

# 2022 GUARDRAIL UPGRADE PROGRAM

UNION COUNTY, OH LIBERTY, MILLCREEK, PARIS, AND UNION TOWNSHIPS

CR 22 - WATKINS-CALIFORNIA ROAD

CR 57 - MIDDLEBURG-PLAIN CITY ROAD

CR 96 - STATE ROAD

CR 104 - WATKINS ROAD CR 114 - WALDO ROAD

CR 191 - RAYMOND ROAD

# PROJECT DESCRIPTION

THIS PROJECT IS A COUNTY GUARDRAIL UPGRADING PROJECT ON VARIOUS COUNTY ROADS WITHIN UNION COUNTY.

### 2019 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.

## INDEX OF SHEETS

TITLE SHEET	1
GENERAL NOTES	2
LOCATION MAPS AND GENERAL SUMMARY	3
LOCATION SHEETS	4-23

APPROVED	
DATE	UNION COUNTY COMMISSIONER
APPROVED	
DATE	UNION COUNTY COMMISSIONER

DATE \_\_\_\_\_ UNION COUNTY COMMISSIONER

APPROVED

CLIDDI EMENITAL

DATE \_\_\_\_\_ UNION COUNTY ENGINEER



UNDERGROUND UTILITIES TWO WORKING DAYS BEFORE YOU DIG

CALL 1-800-362-2764 (TOLL FREE) OHIO UTILITIES PROTÈCTION SERVICE

Non-members must be called directly

# SCALE IN MILES DESIGN EXCEPTIONS NONE STAUCH, P.E. E-55015 PLAN PREPARED BY: UNION COUNTY ENGINEER 233 WEST SIXTH ST.

ENGINEER'S SEAL

SIGNED: \_ DATE: \_

LOCATION MAP

MARYSVILLE, OHIO 43040

(937) - 645 - 3018

	STANDAR	RD CONST	RUCTION D	RAWINGS	SPECIFIC	
GR-1.1	07-20-12	MGS-1.1	07-21-21		800-2019	01-21-22
GR-2.1	07-20-12	MGS-2.1	01-19-18			
GR-2.2	07-20-12					
GR-2.4	07-20-12					
GR-4.1	07-20-12					
			·			·

#### UNDERGROUND UTILITIES

LOCATIONS OF UNDERGROUND UTILITIES ADJACENT TO GUARDRAIL INSTALLATIONS ARE SHOWN ON THE PLAN SHEETS. THE UTILITIES HAVE BEEN NOTIFIED AND REQUESTED TO RELOCATE ANY LINES IN CONFLICT. HOWEVER THE CONTRACTOR SHALL HAVE ALL UNDERGROUND UTILITIES LOCATED PRIOR TO CONSTRUCTION, AND SHALL WORK WITH THE ENGINEER TO ADJUST ANY INSTALLATIONS AS NECESSARY.

#### LOCATION OF GUARDRAIL

THE LOCATIONS OF GUARDRAIL RUNS, AS SHOWN ON THESE PLANS, ARE SUBJECT TO ADJUSTMENT PRIOR TO FINAL ACCEPTANCE. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC, AND MEET STATE REQUIREMENTS.

#### CONNECTIONS BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "BEAM RAIL SPLICE" AS SHOWN ON STANDARD DRAWINGS GR-1.1. PAYMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE RESPECTIVE GUARDRAIL RUNS.

#### GUARDRAIL REPLACEMENT

NO HAZARD SHALL BE LEFT UNPROTECTED EXCEPT FOR THE ACTUAL TIME NECESSARY TO REMOVE THE EXISTING GUARDRAIL, PREPARE THE SITE, AND INSTALL NEW GUARDRAIL IN A CONTINUOUS OPERATION. THE REMOVAL OF ALL GUARDRAIL SHALL AT ALL TIMES BE AS DIRECTED BY THE ENGINEER. NO GUARDRAIL SHALL BE REMOVED UNTIL THE REPLACEMENT MATERIAL IS ON THE SITE, READY FOR INSTALLATION. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE DEEMED SUFFICIENT CAUSE TO ORDER WORK SUSPENDED UNTIL SUCH TIME AS THE ENGINEER IS ASSURED OF COMPLIANCE.

ANY HAZARD WHICH MUST BE LEFT DURING NON-WORKING HOURS SHALL BE ADEQUATELY PROTECTED WITH DRUMS OR BARRICADES, OR AS DIRECTED BY THE ENGINEER. PAYMENT FOR ANY SUCH WORK REQUIRED SHALL BE INCLUDED IN THE ITEM 606 GUARDRAIL, TYPE 5.

#### PROPOSAL NOTES

THE FOLLOWING PROPOSAL NOTE(S) ARE TO BE A PART OF THIS PROJECT'S SPECIFICATIONS: NONE

#### CONSTRUCTION LAYOUT STAKES, AS PER PLAN

THIS ITEM SHALL ADDITIONALLY INCLUDE VERIFICATION BY THE CONTRACTOR OF TUBULAR BACKUP MEASUREMENTS, INLET MOUNTED POSTS, TYPE 1 OR 2 BRIDGE POSTS, AND ANY OTHER ITEMS REQUIRING FABRICATION. ANY PRELIMINARY SITE VISITS FOR LAYOUT, UTILITIES, ETC, SHALL ALSO BE INCLUDED UNDER THIS ITEM.

#### ITEM 614 - MAINTAINING TRAFFIC

TRAFFIC SHALL BE MAINTAINED AT ALL TIMES AND ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF ITEM 614 OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. ODOT STANDARD CONSTRUCTION DRAWINGS MT97.10 AND MT99.20 SHALL BE FOLLOWED AT ALL TIMES WHERE APPLICABLE. 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 202 - GUARDRAIL REMOVED, AS PER PLAN

GUARDRAIL, POSTS. AND MISCELLANEOUS HARDWARE DESIGNATED FOR REMOVAL ARE THE PROPERTY OF UNION COUNTY AND SOME MATERIAL MAY BE SALVAGED AT THE DIRECTION OF THE ENGINEER. ALL OTHER MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR, PAID FOR UNDER ITEM 202, GUARDRAIL REMOVED, AS PER PLAN.

#### MISCELLANEOUS GUARDRAIL COMPONENTS

SOME ADDITIONAL GUARDRAIL COMPONENTS MAY BE REQUIRED TO MEET SPECIFIC SITE CONDITIONS, AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 203 EMBANKMENT, AS PER PLAN

50 CU. YD.

#### LINEAR GRADING, AS PER PLAN

THIS ITEM SHALL CONSIST OF MINOR GRADING OR RESHAPING ALONG THE SHOULDER WHERE EXISTING GUARDRAIL IS REMOVED OR WHERE NEW GUARDRAIL IS TO BE ERECTED, ENSURING A SMOOTH, DRAINABLE SURFACE. THE FOLLOWING CONTINGENCY QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 209 - RESHAPING UNDER GUARDRAIL, AS PER PLAN 400 LIN FT.

#### ANCHOR ASSEMBLY, MSG TYPE E, AS PER PLAN

A SPECIFIC NUMBER OF END TREATMENTS HAVE BEEN LISTED TO BE USED AS DIRECTED BY THE ENGINEER. THE LOCATIONS OF THESE ITEMS WILL BE DETERMINED BY THE ENGINEER. UNIT BID PRICE FOR THE ABOVE WORK SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING REFLECTIVE SHEETING AND ALL RELATED HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 606-ANCHOR ASSEMBLY, MSG TYPE E, APP

2 EACH

### ANCHOR ASSEMBLY, TYPE E, AS PER PLAN

A SPECIFIC NUMBER OF END TREATMENTS HAVE BEEN LISTED TO BE USED AS DIRECTED BY THE ENGINEER. THESE END TREATMENTS SHALL BE COMPATIBLE WITH TYPE 5 GUARDRAIL. THE LOCATIONS OF THESE ITEMS WILL BE DETERMINED BY THE ENGINEER. UNIT BID PRICE SHALL INCLUDE ALL OTHER MATERIAL, TOOLS, EQUIPMENT AND NECESSARY LABOR NECESSARY.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 606-ANCHOR ASSEMBLY, TYPE E, AS PER PLAN

78 EACH

#### GUARDRAIL POSTS, 9 FT. AS PER PLAN (CONTINGENCY)

AN ESTIMATED NUMBER OF CONTINGENCY 9 FOOT LONG GUARDRAIL POSTS HAVE BEEN LISTED TO BE USED AS DIRECTED BY THE ENGINEER TO OBTAIN A REASONABLE LINE AND ELEVATION OF THE GUARDRAIL ELEMENTS. EXCEPT FOR LENGTH, THE POSTS SHALL MEET THE APPLICABLE REQUIREMENTS NOTED IN ITEM 710. THE UNIT BID FOR THIS ITEM SHALL BE THE DIFFERENCE FOR SUPPLYING THE 9 FOOT LONG POSTS IN LIEU OF THE STANDARD LENGTH GUARDRAIL POSTS INCLUDED IN THE 606 GUARDRAIL BID ITEMS, AND ALL SHALL BE PAID AS EACH, ITEM 606 9 FT. GUARDRAIL POSTS, AS PER PLAN. STANDARD LENGTH POSTS REQUIRED TO COMPLETE THE VARIOUS RUNS SHALL BE INCLUDED IN THE 606 GUARDRAIL BID ITEMS.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY

ITEM 606-GUARDRAIL POSTS, 9 FT., AS PER PLAN

50 EACH

#### GUARDRAIL REBUILT, AS PER PLAN (CONTINGENCY)

THIS ITEM SHALL REPRESENT THE COST OF MATERIAL AND LABOR NEEDED TO REPLACE EXISTING ROTTEN OR DAMAGED GUARDRAIL POSTS ON EXISTING GUARDRAIL RUN LOCATIONS. THIS WORK SHALL INCLUDE RAIL REMOVAL, POST REMOVAL AND INSTALL, AND RAIL RE—INSTALL. UNLESS OTHERWISE DIRECTED, POST AND MEMBER SPACING SHALL REMAIN THE SAME PRIOR TO POST REPLACEMENT. IT SHALL BE ASSUMED THAT ANY GUARDRAIL REBUILT SHALL BE PERFORMED USING STANDARD LENGTH GUARDRAIL POSTS.

ITEM 606 - GUARDRAIL REBUILT, AS PER PLAN

500 LIN. FT.

#### PROTECTION OF WATER QUALITY

NO TOXIC OR HAZARDOUS MATERIALS SUCH AS SEALANTS, PAINT, SOLVENTS, CLEANING AGENTS, EARTHEN MATERIALS, WASTE-WATER, FUELS OR DEBRIS OF ANY KIND SHALL BE DISCHARGED TO ANY STREAMS, DRAINAGE COURSES OR BODIES OF WATER. ALL ASPHALT OR CONCRETE GRINDINGS, EXCESS ASPHALTIC OR CONCRETE MATERIALS OR ANY OTHER DEBRIS GENERATED DURING RESURFACING OR OTHER SIMILAR ACTIVITIES SHALL NOT BE DISPOSED OF WITHIN A FLOODPLAIN BELOW THE 100-YEAR FLOOD ELEVATION. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT LIQUIDS USED TO REPAIR, CLEAN, SEAL, OR TREAT ANY BRIDGE STRUCTURE (e.g. PAINT, SEALER, SOLVENT) FROM ENTERING STREAMS, WETLANDS OR OTHER "WATERS OF THE UNITED STATES" AND TAKE THE APPROPRIATE ACTIONS IN THE EVENT OF A RELEASE.

#### **CONTINGENCY QUANTITIES**

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

#### MOBILIZATION, AS PER PLAN

THE ITEM SHALL REPRESENT THE LUMP SUM COST INCURRED FOR ALL PREPARATORY WORK, INCLUDING MOVEMENT OF PERSONNEL, EQUIPMENT, SUPPLIES, AND INCIDENTALS TO ALL PROJECT SITES, COMBINED. PAYMENT FOR ALL MOBILIZATION COSTS SHALL BE INCLUDED IN A LUMP SUM CONTRACT PRICE FOR ITEM 624, MOBILIZATION, AS PER PLAN.

#### CONSTRUCTION INITIATION

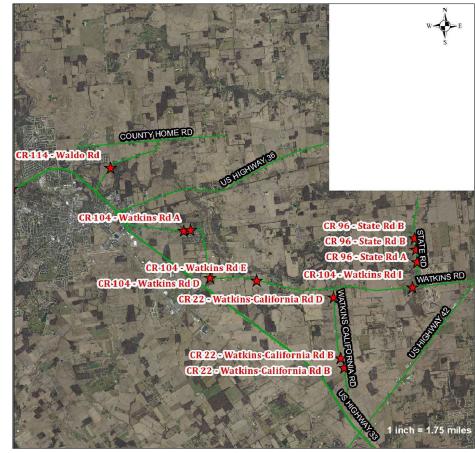
THE CONTRACTOR SHALL ADVISE THE UNION COUNTY ENGINEER AT 937-645-3018 FOURTEEN (14) DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. THE CONTRACTOR WILL IMMEDIATELY INFORM THE UNION COUNTY ENGINEER OF ANY AND ALL DELAYS AND/OR CHANGES REGARDING THE CONSTRUCTION PROJECT. THE PROJECT ENGINEER WILL PROVIDE CLARIFICATION FOR ANY QUESTIONS ABOUT THIS NOTIFICATION REQUIREMENT. AN ADDITIONAL TWO (2) DAYS NOTICE SHALL BE GIVEN TO THE UNION COUNTY ENGINEER AND AN INSPECTOR PRIOR TO COMMENCEMENT OF WORK.

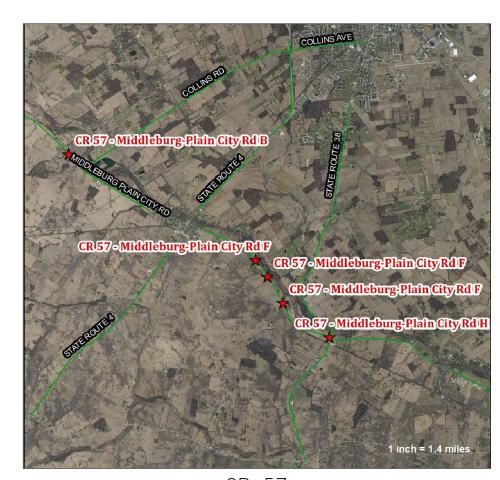
#### COMMENCEMENT OF WORK AND WORKING HOURS

THE PROGRAM SHALL NOT COMMENCE BEFORE 05/16/2022, AND SHALL BE COMPLETE BY 09/09/2022. ADDITIONALLY, THE TOTAL WORK PERIOD (WITHIN MAY—SEPTEMBER WINDOW) SHALL NOT EXCEED SIXTY (60) CONSECUTIVE CALENDAR DAYS.

WORKING HOURS FOR THIS PROJECT SHALL BE LIMITED TO MONDAYS THROUGH FRIDAYS, FROM  $7{:}00\ TO\ 7{:}00\ PM.$ 





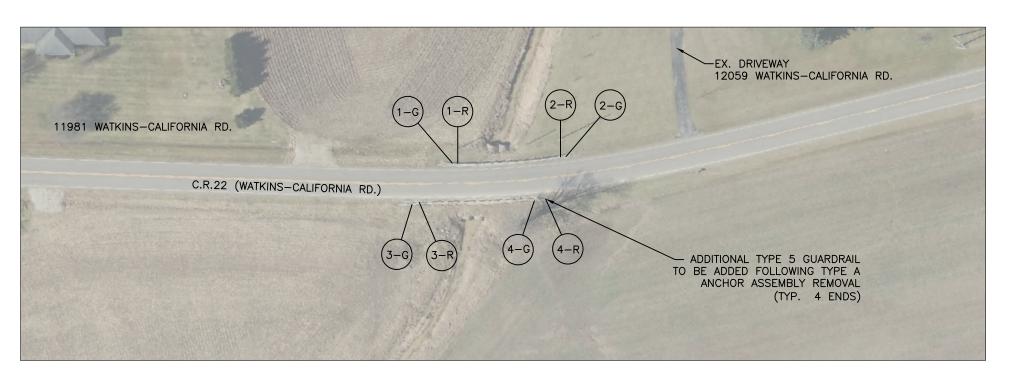


CR 191 CR 22, 96, 104, 114

CR 57

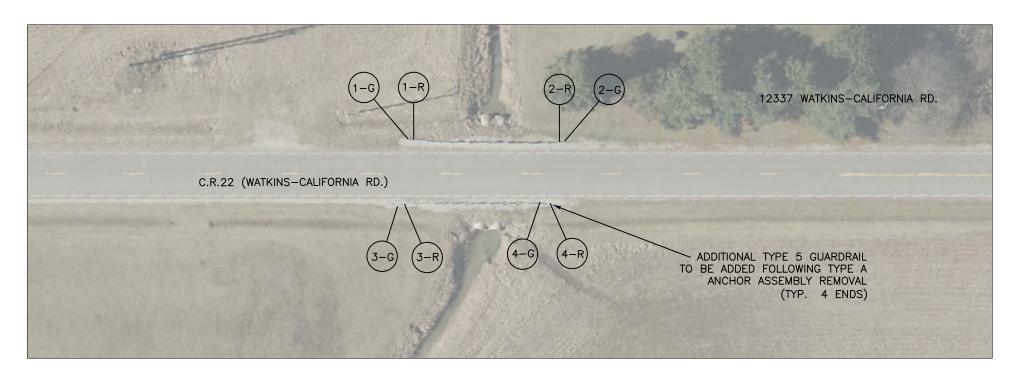
# GENERAL SUMMARY

	GEN NOTES	CR 22	CR 57	CR 96	CR 104	CR 114	CR 191					
								REF		GRAND		
SHEET	2	4-6	7–11	12-14	15–18	19	20-23	#	ITEM	TOTAL	UNIT	ITEM DESCRIPTION
	CONTINGENCY											
	250					170		1	202	420	LIN. FT.	GUARDRAIL REMOVED, AS PER PLAN
		12	19	12	19		16	2	202	78	EACH	ANCHOR ASSEMBLY REMOVED
	50	40	60	40	60	10	50	3	203	310	CII VD	EMBANKMENT, AS PER PLAN
		150	50	25	100	120	30	4	203	845		LINEAR GRADING — RESHAPING UNDER GUARDRAIL, APP
	400	130	30	25	100	120		+	209	045	LIN. FI.	LINEAR GRADING - RESHAPING UNDER GUARDRAIL, APP
		150	50	25	100			5	606	325	LIN. FT.	GUARDRAIL, TYPE 5
						120		6	606	120		GUARDRAIL, TYPE MGS
		12	19	12	19		16	7	648	78	EACH	ANCHOR ASSEMBLY, TYPE E, AS PER PLAN
						2		8	648	2	EACH	ANCHOR ASSEMBLY, MGS TYPE E, AS PER PLAN
	500							9	606	500	LIN. FT.	GUARDRAIL REBUILT, AS PER PLAN
	50							10	606	50	LIN. FT.	GUARDRAIL POSTS, 9 FT, AS PER PLAN
		12	30	12	28	3	26	11	648	111	EACH	BARRIER REFLECTORS, TYPE A2
		12	- 00	'-			20		0.10		1 2/011	British Nel Electoria, The 7/2
		250	300	200	350	100	250	12	659	1450	SQ. YD.	REPAIR SEEDING AND MULCHING
												MISCELLANEOUS
								13	614	1	LUMP	MAINTAINING TRAFFIC
								14	623	1	LUMP	CONSTRUCTION LAYOUT STAKING
								15	624	1	LUMP	MOBILIZATION, AS PER PLAN



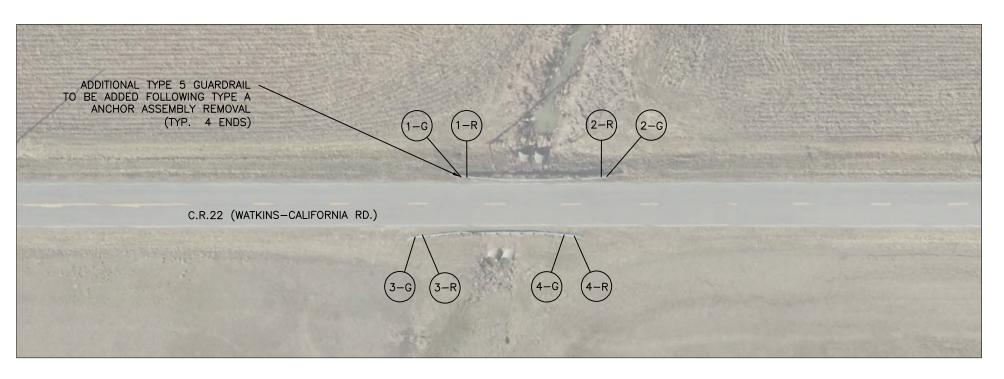
CR 22 - WATKINS-CALIFORNIA ROAD B (1) N.T.S.

					ES	TIMATED QUA	ANTITIES -	SUBSUMMAF	RY				
					202	202	203	606	606	626	606	209	659
ROAD NO.	REF. N□.	ITEM EXT.	STATION	SIDE	GUARDRAIL REMOVED, APP	ANCHOR ASSEMBLY REMOVED	EMBANKMENT, APP	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE MGS	BARRIER REFLECTORS, TYPE A2	ANCHOR ASSEMBLY, TYPE E	LINEAR GRADING, APP	REPAIR SEEDING AND MULCHING
					FEET	EACH	CU. YD.	FEET	FEET	EACH	EACH	FEET	SQ. YD.
CR-22	1-R			LT		1							
	2-R			LT		1							
	3-R			RT		1							
	4-R			RT		1							
	1-G			LT			3	12.5		1	1	12.5	21
	2-G			LT			3	12.5		1	1	12.5	21
	3-G			RT			3	12.5		1	1	12.5	21
	4-G			RT			3	12.5		1	1	12.5	21
		1	TOTALS			4	12	50		4	4	50	84



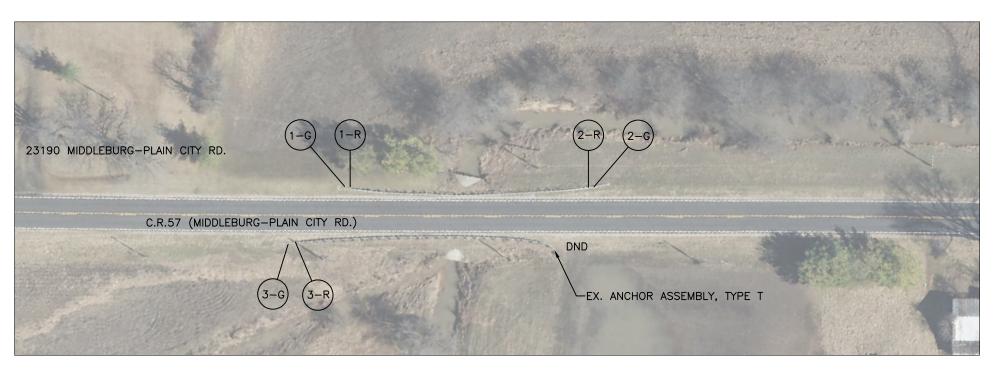
CR 22 - WATKINS-CALIFORNIA ROAD B (2)

					ES	TIMATED QUA	ANTITIES -	SUBSUMMAR	RY				
					202	202	203	606	606	626	606	209	659
ROAD NO.	REF. N□.	ITEM EXT.	STATION	SIDE	GUARDRAIL REMOVED, APP	ANCH□R ASSEMBLY REM□VED	EMBANKMENT, APP	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE MGS	BARRIER REFLECTORS, TYPE A2	ANCHOR ASSEMBLY, TYPE E	LINEAR GRADING, APP	REPAIR SEEDING AND MULCHING
					FEET	EACH	CU. YD.	FEET	FEET	EACH	EACH	FEET	SQ. YD.
CR-22	1-R			LT		1							
	2-R			LT		1							
	3-R			RT		1							
	4-R			RT		1							
	1-G			LT			3	12.5		1	1	12.5	21
	2-G			LT			3	12.5		1	1	12.5	21
	3-G			RT			3	12.5		1	1	12.5	21
	4-G			RT			3	12.5		1	1	12.5	21
			TOTALS			4	12	50		4	4	50	84



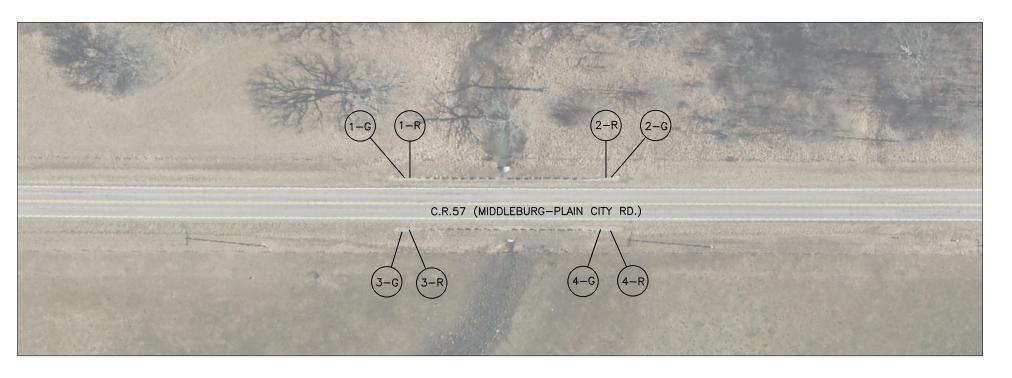
CR 22 - WATKINS-CALIFORNIA ROAD D N.T.S.

					ES	TIMATED QUA	ANTITIES -	SUBSUMMAF	RY				
					202	202	203	606	606	626	606	209	659
ROAD NO.	REF. ND.	ITEM EXT.	STATION	SIDE	GUARDRAIL REM⊡∨ED, APP	ANCHOR ASSEMBLY REMO√ED	EMBANKMENT, APP	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE MGS	BARRIER REFLECTORS, TYPE A2	ANCHOR ASSEMBLY, TYPE E	LINEAR GRADING, APP	REPAIR SEEDING AND MULCHING
					FEET	EACH	CU. YD.	FEET	FEET	EACH	EACH	FEET	SQ. YD.
CR-22	1-R			LT		1							
	2-R			LT		1							
	3-R			RT		1							
	4-R			RT		1							
	1-G			LT			3	12.5		1	1	12.5	21
	2-G			LT			3	12.5		1	1	12.5	21
	3-G			RT			3	12.5		1	1	12.5	21
	4-G			RT			3	12.5		1	1	12.5	21
			TOTALS			4	12	50		4	4	50	84



CR 57 - MIDDLEBURG-PLAIN CITY ROAD B N.T.S.

					E:	STIMATED QU	ANTITIES -	SUBSUMMA	nRY				
					202	202	203	606	606	626	606	209	659
R□AD N□.	REF. N□.	ITEM EXT.	STATION	SIDE	GUARDRAIL REM⊡∨ED, APP	ANCH□R ASSEMBLY REM□VED	EMBANKMENT, APP	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE MGS	BARRIER REFLECTORS, TYPE A2	ANCHOR ASSEMBLY, TYPE E	LINEAR GRADING, APP	REPAIR SEEDING AND MULCHING
					FEET	EACH	CU. YD.	FEET	FEET	EACH	EACH	FEET	SQ. YD.
CR-57	1-R			LT		1							
	2-R			LT		1							
	3-R			RT		1							
	1-G			LT			3			3	1		14
	2-G			LT			3				1		14
	3-G			RT			3			3	1		14
			TOTALS			3	9			6	3		42



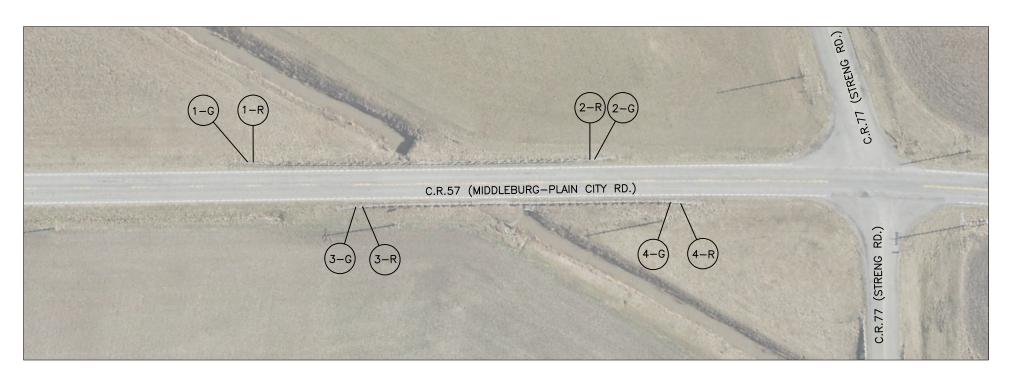
CR 57 - MIDDLEBURG-PLAIN CITY ROAD F (1) N.T.S.

					E:	STIMATED QU	JANTITIES -	SUBSUMMA	RY				
					202	202	203	606	606	626	606	209	659
ROAD NO.	REF. N□.	ITEM EXT.	STATION	SIDE	GUARDRAIL REM⊡∨ED, APP	ANCHOR ASSEMBLY REMO√ED	EMBANKMENT, APP	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE MGS	BARRIER REFLECTORS, TYPE A2	ANCHOR ASSEMBLY, TYPE E	LINEAR GRADING, APP	REPAIR SEEDING AND MULCHING
					FEET	EACH	CU. YD.	FEET	FEET	EACH	EACH	FEET	SQ. YD.
CR-57	1-R			LT		1							
	2-R			LT		1							
	3-R			RT		1							
	4-R			RT		1							
	1-G			LT			3			1	1		14
	2-G			LT			3			1	1		14
	3-G			RT			3			1	1		14
	4-G			RT			3			1	1		14
			TOTALS			4	12			4	4		56



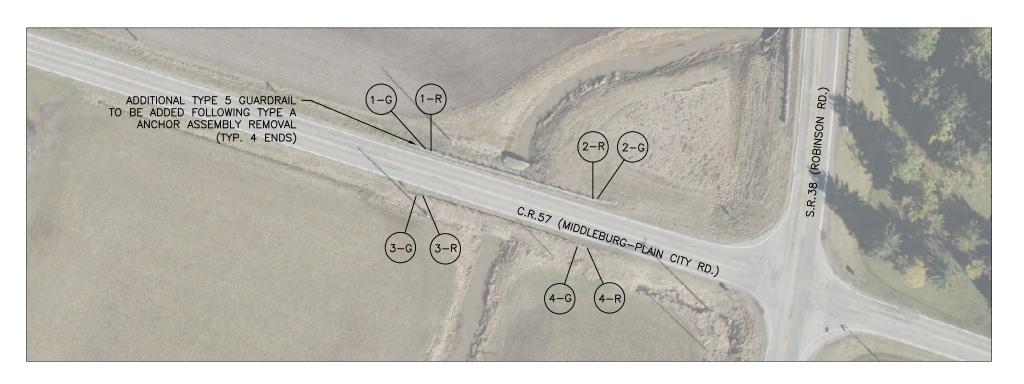
CR 57 - MIDDLEBURG-PLAIN CITY ROAD F (2) N.T.S.

					E:	STIMATED QU	ANTITIES -	SUBSUMMA	ARY				
					202	202	203	606	606	626	606	209	659
R□AD N□.	REF. ND.	ITEM EXT.	STATION	SIDE	GUARDRAIL REMOVED, APP	ANCHOR ASSEMBLY REMOVED	EMBANKMENT, APP	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE MGS	BARRIER REFLECTORS, TYPE A2	ANCHOR ASSEMBLY, TYPE E	LINEAR GRADING, APP	REPAIR SEEDING AND MULCHING
					FEET	EACH	CU, YD.	FEET	FEET	EACH	EACH	FEET	SQ. YD.
CR-57	1-R			LT		1							
	2-R			LT		1							
	3-R			RT		1							
	4-R			RT		1							
	1-G			LT			3			4	1		14
	2-G			LT			3			4	1		14
	3-G			RT			3			1	1		14
	4-G			RT			3			1	1		14
										10			
			TOTALS			4	12			10	4		56



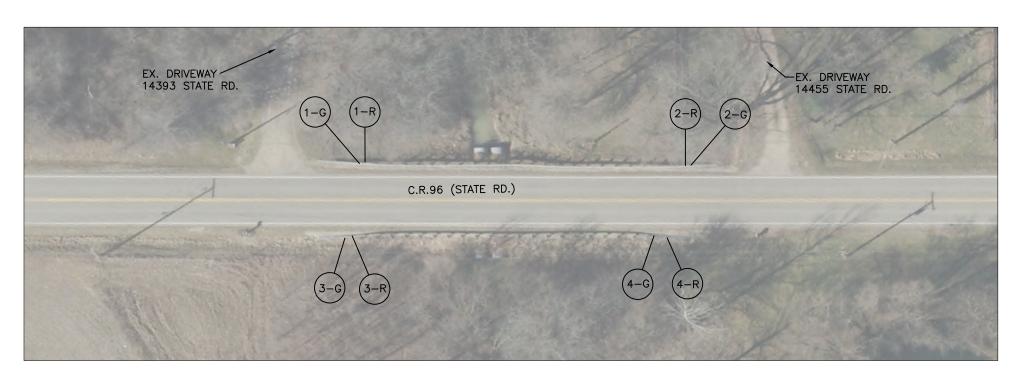
CR 57 - MIDDLEBURG-PLAIN CITY ROAD F (3)
N.T.S.

					E:	STIMATED QL	ANTITIES -	SUBSUMMA	nRY				
					202	202	203	606	606	626	606	209	659
ROAD NO.	REF. ND.	ITEM EXT.	STATION	SIDE	GUARDRAIL REM⊡∨ED, APP	ANCHOR ASSEMBLY REMOVED	EMBANKMENT, APP	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE MGS	BARRIER REFLECTORS, TYPE A2	ANCHOR ASSEMBLY, TYPE E	LINEAR GRADING, APP	REPAIR SEEDING AND MULCHING
					FEET	EACH	CU. YD.	FEET	FEET	EACH	EACH	FEET	SQ. YD.
CR-57	1-R			LT		1							
	2-R			LT		1							
	3-R			RT		1							
	4-R			RT		1							
	1-G			LT			3			2	1		14
	2-G			LT			3			1	1		14
	3-G			RT			3			2	1		14
	4-G			RT			3			1	1		14
			TOTALS			4	12			6	4		56



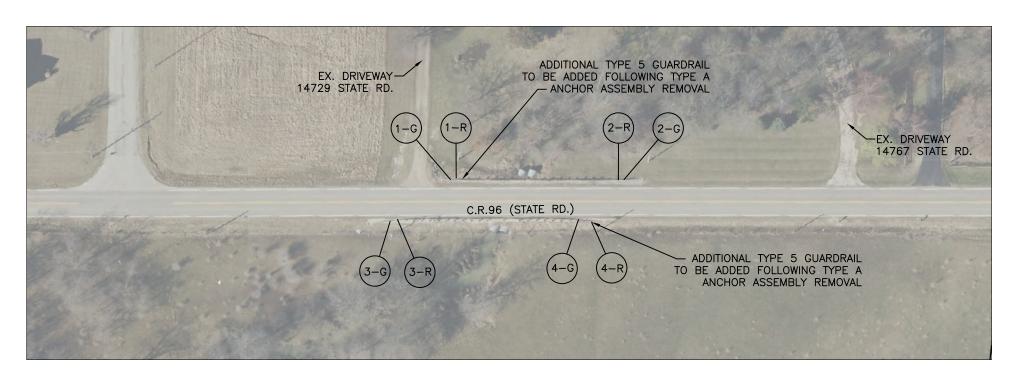
CR 57 - MIDDLEBURG-PLAIN CITY ROAD H N.T.S.

					E	STIMATED QU	ANTITIES -	SUBSUMMA	RY				
					202	202	203	606	606	626	606	209	659
R□AD N□.	REF. N□.	ITEM EXT.	STATION	SIDE	GUARDRAIL REMOVED, APP	ANCHOR ASSEMBLY REMOVED	EMBANKMENT, APP	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE MGS	BARRIER REFLECTORS, TYPE A2	ANCHOR ASSEMBLY, TYPE E	LINEAR GRADING, APP	REPAIR SEEDING AND MULCHING
					FEET	EACH	CU. YD.	FEET	FEET	EACH	EACH	FEET	SQ. YD.
CR-57	1-R			LT		1							
	2-R			LT		1							
	3-R			RT		1							
	4-R			RT		1							
	1-G			LT			3	12.5		1	1	12.5	21
	2-G			LT			3	12.5		1	1	12.5	21
	3-G			RT			3	12.5		1	1	12.5	21
	4-G			RT			3	12.5		1	1	12.5	21
			TOTALS			4	12	50		4	4	50	84



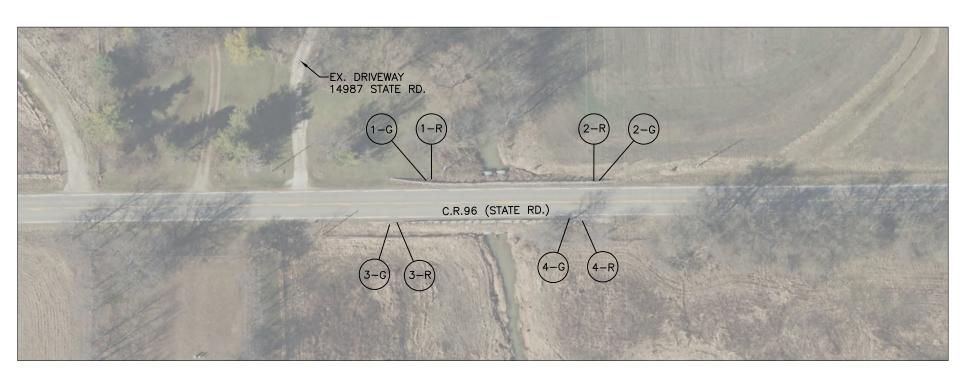
CR 96 - STATE ROAD A N.T.S.

					E:	STIMATED QL	JANTITIES -	SUBSUMMA	RY				
					202	202	203	606	606	626	606	209	659
ROAD NO.	REF. N□.	ITEM EXT.	TOWNSHIP	SIDE	GUARDRAIL REM⊡VED, APP	ANCHOR ASSEMBLY REMO∨ED	EMBANKMENT, APP	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE MGS	BARRIER REFLECTORS, TYPE A2	ANCHOR ASSEMBLY, TYPE E	LINEAR GRADING, APP	REPAIR SEEDING AND MULCHING
					FEET	EACH	CU. YD.	FEET	FEET	EACH	EACH	FEET	SQ. YD.
CR-96	1-R		MILLCREEK	LT		1							
	2-R			LT		1							
	3-R			RT		1							
	4-R			RT		1							
	1-G			LT			3			1	1		14
	2-G			LT			3			1	1		14
	3-G			RT			3			1	1		14
	4-G			RT			3			1	1		14
			TOTALS			4	12			4	4		56



CR 96 - STATE ROAD B (1) N.T.S.

					E:	STIMATED QU	ANTITIES -	SUBSUMMA	RY				
					202	202	203	606	606	626	606	209	659
R□AD N□.	REF. N□.	ITEM EXT.	TOWNSHIP	SIDE	GUARDRAIL REM⊡∨ED, APP	ANCHOR ASSEMBLY REMO√ED	EMBANKMENT, APP	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE MGS	BARRIER REFLECTORS, TYPE A2	ANCHOR ASSEMBLY, TYPE E	LINEAR GRADING, APP	REPAIR SEEDING AND MULCHING
					FEET	EACH	CU, YD,	FEET	FEET	EACH	EACH	FEET	SQ. YD.
CR-96	1-R		MILLCREEK	LT		1							
	2-R			LT		1							
	3-R			RT		1							
	4-R			RT		1							
	1-G			LT			3	12.5		1	1	12.5	21
	2-G			LT			3			1	1		14
	3-G			RT			3			1	1		14
	4-G			RT			3	12.5		1	1	12.5	21
			TOTALS			4	12	25		4	4	25	70



CR 96 - STATE ROAD B (2)

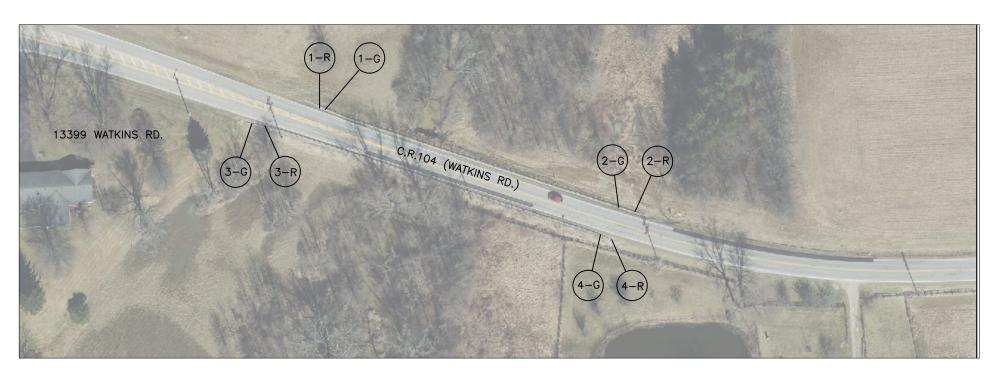
N.T.S.

					E:	STIMATED QL	JANTITIES -	SUBSUMMA	RY				
					202	202	203	606	606	626	606	209	659
RDAD ND.	REF. N□.	ITEM EXT.	TOWNSHIP	SIDE	GUARDRAIL REM⊡∨ED, APP	ANCHOR ASSEMBLY REMO√ED	EMBANKMENT, APP	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE MGS	BARRIER REFLECTORS, TYPE A2	ANCHOR ASSEMBLY, TYPE E	LINEAR GRADING, APP	REPAIR SEEDING AND MULCHING
					FEET	EACH	CU. YD.	FEET	FEET	EACH	EACH	FEET	SQ. YD.
CR-96	1-R		MILLCREEK	LT		1							
	2-R			LT		1							
	3-R			RT		1							
	4-R			RT		1							
	1-G			LT			3			1	1		14
	2-G			LT			3			1	1		14
	3-G			RT			3			1	1		14
	4-G			RT			3			1	1		14
			TOTALS			4	12			4	4		56



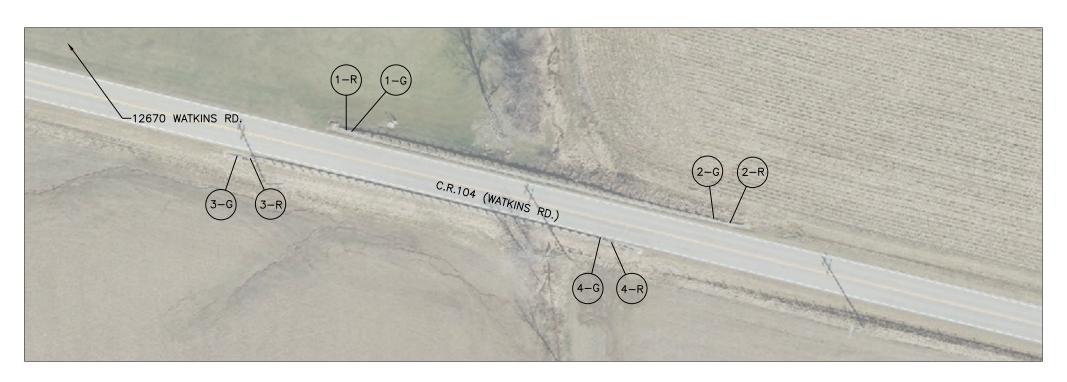
CR 104 - WATKINS ROAD A N.T.S.

					E:	STIMATED QL	JANTITIES -	SUBSUMMA	RY				
					202	202	203	606	606	626	606	209	659
ROAD NO.	REF. N□.	ITEM EXT.	TOWNSHIP	SIDE	GUARDRAIL REMD∨ED, APP	ANCH□R ASSEMBLY REM□VED	EMBANKMENT, APP	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE MGS	BARRIER REFLECTORS, TYPE A2	ANCHOR ASSEMBLY, TYPE E	LINEAR GRADING, APP	REPAIR SEEDING AND MULCHING
					FEET	EACH	CU. YD.	FEET	FEET	EACH	EACH	FEET	SQ. YD.
CR-104	1-R		PARIS			1							
	2-R					1							
	3-R					1							
	4-R					1							
	5-R					1							
	6-R					1							
	7-R					1							
	8-R					1							
	1-G						3			1	1		14
	2-G						3			1	1		14
	3-G						3			1	1		14
	4-G						3			1	1		14
	1-G						3	25		1	1	25	28
	2-G						3	25		1	1	25	28
	3-G		·				3	25		1	1	25	28
	4-G						3	25		1	1	25	28
			TOTALS			8	24	100		8	8	100	168



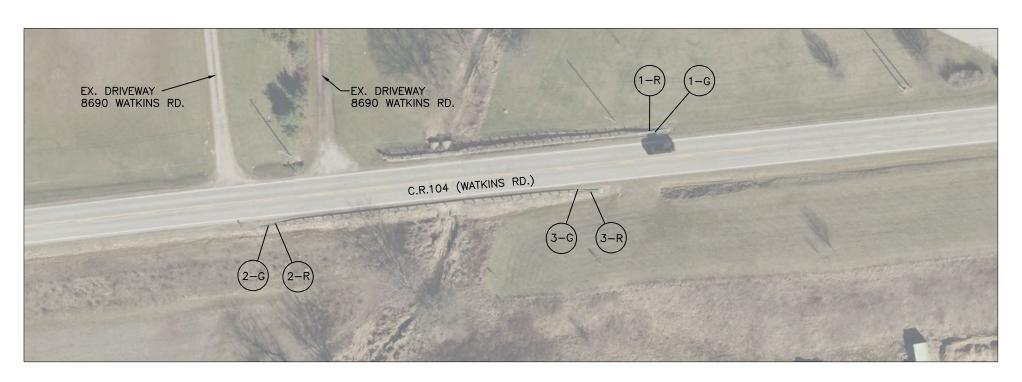
CR 104 - WATKINS ROAD D

					E:	STIMATED QL	JANTITIES -	SUBSUMMA	NRY				
					202	202	203	606	606	262	606	209	659
ROAD NO.	REF. N□.	ITEM EXT.	TUWNSHIP	SIDE	GUARDRAIL REMOVED, APP	ANCHOR ASSEMBLY REMO√ED	EMBANKMENT, APP	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE MGS	BARRIER REFLECTURS, TYPE A2	ANCHOR ASSEMBLY, TYPE E	LINEAR GRADING, APP	REPAIR SEEDING ANI MULCHING
					FEET	EACH	CU. YD.	FEET	FEET	FEET	EACH	FEET	SQ. YD.
CR-104	1-R		MILLCREEK	LT		1							
	2-R			LT		1							
	3-R			RT		1							
	4-R			RT		1							
	1-G			LT			3			2	1		14
	2-G			LT			3			2	1		14
	3-G			RT			3			2	1		14
	4-G			RT			3			2	1		14
			TOTALS			4	12			8	4		56



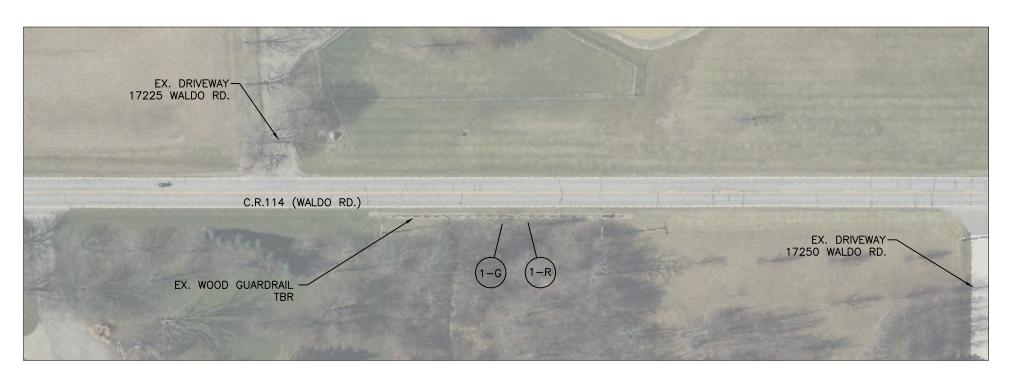
CR 104 - WATKINS ROAD E

					E	STIMATED QL	JANTITIES -	SUBSUMMA	RY				
					202	202	203	606	606	626	606	209	659
ROAD NO.	REF. NO.	ITEM EXT.	TOWNSHIP	SIDE	GUARDRAIL REMOVED, APP	ANCHOR ASSEMBLY REMO√ED	EMBANKMENT, APP	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE MGS	BARRIER REFLECTORS, TYPE A2	ANCHOR ASSEMBLY, TYPE E	LINEAR GRADING, APP	REPAIR SEEDING AND MULCHING
					FEET	EACH	CU. YD.	FEET	FEET	EACH	EACH	FEET	SQ. YD.
CR-104	1-R		MILLCREEK	LT		1							
	2-R			LT		1							
	3-R			RT		1							
	4-R			RT		1							
	1-G			LT			3			1	1		14
	2-G			LT			3			2	1		14
	3-G			RT			3			1	1		14
	4-G			RT			3			2	1		14
			TOTALS			4	12			6	4		56



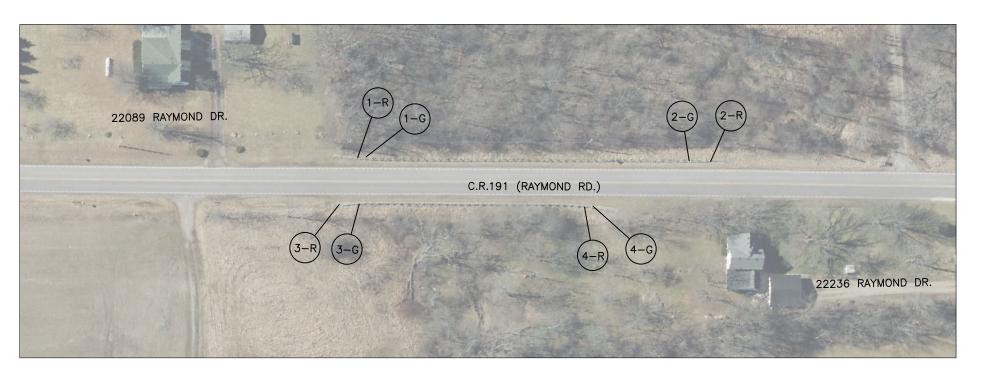
CR 104 - WATKINS ROAD I

					E	STIMATED QU	ANTITIES -	SUBSUMMA	RY				
					202	202	203	606	606	626	606	209	659
R□AD N□.	REF. ND.	ITEM EXT.	TOWNSHIP	SIDE	GUARDRAIL REMOVED, APP	ANCHOR ASSEMBLY REMO√ED	EMBANKMENT, APP	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE MGS	BARRIER REFLECTORS, TYPE A2	ANCHOR ASSEMBLY, TYPE E	LINEAR GRADING, APP	REPAIR SEEDING AND MULCHING
					FEET	EACH	CU. YD.	FEET	FEET	EACH	EACH	FEET	SQ. YD.
CR-104	1-R		MILLCREEK	LT		1							
	2-R			RT		1							
	3-R			RT		1							
	1-G			LT			3			2	1		14
	2-G			RT			3			5	1		14
	3-G			RT			3			2	1		14
			TOTALS			3	9			6	3		42



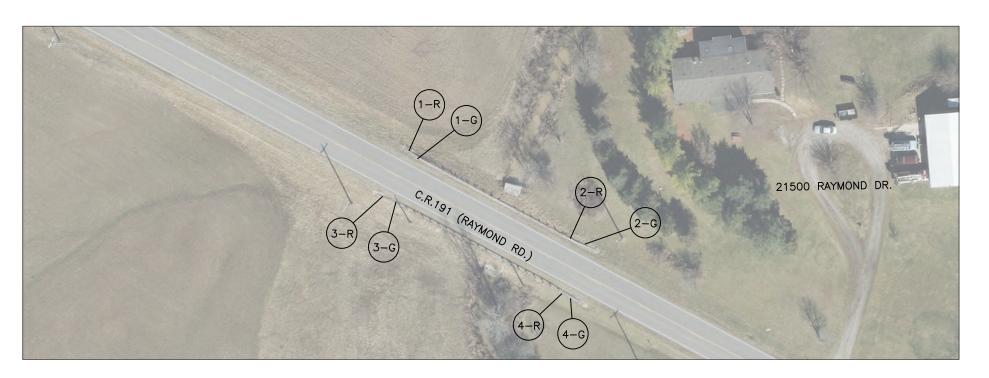
CR114 - WALDO RD N.T.S.

					E:	STIMATED QU	ANTITIES -	SUBSUMMA	ARY				
					202	202	203	606	606	626	606	209	659
ROAD NO.	REF. ND.	ITEM EXT.	TOWNSHIP	SIDE	GUARDRAIL REMOVED, APP	ANCH⊡R ASSEMBLY REM⊡√ED	EMBANKMENT, APP	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE MGS	BARRIER REFLECTORS, TYPE A2	ANCHOR ASSEMBLY, TYPE E	LINEAR GRADING, APP	REPAIR SEEDING AND MULCHING
					FEET	EACH	CU, YD.	FEET	FEET	EACH	EACH	FEET	SQ. YD.
CR-114	1-R		PARIS	LT	170								
	1-G			LT			6		120	3	2	120	95
			TOTALS		170		6		120	3	2	120	95



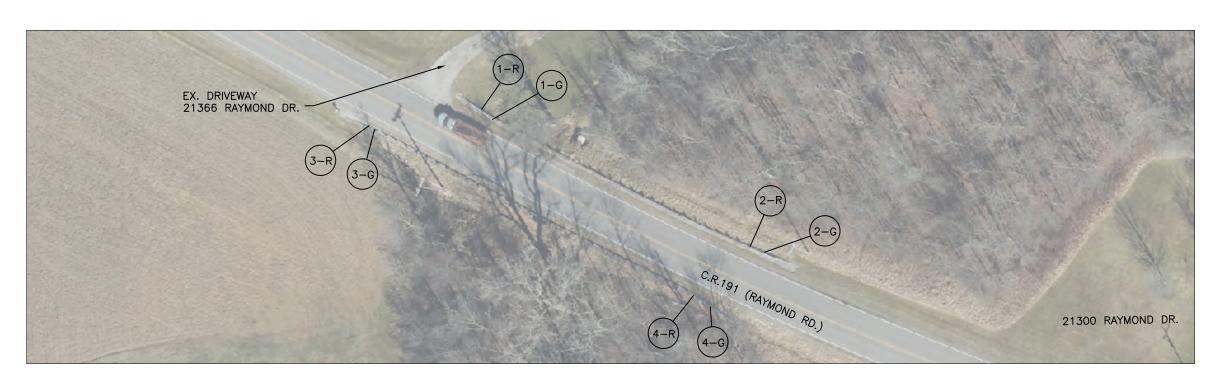
CR 191 - RAYMOND ROAD A N.T.S.

					E:	STIMATED QU	ANTITIES -	SUBSUMMA	ıRY				
					202	202	203	606	606	626	606	209	659
R□AD N□.	REF. ND.	ITEM EXT.	TOWNSHIP	SIDE	GUARDRAIL REM⊡VED, APP	ANCH□R ASSEMBLY REM□VED	EMBANKMENT, APP	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE MGS	BARRIER REFLECTORS, TYPE A2	ANCHOR ASSEMBLY, TYPE E	LINEAR GRADING, APP	REPAIR SEEDING AND MULCHING
					FEET	EACH	CU. YD.	FEET	FEET	EACH	EACH	FEET	SQ. YD.
CR-114	1-R		LIBERTY	LT		1							
	2-R			LT		1							
	3-R			RT		1							
	4-R			RT		1							
	1-G			LT			3			1	1		14
	2-G			LT			3			2	1		14
	3-G			RT			3			1	1		14
	4-G			RT			3			2	1		14
			TOTALS			4	12			6	4		56



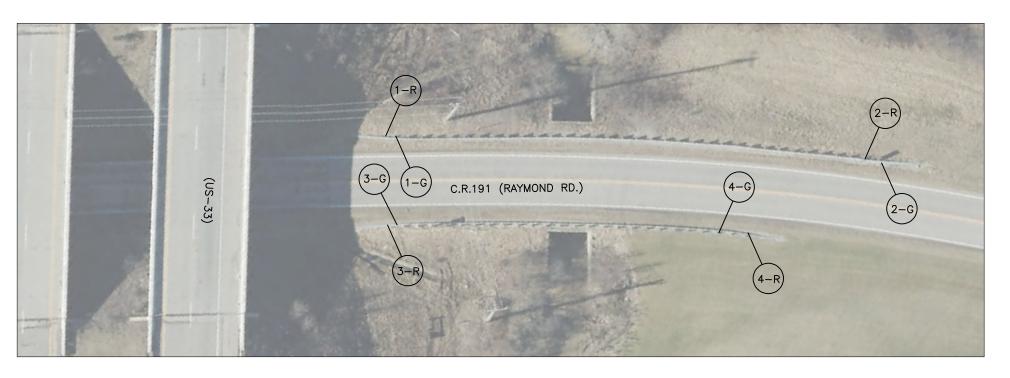
CR 191 - RAYMOND ROAD C N.T.S.

					202	202	203	606	606	626	606	209	659
R□AD N□.	REF. NO.	ITEM EXT.	TDWNSHIP	SIDE	GUARDRAIL REM⊡VED, APP	ANCH□R ASSEMBLY REM□VED	EMBANKMENT, APP	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE MGS	BARRIER REFLECTORS, TYPE A2	ANCHOR ASSEMBLY, TYPE E	LINEAR GRADING, APP	REPAIR SEEDING ANI MULCHING
					FEET	EACH	CU. YD.	FEET	FEET	EACH	EACH	FEET	SQ. YD.
CR-114	1-R		LIBERTY	LT		1							
	2-R			LT		1							
	3-R			RT		1							
	4-R			RT		1							
	1-G			LT			3			1	1		14
	2-G			LT			3			2	1		14
	3-G			RT			3			1	1		14
	4-G			RT			3			2	1		14
			TOTALS			4	12			6	4		56



CR 191 - RAYMOND ROAD D N.T.S.

					E	STIMATED QU	ANTITIES -	SUBSUMMA	RY				
					202	202	203	606	606	202	606	209	659
R□AD N□.	REF. ND.	ITEM EXT.	TOWNSHIP	SIDE	GUARDRAIL REM⊡∨ED, APP	ANCH□R ASSEMBLY REM□VED	EMBANKMENT, APP	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE MGS	GUARDRAIL REBUILT, APP	ANCHOR ASSEMBLY, TYPE E	LINEAR GRADING, APP	REPAIR SEEDING ANI MULCHING
					FEET	EACH	CU. YD.	FEET	FEET	FEET	EACH	FEET	SQ. YD.
CR-114	1-R		LIBERTY	LT		1							
	2-R			LT		1							
	3-R			RT		1							
	4-R			RT		1							
	1-G			LT			3			1	1		14
	2-G			LT			3			2	1		14
	3-G			RT			3			1	1		14
	4-G			RT			3			2	1		14
		1	TOTALS			4	12			6	4		56



CR 191 - RAYMOND ROAD K

					E:	STIMATED QL	JANTITIES -	SUBSUMMA	RY				
					202	202	203	606	606	626	606	209	659
ROAD NO.	REF. NO.	ITEM EXT.	TOWNSHIP	SIDE	GUARDRAIL REM⊡VED, APP	ANCHOR ASSEMBLY REMOVED	EMBANKMENT, APP	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE MGS	BARRIER REFLECTORS, TYPE A2	ANCHOR ASSEMBLY, TYPE E	LINEAR GRADING, APP	REPAIR SEEDING AND MULCHING
					FEET	EACH	CU. YD.	FEET	FEET	EACH	EACH	FEET	SQ. YD.
CR-114	1-R		LIBERTY	LT		1							
	2-R			LT		1							
	3-R			RT		1							
	4-R			RT		1							-
	1-G			LT			3			2	1		14
	2-G			LT			3			2	1		14
	3-G			RT			3			2	1		14
	4-G			RT			3			2	1		14
			TOTALS			4	12			8	4		56