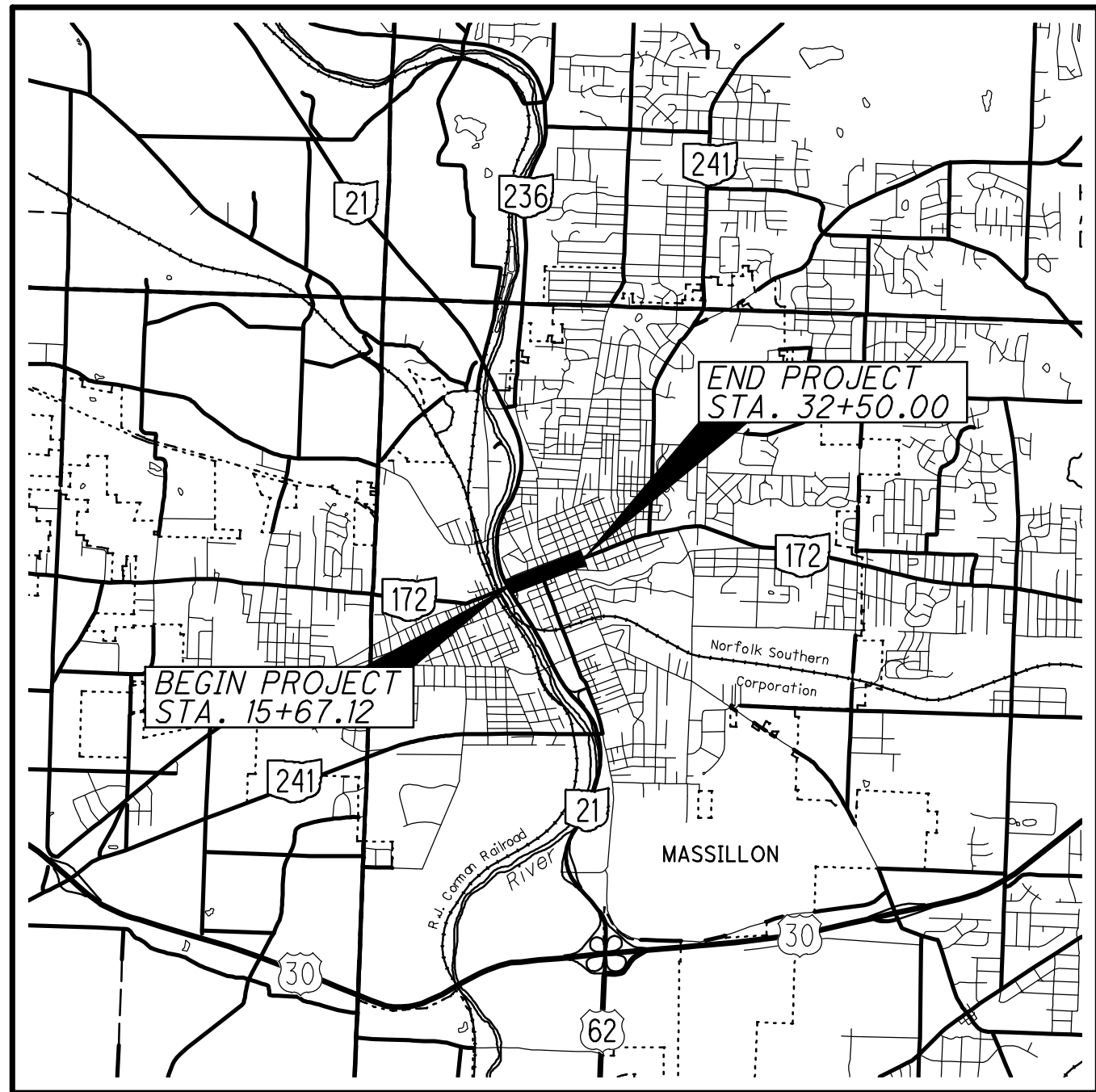


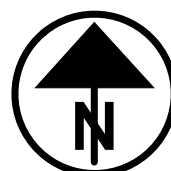
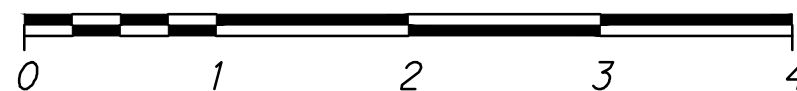
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LOCATION MAP

LATITUDE: N 40°47'48" LONGITUDE: W 81°31'18"

SCALE IN MILES



PORTION TO BE IMPROVED.....
INTERSTATE OR DIVIDED HIGHWAY.....
UNDIVIDED STATE & FEDERAL ROUTES.....
OTHER ROADS.....

DESIGN DESIGNATION

CURRENT YEAR ADT (2019)..... 17,000
DESIGN YEAR ADT (2039)..... 17,000
DESIGN HOURLY VOLUME (2039)..... 1,500
DIRECTIONAL DISTRIBUTION..... 50%
TRUCKS (24 HOUR B&C)..... 5.0%
Td..... 1.8%
DESIGN SPEED..... 25 MPH
LEGAL SPEED..... 25 MPH
DESIGN FUNCTION CLASSIFICATION..... 03-PRINCIPAL ARTERIAL
NHS PROJECT..... YES

DESIGN EXCEPTIONS:

NONE REQUIRED

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

OHIO
Utilities Protection
SERVICE

Call Before You Dig
1-800-362-2764

(Non-members must be called directly)

OIL & GAS PRODUCERS
UNDERGROUND PROTECTION SERVICE
1-800-925-0988

PLAN PREPARED BY:



OHM ADVISORS, INC.
388 S. MAIN STREET, SUITE 301
AKRON, OH 44311
330-913-1080

ENGINEERS SEAL:

SIGNED:
DATE: 10/4/2018

INDEX OF SHEETS:

TITLE SHEET	1
SCHEMATIC PLAN	2
TYPICAL SECTIONS	3-7
GENERAL NOTES	8-16
MAINTENANCE OF TRAFFIC	17-27
GENERAL SUMMARY	28-31
SUBSUMMARIES	32-49
REMOVAL PLANS	50-54
PLAN SHEETS	55-59
CROSS SECTIONS	60-65
PAVEMENT ELEVATION TABLE	66
INTERSECTION DETAILS	67-68
MISCELLANEOUS DETAILS	69-74
STORM SEWER PROFILES	75
WATER WORK	76-85
TRAFFIC CONTROL	86-90
TRAFFIC SIGNALS	91-97
LIGHTING	98-105
LANDSCAPING SUBSUMMARY	106-107
LANDSCAPE AND MATERIALS PLAN	108-112

ODOT STANDARD CONSTRUCTION DRAWINGS								SUPPLEMENTAL SPECIFICATIONS
BP-1.1	7/28/00	MH-1.2	1/15/16	MT-97.10	7/18/14	TC-82.10	7/17/15	800-2016 10-19-18
BP-2.1	7/17/15	MH-1.3	1/18/13	MT-97.12	1/20/17	TC-83.10	1/19/18	813 7/20/18
BP-2.2	7/18/08			MT-99.20	7/20/18	TC-83.20	7/21/17	821 4/20/12
BP-3.1	7/18/14	HL-20.11	4/21/17	MT-101.60	1/20/17	TC-84.20	10/18/13	832 1/17/14
BP-4.1	7/19/13	HL-30.11	7/20/18	MT-102.20	7/18/14	TC-85.10	7/21/17	897 1/16/15
BP-5.1	7/20/18	HL-30.22	1/17/14	MT-105.10	7/19/13	TC-85.20	7/20/18	902 12/31/12
BP-7.1	7/20/18	HL-40.10	1/20/17	MT-110.10	7/19/13			913 4/21/17
		HL-50.11	1/16/15					921 4/20/12
CB-1.3	1/15/16	HL-60.11	7/21/17	TC-21.20	7/20/18			
CB-2.2	7/20/18	HL-60.12	7/15/16	TC-41.20	10/18/13			
CB-2.3	1/15/16	HL-60.31	7/20/18	TC-41.40	10/18/13			
				TC-42.20	10/18/13			
DM-1.1	7/21/17	MT-95.31	7/21/17	TC-52.10	10/18/13			SPECIAL PROVISIONS
DM-4.4	1/15/16	MT-95.32	7/21/17	TC-52.20	7/20/18			NONE
		MT-95.60	7/19/13	TC-71.10	1/19/18			
RM-1.1	7/18/14	MT-95.61	7/19/13	TC-81.21	7/20/18			

PROJECT DESCRIPTION

THE SCOPE OF THE PROJECT IS TO INCLUDE DECORATIVE STREET LIGHTING FROM TOMMY HENRICH DRIVE TO 3RD STREET EAST (APPROXIMATELY 0.45 MILE). STREETSCAPE IMPROVEMENTS BETWEEN ERIE STREET AND 1ST STREET EAST (INCLUDING DECORATIVE SIDEWALKS, DECORATIVE MAST ARM SIGNALIZED INTERSECTIONS, LANDSCAPED MEDIAN, MID-BLOCK CROSSING WITH REFUGE ISLAND, AND CURB BUMP-OUTS).

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: N/A
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A
NOTICE OF INTENT EARTH DISTURBED AREA: N/A NOI NOT REQUIRED

2016 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE PART-TIME CLOSING OF THE HIGHWAY TO TRAFFIC, AS NOTED ON SHEETS 17-27. DURING WHICH TIME DETOURS WILL BE PROVIDED AS SHOWN HEREIN. PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED
DATE 10/3/2018 SAFETY SERVICE DIRECTOR,
CITY OF MASSILLON

APPROVED
DATE 10/3/2018 ENGINEER, CITY OF MASSILLON

APPROVED _____
DATE _____ DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF
TRANSPORTATION

S.R. 172 LINCOLN WAY
(STA-172-6.44)

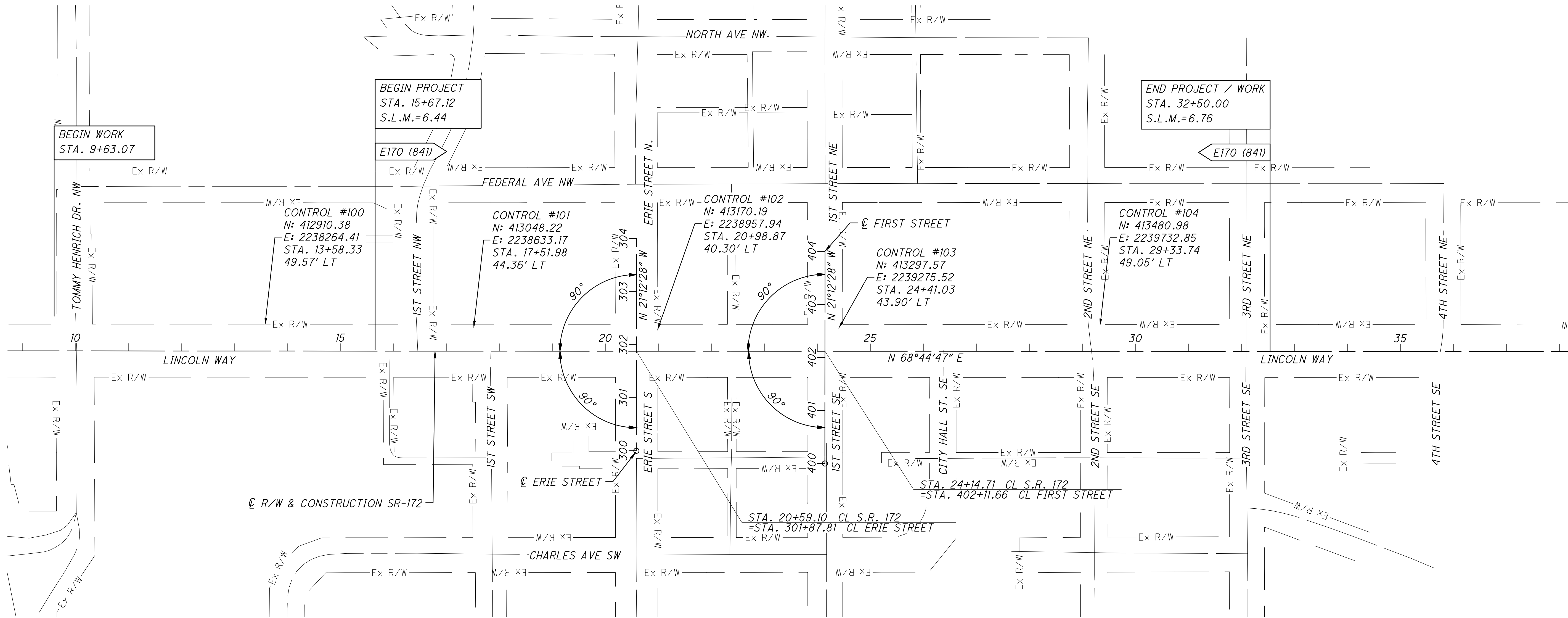
RAILROAD INVOLVEMENT
NONE

CONSTRUCTION PROJECT NO.

PID NO.
104857

FEDERAL PROJECT NO.
E170 (841)

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CONTROL / BENCHMARK DATA SHEET		
CONTROL #	ELEVATION	DESCRIPTION
100	938.81	MAG NAIL SET IN THE SIDEWALK ON THE NORTH SIDE OF LINCOLN WAY, IN FRONT OF THE MCDONALDS ON LINCOLN WAY. BEING 7.6 FEET NORTHWEST OF THE SOUTHERN EDGE OF THE SIDEWALK, 52.4 FEET SOUTHWEST OF THE SOUTHWEST EDGE OF THE SOUTEAST DRIVE OF MCDONALDS, AND 16.7 FEET NORTHWEST OF THE NORTHERN EDGE OF PAVEMENT OF LINCOLN WAY.
101	942.38	MAG NAIL SET IN THE SIDEWALK ON THE NORTH SIDE OF LINCOLN WAY EAST OF THE INTERSECTION OF LINCOLN WAY AND 1ST STREET NW. BEING 66 FEET NORTHEAST OF THE EASTERN EDGE OF PAVEMENT OF 1ST STREET NW, 11.5 FEET NORTHWEST OF THE NORTHERN EDGE OF PAVEMENT OF LINCOLN WAY, AND 15 FEET SOUTHEAST OF THE SOUTHWESTERN CORNER OF THE WALGREENS.
102	943.42	MAG NAIL SET IN THE SIDEWALK IN THE NORTHEASTERN CORNER OF THE INTERSECTION OF LINCOLN WAY AND ERIE STREET. BEING 17 FEET EAST OF THE EASTERN EDGE OF PAVEMENT OF ERIE STREET, 8.5 FEET NORTHWEST OF THE NORTHERN EDGE OF PAVEMENT OF LINCOLN WAY, AND 9.75 FEET SOUTHEAST OF THE SOUTHWESTERN CORNER OF ENGRAVERS GALLERY & SIGNS.
103	946.63	MAG NAIL SET IN THE SIDEWALK AT THE NORTHEAST CORNER OF THE INTERSECTION OF LINCOLN WAY AND 1ST STREET NE. BEING 6 FEET NORTHEAST OF THE EASTERN EDGE OF 1ST STREET NE, 9 FEET NORTHWEST OF THE NORTHERN EDGE OF PAVEMENT OF LINCOLN WAY, AND 1.25 FEET NORTHEAST OF THE NORTHEAST CORNER AN ADA RAMP.
104	964.73	MAG NAIL SET IN THE SIDEWALK AT THE NORTHEAST CORNER OF THE INTERSECTION OF LINCOLN WAY AND 2ND STREET. BEING 4.25 FEET NORTHEAST OF THE EASTERN EDGE OF PAVEMENT OF 2ND STREET, 14 FEET NORTHWEST OF THE NORTH EDGE OF PAVEMENT OF LINCOLN WAY, AND 23.5 FEET SOUTHWEST OF THE CONCRETE STEPS OF THE MASSILLON PUBLIC LIBRARY.
BM#200	996.85	SOUTH BOLT OF HYDRANT ON LINCOLN WAY AND 4TH STREET, 4.5 FT NORTH OF SIDEWALK, 6 FT EAST OF 4TH STREET, 20 FT NORTH OF LINCOLN WAY
BM#201	939.98	SOUTH BOLT OF HYDRANT, NORTH SIDE OF LINCOLN WAY AT MCDONALD'S

0

50

100

200

HORIZONTAL

SCALE IN FEET

CALCULATED

JUH

CHECKED

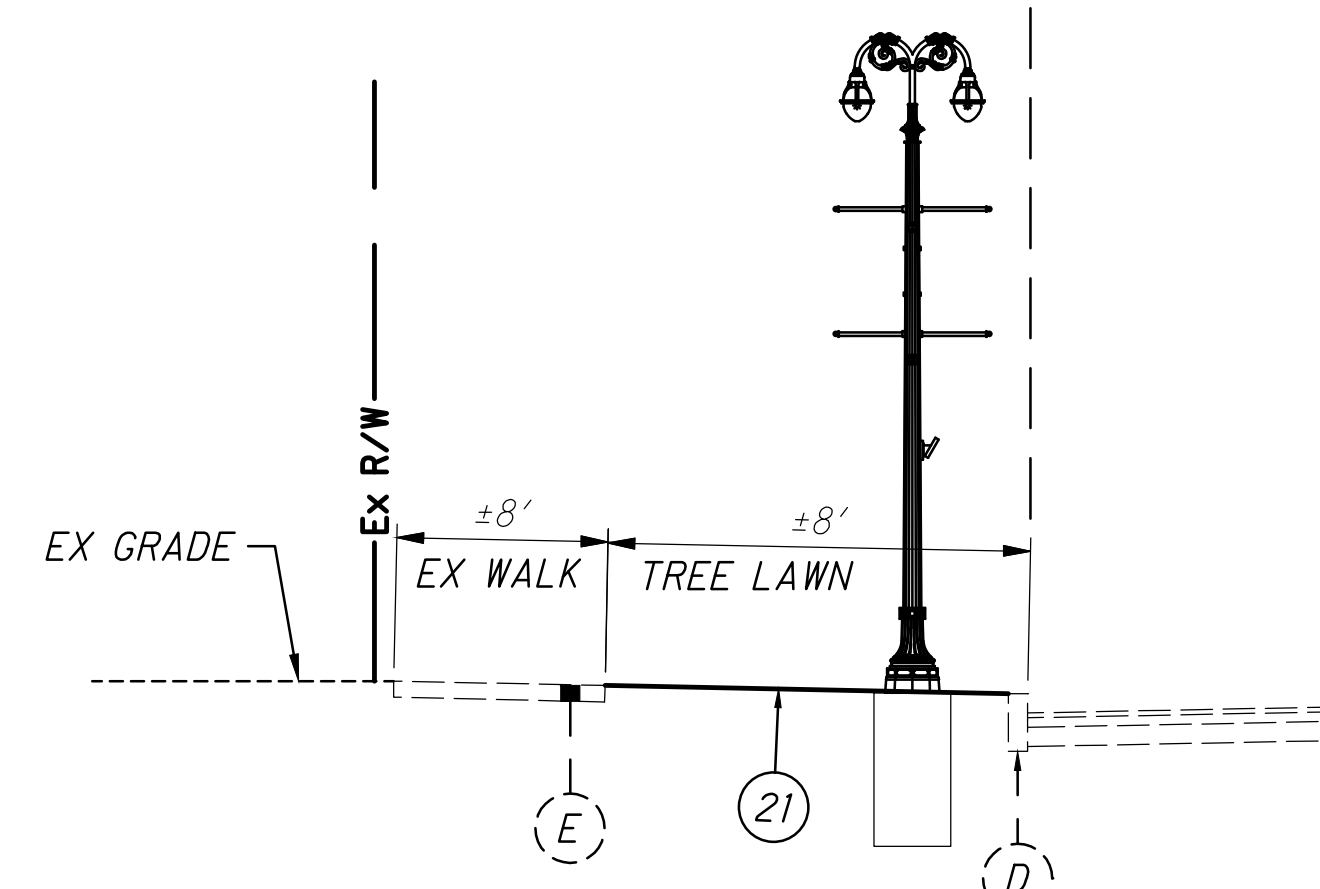
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S.R. 172 LINCOLN WAY

(STA-172-6.44)

2

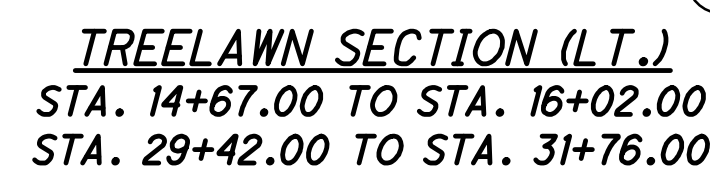
112



STREET LIGHTING TRENCH
STA. 12+52.51 TO STA. 14+67.00



SEE ALTERNATE SIDEWALK AND
TREELAWN FINISHES, THIS SHEET

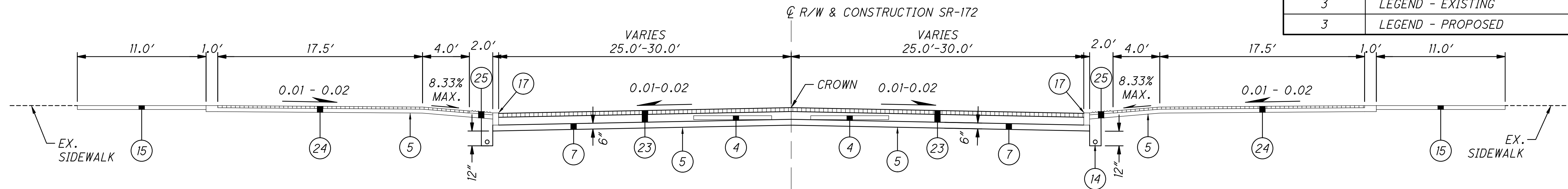


- * UNDERDRAIN TRENCH CARRIED TO THE
TOP OF ITEM 304

△₅ WORK INCLUDED WITH ADD ALT 5

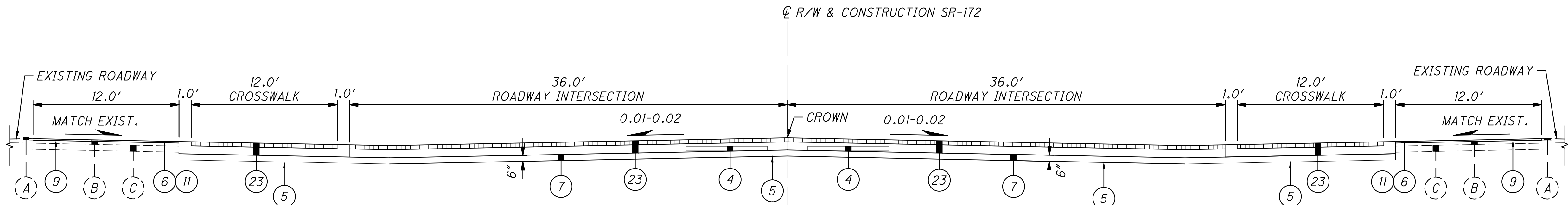
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CROSS REFERENCES	
SHEET NO.	DESCRIPTION
3	LEGEND - EXISTING
3	LEGEND - PROPOSED



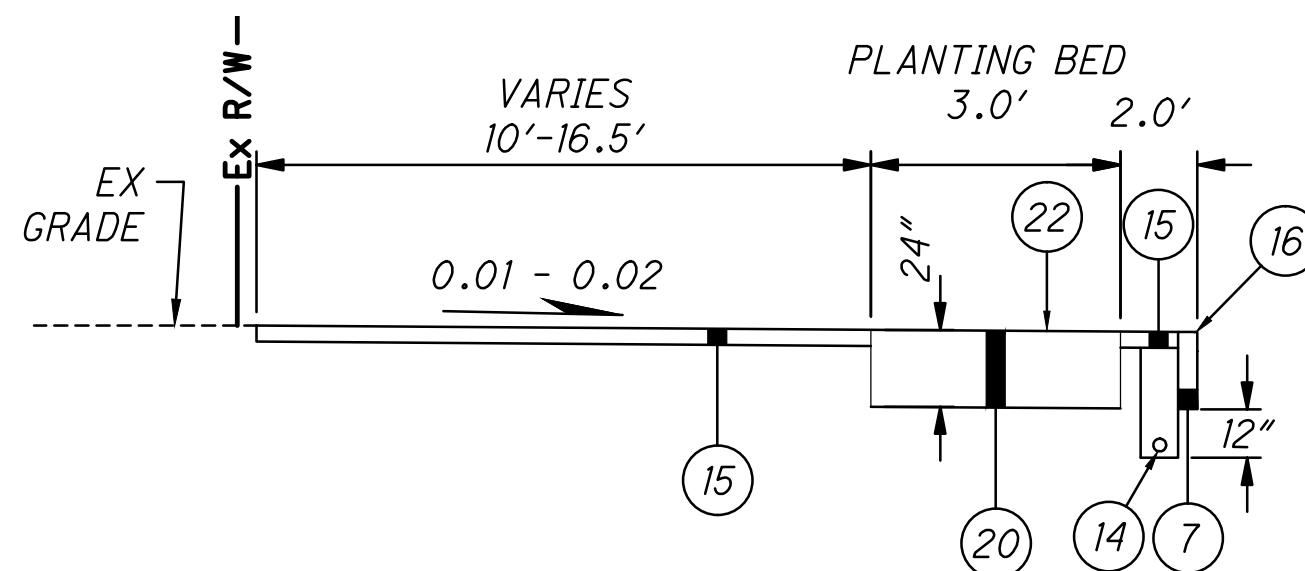
LINCOLN WAY PROPOSED TYPICAL SECTION #4

STA. 20+19.10 TO STA. 20+33.10 = 14.00 FT
STA. 20+85.10 TO STA. 20+99.10 = 14.00 FT
STA. 23+81.00 TO STA. 23+95.00 = 14.00 FT
STA. 24+39.00 TO STA. 24+53.00 = 14.00 FT
TOTAL = 56.00 FT



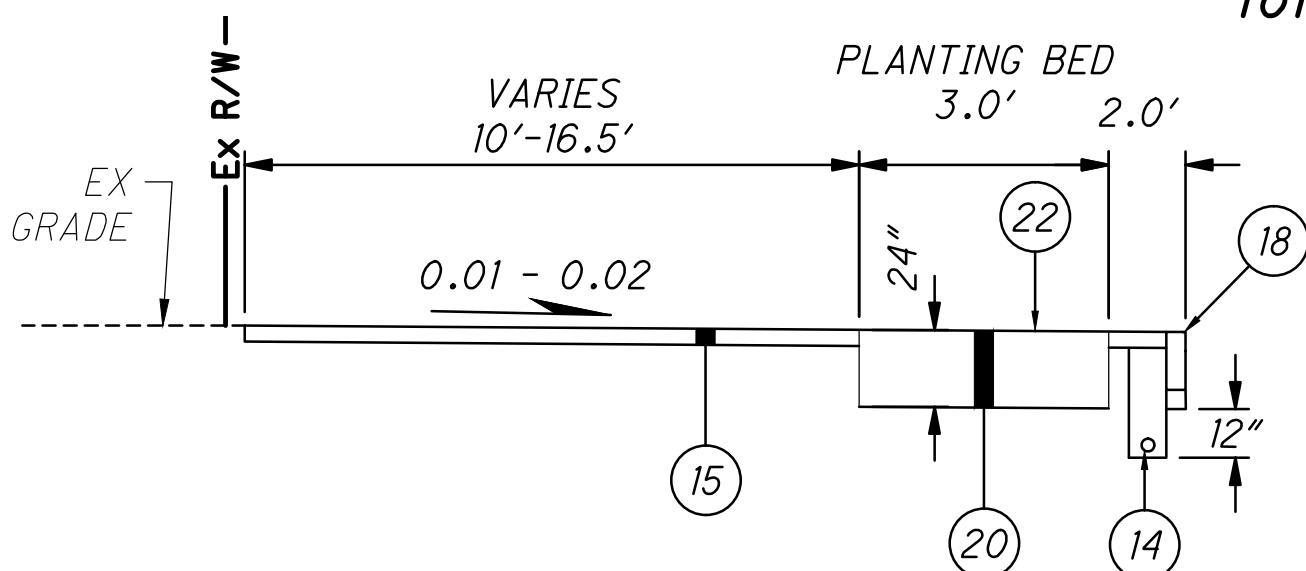
LINCOLN WAY PROPOSED TYPICAL SECTION #5

STA. 20+33.10 TO STA. 20+85.10 = 52.00 FT
STA. 23+95.00 TO STA. 24+39.00 = 44.00 FT
TOTAL = 96.00 FT



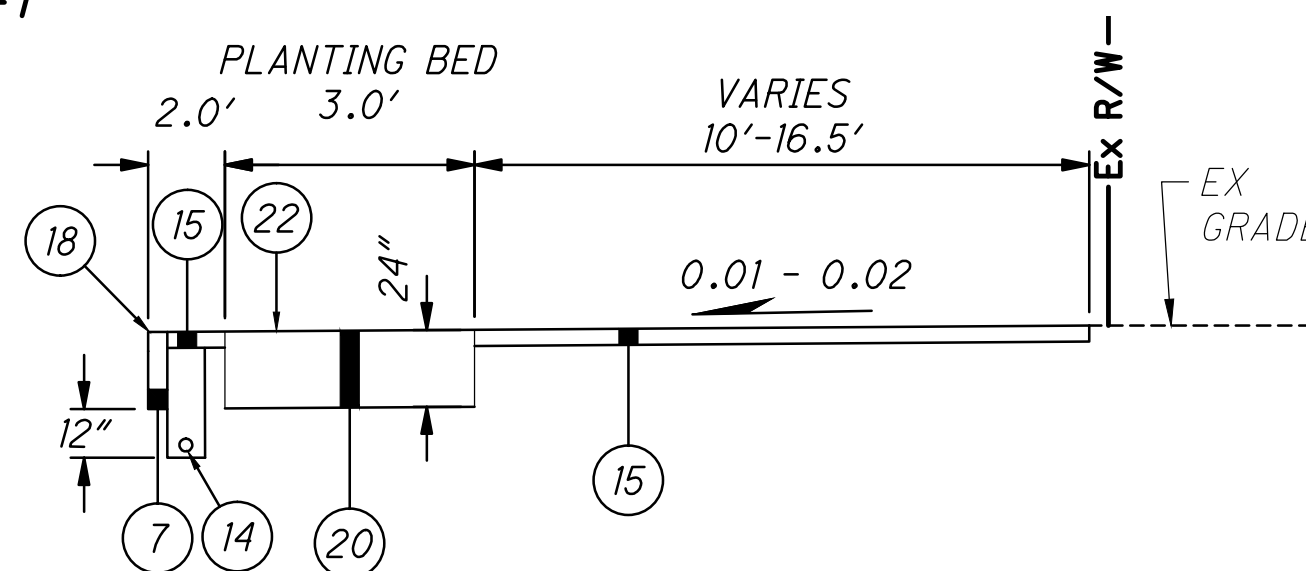
PLANTING BED SECTION (LT.)

STA. 21+36.36 TO STA. 21+52.36 = 16.00 FT
STA. 21+58.36 TO STA. 21+74.36 = 16.00 FT
STA. 21+80.36 TO STA. 21+96.36 = 16.00 FT
TOTAL = 48.00 FT



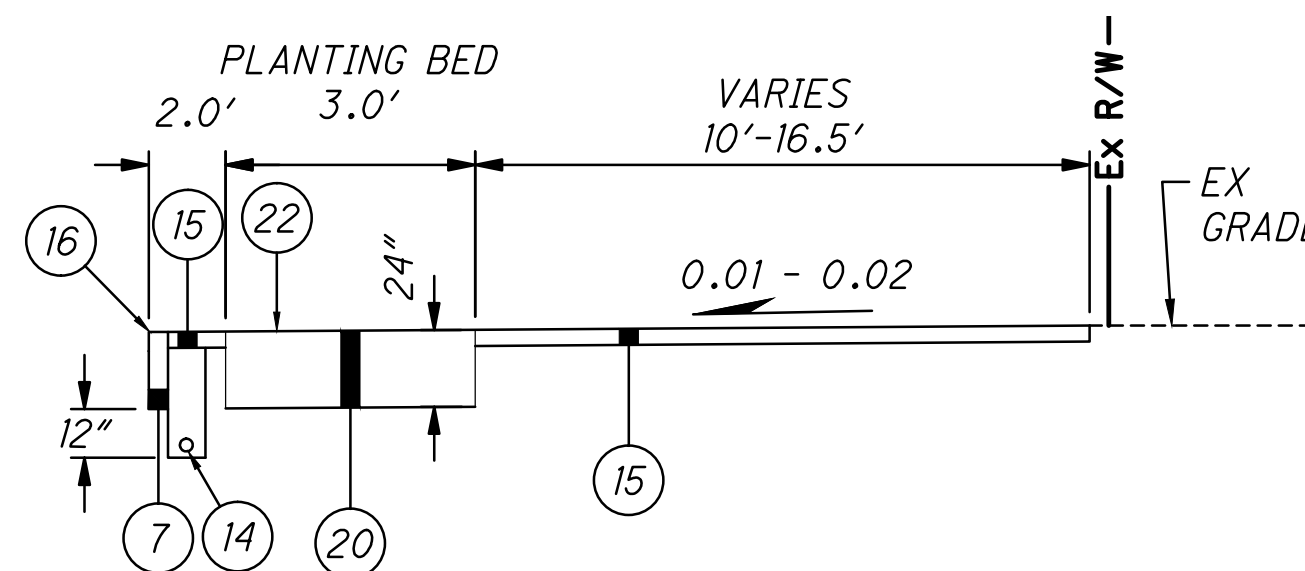
PLANTING BED SECTION (LT.)

STA. 22+82.86 TO STA. 22+98.86 = 16.00 FT
STA. 23+04.86 TO STA. 23+20.86 = 16.00 FT
STA. 23+26.86 TO STA. 23+42.86 = 16.00 FT
TOTAL = 48.00 FT



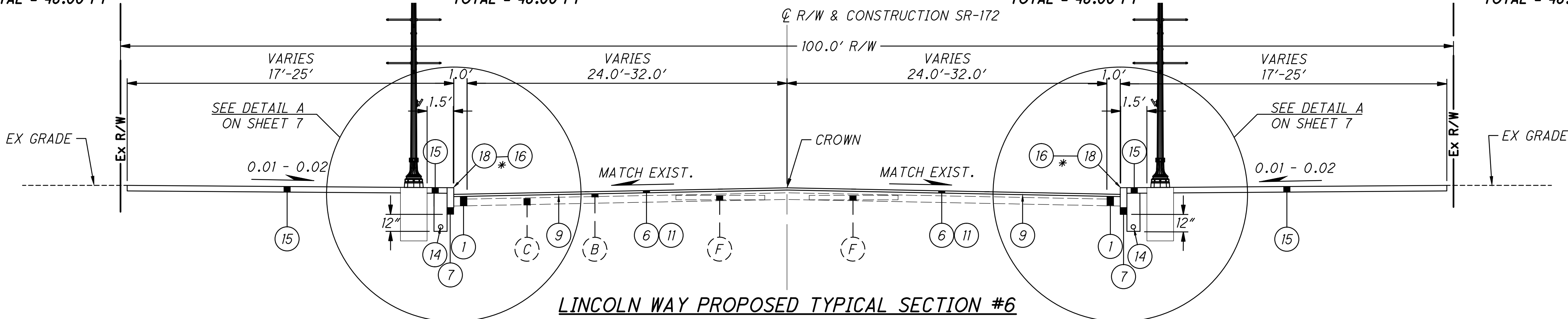
PLANTING BED SECTION (RT.)

STA. 21+36.36 TO STA. 21+52.36 = 16.00 FT
STA. 21+58.36 TO STA. 21+74.36 = 16.00 FT
STA. 21+80.36 TO STA. 21+96.36 = 16.00 FT
TOTAL = 48.00 FT



PLANTING BED SECTION (RT.)

STA. 22+82.86 TO STA. 22+98.86 = 16.00 FT
STA. 23+04.86 TO STA. 23+20.86 = 16.00 FT
STA. 23+26.86 TO STA. 23+42.86 = 16.00 FT
TOTAL = 48.00 FT



LINCOLN WAY PROPOSED TYPICAL SECTION #6

STA. 20+99.10 TO STA. 21+74.50 = 75.40 FT
STA. 23+06.34 TO STA. 23+81.00 = 74.66 FT
TOTAL = 150.06 FT

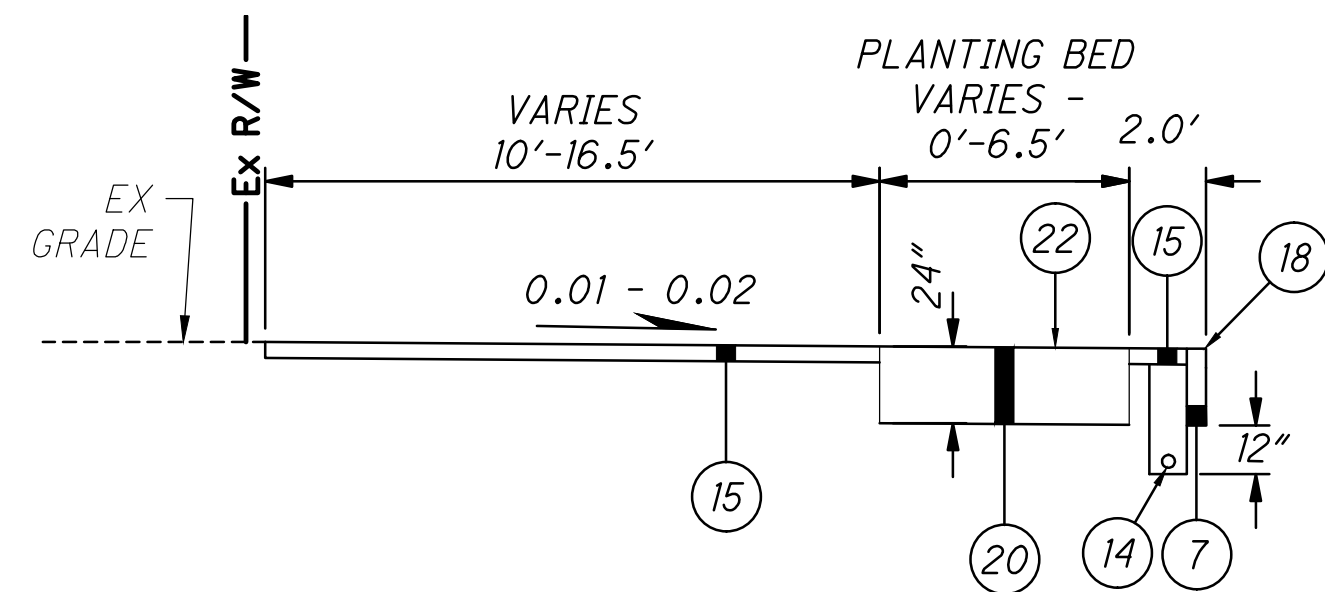
*INSTALL TYPE 4 CURB FROM STA. 21+33.36 TO STA. 21+74.50 AND FROM STA. 23+06.34 TO STA. 23+50.93

TYPICAL SECTIONS

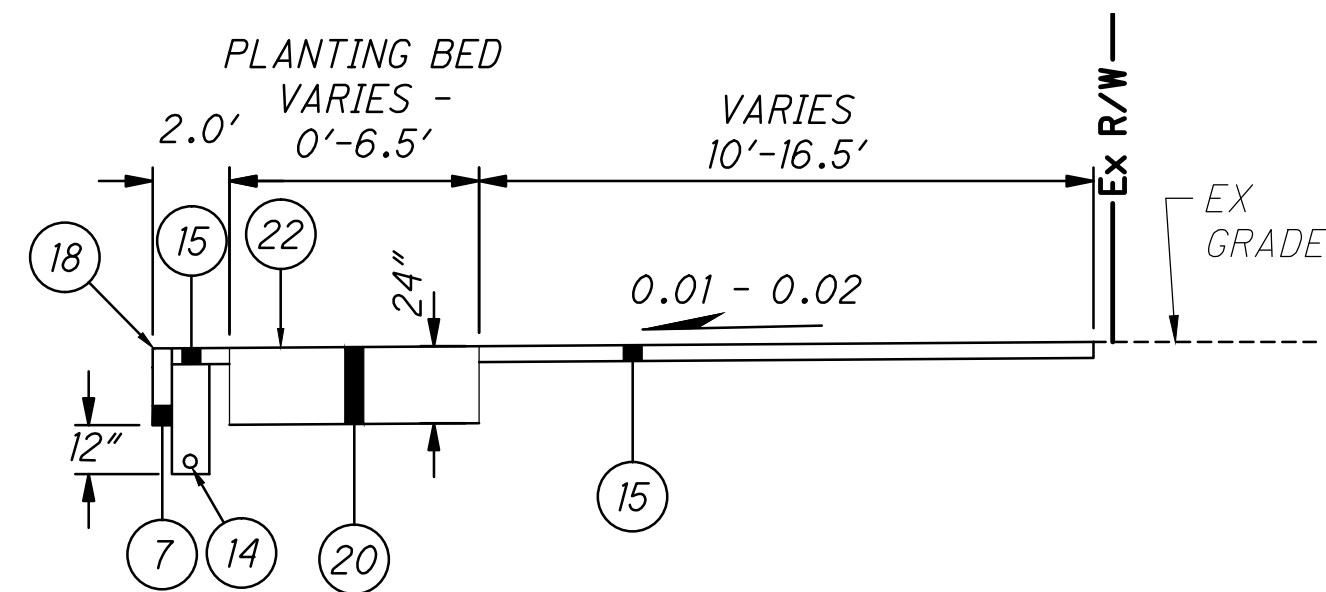
S.R. 172 LINCOLN WAY
(STA-172-6.44)

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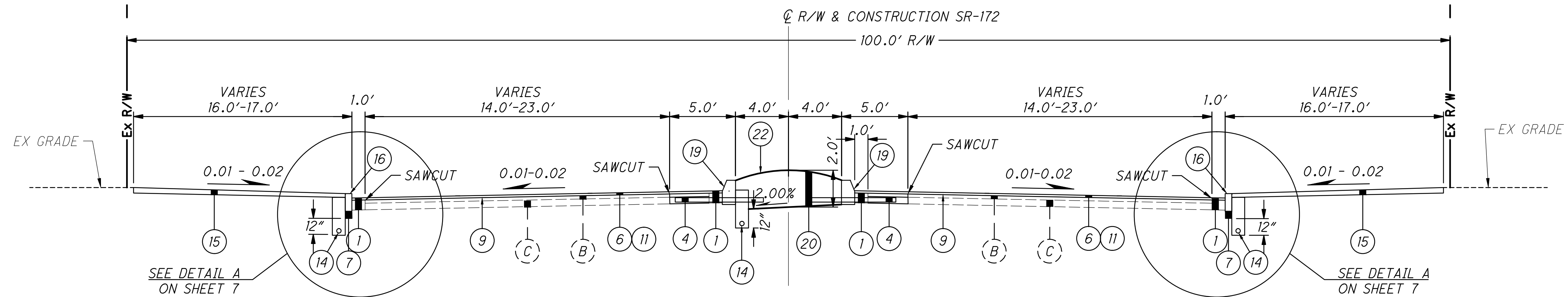
CROSS REFERENCES	
SHEET NO.	DESCRIPTION
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3	LEGEND - PROPOSED



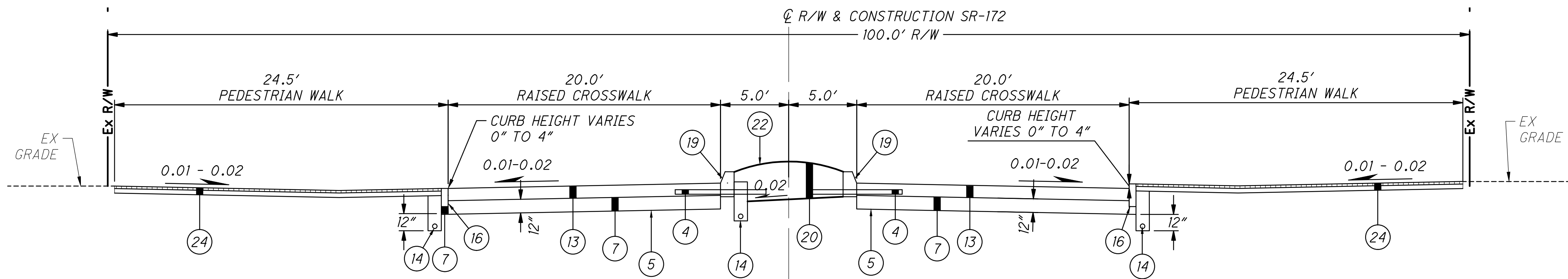
PLANTING BED SECTION (LT.)
STA. 20+99.10 TO STA. 21+31.01 = 31.91 FT
STA. 22+01.68 TO STA. 22+29.86 = 28.18 FT
STA. 22+48.52 TO STA. 22+77.53 = 29.01 FT
STA. 23+48.18 TO STA. 23+81.00 = 32.82 FT
TOTAL = 121.92 FT



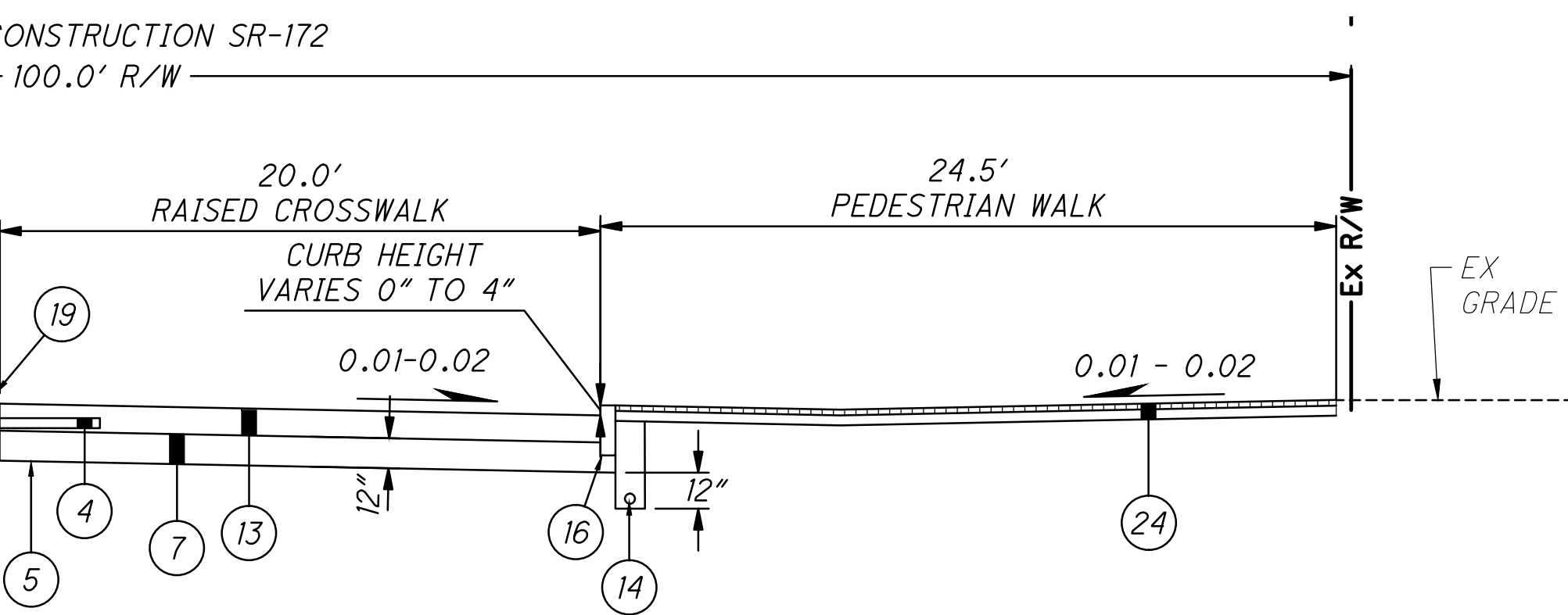
PLANTING BED SECTION (RT.)
STA. 20+99.10 TO STA. 21+31.01 = 31.91 FT
STA. 22+01.68 TO STA. 22+29.86 = 28.18 FT
STA. 22+48.52 TO STA. 22+77.53 = 29.01 FT
STA. 23+48.18 TO STA. 23+81.00 = 32.82 FT
TOTAL = 121.92 FT



LINCOLN WAY PROPOSED TYPICAL SECTION #7
STA. 21+74.50 TO STA. 22+21.36 = 46.86 FT
STA. 22+57.86 TO STA. 23+06.34 = 48.48 FT
TOTAL = 95.34 FT



LINCOLN WAY PROPOSED TYPICAL SECTION #8 LT.
STA. 22+21.36 TO STA. 22+39.16 = 17.80 FT
STA. 22+47.16 TO STA. 22+57.86 = 10.70 FT
TOTAL = 28.50 FT



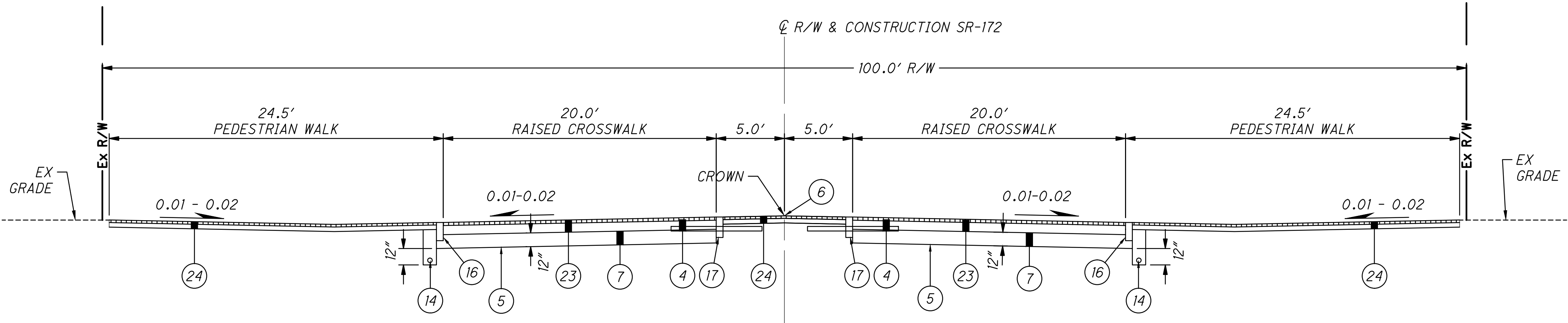
LINCOLN WAY PROPOSED TYPICAL SECTION #8 RT.
STA. 22+21.36 TO STA. 22+31.86 = 10.50 FT
STA. 22+39.86 TO STA. 22+57.86 = 18.00 FT
TOTAL = 28.50 FT

TYPICAL SECTIONS

S.R. 172 LINCOLN WAY
(STA-172-6.44)

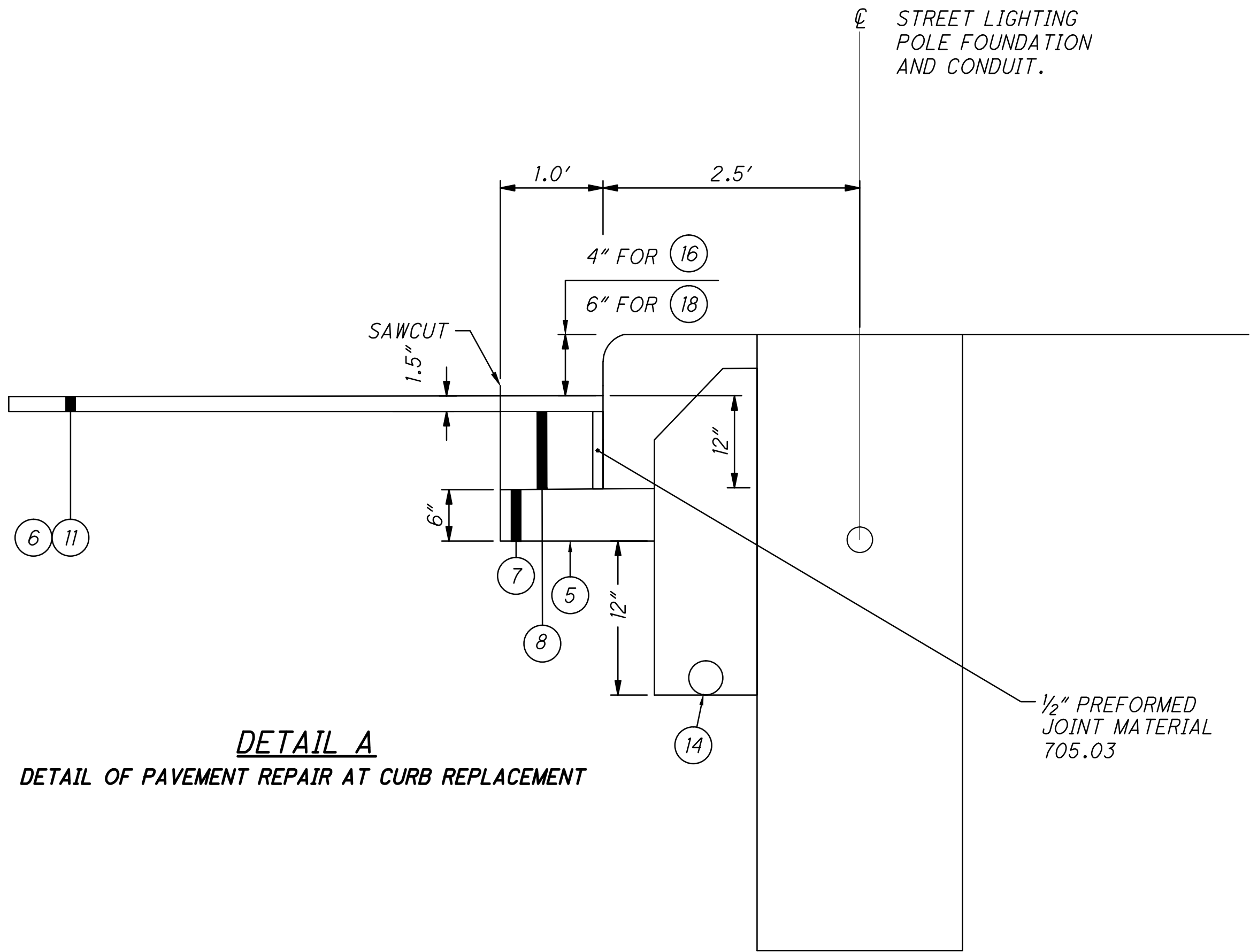
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CROSS REFERENCES	
SHEET NO.	DESCRIPTION
3	LEGEND - EXISTING
3	LEGEND - PROPOSED

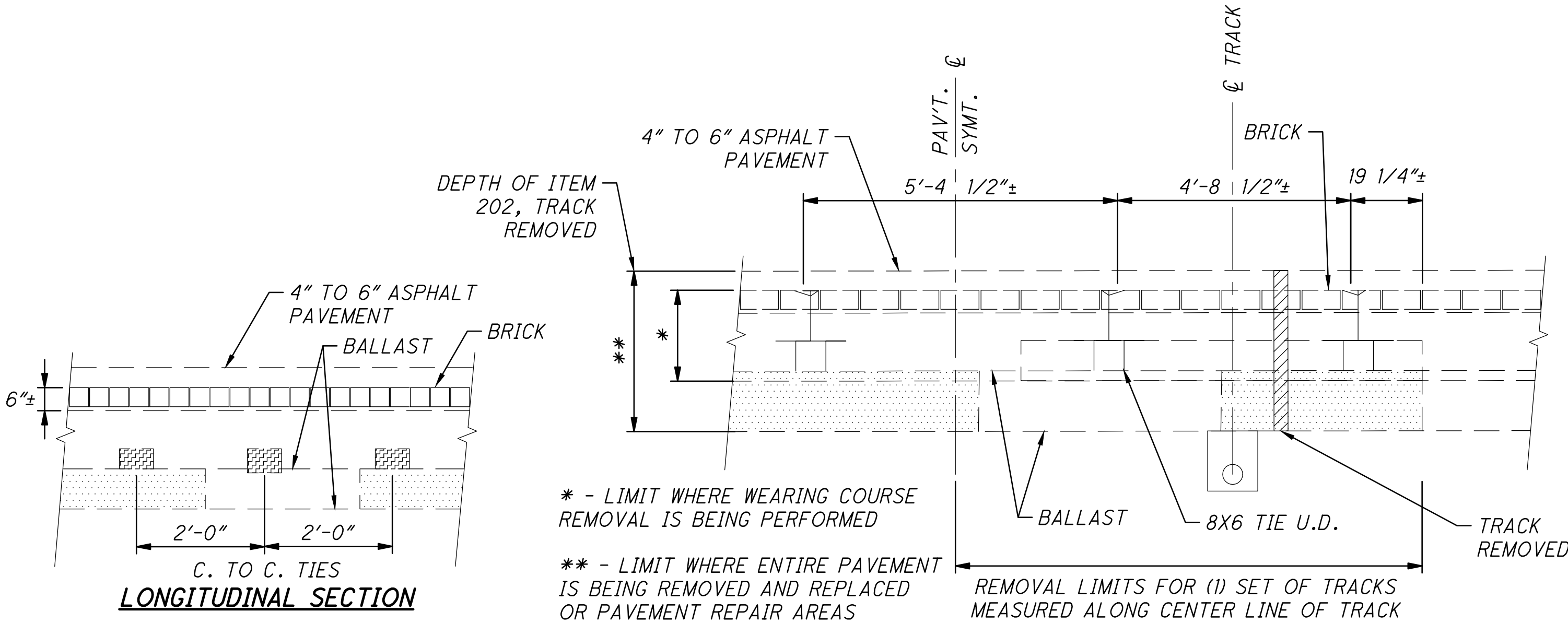


LINCOLN WAY PROPOSED TYPICAL SECTION #9 LT.
STA. 22+39.16 TO STA. 22+47.16 = 8.00 FT
TOTAL = 8.00 FT

LINCOLN WAY PROPOSED TYPICAL SECTION #9 RT.
STA. 22+31.86 TO STA. 22+39.86 = 8.00 FT
TOTAL = 8.00 FT



DETAIL A
DETAIL OF PAVEMENT REPAIR AT CURB REPLACEMENT



- NOTES:**
- IF OLD TRACKS ARE FOUND WITHIN CONFLICT OF ITEM 304 - AGGREGATE BASE, A.P.P., ITEM 451 - 10" REINFORCED CONCRETE, CLASS QC1, A.P.P., OR ITEM SPECIAL - UNIT PAVERS, TYPE 1 (ROADWAY), IT IS REQUIRED THAT SAID TRACKS BE REMOVED AS PART OF THE PROJECT. THE EXACT LOCATION, LIMITS, AND TYPE OF TRACK ARE UNKNOWN.
 - THE UNIT PRICE BID PER SQUARE YARD FOR THIS ITEM SHALL INCLUDE THE REMOVAL AND DISPOSAL OF THE FULL DEPTH OF TRACK. THE LIMITS OF PAYMENT SHALL BE THE WIDTH OF THE RAILROAD TIE BY THE LENGTH OF THE RAIL REMOVAL. PAYMENT WILL INCLUDE REMOVAL OF BRICK PAVERS, TIES, ANY ANGLES, OR OTHER HARDWARE, RAILS, BALLAST, BASE, UNDERDRAIN, AND ANY INCIDENTAL ITEM THAT IS DETERMINED TO BE PART OF THE TRACK SYSTEM.

- ANY ADDITIONAL EXCAVATION AND/OR EMBANKMENT REQUIRED BETWEEN THE BOTTOM OF THE TRACK BASE AND THE PROPOSED SUBGRADE WILL BE PAID FOR UNDER A SEPARATE ITEM.
- ABOVE IS A DETAIL OF THE MOST PROBABLY TYPE OF TRACK, AS DETERMINED FROM RECORD DRAWINGS AND ARE APPROXIMATE ONLY. THE ACCURACY OF THIS INFORMATION IS NOT GUARANTEED.
- NO ADDITIONAL COMPENSATION FOR MINOR VARIATION IN THE EXISTING TRACK FEATURES WILL BE MADE.

ITEM 202 - REMOVAL MISC.: REMOVAL OF RAILWAY RAILS AND TIES

TYPICAL SECTIONS

S.R. 172 LINCOLN WAY
(STA-172-6.44)

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GENERAL

UTILITIES:

THE CONTRACTOR SHALL USE THE FOLLOWING PROCEDURE AT EACH LOCATION WHERE WORK IS PERFORMED, IN ACCORDANCE WITH SECTIONS 105.07 AND 107.16 IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS:

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, THE OHIO UTILITIES PROTECTION SERVICE (OUPS), THE OHIO & GAS PROCEDURES UNDERGROUND PROTECTION SERVICE (OGPUPS), THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 4 HEADQUARTERS AND ALL NON REGISTERED UTILITY OWNERS AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN ALL AREAS.

OUPS 1-800-362-2764 (CONTACT LIMITED BASIS PARTICIPANTS DIRECTLY)
OGPUPS 1-800-925-0988
ODOT 330-786-3146 DAVID KONEVAL

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

TELEPHONE	GAS
AT&T	DOMINION ENERGY OHIO
50 W. BOWERY ST, 6TH FLOOR	320 SPRINGSIDE DRIVE
AKRON, OHIO 44308	AKRON, OHIO 44333
ATTN: CINDY ZUCHEGNO	ATTN: WILLIAM SNYDER
PHONE: 330-384-3561	PHONE: 330-664-2409
CC1541@ATT.COM	EMAIL: RELOCATION@DOMINION ENERGY.COM

CABLE	ELECTRIC
MASSILLON CABLE AND TV	OHIO EDISON
814 CABLE COURT NW	2600 S. ERIE STREET
MASSILLON, OHIO 44648	MASSILLON, OHIO 44646
ATTN: JEFF CAMPBELL	ATTN: KEVIN MCCLUSKY
PHONE: 330-833-4134 X116	PHONE: 330-830-7083
EMAIL: JCAMPBELL@MCTVOHIO.COM	EMAIL: MCCLUSKYK@FIRSTENERGYCORP.COM

WATER	SEWER/SIGNAL/LIGHTING
AQUA OHIO, INC	CITY OF MASSILLON
870 3RD STREET NW	401 WALNUT ROAD SE
MASSILLON, OHIO 44647	MASSILLON, OHIO 44647
ATTN: JACOB FLANARY	ATTN: LEE MCBRIDE
PHONE: 330-832-5764 X50650	PHONE: 330-833-5746
EMAIL: JLFLANARY@AQUAAMERICA.COM	EMAIL: LMCBRIDE@MASSILLONOHIO.GOV

THE UNDERGROUND UTILITIES ON THIS PLAN HAVE BEEN LOCATED BY USING A SUBSURFACE UTILITY ENGINEERING COMPANY [SUE]. IF THERE ARE ANY DISCREPANCIES BETWEEN FIELD MARKINGS AND WHAT THE PLAN INDICATES, PLEASE CONTACT STEVEN SASALA, DISTRICT UTILITY COORDINATOR 330-786-3176, PRIOR TO ANY SUBSURFACE WORK BEING INITIATED.

CONSTRUCTION NOISE:

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 9 PM AND 7 AM. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

SURVEYING:

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET 2 OF THE PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL
POSITIONING METHOD: VRS
MONUMENT TYPE: TYPE B
VERTICAL POSITIONING
ORTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: 12 B
HORIZONTAL POSITIONING
REFERENCE FRAME: NAD83
ELLIPSOID: GRS 80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: STATE PLAN OHIO NORTH ZONE
COMBINED SCALE FACTOR: 0.9999097353
ORIGIN OF COORDINATE SYSTEM: 600,000 METERS, 0 METERS

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN U.S. SURVEY FEET.

WORK LIMITS:

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

ENDANGERED BAT HABITAT REMOVAL:

THIS PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS: A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

CROSSINGS AND CONNECTIONS TO PIPES AND UTILITIES:

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

PROFILE AND ALIGNMENT:

PLACE THE PROPOSED PAVEMENT TO FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. PLACE THE PROPOSED ASPHALT CONCRETE OVERLAY WITH A UNIFORM THICKNESS OF 1.5 INCHES.

REVIEW OF DRAINAGE FACILITIES:

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING ALONG WITH PHOTOS BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL NEW OR RECONSTRUCTED INLETS CASTINGS SHALL BE BICYCLE SAFE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

CLEARING AND GRUBBING:

REMOVE ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZES	NO. TREES	NO. STUMPS	TOTAL
<12"	13	0	13
18"	9	0	9
30"	0	0	0
48"	0	0	0
60"	0	0	0

RECORD PLANS:

THE FOLLOWING RECORD PLANS ARE AVAILABLE FOR THIS AREA:

1923 PAVING PLANS (CITY OF MASSILLON)
1934 BRICK RELAY PLANS (CITY OF MASSILLON)
D04-BH-FY2D15 (ODOT PID 92444)

DOWNTOWN MASSILLON HISTORIC DISTRICT

THE PROJECT WILL BE CONSTRUCTED PARTIALLY WITHIN THE BOUNDARY OF THE NATIONAL REGISTER OF HISTORIC PLACES - ELIGIBLE DOWNTOWN MASSILLON HISTORIC DISTRICT. ALL CONSTRUCTION OPERATIONS SHALL BE PERFORMED WITHIN THE CONSTRUCTION LIMITS AS INDICATED IN THE CONSTRUCTION PLAN. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR STAGE EQUIPMENT AND/OR MATERIALS ON ANY PROPERTY OUTSIDE OF THE DEFINED CONSTRUCTION LIMITS WITHIN THE DOWNTOWN MASSILLON HISTORIC DISTRICT.

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ROADWAY

ITEM 202 - REMOVAL MISC.: PLANTER WALL:

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AND DISPOSING OF EXISTING BRICK MASONRY PLANTER WALLS, INCLUDING FOUNDATIONS IN CONFORMANCE WITH ITEM 202 IN THE CMS.

ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 202 REMOVAL MISC., PLANTER WALL.

ITEM 202 - REMOVAL MISC.: REMOVAL OF RAILWAY RAILS AND TIES:

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AND DISPOSING OF EXISTING RAILWAY RAILS AND TIES BY EXCAVATING THE EXISTING OBSTRUCTIONS TO AN AVERAGE DEPTH OF 6 INCHES BELOW THE PROPOSED SUBGRADE. EXACT LIMITS OF REMOVAL SHALL BE DETERMINED BY THE ENGINEER.

ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 202 REMOVAL MISC., REMOVAL OF RAILWAY RAILS AND TIES.

ITEM 202 - PAVEMENT REMOVED, AS PER PLAN:

PERFORM THIS ITEM OF WORK ACCORDING TO SECTION 202.05 OF THE CMS. INCLUDE THE COST TO REMOVE AND DISPOSE OF ASPHALT, BRICK, OR CONCRETE PAVEMENT AND FULL DEPTH PAVEMENT SAWING IN THE UNIT PRICE BID FOR: ITEM 202, PAVEMENT REMOVED, AS PER PLAN.

ITEM 203 - EXCAVATION:

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AND DISPOSING OF ALL UNSUITABLE MATERIAL BY EXCAVATING THE EXISTING SUBGRADE AND SUBBASE TO ELEVATIONS SHOWN.

FOR PAVEMENT REPAIR AREAS, REMOVE AND DISPOSE OF ALL UNSUITABLE MATERIAL BY EXCAVATING TO AN AVERAGE DEPTH OF 6 INCHES OR AS DIRECTED BY THE ENGINEER. EXACT LIMITS OF REMOVAL SHALL BE DETERMINED BY THE ENGINEER FOR PAVEMENT REPAIR AREAS.

COSTS FOR ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 203 - EXCAVATION 25 CY

ITEM 304 - AGGREGATE BASE, AS PER PLAN:

THIS ITEM WORK SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 304 IN THE CMS EXCEPT GRANULATED SLAG (GS) SHALL NOT BE PERMITTED.

COSTS FOR ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN PROVIDED AND SHALL BE USED AS DIRECTED BY THE ENGINEER TO BACKFILL AREAS WHICH WERE EXCAVATED UNDER ITEM 203 EXCAVATION. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 304 - AGGREGATE BASE, AS PER PLAN 25 CY

ITEM 608 - 4" CONCRETE WALK, AS PER PLAN:

THIS ITEM WORK SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 608 IN THE CMS. CONCRETE CLASS QC1 SHALL CONFORM TO ITEM 499 EXCEPT AS MODIFIED HEREIN. CEMENTICIOUS MATERIALS SHALL BE LIMITED TO PORTLAND CEMENT, AND AIR-COOLED BLAST FURNACE SLAG CEMENT (FLY ASH IS NOT PERMITTED). COARSE AGGREGATE MATERIALS SHALL BE LIMITED TO LIMESTONE ONLY (SLAG, OR RECYCLED AGGREGATE IS NOT PERMITTED).

FIBER REINFORCEMENT: CONCRETE MIX SHALL INCLUDE MONOFILAMENT POLYPROPYLENE FIBER REINFORCEMENT MEETING THE REQUIREMENTS OF ASTM C 1116/C 1116M, TYPE III, ½ TO 1-1/2 INCHES LONG. UNIFORMLY DISPERSE IN CONCRETE MIXTURE AT MANUFACTURES RECOMMENDED RATE, BUT NOT LESS THAN 1.5 LB./CU. YD.

CONCRETE FINISH: PROVIDE MEDIUM TO FINE TEXTURED BROOM FINISH. DRAW SOFT BRISTLE BROOM ACROSS FLOAT-FINISHED CONCRETE SURFACE, PERPENDICULAR TO LINE OF PEDESTRIAN TRAFFIC, TO PROVIDE A UNIFORM, FINE-LINE TEXTURE. SIDEWALK SCORING JOINTS SHALL BE EQUALLY SPACED BETWEEN AND ALONG PLANTERS, APPROXIMATELY 4'-5' ON CENTER, BOTH WAYS, AS SHOWN, AND ALIGNED WITH PAVEMENT CORNERS.

CONCRETE CURING: CURE CONCRETE BY CURING COMPOUND MEETING THE REQUIREMENTS OF ASTM C 309, TYPE I, CLASS B. APPLY ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

COSTS FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

ITEM 608 - CURB RAMP, AS PER PLAN:

THIS ITEM WORK SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 608 IN THE CMS AND SCD BPT.1 TYPE A1 NEW CURB RAMP, EXCEPT AS MODIFIED HEREIN. CONCRETE SHALL MEET THE REQUIREMENTS NOTED AS PART OF ITEM 608 - 4" CONCRETE WALK, A.P.P.

DETECTABLE WARNING DEVICES SHALL BE LIMITED TO REINFORCED POLYMER COMPOSITE, COLOR: RED.

COSTS FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

ITEM SPECIAL - UNIT PAVERS TYPE 1, 2, & 3 (ALTERNATE 1):

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING BRICK UNIT PAVERS SET ON HOT NEOPRENE ADHESIVE, AND A BITUMINOUS SETTING BED, WITH A CONCRETE BASE. SEE DETAILS ON SHEET 72.

PAVER TYPE 1 (ROADWAY) - BRICK PAVERS SHALL BE VEHICULAR RATED PAVING BRICK, WITH CHAMFERED EDGE, PER ASTM C 1272-II WITHOUT FROGS OR CORES IN SURFACES EXPOSED TO VIEW IN THE COMPLETED WORK. BRICK SHALL BE RATED "NOT EFFLORESCED" WHEN TESTED ACCORDING TO ASTM C 67.

PAVING PATTERN: AS NOTED ON PLANS.
BRICK THICKNESS: 2-3/4 INCHES.
BRICK FACE SIZE: 4 INCHES X 8 INCHES
COLOR BLEND: AS NOTED ON PLANS.

PAVER TYPE 2 (PEDESTRIAN) - BRICK PAVERS SHALL BE PEDESTRIAN RATED PAVING BRICK, WITH CHAMFERED EDGE, PER ASTM C 902-II WITHOUT FROGS OR CORES IN SURFACES EXPOSED TO VIEW IN THE COMPLETED WORK. BRICK SHALL BE RATED "NOT EFFLORESCED" WHEN TESTED ACCORDING TO ASTM C 67.

PAVING PATTERN: AS NOTED ON PLANS.
BRICK THICKNESS: 2-1/4 INCHES.
BRICK FACE SIZE: 4 INCHES X 8 INCHES
COLOR BLEND: AS NOTED ON PLANS.

ITEM SPECIAL - UNIT PAVERS TYPE 1, 2, & 3 (CONT.):

PAVER TYPE 3 (ADA) - BRICK PAVERS SHALL BE PEDESTRIAN RATED ADA PAVING BRICK, WITH CHAMFERED EDGE, PER ASTM C 902-II WITHOUT FROGS OR CORES IN SURFACES EXPOSED TO VIEW IN THE COMPLETED WORK. BRICK SHALL BE RATED "NOT EFFLORESCED" WHEN TESTED ACCORDING TO ASTM C 67.

PAVING PATTERN: AS NOTED ON PLANS.
BRICK THICKNESS: 2-1/4 INCHES.
BRICK FACE SIZE: 4 INCHES X 8 INCHES
COLOR BLEND: AS NOTED ON PLANS.

BITUMINOUS SETTING BED MATERIALS (ALL):

- PRIMER FOR BASE: CUTBACK ASPHALT, GRADE AS RECOMMENDED BY UNIT PAVER MANUFACTURER, MEETING ASTM D2028.
- FINE AGGREGATE FOR SETTING BED: ASTM D 1073, NO. 2 OR NO. 3.
- ASPHALT CEMENT: ASTM D 3381, VISCOSITY GRADE AC-10 OR AC-20.
- HOT APPLIED NEOPRENE ASPHALT ADHESIVE: PAVING MANUFACTURERS STANDARD ADHESIVE CONSISTING OF OXIDIZED ASPHALT COMBINED WITH 2 PERCENT NEOPRENE AND 10 PERCENT LING-FIBERED MINERAL FIBERS CONTAINING NO ASBESTOS.
- SAND FOR JOINTS: BRICK MANUFACTURERS POLYMER MODIFIED NATURAL SAND WITH 100 PERCENT PASSING NO. 16 SIEVE AND NO MORE THAN 10 PERCENT PASSING NO. 200 SIEVE. COLOR TO BE DETERMINED.

BITUMINOUS SETTING BED MIX: MIX BITUMINOUS SETTING BED MATERIALS AT AN ASPHALT PLANT IN APPROXIMATE, BY WEIGHT, OF 7 PERCENT ASPHALT CEMENT TO 93 PERCENT FINE AGGREGATE. HEAT MIXTURE TO 300 DEG F.

CONCRETE BASE: FINISH TO BE A TROWELED / FLOAT FINISH, TO RECEIVE BITUMINOUS BASE.

BITUMINOUS SETTING BED:

- APPLY PRIMER TO CONCRETE PAVEMENT IMMEDIATELY BEFORE PLACING BITUMINOUS SETTING BED.
- PREPARE FOR SETTING BED PLACEMENT BY LOCATING 3/4 INCH CONTROL BARS APPROXIMATELY 11 FEET APART AND PARALLEL TO ONE ANOTHER, TO SERVE AS GUIDES FOR STRIKING BOARD.
- PLACE BITUMINOUS SETTING BED WHERE INDICATED, IN PANELS, BY SPREADING BITUMINOUS MATERIAL BETWEEN CONTROL BARS. SPREAD MIX AT A MINIMUM TEMPERATURE OF 250 DEG F. STRIKE SETTING BED SMOOTH, FIRM, EVEN, AND NOT LESS THAN 3/4 INCH THICK. ADD FRESH BITUMINOUS MATERIAL TO LOW, POROUS SPOTS AFTER EACH PASS OF STRIKING BOARD. AFTER EACH PANEL IS COMPLETED, ADVANCE FIRST CONTROL BAR TO NEXT POSITION IN READINESS FOR STRIKING ADJACENT PANELS. CAREFULLY FILL DEPRESSIONS THAT REMAIN AFTER REMOVING DEPTH-CONTROL BARS. ROLL SETTING BED WITH POWER ROLLER TO A NOMINAL DEPTH OF 3/4 INCH. ADJUST THICKNESS AS NECESSARY TO ALLOW ACCURATE SETTING OF UNIT PAVERS TO FINISHED GRADES INDICATED. COMPLETE ROLLING BEFORE MIX TEMPERATURE COOLS TO 185 DEG F.
- HOT APPLY NEOPRENE MODIFIED ADHESIVE TO COLD SETTING BED BY SQUEEGEEING OR TROWELING TO A UNIFORM THICKNESS OF 1/16 INCH. PROCEED WITH SETTING OF PAVER UNITS ONLY AFTER ADHESIVE IS TACKY AND SURFACE IS DRY TO TOUCH.

PAVER INSTALLATION (ALL):

- DO NOT USE PAVERS WITH CHIPS, CRACKS, VOIDS, DISCOLORATIONS, OR OTHER DEFECTS THAT MIGHT BE VISIBLE OR CAUSE STAINING IN FINISHING WORK.
- MIX PAVERS FROM SEVERAL PALLETS OR CUBES, AS THEY ARE PLACED TO PRODUCE A UNIFORM BLEND OF COLORS AND TEXTURES.
- CUT UNIT PAVERS WITH MOTOR-DRIVEN SAW EQUIPMENT TO PROVIDE CLEAN, SHARP, UNCHIPPED EDGES. CUT UNITS TO PROVIDE PATTERN INDICATED AND TO FIT ADJOINING WORK NEATLY. USE FULL UNITS WITHOUT CUTTING WHERE POSSIBLE. HAMMER CUTTING IS NOT ACCEPTABLE.

ITEM SPECIAL - UNIT PAVERS TYPE 1, 2, & 3 (CONT.):

- PLACE PAVERS CAREFULLY BY HAND IN STRAIGHT COURSES, MAINTAINING ACCURATE ALIGNMENT AND UNIFORM TOP SURFACE. PROTECT NEWLY LAID PAVERS WITH PLYWOOD PANELS ON WHICH WORKERS CAN STAND. ADVANCE PROTECTIVE PANELS AS WORK PROGRESSES, BUT MAINTAIN PROTECTION IN AREAS SUBJECT TO CONTINUED MOVEMENT OF MATERIALS AND EQUIPMENT TO AVOID CREATING DEPRESSIONS OR DISRUPTING ALIGNMENT OF PAVERS.
- JOINT TREATMENT: PLACE UNIT PAVERS WITH HAND TIGHT JOINTS. FILL JOINTS BY SWEEPING POLY-SAND OVER PAVED SURFACE UNTIL JOINTS ARE FULL. LIGHTLY COMPACT POLY-SAND INTO JOINTS AND REMOVE EXCESS SAND AFTER JOINTS ARE FILLED.

REPAIRING / CLEANING: REMOVE AND REPLACE UNIT PAVERS THAT ARE LOOSE, CHIPPED, BROKEN, STAINED, OR OTHERWISE DAMAGED OR THAT DO NOT MATCH ADJOINING UNITS. PROVIDE NEW UNITS TO MATCH ADJOINING UNITS AND INSTALL IN SAME MANNER AS ORIGINAL UNITS, WITH SAME JOINT TREATMENT AND WITH NO EVIDENCE OF REPLACEMENT.

COST FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THESE BID ITEMS.

ITEM SPECIAL - UNIT PAVERS TYPE 1, 2, & 3 (ALTERNATE 2):

PAVERS SHALL BE AS FOLLOWS:

UNIT PAVERS TYPE 1 (ROADWAY) - "CITY LINE CHAMFERED EDGE WITH LUGS" AS MANUFACTURED BY BELDEN BRICK.

UNIT PAVERS TYPE 2 (PEDESTRIAN) - "CITY LINE CHAMFERED EDGE WITH LUGS" AS MANUFACTURED BY BELDEN BRICK.

UNIT PAVERS TYPE 3 (ADA) - "CITY LINE CHAMFERED EDGE ADA PAVER" AS MANUFACTURED BY BELDEN BRICK.

AND SHALL INCORPORATE OR BE FURNISHED WITH ALL THE DESIGN FEATURES, AUXILIARY EQUIPMENT AND ACCESSORIES AS REQUIRED IN THE STANDARD BID ITEM (BITUMINOUS SETTING BED, AND CONCRETE BASE).

COST FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THESE BID ITEMS.

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DRAINAGE

ITEM 611 - 12", 18", 24" CONDUIT, TYPE B
(ALTERNATE 2):

THIS ITEM WORK SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 611 IN THE CMS, EXCEPT MATERIALS SHALL BE LIMITED TO CORRUGATED POLYETHYLENE SMOOTH LINED PIPE (CMS 707.33) OR POLYPROPYLENE CORRUGATED DOUBLE WALL PIPE (707.65).

COSTS FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

ITEM 611 - CATCH BASIN 3A, AS PER PLAN:

THIS ITEM WORK SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 611 IN THE CMS, AND ACCORDING TO STANDARD CONSTRUCTION DRAWING CB-2.2, EXCEPT AS DETAILED. SEE SHEET 69 FOR DETAILING.

COSTS FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

ITEM SPECIAL - MISCELLANEOUS METAL:

EXISTING CASTINGS MAY PROVE TO BE UNSUITABLE FOR REUSE, AS DETERMINED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CASTINGS OF THE REQUIRED TYPE, SIZE AND STRENGTH (HEAVY DUTY) FOR THE PARTICULAR STRUCTURE IN QUESTION. ALL MATERIAL SHALL MEET ITEM 611 OF THE SPECIFICATIONS AND SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

ITEM SPECIAL, MISCELLANEOUS METAL 1800 POUNDS

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE IN THE REMOVAL, STORAGE AND REPLACEMENT OF ALL EXISTING CASTINGS. CASTINGS DAMAGED BY THE NEGLIGENCE OF THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED WITH THE PROPER NEW CASTINGS AT THE EXPENSE OF THE CONTRACTOR.

ITEM 611 - DRAINAGE STRUCTURE MISC.: RECONSTRUCT
STRUCTURE WITH MANHOLE FRAME & COVER:

THIS ITEM WORK SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 611 DRAINAGE STRUCTURE CONSTRUCTION IN THE CMS AND AS MODIFIED HEREIN. EXISTING DRAINAGE STRUCTURES SHALL BE RE-CONSTRUCTED, ADJUSTED TO GRADE WITH GRADE RINGS / AN APPROVED LEVELING DEVICE, AND FURNISHED WITH A NEW ROUND MANHOLE FRAME AND COVER.

COSTS FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

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PAVEMENT

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (441):

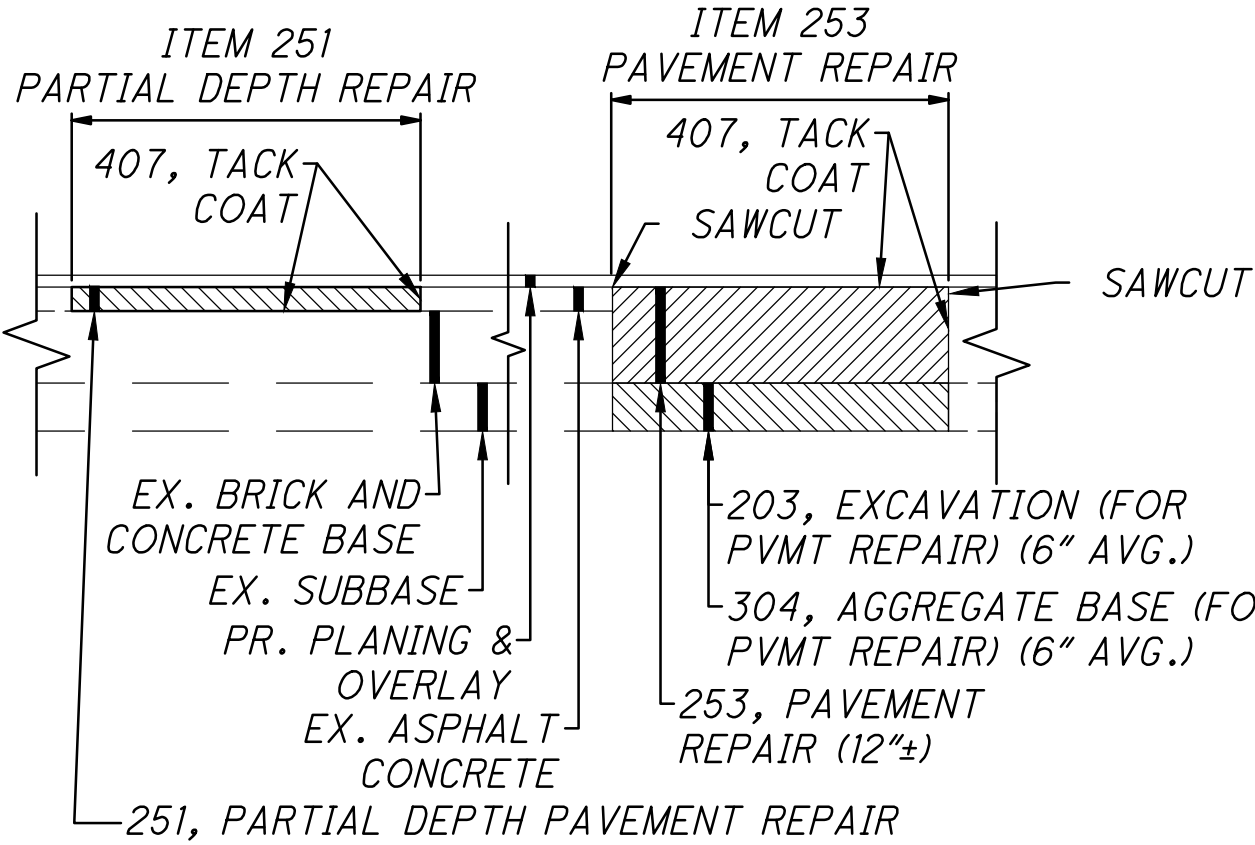
A QUANTITY OF THIS ITEM SHALL BE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER. THE ITEM SHALL CONSIST OF REPAIRING EXISTING LOCATIONS EXHIBITING SURFACE DETERIORATION AND PLACING ITEM 441 ASPHALT CONCRETE, TYPE 2. THE ASPHALT CONCRETE SHALL BE COMPACTED WITH A TYPE I PNEUMATIC TIRE ROLLER AND A STEEL WHEEL ROLLER AS PER 401.13. IT IS NOT THE INTENT TO REPAIR EVERY DETERIORATED AREA WITHIN THE PROJECT. THE ENGINEER SHALL DETERMINE WHICH AREAS ARE TO BE REPAIRED. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THIS ITEM SHALL BE PERFORMED AFTER THE COMPLETION OF MAINLINE PAVEMENT PLANING. ALSO, THIS ITEM SHALL COMMENCE WITHIN 7 DAYS OF THE COMPLETION OF MAINLINE PAVEMENT PLANING. PAYMENT SHALL BE BASED ON THE ACTUAL NUMBER OF SQUARE YARDS OF PAVEMENT REPAIR. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (441) (T=2")	150 SY
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ITEM 253 - PAVEMENT REPAIR:

A QUANTITY OF THIS ITEM SHALL BE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER. THIS ITEM SHALL CONSIST OF CUTTING AND REMOVING DETERIORATED PAVEMENT FULL DEPTH AND PLACING 12"± 301 ASPHALT CONCRETE BASE, PG64-22. THE MAXIMUM COMPACTED DEPTH OF ANY ONE LAYER SHALL BE 6 INCHES. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THIS ITEM SHALL BE PERFORMED AFTER THE COMPLETION OF MAINLINE PAVEMENT PLANING. ALSO, THIS ITEM SHALL COMMENCE WITHIN 7 DAYS OF THE COMPLETION OF MAINLINE PAVEMENT PLANING. IT IS NOT THE INTENT TO REPAIR EVERY DETERIORATED AREA WITHIN THE PROJECT. THE ENGINEER SHALL DETERMINE WHICH AREAS ARE TO BE REPAIRED. PAYMENT SHALL BE BASED ON THE ACTUAL NUMBER OF SQUARE YARDS OF PAVEMENT REMOVED AND REPLACED TO THE LIMITS DESIGNATED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 253 - PAVEMENT REPAIR (T=12")	75 SY
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PAVEMENT REPAIR DETAILS

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, (1 1/2"). AS PER PLAN:

THIS ITEM OF WORK SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 254 IN THE CMS EXCEPT THE DEPTH SHALL VARY FROM 1 1/2" TO THE TOP OF THE BRICK WHICHEVER IS FIRST. THIS WORK SHALL BE PERFORMED SO THAT THE BRICK BASE IS NOT DISTURBED.

COSTS FOR ALL WORK, LABOR, EQUIPMENT, TOOLS, AND OTHER INCIDENTALS REQUIRED TO PERFORM THIS WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THIS ITEM

ITEM 424 - FINE GRADED POLYMER ASPHALT CONCRETE, TYPE A (5/8"). AS PER PLAN

THIS ITEM OF WORK SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 424 IN THE CMS EXCEPT 703.05 DO NOT USE FINE AGGREGATE FROM A SOURCE DESIGNATED 'SR' OR 'SRH' ACCORDING TO THE OFFICE OF MATERIALS MANAGEMENT (OMM) IN ANY JOB MIX FORMULA (JMF) FOR THIS ITEM.

COSTS FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIALS SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22, (1 1/2"). AS PER PLAN:

THIS ITEM OF WORK SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 441 IN THE CMS EXCEPT 703.05 DO NOT USE COARSE AGGREGATE FROM A SOURCE DESIGNATED 'SR' OR 'SRH' ACCORDING TO THE OFFICE OF MATERIALS MANAGEMENT (OMM) IN ANY JOB MIX FORMULA (JMF) FOR THIS ITEM.

COSTS FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIALS SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

ITEM 451 - 10" REINFORCED CONCRETE PAVEMENT, CLASS QC1, AS PER PLAN:

THIS ITEM WORK SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 451 IN THE CMS AND AS DETAILED - SEE SHEET 72 FOR PAVEMENT DETAILING. CONCRETE CLASS QC1 SHALL CONFORM TO ITEM 499 EXCEPT AS MODIFIED HEREIN. CEMENTICIOUS MATERIALS SHALL BE LIMITED TO PORTLAND CEMENT, AND AIR-COOLED BLAST FURNACE SLAG CEMENT (FLY ASH IS NOT PERMITTED). COARSE AGGREGATE MATERIALS SHALL BE LIMITED TO LIMESTONE ONLY (SLAG, OR RECYCLED AGGREGATE IS NOT PERMITTED).

COSTS FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

ITEM 452 - 8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS, AS PER PLAN:

THIS ITEM WORK SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 452 IN THE CMS AND AS DETAILED - SEE SHEET 70 FOR PAVEMENT DETAILING. CONCRETE CLASS QC MS SHALL CONFORM TO ITEM 499 EXCEPT AS MODIFIED HEREIN. CEMENTICIOUS MATERIALS SHALL BE LIMITED TO PORTLAND CEMENT, AND AIR-COOLED BLAST FURNACE SLAG CEMENT (FLY ASH IS NOT PERMITTED). COARSE AGGREGATE MATERIALS SHALL BE LIMITED TO LIMESTONE ONLY (SLAG, OR RECYCLED AGGREGATE IS NOT PERMITTED).

COSTS FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

ITEM 609 - CURB, TYPE 4-C, AS PER PLAN:

THIS ITEM WORK SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 609 IN THE CMS, EXCEPT AS DETAILED AND MODIFIED HEREIN - SEE SHEET 72 FOR CURB DETAILING. CURB SHALL BE CONSTRUCTED INTEGRALLY WITH ADJACENT 4" CONCRETE WALK. CONCRETE MATERIALS AND FINISH SHALL MATCH ADJACENT 4" CONCRETE WALK.

COSTS FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

ITEM 609 - CURB, TYPE 6, AS PER PLAN:

THIS ITEM WORK SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 609 IN THE CMS, EXCEPT AS DETAILED AND MODIFIED HEREIN - SEE SHEET 72 FOR CURB DETAILING. CURB SHALL BE CONSTRUCTED INTEGRALLY WITH ADJACENT 4" CONCRETE WALK. CONCRETE MATERIALS AND FINISH SHALL MATCH ADJACENT 4" CONCRETE WALK.

COSTS FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

ITEM 609 - CURB, TYPE 8, AS PER PLAN:

THIS ITEM WORK SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 609 IN THE CMS, EXCEPT AS DETAILED AND MODIFIED HEREIN - SEE SHEET 72 FOR CURB DETAILING. CEMENTICIOUS MATERIALS SHALL BE LIMITED TO PORTLAND CEMENT, AND AIR-COOLED BLAST FURNACE SLAG CEMENT (FLY ASH IS NOT PERMITTED). COARSE AGGREGATE MATERIALS SHALL BE LIMITED TO LIMESTONE ONLY (SLAG, OR RECYCLED AGGREGATE IS NOT PERMITTED).

CONCRETE FINISH: PROVIDE SMOOTH TO FINE TEXTURED BROOM FINISH. DRAW SOFT BRISTLE BROOM ACROSS FINISHED CONCRETE SURFACE, PARALLEL TO THE ROADWAY, TO PROVIDE A UNIFORM, FINE TEXTURE.

COSTS FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

PAVEMENT RESTORATION FOR PIPE INSTALLATIONS AND/OR REMOVALS:

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION AND/OR REMOVAL OF PIPES.

ITEM 301 - ASPHALT CONCRETE BASE, PG64-22	16 CU. YDS.
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THE ABOVE QUANTITY IS BASED ON A 301 THICKNESS OF 6 INCHES AND A PAVEMENT RESTORATION WIDTH THAT INCLUDES THE TRENCH WIDTH PLUS TWO FEET ON EACH SIDE OF THE TRENCH.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

PAVEMENT RESTORATION FOR DRAINAGE STRUCTURE INSTALLATIONS:

THE FOLLOWING QUANTITY IS PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION OF ITEM 611, DRAINAGE STRUCTURES.

ITEM 301 - ASPHALT CONCRETE BASE, PG64-22	6 CU. YDS.
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THE ABOVE QUANTITY IS BASED ON A 301 THICKNESS OF 6 INCHES AND A WIDTH OF TWO FEET AROUND THE PERIMETER OF THE DRAINAGE STRUCTURE.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

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LIGHTING

ITEM 625 - LIGHT POLE, CONVENTIONAL (ALTERNATE 2):

IN ADDITION TO THE REQUIREMENTS OF CMS 625.09, THE FOLLOWING SHALL APPLY:

LIGHT POLES SHALL BE EITHER KING LUMINAIRE (STELLAR SERIES WITH CLEVELAND BASE; KSB19-FF-S-22) OR UNION METAL (NOSTALGIA; B895-53-B7-Y1), OR APPROVED EQUAL. POLES WILL BE FITTED WITH BANNER ARMS, 20A, 120 V DUPLEX RECEPTACLE WITH COVER, PAINTED SEMI-GLOSS BLACK (FEDERAL COLOR CODE FS 27038).

LIGHT POLES SHALL INCLUDE BRACKET ARMS BY EITHER KING LUMINAIRE (KA14-T-2), OR UNION METAL (ALUMINUM BISHOP'S CROOK ASSEMBLY STYLE 895), OR APPROVED EQUAL. BRACKET ARMS WILL MATCH THE OVERALL APPEARANCE AND FUNCTION OF THE DETAIL IN THE PLANS AND PAINTED SEMI-GLOSS BLACK (FEDERAL COLOR CODE FS 27038) (WET COATED OR POWDER COATED). MANUFACTURED BY:

KING LUMINAIRE
1153 STATE ROUTE 46N
JEFFERSON, OHIO 44047
1-800-268-7809
WWW.KINGLUMINAIRE.COM

UNION METAL
PO BOX 9920
CANTON, OHIO 44711
330-456-7659

THE CONTRACTOR SHALL FURNISH AND INSTALL LIGHT POLES AS PER THE PLAN DETAILS. ALL HARDWARE EQUIPMENT SHALL BE INCLUDED WITH THIS ITEM.

ALL PROPOSED EXTERIOR CONNECTIONS (SIGNS, ETC.) TO LIGHT POLES SHALL BE FIELD DRILLED. BANDING OR STRAPPING ON THE NOSTALGIA PEDESTALS SHALL NOT BE PERMITTED.

ITEM 625 - LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN A:

THIS ITEM SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 625 IN THE CMS AND SS813, EXCEPT AS MODIFIED HEREIN. WORK SHALL INCLUDE THE REMOVAL AND DISPOSAL OF EXISTING COBRA HEAD LUMINAIRE AND REPLACE WITH AN LED COBRA HEAD LUMINAIRE PER ODOT'S QUALIFIED PRODUCT LIST.

INSTALL THE NEW LUMINAIRE ON THE EXISTING BRACKET ARM. LUMINAIRE SHALL BE PAINTED SEMI-GLOSS BLACK (FEDERAL CODE FS 27038) (WET COATED OR POWDER COATED)

THIS ITEM SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 625 IN CMS AND SS813. PROVIDE A CONVENTIONAL SOLID STATE LED LUMINAIRE, IES-III-M, 6500-7500 LUMENS WITH ANSI/NEMA 7-PIN PHOTOCELL/DIMMING RECEPTACLE.

COSTS FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

ITEM 625 - LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN B (ALTERNATE 1):

THIS ITEM SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 625 IN CMS AND SS813. PROVIDE A CONVENTIONAL SOLID STATE LED LUMINAIRE, IES-III-M, 6500-7500 LUMENS WITH ANSI/NEMA 7-PIN PHOTOCELL/DIMMING RECEPTACLE.

PAYMENT FOR THE 6' BRACKET ARM REQUIRED TO INSTALL LUMINAIRES ON COMBINATION SIGNAL SUPPORTS IS INCLUDED WITH THE UNIT PRICE FOR THIS ITEM.

ITEM 625 - LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN B (ALTERNATE 2):

LUMINAIRES SHALL BE KING LUMINAIRE (K804 CORONET SR WITH SHALLOW LENS; K804-PRSH-V-60-SSL-8060-120V-4K-BK-WS), PAINTED SEMI-GLOSS BLACK (FEDERAL COLOR CODE FS 27038) (WET COATED OR POWDER COATED). MANUFACTURED BY:

KING LUMINAIRE
1153 STATE ROUTE 46N
JEFFERSON, OHIO 44047
1-800-268-7809
WWW.KINGLUMINAIRE.COM

POWER SUPPLY FOR LIGHTING

ELECTRIC POWER SHALL BE OBTAINED FROM OHIO EDISON AT THE LOCATION INDICATED ON THE PLANS. POWER SUPPLIED SHALL BE 120/208 VOLT, 3 PHASE, 4 WIRE.

THE LIGHTING AND OUTLET CIRCUITS WERE DESIGNED FOR 120 VOLT.

ITEM 625 - POWER SERVICE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF THE SPECIFICATIONS, THE FOLLOWING IS ADDED.

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:

OHIO EDISON
2600 S. ERIE STREET
MASSILLON, OHIO 44646
ATTN: KEVIN MCCLUSKY
PHONE: 330-830-7083
EMAIL: MCCLUSKYK@FIRSTENERGYCORP.COM

THE ENGINEER SHALL ENSURE THAT EACH POWER SERVICE ELECTRICAL ENERGY ACCOUNT IS IN THE NAME OF AND THAT THE BILLING ADDRESS IS TO THE MAINTAINING AGENCY NOTED IN THE PLANS. THIS SHALL BE DONE NOT ONLY FOR EACH NEW POWER SERVICE ESTABLISHED BY THIS PROJECT BUT ALSO FOR EACH EXISTING POWER SERVICE, SINCE THERE MAY BE A REASSIGNMENT OF THE RESPONSIBILITY FOR AN EXISTING SERVICE AS A RESULT OF THE WORK PERFORMED BY THIS PROJECT.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH CMS ITEM 625, "POWER SERVICE, AS PER PLAN" WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

HIGH VOLTAGE TEST WAIVED:

THE HIGH VOLTAGE TEST SHALL NOT BE PERFORMED ON THE CIRCUITS CONSTRUCTED BY THIS PROJECT, SINCE THE TEST COULD DAMAGE THE PORTION OF THE COMPLETED CIRCUIT WHICH HAS BEEN IN SERVICE PRIOR TO THIS PROJECT.

ITEM 625 - TRENCH IN PAVED AREA, TYPE B, AS PER PLAN:

THIS ITEM SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 625 IN THE CMS, AND AS DETAILED - SEE SHEET 105 FOR DETAILING. THIS ITEM INCLUDES SAWCUTTING & THE REMOVAL OF EXISTING PAVEMENT (ASPHALT, BRICK, OR CONCRETE) AND PAVEMENT RESTORATION AS DETAILED.

COST FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

ITEM SPECIAL - MAINTAIN EXISTING LIGHTING:

EXISTING ROADWAYS WHICH ARE TO REMAIN OPEN TO TRAFFIC DURING CONSTRUCTION OF THIS PROJECT AND ARE LIGHTED SHALL HAVE THE LIGHTING MAINTAINED AS DESCRIBED HEREIN. BEFORE ANY WORK IS STARTED IN THE IMMEDIATE VICINITY OF ANY EXISTING LIGHTING CIRCUITS, REPRESENTATIVES OF THE STATE, THE MAINTAINING AGENCY, AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING ROADWAY LIGHTING CIRCUITS TO BE MAINTAINED. DURING THIS INSPECTION A WRITTEN RECORD OF THE CONDITION OF THE EXISTING LIGHTING SHALL BE MADE BY THE STATE'S REPRESENTATIVE. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL LUMINAIRES WHICH ARE NOT OPERATIONAL, AND INDIVIDUAL CIRCUITS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED REPORT SHALL BE SIGNED BY THE REPRESENTATIVES OF THE STATE, THE MAINTAINING AGENCY, AND THE CONTRACTOR. IF, AS A RESULT OF THIS INSPECTION, IT IS DETERMINED THAT THE CONDITION OF THE EXISTING SYSTEM IS BELOW THAT REQUIRED FOR THE SAFETY OF THE TRAVELING PUBLIC, THEN THE MAINTAINING AGENCY SHALL MAKE REPAIRS NECESSARY TO RETURN THE SYSTEM TO AN ACCEPTABLE CONDITION. FOLLOWING THESE REPAIRS, THE SYSTEM SHALL AGAIN BE INSPECTED AND A REPORT MADE AND SIGNED AS OUTLINED HEREIN.

WHEN THE EXISTING SYSTEM IS IN AN ACCEPTABLE CONDITION, IT SHALL BE TURNED OVER TO THE CONTRACTOR WHO SHALL THEN BE REQUIRED TO MAINTAIN THE EXISTING LIGHTING TO THE CONDITION OUTLINED IN THIS REPORT WITH THE EXCEPTION OF KNOCKDOWNS DUE TO TRAFFIC ACCIDENTS. REPLACEMENTS OF KNOCKED DOWN UNITS SHALL BE DONE ONLY WHEN THE ENGINEER HAS DETERMINED THAT THE REPLACEMENT OF THE KNOCKED DOWN UNIT IS NECESSARY AND SHALL BE PAID SEPARATELY ON A PER UNIT BASIS. BETTERMENTS SHALL BE COVERED IN ITEMS OF WORK PERTAINING TO THE CONSTRUCTION OF PERMANENT IMPROVEMENTS. THE MAINTAINING AGENCY SHALL GIVE THE CONTRACTOR ONE COPY OF THE EXISTING LIGHTING CIRCUITRY LAYOUT. WHEN THE CONTRACTOR HAS TAKEN OVER THE MAINTENANCE OF THE EXISTING SYSTEM, HE SHALL PROVIDE ALL REQUIRED LAYOUT AND LOCATING OF EXISTING LIGHTING CIRCUITS WITHIN THE PROJECT.

SHOULD THE CONTRACTOR DESIRE THE REMOVAL OF THE EXISTING LIGHTING BEFORE THE NEW LIGHTING IS OPERATIONAL, THE CONTRACTOR SHALL THEN BE RESPONSIBLE FOR ADEQUATE TEMPORARY LIGHTING OF THAT PORTION OF THE EXISTING ROADWAY AFFECTED BY THE REMOVAL OF THE EXISTING LIGHTING. TWO [2] WEEKS PRIOR TO INSTALLING SUCH LIGHTING, THE CONTRACTOR SHALL PREPARE AND SUBMIT FOUR (4) SETS OF THE TEMPORARY LIGHTING PLANS TO THE ENGINEER FOR REVIEW AND APPROVAL. THIS PLAN SHALL SHOW LOCATION OF POLES, LENGTH OF BRACKET ARMS, STYLE OF LUMINAIRES, MOUNTING HEIGHT, WIRING METHODS, AND OTHER PERTINENT INFORMATION. THE TEMPORARY LIGHTING SHALL PROVIDE AN AVERAGE INITIAL INTENSITY OF 1.2 FOOTCANDLES WITH AN AVERAGE TO MINIMUM UNIFORMITY RATIO NOT TO EXCEED 4:1. MOUNTING HEIGHT FOR TEMPORARY LUMINAIRES SHALL NOT BE LESS THAN 27 FEET AND MINIMUM OVERHEAD CONDUCTOR CLEARANCE SHALL BE 20 FEET. TEMPORARY OVERHEAD CONSTRUCTION SHALL NOT BE LESS THAN GRADE "A" FOR STRENGTH REQUIREMENTS AS DEFINED BY THE NATIONAL ELECTRIC SAFETY CODE.

ITEM SPECIAL - MAINTAIN EXISTING LIGHTING (CONT.):

WOOD POLES WITH OVERHEAD WIRING MAY BE USED. HOWEVER, TEMPORARY LIGHTING SHALL MEET FEDERAL AND STATE SAFETY CRITERIA. IF BREAKAWAY POLES ARE USED TO MEET THIS CRITERIA, THEN UNDERGROUND WIRING WILL BE USED. RECONDITIONED OR USED MATERIALS MAY BE FURNISHED FOR TEMPORARY LIGHTING. ALL MATERIALS NECESSARY TO COMPLETE THE TEMPORARY LIGHTING SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. A SEPARATE POWER SERVICE WILL BE PROVIDED BY THE CONTRACTOR FOR THE TEMPORARY LIGHTING SYSTEM. THE TEMPORARY LIGHTING SHALL NOT BE SPLICED INTO EXISTING LIGHTING CIRCUITS. THE CONTRACTOR SHALL PAY ALL HOOK-UP FEES AND ELECTRICAL COSTS FOR THE TEMPORARY SYSTEM. THESE COSTS SHALL BE PAID FOR UNDER THE LUMP SUM ITEM SPECIAL MAINTAIN EXISTING LIGHTING. WHEN NO LONGER NEEDED THE TEMPORARY LIGHTING INSTALLATION SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR.

THE LUMP SUM BID FOR ITEM SPECIAL - MAINTAIN EXISTING LIGHTING, SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS, INCIDENTALS, AND TEMPORARY POWER SERVICES NECESSARY TO MAINTAIN THE EXISTING LIGHTING AS SPECIFIED HEREIN.

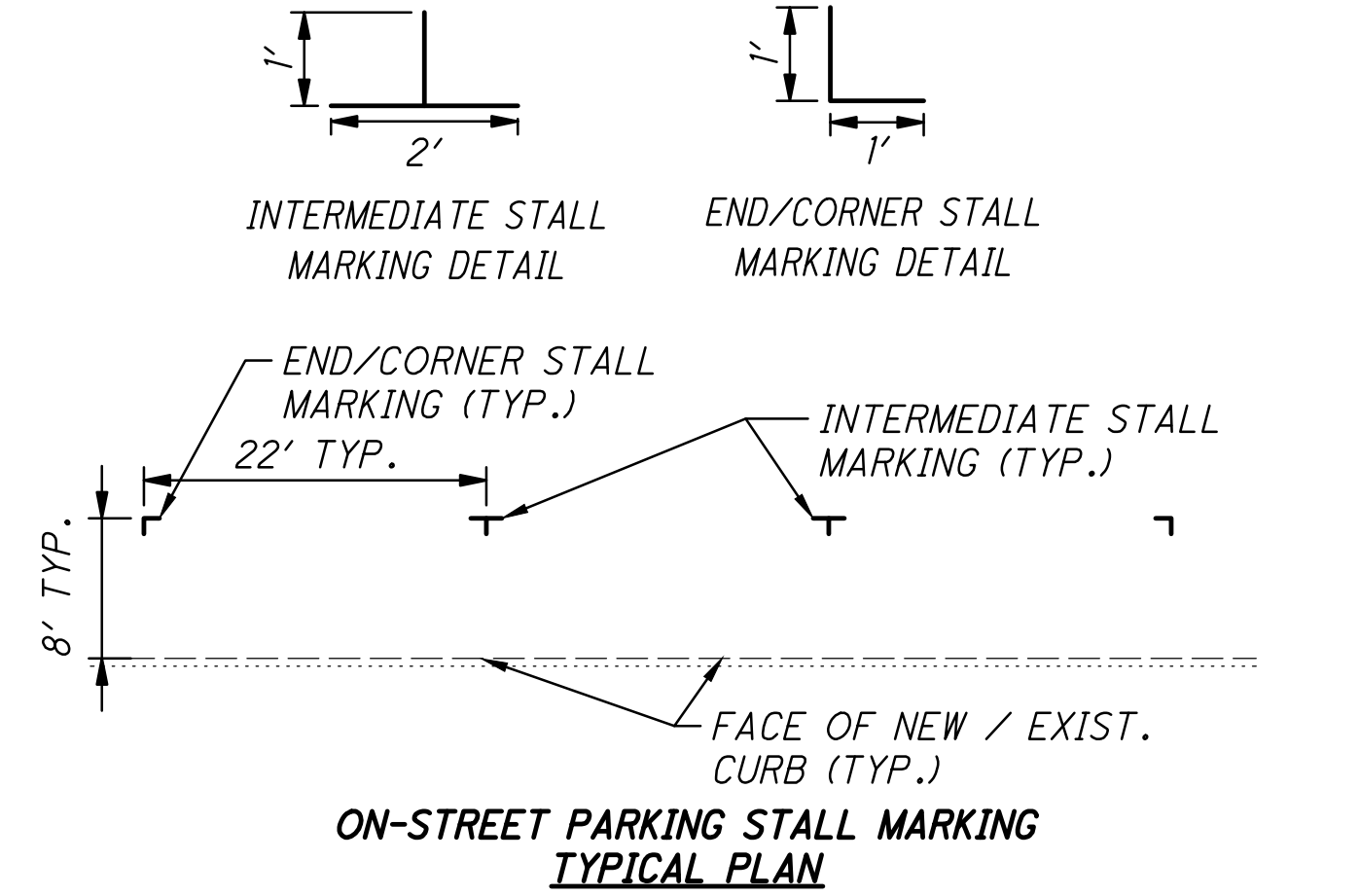
THE UNIT BID PRICE FOR EACH ITEM SPECIAL - REPLACING EXISTING CONVENTIONAL LIGHTING UNIT, SHALL BE FULL PAYMENT FOR THE REPLACEMENT OF AN EXISTING UNIT WHICH HAS BEEN KNOCKED DOWN AFTER THE AFORE-MENTIONED INSPECTION AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO PROVIDE A REPLACEMENT FOR SUCH UNIT. THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE LIGHTING GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

ITEM SPECIAL - REPLACEMENT OF EXISTING LIGHTING UNIT	1 EA
ITEM SPECIAL - MAINTAIN EXISTING LIGHTING	1 LS

TRAFFIC CONTROL

ITEM 644 - PAVEMENT MARKING, MISC.: ON STREET PARKING STALL

THIS ITEM SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 644 IN THE CMS, EXCEPT AS DETAILED HEREIN. MARKING WIDTH SHALL BE TYPICAL 4 INCHES WIDE, COLOR WHITE.



COSTS FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

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TRAFFIC SIGNALS

NEW TRAFFIC SIGNAL INSTALLATION

THIS WORK CONSISTS OF FURNISHING AND INSTALLING TRAFFIC SIGNAL EQUIPMENT, COMPLETE AND READY FOR SERVICE. THIS WORK ALSO INCLUDES NECESSARY EXCAVATION AND BACKFILL, DISPOSAL OF DISCARDED MATERIALS, RESTORATION OF DISTURBED FACILITIES AND SURFACES TO A CONDITION EQUAL TO THAT EXISTING BEFORE THE WORK STARTED, AND ELECTRICAL TESTING AS SPECIFIED.

PULL BOXES, CONDUITS, GROUND RODS, AND CABLE SPLICING KITS REQUIRED FOR TRAFFIC SIGNAL EQUIPMENT INSTALLATIONS ARE SPECIFIED IN ITEM 625. BEFORE ANY WORK IS STARTED ON THE TRAFFIC SIGNAL, THE ENGINEER AND THE CONTRACTORS REPRESENTATIVE SHALL REVIEW AND RESOLVE ANY POTENTIAL PROBLEMS AT THE LOCATION WHERE THE NEW SIGNAL WILL BE CONSTRUCTED.

ALL OF THE REQUIRED PERMANENT SIGNS SHALL BE ERECTED AND THE REQUIRED PERMANENT PAVEMENT MARKINGS SHALL BE IN PLACE PRIOR TO THE FINAL ACCEPTANCE OF THE TRAFFIC SIGNAL.

ITEM 632 VEHICULAR SIGNAL HEAD, (LED), 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 632 AND 732, THE FOLLOWING SHALL APPLY:

- SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC WITH VISORS AS SPECIFIED AND MEET ITE SPECIFICATIONS.
- PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.
- ALL UPPER SIGNAL SUPPORT HARDWARE AND PIPING UP TO AND INCLUDING THE WIRE INLET FITTING SHALL BE FERROUS METAL.
- THE ENTRANCE FITTING SHALL BE OF THE TRI-STUD DESIGN WITH SERRATED RINGS IN ORDER TO ACHIEVE POSITIVE LOCKING.
- ALL SIGNAL HEADS SHALL BE RIGIDLY MOUNTED TO THE MAST ARM WITH THE RED LENS LOCATED IN FRONT OF THE MAST ARM.
- THE LIGHT EMITTING DIODE (LED) SIGNAL LAMP UNITS SHALL MEET THE REQUIREMENTS OF CMS 732.04-C. THE CONTRACTOR SHALL PROVIDE THE CITY, IN WRITING, WITH THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS THAT ARE TO BE USED IN THE SIGNAL HEAD PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES.
- SIGNAL HEADS SHALL HAVE A MINIMUM WALL THICKNESS OF 0.117 INCHES.
- SIGNAL HEADS SHALL INCLUDE CUTAWAY TYPE VISORS UNLESS OTHERWISE SPECIFIED IN THE PLANS.
- APPLY A BEAD OF SILICONE TO THE SIGNAL HEAD, WASHER, AND ENTRANCE ADAPTER SERRATIONS TO PREVENT WATER INTRUSION. ALSO, FILL THE SPACE BETWEEN CONCENTRIC SERRATION RINGS ON THE TOP OF THE SIGNAL HEAD TO COMPLETELY EXCLUDE WATER FROM THE SPACE BETWEEN THE CONCENTRIC RINGS.
- BALANCE ADJUSTERS SHALL NOT BE USED ON ONE-WAY HEADS OR TETHERED HEADS.

PAYMENT FOR ITEM 632 VEHICULAR SIGNAL HEAD, (LED), BLACK, (BY TYPE), 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN SHALL BE MADE FOR COMPLETE SIGNAL HEAD FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS, AND NEW ATTACHMENT HARDWARE.

ITEM 632 - COVERING OF VEHICULAR SIGNAL HEAD

COVER VEHICULAR SIGNAL HEADS IF ERECTED AT INTERSECTIONS WHERE TRAFFIC IS MAINTAINED BEFORE ENERGIZING THE SIGNALS. USE A STURDY OPAQUE COVERING MATERIAL SPECIFICALLY MADE FOR USE WITH TRAFFIC SIGNALS, AND ENSURE THAT THE COLOR OF THE COVER IS DIFFERENT THAN THE SIGNAL HEAD, TAN OR BEIGE, SO THAT IT IS CLEAR TO DRIVERS THE HEADS ARE COVERED, NOT DARK. USE A METHOD OF COVERING TO COVER ATTACHMENT AND MATERIALS, INCLUDING BACKPLATES, AS APPROVED BY THE ENGINEER. COVERS ARE TO BE FREE OF TEXT, PICTURES, OR ANY TYPE OF ADVERTISING. MAINTAIN COVERS, AND REMOVE THEM WHEN DIRECTED BY THE ENGINEER

ITEM 632 PEDESTRIAN SIGNAL HEAD (LED), COUNTDOWN, TYPE D2, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF C&MS 632 AND 732 THE FOLLOWING SHALL APPLY:

- SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS.
- PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.
- PIPE, SPACERS AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.
- THE PEDESTRIAN SIGNAL HEAD SHALL BE OF THE LED COUNTDOWN TYPE.
- NEW ATTACHMENT HARDWARE AND FITTINGS SHALL BE USED.
- THE LIGHT EMITTING DIODE (LED) MODULES SHALL MEET THE REQUIREMENTS OF C&MS 732.04-C.

THE CONTRACTOR SHALL PROVIDE ODOT, IN WRITING, WITH THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS THAT ARE TO BE USED IN THE SIGNAL HEAD PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES.

PAYMENT FOR ITEM 632 PEDESTRIAN SIGNAL HEAD (LED), (COUNTDOWN), TYPE D2, AS PER PLAN SHALL BE MADE FOR THE NUMBER OF COMPLETE SIGNAL HEAD FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS AND NEW ATTACHMENT HARDWARE.

ITEM 632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN

TRAFFIC SIGNAL INSTALLATIONS, INCLUDING SIGNAL HEADS, CABLE, MESSENGER WIRE, STRAIN POLES, CABINET, CONTROLLER, BRACKET ARMS, LUMINAIRES, PULL BOXES, ETC., SHALL BE REMOVED IN ACCORDANCE WITH C&MS 632.26 AND AS INDICATED ON THE PLANS.

WHEN CALLED FOR IN THE PLANS, THE CONTRACTOR SHALL INSTALL A NEW FOUNDATION IN THE SAME LOCATION AS AN EXISTING FOUNDATION. IN THESE INSTANCES, THE CONTRACTOR SHALL COMPLETELY REMOVE THE ENTIRE EXISTING FOUNDATION. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID DAMAGING ADJACENT UTILITIES OR DRAINAGE FACILITIES WHEN REMOVING FOUNDATIONS. IN THE EVENT OF DAMAGE, THE CONTRACTOR SHALL BE 100% RESPONSIBLE FOR THE COST OF REPAIRING ANY DAMAGES.

REMOVED ITEMS SHALL BE REUSED AS PART OF A NEW INSTALLATION ON THE PROJECT OR STORED ON THE PROJECT FOR SALVAGE BY THE CITY.

IN THE EVENT THE ITEMS STORED ON THE PROJECT FOR SALVAGE BY THE CITY ARE NOT REMOVED, THE CONTRACTOR SHALL, WHEN DIRECTED BY THE ENGINEER IN WRITING, REMOVE AND DISPOSE OF THE ITEMS AT NO ADDITIONAL COST TO THE PROJECT.

PAYMENT FOR ITEM 632 - REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN SHALL INCLUDE ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO REMOVE EACH SIGNAL INSTALLATION IN CONFORMANCE WITH THESE PLANS.

ITEM 633 - CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS2, AS PER PLAN

THE ELECTRICAL TRAFFIC CONTROL EQUIPMENT PROVIDED SHALL MEET THE FOLLOWING SPECIFICATIONS AND BE MANUFACTURED BY EAGLE TRAFFIC CONTROL SYSTEMS. THE EQUIPMENT PROVIDED AS PART OF THIS CONTRACT SHALL BE THE LATEST MODEL, CURRENTLY UNDER PRODUCTION AND NEW. THE CONTROLLER CABINET AND ACCESSORIES SHALL MEET THE NEMA TS-2, 1992 STANDARD FOR ACTUATED CONTROLLER UNITS, AND SHALL BE SIZED IN ACCORDANCE WITH PIS 208320 (SEE SHEET 97). THE CABINET SHALL BE ALUMINUM WITH THE NATURAL ALUMINUM FINISH INSIDE AND OUTSIDE. THE LOAD BAY SHALL BE THE TF5016 OR NEWER, WITH 16 LOAD SWITCH POSITIONS. PROVIDE ONLY THE EXACT NUMBER OF LOAD SWITCHES REQUIRED. EACH LOAD SWITCH SHALL HAVE LIGHT EMITTING DIODES (LEDs) FOR THE CONTROLLER OUTPUT AND LOAD SWITCH OUTPUT. ALSO PROVIDE 8 FLASH RELAY POSITIONS (BUT ONLY SUPPLY THE EXACT NUMBER OF RELAYS NEEDED FOR EACH SPECIFIC INTERSECTION), 1 NEMA 2-CIRCUIT FLASHER, AND AN MMU MONITOR. EACH CABINET SHALL COME EQUIPPED WITH TWO 16-CHANNEL CABINET DETECTOR RACKS (CDR) INCLUDING BUS INTERFACE UNITS (BIU). THE CABINET SHALL BE EQUIPPED WITH A CABINET POWER SUPPLY (CPS). THE POLICE PANEL ON THE OUTSIDE OF THE CABINET DOOR SHALL HAVE A FLASH SWITCH, A SWITCH FOR AUTOMATIC/MANUAL OPERATION, SIGNAL ON/OFF SWITCH AND A MANUAL PUSHBUTTON WITH A MINIMUM CORD LENGTH OF 10 FEET. THE TECHNICIAN PANEL ON THE INSIDE OF THE CABINET DOOR SHALL INCLUDE A FLASH SWITCH, A STOP TIME SWITCH, AND AN EQUIPMENT ON/OFF SWITCH. A CABINET DOOR OPEN SWITCH AND A CABINET LIGHT ON / OFF SWITCH SHALL ALSO BE SUPPLIED.

THE CONTROLLER CABINET SHALL ALSO INCLUDE:

* A SLIDE-OUT LAPTOP SHELF.

* INTERIOR, UNDERSHELF LED CABINET LIGHTING, INCLUDING A MINIMUM OF 2PANELS OF 6 HIGH-INTENSITY LED'S EACH AND A DOOR-ACTIVATED SWITCH. THE LED PANELS SHALL BE MOUNTED IN LOCATIONS TO MAXIMIZE LIGHT ON THE CABINET EQUIPMENT.

* A GOOSENECK/ADJUSTABLE LIGHT FIXTURE WITH AN LED LAMP. THE ADJUSTABLE LIGHT FIXTURE SHALL BE MOUNTED ON THE LOWER RIGHT SIDE OF THE CONTROLLER CABINET.

ITEM 633 - CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS2, AS PER PLAN (CONT.)

* A MINIMUM OF TWO (2) GFCI PROTECTED RECEPTACLES.

* A MINIMUM OF SIX (6) SURGE PROTECTED (NON-GFCI) RECEPTACLES.

SIGNAL HEAD FIELD WIRING PHASE NUMBER, DIRECTION, MOVEMENT TYPE, AND COLOR (RED, YELLOW, GREEN, YELLOW ARROW, GREEN ARROW) OR PEDESTRIAN MOVEMENT.

THE CONTROLLER TIMER SHALL BE THE SIEMENS M60 OR ECONOLITE COBALT (OR MOST CURRENT MODEL) NEMA TS-2 TYPE 2 AND COME EQUIPPED WITH ALL INTERNAL COMPONENTS TO MAKE IT FULLY SYSTEM READY FOR THE ACTRA (OR LATEST) SYSTEM, INCLUDING THE INTERNAL MODEM. THE CONTROLLER SUPPLIED SHALL BE FULLY COMPATIBLE WITH THE EXISTING SIGNAL SYSTEM.

EACH CONDUIT ENTRANCE TO THE CABINET SHALL BE SEALED WITH A RUBBER PIPE/CONDUIT SEAL GASKET. THE SEAL SHALL BE OF A MATERIAL AND TYPE TIGHTLY FITTED AND ABLE TO SEAL OUT WATER, INSECTS, RODENTS, AND DIRT. THE SEAL SHALL BE EASILY REMOVED FOR SERVICE INSTALLATIONS OR CABLE REPLACEMENTS.

THE CONTRACTOR SHALL PROVIDE THE CABINET WIRING DIAGRAM/PLANS IN PDF FORMAT TO THE CITY.

PAYMENT FOR ITEM 633 CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS2, AS PER PLAN, WILL BE AT THE CONTRACT BID PRICE COMPLETE AND IN PLACE AND CONNECTIONS TESTED AND ACCEPTED.

ITEM 632-POWER SERVICE, AS PER PLAN

POWER SERVICE SHALL BE AS PER SPECIFICATION 632 AND STANDARD CONSTRUCTION DRAWING TC-83.10 WITH THE FOLLOWING EXCEPTIONS:

- THE CONTRACTOR SHALL SUPPLY THE NECESSARY METER BASES.
- ALL POWER SERVICES SHALL BE METERED. THE METER SHALL HAVE A LEVER OPERATED BYPASS.
- THE METERBASE SHALL BE ATTACHED TO THE CONTROL CABINET.
- THE POWER SERVICE SHALL RUN EXTERNAL AND SEPARATE FROM ALL TRAFFIC SIGNAL CABLE, UNTIL IT ENTERS THE TRAFFIC SIGNAL DISCONNECT SWITCH IN THE CONTROL CABINET.

THE POWER SERVICE CONDUIT SHALL RUN EXTERNAL TO THE CONTROL CABINET UNTIL IT ENTERS THE METERBASE. THE CONDUIT SHALL BE NEATLY MOUNTED TO THE CABINET, IN A FASHION AS APPROVED BY THE ENGINEER.

THE CONTRACTOR SHALL CONTACT THE METER SECTION OF THE POWER COMPANY FOR INFORMATION REGARDING THE METER BASE INSTALLATION PRIOR TO ORDERING MATERIALS. THE CONTRACTOR WILL BE RESPONSIBLE FOR REQUESTING AND SCHEDULING ANY INSPECTIONS THE POWER COMPANY MAY REQUIRE FOR THE POWER SERVICE HOOK UP. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR CONTACTING THE POWER COMPANY FOR THE ELECTRICAL SERVICE CONNECTION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR SPLICE POWER CABLE INTO THE POWER COMPANY'S CIRCUITS. THE VOLTAGE SUPPLIED SHALL BE NOMINALLY 120 VOLTS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND THE PAYING OF ALL FEES. THE CONTRACTOR SHALL PAY ALL POWER CHARGES UNTIL THE SIGNAL IS ACCEPTED BY THE MAINTAINING AGENCY.

CALCULATED	SWC
	CHECKED
MJC	
GENERAL NOTES	
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TRAFFIC SIGNALS CONT.

GROUNDING AND BONDING

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS) AND THE HL AND TC SERIES OF STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

- ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.
 - PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.
- CONDUITS.
 - THE 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.
 - THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.
 - BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
 - METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
- WIRE FOR GROUNDING AND BONDING.
 - USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS:
 - USE 4 AWG BETWEEN THE POWER SERVICE AND SUPPORTS, POLES, PEDESTALS, CONTROLLER OR FLASHER CABINETS.
 - USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.
 - USE A MINIMUM 8 AWG BETWEEN THE "PREPARE TO STOP WHEN FLASHING" INSTALLATION (INCLUDING SUPPORT) AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.
 - THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.
 - IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.
- GROUND ROD.
 - A 3/4 INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.
 - THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.
- PAYMENT.
 - ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED.
 - WORK ON BRIDGES MAY BE INCLUDED IN THE BID ITEM FOR "ITEM 625, STRUCTURE GROUNDING."
 - IN A 3-WIRE HIGHWAY LIGHTING SYSTEM, THE THIRD CONDUCTOR OF THE DUCT CABLE OR DISTRIBUTION CABLE WILL BE USED AS THE EQUIPMENT GROUNDING CONDUCTOR AND MAY AS SUCH BE PART OF THE CABLE BID ITEM.

ITEM 632 - COMBINATION SIGNAL SUPPORT. (BY DESIGN No.): AND ITEM 632 - PEDESTAL, 8' (ALTERNATE 2)

IN ADDITION TO THE REQUIREMENTS OF 632, 732.11, SIGNAL SUPPORTS SHALL MEET THE FOLLOWING REQUIREMENTS:

THE SIGNAL SUPPORTS SHALL CLOSELY MATCH THE STYLE AND BLACK COLOR (FEDERAL COLOR # FS27038 SEMI-GLOSS) OF DECORATIVE LIGHT POLES INSTALLED IN THE ADJACENT STREETScape PROJECT. THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FROM THE CITY FOR ALL MODEL NUMBERS, POLE FABRICATION AND ORIENTATION DATA, AND PAINTING SPECIFICATIONS, PRIOR TO ORDERING THE POLES.

SIGNAL SUPPORTS (MAST ARM POLE AND ARMS) SHALL BE EITHER MILLERBERND (BASE: BSDO) OR VALMONT (BASE: STERLING ST,) OR UNION METAL (NOSTALGIA, BASE: 729) PAINTED SEMI-GLOSS BLACK (FEDERAL COLOR CODE FS 27038) (WET COATED OR POWDER COATED) AND MANUFACTURED BY:

MILLERBERND
OHIO TRAFFIC & LIGHTING SOLUTIONS
2688 SAWBURY BLVD
COLUMBUS, OH 43235
AGENT: JOHN MINIC
EMAIL: JOHN@OHIO.TLS.COM
PHONE: 614-219-7341
WWW.MILLERBERNDMFG.COM

VALMONT
26933 WESTWOOD RD - SUITE 300
AGENT: CHRIS NAJDA/R. C. CHILDS
EMAIL: RCCHILDS-CHRIS@AMERITECH.NET
PHONE: 440-835-3500
WWW.VALMONT.COM

UNION METAL
PO BOX 9920
CANTON, OHIO 44711
330-456-7659
WWW.UNIONMETAL.COM

THE CONTRACTOR SHALL FURNISH AND INSTALL COMBINATION SIGNAL SUPPORTS AS PER THE PLAN DETAILS. ALL HARDWARE AND RELATED EQUIPMENT SHALL BE INCLUDED WITH THIS ITEM.

COMBINATION SIGNAL SUPPORTS SHALL INCLUDE BRACKET ARMS BY EITHER KING LUMINAIRE (KA14-T-2), OR UNION METAL (ALUMINUM BISHOP'S CROOK ASSEMBLY STYLE 895), OR APPROVED EQUAL. BRACKET ARMS WILL MATCH THE OVERALL APPEARANCE AND FUNCTION OF THE DETAIL IN THE PLANS AND PAINTED SEMI-GLOSS BLACK (FEDERAL COLOR CODE FS 27038).

KING LUMINAIRE
1153 STATE ROUTE 46N
JEFFERSON, OHIO 44047
1-800-268-7809
WWW.KINGLUMINAIRE.COM

UNION METAL
PO BOX 9920
CANTON, OHIO 44711
330-456-7659
WWW.UNIONMETAL.COM

THE MANUFACTURER SHALL PROVIDE WRITTEN CERTIFICATION TO THE CITY THAT THE ACCEPTED POLE, ARM, AND DECORATIVE SHROUD, IS OR WILL BECOME A STOCK ITEM, READILY AVAILABLE WITH REPLACEMENT PARTS FOR A MINIMUM TEN (10) YEAR PERIOD. ALL MATERIAL SUPPLIES SHALL BE WARRANTED BY THE MANUFACTURER FOR FIVE (5) YEARS AFTER DELIVERY AGAINST FAULTY MATERIALS AND WORKMANSHIP. THE POLE TOP SHALL BE MECHANICALLY ATTACHED TO THE TOP OF THE POLE SHAFT TO PROVIDE ACCESS FOR WIRING SIGNALS SECURED BY A J-HOOK WIRE SUPPORT. AN OUTLET FRAME SHALL BE INTEGRALLY WELDED INTO THE POLE SHAFT TO ACCOMMODATE A 20A 125V GFCI DUPLEX RECEPTACLE WHICH IS ALSO INCLUDED. THE RECEPTACLE COVER SHALL BE WEATHER PROOF WHILE IN USE AND PAINTED TO MATCH POLE.

ITEM 632 - COMBINATION SIGNAL SUPPORT. (BY DESIGN No.): AND ITEM 632 - PEDESTAL, 8' (ALTERNATE 2) (CONT.)

THE MAST ARM SHALL BE DRILLED IN THE FIELD 1 FOOT FROM REQUIRED SIGNAL LOCATIONS. TWO (2) RUBBER GROMMETS SHALL BE FURNISHED WITH EACH MAST ARM. SIGNAL HANGER CLAMPS SHALL BE SUPPLIED BY THE SIGNAL SUPPLIER OR MANUFACTURER, AS REQUIRED. A PERMANENT LEGIBLE MARKING INDICATION SHALL BE INCLUDED ON EACH SIGNAL SUPPORT AND ARM. THE FOLLOWING INDICATIONS SHALL BE REQUIRED AS A MINIMUM:

A. POLE INDICATIONS: MONTH/DATE OF FABRICATION, POLE GAUGE, BOTTOM DIAMETER, POLE HEIGHT; BOLT CIRCLE; ANCHOR BOLT DIAMETER, FLANGE BOLT DIAMETER, AND INTERSECTION LOCATION INCLUDING CORNER QUADRANT.

B. ARM INDICATIONS: MONTH/DATE OF FABRICATION, ARM GAUGE, ARM DIAMETER, ARM LENGTH, CONNECTING FLANGE BOLT DIAMETER, AND INTERSECTION LOCATION INCLUDING CORNER QUADRANT.

THE FOUNDATION SURFACE SHALL BE LEVEL IN ORDER TO ACCEPT THE BASE ASSEMBLY. ALL PROPOSED EXTERIOR CONNECTIONS (PEDESTRIAN SIGNAL HEADS, ETC.) TO SIGNAL POLES SHALL BE FIELD DRILLED. BANDING OR STRAPPING ON THE SIGNAL POLES SHALL NOT BE PERMITTED.

THE DECORATIVE SIGNAL SUPPORTS SHALL BE DESIGNED BY THE MANUFACTURER TO MEET THE DESIGN REQUIREMENTS OF THE POLE. THE SIGNAL SUPPORT DESIGNER SHALL PROVIDE DRAWINGS AND SUPPORTING CALCULATIONS OF EACH SIGNAL SUPPORT WITH THE STRUCTURAL ASPECTS OF THE DESIGN AND MATERIALS IN COMPLIANCE WITH THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS. THE SIGNAL SUPPORT SHALL BE ASTM A595 GRADE A WITH A MINIMUM YIELD STRENGTH OF 55 KSI (OR THE EQUIVALENT ODOT DESIGN NUMBER, WHICHEVER IS GREATER).

THE FOLLOWING DESIGN PARAMETERS SHALL BE USED FOR DESIGN PURPOSES:

- BASIC WIND SPEED = 90 MPH
- DESIGN LIFE = 25 YEARS
- FATIGUE CATEGORY = III
- GALLOPING: NO
- TRUCK INDUCED GUST: NO

SUBMIT, TO THE ENGINEER PRIOR TO INCORPORATION: TWO COPIES OF THE SIGNAL SUPPORT DRAWINGS AND SHOP DRAWINGS, WHICH IDENTIFY AND DESCRIBE EACH MANUFACTURED SIGNAL SUPPORT AND SIGNAL SUPPORT ITEM WHICH IS BEING INCORPORATED INTO THE CONSTRUCTION. THE SIGNAL SUPPORT DRAWINGS AND SHOP DRAWINGS SHALL EACH BE REVIEWED, SEALED, STAMPED, AND DATED BY AN OHIO REGISTERED PROFESSIONAL ENGINEERS.

ANCHOR BOLTS SHALL PROVIDED AND INSTALLED PER POLE MANUFACTURER RECOMMENDATIONS.

PAYMENT FOR THIS ITEM WILL BE MADE AT THE UNIT BID PRICE FOR EACH POLE, FURNISHED, INSTALLED, AND APPROVED.

ITEM 630 - SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN

SIGNS ATTACHED TO TRAFFIC SIGNAL MAST ARMS SHALL BE RIGID MOUNT. THE ATTACHMENT HARDWARE SHALL BE SIMILAR TO TC-22.20, OR EQUAL AS APPROVED BY THE ENGINEER. PAINT THE HANGER ASSEMBLY SEMI-GLOSS BLACK (FEDERAL COLOR #F527038)

PAYMENT FOR ITEM 630 - SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN SHALL INCLUDE ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO RIGIDLY MOUNT THE OVERHEAD SIGN, AS APPROVED BY THE ENGINEER.

ITEM 633 - UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF C&MS 633 AND 733, POLE ATTACHMENT HARDWARE WILL BE INCLUDED FOR POLE-MOUNTED CABINETS, AND A CABINET RISER (8 INCH MINIMUM) AND ANCHOR BOLTS WILL BE PROVIDED FOR BASE-MOUNTED CABINETS.

THE UPS CABINET SHALL INCLUDE A GENERATOR POWER PANEL WITH A HEAVY DUTY POWER RELAY VERSUS THE LINE VOLTAGE GENERATOR SWITCH. THE GENERATOR INLET SHALL BE A RECESSED PANEL WITH A DOOR THAT IS FLUSH WITH THE EXTERNAL SIDE OF THE UPS CABINET. IT SHALL INCLUDE A RECESSED PLUG, AUTOMATIC TRANSFER SWITCH AND A DOOR THAT SECURELY CLOSSES OVER THE POWER CORD.

THE UPS OUTPUT NOTIFICATIONS FOR ON BATTERY, BATTERY 2-HOUR TIMER, AND LOW BATTERY SHALL BE WIRED INTO THE TRAFFIC SIGNAL CABINET BACK PANEL TO PROVIDE SPECIAL STATUS ALARMS FOR EACH OUTPUT INTO THE SIGNAL CONTROLLER.

THIS ITEM SHALL INCLUDE A RED LED STATUS INDICATOR LAMP TO ALLOW MAINTENANCE PERSONNEL AND LAW ENFORCEMENT TO QUICKLY ASSESS WHETHER A TRAFFIC SIGNAL CABINET IS BEING POWERED BY A UPS. THE LED HOUSING SHALL BE NEMA 4X, IP65 OR IP66, RATED FOR OUTDOOR USE AND BE TAMPER/ SHATTER RESISTANT. IT SHALL BE A DOMED ENCLOSURE CONTAINING A RED LENS WITH LED THAT IS VISIBLE FROM 100 FOOT MINIMUM. THE ENCLOSURE AND LED MODULE SHOULD BE PLACED AND CENTERED ON THE TOP SURFACE OF THE UPS CABINET AND SEALED FROM WATER INTRUSION. IT SHOULD BE WIRED USING MINIMUM 20GA STRANDED, INSULATED HOOKUP WIRE TO THE STATUS RELAY OUTPUTS OF THE UPS. THE WIRES SHALL BE TERMINATED BY LUGS AT THE DISPLAY END AND PERMANENTLY LABELED "BACKUP POWER STATUS DISPLAY", WITH WIRE POLARITY INDICATED. THE RED LED SHALL ONLY ILLUMINATE TO INDICATE THE CABINET IS OPERATING UNDER UPS BACKUP POWER (THE "BACKUP" OPERATING CONDITION). THIS ITEM INCLUDES PROGRAMMING THE UPS STATUS RELAY OUTPUTS TO PRODUCE THE LAMP STATUS DISPLAYS. THESE STATUS DISPLAYS WILL BE SOLID 100% DUTY CYCLE (NOT FLASHING) DISPLAYS. THE OPERATING VOLTAGE OF THE LED LAMP SHALL BE 120V AC UNLESS OTHERWISE INDICATED.

TRENCH IN PAVED AREA, TYPE "A", AS PER PLAN

WHERE DESIGNATED IN THE PLANS, TRENCH IN PAVED AREA TYPE "A", AS PER PLAN WILL INVOLVE REMOVAL OF THE CONCRETE SIDEWALK AREA IN COMPLETE PANELS, AND RESTORATION AS DESCRIBED BELOW.

- ALL CONCRETE WALK REMOVED SHALL BE REMOVED TO AN EXISTING JOINT, LEAVING A CLEAN EDGE. SAW CUTTING IN CONCRETE SIDEWALK OR REMOVAL OF PARTIAL PANELS WILL NOT BE PERMITTED.
- CONCRETE WALK RESTORATION SHALL BE DONE IN COMPLETE PANELS.
- JOINTS SHALL BE PLACED TO ALIGN WITH ADJACENT JOINTS, AND IN PATTERNS AS EXISTED PRIOR TO WALK REMOVAL.
- FINISHES FOR WALKS SHALL BE LIGHT BROOM FINISH AS SHOWN ON THE STREETScape PLANS. FINISHES SHALL CLOSELY MATCH THE FINISHES ON EXISTING ADJACENT WALKS. ALL JOINTS SHALL BE HAND TOOLED. EDGES SHALL BE FINISHED AFTER PANEL INTERIOR TEXTURE HAS BEEN APPLIED.

PHOTOGRAPHS: THE CONTRACTOR SHALL PHOTOGRAPH ALL WALKS PRIOR TO REMOVAL IN ORDER TO REESTABLISH THE PREVIOUS JOINT OR PAVER PATTERNS UPON RESTORATION OF THE WALK. PAYMENT FOR THIS ITEM WILL BE MADE AT THE CONTRACT UNIT PRICE AND WILL INCLUDE ALL LABOR, MATERIALS, AND INCIDENTALS NECESSARY TO RESTORE SIDEWALKS, ACCEPTED BY THE ENGINEER.

CALCULATED	SWC	CHECKED	MJC
GENERAL NOTES			
S.R. 172 LINCOLN WAY (STA-172-6.44)			
14 112			

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TRAFFIC SIGNALS CONT.

ITEM 632 - SIGNAL SUPPORT FOUNDATION, AS PER PLAN

WITHIN TWO (2) WEEKS OF RECEIVING A SIGNED CONTRACT, THE CONTRACTOR SHALL LAYOUT THE PERIMETER OF EACH FOUNDATION THEN CONTACT OUPS (1-800-362-2764) AND OGPUPS (1-800-925-0988). A MEETING BETWEEN THE CONTRACTOR, ENGINEER AND A REPRESENTATIVE FROM THE MAINTAINING AGENCY WILL BE HELD ON SITE NO LATER THAN TWO (2) WEEKS AFTER THE OUPS NOTIFICATION. BASED UPON THE PRIORITIES DETERMINED AT THIS MEETING, THE CONTRACTOR WILL CONSTRUCT FOUNDATIONS BEGINNING WITH THE HIGHEST PRIORITY FIRST. THIS REQUIREMENT SHALL APPLY IN PARTICULAR TO THE FOLLOWING SIGNAL SUPPORTS: ERIE STREET SP-2 & SP-3; FIRST STREET SP-1 & SP-3. OTHER POLES WILL BE LOCATED AT THE SAME STATION/OFFSET AS EXISTING SIGNAL POLES - AND ARE THEREFORE ASSUMED TO BE FREE OF CONFLICTS.

IF A UTILITY OR OTHER CONFLICT EXISTS WHICH REQUIRES THAT A SIGNAL SUPPORT BE CONSTRUCTED AT A LOCATION OTHER THAN WHAT IS INDICATED IN THE PLAN, THE MAINTAINING AGENCY AND THE ENGINEER SHALL DETERMINE WHETHER THE SPECIFIED MAST ARM LENGTH IS APPROPRIATE. IF A LONGER ARM IS REQUIRED, WITHIN TEN (10) WORKING DAYS, THE MAINTAINING AGENCY WILL PROVIDE THE CONTRACTOR WITH REVISED POLE AND ARM DATA. THE CONTRACTOR SHALL NOT ORDER THE POLES PRIOR TO RECEIVING THIS DATA. SUPPORT FOUNDATION LOCATIONS SHALL BE ADJUSTED ONLY WHEN APPROVED BY THE ENGINEER.

THE CONTRACTOR IS ADVISED TO LOCATE AND CONSTRUCT THE SIGNAL SUPPORT FOUNDATIONS AS SOON AS POSSIBLE IN ORDER TO PROVIDE AMPLE LEAD TIME TO ORDER THE SIGNAL SUPPORTS AND THEIR ASSOCIATED MAST ARMS. ALL FOUNDATIONS SHALL BE HAND EXCAVATED UNLESS OTHERWISE DIRECTED BY THE ENGINEER. NO TIME EXTENSIONS SHALL BE GRANTED FOR DELAYS WHICH ARE CAUSED BY THE CONTRACTOR'S FAILURE TO PLAN FOUNDATION WORK AS SOON AS POSSIBLE IN THE CONTRACTOR'S PROGRESS SCHEDULE.

FOUNDATIONS THAT HAVE BEEN CONSTRUCTED SHALL BE PROTECTED AS PER SECTION 107.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

PAYMENT FOR ITEM 632 - SIGNAL SUPPORT FOUNDATION, AS PER PLAN SHALL BE MADE AT THE UNIT CONTRACT PRICE BID PER EACH. PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND OTHER INCIDENTALS NECESSARY TO EXCAVATE AND BUILD THE FOUNDATION SYSTEM, COMPLETE IN PLACE AND ACCEPTED.

ITEM 632 - INTERCONNECT CABLE, MISC.: 6 PAIR, NO. 19 AWG, SOLID, REA (PE-39)

THE INTERCONNECT CABLE SHALL CONFORM TO THE TO THE REQUIREMENTS OF C&MS 632.19 & 732.19.

MEASUREMENT WILL BE BASED UPON THE NUMBER OF FEET OF C&MS ITEM 632, "INTERCONNECT CABLE, MISC.: 6 PAIR, NO. 19 AWG, SOLID, REA (PE-39)" IN PLACE IN ACCORDANCE WITH THE METHOD DESCRIBED IN C&MS 632.29.

SEE SHEET 91 FOR SIGNAL INTERCONNECT PLAN. THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 632 - INTERCONNECT CABLE, MISC.: 6 PAIR, NO. 19 AWG, SOLID, REA (PE-39)	2600 FT
ITEM 632 - CONDUIT RISER, 2" DIAMETER	5 EACH
ITEM 625 - PULL BOX, 725.06, SIZE 1.5	2 EACH

ITEM 632 - REMOVAL OF MISCELLANEOUS TRAFFIC SIGNAL ITEM (AERIAL INTERCONNECT & MESSENGER WIRE)

THE EXISTING TRAFFIC SIGNALS ON LINCOLN WAY ARE INTERCONNECTED FROM TOMMY HENRICH BLVD TO 3RD STREET E. THE LINCOLN WAY SIGNALS ARE CONNECTED TO THE MASTER INSIDE THE TRAFFIC SIGNAL CABINET 1ST STREET AND FEDERAL STREET. THIS INTERCONNECT WILL BE PARTIALLY MOVED TO UNDERGROUND WITHIN THE PROJECT LIMITS AS SHOWN ON SHEET 91. THE FOLLOWING QUANTITY IS PROVIDED FOR THE REMOVAL OF THE EXISTING INTERCONNECT AND MESSENGER WIRE.

ITEM 632 - REMOVAL OF MISCELLANEOUS TRAFFIC SIGNAL ITEM (AERIAL INTERCONNECT & MESSENGER WIRE)	2500 FT
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LANDSCAPING

ITEM 653 - TOPSOIL FURNISHED AND PLACED, AS PER PLAN:

THIS ITEM SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 653 IN THE CMS, EXCEPT AS MODIFIED HEREIN. WORK SHALL INCLUDE FURNISHING AND PLACING TOPSOIL / GROWING MEDIUM IN THE PROPSD ROADWAY MEDIAN, TREE PLANTING PITS, TREE LAWNS, AND ALL DISTURBED LAWN AREAS.

FURNISHED TOPSOIL SHALL MEET THE FOLLOWING REQUIREMENTS:

1. TOPSOIL/PLANTING SOIL: IMPORTED, NATURALLY FORMED SOIL FROM OFF-SITE SOURCES AND CONSISTING OF SANDY LOAM SOIL ACCORDING TO USDA TEXTURES; AND MODIFIED WITH SOIL AMENDMENTS, AND FERTILIZER TO PRODUCT VIABLE TOPSOIL/PLANTING SOILS.

LOOSE, FRIABLE, NATURAL, FERTILE SOIL, FREE OF STONES, CLAY LUMPS, ROOTS, AND FOREIGN OR TOXIC MATTER. MIX SHALL BE CLASSIFIED IN THE "SANDY LOAM" PORTION OF THE USDA SOIL TEXTURAL TRIANGLE. THE FRACTION PASSING THE #10 SIEVE SHALL MEET THE FOLLOWING MECHANICAL ANALYSIS:

10% TO 20% CLAY.
60% TO 75% SAND.
20% TO 30% SILT.

CONTAIN 5-15% ORGANIC MATTER AS DETERMINED BY LOSS OF IGNITION OF SAMPLES OVEN DRIED TO CONSTANT WEIGHT AT 212 DEG F. HAVE A PH LEVEL BETWEEN 6.3 AND 7.5. BE SCREENED THROUGH A 1-1/4" SCREEN.

PLACING TOPSOIL OVER EXPOSED SUBGRADE: APPLY MANUFACTURED SOIL ON-SITE IN ITS FINAL BLENDED CONDITION. DO NOT APPLY MATERIALS OR TILL IF EXISTING SOIL OR SUBGRADE IS FROZEN, MUDDY, OR EXCESSIVELY WET. TILL SUBGRADE TO A MINIMUM DEPTH OF 4 INCHES. REMOVE STONES LARGER THAN 1-1/2 INCHES IN ANY DIMENSION AND STICKS, ROOTS, RUBBISH, AND OTHER EXTRANEIOUS MATERIAL AND LEGALLY DISPOSE OF THEM OFF PROJECT SITE. WHERE PROPOSED TOPSOIL DEPTHS ARE GREATER THAN 6 INCHES, APPLY TOPSOIL IN LIFTS NOT EXCEEDING 8 INCHES IN LOOSE DEPTH. SPREAD TOPSOIL TO DEPTH 1-2 INCHES ABOVE FINISHED GRADE TO ALLOW FOR NATURAL SETTLEMENT. DO NOT SPREAD IF SOIL OR SUBGRADE IS FROZEN, MUDDY, OR EXCESSIVELY WET. GRADE PLANTING SOIL TO A SMOOTH, UNIFORM SURFACE PLANE WITH LOOSE, UNIFORMLY FINE TEXTURE. ROLL AND RAKE, REMOVE RIDGES, AND FILL DEPRESSIONS TO MEET FINISH GRADES.

PROTECTION: PROTECT AREAS OF IN-PLACE SOIL FROM ADDITIONAL COMPACTION, DISTURBANCE, AND CONTAMINATION. IF TOPSOIL OR SUBGRADE IS OVER COMPACTED, DISTURBED, OR CONTAMINATED BY FOREIGN OR DELETERIOUS MATERIALS OR LIQUIDS, REMOVE THE TOPSOIL AND CONTAMINATION; RESTORE THE SUBGRADE, AND REPLACE CONTAMINATED SOIL WITH NEW TOPSOIL/PLANTING SOIL.

WHEN THIS ITEM IS SPECIFIED FOR AREAS OF EXISTING TREE LAWN; INCLUDE THE COST TO EXCAVATE AND DISPOSE OF THE TOP 6" OF EXISTING SOIL WITH THE UNIT PRICE BID FOR THIS ITEM.

COST FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

ITEM 659 - SEEDING AND MULCHING, AS PER PLAN:

THIS ITEM SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 659 IN THE CMS, EXCEPT AS MODIFIED HEREIN. WORK SHALL INCLUDE SEEDING AND MULCHING PROPOSED LAWN AND DISTURBED LAWN AREAS.

PROVIDE SEED OF GRASS SPECIES AS LISTED BELOW, WITH NOT LESS THAN 85% GERMINATION, NOT LESS THAN 95% PURE SEED, AND NOT MORE THAN 0.5% WEED SEED. PROPORTIONED MIX BY WEIGHT AS FOLLOWS:

70-80% TURF TYPE TALL FESCUE (MINIMUM OF 4 CULTIVARS).
20-30% KENTUCKY BLUEGRASS (POA PRATENSIS).

SEED SOWING RATE: 5-8 LB/1,000 SF.

HYDROSEEDING: MIX SPECIFIED SEED, STARTER FERTILIZER, AND FIBER MULCH IN WATER, USING EQUIPMENT DESIGNED FOR HYDRO SEED APPLICATION. CONTINUE MIXING UNTIL UNIFORMLY BLENDED INTO HOMOGENEOUS SLURRY SUITABLE FOR HYDRAULIC APPLICATION. MIX SLURRY WITH FIBER-MULCH MANUFACTURER'S RECOMMENDED TACKIFIER. SPRAY-APPLY SLURRY UNIFORMLY TO ALL AREAS TO BE SEEDED IN A ONE STEP PROCESS. APPLY SLURRY AT A RATE SO THAT MULCH COMPONENT IS DEPOSITED AT NOT LESS THAN 1500 LB/ACRE DRY WEIGHT AND SEED COMPONENT IS DEPOSITED AT NOT LESS THAN SPECIFIED SEED-SOWING RATE.

STRAW MULCHING IS NOT PERMITTED.

COST FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

THE FOLLOWING ESTIMATED QUANTIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMINENT SEEDED AREAS BASED ON A SEEDED AREA OF 609 SY:

ITEM 659 - COMMERCIAL FERTILIZER 609 SY X $\frac{1 \text{ TON}}{7410 \text{ SY}}$ = 0.08 TON

ITEM 659 - WATER 609 SY X 2 APPLICATIONS X $\frac{0.0027 \text{ MGAL}}{\text{SY}}$ = 4 MGAL

ITEM 661 - MULCH, AS PER PLAN:

THIS ITEM SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 661 IN THE CMS, EXCEPT AS MODIFED HEREIN. PROVIDE ORGANIC MULCH FREE FROM DELETERIOUS MATERIALS CONSISTING OF:

1. 100% DOUBLE SHREDDED HARDWOOD BARK MULCH WITH NO FILLERS OR COMPOST.
2. 3 INCHES MAXIMUM, 1/2" MINIMUM SIZE RANGE.
3. NATURAL COLOR (NO DYE'S).

COST FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.



ITEM OF WORK INCLUDED WITH ADD ALT 1

ITEMS OF WORK

ITEM SPECIAL - TRASH RECEPTACLE: 1

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING METAL TRASH RECEPTACLES FROM ONE OF THE FOLLOWING:

30 GALLON RECEPTACLE MODEL #287 MANUFACTURED BY DUMOR:

DUMOR
P.O. BOX 142
MIFFLINTOWN, PA 17059
800-598-4018
WWW.DUMOR.COM

30 GALLON SCARBOROUGH SIDE OPENING OPENING LITTER RECEPTACLE MANUFACTURED BY LANDSCAPE FORMS, INC.:

LANDSCAPE FORMS, INC.
7800 E. MICHIGAN AVE.
KALAMAZOO, MI 49048
800.430.6209
WWW.LANDSCAPEFORMS.COM

36 GALLON RECEPTACLE MODEL #SDC-36 MANUFACTURED BY VICTOR STANLEY:

VICTOR STANLEY
P.O. DRAWER 330
DUNKIRK, MI 20754
800-368-2573
WWW.VICTORSTANLEY.COM

INSTALLATION: OWNER TO DETERMINE LOCATIONS PRIOR TO INSTALLATION. UNITS SHALL BE SET LEVEL/PLUMB, AND ANCHORED TO THE CONCRETE SIDEWALK PER MANUFACTURER'S RECOMMENDATIONS.

COST FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

ITEM SPECIAL - TRASH RECEPTACLE
(ALTERNATE 1): 6 EA

ITEMS OF WORK ALTERNATES - ADD ALTERNATES:

ADD ALTERNATIVES WILL BE INCORPORATED INTO THE PROJECT AS FUNDS ARE AVAILABLE. THE PAY ITEMS AND QUANTITIES RELATED TO EACH ADD ALTERNATE ARE IDENTIFIED ON THE PLANS AND SUB-SUMMARY SHEETS. A GENERAL DESCRIPTION OF THE WORK RELATED TO EACH ADD ALTERNATE IS PROVIDED BELOW:

ALTERNATE 1 - STREET FURNISHINGS
INCLUDING BOLLARDS, BENCHES, BIKE RACKS, AND TRASH RECEPTACLES

ALTERNATE 2 - WORK EAST OF SECOND ST
ITEMS OF WORK RELATED TO THE INSTALLATION OF THE PORTION OF LIGHT CIRCUIT 2 EAST OF SECOND ST, INCLUDING: DRIVEWAY, SIDEWALK, CURBING, UNDERDRAIN, LIGHT CIRCUIT (CONDUCTORS, CONDUITS, CONNECTIONS), POLE FOUNDATIONS, AND LANDSCAPE.

ALTERNATE 3 - SPAN WIRE LIGHT UPGRADES AT FIRST ST/SECOND ST/THIRD
REMOVAL AND REPLACEMENT OF EXISTING COBRA HEAD STREET LIGHTS (PLAN REFERENCE NUMBER LUC #) MOUNTED TO SPAN WIRE SUPPORTS AT FIRST ST NW, SW / SECOND ST E/ THIRD ST E.

ALTERNATE 4 - WORK WEST OF FIRST ST SW
ITEMS OF WORK RELATED TO THE INSTALLATION OF LIGHT CIRCUIT 1, INCLUDING: DRIVEWAY, SIDEWALK, CURBING, UNDERDRAIN, LIGHT CIRCUIT (CONDUCTORS, CONDUITS, CONNECTIONS), POLE FOUNDATIONS, AND LANDSCAPE.

ALTERNATE 5
PAVEMENT PLANNING, TACK COAT, AND ITEM 424 OF LOCATIONS IDENTIFIED IN THE PLANS.

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ITEMS OF WORK CONT.

ITEM SPECIAL - BICYCLE RACK:

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING METAL BICYCLE RACKS FROM ONE OF THE FOLLOWING:

MODEL "EMERSON BIKE RACK" MANUFACTURED BY LANDSCAPE FORMS, INC.:

LANDSCAPE FORMS, INC
7800 E. MICHIGAN AVE.
KALAMAZOO, MI 49048
800.430.6209
WWW.LANDSCAPEFORMS.COM

MODEL "FREESIA BIKE RACK" MANUFACTURED BY VICTOR STANLEY:

VICTOR STANLEY
P.O. DRAWER 330
DUNKIRK, MI 20754
800-368-2573
WWW.VICTORSTANLEY.COM

MODEL "TRIO BIKE RACK" MANUFACTURED BY FORMS AND SURFACES:

FORMS AND SURFACES
30 PINE STREET
PITTSBURGH, PA 15223
800.451.0410
WWW.FORMS-SURFACES.COM

INSTALLATION: OWNER TO DETERMINE LOCATIONS PRIOR TO INSTALLATION. UNITS SHALL BE SET LEVEL/PLUMB, AND ANCHORED TO THE CONCRETE SIDEWALK PER MANUFACTURER'S RECOMMENDATIONS.

COST FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

ITEM SPECIAL - BICYCLE RACK
(ALTERNATE 1):

4 EA

ITEM SPECIAL - BOLLARD:

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING METAL BOLLARDS FROM ONE OF THE FOLLOWING:

BOLLARD MODEL #R-7530 MANUFACTURED BY RELIANCE FOUNDRY:

RELIANCE FOUNDRY
UNIT 207, 6450-148TH STREET
SURREY, BRITISH COLUMBIA,
CANADA V53-7G7
877-789-3245
WWW.RELIANCE-FOUNDRY.COM

HAMPTON 'B' FLUTED SHAFT MODEL #AIC 774-775DB-F MANUFACTURED BY ARCHITECTURAL IRON COMPANY:

ARCHITECTURAL IRON COMPANY
104 IRONWOOD COURT
MILFORD, PA 18337
800-442-4766
WWW.ARCHITECTURALIRON.COM

FLUTED BOLLARD MODEL #160-GPF MANUFACTURED BY J.R. HOE AND SONS:

J.R. HOE AND SONS
CONSTRUCTION PRODUCTS AND BOLLARDS
101 IRONWOOD RD.
MIDDLESBORO, KY 40964

800-245-5521

WWW.JRHOE.COM

INSTALLATION: OWNER TO FIELD VERIFY FINAL LOCATIONS PRIOR TO INSTALLATION. UNITS SHALL BE INSTALLED PER MANUFACTURERS STANDARD REMOVABLE BOLLARD DETAIL.

COST FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

ITEM SPECIAL - BOLLARD (ALTERNATE 1):

6 EA

ITEM SPECIAL - METAL BENCH:

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING METAL BENCH FROM ONE OF THE FOLLOWING:

6' BENCH MODEL #160 MANUFACTURED BY DUMOR:

DUMOR
P.O. BOX 142
MIFFLINTOWN, PA 17059
800-598-4018
WWW.DUMOR.COM

6' CLASSIC BENCH MODEL #C-138 MANUFACTURED BY VICTOR STANLEY:

VICTOR STANLEY
P.O. DRAWER 330
DUNKIRK, MD 20754
800-368-2573
WWW.VICTORSTANLEY.COM

6' SCARBOROUGH BENCH MANUFACTURED BY LANDSCAPE FORMS, INC.:

LANDSCAPE FORMS, INC.
7800 E. MICHIGAN AVE.
KALAMAZOO, MI 49048
800.430.6209
WWW.LANDSCAPEFORMS.COM

INSTALLATION: OWNER TO DETERMINE LOCATIONS PRIOR TO INSTALLATION. UNITS SHALL SURFACE MOUNTED TO BRICK PAVERS PER MANUFACTURER'S RECOMMENDATIONS.

COST FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

ITEM SPECIAL - METAL BENCH
(ALTERNATE 1):

4 EA

ITEM SPECIAL - BASEMENT WALLS

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING CONCRETE MASONRY WALLS WHERE EXISTING BASEMENTS EXTEND BEYOND THE PUBLIC RIGHT OF WAY, AND UNDER THE PUBLIC SIDEWALK. SEE DETAILING ON SHEET 71. BASEMENTS ARE TO BE WALLED OFF AT THE PUBLIC RIGHT OF WAY.

PAYMENT FOR THIS ITEM WILL BE MADE BASED ON THE EXPOSED SQUARE FOOTAGE (FACE-FOOT) OF COMPLETED WALL. COST FOR ALL WORK, LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

ITEM SPECIAL - BASEMENT WALLS 1162 SF

STATION TO STATION			SIDE	LENGTH	WIDTH	HIGHT	SPECIAL	613
				FT	FT	FT	BASEMENT WALLS	LOW STRENGTH MORTAR BACKFILL (TYPE 1)
				FT	FT	FT	SF	CY
BW-1								
21+90			LEFT	10	10	14	140	52
BW-2								
26+55	TO	27+28	LEFT	73	12	14	1022	454
TOTALS CARRIED TO GENERAL SUMMARY:							1162	506



ITEM OF WORK INCLUDED WITH ADD ALT 1

CALCULATED
JUH
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GENERAL NOTES

S.R. 172 LINCOLN WAY
(STA-172-6.44)

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MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION:

CONTRACTOR SHALL MAINTAIN FULL PEDESTRIAN ACCESS TO STORE FRONTS DURING ALL PHASES OF PROJECT.

PHASE 1

THE CONTRACTOR SHALL IMPLEMENT ON STREET PARKING RESTRICTIONS, CLOSE ONE LANE OF TRAFFIC ON LINCOLN WAY IN EACH DIRECTION, TRAFFIC SHALL BE SHIFTED TO THE SOUTH SIDE OF LINCOLN WAY AND MAINTAIN ONE TEN FOOT LANE IN EACH DIRECTION. THE CONTRACTOR SHALL CONSTRUCT THE WATER MAIN ON THE NORTH SIDE OF LINCOLN WAY AND ANY OTHER ROADWAY IMPROVEMENTS TO THE NORTH SIDE OF LINCOLN WAY THAT CAN BE DONE WITHIN THE PHASE 1 WORK AREA.

THE PROPOSED WATER LATERALS AND WATER MAIN ON THE SIDE STREETS SHALL BE CONSTRUCTED DURING OFF-PEAK HOURS WHILE MAINTAINING TWO-WAY, ONE-LANE TRAFFIC UNDER FLAGGER CONTROL.

PHASE 2

ALLOWABLE CLOSURE WINDOW JUNE 1, 2019 THROUGH SEPTEMBER 15, 2019. THE CONTRACTOR SHALL CLOSE AND DETOUR LINCOLN WAY BETWEEN ERIE STREET AND FIRST STREET. LOCAL TRAFFIC SHALL BE MAINTAINED BETWEEN FIRST STREET WEST AND ERIE STREET AND BETWEEN FIRST STREET EAST AND THIRD STREET. PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES, SEE "SIDEWALK CONSTRUCTION AND PEDESTRIAN TRAFFIC" NOTE. THE CONTRACTOR SHALL CONSTRUCT ALL ROADWAY IMPROVEMENTS BETWEEN ERIE STREET AND FIRST STREET INCLUDING CURB, MEDIANS, AND BRICK PAVERS.

PHASE 3

THE CONTRACTOR SHALL PERFORM PAVEMENT PLANING, PLACE THE FINAL SURFACE COURSE, AND PLACE FINAL PAVEMENT MARKINGS THROUGHOUT THE PROJECT LIMITS. DURING PAVEMENT PLANING AND PLACEMENT OF THE FINAL ASPHALT SURFACE COURSE, TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH MT-95.31, MT-95.32, MT-95.60, MT-95.61, MT-97.10 AND MT-97.12. ALL PAVEMENT PLANING AND RESURFACING SHALL BE COMPLETED DURING OFF-PEAK HOURS. DURING PLACEMENT OF FINAL PAVEMENT MARKINGS, TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH MT-99.20.

WORK HOUR DESCRIPTION:

OFF-PEAK HOURS ARE DEFINED AS ANY PERIOD OTHER THAN 6:00-9:00 AM AND 4:00-7:00 PM (MONDAY THRU FRIDAY) AND LEGAL HOLIDAYS.

SIDEWALK CONSTRUCTION AND PEDESTRIAN TRAFFIC:

THE CONTRACTOR SHALL COORDINATE WITH ALL BUSINESS OWNERS TO DETERMINE OFF-BUSINESS HOURS. THE CONTRACTOR SHALL REPLACE THE SIDEWALK AT THE BUSINESS ENTRANCES ONLY DURING OFF-BUSINESS HOURS.

DURING BUSINESS HOURS, A MINIMUM FOUR-FOOT (PREFERABLY SIX-FOOT) WIDTH OF SIDEWALK, PARALLEL TO LINCOLN WAY, SHALL BE MAINTAINED IN FRONT OF BUSINESSES, BEING MINDFUL OF CONTRACTION AND CONSTRUCTION JOINTS. ACCESS SHALL BE MAINTAINED TO BUSINESS ENTRANCES DURING REGULAR BUSINESS HOURS. ALL MAINTAINED WALK MUST BE A HARD SURFACE (PLATED OR COMPACTED AGGREGATE).

INCOMPLETE EXCAVATED SIDEWALK AREAS SHALL BE PLATED (¼" PLATE) OR FILLED WITH AGGREGATE AT THE END OF EACH WORK DAY.

THE CONTRACTOR SHALL PLACE "CROSSWALK CLOSED" SIGNS (R9-H12-30) AND "SIDEWALK CLOSED" SIGNS (R9-9-24) AT LOCATIONS TO BE DETERMINED BY THE ENGINEER. PAYMENT FOR ALL WORK ASSOCIATED WITH PROVIDING, ERECTING, AND REMOVING ALL PEDESTRIAN SIGNS AND SUPPORTS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

ITEM 614 - MAINTAINING TRAFFIC:

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS, AND THE FOLLOWING:

1. A MINIMUM OF ONE TEN FOOT LANE IN EACH DIRECTION SHALL BE MAINTAINED ON THE EXISTING PAVEMENT OR COMPLETED PAVEMENT DURING CONSTRUCTION OF THE WORK EXCEPT DURING PHASE 2 WHEN THE ROADWAY WILL BE CLOSED AND TRAFFIC DETOURED.
2. THE CONTRACTOR SHALL INFORM THE CITY OF MASSILLON (330-830-1722) AND THE ODOT DISTRICT OFFICE (330-786-2208) EIGHTEEN (18) DAYS PRIOR TO BEGINNING OF WORK.
3. ONLY DURING OFF-PEAK PERIODS (IE ANY PERIOD OTHER THAN 6-9 AM AND 4-7 PM, MONDAY THROUGH FRIDAY) SHALL THE CONTRACTOR INSTALL AND SUBSEQUENTLY RESET ALL TRAFFIC CONTROL NECESSARY FOR THE WORK ZONE FOR EACH CONSTRUCTION PHASE.
4. PRIOR TO OPENING TO TRAFFIC, EACH LANE SHALL BE IN A SAFE, PASSABLE CONDITION. ALL TRANSVERSE JOINTS SHALL EXTEND ACROSS THE FULL LANE AND EACH LANE SHALL BE FREE FROM UNEVEN LONGITUDINAL JOINTS. THE CONTRACTOR SHALL PROVIDE ASPHALT WEDGES FOR TRANSVERSE JOINTS AND LONGITUDINAL JOINTS, AT CATCH BASINS AND MANHOLE CASTINGS, OR WHEREVER THERE ARE PAVEMENT ELEVATION DIFFERENCES. THE ASPHALT WEDGE SHALL BE REMOVED PRIOR TO PLACING THE SURFACE COURSE.
5. THE FOLLOWING SIGNS SHALL BE PLACED AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH THE CMS AND OMTCD: W8-1 (BUMP), W8-11 (UNEVEN LANES), AND W8-15 (GROOVED PAVEMENT).

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN PLAN.

THE FOLLOWING ESTIMATED QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY:

ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC 20 CY

ITEM 614 - DETOUR SIGNING 1 LS

ITEM 614 - MAINTAINING TRAFFIC (TIME LIMITATION ON A DETOUR):

A MINIMUM OF ONE 10' LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED THE CONSECUTIVE CALENDAR DAYS LISTED IN THE CHART BELOW, WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEET 21. IN ADDITION TO THE 90 DAY TIME LIMITATION, THE PHASE 2 CLOSURE IS ONLY PERMITTED FROM JUNE 1, 2019 THROUGH SEPTEMBER 15, 2019. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT SHOWN IN THE CHART BELOW PER DAY FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

TIME LIMITATION ON DETOUR		
CLOSURE	TIME LIMITATION (CALENDAR DAYS)	DISINCENTIVE (PER CALENDAR DAY)
LINCOLN WAY	PHASE 2 (90 DAYS)	\$1,000

ITEM 614 - MAINTAINING TRAFFIC (NOTICE OF CLOSURE SIGN):

NOTICE OF CLOSURE SIGNS (W20-H13) SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD CLOSURE IN ACCORDANCE WITH THE NOTICE OF CLOSURE TIME BELOW. (AT THE APPROVAL OF THE ENGINEER, PORTABLE CHANGEABLE MESSAGE SIGNS MAY BE USED IN LIEU OF THE STANDARD FLATSHEET SIGN FOR CLOSURE DURATIONS OF LESS THAN 1 WEEK.)

THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT OR NEAR THE POINT OF CLOSURE.

NOTICE OF CLOSURE SIGN TIME TABLE		
ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
RAMP & ROAD CLOSURES	≥ 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	7 CALENDAR DAYS PRIOR TO CLOSURE
	< 12 HOURS	2 BUSINESS DAYS PRIOR TO CLOSURE

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN MMM-DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE. THE LAST LINE OF THE W20-H13 SIGN LISTS A PHONE NUMBER WHICH A MOTORIST MAY CALL FOR ADDITIONAL INFORMATION. THIS IS TO BE A SPECIFIC OFFICE WITHIN THE DISTRICT RATHER THAN THE GENERAL SWITCHBOARD NUMBER.

NOTIFICATION OF TRAFFIC RESTRICTIONS:

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE SPECIAL HAULING PERMITS SECTION, (HAULING.PERMITS@DOT.OHIO.GOV), AND THE DISTRICT PUBIC INFORMATION OFFICE, (PIO). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRICTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER

NOTIFICATION TIME TABLE		
ITEM	DURATION OF CLOSURE	NOTICE DUE TO PERMITS AND PIO
RAMP & ROAD CLOSURES	≥ 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES & RESTRICTIONS	≥ 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WEEKS	5 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE

MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC SIGNAL/FLASER INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

1. EXISTING SIGNAL/FLASHER INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION (AT AN INTERSECTION) FROM THE TIME HIS OPERATIONS FIRST DISTURB THE INSTALLATION UNTIL THE INSTALLATION HAS BEEN SUBSEQUENTLY REMOVED OR MODIFIED AND THE WORK IS ACCEPTED.
2. NEW OR USED SIGNAL/FLASHER INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. HE SHALL PROVIDE THE MAINTAINING AGENCY AND THE ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK TO SERVICE WITHIN FOUR HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE, ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN 8 HOURS AFTER THE CONTRACTOR'S NOTIFICATION OF THE OUTAGE. THE CONTRACTOR SHALL ARRANGE FOR FULL TRAFFIC CONTROL UNTIL THE SIGNAL IS BACK IN OPERATION.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED 8-HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON THEREAFTER AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ON LOCATION. THAT IS, WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY COMPENSATION FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

WHERE THE CONTRACTOR HAS FAILED TO, OR CANNOT RESPOND TO, AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE OR THE CITY OF MASSILLON OR POLICE SERVICES AND MAINTENANCE SERVICES BY CITY FORCES SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

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MAINTENANCE OF TRAFFIC (CONT.)

MAINTENANCE OF TRAFFIC SIGNAL/FLASHER
INSTALLATION (CONT.):

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICE ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A COOPERATIVE UNDERSTANDING WITH THE LOCAL MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE. THE CONTRACTOR SHALL INFORM THE ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM. WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED 4 HOURS AND SHALL NOT INCLUDE THE HOURS OF 6-8 AM TO 3-6 PM ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED BY THE CONTRACTOR, BY THE INSTALLATION OF TEMPORARY “STOP” SIGNS, EXCEPT FOR THE FOLLOWING INTERSECTIONS WHICH SHALL BE PROTECTED BY OFF-DUTY CITY OF MASSILLON POLICE, HIRED BY THE CONTRACTOR:

- 1. ERIE STREET N & ERIE STREET S / S.R. 172
- 2. 1ST STREET NE & 1ST STREET SE / S.R. 172

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.25.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

- 1. TIME OF NOTIFICATION OF MALFUNCTION;
- 2. TIME OF WORK CREWS ARRIVAL TO CORRECT MALFUNCTION;
- 3. ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED;
- 4. A DIAGNOSIS OR REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE;
- 5. TIME OF COMPLETION OF THE REPAIR AND SYSTEM RESTORED TO FULL SERVICE.

A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

ADVANCED NOTICE TO PAVE:

THE CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE DISTRICT CONSTRUCTION ENGINEER A DETAILED SCHEDULE 15 DAYS PRIOR TO THE PLACEMENT OF THE OVERLAY COURSES, ON HOW THEY PROPOSE TO PROSECUTE THE PAVING OPERATIONS. THE DETAILS SHALL SHOW THE ORDER OF PERFORMANCE OF EACH STAGE (START TO FINISH) OF THE WORK INCLUDING THE MAINTENANCE OF TRAFFIC THAT WILL BE USED.

PLACEMENT OF ASPHALT CONCRETE:

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT DURING PHASE 2 AND THAT ONE-WAY TRAFFIC WILL BE PERMITTED FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES.

DUST CONTROL:

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATE QUANTITY HAS BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616 - WATER 10 MGAL

TRAFFIC CONTROL INSPECTOR:

THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL OTHER THAN THE SUPERINTENDENT AND SUBJECT TO THE APPROVAL OF THE ENGINEER, TO CONTINUOUSLY INSPECT ALL TRAFFIC CONTROL DEVICES WHENEVER CONSTRUCTION WORK IS BEING PERFORMED WITHIN THE WORK LIMITS OF THE PROJECT. THE DESIGNATED INDIVIDUAL SHALL ALSO INSPECT ALL TRAFFIC DEVICES AT THE BEGINNING AND AT THE END OF EACH WORK DAY. THE DESIGNATED INDIVIDUAL OR A QUALIFIED REPRESENTATIVE SHALL ALSO BE AVAILABLE ON AN AROUND THE CLOCK BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES. THESE INDIVIDUALS SHALL BE EQUIPPED WITH CELLULAR PHONES AND THEIR NAMES AND PHONE NUMBERS SHALL BE GIVEN TO THE PROJECT ENGINEER AT THE PRE-CONSTRUCTION MEETING. THE DESIGNATED INDIVIDUAL MAY HAVE OTHER CONSTRUCTION RELATED DUTIES AS LONG AS IMMEDIATE ATTENTION IS GIVEN TO TRAFFIC CONTROL. PAYMENT FOR THE SERVICES OF THE TRAFFIC CONTROL INSPECTOR SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

WORK ZONE PAVEMENT MARKINGS:

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY AND SHALL BE INSTALLED PER THE REQUIREMENTS OF SECTION 614.11 OF THE CMS, AS DIRECTED BY THE ENGINEER.

ITEM 614 -WORK ZONE EDGE LINE, CLASS 1, 4” 0.48 MILE

ITEM 614 -WORK ZONE CENTER LINE, CLASS 1 0.39 MILE

ITEM 614 -WORK ZONE CHANNELIZING LINE, CLASS 1, 8” 795 FT

ITEM 614 -WORK ZONE ARROW, CLASS 1 17 EACH

ITEM 614 -WORK ZONE STOP LINE, CLASS 1 184 FT

ITEM 614 -WORK ZONE TRANSVERSE/DIAGONAL, LINE, CLASS 1 315 FT

ITEM 614 -WORK ZONE DOTTED LINE, CLASS 1 120 FT

THE FOLLOWING QUANTITIES ARE PROVIDED FOR PAVEMENT MARKINGS AT THE COMPLETION OF PHASE 2, PRIOR TO INSTALLATION OF THE PERMANENT MARKINGS.

ITEM 614 -WORK ZONE, LANE LINE, CLASS III, 4”, 642 PAINT 0.84 MILE

ITEM 614 -WORK ZONE CENTER LINE, CLASS III, 642 PAINT 0.49 MILE

ITEM 614 -WORK ZONE STOP LINE, CLASS III, 642 PAINT 509 FT

ITEM 614 -WORK ZONE CHANNELIZING LINE, CLASS III, 8”, 642 PAINT 735 FT

ITEM 614 -WORK ZONE CROSSWALK, CLASS III, 642 PAINT 1308 FT

TIME LIMITATION. TRAFFIC ON A MILLED SURFACE:

THE MAXIMUM ALLOWABLE TIME FOR TRAFFIC TO BE PLACED ON A MILLED SURFACE SHALL BE 7 CONSECUTIVE CALENDAR DAYS. SHOULD THE CONTRACTOR FAIL TO MEET THIS REQUIREMENT, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF \$500 PER DAY THAT THE TRAFFIC IS PLACED ON A MILLED SURFACE BEYOND THE SPECIFIED LIMIT.

SIGNAL MODIFICATIONS:

THE CONTRACTOR SHALL ADJUST THE SIGNAL TIMING AND LOCATIONS OF THE EXISTING OR PROPOSED SIGNAL HEADS FOR EACH PHASE OF CONSTRUCTION IN ACCORDANCE WITH THE OMUTCD, AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL ENSURE THAT ALL MINIMUM/MAXIMUM SIGNAL HEAD TO PAVEMENT CLEARANCES ARE MAINTAINED AT ALL TIMES, AND SHALL FIRST BE APPROVED BY THE ENGINEER. NO REDUCTION IN CLEARANCES SHALL BE PERMITTED.

THE CONTRACTOR SHALL PROVIDE TEMPORARY VEHICLE DETECTION FOR ANY MOVEMENT WHERE AN EXISTING LOOP DETECTOR IS NO LONGER ABLE TO PROVIDE SUCH DETECTION, AS DIRECTED BY THE ENGINEER. THE USE OF RECALL IS NOT AN ACCEPTABLE ALTERNATIVE TO PROVIDING THE REQUIRED TEMPORARY VEHICLE DETECTION.

THE COST FOR ALL LABOR, EQUIPMENT, TOOLS, AND MATERIALS REQUIRED TO COMPLETE THE ABOVE DESCRIBED WORK SHALL BE INCIDENTAL TO THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLANS.

ACCESS TO PROPERTIES:

THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES (RESIDENTIAL AND COMMERCIAL) WITHIN THE CONSTRUCTION LIMITS AT ALL TIMES DURING ALL PHASES OF CONSTRUCTION IN ACCORDANCE WITH ODOT CMS 614.02, UNLESS OTHERWISE SPECIFIED IN THE PLANS. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE MAINTENANCE OF DRIVEWAYS:

ITEM 410 -TRAFFIC COMPACTED SURFACE, TYPE A OR TYPE B 10 CY

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN (CLASS B):

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A PORTABLE CHANGEABLE MESSAGE SIGN, THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE OFFICE OF MATERIALS MANAGEMENT WEB PAGE. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCE OF 800 FEET AND 650 FEET RESPECTIVELY.

EACH SIGN SHALL BE TRAILER MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM TO DIM THE SIGN DURING DARKNESS AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. PCMS TRAILERS SHOULD BE DELINEATED.

PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE PCMS SHOULD NOT BE LOCATED IN THE MEDIAN OF THE HIGHWAY UNLESS IT IS PROTECTED FROM BOTH DIRECTIONS OF TRAFFIC. THE PCMS SHALL BE LOCATED. IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE THE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS WILL BE OFF. ADDITIONALLY WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED, FACING AWAY FROM ALL TRAFFIC AND SHALL DISPLAY ONE OR MORE TYPE G YELLOW REFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN (CLASS B) (CONT.):

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT AND TO REVISE SIGN MESSAGES, IF NECESSARY.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE CONTRACTOR. A LIST OF ALL PROPOSED PREPROGRAMMED MESSAGES WILL BE GIVEN TO THE ENGINEER PRIOR TO CONSTRUCTION. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE LINE PRESENTATION FORMATS WITH UP TO OF SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DE-ACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL IN ACTIVE CELLULAR AREASJ ALLOW REMOTE SIGN ACTIVATION, DEACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF 614.07. THE CONTRACTOR SHALL PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC ACCRUED BY THE DEPARTMENT WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24 HOURS PER DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THEIR USE. THE REQUIREMENT TO FURNISH, INSTALL, MAINTAIN AND REMOVE A PCMS UNIT ON THIS PROJECT SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES AS OUTLINED IN 614.02.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN (CLASS B) 16 SIGN MONTH (2 BOARDS AT 8 MONTHS)

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MAINTENANCE OF TRAFFIC (CONT.)

ITEM 614 - BUSINESS ENTRANCE (M4-H15) SIGN,
AS PER PLAN:

THE BUSINESS ENTRANCE (M4-H15) SIGN SHOULD BE PROVIDED AT EACH TEMPORARILY RELOCATED COMMERCIAL DRIVEWAY FOR WHICH THE RELOCATION IS NOT OBVIOUS TO THE MOTORIST. THE PROJECT ENGINEER SHALL DETERMINE WHETHER OR NOT THE DRIVEWAY RELOCATION IS, OR IS NOT, OBVIOUS AND WHETHER OR NOT A SIGN SHOULD BE PROVIDED. ONLY ONE SIGN PER BUSINESS SHALL BE PERMITTED. THE SIGN SHALL BE 36 INCH X 48 INCH IN SIZE WITH TYPE G OR TYPE H ORANGE RETROREFLECTIVE SHEETING. THE SIGN LEGEND SHALL BE PLACED ON BOTH SIDES OF THE SIGN (BACK TO BACK). THE SIGN SHALL HAVE THE STANDARD M4-H15 LEGEND WITH THE WORD "BUSINESS".

ON THE TOP LINE, EXCEPT UNDER UNUSUAL CIRCUMSTANCES WHERE IT MAY NOT BE INTUITIVE THAT A DRIVEWAY SERVES A SPECIFIC BUSINESS. IN SUCH UNUSUAL CASES, THE ACTUAL BUSINESS NAME MAY BE SUBSTITUTED FOR THE WORD "BUSINESS".

THE SIGN SHALL BE MOUNTED ON TWO #3 POSTS OR ON TEMPORARY POSTS IN ACCORDANCE WITH SCD MT-105.10 AND IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION. THE SIGN SHALL BE CLEARLY VISIBLE AND SHALL CLEARLY IDENTIFY THE LOCATION OF THE DRIVEWAY. THE SIGN SHOULD BE POSITIONED AT 900 TO THE DIRECTION(S) OF TRAFFIC. THE SIGN MAY NEED TO BE MOVED FOR EACH PHASE OF THE MAINTENANCE OF TRAFFIC OPERATIONS.

PAYMENT FOR ALL COSTS ASSOCIATED WITH MANUFACTURING, MOUNTING, RELOCATING, AND REMOVING THE SIGN, INCLUDING ALL LABOR, MATERIALS AND EQUIPMENT SHALL BE INCLUDED IN THE CONTRACT PRICE PER EACH FOR ITEM 614-BUSINESS ENTRANCE SIGN. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS ITEM.

ITEM 614 - BUSINESS ENTRANCE SIGN 4 EACH

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL
CAR) FOR ASSISTANCE DURING CONSTRUCTION
OPERATIONS:

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMTCD INTENDS THAT FLAGGERS BE USED. IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE OMTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC, OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE OMTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL
CAR) FOR ASSISTANCE DURING CONSTRUCTION
OPERATIONS (CONT.):

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION OR AT THE POINT OF ROAD CLOSURE, AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&MS 614.03.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614 - LAW ENFORCEMENT OFFICER
WITH PATROL CAR FOR ASSISTANCE 40 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

DESIGNER NOTE: SEE SECTION 640-19 FOR ADDITIONAL INFORMATION. THE PLANS SHALL CLEARLY SPECIFY WHEN AND WHERE THE LEO IS TO BE UTILIZED. THIS NOTE SHOULD BE EDITED TO CONFORM TO THE PROJECT REQUIREMENTS.

LINCOLN WAY EXISTING TYPICAL SECTION

LINCOLN WAY - WATER WORK
STA. 15+65 - STA. 26+00

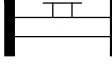
LINCOLN WAY - WATER WORK
STA. 26+00 - STA. 31+71

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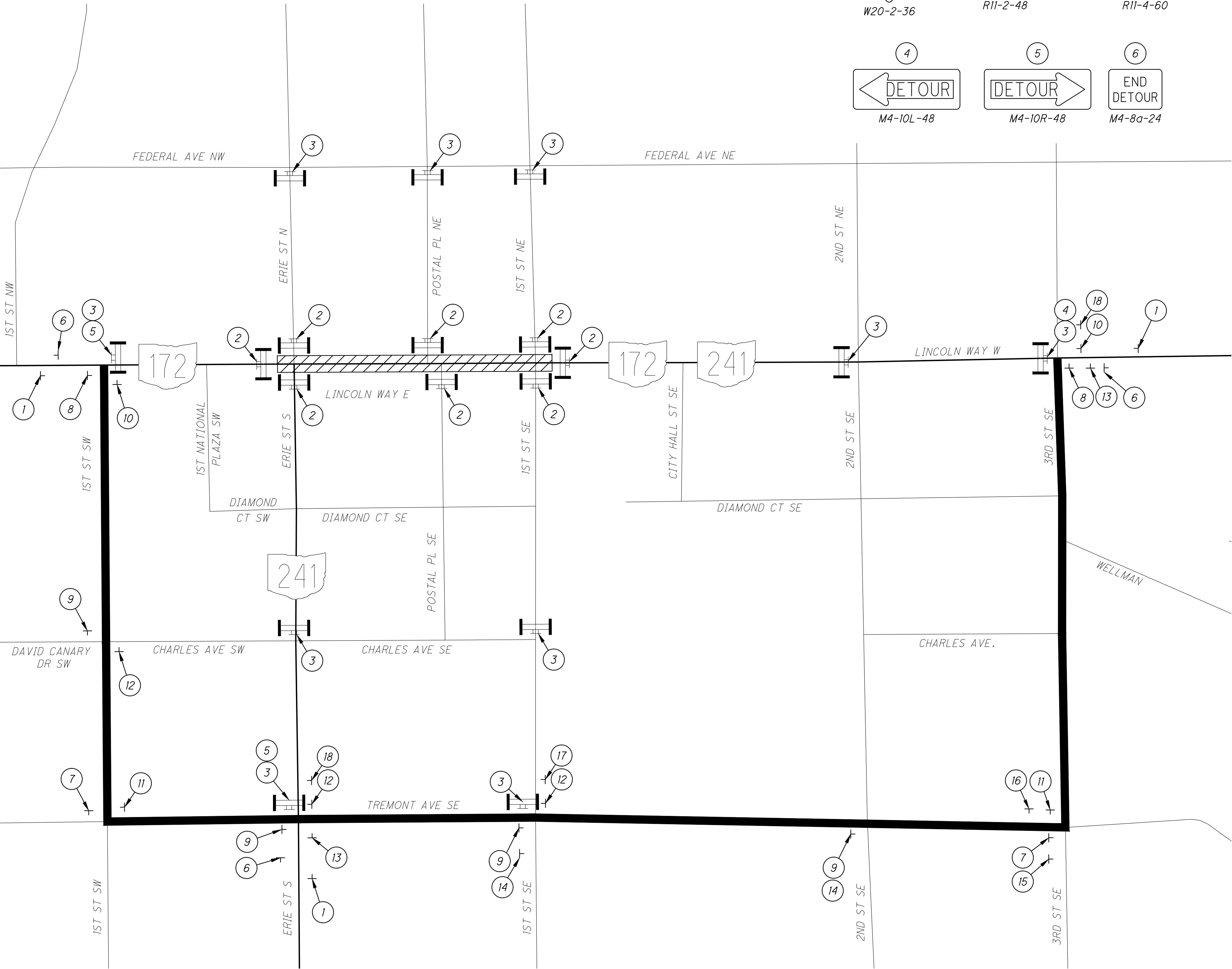
LEGEND

 CLOSURE AREA

 TEMPORARY SIGN SUPPORT

 TYPE 3 BARRICADE WITH SIGNS AS NOTED

 DETOUR ROUTE



1

DETOUR AHEAD

W20-2-36

2

ROAD CLOSED

R11-2-48

3

ROAD CLOSED TO THRU TRAFFIC

R11-4-60

4

DETOUR

M4-10L-48

5

DETOUR

M4-10R-48

6

END DETOUR

M4-8a-24

7 DETOUR M4-8-24 EAST M3-2-24 172 M1-5-30-3  M6-1L-21	8 DETOUR M4-8-24 EAST M3-2-24 172 M1-5-30-3  M6-1R-21	9 DETOUR M4-8-24 EAST M3-2-24 172 M1-5-30-3  M6-3-21
10 DETOUR M4-8-24 WEST M3-4-24 172 M1-5-30-3  M6-1L-21	11 DETOUR M4-8-24 WEST M3-4-24 172 M1-5-30-3  M6-1R-21	12 DETOUR M4-8-24 WEST M3-4-24 172 M1-5-30-3  M6-3-21
13 DETOUR M4-8-24 NORTH M3-1-24 241 M1-5-30-3  M6-1R-21	14 DETOUR M4-8-24 NORTH M3-1-24 241 M1-5-30-3  M6-3-21	15 DETOUR M4-8-24 NORTH M3-1-24 241 M1-5-30-3  M6-1L-21
16 DETOUR M4-8-24 SOUTH M3-3-24 241 M1-5-30-3  M6-1R-21	17 DETOUR M4-8-24 SOUTH M3-3-24 241 M1-5-30-3  M6-3-21	18 DETOUR M4-8-24 SOUTH M3-3-24 241 M1-5-30-3  M6-1L-21



080160

040

HORIZONTAL SCALE IN FEET

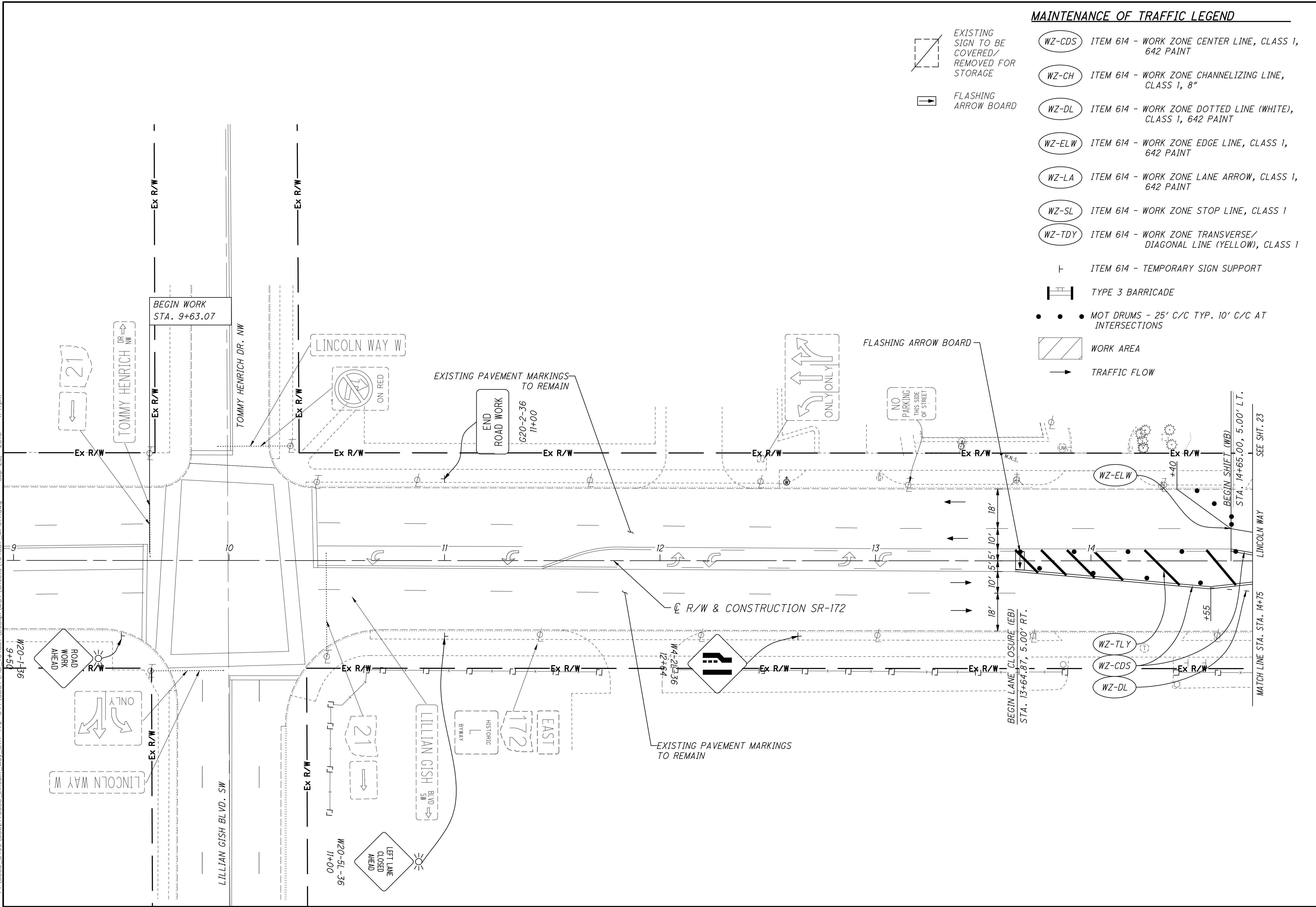
CALCULATED JRG

CHECKED JEL

DETOUR PLAN - FULL CLOSURE LINCOLN WAY

S.R. 172 LINCOLN WAY (STA-172-6.44)

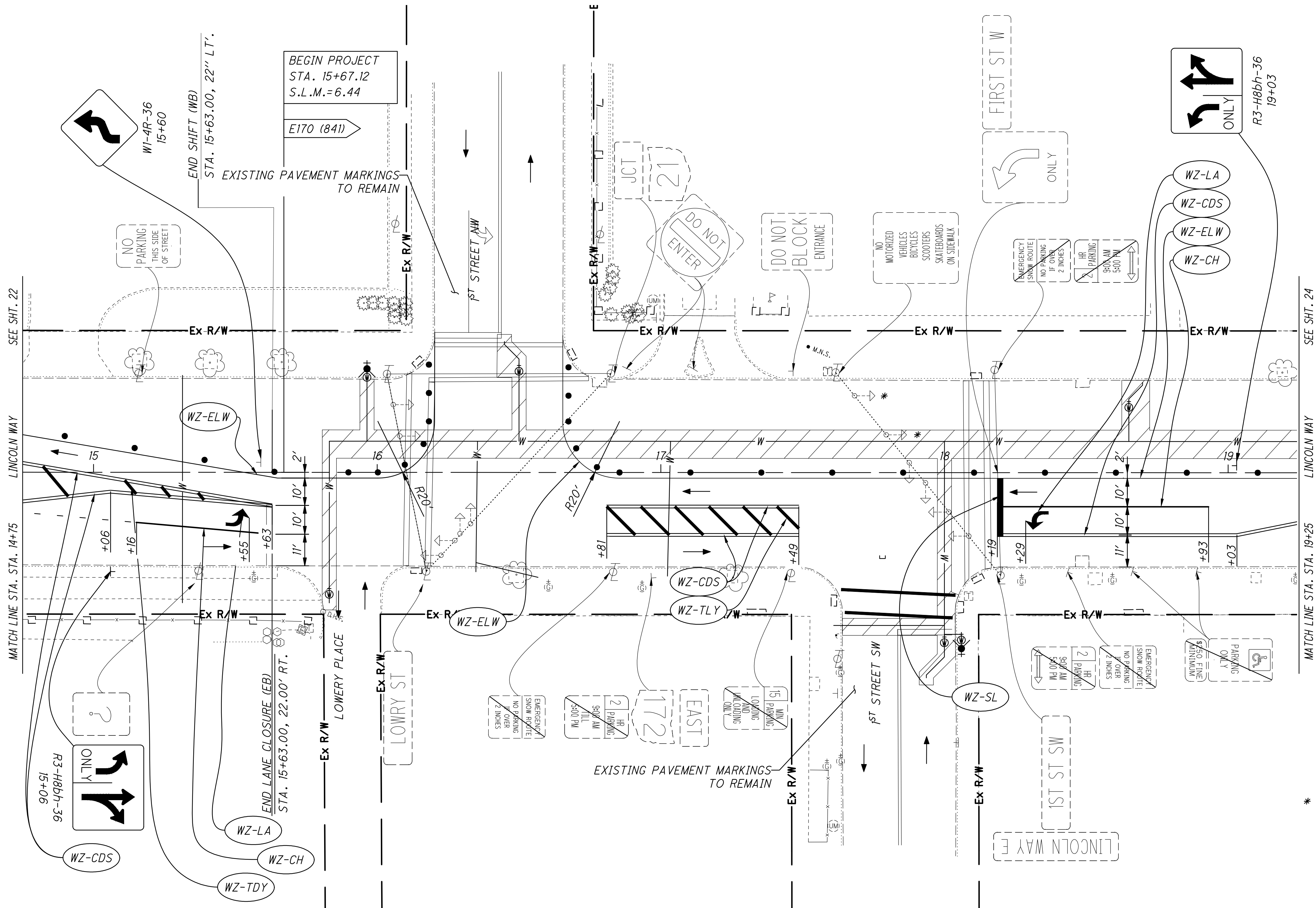
21112



EXISTING
SIGN TO BE
COVERED/
REMOVED FOR
STORAGE

FLASHING
ARROW BOARD

- MAINTENANCE OF TRAFFIC LEGEND**
- WZ-CDS ITEM 614 - WORK ZONE CENTER LINE, CLASS 1, 642 PAINT
 - WZ-CH ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS 1, 8"
 - WZ-DL ITEM 614 - WORK ZONE DOTTED LINE (WHITE), CLASS 1, 642 PAINT
 - WZ-ELW ITEM 614 - WORK ZONE EDGE LINE, CLASS 1, 642 PAINT
 - WZ-LA ITEM 614 - WORK ZONE LANE ARROW, CLASS 1, 642 PAINT
 - WZ-SL ITEM 614 - WORK ZONE STOP LINE, CLASS 1
 - WZ-TDY ITEM 614 - WORK ZONE TRANSVERSE/ DIAGONAL LINE (YELLOW), CLASS 1
 - ITEM 614 - TEMPORARY SIGN SUPPORT
 - TYPE 3 BARRICADE
 - MOT DRUMS - 25' C/C TYP. 10' C/C AT INTERSECTIONS
 - WORK AREA
 - TRAFFIC FLOW



* - RELOCATE EX. WB SIGNAL HEADS DURING PHASE 1. PAYMENT FOR THIS WORK WILL BE INCLUDED IN THE LUMP SUM BID ITEM FOR ITEM 614 - MAINTAINING TRAFFIC.

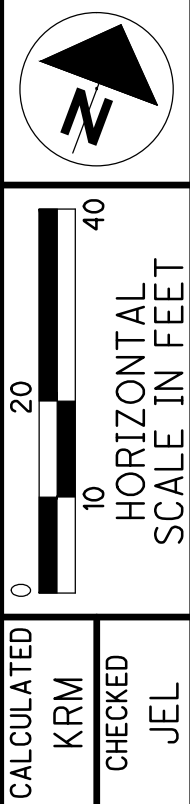
CROSS REFERENCES	
SHEET NO.	DESCRIPTION
22	LEGEND - MAINTENANCE OF TRAFFIC

* - RELOCATE EX. WB SIGNAL HEADS DURING PHASE 1. PAYMENT FOR THIS WORK WILL BE INCLUDED IN THE LUMP SUM BID ITEM FOR ITEM 614 - MAINTAINING TRAFFIC.

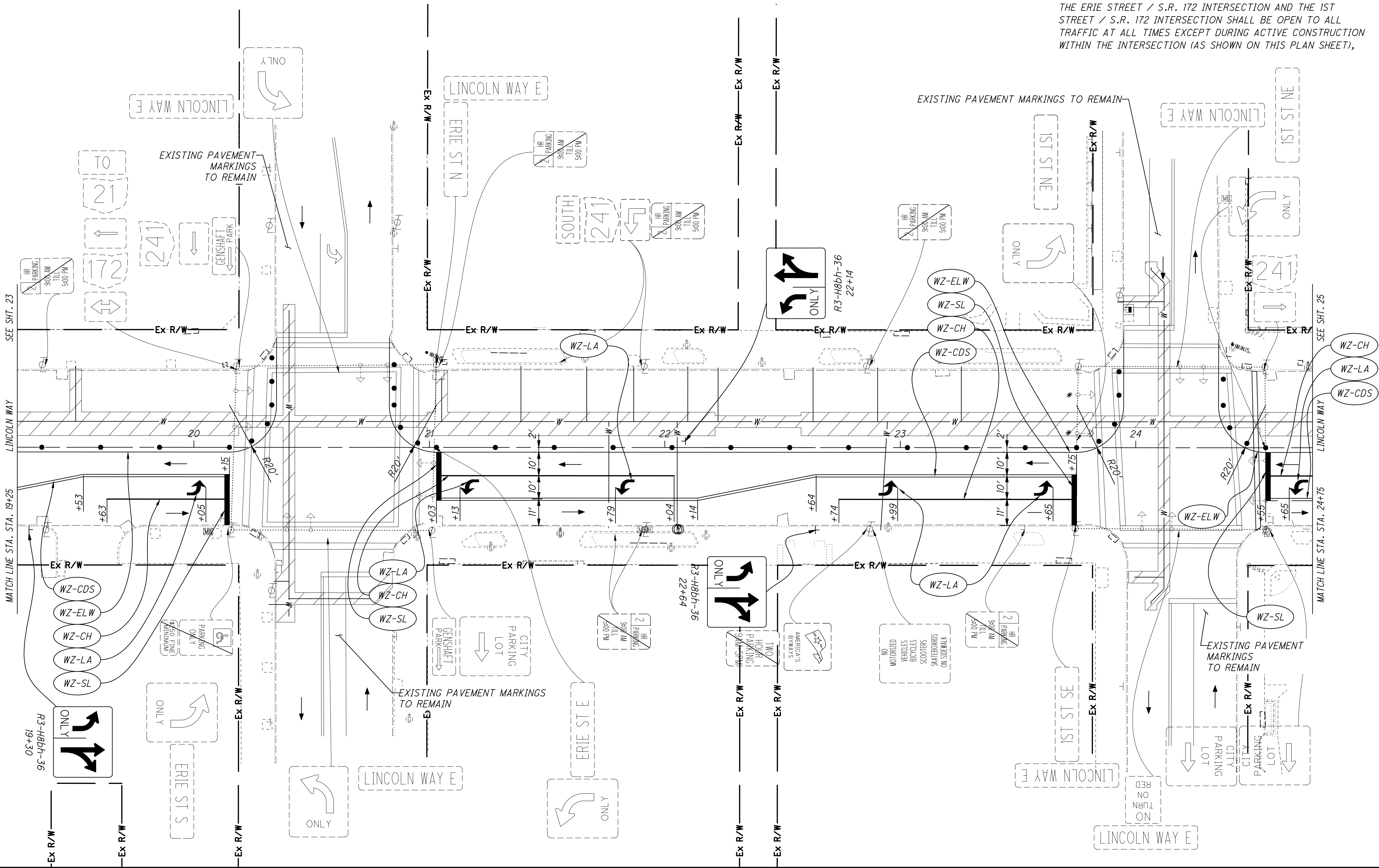
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SHEET NO.	DESCRIPTION
22	MAINTENANCE OF TRAFFIC PLAN LEGEND

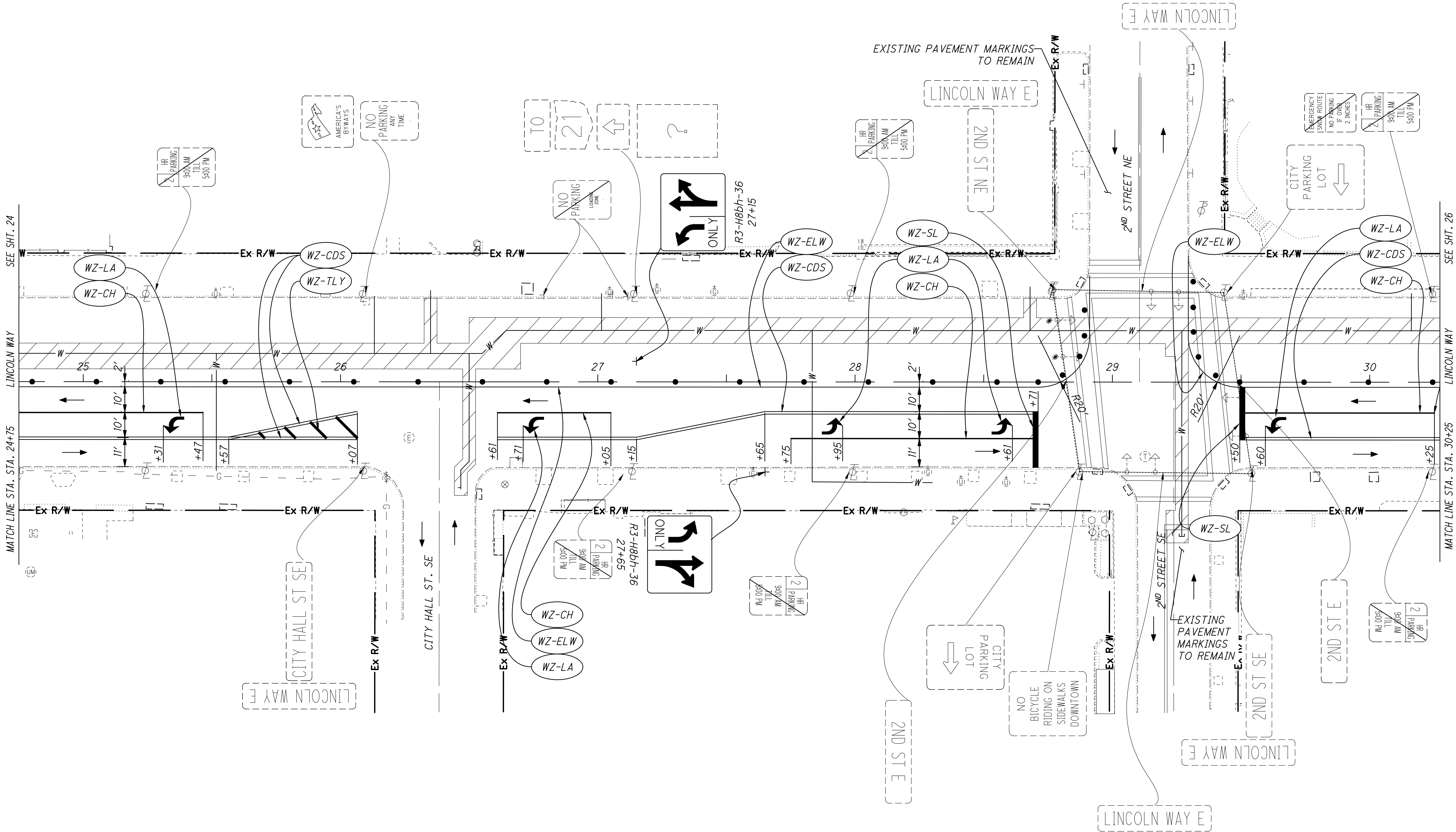
NOTES:

THE ERIE STREET / S.R. 172 INTERSECTION AND THE 1ST STREET / S.R. 172 INTERSECTION SHALL BE OPEN TO ALL TRAFFIC AT ALL TIMES EXCEPT DURING ACTIVE CONSTRUCTION WITHIN THE INTERSECTION (AS SHOWN ON THIS PLAN SHEET),



MAINTENANCE OF TRAFFIC PLAN - PHASE 1
STA. 19+25 TO STA. 24+75





CROSS REFERENCES	
SHEET NO.	DESCRIPTION
22	MAINTENANCE OF TRAFFIC PLAN LEGEND

* - RELOCATE EX. WB SIGNAL HEADS DURING PHASE 1. PAYMENT FOR THIS WORK WILL BE INCLUDED IN THE LUMP SUM BID ITEM FOR ITEM 614 - MAINTAINING TRAFFIC.

CALCULATED
JRG

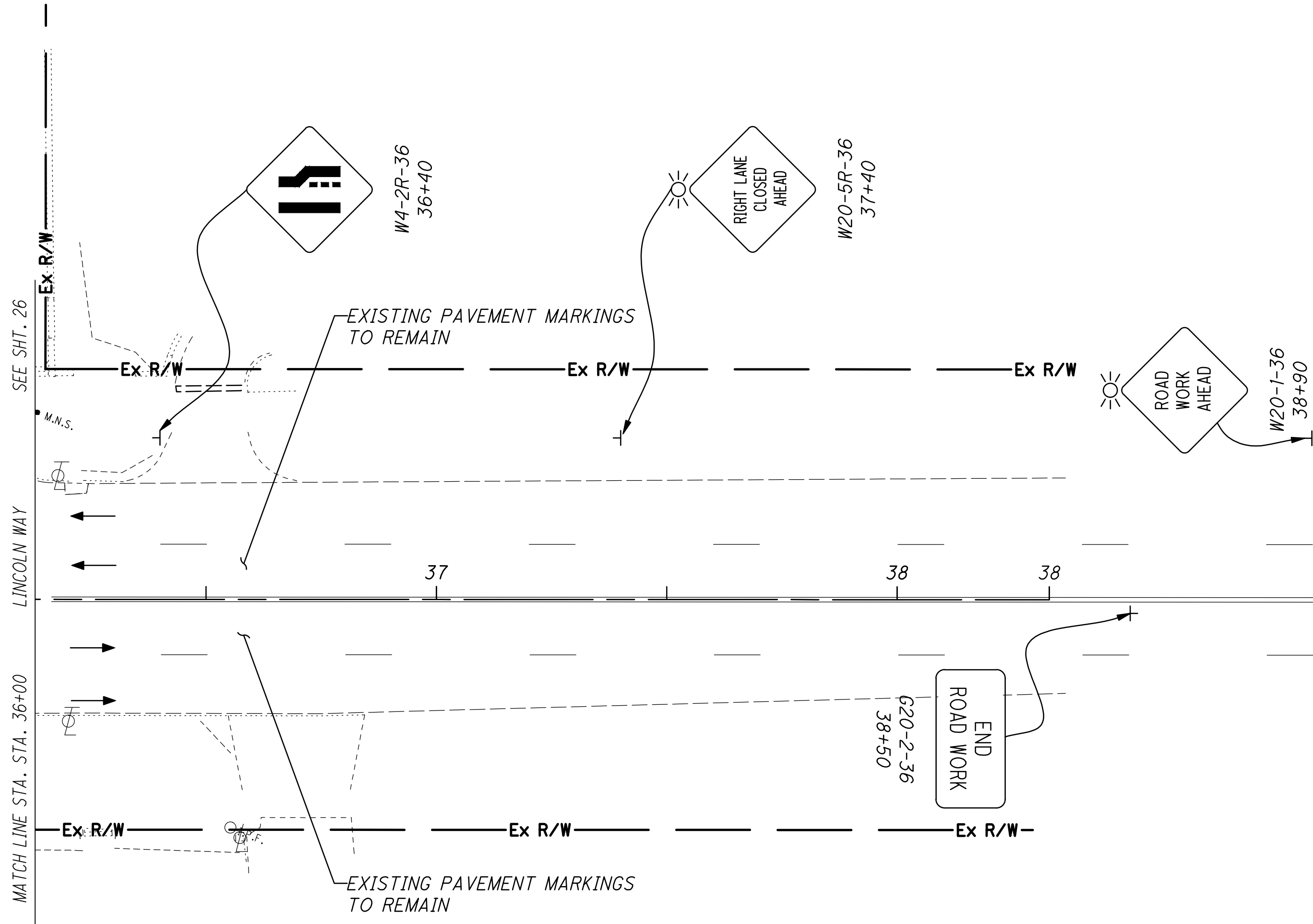
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02040

HORIZONTAL
SCALE IN FEET

MAINTENANCE OF TRAFFIC PLAN - PHASE 1
STA. 24+75 TO STA. 30+25

S.R. 172 LINCOLN WAY
(STA-172-6.44)



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
22	LEGEND - MAINTENANCE OF TRAFFIC

S.R. 172 LINCOLN WAY
(STA-172-6.44)



SHEET NUM.										PART.		ALT	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
15	17	18	19	47	48	49	106	107		01/MPO/P V	02/NHS/O T	(X)		EXT	TOTAL			
						16				16			632	05007	16	EACH	TRAFFIC SIGNALS	
						16				16			632	20731	16	EACH	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN	13
						16				16			632	25000	16	EACH	PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN	13
						16				16			632	25010	16	EACH	COVERING OF VEHICULAR SIGNAL HEAD	
						16				16			632	26000	16	EACH	COVERING OF PEDESTRIAN SIGNAL HEAD	
																	PEDESTRIAN PUSHBUTTON	
				1,019	989					2,008			632	40200	2,008	FT	SIGNAL CABLE, 2 CONDUCTOR, NO. 14 AWG	
				1,051	1,021					2,072			632	40300	2,072	FT	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG	
				737	718					1,455			632	40700	1,455	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
2,600										2,600			632	62810	2,600	FT	INTERCONNECT CABLE, MISC.:6 PAIR, NO. 19 AWG, SOLID, REA (PE-39)	15
						8				8			632	64011	8	EACH	SIGNAL SUPPORT FOUNDATION, AS PER PLAN	15
						8				8			632	64020	8	EACH	PEDESTAL FOUNDATION	
				126	97					223			632	68200	223	FT	POWER CABLE, 2 CONDUCTOR, NO. 6 AWG	
				1	1					2			632	70001	2	EACH	POWER SERVICE, AS PER PLAN	13
5				1	1					7			632	70400	7	EACH	CONDUIT RISER, 2" DIAMETER	
2,500										2,500			632	90030	2,500	FT	REMOVAL OF MISCELLANEOUS TRAFFIC SIGNAL ITEM(AERIAL INTERCONNECT & MESSENGER WIRE)	15
				1	1					2			632	90101	2	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	13
						2				2			633	01551	2	EACH	CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS2, AS PER PLAN	13
						2				2			633	67100	2	EACH	CABINET FOUNDATION	
						2				2			633	75001	2	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN	14
																	TRAFFIC SIGNALS ALTERNATES	
						3				3		X	632	80980	3	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 2 (ALTERNATE 1)	
						4				4		X	632	81000	4	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 4 (ALTERNATE 1)	
						1				1		X	632	81070	1	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 11 (ALTERNATE 1)	
						8				8		X	632	89600	8	EACH	PEDESTAL, 8' (ALTERNATE 1)	
										3		X	632	80980	3	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 2 (ALTERNATE 2)	14
										4		X	632	81000	4	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 4 (ALTERNATE 2)	14
										1		X	632	81070	1	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 11 (ALTERNATE 2)	14
										8		X	632	89600	8	EACH	PEDESTAL, 8' (ALTERNATE 2)	14
							43	8		51			661	00501	51	CY	LANDSCAPING	15
							520			520			661	14000	520	EACH	MULCH, AS PER PLAN	
							198			198			661	14000	198	EACH	PERENNIALS, (12") (ROYAL PURPLE LIRIOPE)	
							127			127			661	20020	127	EACH	PERENNIALS, (12") (LITTLE BLUESTEM)	
							140			140			661	20020	140	EACH	DECIDUOUS SHRUB, 18" HEIGHT (GRO LOW SUMAC)	
							18			18			661	40080	18	EACH	DECIDUOUS SHRUB, 18" HEIGHT (LITTLE HENRY SWEETSPIRE)	
							8			8			661	40120	8	EACH	DECIDUOUS TREE, 2" CALIPER(IVORY SILK LILAC)	
							11	17		28			661	40120	28	EACH	DECIDUOUS TREE, 3" CALIPER(GINKGO)	
							4,865	425		5,290			662	31000	5,290	GAL	DECIDUOUS TREE, 3" CALIPER(GREEN VASE ZELKOVA)	
																	LANDSCAPE WATERING	

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SHEET NUM.													PART.		ALT	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED JJH	CHECKED JEL
12	15	32	40	41	42	43	44	45	46	47	48	49	01/MPO/P V	02/NHS/O T	(X)		EXT	TOTAL					
															</								

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SHEET NUM.											PART.		ALT	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED JUH	CHECKED JEL
										01/MPO/P V	02/NHS/O T	(X)									
																	ITEMS OF WORK ALTERNATES - ADD ALT 1 (STREET FURNISHINGS)				
										6		X	SPECIAL	68014550	6	EACH	TRASH RECEPTACLE	15			
										4		X	SPECIAL	69050560	4	EACH	BICYCLE RACK	16			
										6		X	SPECIAL	69050600	6	EACH	BOLLARD	16			
										4		X	SPECIAL	69098000	4	EACH	METAL BENCH	16			
																	ITEMS OF WORK ALTERNATES - ADD ALT 2 (WORK EAST OF SECOND ST)				
										14		X	202	23001	14	SY	PAVEMENT REMOVED, AS PER PLAN	9			
										1,556		X	202	30000	1,556	SF	WALK REMOVED				
										343		X	202	32000	343	FT	CURB REMOVED				
										2.31		X	203	10000	2.31	CY	EXCAVATION				
										50		X	204	10000	50	SY	SUBGRADE COMPACTION				
										200		X	608	10001	200	SF	4" CONCRETE WALK, AS PER PLAN	9			
										48		X	653	10001	48	CY	TOPSOIL FURNISHED AND PLACED, AS PER PLAN	15			
										286		X	659	10001	286	SY	SEEDING AND MULCHING, AS PER PLAN	15			
										3		X	611	99654	3	EACH	MANHOLE ADJUSTED TO GRADE				
										8		X	304	20001	8	CY	AGGREGATE BASE, AS PER PLAN	9			
										14		X	452	12051	14	SY	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS, AS PER PLAN	11			
										348		X	609	26000	348	FT	CURB, TYPE 6				
										6		X	630	79500	6	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED				
										5		X	630	87520	5	EACH	REMOVAL OF POLE MOUNTED SIGN AND REERECTION				
										5		X	661	00501	5	CY	MULCH, AS PER PLAN	15			
										11		X	661	40120	11	EACH	DECIDUOUS TREE, 3" CALIPER(PRINCETON ELM)				
										275		X	662	31000	275	GAL	LANDSCAPE WATERING				
										12		X	625	00450	12	EACH	CONNECTION, FUSED PULL APART				
										4		X	625	00460	4	EACH	CONNECTION, UNFUSED PULL APART				
										6		X	625	00480	6	EACH	CONNECTION, UNFUSED PERMANENT				
										4		X	625	14000	4	EACH	LIGHT POLE FOUNDATION, 24" X 6' DEEP				
										1,812		X	625	23000	1,812	FT	NO. 4 AWG 600 VOLT DISTRIBUTION CABLE				
										600		X	625	23400	600	FT	NO. 10 AWG POLE AND BRACKET CABLE				
										739		X	625	25410	739	FT	CONDUIT, 2", 725.052				
										435		X	625	25506	435	FT	CONDUIT, 3", 725.052				
										435		X	625	29010	435	FT	TRENCH, 30" DEEP				
										2		X	625	30510	2	EACH	PULL BOX, 725.06, SIZE 4				
										4		X	625	32000	4	EACH	GROUND ROD				
										435		X	625	36000	435	FT	PLASTIC CAUTION TAPE				
										2		X	625	75400	2	EACH	LIGHT POLE REMOVED				
										2		X	625	75500	2	EACH	LIGHT POLE FOUNDATION REMOVED				
										8		X	625	26253	8	EACH	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN B	12			
										4		X	625	10490	4	EACH	LIGHT POLE, CONVENTIONAL (A2BB23)				
										LS		X	614	11000	LS		MAINTAINING TRAFFIC				
										LS		X	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING				
										LS		X	624	10000	LS		MOBILIZATION				
																	ITEMS OF WORK ALTERNATES-ADD ALT 3 SPAN WIRE LIGHT UPGRADE				
										12		X	625	26253	12	EACH	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN A	12			
																	ITEMS OF WORK ALTERNATES - ADD ALT 4 (WORK WEST OF FIRST ST)				
										112		X	202	23001	112	SY	PAVEMENT REMOVED, AS PER PLAN	9			
										3,307		X	202	30000	3,307	SF	WALK REMOVED				
										301		X	202	32000	301	FT	CURB REMOVED				
										17		X	203	10000	17	CY	EXCAVATION				
										125		X	204	10000	125	SY	SUBGRADE COMPACTION				
										2,439		X	608	10001	2,439	SF	4" CONCRETE WALK, AS PER PLAN	9			
										30		X	653	10001	30	CY	TOPSOIL FURNISHED AND PLACED, AS PER PLAN	15			
										178		X	659	10001	178	SY	SEEDING AND MULCHING, AS PER PLAN	15			
										121		X	605	06020	121	FT	4" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC				
										10		X	611	00410	10	FT	4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET				
										2		X	611	98630	2	EACH	CATCH BASIN ADJUSTED TO GRADE				
										3		X	611	99654	3	EACH	MANHOLE ADJUSTED TO GRADE				
										21		X	304	20001	21	CY	AGGREGATE BASE, AS PER PLAN	9			
										24		X	305	14010	24	SY	10" CONCRETE BASE, CLASS QC1				
										101		X	452	12051	101	SY	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS, AS PER PLAN	11			
										157		X	609	26000	157	FT	CURB, TYPE 6				
										215		X	609	26001	215	FT	CURB, TYPE 6, AS PER PLAN	11			
										15		X	625	00450	15	EACH	CONNECTION, FUSED PULL APART				
										5		X	625	00460	5	EACH	CONNECTION, UNFUSED PULL APART				
										6		X	625	00480	6	EACH	CONNECTION, UNFUSED PERMANENT				
										5		X	625	14000	5	EACH	LIGHT POLE FOUNDATION, 24" X 6' DEEP				
										3,803		X	625	23000	3,803	FT	NO. 4 AWG 600 VOLT DISTRIBUTION CABLE				

GENERAL SUMMARY

S.R. 172 LINCOLN WAY
(STA-172-6.44)

31A
112

S.R. 172 LINCOLN WAY
(STA-172-6.44)

31A
112

GENERAL SUMMARY

CALCULATED	JJH
CHECKED	JEL

33
112

P:\3000_3493\3062170030 Lincoln_Way_STA-172-644\DDOT\PID_104857\Design\Roadway\Sheets\104857_GS002.dwg Nov 13, 2018 - 1:42pm

REF NO.	SHEET NO.	STATION TO STATION				ADD ALT NO. (AS APPLICABLE)	605	611		611	611	202	202	REF NO.	SHEET NO.	STATION TO STATION				ADD ALT NO. (AS APPLICABLE)	611	611	611	611	611	611	611	611	202	CALCULATED JUH	CHECKED JEL	
							4" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET		DRAINAGE STRUCTURE, MISC.:RECONSTRUCT STRUCTURE WITH MANHOLE FRAME AND COVER	CATCH BASIN ADJUSTED TO GRADE	MANHOLE ADJUSTED TO GRADE	PIPE REMOVED, 24" AND UNDER								CATCH BASIN REMOVED	12" CONDUIT, TYPE B (ALTERNATE 1)	18" CONDUIT, TYPE B (ALTERNATE 1)	24" CONDUIT, TYPE B (ALTERNATE 1)	CATCH BASIN, NO. 3A	CATCH BASIN, NO. 3A, AS PER PLAN	CATCH BASIN, NO. 2-6, AS PER PLAN	CATCH BASIN, NO. 6	MANHOLE, NO. 3			PIPE REMOVED, 24" AND UNDER
							FT	FT		EACH	EACH	EACH	FT								EACH	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH		FT
D-150	56	17+82.26				4						1			D-1	57	19+40.00															
D-151	56	16+23.00				4						1			D-2	57	19+62.00															
D-189	56	16+78.50				4					1				D-3	57	20+36.00															
D-190	56	16+05.10				4						1			D-4	57	20+35.00															
D-191	56	16+27.79				4					1				D-5	57	21+34.00															
UD-21	56	16+27.79	TO	17+51.00		4	121	10	OUTLET TO D-191						D-6	57	21+35.00															
UD-22	56	18+50.00	TO	19+25.00			75	10							D-7	57	22+59.00															
UD-23	56	18+50.00	TO	19+25.00			75	10							D-8	57	22+59.00															
R-1	57	19+35.72											36	1	D-9	57	22+81.00															
R-2	57	19+43.30											21	1	D-10	57	22+81.00															
R-3	57	19+71.94											5	1	D-11	57	24+34.00															
R-4	57	20+35.69											9	1	D-12	57	24+33.00															
R-5	57	21+03.82											5	1	D-13	57	24+68.00															
R-6	57	22+52.83											5	1	D-14	57	24+68.00															
R-7	57	24+32.71											6	1																		
R-8	57	24+57.59											19	1																		
R-9	57	24+56.04											22	1																		
D-101	57	22+49.00								1																						
D-102	57	23+18.00									1				TOTALS CARRIED TO GENERAL SUMMARY						110	5	118	5	4	1	2	2	50			
D-103	57	24+35.00										1			REF NO.	SHEET NO.	STATION TO STATION				ADD ALT NO. (AS APPLICABLE)	605	611		611	611	611	202	202			
D-104	57	21+03.00									1											4" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET		DRAINAGE STRUCTURE, MISC.:RECONSTRUCT STRUCTURE WITH MANHOLE FRAME AND COVER	CATCH BASIN ADJUSTED TO GRADE	MANHOLE ADJUSTED TO GRADE	PIPE REMOVED, 24" AND UNDER	CATCH BASIN REMOVED			
D-105	57	20+74.00																				FT	FT		EACH	EACH	EACH	FT	EACH			
D-107	57	20+82.48													D-123	57	27+78.98															
D-134	57	20+59.20													D-125	57	25+21.42															
D-138	57	19+36.54													D-126	57	28+09.96															
D-147	57	20+81.49													D-127	57	26+09.07															
D-182	57	23+96.95								1					D-106	58	32+23.44				2											
UD-2	57	20+78.64	TO	21+03.74			40	10	OUTLET TO D-104						D-131	58	31+64.13				2											
UD-4	57	21+03.74	TO	21+34.80			31	10	OUTLET TO D-104						D-181	58	32+24.38				2											
UD-5	57	21+34.44	TO	22+59.02			127	10	OUTLET TO D-5																							
UD-6	57	21+34.80	TO	22+58.68			127	10	OUTLET TO D-6																							
UD-7	57	22+59.02	TO	22+81.27			24	10	OUTLET TO D-9																							
UD-8	57	22+58.68	TO	22+80.96			24	10	OUTLET TO D-10																							
UD-9	57	22+81.27	TO	23+92.81			134	10	OUTLET TO D-9																							
UD-10	57	22+80.96	TO	24+03.01			139	10	OUTLET TO D-10																							
UD-11	57	21+76.50	TO	22+22.66			47	10																								
UD-12	57	23+04.34	TO	22+59.38			45	10																								
UD-13	57	22+59.38					19	10																								
UD-14	57	23+82.50					28	10																								
UD-15	57	23+82.50					28	10																								
UD-16	57	22+22.66					25	10	OUTLET TO D-5																							
UD-17	57	22+21.69					20	10	OUTLET TO D-6																							
UD-18	57	20+20.60	TO	20+35.84			82	10																								
UD-19	57	19+44.00	TO	20+07.01			61	10	OUTLET TO D-165																							
UD-20	57	19+69.00	TO	20+06.72			38	10	OUTLET TO D-2																							
UD24	58	24+75.00	TO	28+85.00			410	10	OUTLET TO D-13																							
UD25	58	24+75.00	TO	26+16.00			141	10	OUTLET TO D-14																							
UD26	58	26+68.00	TO	28+90.00			222	10	OUTLET TO D-17																							
D-117	57	26+68.27									1																					
TOTALS CARRIED TO GENERAL SUMMARY							2083	240		3	5	8	128	9	TOTALS CARRIED TO GENERAL SUMMARY												7					

DRAINAGE SUBSUMMARY

S.R. 172 LINCOLN WAY
(STA-172-6.44)

34
112

PAVEMENT SUBSUMMARY

STATION RANGE			SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW/9	FULL DEPTH PAVEMENT REPAIR AVERAGE WIDTH	FULL DEPTH PAVEMENT REPAIR SURFACE AREA	CADD GENERATED AREA	ADD ALT NO. (AS APPLICABLE)	204	254	305	304	407	424	441		451		609	609	609	609	SPECIAL	897
											SUBGRADE COMPACTION	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (T=1.5")	10" CONCRETE BASE, CLASS QC1	AGGREGATE BASE, AS PER PLAN (T=6")	NON-TRACKING TACK COAT (APPLIED @0.08 GAL/SY)	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE A, AS PER PLAN (T=5/8")	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG64-22 (T=1.5")		10" REINFORCED CONCRETE PAVEMENT, CLASS QC1, AS PER PLAN		CURB, TYPE 4-C, AS PER PLAN	CURB, TYPE 6	CURB, TYPE 6, AS PER PLAN	CURB, TYPE 8, AS PER PLAN	UNIT PAVERS, TYPE 1 (ROADWAY) (ALTERNATE 1)	PAVEMENT PLANING, ASPHALT CONCRETE, CLASS A (5/8")
											SY	SY	SY	CY	GAL	CY	CY		SY		FT	FT	FT	FT	SF	SY
20+99.10		21+21.21	LT	22.11	25.00	61.42	1.00	2.46			2.46	61.42	2.46	0.41	4.91		2.56							22.11		
21+21.21		21+33.36		12.15	29.00	39.15	1.00	1.35			1.35	39.15	1.35	0.23	3.13		1.63						12.15			
21+33.36		21+74.50		41.14	33.00	150.85	1.00	4.57			4.57	150.85	4.57	0.76	12.07		6.29				41.14					
21+74.50		21+94.95		20.45	30.50	69.30	1.00	4.54			4.54	69.30	4.54	0.76	5.54		2.89				20.45			20.45		
21+94.95		21+99.36		4.41	28.00	13.72	1.00	0.98			0.98	13.72	0.98	0.16	1.10		0.57				4.41			4.41		
21+99.36		22+09.84		10.48	24.00	27.95	1.00	2.33			2.33	27.95	2.33	0.39	2.24		1.16				10.48			10.48		
22+09.84		22+21.36		11.52	20.00	25.60	1.00	2.56			2.56	25.60	2.56	0.43	2.05		1.07				11.52			11.52		
22+21.36		22+39.16		17.80	20.00	39.56					39.56	39.56			3.16				39.56		17.80			17.80		
22+39.16		22+47.16		8.00	20.00	17.78					17.78	17.78		2.96	1.42							16.00			160.00	
22+47.16		22+57.86		10.70	20.00	23.78					23.78	23.78			1.90				23.78							
22+57.86		22+70.00		12.14	20.00	26.98	1.00	2.70			2.70	26.98	2.70	0.45	2.16		1.12				12.14			12.14		
22+70.00		22+79.86		9.86	24.00	26.29	1.00	2.19			2.19	26.29	2.19	0.37	2.10		1.10				9.86			9.86		
22+79.86		23+06.34		26.48	28.00	82.38	1.00	5.88			5.88	82.38	5.88	0.98	6.59		3.43				26.48			26.48		
23+06.34		23+45.86		39.52	33.00	144.91	1.00	4.39			4.39	144.91	4.39	0.73	11.59		6.04				39.52					
23+45.86		23+58.00		12.14	29.00	39.12	1.00	1.35			1.35	39.12	1.35	0.22	3.13		1.63				12.14					
23+58.00		23+81.00		23.00	25.00	63.89	1.00	2.56			2.56	63.89	2.56	0.43	5.11		2.66						23.00			
FIRST ST E INTERSECTION																										
23+81.00		24+53.00	LT/RT	72.00				623.88			623.88			103.98											5615.00	
NW CORNER								1.78			1.78		1.78	0.30								32.00				
NE CORNER								2.22			2.22		2.22	0.37								40.00				
SE CORNER								1.83			1.83		1.83	0.31								33.00				
SW CORNER								2.11			2.11		2.11	0.35								38.00				
1ST ST.																										
401+47.54		401+61.66	LT/RT	14.12	38.00			33.64	494.45		33.64	494.45	33.64	5.61	39.56		20.60							33.60		
402+61.66		402+76.86		15.20	36.00			33.27	521.65		33.27	521.65	33.27	5.55	41.73		21.74							30.13		
24+53.00		24+69.32	LT/RT	16.32	58.00	105.17		4.62	105.42		4.62	105.17			8.41		4.38									
24+69.32		32+32.11	LT/RT	762.79	66.00	5593.79				5					447.50	97.11										5593.79
24+69.32		28+79.00	LT	409.68				45.52			45.52		45.52	7.59										409.68		
29+42.00		31+76.00	LT	234.00						2	26.00			4.33								234.00				
24+69.32		28+80.00	RT	410.68				45.63			45.63		45.63	7.61										410.68		
29+53.00		30+41.00	RT	88.00						2	9.78			1.63								88.00				
ADDITIONAL FOR INTERSECTION																										
FIRST ST W									189.78	5					15.18	3.29										189.78
CITY HALL ST									29.18	5					2.33	0.51										29.18
SECOND ST E									144.18	5					11.53	2.50										144.18
THIRD ST E									139.40	5					11.15	2.42										139.40
SUBTOTALS											949.25	1973.93	203.87	146.88	645.62	105.84	78.87		63.33		205.94	481.00	941.35	113.14	5775.00	6096.33
TOTALS CARRIED TO GENERAL SUMMARY											950	1974	204	147	646	106	79		64		206	481	942	114	5775	6097

PAVEMENT SUBSUMMARY

S.R. 172 LINCOLN WAY
(STA-172-6.44)

CALCULATED
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REF NO.	SHEET NO.	STATION TO STATION				202	202	202	SPECIAL	SPECIAL	SPECIAL	SPECIAL	638	638	638	638	638	638	638	638	638	638	638	202	608	609	CALCULATED JRG CHECKED JEL	WATER WORKS SUBSUMMARY	S.R. 172 LINCOLN WAY (STA-172-6.44)	37 112		
						PIPE REMOVED, 24" AND UNDER	REMOVAL MISC.: GATE VALVE OR SERVICE VALVE REMOVED AND DISPOSE	ABANDON MISC.: WATER MAIN OR WATER SERVICE ABANDONED IN PLACE	FULL DEPTH REPAIR, MISC.: WATER MAIN TRENCH REPAIR, TYPE 1	FULL DEPTH REPAIR, MISC.: WATER MAIN TRENCH REPAIR, TYPE 2	FULL DEPTH REPAIR, MISC.: WATER MAIN TRENCH REPAIR, TYPE 3	FULL DEPTH REPAIR, MISC.: WATER MAIN TRENCH REPAIR, TYPE 4	4" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS AND FITTINGS, AS PER PLAN	6" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS AND FITTINGS, AS PER PLAN	8" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS AND FITTINGS, AS PER PLAN	12" WATERMAIN DUCTILE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS AND FITTINGS, AS PER PLAN	1" COPPER SERVICE BRANCH	2" COPPER SERVICE BRANCH	POLYETHYLENE ENCASEMENT	6" GATE VALVE AND VALVE BOX, AS PER PLAN	8" GATE VALVE AND VALVE BOX, AS PER PLAN	12" GATE VALVE AND VALVE BOX, AS PER PLAN	6" FIRE HYDRANT, AS PER PLAN	FIRE HYDRANT REMOVED AND DISPOSED OF	VALVE BOX ADJUSTED TO GRADE	CURB REMOVED					4" CONCRETE WALK, AS PER PLAN	CURB, TYPE 6
						FT	EACH	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	FT					SF	FT
WR – 005	76	9+93.19				1		4																								
WW – 001	76	9+96.19						4																								
AB – 003	76	9+93.19	TO	14+75.00			479																									
WM – 001	76	12+58.74						66				25		86											5	81	5					
WH – 001	76	12+58.74										3													5	45	5					
WS – 001	76	12+64.24						18	11			18					9								6	45	6					
WR – 006	76	13+65.64				5	1	13				7																				
AB – 004	77	14+75.00	TO	17+85.94				311										86							5		5					
WS – 002	77	15+31.38						13	66			21				80			1			1			3	78	3					
WM – 002	77	15+83.14							48							54									3		3					
WV – 001	77	15+83.14							3													1			5		5					
WM – 003	77	15+83.14							3																							
WM – 004	77	15+83.14	TO	19+25.00						342																						
WM – 005	77	15+96.41							18					26				54							5		5					
WH – 002	77	15+96.41										6									1											
WR – 007	77	16+06.21				5	1	13				5						3							5		5					
WS – 003	77	16+35.37						56				5				46		342														
WS – 004	77	16+35.37						22				6				22		26														
AB – 005	77	16+44.58						15											1			1										
WR – 008	77	16+44.58					1		5													1										
WR – 009	77	16+44.58				10			10																							
WM – 006	77	16+50.00							23						25																	
WV – 002	77	16+50.00							3																							
WM – 007	77	16+50.00							3						13																	
WS – 005	77	17+03.43						57				5					47															
WS – 006	77	17+03.43						4				5					4		25													
WS – 007	77	17+60.96						10	35			6				39				1							30					
AB – 006	77	17+78.19						49										13														
WW – 002	77	17+78.19							4																							
WR – 011	77	17+78.19					1		4																							
WR – 012	77	17+85.94					1		7																							
AB – 008	77	17+85.94	TO	19+25.00				139																								
AB – 009	77	17+93.65						74																								
WR – 013	77	17+93.65					1		5																							
AB – 010	77	17+93.65						17																								
WM – 008	77	18+00.00							65							71			71													
WV – 003	77	18+00.00							5												1											
WM – 009	77	18+00.00							20							15			15													
WM – 010	77	18+00.00							10			5		11				11							5	25	5					
WH – 003	77	18+06.00										5								1			1		5	25	5					
WM – 011	77	18+65.00							10						12				12													
WV – 004	77	18+65.00							5										1													
WM – 012	77	18+65.00							10						11				11													
WR – 014	77	18+69.83					1		5																							
WR – 015	77	18+69.83				11			5																							
AB – 011	78	19+25.00	TO	19+66.50				42																								
WM – 013	78	19+25.00	TO	20+17.10						92								92														
TOTALS CARRIED TO GENERAL SUMMARY						31	8	1332	457	434		122		146	38	577	238	9	761	4	1	2	3	2		52	329	52				

P:\3000_3495\3062170030_Lincoln_Way_STA-172-644\0001\PID_104857\Design\Roadway\Sheets\104857_GS012.dwg Sep 27, 2018 - 5:15pm

REF NO.	SHEET NO.	STATION TO STATION				202	202	202	SPECIAL	SPECIAL	SPECIAL	SPECIAL	638	638	638	638	638	638	638	638	638	638	638	202	608	609		
						PIPE REMOVED, 24" AND UNDER	REMOVAL MISC.: GATE VALVE OR SERVICE VALVE REMOVED AND DISPOSE	ABANDON MISC.: WATER MAIN OR WATER SERVICE ABANDONED IN PLACE	FULL DEPTH REPAIR, MISC.: WATER MAIN TRENCH REPAIR, TYPE 1	FULL DEPTH REPAIR, MISC.: WATER MAIN TRENCH REPAIR, TYPE 2	FULL DEPTH REPAIR, MISC.: WATER MAIN TRENCH REPAIR, TYPE 3	FULL DEPTH REPAIR, MISC.: WATER MAIN TRENCH REPAIR, TYPE 4	4" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS AND FITTINGS, AS PER PLAN	6" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS AND FITTINGS, AS PER PLAN	8" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS AND FITTINGS, AS PER PLAN	12" WATERMAIN DUCTILE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS AND FITTINGS, AS PER PLAN	1" COPPER SERVICE BRANCH	2" COPPER SERVICE BRANCH	POLYETHYLENE ENCASEMENT	6" GATE VALVE AND VALVE BOX, AS PER PLAN	8" GATE VALVE AND VALVE BOX, AS PER PLAN	12" GATE VALVE AND VALVE BOX, AS PER PLAN	6" FIRE HYDRANT, AS PER PLAN	FIRE HYDRANT REMOVED AND DISPOSED OF	VALVE BOX ADJUSTED TO GRADE	CURB REMOVED	4" CONCRETE WALK, AS PER PLAN	CURB, TYPE 6
						FT	EACH	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	FT	SF	FT
WS - 008	78	19+49.83						15	18			5					24											
WR - 016	78	19+66.50					1		5																			
AB - 012	78	19+66.50	TO	20+43.65				77																				
WR - 017	78	19+79.80					1	61				5									1							
WV - 005	78	20+17.10							3											1								
WM - 014	78	20+17.10	TO	21+01.10						80						84			84									
WH - 004	78	20+31.92						5			5		9					9	1			1		5	25	5		
WS - 009	78	20+33.99						6	5			5		6				6										
WR - 018	78	20+37.10					1		5																			
WV - 006	78	20+40.42							5												1							
WR - 019	78	20+40.42				25																						
WM - 015	78	20+40.42							25		100					130			130									
WR - 020	78	20+40.42					1																					
WR - 021	78	20+40.42				105																						
WV - 007	78	20+40.42							5												1							
WR - 022	78	20+43.65					1				5																	
AB - 013	78	20+43.65	TO	24+51.78				408																				
WS - 010	78	20+86.00						5	45			5			50													
WR - 023	78	20+87.52					1	47				5										1						
WR - 024	78	21+00.76					1	16				5									1							
WV - 008	78	21+01.10								5											1							
WM - 016	78	21+01.10	TO	24+75.00						267	108					374			374									
WH - 005	78	21+05.23							10			8		19				19	1			1						
WS - 011	78	21+38.90						17	7			5				24												
WS - 012	78	21+66.84						17	7			5				24												
WS - 013	78	21+76.23						52	2			5				45												
WS - 014	78	21+86.84						17	7			5				24												
WS - 015	78	22+05.27						52	2			5				45												
WS - 016	78	22+05.97						5	2			5				5												
WS - 017	78	22+09.74						17	7			5				24												
WS - 018	78	22+22.62						17	2		5	5				24												
WS - 019	78	22+62.96						17	9			5				24												
WS - 020	78	22+90.37						17	9			5				24												
WS - 021	78	22+91.71						54	2			5				46												
WS - 022	78	23+25.89						17	8			5				24												
WR - 041	78	23+43.83					1	17	2			5																
WV - 014	78	23+79.69																			1							
WH - 006	78	23+92.50							15			5		20				20	1			1						
WR - 025	78	23+92.66					1	14				5										1						
WH - 007	78	23+99.50							13					13				13	1			1						
AB - 014	78	24+06.51						30																				
WR - 026	78	24+06.51					1				5																	
AB - 015	78	24+06.54						75																				
WR - 027	78	24+06.54					1				5																	
AB - 016	78	24+06.54						39																				
WM - 017	78	24+06.51	TO	24+12.00					8						11				11									
WM - 018	78	24+06.54	TO	24+12.00					25						12				12									
TOTALS CARRIED TO GENERAL SUMMARY						130	11	1109	255	275	308	118		67	23	588	407		678	4		5	4	4		5	25	5

WATER WORKS SUBSUMMARY

S.R. 172 LINCOLN WAY
(STA-172-6.44)

38
112

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REF NO.	SHEET NO.	STATION TO STATION			ADD ALT NO. (AS APPLICABLE)	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	62
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REF NO.	SHEET NO.	STATION TO STATION				ADD ALT NO. (AS APPLICABLE)	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625
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LIGHTING SUBSUMMARY

S.R. 172 LINCOLN WAY
(STA-172-6.44)

CALCULATED	JUH
CHECKED	JEL





P:\3000_3495\3062170030 Lincoln Way STA-172-644\0001\PID_104857\Design\Roadway\Sheets\104857_GS017.dwg Nov 13, 2018 - 1:58pm

REF NO.	SHEET NO.	STATION TO STATION			SIDE	CODE	SIZE (INCHES)	ADD ALT NO. (AS APPLICABLE)										630	630	630	630	630	630	630	630	
																		GROUND MOUNTED SUPPORT, NO. 2 POST	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND REERECTION	SIGN, FLAT SHEET	GROUND MOUNTED SUPPORT, NO. 3 POST
																		FT	EACH	EACH	EACH	EACH	EACH	EACH	SF	FT
S-6	88	19+57.00																	1					1		
S-7		20+10.00																11.1						2		
S-8		21+01.00																	1					2		
S-9		21+54.00																	1					4		
S-10		19+75.00																	1					1		
S-11		23+25.00																	1					1		
S-12		23+25.00																	1					1		
S-13		23+25.00																	1	1						
S-14		23+00.00																	1					1		
S-15		24+54.00																	2					2		
S-29		21+99.00				RT.	W11-2-30	30"x30"																	6.25	14.1
S-29		21+99.00				RT.	W16-7PL-24	12"x24"																	2	
S-30		22+80.00				LT.	W11-2-30	30"x30"																	6.25	14.1
S-30		22+80.00				LT.	W16-7PL-24	12"x24"																	2	
R-1	20+15.00																						5			
R-2	20+15.00																						3			
R-3	ERIE ST N																				2					
R-4	21+02.00																						2			
R-5	20+15.00																						2			
R-6	ERIE ST S																						2			
R-7	21+02.00																						2			
R-8	21+02.00																						1			
R-9	23+78.00																						2			
R-10	FIRST ST NE																						1			
R-11	24+55.00																						2			
R-12	23+78.00																						2			
R-13	FIRST ST SE																						2			
R-14	24+55.00																						2			
S-16	89	25+20.00																	1					1		
S-17		25+99.00																	2					2		
S-19		26+68.00																	1					1		
S-20		27+36.00																	4					4		
S-21		27+41.00																	1					1		
S-22		28+08.00																	1					1		
S-23		28+08.00																	1					1		
S-24		30+21.00						2											2					2		
S-25		30+21.00						2											1					1		
S-18		26+65.00																	2					2		
S-26	90	30+98.00					2												1	1	1					
S-27		30+98.00					2												1				1			
S-28		30+98.00						2											1				1			
TOTALS CARRIED TO GENERAL SUMMARY																		11.1	29	2	1	15	16	33	17.00	29.0

TRAFFIC CONTROL SUBSUMMARY

S.R. 172 LINCOLN WAY
(STA-172-6.44)

46
112

P:\3000_3493\3062170030 Lincoln_Way_STA-172-644\0001\PID_104857\Design\Roadway\Sheets\104857_GS006.dwg Sep 27, 2018 = 5:19pm

SHEET NO.	LOCATION		625	625	625	625	625	625	625	632	625	632	632	632	632	632	632				
			CONDUIT, 2", 725.04	CONDUIT, 3", 725.04	TRENCH	TRENCH IN PAVED AREA, TYPE A, AS PER PLAN	TRENCH IN PAVED AREA, TYPE B, AS PER PLAN	PULL BOX, 725.08, 18"	PULL BOX, 725.08, 24"	POWER SERVICE, AS PER PLAN	PLASTIC CAUTION TAPE	SIGNAL CABLE, 2 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	POWER CABLE, 2 CONDUCTOR, NO. 6 AWG	CONDUIT RISER, 2" DIAMETER	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN				
			FT	FT	FT	FT	FT	EACH	EACH	EACH	FT	FT	FT	FT	FT	EACH	EACH				
89	LINCOLN WAY & ERIE STREET																1				
	CABINET TO PB-P3		6	12	6				1		6										
	PB-P3																				
	PB-3 TO PD-3		3		3						3										
	PB-3 TO SP-3		24		24						24										
	PB-P3 TO PB-P1			168	84						84										
	PB-P1							1													
	PB-P1 TO SP1		4		4						4										
	PB-P1 TO PD-1		22		22						22										
	PB-P3 TO PB-P4			176	88						88										
	PB-P4							1													
	PB-P4 TO SP-4		25		25						25										
	PB-P4 TO PD-4		3		3						3										
	PB-P4 TO PB-B2			82			41				41										
	PB-B2							1													
	PB-P2 TO SP-2		9		9						9										
	PB-P2 TO PD-2		31		31						31										
	PUSH BUTTON CABLE																				
	C-PB-C (NW)											125									
	C-PB-B (NW)											143									
	C-PB-C (SW)											202									
	C-PB-A (SW)											180									
	C-PB-B (NE)											56									
	C-PB-D (NE)											35									
	C-PB-D (SE)											150									
	C-PB-A (SE)											128									
	PED SIGNAL CABLE																				
	C-PED-C (NW)											129									
	C-PED-B (NW)											147									
	C-PED-C (SW)											206									
	C-PED-A (SW)											184									
	C-PED-B (NE)											60									
	C-PED-D (NE)											39									
	C-PED-D (SE)											154									
	C-PED-A (SE)											132									
	VEH SIGNAL CABLE																				
	C-6a													163							
	6a-6b													20							
	C-4a													220							
	4a-4b													21							
	C-8a													84							
	8a-8b													21							
	C-2a													188							
	2a-2b													20							
	POWER SERVICE																				
	CONTROLLER TO POWER SOURCE		65		33	32				1	65				126	1					
TOTALS CARRIED TO GENERAL SUMMARY			192	438	332	32	41	3	1	1	405	1019	1051	737	126	1	1				

TRAFFIC SIGNALS SUBSUMMARY

S.R. 172 LINCOLN WAY
(STA-172-6.44)

CALCULATED
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P:\3000_3493\3062170030 Lincoln_Way_STA-172-644\0001\PID_104857\Design\Roadway\Sheets\104857_GS006-2.dwg Sep 27, 2018 -- 5:19pm

SHEET NO.	LOCATION		625	625	625	625		625	625	632	625	632	632	632	632	632	632				
			CONDUIT, 2", 725.04	CONDUIT, 3", 725.04	TRENCH	TRENCH IN PAVED AREA, TYPE B		PULL BOX, 725.08, 18"	PULL BOX, 725.08, 24"	POWER SERVICE, AS PER PLAN	PLASTIC CAUTION TAPE	SIGNAL CABLE, 2 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	POWER CABLE, 2 CONDUCTOR, NO. 6 AWG	CONDUIT RISER, 2" DIAMETER	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN				
			FT	FT	FT	FT		EACH	EACH	EACH	FT	FT	FT	FT	FT	EACH	EACH				
91	LINCOLN WAY & FIRST STREET E																1				
	CABINET TO PB-P1		5	10	5				1		5										
	PB-P1																				
	PB-1 TO PD-1		18		18						18										
	PB-1 TO SP-1		4		4						4										
	PB-P1 TO PB-P2			150		75					75										
	PB-P2							1													
	PB-P2 TO SP2		4		4						4										
	PB-P2 TO PD-2		26		26						26										
	PB-P1 TO PB-P3			154	77						77										
	PB-P3							1													
	PB-P3 TO SP-3		24		24						24										
	PB-P3 TO PD-3		5		5						5										
	PB-P2 TO PB-B4			130	65						65										
	PB-B4							1													
	PB-P4 TO SP-4		22		22						22										
	PB-P4 TO PD-4		4		4						4										
	PUSH BUTTON CABLE																				
	C-PB-C (NW)											40									
	C-PB-B (NW)											54									
	C-PB-C (SW)											115									
	C-PB-A (SW)											137									
	C-PB-B (NE)											137									
	C-PB-D (NE)											118									
	C-PB-D (SE)											203									
	C-PB-A (SE)											185									
	PED SIGNAL CABLE																				
	C-PED-C (NW)											44									
	C-PED-B (NW)											58									
	C-PED-C (SW)											119									
	C-PED-A (SW)											141									
	C-PED-B (NE)											141									
	C-PED-D (NE)											122									
	C-PED-D (SE)											207									
	C-PED-A (SE)											189									
	VEH SIGNAL CABLE																				
	C-6a													73							
	6a-6b													20							
	C-4a													157							
	4a-4b													21							
	C-8a													165							
	8a-8b													21							
	C-2a													241							
	2a-2b													20							
	POWER SERVICE																				
	CONTROLLER TO POWER SOURCE		36		36					1	36				97	1					
TOTALS CARRIED TO GENERAL SUMMARY			148	444	290	75		3	1	1	365	989	1021	718	97	1	1				

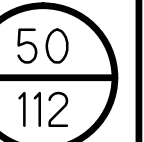
TRAFFIC SIGNALS SUBSUMMARY

S.R. 172 LINCOLN WAY
(STA-172-6.44)

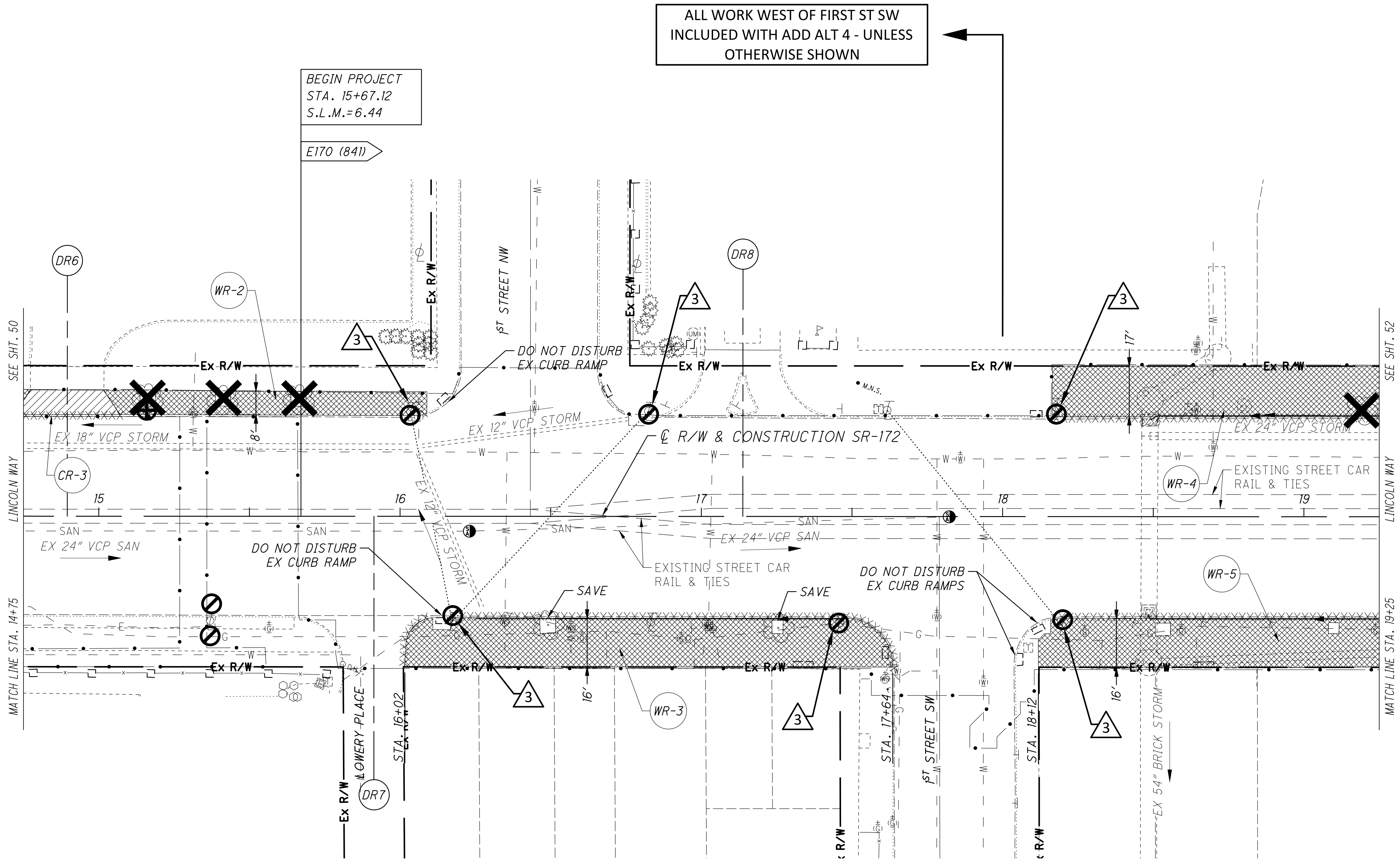
CALCULATED
MJC
CHECKED
SWC



- FOUNDATION REMOVED



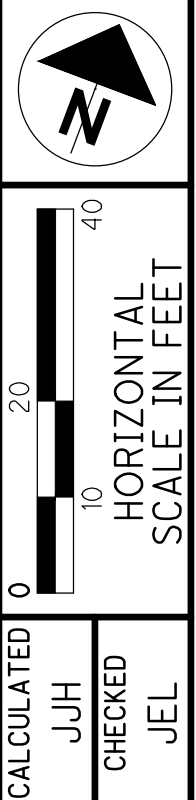
P:\3000_3495\3062170030_Lincoln_Way_STA-172-644\DD01\PID_104857\Design\Roadway\Sheets\104857_RE002.dwg Nov 08, 2018 - 4:54pm



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
32	ROADWAY REMOVAL SUBSUMMARY
40-42	LIGHTING REMOVAL SUBSUMMARY
47-48	TRAFFIC SIGNAL REMOVAL SUBSUMMARY
50	REMOVAL LEGEND
70	DRIVEWAY REMOVAL SUBSUMMARY

3 WORK INCLUDED WITH ADD ALT 3

ALL WORK WEST OF FIRST ST SW
INCLUDED WITH ADD ALT 4 - UNLESS
OTHERWISE SHOWN



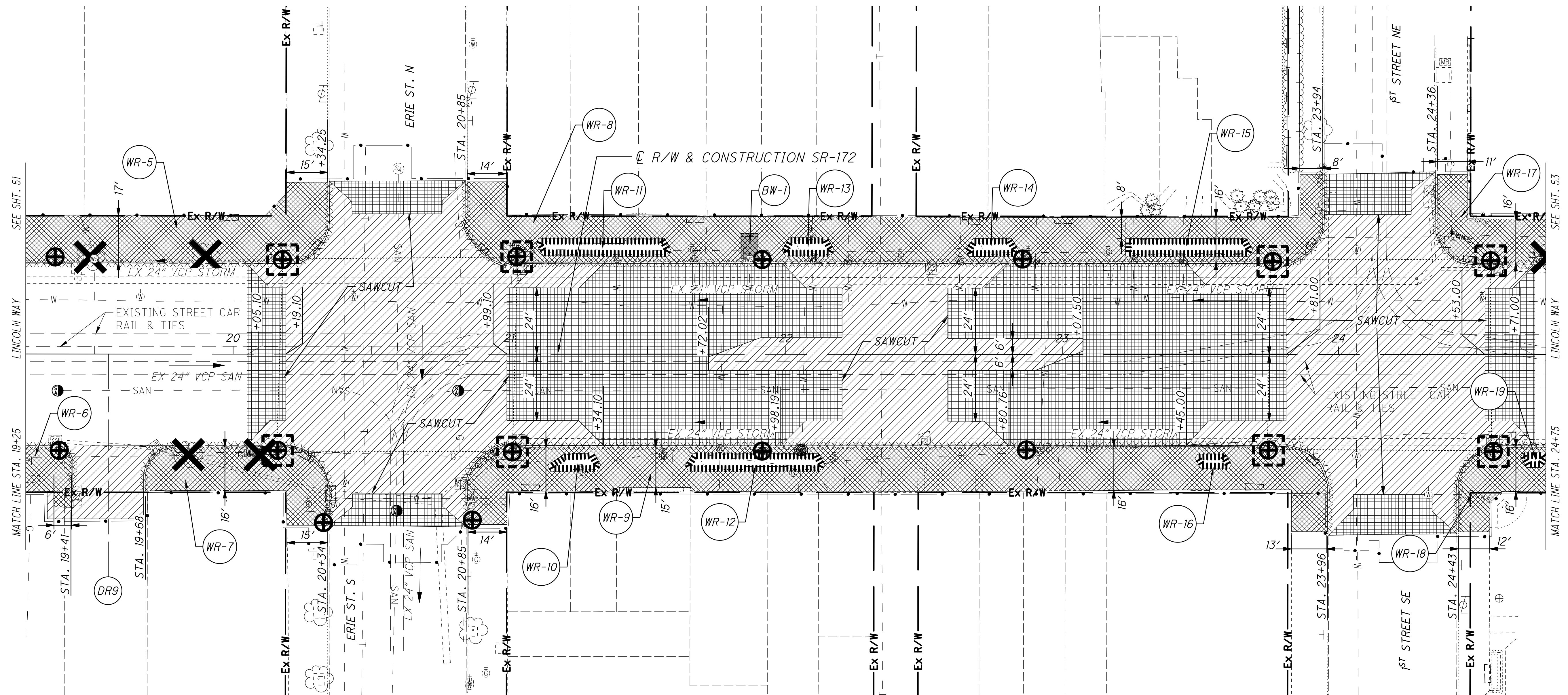
REMOVAL PLAN
STA. 14+75 TO STA. 19+25

S.R. 172 LINCOLN WAY
(STA-172-6.44)

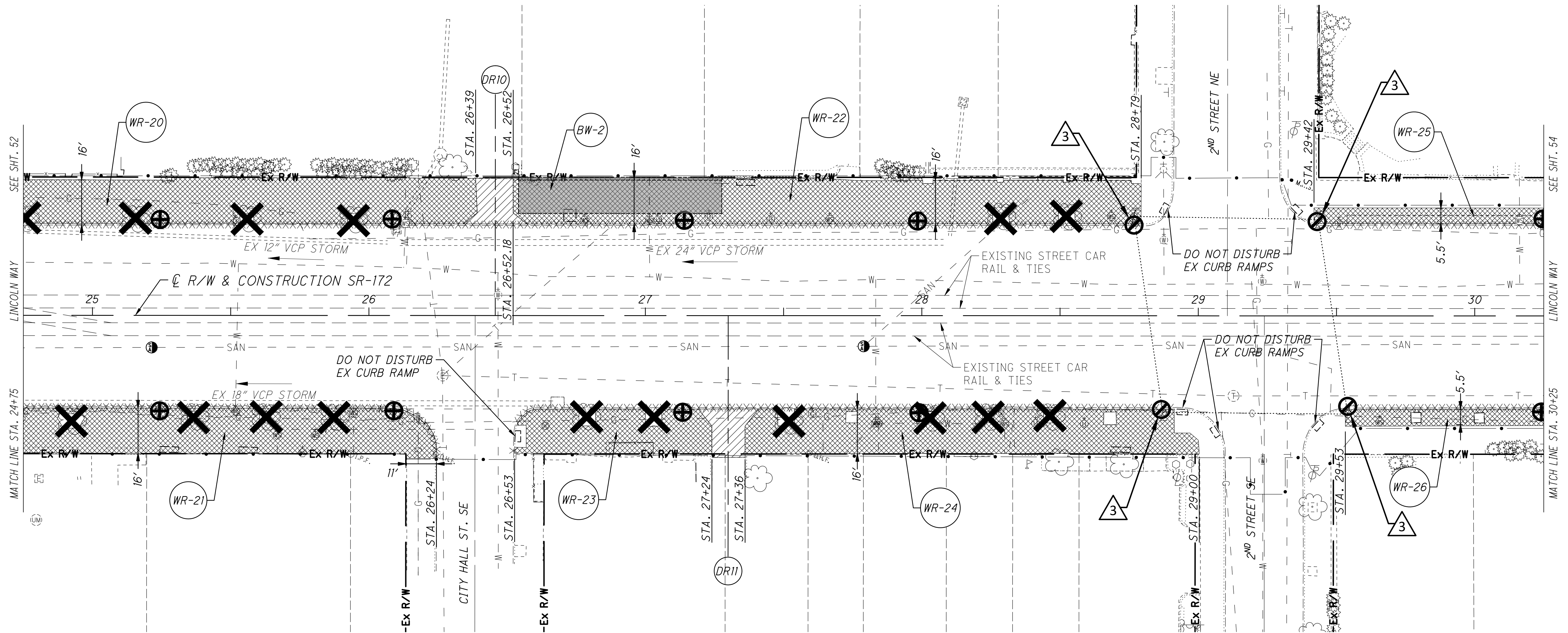
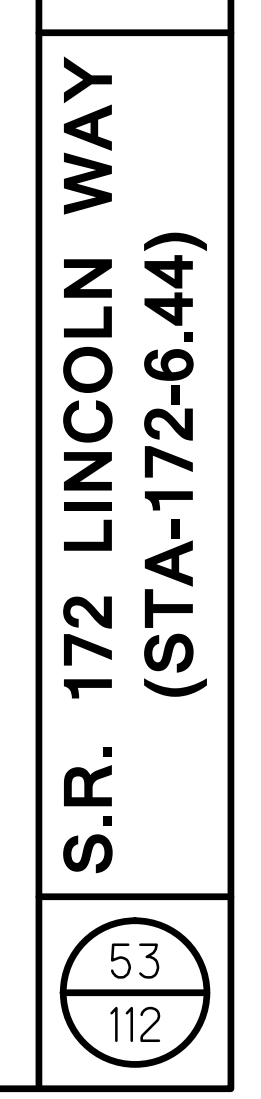
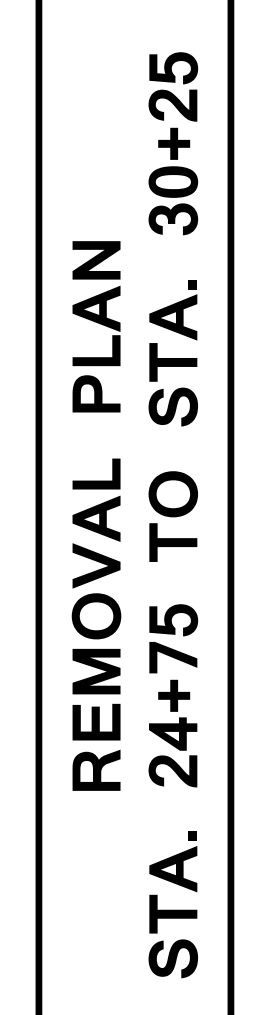
CALCULATED JJH	CHECKED JEL	0 20 40 HORIZONTAL SCALE IN FEET	

REMOVAL PLAN
STA. 19+25 TO STA. 24+75

**S.R. 172 LINCOLN WAY
(STA-172-6.44)**

$$\frac{52}{112}$$


 WORK INCLUDED WITH ADD ALT 3

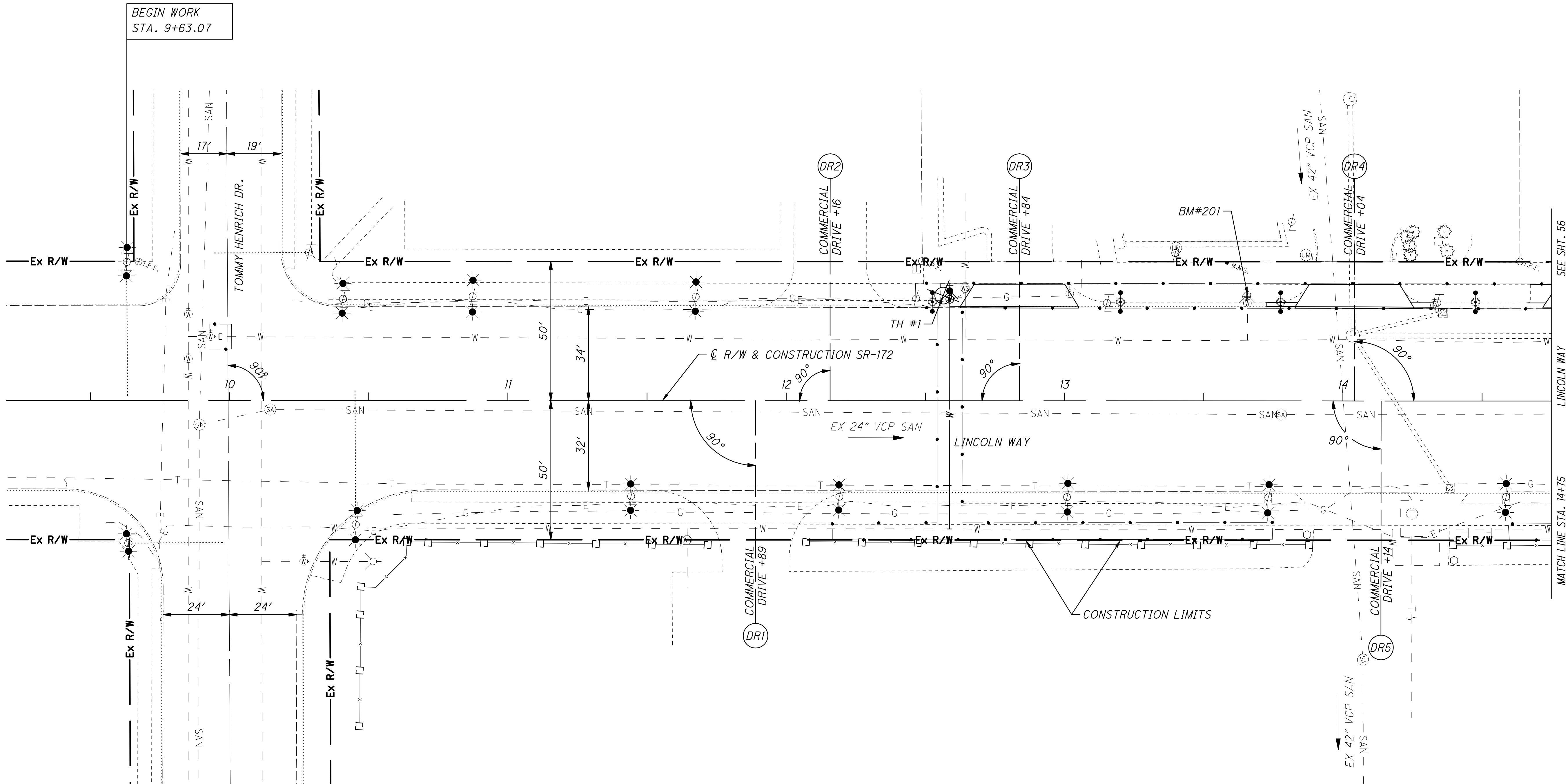


 WORK INCLUDED WITH ADD ALT 3

JJH	 HORIZONTAL SCALE IN FEET
JEL	



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LEGEND:

- D-0 PROPOSED DRAINAGE STRUCTURE
- D-000 DRAINAGE STRUCTURE ADJUSTED TO GRADE
- UD0 ITEM 605 - BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC
- R-0 DRAINAGE STRUCTURE REMOVALS
- DR DRIVEWAYS

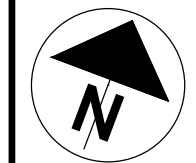
CROSS REFERENCES

SHEET NO.	DESCRIPTION
34	DRAINAGE SUBSUMMARY
35-36	PAVEMENT SUBSUMMARY
108 - 112	SEE MATERIAL PLAN SHEETS FOR PROPOSED PAVEMENT TYPES AND CONDITIONS

CONTROL / BENCHMARK DATA SHEET

CONTROL #	ELEVATION	DESCRIPTION
BM#201	939.98	SOUTH BOLT OF HYDRANT, NORTH SIDE OF LINCOLN WAY AT MCDONALD'S

ALL WORK SHOWN ON THIS SHEET INCLUDED WITH ADD ALT 4



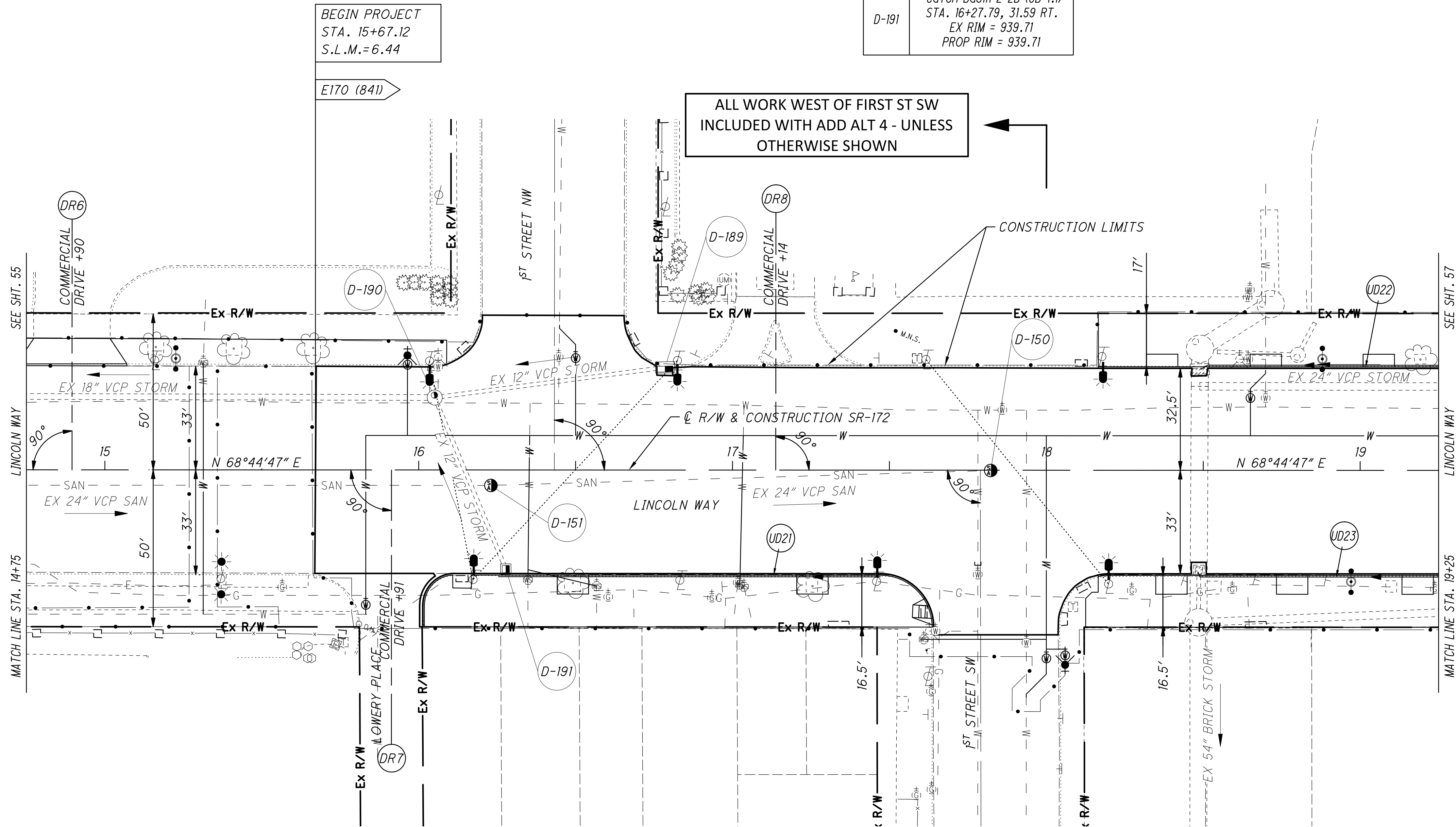
CALCULATED JJH
CHECKED JEL

PLAN SHEET
BEGIN WORK TO STA. 14+75

S.R. 172 LINCOLN WAY
(STA-172-6.44)

55
112

P:\3000_3495\3062170030_Lincoln_Way_STA-172-644\DD01\PID_104857\Design\Roadway\Sheets\104857_GP002.dwg Nov 08, 2018 - 5:00pm



STRUCTURES ADJUSTED TO GRADE	
NAME	DETAILS
D-150	Manhole No. 1 (MH-1.1) STA. 17+82.26, 0.10 RT. EX RIM = 942.52 PROP RIM = 942.52
D-151	Manhole No. 1 (MH-1.1) STA. 16+23.00, 4.92 RT. EX RIM = 940.77 PROP RIM = 940.77
D-189	Catch Basin 3 (CB-2.1) STA. 16+78.50, 32.72 LT. EX RIM = 940.73 PROP RIM = 940.73
D-190	Manhole No. 3 (MH-1.2) STA. 16+05.10, 23.08 LT. EX RIM = 940.01 PROP RIM = 940.01
D-191	Catch Basin 2-2B (CB-1.1) STA. 16+27.79, 31.59 RT. EX RIM = 939.71 PROP RIM = 939.71

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
34	DRAINAGE SUBSUMMARY
35-36	PAVEMENT SUBSUMMARY
55	PLAN SHEET LEGEND
108 - 112	SEE MATERIAL PLAN SHEETS FOR PROPOSED PAVEMENT TYPES AND CONDITIONS

CALCULATED
JUH

CHECKED
JEL

02040

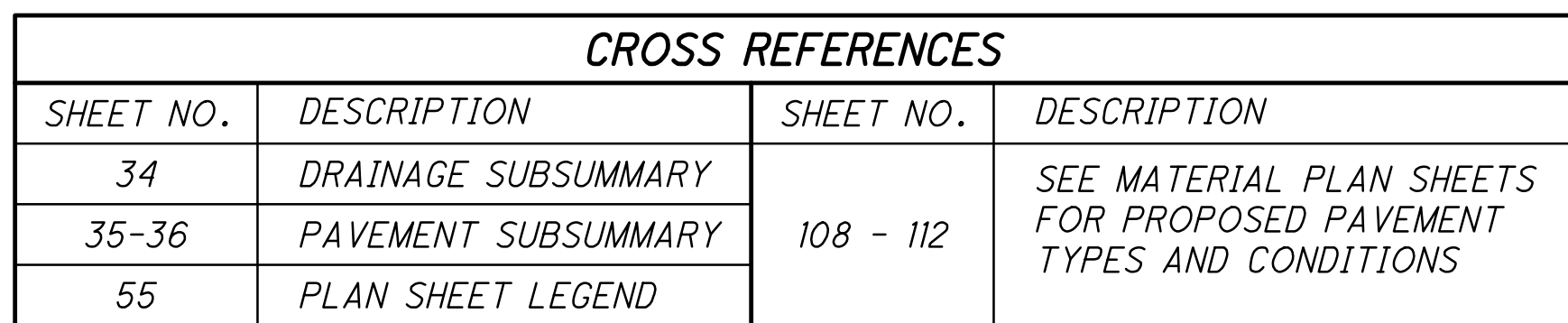
HORIZONTAL
SCALE IN FEET

S.R. 172 LINCOLN WAY
(STA-172-6.44)

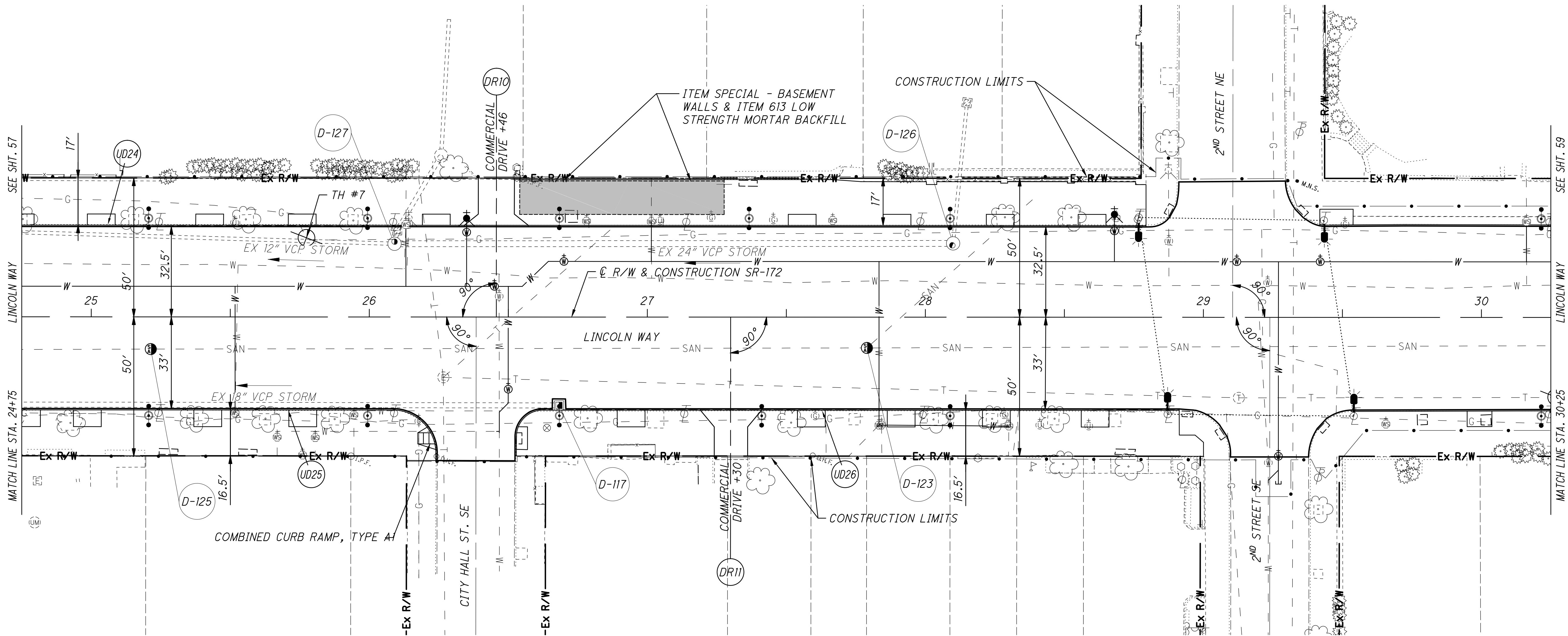
56
112

PLAN SHEET
STA. 14+75 TO STA. 19+25

PROPOSED STRUCTURE TABLE	
NAME	DETAILS
D-11	Catch Basin No. 3A STA. 24+34, 66.95 LT. RIM = 946.33
D-12	MANHOLE NO. 3 STA. 24+33, 58.31 LT. RIM = 947.15
D-13	Catch Basin No. 3A, A.P.P. STA. 24+68, 30.64 LT. RIM = 946.64
D-14	Catch Basin No. 3A, A.P.P. STA. 24+68, 32.11 RT. RIM = 946.36



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STRUCTURES ADJUSTED TO GRADE	
NAME	DETAILS
D-117	Catch Basin 2-2B (CB-1.1) STA. 26+68.27, 31.81 RT. EX RIM = 951.52 PROP RIM = 951.52
D-123	Manhole No. 1 (MH-1.1) STA. 27+78.98, 11.07 RT. EX RIM = 957.29 PROP RIM = 957.29
D-125	Manhole No. 1 (MH-1.1) STA. 25+21.42, 11.59 RT. EX RIM = 948.09 PROP RIM = 948.09
D-126	Manhole No. 3 (MH-1.2) STA. 28+09.96, 26.54 LT. EX RIM = 958.20 PROP RIM = 958.20
D-127	Manhole No. 3 (MH-1.2) STA. 26+09.07, 26.34 LT. EX RIM = 950.00 PROP RIM = 950.00

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
34	DRAINAGE SUBSUMMARY
35-36	PAVEMENT SUBSUMMARY
55	PLAN SHEET LEGEND
108 - 112	SEE MATERIAL PLAN SHEETS FOR PROPOSED PAVEMENT TYPES AND CONDITIONS

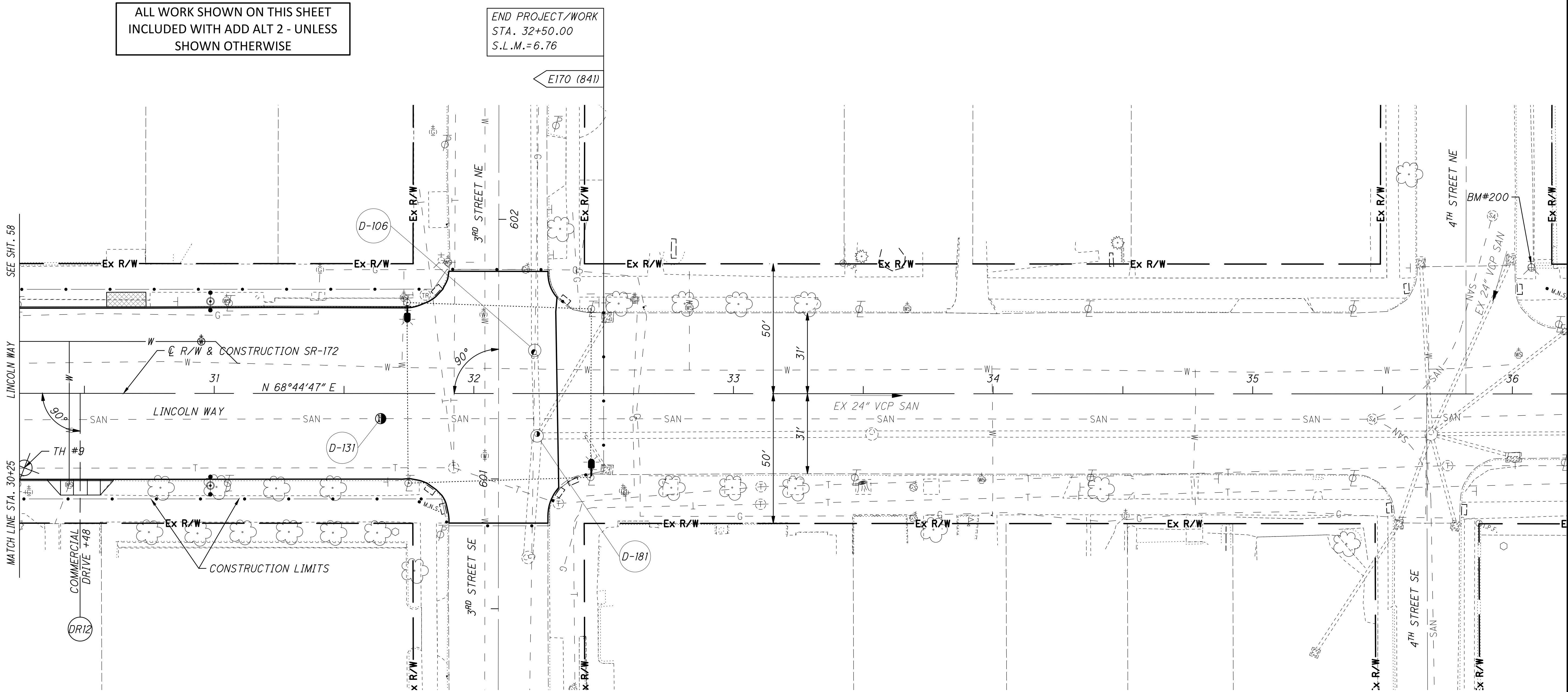
ALL WORK EAST OF SECOND ST
E INCLUDED WITH ADD ALT 2 -
UNLESS OTHERWISE SHOWN



PLAN SHEET
STA. 24+75 TO STA. 30+25

S.R. 172 LINCOLN WAY
(STA-172-6.44)

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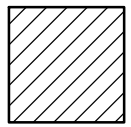
STRUCTURES ADJUSTED TO GRADE	
NAME	DETAILS
D-106	Manhole No. 3 (MH-1.2) STA. 32+23.44, 16.62 LT. EX RIM = 976.36 PROP RIM = 976.36
D-131	Manhole No. 1 (MH-1.1) STA. 31+64.13, 9.68 RT. EX RIM = 974.11 PROP RIM = 974.11
D-181	Manhole No. 3 (MH-1.2) STA. 32+24.38, 16.32 RT. EX RIM = 977.20 PROP RIM = 977.20

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
34	DRAINAGE SUBSUMMARY
35-36	PAVEMENT SUBSUMMARY
55	PLAN SHEET LEGEND
108 - 112	SEE MATERIAL PLAN SHEETS FOR PROPOSED PAVEMENT TYPES AND CONDITIONS

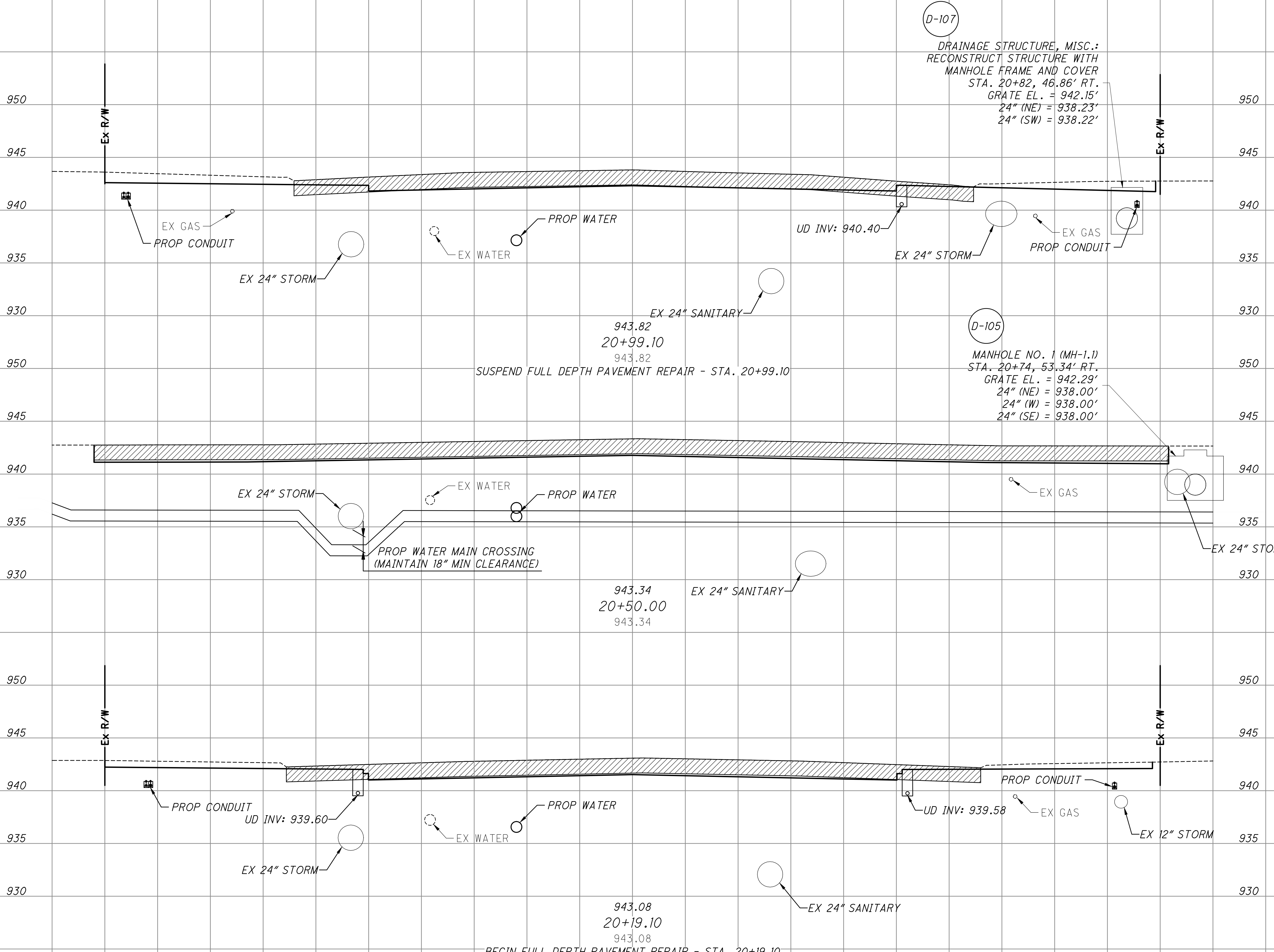
CONTROL / BENCHMARK DATA SHEET		
CONTROL #	ELEVATION	DESCRIPTION
BM#200	996.85	SOUTH BOLT OF HYDRANT ON LINCOLN WAY AND 4TH STREET, 4.5 FT NORTH OF SIDEWALK, 6 FT EAST OF 4TH STREET, 20 FT NORTH OF LINCOLN WAY

P:\3000_3499\3062170030_Lincoln_Way_STA-172-644\001\PID_104857\Design\Roadway\Sheets\104857_XS001.dwg Sep 25, 2018 - 5:27pm

-50 -45 -40 -35 -30 -25 -20 -15 -10 -5 5 10 15 20 25 30 35 40 45 50 55



ITEM 202 - PAVEMENT REMOVED, AS PER
PLAN (EXISTING CONCRETE/BRICK/ASPHALT)

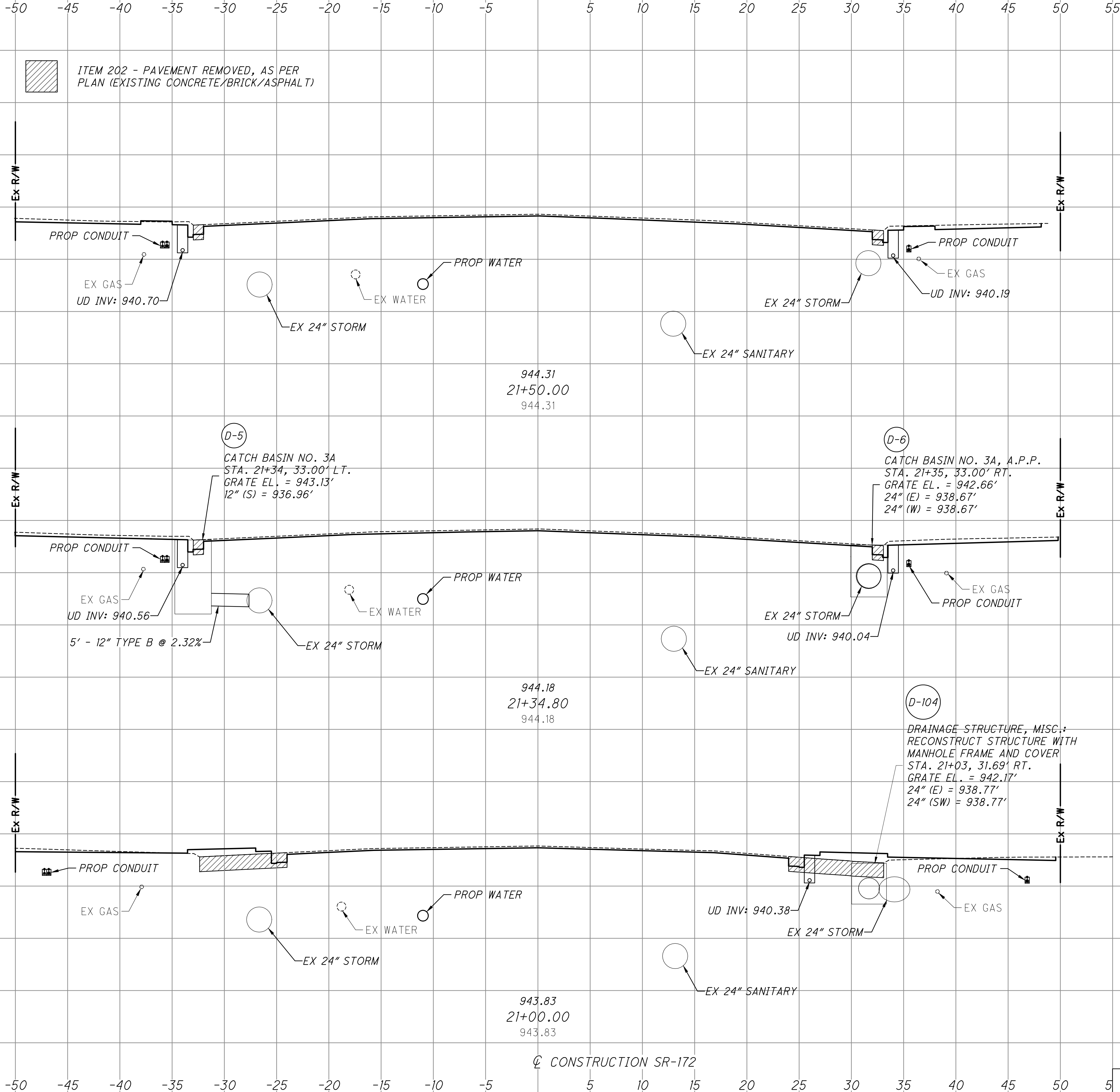


END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	34		
17	17		
		33	16
19	0		
		20	10
15	17		
		53	26
SHEET TOTAL			

CROSS SECTIONS - S.R. 172
STA. 20+19.10 - STA. 20+99.10

S.R. 172 LINCOLN WAY
(STA-172-6.44)

P:\3000_3493\3062170030_Lincoln_Way_STA-172-644\DDOT\PID_104857\Design\Roadway\Sheets\104857_XS002.dwg Sep 25, 2018 5:28pm



ITEM 202 - PAVEMENT REMOVED, AS PER PLAN (EXISTING CONCRETE/BRICK/ASPHALT)

D-5
CATCH BASIN NO. 3A
STA. 21+34, 33.00' LT.
GRATE EL. = 943.13'
12" (S) = 936.96'

D-6
CATCH BASIN NO. 3A, A.P.P.
STA. 21+35, 33.00' RT.
GRATE EL. = 942.66'
24" (E) = 938.67'
24" (W) = 938.67'

D-104
DRAINAGE STRUCTURE, MISC.:
RECONSTRUCT STRUCTURE WITH
MANHOLE FRAME AND COVER
STA. 21+03, 31.69' RT.
GRATE EL. = 942.17'
24" (E) = 938.77'
24" (SW) = 938.77'

CONSTRUCTION SR-172

SHEET TOTAL

END AREA		VOLUME	
CUT	FILL	CUT	FILL
1	3		
2	1	1	1
0	34	1	23
		0	1
		2	25

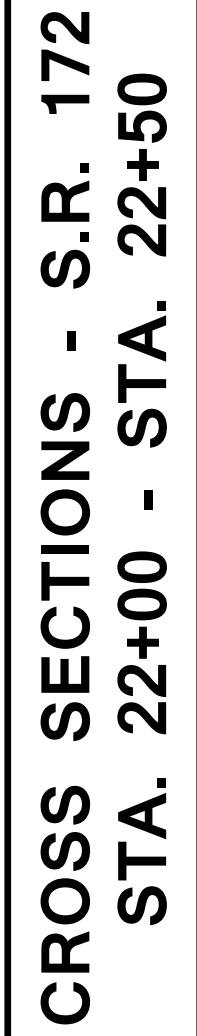
CROSS SECTIONS - S.R. 172
STA. 21+00 - STA. 21+50

S.R. 172 LINCOLN WAY
(STA-172-6.44)

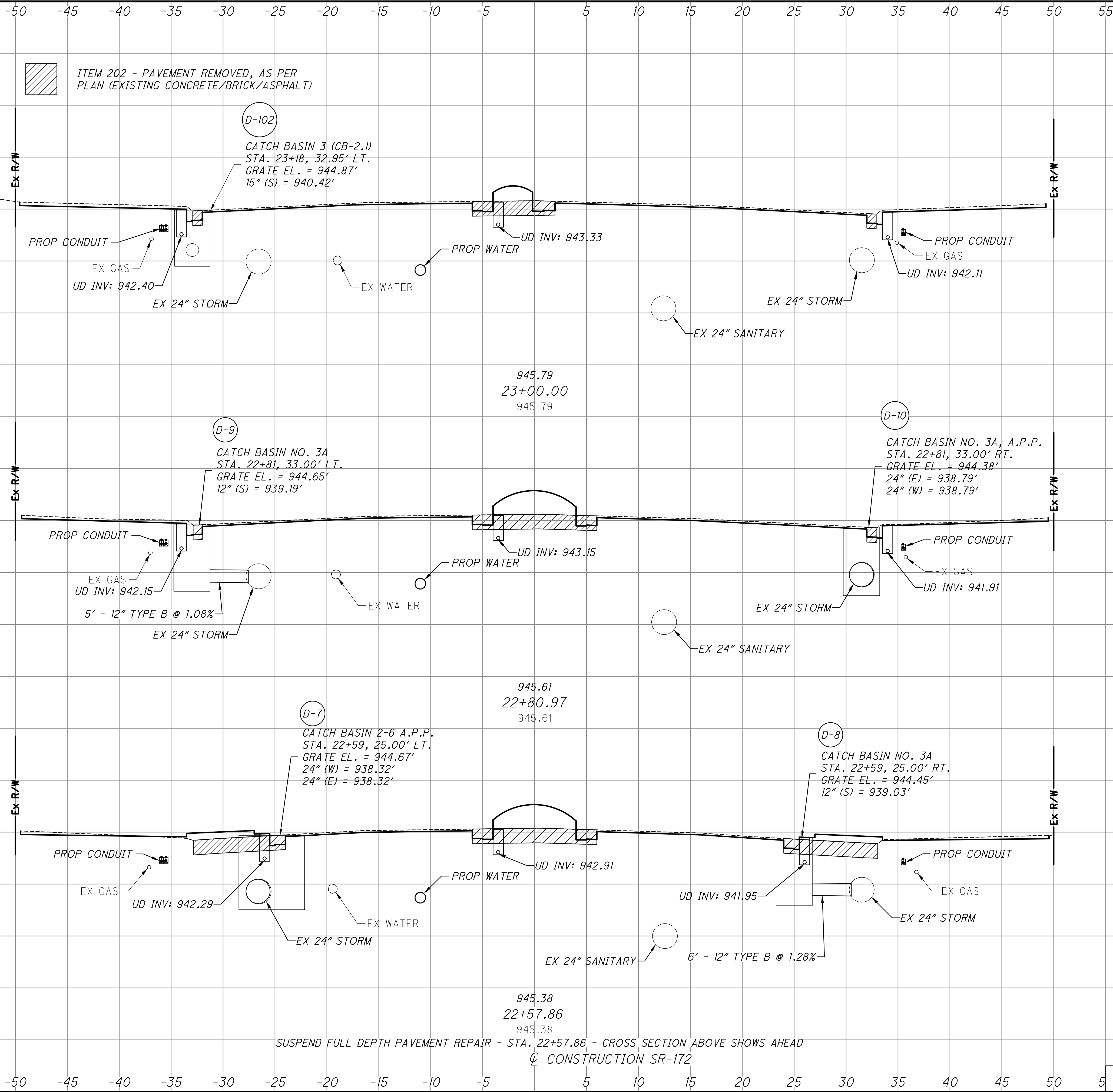
61
112

CALCULATED
JUH

CHECKED
JEL



P:\3000_3499\3062170030_Lincoln_Way_STA-172-644\001\PID_104857\Design\Roadway\Sheets\104857_XS004.dwg Sep 27, 2018 9:43am



END AREA		VOLUME	
CUT	FILL	CUT	FILL
1	7		
0	11	1	6
0	23	0	23
0	42	7	8
0	26		
SHEET TOTAL		8	37

CALCULATED
J JH

CHECKED
JEL

CROSS SECTIONS - S.R. 172

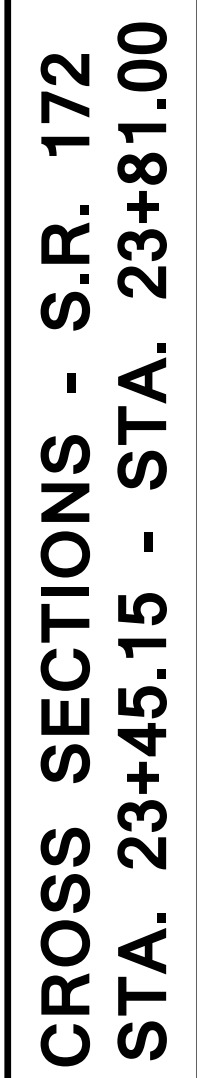
STA. 22+57.86 - STA. 23+00

S.R. 172 LINCOLN WAY

(STA-172-6.44)

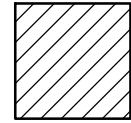
63

112

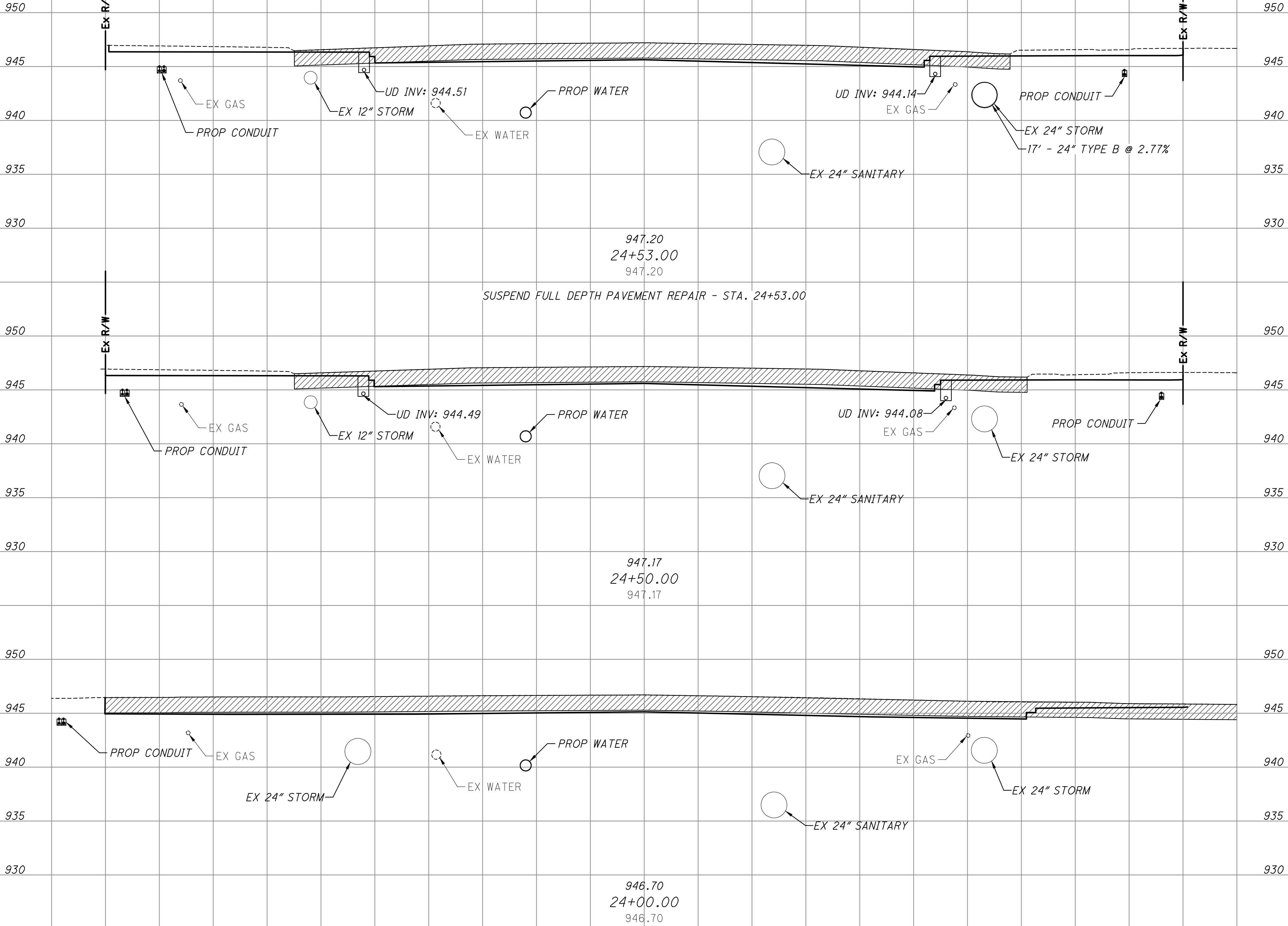


P:\3000_3499\3062170030_Lincoln_Way_STA-172-644\001\PID_104857\Design\Roadway\Sheets\104857_XS006.dwg Sep 27, 2018 - 9:41am

-50 -45 -40 -35 -30 -25 -20 -15 -10 -5 5 10 15 20 25 30 35 40 45 50 55



ITEM 202 - PAVEMENT REMOVED, AS PER
PLAN (EXISTING CONCRETE/BRICK/ASPHALT)



END AREA		VOLUME	
CUT	FILL	CUT	FILL
16	16		
		2	2
13	18		
		28	30
17	14		
		10	12
		40	44
		118	214

CALCULATED
JJH

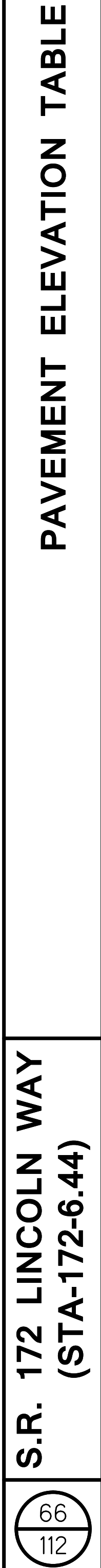
CHECKED
JEL

CROSS SECTIONS - S.R. 172
STA. 24+00 - STA. 24+53.00

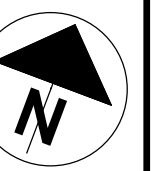
S.R. 172 LINCOLN WAY
(STA-172-6.44)

65
112

KEY LEGEND	
KEY	DESCRIPTION
'A'	ELEVATION OF PAVEMENT EDGE AT ROW / EXISTING PAVEMENT.
'B'	ELEVATION OF TOP OF CURB.
'C'	ELEVATION OF SAWCUT LINE.
'D'	ELEVATION OF SAWCUT LINE.
'E'	ELEVATION OF TOP OF MEDIAN CURB.



TOC	TOP OF CURB
BOC	BOTTOM OF CURB
(10)	CURVE RETURN KEY

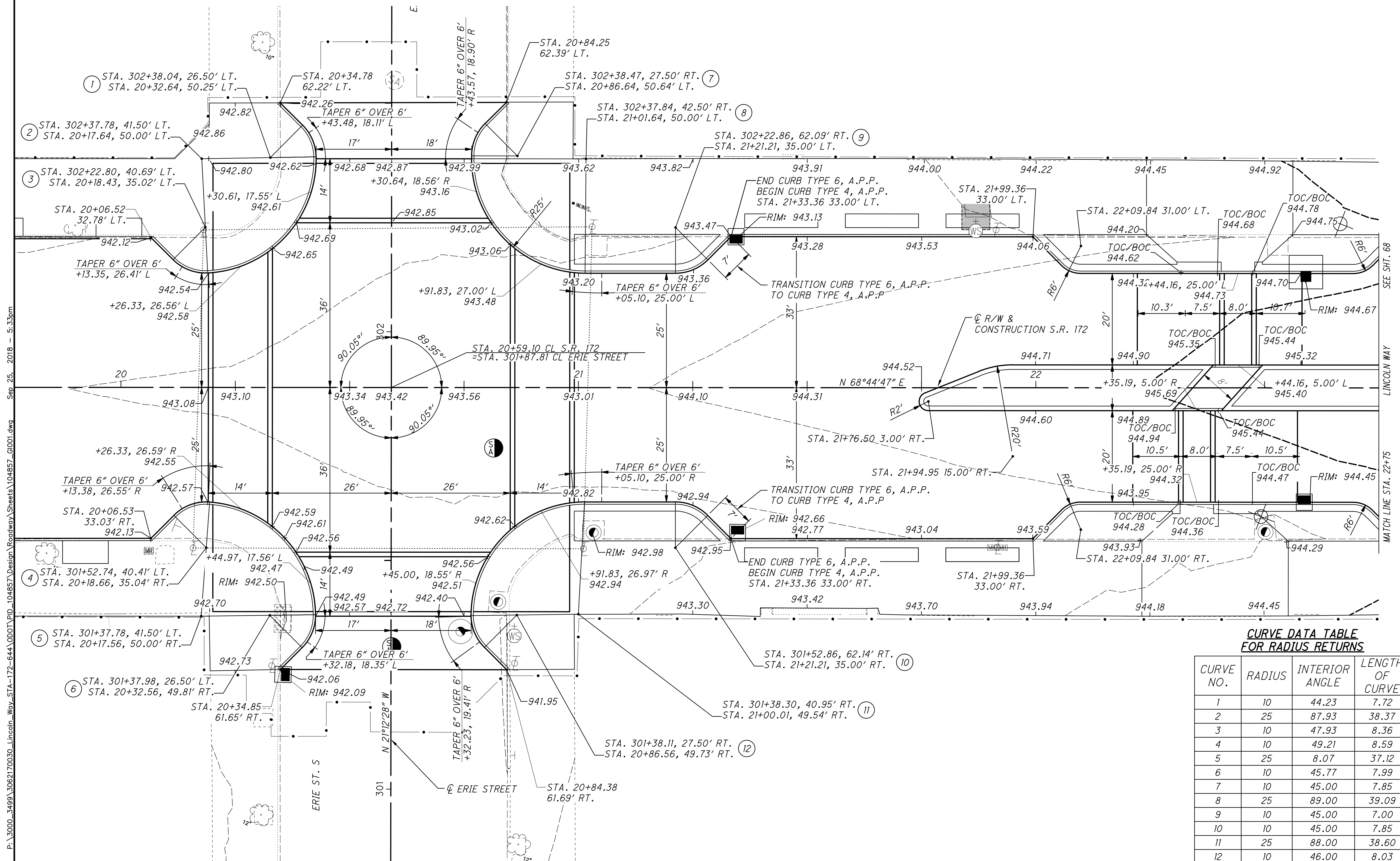


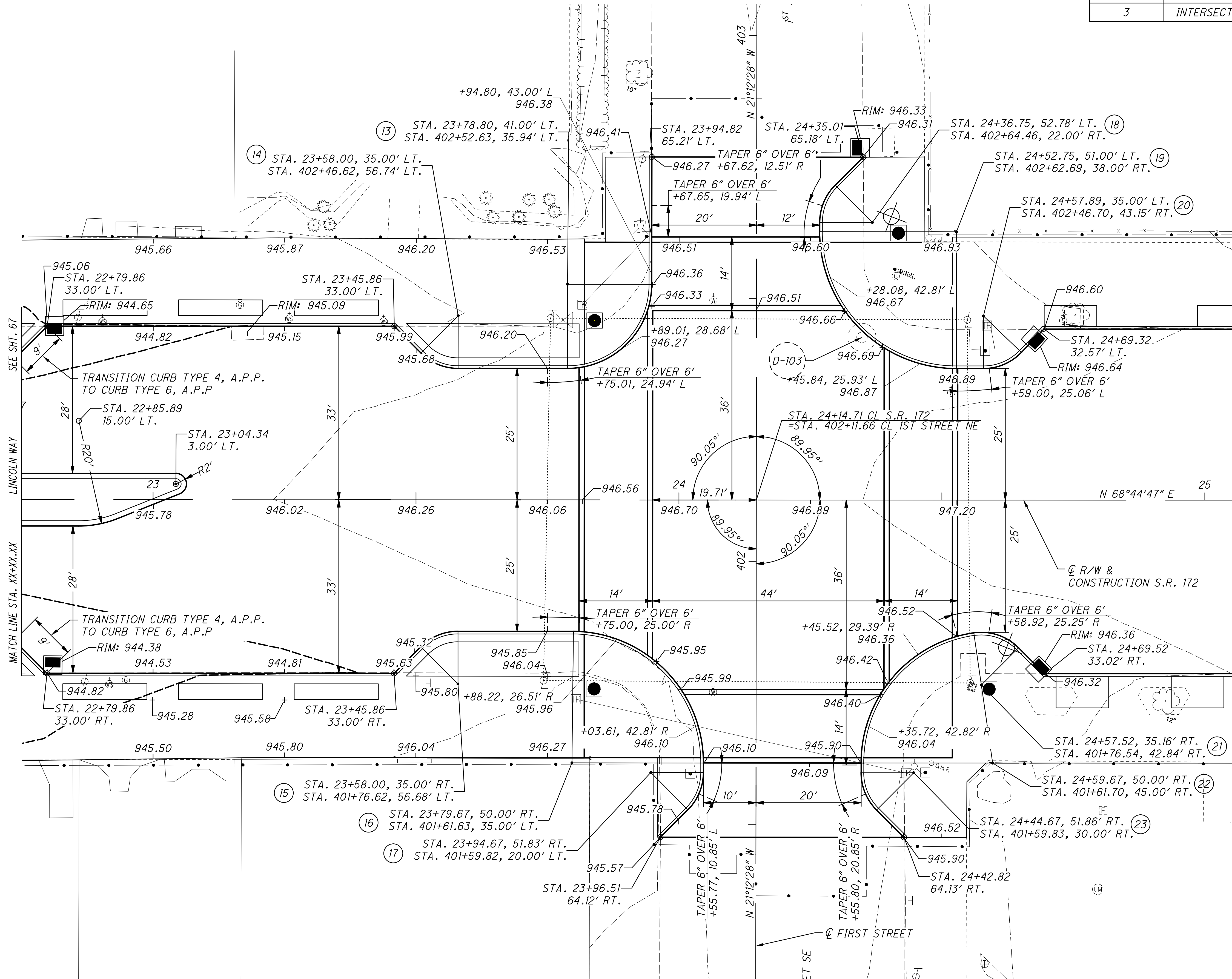
A horizontal scale bar with alternating black and white segments. The total length is marked as 20 feet, with a segment of 5 feet indicated.

JJH
CHECKED
JEL

INTERSECTION DETAILS
LINCOLN WAY AND ERIE STREET

**S.R. 172 LINCOLN WAY
(STA-172-6.44)**

$$\frac{67}{112}$$




CROSS REFERENCES	
SHEET NO.	DESCRIPTION
3	INTERSECTION DETAIL LEGEND

CURVE DATA TABLE FOR RADIUS RETURNS			
CURVE NO.	RADIUS	INTERIOR ANGLE	LENGTH OF CURVE
13	16	89.95	25.12
14	10	45	7.85
15	10	45	7.85
16	25	89.42	39.02
17	10	45	7.75
18	10	45	7.85
19	26	90.05	40.86
20	10	46.06	8.04
21	10	53.25	9.29
22	25	81.7	35.65
23	10	45.17	7.88

N

0

5

10

20

HORIZONTAL

SCALE IN FEET

CALCULATED

JUH

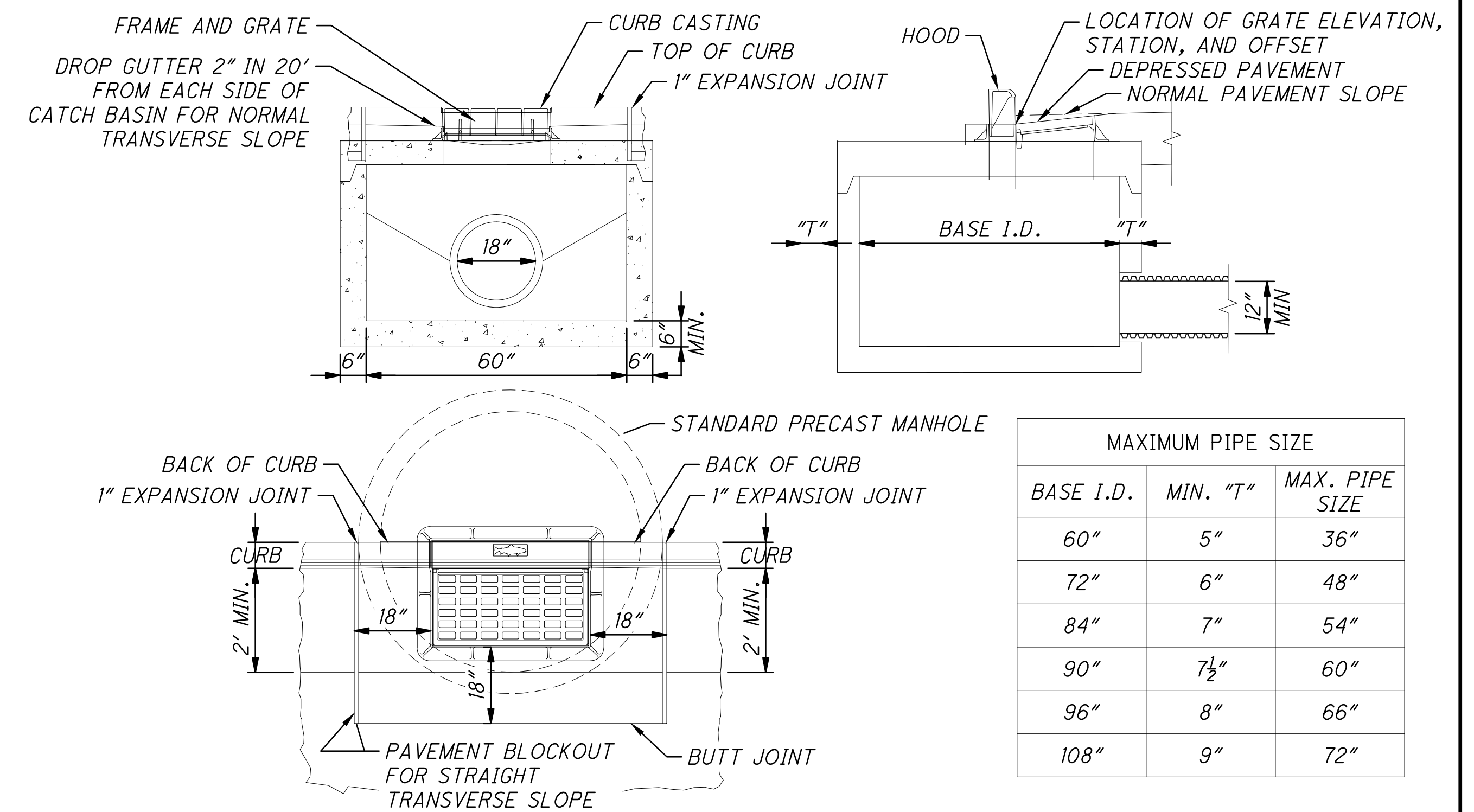
CHECKED

JEL

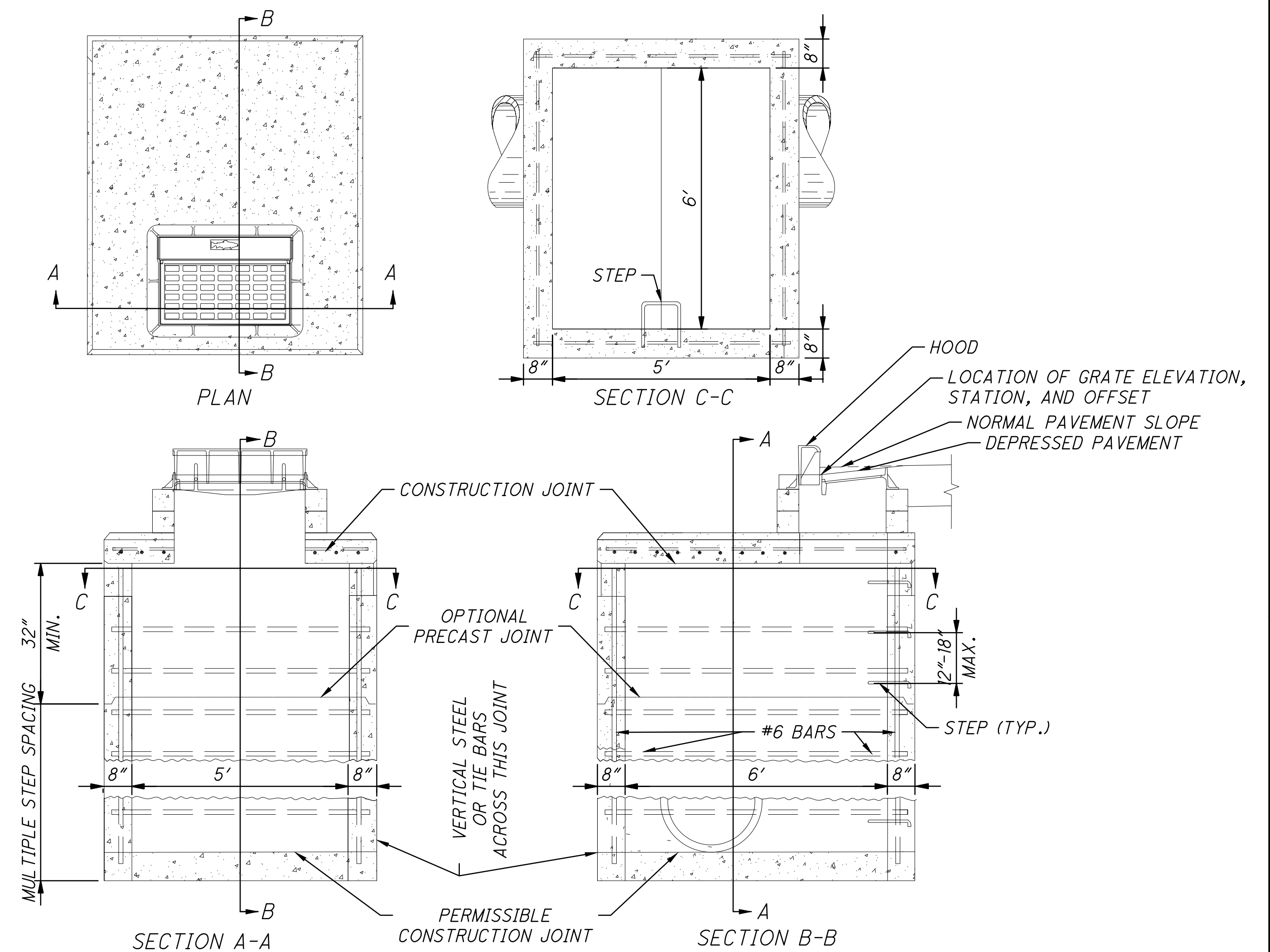
INTERSECTION DETAILS
LINCOLN WAY AND ERIE STREET

S.R. 172 LINCOLN WAY
(STA-172-6.44)

68
112



ITEM 611 - CATCH BASIN NO 3A, AS PER PLAN



ITEM 611 - CATCH BASIN NO 2-6, AS PER PLAN

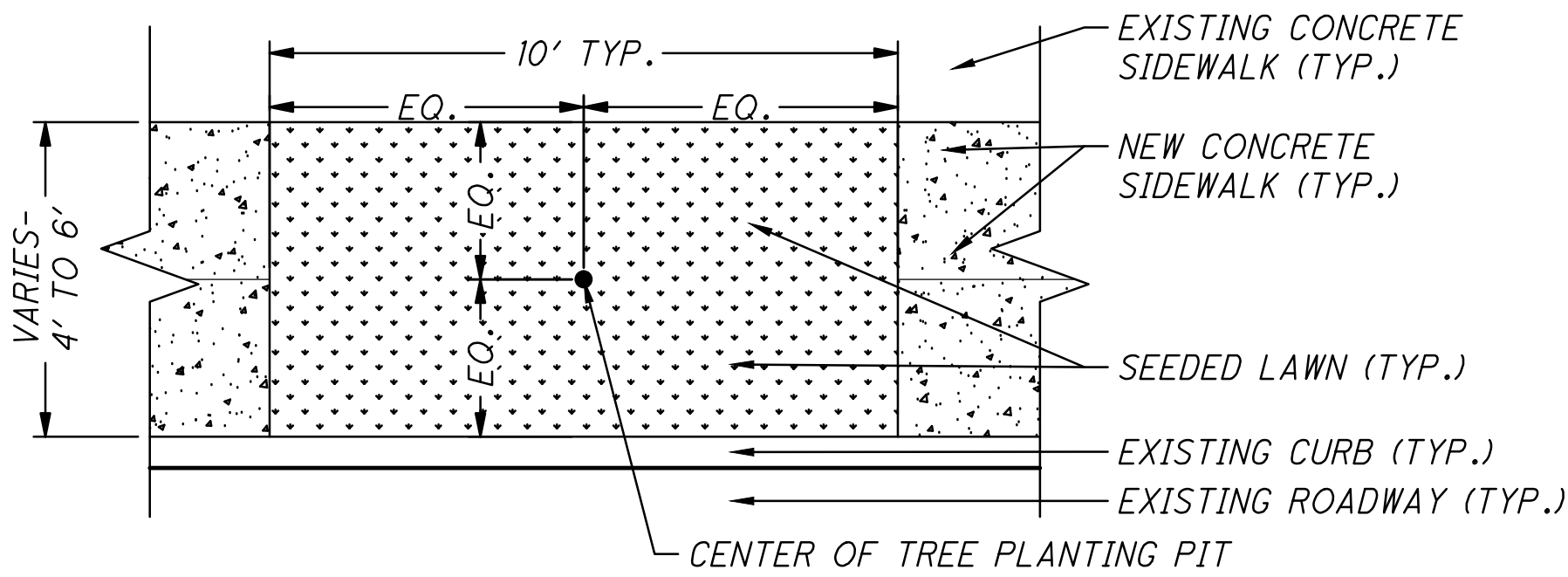
NOTE:
BOTTOM SLAB MAY BE PRECAST SEPARATELY, AND THE OUTLET
PIPE PLACED ON TOP OF IT WITH THE BOTTOM SHAPED TO DRAIN



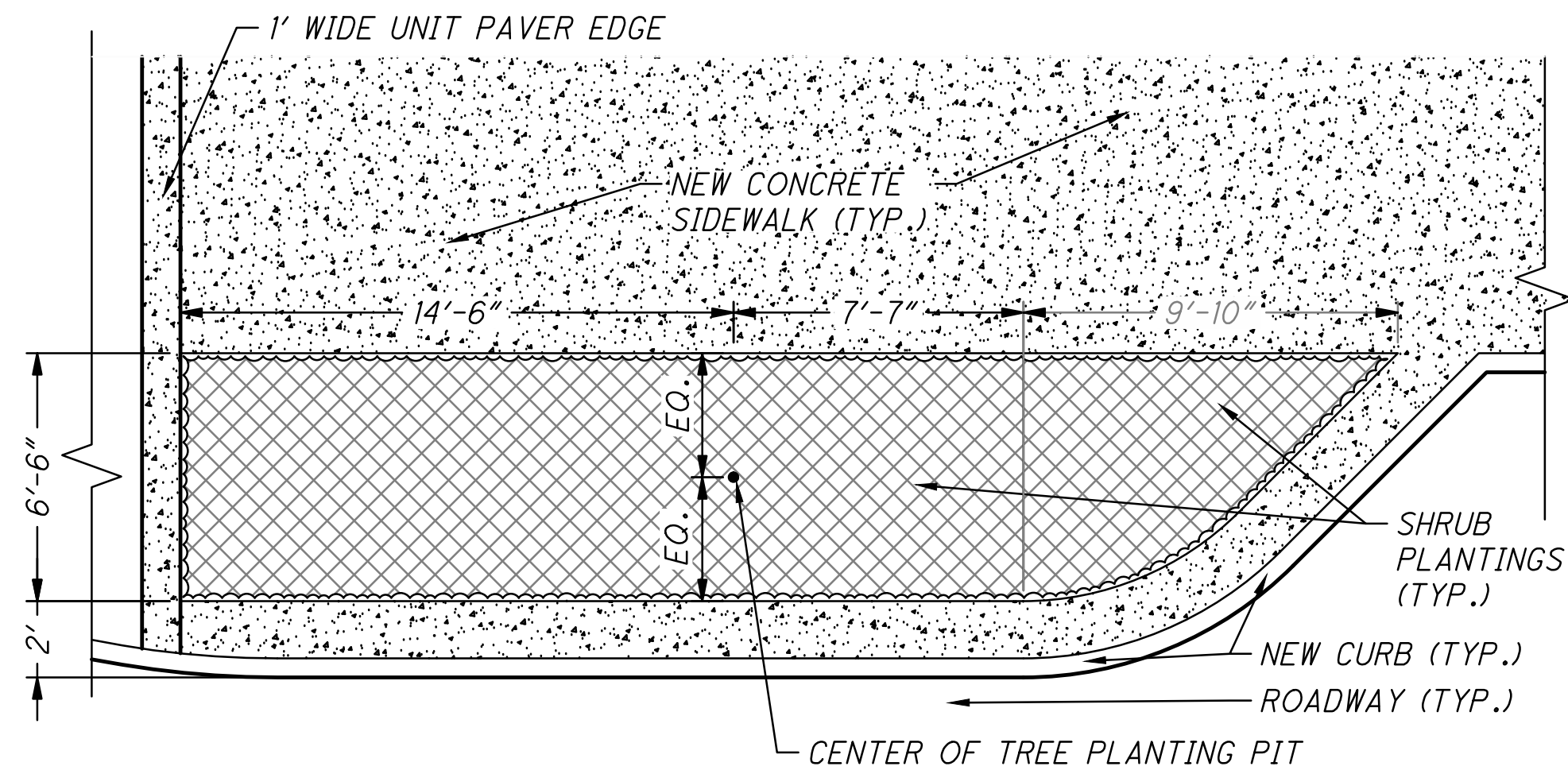
CARRIED TO GENERAL SUMMARY



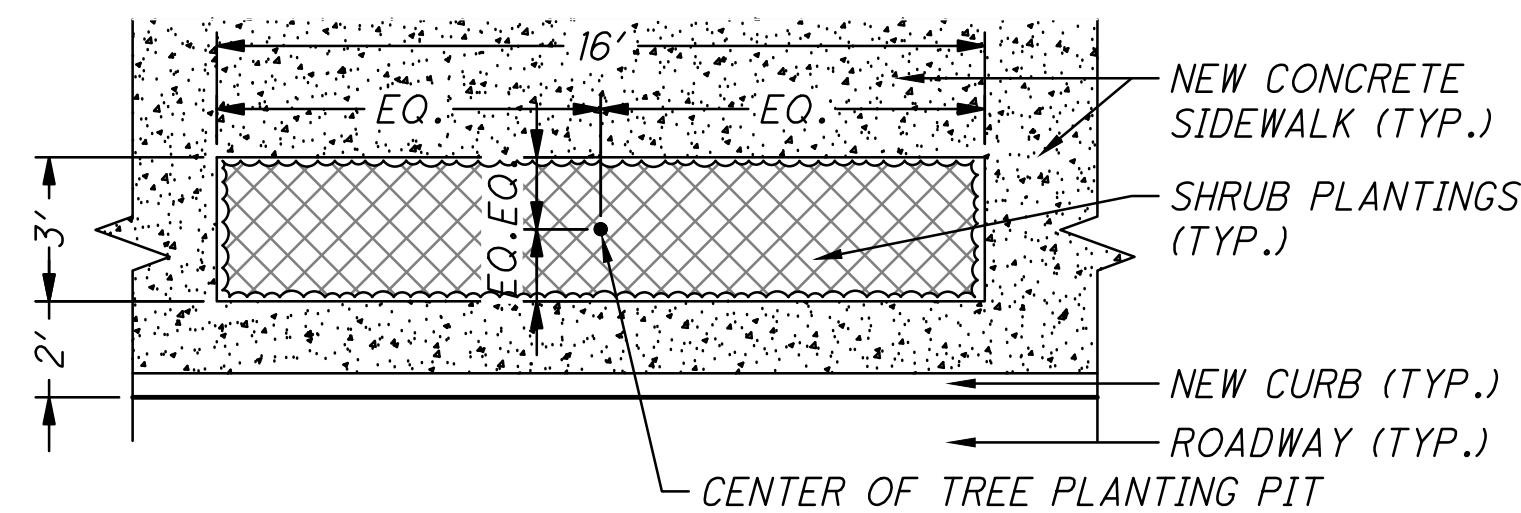
P:\3000_3493\3062170030_Lincoln_Way_STA-172-644\DDOT\PD_104857\Design\Roadway\Sheets\104857_GD002.dwg Sep 25, 2018 5:38pm



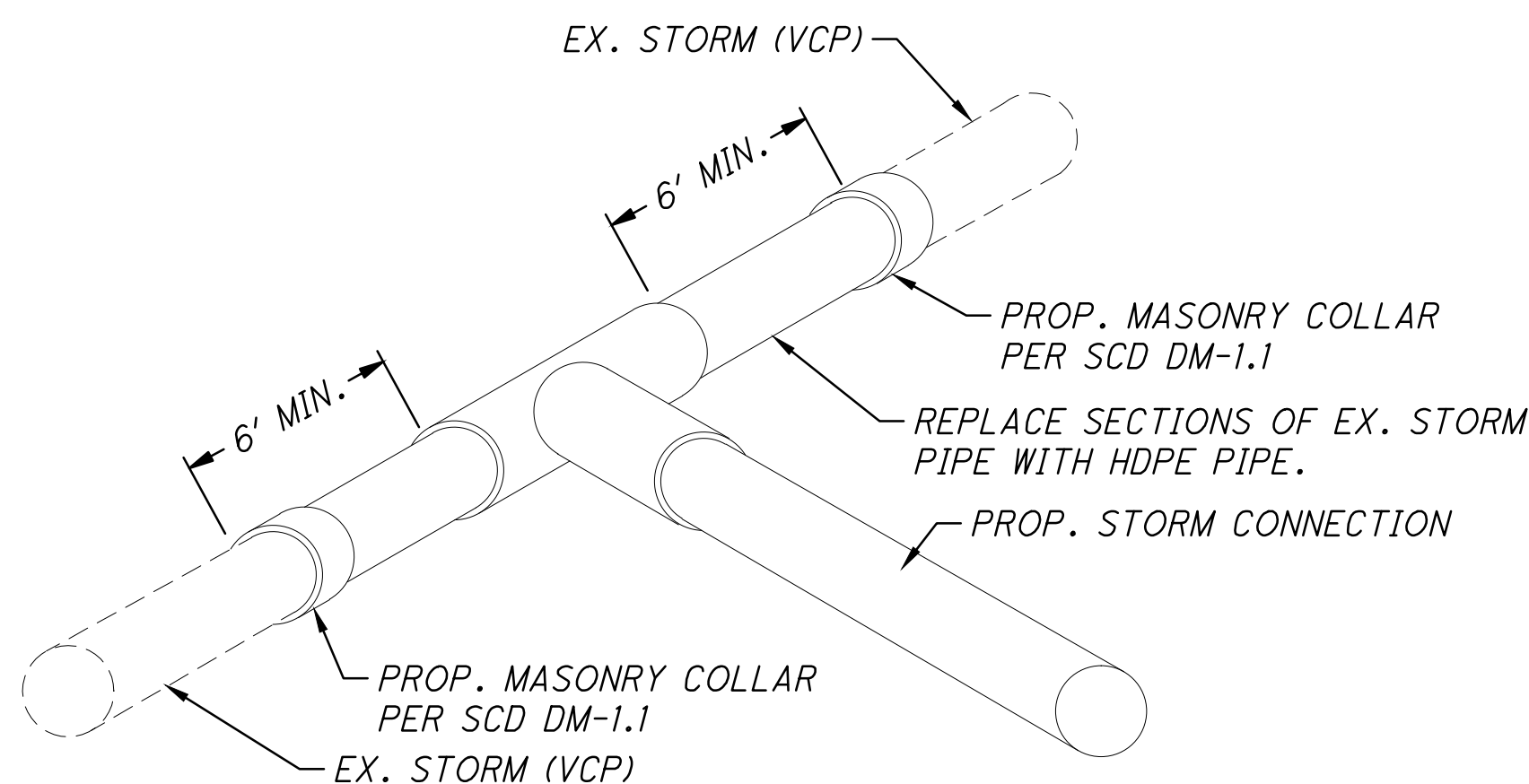
STREET TREE PIT DETAIL (REF. NO. - TP1)



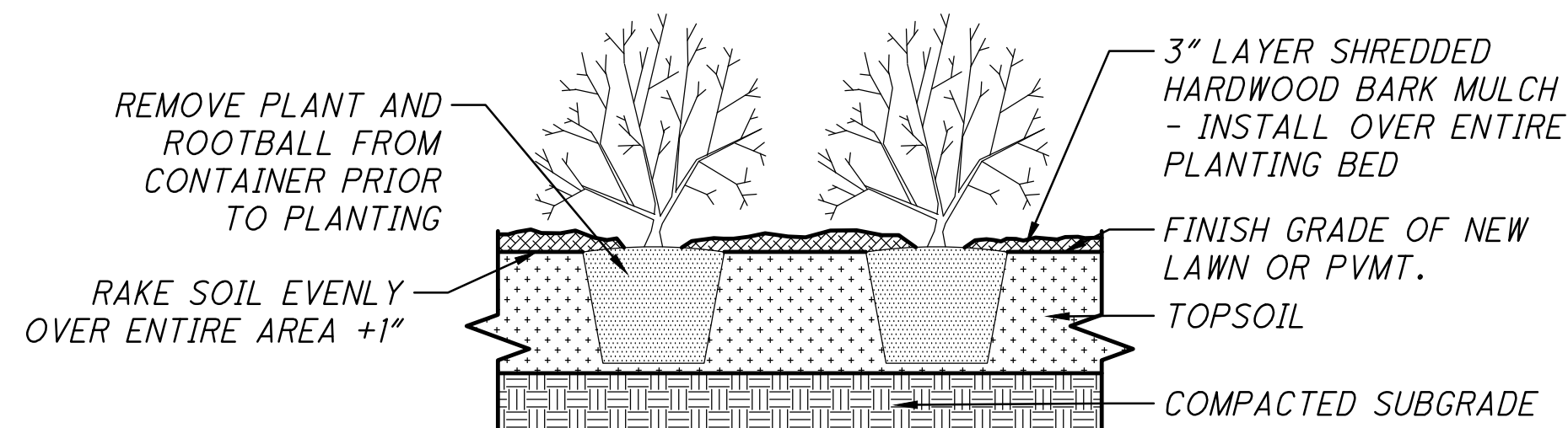
STREET TREE PIT DETAIL (REF. NO. - TP2)



STREET TREE PIT DETAIL (REF. NO. - TP3)



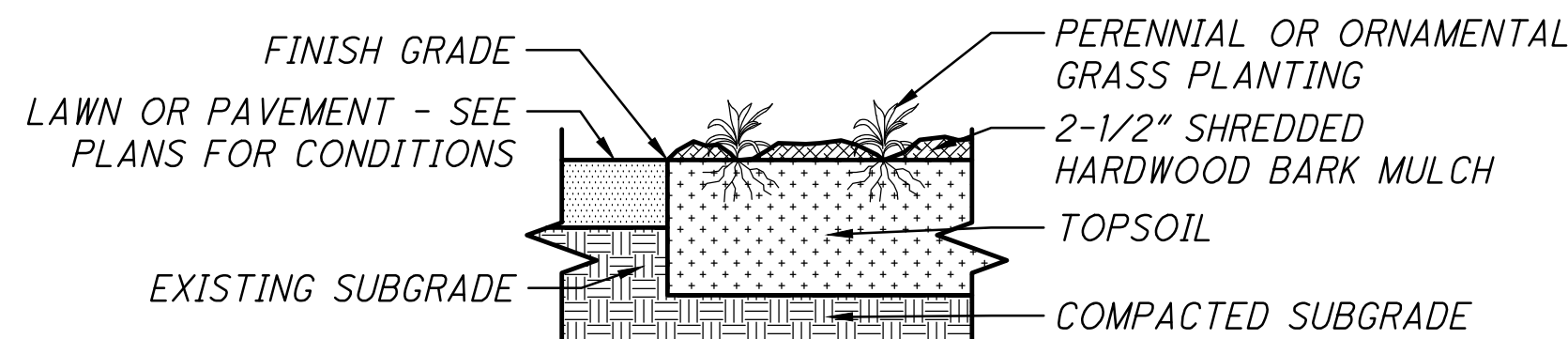
STORM PIPE BLIND TAP DETAIL



NOTES:

1. PRIOR TO INSTALLATION, REMOVE ANY EXISTING LAWN OR OTHER VEGETATION.
2. EXCAVATE & REMOVE 12" MIN. EXISTING SOIL TO ALLOW FOR INSTALLATION OF PROPOSED SHRUB ROOTBALL.
3. SET SHRUB SO IT BEARS THE SAME RELATION TO THE FINISH GRADE AS IT DID TO THE NATURAL GRADE AT THE NURSERY.
4. BACKFILL AROUND SHRUB WITH TOPSOIL AND "WATER-IN" BACKFILL IN LAYERS TO SETTLE BACKFILL. INSTALL BACKFILL 1" HIGHER THAN SURROUNDING GRADE TO ALLOW FOR SETTLEMENT.

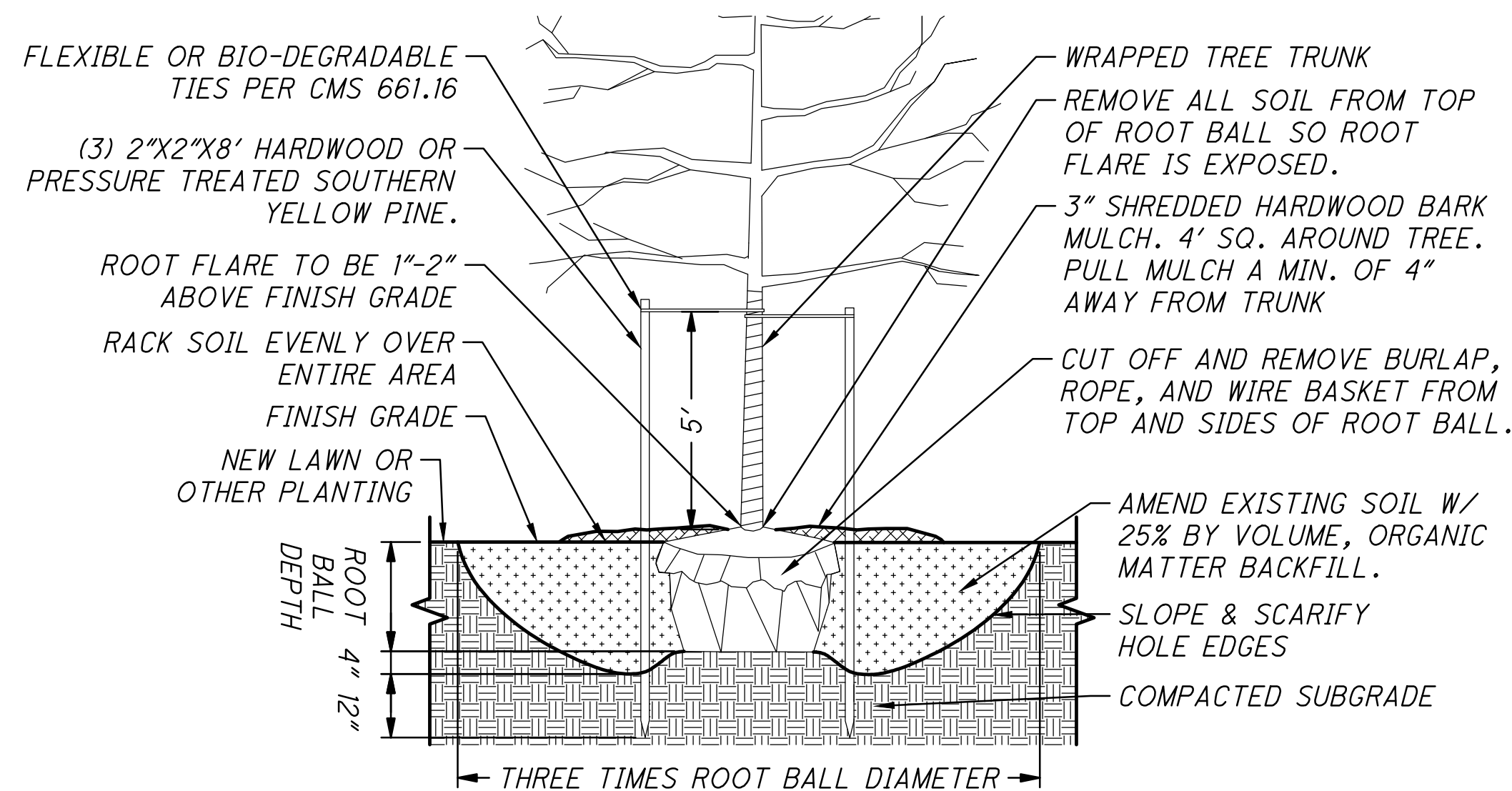
ITEM 661 - SHRUB PLANTING DETAIL



NOTES:

1. PRIOR TO INSTALLATION, REMOVE ALL EXISTING LAWN OR OTHER VEGETATION.
2. REMOVE TOP 12" OF EXISTING SOIL.
3. SPREAD 2" DEEP LAYER OF DECOMPOSED LEAF MULCH, AND TILL INTO TOP 4" OF EXISTING SUBGRADE.
4. SPREAD AND "WATER-IN" PLANTING SOIL. DEPTH SHALL BE 12", AFTER WATERING-IN.
5. SET ALL PLANTS IN TOPSOIL OR SO THEY BEAR THE SAME RELATION TO THE FINISH GRADE AS THEY DID TO THE NATURAL GRADE AT THE NURSERY.

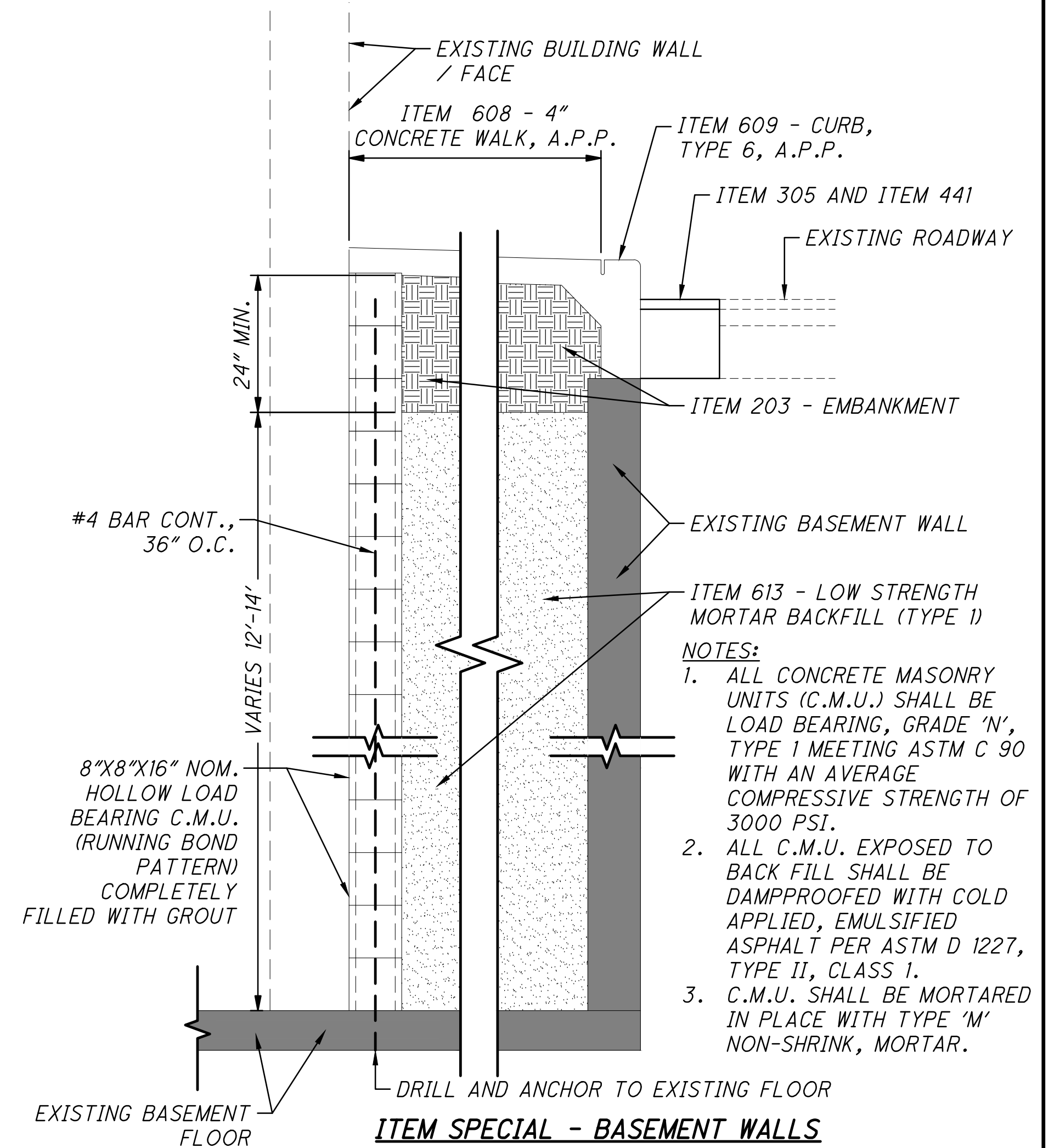
ITEM 661 - ORNAMENTAL GRASS AND PERENNIAL PLANTING DETAIL



NOTES:

1. SET ALL PLANTS SO THAT THEY BEAR THE SAME RELATION TO THE FINISH GRADE AS THEY DID IN THEIR PRIOR LOCATION.
2. THOROUGHLY TILL AREA EQUAL TO 3 TIMES THE DIAMETER OF THE ROOT BALL AND TO THE DEPTH OF THE ROOT BALL. PRIOR TO TILLING, REMOVE ANY EXISTING LAWN OR VEGETATION.
3. ALL PLANT MATERIALS SHALL BE IN ACCORDANCE WITH THE AMERICAN STANDARDS FOR NURSERY STOCK (ANSI Z60.1).
4. HANDLE THE TREE BY ROOT BALL ONLY. DO NOT LIFT OR LEVERAGE TREE BY TREE TRUNK.
5. BACKFILL AROUND TREE WITH TILLED SOIL AND "WATER IN" BACKFILL IN 6" LIFTS TO SETTLE IN BACKFILL. INSTALL BACKFILL 1" HIGHER THAN SURROUNDING GRADE TO ALLOW FOR SETTLEMENT.
6. PRUNING SHALL BE LIMITED TO DEAD, DISEASED, OR BROKEN LIMBS ONLY, AND SHALL BE IN ACCORDANCE WITH ANSI SPECIFICATIONS.
7. REMOVE STAKES AND ARBOR TIES AFTER ONE YEAR, UNLESS DIRECTED OTHERWISE.

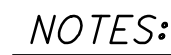
ITEM 661 - DECIDUOUS TREE PLANTING DETAIL



NOTES:

1. ALL CONCRETE MASONRY UNITS (C.M.U.) SHALL BE LOAD BEARING, GRADE 'N', TYPE I MEETING ASTM C 90 WITH AN AVERAGE COMPRESSIVE STRENGTH OF 3000 PSI.
2. ALL C.M.U. EXPOSED TO BACK FILL SHALL BE DAMPPROOFED WITH COLD APPLIED, EMULSIFIED ASPHALT PER ASTM D 1227, TYPE II, CLASS I.
3. C.M.U. SHALL BE MORTARED IN PLACE WITH TYPE 'M' NON-SHRINK, MORTAR.

ITEM SPECIAL - BASEMENT WALLS



ITEM 451 - 10" REINFORCED CONCRETE PAVEMENT, CLASS QC1, AS PER PLAN



ITEM 609 - CURB TYPE 4-C, AS PER PLAN



ITEM 609 - CURB TYPE 8, AS PER PLAN



ITEM 609 - CURB, TYPE 6, AS PER PLAN



- NOTES:

ITEM SPECIAL - UNIT PAVERS
TYPE 2 (PEDESTRIAN)



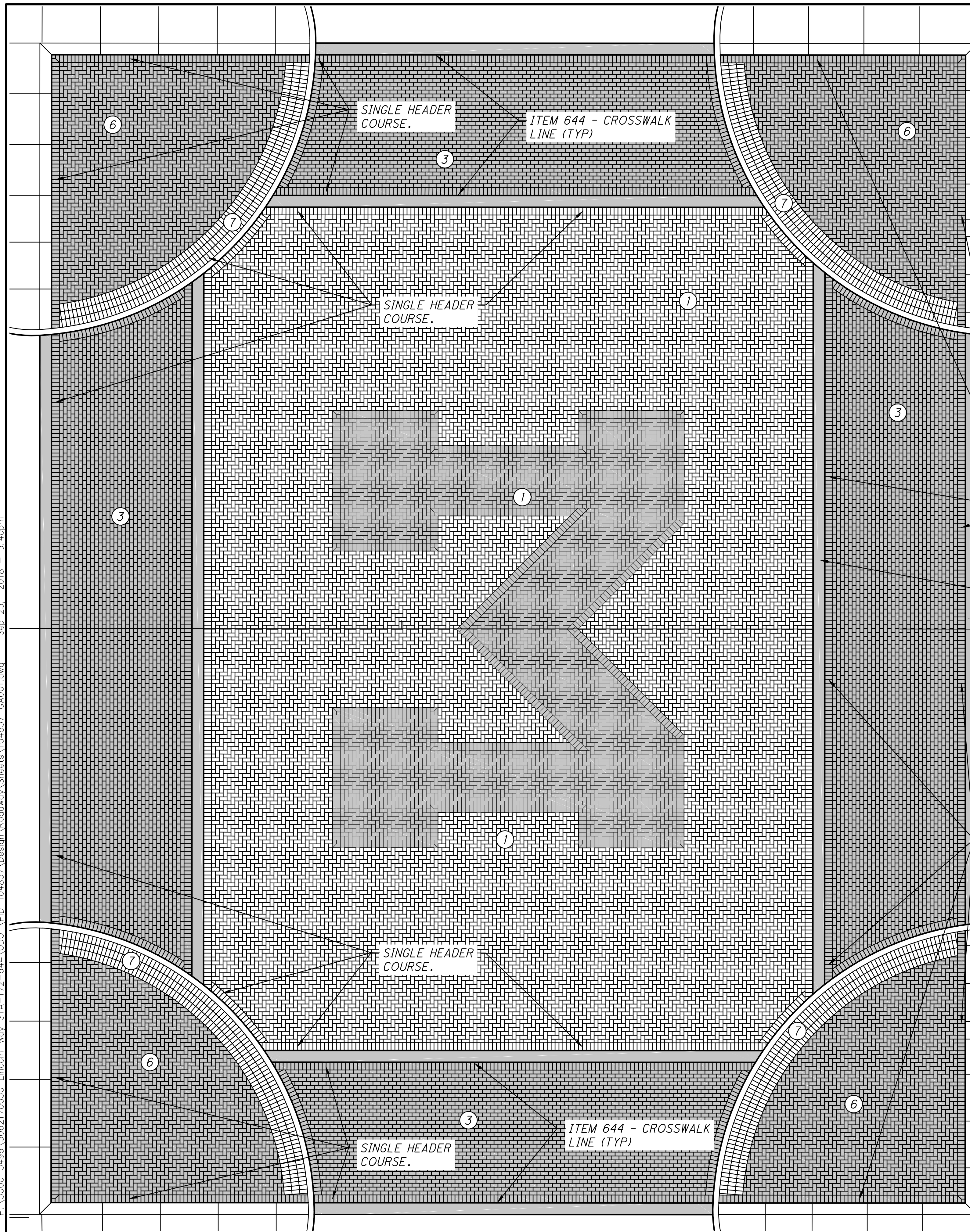
- NOTES:

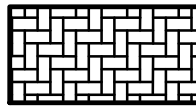
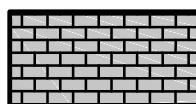
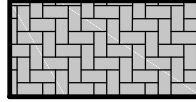
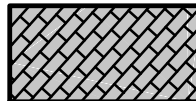
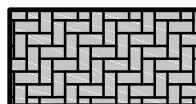
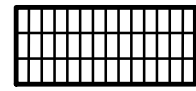
ITEM SPECIAL - UNIT PAVERS TYPE 1 (ROADWAY)



- NOTES:

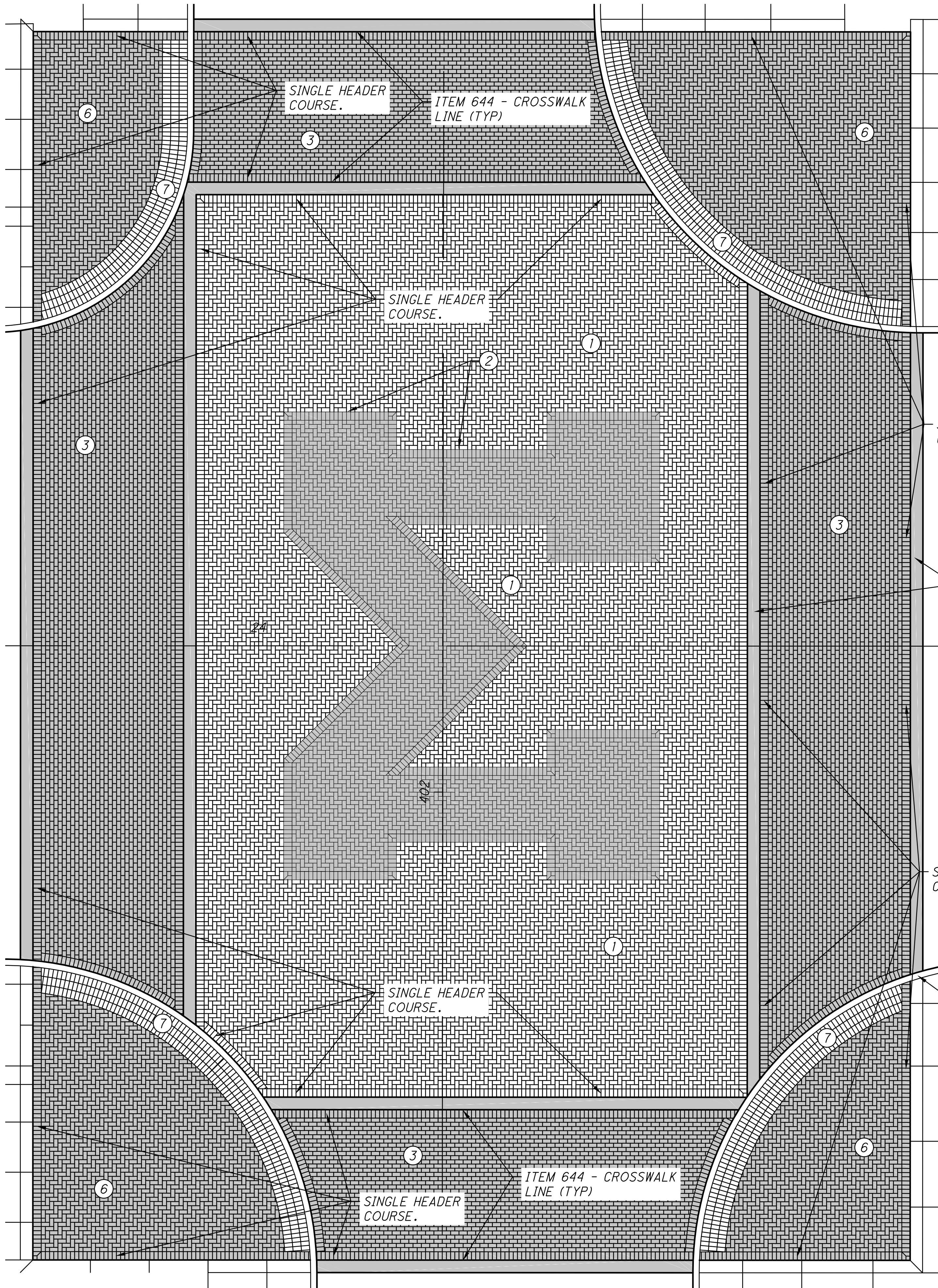
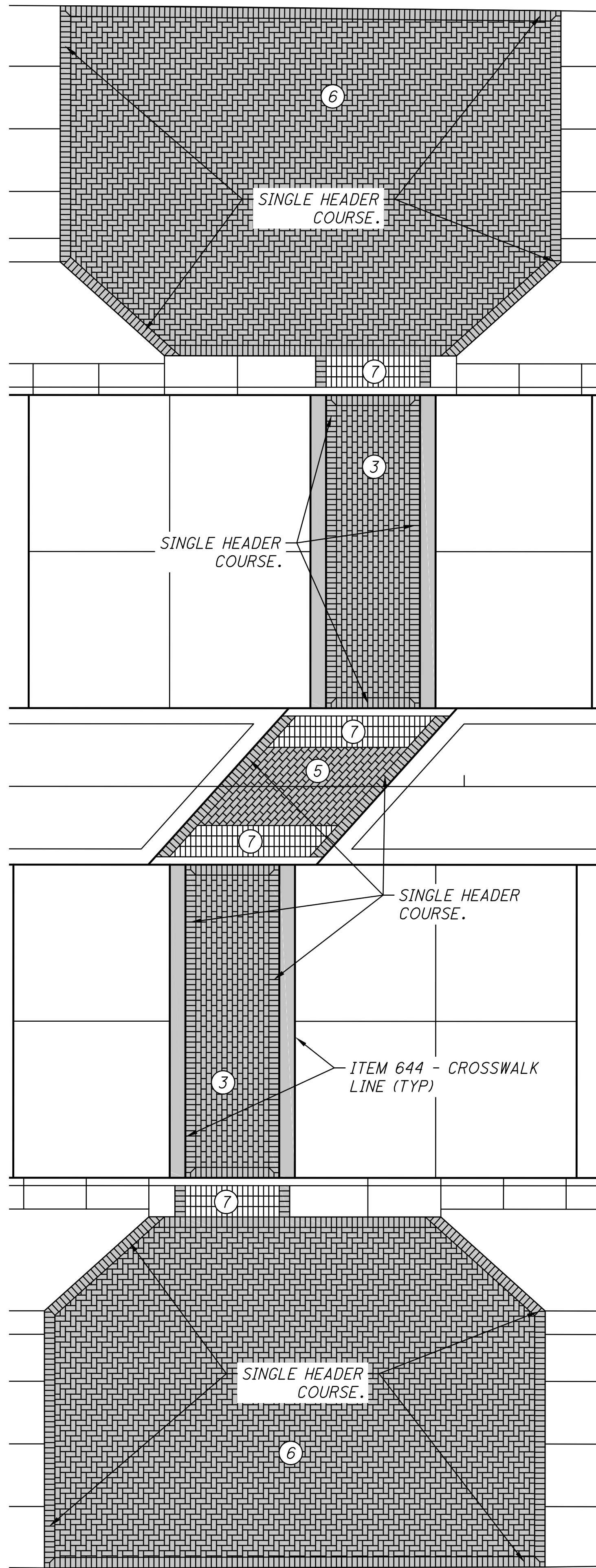
ITEM SPECIAL - UNIT PAVERS TYPE 3 (ADA)



PATTERN	KEY	TYPE	PAVER	SIZE	PATTERN	COLOR
	①	1	BELDEN BRICK "CITY LINE" CHAMFERED EDGE WITH LUGS	4"x8" NOM.	HERRINGBONE WITH SINGLE HEADER COURSE	WHEATFIELD
	②	1	BELDEN BRICK "CITY LINE" CHAMFERED EDGE WITH LUGS	4"x8" NOM.	HERRINGBONE WITH SINGLE HEADER COURSE	FERRO BLACK
	③	1	BELDEN BRICK "CITY LINE" CHAMFERED EDGE WITH LUGS	4"x8" NOM.	RUNNING BOND WITH SINGLE HEADER COURSE	80% FULL RANGE ADMIRAL 20% NUTMEG
	④	1	BELDEN BRICK "CITY LINE" CHAMFERED EDGE WITH LUGS	4"x8" NOM.	HERRINGBONE WITH SINGLE HEADER COURSE	80% FULL RANGE ADMIRAL 20% NUTMEG
	⑤	2	BELDEN BRICK "CITY LINE" CHAMFERED EDGE WITH LUGS	4"x8" NOM.	RUNNING BOND WITH SINGLE HEADER COURSE	80% FULL RANGE ADMIRAL 20% NUTMEG
	⑥	2	BELDEN BRICK "CITY LINE" CHAMFERED EDGE WITH LUGS	4"x8" NOM.	HERRINGBONE WITH SINGLE HEADER COURSE	80% FULL RANGE ADMIRAL 20% NUTMEG
	⑦	3	BELDEN BRICK "CITY LINE" CHAMFERED EDGE ADA	4"x8" NOM.	TRIPLE STACKED BOND	WHEATFIELD



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CROSS REFERENCES	
SHEET NO.	DESCRIPTION
73	PAVER LEGEND

74

112

S.R. 172 LINCOLN WAY

(STA-172-6.44)

CALCULATED

JUH

CHECKED

JEL

MATERIAL INTERSECTION DETAIL

MID-BLOCK CROSSING AND 1ST STREET E

0

5

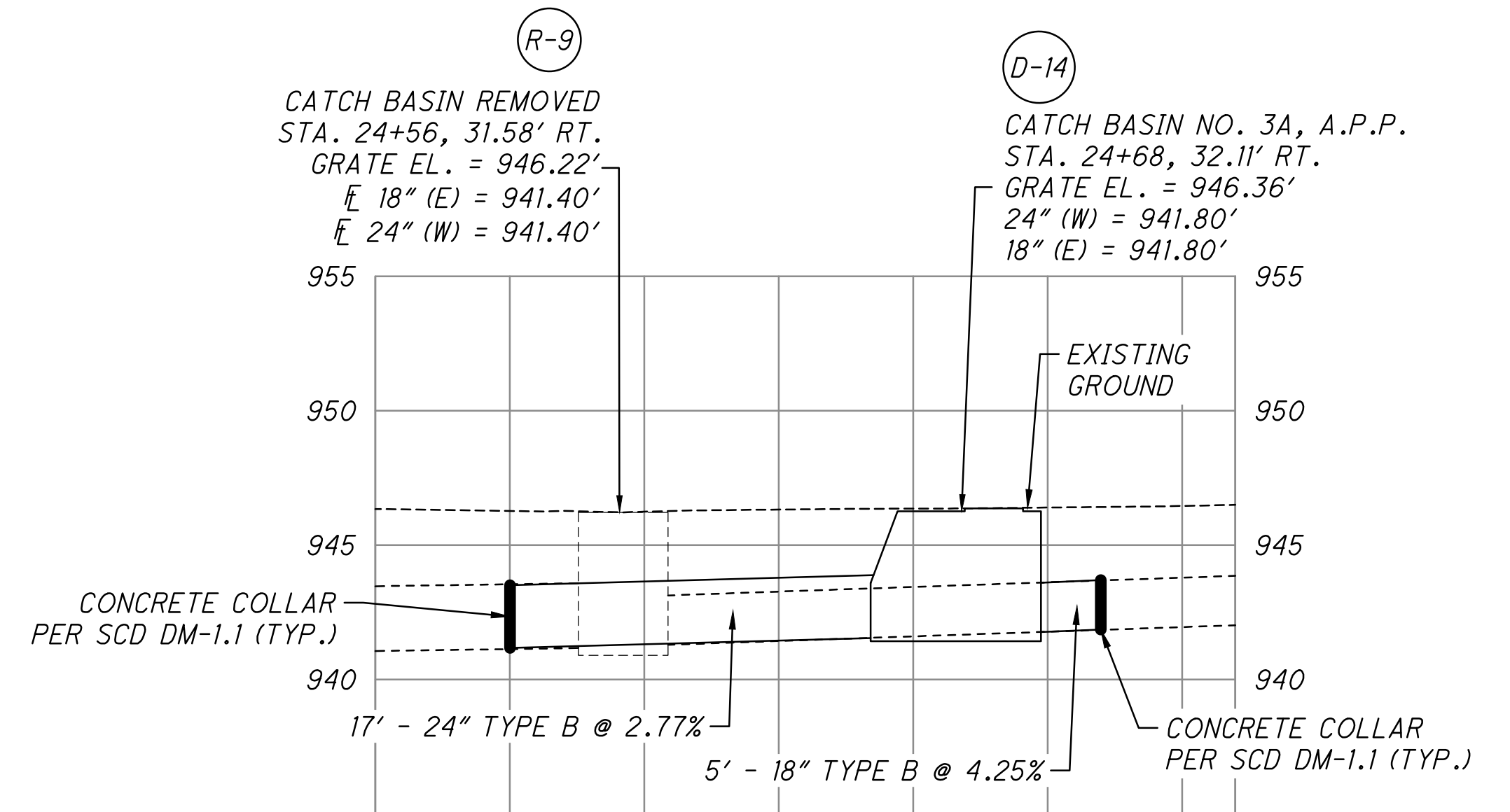
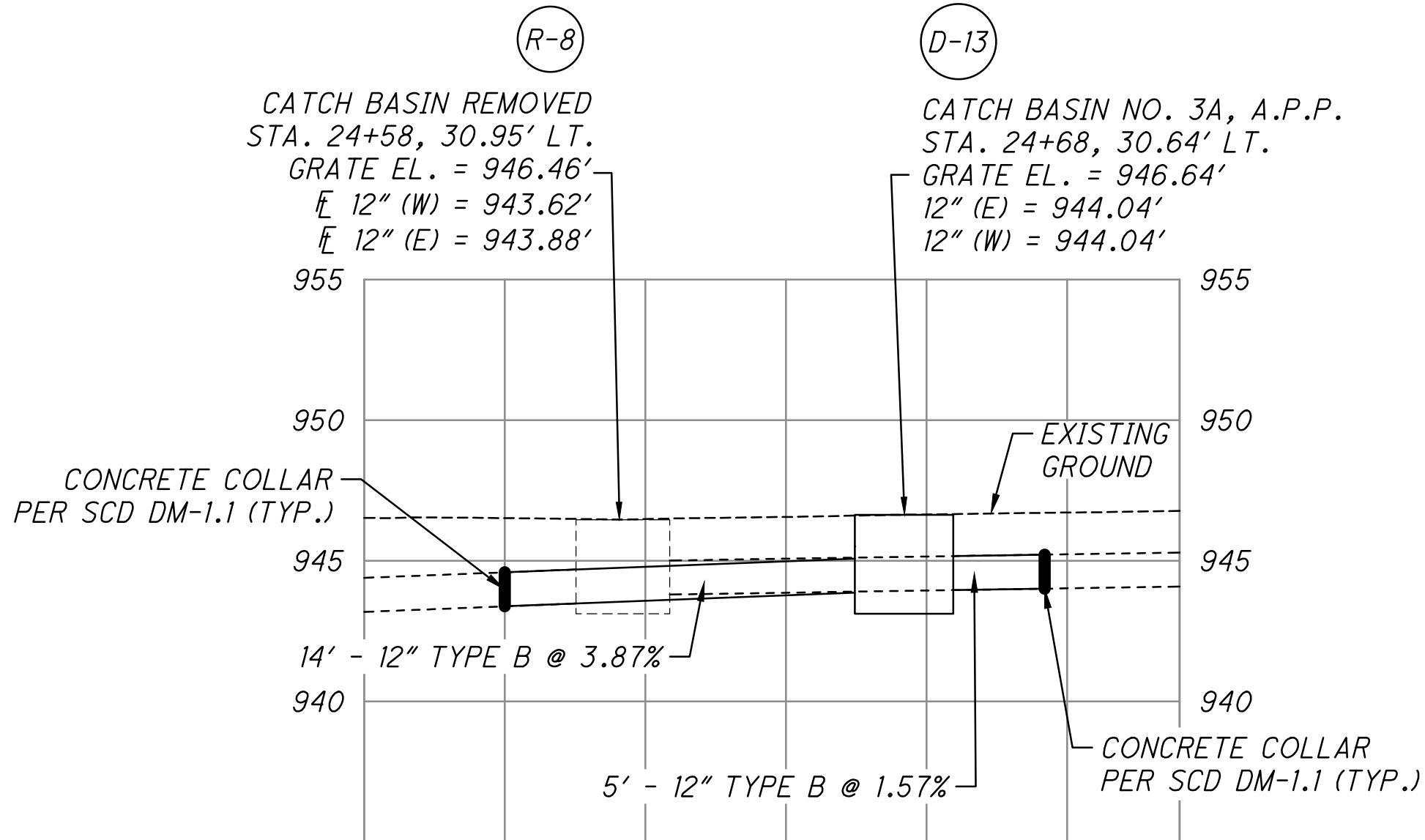
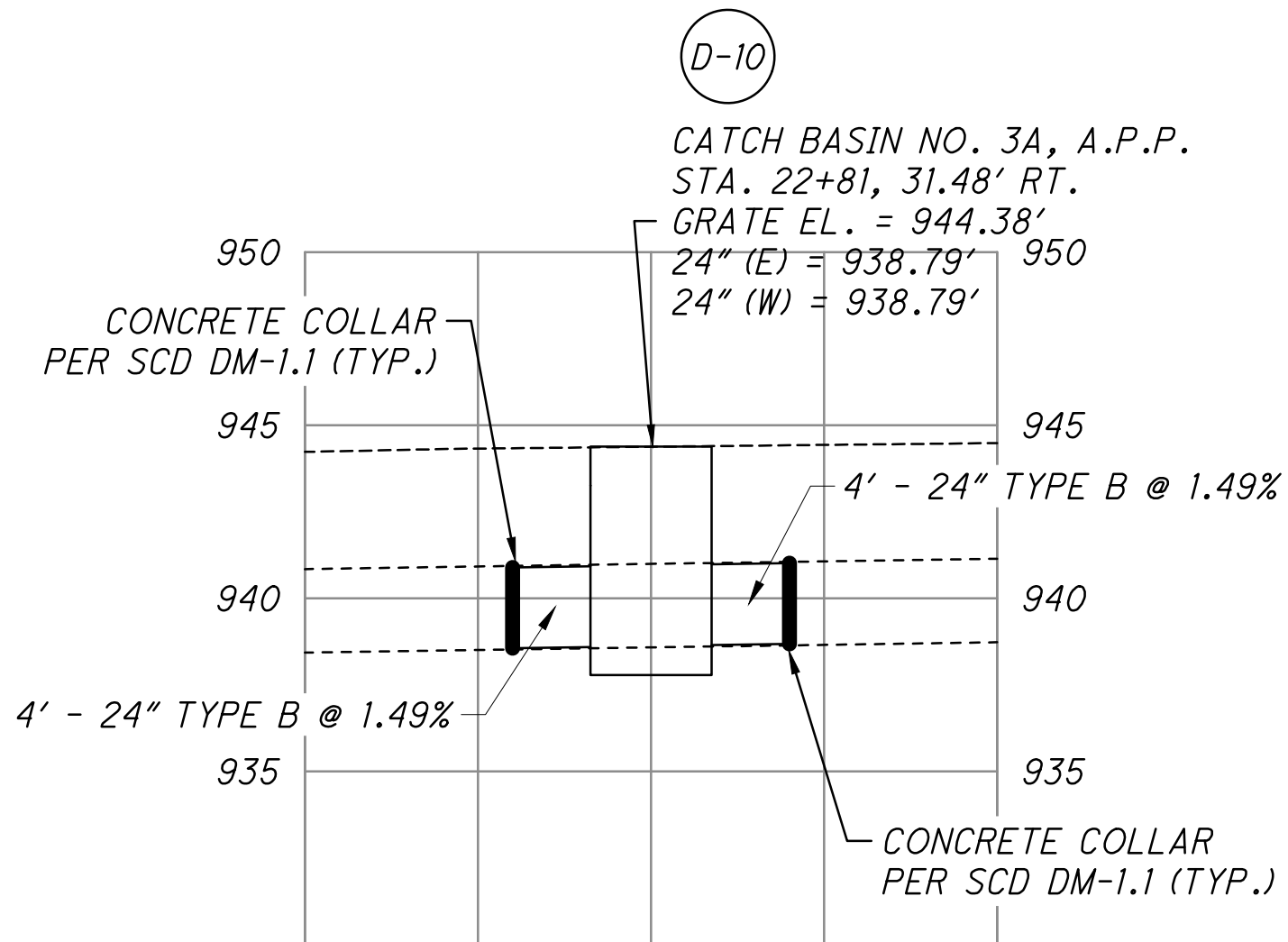
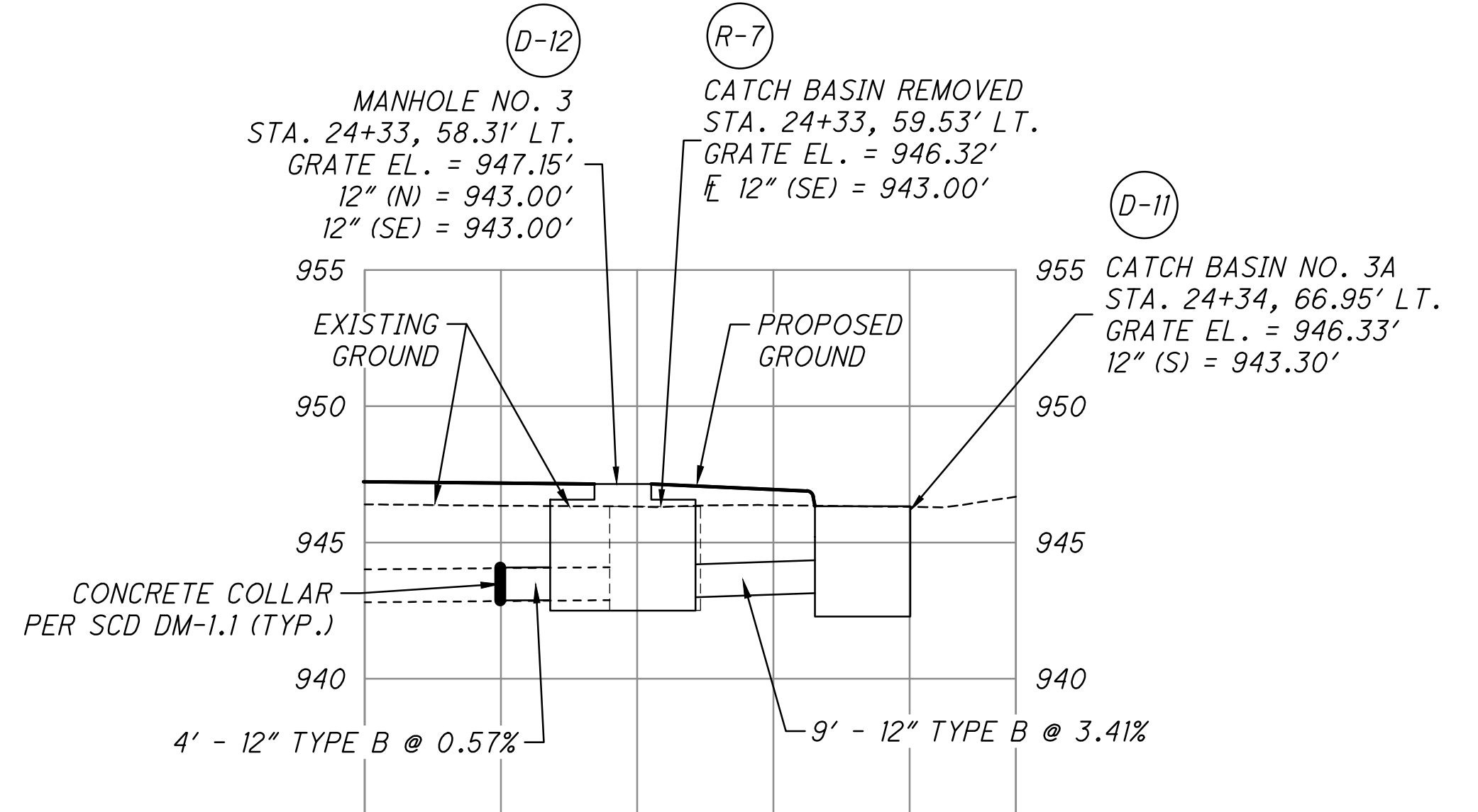
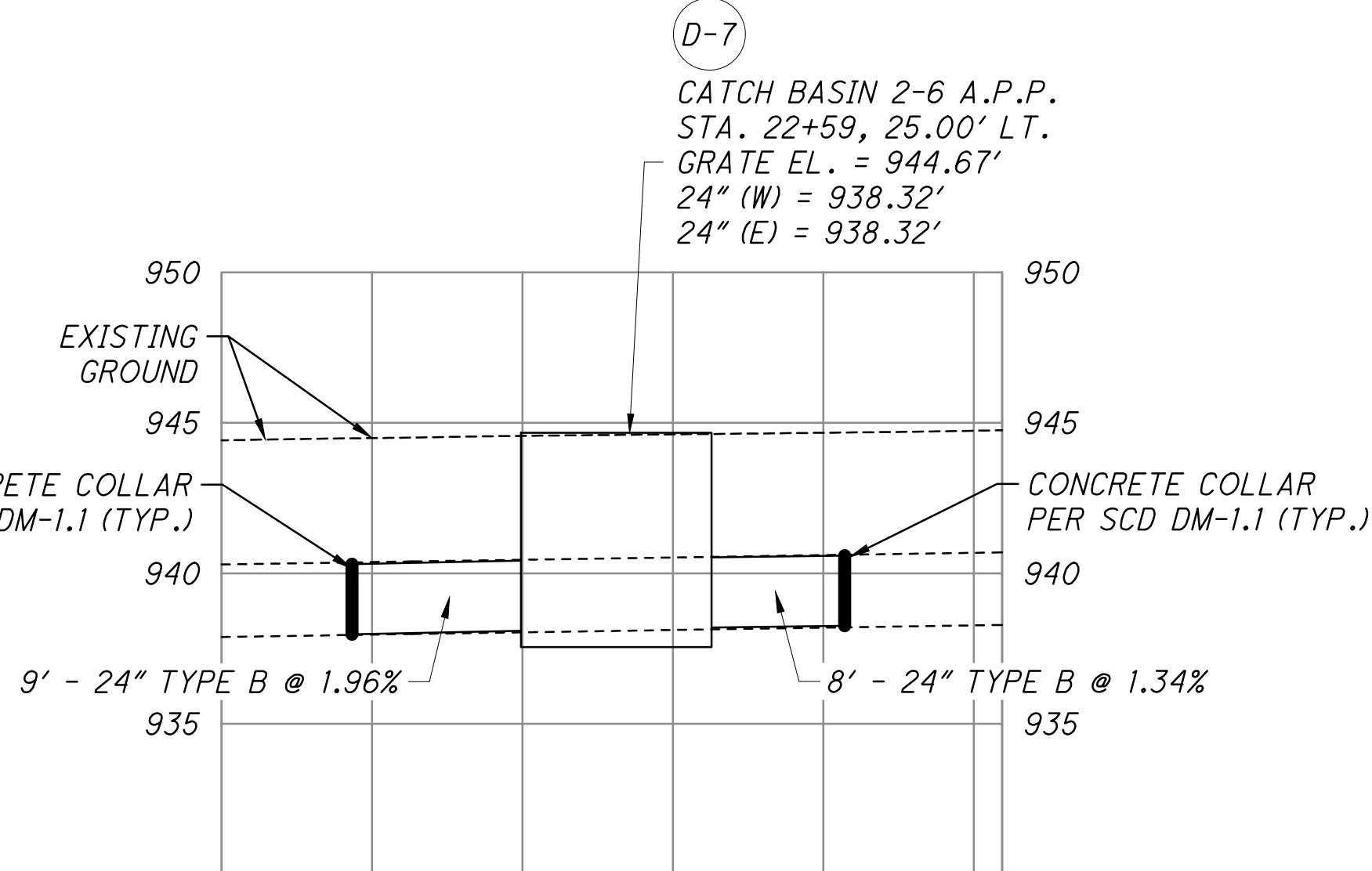
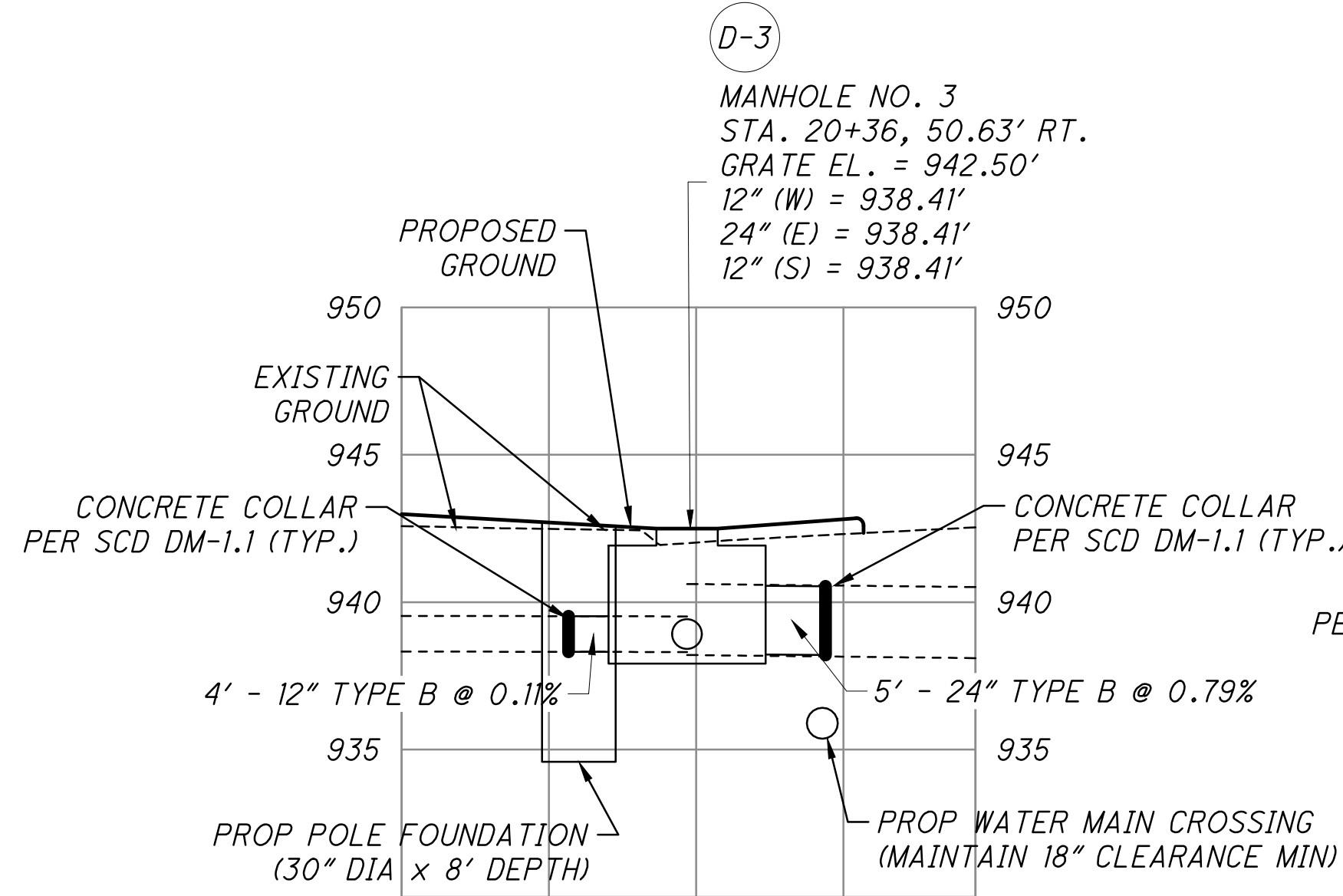
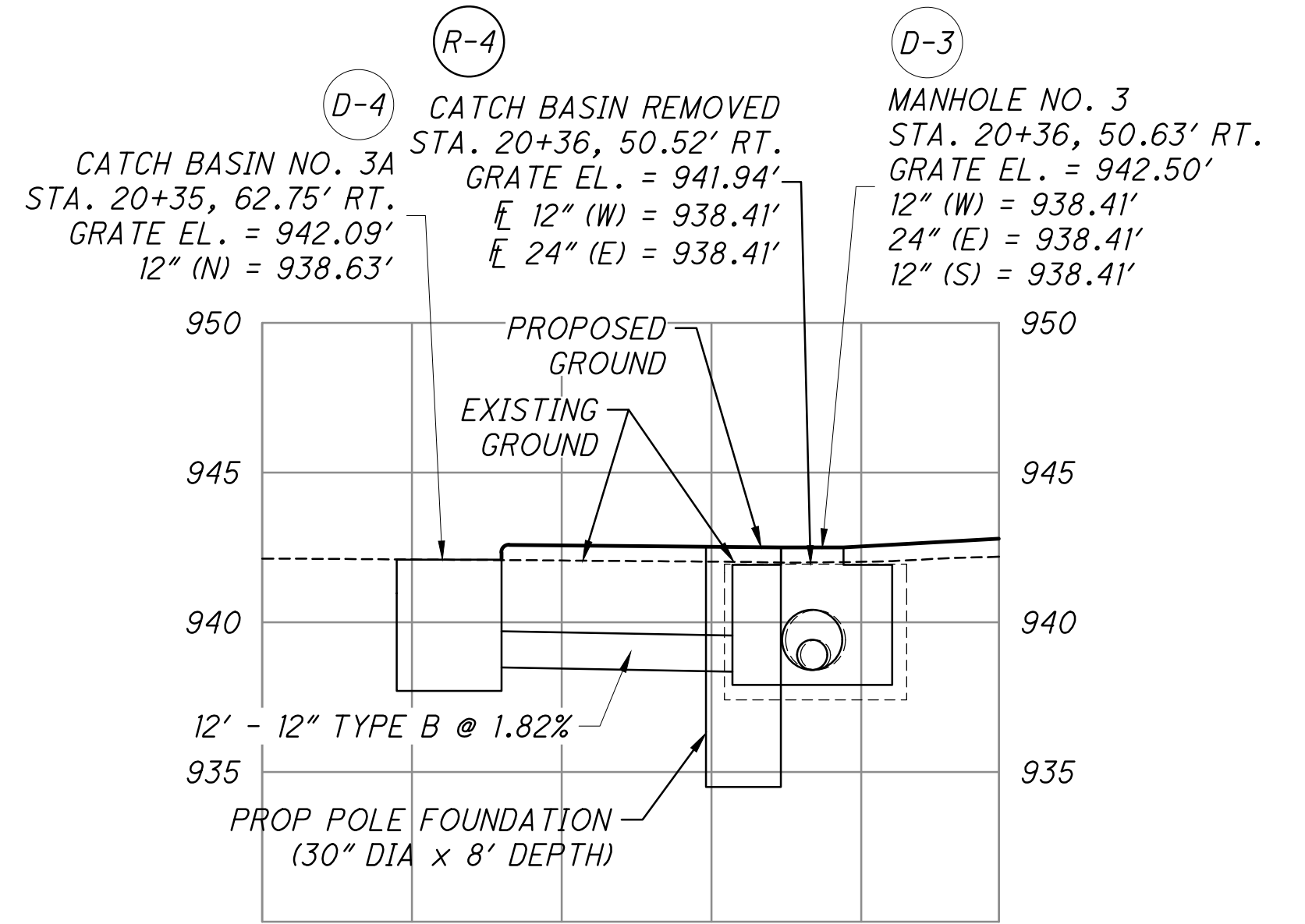
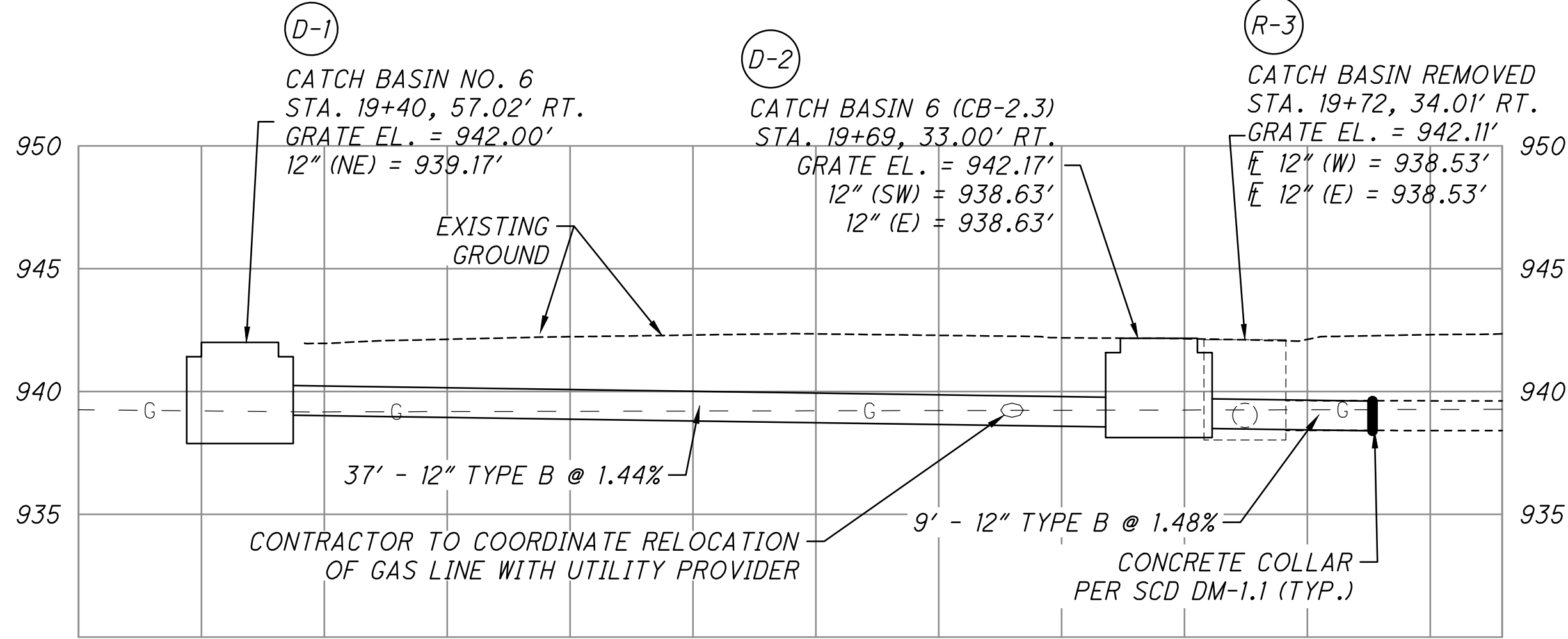
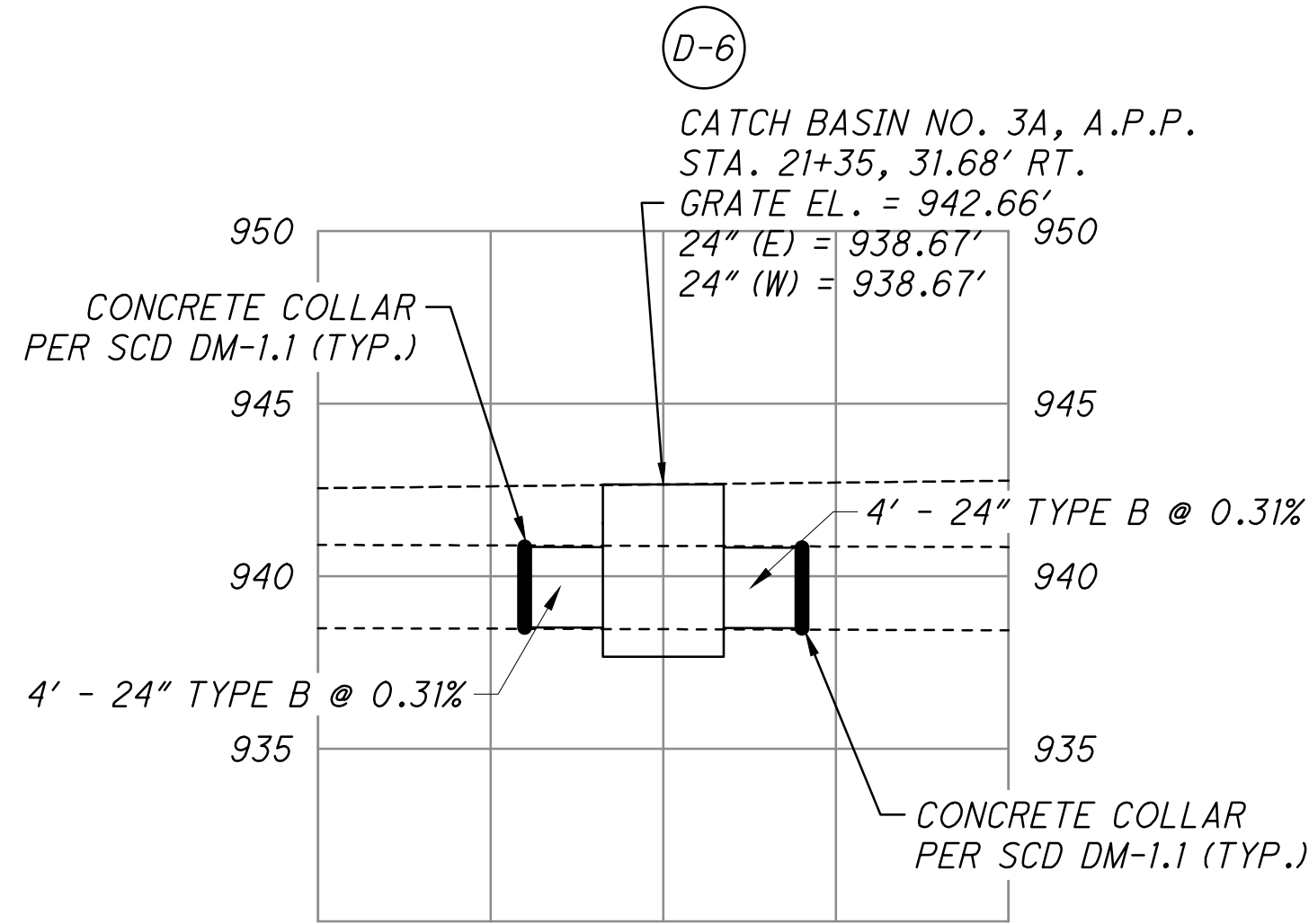
10

2.5'

HORIZONTAL SCALE IN FEET

N

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CALCULATED
JUH
CHECKED
JEL

STORM SEWER PROFILES
STA. 19+75 TO STA. 25+25

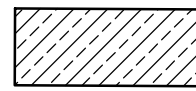
S.R. 172 LINCOLN WAY
(STA-172-6.44)

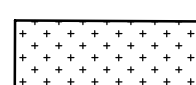
75
112

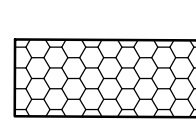
WATER MAIN IMPROVEMENTS LEGEND

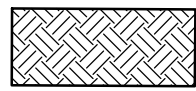
XXXXXXX EXISTING WATER MAIN TO BE ABANDONED
PER AQUA DETAILS SEE SHEETS 82-84

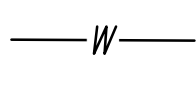
XXXXXXXXXXXXXXXXXXXX EXISTING WATER SERVICE TO BE
ABANDONED/REMOVED PER AQUA DETAILS
SEE SHEETS 82-84

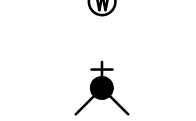
 WATER MAIN TRENCH REPAIR, TYPE 1
(SEE DETAIL SHEET 85)

 WATER MAIN TRENCH REPAIR, TYPE 2
(SEE DETAIL SHEET 85)

 WATER MAIN TRENCH REPAIR, TYPE 3
(SEE DETAIL SHEET 85)

 PROPOSED WATER MAIN

 PROPOSED GATE VALVE

 PROPOSED FIRE HYDRANT

WATER MAIN LABELS

WM-### PROP WATERMAIN

WS-### PROP WATER SERVICE LINE

WH-### PROP WATER HYDRANT

WV-### PROP WATER VALVE

WW-### PROP WATER WORK ITEM

WJ-### EX WATER WORK ITEM (ADJ TO GRADE)

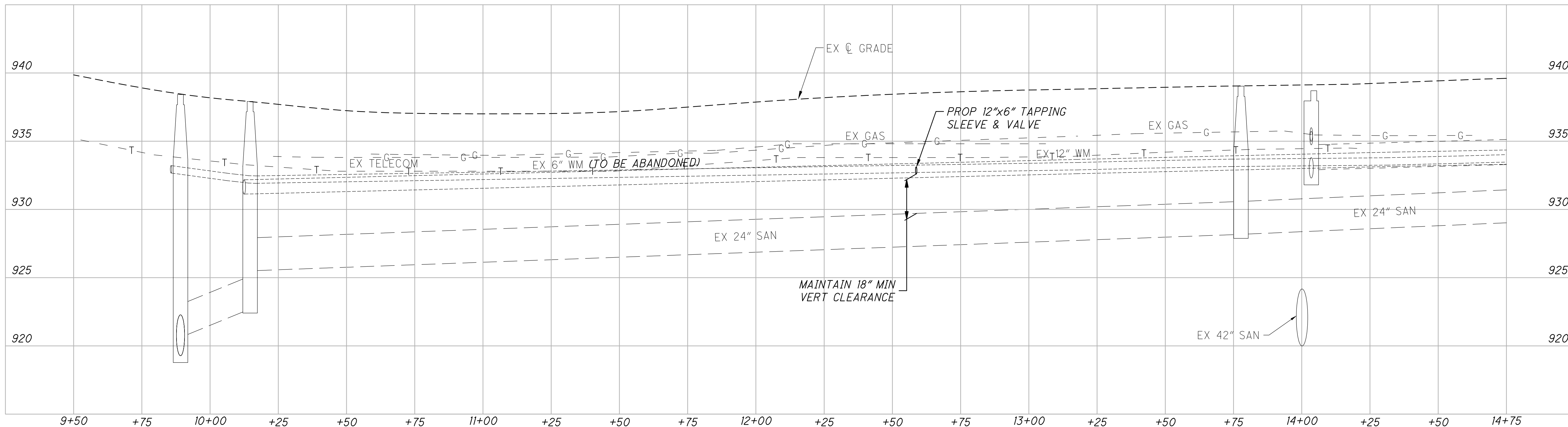
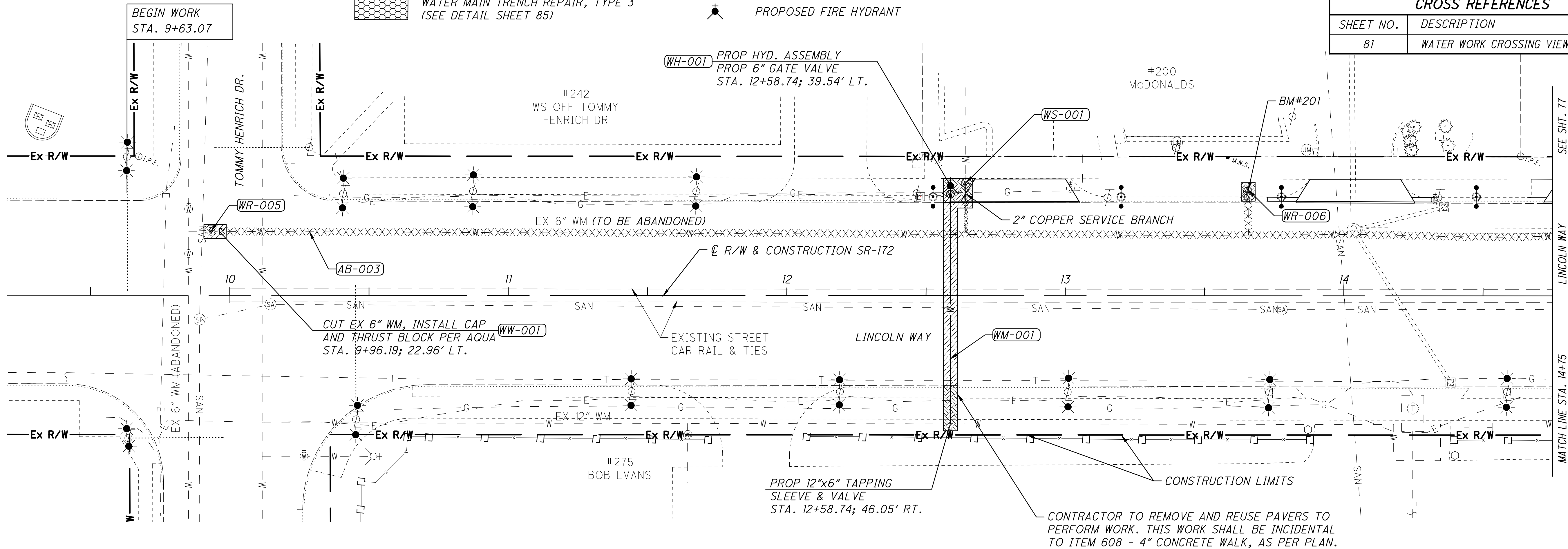
WR-### EX WATER WORK ITEM (TO BE REMOVED)

AB-### EX WATER WORK ITEM (TO BE ABANDONED)

**### DUPLICATE WATER WORK LABEL

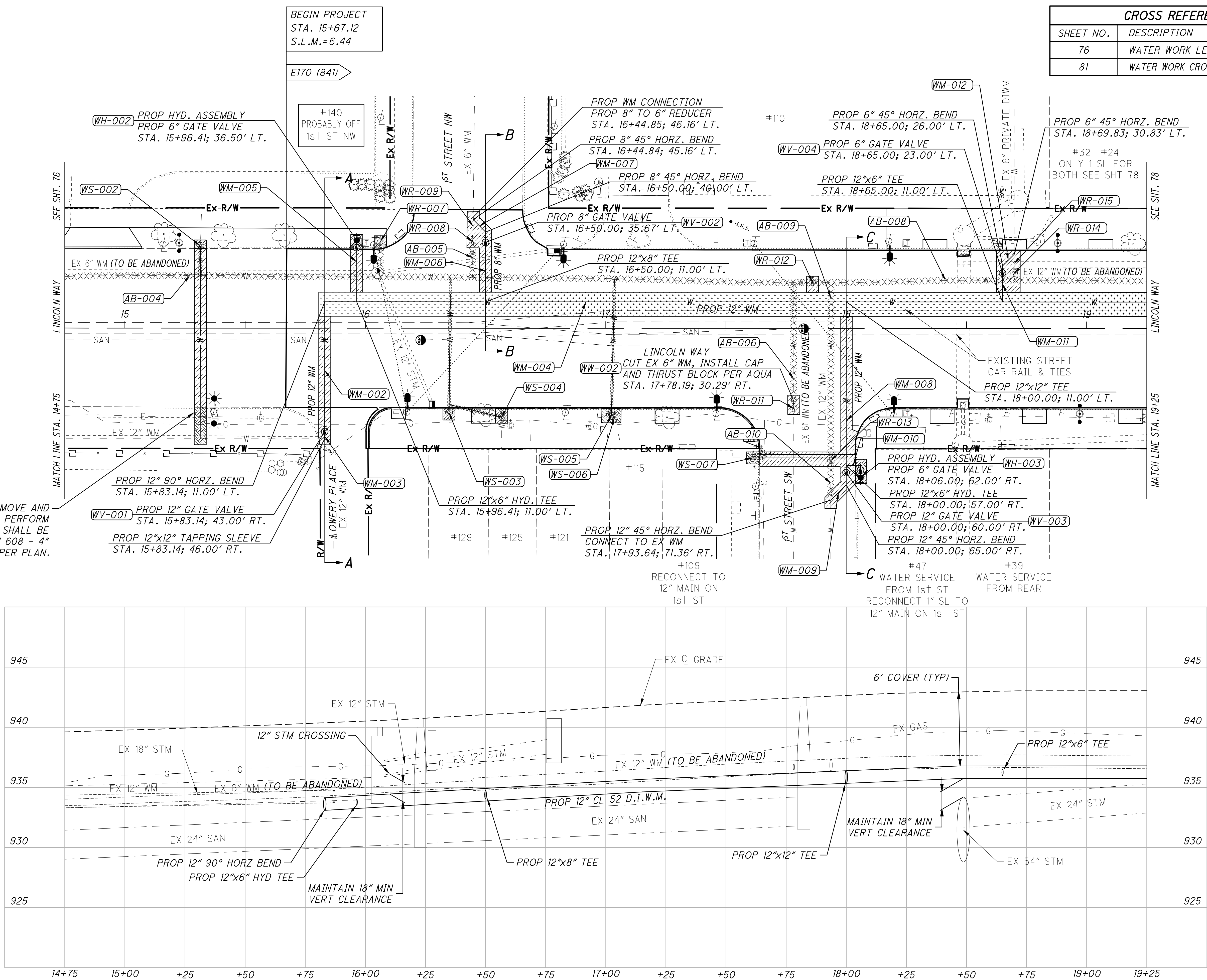
CROSS REFERENCES

SHEET NO.	DESCRIPTION
81	WATER WORK CROSSING VIEWS & NOTES



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CONTRACTOR TO REMOVE AND REUSE PAVERS TO PERFORM WORK. THIS WORK SHALL BE INCIDENTAL TO ITEM 608 - 4" CONCRETE WALK, AS PER PLAN.

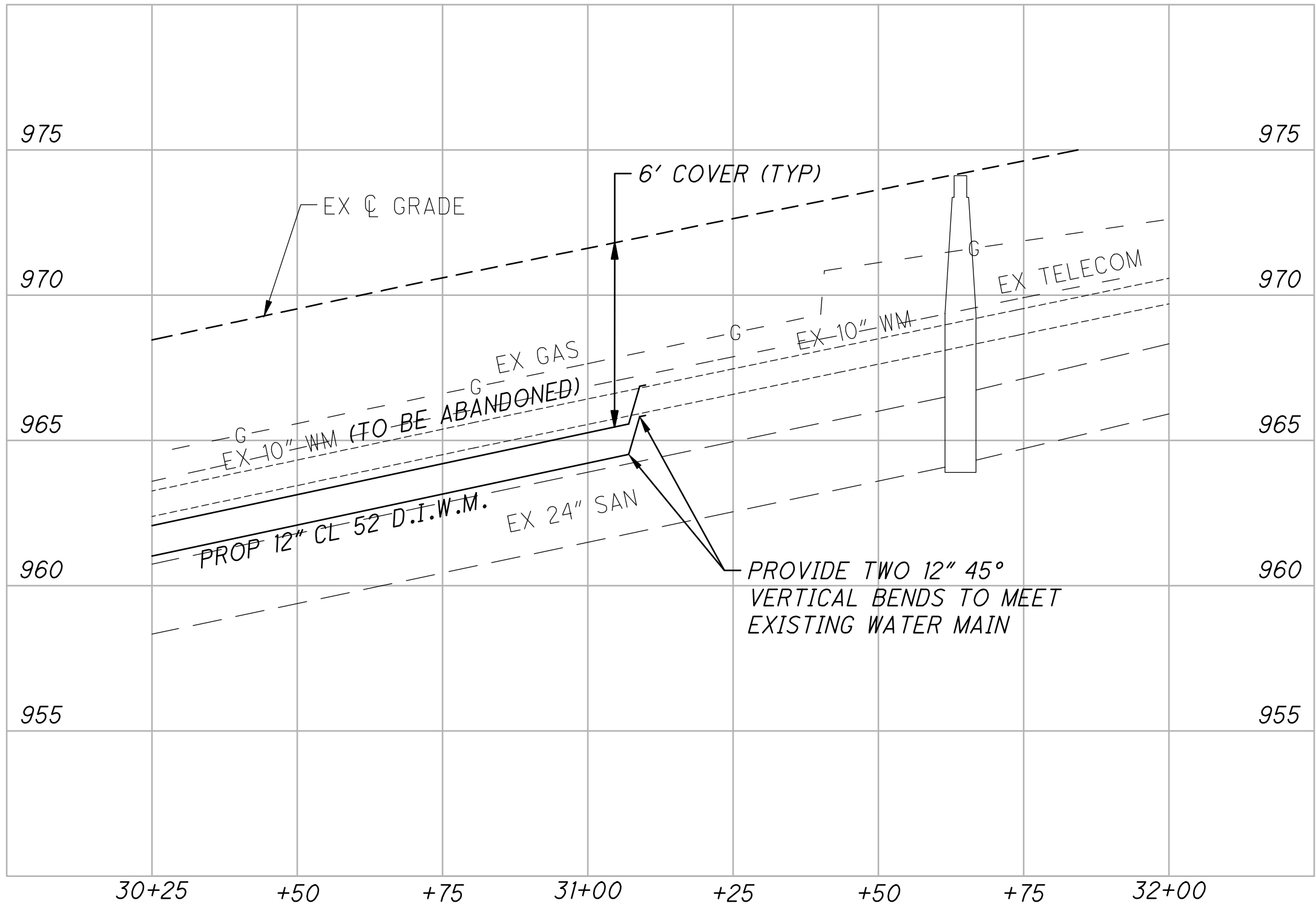
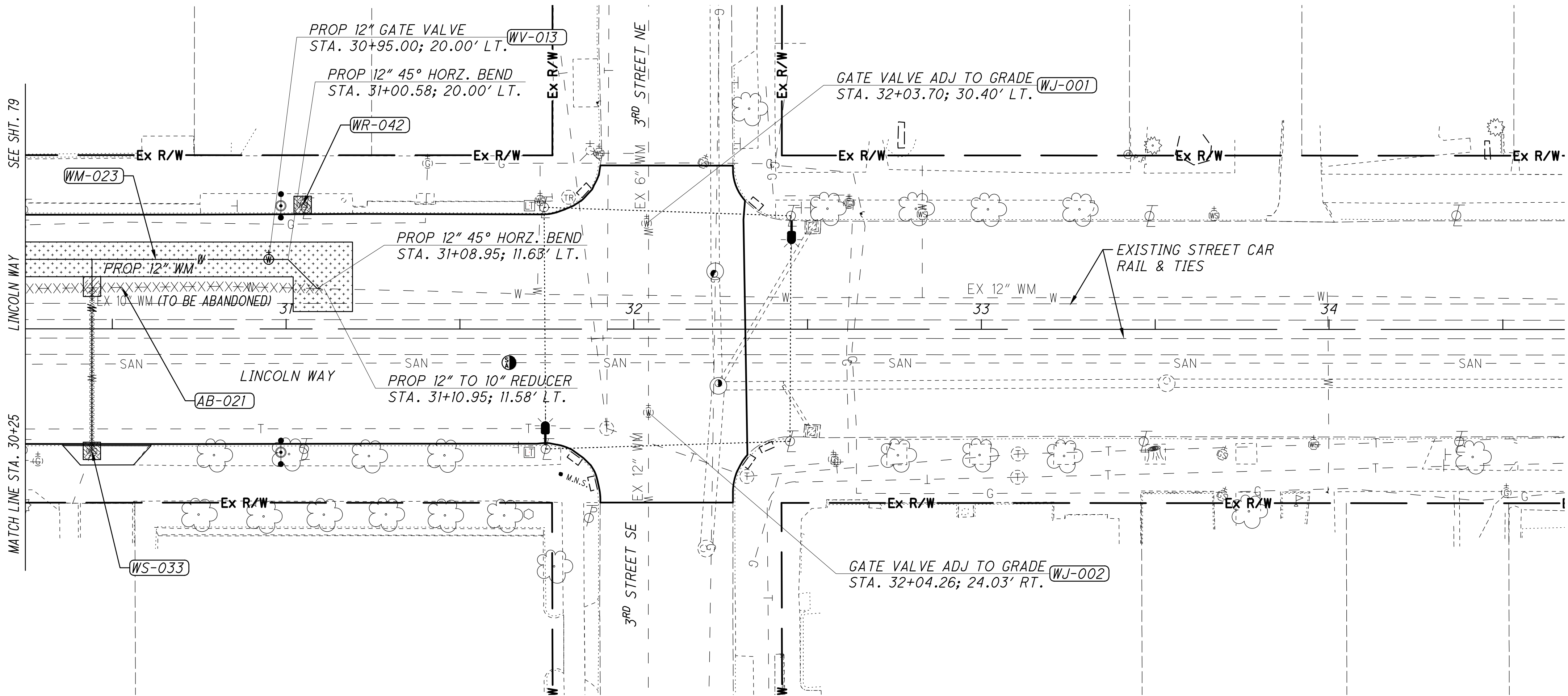


WATER WORK - LINCOLN WAY
STA. 14+75 TO STA. 19+25

S.R. 172 LINCOLN WAY
(STA-172-6.44)

77
112

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CROSS REFERENCES	
SHEET NO.	DESCRIPTION
76	WATER WORK LEGEND
81	WATER WORK CROSSING VIEWS & NOTES

0

10

20

40

HORIZONTAL SCALE IN FEET

CALCULATED

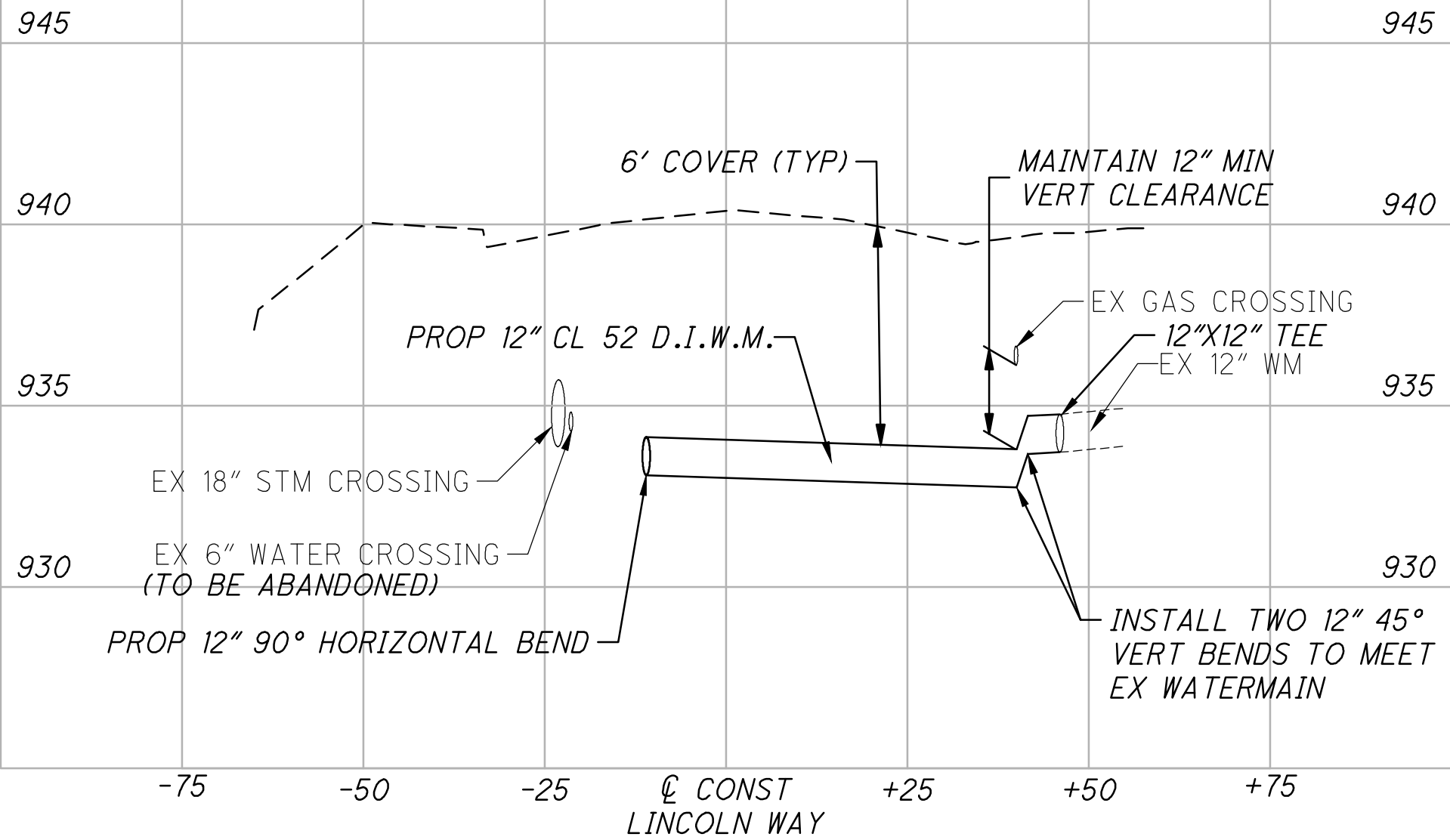
JRG

CHECKED

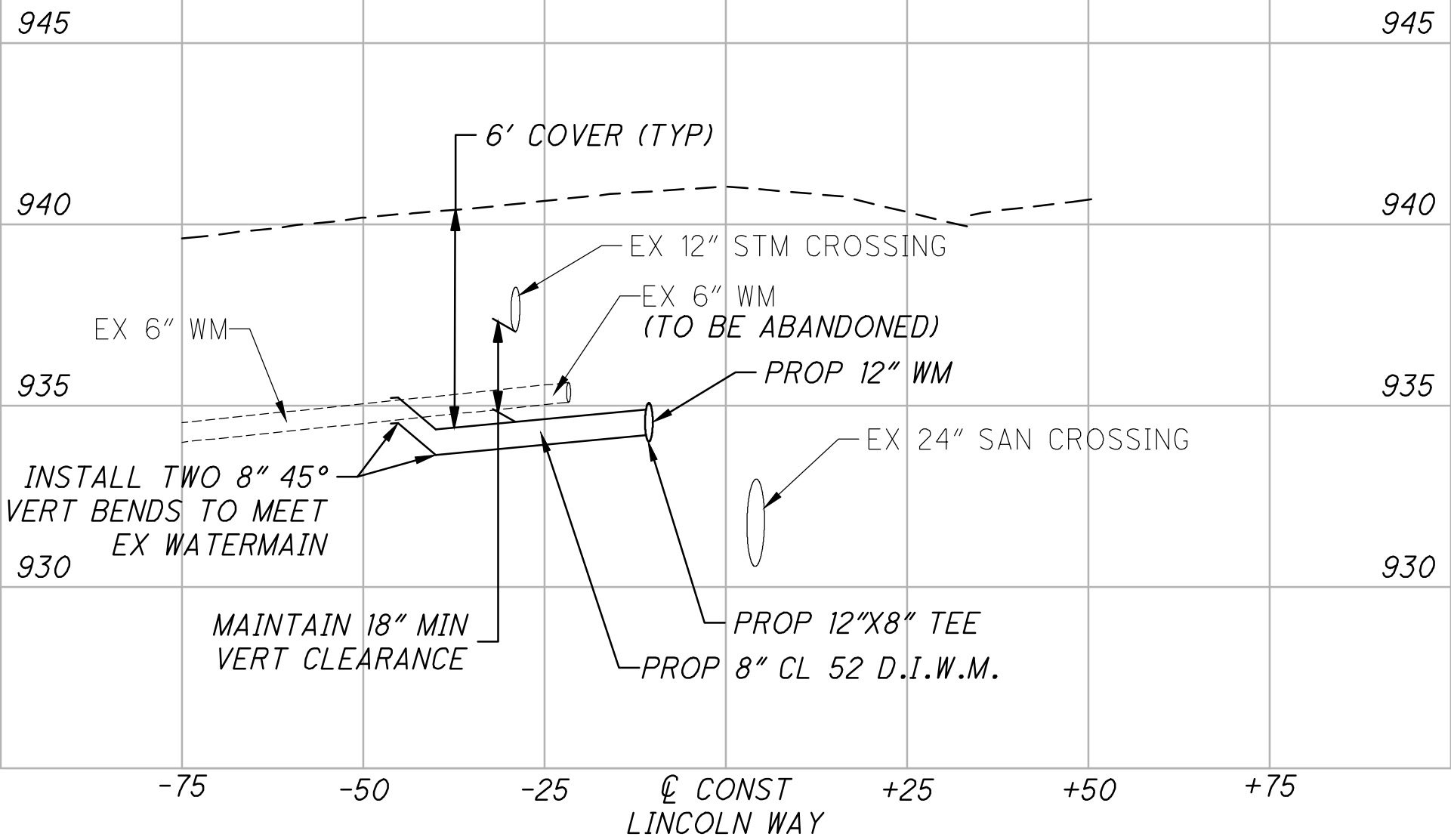
JEL

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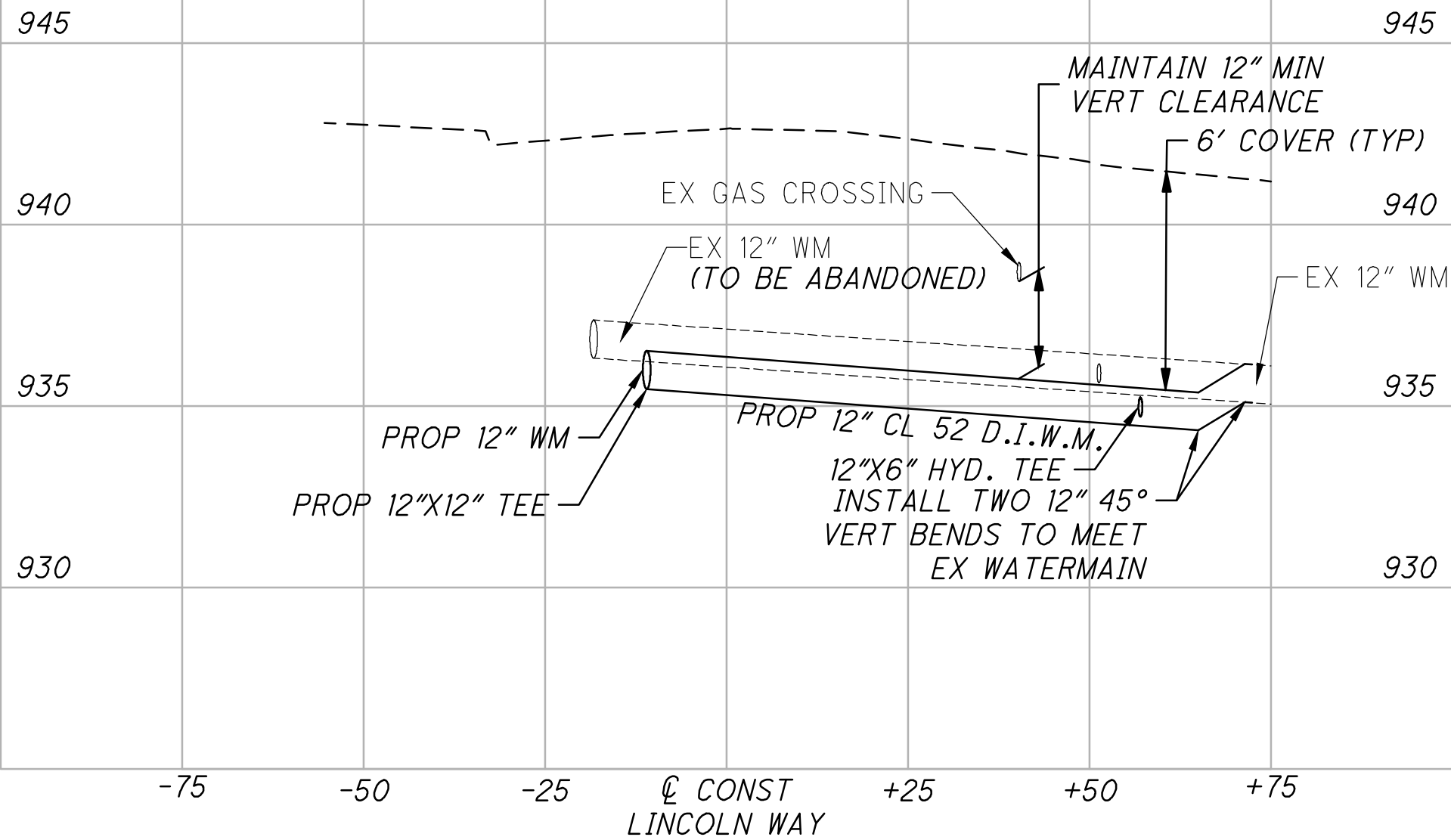
WATER WORK CROSSING VIEW A-A



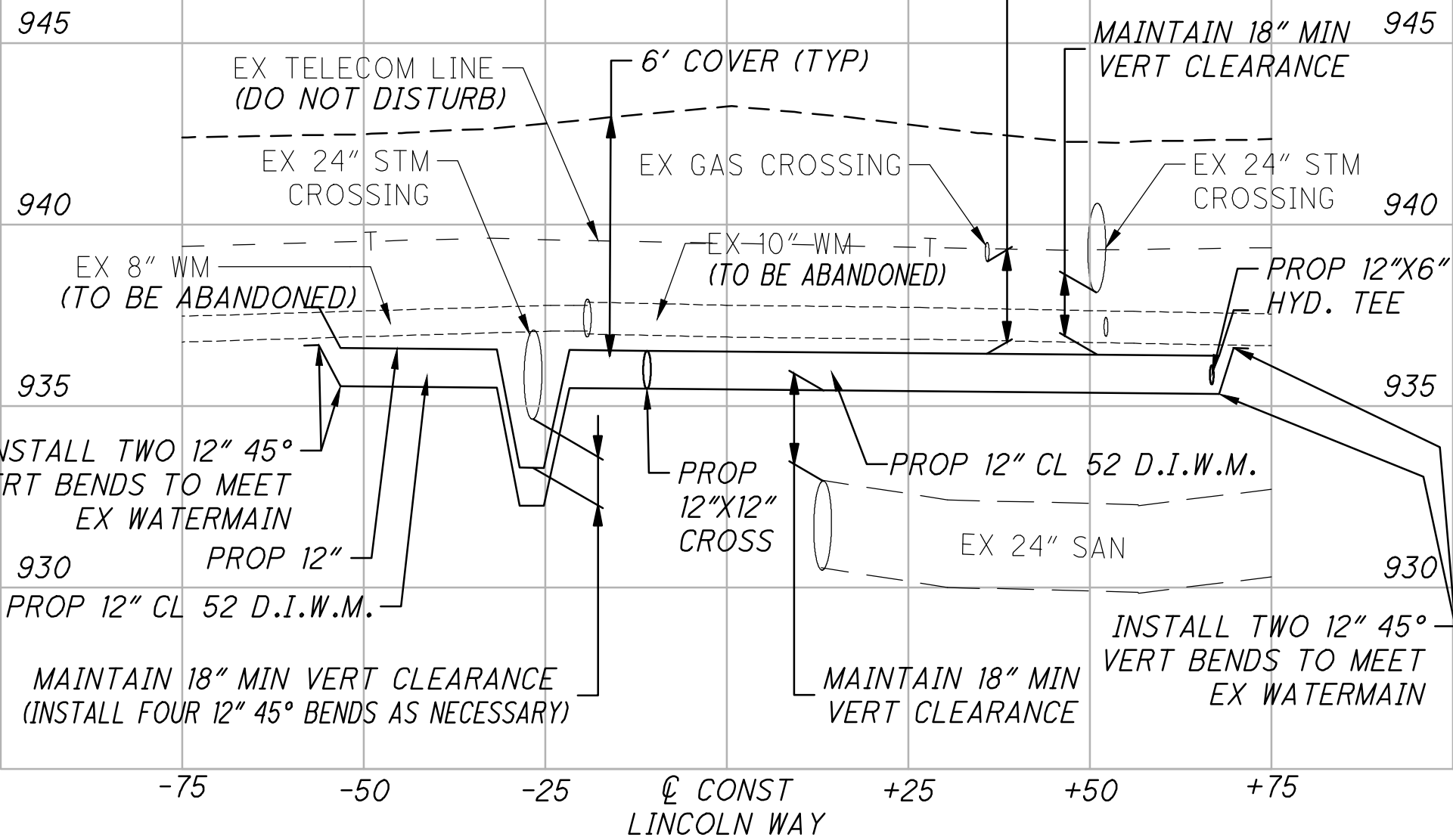
WATER WORK CROSSING VIEW B-B



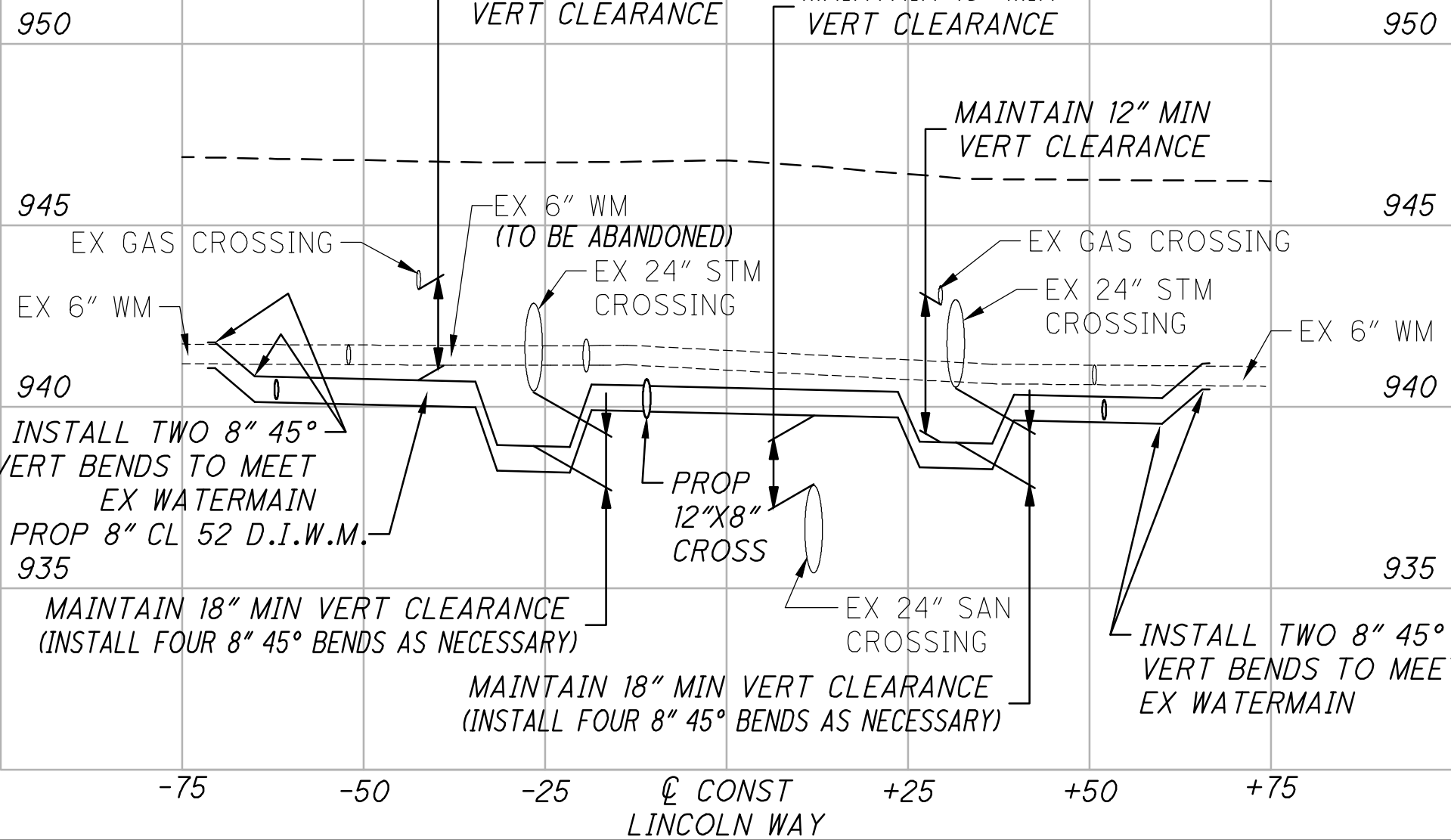
WATER WORK CROSSING VIEW C-C



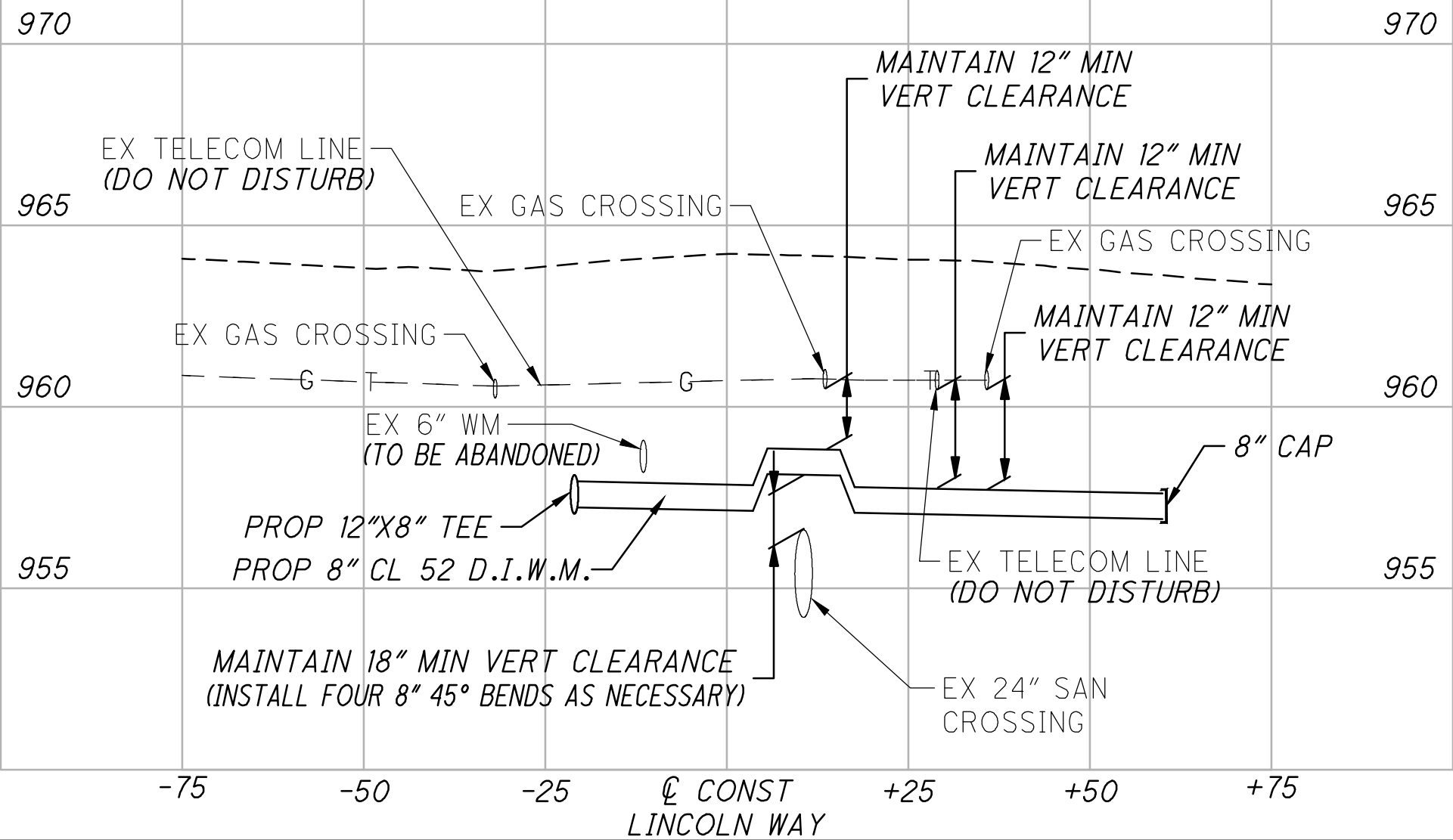
WATER WORK CROSSING VIEW D-D



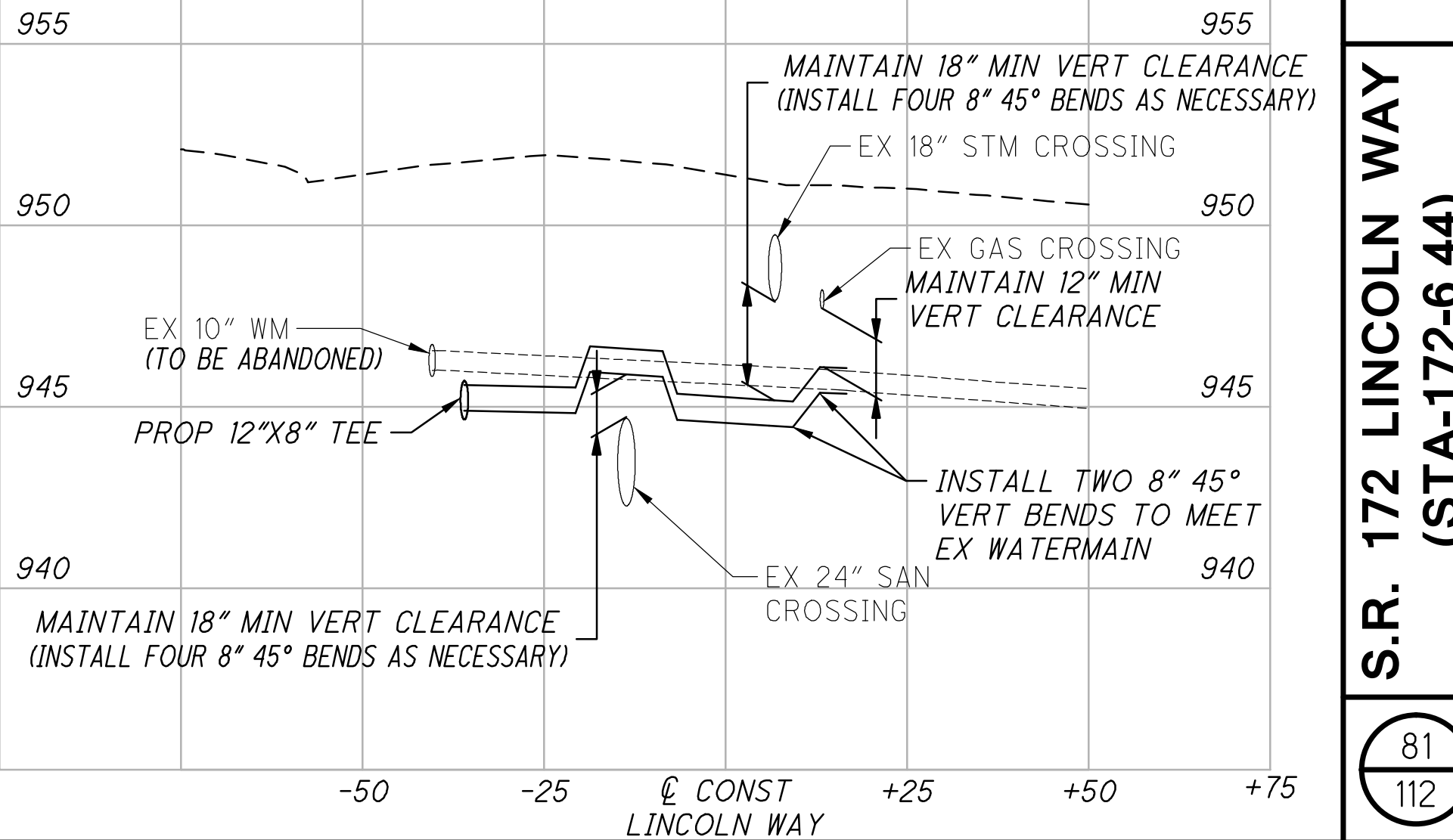
WATER WORK CROSSING VIEW E-E



WATER WORK CROSSING VIEW F-F



WATER WORK CROSSING VIEW G-G



CROSS REFERENCES

SHEET NO.	DESCRIPTION
76-80	WATER WORK PLAN SHEETS

WATER WORK NOTES

- CONTRACTOR SHALL ANTICIPATE INSTALLING VERTICAL BENDS AS NECESSARY TO MEET MINIMUM CLEARANCE REQUIREMENTS BETWEEN PROPOSED 6" HYDRANT WATER MAINS AND EXISTING UTILITY CROSSINGS.
- CONTRACTOR SHALL TAKE WHATEVER PRECAUTIONS NECESSARY SO AS TO NOT DISTURB THE EXISTING UNDERGROUND GAS, TELEPHONE OR OTHER UTILITIES, WHEN PERFORMING WATER WORK OUTSIDE OF PAVEMENT.
- CONTRACTOR TO REMOVE EXISTING STREET CAR RAIL AND TIES AS NECESSARY TO COMPLETE THE PROPOSED WATER WORK AND ASSOCIATED TRENCH REPAIRS. THE COST OF THESE REMOVALS WILL BE INCIDENTAL TO THE WATER MAIN PAY ITEMS. THE WATER MAIN HAS BEEN DESIGNED WITH THE INTENT THAT NO TRENCHING WILL BE REQUIRED AT EXISTING STREET CAR RAIL AND TIES, OUTSIDE OF WATER MAINS CROSSING LINCOLN WAY.

VARIOUS "ITEM 638 - _____ AS PER PLAN" PAY ITEMS

ALL PAY ITEM 638 - " _____ AS PER PLAN" ITEMS SHALL BE PERFORMED IN ACCORDANCE WITH ITEM 638 IN THE CMS. EXCEPT AS MODIFIED HEREIN.

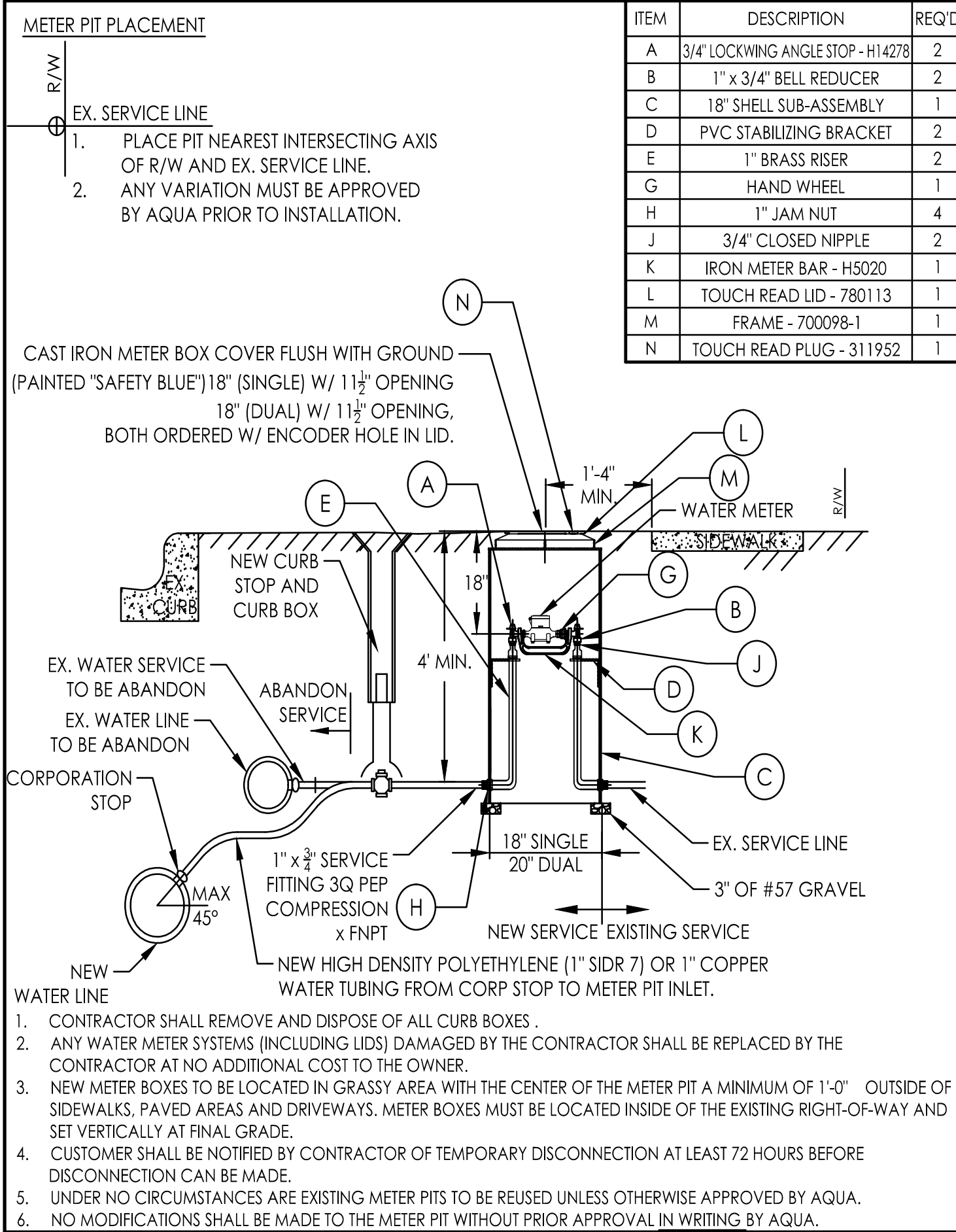
AQUA OHIO WILL PROVIDE ALL WATER MAIN PIPE, FIRE HYDRANTS, 6" HYDRANT VALVES, AND WATER MAIN GATE VALVES TO THE CONTRACTOR AT NO ADDITIONAL COST. THIS AFFECTS THE FOLLOWING PAY ITEMS:

- ITEM 638 - 4" WATER MAIN DUCTILE IRON PIPE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS AND FITTINGS, AS PER PLAN
- ITEM 638 - 6" WATER MAIN DUCTILE IRON PIPE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS AND FITTINGS, AS PER PLAN
- ITEM 638 - 8" WATER MAIN DUCTILE IRON PIPE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS AND FITTINGS, AS PER PLAN
- ITEM 638 - 12" WATER MAIN DUCTILE IRON PIPE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS AND FITTINGS, AS PER PLAN
- ITEM 638 - 6" GATE VALVE AND VALVE BOX, AS PER PLAN
- ITEM 638 - 8" GATE VALVE AND VALVE BOX, AS PER PLAN
- ITEM 638 - 12" GATE VALVE AND VALVE BOX, AS PER PLAN
- ITEM 638 - 6" FIRE HYDRANT, AS PER PLAN

COST FOR ALL WORK, LABOR, EQUIPMENT, AND ANY INCIDENTAL MATERIALS, INCLUDING MECHANICAL JOINT RESTRAINTS, SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THESE ITEMS. THE AQUA SUPPLIED MATERIALS WILL BE AVAILABLE FOR CONTRACTOR PICK-UP FROM THE FOLLOWING LOCATION:

870 3RD STREET NW
MASSILLON, OH 44647

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TYPICAL WATER SERVICE TAP

- FIELD-LOK GASKETS OR OTHER APPROVED PIPE RESTRAINT SYSTEMS WILL BE USED TO RESTRAIN PIPE, OR WITH PRIOR APPROVAL BY AQUA FOR THE FOLLOWING SITUATIONS:
- FOR VERTICAL BENDS IN LIEU OF DEAD-MAN CONCRETE RESTRAINT
 - FOR VERTICAL AND HORIZONTAL BENDS INSTALLED IN POOR SOIL CONDITIONS
 - FOR HYDRANTS OR BENDS WITH SLOPING GROUND BEHIND THE POINT OF THRUST

NOTE: MEG-A-LUGS OR APPROVED EQUAL SHALL BE USED TO RESTRAIN FITTINGS AND VALVES

- THRUST BLOCKS WILL NORMALLY BE USED FOR ALL HORIZONTAL BENDS. THE CONTRACTOR WILL GET WRITTEN PRIOR APPROVAL FROM AQUA TO SUBSTITUTE A RESTRAINT SYSTEM IN LIEU OF THRUST BLOCKING FOR HORIZONTAL BENDS.

- CONTRACTOR WILL SUPPLY ALL FIELD-LOK GASKETS

LINEAR FEET OF MECHANICAL PIPE RESTRAINT REQUIRED (EITHER SIDE OF FITTING)

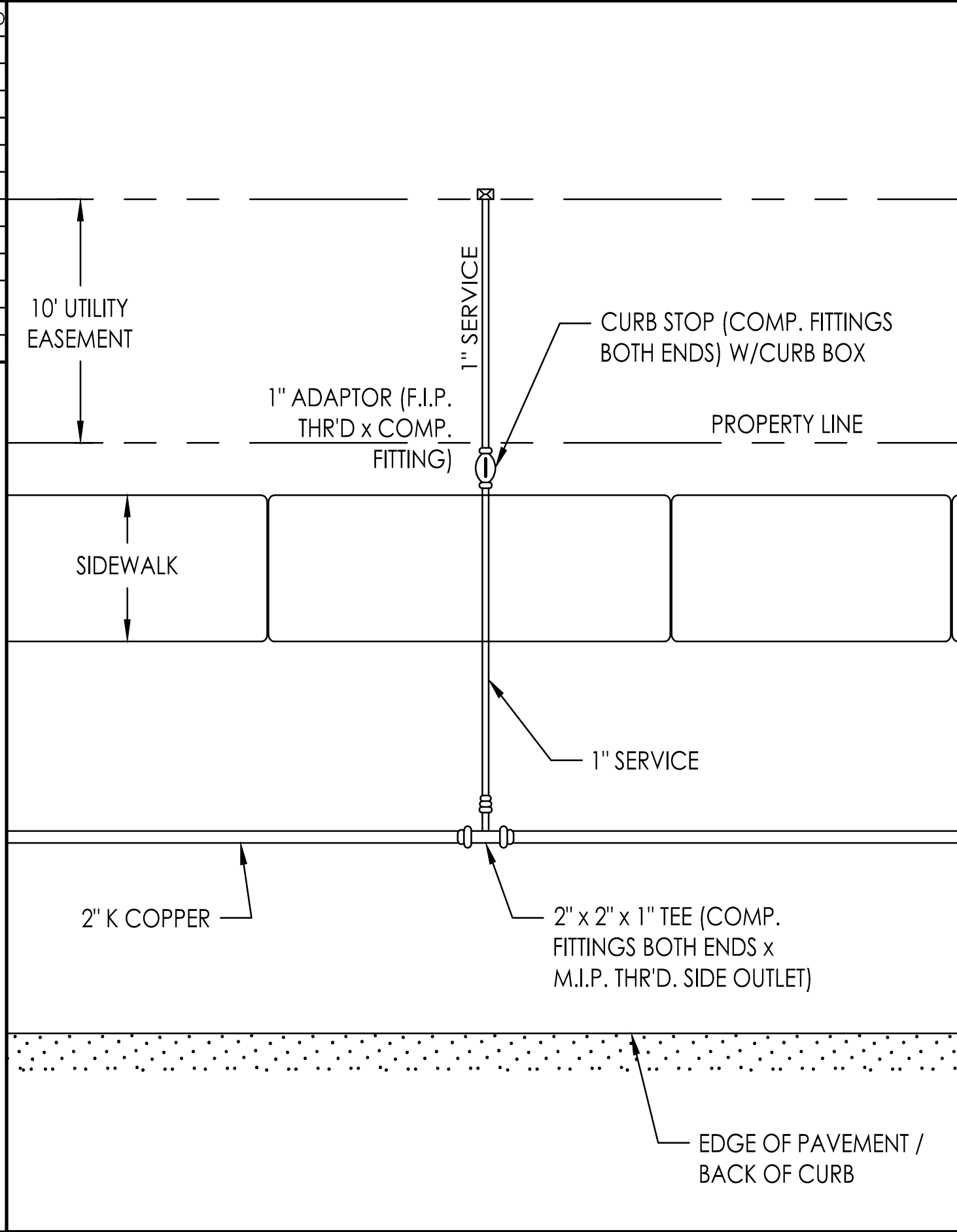
PIPE DIA. (IN.)	DEAD END	90°	45°	22.5°	11.25°	VERT. UP	VERT. DOWN	TEE BRANCH
4	36	16	8	0	0	4	16	18
6	60	28	13	0	0	10	24	35
8	108	54	18	0	0	18	36	90
12	162	90	36	18	0	36	72	144
16	214	118	49	23	12	12	21	200
24	304	165	68	33	16	16	30	289

CONSTRUCTION CRITERIA:

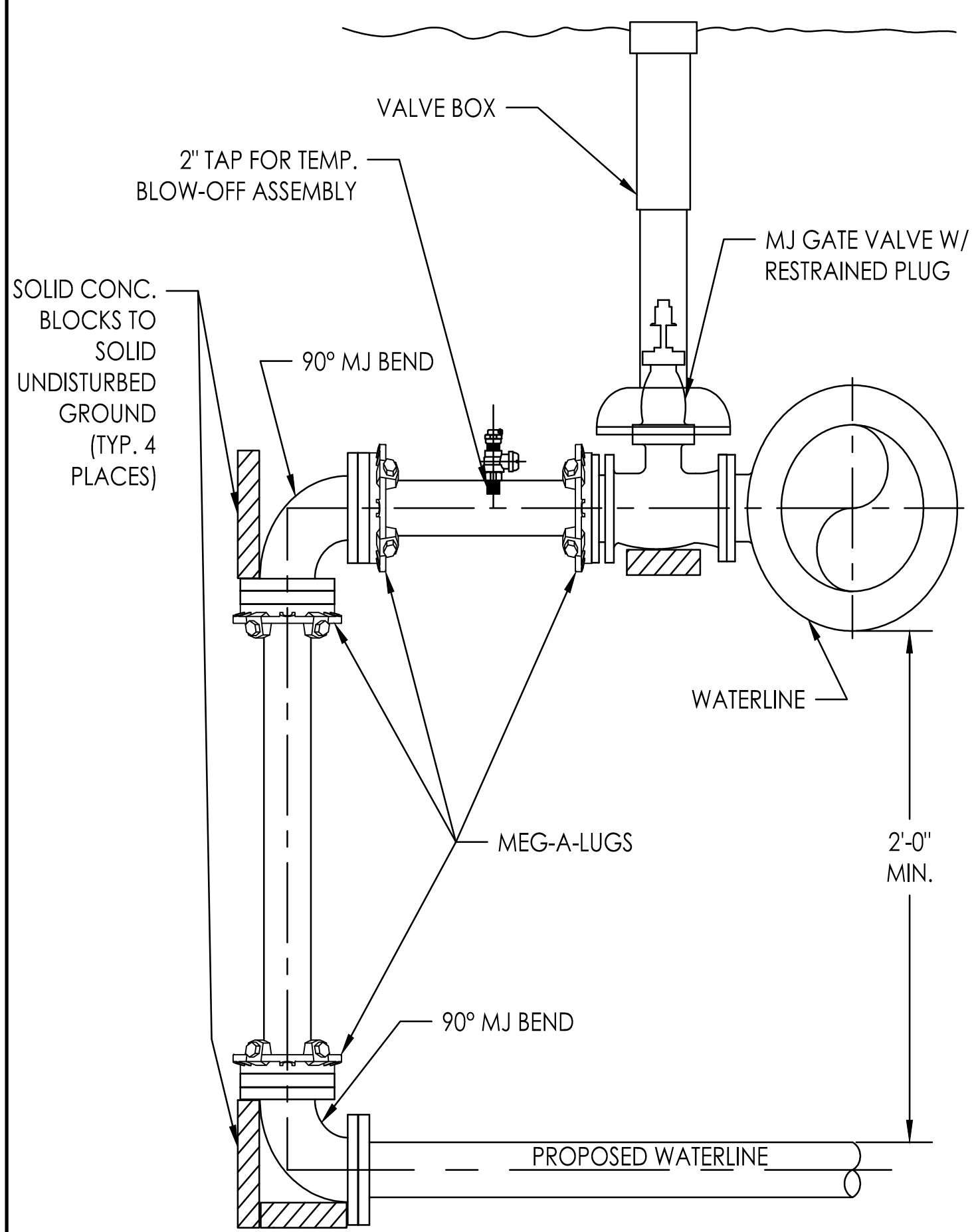
- FOR WORKING AND/OR TEST PRESSURES < 150 PSI.
- TYPE 2 TRENCH WITH MINIMUM OF 4.0 FT. OF COVER
- POLYWRAPPED PIPE
- 18 FT. PIPE LENGTHS
- FITTINGS RESTRAINED WITH MEG-A-LUGS OR APPROVED EQUAL

NOTE: IF FIELD CONDITIONS DO NOT CONFORM TO THE NOTED CONSTRUCTION CRITERIA, THE CONTRACTOR SHALL GET WRITTEN APPROVAL FROM AQUA FOR THE NUMBER OF RESTRAINED JOINTS.

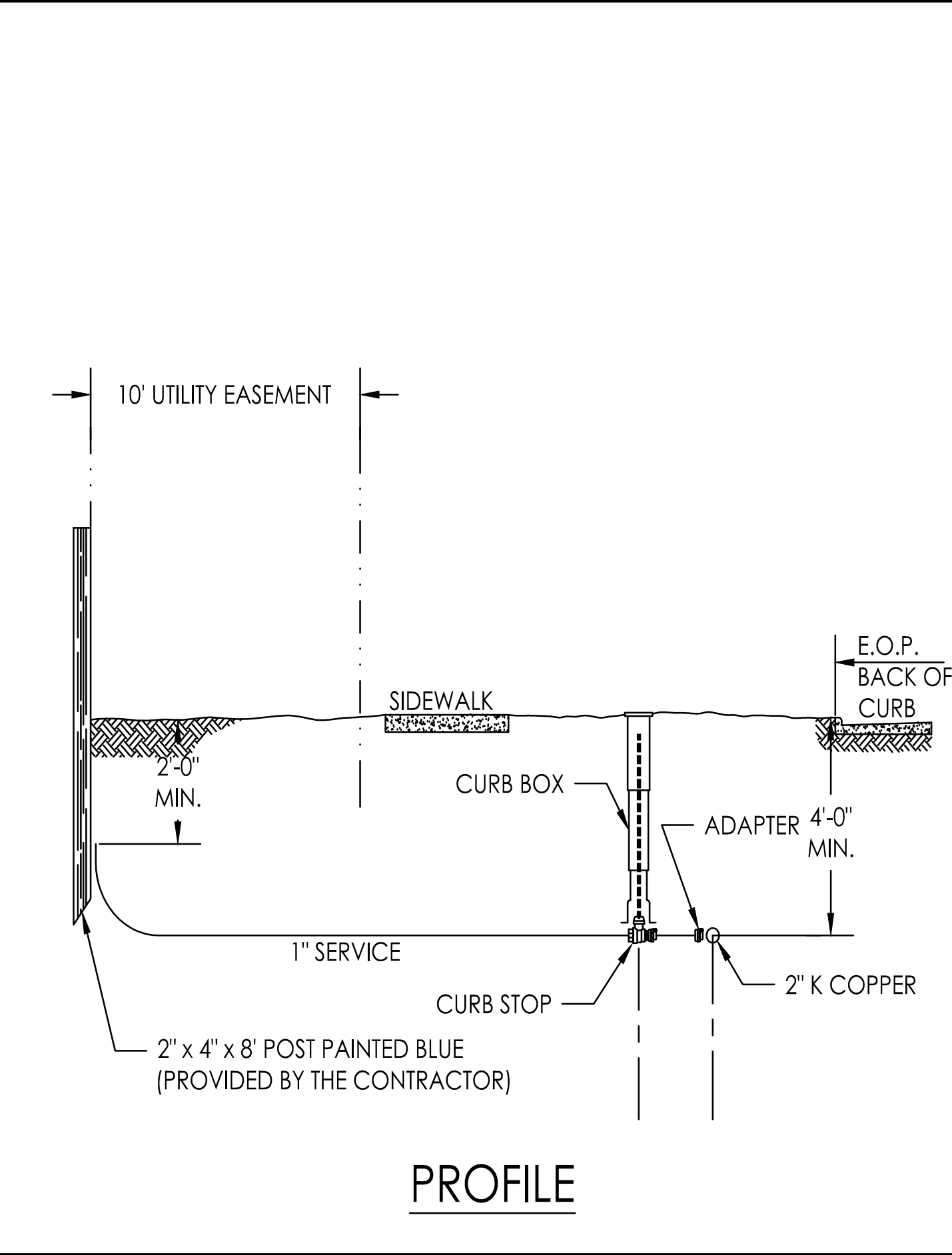
THRUST RESTRAINT WITH FIELD-LOK GASKETS



TYPICAL PRE-TAP PLAN

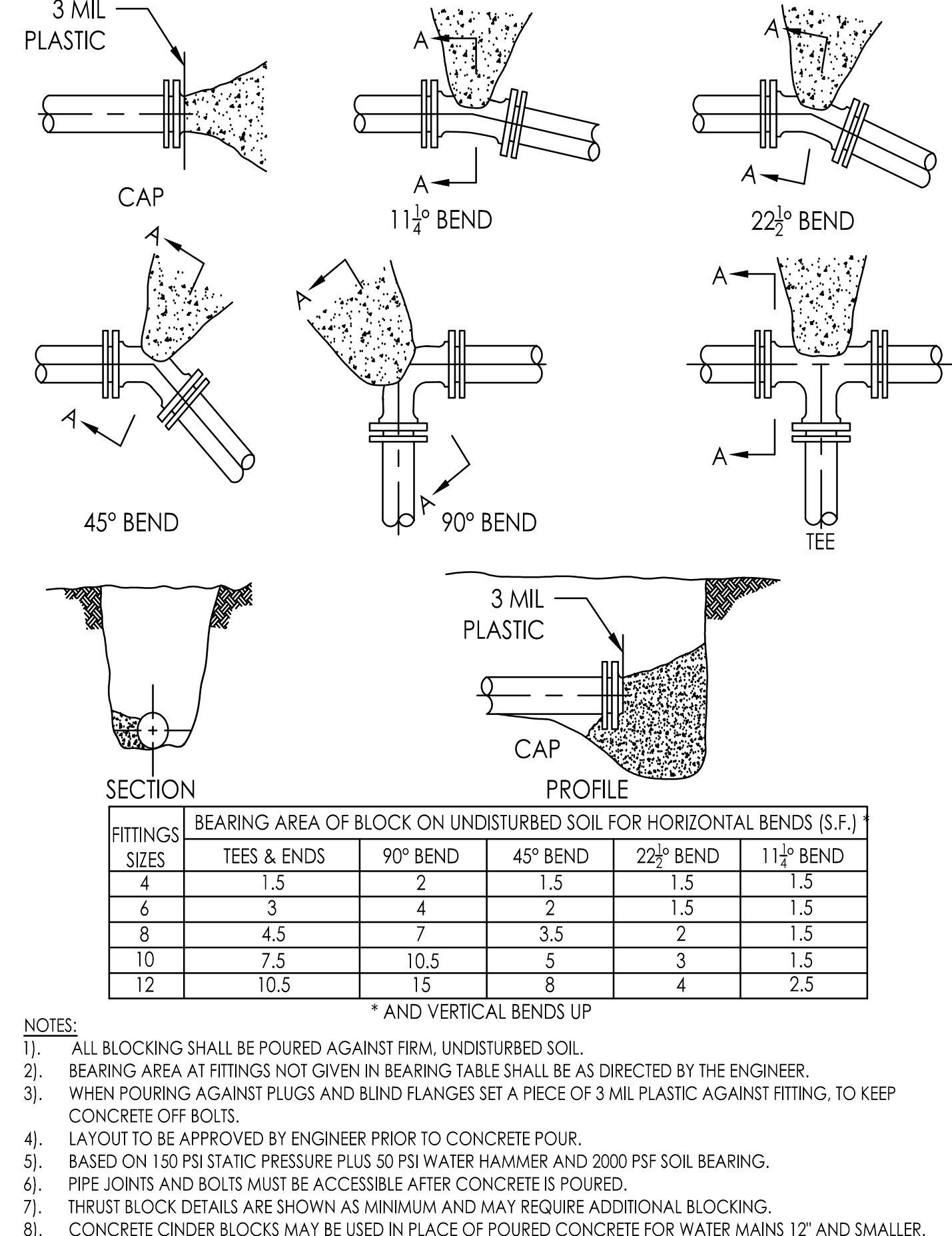


BACKSIDE TAP DETAIL

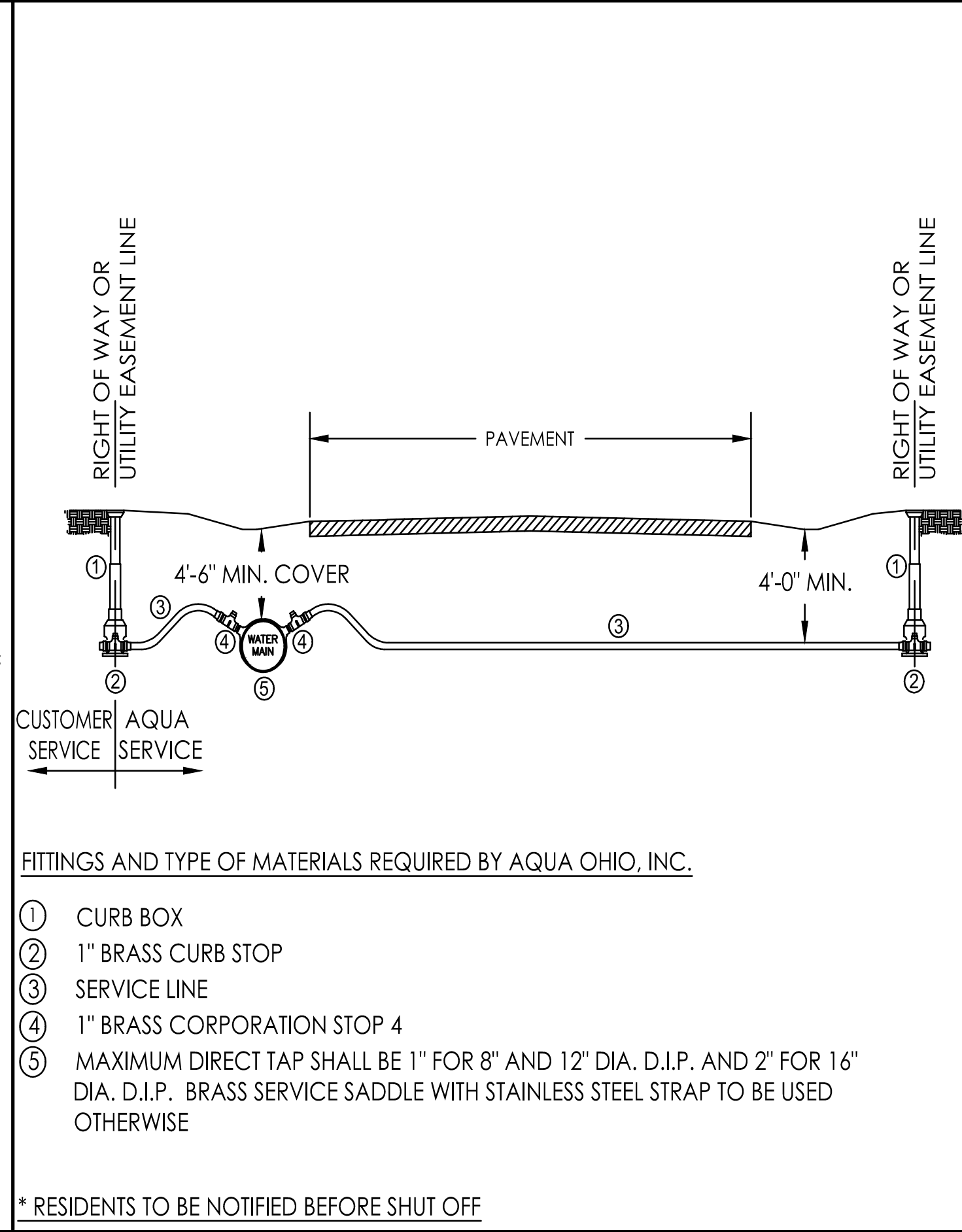


PROFILE

TYPICAL PRE-TAP CUL-DE-SAC LOTS ONLY



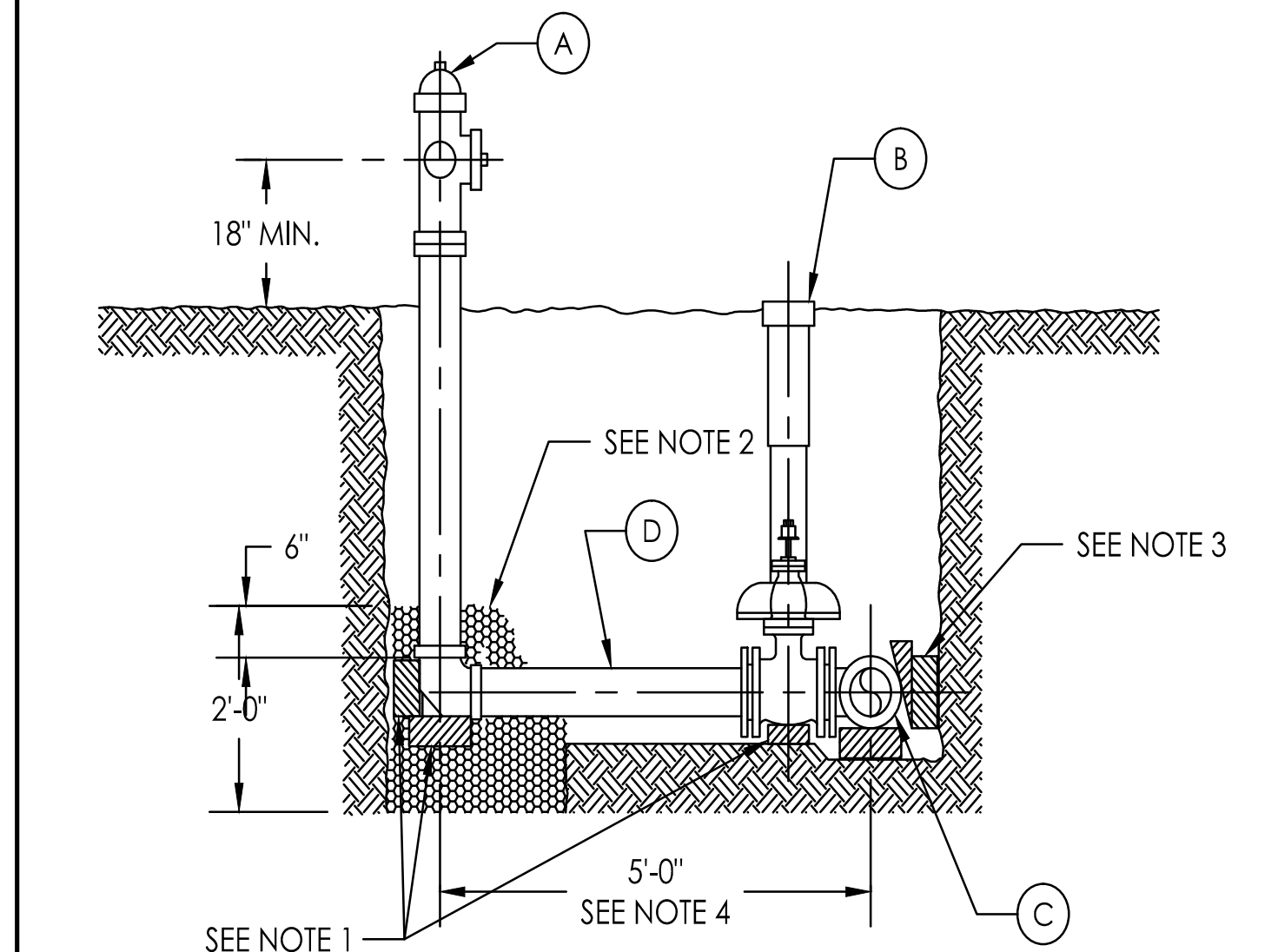
CONCRETE THRUST BLOCKING DETAILS



AQUA OHIO, INC. TYPICAL SERVICE LINE INSTALLATION

- NOTES:
- SOLID CONCRETE BLOCK TO BE USED UNDER ALL TEES, VALVES, ALSO BEHIND AND UNDER HYDRANT ELBOW. CLEAN CRUSHED STONE FILL AROUND HYDRANT DRAIN TO A DEPTH OF 2'-0".
 - SOLID CONCRETE BLOCK WITH OAK WEDGES. (BRACED AGAINST UNDISTURBED SOIL)
 - THE DISTANCE FROM THE CENTERLINE OF MAIN TO THE CENTERLINE OF HYDRANT WILL BE 5' EXCEPT WHEN INDIVIDUAL CIRCUMSTANCES PROVE IT TO BE INFEASIBLE. WHEN SUCH CIRCUMSTANCES OCCUR, THE LENGTH OF THE LEAD WILL BE NOTED ON THE DRAWINGS WITH THE STATIONING.
 - ALL HYDRANTS SHALL STAND PLUMB AND HAVE PUMPER NOZZLE FACING THE CURB.
 - PUMPER NOZZLE SHALL BE OUTFITTED WITH 5" STORZ STEAMER CONNECTION.

ITEM	DESCRIPTION
A	HYDRANT ASSEMBLY PER STANDARDS BY AQUA OHIO INC.
B	6" M.J. GATE VALVE, (3) PIECE VALVE BOX
C	ANCHOR TEE (CLOW F-1217)
D	6" DUCTILE IRON PIPE WITH MEGA-LUGS FOR RETAINERS

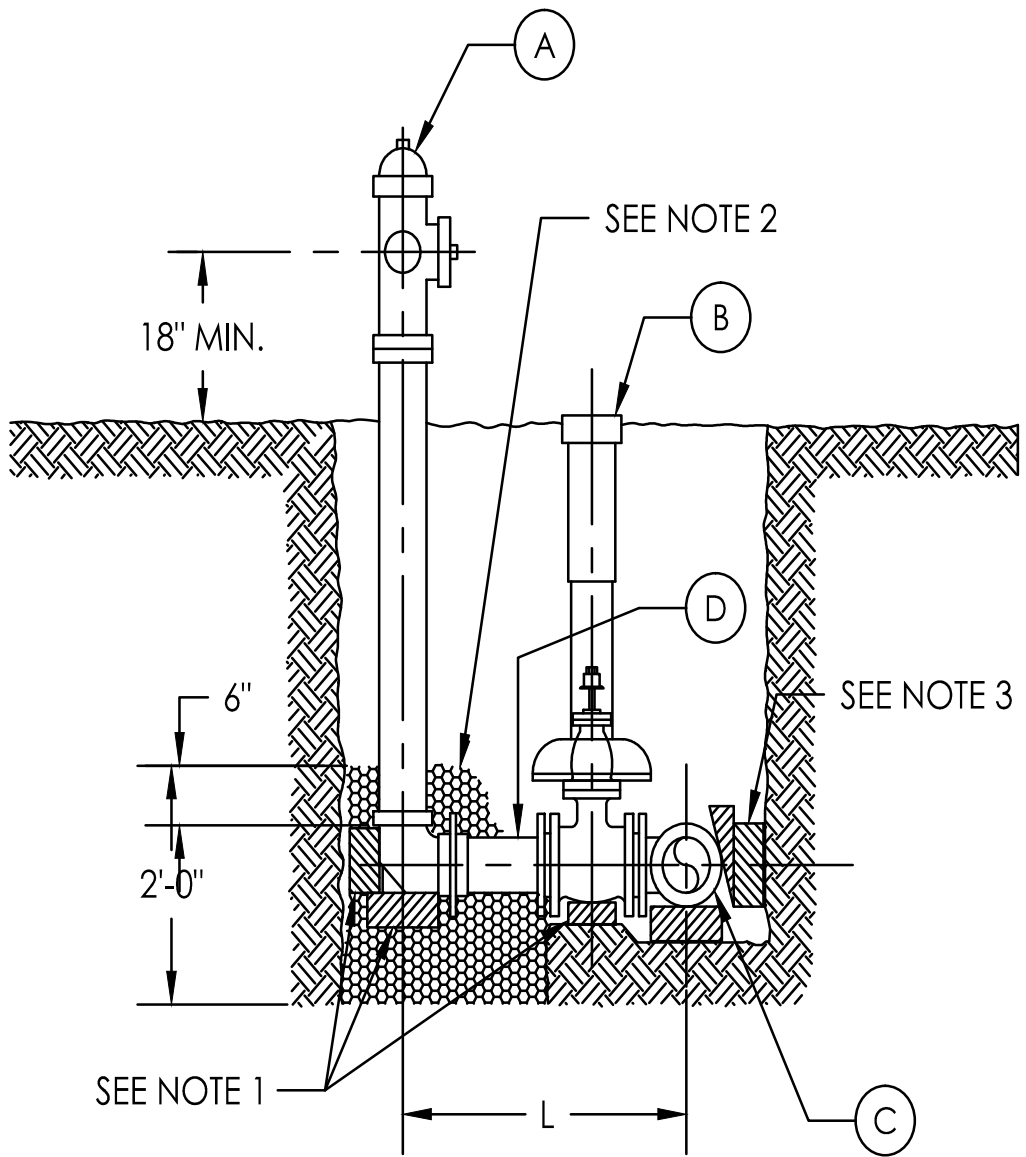


TYPICAL FIRE HYDRANT ASSEMBLY TYPE I

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NOTES:

- SOLID CONCRETE BLOCK TO BE USED UNDER ALL TEES, VALVES, ALSO BEHIND AND UNDER HYDRANT ELBOW.
- CLEAN CRUSHED STONE FILL AROUND HYDRANT DRAIN TO A DEPTH OF 2'-0".
- SOLID CONCRETE BLOCK WITH OAK WEDGES. (BRACED AGAINST UNDISTURBED SOIL)
- ALL HYDRANTS SHALL STAND PLUMB AND HAVE PUMPER NOZZLE FACING THE CURB.
- PUMPER NOZZLE SHALL BE OUTFITTED WITH 5" STORZ STEAMER CONNECTION.



TYPICAL FIRE HYDRANT ASSEMBLY TYPE II

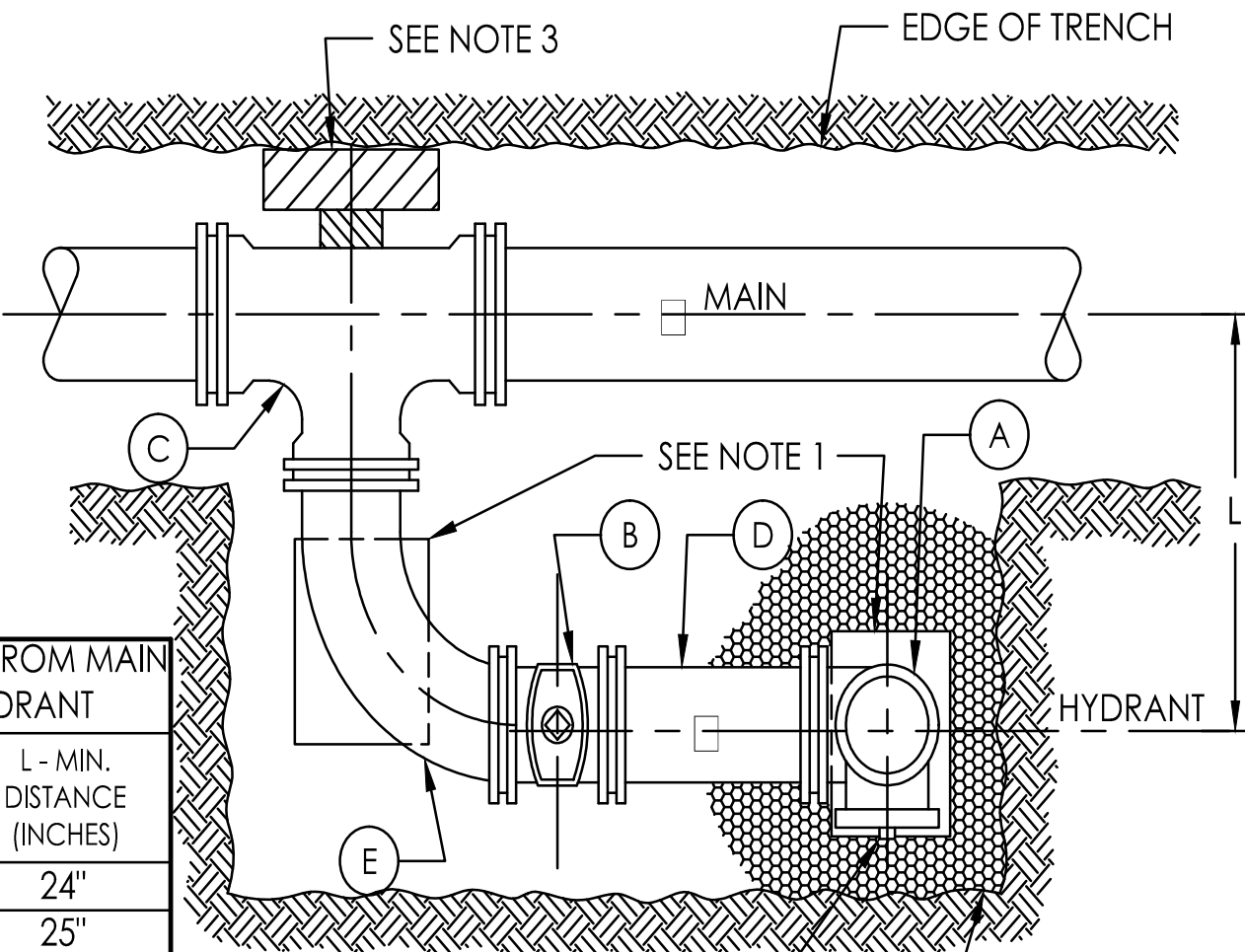
DESCRIPTION

- | ITEM | DESCRIPTION |
|------|--|
| A | HYDRANT ASSEMBLY PER STANDARDS BY AQUA OHIO INC. |
| B | 6" M.J. GATE VALVE, (3) PIECE VALVE BOX |
| C | ANCHOR TEE (CLOW F-1217) |
| D | M.J. ANCHOR COUPLING x 12"L |

DISTANCE FROM MAIN TO HYDRANT	
MAIN LINE SIZE	L - MIN. DISTANCE (INCHES)
6"	38"
8"	40"
10"	42"
12"	43"
16"	46"
20"	58"
24"	61"

NOTES:

- SOLID CONCRETE BLOCK TO BE USED UNDER ALL TEES, BENDS, ALSO BEHIND AND UNDER HYDRANT ELBOW.
- CLEAN CRUSHED STONE FILL AROUND HYDRANT DRAIN TO A DEPTH OF 2'-0".
- SOLID CONCRETE BLOCK WITH OAK WEDGES. (BRACED AGAINST UNDISTURBED SOIL)
- THE DISTANCE FROM THE CENTERLINE OF MAIN TO THE CENTERLINE OF HYDRANT WILL BE 5' EXCEPT WHEN INDIVIDUAL CIRCUMSTANCES PROVE IT TO BE INFEASIBLE. WHEN SUCH CIRCUMSTANCES OCCUR, THE LENGTH OF THE LEAD WILL BE NOTED ON THE DRAWINGS WITH THE STATIONING.
- ALL HYDRANTS SHALL STAND PLUMB AND HAVE PUMPER NOZZLE FACING THE CURB.
- PUMPER NOZZLE SHALL BE OUTFITTED WITH 5" STORZ STEAMER CONNECTION.



TYPICAL FIRE HYDRANT ASSEMBLY TYPE III

DESCRIPTION

- | ITEM | DESCRIPTION |
|------|---|
| A | HYDRANT ASSEMBLY PER STANDARDS BY AQUA OHIO, INC. |
| B | 8" M.J. GATE VALVE, (3) PIECE VALVE BOX |
| C | STANDARD M.J. TEE |
| D | MJ ANCHOR COUPLING (F-1211) |
| E | MJ ANCHOR ELBOW (F-1218) |

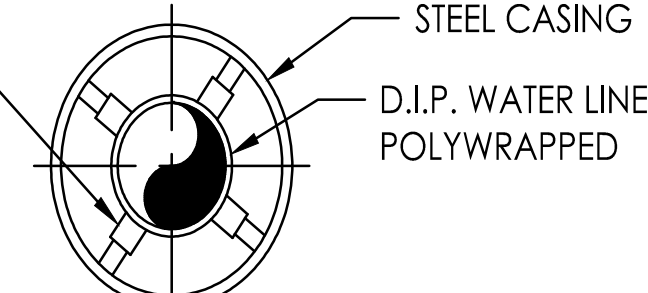
DISTANCE FROM MAIN TO HYDRANT	
MAIN LINE SIZE	L - MIN. DISTANCE (INCHES)
6"	24"
8"	25"
10"	27"
12"	28"
16"	31"
20"	33"
24"	36"

~PIPE CROSSING DATA SHEET~

PIPE DATA		CARRIER PIPE	CASING PIPE
MATERIAL		DUCTILE IRON	STEEL
PROCESS OF MANUFACTURE		SPIN CAST	ELECTRIC
WELD SPECIFICATION		ANSI A21.51	ASTM A53
GRADE OF CLASS		SEE SPEC	GRADE B TEST
PRESSURE		SEE SPEC	35,000 PSI, YIELD
TYPE OF JOINT		PUSH ON FIELD LOK RUBBER GASKET	WELDED
TYPE OF COATING		ASPHALTIC PRIMER	NONE
CATHODIC PROTECTION		NONE	NONE
SEAL AT END OF CASING		N/A	MOLDED SYN. RUBBER END SEAL
METHOD OF INSTALLATION		PUSH ON SKIDS	JACK AND BORE

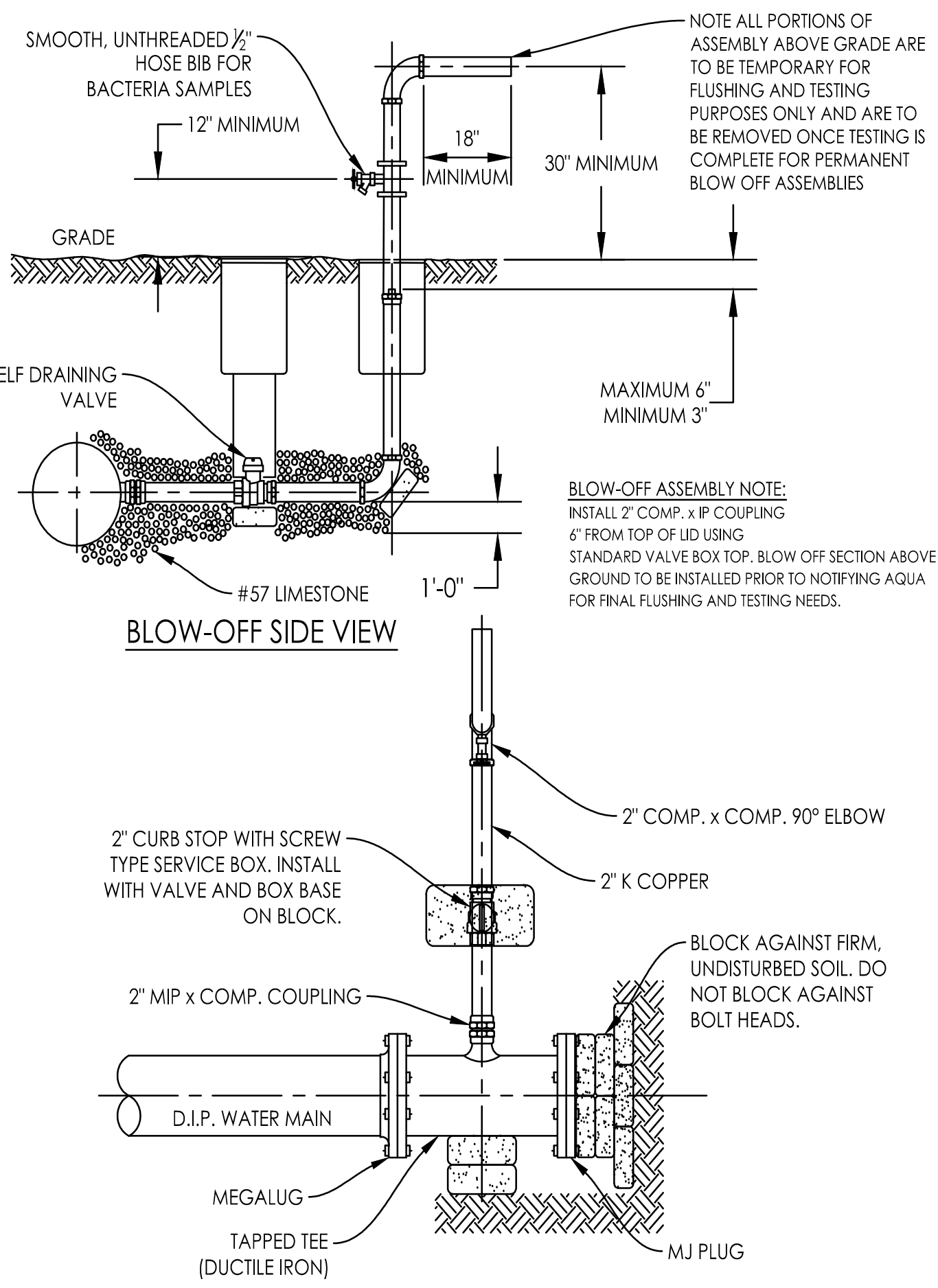
CASING PIPE SIZING					
WATER MAIN SIZE	NOMINAL SIZE OF CASING PIPE	OUTSIDE DIAMETER	INSIDE DIAMETER	WALL THICKNESS (MIN.)	WEIGHT PER FOOT
6"	16"	16.000	15.250	0.375	62.64
8"	18"	18.000	17.250	0.375	70.65
12"	24"	24.000	23.000	0.500	125.61
16"	30"	30.000	29.000	0.500	157.68
20"	36"	36.000	35.000	0.500	189.75
24"	42"	42.000	41.000	0.500	221.82
30"	48"	48.000	47.000	0.500	253.89
36"	54"	54.000	53.000	0.500	285.96
42"	60"	60.000	59.000	0.500	318.03

SMITH-BLAIR CASING SPACERS @ 1/3 POINTS EACH PIPE LENGTH (2 PER LENGTH) (NOTE: AS AN ALTERNATIVE, P.S.I. OR CASCADE CASING SPACERS MAY BE USED)

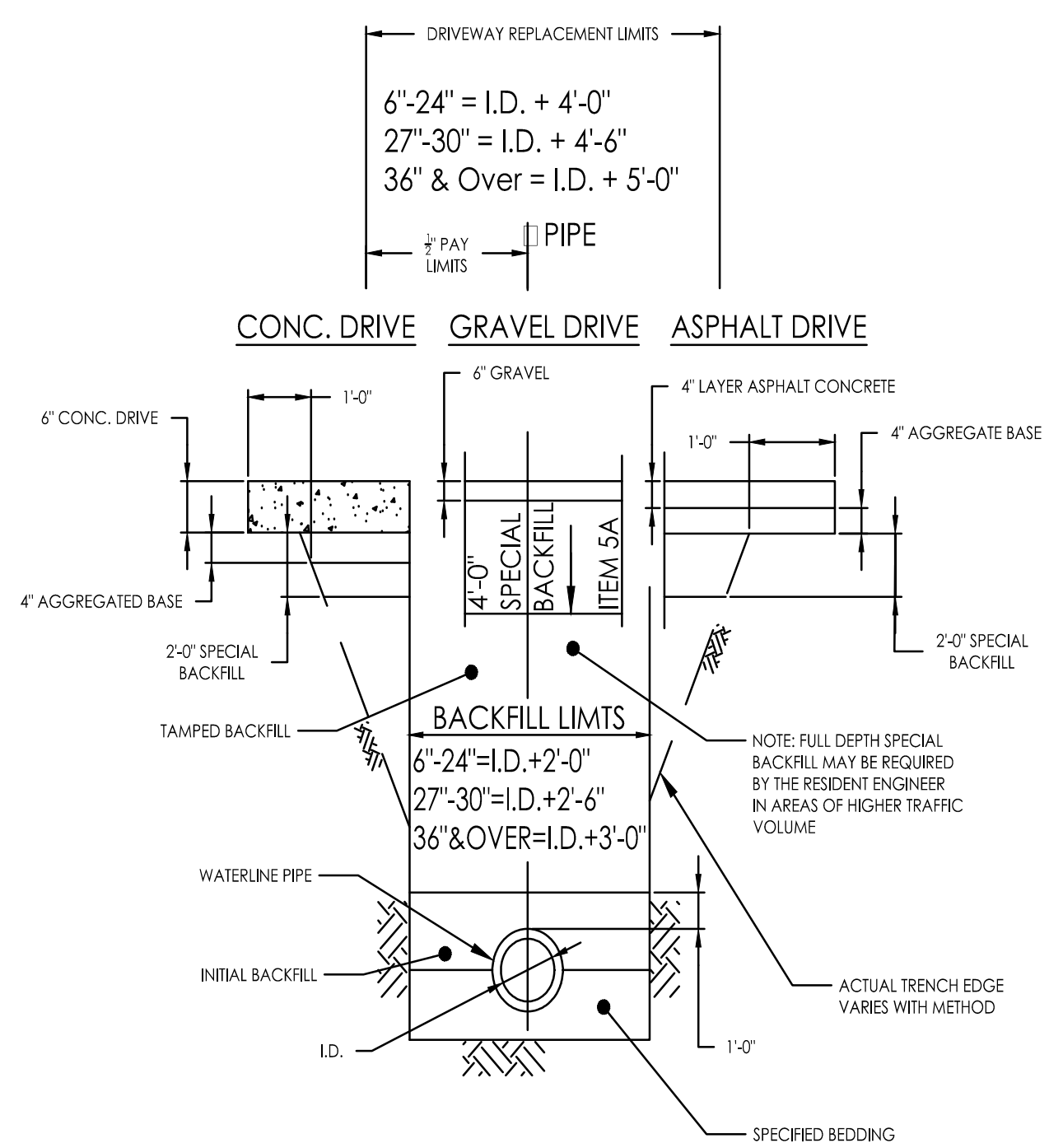


FILL CASING PIPE WITH SAND AFTER CARRIER PIPE IS IN PLACE. ENDS TO BE CLOSED OFF SUFFICIENTLY TO RETAIN THE SAND. FIELD-LOK GASKETS TO BE USED AT ALL PIPE JOINTS WITHIN CASING PIPE.

CASING PIPE DETAIL



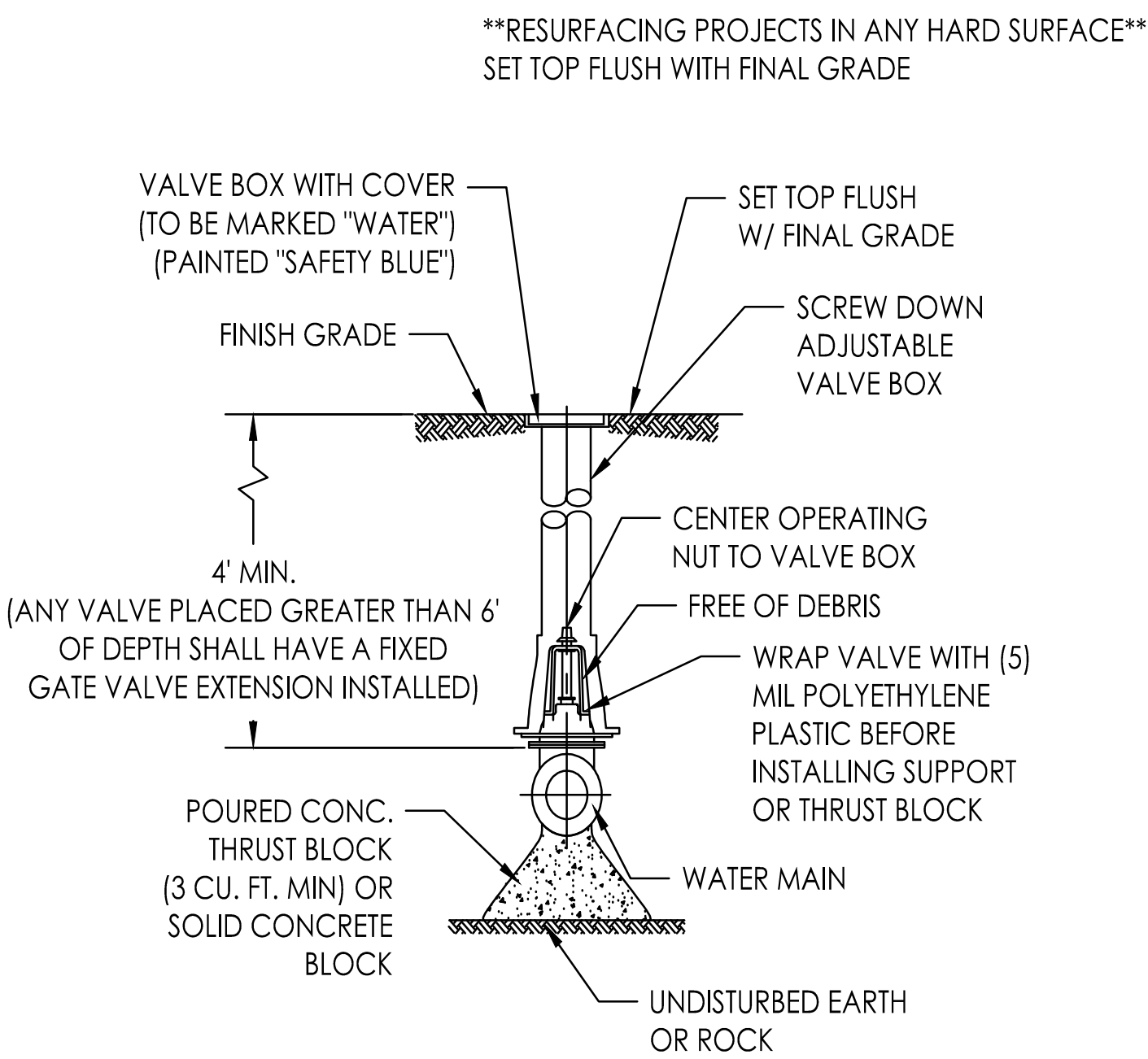
2" ADAPTOR & BLOW OFF ASSEMBLY



DRIVEWAY RESTORATIONS SHALL BE AS FOLLOWS: CONCRETE DRIVEWAYS WILL BE REPLACED FROM THE NEAREST EXISTING JOINT TO THE STREET, FULL SLAB REPLACEMENT. ASPHALT DRIVEWAYS WILL BE REPLACED FROM THE FARTHEST TRENCH CUT LINE TO THE STREET. REPAIRING ONLY THE TRENCH WIDTH CUT ACROSS A DRIVEWAY IS NOT ACCEPTABLE.

NOTE: THE CONTRACTOR SHALL MAINTAIN ALL DRIVEWAYS PRIOR TO DRIVEWAY REPLACEMENT.

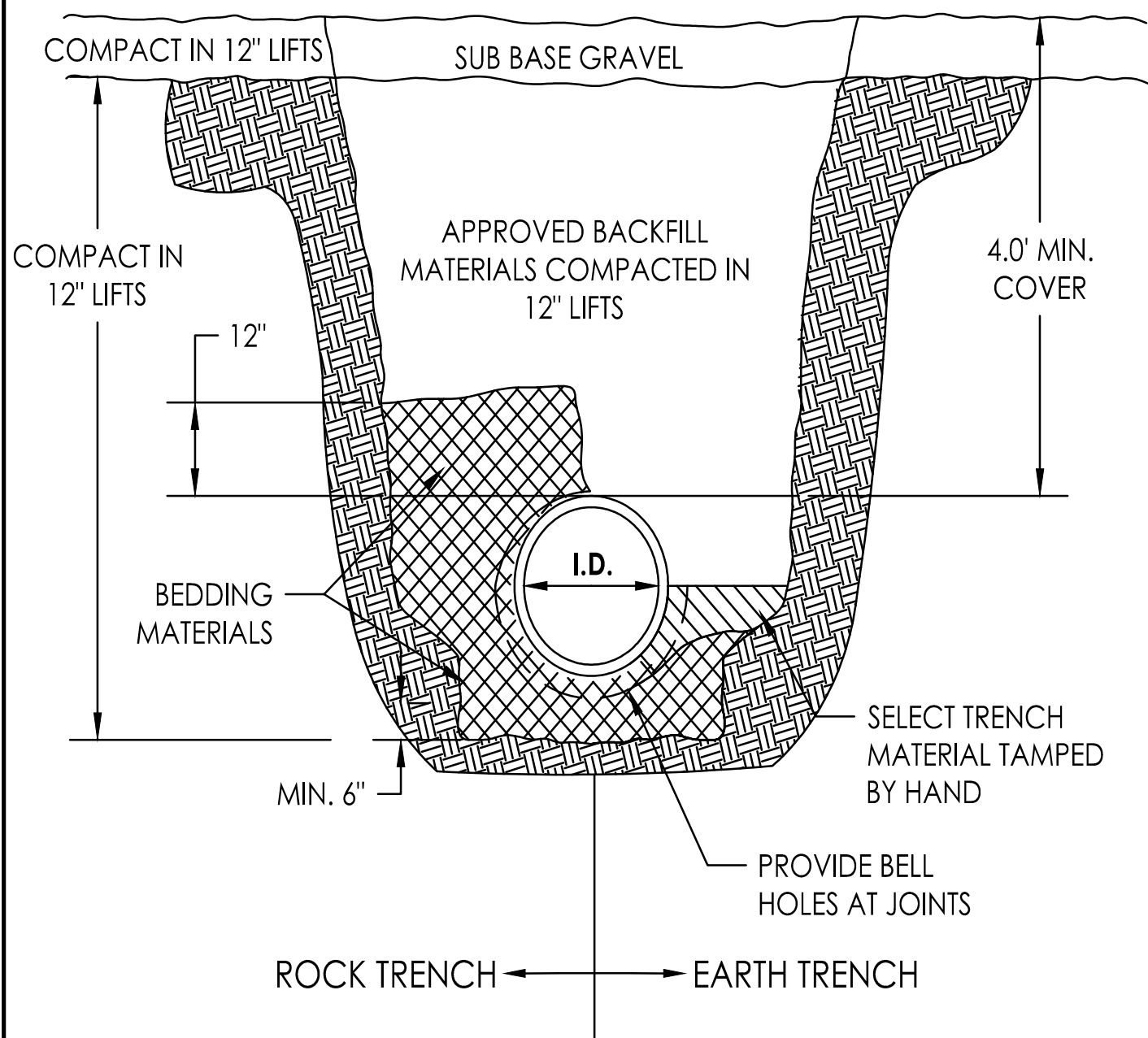
DRIVEWAY ~ PRIVATE DRIVE RESTORATION



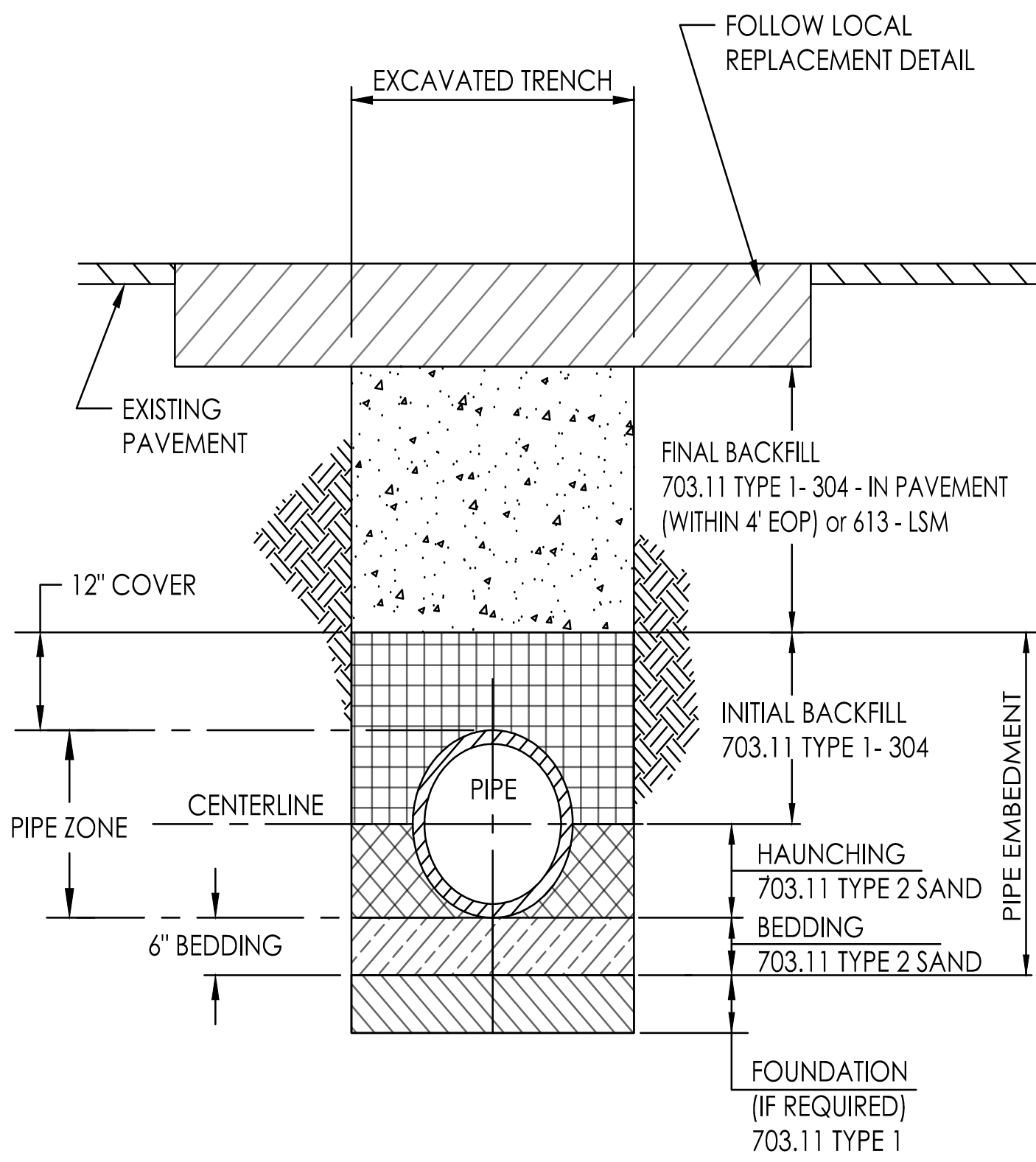
GATE VALVE INSTALLATION DETAIL

- ALL VALVE BOXES MUST BE KEPT FREE OF DEBRIS DURING CONSTRUCTION.

GATE VALVE INSTALLATION DETAIL



TYPICAL TRENCH DETAIL OUTSIDE OF PAVEMENT



TYPICAL TRENCH DETAIL INSIDE OF PAVEMENT

CALCULATED
JRG
CHECKED
JL

WATER WORK - AQUA DETAILS & NOTES

S.R. 172 LINCOLN WAY
(STA-172-6.44)

GENERAL CONSTRUCTION NOTES:

- 1. PRE-CONSTRUCTION MEETING WILL BE SCHEDULED PRIOR TO CONSTRUCTION WITH ALL APPROVING AGENCIES INVITED.
- 2. PRE-CONSTRUCTION VIDEOTAPE WILL BE MADE TO DOCUMENT EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
- 3. THE CONTRACTOR SHALL COORDINATE THE CROSSING OF RESIDENTIAL DRIVEWAYS TO MAINTAIN ACCESS.
- 4. TRAFFIC CONTROL WILL CONFORM TO STATE AND LOCAL REGULATIONS.
- 5. CONTRACTOR WILL PROVIDE AQUA WITH A SET OF AS BUILT DRAWINGS ONCE ALL WATER WORK RELATED WORK IS COMPLETED.

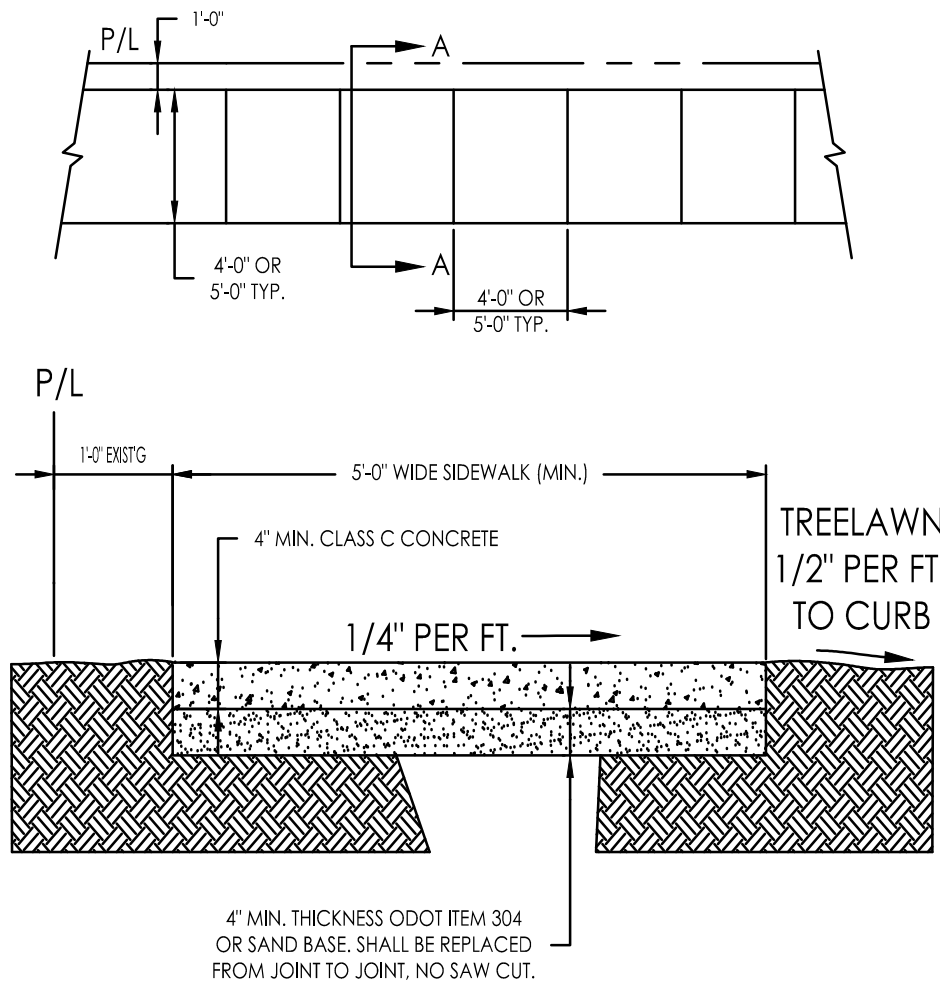
WHEN A LEAD WATER SERVICE IS UNCOVERED (CUSTOMER'S OR AQUA'S), THE CONTRACTOR SHALL NOTIFY THE AQUA CONSTRUCTION INSPECTOR FOR COORDINATION OF WORK.

PROHIBITION ON USING CUT-OFF SAWS. CONTRACTOR IS PROHIBITED FROM USING CUT-OFF SAWS TO PERFORM SERVICES FOR AQUA WHILE IN THE EXCAVATION TRENCH. A CUT-OFF SAW IS A POWER TOOL WHICH IS TYPICALLY USED TO CUT HARD MATERIALS, SUCH AS METALS. THE CUTTING ACTION IS PERFORMED BY AN ABRASIVE DISC, SIMILAR TO A GRINDING WHEEL OR A DIAMOND TIP STEEL BLADE. THESE TYPES OF SAWS CAN BE GASOLINE, HYDRAULIC OR PNEUMATIC POWERED. THIS TYPE OF SAW IS SOMETIMES REFERRED TO AS A DEMO SAW.

WATER WORK CONTINGENCY ITEMS:

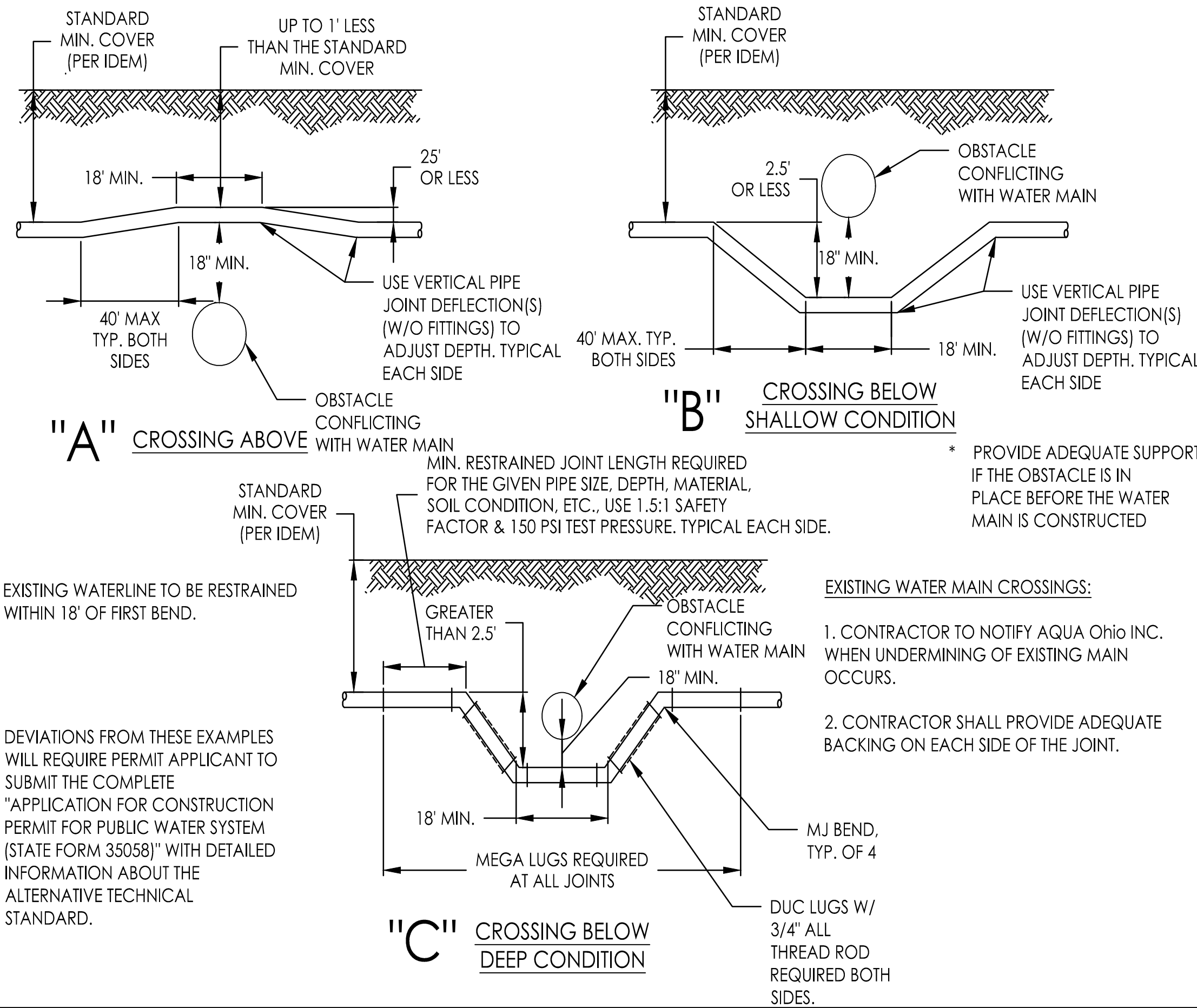
THE FOLLOWING ITEMS HAVE BEEN PROVIDED IN THE GENERAL SUMMARY TO BE USED WITH THE APPROVAL BY, AND IN DIRECTION OF, THE PROJECT ENGINEER. PERFORMANCE OF THIS WORK WITHOUT ANY AUTHORIZATION FROM THE PROJECT ENGINEER WILL RESULT IN NONPAYMENT.

ITEM 638 - VALVE BOX ADJUSTED TO GRADE	6 EACH
ITEM 638 - WATER WORK, MISC.: 1" SERVICE VALVE & BOX COMPLETE	5 EACH
ITEM 638 - WATER WORK, MISC.: CHLORINATION PIT	10 EACH



- 1. EXPANSION JOINTS OF APPROVED PREFORMED ASPHALT FIBRE, 1/4" THICK SHALL BE PROVIDED AT INTERVALS OF NOT MORE THAN TWENTY-FIVE FEET AND AS DEEMED NECESSARY, SUCH AS AT MANHOLES OR UTILITY POLES BETWEEN THE SIDEWALK AND ADJOINING STRUCTURES.
- 2. MINIMUM FALL FROM TOP OF SIDEWALK TO TOP OF CURB IS 6".
- 3. SIDEWALK THICKNESS SHALL BE 6" MINIMUM AT DRIVE APPROACHES.
- 4. CONCRETE SHALL BE 4000 PSI @ 28 DAYS CONFORMING TO ODOT SPECIFICATION #499.

TYPICAL SIDEWALK DETAIL



DESIGN CRITERIA FOR UTILITY CONFLICTS/CROSSINGS

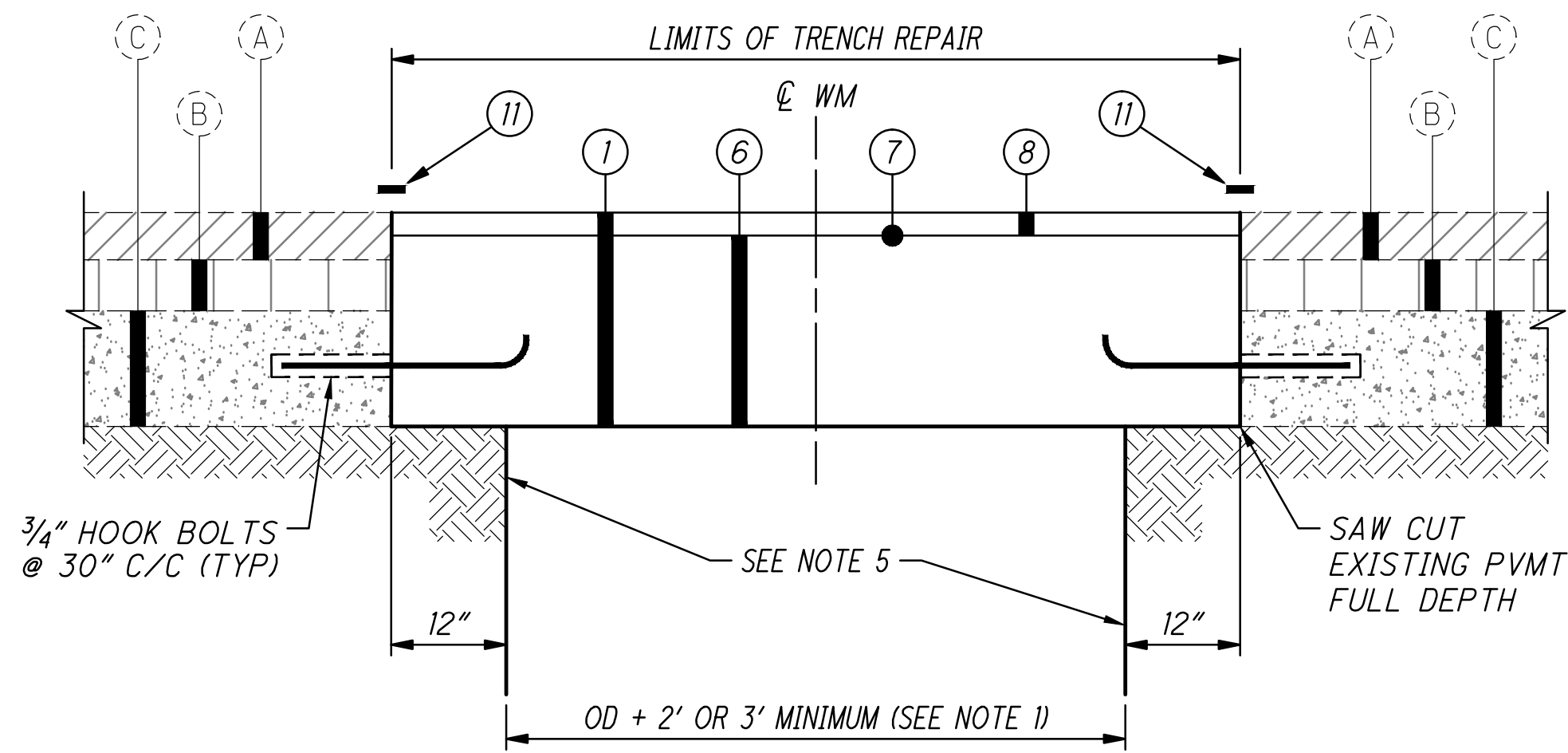
GENERAL WATERLINE INSTALLATION NOTES

- 1. CONTRACTOR TO PROVIDE LINE AND GRADE STAKES AT 100' INTERVALS FOR WATER MAIN AND FOR EACH FITTING AND APPURTENANCE. A COPY OF CUT SHEET SHALL BE PROVIDED TO FIELD INSPECTOR PRIOR TO INSTALLATION.
- 2. WATER WORK SHALL NOT BEGIN UNTIL AREAS OF WATERLINE CONSTRUCTION ARE ROUGH GRADED (WITHIN 1FT. OF FINISHED GRADE" AND FILL AREAS ARE COMPLETED AND COMPACTED.)
- 3. NO WATER SERVICE CONNECTIONS TO ANY BUILDINGS SHALL BE PERMITTED PRIOR TO FINAL ACCEPTANCE BY AQUA OHIO, INC. WHICH SHALL INCLUDE APPROVED RECTIFICATION OF ALL PUNCH LIST ITEMS. ONCE PUNCH LIST ITEMS ARE COMPLETED, THE BUILDER SHALL BE RESPONSIBLE FOR GRADE ADJUSTMENTS TO WATER FACILITIES AT TIME OF BUILDING CONSTRUCTION AND DURING FINAL SITE GRADING.
- 4. A MINIMUM OF 5 FEET HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN UTILITY CONDUIT CROSSOVERS AND WATERLINE APPURTENANCES, I.E. HYDRANTS, VALVES, TEES, ETC.
- 5. WATER LINE MATERIALS AND INSTALLATION PROCEDURES SHALL MEET OR EXCEED ALL APPLICABLE A.W.W.A. STANDARDS INCLUDING BUT NOT LIMITED TO THE MOST RECENT VERSIONS OF C600 AND C651.
- 6. WATERLINE MATERIAL AND INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH AQUA OHIO SPECIFICATIONS. CLASS 52 D.I.P. POLYWRAPPED, FITTINGS CLASS 53 CEMENT LINED POLYWRAPPED AND 1" K COPPER TUBING WITH COMPRESSION FITTINGS FOR DOMESTIC SERVICES OR 2" HDPE SDR 9 POLYETHYLENE 3408 PIPE AROUND CUL-DE-SAC. IF POLYETHYLENE IS USED, A 12 GAUGE WIRE AND METALLIC CAUTION TAPE MUST BE USED.
- 7. ALL PIPE AND APPURTENANCES INSTALLED ON A DEPRESSURIZED WATER MAIN ARE TO BE WIPED CLEAN AND ALL INTERIOR SURFACES SATURATED WITH A MINIMUM 1% CHLORINE SOLUTION.
- 8. ALL MECHANICAL JOINTS ARE TO BE RESTRAINED USING MEGALUG OR "FORD" EQUIVALENT. FIRE LINE RISERS TO INCLUDE (2) 5/8" ALL THREAD RODS EXTENDING FROM LOWER BEND TO RISER FLANGE.
- 9. A RESTRAINT GASKET (FIELD-LOK OR APPROVED EQUAL) SHALL BE UTILIZED ON PUSH-ON JOINTS AS REQUIRED BY AQUA OHIO STANDARDS.
- 10. ALL DUCTILE IRON PIPE AND FITTINGS TO BE POLYWRAPPED AND TAPED AS PER DUCTILE IRON PIPE RESEARCH ASSOCIATION RECOMMENDATIONS.
- 11. DUCTILE IRON IN CASING SHALL BE CLASS 52, POLYWRAPPED AND ALL PUSH-ON JOINTS SHALL BE EQUIPPED WITH RESTRAINT GASKETS (FIELD-LOK OR APPROVED EQUAL) AND STAINLESS STEEL CASING SPACERS ARE REQUIRED.
- 12. ALL THRUST BLOCKING WILL BE SOLID CONCRETE BLOCKS WITH OAK WEDGES OR POURED CONCRETE, PER AQUA STANDARDS DRAWING.
- 13. ALL VALVES ARE OPEN RIGHT AND ALL MAIN LINE VALVES ARE TO BE PLACED ON A MINIMUM OF ONE 4" SOLID CONCRETE BLOCK. ALL VALVES TO HAVE #57 LIMESTONE UP TO OPERATING NUT OF VALVE.
- 14. ALL FIRE HYDRANTS TO HAVE A MINIMUM OF 1/2 CUBIC YARD OF #57 LIMESTONE 6" ABOVE DRAIN HOLE OR EQUIVALENT SIZE BANK RUN GRAVEL. PLASTIC SHALL BE PLACED OVER STONE PRIOR TO BACKFILL. ALL HYDRANTS TO BE TURNED WITH 4-1/2" NOZZLE FACING STREET WITH 5' STORZ FITTING AND MEETING FIRE DEPARTMENT SPECIFICATIONS.
- 15. ALL VALVE BOX COVERS ARE TO BE PAINTED BLUE. CONTRACTOR IS RESPONSIBLE FOR ADJUSTMENTS TO VALVE BOXES, CURB BOXES, AND FIRE HYDRANTS WITH RESPECT TO FINAL GRADING. ALL VALVES BOXES IN NEW OR PROPOSED PAVEMENT SHALL BE SCREW TYPE.
- 16. WATERLINE WILL NOT BE ACCEPTED OR PLACED IN SERVICE UNTIL CONTRACTOR CONDUCTS AND OBTAINS SATISFACTORY RESULTS OF PRESSURE AND CHLORINE TESTS. BACTERIA TEST WILL THEN BE CONDUCTED BY AQUA OHIO. ALL VALVES, HYDRANTS, AND CURB BOXES ARE TO BE AT PROPER GRADE PRIOR TO ACCEPTANCE.

- 17. THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO ENSURE SAFETY OF THE PUBLIC ON AND SURROUNDING THE SITE DURING CONSTRUCTION.
- 18. THE LOCATION OF EXISTING UTILITIES AND STRUCTURES, BOTH ABOVE GROUND AND UNDERGROUND ARE SHOWN ON THE PLANS FROM DATA AVAILABLE AT THE TIME OF THE SURVEY AND ARE NOT NECESSARILY COMPLETE AND/OR CORRECT. THE EXACT LOCATION AND PROTECTION OF EXISTING UTILITIES AND STRUCTURES IS THE RESPONSIBILITY OF THE CONTRACTOR. DURING CONSTRUCTION, THE CONTRACTOR SHALL USE DUE DILIGENCE IN PROTECTING FROM DAMAGE ALL EXISTING UTILITIES AND STRUCTURES WHETHER SHOWN ON PLANS OR NOT. IF DAMAGE IS CAUSED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OR RESTORATION OF SAME IN ACCORDANCE WITH THE DIRECTIONS OF THE OWNER. THE CONTRACTOR SHALL CONTACT OHIO UTILITIES PROTECTION SERVICE, AT 1-800-362-2764, TWO WORKING DAYS PRIOR TO START OF CONSTRUCTION AS REQUIRED BY OHIO LAW.
- 19. THE WATERLINE SHALL BE INSTALLED AT 4'-0" OF COVER FROM EXISTING/PROPOSED GRADE TO TOP OF THE WATERLINE. THIS 4' SHALL BE MAINTAINED UNLESS OTHERWISE NOTED.
- 20. A MINIMUM 10' -0" HORIZONTAL SEPARATION MUST BE MAINTAINED BETWEEN ALL STORM AND SANITARY SEWERS AND WATERLINE, OUT TO OUT.
- 21. A MINIMUM 18" VERTICAL SEPARATION MUST BE MAINTAINED BETWEEN ALL STORM AND SANITARY SEWERS AND WATERLINE, OUT TO OUT.
- 22. DRIVEWAY RESTORATION SHALL BE AS FOLLOWS: CONCRETE DRIVEWAYS WILL BE REPLACED FROM THE NEAREST EXISTING JOINT TO THE STREET, FULL SLAB REPLACEMENT. ASPHALT DRIVEWAYS WILL BE REPLACED FROM THE FARTHEST TRENCH CUT LINE TO THE STREET. REPAIRING ONLY THE TRENCH WIDTH CUT ACROSS A DRIVEWAY ONLY IS NOT ACCEPTABLE.
- 23. THE CONTRACTOR SHALL VISIT THE SITE TO PERSONALLY ASCERTAIN THE NATURE OF THE WORK INVOLVED AND THOROUGHLY BECOME FAMILIAR WITH THE SITE PRIOR TO THE SUBMISSION OF HIS OR HER BID.
- 24. THE CONTRACTOR SHALL CAREFULLY LAYOUT THE WATERLINE AND ALL RELATED FACILITIES TO ENSURE THAT THEY ARE LOCATED WITHIN THE PUBLIC RIGHT-OF-WAY AND/OR ACQUIRED EASEMENTS AS INDICATED.
- 25. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING THE SITE (YARDS, DITCHES, DRIVEWAYS, ETC.) TO ITS ORIGINAL OR BETTER CONDITION UPON COMPLETION OF THE WATERLINE INSTALLATION.
- 26. THE CONTRACTOR MAY DEFLECT THE WATERLINE AS PER MANUFACTURER'S SPECS WITH PERMISSION FROM AQUA AS NEEDED TO MAINTAIN MINIMUM HORIZONTAL AND VERTICAL SEPARATION DISTANCES.
- 27. THE CONTRACTOR SHALL CAREFULLY PRESERVE BENCHMARKS, PROPERTY CORNERS, REFERENCE POINTS, AND ANY BENCHMARK, PROPERTY CORNER, OR SURVEY MARKER DAMAGED OR DISTURBED BY THE CONTRACTOR SHALL BE RESET BY AN OHIO REGISTERED PROFESSIONAL SURVEYOR AT THE CONTRACTORS EXPENSE.
- 28. ALL MAIL BOXES, TRAFFIC CONTROL SIGNS AND ADVERTISING SIGNS ENCOUNTERED DURING CONSTRUCTION SHALL BE REPLACED IMMEDIATELY AFTER THE WATER MAIN HAS BEEN INSTALLED AND BACKFILLED. TEMPORARY SIGNS TO BE USED AS NEEDED.
- 29. WATER SERVICE LINE CONNECTIONS ARE NOT TO BE INSTALLED UNTIL PRESSURE TEST AND BACTERIA TESTS HAVE BEEN APPROVED.
- 30. THE NORMAL WORKING PRESSURE IN WATER LINES SHALL NOT BE LESS THAN 35 PSI.
- 31. COMPACTION TESTING REQUIREMENTS AS PER ITEM 611.06 AND CONSTRUCTION INSPECTION FROM SUBMITTALS AS PER ITEM 611.04.C APPLY AND INCIDENTAL TO ANY PERTAINING ITEM 638 WATER WORK PAY ITEM.

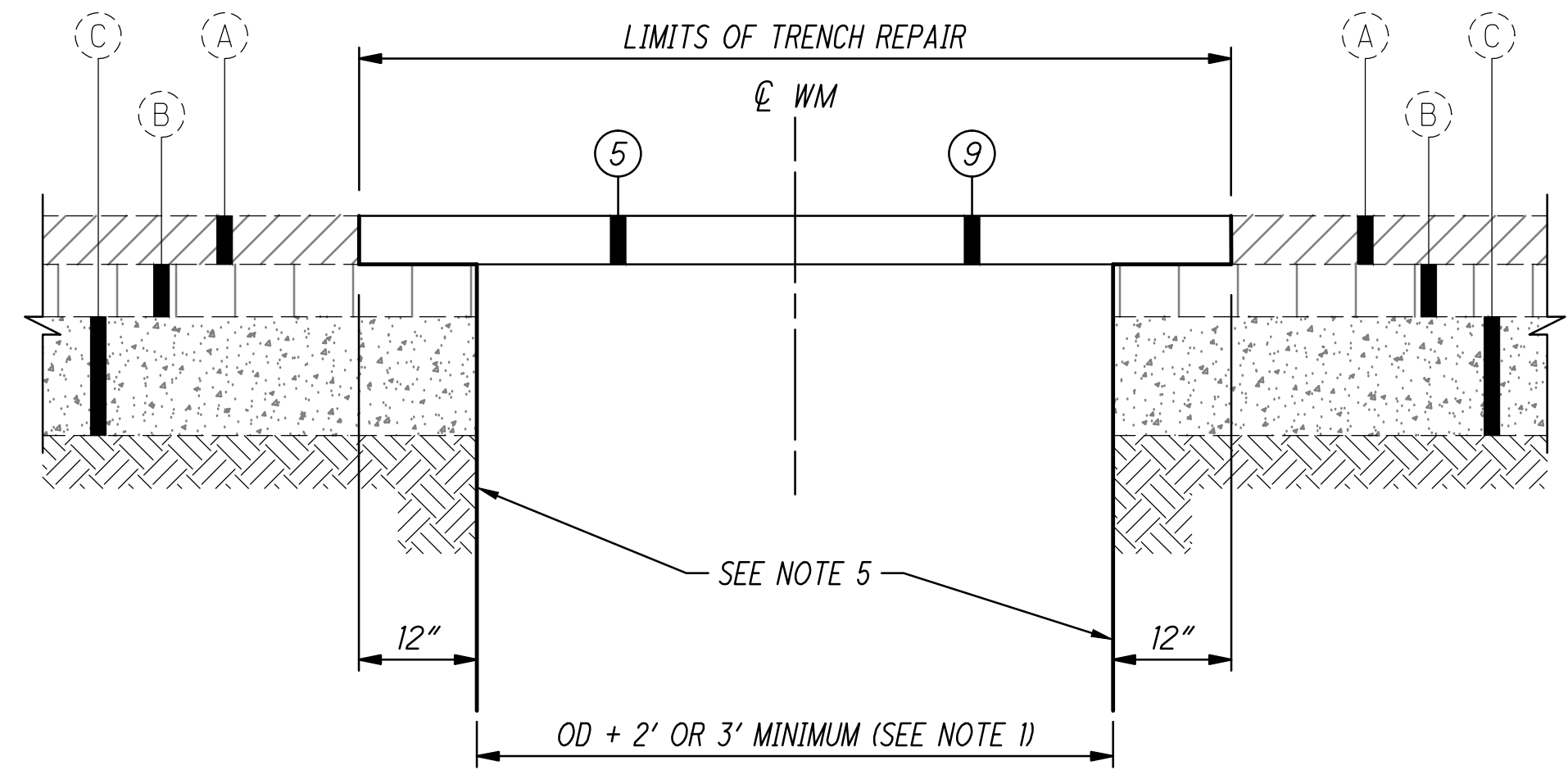
NOTE: THIS LIST DOES NOT SUPERCEDE CONTRACT SPECIFICATIONS AND IS INTENDED ONLY AS A GUIDELINE TO INSTALLING WATERLINES WITHIN THE AQUA OHIO SERVICE AREA. ANY QUESTIONS SPECIFIC TO YOUR PROJECT, SHOULD BE DISCUSSED WITH THE ONSITE INSPECTOR.

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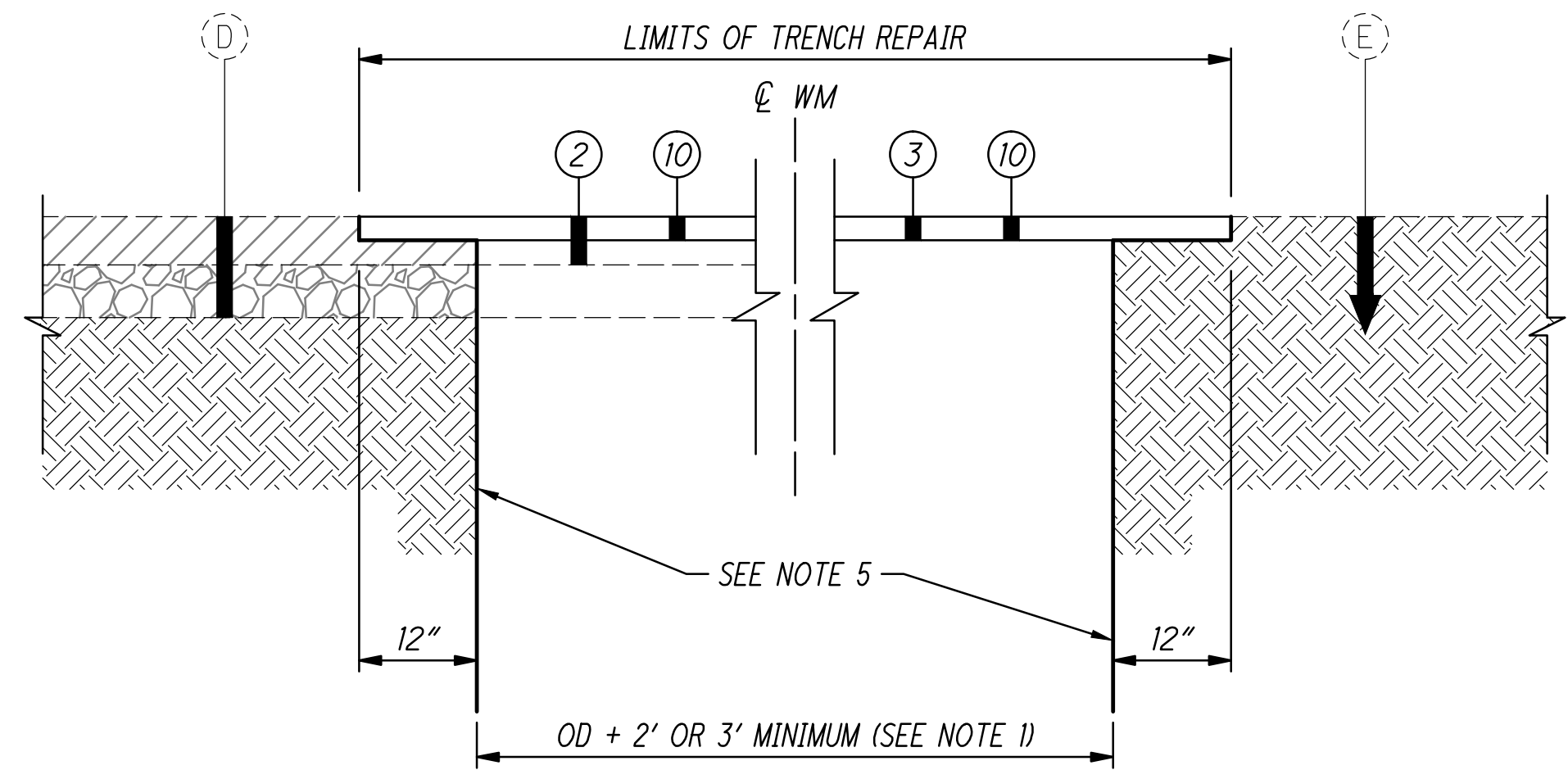
WATER MAIN TRENCH REPAIR, TYPE 1

PAY ITEM SPECIAL EXT 69098100 - FULL DEPTH REPAIR, MISC.: WATER MAIN TRENCH REPAIR, TYPE 1



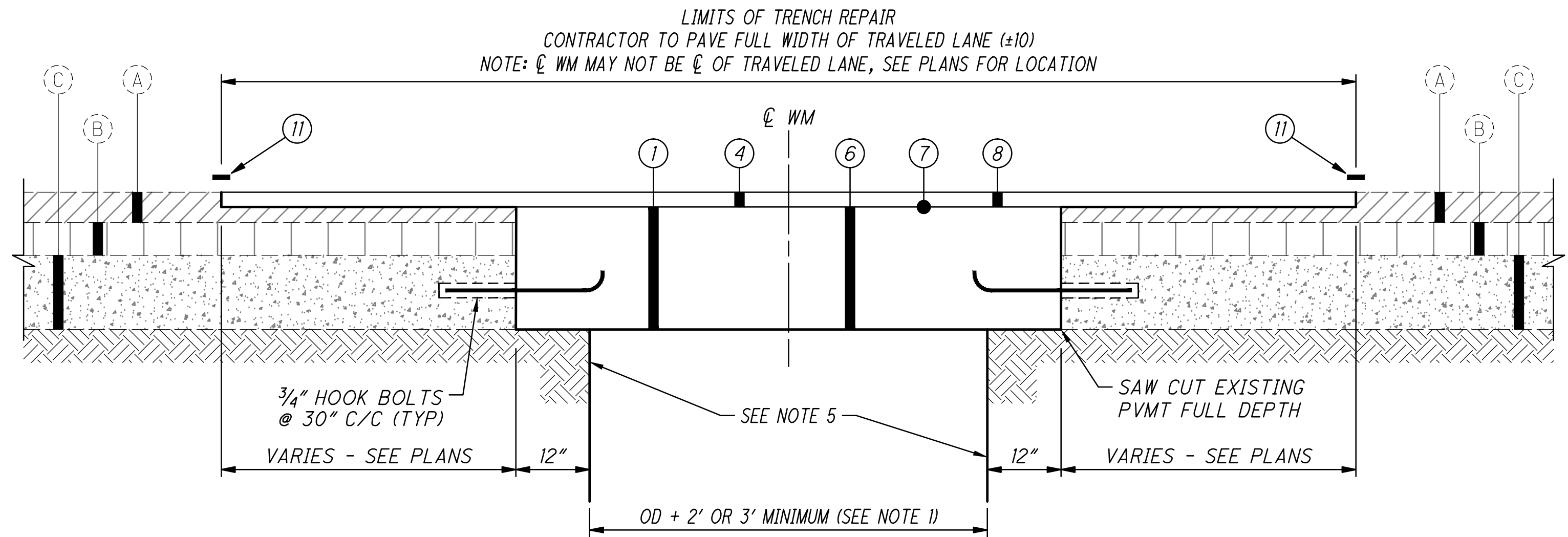
WATER MAIN TRENCH REPAIR, TYPE 3

PAY ITEM SPECIAL EXT 69098100 - FULL DEPTH REPAIR, MISC.: WATER MAIN TRENCH REPAIR, TYPE 3



WATER MAIN TRENCH REPAIR, TYPE 4

PAY ITEM SPECIAL EXT 69098100 - FULL DEPTH REPAIR, MISC.: WATER MAIN TRENCH REPAIR, TYPE 4



WATER MAIN TRENCH REPAIR, TYPE 2

PAY ITEM SPECIAL EXT 69098100 - FULL DEPTH REPAIR, MISC.: WATER MAIN TRENCH REPAIR, TYPE 2

LEGEND

- (A) EXISTING ASPHALT PAVEMENT ($\pm 4"$)
- (B) EXISTING BRICK
- (C) EXISTING CONCRETE BASE ($\pm 9"$)
- (D) EXISTING CONCRETE WALK
- (E) EXISTING EARTHEN AREA

- (1) ITEM 202 - PAVEMENT REMOVED
- (2) ITEM 202 - WALK REMOVED
- (3) ITEM 203 - EXCAVATION
- (4) ITEM 254 - 2" PAVEMENT PLANING, ASPHALT CONCRETE
- (5) ITEM 254 - 4" PAVEMENT PLANING, ASPHALT CONCRETE
- (6) ITEM 451 - 10" REINFORCED CONCRETE PAVEMENT CLASS QCMS, AS PER PLAN
- (7) ITEM 407 - TACK COAT (APPLIED AT A RATE OF 0.05 GAL/SY FOR SURFACE COURSE)
- (8) ITEM 441 - ASPHALT CONCRETE SURFACE COUSE, TYPE 1, (448), PG64-22 (2")
- (9) ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC (4")
- (10) ITEM 304 - 2" AGGREGATE BASE
- (11) ITEM 423 - CRACK SEALING, TYPE 3

WATER MAIN TRENCH REPAIR DESCRIPTIONS

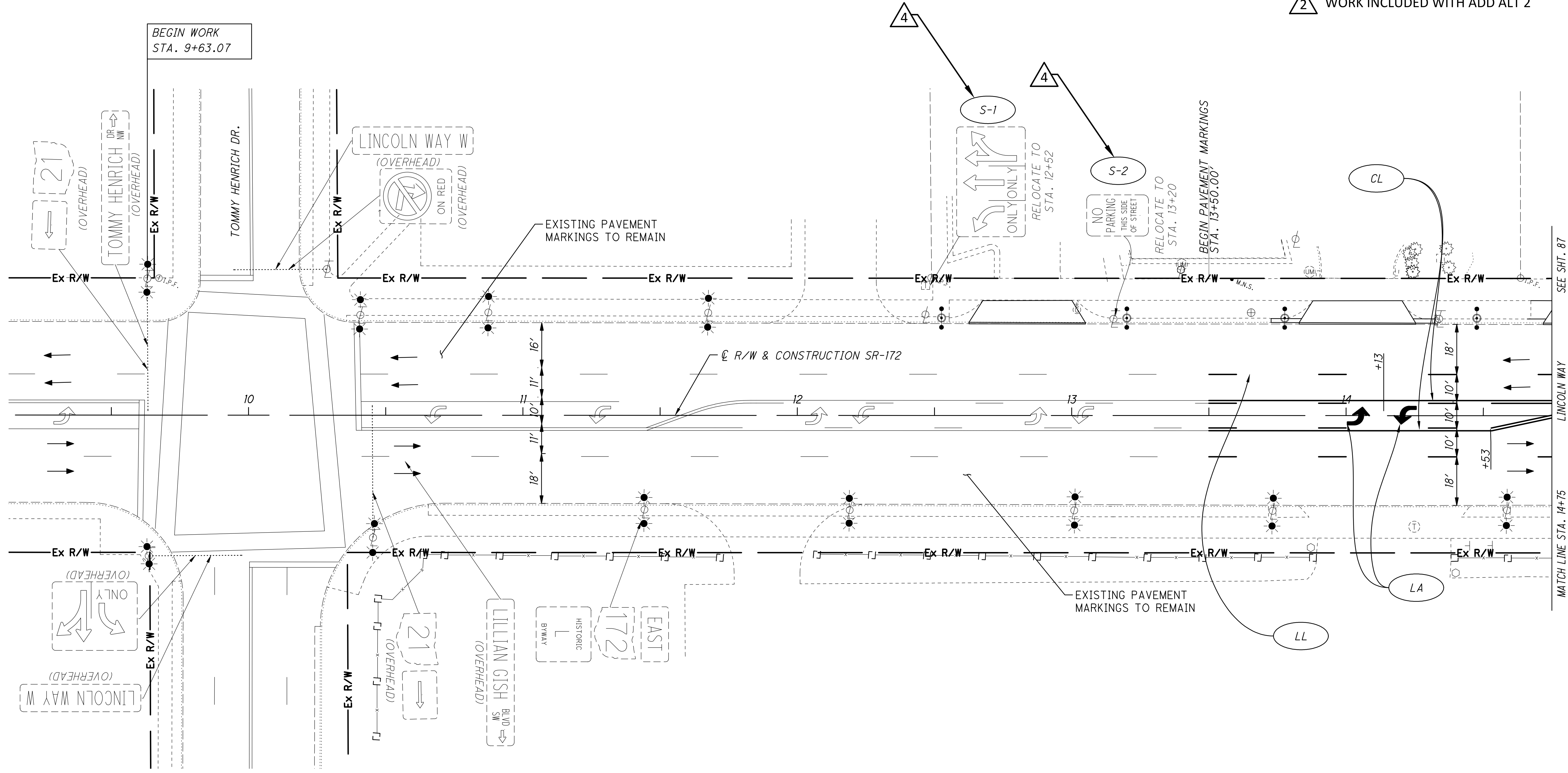
- TYPE 1 - THIS PAY ITEM HAS BEEN INCLUDED TO COVER ALL RESTORATIONS INCIDENTAL TO WATER WORK PAY ITEMS WITHIN THE PAVEMENT LIMITS (FACE OF CURB TO FACE OF CURB). THIS WORK INCLUDES, BUT IS NOT LIMITED TO, WATER MAIN INSTALLATIONS THAT DO NOT RUN IN LINE WITH THE TRAVELED LANE. THE PAVEMENT RESTORATION SHOWN HERE IS PERMANENT.
- TYPE 2 - THIS PAY ITEM HAS BEEN INCLUDED TO COVER ALL RESTORATIONS INCIDENTAL TO WATER WORK PAY ITEMS WITHIN THE PAVEMENT LIMITS (FACE OF CURB TO FACE OF CURB). THIS WORK INCLUDES, BUT IS NOT LIMITED TO, WATER MAIN INSTALLATIONS THAT DO RUN IN LINE WITH THE TRAVELED LANE. THE PAVEMENT RESTORATION SHOWN HERE IS PERMANENT.
- TYPE 3 - THIS PAY ITEM HAS BEEN INCLUDED TO COVER ALL TEMPORARY RESTORATIONS INCIDENTAL TO WATER WORK PAY ITEMS WITHIN THE PAVEMENT LIMITS (FACE OF CURB TO FACE OF CURB). THE PAVEMENT RESTORATION SHOWN HERE IS TEMPORARY AS IT FALLS WITHIN FULL DEPTH PAVEMENT RECONSTRUCTION LIMITS.
- TYPE 4 - THIS PAY ITEM HAS BEEN INCLUDED TO COVER ALL TEMPORARY RESTORATIONS INCIDENTAL TO WATER WORK PAY ITEMS OUTSIDE THE PAVEMENT LIMITS (FACE OF CURB TO R/W LIMITS). THE RESTORATION SHOWN HERE IS TEMPORARY AS IT FALLS WITHIN FUTURE WALK AND/OR LANDSCAPED AREAS THAT HAVE ALREADY BEEN ACCOUNTED FOR IN THE PLANS. IN AREAS WHERE WATER WORK OCCURS WITHIN AN EXISTING WALK, AND NO FUTURE WORK WILL BE PERFORMED, A QUANTITY OF ITEM 608 - 4" CONCRETE WALK, AS PER PLAN HAS BEEN ADDED TO THE WATER WORKS SUBSUMMARY. IN AREAS WHERE WATER WORK OCCURS WITHIN A NON-PAVED AREA, AND NO FUTURE WORK WILL BE PERFORMED, RESTORATION WILL BE INCIDENTAL TO THE WATER WORK PAY ITEM.

CALCULATED
JRG
CHECKED
JL

WATER WORK - TRENCH REPAIR DETAILS

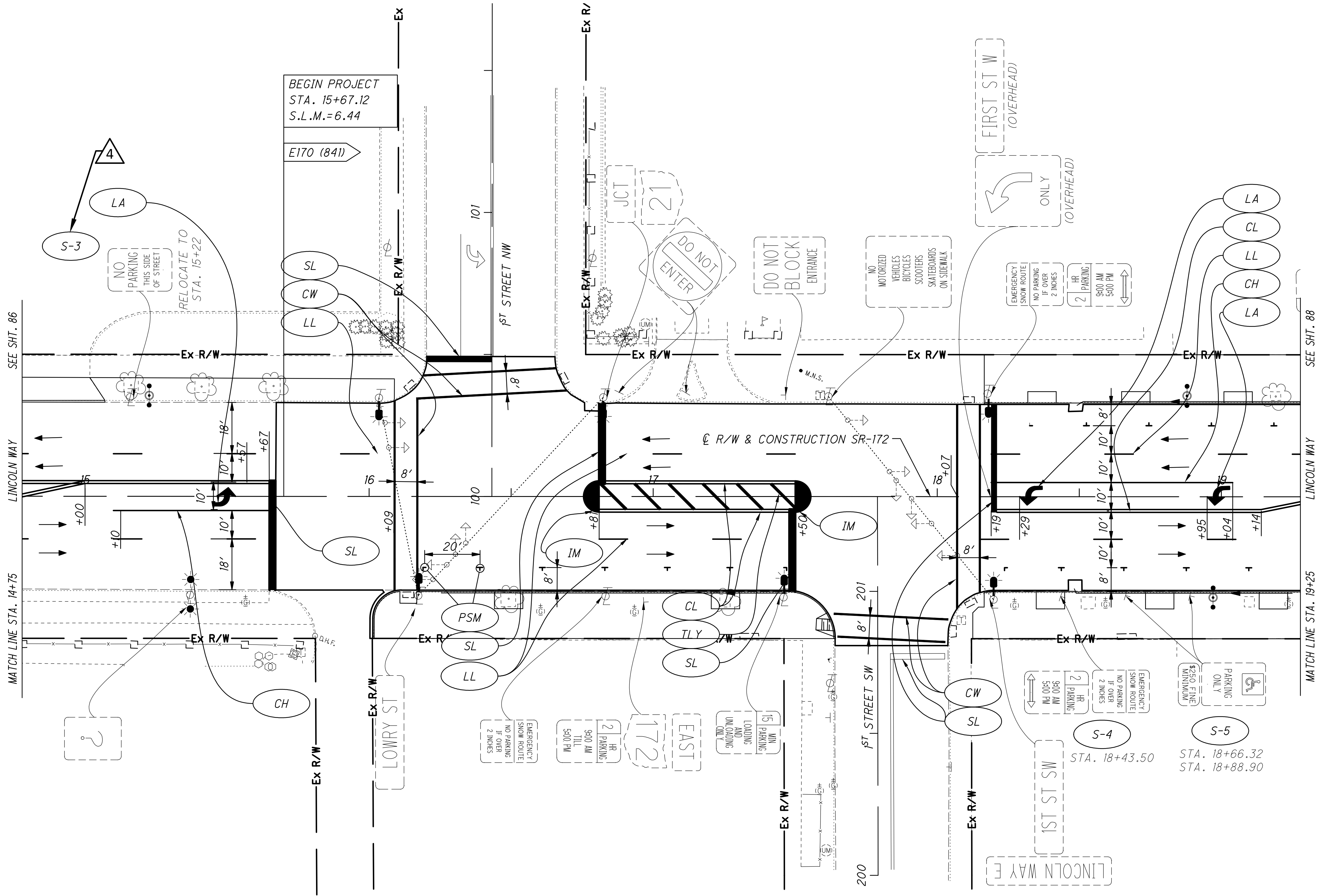
S.R. 172 LINCOLN WAY
(STA-172-6.44)

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TRAFFIC CONTROL PLAN LEGEND

- | | | | |
|-----|--|--|------------------------------|
| CL | CENTER LINE | | EXISTING SIGN, NO WORK |
| CH | CHANNELIZING LINE, 6" | | EXISTING SIGN TO BE RMOVED |
| CW | CROSSWALK LINE | | PROPOSED SIGN |
| LA | LANE ARROW | | EXISTING SIGN, RELOCATED |
| LL | LANE LINE, 4" | | TRAFFIC FLOW |
| PSM | PAVEMENT MARKING, MISC.: ON STREET PARKING | | |
| SL | STOP LINE | | |
| TDY | TRANSVERSE/ DIAGONAL LINE (YELLOW) | | |
| IM | ISLAND MARKING | | |
| | | | WORK INCLUDED WITH ADD ALT 4 |
| | | | WORK INCLUDED WITH ADD ALT 2 |



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
86	SIGN AND PAVEMENT MARKING PLAN LEGEND

CALCULATED
JUH

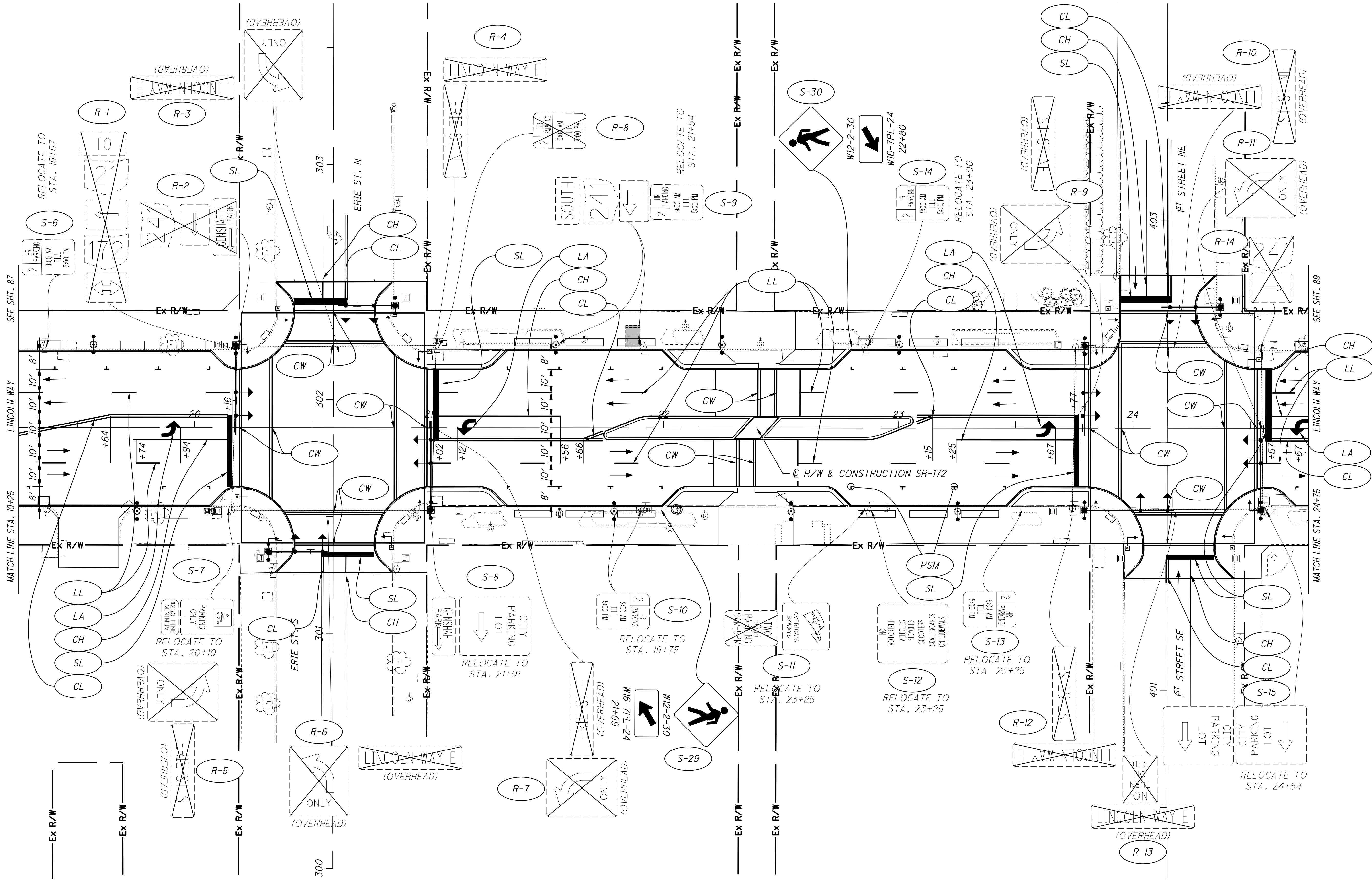
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HORIZONTAL
SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
STA. 14+75 TO STA. 19+25

S.R. 172 LINCOLN WAY
(STA-172-6.44)

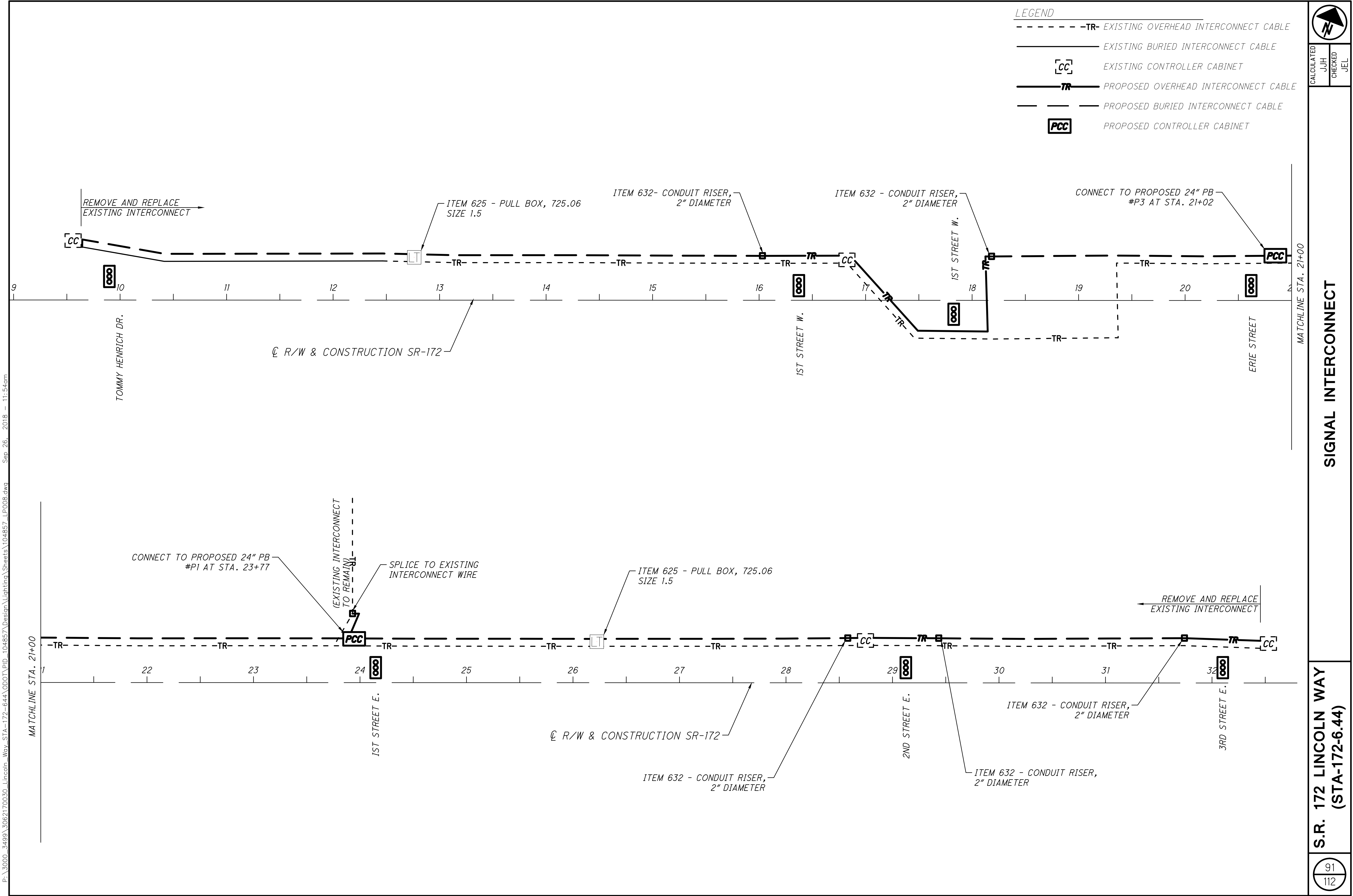


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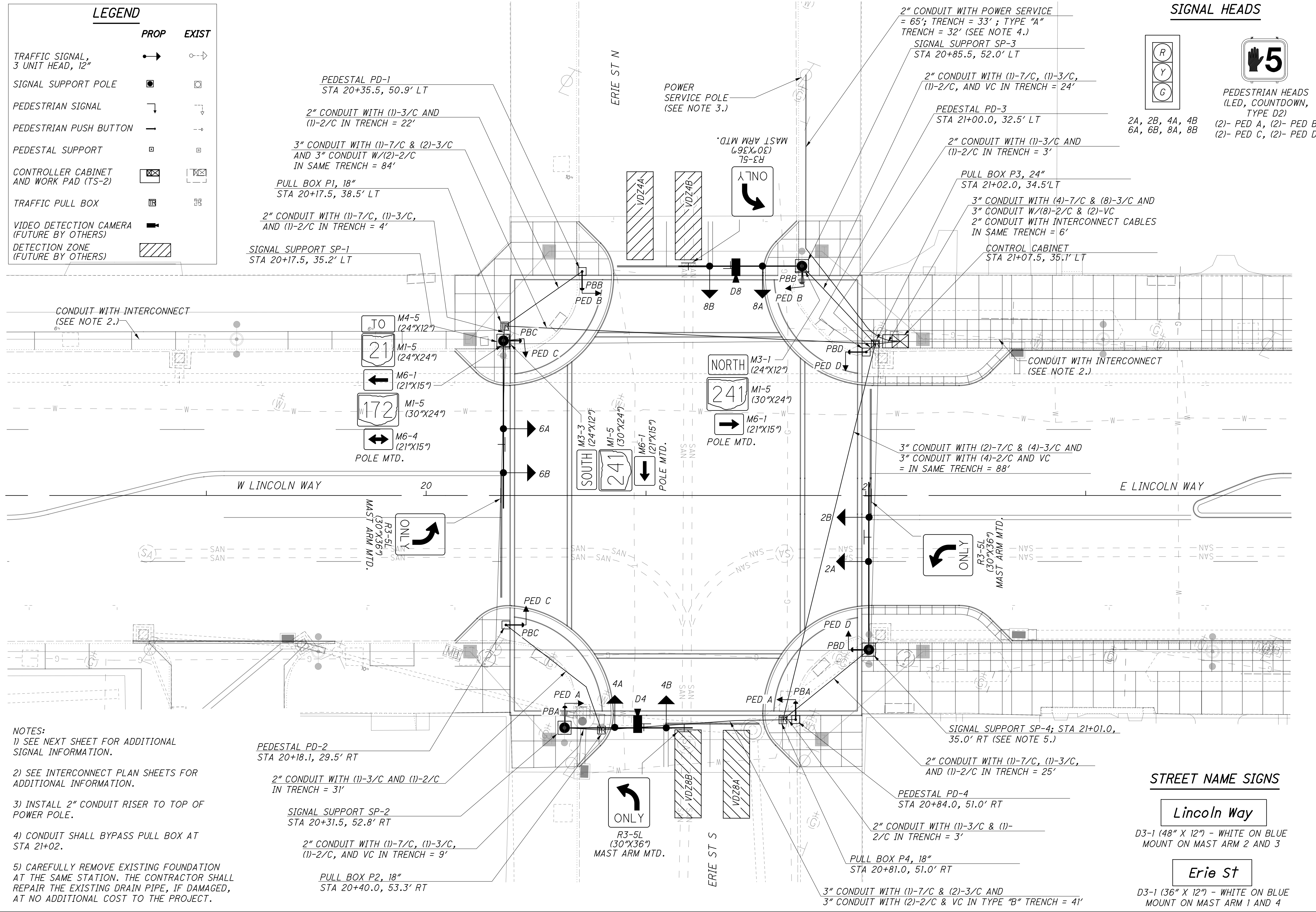
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CHECKED	JEL	



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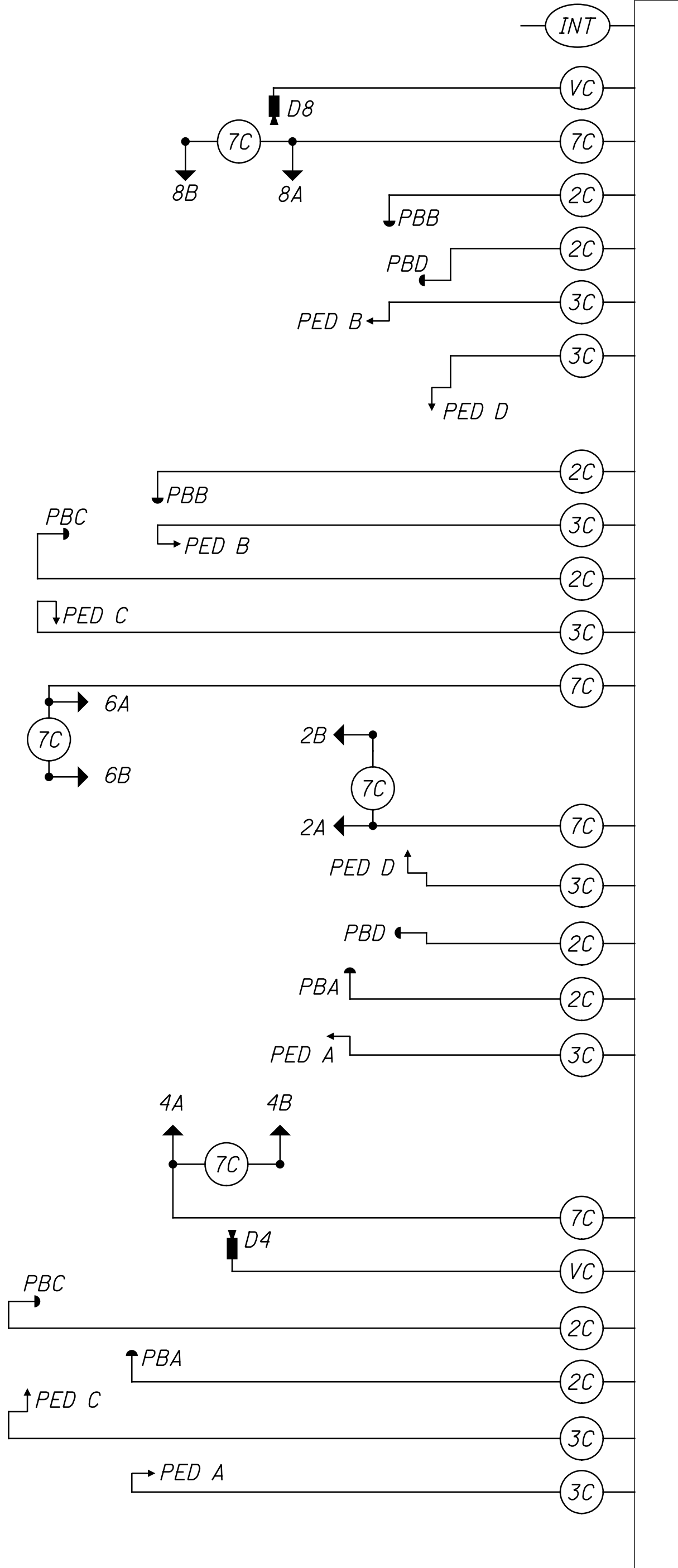
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WIRING DIAGRAM

(SEE LIGHTING PLANS FOR WIRING TO LUMINAIRES ON COMBINATION SIGNAL SUPPORTS)



FIELD WIRING HOOK-UP CHART (TEM FORM 496-16)

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH	SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
2A,2B (EB)	R	2 R	Y	4A,4B (SB)	R	4 R	R
	Y	2 Y			Y	4 Y	
	G	2 G			G	4 G	
6A,6B (WB)	R	6 R	Y	8A,8B (NB)	R	8 R	R
	Y	6 Y			Y	8 Y	
	G	6 G			G	8 G	
PEDESTRIAN MOVEMENTS							
PED A SOUTH	W	2 PED	OUT	PED C WEST	W	4 PED	OUT
	DW	2 PED			DW	4 PED	
PED B NORTH	W	6 PED	OUT	PED D EAST	W	8 PED	OUT
	DW	6 PED			DW	8 PED	

UNINTERRUPTIBLE POWER SUPPLY

DETECTION ZONE	MOVEMENT	PULSE OR PRESENCE	ASSOCIATED PHASE	DELAY IN CONTROLLER (SEC)	DELAY INHIBIT PHASE	PURPOSE	DETECTION ZONE LENGTH (FT)
VDZ4A	SB RT/THR	PRESENCE	4	10	--	CALL/EXTEND PHASE 4	20
VDZ4B	SB LT	PRESENCE	4	3	--	CALL/EXTEND PHASE 4	20
VDZ8A	NB RT/THR	PRESENCE	8	10	--	CALL/EXTEND PHASE 8	20
VDZ8B	NB LT	PRESENCE	8	3	--	CALL/EXTEND PHASE 8	20

WIRING DIAGRAM LEGEND

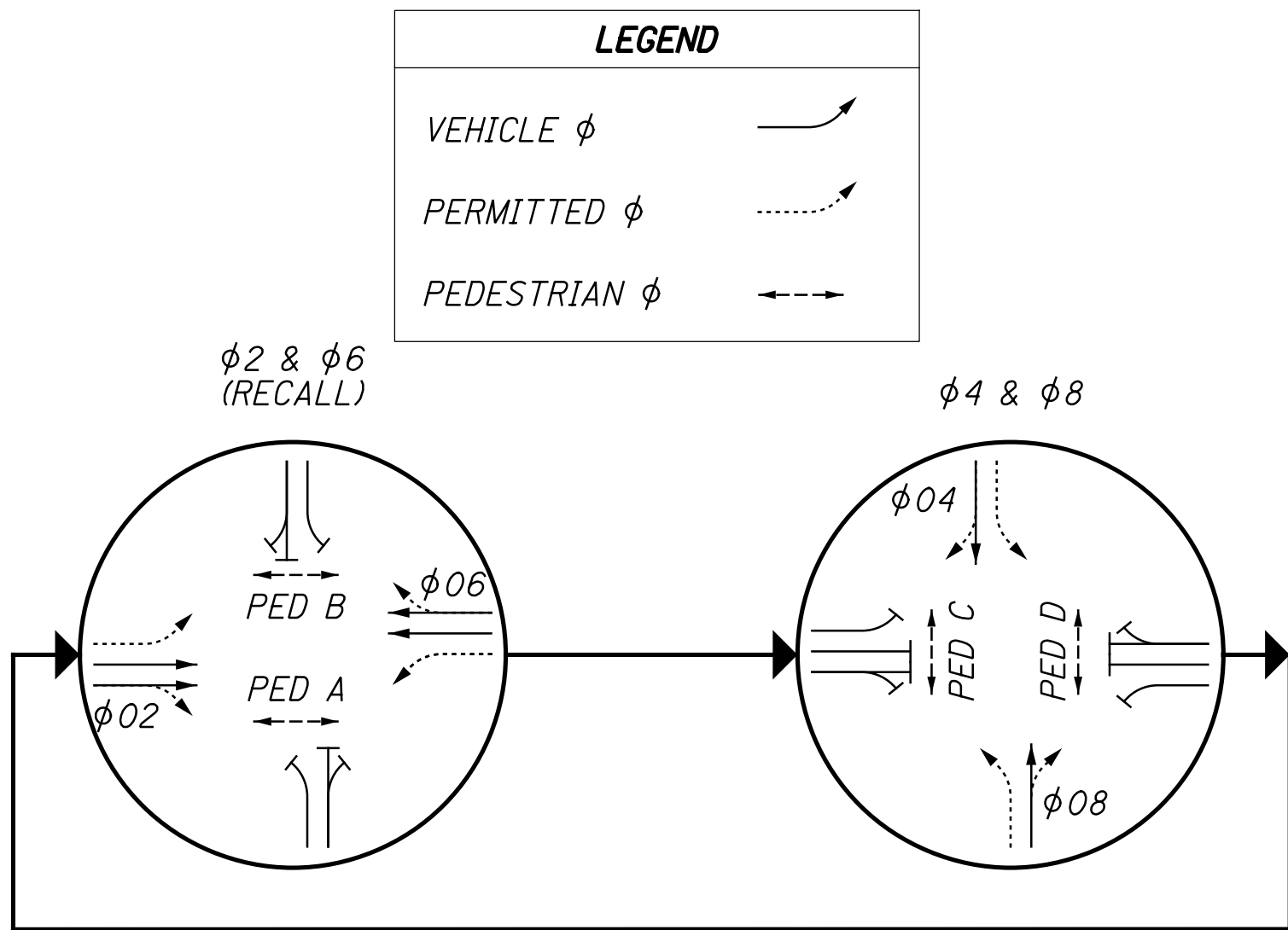
	3 SECTION VEHICULAR SIGNAL HEAD, 1-WAY		PEDESTRIAN SIGNAL HEAD		PEDESTRIAN PUSH BUTTON		VIDEO DETECTION CAMERA (FUTURE BY OTHERS)		METER BASE (MOUNT TO SIDE OF CONTROL CABINET)		INTERCONNECT CABLE		SIGNAL CABLE, 2 CONDUCTOR, NO. 14 AWG		SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG		SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG		VIDEO CAMERA CABLE (FUTURE BY OTHERS)		POWER SOURCE		SERVICE CABLE, BY POWER COMPANY		POWER CABLE, 2 CONDUCTOR, NO. 4 AWG		UNINTERRUPTIBLE POWER SUPPLY CABLE
--	--	--	------------------------	--	------------------------	--	---	--	---	--	--------------------	--	---------------------------------------	--	---------------------------------------	--	---------------------------------------	--	---------------------------------------	--	--------------	--	---------------------------------	--	-------------------------------------	--	------------------------------------

SIGNAL TIMING CHART (TEM FORM 496-3)

INTERSECTION: LINCOLN WAY AND ERIE STREET															
MAINTAINING AGENCY: CITY OF MASSILLON															
START UP START IN: YELLOW/RED FLASH TIME FOR FLASH OR ALL RED: 10 SEC - FIRST PHASE(S): 2 & 6 COLOR DISPLAYED: GREEN				DUAL ENTRY: YES		PHASES: -									
				REST IN RED:		RING 1		-		RING 2		-			
				OVERLAP				A		B		C		D	
				PHASES				-		-		-		-	
INTERVAL OR FEATURE				CONTROLLER MOVEMENT NO.											
INTERSECTION MOVEMENT (PHASE)				1	2	3	4	5	6	7	8				
DIRECTION				-	EB	-	SB	-	WB	-	NB				
MINIMUM GREEN (INITIAL) (SEC.)				-	17	-	10	-	17	-	10				
ADDED INITIAL *(SEC./ACTUATION)				-	-	-	-	-	-	-	-				
MAXIMUM INITIAL (SEC.)				-	-	-	-	-	-	-	-				
PASSAGE TIME (PRESET GAP) (SEC.)				-	-	-	2.0	-	-	-	2.0				
TIME BEFORE REDUCTION *(SEC.)				-	-	-	-	-	-	-	-				
MINIMUM GAP *(SEC.)				-	-	-	-	-	-	-	-				
TIME TO REDUCE *(SEC.)				-	-	-	-	-	-	-	-				
MAXIMUM GREEN I (SEC.)				-	40	-	22	-	40	-	22				
MAXIMUM GREEN II (SEC.)				-	-	-	-	-	-	-	-				
YELLOW CHANGE (SEC.)				-	3	-	3	-	3	-	3				
ALL RED CLEARANCE (SEC.)				-	2.5	-	3	-	2.5	-	3				
WALK (SEC.)				-	7	-	7	-	7	-	7				
PEDESTRIAN CLEARANCE (SEC.)				-	10	-	15	-	10	-	15				
RECALL		MAXIMUM (ON/OFF)	-	OFF	-	OFF	-	OFF	-	OFF					
		MINIMUM (ON/OFF)	-	ON	-	OFF	-	ON	-	OFF					
		PEDESTRIAN (ON/OFF)	-	ON	-	OFF	-	ON	-	OFF					
MEMORY (ON/OFF)			-	OFF	-	OFF	-	OFF	-	OFF					

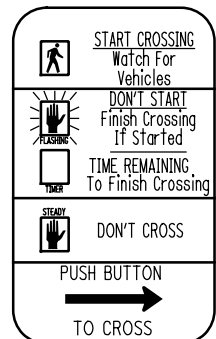
*VOLUME DENSITY CONTROLS

PHASING DIAGRAM (TYPICAL)



NOTES:
- COUNTDOWN PEDESTRIAN SIGNALS SHALL GO TO ZERO ON YELLOW PER OMUTCD FIGURE 4E-2.

PEDESTRIAN SIGNS



R10-3E-9*
4 - LEFT ARROWS
4 - RIGHT ARROWS

* PAYMENT FOR THE PEDESTRIAN SIGNS ARE INCIDENTAL TO ITEM 632 - PEDESTRIAN PUSHBUTTON.

TRAFFIC SIGNAL PLAN DETAILS
LINCOLN WAY AT ERIE STREET

S.R.172 LINCOLN WAY
(STA-172-6.44)

STREET NAME SIGNS

Lincoln Way E

D3-1 (48" X 12") - WHITE ON BLUE
MOUNT ON MAST ARM 2 AND 3

First St E

D3-1 (36" X 12") - WHITE ON BLUE
MOUNT ON MAST ARM 1 AND 4

2" CONDUIT WITH POWER SERVICE
IN TRENCH = 36'

PEDESTAL PD-1
STA 23+89.4, 50.9' LT

2" CONDUIT WITH (1)-3/C AND
(1)-2/C IN TRENCH = 18'

SIGNAL SUPPORT SP-1
STA 23+79.5, 35.0' LT

PULL BOX P1, 24"
STA 23+77.2, 38.0' LT

3" CONDUIT WITH (4)-7/C & (8)-3/C AND
3" CONDUIT WITH (8)-2/C & (2)-VC
2" CONDUIT WITH INTERCONNECT CABLES
IN TRENCH = 5'

CONTROL CABINET
STA 23+73.5, 35' LT

2" CONDUIT WITH (1)-7/C, (1)-3/C,
AND (1)-2/C IN TRENCH = 4'

CONDUIT WITH INTERCONNECT
SEE NOTE 2.)

E LINCOLN WAY

23

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3" CONDUIT WITH (2)-7/C & (4)-3/C
AND 3" CONDUIT WITH (4)-2/C & VC
IN TYPE "B" TRENCH = 75'

2" CONDUIT WITH (1)-7/C, (1)-3/C,
(1)-2/C, AND VC IN TRENCH = 4'

PULL BOX P2, 18"
STA 23+76.0, 37.0' RT

SIGNAL SUPPORT SP-2
STA 23+79.5, 35.1' RT

3" CONDUIT WITH (1)-7/C & (2)-3/C
AND 3" CONDUIT WITH (2)-2/C IN
TRENCH = 65'

2" CONDUIT WITH (1)-3/C & (1)-2/C
IN TRENCH = 26'

PEDESTAL PD-2
STA 23+97.7, 51.2' RT

POWER
SERVICE POLE
(SEE NOTE 3.)

MAST ARM MTD.
R3-5L
(30"X36")

NO
TURN
ON RED
R10-11b
(24"X24")
MAST ARM MTD.

NO
TURN
ON RED
R10-11b
(24"X24")
MAST ARM MTD.

NO
TURN
ON RED
R10-11b
(24"X24")
MAST ARM MTD.

ONLY
R3-5L
(30"X36")
MAST ARM MTD.

FIRST ST. NE

FIRST ST. SE

SIGNAL SUPPORT SP-3
STA 24+37.3, 51.6' LT

2" CONDUIT WITH (1)-7/C, (1)-3/C,
(1)-2/C, AND VC IN TRENCH = 24'

3" CONDUIT WITH (1)-7/C & (2)-3/C AND
3" CONDUIT WITH (2)-2/C & VC IN TRENCH = 77'

PULL BOX P3, 18"
STA 24+54.0, 34.0' LT

2" CONDUIT WITH (1)-3/C AND
(1)-2/C IN TRENCH = 5'

PEDESTAL PD-3
STA 24+53.7, 29.3' LT

NO
TURN
ON RED
R10-11b
(24"X24")
MAST ARM MTD.

ONLY
R3-5L
(30"X36")
MAST ARM MTD.

SIGNAL SUPPORT SP-4
STA 24+54.3, 35.1' RT

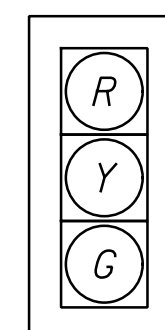
2" CONDUIT WITH (1)-7/C, (1)-3/C,
AND (1)-2/C IN TRENCH = 22'

PEDESTAL PD-4
STA 24+42.4, 51.0' RT

2" CONDUIT WITH (1)-3/C & (1)-2/C
IN TRENCH = 4'

PULL BOX P4, 18"
STA 24+38.8, 51.0' RT

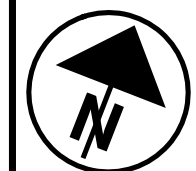
SIGNAL HEADS



PEDESTRIAN HEADS
(LED, COUNTDOWN,
TYPE D2)

2A, 2B, 4A, 4B
6A, 6B, 8A, 8B

(2)- PED A, (2)- PED B
(2)- PED C, AND (2)- PED D



0 5 10 20
HORIZONTAL
SCALE IN FEET

CALCULATED
SWC
CHECKED
MJC

TRAFFIC SIGNAL PLAN LINCOLN WAY AT FIRST STREET E

S.R.172 LINCOLN WAY
(STA-172-6.44)

94
112

- NOTES:
- 1) SEE NEXT SHEET FOR ADDITIONAL
SIGNAL INFORMATION.
 - 2) SEE INTERCONNECT PLAN FOR
ADDITIONAL INFORMATION.
 - 3) INSTALL 2" CONDUIT RISER TO TOP
OF POWER POLE.
 - 4) SUPPORT SP-1 IS NEAR AN EXISTING
GAS LINE. THE CONTRACTOR SHALL HAND
DIG THE POLE FOUNDATION, IF NECESSARY.

LEGEND

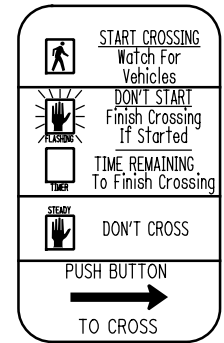
	PROP	EXIST
TRAFFIC SIGNAL, 3 UNIT HEAD, 12"		
SIGNAL SUPPORT POLE		
PEDESTRIAN SIGNAL		
PEDESTRIAN PUSH BUTTON		
PEDESTAL SUPPORT		
CONTROLLER CABINET AND WORK PAD (TS-2)		
TRAFFIC PULL BOX		
VIDEO DETECTION CAMERA (FUTURE BY OTHERS)		
DETECTION ZONE (FUTURE BY OTHERS)		

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FIELD WIRING HOOK-UP CHART (TEM FORM 496-16)

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH	SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
2A,2B (EB)	R	2 R	Y	4A,4B (SB)	R	4 R	R
	Y	2 Y			Y	4 Y	
	G	2 G			G	4 G	
6A,6B (WB)	R	6 R	Y	8A,8B (NB)	R	8 R	R
	Y	6 Y			Y	8 Y	
	G	6 G			G	8 G	
PEDESTRIAN MOVEMENTS							
PED A	W	2 PED	OUT	PED C	W	4 PED	OUT
SOUTH	DW	2 PED		WEST	DW	4 PED	
PED B	W	6 PED	OUT	PED D	W	8 PED	OUT
NORTH	DW	6 PED		EAST	DW	8 PED	

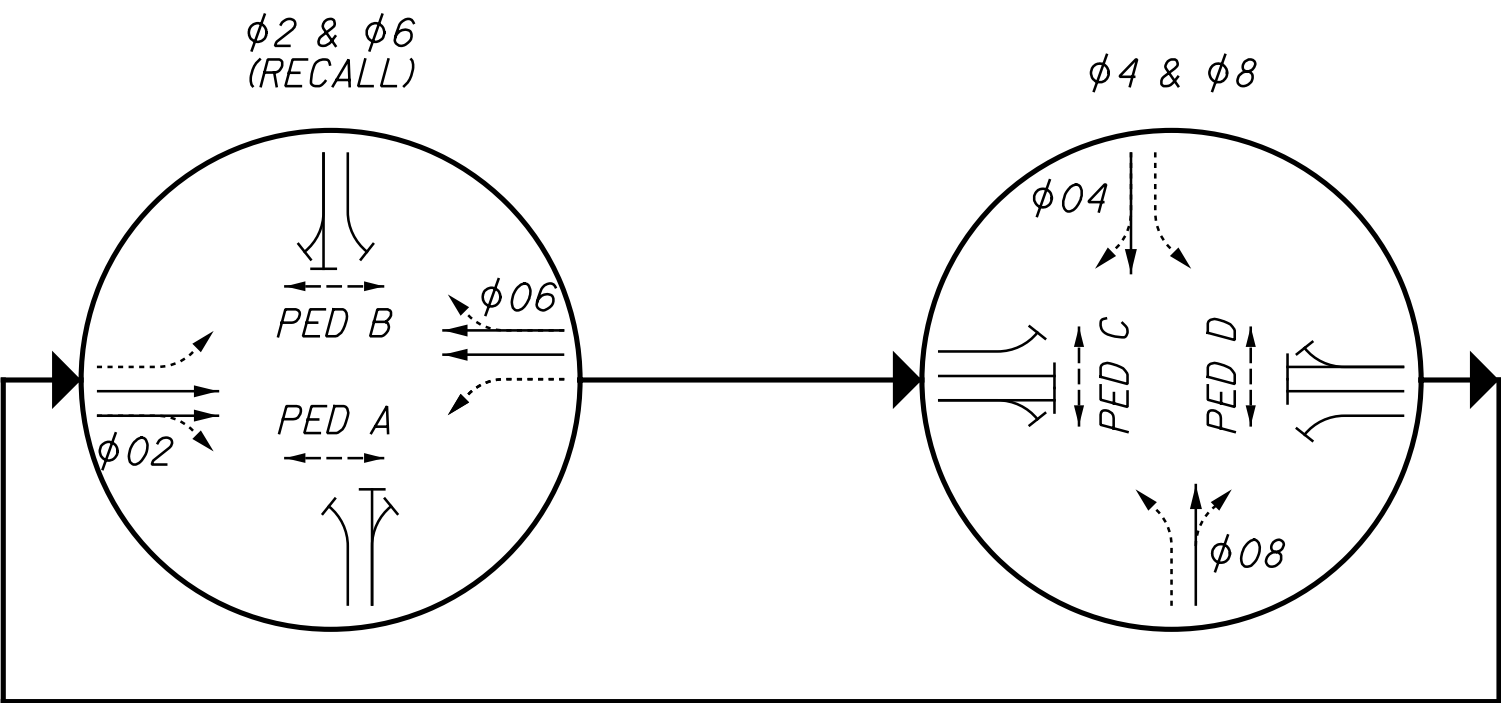
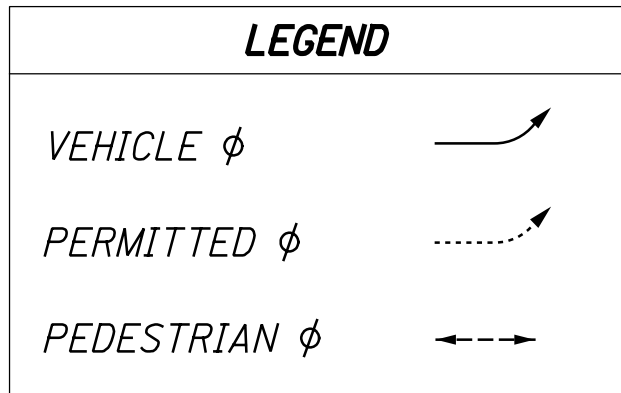
PEDESTRIAN SIGNS



R10-3E-9*
4 - LEFT ARROWS
4 - RIGHT ARROWS

* PAYMENT FOR THE PEDESTRIAN SIGNS ARE INCIDENTAL TO ITEM 632 - PEDESTRIAN PUSHBUTTON.

PHASING DIAGRAM (TYPICAL)

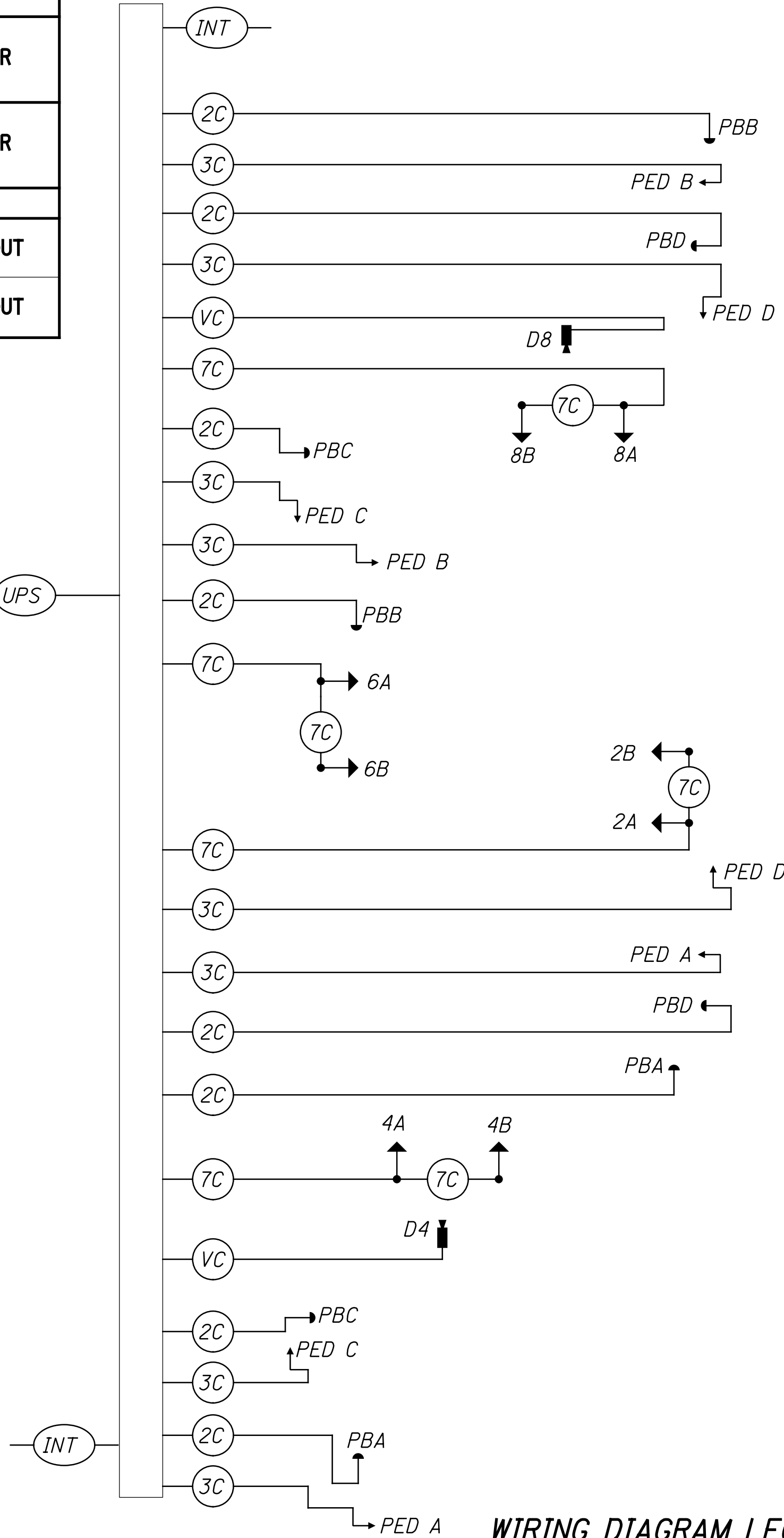


NOTES:

- COUNTDOWN PEDESTRIAN SIGNALS SHALL GO TO ZERO ON YELLOW PER OMUTCD FIGURE 4E-2.

WIRING DIAGRAM

(SEE LIGHTING PLANS FOR WIRING TO LUMINAIRES ON COMBINATION SIGNAL SUPPORTS)



WIRING DIAGRAM LEGEND

- 3 SECTION VEHICULAR SIGNAL HEAD, 1-WAY
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- VIDEO DETECTION CAMERA (FUTURE BY OTHERS)
- METER BASE (MOUNT TO SIDE OF CONTROL CABINET)
- INTERCONNECT CABLE

- SIGNAL CABLE, 2 CONDUCTOR, NO. 14 AWG
- SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG
- SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG
- VIDEO CAMERA CABLE (FUTURE BY OTHERS)

- POWER SOURCE
- SERVICE CABLE, BY POWER COMPANY
- POWER CABLE, 2 CONDUCTOR, NO. 4 AWG
- UNINTERRUPTIBLE POWER SUPPLY CABLE

SIGNAL TIMING CHART (TEM FORM 496-3)

INTERSECTION: LINCOLN WAY AND ERIE STREET													
MAINTAINING AGENCY: CITY OF MASSILLON													
START UP START IN: YELLOW/RED FLASH TIME FOR FLASH OR ALL RED: 10 SEC - FIRST PHASE(S): 2 & 6 COLOR DISPLAYED: GREEN				DUAL ENTRY: YES		PHASES: -							
				REST IN RED:		RING 1		RING 2		-			
				OVERLAP				A		B		C D	
				PHASES				-		-		- -	
INTERVAL OR FEATURE				CONTROLLER MOVEMENT NO.									
INTERSECTION MOVEMENT (PHASE)				1	2	3	4	5	6	7	8		
DIRECTION				-	EB	-	SB	-	WB	-	NB		
MINIMUM GREEN (INITIAL) (SEC.)				-	17	-	10	-	17	-	10		
ADDED INITIAL *(SEC./ACTUATION)				-	-	-	-	-	-	-	-		
MAXIMUM INITIAL (SEC.)				-	-	-	-	-	-	-	-		
PASSAGE TIME (PRESET GAP) (SEC.)				-	-	-	2.0	-	-	-	2.0		
TIME BEFORE REDUCTION *(SEC.)				-	-	-	-	-	-	-	-		
MINIMUM GAP *(SEC.)				-	-	-	-	-	-	-	-		
TIME TO REDUCE *(SEC.)				-	-	-	-	-	-	-	-		
MAXIMUM GREEN I (SEC.)				-	40	-	22	-	40	-	22		
MAXIMUM GREEN II (SEC.)				-	-	-	-	-	-	-	-		
YELLOW CHANGE (SEC.)				-	3	-	3	-	3	-	3		
ALL RED CLEARANCE (SEC.)				-	2.5	-	3	-	2.5	-	3		
WALK (SEC.)				-	7	-	7	-	7	-	7		
PEDESTRIAN CLEARANCE (SEC.)				-	10	-	15	-	10	-	15		
RECALL		MAXIMUM (ON/OFF)	-	OFF	-	OFF	-	OFF	-	OFF			
		MINIMUM (ON/OFF)	-	ON	-	OFF	-	ON	-	OFF			
		PEDESTRIAN (ON/OFF)	-	ON	-	OFF	-	ON	-	OFF			
MEMORY (ON/OFF)			-	OFF	-	OFF	-	OFF	-	OFF			

*VOLUME DENSITY CONTROLS

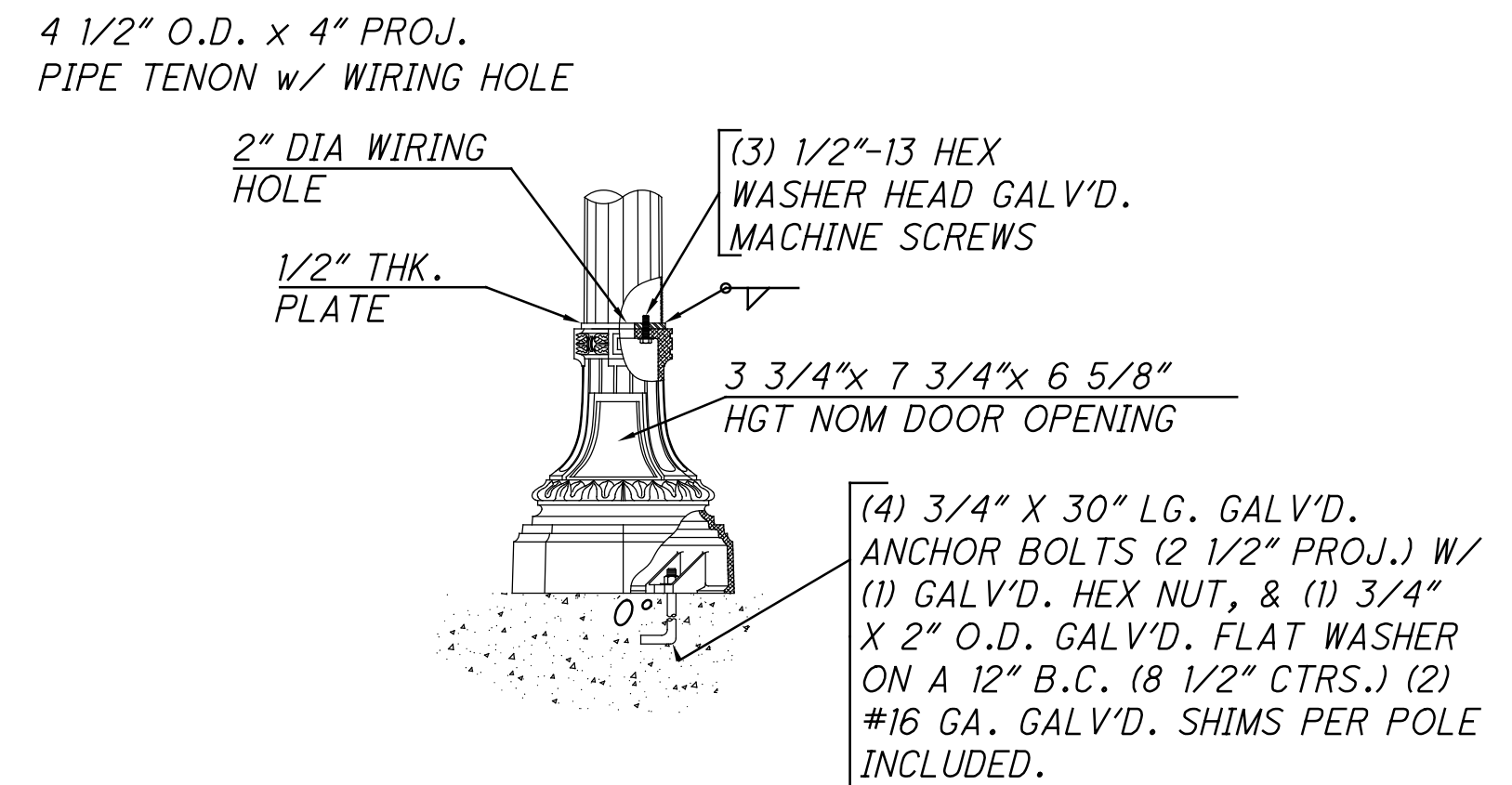
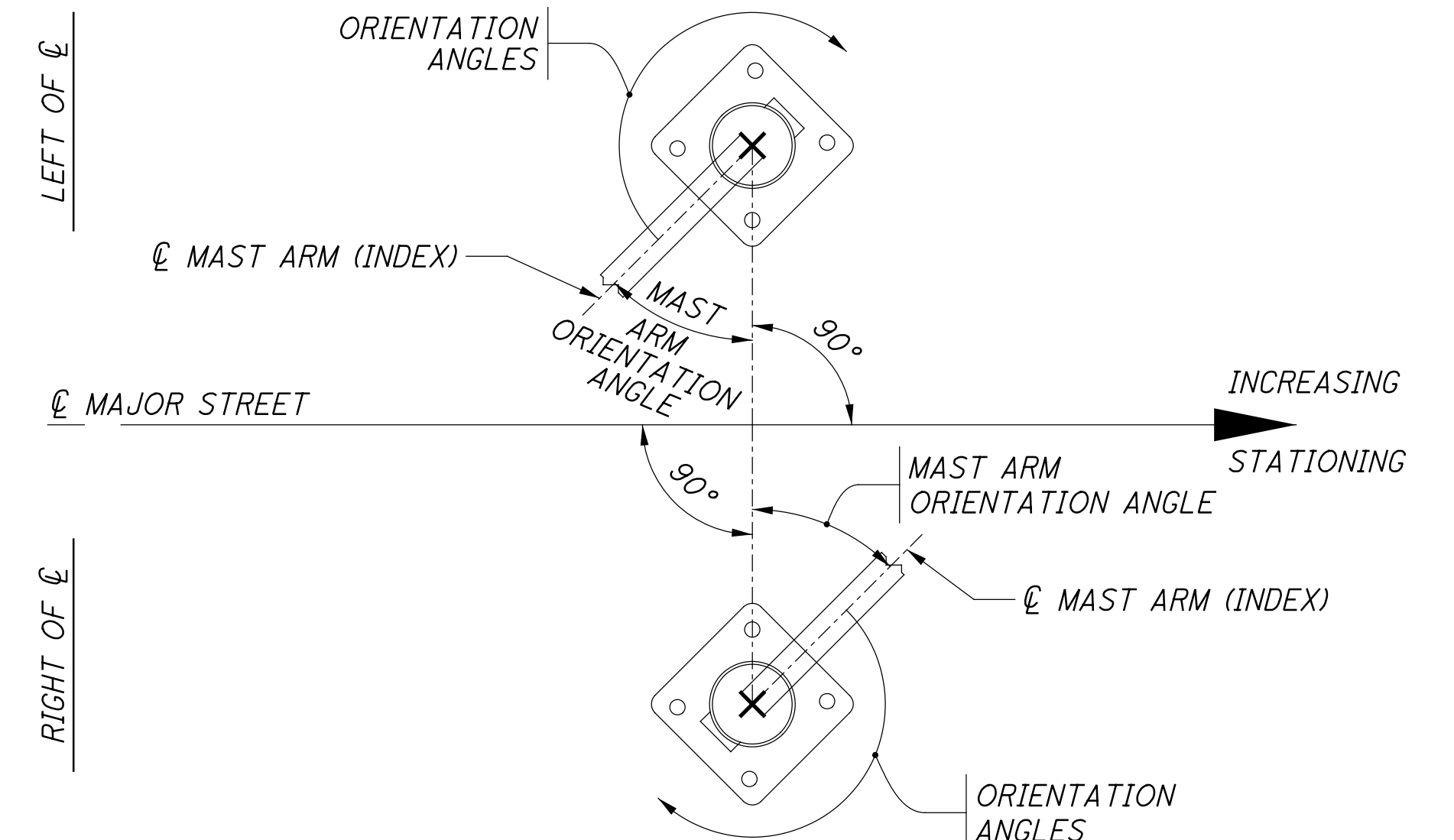
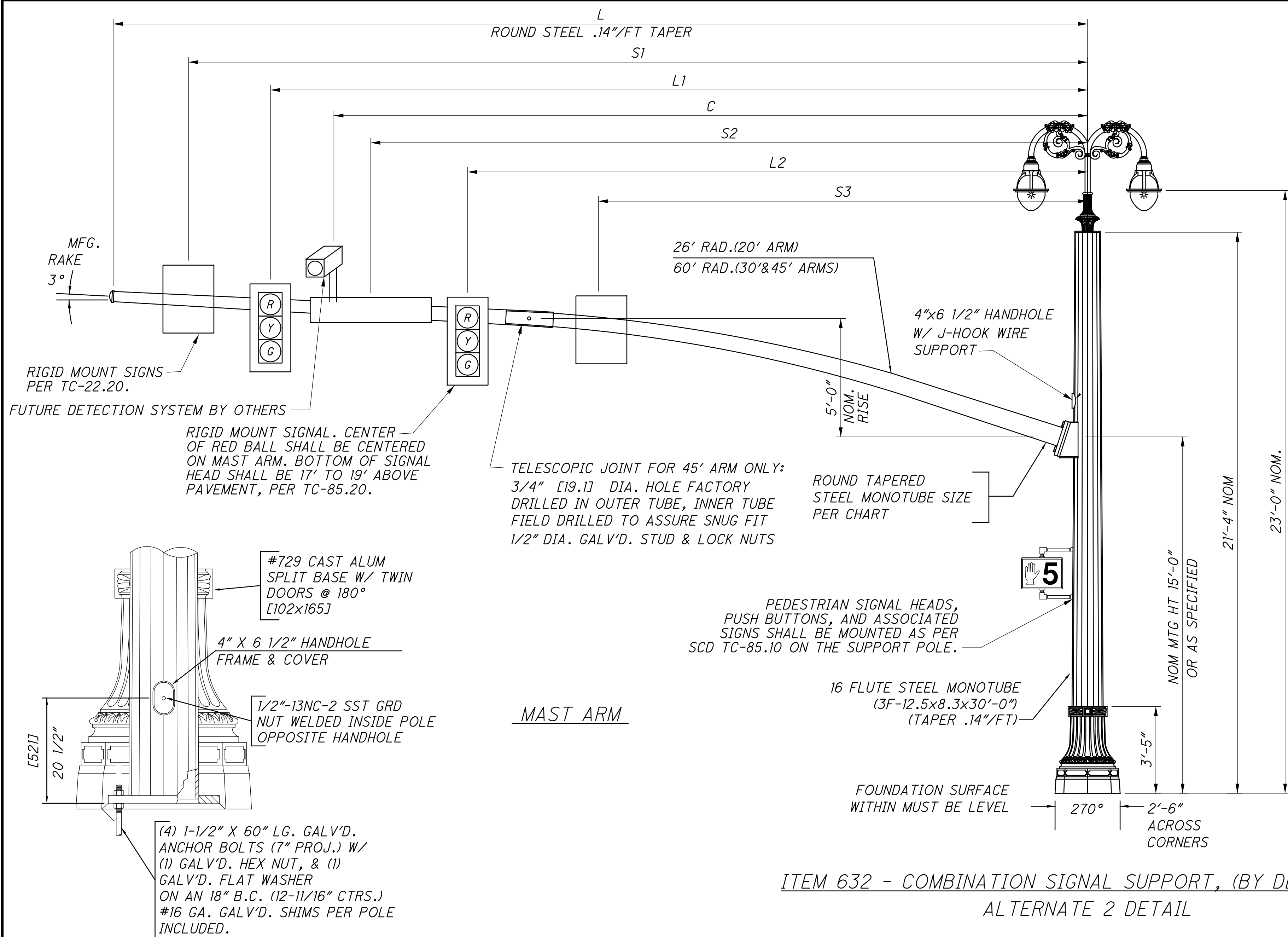
DETECTION ZONE	MOVEMENT	PULSE OR PRESENCE	ASSOCIATED PHASE	DELAY IN CONTROLLER (SEC)	DELAY INHIBIT PHASE	PURPOSE	DETECTION ZONE LENGTH (FT)
VDZ4A	SB RT/THR	PRESENCE	4	10	--	CALL/EXTEND PHASE 4	20
VDZ4B	SB LT	PRESENCE	4	3	--	CALL/EXTEND PHASE 4	20
VDZ8A	NB RT/THR	PRESENCE	8	10	--	CALL/EXTEND PHASE 8	20
VDZ8B	NB LT	PRESENCE	8	3	--	CALL/EXTEND PHASE 8	20

TRAFFIC SIGNAL PLAN DETAILS
LINCOLN WAY AT FIRST STREET E

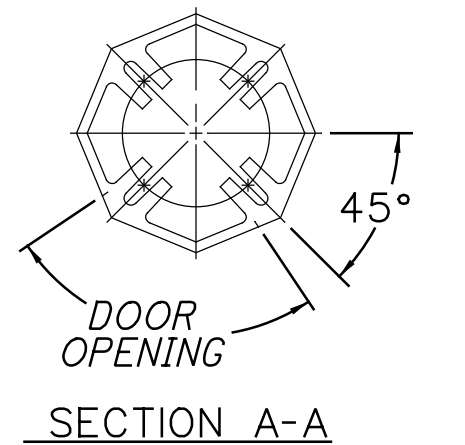
S.R.172 LINCOLN WAY
(STA-172-6.44)

CALCULATED
SWC
CHECKED
MJC

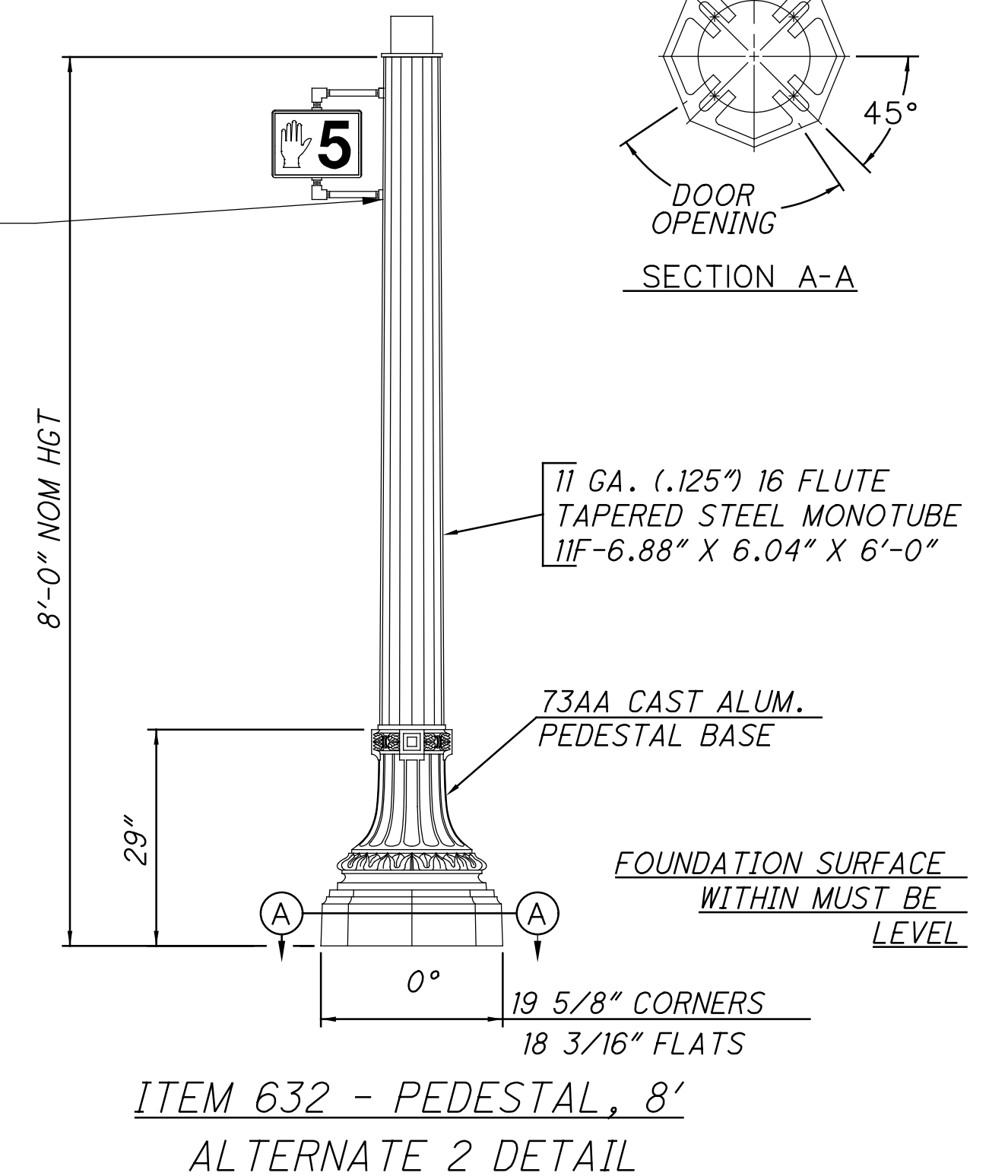
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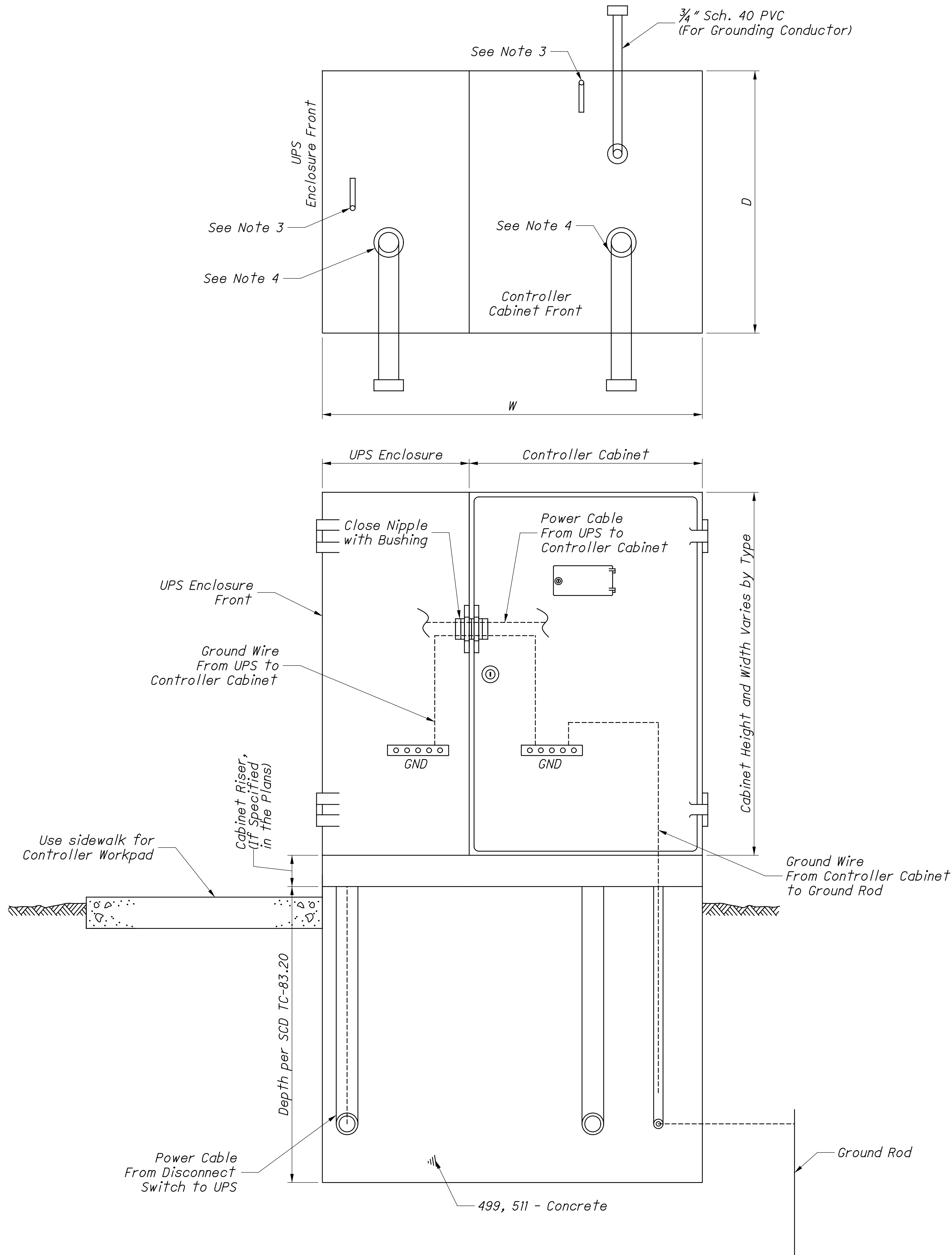


PEDESTRIAN SIGNAL HEADS, PUSH BUTTONS, AND ASSOCIATED SIGNS SHALL BE MOUNTED AS PER SCD TC-85.10 ON THE SUPPORT POLE.



POLE REF. No.	CENTERLINE OF CONST.	STATION	OFFSET	SIGNAL SPACING (FEET)						MAST ARM ORIENT. ANGLE	ORIENTATION ANGLE FROM MAST ARM			COMBINATION POLE	ODOT DESIGN NUMBER	L MAST ARM LENGTH (FEET)		
				L1	L2	C	S1	S2	S3		PED BUTTON	PED SIGNAL	HAND HOLE					
LINCOLN WAY AT ERIE ST																		
SP-1	LINCOLN	20+17.5	35.2' LT	30	20	--	35	25	--	0	270	--	270	--	180	YES	4	38
SP-2	LINCOLN	20+31.5	53.8' RT	23	11	16	27	18	--	90	270	--	270	--	180	YES	2	29
SP-3	LINCOLN	20+85.5	52.0' LT	21	9	15	26	16	--	90	270	--	270	--	180	YES	2	28
SP-4	LINCOLN	21+01.0	35.0' RT	30	20	--	35	25	--	0	270	--	270	--	180	YES	4	38
LINCOLN WAY AT FIRST ST																		
SP-1	LINCOLN	23+79.5	35.0' LT	30	20	--	35	26	16	0	270	--	270	--	180	YES	4	38
SP-2	LINCOLN	23+79.5	35.1' RT	35	24	31	40	29.5	20	90	0	--	0	--	180	YES	11	42
SP-3	LINCOLN	24+37.3	51.6' LT	21.5	10.5	16	26	17	7	90	270	--	270	--	180	YES	2	28
SP-4	LINCOLN	24+54.3	35.1' RT	30	20	--	35	25	16	0	270	--	270	--	180	YES	4	38





NOTES:

1. The Uninterruptible Power Supply (UPS) enclosure shall be mounted flush up against the traffic signal cabinet and sealed with silicone. The Contractor shall be responsible for providing the necessary power cable between the UPS unit and signal cabinet.
2. The UPS should be placed on the opposite side of the pull box on a 332/336 cabinet (per Standard Construction Drawing (SCD) TC-83.20). The UPS placement for a NEMA cabinet varies, placement should provide adequate access with respect to slope, guardrail spacing, etc.
3. The size, number, and location of anchor bolts shall be in accordance with the manufacturer's recommendations.
4. The size, number, and orientation of conduit ells shall be as shown in the plan, except that a 3/4" schedule 40 PVC shall be installed in each foundation.
5. 1/2" preformed joint filler as per CMS 705.03 shall be used between foundations and adjacent paved areas.
6. See SCD TC-83.20 for further details.

TYPE	W (IN.)	D (IN.)	FOUNDATION CONCRETE (CU. YD.)
TS-2	70	36	2.16

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LEGEND

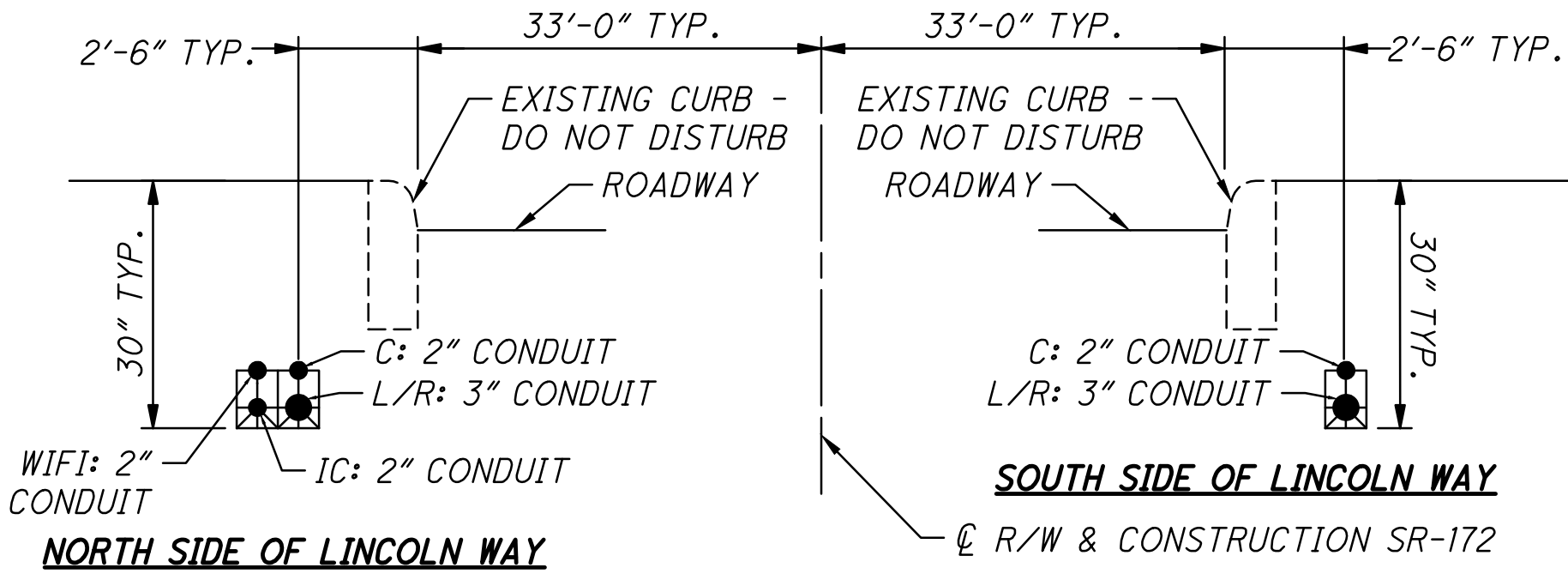
- (LUD 1) ITEM 625 - LUMINAIRE, CONVENTIONAL SOLID STATE (LED), AS PER PLAN B
- (LUC 1) ITEM 625 - LUMINAIRE, CONVENTIONAL SOLID STATE (LED), AS PER PLAN A
- (LP 1) PROPOSED LIGHT POLE
ITEM 625 - LIGHT POLE FOUNDATION, 24"x6' DEEP
ITEM 625 - LIGHT POLE, CONVENTIONAL (A2 BB 23)
ITEM 625 - LUMINAIRE, CONVENTIONAL SOLID STATE (LED), AS PER PLAN B
- PROPOSED CONDUITS (SEE CONDUIT DETAIL, THIS SHEET)
ITEM 625 - CONDUIT, 3", 725.052
ITEM 625 - CONDUIT, 2", 725.052
- ITEM 625 - PULL BOX, 725.06, SIZE 4
- NUMBER OF CONDUCTORS IN CONDUIT (5 SHOWN)

WORK INCLUDED WITH ADD ALT 3

CIRCUIT LEGEND

- L = LIGHTING - NO. 4 AWG 600 VOLT DISTRIBUTION CABLE
R = RECEPTACLE - NO. 4 AWG 600 VOLT DISTRIBUTION CABLE
C = COMMUNICATIONS - EMPTY/SPARE CONDUIT
WIFI = COMMUNICATIONS - EMPTY / SPARE CONDUIT
IC = TRAFFIC INTERCONNECT - 6 PAIR, NO. 19 AWG, SOLID, REA (PE-39)

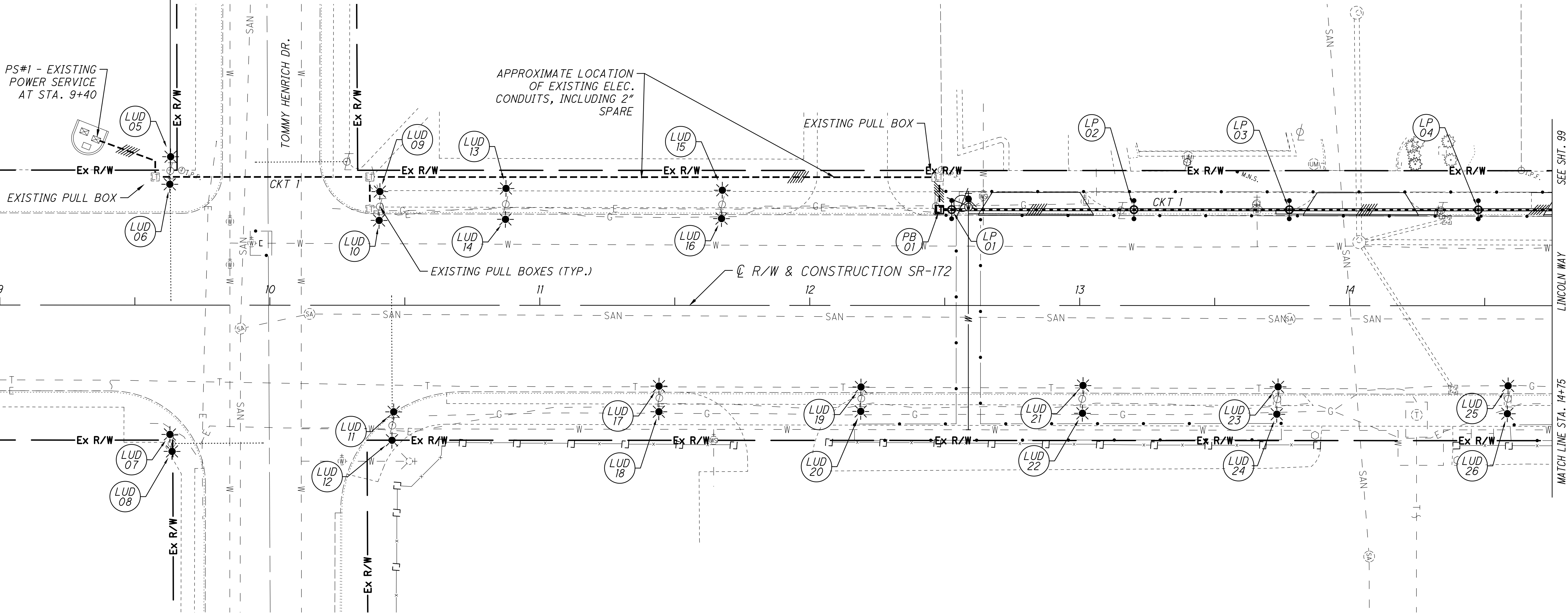
CONDUIT DETAILS



CROSS REFERENCES

SHEET NO.	DESCRIPTION
40-42	LIGHTING SUBSUMMARY

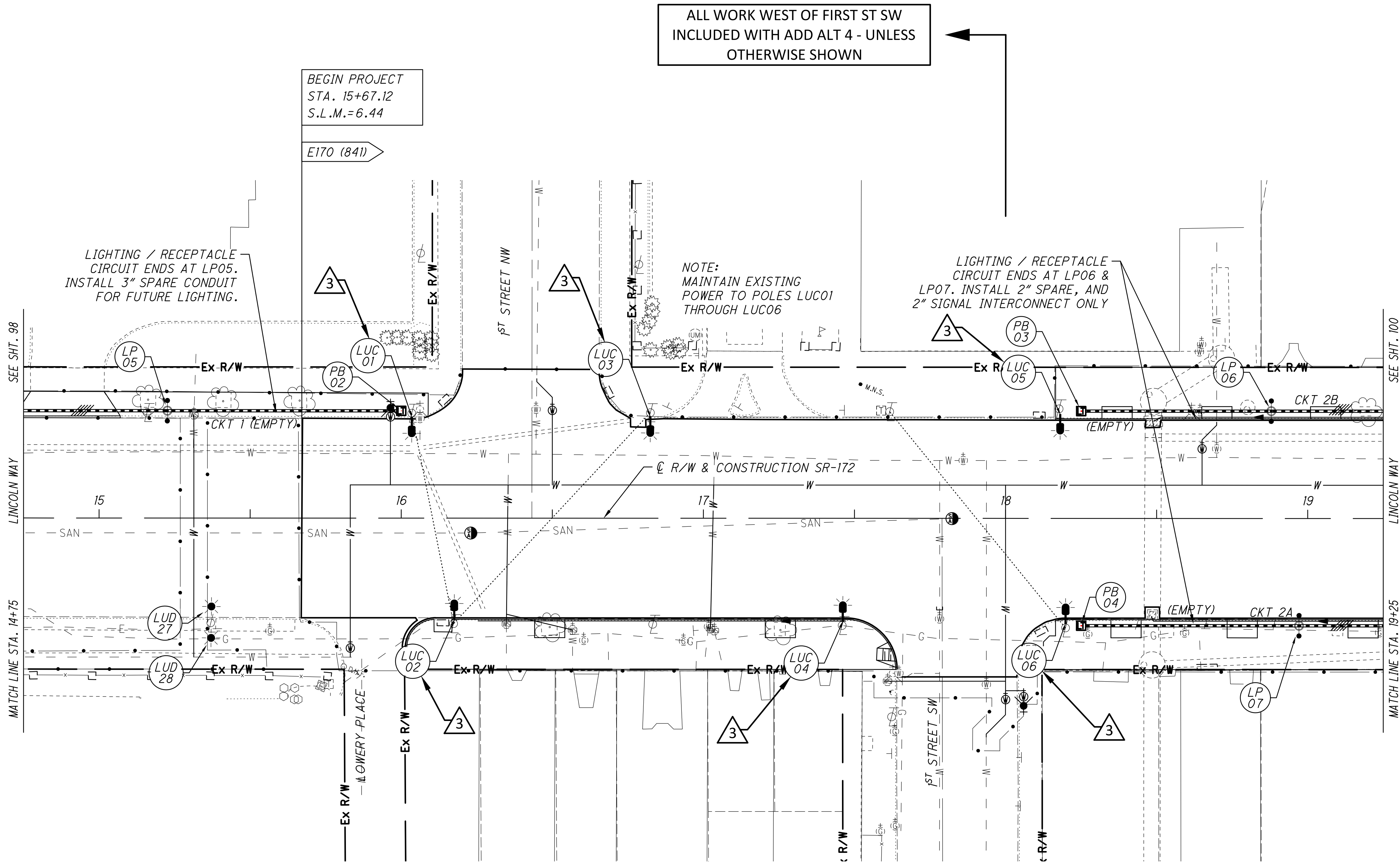
ALL WORK SHOWN ON THIS SHEET INCLUDED WITH ADD ALT 4



LIGHTING PLAN
BEGIN WORK TO STA. 14+75

S.R. 172 LINCOLN WAY
(STA-172-6.44)

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CROSS REFERENCES	
SHEET NO.	DESCRIPTION
40-42	LIGHTING SUBSUMMARY
98	LIGHTING PLAN LEGEND

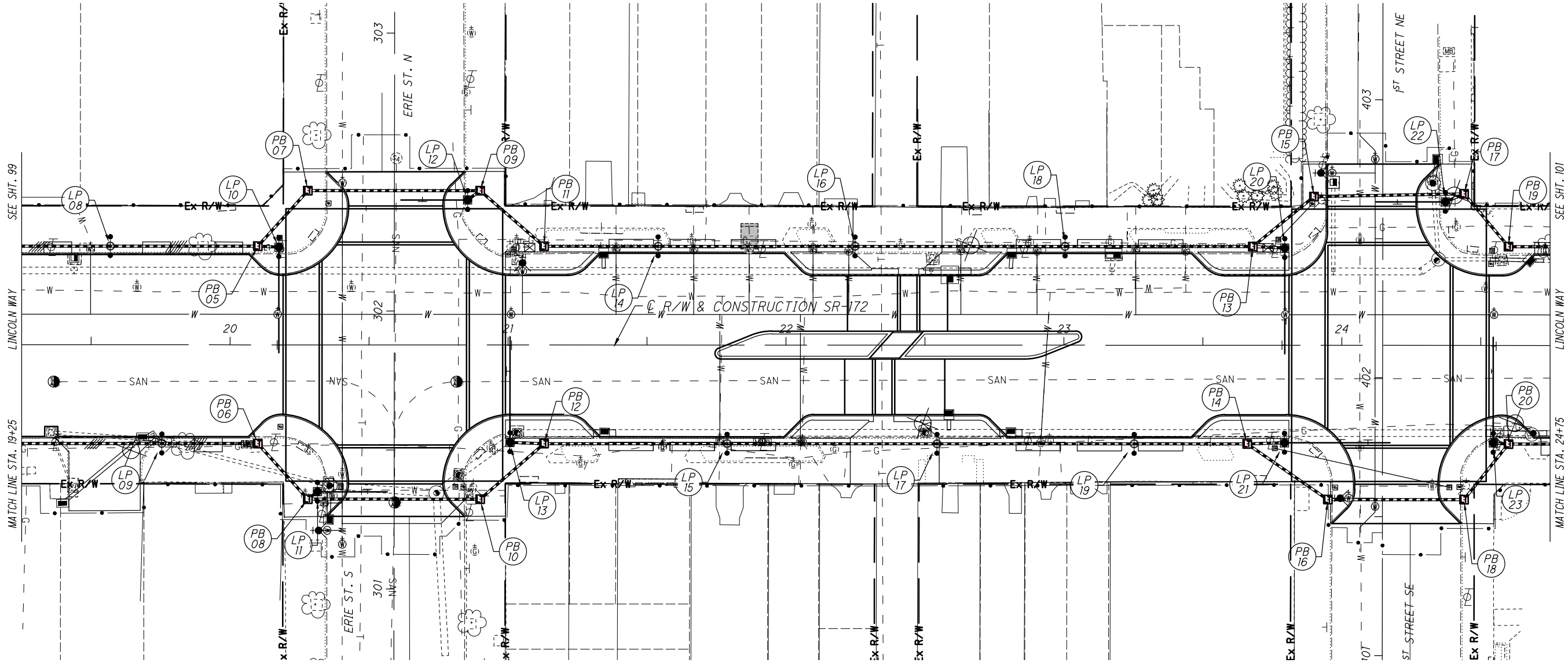
CALCULATED
JJH

CHECKED
JEL

0 20 40

HORIZONTAL
SCALE IN FEET

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CROSS REFERENCES	
SHEET NO.	DESCRIPTION
40-42	LIGHTING SUBSUMMARY
98	LIGHTING PLAN LEGEND

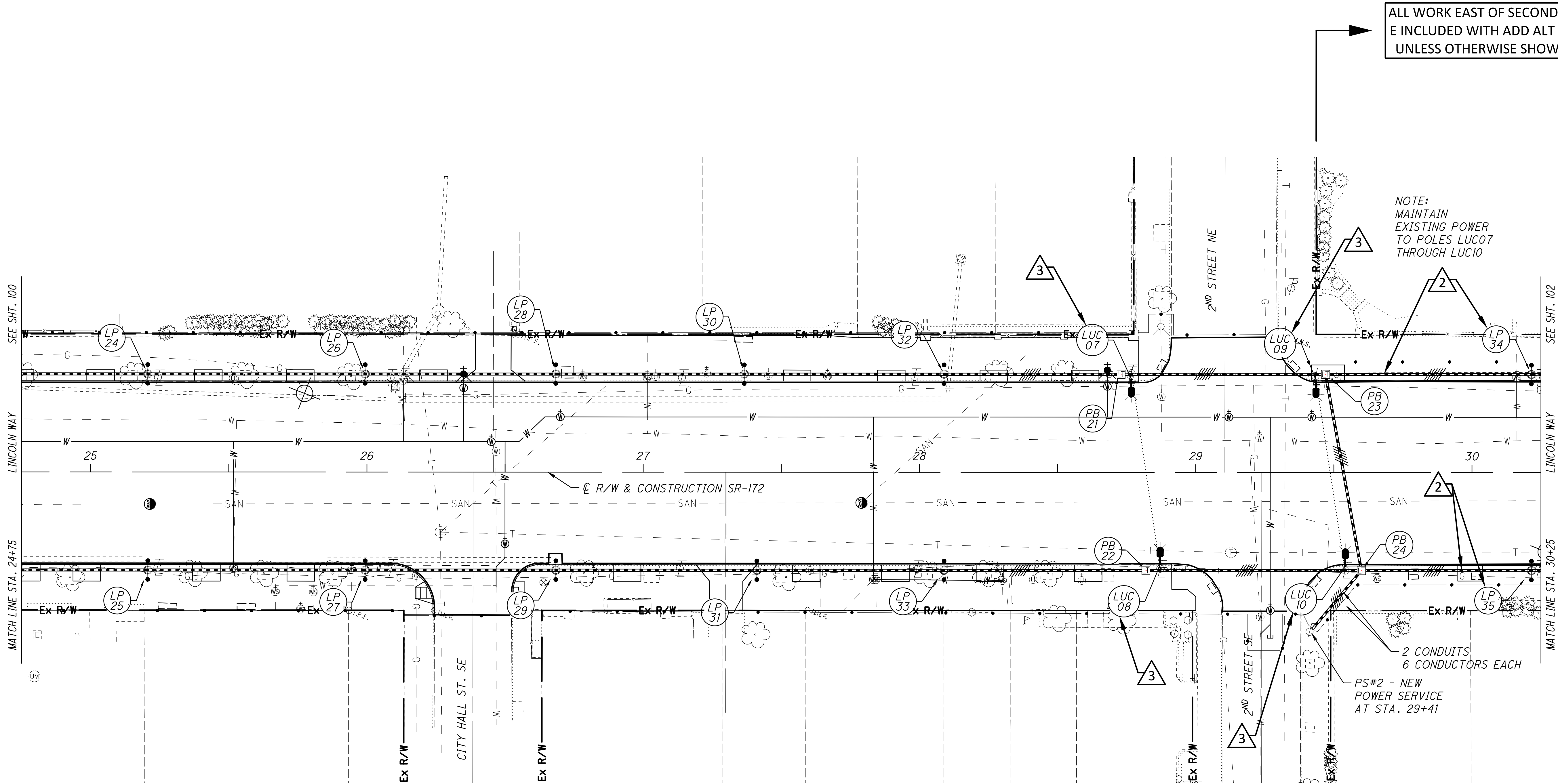
CALCULATED
JJH

CHECKED
JEL

0 20 40

HORIZONTAL
SCALE IN FEET

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CROSS REFERENCES	
SHEET NO.	DESCRIPTION
40-42	LIGHTING SUBSUMMARY
98	LIGHTING PLAN LEGEND

CALCULATED
JUH

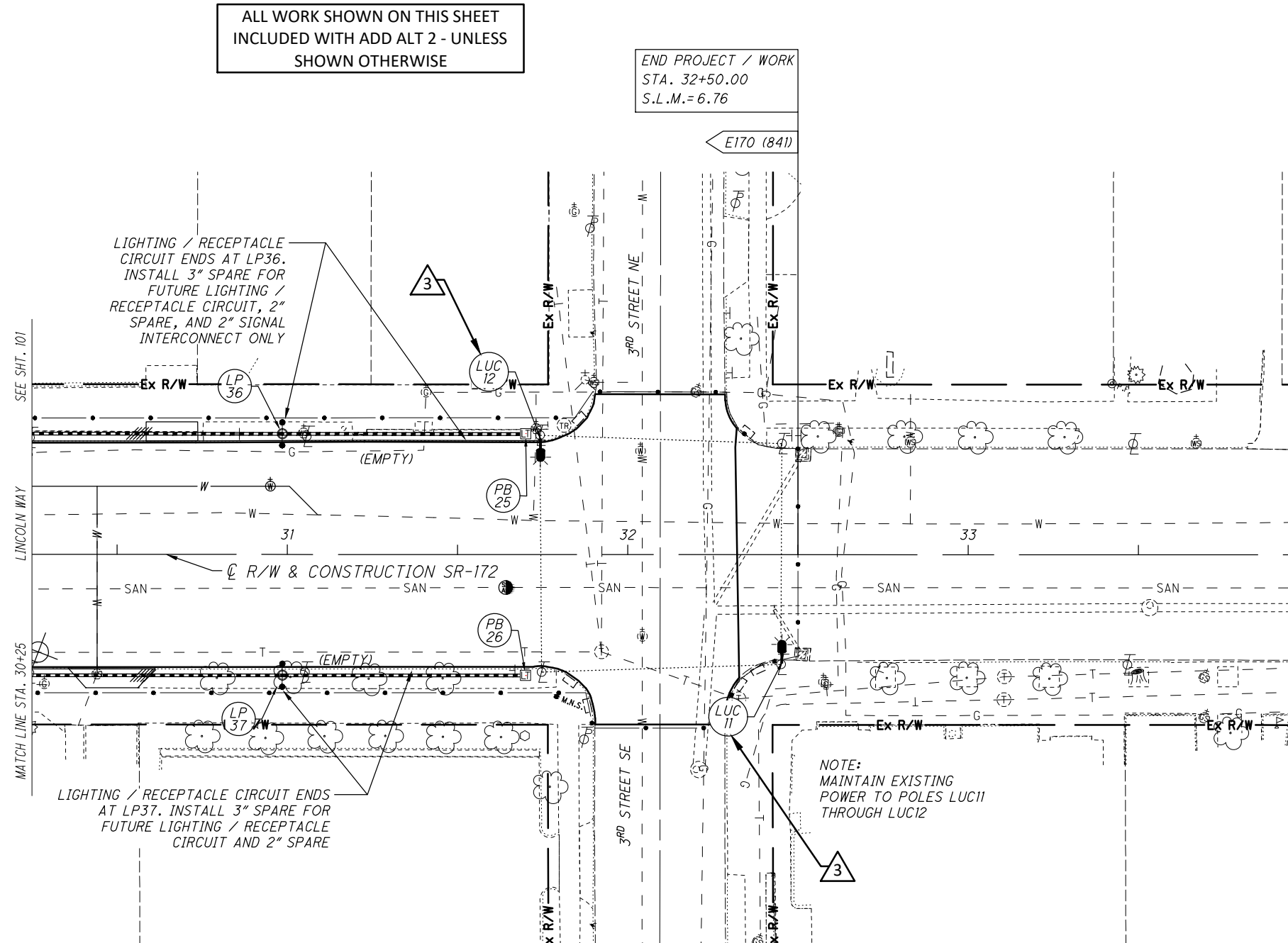
CHECKED
JEL

0 20 40

HORIZONTAL
SCALE IN FEET

N

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CROSS REFERENCES	
SHEET NO.	DESCRIPTION
40-42	LIGHTING SUBSUMMARY
98	LIGHTING PLAN LEGEND



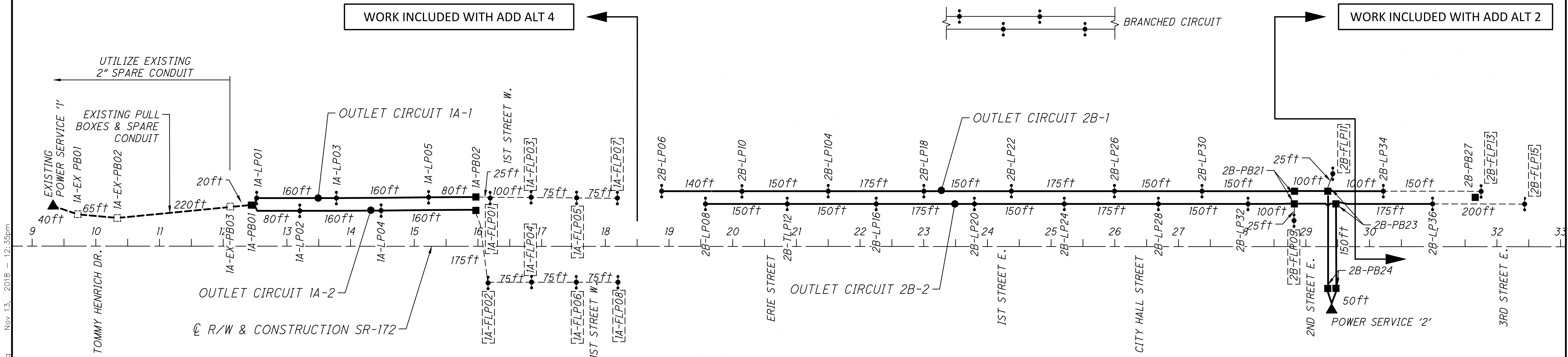
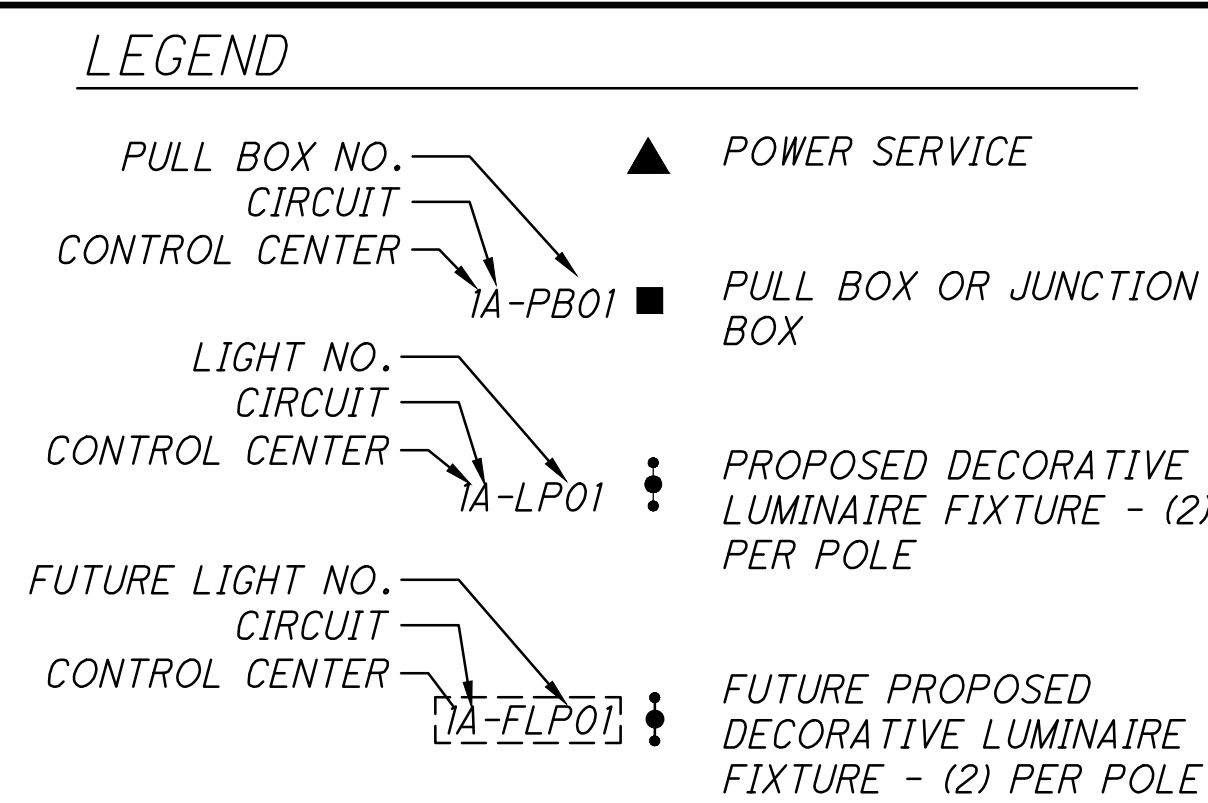
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CHECKED	JEL

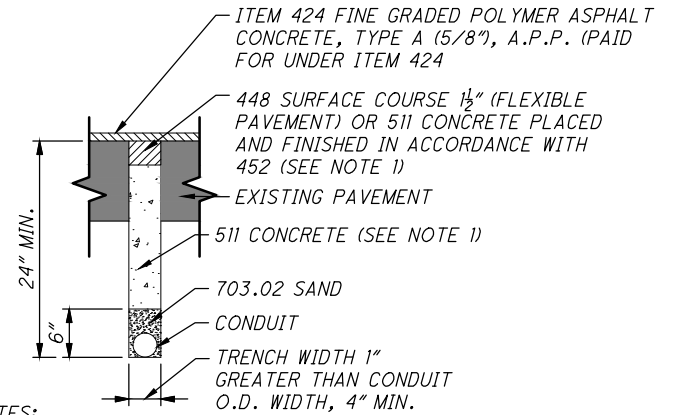
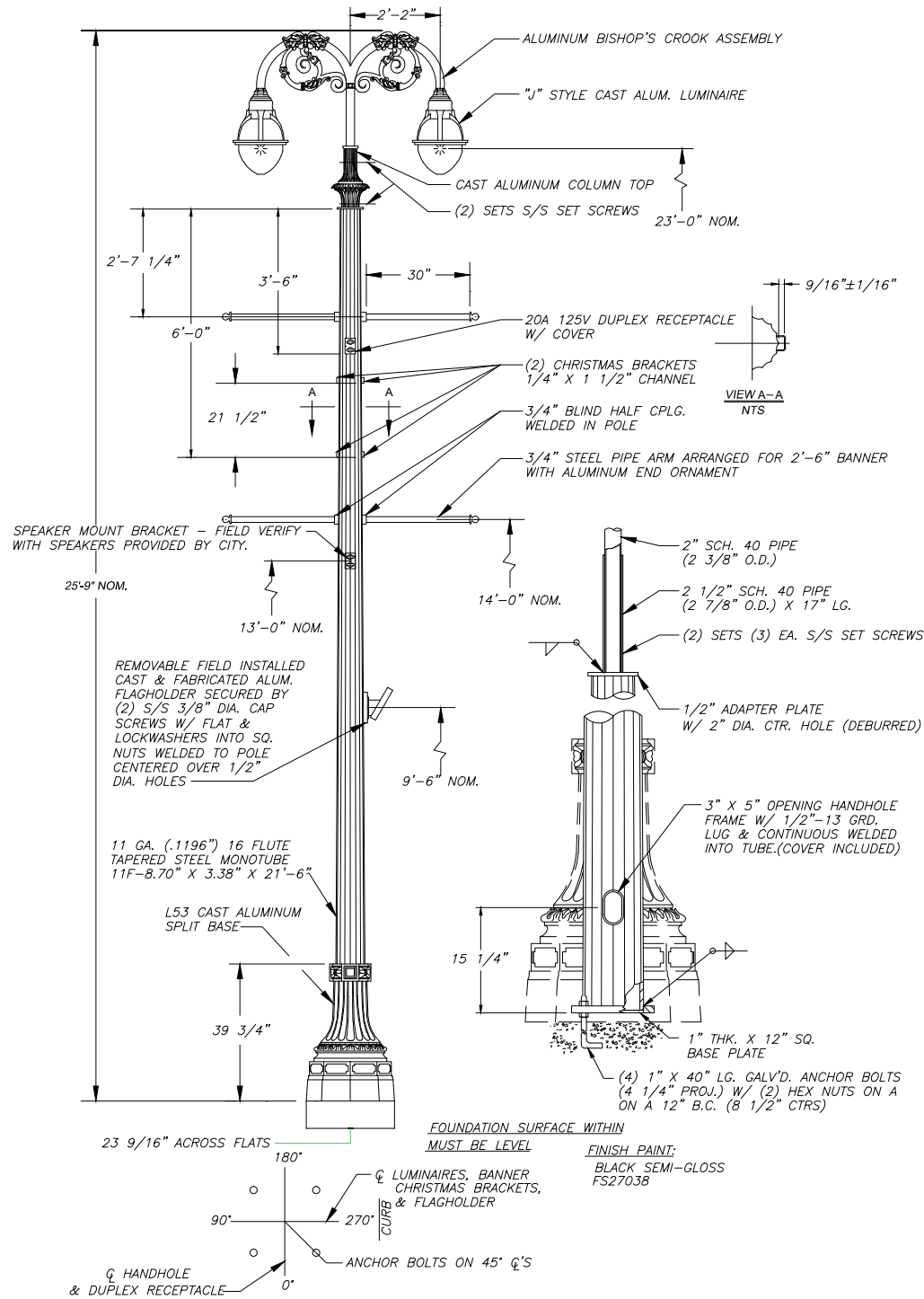
LIGHTING PLAN
STA. 30+25 TO END PROJECT

S.R. 172 LINCOLN WAY
(STA-172-6.44)



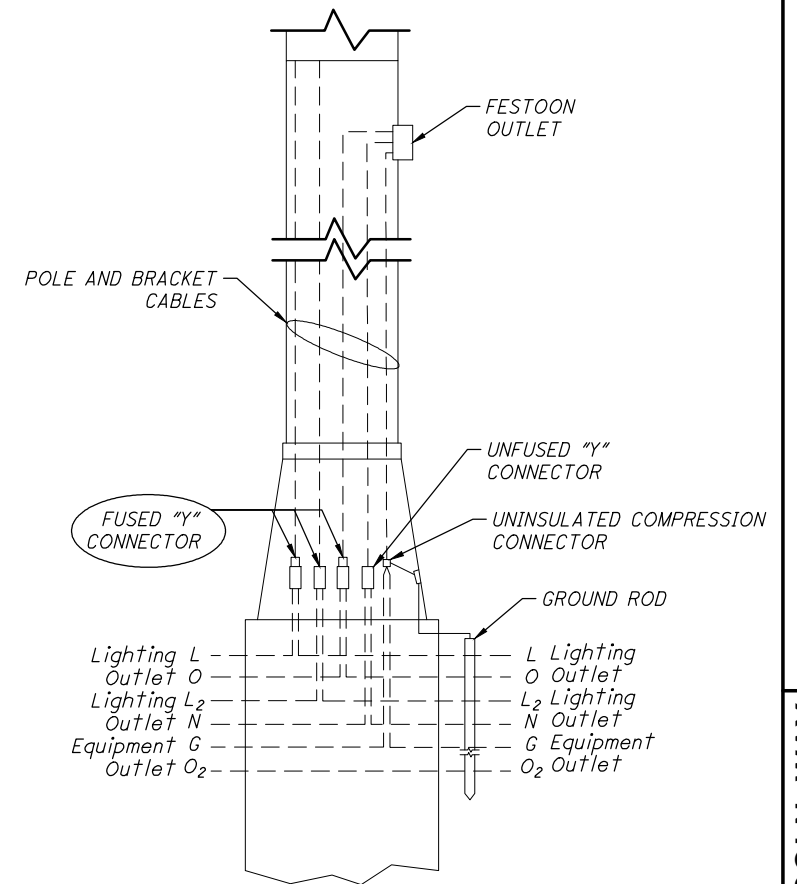
CONTROL CENTER DATA									
CONTROL CENTER DESIGNATION	LINE VOLTS	CONNECTED LOAD (KVA)	SERVICE ENTRANCE CONDUCTOR SIZE – AWG	ENCLOSURE RATING (AMPS)	CIRCUIT NO.	CIRCUIT LOAD AMPS	CIRCUIT FUSE SIZE AMPS	CIRCUIT CABLE SIZE AWG	MAINTAINING AGENCY
1	208	3.12	EXISTING	EXISTING	1A–LIGHTING	15.00	20	4	CITY OF MASSILLON
	120	2.34			1A–OUTLETS – POLE 1	19.50	30	4	
					1A–OUTLETS – POLE 2				
2	208	8.32	2/0	200	2A–LIGHTING	20.00	30	4	CITY OF MASSILLON
	120	7.20			2B–LIGHTING	20.00	30	4	
					2A–OUTLETS – POLE 1	30.00	40	4	
					2A–OUTLETS – POLE 2				
					2B–OUTLETS – POLE 1	30.00	40	4	
					2B–OUTLETS – POLE 2				





- NOTES:
- REPLACEMENT OF DISTURBED FLEXIBLE PAVEMENT SHALL CONSIST OF A CMS 511 CONCRETE SUBCOURSE WITH A 448 SURFACE COURSE. REPLACEMENT OF RIGID PAVEMENT SHALL CONSIST OF A 511 CONCRETE SURFACE WITH SURFACE FINISHED IN ACCORDANCE WITH 452.
 - IN ADDITION TO THE REQUIREMENTS OF ITEM 625, THIS ITEM INCLUDES SAWCUTTING & THE REMOVAL OF EXISTING PAVEMENT (ASPHALT, BRICK, OR CONCRETE) AND PAVEMENT RESTORATION AS DETAILED.

ITEM 625 - TRENCH IN PAVED AREA, TYPE B, AS PER PLAN



REVERSE O AND O₂ ON THE OUTLET CIRCUIT EVERY OTHER POLE.

- NOTES:
- GFCI OUTLET MUST BE UL-LISTED FOR DAMP LOCATIONS, PER NEC ARTICLE 406. THE "WR" LABEL MUST BE VISIBLE ON THE OUTLET FACE.

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REF NO.	SHEET NO.	STATION TO STATION			SIDE	WIDTH (FT)	CALCULATED AREA (SF)	CAD AREA (SF)	ADD ALT NO. (AS APPLICABLE)	653	659				661	661	661	662	661	661	661	661	661	661	661			CALCULATED JUH	CHECKED JEL
										TOPSOIL FURNISHED AND PLACED, AS PER PLAN	SEEDING AND MULCHING, AS PER PLAN				MULCH, AS PER PLAN	DECIDUOUS SHRUB, 18" HEIGHT (GRO LOW SUMAC)	DECIDUOUS SHRUB, 18" HEIGHT (LITTLE HENRY SWEETSPIRE)	LANDSCAPE WATERING	DECIDUOUS TREE, 2" CALIPER (IVORY SILK LILAC)	DECIDUOUS TREE, 3" CALIPER (PRINCETON ELM)	DECIDUOUS TREE, 3" CALIPER (GREEN VASE ZELKOVA)	DECIDUOUS TREE, 3" CALIPER (GINKGO)	PERENNIALS, (12") (ROYAL PURPLE LIRIOPE)	PERENNIALS, (12") (LITTLE BLUESTEM)					
										CY	SY				CY	EACH	EACH	GAL	EACH	EACH	EACH	EACH	EACH	EACH					
	108																												
		12+14.00	TO	14+75.00	RIGHT				4						2.78			150		6									
		13+01.00	TO	13+87.00	LEFT	6.5	559		4	10.35	62.11				0.46			25		1									
		14+21.00	TO	14+75.00	LEFT	6.5	351		4	6.50	39.00				0.46			25		1									
	109																												
		14+75.00	TO	15+55.00	RIGHT				4						0.93			50		2									
		15+02.00	TO	16+09.00	LEFT	6.5	696		4	12.88	77.28				0.93			50		2									
	TP1-1	18+37.97			LEFT	4	40			2.96	4.44				0.46			25			1								
	TP1-2	18+39.87			RIGHT	4	40			2.96	4.44				0.46			25			1								
	TP1-3	18+69.83			LEFT	4	40			2.96	4.44				0.46			25			1								
	TP1-4	18+78.31			RIGHT	4	40			2.96	4.44				0.46			25			1								
	TP1-5	19+05.92			LEFT	4	40			2.96	4.44				0.46			25			1								
	TP1-6	19+18.34			RIGHT	4	40			2.96	4.44				0.46			25			1								
	110																												
	TP1-7	19+38.00			LEFT	4	40			2.96	4.44				0.46			25			1								
	TP1-8	19+73.58			LEFT	4	40			2.96	4.44				0.46			25			1								
	TP1-9	192+92.22			RIGHT	5	50			3.70	5.56				0.46			25			1								
	TP1-10	19+99.54			LEFT	4	40			2.96	4.44				0.46			25			1								
	TP1-11	24+74.48			LEFT	4	40			2.96	4.44				0.46			25			1								
	TP2-1	21+13.67			LEFT			190		14.07					2.22		10	585			1	130							
	TP2-2	21+12.82			RIGHT			190		14.07					2.22		10	585			1	130							
	TP2-3	22+16.08			LEFT			149		11.04					1.84		25	125			1								
	TP2-4	22+16.02			RIGHT			149		11.04					1.84		25	125			1								
	TP2-5	22+63.83			LEFT			149		11.04					1.84		25	125			1								
	TP2-6	22+63.11			RIGHT			149		11.04					1.84		25	125			1								
	TP2-7	23+66.29			LEFT			190		14.07					2.22		10	585			1	130							
	TP2-8	23+68.07			RIGHT			190		14.07					2.22		10	585			1	130							
	TP3-1	21+44.36			LEFT			48		3.56					0.91	6		49	1										
	TP3-2	21+44.36			RIGHT			48		3.56					0.91	6		49	1										
	TP3-3	21+66.36			LEFT			48		3.56					0.91	6		49	1										
	TP3-4	21+66.36			RIGHT			48		3.56					0.91	6		49	1										
	TP3-5	21+88.36			LEFT			48		3.56					0.91	6		49	1										
	TP3-6	21+88.36			RIGHT			48		3.56					0.91	6		49	1										
	TP3-7	22+90.89			LEFT			48		3.56					0.91	6		49	1										
	TP3-8	22+90.86			RIGHT			48		3.56					0.91	6		49	1										
	TP3-9	23+12.85			LEFT			48		3.56					0.91	6		49	1										
	TP3-10	23+12.85			RIGHT			48		3.56					0.91	6		49	1										
	TP3-11	23+34.85			LEFT			48		3.56					0.91	6		49	1										
	TP3-12	23+34.85			RIGHT			48		3.56					0.91	6		49	1										
																		0											
		21+77.00	TO	23+05.00	MEDIAN			830		61.48					10.46	55		1162	6					198					
TOTALS CARRIED TO GENERAL SUMMARY										268	229					49	127	140	5165	18	12	11	8	520	198				

LANDSCAPING SUBSUMMARY

S.R. 172 LINCOLN WAY
(STA-172-6.44)

106
112

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REF NO.	SHEET NO.	STATION TO STATION			SIDE	WIDTH (FT)	CALCULATED AREA (SF)	CAD AREA (SF)	ADD ALT NO. (AS APPLICABLE)	653	659				661	661	661	662	661	661	661	661	661	661	661			
										TOPSOIL FURNISHED AND PLACED, AS PER PLAN	SEEDING AND MULCHING, AS PER PLAN				MULCH, AS PER PLAN	DECIDUOUS SHRUB, 18" HEIGHT (GRO LOW SUMAC)	DECIDUOUS SHRUB, 18" HEIGHT (LITTLE HENRY SWEETSPIRE)	LANDSCAPE WATERING	DECIDUOUS TREE, 2" CALIPER (IVORY SILK LILAC)	DECIDUOUS TREE, 3" CALIPER (PRINCETON ELM)	DECIDUOUS TREE, 3" CALIPER (GREEN VASE ZELKOVA)	DECIDUOUS TREE, 3" CALIPER (GINKGO)	PERENNIALS, (12") PURPLE LIRIOPE	PERENNIALS, (12") (LITTLE BLUESTEM)				
										CY	SY				CY	EACH	EACH	GAL	EACH	EACH	EACH	EACH	EACH	EACH	EACH			
	111																											
TP1-12		25+03.52			LEFT	4	40			2.96	4.44				0.46			25			1							
TP1-13		24+76.67			RIGHT	5.5	55			4.07	6.11				0.46			25			1							
TP1-14		24+99.00			RIGHT	5.5	55			4.07	6.11				0.46			25			1							
TP1-15		25+42.58			LEFT	4	40			2.96	4.44				0.46			25			1							
TP1-16		25+41.95			RIGHT	5.5	55			4.07	6.11				0.46			25			1							
TP1-17		25+75.86			LEFT	4	40			2.96	4.44				0.46			25			1							
TP1-18		25+75.99			RIGHT	5.5	55			4.07	6.11				0.46			25			1							
TP1-19		26+24.11			LEFT	4	40			2.96	4.44				0.46			25			1							
TP1-20		26+94.28			RIGHT	6	60			4.44	6.67				0.46			25			1							
TP1-21		27+55.69			LEFT	4	40			2.96	4.44				0.46			25			1							
TP1-22		27+58.93			RIGHT	6	60			4.44	6.67				0.46			25			1							
TP1-23		27+89.79			LEFT	4	40			2.96	4.44				0.46			25			1							
TP1-24		27+91.23			RIGHT	6	60			4.44	6.67				0.46			25			1							
TP1-25		28+26.93			LEFT	4	40			2.96	4.44				0.46			25			1							
TP1-26		28+25.60			RIGHT	6	60			4.44	6.67				0.46			25			1							
TP1-27		28+59.95			LEFT	4	40			2.96	4.44				0.46			25			1							
TP1-28		28+61.14			RIGHT	6	60			4.44	6.67				0.46			25			1							
		29+54.00	TO	30+25.00	LEFT	5.5	390.5		2	7.23	43.39				0.93			50		2								
		29+54.00	TO	30+25.00	RIGHT	6	426		2	7.89	47.33				0.93			50		2								
	112																											
		30+25.00	TO	31+77.00	LEFT	5.5	836		2	15.48	92.89				1.85			100		4								
		30+25.00	TO	31+79.00	RIGHT	6	924		2	17.11	102.67				1.39			75		3								
TOTALS CARRIED TO GENERAL SUMMARY										110	380					13			700		11	17						

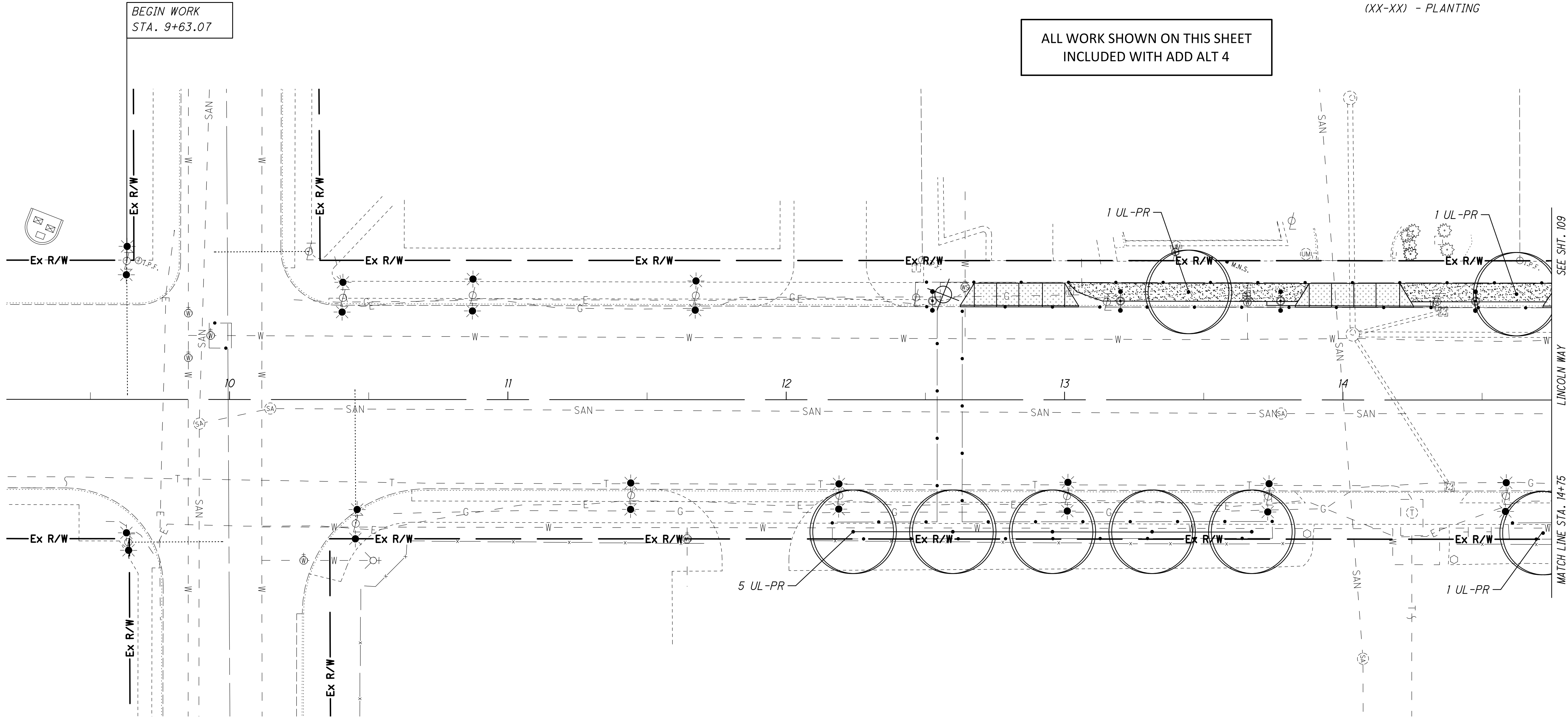
PLANT LIST - SHEETS 108 THROUGH 112

QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOTS	NOTES
SHADE TREES						
8	GI-AG	GINKGO B. 'AUTUMN GOLD'	AUTUMN GOLD GINKGO	3" CAL.	B & B	
	UL-PR	ULMUS A. 'PRINCETON'	PRINCETON ELM	3" CAL.	B & B	
	ZE-GV	ZELKOVA S. 'GREEN VASE'	GREEN VASE ZELKOVA	3" CAL.	B & B	
ORNAMENTAL TREES						
18	SY-IS	SYRINGA V. 'IVORY SILK'	IVORY SILK TREE LILAC	2" CAL.	B & B	
SHRUBS						
127	RH-GL	RHUS A. 'GRO-LOW'	GRO LOW SUMAC	18"	NO. 3 CONT.	36" O.C.
140	IT-LH	ITEA V. 'LITTLE HENRY'	LITTLE HENRY SWEETSPIRE	18"	NO. 3 CONT.	
ORNAMENTAL GRASSES						
520	LI-RP	LIRIOPE M. 'ROYAL PURPLE'	ROYAL PURPLE LIRIOPE	CLUMP	NO. 2 CONT.	12" O.C.
198	SC-SC	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	CLUMP	NO. 2 CONT.	18" O.C.

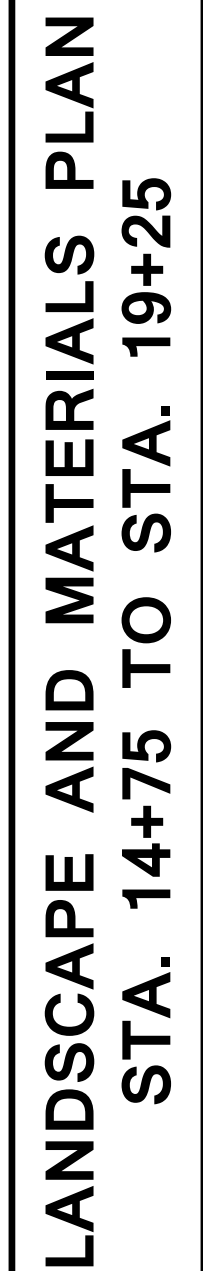
LEGEND

- ITEM 451 - 10" REINFORCED CONCRETE PAVEMENT, CLASS QCI, AS PER PLAN
- ITEM 452 - 8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS, AS PER PLAN
- ITEM 608 - 4" CONCRETE WALK, AS PER PLAN
- ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (1 1/2"), AS PER PLAN
- ITEM SPECIAL - UNIT PAVERS TYPE 1
- ITEM SPECIAL - UNIT PAVERS TYPE 2
- PROPOSED WALK
- UNIT PAVER
- CURB RAMP
- ITEM 661 - DECIDUOUS SHRUB, 18" HEIGHT OR ITEM 661 DECIDUOUS SHRUB, 24" HEIGHT
- ITEM 661 - DECIDUOUS TREE, 2" CALIPER
- ITEM 661 - DECIDUOUS TREE, 3" CALIPER
- ITEM 659 - SEEDING AND MULCHING, AS PER PLAN
- STREET TREE PIT
- CONSTRUCTION LIMITS
- TYP#-# - STREET TREE PIT DETAIL #
- (XX-XX) - PLANTING

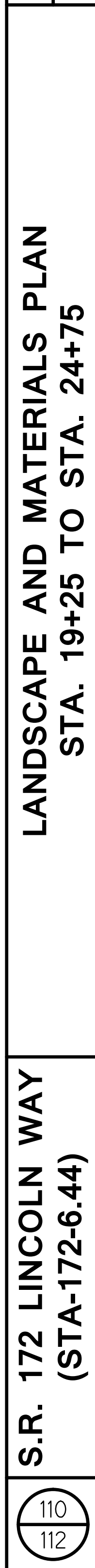
ALL WORK SHOWN ON THIS SHEET INCLUDED WITH ADD ALT 4



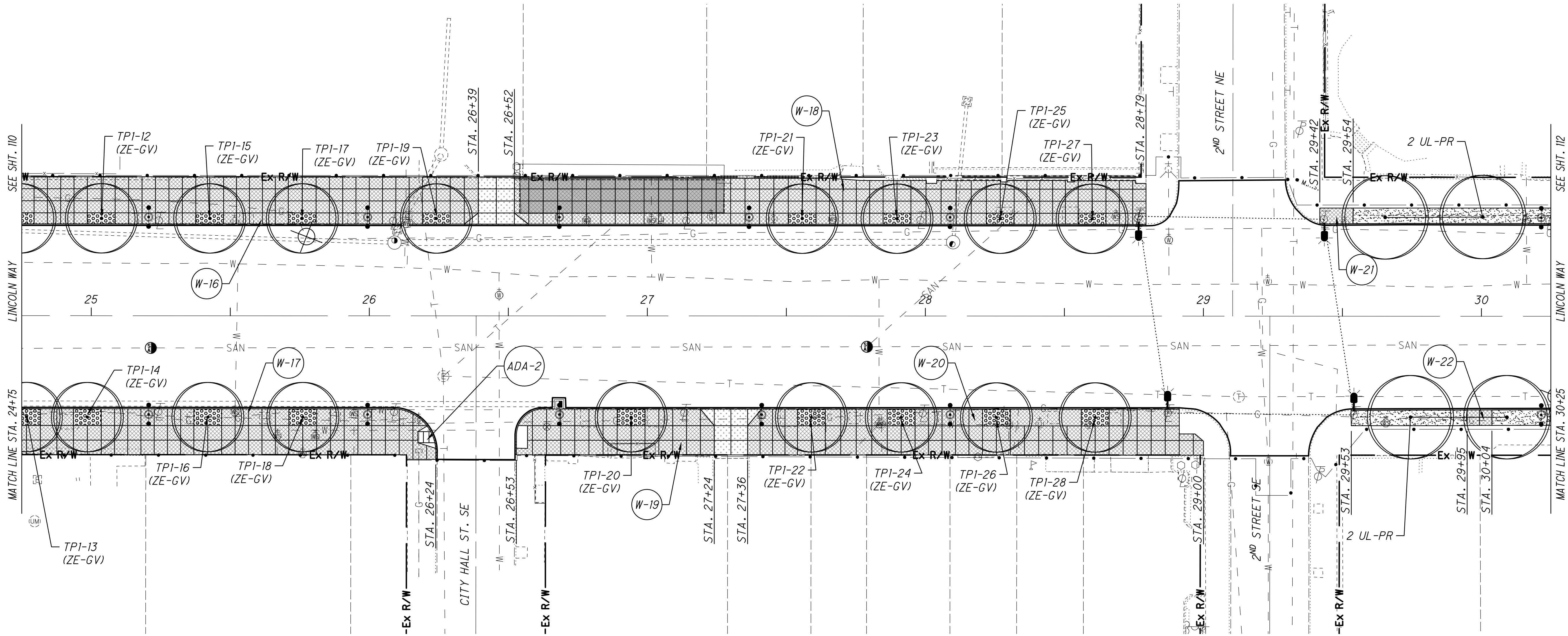
CALCULATED	JJH	 HORIZONTAL SCALE IN FEET	
CHECKED	JEL		



CALCULATED	JJH	  HORIZONTAL SCALE IN FEET
CHECKED	JEL	



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ALL WORK EAST OF SECOND ST
E INCLUDED WITH ADD ALT 2 -
UNLESS OTHERWISE SHOWN

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
108	LANDSCAPE AND MATERIALS PLAN LEGEND

CALCULATED
JUH

CHECKED
JEL

0 20 40

HORIZONTAL
SCALE IN FEET

ALL WORK SHOWN ON THIS SHEET
INCLUDED WITH ADD ALT 2 - UNLESS
SHOWN OTHERWISE

