETAIL W13.
N=736059.02
E=665132.14

TAP BY CITY OF BENTONVILLE. TYP. ALL TAPS.

SEWER LINE A
SEE SHEET NO. C904

SE J STREET

SE WALTON BOULEVARD

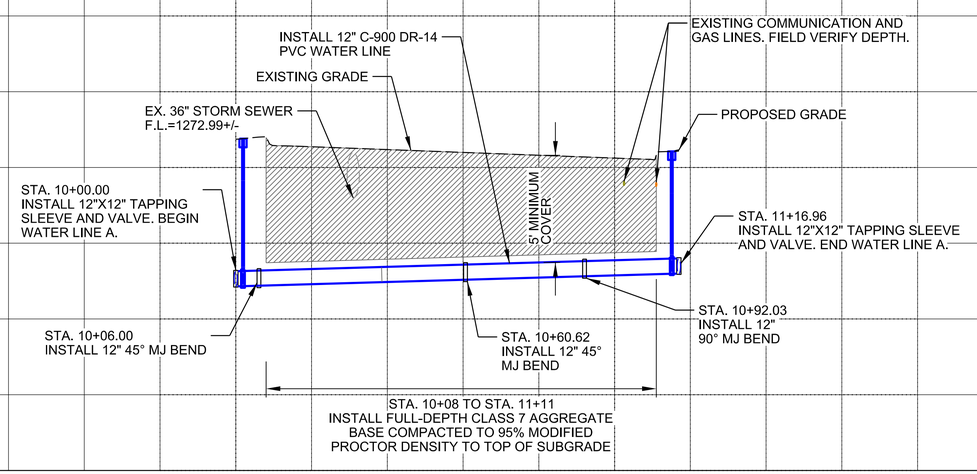
WATER LINES D AND E SEE SHEET NO. C903

SSMH RIM=1275.72
POSSIBLE STUB OUT EAST
8" PVC NORTH=1265.58
8" PVC WEST=1265.53
8" PVC SOUTH=1265.44

PROPOSED SIGNAL POLE

90' UTILITY EASEMENT PLAT 2005-1332

WATER LINE A



THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE J STREET WATER LINE A PLAN AND PROFILE

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: LFG
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-901

LTFreedle
WORKSPACE:Garver_2012
L:\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJJ_C901_WP.dgn
REVISED DATE: 5/11/2022 5:43:09 PM

STA. 10+50.94
INSTALL ROTATED
8" 45° MJ BEND
N=735864.26
E=665151.21

PROPOSED
SIGNAL POLE

STA. 10+58.59
END WATER LINE B.
INSTALL 8"X8" TAPPING SLEEVE AND
VALVE. CUT AND CAP EX. WATER
LINE WITH ANCHOR COLLAR PER
BWU DETAIL GWS04.
N=735858.28
E=665151.44

PROPOSED
T.C.E.

PROPOSED
R.O.W.

01-12940-000
WAL-MART REAL
ESTATE BUSINESS TRUST

ELECTRICAL PULL BOX
TO BE RELOCATED BY
OTHERS

EXISTING
EASEMENT
DOC 2014-248

STA. 10+15.36
INSTALL 8" 45°
MJ BEND
N=735652.50
E=665120.72

PROPOSED
U.E.

SSMH RIM=1273.33
8" PVC SOUTH=1265.79

12.5' UTILITY EASEMENT
DOC 2005-1332

25' UTILITY, ACCESS &
DRAINAGE EASEMENT
DOC 2014-248

52.5' UTILITY, ACCESS &
DRAINAGE EASEMENT
DOC 2005-1332

STA. 10+68.00
INSTALL 8"X6"
SWIVEL TEE AND
FIRE HYDRANT
ASSEMBLY
N=735599.90
E=665118.80

STA. 11+06.44
INSTALL 8" 45° MJ BEND
N=735561.49
E=665117.40

STA. 11+10.46
INSTALL 8" 45° MJ BEND
N=735558.78
E=665114.43

01-12939-000
WAL-MART REAL
ESTATE BUSINESS TRUST

PROPOSED U.E.

STA. 11+37.43
END WATER LINE C.
INSTALL 8"X8" TAPPING SLEEVE
AND VALVE, AND CAP EX. WATER
LINE WITH ANCHOR COLLAR.
N=735559.70
E=665089.14

EXISTING
R.O.W.

EXISTING EASEMENT
DOC 2014-248

30' UTILITY EASEMENT
OFFSET FROM PREVIOUS RIGHT OF WAY
PLAT 2014-248

NOTE:
CONTRACTOR SHALL SAWCUT, REMOVE AND REPLACE PAVEMENT AND CURB TO LIMITS AS APPROVED BY THE ENGINEER FOR PROPOSED STORM AND SANITARY SEWER LINES THAT CROSS THE ROADWAY OUTSIDE OF FULL DEPTH ROADWAY RECONSTRUCTION LIMITS.

30' UTILITY EASEMENT PLAT 2005-1332

SE WALTON BOULEVARD

SE DODSON ROAD

STA. 10+46.91
INSTALL ROTATED
8" 45° MJ BEND
N=735866.94
E=665148.20

STA. 10+01.74
INSTALL ROTATED
8" 90° MJ BEND
N=735865.23
E=665103.05

PROPOSED
PED. POLE

STA. 9+92.96
BEGIN WATER LINE B.
INSTALL 8"X8" TAPPING SLEEVE
AND VALVE. CUT AND CAP EX.
WATER LINE WITH ANCHOR
COLLAR PER BWU DETAIL GWS04.
N=735856.47
E=665103.38

STA. 10+00.00
BEGIN WATER LINE C.
INSTALL 8"X8" TAPPING SLEEVE
AND VALVE. CUT AND CAP EX.
WATER LINE WITH ANCHOR
COLLAR PER BWU DETAIL GWS04.
N=735665.15
E=665111.99

ADJUST MANHOLE
TO GRADE.
EX. RIM=1273.33
PROP. RIM=1273.54

SALVAGE FIRE
HYDRANT AND
RETURN TO OWNER

POB
10+50.00

N2°42'13"E
1000.00'

SSMH RIM=1275.72
POSSIBLE STUB OUT EAST
8" PVC NORTH=1265.58
8" PVC WEST=1265.52
8" PVC SOUTH=1265.44

ADJUST MANHOLE RIM TO
GRADE. INSTALL
WATERPROOF COVER.
CURB TO TAPER FROM 6"
TO 0" ON BOTH SIDES OF
MANHOLE. CONSTRUCT
5'X5'X6" CONCRETE PAD
AROUND MANHOLE FRAME.
EX. RIM ELEVATION=1275.72
PROP. RIM
ELEVATION=1275.66

PROPOSED
SIGNAL POLE

PROPOSED
PED. POLE

PROPOSED
EASEMENT

PROPOSED
EASEMENT

SSMH RIM=1273.26
8" PVC NORTH=1264.51
8" PVC SOUTH=1264.40

EXISTING
R.O.W.

EXISTING
EASEMENT

01-11447-007
BANK OF THE OZARKS

01-11447-012
SOUTHERN PIONEER PROPERTY
& CASUALTY INSURANCE COMPANY

0' 10' 20' 40' 60'
(IN FEET)

WATER LINE B

STA. 9+92.96
INSTALL 8"X8" TAPPING SLEEVE
AND VALVE. BEGIN WATER LINE B.

STA. 10+01.74
INSTALL ROTATED 8" 90° MJ BEND

EX. DOUBLE 42" STORM SEWER
F.L.=1271.44+/-

PROPOSED GRADE

4' MINIMUM COVER
EXISTING GRADE

STA. 10+58.59
INSTALL 8"X8" TAPPING SLEEVE
AND VALVE. END WATER LINE B.

12" MIN.

STA. 10+50.94
INSTALL ROTATED 8" 45°
MJ BEND

STA. 10+07.62
INSTALL 8" 45°
VERTICAL MJ
BEND

STA. 10+46.91
INSTALL ROTATED 8" 45° MJ BEND

PROP. DOUBLE 42" STORM SEWER
F.L.=1269.63+/-

STA. 9+92 TO STA. 10+23
INSTALL FULL-DEPTH
CLASS 7 AGGREGATE
BASE COMPACTED TO
95% MODIFIED PROCTOR
DENSITY TO TOP OF
SUBGRADE

INSTALL 8" C-900 DR-14
PVC WATER LINE

1285 1280 1275 1270 1265 1260 1255 1250

10+00 11+00

WATER LINE C

STA. 11+06.44
INSTALL 8" 45° MJ BEND

STA. 10+68.00
INSTALL 8"X6" SWIVEL TEE AND
FIRE HYDRANT ASSEMBLY

STA. 11+10.46
INSTALL 8" 45° MJ BEND

EXISTING GAS LINE.
FIELD VERIFY DEPTH.

EXISTING GRADE

STA. 10+15.36
INSTALL 8" 45° MJ BEND

PROPOSED GRADE

4' MINIMUM
COVER

STA. 11+37.43
INSTALL 8"X8" TAPPING SLEEVE
AND VALVE. END WATER LINE C.

INSTALL 8" C-900 DR-14
PVC WATER LINE

STA. 10+11 TO STA. 11+13
INSTALL FULL-DEPTH CLASS 7 AGGREGATE
BASE COMPACTED TO 95% MODIFIED PROCTOR
DENSITY TO TOP OF SUBGRADE

18" MINIMUM
SEPARATION

STA. 10+00.00
INSTALL 8"X8" TAPPING
SLEEVE AND VALVE.
BEGIN WATER LINE C.

EX. 8" SANITARY SEWER
F.L.=1265.24+/-

1285 1280 1275 1270 1265 1260 1255 1250

10+00 11+00 12+00

FINAL PLANS
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD
AND J STREET
IMPROVEMENTS

SE DODSON ROAD
WATER LINE B AND C
PLAN AND PROFILE

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: LFG
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-902

LTFreedle
5/11/2022 5:43:11 PM
WORKSPACE:Garver_2012
L:\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_C902_WP.dgn
REVISED DATE:

NOTES:
1. IF POSSIBLE, CONTRACTOR SHALL PLACE WATER METER BOXES IMMEDIATELY OUTSIDE THE STREET RIGHT-OF-WAY. COORDINATE LOCATION WITH ENGINEER AND OWNER.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR SALVAGING EXISTING METERS AND RETURNING METERS TO OWNER.
3. CONTRACTOR SHALL RECONNECT EXISTING SERVICE LINES TO NEW METERS AND VERIFY OPERATION.

EXISTING EASEMENT
20' UTILITY EASEMENT DOC. 2005-702
8" PVC EAST=1267.44 (ABANDONED)
8" PVC WEST=1267.41 (ABANDONED)
8" PVC NORTH=1267.40
8" PVC SOUTH=1267.21
WATER LINE D
PROPOSED UTILITY EASEMENT
8" PVC NORTHWEST=1268.56
6" UBOUT EAST=1268.04
8" PVC SOUTH=1268.04
SSMH RIM=1270.21
STA. 10+00.00
BEGIN WATER LINE D.
INSTALL 12"X12" TAPPING SLEEVE AND VALVE, AND CUT AND CAP EXISTING 12" WATER LINE WITH ANCHOR COLLAR EAST OF TAP PER BWU DETAIL GWS04.
N=736016.29
E=665000.31
STA. 10+49.16
INSTALL 12" 22.5° BEND AND 12" 11.25° BEND
N=736065.42
E=665001.78
STA. 10+91.16
INSTALL 12" 45° BEND AND 12" 11.25° BEND
N=736098.13
E=665025.70
INSTALL 24 LF OF 20" OPEN CUT STEEL ENCASEMENT UNDER STORM AND SANITARY SEWER
STA. 11+24.21
END WATER LINE E.
INSTALL 8"X6" REDUCER AND FIRE HYDRANT ASSEMBLY. ROTATE HYDRANT SO NUT IS FACING J STREET.
N=736190.61
E=665030.87
SSMH RIM=1279.54
8" PVC EAST=1272.27
8" PVC NORTH=1271.59
8" PVC SOUTH=1271.59
INGRESS & EGRESS EASEMENT DOC. 2005-702
INSTALL 24 LF OF 16" OPEN CUT STEEL ENCASEMENT UNDER STORM AND SANITARY SEWER
35' UTILITY EASEMENT & R.O.W. GRANT DOC 2005-7114
15' SEWER EASEMENT DOC 98-084108
SSMH RIM=1278.82
8" PVC WEST=1272.07
8" PVC NORTH=1271.87
8" PVC SOUTH=1271.77
EX. 20' GAS EASEMENT DOC 2003-26926
EX. SEWER EASEMENT DOC 1994-34218
INGRESS & EGRESS EASEMENT DOC. 2012-163
PROPOSED T.C.E.
EXISTING RIGHT OF WAY
SALVAGE FIRE HYDRANT AND RETURN TO OWNER
PROPOSED SIGNAL POLE
PROPOSED PED. POLE
PROPOSED SHALLOW FOUNDATION PED. POLE
SSMH RIM=1275.72
POSSIBLE STUB OUT EAST
8" PVC NORTH=1265.58
8" PVC WEST=1265.52
8" PVC SOUTH=1265.44
STA. 11+37.19
END WATER LINE D.
INSTALL 12"X12" TAPPING SLEEVE AND VALVE, AND CUT AND CAP EXISTING 12" WATER LINE WITH ANCHOR COLLAR WEST OF TAP PER BWU DETAIL GWS04.
N=736082.72
E=665058.27
WATER LINE E
STA. 10+91.77
INSTALL 12" 90° BEND
N=736188.60
E=665063.24
STA. 11+22.97 WATER LINE D=
STA. 10+00.00 WATERLINE E
BEGIN WATER LINE E.
INSTALL 12" TEE WITH 12" GATE VALVE WEST OF TEE AND 12"X8" REDUCER AND 8" GATE VALVE NORTH OF TEE.
N=736096.93
E=665058.98
INSTALL 25 LF OF 16" OPEN CUT STEEL ENCASEMENT FOR WATER AND SEWER SEPARATION
INSTALL 8" TAPPED TEE, 2" VALVE WITH VALVE BOX, 2" SERVICE LINE, AND 2" METER
INSTALL 1" SERVICE LINE AND DOUBLE 5/8" METERS
INSTALL 1" SERVICE LINE AND SINGLE 5/8" METER
INSTALL 1" SERVICE LINE AND SINGLE 1" METER
SE WALTON BOULEVARD
SE J STREET
POE 20+50.00
WATER LINE B SEE SHEET NO. C902
WATER LINE A SEE SHEET NO. C901
SEWER LINE A SEE SHEET NO. C904
PROPOSED RIGHT OF WAY
EXISTING RIGHT OF WAY
0' 10' 20' 40' 60'
(IN FEET)

WATER LINE D

EXISTING GAS LINES. FIELD VERIFY DEPTH.
STA. 10+86.29
INSTALL 12" 45° MJ BEND
STA. 10+81.46
INSTALL 12" 45° VERTICAL MJ BEND
EXISTING COMMUNICATION LINE. FIELD VERIFY DEPTH.
EX. 8" SANITARY SEWER F.L.=1271.10+/-
EXISTING GRADE
EX. 36" STORM SEWER F.L.=1274.23+/-
PROP. 45"X29" STORM SEWER F.L.=1274.20+/-
EX. 36" STORM SEWER F.L.=1274.26+/-
PROPOSED GRADE
5' MINIMUM COVER
STA. 10+00.00
INSTALL 12"X12" TAPPING SLEEVE AND VALVE. BEGIN WATER LINE D.
STA. 11+22.97=STA. 10+00 WATER LINE E
INSTALL 12"X12" MJ TEE AND 12" GATE VALVE
STA. 11+37.19
INSTALL 12"X12" TAPPING SLEEVE AND VALVE. END WATER LINE D.
12" MIN.
18" MIN.
INSTALL 12" C-900 DR-14 PVC WATER LINE
STA. 11+20.00
INSTALL 12" 45° VERTICAL MJ BEND
STA. 10+49.16
INSTALL 12" 22.5° BEND AND 12" 11.25° BEND
STA. 11+15.93
INSTALL 12" 45° VERTICAL MJ BEND
EX. 6" SAN. SEWER F.L.=1269.84+/-
STA. 10+91.16
INSTALL 12" 45° MJ BEND AND 12" 11.25° MJ BEND
INSTALL 24 LF OF 20" OPEN CUT STEEL ENCASEMENT UNDER STORM AND SANITARY SEWERS
STA. 10+14 TO STA. 10+80
INSTALL FULL-DEPTH CLASS 7 AGGREGATE BASE COMPACTED TO 95% MODIFIED PROCTOR DENSITY TO TOP OF SUBGRADE
STA. 11+10 TO STA. 11+37
INSTALL FULL-DEPTH CLASS 7 AGGREGATE BASE COMPACTED TO 95% MODIFIED PROCTOR DENSITY TO TOP OF SUBGRADE
1290 1285 1280 1275 1270 1265 1260 1255
9+50 10+00 11+00 12+00

WATER LINE E

PROP. 45"X29" STORM SEWER F.L.=1273.54+/-
EXISTING GRADE
EX. 8" SANITARY SEWER F.L.=1271.54+/-
PROP. 8" SANITARY SEWER F.L.=1271.56+/-
EXISTING COMMUNICATION LINE. FIELD VERIFY DEPTH.
PROPOSED GRADE
STA. 10+00.00 = STA. 11+22.97 WATER LINE D
INSTALL 12"X12" MJ TEE, 12"X8" MJ REDUCER, AND 8" GATE VALVE. BEGIN WATER LINE E.
4' MINIMUM COVER
STA. 11+24.21
END WATER LINE E.
INSTALL 8"X6" REDUCER AND FIRE HYDRANT ASSEMBLY.
12" MIN.
18" MIN.
INSTALL 8" C-900 DR-14 PVC WATER LINE
INSTALL 25 LF OF 16" OPEN CUT STEEL ENCASEMENT CENTERED UNDER SANITARY SEWER
INSTALL 24 LF OF 16" OPEN CUT STEEL ENCASEMENT UNDER STORM AND SANITARY SEWERS
STA. 10+91.77
INSTALL 12" 90° MJ BEND
STA. 10+00 TO STA. 11+04
INSTALL FULL-DEPTH CLASS 7 AGGREGATE BASE COMPACTED TO 95% MODIFIED PROCTOR DENSITY TO TOP OF SUBGRADE
1290 1285 1280 1275 1270 1265 1260 1255
9+50 10+00 11+00 12+00

FINAL PLANS
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE J STREET WATER LINE D AND E PLAN AND PROFILE

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-903

twmccormick 5/12/2022 5:06:42 PM
WORKSPACE\Garver_2012
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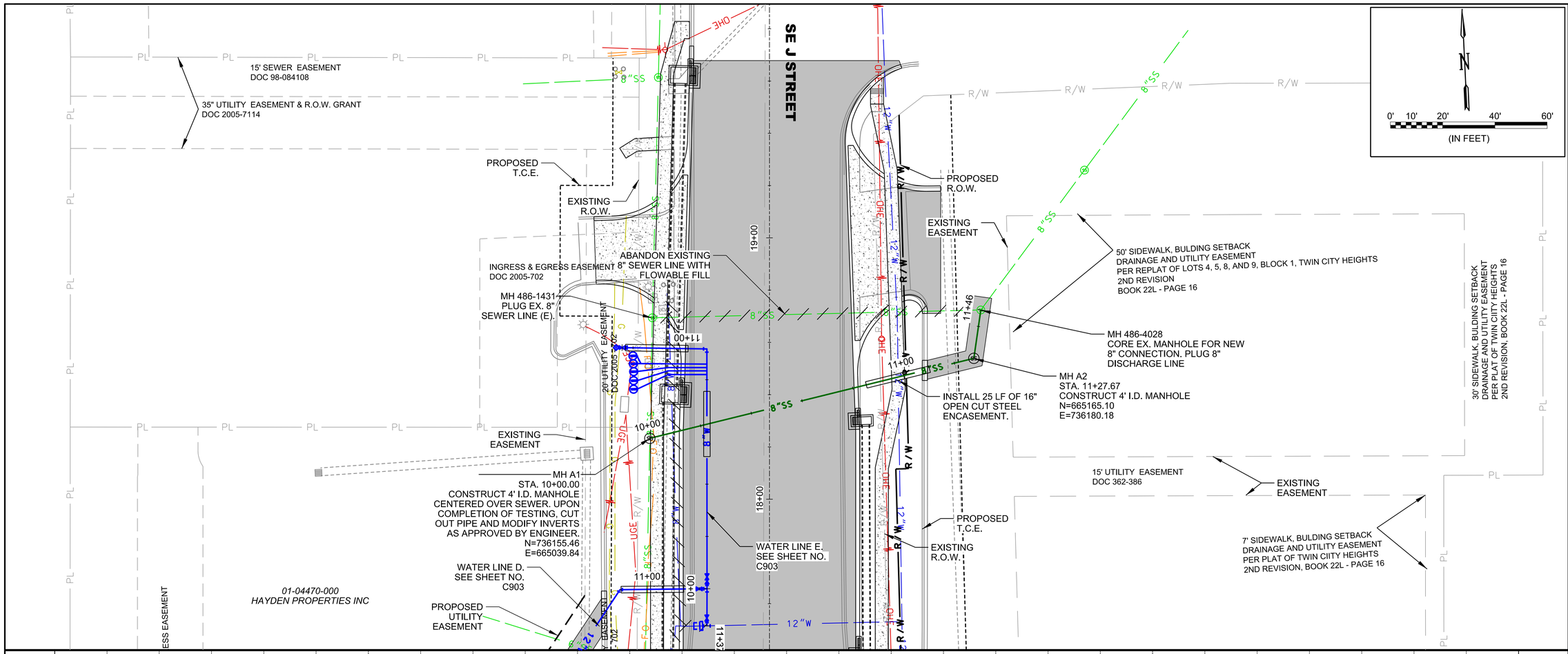
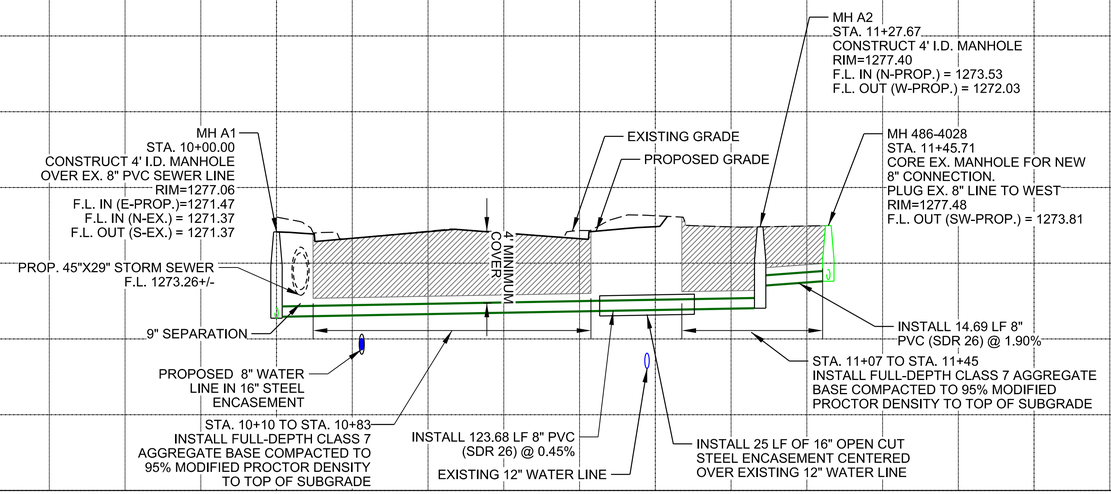
REVISED DATE:



FINAL PLANS
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY

SEWER LINE A



CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE J STREET SEWER LINE A PLAN AND PROFILE

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-904

LTFreedle
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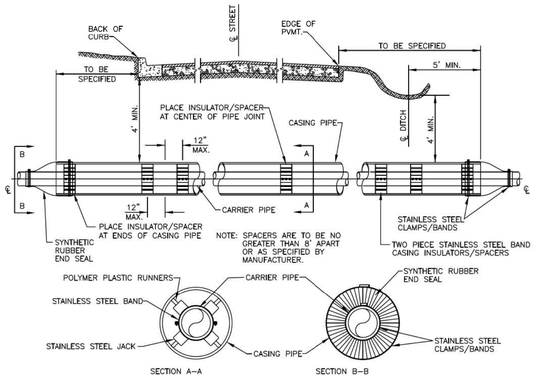
5/11/2022 5:43:20 PM
REVISED DATE:

ENCASEMENT DETAIL



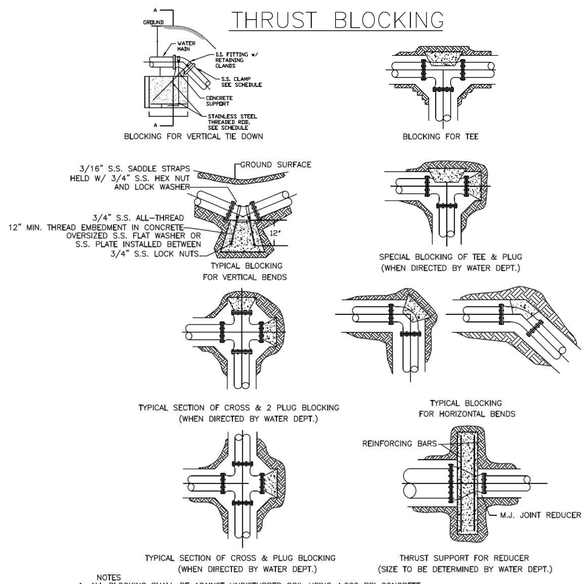
CARRIER & CASING SIZES									
CARRIER	4"	6"	8"	10"	12"	14"	16"	18"	20"
CASING	16"	16"	16"	18"	20"	24"	30"	30"	36"
CASING/WALL THICKNESS	.219	.219	.219	.250	.281	.344	.406	.406	.500

NOTE: DUCTILE IRON, OR PVC PIPE REQUIRED FOR WATER, OR SEWER.

*ALL BELLS SHALL BE RESTRAINED INSIDE ENCASEMENT BY APPROVED METHOD.

GENERAL WATER/SEWER DETAIL: GWS01

THRUST BLOCKING



NOTES
1. ALL BLOCKING SHALL BE AGAINST UNDISTURBED SOIL USING 4,000 PSI CONCRETE.
2. WHERE SOIL CONDITIONS MAKE IT NECESSARY TO POUR CONCRETE OVER JOINTS, THE ENDS OF THE ADJACENT PIPES MUST HAVE A THRUST BLOCK TO RESIST MOVEMENT OF THESE JOINTS.
3. WEIGHT CALCULATIONS TO BE BASED ON REACTION BACKING TABLE (SEE GWS03).
4. WHEN BLOCKING AGAINST FITTINGS, FITTINGS SHALL BE COVERED WITH POLYETHYLENE WRAP TO PREVENT BONDING OF CONCRETE
5. WHERE SHEAR BECOMES A PROBLEM PROPER REINFORCING MUST BE INSTALLED INTO THE BLOCKING.
6. CLEARANCE SHALL BE A MINIMUM OF 6" BETWEEN PIPE AND OBSTRUCTIONS.
7. CLEARANCE ON PIPES BELONGING TO OIL/GAS COMPANIES SHALL BE 18" UNLESS SPECIAL PERMISSION IS GIVEN BY THESE COMPANIES AND THE DEPARTMENT.
8. 12" OF ALL THREAD EMBEDED IN CONCRETE
9. MIN. 5/8" ALL THREAD FOR SECTIONS 10FT OR UNDER

GENERAL WATER/SEWER DETAIL: GWS02

REACTION BACKING TABLE

BLOCKING SCHEDULE					
PIPE SIZE		BENDS 45°	BENDS 22 1/2°	BENDS 11 1/4°	ROD DIA.
8"	VOLUME REQ'D (CU. FT.)	98.5	50.2	25.2	
	A (FT.)	5.00'	4.00'	3.00'	
	B (FT.)	4.00'	3.20'	2.80'	3/4 IN.
	C (FT.)	5.00'	4.00'	3.00'	
	MIN. CLAMP (2 EA.)	3/8 IN. x 2 IN.			
12"	VOLUME REQ'D (CU. FT.)	209.5	106.8	53.7	
	A (FT.)	6.00'	5.00'	4.00'	
	B (FT.)	6.00'	4.25'	3.50'	3/4 IN.
	C (FT.)	6.00'	5.00'	4.00'	
	MIN. CLAMP (2 EA.)	1/2 IN. x 2 IN.			
18"	VOLUME REQ'D (CU. FT.)	457.2	233.1	117.1	
	A (FT.)	8.00'	6.50'	5.00'	
	B (FT.)	7.25'	5.50'	4.75'	1 IN.
	C (FT.)	8.00'	6.50'	5.00'	
	MIN. CLAMP (2 EA.)	5/8 IN. x 3 IN.			
24"	VOLUME REQ'D (CU. FT.)	800.3	408.0	205.0	
	A (FT.)	9.50'	7.50'	6.00'	
	B (FT.)	9.00'	7.25'	5.75'	1 1/4 IN.
	C (FT.)	9.50'	7.50'	6.00'	
	MIN. CLAMP (2 EA.)	5/8 IN. x 3 IN.			

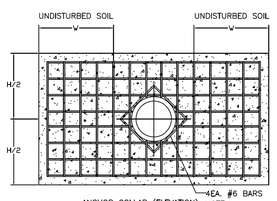
VOLUME CALCULATED ON THE BASIS OF CONCRETE REACTING THRUST ON THE RESPECTIVE BENDS UNDER AN INTERNAL PRESSURE OF 250 PSI, 50 PSI SURGE AND THE WEIGHT OF CONCRETE IS 150 POUNDS PER CU. FT.

NOTES:
1. ALL FITTINGS SHALL BE MECHANICAL JOINTS.
2. DO NOT COVER BELLS OR FLANGES WITH CONCRETE.
3. WRAP ALL FITTINGS WITH POLY WRAP.
4. BACK ALL TEES ACCORDING TO SIZE OF BRANCH.
5. BACKING FUTURE LINE EXTENSIONS SHALL BE SUCH THAT LATER REMOVAL IS POSSIBLE.
6. ALL BENDS WHERE FITTINGS ARE USED, BOTH HORIZONTAL OR VERTICAL, SHALL BE BACKED WITH CONCRETE.
7. REACTION BACKING TABLE IS BASED ON 150 PSI AND SOIL BEARING PRESSURE OF 2,000 LB/SQ. FT. ADDITIONAL BACKING MAY BE REQUIRED IN SOME AREAS AS REQUIRED BY CITY WATER DEPARTMENT.

GENERAL WATER/SEWER DETAIL: GWS03

ANCHOR COLLAR SPECIFICATIONS

ANCHOR COLLAR SCHEDULE						
PIPE SIZE	DIMENSIONS W	H	T	M	REINFORCING BARS "A" BARS	"B" BARS
6"	1.5'	2.0'	1.0'	M.J. RETAINER GLAND	#6@6"	#6@6"
8"	1.5'	2.5'	1.0'	M.J. RETAINER GLAND	#6@6"	#6@6"
12"	2.0'	4.0'	1.5'	M.J. RETAINER GLAND	#6@6"	#6@6"
16"	3.0'	4.5'	1.5'	M.J. RETAINER GLAND	#6@6"	#6@6"
20"	3.0'	5.0'	2.0'	M.J. RETAINER GLAND	#6@6"	#6@6"
24"	3.5'	5.5'	2.0'	M.J. RETAINER GLAND	#7@6"	#6@10"
30"	6.5'	6.0'	2.5'	4"	#8@6"	#7@10"
36"	7.0'	7.0'	2.5'	4"	#8@6"	#7@10"



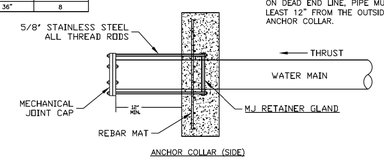
ANCHOR COLLAR (ELEVATION)

NOTE:
USE M.J. RETAINER GLANDS FOR PIPE 24" AND SMALLER.

NOTE:
PIPE SURFACES SHALL BE CLEANED OF ALL FOREIGN MATERIAL BEFORE 4000 PSI CONCRETE COLLAR IS POURED.

NOTE:
ON DEAD END LINE, PIPE MUST EXTEND AT LEAST 12" FROM THE OUTSIDE EDGE OF ANCHOR COLLAR.

ROD REQUIREMENTS	
MAIN SIZE	NO. OF RODS
6"	2
8"	4
12"	4
16"	6
24"	6
30"	8
36"	8

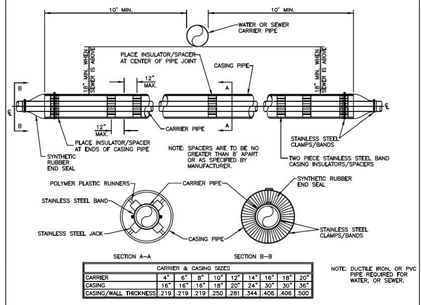


ANCHOR COLLAR (SIDE)

NOTE:
ALL-THREAD STEEL RODS SHALL BE 5/8" STAINLESS STEEL WITH STAINLESS STEEL HARDWARE.

GENERAL WATER/SEWER DETAIL: GWS04

ENCASEMENT CROSSING DETAIL



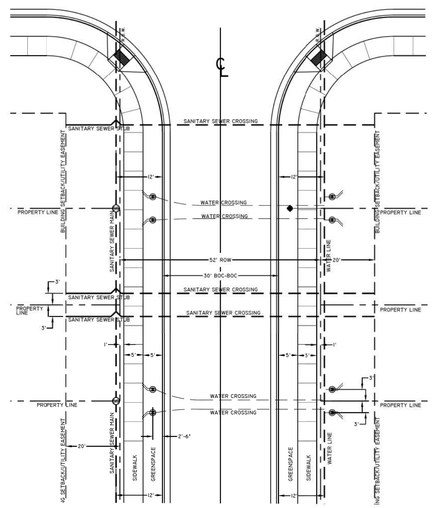
CARRIER & CASING SIZES									
CARRIER	4"	6"	8"	10"	12"	14"	16"	18"	20"
CASING	16"	16"	16"	18"	20"	24"	30"	30"	36"
CASING/WALL THICKNESS	.219	.219	.219	.250	.281	.344	.406	.406	.500

NOTE: DUCTILE IRON, OR PVC PIPE REQUIRED FOR WATER, OR SEWER.

*ALL BELLS SHALL BE RESTRAINED BY APPROVED METHOD.

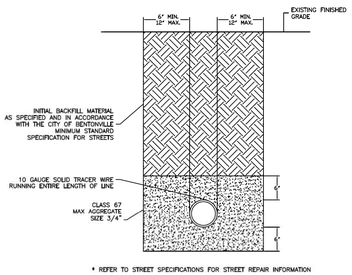
GENERAL WATER/SEWER DETAIL: GWS05

SUBDIVISION UTILITY PLACEMENT



GENERAL WATER/SEWER DETAIL: GWS06

TYPICAL BEDDING DETAIL



* REFER TO STREET SPECIFICATIONS FOR STREET REPAIR INFORMATION

GENERAL WATER/SEWER DETAIL: GWS07

3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

WATER/SEWER DETAILS

Know what's **below.**
Call before you dig.

REVISIONS:
Adopted by City Council 06/22/2021
Ordinance Number: 2021-135

DRAWN BY:	JI	DATE:	03/16/2021
APPROVED BY:	PN	DATE:	03/16/2021
SHEET NUMBER:	1	OF	1

FINAL PLANS
FOR REVIEW ONLY
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REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

WATER AND SEWER DETAILS

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-951

LTFreedle
WORKSPACE:Garver_2012
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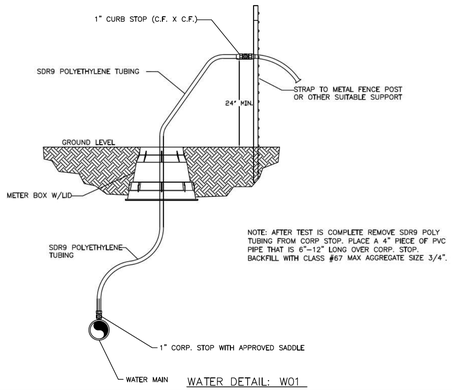
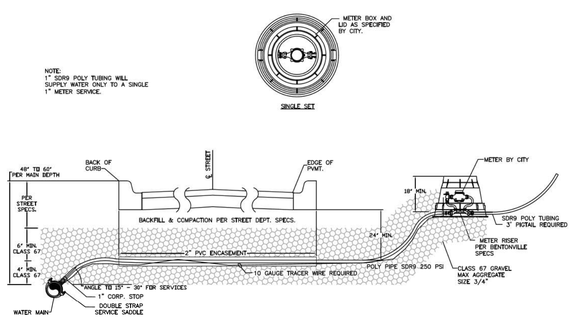
REVISED DATE: 5/11/2022 5:43:32 PM

TEMPORARY 1" BLOW OFF ASSEMBLY SAMPLE POINTS



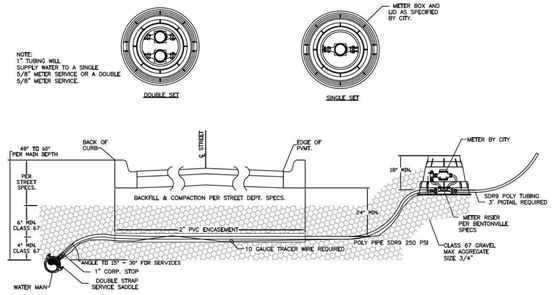
WATER DETAIL: W01

WATER SERVICE DETAIL 1"



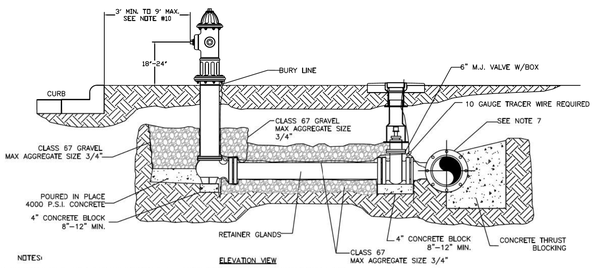
WATER DETAIL: W02

WATER SERVICE DETAIL 5/8"



WATER DETAIL: W03

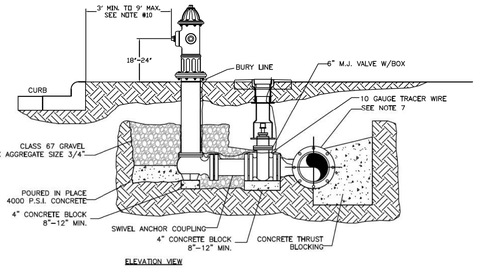
FIRE HYDRANT DETAIL W/ RETAINER GLANDS



NOTES:
1. DRAINAGE BED SHALL CONSIST OF CLASS 67 GRAVEL WITH A MAX AGGREGATE SIZE OF 3/4".
2. USE 6" NIPPLE WITH M.J. RETAINER GLANDS IF DISTANCE BETWEEN VALVE AND HYDRANT MUST BE GREATER THAN 13" SWIVEL ADAPTER.
3. FIRE HYDRANT TO BE BLOCKED AGAINST FIRM SOIL AS SHOWN.
4. ALL HYDRANTS SHALL BE INSTALLED PLUMB.
5. LARGE NOZZLE SHALL FACE CURB UNLESS OTHERWISE NOTED. ROTATE BARREL AS REQUIRED.
6. HYDRANT SHOULD NOT BE SET CLOSER THAN 4.0' TO OBSTRUCTIONS THAT ARE IN LINE WITH NOZZLE.
7. M.J. ANCHOR TEE, TAPPING SLEEVE OR TAPPING SADDLE MAY BE USED (SEE MATERIAL SPECIFICATIONS)
8. HYDRANTS TO BE SET AT DEPTHS GREATER THAN 6.0' SHALL BE SET WITH A MODIFIED FIRE HYDRANT SETTING.
9. POLYWRAP ENTIRE HYDRANT ASSEMBLY. DO NOT COVER WEEP HOLE DRAIN.
10. HYDRANTS WILL BE SET AT A MINIMUM OF 3' TO A MAXIMUM OF 9' BACK OF CURB OR EDGE OF DRAINING SURFACE, NOT IN SIDEWALK, FIRE LANE, OR RADIUS OR AS DIRECTED BY BENTONVILLE WATER DEPARTMENT.

WATER DETAIL: W04

FIRE HYDRANT DETAIL W/SWIVEL ANCHOR COUPLING



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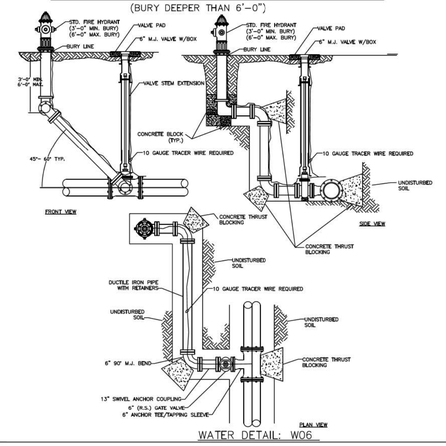
10. HYDRANTS WILL BE SET AT A MINIMUM OF 3' TO A MAXIMUM OF 9' BACK OF CURB, NOT IN SIDEWALK, FIRE LANE, OR RADIUS OR AS DIRECTED BY BENTONVILLE WATER DEPARTMENT.

WATER DETAIL: W05

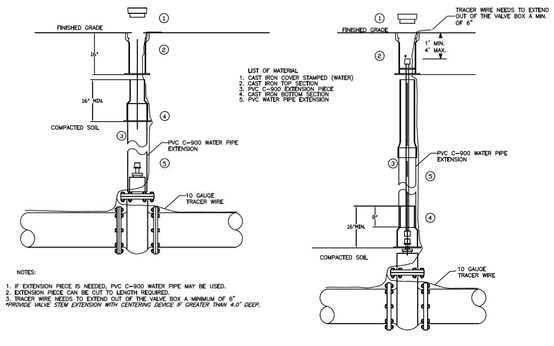
DEEP BURY FIRE HYDRANTS

(BURY DEEPER THAN 6'–0")



WATER DETAIL: W06

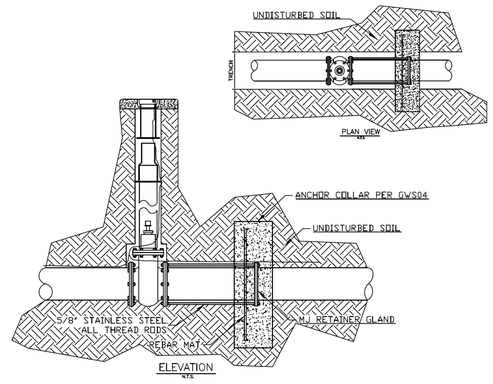
VALVE BOX VALVE STEM & TRACER WIRE INSTALLATION



NOTES:
1. IF EXTENSION PIECE IS NEEDED, PVC C-900 WATER PIPE MAY BE USED.
2. EXTENSION PIECE CAN BE CUT TO LENGTH REQUIRED.
3. TRACER WIRE NEEDS TO EXTEND OUT OF THE VALVE BOX A MINIMUM OF 6".
*PROVIDE VALVE STEM EXTENSION WITH CENTERING DEVICE IF GREATER THAN 4.0' DEEP.

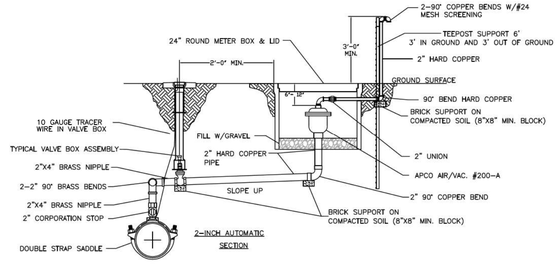
WATER DETAIL: W07

RESTRAINED GATE VALVE



WATER DETAIL: W08

2" COMBINATION AIR/VACUUM VALVE DETAIL



NOTES:
1. ALL THREADED CONNECTIONS SHALL HAVE A DOUBLE WRAP OF TEFLON TAPE ON THREADS.
2. DRILL HOLE IN SIDE OF METER BOX FOR OUTLET PIPING.
3. VALVES WILL BE PIPED TO POINT BEYOND PAVEMENT AND SHOULDER.

WATER DETAIL: W09

3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

WATER DETAILS

Know what's **below.**
Call before you dig.

REVISIONS:
Adopted by City Council 06/22/2021
Ordinance Number: 2021-135

Approved by Dept. of Health
04/01/2021

NOTES:

DRAWN BY:	JI	DATE:	03/16/2021
APPROVED BY:	PN	DATE:	03/16/2021
SHEET NUMBER:	1	OF	2

FINAL PLANS
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BY	DESCRIPTION	DATE	REV.

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

WATER AND SEWER DETAILS

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: JAA
DRAWN BY: TSA

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DRAWING NUMBER
C-952

LTFreedle 5/11/2022 5:43:58 PM
WORKSPACE:Garver_2012
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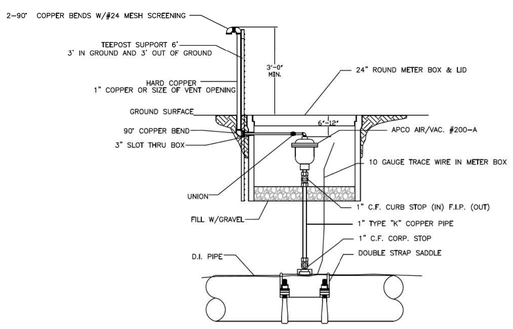
REVISED DATE:

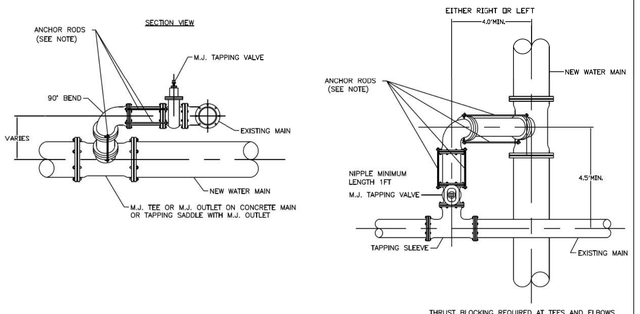
1" COMBINATION AIR/VACUUM VALVE DETAIL



NOTES:
1. ALL THREADED CONNECTIONS SHALL HAVE A DOUBLE WRAP OF TEFLON TAPE ON THREADS.
2. DRILL HOLE IN SIDE OF METER BOX FOR OUTLET PIPING.
3. VALVES WILL BE PIPED TO POINT BEYOND PAVEMENT AND SHOULDER.

WATER DETAIL: W10

SWING CONNECTION – NEW MAIN TO EXISTING MAIN



THRUST BLOCKING REQUIRED AT TEES AND ELBOWS.

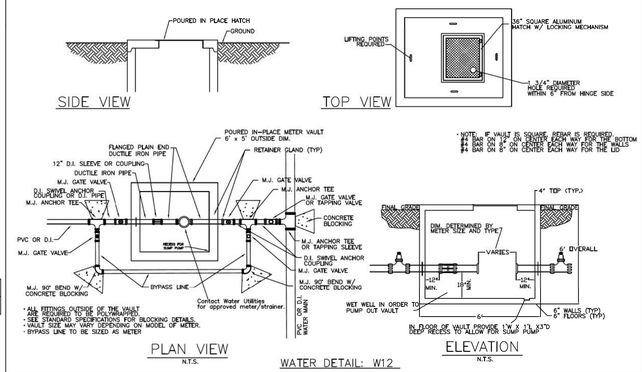
PIPE SIZE	6"	8"	12"
RODS PER NIPPLE	2	2	4

NOTES:
1. CONTRACTOR SHALL LOCATE EXISTING MAIN IN ADVANCE OF LAYING NEW LINE IN ORDER TO ASSURE ADEQUATE LENGTH TO ADJUST DEPTH OF NEW MAIN.
2. DIMENSIONS SHOWN ARE RECOMENDED MINIMUMS TO PROVIDE ADEQUATE ROOM FOR TIGHTENING BOLTS ON JOINTS. (OTHER DIMENSIONS MAY BE USED)
3. PROVIDE STAINLESS STEEL "ALL THREAD(MIN 5/8")" TIE RODS WITH EYE BOLTS FOR ANCHORING ALL JOINTS.
4. RODS SHALL BE FIELD CUT TO FIT & SHALL BE PROTECTED WITH POLYWRAP.
5. ROTATE TEE UP, & ELBOW DOWN AS REQUIRED TO MATCH.
6. USE TYPICAL CONCRETE BLOCKING REQUIRED.

WATER DETAIL: W11

METER VAULT DETAIL FOR 4" – 8" METERS (TYPICAL)

(DIMENSIONS MAY VARY FOR METER SIZES)



WATER DETAIL: W12

CUT/CAP DETAIL

WATER DETAIL: W13

FROST FREE HOSE BIBB WITH VACUUM BREAKER

ELEVATION
N.T.S.

WATER DETAIL: W14

REDUCED PRESSURE (RP) IRRIGATION ONLY

WATER DETAIL: W15

REDUCED PRESSURE (RP) IRRIGATION ONLY

INDOOR APPLICATION ONLY NOTES:

1. AN AIR GAP DRAIN IS REQUIRED TO REDUCE SPLASHING OF MINOR DISCHARGES FROM THE RELIEF VALVE DRAIN PORT.
2. INDOOR INSTALLATION OF RP'S SHOULD PROVIDE FOR DRAINAGE CAPABLE OF HANDLING IN EXCESS OF THE MAXIMUM DISCHARGE RATE EXPECTED BY THE BACKFLOW ASSEMBLY MANUFACTURER.

WATER DETAIL: W16

3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

WATER DETAILS

Know what's **below.**
Call before you dig.

REVISIONS:
Adopted by City Council 06/22/2021
Ordinance Number: 2021-135

Approved by Dept. of Health
04/01/2021

NOTES:

DRAWN BY: JI	DATE: 03/16/2021
APPROVED BY: PN	DATE: 03/16/2021
SHEET NUMBER: 2	OF 2

FINAL PLANS
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REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

WATER AND SEWER DETAILS

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: JAA
DRAWN BY: TSA

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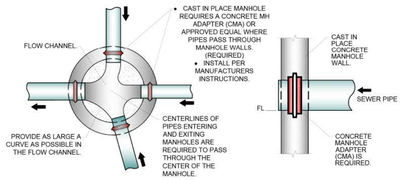
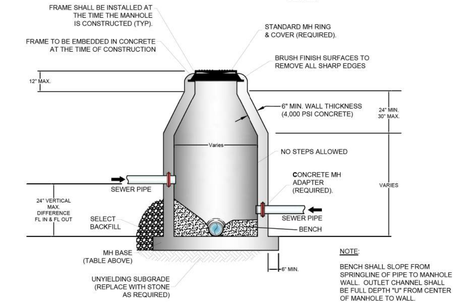
REVISED DATE:

SANITARY SEWER
CAST IN PLACE MANHOLE



- CAST IN PLACE MANHOLE REQUIRES A CONCRETE MH ADAPTER (CMA) OR APPROVED EQUAL WHERE PIPES PASS THROUGH MANHOLE WALLS. (REQUIRED)
- INSTALL PER MANUFACTURERS INSTRUCTIONS.

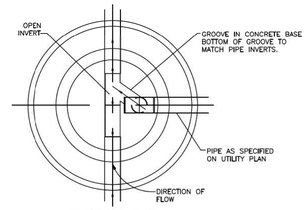


Inside Diameter of Manhole	Minimum Wall Thickness	Base Thickness	Minimum Ring & Cover Size
4' DIA.	6"	8"	24" (< or Equal to 24" Pipes)
5' DIA.	6"	10"	
6' DIA.	8"	12"	36" (> 24" Pipes)

MANHOLE INFORMATION TABLE

SANITARY SEWER DETAIL: SS01

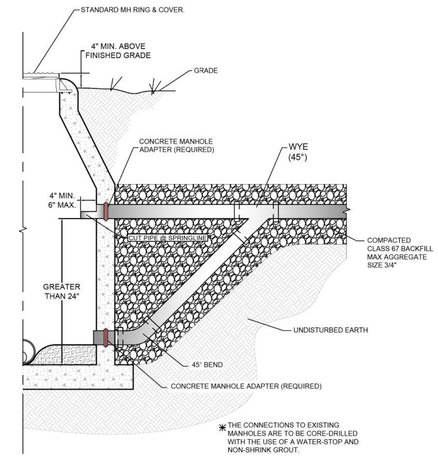
SANITARY SEWER
INTERIOR DROP MANHOLE



NOTE:
INSIDE DROP MANHOLES SHALL BE APPROVED PRIOR TO CONSTRUCTION ON A CASE-BY-CASE BASIS.

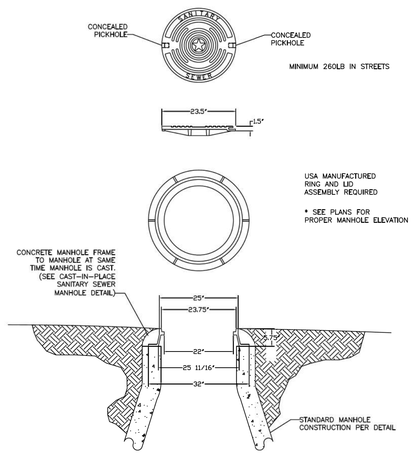
SANITARY SEWER DETAIL: SS02

SANITARY SEWER
EXTERIOR DROP MANHOLE



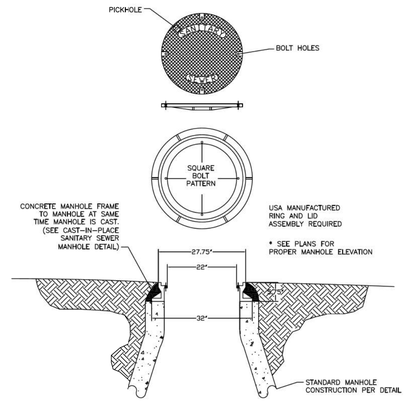
SANITARY SEWER DETAIL: SS03

HEAVY DUTY MANHOLE
LID & FRAME



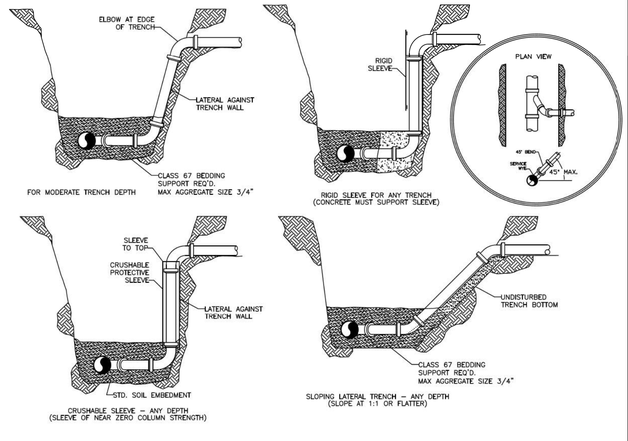
SANITARY SEWER DETAIL: SS04

WATER TIGHT BOLTED MANHOLE
LID & FRAME



SANITARY SEWER DETAIL: SS05

SANITARY SEWER
SERVICE WYE



SANITARY SEWER DETAIL: SS06

THE CITY OF WASTEWATER WATER BENTONVILLE

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Bentonville, AR 72712
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SAN.SEWER DETAILS

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04/01/2021

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THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

WATER AND SEWER DETAILS

JOB NO.:21T21090
DATE: MAY 2022
DESIGNED BY: JAA
DRAWN BY: TSA

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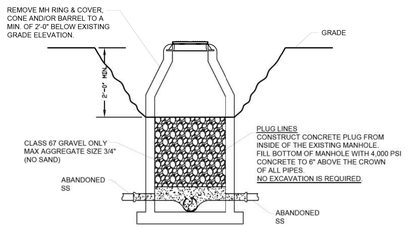
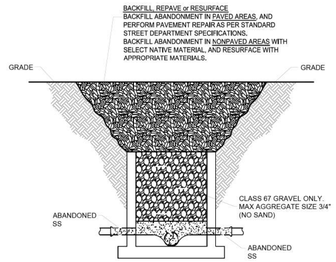
REVISED DATE:

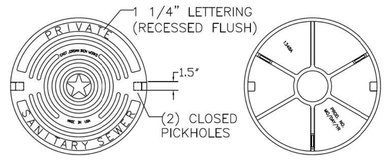
SANITARY SEWER MANHOLE ABANDONMENT





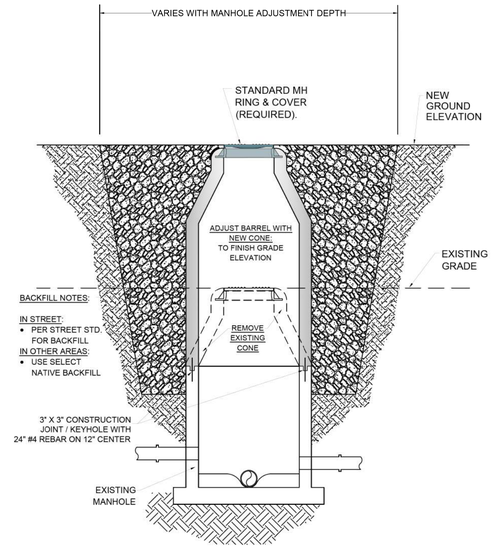
SANITARY SEWER DETAILS: SS07

PRIVATE MANHOLE RING AND LID



SANITARY SEWER DETAILS: SS08

TYPICAL MANHOLE ADJUST TO GRADE



SANITARY SEWER DETAILS: SS09

THE CITY OF WASTEWATER WATER BENTONVILLE

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Bentonville, AR 72712
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SAN.SEWER DETAILS

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BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

WATER AND SEWER DETAILS

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DATE: MAY 2022
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DRAWN BY: TSA

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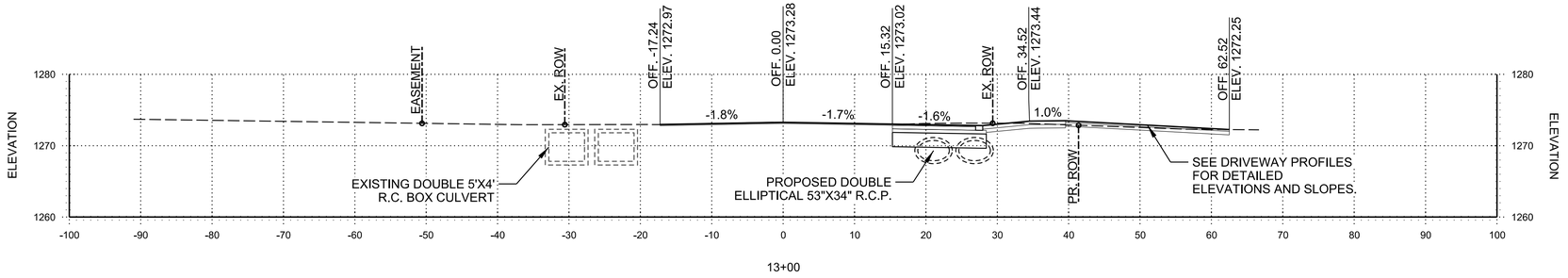

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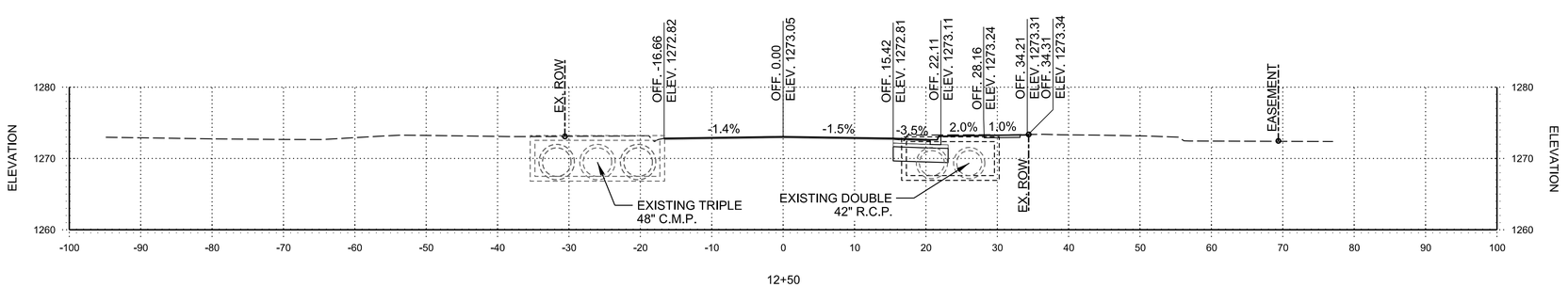

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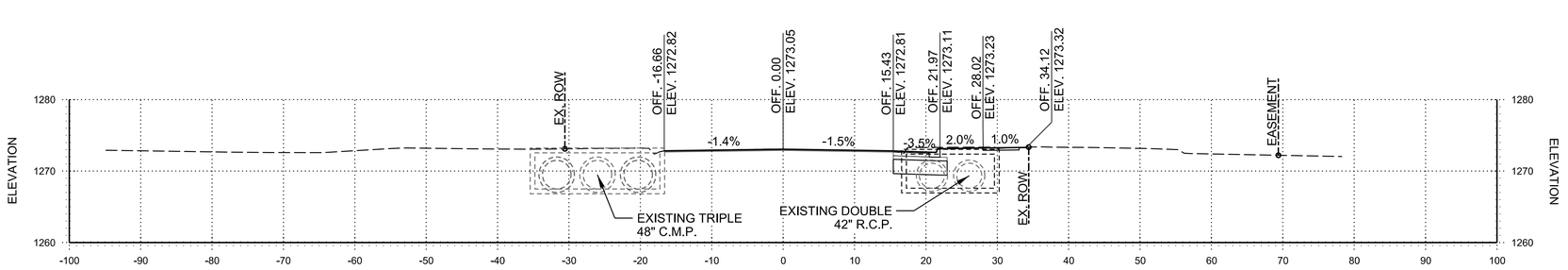

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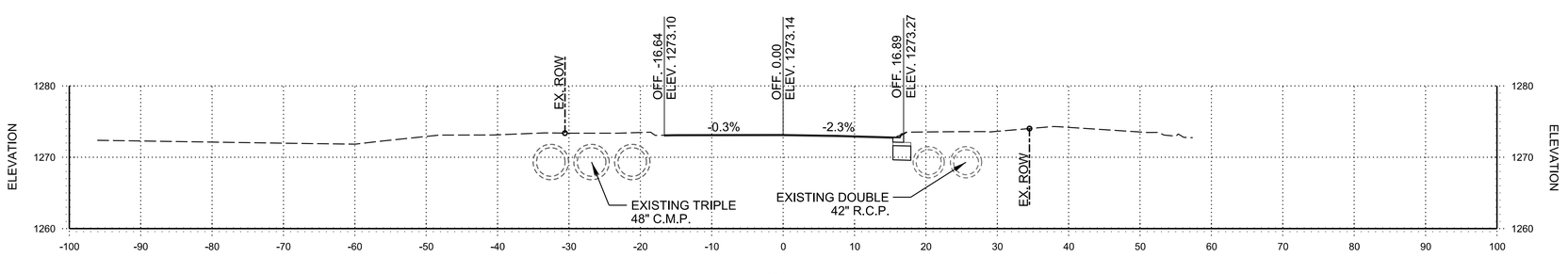

12+09

STA. 12+09 TO STA. 13+00

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CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD
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SE DODSON ROAD /
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SECTIONS

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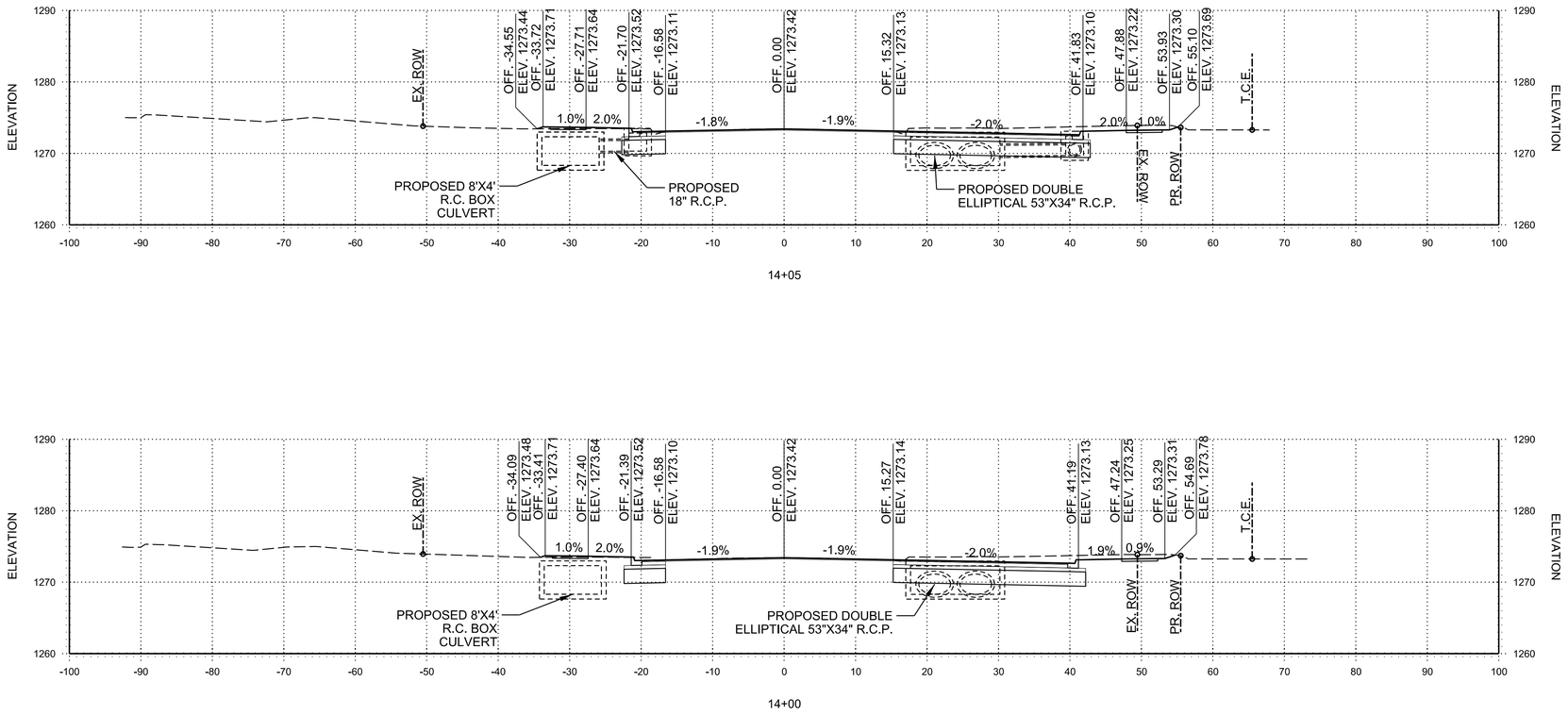

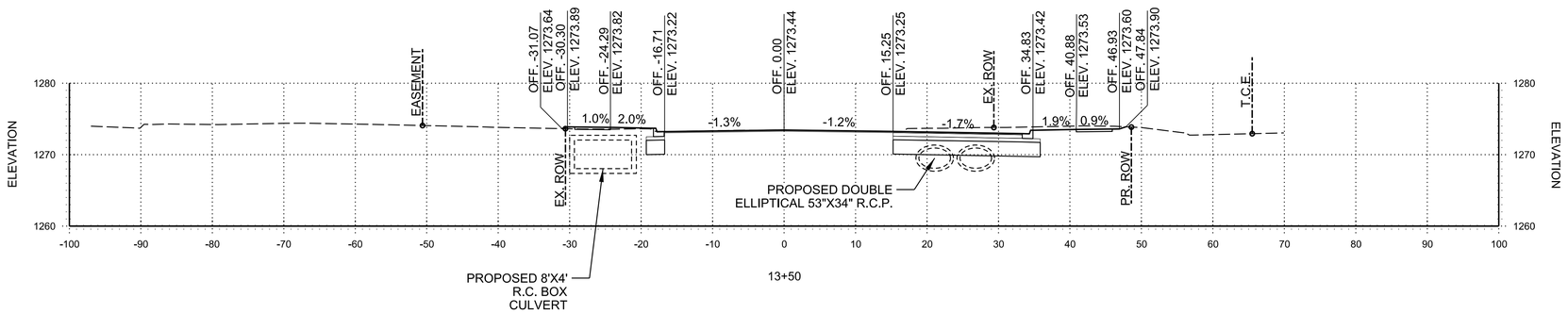

STA. 13+50 TO STA. 14+05

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BENTONVILLE, ARKANSAS

WALTON BOULEVARD
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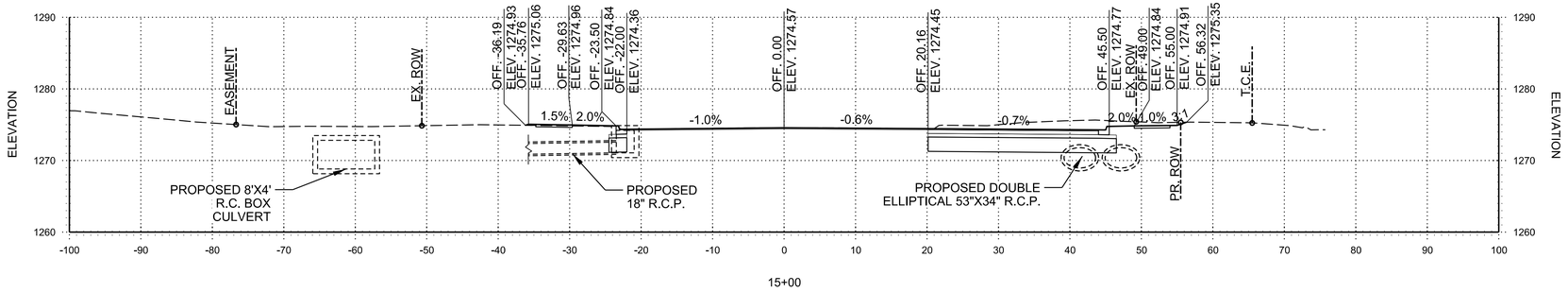

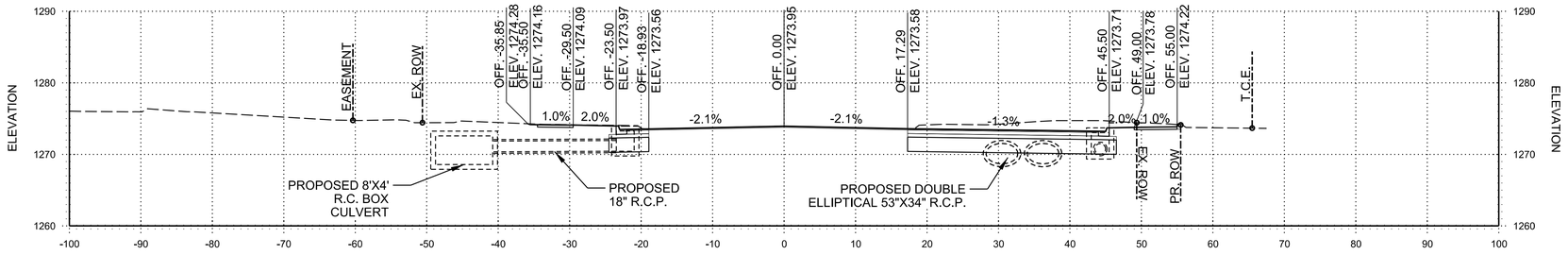

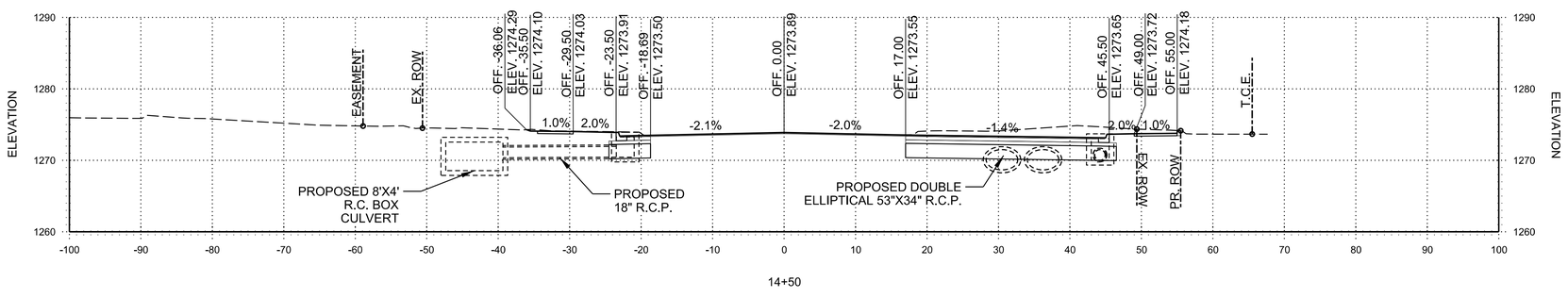

STA. 14+50 TO STA. 15+00

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CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD
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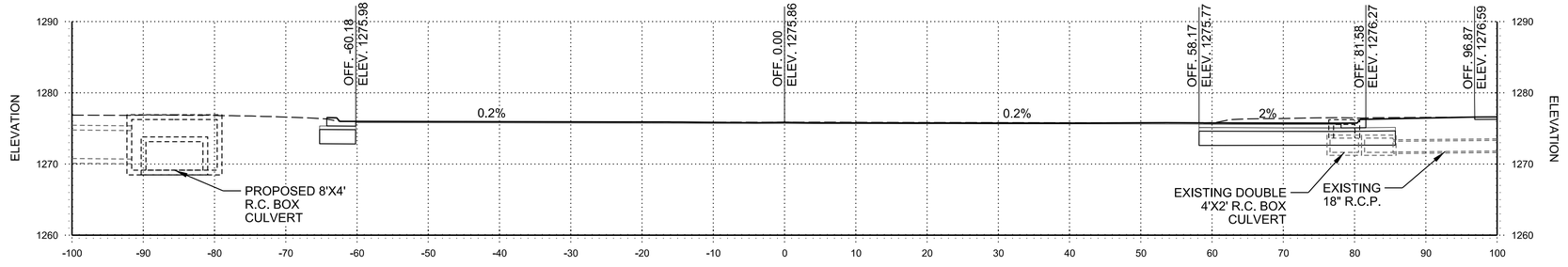

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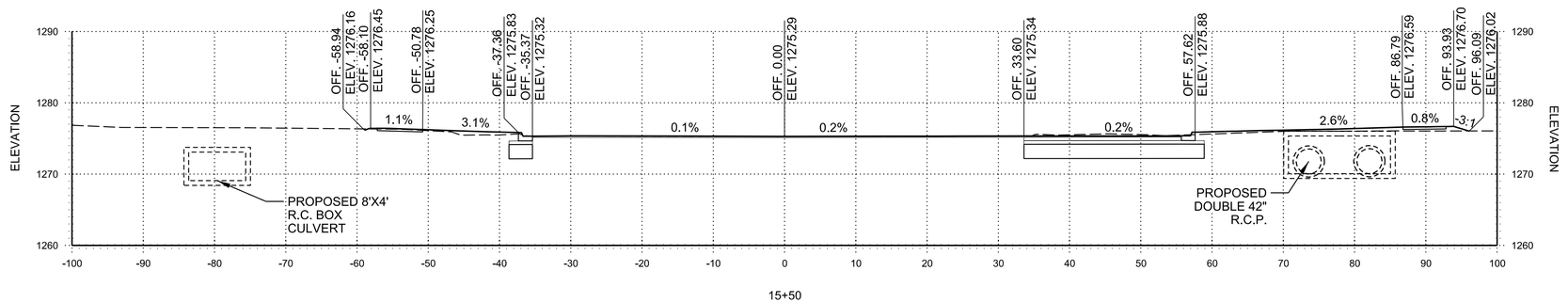

15+50

STA. 15+50 TO STA. 16+47

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THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

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IMPROVEMENTS

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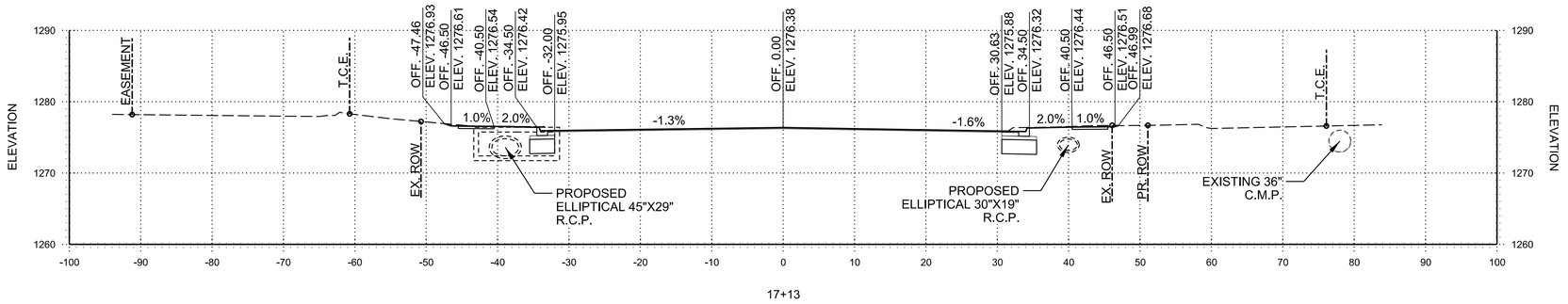

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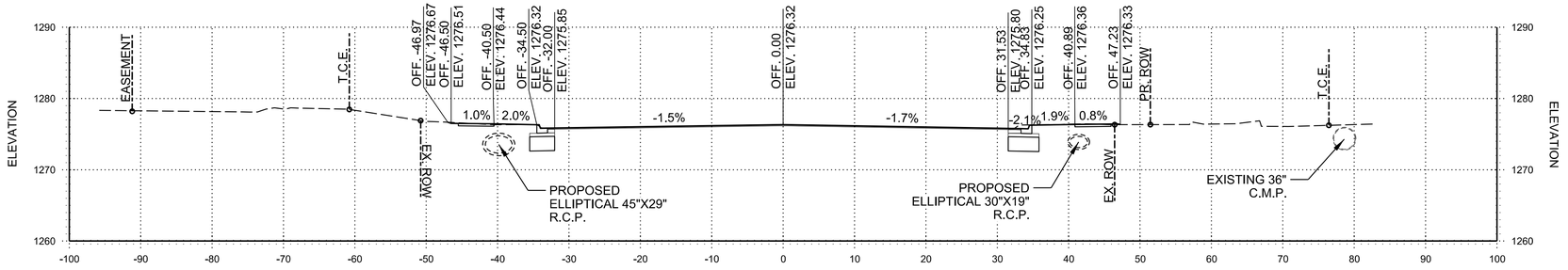

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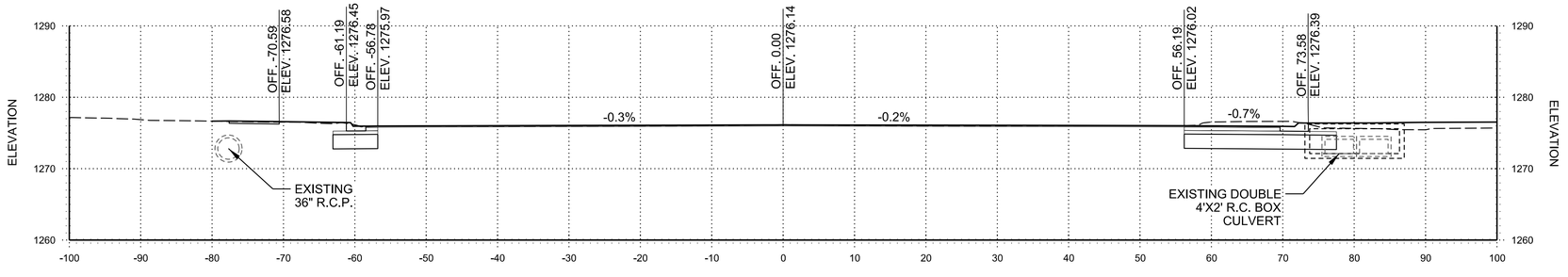

16+50

STA. 16+50 TO STA. 17+13

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BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

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JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: LTF
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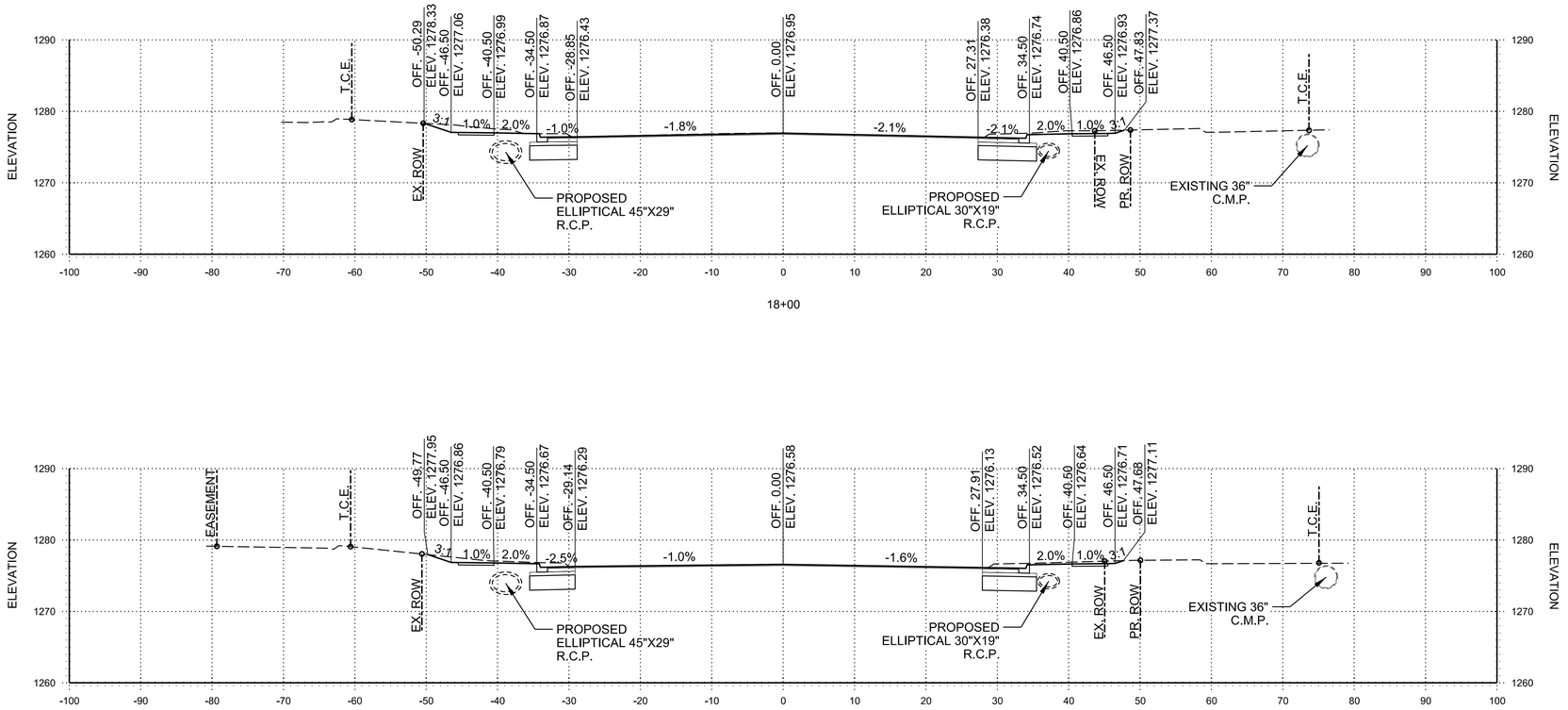

STA. 17+40 TO STA. 18+00

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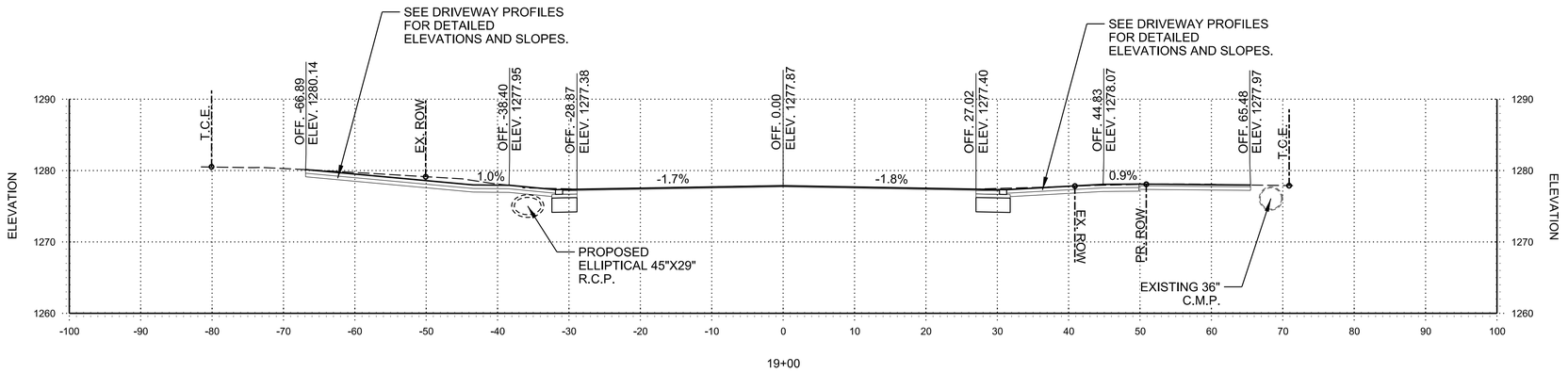

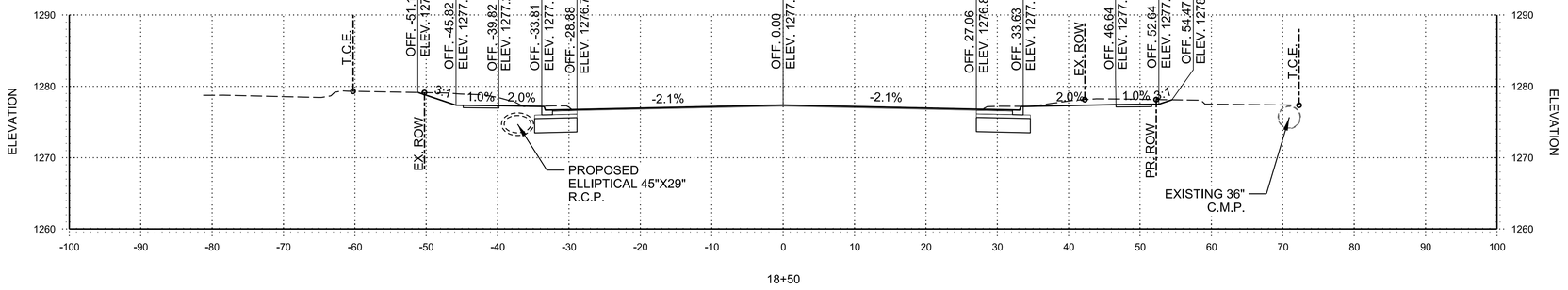

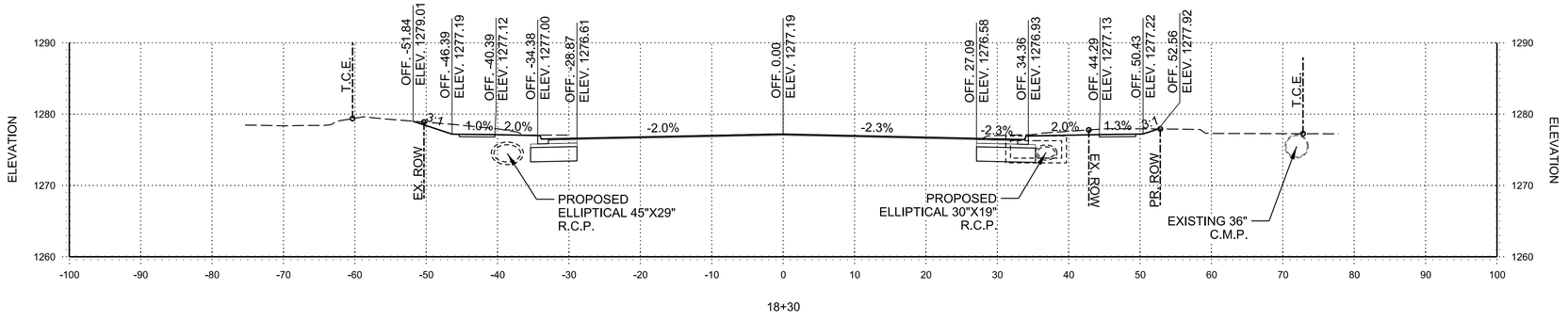

STA. 18+30 TO STA. 19+00

GARVER

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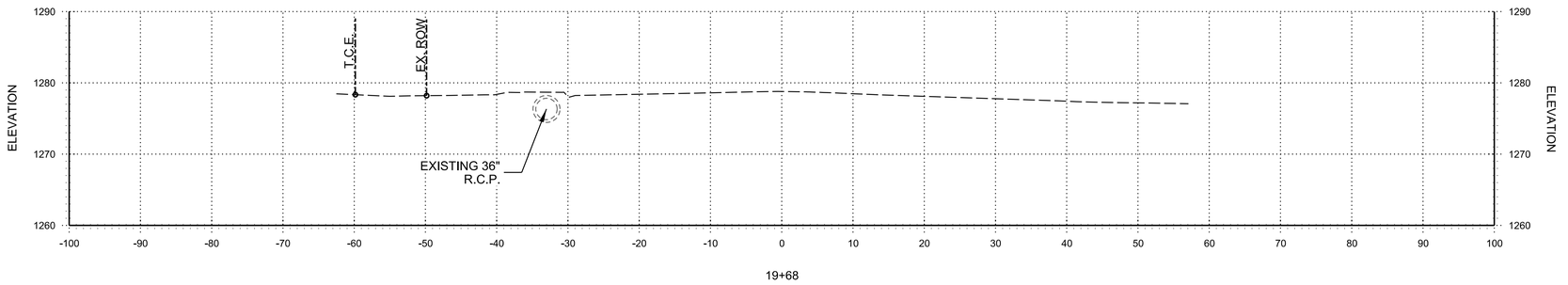

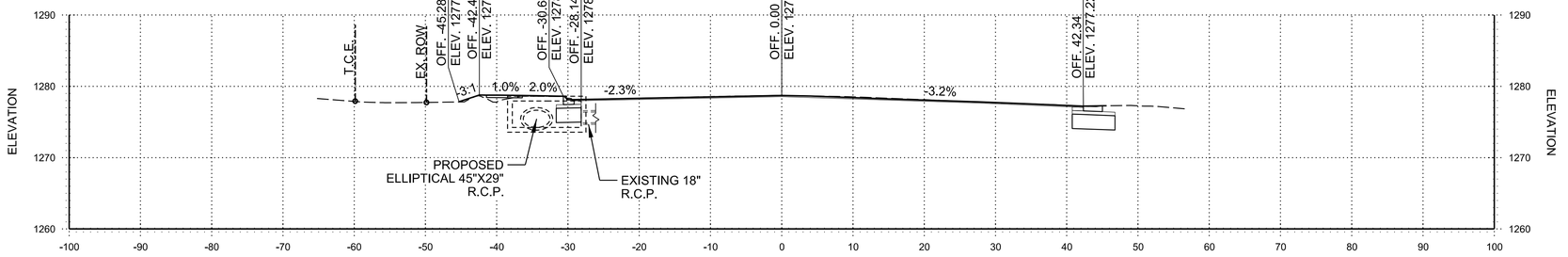

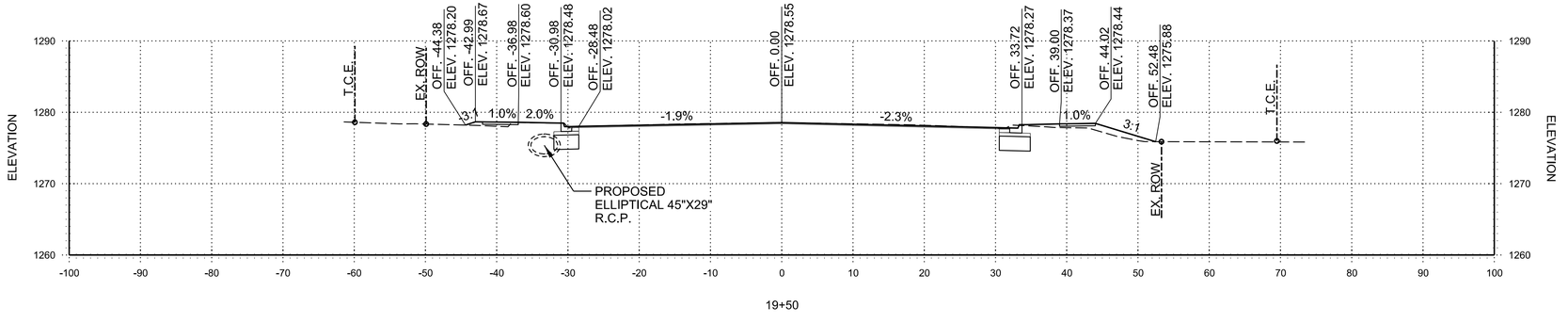

STA. 19+50 TO STA. 19+68

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BENTONVILLE, ARKANSAS

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SE DODSON ROAD / SE J STREET CROSS SECTIONS

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: LTF
DRAWN BY: LTF

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
X-108

JAAdams 5/13/2022 1:18:59 PM
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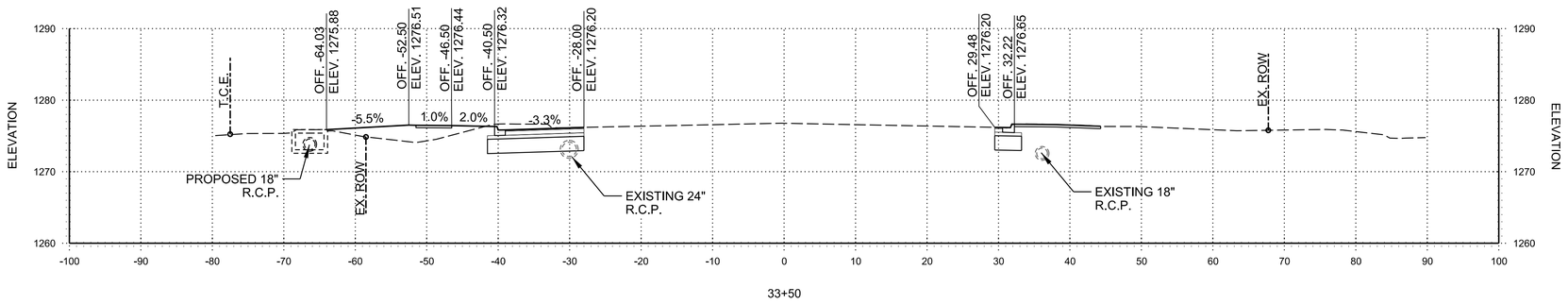
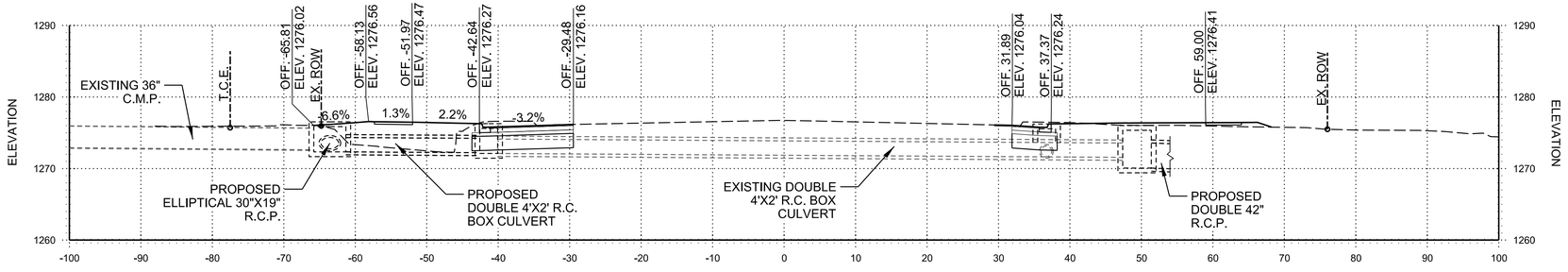
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_X101_CX.dgn
REVISED DATE:



33+50



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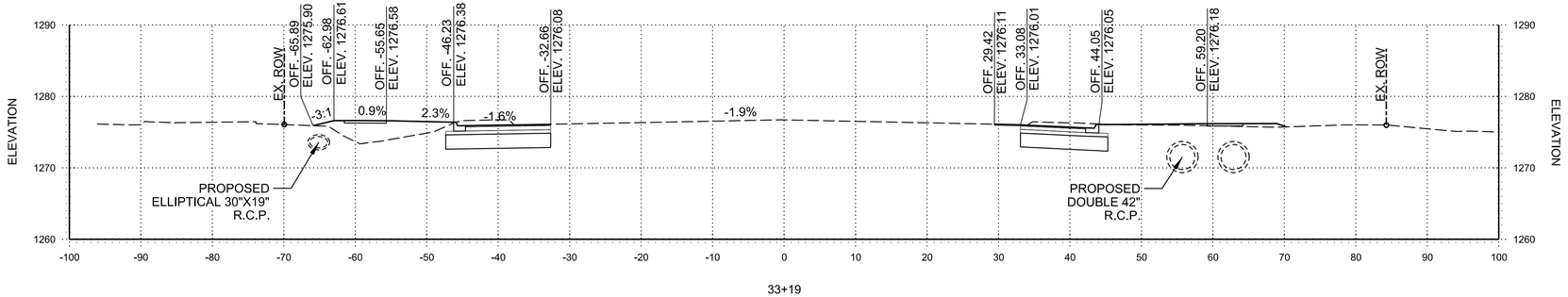

33+19

STA. 33+19 TO STA. 33+50

FINAL PLANS
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE WALTON BOULEVARD CROSS SECTIONS

JOB NO.: 21T21090
DATE: MAY 2022
DESIGNED BY: LTF
DRAWN BY: LTF

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
X-201

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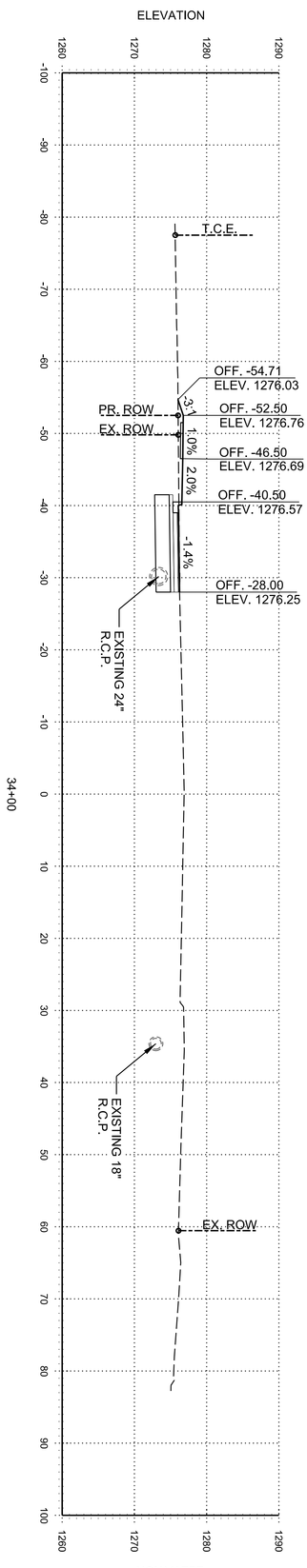
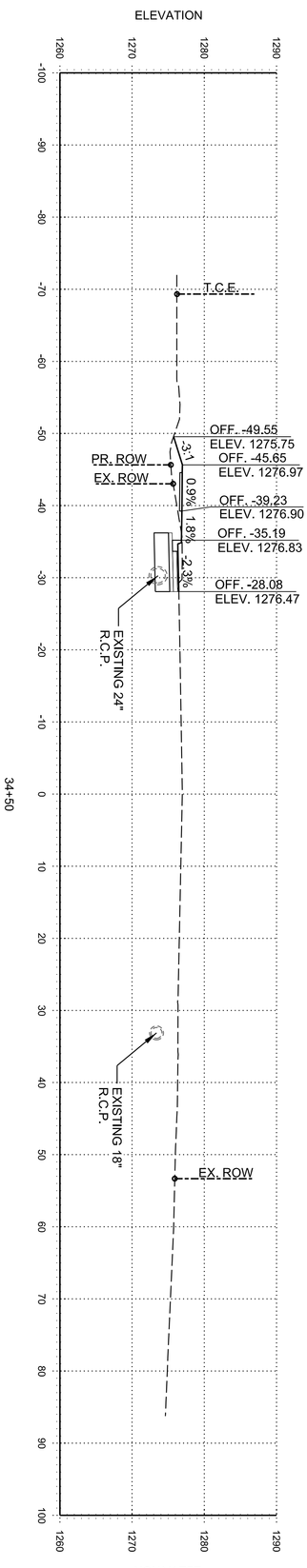
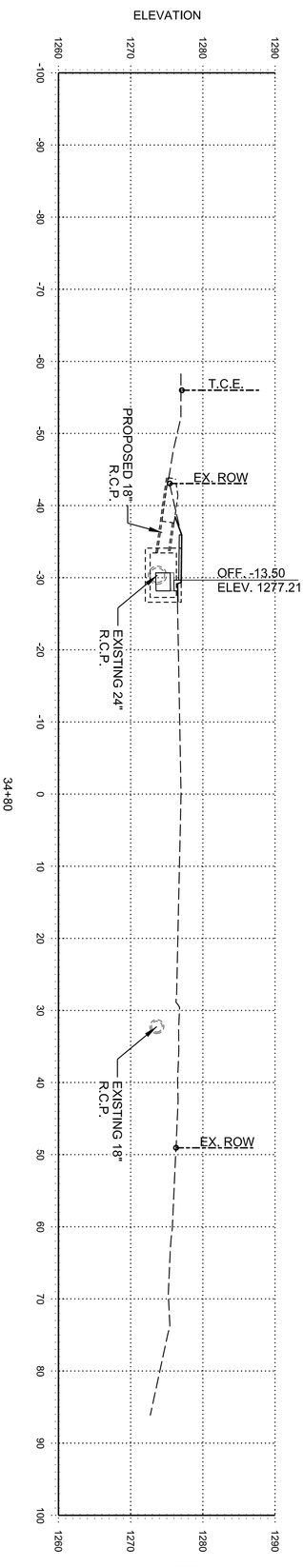
REVISED DATE:

STA. 34+00 TO STA. 34+80





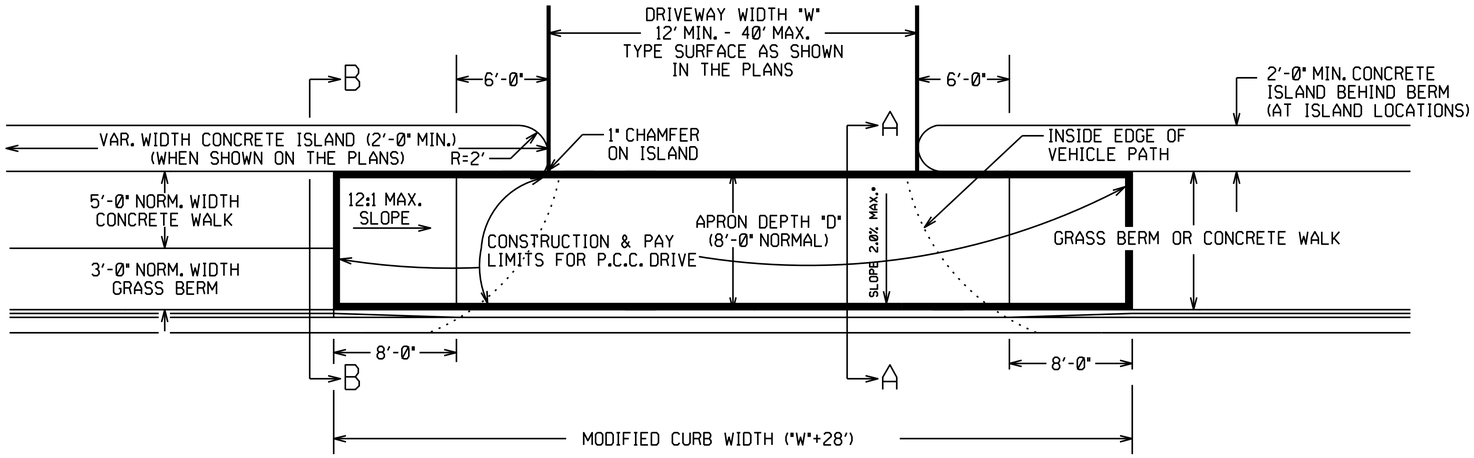


JOB NO.: 21T21090	SE WALTON BOULEVARD CROSS SECTIONS	CITY OF BENTONVILLE BENTONVILLE, ARKANSAS WALTON BOULEVARD AND J STREET IMPROVEMENTS	THE CITY OF BENTONVILLE
DATE: MAY 2022			
DESIGNED BY: LTF			
DRAWN BY: LTF			
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY			
X-202 DRAWING NUMBER			

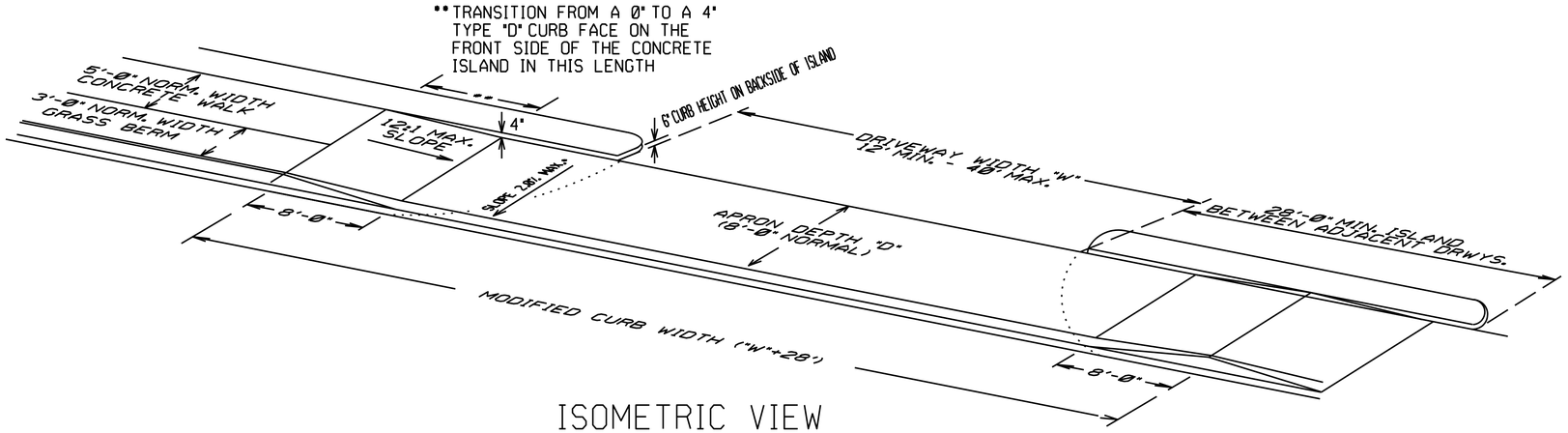
REV.	DATE	DESCRIPTION	BY

FINAL PLANS
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

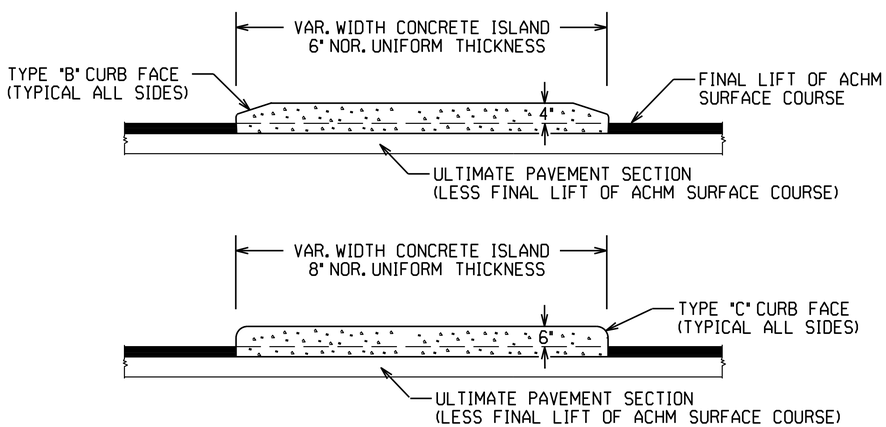
GARVER



PLAN VIEW

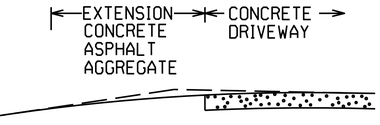


ISOMETRIC VIEW



CURBED ISLANDS FOR CHANNELIZATION

REFER TO PLANS FOR TYPE OF CURB FACE TO BE USED. NO DIRECT PAYMENT WILL BE MADE FOR THE CURB FACES SHOWN ON THE ISLAND DETAILS. PAYMENT FOR THE CURB FACE WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEM "CONCRETE ISLAND".



EXTENSION TYPICAL SECTIONS

1: CONCRETE - 6" P.C. CONCRETE DRIVEWAY

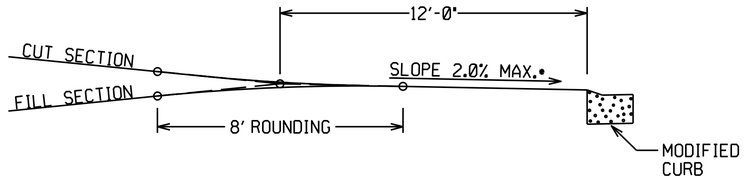
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE (1") OR
4" ACHM BASE COURSE (1-1/2")

3: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
7" AGGREGATE BASE COURSE

4: AGGREGATE - 6" AGGREGATE BASE COURSE

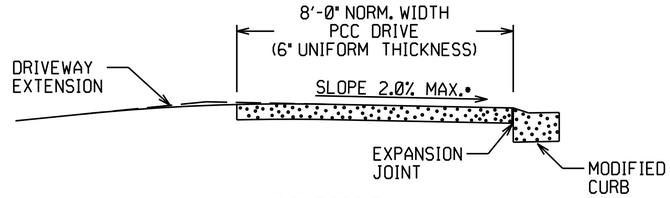
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

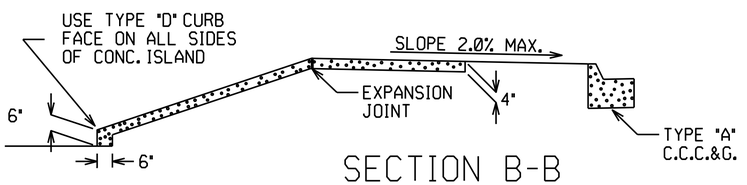


DRIVEWAY VERTICAL ALIGNMENT DETAILS

- NOTE: DRIVEWAYS MAY NOT BE SLOPED AWAY FROM THE ROADWAY UNLESS APPROVED BY THE ENGINEER.



SECTION A-A



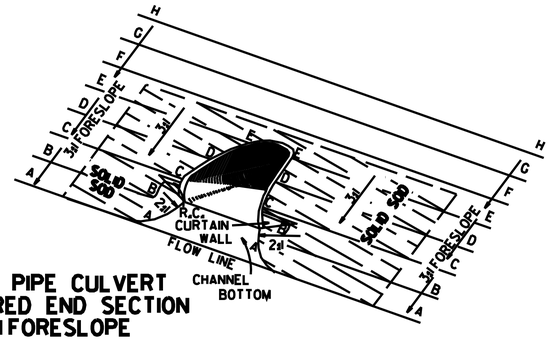
SECTION B-B
CURBED ISLAND BEHIND WALK

DATE REV	DATE FILMED	DESCRIPTION
11-07-19		REVISED WALK DETAILS
2-27-14		REVISED PLAN & ISOMETRIC VIEW
11-29-07		ADDED CHANNELIZATION ISLAND WITH TYPE C CURB FACE & REVISED DRIVEWAY SLOPE NOTE & VERTICAL ALIGNMENT DETAIL
11-10-05		REV. APRON SLOPE & DEPTH OF AGG. BASE.
8-22-02		ADDED ISLAND DETAILS & NOTES
3-30-00		REV. MOD. CURB WIDTH & TRANS. NOTE
11-19-98		REVISED NOTES
11-18-98		REDRAWN AND REISSUED

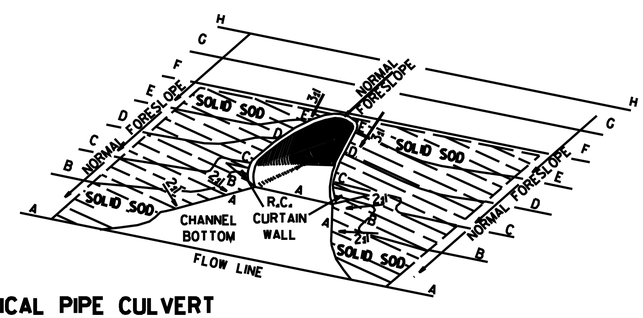
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DRIVEWAYS & ISLANDS

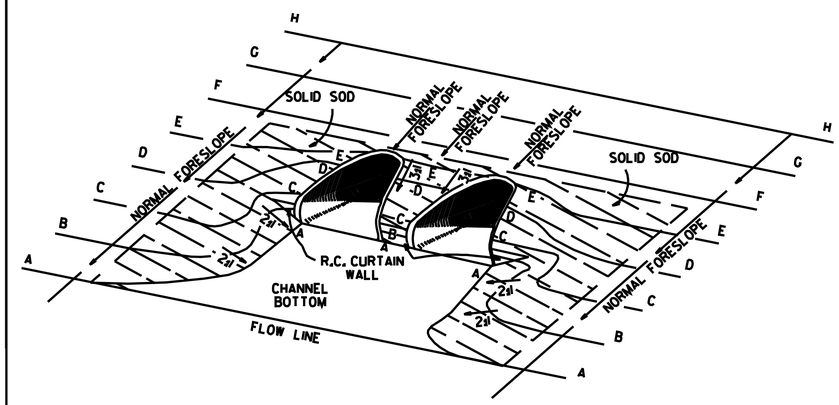
STANDARD DRAWING DR-1



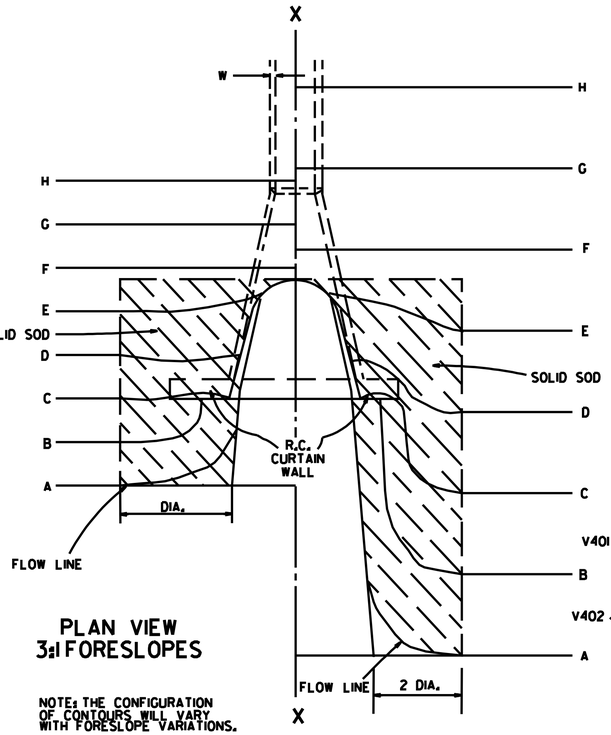
TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& 3:1 FORESLOPE



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



TYPICAL MULTIPLE PIPE CULVERT
WITH FLARED END SECTIONS
& FLATTENED ADJACENT SLOPES



PLAN VIEW
3:1 FORESLOPES

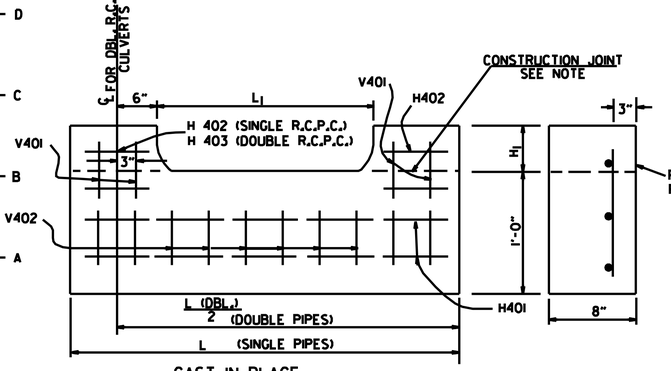
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES

R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

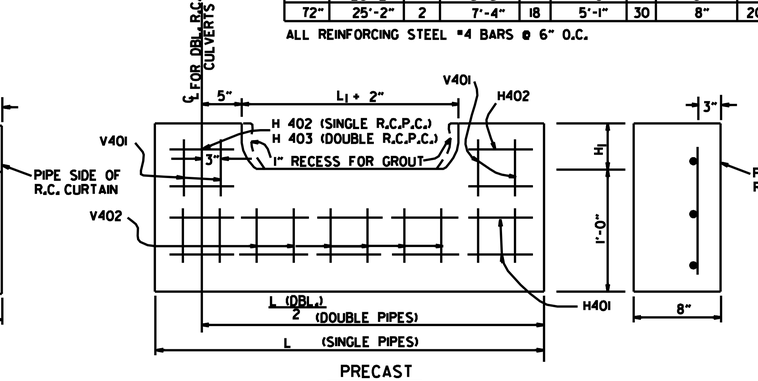
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C. CONC. CU. YDS.	SINGLE R.C.P.C. REINF. STEEL LBS.	DOUBLE R.C.P.C. CONC. CU. YDS.	DOUBLE R.C.P.C. REINF. STEEL LBS.
18"	11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1½"	7'-3"	15'-6"	12'-0"	0.82	77.1	1.10	100.7
48"	2'-5"	7'-10"	17'-0"	13'-0"	0.98	94.9	1.27	120.4
54"	2'-9½"	8'-5"	18'-6"	14'-0"	1.16	115.8	1.47	143.7
60"	3'-4"	9'-0"	20'-6"	15'-6"	1.47	149.7	1.84	180.3
72"	4'-5"	10'-2"	25'-6"	18'-6"	2.31	232.6	2.73	271.0

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



CAST-IN-PLACE

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



PRECAST

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

R.C. CURTAIN WALL DETAILS

REINFORCING STEEL SCHEDULE

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

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

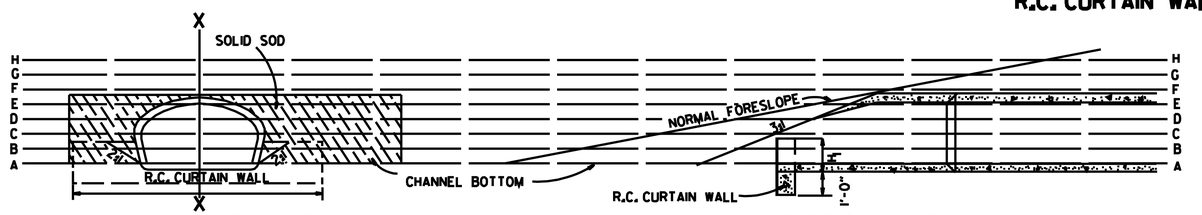
SOLID SODDING

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

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

GENERAL NOTES

1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE; FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾".
3. CONCRETE FOR CURTAIN WALL SHALL MEET THE REQUIREMENTS FOR CLASS A OR S CONCRETE AS PROVIDED IN SECTION 802 OF THE STANDARD SPECIFICATIONS OR FOR PAVING CONCRETE AS PROVIDED IN SECTION 501 OF THE STANDARD SPECIFICATIONS.
4. WELDED WIRE MESH 3 x 3 W10 x W10 MAY BE USED IN LIEU OF REINFORCING BARS.



END VIEW

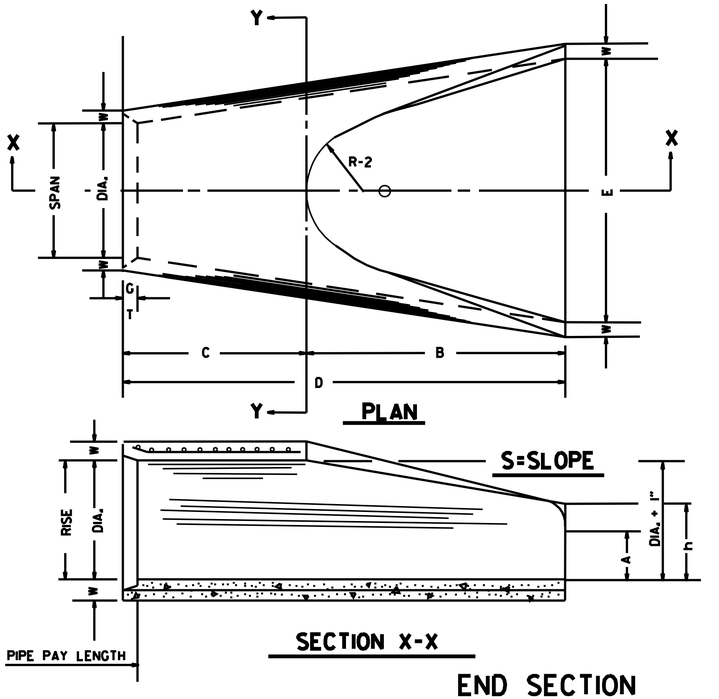
SECTIONAL VIEW "X-X"

DATE	REVISION	FILMED
10-18-96	ADDED NOTE TO SOLID SODDING	
10-12-95	CORRECTED SPELLING	
11- 3-94	ADDED GENERAL NOTE NO. 4	
8-15-91	REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.	
3-2-81	ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES	
5-15-80	ADDED PRECAST WALL & GENERAL NOTES	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

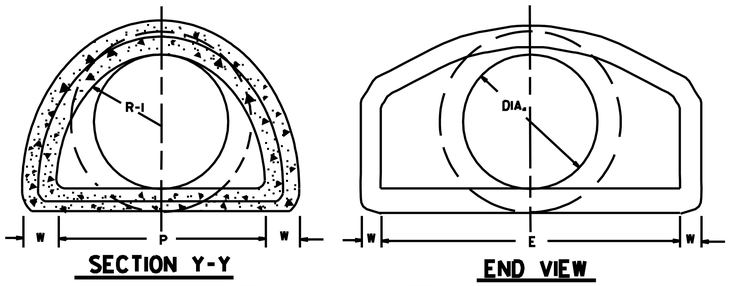
STANDARD DRAWING FES-1



END SECTION FOR REINFORCED CONCRETE PIPE CULVERTS

TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h
18"	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3st	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-7½"	2'-6"	6'-1½"	4'-0"	3st	25"	33⅜"	16⅛"	14"	2½"	1600	1'-1½"
30"	3½"	1'-0"	4'-6"	1'-7¾"	6'-1¾"	5'-0"	3st	31"	37"	18½"	15"	3¼"	1940	1'-4⅝"
36"	4"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	6'-0"	3st	37"	47⅛"	24⅝"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3st	43"	53⅛"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3st	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3st	55"	65½"	33⅛"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3st	61"	72½"	36⅛"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3st	73"	77⅛"	38⅝"	24"	5"	13250	4'-6"

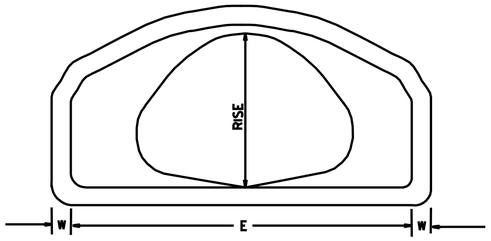


NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

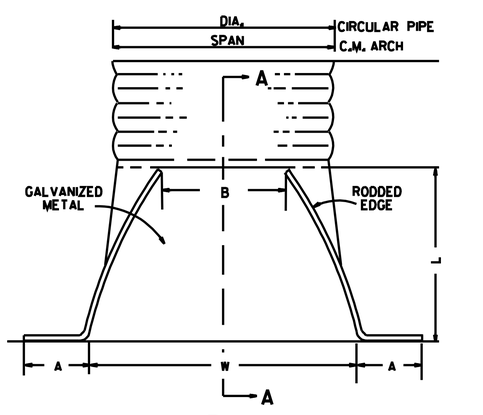
ARCH PIPE

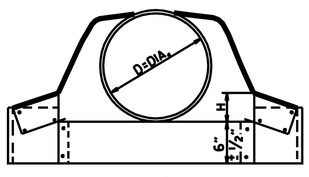
EQUIV. DIA.	• SPAN AASHTO M 206	• SPAN AHD NOMINAL	• RISE AASHTO M 206	• RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2¼st
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2¼st
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2¼st
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36⅛"	15"	2½"	2¼st
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47⅛"	20"	3"	2¼st
36	43¾	44	26⅝	27	4"	10½"	4'-0"	2'-1½"	6'-1½"	6'-6"	54⅞"	22"	3½"	2¼st
42	51⅛	51	31⅝	31	4½"	11½"	4'-7"	1-10¼"	6'-5¼"	7'-2"	59½"	23"	3¾"	2¼st
48	58½	59	36	36	5"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	7'-10"	70⅜"	24"	4¼"	2¼st
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72⅛"	24"	4¾"	2¼st
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77⅛"	24"	5"	2¼st

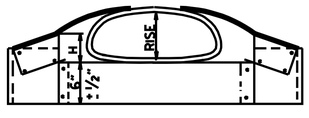
• THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.



END VIEW
CONCRETE ARCH PIPE







CIRCULAR PIPE

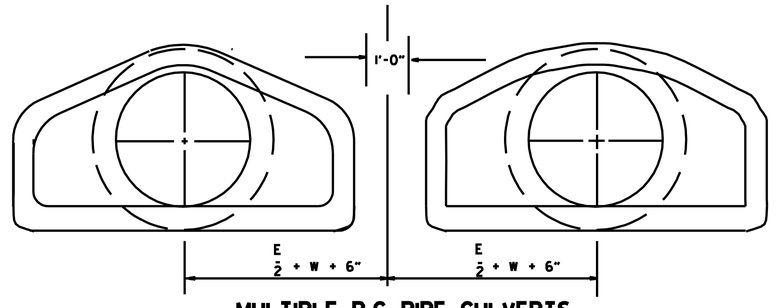
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½st
15	16	7	8	6	26	30	2½st
18	16	8	10	6	31	36	2½st
21	16	9	12	6	36	42	2½st
24	16	10	13	6	41	48	2½st
30	14	12	16	8	51	60	2½st
36	14	14	19	9	60	72	2½st
42	12	16	22	11	69	84	2½st
48	12	18	27	12	78	90	2½st
54	12	18	30	12	84	102	2st
60	12	18	33	12	87	114	1½st
66	12	18	36	12	87	120	1½st
72	12	18	39	12	87	126	1 1/3st

C.M. ARCH PIPE

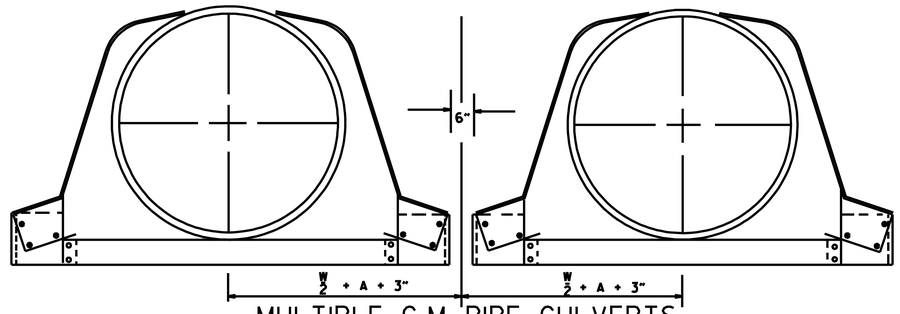
EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2½st	16
18"	21	15	7	10	6	23	36	2½st	16
21"	24	18	8	12	6	28	42	2½st	16
24"	28	20	9	14	6	32	48	2½st	16
30"	35	24	10	16	6	39	60	2½st	14
36"	42	29	12	18	8	46	75	2½st	14
42"	49	33	13	21	9	53	85	2½st	12
48"	57	38	18	26	12	63	90	2½st	12
54"	64	43	18	30	12	70	102	2½st	12
60"	71	47	18	33	12	77	114	2½st	12

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

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



MULTIPLE R.C. PIPE CULVERTS



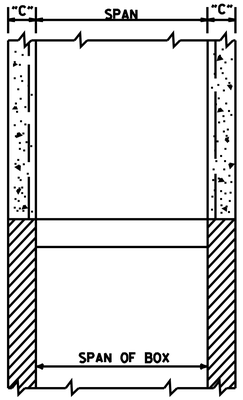
MULTIPLE C.M. PIPE CULVERTS

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

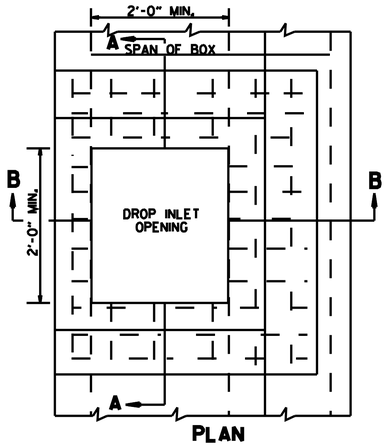
ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

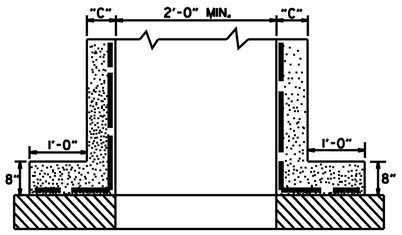
STANDARD DRAWING FES-2



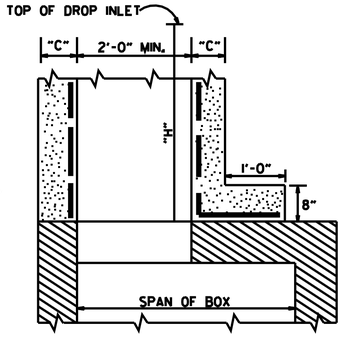
SECTION B-B



PLAN

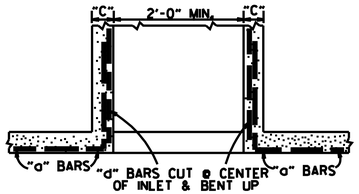


SECTION A-A

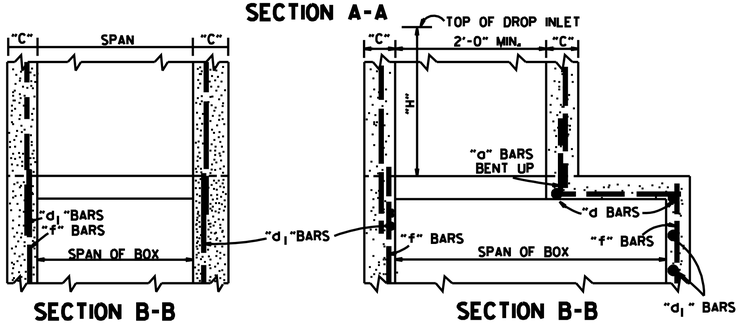


SECTION B-B

METHOD OF CONSTRUCTING DROP INLET ON EXISTING R.C. BOX CULVERT



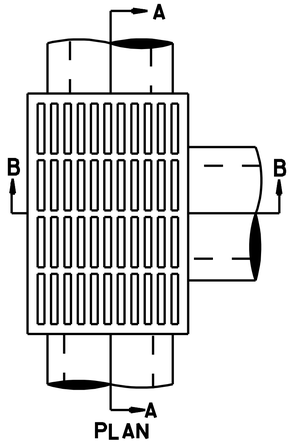
SECTION A-A



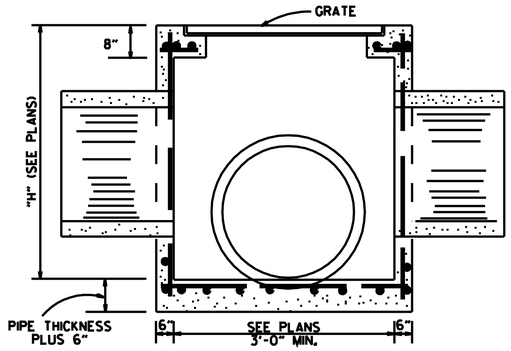
SECTION B-B SECTION B-B

METHOD OF CONSTRUCTING DROP INLET ON NEW R.C. BOX CULVERT

NOTE: "C" DIMENSIONS AND REINFORCING BAR SIZES, SHALL CONFORM TO THOSE SHOWN ON STANDARD DRAWING FOR DROP INLET.

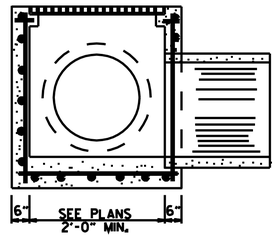


PLAN



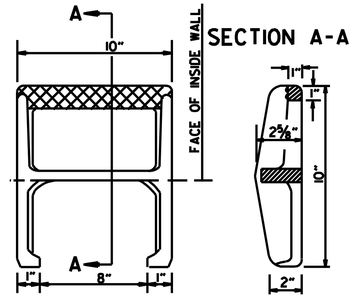
SECTION A-A

NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1½" MIN. COVER. THIS TYPE DROP INLET TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.



SECTION B-B

DROP INLET (TYPE E)

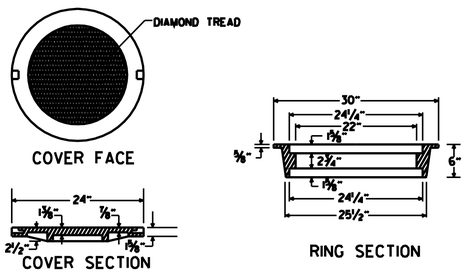


APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

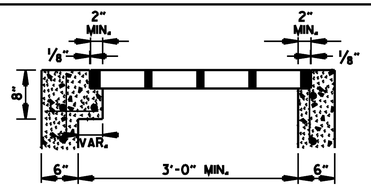
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET

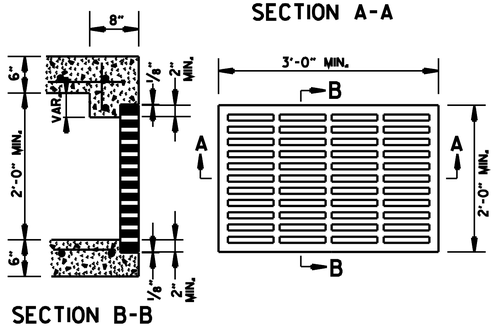


APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER



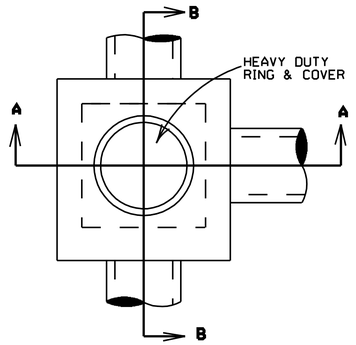
SECTION A-A



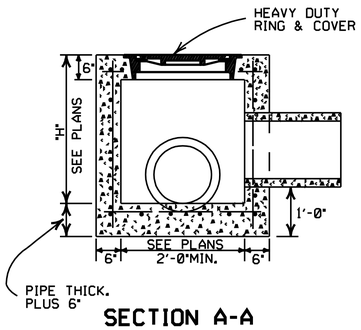
SECTION B-B

APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

GRATE FOR TYPE E DROP INLET

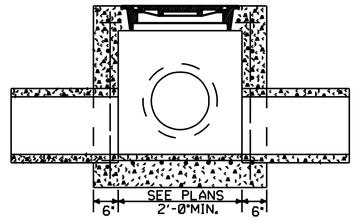


PLAN



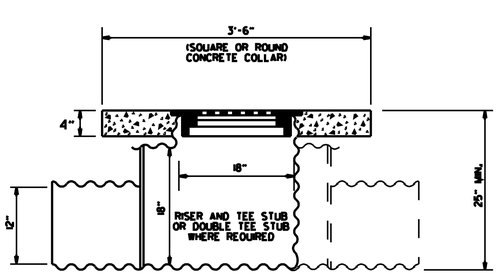
SECTION A-A

NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1½" MIN. COVER. THIS TYPE JUNCTION BOX TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.

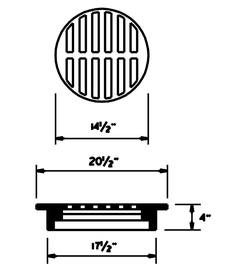


SECTION B-B

JUNCTION BOX (TYPE E)



NOTE: CONCRETE COLLAR TO BE CAST IN PLACE. 12" PIPE CULVERTS TO BE MEASURED AND PAID FOR AS " 12" SIDE DRAIN ".



USE NEENAH R-5901-C OR EQUIVALENT BICYCLE SAFE FRAME AND GRATE

DETAIL OF YARD DRAIN

GENERAL NOTES:

1. ALL EXPOSED CORNERS SHALL BE ¾" CHAMFERED.
2. STEPS SHALL BE INSTALLED ON 16" CENTERS ON ALL INLETS 4'-0" HIGH OR OVER, OR AS APPROVED BY THE ENGINEER.
3. EXPANSION JOINT MATERIAL SHALL BE ¾" PREFORMED FIBER.
4. GRATE OR GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B. GRATE MAY BE USED WITHOUT FRAME.
5. GRATE AND FRAME SHALL NOT BE PAINTED.
6. GRATE SHALL BE BICYCLE SAFE.
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
9. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
10. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

DATE REV.	REVISION	DATE FILMED
11-16-01	ADDED NOTE 10	
1-12-00	REVISED HEAVY DUTY RING & COVER	
7-02-98	CHANGED GRATE DETAIL, DELETED DI(TYPE D), REPLACED RING & COVER W/HEAVY DUTY RING & COVER, ADDED JUNCTION BOX (TYPE E)	
6-26-97	ADDED DIMENSION TO TYPE IV-A	
10-18-96	ADDED DETAIL OF YARD DRAIN	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
5-22-74	DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS & JUNCTION BOXES

STANDARD DRAWING FPC-9

4'-0" LENGTH DROP INLET

PIPE SIZE	MIN. WIDTH	HEIGHT 5'-0" CLASS A CONC.	HEIGHT 5'-0" REINF. STEEL	PLUS OR MINUS PER LIN. FT. OF HEIGHT CLASS A CONC.	PLUS OR MINUS PER LIN. FT. OF HEIGHT REINF. STEEL
		CU. YDS.	POUNDS	CU. YDS.	POUNDS
18"	2'-6"	1.77	156	0.28	22
24"	2'-6"	1.79	156	0.28	22
30"	3'-2"	2.39	205	0.30	26
36"	3'-8"	2.63	236	0.32	28
42"	4'-4"	2.95	250	0.34	30
48"	4'-10"	3.21	265	0.36	32

NOTE: QUANTITIES ARE APPROXIMATE AND ARE SHOWN FOR BIDDER INFORMATION ONLY.

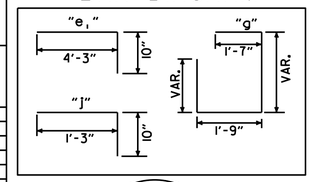
DROP INLET EXTENSION

4'-0" CLASS A CONC.	4'-0" REINF. STEEL	8'-0" CLASS A CONC.	8'-0" REINF. STEEL
CU. YDS.	POUNDS	CU. YDS.	POUNDS
0.58	38	0.87	72
DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED.			
0.04	3		

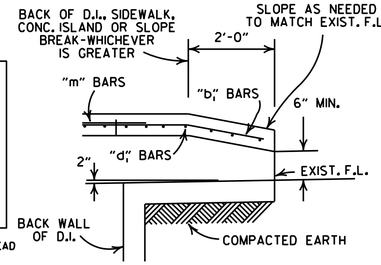
DEDUCT FROM QUANTITY COMPUTED FOR EACH PIPE ENTERING INLET

INSIDE DIA. PIPE	CLASS A CONC.	REINF. STEEL
INCHES	CU. YDS.	POUNDS
18	0.05	2
24	0.09	3
30	0.13	4
42	0.24	8

BAR DIAGRAM

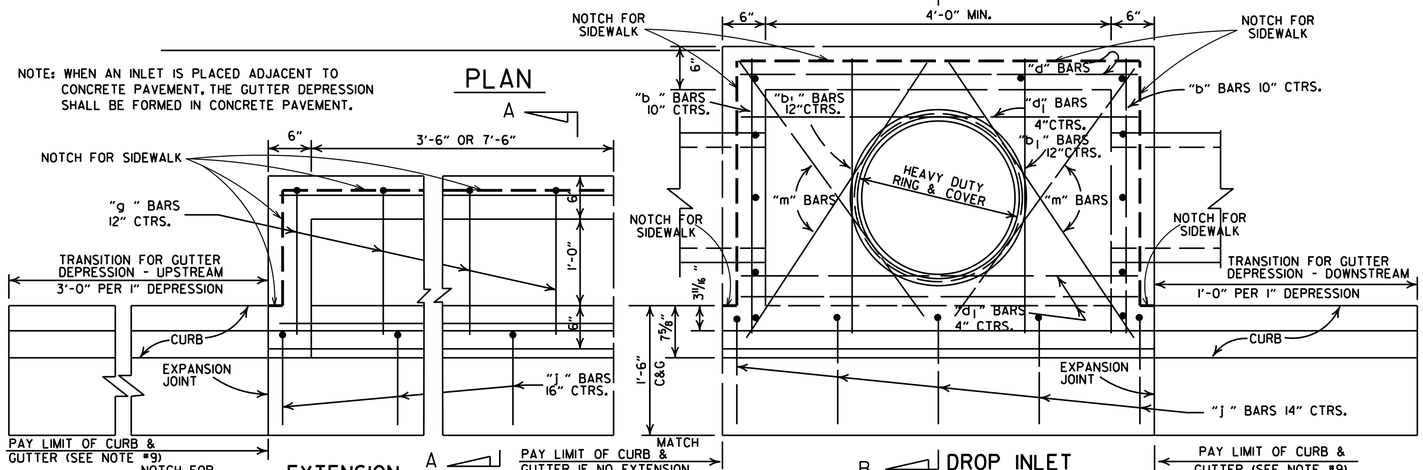


BACK OPENING

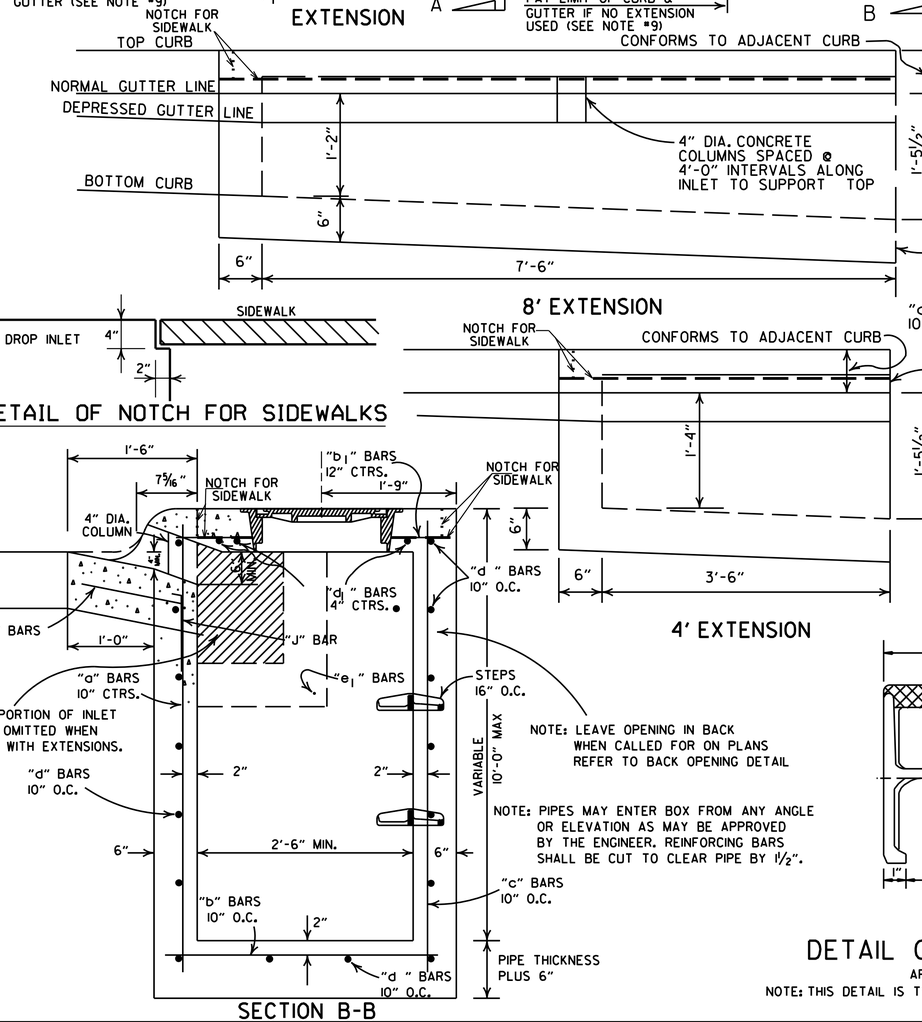


WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE C).

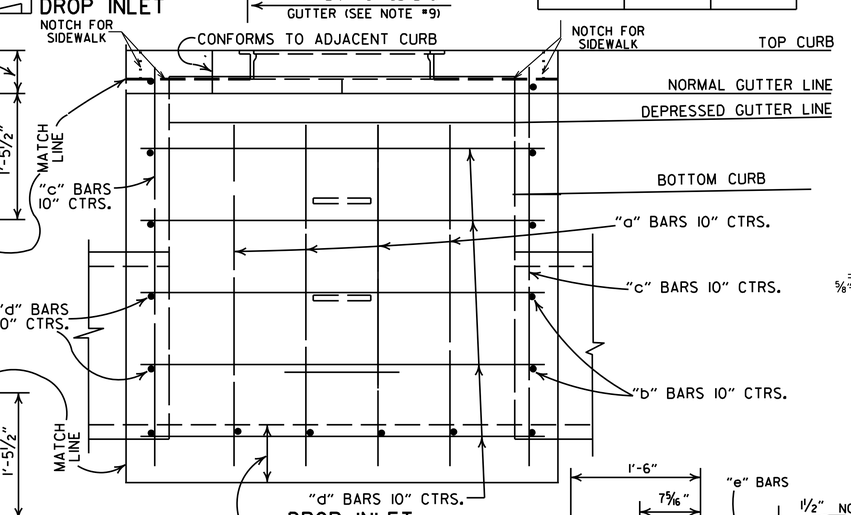
PLAN



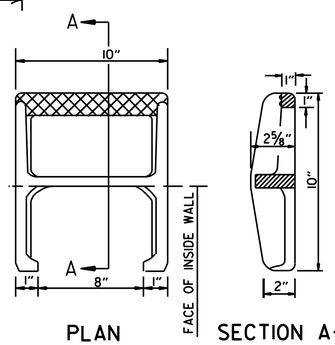
EXTENSION



DROP INLET



ELEVATION



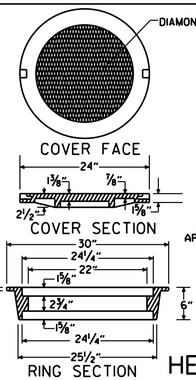
PLAN SECTION A-A

DETAIL OF STEP FOR DROP INLET

APPROX. WEIGHT = 11 LBS. (CAST IRON)

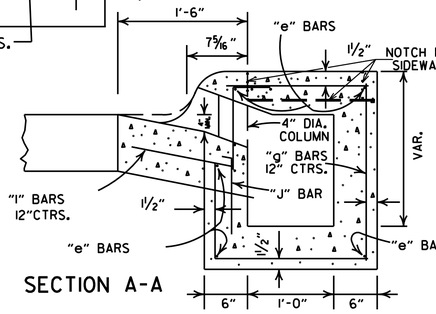
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

SECTION B-B



APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER



SECTION A-A

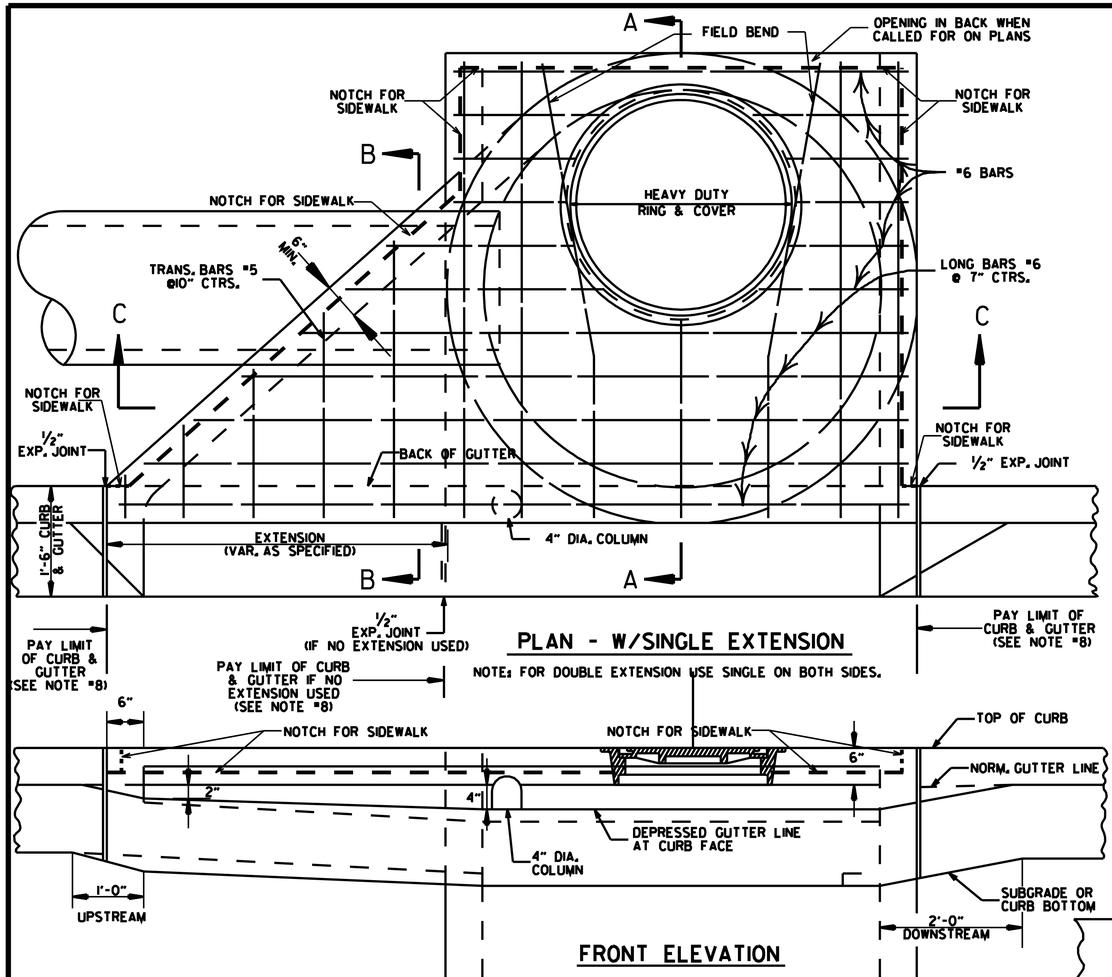
GENERAL NOTES:
1. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OF AS APPROVED BY THE ENGINEER.
3. ALL REINF. BARS SHALL BE #4 AND HAVE 1½" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. THIS DROP INLET MAY BE CONSTRUCTED ON NEW OR EXISTING R.C. BOX CULVERT AS SHOWN ON F.P.C.-9.
6. WHEN PLANS CALL FOR DROP INLET OVER 10'-0" HIGH, FLOOR AND WALLS SHALL BE CONSTRUCTED AS SHOWN FOR TYPE "RM" DROP INLET (FPC-9D).
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
9. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
10. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
11. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
12. 4"×2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

DATE REV.	REVISION	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13; REVISED SECTION B-B	
1-12-00	CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER	
5-13-99	ADDED DETAIL OF NOTCH FOR SIDEWALKS	
7-02-98	REPLACED RING & COVER W/HEAVY DUTY RING & COVER ADDED NOTES 9,10,&11	
10-18-96	CORRECTED SPELLING	
4-26-96	ADDED NOTE 8 & REVISED (4')(8') EXTENSION TITLES	10-18-96
4-1-93	REVISED BACK OPENING & NOTE	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
5-22-74	DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS (TYPE C)

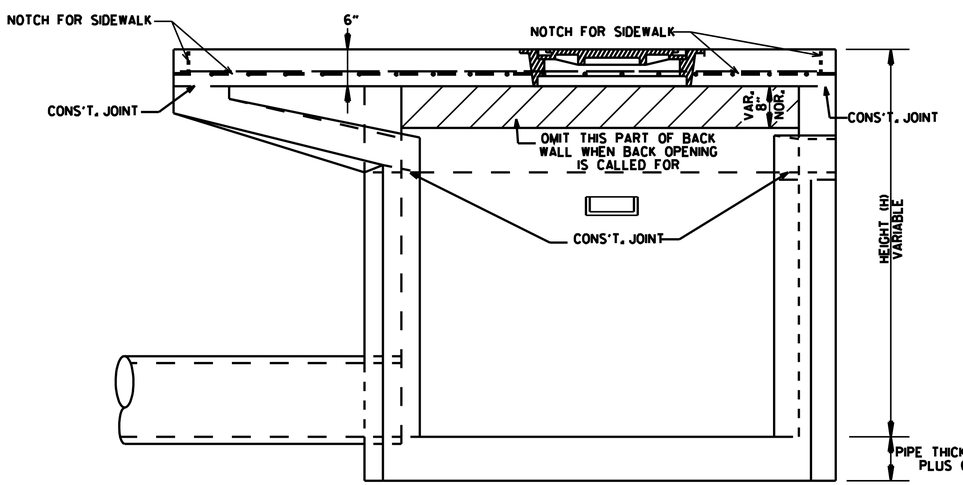
STANDARD DRAWING FPC-9E



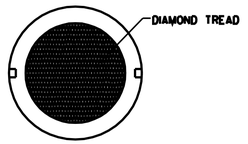
PLAN - W/SINGLE EXTENSION

NOTE: FOR DOUBLE EXTENSION USE SINGLE ON BOTH SIDES.

FRONT ELEVATION



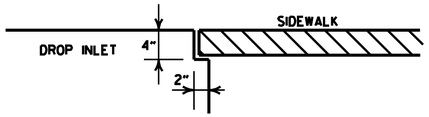
SECTION C-C



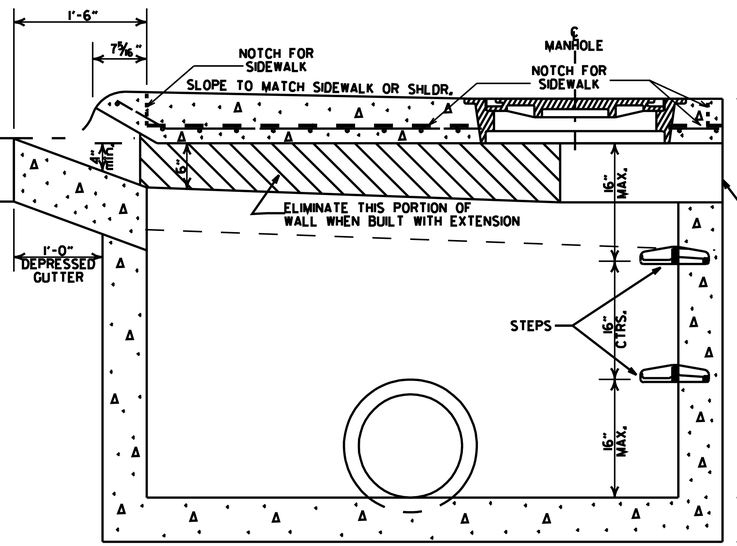
APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

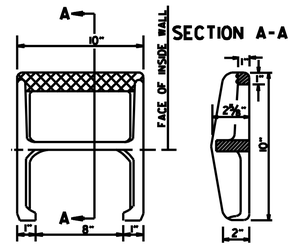
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.



DETAIL OF NOTCH FOR SIDEWALKS



SECTION A-A



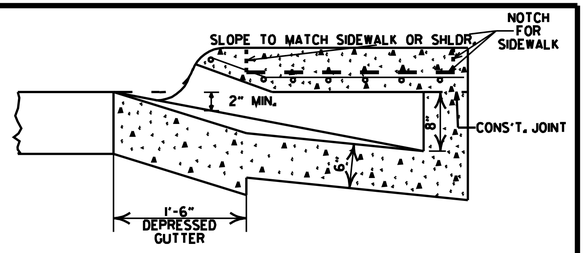
SECTION A-A

APPROX. WEIGHT = 11 LBS. (CAST IRON)

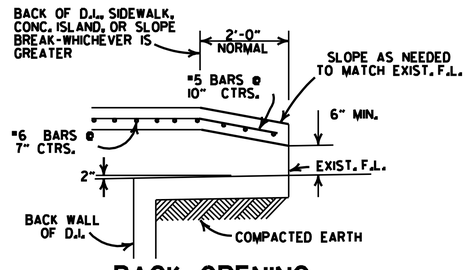
PLAN

NOTE: THIS DETAIL IS TYPICAL, OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET



SECTION B-B



BACK OPENING

WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE MO).

GENERAL NOTES:

1. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OR AS DIRECTED BY THE ENGINEER.
3. ALL REINFORCING BARS SHALL BE GRADE 60 AND HAVE MIN. 1 1/2" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. 4" DIA. COLUMNS SPACED AT MAX. 4'-0" INTERVALS SHALL BE INSTALLED ALONG INLET AND EXTENSION TO SUPPORT TOP.
6. BASE AND INLET WALLS SHALL BE CAST MONOLITHICALLY.
7. THE THROAT SHALL BE CAST INTEGRALLY WITH THE GUTTER.
8. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
9. PIPES MAY ENTER DROP INLET FROM ANY ANGLE OR ELEVATION AS MAY BE APPROVED BY THE ENGINEER.
10. APPROPRIATE SIZE TYPE C DROP INLETS MAY BE SUBSTITUTED FOR TYPE MO DROP INLETS AS APPROVED BY THE ENGINEER. PAYMENT TO BE AS DROP INLET (TYPE MO).
11. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

LEAVE OPENING IN BACK WHEN CALLED FOR ON PLANS REFER TO BACK OPENING DETAIL

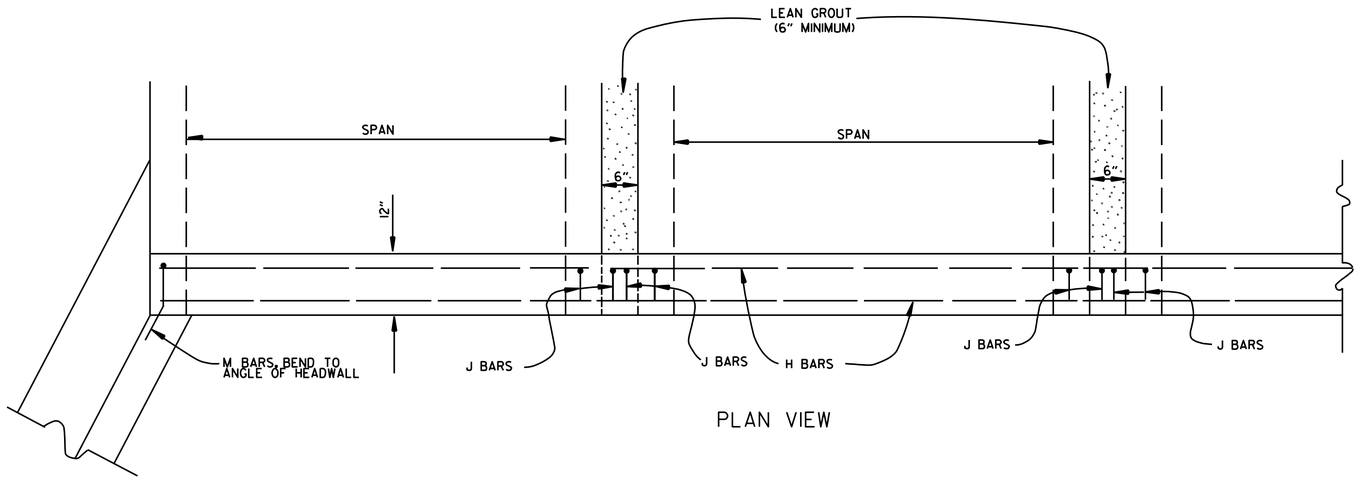
DIA. OF D.I.	DIA. OF OUTLET PIPE	MINIMUM WALL THICKNESS	
		CAST IN PLACE	PRECAST
4' I.D.	12" THRU 27"	6"	5"
5' I.D.	30" THRU 42"	8"	6"
6' I.D.	48" THRU 54"	8"	7"

DATE	REVISIONS	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13	
1-12-00	REVISED HEAVY DUTY RING & COVER	
5-13-99	ADDED NOTCH DETAIL FOR SIDEWALKS	
7-02-98	REP. NOTE 8, REV. PLAN DET., REV. PICTURE FOR NEW RING & COVER, ADDED HEAVY DUTY RING & COVER AND DETAIL OF STEP FOR DROP INLET	
4-26-96	ADDED NOTE 11 & ADJ. OPENING DIMENSION	
10-12-95	CORRECTED *5 BAR SPACING	
7-20-95	CORRECTED DIAMETER OF D.I. IN BOX	
2-2-95	TYPE C TO MO (OPEN BACK DETAIL)	
11-1-94	REVISED GENERAL NOTES	11-1-94
4-1-93	REV. BACK OPEN DETAIL & NOTE	4-1-93
8-16-91	REVISED NOTES 11,12 & ADDED BK.OPEN DETAIL	8-16-91
11-30-89	ADDED NOTE NO. 12	11-30-89
4-21-89	ADDED NOTE 8 & MINIMUM WALL THICKNESS	REV. 4-21-89
7-25-88	ADDED EXTEND NOTE TO SECTION A-A	8-29-88
1-14-87	MODIFIED WALL THICKNESS	783-1-14-87
6-12-87	ISSUED	4-6-12-87

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET (TYPE MO)

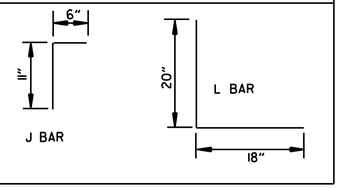
STANDARD DRAWING FPC-9M



PLAN VIEW

BAR LIST

BAR	NO.	SIZE	LENGTH	BAR BENDING DIAGRAM
H	2	#4	•	
I	•	#4	•	
J	•	#4	1'-5"	
L	•	#4	3'-2"	
M	•	#4	1'-8"	



• NOTE: LENGTH AND NUMBER OF BARS VARIES WITH SIZE OF CULVERT

GENERAL NOTES

WINGS, CURTAIN WALLS AND APRONS SHALL BE TIED TO THE PRECAST CULVERT SECTION BY CASTING BARS IN CULVERT END SECTIONS AS SHOWN OR BY DOWELING AND GROUTING. J BARS AND M BARS SHALL BE EMBEDDED A MINIMUM OF 10" IN PRECAST BOX.

WINGS, FOOTINGS, APRONS AND CURTAIN WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE WING DRAWING. STEEL AND CONCRETE QUANTITIES WILL BE ADJUSTED TO FIT THE IN-PLACE WIDTH & HEIGHT OF THE PRECAST CONCRETE BOX CULVERTS.

ALL EXPOSED CORNERS TO HAVE ¾" CHAMFERS.

WINGWALLS AND FOOTINGS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.

ALL CONCRETE, REINFORCING STEEL, LEAN GROUT, MEMBRANE WATERPROOFING, DRAINAGE FILL MATERIAL, GEOTEXTILE FILTER FABRIC, LABOR, MATERIALS AND EQUIPMENT REQUIRED FOR INSTALLING PRECAST BOX CULVERTS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR THE ITEMS AS SPECIFIED IN SECTION 607 OF THE STANDARD SPECIFICATIONS.

LEAN GROUT SHALL CONSIST OF A SAND CEMENT MIXTURE MEETING THE FOLLOWING REQUIREMENTS:
PORTLAND CEMENT SHALL BE TYPE I AND SHALL MEET THE REQUIREMENTS OF AASHTO M 85.
SAND SHALL MEET THE REQUIREMENTS OF FINE AGGREGATE AS SPECIFIED IN SECTION 802.02 OF THE STANDARD SPECIFICATIONS.
THE SAND CEMENT MIXTURE SHALL CONSIST OF NOT LESS THAN 1.5 SACKS OF PORTLAND CEMENT PER TON OF MATERIAL MIXTURE.
THE MIXTURE SHALL CONTAIN SUFFICIENT WATER TO HYDRATE THE CEMENTS. THE SAND CEMENT MIXTURE SHALL BE PLACED IN MAXIMUM 8 INCH THICK LIFTS, LOOSE MEASURE, AND THOROUGHLY RODDED AND TAMPED AROUND BOX TO THOROUGHLY FILL ALL VOIDS.

MEMBRANE WATERPROOFING CONFORMING TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS SHALL BE APPLIED TO ALL BOX CULVERT JOINTS.

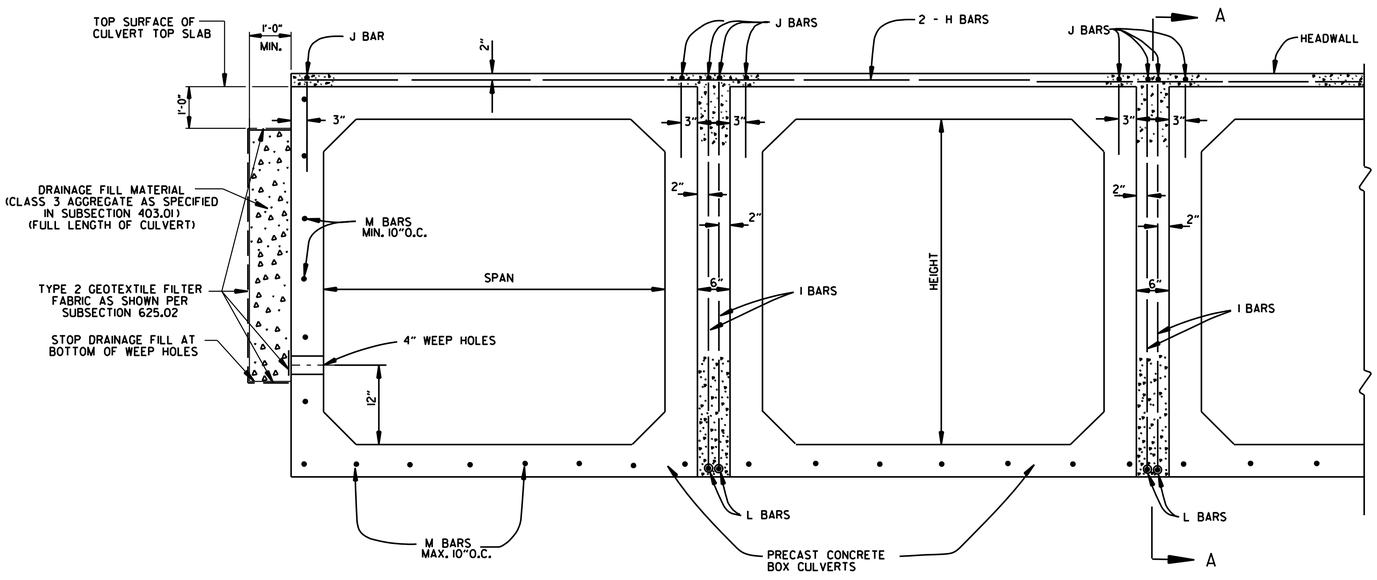
THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

IN OUTER BARRELS, ONE WEEP HOLE IS REQUIRED IN EXTERIOR WALLS OF EACH PRECAST CULVERT SECTION. WEEP HOLES SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" IN THE ASSEMBLED CULVERT AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

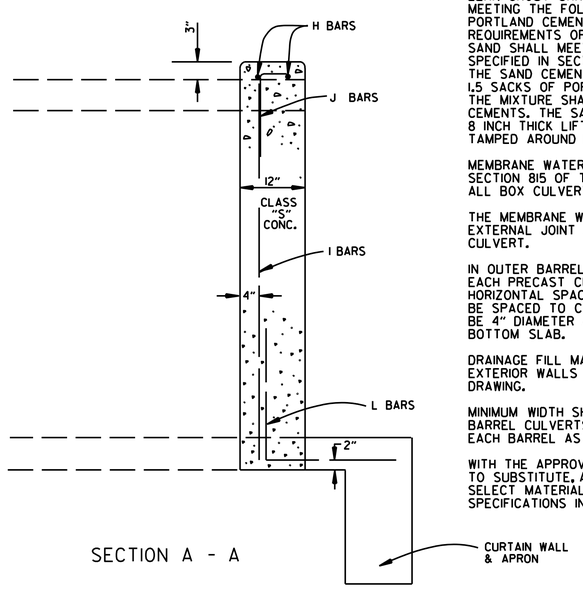
DRAINAGE FILL MATERIAL WITH GEOTEXTILE FABRIC IS REQUIRED AT THE EXTERIOR WALLS OF THE ASSEMBLED CULVERT, SEE DETAILS ON THIS DRAWING.

MINIMUM WIDTH SHALL BE 12" (6" ON EACH SIDE OF JOINT). ON MULTIPLE BARREL CULVERTS, MEMBRANE WATERPROOFING SHALL BE APPLIED TO EACH BARREL AS DESCRIBED ABOVE.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, FLOWABLE SELECT MATERIAL CONFORMING TO SECTION 206 OF THE STANDARD SPECIFICATIONS IN LIEU OF LEAN GROUT.



END VIEW



SECTION A - A

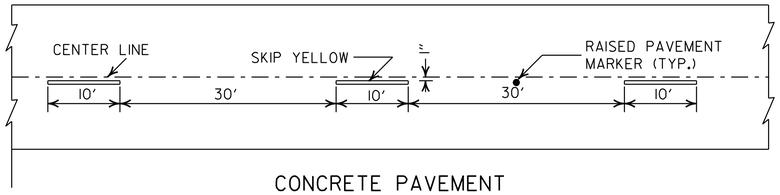
DATE	REVISION	DATE FILMED
1-28-15	REVISED GEOTEXTILE FABRIC PLACEMENT	
12-15-11	ADDED NOTE & DTLS FOR WEEP HOLE AND DRAINAGE FILL	
10-15-09	ADDED GENERAL NOTE	
11-10-05	REVISED SPACING OF "M" BARS	
4-10-03	REVISED GENERAL NOTES	
10-18-96	CORRECTED AASHTO REF.	
10-1-92	ADDED NOTE FOR MEMBRANE WATERPROOFING	
8-15-91	ADDED NOTE FOR LEAN GROUT	
11- 8-90	REVISED FOR 1991 SPECS	
11-30-89	ISSUED; JABE	

ARKANSAS STATE HIGHWAY COMMISSION

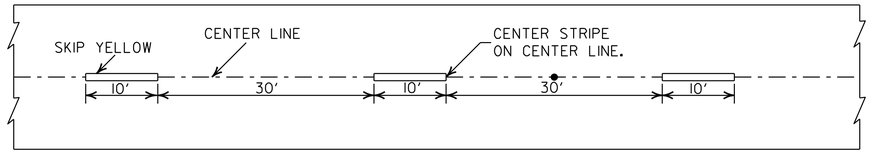
PRECAST CONCRETE BOX CULVERTS

STANDARD DRAWING PBC-1

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.

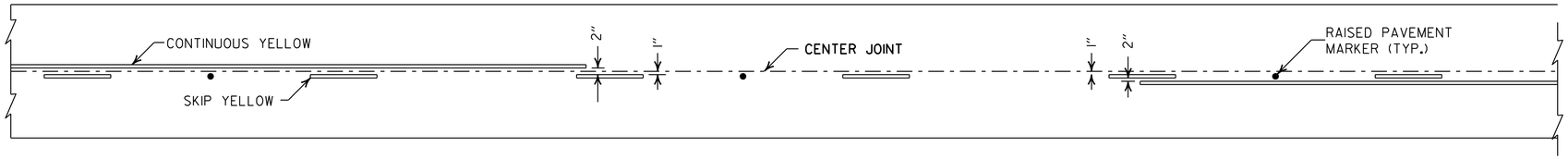


CONCRETE PAVEMENT

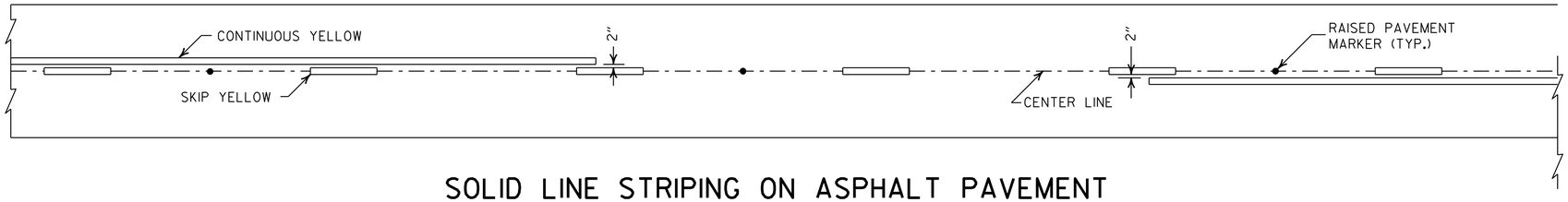


ASPHALT PAVEMENT

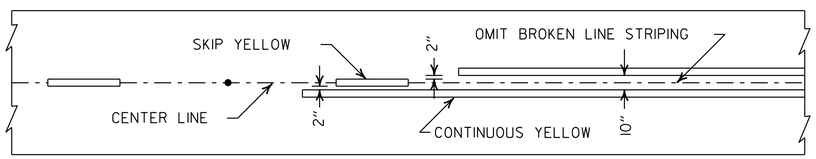
BROKEN LINE STRIPING



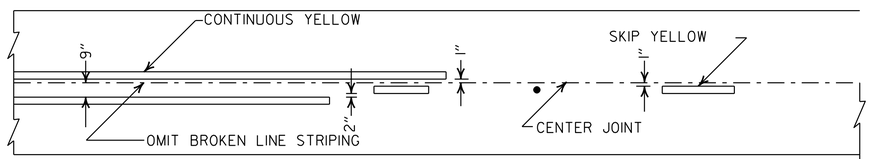
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

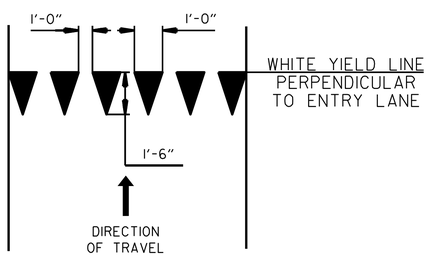


ASPHALT PAVEMENT

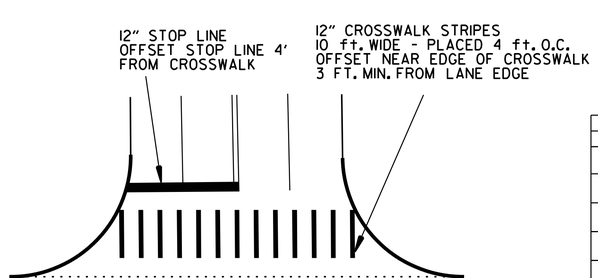


CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

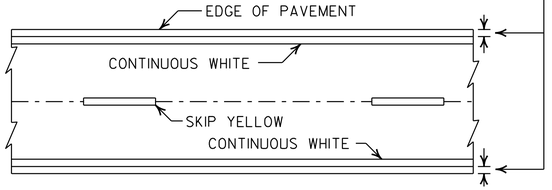


YIELD LINE DETAIL



CROSSWALK AND STOP LINE DETAILS

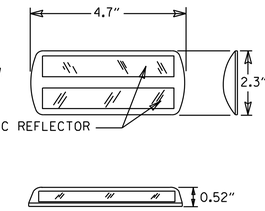
2" FOR ASPHALT OR CONCRETE PAVEMENT
6" FOR BITUMINOUS SURFACE TREATMENT



PAVEMENT EDGE LINE MARKING

NOTE:
THE RED LENS OF THE TYPE II R.P.M. SHALL FACE THE INCORRECT TRAFFIC MOVEMENT.

TYPE II
RED/CLEAR OR
YELLOW/YELLOW



NOTE:
DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE ARDOT QUALIFIED PRODUCTS LIST.

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 DTLS.	
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

LOOP DETECTOR INSTALLATION AND TESTING

NOTES:

1. LOOPS WITH A PERIMETER GREATER THAN 40' SHALL HAVE TWO TURNS. LOOPS WITH A PERIMETER LESS THAN OR EQUAL TO 40' SHALL HAVE THREE TURNS, UNLESS OTHERWISE NOTED ON THE PLANS. QUADRUPOLE LOOPS SHALL BE TWO TURNS IN A (2-4-2 CONFIGURATION), UNLESS OTHERWISE NOTED ON THE PLANS.

2. LOOP AND FEEDER WIRE SHALL BE CONTINUOUS WITHOUT SPLICES EXCEPT AT THE LOOP/FEEDER WIRE SPLICE AS SHOWN. SPLICES SHALL BE ROSIN SOLDERED AND WATERPROOFED WITH AN ACCEPTED SPLICE KIT. A DRIAN WIRE SHALL BE GROUNDED IN THE CABINET AND INSULATED AT THE LOOP TO FEEDER WIRE SPLICE.

3. THE LOOP TO FEEDER WIRE SPLICE, THE FEEDER WIRE JACKET AND LOOP WIRE JACKET IN DUCT SHALL BE COMPLETELY SEALED AND WATERPROOFED.

4. THE CONTRACTOR MAY MAKE CONNECTIONS TO THE SIGNAL CABLE AND LOOP TO FEEDER WIRE CONNECTION AT THE TERMINAL STRIPS MOUNTED TO POLE INSIDE THE HAND HOLD COVER AS SHOWN IN DETAIL. HANDHOLE TERMINALS MUST BE EASILY ACCESSIBLE, BUT PROTECTED AGAINST ACCIDENTAL CONTACT. THE CONNECTION OF POWER CARRYING CIRCUITS MUST BE SEPERATED FROM LOOP OR LOGIC CIRCUITS. ALL CONNECTIONS TO TERMINAL STRIPS SHALL UTILIZE SPADE LUGS OR AS APPROVED BY THE ENGINEER.

5. EACH LOOP SHALL HAVE A SEPERATE "FEEDER WIRE" UNLESS OTHERWISE NOTED ON THE PLANS. ALL FEEDER WIRES SHALL BE LABELED AS TO LOOP NUMBER AS DESIGNATED ON THE PLANS.

6. ALL LOOP WIRE ENTERING CONCRETE PULL BOXES SHALL BE ENCLOSED IN CONDUIT. EACH LOOP WIRE SHALL ENTER CONCRETE PULL BOX OR POLE BASE THROUGH A SEPARATE PIECE OF ONE (1.25") IINCH CONDUIT.

7. LOOP WIRE FROM LOOP TO CONDUIT IS NOT TWISTED. LOOP WIRE IN THE CONDUIT MUST BE TWISTED TWO TO FIVE TURNS PER FOOT.

8. "30-DAY PERFORMANCE TEST SHALL NOT COMMENCE UNTIL ALL LOOPS ARE TESTED BY THE CONTRACTOR, THEN APPROVED AND ACCEPTED BY THE ENGINEER, AND THE TESTING RECORDS HAVE BEEN SUBMITTED TO THE ENGINEER. THE WARRENTY PERIOD FOR LOOPS SHALL NOT COMMENCE UNTIL TESTED BY THE CONTRACTOR AND ACCEPTED BY THE ENGINEER. THE CONTRACTOR SHALL PERFORM TEST AND PROVIDE A RECORD TO THE ENGINEER AS LISTED IN THE LOOP DETECTOR TESTING PROCEDURE.

9. UNLESS OTHERWISE APPROVED BY THE ENGINEER, BACKER ROD SHALL BE INSTALLED IN SHORT SECTIONS SPACED NO MORE THAN 18" APART AND WEDGED INTO THE SLOT TO THE CABLE IN PLACE. CABLE SHALL BE TOTALLY ENCAPSULATED IN SEALER.

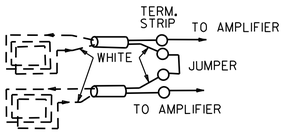
10. "HOT POUR" SEALER SHALL NOT ALLOW WITH 705-LOOP WIRING IN DUCT.

11. WHERE UNDERGROUND SPLICES OF SIGNAL CABLE ARE REQUIRED. CONNECTIONS SHALL BE SOLDERED AND COMPLETELY WATERPROOFED TO THE SATISIFACTION OF THE ENGINEER. WATERPROOFING SHALL EXTEND A MININUM OF TWO (2") INCHES PAST THE SIGNAL CABLE JACKET AND SHALL COMPLETELY COVER ALL INDIVIDUAL CONDUCTORS OF THE SIGNAL CABLE. WATERPROOFING DOES NOT APPLY TO CONNECTIONS MADE IN POLE BASES.

12. THE CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE. ONLY ONE NEUTRAL IS REQUIRED FOR PEDESTRIAN SIGNALS. A SEPERATE 5C (TYPICAL) IS PROVIDED FOR PEDESTRIAN PUSH BUTTONS.

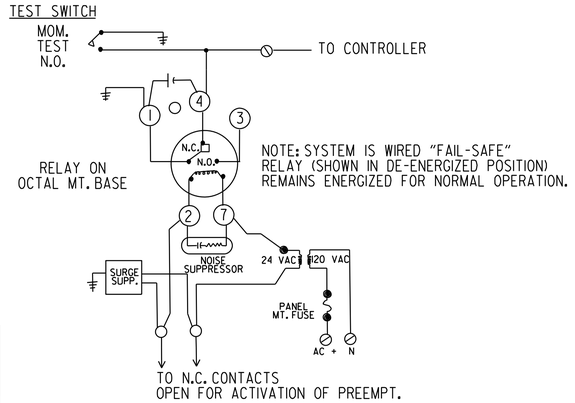
13. TRAFFIC CONTROLLER CABINET LAYOUT SHALL BE SUCH THAT IT IS NOT NECESSARY TO SHUT DOWN POWER TO REMOVE LOAD SWITCHES IN ORDER TO EASILY TEST OR MODIFY DETECTOR INPUTS TO THE CONTROLLER. THE CONTROLLER CABINET SHALL BE WIRED SUCH THAT THE POWER TO LOAD SWITCHES CANNOT BACKFEED TO THE LOAD SWITCH POWER BUSS DURING FLASH OPERATION.

SERIES CONNECTED LOOPS

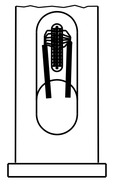


WIND LOOPS COUNTERCLOCKWISE; TAG WIRE EXITING SLOT AND TIE TO WHITE LEAD OF FEEDER WIRE; WHEN LOOPS ARE TIED TO SAME VEHICLE DETECTOR, SERIES CONNECT IN CABINET AS SHOWN.

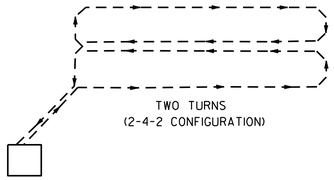
TRAFFIC SIGNAL PRE-EMPTION INTERFACE WIRING DIAGRAM



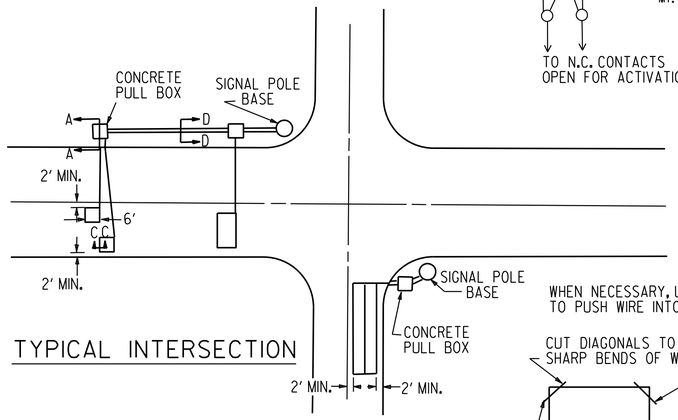
HANDHOLE TERMINAL



QUADRUPOLE LOOP



TYPICAL INTERSECTION



TYPICAL PROCEDURE FOR DETECTOR LOOP TESTING

1. DISCONNECT AND TEST CONTINUITY (< 10 OHMS) IF CONTINUITY IS BAD, GO TO TEST 3.

2. TEST INSULATION (@ 500 VOLT TEST > 10 MEG-OHM)

   IF TESTS 1& 2 ARE GOOD, NO FURTHER TESTING IS NECESSARY. RECORDED RESULTS CONSIST OF TESTS 1& 2 FROM CONTROL CABINET WITH FEEDER WIRE CONNECTED TO LOOP.

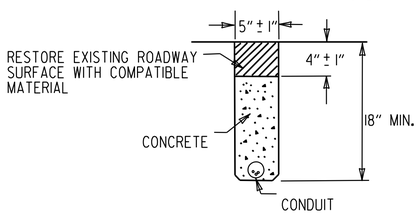
3. OPEN SPACE (DO NOT BREAK CONNECTION) REPEAT TEST 1& 2 IF TEST 3 IS BAD, GO TO TEST 4.

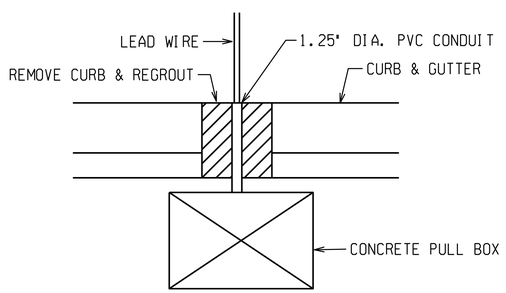
4. BREAK SPLICE, INSTALL JUMPER IN CABINET, REPEAT TESTS 1& 2 SEPARATELY FOR FEEDER AND FOR LOOP.

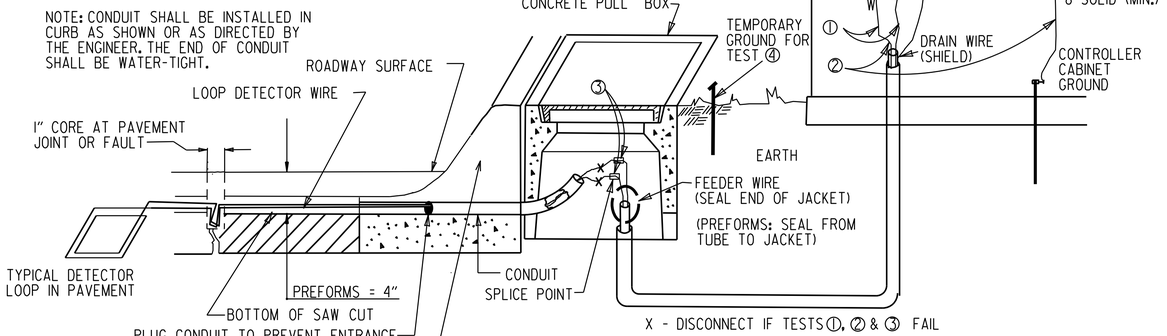
FAILURES TYPICALLY RESULT FROM BROKEN WIRE IN PAVEMENT, FAULTY INSULATION OF LOOP OR FEEDER WIRE, OR POORLY INSULATED SPLICE CONNECTION.

TRENCHING DETAIL

(FOR SAW CUT TRENCH IN ROADWAY)





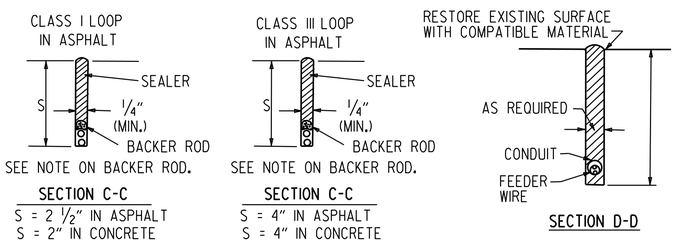


SECTION A-A

1'-6" CONCRETE COMBINATION CURB AND GUTTER

SPECIAL NOTE:
IF FEEDER WIRE JACKET IS LEFT UNSEALED AND WATER IS ALLOWED TO ENTER JACKET, CONTRACTOR WILL BE REQUIRED TO REPLACE FEEDER WIRE AT NO COST TO DEPARTMENT.

TYPICAL SECTIONS FOR PULSE AND PRESENCE LOOP DETECTORS



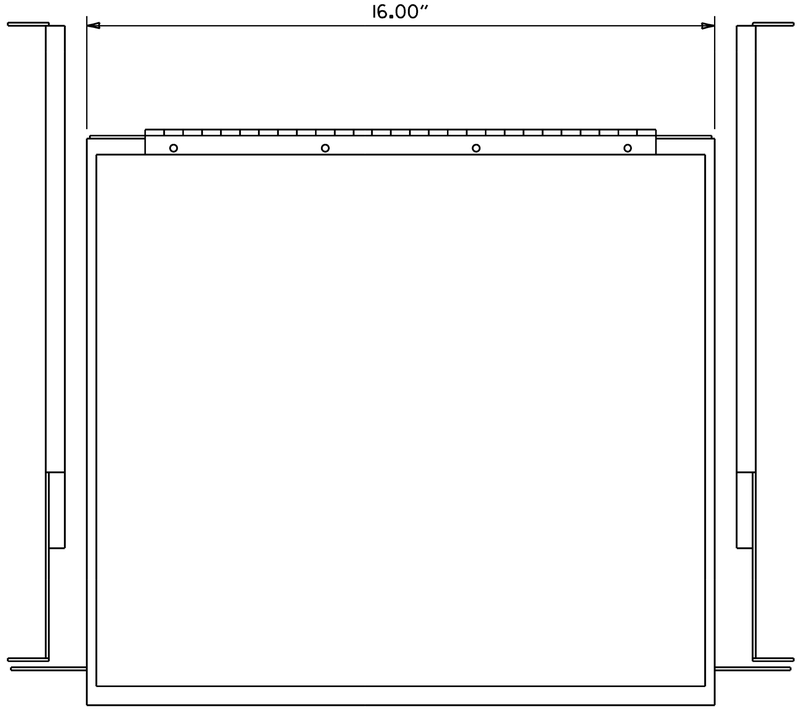
DATE	REVISION	FILMED
11-07-19	REVISED NOTE 6 & TYPICAL FOR PRESENCE LOOP DETECTORS	
11-16-17	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
05-17-01	REVISED	
04-11-01	REVISED	
02-04-00	REVISED PRE-EMPTION TEST SWITCH	
11-18-98	REVISED NOTES	
11-21-95	ISSUED	

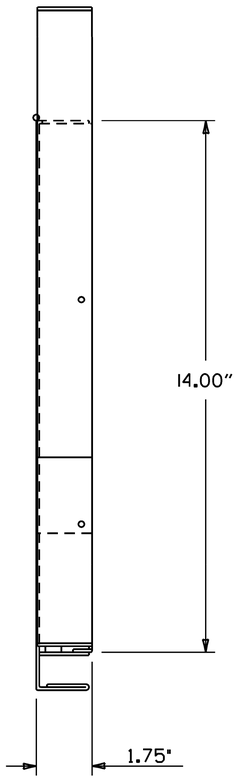
ARKANSAS STATE HIGHWAY COMMISSION

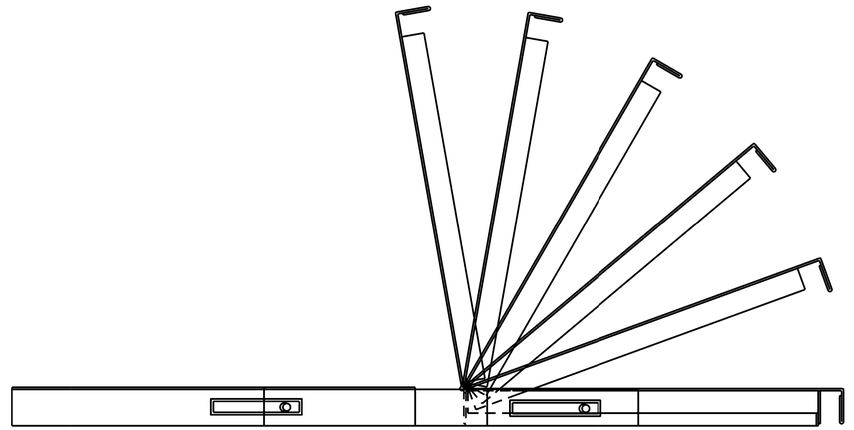
LOOP DETECTOR INSTALLATION

STANDARD DRAWING SD-4

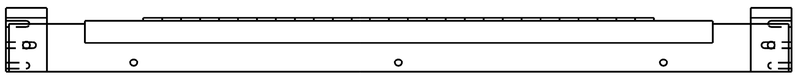
DRAWER PLAN VIEW



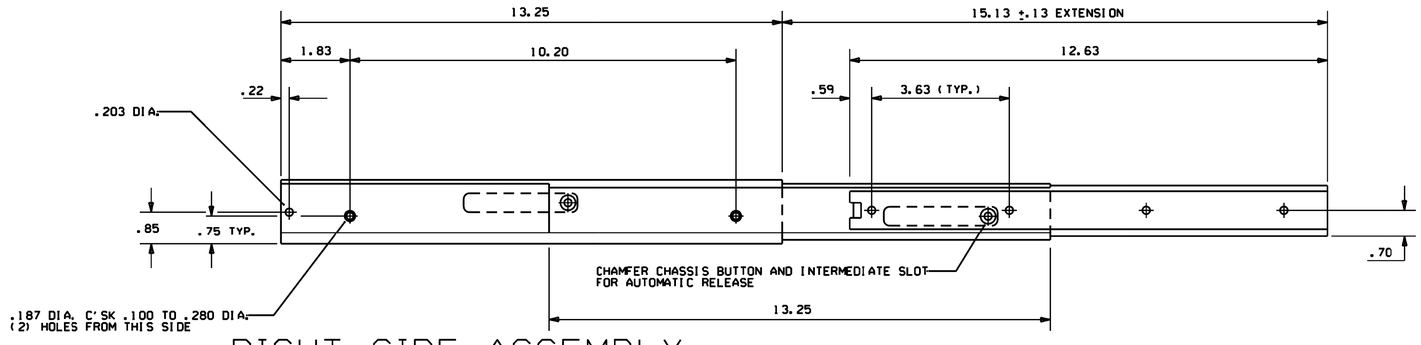




NOTES:
1. RIGHT HAND SLIDE SHOWN, LEFT SLIDE OPPOSITE.
2. GENERAL DEVICES (CC3002-99-0102) OR EQUAL AND CONTAINS (1) RIGHT HAND SLIDE ASSEMBLY, (1) LEFT HAND SLIDE ASSEMBLY.
3. ALL HARDWARE NECESSARY TO FASTEN SLIDE ASSEMBLY TO UNDERSIDE OF CONTROLLER SHELF SHALL BE INCLUDED.



FRONT VIEW



RIGHT SIDE ASSEMBLY

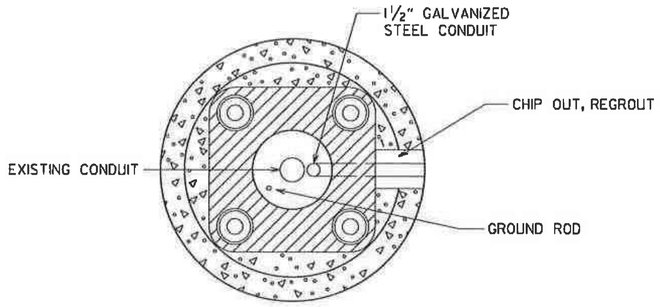
DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
6-15-05	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

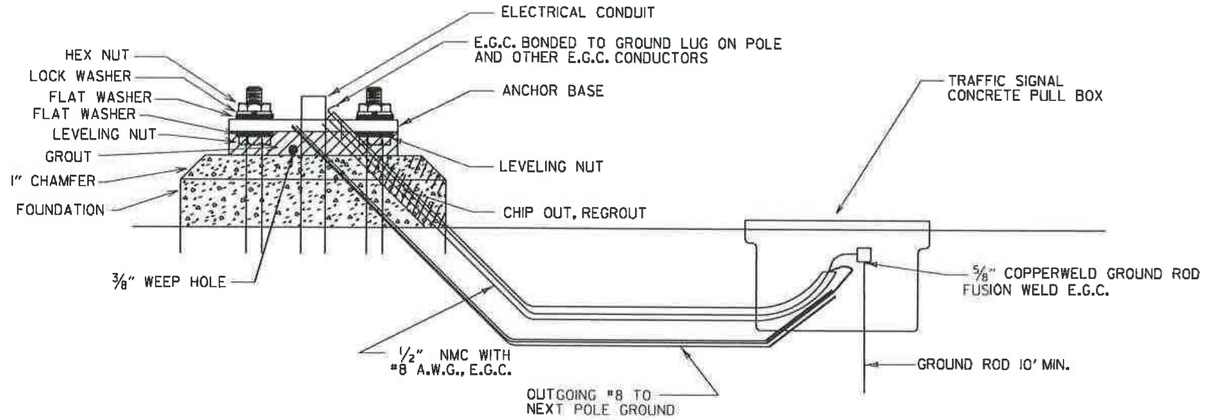
CONTROLLER CABINET UTILITY DRAWER

STANDARD DRAWING SD-5

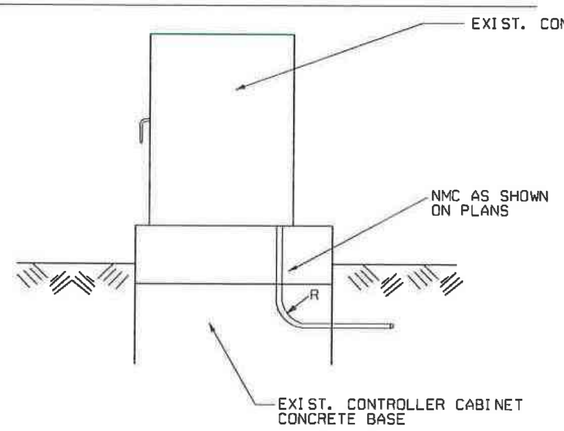
CONDUIT ENTRY TO EXISTING POLE BASE



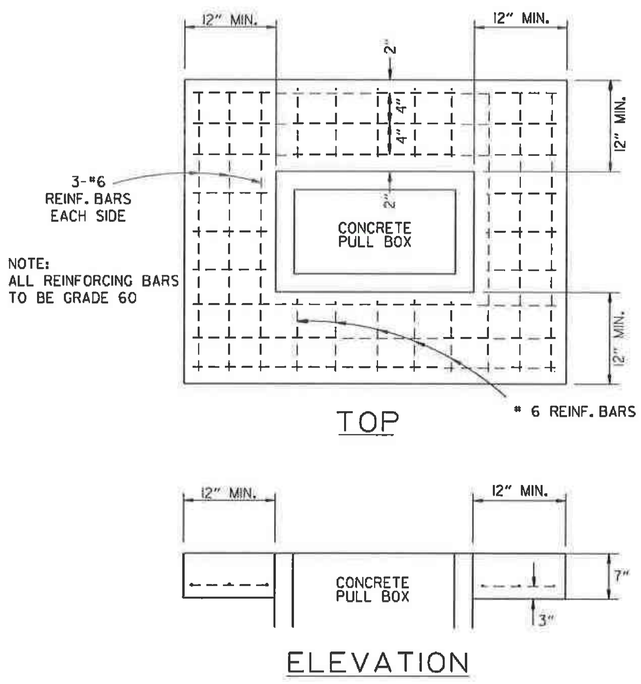
ANCHOR BASE



CONDUIT ENTRY TO EXISTING CONTROLLER CABINET



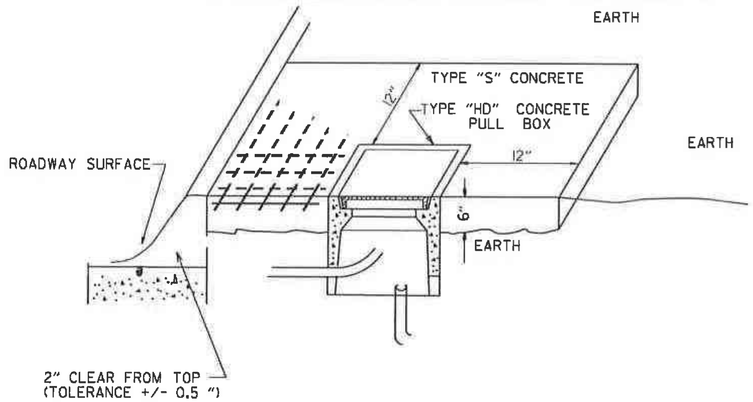
NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.



TOP

ELEVATION

TYPE "HD" CONCRETE PULL BOX DETAIL



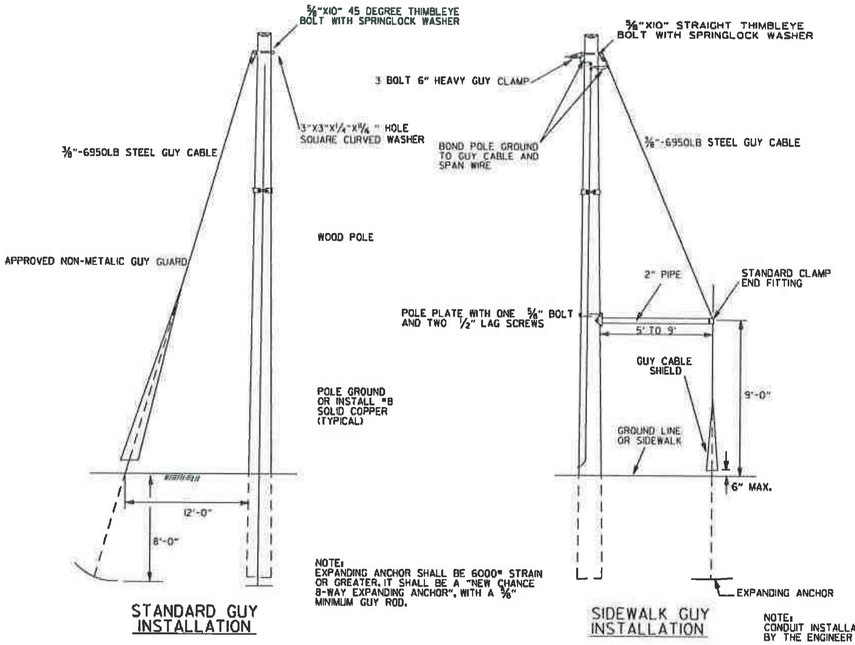
NOTE:
ALL TYPE 1 AND TYPE 2 HD CONCRETE PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 12" WIDE AND 7" IN DEPTH. ALL PAYMENT SHALL BE INCLUDED IN THE PRICE OF THE TYPE HD CONCRETE PULL BOX. THE CONCRETE PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. 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.

DATE	REVISION	FILMED
11-16-17	REVISED NOTES	
09-02-15	REVISED PULL BOX DEPTH	
09-12-13	ISSUED AS STANDARD DRAWING	
05-21-09	REVISED GROUNDING	
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	

ARKANSAS STATE HIGHWAY COMMISSION

HEAVY DUTY PULL BOX

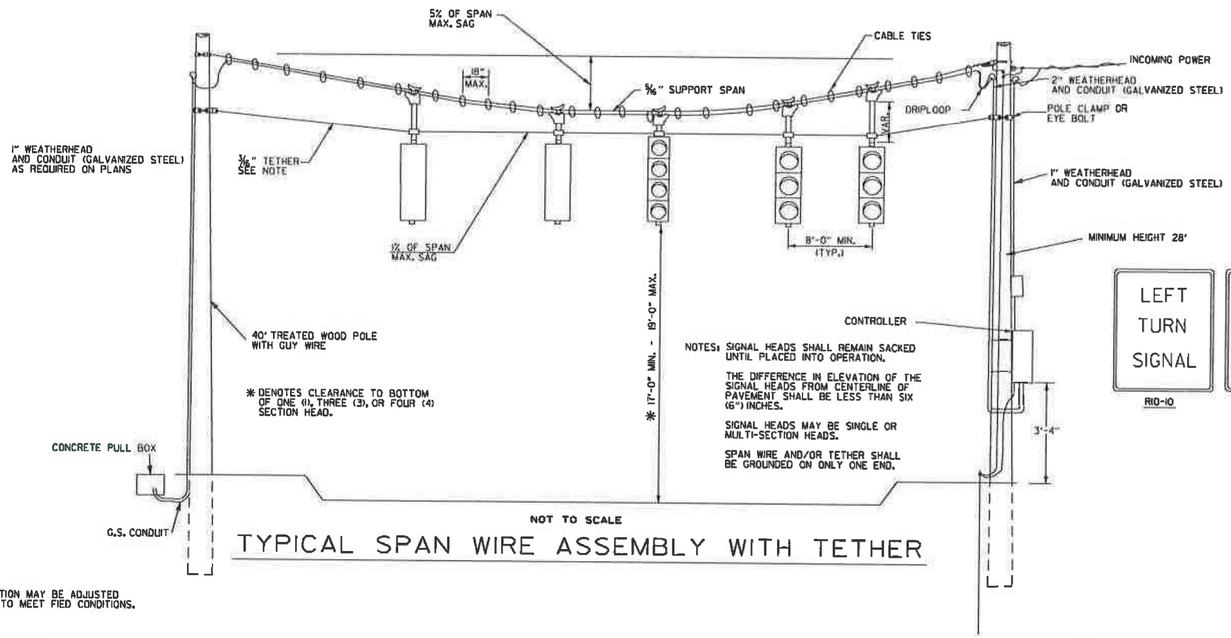
STANDARD DRAWING SD-6



STANDARD GUY INSTALLATION

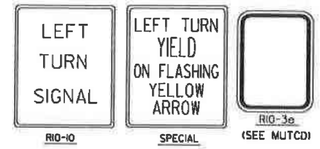
SIDEWALK GUY INSTALLATION

NOTE: CONDUIT INSTALLATION MAY BE ADJUSTED BY THE ENGINEER TO MEET FIED CONDITIONS.



NOT TO SCALE

TYPICAL SPAN WIRE ASSEMBLY WITH TETHER

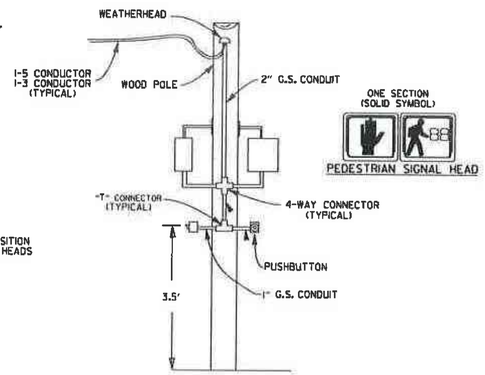


NOTES:
SPAN WIRE POLES SHALL BE MOUNTED A MINIMUM OF FOUR (4') FEET BEHIND CURB OR SHOULDER.

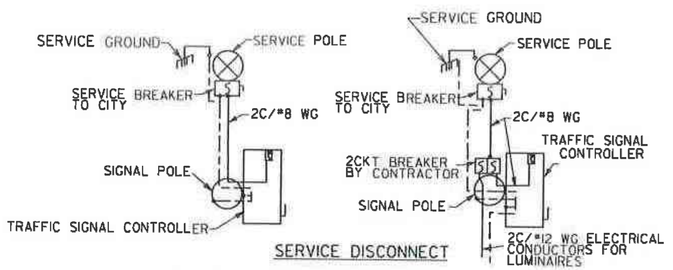
SPAN WIRE ASSEMBLIES WILL REQUIRE TETHER UNLESS OTHERWISE NOTED ON PLAN SHEETS.

CABLE TIES SHALL BE SUITABLE FOR OUTSIDE USE (BLACK).

THE CONTROLLER POWER SUPPLY GROUND BUSS SHALL BE BONDED TO THE FOUNDATION GROUND ROD WITH A #8 A.W.G. SOLID COPPER WIRE. ON EXISTING FOUNDATIONS WITH NO GROUND ROD, CONTRACTOR SHALL INSTALL A 10' X 5/8" COPPERWELD GROUND ROD.



WOODEN POLE INSTALLATION OF PED HEADS



NOTE: ELECTRICAL GROUND CONDUCTOR IS BONDED TO ALL METAL ENCLOSURES

NOTES:

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 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 (R10-10) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD.

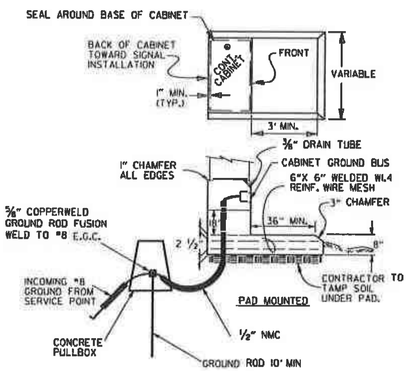
ALL SIGN BLANK SHALL BE CONSTRUCTED OF ALUMINUM ALLOY (ASTM DESIGNATION B-209, ALLOY 5052-H38) WITH A THICKNESS OF 0.100 INCH.

ALL SIGN FACE SHALL BE CONSTRUCTED OF HIGH INTENSITY SHEETING (TYPE III) WITH SILKSCREEN LEGEND AND BORDER.

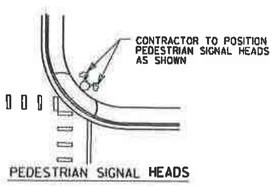
SIGNAL OPERATION NOTES:

FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORK DAYS. SIGNAL SHALL BE PLACED IN OPERATION ONLY ON A REGULAR WORK DAY, EXCEPT FRIDAY.

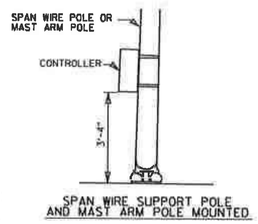
THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD. AT THE TIME THE INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATIONS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



CONCRETE BASE MOUNTED CABINET DETAILS



PEDESTRIAN SIGNAL HEADS



SPAN WIRE SUPPORT POLE AND MAST ARM POLE MOUNTED

CABINET NOTE:

UNLESS OTHERWISE DIRECTED BY THE ENGINEER, CABINET ORIENTATION SHALL BE SUCH THAT THE BACK OF THE CABINET IS PARALLEL TO THE STREET AND POSITIONED TO ALLOW VISIBILITY OF THE SIGNAL DISPLAY WHILE OBSERVING THE CONTROLLER FRONT PANEL.

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.

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 THICKNESS GREATER THAN 1/2" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

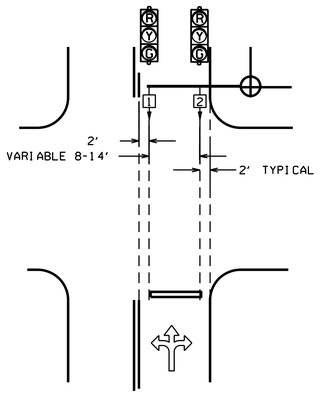
DATE	REVISION	FILMED
11-16-17	REVISED NOTES, ADDED SPAN WIRE SUPPORT POLE DETAIL, ADDED PEDESTRIAN SIGNAL HEAD DETAIL.	
02-27-14	REVISED NOTES.	
09-12-13	ISSUED AS STANDARD DRAWING	
07-21-11	REVISED PEDESTRIAN SIGN & GROUNDING	
04-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REV. CABINET ORIENTATION & SIGNAL OPERATION	
05-22-02	REV. TYP. SPAN WIRE ASSEMBLY	
12-27-99	REVISED	
11-18-98	REVISION TO NOTES	
11-21-95	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

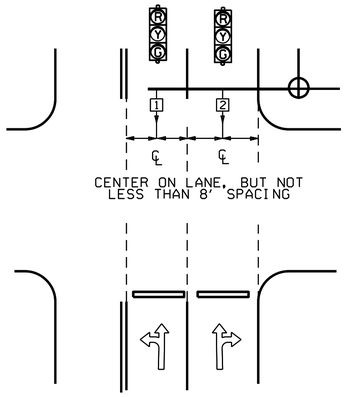
SPAN WIRE ASSEMBLY WOOD POLE

STANDARD DRAWING SD-7

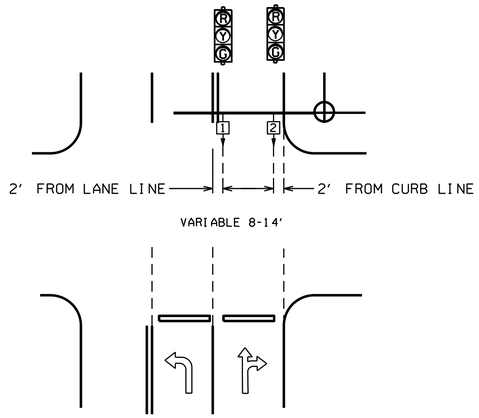
(A)



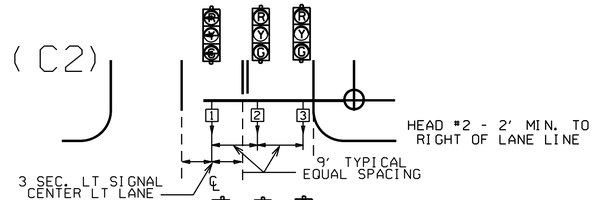
(B)



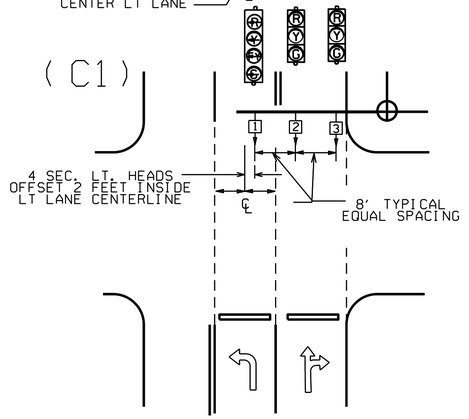
(C)



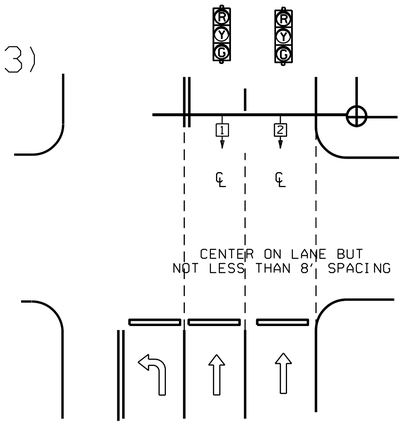
(C2)



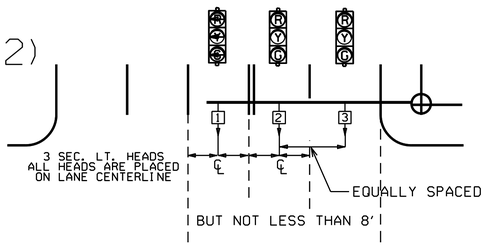
(C1)



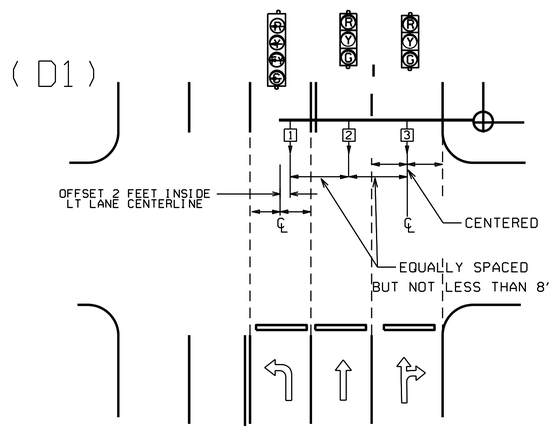
(C3)



(D2)

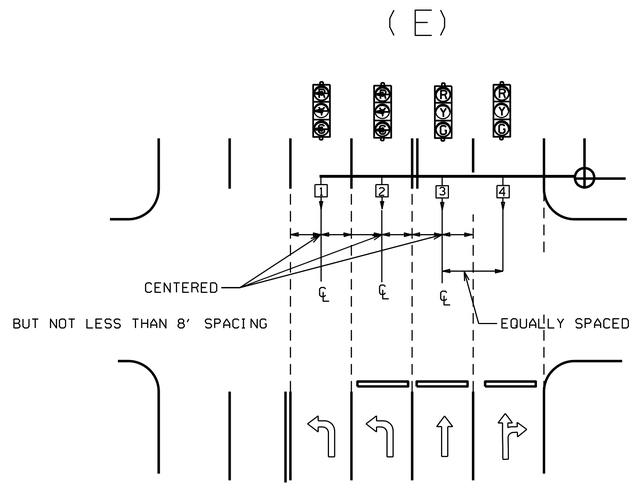


(D1)



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.

(E)



℄ = CENTER OF LANE FROM APPROACH SIDE

GENERAL NOTES:

1. 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.

2. THREE SECTION "PROTECTED" LEFT TURN HEADS SHOULD BE PLACED ON THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

3. 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.

4. SIGNAL HEAD SPACING SHALL, IN NO CASE, BE LESS THAN EIGHT (8') FEET BETWEEN HEADS ON CENTER, MEASURED HORIZONTALLY PERPENDICULAR TO THE APPROACH.

5. 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.

6. 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.

12-8-16	REVISED NOTE 6	
9-12-13	ISSUED AS STANDARD DRAWING	
3-11-10	2009 MUTCD	
12-9-99	ISSUED	
DATE	REVISION	DATE FILM

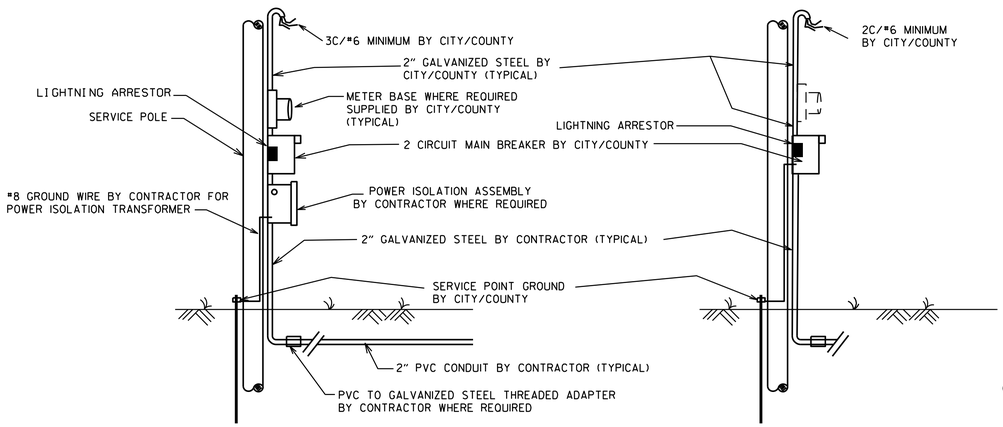
ARKANSAS STATE HIGHWAY COMMISSION

SIGNAL HEAD PLACEMENT

STANDARD DRAWING SD-8

MAIN BREAKER NOT NEAR CONTROLLER CABINET SECONDARY REQUIRED

WITH POWER ISOLATION ASSEMBLY



WITHOUT POWER ISOLATION ASSEMBLY

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.

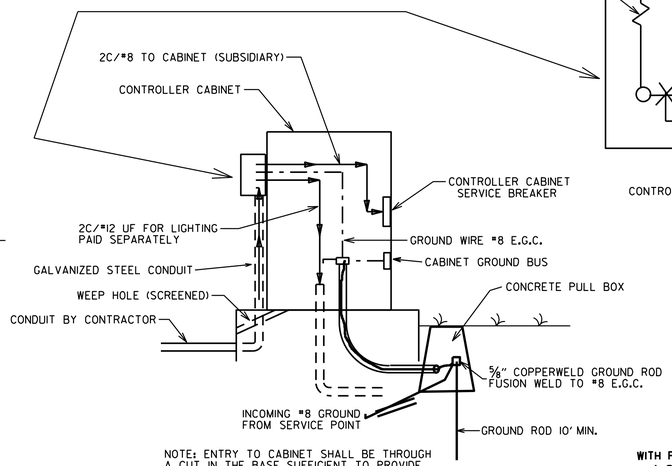
ALL SITUATIONS:
ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER) AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. SERVICE POINT INCLUDES GALVANIZED STEEL CONDUIT TO A POINT 18" BELOW GROUND LINE, TWO CIRCUIT MAIN BREAKER, 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.

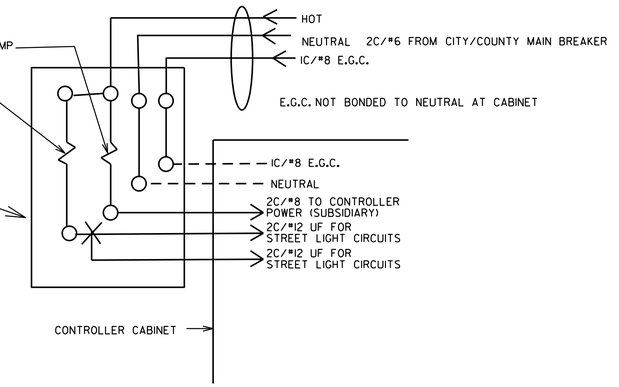
MAIN BREAKER NEAR CONTROLLER CABINET:
ALL COMPONENTS OF THE SERVICE POINT WITH THE EXCEPTION OF THE WIRE AND WIRING ABOVE THE MAIN BREAKER IS FURNISHED AND INSTALLED BY THE CONTRACTOR. WIRING FROM MAIN BREAKER INCLUDING CONNECTION TO THE UTILITY, IS THE RESPONSIBILITY OF THE CITY/COUNTY. IF METER LOOP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

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 701. 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)

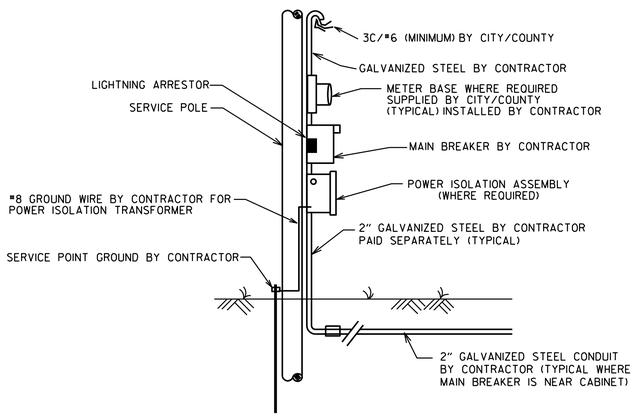
SERVICE GROUND IS TYPICALLY TIED TO NEUTRAL AT THE MAIN BREAKER. AS SUCH, CONTROLLER GROUND IS NOT TIED TO NEUTRAL AT SECONDARY BREAKER OR IN CONTROLLER CABINET.

WITH POWER ISOLATION ASSEMBLY
4 CIRCUIT MAIN BREAKER

WITHOUT POWER ISOLATION ASSEMBLY
2 CIRCUIT MAIN BREAKER

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

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.

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 (R10-10) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD.

EACH PEDESTRIAN PUSHBUTTON SHALL HAVE ONE R10-3E 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 ½" 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. (3 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 THAT 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.

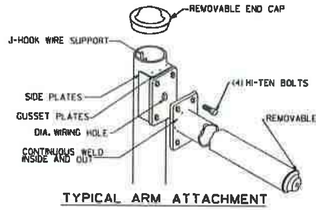
4. POLE/MAST ARM CAP - POLE AND MAST ARM CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

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 VACCUM FORMED ABS COVER IS AN ACCEPTABLE ALTERNATE TO STEEL. POLES GREATER THAN 21FT. IN HEIGHT (FOR ROADWAY LUMINAIRE ATTACHMENT) SHALL INCLUDED A HAND HOLE WITHIN 12 INCHES OF MAST ARM(S) ATTACHMENT(S).

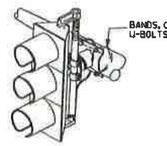
6. POLE/MAST ARM TAPER SLOPE - AVERAGE TAPER OF SIGNAL MAST ARMS AND POLE SHAFT SHALL BE 0.125 TO 0.15 INCHES PER FOOT.

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.

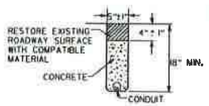
7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT DOWN NUT COVER FOR EACH ANCHOR BOLT.



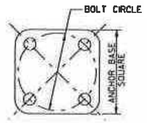
TYPICAL ARM ATTACHMENT



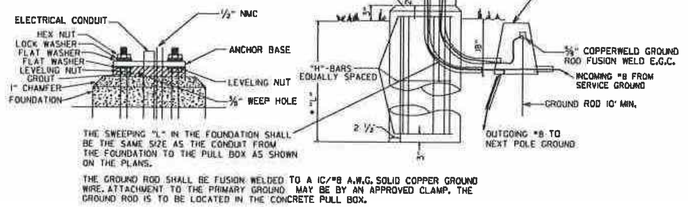
NOTE: THE SIGNAL SHALL BE CONNECTED TO THE MAST ARM BY BRACKETING AS DIRECTED BY THE ENGINEER.



TRENCHING DETAIL
(FOR SAW CUT TRENCH IN ROADWAY)



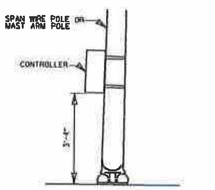
ANCHOR BASE



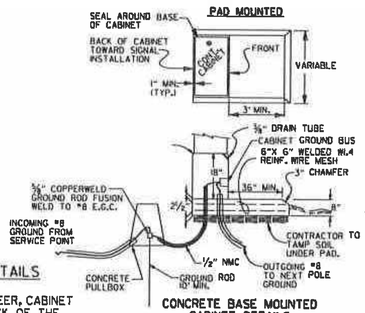
TYPICAL FOUNDATION DETAILS

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"



SPAN WIRE SUPPORT POLE AND MAST ARM POLE MOUNTED



CONCRETE BASE MOUNTED CABINET DETAILS

CONTROLLER CABINET MOUNTING DETAILS

NOTE:
UNLESS OTHERWISE DIRECTED BY THE ENGINEER, CABINET ORIENTATION SHALL BE SUCH THAT THE BACK OF THE CABINET IS PARALLEL TO THE STREET AND POSITIONED TO ALLOW VISIBILITY OF THE SIGNAL DISPLAY WHILE OBSERVING THE CONTROLLER FRONT PANEL.

8. GROUND ROD - A 10' X ⅝" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND ½" 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 SEPERATELY.

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 GROUTED WITH A ¼" 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 GROUND 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 MANIFACTURER. 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.

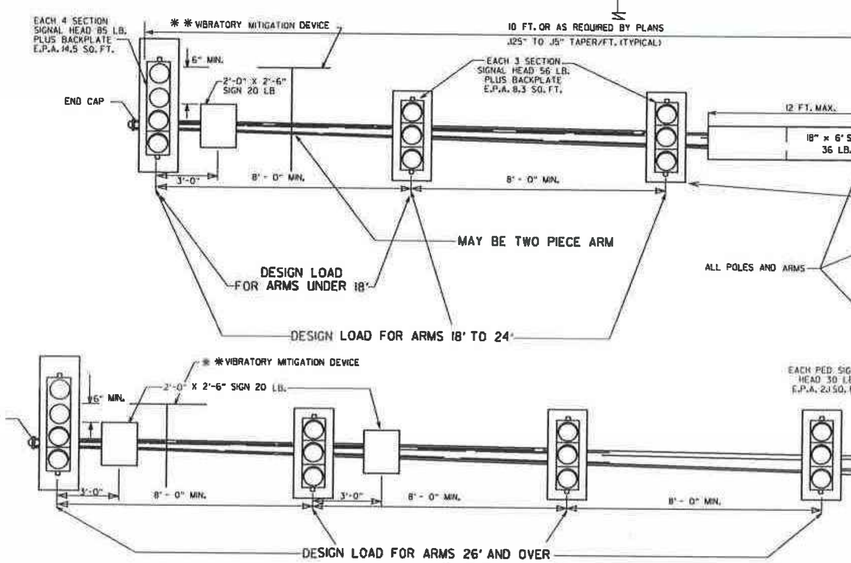
TRUCK-INDUCED GUST LOADS SHALL BE EXCLUDED FOR FATIGUE DESIGN FOR ALL STRUCTURES EXCEPT MAST ARMS MOUNTED OVER FACILITIES WITH POSTED SPEEDS OF 65 MPH OR GREATER AT THE LOCATION OF THE STRUCTURE.

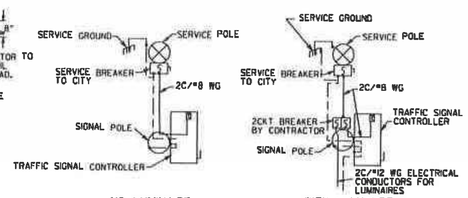
SIGNAL OPERATION NOTES:

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.

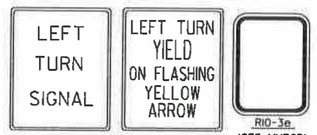
THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD. AT THE TIME THE INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATION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

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





SERVICE DISCONNECT
NOTE: ELECTRICAL GROUND CONDUCTOR IS BONDED TO ALL METAL ENCLOSURES



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	

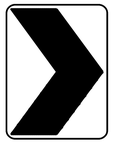
ARKANSAS STATE HIGHWAY COMMISSION

STEEL POLE WITH MAST ARM

STANDARD DRAWING SD-11

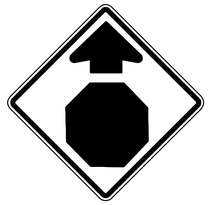
R1-1
30"X30"

W1-3
30"X30"
(LT. OR RT.)



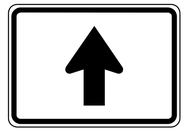
W1-8
18"X24"

W2-5
30"X30"



W3-1
36"X36"

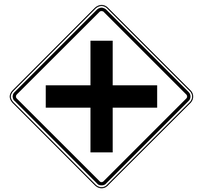
W5-1
36"X36"



M6-3
21"X15"

R1-2
36"X36"X36"

W1-4
30"X30"
(LT. or RT.)



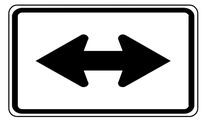
W2-1
30"X30"

S1-1
36"X36"

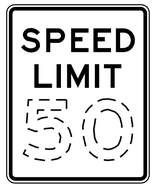
W3-2
36"X36"

County
Route Marker
M1-6
24"X24"

NOTE: REFLECTORIZED YELLOW LEGEND (COUNTY NAME, ROUTE LETTER & NUMBER) & BORDER ON A BLUE BACKGROUND.

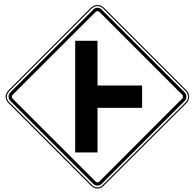


M6-4
21"X15"



R2-1
24"X30"

W1-5
30"X30"
(LT. or RT.)



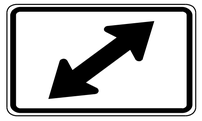
W2-2
30"X30"

W5-2
36"X36"

W8-3
36"X36"

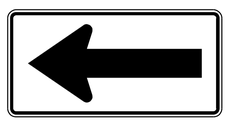
R1-3P
18"X6"

NOTE: ALL M6 SIGNS TO BE MADE WITH REFLECTORIZED YELLOW ARROW & BORDER WITH BLUE BACKGROUND.

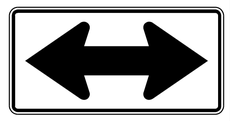


M6-5
21"X15"

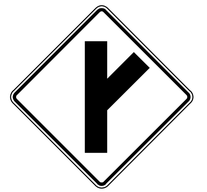
W1-1
30"X30"
(LT. or RT.)



W1-6
48"X24"



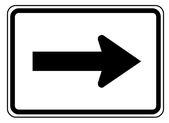
W1-7
48"X24"



W2-3
30"X30"
(LT. or RT.)

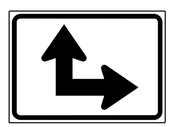
W5-3
36"X36"

W13-1P
18"X18"



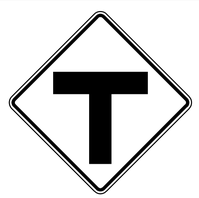
M6-1
21"X15"

NOTE: ALL M6 SIGNS TO BE MADE WITH REFLECTORIZED YELLOW ARROW & BORDER WITH BLUE BACKGROUND.



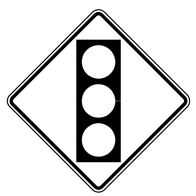
M6-6
21"X15"

W1-2
30"X30"
(LT. or RT.)



W2-4
30"X30"

W10-1
36" DIAMETER

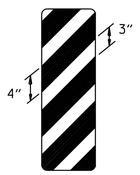


W3-3
36"X36"

M6-2
21"X15"

S4-3P
24"X8"

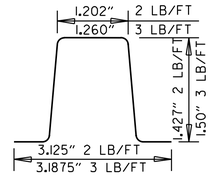
S4-2P
24"X10"



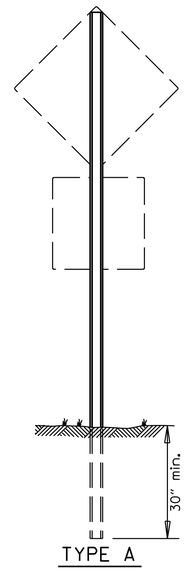
OM-3
12"X36"
(LT. or RT.)

MINIMUM DIMENSIONS SHOWN

SUPPORT SECTION

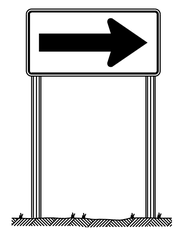


(U-CHANNEL)
STANDARD SUPPORT
ASSEMBLIES



TYPE A

NOTE: LENGTH OF SIGN POSTS SHALL BE DETERMINED SO AS TO PROVIDE FOR MINIMUM VERTICAL CLEARANCES AS CALLED FOR IN THE SPECIFICATIONS PLUS A MINIMUM VERTICAL PENETRATION OF 30" IN THE SOIL.



TYPE B

TYPE C

MINIMUM WEIGHT

TYPE A & B = 3 LBS./FT.
TYPE C = 2 LBS./FT.

STANDARD HIGHWAY SIGNS

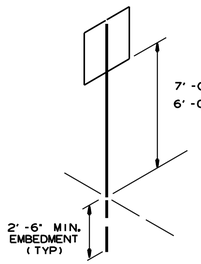
DATE	REVISION	DATE FILMED
9-12-13	DELETED JOB NO. BLOCK; REVISED RI-3 TO RI-3P	
4-17-08	REVISED SIGN DESIGNATION - W3-1 & W3-2	
4-10-03	REVISED W5-2, W8-3, OM-3; ADDED WI-8	
1-5-81	REDRAWN	960-1-15-81
9-15-78	ADDED WI4-3	877-9-15-78
9-2-76	POST WT.	623-9-3-76
5-3-76	STEEL POST WT. FROM 2#-3#; ADDED S4-2 & S4-3	504-5-3-76
8-12-74	REV. HT. TYPE "C" ASSEMBLY	500-8-21-74
12-21-72	ADDED M6-2,3,4,5,6	500-12-21-72
12-1-72	ISSUED	562-12-1-72

SUPPORT ASSEMBLIES

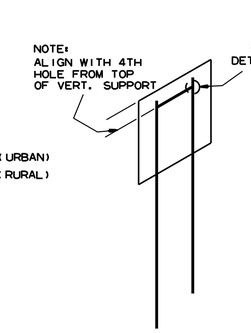
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD HIGHWAY SIGNS AND SUPPORT ASSEMBLIES

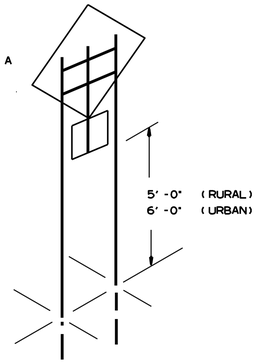
STANDARD DRAWING SHS-1



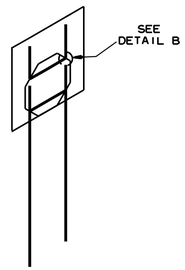
U-1



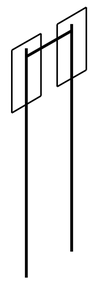
U-2



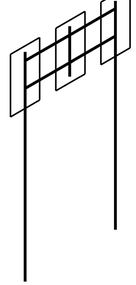
U-2 (A)



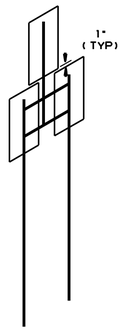
U-2 (B)



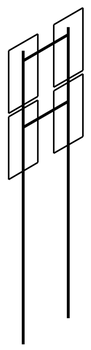
U-2 (1)



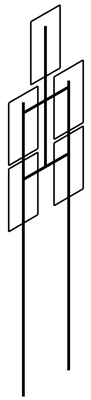
U-2 (2)



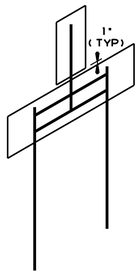
U-2 (3)



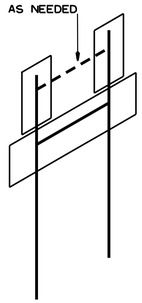
U-2 (4)



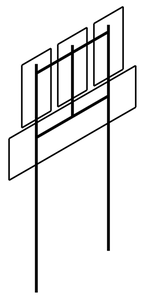
U-2 (5)



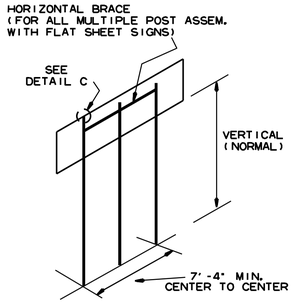
U-2 (6)



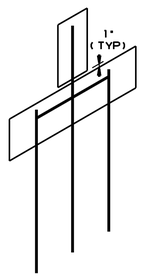
U-2 (7)



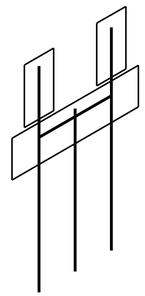
U-2 (8)



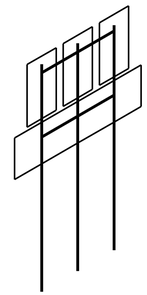
U-3



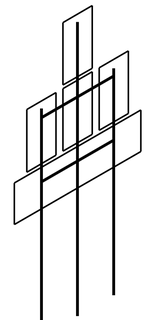
U-3 (1)



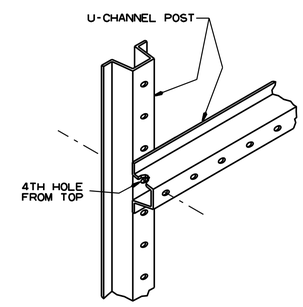
U-3 (2)



U-3 (3)

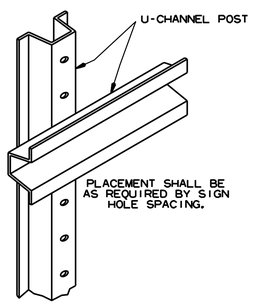


U-3 (4)



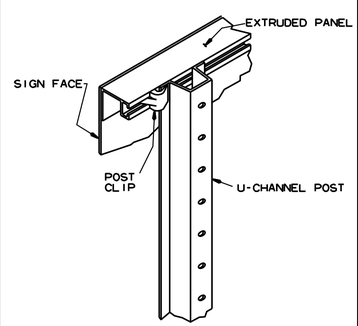
DETAIL A

SHOWING HORIZONTAL BRACE



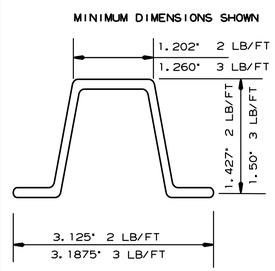
DETAIL B

SHOWING BACK-TO-BACK INSTALLATION



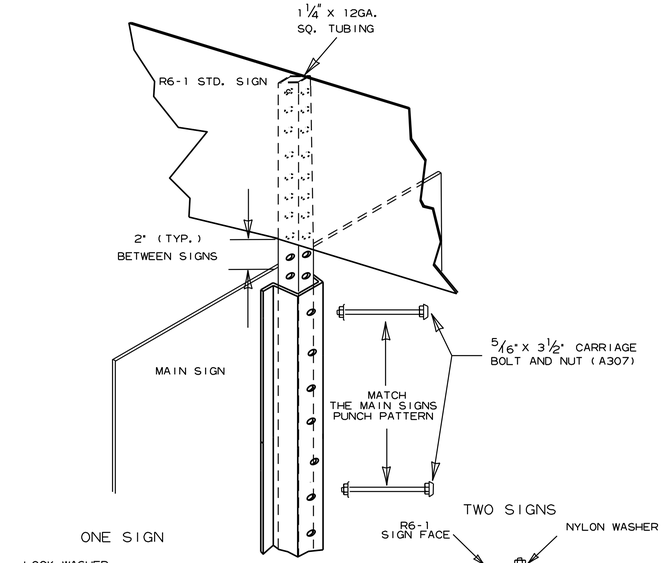
DETAIL C

SHOWING GUIDE SIGN MOUNTING WITH EXTRUDED PANELS



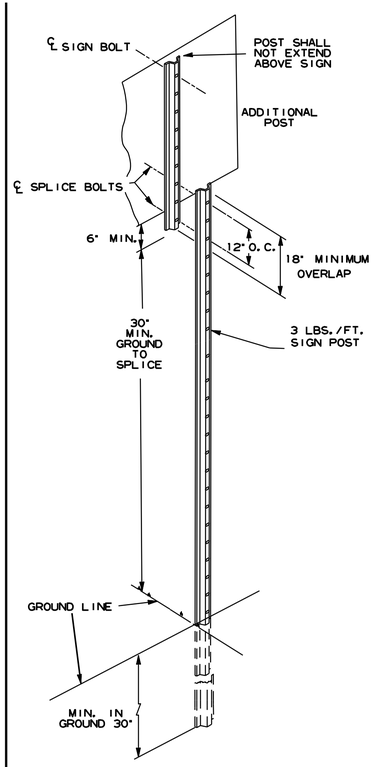
DETAIL C

U-CHANNEL POST



DETAIL E

R6-1 EXTENSION FOR U-CHANNEL POST



DETAIL F

DETAIL OF SPLICES

NOTES:

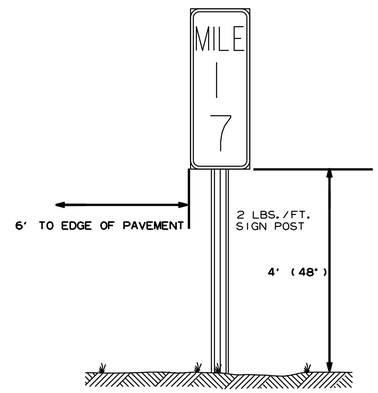
SIGNS AT LEAST 8' IN LENGTH MAY BE INSTALLED ON THREE 3 LB. POST. IN NO CASE SHALL THERE BE MORE THAN TWO 3 LB. POSTS WITHIN A 7' PATH.

SPLICES NECESSARY TO ATTAIN PROPER MOUNTING HEIGHT SHALL BE AS SHOWN IN DETAIL (F).

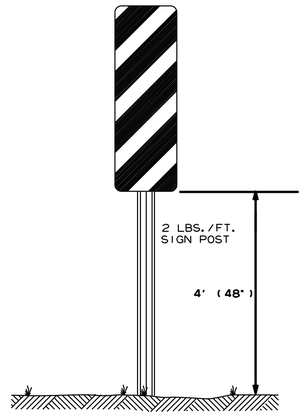
NORMAL INSTALLATIONS WILL REQUIRE 5/16" DIA. CARRIAGE BOLTS TO MOUNT SIGNS TO POST AND TO ASSEMBLE THE VARIOUS POST SUPPORTS.

ALL SIGN POSTS SHALL BE PLUMB.

THE POST FOR "TYPE U" SUPPORTS SHALL BE HOT DIP GALVANIZED.



TYPICAL MILE MARKER INSTALLATION



TYPICAL OM-3 INSTALLATION AT EDGE OF OBSTRUCTION

DATE	REVISION	FILMED
7-25-19	REVISED CARRIAGE BOLT WITH MATERIAL REQUIREMENT	
2-27-14	REVISED NOTES.	
9-12-13	REVISED U-2(3), U-2(6), U-3(1), DETAIL D; ADDED DETAILS E & F; ADDED TYPICAL MARKERS	
10-9-03	REMOVED ROUND POST & REVISED SPACING	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL	6-8-95
2-2-95	REDRAWN	2-2-95

ARKANSAS STATE HIGHWAY COMMISSION

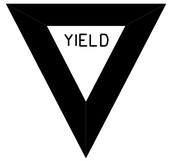
U-CHANNEL POST ASSEMBLIES

STANDARD DRAWING SHS-2

R1-1

STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

W3-5

STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

W3-5a

STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

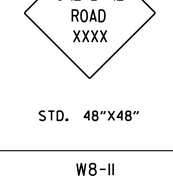
R4-1

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2

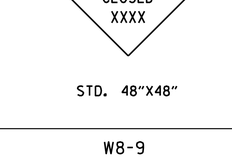
STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R5-1



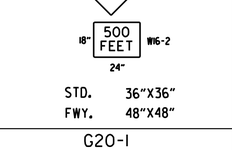
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

RII-2



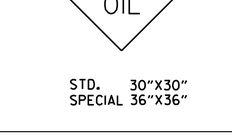
48"X30"

RII-3A



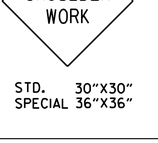
60"X30"

RII-4



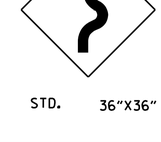
60"X30"

W21-5a



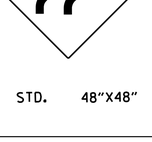
STD. 36"X36"
FWY. 48"X48"

WI-1



STD. 36"X36"
FWY. 48"X48"

WI-2

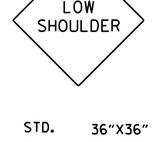


STD. 36"X36"
FWY. 48"X48"

WI-3

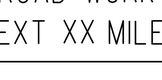
STD. 48"X48"

WI-4



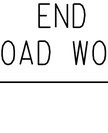
STD. 48"X48"

WI-6



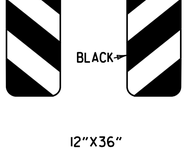
STD. 48"X24"
SPECIAL 60"X30"

WI-8



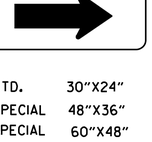
STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



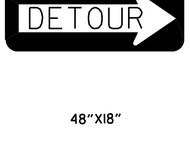
STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2



STD. 36"X36"
FWY. 48"X48"

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

EXPWY. 36"X36"
FWY. 48"X48"

W9-2

STD. 36"X36"
FWY. 48"X48"

WI3-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a

STD. 36"X36"
FWY. 48"X48"

W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

WI-4b

STD. 48"X48"

R56-1

STD. 18"X18"

W8-11

STD. 36"X36"
FWY. 48"X48"

W8-9

STD. 36"X36"
FWY. 48"X48"

G20-1

60"X24"

G20-2

48"X24"

OM-3L OM-3R

12"X36"

M4-9

STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10

48"X18"

R55-1

36"X60"

• USE 6" C LETTERS
•• USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	½ MILE
1000 FT	¾ MILE
1500 FT	1 MILE AHEAD

GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.
3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.
- 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.
- 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.
6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.
7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.
8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.
10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

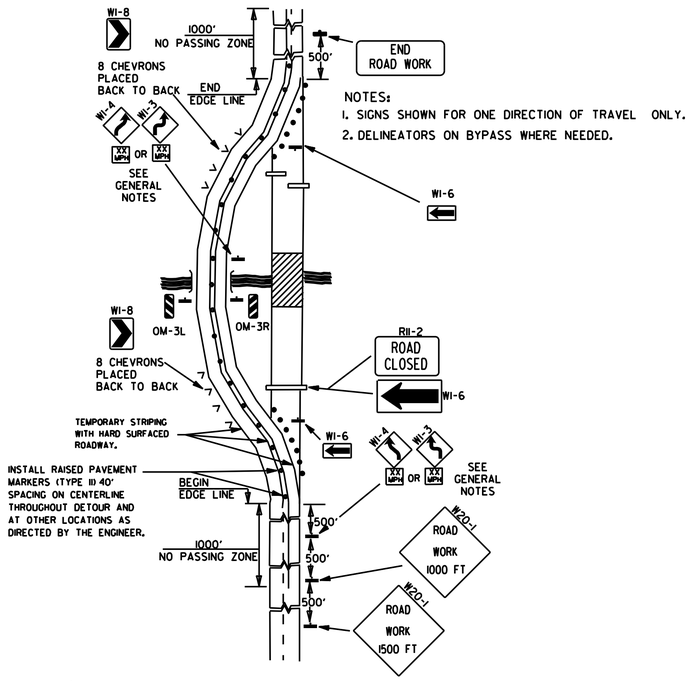
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

DATE	REVISION	FILMED
11-07-19	REVISED FOR MASH	
4-13-17	DELETED RSP-1 & ADDED W21-5a	
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION

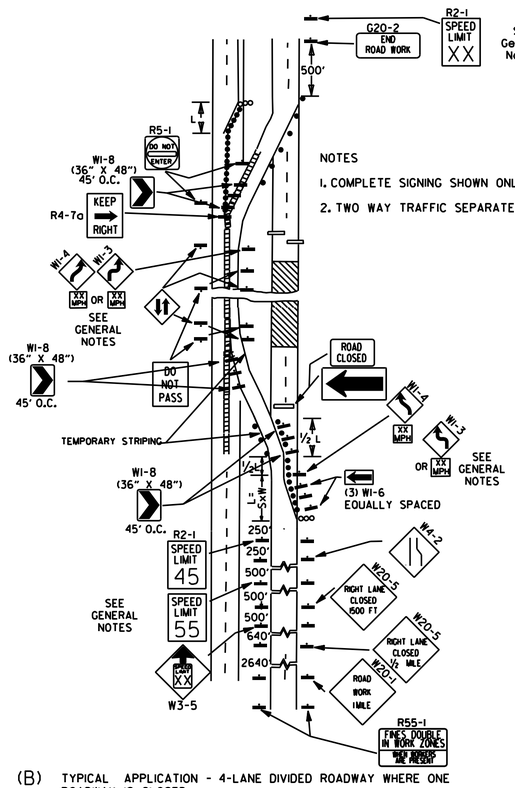
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



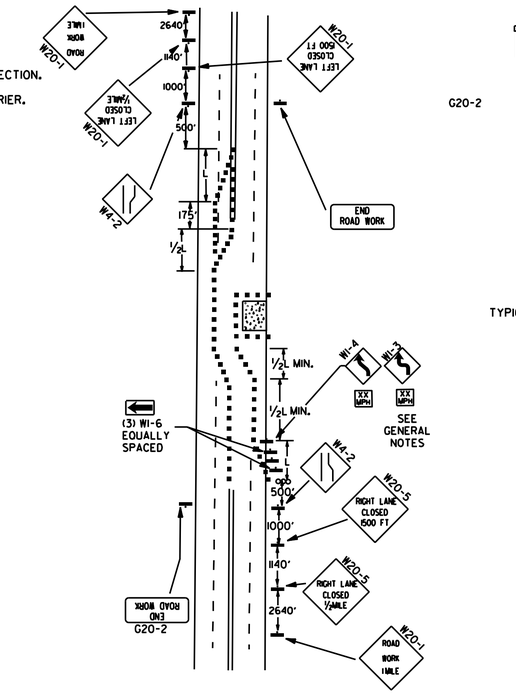
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.

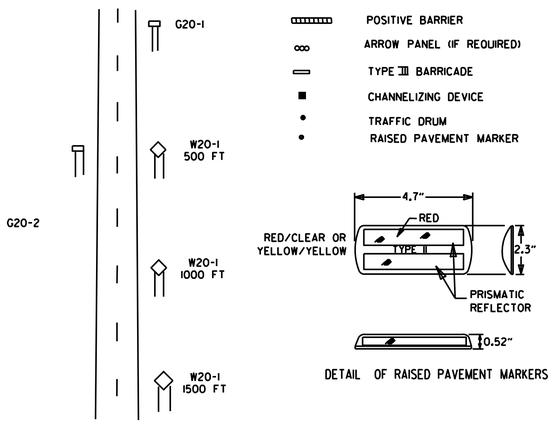


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



DETAIL OF RAISED PAVEMENT MARKERS

TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

L=SXW FOR SPEEDS OF 45MPH OR MORE.

$L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.

WHERE:

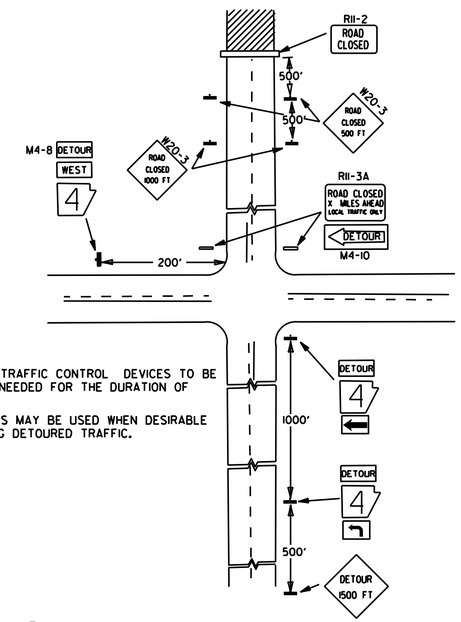
L= MINIMUM LENGTH OF TAPER.

S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.

W= WIDTH OF OFFSET.

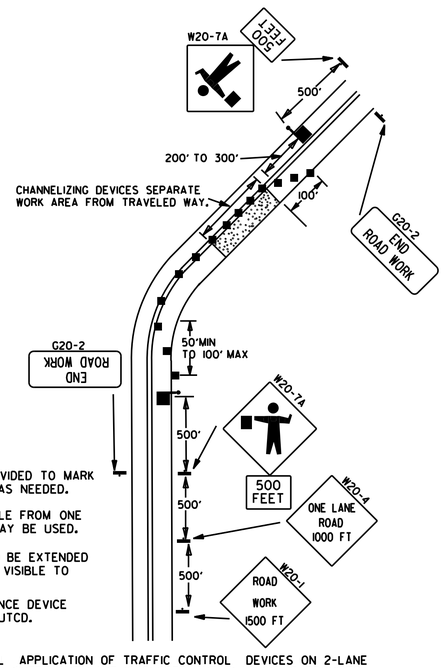
GENERAL NOTES:

1. THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON WI-3 OR WI-4 CURVE WARNING SIGNS. USE WI-4 WHEN SPEED IS GREATER THAN 30MPH AND WI-3 WHEN 30MPH OR LESS
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE ARDOT QUALIFIED PRODUCTS LIST.
9. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).



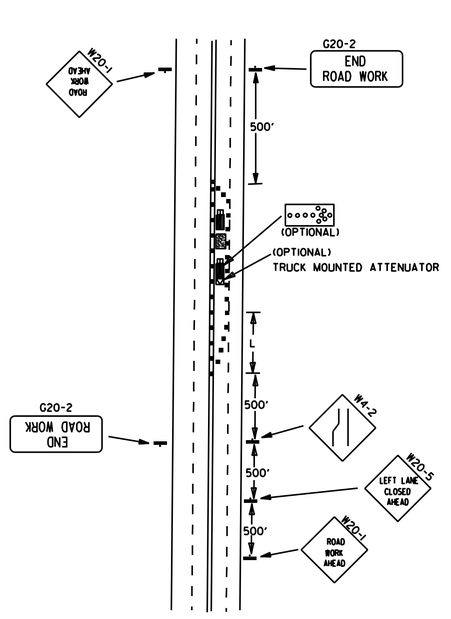
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



NOTES:
1. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
3. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
4. AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) OPTIONAL. REFER TO MUTCD.

(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



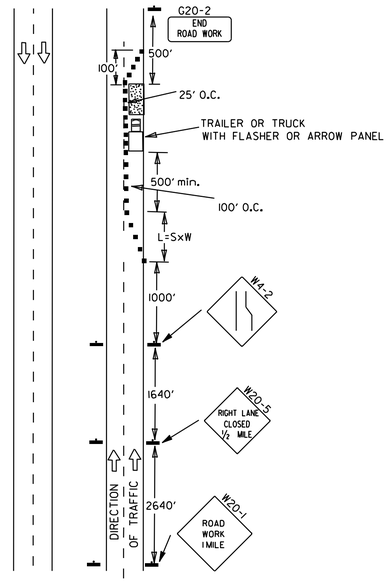
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

DATE	REVISION	FILMED
05-20-21	REVISED NOTE 7	
11-07-19	REVISED NOTE 1, ADDED NOTE 9	
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (c) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

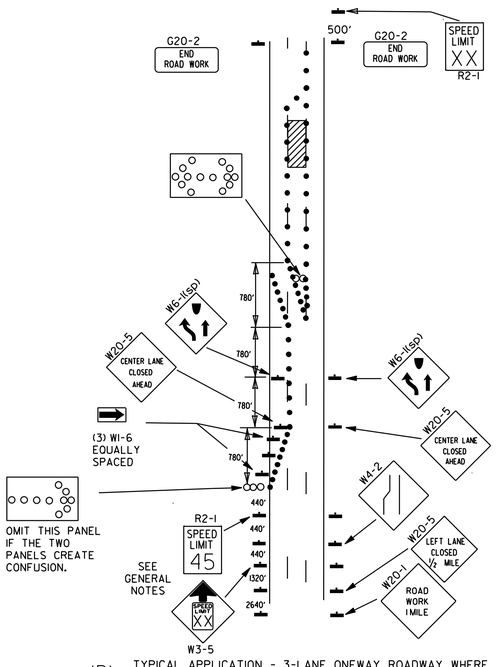
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-2



(A) TYPICAL APPLICATION - DAYTIME MAINTENANCE OPERATIONS OF SHORT DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



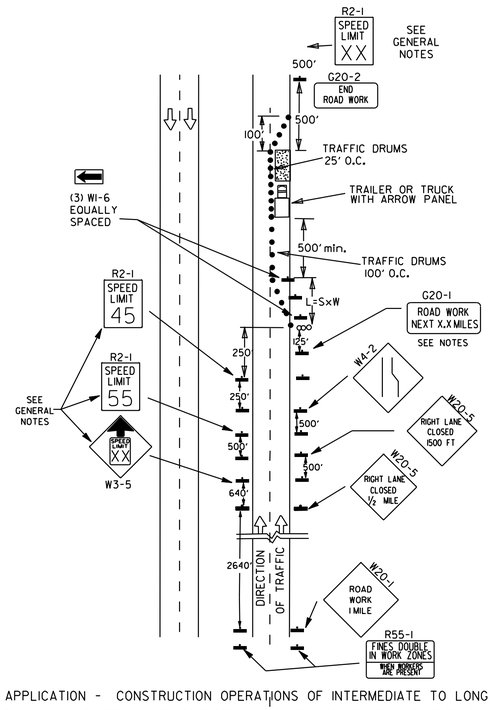
(B) TYPICAL APPLICATION - 3-LANE ONEWAY ROADWAY WHERE CENTER LANE IS CLOSED.

KEY:

- ARROW PANEL (IF REQUIRED)
- ■ CHANNELIZING DEVICE
- ● TRAFFIC DRUM

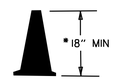
GENERAL NOTES:

1. A SPEED LIMIT REDUCTION MAY BE IMPLEMENTED ONLY WHEN DESIGNATED IN THE PLAN OR WHEN RECOMMENDED BY THE ROADWAY DESIGN DIVISION.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS, AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. THE G20-1 SIGN WILL BE REQUIRED ON JOBS OF OVER TWO MILES IN LENGTH. WHEN THE LANE CLOSURE IS NOT AT THE BEGINNING OF THE PROJECT, THE G20-1 SIGN SHALL BE ERECTED 125' IN ADVANCE OF THE JOB LIMIT. ADDITIONAL W20-1(1MILE) SIGNS ARE NOT REQUIRED IN ADVANCE OF LANE CLOSURES THAT BEGIN INSIDE THE PROJECT LIMITS.
8. FLAGGERS SHALL USE STOP/SLOW PADDLES FOR CONTROLLING TRAFFIC THROUGH WORK ZONES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. ALL PLASTIC DRUMS AND CONES SHALL MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
10. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
11. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).



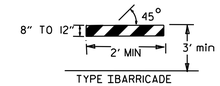
(C) TYPICAL APPLICATION - CONSTRUCTION OPERATIONS OF INTERMEDIATE TO LONG TERM DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

CHANNELIZING DEVICES

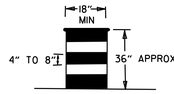


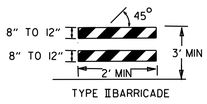
* WHEN CONES ARE USED ON FREEWAYS AND MULTI-LANE HIGHWAYS, THEY SHALL BE 28" MIN. DURING HOURS OF DARKNESS, 28" CONES SHALL BE USED ON ALL ROADWAYS, AND SHALL BE REFLECTORIZED IN ACCORDANCE WITH THE M.U.T.C.D.

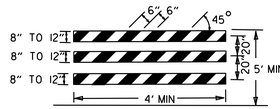
CONES



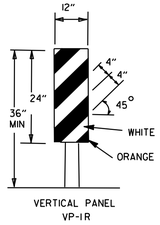
PLASTIC DRUM



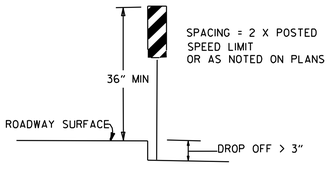




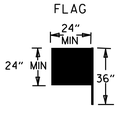
NOTE:
FOR ALL ROAD CLOSURES, THE TYPE III BARRICADES SHALL BE OF SUFFICIENT LENGTH TO EXTEND ACROSS ENTIRE ROADWAY.



VERTICAL PANEL PLACEMENT



FLAG



FLAG SHALL BE OF GOOD GRADE RED MATERIAL

TRAFFIC CONTROL DEVICES			
NON-INTERSTATE			
VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL	
		≤ 45 MPH	> 45 MPH
≤ 1"	CENTERLINE	W8-11	W8-11
> 1" ≤ 3"	CENTERLINE	W8-11 AND CENTERLINE LANE STRIPING	W8-11 AND CENTERLINE LANE STRIPING
> 3"	CENTERLINE	STANDARD LANE CLOSURE[6]	STANDARD LANE CLOSURE[6]
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9 AND TRAFFIC DRUMS[1]	W8-9 AND TRAFFIC DRUMS[1]
> 3" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]
> 6" ≤ 18"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 18" ≤ 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]	A STABILIZED WEDGE, W8-17, EDGE LINE STRIPING AND TRAFFIC DRUMS[3]
> 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER[4] & EDGE LINES	PRECAST CONCRETE BARRIER[4] & EDGE LINES

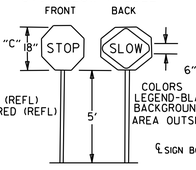
INTERSTATE		
VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL
≤ 3"	CENTERLINE	W8-11 AND LANE STRIPING
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 3" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER & EDGE LINES

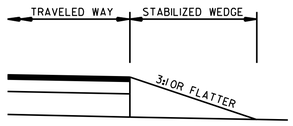
INTERSTATE AND NON-INTERSTATE		
FORESLOPE	HEIGHT	TRAFFIC CONTROL
1:1	> 2 FT	PRECAST CONCRETE BARRIER
2:1	≤ 5 FT	TRAFFIC DRUMS
2:1	> 5 FT	PRECAST CONCRETE BARRIER
Flatter than 2:1	N/A	TRAFFIC DRUMS

GENERAL NOTES:

1. WHEN THE SHOULDER AREA IS USED AS PART OF THE TRAVELED LANE AND THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, THEN VERTICAL PANELS SHALL BE USED.
2. WHEN THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, A STABILIZED WEDGE SHALL BE USED.
3. PRECAST CONCRETE BARRIER WALL CAN BE USED IN LIEU OF A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS, IF AND WHERE DIRECTED BY THE ENGINEER.
4. A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS CAN BE USED IN LIEU OF PRECAST CONCRETE BARRIER WALL, IF AND WHERE DIRECTED BY THE ENGINEER.
5. W21-5, W21-5a, AND/OR W21-5b SIGNS SHALL BE USED WHERE THE ROADWAY IS UNOBSTRUCTED IF AND WHERE DIRECTED BY THE ENGINEER.
6. TIME LIMITATIONS MUST CONFORM TO SECTION 603 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).

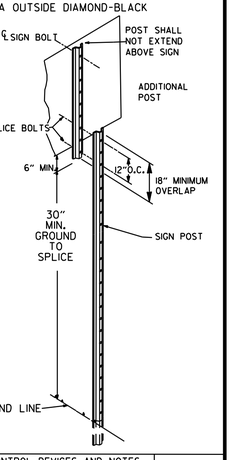
STOP SLOW PADDLE





STABILIZED WEDGE

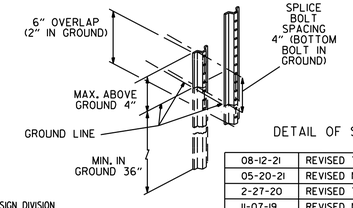
NOTE:
MATERIALS FOR THE STABILIZED WEDGE SHALL MEET THE REQUIREMENTS PROVIDED IN SECTION 603.02 OF THE STANDARD SPECIFICATIONS.



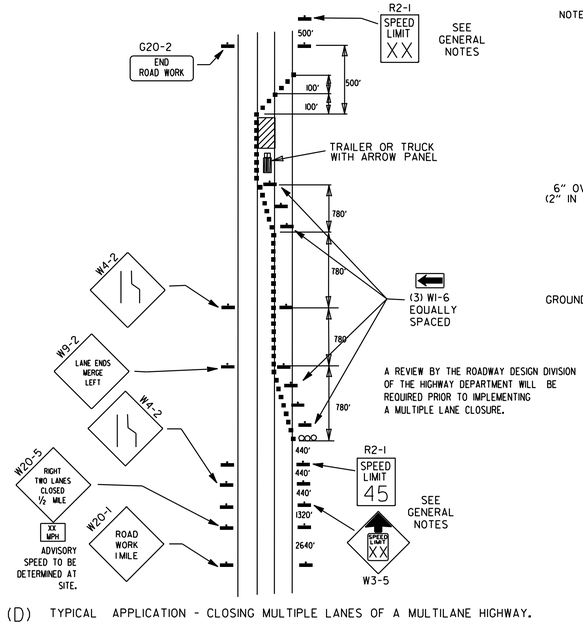
NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-21)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.



DETAIL OF SPLICES



A REVIEW BY THE ROADWAY DESIGN DIVISION OF THE HIGHWAY DEPARTMENT WILL BE REQUIRED PRIOR TO IMPLEMENTING A MULTIPLE LANE CLOSURE.

(D) TYPICAL APPLICATION - CLOSING MULTIPLE LANES OF A MULTILANE HIGHWAY.

DATE	REVISION	FILMED
08-12-21	REVISED TRAFFIC CONTROL DEVICES AND NOTES	
05-20-21	REVISED NOTE 10	
2-27-20	REVISED TRAFFIC CONTROL DEVICES DETAILS	
11-07-19	REVISED NOTE 9, ADDED NOTE 11	
7-25-19	REVISED TRAFFIC CONTROL DEVICES DETAILS	
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1& REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

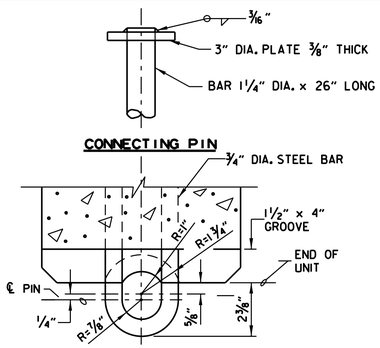
ARKANSAS STATE HIGHWAY COMMISSION

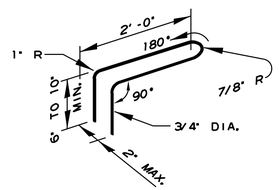
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-3

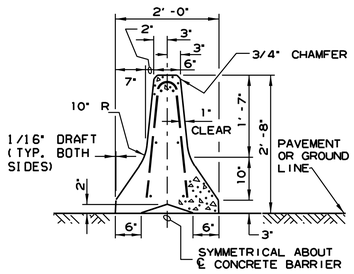
REINFORCING BAR TABLE PER BARRIER UNIT

MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2. TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", LIFTING HOLE, 90°, 3 3/8" R
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1'-6", 1" MIN. CLEAR TO BAR, 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9", 2 3/16" R, 12°, 9 1/2", 2'-1 3/8", 4 3/8"

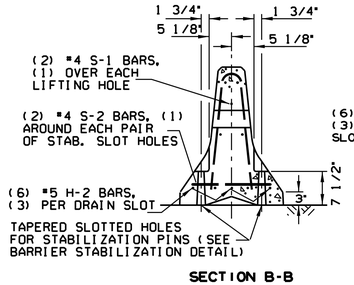




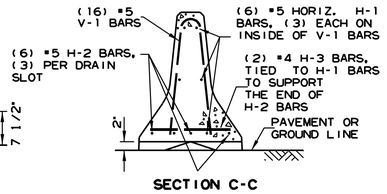
CONNECTION LOOP



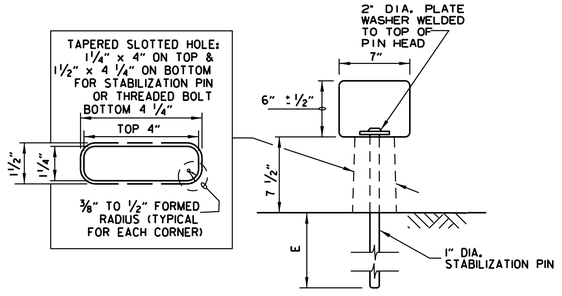
SECTION A-A



SECTION B-B



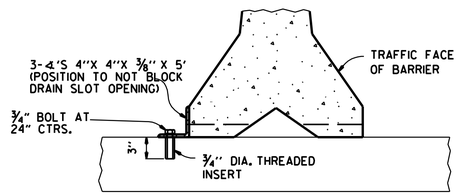
SECTION C-C



BARRIER STABILIZATION DETAIL

ROADWAY SECTION

(E) 4" - CONCRETE PAVEMENT
8" - ASPHALT PAVEMENT
12" - SHOULDER AREAS



NOTE: " THREADED INSERTS SHALL BE CAST IN PLACE FOR ALL NEW BRIDGE DECKS AND DRILLED AND GROUTED FOR EXISTING BRIDGE DECKS. INSERTS SHALL HAVE A MINIMUM ULTIMATE LOAD CAPACITY OF 8000 LBS. IN TENSION. AFTER REMOVAL OF BARRIER, BOLTS, AND ANGLES, THE INSERTS SHALL BE FILLED WITH APPROVED NON-SHRINK EPOXY.

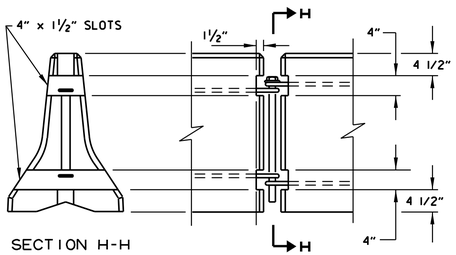
BARRIER STABILIZATION DETAIL

BRIDGE DECKS

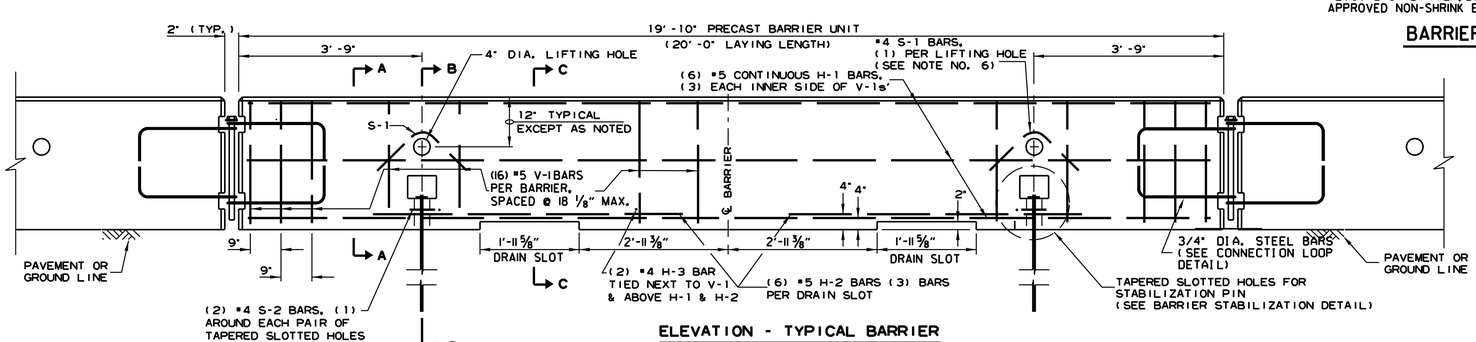
VIEW D-D

VIEW D'-D'

ELEVATION



BARRIER REMOVAL SLOT DETAILS



ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

GENERAL NOTES

1. THE CONTRACTOR SHALL FURNISH THE PRECAST CONCRETE BARRIER UNITS AND SHALL BE RESPONSIBLE FOR THE MANUFACTURE, SHIPMENT, STORAGE, PLACEMENT AND REMOVAL. AT THE COMPLETION OF THE PROJECT, THE PRECAST UNITS WILL REMAIN THE PROPERTY OF THE CONTRACTOR.

2. MATERIALS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:
   CONCRETE: 2500 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
   REINFORCING STEEL: AASHTO M 31 OR M 53, GRADE 60
   STRUCTURAL STEEL: AASHTO-M270 GRADE 36 SHALL BE USED FOR THE CONNECTION PIN, CONNECTION LOOPS, AND STABILIZATION PINS. A ONE PIECE PIN WITH A 3" ROUNDED TOP MAY BE USED IN PLACE OF THE DETAILED CONNECTION PIN.
   DELINEATORS: DELINEATORS SHALL BE MOUNTED AT 10' SPACING ON TOP OF PRECAST BARRIER.

   IN APPLICATIONS WHERE BARRIER WALL IS WITHIN 6 FEET OF A TRAFFIC LANE, ADDITIONAL DELINEATORS SHALL BE PLACED ON THE BARRIER AT 10' SPACING APPROXIMATELY ONE (1) FOOT FROM THE TOP OF THE BARRIER. DELINEATORS SHALL BE ON THE ARDOT QUALIFIED PRODUCTS LIST FOR CONSTRUCTION CONCRETE BARRIER MARKERS.
   DELINEATOR COLOR SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
   PAYMENT FOR DELINEATORS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID PER LIN. FT. FOR "FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER". THE CONTRACTOR SHALL CERTIFY TO THE ENGINEER THAT THE MATERIAL AND THE DESIGN USED IN THE PRECAST BARRIER UNITS MEETS THE REQUIREMENTS AS SHOWN ON THIS STANDARD DRAWING.

3. OTHER PRECAST CONCRETE BARRIERS THAT HAVE BEEN CRASH TESTED AND APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION TO MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) WILL BE ACCEPTED IN LIEU OF THE BARRIER SHOWN. DRAIN SLOTS SHALL BE PROVIDED AS NEEDED OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH A CERTIFICATION OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) COMPLIANCE FOR ANY OTHER TYPES OF PRECAST BARRIER TO BE USED. THE CERTIFICATION SHALL STATE THAT THE PRECAST CONCRETE BARRIER MEETS THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH). MIXING OF SHAPES WILL NOT BE ALLOWED IN A CONTINUOUS LINE OF UNITS.

4. DOWEL HOLES IN PAVEMENT OR BRIDGE SLABS THAT ARE TO REMAIN IN PLACE SHALL BE FILLED. HOLES IN CONCRETE PAVEMENT AND BRIDGE SLABS SHALL BE FILLED WITH AN APPROVED NON-SHRINK EPOXY GROUT. HOLES IN ASPHALT PAVEMENT SHALL BE FILLED WITH AN APPROVED ASPHALT JOINT FILLER. PAYMENT FOR DRILLING AND FILLING HOLES TO BE INCLUDED IN THE PRICE FOR VARIOUS BARRIER ITEMS.

5. ATTACH UNITS TO ROADWAY SURFACE WITH STABILIZATION PINS AND TO DECK SLABS USING BOLTS WHEN REQUIRED.

6. A 4" WHITE PVC SLEEVE MAY BE USED TO FORM THE LIFTING HOLE AND IF USED THE SLEEVE IS TO BE LEFT IN PLACE.

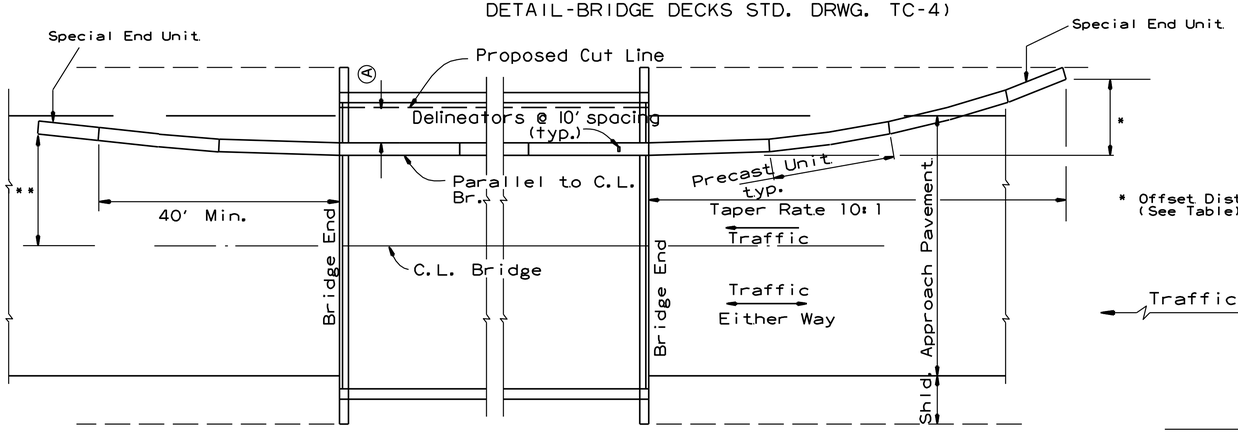
DATE	REVISION	FILMED
11-07-19	REVISED NOTE 3	
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)

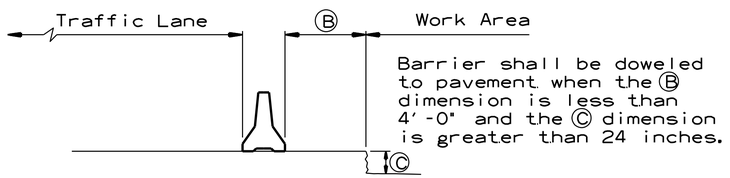


BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

** Offset Distance for Two Way Traffic Only

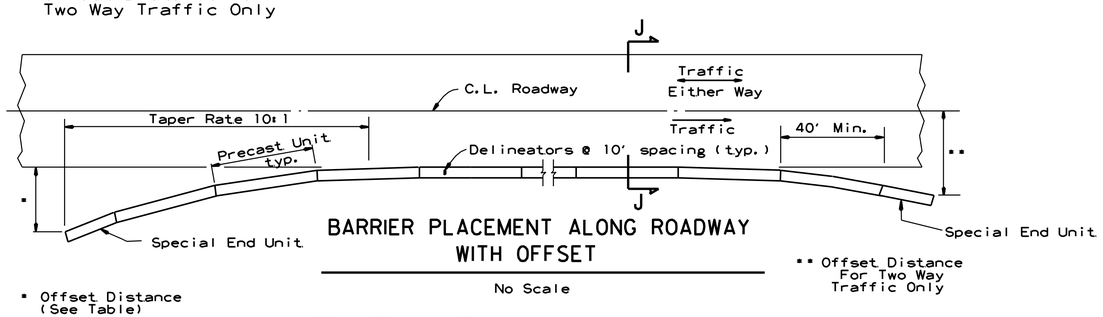
* Offset Distance (See Table)



Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

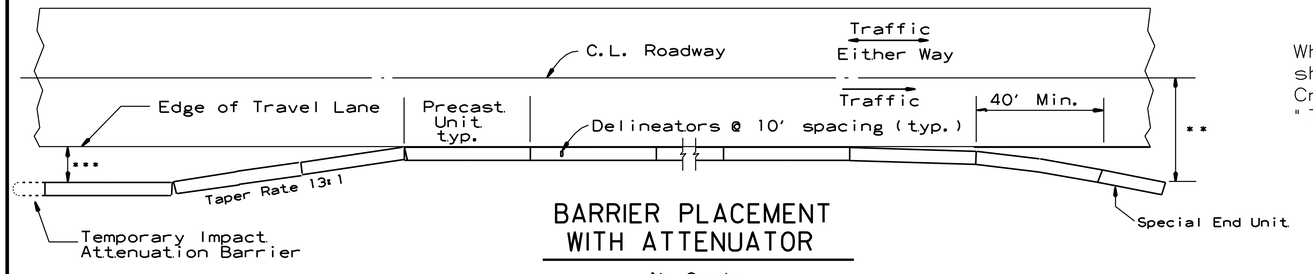
** Offset Distance For Two Way Traffic Only

* Offset Distance (See Table)

Offset Distance Table

Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see "Barrier Placement With Attenuator" Detail shown below.

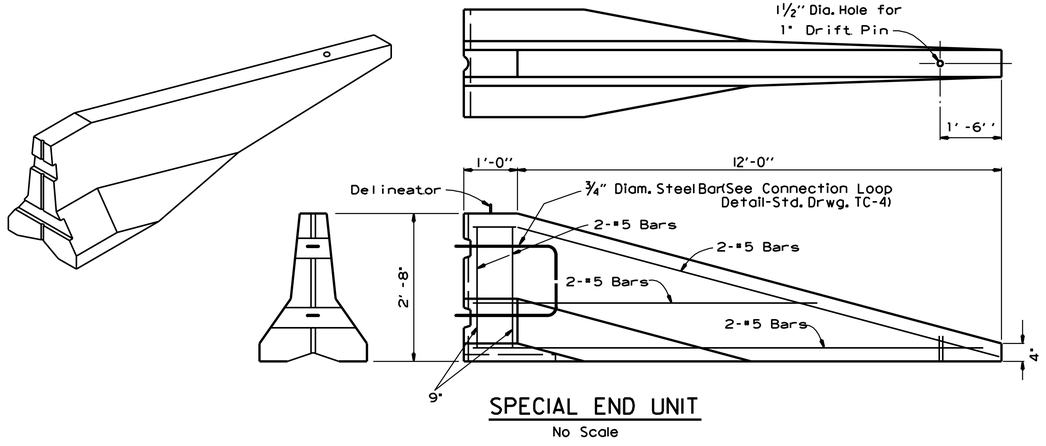


BARRIER PLACEMENT WITH ATTENUATOR

No Scale

*** Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator

** Offset Distance For Two Way Traffic Only



SPECIAL END UNIT

No Scale

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with a Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

DATE	REVISION	FILMED
11-07-19	REVISED NOTE	
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

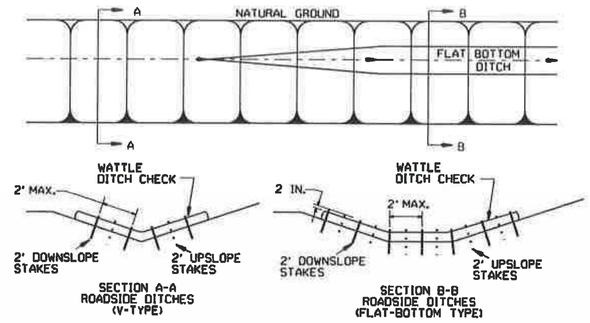
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

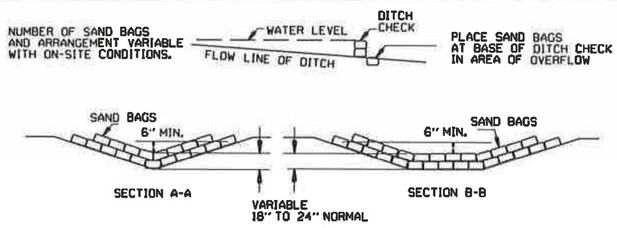
STANDARD DRAWING TC-5

GENERAL NOTES

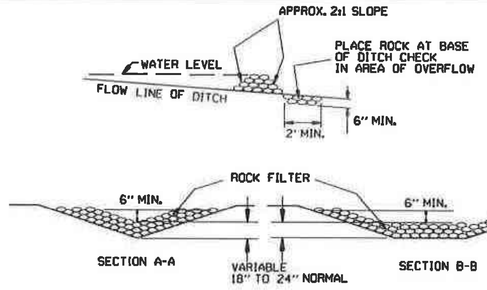
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



SAND BAG DITCH CHECK (E-5)

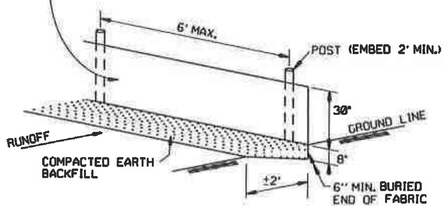


ROCK DITCH CHECK (E-6)

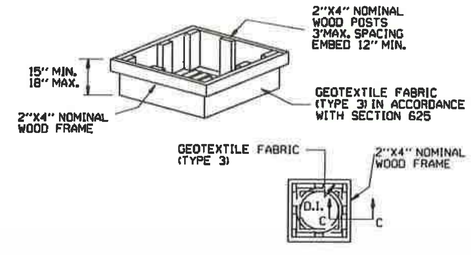
GENERAL NOTES

GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

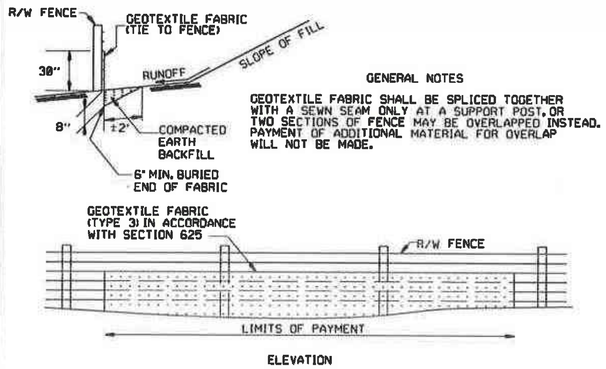
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



SILT FENCE (E-11)



DROP INLET SILT FENCE (E-7)



GENERAL NOTES

GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

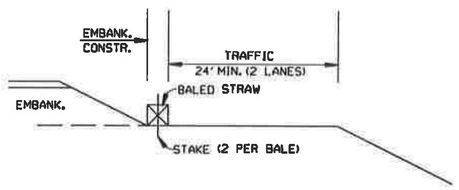
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

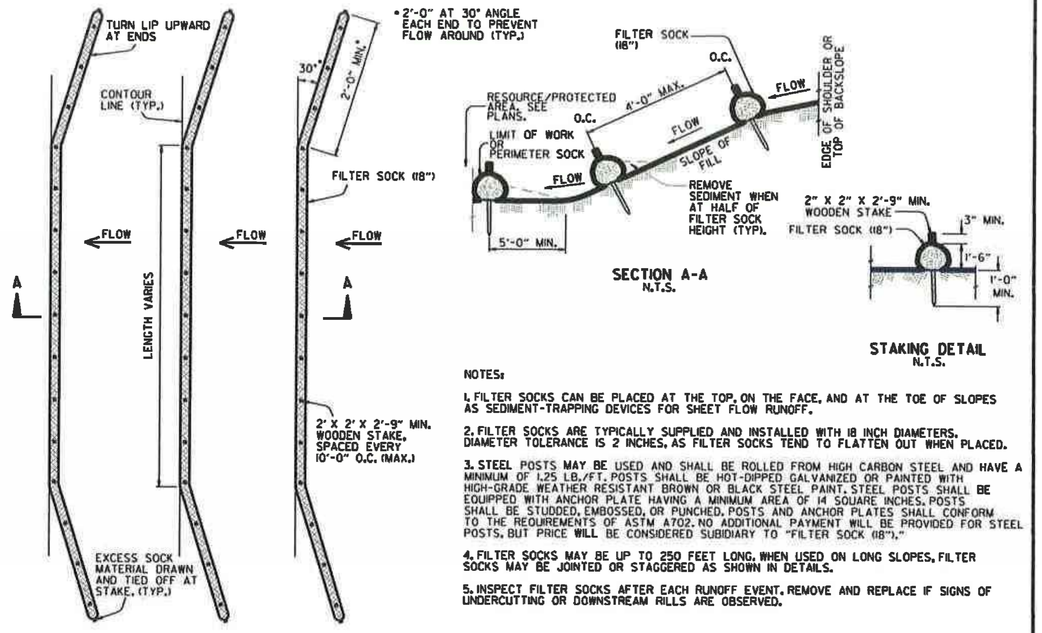
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



BALED STRAW FILTER BARRIER (E-2)



NOTES:

1. FILTER SOCKS CAN BE PLACED AT THE TOP, ON THE FACE, AND AT THE TOE OF SLOPES AS SEDIMENT-TRAPPING DEVICES FOR SHEET FLOW RUNOFF.

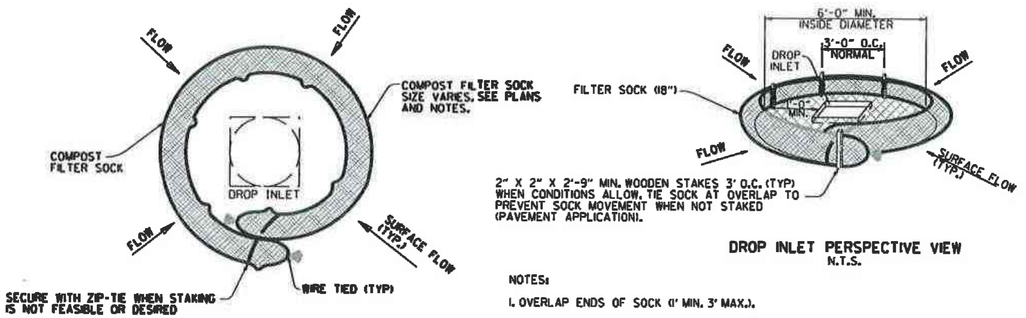
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

3. STEEL POSTS MAY BE USED AND SHALL BE ROLLED FROM HIGH CARBON STEEL AND HAVE A MINIMUM OF 1.25 LB./FT. POSTS SHALL BE HOT-DIPPED GALVANIZED OR PAINTED WITH HIGH-GRADE WEATHER RESISTANT BROWN OR BLACK STEEL PAINT. STEEL POSTS SHALL BE EQUIPPED WITH ANCHOR PLATE HAVING A MINIMUM AREA OF 14 SQUARE INCHES. POSTS SHALL BE STUDDED, EMBOSSED, OR PUNCHED. POSTS AND ANCHOR PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A702. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR STEEL POSTS, BUT PRICE WILL BE CONSIDERED SUBIDIARY TO "FILTER SOCK (18")."

4. FILTER SOCKS MAY BE UP TO 250 FEET LONG. WHEN USED ON LONG SLOPES, FILTER SOCKS MAY BE JOINTED OR STAGGERED AS SHOWN IN DETAILS.

5. INSPECT FILTER SOCKS AFTER EACH RUNOFF EVENT. REMOVE AND REPLACE IF SIGNS OF UNDERCUTTING OR DOWNSTREAM RILLS ARE OBSERVED.

FILTER SOCK ALONG SLOPE (E-3)



NOTES:

1. OVERLAP ENDS OF SOCK (1' MIN. 3' MAX.).

2. USE 18" DIA. SOCK IN NON-TRAFFIC AREAS OR AREAS WHERE SAFETY IS NOT A CONCERN.

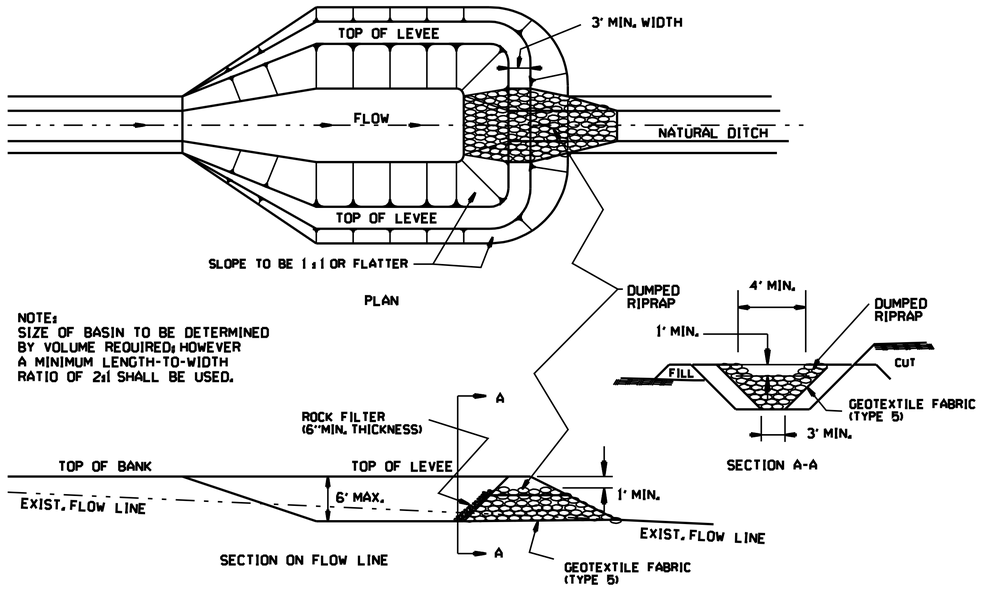
COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)

DATE	REVISION	FILMED
11-16-17	ADDED FILTER SOCK E-3 AND E-13	
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
07-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
07-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
07-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
06-02-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
04-01-93	REDRAWN	
10-01-92	REDRAWN	
08-02-76	ISSUED R.D.M.	298-7-28-76

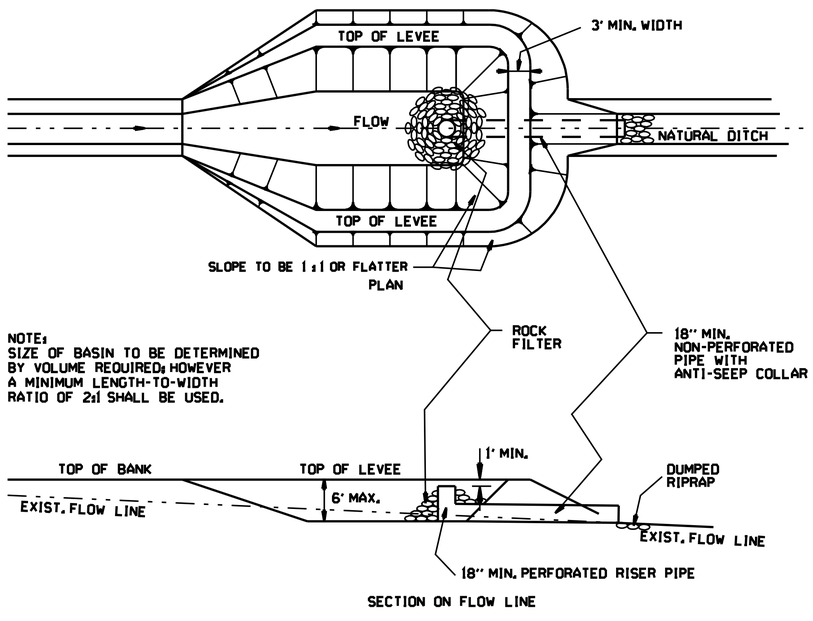
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

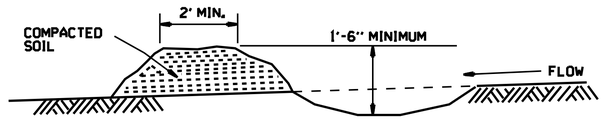
STANDARD DRAWING TEC-1



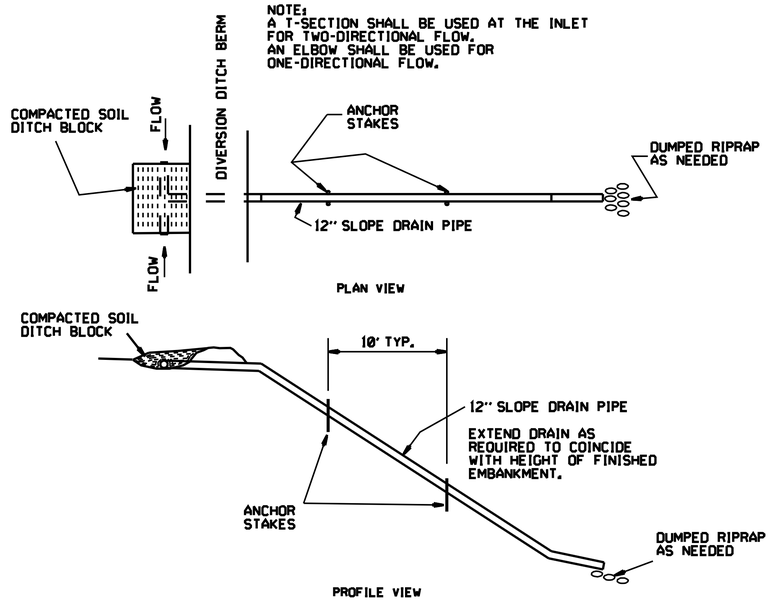
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



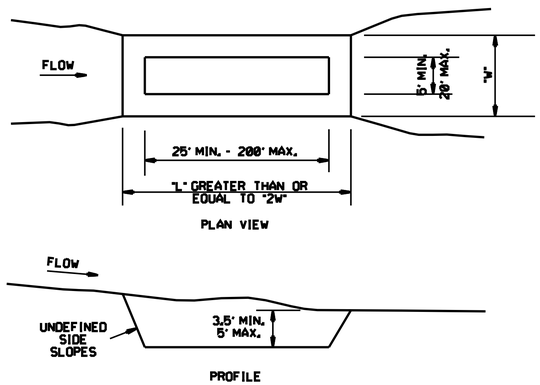
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

DATE	REVISION	FILMED
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13	
4-1-93	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

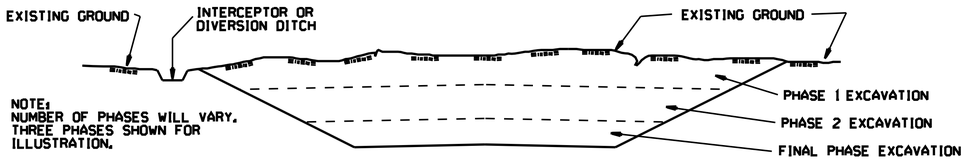
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES , DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION



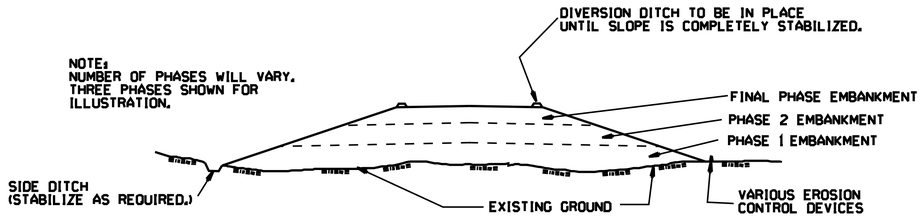
GENERAL NOTE

ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT



GENERAL NOTE

ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

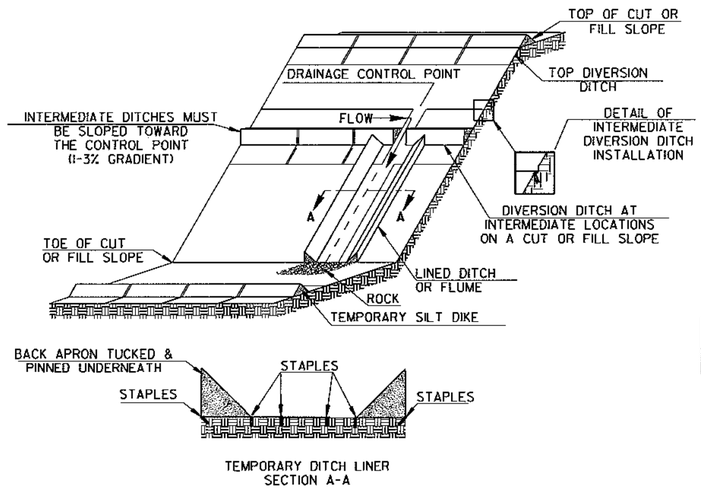
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3

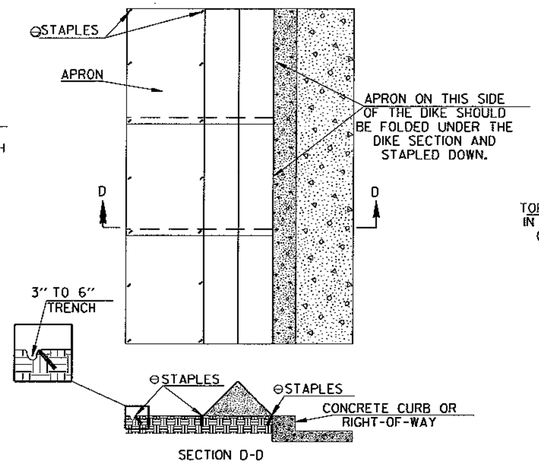


TRIANGULAR SILT DIKE INSTALLATION
FOR
DIVERSION DITCH AND/OR DITCH LINER

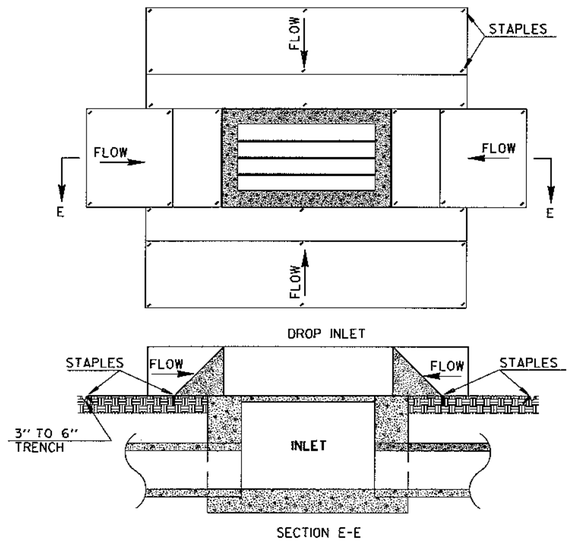
TRIANGULAR SILT DIKE INSTALLATION
FOR
ROADWAY DITCH OR DRAINAGE DITCH

○ POINT "1" MUST BE HIGHER THAN POINT "2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

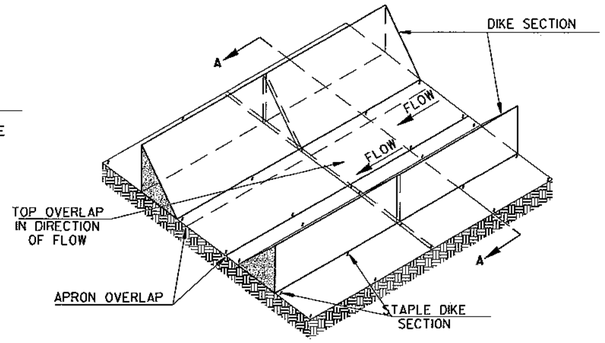
⊖ STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE UNIT AS SHOWN ON THE DIAGRAM.



TRIANGULAR SILT DIKE INSTALLATION
FOR
CONTINUOUS BARRIER



TRIANGULAR SILT DIKE INSTALLATION
FOR
DROP INLETS



TRIANGULAR SILT DIKE INSTALLATION
FOR
TEMPORARY DITCH LINER

GENERAL NOTES

1. THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, AND MAINTAINING THE TRIANGULAR SILT DIKE. THE DIKES SHALL BE USED AS A CONTINUOUS LINE BARRIER AT THE TOE OF SLOPE OR ACROSS THE ROADWAY DITCH TO CONTAIN SEDIMENT AND MINIMIZE EROSION, OR AS DIRECTED BY THE ENGINEER. THESE DIKES SHALL BE INSTALLED AND LOCATED AS SOON AS CONSTRUCTION WILL ALLOW OR AS DIRECTED BY THE ENGINEER.

2. TRIANGULAR SILT DIKE SHALL BE TRIANGULAR SHAPED HAVING A HEIGHT OF AT LEAST 8" TO 10" IN THE CENTER WITH EQUAL SIDES AND A 16" TO 20" BASE. THE TRIANGULAR SHAPED INNER MATERIAL SHALL BE URETHANE FOAM. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL & ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 24" TO 36". THIS FABRIC SHOULD BE MILDEW RESISTANT, ROT-PROOF AND RESISTANT TO HEAT AND ULTRAVIOLET RADIATION MEETING REQUIREMENTS FOR SEDIMENT CONTROL IN AASHTO M288. THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE NO. 11 GAUGE WIRE AND BE AT LEAST 6" TO 8" LONG. STAPLES SHALL BE PLACED AS SHOWN ON THESE DETAILS.

   THE CONTRACTOR SHALL INSPECT ALL DIKES AFTER EACH RAINFALL EVENT OF AT LEAST 0.5" OR GREATER. ANY DEFICIENCIES OR DAMAGE SHALL BE REPAIRED BY THE CONTRACTOR. ACCUMULATED SILT OR DEBRIS SHALL BE REMOVED AND RELOCATED AS DIRECTED BY THE ENGINEER. IF THE DIKES ARE DAMAGED OR INADVERTENTLY MOVED DURING THE SILT REMOVAL PROCESS, THE CONTRACTOR SHALL IMMEDIATELY REPLACE AFTER DAMAGE OCCURS.

3. ACCEPTED TRIANGULAR SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TRIANGULAR SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.

SYMBOLOGY
SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS

NOTE: SILT DIKE SHOULD ONLY BE USED FOR DROP INLETS IN SUMP LOCATIONS.

DATE	REVISION	FILMED
7-26-12	REVISED GENERAL NOTE 2.	
12-15-11	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-4