

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

D12-GR-FY2023

FEDERAL PROJECT NUMBER

FAN: E230245

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

*District-Wide Guardrail Job Order
Repair Contract For SFY 2023*

*Specific Work Location 1:
Includes Type E end treatment
Replacement / Upgrade Along The IR-77
Corridor From S.L.M. 14.96 To S.L.M. 16.31±
In Cuyahoga County*

*Specific Work Location 2:
Includes Type E end treatment
Replacement / Upgrade Along IR-90
From S.L.M. 0.00± To S.L.M. 6.84±
In Cuyahoga County*

*Specific Work Location 3:
Guardrail location adjustment on exit ramp
for truck turning movements.
Replacement / Realignment on W.B. IR-90
exit ramp at S.R.-528
I.R.-90 S.L.M. 26.90± / S.R.-528 S.L.M. 3.31
In Lake County*

EARTH DISTURBED AREAS


PROJECT EARTH DISTURBED AREA: N/A
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A
NOTICE OF INTENT EARTH DISTURBED AREA: N/A (NOI not required)*
* Routine Maintenance Project

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.

2019 SPECIFICATIONS

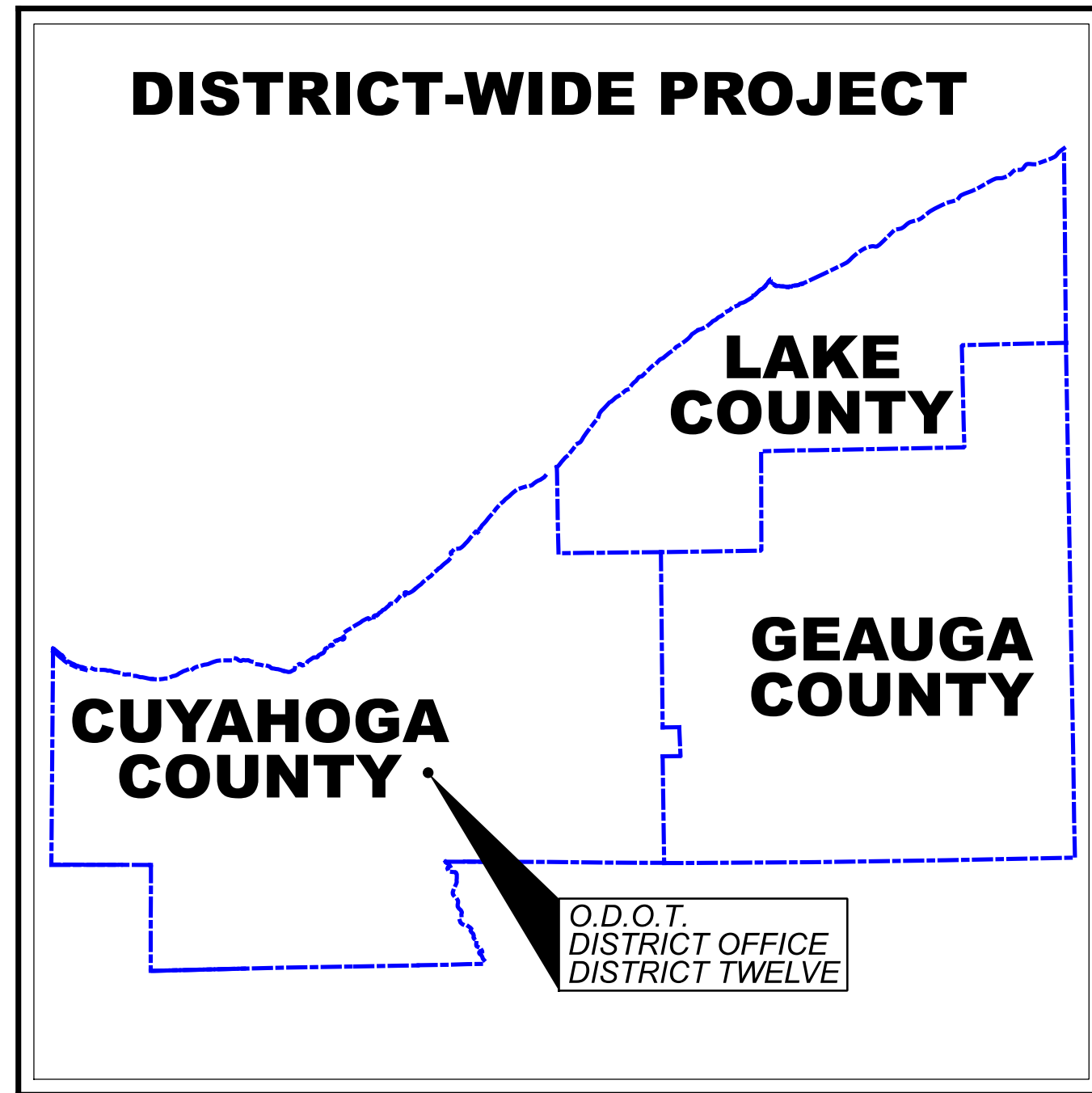
THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS, CHANGES LISTED IN THE PROPOSAL, AND THE SUPPLEMENTAL SPECIFICATION 800 VERSION INDICATED ON THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

John P. Picuri, P.E.
DISTRICT DEPUTY DIRECTOR


John Picuri, P.E., S.I.
12

Jack Marchbanks, Ph.D.
DIRECTOR, DEPARTMENT OF TRANSPORTATION





LOCATION MAP

DISTRICT OFFICE - DISTRICT TWELVE
5500 TRANSPORTATION BLVD., GARFIELD HEIGHTS, OHIO 44125
LATITUDE: 41°28'27"± LONGITUDE: 81°41'42"±



SPECIFIC WORK LOCATIONS

SPECIFIC WORK LOCATION 1 - CUYAHOGA COUNTY
I.R.-77 - CITY OF CLEVELAND
LATITUDE: 41°29'20"± LONGITUDE: 81°39'54"±

SPECIFIC WORK LOCATION 2 - CUYAHOGA COUNTY
I.R.-90 - CITY OF WESTLAKE, CITY OF ROCKY RIVER
LATITUDE: 41°28'07"± LONGITUDE: 81°58'09"±

SPECIFIC WORK LOCATION 3 - LAKE COUNTY
W.B. I.R.-90 EXIT RAMP AT S.R.-528 - VILLAGE OF MADISON
LATITUDE: 41°45'37"± LONGITUDE: 81°02'50"±

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UNDERGROUND UTILITIES

Contact Two Working Days Before You Dig



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

PLAN PREPARED BY:
O.D.O.T. DISTRICT 12
PLANNING AND ENGINEERING
5500 TRANSPORTATION BLVD.
GARFIELD HEIGHTS, OH 44125

ENGINEER'S SEAL



STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS	
BP-3.1	1/21/22	MGS-5.2	7/15/16	MT-95.30	7/19/19	TC-61.10	1/17/20	800-2019	SEE PROPOSAL
		MGS-5.3	7/15/16	MT-95.31	7/19/19	TC-61.30	7/19/19	821	4/20/12
		MGS-6.1	1/19/18	MT-95.32	4/19/19			832	7/15/22
MGS-1.1	7/16/21	MGS-6.2	7/19/19	MT-95.45	1/17/20			921	4/20/12
MGS-2.1	1/19/18			MT-97.10	4/19/19				
MGS-2.3	7/18/14			MT-98.28	1/17/20				
MGS-3.1	1/19/18			MT-105.10	1/17/20				
MGS-3.2	1/18/13								
MGS-4.2	7/19/13								
MGS-4.3	1/18/13								

ADDENDUM - R1

D12-GR-FY2023

MODEL: Sheet PAPER: 34x22 (in.) DATE: 4/11/2023 TIME: 8:38:30 AM USER: jrmovise p:\ohio\dot-pw-bentley.com\ohio\dot-pw-02\Documents\01 Active Projects\District 12_D12\1072229\000-Engineering\Roadway\Sheets\107223_GT001.dgn

TITLE SHEET

DESIGN AGENCY



DESIGNER

JAG

REVIEWER

DAB 01/23/23

PROJECT ID

107229

SHEET TOTAL

P.01 40

Item 209 – Reshaping Under Guardrail, As Per Plan

This item of work shall be used to prepare proposed and existing guardrail runs for paving under guardrail, including the removal and disposal of existing asphalt and accumulated soil under guardrail.

A sawcut or milling will be performed, when applicable, to assist the removal of existing asphalt under guardrail and minimize damage to existing shoulder asphalt. Payment for sawcutting or milling will be included in the bid price for Item 209 – Reshaping Under Guardrail, As Per Plan.

Any damage to the existing shoulder asphalt or other pavement surface is to be repaired by the Contractor at no cost to the project.

Fill all holes remaining after removal of guardrail posts and anchor assemblies with granular material. Do not use fill material containing sod. All fill material shall be approved by the Engineer and shall be compacted As Directed by the Engineer. Payment for the above is included in the applicable guardrail item.

Reshape and compact subgrade to ensure positive drainage. Establish a cross-slope of 0.042 (half inch per foot). Grade to a maximum width of 6' to provide positive drainage away from the travel lanes.

All collected debris and topsoil shall be removed and disposed of as specified in section 105.17 of the CMS.

In areas where asphalt under guardrail will not be replaced, the removed material shall be replaced with compactable granular material conforming to 703.16 and placed to grade as approved by the Engineer. Seed and mulch these areas according to section 659.

Payment for the above work shall be made at the unit bid price for Item 209 – Reshaping Under Guardrail, As Per Plan and shall include all labor, tools, equipment and materials necessary to perform the work.

Asphalt Concrete Sealing Requirements

In addition to the gutter sealing requirements specified on SCD BP-3.1 and in 401.15,, the contractor shall seal, with a certified PG binder, the following locations:

- All castings including but not limited to monuments, manholes, water valves, catch basins, curb inlets.
- Butt joints and feather joints including bridge approaches.
- Forward joint for driveway asphalt and trailing joint when butting to existing asphalt drive.
- Perimeter of all pavement repairs or other asphalt inlays when pavement repairs/inlays are not overlaid with an asphalt concrete surface course.
- All cold transverse construction joints per 401.17.
- **All vertical faces of shoulder asphalt, prior to placing asphalt under guardrail.**
- **All cold longitudinal joints between paved shoulders and guardrail asphalt.**
- **All asphalt sealing must be completed within 14 days of asphalt placement**

The material used shall be a certified 702.01 PG binder. The width of the sealer shall be 2" - 3" inches.
 Any additional costs associated with the work identified in this note shall be included in the appropriate asphalt concrete surface course item of work.

Paving Under Guardrail

Item 441 – Asphalt Concrete Intermediate Course, Type 1, (448), (Under Guardrail), As Per Plan

This operation shall include preparation of the graded shoulder using item 209 – Reshaping Under Guardrail, As Per Plan and paving under the guardrail using Item 441 – Asphalt Concrete Intermediate Course, Type 1,(448), (Under Guardrail), As Per Plan.

Herbicide shall be EPA approved for paving under guardrail. It shall be applied to the prepared area within 7 days after the final leveling and grading has been completed, and 24 hours before paving at the direction of the Engineer. The application just prior to paving, shall strictly adhere to the manufacturer’s instructions.
 Do not spray within 1000 ft of a state scenic river or waterway.

Each successful bidder must be licensed by the Ohio Department Of Agriculture as a commercial applicator and all persons involved in the actual spraying shall be licensed as commercial operators in the appropriate spray category.

Herbicide label, material safety data sheet and copy of applicators licenses shall be submitted to the Engineer for verification prior to commencing work.

As Directed by the Engineer, all vegetation present just prior to placement of paving under guardrail shall be removed.

Paving under guardrail shall consist of placing Item 441 to a depth of 2" and a maximum width of 4'-6" using one of the following methods:

Method A:

1. Set guardrail posts
2. Place item 441

Method B:

1. Place item 441
2. Bore asphalt at post locations (may be omitted if steel posts are used)
3. Set guardrail posts
4. Patch around posts. The materials used for patching shall be an asphalt concrete approved by the Engineer. Patched areas shall be compacted using either hand or mechanical methods. Finished surfaces shall be smooth and sloped to drain away from the posts.

All labor, equipment, and materials required to perform the work outlined above, with the exception of setting guardrail posts, shall be included for payment under:

Item 441 – Asphalt Concrete Intermediate Course, Type 1,(448), (Under Guardrail), As Per Plan.

**Specific Work Location 3 – Lake County
 Westbound I.R.-90 Ramp to Northbound S.R.-528**

The following quantities are intended to be used at the ramp curve radius, As Directed by the Engineer, to build up the shoulder for truck off tracking. The depth of excavation and compacted aggregate is based on a 6" depth.

The payment for these items will be included in the unit price bid for each:

Item 203 – Excavation	16.9 C.Y.
Item 617 – Compacted Aggregate	16.9 C.Y.

Item 606 - Impact Attenuator, Type 3 Unidirectional, As Per Plan

This item shall be limited to furnishing and delivery of a new ODOT Type 3 Impact Attenuator.
 The specific model is the **SCI Smart Cushion – Type 3** by Work Area Protection, as listed on the Office of Roadway Engineering’s Roadway Approved Product list.

Furnish and deliver the Type 3 attenuator to the following location:

Warrensville Full Service Maintenance Facility
 25609 Emery Road
 Warrensville Heights, OH 44128

Notify the Engineer 14 days prior to delivery to arrange receiving of the unit at the Full Service Maintenance Facility.

The payment for this item will be included in the unit price bid for each:

Item 606 – Impact Attenuator, Type 3 Unidirectional, As Per Plan	1 Each
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DESIGN AGENCY



DESIGNER

JAG

REVIEWER

DAB 01/23/23

PROJECT ID

107229

SHEET


P.10

TOTAL

40


SHEET NUM.												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
3	4	5	6	7	8	9	10	12	13	17	01/IMS/06	02/NFP/06							
3,000										4,500	4,500	3,000	202	38000	7,500	FT	ROADWAY		
2												2	202	42000	2	EACH	ANCHOR ASSEMBLY REMOVED, TYPE A		
4												4	202	42040	4	EACH	ANCHOR ASSEMBLY REMOVED, TYPE T		
10												10	202	42206	10	EACH	ANCHOR ASSEMBLY REMOVED		
10												10	202	47000	10	EACH	BRIDGE TERMINAL ASSEMBLY REMOVED		
							16.9					16.9	203	10000	16.9	CY	EXCAVATION		
										48	48		209	15001	48	STA	RESHAPING UNDER GUARDRAIL, AS PER PLAN	10	
300												300	606	12000	300	FT	GUARDRAIL, TYPE 5MR		
2,000												2,000	606	13000	2,000	FT	GUARDRAIL, TYPE 5		
75												75	606	13050	75	FT	GUARDRAIL, TYPE 5A		
										2,250	2,250		606	15050	2,250	FT	GUARDRAIL, TYPE MGS (UPGRADING)		
700												700	606	15050	700	FT	GUARDRAIL, TYPE MGS (WORK ORDER)		
200												200	606	15100	200	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS		
25												25	606	15150	25	FT	GUARDRAIL, TYPE MGS HALF POST SPACING		
25												25	606	15250	25	FT	GUARDRAIL, TYPE MGS QUARTER POST SPACING		
25												25	606	15500	25	FT	GUARDRAIL, BARRIER DESIGN, TYPE 5		
			600									600	606	16051	600	FT	GUARDRAIL REBUILT, TYPE MGS, AS PER PLAN	6	
			100									100	606	16301	100	FT	GUARDRAIL REBUILT, TYPE 5MR, AS PER PLAN	6	
			200									200	606	16501	200	FT	GUARDRAIL REBUILT, TYPE 5, AS PER PLAN	6	
			25									25	606	16701	25	FT	GUARDRAIL REBUILT, TYPE 5A, AS PER PLAN	6	
		4										4	606	26000	4	EACH	ANCHOR ASSEMBLY, TYPE B		
		2										2	606	26050	2	EACH	ANCHOR ASSEMBLY, MGS TYPE B, (NCHRP 350)		
			5									5	606	26100	5	EACH	ANCHOR ASSEMBLY, TYPE E		
			5							45	45	5	606	26151	50	EACH	ANCHOR ASSEMBLY, MGS TYPE E, AS PER PLAN, (MASH 2016)	6	
			5									5	606	26151	5	EACH	ANCHOR ASSEMBLY, MGS TYPE E, AS PER PLAN, (NCHRP 350)	6	
10												10	606	26500	10	EACH	ANCHOR ASSEMBLY, TYPE T		
5												5	606	26550	5	EACH	ANCHOR ASSEMBLY, MGS TYPE T		
						2						2	606	27901	2	EACH	ANCHOR ASSEMBLY REBUILT, TYPE T, AS PER PLAN	8	
						2						2	606	27911	2	EACH	ANCHOR ASSEMBLY REBUILT, MGS TYPE T, AS PER PLAN	8	
4												4	606	35000	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1		
4												4	606	35002	4	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1		
												2	606	35011	2	EACH	BRIDGE TERMINAL ASSEMBLY REBUILT, TYPE 1, AS PER PLAN	8	
												2	606	35013	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY REBUILT, TYPE 1, AS PER PLAN	8	
2												2	606	35100	2	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2		
2												2	606	35170	2	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE BR-1		
												2	606	35181	2	EACH	BRIDGE TERMINAL ASSEMBLY REBUILT, TYPE BR-1, AS PER PLAN	8	
							100					100	SPECIAL	60655020	100	FT	CABLE BARRIER, REPLACEMENT CABLE	7	
							4					4	SPECIAL	60655110	4	EACH	CABLE BARRIER, CONCRETE ANCHOR FOUNDATION WITH SLEEVE	7	
							8					8	SPECIAL	60655120	8	EACH	CABLE BARRIER, CONCRETE SOCKETED FOUNDATION	7	
							4					4	SPECIAL	60655130	4	EACH	CABLE BARRIER, TERMINAL POST, CAST IN PLACE	7	
												10	SPECIAL	60655140	10	EACH	CABLE BARRIER, ANCHOR POST	7	
												1	SPECIAL	60655150	1	EACH	CABLE BARRIER, ANCHOR ASSEMBLY	7	
												1	SPECIAL	60655160	1	EACH	CABLE BARRIER, TERMINAL STRUT	7	
												4	SPECIAL	60655170	4	EACH	CABLE BARRIER, TURNBUCKLE	7	
												4	SPECIAL	60655180	4	EACH	CABLE BARRIER, SPLICE	7	
												4	SPECIAL	60655190	4	EACH	CABLE BARRIER, POST REFLECTOR	7	
												8	SPECIAL	60655200	8	EACH	CABLE BARRIER, TENSIONING (3 CABLES)	7	
												8	SPECIAL	60655200	8	EACH	CABLE BARRIER, TENSIONING (4 CABLES)	7	
												2	SPECIAL	60655210	2	EACH	CABLE BARRIER, ANCHOR RECONSTRUCTED	7	
												4	SPECIAL	60655220	4	EACH	CABLE BARRIER, ANCHOR POST RESET	7	
			10									10	606	60002	10	EACH	IMPACT ATTENUATOR, TYPE 1 (UNIDIRECTIONAL)		
							1					1	606	60041	1	EACH	IMPACT ATTENUATOR, TYPE 3 UNIDIRECTIONAL, AS PER PLAN	10	
												4	606	61000	4	EACH	IMPACT ATTENUATOR, MISC. (TYPE 1), 12.5 FT SLOTTED PANEL	8	
												2	606	61000	2	EACH	IMPACT ATTENUATOR, MISC. (TYPE 1), 3.5 FT POST	8	
												1	606	61000	1	EACH	IMPACT ATTENUATOR, MISC. (TYPE 1), CABLE ASSEMBLY	8	
												2	606	61000	2	EACH	IMPACT ATTENUATOR, MISC. (TYPE 1), NOSE AND SIDE PLATES	8	

GENERAL SUMMARY

DESIGN AGENCY

 DESIGNER
 JAG
 REVIEWER
 DAB 01/23/23
 PROJECT ID
 107229
 SHEET TOTAL
 P.14 40


SHEET NUM.											PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
3	4	5	6	7	8	9	10	12	13	17	01/IMS/06	02/NFP/06						
ROADWAY																		
						2						2	606	61000	2	EACH	IMPACT ATTENUATOR, MISC.:(TYPE 2), (QUADGUARD), ATTENUATOR RESET	9
						4						4	606	61000	4	EACH	IMPACT ATTENUATOR, MISC.:(TYPE 2), (QUADGUARD), CARTRIDGE INSERT, TYPE 1	9
						4						4	606	61000	4	EACH	IMPACT ATTENUATOR, MISC.:(TYPE 2), (QUADGUARD), CARTRIDGE INSERT, TYPE 2	9
						2						2	606	61000	2	EACH	IMPACT ATTENUATOR, MISC.:(TYPE 2), (QUADGUARD), DIAPHRAGM, (24"-36")	9
						1						1	606	61000	1	EACH	IMPACT ATTENUATOR, MISC.:(TYPE 2), (QUADGUARD), DIAPHRAGM, (69"-90")	9
						2						2	606	61000	2	EACH	IMPACT ATTENUATOR, MISC.:(TYPE 2), (QUADGUARD), FENDER PANEL	9
						4						4	606	61000	4	EACH	IMPACT ATTENUATOR, MISC.:(TYPE 2), (QUADGUARD), NOSE ASSEMBLY	9
						1						1	606	61000	1	EACH	IMPACT ATTENUATOR, MISC.:(TYPE 2), (QUADGUARD), SIDE PANEL	9
						2						2	606	61000	2	EACH	IMPACT ATTENUATOR, MISC.:(TYPE 3), ATTENUATOR RESET	9
						2						2	606	61000	2	EACH	IMPACT ATTENUATOR, MISC.:(TYPE 3), CARTRIDGE INSERT	9
						1						1	606	61000	1	EACH	IMPACT ATTENUATOR, MISC.:(TYPE 3), CYLINDER INSERT	9
						2						2	606	61000	2	EACH	IMPACT ATTENUATOR, MISC.:(TYPE 3), NOSE PLATE ASSEMBLY	9
	2											2	606	98100	2	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY, TYPE E, (MASH 2016), SOFTSTOP, ANCHOR PADDLE	4
	2											2	606	98100	2	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY, TYPE E, (MASH 2016), SOFTSTOP, ANCHOR POST (POST 0)	4
	2											2	606	98100	2	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY, TYPE E, (MASH 2016), SOFTSTOP, ANCHOR RAIL 12'-6"	4
	2											2	606	98100	2	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY, TYPE E, (MASH 2016), SOFTSTOP, ANGLE STRUT	4
	2											2	606	98100	2	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY, TYPE E, (MASH 2016), SOFTSTOP, IMPACT HEAD	4
	2											2	606	98100	2	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY, TYPE E, (MASH 2016), SOFTSTOP, OFFSET BLOCK	4
	2											2	606	98100	2	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY, TYPE E, (MASH 2016), SOFTSTOP, SYSTEM LINE POST 6'-0"	4
	2											2	606	98100	2	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY, TYPE E, (MASH 2016), SOFTSTOP, SYSTEM RAIL 12'-6"	
	2											2	606	98100	2	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY, TYPE E, (MASH 2016), SOFTSTOP, SYTP (STEEL YIELDING TERMINAL POST) 4'-9 1/2"	
	2											2	606	98100	2	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY, TYPE E, (MASH 2016), SOFTSTOP, SYTP (STEEL YIELDING TERMINAL POST) 6'-0"	
			5									5	606	98100	5	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE B, 12.5 FT. RAIL ELEMENT	5
			5									5	606	98100	5	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE B, BREAKAWAY WOOD POST, 3.75 FT.	5
			5									5	606	98100	5	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE B, BREAKAWAY WOOD POST, 6 FT.	5
			5									5	606	98100	5	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE B, BUFFERED END SECTION	5
			5									5	606	98100	5	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE B, CABLE ASSEMBLY	5
			5									5	606	98100	5	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE B, MGS, 9.375 FT. RAIL ELEMENT	5
			4									4	606	98100	4	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE B, OFFSET STRUT	5
			5									5	606	98100	5	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE B, STEEL FOUNDATION TUBE	5
			5									5	606	98100	5	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE B, STEEL POST (BOTTOM)	5
			5									5	606	98100	5	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE B, STEEL POST (TOP)	5
			5									5	606	98100	5	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE B, YIELDING STEEL POST	5
	5											5	606	98100	5	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE E, 12.5 FT. RAIL ELEMENT	4
	5											5	606	98100	5	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE E, 25 FT. RAIL ELEMENT	4
	10											10	606	98100	10	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE E, 3.75 FT. WOOD POST	4
	5											5	606	98100	5	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE E, 6 FT. STEEL YIELDING POST	4
	10											10	606	98100	10	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE E, 6 FT. WOOD POST	4
	5											5	606	98100	5	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE E, CABLE ASSEMBLY	4
	3											3	606	98100	3	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE E, EXTRUDER	4
	4											4	606	98100	4	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE E, MGS, 15.5 FT. RAIL ELEMENT	4
	4											4	606	98100	4	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE E, MGS, 9.375 FT. RAIL ELEMENT	4
	5											5	606	98100	5	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE E, OFFSET STRUT	4
	10											10	606	98100	10	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE E, SALVAGED EXTRUDER	4
	5											5	606	98100	5	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE E, STEEL POST (BOTTOM)	4
	5											5	606	98100	5	EACH	GUARDRAIL, MISC.:ANCHOR ASSEMBLY,TYPE E, STEEL POST (TOP)	4
				25								25	606	98100	25	EACH	GUARDRAIL, MISC.:CABLE BARRIER, LINE POST	7
				10								10	606	98100	10	EACH	GUARDRAIL, MISC.:CABLE BARRIER, LINE POST AND CONCRETE FOUNDATION	7
			10									10	606	98100	10	EACH	GUARDRAIL, MISC.:IMMEDIATE REPAIR, 24 HOUR	5
			25									25	606	98100	25	EACH	GUARDRAIL, MISC.:URGENT REPAIR, 72 HOUR	5

GENERAL SUMMARY

DESIGN AGENCY

 DESIGNER
JAG
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 DAB 01/23/23
 PROJECT ID
 107229
 SHEET TOTAL
 P.15 40

SHEET NUM.												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
3	4	5	6	7	8	9	10	12	13	17	01/IMS/06	02/NFP/06							
	4											4	625	00480	4	EACH	ROADWAY CONNECTION, UNFUSED PERMANENT		
	25											25	625	24100	25	FT	1-1/2" DUCT CABLE WITH TWO NO. 4 AWG 2400 VOLT CABLES		
	25											25	625	24300	25	FT	1-1/2" DUCT CABLE WITH TWO NO. 2 AWG 2400 VOLT CABLES		
	50											50	625	29002	50	FT	TRENCH, 24" DEEP		
	2											2	625	30700	2	EACH	PULL BOX, 725.08, 18"		
	2											2	625	31510	2	EACH	PULL BOX REMOVED		
	50											50	625	36010	50	FT	UNDERGROUND WARNING/MARKING TAPE		
	2											2	625	75500	2	EACH	LIGHT POLE FOUNDATION REMOVED		
	2											2	625	75800	2	EACH	DISCONNECT CIRCUIT		
												1,000	832	30000	1,000	EACH	EROSION CONTROL		
												120	441	70801	120	CY	PAVEMENT ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (449), (UNDER GUARDRAIL), AS PER PLAN	10	
							16.9					16.9	617	10100	16.9	CY	COMPACTED AGGREGATE		
										45		45	8	620	00500	53	EACH	TRAFFIC CONTROL DELINEATOR, POST GROUND MOUNTED	
8												10	626	00102	10	EACH	BARRIER REFLECTOR, TYPE 1, ONE WAY		
45										135		45	626	00110	180	EACH	BARRIER REFLECTOR, TYPE 2, ONE WAY		
												LS	614	11000	LS		MAINTENANCE OF TRAFFIC MAINTAINING TRAFFIC (UPGRADING - LOCATION 1 - IR-77)		
												LS	614	11000	LS		MAINTAINING TRAFFIC (UPGRADING - LOCATION 2 - IR-90)		
								60				60	614	11110	60	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE (UPGRADING)		
								40				40	614	11110	40	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE (WORK ORDER)		
								25				25	614	13600	25	EACH	MAINTENANCE OF TRAFFIC, ONE LANE CLOSURE ON A TWO LANE HIGHWAY		
								4				4	614	13800	4	EACH	MAINTENANCE OF TRAFFIC, ONE LANE CLOSURE ON A 4 LANE OR GREATER DIVIDED HIGHWAY		
								50				50	614	13900	50	EACH	MAINTENANCE OF TRAFFIC FOR SHOULDER CLOSURE		
												12	619	16011	12	MNTH	INCIDENTALS FIELD OFFICE, TYPE B, AS PER PLAN	5	
												LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING		
												LS	624	10000	LS		MOBILIZATION (UPGRADING - LOCATION 1 - IR-77)		
												LS	624	10000	LS		MOBILIZATION (UPGRADING - LOCATION 2 - IR-90)		
						79						79	624	15001	79	EACH	MOBILIZATION, AS PER PLAN (WORK ORDER)	8	

GENERAL SUMMARY

DESIGN AGENCY

 DESIGNER
 JAG
 REVIEWER
 DAB 01/23/23
 PROJECT ID
 107229
 SHEET TOTAL
 P.16 40