

GENERAL NOTES

FHWA REGION	STATE	PROJECT	
5	OHIO		

5
38

LAKE COUNTY
LAK-44-4.14

ROADWAY

TYPE 5 GUARDRAIL POST SPACING

WHEN THE OFFSET BETWEEN THE FACE OF GUARDRAIL AND BRIDGE PIERS OR OTHER FIXED OBJECTS IS LESS THAN 4 FEET THE GUARDRAIL SHALL BE STIFFENED BY PROVIDING 3 FT. 1-1/2 INCH POST SPACING FROM 12.5 FEET IN ADVANCE OF THE OBSTRUCTION TO THE END OF THE OBSTRUCTION. COST INCLUDED IN THE TYPE 5 UNIT BID PRICE.

GUARDRAIL PROTECTION

NO SIGN SUPPORTS SHALL BE ERECTED BEFORE THE NECESSARY GUARDRAIL PROTECTION IS IN PLACE. SIMILARLY EXISTING GUARDRAIL WHICH PROTECTS AN OBSTRUCTION OR SLOPE WHICH IS TO BE UPGRADED TO ELIMINATE GUARDRAIL, SHALL NOT BE REMOVED UNTIL THAT WORK HAS BEEN COMPLETED. EXISTING GUARDRAIL WHICH IS SCHEDULED TO BE REPLACED WITH TYPE 5 GUARDRAIL, SHALL NOT BE REMOVED UNTIL THE NEW GUARDRAIL IS READY TO BE INSTALLED. UNDER NO CIRCUMSTANCES SHALL ANY HAZARD BE WITHOUT GUARDRAIL PROTECTION FOR MORE THAN 24 HOURS. (SEE SAFETY NOTE, SHEET 12)

LOCATIONS OF GUARDRAIL

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

SEQUENCE OF OPERATIONS FOR GUARDRAIL INSTALLATION

A. RAMP GUARDRAIL

GUARDRAIL WORK ALONG RAMPS MAY BE PERFORMED AT ANY TIME

C. GUARDRAIL ADJACENT TO MAINLINE LANES

1. COMPLETE ALL ITEM 848 RESURFACING COURSES
2. REMOVE EXISTING GUARDRAIL (INSTALL TEMPORARY CONCRETE BARRIER AT HAZARDS - SEE PUBLIC SAFETY NOTES)
3. CONSTRUCT 4 FT. STRIP OF ITEM 301 - BITUMINOUS AGGREGATE BASE, AS PER PLAN ALONG OUTSIDE EDGE OF SHOULDER AS DETAILED ON SHEET NO. 29.
4. INSTALL NEW GUARDRAIL

RESTORATION OF DISTURBED AREAS ASSOCIATED WITH WORK FOR GUARDRAIL AND FENCE ITEMS

THE CONTRACTOR SHALL RESTORE ALL SEEDED AND SODDED AREAS, PAVED SHOULDERS, AND ALL OTHER DISTURBED SURFACES TO A CONDITION AT LEAST EQUAL TO THAT EXISTING BEFORE THIS WORK WAS STARTED. ALL REPLACEMENTS SHALL BE DONE IN ACCORDANCE WITH THE PERTINENT SPECIFICATION ITEMS AND AS DIRECTED BY THE ENGINEER. PAYMENT FOR ALL RESTORATION WORK, INCLUDING MATERIALS, EQUIPMENT, LABOR, INCIDENTALS AND DISPOSAL OF ALL SURPLUS MATERIALS, SHALL BE INCLUDED IN THE UNIT PRICES BID FOR VARIOUS 606 AND 607 ITEMS.

ITEM SPECIAL - DYNAFLECT TESTING OF EXISTING PAVEMENT

THIS ITEM OF WORK SHALL BE PERFORMED ON EACH PAVEMENT PANEL AND ON ALL TRANSVERSE PAVEMENT JOINTS AND DISTRESSED CRACKS. THE INFORMATION FROM THIS TESTING WILL BE ANALYZED BY THE ENGINEER TO DETERMINE ALL PAVEMENT PANEL AND JOINT REPAIR LOCATIONS, AND PAVEMENT SUBSEALING LOCATIONS.

THE DYNAFLECT IS A MOBILE ELECTROMECHANICAL DEVICE USED FOR INDUCING AND MEASURING PAVEMENT DEFLECTIONS. THE PAVEMENT DEFLECTIONS AT FIVE POINTS (W_1 , W_2 , W_3 , W_4 AND W_5) ARE MEASURED SIMULTANEOUSLY AT EACH TEST LOCATION.

ON EACH AND EVERY LANE THE FOLLOWING TESTS AND DATA ANALYSIS IS REQUIRED:

- 1) MID SLAB TEST - THE UNIT SHALL BE POSITIONED APPROXIMATELY MIDWAY BETWEEN ORIGINAL TRANSVERSE JOINTS AND RELATIVELY MIDWAY BETWEEN ANY TRANSVERSE CRACKS IN THE PAVEMENT. THE DEFLECTION READINGS SHALL BE TAKEN AND THE FOLLOWING INFORMATION SHALL BE DETERMINED;
 - A) SPREADABILITY = $SPR = \frac{W_1 + W_2 + W_3 + W_4 + W_5}{5 W_1} \times 100$
 - B) BASE INDICATOR = W_5
- 2) CRACK AND JOINT TESTS - THE UNIT SHALL BE POSITIONED SUCH THAT DEFLECTION SENSORS 1 AND 2 STRADDLE THE EXISTING TRANSVERSE PAVEMENT JOINT OR CRACK. THE DEFLECTION READINGS SHALL BE TAKEN AND THE FOLLOWING INFORMATION SHALL BE DETERMINED;
 - A) SURFACE CURVATURE INDEX = $SCI = W_1 - W_2$
 - B) SPREADABILITY = $S\&R$ (SEE ABOVE)
 - C) RELATIVE STRENGTH = $RS = W_1$ (TEST REQ'D ON BOTH SIDES OF THE JOINT)

AT EACH TEST LOCATION THE AFOREMENTIONED TEST INFORMATION SHALL BE PAINTED DIRECTLY ONTO THE PAVEMENT FOR EVALUATION BY THE ENGINEER. ("SPR" AND " W_5 " FOR MIDSLAB TESTS, "SCI", "SPR" AND BOTH W_1 VALUES FOR CRACK AND JOINT TESTS).

MAINLINE DYNAFLECT TESTING SHALL BE DONE BEHIND PERMANENT LANE CLOSURES. RAMPS MAY BE TESTED DURING PARTIAL LANE CLOSURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMARKING ANY TEST DATA WHICH IS OBLITERATED BY TRAFFIC PRIOR TO JOINT EVALUATION.

ALL DYNAFLECT TESTS MUST BE PERFORMED WHEN THE PAVEMENT IS COOL. DURING SUMMER, TESTS MUST BE PERFORMED DURING THE FIRST SEVERAL HOURS OF DAYLIGHT OR AT NIGHT. DURING SPRING OR FALL, TESTS MAY ALSO BE PERFORMED DURING OVERCAST DAYTIME HOURS. OUTSIDE TEMPERATURES SHOULD BE BELOW 70° F DURING TESTING. SUNLIGHT AND/OR HIGH TEMPERATURES CAUSE THE JOINTS TO "LOCK UP", SUBSEQUENTLY GIVING THE INDICATION OF A SOUND JOINT. TESTING SHALL BE SUSPENDED WHEN THIS OCCURS AND ANY QUESTIONABLE TEST AREA MUST BE RE-TESTED AFTER THE PAVEMENT RELEASES. PAVEMENT AREAS WHICH ARE SUBSEALED SHALL BE RE-TESTED TO DETERMINE THE EFFECTIVENESS OF THE SUBSEALING OPERATION.

PAYMENT FOR THIS ITEM OF WORK SHALL BE BASED ON THE NUMBER OF LANE-MILES TESTED. (SEE LANE MILE DEFINITION)

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS OUTLINED ABOVE.

ITEM SPECIAL - DYNAFLECT TESTING OF EXISTING PAVEMENT

9.4 LANE MILES

DITCH RESTORATION

THIS WORK SHALL CONSIST OF THE REMOVAL AND DISPOSAL OF SILT, VEGETATION, TREES AND OTHER LOOSE OR UNSUITABLE MATERIAL FROM THE EXISTING DITCHES. THE ORIGINAL DITCH CROSS SECTION AND GRADE SHALL BE RE-ESTABLISHED TO THE SATISFACTION OF THE ENGINEER. THE DITCHES SHALL BE SEEDED AND MULCHED AS PER ITEM 659 INCLUDING FERTILIZING AND LIMING. AFTER THE CROSS SECTIONS AND GRADES HAVE BEEN RE-ESTABLISHED.

THE LOCATIONS OF THIS WORK SHALL BE AS DIRECTED BY THE ENGINEER. PAYMENT FOR ITEM 203 - EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION, AS PER PLAN SHALL INCLUDE ALL COSTS OF REMOVAL, DISPOSAL AND RESTORATION WITH SEEDING AND MULCHING, FERTILIZING AND LIMING. MEASUREMENT WILL BE BY LOOSE VOLUME IN CARRIER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE UTILIZED AS OUTLINED ABOVE:

ITEM 203 - EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION, AS PER PLAN 50 C.Y.

FENCE REPLACEMENT

NEW TYPE CL FENCE SHALL REPLACE THE EXISTING FENCE IN THE EXACT LOCATIONS FROM WHICH THE EXISTING FENCE WAS REMOVED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD REFERENCING THE EXISTING FENCE LOCATIONS PRIOR TO REMOVAL.

CLEARING AND GRUBBING

CLEARING AND GRUBBING SHALL INCLUDE BUT NOT BE LIMITED TO CUTTING AND CLEARING AWAY BRANCHES, SHRUBS, AND WEEDS BLOCKING THE FACE OF THE RELOCATED SIGN AT STATION 283+20.

BRIDGE ANCHOR ASSEMBLY TYPE A

THIS ITEM REQUIRES THE USE OF POLYESTER RESIN ANCHORS WITH FEMALE THREADED INSERTS (10 INCHES LONG) TO ACCEPT 7/8 INCH DIAMETER BOLTS WHEN THE THRU BOLTS CAN NOT BE USED.