CITY OF COLUMBUS
CITY OF DUBLIN
CITY OF GAHANNA
WASHINGTON, MIFFLIN, BLENDON, BROWN,
& PRAIRIE TOWNSHIPS
FRANKLIN COUNTY
JEFFERSON TOWNSHIP
MADISON COUNTY
JEROME TOWNSHIP

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TENSIONED CABLE GUARDRAIL DETAIL	10-13

UNION COUNTY

SEE PAGE 2

LOCATION MAP

DESIGN DESIGNATION

CURRENT ADT (2010)	
DESIGN YEAR ADT (2030)	
DESIGN HOURLY VOLUME (2030)	
DIRECTIONAL DISTRIBUTION	
TRUCKS (24 HOUR B&C)	
DESIGN SPEED.	70
LEGAL SPEED.	<i>65</i>
DESIGN FUNCTIONAL CLASSIFICATION:	
RURAL INTERSTATE	
NHS PROJECT.	YES

DESIGN EXCEPTIONS

NONE

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	CONTACT CALL TW				
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		CALL			
		0-362- OLL FRE	****	800	
OHIO	UTILITIES	N-MEMBI	ERS		CE
	MUST BE	CALLED	DIRECT	LY	
OIL 8	GAS PRO	DOUCERS	PROTE	CTIVE	

PLAN PREPARED BY:

SERVICE CALL: 1-800-925-0988

OHIO DEPARTMENT OF TRANSPORTATION OFFICE OF PRODUCTION 1980 W. BROAD STREET COLUMBUS. OHIO 43223

		STANDARD CONSTI	RUCTION DRA	AWINGS	•		PLEMENTAL
•	GR-1.1	07/16/04 MT-35.10	04/20/01	TC-41.20		800	01/21/11
	- GR-2.1	01/16/04 MT-95.30	04/17/09	TC-42.20	07/16/04	832	05/05/09
ENGINEERS SEAL:				· · · · · · · · · · · · · · · · · · ·			
AND THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN	GR-5.1	04/18/03 MT-105.10	01/16/09	TC-52.10	01/19/07		
THE OF OUR	GR-5.3	04/16/10		TC-52.20	01/19/07		<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>
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GREGORY L. &	GR-6.2	04/16/10					~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
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PROJECT DESCRIPTION

INSTALLATION OF TENSIONED CABLE GUARDRAIL
ALONG 13.95 MILES OF IR-70 MEDIAN IN MADISON
AND FRANKLIN COUNTY. ALSO INSTALLATION OF
TENSIONED CABLE GUARDRAIL ALONG 3.61 MILES
OF US-33 MEDIAN IN UNION AND FRANKLIN COUNTY.
ALSO INSTALLATION OF CABLE GUARDRAIL AND
W-BEAM GUARDRAIL ALONG 4.43 MILES OF IR-270
MEDIAN IN FRANKLIN COUNTY.

PROJECT EARTH DISTURBED AREA:

N/A

ESTIMATED CONTRACTOR EARTH DISTRUBED AREA: N/A

NOTICE OF INTENT EARTH DISTURBED AREA: N/A

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.

2010 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.

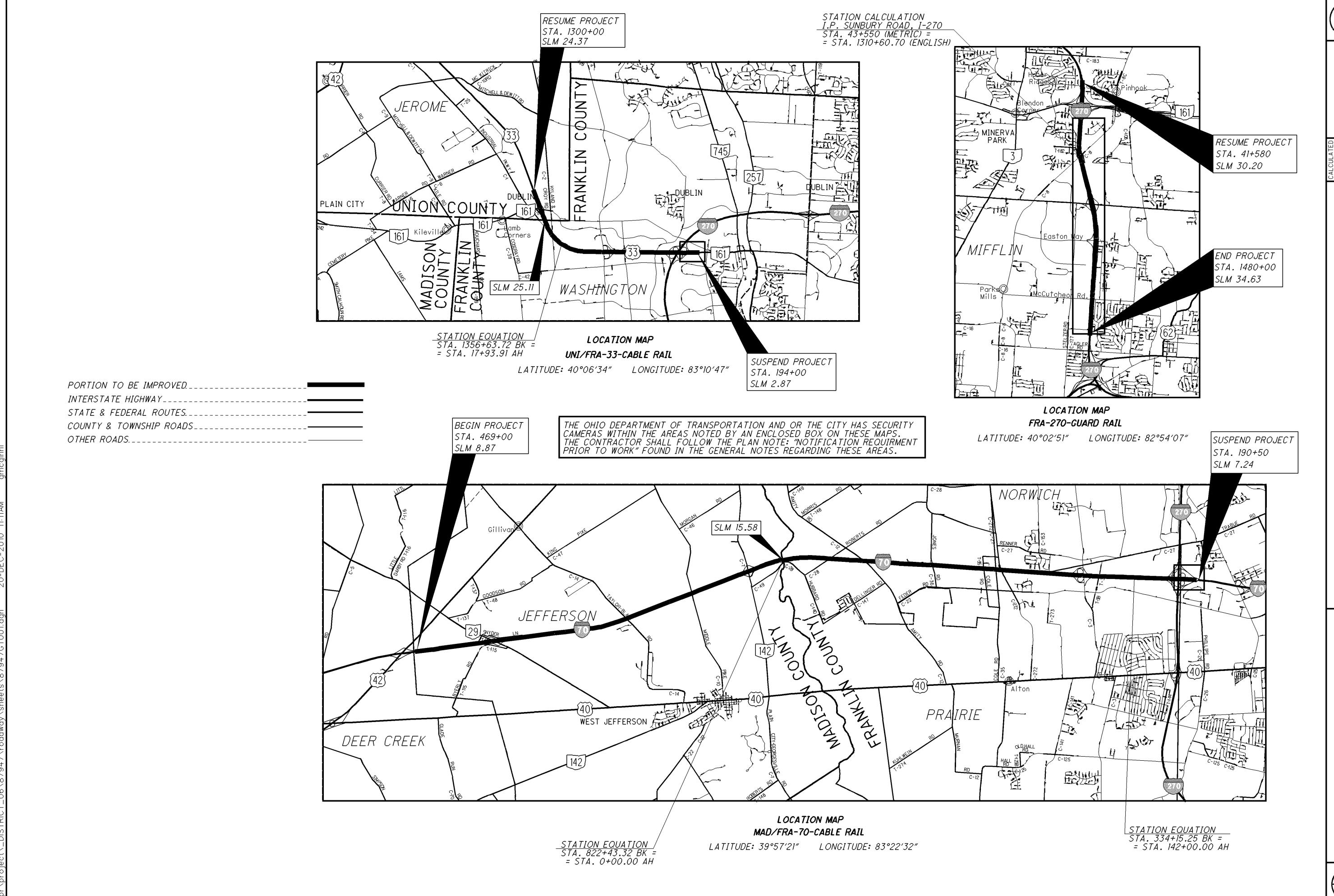
I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

PLANS CERTIFIED BY:	
Jennis & Shart	12-21-16
NAME	DATE
DISTRICT 6	` }
OHIO DEPARTMENT OF TRA	NSPORTATION
	. Das la 1

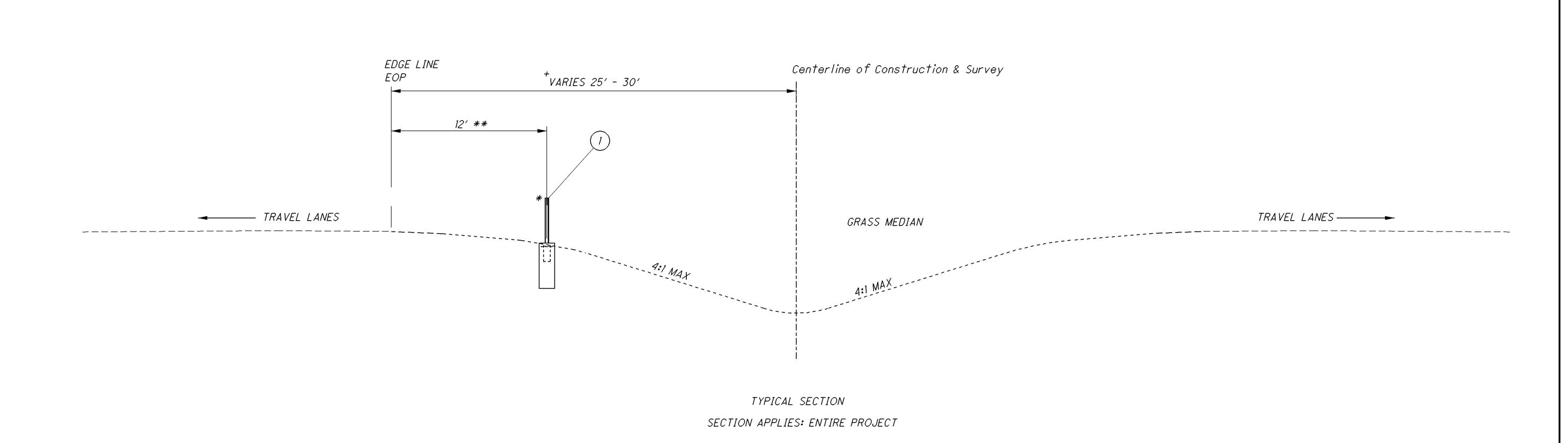
APPROVED TO DISTRICT DEPUTY DIRECTOR

APPROVED Mene M. Moliticis & DATE _______ DIRECTOR, DEPARTMENT OF TRANSPORTATION

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LEGEND:

ITEM 606 - GUARDRAIL MISC: TENSIONED CABLE CONCRETE FOUNDATION LINE POST (SOCKETED)

NOTE:

- + MEDIAN WIDTH ON U.S.-33 IS 50 FEET. MEDIAN WIDTH ON I-70 AND I-270 IS 60 FEET.
- * PLACE POSTS LT OR RT OF & AT THE LOCATIONS LISTED IN THE ESTIMATED QUANTITIES SHEET
- ** DISTANCE FROM EDGE OF TRAVELED WAY TO CABLE RAIL SHOULD BE A MINIMUM OF 12 FEET, OR 3 FEET FROM THE EDGE OF TREATED SHOULDER IF THE TREATED SHOULDER IS MORE THAN 10 FEET WIDE. AT THE DISCRETION OF THE CONTRACTOR AND THE PROJECT ENGINEER, THE DISTANCE CAN BE ALTERED IF CONSTRUCTABLILITY AND/OR MAINTENANCE OF TRAFFIC ISSUES WARRANT A CHANGE. THE ACCEPTABLE RANGE FOR PLACEMENT OF THE CABLE RAIL IS A MINIMUM OF 12 FEET FROM THE EDGE OF TRAVELED WAY (EOP) AND A MINIMUM OF 8 FEET FROM THE DITCH BOTTOM.

THERE IS 12 INCH STAMPED CONCRETE UNDER THE BRIDGE ON U.S.-33 AT THE AVERY ROAD OVERPASS, (SEE S.R. 161, U.S. 33 AVERY-MUIRFIELD DRIVE INTERCHANGE IMPROVEMENTS PLAN). STAMPED CONCRETE AND PAVER BLOCKS ARE ALSO UNDER THE EMERALD PARKWAY BRIDGE ON U.S.-33, (SEE EMERALD PARKWAY, PHASE 7 PLANS). THE CONTRACTOR SHALL INSTALL CABLE RAIL POSTS WITH MINIMAL IMPACT UPON THIS STAMPED CONCRETE AND PAVER BLOCKS. THIS SHALL ENTAIL CORING THROUGH THE STAMPED CONCRETE AND PAVER BLOCKS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGES TO THE STAMPED CONCRETE AND PAVER BLOCKS DURING THE INSTALLATION PROCESS.

CENTERLINE STATIONING

CENTERLINE STATIONING. AS REFERENCED IN THESE PLANS. IS BASED ON THE FOLLOWING ENTITLED EXISTING PLANS AND CORRESPONDS TO THE LOGPOINT LOCATIONS SHOWN ON SHEET 2:

EXISTING PLANS	© STATIONING	LOGPOINT
MAD-70-8.68	458+45 TO 822+43	MAD-70-(8.68-15.58)
FRA-70-0.00 MAD-70-15.55	0+00 TO 180+00	FRA-70-(0.00-3.41)
FRA-70-3.41	180+00 TO 334+15	FRA-70-(3.41-6.33)
FRA-70-0.00 FRA-70-(0.00-6.22) FRA-270- (0.00N-21.41N)	334+15 BK = 142+00 AH 142+00 TO 195+00	FRA-70-(6.33-7.33)
UNI-33-20.23 FRA-33-0.00	1300+00 TO 1356+62	UNI-33-(20.23-20.69) FRA-33-(0.00-0.34)
FRA-33-0.00	*1300+00 TO 194+00	FRA-33-(0.00-2.88)
SR-161,US-33 AVERY MUIRFIELD INTERCHANGE IMPROVEMENT	FRA-33-1.31 PERMIT	SR-161,US-33
EMERALD PARKWAY, PHASE 7	FRA-33-2.22 PERMIT	EMERALD PARKWAY
FRA-270-40.260, PART 2	41+580 TO 43+268	FRA-270-40.260
FRA-270-31.01	1320+25 TO 1359+00	FRA-270-(31.01-33.64)
FRA-270-32.46	1359+00 TO 1408+00	FRA-270-32.46
FRA-270-33.64	1470+50 TO 1480+00	FRA-270-(31.01-33.64)

^{*}STATION EQUATIONS ARE LISTED IN ESTIMATED QUANTITIES.

ALL EXISTING PLANS ARE IN ENGLISH UNITS EXCEPT FRA-270-40.260, PART 2, WHICH IS IN METRIC UNITS. CONVERSIONS FROM METRIC TO ENGLISH UNITS WERE MADE IN THE ESTIMATED QUANTITIES ON SHEET 8.

PRINTED COPIES OF THE EXISTING PLANS CAN BE FOUND IN THE ODOT DISTRICT 6 OFFICE IN DELAWARE, THESE PLANS SHOULD BE INSPECTED BEFORE CONSTRUCTION.

INTERNET ONLINE VERSIONS OF THESE PLANS SHALL ALSO BE AVAILABLE AT THE FOLLOWING WEB ADDRESS:

ftp://ftp.dot.state.oh.us/pub/Districts/D06/download/MAD_ FRA-70-8.87_0.00_Existing_Plans/

NOTIFICATION OF CONSTRUCTION INITIATION

AT LEAST FOURTEEN DAYS PRIOR TO ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL ADVISE THE DISTRICT OFFICE OF COMMUNICATIONS VIA EMAIL AT: DO6.PIO@DOR. STATE.OH.US. AND THE DISTRICT WORK ZONE TRAFFIC MANAGER VIA EMAIL AT DO6.MAT@DOT.STATE.OH.US OF THE ANTICIPATED START DATE OF ANY CONSTRUCTION ACTIVITIES, INCLUDING BUT NOT LIMITED TO THE PLACING OF WORK ZONE SIGNS. THE NOTIFICATION SHALL ALSO INCLUDE THE PROJECT NUMBER, PID, NAME AND PHONE NUMBER OF THE CONTRACTOR, A POINT OF CONTACT AND THE ANTICIPATED IMPACT ON TRAFFIC, THE CONTRACTOR WILL IMMEDIATELY INFORM THE DISTRICT OFFICE OF COMMUNICATIONS AND THE DISTRICT WORK ZONE TRAFFIC MANAGER OF ANY AND ALL DELAYS AND/OR CHANGES REGARDING THE CONSTRUCTION INITIATION DATE.

ITEM 606 - CUARDRAIL, MISC.: TENSIONED CABLE WITH CONCRETE FOUNDATION LINE POST (SOCKETED) ITEM 606 - GUARDRAIL, MISC.: TENSIONED CABLE ANCHOR TERMINAL

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A FOUR STRAND TENSIONED CABLE GUARDRAIL SYSTEM MEETING NCHRP REPORT 350 TEST LEVEL-3 REQUIREMENTS BY USING ONE OF THE FIVE FOLLOWING PRODUCTS:

1) MARION STEEL'S WIRE ROPE BARRIER. MARION STEEL COMPANY. 912 CHENEY AVE., MARION, OHIO, 43302 (CONTACT: RICK MAUER.603-430-9350 OR 603-490-1603).

2) SAFENCE, GREGORY INDUSTRIES, INC. 4100 13TH STREET, SW, CANTON, OHIO 44710 (CONTACT: GEORGE EICHER. 330-447-4800)

3) BRIFEN USA WIRE ROPE SAFTEY FENCE SYSTEM 9215 S. SHIELDS BLVD., OKLAHOMA CITY, OK 73160 (CONTACT: JERRY EMERSON, P.E. 405-793-9500 OR 866-427-4336)

4) GIBRALTAR CABLE BARRIER SYSTEMS 320 SOUTHLAND RD., BURNET, TX 78611 (CONTACT: JAY WINN, 512-756-1426 OR 800-495-8957)

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS AND IN ACCORDANCE WITH THE MANUFACTURER'S SPECI-FICATIONS. SYSTEMS WILL BE INSTALLED IN A MEDIAN APPLICATION (BIDIRECTIONAL TRAFFIC).

THE SYSTEM SHALL HAVE A MAXIMUM DEFLECTION OF 12 FEET AND THE MAXIMUM LONGITUDINAL DISTANCE BETWEEN POSTS SHALL BE 15 FOOT.

INSTALLATION WILL BE A FOUR STRAND TENSION CABLE INSTALLED IN SOCKETED POSTS.

THE CONTRACTOR SHALL NOT USE A TORPEDO CABLE SPLICE TO JOIN TWO STRANDS OF CABLE.

PAYMENT FOR THE ABOVE WORK SHALL BE AT THE UNIT BID PRICE FOR:

ITEM 606 - GUARDRAIL. MISC .: TENSIONED CABLE WITH CONCRETE FOUNDATION LINE POST (SOCKETED)

ITEM 606 - GUARDRAIL, MISC.: TENSIONED CABLE ANCHOR TERMINAL

THE BID PRICE SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT, AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL CABLE GUARDRAIL SYSTEM, INCLUDING ALL RELATED HARDWARE, GRADING, EMBANKMENT, AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER AND ODOT PROJECT ENGINEER.

THE CONTRACTOR SHALL PROVIDE DELINEATORS ON THE GUARDRAIL POSTS AT A MINIMUM INTERVAL OF 100 FT. PAYMENT FOR THIS WORK IS INCLUDED WITH THE UNIT BID PRICE FOR ITEM 606 GUARDRAIL MISC: WITH CONCRETE FOUNDATION LINE POST (SOCKETED).

POSTS ARE SET IN SOCKETED CONCRETE FOUNDATIONS AND SHALL NOT BE PERMANENTLY INSTALLED UNTIL THEIR RESPECTIVE RUNS OF TENSIONED CABLE GUARDRAIL ARE READY FOR FINAL CONNECTION TO THE END TERMINAL ASSEMBLY.

THE CONTRACTOR SHALL REPLACE ANY POST DAMAGED DURING INSTALLATION AS DETERMINED BY THE ENGINEER AT NO ADDITIONAL COST TO THE STATE.

THERE ARE THIRTY EIGHT (38) RUNS OF TENSIONED CABLE GUARDRAIL ON THIS PROJECT (BEGIN RUN ANCHOR TERMINAL TO END RUN ANCHOR TERMINAL).

IF THE LENGTHS OF RUNS ARE ADJUSTED IN THE FIELD THE MINIMUM LENGTH SHALL BE 500 FEET AND THE MAXIMUM LENGTH SHALL BE 3500 FEET.

COOPERATION BETWEEN CONTRACTORS

COOPERATION BETWEEN CONTRACTORS THE CONTRACTOR IS NOTIFIED OF PROJECT FRA-33-2.57, PID 85206 SCHEDULED FOR THE SUMMER OF 2011 FOR THE STRUCTURE OVER IR-270. SEE SECTION 105.08 OF THE C&MS.

NOTIFICATION REQUIREMENT PRIOR TO WORK

THE CONTRACTOR SHALL MAKE SEPARATE NOTIFICATIONS TO THE CITY OF COLUMBUS (614-645-7393 and 614-645-3946) AND THE ODOT ITS ENGINEER (614-387-4099) AS WELL AS OUPS 72 HOURS PRIOR TO EXCAVATING IN ANY AREA. THE CONTRACTOR SHALL NOT EXCEED A LENGTH OF 2000 FT PER OUPS REQUEST TICKET FOR LOCATE. THE CONTRACTOR SHALL PROVIDE THE WORK LOCATION AND THE DATE WORK IS TO BE STARTED WITH THE REQUEST FOR LOCATE. IF THE CONTRACTOR DOES NOT PROVIDE ADEQUATE ADVANCE NOTICE TO LOCATE AND THE CITY OF COLUMBUS'S AND/OR ODOT'S FIBER OPTIC CABLE IS DAMAGED, THE CONTRACTOR WILL BE LIABLE FOR ALL NECESSARY REPAIRS AS DIRECTED BY ODOT ITS ENGINEER AND/OR THE CITY OF COLUMBUS ITS DESIGN ENGINEER. A DISINCENTIVE OF FOUR-HUNDRED DOLLARS (\$400) PER HOUR WILL BE ASSESSED TO THE CONTRACTOR FOR ANY TIME THAT COMMUNICATIONS IS DISRUPTED, DUE TO DAMAGE CAUSED BY THE CONTRACTOR TO THE FIBER OPTIC CABLE. THE CITY OF COLUMBUS REPRESENTATIVE AND / OR THE ODOT ITS ENGINEER SHALL BE THE SOLE DETERMINING PARTIES IN DETERMINING IF ANY DAMAGE WAS THE FAULT OF THE CONTRACTOR.

GUARDRAIL MISC.: TENSIONED CABLE ANCHOR ASSEMBLIES

THE TENSIONED CABLE ANCHOR ASSEMBLIES SHALL FOLLOW THE MANUFACTURERS SPECIFICATIONS FOR WEAK SOIL CONDITIONS. THE MANUFACTURER SHALL PROVIDE A DESIGN TO ADEQUATELY HANDLE THE STATIC LOAD, ANY IMPACT LOADS NEAR THE ANCHOR ASSEMBLY PLUS THE APPROPRIATE FACTORS OF SAFETY.

ITEM SPECIAL - TENSION METER

PROVIDE A DILLON QUICK CHECK TENSION METER (PART #36289-0014) OR EQUIVALENT ABLE TO MEASURE 3/4 INCH DIAMETER STEEL CABLE AT A MINIMUM TENSION OF 10,000 POUNDS TO THE ODOT MADISON COUNTY MANAGER.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM SPECIAL - TENSION METER

1 EACH

ITEM SPECIAL - TRAINING

THE CONTRACTOR AND/OR A REPRESENTATIVE FROM THE CABLE GUARDRAIL MANUFACTURER SHALL PROVIDE A ONE DAY TRAINING SESSION FOR THE MADISON. UNION AND FRANKLIN COUNTY PERSONNEL IN THE INSTALLATION AND MAINTENANCE OF THE TENSIONED CABLE GUARDRAIL.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM SPECIAL - TRAINING

3 EACH

1 EACH

ITEM SPECIAL - TENSIONING EQUIPMENT

PROVIDE A SET OF THE FOLLOWING TENSIONING EQUIPMENT TO THE ODOT MADISON COUNTY MANAGER FOR THE MAINTENANCE OF THE SYSTEM:

- 2 ¾ " DIAMETER KLEIN "CHICAGO" GRIPS. PRODUCT #409-1628-17 FOR EXTRA HIGH STRENGTH CABLE (OR EQUIVALENT)
- 1 COME-ALONG CAPABLE OF STRETCHING 5 TONS
- 2 15 FT. LONG, 5 TON CHAINS

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM SPECIAL - TENSION EQUIPMENT

WATERSHED PROTECTION

THE WORK ASSOCIATED WITH THIS PROJECT IS BEING PERFORMED WITHIN SEVERAL SOURCE WATER PROTECTION AREAS. IT IS ESSENTIAL THAT ALL ACTIVITIES ASSOCIATED WITH THIS WORK BE PERFORMED IN A MANNER CONSISTENT WITH BEST WATER-SHED MANAGEMENT PRACTICES INCLUDING, BUT NOT LIMITED TO: AREAS OF DISTURBED GROUND SHALL HAVE APPROPRIATE EROSION AND SEDIMENT CONTROLS. IF HAZARDOUS/TOXIC MATERIALS INCLUDING BUT NOT LIMITED TO FUELS, OILS, BITUMEN'S PAINTS, PAINTS, SEALANTS, OR OTHER CHEMICALS, ARE STORED ON SITE, THEY SHALL BE STORED IN A DOUBLE CONTAINMENT MANNER, ALL EQUIPMENT REPAIRS, MAINTENANCE, AND MECHANICAL WORK THAT COULD RESULT IN THE RELEASE OF HAZARDOUS/TOXIC MATERIALS SHALL BE PERFORMED IN AN APPROPRIATELY CONTAINED AREA. PREFERABLY OFF SITE OR AN APPROPRIATE OFF-SITE FACILITY. IN THE EVENT THAT ANY HAZARDOUS/TOXIC MATERIALS INCLUDING, BUT NOT LIMITED TO FUELS, OILS, BITUMEN'S PAINTS, SEALANTS, OR OTHER CHEMICALS ARE SPILLED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY EMERGENCY SERVICES BY CALLING 911. THE OHIO EPA AT 800-282-9378. THE WAFFLE HOUSE #716. THE PILOT TRAVEL CENTER #454 AND THE CITY OF COLUMBUS PUBLIC WATER SYSTEM 614-645-8270. THE CONTRACTOR SHALL BE PREPARED TO PROVIDE DETAILED INFORMATION RELATIVE TO THE TYPE AND QUANTITY OF MATERIAL THAT HAS BEEN SPILLED AS WELL AS THE EXACT LOCATION AND THE EXACT TIME AT WHICH THE SPILL OCCURED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR INFORMING ALL SUBCONTRACTORS AND OTHER AGENTS OF THESE RESPONSIBILITIES, PRECAUTIONS AND PROHIBITIONS.

ITEM 606 - ANCHOR ASSEMBLY, TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS. OR AN APPROVED EQUAL AS LISTED ON ROADWAY ENGINEERINGS WEB PAGE AT WWW.DOT.STATE.OH.US/DRRC/ UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS:

1) THE ET-2000 (1997) MANUFACTURED BY TRINITY INDUSTRY. 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

THE LENGTH OF THE ET-2000 (1997) SYSTEM IS CONSIDERED TO BE 50'-0", INCLUSIVE OF TWO 25'-0" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. NO.	DRAWING NAME	DATE DWG./ REV.	DATE ODOT APPROVAL
SS373	ET2000 PLUS 50'-0" WITH 7 SYT POSTS AND ONE HBA POST	6/20/97	1/20/09
SS142	ET2000 PLUS 50'-0" PLAN, ELEVATION AND SECTION 25'-0" RAIL, SLEEVE W/PL POSTS 1-4	4/12/00	7/31/00
SS141	ET2000 PLUS PLAN, ELEVATION & SECTION 25'-0" RAIL, HBA POSTS 1-4	2/29/00	7/31/00
SS158	ET2000 PLUS 50'-0" WITH 12'-6" PANELS AND HBA POSTS 1-4 PLAN, ELEVATION & SECTION	5/22/00	7/31/00
SS330	ET2000 PLUS 50'-0" WITH FOUR FOUNDATION TUBES AND FOUR CRT POSTS	3/28/06	3/29/06

2) THE SKT-350 MANUFACTURED BY ROAD SYSTEMS, INC., 2516 MALLORY LANE. STOW. OHIO. 44224. (TELEPHONE: 330-346-0721).

THE LENGTH OF THE SKT-350 SYSTEM IS CONSIDERED TO BE 50'-0", INCLUSIVE OF FOUR 12'-6" LONG RAIL ELEMENTS. IN-STALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS. IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICA-TIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. NO.	DRAWING NAME	DATE DWG./ REV.	DATE ODOT APPROVAL
SKT-4M	SEQUENTIAL KINKING TERMINAL (SKT-350) ASSEMBLY WITH 4 FOUNDATION TUBES	12/11/97	3/6/98
SKT HINGED CRT	SEQUENTIAL KINKING TERMINAL (SKT-350) FOUR POSTS ARE STEEL HINGED AND FIVE POSTS ARE CRT	4/30/06	5/23/06
SKT-SP	SEQUENTIAL KINKING TERMINAL (SKT-350 A SEVEN POST OPTION USING STANDARD STEEL POST	3/30/09	3/4/09

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 18" X 18", OR 12" X 18" IF APPLIED TO A RECTANGULAR ET-2000 "PLUS" EXTRUDER HEAD.

REFER TO THE MANUFACTURER'S INSTRUCTION REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4-INCHES ABOVE THE GROUND. THE PLACE-MENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27-3/4-INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4-INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MA-TERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED. AS REQUIRED BY THE MANUFACTURER.

WATER QUALITY PROTECTION

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 ASPHALT 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.

UTILITIES

THERE ARE NO UNDERGROUND UTILITY LINES SHOWN ON THIS PLAN. THE NATURE OF THE WORK REQUIRED BY THIS PROJECT COULD AFFECT THE UNDERGROUND UTILITIES THAT EXIST UNDER OR ADJACENT TO THE WORK AREA.

SINCE THERE ARE NO PLAN AND PROFILE SHEETS. THE CONTRACTOR SHALL CALL THE OHIO UTILITIES PROTECTION SERVICE (OUPS) AT 1-800-362-2764 AND THE OIL AND GAS PRODUCERS PROTECTIVE SERVICE AT 1-800-925-0988 AT LEAST TWO WORKING DAYS BEFORE THE INSTALLATION OF THE CABLE GUARDRAIL TO HAVE THE FACILITIES MARKED IN THE FIELD.

ADJUST POST SPACING AND ANCHOR ASSEMBLY LOCATIONS TO AVOID CONTACT WITH ANY UTILITY.

UTILITY COMPANIES WITHIN PROJECT AREA

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

Buckeye Partners, LP Mr. Martin White 940 Buckeye Road Lima, Ohio 45804 419-993-8008

Marathon Pipe Line LLC Mr. David Wisner 539 South Main Street - Room 7642 Findlay, Ohio 45840 419-421-2211

Columbia Gas of Ohio Mr. Diego Cantana 3550 Johnny Appleseed Court Columbus, Ohio 43231 614-481-1057

TELEPHONE

A T & T

Mr. Tom Ziomek 111 North Fourth Street - 8th Floor Columbus, OH 43215 614-223-7162

ELECTRIC

Mr. Roy Middleton 1 Riverside Plaza Columbus, Ohio 43215 614-716-2531

CABLE

Time Warner Cable Terry Allen 3760 Interchange Drive Columbus, Ohio 43204 614-255-6349



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TRAFFIC IN EACH DIRECTION WILL BE MAINTAINED TO ALL INTERSTATE'S AT ALL TIMES, EXCEPT AS NOTED BELOW:

LANE CLOSURES FOR THE PURPOSE OF PLACING DRUMS IN ORDER FOR THE CONTRACTOR TO COMPLETE THE WORK AS DESCRIBED IN THE PLANS WILL BE PERMITTED AS FOLLOWS:

SHORT TERM LANE CLOSURES SHALL ONLY BE IMPLEMENTED WHEN WORK IS BEING CONTINUOUSLY PERFORMED IN THE LANE. THE CLOSURE SHALL BE REMOVED AS SOON AS POSSIBLE AFTER WORK HAS STOPPED. NO LANE OR SHOULDER CLOSURE SHALL BE IN PLACE WHEN NO WORK IS BEING PERFORMED.

WHEN NECESSARY. LANE CLOSURES WILL BE ACCOMPLISHED IN ACCORDANCE WITH STANDARD DRAWING MT-95.30. SHOULDER CLOSURES PER TA-5 EXCEPT DURING PEAK HOURS 6:00AM TO 9:00AM AND 3:00PM TO 6:00PM.

AMOUNT OF TIME NECESSARY TO PERFORM THE WORK AS DESCRIBED IT IS THE INTENT TO RESTRICT LANE CLOSURES TO THE MINIMUM IN THE PLANS. THE CONTRACTOR WILL NOT COMMENCE ANY LANE CLOSURE BEFORE THE HOURS AS SPECIFIED OR COMMENCE ANY CLOSURE AT A TIME WHICH WILL NOT ALLOW COMPLETION OF THE WORK PRIOR TO THE HOURS SPECIFIED.

THE CONTRACTOR WILL HAVE ON SITE AND IN WORKING AND OR SUITABLE CONDITION: ALL EQUIPMENT, TOOLS, LABORERS, LEO'S, TRAFFIC CONTROL DEVICES AND INCIDENTALS NECESSARY TO EFFICIENTLY PERFORM THE CLOSURE BEFORE INITIALIZING THE LANE CLOSURE.

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

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

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

IN ADDITION TO THE REQUIREMENT OF CMS 614 AND THE OMUTCD. A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

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 FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP). IN GENERAL, LEOS SHOULD BE POSITION-ED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

WHEN CONSTRUCTION VEHICLES ARE ENTERING/EXITING THE ZONE DIRECTLY FROM/INTO AN OPEN LANE OF TRAFFIC. IF A LANE HAS BEEN CLOSED TO PROVIDE AN ACCELERATION/ DECELERATION LANE FOR THE VEHICLE, THE LEO WILL NOT BE REQUIRED.

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

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

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT. IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT. THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RE-TURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINT-ENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614. LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614. LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR **ASSISTANCE** 320 HOURS

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

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) IN-CURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614. LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

NOTIFICATION OF TRAFFIC RESTRICTIONS

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW. THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

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

No	OTIFICATION TIME FRAME TA	BLE
ITEM	DURATION OF CLOSURE	NOTIFICATION DUE TO DISTRICT 6 COMMUNICATIONS OFFICE
RAMP AND ROAD CLOSURE	>= 2 WEEKS	14 BUSINESS DAYS PRIOR TO CLOSURE
	> 12 HOURS AND < 2 WEEKS	7 BUSINESS DAYS PRIOR TO CLOSURE
	< 12 HOURS	2 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES/ RESTRICTIONS	>= 2 WEEKS	7 BUSINESS DAYS PRIOR TO CLOSURE
	< 2 WEEKS	2 BUSINESS DAYS PRIOR TO CLOSURE

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

MEMORIAL GOLF TOURNAMENT

THE CITY OF DUBLIN REQUESTS THAT NO WORK ALONG US-33 REMAIN UNFINISHED TWO WEEKS PRIOR TO THE COMMENCEMENT OF THE GOLF TOURNAMENT. THE TOURNAMENT IS SCHEDULED FROM MAY 30 THROUGH JUNE 5. 2011. WORK ON US-33 MAY BE PERFORMED AFTER THE TOURNAMENT IS COMPLETE. THE CONTRACTOR MAY RESUME WORK ALONG US-33 ON JUNE 8. THE CITY OF DUBLIN PREFERS THAT ALL WORK ALONG US-33 BE PERFORMED AFTER THE TOURNAMENT.

	LAN	E CLOSURE				
		FRA-27		• .1	+ 1	T
		Lane	anytime	are permit except:	Ted	
Section	Existing Number of Lanes per Direction	Lane Reduction	Mon to Fri	Sat	Sun	Disincentive Amount per minute per lane
SR 161 to Agler Road (Mainline)	3	3 to 2	5AM-8PM	6AM-7PM	6AM-7PM	\$ 400
		3 to 1	5AM-11PM	6AM-10PM	6AM-10PM	\$400
		FRA-70)			
	Existing Number of	Lane	closures anytime	are permit except:	ted	Disincentive Amount per
Section	Lanes per Direction	Lane Reduction	Mon to Fri	Sat	Sun	minute per lane
Madison County Line to I-270	3	3 to 2	5AM-7PM	7AM-9AM & 3PM-6PM	7AM-9AM & 3PM-6PM	\$200
		3 to 1	5AM-10PM	6AM-9PM	6AM-11PM	\$200
A† I-270	2	2 to 1	5AM-11PM	6AM-9PM	6AM-11PM	\$ 400
I-270 to Wilson Road	4	4 to 3	5AM-7PM	No Rest- riction	No Rest- riction	\$ 400
		4 to 2	5AM-8PM	9AM-7PM	9AM-7PM	\$ 400
		4 to 1	5AM-11PM	6AM-11PM	6AM-11PM	\$400
	_	MAD-7				
	Existing Number of		e closures anytime	are permi: except:	tted	Disincentive Amount per
Section	Lanes per Direction	Lane Reduction	Mon to Fri	Sat	Sun	minute per lane
Clark County Line to Franklin County Line	3	3 to 2	No Rest- riction	No Rest- riction	No Rest- riction	\$ 75
		3 to 1	9AM-7PM	7AM-8PM	7AM-10PM	\$ 75
		FRA-33	3			
	Existing Number of		e closures anytime	are permi except:	tted	Disincentive Amount per
Section	Lanes per Direction	Lane Reduction	Mon to Fri	Sat	Sun	minute per lane
Union County Line to I-270	2	2 to 1	5AM-7PM	7AM-9AM & 3PM-6PM	7AM-9AM & 3PM-6PM	\$200
		3 to 1	6AM-7PM	7AM-8PM	7AM-10PM	\$200

assessed a disincentive in the amount shown above for each minute the above described lane closure restrictions are violated.

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											ROADWAY		
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						6775 00	000	17000	6775 00		CHARDEN TYPE E		
						6375.00 10	606 606	13000 26100	6375.00 10	FT EACH	GUARDRAIL, TYPE 5 ANCHOR ASSEMBLY, TYPE E		
					89992	1640	606	98000	91632	FT	GUARDRAIL, MISC.: TENSIONED CABLE WITH CONCRETE FOUNDATION LINE POST (SOCKETED)	4	
					80	2	606	98100	82	EACH	GUARDRAIL, MISC.: TENSIONED CABLE ANCHOR TERMINAL	4	
				7			SPECIAL SPECIAL	69098000 69098000	7	EACH EACH	MISC: TENSIONING EQUIPMENT MISC: TRAINING	5	
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SHEET NO.	STATION	SIDE	MISC: TENSIONED ONCRETE N LINE POST	MISC.: CABLE RMINAL							
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FF	ROM TO		FT	EACH							
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	2+40 522+95	LT	2055	2							
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	+45 581+40	RT	1995	2							
	2+00 612+50	LT	3050	2							
	+50 629+00	LT	1750	2							
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FO STA	334+15.25 BK = STA. 142+00.00 AH										
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	+00 219+00	RT	1400	2							
221	+25 235+25	RT	1400	2							
	257+25	LT	2125	2							
	5+25 277+50	LT	2125	2							
	7+50 313+00	RT	3450	2							
313	+75 334+15	LT	2040			 					
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