



LOCATION MAP

LATITUDE: 39°25'57.20" LONGITUDE: 84°32'4.03"



PORTION TO BE IMPROVED

END PROJECT:
RIVERSIDE DRIVE
STA. 101+00.00

BEGIN PROJECT:
RIVERSIDE DRIVE
STA. 98+00.00

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

BUT-AUGSPURGER RD. NS

VILLAGE OF NEW MIAMI

BUTLER COUNTY

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DESIGN DESIGNATION

	AUGSPURGER RD	RIVERSIDE DR
CURRENT ADT (2020)	1621	9016
DESIGN YEAR ADT (2040)	1978	11001
DESIGN HOURLY VOLUME (2040)	268	1015
DIRECTIONAL DISTRIBUTION	0.5	0.5
TRUCKS (24 HOUR B&C)	0.06	0.07
DESIGN SPEED	35 MPH	40 MPH
LEGAL SPEED	25/35 MPH	35/40 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	URBAN MINOR ARTERIAL	URBAN PRINCIPAL ARTERIAL
NHS PROJECT	YES	

DESIGN EXCEPTIONS

NONE

ADA DESIGN WAIVERS

NONE

UNDERGROUND UTILITIES

Contact Two Working Days
Before You Dig

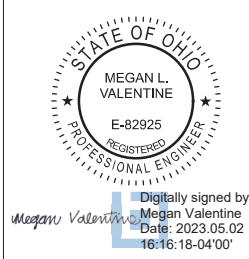
OHIO811.org
Before You Dig

OHIO 811. 8-1-1, or 1-800-362-2764
(Non members must be called directly)



PLAN PREPARED BY:
MEAD & HUNT
4700 LAKEHURST CT., SUITE 110
COLUMBUS, OH, 43016

ENGINEER'S SEAL:



STANDARD CONSTRUCTION DRAWINGS								SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS	
BP-2.5	1/21/22	MT-95.31	7/19/19	TC-21.21	7/15/22			800-2019	4/21/23		
BP-3.1	1/21/22	MT-95.32	4/19/19	TC-22.10	4/17/20			809	10/21/22		
BP-5.1	7/15/22	MT-97.10	4/19/19	TC-41.40	10/18/13			813	10/19/18		
BP-7.1	1/21/22	MT-99.20	4/19/19	TC-41.41	7/19/19			819	1/17/20		
		MT-101.90	7/17/20	TC-52.20	1/15/21			825	1/17/20		
HL-10.11	7/15/22	MT-110.10	7/19/13	TC-65.10	1/17/14			828	1/19/18		
HL-10.12	1/20/17			TC-65.11	7/15/22			832	7/15/22		
HL-30.11	1/15/21			TC-71.10	7/15/22			909	10/21/22		
HL-30.22	1/15/21			TC-74.10	1/21/22			913	4/16/21		
HL-40.10	7/17/20			TC-81.22	7/15/22			919	1/17/20		
HL-60.11	7/21/17			TC-83.10	1/17/20			928	1/19/18		
HL-60.31	1/17/20			TC-83.20	7/15/22						
				TC-85.10	10/21/22						
				TC-85.20	7/20/18						
				TC-86.10	7/15/22						

FEDERAL PROJECT NUMBER

E200948

RAILROAD INVOLVEMENT

NORFOLK SOUTHERN RAILROAD DOT #525205V

PROJECT DESCRIPTION

MODIFICATION OF TRAFFIC SIGNAL AT THE INTERSECTION OF US 127/RIVERSIDE DRIVE AND AUGSPURGER ROAD FOR THE PURPOSE OF ADDING RAILROAD PREEMPTION TO NORFOLK SOUTHERN CROSSING DOT# 525205V. INSTALLATION WILL INCLUDE ANY ANCILLARY WORK TO MAKE THE WARNING DEVICES FUNCTION AS DESIGNED, MUTCD COMPLIANT AND VISIBLE TO ROADWAY USERS.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: 0.01 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: 0.01 ACRES (NOI NOT REQUIRED)

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 NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED

Tammy K. Campbell

Digitally signed by Tammy K. Campbell
Date: 2023.05.08 15:27:15-04'00'

DISTRICT DEPUTY DIRECTOR

APPROVED

John M. Markowski

DIRECTOR, DEPARTMENT OF TRANSPORTATION

DESIGN AGENCY
Mead & Hunt
CLIENT



DESIGNER
DLW

REVIEWER
MLV 01/25/22

PROJECT ID
113314

SHEET P.1 TOTAL 22

PROJECT CONTROL INFORMATION

POINT NO.	GRID COORDINATES		GROUND COORDINATES			STATION	OFFSET	DESCRIPTION
	US SURVEY FEET		US SURVEY FEET					
	NORTHING	EASTING	NORTHING	EASTING	ELEVATION			
CP2	527965.80	1393728.93	528011.88	1393850.55	599.74	96+16.83	-23.86	RSPKS
MN8	527948.88	1393772.70	527994.95	1393894.33	599.62	96+24.39	22.46	IPIN
SV212	528024.65	1393792.84	528070.73	1393914.47	600.05	96+99.90	0.00	MONBOX
MN9	528016.03	1393819.61	528062.10	1393941.24	600.13	97+06.57	27.31	IPIPE
CP1	528297.71	1393972.40	528343.81	1394094.05	601.91	100+21.58	37.98	IPINS
SV357	528311.51	1393983.70	528357.62	1394105.35	602.85	100+38.17	43.50	BM

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. REFER TO THIS SHEET FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION. USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL

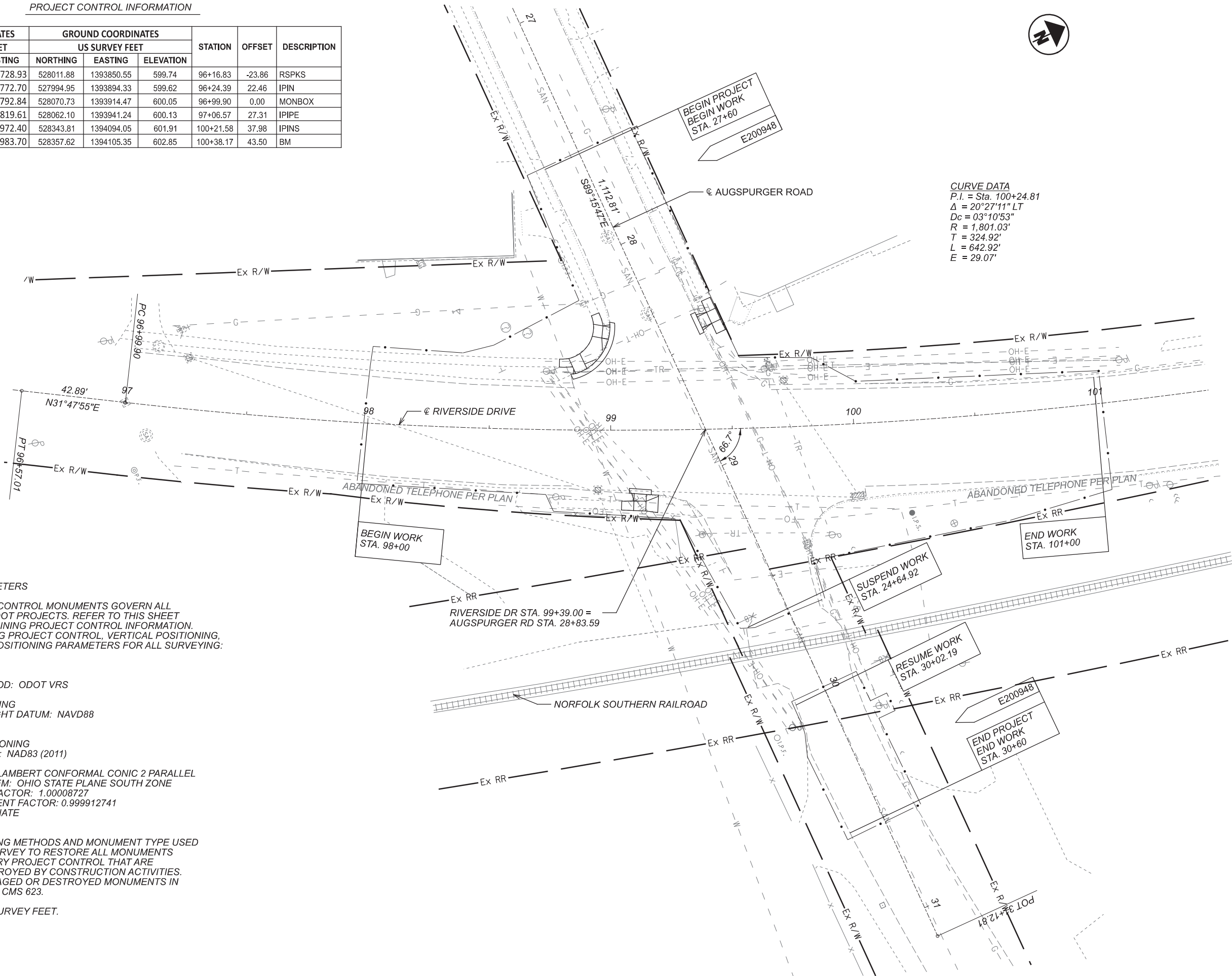
POSITIONING METHOD: ODOT VRS

VERTICAL POSITIONING
ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID12B

HORIZONTAL POSITIONING
REFERENCE FRAME: NAD83 (2011)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC 2 PARALLEL
COORDINATE SYSTEM: OHIO STATE PLANE SOUTH ZONE
COMBINED SCALE FACTOR: 1.00008727
PROJECT ADJUSTMENT FACTOR: 0.999912741
ORIGIN OF COORDINATE
SYSTEM: 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 CMS 623.

UNITS ARE IN U.S. SURVEY FEET.



SCHEMATIC PLAN



DESIGN AGENCY
Mead & Hunt
CLIENT



DESIGNER
MLV

REVIEWER
DLW 01/25/22

PROJECT ID
113314

SHEET TOTAL
P.2 22

WORK LIMITS

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

UTILITIES

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

Duke Electric (distribution)
2010 Dana Ave
Cincinnati, Ohio 45207
513-514-8211 (Aaron Wright)
Aaron.Wright@duke-energy.com

Duke Energy Gas
139 East 4th Street, Room 460A
Cincinnati, Ohio 45202
513-906-0128 (Brian Hollmann)
brian.hollmann@duke-energy.com

Cincinnati Bell Telephone (aerial)
221 East Fourth Street, Bldg. 121-900
Cincinnati, Ohio 45201
513-566-8039 (Nancy Morris)
nancy.morris@cinbell.com

Butler County Water and Sewer
130 High Street
Hamilton, Ohio 45011
513-785-5168 (Tim McQueen)
tim.mcqueen@bcchio.us

Village of New Miami
268 Whitaker Avenue
Hamilton, Ohio 45011
513-896-7337 (Rhonda Cook)
newmiamiohio@yahoo.com

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

THE CONTRACTOR MUST CONTACT DUKE ENERGY FOR SAFETY REQUIREMENTS CONCERNING WORK DONE WITHIN 20 FEET OF ACTIVE POWER LINES.

ADDITIONAL PROJECT CONTACTS

LISTED BELOW IS INFORMATION FOR ADDITIONAL PROJECT CONTACTS:

Ohio Rail Development Commission
Allen Bell - Safety Manager
614-644-0313
allen.bell@dot.ohio.gov

Ohio Rail Development Commission
Heather Hamilton - Safety Division Coordinator
614-644-0307
heather.hamilton@dot.ohio.gov

Ohio Rail Development Commission Representative
Mott MacDonald
Sam Bobko
216-553-4493
sam.bobko@mottmac.com

Norfolk Southern Railroad
Aaron Pease
440-429-1960
aaron.pease@nscorp.com

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

SEEDING AND MULCHING

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

659, TOPSOIL 45 CU. YD.

659, SEEDING AND MULCHING 400 SQ. YD.

659, REPAIR SEEDING AND MULCHING 20 SQ. YD.

659, INTER-SEEDING 20 SQ. YD.

659, COMMERCIAL FERTILIZER 0.06 TON

659, LIME 0.08 ACRE

659, WATER 3 M. GAL.

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. THE SEEDING AND MULCHING QUANTITIES SHOWN ABOVE HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

WORK INSPECTION

THE CONTRACTOR SHALL PROVIDE THE PROJECT ENGINEER WITH 72-HOUR NOTICE OF ANY SIGNAL WORK TO BE PERFORMED AT THE INTERSECTION SITE(S) SO THAT INSPECTION SERVICES CAN BE SUPPLIED.

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 10:00 PM AND 7:00 AM. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

UNDERDRAINS FOR PULLBOXES

REFERENCE TRAFFIC SCD HL-30.11 FOR DETAILS ABOUT DRAINING PULLBOXES. UNDERDRAINS FOR PULLBOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED 20 FEET. THE FOLLOWING ESTIMATED QUANTITY IS CARRIED TO THE GENERAL SUMMARY FOR THIS PURPOSE:

ITEM 611 4" CONDUIT, TYPE E, 725.051 20 FT.

ITEM 441-ASPHALT CONCRETE SURFACE COURSE , TYPE 1, (449), AS PER PLAN

DO NOT USE COARSE AGGREGATE FROM A SOURCE DESIGNATED 'SR' OR 'SRH' ACCORDING TO THE OFFICE OF MATERIALS MANAGEMENT (OMM) IN ANY JOB MIX FORMULA (JMF) FOR THIS ITEM.

ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING

CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE:

- SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION.
- COMPACT THE SUBGRADE ACCORDING TO C&MS 204.03.
- PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO C&MS 204.06.
- FINE GRADE THE SUBGRADE TO THE SPECIFIED GRADE.

ITEM 608 - CURB RAMP, AS PER PLAN

THE INTENT OF THIS ITEM IS TO INSTALL ADA CURB RAMPS WHERE INDICATED IN THIS SET OF PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING THE EXISTING WALK AND/OR CURB AND GUTTER IN A MANNER THAT DOES NOT DAMAGE OTHER AREAS MEANT TO REMAIN IN PLACE (SEE CURRENT STANDARD DRAWING BP-7.1). AS THESE INSTALLATIONS ARE BEING MADE TO FIT EXISTING CONDITIONS, VARIATIONS FROM STANDARD MAY OCCUR. ANY DEVIATIONS FROM DETAIL IN THESE PLANS MUST FIRST BE APPROVED BY THE ENGINEER. RESTORATION TO EXISTING PAVEMENT AREAS IN FRONT OF THE PROPOSED CURB RAMPS SHALL BE INCLUDED IN THIS ITEM OF WORK. RESTORATION SHALL BE MADE UP TO AND INCLUDE THE SURFACE COURSE. ALL WORK, LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE FOOT FOR ITEM 608, CURB RAMP, AS PER PLAN.

COORDINATION WITH RAILROAD

THE CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION WITH NORFOLK SOUTHERN RAILROAD ON THIS PROJECT.

THE CONTRACTOR WILL NEED TO COORDINATE WITH NORFOLK SOUTHERN TO DETERMINE THE METHOD AND SCHEDULE OF INTERCONNECTION. AT MINIMUM, THE CONTRACTOR SHALL CONNECT THE PROVIDED INTERCONNECT CABLE TO THE TRAFFIC SIGNAL CONTROL CABINET. IF THE PROVIDED CABLE LENGTH IS NOT ADEQUATE, THE CONTRACTOR SHALL REPLACE IT WITH ONE CONTINUOUS CABLE OF ADEQUATE LENGTH TO COMPLETE THE CONNECTION BETWEEN THE TRAFFIC SIGNAL CONTROLLER CABINET AND THE RAILROAD BUNGALOW IN ACCORDANCE WITH SS819. SPLICES ARE NOT ACCEPTABLE.



MAINTENANCE OF TRAFFIC SIGNAL INSTALLATION

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC SIGNAL INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITION:

NEW SIGNAL INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

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

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

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

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

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

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

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

MAINTENANCE OF TRAFFIC SIGNAL INSTALLATION (CONT.)

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM. WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED 6 HOURS AND SHALL NOT INCLUDE THE HOURS OF 7:00 TO 9:00 AM AND 3:00 TO 6:00 PM. ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED, BY THE CONTRACTOR, BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS.

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

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

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

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

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

ITEM 614, MAINTAINING TRAFFIC (AT ALL TIMES)

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, COMPLETED PAVEMENT AND FLAGGER CONTROL (SCD MT-97.10, MT-95.31 & MT-95.32).

LANE RESTRICTIONS OR LANE REDUCTIONS SHALL NOT BE PERMITTED AFTER NORMAL WORKING HOURS. NORMAL WORKING HOURS SHALL BE THOSE HOURS DURING WHICH THE CONTRACTOR HAS A FULL COMPLEMENT OF EMPLOYEES AND EQUIPMENT ACTIVELY REMOVING AND /OR PLACING PAVEMENT MATERIALS.

IF IT IS NECESSARY TO STOP ALL TRAFFIC FOR THE ERECTION OF THE MAST ARMS, THE WORK SHALL BE SO ARRANGED THAT THE STOPPAGE IS LESS THAN TEN (10) MINUTES IN ANY ONE (1) THIRTY (30) MINUTE PERIOD. NO STOPPAGE OF TRAFFIC SHALL OCCUR FOR THE ERECTION OF SIGNAL SUPPORTS OR HANGING SIGNAL HEADS WITHOUT A LAW ENFORCEMENT OFFICER WITH PATROL CAR AT THE SITE FOR ASSISTANCE IN CONTROLLING TRAFFIC. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE SERVICES AND SCHEDULING OF SAID LAW ENFORCEMENT OFFICER WITH PATROL CAR.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

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

WORK ZONE MARKINGS AND SIGNS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS AND SIGNS PER THE REQUIREMENTS OF C&MS 614.04 AND 614.11.

ITEM 614, WORK ZONE LANE LINE,
CLASS III, 4", 642 PAINT.....0.12 MILES
ITEM 614, WORK ZONE CENTER LINE,
CLASS III, 642 PAINT.....0.12 MILES
ITEM 614, WORK ZONE STOP LINE,
CLASS III, 642 PAINT.....67 FEET
ITEM 614, WORK ZONE CROSSWALK LINE,
CLASS III, 12", 642 PAINT190 FEET

WINDOW CONTRACT TABLE

WORK LIMITS

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

DESCRIPTION OF CRITICAL WORK	CALENDAR DAYS TO COMPLETE
ALL WORK ON PROJECT	60 DAYS

THE CONSTRUCTION COMPLETION DATE IS 10/30/2024.

NOTIFICATION OF TRAFFIC RESTRICTIONS

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

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

NOTIFICATION TIME TABLE		
ITEM	DURATION OF CLOSURE	NOTICE DUE TO PERMITS & PIO
LANE CLOSURES & RESTRICTIONS	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WEEKS	5 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

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

DESIGN AGENCY



CLIENT



DESIGNER

DLW

REVIEWER

MLV 01/25/22

PROJECT ID

113314

SHEET

P.4

TOTAL

22

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

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

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

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

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

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

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

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

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

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

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

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

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 24 HOURS

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

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

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN

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

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH C&MS 614.03.

PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED AWAY FROM ALL TRAFFIC AND SHALL DISPLAY ONE OR MORE

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN (CONTINUED)

TYPE G YELLOW REFLECTIVE SHEETING SURFACES OF 9" BY 15" MINIMUM SIZE FACING TRAFFIC.

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

THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGEABLE MESSAGES WILL BE IMPLEMENTED WITHIN 12 HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.

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

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

THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR PHONE AREAS) ALLOW REMOTE SIGN ACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES. ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM OR EQUIVALENT) SHALL BE FURNISHED FOR USE BY THE DISTRICT TRAFFIC ENGINEER, OR EQUIVALENT, AND SHALL BE INSURED AGAINST THEFT.) THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF C&MS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN (CONTINUED)

LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE, AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 8 SIGN MONTHS ASSUMING 4 PCMS SIGNS FOR 2 MONTHS. A QUANTITIY OF 8 SNMT HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 900, SPECIAL - RAILROAD FLAGGING SERVICES

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 INTEREST. NORFOLK SOUTHERN SHALL APPROVE THE FLAGGING SERVICE PROVIDER AND THEIR STAFF.

NORFOLK SOUTHERN HAS THE SOLE AUTHORITY TO DETERMINE THE NEED FOR PROTECTION 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 DOLLARS IN THE ESTIMATED QUANTITIES IS BASED UPON AN ESTIMATE OF TOTAL FLAGGING DOLLARS NEEDED TO COMPLETE THE PLANNED WORK.

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

RAILROAD CONSULTANTS
STEVE LLOYD (VP BUSINESS DEVELOPMENT)
(615) 542-8901

RAILPROS
1320 GREENWAY DR., SUITE 490
IRVING, TX 75038
(877) 315-0513
HTTP://WWW.RAILPROS.COM/SERVICES-CATEGORY/FIELD-SERVICES/

PAYMENT FOR CERTIFIED FLAGGING PROVIDERS WILL BE MADE PER ITEM 900, SPECIAL – RAILROAD FLAGGING SERVICES, EACH BASED UPON THE INVOICES RECEIVED FROM THE FLAGGING SERVICE FOR THE DOLLARS USED, INCLUDING A FIVE PERCENT MARKUP FOR CONTRACTOR OVERHEAD FOR ADMINISTERING THE CONTRACT WITH THE FLAGGING SERVICE. AN ESTIMATED QUANTITY OF \$5000 HAS BEEN CARRIED TO THE GENERAL SUMMARY.

IN THE EVENT THE PROJECT IS DELAYED DUE TO RAILROAD FLAGGER AVAILABILITY, THE CONTRACTOR WILL PROVIDE DOCUMENTATION SUPPORTING THEIR EFFORTS TO SCHEDULE A FLAGGER FROM THE FLAGGING SERVICE.

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GENERAL SUMMARY	
DESIGN AGENCY 	
CLIENT 	
DESIGNER MLV	
REVIEWER DLW 01/25/22	
PROJECT ID 113314	
SHEET P.7	TOTAL 22

BUT AUGSPURGER ROAD

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ROADWAY SUBSUMMARY

DESIGN AGENCY Mead & Hunt CLIENT 	
DESIGNER MLV	
REVIEWER DLW 01/25/22	
PROJECT ID 113314	
SHEET P.8	TOTAL 22

BUT AUGSPURGER ROAD

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TRAFFIC CONTROL SUBSUMMARY

DESIGN AGENCY Mead & Hunt CLIENT 	
DESIGNER MLV	
REVIEWER DLW 01/25/22	
PROJECT ID 113314	
SHEET P.9	TOTAL 22

BUT AUGSPURGER ROAD

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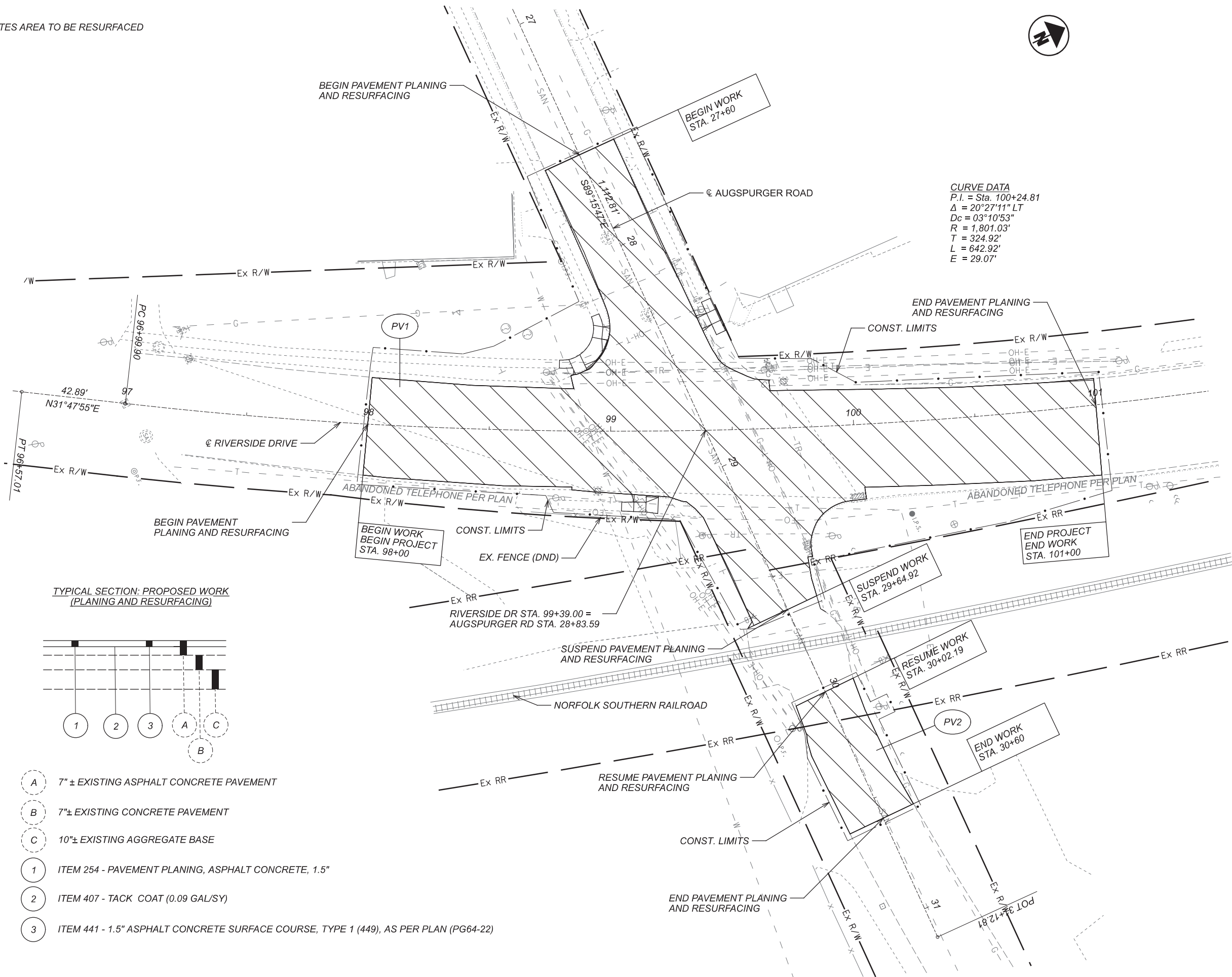
TRAFFIC SIGNAL SUBSUMMARY

DESIGN AGENCY	
	
CLIENT	
	
DESIGNER	
MLV	
REVIEWER	
DLW	01/25/22
PROJECT ID	
113314	
SHEET	TOTAL
P.10	22

LEGEND



DENOTES AREA TO BE RESURFACED



RESURFACING PLAN

DESIGN AGENCY
Mead & Hunt
CLIENT



DESIGNER
MLV

REVIEWER
DLW 01/25/22

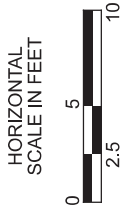
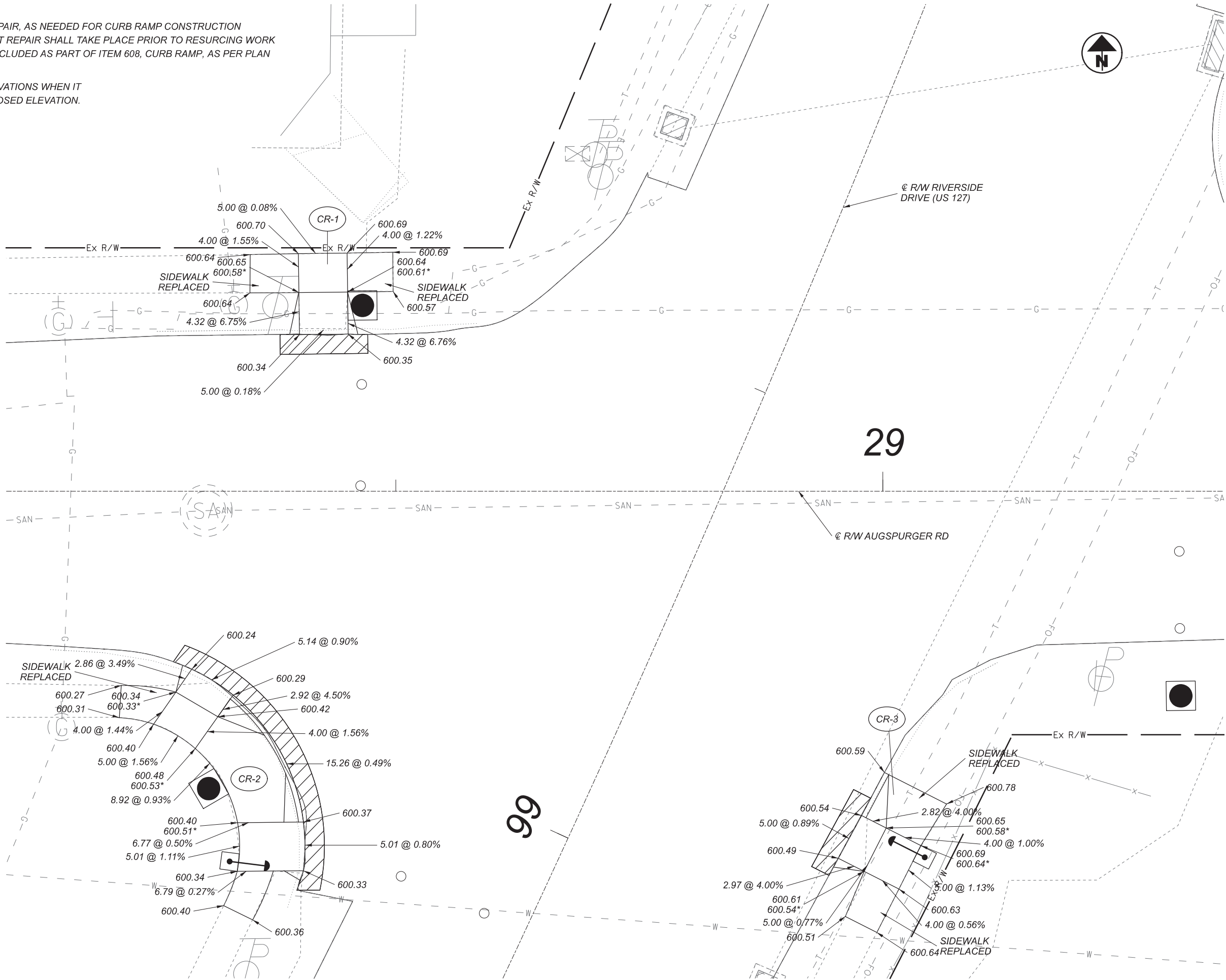
PROJECT ID
113314

SHEET TOTAL
P.11 22



PAVEMENT REPAIR, AS NEEDED FOR CURB RAMP CONSTRUCTION
ANY PAVEMENT REPAIR SHALL TAKE PLACE PRIOR TO RESURCING WORK
PAYMENT IS INCLUDED AS PART OF ITEM 608, CURB RAMP, AS PER PLAN

* INDICATES EXISTING ELEVATIONS WHEN IT
DIFFERS FROM THE PROPOSED ELEVATION.



PLAN SHEET
CURB RAMP DETAILS

DESIGN AGENCY

Mead & Hunt

CLIENT



DESIGNER

AK

REVIEWER

DLW 01/25/22

PROJECT ID

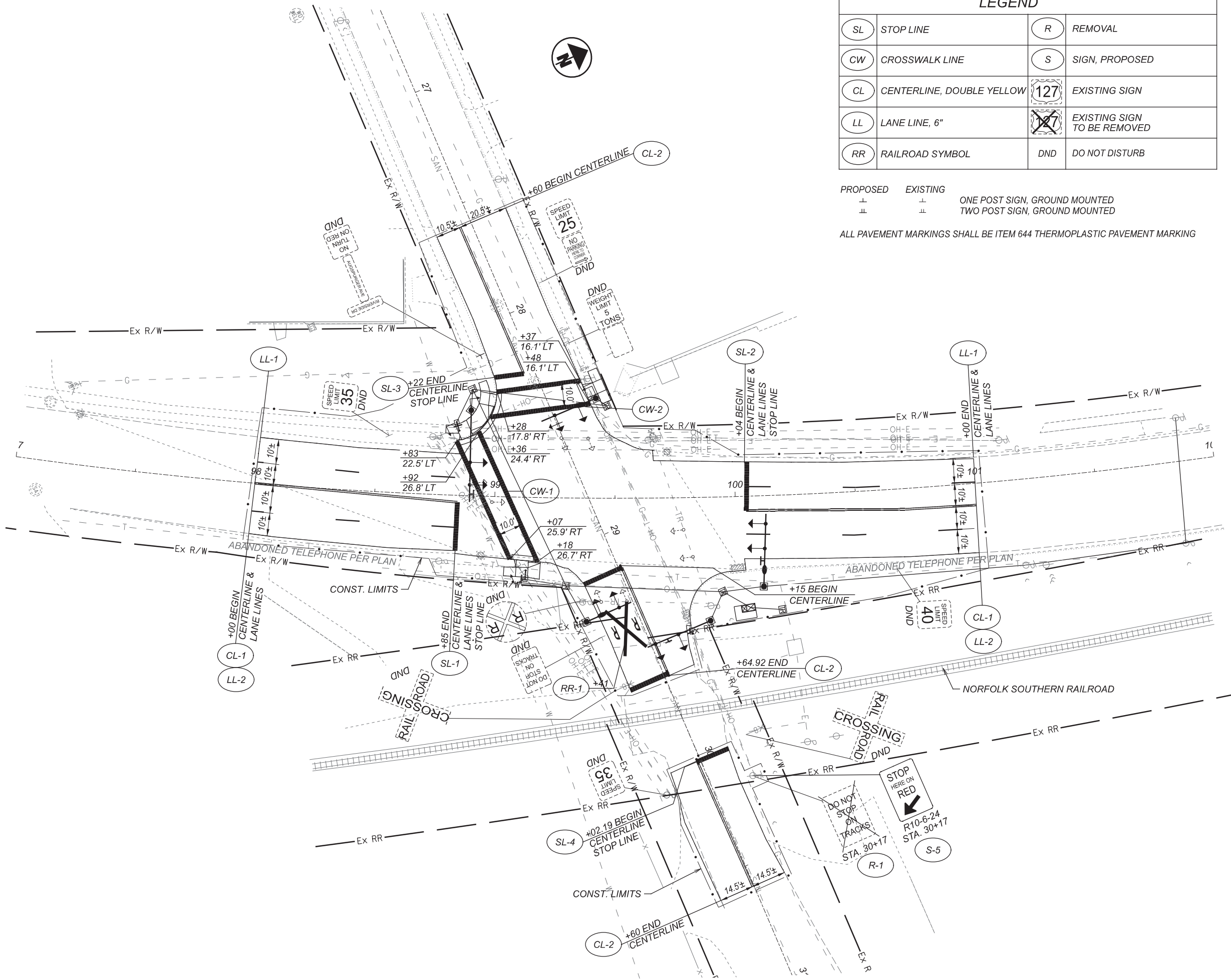
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SHEET

P.12

TOTAL

22



LEGEND			
SL	STOP LINE	R	REMOVAL
CW	CROSSWALK LINE	S	SIGN, PROPOSED
CL	CENTERLINE, DOUBLE YELLOW	127	EXISTING SIGN
LL	LANE LINE, 6"		EXISTING SIGN TO BE REMOVED
RR	RAILROAD SYMBOL	DND	DO NOT DISTURB

PROPOSED EXISTING
+ +
= =
ONE POST SIGN, GROUND MOUNTED
TWO POST SIGN, GROUND MOUNTED
ALL PAVEMENT MARKINGS SHALL BE ITEM 644 THERMOPLASTIC PAVEMENT MARKING

SIGNAL ACTIVATION

PRIOR TO ACTIVATING THE NEW TRAFFIC SIGNAL TO STOP-AND-GO MODE AND/OR REMOVING THE EXISTING TRAFFIC SIGNAL FROM SERVICE, ALL ITEMS IN THE PROPOSED SIGNAL PLAN SHALL BE FULLY COMPLETED, (I.E., VEHICLE DETECTION, PEDESTRIAN SIGNAL HEADS, ETC). IF THERE ARE CONSTRUCTABILITY ISSUES (I.E., ROADWAY WIDENING, ETC.) THAT PREVENT THE SIGNAL FROM BEING COMPLETED PRIOR TO ACTIVATION, IT SHALL BE BROUGHT TO THE ATTENTION OF THE VILLAGE OF NEW MIAMI ENGINEER. THE VILLAGE OF NEW MIAMI ENGINEER WILL THEN REVIEW, APPROVE OR REJECT PROPOSALS TO ACTIVATE THE TRAFFIC SIGNAL PRIOR TO COMPLETION.

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, THE VILLAGE OF NEW MIAMI ENGINEER AND REPRESENTATIVES FROM ORDC, MOTT MACDONALD AND NORFOLK SOUTHERN RAILROAD AT LEAST 10 WORKING DAYS PRIOR TO SCHEDULING THE FINAL INSPECTION OF THE SIGNAL INSTALLATION. FINAL INSPECTION IS NOT CONSIDERED COMPLETE UNTIL THE VILLAGE OF NEW MIAMI TRAFFIC PERSONNEL INSPECT THE TRAFFIC SIGNAL AND ISSUE WRITTEN APPROVAL. IF ISSUES ARE FOUND DURING THE FINAL INSPECTION THAT EFFECT THE SAFETY OF THE TRAVELING PUBLIC AND/OR THE EFFICIENCY OF THE INTERSECTION, THE SIGNAL SHALL NOT BE ACTIVATED ON THE PROPOSED DATE. ANY PUNCH LIST ITEMS THAT ARE FOUND SHALL BE CORRECTED AND REINSPECTED BY VILLAGE OF NEW MIAMI TRAFFIC PERSONNEL PRIOR TO FINAL ACCEPTANCE. VILLAGE OF NEW MIAMI SHALL ONLY ASSUME DAY TO DAY MAINTENANCE OF THE TRAFFIC SIGNAL AFTER FINAL WRITTEN ACCEPTANCE HAS BEEN ISSUED.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 90 DAYS FOLLOWING COMPLETION OF THE 10-DAY PERFORMANCE TEST. IN THE EVENT OF UNSATISFACTORY OPERATION, THE CONTRACTOR SHALL CORRECT FAULTY INSTALLATIONS, MAKE REPAIRS AND REPLACE DEFECTIVE PARTS WITH NEW PARTS OF EQUAL OR BETTER QUALITY.

EQUIPMENT, MATERIAL AND LABOR COSTS INCURRED IN CORRECTING AN UNSATISFACTORY OPERATION SHALL BE BORNE BY THE CONTRACTOR.

THE GUARANTEE SHALL COVER THE FOLLOWING ITEMS OF THE TRAFFIC CONTROL SYSTEM: CONTROLLER, CABINET, UNINTERRUPTIBLE POWER SUPPLY, VEHICLE DETECTION EQUIPMENT, LED LAMP UNITS, NETWORK AND COMMUNICATION/ INTERCONNECT EQUIPMENT.

CUSTOMARY MANUFACTURER'S GUARANTEES FOR THE FOREGOING ITEMS SHALL BE TURNED OVER TO THE STATE OR THE MAINTAINING AGENCY 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.

625 ARC FLASH CALCULATIONS AND LABEL, SIGNAL CONTROLLER

FOR THE FOLLOWING LOCATION(S), PERFORM AND SUBMIT ARC FLASH HAZARD CALCULATIONS, PREPARE THE NECESSARY LABEL, AND AFIX THE LABEL TO THE ELECTRICAL DEVICE PER SS 825.

LOCATIONS:
- SIGNAL CONTROLLER

GROUNDING AND BONDING

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

1. ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.
- A. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.
- B. WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.
- C. METALLIC CONDUIT CARRYING THE LOOP WIRES FROM IN THE PAVEMENT TO THE PULL BOX SPLICE LOCATION WILL ONLY BE BONDED AT THE PULL BOX END, AND WILL NOT CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR.
- D. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.
- E. IF AN EQUIPMENT GROUNDING CONDUCTOR IS NEEDED IN CONDUIT BETWEEN SIGNALIZED INTERSECTIONS FOR UNDERGROUND INTERCONNECT CABLE, THE GROUNDING SYSTEM FOR EACH SIGNALIZED INTERSECTION WILL BE SEPARATED ABOUT MIDWAY BETWEEN THE INTERSECTIONS.
- F. THE MESSENGER WIRE AT SIGNALIZED INTERSECTIONS WILL BE USED AS THE CONDUCTIVE PATH FROM CORNER TO CORNER IF CONDUIT IS NOT PROVIDED UNDER THE ROADWAY. WHEN CONDUIT CONNECTS THE CORNERS OF AN INTERSECTION, AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE USED IN THE CONDUIT.

2. CONDUITS.

- A. THE 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.
- B. THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.
- C. BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
- D. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

GROUNDING AND BONDING (CONTINUED)

3. WIRE FOR GROUNDING AND BONDING.

- A. USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS:
- I. USE 4 AWG BETWEEN THE POWER SERVICE AND SUPPORTS, POLES, PEDESTALS, CONTROLLER OR FLASHER CABINETS.
- II. USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.
- III. USE A MINIMUM 8 AWG BETWEEN THE "PREPARE TO STOP WHEN FLASHING" INSTALLATION (INCLUDING SUPPORT) AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.
- IV. THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.

- B. IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.

4. GROUND ROD.

- A. A 3/4-INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.
- B. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.

5. THE GREEN CONDUCTOR IN SIGNAL CABLES (CONDUCTOR #4) SHALL NOT BE USED TO SUPPLY POWER TO A SIGNAL INDICATION. IT WILL BE CONNECTED TO THE SIGNAL BODY AS AN EQUIPMENT GROUND IN ALUMINUM HEADS AND IT WILL BE UNUSED IN PLASTIC HEADS. UNUSED CONDUCTORS SHALL BE GROUNDED IN THE CABINET. TYPICAL USE OF CONDUCTORS IS AS FOLLOWS:

COND. NO.	COLOR	VEHICLE SIGNAL	PEDESTRIAN SIGNAL
1	BLACK	GREEN BALL	#1 WALK
2	WHITE	AC NEUTRAL	AC NEUTRAL
3	RED	RED BALL	#1 DW/FDW
4	GREEN	EQUIPMENT GROUND	EQUIPMENT GROUND
5	ORANGE	YELLOW BALL	#2 DW/FDW
6	BLUE	GREEN ARROW	#2 WALK
7	WHITE/BLACK STRIPE	YELLOW ARROW	NOT USED

6. POWER SERVICE AND DISCONNECT SWITCH.

- A. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPLICE.

GROUNDING AND BONDING (CONTINUED)

- B. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.
- I. NEMA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC-) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS-2, FIGURE 5-4.
- II. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.
7. PAYMENT - ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT.

632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION

TRAFFIC SIGNAL INSTALLATIONS, INCLUDING SIGNAL HEADS, CABLE, CABINET, CONTROLLER, ETC., SHALL BE REMOVED IN ACCORDANCE WITH C&MS 632.26 AND AS INDICATED ON THE PLANS. REMOVED ITEMS SHALL BE STORED ON THE PROJECT FOR SALVAGE BY THE VILLAGE OF NEW MIAMI IN ACCORDANCE WITH THE LISTING GIVEN HEREIN.

CONTROLLER
SIGNAL HEADS
PEDESTRIAN SIGNAL HEADS
STRAIN POLES

THE CONTRACTOR SHALL PLUG HOLES IN THE EXISTING SIGNAL SUPPORTS WHERE STRAIN POLES AND PEDESTRIAN SIGNAL HEADS ARE REMOVED.

REMOVED ITEMS SHALL BE DELIVERED TO THE VILLAGE FACILITY WHOSE ADDRESS IS LISTED BELOW:

VILLAGE OF NEW MIAMI STREET DEPARTMENT
ATTN: JIM LAKES
PHONE: 513-545-8274
301 AUGSPURGER ROAD
NEW MIAMI, OHIO 45011

IN THE EVENT THE ITEMS STORED ON THE PROJECT FOR SALVAGE BY THE LOCAL AGENCY ARE NOT REMOVED, THE CONTRACTOR SHALL, WHEN DIRECTED BY THE ENGINEER IN WRITING, REMOVE AND DISPOSE OF THE ITEMS AT NO ADDITIONAL COST TO THE PROJECT. THE COST OF PLUGGING THE HOLES ON THE EXISTING SIGNAL SUPPORTS SHALL BE INCLUDED IN PAYMENT WITH THE REMOVAL ITEMS.

POWER SUPPLY FOR TRAFFIC SIGNALS

ELECTRIC POWER SHALL BE OBTAINED FROM DUKE ENERGY AT THE LOCATION INDICATED ON THE PLANS. POWER SUPPLIED SHALL BE 120 VOLTS FOR THE SIGNALS AND 240 VOLTS FOR THE COMBINATION LIGHTING.

DESIGN AGENCY



CLIENT



DESIGNER

MLV

REVIEWER

DLW 01/25/22

PROJECT ID

113314

SHEET TOTAL

P.14 22

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

IN ADDITION TO THE REQUIREMENTS OF C&MS 633 AND 733, POLE ATTACHMENT HARDWARE WILL BE INCLUDED FOR POLE-MOUNTED CABINETS, AND A CABINET RISER (8-INCH MINIMUM) AND ANCHOR BOLTS WILL BE PROVIDED FOR BASE-MOUNTED CABINETS. BEFORE PERFORMING THE WORK, THE CONTRACTOR, THE DISTRICT TRAFFIC ENGINEER AND THE PROJECT ENGINEER WILL PERFORM A SITE INSPECTION TO ESTABLISH THE LOCATION OF THE UPS CABINET AND FOUNDATION.

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

THE CABINET SHALL HAVE A DOOR STOP MECHANISM AND THERMO-STATICALLY CONTROLLED FAN.

THE CABINET SHALL INCLUDE A BATTERY BALANCING DEVICE THAT REGULATES THE BATTERIES AND OPTIMIZES PERFORMANCE.

AFTER FOUR (4) HOURS OF BATTERY RUNTIME, THE SYSTEM SHALL BE PROGRAMMED TO SWITCH THE INTERSECTION FROM FULL OPERATION TO CONTROLLER AUTOMATIC FLASH OPERATION THROUGH THE MONITOR. THE CONTROLLER SHALL BE PROGRAMMED SO THAT FLASH OPERATION SHALL BEGIN ONCE THE INTERSECTION RUNS MINOR STREET GREEN (TYP. PH. 4 &8), ALL-RED CLEARANCE, AND THEN FLASH OPERATION.

THE UPS OUTPUT NOTIFICATIONS FOR ON BATTERY, BATTERY 2-HOUR TIMER, AND LOW BATTERY SHALL BE WIRED INTO THE TRAFFIC SIGNAL CABINET BACK PANEL OR THROUGH THE CONTROLLER WITH A C11 TO PROVIDE SPECIAL STATUS ALARMS FOR EACH OUTPUT INTO THE SIGNAL CONTROLLER.

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

633 CONTROLLER WORK PAD, AS PER PLAN

THE CONTROLLER WORK PAD SHALL BE ORIENTED WITH RESPECT TO THE INTERSECTION IN A MANNER THAT WILL PROVIDE MAINTENANCE PERSONNEL WITH A VIEW OF THE INTERSECTION WHILE WORKING ON THE CONTROLLER. IT SHALL BE SIZED AS SHOWN IN THE CABINET DETAIL ON THIS SHEET.

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

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

1. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS.
2. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.
3. PIPE, SPACERS AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.
4. THE PEDESTRIAN SIGNAL HEAD SHALL BE OF THE LED COUNTDOWN TYPE.
5. NEW ATTACHMENT HARDWARE AND FITTINGS SHALL BE USED.
6. THE LIGHT EMITTING DIODE (LED) MODULES SHALL MEET THE REQUIREMENTS OF C&MS 732.04. THE CONTRACTOR SHALL PROVIDE ODOT, IN WRITING, WITH THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS THAT ARE TO BE USED IN THE SIGNAL HEAD PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES.

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

828 LED BLANKOUT SIGN (NO TURN - TRAIN)

THE CONTRACTOR SHALL PROVIDE AND INSTALL A SOLID FILLED RED SYMBOL, SOLID FILLED WHITE ARROW NO RIGHT TURN SYMBOL AND A NO LEFT TURN SYMBOL SIGN ON THE TRAFFIC SIGNAL MAST ARM AT THE LOCATIONS INDICATED ON THE PLANS. THE SYMBOL SIGN SHALL BE A WEATHER TIGHT NEMA ENCLOSURE. THE FOLLOWING SPECIFICATIONS SHALL APPLY:

VOLTAGE: 120V
ILLUMINATION: LED
SYMBOL HEIGHT: 20.0"
CABINET SIZE: 30"H x 24"W x 5.5" D
FINISH: BLACK
WARRANTY: 5 YEARS



THE SIGNS SHALL BE WIRED TO ACTIVATE DURING THE RAILROAD PREEMPTION PHASES AND REMAIN ON FOR THE ENTIRE RAILROAD PREEMPTION CYCLE.

THE MAST ARM MOUNTING BRACKET SHALL BE SUPPLIED BY THE SIGN MANUFACTURER AND INSTALLED BY THE CONTRACTOR. THE SIGN SHALL BE ACTIVATED (ON) WHEN THE CONTROLLER RECIEVES A RAILROAD PREEMPTION CALL. THE REMAINING TIME THE SIGN SHALL BE BLANK OR OFF.

PAYMENT FOR THE ABOVE ITEM SHALL BE PAID AT THE UNIT PRICE BID PER EACH FOR ITEM 828, LED BLANKOUT SIGN, LED BLANKOUT SIGN COMPLETE. PRICE SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, MOUNTING HARDWARE FOR RIGID MOUNTING, POWER CABLE AND ALL INCIDENTALS TO COMPLETE THE WORK.

633 CONTROLLER ITEM, MISC.: CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET

THE OVERLAP PROGRAMMING SHALL BE BY USE OF AN INTER-CHANGEABLE PLUG IN PRINTED CIRCUIT BOARD ASSEMBLY AS DESCRIBED IN PART 14 OF THE TS-1-1989.

IN ADDITION TO NEMA REQUIREMENTS, THE CONFLICT MONITOR SHALL ALSO HAVE EXTENDED MONITORING OPERATIONAL FOR EACH LOAD SWITCH IN USE (IN ACCORDANCE WITH 733.03.A2). THE MONITOR EACH LOAD SWITCH SEPARATELY. EACH SIGNALIZED APPROACH TO THE SIGNAL SHALL HAVE A SEPARATE LOAD SWITCH. THE DESIGN OF THE MONITOR SHALL USE MICROPROCESSORS ARCHITECTURE.

THE GROUND MOUNTED CABINET SHALL BE NEMA TS2 CABINET SIZE 7 AND SHALL HAVE A MINIMUM OF THREE SHELVES.

THE CABINET SHALL BE FURNISHED WITH AN EMI MMU.

EACH CABINET SHALL COME EQUIPPED WITH TWO 16 CHANNEL CABINET DETECTOR RACKS (CDR) INCLUDING BUS INTERFACE UNITS (BIU). THE LOOP DETECTOR TERMINATION PANEL FOR THE SECOND DETECTION RACK SHALL BE OMITTED.

THE MINIMUM NUMBER OF LOAD SWITCH SOCKETS IN THE CABINET FOR 5, 6, 7, AND 8 PHASE CONTROLLERS SHALL BE 16. DUMMY LOAD SWITCHES SHALL BE PROVIDED ON THE BACKPANEL WHEN PHASES 1 AND/OR 4 ARE IN USE.

PRINTED BOARD TYPE BACK PANELS OF THE CONTROLLER CABINET WILL NOT BE ACCEPTABLE. SOLDERED CONNECTIONS WILL BE PERMITTED FOR WIRING ON THE BACK SIDE OF THE BACK PANEL.

ALL SIGNAL CABLE AND LOOP DETECTOR LEAD-IN CABLE TERMINATIONS IN THE CABINET SHALL HAVE NO MORE THAN FOUR (4) INCHES OF THE OUTER INSULATING JACKET REMOVED.

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

819 RAILROAD PREEMPTION INTERFACE

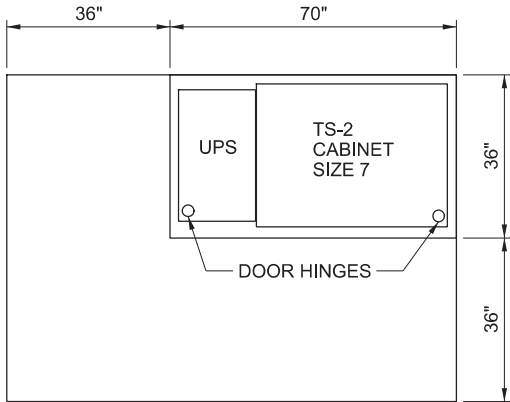
INSTALL A RAILROAD PREEMPTION INTERFACE PANEL PER TC-86.10. INSTALL AN INDICATOR PANEL PER CMS 819.09 ON SIGNAL POLE 4 (SP-4). THE INDICATOR PANEL SHALL BE FACING THE TRAFFIC SIGNAL CABINET. MOUNT THE INDICATOR PANEL NO LESS THAN TEN FEET ABOVE THE ROADWAY LEVEL. ALSO, LOCATE THE INDICATORS SO AS TO PROVIDE MINIMAL VISIBILITY TO ROADWAY USERS AT OR APPROACHING THE INTERSECTION.

THE CONTRACTOR SHALL SCHEDULE A FINAL FIELD TEST, AFTER THE 10-DAY SIGNAL BURN TEST, WITH THE RAILROAD OWNER, OHIO RAIL DEVELOPMENT COMMISSION REPRESENTATIVE AND THE SIGNAL CONTRACTOR. THE FINAL FIELD TEST SHALL INCLUDE CHECKING THAT THE SIGNAL IS CONNECTED TO THE RAILROAD CONTROLLER AND OPERATES PER THE PLANS DURING A PREEMPTION CALL.

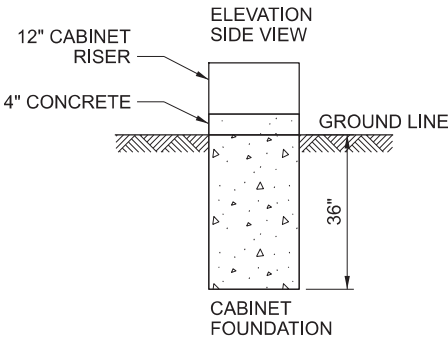
PAYMENT- ALL MATERIALS AND COST FOR THIS ITEM SHALL BE COMPLETE AND INCLUDED IN ITEM 819 - RAILROAD PREEMPTION INTERFACE, 1 EACH.

TS2 SIZE 7 CABINET DETAIL (TYP.)

CABINET & WORK PAD DETAIL PLAN VIEW



CABINET FOUNDATION DETAIL



633 CONTROLLER WORK PAD, AS PER PLAN
633 CABINET FOUNDATION, AS PER PLAN

- NOTES:
- 1) THE SIZE OF THE UPS FOUNDATION MAY VARY BASED ON THE CABINET SIZE PROVIDED.
 - 2) UPS FOUNDATION ELEVATION SHOULD MATCH CABINET FOUNDATION ELEVATION.
 - 3) THE UPS CABINET SHALL BE MOUNTED FLUSH UP AGAINST THE SIGNAL CABINET AND SEALED.
 - 4) CONDUIT AND WIRING FROM THE SIGNAL CABINET TO THE UPS SHALL BE INSTALLED THROUGH THE CABINET RISER.

633 CABINET FOUNDATION, AS PER PLAN

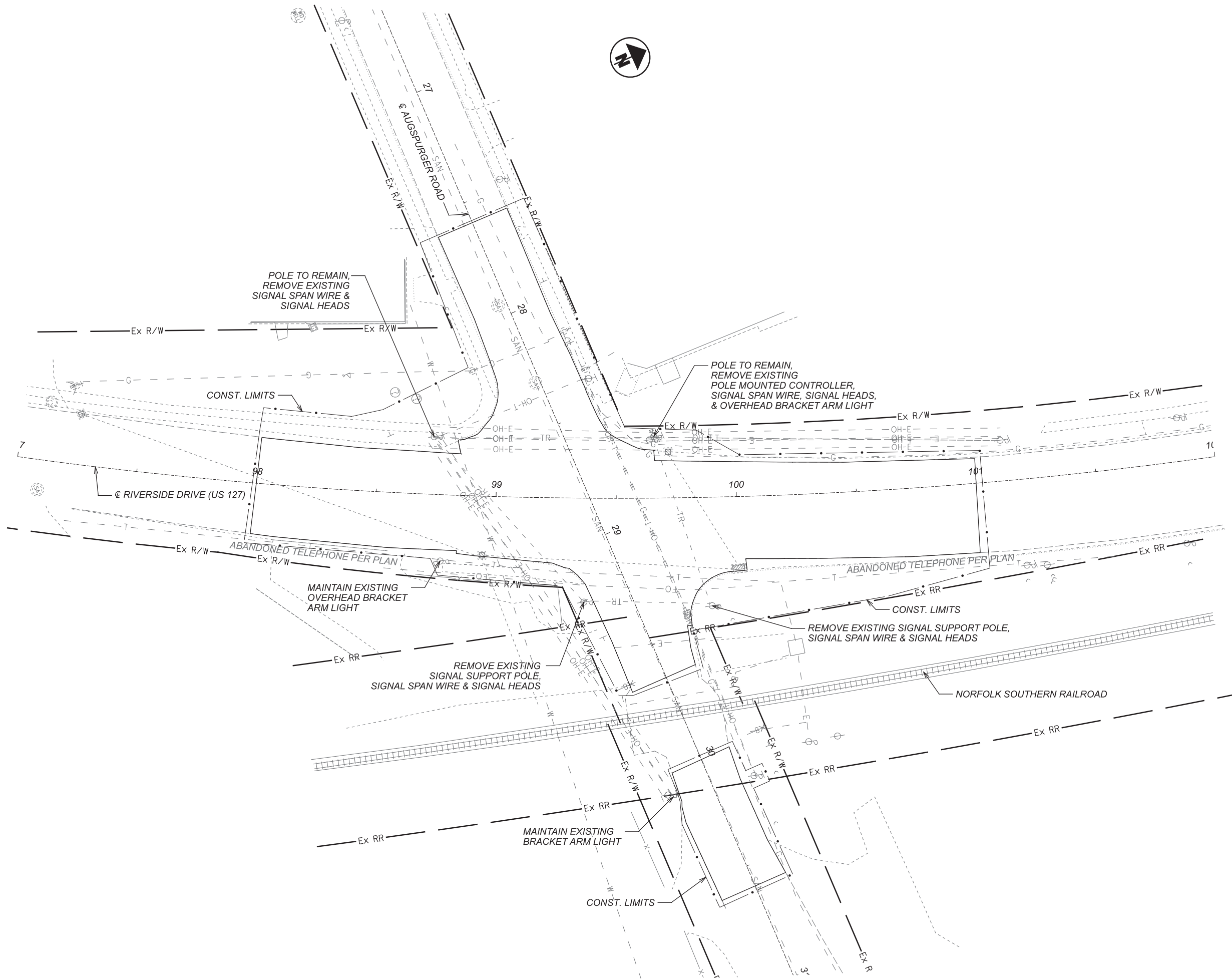
THE CABINET FOUNDATION SHALL BE ORIENTED WITH RESPECT TO THE INTERSECTION IN A MANNER THAT WILL PROVIDE MAINTENANCE PERSONNEL WITH A VIEW OF THE INTERSECTION WHILE WORKING ON THE CONTROLLER.

632 COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, WITH LIGHT POLE EXTENSION

THIS SUPPORT SHALL CONSIST OF A TC-81.22 DESIGN 2 OR DESIGN 4 POLE WITH A LIGHT POLE EXTENSION. ALL SIGNAL SUPPORT ITEMS REQUIRED BY C&MS ITEM 632 SHALL BE INCLUDED AS PART OF THIS SUPPORT.

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE AND WILL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH SUPPORT FURNISHED, IN PLACE, COMPLETE AND ACCEPTED.





RIVERSIDE DR. & AUGSPURGER RD.
REMOVAL PLAN



DESIGN AGENCY

Mead & Hunt

CLIENT



DESIGNER

MLV

REVIEWER

DLW 01/25/22

PROJECT ID

113314

SHEET

P.17

TOTAL

22

LEGEND

TRAFFIC SIGNAL, 3 UNIT HEAD, 12"

TRAFFIC SIGNAL, 5 UNIT HEAD, WITH ARROWS 12"

PEDESTRIAN SIGNAL HEAD

PEDESTRIAN PUSHBUTTON

SIGNAL SUPPORT POLE

PEDESTAL

STOP LINE RADAR DETECTION UNIT

CONTROLLER CABINET AND WORK PAD (TS-2)

TRAFFIC PULL BOX

BRACKET ARM WITH LUMINAIRE

DETECTION ZONE

OPTICALLY PROGRAMMED SIGNAL HEAD VISIBILITY AREA

PROP

PULL BOX #	STATION	SIDE	OFFSET	SIZE
PB-1	99+46	LEFT	38'	24"
PB-2	98+89	LEFT	44'	24"
PB-3	99+30	RIGHT	37'	24"
PB-4	99+94	RIGHT	39'	24"
PB-5	100+18	RIGHT	48'	24"
-	-	-	-	-
-	-	-	-	-

NOTE: CONTRACTOR SHALL HAND DIG AND LOCATE THE BURIED FIBER OPTIC LINE UNDER PROPOSED SP-5 BEFORE STARTING EXCAVATION FOR THE SIGNAL SUPPORT.

MAST ARM MOUNTED SIGNS

TRAIN

R3-1-24
S1

TRAIN

R3-2-24
S2

DO NOT STOP ON TRACKS

R8-8-24
S3

NO TURN ON RED

R10-11-24
S4

LED BLANKOUT SIGN TO BE WIRED TO CONTROLLER

PEDESTAL MOUNTED SIGNS

R10-3E-9 (L)

(A)

SIGNAL HEADS

R

Y

G

2A, 2B
4A, 4B
6A, 6B
8B, 8C, 8D

R

Y

G

8A

SIGNAL HEADS 8A AND 8B SHALL BE OPTICALLY PROGRAMMED SEE LEGEND AND PLAN FOR SIGNAL COVERAGE AREA

5

PEDESTRIAN HEADS (LED, COUNTDOWN, TYPE D2)

PH4A

PH4B

PH6A

PH6B

RIVERSIDE DR. & AUGSPURGER RD.
SIGNAL PLAN

DESIGN AGENCY

Mead & Hunt

CLIENT

DESIGNER
MLV

REVIEWER
DLW 01/25/22

PROJECT ID
113314

SHEET TOTAL
P.18 22

SIGNAL TIMING CHART

INTERSECTION: RIVERSIDE DRIVE AND AUGSPURGER ROAD											
MAINTAINING AGENCY: VILLAGE OF NEW MIAMI											
START UP START IN: ALL RED TIME FOR FLASH OR ALL RED: 8 sec FIRST PHASE(S): 2+6 COLOR DISPLAYED: GREEN				DUAL ENTRY: YES		PHASES: 4+8					
				REST IN RED:		RING 1		RING 2		-	
				OVERLAP				A	B	C	D
				PHASES				-	-	-	-
INTERVAL OR FEATURE				CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT (PHASE)				1	2	3	4	5	6	7	8
DIRECTION				-	NB	-	EB	-	SB	-	WB
MINIMUM GREEN (INITIAL) (SEC.)				-	35	-	11	-	35	-	11
ADDED INITIAL *(SEC./ACTUATION)				-	-	-	-	-	-	-	-
MAXIMUM INITIAL (SEC.)				-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP) (SEC.)				-	-	-	2	-	-	-	2
TIME BEFORE REDUCTION *(SEC.)				-	-	-	-	-	-	-	-
MINIMUM GAP *(SEC.)				-	-	-	-	-	-	-	-
TIME TO REDUCE *(SEC.)				-	-	-	-	-	-	-	-
MAXIMUM GREEN I (SEC.)				-	**	-	**	-	**	-	**
MAXIMUM GREEN II (SEC.)				-	-	-	-	-	-	-	-
YELLOW CHANGE (SEC.)				-	4.5	-	4.5	-	4.5	-	4.5
ALL RED CLEARANCE (SEC.)				-	2	-	3.5	-	2	-	3.5
WALK (SEC.)				-	-	-	9	-	7	-	-
PEDESTRIAN CLEARANCE (SEC.)				-	-	-	13	-	8	-	-
RECALL	MAXIMUM (ON/OFF)			-	OFF	-	OFF	-	OFF	-	OFF
	MINIMUM (ON/OFF)			-	ON	-	OFF	-	ON	-	OFF
	PEDESTRIAN (ON/OFF)			-	OFF	-	OFF	-	OFF	-	OFF
MEMORY (ON/OFF)				-	OFF	-	OFF	-	OFF	-	OFF

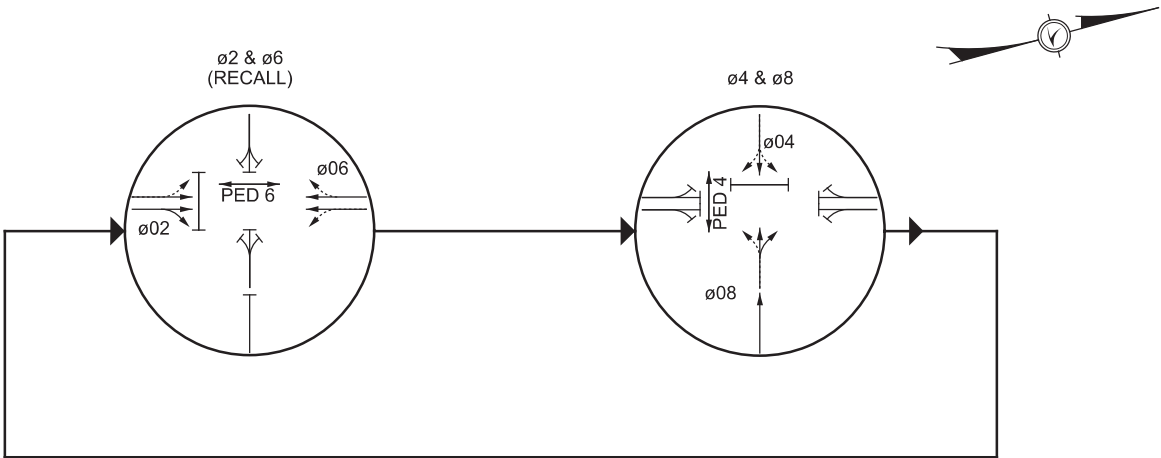
*VOLUME DENSITY CONTROLS
**MAXIMUM GREEN TO MATCH EXISTING GREEN TIME

- NOTES:
- SIGNAL TIMING PROGRAMMED FOR THE PROPOSED SIGNAL SHALL MATCH THE EXISTING TIMING WITH THE EXCEPTION OF YELLOW, ALL RED, MINIMUM GREEN, AND WALK CLEARANCE TIMES. YELLOW, ALL RED, MINIMUM GREEN, AND WALK CLEARANCE TIMES SHALL MATCH THAT LISTED IN THE ABOVE TABLE. A RECORD OF THE EXISTING TIMING DOES NOT EXIST. PRIOR TO REMOVING THE EXISTING TRAFFIC SIGNAL, THE CONTRACTOR SHALL RECORD OR MAKE NOTE OF THE EXISTING SIGNAL TIMING TO BE REPROGRAMMED. CONTRACTOR IS RESPONSIBLE FOR PERFORMING FIELD ADJUSTMENTS TO THE SIGNAL TIMING AS NEEDED.
 - FOR ANY ENTRY TO FLASHING OPERATION, PROGRAMMING SHALL RUN MINOR STREET GREEN (TYP. ø4 & ø8), ALL-RED CLEARANCE, AND THEN FLASHING OPERATION.

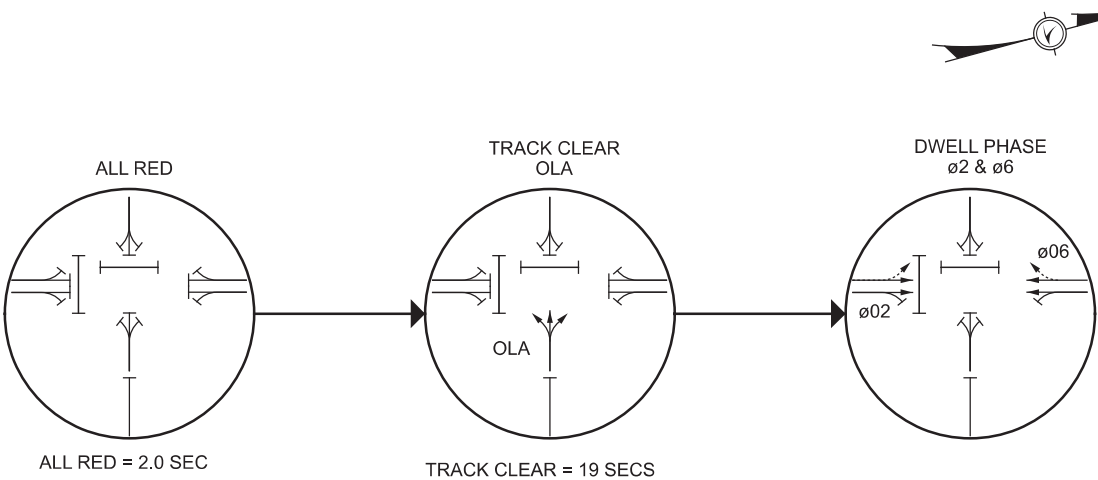
RADAR DETECTION CHART

DETECTION ZONE	MOVEMENT	PULSE OR PRESENCE	ASSOCIATED PHASE	DELAY PROGRAMMED IN CONTROLLER (SEC.)	EXTENSION PROGRAMMED IN CONTROLLER (SEC.)	DELAY INHIBITED PHASE	PURPOSE	DETECTION ZONE LENGTH (FT)
RDZ4	EB TH/LT	PRESENCE	4				CALL/EXTEND PHASE 4	30'
RDZ8A	WB TH/LT	PRESENCE	8				CALL/EXTEND PHASE 8	30'
RDZ8B	WB TH/LT	PRESENCE	8				CALL/EXTEND PHASE 8	30'

PHASING DIAGRAM



RAILROAD PREEMPTION PHASING DIAGRAM

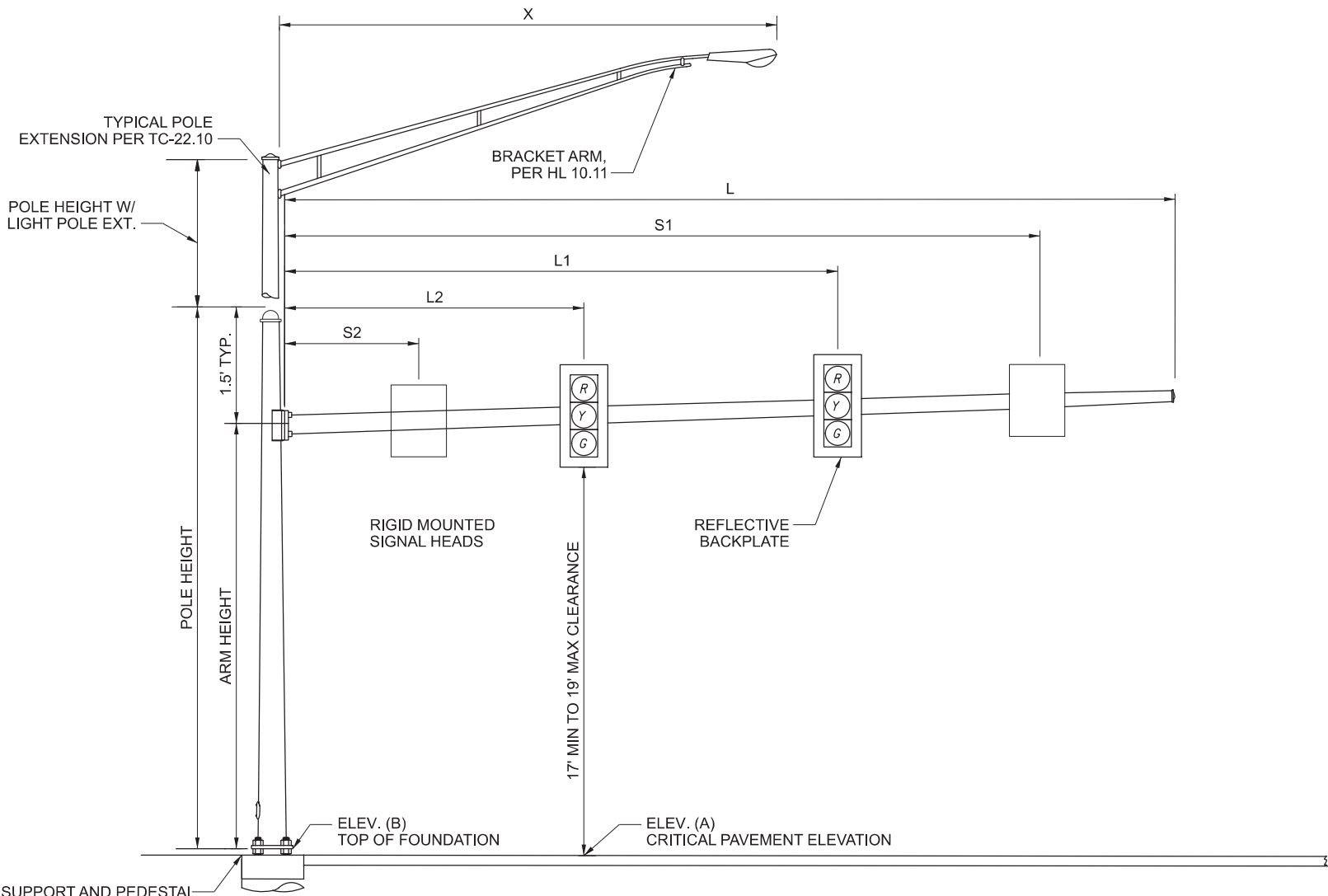


THE PRE-SIGNAL SHALL DISPLAY "ALL RED" DURING THE PREEMPTION OPERATION. PEDESTRIAN PHASES OPERATING DURING THE PREEMPTION CALL SHALL BE TERMINATED.

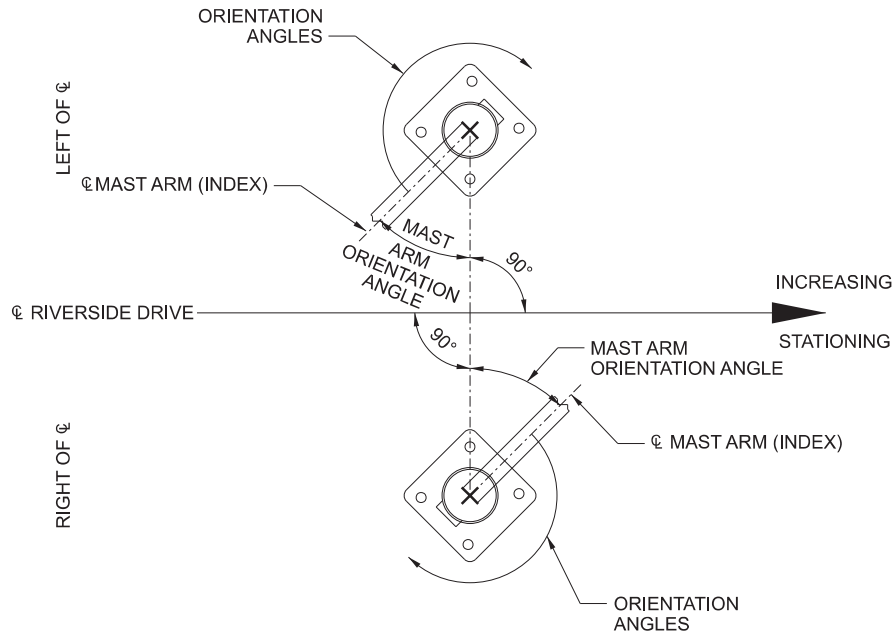


LED BLANKOUT SIGNS S1 & S2 SHALL BE ACTIVE DURING ALL PHASES OF PREEMPTION

LEGEND	
VEHICLE ø	
PERMITTED ø	



TOP OF SIGNAL SUPPORT AND PEDESTAL FOUNDATIONS SHALL BE LEVEL WITH THE SIDEWALK ELEVATION WHERE ADA LANDINGS ARE ADJACENT; ELSEWHERE, FOUNDATIONS SHALL BE 2" (1") ABOVE GRADE PER TC-21.21



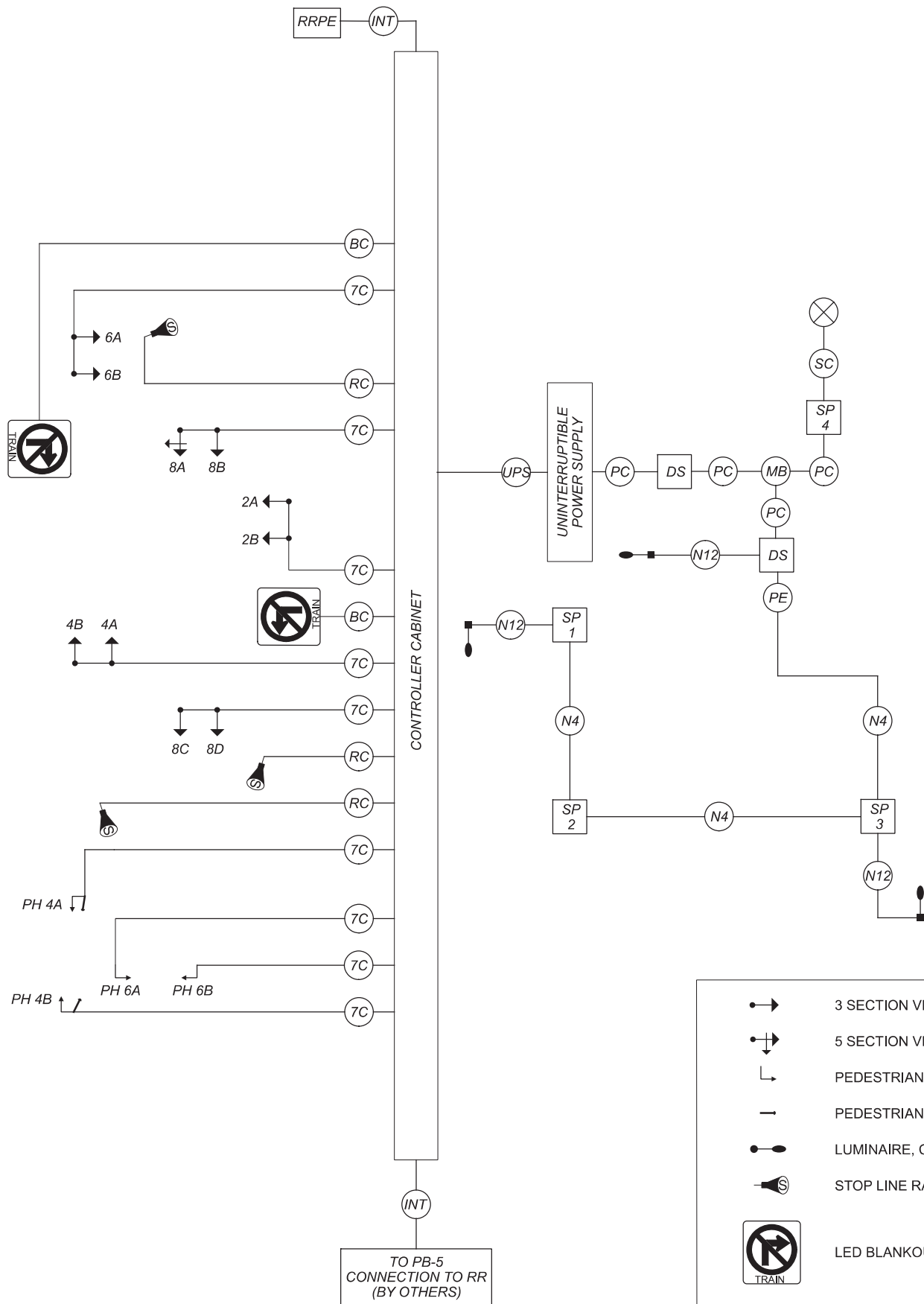
SIGNAL POLE ORIENTATION

NOTES:
- ALL ANGLES ARE MEASURED CLOCKWISE.

SUPPORT NO.	STATION	OFFSET	ELEVATION		SIGNAL SUPPORT DETAILS										ORIENTATION ANGLES FROM MAST ARM									
			A	B	DESIGN TYPE	DESIGN NO.	POLE HEIGHT	ARM HEIGHT	L	L1	L2	S1	S2	X	MAST ARM A ANGLE		PEDESTRIAN SIGNAL	PEDESTRIAN PUSHBUTTON	POWER SERVICE	STOP LINE RADAR DETECTOR	BRACKET ARM	HANDHOLE	CABLE ENTRANCE 12" FROM TOP	
SP-1	99+41.83	41.55' LT.	600.57	600.74	TC-81.22	2	35.5	20.5	25	18	8	-	-	10	67		89	-	-	-	0	180	-	
SP-2	98+88.98	35.62' LT.	600.66	600.81	TC-81.22	4	22	20.5	38	30	21	34	-	-	0		172	-	-	226	-	180	-	
SP-3	99+38.46	51.48' RT.	600.98	601.14	TC-81.22	2	35.5	20.5	20	15	7	-	-	10	66		-	-	-	-	0	180	-	
SP-4	99+88.67	51.41' RT.	601.53	602.11	TC-81.22	2	22	20.5	28	25	14	19	9	-	248		-	-	-	288	-	180	-	
SP-5	100+10.71	37.77' RT.	601.08	602.00	TC-81.22	2	35.5	20.5	30	26	16	-	10	10	4		-	-	85	-	0	180	84	
PS-1	98+83.02	30.50 LT.	-	-	PEDESTAL	-	10	-	-	-	-	-	-	-	-		63*	342*	-	-	-	152*	-	
PS-2	99+13.26	34.14' RT.	-	-	PEDESTAL	-	10	-	-	-	-	-	-	-	-		246*	0*	-	-	-	180*	-	

*ANGLE MEASURED CLOCKWISE BETWEEN FEATURE AND IMAGINARY LINE DRAWN PERPENDICULAR TO US 127 CENTERLINE

WIRING DIAGRAM

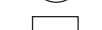


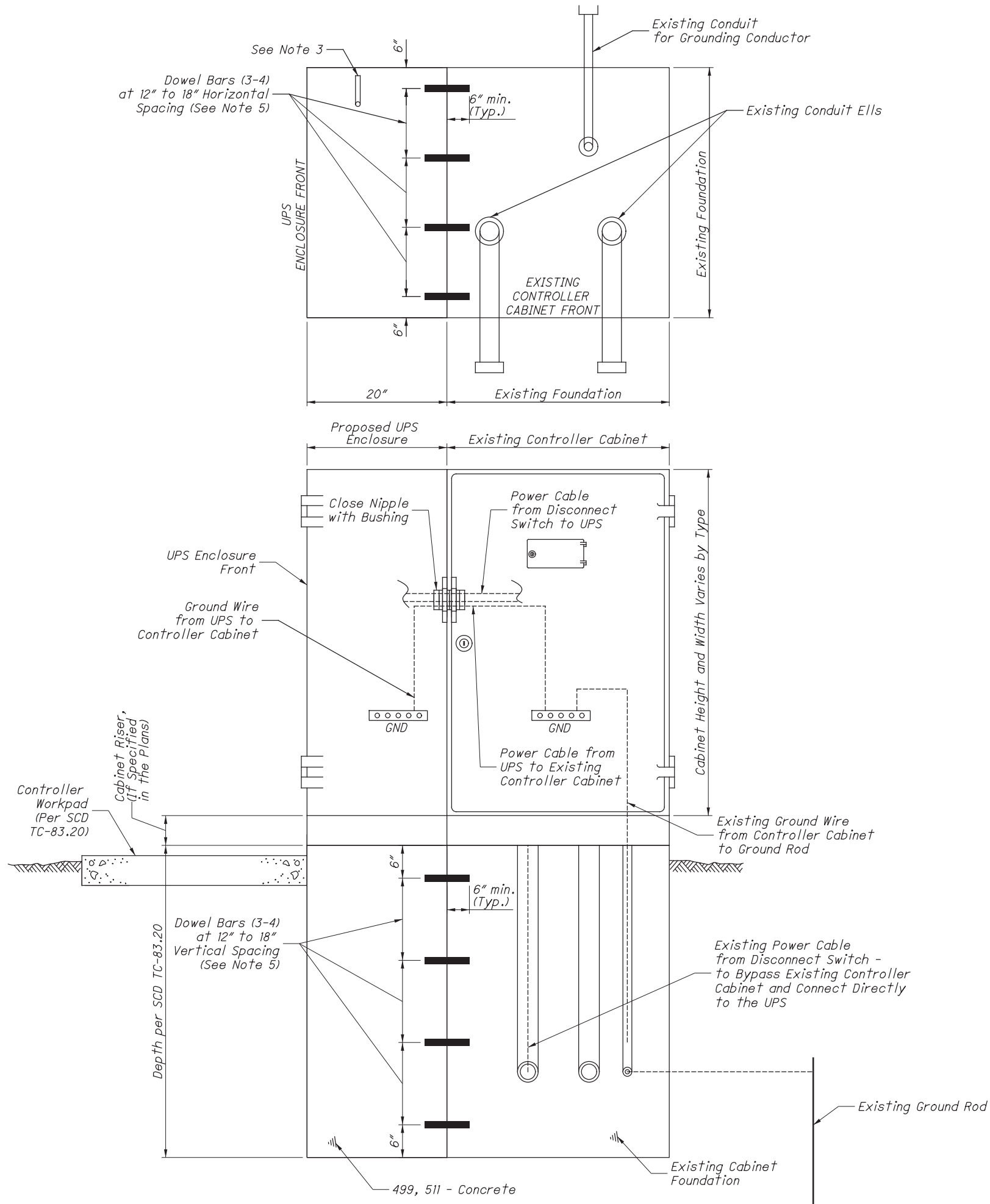
FIELD WIRING HOOK-UP CHART

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH	SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH	
2A, 2B (NB)	R	2R & LS 15R (DWELL)	R	8B (WB)	R	8R & LS 14R (TRACK CLEAR)	R	
	Y	2Y & LS 15Y (DWELL)			Y	8Y & LS 14Y (TRACK CLEAR)		
	G	2G & LS 15G (DWELL)			G	8G & LS 14G (TRACK CLEAR)		
	-	-			-	-		
	-	-			-	-		
4A, 4B (EB)	R	4R	R	8C, 8D (WB)	R	8R	R	
	Y	4Y			Y	8Y		
	G	4G			G	8G		
	-	-			-	-		
	-	-			-	-		
6A, 6B (SB)	R	6R & LS 15R (DWELL)	R	PEDESTRIAN MOVEMENTS				
	Y	6Y & LS 15Y (DWELL)		PED 4	W	4 PED / LS 10G		OUT
	G	6G & LS 15G (DWELL)			DW	4 PED / LS 10R		
	-	-		PED 6	W	6 PED / LS 11G		OUT
	-	-			DW	6 PED / LS 11R		
8A (WB LT)	R	8R & LS 14R (TRACK CLEAR)	R	OVERLAPS				
	Y	8Y & LS 14Y (TRACK CLEAR)		OLA	R	8R & LS 14R (TRACK CLEAR)		R
	G	8G & LS 14G (TRACK CLEAR)			Y	8Y & LS 14Y (TRACK CLEAR)		
	<--Y---	LS 14Y (TRACK CLEAR)			G	8G & LS 14G (TRACK CLEAR)		
	<--G---	LS 14G (TRACK CLEAR)			<--Y---	LS 14Y (TRACK CLEAR)		
					OLA	<-G----	LS 14G (TRACK CLEAR)	
				S1 & S2		-	LS 16R	OUT
LS = LOAD SWITCH								

LS 14 ONLY ACTIVATED DURING TRACK CLEAR OF THE PREEMPTION - GREEN/YELLOW ARROW & GREEN/YELLOW BALL
LS 15 ONLY ACTIVATED DURING DWELL OF PREEMPTION - PHASE 2+6
LS 16 ONLY ACTIVATED DURING ALL PHASES OF PREEMPTION - LED BLANKOUT SIGNS S1 & S2

LEGEND

	3 SECTION VEHICULAR SIGNAL HEAD, 1-WAY		6 PAIR INTERCONNECT CABLE		RAILROAD PREEMPTION INDICATOR PANEL
	5 SECTION VEHICULAR SIGNAL HEAD, 1-WAY		POWER CABLE FOR BLANKOUT SIGN		SIGNAL SUPPORT POLE NO.
	PEDESTRIAN SIGNAL		POWER CABLE FOR RADAR DETECTION UNIT		NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE (3 WIRE, 2 CONDUCTOR)
	PEDESTRIAN PUSHBUTTON		POWER SOURCE		NO. 12 AWG POLE & BRACKET CABLE (2 WIRE, 2 CONDUCTOR)
	LUMINAIRE, CONVENTIONAL		SERVICE CABLE, 3 CONDUCTOR, NO. 4 AWG		SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG
	STOP LINE RADAR DETECTION UNIT		POWER CABLE, 2 CONDUCTOR, NO. 4 AWG		PHOTOELECTRIC CELL
	LED BLANKOUT SIGN (NO RIGHT TURN)		METER BASE		UNINTERRUPTIBLE POWER SUPPLY CABLE
	LED BLANKOUT SIGN (NO LEFT TURN)		DUAL LIGHTING/SIGNAL DISCONNECT SWITCH		



NOTES:

1. The Uninterruptible Power Supply (UPS) enclosure shall be mounted flush up against the traffic signal cabinet and sealed with silicone. The Contractor shall be responsible for providing the necessary power cable between the UPS unit and signal cabinet.
2. The UPS should be placed on the opposite side of the pull box on a 332/336 cabinet (per Standard Construction Drawing (SCD) TC-83.20). The UPS placement for a NEMA cabinet varies, placement should provide adequate access with respect to slope, guardrail spacing, etc.
3. The size, number, and location of anchor bolts shall be in accordance with the manufacturer's recommendations.
4. The size, number, and orientation of conduit ells shall be as shown in the plan, except that a 3/4" schedule 40 PVC shall be installed in each foundation.
5. 1/2" preformed joint filler as per CMS 705.03 shall be used between foundations and adjacent paved areas.
6. See SCD TC-83.20 for further details.
7. Payment for the controller and UPS work pad as shown on this sheet will be included under item 633, Controller work pad, as per plan.

TYPE	W (IN.)	D (IN.)	FOUNDATION CONCRETE (CU. YD.)
TS-1	60	24	1.23
TS-2	70	36	2.16
2070/170	50	36	1.54

THIS DRAWING REPLACES PIS 208321 DATED 04-20-2012.

DESIGN AGENCY
Mead & Hunt
CLIENT

DESIGNER
MLV

REVIEWER
DLW 01/25/22

PROJECT ID
113314

SHEET
P.22

TOTAL
22

PLAN INSERT SHEET
UNINTERRUPTIBLE POWER SUPPLY (UPS) & CONTROLLER CABINET FOUNDATION