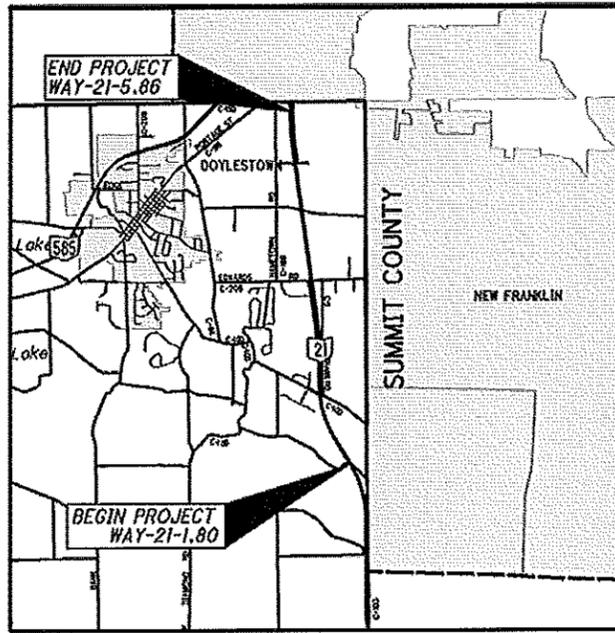


STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

**WAY-21-1.80**

**CHIPPEWA TOWNSHIP  
WAYNE COUNTY**



LOCATION MAP

LATITUDE: 40°55'52.3"N LONGITUDE: 81°39'4.5"W



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

**DESIGN DESIGNATION**

SEE SHEET TWO

**DESIGN EXCEPTIONS**

NONE

**UNDERGROUND UTILITIES**  
CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

Call Before You Dig  
1-800-362-2764

(Non-members must be called directly)

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

**INDEX OF SHEETS:**

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**PROJECT DESCRIPTION**

THIS PROJECT INCLUDES PAVEMENT REPAIRS, PLACING ITEM 424 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 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:   
DATE: 12/13/17 DISTRICT DEPUTY DIRECTOR

APPROVED:   
DATE: 1-11-18 DIRECTOR, DEPARTMENT OF TRANSPORTATION

**ENGINEERS SEAL:**

SIGNED: Karla R. Bohmer  
DATE: 12/12/17

STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-3.1	7/18/14	MT-95.30	7/21/17	TC-41.20	10/18/13	800	1/19/18
BP-9.1	7/21/17	MT-95.50	7/21/17	TC-42.20	10/18/13	808	1/20/17
		MT-99.20	7/21/17	TC-52.10	10/18/13	821	4/20/12
DM-4.3	1/15/16	MT-101.90	7/21/17	TC-52.20	7/21/17	832	1/17/14
DM-4.4	1/15/16	MT-104.10	10/16/15	TC-65.10	1/17/14	897	1/16/15
		MT-105.10	7/19/13	TC-65.11	7/21/17		
				TC-71.10	1/20/17		
				TC-82.10	7/17/15		

PLANS PREPARED BY:  
  
**OHIO DEPARTMENT OF TRANSPORTATION**  
DISTRICT THREE  
PLANNING AND ENGINEERING

FEDERAL PROJECT NO. E171451  
PID NO. 106519  
CONSTRUCTION PROJECT NO. .  
RAILROAD INVOLVEMENT NONE  
WAY-21-1.80  
1/13

WAY - SR-SR 21-01.80  
180211 PID - 106519  
Dist 3 3/22/2018  
Contract Proposal Available @  
www.contracts.dot.state.oh.us/home

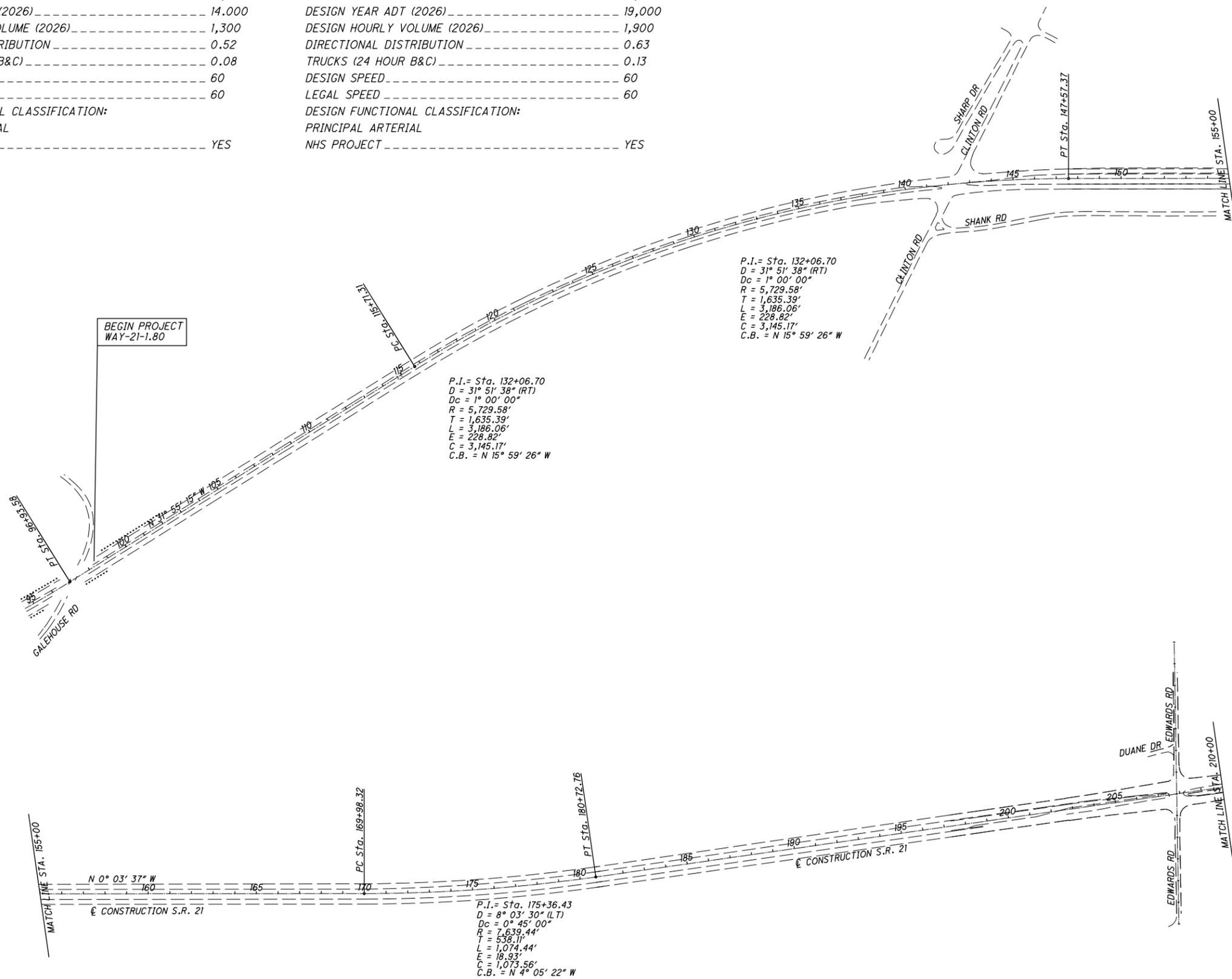
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**DESIGN DESIGNATION  
WAY-21-1.80 TO 4.66**

CURRENT ADT (2018)	14,000
DESIGN YEAR ADT (2026)	14,000
DESIGN HOURLY VOLUME (2026)	1,300
DIRECTIONAL DISTRIBUTION	0.52
TRUCKS (24 HOUR B&C)	0.08
DESIGN SPEED	60
LEGAL SPEED	60
DESIGN FUNCTIONAL CLASSIFICATION: PRINCIPAL ARTERIAL	
NHS PROJECT	YES

**DESIGN DESIGNATION  
WAY-21-4.66 TO 5.86**

CURRENT ADT (2018)	18,000
DESIGN YEAR ADT (2026)	19,000
DESIGN HOURLY VOLUME (2026)	1,900
DIRECTIONAL DISTRIBUTION	0.63
TRUCKS (24 HOUR B&C)	0.13
DESIGN SPEED	60
LEGAL SPEED	60
DESIGN FUNCTIONAL CLASSIFICATION: PRINCIPAL ARTERIAL	
NHS PROJECT	YES

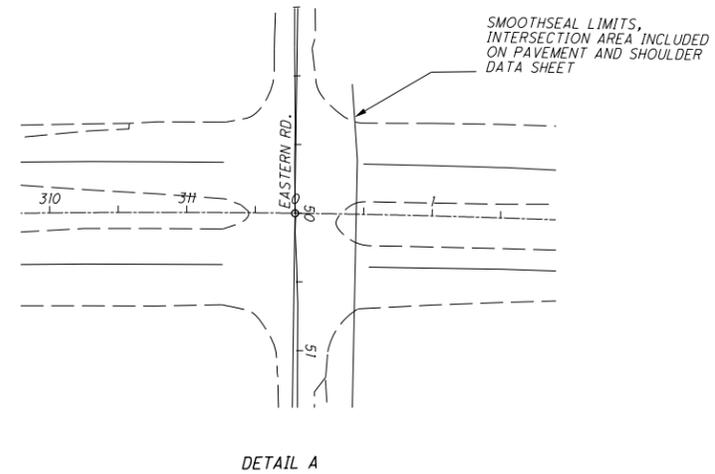
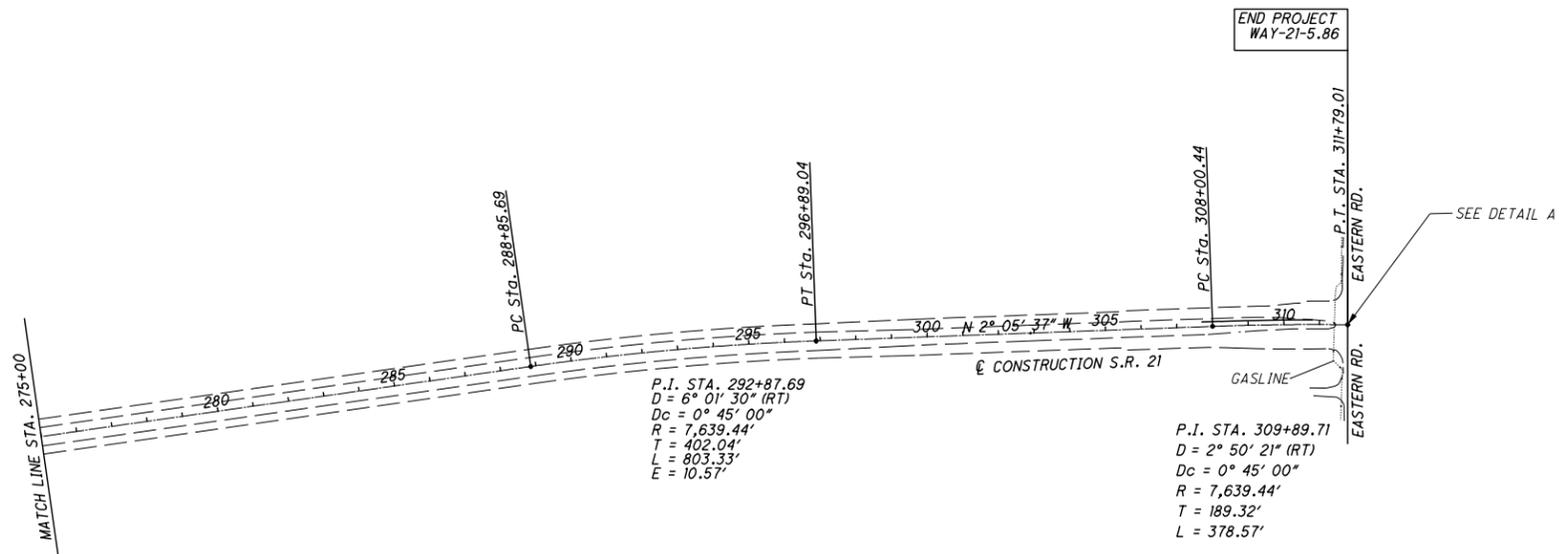
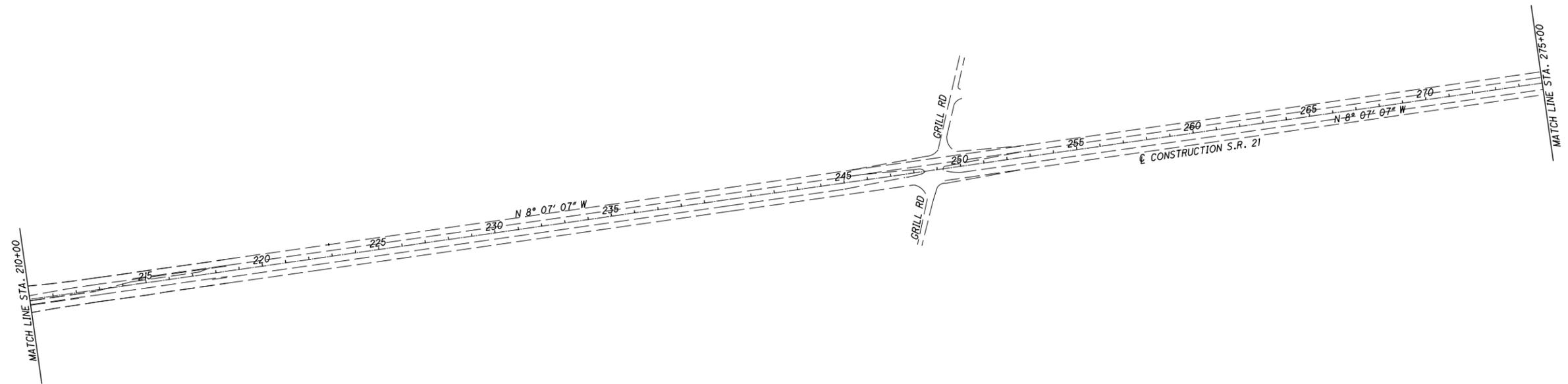


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T.C.Y.
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**SCHEMATIC PLAN**

**WAY-21-1.80**

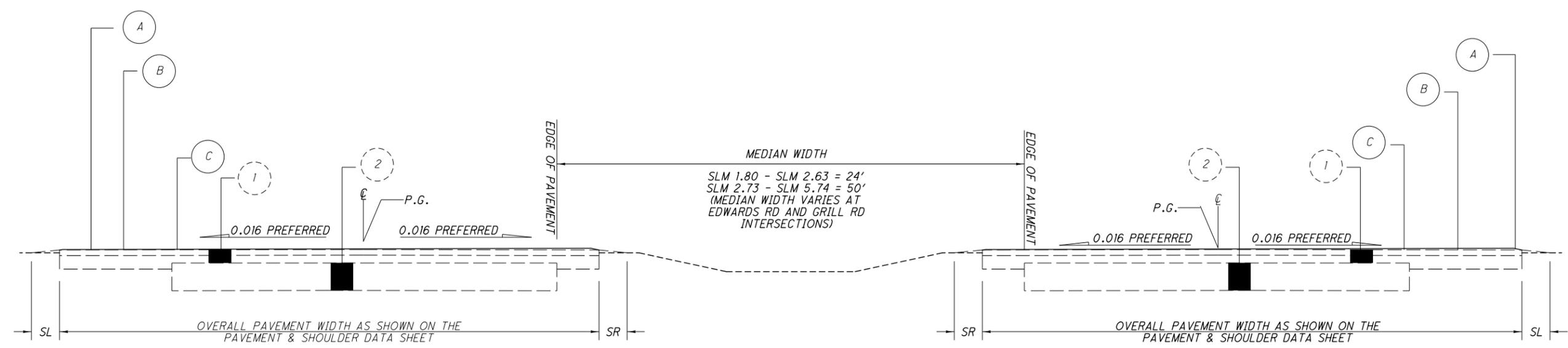
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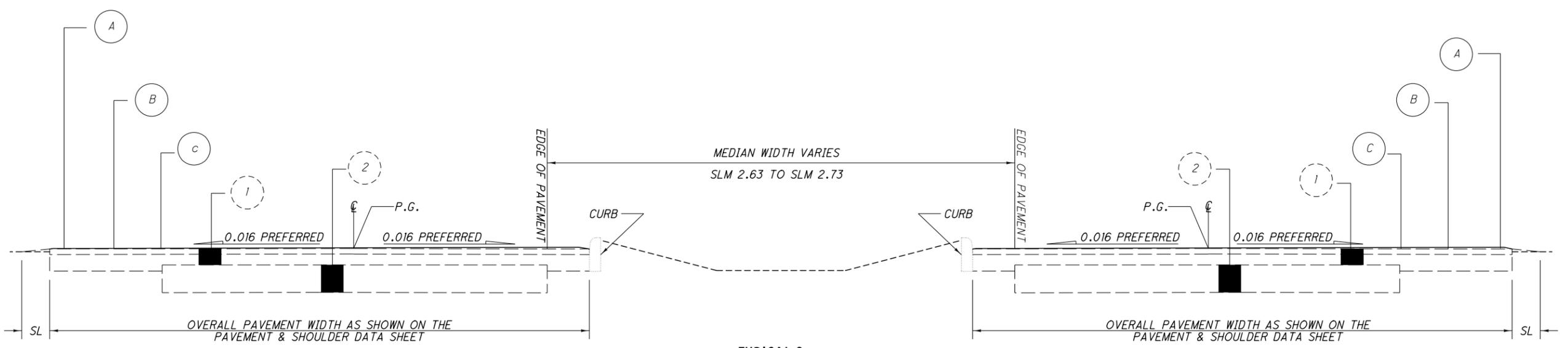
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	KRB

**SCHEMATIC PLAN**

**WAY - 21 - 1.80**



TYPICAL 1



TYPICAL 2

EXISTING LEGEND

- 1 EXIST. VAR. DEPTH ASPHALT CONCRETE
- 2 EXIST. 9" REINFORCED CONCRETE PAVEMENT

PROPOSED LEGEND

- A ITEM 897 - PAVEMENT PLANING, ASPHALT CONCRETE, CLASS A (0.5")
- B ITEM 407 - NON-TRACKING TACK COAT
- C ITEM 424 - FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B (1.25")

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**GENERAL**

**UTILITIES**

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

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.

GAS  
INLAND CORPORATION  
1023 STIMMEL ROAD  
COLUMBUS, OH 43223  
614.481.8480

CABLE  
CHARTER COMMUNICATIONS  
5520 WHIPPLE AVENUE NW  
NORTH CANTON, OH 44720  
330.494.9200

TRAFFIC  
ODOT DISTRICT THREE  
906 CLARK AVENUE  
ASHLAND, OH 44805  
419.207.7045

GAS  
DOMINION EAST OHIO  
320 SPRINGSIDE DRIVE, SUITE 320  
AKRON, OH 44333  
800.362.7557

ELECTRIC  
OHIO EDISON  
1717 ASHLAND ROAD  
MANSFIELD, OH 44905  
419.521.6219

CABLE  
DOYLESTOWN TELEPHONE CO.  
81 NORTH PORTAGE ST.  
DOYLESTOWN, OH 44230  
330.658.2121

GAS  
SPELMAN PIPELINE  
9081 STATE ROUTE 250  
STRASBURG, OH 44680  
800.848.5589

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.

**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.

**EXISTING PLANS**

THE FOLLOWING EXISTING PLANS MAY BE INSPECTED IN THE ODOT DISTRICT 3 OFFICE IN ASHLAND:  
WAY-21-0.00 (2010)

**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.

**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.

**ROADWAY**

**ITEM 209 - LINEAR GRADING**

THE CONTRACTOR IS REQUIRED TO PERFORM LINEAR GRADING ON THE GRADED SHOULDER. IT IS ANTICIPATED THAT THERE ARE AREAS WHERE THE GRADED SHOULDER IS AT A HIGHER ELEVATION THAN THE ADJACENT PROPOSED PAVEMENT. A 10:1 SLOPE SHALL BE ESTABLISHED, OR AS DIRECTED BY THE ENGINEER, WHEN PERFORMING ITEM 209 LINEAR GRADING. THE INTENT IS TO PROVIDE AN UNOBSTRUCTED AND POSITIVE FLOW OF STORM WATER FROM THE PAVEMENT TO THE DITCH. THE LINEAR GRADING SHALL BE PERFORMED AFTER THE INTERMEDIATE COURSE HAS BEEN COMPLETED AND BEFORE THE SURFACE COURSE IS PLACED. ALL LABOR AND EQUIPMENT NECESSARY TO PERFORM THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID PER MILE FOR ITEM 209 - LINEAR GRADING.

**PAVEMENT**

**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 THIS SHEET.

PAVEMENT REPAIR SHALL BE PERFORMED BEFORE PAVEMENT PLANING AND PLACEMENT OF THE SURFACE COURSE. THE DEPTH OF REMOVAL SHALL BE SUFFICIENT TO REMOVE ALL DETERIORATED PAVEMENT WITH AN AVERAGE DEPTH OF 3" FOR ESTIMATING PURPOSES.

THE CONTRACTOR SHALL BE CAPABLE OF PERFORMING PAVEMENT REPAIRS 4 FEET WIDE.

REPLACEMENT MATERIAL SHALL BE ITEM 301, OR ITEM 442 19MM 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 CAN BE USED WHEN THE DEPTH OF THE REPAIR IS BETWEEN 1.5" AND 3". ITEM 301 SHALL USE PG64-22 ASPHALT BINDER AND ITEM 442 19MM SHALL USE PG64-28 BINDER.

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) 500 CY  
ITEM 253 - PAVEMENT REPAIR 1,000 CY

**ITEM 897 - PAVEMENT PLANING, ASPHALT CONCRETE, CLASS A**

THE INTENT OF THE PLANING IS TO MILL THE DEPTH SPECIFIED ON THE TYPICAL SECTIONS AT THE CENTER OF PAVEMENT AT 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.

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 ALLOWED TO RUN OVER THE PLANED ROADWAY SURFACE AT ANY TIME, EXCEPT AT TURN LANES AND INTERSECTIONS FOR A MAXIMUM OF THREE (3) CALENDAR DAYS. FOR EACH CALENDAR DAY BEYOND THE 3 DAYS THAT THE ROADWAY REMAINS EXPOSED TO THE PLANED SURFACE, THE CONTRACTOR WILL BE ASSESSED A DISINCENTIVE FEE OF \$1000 PER DAY.

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 897 - PAVEMENT PLANING, ASPHALT CONCRETE.

**ITEM 897 - PATCHING PLANED SURFACE**

AN ESTIMATED QUANTITY OF ITEM 897 - PATCHING PLANED SURFACE HAS BEEN SET UP TO BE USED AS DIRECTED BY THE ENGINEER AS DESCRIBED IN SUPPLEMENTAL SPECIFICATION 897. THE LIMIT OF THE PATCHING DEPTH IS 0 TO 2 IN.

**PAVEMENT CORING INFORMATION**

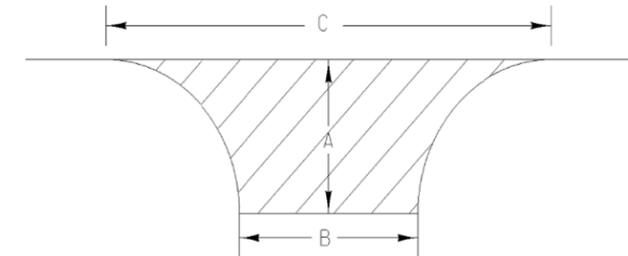
BELOW IS PAVEMENT CORING INFORMATION TO HELP DETERMINE THE EXISTING PAVEMENT COMPOSITION.

COUNTY	ROUTE	SLM	ASPHALT DEPTH (IN.)	CONCRETE DEPTH (IN.)	WHEEL TRACK / SHOULDER	DIRECTION	YEAR CORED
WAY	21	2.00	4.5	0.0	SHOULDER	NB	2015
WAY	21	2.00	2.5	9.0	RIGHT WHEEL PATH	NB	2015
WAY	21	2.00	3.0	9.0	LEFT WHEEL PATH	NB	2015
WAY	21	2.50	6.0	0.0	SHOULDER	NB	2015
WAY	21	2.50	3.0	9.0	RIGHT WHEEL PATH	NB	2015
WAY	21	2.50	5.0	9.0	LEFT WHEEL PATH	NB	2015
WAY	21	3.00	4.5	0.0	SHOULDER	NB	2015
WAY	21	3.00	6.5	0.0	RIGHT WHEEL PATH	NB	2015
WAY	21	3.00	5.0	0.0	LEFT WHEEL PATH	NB	2015
WAY	21	3.50	4.5	0.0	SHOULDER	NB	2015
WAY	21	3.50	4.0	2.0	RIGHT WHEEL PATH	NB	2015
WAY	21	3.50	3.0	10.0	LEFT WHEEL PATH	NB	2015
WAY	21	4.00	4.0	0.0	SHOULDER	NB	2015
WAY	21	4.00	4.0	0.0	RIGHT WHEEL PATH	NB	2015
WAY	21	4.00	3.0	9.5	LEFT WHEEL PATH	NB	2015
WAY	21	4.50	3.0	0.0	SHOULDER	NB	2015
WAY	21	4.50	3.5	0.0	RIGHT WHEEL PATH	NB	2015
WAY	21	5.00	4.0	0.0	SHOULDER	NB	2015

**INTERSECTIONS**

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).

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



INTERSECTION NAME	A (FT)	B (FT)	C (FT)	Area (SY)
CLINTON ROAD (NB)	42	40	90	264
CLINTON ROAD (SB)	63	35	90	373
EDWARDS ROAD (NB)	35	32	76	181
EDWARDS ROAD (SB)	36	34	76	192
GRILL ROAD (NB)	60	32	85	331
GRILL ROAD (SB)	53	30	70	255
EASTERN ROAD (NB)	96	36	91	580
EASTERN ROAD (SB)	74	36	95	458
SR 21 AT EASTERN ROAD				814
<b>TOTAL</b>				<b>3448</b>

CALCULATED  
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KRB

GENERAL NOTES

WAY - 21 - 1.80

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# MAINTENANCE OF TRAFFIC

## 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 - 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: 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.

TRAFFIC WILL NOT BE ALLOWED TO RUN OVER THE PLANED ROADWAY SURFACE AT ANY TIME, EXCEPT AS NOTED IN THE ITEM 897 - PAVEMENT PLANING PLAN NOTE ON SHEET 5.

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 - 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.

UNLESS SEPARATELY ITEMIZED IN THIS PLAN, ALL MAINTENANCE OF TRAFFIC SIGNS ARE PAID UNDER ITEM 614 - MAINTAINING TRAFFIC.

## 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.

## 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.

## 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 \$50 PER MINUTE THE ROAD AND/OR LANE(S) REMAIN CLOSED TO TRAFFIC.

## ITEM 614 - REPLACEMENT SIGN

FLAT SHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE IN USED, BUT GOOD, CONDITION SUBJECT TO APPROVAL BY THE ENGINEER.

THIS ITEM IS TO BE CONSIDERED INCIDENTAL TO MAINTAINING TRAFFIC ON THE PROJECT AND WILL BE PAID FOR UNDER THE LUMP SUM CONTRACT BID PRICE FOR ITEM 614 MAINTAINING TRAFFIC. IT SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED SIGN, AND PROVIDING AND MAINTAINING THE REPLACEMENT SIGN IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL SIGN.

## ITEM 614 - REPLACEMENT DRUM

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT DRUMS SHALL BE NEW.

THIS ITEM IS TO BE CONSIDERED INCIDENTAL TO MAINTAINING TRAFFIC ON THE PROJECT AND WILL BE PAID FOR UNDER THE LUMP SUM CONTRACT BID PRICE FOR ITEM 614 MAINTAINING TRAFFIC. IT SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

## ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC

TEMPORARY WEDGES AT END OF RAMPS, PAVEMENT LAYER ENDS, APPROACH SLABS OR BRIDGE DECKS ARE TO BE CONSTRUCTED AS PER STANDARD DRAWING BP-3.1.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR MAINTENANCE OF TRAFFIC.

ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC 50 CU YD

## ITEM 614 - WORKSITE TRAFFIC SUPERVISOR

SUBJECT TO APPROVAL OF THE ENGINEER, THE CONTRACTOR SHALL EMPLOY AND IDENTIFY (SOMEONE OTHER THAN THE SUPERINTENDENT) A CERTIFIED WORKSITE TRAFFIC SUPERVISOR (WTS) BEFORE STARTING WORK IN THE FIELD. THE WTS MAY BE CERTIFIED FROM ONE OF THE FOLLOWING ORGANIZATIONS:

1. AMERICAN TRAFFIC SAFETY SERVICE ASSOCIATION (ATSSA), PHONE NUMBER 1-800-272-8772, CERTIFIED TRAFFIC CONTROL SUPERVISOR (TCS).
2. NATIONAL HIGHWAY INSTITUTE, DESIGN AND OPERATION OF WORK ZONE TRAFFIC CONTROL, PHONE NUMBER 1-703- 235-0528.
3. THE OHIO CONTRACTORS ASSOCIATION, TRAFFIC CONTROL SUPERVISOR (OCA/TCS) WORK ZONE CLASS, ONLY IF TAKEN AFTER MAY 5, 2004, PHONE NUMBER 1-614-599-7915.
4. OHIO LABORERS TRAINING, TRAFFIC CONTROL SUPERVISORS CLASS, PHONE NUMBER 1-740-599-7915.

## ITEM 614 - WORKSITE TRAFFIC SUPERVISOR (CONTINUED)

A COPY OF EACH WTS'S CERTIFICATION AND 24-HOUR CONTACT INFORMATION SHALL BE PROVIDED TO THE ENGINEER AT THE PRECONSTRUCTION CONFERENCE. IF THE DESIGNATED WTS WILL NOT BE AVAILABLE FULL TIME (24/7) THE CONTRACTOR MAY DESIGNATE AN ALTERNATE WTS TO BE AVAILABLE WHEN THE PRIMARY IS OFF DUTY. EACH WTS SHALL HAVE A CURRENT WTS CERTIFICATION (WITH AN EXPIRATION DATE NO MORE THAN 5 YEARS FROM THE DATE OF ISSUE) FROM ANY OF THE APPROVED ORGANIZATIONS.

THE WTS POSITION HAS THE RESPONSIBILITY OF MONITORING TRAFFIC CONTROL DEFICIENCIES FOR THE ENTIRE WORK ZONE. THE DUTIES OF THE WTS ARE AS FOLLOWS:

1. BE AVAILABLE ON A 24-HOUR PER DAY BASIS, AND BE ABLE TO BE ON SITE FOR ALL EMERGENCY TRAFFIC CONTROL NEEDS WITHIN ONE HOUR OF NOTIFICATION BY POLICE OR PROJECT STAFF AND BE PREPARED TO EFFECT CORRECTIVE MEASURES IMMEDIATELY ON EXISTING WORK ZONE TRAFFIC CONTROL DEVICES.
2. ATTEND PRECONSTRUCTION MEETING AND ALL PROJECT MEETINGS WHERE TRAFFIC CONTROL MANAGEMENT IS DISCUSSED.
3. BE AVAILABLE FOR MEETINGS OR DISCUSSIONS WITH THE ENGINEER UPON REQUEST OR WITHIN 36 HOURS.
4. BE AWARE OF, AND COORDINATE IF NECESSARY, ALL TRAFFIC CONTROL OPERATIONS, INCLUDING THOSE OF SUBCONTRACTORS AND SUPPLIERS.
5. COORDINATE PROJECT ACTIVITIES WITH ALL LAW ENFORCEMENT OFFICERS (LEOS). A WTS SHALL ALSO BE THE MAIN CONTACT PERSON WITH THE LEO'S WHILE THEY ARE ON THE PROJECT.
6. COORDINATE MEETINGS WITH ODOT PERSONNEL, LEO'S AND OTHER APPLICABLE ENTITIES BEFORE EACH PLAN PHASE SWITCH TO DISCUSS WORK ZONE TRAFFIC CONTROL.
7. ENSURE COMPLIANCE WITH THE CONTRACT DOCUMENTS FOR SIGNS, BARRICADES, TEMPORARY CONCRETE BARRIER, PAVEMENT MARKINGS, PORTABLE MESSAGE SIGNS, AND OTHER TRAFFIC CONTROL DEVICES ON A DAILY BASIS; AND FACILITATE ANY CORRECTIVE ACTION NECESSARY.

8. NOTIFY THE CONTRACTOR OF THE NEED FOR CLEANING AND MAINTENANCE OF ALL TRAFFIC CONTROL DEVICES, INCLUDING THE COVERING AND REMOVAL OF INAPPLICABLE SIGNS.

9. INSPECT, EVALUATE, PROPOSE NECESSARY MODIFICATIONS TO, AND DOCUMENT THE EFFECTIVENESS OF, THE TRAFFIC CONTROL DEVICES AND/OR TRAFFIC OPERATIONS ON A DAILY BASIS (7 DAYS A WEEK). IN ADDITION, A WEEKLY NIGHT INSPECTION OF THE WORK ZONE SETUP FOR DAYTIME WORK OPERATIONS; AND ONE DAYTIME INSPECTION PER WEEK FOR NIGHTTIME PROJECTS. THIS SHALL INCLUDE (BUT NOT BE LIMITED TO) DOCUMENTATION ON THE FOLLOWING PROJECT EVENTS:

- A. INITIAL TRAFFIC CONTROL SETUP (DAY AND NIGHT REVIEW).
- B. DAILY TRAFFIC CONTROL SETUP AND REMOVAL.
- C. WHEN CONSTRUCTION STAGING CAUSES A CHANGE IN THE TRAFFIC CONTROL SETUP.
- D. CRASH OCCURRENCES WITHIN THE CONSTRUCTION AREA.
- E. REMOVAL OF TRAFFIC CONTROL DEVICES AT THE END OF A PHASE OR PROJECT.
- F. ALL OTHER EMERGENCY TRAFFIC CONTROL NEEDS.

10. COMPLETE THE DEPARTMENT APPROVED LONG TERM INSPECTION FORM (CA-D-8) AFTER EACH INSPECTION AS REQUIRED IN # 9 AND SUBMIT IT TO THE ENGINEER THE FOLLOWING WORK DAY. THESE REPORTS SHALL INCLUDE A CHECKLIST OF ALL TRAFFIC CONTROL MAINTENANCE ITEMS TO BE REVIEWED. A COPY OF THE FORM WILL BE PROVIDED AT THE PRE-CONSTRUCTION MEETING. ANY DEFICIENCIES OBSERVED SHALL BE NOTED, ALONG WITH RECOMMENDED CORRECTIVE ACTIONS AND THE DATES BY WHICH SUCH CORRECTIONS WERE, OR WILL BE, COMPLETED. A COPY OF THIS DOCUMENT CAN BE FOUND IN THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION INSPECTION FORMS MANUAL DATED 10/15/06 OR CURRENT REVISION.

11. VERIFY THAT ALL FLAGGING OPERATIONS ARE BEING CONDUCTED PER THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

12. HAVE COPIES OF THE ODOT TEMPORARY TRAFFIC CONTROL MANUAL AND APPLICABLE STANDARDS AND SPECIFICATIONS INCLUDED IN THE CONTRACT DOCUMENTS AVAILABLE AT ALL TIMES ON THE PROJECT.

THE DEPARTMENT WILL NOT PAY THE UNIT PRICE BID FOR THE WTS FOR ANY DAY ON WHICH THE CONTRACTOR FAILS TO PERFORM THE DUTIES SET FORTH ABOVE. SHOULD THE CONTRACTOR'S FAILURE TO PERFORM ANY OF THE DUTIES DESCRIBED ABOVE RESULT IN A MAINTENANCE OF TRAFFIC SAFETY ISSUE, THE DEPARTMENT WILL DEDUCT THE PRORATED DAILY AMOUNT FOR ITEM 614 MAINTENANCE OF TRAFFIC FROM THE CONTRACTOR'S NEXT SCHEDULED ESTIMATE.

IF THREE OR MORE FAILURES TO PERFORM THE DUTIES SET FORTH ABOVE OCCUR, THE WTS SHALL BE IMMEDIATELY REMOVED FROM THE WORK IN ACCORDANCE WITH C&MS 108.05.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED FOR THE WORKSITE TRAFFIC SUPERVISOR:

ITEM 614 - WORKSITE TRAFFIC SUPERVISOR 3 MONTHS

CALCULATED  
EMP  
CHECKED  
KRB

GENERAL NOTES

WAY - 21 - 1.80

6  
13

**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  
1786 DOVER RD.  
WOOSTER, OH 44691  
330-264-0575 \*4023  
FAX: 330-262-5910

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.

**ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN**

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, AND REMOVE WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN(S) ON SITE FOR THE DURATION OF THE PROJECT. THE SIGN(S) SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR (OFFICE OF MATERIALS MANAGEMENT). THE APPROVED LIST OF PORTABLE CHANGEABLE MESSAGE SIGNS CAN BE FOUND ON THE ODOT WEB SITE BY CLICKING ON THE SERVICES MENU, THEN CLICKING ON MATERIALS MANAGEMENT. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 650 FT AND 475 FT 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(S) SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. PCMS TRAILERS SHALL BE DELINEATED ON A PERMANENT BASIS BY AFFIXING CONSPICUITY TAPE CONFORMING TO CMS 614.03 IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

THE PROBABLE PCMS LOCATIONS WILL BE DETERMINED BY THE ENGINEER PRIOR TO BEGINNING WORK ON THIS PROJECT. PLACEMENT, OPERATIONS, MAINTENANCE, AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AD 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 TO FACE AWAY FROM TRAFFIC AND SHALL DISPLAY A MINIMUM OF ONE YELLOW RETROREFLECTIVE SHEETING SURFACE, A MINIMUM OF 9 INCHES BY 15 INCHES IN 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.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PREPROGRAMMED 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 PREPROGRAMMED 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 UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF CMS 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 LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE, AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK. THE CONTRACTOR SHALL ONLY BE PAID FOR PCMS UNITS WHEN THEY ARE IN OPERATION ON THE PROJECT AS SPECIFIED IN THE PLANS OR BY THE ENGINEER.

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN  
6 SIGN-MONTH

**ITEM 614 - WORK ZONE SPEED ZONES (WZSZs)**

THE FOLLOWING WORK ZONE SPEED ZONE (WZSZ) SPEED LIMIT REVISION(S) HAVE BEEN APPROVED FOR USE ON THIS PROJECT WHEN WORK ZONE CONDITIONS AND FACTORS ARE MET AS DESCRIBED BELOW:

WZSZ REVISION NUMBER	COUNTY, ROUTE, SECTION	DIRECTION
20496	WAY-21-1.77 TO 5.86	NB & SB

POTENTIAL WZSZ LOCATIONS SHALL HAVE AN ORIGINAL (PRE-CONSTRUCTION) POSTED SPEED LIMIT OF =55 MPH, A QUALIFYING WORK ZONE CONDITION OF AT LEAST 0.5 MILE IN LENGTH, AN EXPECTED WORK DURATION OF AT LEAST THREE HOURS, AND A WORK ZONE CONDITION IN PLACE THAT REDUCES THE EXISTING FUNCTIONALITY OF THE TRAVEL LANES OR SHOULDERS (I.E., LANE CLOSURE, LANE SHIFT, CROSSOVER, CONTRAFLOW AND/OR SHOULDER CLOSURE). THE LENGTH OF THE WORK ZONE CONDITION IS MEASURED FROM THE BEGINNING OF THE TAPER FOR THE SUBJECT WORK ZONE CONDITION IMPACTING THE TRAVEL LANES AND/OR SHOULDER TO THE END OF THE DOWNSTREAM TAPER, WHERE DRIVERS ARE RETURNED TO TYPICAL ALIGNMENT. AN EXPECTED WORK DURATION OF AT LEAST THREE HOURS IS REQUIRED TO BALANCE THE ADDITIONAL EXPOSURE CREATED BY INSTALLING AND REMOVING WZSZ SIGNING WITH THE TIME NEEDED TO COMPLETE THE WORK.

IF THE WORK ZONE MEETS THESE MINIMUM CRITERIA, IT SHALL BE ANALYZED FURTHER USING TABLE 1 BELOW TO DETERMINE IF AND WHEN IT QUALIFIES FOR A SPEED LIMIT REDUCTION. DEPENDING ON THE ORIGINAL POSTED SPEED LIMIT, THE TYPE OF TEMPORARY TRAFFIC CONTROL USED, AND WHETHER OR NOT WORKERS ARE PRESENT, A WARRANTED WZSZ WILL VARY IN THE APPROVED SPEED LIMIT TO BE POSTED OVER TIME.

C&MS ITEM 614, PARAGRAPH 614.02(B), INDICATES THAT TWO DIRECTIONS OF A DIVIDED HIGHWAY ARE CONSIDERED SEPARATE HIGHWAY SECTIONS. THEREFORE, IF THE WORK ON A MULTI-LANE DIVIDED HIGHWAY IS LIMITED TO ONLY ONE DIRECTION, A SPEED LIMIT REDUCTION IN THE DIRECTION OF THE WORK DOES NOT AUTOMATICALLY CONSTITUTE A SPEED LIMIT REDUCTION IN THE OPPOSITE DIRECTION. EACH DIRECTION SHALL BE ANALYZED INDEPENDENTLY FROM EACH OTHER.

ALL WZSZS FLUCTUATE BETWEEN TWO APPROVED REDUCED SPEED LIMITS OR BETWEEN AN APPROVED REDUCED SPEED LIMIT AND THE ORIGINAL POSTED SPEED LIMIT. ONLY ONE OF TWO SIGNING STRATEGIES SHALL BE USED TO IMPLEMENT A WZSZ.

WZSZS USING DSL SIGN ASSEMBLIES SHALL BE IN ACCORDANCE WITH THIS NOTE, APPROVED LIST, SUPPLEMENTAL SPECIFICATIONS (SS) 808 AND 908 AND TRAFFIC SCD MT-104.10.

ONLY ONE WARRANTED SPEED LIMIT APPLIES AT ANY ONE TIME; SPEED LIMIT REDUCTIONS ARE NOT CUMULATIVE. WZSZS SHALL NOT BE USED FOR MOVING/MOBILE ACTIVITIES, AS DEFINED IN OMUTCD PART 6.

WHEN LOOKING UP THE WARRANTED WORK ZONE SPEED LIMITS, ALWAYS USE THE ORIGINAL, PRECONSTRUCTION, POSTED SPEED LIMIT. DO NOT USE A PRIOR OR CURRENT WORK ZONE SPEED LIMIT AS A LOOK UP VALUE IN THE TABLE. POSITIVE PROTECTION IS GENERALLY REGARDED AS PORTABLE BARRIER OR OTHER RIGID BARRIER IN USE ALONG THE WORK AREA WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WITHOUT POSITIVE PROTECTION IS GENERALLY REGARDED AS USING DRUMS, CONES, SHADOW VEHICLE, ETC., ALONG THE WORK AREA WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WORKERS ARE CONSIDERED AS BEING PRESENT WHEN ON-SITE, WORKING WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WHEN THE WORK ZONE CONDITION REDUCING THE EXISTING FUNCTIONALITY OF THE TRAVEL LANES OR SHOULDERS IS REMOVED, THE SPEED LIMIT DISPLAYED SHALL RETURN TO THE ORIGINAL POSTED SPEED LIMIT.

ORIGINAL POSTED SPEED LIMIT	WITH POSITIVE PROTECTION		WITHOUT POSITIVE PROTECTION	
	WORKERS PRESENT	WORKERS NOT PRESENT	WORKERS PRESENT	WORKERS NOT PRESENT
70	60	65	55	65
65	55	60	50	60
60	55	60	50	60
55	50	55	45	55

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614, DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY 12 SIGN-MONTH  
(ASSUMING 4 DSL SIGN ASSEMBLIES FOR 3 MONTHS)

CALCULATED  
EMP  
CHECKED  
KRB

GENERAL NOTES

WAY - 21 - 1.80

7  
13

I:\ProjectData\06519\Design\Roadway\Sheets\06519\_GN001.dgn



I:\ProjectData\06519\Design\Roadway\Sheets\06519\_G0001.dgn

COUNTY	ROUTE	LOG POINT TO LOG POINT		LENGTH		AVERAGE WIDTH	*TYPICAL-NUMBER (SEE SHEET 4 FOR TYPICALS)	PAVEMENT AREA	897		PAVEMENT PLANING, ASPHALT CONCRETE, CLASS A	897	PAVEMENT PLANING, ASPHALT CONCRETE, CLASS A	PATCHING PLANED SURFACE	407 NON-TRACKING TACK COAT (0.08 GAL/SY FOR ESTIMATING PURPOSES)	424		618 RUMBLE STRIPS, (ASPHALT CONCRETE)	209	AGGREGATE SHOULDER PROPOSED WIDTH		AGGREGATE SHOULDER AREA	617		617		
				MILE	FEET				SQ YD	SQ YD						INCH	CU YD			MILE	MILE		FT	FT		SQ YD	SQ YD
				STRAIGHT LINE MILEAGE					FT	SQ YD						SQ YD	INCH			CU YD	MILE		MILE	FT		FT	SQ YD
WAY	SR 21 SB	1.80	2.63	0.83	4382	36	1	17,530	17,530			88		1,402		1.25	609		1.66		1.66	2	2	1,948	1,948	108	
WAY	SR 21 SB	2.63	2.73	0.10	528	42	2	2,464	2,464			12		197		1.25	86		0.2		0.2	2	2	117	117	7	
WAY	SR 21 SB	2.73	3.90	1.17	6178	36	1	24,710	24,710			124		1,977		1.25	858		2.34		2.34	2	2	2,746	2,746	153	
WAY	SR 21 SB	3.90	3.95	0.05	264	72	1	2,112	2,112			11		169		1.25	73		0.1		0.1	2	2	117	117	7	
WAY	SR 21 SB	3.95	4.02	0.07	370	66	1	2,710	2,710			14		217		1.25	94		0.14		0.14	2	2	164	164	9	
WAY	SR 21 SB	4.02	4.09	0.07	370	48	1	1,971	1,971			10		158		1.25	68		0.14		0.14	2	2	164	164	9	
WAY	SR 21 SB	4.09	4.68	0.59	3115	36	1	12,461	12,461			62		997		1.25	433		1.18		1.18	2	2	1,385	1,385	77	
WAY	SR 21 SB	4.68	4.75	0.07	370	50	1	2,053	2,053			10		164		1.25	71		0.14		0.14	2	2	164	164	9	
WAY	SR 21 SB	4.75	5.52	0.77	4066	36	1	16,262	16,262			81		1,301		1.25	565		1.54		1.54	2	2	1,807	1,807	100	
WAY	SR 21 SB	5.52	5.78	0.26	1373	40	1	6,101	6,101			31		488		1.25	212		0.52		0.52	2	2	610	610	34	
WAY	SR 21 SB	5.78	5.86	0.08	422	48	1	2,253	2,253			11		180		1.25	78		0.16		0.16	2	2	94	94	5	
WAY	SR 21 NB	1.80	2.63	0.83	4382	36	1	17,530	17,530			88		1,402		1.25	609		1.66		1.66	2	2	1,948	1,948	108	
WAY	SR 21 NB	2.63	2.73	0.10	528	42	2	2,464	2,464			12		197		1.25	86		0.2		0.2	2	2	117	117	7	
WAY	SR 21 NB	2.73	3.70	0.97	5122	36	1	20,486	20,486			102		1,639		1.25	711		1.94		1.94	2	2	2,276	2,276	126	
WAY	SR 21 NB	3.70	3.77	0.07	370	48	1	1,971	1,971			10		158		1.25	68		0.14		0.14	2	2	164	164	9	
WAY	SR 21 NB	3.77	3.82	0.05	264	66	1	1,936	1,936			10		155		1.25	67		0.1		0.1	2	2	117	117	7	
WAY	SR 21 NB	3.82	3.89	0.07	370	72	1	2,957	2,957			15		237		1.25	103		0.14		0.14	2	2	164	164	9	
WAY	SR 21 NB	3.89	4.59	0.70	3696	36	1	14,784	14,784			74		1,183		1.25	513		1.4		1.4	2	2	1,643	1,643	91	
WAY	SR 21 NB	4.59	4.65	0.06	317	50	1	1,760	1,760			9		141		1.25	61		0.12		0.12	2	2	141	141	8	
WAY	SR 21 NB	4.65	5.68	1.03	5438	36	1	21,754	21,754			109		1,740		1.25	755		2.06		2.06	2	2	2,417	2,417	134	
WAY	SR 21 NB	5.68	5.75	0.07	370	48	1	1,971	1,971			10		158		1.25	68		0.14		0.14	2	2	164	164	9	
WAY	SR 21 NB	5.75	5.78	0.03	158	60	1	1,056	1,056			5		84		1.25	37		0.06		0.06	2	2	70	70	4	
WAY	SR 21 NB	5.78	5.86	0.08	422	75	1	3,520	3,520			18		282		1.25	122		0.16		0.16	2	2	94	94	5	
EXTRA AREA FOR CLINTON RD. NB		2.66						264		264		1		21		1.25	9										
EXTRA AREA FOR CLINTON RD. SB		2.70						373		373		2		30		1.25	13										
EXTRA AREA FOR CLINTON RD. (MEDIAN)								300	300			2		24		1.25	10										
EXTRA AREA FOR EDWARDS RD. NB		3.89						181		181		1		14		1.25	6										
EXTRA AREA FOR EDWARDS RD. SB		3.90						192		192		1		15		1.25	7										
EXTRA AREA FOR EDWARDS RD. (MEDIAN)								300	300			2		24		1.25	10										
EXTRA AREA FOR GRILL RD. NB		4.65						331		331		2		26		1.25	11										
EXTRA AREA FOR GRILL RD. SB		4.68						255		255		1		20		1.25	9										
EXTRA AREA FOR GRILL RD. (MEDIAN)								264	264			1		21		1.25	9										
EXTRA AREA FOR EASTERN RD. NB		5.86						580		580		3		46		1.25	20										
EXTRA AREA FOR EASTERN RD. SB		5.86						458		458		2		37		1.25	16										
EXTRA AREA FOR SR 21 AT EASTERN RD.		5.86						814		814		4		65		1.25	28										
GRAND TOTAL CARRIED TO GENERAL SUMMARY								187,128	183,680	3,448	936		14,969			6,498		16.24		16.24		18,631	18,631	1,035			

PAVEMENT AND SHOULDER DATA

WAY - 21 - 1.80

CALCULATED  
EMP  
CHECKED  
KRB

AUXILIARY & LONG LINE MARKINGS

COUNTY	ROUTE	STATION / SLM		HIGHWAY MILES	614				644				644								
		FROM	TO		MILE	WORK ZONE EDGE LINE CLASS III, 642 PAINT	WORK ZONE LANE LINE CLASS III, 642 PAINT	WORK ZONE STOP LINE, CLASS III, 642 PAINT	WORK ZONE CHANNELIZING LINE CLASS III, 642 PAINT	LANE LINE, 6"	EDGE LINE, 6" (WHITE)	EDGE LINE, 6" (YELLOW)	CENTER LINE	CHANNELIZING LINE, 12"	DOTTED LINE, 6"	CHEVRON MARKING	TRANSVERSE/DIAGONAL LINE	LANE ARROW (RIGHT)	LANE ARROW (LEFT)	LANE REDUCTION ARROW	STOP LINE
						Mile	Mile	FT	FT	MILE	MILE	MILE	MILE	FT	FT	FT	FT	EACH	EACH	EACH	FT
WAY	21 NB	1.80	2.64	0.84	3.36	1.68	40	150	0.84	0.84	0.84						2			20	
WAY	21 NB	2.64	3.89	1.25	5.00	2.50	180	3022	1.25	1.25	1.25			230		2	7		90		
WAY	21 NB	3.89	4.66	0.77	3.08	1.54	40	168	0.77	0.77	0.77						2		20		
WAY	21 NB	4.66	5.86	1.20	4.80	2.40	184	2636	1.20	1.20	1.20		1,318	212	194	2	6		92		
WAY	21 SB	1.80	2.64	0.84	3.36	1.68			0.84	0.84	0.84										
WAY	21 SB	2.64	3.89	1.25	5.00	2.50	32	200	1.25	1.25	1.25		100				2		16		
WAY	21 SB	3.89	4.66	0.77	3.08	1.54	170	2990	0.77	0.77	0.77		1,495	197		2	7		85		
WAY	21 SB	4.66	5.86	1.20	4.80	2.40	220	132	1.20	1.20	1.20		66				2	4	110		
<b>TOTALS</b>					<b>32.48</b>	<b>16.24</b>	<b>866</b>	<b>9,298</b>	<b>8.12</b>	<b>8.12</b>	<b>8.12</b>		<b>4,649</b>	<b>212</b>	<b>621</b>		<b>8</b>	<b>26</b>	<b>4</b>	<b>433</b>	

RAISED PAVEMENT MARKERS

COUNTY	ROUTE	STATION/SLM		DETAIL	621	621	PRISMATIC RETRO-REFLECTOR TYPES					REMARKS	DETAIL	DESCRIPTION
		FROM	TO		RAISED PAVEMENT MARKER REMOVED	RPM	ONE-WAY		TWO-WAY				1	MULTILANE UNDIVIDED TYPICAL SPACING
							WHITE	YELLOW / YELLOW	WHITE / RED	YELLOW / RED	BLUE / BLUE			
WAY	21	1.80	5.86	5	EACH	EACH	EACH	EACH	EACH	EACH	EACH	4-LANE DIVIDED WITH TURN LANES	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
													12	TWO LANE 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.
<b>TOTALS</b>														
					<b>650</b>	<b>650</b>								

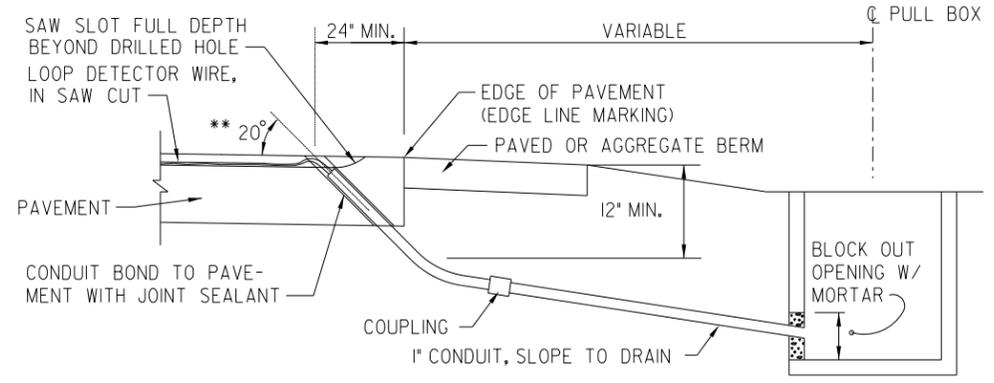
NOTES:

- 1) LANES TO BE STRIPED AT 12' ACCORDING TO CMS 641.08A
- 2) ALL EXISTING STOP LINES TO BE REPLACED WITH WORK ZONE STOP LINES AFTER PAVEMENT PLANING
- 3) FOR ALL WORK ZONE MARKINGS, THE 642 PAINT SHALL BE TYPE I

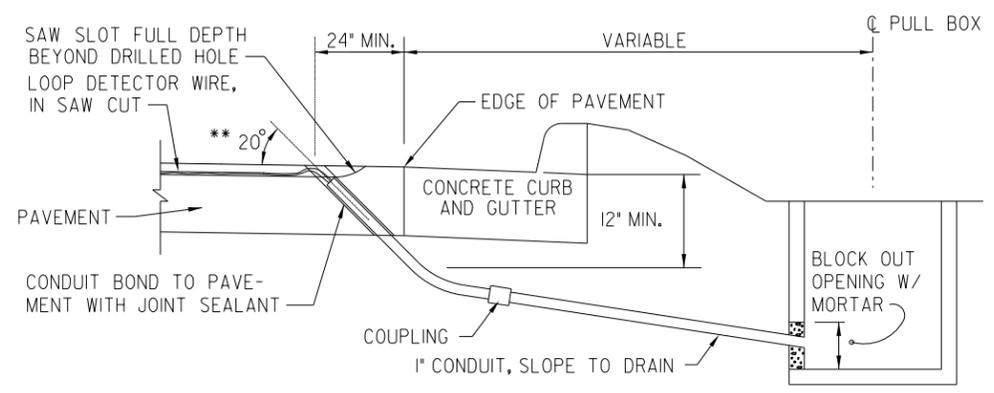
CALCULATED  
EMP  
CHECKED  
KRB

PAVEMENT MARKING AND RPM SUBSUMMARY

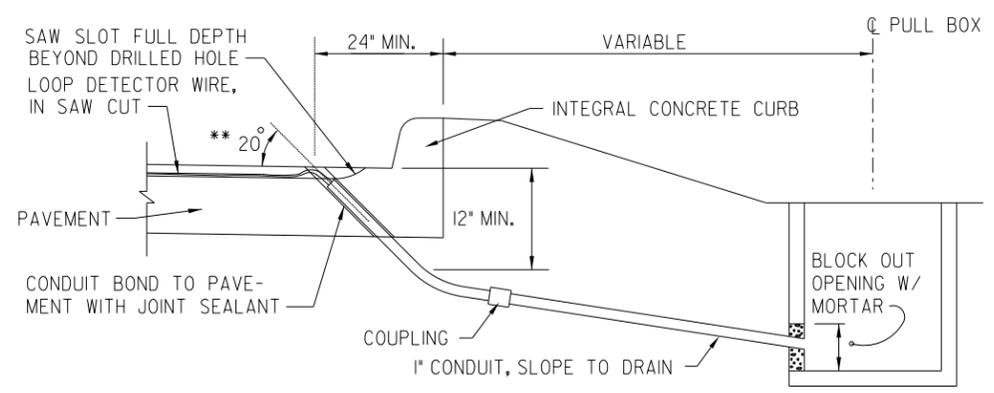
WAY - 21 - 1.80



DRILLED HOLE LOCATION DETAIL WITH PAVED OR AGGREGATE BERM



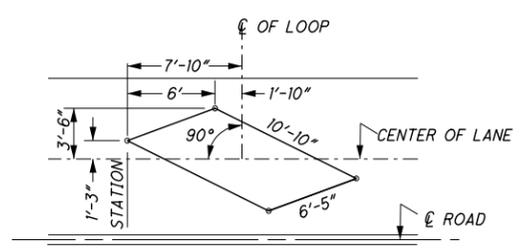
DRILLED HOLE LOCATION DETAIL WITH CONCRETE CURB AND GUTTER



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.

(01/NHS/PV)  
ITEM 632 - DETECTOR LOOP, AS PER PLAN

WAY-21 & Edwards Rd.	18 Each
WAY-21 & Eastern Rd.	11 Each
<b>Total</b>	<b>29 Each</b>

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**DETECTOR LOOP REPLACEMENT WORK DESCRIPTION**

REPLACE LOOPS L-1, L-2, L-3, L-4, L-5, L-6, L-7, L-8, L-9, L-10, L-11, L-12, L-13, L-14, L-15, L-16, L-17, L-18

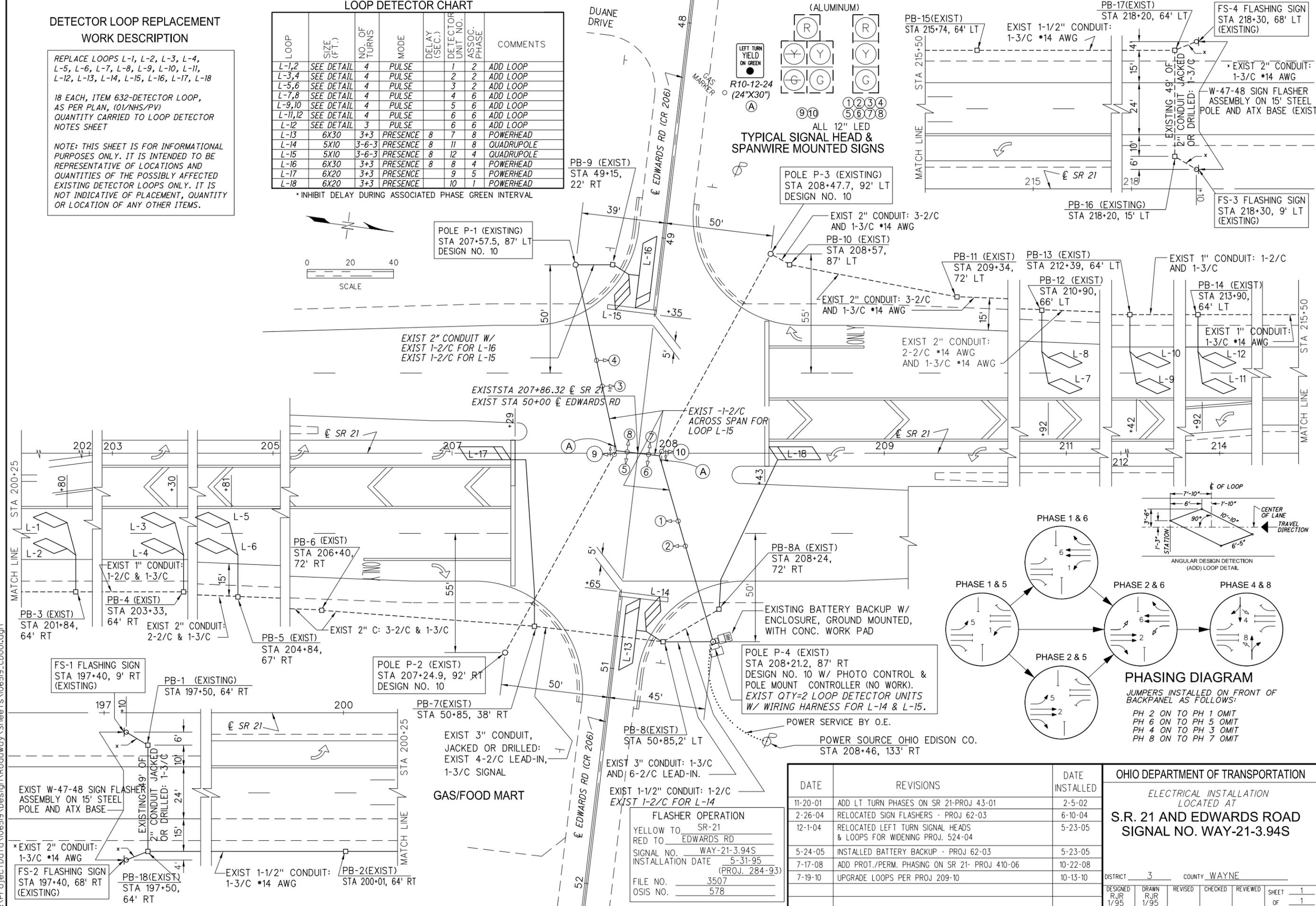
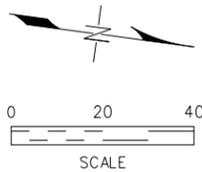
18 EACH, ITEM 632-DETECTOR LOOP, AS PER PLAN, (01/NHS/PV) QUANTITY CARRIED TO LOOP DETECTOR NOTES SHEET

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

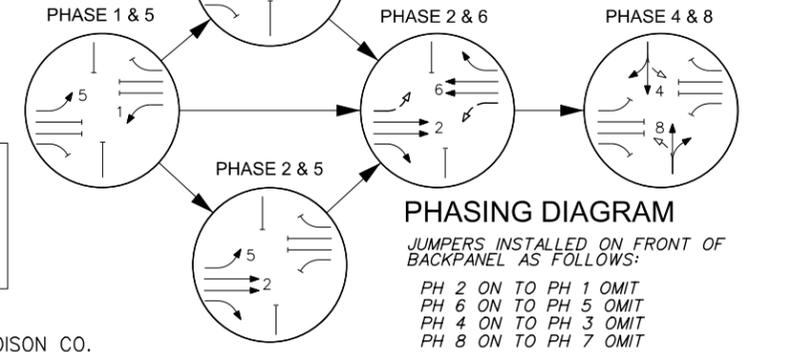
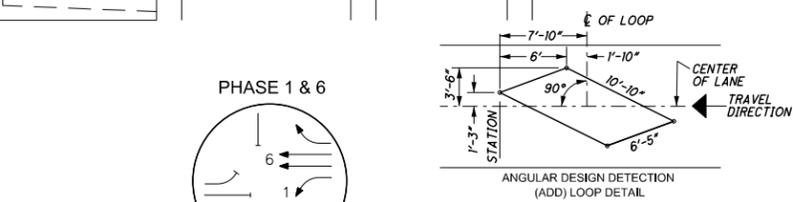
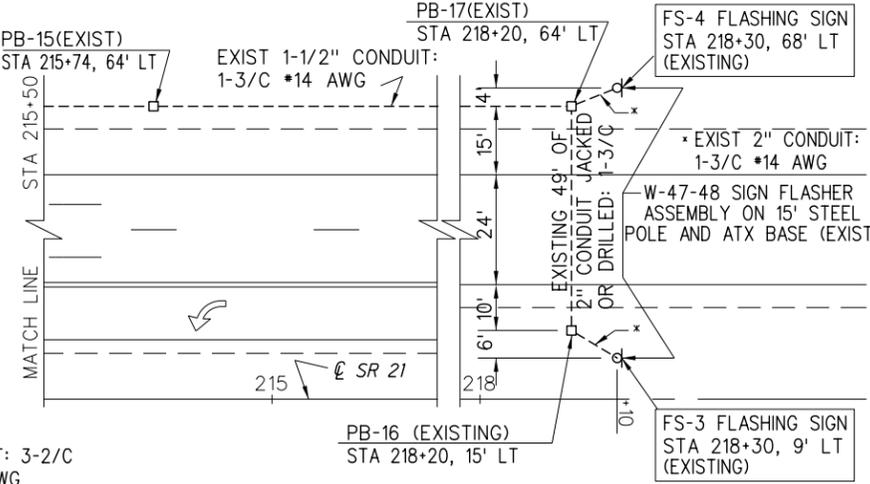
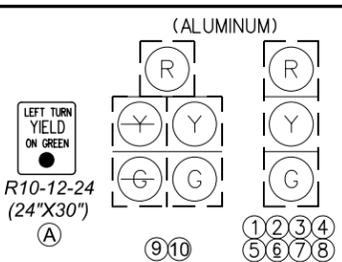
**LOOP DETECTOR CHART**

LOOP	SIZE (FT.)	NO. OF TURNS	MODE	DELAY (SEC.)	DETECTOR UNIT NO.	ASSOC. PHASE	COMMENTS
L-1,2	SEE DETAIL	4	PULSE		1	2	ADD LOOP
L-3,4	SEE DETAIL	4	PULSE		2	2	ADD LOOP
L-5,6	SEE DETAIL	4	PULSE		3	2	ADD LOOP
L-7,8	SEE DETAIL	4	PULSE		4	6	ADD LOOP
L-9,10	SEE DETAIL	4	PULSE		5	6	ADD LOOP
L-11,12	SEE DETAIL	4	PULSE		6	6	ADD LOOP
L-12	SEE DETAIL	3	PULSE		6	6	ADD LOOP
L-13	6X30	3+3	PRESENCE	8	7	8	POWERHEAD
L-14	5X10	3-6-3	PRESENCE	8	11	8	QUADRUPOLE
L-15	5X10	3-6-3	PRESENCE	8	12	4	QUADRUPOLE
L-16	6X30	3+3	PRESENCE	8	8	4	POWERHEAD
L-17	6X20	3+3	PRESENCE		9	5	POWERHEAD
L-18	6X20	3+3	PRESENCE		10	1	POWERHEAD

\*INHIBIT DELAY DURING ASSOCIATED PHASE GREEN INTERVAL



**TYPICAL SIGNAL HEAD & SPANWIRE MOUNTED SIGNS**



**FLASHER OPERATION**  
 YELLOW TO SR-21  
 RED TO EDWARDS RD  
 SIGNAL NO. WAY-21-3.94S  
 INSTALLATION DATE 5-31-95 (PROJ. 284-93)  
 FILE NO. 3507  
 OSIS NO. 578

DATE	REVISIONS	DATE INSTALLED
11-20-01	ADD LT TURN PHASES ON SR 21-PROJ 43-01	2-5-02
2-26-04	RELOCATED SIGN FLASHERS - PROJ 62-03	6-10-04
12-1-04	RELOCATED LEFT TURN SIGNAL HEADS & LOOPS FOR WIDENING PROJ. 524-04	5-23-05
5-24-05	INSTALLED BATTERY BACKUP - PROJ 62-03	5-23-05
7-17-08	ADD PROT./PERM. PHASING ON SR 21- PROJ 410-06	10-22-08
7-19-10	UPGRADE LOOPS PER PROJ 209-10	10-13-10

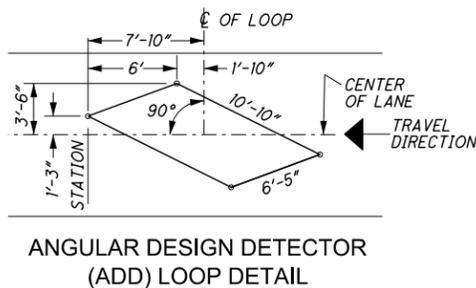
**OHIO DEPARTMENT OF TRANSPORTATION**  
 ELECTRICAL INSTALLATION  
 LOCATED AT  
**S.R. 21 AND EDWARDS ROAD**  
**SIGNAL NO. WAY-21-3.94S**  
 DISTRICT 3 COUNTY WAYNE  
 DESIGNED RJR 1/95  
 DRAWN RJR 1/95  
 REVISIONS  
 CHECKED  
 REVIEWED  
 SHEET 1 OF 1

# DETECTOR LOOP REPLACEMENT WORK DESCRIPTION

**REPLACE LOOPS**  
L-1, L-2, L-3, L-4, L-5, L-6, L-14, L-15, L-16, L-16A, L-17

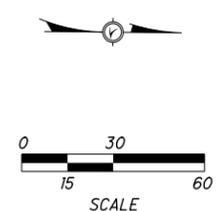
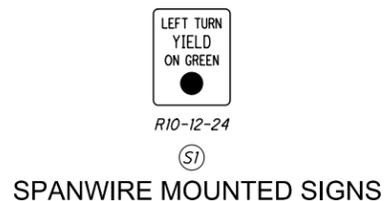
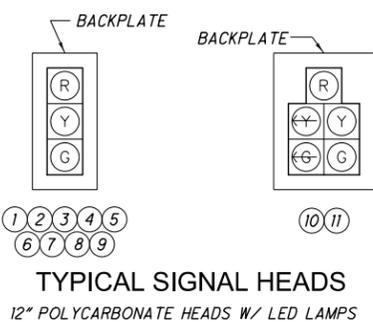
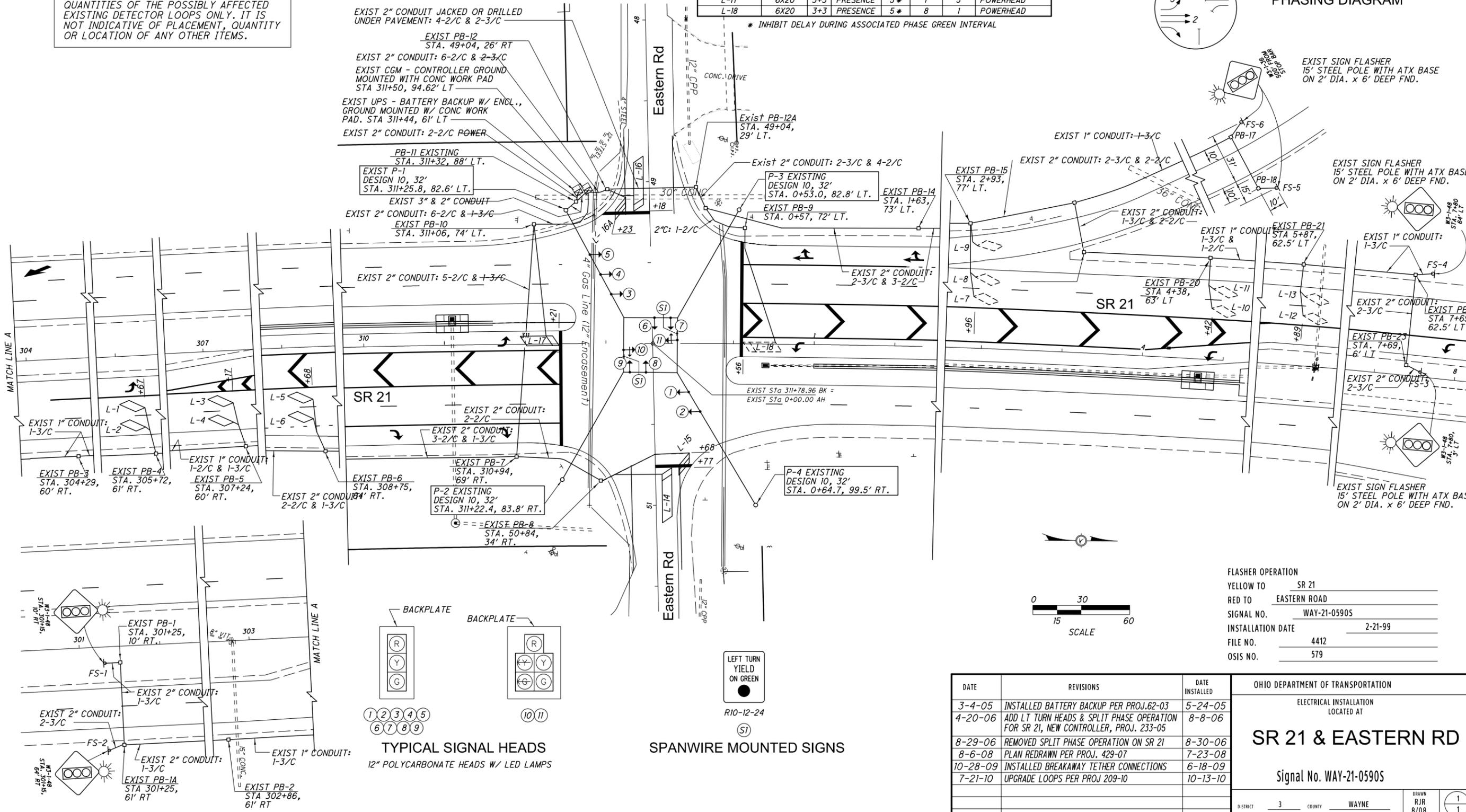
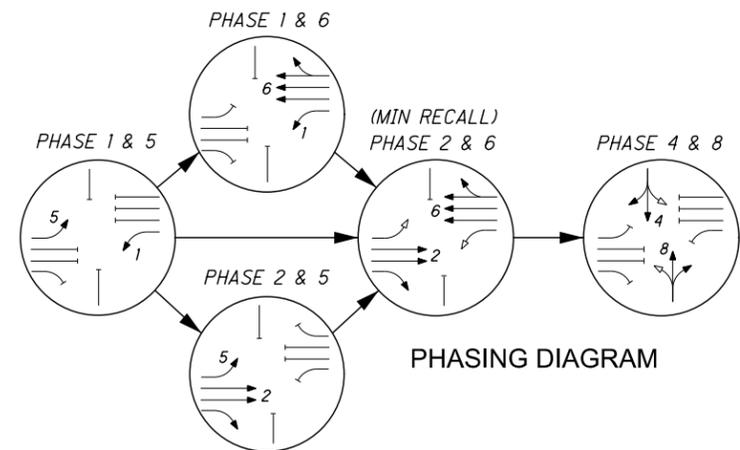
11 EACH, ITEM 632-DETECTOR LOOP, AS PER PLAN, (01/NHS/PV) QUANTITY CARRIED TO LOOP DETECTOR NOTES SHEET

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



LOOP	SIZE (FT.)	NO. OF TURNS	MODE	DELAY (SEC.)	CONNECT TO DETECTOR UNIT NO.	ASSOCIATED CONTROLLER PHASE	COMMENTS
L-1 & L-2	SEE DETAIL	4	PULSE		1	1	ADD LOOP
L-3 & L-4	SEE DETAIL	4	PULSE		1	1	ADD LOOP
L-5 & L-6	SEE DETAIL	4	PULSE		2	1	ADD LOOP
L-7, L-8 & L-9	SEE DETAIL	4	PULSE		3	1	ADD LOOP
L-10 & L-11	SEE DETAIL	4	PULSE		4	1	ADD LOOP
L-12 & L-13	SEE DETAIL	4	PULSE		4	1	ADD LOOP
L-14	6X30	3+3	PRESENCE	8*	5	2	POWERHEAD
L-15	6X10	3-6-3	PRESENCE	8*	6	2	QUADRUPOLE
L-16	6X30	3+3	PRESENCE	8*	6	2	POWERHEAD
L-16A	6X10	3-6-3	PRESENCE	8*	9	2	QUADRUPOLE
L-17	6X20	3+3	PRESENCE	5*	7	5	POWERHEAD
L-18	6X20	3+3	PRESENCE	5*	8	1	POWERHEAD

\* INHIBIT DELAY DURING ASSOCIATED PHASE GREEN INTERVAL



FLASHER OPERATION  
YELLOW TO SR 21  
RED TO EASTERN ROAD  
SIGNAL NO. WAY-21-0590S  
INSTALLATION DATE 2-21-99  
FILE NO. 4412  
OSIS NO. 579

DATE	REVISIONS	DATE INSTALLED
3-4-05	INSTALLED BATTERY BACKUP PER PROJ.62-03	5-24-05
4-20-06	ADD LT TURN HEADS & SPLIT PHASE OPERATION FOR SR 21, NEW CONTROLLER, PROJ. 233-05	8-8-06
8-29-06	REMOVED SPLIT PHASE OPERATION ON SR 21	8-30-06
8-6-08	PLAN REDRAWN PER PROJ. 429-07	7-23-08
10-28-09	INSTALLED BREAKAWAY TETHER CONNECTIONS	6-18-09
7-21-10	UPGRADE LOOPS PER PROJ 209-10	10-13-10

OHIO DEPARTMENT OF TRANSPORTATION  
ELECTRICAL INSTALLATION LOCATED AT  
**SR 21 & EASTERN RD**  
Signal No. WAY-21-0590S  
DISTRICT 3 COUNTY WAYNE  
DRAWN RJR 8/08

CALCULATED EMP CHECKED KRB  
HORIZONTAL SCALE IN FEET  
0 30 60

DETECTOR LOOPS  
SR21 and Eastern Rd.

WAY-21-1.80

13  
13

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