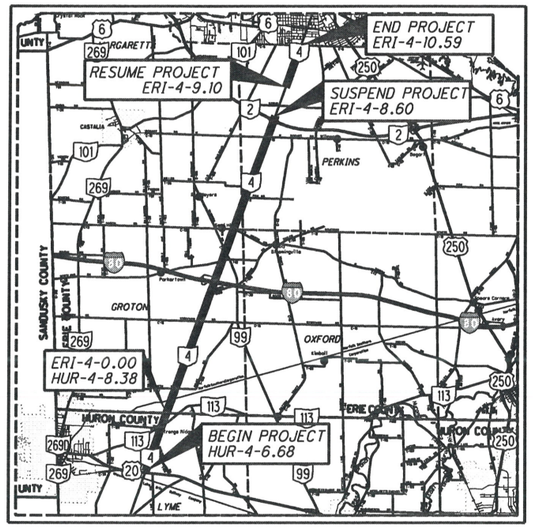


LOCATION MAP

LATITUDE: N 41°21'9" LONGITUDE: W 82°45'13"

SCALE IN MILES

0 1 2 3 4

N

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

HUR-4-6.68
ERI-4-0.00

GROTON TOWNSHIP
LYME TOWNSHIP
MARGARETTA TOWNSHIP
PERKINS TOWNSHIP

ERIE COUNTY
HURON COUNTY

INDEX OF SHEETS:

PROJECT DESCRIPTION

THIS PROJECT WILL INCLUDE PAVEMENT REPAIRS, PAVEMENT PLANING AND RESURFACING WITH ASPHALT CONCRETE, STRUCTURE MAINTENANCE, CONCRETE MEDIAN REPAIRS AND PAVEMENT MARKINGS.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: N/A ACRES (MAINTENANCE PROJECT)

ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A ACRES (MAINTENANCE PROJECT)

NOTICE OF INTENT EARTH DISTURBED AREA: N/A ACRES (MAINTENANCE PROJECT)

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2016 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL 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 _____

DATE 11/23/2016 DISTRICT DEPUTY DIRECTOR

APPROVED _____

DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

PLANS PREPARED BY:

ODOT DISTRICT THREE
PLANNING & ENGINEERING DEPT.

DESIGN INFORMATION

DESIGN FUNCTIONAL CLASSIFICATION:
- HURON 6.68-8.38: MAJOR COLLECTOR
- ERIE 0.00-8.33: MAJOR COLLECTOR
- ERIE 8.33-10.59: OTHER PRINCIPAL ARTERIAL

DESIGN DESIGNATIONS: SEE SHEET 2

DESIGN EXCEPTIONS: NONE REQUIRED

NHS PROJECT: YES

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

OHIO Utilities Protection SERVICE — Call Before You Dig 1-800-362-2764

(Non-members must be called directly)

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

ENGINEERS SEAL

STATE OF OHIO — CRAIG A. DEVORE E-70370 — REGISTERED PROFESSIONAL ENGINEER

SIGNED: _____

DATE: 11-21-2016

STANDARD CONSTRUCTION DRAWINGS

						SUPPLEMENTAL SPECIFICATIONS	
BP-3.1	7/18/14	MT-95.30	7/15/16	TC-41.20	10/18/13	800-2016	10/21/16
BP-4.1	7/19/13	MT-95.31	7/18/14	TC-42.20	10/18/13	821	4/20/12
		MT-95.32	7/18/14	TC-52.10	10/18/13	830	1/17/14
DM-4.3	1/15/16	MT-95.40	7/18/14	TC-52.20	7/15/16	832	1/17/14
DM-4.4	1/15/16	MT-95.50	10/16/15	TC-61.30	7/18/14	847	7/15/16
		MT-97.10	7/18/14	TC-64.10	7/17/15		
MGS-1.1	7/19/13	MT-97.12	7/18/14	TC-65.10	1/17/14		
MGS-2.1	7/19/13	MT-99.20	7/19/13	TC-65.11	7/15/16		
MGS-4.3	1/18/13	MT-101.70	1/17/14	TC-71.10	7/15/16		
MGS-5.2	7/15/16	MT-101.75	7/15/16	TC-82.10	7/17/15		
MGS-6.1	7/19/13	MT-101.80	1/16/15				
		MT-101.90	7/17/15				
RM-1.1	7/18/14	MT-105.10	7/19/13				
RM-3.1	7/19/13						

FEDERAL PROJECT NO. E130818

PID NO. 93110

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

HUR-4-6.68
ERI-4-0.00

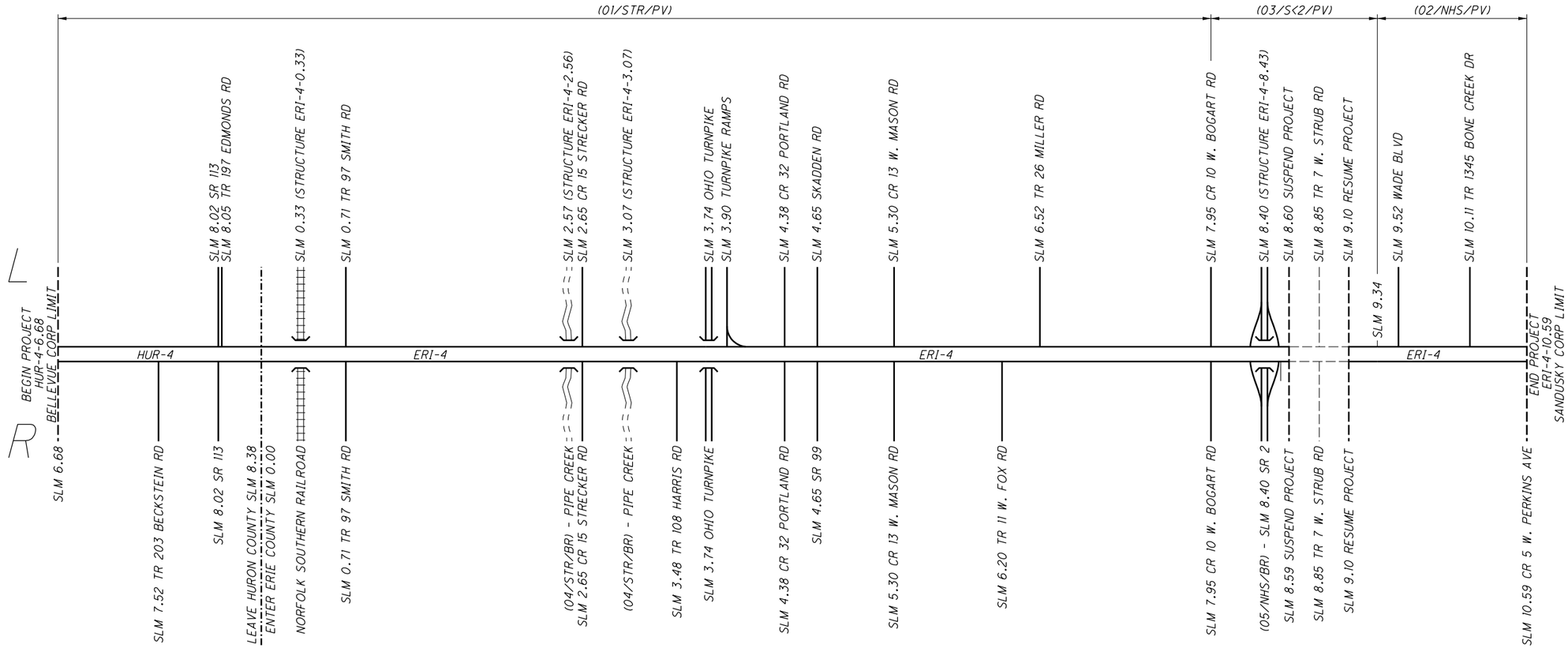
1
26

I:\ProjectData\93110\Design\Roadway\Sheets\93110-GT001.dgn Sheet 11/21/2016 1:12:22 PM jschraib

STRAIGHT LINE DIAGRAM / DESIGN DESIGNATIONS

HUR-4-6.68
ERI-4-0.00

CALCULATED JWS
CHECKED CAD



DESIGN DESIGNATION
HUR-4, 6.68-8.02

CURRENT ADT (2017)	2,900
DESIGN YEAR ADT (2029)	3,100
DESIGN HOURLY VOLUME (2029)	310
DIRECTIONAL DISTRIBUTION	54%
TRUCKS (24 HOUR B&C)	19%
LEGAL DESIGN SPEED	55 MPH

DESIGN DESIGNATION
HUR-4, 8.02-8.38

CURRENT ADT (2017)	4,900
DESIGN YEAR ADT (2029)	5,400
DESIGN HOURLY VOLUME (2029)	540
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 HOUR B&C)	16%
LEGAL DESIGN SPEED	55 MPH

DESIGN DESIGNATION
ERI-4, 0.00-3.74

CURRENT ADT (2017)	5,900
DESIGN YEAR ADT (2029)	6,400
DESIGN HOURLY VOLUME (2029)	640
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 HOUR B&C)	13%
LEGAL DESIGN SPEED	55 MPH

DESIGN DESIGNATION
ERI-4, 3.74-4.38

CURRENT ADT (2017)	9,900
DESIGN YEAR ADT (2029)	10,000
DESIGN HOURLY VOLUME (2029)	1000
DIRECTIONAL DISTRIBUTION	58%
TRUCKS (24 HOUR B&C)	9%
LEGAL DESIGN SPEED	55 MPH

DESIGN DESIGNATION
ERI-4, 4.38-4.65

CURRENT ADT (2017)	11,000
DESIGN YEAR ADT (2029)	11,000
DESIGN HOURLY VOLUME (2029)	990
DIRECTIONAL DISTRIBUTION	59%
TRUCKS (24 HOUR B&C)	8%
LEGAL DESIGN SPEED	55 MPH

DESIGN DESIGNATION
ERI-4, 4.65-7.95

CURRENT ADT (2017)	14,000
DESIGN YEAR ADT (2029)	15,000
DESIGN HOURLY VOLUME (2029)	1,400
DIRECTIONAL DISTRIBUTION	60%
TRUCKS (24 HOUR B&C)	7%
LEGAL DESIGN SPEED	55 MPH

DESIGN DESIGNATION
ERI-4, 7.95-8.40

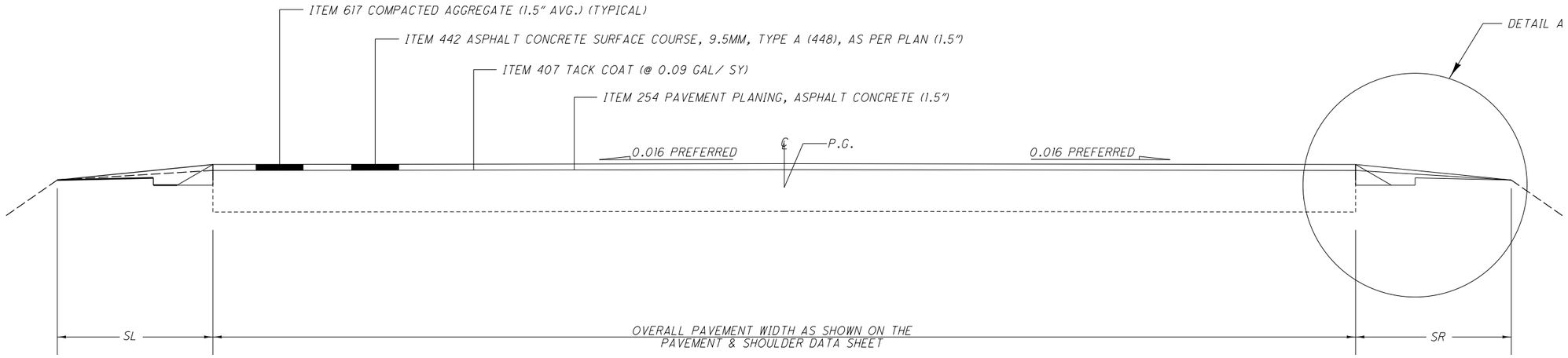
CURRENT ADT (2017)	15,000
DESIGN YEAR ADT (2029)	16,000
DESIGN HOURLY VOLUME (2029)	1,400
DIRECTIONAL DISTRIBUTION	60%
TRUCKS (24 HOUR B&C)	8%
LEGAL DESIGN SPEED	55 MPH

DESIGN DESIGNATION
ERI-4, 8.40-8.60

CURRENT ADT (2017)	14,000
DESIGN YEAR ADT (2029)	15,000
DESIGN HOURLY VOLUME (2029)	1,400
DIRECTIONAL DISTRIBUTION	53%
TRUCKS (24 HOUR B&C)	8%
LEGAL DESIGN SPEED	55 MPH

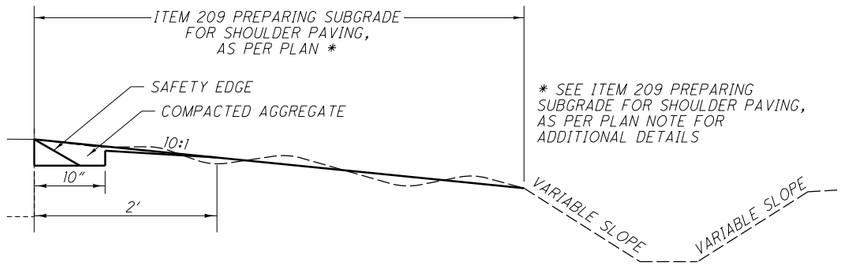
DESIGN DESIGNATION
ERI-4, 9.10-10.59

CURRENT ADT (2017)	14,000
DESIGN YEAR ADT (2029)	15,000
DESIGN HOURLY VOLUME (2029)	1,400
DIRECTIONAL DISTRIBUTION	53%
TRUCKS (24 HOUR B&C)	8%
LEGAL DESIGN SPEED	50 MPH

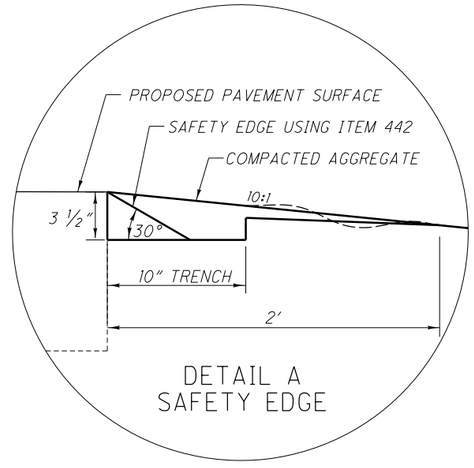


TYPICAL SECTION

SECTIONS:
HURON SR 4 6.68-8.38
ERIE SR 4 0.00-8.60
ERIE SR 4 9.10-10.59



ITEM 209 PREPARING SUBGRADE
FOR SHOULDER PAVING, AS PER PLAN



DETAIL A
SAFETY EDGE

CALCULATED JWS
CHECKED CAD

TYPICAL SECTION

HUR-4-6.68
ERI-4-0.00

3
26

I:\ProjectData\93110\Design\Roadway\Sheets\93110_GY001.dgn Sheet 11/21/2016 4:02:09 PM jschraib

GENERAL

UTILITIES

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

GAS:
COLUMBIA PIPELINE GROUP
589 NORTH STATE ROAD
MEDINA, OHIO 44256
330-721-4163

GAS:
DOMINION EAST OHIO
1201 EAST 55 STREET.
CLEVELAND, OHIO 44103
relocation@dom.com

GAS:
COLUMBIA GAS OF OHIO
1800 BROAD AVENUE
FINDLAY, OHIO 45840
419-427-3225

CABLE:
TIME WARNER CABLE
1800 EAST STATE STREET
FREEMONT, OHIO 43420
844-757-2833

CABLE:
BUCKEYE CABLE SYSTEMS
4818 ANGOLA ROAD, BLDG A
TOLEDO, OHIO 43615
419-724-3713

ELECTRIC:
OHIO EDISON COMPANY
6326 LAKE AVENUE
ELYRIA, OHIO 44035
440-326-3207

WATER:
NORTHERN OHIO RURAL WATER
P.O. BOX 96.
COLLINS, OHIO 44826
419-668-7213

ROADWAY:
ODOT 3 TRAFFIC
906 CLARK AVE.
ASHLAND, OHIO 44805
419-207-7045

TELEPHONE:
WINDSTREAM OHIO
560 TERNES AVENUE
ELYRIA, OHIO 44035
440-329-4245

TELEPHONE:
CENTURYLINK
203 WEST 9TH STREET
LORAIN, OHIO 44052
440-244-8423

TELEPHONE:
FRONTIER COMMUNICATION
83 TOWNSEND AVENUE
NORWALK, OHIO 44857
419-744-3613

TELEPHONE:
AT&T OF OHIO
130 NORTH ERIE STREET
TOLEDO, OHIO 43604
419-245-5004

MISC:
ERIE CO DEPT OF ENVIRONMENTAL SERVICES
554 RIVER ROAD
HURON, OHIO 44839
419-433-7303

MISC:
CITY OF SANDUSKY
222 MEIGS AVENUE
SANDUSKY, OHIO 44870
419-627-5829

MISC:
HURON COUNTY ENGINEER
150JEFFERSON STREET
NORWALK, OHIO 44857
419-668-1997

MISC:
ERIE COUNTY ENGINEER
2700 COLUMBUS AVENUE
SANDUSKY, OHIO 44870
419-627-7710

THE AFOREMENTIONED UTILITY COMPANIES AND AGENCIES HAVE VARIOUS FACILITIES IN THE AREA THAT WILL REMAIN IN PLACE DURING CONSTRUCTION.

EXTREME CAUTION SHOULD BE EXERCISED IN AREAS WITH UTILITIES. SECTIONS 105.07 AND 107.16 OF THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS REQUIRE, AMONG OTHER THINGS, THAT THE CONTRACTOR COOPERATE WITH ALL UTILITIES LOCATED WITHIN THE LIMITS OF THIS CONSTRUCTION PROJECT AND TAKE RESPONSIBILITY FOR THE PROTECTION OF THE UTILITY PROPERTY AND SERVICES.

ROUTINE MAINTENANCE

BETWEEN THE TIME THAT BIDS ARE TAKEN AND THE START OF CONSTRUCTION, THE MAINTAINING AGENCY MAY ENTER UPON THE PROJECT AND PERFORM ROUTINE MAINTENANCE SUCH AS CRACK SEALING, PATCHING, AND BERM AND SHOULDER REPAIR. THE EFFECTS, IF ANY, OF THE PERFORMANCE OF ROUTINE MAINTENANCE SHALL BE CONSIDERED AS INHERENT IN WORK OF THE CHARACTER PROVIDED FOR IN THE PLAN AND THE RESULTING CONDITIONS SHALL NOT BE CONSIDERED AS DIFFERING MATERIALLY FROM THOSE EXISTING AT THE TIME BIDS WERE TAKEN.

EXISTING PLANS

THE FOLLOWING EXISTING PLANS ENTITLED MAY BE INSPECTED IN THE ODOT DISTRICT 3 OFFICE IN ASHLAND.

ERI-4-2.55	(1990)
ERI-4-3.03	(1970)
ERI-6-7.31	(1985)
ERI-4-0.00	(2004)

CONSTRUCTION NOTIFICATION

THE CONTRACTOR SHALL ADVISE THE PROJECT ENGINEER A MINIMUM OF FOURTEEN (14) DAYS PRIOR TO THE FOLLOWING: THE START OF CONSTRUCTION ACTIVITIES, LANE RESTRICTIONS, LANE CLOSURES, AND OR ROAD CLOSURES. THE PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO THE FOLLOWING:

DISTRICT PUBLIC INFORMATION OFFICE (PIO) BY EMAIL AT D03.PIO@DOT.OHIO.GOV

DISTRICT PERMIT SECTION BY FAX AT (614) 887-4318 OR EMAIL AT LOUIS.TUMBLIN@DOT.OHIO.GOV

CENTRAL OFFICE SPECIAL HAUL PERMITS SECTION BY FAX AT (614) 728-4099 OR EMAIL AT HAULING.PERMITS@DOT.OHIO.GOV

THE PIO WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES, AND ANY OTHER IMPACTED LOCAL PUBLIC AGENCY OF ANY OF THE ABOVE MENTIONED ITEMS, VIA MEDIA SOURCES.

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.

FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT UNIT PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

COORDINATION OF WORK BETWEEN CONTRACTORS

THE CONTRACTOR SHOULD BE AWARE THAT THERE MAY BE OTHER WORK BEING PERFORMED BY A SEPARATE CONTRACT. HUR-113-1.84 IS A RESURFACING PROJECT AND IS SCHEDULED TO BEGIN WORK IN THE 2017 CONSTRUCTION SEASON. COORDINATION OF WORK IS THE RESPONSIBILITY OF THE CONTRACTOR.

CALCULATED JWS
CHECKED CAD

GENERAL NOTES

HUR-4-6.68
ERI-4-0.00

ROADWAY

ITEM 209 - PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN

PREPARE THE SHOULDER FOR PAVING A CONSISTENT SAFETY EDGE IN BOTH THICKNESS AND WIDTH.

PRIOR TO PAVING THE SAFETY EDGE, GRADE AN AREA 10 INCHES WIDE, BEGINNING AT THE EDGE OF THE PAVED ROADWAY, TO PROVIDE A LEVEL SURFACE FREE OF VEGETATION FOR CONSTRUCTION OF THE SAFETY EDGE. IF NECESSARY, EXCAVATE THE GRADED AREA TO THE DEPTH NECESSARY TO CONSTRUCT THE SAFETY EDGE. COMPACT THE GRADED SHOULDER ACCORDING TO 617.05 OR AS DIRECTED BY THE ENGINEER. THE GRADED SHOULDER BEYOND THE 10 INCH WIDE AREA FOR THE SAFETY EDGE SHALL BE GRADED AT A 10:1 SLOPE, OR AS DIRECTED BY THE ENGINEER. THE INTENT IS TO PROVIDE AN UNOBSTRUCTED AND POSITIVE FLOW OF STORM WATER FROM THE PAVEMENT TO THE DITCH.

SAFETY EDGE

IN ADDITION TO THE REQUIREMENTS OF 401.12, ATTACH A DEVICE TO THE SCREED OF THE PAVER THAT CONFINES THE MATERIAL AT THE END GATE AND EXTRUDES THE ASPHALT MATERIAL IN SUCH A WAY THAT RESULTS IN A COMPACTED WEDGE SHAPE PAVEMENT EDGE OF APPROXIMATELY 30 DEGREES (NOT STEEPER THAN 40 DEGREES). ENSURE THE DEVICE MAINTAINS CONTACT WITH THE EXISTING SURFACE, AND ALLOW FOR AUTOMATIC TRANSITION TO CROSS ROADS, DRIVEWAYS AND OBSTRUCTIONS. DO NOT USE CONVENTIONAL SINGLE PLATE STRIKE OFF.

CONSTRUCTION OF SAFETY EDGE CAN BE OMITTED AT LOCATIONS WHERE EXISTING WIDTH OF GRADED SHOULDER OR BERM IS LESS THAN 12". PROJECTS WITH VARYING CONDITIONS SHOULD USE SAFETY EDGE WHERE POSSIBLE. PLAN PREPARATION HAS MADE EVERY REASONABLE ATTEMPT TO IDENTIFY POSSIBLE SAFETY EDGE LOCATIONS.

USE THE TRANSTECH SHOULDER WEDGE MAKER, THE CARLSON SAFETY EDGE END GATE, THE ADVANT-EDGER, THE TROXLER SAFETSLOPE OR A SIMILAR APPROVED-EQUAL DEVICE THAT PRODUCES THE SAME WEDGE CONSOLIDATION RESULTS. CONTACT INFORMATION FOR THESE WEDGE SHAPE COMPACTION DEVICES IS THE FOLLOWING:

TRANSTECH SYSTEMS, INC.
1594 STATE STREET
SCHENECTADY, NY 12304
1-800-724-6306
www.transtechsys.com

ADVANT-EDGE PAVING EQUIPMENT LLC
P.O. BOX 9163
NISKAYUNA, NY 12309-0163
518-280-6090
www.advantedgepaving.com

CARLSON SAFETY EDGE END GATE
18450 50TH AVENUE EAST
TACOMA, WA 98446
253-875-8000

TROXLER ELECTRONICS LABORATORIES INC.
3008 E. CORNWALLIS RD.
RESEARCH TRIANGLE PARK, NC 27709
1-877-TROXLER
www.troxlerlabs.com

IF ELECTING TO USE A SIMILAR DEVICE, PROVIDE PROOF THAT THE DEVICE HAS BEEN USED ON PREVIOUS PROJECTS WITH ACCEPTABLE RESULTS OR CONSTRUCT A TEST SECTION PRIOR TO THE BEGINNING OF WORK AND DEMONSTRATE WEDGE COMPACTION TO THE SATISFACTION OF THE ENGINEER. SHORT SECTIONS OF HANDWORK WILL BE ALLOWED WHEN NECESSARY FOR TRANSITIONS AND TURNOUTS OR OTHERWISE AUTHORIZED BY THE ENGINEER.

IN ADDITION TO THE REQUIREMENTS OF 401.16, MAKE THE FIRST ROLLER PASS 8 TO 12 INCHES AWAY FROM TAPERED EDGE. DO NOT ROLL THE TAPER.

ITEM 623 - MONUMENT BOX ADJUSTED TO GRADE

ALL WORK RELATED TO ADJUSTING MONUMENT BOXES TO GRADE WILL BE IN ACCORDANCE TO SECTIONS 623.04 AND 623.05 OF THE 2016 ODOT CONSTRUCTION AND MATERIALS SPECIFICATIONS.

THE MONUMENT BOX TO BE ADJUSTED TO GRADE MAY OR MAY NOT HAVE AN EXISTING ADJUSTABLE FRAME. THE WORK SHALL CONSIST OF ADJUSTING THE EXISTING MONUMENT BOX TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR IS REMINDED TO FIELD CHECK ALL ADJUSTMENT TO GRADE ITEMS PRIOR TO BIDDING, AS NO ADDITIONAL COMPENSATION WILL BE GRANTED FOR LABOR AND MATERIALS REQUIRED TO SATISFACTORILY ADJUST CASTINGS WITHOUT ADJUSTABLE FRAMES.

APPROXIMATE LOCATIONS OF KNOWN MONUMENT BOXES ARE:

01/STR/PV	03/S<2/PV	02/NHS/PV
ERI-4, SLM 0.06 (BURIED)	ERI-4, SLM 8.35 (IN MEDIAN)	ERI-4, SLM 9.74
ERI-4, SLM 0.19 (BURIED)	ERI-4, SLM 8.39 (IN MEDIAN)	ERI-4, SLM 10.03
ERI-4, SLM 0.32 (BURIED)	ERI-4, SLM 8.46 (IN MEDIAN)	ERI-4, SLM 10.31
ERI-4, SLM 0.47 (BURIED)	ERI-4, SLM 8.50 (IN MEDIAN)	
ERI-4, SLM 0.59 (BURIED)		
ERI-4, SLM 0.70		
ERI-4, SLM 0.81		

ITEM 623 - MONUMENT BOX ADJUSTED TO GRADE:		
	01/STR/PV	7 EACH
	02/NHS/PV	3 EACH
	03/S<2/PV	4 EACH
	TOTAL	14 EACH

ITEM 611 - CASTINGS ADJUSTED TO GRADE

THE CASTING TO BE ADJUSTED MAY OR MAY NOT HAVE AN EXISTING FRAME. THE WORK SHALL CONSIST OF ADJUSTING THE EXISTING CASTING TO THE SATISFACTION OF THE ENGINEER. IT IS NOT INTENDED TO PLACE NEW FRAMES WHERE NONE CURRENTLY EXIST. THE CONTRACTOR IS REMINDED TO FIELD CHECK ALL ADJUSTMENT TO GRADE ITEMS PRIOR TO BIDDING, AS NO ADDITIONAL COMPENSATION WILL BE GRANTED FOR LABOR AND MATERIALS REQUIRED TO SATISFACTORILY ADJUST CASTINGS WITHOUT FRAMES.

APPROXIMATE LOCATIONS OF KNOWN CASTINGS ARE:

LOCATION	FUNDING SPLIT	QUANTITY
ERI-4-0.18	01/STR/PV	2
ERI-4-0.31	01/STR/PV	2
ERI-4-0.54	01/STR/PV	2
ERI-4-0.63	01/STR/PV	2

ITEM 611 - CATCH BASIN ADJUSTED TO GRADE:	01/STR/PV	8 EACH
	TOTAL	8 EACH

PAVEMENT

PAVEMENT CORING INFORMATION

Core #	County	Route	SLM	Asphalt	Concrete	Location	Direction
1	ERI	4	0.1	3.5		SH	NB
2	ERI	4	0.1	15.5		RWP	NB
3	ERI	4	0.1	16		LWP	NB
4	ERI	4	0.85	6.5		SH	NB
5	ERI	4	0.85	16		RWP	NB
6	ERI	4	0.85	14.5		LWP	NB
7	ERI	4	1.42	7		SH	NB
8	ERI	4	1.42	12		RWP	NB
9	ERI	4	1.42	11		LWP	NB
10	ERI	4	1.9	5		SH	NB
11	ERI	4	1.9	11		RWP	NB
12	ERI	4	1.9	12		LWP	NB
13	ERI	4	2.85	3.5		SH	NB
14	ERI	4	2.85	15.5		RWP	NB
15	ERI	4	2.85	14.5		LWP	NB
16	ERI	4	3.5	7.5		SH	NB
17	ERI	4	3.5	14.5		RWP	NB
18	ERI	4	3.5	12.5		LWP	NB
19	ERI	4	4	4.5		SH	NB
20	ERI	4	4	16		RWP	NB
21	ERI	4	4	13		LWP	NB
22	ERI	4	4.5	6		SH	NB
23	ERI	4	4.5	18.5		RWP	NB
24	ERI	4	4.5	12	8	LWP	NB
25	ERI	4	5.1	4.5		SH	NB
26	ERI	4	5.1	15.5		RWP	NB
27	ERI	4	5.1	10	8	LWP	NB
28	ERI	4	5.6	4.5		SH	NB
29	ERI	4	5.6	11.5	6	RWP	NB
30	ERI	4	5.6	10	6.5	LWP	NB
31	ERI	4	6.1	6.5		SH	NB
32	ERI	4	6.1	11.5	6.5	RWP	NB
33	ERI	4	6.1	11.5	8	LWP	NB
34	ERI	4	6.75	4		SH	NB
35	ERI	4	6.75	17		RWP	NB
36	ERI	4	6.75	11	8	LWP	NB
37	ERI	4	7.4	12		SH	NB
38	ERI	4	7.4	15		RWP	NB
39	ERI	4	7.4	9	8	LWP	NB
40	ERI	4	8.1	2.5		SH	NB
41	ERI	4	8.1	14		RWP	NB
42	ERI	4	8.1	10	7	LWP	NB
43	ERI	4	8.75	2		SH	NB
44	ERI	4	8.75	10		RWP	NB
45	ERI	4	8.75	12		LWP	NB

CALCULATED JWS
CHECKED CAD

GENERAL NOTES

HUR-4-6.68
ERI-4-0.00

PAVEMENT (CONTINUED)

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (442)
ITEM 253 - PAVEMENT REPAIR

THESE ITEMS OF WORK SHALL CONSIST OF THE REMOVAL OF THE EXISTING PAVEMENT OR PAVED BERM WHICH MAY BE ASPHALT, BRICK, CONCRETE, OR A COMBINATION OF EACH, IN AREAS OF EXISTING PAVEMENT FAILURE. CORING HAS BEEN PERFORMED TO HELP DETERMINE THE COMPONENTS THAT MAY BE ENCOUNTERED DURING THIS ITEM OF WORK. THE PAVEMENT CORING INFORMATION IS SHOWN ON THE PREVIOUS PLAN SHEET.

PAVEMENT REPAIR SHALL BE PERFORMED AFTER PAVEMENT PLANING AND BEFORE PLACEMENT OF THE INTERMEDIATE AND/OR SURFACE COURSE. THE DEPTH OF REMOVAL SHALL BE SUFFICIENT TO REMOVE ALL DETERIORATED PAVEMENT WITH A MAXIMUM DEPTH OF 11", BASED ON THE PAVEMENT DESIGN AND AN AVERAGE DEPTH OF 4" AND AN AVERAGE WIDTH OF 2 FT FOR ESTIMATING PURPOSES.

REPLACEMENT MATERIAL SHALL BE ITEM 301, OR ITEM 442 19MM, AS PER PLAN MATERIAL AND SHALL BE PLACED AND COMPACTED TO FINISH FLUSH WITH THE ADJACENT PAVEMENT SURFACE. ITEM 301 ASPHALT CONCRETE CAN BE USED WHEN THE DEPTH OF THE REPAIR IS BETWEEN 3" AND 12" WITH A MAXIMUM PAVEMENT LIFT OF 6". ITEM 442 19MM, AS PER PLAN CAN BE USED WHEN THE DEPTH OF THE REPAIR IS BETWEEN 1.5" AND 3". PG 64-22 ASPHALT BINDER SHALL BE USED FOR ALL OF THE ASPHALT CONRETE MATERIALS FOR THESE REPAIRS.

FOR THE ITEM 442 19 MM, AS PER PLAN MATERIAL, REQUIREMENTS OF 442 APPLY EXCEPT AS FOLLOWS:
MIX DESIGN: FOR Ndes USE 50 GYRATIONS, FOR Nmax USE 75 GYRATIONS.
USE A PG 64-22 BINDER.
MAXIMUM RECLAIMED ASPHALT CONCRETE PAVEMENT IS 30 PERCENT.
APPLY 703.05 FOR COARSE AND FINE AGGREGATE EXCEPT GRADATION FOR FINE AGGREGATE DOES NOT APPLY.
QUALITY CONTROL: DO NOT PERFORM Nmax IN QUALITY CONTROL TESTING. DO NOT TAKE EXTRA ASPHALT BINDER SAMPLES AS OUTLINED IN CMS 442.05.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE PAVEMENT REPAIR. FOR PAYMENT PURPOSES ITEM 251 PARTIAL DEPTH PAVEMENT REPAIR (442) IS TO BE A MAXIMUM OF 4" DEEP AND ITEM 253 PAVEMENT REPAIR IS FOR DEPTHS GREATER THAN 4". PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER CUBIC YARD, (BY TICKET WEIGHT CONVERSION), OF ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (442) OR ITEM 253 - PAVEMENT REPAIR. THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER:

ITEM 251 -PARTIAL DEPTH PAVEMENT REPAIR (442):

COUNTY	ROUTE	SLM BEGIN	SLM END	QUANTITY (CY)	FUNDING
HURON	4	6.68	8.02	306	01/STR/PV
HURON	4	8.02	8.38	155	01/STR/PV
ERIE	4	0.00	0.71	33	01/STR/PV
ERIE	4	0.71	2.65	160	01/STR/PV
ERIE	4	2.65	4.38	179	01/STR/PV
ERIE	4	4.38	5.30	36	01/STR/PV
ERIE	4	5.30	6.20	33	01/STR/PV
ERIE	4	6.20	7.95	111	01/STR/PV
ERIE	4	7.95	8.59	52	03/S<2/PV
ERIE	4	9.10	9.34	20	03/S<2/PV
ERIE	4	9.34	10.59	91	02/NHS/PV
			01/STR/PV:	1013	CY
			02/NHS/PV:	91	CY
			03/S<2/PV:	72	CY
			TOTAL:	1176	CY

ITEM 253 - PAVEMENT REPAIR:

01/STR/PV:	230	CY
02/NHS/PV:	10	CY
03/S<2/PV:	10	CY
TOTAL:	250	CY

ITEM 254 - PATCHING PLANED SURFACE

AN ESTIMATED QUANTITY OF ITEM 254 - PATCHING PLANED SURFACE HAS BEEN SET UP TO BE USED AS DIRECTED BY THE ENGINEER AS DESCRIBED IN CMS 254.04. THE LIMIT OF THE PATCHING DEPTH IS 0 TO 2 IN.

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (1.50")

THE INTENT OF THE PLANING IS TO MILL 1.50 INCHES AT THE CENTER OF PAVEMENT AT THE NON-CURBED AREAS. THE PAVEMENT SLOPE SHALL BE 0.010 MINIMUM AND 0.016 PREFERRED, CONTINUOUS BETWEEN THE CROWN AND THE PROPOSED EDGELINE/SHOULDER. THE MILLING DEPTH SHALL BE CONTROLLED FROM THE CENTER OF PAVEMENT IN CONFORMANCE WITH THE ABOVE GUIDELINES. WHEN 1.50 INCH DEPTH PAVEMENT PLANING IS BEING PERFORMED AT THE CENTERLINE, THE CONTRACTOR MAY HAVE TO PLANE DEEPER AT THE EDGE OF PAVEMENT TO ESTABLISH THE MINIMUM CROSS SLOPE. IF THIS IS THE CASE, THE CONTRACTOR SHALL PLANE A MAXIMUM OF 2.5 INCHES AT THE EDGE OF PAVEMENT EVEN IF THIS MAXIMUM DEPTH DOES NOT MEET THE MINIMUM CROSS SLOPE REQUIREMENTS.

SPECIAL ATTENTION SHALL BE GIVEN TO SUPERELEVATED CURVES. THE SUPERELEVATION SHALL BE MAINTAINED AND/OR RESTORED, IF NECESSARY, AS DIRECTED BY THE ENGINEER. IF THERE IS NO INFORMATION IN THE PLANS TO CHANGE THE SUPERELEVATION, THE INTENT IS TO MAINTAIN THE EXISTING SUPERELEVATION.

THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE TO ALL CATCH BASINS AND INLETS.

THE PROGRESSION OF THE PLANING SHALL PROCEED IN SUCH A MANNER THAT NORMAL TRAFFIC WILL NOT BE REQUIRED TO RUN OVER THE PLANED ROADWAY SURFACE MORE THAN SEVEN (7) CALENDAR DAYS. FOR EACH CALENDAR DAY BEYOND THE 7 DAYS THAT THE ROADWAY REMAINS EXPOSED TO THE PLANED SURFACE, THE CONTRACTOR WILL BE ASSESSED A DISINCENTIVE FEE OF $1,000.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE PAVEMENT PLANING, ASPHALT CONCRETE. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER SQUARE YARD OF ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE.

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (448), AS PER PLAN

ALL OPEN TRANSVERSE JOINTS SHALL BE TAPERED TO MEET EXISTING PAVEMENT BEFORE INTRODUCING TRAFFIC. A "BUMP" SIGN (W8-1-36) SHALL BE ERECTED ON EACH SIDE OF TRANSVERSE JOINTS LEFT OPEN OVER NIGHT, INCLUDING A SPEED ADVISORY SIGN. THESE SIGNS SHALL BE REMOVED IMMEDIATELY AFTER JOINT HAS BEEN CLOSED. PLACEMENT OF SIGNS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

CARE SHALL BE TAKEN TO MATCH EXISTING PAVEMENT ELEVATIONS AT EXISTING PAVED BERMS, DRIVES, INTERSECTIONS, ETC.

REQUIREMENTS OF 442 APPLY EXCEPT AS FOLLOWS:
MIX DESIGN: FOR Ndes USE 50 GYRATIONS, FOR Nmax USE 75 GYRATIONS.
MINIMUM TOTAL PG BINDER CONTENT IS 6.0 PERCENT.
MINIMUM VIRGIN PG BINDER CONTENT IS 5.0 PERCENT.
USE A PG 64-22 BINDER.
MAXIMUM RECLAIMED ASPHALT CONCRETE PAVEMENT IS 20 PERCENT.
WHEN AN AGGREGATE SOURCE IS SPECIALLY DESIGNATED WITH AN SR ON THE AGGREGATE GRAVITY LIST DO NOT USE THE AGGREGATE EXCEPT AS ALLOWED FOR MEDIUM TRAFFIC IN THE GUIDELINES FOR MAINTAINING ADEQUATE PAVEMENT FRICTION IN SURFACE PAVEMENT.
QUALITY CONTROL: DO NOT PERFORM Nmax IN QUALITY CONTROL TESTING. DO NOT TAKE EXTRA ASPHALT BINDER SAMPLES AS OUTLINED IN CMS 442.05.

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 9.5MM, TYPE A (448), AS PER PLAN (SAFETY EDGE)

THE SAFETY EDGE SHALL BE INSTALLED AT THE SAME TIME AS THE SURFACE COURSE IS TO BE PLACED. THE SAFETY EDGE WILL NOT REQUIRE ANY DENSITY TESTING.

INTERSECTIONS AND DRIVES

RURAL-INTERSECTIONS SHALL BE PLANED AND PAVED TO THE END OF THE RADII OR AS DIRECTED BY THE ENGINEER. (TO PROVIDE A SMOOTH TRANSITION BETWEEN THE TWO HIGHWAYS, AND TO ELIMINATE WATER POCKETS).

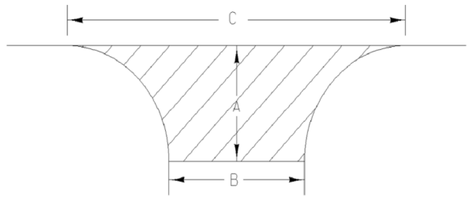
URBAN-INTERSECTIONS SHALL BE PLANED AND PAVED TO THE BACK OF CROSSWALKS OR AS DIRECTED BY THE ENGINEER. (TO PROVIDE A SMOOTH TRANSITION BETWEEN THE TWO HIGHWAYS, AND TO ELIMINATE WATER POCKETS).

EXISTING PAVED DRIVES SHALL BE PAVED SO AS TO PROVIDE A SMOOTH TRANSITION BETWEEN THE HIGHWAY AND THE DRIVE, (DISTANCE FROM EDGE OF ROADWAY MAY VARY AT EACH DRIVE) AS DIRECTED BY THE ENGINEER.

EXISTING AGGREGATE DRIVES SHALL BE PAVED WITH AN APRON AN AVERAGE WIDTH OF 4 FT. THE SLOPE OF THIS APRON SHALL BE THE SAME AS THE ADJACENT PAVEMENT SLOPE OR AS DIRECTED BY THE ENGINEER. ANY GRADING NEEDED TO PAVE THE APRON SHALL BE INCLUDED IN THE RELATED ASPHALT ITEM FOR PAYMENT. ITEM 617 COMPACTED AGGREGATE SHALL BE PLACED ADJACENT TO THIS APRON TO PROVIDE A SMOOTH TRANSITION FROM THE APRON TO THE EXISTING DRIVE, (WIDTH OF THIS 617 APPLICATION MAY VARY) AS DIRECTED BY THE ENGINEER. AN ADDITIONAL QUANTITY OF ITEM 617 HAS BEEN ESTIMATED TO COMPLETE THIS WORK AND IS SHOWN AS AN EXTRA AREA ON THE PAVEMENT & SHOULDER DATA SHEET.

ANY HAZARD OR UNSAFE CONDITION RESULTING FROM THE ABOVE WORK MUST BE CORRECTED IMMEDIATELY. THE CONTRACTOR IS REMINDED OF SECTIONS 105.01, 107.07 & 614.02A OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS.

THE PAVING DIMENSIONS FOR THE INTERSECTIONS ARE SHOWN IN THE CHART BELOW.



FUNDING SPLIT	INTERSECTION NAME	COUNTY	ROUTE	SLM	SIDE	A (FT)	B (FT)	C (FT)	Area (SY)
01/STR/PV	BECKSTEIN RD	HURON	4	7.52	R	12	45	76	74
01/STR/PV	SR 113	HURON	4	8.02	L	0	0	0	0
01/STR/PV	SR 113	HURON	4	8.02	R	0	0	0	0
01/STR/PV	EDMONDS RD	HURON	4	8.05	L	10	24	45	34
01/STR/PV	SMITH RD	ERIE	4	0.71	L	20	44	80	124
01/STR/PV	SMITH RD	ERIE	4	0.71	R	20	32	72	101
01/STR/PV	STRECKER RD	ERIE	4	2.65	L	12	50	82	81
01/STR/PV	STRECKER RD	ERIE	4	2.65	R	12	32	64	57
01/STR/PV	HARRIS RD	ERIE	4	3.48	R	12	52	88	85
01/STR/PV	PORTLAND RD	ERIE	4	4.38	L	16	120	200	261
01/STR/PV	PORTLAND RD	ERIE	4	4.38	R	16	98	178	222
01/STR/PV	SKADDEN	ERIE	4	4.65	L	10	27	45	37
01/STR/PV	SR 99	ERIE	4	4.65	R	18	70	130	180
01/STR/PV	MASON RD	ERIE	4	5.30	L	12	29	69	56
01/STR/PV	MASON RD	ERIE	4	5.30	R	12	54	78	83
01/STR/PV	FOX RD	ERIE	4	6.20	R	12	26	50	45
01/STR/PV	MILLER RD	ERIE	4	6.52	L	12	17	43	34
03/S<2/PV	BOGART RD	ERIE	4	7.95	L	10	74	116	98
03/S<2/PV	BOGART RD	ERIE	4	7.95	R	10	64	92	81
02/NHS/PV	WADE BLVD	ERIE	4	9.52	L	10	26	46	36
02/NHS/PV	BONE CREEK DR	ERIE	4	10.11	L	10	93	115	111
SUB-TOTAL (01/STR/PV)									1474
SUB-TOTAL (02/NHS/PV)									147
SUB-TOTAL (03/S<2/PV)									179
TOTAL INTERSECTION AREAS									**1800**

CALCULATED JWS
CHECKED CAD

GENERAL NOTES

HUR-4-6.68
ERI-4-0.00

MAINTENANCE OF TRAFFIC

446 DENSITY ACCEPTANCE WITH FLAGGER CLOSING OF A 2-LANE HIGHWAY FOR PAVING OPERATIONS

THIS PLAN NOTE APPLIES ONLY TO A FLAGGER CLOSURE OF ONE LANE OF A 2-LANE HIGHWAY DURING PAVING OPERATIONS WHEN USING STANDARD CONSTRUCTION DRAWING MT-97.11 OR MT-97.12, AND ALLOWS A PAVING OPERATION TO PROCEED CONCURRENTLY WITH THE MARKING AND CUTTING OF CORES REQUIRED FOR 446 DENSITY ACCEPTANCE.

IN ALL CASES THE CONTRACTOR SHOULD LENGTHEN THEIR LANE CLOSURES TO THE MAXIMUM PERMISSIBLE LENGTH DETAILED IN THE ABOVE REFERENCED STANDARD CONSTRUCTION DRAWINGS TO ALLOW THE ENGINEER ADEQUATE TIME TO MARK THE REQUIRED CORE LOCATIONS AND FOR CORE CUTTING OPERATIONS.

THE CONTRACTOR WILL PROVIDE TO THE ENGINEER THE PLANNED QUANTITY THAT WILL BE PLACED FOR THE DAY'S PRODUCTION. EACH DAY'S PRODUCTION WILL BE CONSIDERED ONE LOT AND INCLUDES SHOULDERS. TEN CORES WILL BE OBTAINED BY THE CONTRACTOR FOR EACH LOT AT RANDOM LOCATIONS DETERMINED BY THE ENGINEER. THE ENGINEER WILL DIVIDE A LOT INTO FIVE EQUAL SUBLOTS AND CALCULATE TWO RANDOM CORE LOCATIONS IN EACH SUBLOT AS DESCRIBED IN C&MS 446.05.

THE ENGINEER WILL MARK THE CORE LOCATIONS AFTER THE PAVING OPERATION (INCLUDING THE FINISH ROLLER) HAS COMPLETELY PASSED THE RANDOMLY SELECTED CORE LOCATION. THE CONTRACTOR SHOULD DETERMINE WHEN IT IS APPROPIATE TO START THE CORE DRILL OPERATION AND BEGIN CUTTING CORES WHEN THE NEWLY PLACED PAVEMENT SURFACE TEMPERATURE IS LESS THAN 140°F. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE LANE CLOSURE DURING ALL PAVING, CORE MARKING, AND CORING OPERATIONS PER THE REQUIREMENTS OF THE STANDARD CONSTRUCTION DRAWING USED FOR THE PAVING OPERATION.

BUTT JOINTS

BUTT JOINTS SHALL NOT BE CUT AND LEFT OPEN TO TRAFFIC. THEY SHALL BE FILLED IN WITH A TEMPORARY ASPHALT CONCRETE WEDGE USING ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC.

CONSTRUCTION "BUMP" (W8-1-36) AND "ADVISORY SPEED" (W13-1-24) SIGNS SHALL BE ERECTED AND MAINTAINED DURING THE PERIOD THE BUTT JOINT IS LEFT OPEN. THESE SIGNS SHALL BE PAID FOR UNDER THE LUMP SUM ITEM FOR ITEM 614 MAINTAINING TRAFFIC.

ITEM 614 - MAINTAINING TRAFFIC LANE CLOSURE/REDUCTION REQUIRED

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.

ITEM 614 - MAINTAINING TRAFFIC (LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS)

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF THE WEEK	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE FEE OF $1,000 PER DAY.

ITEM 614 - MAINTAINING TRAFFIC

A MINIMUM OF ONE (1) LANE OF TRAFFIC SHALL BE MAINTAINED AT ALL TIMES USING FLAGGERS EXCEPT AS NOTED IN THE STRUCTURE DETAILS FOR STRUCTURE HUR-547-7.25 WHERE A SIGNALIZED LANE CLOSURE SHALL BE USED.

NO DETOURS ARE ALLOWED UNTIL AFTER THE SCHOOL YEAR IS OUT WHICH IS APPROXIMATELY JUNE 9, 2017.

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

ITEM 614 - MAINTAINING TRAFFIC

ALL ADVANCE WARNING SIGNS FOR ANY CONDITION WHICH RESTRICTS TRAFFIC SHALL BE ERECTED BEFORE ANY SUCH RESTRICTION IS PUT INTO EFFECT. ALL SUCH SIGNS SHALL BE COVERED OR REMOVED FROM THE VIEW OF TRAFFIC WHEN THEY ARE NOT APPLICABLE, WITH THE APPROVAL OF THE ENGINEER.

IF THE CONTRACTOR FAILS TO COMPLY WITH THE PROVISIONS FOR TRAFFIC CONTROL AS SET FORTH IN THESE PLANS OR WITH PROVISIONS OF THE OMUTCD, AND SUCH FAILURE RESULTS IN A CONDITION AT THE WORK SITE WHICH IS UNSAFE FOR TRAFFIC, THE ENGINEER SHALL SUSPEND WORK UNTIL THE CONTRACTOR COMPLIES WITH THE NECESSARY REQUIREMENTS.

ALL MAINTENANCE OF TRAFFIC SIGNS ARE PAID UNDER ITEM 614 - MAINTAINING TRAFFIC.

ITEM 614 - MAINTAINING TRAFFIC: GENERAL

ONE 11' LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES. ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH ITEM 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, PLAN DETAILS, STANDARD DRAWINGS, AND AS OUTLINED IN THE CONSTRUCTION AND MAINTENANCE SECTION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES CURRENT EDITION WITH THE LATEST REVISIONS. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 - MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED ON THIS PLAN.

THE FOLLOWING REQUIREMENTS SHALL ALSO APPLY:
THE CONTRACTOR SHALL SUBMIT, IN WRITING, A SCHEDULE OF OPERATIONS TO THE ENGINEER AND RECEIVE APPROVAL BEFORE WORK IS STARTED ON THE PROJECT. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL COORDINATE THE MAINTENANCE OF TRAFFIC OPERATIONS WITH THE LOCAL STATE HIGHWAY PATROL.

NIGHT WORK IS PERMITTED.

THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL PAVEMENT THROUGHOUT THE PROJECT UNDER ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC DURING THE PERIOD FROM THE START OF WORK TO THE COMPLETION OF ALL WORK.

ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO CONSTRUCT A TEMPORARY ASPHALT WEDGE FROM THE EXISTING PAVEMENT TO THE PLANED SURFACE AT BUTT JOINTS AND OTHER LOCATIONS THAT RESULT IN A DROP-OFF IN EXCESS OF 1.5 INCHES, AS DIRECTED BY THE ENGINEER. THIS QUANTITY SHALL ALSO BE USED AT PLANED SURFACES WHERE A TEMPORARY ASPHALT WEDGE IS NEEDED AROUND CASTINGS, AS DIRECTED BY THE ENGINEER. BEFORE THE ASPHALT CONCRETE RESURFACING IS PLACED, TEMPORARY WEDGE SHALL BE REMOVED AND THE COST SHALL BE CONSIDERED INCIDENTAL TO ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC.

ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC 100 CU YD

WORK OPERATIONS

IN ADDITION TO THE REQUIREMENTS OF SECTION 614 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS THE FOLLOWING SHALL APPLY:

THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAVEL WHERE PRACTICAL. A FLAGGER SHALL BE USED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM.

THE CONTRACTOR SHALL ARRANGE CONSTRUCTION OPERATIONS SO AS TO PREVENT ANY INTERFERENCE TO THE CONTINUOUS FLOW OF TRAFFIC. ALL VEHICLES, EQUIPMENT, WORKERS AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO THE CLOSED LANES UNLESS OTHERWISE APPROVED BY THE ENGINEER.

MAINTENANCE OF TRAFFIC SCHEME

THE CONTRACTOR SHALL SCHEDULE THEIR WORK AND METHODS IN ORDER TO MEET THE INTENT OF THE PLANS. THE PAVEMENT SURFACES TO BE USED BY THE TRAVELING PUBLIC SHALL BE ABLE TO DRAIN FREELY. ALL COSTS TO MAINTAIN THE ROADWAY AS PER THE CONSTRUCTION AND MATERIALS SPECIFICATIONS AND THE PLANS SHALL BE INCLUDED IN ITEM 614 LUMP SUM MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED.

ITEM 614 - WORK ZONE MARKING SIGN

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR TEMPORARY WORK ZONE MARKING SIGNS PER THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS, 614.04.

WORK ZONE MARKING SIGN: (W8-H12A-36) NO EDGE LINE	= 35 EACH
WORK ZONE MARKING SIGN: (R4-1-24) DO NOT PASS	= 24 EACH
WORK ZONE MARKING SIGN: (R4-2-24) PASS WITH CARE	= 25 EACH

01/STR/PV TOTAL =	66 EACH
02/NHS/PV TOTAL =	8 EACH
03/S<2/PV TOTAL =	10 EACH
TOTAL =	84 EACH

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

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER (AND OFFICIAL PATROL CAR WITH MOUNTED EMERGENCY FLASHING LIGHTS) SHALL BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS AS DIRECTED BY THE ENGINEER:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED.

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

DURING A TRAFFIC SIGNAL INSTALLATION.

LAW ENFORCEMENT OFFICERS (LEO'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE. 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.

LEO'S 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 CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES AND PROVIDE 72 HOURS ADVANCE NOTICE AS REQUIRED BY THE HIGHWAY PATROL LISTED BELOW:

STATE HIGHWAY PATROL (ERIE CO.)
511 FREMONT AVENUE
SANDUSKY, OHIO 44870
(419) 625-6565

STATE HIGHWAY PATROL (HURON CO.)
300 SOUTH NORWALK ROAD
NORWALK, OHIO 44857
(419) 668-3711

LAW ENFORCEMENT OFFICERS 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 QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

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

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

IF THE CONTRACTOR WISHES TO UTILIZE LEO'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, THEY MAY DO SO AT THEIR OWN EXPENSE.

CALCULATED JWS CHECKED CAD

MAINTENANCE OF TRAFFIC NOTES

HUR-4-6.68
ERI-4-0.00

MAINTENANCE OF TRAFFIC (CONTINUED)

ITEM 614 - MAINTAINING TRAFFIC FOR STRUCTURES ERI-4-2.56 & ERI-4-3.07

TWO WAY TRAFFIC ON STRUCTURES ERI-4-2.56 & ERI-4-3.07 SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT THROUGH TRAFFIC ON THE STRUCTURE MAY HAVE A LANE CLOSURE DURING NORMAL WORKING HOURS USING FLAGGERS AS SHOWN ON STANDARD DRAWING MT-97.10.

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

CALCULATED JWS
CHECKED CAD

MAINTENANCE OF TRAFFIC NOTES

HUR-4-6.68
ERI-4-0.00

8
26

STRUCTURE NOTES

DESIGN DATA

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4,500 PSI

DESIGN SPECIFICATIONS

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, INCLUDING THE 2003-2007 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURES HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURES AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURES AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02, AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURES. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

PLACING ASPHALT CONCRETE FEATHERING ON APPROACHES TO BRIDGES

SPECIAL CARE SHALL BE TAKEN, WHEN PLACING THE ASPHALT CONCRETE BUTT JOINT TO EFFECT A SMOOTH TRANSITION FROM THE EXISTING APPROACH PAVEMENT TO THE BRIDGE DECK THE CONTRACTOR'S ATTENTION IS CALLED TO STANDARD DRAWING BP-3.1 FOR REQUIRED TOLERANCES.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. THE WEIGHT OF THE HAMMERS SHALL NOT BE MORE THAN 60 POUNDS. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. PRIOR TO CONCRETE PLACEMENT, ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR THE ABOVE ITEMS WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 511 - CLASS QC2 CONCRETE, MISC.: (ROADWAY MEDIAN REPAIR)
ITEM 511 - CLASS QC2 CONCRETE, MISC.: (STRUCTURE MEDIAN REPAIR)

THIS ITEM SHALL BE USED AT LOCATIONS INDICATED IN THE PLAN.

THE CONCRETE SHALL BE CLASS QC2 WITH THE COARSE AGGREGATE BEING LIMESTONE.

ALL EXISTING SURFACES TO WHICH THE CONCRETE IS TO BOND SHALL BE CLEANED BY ABRASIVE BLASTING. THESE SURFACES SHALL BE MADE FREE OF SPALLS, LAITANCE, PAINT, RUST AND OTHER CONTAMINANTS DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR THE ABOVE WHICH WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN:

THIS WORK CONSISTS OF RAISING OR REPOSITIONING EXISTING STRUCTURE TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS.

SUBMIT WORKING DRAWINGS AND CALCULATIONS IN ACCORDANCE WITH CMS 501.05.

IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THE REQUIRED REPAIRS.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

CALCULATED JWS
CHECKED CAD

STRUCTURE NOTES

HUR-4-6.68
ERI-4-0.00

9
26

ITEM SPECIAL, MAILBOX SUPPORT SYSTEM

THIS ITEM OF WORK SHALL CONSIST OF THE REMOVAL OF EXISTING NON-STANDARD MAILBOX SUPPORTS AND FURNISHING AND ERECTING MAILBOX SUPPORTS AND ANY ASSOCIATED HARDWARE IN ACCORDANCE WITH THE DETAILS SHOWN, AND ATTACHING AN OWNER SUPPLIED MAILBOX, AT LOCATIONS DETERMINED BY THE ENGINEER.

IN ABSENCE OF A NEW BOX SUPPLIED BY THE OWNER THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING, AS JUDGED AND DIRECTED BY THE ENGINEER.

THE BOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL SUPPLY ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION. SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO MAILBOXES MAY BE MOUNTED ON A SINGLE POST. [HARDWARE SHALL BE COMMERCIAL GRADE GALVANIZED STEEL.]

WOOD POSTS SHALL BE NOMINAL 4 IN. x 4 IN. (S4S) OR 4½IN. DIAMETER ROUND, AND CONFORM TO 710.14. STEEL POSTS SHALL BE NOMINAL PIPE SIZE 2 IN. I.D., AND CONFORM TO AASHTO M 181.

POSTS SHALL BE SET AS PER THE FIRST PARAGRAPH OF 606.03, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WORK WITH THE LOCAL POST MASTER AND NOTIFYING THE PROPERTY OWNERS PRIOR TO WORK.

GROUP MAILBOX SUPPORTS SHALL BE PLACED ON 3 FT. CENTERS AND THE TURNOUT LENGTHENED TO ACCOMMODATE THE GROUPING.

WHERE GUARDRAIL EXISTS, MAILBOXES AND THEIR SUPPORTS SHALL BE PLACED BEHIND THE GUARDRAIL. SUPPORTS MUST STILL MEET THE BREAKAWAY REQUIREMENTS LISTED ABOVE.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DESCRIBED ABOVE.

ITEM SPECIAL-MAILBOX SUPPORT SYSTEM, SINGLE 01/STR/PV - SR 4	5 EACH
ITEM SPECIAL-MAILBOX SUPPORT SYSTEM, DOUBLE 01/STR/PV - SR 4	4 EACH

LOCATIONS OF MAILBOX SUPPORT SYSTEM TO BE REPLACED

ADDRESSES AND/OR LOCATIONS OF MAILBOX SUPPORT SYSTEM TO BE REPLACED:

5094 SR 4 - SLM: 7.89, HURON COUNTY
5298 SR 4 - SLM: 8.23, HURON COUNTY
8605 SR 4 - SLM: 4.44, ERIE COUNTY
8017 SR 4 - SLM: 5.09, ERIE COUNTY
6912 SR 4 - SLM: 6.16, ERIE COUNTY
5208 SR 4 - SLM: 7.81, ERIE COUNTY
5120 SR 4 - SLM: 7.86, ERIE COUNTY
4707 SR 4 - SLM: 8.29, ERIE COUNTY
4714 SR 4 - SLM: 8.29, ERIE COUNTY

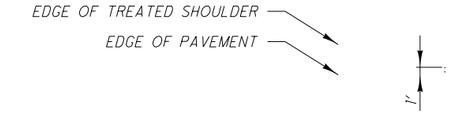
MAILBOX APPROACHES

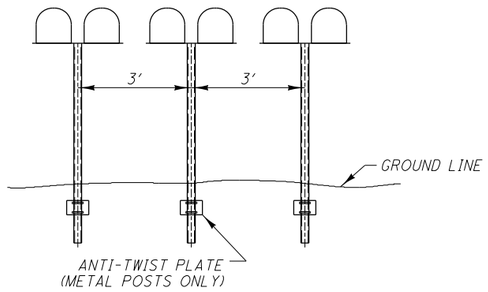
THE MAILBOX APPROACHES SHALL BE PAVED WITH 1.00" ITEM 442 INTERMEDIATE COURSE AND 1.25" ITEM 442 SURFACE COURSE. THEY SHALL CONFORM AS MUCH AS PRACTICAL TO STANDARD DRAWING BP-4.1 OR AS DIRECTED BY THE ENGINEER.

GRADING SHALL BE PERFORMED IN THESE AREAS TO OBTAIN A BASE WHICH WILL ALLOW THE FINISHED GRADE TO BE FLUSH WITH ADJACENT PAVEMENT. A QUANTITY OF ITEM 617 COMPACTED AGGREGATE HAS BEEN PROVIDED FOR AREAS WHERE THE SHOULDER IS LOW PRIOR TO GRADING AND/OR LOW AREAS CAUSED BY THE REMOVAL OF UNSUITABLE MATERIAL. QUANTITIES TO PERFORM THIS WORK HAVE BEEN INCLUDED IN THE GENERAL SUMMARY AND ARE ESTIMATED AS FOLLOWS.

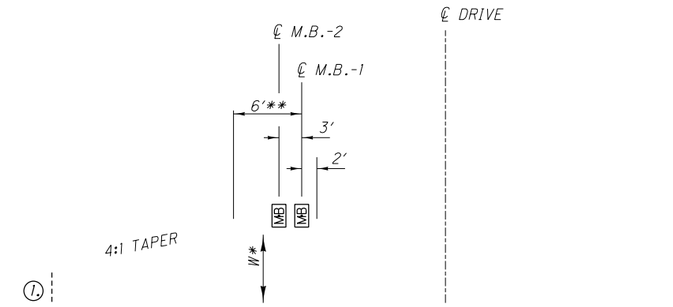
ITEM 209 - GRADING MAILBOX APPROACHES:	
01/STR/PV - SR 4	32 EACH
02/NHS/PV - SR 4	11 EACH
03/S<2/PV - SR 4	24 EACH
ITEM 617 - COMPACTED AGGREGATE, AS PER PLAN	
01/STR/PV - SR 4	32 CU YD
02/NHS/PV - SR 4	11 CU YD
03/S<2/PV - SR 4	24 CU YD

FOR DETAILS NOT SHOWN SEE STANDARD DRAWING BP-4.1





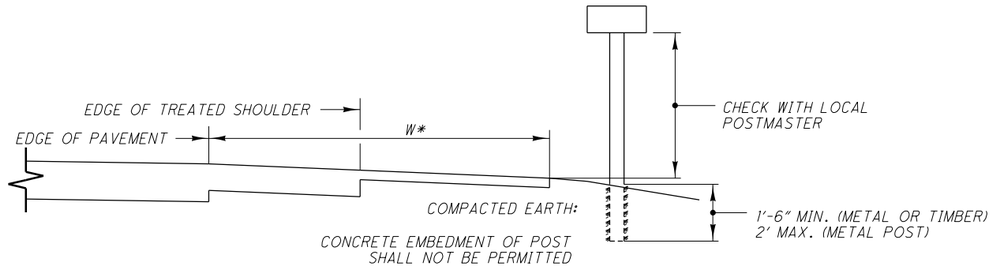
GROUP MAILBOX INSTALLATION



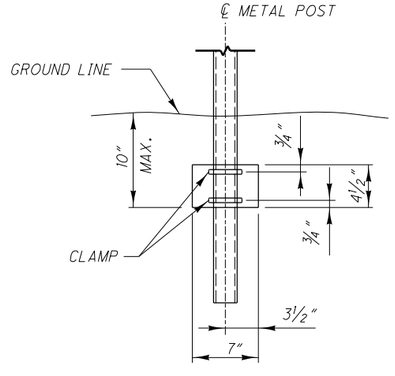
1. END MAILBOX TURNOUT AT EDGE OF ASPHALT CONCRETE SHOULDER OR 1' FROM EDGE OF PAVEMENT IF TREATED SHOULDER IS AGGREGATE.

W* NOTES
1) WHERE EXISTING STANDARD MAILBOX POSTS ARE BEHIND GUARDRAIL AND ARE TO REMAIN IN PLACE, TURNOUT WIDTH SHALL EXTEND TO FACE OF GUARDRAIL.
2) WHERE NO GUARDRAIL IS REQUIRED, TURNOUT WIDTH SHALL BE 6 FT MAXIMUM OR TO FACE OF EXISTING STANDARD MAILBOX IF IT IS LESS THAN 6 FT.
3) IF THE MAILBOX SUPPORT IS SPECIFIED TO BE REMOVED AND REERECTED OR REPLACED, WHERE GUARDRAIL IS REQUIRED, TURNOUT WIDTH SHALL EXTEND TO FACE OF GUARDRAIL AND MAILBOX SHALL BE INSTALLED BEHIND THE GUARDRAIL.
4) IF THE MAILBOX SUPPORT IS SPECIFIED TO BE REMOVED AND REERECTED OR REPLACED, WHERE NO GUARDRAIL IS REQUIRED, TURNOUT WIDTH SHALL BE 6 FT. MAXIMUM.

** NOTE
1) 6 FT FOR ONE MAILBOX SUPPORT, ADD 3 FT. FOR EACH ADDITIONAL MAILBOX SUPPORT.



CROSS SECTION / ELEVATION VIEW



ANTI-TWIST PLATE

CALCULATED JWS
CHECKED CAD

MAILBOX FACILITIES

HUR-4-6.68
ERI-4-0.00

10
26

I:\ProjectData\93110\Design\Roadway\Sheets\93110_GN001.dgn Sheet 7 11/21/2016 4:02:13 PM jschraib

SHEET NUM.											PART.					ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
5	6	7	10	13	14	15	23	24	25	26	01/STR/PV	02/NHS/PV	03/SC2/PV	04/STR/BR	05/NHS/BR						
																				ROADWAY	
										36			36			202	30500	36	FT	CONCRETE MEDIAN REMOVED	
										4			4			202	32000	4	FT	CURB REMOVED	
				25							19	4	2			209	72051	25	MILE	PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN	5
			67								32	11	24			209	80000	67	EACH	GRADING MAILBOX APPROACHES	
										5			5			511	53100	5	SY	CLASS QC2 CONCRETE, MISC.: (ROADWAY MEDIAN REPAIR)	9
										4			4			609	14000	4	FT	CURB, TYPE 2-A	
14											7	3	4			623	39500	14	EACH	MONUMENT BOX ADJUSTED TO GRADE	
			5								5					SPECIAL	69050100	5	EACH	MAILBOX SUPPORT SYSTEM, SINGLE	10
			4								4					SPECIAL	69050200	4	EACH	MAILBOX SUPPORT SYSTEM, DOUBLE	10
																				DRAINAGE	
8											8					611	98630	8	EACH	CATCH BASIN ADJUSTED TO GRADE	
																				PAVEMENT	
	1,176										1,013	91	72			251	01042	1,176	CY	PARTIAL DEPTH PAVEMENT REPAIR (ASPHALT CONCRETE BASE)	
	250										230	10	10			253	02000	250	CY	PAVEMENT REPAIR	
				225,767							162,054	45,980	17,733			254	01000	225,767	SY	PAVEMENT PLANING, ASPHALT CONCRETE (1.50 INCHES)	
				2,257							1,620	460	177			254	01600	2,257	SY	PATCHING PLANED SURFACE	
				20,319							14,585	4,138	1,596			407	10000	20,319	GAL	TACK COAT	
				9,757							7,022	1,972	763			442	10500	9,757	CY	ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (448)	
				1,199							924	193	82			617	10100	1,199	CY	COMPACTED AGGREGATE (11.5" AVG DEPTH FOR AGGREGATE SHOULDERS)	
			67								32	11	24			617	10100	67	CY	COMPACTED AGGREGATE (FOR MAILBOX APPROACHES)	
				25							19	4	2			618	41000	25	MILE	EDGE LINE, RUMBLE STRIPE (ASPHALT CONCRETE)	
																				TRAFFIC CONTROL	
					893						571	124	198			621	00100	893	EACH	RPM	
					893						571	124	198			621	54000	893	EACH	RAISED PAVEMENT MARKER REMOVED	
					20.6						19.3		1.3			642	00104	20.6	MILE	EDGE LINE, 6", TYPE 1	
					0.87						0.87					642	00204	0.87	MILE	LANE LINE, 6", TYPE 1	
					11.78						9.65	1.24	0.89			642	00300	11.78	MILE	CENTER LINE, TYPE 1	
					3,365						540	920	1,905			644	00400	3,365	FT	CHANNELIZING LINE, 8"	
					555						347	118	90			644	00500	555	FT	STOP LINE	
					2,213						331	68	1,814			644	00700	2,213	FT	TRANSVERSE/DIAGONAL LINE	
					35						3	20	12			644	01300	35	EACH	LANE ARROW	
					4						4					644	01350	4	EACH	LANE REDUCTION ARROW	
																				TRAFFIC SIGNALS	
						52					30		22			632	26501	52	EACH	DETECTOR LOOP, AS PER PLAN	15
																				STRUCTURE REPAIR (ERI-4-2.56)	
							13							13		202	23000	13	SY	PAVEMENT REMOVED	
							200							200		202	38200	200	FT	GUARDRAIL REMOVED FOR REUSE	
							114							114		409	30000	114	FT	SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS	
							1							1		442	10501	1	CY	ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (448), AS PER PLAN (PG 64-22)	6
							13							13		512	33010	13	SY	TYPE 3 WATERPROOFING	
																				STRUCTURE REPAIR (ERI-4-3.07)	
								191						191		512	10300	191	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN	
																				STRUCTURE REPAIR (ERI-4-8.43)	
										3					3	202	11305	3	SY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	9
										2					2	511	53012	2	CY	CLASS QC2 CONCRETE, MISC.: (STRUCTURE MEDIAN REPAIR)	9
										2					2	512	10300	2	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN	
										20					20	516	14600	20	FT	STRUCTURAL JOINT OR JOINT SEALER, MISC.: REMOVE AND REPLACE SEALING STRIP	26
									10						10	516	45304	10	EACH	REFURBISH BEARING DEVICE	
									LS						LS	516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	9

CALCULATED JWS
CHECKED CAD

GENERAL SUMMARY

HUR-4-6.68
ERI-4-0.00

SHEET NUM.											PART.					ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
5	6	7	10	13	14	15	23	24	25	26	01/STR/PV	02/NHS/PV	03/SC2/PV	04/STR/BR	05/NHS/BR						
																				MAINTENANCE OF TRAFFIC	
		120									60	10	30	10	10	614	11110	120	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
		84									66	8	10			614	12460	84	EACH	WORK ZONE MARKING SIGN	
		100									60	20	20			614	13000	100	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
					21.76						19.3	1.16	1.3			614	21100	21.76	MILE	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	
					555						347	118	90			614	26610	555	FT	WORK ZONE STOP LINE, CLASS III, 642 PAINT	
																				INCIDENTALS	
											LS	LS	LS	LS	LS	614	11000	LS		MAINTAINING TRAFFIC	
											1				1	619	16010	2	MNTH	FIELD OFFICE, TYPE B	
											LS	LS	LS	LS	LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
											LS	LS	LS	LS	LS	624	10000	LS		MOBILIZATION	

CALCULATED JWS
CHECKED CAD

GENERAL SUMMARY

HUR-4-6.68
ERI-4-0.00

12
26

I:\ProjectData\93110\Design\Roadway\Sheets\93110_GG001.dgn Sheet 2 11/21/2016 4:02:14 PM jschraib

FUNDING SPLIT	COUNTY	ROUTE	LOG POINT TO LOG POINT		LENGTH		AVERAGE WIDTH	PAVEMENT AREA		254 PAVEMENT PLANING, ASPHALT CONCRETE (1.50 INCHES)	254 PATCHING PLANED SURFACE		407 TACK COAT @ 0.09 GAL/SY	442 ASPHALT CONCRETE SURFACE COURSE, 9.5MM, TYPE A (448) AS PER PLAN (1.50" THICK)	442 ASPHALT CONCRETE SURFACE COURSE, 9.5MM, TYPE A (448) AS PER PLAN (SAFETY EDGE)		209 PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN	AGGREGATE SHOULDER WIDTH		617 COMPACTED AGGREGATE		618 EDGE LINE, RUMBLE STRIPE (ASPHALT CONCRETE)
			STRAIGHT LINE MILEAGE		MILE	FT	FT	SQ YD		SY	SY		GAL	CY	CY		MILE	SL FT	SR FT	1.50" THICK AVE. CY		MILE
01/STR/PV	HUR	4	6.68	8.38	1.70	8,976	26.0	25,931		25,931	259		2,334	1,080	48		3.40	2.0	2.0	166.2		3.40
01/STR/PV	ERI	4	0.00	0.17	0.17	898	26.0	2,594		2,594	26		233	108	5		0.34	2.0	2.0	16.6		0.34
01/STR/PV	ERI	4	0.17	0.33	0.16	845	55.0	5,164		5,164	52		465	215	5		0.32	2.0	2.0	15.6		0.32
SUSPEND & RESUME FOR CONCRETE STRUCTURE - (ERI-4-0.33)																						
01/STR/PV	HUR	4	0.45	0.70	0.25	1,320	66.0	9,680		9,680	97		871	403	7		0.50	2.0	2.0	24.4		0.50
01/STR/PV	ERI	4	0.70	0.80	0.10	528	39.0	2,288		2,288	23		206	95	3		0.20	2.0	2.0	9.8		0.20
01/STR/PV	ERI	4	0.80	2.57	1.77	9,361	26.0	27,043		27,043	270		2,434	1,127	51		3.55	2.0	2.0	173.4		3.55
01/STR/PV	ERI	4	2.57	2.59	0.02	100	40.0	444		444	4		40	19	1		0.04	2.0	2.0	1.9		0.04
01/STR/PV	ERI	4	2.59	3.02	0.43	2,260	26.0	6,529		6,529	65		588	272	12		0.86	2.0	2.0	41.9		0.86
01/STR/PV	ERI	4	3.02	3.07	0.04	238	32.0	846		846	8		76	35	1		0.09	2.0	2.0	4.4		0.09
SUSPEND & RESUME FOR CONCRETE STRUCTURE - (ERI-4-3.07)																						
01/STR/PV	ERI	4	3.07	3.12	0.05	253	32.0	900		900	9		81	38	1		0.10	2.0	2.0	4.7		0.10
01/STR/PV	ERI	4	3.12	3.66	0.54	2,851	26.0	8,236		8,236	82		741	343	15		1.08	2.0	2.0	52.8		1.08
01/STR/PV	ERI	4	3.66	3.73	0.07	370	46.0	1,891		1,891	19		170	79	2		0.14	2.0	2.0	6.9		0.14
SUSPEND & RESUME FOR CONCRETE STRUCTURE - (ERI-4-3.74)																						0.00
01/STR/PV	ERI	4	3.80	4.04	0.24	1,267	53.0	7,461		7,461	75		671	311	7		0.48	2.0	2.0	23.5		0.48
01/STR/PV	ERI	4	4.04	7.95	3.91	20,645	26.0	59,641		59,641	596		5,368	2,485	112		7.82	2.0	2.0	382.3		7.82
03/S<2/PV	ERI	4	7.95	8.24	0.29	1,531	26.0	4,423		4,423	44		398	184	8		0.58	2.0	2.0	28.4		0.58
03/S<2/PV	ERI	4	8.24	8.40	0.16	845	50.0	4,694		4,694	47		422	196	5		0.32	2.0	2.0	15.6		0.32
SUSPEND & RESUME FOR CONCRETE STRUCTURE - (ERI-4-8.43)																		2.0	2.0	0.0		
03/S<2/PV	ERI	4	8.46	8.60	0.14	760	50.0	4,222		4,222	42		380	176	4		0.29	2.0	2.0	14.1		0.29
SUSPEND & RESUME																						
03/S<2/PV	ERI	4	9.10	9.34	0.24	1,267	26.0	3,660		3,660	37		329	153	7		0.48	2.0	2.0	23.5		0.48
02/NHS/PV	ERI	4	9.34	9.73	0.39	2,059	26.0	5,948		5,948	59		535	248	11		0.78	2.0	2.0	38.1		0.78
02/NHS/PV	ERI	4	9.73	10.80	1.07	5,650	42.0	26,367		26,367	264		2,373	1,099	31		2.14	2.0	2.0	104.6		2.14
02/NHS/PV	ERI	4	10.08	10.17	0.09	475	54.0	2,850		2,850	29		257	119	3		0.18	2.0	2.0	8.8		0.18
02/NHS/PV	ERI	4	10.17	10.59	0.42	2,218	42.0	10,351		10,351	104		932	431	12		0.84	2.0	2.0	41.1		0.84
01/STR/PV	EXTRA AREA FOR INTERSECTIONS							1,474		1,474	15		133	61								
02/NHS/PV	EXTRA AREA FOR INTERSECTIONS							147		147	1		13	6								
03/S<2/PV	EXTRA AREA FOR INTERSECTIONS							179		179	2		16	7								
01/STR/PV	EXTRA AREA FOR PAVED DRIVES							1,152		1,152	12		104	48								
02/NHS/PV	EXTRA AREA FOR PAVED DRIVES							207		207	2		19	9								
03/S<2/PV	EXTRA AREA FOR PAVED DRIVES							315		315	3		28	13								
01/STR/PV	EXTRA AREA FOR EX. & PR. MAILBOX APPROACHES							780		780	8		70	33								
02/NHS/PV	EXTRA AREA FOR EX. & PR. MAILBOX APPROACHES							110		110	1		10	5								
03/S<2/PV	EXTRA AREA FOR EX. & PR. MAILBOX APPROACHES							240		240	2		22	10								
SUB-TOTAL FOR PLAN SPLIT (01/STR/PV)										162,054	1,620		14,585	6,752	270		19	28	28	924		19
SUB-TOTAL FOR PLAN SPLIT (02/NHS/PV)										45,980	460		4,138	1,916	56		4	8	8	193		4
SUB-TOTAL FOR PLAN SPLIT (03/S<2/PV)										17,733	177		1,596	739	24		2	8	8	82		2
TOTAL CARRIED TO THE GENERAL SUMMARY										**225,767**	**2,257**		**20,319**	**9,407**	**350**		**25**	**46**	**46**	**1,199**		**25**

CALCULATED JWS CHECKED CAD

PAVEMENT & SHOULDER DATA

HUR-4-6.68
ERI-4-0.00

AUXILIARY & LONG LINE MARKINGS

FUNDING SPLIT	COUNTY	ROUTE	STATION / SLM FROM	STATION / SLM TO	HIGHWAY MILES MILE		DESCRIPTION		614 WORK ZONE CENTER LINE, CLASS I, 642 PAINT MILE	614 WORK ZONE STOP LINE, CLASS III, 642 PAINT FT			642, TYPE 1 EDGE LINE, 6" MILE	642, TYPE 1 LANE LINE, 6" MILE	642, TYPE 1 CENTER LINE SOLID LINE EQUIVALENT MILE	642, TYPE 1 CENTER LINE TOTAL (PAY QUANTITY) MILE	
01/STR/PV	HUR	4	6.68	8.38	1.70				3.40	24			3.40		1.49	1.70	
01/STR/PV	ERI	4	0.00	1.00	1.00				2.00	48			2.00	0.87	2.17	1.00	
01/STR/PV	ERI	4	1.00	2.00	1.00				2.00				2.00		0.25	1.00	
01/STR/PV	ERI	4	2.00	3.00	1.00				2.00	24			2.00		0.55	1.00	
01/STR/PV	ERI	4	3.00	4.00	1.00				2.00	36			2.00		1.11	1.00	
01/STR/PV	ERI	4	4.00	5.00	1.00				2.00	100			2.00		0.89	1.00	
01/STR/PV	ERI	4	5.00	6.00	1.00				2.00	52			2.00		0.56	1.00	
01/STR/PV	ERI	4	6.00	7.00	1.00				2.00				2.00		0.25	1.00	
01/STR/PV	ERI	4	7.00	7.95	0.95				1.90	63			1.90		0.41	0.95	
03/S<2/PV	ERI	4	7.95	8.00	0.05				0.10				0.10		0.10	0.05	
03/S<2/PV	ERI	4	8.00	8.60	0.60				1.20	90			1.20		1.60	0.60	
SUSPEND & RESUME			8.60	9.10	0.50												
03/S<2/PV	ERI	4	9.10	9.34	0.24										0.06	0.24	
02/NHS/PV	ERI	4	9.34	10.00	0.66					12					0.93	0.66	
02/NHS/PV	ERI	4	10.00	10.58	0.58				1.16	106					1.38	0.58	
01/STR/PV SUB-TOTAL									19.30	347			19.30	0.87	7.68	9.65	
02/NHS/PV SUB-TOTAL									1.16	118					2.31	1.24	
03/S<2/PV SUB-TOTAL									1.30	90			1.30		1.76	0.89	
TOTALS TO GENERAL SUMMARY									**21.76**	**555**			**20.60**	**0.87**	**11.75**	**11.78**	

644 AUXILIARY MARKINGS (740.04) CHANNELIZING LINE 8" FT	STOP LINE FT	TRANSVERSE/ DIAGONAL LINE FT	LANE ARROW LEFT EACH	LANE ARROW RIGHT EACH	LANE REDUCTION ARROW EACH
	24				
	48				4
	24				
540	36	331	3		
	100				
	52				
	63				
1905	90	1,814	6	6	
	12	68	2		
920	106		14	4	
540	347	331	3		4
920	118	68	16	4	
1,905	90	1,814	6	6	
3,365	**555**	**2,213**	**25**	**10**	**4**

RAISED PAVEMENT MARKERS

FUNDING SPLIT	COUNTY	ROUTE	STATION/SLM FROM	STATION/SLM TO	DETAIL	621 RAISED PAVEMENT MARKER REMOVED EACH	621 RPM EACH	PRISMATIC RETRO-REFLECTOR TYPES ONE-WAY WHITE EACH	TWO-WAY YELLOW / YELLOW	TWO-WAY WHITE / RED	TWO-WAY YELLOW / RED	TWO-WAY BLUE / BLUE	REMARKS
01/STR/PV	HUR	4	6.68	6.86	6	21	21	16	5				STOP APPROACH @ US 20
01/STR/PV	HUR	4	6.86	7.82	GAP	15	15		15				CONTINUOUS ROUTE TREATMENT
01/STR/PV	HUR	4	7.82	8.22	6	34	34	24	10				STOP APPROACHES @ SR 113
01/STR/PV	HUR	4	8.22	8.38	GAP	5	5		5				CONTINUOUS ROUTE TREATMENT
01/STR/PV	ERI	4	0.00	0.16	GAP	11	11		11	0			CONTINUOUS ROUTE TREATMENT
01/STR/PV	ERI	4	0.16	0.82	11	91	91		42	49			2-4 LANE TRANSITION & 4-LANE OVER R.R.
01/STR/PV	ERI	4	0.82	4.50	GAP	209	209		195	14			CONTINUOUS ROUTE TREATMENT
01/STR/PV	ERI	4	4.49	4.83	8	22	22		22				THRU APPROACHES @ SR 99
01/STR/PV	ERI	4	4.83	7.75	GAP	136	136		136				CONTINUOUS ROUTE TREATMENT
01/STR/PV	ERI	4	7.75	7.95	6	27	27	16	11				STOP APPROACHES @ BOGART RD.
03/S<2/PV	ERI	4	7.95	8.15	6	27	27	16	11				STOP APPROACHES @ BOGART RD.
03/S<2/PV	ERI	4	8.15	8.60	11	171	171	130	25	16			2-4 LANE TRANSITIONS @ SR 2
02/NHS/PV	ERI	4	9.69	10.59	7, 13	124	124		112	12			CLLTO AND TURN LANES
01/STR/PV SUB-TOTAL						571	571						
02/NHS/PV SUB-TOTAL						124	124						
03/S<2/PV SUB-TOTAL						198	198						
TOTALS TO GENERAL SUMMARY						**893**	**893**						

DETAIL	DESCRIPTION
1	MULTILANE UNDIVIDED TYPICAL SPACING
2	TAPERED ACCEL. LANE
3	DECELERATION LANE
4	PARALLEL ACCEL LANE
5	MULTILANE DIVIDED/EXPRESSWAY
6	STOP APPROACH
7	2 LANE APPR. WITH TURN LANE
8	THROUGH APPROACH
9	3 LANE APPR. WITH TURN LANE
10	3 LANE DIVIDED TO 2 LANE TRANSITION
11	3 LANE UNDIVIDED TO 2 LANE TRANSITION
12	TWO LNAE NARROW BRIDGE
13	TWO WAY LEFT TURN LANE
14	ONE LANE BRIDGE
15	HORIZONTAL CURVE
16	HORIZONTAL CURVE ALT.
17	STOP APPROACH ALT.
18	FIRE HYDRANT
GAP	CENTER LINE AT 80 FT. TYP.

NOTES:

1) THRU LANES SHALL BE STRIPED TO MATCH EXISTING WIDTHS ACCORDING TO TC-73.10.

2) FOR ALL WORK ZONE MARKINGS, THE 642 PAINT USED SHALL BE TYPE 1.

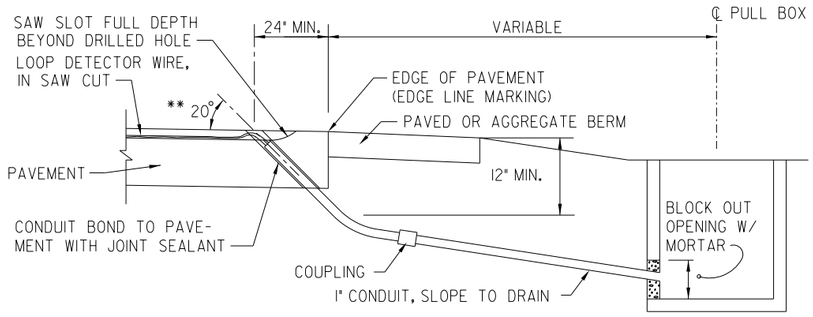
CALCULATED JWS CHECKED CAD

PAVEMENT MARKING/RPM SUB-SUMMARY

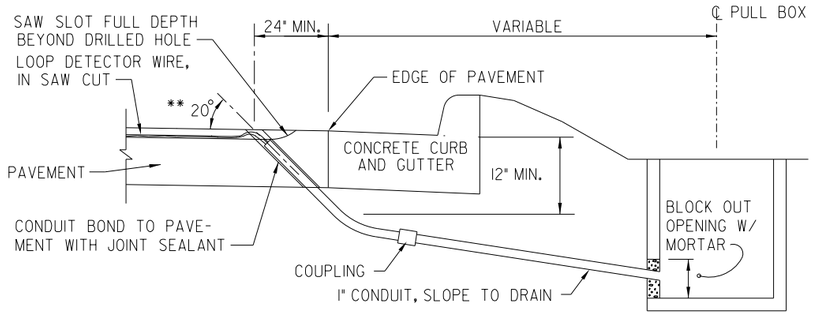
HUR-4-6.68
ERI-4-0.00

14
26

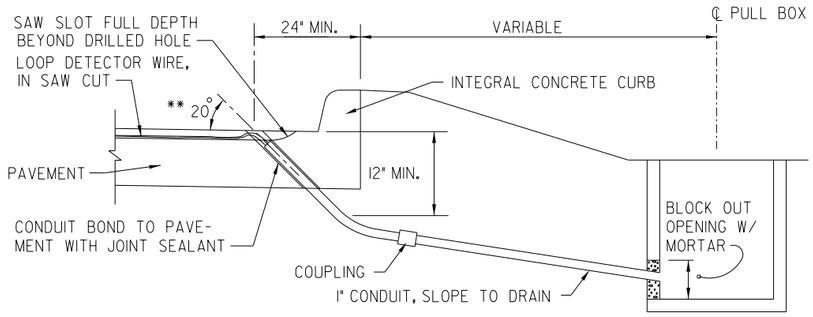
I:\ProjectData\93110\Design\Roadway\Sheets\93110_TS001.dgn Sheet 11/21/2016 4:02:16 PM jschraib



DRILLED HOLE LOCATION DETAIL WITH PAVED OR AGGREGATE BERM



DRILLED HOLE LOCATION DETAIL WITH CONCRETE CURB AND GUTTER

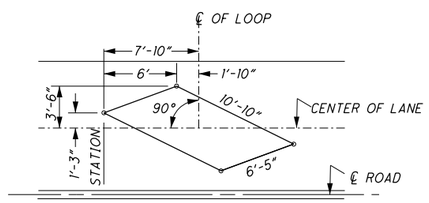


DRILLED HOLE LOCATION DETAIL WITH INTEGRAL CONCRETE CURB

* *CONDUIT SHALL BE 1" DIAMETER 725.04.*

* *THE RANGE OF THIS ANGLE SHALL BE FROM 15 TO 30 DEGREES.*

NOTE: SEE STANDARD DRAWING TC-82.10 FOR ADDITIONAL NOTES AND DETAILS



ANGULAR DESIGN DETECTION (ADD) LOOP DETAIL FOR LANE WIDTH 11' & LARGER

ITEM 632- DETECTOR LOOP, AS PER PLAN

AN ESTIMATED QUANTITY OF ITEM 632, DETECTOR LOOP, AS PER PLAN, HAS BEEN PROVIDED FOR THE PURPOSE OF REPLACING DAMAGED DETECTOR LOOPS AND/OR UPGRADING DETECTOR LOOPS TO IMPROVE MOTORCYCLE DETECTION. IT IS IMPERATIVE THAT REPLACEMENT OF DETECTOR LOOPS BE INSTALLED AND FULLY FUNCTIONAL IN THE SHORTEST POSSIBLE TIME. THE CONTRACTOR SHALL HAVE REPLACEMENT DETECTOR LOOPS INSTALLED AND FULLY FUNCTIONAL WITHIN 7 CALENDAR DAYS OF DESTRUCTION OF THE EXISTING DETECTOR LOOPS.

THE CONTRACTOR SHALL NOTIFY MATT BLANKENSHIP, ODOT DISTRICT 3 ROADWAY SERVICES MANAGER, (PHONE 419-207-7045) 5 WORKING DAYS IN ADVANCE OF ANY PLANING OPERATIONS OR PAVEMENT REPAIR WORK. THIS NOTIFICATION IS NEEDED FOR DISTRICT 3 TO SCHEDULE TEMPORARY SIGNAL TIMING MODIFICATIONS FOR THE TIME PERIOD WHEN THE DETECTOR LOOPS ARE OUT OF OPERATION. THE CONTRACTOR SHALL THEN RENOTIFY MR. BLANKENSHIP WITHIN 2 WORKING DAYS AFTER THE NEW DETECTOR LOOPS ARE REPLACED SO THAT HE CAN RESCHEDULE DISTRICT CREWS TO RESTORE SIGNAL TIMINGS TO THE ORIGINAL SETTINGS. IN ADDITION, THE CONTRACTOR SHALL ALSO NOTIFY CRAIG DEVORE, ODOT DISTRICT 3 PLANNING AND ENGINEERING DEPT. (PHONE 419-207-7169) WHEN THE NEW LOOPS ARE INSTALLED.

FAILURE TO COMPLY WITH THE ABOVE STATED REQUIREMENTS WILL RESULT IN THE ASSESSMENT OF A DISINCENTIVE FEE OF $500.00 PER DAY TO THE CONTRACTOR FOR EACH CALENDAR DAY BEYOND THE SPECIFIED LIMIT.

THE NEW DETECTOR LOOPS SHALL BE PLACED PER THE PLAN DETAILS AFTER THE PLANING AND PAVEMENT REPAIR OPERATIONS ARE COMPLETED WITHIN THE AFFECTED AREAS. THE DETECTOR LOOPS SHALL NOT BE CUT INTO THE SURFACE COURSE.

IN ADDITION TO THE REQUIREMENTS OF CMS 632.11, THE CONTRACTOR SHALL PROVIDE A POSITIVE AND EFFECTIVE MEANS FOR REMOVAL OF SOLID RESIDUE RESULTING FROM THE DRY SAW BLADE CUTTING OF LOOP DETECTOR SLOTS IN THE PAVEMENT. THE RESIDUE SHALL BE REMOVED BY VACUUM OR OTHER EFFECTIVE MEANS, BEFORE IT IS BLOWN BY TRAFFIC ACTION OR WIND. RESIDUE FROM DRY CUTTING SHALL NOT BE REMOVED BY COMPRESSED AIR. AS AN ALTERNATE, THE CONTRACTOR MAY USE WET CUTTING.

LOOP DETECTOR WIRE TO LEAD-IN CABLE SPLICES WITHIN EPOXY ENCAPSULATED SPLICE ENCLOSURES SHALL BE JOINED BY AN APPROVED CONNECTOR AND SOLDERED PER CMS 632.23 & 725.15. ALL COSTS ASSOCIATED WITH THE SOLDERED SPLICE CONNECTION AND EPOXY SPLICE KIT SHALL BE INCLUDED WITH THE DETECTOR LOOP.

IF THE PULL BOX IS NOT SPECIFIED IN THE PLANS, THE SPLICE SHALL BE MADE IN THE FIRST ENTERED POLE OR PEDESTAL, EXCEPT WHERE THE CONTROLLER CABINET IS MOUNTED ON THE POLE OR PEDESTAL, IN WHICH CASE THE LOOP WIRES SHALL BE ROUTED DIRECTLY INTO THE CABINET UNLESS SPECIFIED DIFFERENTLY IN THE PLANS. LOOP DETECTOR WIRE ROUTED THROUGH CONDUIT, PULL BOXES, POLES, AND PEDESTALS SHALL BE TWISTED PER CMS 632.23.

FURNISH ALL MATERIALS ACCORDING TO THE DEPARTMENT'S QUALIFIED PRODUCTS LIST (QPL).

SEE DETAILS ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH FOR ITEM 632, DETECTOR LOOP, AS PER PLAN.

ITEM 632 - DETECTOR LOOP, AS PER PLAN	*30 EACH*	*(01/STR/PV)*
ITEM 632 - DETECTOR LOOP, AS PER PLAN	*22 EACH*	*(03/S<2/PV)*

CALCULATED JWS
CHECKED CAD

LOOP DETECTOR DETAILS
GENERAL NOTES

HUR-4-6.68
ERI-4-0.00

LOOP DETECTOR CHART

LOOP	SIZE (FT.)	NO. OF TURNS	MODE	DELAY (SEC.)	CONNECT TO DETECTOR UNIT NO.	ASSOCIATED CONTROLLER PHASE
L-1	5X5	3	PULSE	3**	1	2
L-2	5X5	3	PULSE	3**	1	2
L-3	6X30	3+3	PRESENCE	10**	2	2
L-3A	8X10	3	PRESENCE	10**	2	2
L-4	6X30	2	PRESENCE	10**	3	2
L-4A	8X20	2	PRESENCE	10**	3	2
L-5	5X5	3	PULSE	3**	4	2
L-6	5X5	3	PULSE	3**	4	2
L-7	A.D.D. A=4.5'	3	PULSE		5	1
L-8	5X5	3	PULSE		5	1
L-9	5X5	3	PULSE		6	1
L-10	5X5	3	PULSE		6	1

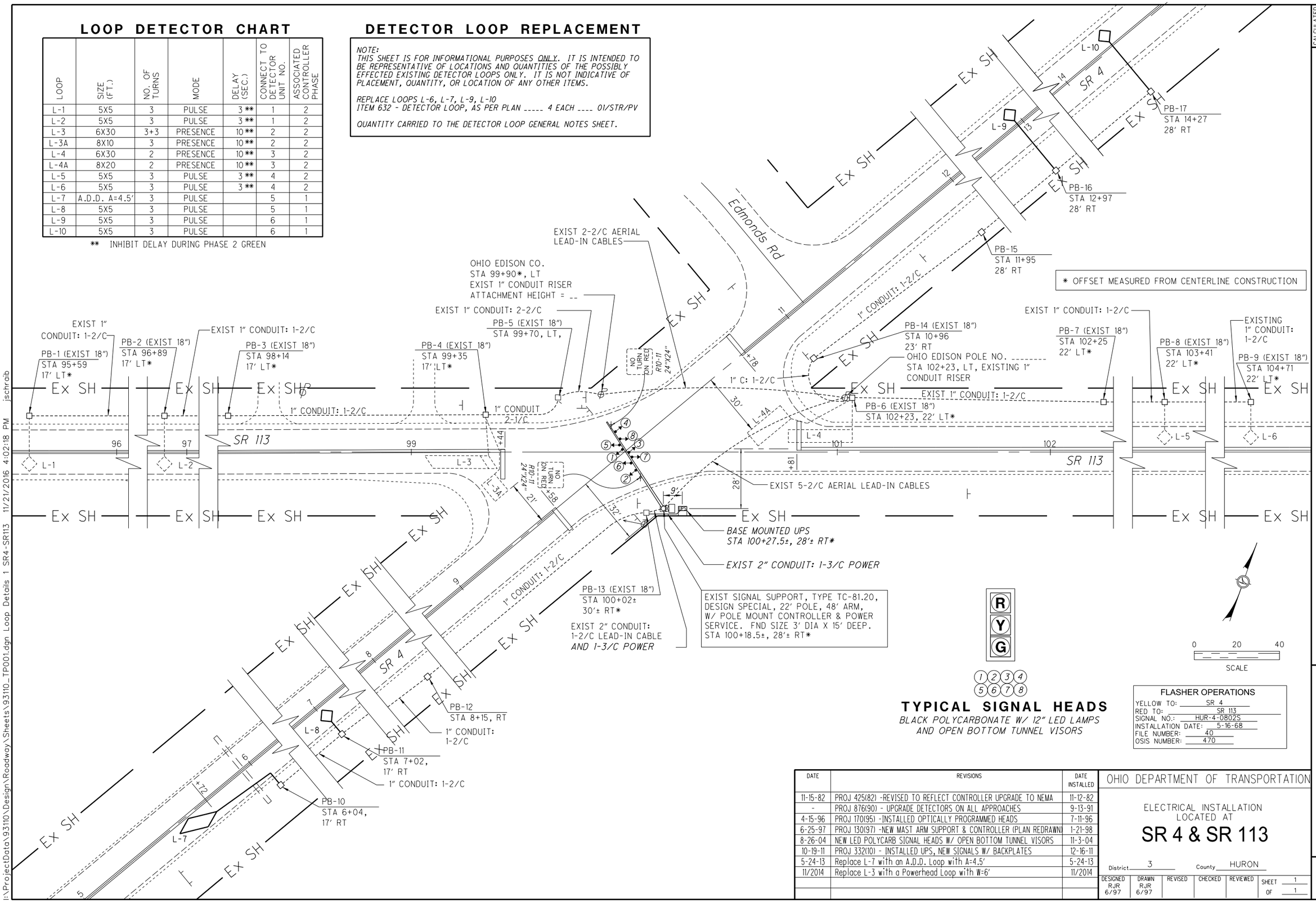
** INHIBIT DELAY DURING PHASE 2 GREEN

DETECTOR LOOP REPLACEMENT

NOTE:
THIS SHEET IS FOR INFORMATIONAL PURPOSES ONLY. IT IS INTENDED TO BE REPRESENTATIVE OF LOCATIONS AND QUANTITIES OF THE POSSIBLY EFFECTED EXISTING DETECTOR LOOPS ONLY. IT IS NOT INDICATIVE OF PLACEMENT, QUANTITY, OR LOCATION OF ANY OTHER ITEMS.

REPLACE LOOPS L-6, L-7, L-9, L-10
ITEM 632 - DETECTOR LOOP, AS PER PLAN _____ 4 EACH ____ 01/STR/PV

QUANTITY CARRIED TO THE DETECTOR LOOP GENERAL NOTES SHEET.



TYPICAL SIGNAL HEADS

BLACK POLYCARBONATE W/ 12" LED LAMPS AND OPEN BOTTOM TUNNEL VISORS

FLASHER OPERATIONS

YELLOW TO: SR 4
RED TO: SR 113
SIGNAL NO.: HUR-4-0802S
INSTALLATION DATE: 5-16-68
FILE NUMBER: 40
OSIS NUMBER: 470

DATE	REVISIONS	DATE INSTALLED
11-15-82	PROJ 425(82) -REVISED TO REFLECT CONTROLLER UPGRADE TO NEMA	11-12-82
-	PROJ 876(90) - UPGRADE DETECTORS ON ALL APPROACHES	9-13-91
4-15-96	PROJ 170(95) -INSTALLED OPTICALLY PROGRAMMED HEADS	7-11-96
6-25-97	PROJ 130(97) -NEW MAST ARM SUPPORT & CONTROLLER (PLAN REDRAWN)	1-21-98
8-26-04	NEW LED POLYCARB SIGNAL HEADS W/ OPEN BOTTOM TUNNEL VISORS	11-3-04
10-19-11	PROJ 332(10) - INSTALLED UPS, NEW SIGNALS W/ BACKPLATES	12-16-11
5-24-13	Replace L-7 with an A.D.D. Loop with A=4.5'	5-24-13
11/2014	Replace L-3 with a Powerhead Loop with W=6'	11/2014

OHIO DEPARTMENT OF TRANSPORTATION

ELECTRICAL INSTALLATION LOCATED AT

SR 4 & SR 113

District 3 County HURON

DESIGNED	DRAWN	REVISED	CHECKED	REVIEWED	SHEET
RJR 6/97	RJR 6/97				1 OF 1

CALCULATED JWS CHECKED CAD

LOOP DETECTOR DETAILS
SR 4 & SR 113

HUR-4-6.68
ERI-4-0.00

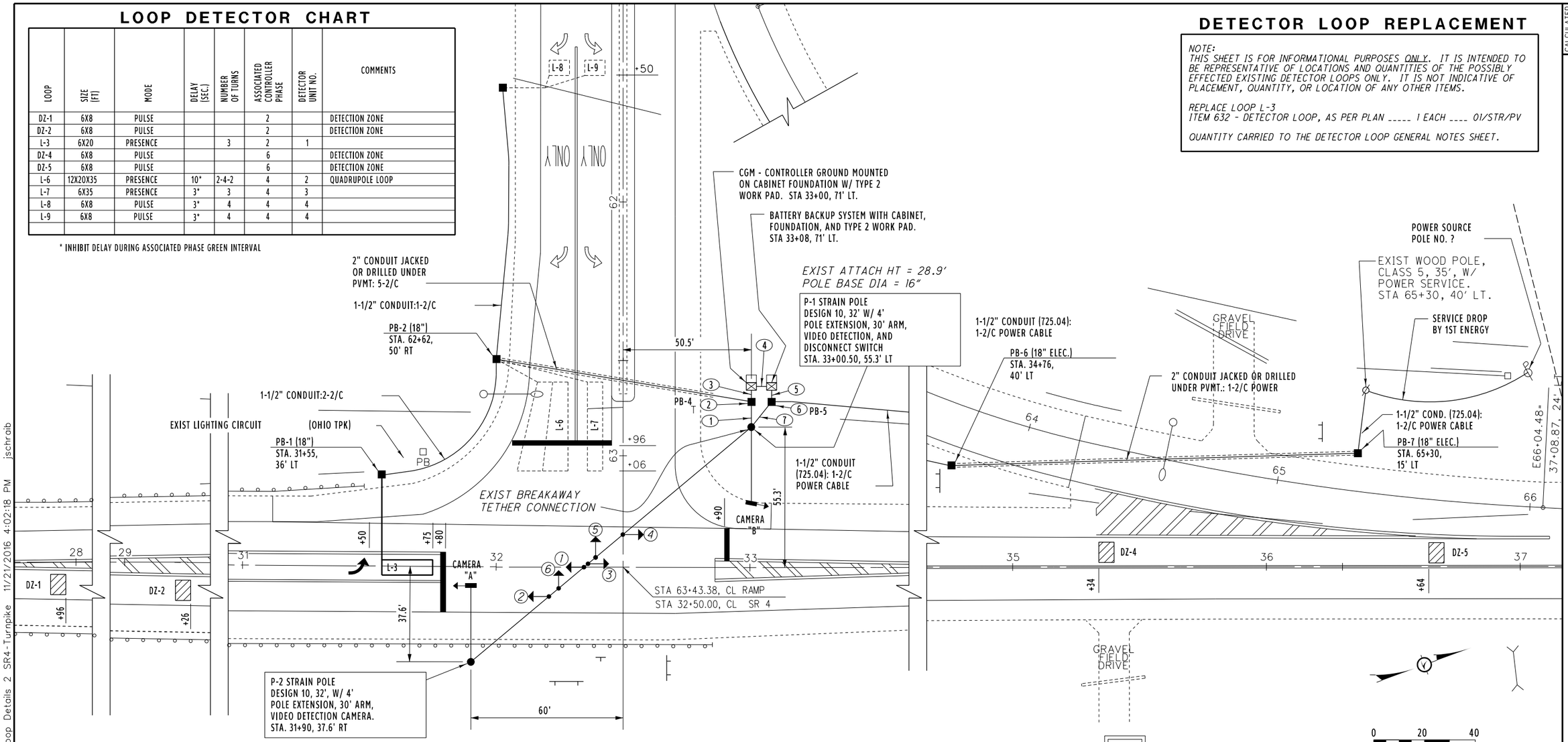
16
26

I:\ProjectData\93110\Design\Roadway\Sheets\93110_TP001.dgn Loop Details 1 SR4-SR113 11/21/2016 4:02:18 PM jschraib

LOOP DETECTOR CHART

LOOP	SIZE (FT)	MODE	DELAY (SEC.)	NUMBER OF TURNS	ASSOCIATED CONTROLLER PHASE	DETECTOR UNIT NO.	COMMENTS
DZ-1	6X8	PULSE			2		DETECTION ZONE
DZ-2	6X8	PULSE			2		DETECTION ZONE
L-3	6X20	PRESENCE		3	2	1	
DZ-4	6X8	PULSE			6		DETECTION ZONE
DZ-5	6X8	PULSE			6		DETECTION ZONE
L-6	12X20X35	PRESENCE	10*	2-4-2	4	2	QUADRUPOLE LOOP
L-7	6X35	PRESENCE	3*	3	4	3	
L-8	6X8	PULSE	3*	4	4	4	
L-9	6X8	PULSE	3*	4	4	4	

* INHIBIT DELAY DURING ASSOCIATED PHASE GREEN INTERVAL



DETECTOR LOOP REPLACEMENT

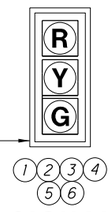
NOTE:
THIS SHEET IS FOR INFORMATIONAL PURPOSES ONLY. IT IS INTENDED TO BE REPRESENTATIVE OF LOCATIONS AND QUANTITIES OF THE POSSIBLY EFFECTED EXISTING DETECTOR LOOPS ONLY. IT IS NOT INDICATIVE OF PLACEMENT, QUANTITY, OR LOCATION OF ANY OTHER ITEMS.

REPLACE LOOP L-3
ITEM 632 - DETECTOR LOOP, AS PER PLAN _____ 1 EACH ____ 01/STR/PV

QUANTITY CARRIED TO THE DETECTOR LOOP GENERAL NOTES SHEET.

0 20 40
SCALE IN FEET

5" BACKPLATE W/ YELLOW REFLECTIVE TAPE BORDER PER CMS 732.22, TYPICAL ALL SIGNAL HEADS



TYPICAL SIGNAL HEADS

BLACK POLYCARBONATE W/ 12" LED LAMPS

FLASHER OPERATION

YELLOW TO	SR 4
RED TO	TPK RAMP
SIGNAL NO.	ERI-4-0387S
INSTALLATION DATE	10-24-08
FILE NO.	4504
OSIS NO.	18124

DATE	REVISIONS	DATE INSTALLED
10-12-11	PROJ 332(10) - INSTALLED UPS, NEW SIGNALS W/ BACKPLATES	12-7-11

OHIO DEPARTMENT OF TRANSPORTATION

ELECTRICAL INSTALLATION LOCATED AT

SR4 & OHIO TPK

DISTRICT 3 COUNTY ERIE

DRAWN RJR 4/08

1/1

CALCULATED JWS CHECKED CAD

LOOP DETECTOR DETAILS
SR 4 & OHIO TURNPIKE

HUR-4-6.68
ERI-4-0.00

17
26

11/21/2016 4:02:18 PM jschraib
I:\ProjectData\93110\Design\Roadway\Sheets\93110_TP001.dgn Loop Details 2 SR4-Turnpike

LOOP DETECTOR CHART

LOOP DESIGNATION	SIZE (FEET)	NO. OF TURNS	SHAPE	PULSE OR PRESENCE	DELAY (SEC.)	CONNECT TO DETECTOR NO.	ASSOCIATED CONTROLLER PHASE
L1	5 X 5	3	SQUARE	PRESENCE	3*	1	2
L2	5 X 5	3	SQUARE	PRESENCE	3*	1	2
L3	8 X 30	2	RECTANGLE	PRESENCE	8*	2	2
L3A	8 X 20	2	RECTANGLE	PRESENCE	8*	2	2
L4	5 X 5	3	SQUARE	PULSE	0	3	1
L5	5 X 5	3	SQUARE	PULSE	0	3	1
L6	5 X 5	3	SQUARE	PULSE	0	4	1
L7	5 X 5	3	SQUARE	PULSE	0	4	1
L8	8 X 30	2	RECTANGLE	PRESENCE	8*	5	2
L8A	8 X 20	2	RECTANGLE	PRESENCE	8*	5	2
L9	5 X 5	3	SQUARE	PRESENCE	3*	6	2
L10	5 X 5	3	SQUARE	PRESENCE	3*	6	2
L11	8 X 30	2	RECTANGLE	PRESENCE	8*	7	2

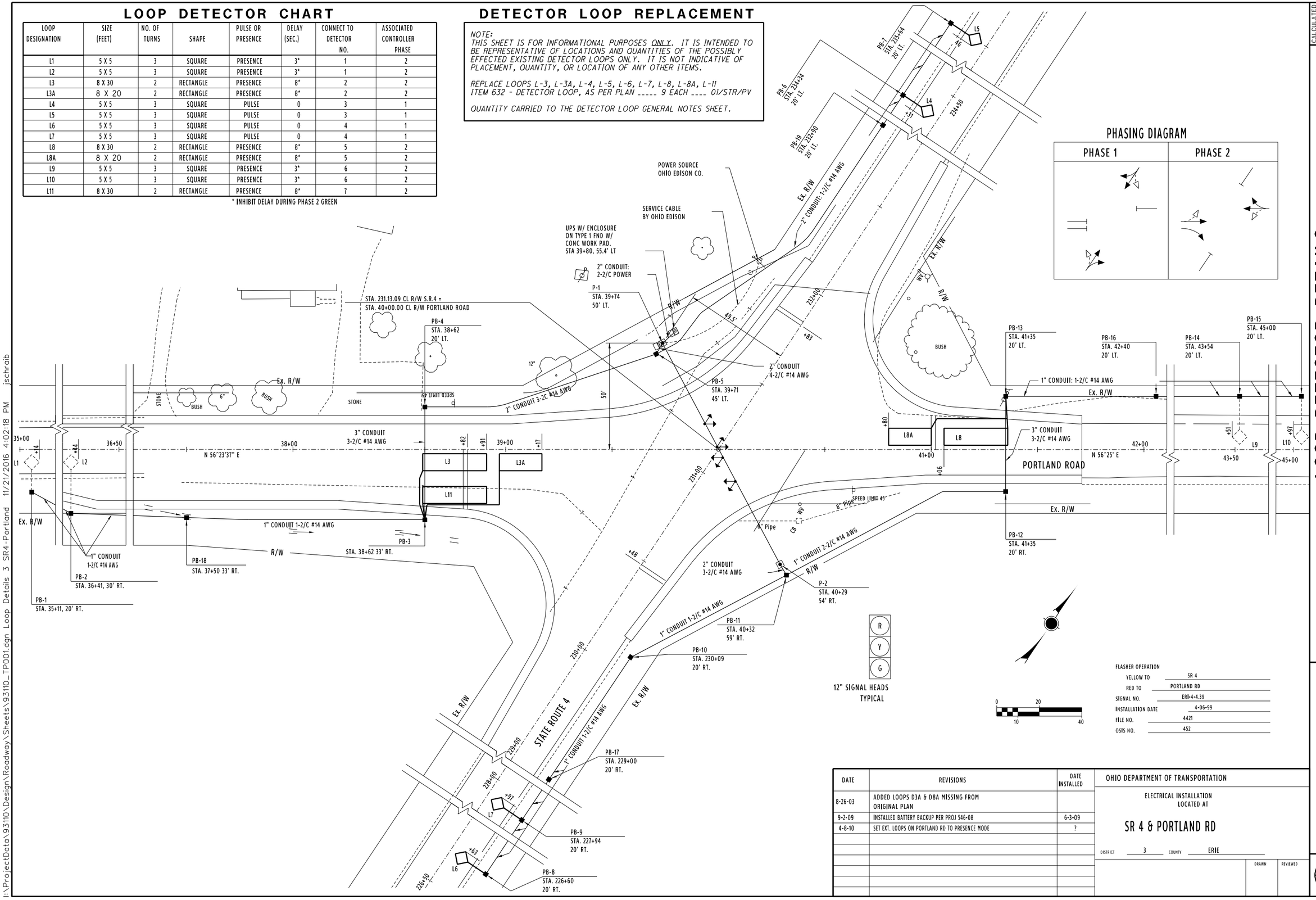
* INHIBIT DELAY DURING PHASE 2 GREEN

DETECTOR LOOP REPLACEMENT

NOTE:
THIS SHEET IS FOR INFORMATIONAL PURPOSES ONLY. IT IS INTENDED TO BE REPRESENTATIVE OF LOCATIONS AND QUANTITIES OF THE POSSIBLY EFFECTED EXISTING DETECTOR LOOPS ONLY. IT IS NOT INDICATIVE OF PLACEMENT, QUANTITY, OR LOCATION OF ANY OTHER ITEMS.

REPLACE LOOPS L-3, L-3A, L-4, L-5, L-6, L-7, L-8, L-8A, L-11
ITEM 632 - DETECTOR LOOP, AS PER PLAN _____ 9 EACH ____ 01/STR/PV

QUANTITY CARRIED TO THE DETECTOR LOOP GENERAL NOTES SHEET.



FLASHER OPERATION
YELLOW TO SR 4
RED TO PORTLAND RD
SIGNAL NO. ERI-4-4.39
INSTALLATION DATE 4-06-99
FILE NO. 4421
OSIS NO. 452

DATE	REVISIONS	DATE INSTALLED
8-26-03	ADDED LOOPS D3A & D8A MISSING FROM ORIGINAL PLAN	
9-2-09	INSTALLED BATTERY BACKUP PER PROJ 546-08	6-3-09
4-8-10	SET EXT. LOOPS ON PORTLAND RD TO PRESENCE MODE	?

OHIO DEPARTMENT OF TRANSPORTATION

ELECTRICAL INSTALLATION LOCATED AT

SR 4 & PORTLAND RD

DISTRICT 3 COUNTY ERIE

DRAWN | REVIEWED

CALCULATED JWS | CHECKED CAD

LOOP DETECTOR DETAILS
SR 4 & PORTLAND RD

HUR-4-6.68
ERI-4-0.00

18
26

I:\ProjectData\93110\Design\Roadway\Sheets\93110_TP001.dgn Loop Details 3 SR4-Portland 11/21/2016 4:02:18 PM jschraib

DETECTOR LOOP CHART

LOOP	SIZE (FEET)	TURNS	MODE	DELAY SEC.	UNIT	ASSOC PHASE
L-1	6X8	4	PULSE		1	2
L-2	6X8	4	PULSE		1	2
L-3	6X20	3	PRESENCE		2	2
L-4	6X20	3	PRESENCE		3	6
L-5	6X8	4	PULSE		4	6
L-6	6X8	4	PULSE		4	6
L-7	6X30	3	PRESENCE	8 *	5	4
L-8	SEE DETAIL	4	PRESENCE	8 *	5	4
L-9	SEE DETAIL	3	PRESENCE	8 *	6	8
L-10	6X8X30	3	PRESENCE	8 *	6	8

* INHIBIT DELAY DURING ASSOC. PHASE GREEN

DETECTOR LOOP REPLACEMENT

NOTE:
THIS SHEET IS FOR INFORMATIONAL PURPOSES ONLY. IT IS INTENDED TO BE REPRESENTATIVE OF LOCATIONS AND QUANTITIES OF THE POSSIBLY EFFECTED EXISTING DETECTOR LOOPS ONLY. IT IS NOT INDICATIVE OF PLACEMENT, QUANTITY, OR LOCATION OF ANY OTHER ITEMS.

REPLACE LOOPS L-1, L-2, L-3, L-4, L-5, L-6, L-7, L-8, L-9, L-10
ITEM 632 - DETECTOR LOOP, AS PER PLAN _____ 10 EACH ____ 01/STR/PV

QUANTITY CARRIED TO THE DETECTOR LOOP GENERAL NOTES SHEET.

P-1 SIGNAL SUPPORT
DESIGN SPECIAL W/ 52' ARM
INSTALL POWER SERVICE W/ BYPASS
STA 274+79.4, 36' LT

CONTROLLER GROUND MOUNTED
WITH BATTERY BACKUP SYSTEM
AND TYPE 2 CONCRETE WORKPAD
STA 274+82, 40' LT

Ⓐ 2" CONDUIT: 1-2/C
Ⓑ 3" CONDUIT: 5-2/C
Ⓒ 3" CONDUIT: 4-5/C AND
1-1/2" CONDUIT: 1-2/C POWER

PB-6
STA 274+71,
39' LT SR 4

PB-7
STA 275+03.5,
36' LT

POWER SOURCE
OHIO EDISON CO.
POLE NO.4611C2-23

PROPOSED POWER
SERVICE BY OHIO
EDISON CO.

3" CONDUIT JACKED OR DRILLED
UNDER PAVEMENT: 5-2/C

1-1/2" CONDUIT: 1-2/C

PB-8
STA 275+40,
19' RT

PB-5
STA 275+01,
36.5' RT SR 4

2" CONDUIT:
2-2/C

PB-9
STA 277+60,
18' RT

PB-10
STA 278+90,
18' RT

PB-3
STA 274+00,
22' RT

2" CONDUIT: 2-2/C

PB-4
STA 274+45,
40' RT SR 4

3" CONDUIT: 2-2/C
JACKED OR DRILLED
UNDER PAVEMENT

PB-1
STA 270+19,
18' RT

PB-2
STA 271+40,
18' RT

1-1/2" CONDUIT: 1-2/C
720.07'
S 24° 17' 42" W
739.30'
N 24° 17' 42" E

PC Sta. 214+81.30

4'x4' Box Culvert

DETAIL DETECTOR L-8

DETAIL DETECTOR L-9

TYPICAL SIGNAL HEADS
(Polycarbonate Rigid Mount)
(12"LENS LED LAMPS & TUNNEL VISORS)

SIGNAL PHASING DIAGRAM

FLASHER OPERATIONS
YELLOW TO: SR 4
RED TO: MASON RD
SIGNAL NO.: ERI-4-5.30
INSTALLATION DATE: 3-1-05
FILE NUMBER: 4473
OSIS NUMBER: 2013

SCALE 0 20 40

DATE	REVISIONS	INSTALL DATE
1-20-12	PROJ 332(10) - INSTALLED NEW SIGNAL HEADS W/ TUNNEL VISORS	12-22-11

OHIO DEPARTMENT OF TRANSPORTATION

ELECTRICAL INSTALLATION
LOCATED AT

SR 4 and Mason Rd

District 3 County ERIE

DESIGNED	DRAWN	REVISED	CHECKED	REVIEWED	SHEET
RJR 4/04	RJR 4/04				1 OF 1

CALCULATED JWS CHECKED CAD

DETECTOR LOOP DETAILS
SR 4 & MASON RD

HUR-4-6.68
ERI-4-0.00

19
26

I:\ProjectData\93110\Design\Roadway\Sheets\93110_TP001.dgn Loop Details 4 SR4-Mason 11/21/2016 4:02:19 PM jschraib

DETECTOR LOOP CHART

LOOP NO.	SIZE (FT.)	NO. OF TURNS	FUNCTION MODE	DELAY (SEC.)	CONNECT TO DETECTOR UNIT NO.	ASSOCIATED CONTROLLER PHASE	REMARKS
L-1	6 x 8	3	PULSE		1	2	
L-2	5 x 5	3	PULSE		1	2	
L-3	6 X 20	3	PRESENCE		2	8	
L-4	6 X 20	3	PRESENCE		3	8	
L-5	6 x 8	3	PULSE		4	6	
L-6	6 x 8	3	PULSE		4	6	
L-7	6 x 6	3	PULSE	3*	5	3	
L-8	6 x 6	3	PULSE	3*	5	3	
L-9	6 x 8 x 30	2	PRESENCE	10*	6	4	
L-10	8x10x10x15	2	PRESENCE	10*	6	4	
L-11	6 x 30	2	PRESENCE	3*	7	4	
L-12	6 x 30	2	PRESENCE	3*	8	8	
L-13	6 x 15	3	PRESENCE	10*	9	8	
L-14	8 x 15	3	PRESENCE	10*	9	8	
L-15	6 x 8 x 30	3	PRESENCE	10*	9	8	
L-16	6 x 6	3	PULSE	3*	10	8	
L-17	6 x 6	3	PULSE	3*	10	8	

* INHIBIT DELAY DURING ASSOCIATED PHASE GREEN INTERVAL

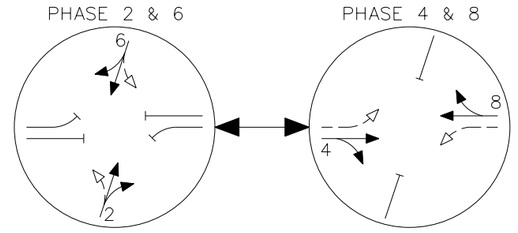
DETECTOR LOOP REPLACEMENT

NOTE:
THIS SHEET IS FOR INFORMATIONAL PURPOSES ONLY. IT IS INTENDED TO BE REPRESENTATIVE OF LOCATIONS AND QUANTITIES OF THE POSSIBLY EFFECTED EXISTING DETECTOR LOOPS ONLY. IT IS NOT INDICATIVE OF PLACEMENT, QUANTITY, OR LOCATION OF ANY OTHER ITEMS.

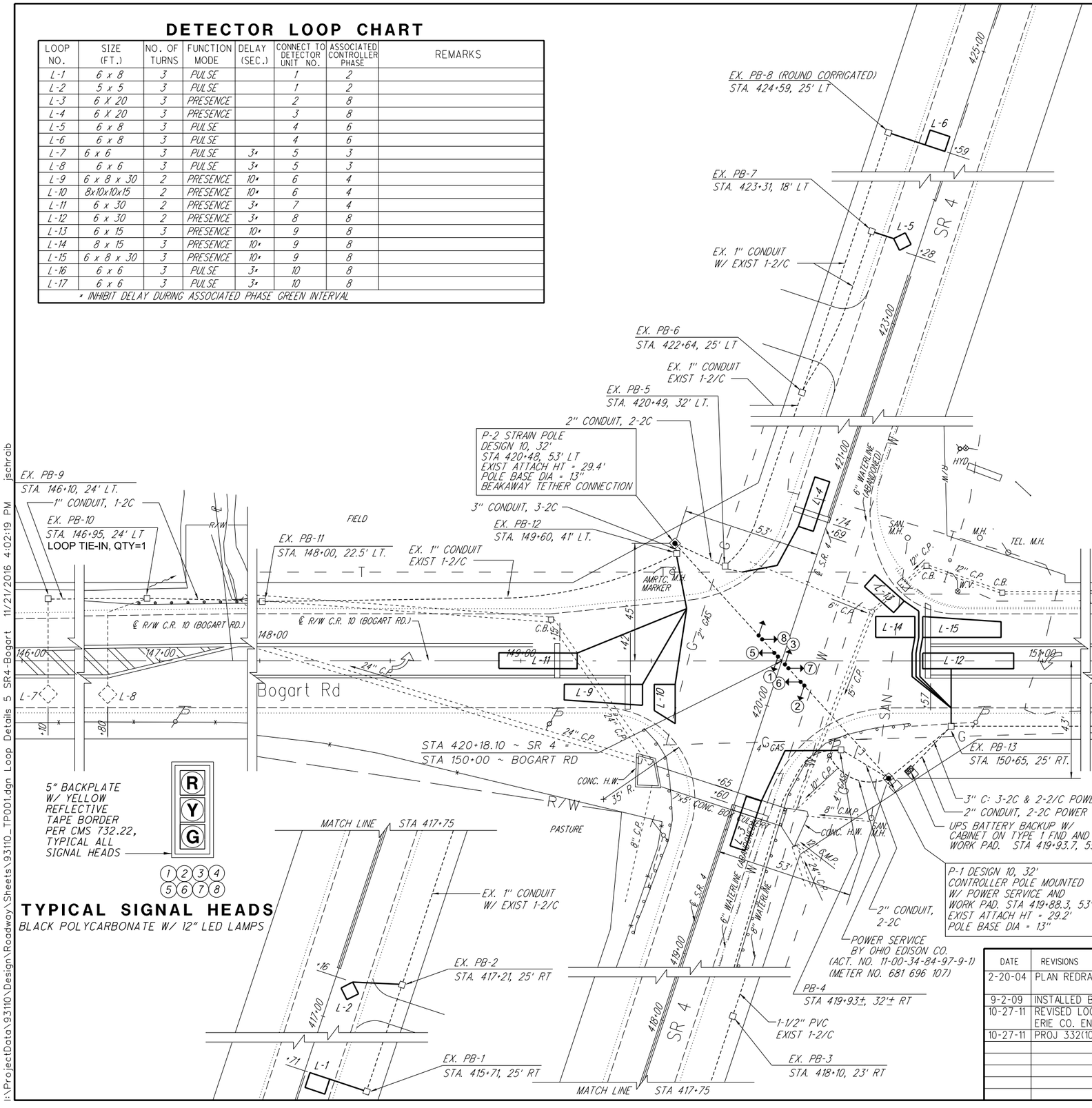
REPLACE LOOPS L-1, L-2, L-3, L-4, L-5, L-6, L-9, L-10, L-11, L-12, L-13, L-14, L-15

ITEM 632 - DETECTOR LOOP, AS PER PLAN _____ 6 EACH ____ 01/STR/PV
ITEM 632 - DETECTOR LOOP, AS PER PLAN _____ 7 EACH ____ 03/SC2/PV

QUANTITY CARRIED TO THE DETECTOR LOOP GENERAL NOTES SHEET.



SIGNAL PHASING DIAGRAM



TYPICAL SIGNAL HEADS
BLACK POLYCARBONATE W/ 12" LED LAMPS

N
0 10 20 40
HORIZONTAL SCALE IN FEET

FLASHER OPERATIONS
YELLOW TO: SR 4
RED TO: BOGART RD
SIGNAL NO.: ERI-4-0795S
INSTALLATION DATE: 4-17-72
FILE NUMBER: 2508
OSIS NUMBER: 453

DATE	REVISIONS	DATE INSTALLED
2-20-04	PLAN REDRAWN FOR REBUILD PROJ. 62-03	5-24-04 5:00 PM
9-2-09	INSTALLED BATTERY BACKUP PER PROJ. 546-08	6-3-09
10-27-11	REVISED LOCATIONS OF PB-12 & LOOPS L-9,10,11 PER ERIE CO. ENGINEER RESURF PROJECT ON BOGART RD	9-2010
10-27-11	PROJ 332(10)-NEW SIGNAL HEADS AND BACKPLATES	12-8-11

OHIO DEPARTMENT OF TRANSPORTATION

ELECTRICAL INSTALLATION LOCATED AT

SR 4 and Bogart Rd

District 3 County Erie

DESIGNED	DRAWN	REVISED	CHECKED	REVIEWED	SHEET
RJR 2/04	RJR 2/04				1 OF

CALCULATED JWS CHECKED CAD

DETECTOR LOOP DETAILS
SR 4 & BOGART RD

HUR-4-6.68
ERI-4-0.00

20
26

I:\ProjectData\93110\Design\Roadway\Sheets\93110_TP001.dgn Loop Details 5 SR4-Bogart 11/21/2016 4:02:19 PM jschraib

DETECTOR LOOP CHART

LOOP	SIZE (FEET)	TURNS	MODE	DELAY SEC.	UNIT	PHASE	COMMENTS
L-1	6X8	4	PULSE		1	2	
L-2	6X12	4	PULSE		2	2	
L-3	6X20	3	PRESENCE		3	6	
L-4	6X8	4	PULSE		4	6	
L-5	6X8	4	PULSE		4	6	
SB RADAR			PULSE			6	DETECTION FIELD AT 384' FROM STOP
L-6	6X30	3	PRESENCE		5	4	
L-7	6X8X30	3	PRESENCE	10*	6	4	
L-8	6X10	4	PULSE	3*	7	4	
L-9	6X10	4	PULSE	3*	8	4	

* INHIBIT DELAY DURING ASSOC. PHASE GREEN

DETECTOR LOOP REPLACEMENT

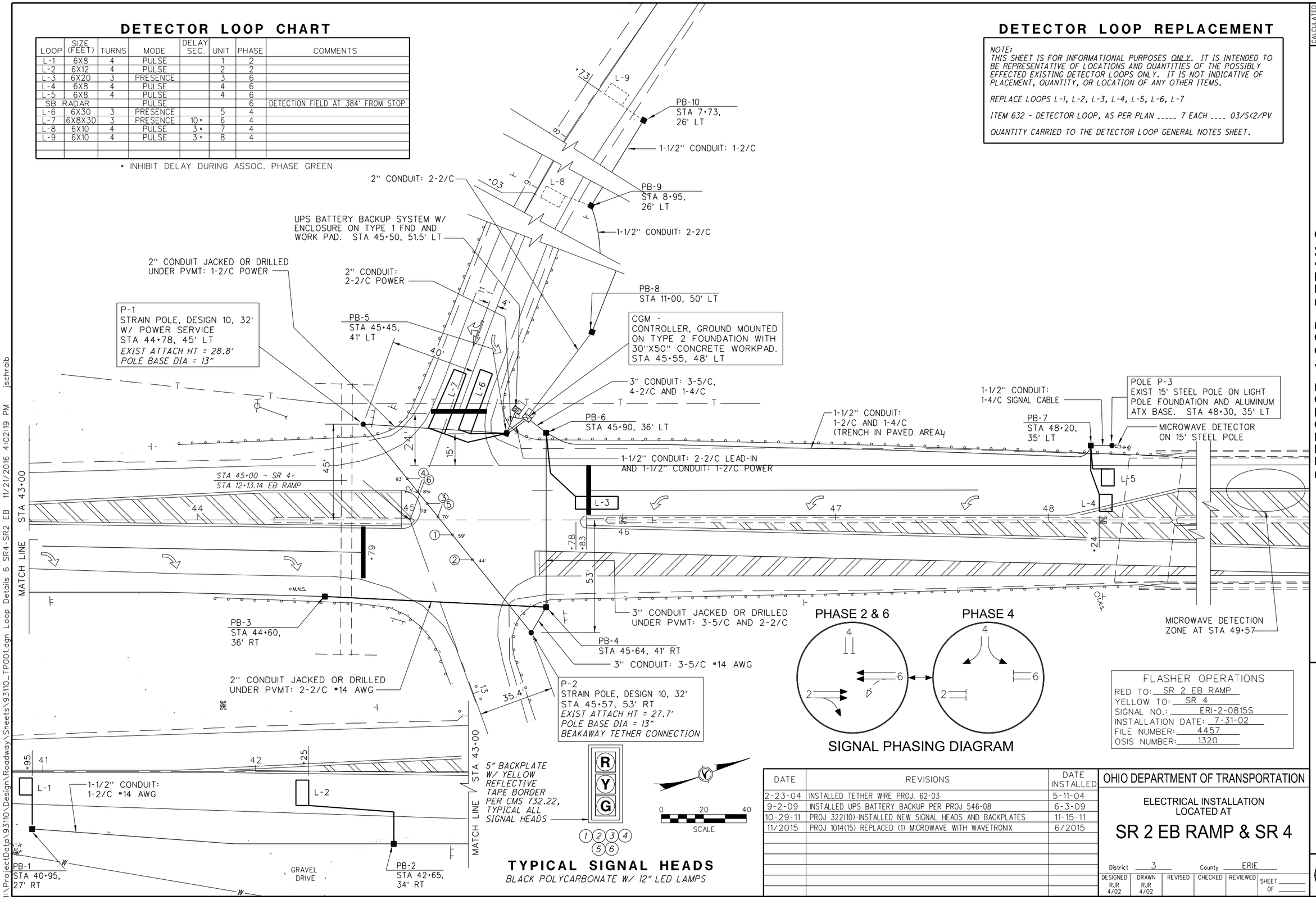
NOTE:
THIS SHEET IS FOR INFORMATIONAL PURPOSES ONLY. IT IS INTENDED TO BE REPRESENTATIVE OF LOCATIONS AND QUANTITIES OF THE POSSIBLY EFFECTED EXISTING DETECTOR LOOPS ONLY. IT IS NOT INDICATIVE OF PLACEMENT, QUANTITY, OR LOCATION OF ANY OTHER ITEMS.

REPLACE LOOPS L-1, L-2, L-3, L-4, L-5, L-6, L-7

ITEM 632 - DETECTOR LOOP, AS PER PLAN _____ 7 EACH ____ 03/S<2/PV

QUANTITY CARRIED TO THE DETECTOR LOOP GENERAL NOTES SHEET.

CALCULATED JWS CHECKED CAD



TYPICAL SIGNAL HEADS

BLACK POLYCARBONATE W/ 12" LED LAMPS

PHASE 2 & 6 / PHASE 4

SIGNAL PHASING DIAGRAM

FLASHER OPERATIONS
RED TO: SR 2 EB RAMP
YELLOW TO: SR 4
SIGNAL NO.: ERI-2-0815S
INSTALLATION DATE: 7-31-02
FILE NUMBER: 4457
OSIS NUMBER: 1320

DATE	REVISIONS	DATE INSTALLED
2-23-04	INSTALLED TETHER WIRE PROJ. 62-03	5-11-04
9-2-09	INSTALLED UPS BATTERY BACKUP PER PROJ 546-08	6-3-09
10-29-11	PROJ 322(10)-INSTALLED NEW SIGNAL HEADS AND BACKPLATES	11-15-11
11/2015	PROJ 1014(15) REPLACED (1) MICROWAVE WITH WAVETRONIX	6/2015

OHIO DEPARTMENT OF TRANSPORTATION

ELECTRICAL INSTALLATION LOCATED AT

SR 2 EB RAMP & SR 4

District 3 County ERIE

DESIGNED	DRAWN	REVISED	CHECKED	REVIEWED	SHEET OF
RJR 4/02	RJR 4/02				

DETECTOR LOOP DETAILS
SR 4 & SR 2 EASTBOUND

HUR-4-6.68
ERI-4-0.00

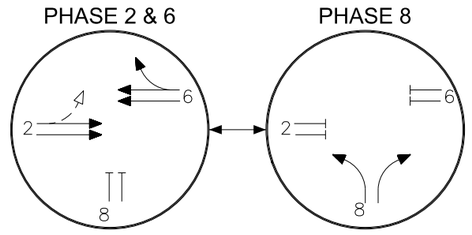
21
26

I:\ProjectData\93110\Design\Roadway\Sheets\93110_TP001.dgn Loop Details 6 SR4-SR2 EB 11/21/2016 4:02:19 PM jschraib

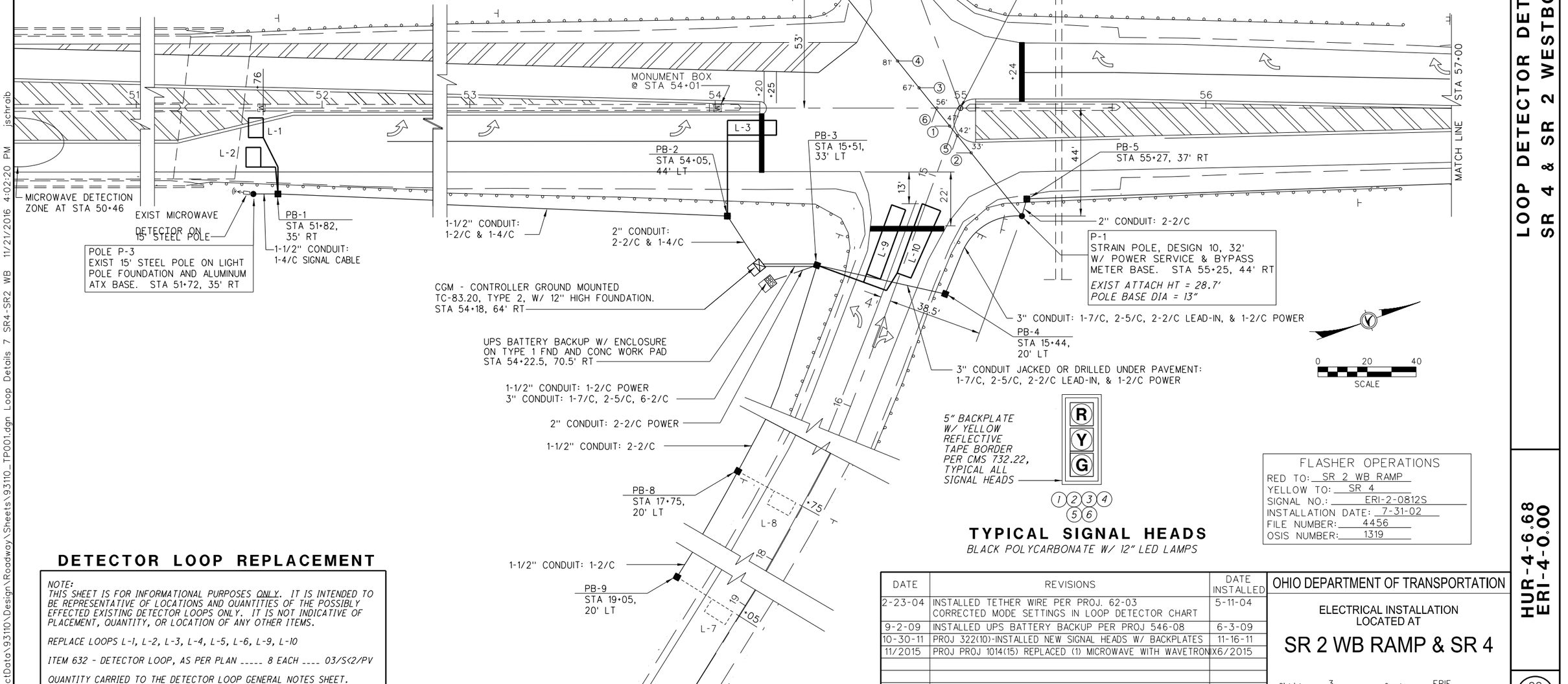
DETECTOR LOOP CHART

LOOP	SIZE (FEET)	TURNS	MODE	DELAY SEC.	UNIT	PHASE	COMMENTS
NB RADAR			PULSE			2	DETECTION FIELD AT 384' FROM STOP
L-1	6X8	4	PULSE		1	2	
L-2	6X8	4	PULSE		1	2	
L-3	6X20	3	PRESENCE		2	6	
L-4	6X7	4	PULSE		3	6	
L-5	6X7	4	PULSE		3	6	
L-6	6X10	4	PULSE		4	6	
L-7	6X10	4	PULSE	3 *	5	8	
L-8	6X10	4	PULSE	3 *	6	8	
L-9	6X30	3	PRESENCE		7	8	
L-10	6X8X30	3	PRESENCE	10 *	8	8	

* INHIBIT DELAY DURING ASSOC. PHASE GREEN



SIGNAL PHASING DIAGRAM



DETECTOR LOOP REPLACEMENT

NOTE:
THIS SHEET IS FOR INFORMATIONAL PURPOSES ONLY. IT IS INTENDED TO BE REPRESENTATIVE OF LOCATIONS AND QUANTITIES OF THE POSSIBLY EFFECTED EXISTING DETECTOR LOOPS ONLY. IT IS NOT INDICATIVE OF PLACEMENT, QUANTITY, OR LOCATION OF ANY OTHER ITEMS.

REPLACE LOOPS L-1, L-2, L-3, L-4, L-5, L-6, L-9, L-10

ITEM 632 - DETECTOR LOOP, AS PER PLAN _____ 8 EACH ____ 03/SX2/PV

QUANTITY CARRIED TO THE DETECTOR LOOP GENERAL NOTES SHEET.

5" BACKPLATE W/ YELLOW REFLECTIVE TAPE BORDER PER CMS 732.22, TYPICAL ALL SIGNAL HEADS

TYPICAL SIGNAL HEADS

BLACK POLYCARBONATE W/ 12" LED LAMPS

FLASHER OPERATIONS
RED TO: SR 2 WB RAMP
YELLOW TO: SR 4
SIGNAL NO.: ERI-2-0812S
INSTALLATION DATE: 7-31-02
FILE NUMBER: 4456
OSIS NUMBER: 1319

DATE	REVISIONS	DATE INSTALLED
2-23-04	INSTALLED TETHER WIRE PER PROJ. 62-03 CORRECTED MODE SETTINGS IN LOOP DETECTOR CHART	5-11-04
9-2-09	INSTALLED UPS BATTERY BACKUP PER PROJ 546-08	6-3-09
10-30-11	PROJ 322(10)-INSTALLED NEW SIGNAL HEADS W/ BACKPLATES	11-16-11
11/2015	PROJ PROJ 1014(15) REPLACED (1) MICROWAVE WITH WAVETRONIX	6/2015

OHIO DEPARTMENT OF TRANSPORTATION

ELECTRICAL INSTALLATION LOCATED AT

SR 2 WB RAMP & SR 4

District 3 County ERIE

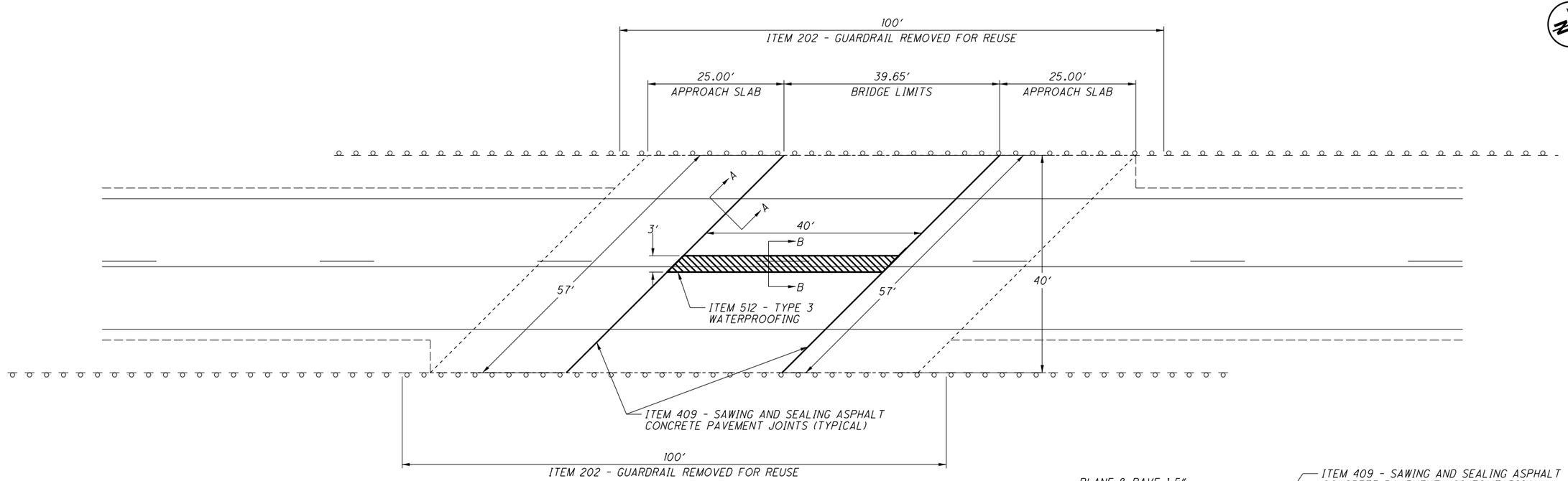
DESIGNED	DRAWN	REVISED	CHECKED	REVIEWED	SHEET OF
RJR 4/02	RJR 4/02				

CALCULATED JWS CHECKED CAD

LOOP DETECTOR DETAILS
SR 4 & SR 2 WESTBOUND

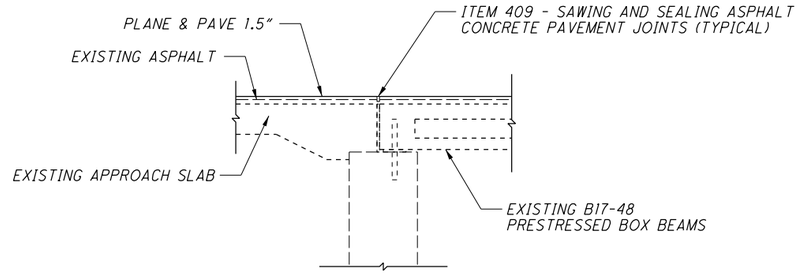
HUR-4-6.68
ERI-4-0.00

22
26



PLAN VIEW

SCALE: 1:1



SECTION A-A

SCALE: 4:1

NOTES:

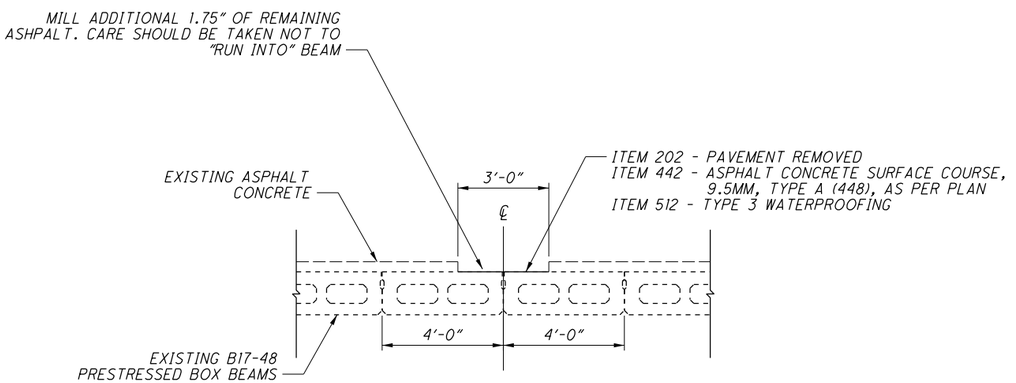
1.) PLANE AND PAVE 1.5" SAME AS ROADWAY
2.) RESEAL SAWED AND SEALED JOINTS AT JUCTION OF APPROACH SLABS AND ABUTMENTS
3.) REMOVE GUARDRAIL FOR REUSE IS TO FACILITATE FULL WIDTH PAVING OVER STRUCTURE. THE INTENT IS TO REMOVE THE RAIL ELEMENTS ONLY DURING PLANING AND PAVING OPERATIONS. DO NOT ALLOW TRAFFIC IN THE LANE ADJACENT TO THE GUARDRAIL WHEN THE RAIL IS REMOVED. REINSTALL THE RAIL IF TRAFFIC IS TO BE PERMITTED IN THE ADJACENT LANE.

LEGEND:

▨ : INDICATES ADDITIONAL PAVEMENT REMOVED & TYPE 3 WATERPROOFING

ESTIMATED QUANTITIES - ERI-4-2.56 - (04/STR/BR)

ITEM	QUANTITY	UNIT	DESCRIPTION
202	13	SY	PAVEMENT REMOVED
202	200	FT	GUARDRAIL REMOVED FOR REUSE
409	114	FT	SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS
442	1	CY	ASPHALT CONCRETE SURFACE COURSE, 9.5MM, TYPE A (448), AS PER PLAN
512	13	SY	TYPE 3 WATERPROOFING



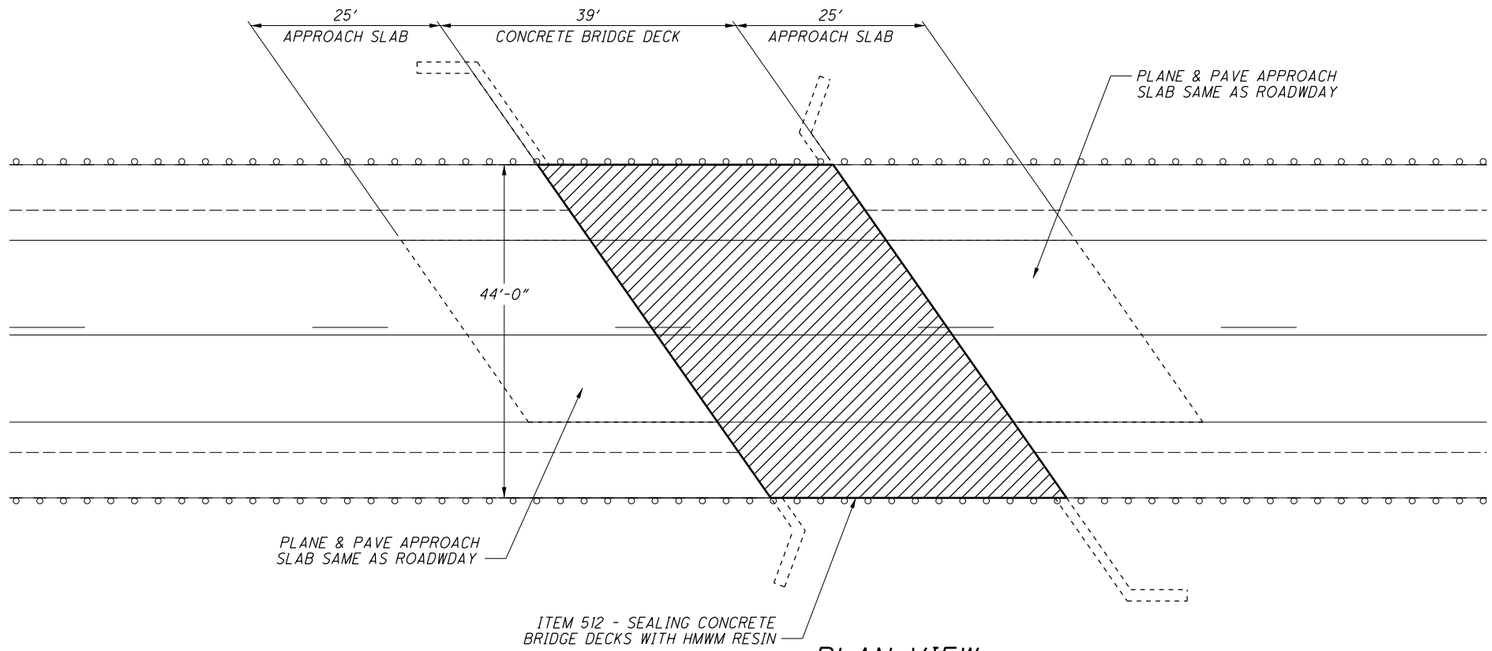
SECTION B-B

SCALE: 4:1

CALCULATED JWS
CHECKED CAD

STRUCTURE DETAILS
ERI-4-2.56

HUR-4-6.68
ERI-4-0.00



PLAN VIEW

SCALE: 1:1

NOTES:

1.) PLANE AND PAVE APPROACH SLABS 1.5" SAME AS ROADWAY
2.) SEAL ENTIRE DECK WITH HMWM RESIN

LEGEND:

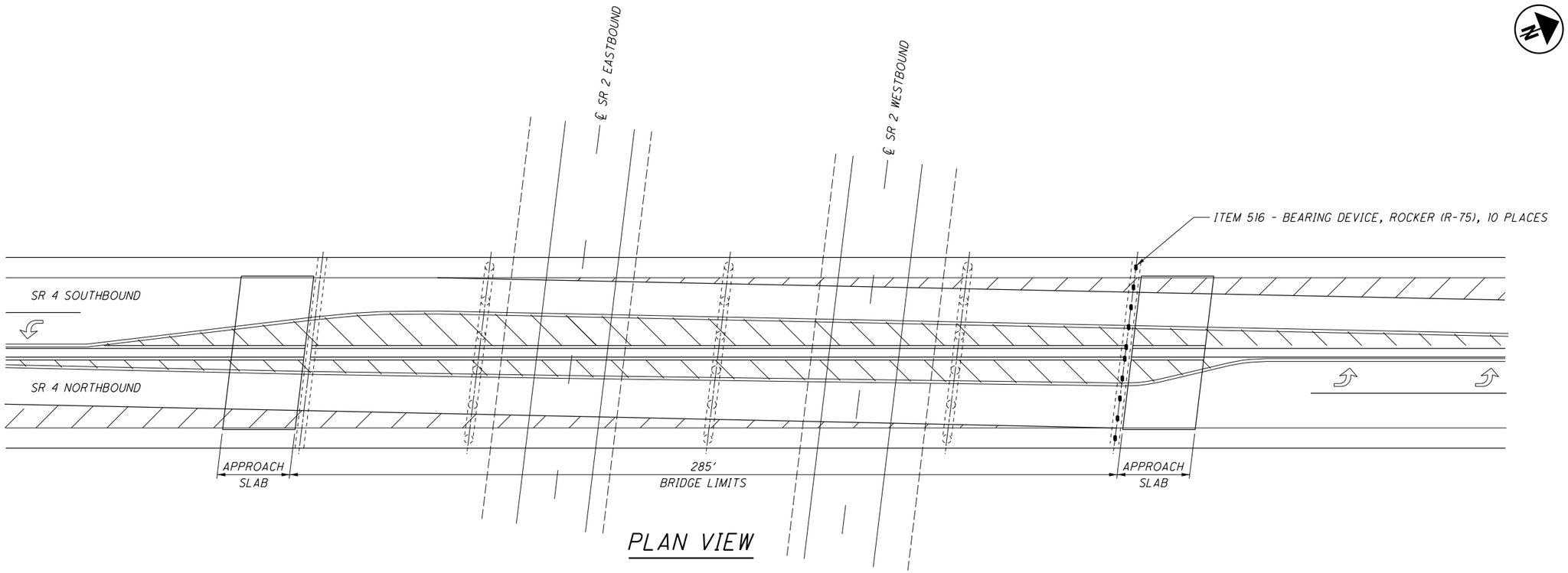
▨ : INDICATES SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN

ESTIMATED QUANTITIES - ERI-4-3.07 - (04/STR/BR)			
ITEM	QUANTITY	UNIT	DESCRIPTION
512	191	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN

CALCULATED JWS
CHECKED CAD

STRUCTURE DETAILS
ERI-4-3.07

HUR-4-6.68
ERI-4-0.00

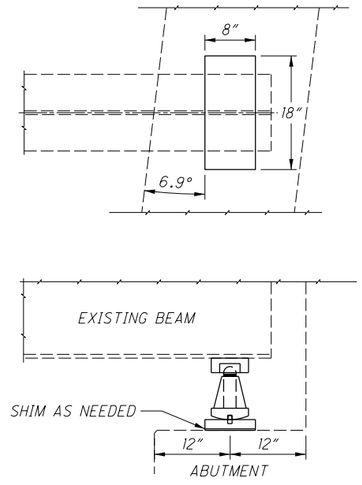


PLAN VIEW

NOTES:

1.) BEARING RESET - REFURBISH & RESET ALL 10 R75 ROCKER BEARINGS AT FORWARD ABUTMENT & PROVIDE SHIMS
2. SHIM AS NECESSARY TO ALLOW ELEVATION OF EXPANSION JOINT ARMOR ON DECK SIDE TO MATCH ELEVATION OF JOINT ARMOR ON BACKWALL SIDE.

ESTIMATED QUANTITIES - ERI-4-8.43 - (05/NHS/BR)			
ITEM	QUANTITY	UNIT	DESCRIPTION
516	10	EACH	SPECIAL - REFURBISH AND RESET BEARING
516	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

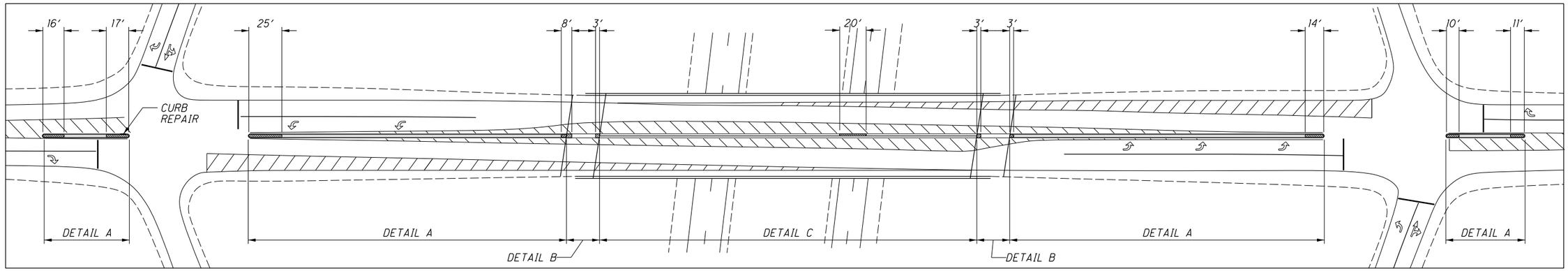


R-75 ROCKER DETAIL

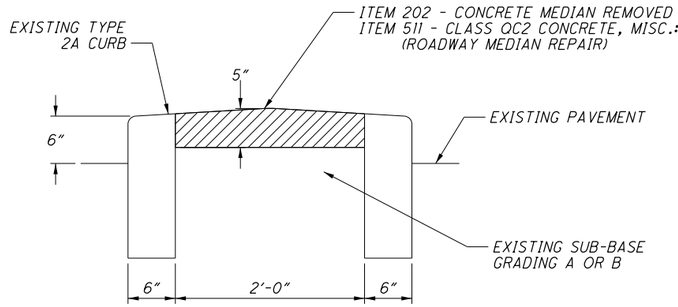
CALCULATED JWS
CHECKED CAD

STRUCTURE DETAILS
ERI-4-8.43

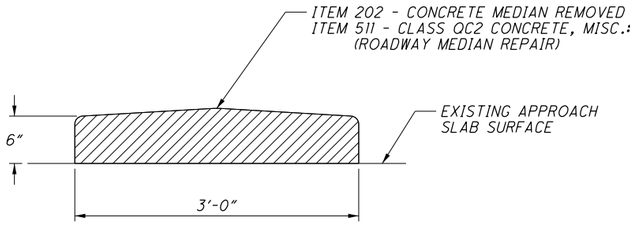
HUR-4-6.68
ERI-4-0.00



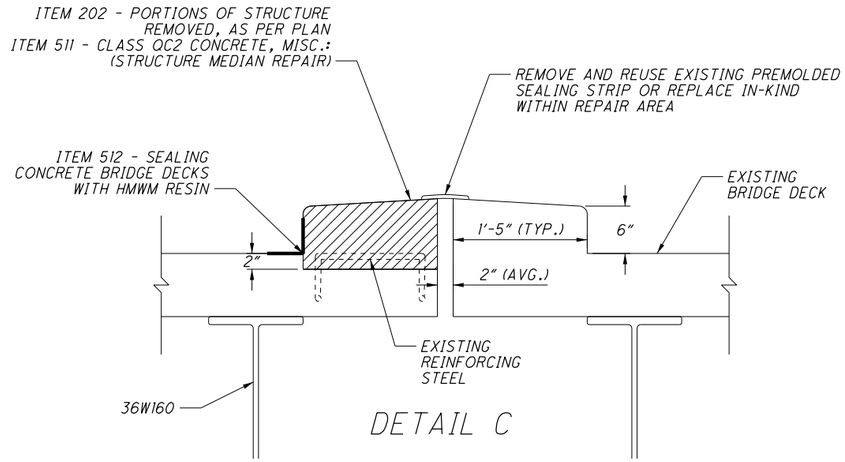
PLAN VIEW



DETAIL A



DETAIL B



DETAIL C

LEGEND:

▨ : INDICATES REPAIR AREAS

ESTIMATED QUANTITIES - MEDIAN REPAIRS

ITEM	QUANTITY	UNIT	FUNDING	DESCRIPTION
202	3	SY	05/NHS/BR	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
202	36	SY	03/S<2/PV	CONCRETE MEDIAN REMOVED
202	4	FT	03/S<2/PV	CURB REMOVED
511	5	CY	03/S<2/PV	CLASS QC2 CONCRETE, MISC.: (ROADWAY MEDIAN REPAIR)
511	2	CY	05/NHS/BR	CLASS QC2 CONCRETE, MISC.: (STRUCTURE MEDIAN REPAIR)
512	2	SY	05/NHS/BR	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN
516	20	FT	05/NHS/BR	STRUCTURAL JOINT OR JOIN SEALER, MISC.: REMOVE AND REPLACE SEALING STRIP OR REPLACE IN-KIND
609	4	FT	03/S<2/PV	CURB, TYPE 2-A

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED JWS
CHECKED CAD

CONCRETE MEDIAN DETAILS
ERI-4, SLM: 8.3-8.6

HUR-4-6.68
ERI-4-0.00