

UTILITIES

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.

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

FRONTIER COMMUNICATIONS
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PORTSMOUTH, OHIO 45662
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740-354-0521
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CONNECTION 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 W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SEEDING AND MULCHING	217 SQ. YD.
659, REPAIR SEEDING AND MULCHING	11 SQ. YD.
659, COMMERCIAL FERTILIZER	0.03 TON
659, LIME	0.05 ACRES
659, WATER	2 M. GAL.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

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.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

ITEM 204 - PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.

ITEM 204 PROOF ROLLING 1 HOUR.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

ITEM 611 - 18" CONDUIT, TYPE A

THIS ITEM HAS BEEN PROVIDED TO BE PLACED AS DIRECTED BY THE ENGINEER.

A QUANTITY OF 10 FT HAS BEEN CARRIED TO THE GENERAL SUMMARY

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET 10 OF THE PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL

POSITIONING METHOD: STATIC GNSS
MONUMENT TYPE: A

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID12B

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83(2011)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE (SOUTH ZONE)
COMBINED SCALE FACTOR: 0.99991370
ORIGIN OF COORDINATE SYSTEM: 0,0

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN U.S. SURVEY FEET.

ITEM 202 - GUARDRAIL REMOVED, AS PER PLAN

ITEM 202 GUARDRAIL REMOVED, AS PER PLAN SHALL INCLUDE THE REMOVAL OF EXISTING GUARDRAIL, GUARDRAIL POSTS, AND CABLE BURIED ALONG THE SLIP

RAILROAD COORDINATION NOTES

DESIGN AND CONSTRUCTION OF THE PROPOSED PROJECT FOR WORK ON, OVER OR ADJACENT TO CSXT PROPERTY WILL GENERAL BE GOVERNED BY THE CURRENT CSXT PUBLIC PROJECT MANUAL (PPM). SPECIFIC SECTIONS THAT PERTAIN TO THIS PROJECT ARE SPECIAL PROVISIONS FOR CONSTRUCTION NEAR CSXT PROPERTY, OVERHEAD BRIDGE CRITERIA, CONSTRUCTION SUBMISSION CRITERIA, AND INSURANCE REQUIREMENTS FOR PUBLIC PROJECTS.

CSXT REQUIRES THAT THE CONTRACTOR SUBMIT AND RECEIVE ACCEPTANCE OF A COMPREHENSIVE MEANS, METHODS, & SCHEDULE CONSTRUCTION SUBMISSION OR WORK PLAN PRIOR TO UNDERTAKING THE WORK FOR:

1. EROSION CONTROL AND SWPPP THAT MAY BE PLACED ON RAILROAD PROPERTY.
2. DEMOLITION AND CONSTRUCTION ACTIVITIES RELATED TO THE RETAINING WALLS, PROPOSED CULVERT AND RECONSTRUCTION OF CR 50 THAT MAY CAUSE AN OBSTRUCTION OR HAZARD TO CSXT OPERATIONS.
3. CONTRACTOR MAY BE REQUIRED TO SUBMIT A DETAILED TRACK MONITORING PROGRAM FOR CSX'S APPROVAL PRIOR TO PERFORMING ANY WORK NEAR CSX'S RIGHT-OF-WAY.

CSXT WILL REQUIRE FULL-TIME RAILROAD FLAGGING FOR CONSTRUCTION ASSOCIATED WITH THE TASKS DESCRIBED ABOVE, ANY OTHER CONSTRUCTION TASKS REQUIRING CONTRACTOR WORK WITHIN THE RAILROAD SPAN THAT HAS THE POTENTIAL TO OBSTRUCT CSXT OPERATIONS OR ANY WORK WITHIN 50 FEET OF THE TRACK.

ANY TEMPORARY HORIZONTAL CONSTRUCTION CLEARANCES PROPOSED SHALL BE SUBJECT TO THE APPROVAL OF CSXT, TYPICALLY, REDUCTIONS IN CLEARANCE FOR CONSTRUCTION ARE NOT PERMITTED.

CONTRACTOR ACCESS WILL BE LIMITED TO THE IMMEDIATE PROJECT AREA ONLY. THE CSXT RIGHT-OF-WAY OUTSIDE THE PROJECT AREA MAY NOT BE USED FOR CONTRACTOR ACCESS TO THE PROJECT SITE AND NO TEMPORARY AT-GRADE CROSSINGS WILL BE ALLOWED.

CONTRACTOR WILL BE REQUIRED TO ABIDE BY THE PROVISIONS OF THE AGENCY/CSXT CONSTRUCTION AGREEMENT. PERIODICALLY, THROUGHOUT THE PROJECT DURATION, THE CONTRACTOR WILL BE REQUIRED TO MEET, DISCUSS AND, IF NECESSARY, TAKE IMMEDIATE ACTION AT THE DISCRETION OF THE CSXT PERSONNEL AND/OR THEIR AUTHORIZED REPRESENTATIVE, TO COMPLY WITH PROVISIONS OF THAT AGREEMENT AND THESE SPECIFICATIONS.

THE CONTRACTOR MAY NOT USE CSXT RIGHT-OF-WAY FOR STORAGE OF MATERIALS OR EQUIPMENT DURING CONSTRUCTION WITHOUT PRIOR CSXT APPROVAL. THE CSXT RIGHT-OF-WAY MUST ALWAYS REMAIN CLEAR FOR RAILROAD USE. EQUIPMENT MAY NOT BE POSITIONED TO BLOCK THE RAILROAD ACCESS ROAD, TRACK AREA OR ANY PART OF THE CSXT RIGHT-OF-WAY WITHOUT PRIOR CSXT APPROVAL.

CSXT SHALL BE NOTIFIED AT LEAST FIVE (5) DAYS IN ADVANCE OF THE PRE-CONSTRUCTION MEETING.

THE CONTRACTOR SHALL COORDINATE ALL WORK ON, OVER OR ADJACENT TO THE RAILROAD'S RIGHT-OF-WAY WITHIN THE PROJECT'S LIMITS. THE CONTRACTOR SHALL CONTACT CSX TRANSPORTATION AT LEAST THIRTY (30) DAYS IN ADVANCE TO COORDINATE THE NECESSARY WORK. UNDER NO CIRCUMSTANCES SHALL THERE BE ANY WORK WITHIN THE RAILROAD'S RIGHT-OF-WAY WITHOUT PROPER AUTHORIZATION AND/OR FLAG PROTECTION FROM THE RAILROAD.

ALL LIFTING EQUIPMENT AND CONNECTION DEVICES SHALL HAVE CAPACITY FOR 150% OF THE ACTUAL LIFTING LOAD, THE FACTOR OF SAFETY PROVIDED BY THE MANUFACTURER IN THE LIFTING CAPACITY DATA SHALL NOT BE CONSIDERED IN THE 150% REQUIREMENT.

ALL WASTE MATERIALS GENERATED BY THIS PROJECT, INCLUDING WASHING WITH CLEANING SOLVENTS, BLASTING, SCRAPING, BRUSHING AND/OR PAINTING OPERATIONS, SHALL BE THE RESPONSIBILITY OF THE AGENCY OR ITS CONTRACTOR, AND SHALL BE CONTAINED, COLLECTED AND PROPERLY DISPOSED OF BY THE AGENCY OR ITS CONTRACTOR. THE AGENCY AND ITS CONTRACTOR AGREE TO FULLY COMPLY WITH ALL FEDERAL, STATE, AND LOCAL ENVIRONMENTAL LAWS, REGULATIONS, STATUES AND ORDINANCES AT ALL TIMES.

DURING AS NECESSARY AND AT COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL CLEAR DRAINAGE DITCHES OF ALL DEBRIS TO THE SATISFACTION OF THE CSXT CONSTRUCTION ENGINEERING AND INSPECTION REPRESENTATIVE.

UPON COMPLETION OF THE WORK ON CSXT PROPERTY, THE CONTRACTOR SHALL REQUEST THE OWNER TO ARRANGE A FINAL INSPECTION OF THE PROJECT WITH THE RAILROAD'S PROJECT ENGINEER OR THEIR AUTHORIZED REPRESENTATIVE.

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GENERAL NOTES

PIK - CR50 - 2.55

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ITEM 614, MAINTAINING TRAFFIC (AT ALL TIMES)

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 150 CONSECUTIVE CALENDAR DAYS, WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEET 5. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF \$1700 PER DAY FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

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.

NOTICE OF CLOSURE SIGNS (W20-H13) SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD OR RAMP CLOSURE IN ACCORDANCE WITH THE NOTICE OF CLOSURE TIME TABLE BELOW. AT THE APPROVAL OF THE ENGINEER, PORTABLE CHANGEABLE MESSAGE SIGNS MAY BE USED IN LIEU OF THE STANDARD FLATSHEET SIGN FOR CLOSURE DURATIONS OF LESS THAN 1 WEEK.

THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT OR NEAR THE POINT OF CLOSURE. THE SIGNS MAY BE ERECTED ANYWHERE ON RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.

ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
RAMP & ROAD CLOSURES	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	7 CALENDAR DAYS PRIOR TO CLOSURE
	< 12 HOURS	2 BUSINESS DAYS PRIOR TO CLOSURE

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN MMM-DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE. THE LAST LINE OF THE W20-H13 SIGN LISTS A PHONE NUMBER WHICH A MOTORIST MAY CALL FOR ADDITIONAL INFORMATION. THIS IS TO BE A SPECIFIC OFFICE WITHIN THE DISTRICT RATHER THAN THE GENERAL SWITCHBOARD NUMBER.

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

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER 1 M. GAL.

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 TO INFORM THE SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DISTRICT PUBLIC INFORMATION OFFICE (PIO). 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 SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

ITEM	DURATION OF CLOSURE	NOTICE DUE TO PERMITS & PIO
RAMP & ROAD CLOSURES	>= 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES & RESTRICTIONS	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	5 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO CLOSURE

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

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 PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 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) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

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

- DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC, OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF C&MS 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 AS APPROVED 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 FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION OR AT THE POINT OF ROAD CLOSURE, AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES.

LEOS 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 LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING 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.

ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&MS 614.03.

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. 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 RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (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 QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 40 HOURS

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

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED 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.

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GENERAL NOTES

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING:

TST-1-99 REVISED 01/15/2021

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

800 DATED 01/21/2022
866 DATED 04/21/2017

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN STRESSES:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (REINFORCED CONCRETE CAP).

CONCRETE CLASS QC5, WITH 3/8" IN MAX. AGGREGATE SIZE - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFTS).

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60KSI.

ANCHOR BAR TENDON - ASTM A722, TYPE II, GRADE 150, MINIMUM YIELD STRENGTH 150 KSI. (1/4" DIA. BAR TENDON)

STRUCTURAL STEEL - ASTM A572 GRADE 50, YIELD STRENGTH 50 KSI (BEARING PLATES)

STEEL PIPES OR TUBES - ASTM A53 OR A500 (ANCHOR COVERS AND TRUMPETS)

LATERALLY LOADED DRILLED SHAFTS:

KING PILE: THE MAXIMUM FACTORED LATERAL LOAD AND BENDING MOMENT TO BE SUPPORTED BY EACH DRILLED SHAFT ARE 23.6 KIPS, AND 63.0 KIP-FEET, RESPECTIVELY. THESE LOADS PRODUCE A MAXIMUM FACTORED BENDING MOMENT OF 312.1 KIP-FEET, AND A MAXIMUM FACTORED SHEAR OF 56.3 KIPS, WITHIN THE DRILLED SHAFT.

DEADMAN: THE MAXIMUM FACTORED LATERAL LOAD AND BENDING MOMENT TO BE SUPPORTED BY EACH DRILLED SHAFT ARE 68.3 KIPS, AND 0.0 KIP-FEET, RESPECTIVELY. THESE LOADS PRODUCE A MAXIMUM FACTORED BENDING MOMENT OF 226.8 KIP-FEET, AND A MAXIMUM FACTORED SHEAR OF 68.3 KIPS, WITHIN THE DRILLED SHAFT.

FRICTION DRILLED SHAFTS

THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 14.4 KIPS AT KING PILES. THE LOAD IS RESISTED BY FRICTIONAL SIDE RESISTANCE ALONG THE LENGTH OF THE DRILLED SHAFT AND BY TIP RESISTANCE. AT THE KING PILE, THE FACTORED SIDE RESISTANCE IS 22.9 KIPS, ASSUMED TO ACT ALONG THE BOTTOM 7 FEET OF THE DRILLED SHAFT, AND THE FACTORED TIP RESISTANCE IS 0 KIPS.

ITEM 524 - DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK, AS PER PLAN (KING PILE)
ITEM 524 - DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK, AS PER PLAN (DEADMAN)

THIS WORK CONSISTS OF FURNISHING AND INSTALLING DRILLED SHAFTS FOR SLOPE STABILITY REMEDIATION, COMPLETE IN PLACE. THE DRILLED SHAFTS ARE REINFORCED WITH REINFORCING STEEL CAGES. ALL ASSOCIATED TEMPORARY CASING, TEMPORARY GRADING, EXCAVATION AND INCIDENTALS SHALL BE INCLUDED IN THE BID PRICE FOR THE DRILLED SHAFTS. FURNISH AND INSTALL THE DRILLED SHAFTS IN ACCORDANCE WITH ODOT CMS ITEM 524 EXCEPT AS MODIFIED AND SUPPLEMENTED BELOW.

USE CLASS QC5 CONCRETE ACCORDING TO ODOT CMS 524.10. THE CONTRACTOR MAY PLACE THE CONCRETE UTILIZING THE FREE-FALL METHOD, PROVIDED THE DEPTH OF WATER IN THE BASE OF THE SHAFT IS LESS THAN 6 INCHES AND THE CONCRETE FALLS WITHOUT STRIKING THE SIDES OF THE HOLE OR THE REINFORCING CAGES.

SEQUENCE OF INSTALLATION:
THE INSTALLATION SEQUENCE SHALL BE SUCH THAT NO DRILLED SHAFT IS INSTALLED ADJACENT TO EITHER AN OPEN DRILLED SHAFT EXCAVATION OR A DRILLED SHAFT IN WHICH THE CONCRETE HAS HAD LESS THAN A 48 HOUR CURE. INSTALLING THE SHAFTS IN AN ALTERNATING SEQUENCE OR ANY OTHER SEQUENCE THAT MEETS THESE CRITERIA IS PERMISSIBLE.

PROTECTION OF UNATTENDED OPEN SHAFTS:
CARE SHALL BE EXERCISED AS TO COVER UNATTENDED OPEN SHAFTS. TEMPORARY COVERS SHALL BE OF ADEQUATE STRENGTH TO PREVENT A PERSON OR ANIMAL FROM FALLING IN. NO DRILLED SHAFT EXCAVATION SHALL BE LEFT UN-POURED OVERNIGHT. EXCAVATE THE HOLE FOR THE DRILLED SHAFT TO WITHIN 3 INCHES OF THE PLAN LOCATION IN THE HORIZONTAL PLANE.

THE BOTTOM OF THE DRILLED SHAFT EXCAVATION SHALL BE AS CLEAN AS PRACTICABLE PRIOR TO CONCRETE PLACEMENT. THE DRILLED SHAFT EXCAVATION SHALL BE INSPECTED BY THE ENGINEER IMMEDIATELY BEFORE THE CONCRETE IS PLACED. NO CONCRETE SHALL BE PLACED DURING INCLEMENT WEATHER CONDITIONS WHICH PROHIBIT A THOROUGH INSPECTION. CONCRETE SHALL BE PLACED THE SAME DAY AS EXCAVATION IS COMPLETED. 6" DIAMETER ANCHOR SLEEVE AND 4" DIAMETER NON-PCPP (KING PILE ONLY) SHALL BE INSTALLED PRIOR TO POURING DRILLED SHAFT CONCRETE. ENSURE THE ENDS OF THE SLEEVE AND PIPE ARE SEALED TO PREVENT CONCRETE FROM ENTERING EITHER OPENING.

A SONOTUBE MAY BE NEEDED TO AID IN FORMING THE TOP SECTION OF THE DRILLED SHAFTS THAT ARE EXPOSED TO OPEN AIR AND ARE NOT ENTIRELY ENCASED IN SOIL. THE CONTRACTOR MAY USE OTHER MEANS AND METHODS TO COMPLETE THIS WORK, TO BE APPROVED BY THE ENGINEER.

DO NOT DISPOSE OF DRILLED SHAFT SPOILS OR DRILLING FLUIDS DOWN SLOPE OR STORE ON THE ROADWAY. DRILLING SPOILS SHALL BE REMOVED FROM THE SITE THE SAME DAY THEY ARE EXCAVATED.

ACCESS:
ANY TEMPORARY GRADING, AGGREGATE, DRAINAGE, ETC. NEEDED FOR ACCESS TO THE WORK AREA SHALL BE INCLUDED IN THE BID PRICE FOR THE DRILLED SHAFTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS AND METHODS USED TO CONSTRUCT THE DRILLED SHAFTS.

EXISTING ROADWAY DRAINAGE:
PRIOR TO BEGINNING ANY DRILLED SHAFT WORK, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY, LOCATE, AND PROTECT ALL EXISTING LATERAL DRAINAGE PIPES FOR THE ROADWAY THAT MAY CROSS THE DRILLED SHAFT WALL ALIGNMENT. IF IT IS DETERMINED THAT THE DRILLED SHAFT LOCATIONS INTERFERE WITH ANY EXISTING DRAINAGE PIPES, THE CONTRACTOR SHALL INFORM THE ENGINEER TO DETERMINE THE CORRECTIVE ACTION.

METHOD OF MEASUREMENT: DRILLED SHAFTS 'ABOVE BEDROCK' AS PER PLAN WILL BE MEASURED ALONG THE AXIS OF THE DRILLED SHAFT FROM THE TOP OF SHAFT ELEVATION OR EXISTING GROUND SURFACE (WHICHEVER IS HIGHER) TO THE BOTTOM ELEVATION OF DRILLED SHAFT LISTED IN THE PLANS. ALL EQUIPMENT, MATERIALS, LABOR AND INCIDENTALS REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED. PAYMENT FOR THE DRILLED SHAFTS WILL BE MADE AT THE CONTRACT BID UNIT PRICE FOR: ITEM 524 - DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK, AS PER PLAN.

ITEM 524 - DRILLED SHAFTS, MISC.: 36" DIAMETER, UNREINFORCED (PLUG PILE)

THESE DRILLED SHAFTS SHALL BE NON-STRUCTURAL "UNREINFORCED DRILLED SHAFTS" SERVING THE PURPOSE OF LAGGING.

USE CLASS QC5 CONCRETE ACCORDING TO ODOT CMS 524.10. THE CONTRACTOR MAY PLACE THE CONCRETE UTILIZING THE FREE-FALL METHOD, PROVIDED THE DEPTH OF WATER IN THE BASE OF THE SHAFT IS LESS THAN 6 INCHES AND THE CONCRETE FALLS WITHOUT STRIKING THE SIDES OF THE HOLE.

THIS WORK SHALL BE PER ITEM 524 EXCEPT REINFORCING WILL NOT BE USED IN THE SHAFT. EACH UNREINFORCED DRILLED SHAFT SHALL BE CENTERED BETWEEN EACH REINFORCED 36" DIAMETER KING PILE. THE UNREINFORCED DRILLED SHAFTS SHALL BE 7' IN LENGTH, AND BACKFILLED WITH UNREINFORCED CLASS QC5 CONCRETE.

PAYMENT FOR LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS FOR THE ABOVE SHALL BE INCLUDED IN THE CONTRACT BID UNIT PRICE FOR: ITEM 524 - DRILLED SHAFTS, MISC.: 36" UNREINFORCED (PLUG PILE).

ITEM 203 - GRANULAR MATERIAL TYPE E, AS PER PLAN, NO. 89 AGGREGATE

BACKFILL THE EXCAVATION REQUIRED TO INSTALL THE DEADMAN ANCHOR WITH NO. 89 AGGREGATE UP TO THE BOTTOM OF THE ROADWAY SUBGRADE. COMPACTION OPERATIONS SHALL BEGIN ONCE THE BAR TENDONS HAVE BEEN BURIED ONE FOOT AND SHALL CONTINUE IN 6" LIFTS UP TO THE BOTTOM OF ROADWAY SUBGRADE.

FOR THE QUANTITY LISTED IN THE PLANS THE TRENCH REQUIRED TO INSTALL THE ANCHOR WAS ESTIMATED TO BE 1'-6" WIDE AND EXTEND 6" BELOW THE ANCHOR ELEVATION. EXCAVATION FOR TRENCH TO BE INCLUDED WITH ITEM 503 - UNCLASSIFIED EXCAVATION FOR PAYMENT.

ITEM 866 - GROUND ANCHORS, AS PER PLAN, 33 KIP MAX. TEST LOAD

THIS WORK CONSISTS OF FURNISHING AND INSTALLING DEADMAN BAR TENDONS, DRILLED SHAFT SLEEVES, CORROSION PROTECTION MATERIALS (INCLUDING GROUT), BEARING PLATES, TRUMPETS, ANCHOR NUTS, AND ANCHOR COVERS IN ACCORDANCE WITH ODOT SUPPLEMENTAL SPECIFICATION (SS) 866 EXCEPT AS MODIFIED AND SUPPLEMENTED BELOW.

PERFORMANCE AND EXTENDED CREEP TESTS ARE NOT REQUIRED. A PROOF TEST PER SS 866.06 SHALL BE PERFORMED ON EACH ANCHOR WITH AN LRFD FACTORED DESIGN LOAD OF 33 KIPS. THE ANCHOR LOCKOFF LOAD IS 22 KIPS.

THE BAR TENDONS SHALL BE INSTALLED AT A ZERO DEGREE INCLINATION ANGLE IN THE LOCATIONS SHOWN IN THE PLANS.

THE INSTALLATION OF THE ANCHORS SHALL BE SUCH THAT NO ANCHOR IS INSTALLED ADJACENT TO AN OPEN TRENCH FOR AN ADJACENT ANCHOR. INSTALLING THE ANCHORS IN AN ALTERNATING SEQUENCE OR ANY OTHER SEQUENCE THAT MEETS THESE CRITERIA IS PERMISSIBLE.

INSTALL THE ANCHORAGE USING THE UNBONDED CORROSION PROTECTION METHOD IN SS 866 FOR THE ENTIRE LENGTH OF THE BAR TENDON. THE ANCHORAGE COVER AND BEARING PLATE AT THE KING PILE CONNECTION LOCATION SHALL BE GALVANIZED. THE ANCHOR CONNECTION AND BEARING PLATE AT THE DEADMAN SHALL BE ENCASED IN CONCRETE AS SHOWN IN THE PLANS.

THE ANCHOR SHALL BE INSTALLED SUCH THAT IT CAN BE RESTRESSED AFTER INSTALLATION FROM THE KING PILE CONNECTION LOCATION. FILL THE TRUMPET AND ANCHORAGE COVER WITH CORROSION INHIBITING COMPOUND INSTEAD OF GROUT AFTER TESTING. PROVIDE A SEAL BETWEEN THE TRUMPET AND THE CORROSION PROTECTION IN THE UNBONDED LENGTH OF THE BAR TENDON TO PREVENT THE CORROSION INHIBITING COMPOUND FROM LEAKING.

ALL MATERIALS, LABOR, AND INCIDENTALS NECESSARY TO FURNISH AND PLACE THE DEADMAN GROUND ANCHORS SHALL BE INCLUDED IN ITEM 866 - GROUND ANCHORS, 33 KIP MAX. TEST LOAD, AS PER PLAN.

ITEM 524 - DRILLED SHAFTS, MISC.: DEMONSTRATION DRILLED SHAFT

PART 1: DESCRIPTION

THIS WORK CONSISTS OF ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS TO CONSTRUCT A DEMONSTRATION KING PILE DRILLED SHAFT, DEADMAN DRILLED SHAFT AND GROUND ANCHOR FOR TESTING AND EVALUATION TO VERIFY THE PROPOSED CONSTRUCTION METHODS FOR THE PRODUCTION DRILLED SHAFTS AND GROUND ANCHORS.

COMPLETE THE INSTALLATION OF THE DEMONSTRATION DRILLED SHAFTS WITHIN 75 DAYS OF CONTRACT AWARD DATE. THE DEPARTMENT WILL CONSIDER THE DEMONSTRATION DRILLED SHAFT INSTALLATION COMPLETE AFTER RECEIVING WRITTEN ACCEPTANCE FROM THE ENGINEER.

PART 2: MATERIALS

THE DEMONSTRATION DRILLED SHAFT SHALL USE THE SAME CONCRETE MIX DESIGN AND STEEL REINFORCEMENT AS THE PRODUCTION DRILLED SHAFTS. THE MATERIALS FOR THE GROUND ANCHOR SHALL BE THE SAME AS SPECIFIED IN THE PLANS.

PART 3: EXECUTION
SUBMIT A DRILLED SHAFT AND GROUND ANCHOR INSTALLATION PLAN AND ANCHOR TESTING PLAN TO THE ENGINEER FOR ACCEPTANCE IN ACCORDANCE WITH THE REQUIREMENTS OF C&MS 524.03 AND SS 866.04. CONSTRUCT AT LEAST ONE DEMONSTRATION KING PILE DRILLED SHAFT, DEADMAN, AND GROUND ANCHOR IN THE AREA SHOWN ON THE PLANS AND IN ACCORDANCE WITH THE ACCEPTED WRITTEN INSTALLATION. UPON CONSTRUCTION OF THE DEMONSTRATION DRILLED SHAFTS AND GROUND ANCHOR, AND RECEIPT OF TESTING AND EVALUATION RESULTS CONFIRMING THE DEMONSTRATION DRILLED SHAFTS AND GROUND ANCHORS HAVE BEEN INSTALLED IN ACCORDANCE WITH CONTRACT DOCUMENTS, THE ENGINEER WILL ISSUE A LETTER ACCEPTING THE INSTALLATION PLAN FOR THE CONSTRUCTION OF THE SUBSEQUENT PRODUCTION DRILLED SHAFTS AND GROUND ANCHORS.

IF MODIFICATION(S) TO THE INSTALLATION PLAN ARE MADE, WHETHER DUE TO THE TESTING AND EVALUATION RESULTS OR FOR OTHER REASON, THE DEPARTMENT WILL REQUIRE CONSTRUCTION OF ADDITIONAL DEMONSTRATION DRILLED SHAFTS AND GROUND ANCHORS CONSTRUCTED IN ACCORDANCE WITH THE MODIFIED INSTALLATION PLAN, AT NO ADDITIONAL COST. THE DIAMETER, LENGTH, REINFORCING, INSTALLATION METHODS, AND OTHER MISCELLANEOUS DETAILS OF THE DEMONSTRATION SHAFT SHALL BE THE SAME AS THE PRODUCTION DRILLED SHAFTS.

SUBMIT THE LOCATION OF THE DEMONSTRATION SHAFTS TO THE ENGINEER FOR ACCEPTANCE. LOCATE THE DEMONSTRATION DRILLED SHAFTS SUCH THAT NO INTERFERENCE OCCURS WITH THE FOUNDATIONS OF EXISTING OR PROPOSED STRUCTURES, THE PROPOSED MAINTENANCE OF TRAFFIC, OR EXISTING OR PROPOSED UTILITIES.

PART 4: MEASUREMENT AND PAYMENT
THE DEPARTMENT WILL MEASURE DEMONSTRATION DRILLED SHAFTS BY THE NUMBER OF FEET, MEASURED ALONG THE AXIS OF THE DRILLED SHAFT FROM THE REQUIRED BOTTOM ELEVATION OF THE SHAFTS TO THE PROPOSED TOP PLAN ELEVATION. PAYMENT FOR THE GROUND ANCHOR, INCLUDING EXCAVATION AND GRANULAR MATERIAL TYPE E, WILL BE INCLUDED IN THE PER FOOT COST OF THE DEMONSTRATION DRILLED SHAFTS.

IN ADDITION TO THE PROVISIONS OF C&MS 524.17, THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES OF DEMONSTRATION DRILLED SHAFT AFTER INSTALLATION OF THE DEMONSTRATION SHAFT AND AFTER BEING PROVIDED WITH WRITTEN TESTING AND EVALUATION RESULTS ACCEPTABLE TO THE ENGINEER.

THE CONTRACT PRICE IS FULL COMPENSATION FOR FURNISHING AND INSTALLING DRILLED SHAFTS IN ACCORDANCE WITH THE ABOVE REQUIREMENTS, INCLUDING MOBILIZATION, SITE ACCESS, AND FINAL REMOVAL OF THE SHAFT TO 36 INCHES BELOW FINAL GRADE.

THE DEPARTMENT WILL NOT PAY FOR TESTING AND EVALUATION FOR ADDITIONAL DEMONSTRATION DRILLED SHAFTS.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS FOLLOWS: ITEM 524 - DRILLED SHAFTS, MISC.: DEMONSTRATION DRILLED SHAFT.

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN

TEMPORARY SHORING SHALL BE PLACED AND LEFT IN PLACE WHERE EXCAVATIONS ARE GREATER THAN 4' AND LEFT IN PLACE. VIBRATORY AND OR PERCUSSIVE INSTALLATION TECHNIQUES SHALL NOT BE PERMITTED.

REVISION #1
9/13/23

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