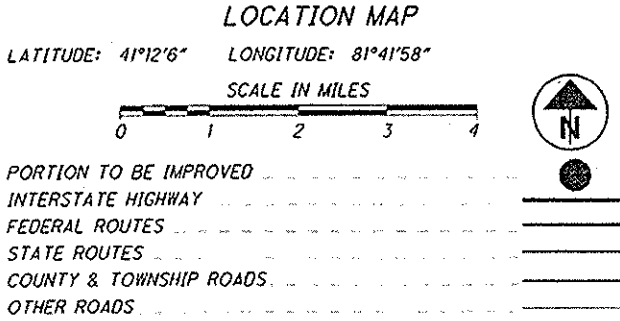
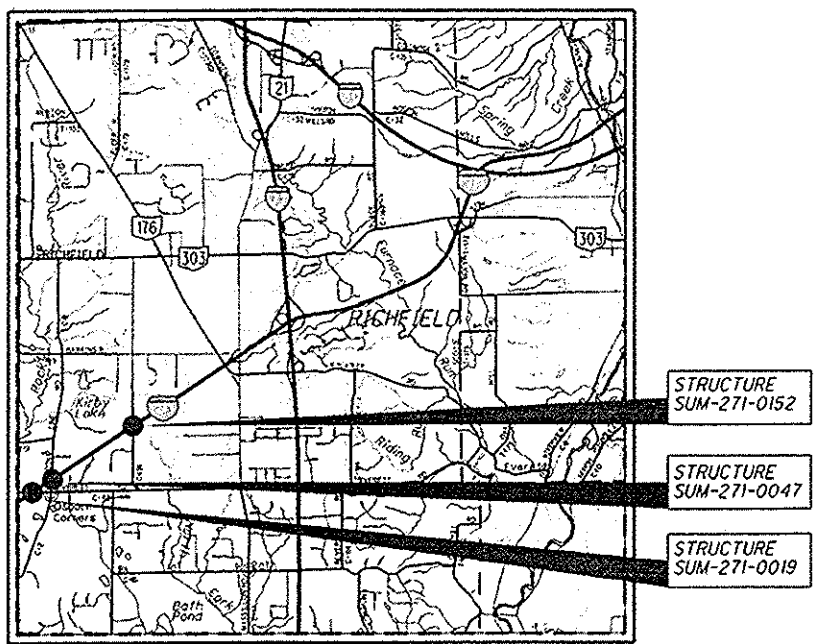


STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
**SUM-271/ 0.19 /
0.47 / 1.52**
RICHFIELD TOWNSHIP
SUMMIT COUNTY



DESIGN DESIGNATION

DESIGN FUNCTIONAL CLASSIFICATION:

RURAL INTERSTATE

NHS PROJECT

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

OHIO
Utilities Protection
SERVICE
(Non-members must be called directly)

Call Before You Dig
1-800-362-2764

OIL & GAS PRODUCERS
UNDERGROUND PROTECTION SERVICE
1-800-925-0988

PLAN PREPARED BY:

ODOT - DISTRICT 4 PLANNING & ENGINEERING

2088 SOUTH ARLINGTON RD.

AKRON OH, 44306

ENGINEERS SEAL:

SIGNED: *[Signature]*

DATE: 02-29-16

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-3.1	7/18/14			800-2013 7/15/16	
DM-4.1	1/15/16			821 4/20/12	
DM-4.3	1/15/16			843 4/15/03	
DM-4.4	1/15/16			847 7/17/15	
				921 4/20/12	
MT-97.10	7/18/14				
MT-99.20	7/19/13				
MT-101.60	7/19/13				
MT-101.90	7/17/15				
MT-105.10	7/19/13				
TC-41.20	10/18/13				
TC-52.10	10/18/13				
TC-52.20	7/18/14				

PROJECT DESCRIPTION

BRIDGE DECK CONCRETE OVERLAY ON STRUCTURE SUM-271-0152. SEAL TWO OVERHEAD STRUCTURE CONCRETE DECKS. ALL THREE STRUCTURES WILL BE PAINTED AND OTHER MISCELLANEOUS STRUCTURE REPAIRS.

PROJECT EARTH DISTURBED AREA: 0.00 ACRES

ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.25 ACRES

NOI DISTURBED AREA: N/A (MAINTENANCE PROJECT)

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.

2013 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 EXCEPT AS NOTED ON SHEETS 10-12, AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED *[Signature]*

DATE 3-2-16 DISTRICT DEPUTY DIRECTOR

APPROVED *[Signature]*

DATE 8-5-16 DIRECTOR, DEPARTMENT OF TRANSPORTATION

SUM - IR 271-00.19/00.47/01.52

160554 PID - 76404

Dist 4 10/20/2016

Contract Proposal Available @ www.Contracts.dot.state.oh.us/home

FEDERAL PROJECT NO.	E160(354)
PID NO.	76404
CONSTRUCTION PROJECT NO.	
RAILROAD INVOLVEMENT	NONE
SUM-271-0.19 / 0.47 / 1.52	
1	19

I:\Projects\SUM\76404_SUM-271-0.20_0.46_1.51\76404_Roadway\Sheets\76404GN001.dgn 29-FEB-2016 10:54 AM ccopelon

UTILITIES

THE CONTRACTOR SHALL USE THE FOLLOWING PROCEDURE AT EACH LOCATION WHERE WORK IS PERFORMED, IN ACCORDANCE WITH SECTIONS 105.07 AND 107.16 IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS.

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, THE OHIO UTILITIES PROTECTION SERVICE (OUPS), THE OHIO & GAS PROCEDURES UNDERGROUND PROTECTION SERVICE (OGPUPS), THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 4 HEAD-QUARTERS AND ALL NON REGISTERED UTILITY OWNERS AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION IN ALL AREAS. OUPS 1-800-362-2764 (CONTACT LIMITED BASIS PARTICIPANTS DIRECTLY) OGPUPS 1-800-925-0988 ODOT 330-786-3145 KEN GREENE

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE NOT SHOWN ON THE PLANS, BUT CAN BE OBTAINED FROM THE OWNERS OF THE UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES.

PROFILE AND ALIGNMENT

PLACE THE PROPOSED PAVEMENT TO FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. PLACE THE PROPOSED ASPHALT CONCRETE OVERLAY AS SHOWN ON THE TYPICAL SECTIONS.

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.

ITEM 606 - ANCHOR ASSEMBLY, TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

REFER TO THE MANUFACTURER'S INSTRUCTIONS 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 PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27.75 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 MATERIALS 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.

PAVEMENT MARKINGS

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AT ALL THREE STRUCTURES.

ITEM 642, CENTERLINE, 0.31 MILES
ITEM 642, EDGE LINE, 4", 0.62 MILES

COMMUNTIY NOTIFICATION

THE CONTRACTOR WILL ADVISE THE PROJECT ENGINEER A MINIMUM OF FOURTEEN (14) DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. THE CONTRACTOR MUST ALSO PROVIDE NOTIFICATION TO THE PROJECT ENGINEER A MINIMUM OF FOURTEEN (14) DAYS PRIOR TO ANY LANE RESTRICTIONS OR CLOSURES. THE PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO NOTIFY EMERGENCY SERVICES AND THE PUBLIC A MINIMUM OF FOURTEEN (14) DAYS PRIOR TO THE START OF PROJECT CONSTRUCTION. INCLUDED IN THIS NOTIFICATION WILL BE THE PROPOSED LANE RESTRICTIONS, ROAD CLOSURES AND DETOURS REQUIRED BY THE PROJECT.

GUARDRAIL REPLACEMENT

THE GUARDRAIL QUANTITY SHOWN IN THE TABLE BELOW HAS BEEN CARRIED TO THE GENERAL SUMMARY.

LOCATION	STRUCTURE		202		606	606	606	626
			GUARDRAIL REMOVED		BRIDGE TERMINAL ASSEMBLY REBUILT, TYPE F	GUARDRAIL, TYPE 5	ANCHOR ASSEMBLY, TYPE E	BARRIER REFLECTOR
			FT		EACH	FT	EACH	EACH
FWD LEFT	SUM-271-0019		150		1	87.5	1	2
FWD RIGHT	SUM-271-0019		112.5		1	48	1	2
REAR LEFT	SUM-271-0019		187.5		1	125	1	2
REAR RIGHT	SUM-271-0019		275		1	212.5	1	3
FWD RIGHT	SUM-271-0047		50				1	2
REAR RIGHT	SUM-271-0047		50				1	2
REAR LEFT	SUM-271-0047		50				1	2
REAR LEFT	SUM-271-0152		50				1	2
FWD LEFT	SUM-271-0152		50				1	2
FWD RIGHT	SUM-271-0152		50				1	2
TOTALS CARRIED TO GENERAL SUMMARY			1025		4	473	10	21

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.

ITEM 253 - PAVEMENT REPAIR

THIS ITEM SHALL BE USED AT EACH APPROACH OF STRUCTURE SUM-271-0152 (SOUTHERN RD).

A QUANTITY OF THIS ITEM SHALL BE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER. THIS ITEM SHALL CONSIST OF CUTTING AND REMOVING DETERIORATED PAVEMENT FULL DEPTH AND PLACING 12"± 301 ASPHALT CONCRETE BASE, PG64-22. THE MAXIMUM COMPACTED DEPTH OF ANY ONE LAYER SHALL BE 6 INCHES. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THIS ITEM SHALL BE PERFORMED AFTER THE COMPLETION OF MAINLINE PAVEMENT PLANING. ALSO, THIS ITEM SHALL COMMENCE WITHIN 7 DAYS OF THE COMPLETION OF MAINLINE PAVEMENT PLANING. IT IS NOT THE INTENT TO REPAIR EVERY DETERIORATED AREA WITHIN THE PROJECT. THE ENGINEER SHALL DETERMINE WHICH AREAS ARE TO BE REPAIRED. PAYMENT SHALL BE BASED ON THE ACTUAL NUMBER OF SQUARE YARDS OF PAVEMENT REMOVED AND REPLACED TO THE LIMITS DESIGNATED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

253, PAVEMENT REPAIR, 48 SQ YD

ITEM 304 - AGGREGATE BASE (FOR PAVEMENT REPAIR)

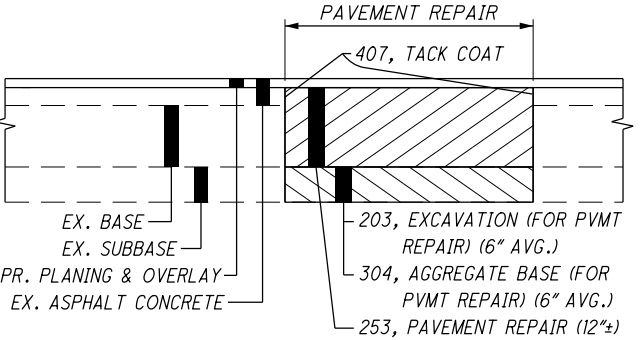
THE FOLLOWING ESTIMATED QUANTITY HAS BEEN PROVIDED AND SHALL BE USED AS DIRECTED BY THE ENGINEER TO BACKFILL AREAS WHICH WERE EXCAVATED UNDER ITEM 203 EXCAVATION (FOR PAVEMENT REPAIR). THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

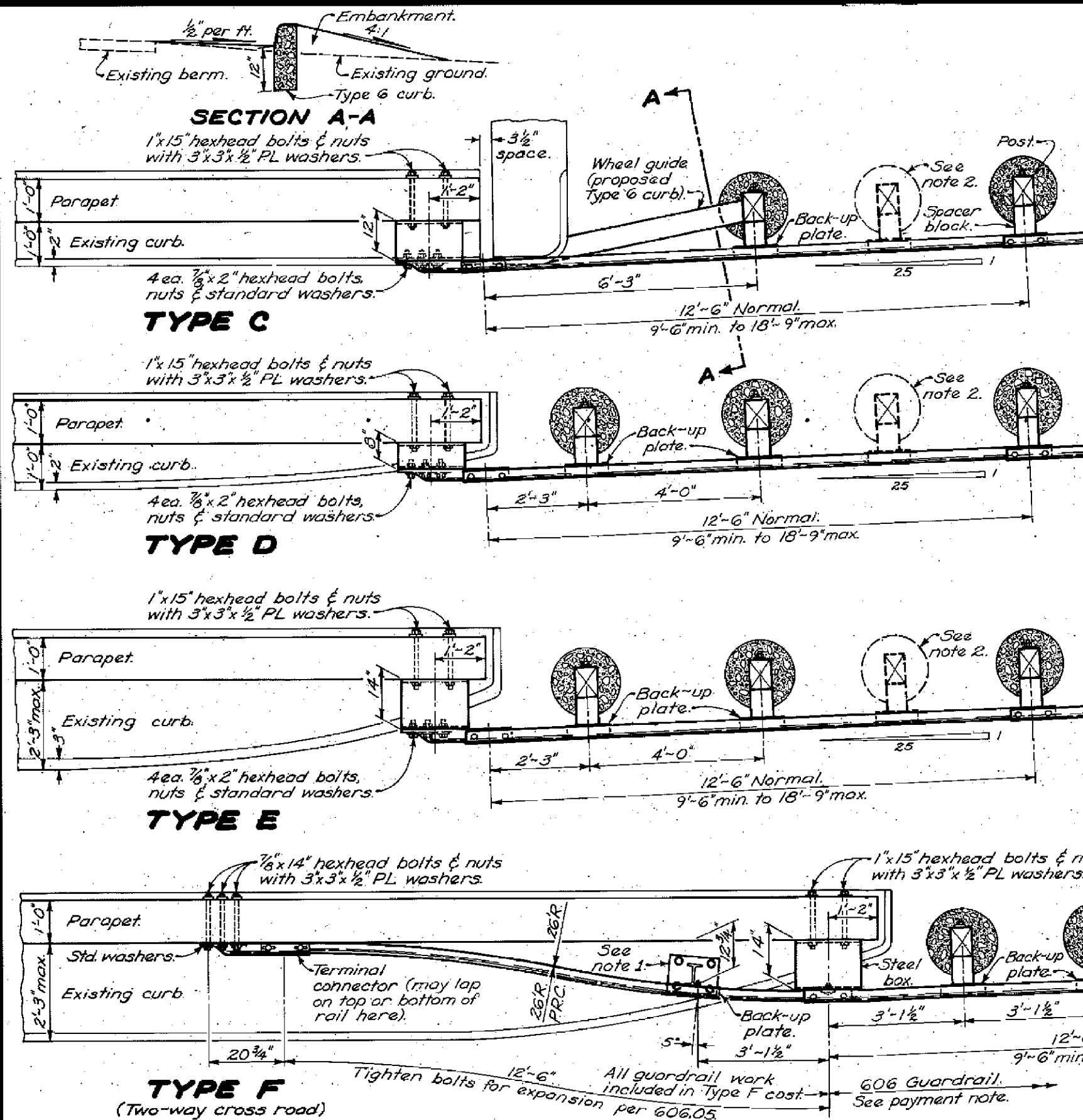
304, AGGREGATE BASE (FOR PAVEMENT REPAIR) 8 CU YD

ITEM 203 - EXCAVATION (FOR PAVEMENT REPAIR)

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AND DISPOSING OF ALL UNSUITABLE MATERIAL BY EXCAVATING THE EXISTING SUBGRADE AND SUBBASE TO AN AVERAGE DEPTH OF 6 INCHES OR AS DIRECTED BY THE ENGINEER. EXACT LIMITS OF REMOVAL SHALL BE DETERMINED BY THE ENGINEER. ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203 EXCAVATION (FOR PAVEMENT REPAIR). THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

203, EXCAVATION (FOR PAVEMENT REPAIR) 8 CU YD





NOTES

PAYMENT for item 606, each, Bridge terminal assembly, Type __, shall include the additional cost in excess of normal guardrail cost, such as: additional or heavier posts, concrete encasement, extra rail, steel box, curb, embankment, terminal connector, anchors and other hardware, etc.

FOR DETAILS not shown, see GR-1 and other Standard Construction Drawings pertaining to design of specific guardrail type.

GUARDRAIL TERMINATION as directed by the Engineer. The 12'-6" normal rail section may vary as shown to facilitate connection of or reconstruction of existing approach guardrail. The 1'-2" terminal connector location dimension may be increased to avoid existing parapet steel.

STEEL BOX of the appropriate size, galvanized after welding any two opposite corners, shall be mounted on the parapet so the rail top is 27" above the bridge deck.

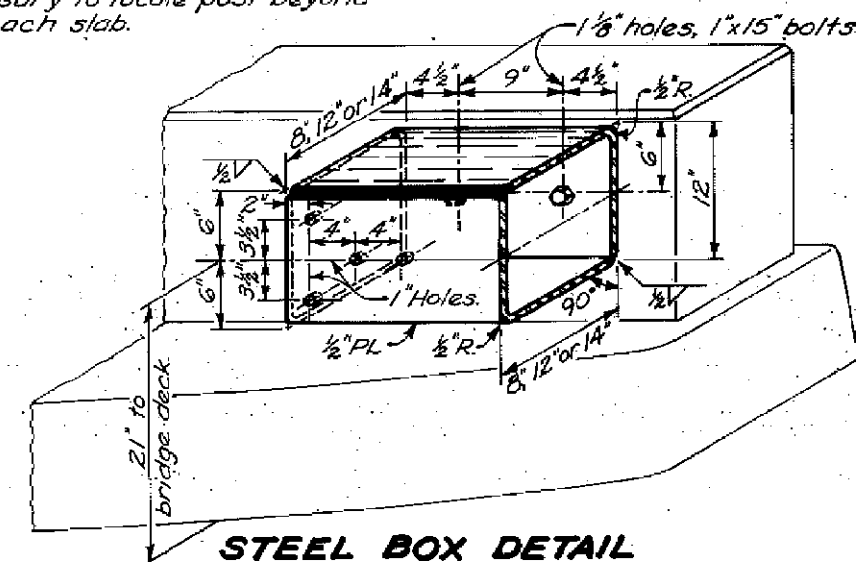
SPACER BLOCK size may be increased if necessary to locate post beyond wide approach slab.

POSTS shall be 6"x8" wood or 6"x15.5" steel (except note 1 post) of the same material type as used on approach guardrail, with 4" minimum concrete encasement.

NOTE 1: Use W6x8.5 inlet mounted post as detailed on GR-1 with length to mount rail top 27" above bridge deck.

NOTE 2: Place one additional encased post halfway between adjacent posts when the 12'-6" normal rail section is increased.

SELF-DRILLING ANCHORS meeting requirements of 712.01 with $\frac{3}{8}$ " x $1\frac{1}{2}$ " bolts, or 1" anchors per FF-S-325 Group II, Type 4, Class 1 or 2 with proof load certification per 712.01 may be substituted (in like diameter) for the $\frac{3}{8}$ " and 1" bolts shown in the parapets. Anchor installations not satisfactory to the Engineer shall be replaced with bolts as shown extending through the parapet or as directed by the Engineer.



BUREAU OF LOCATION AND DESIGN OHIO DEPARTMENT OF TRANSPORTATION

BRIDGE TERMINAL ASSEMBLIES

DATE
-6-76

STANDARD
CONSTRUCTION
DRAWING

GR-3A

APPROVED *M. Cunningham* ENGR., L.S.D.

GENERAL NOTES

0.47 / 1.52

NOTES

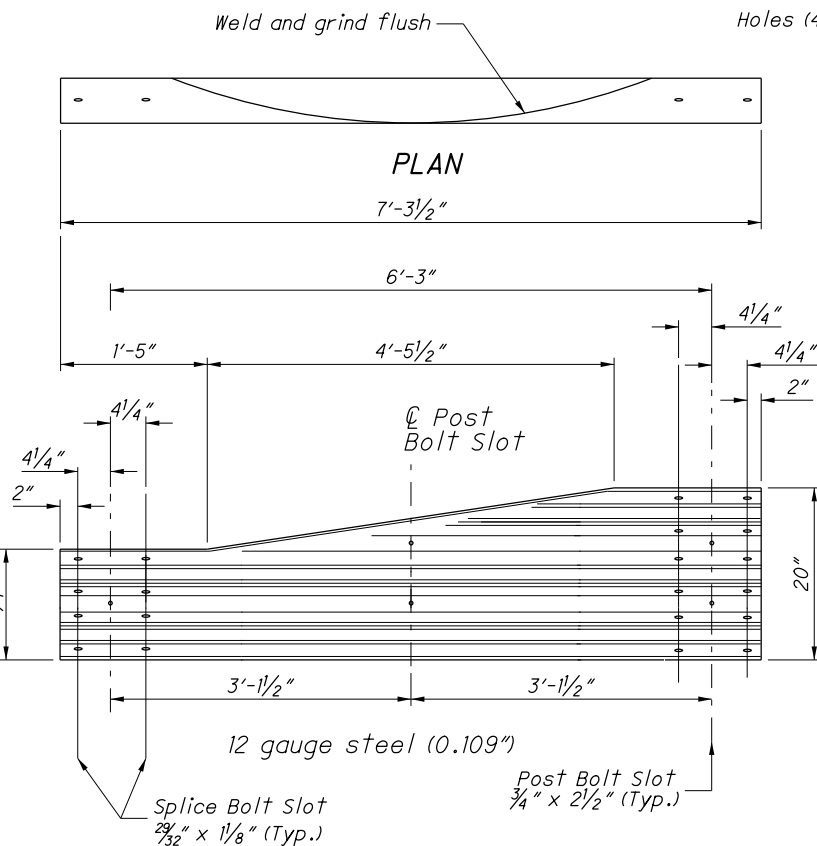
GENERAL: Components shown on this drawing are used in a variety of guardrail systems. See individual guardrail drawing for specific applications.

See CMS 606 for guardrail specifications not covered on these drawings.

Refer to AASHTO M 180 for dimensional details of W-Beam and Thrie-Beam rail elements, related buffer and end sections, beam splices, post and splice bolts, nuts, and Type 1 W-Beam Transition sections.

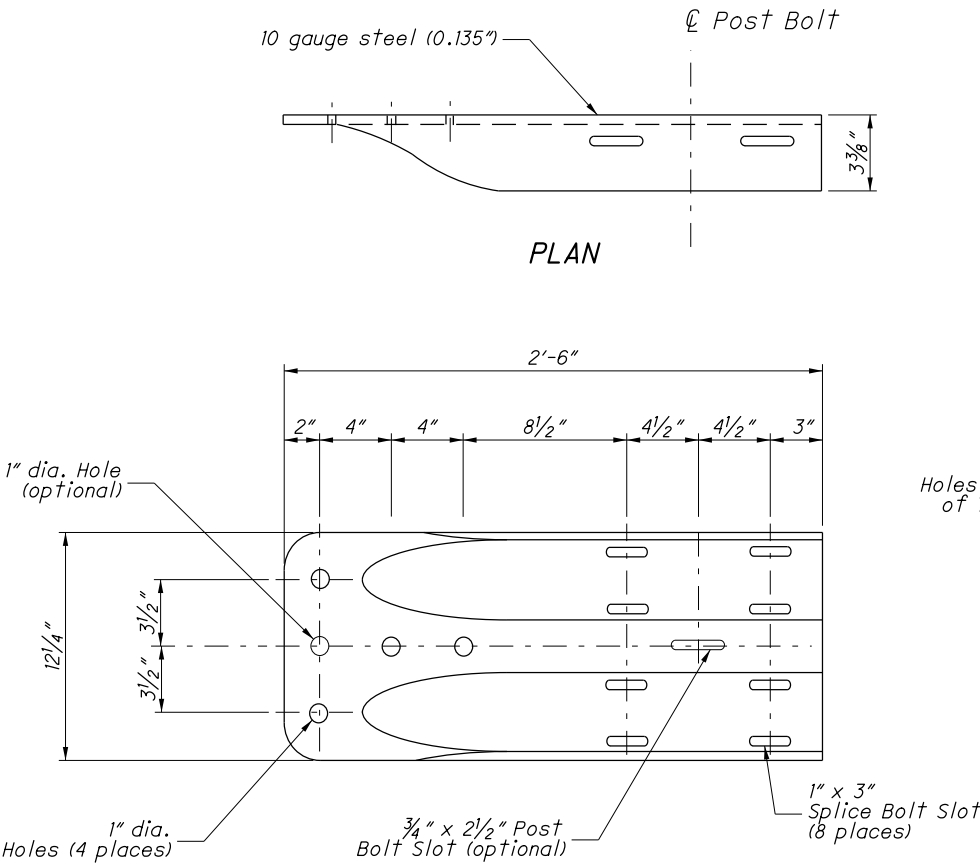
RAIL ELEMENTS: W-Beam Rail has an effective length of 12'-6" unless otherwise specified, with 3/4" x 2 1/2" post bolt slots on 6'-3" centers regardless of post spacing. Field punch or drill bolt holes or slots for irregularly spaced posts as specified in CMS 606.04.

RAIL SPLICES: Lap splices between two rail elements or between a rail and terminal connector in the direction of traffic. Lap the buffer or flared end sections in the direction of traffic.

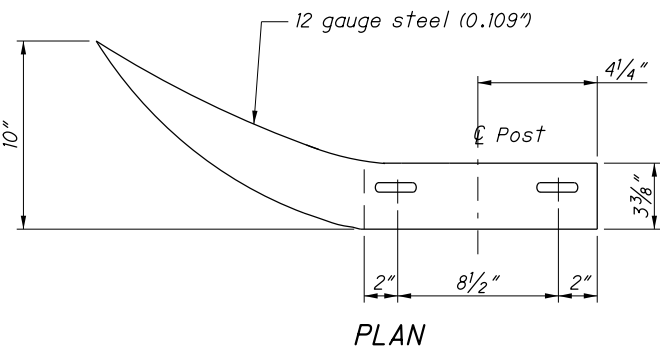


ELEVATION
TYPE 2 TRANSITION SECTION
(Asymmetric W to Thrie-Beam)

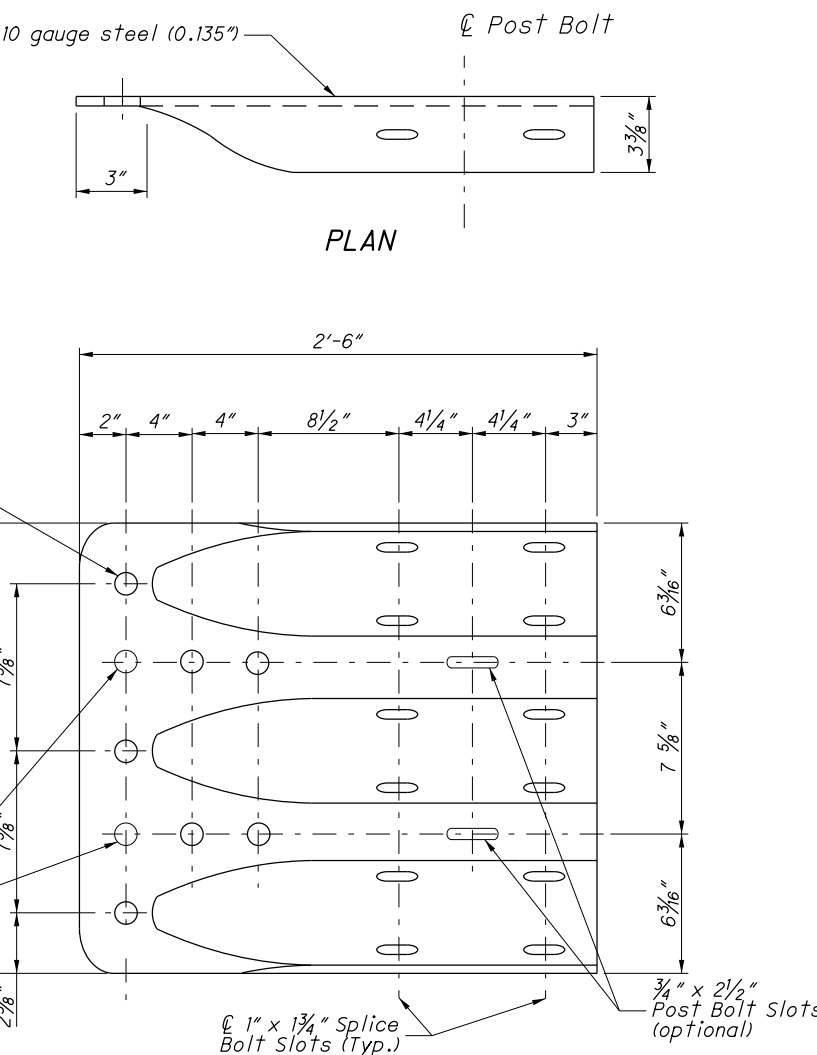
For details of Type 1 Transition Section (Symmetric), refer to AASHTO M 180, Figure 4.



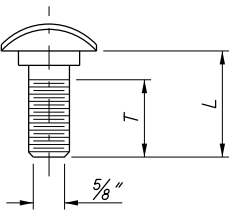
ELEVATION
W-BEAM TERMINAL CONNECTOR



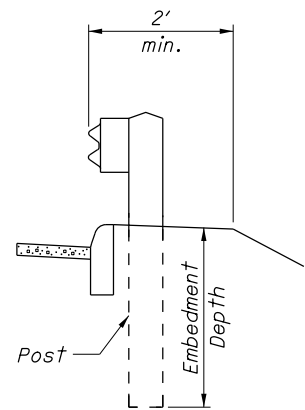
ELEVATION
W-BEAM FLARED END SECTION



ELEVATION
THRIE-BEAM TERMINAL CONNECTOR

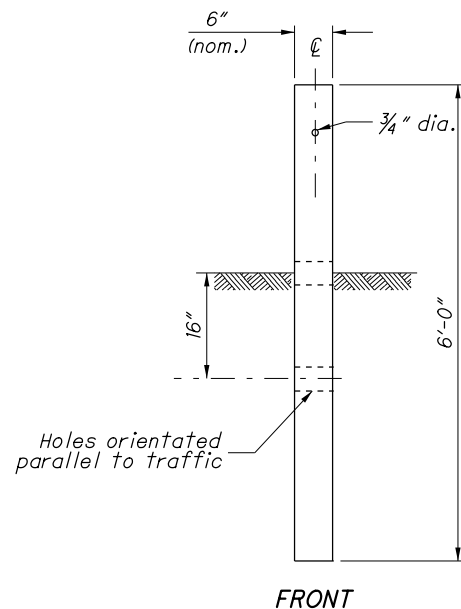


GUARDRAIL BOLT (For Post and Splice Bolts)		
L	T min.	Bolt Use
18" (Standard Rail)	4"	Type 5: WP/WB, PB
26" (Barrier Rail)		
10"	4"	Type 5: SP/WB, PB
1 1/4"	1 1/8"	Splice Bolt
WP = Wood Post WB = Wood Blockout SP = Steel Post PB = Plastic Blockout		
Longer Bolt may be needed for round Wood Post larger than 8" dia.		



DETAIL A

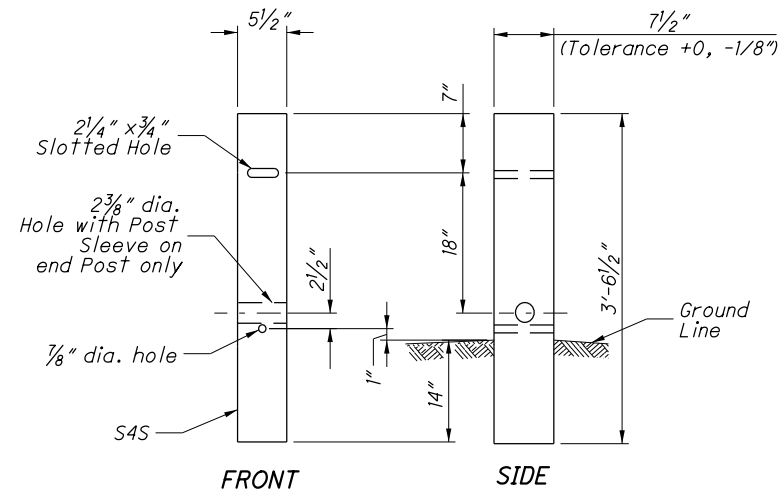
See POST EMBEDMENT DEPTH Note



FRONT

SIDE

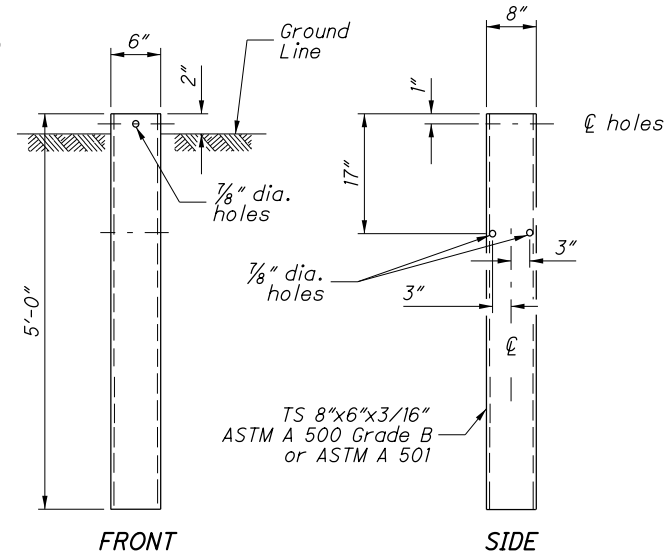
TYPE 1 BREAKAWAY CRT POST



FRONT

SIDE

TYPE 2 BREAKAWAY CRT POST



FRONT

SIDE

STEEL GROUND TUBE

NOTES

GUARDRAIL HEIGHT: For initial installation, construct the guardrail within $\pm 1"$ of the standard height, h , or **29"** to the top of W-Beam rail. (See MEASURING GUARDRAIL HEIGHT Detail.)
When subsequent projects, such as resurfacings, affect the height of existing guardrail, the finished height is to be within $\pm 2.5"$ of the standard height.

POST EMBEDMENT DEPTH: Standard embedment is 3'-5" min. Where less than 2' of graded shoulder width (10:1 or flatter) exists, measured from the face of the guardrail (see DETAIL "A"), use longer posts so that a minimum of 5'-5" embedment depth is provided. Payment for the longer posts will be made at the unit price bid for **ITEM 606 - GUARDRAIL POST, 9', Each**.

SPECIAL POST MOUNTINGS: Install posts located over a drainage inlet or structure as shown in the FOOTING ANCHOR Detail, or anchor per the details shown on **SCD GR-2.2**.

Install posts located over a footing with a cover of less than 2'-6" with a footing anchor as detailed here. (A plate, as detailed on SECTION B-B of **SCD GR-2.2**, may be used as an alternative attachment method.) Where the cover is between 2'-6" and 3'-5", the footing anchor may be omitted and the post encased instead with 4" (min.) of concrete.

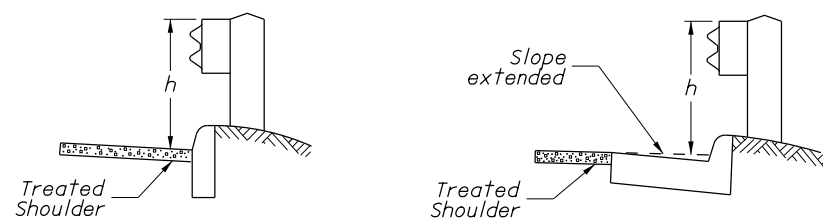
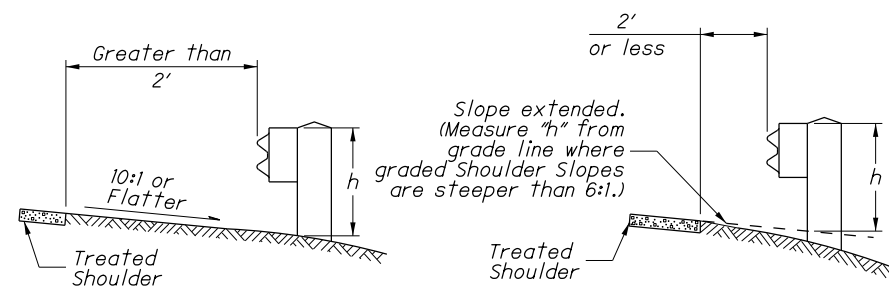
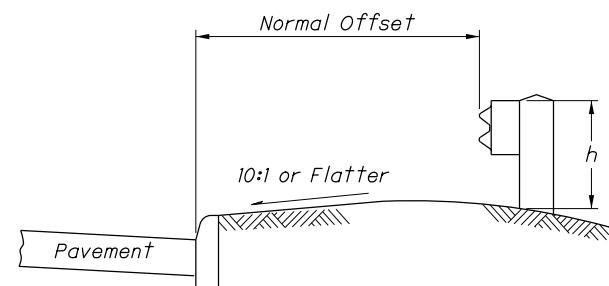
Do not drive posts located over a culvert with less than 4'-3" of cover; instead set in drilled or dug holes. Where the available post embedment depth is less than 3'-5", encase the post with a minimum of 4" concrete.

All costs associated with special post mountings are included in the unit price bid of Item 606 Guardrail of the type specified in the plans.

ANCHORS: Holes and grouting shall comply with CMS 510. Use either cement or non-shrink, nonmetallic grout.

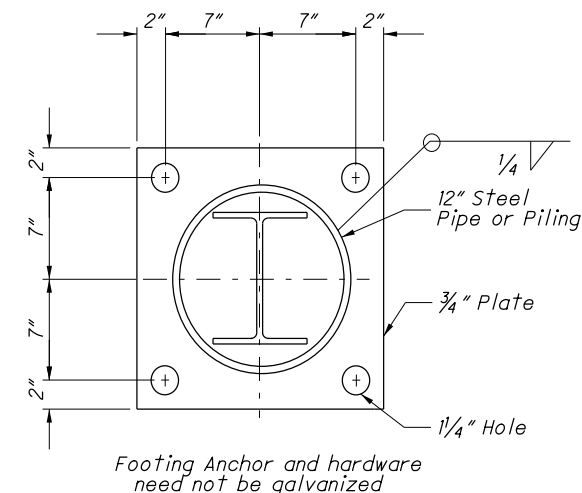
Expansion shield anchors as specified in CMS 712.01 may be substituted except where concrete deterioration has occurred, as determined by the Engineer. Where self-drilling anchors are used, drill the holes with the expansion shield (not by a drill bit) and install the shield flush with the concrete surface.

PROTECTIVE COATING: In lieu of the complying with CMS 710.06, coat expansion shields, anchors and concrete insert anchor assemblies embedded in concrete in accordance with ASTM A 153 or be of stainless steel. Any bolts screwed into these devices shall meet CMS 710.06. (See sheet 3 for Concrete Insert Anchor Assembly Detail.)

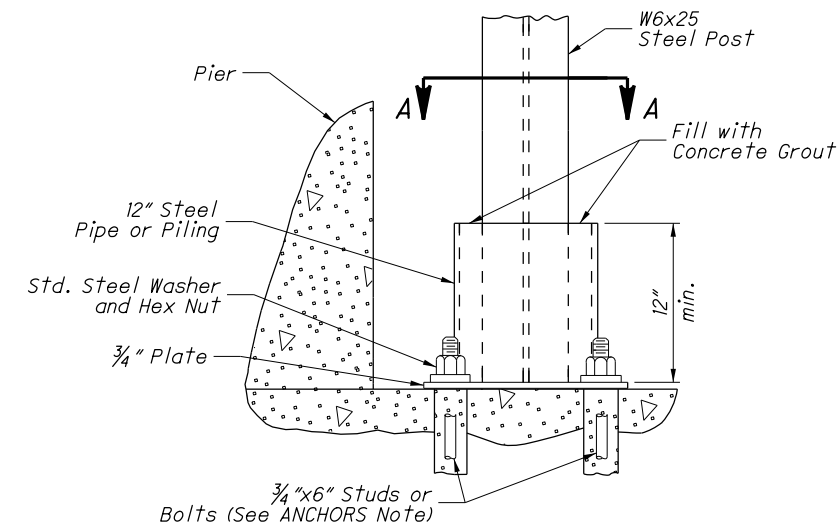


h = Standard Height (See GUARDRAIL HEIGHT Note)

MEASURING GUARDRAIL HEIGHT

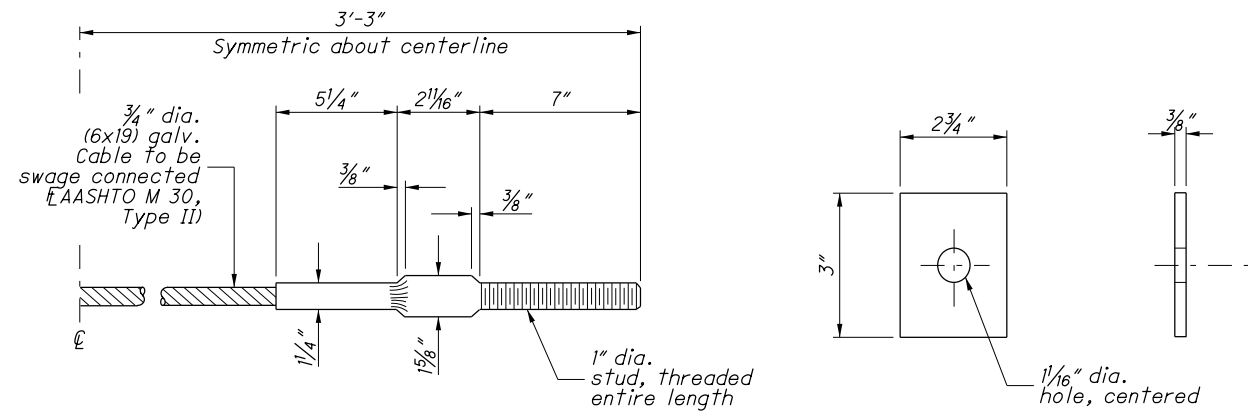


SECTION A-A



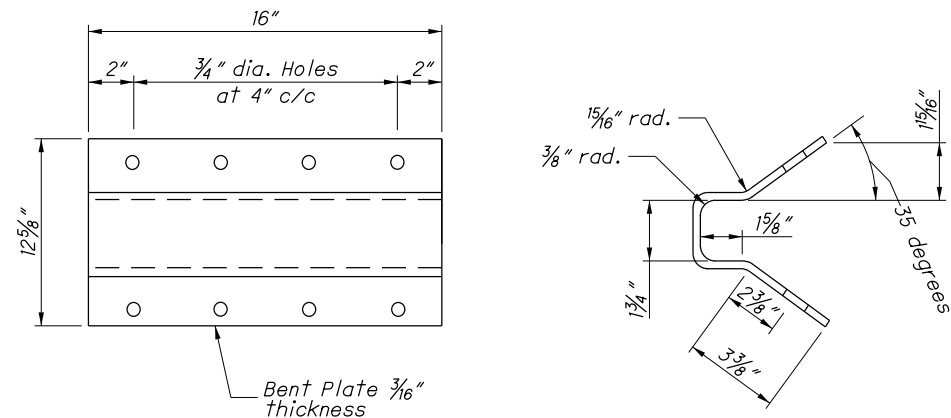
ELEVATION
FOOTING ANCHOR

See SPECIAL POST MOUNTINGS Note.

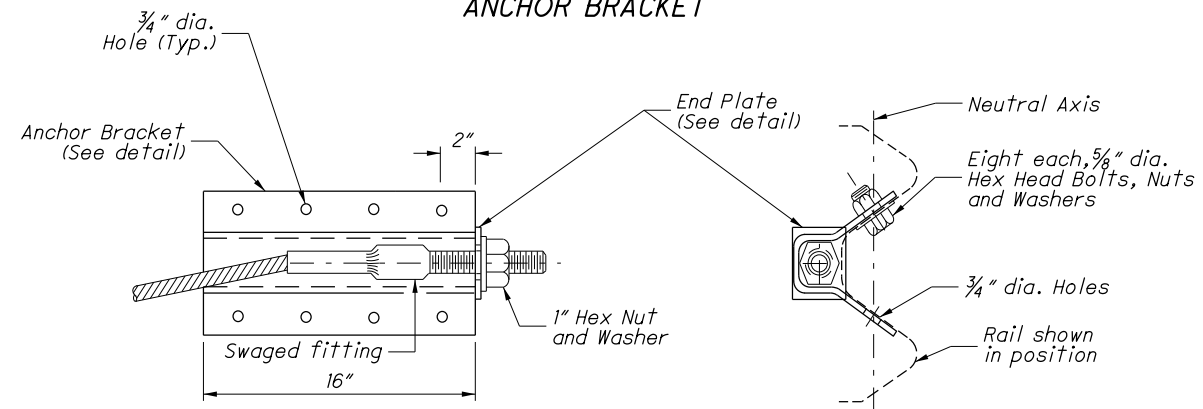


STANDARD SWAGED FITTING AND STUD
CABLE ANCHOR

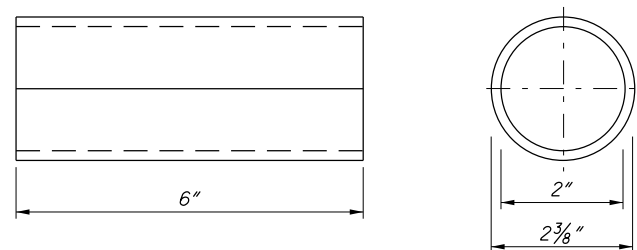
END PLATE



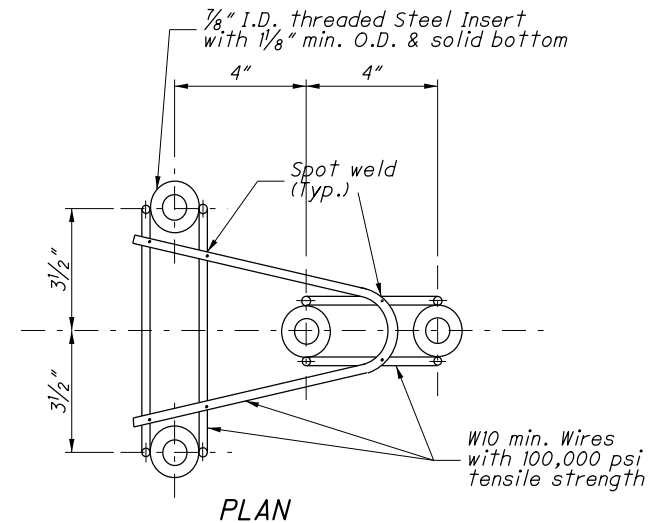
ANCHOR BRACKET



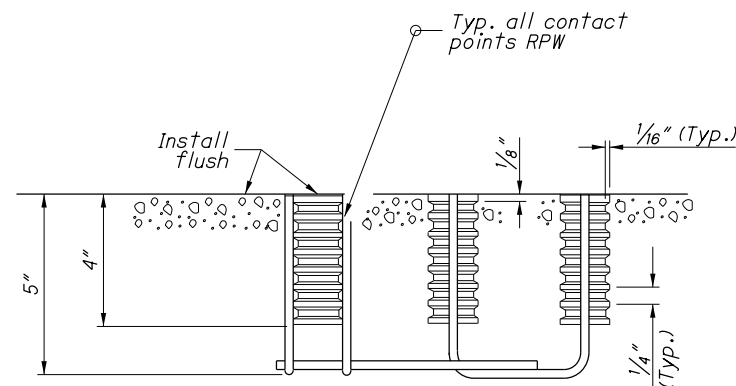
ANCHOR BRACKET ASSEMBLY DETAILS



POST SLEEVE



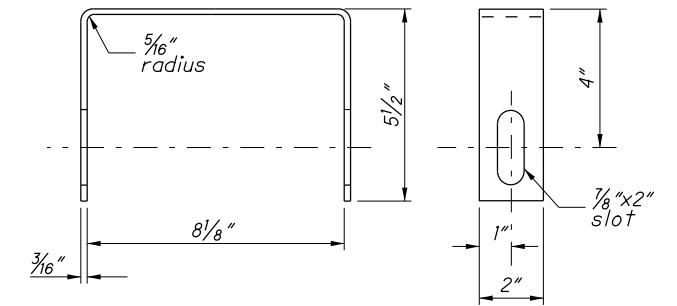
PLAN



Four 7/8" Bolts required
ELEVATION

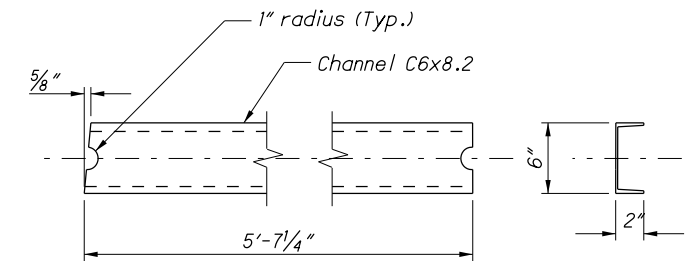
CONCRETE INSERT ANCHOR ASSEMBLY
(W-BEAM ONLY)

See ANCHORS and PROTECTIVE
COATINGS Notes on Sheet 2

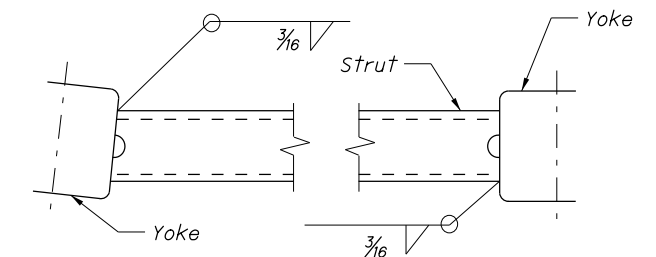


YOKE

Two required in Assembly

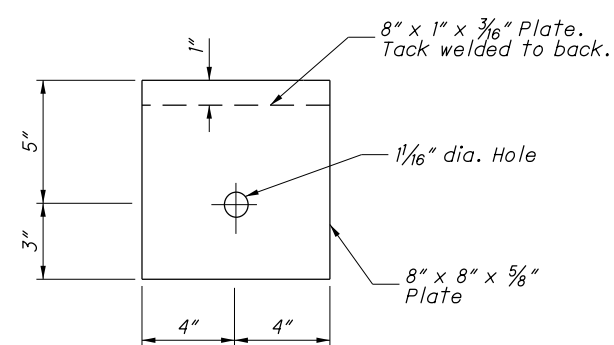


STRUT

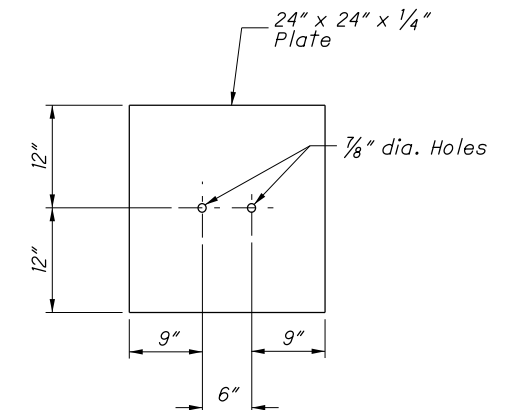


Channel legs shown down. For opposite
hand, install Channel legs up.

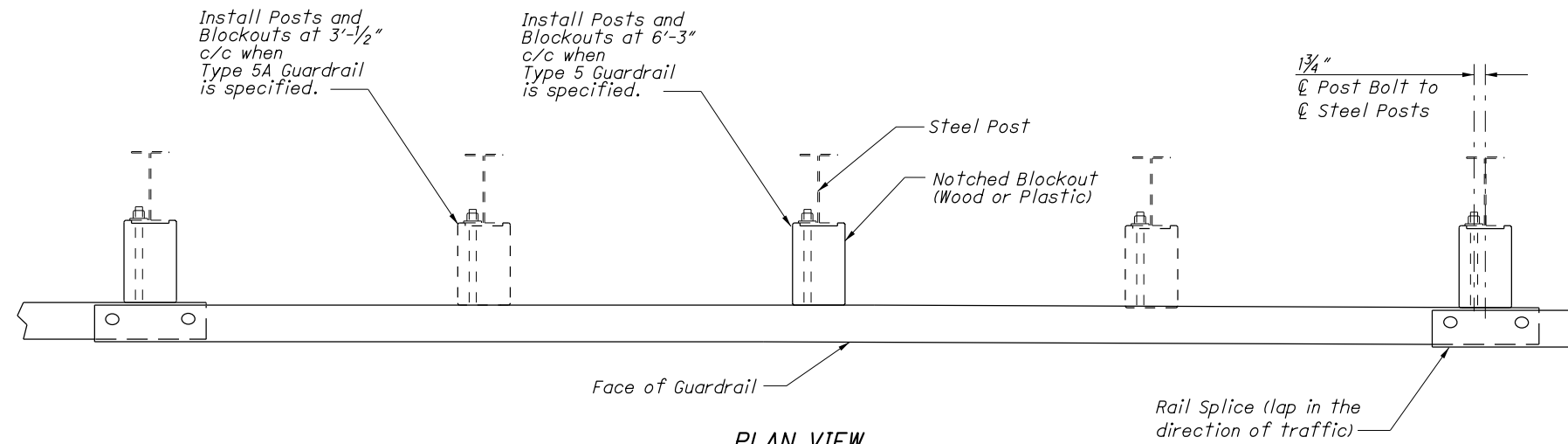
STRUT AND YOKE ASSEMBLY



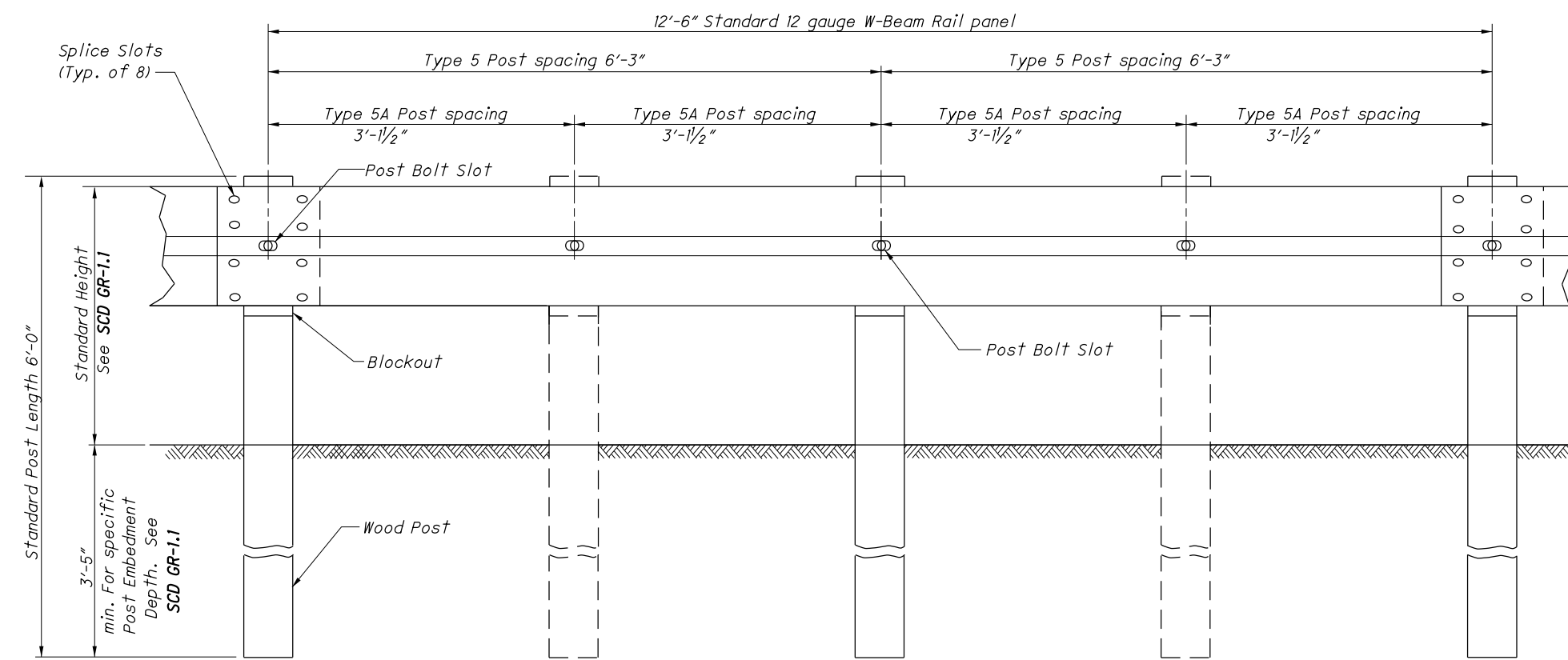
BEARING PLATE



SOIL PLATE



PLAN VIEW
(Steel Posts shown)



ELEVATION
(Wood Posts shown)

NOTES

RAIL: Use W-Beam rail meeting AASHTO M 180 Type II Class A, as specified in CMS 606.

POSTS: Posts may be constructed of wood or steel. Wood posts may be round or 6"x8" square-sawed.

Use round wood posts on runs of single-sided rail. The round posts shall be 8"x1 in diameter at the top and not more than 3" larger at the butt with a uniform taper.

Fabricated wood posts with square ends. Posts shall be pressure-treated as per CMS 710.14. Bore bolt holes and, if required, trim the tops of posts after the posts are set.

Steel posts are to be W6x9 or W6x8.5 galvanized steel. Use the same type of post throughout the length of the project unless otherwise specified in the plans or permitted by the Engineer.

All posts are 6'-0" long unless specified otherwise in the Contract Document. Posts may be set in drilled holes or may be driven to grade.

WELDED BEAM POSTS: Welded beam guardrail posts may be used for Item 606, Guardrail, provided the web and flange sizes are as shown here. Welding of the web to the flanges must comply with ASTM A 769, Class 1, using Grade 36 steel [250 MPa yield point] with the following exceptions:

- Sec. 7.2 Test reports of tensile properties for each lot shall accompany each shipment.
- Sec. 12 Beams that have imperfections repaired by welding shall not be accepted for use in Item 606.
- Sec. 13 Random samples shall be tested by the Department from materials delivered to the project site, or other locations designated by the Laboratory.

ALTERNATE POSTS: Engineered guardrail posts having met NCHRP 350 criteria, and listed on the **Office of Materials Management's** Approved List are permitted as an equal alternate when installed according to the Manufacturer's instructions and within the limitations shown on the Approved List.

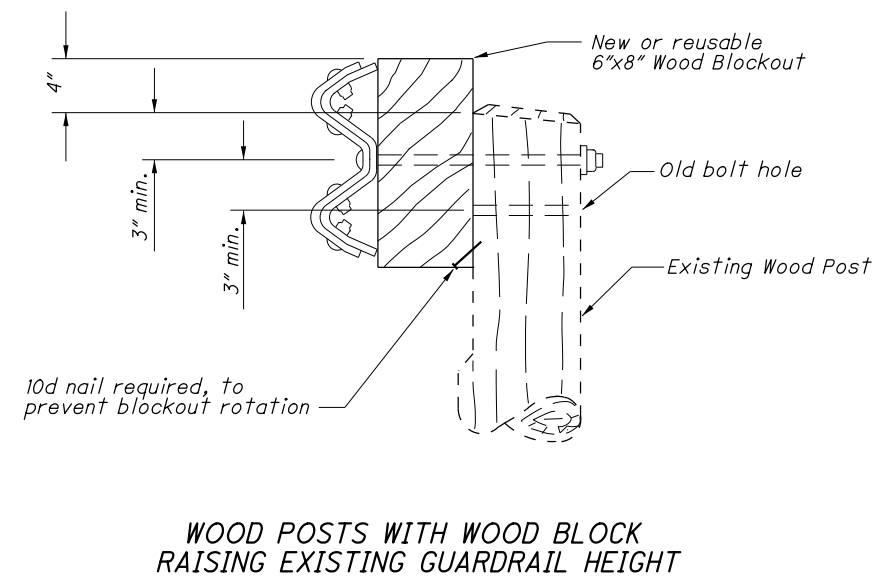
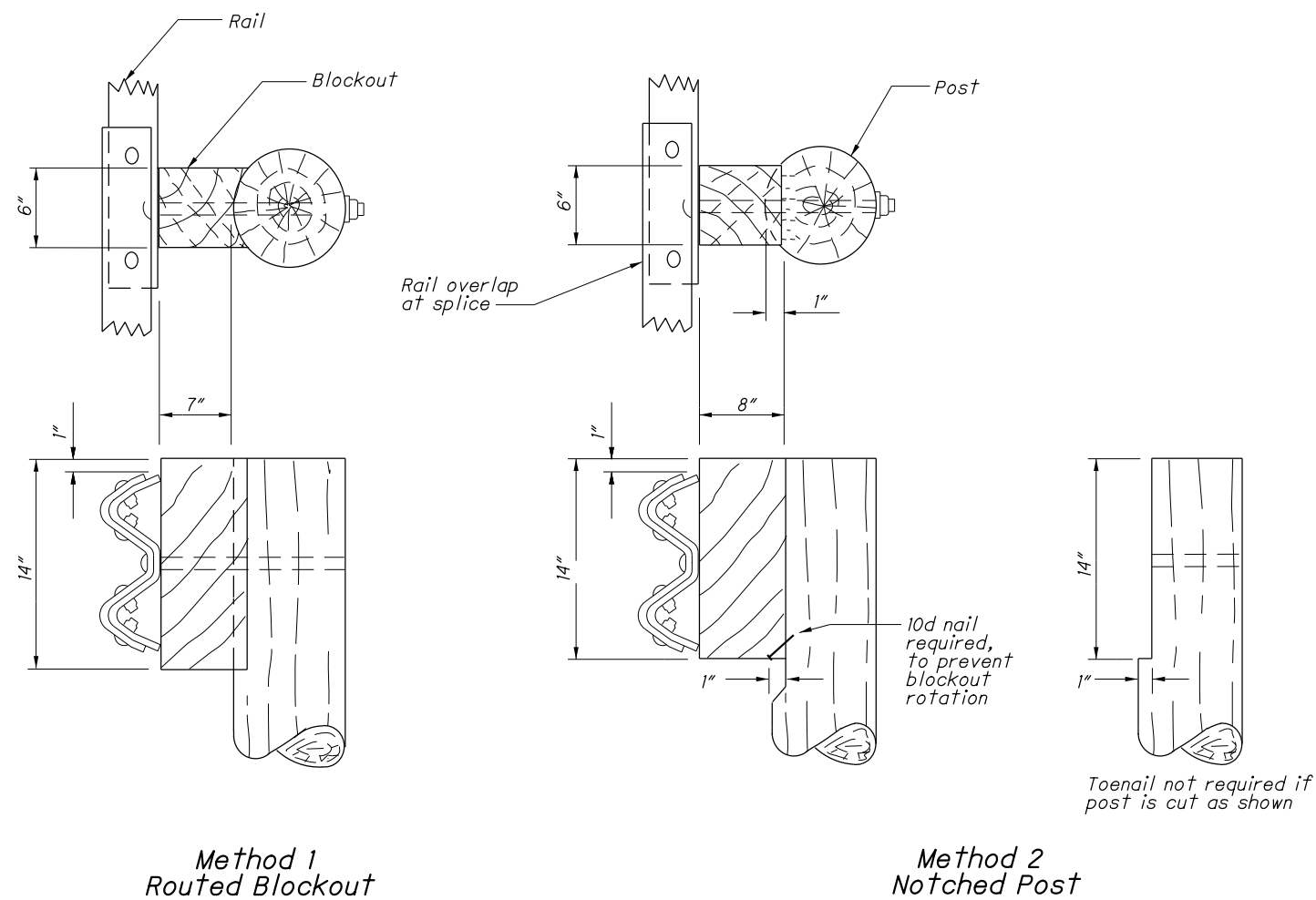
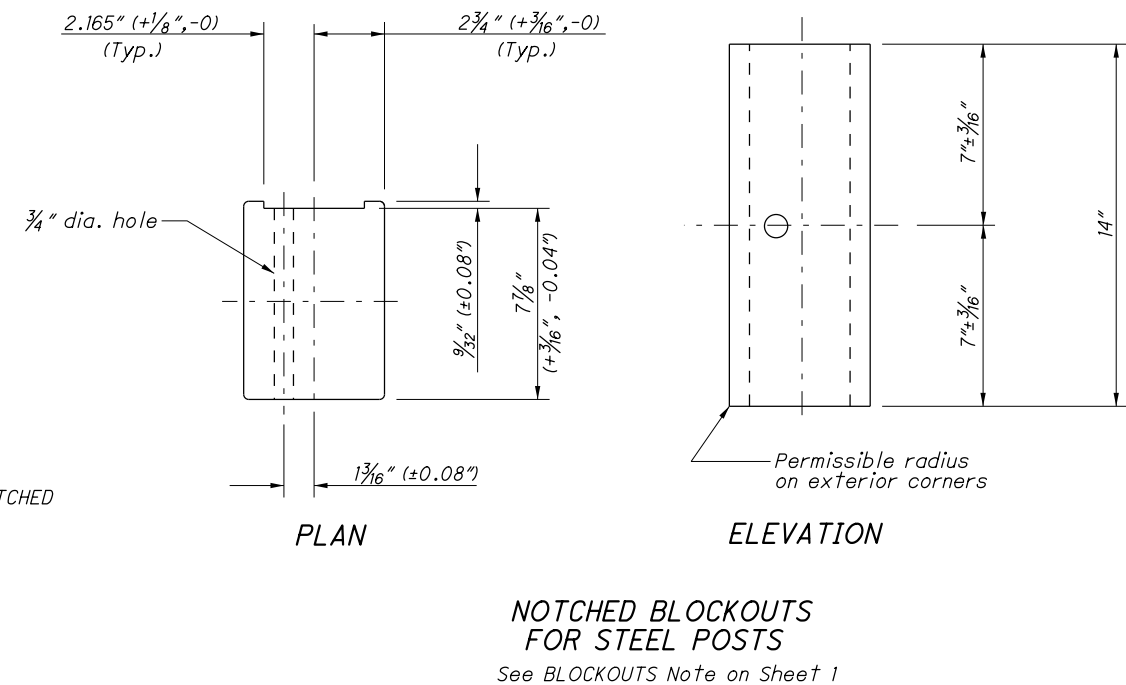
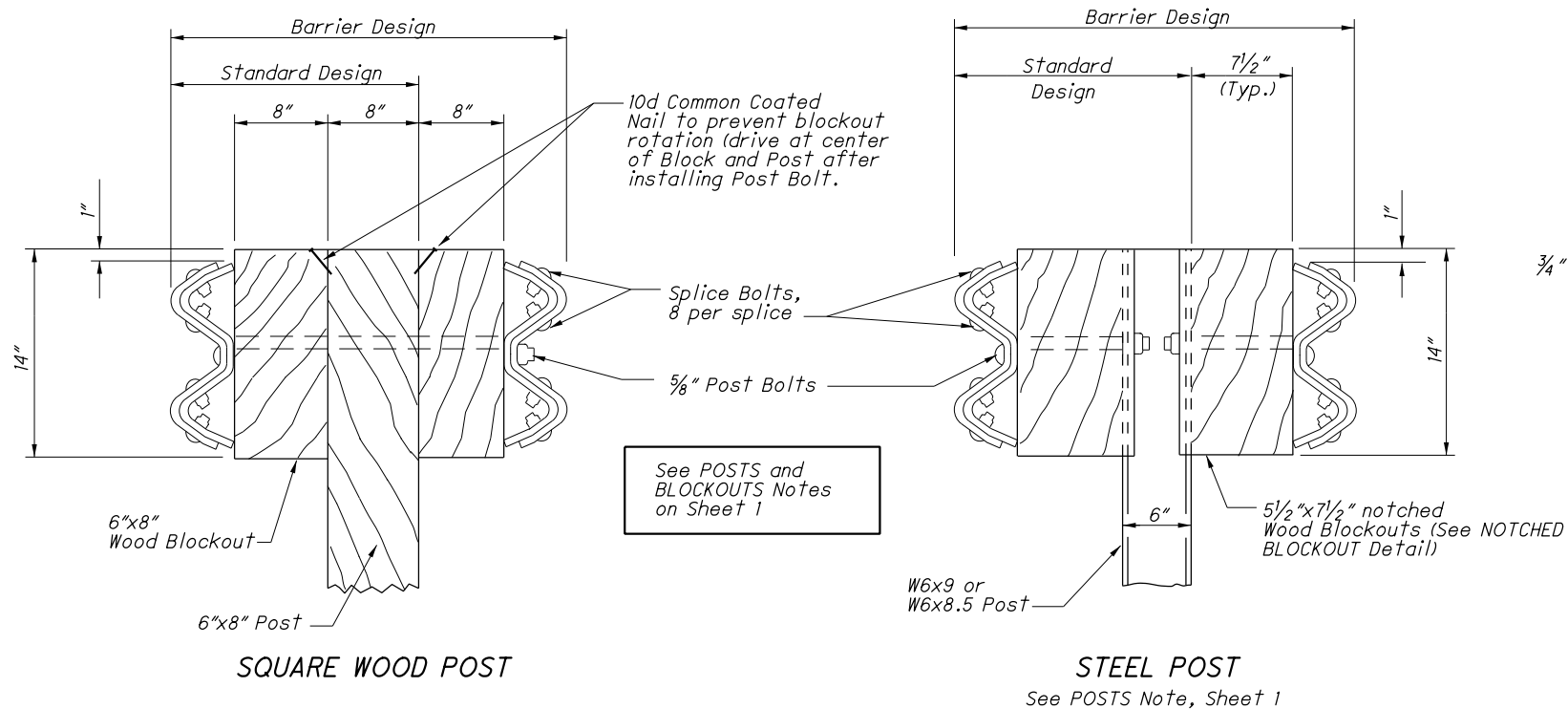
BLOCKOUTS: Blockout dimensions are dependent on post used. Wood Blockouts are to be pressure treated as specified in CMS 710.14. Bore bolt holes. Approved alternate blockouts may be used in lieu of the wood blockouts shown. The approved list is maintained by the **Office of Roadway Engineering**.

WASHERS: Install appropriate sized standard galvanized steel washers on the nut side of bolts installed on wood posts.

DELINEATION: For barrier reflectors, see CMS 626.

MISCELLANEOUS: For other guardrail details, see SCD GR-1.1.

STEEL BEAM POSTS (English)				
Size	Beam depth	Flange width	Flange thickness	Web thickness
Rolled W6x8.5	5.8"	3.94"	0.193"	0.170"
Rolled W6x9	5.9"	3.94"	0.215"	0.170"
Welded 6x8.5	6.0"	3.94"	0.193"	0.170"
Welded 6x9	6.0"	3.94"	0.215"	0.170"



Alternate methods of placing the Blockouts on round Posts may be submitted for consideration and approved by the Engineer.

ROUND WOOD POSTS
Single Sided runs only (Standard Design)

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MAINTENANCE OF TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS AND RAMPS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS AND THE FOLLOWING:

1. OVERHEAD STRUCTURES:
A MINIMUM OF ONE BIDIRECTIONAL LANE SHALL BE MAINTAINED ON THE EXISTING PAVEMENT AND COMPLETED PAVEMENT DURING CONSTRUCTION OF THE WORK.

I-271:
A MINIMUM OF ONE LANE IN EACH DIRECTION SHALL BE MAINTAINED ON THE EXISTING PAVEMENT PAVEMENT DURING CONSTRUCTION OF THE WORK.

2. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (330) 786-2208, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

3. LANE RESTRICTIONS OR LANE REDUCTIONS SHALL NOT BE PERMITTED AFTER NORMAL WORKING HOURS. NORMAL WORKING HOURS SHALL BE THOSE HOURS DURING WHICH THE CONTRACTOR HAS A FULL COMPLEMENT OF EMPLOYEES AND EQUIPMENT ACTIVELY REMOVING AND/OR PLACING PAVEMENT MATERIALS.

4. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BE PERMITTED TO HAVE SUCCESSIVE WORK ZONES UNLESS THE DISTANCE BETWEEN THE DRUMS, BARRICADES OR CONES EXCEEDS TWO (2) MILES.

5. TRUCK MOUNTED ATTENUATORS [TMA’S] SHALL BE USED AS SHOWN IN THE STANDARD CONSTRUCTION DRAWINGS.

6. ONLY DURING OFF-PEAK PERIODS (ie ANY PERIOD OTHER THAN 6-8AM AND 3-6PM) SHALL THE CONTRACTOR INSTALL AND SUBSEQUENTLY RESET ALL TRAFFIC CONTROL NECESSARY FOR THE WORK ZONE FOR EACH CONSTRUCTION PHASE.

7. A QUANTITY OF 10 CU. YDS. OF ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC SHALL BE PROVIDED FOR USE IN MAINTAINING PAVEMENT, SHOULDERS AND OTHER LOCATIONS AS DIRECTED BY THE ENGINEER.

8. PRIOR TO OPENING TO TRAFFIC EACH LANE SHALL BE IN A SAFE, PASSABLE CONDITION. ALL TRANSVERSE JOINTS SHALL EXTEND ACROSS THE FULL LANE AND SHOULDER WIDTH AND EACH LANE SHALL BE FREE FROM UNEVEN LONGITUDINAL JOINTS. THE CONTRACTOR SHALL PROVIDE ASPHALT WEDGES FOR TRANSVERSE JOINTS WHEREVER THERE ARE PAVEMENT ELEVATION DIFFERENCES.

9. A QUANTITY OF ITEM 614 WORK ZONE MARKING SIGN HAS BEEN INCLUDED IN THE PLAN. THIS QUANTITY SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING SIGNS: W6-3 [TWO-WAY TRAFFIC], R4-1 [DO NOT PASS], R4-2 [PASS WITH CARE]. THESE QUANTITIES SHALL BE AS PER 614.04.

THE FOLLOWING QUANTITIES SHALL BE USED FOR THE MAINTENANCE OF TRAFFIC ON THIS PROJECT:
614, WORK ZONE MARKING SIGN, 18 EACH

LANE CLOSURES (I-271)

DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AS PER THE PERMITTED LANE CLOSURE CHART. THE PERMITTED LANE CLOSURE CHART USED FOR THIS PROJECT SHALL BE THE MOST CURRENT CHART AVAILABLE ON THE DATE THIS PROJECT SELLS.

THE CHART CAN BE FOUND AT:
<http://plcm.dot.state.oh.us>

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THE REQUIREMENTS IN THE CHART, THE CONTRACTOR SHALL BE ASSESSED DISINCENTIVES IN THE AMOUNT OF \$2500 PER HOUR OR PORTION THEREOF THAT THE LANE REDUCTION REMAINS BEYOND THE SPECIFIED LIMIT.

ITEM 614, MAINTAINING TRAFFIC (LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS)

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF HOLIDAY OR EVENT	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00 AM FRIDAY
THURSDAY (THANKSGIVING ONLY)	6:00 AM WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF \$3000 FOR EACH HOUR THE ABOVE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

TRAFFIC CONTROL INSPECTOR

THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL OTHER THAN THE SUPERINTENDENT AND SUBJECT TO THE APPROVAL OF THE ENGINEER, TO CONTINUOUSLY INSPECT ALL TRAFFIC CONTROL DEVICES WHENEVER CONSTRUCTION WORK IS BEING PERFORMED WITHIN THE WORK LIMITS OF THE PROJECT. THE DESIGNATED INDIVIDUAL SHALL ALSO INSPECT ALL TRAFFIC DEVICES AT THE BEGINNING AND AT THE END OF EACH WORK DAY. THE DESIGNATED INDIVIDUAL OR A QUALIFIED REP- RESENTATIVE SHALL ALSO BE AVAILABLE ON AN AROUND THE CLOCK BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES. THESE INDIVIDUALS SHALL BE EQUIPPED WITH CELLULAR PHONES AND THEIR NAMES AND PHONE NUMBERS SHALL BE GIVEN TO THE PROJECT ENGINEER AT THE PRE-CONSTRUCTION MEETING. THE DESIGNATED INDIVIDUAL MAY HAVE OTHER CONSTRUCTION RELATED DUTIES AS LONG AS IMMEDIATE ATTENTION IS GIVEN TO TRAFFIC CONTROL. PAYMENT FOR THE SERVICES OF THE TRAFFIC CONTROL INSPECTOR SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

DETOUR NOTIFICATION [ODOT / RICHFIELD TOWNSHIP / SUMMIT COUNTY ENGINEERS]

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-786-3148), RICHFIELD TOWNSHIP (330-659-4700) AND SUMMIT COUNTY ENGINEERS (330-643-2850) EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. ALL WORK ZONE DEVICES REQUIRED SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. PAYMENT FOR ALL WORK ASSOCIATED WITH THE DETOUR SHALL BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614, DETOUR SIGNING.

BRIDGE PAINTING EQUIPMENT ON SHOULDERS

IF BRIDGE PAINTING EQUIPMENT IS TO REMAIN ON THE SHOULDERS WHEN THE CONTRACTOR IS NOT WORKING, IT SHALL BE PLACED BEHIND PORTABLE CONCRETE BARRIER (PCB) AND A WORK ZONE IMPACT ATTENUATOR (WZIA) SHALL PROTECT THE LEADING BLUNT END OF THE PCB (SEE ODOTCD, FIGURE 6H-5 “SHOULDER CLOSURE ON FREEWAY” (TYPICAL APPLICATION 5)). IF THE CONTRACTOR CHOOSES TO PROTECT PAINTING EQUIPMENT WITH PCB AND A WZIA, THE COST SHALL BE CONSIDERED INCIDENTAL TO THE LUMP SUM BID FOR MAINTAINING TRAFFIC.

ADVANCED NOTICE TO PAVE

THE CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE DISTRICT CONSTRUCTION ENGINEER A DETAILED SCHEDULE 15 DAYS PRIOR TO THE PLACEMENT OF THE OVERLAY COURSES, ON HOW THEY PROPOSE TO PROSECUTE THE PAVING OPERATIONS. THE DETAILS SHALL SHOW THE ORDER OF PERFORMANCE OF EACH STAGE (START TO FINISH) OF THE WORK INCLUDING THE MAINTENANCE OF TRAFFIC THAT WILL BE USED.

ITEM 614, MAINTAINING TRAFFIC (NOTICE OF CLOSURE SIGN)

NOTICE OF CLOSURE SIGNS, AS DETAILED IN THESE PLANS, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD OR RAMP CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD/RAMP 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 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.

WILL BE
CLOSED
FOR
DAYS
OHIO DEPT OF TRANSPORTATION

W20-H14-60

ITEM 614, MAINTAINING TRAFFIC (TIME LIMITATION ON A DETOUR) (SUM-271-0019, SUM-271-0047, SUM-271-0152)

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED THE FOLOWING, WHEN THROUGH TRAFFIC SHALL BE DETOURED AS SHOWN ON SHEETS 10-12.

STRUCTURE	DURATION
SUM-271-0019	4 CALENDAR DAYS (6AM FRIDAY TO 6AM MONDAY)
SUM-271-0047	1 CALENDAR DAYS (6AM FRIDAY TO 6AM SATURDAY)
SUM-271-0152	5 CONSECUTIVE CALENDAR DAYS (6AM MONDAY TO 6AM FRIDAY)

NO STRUCTURE SHALL BE CLOSED TO THROUGH TRAFFIC CONCURRENTLY.

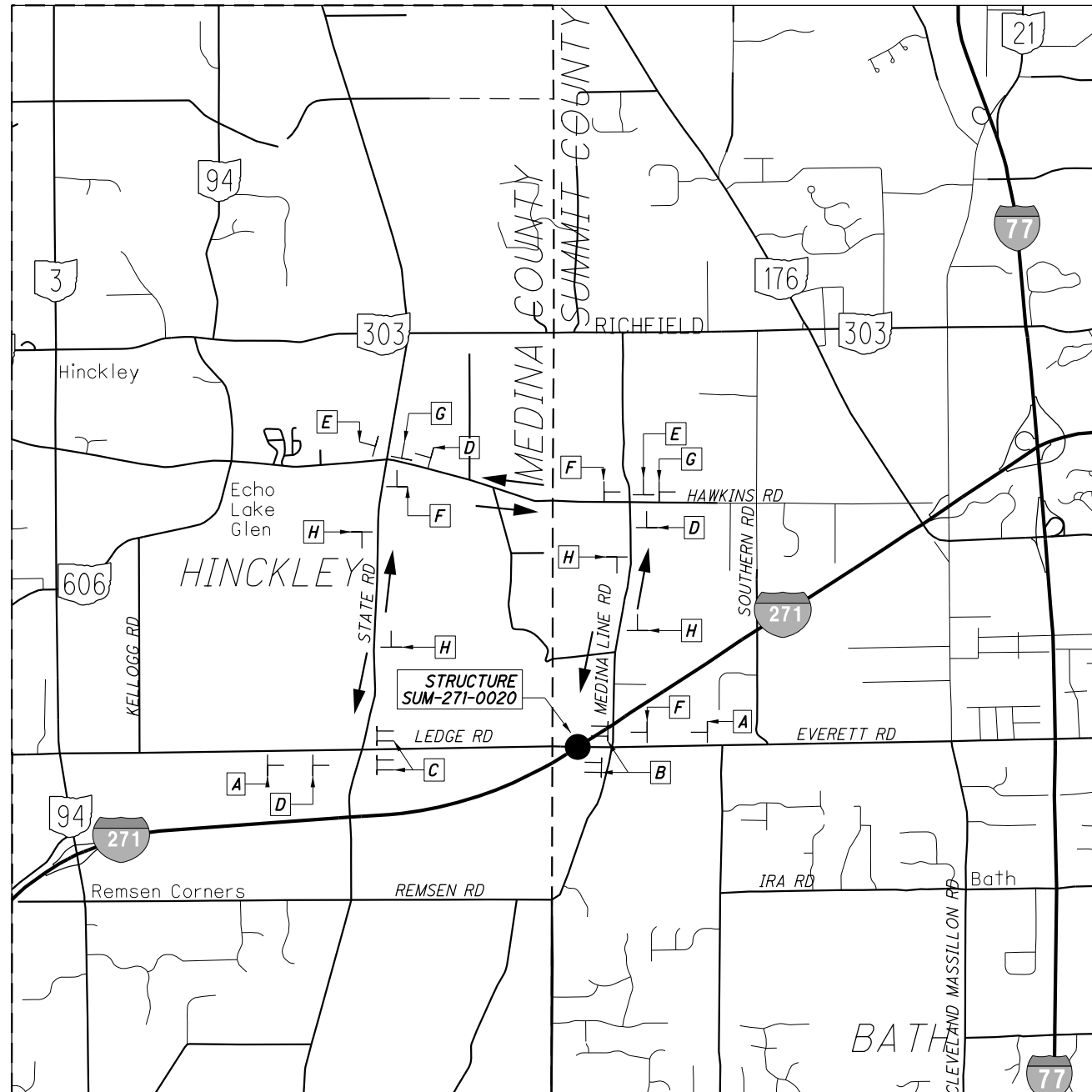
A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF \$2000 FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

EXCEPTIONS TO THE PERMITTED LANE CLOSURE CHART

THE CONTRACTOR MAY CLOSE ONE LANE ON I-271 ALL DAY ON SATURDAYS AND SUNDAYS TO COMPLETE THE STRUCTURAL STEEL PAINTING ON STRUCTURES SUM-271-0019, SUM-271-0047, AND SUM-271-0152.

SHOULD THE CONTRATOR FAIL TO MEET THE ABOVE REQUIREMENT, THE CONTRACTOR SHALL BE ASSESSED DISINCENTIVES IN THE AMOUNT OF \$2500 PER HOUR OR PORTION THEREOF THAT THE LANE REDUCTION REMAINS BEYOND THE SPECIFIED LIMIT.

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DETOUR PLAN FOR STRUCTURE SUM-271-0019

← OFFICAL DETOUR ROUTE: MEDINA LINE RD / HAWKINS RD / STATE RD

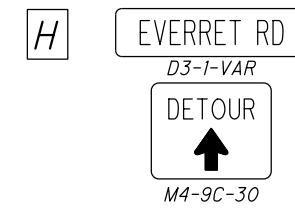
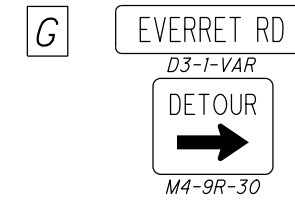
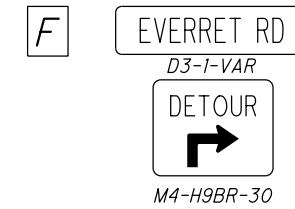
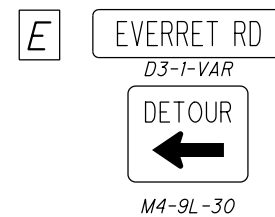
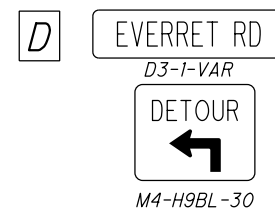
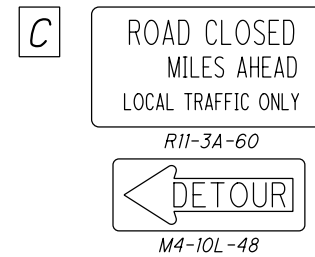
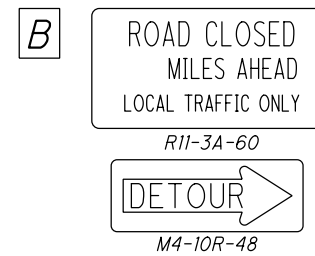
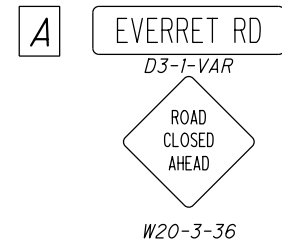
● CLOSE PER SCD MT-101.60

REFER TO THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 6H-8 (TYPICAL APPLICATION 8), FOR SIGN SPACING.

ON TYPE III BARRICADE WITH TYPE B FLASHERS MOUNTED PER SCD MT-101.60



NOT TO SCALE



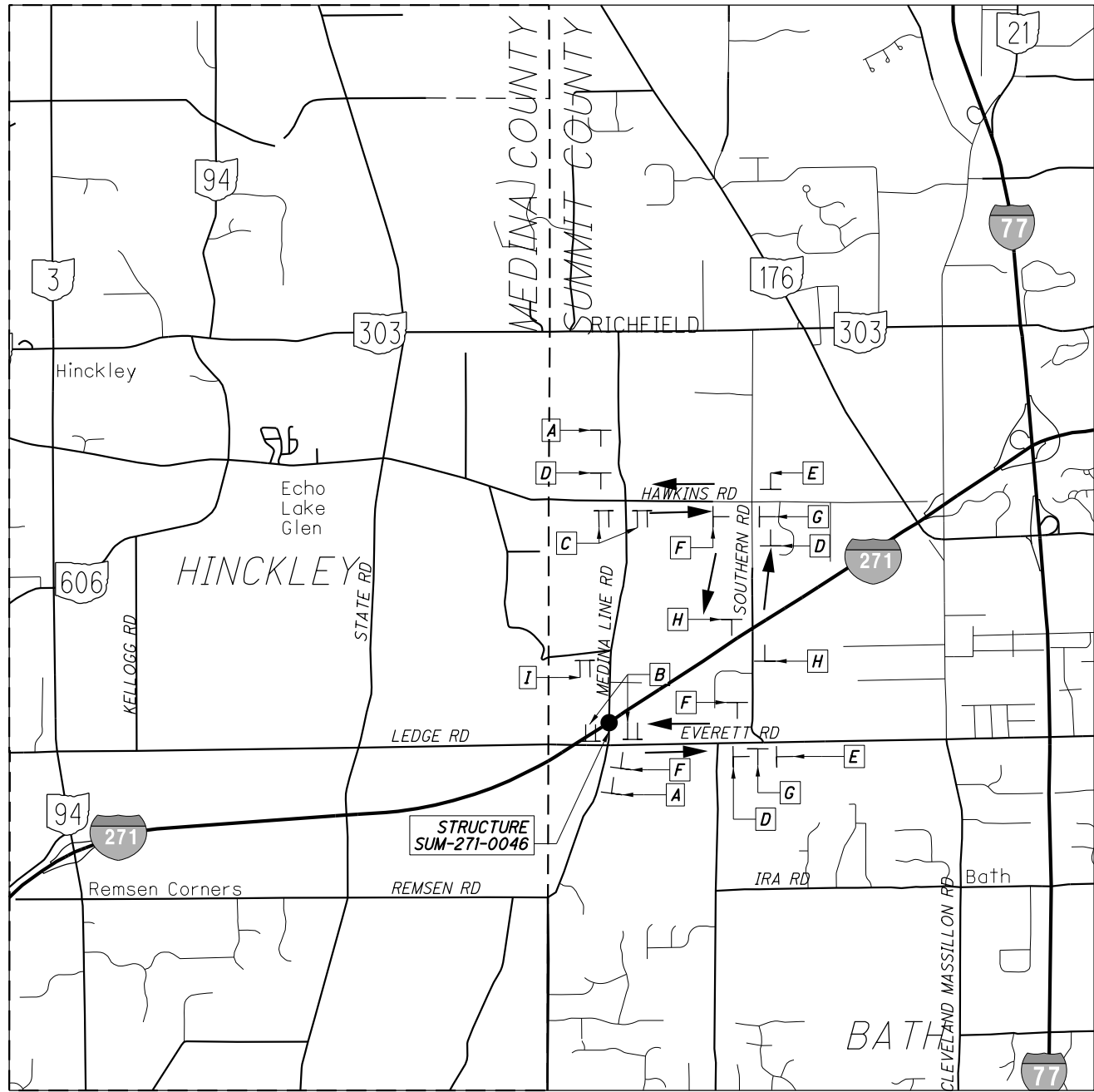
CALCULATED
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MAINTENANCE OF TRAFFIC DETOUR PLAN SUM-271-0019

SUM-271-0.19 /
0.47 / 1.52

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19

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DETOUR PLAN FOR STRUCTURE SUM-271-0047

← OFFICAL DETOUR ROUTE: EVERETT RD / SOUTHERN RD /HAWKINS RD

● CLOSE PER SCD MT-101.60

REFER TO THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 6H-8 (TYPICAL APPLICATION 8), FOR SIGN SPACING.

ON TYPE III BARRICADE WITH TYPE B FLASHERS MOUNTED PER SCD MT-101.60



NOT TO SCALE

A MEDINA LINE RD
D3-I-VAR
ROAD CLOSED AHEAD
W20-3-36

B ROAD CLOSED MILES AHEAD LOCAL TRAFFIC ONLY
R11-3A-60
DETOUR

C ROAD CLOSED MILES AHEAD LOCAL TRAFFIC ONLY
R11-3A-60
DETOUR

D MEDINA LINE RD
D3-I-VAR
DETOUR
M4-H9BL-30

E MEDINA LINE RD
D3-I-VAR
DETOUR
M4-9L-30

F MEDINA LINE RD
D3-I-VAR
DETOUR
M4-H9BR-30

G MEDINA LINE RD
D3-I-VAR
DETOUR
M4-9R-30

H MEDINA LINE RD
D3-I-VAR
DETOUR
M4-9C-30

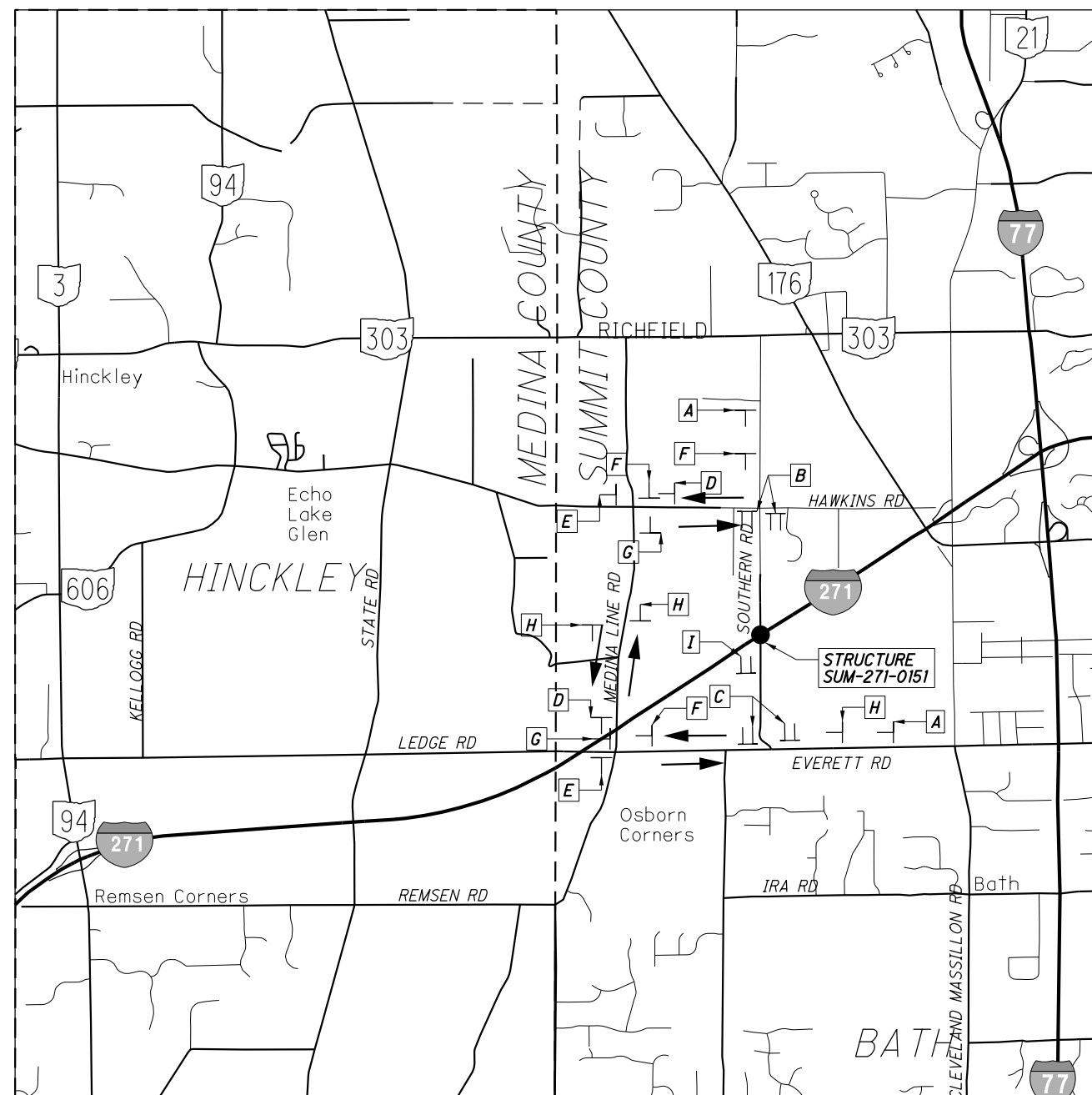
I ROAD CLOSED
R11-2-48

CALCULATED
CNC
CHECKED

MAINTENANCE OF TRAFFIC DETOUR PLAN SUM-271-0047

SUM-271-0.19 /
0.47 / 1.52

11
19



DETOUR PLAN FOR STRUCTURE SUM-271-0152

← OFFICAL DETOUR ROUTE: EVERETT RD / MEDINA LINE RD / HAWKINS RD

● CLOSE PER SCD MT-101.60

REFER TO THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 6H-8 (TYPICAL APPLICATION 8), FOR SIGN SPACING.

ON TYPE III BARRICADE WITH TYPE B
FLASHERS MOUNTED PER SCD MT-101.60



NOT TO SCALE

B

ROAD CLOSED
MILES AHEAD
LOCAL TRAFFIC ONLY

R11-3A-60

DETOUR

M4-10R-48

C

ROAD CLOSED
MILES AHEAD
LOCAL TRAFFIC ONLY

R11-3A-60

← DETOUR

M4-10L-48

D SOUTHERN RD
D3-1-VAR
DETOUR
M4-H9BL-30

The diagram shows a road intersection. A vertical road on the left is labeled 'E' in a box. A horizontal road at the top is labeled 'SOUTHERN RD' in a box. Below the horizontal road is the text 'D3-1-VAR'. At the intersection, a signpost holds a rectangular sign that says 'DETOUR' above a large black arrow pointing to the left. Below the signpost is the text 'M4-9L-30'.

F SOUTHERN RD
D3-1-VAR
DETOUR
M4-H9BR-30

G SOUTHERN RD
D3-1-VAR
DETOUR
M4-9R-30

H

SOUTHERN RD
D3-1-VAR

DETOUR
↑

M4-9C-30

Diagram illustrating a road closure sign. The sign consists of a square sign with the letter 'I' and a rectangular sign with the text 'ROAD CLOSED' and 'R11-2-48' below it.

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

VPF-I-90 DATED/REVISED 7/7/15

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

843 DATED 4/18/03

847 DATED 7/17/15

DESIGN SPECIFICATIONS

THESE STRUCTURES CONFORM TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICALS, INCLUDING THE 2002 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL .

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TOTHE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPSD WROK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105,02 AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

PROPOSED WORK

SUM-271-0019 (UNDER EVERETT RD)
-SEAL EXISTING BRIDGE DECK WITH GRAVITY FED RESIN
-RESURFACE FORWARD AND REAR APPROACH SLABS
-RESET AND REFURBISH EXISTING BEARINGS
-CLEAN OUT AND LENGTHEN SCUPPERS
-PAINT STRUCTURAL STEEL WITH OZEU PAINT SYSTEM
-PATCH ALL UNSOUND AREAS OF THE CONCRETE SUBSTRUCTURE
-REMOVE ALL SPALLED AREAS ON THE BOTTOM OF THE DECK FLOOR AND SEAL WITH EPOXY-URETHANE
-REPAIR TOP OF THE BACKWALLS AT FORWARD AND REAR ABUTMENT
-REPAIR SLOPE PROTECTION AT THE FOWARD ABUTMENT WHERE FOOTER IS EXPOSED
-REPAIR EMBANKMENT EROSION AT THE RIGHT REAR
-SEAL ALL EXPOSED CONCRETE SURFACES OF THE CURBS, RAILING, ABUTMENTS, WING WALLS, PIERS
-CLEARING AND GRUBBING 15’ AROUND THE STRUCTURE FOR SEALING OPERATIONS
-NEW STRUCTURE IDENTIFICATION SIGN

SUM-271-0047 (UNDER MEDINA LINE RD)
-SEAL EXISTING BRIDGE DECK WITH GRAVITY FED RESIN
-RESURFACE FORWARD AND REAR APPROACH SLABS
-RESET AN REFURBISH EXISTING BEARINGS
-CLEAN OUT AND LENGTHEN SCUPPERS
-PAINT STRUCTURAL STEEL WITH OZEU PAINT SYSTEM
-PATCH ALL UNSOUND AREAS OF THE CONCRETE SUBSTRUCTURE, INCLUDING THE CURB AND RAILING
-REMOVE ALL SPALLED AREAS ON THE BOTTOM OF THE DECK FLOOR AND SEAL WITH EPOXY URETHANE
-INSTALL VANDEL PROTECTION FENCE
-SEAL ALL EXPOSED CONCRETE SURFACES OF THE CURBS, RAILING, ABUTMENTS, WING WALLS, PIERS
-CLEARING AND GRUBBING 15’ AROUND THE STRUCTURE FOR SEALING OPERATIONS
-NEW STRUCTURE IDENTIFICATION SIGN

SUM-271-0152 (UNDER SOUTHERN RD)
-REMOVE EXISTING CONCRETE OVERLAY AND REPLACE WITH A NEW CONCRETE OVERLAY ON THE BRIDGE DECK
-RESURFACE FOWARD AND REAR APPROACH SLABS
-RESET AN REFURBISH EXISTING BEARINGS
-CLEAN OUT AND LENGTHEN SCUPPERS
-PAINT STRUCTURAL STEEL WITH OZEU PAINT SYSTEM
-PATCH ALL UNSOUND AREAS OF THE CONCRETE SUBSTRUCTURE, INCLUDING THE PARAPETS
-REMOVE ALL SPALLED AREAS ON THE BOTTOM OF THE DECK FLOOR AND SEAL WITH EPOXY URETHANE
-SEAL ALL EXPOSED CONCRETE SURFACES OF THE PARAPETS, ABUTMENTS, WING WALLS, PIERS
-CLEARING AND GRUBBING 15’ AROUND THE STRUCTURE FOR SEALING OPERATIONS
-NEW STRUCTURE IDENTIFICATION SIGN

ITEM _441- ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), AS PER PLAN (PG70-22)

703.05 DO NOT USE COARSE AGGREGATE FROM A SOURCE DESIGNATED ‘SR’ OR ‘SRH’ ACCORDING TO THE OFFICE OF MATERIALS MANAGEMENT (OMM) IN ANY JOB MIX FORMULA (JMF) FOR THIS ITEM.

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.

SPECIAL - STRUCTURE MISC.: CONCRETE SPALL REMOVAL

THIS WORK WILL CONSIST OF REMOVING ALL VISIBLY SPALLED AREAS OF THE BOTTOM DECK FLOOR OF STRUCTURES SUM-271-0019, SUM-271-0047, AND SUM-271-0152 WITHOUT SOUNDING. AFTER SPALLED CONCRETE AREAS HAVE BEEN REMOVED, REMOVAL AREAS WILL BE SEALED WITH ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY- URETHANE).

CONCRETE SPALL REMOVAL WILL BE PAID FOR AT THE UNIT BID PRICE FOR SPECIAL STRUCTURE MISC.: CONCRETE SPALL REMOVAL. THIS PRICE WILL INCLUDE THE COST OF LABOR, EQUIPMENT, AND ALL INCIDENTALS REQUIRED TO COMPLETE THIS WORK.

SUM-271-0019
SPEC, STRUCTURE MISC.: CONCRETE SPALL REMOVAL, 50 SQ YD
512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), 50 SQ YD

SUM-271-0047
SPEC, STRUCTURE MISC.: CONCRETE SPALL REMOVAL, 50 SQ YD
512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), 50 SQ YD

SUM-271-0152
SPEC, STRUCTURE MISC.: CONCRETE SPALL REMOVAL, 50 SQ YD
512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), 50 SQ YD

SPECIAL - PATCHING CONCRETE STRUCTURE, MISC.: CURB REPAIR

THIS ITEM OF WILL BE USED TO REPAIR THE DETERIORATED FACE OF THE CURB OF STRUCTURE SUM-271-0047 ON THE BRIDGE DECK AND/OR APPROACH SLABS. THIS WORK WILL BE PERFORMED IN ACCORDANCE WITH ITEM 519 -PATCHING CONCRETE STRUCTURES AND AS MODIFIED HERIN.

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

PAYMENT FOR ALL OF THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR SPECIAL - PATCHING CONCRETE STRUCTURE, MISC.: CURB REPAIR AND WILL BE PAID FOR PER FOOT.

SUM-271-0047
SPEC, PATCHING CONCRETE STRUCTURE, MISC.: CURB REPAIR, 100FT

ITEM 514 - PAINTING OF STRUCTURAL STEEL

THIS ITEM OF WORK WILL CONSIST OF PAINTING THE ENTIRE LENGTH OF THE BEAMS, CROSS FRAMES, AND BEARINGS FOR STRUCTURES SUM-271-0019, SUM-271-0047, AND SUM-271-0152. THE COLOR FOR THE FINISHED COAT OF STRUCTURES SUM-271-0019, SUM-271-0047, AND SUM-271-0152 WILL CONFORM TO FEDERAL COLOR NUMBER 10080 (BROWN).

ITEM 516 - REFURBISHING BEARING DEVICES, AS PER PLAN

THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY ALIGN BRIDGE BEARINGS AS WELL AS THEIR CLEANING AND PAINTING. INCLUDED SHALL BE THE DISASSEMBLY OF THE BEARINGS, HAND TOOL CLEANING (GRINDING IF NECESSARY), PAINTING ACCORDING TO ITEM 514, REPLACEMENT OF ANY DAMAGED SHEET LEAD WITH PREFORMED BEARING PADS (711.21), INSTALLATION OF ANY NECESSARY STEEL SHIMS OF THE SAME SIZE AS THE BEARINGS TO PROVIDE A SNUG FIT, REALIGNMENT OF THE UPPER BEARING PLATE BY REMOVING EXISTING WELDS AND REWELDING SO THAT THE BEARINGS ARE VERTICALLY ALIGNED AT 60 DEGREES F, LUBRICATING SLIDING SURFACES, AND REASSEMBLY OF THE BEARINGS. ASSURE ALL BEARINGS ARE SHIMMED ADEQUATELY AND THAT NO BEAMS AND/OR BEAR- ING DEVICES ARE "FLOATING". AT NO ADDITIONAL COST TO THE STATE, THE CONTRACTOR MAY INSTALL NEW BEARINGS OF THE SAME TYPE AS THE EXISTING IN PLACE OF REFURBISHING THE BEARINGS. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR ALL OF THE ABOVE DE- SCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CON- TRACT PRICE BID FOR ITEM 516 - REFURBISH BEARING DEVICES, AS PER PLAN.

ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPER-STRUCTURE, AS PER PLAN

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS.

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CON- CRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATIS- FACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUB- MIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH CMS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CON- TACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

14 19	1 / 6	SUM-271-0.19/ 0.47 / 1.52 PID No. 76404	STRUCTURE GENERAL NOTES SUM-271-0019, SUM-271-0047, AND SUM-271-0152	DESIGNED	DRAWN	REVIEWED	DATE	DESIGN AGENCY ODOT-- DISTRICT 4 PLANNING AND ENGINEERING
				CNC	CNC	NRC	2-2-16	
				CHECKED	REVISED	STRUCTURE FILE NUMBER		

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ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

ITEM SPECIAL - VANDEL PROTECTION FENCE 8’ STRAIGHT, COATED FABRIC

PRIOR TO ORDERING MATERIALS THE CONTRACTOR SHALL LAYOUT THE POST LOCATIONS AND THE PROJECT ENGINEER SHALL APPROVE THE POST SPACING TO BE USED. THE POST SHALL BE AS PER STANDARD CONSTRUCTION DRAWING VPF-1-90. THE FENCE SHALL NOT EXTEND PAST THE END OF THE DECK (ONTO THE APPROACH SLAB PARAPET).

POST SECTION PS-3 AND BASE PLATE BP-1 SHALL BE USED.

EROSION REPAIR

THIS WORK WILL CONSIST OF REPAIRING THE EROSION AT THE FORWARD ABUTMENT AND ALONG THE RIGHT REAR OF STRUCTURE SUM-271-0019. REPAIR WORK WILL BE PAID FOR BY THE FOLLOWING ITEMS.

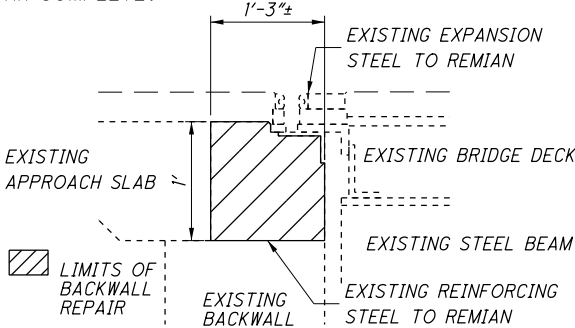
- ITEM 203- BORROW, 5 CU YD
- ITEM 601- CRUSHED AGGREGATE SLOPE PROTECTION 5 CU YD
- ITEM 601- TIED CONCRETE BLOCK MAT, TYPE 2, 20 SQ YD

ITEM 511 - CONCRETE MISC.: BACKWALL REPAIR

THIS ITEM OF WORK CONSISTS OF THE REMOVAL OF ALL UNSOUND CONCRETE AT THE FORWARD AND REAR ABUTMENT BACK WALL OF STRUCTURE SUM-271-0019 TO THE LIMITS SHOWN BELOW OR AS DIRECTED BY THE ENGINEER, THE PERPARATION OF THE SURFACE, FORMS, TEMPORARY SUPPORTS OF THE EXPANSION JOINT, AND PLACING CLASS QC MS CONCRETE SUBSTRUCTURE.

TEMPORARY SUPPORTS OF THE EXPANSION JOINT WILL BE USED TO MAINTAIN THE PROPER ALIGNMENT AND GRADE OF THE JOINT DURING REMOVAL AND REPLACEMENT OF BACKWALL CONCRETE. THE COST OF THIS TEMPORARY SUPPORT WILL BE INCIDENTAL TO THIS ITEM.

PAYMENT WILL BE MADE AT THE CONTRACT PRICE PER CU. YD. FOR ITEM 511 - CONCRETE MISC.: BACKWALL REPAIR WHICH WILL INCLUDE ALL MATERIALS AND LABOR INCLUDING REMOVAL AND DISPOSAL OF THE EXISTING CONCRETE REQUIRED TO MAKE THIS WORK COMPLETE.



CORRECTING BRIDGE IDENTIFICATION SIGN NUMBERS

SOME OF THE EXISTING BRIDGE NUMBER SIGNS HAVE INCORRECT BRIDGE NUMBERS ON THEM. THE FOLLOWING BRIDGE NUMBERS ARE THE CORRECT ONES AND WILL BE USED ON THE NEW BRIDGE IDENTIFICATIONS SIGNS.

STRUCTURE SUM-271-0019 (SFN: 7708769) THE EXISTING SIGN SHOWS 0020. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0019.

STRUCTURE SUM-271-0047 (SFN: 7708793) THE EXISTING SIGN SHOWS 0045. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0047.

STRUCTURE SUM-271-0152 (SFN: 7708823) THE EXISTING SIGN SHOWS 0151. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0152.

STRUCTURE IDENTIFICATION SIGNS

STRUCTURE IDENTIFICATION SIGNS (I-H25b) WILL BE PLACED ON EACH APPROACH OFF THE RIGHT SHOULDER, FACING TRAFFIC, AND BEHIND THE GUARDRAIL IF APPLICABLE. A QUANTITY OF ONE SIGN PER APPROACH WILL BE INSTALLED. THE SIGNS WILL HAVE A NON-REFLECTIVE WHITE SHEETING BACKGROUND.

THE SIGNS WILL BE MOUNTED ON NEW NO. 2 POSTS AND WILL BE INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-41.20, MOST CURRENT REVISION. EACH POST WILL BE 7.5’ IN LENGTH.

INSTALL SIGNS FOR THE FOLLOWING STRUCTURES:
SUM-271-0019
SUM-271-0047
SUM-271-0152

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR EACH APPROACH:

- ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST, 7.5 FT
- ITEM 630 - SIGN, FLAT SHEET, 730.20, 1 SQ FT
- ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL, 1 EACH
- ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, 1 EACH

ITEM 847 - MICRO-SILICA MODIFIED CONCRETE OVERLAY, AS PER PLAN
ITEM 847 - MICRO-SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN
ITEM 847 - FULL DEPTH REPAIR, AS PER PLAN
ITEM 847 - WEARING COURSE REMOVED, AS PER PLAN
ITEM 847 - EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN

THESE ITEMS SHALL BE PERFORMED PER SUPPLEMENTAL SPECIFICATION BRIDGE DECK REPAIR AND OVERLAY WITH CONCRETE SCARIFICATION AND CHIPPING WITH THE FOLLOWING REVISIONS:

THE THICKNESS OF THE CONCRETE OVERLAY REMOVED, ASPHALT WEARING COURSE REMOVED, PROPOSED OVERLAY, AND THE DEPTH OF REMOVAL BY SCARIFICATION SHALL BE AS SPECIFIED IN THE PLANS.

CONSTRUCTION JOINTS WILL NOT BE PERMITTED IN THE WHEEL LINE.

(SEE 847.11) THE COMPONENTS OF THE MICRO-SILICA MODIFIED CONCRETE SHALL BE PROPORTIONED AS FOLLOWS.

CONCRETE TABLE QUANTITIES PER CUBIC YARD AGGREGATES (SSD)								
AGGREGATE TYPE	FINE AGGRE. (LB)	* # 8 COARSE AGGRE. (LB)	AGGRE TOTAL (LB)	CEMENT CONTENT (LB)	MICRO- SILICA (LB)	WATER TO CEMENTITIOUS RATIO	AIR CONTENT ± 2%	**FIBER (1 1/4" POLYPROPYLENE) (LB)
GRAVEL	1410	1430	2840	600	50	0.4	8	1
LIMESTONE	1410	1450	2860	600	50	0.4	8	1
SLAG	1300	1350	2650	600	50	0.4	8	1

* ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127

** FIBER MESH SHALL BE 100% VIRGIN POLYPROPYLENE IN A FIBRILLATED-NETWORK FORM AND SHALL BE 1/4” IN LENGTH.

THE WEIGHTS SPECIFIED IN THE CONCRETE TABLE WERE CALCULATED FOR MATERIALS OF THE FOLLOWING BULK SPECIFIC GRAVITIES (SSD): NATURAL SAND AND GRAVEL 2.62, LIMESTONE SAND 2.68, LIMESTONE 2.65, SLAG 2.30, MICRO-SILICA SOLIDS 2.20, AND PORTLAND CEMENT 3.15. FOR AGGREGATES OF SPECIFIC GRAVITIES DIFFERING MORE THAN PLUS OR MINUS 0.02 FROM THESE, THE WEIGHTS IN THE TABLE WILL BE CORRECTED. FIBER MESH WEIGHTS NOT INCLUDED IN MIX DESIGN.

ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED BY ASTM C127

ALL OTHER REQUIREMENTS OF THE SUPPLEMENTAL SPECIFICATION SHALL REMAIN IN EFFECT.

(SEE 847.18) THE FINAL DECK SOUNDING MAY TAKE PLACE WITHIN 24 HOURS OF A RAIN, AND THE DECK DOES NOT HAVE TO BE COMPLETELY DRY.

(SEE 847.19) FULL DEPTH REPAIR IS NOT REQUIRED IF LESS THAN ONE HALF OF THE DECK ORIGINAL CONCRETE THICKNESS IS SOUND.

(SEE 847.25) THE WET CURE TIME IS REDUCED FROM 72 HOURS TO 24 HOURS OR UNTIL A BEAM BREAK OF 600 PSI IS ACHIEVED, WHICHEVER IS GREATER. AFTER THE 24 HOUR WET CURE, THE FINISHED OVERLAY SURFACE SHALL BE CURED BY SPRAYING A UNIFORM APPLICATION OF CURING MATERIAL OF 705.07, TYPE 1 OR 1D, AS PER CMS 511.17 METHOD (B) MEMBRANE CURING. IF THE CURING COMPOUND CAN NOT BE PLACED WITHIN THE SAME SHORT TERM CLOSURE PERIOD AS THE OVERLAY, THE CONTRACTOR MAY ALLOW TRAFFIC ONTO THE OVERLAY, AND SHALL, AT THE NEXT AVAILABLE SHORT TERM CLOSURE PERIOD, APPLY THE MEMBRANE CURING COMPOUND.

(SEE 847.25) TRAFFIC WILL NOT BE PERMITTED ON THE FINISHED OVERLAY SURFACE UNTIL AFTER THE COMPLETION OF THE 24 HOUR WET CURE, AND AFTER TWO TEST BEAMS HAVE ATTAINED AN AVERAGE MODULUS OF RUPTURE OF 600 PST (4.2 Mpa).

(SEE 847.26) THE OVERLAY SURFACE EVAPORATION RATE REQUIREMENTS ARE IN EFFECT FROM 9:30 AM TO 11:00 PM. THEY ARE NOT IN EFFECT FROM 11:00 PM TO 11:00 AM.

(SEE 847.27) FOR EACH PHASE, THE CONTRACTOR SHALL PROVIDE ENOUGH MATERIAL FOR TWO BEAM BREAKS EACH AT 12 HOURS, 24 HOURS, 36 HOURS, AND 48 HOURS. THE DEPARTMENT WILL PERFORM THE BEAM BREAK TESTS AND DOCUMENT THE TIME OF THE POUR, THE TIME OF THE BEAM BREAK TESTS, AND THE MODULUS OF RUPTURE FOR EACH BEAM UNTIL THE MODULUS OF RUPTURE OF THE TWO TESTS IS NOT LESS THAN 650 PSI (4.5 MPa). TRAFFIC IS ALLOWED ON THE OVERLAY AT 600 PSI (4.5 Mpa).

ALL OTHER REQUIREMENTS OF THE SUPPLEMENTAL SPECIFICATION SHALL REMAIN IN EFFECT.

DESIGN AGENCY
ODOT-- DISTRICT 4
PLANNING AND ENGINEERING

DATE
2-2-16
REVIEWED
NRC
STRUCTURE FILE NUMBER

DRAWN
CNC
REVISID

DESIGNED
CNC
CHECKED

STRUCTURE GENERAL NOTES
SUM-271-0019, SUM-271-0047, AND SUM-271-0152

SUM-271-0.19/
0.47 / 1.52
PID No. 76404

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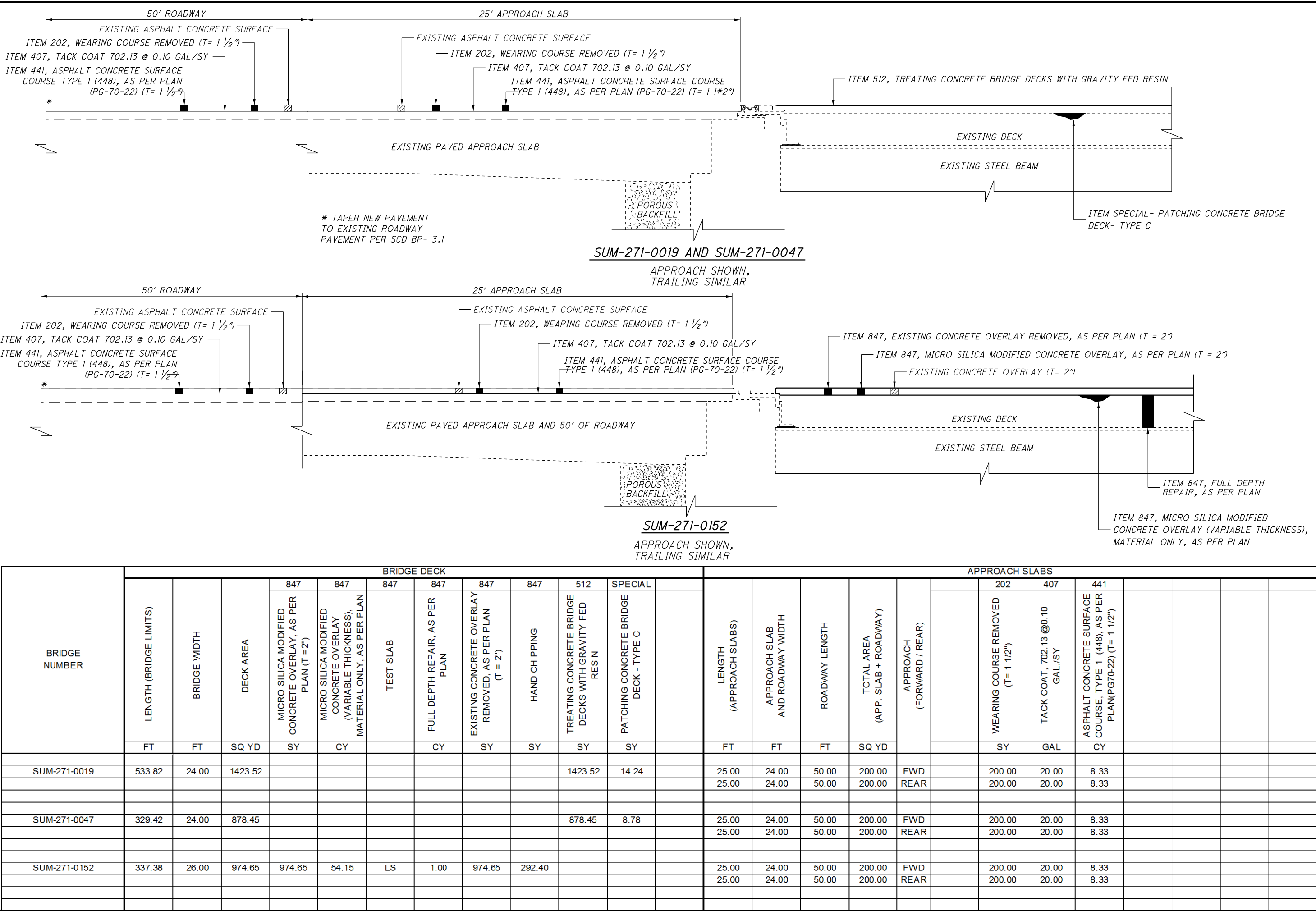
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CHECKED:	NRC	DATE:	2/2/2016

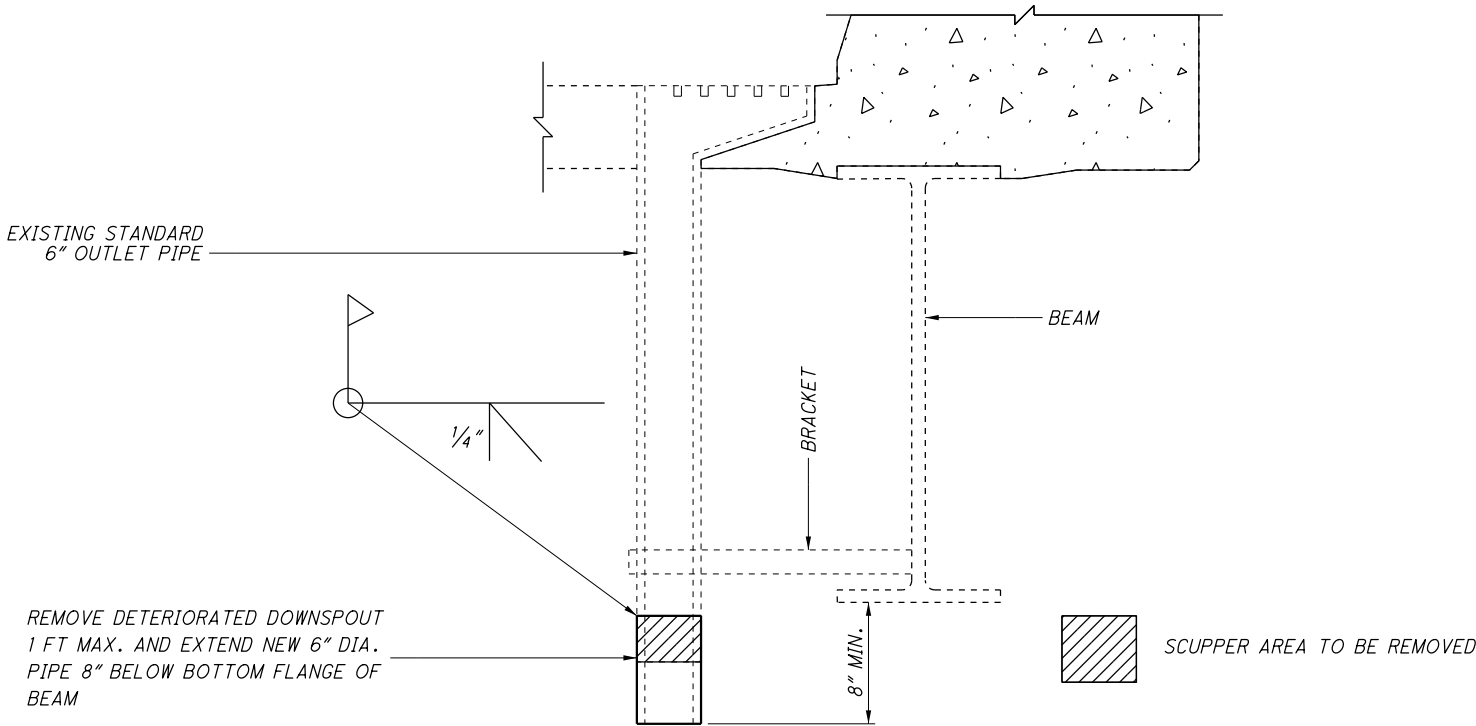
ESTIMATED QUANTITIES												
BRIDGE NO. / STRUCTURE FILE NO.								ITEM	EXTENSION	UNIT	DESCRIPTION	SEE SHEET
SUM-271-0019 7708769 01/IMS/BR	SUM-271-0047 7708793 01/IMS/BR	SUM-271-0152 7708823 01/IMS/BR										
LS	LS	LS						201	11000		CLEARING AND GRUBBING	
400	400	400						202	23500	SY	WEARING COURSE REMOVED	
5								203	40000	CY	BORROW	
40	40	40						407	10000	GAL	TACK COAT	
17	17	17						441	50101	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN (PG70-22)	1 / 6
5								511	71100	CY	CONCRETE, MISC.:BACKWALL REPAIR	
1802	1082	1275						512	10100	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
1424	879							512	73500	SY	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN	
		829						512	74000	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	
LS	LS	LS						514	00100		SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	
LS	LS	LS						514	00200		FIELD PAINTING OF EXSTING STRUCTURAL STEEL, PRIME COAT	
LS	LS	LS						514	00300		FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	
LS	LS	LS						514	00400		FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	
36	22	23						514	00504	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXSTING STRUCTURAL STEEL	
15	9	9						514	10000	EACH	FINAL INSPECTION REPAIR	
20	20	20						516	46801	EACH	REFURBISH AND RESET BEARING, AS PER PLAN	1 / 6
LS	LS	LS						516	47001		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	1 / 6
20	12	12						518	12500	EACH	SCUPPER, MISC.:CLEANOUT	4 / 6
20	12	12						518	12901	EACH	SCUPPER, LENGTHENING, AS PER PLAN	4 / 6
300	300	250						519	11101	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	2 / 6
	100							SPECIAL	51911720	FT	PATCHING CONCRETE STRUCTURE, MISC.:CURB REPAIR	1 / 6
15	9							SPECIAL	51912304	SY	PATCHING CONCRETE BRIDGE DECK - TYPE C	
50	50	50						SPECIAL	53000800	SY	STRUCTURE, MISC.:CONCRETE SPALL REMOVAL	1 / 6
5								601	20010	CY	CRUSHED AGGREGATE SLOPE PROTECTION	
20								601	21060	SY	TIED CONCRETE BLOCK MAT, TYPE 2	
	659							607	39910	FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC	
15	15	15						630	02100	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
2	2	2						630	80100	SF	SIGN, FLAT SHEET,730.20	
1	1	1						630	84900	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
1	1	1						630	86002	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
150	150	150						843	50000	SF	PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR	
		975						847	10001	SY	MICRO SILICA MODIFIED CONCRETE OVERLAY, AS PER PLAN	2 / 6
		55						847	20001	CY	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN	2 / 6
		LS						847	30000		TEST SLAB	
		1						847	30201	CY	FULL DEPTH REPAIR, AS PER PLAN	2 / 6
		975						847	30401	SY	EXSTING CONCRETE OVERLAY REMOVED, AS PER PLAN (T= 2")	2 / 6
		293						847	50000	SY	HAND CHIPPING	

DESIGN AGENCY ODOT-- DISTRICT 4 PLANNING AND ENGINEERING	REVIEWED NRC	DATE 2-2-16
	DRAWN CNC	STRUCTURE FILE NUMBER
STRUCTURE ESTIMATED QUANTITIES SUM-271-0019, SUM-271-0047, AND SUM-271-0152	DESIGNED CNC	CHECKED
	SUM-271-0.19/ 0.47 / 1.52 PID No. 76404	
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SCUPPER LENGTHENING DETAIL



NOTES

ITEM 518 - SCUPPER MISC.: CLEANOUT

THIS WORK WILL CONSIST OF REMOVING ALL DEBRIS FROM ON TOP AND INSIDE OF THE SCUPPERS. SCUPPER CLEANOUT WILL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 518, SCUPPER MISC.: CLEANOUT. THIS PRICE WILL INCLUDE THE COST FOR LABOR, EQUIPMENT, AND ALL INCIDENTALS REQUIRED TO COMPLETE THIS WORK.

ITEM 518, SCUPPER, LENGTHENING, AS PER PLAN

THIS WORK SHALL CONSIST OF THE REPAIR AND LENGTHENING OF SCUPPERS FOR THE FOLLOWING STRUCTURES: SUM-271-0019, SUM-271-0047 AND SUM-76-0152.

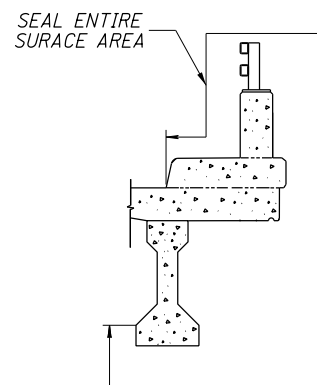
1. THE PIPE EXTENSIONS WILL BE WELDED IN PLACE AFTER THE EXISTING SURFACE HAS BEEN ABRASIVE BLASTED TO A SA-1.

2. ADDITIONAL LENGTH OF SCUPPER PIPE TO BE REPLACED IS TO BE DETERMINED BY THE PROJECT ENGINEER.

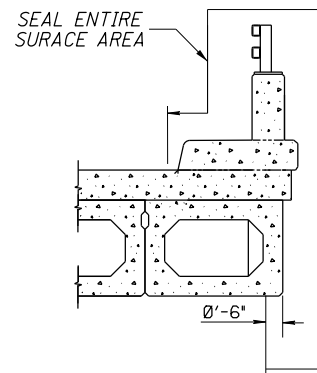
3. AFTER SCUPPER EXTENSION IS COMPLETE PAINT NEW SCUPPER EXTENSIONS PER CMS 514.22 USING PAINT COLOR 10080 FOR STRUCTURE SUM-271-0019, SUM-271-0047, AND SUM-271-0152.

4. IF ADDITIONAL INFORMATION IS REQUIRED, EXPIRED STD. DWG. SD-1-63 IS AVAILABLE UPON REQUEST.

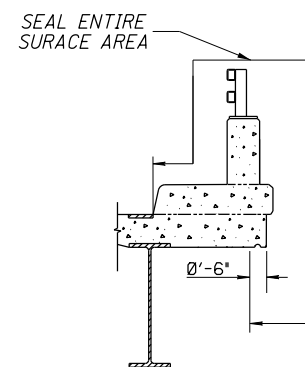
5. THIS WORK WILL BE PAID FOR AT THE UNIT BID PRICE FOR ITEM 518 - SCUPPER, LENGTHENING, AS PER PLAN. THIS PRICE WILL INCLUDE THE COST OF LABOR, MATERIALS, EQUIPMENT, PAINTING AND ALL INCIDENTALS REQUIRED TO COMPLETE THIS WORK.



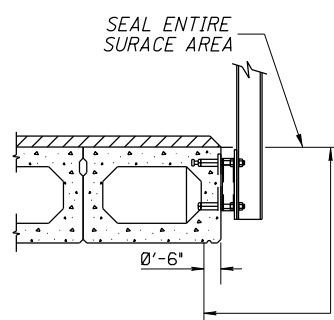
DETAIL B
CONCRETE DECKS WITH CURBS,
SIDEWALKS AND PARAPET



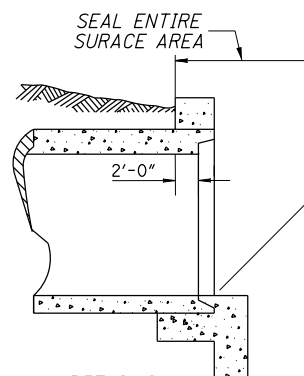
DETAIL D
PRESTRESSED BOX BEAM DECK
WITH DEFLECTOR PARAPET



DETAIL F
CONCRETE DECKS WITH CURBS,
SIDEWALKS AND PARAPET



DETAIL H
PRESTRESSED BOX BEAM DECK
WITH OVER THE SIDE DRAINAGE



DETAIL I
PRECAST REINFORCED
CONCRETE BOX CULVERT

NOTES:

- EPOXY-URETHANE SEALER SHALL BE USED UNLESS SHOWN OTHERWISE
- DETAILS E, F, G AND H ALSO APPLY TO CONCRETE SLAB BRIDGES