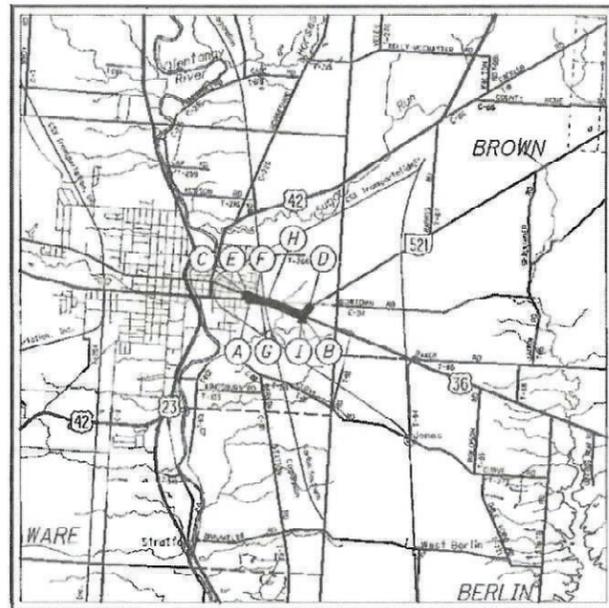


DEL - US 36 - 11.03
 230002 PID - 103626
 Dist 6 1/26/2023

Contract Proposal available @
 www.contracts.dot.state.oh.us

B:\2022\103626\103626.dgn Sheet 8/29/2022 3:41:01 AM pkettfer



LOCATION MAP

LATITUDE: 40°17'50" N LONGITUDE: 83°02'40" W



PORTION TO BE IMPROVED	-----
INTERSTATE HIGHWAY	=====
FEDERAL ROUTES	-----
STATE ROUTES	-----
COUNTY & TOWNSHIP ROADS	-----
OTHER ROADS	-----

DESIGN DESIGNATION	US-36/SR-37	US-36 W. OF RR	SR-37 W OF RR	SR521
CURRENT ADT (2020)	25,500	16,400	17,400	10,200
DESIGN YEAR ADT (2040)	34,600	21,800	22,100	15,700
DESIGN HOURLY VOLUME (2040)	4,330	2,110	2,220	970
DIRECTIONAL DISTRIBUTION	51%	55%	59%	66%
TRUCKS (24 HOUR B&C)	10%	8%	8%	5%
DESIGN SPEED	40 MPH	40 MPH	40 MPH	40 MPH
LEGAL SPEED	35 MPH	35 MPH	35 MPH	35 MPH

DESIGN FUNCTIONAL CLASSIFICATION:
 US-36/SR-37 / US-36 / SR-37 - 03 PRINCIPAL ARTERIAL (URBAN)
 SR 521 - 04 MINOR ARTERIAL

NHS PROJECT YES

DESIGN EXCEPTIONS
 NONE REQUIRED
 ADA DESIGN WAIVER
 NONE REQUIRED

UNDERGROUND UTILITIES
 Contact Two Working Days
 Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764
 (Non-members must be called directly)

PLAN PREPARED BY:
Gannett Fleming
 2500 CORPORATE EXCHANGE DRIVE, SUITE 230
 COLUMBUS, OHIO 43231

- (A) BEGIN PROJECT (US-36)
STA 585+90.00
SLM 11.09
- (B) END PROJECT (US-36)
STA 620+58.20
SLM 11.75
- (C) BEGIN WORK (SR-37)
STA 13+78.00
SLM 11.27
- (D) END WORK (SR-521)
STA 60+24.00
SLM 1.94
- (E) END WORK EAST ST
STA 120+69.00
- (F) END WORK MOORE ST
STA 110+83.00
- (G) END WORK
(EAST POINT CROSSING)
STA 78+25.30
- (H) END WORK BOWTOWN RD
STA 73+84.00
- (I) END WORK
(MILL RUN CROSSING)
STA 4+50.00

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2	BOWTOWN RD 218 - 220
3	EAST POINT CROSSING 221 - 223
4 - 22	EAST STREET 224 - 225
23 - 20	MOORE STREET 226 - 227
29 - 24, 56A, 57A	INTERSECTION/MEDIAN DETAILS 228 - 234
125 - 131	DRIVE DETAILS 235 - 251
132 - 149	STORM SEWER PROFILES 252 - 261
150	CULVERT DETAIL 262 - 268, 263A, 263B
	DRAINAGE DETAIL 269
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ENGINEERS SEAL: ROADWAY SHEETS 1 - III, 125 - 300 SIGNED: [Signature] DATE: 9/08/2022	ENGINEERS SEAL: BRIDGE SHEETS 399 - 474 SIGNED: [Signature] DATE: 9/18/2022	ENGINEERS SEAL: TRAFFIC, LIGHTING, RAIL SHEETS 112-124, 301-397, 475-600 SIGNED: [Signature] DATE: 08/20/2022
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ENGINEERS SEAL:

LANDSCAPING SHEETS 388

SIGNED: [Signature]
 DATE: 08/30/2022

ENGINEERS SEAL:

LANDSCAPING/STRUCTURAL SHEETS 397, 398

SIGNED: [Signature]
 DATE: 08/30/2022

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-3.1	1/21/22	HW-2.1	7/20/18	HL-50.11	1/16/15	MT-101.90	7/17/20	TC-74.10	1/21/22	800 SEE PROPOSAL	WATERWAY
BP-5.1	7/15/22	HW-2.2	7/20/18	HL-60.11	7/21/17	MT-105.10	1/17/20	TC-81.22	7/15/22	809 7/15/22	PERMIT
BP-7.1	1/21/22	T-2	7/16/21	HL-60.12	7/16/21	MT-110.10	7/19/13	TC-82.10	7/19/13	816 10/18/19	9/2/22
CB-2-2A, 2B	7/15/22	MH-3	7/16/21	HL-60.31	1/17/20	TC-12.31	4/15/22	TC-83.10	1/17/20	821 4/20/18	
CB-2-3, 2-4	7/16/21	RM-1.1	1/15/21	ITS-14.10	1/21/22	TC-21.21	7/15/22	TC-83.20	7/15/22	832 7/15/22	
CB-3	7/16/21	RM-2.1	7/19/13	ITS-14.11	1/21/22	TC-41.20	10/18/13	TC-85.10	4/17/20	895 4/18/14	
CB-3A	7/16/21	RM-3.1	7/20/18	ITS-14.20	1/15/21	TC-41.30	10/18/13	TC-85.20	7/20/18	921 4/20/18	
DM-1.1	7/17/20	RM-5.2	1/18/19	ITS-15.11	1/15/21	TC-41.50	10/18/13			874 1/21/22	
DM-1.2	7/16/21	HL-10.11	7/15/22	MT-95.30	7/19/19	TC-42.20	10/18/13			876 1/21/22	
DM-4.4	1/15/16	HL-10.12	1/20/17	MT-95.70	1/17/20	TC-51.11	01/15/16			813 10/19/18	
MGS-1.1	7/16/21	HL-10.13	4/17/20	MT-97.10	4/19/19	TC-52.10	10/18/13				
MGS-2.1	1/19/18	HL-20.11	1/15/21	MT-99.30	1/17/20	TC-52.20	1/15/21				
MGS-4.2	7/19/13	HL-30.11	1/15/21	MT-100.00	7/16/21	TC-61.10	1/17/20				
MGS-5.3	7/15/16	HL-30.22	1/15/21	MT-101.60	1/17/20	TC-65.10	1/17/14				
		HL-40.10	7/17/20	MT-101.70	1/17/20	TC-65.11	7/15/22				
		HL-40.20	7/15/22	MT-101.75	1/17/20	TC-71.10	7/15/22				

PROJECT DESCRIPTION

REPLACEMENT OF THE NORFOLK SOUTHERN RAILROAD BRIDGE OVER US-36/SR-37. RECONSTRUCTION OF 0.66 MILES OF US-36/SR-37. RECONSTRUCTION OF EAST WILLIAM ST, CENTRAL AVE, BOWTOWN RD, EAST POINT CROSSING. WIDENING AND RESURFACING OF SR-521 AND MILL RUN RD. ADDITIONAL WORK CONSISTS OF INTERSECTION, SIDEWALK, SIGNAL, SHARED USE PATH, LIGHTING, AND DRAINAGE IMPROVEMENTS.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: 17.2 ACRES
 ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 1.0 ACRES
 NOTICE OF INTENT EARTH DISTURBED AREA: 18.2 ACRES

2019 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 52 - 58.

APPROVED: *Wm Ferrigno*
 DATE: 9/14/22 CITY ENGINEER, CITY OF DELAWARE

APPROVED: *G C*
 DATE: 9/15/22 DISTRICT DEPUTY DIRECTOR

APPROVED: *Jack Mochbarkes*
 DATE: 11-14-22 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E180 (007)

PID NO. 103626

CONSTRUCTION PROJECT NO.

NORFOLK SOUTHERN

DEL-36-11.03

UTILITIES

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

- AEP OHIO
700 MORRISON RD, 3RD FLOOR
GAHANNA, OH 43230
PAUL PAXTON
PTPAXTON@AEP.COM
(614) 883-6831
MICHEAL POWERS (TRC)
MAPOWERS@TRCCOMPANIES.COM
(614) 636-6493
- AT&T (OHIO)
2932 6TH ST
IRONTON, OH 45638
CHARLES JOHNSON
CJ3237@ATT.COM
(740) 532-9943
- SPECTRUM
3760 INTERCHANGE RD
COLUMBUS, OH 43204
SAM LUTZ
SAMUEL.LUTZ@CHARTER.COM
(614) 481-5047
- COLUMBIA GAS OF OHIO
3550 JOHNNY APPLESEED CT
COLUMBUS, OH 43231
ROB CALDWELL
RCALDWELL@NISOURCE.COM
(614) 818-2104
- CONSOLIDATED COOPERATIVE
5255 STATE ROUTE 95
MT GILEAD, OH 43338
TYLER THOMPSON
TTHOMPSON@CONSOLIDATED.COOP
(419) 949-2977
- CITY OF DELAWARE DEPARTMENT
OF PUBLIC UTILITIES
WATER TREATMENT FACILITY
3080 US 23 NORTH
DELAWARE, OH 43015
(740) 203-1900
- CITY OF DELAWARE DEPARTMENT
OF PUBLIC UTILITIES
WASTEWATER TREATMENT FACILITY
225 N CHERRY ST
DELAWARE, OH 43015
(740) 203-1950
- CITY OF DELAWARE (TRAFFIC)
440 E WILLIAM ST
DELAWARE, OH 43015
NATHAN MCCOY
(740) 203-1731
- FRONTIER COMMUNICATIONS
1300 COLUMBUS-SANDUSKY RD
MARION, OH 43302
CHRIS AVERY
IRA.AVERY@FTR.COM
(740) 383-0551
- VERIZON BUSINESS
120 RAVINE ST
AKRON, OH 44303
AL GUEST
ALLEN.GUEST@VERIZON.COM
(330) 253-8267
- WIDE OPEN WEST
3675 CORPORATE DR
COLUMBUS, OH 43231
STEVEN CALLAHAN
STEVEN.CALLAHAN@WOWINC.COM
(614) 948-4636
KANN KHAY (TEAM FISHEL)
(614) 291-8515
- EVERSTREAM
240 N 5TH STREET, SUITE 168
COLUMBUS, OH 43215
CHRIS POWELL
CPOWELL@EVERSTREAM.NET
(380) 204-5481
- SUBURBAN NATURAL GAS
2626 LEWIS CENTER RD
LEWIS CENTER, OH 43035
AARON ROLL
AROLL@SNGCO.COM
(740) 548-2450

LOCATIONS OF EXISTING UTILITIES SHOWN IN THE PLANS DEPICT THE LOCATION OF UTILITIES PRIOR TO ANY RELOCATION THAT MAY HAVE BEEN PERFORMED

EROSION AND SEDIMENT CONTROL WITHIN THE OLENTANGY WATERSHED

THE PROJECT INCLUDES CONSTRUCTION ACTIVITIES WITHIN THE OLENTANGY WATERSHED AS DEFINED IN APPENDIX B OF OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) GENERAL PERMIT NO. OHC000005. THE CONTRACTOR NEEDS TO FULLY UNDERSTAND ALL REQUIREMENTS ASSOCIATED WITH CONSTRUCTION WITHIN THE OLENTANGY WATERSHED BEFORE BEGINNING ANY WORK.

DO NOT UTILIZE AREAS WITHIN THE RIPARIAN ZONES AND OUTSIDE THE PROJECT CONSTRUCTION LIMITS FOR ANY CONTRACTOR ACTIVITIES. PROVIDE NOTIFICATION TO THE ENGINEER IF CONSTRUCTION LIMITS CANNOT BE MET PRIOR TO SWPPP DEVELOPMENT. THE CONTRACTOR MAY BE SUBJECT TO ADDITIONAL MITIGATION, RESTORATION OR PERMIT REQUIREMENTS. ALL ADDITIONAL MITIGATION, RESTORATION OR PERMIT REQUIREMENT COSTS ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE LOCATION OF THE RIPARIAN SETBACKS AS SHOWN IN THE PLANS MUST BE INCORPORATED INTO THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR CANNOT AMEND THE LOCATIONS OF THE RIPARIAN SETBACKS.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE BELOW 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: STATIC/RAPID GPS OBSERVATIONS, TOTAL STATION MEASUREMENTS AND DIFFERENTIAL LEVELING

MONUMENT TYPE: 13/16" I.D. IRON PIPES WITH ALUMINUM CAP, 13/16" I.D. IRON PIPES WITH PLASTIC CAP INSCRIBED "EMHT INC" AND MAGNETIC NAILS

VERTICAL POSITIONING
ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID12B

HORIZONTAL POSITIONING
REFERENCE FRAME: NAD83 (2011)
ELLIPSOID: GRS80

MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE (NORTH ZONE)
COMBINED SCALE FACTOR: 1.0000100201 (GRID TO GROUND)

ORIGIN OF COORDINATE
SYSTEM: 0,0,0

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 SUPPLEMENTAL SPECIFICATION 823.

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

EXISTING SUBSURFACE DRAINAGE

PROVIDE UNOBSTRUCTED OUTLETS FOR ALL EXISTING UNDERDRAINS OR AGGREGATE DRAINS ENCOUNTERED DURING CONSTRUCTION.

PROVIDE AN OUTLET PER STANDARD CONSTRUCTION DRAWING DM-1.1 FOR ALL UNDERDRAINS THAT OUTLET TO UNDERDRAINS THAT CAN BE CONNECTED TO THE NEW OR EXISTING UNDERDRAINS AT THE END OF THE PROJECT LIMITS AS WELL AS ALL NECESSARY BENDS OR BRANCHES REQUIRED FOR CONNECTION ARE INCLUDED IN THE BASIS OF PAYMENT FOR UNCLASSIFIED PIPE UNDERDRAINS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED

- 601, TIED CONCRETE BLOCK MAT, WITH TYPE 1 UNDERLAYMENT - 10 SQ. YD.
- 605, AGGREGATE DRAINS - 50 FT.
- 611 6" CONDUIT, TYPE F - 50 FT.
- 611, PRECAST REINFORCED CONCRETE OUTLET - 2 EACH
- 605 6" UNCLASSIFIED PIPE UNDERDRAINS - 150 FT.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

- 659, SOIL ANALYSIS TEST 2 EACH
- 659, TOPSOIL 2268 CU. YD.
- 659, SEEDING AND MULCHING 20430 SQ. YD.
- 659, REPAIR SEEDING AND MULCHING 1022 SQ. YD.
- 659, INTER-SEEDING 1022 SQ. YD.
- 659, COMMERCIAL FERTILIZER 2.76 TON
- 659, LIME 4.22 ACRES
- 659, WATER 110 M. GAL.
- 659, MOWING 5108 M. SQ.FT.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

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
18"	44	1	45
30"	6	0	6
48"	5	0	5

A SEPARATE CONTRACT WILL INCLUDE THE CLEARING AND GRUBBING WITHIN RAILROAD RIGHT-OF-WAY.

ITEM 623 - RIGHT-OF-WAY MONUMENT

THIS WORK SHALL CONSIST OF SETTING CENTERLINE MONUMENTS PER SCD RMI-1 (TYPE C) AT THE FOLLOWINGS LOCATION IDENTIFIED IN THE RIGHT-OF-WAY PLANS OF THESE CONSTRUCTION PLANS, SEE SHEET 603 (3/44) FOR COORDINATES. ENSURE ALL WORK ASSOCIATED WITH THE SETTING MONUMENTS SHALL BE IN ACCORDANCE WITH ITEM 623 OF ODOT CMS, CURRENT EDITION. PAYMENT FOR ALL WORK AS IT PERTAINS TO THE SETTING OF CENTERLINE MONUMENTS SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 623 MONUMENT ASSEMBLY, TYPE C, 7 EACH. QUANTITIES CARRIED TO GENERAL SUMMARY.

ITEM 204 - PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING. SEE PLAN SHEET NO. 12 FOR ADDITIONAL INFORMATION.

ITEM 204 - PROOF ROLLING 20 HOUR.

GRADING OF PARCEL 8

THE FOLLOWING QUANTITIES ACCOUNT FOR ALL EARTHWORK AND SEEDING AND MULCHING NECESSARY FOR THE REGRADING OF PARCEL 8 AFTER THE PROPERTY HAS BEEN CLEARED PER ITEM 202 - BUILDING DEMOLISHED, AS PER PLAN.

- 203, EXCAVATION 320 CU. YD.
- 203, EMBANKMENT 1296 CU. YD.
- 659, TOPSOIL 565 CU. YD.
- 659, SEEDING AND MULCHING 5089 SQ. YD.

REGRADE PARCEL 8 AS SPECIFIED ON SHEET 300. THE CONTRACTOR SHALL PLACE TOPSOIL AND SEEDING AND MULCHING TO ALL AREAS OF EXPOSED SOIL AFTER THE REGRADING IS COMPLETED. QUANTITY CALCULATIONS FOR EARTHWORK AND SEEDING AND MULCHING ARE BASED ON THE AREA OF THE EXISTING PROPERTY TO BE CLEARED.

EARTHWORK FOR MAINLINE PAVEMENT

EXCAVATION AND EMBANKMENT CONSTRUCTION EXCAVATED SOILS ON THE PROJECT SITE MAY NOT BE SUITABLE FOR EMBANKMENT USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ANY ON-SITE SOIL USED AS EMBANKMENT MEETS THE REQUIREMENTS OF 203.

ITEM 203, EXCAVATION, INCLUDES WASTING ANY EXCAVATED MATERIAL WITHIN THE RIGHT-OF-WAY WITH THE APPROVAL OF THE ENGINEER OR OUTSIDE THE RIGHT-OF-WAY AT THE CONTRACTOR'S EXPENSE, IF NO SUITABLE AREAS EXIST FOR WASTING WITHIN THE RIGHT-OF-WAY.

ITEM 203, EMBANKMENT INCLUDES CONSTRUCTING EMBANKMENTS TO PLAN LINES AND INCLUDES FURNISHING AND PLACING SUITABLE BORROW MATERIAL AS SPECIFIED IN 203, WHEN REQUIRED. FOR SOIL BORROW OR OTHER MATERIALS NOT ALREADY CERTIFIED TO MEET 203 REQUIREMENTS, THE CONTRACTOR SHALL ALLOW THE ENGINEER 10 DAYS TO PERFORM IN SITU TESTS PRIOR TO USING THE MATERIAL.

PRIOR TO EARTH DISTURBING ACTIVITIES, INSTALL ALL REQUIRED EROSION CONTROL ITEMS AS SPECIFIED ON THE STORMWATER POLLUTION PREVENTION PLAN PREPARED BY THE CONTRACTOR. FOR EARTH DISTURBING WORK OUTSIDE THE WORK LIMITS, THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ACQUIRING ALL NECESSARY PERMITS, IF REQUIRED, INCLUDING FOR BORROW AREAS. PROVIDE THE APPROPRIATE EROSION CONTROL MEASURES AS REQUIRED.

THE FOLLOWING IS A SUMMARY OF ALL EARTHWORK QUANTITIES GENERATED BY THE CROSS SECTIONS.

- US-36
203, EXCAVATION 31511 CU. YD.
203, EMBANKMENT 2907 CU. YD.
- SR-37
203, EXCAVATION 2468 CU. YD.
203, EMBANKMENT 21 CU. YD.
- SR-37 EB
203, EXCAVATION 1065 CU. YD.
203, EMBANKMENT 36 CU. YD.
- SR-37 WB
203, EXCAVATION 4558 CU. YD.
203, EMBANKMENT 46 CU. YD.
- BOWTOWN ROAD
203, EXCAVATION 338 CU. YD.
203, EMBANKMENT 6 CU. YD.
- EAST POINT CROSSING
203, EXCAVATION 371 CU. YD.
203, EMBANKMENT 2 CU. YD.
- MOORE STREET
203, EXCAVATION 122 CU. YD.
203, EMBANKMENT 0 CU. YD.
- EAST STREET
203, EXCAVATION 72 CU. YD.
203, EMBANKMENT 0 CU. YD.
- SR-521 (KILBOURNE RD)
203, EXCAVATION 1183 CU. YD.
203, EMBANKMENT 447 CU. YD.

THE FOLLOWING GRAND TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY:

- 203, EXCAVATION 41688 CU. YD.
- 203, EMBANKMENT 3465 CU. YD.

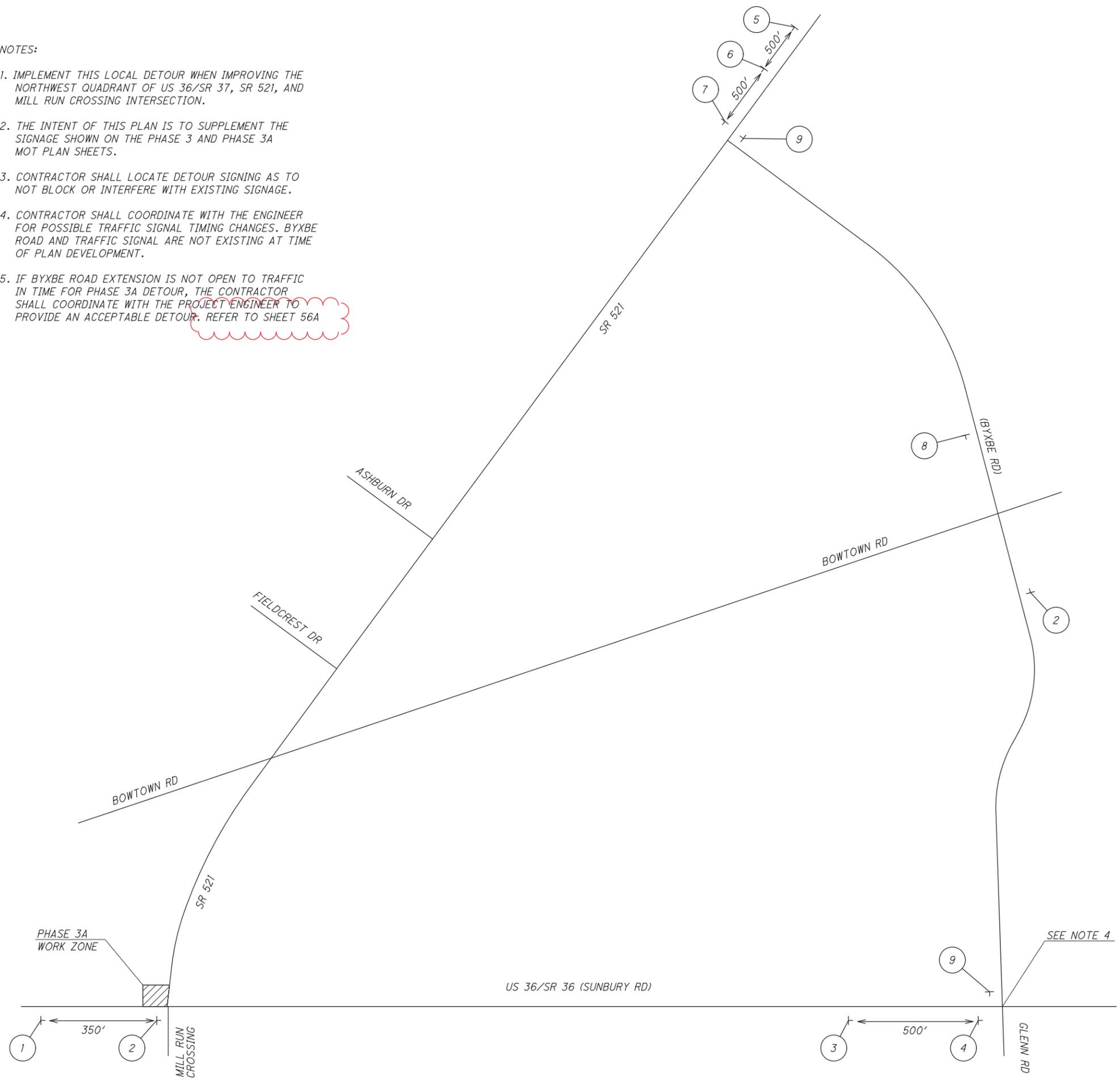
EXISTING PLANS

EXISTING PLANS MAY BE INSPECTED AT ODOT D6 AND/OR CITY OF DELAWARE OFFICE OF PUBLIC WORKS

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NOTES:

1. IMPLEMENT THIS LOCAL DETOUR WHEN IMPROVING THE NORTHWEST QUADRANT OF US 36/SR 37, SR 521, AND MILL RUN CROSSING INTERSECTION.
2. THE INTENT OF THIS PLAN IS TO SUPPLEMENT THE SIGNAGE SHOWN ON THE PHASE 3 AND PHASE 3A MOT PLAN SHEETS.
3. CONTRACTOR SHALL LOCATE DETOUR SIGNING AS TO NOT BLOCK OR INTERFERE WITH EXISTING SIGNAGE.
4. CONTRACTOR SHALL COORDINATE WITH THE ENGINEER FOR POSSIBLE TRAFFIC SIGNAL TIMING CHANGES. BYXBE ROAD AND TRAFFIC SIGNAL ARE NOT EXISTING AT TIME OF PLAN DEVELOPMENT.
5. IF BYXBE ROAD EXTENSION IS NOT OPEN TO TRAFFIC IN TIME FOR PHASE 3A DETOUR, THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT ENGINEER TO PROVIDE AN ACCEPTABLE DETOUR. REFER TO SHEET 56A



1 No Access to SR 521 Follow Detour
SPECIAL-36

2 SR 521
DETOUR
↑
W16-H8P
M4-9C-30

3 SR 521
DETOUR
←
W16-H8P
M4-9L T-30

4 SR 521
DETOUR
←
W16-H8P
M4-9L-30

5 No Access to WB Sunbury US 36/SR 37 Follow Detour
SPECIAL-36

6 Sunbury Rd US36/SR37
DETOUR
←
W16-H8P
M4-9L T-30

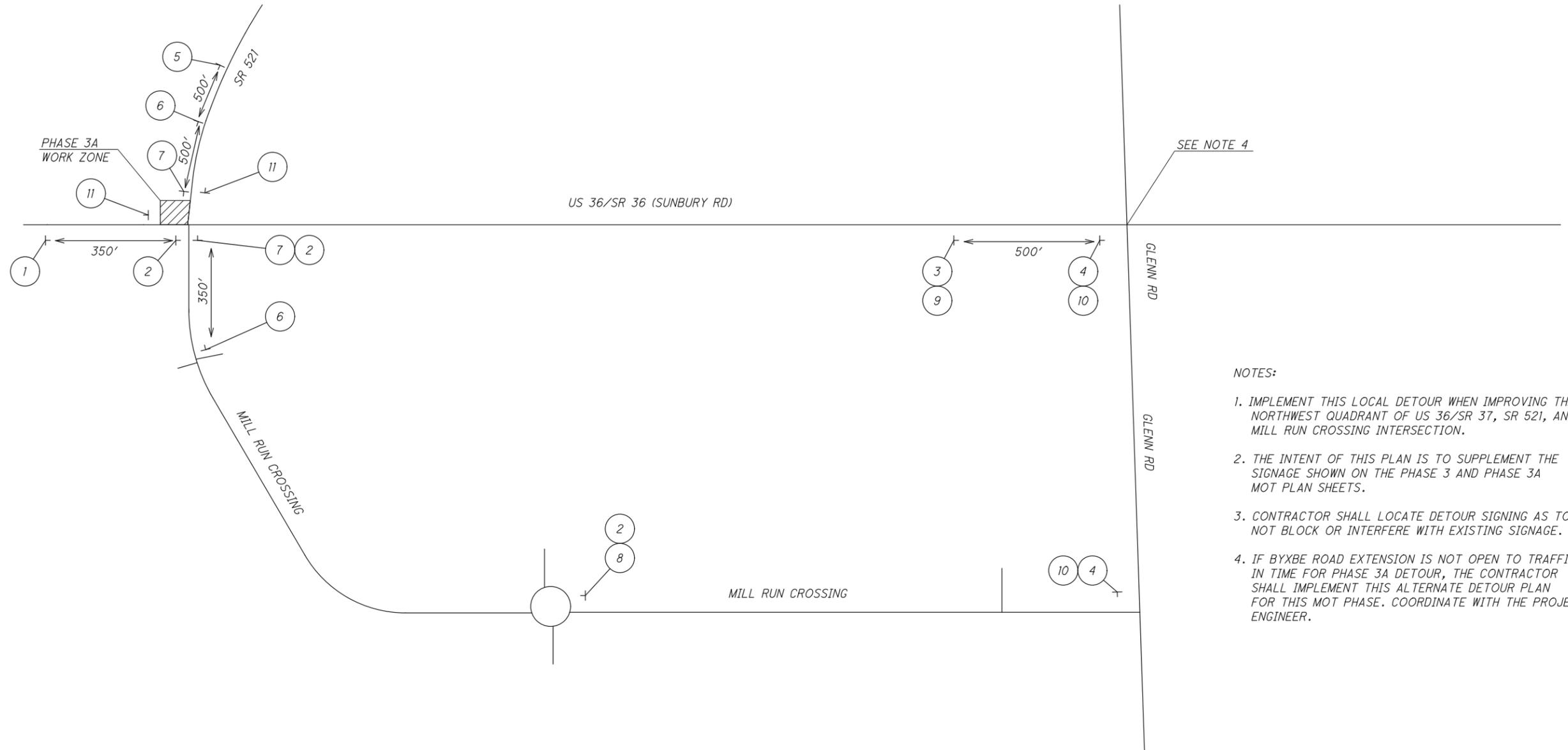
7 Sunbury Rd US36/SR37
DETOUR
←
W16-H8P
M4-9L-30

8 Sunbury Rd US36/SR37
DETOUR
↑
W16-H8P
M4-9C-30

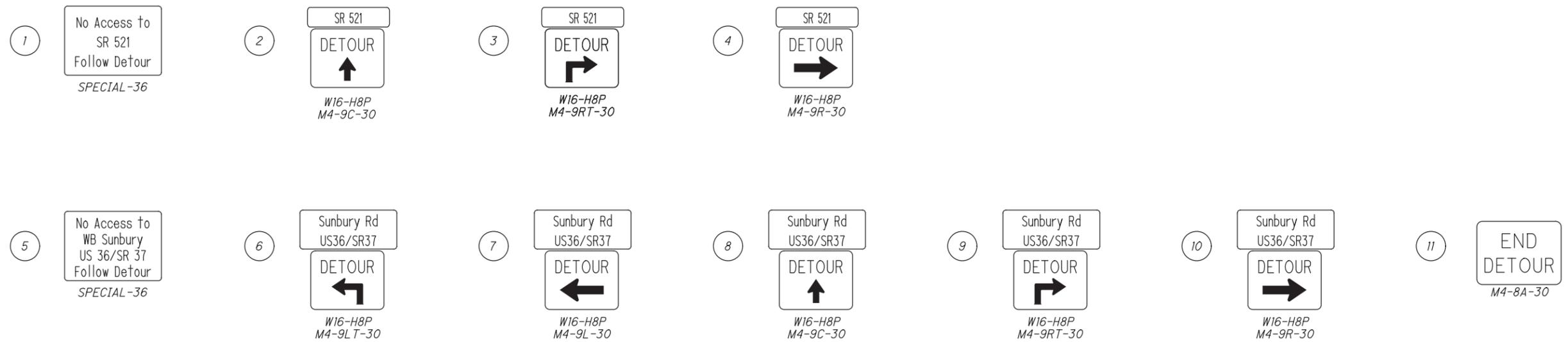
9 END
DETOUR
M4-8A-30

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- NOTES:
1. IMPLEMENT THIS LOCAL DETOUR WHEN IMPROVING THE NORTHWEST QUADRANT OF US 36/SR 37, SR 521, AND MILL RUN CROSSING INTERSECTION.
 2. THE INTENT OF THIS PLAN IS TO SUPPLEMENT THE SIGNAGE SHOWN ON THE PHASE 3 AND PHASE 3A MOT PLAN SHEETS.
 3. CONTRACTOR SHALL LOCATE DETOUR SIGNING AS TO NOT BLOCK OR INTERFERE WITH EXISTING SIGNAGE.
 4. IF BYXBE ROAD EXTENSION IS NOT OPEN TO TRAFFIC IN TIME FOR PHASE 3A DETOUR, THE CONTRACTOR SHALL IMPLEMENT THIS ALTERNATE DETOUR PLAN FOR THIS MOT PHASE. COORDINATE WITH THE PROJECT ENGINEER.



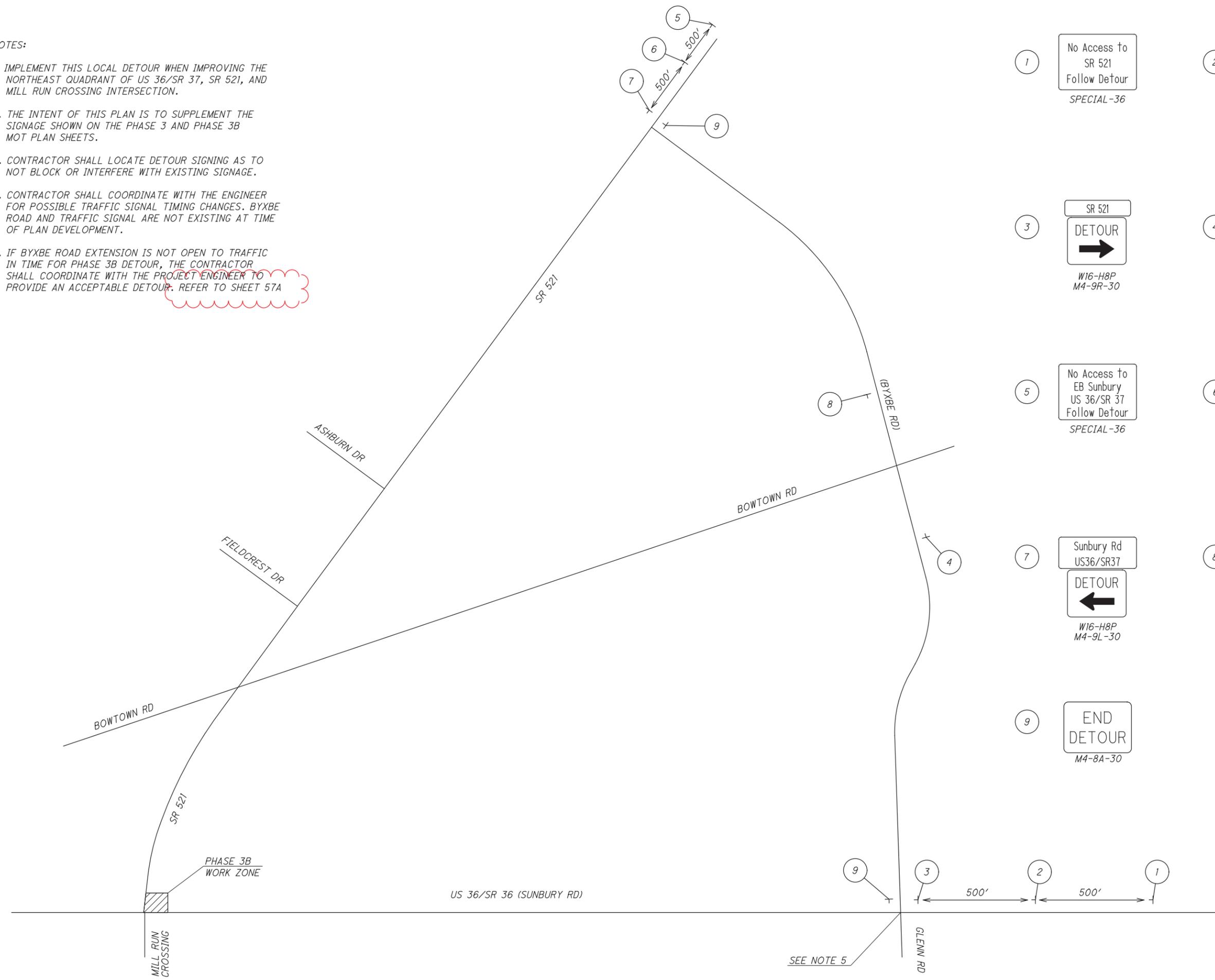
**MAINTENANCE OF TRAFFIC
ALTERNATE DETOUR - PHASE 3A**

DEL -36 -11.03

56A
644

NOTES:

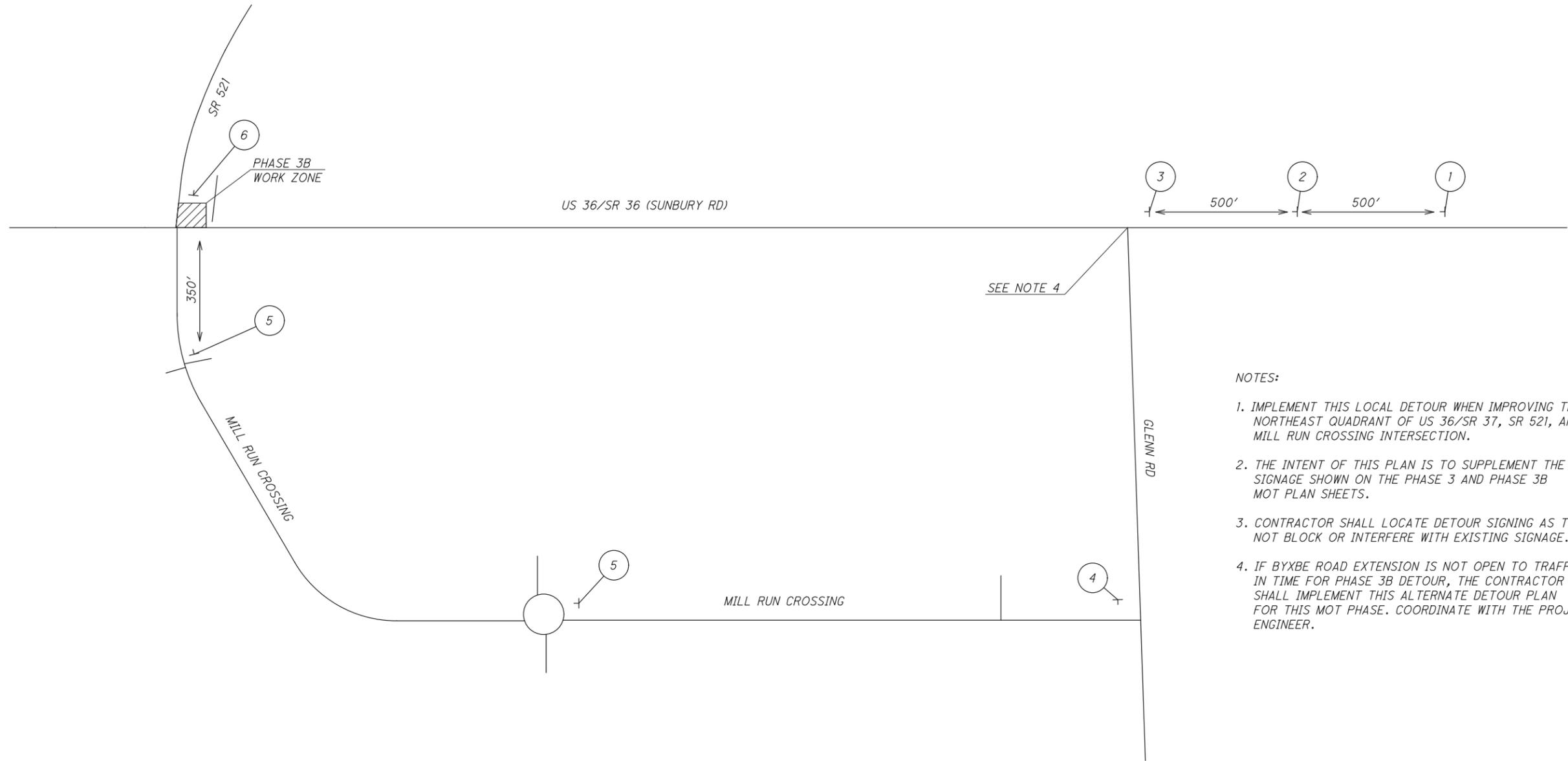
1. IMPLEMENT THIS LOCAL DETOUR WHEN IMPROVING THE NORTHEAST QUADRANT OF US 36/SR 37, SR 521, AND MILL RUN CROSSING INTERSECTION.
2. THE INTENT OF THIS PLAN IS TO SUPPLEMENT THE SIGNAGE SHOWN ON THE PHASE 3 AND PHASE 3B MOT PLAN SHEETS.
3. CONTRACTOR SHALL LOCATE DETOUR SIGNING AS TO NOT BLOCK OR INTERFERE WITH EXISTING SIGNAGE.
4. CONTRACTOR SHALL COORDINATE WITH THE ENGINEER FOR POSSIBLE TRAFFIC SIGNAL TIMING CHANGES. BYXBE ROAD AND TRAFFIC SIGNAL ARE NOT EXISTING AT TIME OF PLAN DEVELOPMENT.
5. IF BYXBE ROAD EXTENSION IS NOT OPEN TO TRAFFIC IN TIME FOR PHASE 3B DETOUR, THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT ENGINEER TO PROVIDE AN ACCEPTABLE DETOUR. REFER TO SHEET 57A



1	No Access to SR 521 Follow Detour <i>SPECIAL-36</i>	2	SR 521 DETOUR <i>W16-H8P M4-9RT-30</i>
3	SR 521 DETOUR <i>W16-H8P M4-9R-30</i>	4	SR 521 DETOUR <i>W16-H8P M4-9C-30</i>
5	No Access to EB Sunbury Rd US 36/SR 37 Follow Detour <i>SPECIAL-36</i>	6	Sunbury Rd US36/SR37 DETOUR <i>W16-H8P M4-9LT-30</i>
7	Sunbury Rd US36/SR37 DETOUR <i>W16-H8P M4-9L-30</i>	8	Sunbury Rd US36/SR37 DETOUR <i>W16-H8P M4-9C-30</i>
9	END DETOUR <i>M4-8A-30</i>		

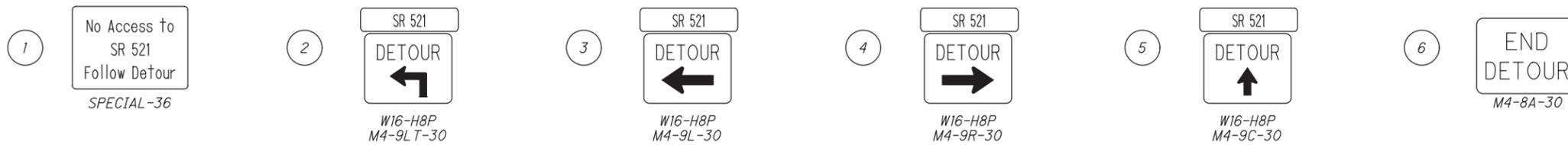
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NOTES:

1. IMPLEMENT THIS LOCAL DETOUR WHEN IMPROVING THE NORTHEAST QUADRANT OF US 36/SR 37, SR 521, AND MILL RUN CROSSING INTERSECTION.
2. THE INTENT OF THIS PLAN IS TO SUPPLEMENT THE SIGNAGE SHOWN ON THE PHASE 3 AND PHASE 3B MOT PLAN SHEETS.
3. CONTRACTOR SHALL LOCATE DETOUR SIGNING AS TO NOT BLOCK OR INTERFERE WITH EXISTING SIGNAGE.
4. IF BYXBE ROAD EXTENSION IS NOT OPEN TO TRAFFIC IN TIME FOR PHASE 3B DETOUR, THE CONTRACTOR SHALL IMPLEMENT THIS ALTERNATE DETOUR PLAN FOR THIS MOT PHASE. COORDINATE WITH THE PROJECT ENGINEER.



CALCULATED
ACW
CHECKED
XXX

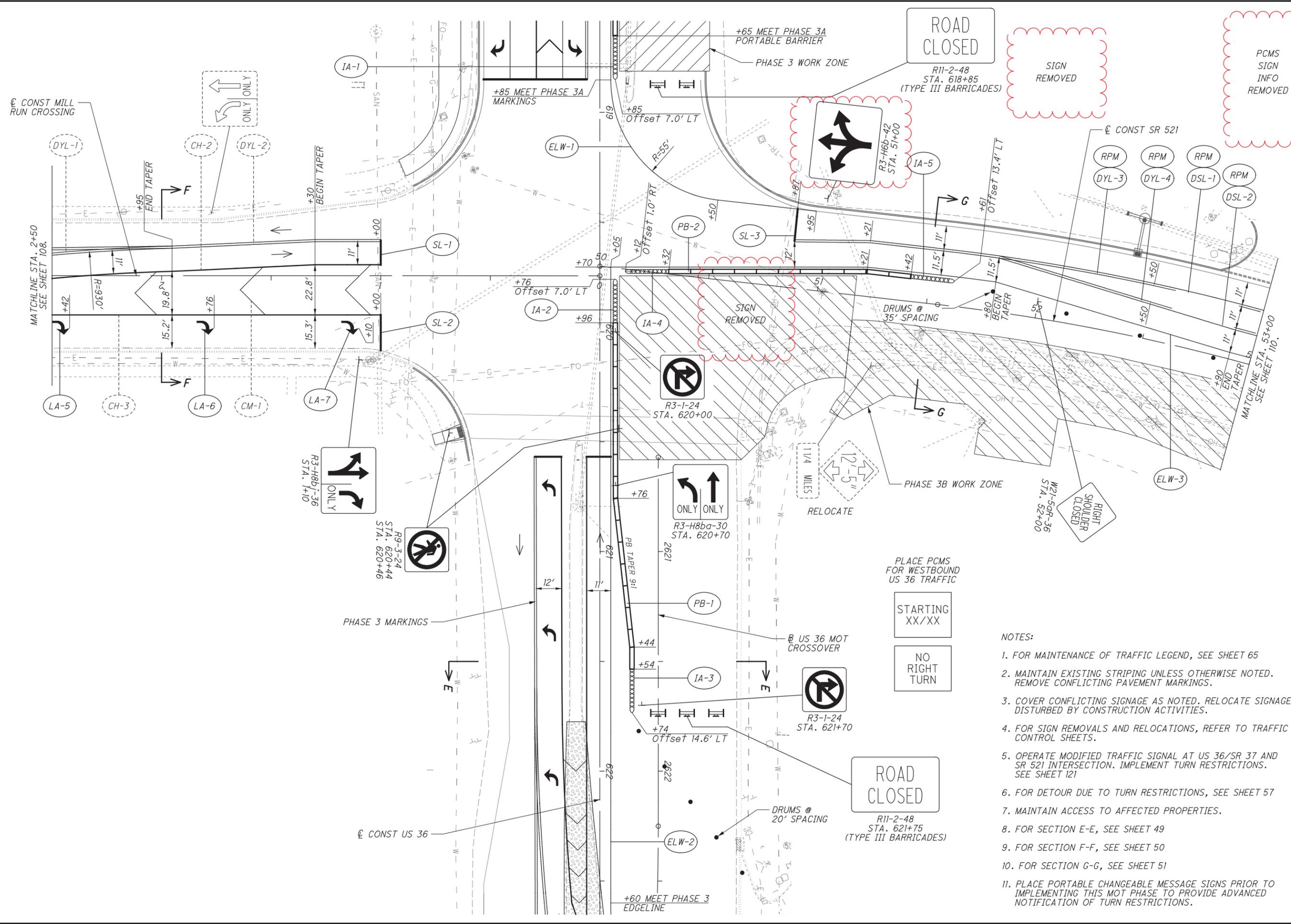
0 200 400
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC
ALTERNATE DETOUR - PHASE 3B**

DEL - 36 - 11.03

57A
644

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MAINTENANCE OF TRAFFIC PLANS - PHASE 3B
STA. 2+50 TO STA. 53+00

DEL-36-11.03
 109
 644

- NOTES:
1. FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 65
 2. MAINTAIN EXISTING STRIPING UNLESS OTHERWISE NOTED. REMOVE CONFLICTING PAVEMENT MARKINGS.
 3. COVER CONFLICTING SIGNAGE AS NOTED. RELOCATE SIGNAGE DISTURBED BY CONSTRUCTION ACTIVITIES.
 4. FOR SIGN REMOVALS AND RELOCATIONS, REFER TO TRAFFIC CONTROL SHEETS.
 5. OPERATE MODIFIED TRAFFIC SIGNAL AT US 36/SR 37 AND SR 521 INTERSECTION. IMPLEMENT TURN RESTRICTIONS. SEE SHEET 121
 6. FOR DETOUR DUE TO TURN RESTRICTIONS, SEE SHEET 57
 7. MAINTAIN ACCESS TO AFFECTED PROPERTIES.
 8. FOR SECTION E-E, SEE SHEET 49
 9. FOR SECTION F-F, SEE SHEET 50
 10. FOR SECTION G-G, SEE SHEET 51
 11. PLACE PORTABLE CHANGEABLE MESSAGE SIGNS PRIOR TO IMPLEMENTING THIS MOT PHASE TO PROVIDE ADVANCED NOTIFICATION OF TURN RESTRICTIONS.

PLACE PCMS FOR WESTBOUND US 36 TRAFFIC

STARTING XX/XX

NO RIGHT TURN

ROAD CLOSED
 R11-2-48
 STA. 621+75
 (TYPE III BARRICADES)

SIGN REMOVED

PCMS SIGN INFO REMOVED

SIGN REMOVED

RIGHT SHOULDER CLOSED
 W21-50R-36
 STA. 52+00

RELOCATE
 11/4 MILLS
 12'-5"

US 36 MOT CROSSOVER

R3-1-24
 STA. 621+70

R3-H8b-30
 STA. 620+70

R9-3-24
 STA. 620+44
 STA. 620+46

R3-H8b-1-36
 STA. 1+10

ROAD CLOSED
 R11-2-48
 STA. 618+85
 (TYPE III BARRICADES)

+65 MEET PHASE 3A PORTABLE BARRIER

+85 MEET PHASE 3A MARKINGS

+60 MEET PHASE 3 EDGETINE

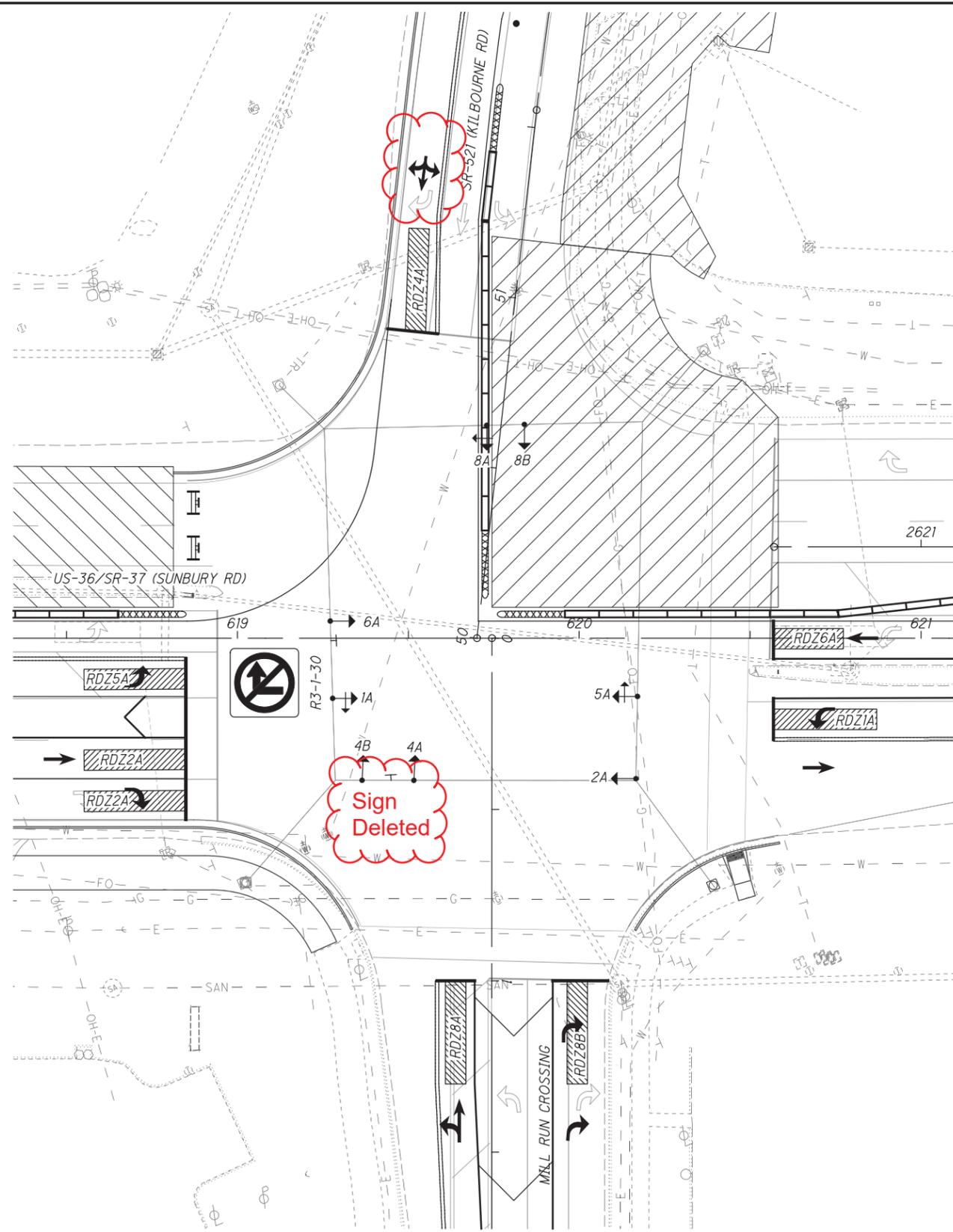
CONST MILL RUN CROSSING

CONST SR 521

MATCHLINE STA. 53+00
 SEE SHEET 110.

MATCHLINE STA. 2+50
 SEE SHEET 108.

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US-36/SR-37 (SUNBURY RD) AT SR-521/MILL RUN CROSSING
PHASE 3B

NOTES:

1. CONTRACTOR SHALL REARRANGE EX. SIGNAL HEADS OR FURNISH TEMPORARY HEADS AS NECESSARY AND SHALL COVER ANY CONFLICTING SIGNS/SIGNAL INDICATIONS.
2. FOR MOT DETAILS, SEE SHEET 109.
3. CONTRACTOR SHALL ADJUST AND COORDINATE SIGNAL PHASING AND TIMING FOR SIGNALS IN THE PROJECT AREA AS APPROVED BY PROJECT ENGINEER.

LEGEND		
	PROP	EXIST
TEMP. TRAFFIC SIGNAL, 3 UNIT HEAD, 12"		
TEMP. TRAFFIC SIGNAL, 3 UNIT HEAD, 12" WITH ARROWS		
TEMP. TRAFFIC SIGNAL, 5 UNIT HEAD, 12"		
SIGNAL SUPPORT POLE		

CALCULATED
MAS
CHECKED
PHF

0 20 40
HORIZONTAL
SCALE IN FEET

MAINTENANCE OF TRAFFIC PLAN - PHASE 3B
TRAFFIC SIGNAL DETAILS - US 36/SR 37 AT SR 521/MILL RUN CROSSING

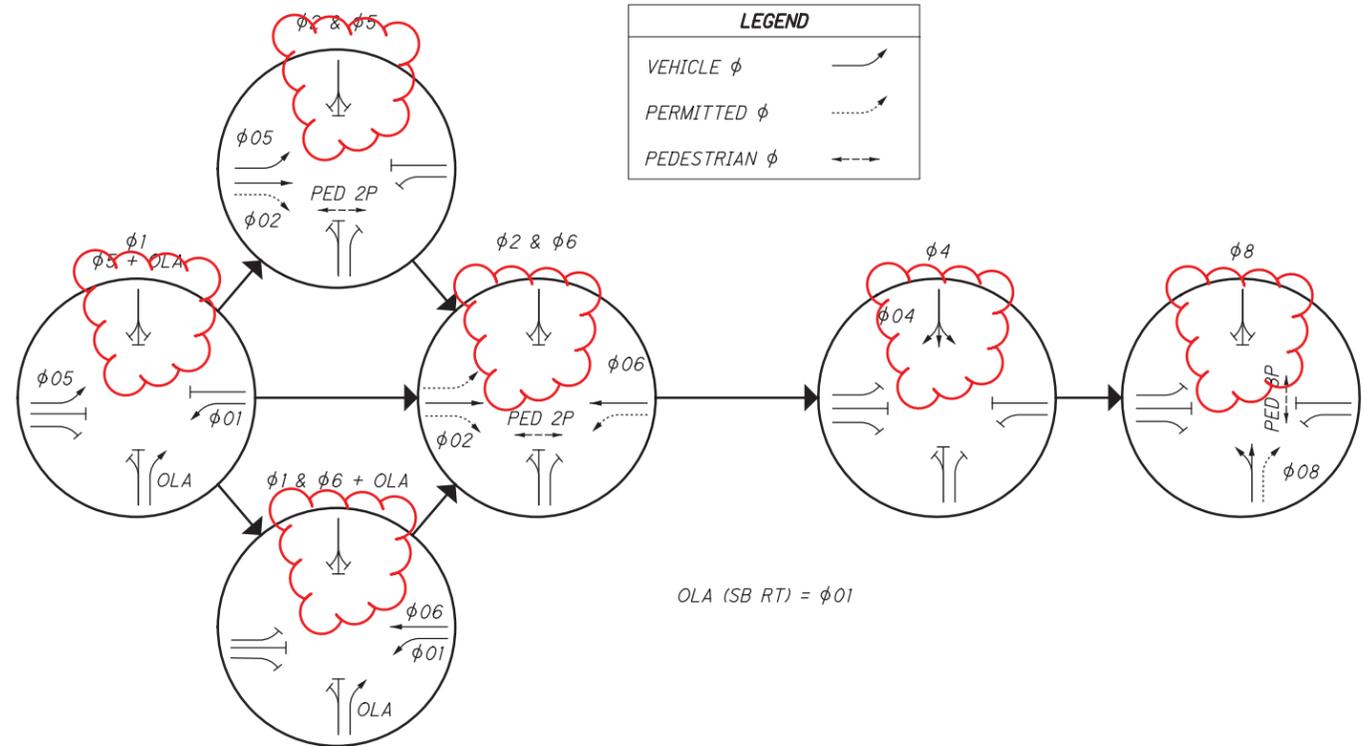
US 36 / SR-37 (SUNBURY RD) AT SR-521 - MILL RUN CROSSING

SIGNAL TIMING CHART

INTERSECTION: U.S. 36 / S.R. 37 & S.R. 521 / MILL RUN CROSSING									
MAINTAINING AGENCY: CITY OF DELAWARE, OH									
START UP		DUAL ENTRY: YES		PHASES: 2 & 6, 4 & 8					
START IN: ALL-RED FLASH		REST IN RED: RING 1 - RING 2 -		OVERLAP					
TIME FOR: FLASH, ALL RED (SEC.): 6									
FIRST PHASE(S): 2 & 6									
COLOR DISPLAYED: GREEN									
INTERVAL OR FEATURE		CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT (PHASE)		1	2	-	4	5	6	-	8
DIRECTION		WB LT	EB	-	SB	EB LT	WB	-	NB
MINIMUM GREEN (INITIAL) (SEC.)		6	20	-	10	6	20	-	10
ADDED INITIAL *(SEC./ACTUATION)		-	-	-	-	-	-	-	-
MAXIMUM INITIAL (SEC.)		-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP) (SEC.)		-	-	-	-	-	-	-	-
TIME BEFORE REDUCTION *(SEC.)		-	-	-	-	-	-	-	-
MINIMUM GAP *(SEC.)		-	-	-	-	-	-	-	-
TIME TO REDUCE *(SEC.)		-	-	-	-	-	-	-	-
MAXIMUM GREEN I (SEC.)		15	50	-	40	15	50	-	40
MAXIMUM GREEN II (SEC.)		30	50	-	40	30	50	-	40
YELLOW CHANGE (SEC.)		4.2	5.1	-	3.3	3.1	5.1	-	3.1
ALL RED CLEARANCE (SEC.)		3.6	2.0	-	3.5	4.4	2.0	-	3.9
DELAYED GREEN (LPD) # (SEC.)		-	-	-	-	-	-	-	-
FLASHING YELLOW ARROW DELAY* (SEC.)		-	-	-	-	-	-	-	-
WALK (SEC.)		-	9	-	-	-	-	-	12
PEDESTRIAN CLEARANCE (SEC.)		-	19	-	-	-	-	-	33
RECALL	MAXIMUM (ON/OFF)	OFF	OFF	-	OFF	OFF	OFF	-	OFF
	MINIMUM (ON/OFF)	OFF	ON	-	OFF	OFF	ON	-	OFF
	PEDESTRIAN (ON/OFF)	OFF	OFF	-	OFF	OFF	OFF	-	OFF
MEMORY (ON/OFF)	OFF	OFF	-	OFF	OFF	OFF	OFF	-	OFF

*VOLUME DENSITY CONTROLS

PHASING DIAGRAM



RADAR DETECTION CHART

DETECTION ZONE	MOVEMENT	PULSE OR PRESENCE	ASSOCIATED PHASE	DELAY PROGRAMMED IN CONTROLLER (SEC.)	DELAY INHIBITED PHASE	PURPOSE	DETECTION ZONE LENGTH (FT)
RDZ1A	WB LT	PRESENCE	1	-	-	STOP-LINE	30
RDZ6A	WB	PRESENCE	6	-	-	STOP-LINE	30
RDZ5A	EB LT	PRESENCE	5	-	-	STOP-LINE	30
RDZ2A	EB	PRESENCE	2	-	-	STOP-LINE	30
RDZ2A	EB RT	PRESENCE	2	-	-	STOP-LINE	30
RDZ4A	SB	PRESENCE	4	-	-	STOP-LINE	30
RDZ8A	NB	PRESENCE	8	-	-	STOP-LINE	30
RDZ8B	NB RT	PRESENCE	8	-	-	STOP-LINE	30
-	EB	PULSE	2	-	-	ADVANCE DETECTION	*
-	WB	PULSE	6	-	-	ADVANCE DETECTION	*

*ADVANCE DETECTION ZONE LENGTH SHALL BE AS LONG AS DETECTOR CAN RELIABLY DETECT WITHIN LANE.

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CALCULATED
ABS
CHECKED
PHF

MAINTENANCE OF TRAFFIC PLAN - PHASE 3B
TRAFFIC SIGNAL DETAILS - US 36 / SR 37 AT SR 521 / MILL RUN CROSSING

DEL-36-11.03

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SHEET NUMBER																FUNDING						ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	
23	27	34	132	133	146	235	262	270	274	297	302	313	348	366	388	476	01/NHS/PV	02/SY2/PV	03/NHS/BR	04/NHS/PV	05/SY2/PV							06/ENH/31
ROADWAY																												
LS			5														LS						201	11000	LS		CLEARING AND GRUBBING	
			2649			135											2	3					202	20010	5	EACH	HEADWALL REMOVED	
			3756														2595	189					202	23000	2784	SY	PAVEMENT REMOVED	
			3														3262	494					202	30000	3756	SF	WALK REMOVED	
																	3						202	30600	3	SY	CONCRETE MEDIAN REMOVED	
			7														7						202	30200	7	FT	STEPS REMOVED	
			43			14											43	14					202	30800	57	SY	TRAFFIC ISLAND REMOVED	
			6115			819											6301	633					202	32000	6934	FT	CURB REMOVED	
			2280														2280						202	32500	2280	FT	CURB AND GUTTER REMOVED	
			18														18						202	32600	18	FT	GUTTER REMOVED	
			4265														3792	473					202	35100	4265	FT	PIPE REMOVED, 24" AND UNDER	
			760														760						202	38000	760	FT	GUARDRAIL REMOVED	
			6														6						202	53100	6	EACH	MAILBOX REMOVED	
			LS														LS						202	56000	LS		BUILDING DEMOLISHED, PARCEL NO. 7-WDV, 1 STORY FRAME	27
			LS														LS						202	56000	LS		BUILDING DEMOLISHED, PARCEL NO. 7-T, 1 STORY FRAME	27
			LS														LS						202	56000	LS		BUILDING DEMOLISHED, PARCEL NO. 8-WDV, 1 STORY BRICK	27
	7																7						202	56100	7	EACH	BUILDING DEMOLISHED: 1-STORY SHED	27
	2																2						202	56100	2	EACH	BUILDING DEMOLISHED: 1-STORY MOBILE	27
			7														5	2					202	58000	7	EACH	MANHOLE REMOVED	
			37														34	3					202	58100	37	EACH	CATCH BASIN REMOVED	
			3														3						202	58200	3	EACH	INLET REMOVED	
			131														131						202	75000	131	FT	FENCE REMOVED	
			LS														LS						202	98000	LS		REMOVAL MISC.: FENCE, GATE, BRICK COLUMNS	28
			LS														LS	LS					202	98000	LS		REMOVAL MISC.: CONCRETE LAWN ORNAMENTS	28
			LS														LS						202	98000	LS		REMOVAL MISC.: COLUMN	28
			LS														LS						202	98000	LS		REMOVAL MISC.: CONCRETE PADS	28
			14														8	6					202	98100	14	EACH	REMOVAL MISC.: LANDSCAPE BOULDER	27
			11														9	2					202	98100	11	EACH	REMOVAL MISC.: SIGN	27
			16														14	2					202	98100	16	EACH	REMOVAL MISC.: WOOD/STEEL POST	27
			9														3	6					202	98100	9	EACH	REMOVAL MISC.: IRRIGATION/SPRINKLER	27
			2														2						202	98100	2	EACH	REMOVAL MISC.: DUMPSTER/DONATION BIN	28
			4															4					202	98100	4	EACH	REMOVAL MISC.: CONCRETE PLANTERS	28
			22														22						202	98100	22	EACH	REMOVAL MISC.: LANDSCAPE, TIMBER	28
			20														20						202	98200	20	FT	REMOVAL MISC.: WOOD BARRIER	28
			134														134						202	98200	134	FT	REMOVAL MISC.: WALL	28
			23														23						202	98200	23	FT	REMOVAL MISC.: CHAIN	28
			32														32						202	98200	32	FT	REMOVAL MISC.: WOODEN FENCE	28
			14														14						202	98200	14	FT	REMOVAL MISC.: HANDRAIL	28
			70														70						202	98200	70	FT	REMOVAL MISC.: CHAIN LINK FENCE	28
			61														31	30					202	98200	61	FT	REMOVAL MISC.: LANDSCAPE STONE EDGING	28
			5															5					202	98300	5	SY	REMOVAL MISC.: RIPRAP	28
		239															239						202	98300	239	SY	REMOVAL MISC.: DRIVEWAY REMOVAL AND REPLACEMENT	27
42008						1003											41687	1324					203	10000	43011	CY	EXCAVATION	
4761						25											4326	460					203	20000	4786	CY	EMBANKMENT	
			224		6690												6690	224					203	35120	6914	CY	GRANULAR MATERIAL, TYPE C	
			1														1						203	98600	1	EACH	ROADWAY, MISC.: MANHOLE ADJUSTED TO GRADE	28
			7231		31242	3845											39008	3310					204	10000	42318	SY	SUBGRADE COMPACTION	
					6690												6690						204	13000	6690	CY	EXCAVATION OF SUBGRADE	
20					11												30	1					204	45000	31	HOUR	PROOF ROLLING	
					17232												17232						204	50000	17232	SY	GEOTEXTILE FABRIC	
			112														112						606	15050	112	FT	GUARDRAIL, TYPE MGS	
			1														1						606	26150	1	EACH	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	
			1														1						606	26550	1	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
			131														131						607	23000	131	FT	FENCE, TYPE CLT	
			400														400						607	98000	400	FT	FENCE, MISC.: BIKE RAILING	27
			19995														17544	2451					608	10000	19995	SF	4" CONCRETE WALK	
			7														7						608	40000	7	FT	CONCRETE STEPS, TYPE A	
			1604														1128	476					608	52000	1604	SF	CURB RAMP	
			376														248	128					608	53020	376	SF	DETECTABLE WARNING	
7																	7						623	38500	7	EACH	MONUMENT ASSEMBLY, TYPE C	

CALCULATED CJM CHECKED PEK	GENERAL SUMMARY	DEL -36 -11.03	125 644
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DRAINAGE - CONTINUED FROM PREVIOUS PAGE																												
				362													362						611	16600	362	FT	36" CONDUIT, TYPE C	
				738													738						611	16900	738	FT	36" CONDUIT, TYPE D	
				80														80					611	52202	80	FT	14" X 23" CONDUIT, TYPE B, 706.04	
				76														76					611	52204	76	FT	14" X 23" CONDUIT, TYPE C, 706.04	
							179										179						611	94901	179	FT	8' X 5' CONDUIT, TYPE A, 706.05, AS PER PLAN	262
				11													9	2					611	98150	11	EACH	CATCH BASIN, NO. 3	
				1													1						611	98151	1	EACH	CATCH BASIN, NO. 3, AS PER PLAN	269
				42													34	8					611	98180	42	EACH	CATCH BASIN, NO. 3A	
				2													1	1					611	98181	2	EACH	CATCH BASIN, NO. 3A, AS PER PLAN	269
				2													2						611	98470	2	EACH	CATCH BASIN, NO. 2-2B	
				3													2	1					611	98510	3	EACH	CATCH BASIN, NO. 2-3	
				1													1						611	98540	1	EACH	CATCH BASIN, NO. 2-4	
				1														1					611	98630	1	EACH	CATCH BASIN ADJUSTED TO GRADE	
				1													1						611	98710	1	EACH	INLET, NO. 2-6	
				44													35	9					611	99574	44	EACH	MANHOLE, NO. 3	
				1													1						611	99586	1	EACH	MANHOLE, NO. 3 WITH 108" BASE I.D. AND 12" WEIR	
				2													2						611	99654	2	EACH	MANHOLE ADJUSTED TO GRADE	
				1														1					611	99660	1	EACH	MANHOLE RECONSTRUCTED TO GRADE	
2																	2						611	99710	2	EACH	PRECAST REINFORCED CONCRETE OUTLET	
							464										464						613	41201	464	CY	LOW STRENGTH MORTAR BACKFILL, AS PER PLAN	262
				1													1						895	10040	1	EACH	MANUFACTURED WATER QUALITY STRUCTURE, TYPE 4	
PAVEMENT																												
				5920																	2638	3282	254	01000	5920	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 1.5"	
				1276																	1276		254	01000	1276	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 6"	
				7784													7296	488					301	56000	7784	CY	ASPHALT CONCRETE BASE, PG64-22, (449)	
			1215	4892	351											6126	332					304	20000	6458	CY	AGGREGATE BASE		
				326												156	170					304	20001	326	CY	AGGREGATE BASE, AS PER PLAN	28	
				4121	92											3698	515					407	20000	4213	GAL	NON-TRACKING TACK COAT		
			118		59											118	6					441	70000	118	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22		
					82											53	9					441	70500	59	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), (DRIVEWAYS)		
				1568												73						441	70700	82	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449), (DRIVEWAYS)		
				32																1349	219	442	10001	1568	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), 76-22M, AS PER PLAN	28	
				1674												1579	95		32			442	10001	32	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), 88-22M, AS PER PLAN	28	
					148											148						442	10080	1674	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (446)		
					2071											1733	338					452	10050	148	SY	6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS		
			11265													9541	1724					452	12050	2071	SY	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS		
																						609	12000	11265	FT	COMBINATION CURB AND GUTTER, TYPE 2		
			3457		389											3655	191					609	26000	3846	FT	CURB, TYPE 6		
			789													584	205					609	26001	789	FT	CURB, TYPE 6, AS PER PLAN	26	
			520													520						609	54001	520	SY	6" CONCRETE TRAFFIC ISLAND, AS PER PLAN	28	
					83											37	46					609	57000	83	SY	8" CONCRETE TRAFFIC ISLAND		
					685											236	449					SPECIAL	69012060	685	SY	PAVEMENT OVERLAY FABRIC COMPOSITE	28	
WATER WORK																												
																790						SPECIAL	20270000	790	FT	FILL AND PLUG EXISTING CONDUIT, 6"	278	
																251						SPECIAL	20270000	251	FT	FILL AND PLUG EXISTING CONDUIT, 12"	278	
																1						638	07490	1	EACH	8" GATE VALVE		
																4						638	10400	4	EACH	FIRE HYDRANT ADJUSTED TO GRADE		
																11						638	10480	11	EACH	FIRE HYDRANT REMOVED		
																23						638	10800	23	EACH	VALVE BOX ADJUSTED TO GRADE		
																23						SPECIAL	63820048	23	FT	6" WATER MAIN DIP CLASS 53 MECHANICAL JOINTS AND FITTINGS (CITY OF DELAWARE, WTRD-3.0)	278	
																203						SPECIAL	63820088	203	FT	8" WATER MAIN DIP CLASS 53 MECHANICAL JOINTS AND FITTINGS (CITY OF DELAWARE, WTRD-3.0)	278	
																97						SPECIAL	63820184	97	FT	12" WATER MAIN DIP CLASS 54 MECHANICAL JOINTS AND FITTINGS (CITY OF DELAWARE, WTRD-3.0)	278	
																410						SPECIAL	63820224	410	FT	16" WATER MAIN DIP CLASS 54 MECHANICAL JOINTS AND FITTINGS (CITY OF DELAWARE, WTRD-3.0)	278	
																4	1					SPECIAL	63820750	5	EACH	6" FIRE HYDRANT (CITY OF DELAWARE, WTRD-9.0)	278	
																5						SPECIAL	63820750	5	EACH	6" FIRE HYDRANT (CITY OF DELAWARE, WTRD-10.0)	278	
																192						SPECIAL	63820776	192	FT	1 1/2" POLYETHYLENE WATER SERVICE LINE (CITY OF DELAWARE)	278	
																4						638	98000	4	EACH	WATER WORKS, MISC.: CURB STOP (CITY OF DELAWARE)	278	
																3						638	98000	3	EACH	WATER WORKS, MISC.: METER PIT (CITY OF DELAWARE)	278	

CALCULATED CJM CHECKED PEK
GENERAL SUMMARY
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SHEET NUMBER																FUNDING						ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	
23	27	34	132	133	146	235	262	270	274	297	302	313	348	366	388	476	01/NHS/PV	02/S>2/PV	03/NHS/BR	04/NHS/PV	05/S>2/PV							06/ENH/31
WATER WORK - CONTINUED FROM PREVIOUS PAGE																												
									2								2						638	98000	2	EACH	WATER WORKS, MISC.: CURB STOP ADJUSTED TO GRADE (CITY OF DELAWARE)	278
									7								7						638	98000	7	EACH	WATER WORKS, MISC.: METER PIT ADJUSTED TO GRADE (CITY OF DELAWARE)	278
									5								5						638	98000	5	EACH	WATER WORKS, MISC.: CURB STOP REMOVED (CIYT OF DELAWARE)	278
									3								3						638	98000	3	EACH	WATER WORKS, MISC.: METER PIT REMOVED (CITY OF DELAWARE)	278
									19								18	1					638	98000	19	EACH	WATER WORKS, MISC.: VALVE AND VALVE BOX REMOVED	279
									4								4						638	98000	4	EACH	WATER WORKS, MISC.: WATER SERVICE LOWERING (CITY OF DELAWARE, WTRD-1.1)	279
									735								735						638	98600	735	FT	WATER WORKS, MISC.: PIPE REMOVED	279
									155								155						638	98600	155	FT	WATER WORKS, MISC.: PIPE ABANDONED (CITY OF DELAWARE)	279
									168								168						638	98600	168	FT	WATER WORKS, MISC.: 30" STEEL PIPE ENCASUREMENT, OPEN CUT	278
SANITARY SEWER																												
									56								56						202	35100	56	FT	PIPE REMOVED, 24" AND UNDER	
									2								2						202	58000	2	EACH	MANHOLE REMOVED	
									2								2						202	58001	2	EACH	MANHOLE REMOVED, AS PER PLAN	295
									837								837						611	01800	837	FT	8" CONDUIT, TYPE B (748.02)	
									143								143						611	02000	143	FT	8" CONDUIT, TYPE C (748.02)	
									8								8						611	99574	8	EACH	MANHOLE, NO. 3	
									8								8						611	99654	8	EACH	MANHOLE ADJUSTED TO GRADE	
LIGHTING																												
														160			120	40					625	00450	160	EACH	CONNECTION, FUSED PULL APART	
														84			66	18					625	00480	84	EACH	CONNECTION, UNFUSED PERMANENT	
														48								48	625	10481	48	EACH	LIGHT POLE, DECORATIVE, AS PER PLAN	364
														20			20						625	10490	20	EACH	LIGHT POLE, CONVENTIONAL, AT8B37	
														68			50	18					625	14100	68	EACH	LIGHT POLE FOUNDATION, 24" X 8' DEEP	
														17761			17122	639					625	23200	17761	FT	NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	
														1731			1731						625	23308	1731	FT	DISTRIBUTION CABLE, MISC.: NO. 8 AWG 2400 VOLT DISTRIBUTION CABLE	365
														4920			4200	720					625	23400	4920	FT	NO. 10 AWG POLE AND BRACKET CABLE	
														6504			4454	2050					625	24400	6504	FT	DUCT CABLE, MISC.:2" DUCT CABLE WITH THREE NO. 4 2400 VOLT CABLES	365
														856			856						625	24400	856	FT	DUCT CABLE, MISC.:2" DUCT CABLE WITH THREE NO. 8 2400 VOLT CABLES	365
														554			537	17					625	25400	554	FT	CONDUIT, 2", 725.04	
														1359			1157	202					625	25902	1359	FT	CONDUIT, JACKED OR DRILLED, 725.04, 3"	
														3814			3702	112					625	25920	3814	FT	CONDUIT, MISC.: DUCT BANK	365
														200			200						625	25920	200	FT	CONDUIT, MISC.: UNDERDRAIN OUTLET	365
														115			20	95					625	26253	115	EACH	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), IES-III-FULL CUTOFF-MEDIUM, 3000K-CCT, AS PER PLAN	365
														48								48	625	27403	48	EACH	LUMINAIRE, POST TOP, SOLID STATE (LED) IES-III-SEMI CUTOFF-MEDIUM, 8800 LUMENS, AS PER PLAN	364
														7715			5648	2067					625	29000	7715	FT	TRENCH	
														3702			3702						625	29001	3702	FT	TRENCH, AS PER PLAN	365
														34			30	4					625	30700	34	EACH	PULL BOX, 725.08, 18"	
														8			6	2					625	31600	8	EACH	PULL BOX, MISC.: 30"x48" POLYMER PULL BOX	365
														68			50	18					625	32000	68	EACH	GROUND ROD	
														2			2						625	34001	2	EACH	POWER SERVICE, AS PER PLAN	364
														11417			9350	2067					625	36010	11417	FT	UNDERGROUND WARNING/MARKING TAPE	
														2								2	625	98000	2	EACH	LIGHTING MISC.: LANDSCAPE-MONUMENT SIGN LIGHT	365
														4								4	625	98000	4	EACH	LIGHTING MISC.: LANDSCAPE-ABUTMENT LIGHT	365
TRAFFIC CONTROL																												
														407			366	41					621	00100	407	EACH	RPM	
														2			2						625	32000	2	EACH	GROUND ROD	
														203.0			139.0	64.0					630	02100	203.0	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
														1545.0			1285.0	260.0					630	03100	1545.0	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
														94.0			56.0	38.0					630	08520	94.0	FT	STREET NAME SIGN SUPPORT, NO. 3 POST	
														39			32	7					630	08600	39	EACH	SIGN POST REFLECTOR	
														1			1						630	21200	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 12	
														1			1						630	21201	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 12, AS PER PLAN	301
														6			6						630	75000	6	EACH	SIGN ATTACHMENT ASSEMBLY	
														975			762	213					630	80100	975	SF	SIGN, FLAT SHEET	
														204			204						630	80224	204	SF	SIGN, OVERHEAD EXTRUSHEET	
														14			8	6					630	80500	14	EACH	SIGN, DOUBLE FACED, STREET NAME	
														204			204						630	81200	204	SF	SIGN ERECTED, EXTRUSHEET	
														2			2						630	84510	2	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	

CALCULATED CJM CHECKED PEK
GENERAL SUMMARY
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SHEET NUMBER																FUNDING						ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	
23	27	34	132	133	146	235	262	270	274	297	302	313	348	366	388	476	01/NHS/PV	02/SY2/PV	03/NHS/BR	04/NHS/PV	05/SY2/PV							06/ENH/31
TRAFFIC SIGNALS - CONTINUED FROM PREVIOUS PAGE																												
													1				1						632	90008	1	EACH	PEDESTAL, 15', TRANSFORMER BASE	
													2				2						632	90101	2	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	341
													7				7						632	90104	7	EACH	REUSE OF TRAFFIC CONTROL ITEM, PREEMPT CONFIRMATION LIGHT	
												LS				LS							632	90300	LS		SIGNALIZATION, MISC.: SYSTEM INTEGRATION	343
												2				2							633	65511	2	EACH	CABINET, TYPE TS-2, AS PER PLAN	344
												2				2							633	67100	2	EACH	CABINET FOUNDATION	
												2				2							633	75001	2	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN	345
												1				1							809	69001	1	EACH	ADVANCE RADAR DETECTION, AS PER PLAN	344
												2				2							809	69123	2	EACH	ATC CONTROLLER, AS PER PLAN, V6.24	344
												4				4							809	69200	4	EACH	EMERGENCY VEHICLE PREEMPTION	
												2				2							816	30001	2	EACH	VIDEO DETECTION SYSTEM, AS PER PLAN (360 DEGREES)	346
LANDSCAPING																												
															106							106	661	14000	106	EACH	PERENNIALS, (#2), CALAMAGROSTIS X ACUTIFLORA CHEJU-DO	
															29							29	661	14000	29	EACH	PERENNIALS, (#1), NEPETA X FAASSENII WALKERS LOW	
															600							600	661	14000	600	EACH	PERENNIALS, (#1), SEDUM SPURIUM RED CARPET	
															39							39	661	20040	39	EACH	DECIDUOUS SHRUB, 2' HEIGHT, CORNUS SERICEA KELSEYI	
															33							33	661	20040	33	EACH	DECIDUOUS SHRUB, 2' HEIGHT, HYDRANGEA MACROPHYLLA ENDLESS SUMMER	
															85							85	661	30000	85	EACH	EVERGREEN SHRUB, (12" HT.), JUNIPERUS CHINENSIS SARGENTII VIRIDIS	
															250							250	661	30000	250	EACH	EVERGREEN SHRUB, (12" HT.), JUNIPERUS CONFERTA BLUE PACIFIC	
															48							48	661	30000	48	EACH	EVERGREEN SHRUB, (12" HT.), JUNIPERUS SABINA BUFFALO	
															4							4	661	40080	4	EACH	DECIDUOUS TREE, 2" CAL, EUCOMMIA ULMOIDES	
															3							3	661	40080	3	EACH	DECIDUOUS TREE, 2" CAL, FAGUS GRANDIFOLIA	
															43							43	661	40080	43	EACH	DECIDUOUS TREE, 2" CAL, GINKGO BILOBA AUTUMN GOLD	
															2							2	661	40080	2	EACH	DECIDUOUS TREE, 2" CAL, PLATANUS OCCIDENTALIS	
															13							13	661	40080	13	EACH	DECIDUOUS TREE, 2" CAL, QUERCUS RUBRA	
															35							35	661	40080	35	EACH	DECIDUOUS TREE, 2" CAL, ULMUS AMERICANA PRINCETON	
															15							15	661	40080	15	EACH	DECIDUOUS TREE, 1.5" CAL, AMELANCHIER LAEVIS LUSTRE	
															21							21	661	40080	21	EACH	DECIDUOUS TREE, 1.5" CAL, CERCIS CANADENSIS APPALACHIAN RED	
															20							20	661	40080	20	EACH	DECIDUOUS TREE, 1.5" CAL, CORNUS FLORIDA CHEROKEE BRAVE	
															5							5	661	40120	5	EACH	DECIDUOUS TREE, 3" CAL, ACER RUBRUM OCTOBER GLORY	
															6							6	661	50160	6	EACH	EVERGREEN TREE, 8' HEIGHT, PICEA ABIES	
															2							2	SPECIAL	69098000	2	EACH	GATEWAY	396
															770							770	SPECIAL	69098100	770	FT	GRAVEL MOW STRIP	389
															352							352	SPECIAL	69098200	352	SF	SEGMENTAL RETAINING WALL	389
															2421							2421	SPECIAL	69098200	2421	SF	SEGMENTAL LANDSCAPE WALL	389
															1350							1350	SPECIAL	69098200	1350	SF	RAILROAD ABUTMENT STONE WALL	389
															782							782	SPECIAL	69098200	782	SF	UNIT PAVERS	388
															2730							2730	SPECIAL	69098200	2730	SF	STONE MULCH AT RAILROAD ABUTMENT	389
TRACK																												
															2							2	202	20010	2	EACH	HEADWALL REMOVED	
															850							850	202	35100	850	FT	PIPE REMOVED, 24" AND UNDER	
															395							395	202	35200	395	FT	PIPE REMOVED, OVER 24"	
															1							1	202	58000	1	EACH	MANHOLE REMOVED	
															2							2	202	58100	2	EACH	CATCH BASIN REMOVED	
															71211							71211	203	10001	71211	CY	EXCAVATION, AS PER PLAN	476
															58722							58722	203	20001	58722	CY	EMBANKMENT, AS PER PLAN	476
															8							8	601	34200	8	CY	ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER	
															4							4	602	20000	4	CY	CONCRETE MASONRY	
															850							850	611	02500	850	FT	8" CONDUIT, TYPE E, PERFORATED	
															395							395	611	16401	395	FT	36" CONDUIT, TYPE B, 707.19, AS PER PLAN	476
															2							2	611	98270	2	EACH	CATCH BASIN, NO. 4A	
															1							1	611	99574	1	EACH	MANHOLE, NO. 3	
															520							520	SPECIAL	69099500	520	DAY	RAIL ITEM, MISC.: RAILROAD FLAGGING	476
															9030							9030	SPECIAL	90010000	9030	FT	RAIL ITEM, MISC.: TRACK REMOVED	476
															LS							LS	SPECIAL	90017000	LS		RAIL ITEM, MISC.: SURVEY AND LAYOUT FOR TRACKWORK ALIGNMENT AND PROFILE	475
															5537							5537	SPECIAL	90019000	5537	CY	RAIL ITEM, MISC.: SUB-BALLAST - 12" DEPTH	475
															107							107	SPECIAL	90019000	107	CY	RAIL ITEM, MISC.: BALLAST OVER BRIDGE WATERPROOFING	476

GENERAL SUMMARY

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US 36/SR 37		SHEET NUMBER										SR 521		ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
275	276											277							
790														SPECIAL	20270000	790	FT	FILL AND PLUG EXISTING CONDUIT, 6"	
251														SPECIAL	20270000	251	FT	FILL AND PLUG EXISTING CONDUIT, 12"	
	1													638	07490	1	EACH	8" GATE VALVE	
4														638	10400	4	EACH	FIRE HYDRANT ADJUSTED TO GRADE	
6	4											1		638	10480	11	EACH	FIRE HYDRANT REMOVED	
16	5											2		638	10800	23	EACH	VALVE BOX ADJUSTED TO GRADE	
23														SPECIAL	63820048	23	FT	6" WATER MAIN DIP CLASS 53 MECHANICAL JOINTS AND FITTINGS (CITY OF DELAWARE, WTRD-3.0)	
159	44													SPECIAL	63820088	203	FT	8" WATER MAIN DIP CLASS 53 MECHANICAL JOINTS AND FITTINGS (CITY OF DELAWARE, WTRD-3.0)	
40	57													SPECIAL	63820184	97	FT	12" WATER MAIN DIP CLASS 54 MECHANICAL JOINTS AND FITTINGS (CITY OF DELAWARE, WTRD-3.0)	
384	26													SPECIAL	63820224	410	FT	16" WATER MAIN DIP CLASS 54 MECHANICAL JOINTS AND FITTINGS (CITY OF DELAWARE, WTRD-3.0)	
3	1											1		SPECIAL	63820750	5	EACH	6" FIRE HYDRANT (CITY OF DELAWARE, WTRD-9.0)	
2	3													SPECIAL	63820750	5	EACH	6" FIRE HYDRANT (CITY OF DELAWARE, WTRD-10.0)	
	192													SPECIAL	63820776	192	FT	1 1/2" POLYETHYLENE WATER SERVICE LINE (CITY OF DELAWARE)	
1	3													638	98000	4	EACH	WATER WORKS, MISC.: CURB STOP (CITY OF DELAWARE)	
	3													638	98000	3	EACH	WATER WORKS, MISC.: METER PIT (CITY OF DELAWARE)	
1	1													638	98000	2	EACH	WATER WORKS, MISC.: CURB STOP ADJUSTED TO GRADE (CITY OF DELAWARE)	
3	4													638	98000	7	EACH	WATER WORKS, MISC.: METER PIT ADJUSTED TO GRADE (CITY OF DELAWARE)	
2	3													638	98000	5	EACH	WATER WORKS, MISC.: CURB STOP REMOVED (CITY OF DELAWARE)	
	3													638	98000	3	EACH	WATER WORKS, MISC.: METER PIT REMOVED (CITY OF DELAWARE)	
12	6											1		638	98000	19	EACH	WATER WORKS, MISC.: VALVE AND VALVE BOX REMOVED	
2	2													638	98000	4	EACH	WATER WORKS, MISC.: WATER SERVICE LOWERING (CITY OF DELAWARE, WTRD-1.1)	
608	127													638	98600	735	FT	WATER WORKS, MISC.: PIPE REMOVED	
	155													638	98600	155	FT	WATER WORKS, MISC.: PIPE ABANDONED (CITY OF DELAWARE)	
168														638	98600	168	FT	WATER WORKS, MISC.: 30" STEEL PIPE ENCASEMENT, OPEN CUT	

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CALCULATED PEK	CHECKED CJM
WATER WORKS SUBSUMMARY	
DEL - 36 - 11.03	
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REF NO.	SHEET NO.	STATION		SIDE	DESCRIPTION	202	202	638	638	638	638	638	638	638	638	638	638	638	638	638	638	638	638	
		FROM	TO			FT	FT	EACH	EACH	EACH	FT	FT	FT	FT	FT	FT	EACH	EACH	FT	EACH	EACH	EACH	EACH	EACH
W-1	281	36	585+03.92		LT																			
W-2	281	36	586+88.50	36	587+14.50																			
W-3	281	36	587+66.69		RT																			
W-4	281	36	587+60.00	36	587+65.00																			
W-5	281	36	584+74.31		LT																			
W-1	282	36	589+65.25	36	589+68.91																			
W-2	282	36	589+73.41	36	589+78.25																			
W-3	282	36	589+93.70	36	590+19.69																			
W-4	282	36	590+65.26		LT																			
W-5	282	36	591+25.90	36	591+51.90																			
W-6	282	36	591+84.03	36	591+84.44																			
W-7	282	36	589+66.60	36	593+00.00	333.5																		
W-8	282	36	591+96.85		RT																			
W-9	282	36	592+67.72		LT																			
W-1	283	36	593+00.00	36	597+56.38	456.4																		
W-2	283	36	593+43.56	36	595+54.44																			
W-3	283	36	595+32.75		LT																			
W-4	283	36	594+56.77	36	595+32.75																			
W-5	283	36	596+30.73	36	597+00.00		250.5																	
W-6	283	36	596+87.87		RT																			
W-7	283	36	596+84.65		LT																			
W-8	283	36	596+48.09	36	596+75.00																			
W-9	283	36	597+00.00	36	597+05.00																			
W-10	283	36	596+82.73	36	596+95.12																			
W-11	283	36	596+54.90	36	597+61.13																			
W-12	283	36	596+27.33	36	596+50.24																			
W-13	283	36	593+43.56	36	595+54.44																			
W-1	284	36	598+20.50	36	598+24.28																			
W-2	284	36	598+21.67		RT																			
W-3	284	36	598+81.40	36	599+18.44																			
W-4	284	36	600+24.46	36	600+55.10																			
W-5	284	36	601+30.00		RT																			
W-6	284	36	601+55.01	36	601+56.15																			
W-7	284	36	601+50.36	36	601+56.93																			
W-8	284	36	602+81.64		RT																			
W-1	285	36	603+03.93	36	603+17.68																			
W-2	285	36	603+04.69	36	603+08.03																			
W-3	285	36	605+87.57		LT																			
W-4	285	36	65+65.00		RT																			
W-5	285	36	605+73.34		RT																			
W-6	285	36	606+97.99	36	607+37.66																			
W-7	285	36	607+31.44	36	607+71.16																			
W-1	286	36	608+98.44		LT																			
W-2	286	36	609+50.00		RT																			
W-3	286	36	609+54.87		RT																			
SUBTOTAL						789.9	250.5	4	6	16	168	22.6	159	40	383.1	3	2	607.4	1	1	3	2	12	2
TOTALS CARRIED TO WATER WORKS SUBSUMMARY						274	790	251	4	6	168	23	159	40	384	3	2	608	1	1	3	2	12	2

SPECIAL - 12" WATER MAIN DIP CLASS 53 MECHANICAL JOINTS AND FITTINGS (CITY OF DELAWARE, WTRD-3.0)
 SPECIAL - 8" WATER MAIN DIP CLASS 53 MECHANICAL JOINTS AND FITTINGS (CITY OF DELAWARE, WTRD-3.0)
 SPECIAL - 12" WATER MAIN DIP CLASS 54 MECHANICAL JOINTS AND FITTINGS (CITY OF DELAWARE, WTRD-3.0)
 SPECIAL - 16" WATER MAIN DIP CLASS 54 MECHANICAL JOINTS AND FITTINGS (CITY OF DELAWARE, WTRD-3.0)

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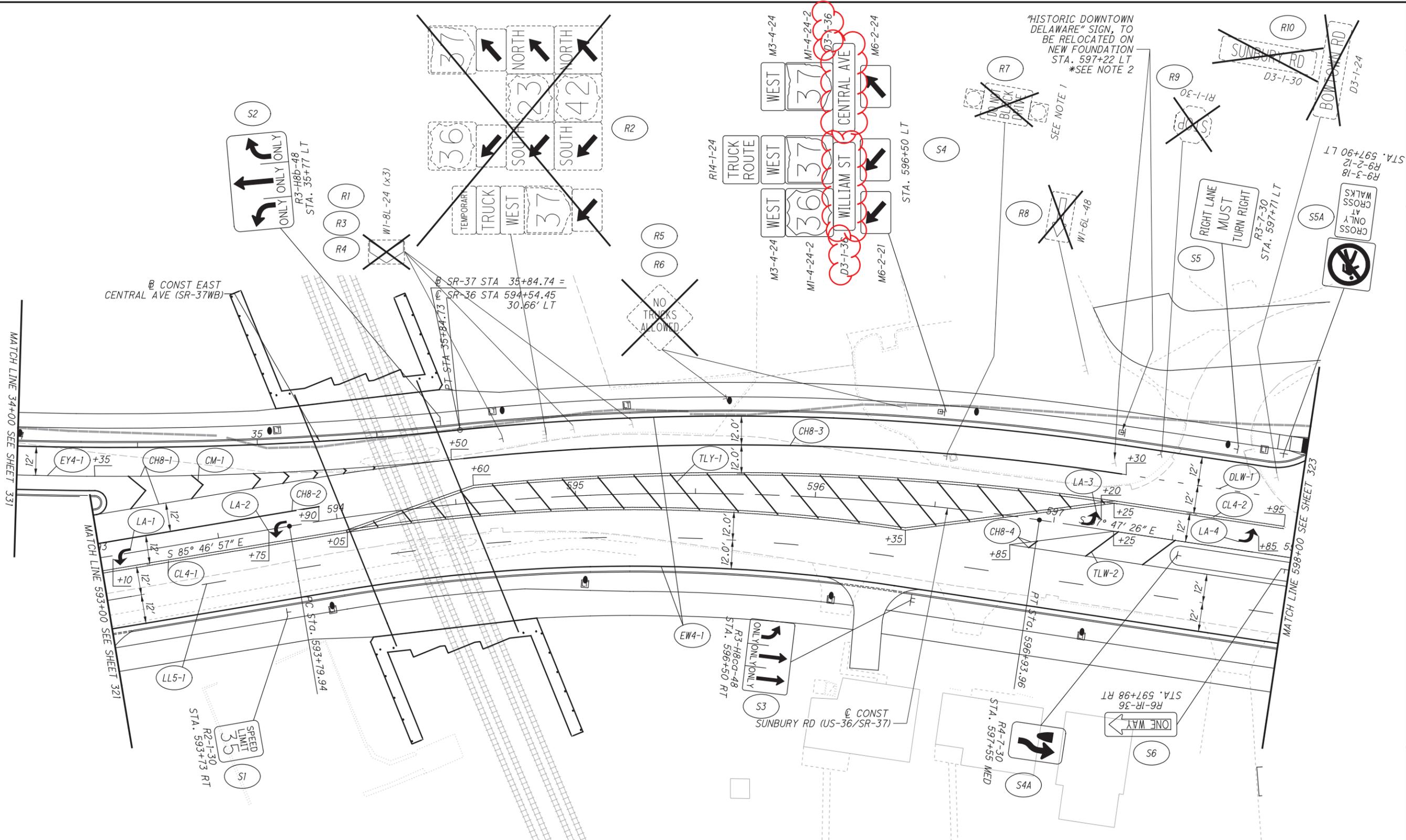
SHEET NUM.														PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
301	303	304	305	306	307	308	309	310	311	307	338	01/NHS/P V	02/S>2/P V								
				1			1					2		625	32000	2	EACH	GROUND ROD			
	12				27	14	60	40	50	27		139	64	630	02100	203	FT	GROUND MOUNTED SUPPORT, NO. 2 POST			
	220	165	242	196	138	53	81	151	152	138		1,285	260	630	03100	1,545	FT	GROUND MOUNTED SUPPORT, NO. 3 POST			
			13				43		13			56	38	630	08520	94	FT	STREET NAME SIGN SUPPORT, NO. 3 POST			
	4	1	9	3	7	1	2	5	2	7		32	7	630	08600	39	EACH	SIGN POST REFLECTOR			
							1					1		630	21200	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 12			
				1								1		630	21201	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 12, AS PER PLAN	301		
				3			3					6		630	75000	6	EACH	SIGN ATTACHMENT ASSEMBLY			
	118	101	127	129	79	50	62	95	118	79		762	213	630	80100	975	SF	SIGN, FLAT SHEET			
				102			102					204		630	80224	204	SF	SIGN, OVERHEAD EXTRUSHEET			
			2				6		2			8	6	630	80500	14	EACH	SIGN, DOUBLE FACED, STREET NAME			
				102			102					204		630	81200	204	SF	SIGN ERECTED, EXTRUSHEET			
				1			1					2		630	84510	2	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION			
	19	38	8	25	28	7	13	13	15	28		150	30	630	84900	180	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL			
											2	2		630	85000	2	EACH	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE	338		
		11	20	5	12	17	8	9	11	11	17	92	24	630	86002	116	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL			
											2	2		630	97700	2	EACH	SIGNING, MISC.: FOUNDATION GROUND MOUNTED SIGN	338		
	1											1		630	97700	1	EACH	SIGNING, MISC.: PORTABLE CHANGEABLE MESSAGE SIGN	301		
	12											12		631	97700	12	EACH	SIGN LIGHTING MISC.: RECTANGULAR RAPID-FLASHING BEACONS	301		

SIGNING SUBSUMMARY

DEL - 36.11.03

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SHEET NO.	REF NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630	630	630	630	630	630	630	630	630	630	630	630	625	630				
							GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 3 POST	SIGN POST REFLECTOR	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 12	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 12, AS PER PLAN	STREET NAME SIGN SUPPORT, NO. 3 POST	SIGN, DOUBLE FACED, STREET NAME	SIGN ATTACHMENT ASSEMBLY	SIGN, FLAT SHEET	SIGN, OVERHEAD EXTRUSHEET	SIGN ERECTED, EXTRUSHEET	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	GROUND ROD	RIGID OVERHEAD SIGN SUPPORT FOUNDATION			
							FT	FT	EACH	EACH	EACH	FT	EACH	EACH	SF	SF	SF	EACH	EACH	EACH	EACH			
321	S7	E POINT CROSSING	78+55	RT	R3-H8bd-30	30"x30"		13.00							6.25			1.00	1.00					
321	S8	E POINT CROSSING	79+30	RT	W11-15-30 W11-15P-24	30"x30" 24"x18"		14.50							6.25 3.00									
321	R4	E POINT CROSSING	79+65	RT														1.00	1.00					
321	S9	US 36	590+80	LT	R3-1-30	30"x30"		13.00							6.25			1.00	1.00					
321	R5	US 36	591+50	LT														5.00	2.00					
321	S10	US 36	592+00	RT	M3-2-24 M1-4-24-2 M1-5-24-2	24"x12" 24"x24" 24"x24"		15.50							2.00 4.00 4.00			1.00	1.00					
321	R6	US 36	592+95	LT														10.00	2.00					
322	S1	US 36	593+75	RT	R2-1-30	30"x36"		13.50							7.50									
322	S2	US 36	594+50	LT	R3-H8b-48	48"x30"		26.00							10.00									
322	R1	US 36	594+70	LT														1.00	1.00					
322	R2	US 36	594+90	LT														11.00	3.00					
322	R3	US 36	595+00	LT														1.00	1.00					
322	R4	US 36	595+25	LT														1.00	1.00					
322	R5	US 36	595+60	LT														1.00	1.00					
322	R6	US 36	596+40	LT														1.00	1.00					
322	S3	US 36	596+45	RT	R3-H8ca-48	48"x30"		26.00							10.00									
322	S4	US 36	596+50	LT	R14-1-24 M3-4-24 M1-4-24-2 D3-1-36 M6-2-21 M3-4-24 M1-4-24-2 D3-1-36 M6-2-21 M3-4-24 M1-4-24-2 M6-2-21	24"x18" 24"x12" 24"x24" 36"x12" 21"x15" 24"x12" 24"x24" 36"x12" 21"x15" 24"x12" 24"x24" 24"x24" 36"x12" 21"x15" 24"x12" 24"x24" 21"x15"		29.50						3.00 2.00 4.00 3.00 2.19 2.00 4.00 3.00 2.19 2.00 4.00 2.19										
322	R7	US 36	596+50	LT														1.00	1.00					
322	R8	US 36	597+00	LT														1.00	2.00					
322	R9	US 36	597+40	LT														1.00	1.00					
322	S4A	US 36	597+55	MED	R4-7-30	30"x36"		13.50	1.00						7.50									
TOTALS CARRIED TO SUBSUMMARY ON SHEET							302	165.00	1.00						101.00			38.00	20.00					



- NOTES:
1. REMOVE EXISTING "DO NOT BLOCK DRIVEWAY" SIGN, FLASHER, CONTROLLER, AERIAL POWER SERVICE, PEDESTAL, AND FOUNDATION.
 2. THE CONTRACTOR IS RESPONSIBLE TO STORE THE SIGN SO THAT NO DAMAGE SHALL HAPPEN TO THE SIGN AND REINSTALL IN THE NEW FOUNDATION. SEE SHEET 338 FOR DETAILS.

CALCULATED SA PHF
 CHECKED PHF

0 20 40
 HORIZONTAL SCALE IN FEET

TRAFFIC CONTROL PLAN - US-36
 STA 593+00 TO STA 598+00

GENERAL

THE CONTRACTOR SHALL FURNISH AND INSTALL SIGNAL EQUIPMENT IN ACCORDANCE WITH THE 2019 OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS TOGETHER WITH THE REQUIREMENT OF THE CITY OF DELAWARE, INCLUDING ALL SUPPLEMENTS THERETO, IN FORCE WITH THE DATE OF THE CONTRACT, SHALL GOVERN ALL MATERIAL AND WORKMANSHIP INVOLVED IN THE IMPROVEMENTS SHOWN ON THESE PLANS, EXCEPT AS SUCH SPECIFICATIONS ARE MODIFIED BY THE FOLLOWING SPECIFICATIONS OR BY THE CONSTRUCTION DETAILS SET FORTH HEREIN.

UTILITY NOTIFICATION

AT LEAST TWO (2) DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN AN AREA THAT MAY INVOLVE UTILITIES, THE CONTRACTOR SHALL NOTIFY THE PUBLIC WORKS DEPARTMENT, THE OHIO UTILITIES PROTECTIONS SERVICE AND THE OWNERS OF EACH UTILITY AFFECTED. A LIST OF UTILITIES AND OWNERS IS PROVIDED ON SHEET XX. THIS IS NOT TO BE CONSTRUED AS A COMPLETE LIST BY RATHER A DIRECTORY OF THE MORE FREQUENTLY ENCOUNTERED COMPANIES.

FOUNDATION LOCATIONS

UNLESS OTHERWISE LOCATED OR DIMENSIONED IN THE PLANS, PROPOSED SIGNAL STRAIN POLE, SUPPORT, AND PEDESTAL FOUNDATIONS THAT ARE LOCATED ADJACENT TO PAVED SIDEWALK IN A TRANSITIONAL AREA (GRASS, PAVERS/ASPHALT), SHALL BE PLACED WITH EDGE OF THE FOUNDATION IMMEDIATELY ADJACENT TO THE SIDEWALK (WITH JOINT FILLER) PER SCD TC-21.21 AND TC-83.20.

REUSE OF STREETScape PULL BOXES

EXISTING TRAFFIC SIGNAL PULL BOXES IN STREETSCAPED AREAS OF DOWNTOWN ARE COVERED WITH PAVER BRICKS. CONTRACTOR SHALL COORDINATE WITH CITY OF DELAWARE PUBLIC WORKS TO HAVE PAVERS REMOVED PRIOR TO REQUIRED ACCESS TO PULL BOXES, TO INSTALL CONDUIT OR PEDESTAL FOUNDATION, AND FOR PAVER REINSTALLATION. THE CONTRACTOR SHALL COMPACT AND RESTORE PAVER BASE TO PREVIOUS CONDITION PRIOR TO REINSTALLATION OF PAVERS. CONTRACTOR SHALL CONTACT THE CITY PUBLIC WORKS DEPARTMENT WHEN PAVERS CAN BE REINSTALLED.

WORK INSPECTION

THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH 72 HOUR NOTICE OF ANY WORK TO BE PERFORMED AT THE SITE SO THAT INSPECTION SERVICES CAN BE SUPPLIED.

VACUUM EXCAVATION OF FOUNDATIONS

VACUUM EXCAVATION OF PEDESTAL AND SIGNAL SUPPORT FOUNDATIONS BY A QUALIFIED CONTRACTOR WILL BE REQUIRED WHERE PROPOSED FOUNDATIONS ARE WITHIN PROXIMITY TO UNDERGROUND UTILITIES. THE COST OF THE VACUUM EXCAVATION WILL BE INCIDENTAL TO THE ASSOCIATED FOUNDATION PAY ITEM.

TEN DAY TEST REQUIREMENTS

THE CITY OF DELAWARE REQUIRES A TEN (10) DAY TEST TO START AFTER SIGNAL INSTALLATION IS 100% COMPLETE WHICH INCLUDES ESTABLISHING DATA COMMUNICATION IF PRESENT. NO PARTIAL TESTS WILL BE CONDUCTED. THE CITY SHALL MONITOR THE TEST AND SHALL BE THE SOLE AGENCY TO ACCEPT THE SIGNAL INSTALLATION. IF LESS THAN 100% COMPLETION IS DETECTED UPON INSPECTION BY THE CITY OR ANY MALFUNCTION IS DETECTED, THE TEN (10) DAY TEST SHALL BE COMPLETELY RESTARTED.

COORDINATION OF ACTIVITIES

HORIZON WILL INSTALL FIBER OPTIC COMMUNICATIONS BETWEEN EACH SIGNALIZED INTERSECTION AND FIBER OPTIC TERMINATION PANELS IN EACH TRAFFIC SIGNAL CONTROL CABINET. THE CONTRACTOR SHALL COORDINATE WORK AT EACH TRAFFIC SIGNAL WITH HORIZON, ENSURING THAT NEW CABINETRY IS IN PLACE PRIOR TO HORIZON INSTALLATION OF FIBER TO THE CABINET. ADDITIONALLY, THE CONTRACTOR SHALL ENSURE THAT THE FIBER OPTIC NETWORK IS OPERATIONAL AND TESTED PRIOR TO SWITCHOVER (FROM COPPER AND WIRELESS SYSTEMS).

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL EQUIPMENT INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 180 DAYS FOLLOWING THE SUCCESSFUL COMPLETION OF THE 10 DAY PERFORMANCE TEST.

THE GUARANTEE SHALL COVER ALL TRAFFIC SIGNAL EQUIPMENT, LED LAMPS AND WIRING INSTALLED BY THE CONTRACTOR AT THE INTERSECTION AS PART OF THIS CONTRACT.

CUSTOMARY AND APPLICABLE ODOT SPECIFIED MANUFACTURER'S GUARANTEES FOR THE INSTALLED ITEMS SHALL BE TURNED OVER TO THE CITY FOLLOWING ACCEPTANCE OF THE EQUIPMENT. THE COST OF GUARANTEEING THE TRAFFIC CONTROL SYSTEM WILL BE INCIDENTAL TO AND INCLUDED IN THE CONTRACT UNIT PRICE OF THE VARIOUS ITEMS MAKING UP THE SYSTEM.

MATERIALS

ALL MATERIALS FURNISHED FOR THIS PROJECT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS (CM&S) DATED AS SHOWN ON SHEET XX

CONTRACTOR SHALL SUPPLY A PAPER COPY AND AN ELECTRONIC COPY IN PDF FORMAT TO THE PUBLIC WORKS DEPARTMENT.

LEGEND

EXIST. / PROP.		WIRING DIAGRAM (EXISTING EQUIPMENT SHOWN IN DASHED LIFESTYLE)	
	GROUND MOUNTED CONTROLLER/UPS		SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG
	POLE MOUNTED CONTROLLER		SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG
	SIGNAL STRAIN POLE/SUPPORT (SP#)		RADAR DETECTION CABLE
	PEDESTRIAN PEDESTAL (PS#)		VIDEO CAMERA CABLE
	PULL BOX (B#)		UNINTERRUPTIBLE POWER SUPPLY CABLE
	3- SECT. TRAFFIC SIGNAL HEAD (#)		FIBER OPTIC DROP CABLE (BY CCI)
	3 OR 4- SECT. TRAFFIC SIGNAL HEAD W/ ARROWS (#)		POWER CABLE, 3 CONDUCTOR, NO. 6 AWG
	5- SECT. TRAFFIC SIGNAL HEAD (#)		SERVICE CABLE, 3 CONDUCTOR, NO. 6 AWG
	PEDESTRIAN SIGNAL HEAD (P#)		NO. 4 AWG DISTRIBUTION CABLE
	PEDESTRIAN PUSH BUTTON W/ SIGN (PB#)		NO. 10 AWG POLE & BRACKET CABLE
	VIDEO DETECTION UNIT (STANDARD SINGLE APPROACH CAMERA)		EX. INTERCONNECT CABLE
	VIDEO DETECTION UNIT (360 DEGREE)		EX. SIGNAL CABLE
	DILEMMA ZONE RADAR DETECTION UNIT		EX. PEDESTRIAN SIGNAL CABLE
	STOP BAR RADAR DETECTOR		
	ADVANCE RADAR DETECTOR		
	EMERGENCY VEHICLE PREEMPTION UNIT		
	ETHERNET RADIO/ANTENNA		
	SIGN (S#)		
	DETECTION ZONE (D#)		
	CONDUIT, MISC. DUCT BANK		
	WOOD UTILITY POLE		
	TO BE REMOVED		
	PHOTOELECTRIC CELL		
	METER BASE		
	POWER SOURCE		
	DISCONNECT SWITCH		
	SIGNAL POLE #		

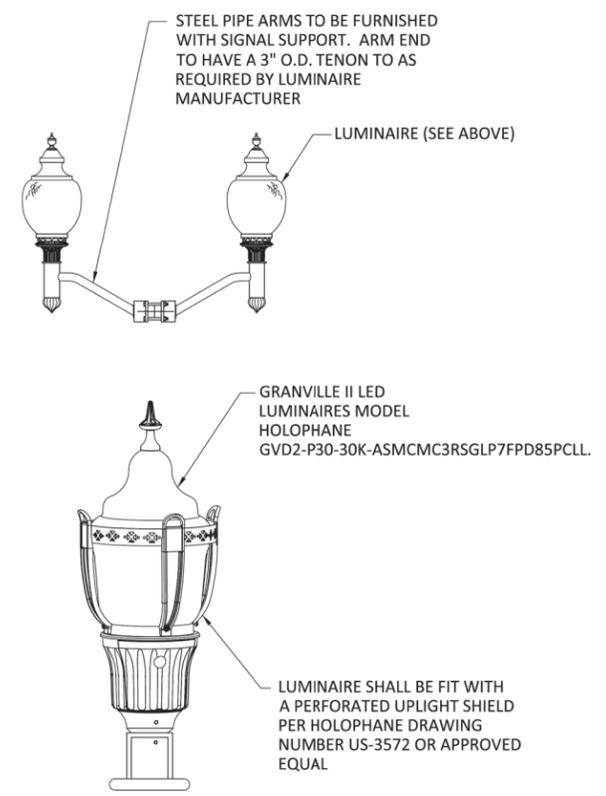
pw:\gfnnet-pw-bentley.com\gfnnet-pw-01\Documents\Projects\63519\103626\Design\Signals\sheets\103626_CN001.dgn Sheet 1/6/2023 9:32:52 AM J.LANNI

ITEM 625 LUMINAIRE, DECORATIVE, IES-II-SEMI CUTTOFF-MEDIUM, 8800 LUMENS, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT CMS 625.08, AND SS 813 THE LUMINAIRES SHALL BE GRANVILLE II LED LUMINAIRES WITH LEAF-STYLE HOUSING, MODEL HOLOPHANE GVD2-P30-30K-AS-M-CMC-R-S-GL-P7-FPD85-PC11. HOUSING, RIBS, AND BANDS SHALL BE PAINTED WITH A FINISH COAT TO MATCH THE PROPOSED SIGNAL SUPPORT POLE COLOR, WHICH IS SIMILAR TO FEDERAL SPECIFICATION 595-B COLOR #27038 BLACK.

SHOP DRAWINGS FOR ALL COMPONENTS MUST BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL AT LEAST 7 DAYS PRIOR TO ORDERING MATERIALS.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH OF ITEM 625 LUMINAIRE, DECORATIVE, IES-II-SEMI CUTTOFF-MEDIUM, 8800 LUMENS, AS PER PLAN



ITEM 625 - CONDUIT MISC.: INTERCONNECT DUCT BANK

IN ADDITION TO THE REQUIREMENT OS 625 AND 725, THE THREE (3) 1-1/4" CONDUITS, FOR FUTURE FIBER OPTIC INTERCONNECT USE, SHALL BE SDR11 HDPE MATERIAL AND INSTALLED EMPTY. THE THREE (2) CONDUITS SHALL BE INSTALLED AT ALL LOCATIONS SHOWN ON HE PLANS AND ONE EACH SHALL BE BLUE, ORANGE AND GREEN IN COLOR.

PLASTIC CAUTION TAPE SHALL BE INSTALLED ABOVE THE INTERCONNECT CONDUITS AND SHALL BE PLACED 18" BELOW THE FINISHED GRADE.

TRACER WIRE SHALL BE INSTALLED DIRECTLY ABOVE THE INTERCONNECT CONDUITS AND SHALL BE 12 AWG, 250# PULL RATED ADD SHALL BE COPPERHEAD REINFORCED TRACER WIRE BY COPPERHEAD INDUSTRIES.

THE CONDUITS SHALL BE INSTALLED SO THEY ENTER THE BOTTOM OF EACH PULL BOX.

THE CONDUITS SHALL MAINTAIN A MINIMUM OF 1.5' SEPARATION FROM ALL UTILITIES EXCEPT THE SIGNAL CONDUITS SINCE THE WILL BE SHARING A TRENCH AND PULL BOXES.

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER FOOT OF ITEM 625-CONDUIT, MISC.: INTERCONNECT DUCT BANK INSTALLED AND ACCEPTED.

ITEM 630 - SIGN, STREET NAME, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT CMS 630 AND 730, THE SIGNS SHALL CONFORM TO THE CITY OF DELAWARE STANDARDS AND HAVE THE FOLLOWING SPECIFICATIONS:

HIGH INTENSITY REFLECTIVITY WHITE LETTERS
HIGH INTENSITY REFLECTIVITY BLUE SHEETING

STREE NAME SIGN SIZE AND LETTERING HEIGHTS SHALL FOLLOW OMUTCD, THE CITY OF DELAWARE ENGINEERING STANDARD DRAWING RDWD 36.0, AS APPROVED BY THE ENGINEER.

SHOP DRAWINGS FOR ALL COMPONENTS MUST BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL AT LEAST 7 DAYS PRIOR TO ORDERING MATERIALS.

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH OF ITEM 630 - SIGN, STREET NAME, AS PER PLAN.

632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN

TRAFFIC SIGNAL INSTALLATIONS, INCLUDING SIGNAL HEADS, CABLE, MESSENGER WIRE, STRAIN POLES, CABINET, CONTROLLER, ETC., SHALL BE REMOVED IN ACCORDANCE WITH C&MS 632.26 AND AS INDICATED ON THE PLANS. EXISTING COMMUNICATIONS AND DETECTION SYSTEMS SHALL NOT BE REMOVED UNTIL NEW SYSTEMS ARE IN PLACE AND OPERATIONAL, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. REMOVED ITEMS SHALL BE REUSED AS PART OF A NEW INSTALLATION ON THE PROJECT OR DELIVERED TO CITY OF DELAWARE PUBLIC WORKS, 440 E WILLIAM ST. DELAWARE, OHIO IN ACCORDANCE WITH THE LISTING GIVEN HEREIN.

AT LOCATIONS WHERE EXISTING DETECTION AND/OR INTERCONNECT IS BEING REPLACED, EXISTING WIRING SHALL BE REMOVED FROM THE CABINET, PULL BOXES, AND CONDUITS.

- ITEMS TO BE SALVAGED:
- WIRELESS COMMUNICATIONS (UBIQUITI RADIOS)
 - NETWORK SWITCHES AND PORT SERVERS
 - VIDEO DETECTION SYSTEMS
 - RADAR DETECTION SYSTEMS

THE CONTRACTOR SHALL, WHEN DIRECTED BY THE ENGINEER IN WRITING, REMOVE AND DISPOSE OF THE ITEMS AT NO ADDITIONAL COST TO THE PROJECT.

ITEM 632 PEDESTAL, BY SIZE, TRANSFORMER BASE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 632, THE PEDESTAL FINISH SHALL CONSIST OF SEMI-GLOSS BLACK POLYESTER POWDER COAT FINISH. PAINT CHIP SAMPLES AND SHOP DRAWINGS FOR ALL COMPONENTS MUST BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL AT LEAST 7 DAYS PRIOR TO ORDERING MATERIALS. PROVIDE ADEQUATE PROTECTION FOR THE FINISH OF THE PEDESTAL. IF FINISH IS DAMAGED DURING HANDLING AND/OR INSTALLATION, THE CONTRACTOR SHALL REPAIR THE FINISH PER THE POLE MANUFACTURER'S RECOMMENDATIONS. ALL PROPOSED PEDESTAL LOCATIONS SHALL MATCH EXISTING SUPPORT COLORS UNLESS OTHERWISE NOTED. PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH OF ITEM 632 PEDESTAL, BY SIZE, AS PER PLAN.

ITEM 632 COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, BY DESIGN, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ITEM 632, SIGNAL SUPPORT POLE AND MAST ARM SHALL BE A BLACK POWDER COAT (FEDSTD-595b 17038) MEETING THE REQUIREMENTS OF SS916.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH OF ITEM 632 COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, BY TYPE, AS PER PLAN.

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:

1. THE METER BASE MOUNTING HEIGHT SHALL BE NO MORE THAN FIVE (5) FEET HIGH TO THE CENTER OF THE METER BASE FROM THE GROUND.
2. THE CONTRACTOR SHALL SUPPLY THE NECESSARY METER BASES.
3. ALL POWER SERVICES SHALL BE METERED. THE METER SHALL HAVE A LEVER OPERATED BYPASS.
4. THE POWER SERVICE BLIND HALF COUPLING SHALL BE TWENTY-SEVEN (27) INCHES ABOVE THE BOTTOM OF THE STRAIN POLE BASE PLATE AND SHALL BE WELDED TO THE STRAIN POLE.
5. CONDUIT FROM THE BOTTOM OF THE DISCONNECT SWITCH ENCLOSURE INTO THE BOTTOM OF THE CONTROLLER CABINET WILL NOT BE PERMITTED. POWER SERVICE WIRES FROM THE DISCONNECT SWITCH ENCLOSURE TO THE CONTROLLER CABINET SHALL BE ROUTED THROUGH THE STRAIN POLE.
6. IF INTERSECTION LIGHTING IS SPECIFIED THEN SEPARATE DISCONNECT SWITCHES SHALL BE INSTALLED AND LABELED "LIGHTING" AND "TRAFFIC SIGNAL" WITH A WEATHER PROOF STICKER. MARKER ON THE OUTSIDE OF THE ENCLOSURE IS NOT ACCEPTABLE.

DISCONNECT SWITCH ENCLOSURES FURNISHED SHALL INCLUDE A PADLOCK EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNON 660, WITH LOCK BODY OF BRONZE OR BRASS AND KEYING SHALL BE TO THE STATE MASTER.

THE CONTRACTOR SHALL CONTACT THE METER SECTION OF THE POWER COMPANY FOR INFORMATION REGARDING THE METER BASE INSTALLATION PRIOR TO ORDERING POLES. 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 BE RESPONSIBLE TO CONTACT 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.

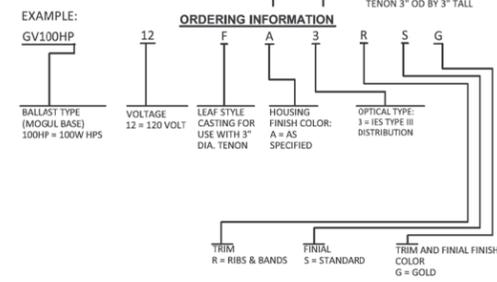
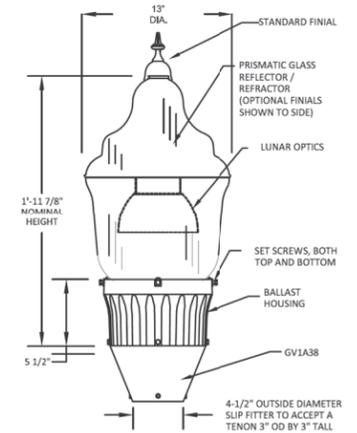
CONTRACTOR SHALL COORDINATE WITH THE CITY AND UTILITY TO REQUEST/ASSIGN AN ADDRESS FOR ANY NEW SERVICE OR EXISTING SERVICE THAT DOESN'T ALREADY HAVE AN ADDRESS ASSIGNED.

WHERE POWER SERVICE IS SPECIFIED IN THE PLANS TO REPLACE EXISTING POWER SERVICE (OR AS REFURBISHED), THIS ITEM SHALL INCLUDE THE REMOVAL AND REPLACEMENT OF THE SERVICE RISER, METER (IF APPLICABLE), DISCONNECT, AND ASSOCIATED CONDUIT AND FITTINGS TO REACH THE TRAFFIC SIGNAL CABINET.

PAYMENT SHALL BE AT THE CONTRACT UNIT BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT FOR A COMPLETE POWER SERVICE TESTED AND ACCEPTED.

**GRANVILLE® SERIES LUMINAIRE
LEAF STYLE CASTING with LUNAR OPTICS™**

MAXIMUM WEIGHT - 47 lbs.
MAXIMUM EFFECTIVE PROJECTED AREA - 1.26 sq. ft.



Specifications

GENERAL DESCRIPTION
The luminaire consists of three main components, a ballast housing, a reflector with socket, and a prismatic glass optical assembly.

OPTICAL ASSEMBLY
The optical assembly is a precisely molded thermal resistant borosilicate glass reflector and refractor with or without a decorative finial. The upper portion of this system incorporates a series of reflecting prisms that redirect over 50% of the upward light in to the controlling refractor while allowing a soft uplight component to define the traditional acorn shape of the luminaire. Two decorative aluminum top covers are available. The lower portion uses precisely molded refracting prisms to control the distribution of light to maximize utilization, uniformity, and luminaire spacing. Three unique optical assemblies are available, designed for IES type III, IV, and V lighting distributions.

BALLAST HOUSING
The ballast housing contains the ballast and other electrical components. The housing is cast of aluminum alloy with a fluted concave contour designed to flow gracefully from a 7" diameter decorative post capital and replicate the fluted pattern of a decorative post shaft. The ballast housing is secured by four hex head 1/4-20 set screws. Four uniquely designed stainless steel spring clips enclosed in a clear polyvinyl chloride sleeve and adjusted by hex head 1/4-20 bolts securely cradle the optical assembly.

BALLAST
(Refer to Ballast Data Sheet for specific operating characteristics)
35 - 100 watt 120 volt High Pressure Sodium (HPS) ballasts are High Power Factor Reactor type. All other HPS ballasts are High Power Factor Autotransformer type.
175 watt Metal Halide (MH) ballasts are Peak Lead Autotransformer type. 70 and 100 watt MH units are available only with (120V, 208V, 240V, 277V) multitap High Power Factor High Reactance type ballast.
All Mercury Vapor (MV) ballasts are High Power Factor Constant Wattage Autotransformer (CWA) type.

REFLECTOR / SOCKET ASSEMBLY
The reflector/socket assembly is designed to position the specified light source at the light center of the refractor.

INSTALLATION
Refer to the instruction manual provided with each luminaire as to the specific method of wiring and mounting the luminaire.

FINISH
The housing is finished with polyester powder paint applied after a seven stage pretreatment process to insure maximum durability.

UL LISTING
The luminaire is UL listed as suitable for wet locations at a maximum 40 degree C ambient temperature.

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SHEET NUM.				PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.		
			346		349	01/NHS/PV	02/S>2/PV	06/ENH/31						
					815				625	23200	815	FT	NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	
					350				625	23400	350	FT	NO. 10 AWG POLE AND BRACKET CABLE	
					444				625	25400	444	FT	CONDUIT, 2", 725.04	
					223				625	25408	223	FT	CONDUIT, 2", 725.051	
					135				625	25604	135	FT	CONDUIT, 4", 725.051	
					4				625	26253	4	EACH	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), IES-III-FULL CUTOFF-MEDIUM, 3000K-CCT. AS PER PLAN	365
					6			6	625	27551	6	EACH	LUMINAIRE, DECORATIVE, IES-II-SEMI CUTOFF-MEDIUM, 8800 LUMENS, AS PER PLAN	341
					472				625	29001	472	FT	TRENCH, AS PER PLAN	340
					160				625	29401	160	FT	TRENCH IN PAVED AREAS, AS PER PLAN	340
					3				625	30700	3	EACH	PULL BOX, 725.08, 18"	
					1				625	30706	1	EACH	PULL BOX, 725.08, 24"	
					5				625	30730	5	EACH	PULL BOX, 725.08, 48", TYPE 1	
					20				625	32000	20	EACH	GROUND ROD	
					4				630	79100	4	EACH	SIGN HANGER ASSEMBLY, MAST ARM	
					15				630	79500	15	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	
					34.5				630	80100	34.5	SF	SIGN, FLAT SHEET	
					8				630	80511	8	EACH	SIGN, STREET NAME, AS PER PLAN. HIGH INTENSITY REFLECTIVE WHITE LEGEND AND BLUE SHEETING	341
					19				632	05007	19	EACH	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, WITH BACKPLATES	344
					9				632	05087	9	EACH	VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, WITH BACKPLATES	344
					13				632	20731	13	EACH	PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN	343
					10				632	20751	10	EACH	ACCESSIBLE PEDESTRIAN PUSHBUTTON, AS PER PLAN	342
					25				632	25001	25	EACH	COVERING OF VEHICULAR SIGNAL HEAD, AS PER PLAN	342
					9				632	25010	9	EACH	COVERING OF PEDESTRIAN SIGNAL HEAD	
					1,517				632	40200	1,517	FT	SIGNAL CABLE, 2 CONDUCTOR, NO. 14 AWG	
					2,589				632	40700	2,589	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
					7				632	64010	7	EACH	SIGNAL SUPPORT FOUNDATION	
					9				632	64020	9	EACH	PEDESTAL FOUNDATION	
					377				632	68200	377	FT	POWER CABLE, 2 CONDUCTOR, NO. 6 AWG	
					2				632	70001	2	EACH	POWER SERVICE, AS PER PLAN	341
					2				632	70400	2	EACH	CONDUIT RISER, 2" DIAMETER	
					1				632	79101	1	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 2, AS PER PLAN	341
					1				632	79111	1	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 4, AS PER PLAN	341
					1				632	79131	1	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 12, AS PER PLAN	341
					1				632	79131	1	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 12, AS PER PLAN, WITH TWO (2) MAST ARMS	341
					1				632	79141	1	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 13, AS PER PLAN	341
					2				632	79151	2	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 14, AS PER PLAN	341
					3				632	80700	3	EACH	SIGNAL SUPPORT, MISC.: SIGNAL SUPPORT, MECHANICAL DAMPER FOR TC-81.22 MAST ARM (GREATER THAN 39' IN LENGTH)	340
					9				632	90001	9	EACH	PEDESTAL, 11', TRANSFORMER BASE, AS PER PLAN	341
					1				632	90008	1	EACH	PEDESTAL, 15', TRANSFORMER BASE	341
					2				632	90101	2	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	341
					7				632	90104	7	EACH	REUSE OF TRAFFIC CONTROL ITEM, PREEMPT CONFIRMATION LIGHT	
					2				633	65511	2	EACH	CABINET, TYPE TS-2, AS PER PLAN	345
					2				633	67100	2	EACH	CABINET FOUNDATION	
					2				633	75001	2	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN	345
					1				809	69001	1	EACH	ADVANCE RADAR DETECTION, AS PER PLAN	344
					2				809	69123	2	EACH	ATC CONTROLLER, AS PER PLAN, V6.24	344
					4				809	69200	4	EACH	EMERGENCY VEHICLE PREEMPTION	
					2				816	30001	2	EACH	VIDEO DETECTION SYSTEM, AS PER PLAN (360 DEGREE)	345
			LS		LS				632	90300	LS		SIGNALIZATION, MISC.: SYSTEM INTEGRATION	343

SIGNAL SUBSUMMARY

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LIGHTING NOTES:

THE STREET LIGHTING SHALL BE IN ACCORDANCE WITH THE 2019 OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS TOGETHER WITH THE REQUIREMENT OF THE CITY OF DELAWARE, INCLUDING ALL SUPPLEMENTS THERETO, IN FORCE WITH THE DATE OF THE CONTRACT, SHALL GOVERN ALL MATERIAL AND WORKMANSHIP INVOLVED IN THE IMPROVEMENTS SHOWN ON THESE PLANS, EXCEPT AS SUCH SPECIFICATIONS ARE MODIFIED BY THE FOLLOWING SPECIFICATIONS OR BY THE CONSTRUCTION DETAILS SET FORTH HEREIN.

THE CONTRACTOR SHALL INSTALL STREET LIGHTS AT THE LOCATIONS SHOWN ON THESE PLANS, INCLUDING ALL CABLE AND DISCONNECTS AND PROVIDE A COMPLETE, OPERATING LIGHTING SYSTEM, THAT COMPLIES WITH THE CITY OF DELAWARE SPECIFICATIONS.

THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO AN EQUAL OR BETTER CONDITION THAT EXISTED PRIOR TO CONSTRUCTION.

WHERE EXCAVATIONS OCCUR ALONGSIDE OF CURBS OR SIDEWALKS, THE CONTRACTOR SHALL SHORE, BRACE, OR SUPPORT PIECES IN PLACE SO THAT THEY WILL NOT BECOME DISLODGED OR DAMAGED. ANY DAMAGED CURB OR SIDEWALK SHALL BE REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE. THE COST OF THE WORK SHALL BE INCLUDED IN THE VARIOUS ITEM BID.

MAINTAIN A MINIMUM OF 3-FT HORIZONTAL AND 1-FT VERTICAL CLEARANCE FROM ALL WATER AND SEWER LINES.

CIRCUIT VOLTAGE SHALL BE 120/240 VOLT, 3 WIRE, WITH GROUNDED NEUTRAL.

NO SPLICES SHALL BE MADE IN CIRCUIT CABLES, EXCEPT AT NOTED LOCATIONS. SPLICES CAN BE MADE IN PULL BOXES ONLY WHERE CIRCUIT BRANCHES OR WHERE CIRCUIT CROSSES THE STREET TO A LIGHT POLE.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE POWER UTILITY FOR THE PRECISE LOCATION OF THE CONTROL CENTER AND POWER FEED TO THE CONTROL CENTER. ALL COST ASSOCIATED WITH MAKING THE CONNECTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE COST OF THE WORK SHALL BE INCLUDED IN THE VARIOUS ITEMS BID.

THE CONTRACTOR SHALL PERFORM THE NECESSARY CONSTRUCTION STAKING AND MAINTENANCE OF STAKING FOR LOCATION OF CABLE ROUTING AND STREET LIGHTING EQUIPMENT (LIGHT STANDARDS, PULL BOXES, CONTROL SITE, ETC.). THE COST OF THE WORK SHALL BE INCLUDED IN THE VARIOUS BID ITEM.

CONDUIT LOCATION MAY BE DEFLECTED AND LIGHT POLE FOUNDATIONS MAY BE RELOCATED AROUND OBSTACLES OR UTILITIES AS APPROVED BY DES.

PULL BOXES SHALL BE LOCATED APPROXIMATELY WHERE SHOWN ON PLANS WITH THE EXACT LOCATION TO BE DETERMINED IN THE FIELD AFTER CONSTRUCTION IS GIVEN THE LOCATION OF UTILITIES, PAVEMENTS, AND GRADES.

LIGHT STANDARDS- ALL LIGHT STANDARDS SHALL BE ALIGNED ALONG THE ROADWAY, UNLESS OTHERWISE NOTED, WITH FOUNDATION CENTERLINES LOCATED EQUAL DISTANCE FROM EDGE OF CURB. PRIOR TO PLACEMENT OF ANY FOUNDATION, THE CONTRACTOR SHALL CHECK AND VERIFY THE LOCATION OF EXISTING UTILITIES AND ACTUAL MARKINGS AND NOTIFY THE ENGINEER OF ANY CONFLICT ON THE PLANS. ALL PROPOSED LIGHT STANDARDS AND EQUIPMENT LOCATIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR IN REGARDS TO PROPER CLEARANCES FOR EXISTING OVERHEAD AND UNDERGROUND UTILITIES PRIOR TO PERFORMING ANY CONSTRUCTION WORK.

UPON APPROVAL OF THE ENGINEER, FOUNDATIONS MAY BE MOVED SLIGHTLY IN A DIRECTION PARALLEL WITH THE CENTERLINE OF OFFSET TO AVOID POTENTIAL CONFLICT WITH OTHER FACILITIES.

ITEM 625 - LUMINAIRE, POST TOP, SOLID STATE (LED), IES-III-SEMI CUTOFF-MEDIUM, 8800 LUMENS, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, 625 AND SS 813, LUMINAIRES FOR POST TOP LED LIGHTING UNITS SHALL BE AS FOLLOWS:

LUMINAIRES SHALL MATCH THE CITY OF DELAWARE STANDARD POST TOP FIXTURES FOR COLLECTOR STREETS EXCEPT THAT THEY SHALL BE AS FOLLOWS:

LIGHT FIXTURE:

GRANVILLE III PREMIER LED WITH MODERN STYLE HOUSING. GLASS IES TYPE III OPTICS, SEMI CUTOFF RIBS AND BAND, STANDARD FINAL, GOLD TRIM COLOR, 120-277V AUTO SENSING, 8800 NOMINAL LUMENS, NO COVER, OPTIONAL 120 DEG HOUSE SIDE SHIELD (WHEN REQUIRED ON PLANS)

MODEL:

HOLOPHANE GPD3-P30-30K-MVOLT-MS-GL3-BK-R8-ST-TGL

PAINT:

POWDER COATED BLACK, 37031

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, "LUMINAIRE, POST TOP, SOLID STATE (LED), IES-III-SEMI CUTOFF-MEDIUM, 8800 LUMENS AS PER PLAN" FOR EACH LUMINAIRE AND DOUBLE LUMINAIRE WHICH SHALL BE FULL COMPENSATION OR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625 - LIGHT POLE, DECORATIVE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, LIGHT POLE UNITS SHALL BE AS FOLLOWS:

LIGHT POLES SHALL MATCH THE CITY OF DELAWARE STANDARD FOR COLLECTOR STREETS FIXTURE POST TYPE B - SINGLE LUMINAIRE AND SHALL BE AS FOLLOWS:

SINGLE LUMINAIRE. THE POST SHALL BE POWDER COATED BLACK, 37031 (UNLESS OTHERWISE SPECIFIED BY THE CITY) AND MATCH THE HOLOPHANE FIXTURE. THE TOTAL LENGTH OF THE LIGHT POLE SHALL BE 15-FEET, NOT INCLUDING THE LUMINAIRE. THE LIGHT POLE SHALL BE MODEL #AATF1515 MANUFACTURED BY MAIN STREET LIGHTING COMPANY.

AN ACCESS DOOR OVER THE HAND HOLE WITH THE INTERIOR HAVING A PERMANENT LABEL MARKER NOTING THE VOLTAGE.

A 1.25" O.D. TUBE SLEEVE WELDED TO THE BACK SIDE (DIRECTLY OPPOSITE CURB AND FLAG BRACKET) TO HOLD BANNER ARMS PER CITY OF DELAWARE STANDARDS.

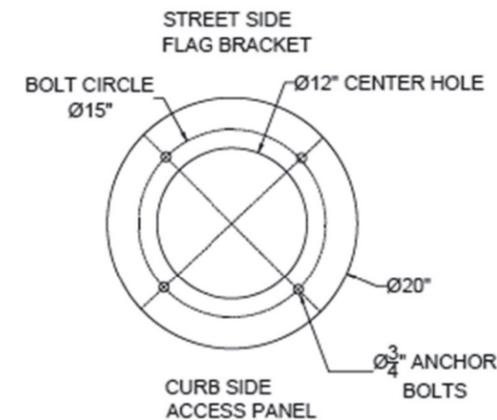
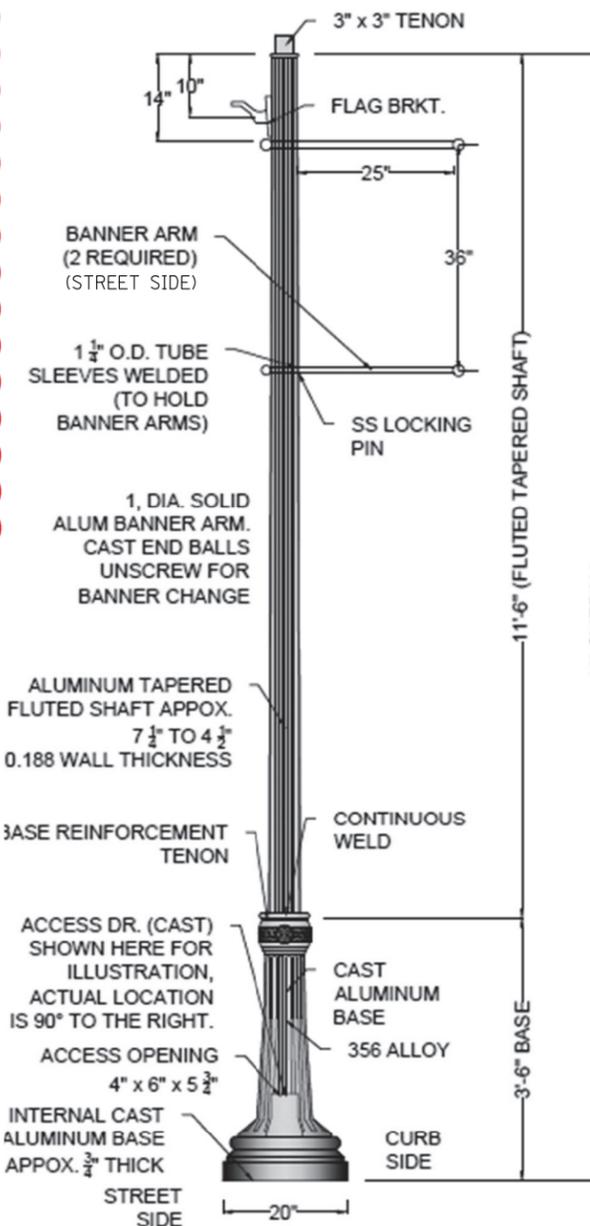
THE BASE SHALL BE CONSTRUCTED OF CAST ALUMINUM.

THE POLE SHALL HAVE AN APPROVED CABLE GRIP ON THE TOP INTERIOR OF THE POLE TO SUPPORT THE WEIGHT OF THE WIRING CABLES.

THE SHAFT SHALL BE A FORMED TAPERED FLUTED SHAFT, TAPERING FROM APPROXIMATELY 7-1/4" TO 4-1/2".

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

CITY OF DELAWARE LIGHT POLE DETAIL (TYPICAL)



ITEM 625 - POWER SERVICE, AS PER PLAN

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

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:

AEP DISTRIBUTION
ATTN: PAUL PAXTON
850 TECH CENTER DR.
GAHANNA, OH 43230
614-883-6381

THE ENGINEER SHALL ENSURE THAT EACH POWER SERVICE ELECTRICAL ENERGY ACCOUNT IS IN THE NAME OF AND THAT 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 THAT 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 REQUIRE TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

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LIGHTING GENERAL NOTES

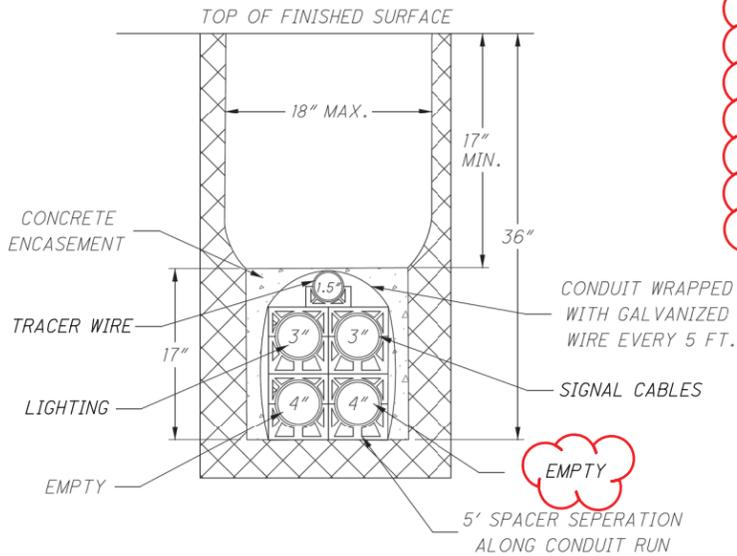
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ITEM 625 - CONDUIT, MISC., DUCTBANK

IN ACCORDANCE WITH CMS 625 AND 725, THE CONDUIT DUCT BANK SHALL BE INSTALLED AS SHOWN IN THE PLANS AND DETAILED BELOW, INCLUDING TRENCH EXCAVATION, TWO (2) 4-INCH CONDUITS, TWO (2) 3-INCH CONDUITS, AND ONE (1) 1.5 -INCH CONDUIT, SPACERS, GALVANIZED WRAP, TRACER WIRE, CONCRETE ENCASEMENT AND COMPACTED BACKFILL. COORDINATE WITH THE CITY OF DELAWARE TRAFFIC DEPARTMENT FOR INSTALLATION OF DUCT BANK, SIGNAL CABLES, FIBER CABLES, AND LIGHTING CABLES.

SECTION A-A
TWO - 4" CONDUITS, TWO - 3" CONDUITS, &
ONE - 1.5" CONDUIT BANK DETAIL
(5 1/2" CENTER-CENTER CONDUIT SEPERATION)



ALL COSTS INCLUDING BUT NOT LIMITED TO, MATERIALS, DELIVERY, INSTALLATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR
ITEM 625 CONDUIT MISC.: DUCT BANK, FT.

THE QUANTITY HAS BEEN TABULATED IN THE PLAN

ITEM 625 - CONDUIT, MISC.: UNDERDRAIN OUTLET

THIS ITEM IS FOR THE PLACEMENT OF 4" CONDUIT TO DRAIN THE PULL BOXES AS SHOWN IN SCD HL-30.11. THE DESCRIPTION OF WORK INCLUDING BUT NOT LIMITED TO CONSTRUCTION, MATERIALS, METHOD OF MEASUREMENT AND BASIS OF PAYMENT SHALL BE PER ITEM 611 3" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET. THE LOCATION AND PLACEMENT SHALL BE AT THE DIRECTION OF THE ENGINEER. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE UNIT BID PRICE ITEM 625 CONDUIT, MISC.: UNDERDRAIN OUTLET

ITEM 625 - CONDUIT, MISC.: UNDERDRAIN OUTLET: 200 FT

ITEM 625 - TRENCH, AS PER PLAN

IN ADDITION TO CMS 625, THE TRENCH DIMENSIONS SHALL BE AS NOMINALLY SHOWN IN THE CONDUIT DUCT BANK DETAIL ON THIS PAGE.

ITEM 625, LUMINAIRE, CONVENTIONAL, LED, IES-III-FULL CUTOFF-MEDIUM, 3000K-CCT, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATION, ITEM 625 AND SS 813, LUMINAIRES FOR CONVENTIONAL LIGHTING UNITS SHALL BE AS FOLLOWS:

LUMINAIRES FOR CONVENTIONAL LIGHTING UNITS SHALL BE 3000K CCT, IES TYPE III, FULL CUTOFF, MEDIUM, AND SHALL HAVE OUTPUT CHARACTERISTICS EQUIVALENT TO:

AMERICAN ELECTRIC "AUTOBAHN ATBM" WITH PHOTOMETRIC DISTRIBUTION "ATBM P30 XXXXX R3 3K, 14632 LUMENS OUTPUT. COOPER/EATON "VERDEON" WITH PHOTOMETRIC DISTRIBUTION "VERD-G-A02E-U-T3-7030-AP", 14500 LUMENS OUTPUT. GENERAL ELECTRIC "EVOLVE FRLH" WITH PHOTOMETRIC DISTRIBUTION "ERLH.15C330_---- WITH ELSHS-ERL1-BLCK", 14400 LUMENS OUTPUT OR EQUAL AS APPROVED BY THE ENGINEER.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH CMS ITEM 625, "LUMINAIRE, CONVENTIONAL, LED, IES-III-FULL CUTOFF-MEDIUM, 3000K-CCT AS PER PLAN" FOR EACH LUMINAIRE WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625 - DISTRIBUTION CABLE, MISC.: NO. 8 AWG 2400 VOLT DISTRIBUTION CABLE

PROVIDE AND INSTALL NO. 8 2400 VOLT DISTRIBUTION CABLE IN ACCORDANCE WITH CMS 625 AND 725.

PAYMENT WILL BE MADE AT THE UNIT PRICE FOR EACH LINEAR FOOT INSTALLED AND SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625 - DUCT CABLE, MISC.: 2" DUCT CABLE WITH THREE NO. 8 2400 VOLT CABLES

PROVIDE AND INSTALL 2" DUCT CABLE WITH THREE NO. 8 2400 VOLT CABLE IN ACCORDANCE WITH CMS 625 AND 725.

PAYMENT WILL BE MADE AT THE UNIT PRICE FOR EACH LINEAR FOOT INSTALLED AND SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625 - DUCT CABLE, MISC.: 2" DUCT CABLE WITH THREE NO. 4 2400 VOLT CABLES

PROVIDE AND INSTALL 2" DUCT CABLE WITH THREE NO. 4 2400 VOLT CABLE IN ACCORDANCE WITH CMS 625 AND 725.

PAYMENT WILL BE MADE AT THE UNIT PRICE FOR EACH LINEAR FOOT INSTALLED AND SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625 - PULL BOX, MISC. 30"x48" POLYMER PULL BOX

PROVIDE AND INSTALL A 30" X 48" POLYMER PULL BOX IN ACCORDANCE WITH CMS 625 AND 725.

PAYMENT WILL BE MADE AT THE UNIT PRICE FOR EACH PULLBOX INSTALLED AND SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625 - LIGHTING, MISC.: LANDSCAPE-MONUMENT SIGN LIGHT

ALL MATERIALS AND WORK SHALL COMPLY WITH ITEM 625 LIGHTING AND APPROPRIATE STANDARD CONSTRUCTION DRAWINGS UNLESS OTHERWISE NOTED HEREIN. THIS ITEM IS INTENDED FOR THE PROPOSED FIXTURES SHOWN ON THE LANDSCAPE PLAN SHEETS 381, 382 AT TWO SEPARATE LOCATIONS:

- STATION 591+86.5, 41.25' RT
- STATION 595+24.4, 54' LT

THE FIXTURE AT THESE LOCATIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS OR RECOMMENDATIONS. THE FOLLOWING FIXTURE SHALL BE USED: KIM LIGHTING, KFL1±-8L-20-4K7-VF-UNV-BLT OR APPROVED EQUAL. THE WORK SHALL INCLUDE ALL WORK, MATERIALS, LABOR AND EQUIPMENT NECESSARY TO INSTALL AND CONNECT PROPERLY FUNCTIONING FIXTURES FOR BOTH THE GROUND MOUNTED FLOODLIGHT AND THE INTERNALLY ILLUMINATED SIGN ON THE OPPOSITE SIDE OF THE MONUMENT SIGN. THE DETAILS PERTAINING TO THE SPECIFIC LOCATIONS ARE PROVIDED ON THE LANDSCAPE PLAN AND THE QUANTITY IS PROVIDED ON THE LIGHTING PLAN VIA THE ESTIMATED QUANTITY SUB-SUMMARY TABLES. PAYMENT FOR THIS WORK SHALL BE THE UNIT PRICE BID FOR LIGHTING, MISC.: LANDSCAPE-MONUMENT SIGN LIGHT, EACH.

ITEM 625 - LIGHTING, MISC.: LANDSCAPE-ABUTMENT LIGHT

ALL MATERIALS AND WORK SHALL COMPLY WITH ITEM 625 LIGHTING AND APPROPRIATE STANDARD CONSTRUCTION DRAWINGS UNLESS OTHERWISE NOTED HEREIN. THIS ITEM IS INTENDED FOR THE PROPOSED FIXTURES SHOWN ON THE LANDSCAPE PLAN SHEET 382 AT FOUR SEPARATE LOCATIONS:

- STATION 593+97.89, 44.34' LT
- STATION 594+25.09, 50.00' RT
- STATION 594+25.15, 45.08' LT
- STATION 594+55.71, 49.69' RT

THE FIXTURE AT THESE LOCATIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS OR RECOMMENDATIONS. THE FOLLOWING FIXTURE SHALL BE USED: KIM LIGHTING LTV82-SS-NF-12L-RGBW-UV-SR-RCA82 OR APPROVED EQUAL. THIS WORK SHALL INCLUDE ALL WORK, MATERIAL, LABOR AND EQUIPMENT NECESSARY TO INSTALL AND CONNECT PROPERLY FUNCTIONING FIXTURES FOR THESE FIXTURES TO SHINE ON THE ABUTMENT WALL AS DESCRIBED IN THE LANDSCAPE PLAN. THE DETAILS PERTAINING TO THE SPECIFIC LOCATIONS ARE PROVIDED ON THE LANDSCAPE PLAN AND THE QUANTITY IS PROVIDED ON THE LIGHTING PLAN VIA THE ESTIMATED QUANTITY SUB-SUMMARY TABLES. PAYMENT FOR THIS WORK SHALL BE THE UNIT PRICE BID FOR LIGHTING, MISC.: LANDSCAPE-ABUTMENT LIGHT, EACH.

PROPOSED CONDUIT AND PROPOSED TREES

ROUTE UNDERGROUND CONDUITS AROUND LOCATIONS OF PROPOSED TREES

PROPOSED CONDUIT IN RAILROAD PROPERTY

ALL UNDERGROUND CONDUITS WITHIN RAILROAD RIGHT-OF-WAY SHALL BE A MINIMUM OF 48" BELOW FINISHED GRADE OR AS APPROVED THROUGH THE PERMIT PROCESS.

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LIGHTING GENERAL NOTES

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SHEET NUM.										PART.			ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
					365	367	368	369	370	01/NHS/PV	02/S>2/PV	06/ENH/31					
						30	28	32	30	120	40	625	00450	160	EACH	CONNECTION, FUSED PULL APART	
						30		18	18	66	18	625	00480	84	EACH	CONNECTION, UNFUSED PERMANENT	
						13	5	12				625	10481	48	EACH	LIGHT POLE, DECORATIVE, AS PER PLAN	364
							8	3	9	20		625	10490	20	EACH	LIGHT POLE, CONVENTIONAL, AT8B37	
						13	13	15	9	50	18	625	14100	68	EACH	LIGHT POLE FOUNDATION, 24" X 8' DEEP	
						2,475	12,388	2,151	108	17,122	639	625	23200	17,761	FT	NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	
									1,731	1,731		625	23308	1,731	FT	DISTRIBUTION CABLE, MISC.: NO. 8 AWG 2400 VOLT DISTRIBUTION CABLE	365
						664	1,616	894	1,026	4,200	720	625	23400	4,920	FT	NO. 10 AWG POLE AND BRACKET CABLE	
						1,209		1,250	1,995	4,454	2,050	625	24400	6,504	FT	DUCT CABLE, MISC.:2" DUCT CABLE WITH THREE NO. 4 2400 VOLT CABLES	365
									856	856		625	24400	856	FT	DUCT CABLE, MISC.:2" DUCT CABLE WITH THREE NO. 8 2400 VOLT CABLES	365
						69	84	29	355	537	17	625	25402	554	FT	CONDUIT, 2", 725.05	
						250	168	472	267	1,157	202	625	25902	1,359	FT	CONDUIT, JACKED OR DRILLED, 725.04, 3"	
						693	2,545	464		3,702	112	625	25920	3,814	FT	CONDUIT, MISC.: DUCT BANK	365
					200					200		625	26920	200	FT	CONDUIT, MISC.: UNDERDRAIN OUTLET	365
						8	3	9		20	95	625	26253	115	EACH	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED) IES-III-FULL CUTOFF-MEDIUM, 3000K-CCT, AS PER PLAN	365
						13	5	12			48	625	27403	48	EACH	LUMINAIRE, POST TOP, SOLID STATE (LED) IES-III-SEMI CUTOFF-MEDIUM, 8800 LUMENS, AS PER PLAN	364
						1,278	84	1,279	3,007	5,648	2,067	625	29000	7,715	FT	TRENCH	
						693	2,545	464		3,702		625	29001	3,702	FT	TRENCH, AS PER PLAN	365
						8	13	8	1	30	4	625	30700	34	EACH	PULL BOX, 725.08, 18"	
						2	1	2	1	6	2	625	31600	8	EACH	PULL BOX, MISC.: 30" x 48" POLYMER PULL BOX	365
						13	13	15	9	50	18	625	32000	68	EACH	GROUND ROD	
									2	2		625	34001	2	EACH	POWER SERVICE, AS PER PLAN	364
						1,971	2,629	1,743	3,007	9,350	2,067	625	36010	11,417	FT	UNDERGROUND WARNING/MARKING TAPE	
							1	1			2	625	98000	2	EACH	LIGHTING, MISC.: LANDSCAPE - MONUMENT LIGHT	365
						4					4	625	98000	4	EACH	LIGHTING, MISC.: LANDSCAPE - ABUTMENT LIGHT	365

CALCULATED TJS CHECKED JA	LIGHTING SUBSUMMARY	DEL - 36.11.03	366 644
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REF.	SHEET	ROADWAY	STATION TO STATION		LIGHTING QUANTITIES																					
					CONNECTION, FUSED, PULL APART	CONNECTION, UNFUSED, PERMANENT	LIGHT POLE, CONVENTIONAL, AT8B37	LIGHT POLE, DECORATIVE, AS PER PLAN	LIGHT POLE FOUNDATION, 24" X 8' DEEP	DISTRIBUTION CABLE, MISC. NO. 8 AWG 2400 VOLT DISTRIBUTION CABLE	NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	NO. 10 AWG POLE AND BRACKET CABLE	DUCT CABLE, MISC: 2" DUCT CABLE WITH THREE NO. 8 2400 VOLT CABLES	DUCT CABLE, MISC: 2" DUCT CABLE WITH THREE NO. 4 2400 VOLT CABLES	CONDUIT, 2", 725.05	CONDUIT, JACKED OR DRILLED, 725.04, 3"	CONDUIT, MISC.: DUCT BANK	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), IES-III-FULL CUTOFF-MEDIUM, 3000K-CCT LUMENS, AS PER PLAN	LUMINAIRE, POST TOP, SOLID STATE (LED), IES-III-SEMI CUTOFF-MEDIUM, 8800 LUMENS, AS PER PLAN	TRENCH	TRENCH, AS PER PLAN	PULL BOX, 725.08, 18"	GROUND ROD	POWER SERVICE, AS PER PLAN	UNDERGROUND WARNING/MARKING TAPE	PULLBOX, MISC: 30" x 48" POLYMER PULL BOX
					EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	FT	FT	EACH	EACH	EACH	FT	EACH	
S1-E6	378	US-36	615+62	RT													1									
PB-E7	378	US-36	617+07	RT	2																					
			617+07	RT																						
			617+07	RT																						
S1-E7	378	US-36	617+07	RT																						
PB-D1	379	US-36	618+62	RT	2																					
			618+62	RT																						
			618+62	RT																						
S1-D1	379	US-36	618+62	RT																						
PB-D2	379	US-36	619+11	RT	2																					
			619+11	RT																						
			619+11	RT																						
S1-D2	379	US-36	619+15	RT																						
PB-D3	379	US-36	620+40	RT	2																					
			620+40	RT																						
			620+40	RT																						
			620+40	RT																						
S1-D3	379	US-36	620+51	RT																						
S1-A14	380	SR-37	15+71	LT	2																					
			15+71	LT																						
			17+49	LT																						
S1-A13	381	SR-37	17+49	LT	2																					
			17+49	LT																						
			19+18	LT																						
S1-A12	381	SR-37	19+18	LT	2																					
			19+18	LT																						
			19+35	LT																						
PB-A7	381	SR-37	19+35	LT																						
			19+35	LT																						
			19+98	LT																						
PB-A6	381	SR-37	19+98	LT																						
			19+98	LT																						
			30+89	LT																						
S1-A11	382	SR-37WB	30+89	LT	2																					
			30+89	LT																						
			31+96	LT																						
S1-A10	382	SR-37WB	31+96	LT	2																					
			31+96	LT																						
			32+97	LT																						
S1-A9	382	SR-37WB	32+97	LT	2																					
			32+97	LT																						
			34+01	LT																						
S1-A8	374	SR-37WB	34+01	LT	2																					
			34+01	LT																						
			35+05	LT																						
S1-A7	374	US-36	35+05	LT	2																					
			35+05	LT																						
			35+08	LT																						
PB-A5	374	US-36	35+08	LT																						
			35+08	LT																						
			594+68	LT																						
PB-A4	374	US-36	594+68	LT																						
			594+68	LT																						
			594+72	LT																						
S1-A6	374	US-36	594+72	LT	2																					
			594+72	LT																						
			595+64	LT																						
S1-A5	374	US-36	595+64	LT	2																					
			595+64	LT																						
			596+63	LT																						
S1-A4	374	US-36	596+63	LT	2																					
			596+63	LT																						
			597+67	LT																						
S1-A3	374	US-36	597+67	LT	2																					
			597+67	LT																						
			597+82	LT																						
PB-A3	374	US-36	597+82	LT																						
			597+82	LT																						
			598+65	LT																						
PB-A2	375	US-36	598+65	LT																						
			598+65	LT																						
			599+17	LT																						
TOTALS CARRIED TO SUBSUMMARY					32	18	3	12	15	0	2151	894	0	1250	29	472	464	3	12	1279	464	8	15	0	1743	2

ESTIMATED TEMPORARY BRIDGE QUANTITIES

CALC: RSN CHECK: JS

ITEM	ITEM EXT.	TOTAL QUANTITY	UNIT	DESCRIPTION	REAR	FWD	SUPER	GENERAL	REF SHEET NO.
202	11003	LUMP	LS	STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	6 / 34
502	12301	LUMP	LS	STRUCTURE FOR MAINTAINING TRAFFIC (RAILROAD), AS PER PLAN - TEMPORARY BRIDGE DECK			LUMP		6 / 34
502	12301	LUMP	LS	STRUCTURE FOR MAINTAINING TRAFFIC (RAILROAD), AS PER PLAN - TIED SHORING WALLS				LUMP	6 / 34
503	11101	LUMP	LS	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LUMP	4 / 34
503	21101	20	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN				20	4 / 34
509	10000	9,501	LB	EPOXY COATED REINFORCING STEEL	4,706	4,795			
511	44113	44	CY	CLASS OCI CONCRETE WITH QC/OA, ABUTMENT, NOT INCLUDING FOOTING, AS PER PLAN	21	23			5 / 34
511	46513	58	CY	CLASS OCI CONCRETE WITH QC/OA, FOOTING, AS PER PLAN	28	30			5 / 34
513	10321	352,776	LB	STRUCTURAL STEEL MEMBERS, LEVEL 6, AS PER PLAN			352,776		5 / 34
516	46201	8	EACH	BEARING DEVICE, ROCKER, AS PER PLAN			8		32 / 34
516	46900	8	EACH	BEARING DEVICE, MISC.: SELF-LUBRICATING CYLINDRICAL BEARING (EXP)			8		31 / 34
518	21200	87	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	26	26		35	
518	40000	310	FT	6" PERFORATED CORRUGATED PLASTIC PIPE				310	
518	40010	38	FT	6" PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS				38	
518	42201	384	FT	8" PERFORATED CORRUGATED STEEL PIPE, 707.01, AS PER PLAN	182	202			5 / 34
518	42301	194	FT	8" NON-PERFORATED CORRUGATED STEEL PIPE, INCLUDING SPECIALS, 707.01, AS PER PLAN	97	97			5 / 34
524	94805	264	FT	DRILLED SHAFTS, 42" DIAMETER, INTO BEDROCK, AS PER PLAN	132	132			5 / 34
524	94903	872	FT	DRILLED SHAFTS, 48" DIAMETER, ABOVE BEDROCK, AS PER PLAN	436	436			5 / 34
524	95100	12	EACH	DRILLED SHAFTS, MISC.: CSL TESTING	6	6			4 / 34
SPECIAL	53000200	LUMP	LS	SPECIAL - STRUCTURE, MISC.: SURVEY AND MONITORING OF TRACK AND TEMPORARY SHORING				LUMP	7 / 34
840	23001	3,960	CY	SELECT GRANULAR BACKFILL, AS PER PLAN	1,831	2,129			7 / 34



DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2600 CORPORATE EXCHANGE DRIVE SUITE 230
COLUMBUS, OHIO 43231

DESIGNED
RSN
CHECKED
JS

DRAWN
CTM
REVISED

REVIEWED
EFD

DATE
05/2021

000T SPN: NONE (TEMP)
NSRR FILE: BR0019283

ESTIMATED BRIDGE QUANTITIES
BRIDGE NO. DEL-36-TEMP (TEMPORARY NS MP S-23.80)
NSRR OVER US 36 / 37 (CITY OF DELAWARE)

POINT PROJECT
PID No. 103626

ESTIMATED PERMANENT BRIDGE QUANTITIES

CALC: RSN CHECK: JS

ITEM	ITEM EXT.	TOTAL QUANTITY	UNIT	DESCRIPTION	REAR	FWD	SUPER	GENERAL	REF SHEET NO.
202	11003	LUMP	LS	STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	4 / 42
503	11101	LUMP	LS	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LUMP	402/644
503	21101	922	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	461	461			437/644
509	10000	89,352	LB	EPOXY COATED REINFORCING STEEL	24,718	25,673	38,961		
511	34447	188	CY	CLASS QC2 CONCRETE WITH QC/OA, BRIDGE DECK, AS PER PLAN			188		403/644
511	34451	17	CY	CLASS QC2 CONCRETE WITH QC/OA, BRIDGE DECK (PARAPET), AS PER PLAN			17		4 / 42
511	44113	214	CY	CLASS QC1 CONCRETE WITH QC/OA, ABUTMENT, NOT INCLUDING FOOTING, AS PER PLAN	108	106			403/644
511	46513	215	CY	CLASS QC1 CONCRETE WITH QC/OA, FOOTING, AS PER PLAN	109	106			403/644
511	71200	3,676	SF	CONCRETE, MISC.: FACING OF SUBSTRUCTURES	1,879	1,797			4 / 42
512	10001	703	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN	360	343			5 / 42
512	10100	773	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	333	300	140		
512	44451	642	SY	TYPE E WATERPROOFING, AS PER PLAN			642		4 / 42
SPECIAL	51256202	1,284	SY	SPECIAL - ASPHALTIC PANEL			1,284		5 / 42
SPECIAL	51267400	3,893	SF	SPECIAL - WATERPROOFING, MISC.: DAMPPROOFING OF RAILROAD STRUCTURES	2,004	1,889			4 / 42
513	10321	1,203,486	LB	STRUCTURAL STEEL MEMBERS, LEVEL 6, AS PER PLAN			1,203,486		403/644
513	20000	5,544	EACH	WELDED STUD SHEAR CONNECTORS			5,544		
514	80020	38,898	SF	SHOP PAINTING AND FIELD TOUCH-UP OF STRUCTURAL STEEL			38,898		5 / 42
516	12201	107	FT	STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN			107		5 / 42
516	13200	78	SF	1/2" PREFORMED EXPANSION JOINT FILLER	39	39			
516	46201	14	EACH	BEARING DEVICE, ROCKER, AS PER PLAN	0	14			29 / 42
516	46900	14	EACH	BEARING DEVICE, MISC.: SELF-LUBRICATING CYLINDRICAL BEARING (EXP)	14	0			28 / 42
517	76300	225	FT	RAILING, MISC.: NSRR ALUMINUM HANDRAIL WITH VANDAL PROTECTION FENCE			225		38 - 39 / 42
517	76300	199	FT	RAILING, MISC.: NSRR ALUMINUM HANDRAIL ON WINGWALLS	102	97			38 / 42
518	21200	457	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	233	224			
518	42201	268	FT	8" PERFORATED CORRUGATED STEEL PIPE, 707.01, AS PER PLAN	137	131			403/644
518	42301	378	FT	8" NON-PERFORATED CORRUGATED STEEL PIPE, INCLUDING SPECIALS, 707.01, AS PER PLAN	208	170			403/644
518	63300	LUMP	LS	STRUCTURE DRAINAGE, MISC.: SUPERSTRUCTURE DRAINAGE SYSTEM			LUMP		5 / 42
524	94603	230	FT	DRILLED SHAFTS, 30" DIAMETER, ABOVE BEDROCK, AS PER PLAN	115	115			403/644
524	94805	804	FT	DRILLED SHAFTS, 42" DIAMETER, INTO BEDROCK, AS PER PLAN	408	396			403/644
524	94903	2,558	FT	DRILLED SHAFTS, 48" DIAMETER, ABOVE BEDROCK, AS PER PLAN	1301	1257			403/644
524	95100	39	EACH	DRILLED SHAFTS, MISC.: CSL TESTING	20	19			402/644
SPECIAL	53013000	3,346	SF	SPECIAL - FORM LINER	1,714	1,632			5 / 42
625	25605	234	FT	CONDUIT, 4", 725.051, AS PER PLAN			234		32 / 42

ITEM SPECIAL - RAIL ITEM, MISC.: BALLAST

MATERIAL FOR BALLAST SHALL BE CLEAN CRUSHED STONE WITH A MINIMUM DEPTH OF 12 INCHES. GRIBS (SPACING BETWEEN THE CROSSTIES) SHALL BE FILLED WITH BALLAST TO THE TOP OF THE TIES.

STONE FOR USE AS BALLAST ON TRACKS, OR PORTIONS OF TRACKS, TO BE OWNED BY THE RAILWAY COMPANY, SHALL BE FURNISHED BY RAILROAD APPROVED QUARRY, AND SHALL BE CRUSHED STONE (GRANITE) CONFORMING TO THE REQUIREMENTS OF NS RAILWAY CHIEF ENGINEER.

BALLAST UNDER TEMPORARY TRACKS IS TO BE SUPPLIED BY NSRR AND PLACED BY NSRR IN PHASE 1. TEMPORARY BALLAST SHALL NOT BE MODIFIED UNLESS APPROVED BY NSRR. AT THE COMPLETION OF THE PROJECT, THE CONTRACTOR WILL BE REQUIRED TO REMOVE THE BALLAST AS DIRECTED BY THE CITY, WHO WILL TAKE OWNERSHIP OF THE TEMPORARY BALLAST.

OTHER BALLAST IS SUPPLIED AND PLACED BY THE RAILROAD.

BALLAST GRADATION SHALL CONFORM TO THE FOLLOWING TABLE:

SIEVE DESIGNATION	SIEVE OPENING	#3 BALLAST (MODIFIED) % PASSING SIEVE	#5 BALLAST % PASSING SIEVE
2-1/2"	2.5"	100	-
2"	2"	95-100	-
-	1.5"	30-65	-
1"	1"	0-15	90-100
-	0.75"	-	40-75
-	0.5"	0-5	15-35
3/8"	0.375"	-	0-15
NO. 4	0.187"	-	0-5
NO. 200	0.0029"	0.5 MAX	0.5 MAX

ITEM SPECIAL - RAILROAD FLAGGING

FLAGGING FOR WORK ON RAILROAD RIGHT OF WAY SHALL BE COORDINATED, OBTAINED AND PAID FOR BY THE CONTRACTOR. FLAGGING SHALL BE PROVIDED BY THE CONTRACTOR WHENEVER REQUIRED BY THE NORFOLK SOUTHERN SPECIAL PROVISIONS FOR THE PROTECTION OF RAILWAY INTERESTS (SECTION 7.A.2). NORFOLK SOUTHERN SHALL APPROVE THE FLAGGING SERVICE PROVIDER AND THEIR STAFF.

NORFOLK SOUTHERN HAS THE SOLE AUTHORITY TO DETERMINE THE NEED FOR PROTECTIVE SERVICES TO PROTECT ITS OPERATIONS. IN GENERAL, THE REQUIREMENTS OF SUCH SERVICES WILL BE WHENEVER THE CONTRACTOR'S PERSONNEL OR EQUIPMENT ARE OR ARE LIKELY TO BE, WORKING ON THE RAILROAD'S RIGHT-OF-WAY, OR ACROSS, OVER, ADJACENT TO, OR UNDER A TRACK, OR WHEN SUCH WORK HAS DISTURBED OR IS LIKELY TO DISTURB A RAILROAD STRUCTURE OR THE RAILROAD ROADBED OR SURFACE AND ALIGNMENT OF ANY TRACK TO SUCH EXTENT THAT THE MOVEMENT OF TRAINS MUST BE CONTROLLED BY FLAGGING.

THE TOTAL DAYS IN THE ESTIMATED QUANTITIES IS BASED UPON AN ESTIMATE OF TOTAL FLAGGING DAYS NEEDED TO COMPLETE THE PLANNED WORK.

ONLY THE FOLLOWING CERTIFIED FLAGGING PROVIDERS ARE ACCEPTABLE BY NORFOLK SOUTHERN:

NATIONAL RAILROAD SAFETY SERVICES, INC.
7395 KINGSGATE WAY
WEST CHESTER, OH 45069
<https://www.nrssinc.net/>
TIM SHEPHERD: 877-984-6777

RAILPROS
1320 Greenway Dr., Suite 490
Irving, TX 75038
(877) 315-0513
<https://railpros.com/contact-field-services/>

PAYMENT PER DAY FOR ITEM 690 99500 - SPECIAL - RAILROAD FLAGGING SHALL INCLUDE ALL COSTS OF THE FLAGGING SERVICE FOR THE DAYS USED, INCLUDING ANY CONTRACTOR OVERHEAD FOR ADMINISTERING THE CONTRACT WITH THE FLAGGING SERVICE.

ITEM 203 - EXCAVATION, AS PER PLAN

EXCAVATION SHALL BE IN CONFORMANCE WITH NS STANDARD SPECIFICATIONS FOR DESIGN AND CONSTRUCTION. IF BENCHING OF SLOPES CARRYING RAILROAD LIVE LOAD IS REQUIRED, THE HEIGHT SHALL NOT EXCEED 2'-0". BENCHING EXCAVATION QUANTITIES ARE NOT TABULATED HEREIN. IF BENCHING IS REQUIRED, THE QUANTITY AND COST OF EXCAVATING THE BENCH IS TO BE CONSIDERED INCIDENTAL TO THIS PAY ITEM.

PAYMENT FOR THE REMOVAL OF THE GRANULAR FILL BETWEEN THE TIED SHORING WALLS AT THE TEMPORARY BRIDGE IS TO BE INCLUDED WITH THIS PAY ITEM.

PRIOR TO PLACING THE FIRST LIFT OF EMBANKMENT FILL, PROOF ROLL THE PROPOSED LIMITS OF THE EMBANKMENT IN ACCORDANCE WITH ITEM 204 PROOF ROLLING. WHERE PROOF ROLLING INDICATES AREAS OF UNSTABLE OR UNSUITABLE SOILS, THE CONTRACTOR SHALL UNDERCUT THE FOUNDATION MATERIAL PER THE DETAILS SHOWN ON THE TYPICAL SECTION AND REPLACE WITH SUITABLE MATERIAL. THIS WORK IS INCIDENTAL TO ITEM 203 EMBANKMENT.

ITEM 611 - 36" CONDUIT, TYPE B, 707.19, AS PER PLAN

ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE NORFOLK SOUTHERN STANDARD SPECIFICATIONS FOR MATERIALS AND CONSTRUCTION. THIS WORK SHALL INCLUDE THE INSTALLATION OF ALUMINIZED STEEL TYPE 2 CORRUGATED PIPE USING THE OPEN CUT METHOD. THE ALUMINIZED STEEL TYPE 2 COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M 274 OR ATSM A929. THE PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF AASHTO M 36 OR ASTM A760 AND SHALL HAVE CORRUGATIONS OF 2-2/3 INCHES BY 1/2 INCHES WITH A GAGE THICKNESS STRUCTURALLY DESIGNED FOR COOPER E-80 LOADING. COUPLING BANDS SHALL BE MADE OF THE SAME BASE METAL HAVING A MINIMUM GAGE OF ONE GAGE LESS THAN THE PIPE GAGE AND SHALL BE TWO (2) FEET WIDE. THE ENDS OF THE PIPE SHALL BE ROLLED WITH ANNUALR CORRUGATIONS FOR PROPER INDEXING. THE CONTRACTOR SHALL INSTALL AT LEAST THREE GALVANIZED OR STAINLESS STEEL FASTENERS PER COUPLING BAND. UNLESS OTHERWISE SUPERSEDED, PRESCRIBED OR INDICATED BY THE NORFOLK SOUTHERN STANDARD SPECIFICATIONS FOR MATERIALS AND CONSTRUCTION OR HEREIN THIS NOTE, THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATION, ITEM 611 SHALL APPLY, IN PARTICULAR BUT NOT LIMITED TO: SUBMITTALS WHICH INCLUDES: SHOP DRAWINGS (INCLUDING SEALED STRUCTURAL DESIGN CALCULATIONS TO INCLUDE BUT NOT LIMITED TO PIPE GAGE, EXTERNAL RIBS / STRUTS, TRENCH, BACKFILL, ETC.), INSTALLATION PLAN, CONSTRUCTION INSPECTION FORMS, AND PERFORMANCE REPORTS; AS WELL AS PERFORMANCE INSPECTIONS, CONDUIT EVALUATION, AND METHOD OF MEASUREMENT. THIS WORK SHALL ALSO INCLUDE THE REMOVAL OF SAID CONDUIT IN ACCORDANCE WITH ODOT ITEM 202 PIPE REMOVED FOR REUSE OR STORAGE. THE CONTRACTOR SHALL STORE THE REMOVED PIPE AT AN ON-SITE LOCATION AS DIRECTED BY THE ENGINEER FOR ODOT

TO PICKED UP AND HAULED OFF-SITE TO AN ODOT FACILITY TO A LOCATION TO BE DETERMINED. NO ADDITIONAL PAYMENT SHALL BE MADE FOR REMOVAL AND STORAGE OF THE PIPE. ALL COSTS ASSOCIATED WITH THE WORK PRESCRIBED IN THIS NOTE SHALL BE INCLUDED IN THE UNIT BID PRICE PER FOOT FOR ITEM 611 - 36" CONDUIT, TYPE B, 707.19 AS PER PLAN.

RAIL ITEM, MISC.: TRACK REMOVED

THE CONTRACTOR SHALL REMOVE THE TRACK AT THE DIRECTION OF THE NS SUPERVISOR. THE CONTRACTOR WILL RETAIN OWNERSHIP OF THE TRACK AND IS RESPONSIBLE FOR ITS DISPOSAL. THE CONTRACTOR'S REMOVAL RESPONSIBILITIES ARE 1) REMOVAL OF EXISTING TRACK 1 & 2 ONCE REALIGNMENT ONTO THE SHOOLFY HAS OCCURED AND 2) REMOVAL OF TEMPORARY TRACKS AFTER REALIGNMENT TO THE PERMANENT ALIGNMENT OCCURS.

RAIL ITEM, MISC.: TRACK LINING AND GRADING

TRACK LINING AND GRADING SHALL BE IN CONFORMANCE WITH NS STANDARD SPECIFICATIONS FOR DESIGN AND CONSTRUCTION. WORK SHALL BE PERFORMED BY NSRR FORCES. ESTIMATED QUANTITY GIVEN FOR INFORMATION ONLY.

RAIL ITEM, MISC.: TIE AND RAIL

ALL RAILWAY TIES WILL BE IN ACCORDANCE WITH THE NORFOLK SOUTHERN RAILWAY QUALITY ASSURANCE SPECIFICATIONS FOR TIES AND TIMBERS. WORK SHALL BE PERFORMED BY NSRR FORCES. ESTIMATED QUANTITY GIVEN FOR INFORMATION ONLY.

RAIL ITEM, MISC.: CUT AND THROW

TRACK CUT AND THROW SHALL BE IN CONFORMANCE WITH NS STANDARD SPECIFICATIONS FOR DESIGN AND CONSTRUCTION. WORK SHALL BE PERFORMED BY NSRR FORCES. ESTIMATED QUANTITY GIVEN FOR INFORMATION ONLY.

ITEM 203 - EMBANKMENT, AS PER PLAN

EMBANKMENT SHALL BE IN CONFORMANCE WITH NS STANDARD SPECIFICATIONS FOR DESIGN AND CONSTRUCTION. IF BENCHING OF SLOPES CARRYING RAILROAD LIVE LOAD IS REQUIRED, THE HEIGHT SHALL NOT EXCEED 2'-0". FILL QUANTITIES DUE TO BENCHING ARE NOT INCLUDED IN THE VALUES TABULATED HEREIN. IF BENCHING IS REQUIRED, THE QUANTITY AND COST OF PLACING

FILL IN THE BENCHED EXCAVATION IS TO BE CONSIDERED INCIDENTAL TO THIS ITEM. ITEM 204 SUBGRADE COMPACTION, APP AND ITEM 204 - PROOF ROLLING, APP ARE CONSIDERED INCIDENTAL TO THIS ITEM.

PLACEMENT OF GRANULAR FILL BETWEEN THE TIED SHORING WALLS AT THE TEMPORARY BRIDGE ARE INCLUDED FOR PAYMENT WITH THE TEMPORARY BRIDGE QUANTITIES.

STAGED CONSTRUCTION

THESE PLANS SHOW STAGED TRACK WORK/CONSTRUCTION. CONTRACTOR SHALL INTEGRATE, STAGE, AND COORDINATE ALL WORK WITH ADJACENT BRIDGE AND ROADWAY PROJECTS AS NECESSARY. SEE THE BRIDGE PLANS FOR PHASED CONSTRUCTION NOTES RELATED TO THE RAILROAD STRUCTURES AND THE ROADWAY'S MAINTENANCE OF TRAFFIC PLANS FOR PHASING NOTES RELATED TO THE CONSTRUCTION OF US 36 AND SR 37. THE CONTRACTOR IS RESPONSIBLE FOR COMPLETING THE CONSTRUCTION FROM THE TOP OF SUB BALLAST DOWN PRIOR TO NS RAILROAD FORCES SCHEDULING THE TRACK WORK.

NSRR RAILROAD FORCES

NSRR WILL PROVIDE AND INSTALL ALL MATERIALS ABOVE SUBBALLAST FOR BOTH TRACKS IN PHASE 1 AND PHASE 2. THE NS TEMPORARY TRACKWORK MATERIALS FROM PHASE 1 SHALL BECOME THE PROPERTY OF THE CITY OF DELAWARE AFTER SHIFTING TRAIN TRAFFIC TO THE FINAL ALIGNMENT POSTION IN PHASE 2.

THE ESTIMATED QUANTITIES FOR NORFOLK SOUTHERN FORCES ARE PROVIDED FOR INFORMATION ONLY.

ITEM SPECIAL - RAIL ITEM, MISC.: BALLAST OVER BRIDGE WATERPROOFING

THE CONTRACTOR SHALL SUPPLY AND PLACE AN INITIAL 6 INCHES OF BALLAST ATOP THE COMPLETED BRIDGE WATERPROOFING AT THE DIRECTION OF THE NS SUPERVISOR. THE BALLAST SHALL BE FROM A NS PREFERRED VENDOR (A LIST OF VENDORS IS AVAILABLE UPON REQUEST FROM NS). PAYMENT FOR THIS ITEM FOR THE AMOUNT OF BALLAST SUPPLIED AND PLACED ATOP THE BRIDGE PER NS REQUIREMENTS.

ITEM SPECIAL - RAIL ITEM, MISC.: BALLAST OVER BRIDGE WATERPROOFING 107 CY

US 36 AND SR 37 RAILROAD GENERAL SUMMARY

SHEET NUMBER										ITEM	TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
475	476	482	491 - 493	518	521 - 523	543	546 - 550	600						
							2			202	2	EACH	HEADWALL REMOVED	
							850			202	850	FT	PIPE REMOVED, 24" AND UNDER	
							395			202	395	FT	PIPE REMOVED, OVER 24"	
							2			202	2	EACH	CATCH BASIN REMOVED	
							1			202	1	EACH	MANHOLE REMOVED	
									1265	203	71211	CY	EXCAVATION, AS PER PLAN	476
									54937	203	58722	CY	EMBANKMENT, AS PER PLAN	476
				4	4					601	8	CY	ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER	
				2	2					602	4	CY	CONCRETE MASONRY	
			850							611	850	FT	8" CONDUIT, TYPE E, PERFORATED	
				100	295					611	395	FT	36" CONDUIT, TYPE B, 707.19, AS PER PLAN	476
				1	1					611	2	EACH	CATCH BASIN, NO. 4A	
					1					611	1	EACH	MANHOLE, NO. 3	
4										659	4	EACH	SOIL ANALYSIS TEST	
4960										659	4960	CY	TOPSOIL	
44634										659	44634	SY	SEEDING AND MULCHING	
2231										659	2231	SY	REPAIR SEEDING AND MULCHING	
2231										659	2231	SY	INTER-SEEDING	
6										659	6.22	TON	COMMERCIAL FERTILIZER	
9										659	9.22	ACRES	LIME	
367										659	367	MGAL	WATER	
201										659	201	MSF	MOWING	
	520									SPECIAL	520	DAY	RAIL ITEM, MISC.: RAILROAD FLAGGING	476
										SPECIAL	LUMP		RAIL ITEM, MISC.: SURVEY AND LAYOUT FOR TRACKWORK ALIGNMENT AND PROFILE	475
	107									SPECIAL	107	CY	RAIL ITEM, MISC.: BALLAST OVER BRIDGE WATERPROOFING	476
						3179		2358		SPECIAL	5537	CY	RAIL ITEM, MISC.: SUB-BALLAST - 12" DEPTH	475
		9030								SPECIAL	9030	LF	RAIL ITEM, MISC.: TRACK REMOVED	476
													NORFOLK SOUTHERN RAILROAD FORCES (FOR INFORMATION ONLY)	
						5793		5615		SPECIAL	11408	CY	RAIL ITEM, MISC.: BALLAST	476
		5370								SPECIAL	5370	LF	RAIL ITEM, MISC.: TRACK LINING AND GRADING	476
		9030								SPECIAL	9030	LF	RAIL ITEM, MISC.: TIE AND RAIL	476
		8								SPECIAL	8	EACH	RAIL ITEM, MISC.: TRACK CUT AND THROW	476

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CALCULATED
CDR
CHECKED
JLF

TRACK GENERAL NOTES

DEL - 36 - 11.03

476
644

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

NET TAKE = GROSS TAKE - PRO IN TAKE

ALL AREAS IN ACRES

GRANTEE:

ALL RIGHT OF WAY ACQUIRED IN THE NAME OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION UNLESS OTHERWISE SHOWN.

Main table with columns: PARCEL NO., OWNER, SHEET NO., OWNERS RECORD (O.R., PAGE), AUDITOR'S (PARCEL NUMBER, RECORD AREA), TOTAL P.R.O., GROSS TAKE, P.R.O. IN TAKE, NET TAKE, STRUC-TURE, NET RESIDUE (LEFT, RIGHT), TYPE FUND, REMARKS, AS ACQUIRED (BOOK, PAGE).

FEDERAL PROJECT NO. E180 (007)
PID NO. 103626
STATE JOB NO. 467814
R/W DESIGNER BLM
R/W REVIEWER JMM
SUMMARY OF ADDITIONAL RIGHT OF WAY (PARCELS 11-25)
DEL-36-11.03
9/44
609/644

TYPES OF TITLE LEGEND:
WD = WARRANTY DEED
SH = STANDARD HIGHWAY EASEMENT
T = TEMPORARY EASEMENT
V = ACQUIRED IN THE NAME OF THE CITY OF DELAWARE

NOTE: ALL TEMPORARY PARCELS TO BE OF 36 MONTH DURATION.

* DENOTES RIGHT OF WAY ENCROACHMENT

[X] = ESMT OVERLAP, SEE PG 7 FOR EASEMENT DESCRIPTIONS
(c) = CALCULATED AREA

3 TREES, *30 TREES, *2 EVERGREENS & *2 PRIVATE SIGNS TO BE REMOVED (TBR)

*LANDSCAPE AREA, *6 TREES, *1 STUMP, *1 ROCK TBR

NOTE "B": THERE ARE OTHER LANDSCAPE ENCROACHMENTS IN ADDITION TO WHAT HAS BEEN CALLED OUT IN THE REMARKS COLUMN FOR PARCEL 17, BUT THESE ADDITIONAL ITEMS WILL BE PERMITTED AND ALLOWED BY THE CITY OF DELAWARE. SAID PERMIT IS IN PROGRESS. THE ITEMS ENCOMPASSED BY THIS PERMIT ARE NOTED ON PAGES 23, 25 & 27.

Revision table with columns: REV. BY, DATE, DESCRIPTION. Includes entries for BLM, BRK, and Brandon King with dates and descriptions of updates.

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