OHIO TURNPIKE COMMISSION

ADDENDUM NO. 1

CONTRACT NO. 77-13-01

THIRD LANE CONSTRUCTION
M.P. 59.52 TO M.P. 64.13
LUCAS AND WOOD COUNTIES, OHIO

OPENING DATE: 2:00 P.M. (E.S.T.), DECEMBER 20, 2012

ATTENTION OF BIDDERS IS DIRECTED TO:

ANSWERS TO QUESTIONS RECEIVED THROUGH 12:00 P.M., DECEMBER 10, 2012

MODIFICATIONS TO THE BID FORM
Pages revised: OTC-BF-2

MODIFICATIONS TO THE SPECIFICATIONS
Pages revised: TOC-2, SP-283 and SP-284
Pages added: SP-256A, SP-256B, SP-256C, SP-256D, SP-256E and SP-256F

MODIFICATIONS TO THE DRAWINGS
Contract Drawings: Sheets 1, 12, 17, 42 and 118 of 322
OTC Standard Drawings: AS-1, AS-2, AS-3, AS-4, AS-5 and CB-1
ODOT Standard Drawings: BP-2.1, BP-2.2 and BS-1-93

Issued by the Ohio Turnpike Commission on December 10, 2012. Issuance authorized by Richard Hodges, Executive Director and Kathleen Weiss, General Counsel.

12/10/12
Richard Hodges Date

Kathleen Weiss 12/10/12
Kathleen Weiss Date

OHIO TURNPIKE COMMISSION
ADDENDUM NO. 1
CONTRACT NO. 77-13-01

ANSWERS TO QUESTIONS RECEIVED THROUGH 12:00 P.M., DECEMBER 10, 2012

Q#1 **Plan sheet 8 shows shoulder details requiring a saw cut per 203.04e where new asphalt meets existing but there is no pay item. Should there be a separate pay item for this, or is this considered an "incidental" cost?**

A#1 *Saw cutting is an incidental cost in accordance with 203.04(E) of the ODOT CMS, and no separate pay items shall be included.*

Q#2 **Due to the complexity of the bid items for the above named project bidding on the 20th, I was hoping you would consider forwarding the excel file for the bid items so that I may import it into our bidding software rather than have to manually enter this. Please advise.**

A#2 *Yes, the Bid Form in an electronic spreadsheet will be e-mailed in response to requests received by Commission's Procurement Manager at kevin.golick@ohioturnpike.org.*

Q#3 **SP 115 Railroad Protective Liability Insurance and details provided in SP 827B (Norfold-Southern) and SP 827D (CSX) does not include all information for the insurance carriers to quote the premium for the insurance required. Please provide the following additional information for both the Norfolk-Southern and CSX Railroads: Number of passenger trains per day. Max authorized operating speed of passenger trains (MPH). Number of freight trains per day. Max authorized operating speed of freight trains (MPH).**

A#3 *The Commission is endeavoring to obtain this information and will provide the answer with Addendum No. 2.*

Q#4 **SP 622 Portable Concrete Barrier. Are portable concrete barriers owned by the Commission currently stored at various interchanges available for use by the Contractor? (yes or no). If yes, please specify locations and quantities available.**

A#4 *No. Commission owned portable concrete barriers are not available for the Contractor's use in this Project.*

Q#5 Is Zoneguard portable steel barrier an approved barrier type? (yes or no)

A#5 A portable steel barrier system specification has been added via this Addendum No. 1 to the "Material" section of the "SP 622 – Concrete Portable Barrier" Special Provision.

Q#6 SP 104 Access to Turnpike and Restrictions states no work shall be permitted on the railroad bridges at MP 61.5 (NS RR) and MP 63.5 (CSX RR) until agreements by the Commission are finalized with an anticipated agreement date of November 2, 2013. At MP 61.5 (plan sheet 263) may bridge work proceed prior to the agreement in areas not adjacent to the NS RR? (Specifically, no work on piers 1 & 2 until an agreement on or about November 2, 2013 BUT proceeds with abutments and piers 3 & 4 outside the NS RR limits in Phase 2 construction (2013).

A#6 Any Work within, or that requires access to, a railroad right-of-way shall not begin until the necessary railroad agreements are finalized with the Commission and all required submittals for both railroads and the Commission are approved.

Q#7 Similarly, at MP 63.5 (plan sheet 290) may work proceed in Phase 2 construction (2013) on abutments outside the CSX limits prior to the agreement?

A#7 See the response to Q#6.

Q#8 Regarding the above referenced project, in order to get a quote for the Railroad Protective Insurance, I need the following information for each railroad. Number of Trains per day, Passenger ?, Freight ?, Unscheduled ? and Scheduled ? I need this information for both Norfolk Southern and CSX Railroad.

A#8 See the response to Q#3.

Q#9 The notes on page 12 regarding the Concrete Barrier, Type B-50 & Type C-50 give two different methods for curing the barrier wall. The Type B-50 calls for a clear cure/sealing compound while the Type C-50 calls for curing per 511.17, Method B (membrane curing). In addition OTC Standard Drawing CBR-3 calls for concrete surfaces to receive a masonry coat paid in accordance with SP 536A (see note 10). Please clarify what curing method is required and whether the masonry coat will used. Currently the

only quantity of masonry coat setup in the bid is limited to the Median Wall, 2 ft & 4 ft (see bid item #31).

A#9 All concrete barrier surfaces shall be cured using the SP 536A, Masonry Coating in accordance with the manufacturer's recommendations. With this Addendum No. 1, the SP 536A – Masonry Coating Specification has been added to the Special Provisions, a note has been added to the Plan's General Notes, and a quantity has been added to the Plan's General Summary and to the Bid Form.

Q#10 The EB & WB bridges over the Maumee River have already been widened. Currently, portable concrete barrier is in place on each bridge closing off the inside third lane. Can this portable concrete barrier remain and be used by the contractor in the MOT phasing? (yes or no) If yes, what is to be done with this portable concrete barrier upon completion of the project? If no, what is to be done with this portable concrete barrier during the project?

*A#10 No, the existing portable barrier over the Maumee River Bridge may not be used during this Project. The Commission will remove the concrete barrier from the project site at the Contractor's request. The Contractor will need to then place its portable concrete barrier as needed, once the existing concrete barrier is removed. The "for information purposes only" quantity of Item 622 - Portable Concrete Barrier on Sheet 17 of 322 has been revised to **10.72** miles via this Addendum No. 1.*

Q#11 Maintenance of Traffic plan sheets 32, 32A, 33 and 34 show details for an optional winter phase. These sheets show Item 615 Temporary Pavement, Class B and Item 615 Temporary Roads. There is no pay item in the proposal for this work. Please add these items of work or explain how this is to be paid for.

A#11 Should the Contractor decide to use the optional winter phase in order to gain access to a bridge or bridges during the winter of 2013-2014, then the additional Maintenance of Traffic Work will be required, including all temporary pavement and access, which shall be incidental to item 614 – Maintaining Traffic.

Q#12 Will the contractor be required to follow ODOT Spec 451.12 and 451.13 from the ODOT CMS book which requires smoothness testing and grinding for corrections on the 10" Reinforced Concrete Pavement Item?

A#12 Yes.

Q#13 The special provisions (SP 115) do not include railroad train traffic information for either NSRR or CSX. Please provide the following information in order that we can obtain quotes for the Railroad Protective Insurance Coverages (bid items 584 and 585): 1. Are passenger trains on the track? 2. How many trains / day? 3. What is the average speed of the trains?

A#13 See the response to Q#3.

Q#14 Will 702.13 rubberized asphalt emulsion (tack coat) be required over the new concrete base pavement?

A#14 Yes, tack coat conforming to SP 407 shall be required over concrete base pavement per the Plans and the Specifications.

Q#15 During Phase 1 construction, will the contractor be allowed to operate equipment / trucks in the driving lane (without a buffer lane)?

A#15 During the shoulder reconditioning process, the Contractor shall move traffic into the existing passing lane while utilizing a driving lane closure. This closure shall be implemented per OTC Standards Drawings, and the shoulder reconditioning Work will be performed using this closure. The lane closure shall be removed and reset each day, and the elevation difference between the driving lane and the shoulder Work shall not exceed three (3) inches. The closed driving (right) lane shall serve as a buffer between the traveling lane and the Work locations. The Contractor may use the driving lane to transport men, equipment, and materials as necessary.

Q#16 During Phase 1 construction, will grinding and paving trucks below allowed to ingress/egress into the closed zone at the point of milling / paving operations OR will the ingress be at the beginning of the zone closure and egress at the end of the zone closures?

A#16 Ingress and egress locations can be located where requested by the Contractor, but the approval is always at the discretion of the Chief Engineer. These ingress and egress locations shall be in accordance with OTC Standard Drawings, which require the use of flaggers at each location.

Q#17 According to Note #8 on CBR-3, 2.5 ft will be deducted from the barrier wall quantity and paid under with each junction box. MCC-1 & MCC-2 then

show 12 ft of barrier wall between expansion joints for 2 junction boxes (staggered at 8 ft) or 4 ft of barrier wall for 1 junction box. Please clarify how much barrier wall will be deducted at each junction box.

A#17 The Commission will provide the answer with Addendum No. 2.

Q#18 Bid Item 77- Class C Concrete, Miscellaneous: there is no plan detail, what is the purpose for the multiple locations of this item in the drainage quantities?

A#18 The Commission will provide the answer with Addendum No. 2.

Q#19 Can you please post the excel spreadsheet for the bid items on this project? Thanks.

A#19 See answer to Q#2.

Q#20 I see this is designated with "13", does that not make it a 2013 project? Can you delay this project until 2013?

A#20 The Commission will provide the answer with Addendum No. 2.

Q#21 Would OTC please provide a bid excel spreadhsheet in lieu of requiring the contractor to ink in all the bid items?

A#21 See response to Q#2. A new bid form is provided with this Addendum No. 1.

Q#22 Will the OTC allow batch plants to be setup on any of their property within or outside of the work limits for this project (interchange areas for example)?

A#22 The Commission will provide the answer with Addendum No. 2.

MODIFICATIONS VIA ADDENDUM NO. 1 TO THE CONTRACT DOCUMENTS FOR CONTRACT NO. 77-13-01

The following changes are made to the Contract Documents for Contract No. 77-13-01:

(BIDDERS ARE ADVISED TO UTILIZE THE ATTACHED REPLACEMENT PAGES AND PLAN SHEETS).

MODIFICATIONS TO THE BID FORM
Deletions are shown with ~~strikethrough~~ text.
Changes/Additions are shown with ***bold italicized*** text.

Page OTC-BF-2

The Item No. ~~SP-536~~ associated with Bid Ref. No. ~~31~~, ~~CONCRETE WEATHERPROOFING, MEDIAN WALL~~, ~~approx. quantity 2990~~, on the Bid Form has been deleted and replaced with ***Ref. No. 31A SP536A MASONRY COATING***, with an approximate quantity of ***31,489 SQ.YDS***.

MODIFICATIONS TO THE SPECIAL PROVISIONS
Deletions are shown with ~~strikethrough~~ text.
Changes/Additions are shown with ***bold italicized*** text.

Page Table of Contents 2 of 4:

Add new Specification: ***SP 536A – MASONRY COATING, Pages 256A-256F.***

Pages SP-256A through SP-256F:

A new Special Provision "***SP 536A – MASONRY COATING***" was added to the Contract Documents as new Pages ***256A, 256B, 256C, 256D, 256E and 256F***.

Pages SP-283 and SP-284

SP 622 PORTABLE CONCRETE BARRIER: Section B entitled "Material" is revised as follows:

B. Materials

~~Portable concrete barrier shall be as specified in Section 622.02 of the Specifications.~~
Portable Concrete Barrier Option 1: Portable concrete barrier in accordance with this section, ODOT CMS 622 Portable Concrete Barrier and ODOT Standard Drawings RM-4.3 32" Portable Concrete Barrier.

Portable Concrete Barrier Option 2: ***A portable steel barrier system comprised of nominally eight (8) gauge thick ASTM A36 pressed steel panels, galvanized prior to assembly. Barrier sections shall be 50 feet long and 32 inches in overall height. Base width shall be a minimum of 2.3 feet and a top width of 6.25 inches. The barrier shall have a mountable foot section and have rubber feet fastened to the sections at 4 foot intervals. A lifting system shall be incorporated into the sections. Installation of the sections shall not impede drainage. Each section shall be anchored to the pavement at a minimum of two points. Portable steel barrier shall meet the requirements of NCHRP Report 350 Test Level 3 (TL3) and Test Level 4 (TL4).***

MODIFICATIONS TO THE PLAN DRAWINGS

Modifications to the Plan Drawings

Deletions in Plan Notes are shown with ~~strikethrough~~ text.
Changes/Additions in the Plan Notes are shown with ***bold italicized*** text.
Additions and deletions on Plan Drawings are indicated with a cloud and revision triangle thus:

Plan Sheet 1 of 322

The OHIO TURNPIKE COMMISSION STANDARD DRAWINGS table was revised as follows:

AS-1	~~01-24-11~~ ***11-20-12***
AS-2	~~01-24-11~~ ***11-20-12***
AS-3	~~01-24-11~~ ***11-20-12***
AS-4	~~01-24-11~~ ***11-20-12***
AS-5	~~01-24-11~~ ***11-20-12***
RPM-1	~~06-25-07~~ ***12-21-11***
TCR-2	~~06-25-07~~ ***12-21-11***

The OHIO DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS table was revised as follows:

TC-22.10	~~01-19-07~~ ***01-19-01***

Plan Sheet 12 of 322:

The following General Note was added:

SP 536A, MASONRY COATING

ALL EXPOSED CONCRETE BARRIER SURFACES SHALL RECEIVE A COATING PER SP 536A. THE MASONRY COATING SHALL ALSO BE USED AS THE CURE COAT. THE FINAL APPEARANCE SHALL BE UNIFORM AND CONSISTENT, AND SHALL CONFORM TO ALL PROVISIONS IN SP 536A. NO ADDITIONAL PAYMENT SHALL BE MADE IF THE CONTRACTOR IS REQUIRED TO APPLY ADDITIONAL COATINGS TO ACHIEVE A UNIFORM APPEARANCE. THE MATERIAL SHALL BE APPLIED PER THE MANUFACTURER'S RECOMMENDATIONS. ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE BID PRICE FOR SP 536A, MASONRY COATING. THE FOLLOWING QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR SP536A, MASONRY COATING:

SP 536A, MASONRY COATING 31,489 SQ.YD.

The following General Notes were revised to state as follows:

<u>ITEM 622 - CONCRETE BARRIER, TYPE B-50, AS PER PLAN</u>

ITEM 622 - CONCRETE BARRIER, TYPE B-50, AS PER PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH OTC STANDARD DRAWING CBR-3 AND CMS 622.

IN LIEU OF THE CURING COMPOUNDS SPECIFIED IN SECTION 622.07 OF THE SPECIFICATIONS, THE CONCRETE BARRIER SHALL BE CURED USING THE MATERIAL SPECIFIED IN SP 536A. THE SP 536A MATERIAL APPLICATION SHALL BE AS PER THE RECOMMENDATIONS OF THE MANUFACTURER. THE CONTRACTOR SHALL SUBMIT TECHNICAL DATA FOR THE SP 536A MATERIAL TO THE ENGINEER FOR APPROVAL. THE COST OF CURING THE WALL AND BARRIER SHALL BE INCLUDED IN THE BID PRICE FOR SP 536A, MASONRY COATING. ALL OTHER PROVISIONS OF SECTION 622 OF THE SPECIFICATIONS SHALL APPLY.

ITEM 622 - CONCRETE BARRIER, TYPE C-50, AS PER PLAN

ITEM 622 - CONCRETE BARRIER, TYPE C-50, AS PER PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH OTC STANDARD DRAWING CBR-3, AND SECTION 622 OF THE SPECIFICATIONS.

IN LIEU OF THE CURING COMPOUNDS SPECIFIED IN SECTION 622.07 OF THE SPECIFICATIONS, THE CONCRETE BARRIER SHALL BE CURED USING THE MATERIAL SPECIFIED IN SP 536A. THE SP 536A MATERIAL APPLICATION SHALL BE AS PER THE RECOMMENDATIONS OF THE MANUFACTURER. THE CONTRACTOR SHALL SUBMIT TECHNICAL DATA FOR THE SP 536A MATERIAL TO THE ENGINEER FOR APPROVAL. THE COST OF CURING THE WALL AND BARRIER SHALL BE INCLUDED IN THE BID PRICE FOR SP 536A, MASONRY COATING. ALL OTHER PROVISIONS OF SECTION 622 OF THE SPECIFICATIONS SHALL APPLY.

ITEM 622 - CONCRETE BARRIER, TYPE D, AS PER PLAN

ITEM 622 - CONCRETE BARRIER, TYPE D, AS PER PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH OTC STANDARD DRAWING CBR-3, AND SECTION 622 OF THE SPECIFICATIONS.

IN LIEU OF THE CURING COMPOUNDS SPECIFIED IN SECTION 622.07 OF THE SPECIFICATIONS, THE CONCRETE BARRIER SHALL BE CURED USING THE MATERIAL SPECIFIED IN SP 536A. THE SP 536A MATERIAL APPLICATION SHALL BE AS PER THE RECOMMENDATIONS OF THE MANUFACTURER. THE CONTRACTOR SHALL SUBMIT TECHNICAL DATA FOR THE SP 536A MATERIAL TO THE ENGINEER FOR APPROVAL. THE COST OF CURING THE WALL AND BARRIER SHALL BE INCLUDED IN THE BID PRICE FOR SP 536A, MASONRY COATING. ALL OTHER PROVISIONS OF SECTION 622 OF THE SPECIFICATIONS SHALL APPLY.

THE COST OF THE BARRIER TRANSITION SHALL BE INCIDENTAL TO ITEM 622 - CONCRETE BARRIER, TYPE D, AS PER PLAN. THE BARRIER TRANSITION SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAIL SHEET 195B. PAYMENT FOR ALL MATERIALS AND LABOR SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 622 - CONCRETE BARRIER, TYPE D, AS PER PLAN.

Plan Sheet 17 of 322:

The Quantity for Item 622, Concrete Barrier Delineator, Phase 2, MP 59.28 to MP 64 36 EB have been revised from ~~2493~~ to ***2682*** Each.

The Quantity for Item 622, Temporary Concrete Barrier, Phase 2, MP 59.28 to MP 64.36 EB have been revised from ~~4.72~~ to ***5.08*** Miles.

The Quantity for Item 622, Concrete Barrier Delineator, Phase 2, MP 59.24 to MP 64.88 WB have been revised from ~~2461~~ to ***2978*** Each.

The Quantity for Item 622, Temporary Concrete Barrier, Phase 2, MP 59.24 to MP 64.88 WB have been revised to from ~~4.66~~ to ***5.64*** Miles

The Total Quantity for Item SP 622, Concrete Barrier Delineator, is modified from ~~4,954~~ to ***5,660*** Each.

The Total Quantity for Item SP 622, Portable Concrete Barrier, is modified from ~~9.38~~ to ***10.72*** Miles.

Plan Sheet 42 of 322

The following General Summary item has been revised:

~~SP 536, WEATHERPROOFING MEDIAN WALL, 2990 SQ.YD.~~ was deleted and replaced with ***SP 536A, MASONRY COATING, 31,489 SQ.YD.***

Plan Sheet 118 of 322

~~SP 536, WEATHERPROOFING MEDIAN WALL~~ has been deleted from the Sub-Summary for Median Walls table.

SUBSTITUTIONS OF OTC STANDARD DRAWINGS

The OTC Standard Drawing AS-1 shall be replaced with new OTC Standard Drawing AS-1 (dated NOVEMBER 20, 2012).

The OTC Standard Drawing AS-2 shall be replaced with new OTC Standard Drawing AS-2 (dated NOVEMBER 20, 2012).

The OTC Standard Drawing AS-3 shall be replaced with new OTC Standard Drawing AS-3 (dated NOVEMBER 20, 2012).

The OTC Standard Drawing AS-4 shall be replaced with new OTC Standard Drawing AS-4 (dated NOVEMBER 20, 2012)

The OTC Standard Drawing AS-5 shall be replaced with new OTC Standard Drawing AS-5 (dated NOVEMBER 20, 2012).

The OTC Standard Drawing CB-1 shall be replaced with new OTC Standard Drawing CB-1 (marked REVISED FOR ADDEDUM NO. 1 DATED: 12-10-2012).

SUBSTITUTIONS OF ODOT STANDARD DRAWINGS

The ODOT Standard Drawing BP-2.1 shall be replaced with new ODOT Standard Drawing BP-2.1 (dated 7-18-08).

The ODOT Standard Drawing BP-2.2 shall be replaced with new ODOT Standard Drawing BP-2.2 (dated 7-18-08).

The ODOT Standard Drawing BS-1-93 shall be replaced with new ODOT Standard Drawing BS-1-93 (dated 12-19-94).

ATTACHMENTS:
Bid Form Page OTC-BF-2
Special Provisions Table of Contents Page 2 of 4
Special Provisions Pages SP-256A, SP-256B, SP-256C, SP-256D, SP-256E, SP-256F, SP-283 and SP-284
Plan Sheets Pages 1, 12, 17, 42 and 118 of 322
OTC Standard Drawings AS-1, AS-2, AS-3, AS-4, AS-5 and CB-1
ODOT Standard Drawings BP-2.1, BP-2.2 and BS-1-93

Receipt of Addendum No. 1 to Contract No. 77-13-01 is hereby acknowledged:

_____
(Firm Name)

_____
(Signature)

_____
(Printed Name)

Date: _____

G:\CONSTINV\ADDENDUM\771301addendum#1 doc

BID FORM CONTRACT NO. 77-13-01

Ref. No.	Item No.	Item Description	Approx. Quantity	Unit	Unit Cost	Extended Bid Amount
		ROADWAY (Ref. Nos. 1 - 55)				
1	SP 201	CLEARING AND GRUBBING, AS PER PLAN	LUMP SUM	-		
2	202	CONCRETE BARRIER REMOVED	608	LIN. FT.		
3	202	PIPE REMOVED, 24" AND UNDER	3,079	LIN. FT.		
4	202	GUARD POST REMOVED	38	EACH		
5	202	HEADWALL REMOVED	16	EACH		
6	202	CATCH BASIN REMOVED	45	EACH		
7	202	PIPE REMOVED OVER 24"	12	LIN. FT.		
8	202	FENCE REMOVED FOR REUSE	190	LIN. FT.		
9	202	GUARDRAIL REMOVED	12,273	LIN. FT.		
10	202	GUARDRAIL REMOVED FOR STORAGE	125	LIN. FT.		
11	202	GUARDRAIL REMOVED FOR REUSE	9,456	LIN. FT.		
12	202	FENCE REMOVED	1,116	LIN. FT.		
13	202	WALK REMOVED	300	SQ. FT.		
14	202	CURB AND GUTTER REMOVED	110	LIN. FT.		
15	202	ANCHOR ASSEMBLY REMOVED, TYPE T	19	EACH		
16	202	ANCHOR ASSEMBLY REMOVED FOR STORAGE	2	EACH		
17	SP 202B	3 CORNER CRACK REPAIR, USING ITEM SP402	10	CU. YD.		
18	SP 202J	PLUG AND FILL EXISTING CONDUIT	555	LIN. FT.		
19	SP 202K	ANCHOR ASSEMBLY, SYRO STEEL ET-2000, REMOVED FOR STORAGE	24	EACH		
20	SP 202L	ANCHOR ASSEMBLY, SYRO STEEL ET-2000, REMOVED AND RESET	2	EACH		
21	203	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	62,860	CU. YD.		
22	203	EMBANKMENT	37,569	CU. YD.		
23	204	PROOF ROLLING	44	HOUR		
24	204	SUBGRADE COMPACTION	140,456	SQ. YD.		
25	209	DITCH CLEANOUT, AS PER PLAN	4,881	LIN. FT.		
26	SP 205	LIME MODIFIED SUBGRAOE	66,000	SQ. YD.		
27	SP 205	CEMENT MODIFIED SUBGRADE	66,000	SQ. YD.		
28	SP 205	LIME	3,300	TON		
29	SP 205	CEMENT	4,125	TON		
30	SP 205	WATER	100	M. GAL.		
31	SP 536*A*	~~CONCRETE WEATHERPROOFING, MEDIAN WALL~~ ***MASONRY COATING***	~~2990~~ ***31489***	SQ. YD.		
32	604	MONUMENT ASSEMBLY	27	EACH		
33	606	ANCHOR ASSEMBLY, TYPE T	5	EACH		
34	606	BRIDGE TERMINAL ASSEMBY, TYPE 1, USING STEEL POSTS	24	EACH		
35	606	BRIDGE TERMINAL ASSEMBLY, TYPE 2, USING STEEL POSTS	1	EACH		

INDEX - SPECIAL PROVISIONS

SP 536A **MASONRY COATING**
(10/12)

A. Description

This Item shall consist of the necessary labor, materials and equipment to clean, prepare and treat Portland cement concrete surfaces, as specified in the Plans or as directed by the Chief Engineer, in accordance with these Specifications as described herein.

B. Materials

The materials shall be Tex-Cote XL-70 Bridge Cote with Silane, manufactured by Textured Coatings of America, Texture DOT with Silane manufactured by Chemmasters, or approved equal and shall be a commercial product designed specifically for coating concrete and shall be suitable for application on damp, uncured concrete and/or cured concrete. The color of the applied masonry coating shall be in accordance with Federal Color Standard No 595 and shall be "Color #36622, Light Gray" or as approved by the Chief Engineer

C. Material Tests and Certification

Prior to the application of any material, the Chief Engineer shall be provided certification confirming that the commercial product furnished is in accordance with the same formula as that previously subjected to tests specified below and approved. Copies of the current test reports shall be attached to the certification. Reports for tests made more than four (4) years prior to the shipment to the Contract will not be accepted. All testing shall be performed by a qualified, commercial testing laboratory, acceptable to the Commission.

The applied finish coat shall be subjected to and shall satisfy the requirements of the tests listed below, prior to the use on this project.

1 FREEZE-THAW TESTS

The applied finish coating shall be subjected to freeze thaw cycle tests as follows:

a. Three (3) concrete specimens, not less than four inches (4") by six inches (6"), of the mix design for the structure shall be cast and cured Fourteen (14) days moist curing with a drying period at room temperature, sixty degrees (60°) F to eighty degrees (80°) F, for twenty-four (24) hours will be required before the specimens are coated with the applied finish Caution shall be taken that there be no excessive oil on specimen forms The finish coating shall be applied to the sides of specimens at a spreading rate of fifty (50) $\pm$ ten (10) square feet per gallon. Brush application will be permitted Cementitious coatings shall be cured at room temperature and thirty (30) percent relative humidity for twenty-four (24) hours, at room temperature and ninety (90) percent relative humidity for forty-eight (48) hours, and at room temperature and fifty (50) percent relative humidity for four (4) days for a total curing time of seven (7) days. Other coatings shall be cured at room temperature for forty (48) hours after the completion of curing

b The specimens shall be immersed in water at room temperature for three (3) hours, and then removed

c The specimens shall be placed in cold storage at negative fifteen degrees (15°) F for one (1) hour, and then removed

d The specimens shall be thawed at room temperature for one (1) hour

e. Steps c and d shall be repeated for a total of 250 cycles At the end of 250 cycles, the specimens shall show no visible defects

2 ACCELERATED WEATHERING

The applied finish coating shall be subjected to a 7,500 hour exposure test in a Twin-Carbon-Arc-Weatherometer, ASTM G 23, Type D, at an operating temperature of 145 degrees F. The test shall be made at twenty (20) minute cycles consisting of seventeen (17) minutes of light and three (3) minutes of water spray plus light At the end of the exposure test, the exposed samples shall show no chipping, flaking, or peeling. The panels for this test shall be prepared by applying the coating at a spreading rate of fifty (50) + ten (10) square feet per gallon to both sides and edges of panels cut from asbestos cement shingles in accordance with Federal Specifications SS-S-346, Type I Curing time shall be in accordance with Section 1.a.

3. FUNGUS GROWTH RESISTANCE

The applied finish coating to be used shall pass a fungus resistance test in accordance with Federal Specification TT-29g. Fungus growth shall be indicated after a minimum incubation period of twenty-one (21) days

4 ABRASION RESISTANCE

The applied finish coating to be used shall pass the 2,000 liter sand abrasion test in accordance with Method 6191 Abrasion Resistance — Falling Sand, Federal Test Method Standard 141a, ASTM D968-81. The specimens for this test shall be prepared by applying the coating to a cleaned steel panel at a spread rate of fifty (50) + ten (10) square feet per gallon. The specimens shall be cured at room temperature for twenty-one (21) days.

5. IMPACT RESISTANCE

The finish coating shall be applied to a concrete panel prepared according to Federal Test Method Standard 141a, Method 2051, at a spreading rate of fifty (50) + ten (10) square feet per gallon, and allowed to cure for twenty-one (21) days at room temperature The test shall be run using the Gardner Mandrel Impact Tester in accordance with ASTM D 2794 using a one-half inch (1/2") indenter load of twenty-four (24) inch-pounds The coating shall show no chipping under this impact load

6. SALT-SPRAY RESISTANCE TEST

A concrete specimen shall be coated at the rate of one (1) gallon per fifty (50) + ten (10) square feet and cured for twenty-one (21) days at room temperature. The coated specimen shall be exposed to a five (5) percent salt solution in accordance with ASTM B117 for 2,500 hours

where the atmospheric temperature is maintained at ninety degrees (90°) F + two degrees (2°) F At the end of 2,500 hours of exposure, the coating shall show no ill effects, loss of adhesion, or deterioration.

7 FLEXIBILITY TEST

A sheet metal specimen shall be coated with the applied finish coating at a rate of one (1) gallon per forty-five (45) square feet + ten (10) percent and allowed to cure for forty-eight (48) hours at room temperature The coated specimen shall be bent 180 degrees over a one inch (1") round mandrel. After bending, the coating shall show no breaking.

In addition to the certification and test reports required above, a service record shall be supplied showing that the finish coating material has a satisfactory service record on concrete surfaces for a period of not less than five (5) years prior to the date of submission of the service record The finish coating shall also have shown satisfactory service characteristics without peeling, chipping, flaking, and non-uniform change in texture or color. A specific structure for the specific product shall be named for the service record In addition to the above requirements, the manufacturer shall submit, for each batch of material used, the following product analysis data:

a Weight per gallon.
b Viscosity in Kreb units
c. Weight percent pigment
d. Weight percent vehicle solids.
e Infrared spectra of vehicle solution

D. Manufacturer's Representative

The Contractor shall give the manufacturer's technical representative notice of the intended date of application. The Contractor shall have the manufacturer's representative present during the testing and initial installation

E Surface Condition and Preparation

1. Surface preparation prior to the application of an applied finish coating shall consist of a general surface finish in accordance with the specified requirements. Cavities, which require grout filling, shall have been filled prior to coating application Air pockets that are one-quarter inch (1/4") in width and depth or less need not be grouted prior to application of the finishing coat. Air pockets that are larger than one-quarter inch (1/4") in width and depth shall be filled with grout consisting of one (1) part Portland cement, two (2) parts screened and washed sand graded to pass the sixteen (16) mesh sieve with no more than five (5)% retained on the thirty (30) mesh sieve and sufficient water to produce a thick liquid mix, or by the use of a grout composed of the same materials used for the applied finish coating The grout shall be applied filling the air pockets by using burlap pads, float sponges or other acceptable methods. As soon as the grout has taken its initial set, the surface shall be brushed to remove all loose grout, leaving the surface smooth and free of any air holes

2. Surfaces to which coatings are to be applied shall be free from efflorescence, flaking coatings, dust, dirt, oil, wax, curing compounds, laitance, foreign materials, deleterious substances and shall be

structurally sound. Weak sections and spalled areas shall have been repaired before application of the coating Curing compound and form release agent must be removed and may require light sandblast or waterblast at a minimum 2,500 p s i or greater

3. The use of chemicals and other cleaning compounds to facilitate the removal of these foreign materials shall be approved by the coating manufacturer or its representative before use

4 Prior to the application of the finish coating, the surfaces shall have been prepared in accordance with the manufacturer's recommendations and shall be in a condition consistent with the manufacturer' requirements.

F. Test Application

Prior to the final application, the Contractor shall apply masonry coating to measured test coverage areas on horizontal and vertical surfaces of the different components of the structure to be coated for the purpose of demonstrating the desired physical and visual effect of masonry coating application necessary to achieve the specified coverage rate as per the manufacturer's recommendations. In the latter case, the applicator shall use at least one-half (1/2) gallon of masonry coating following the manufacturer's recommended method of application for the total of the test surfaces.

G. Application

1 The application, including equipment used, shall be in accordance with the manufacturer's recommendations The material shall be applied by qualified personnel experienced in the Work

2 When used as a curing compound, curing shall be performed in accordance with Section 511 17 Method (B) of the Specifications and at an application rate specified by the manufacturer to achieve an adequate curing membrane, uniform appearance, texture and color, as approved by the Chief Engineer.

3. The coating material shall have a shelf life of not less than twelve (12) months The material shall be delivered to the job site in sealed containers bearing the manufacturer's original labels The brand, color and type shall be clearly marked on each container A copy of the manufacturer's printed instructions shall be provided to the Chief Engineer

4 The coating material shall be stored prior to surface preparation and application of the material in airtight, upright containers. The containers shall be stored in a dry location where the temperature is above forty degrees (40°) F and less than 100 degrees F

5. The material shall be thoroughly mixed in its original container. If skins have formed, they shall be removed prior to mixing the material The material shall not be thinned

6. The material shall be applied at a uniform film thickness at a rate of fifty (50) + ten (10) square feet per gallon The application rate shall be sufficient enough to produce a uniform color and texture

7 The material shall be applied only when the ambient temperature is between forty degrees (40°) F and rising, 100 degrees F

8. The material shall be capable of being applied on damp, but not wet concrete surfaces. The material shall not be applied over frozen surfaces or if rain is imminent Should rain occur on a freshly applied surface, re-coating may be necessary, at the Chief Engineer's discretion

9 Every attempt should be made to schedule the application of the masonry coating as one (1) of the final operations to minimize construction-generated dust

10 To prevent lap marks a wet edge shall be maintained at all times. Stopping and starting at mid-sections shall be avoided. Every attempt shall be made to start or end at natural breaks in the surface such as at a panel edge, corner or joint. When applying the coating with a roller, the material shall be applied in vertical strokes initially, cross rolled for even film and appearance, and then finished with vertical strokes

11. Only one (1) coating material shall be used on an individual structure

12. After application, the coating shall be dry to the touch within forty-eight (48) hours and shall achieve a final cure within two (2) to three (3) weeks under ideal conditions

H Finish Product and Appearance

The coating material in the finished state shall be capable of accommodating the thermal and elastic expansion ranges of the substrate without cracking.

The texture of the completed finish coat shall be generally similar to that of rubbed concrete The completed finished coating shall be tightly bonded to the structure and present a uniform appearance and texture. If necessary, additional coats shall be applied to produce the desired surface texture uniformity

Coatings shall be entirely removed from the structure upon its failure to positively adhere without chipping, flaking or peeling, or attaining the desired surface appearance. The finish coating shall be reapplied after proper surface preparation until the desired finish product is achieved The average thickness of the completed finish coating shall not exceed 1/8 of an inch.

I. Precautions

Precautions shall be followed as indicated on the manufacturer's MSDS

J Protection of Adjoining Surfaces and The Public

When applying a masonry coating, the Contractor shall protect, by masking off or by other means, adjoining surfaces of the structure, which are not to be coated The Contractor shall also make provisions to protect the public when applying masonry coating to the fascia of a bridge and/or any portions of the structure directly adjacent to the traveling public The Contractor shall also ensure that when using spraying as an application method that all overspray is contained within the operation itself and does in no way cause exposure to the traveling public.

K. Environmental Requirements

Protect plants and vegetation from overspray by covering with drop cloths

L. Measurement of Payment

Only those measurements necessary to verify application rates will be made. Payment shall be based on the actual area in square yards of the coated surface and shall include surface preparation, material, application costs and necessary labor and incidentals for the Work

Payment shall be made under:

Item	Unit	Description
SP 536A	Sq. Yd	Masonry Coating

SP 622 **PORTABLE CONCRETE BARRIER**
(11-21-12)

A. Description

This Item shall consist of furnishing, installing and resetting as required, portable concrete barrier and for maintaining traffic in accordance with this Special Provision and as shown on the Plans. All applicable provisions of Section 622 of the Specifications, SP 104 – Access to Turnpike and Restrictions and SP 614 – Maintaining Traffic, of these Special Provisions shall apply

This Item shall also include maintaining, moving, transporting and storing of the portable barriers for the duration of the Contract. Upon completion of the Contract, the barriers shall remain the property of the Contractor and shall be removed from the Turnpike right-of-way.

Portable concrete barriers furnished shall be in accordance with ODOT Standard Drawing RM-4.2, or other shape approved by the Chief Engineer. Bridge mounted portable barrier shall be in accordance with ODOT Standard Drawing PCB-91. The barrier must be NCHRP 350, Test Level 3 compliant.

The portable barrier shall have new barrier delineators attached to the traffic side of the barrier at one (1) per each barrier section. And the top of the delineator shall be located just below the angle of the barrier face (approximately nineteen inches (19") below the top of the barrier). The delineators shall be oriented so as to face oncoming traffic and shall be in place before the barrier is exposed to traffic. Each delineator shall be installed with a slight backward slant so that the reflective surface is exposed to rain to help keep the delineators clean. The delineators shall be attached with adhesive after the concrete barrier has been cleaned with a steel wire brush to remove loose concrete and/or dirt.

B. Materials

~~Portable concrete barrier shall be as specified in Section 622.02 of the Specifications.~~
Portable Concrete Barrier Option 1: Portable concrete barrier in accordance with this section, ODOT CMS 622 Portable Concrete Barrier and ODOT Standard Drawings RM-4.3 32" Portable Concrete Barrier.

Portable Concrete Barrier Option 2: A portable steel barrier system comprised of nominally eight (8) gauge thick ASTM A36 pressed steel panels, galvanized prior to assembly. Barrier sections shall be 50 feet long and 32 inches in overall height. Base width shall be a minimum of 2.3 feet and a top width of 6.25 inches. The barrier shall have a mountable foot section and have rubber feet fastened to the sections at 4 foot intervals. A lifting system shall be incorporated into the sections. Installation of the sections shall not impede drainage. Each section shall be anchored to the pavement at a minimum of two points. Portable steel barrier shall meet the

requirements of NCHRP Report 350 Test Level 3 (TL3) and Test Level 4 (TL4).

Barrier delineators shall be "Astro Optics Corporation Reflective Delineators Series JD-1, Amber "

Adhesive for barrier delineators shall be "Signal Products Epoxy Adhesive" or approved equal.

C Construction Requirements

Single lane traffic zones shall be permitted on both the Eastbound and Westbound lanes during the removal and resetting of the portable concrete barrier in accordance with the provisions of SP 104 – Access to Turnpike and Restrictions.

Any portable concrete barriers damaged during the Contract shall be promptly replaced by the Contractor at no additional cost to the Commission. Damaged sections shall be disposed of in accordance with SP 105 – Disposal of Excess Materials.

Barrier delineators shall be cleaned on a monthly basis or as directed by the Chief Engineer to provide maximum effectiveness of the reflectorization

D. Method of Measurement

Portable concrete barrier shall be paid for as lump sum The lump sum price bid shall include all barrier delineators, including replacement delineators during construction, as well as the delivery, installation, maintaining, cleaning delineators, moving, transporting, storing and re-setting, as required, of the barriers throughout the term of the Contract. Bridge mounted portable barrier shall also include providing and installing anchors, removal of the anchors, patching of the bridge deck, and weatherproofing the patch area per SP 536.

E. Basis of Payment

Payment shall be made at the lump sum price bid for:

Item	Unit	Description
SP 622	Lump Sum	Portable Concrete Barrier (Furnished by Contractor)
SP 622	Lump Sum	Portable Concrete Barrier, Bridge Mounted (Furnished by Contractor)

OHIO TURNPIKE COMMISSION

THE JAMES W. SHOCKNESSY OHIO TURNPIKE

CONTRACT NO. 77-13-01
THIRD LANE CONSTRUCTION
M.P. 59.52 TO M.P. 64.13

STATION 586+50.00 TO 772+56.56, LUCAS COUNTY
STATION 0+00.00 TO 59+00.00, WOOD COUNTY

INDEX OF SHEETS

OHIO TURNPIKE COMMISSION STANDARD DRAWINGS

AS-1	11-20-12	CBR-1	06-25-07	MCC-2	06-25-07	TCR-13	01-24-11
AS-2	11-20-12	CBR-2	06-25-07	RPM-1	12-21-11 (1)	TCR-14	10-05-05
AS-3	11-20-12 (1)	CBR-3	06-25-07	TC-1	06-25-07	TCR-15	12-21-11
AS-4	11-20-12	CBR-4	06-25-07	TC-2	06-25-07	UD-1	06-25-07
AS-5	11-20-12	CBR-6	06-25-07	TCB-1	12-21-11	XOV-3	06-25-07
CB-1	11-20-12	F-1	06-25-07	TCR-1	06-25-07		
CB-3	11-05-07	CJ-1	06-25-07	TCR-2	12-21-11 (1)		
CB-4	11-05-07	CJ-2	06-25-07	TCR-2.1	12-21-11		
CB-5	11-05-07	DJ-1	06-25-07	TCR-9	11-20-12		
CBM-1	06-25-07	DJ-2	06-25-07	TCR-9.1	12-21-11		
CBM-2	06-25-07	DR-1	06-25-07	TCR-9.2	12-21-11		
CBM-3	06-25-07	EPA-1	06-25-07	TCR-9.3	12-21-11		
CBM-4	06-25-07	GR-1	11-20-12	TCR-9.4	12-21-11		
CBM-5	06-25-07	GR-2	06-25-07	TCR-10	12-21-11		
CBM-6	06-25-07	JB-1	06-25-07	TCR-11PS	12-21-11		
		MCC-1	06-25-07	TCR-12	01-24-11		

FIBER OPTIC CABLE AS-BUILT DRAWINGS

1, 2, 20-34, 60-71

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

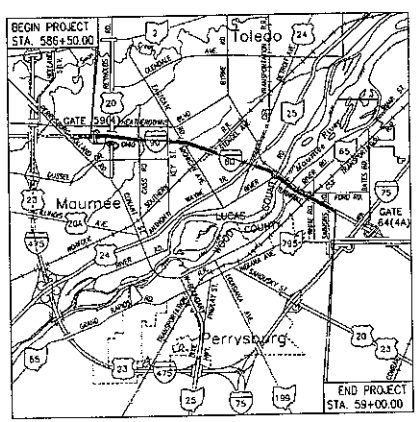
CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS PROTECTIVE
SERVICE CALL: 1-800-925-0988

OHIO TURNPIKE DIVISION SUPERINTENDENT
(419) 862-2922
(ROADWAY LIGHTING CABLE)

OHIO DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS

BP-2.1 (PER CBM-1.3 & 5 NOTES)	7-18-08	GR-2.1	7-20-12	TC-22.20	1-21-11	MH-1.1	7-20-12
BP-2.2	7-18-08	GR-3.1	7-20-12	TC-32.10	1-19-07	MH-1.2	7-20-12
BP-3.1	4-20-12	GR-3.2	7-20-12	TC-32.11	1-19-07	MT-35.10	4-20-01
BP-5.1	7-28-00	GR-4.2	7-20-12	TC-41.10	10-19-07	MT-96.11	7-20-12
BS-1-93	7-19-02	I-2.3	7-20-01	TC-41.20	1-19-01	MT-96.20	7-20-12
DM-1.1	7-20-12	I-3A & B	4-1-80	TC-41.40	7-18-04	MT-96.26	1-16-09
DM-4.4	7-20-12	PCB-61	7-19-02	TC-42.10	1-19-07	MT-95.30	7-20-12
F-1.1	4-16-10	RB-1-55	2-2-59	TC-42.20	1-21-11	MT-95.50	7-20-12
F-2.1	7-28-00	RM-1.1	7-15-11	TC-51.11	1-21-11	CB-2.3	7-20-12
F-3.1	4-16-10	TC-7.65	1-21-11	TC-51.12	10-21-11	CB-3.2	7-20-12
FB-1-82	5-10-82	TC-12.30	1-21-11	TC-52.10	1-19-07		
GR-1.1	7-20-12	TC-21.10	1-19-07	TC-52.20	1-19-07		
RM-4.1	10-20-06	TC-21.40	1-19-07				
RM-4.2	10-15-10	TC-22.10	1-19-01 (1)				



LOCATION PLAN
SCALE IN MILES

N

SCALES

PLAN 0 50
PROFILE HORIZONTAL 0 50 VERTICAL 0 5
CROSS SECTIONS HORIZONTAL 0 10 VERTICAL 0 10

(1) ADDENDUM 1 12/10/12

APPROVED FOR
THE OHIO TURNPIKE COMMISSION
BY
CHIEF ENGINEER
11/26/2012
DATE

RECOMMENDED FOR APPROVAL
BY
URS CORPORATION
REVIEW CONSULTANT
NOVEMBER 14, 2012
DATE

ROADWAY
STRUCTURES
MICHIGAN AVE. STRUCTURE

PLANS PREPARED BY
DANSARD GROHNKE LONG, Limited
Toledo, Ohio

DESIGN CONTRACT NO. 71-97-15

ADDITIONAL SOIL INFORMATION

THE SOIL PROFILE AND/OR STRUCTURE FOUNDATION INVESTIGATION SHEETS CONTAIN AVAILABLE SOIL AND BEDROCK INFORMATION. ADDITIONAL INFORMATION MAY ALSO BE AVAILABLE FROM THE FOLLOWING:

1. SUBSURFACE INVESTIGATION REPORT(S) PREPARED FOR THE PROJECT.

2. ADDITIONAL SUBSURFACE INVESTIGATIONS MADE TO STUDY SOME ASPECT OF THE PROJECT.

THIS INFORMATION SHALL BE AVAILABLE FOR INSPECTION BY PROSPECTIVE BIDDERS AT THE OHIO TURNPIKE COMMISSION OFFICE LOCATED AT 682 PROSPECT STREET, BEREA, OHIO 44017. TELEPHONE (440) 234-2081.

ITEM 604-MONUMENT ASSEMBLY

CONSTRUCT MONUMENT ASSEMBLIES IN ACCORDANCE WITH ODOT STANDARD CONSTRUCTION DRAWING RM-1.1 AND AT THE LOCATIONS SHOWN ON THE SURVEY CONTROL PLAN, SHEETS 02 AND 03. MONUMENTS REFERENCED TO THE OHIO STATE PLANE COORDINATE SYSTEM AS SHOWN ON THE SURVEY CONTROL PLAN SHALL BE USED TO LOCATE A CENTERLINE POINT. THE MONUMENTS SHALL BE OFFSET A DISTANCE OF FIVE (5) FEET FROM THE CENTERLINE, ON THE SOUTHERN SIDE, IN THE EASTBOUND LANE'S MEDIAN SHOULDER. THE CONTRACTOR SHALL ESTABLISH TEMPORARY HORIZONTAL REFERENCES AND CONTROL BEFORE REMOVING EXISTING MONUMENTS. ALL MONUMENTS SHALL BE SET BY A PROFESSIONAL SURVEYOR LICENSED IN THE STATE OF OHIO.

ITEM 604 - MONUMENT ASSEMBLY 27 EACH

ITEM 204 PROOF ROLLING

AN ESTIMATED QUANTITY FOR THIS ITEM HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

ITEM 204 - PROOF ROLLING 44 HOURS

ITEM 209, DITCH CLEANOUT, AS PER PLAN

THIS WORK SHALL CONSIST OF REGRADING SECTIONS OF EXISTING DITCHES AS DESIGNATED ON THE PLANS OR AS IDENTIFIED BY THE CHIEF ENGINEER. REGRADING WORK SHALL CONSIST OF EARTH EXCAVATION AND EMBANKMENT WORK NECESSARY TO REGRADE THE DITCH TO THE ALIGNMENT SHOWN ON THE PLANS AND MEETING THE EXISTING DITCH ALIGNMENT ON EACH END. REGRADING WORK SHALL TYPICALLY CONSIST OF ELIMINATING SEDIMENT BUILD-UP AREAS, WASHOUTS AND ALIGNMENT IRREGULARITIES AND SHALL BE SUBJECT TO THE LIMITS DESIGNATED BY THE CHIEF ENGINEER. CLEARING AND GRUBBING SHALL BE REQUIRED AT THE LOCATIONS AND SHALL BE PAID FOR UNDER ITEM SP201. SURPLUS OR UNSUITABLE MATERIAL, AS DETERMINED BY THE CHIEF ENGINEER, SHALL BE DISPOSED OF AS PER OTC SP105. EMBANKMENT REQUIRED FOR WASHOUTS SHALL MEET THE REQUIREMENTS OF CMS 203.07, EXCEPT THE COMPACTION REQUIREMENTS SHALL BE REDUCED TO NINETY (90) PERCENT OF THE MAXIMUM DRY DENSITY OR AS DIRECTED BY THE CHIEF ENGINEER. PAYMENT FOR ALL OF THE ABOVE WORK SHALL BE MADE AT THE CONTRACT UNIT PRICE PER LINEAR FOOT, AS MEASURED ALONG THE CENTERLINE OF DITCH, OF ITEM 209, DITCH CLEANOUT, AS PER PLAN. THE PRICE OF WHICH SHALL INCLUDE ALL EMBANKMENT, EXCAVATION, BORROW, SEEDING AND MULCHING AND RESTORATION OF DISTURBED AREAS NECESSARY TO COMPLETE THE WORK.

IN ADDITION TO THE QUANTITY PROVIDED IN THE DRAWINGS FOR THIS WORK, THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO CLEANOUT DITCHES AS DIRECTED BY THE CHIEF ENGINEER.

ITEM 209, DITCH CLEANOUT, AS PER PLAN 500 LIN. FT.

ITEM SPECIAL, (SIZE) PRECAST FLARED END SECTION

ITEM SPECIAL, (SIZE) PRECAST FLARED END SECTIONS OF VARIOUS SIZES SHALL BE CONSTRUCTED IN ACCORDANCE WITH OTC STANDARD DRAWING DR-1. PAYMENT FOR ALL MATERIALS AND LABOR SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM SPECIAL, (SIZE) PRECAST FLARED END SECTION.

ITEM 601 - PAVED GUTTER, BROKEN IN PLACE, AS PER PLAN

THIS ITEM SHALL CONSIST OF BREAKING UP SECTIONS OF EXISTING CONCRETE GUTTER WHERE INDICATED ON THE PLANS.

THE GUTTER SHALL BE BROKEN AND LEFT IN PLACE IN A MANNER THAT WILL ASSURE A REASONABLY SMOOTH AND CONTINUOUS SURFACE WITH NO PIECES OF BROKEN CONCRETE BEING LARGER THAN APPROXIMATELY EIGHTEEN (18) INCHES. ALL VOIDS AND UNDERMINED AREAS SHALL BE FILLED WITH ITEM 601, ROCK CHANNEL PROTECTION, TYPE D WITHOUT FILTER. PAYMENT FOR THE ABOVE DESCRIBED WORK WILL BE MADE AT THE CONTRACT PRICE PER LINEAR FOOT FOR ITEM 601, PAVED GUTTER, BROKEN IN-PLACE, AS PER PLAN AND SHALL INCLUDE THE COST OF ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO COMPLETE THE WORK.

GUARDRAIL BEHIND CURBS

WHERE A CURB IS PROVIDED AT THE OUTER EDGE OF THE PAVED SHOULDER, ANY NECESSARY GUARDRAIL SHALL BE POSITIONED SO THAT THE FACE OF THE GUARDRAIL SHALL BE ALIGNED VERTICALLY WITH THE FACE OF CURB AND THE TOP OF THE RAIL SHALL BE 29" ABOVE THE GUTTER LINE.

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 RAIL SPLICE" AS SHOWN IN AASHTO M 180. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

GUARDRAIL REPLACEMENT

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

ITEM 622 - CONCRETE BARRIER, TYPE B-50, AS PER PLAN

ITEM 622 - CONCRETE BARRIER, TYPE B-50, AS PER PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH OTC STANDARD DRAWING CBR-3 AND CMS 622.

IN LIEU OF THE CURING COMPOUNDS SPECIFIED IN SECTION 622.07 OF THE SPECIFICATIONS, THE CONCRETE BARRIER SHALL BE CURED USING THE MATERIAL SPECIFIED IN SP 536A. THE SP 536A MATERIAL APPLICATION SHALL BE AS PER THE RECOMMENDATIONS OF THE MANUFACTURER. THE CONTRACTOR SHALL SUBMIT TECHNICAL DATA FOR THE SP 536A MATERIAL TO THE ENGINEER FOR APPROVAL. THE COST OF CURING THE WALL AND BARRIER SHALL BE INCLUDED IN THE BID PRICE FOR SP 536A, MASONRY COATING. ALL OTHER PROVISIONS OF SECTION 622 OF THE SPECIFICATIONS SHALL APPLY.

ITEM 622 - CONCRETE BARRIER, TYPE C-50, AS PER PLAN

ITEM 622 - CONCRETE BARRIER, TYPE C-50, AS PER PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH OTC STANDARD DRAWING CBR-3, AND SECTION 622 OF THE SPECIFICATIONS.

IN LIEU OF THE CURING COMPOUNDS SPECIFIED IN SECTION 622.07 OF THE SPECIFICATIONS, THE CONCRETE BARRIER SHALL BE CURED USING THE MATERIAL SPECIFIED IN SP 536A. THE SP 536A MATERIAL APPLICATION SHALL BE AS PER THE RECOMMENDATIONS OF THE MANUFACTURER. THE CONTRACTOR SHALL SUBMIT TECHNICAL DATA FOR THE SP 536A MATERIAL TO THE ENGINEER FOR APPROVAL. THE COST OF CURING THE WALL AND BARRIER SHALL BE INCLUDED IN THE BID PRICE FOR SP 536A, MASONRY COATING. ALL OTHER PROVISIONS OF SECTION 622 OF THE SPECIFICATIONS SHALL APPLY.

ITEM 622 - CONCRETE BARRIER, TYPE D, AS PER PLAN

ITEM 622 - CONCRETE BARRIER, TYPE D, AS PER PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH OTC STANDARD DRAWING CBR-3, AND SECTION 622 OF THE SPECIFICATIONS.

IN LIEU OF THE CURING COMPOUNDS SPECIFIED IN SECTION 622.07 OF THE SPECIFICATIONS, THE CONCRETE BARRIER SHALL BE CURED USING THE MATERIAL SPECIFIED IN SP 536A. THE SP 536A MATERIAL APPLICATION SHALL BE AS PER THE RECOMMENDATIONS OF THE MANUFACTURER. THE CONTRACTOR SHALL SUBMIT TECHNICAL DATA FOR THE SP 536A MATERIAL TO THE ENGINEER FOR APPROVAL. THE COST OF CURING THE WALL AND BARRIER SHALL BE INCLUDED IN THE BID PRICE FOR SP 536A, MASONRY COATING. ALL OTHER PROVISIONS OF SECTION 622 OF THE SPECIFICATIONS SHALL APPLY.

THE COST OF THE BARRIER TRANSITION SHALL BE INCIDENTAL TO ITEM 622 - CONCRETE BARRIER, TYPE D, AS PER PLAN. THE BARRIER TRANSITION SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAIL SHEET 1958. PAYMENT FOR ALL MATERIALS AND LABOR SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 622 - CONCRETE BARRIER, TYPE D, AS PER PLAN.

SP 536A, MASONRY COATING

ALL EXPOSED CONCRETE BARRIER SURFACES SHALL RECEIVE A COATING PER SP 536A. THE MASONRY COATING SHALL ALSO BE USED AS THE CURE COAT. THE FINAL APPEARANCE SHALL BE UNIFORM AND CONSISTENT, AND SHALL CONFORM TO ALL PROVISIONS IN SP 536A. NO ADDITIONAL PAYMENT SHALL BE MADE IF THE CONTRACTOR IS REQUIRED TO APPLY ADDITIONAL COATINGS TO ACHIEVE A UNIFORM APPEARANCE. THE MATERIAL SHALL BE APPLIED PER THE MANUFACTURER'S RECOMMENDATIONS. ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE BID PRICE FOR SP 536A, MASONRY COATING. THE FOLLOWING QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR SP536A, MASONRY COATING:

SP 536A, MASONRY COATING 31,489 SQ.YD.

EXTRA LONG GUARDRAIL POSTS

THE FOLLOWING QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR EXTRA LONG GUARDRAIL POSTS TO BE USED IN CONJUNCTION WITH SPECIAL PROVISION SP 606.

ITEM SP606 - GUARDRAIL POST, STEEL, 9 FT. 100 EACH

ITEM SPECIAL - PIPE CLEANOUT, 12" TO 36"
ITEM SPECIAL - PIPE CLEANOUT, OVER 36"

THIS WORK SHALL CONSIST OF REMOVING ALL SEDIMENT, DEBRIS AND FOREIGN MATERIAL IN CULVERTS BETWEEN TWELVE (12) AND THIRTY-SIX (36) INCHES AND OVER THIRTY-SIX (36) INCHES IN DIAMETER. THE REMOVAL OPERATION SHALL NOT BE DESTRUCTIVE TO THE INTEGRITY OF THE CULVERT. THE CONTRACTOR SHALL REVIEW HIS CLEANOUT PROCEDURE WITH THE CHIEF ENGINEER AND OBTAIN THE CHIEF ENGINEER'S APPROVAL PRIOR TO PERFORMING THE WORK. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER OTC SP105. ANY DEWATERING WORK REQUIRED TO COMPLETE THIS WORK SHALL BE INCLUDED UNDER THIS PAY ITEM.

CULVERT CLEANOUT WILL BE MEASURED ON A LINEAR FOOT BASIS. PAYMENT WILL BE MADE AT THE CONTRACT PRICE PER LINEAR FOOT FOR ITEM SPECIAL, PIPE CLEANOUT, 12" TO 36" AND ITEM SPECIAL, PIPE CLEANOUT, OVER 36".

ITEM SPECIAL - PIPE CLEANOUT, 12" TO 36" 300 LIN. FT.
ITEM SPECIAL - PIPE CLEANOUT, OVER 36" 300 LIN. FT.

EXISTING MAINTENANCE CROSSOVERS

THE CONTRACTOR MAY ENCOUNTER EXISTING DRAINAGE CONDUIT(S) AT MAINTENANCE CROSSOVERS WHICH WERE PLACED AFTER THE ORIGINAL TURNPIKE CONSTRUCTION AND ARE THEREFORE NOT REFLECTED ON THE AS-BUILT DRAWINGS. THESE CONDUITS VARY IN DEPTH, SIZE, AND LOCATION. THESE CONDUITS MAY AFFECT SUBGRADE PREPARATION AND MAY REQUIRE REMOVAL. ALL WORK ASSOCIATED WITH REMOVAL OF THESE CONDUITS, INCLUDING EXCAVATION AND BACKFILL, SHALL BE CONSIDERED INCIDENTAL TO THE REMOVAL OF THE MAINTENANCE CROSSOVER AND PAID UNDER SECTION 203 OF SPECIFICATIONS AS SET FORTH UNDER SECTION 202.01 OF THE SPECIFICATIONS.

ITEM SPECIAL-INERTIA BARRIER REMOVED

THIS ITEM SHALL CONSIST OF REMOVING THE EXISTING INERTIA BARRIER AT STA. 59+00 AND DELIVERING IT TO THE SWANTON MAINTENANCE FACILITY AT M.P. 48.3. THE INERTIA BARRIER SHALL BE REMOVED IN A MANNER AVOIDING DAMAGE.

EACH DISMANTLED PIECE SHALL BE CAREFULLY MARKED SO AS TO FACILITATE REASSEMBLY.

THE UNIT PRICE BID FOR ITEM SPECIAL-INERTIA BARRIER REMOVED SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY TO REMOVE AND RESTORE THE AREA, INCLUDING THE ASPHALT PAD REMOVAL AND ALL NECESSARY EXCAVATION AND BACKFILL. REMOVAL AND DISPOSAL OF SURPLUS MATERIALS SHALL BE IN ACCORDANCE WITH SP 105.

NO.	REVISIONS	BY	DATE
1	ADDENDUM 1	SCW	12/10/12

OHIO TURNPIKE COMMISSION

ROADWAY
GENERAL NOTES

BANSARD · GROHNKE · LONG, LIMITED Consulting Engineers
110 Arco Drive Toledo, Ohio 43607 (419) 535-1015

DESIGNED: RJM	CHECKED: RHB	DATE: 5-99
DRAWN: JWP	IN CHARGE: RWG	SCALE: NONE

CONTRACT 77-13-01 SHEET 12 OF 322

CAD FILE NAME: 9808-12.DWG

<u>SEQUENCE OF CONSTRUCTION</u>

THESE PLANS ARE BASED ON THE FOLLOWING SUGGESTED SEQUENCE OF CONSTRUCTION. THE CONTRACTOR MAY SUBMIT AN ALTERNATE SEQUENCE OF CONSTRUCTION FOR CONSIDERATION. NO ALTERNATE SEQUENCE OF CONSTRUCTION SHALL BE IMPLEMENTED WITHOUT WRITTEN PRIOR APPROVAL OF THE CHIEF ENGINEER.

THE ADDITION OF A THIRD DIRECTIONAL LANE AND A BARRIER WALL MEDIAN ALONG THE OHIO TURNPIKE SHALL BE ACCOMPLISHED WHILE TRAFFIC IS BEING MAINTAINED IN ACCORDANCE WITH THE ENCLOSED MAINTENANCE OF TRAFFIC PLANS.

THIS CONSTRUCTION CONTRACT WILL INVOLVE A SHARING OF COMMON AREAS DURING PHASE ONE WITH ANOTHER ADJOINING CONSTRUCTION CONTRACT. COOPERATION BETWEEN CONTRACTORS IS VITAL TO THE SUCCESS OF THE TOTAL PROJECT. THE CONTRACTOR SHALL SUBMIT A PLAN AND SCHEDULE OF OPERATIONS TO THE OHIO TURNPIKE CONSTRUCTION MANAGEMENT FIRM FOR APPROVAL.

<u>PHASE ONE CONSTRUCTION (2013)</u>

THE EXISTING OUTSIDE SHOULDER IS TO BE MILLED AND RESURFACED. SEE THE ROADWAY CONSTRUCTION PLANS FOR SHOULDER BUILD-UP AND WORK LIMITS. THE OUTSIDE DRAINAGE WORK (SLOPE DRAIN REPLACEMENT) SHALL BE COMPLETED. THE CONSTRUCTION OF OUTSIDE SHOULDER TYPE D BARRIER BETWEEN THE MAUMEE RIVER BRIDGE AND THE STATE ROUTE 65 BRIDGE, INCLUDING CATCH BASIN AND SLOPE DRAIN REPLACEMENT, SHALL BE COMPLETED. THIS CONSTRUCTION EFFORT SHOULD HAVE A SHORT TIME-FRAME AND IS COVERED IN SPECIAL PROVISION SP 104.

<u>PHASE ONE MAINTENANCE OF TRAFFIC (2013)</u>

INSTALL EASTBOUND LEAD-IN SIGNING RELATIVE TO REDUCING THE EXISTING TWO DIRECTION LANES TO ONE. INSTALL WESTBOUND LEAD-IN SIGNING RELATIVE TO REDUCING THE EXISTING THREE DIRECTION LANES TO ONE.

PLACE THE MAINTENANCE OF TRAFFIC DEVICES THROUGH THE TAPER AREAS AND ALIGN THE MAINLINE IN ACCORDANCE WITH THE PHASE ONE MAINTENANCE OF TRAFFIC TYPICAL SECTION AND PLANS.

<u>PHASE TWO CONSTRUCTION (2013-2014)</u>

THE MAJOR ELEMENT OF THIS PHASE IS THE CONSTRUCTION OF THE TURNPIKE MEDIAN WHICH INCLUDES AN ADDITIONAL DIRECTIONAL LANE. A WIDENED SHOULDER AND A MEDIAN BARRIER SAFETY WALL. ALL EXISTING MAINLINE BRIDGES ARE TO BE WIDENED.

<u>PHASE TWO MAINTENANCE OF TRAFFIC (2013-2014)</u>

TWO LANES OF TRAFFIC ARE TO BE USED ALONG THE TURNPIKE USING THE DRIVING LANE AND RECONSTRUCTED OUTSIDE SHOULDER. SEE PHASE TWO MAINTENANCE OF TRAFFIC TYPICAL SECTION. PRIOR TO THE WORK ZONE TRAFFIC WILL BE SHIFTED TO THE RIGHT USING DEVICES AS SHOWN IN THE PLANS. TRUCKS WILL BE DIRECTED TO USE THE LEFT MOST LANE. A QUANTITY OF 8 SIGNS WILL BE REQUIRED AND PLACED AS SHOWN IN THE PLANS. SETTING THE TEMPORARY CONCRETE BARRIER SHALL BE AS PER TCB-1.

FOR INSTALLATION OF THE BRIDGE EXPANSION JOINT STRIP SEAL THE CONTRACTOR HAS THREE LANES OF PAVEMENT AND BOTH SHOULDERS TO PROVIDE SHORT TERM LANE SHIFTS. USE OHIO TURNPIKE COMMISSION STANDARD DRAWING TCR-12 FOR SIGN AND DRUM PLACEMENT.

<u>OPTIONAL WINTER PHASE CONSTRUCTION</u>

THE CONTRACTOR SHALL BEGIN THE MAINLINE BRIDGE PIER AND ABUTMENT CONSTRUCTION IN THE MEDIAN. NO EXISTING BRIDGE PARAPETS ARE PERMITTED TO BE REMOVED.

<u>OPTIONAL WINTER PHASE MAINTENANCE OF TRAFFIC (2013-2014)</u>

TWO DIRECTIONAL LANES SHALL BE MAINTAINED AT ALL TIMES UNLESS A REQUEST FOR REDUCING TO A SINGLE LANE CONDITION IS GRANTED BY THE OHIO TURNPIKE COMMISSION CHIEF ENGINEER.

<u>OPTIONAL WINTER PHASE NO CONSTRUCTION</u>

TWO DIRECTIONAL LANES SHALL BE MAINTAINED AT ALL TIMES ON THE EXISTING PAVEMENT.

ANY CHANGE BEYOND THE ENCLOSED TEMPORARY TRAFFIC CONTROL PHASING PLANS DUE TO THE CONTRACTOR'S WORK SCHEDULE WILL REQUIRE PRIOR APPROVAL BY THE TURNPIKE CHIEF ENGINEER. THE CONTRACTOR SHALL SUBMIT A DETAILED PLAN REQUEST FOR CHANGE A MINIMUM OF 10 DAYS PRIOR TO ALLOW FOR REVIEW TIME.

THE MAINLINE BRIDGE WIDENING AT THE CSX RAILROAD (MP 63.5) AND THE NORFOLK-SOUTHERN RAILROAD (MP 61.5) SHALL NOT BEGIN UNTIL THE SECOND YEAR OF CONSTRUCTION (2014).

QUANTITY SUBSUMMARY

PHASE	LOCATION: STATION TO STATION	DIRECTION	606: IMPACT ATTENUATOR AS PER PLAN	SP 622: CONCRETE BARRIER DELINEATOR (FOR INFORMATION ONLY)	SP 622: TEMPORARY CONCRETE BARRIER (FOR INFORMATION ONLY)	SP 626A: CONSTRUCTION ZONE MARKER-ONE (1) WAY WHITE	614: 4" TEMPORARY WHITE EDGE LINE	614: 4" TEMPORARY YELLOW EDGE LINE	614: 4" TEMPORARY WHITE LANE LINE	614: 8" TEMPORARY WHITE CHANNELIZING LINE	614: 8" TEMPORARY YELLOW CHANNELIZING LINE	SP 614: ZONE PERSON	SP 641C: REMOVAL OF PAVEMENT MARKING	SP 802: BARRIER REFLECTOR TYPE A	SP 802: BARRIER REFLECTOR, TYPE B
			EACH	EACH	MILE	EACH	MILE	MILE	MILE	MILE	MILE	HOUR	MILE	EACH	EACH
	2013 CONSTRUCTION														
1	MP 58.70 TO MP 65.44	EB												333	32
1	MP 59.00 TO MP 64.58	WB												279	32
	2014 CONSTRUCTION														
2	MP 59.28 TO MP 64.36	EB	1	2682	5.08	537	5.08	5.08	5.08	0.30	0.15		10.16		
2	MP 59.24 TO MP 64.88	WB	1	2978	5.64	596	5.64	5.64	5.64	0.30	0.15		11.28		
	CONSTRUCTION ACCESS AND STRUCTURES														
2	MP 60.53 ACCESS	EB	2					0.37		0.50					
2	MP 62.58 ACCESS	WB	2					0.37		0.50					
2	MP 59.86 US 20 BRIDGE		2					0.37		0.50					
2	MP 61.10 MICHIGAN AVENUE BRIDGE		2					0.37		0.50					
2	MP 61.58 NORFOLK SOUTHERN RR BRIDGE		2					0.37		0.50					
2	MP 63.04*	EB	1					0.12		0.43					
2	MP 63.38*	EB	1					0.12		0.30					
2	MP 63.71*	EB	1					0.19		0.27					
2	MP 63.08*	WB						0.25		0.35					
2	MP 63.42*	WB	1					0.09		0.18					
2	MP 63.58*	WB	1					0.04		0.10					
2	MP 63.70*	WB	1					0.12		0.27					
	TOTALS CARRIED TO GENERAL SUMMARY		18	5660	10.72	1133	10.72	13.50	10.72	5.00	0.30	13392	21.44	612	64

* - SEE SHEETS 35A TO 35D

NO.	REVISION	BY	DATE
1	ADDENDUM 1	SCW	12/10/12

OHIO TURNPIKE COMMISSION

SEQUENCE OF CONSTRUCTION AND QUANTITY SUBSUMMARY

DATE: SEPTEMBER 2012 | SCALE: N.T.S.
CONTRACT: 77-13-01 | SHEET 17 OF 322

DESIGNED BY: EWK | DATE: 1/98 | CHECKED BY: KPW | DATE: 9/12
DRAWN BY: JJS | DATE: 1/98 | REVISED BY: TJO | DATE: 09/27/12
CAD FILE NAME: I:\PROJECTS\TPKE\17699\OTC \PLANE 2012\DWGS\MOT\QUAN

Sheet Number																	Item	Grand Total	Unit	Description	As Per Plan & Special Reference
11	12	13	14	15	46		49	50	51	55	60	118	195A	296	CROSSMAN DITCH 1 OF 9						
																				Roadway	
																	SP 201	LUMP SUM		CLEARING AND GRUBBING, AS PER PLAN	SHT. 11
				480					128								202	608	LIN. FT.	CONCRETE BARRIER REMOVED	
			200							2879							202	3079	LIN. FT.	PIPE REMOVED, 24" AND UNDER	
									38								202	38	EACH	GUARD POST REMOVED	
										13			1		1		202	16	EACH	HEADWALL REMOVED	
										41							202	45	EACH	CATCH BASIN REMOVED	
													12				202	12	LIN. FT.	PIPE REMOVED OVER 24"	
				80				710									202	190	LIN. FT.	FENCE REMOVED FOR REUSE	
				125					12148								202	12273	LIN. FT.	GUARDRAIL REMOVED	
				4300					5156								202	9456	LIN. FT.	GUARDRAIL REMOVED FOR REUSE	
															125		202	125	LIN. FT.	GUARDRAIL REMOVED FOR STORAGE	
100								1016									202	1116	LIN. FT.	FENCE REMOVED	
				300													202	300	SQ. FT.	WALK REMOVED	
				110													202	110	LIN. FT.	CURB AND GUTTER REMOVED	
									19								202	19	EACH	ANCHOR ASSEMBLY REMOVED, TYPE T	
															"		202	"	EACH	ANCHOR ASSEMBLY REMOVED FOR STORAGE	
				10													SP 202B	10	CU. YD.	3 CORNER CRACK REPAIR, USING ITEM SP402	
										555							SP 202J	555	LIN. FT.	PLUG AND FILL EXISTING CONDUIT	
									24								SP 202K	24	EACH	ANCHOR ASSEMBLY, SYRO STEEL ET-2000, REMOVED FOR STORAGE	
									"								SP 202L	"	EACH	ANCHOR ASSEMBLY, SYRO STEEL ET-2000, REMOVED AND RESET	
22000				2400				38110							350		203	62860	CU. YD.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	
22000								15553					16				203	37569	CU. YD.	EMBANKMENT	
	44																204	44	HOUR	PROOF ROLLING	
				6100	131637		2719										204	140456	SQ. YD.	SUBGRADE COMPACTION	
66000																	SP 205	66000	SQ. YD.	LIME MODIFIED SUBGRADE	
66000																	SP 205	66000	SQ. YD.	CEMENT MODIFIED SUBGRADE	
3300																	SP 205	3300	TON	LIME	
4125																	SP 205	4125	TON	CEMENT	
100																	SP 205	100	M. GAL.	WATER	
	590									4331			50				209	4881	LIN. FT.	DITCH CLEANOUT, AS PER PLAN	SHT. 12
⚠1	31,489																SP 536A	31,489	SQ. YD.	MASONRY COATING ⚠1	
	27																604	27	EACH	MONUMENT ASSEMBLY	
																	606	5	EACH	ANCHOR ASSEMBLY, TYPE T	
									24								606	24	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1, USING STEEL POSTS	
									1								606	1	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2, USING STEEL POSTS	
				125													606	575	LIN. FT.	GUARDRAIL, TYPE 5	
															450		606	1213	LIN. FT.	GUARDRAIL, TYPE 5, USING STEEL POSTS	
									1213								SP 606	9456	LIN. FT.	GUARDRAIL, REBUILT, TYPE 5, USING STEEL POSTS	
				4300					5156								SP 606	100	EACH	GUARDRAIL POST, STEEL, NINE (9) FT.	
	102																607	80	LIN. FT.	FENCE REBUILT, TYPE CLT	SHT. 11
				80				110									607	110	LIN. FT.	FENCE REBUILT, TYPE 47	SHT. 11
100																	607	100	LIN. FT.	FENCE, TYPE 47, AS PER PLAN	SHT. 11
				300													608	300	SQ. FT.	4" CONCRETE WALK	
										10							613	10	CU. YD.	LOW STRENGTH MORTAR BACKFILL	
												20					613	20	CU. YD.	LOW STRENGTH MORTAR BACKFILL, TYPE 2	
					12429												622	12429	LIN. FT.	CONCRETE BARRIER, TYPE B-50, AS PER PLAN	SHT. 12
					5661												622	5661	LIN. FT.	CONCRETE BARRIER, TYPE C-50, AS PER PLAN	SHT. 12
				480					1088								622	1579	LIN. FT.	CONCRETE BARRIER, TYPE D, AS PER PLAN	SHT. 12/CBR-3
					152												622	152	LIN. FT.	PORTABLE CONCRETE BARRIER, 32", AS PER PLAN	XDV-3
												448					SP 622C	448	LIN. FT.	MEDIAN WALL (DESIGN HEIGHT = 2 FEET)	
												1627					SP 622C	1627	LIN. FT.	MEDIAN WALL (DESIGN HEIGHT = 4 FEET)	
66000																	861	66000	SQ. YD.	GEOGRID FOR SUBGRADE STABILIZATION	
								1									SPECIAL	1	EACH	INERTIA BARRIER REMOVED	SHT. 12
	300									1415							SPECIAL	1715	LIN. FT.	PIPE CLEANOUT, 12" TO 36"	SHT. 12
	300									240							SPECIAL	540	LIN. FT.	PIPE CLEANOUT, OVER 36"	SHT. 12
																				EROSION CONTROL	
		980															207	980	SQ. YD.	TEMPORARY SEEDING AND MULCHING	
		1600									1050						207	2850	LIN. FT.	FILTER FABRIC FENCE, AS PER PLAN	SHT. 13
		130									648						207	778	LIN. FT.	FILTER FABRIC DITCH CHECKS	
		380									1880						207	2260	LIN. FT.	INLET PROTECTION	
		200															207	200	SQ. YD.	TEMPORARY DITCH PROTECTION	
		30	6							549			10				601	595	CU. YD.	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
		760															601	760	CU. YD.	ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER	
															175		601	175	CU. YD.	ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER	
														98			601	98	LIN. FT.	PAVED GUTTER, AS PER PLAN	
										520			110				601	630	LIN. FT.	PAVED GUTTER, BROKEN IN PLACE, AS PER PLAN	SHT. 12
		1000		200				4835		2300			85		241		659	8701	SQ. YD.	SEEDING AND MULCHING	
		250													56		659	306	SQ. YD.	REPAIR SEEDING AND MULCHING	

NO.	REVISIONS	BY	DATE
1	ADDENDUM 1	SCW	12/7/12

OHIO TURNPIKE COMMISSION

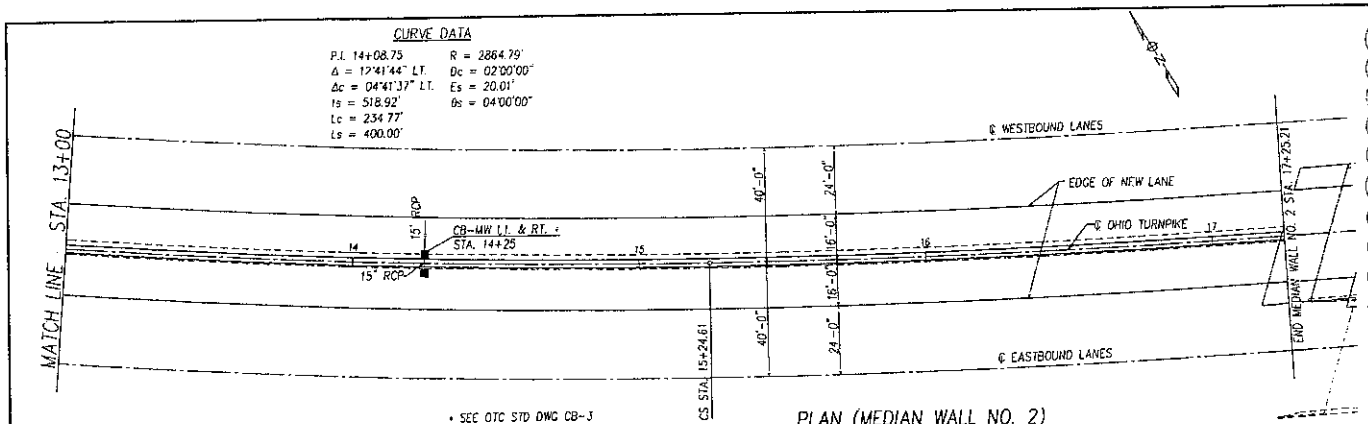
GENERAL SUMMARY

DANSARD · GROHNKE · LONG, LIMITED Consulting Engineers
110 Arco Drive Toledo, Ohio 43607 (419) 535-1015

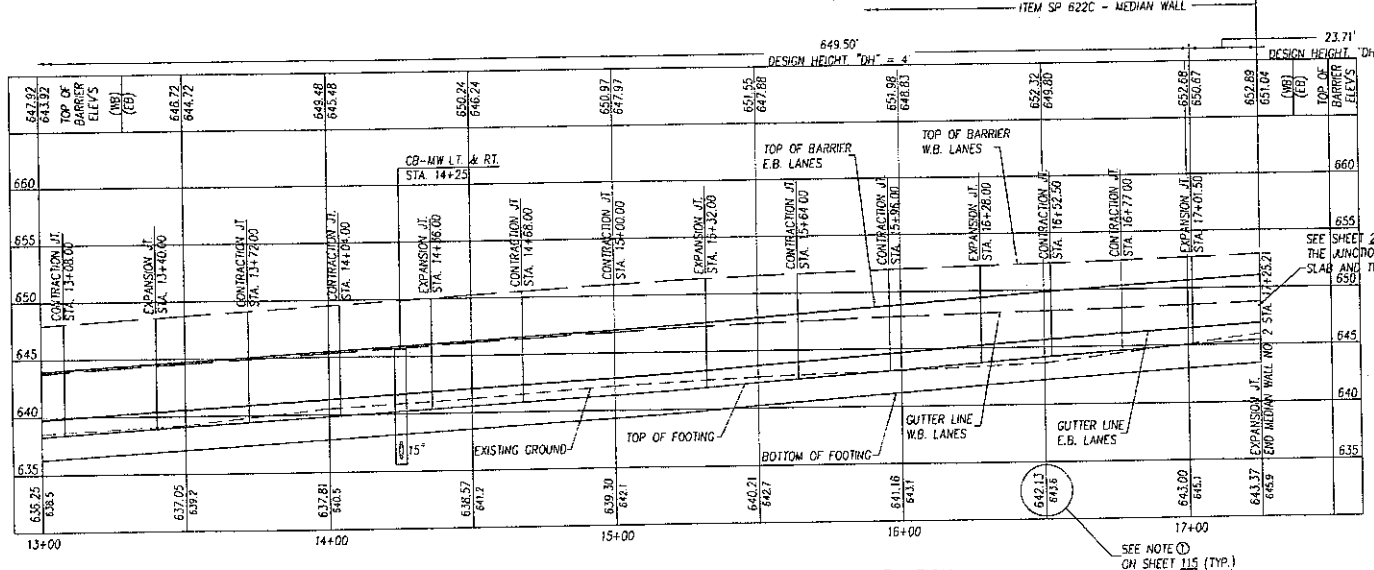
DESIGNED: JVP	CHECKED: RJM	DATE: 05-99
DRAWN: JVP	IN CHARGE: RWG	SCALE: NONE

CONTRACT 77-13-01 SHEET 42 OF 322

CAD FILE NAME: 9908-42.DWG



PLAN (MEDIAN WALL NO. 2)



ELEVATION

SEE SHEET 200 FOR DETAILS AT THE JUNCTION OF THE APPROACH SLAB AND THE RETAINING WALL

0 20 40
Scale in Feet

SUB - SUMMARY OF ITEMS FOR MEDIAN WALLS

SHEET No.	STATION FROM	STATION TO	SIDE	SP622C MEDIAN WALL (DESIGN HEIGHT = 2 FEET) LIN FT	SP622C MEDIAN WALL (DESIGN HEIGHT = 4 FEET) LIN FT	613 LOW STRENGTH MORTAR BACKFILL TYPE 2 CU YD
115	752+50.00	754+18.20	℄	168.20		
115-116	754+18.20	763+95.60	℄		977.40	20
117	763+95.60	765+25.00	℄	129.40		
117	9+25.00	10+52.00	℄	127.00		
117-118	10+52.00	17+01.50	℄		649.50	
118	17+01.50	17+25.21	℄	23.71		
			TOTAL	448	1627	20

NOTE: THE ABOVE QUANTITIES ARE CARRIED TO THE ROADWAY GENERAL SUMMARY SHEETS.

NOTES

Ⓛ FOR MEDIAN WALL NOTES, SEE SHEET 115

NO.	REVISIONS	BY	DATE
1	ADDENDUM 1	SCW	12/10/12

OHIO TURNPIKE COMMISSION

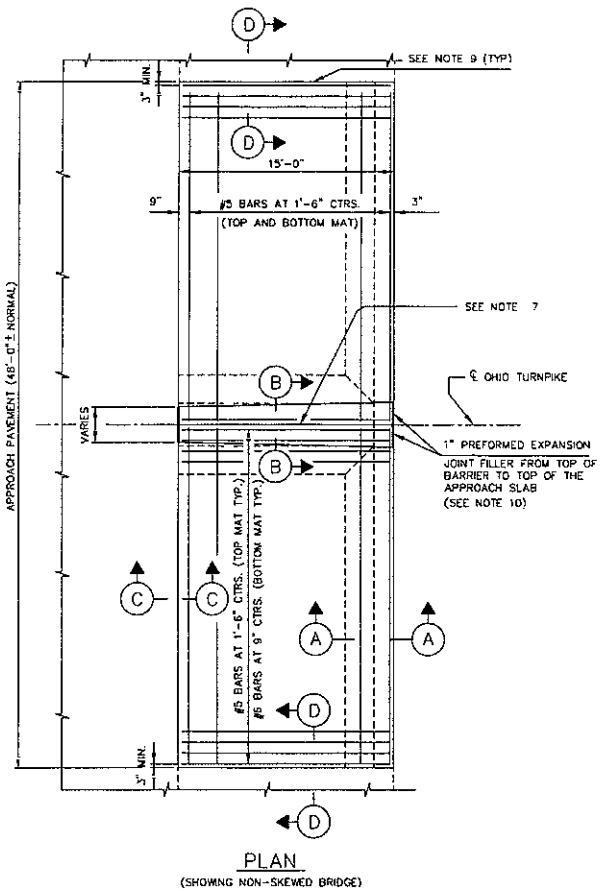
MEDIAN WALL PLAN & ELEVATION
STA. 13+00 TO STA. 17+50

DANSARD · GROHSKE · LONG, LIMITED
ULRICH-CHIANG AND ASSOCIATES, INC.
3220 CENTRAL PARK WEST TOLEDO, OHIO 43617

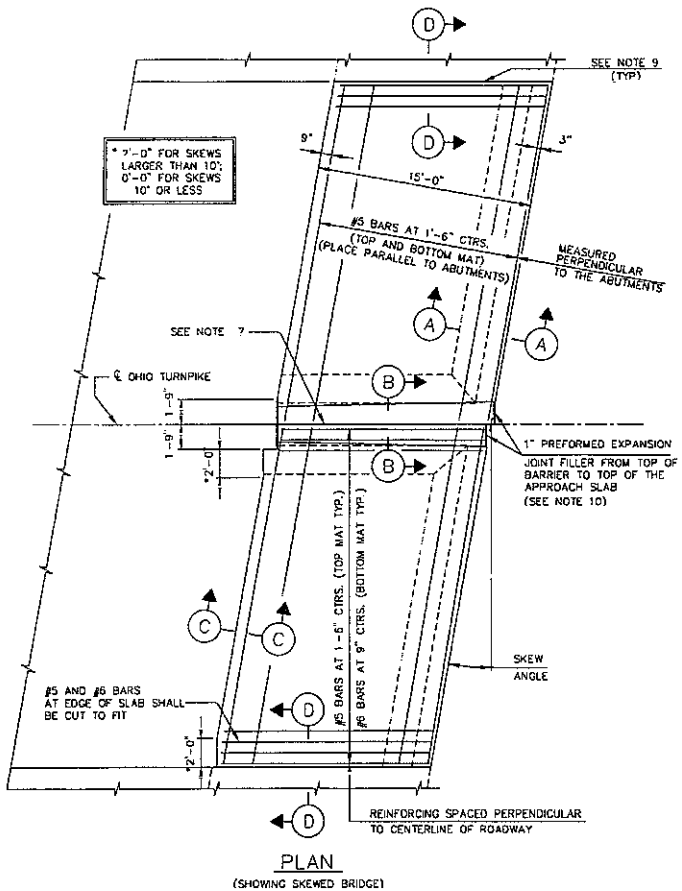
DESIGNED:	CAN	CHECKED:	EKL	DATE:	9-98
DRAWN:	CAN	IN CHARGE:	EEC	SCALE:	AS SHOWN

CONTRACT 77-13-01 SHEET 118 OF 322

CAL FILE NAME: 9805-118.DWG



PLAN
(SHOWING NON-SKEWED BRIDGE)



PLAN
(SHOWING SKEWED BRIDGE)

NOTES:

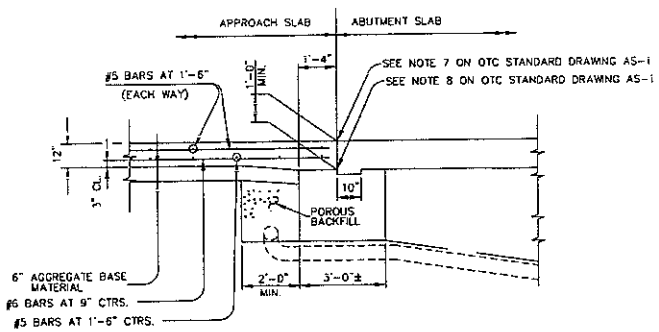
1. THIS DRAWING PROVIDES DESIGN AND GENERAL CONSTRUCTION DETAILS. THE PROJECT PLANS WILL SHOW SKEW, ESTIMATED QUANTITY (SQ. YDS), AND SPECIAL NOTES AND DETAILS. WHERE NECESSARY FOR CONDITIONS OTHER THAN THOSE INDICATED HEREON. THE APPROACH SLAB SHALL BE ADAPTED TO FIT THE ENDS OF THE BRIDGE AND THE APPROACH PAVEMENT.
2. CONCRETE: CLASS C USING TYPE I CEMENT.
REINFORCING STEEL: GRADE 60 MIN YIELD STRENGTH 60,000 P.S.I., SHALL BE EPOXY COATED AND AS PER SP 509.
3. LONGITUDINAL CONSTRUCTION JOINTS REQUIRED FOR STAGE CONSTRUCTION SHALL BE AS PER S11.12 AND SHALL BE TREATED IN ACCORDANCE WITH SP 516B.
4. CROWN SHALL CONFORM TO THAT OF THE BRIDGE DECK. IF THE RATE OF CROWN OF THE BRIDGE DECK DIFFERS FROM THAT OF THE APPROACH ASPHALT PAVEMENT, A SMOOTH TRANSITION SHALL BE PROVIDED ON THE APPROACH ASPHALT PAVEMENT AT A TRANSITION RATE OF 1 TO 200.
5. TRANSVERSE JOINT DETAILS AT THE APPROACH PAVEMENT END OF THE APPROACH SLAB SHALL BE AS DETAILED ON OTC STANDARD DRAWING AS-2.
6. BASE MATERIAL SHALL BE SP 304-AGGREGATE BASE.
7. GROOVE AND SEAL WITH 705.04 AS PER ODOT STANDARD DRAWING BP-2.1
8. TYPE A WATERPROOFING SHALL NOT EXTEND ABOVE THE BOTTOM OF THE GROOVE INTO WHICH THE JOINT SEALER IS TO BE PLACED. IT SHALL BE APPLIED TO THE ENTIRE AREA OF THE ABUTMENT OR SUPERSTRUCTURE WHICH COMES INTO CONTACT WITH THE APPROACH SLAB.
9. THE JOINT BETWEEN THE EXISTING AND THE NEW APPROACH SLABS SHALL BE AS SHOWN IN SECTION 'D-D'.
10. 1" PREFORMED EXPANSION JOINT FILLER SHALL BE PER 705.03
11. THE TWO 4" DIAMETER PVC CONDUITS WITH MULTI-CELL INNERDUCT SHALL COMPLY WITH SP 625.
12. FOR SECTIONS 'A-A', 'B-B', 'C-C' AND 'D-D' AND ADDITIONAL INFORMATION, SEE OTC STANDARD DRAWING AS-2.
13. THE FOLLOWING ITEMS SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE YARD FOR SP 526, CLASS C CONCRETE, APPROACH SLAB, USING TYPE I CEMENT (T=12"):

    : ALL JOINTS, INCLUDING DOWEL HOLES, DOWELS, AND GROUT
    : GROOVE AND JOINT SEAL
    : TYPE 'A' WATERPROOFING
    : 1" PREFORMED EXPANSION JOINT FILLER
    : MEDIAN BARRIERS
    : REINFORCING STEEL

OHIO TURNPIKE COMMISSION

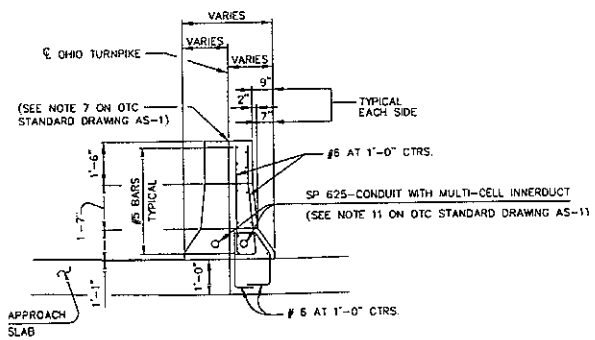
REINFORCED CONCRETE APPROACH SLAB - MEDIAN WIDENING

DATE: NOVEMBER 20, 2012	SCALE: N.T.S.
O.T.C. STANDARD DRAWING	AS-1



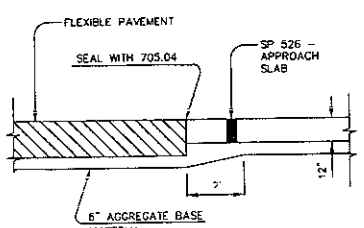
NOTE: ALL REINFORCING BARS SHALL BE EPOXY COATED.

SECTION A–A

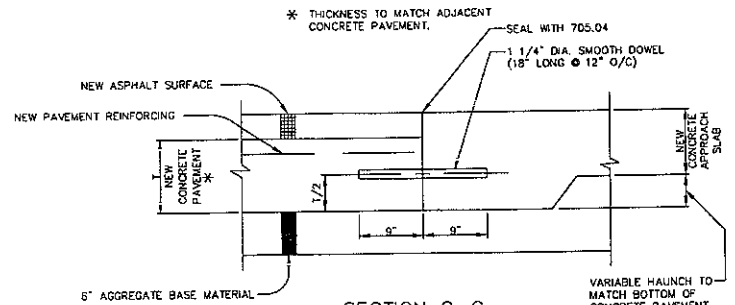


NOTE: REINFORCING AND DIMENSIONS SYMMETRICAL ABOUT CENTERLINE

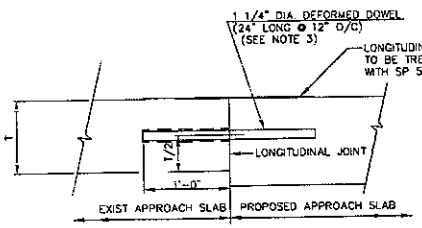
SECTION B–B



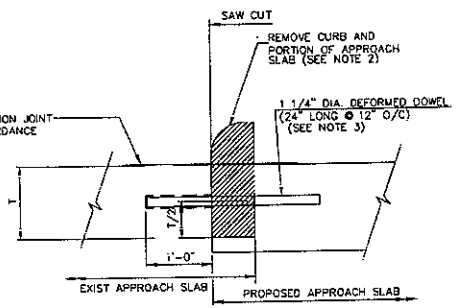
SECTION C–C
FLEXIBLE PAVEMENT



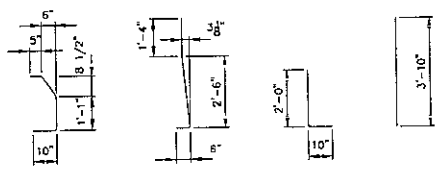
SECTION C–C
COMPOSITE PAVEMENT



SECTION D–D
(FOR APPROACH SLAB WITHOUT INTEGRAL CONCRETE CURB)



SECTION D–D
(FOR APPROACH SLAB WITHOUT INTEGRAL CONCRETE CURB)



BAR BENDING DIAGRAMS

NOTES:

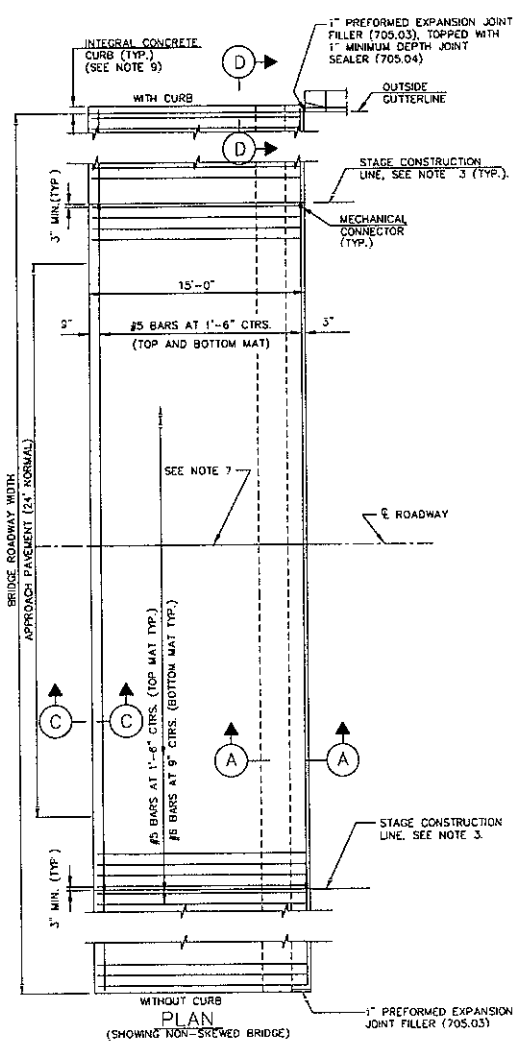
1. FOR LOCATIONS OF SECTIONS 'A-A', 'B-B', 'C-C', AND 'D-D' AND ADDITIONAL NOTES, SEE OTC STANDARD DRAWING AS-1
2. THE REMOVAL SHALL BE PER 202.05 OF THE ODOT CMS BUT THE COST OF THE REMOVAL SHALL BE INCIDENTAL TO THE COST OF SP 526.
3. DRILL 1 3/4" DIA. HOLE INTO EXISTING CONCRETE, PARTIALLY FILL WITH NONSHRINKING GROUT BEFORE INSERTING DOWEL PER 510.03 AND THE COST IS INCIDENTAL TO THE COST OF SP 526 (APPROACH SLAB).

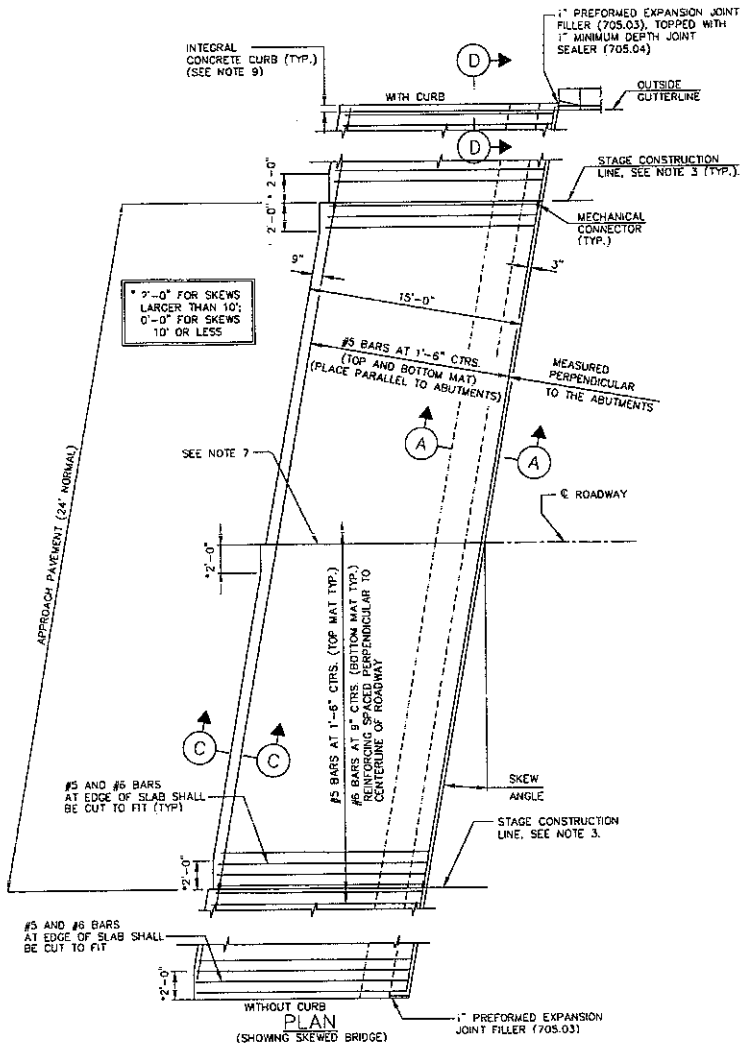
OHIO TURNPIKE COMMISSION

REINFORCED CONCRETE APPROACH SLAB SECTIONS AND DETAILS – MEDIAN WIDENING

DATE: NOVEMBER 20, 2012 | SCALE: N.T.S.

O.T.C. STANDARD DRAWING AS-2





NOTES:

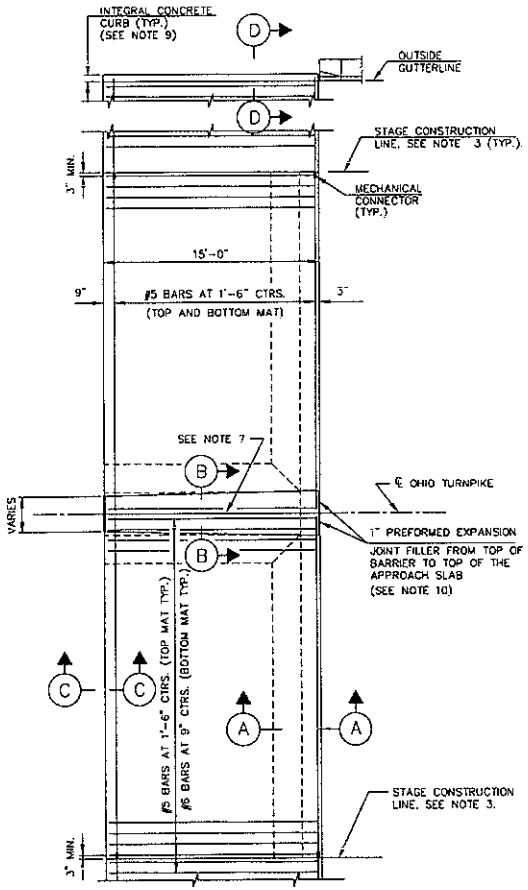
1. THIS DRAWING PROVIDES DESIGN AND GENERAL CONSTRUCTION DETAILS. THE PROJECT PLANS WILL SHOW SKEW, CURBS (IF ANY), ESTIMATED QUANTITY (SQ. YDS), AND SPECIAL NOTES AND DETAILS, WHERE NECESSARY FOR CONDITIONS OTHER THAN THOSE INDICATED HEREON. THE APPROACH SLAB SHALL BE ADAPTED TO FIT THE ENDS OF THE BRIDGE AND THE APPROACH PAVEMENT.
2. CONCRETE: CLASS C USING TYPE I CEMENT. REINFORCING STEEL: GRADE 60 MIN YIELD STRENGTH 60,000 P.S.I., SHALL BE EPOXY COATED AND AS PER SP 509.
3. LONGITUDINAL CONSTRUCTION JOINTS REQUIRED FOR STAGE CONSTRUCTION SHALL BE AS PER 511.12 AND SHALL BE TREATED IN ACCORDANCE WITH SP 516B.
4. CROWN SHALL CONFORM TO THAT OF THE APPROACH PAVEMENT AND BRIDGE DECK. IF THE RATE OF CROWN OF THE BRIDGE DECK DIFFERS FROM THAT OF THE APPROACH PAVEMENT, A SMOOTH TRANSITION SHALL BE PROVIDED ON THE APPROACH PAVEMENT AT A TRANSITION RATE OF 1 TO 200.
5. TRANSVERSE JOINT DETAILS AT THE APPROACH PAVEMENT END OF THE APPROACH SLAB SHALL BE AS DETAILED ON OTC STANDARD DRAWING AS-5.
6. BASE MATERIAL SHALL BE SP 304-AGGREGATE BASE.
7. GROOVE AND SEAL WITH 705.04 AS PER ODOT STANDARD DRAWING BP-2.1.
8. TYPE A WATERPROOFING SHALL NOT EXTEND ABOVE THE BOTTOM OF THE GROOVE INTO WHICH THE JOINT SEALER IS TO BE PLACED. IT SHALL BE APPLIED TO THE ENTIRE AREA OF THE ABUTMENT OR SUPERSTRUCTURE WHICH COMES INTO CONTACT WITH THE APPROACH SLAB.
9. THE INTEGRAL CONCRETE CURB SHALL BE PROVIDED ON THE NEW APPROACH SLAB AS INDICATED ON THE PROJECT PLANS AND SHOWN IN SECTION 'D-D'.
10. 1" PERFORMED EXPANSION JOINT FILLER SHALL BE PER 705.03.
11. CURBS, BRIDGES WITH SIDEWALKS: FOR BRIDGES CONSTRUCTED WITH RAISED SIDEWALKS, DEFLECTOR PARAPETS OR OTHER TYPES OF CONSTRUCTION WHICH RETAIN ROADWAY SURFACE DRAINAGE, THE APPROACH SLABS SHALL EITHER INCLUDE INTEGRAL CURBS OR BE CONSTRUCTED IN CONJUNCTION WITH BRIDGE CURBS. CURB HEIGHT SHALL BE TRANSITIONED UNIFORMLY BETWEEN BRIDGE CURB HEIGHT AND APPROACH CURB HEIGHT IN LENGTH AS FOLLOWS: WHERE WINGWALL EXTENDS BEYOND END OF APPROACH SLAB, USE A MINIMUM LENGTH OF 10 FT BEYOND END OF WINGWALL. WHERE THE APPROACH SLAB EXTENDS BEYOND THE END OF WINGWALL, TRANSITION IN THIS LENGTH. HOWEVER, THE TRANSITION LENGTH SHALL NOT BE LESS THAN 10 FT AND THE TRANSITION SHALL EXTEND BEYOND THE END OF THE APPROACH SLAB IF NECESSARY. CURB PLACEMENT SHALL BE IN ACCORDANCE WITH ODOT STANDARD DRAWING BR-1.
12. APPROACH SLAB WIDTH SHALL EXTEND FROM GUTTER LINE TO GUTTER LINE AND BE 6" WIDER FOR EACH CURB BEYOND THE END OF THE PARAPETS.
13. FOR SECTIONS 'A-A', 'C-C' AND 'D-D' AND ADDITIONAL INFORMATION SEE OTC STANDARD DRAWING AS-5.
14. THE FOLLOWING ITEMS SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE YARD FOR SP 526, CLASS C CONCRETE, APPROACH SLAB, USING TYPE I CEMENT (T=12"):

    : ALL JOINTS, INCLUDING DOWEL HOLES, DOWELS, AND GROUT
    : GROOVE AND JOINT SEAL
    : TYPE 'A' WATERPROOFING
    : 1" PERFORMED EXPANSION JOINT FILLER
    : MEDIAN BARRIERS
    : REINFORCING STEEL

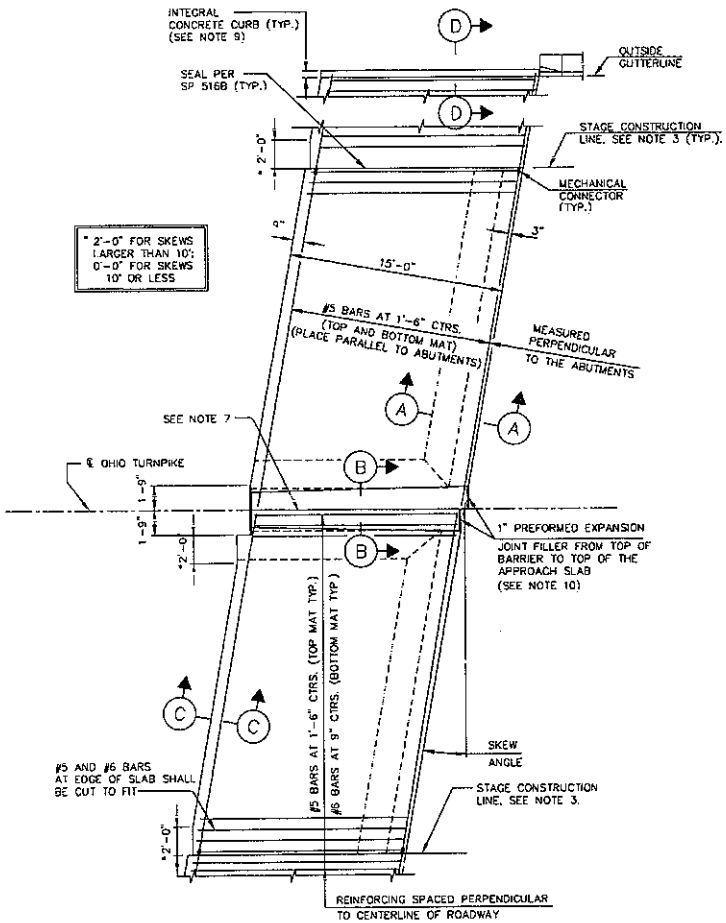
OHIO TURNPIKE COMMISSION

REINFORCED CONCRETE APPROACH SLAB - CELLULAR ABUTMENTS

DATE: NOVEMBER 20, 2012	SCALE: N.T.S.
O.T.C. STANDARD DRAWING	AS-3



PLAN
(SHOWING NON-SKEWED BRIDGE)



PLAN
(SHOWING SKEWED BRIDGE)

NOTES:

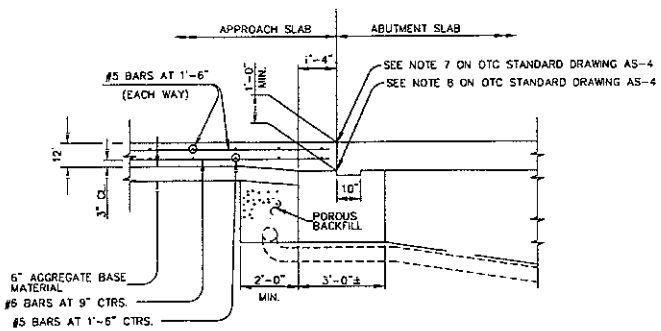
1. THIS DRAWING PROVIDES DESIGN AND GENERAL CONSTRUCTION DETAILS. THE PROJECT PLANS WILL SHOW SKEW, ESTIMATED QUANTITY (SQ. YDS), AND SPECIAL NOTES AND DETAILS, WHERE NECESSARY FOR CONDITIONS OTHER THAN THOSE INDICATED HEREON. THE APPROACH SLAB SHALL BE ADAPTED TO FIT THE ENDS OF THE BRIDGE AND THE APPROACH PAVEMENT.
2. CONCRETE: CLASS C USING TYPE I CEMENT. REINFORCING STEEL: GRADE 60 MIN YIELD STRENGTH 60,000 P.S.I., SHALL BE EPOXY COATED AND AS PER SP 509.
3. LONGITUDINAL CONSTRUCTION JOINTS REQUIRED FOR STAGE CONSTRUCTION SHALL BE AS PER 511.12 AND SHALL BE TREATED IN ACCORDANCE WITH SP 516B.
4. CROWN SHALL CONFORM TO THAT OF THE BRIDGE DECK. IF THE RATE OF CROWN OF THE BRIDGE DECK DIFFERS FROM THAT OF THE APPROACH ASPHALT PAVEMENT, A SMOOTH TRANSITION SHALL BE PROVIDED ON THE APPROACH ASPHALT PAVEMENT AT A TRANSITION RATE OF 1 TO 200.
5. TRANSVERSE JOINT DETAILS AT THE APPROACH PAVEMENT END OF THE APPROACH SLAB SHALL BE AS DETAILED ON OTC STANDARD DRAWING AS-5.
6. BASE MATERIAL SHALL BE SP 304-AGGREGATE BASE.
7. GROOVE AND SEAL WITH 705.04 AS PER ODOT STANDARD DRAWING BP-2.1.
8. TYPE A WATERPROOFING SHALL NOT EXTEND ABOVE THE BOTTOM OF THE GROOVE INTO WHICH THE JOINT SEALER IS TO BE PLACED. IT SHALL BE APPLIED TO THE ENTIRE AREA OF THE ABUTMENT OR SUPERSTRUCTURE WHICH COMES INTO CONTACT WITH THE APPROACH SLAB.
9. THE INTEGRAL CONCRETE CURB SHALL BE PROVIDED ON THE NEW APPROACH SLAB AS SHOWN IN SECTION 'D-D'.
10. 1" PERFORMED EXPANSION JOINT FILLER SHALL BE PER 705.03.
11. THE TWO 4" DIAMETER PVC CONDUITS WITH MULTI-CELL INNERDUCT SHALL COMPLY WITH SP 625.
12. FOR SECTIONS 'A-A', 'B-B', 'C-C' AND 'D-D' AND ADDITIONAL INFORMATION SEE OTC STANDARD DRAWING AS-5.
13. THE FOLLOWING ITEMS SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE YARD FOR SP 526, CLASS C CONCRETE, APPROACH SLAB, USING TYPE I CEMENT (T=12"):

    : ALL JOINTS, INCLUDING DOWEL HOLES, DOWELS, AND GROUT
    : GROOVE AND JOINT SEAL
    : TYPE 'A' WATERPROOFING
    : 1" PERFORMED EXPANSION JOINT FILLER
    : MEDIAN BARRIERS
    : REINFORCING STEEL

OHIO TURNPIKE COMMISSION

REINFORCED CONCRETE APPROACH SLAB - FULL WIDTH REPLACEMENT

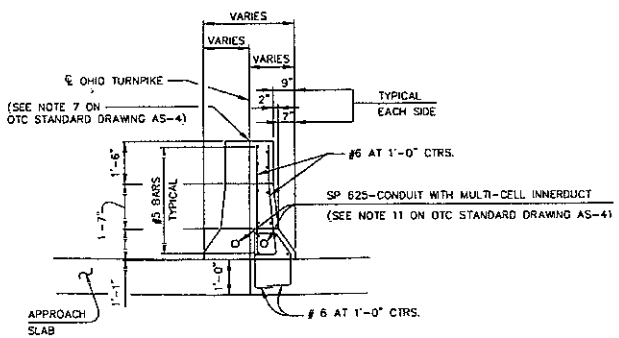
DATE: NOVEMBER 20, 2012	SCALE: N.T.S.
O.T.C. STANDARD DRAWING	AS-4



NOTE: ALL REINFORCING BARS SHALL BE EPOXY COATED.

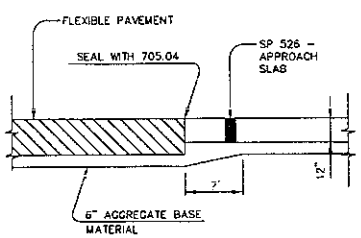
SECTION A–A

(SEE NOTE 2)



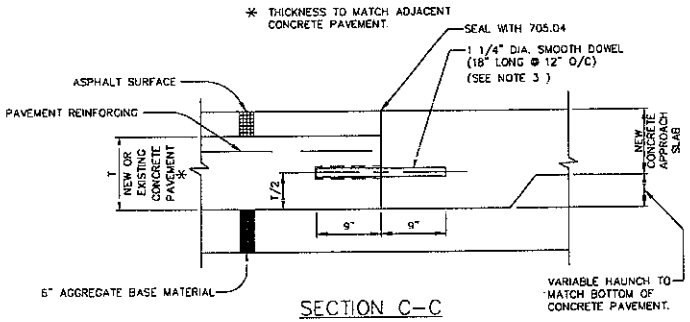
NOTE: REINFORCING AND DIMENSIONS SYMMETRICAL ABOUT CENTERLINE

SECTION B–B



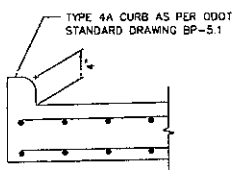
SECTION C–C

FLEXIBLE PAVEMENT



SECTION C–C

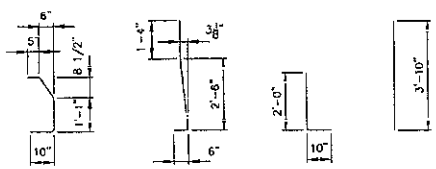
COMPOSITE PAVEMENT



SECTION D–D

NOTES:

1. FOR LOCATIONS OF SECTIONS 'A–A', 'B–B', 'C–C', AND 'D–D' AND ADDITIONAL NOTES, SEE OTC STANDARD DRAWING AS-3 OR AS-4.
2. THE POROUS BACKFILL AND THE DRAIN PIPES ARE PROVIDED IN THE NEW WIDENED SECTION ONLY. SEE ABUTMENT DETAILS FOR ADDITIONAL INFORMATION.
3. DRILL 1 3/4" DIA. HOLE INTO EXISTING CONCRETE. PARTIALLY FILL WITH NONSHRINKING GROUT BEFORE INSERTING DOWEL PER 510.03 AND THE COST IS INCIDENTAL TO THE COST OF SP 526 (APPROACH SLAB).

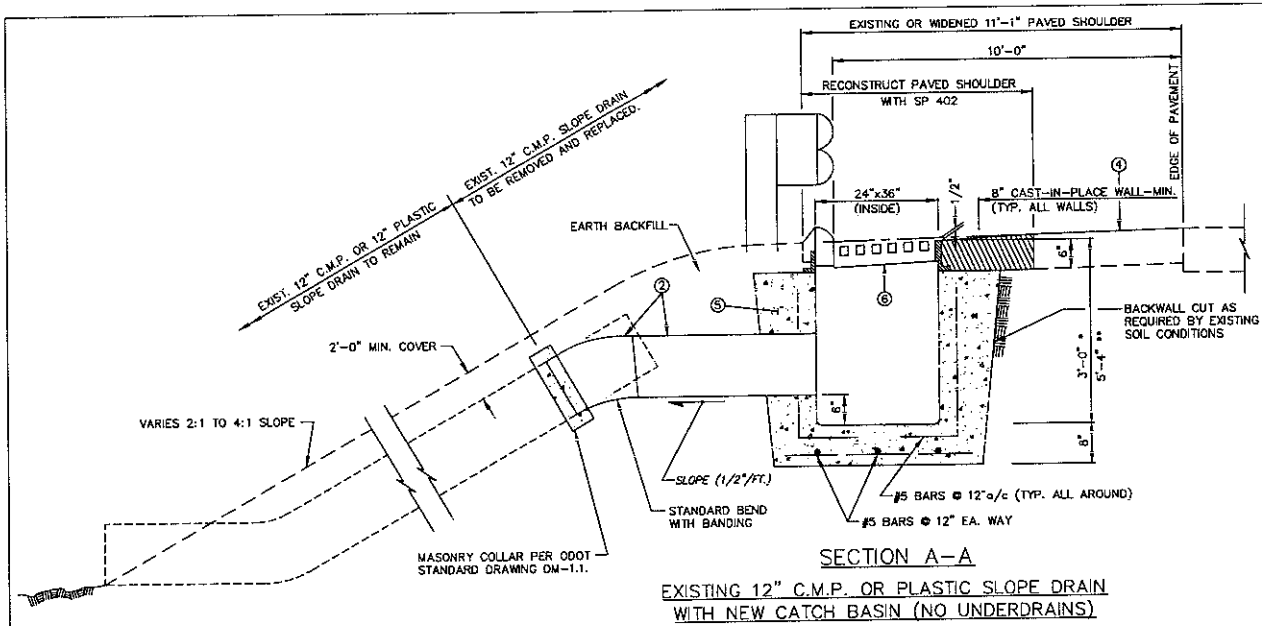


BAR BENDING DIAGRAMS

OHIO TURNPIKE COMMISSION

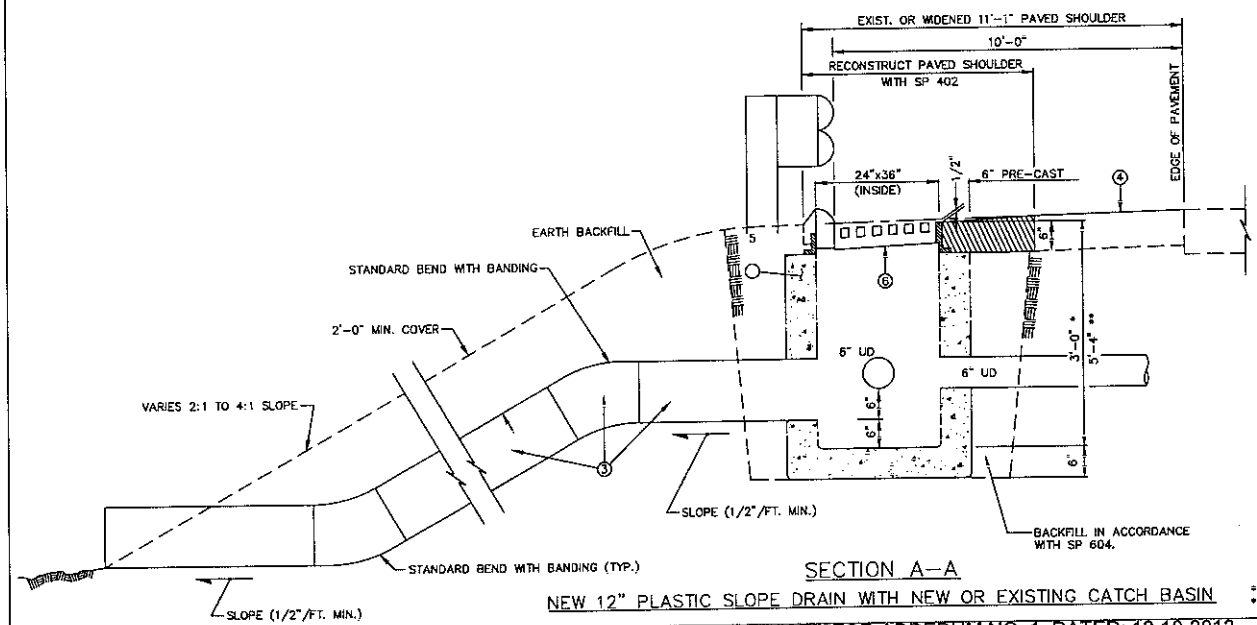
REINFORCED CONCRETE APPROACH SLAB SECTIONS AND DETAILS – FULL WIDTH REPLACEMENT

DATE: NOVEMBER 20, 2012	SCALE: N.T.S.
O.T.C. STANDARD DRAWING	AS-5



SECTION A-A

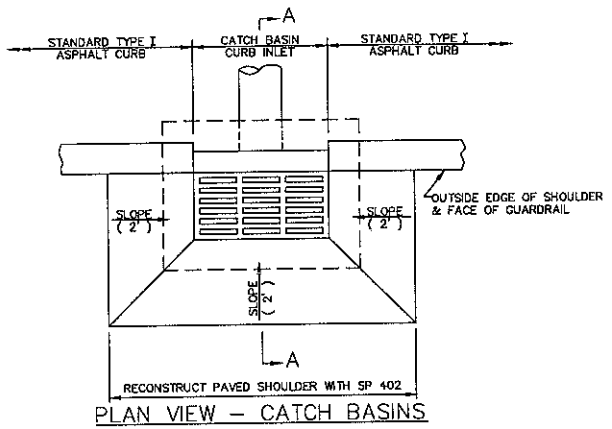
EXISTING 12" C.M.P. OR PLASTIC SLOPE DRAIN WITH NEW CATCH BASIN (NO UNDERDRAINS)



SECTION A-A

NEW 12" PLASTIC SLOPE DRAIN WITH NEW OR EXISTING CATCH BASIN

* DEPTH WITHOUT UNDERDRAIN.
** DEPTH WITH UNDERDRAIN.



PLAN VIEW - CATCH BASINS

LEGEND:

1. ITEM 609 - ASPHALT CONCRETE CURB, PG64-22, STANDARD TYPE I (SEE ODOT STANDARD DRAWING BP-5.1).
2. ITEM 603 - 12" CONDUIT, TYPE F, 707.33 USING A STANDARD BEND WITH BANDING AS REQUIRED TO FORM TRANSITION BETWEEN NEW CONDUIT & EXISTING 12" C.M.P. THAT IS TO REMAIN.
3. ITEM 603 - 12" CONDUIT, TYPE F, 707.33 USING A STANDARD BEND WITH BANDING.
4. NEW SHOULDER SURFACE TREATMENT OR RESURFACED SHOULDER.
5. SP 604 - CATCH BASIN, NO. CB-1: REINFORCED CONCRETE CATCH BASIN USING CLASS "C" CONCRETE WITH DEFORMED BILLET STEEL REBARS, MEETING THE REQUIREMENTS OF 499.03 AND 509.02.
6. HEAVY DUTY, GRAY IRON CASTING MEETING THE REQUIREMENTS OF 711.12 - MODEL No. R-3246 AS MANUFACTURED BY NEENAH FOUNDRY CO. OR EAST JORDON IRON WORKS MODEL No. 7030 OR AN APPROVED EQUAL.

NOTES:

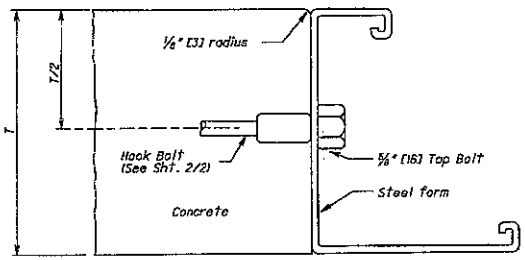
1. ASPHALT CONCRETE CURB & SLOPE DRAINS SHALL BE CONSTRUCTED TO THE APPROXIMATE STATIONS AS INDICATED ON THE PLAN, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
2. EXISTING COLLECTOR PAN TO BE REMOVED.
3. SLOPE DRAIN COUPLING BANDS SHALL BE 10 1/2" BAR & STRAP CONNECTOR WITH CONTINUOUS CORRUGATION AROUND BAND.
4. PIPE MAY BE TRIMMED FLUSH WITH INSIDE OF BASIN OR EXTEND INTO THE BASIN 1" MAX.
5. PRECAST CONSTRUCTION IS PERMITTED. THE CONCRETE SHALL MEET REQUIREMENTS OF 706.13 WITH 6 ± 2% AIR VOID CONTENT IN THE HARDENED CONCRETE. PRECAST WALLS SHALL HAVE A MINIMUM THICKNESS OF 6" AND REINFORCING SHALL BE SUFFICIENT TO PERMIT SHIPPING AND PLACEMENT WITHOUT DAMAGE. BACKFILL MATERIAL AROUND PRECAST CATCH BASINS SHALL MEET THE REQUIREMENTS OF SP 604. STEPS SHALL BE IN ACCORDANCE WITH ODOT STANDARD DRAWINGS MH-1.1.
6. SP 604 - CATCH BASIN, NO. CB-1: PAYMENT WILL BE MADE AT THE UNIT PRICE BID PER EACH FOR SP 604 - CATCH BASIN, NO. CB-1 AND SHALL INCLUDE ALL MATERIALS, EXCAVATION, EMBANKMENT, REINFORCING STEEL, CASTINGS, RECONSTRUCTED PAVED SHOULDER, RECONSTRUCTED ASPHALT CURB AND LABOR REQUIRED TO CONSTRUCT THE CATCH BASIN, NO. CB-1 AS SHOWN ABOVE, COMPLETE IN PLACE.
7. THE FOLLOWING TEXT SHALL BE CAST INTO THE TOP OF THE GRATE:
   "DUMP NO WASTE" AND **"DRAINS TO WATERWAY"**
   TEXT SHALL BE PRINTED IN BOLD, CAPITAL LETTERS WITH A MINIMUM HEIGHT OF 1/2". "WATERWAY" MAY BE SUBSTITUTED WITH "STREAM", "RIVER", "LAKE", ETC. ACTUAL PLACEMENT AND LOGO MAY VARY PER MANUFACTURER.

OHIO TURNPIKE COMMISSION

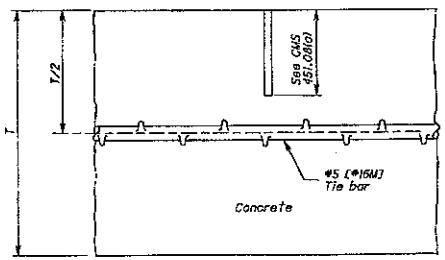
CATCH BASIN, NO. CB-1 & SLOPE DRAIN DETAIL

DATE: NOVEMBER 20, 2012	SCALE: N.T.S.
O.T.C. STANDARD DRAWING	CB-1

REVISED FOR ADDEDUM NO. 1 DATED: 12-10-2012



ACCEPTABLE METHOD OF FORMING JOINT



SAWED JOINT

NOTES

GENERAL: Longitudinal joints shall be used when specified on the typical section and shall be constructed as shown on this drawing in Items 451 and 452 Pavement and Item 305 Base.

The joint shall be on the centerline of the pavement unless otherwise shown on the plans. Where the pavement width exceeds 16' [5.0 m], an additional longitudinal joint shall be introduced into the jointing details as directed by the Engineer.

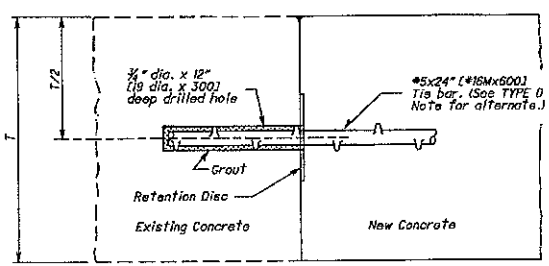
Tie bars shall be #5 [#16M] deformed bars. A satisfactory device shall be used to hold the tie bars in proper position or they may be installed by a mechanical installing device. Tie bars shall be centered on the longitudinal joint as nearly as practical.

BUTT JOINT: The longitudinal joint between adjoining slabs poured in separate operations shall be a butt joint with hook bolts or tie bars, unless otherwise shown on the plans. Bent tie bars shall not be permitted.

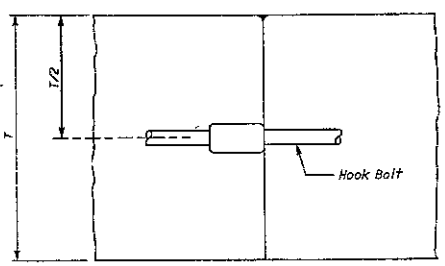
TYPE D (DRILLED TIED LONGITUDINAL) JOINT: Type D joints shall be constructed in accordance with CMS 255.05. The nylon or plastic retention disc shall be clear or opaque white in color. Grout shall meet the requirements of CMS 255.02. 5/8" [16] expansion anchors, FF-S-325, Group VIII, Type I or Group II Type 4, Class I may be used lieu of the #5x24" [#16Mx600] deformed bar and shall be installed according to the manufacturer's recommendations.

The use of self drilling expansion shield anchors, FF-S-325, Group III, Type I (a) and (c) shall not be permitted.

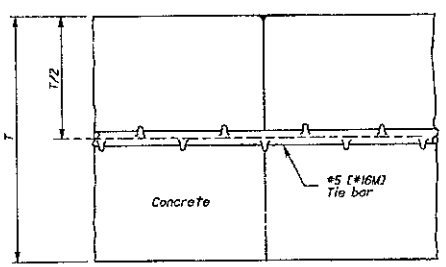
See Sheet 2/2 for additional details.



TYPE D (DRILLED TIED LONGITUDINAL) JOINT



BUTT JOINT
w/ HOOK BOLT



BUTT JOINT
W/ TIE BAR

THIS DRAWING REPLACES BP-2.1 DATED 7-16-04

STANDARD ROADWAY CONSTRUCTION DRAWING

LONGITUDINAL PAVEMENT JOINTS

OFFICE OF ROADWAY ENGINEERING

ALL METRIC DIMENSIONS (IN BRACKETS []) ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

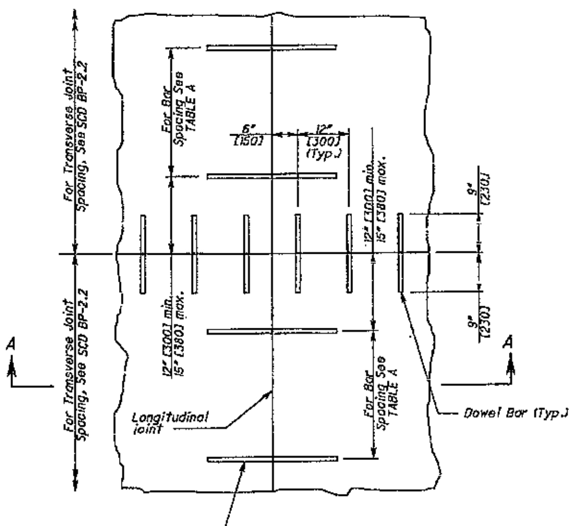
PAVEMENT DESIGN ENGR. D. MILLER

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
PAVEMENT ENGINEERING ADMINISTRATOR
7-18-08
DATE

SCD NUMBER BP-2.1

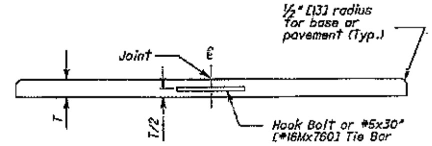
1/2

X:\Standards\Publications\Transmittals\2008-04-18\Published (black) sht\SCD\bp21_V8.dgn 14-JUL-2008 12:18PM dfocke



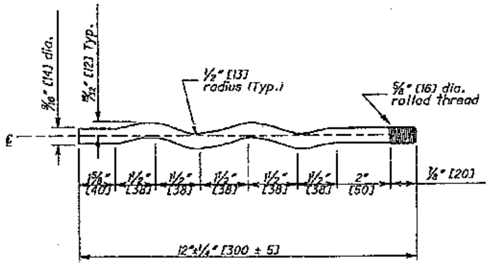
PLAN

TABLE A			
Thickness of Pavement	Transverse Joint Spacing	Number of Tie Bars per Slab	Max. spacing between Tie Bars
10" [250] or less	15' [4.6 m]	7	26" [660]
	21' [6.5 m]	10	26" [660]
Greater than 10" [250]	15' [4.6 m]	9	20" [508]
	21' [6.5 m]	13	20" [508]

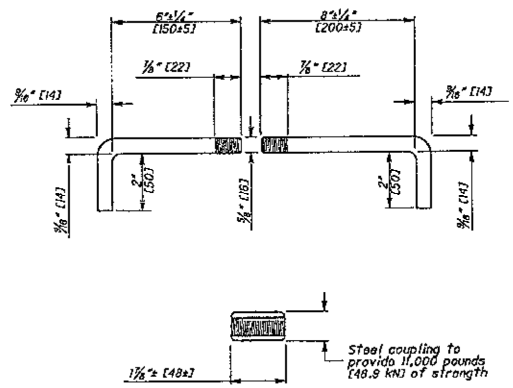


SECTION A-A

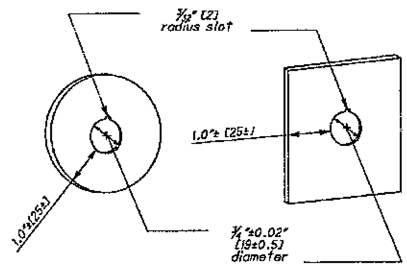
TIE BAR OR HOOK BOLT SPACING



HOOK BOLT ALTERNATE



HOOK BOLT



NYLON OR PLASTIC GROUT RETENTION DISCS FOR DOWEL/TIE BARS

(1/16" [1.6] min. thick)

NOTES

EDGING: Edge joints with a thin metal edger having a radius of ⅛" [3]. Any impression left in the surface of the pavement by the flat part of the edging tool shall be eliminated.

In lieu of the above method the longitudinal joint may be constructed in accordance with CMS 451.08(a).

HOOK BOLTS: Threaded hook bolts and alternates shall be turned to a tight fit when installed in couplings. Ensure the coupling is located on the same side of the joint as the shorter (6" +/-¼" [150 +/-5] hook bolt.

METAL STRENGTH: Tie bars, hook bolts assemblies, and the hook bolt alternate shall have a minimum strenght of 11,000 pounds [48.9 kN].

SPACING: Tie bars shall not be located within 12" [300] of any transverse joint.

THIS DRAWING REPLACES BP-2.1 DATED 7-18-04.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

PAVEMENT ENGINEERING ADMINISTRATOR 7-18-08 DATE

PAVEMENT DESIGN ENGR. D. MILLER

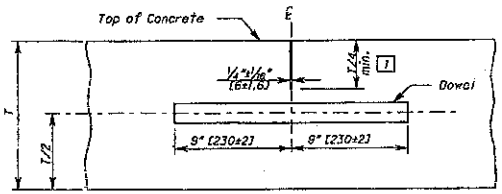
ALL METRIC DIMENSIONS (IN BRACKETS [ ]) ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

OFFICE OF ROADWAY ENGINEERING

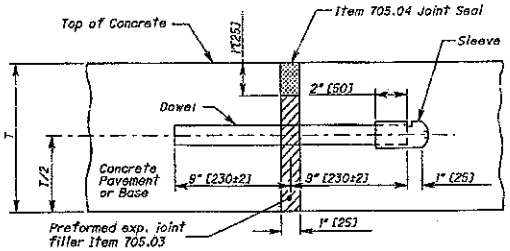
STANDARD ROADWAY CONSTRUCTION DRAWING

LONGITUDINAL PAVEMENT JOINTS

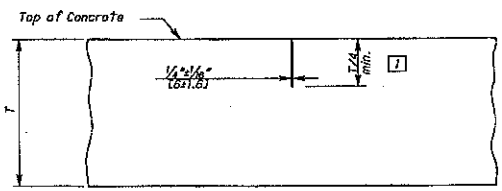
SCD NUMBER BP-2.1



ITEM 451, 452 & 305



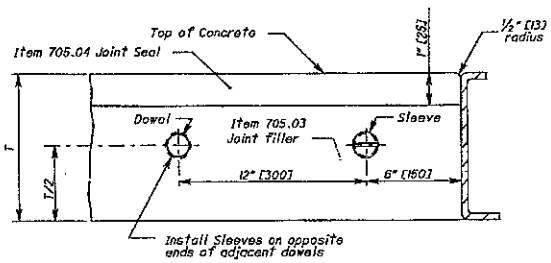
SECTION THROUGH EXP. JOINT



ITEM 452 and 305

(for shoulders, alleys, driveways, etc.)

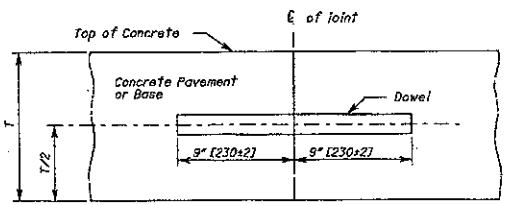
CONTRACTION JOINTS SECTIONS



SIDE ELEVATION OF EXP. JOINT

(through Concrete Pavement or Base)

EXPANSION JOINTS



SECTION THROUGH CONSTRUCTION JOINT

CONSTRUCTION JOINT

LEGEND

1 Where T > 10" [255], the sawcut depth shall be T/3. If using early entry saws, cut joints 2¼" to 2½" [58 to 63] deep and ⅛" [3] wide.

NOTES

GENERAL: Notes and details shown on this drawing shall be considered in conjunction with and supplemental to the pertinent specifications for portland cement concrete pavement and bases, and related incidentals.

JOINT COMPONENTS: This drawing is intended for use with a uniform depth pavement. When the project involves the placing of variable depth pavement, the joint components shall be held in place in accordance with the method shown in the plans or as approved by the Engineer.

CONTRACTION JOINTS: Contraction joints in Items 452 and 305 shall not be doweled in alleys, private drives, or commercial drives.

Contraction joints of the type specified shall be spaced in accordance with the CONTRACTION JOINT SPACING Table.

CONTRACTION JOINT SPACING	
Types of Pavement or Base	Maximum Spacing Between Joints
Item 451 Reinforced Concrete Pavement	21' [6.5 m]
Item 452 Non-Reinforced Concrete Pavement	15' [4.6 m]
Item 305 Concrete Base	15' [4.6 m]

THIS SHEET REPLACES BP-2.2 DATED 7-16-04.

STANDARD ROADWAY CONSTRUCTION DRAWING

TRANSVERSE PAVEMENT JOINTS

SCD NUMBER BP-2.2

1/2

OFFICE OF ROADWAY ENGINEERING

ALL METRIC DIMENSIONS (IN BRACKETS [ ]) ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

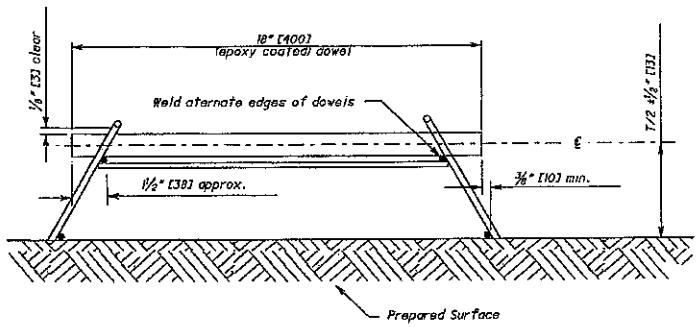
PAVEMENT DESIGN ENGR. D. Miller

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

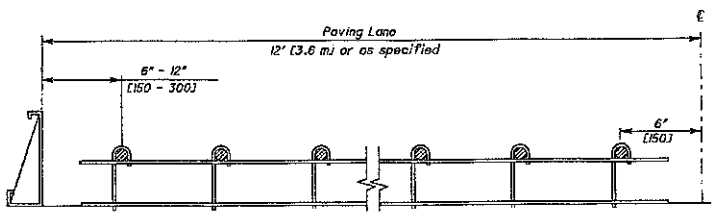
7-18-08 DATE

PAVEMENT ENGINEERING ADMINISTRATOR

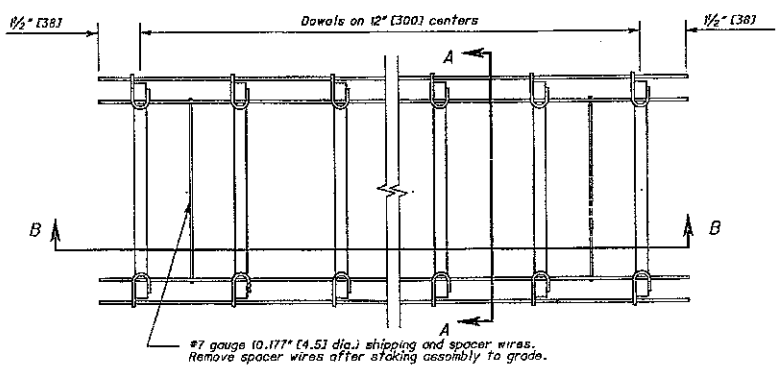
X:\Standards\Publications\Transmittals\2008-04-18\Published (clean) set\SCD\bp22_v8.dgn 14-JUL-2008 12:19PM dlocke



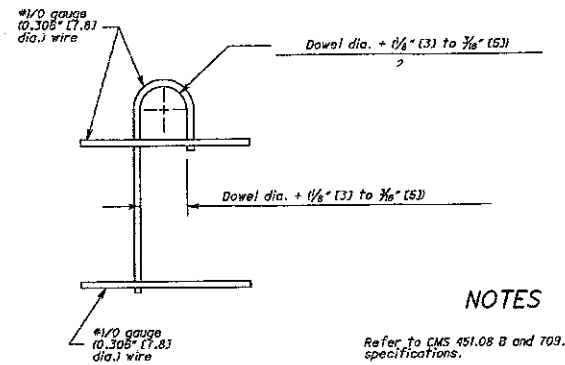
SECTION A-A



SECTION B-B



PLAN VIEW



J-LEG DETAIL (ALTERNATE)

NOTES

Refer to CMS 451.08 B and 709.13 for dowel specifications.

1) Wire sizes shown are minimum required.

2) All wire intersections are to be welded.

3) Stakes typically applied at working ends of dowel.

4) TOLERANCES:

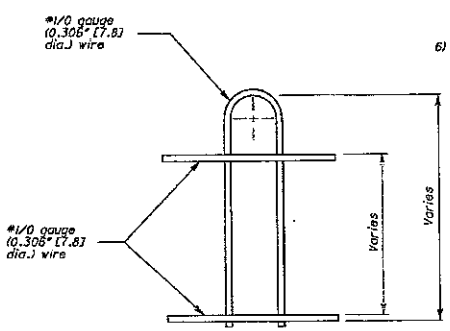
5) A) ±1/4" per foot [±20 mm per meter] unless otherwise specified.

B) Centerline of individual dowels shall be parallel to each other, the surface and the centerline of the slab.

C) On centers should be ±1/2" [±13].

D) Dowels should be placed at mid-depth of slab.

6) J-Leg or U-Leg to be installed on inside or outside of subframe.



U-LEG DETAIL

THIS SHEET REPLACES BP-2.2 DATED 7-16-04

STANDARD ROADWAY CONSTRUCTION DRAWING

TRANSVERSE PAVEMENT JOINTS

SCD NUMBER BP-2.2

2 / 2

OFFICE OF ROADWAY ENGINEERING

ALL METRIC DIMENSIONS (IN BRACKETS [ ]) ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

PAVEMENT DESIGN ENGR D. Miller

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
PAVEMENT ENGINEERING ADMINISTRATOR

7-18-08
DATE

X:\Standards\Publications\Transmittals\2008-04-18\Published (black) set\SCD\bp22_V8.dgn 14-JUL-2008 12:21PM dfocke

GENERAL: THIS DRAWING PROVIDES DESIGN AND CONSTRUCTION DETAILS. THE PROJECT PLANS SHALL SHOW THE LOCATION OF SPLICES PLUS A REFERENCE TO THIS DRAWING FOR PERTINENT DETAILS AND NOTES. FOR SPLICING BEAMS OF DIFFERENT SIZES OR WHERE SPLICES ARE LOCATED AT BEAM BEND POINTS. THE PROJECT PLANS SHALL INCLUDE SUFFICIENT DETAILS SUPPLEMENTING THIS DRAWING TO COMPLETELY DESCRIBE THE SPLICE.

DESIGN SPECIFICATIONS: THIS DRAWING CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1992, INCLUDING THE 1993 INTERIM SPECIFICATIONS, AND THE OHIO DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL, 1993.

DESIGN METHOD: LOAD FACTOR DESIGN

ALLOWABLE STRESSES:

STRUCTURAL STEEL	ASTM	A-709 GRADE 36	YIELD STRESS - 36 KSI
	ASTM	A-709, GRADE 50 OR 50W	YIELD STRESS - 50 KSI
HIGH STRENGTH BOLTS	ASTM	A-325	DESIGN SLIP RESISTANCE - 21 KSI

(DESIGN SLIP RESISTANCE IS BASED ON THE AASHTO CLASS A MINIMUM SLIP COEFFICIENT OF 0.33)

DESIGN: FOR EACH STRUCTURE THE DESIGNER SHALL CHOOSE A SPLICE LOCATION AND DETERMINE THE MAXIMUM TOTAL STRESSES (MOMENT AND SHEAR) AT THAT POINT. IN CONTINUOUS SPANS, SPLICES PREFERABLY SHALL BE MADE NEAR POINTS OF CONTRAFLEXURE. THE SPLICE SHALL BE DESIGNED FOR NOT LESS THAN (1) THE AVERAGE OF THE REQUIRED STRENGTH AT THE POINT OF SPLICE AND THE STRENGTH OF THE MEMBER AT THE SAME POINT, (2) THE MODIFIED MAXIMUM STRESS SPECIFIED IN THE FATIGUE UNIT STRESSES NOTE, OR (3) 75% OF THE STATIC STRENGTH OF THE BEAM. THE SPLICE DESIGNS SHOWN HEREON ARE DESIGNED FOR (3). SEE NOTE FOR DESIGN LOADS. IF STRESSES (1) OR (2) ARE MORE CRITICAL, THIS DESIGN SHALL NOT BE USED AND SUCH SPLICES SHOULD BE DESIGNED TO MEET THE ESTABLISHED REQUIREMENTS. THE STATIC BEAM STRENGTH AT THE SPLICE IS BASED ON THE NET SECTION FOR BENDING AND THE GROSS SECTION FOR SHEAR USING THE BASIC UNIT STRESSES. WHEN SPLICING BEAMS OF DIFFERENT SIZES, THE SPLICE DESIGN SHALL BE BASED ON THE LIGHTER WEIGHT BEAM.

DESIGN LOADS: DESIGN MOMENT (KIP-IN) = $0.75 \left(\frac{Fy\ I}{d/2} \right)$

DESIGN SHEAR (KIP) = 0.75 (0.58 Fy Tw (d - 2 Tf))

WHERE: I - MOMENT OF INERTIA BASED ON THE BEAM'S GROSS-SECTION OR ON THE NET-SECTION IF THE FLANGE AREA REMOVED EXCEEDING 15% OF THE GROSS-SECTION IS DEDUCTED (IN^4) (SEE AASHTO 10.18.1.1)

Fy - YIELD STRESS (KSI)
d - MEMBER DEPTH (IN)
Tw - WEB THICKNESS (IN)
Tf - FLANGE THICKNESS (IN)

FATIGUE STRESSES: THIS SPLICE STANDARD HAS NOT BEEN EVALUATED FOR FATIGUE STRESSES. THE DESIGNER IS REQUIRED TO CALCULATE THE MAXIMUM MOMENT RANGE AND EVALUATE THE ACTUAL STRESSES AGAINST ALLOWABLES GIVEN IN AASHTO TABLE 10.3.1A.

FASTENERS: FOR GRADE 36 STEEL, USE 1" DIAMETER HIGH STRENGTH BOLTS, 711.09 (ASTM A325)
FOR GRADE 50 OR 50W STEEL, USE 1⅛" DIAMETER HIGH STRENGTH BOLTS, 711.09 (ASTM A325)

VERTICAL CLEARANCE: FOR GRADE SEPARATION STRUCTURES AN ALLOWANCE OF ¾ INCHES PLUS THE THICKNESS OF THE OUTSIDE FLANGE SPLICE PLATE SHALL BE USED IN COMPUTING THE ACTUAL VERTICAL CLEARANCE UNDER A BEAM SPLICE.

STANDARD
BOLTED BEAM SPLICE
FOR STEEL BEAM BRIDGES

REVISIONS 02-19-02 | DESIGNED GEA | CHECKED SAM | REVIEWED
DRAWN SAM | BS-1-93

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
ENGINEER OF BRIDGES — 12-19-94 DATE

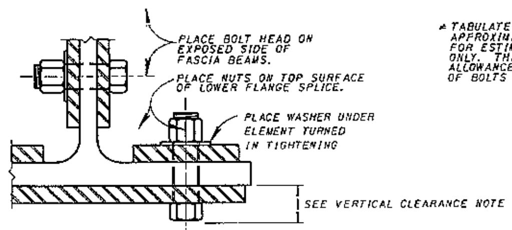
DESIGN AGENCY
OFFICE OF STRUCTURAL ENGINEERING

1 / 3

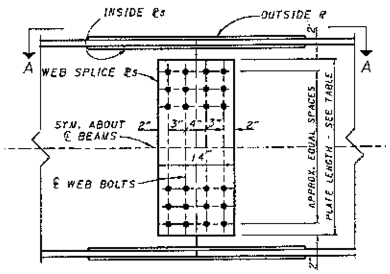
BEAM SPLICE DETAILS

BEAM	FLANGE PLATES: TYPE	FLANGE PLATES: OUTSIDE 2 REQ'D	FLANGE PLATES: INSIDE 4 REQ'D	FLANGE BOLTS: NUM.	FLANGE BOLTS: N SPA.	FLANGE BOLTS: PITCH	FLANGE BOLTS: A	FLANGE BOLTS: B	FLANGE BOLTS: C	WEB SPLICE: TYPE	WEB SPLICE: WEB PLATES 2 REQ'D	WEB SPLICE: WEB BOLTS No.	WEIGHT OF SPLICE MAT'RL lbs. *
W40X268	B	17 1/2X5/8X4'-2"	7X5/8X4'-2"	64	7	3 1/2	2 5/16	3	7 1/8	B	33 1/4X5/8X20	60	960
W40X249	B	15 1/2X5/8X4'-2"	6X5/8X4'-2"	64	7	3 1/2	2 5/16	2	7 1/8	B	33 1/4X9/16X20	60	890
W40X244	B	17 1/2X9/16X4'-2"	7X9/16X4'-2"	64	7	3 1/2	2 5/16	3	7 1/8	B	33 1/4X9/16X20	60	910
W40X221	B	17 1/2X1/2X3'-2"	7X1/2X3'-2"	48	5	3 1/2	2 5/16	3	7 1/8	B	33 1/4X9/16X20	60	720
W40X215	B	15 1/2X9/16X4'-2"	6X9/16X4'-2"	64	7	3 1/2	2 5/16	2	7 1/8	B	33 1/4X1/2X20	60	820
W40X199	B	15 1/2X1/2X3'-2"	6X1/2X3'-2"	48	5	3 1/2	2 5/16	2	7 1/8	B	33 1/4X1/2X20	60	650
W40X192	B	17 1/2X3/8X3'-2"	7X3/8X3'-2"	48	5	3 1/2	2 5/16	3	7 1/8	B	33 1/4X3/8X20	60	630
W40X183	A	11 1/2X5/8X2'-8"	4X5/8X2'-8"	40	4	3 1/2	2 5/16	-	7 1/8	B	33 1/4X1/2X20	60	560
W40X167	A	11 1/2X1/2X2'-2"	4X1/2X2'-2"	32	3	3 1/2	2 5/16	-	7 1/8	B	33 1/4X1/2X20	60	470
W40X149	A	11 1/2X7/16X2'-2"	4X7/16X2'-2"	32	3	3 1/2	2 3/8	-	7	B	33 1/4X1/2X20	60	460
W36X300	B	16X3/4X6'-3 1/2"	6 1/2X3/4X6'-3 1/2"	80	9	3 3/4	2 5/16	2 1/2	7	C	31X11/16X26	80	1510
W36X280	B	16X11/16X5'-1/2"	6 1/2X11/16X5'-1/2"	64	7	3 3/4	2 5/16	2 1/2	7	B	31X11/16X20	60	1120
W36X260	B	16X5/8X5'-1/2"	6 1/2X5/8X5'-1/2"	64	7	3 3/4	2 1/4	2 1/2	7	B	31X11/16X20	60	1060
W36X245	B	16X9/16X5'-1/2"	6 1/2X9/16X5'-1/2"	64	7	3 3/4	2 5/16	2 1/2	6 7/8	B	31X5/8X20	60	970
W36X230	B	16X9/16X5'-1/2"	6 1/2X9/16X5'-1/2"	64	7	3 3/4	2 5/16	2 1/2	6 7/8	B	31X5/8X20	60	940
W36X210	A	12X5/8X3'-0"	4 1/2X5/8X3'-0"	40	4	3 1/2	2 5/16	-	7	B	31X11/16X20	60	670
W36X194	A	12X9/16X3'-0"	4 1/2X9/16X3'-0"	40	4	3 1/2	2 5/8	-	6 7/8	B	31X5/8X20	60	620
W36X182	A	12X9/16X3'-0"	4 1/2X9/16X3'-0"	40	4	3 1/2	2 5/8	-	6 7/8	B	31X5/8X20	60	600
W36X170	A	12X1/2X2'-5"	4 1/2X1/2X2'-5"	32	3	3 1/2	2 9/16	-	6 7/8	B	31X9/16X20	60	510
W36X160	A	12X1/2X2'-5"	4 1/2X1/2X2'-5"	32	3	3 1/2	2 5/8	-	6 3/4	B	31X9/16X20	60	500
W36X150	A	11 3/4X7/16X2'-5"	4 1/2X7/16X2'-5"	32	3	3 1/2	2 5/8	-	6 3/4	A	31X1/2X14	40	380
W36X135	A	11 3/4X7/16X1'-10"	4 1/2X7/16X1'-10"	24	2	3 1/2	2 5/8	-	6 3/4	A	31X7/16X14	40	310
W33X263	B	15 1/2X11/16X4'-9"	6 1/2X11/16X4'-9"	64	7	3 1/2	2 5/16	2 1/2	6 3/8	C	28X13/16X26	72	1150
W33X241	B	15 1/2X5/8X4'-9"	6 1/2X5/8X4'-9"	64	7	3 1/2	2 1/4	2 1/2	6 3/8	C	28X11/16X26	72	1090
W33X221	B	15 1/2X9/16X4'-9"	6 1/2X9/16X4'-9"	64	7	3 1/2	2 3/16	2 1/2	6 3/8	B	28X11/16X20	54	890
W33X201	B	15 1/2X1/2X3'-7"	6 1/2X1/2X3'-7"	48	5	3 1/2	2 1/4	2 1/2	6 1/4	B	28X5/8X20	54	680
W33X169	A	11X9/16X3'-0"	4 1/2X9/16X3'-0"	40	4	3 1/2	2 3/8	-	6 3/4	B	28X5/8X20	54	570
W33X152	A	11X1/2X2'-5"	4 1/2X1/2X2'-5"	32	3	3 1/2	2 7/16	-	6 3/4	B	28X9/16X20	54	460
W33X141	A	11X7/16X2'-5"	4 1/2X7/16X2'-5"	32	3	3 1/2	2 7/16	-	6 5/8	B	28X9/16X20	54	460
W33X130	A	11X7/16X1'-10"	4 1/2X7/16X1'-10"	24	2	3 1/2	2 7/16	-	6 5/8	A	28X1/2X14	36	300
W33X118	A	11X3/8X1'-10"	4 1/2X3/8X1'-10"	24	2	3 1/2	2 7/16	-	6 5/8	A	28X7/16X14	36	280
W30X211	B	15X9/16X5'-1/2"	6X9/16X5'-1/2"	64	7	3 1/2	2 7/16	2	6 1/4	B	25X3/4X20	48	910
W30X191	A	15X1/2X3'-7"	6X1/2X3'-7"	48	5	3 1/2	3 7/16	-	8 1/8	B	25X11/16X20	48	670
W30X173	A	14 3/4X1/2X3'-0"	6X1/2X3'-0"	40	4	3 1/2	3 7/16	-	8 1/8	B	25X5/8X20	48	570
W30X148	A	10X9/16X2'-5"	4X9/16X2'-5"	32	3	3 1/2	2 1/4	-	6	B	25X5/8X20	48	460
W30X132	A	10X1/2X2'-5"	4X1/2X2'-5"	32	3	3 1/2	2 3/16	-	6 1/8	B	25X9/16X20	48	420
W30X124	A	10X7/16X1'-10"	4X7/16X1'-10"	24	2	3 1/2	2 1/4	-	6	B	25X9/16X20	48	370
W30X116	A	10X7/16X1'-10"	4X7/16X1'-10"	24	2	3 1/2	2 1/4	-	6	A	25X1/2X14	32	280
W30X108	A	10X3/8X1'-10"	4X3/8X1'-10"	24	2	3 1/2	2 1/4	-	6	A	25X7/16X14	32	260
W30X99	A	10X3/8X1'-10"	4X3/8X1'-10"	24	2	3 1/2	2 1/4	-	6	A	25X7/16X14	32	260
W30X90	A	10X3/8X1'-10"	4X3/8X1'-10"	24	2	3 1/2	2 3/16	-	6	A	25X7/16X14	32	260
W27X194	A	14X9/16X3'-7"	5 1/2X9/16X3'-7"	48	5	3 1/2	3 1/4	-	7 1/2	C	22X13/16X26	56	770
W27X178	A	14X1/2X3'-7"	5 1/2X1/2X3'-7"	48	5	3 1/2	3 1/4	-	7 3/8	B	22X3/4X20	42	630
W27X161	A	14X1/2X3'-0"	5 1/2X1/2X3'-0"	40	4	3 1/2	3 1/4	-	7 1/2	B	22X11/16X20	42	540
W27X146	A	13 3/4X7/16X3'-0"	5 1/2X7/16X3'-0"	40	4	3 1/2	3 1/4	-	7 1/2	B	22X5/8X20	42	500
W27X129	A	10X1/2X2'-5"	4X1/2X2'-5"	32	3	3 1/2	2 1/16	-	5 7/8	B	22X5/8X20	42	410
W27X114	A	10X7/16X1'-10"	4X7/16X1'-10"	24	2	3 1/2	2 1/8	-	5 7/8	B	22X9/16X20	42	330
W27X102	A	10X3/8X1'-10"	4X3/8X1'-10"	24	2	3 1/2	2 1/16	-	5 7/8	A	22X1/2X14	28	250
W27X94	A	9 3/4X3/8X1'-10"	4X3/8X1'-10"	24	2	3 1/2	2 1/16	-	5 7/8	A	22X7/16X14	28	240
W27X84	A	9 3/4X3/8X1'-10"	4X3/8X1'-10"	24	2	3 1/2	2 1/16	-	5 7/8	A	22X7/16X14	28	240
W24X162	A	12 1/2X9/16X3'-0"	5X9/16X3'-0"	40	4	3 1/2	2 15/16	-	7 1/8	C	19X7/8X26	48	620
W24X146	A	12 1/2X1/2X3'-0"	5X1/2X3'-0"	40	4	3 1/2	2 7/8	-	7 1/8	B	19X3/4X20	36	490

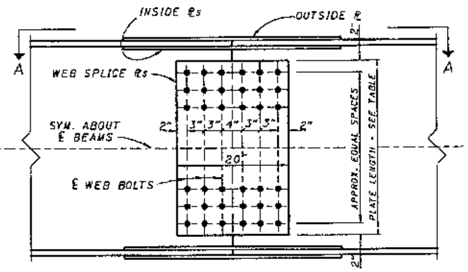
* TABULATED WEIGHTS ARE APPROXIMATE AND ARE FOR ESTIMATING PURPOSES ONLY. THEY INCLUDE AN ALLOWANCE FOR WEIGHT OF BOLTS AND WASHERS.



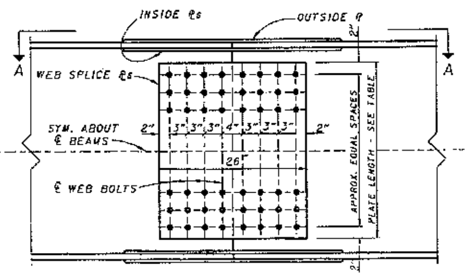
PARTIAL SECTION
(AT ℄ OF BEAM SPLICE)



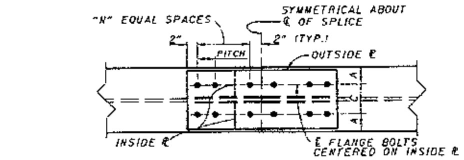
BEAM SPLICE DETAIL
WEB SPLICE - TYPE A



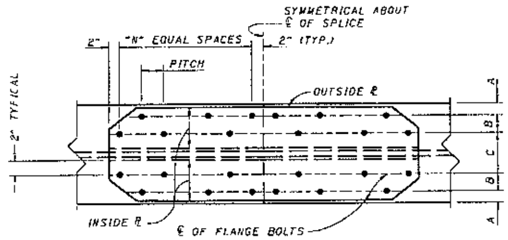
BEAM SPLICE DETAIL
WEB SPLICE - TYPE B



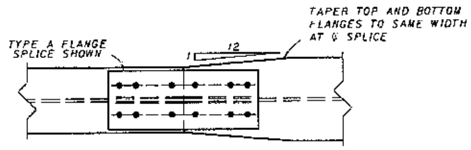
BEAM SPLICE DETAIL
WEB SPLICE - TYPE C



VIEW A-A
FLANGE SPLICE - TYPE A



VIEW A-A
FLANGE SPLICE - TYPE B



VIEW A-A
SPLICE DETAIL FOR BEAMS HAVING DIFFERENT FLANGE WIDTHS

NOTE: ALL SHAPES AND PLATES SHALL BE DESIGNATED (CVN), AND SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.

NOTE: ALL FASTENERS ARE 1" DIAMETER HIGH STRENGTH BOLTS, ASTM A-325

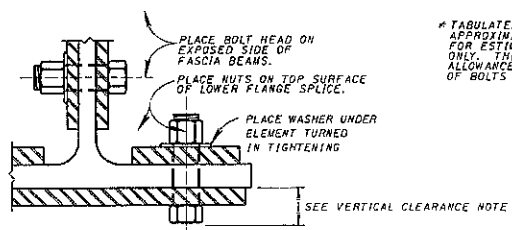
DESIGN AGENCY: OFFICE OF STRUCTURAL ENGINEERING	STATE OF OHIO DEPARTMENT OF TRANSPORTATION — ENGINEER OF BRIDGES — 12-19-94 (DATE)	REVISED	CHECKED: SAM	DESIGNED: GEA / DRAWN: SAM	REVISIONS: 07-19-02	STANDARD: BOLTED BEAM SPLICE FOR STEEL BEAM BRIDGES (FOR 36 KSI STEEL)

BS-1-93

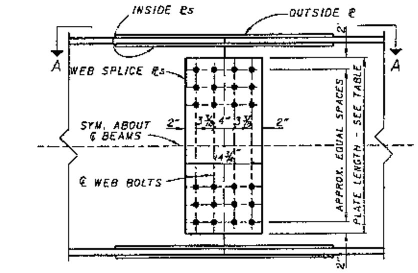
BEAM SPLICE DETAILS

BEAM	FLANGE PLATES TYPE	FLANGE PLATES OUTSIDE 2 REQ'D	FLANGE PLATES INSIDE 4 REQ'D	FLANGE BOLTS NUM.	N SPA.	PITCH	A	B	C	WEB SPLICE TYPE	WEB PLATES 2 REQ'D	WEB BOLTS No.	WEIGHT OF SPLICE MAT'RL lbs. *
W40X268	B	17½X⅝X5'-11"	7X⅝X5'-11"	80	9	3½	2 5/16	3	7⅛	C	33X11/16X28¼	72	1390
W40X249	B	15½X⅝X4'-9"	6X⅝X4'-9"	64	7	3½	2 5/16	2	7⅛	C	33X11/16X28¼	72	1130
W40X244	B	17½X9/16X4'-9"	7X9/16X4'-9"	64	7	3½	2 5/16	3	7⅛	C	33X11/16X28¼	72	1150
W40X221	B	17½X½X4'-9"	7X½X4'-9"	64	7	3½	2 5/16	3	7⅛	C	33X11/16X28¼	72	1080
W40X215	B	15½X9/16X4'-9"	6X9/16X4'-9"	64	7	3½	2 5/16	2	7⅛	C	33X⅝X28¼	72	1040
W40X199	B	15½X½X3'-7"	6X½X3'-7"	48	5	3½	2 5/16	2	7⅛	C	33X⅝X28¼	72	850
W40X192	B	17½X⅝X3'-7"	7X⅝X3'-7"	48	5	3½	2 5/16	3	7⅛	C	33X11/16X28¼	72	840
W40X183	A	11½X⅝X3'-0"	4X⅝X3'-0"	40	4	3½	2 5/16	-	7⅛	B	33X9/16X21½	54	620
W40X167	A	11½X½X3'-0"	4X½X3'-0"	40	4	3½	2 5/16	-	7⅛	B	33X9/16X21½	54	570
W40X149	A	11½X7/16X2'-5"	4X7/16X2'-5"	32	3	3½	2⅜	-	7	B	33X9/16X21½	54	500
W36X300	B	16X¾X6'-3½"	6½X¾X6'-3½"	80	9	3¾	2 5/16	2½	7	C	31X⅞X28¼	72	1600
W36X280	B	16X¾X6'-3½"	6½X¾X6'-3½"	80	9	3¾	2 5/16	2½	7	C	31X13/16X28¼	72	1480
W36X260	B	16X⅝X6'-3½"	6½X⅝X6'-3½"	80	9	3¾	2¼	2½	7	C	31X¾X28¼	72	1380
W36X256	A	12X11/16X4'-2"	4½X11/16X4'-2"	56	6	3½	2 5/16	-	7⅛	C	31X⅞X28¼	72	1090
W36X245	B	16X⅝X5'-½"	6½X⅝X5'-½"	64	7	3¾	2 5/16	2½	6⅞	C	31X¾X28¼	72	1170
W36X232	A	12X11/16X4'-2"	4½X11/16X4'-2"	56	6	3½	2 5/16	-	7	C	31X13/16X28¼	72	1010
W36X230	B	16X⅝X5'-½"	6½X⅝X5'-½"	64	7	3¾	2 5/16	2½	6⅞	C	31X11/16X28¼	72	1100
W36X210	A	12X⅝X3'-7"	4½X⅝X3'-7"	48	5	3½	2 5/16	-	7	C	31X11/16X28¼	72	910
W36X194	A	12X⅝X3'-0"	4½X⅝X3'-0"	40	4	3½	2⅜	-	6⅞	C	31X¾X28¼	72	780
W36X182	A	12X9/16X3'-0"	4½X9/16X3'-0"	40	4	3½	2⅜	-	6⅞	C	31X11/16X28¼	72	740
W36X170	A	12X½X3'-0"	4½X½X3'-0"	40	4	3½	2 5/16	-	6⅞	B	31X9/16X21½	54	570
W36X160	A	12X½X2'-5"	4½X½X2'-5"	32	3	3½	2⅝	-	6¾	B	31X9/16X21½	54	510
W36X150	A	11⅞X½X2'-5"	4½X½X2'-5"	32	3	3½	2⅜	-	6¾	B	31X9/16X21½	54	510
W36X135	A	11⅞X7/16X2'-5"	4½X7/16X2'-5"	32	3	3½	2⅜	-	6¾	B	31X½X21½	54	460
W33X263	B	15½X11/16X5'-11"	6½X11/16X5'-11"	80	9	3½	2 3/16	2½	6⅜	C	29⅜X13/16X28¼	64	1350
W33X241	B	15½X⅝X4'-9"	6½X⅝X4'-9"	64	7	3½	2¼	2½	6⅜	C	29⅜X¾X28¼	64	1100
W33X221	B	15½X9/16X4'-9"	6½X9/16X4'-9"	64	7	3½	2 3/16	2½	6⅜	C	29⅜X11/16X28¼	64	1010
W33X201	B	15½X½X4'-9"	6½X½X4'-9"	64	7	3½	2¼	2½	6¼	C	29⅜X11/16X28¼	64	980
W33X169	A	11X9/16X3'-0"	4½X9/16X3'-0"	40	4	3½	2⅛	-	6¾	B	29⅜X9/16X21½	48	570
W33X152	A	11X½X2'-5"	4½X½X2'-5"	32	3	3½	2 1/16	-	6¾	B	29⅜X½X21½	48	470
W33X141	A	11X½X2'-5"	4½X½X2'-5"	32	3	3½	2 1/16	-	6⅝	B	29⅜X½X21½	48	460
W33X130	A	11X7/16X2'-5"	4½X7/16X2'-5"	32	3	3½	2 1/16	-	6⅝	B	29⅜X½X21½	48	440
W33X118	A	11X⅜X1'-10"	4½X⅜X1'-10"	24	2	3½	2 1/16	-	6⅝	B	29⅜X½X21½	48	380
W30X211	B	15X9/16X4'-9"	6X9/16X4'-9"	64	7	3½	2 7/16	2	6¼	C	26½X¾X28¼	56	990
W30X191	B	15X½X3'-7"	6X½X3'-7"	48	5	3½	2 7/16	2	6⅛	C	26½X11/16X28¼	56	780
W30X173	B	14⅞X½X3'-7"	6X½X3'-7"	48	5	3½	2 7/16	2	6⅛	C	26½X⅝X28¼	56	730
W30X148	A	10X9/16X2'-5"	4X9/16X2'-5"	32	3	3½	2¼	-	6	B	26½X9/16X21½	42	460
W30X132	A	10X½X2'-5"	4X½X2'-5"	32	3	3½	2 5/16	-	6⅛	B	26½X½X21½	42	420
W30X124	A	10X7/16X2'-5"	4X7/16X2'-5"	32	3	3½	2¼	-	6	B	26½X½X21½	42	410
W30X116	A	10X7/16X1'-10"	4X7/16X1'-10"	24	2	3½	2¼	-	6	B	26½X½X21½	42	360
W30X108	A	10X⅜X1'-10"	4X⅜X1'-10"	24	2	3½	2¼	-	6	B	26½X½X21½	42	350
W30X99	A	10X⅜X1'-10"	4X⅜X1'-10"	24	2	3½	2¼	-	6	B	26½X7/16X21½	42	330
W30X90	A	10X⅜X1'-10"	4X⅜X1'-10"	24	2	3½	2 3/16	-	6	A	26½X⅜X14¾	28	250
W27X194	A	14X9/16X4'-2"	5½X9/16X4'-2"	56	6	3½	3¼	-	7½	C	24X¾X28¼	48	850
W27X178	A	14X9/16X3'-7"	5½X9/16X3'-7"	48	5	3½	3¼	-	7⅜	C	24X11/16X28¼	48	730
W27X161	A	14X½X3'-0"	5½X½X3'-0"	40	4	3½	3¼	-	7½	C	24X⅝X28¼	48	630
W27X146	A	13⅞X7/16X3'-0"	5½X7/16X3'-0"	40	4	3½	3¼	-	7½	B	24X½X21½	36	490
W27X129	A	10X½X2'-5"	4X½X2'-5"	32	3	3½	2 1/16	-	5⅞	B	24X½X21½	36	400
W27X114	A	10X½X1'-10"	4X½X1'-10"	24	2	3½	2⅛	-	5⅞	B	24X½X21½	36	340
W27X102	A	10X⅜X1'-10"	4X⅜X1'-10"	24	2	3½	2 1/16	-	5⅞	B	24X7/16X21½	36	310
W27X94	A	9⅞X⅜X1'-10"	4X⅜X1'-10"	24	2	3½	2 1/16	-	5⅞	B	24X7/16X21½	36	300
W27X84	A	9⅞X⅜X1'-10"	4X⅜X1'-10"	24	2	3½	2 1/16	-	5⅞	A	24X⅜X14¾	24	230
W24X162	A	12½X9/16X3'-7"	5X9/16X3'-7"	48	5	3½	2 11/16	-	7⅛	C	20⅛X¾X28¼	48	690
W24X146	A	12½X½X3'-0"	5X½X3'-0"	40	4	3½	2⅞	-	7⅛	B	20⅛X⅝X21½	36	510

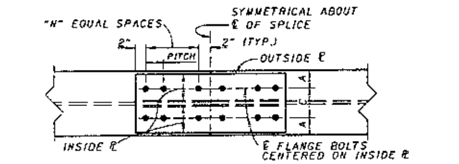
* TABULATED WEIGHTS ARE APPROXIMATE AND ARE FOR ESTIMATING PURPOSES ONLY. THEY INCLUDE AN ALLOWANCE FOR WEIGHT OF BOLTS AND WASHERS.



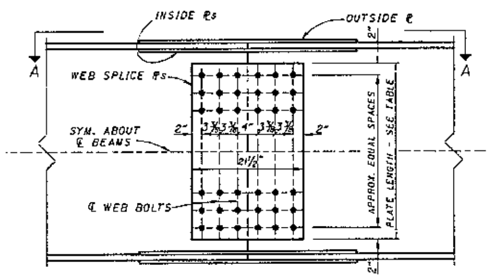
PARTIAL SECTION
(AT ℄ OF BEAM SPLICE)



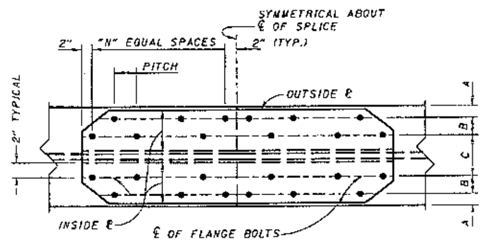
BEAM SPLICE DETAIL
WEB SPLICE - TYPE A



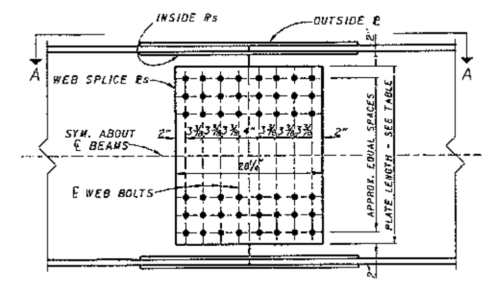
VIEW A-A
FLANGE SPLICE - TYPE A



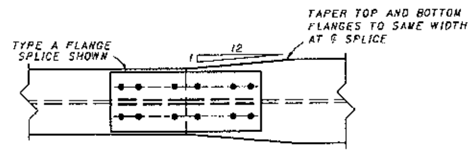
BEAM SPLICE DETAIL
WEB SPLICE - TYPE B



VIEW A-A
FLANGE SPLICE - TYPE B



BEAM SPLICE DETAIL
WEB SPLICE - TYPE C



VIEW A-A
SPLICE DETAIL FOR BEAMS HAVING DIFFERENT FLANGE WIDTHS

NOTE: ALL SHAPES AND PLATES SHALL BE DESIGNATED (CVN), AND SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.

NOTE: ALL FASTENERS ARE 1⅛" DIAMETER HIGH STRENGTH BOLTS, ASTM A-325

DESIGN AGENCY		
OFFICE OF STRUCTURAL ENGINEERING	STATE OF OHIO DEPARTMENT OF TRANSPORTATION ENGINEER OF BRIDGES	12-19-94 DATE

REVISIONS 07-19-02 | DESIGNED GEA | CHECKED SAM | REVIEWED | DRAWN SAM | BS-1-93

STANDARD
BOLTED BEAM SPLICE
FOR STEEL BEAM BRIDGES
(FOR 50 KSI STEEL)

3/3