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OHIO TURNPIKE COMMISSION
THE JAMES W. SHOCKNESSY OHIO TURNPIKE

CONTRACT 77-99-05
THIRD LANE CONSTRUCTION
MP. 81.31 TO MP. 86.17
STATION 377+25 TO STATION 410+65.39 OTTAWA COUNTY
STATION 1+70.91 TO STATION 225+00 SANDUSKY COUNTY

OHIO TURNPIKE COMMISSION STANDARD DRAWINGS

AS–1	06–11–98	GR–1	01–15–98
AS–2	12–26–97	GR–2	06–11–98
AS–3	06–11–98	JB–1	01–01–97
		MCC–1	01–01–97
CB–1	12–30–98	MCC–2	01–01–97
CB–3	11–11–97	RPM–1	08–18–99
CB–4	06–25–97	TCB–1	07–11–97
CB–5	06–25–97	TCB–2	06–25–97
CBM–1	06–11–98	TCR–1	04–28–98
CBM–2	11–11–97	TCR–2	04–28–98
CBM–3	06–11–98	TCR–9	04–28–98
CBM–4	06–11–98	TCR–10	01–12–98
CBM–5	11–11–97	TCR–11PM	01–12–98
CBR–1	06–25–97	TCR–11PS	01–12–98
		TCR–12	07–08–99
CBR–3	06–11–98	TCR–13	01–01–97
CJ–1	03–17–99	TCR–14	05–22–97
CJ–2	01–13–99	TCR–15	04–28–98
DJ–1	11–11–97	UD–1	01–01–97
DJ–2	11–11–97	XOV–3	01–01–97
DR–1	01–01–97		
EPA–1	04–21–97		

FIBER OPTIC CABLE AS-BUILT DRAWINGS LCI COMMUNICATIONS CORP. 1, 2, 20–34, 67–69

OHIO DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS

BP–2.1	10–28–94	HL–30.11	05–01–87	TC–22.20	09–01–92
BP–3.1	02–27–92	HL–60.11	05–01–87	TC–31.21	09–01–92
BP–5.1	10–28–94	MH–1	12–18–84	TC–32.10	09–01–92
GR–1.1	05–06–91	I–3A&B	04–01–80	TC–32.11	09–01–92
GR–1.2	10–30–92	MC–4	07–26–76	TC–35.10	08–29–84
GR–1.3	02–21–92	MC–11	08–01–78	TC–41.10	08–29–84
GR–2.1	05–06–91	MT–97.10	04–29–88	TC–41.20	06–21–94
GR–3.1	05–06–91	MT–99.10	11–14–86	TC–41.40	06–18–79
GR–4.2	05–06–91	MT–101.60	07–01–92	TC–42.10	08–19–77
GR–8.1	01–31–94	MT–105.10	07–01–92	TC–42.20	03–26–79
MC–1	06–13–69	MT–105.11	07–01–92	TC–51.11	09–30–94
MC–9.1	10–30–92	TC–7.65	03–01–79	TC–52.10	04–03–79
MC–9.2	05–06–91	TC–12.30	01–20–84	TC–52.20	04–03–79
MC–9.3	10–30–92	TC–21.10	09–01–92	PCB–91	04–24–92
MC–9.4	10–30–92	TC–21.20	09–01–92	BS–1–93	12–19–94
HL–20.11	05–01–87	TC–21.40	09–01–92	FB–1–82	05–10–82
		TC–22.10	09–01–92	RB–1–55	02–02–59

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CALL JAYTEL – (419) 884–0400
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OHIO TURNPIKE DIVISION SUPERINTENDENT
(419) 862–2922
(ROADWAY LIGHTING CABLE)

N

Scale In Miles
0 1/2 1 2

SCALES

PLAN ..... 0' 50'

PROFILE ..... HORIZONTAL 0' 50' VERTICAL 0' 5'

CROSS SECTIONS ..... HORIZONTAL 0' 10' VERTICAL 0' 10'

RECOMMENDED FOR APPROVAL
BY
HNS GREINER, INC.
REVIEW CONSULTANT
7-27-99
DATE

APPROVED FOR
THE OHIO TURNPIKE COMMISSION
BY
David W. Ransbury
CHIEF ENGINEER
8/2/99
DATE

PLANS PREPARED BY
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537
(419) 891–2222

STATE OF OHIO PROFESSIONAL ENGINEER

Jaan Mannik

Consultants For Nine Mile Creek Bridge
ULRICH-CH'ANG & ASSOCIATES, INC.
3220 CENTRAL PARK WEST
TOLEDO, OHIO 43617
(419) 841–4704

DESIGN CONTRACT NO. 71–96–43

GENERAL NOTES

GENERAL

CONSTRUCTION SPECIFICATIONS

THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIALS SPECIFICATIONS DATED JANUARY 1, 1995, AND THE SPECIAL PROVISIONS CONTAINED IN THE CONTRACT DOCUMENTS SHALL GOVERN THIS PROJECT.

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS-SECTIONS EVEN THOUGH SHOWN OTHERWISE.

UTILITIES

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

AMERITECH
13D N. ERIE ST., 206
TOLEDO, OH 43624
(419) 245-7441

GTE
BRAD SNYDER
300 W. GYPSY LANE
BOWLING GREEN, OH 43402
(419) 734-3299

OTTAWA COUNTY ENGINEER
315 MADISON ST.
PORT CLINTON, OH 43452
(419) 734-6777

SANDUSKY COUNTY ENGINEER
2500 W. STATE ST.
FREMONT, OH 43420
(419) 334-9731

LITEL TELECOMMUNICATIONS
C/O JAYTEL INC.
JAYARAM BORAIAH
2070 LEXINGTON AVE.
MANSFIELD, OH 44904
(419) 884-0400

ELMORE ELECTRIC
340 CLINTON
P.O. BOX 1
ELMORE, OH 43416
(419) 862-3454

TOLEDO EDISON CO.
300 MADISON AVENUE
TOLEDO, OH 43652
(419) 249-5815

OHIO TURNPIKE DIVISION SUPERINTENDENT
MAINTENANCE FACILITY AT MP 79.7
(419) 862-2922
(LIGHTING CABLE
COMMUNICATIONS CABLE)

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS, AS REQUIRED BY SECTION 153.64 O.R.C.

LCI INTERNATIONAL FIBER OPTIC CABLE

EXTREME CARE MUST BE TAKEN BY THE CONTRACTOR TO PRESERVE AND PROTECT THE FIBER OPTIC CABLE DURING ALL PHASES OF CONSTRUCTION. SPECIAL CARE SHALL BE EXERCISED DURING THE EXISTING STRUCTURE REMOVAL AND NEW STRUCTURE CONSTRUCTION. THE EXISTING FIBER OPTIC CABLE LOCATED WITHIN THE MEDIAN WILL BE ABANDONED PRIOR TO CONSTRUCTION OF THIS PROJECT AND A NEW FIBER OPTIC CABLE WILL BE INSTALLED. THE NEW CABLE LOCATION IS DEPICTED ON THE PLAN AND PROFILE SHEETS. EXCAVATION ADJACENT TO THE NEW CABLE FOR ANY REASON SHALL NOT BE PERFORMED WITHOUT LITEL FIRST LOCATING THE CABLE. AFTER THE CABLE HAS BEEN LOCATED BY LITEL, THE CONTRACTOR SHALL EXCAVATE TO WITHIN 12" OF THE CABLE DEPTH AS PROVIDED. LITEL REPRESENTATIVES WILL THEN HAND DIG TO EXPOSE THE CABLE.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

TEMPORARY STREAM CROSSING FORDS

WHERE STREAM CROSSING FORDS ARE REQUIRED FOR EQUIPMENT CROSSING, THE CROSSING SHALL CONSIST OF CLEAN-NON-TOXIC GRANULAR OR ROCK MATERIAL, PROPERLY MAINTAINED TO PREVENT EROSION WITH PROVISIONS FOR CONVEYANCE OF ANTICIPATED HIGH FLOWS AND SHALL NOT IMPEDE THE MOVEMENT OF AQUATIC LIFE. CONSTRUCTION SHALL BE IN ACCORDANCE WITH PART 330, APPENDIX A, SPECIFIC CATEGORIES OF DISCHARGES-NATIONALLY PERMITTED, PARAGRAPH A14, MINOR ROAD CROSSING FILLS - THE FEDERAL REGISTER - CORPS OF ENGINEERS FINAL REGULATIONS, CURRENT EDITION.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29).

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL MEASURES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

AS-BUILT INFORMATION

THE ORIGINAL 1953 AS-BUILT CONSTRUCTION PLANS INCLUDING STANDARD DRAWINGS, AND SPECIFIC STANDARD DRAWINGS ARE AVAILABLE FOR INSPECTION BY PROSPECTIVE BIDDERS AT THE OFFICES OF URS GREINER, 564-A WHITE POND DRIVE, AKRON, OHIO, 44320 TELEPHONE (330) 836-9111.

ROADWAY

BUILD TO MEET EXISTING CONDITIONS

THE PROPOSED PAVEMENT SHALL BE CONSTRUCTED ADJACENT TO THE EXISTING PAVEMENT EDGE AND MATCH THE EXISTING ELEVATION. EXISTING PAVEMENT LOCATION AND ELEVATION INFORMATION SHOWN IN PLANS WAS OBTAINED FROM THE ORIGINAL AS-BUILT DRAWINGS AND IS PROVIDED FOR INFORMATION ONLY.

SLIGHT HORIZONTAL AND/OR VERTICAL ADJUSTMENTS TO ACCOMMODATE THE EXISTING FIELD CONDITIONS SHALL BE APPROVED BY THE ENGINEER.

ITEM 201- CLEARING AND GRUBBING AS PER PLAN

SECTION 201.04 OF THE SPECIFICATIONS IS AMENDED AS FOLLOWS: THE LUMP SUM PRICE BID FOR ITEM 201 - CLEARING AND GRUBBING SHALL INCLUDE ALL EXCAVATION AND EMBANKMENT REQUIRED FOR THE REPLACEMENT OF MATERIALS REMOVED IN THE SCALPING OPERATIONS. NO ADDITIONAL PAYMENT FOR ITEM 203 - EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION OR ITEM 203 - EMBANKMENT MAY BE CLAIMED. PAYMENT FOR EARTHWORK QUANTITIES WILL BE BASED ON MEASUREMENTS FROM THE EXISTING GROUND LINE TO THE PLAN LINES AS SHOWN ON THE CROSS SECTIONS.

IN ADDITION TO THE ABOVE, THESE ADDITIONAL REQUIREMENTS SHALL APPLY AT MAINLINE BRIDGE LOCATIONS AND IN THE VICINITY OF CROSS CULVERT INLETS/OUTLETS. ALL TREES, STUMPS AND BRUSH, WITHIN THE LIMITS PRESCRIBED BELOW, SHALL BE REMOVED IN ACCORDANCE WITH THE PROVISIONS OF ITEM 201. ANY AREA UNDER NEW OR EXISTING BRIDGE DECKS, LATERALLY TWENTY FEET OUTSIDE OF BRIDGE DECKS AND LONGITUDINALLY TO THE EXTREME LIMITS OF NEW OR EXISTING ABUTMENT WINGWALLS AND AREAS AROUND THE CULVERT INLETS/OUTLETS AS SHOWN ON THE PLANS, SHALL BE CLEARED. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING, AS PER PLAN.

SOFT SUBGRADE

THE FOLLOWING ESTIMATED QUANTITIES ARE INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE REMEDIATION OF SOFT SUBGRADE.

ITEM 203 - EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	17,000	CU. YD.
ITEM 203 - EMBANKMENT	17,000	CU. YD.
ITEM SPECIAL - GEOGRID	25,000	SQ. YD.
ITEM SP 205 - LIME MODIFIED SUBGRADE	60,000	SQ. YD.
ITEM SP 205 - CEMENT MODIFIED SUBGRADE	60,000	SQ. YD.
ITEM SP 205 - LIME	3000	TON
ITEM SP 205 - CEMENT	3600	TON
ITEM SP 205 - WATER	255	M. GAL

THE FOLLOWING AREAS HAVE BEEN IDENTIFIED AS POSSIBLE AREAS FOR SUBGRADE REMEDIATION. THESE LOCATIONS ARE PROVIDED FOR INFORMATION ONLY. NO SUBGRADE REMEDIATION SHALL BE PREFORMED WITHOUT THE AUTHORIZATION OF THE ENGINEER.

STA 381+00 TO STA 5+50 WB
STA 77+00 TO STA 94+00 WB
STA 86+00 TO STA 107+00 EB
STA 107+00 TO STA 140+00 EB & WB
STA 147+00 TO STA 165+00 WB
STA 165+00 TO STA 191+00 EB & WB
STA 202+00 TO STA 220+00 WB

ITEM SPECIAL - INERTIA BARRIER REMOVED AND RESET

THE WORK FOR THIS ITEM SHALL CONSIST OF REMOVING THE EXISTING INERTIA BARRIER AT STA. 225+00 AND RESETTING AT THE END OF THE MEDIAN BARRIER AT STA. 377+25.

THE INERTIA BARRIER SHALL BE REMOVED IN A MANNER AVOIDING DAMAGE AND RESET PER THE MANUFACTURERS RECOMMENDATIONS AND THE DETAIL ON SHEET 162.

THE UNIT PRICE BID FOR ITEM SPECIAL - INERTIA BARRIER REMOVED AND RESET SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY TO COMPLETE A FUNCTIONAL INERTIA BARRIER INCLUDING THE ASPHALT PAD, AND ALL NECESSARY EXCAVATION AND BACKFILL.

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATION IN CERTAIN AREAS, NO WAIVER OF SPECIFICATIONS IS INTENDED. ALL OTHER SLOPED EMBANKMENT AREAS SHALL BE BENCHED AS SET FORTH IN 203.09. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.09.

ADDITIONAL SOIL INFORMATION

THE SOIL PROFILE AND/OR STRUCTURE FOUNDATION INVESTIGATION SHEETS CONTAIN SHEETS CONTAIN AVAILABLE SOIL AND BEDROCK INFORMATION. ADDITIONAL 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 PROSPECTIVE BIDDERS AT THE OFFICES OF URS GREINER 564-A WHITE POND DRIVE, AKRON, OHIO 44320 TELEPHONE: (330) 836-9111.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
GENERAL NOTES

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE, OHIO 43537

DESIGNED: C.E.B. | CHECKED: E.R.P. | DATE: 6-98
DRAWN: E.R.P. | IN CHARGE: J.M. | SCALE: -

CONTRACT 77-99-015 SHEET 9 OF 276

OTCK9

GENERAL NOTES

ITEM 604-MONUMENT ASSEMBLY

MONUMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ODOT STANDARD CONSTRUCTION DRAWING MC-1 AND AT THE LOCATIONS SHOWN ON THE SURVEY CONTROL PLAN, SHEETS 2-3. 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) FROM THE CENTERLINE AND LOCATED SOUTH OF CENTERLINE IN THE EASTBOUND LANE 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 203 - PROOF ROLLING

AN ESTIMATED QUANTITY OF 48 HOURS FOR THIS ITEM HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

ITEM 203 - DITCH CLEANOUT

THIS ITEM SHALL CONSIST OF REGRADING SECTIONS OF EXISTING DITCHES AS DESIGNATED ON THE PLANS. 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 ENGINEER. CLEARING AND GRUBBING SHALL BE REQUIRED AT THESE LOCATIONS AND SHALL BE PAID FOR UNDER ITEM 201. SURPLUS OR UNSUITABLE MATERIAL, AS DETERMINED BY THE ENGINEER, SHALL BE DISPOSED OF AS PER SP 108. EMBANKMENT REQUIRED FOR WASHOUTS SHALL MEET THE REQUIREMENTS OF SECTION 203.07 OF THE SPECIFICATIONS, EXCEPT THE COMPACTION REQUIREMENTS SHALL BE REDUCED TO 90 PERCENT OF MAXIMUM DRY DENSITY OR AS DIRECTED BY THE 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 2D3-DITCH CLEANOUT, WHICH PRICE SHALL INCLUDE ALL EMBANKMENT, EXCAVATION, BORROW, SEEDING AND MULCHING, AND RESTORATION OF DISTURBED AREAS, NECESSARY TO COMPLETE THE WORK.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE USE DIRECTED BY THE ENGINEER:

ITEM 2D3 - DITCH CLEANOUT 500 LIN. FT.

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 27" 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 ON ODOT STANDARD CONSTRUCTION DRAWING GR-1.1. 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 ODOT STANDARD DRAWING MC-9.3 EXCEPT THE HEIGHT SHALL VARY FROM 50 INCHES TO 53 INCHES AS SHOWN ON THE PLANS. THE HEIGHT VARIATION SHALL OCCUR IN THE UPPER STEM WHICH SHALL VARY FROM 18 INCHES TO 21 INCHES. ALL OTHER DIMENSIONS SHALL BE AS SHOWN ON THE STANDARD DRAWING.

IN LIEU OF THE CURING COMPOUNDS SPECIFIED IN SECTION 622.07 OF THE SPECIFICATIONS, A CLEAR, CURING/SEALING COMPOUND SHALL BE USED. THE CURING/SEALING COMPOUND SHALL DRY TO A CLEAR FINISH. APPLICATION SHALL BE AS PER THE RECOMMENDATIONS OF THE MANUFACTURER. THE CONTRACTOR SHALL SUBMIT TECHNICAL DATA FOR THE CURING/SEALING COMPOUND TO THE ENGINEER FOR APPROVAL. THE COST OF THE CURING/SEALING COMPOUND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 622 - CONCRETE BARRIER, TYPE B-50, AS PER PLAN. 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 ODOT STANDARD CONSTRUCTION DRAWINGS NO. MC-9.3 AND MC-9.4, OTC STANDARD DRAWING CBR-3, AND SECTION 622 OF THE SPECIFICATIONS. PAYMENT FOR ALL MATERIALS AND LABOR SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 622-CONCRETE BARRIER, TYPE C-50, AS PER PLAN.

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"

THIS ITEM OF WORK SHALL CONSIST OF REMOVING ALL SEDIMENTS, DEBRIS, AND OTHER FOREIGN MATERIALS FROM INSIDE EXISTING CULVERTS 12 INCHES TO 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 ENGINEER AND OBTAIN THE ENGINEER'S APPROVAL PRIOR TO PERFORMING THE WORK. ALL REMOVAL MATERIALS SHALL BE REMOVED OFF-SITE IN ACCORDANCE WITH ITEM SP 108. 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".

EROSION CONTROL

ITEM 659 - SEEDING AND MULCHING

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOILS BETWEEN THE RIGHT OF WAY LINES AND WITHIN THE CONSTRUCTION LIMITS. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO SEED AND MULCH DISTURBED AREAS AS DIRECTED BY THE ENGINEER.

ITEM 659 - SEEDING AND MULCHING 500 SQ. YD.

WATERING SEEDED AREAS

THE FOLLOWING ESTIMATED QUANTITY IS TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH AND TO CARE FOR PERMANENT SEEDED AREAS PER SECTION 659.09 OF THE SPECIFICATIONS:

ITEM 659 - WATER	5	M. GAL.
ITEM 659 - COMMERCIAL FERTILIZER	0.22	TON

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

ITEM 207 - TEMPORARY SEEDING AND MULCHING	500	SQ. YD.
ITEM 207 - STRAW OR HAY BALES	100	EACH
ITEM 2D7 - TEMPORARY BENCHES, DAMS AND SEDIMENT BASINS	100	CU. YD.
ITEM 207 - FILTER FABRIC FENCE	640	LIN. FT.
ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C, WITH FILTER	12	CU. YD.
ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C, WITHOUT FILTER	20	CU. YD.
ITEM 659 - REPAIR SEEDING AND MULCHING	120	SQ. YD.
ITEM 659 - WATER	1	M. GAL.
ITEM 659 - COMMERCIAL FERTILIZER	0.01	TON

EROSION CONTROL

ITEMS 601 AND 670 ARE PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE ANY OF THESE ITEMS AND TURF OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE 670. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES OF THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION.

ITEM 207 - FILTER FABRIC FENCE

FILTER FABRIC SHALL MEET THE REQUIREMENTS OF SECTION 207.02 OF THE SPECIFICATIONS.

THE BOTTOM OF THE FENCE SHALL BE BURIED SIX (6) INCHES BELOW THE GROUND. THE FENCE SHALL BE HIGH ENOUGH TO RETAIN SEDIMENT LADEN WATER AND ADEQUATELY SUPPORTED TO PREVENT COLLAPSE OR BURSTING. THE GROUND ELEVATION OF THE FENCE SHALL BE HELD CONSTANT EXCEPT THAT THE END ELEVATION SHALL BE RAISED TO PREVENT FLOW AROUND THE END OF THE FENCE.

THE FILTER FABRIC SHALL AT THE DIRECTION OF THE ENGINEER BE MAINTAINED TO BE FUNCTIONAL. THIS SHALL INCLUDE REMOVAL OF TRAPPED SEDIMENT AND REQUIRED CLEANING, AND/OR REPLACEMENT OF THE FILTER FABRIC.

THE COST OF ALL MATERIALS, CONSTRUCTION, MAINTENANCE AND REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FOOT FOR ITEM 2D7 - FILTER FABRIC FENCE.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
GENERAL NOTES

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE, OHIO 43537

DESIGNED: C.E.B.	CHECKED: E.R.P.	DATE: 6-98
DRAWN: E.R.P.	IN CHARGE: J.M.	SCALE: -

CONTRACT 77-99-05 SHEET 10 OF 276

OTCK9

Y:\JUNIPER\OTCKN\OTCKGENG
AutoCAD Dwg. Scale: (59) 1=1
Last Edit Revision: 08/17/
Last Plotted: 08/17/
Description: FINAL TRAC

GENERAL NOTES

DRAINAGE

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE THE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

REVIEW OF DRAINAGE FACILITIES

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

THE EXISTING UNDERDRAIN PIPE OUTLETS SHALL ALSO BE LOCATED DURING THIS INSPECTION. ONCE LOCATED, THE EXISTING UNDERDRAIN PIPE OUTLET LOCATIONS SHALL BE MARKED ON THE SHOULDER PAVEMENT WITH PAINT AND RECORDED IN THE INSPECTOR'S REPORTS.

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

ALL EXISTING UNDERDRAIN PIPE OUTLETS AND SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

FARM DRAINS

ALL FARM DRAINS WHICH ARE ENCOUNTERED DURING CONSTRUCTION SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS AND WHICH CROSS THE ROADWAY SHALL BE REPLACED WITHIN THE RIGHT-OF-WAY LIMITS BY ITEM 603 – CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF ROADWAY DITCHES SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 603 – CONDUIT, TYPE F. THE OPTIMUM OUTLET ELEVATION SHALL BE ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL FIELD TILES WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 603 – CONDUIT, TYPE E, AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE AND GRADE OR REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS. EROSION CONTROL PADS AND ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET END OF ALL FARM DRAINS AS PER ODOT STANDARD CONSTRUCTION DRAWING MC-4, EXCEPT WHEN OUTLETTED INTO A DRAINAGE STRUCTURE. PAYMENT FOR THE EROSION CONTROL PADS AND ANIMAL GUARDS AND ANY NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEM.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY OF THE WORK NOTED ABOVE:

ITEM 603 – 6" CONDUIT, TYPE B, 707.17 NON-PERFORATED ASTM D 3034 (SDR 35) SS931 OR SS944	50	LIN. FT.
ITEM 603 – 6" CONDUIT, TYPE E	50	LIN. FT.
ITEM 603 – 6" CONDUIT, TYPE F, 707.17 NON-PERFORATED ASTM D 3034 (SDR-35), SS931 OR SS944	50	LIN. FT.

ITEM 603 – CONDUIT BORED AND JACKED

WHERE IT IS SPECIFIED THAT A CONDUIT BE INSTALLED BY THE METHOD OF BORING AND JACKING, NO TRENCH EXCAVATION SHALL BE CLOSER THAN TEN (10) FEET TO THE EDGE OF EXISTING PAVEMENT. TRENCHES SHALL BE ADEQUATELY SUPPORTED AND THE SPECIFICATION REQUIREMENTS FOR CLASS B BEDDING SHALL BE WAIVED. IF A CASING PIPE IS USED IN THE BORING AND JACKING OPERATION, THE VOID BETWEEN IT AND THE INTERIOR CARRIER PIPE SHALL BE COMPLETELY FILLED WITH GROUT, OR OTHER MATERIAL APPROVED BY THE ENGINEER AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 603 – CONDUIT BORED OR JACKED BY TYPE AND SIZE.

WHEN ITEM 603-CONDUIT, BORED OR JACKED, (18"), TYPE B, 706.02 IS CALLED FOR IN THE PLANS, THE FOLLOWING PIPE MATERIALS MAY BE SUBSTITUTED: 707.13, SS931, SS942, SS946, OR SS948. PIPES OF DIFFERENT MATERIALS SHALL BE CONNECTED WITH A MASONRY COLLAR AS PER ODOT STANDARD DRAWING MC-4. THE COST OF THE MASONRY COLLAR SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 603-CONDUIT, BORED OR JACKED BY TYPE AND SIZE.

ITEM 601 – PAVED GUTTER, BROKEN IN PLACE

THIS ITEM SHALL CONSIST OF BREAKING UP SECTIONS OF 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 CONCRETE BEING LARGER THAN APPROXIMATELY EIGHTEEN (18) INCHES. ALL VOID AND UNDETERMINED 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 FOR ITEM 601, LINEAR FEET, PAVED GUTTER, BROKEN IN PLACE AND SHALL INCLUDE THE COST OF ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO COMPLETE THE WORK

EXISTING UNDERDRAINS

ALL EXISTING UNDERDRAINS THAT ARE ENCOUNTERED DURING CONSTRUCTION SHALL BE PROVIDED UNOBSTRUCTED OUTLETS ASD DIRECTED BY THE ENGINEER.

THE EXISTING UNDERDRAIN OUTLETS LOCATED DURING THE REVIEW OF DRAINAGE FACILITIES SHALL BE PERPETUATED PRIOR TO THE INSTALLATION OF THE PROPOSED PAVEMENT COURSES AS DESCRIBED BELOW.

EXISTING PIPE UNDERDRAINS ENCOUNTERED IN THE MEDIAN SHALL BE CONNECTED TO THE PROPOSED PIPE UNDERDRAIN SYSTEM OR DRAINAGE STRUCTURES USING ITEM 603 –CONDUIT, TYPE B. EXISTING PIPE UNDERDRAINS ENCOUNTERED IN THE OUTSIDE SHOULDER AREA SHALL BE CONNECTED TO THE PROPOSED OUTSIDE SHOULDER UNDERDRAIN SYSTEM OR THE ROADWAY DITCH USING ITEM 603 – CONDUIT, TYPE F. ITEM SPECIAL PRECAST REINFORCED CONCRETE OUTLETS, SHALL BE PROVIDED AT THE OUTLET END OF ALL NEW PIPE UNDERDRAINS OUTLETTING INTO A ROADWAY DITCH.

THE LOCATION, TYPE, SIZE ANO GRADE OF UNDERDRAIN OUTLETS SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS. PAYMENT FOR ANY NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 603 – 6" CONDUIT, TYPE B, 707.17 NON-PERFORATED ASTM D 3034 (SDR 35), SS931 OR SS944	50	LIN. FT.
ITEM 603 – 6" CONDUIT, TYPE F, 707.17 NON-PERFORATED ASTM D 3D34 (SDR 35), SS931 OR SS944	50	LIN. FT.
ITEM 603 – 8" CONDUIT, TYPE B	50	LIN. FT.
ITEM 603 – 8" CONDUIT, TYPE F	50	LIN. FT.
ITEM SPECIAL– PRECAST REINFORCED CONCRETE OUTLET	5	EACH
ITEM SP605 – AGGREGATE DRAIN, TYPE I,WITH FABRIC WRAP	100	LIN. FT.
ITEM SP605 – AGGREGATE DRAIN, TYPE II,WITH FABRIC WRAP	100	LIN. FT.

EXISTING CONDUITS

EXISTING CONDUIT MAY BE ENCOUNTERED WITHIN THE PLAN ROADWAY EXCAVATION AND SUBGRADE COMPACTION LIMITS. THE LOCATION OF WHICH MAY NOT BE SHOWN ON THE PLANS. IT IS ANTICIPATED THE CONDUITS ARE MOST PREVALENT AT THE EXISTING MEDIAN CROSSOVER LOCATIONS. THE REMOVAL AND DISPOSAL OF ANY EXISTING CONDUITS ENCOUNTERED SHALL BE INCIDENTAL TO ITEM 203 – EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION AND ITEM 203 – SUBGRADE COMPACTION.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
GENERAL NOTES

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE, OHIO 43537

DESIGNED: C.E.B. | CHECKED: E.R.P. | DATE: 5-98
DRAWN: E.R.P. | IN CHARGE: J.M. | SCALE: –

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G E N E R A L N O T E S

ITEM 603-12" CONDUIT, TYPE F, 707.01 (EXCEPT GALVANIZED) OR 707.05 TYPE C WITHOUT PAVED INVERT

IT IS THE INTENT OF THIS ITEM TO REPLACE THE OUTLET SECTION OF THE EXISTING 12" CMP SLOPE DRAINS AS SHOWN ON THE PLANS. WHERE CALLED FOR THE EXISTING CONDUIT AND STANDARD BEND SHALL BE REMOVED AND REPLACED AS PER OTC STANDARD DRAWING CB-1. AN ESTIMATED QUANTITY OF 6 LIN. FT. IS CALLED FOR AT EACH LOCATION. THE CONTRACTOR IS CAUTIONED THAT THE ACTUAL QUANTITY MAY VARY. THE COST OF THE STANDARD BEND SHALL BE INCLUDED WITH THIS ITEM.

PAVEMENT

PAVEMENT WIDENING CONSTRUCTION

THE CONTRACTOR SHALL ESTABLISH THE ACTUAL CENTERLINE OF THE TURNPIKE BY MEASUREMENT BETWEEN THE EASTBOUND AND WESTBOUND EDGES OF PAVEMENT. VARIATIONS IN THE ACTUAL WIDTH, AS SHOWN ON THE PLANS, SHALL BE EQUALLY APPLIED TO BOTH PROPOSED SHOULDERS AS DIRECTED BY THE ENGINEER. THE CROSS SLOPE OF THE PROPOSED SHOULDERS MAY VARY FROM THE ACTUAL EDGE OF PAVEMENT TO THE PER PLAN GUTTER LINE ELEVATIONS AS DIRECTED BY THE ENGINEER. POSITIVE DRAINAGE MUST BE MAINTAINED AT ALL TIMES. ALL WORK IS TO BE PERFORMED RELATIVE TO EXISTING FIELD LOCATIONS.

FULL-DEPTH SHOULDER REPLACEMENT

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR FULL-DEPTH SHOULDER REPLACEMENT AS DIRECTED BY THE ENGINEER:

ITEM 203 -	SUBGRADE COMPACTION	556	SQ. YD.
ITEM 203 -	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	262	CU. YD.
ITEM SP 302 -	BITUMINOUS AGGREGATE BASE, PG 64-22	93	CU. YD.
ITEM SP 304 -	AGGREGATE BASE	124	CU. YD.
ITEM SP 408 -	PRIME COAT	222	GALLON
ITEM SP 609 -	ASPHALT CONCRETE CURB, PG 64-22 STANDARD TYPE 1	500	LIN. FT.
ITEM 603 -	6" CONDUIT, TYPE F, 707.17 NON-PERFORATED ASTM 3034 D (SDR 35) SS931 OR SS944	100	LIN. FT.
ITEM SP 605 -	6" SHALLOW PIPE UNDERDRAIN, 707.15, WITH FABRIC WRAP	500	LIN. FT.
ITEM SPECIAL -	PRECAST REINFORCED CONCRETE OUTLET	1	EACH
ITEM 202 -	GUARDRAIL REMOVED FOR REUSE	500	LIN. FT.
ITEM SP 606 -	GUARDRAIL REBUILT, TYPE 5	500	LIN. FT.
ITEM SP629 -	PAVING FABRIC	556	SQ. YD.
ITEM SP 629 -	PAVING FABRIC (COMPOSITE)	556	SQ. YD.

THIS WORK SHALL INCLUDE PLACEMENT OF SHOULDER UNDERDRAINS FOR THE ENTIRE LENGTH AND INSTALLATION OF UNDERDRAIN OUTLETS EVERY 500' ON EACH SIDE OR AS DIRECTED BY THE ENGINEER. NO FULL DEPTH SHOULDER REPLACEMENT SHALL BE PERFORMED WITHOUT THE AUTHORIZATION OF THE ENGINEER.

JOINT REPAIR

THE FOLLOWING ITEM HAS BEEN PROVIDED FOR THE REPAIR OF UNSOUND PAVEMENT JOINTS IN THE EXISTING CONCRETE PAVEMENT THAT MAY BE ENCOUNTERED AFTER REMOVAL OF THE EXISTING ASPHALT SURFACE COURSE. JOINTS TO BE REPAIRED SHALL BE DETERMINED BY THE ENGINEER. REPAIRS SHALL BE AS PER OTC STANDARD DRAWING CJ-2.

THE FOLLOWING CONTINGENCY QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.

SP 202B - 3 CORNER CRACK REPAIR USING ITEM SP 402 5 CU. YD.

~~ITEM SPECIAL - ASPHALT PAVEMENT REINFORCEMENT~~

~~THIS ITEM SHALL INCLUDE FURNISHING AND PLACING AN ASPHALT PAVEMENT REINFORCEMENT AT THE LOCATIONS AS SHOWN ON THE PLANS. THE ASPHALT PAVEMENT REINFORCEMENT SHALL BE "GLASSGRID-8502" AS MANUFACTURED BY BAYEX INC., 14770 EAST AVENUE, ALBION N.Y. 14411 (800-263-5715) OR APPROVED EQUAL. THE ASPHALT PAVEMENT REINFORCEMENT SHALL BE INSTALLED AS PER THE RECOMMENDATIONS OF THE MANUFACTURER. THE UNIT PRICE BID PER SQUARE YARD FOR ITEM - SPECIAL ASPHALT PAVEMENT REINFORCEMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, AND OTHER INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK.~~

OUTSIDE SHOULDER PLANING AND RESURFACING

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER FOR THE PAVEMENT PLANING AND RESURFACING OF THE OUTSIDE SHOULDERS FROM STA. 381+00 TO STA. 16+00 AND STA. 214+50 TO STA. 235+00 IF REQUIRED.

ITEM 254 -	PAVEMENT PLANING, BITUMINOUS (t=3")	14,300	SQ. YD.
ITEM SP 404 -	1 1/4" ASPHALT CONCRETE, SURFACE COURSE USING CRUSHED SLAG, PG64-22	500	CU. YD.
ITEM SP 402 -	1 3/4" ASPHALT CONCRETE BASE COURSE, OR RECYCLED ASPHALT CONCRETE BASE COURSE, PG64-22	700	CU. YD.
ITEM SP 407 -	TACK COAT	1400	GAL.
ITEM SP 407 -	INTERMEDIATE TACK COAT	860	GAL.
ITEM SP 617 -	COMPACTED AGGREGATE	640	CU. YD.
ITEM SP 617 -	WATER	21	M. GAL.
ITEM SP 617 -	SHOULDER PREPARATION	5700	SQ. YD.
ITEM SP 627 -	STONE SHOULDER PROTECTION	1200	TON

EXISTING APPROACH SLABS

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER TO STABILIZE AND PROVIDE ELEVATION ADJUSTMENTS TO EXISTING APPROACH SLABS TO IMPROVE THE RIDEABILITY OF THE FINISHED PAVEMENTS:

ITEM SP611A -	GROUT HOLE	50 EACH
ITEM SP611A -	GROUT	10 C.Y.

BRIDGE DECK, ABUTMENT SLAB, APPROACH SLAB, AND APPROACH ROADWAY MODIFICATIONS

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY ENGINEER TO PROVIDE ELEVATION ADJUSTMENTS TO THE EXISTING BRIDGE DECKS, ABUTMENT SLABS, APPROACH SLABS, AND APPROACH ROADWAYS TO IMPROVE THE RIDEABILITY OF THE FINISHED PAVEMENTS:

ITEM SPECIAL -	DIAMOND GRINDING	100 S.Y.
ITEM SPECIAL -	THIN CONCRETE OVERLAY	100 S.Y.
ITEM 254 -	PAVEMENT PLANING, BITUMINOUS (t=1")	200 S.Y.
ITEM SP404 -	ASPHALT CONCRETE SURFACE COURSE USING CRUSHED SLAG, PG64-22	5 C.Y.
ITEM SP407 -	TACK COAT	50 GAL.
ITEM SP404 -	ASPHALT CONCRETE SURFACE COURSE USING CRUSHED SLAG, PG 70-22 (FR)	5 C.Y.

SUBSTRUCTURE WORK

THE CONTRACTOR MAY PERFORM BRIDGE SUBSTRUCTURE WORK BETWEEN PHASES 1 AND 2 SUBJECT TO THE APPROVAL OF THE ENGINEER. SUBSTRUCTURE WORK, AS WELL AS MATERIAL AND EQUIPMENT LAYDOWN AREAS WILL REQUIRE GUARDRAIL PROTECTION IN ACCORDANCE WITH OTC STANDARD DRAWING GR-1. THE EXTENT OF THE LAYDOWN AREAS SHALL BE MINIMIZED AS MUCH AS POSSIBLE AND ARE SUBJECT TO THE APPROVAL OF THE ENGINEER. THE FOLLOWING CONTINGENCY QUANTITIES ARE INCLUDED FOR EXTENDING GUARDRAIL AS REQUIRED:

ITEM SP202L -	ANCHOR ASSEMBLY, SYRO STEEL ET-2000, REMOVED AND RESET	8 EACH
ITEM 202 -	GUARDRAIL REMOVED FOR REUSE	600 L.F.
ITEM SP606 -	GUARDRAIL REBUILT, TYPE 5	600 L.F.
ITEM 606 -	GUARDRAIL, TYPE 5, USING STEEL POSTS	1000 L.F.
ITEM 202 -	GUARDRAIL REMOVED	1000 L.F.
ITEM 606 -	ANCHOR ASSEMBLY, TYPE T	8 EACH
ITEM 202 -	ANCHOR ASSEMBLY REMOVED, TYPE T	8 EACH

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OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
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MANNIK & SMITH, INC.
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1800 INDIAN WOOD CIRCLE, MAUMEE, OHIO 43537

DESIGNED: C.E.B. CHECKED: F.R.P. DATE: 6-98
DRAWN: F.R.P. IN CHARGE: J.M. SCALE: -

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MAINTENANCE OF TRAFFIC GENERAL NOTES

OHIO TURNPIKE

1. THE CONTRACTOR'S RESPONSIBILITY TO THE SAFETY OF THE MOTORING PUBLIC WHILE PERFORMING THE REQUIREMENTS OF HIS CONSTRUCTION CONTRACT WITHIN THE PROJECT LIMITS SHALL BE IN ACCORDANCE WITH THESE MAINTENANCE OF TRAFFIC PLANS, SPECIFICATIONS, SPECIAL PROVISIONS, AND THE APPLICABLE PROVISIONS OF THE "STANDARD PROCEDURE OF MAINTENANCE AND CONTRACTORS OPERATIONS UNDER TRAFFIC ON THE TURNPIKE", DATED JULY 1994.

2. ALL MAINTENANCE OF TRAFFIC DEVICES, DRUMS, SIGNS, FLASHING ARROW PANELS, FLAGGERS, ETC. AS SHOWN AND LOCATED ON THE MAINTENANCE OF TRAFFIC DRAWINGS SHALL BE INCORPORATED FOR THE VARIOUS PHASES OF WORK UNDER NORMAL TRAFFIC CONDITIONS. IF SPECIAL TRAFFIC CONDITIONS EXIST, THESE MAINTENANCE OF TRAFFIC PLANS MAY HAVE TO BE MODIFIED. HOWEVER, NO MODIFICATIONS TO THE LAYOUT OF THE DEVICES SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS IS TO BE MADE UNLESS APPROVED BY THE CHIEF ENGINEER.

3. SINCE FLAGGERS ARE RESPONSIBLE FOR HUMAN SAFETY AND MAKE THE GREATEST NUMBER OF CONTACTS WITH THE TRAVELING PUBLIC OF ALL CONSTRUCTION PERSONNEL, IT IS IMPORTANT THEY ARE, MENTALLY ALERT, COURTEOUS BUT WITH A FIRM MANNER, PROPERLY ATTIRED WITH A NEAT APPEARANCE, AWARE OF THEIR RESPONSIBILITY FOR THE SAFETY OF THE MOTORISTS AND THE CONSTRUCTION PERSONNEL, AND INFORMED OF THE EXACT TRAFFIC MOVEMENTS THAT THEY ARE TO CONTROL. FLAGGERS SHALL WEAR BRIGHT ORANGE VESTS OR JACKETS WHICH ARE TO BE REFLECTORIZED FOR NIGHTTIME OPERATIONS. FLAGGERS ARE TO USE RED FLAGS. (RED FLAGS SHALL BE A MINIMUM OF 18" X 18" IN SIZE.) THE USE OF FLAGGERS SHALL BE AS DIRECTED BY THE ENGINEER. HOWEVER, AS A MINIMUM THE CONTRACTOR SHOULD EXPECT TO PROVIDE A FLAGGER AT LOCATIONS WHERE VEHICLES AND/OR EQUIPMENT MERGES INTO AND OUT OF THE TURNPIKE TRAFFIC FLOW PATTERN.

4. LENGTH AND DURATION OF SINGLE LANE CLOSURE AND RESTRICTION SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC CONTROL DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

5. OHIO TURNPIKE MAINTENANCE OF TRAFFIC PHASE DATES, LANE REDUCTION TIME LIMITATIONS, AND LIQUIDATED DAMAGE CLAUSES ARE CONTAINED IN THE FOLLOWING SPECIAL PROVISIONS:

   SP 103 – TIME OF COMPLETION
   SP 104 – ACCESS TO TURNPIKE AND RESTRICTIONS
   SP 111 – TIME OF THE ESSENCE – LIQUIDATED DAMAGES

6. THE CONTRACTOR SHALL PROVIDE A 48 HOUR NOTICE TO THE OHIO TURNPIKE COMMISSION CHIEF ENGINEER PRIOR TO INSTALLING AND CHANGING MAINTENANCE OF TRAFFIC PHASES.

7. TEMPORARY PAVEMENT MARKINGS SHALL BE INSTALLED BY THE CONTRACTOR AS PER SPECIAL PROVISION SP 641. TEMPORARY REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE AS PER SPECIAL PROVISION SP 641A.

8. CONSTRUCTION ZONE MARKERS SHALL BE INSTALLED IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS AND SHALL CONFORM TO ITEM SP 626A– "CONSTRUCTION ZONE MARKERS" OF THE SPECIAL PROVISIONS.

9. ALL TEMPORARY CONCRETE BARRIER SHOWN ON THE PLANS FOR MAINLINE MAINTENANCE OF TRAFFIC WILL BE AS PER SPECIAL PROVISION SP 622. THE SAME BARRIER CAN BE USED FOR THE VARIOUS PHASES. THE COST FOR TRANSPORTION, INSTALLING, MAINTAINING, RESETTING, REMOVAL AND STORING THE TEMPORARY CONCRETE BARRIER FOR EACH PHASE SHALL BE INCLUDED IN THE ORIGINAL UNIT COST OF SUPPLYING THE BARRIER FOR ITEM SP 622.

10. ITEM 614 TEMPORARY IMPACT ATTENUATOR, AS PER PLAN.
THIS WORK SHALL CONSIST OF STORING, FURNISHING, INSTALLING AND SUBSEQUENTLY REMOVING IMPACT ATTENUATORS, AS REQUIRED IN THE PLANS. THIS ITEM SHALL INCLUDE ALL RELATED HARDWARE, NOT SEPERATELY SPECIFIED AS REQUIRED BY THE MANUFACTURER TO CONSTRUCT COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEMS. THE IMPACT ATTENUATOR SYSTEM MUST COMPLY WITH NCHRP 350, TEST LEVEL 3 AND CAN BE ANY OF THE FOLLOWING:

   REACT 350, ROADWAY SAFETY SERVICES, INC.
   80 REMINGTON BLVD.
   RONKONKOMA, NY 11779
   (516) 588-6220

   QUAD GUARD CZ SYSTEM, ENERGY ABSORPTION SYSTEMS, INC.
   ONE EAST WACKER DRIVE
   CHICAGO, IL 60601
   (312) 467-6750

   THE ATTENUATORS SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND AT THE LOCATIONS SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION, REPAIRING, AND OTHERWISE RESTORING THE IMPACT ATTENUATOR IN ACCORDANCE WITH THE MANUFACTURER'S MAINTENANCE INSTRUCTIONS WHILE IT IS IN USE ON THE PROJECT. SUCH REPAIRS SHALL BE PERFORMED WITHIN TWENTY-FOUR (24) HOURS OF NOTIFICATION OF THE INCIDENT WHICH CAUSED DAMAGE TO THE ATTENUATOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING ALL NECESSARY MATERIALS AND EQUIPMENT REQUIRED TO PERFORM THE ABOVE DESCRIBED RESTORATION OF THE ATTENUATOR.
   PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR EACH, ITEM 614 – TEMPORARY IMPACT ATTENUATOR, AS PER PLAN, WHICH PRICE SHALL BE CONSIDERED FULL PAYMENT FOR FURNISHING, INSTALLING, STORING AND SUBSEQUENTLY REMOVING AT THE SPECIFIED LOCATIONS.

11. ALL TEMPORARY SIGNS ALONG THE MAINLINE SHALL BE FURNISHED AND INSTALLED BY THE OHIO TURNPIKE COMMISSION, UNLESS NOTED, BUT MAINTAINED BY THE CONTRACTOR.

12. FINAL SIGN AND OTHER MAINTENANCE OF TRAFFIC DEVICE LOCATIONS MAY HAVE TO BE ADJUSTED TO FIT GEOMETRIC ROADWAY CONDITIONS.

13. ALL DRUMS ORGINALLY FURNISHED FOR THIS PROJECT SHALL BE NEW PLASTIC SAFETY TYPE AS SHOWN ON OHIO TURNPIKE COMMISSION STANDARD DRAWING TCR-2. THESE DRUMS ARE PERMITTED FOR REUSE IN SUBSEQUENT CONSTRUCTION PHASES PROVIDED THEY ARE FREE OF DAMAGE AND DISPLAY THE REQUIRED REFLECTORIZATION AS DETERMINED BY THE ENGINEER. ANY DRUM DETERMINED TO BE UNACCEPTABLE BY THE ENGINEER SHALL BE REPLACED WITH A NEW DRUM. PAYMENT FOR PLASTIC SAFETY DRUMS INCLUDING THE SETTING, MAINTENANCE, REPLACEMENT AND SUBSEQUENTLY REMOVAL SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM SP 614-MAINTAINING TRAFFIC.

   DURING PHASE 1 CONSTRUCTION THE CONTRACTOR SHALL REOPEN THE ROADWAY TO TWO LANES IN EACH DIRECTION BY 12:00 PM (NOON) FRIDAY. THE TWO LANE DIRECTIONAL ROADWAY MUST REMAIN OPEN UNTIL AT LEAST 10:00 AM FRIDAY. THE STAGING OF THE OUTSIDE SHOULDER CONSTRUCTION SHALL BE SCHEDULED SO THAT NO MORE THEN A 3 INCH DROPOFF EXISTS BY THE FRIDAY 12:00 PM (NOON) PERIOD. THE DRUM LINE SHALL BE PLACED IN THE SHOULDER AT THE PAVEMENT EDGE. FOR SATURDAY WORK THE DIRECTIONAL ROADWAYS CAN BE RETURNED TO THE PHASE 1 MAINTENANCE OF TRAFFIC TYPICAL SECTION. THE ROADWAY MUST BE REOPENED TO TWO DIRECTIONAL LANES SUNDAY BY 12:00 PM (NOON) AND REMAIN OPEN UNTIL AT LEAST 10:00 PM. EXCEPTIONS TO THE ABOVE ARE CONTAINED IN SPECIAL PROVISION 104.

   IN ADDITION TO THE DRUM PLACEMENT REQUIREMENT AS SHOWN ON THE PLANS, THE CONTRACTOR SHALL INSTALL AND MAINTAIN DURING ANY MAINTENANCE OF TRAFFIC PHASE WHERE TRAFFIC IS SHIFTED ONTO SHOULDERS, PLACE TWO DRUMS IN ADVANCE OF EACH GUARDRAIL TERMINAL ASSEMBLY ET-2000. THE FIRST DRUM SHALL BE PLACED DIRECTLY IN FRONT OF THE ET-2000 FACE AND THE SECOND DRUM SPACED 50 FEET IN ADVANCE OF THE FIRST DRUM.

14. THE CONTRACTOR'S REQUEST FOR USE OF A NIGHT WORK ZONE SHALL COMPLY WITH SP 110 AND INCLUDE THE TYPE OF WORK TO BE DONE, THE DURATION OF THE WORK, LOCATION OF THE INTENDED WORK, AND THE CONTRACTOR'S PROPOSED LIGHTING PLAN. TEMPORARY LIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE SUCH THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE HIGHWAY. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS. ALL TEMPORARY LIGHTING REQUIRED FOR NIGHT WORK SHALL BE INCIDENTAL AND INCLUDED IN THE LUMP SUM BID FOR ITEM SP 614-MAINTAINING TRAFFIC.

15. THE OHIO TURNPIKE COMMISSION HAS ASSIGNED AN OVERALL CONSTRUCTION MANAGEMENT FIRM FOR THIS THIRD LANE WIDENING PROJECT. HOWEVER, EACH CONTRACTOR WHICH HAS WORK LIMITS ADJACENT TO ANOTHER CONTRACTOR WORK LIMITS HAS THE RESPONSIBILITY TO COORDINATE AND MUTUALLY COOPERATE WITH EACH OTHERS WORK ACTIVITIES DURING THE ENTIRE CONSTRUCTION PROCESS AS PER SP 107.

16. IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT IN WRITING ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THE ABOVE PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THEREFROM. NO ALTERNATE PLAN SHALL BE PLACED INTO EFFECT UNTIL APPROVAL HAS BEEN GRANTED IN WRITING BY THE CHIEF ENGINEER.

17. AMBER FLASHING LIGHTS SHALL BE USED ON ALL VEHICLES AND/ OR EQUIPMENT FOR INGRESS AND EGRESS OF THE WORK ZONE. WHILE IN THE WORK ZONE LIMITS THE FLASHERS ARE TO BE TURNED OFF.

18. IF THE CONTRACTOR FAILS TO COMPLY WITH THE PROVISIONS FOR MAINTENANCE OF TRAFFIC AS SET FORTH IN THESE PLANS OR WITH PROVISIONS OF THE "STANDARD PROCEEDURE OF MAINTENANCE CONTRACTORS OPERATIONS UNDER TRAFFIC ON THE TURNPIKE", THE CHIEF ENGINEER SHALL SUSPEND WORK UNTIL THE CONTRACTOR COMPLIES WITH THE NECESSARY REQUIREMENTS.

19. PAYMENT FOR THE ABOVE, UNLESS SPECIFIED SEPARATELY, SHALL BE AT THE LUMP SUM PRICE BID FOR ITEM SP 614 – MAINTAINING TRAFFIC WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS TO COMPLETE THE ABOVE WORK.

DESIGNED BY: EWK	CHECKED BY: EWK
DATE: 7/99	DATE: 7/99
DRAWN BY: JJS	REVISED BY:
DATE: 7/99	DATE:

CAD FILE NAME: J:\TPIKE/7028100/98PROJ/MOT/NANSMITH/GENNOTE

NO.	REVISION	BY	DATE

OHIO TURNPIKE COMMISSION

MAINTENANCE OF TRAFFIC GENERAL NOTES

DATE: JULY 1999 | SCALE: N.T.S.

CONTRACT: 77-99-05 | SHEET: 13 OF 276

SEQUENCE OF CONSTRUCTION

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.

THE CONTRACTOR SHALL SUBMIT A PLAN AND SCHEDULE OF OPERATIONS TO THE OHIO TURNPIKE CONSTRUCTION MANAGEMENT FIRM FOR APPROVAL.

PHASE ONE CONSTRUCTION (1999)

THE EXISTING OUTSIDE SHOULDER IS TO BE MILLED AND RESURFACED. SEE THE ROADWAY CONSTRUCTION PLANS FOR SHOULDER BUILD-UP AND WORK LIMITS. THIS CONSTRUCTION EFFORT SHOULD HAVE A SHORT TIME-FRAME AND IS COVERED IN SPECIAL PROVISION SP 104.

PHASE ONE MAINTENANCE OF TRAFFIC (1999)

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 TWO MAINTENANCE OF TRAFFIC TYPICAL SECTION AND PLANS.

PHASE TWO CONSTRUCTION (2000)

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.

PHASE TWO MAINTENANCE OF TRAFFIC (2000)

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. 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.

QUANTITY SUBSUMMARY

LOCATION			ITEM NUMBERS																	
			614			SP 622	SP 622B		SP 626A	SP 641							SP 641A	642		
PHASE	STATION TO STATION	DIRECTION	BARRIER REFLECTOR, TYPE A	TEMPORARY IMPACT ATTENUATOR, AS PER PLAN		TEMPORARY CONCRETE BARRIER	DELINEATOR		CONSTRUCTION ZONE MARKER-ONE WAY MODEL, WHITE	4" TEMPORARY WHITE EDGE LINE	4" TEMPORARY YELLOW EDGE LINE	6" TEMPORARY LANE LINE	6" TEMPORARY LANE LINE (SOLID)	4" TEMPORARY DOTTED LINE	8" TEMPORARY YELLOW EDGE LINE		TEMPORARY REMOVAL OF EXISTING PAVEMENT MARKING		REMOVAL OF PAVEMENT MARKING	EDGE LINE, TYPE 1, 4" WHITE (INTERIM)
			EACH	EACH		MILE	EACH		EACH	MILE	MILE	MILE	MILE	MILE	MILE		MILE		LIN.FT.	MILE
	1999 CONSTRUCTION																			
1	MP 81.06 TO MP 85.97	EB					72													
1	MP 81.06 TO MP 85.97	WB					72													4.91
																				4.91
	2000 CONSTRUCTION																			
2	MP 81.06 TO MP 81.31	EB		1		0.25			27	0.25	0.25		0.25				0.50			
2	MP 81.31 TO MP 86.17	EB	65			4.78	72		513	4.86		3.86		0.37			9.72		1440	
2	MP 86.17 TO MP 86.40	EB				0.23			24	0.23			0.23				0.46			
2	MP 81.16 TO MP 81.31	WB																		
2	MP 81.31 TO MP 86.20	WB	69			4.81	72		16	0.15			0.15				0.30			
2	MP 86.20 TO MP 86.40	WB		1		0.20			513	4.89		3.89		0.38			9.78		1165	
2	MP 87.00 TO MP 87.25	WB							21	0.20	0.20		0.20				0.40			
																	0.25			
2	CONSTRUCTION ACCESS AREA MP 82.62	EB		1																
2	CONSTRUCTION ACCESS AREA MP 85.20	EB		1									0.50		0.35					
2	CONSTRUCTION ACCESS AREA MP 82.62	WB		1									0.50		0.35					
2	CONSTRUCTION ACCESS AREA MP 85.20	WB		1									0.50		0.35					
													0.50		0.35					
TOTAL			134	6		10.27	288		1114	10.58	0.45	7.75	2.83	0.75	1.40		21.41		2605	9.82

NO.	REVISION	BY	DATE

OHIO TURNPIKE COMMISSION

SEQUENCE OF CONSTRUCTION AND QUANTITY SUBSUMMARY

DATE: JULY 1999 | SCALE: N.T.S.

CONTRACT: 77-99-05 | SHEET 14 OF 276

DESIGNED BY: EWK | CHECKED BY: EWK
DATE: 7/99 | DATE: 7/99
DRAWN BY: JJS | REVISED BY:
DATE: 7/99 | DATE:
CAD FILE NAME: J:\TPIKE/7028100/98PROJ/MOT/MANSMITH/QUAN

OHIO TURNPIKE OVER CONRAIL
WB FORWARD APPROACH SLAB
& EB FORWARD ABUTMENT SLAB

OHIO TURNPIKE OVER WAGGONER ROAD
WB REAR APPROACH SLAB
& EB REAR ABUTMENT SLAB

* SP511A, Class S Concrete, Barriers, Using Type 1 Cement

Groove And Seal With 705.04
See Sheet 227
Cost Included With
EB Median Barrier*

CONCRETE BARRIER DETAIL
ITEM 622 – CONCRETE BARRIER,
TYPE D-50, AS PER PLAN

ITEM 622 – Concrete Barrier Type D-50, As Per Plan Shall Include All Items To Construct The W.B. Median Barrier (2'-1" In Width) As Shown. For Additional Details See Page 227 And ODOT Std. Dwg. MC-9.3

For Additional Details See OTC
Std. Dwgs. AS-1 And AS-2.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
APPROACH SLAB
WIDENING DETAILS

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: C.F.B.	CHECKED: F.G.T.	DATE: 6-98
DRAWN: F.G.T.	IN CHARGE: J.M.	SCALE: As Noted

CONTRACT 77-99-0.3 SHEET 160 OF 276

OTCK9

OHIO TURNPIKE OVER WAGGONER ROAD

OHIO TURNPIKE OVER NINE MILE CREEK

Graphic Scale
0' 5' 10' 20'

LEGEND

000.00 = Proposed Grades

000.00e = Existing Grades

For Additional Details See OTC Std. Dwgs. AS-1 And AS-2.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
APPROACH SLAB
ELEVATION DETAILS

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: C.E.B.	CHECKED: E.R.P.	DATE: 6-98
DRAWN: D.M.V.	IN CHARGE: J.M.	SCALE: As Noted

CONTRACT 77-99-0.65 SHEET 161 OF 276

OTCK9

EXISTING STRUCTURE

TYPE: Twin 3-Span Continuous A7 And A36 Steel Beam Bridges With Reinforced Concrete Decks On Cellular Abutments With Reinforced Concrete Cap & Column Piers

SPAN: 40'-0"±, 54'-5"±, 40'-0"± c/c Brgs.

ROADWAY: 37'-4" ± t/t Parapets

LOADING: HS20-44 Case I & Alternate Military

SKEW: 26°-18'-22"± Right Forward

WEARING SURFACE: Monolithic Concrete

APPROACH SLABS: 15'-0"± Long, Except None @ EB Rear Abutment

ALIGNMENT: Tangent

DATE BUILT: 1954, Widened & Redecked 1986

CONDITION: Good

STRUCTURE FILE NO.: 7228597 EB, 7228600 WB

PROPOSED STRUCTURE

PROPOSED WORK: Widening Turnpike By One Lane Both Directions To The Median

TYPE: Twin 3-Span Continuous A36 Steel Beams For Widening With Reinforced Concrete Decks On Reinforced Concrete Cellular Abutments & Cap And Column Piers

SPAN: 40'-0"±, 54'-5"±, 40'-0"± c/c Brgs.

ROADWAY: 2 @ 59'-10"± t/t Parapets

LOADING: HS20-44 Case I & Alternate Military Loading, W/ FWS = 30 psf

SKEW: 26°-18'-22"± Right Forward

WEARING SURFACE: Monolithic Concrete

APPROACH SLABS: 15'-0"± Long, Except None @ EB Rear Abutment

ALIGNMENT: Tangent

CROWN: .0156± Ft./Ft.

SITE BENCH MARK NO. 50

Feno Monument
Sta. 75+00, 65'(±) Right
Elevation = 649.62

NOTES:

Information Obtained From Existing As-Built Plans. The Elevations Have Been Increased 0.46' From The Existing As Built Plans To Match Vanguarde Survey

BORING LEGEND

Drive Sample Core Boring

( )-Indicates Elevations Taken At The Exist. Edge Of Pav't.

▲-Denotes Min. Vertical Clear Location

NO.	REVISIONS	BY	DAT

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
GENERAL PLAN & ELEVATION
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRLCE, MAUMEE OHIO 43537

DESIGNED: C.E.W. | CHECKED: J.P.M. | DATE: 6/98
DRAWN: C.E.W. | IN CHARGE: J.M. | SCALE:

CONTRACT 77-99-05 . SHEET 240 OF 276

OTCK90

GENERAL NOTES

1. BRIDGE DECK ELEVATIONS, SLAB THICKNESS, AND APPROACH PROFILES: IN ORDER TO MEET ROADWAY GRADES, TO ASSURE THE CONSTRUCTION OF THE REQUIRED THICKNESS OF DECK SLABS, AND TO ASSURE THE PROPER LOCATION OF THE REINFORCING STEEL IN THE DECK SLABS, THE CONTRACTOR SHALL OBTAIN THE ELEVATIONS OF THE TOP OF THE NEW AND EXISTING STEEL BEAMS AFTER THE PARTIAL REMOVAL OF THE EXISTING DECK SLAB, AT THE LOCATIONS SHOWN ON SHEET 17/21 FOR THE FINAL PAVEMENT ELEVATIONS. THE CONTRACTOR SHALL COMPUTE THE DECK SCREED ELEVATIONS UTILIZING THE DEAD LOAD DEFLECTIONS THE CONTRACTOR SHALL THEN CALCULATE THE DECK THICKNESS OVER THE BEAMS USING THE DECK SCREED ELEVATIONS AND THE TOP OF BEAM ELEVATIONS. THE CONTRACTOR SHALL FURNISH THE ELEVATIONS TO THE ENGINEER FOR FINAL CHECKING. IF THE COMPUTED DECK THICKNESS IS FOUND TO BE LESS THAN THE MINIMUM THICKNESS REQUIRED, THE FINAL PAVEMENT ELEVATIONS SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER. FORM WORK SHALL NOT PROCEED UNTIL A CHECK OF THE FINAL ELEVATIONS HAS BEEN PERFORMED BY THE ENGINEER.

   THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED UPON 9¼" THICK CONCRETE OUTSIDE THE HAUNCH AREAS, AND THE AVERAGE THICKNESS OF CONCRETE PLACED OVER THE EXISTING OR PROPOSED BEAMS AT THE HAUNCHES. A TYPICAL HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING THE QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6" AND 12", PROVIDED THAT THE SLOPE SHALL NOT BE MORE THAN 1:4 FOR A HAUNCH LESS THAN 9" IN WIDTH.

   PLACEMENT OF THE ABUTMENT SLAB PRIOR TO THE DECK SLAB WILL NOT BE PERMITTED. HOWEVER, THE ABUTMENT SLAB AND THE DECK SLAB MAY BE POURED AT THE SAME TIME. UPON THE COMPLETION OF THESE POURS AND PRIOR TO POURING THE CONCRETE APPROACH SLABS, THE ENGINEER WILL PROVIDE THE CONTRACTOR WITH FINISH GRADES AND ELEVATIONS REQUIRED TO PROVIDE A SMOOTH TRANSITION FROM THE ROADWAY PAVEMENT AND APPROACH SLABS TO THE CONCRETE ABUTMENT AND DECK SLABS.

   PRIOR TO PLACING THE APPROACH SLABS, THE CONTRACTOR SHALL PROVIDE THE ENGINEER THE EDGE OF NEW AND EXISTING PAVEMENT ELEVATIONS AND EDGE OF SHOULDER ELEVATIONS AT 25' INTERVALS FOR A DISTANCE OF 200' BEYOND THE END OF THE APPROACH SLAB, AND AS BUILT ELEVATIONS OF THE ABUTMENT AND DECK SLABS. AFTER RECEIPT OF THESE ELEVATIONS, THE ENGINEER WILL CALCULATE AND PROVIDE TO THE CONTRACTOR FINAL ELEVATIONS FOR THE APPROACH SLABS AND APPROACH PAVEMENT. NO APPROACH SLABS SHALL BE POURED NOR SHALL PAVING COMMENCE UNTIL RECEIPT OF THESE FINAL ELEVATIONS.

   PAYMENT FOR THE ABOVE MENTIONED WORK SHALL BE INCLUDED WITH THE LUMP SUM PRICE BID FOR ITEM SP 623 CONSTRUCTION LAYOUT SURVEY.

2. IF EQUIPMENT FOR DRILLED SHAFT OPERATIONS OCCUPIES ANY PORTION OF THE EXISTING STRUCTURE, STRESS CALCULATIONS BY A REGISTERED PROFESSIONAL ENGINEER SHALL BE SUBMITTED TO THE ENGINEER IN ACCORDANCE WITH SECTION 501.09 OF THE CMS.

3. PATCHING CONCRETE STRUCTURES
   A CONTINGENCY QUANTITY OF 20 SQ. FT. OF SP519 PATCHING CONCRETE STRUCTURES HAS BEEN INCLUDED ON THE SUMMARY OF QUANTITIES FOR THIS STRUCTURE FOR USE AS DIRECTED BY THE ENGINEER.

4. PILE DRIVING
   IF EQUIPMENT FOR PILE DRIVING OPERATIONS OCCUPIES ANY PORTION OF THE EXISTING STRUCTURE. STRESS CALCULATIONS BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OHIO SHALL BE SUBMITTED TO THE ENGINEER IN ACCORDANCE WITH SECTION 501.09 OF THE SPECIFICATIONS.

5. PILE DRIVEN TO BEDROCK
   PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK. REFUSAL SHALL BE CONSIDERED AS OBTAINED BY PENETRATING SOFT BEDROCK FOR SEVERAL INCHES WITH A MINIMUM RESISTANCE OF 20 BLOWS PER INCH OR REFUSAL SHALL BE CONSIDERED AS OBTAINED AFTER THE PILE HAS CONTACTED HARD BEDROCK AND THE PILE HAS THEN RECEIVED AT LEAST 20 BLOWS.

   REFER TO FOUNDATION PLAN SHEET 4 /21 FOR PILE DESIGN LOADS.

6. ITEM 507 - STEEL POINT (OR SHOE), AS PER PLAN
   STEEL PILE POINTS SHALL BE USED TO PROTECT THE TIPS OF THE PROPOSED STEEL "H" PILING. THE STEEL POINTS SHALL BE FURNISHED BY ASSOCIATED PILE AND FITTING CORPORATION, 262 RUTHERFORD BOULEVARD, CLIFTON, NEW JERSEY 07014; DOUGHERTY FOUNDATION PRODUCTS, INC., P.O. BOX 688, FRANKLIN LAKES, NEW JERSEY 07417; VERSA STEEL, INC., 3061 NW YEON AVENUE, P.O. BOX 10559, PORTLAND, OREGON 97210; PILING ACCESSORIES, INC., 3467 GRIBBLE ROAD, MATTHEWS, N.C. 28105; OR BY A MANUFACTURER THAT CAN FURNISH A STEEL POINT THAT IS ACCEPTABLE TO THE ENGINEER. THE MATERIAL USED FOR THE MANUFACTURING OF PILE POINTS SHALL CONFORM TO ASTM A27 65/35 - CLASS 2, HEAT TREATED OR AASHTO M103 65/35, HEAT TREATED. A NOTARIZED COPY OF THE MILL TEST REPORT SHALL BE SUBMITTED TO THE ENGINEER.

7. PAINTING OF STRUCTURAL STEEL
   THE NEW STRUCTURAL STEEL SHALL BE TOTALLY SHOP PAINTED WITH ALL COATS IN ACCORDANCE WITH SPECIAL PROVISION SP514A - TOTAL SHOP PAINTING - SYSTEM IZEU. THE THREE COAT SHOP APPLICATION OF THE PAINT IS INCLUDED FOR PAYMENT UNDER ITEM 513 - STRUCTURAL STEEL, AISC CATEGORY I, AS PER PLAN.

   ANY FIELD TOUCHUP OF DAMAGED AREAS SHALL BE INCIDENTAL TO ITEM 513.

8. SURFACE PREPARATION OF STEEL PRIOR TO PAINTING
   THE CONTRACTOR'S ATTENTION IS CALLED TO SPECIAL PROVISION SP514A PART 3 - EXECUTION, SECTION 3.02 SURFACE PREPARATION. SPECIFICALLY PARAGRAPH A WHICH ADDRESSES SURFACE PREPARATION.

   ALL SHARP EDGES SUCH AS THOSE CREATED BY THE FLAME CUTTING AND SHEARING OF STEEL SHALL BE ADDRESSED ACCORDING TO THIS SPECIFICATION IN ORDER TO ENSURE A PROPER PAINT SYSTEM. BREAKING THE EDGE CAN BE ACCOMPLISHED BY A SINGLE PASS OF A GRINDER IN ORDER TO FLATTEN THE EDGE. HOWEVER, CARE SHALL BE TAKEN TO ENSURE THAT DURING THE REMOVAL OPERATION NEW SHARP EDGES ARE NOT CREATED. THIS REQUIREMENT IS APPLICABLE TO ALL STRUCTURES WHETHER OR NOT IT IS SPECIFICALLY ADDRESSED IN THE CONTRACT DRAWINGS.

   NO SEPARATE PAYMENT FOR ANY GRINDING REQUIRED TO CONFORM TO THE SPECIFICATIONS WILL BE MADE. PAYMENT FOR THE SHOP APPLIED COATING SYSTEM IS INCLUDED IN THE COMPLETED WORK ITEM - 513 STRUCTURAL STEEL, AISC CATEGORY I, AS PER PLAN, PER PART 4 - MEASUREMENT AND PAYMENT OF SPECIAL PROVISION SP514A.

9. PROTECTION OF PAINTED STEEL DURING ERECTION
   THE NEW STRUCTURAL STEEL THAT IS TOTALLY PAINTED IN THE SHOP SHALL CONFORM IN ALL RESPECTS TO THE REQUIREMENTS OF SP514A - TOTAL SHOP PAINTING, SYSTEM IZEU AND SPECIFICALLY TO PART 3 - EXECUTION, SECTION 3.05 "SHIPPING, STORAGE, AND HANDLING OF SHOP PAINTED STEEL".

   IN ADDITION TO THESE REQUIREMENTS THE CONTRACTOR SHALL TAKE WHATEVER MEANS NECESSARY TO PROTECT THE FINISHED PAINTED SURFACE FROM DAMAGE DURING THE ERECTION OF THE STEEL, THE INSTALLATION OF THE FALSEWORK AND FRAMEWORK, AND POURING OF THE CONCRETE DECK AND PARAPETS. THIS PROTECTION SHALL INCLUDE THE USE OF PADDING ON BRACKETS AND SUPPORTS, CONSTRUCTION OF TIGHT FITTING FORMS AND OTHER PROTECTIVE METHODS THE CONTRACTOR MAY DEEM NECESSARY FOR PROTECTING THE NEWLY PAINTED SURFACE.

   THE CHIEF ENGINEER SHALL HAVE THE AUTHORITY TO INSTRUCT THE CONTRACTOR TO DELAY THE START OF HIS OPERATIONS OR SUSPEND HIS OPERATIONS IN WHOLE OR IN PART IF HE DOES NOT UTILIZE PROPER CARE OR MEANS TO PROTECT THE NEWLY PAINTED STEEL DURING ERECTION OR HIS FORMING OPERATIONS.

10. ITEM 506 - STATIC LOAD TEST, AS PER PLAN
    ITEM 506 - SUBSEQUENT STATIC LOAD TEST, AS PER PLAN
    FOR STATIC LOAD TESTS PERFORMED ON SERVICE PILES AS DIRECTED BY THE ENGINEER, THE APPLICATION OF LOAD SHALL BE IN ACCORDANCE WITH SECTION 506.03 OF THE CMS EXCEPT THAT THE MAXIMUM APPLIED TEST LOAD SHALL BE LIMITED TO TWO (2) TIMES THE PLAN DESIGN LOAD.

11. ADDITIONAL NOTES
    PLEASE REFER TO SHEET G1 OF G1 FOR ADDITIONAL BRIDGE NOTES.

12. PAINTING REQUIREMENTS AT REMOVED APPURTENANCES
    REGIONS WHERE THE APPURTENANCES FOR THE ABANDONED F.O.C. CONDUIT ARE REMOVED FROM THE EXISTING STEEL SUPERSTRUCTURE PER ITEM SP202 SHALL HAVE SURFACE PREPARATION AND FIELD PAINTING INCLUDED IN ITEMS SP514.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
GENERAL NOTES
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CEW	CHECKED: JPM	DATE: 6/98
DRAWN: CEW	IN CHARGE: JM	SCALE:

ESTIMATED QUANTITIES

CALC'D BY: CMZ DATE: 6/98
CHECKED BY: RCH DATE: 6/98

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIERS	SUPER.	GEN.	AS PER PLAN SHT. NO.
SP202	Lump Sum		Portions Of Structure Removed				Lump	
503	Lump Sum		Cofferdams, Cribs And Sheeting				Lump	
503	292	Cu.Yd.	Unclassified Excavation	292				
503	50	Cu.Yd.	Abutment Backfill, As Per 503.10	50				G1/G1
505	Lump Sum		Pile Driving Equipment Mobilization				Lump	
506	Lump Sum		Static Load Test, As Per Plan				Lump ‡	2/21
506	1	Each	Subsequent Static Load Test, As Per Plan				1 ‡	2/21
507	1622	Lin. Ft.	Steel Piles HP10x42	1622				
507	36	Each	Steel Points (Or Shoes), As Per Plan	36				2/21
SP509	81019	Pound	Epoxy Coated Reinforcing Steel, Grade 60	26093		54626	300 (**)	
510	135	Each	Dowel Holes, Using SP853 Grout Anchoring	111		24		
SP511	198	Cu.Yd.	Class C Concrete, Abutments	198				
SP511	73	Cu.Yd.	Class C Concrete, Pier Caps & Columns		73			
SP511A	54	Cu.Yd.	Class S Concrete, Abutment Slabs, Using Shrinkage Compensating Cement	54				
SP511A	220	Cu.Yd.	Class S Concrete, Superstructure Deck Slab, Using Shrinkage Compensating Cement			214	6 (*)	
SP511A	49	Cu.Yd.	Class S Concrete, Barriers And Parapets, Using Type I Cement	10		39		
SP512	20	Sq. Yd.	Membrane Waterproofing (Sheet Type 2)	20				
513	139,171	Pound	Structural Steel, AISC Category I, As Per Plan			139,171		2/21
513	180	Each	Welded Stud Shear Connector			180		
SP514	Lump Sum		Surface Preparation Of Existing Steel, System UUU			Lump		
SP514	Lump Sum		Field Painting Of Existing Steel, Prime Coat, System UUU			Lump		
SP514	Lump Sum		Field Painting Of Existing Steel, Intermediate Coat, System UUU			Lump		
	Lump Sum		Field Painting Of Existing Steel, Finish Coat, System UUU			Lump		
	Lump Sum		Field Cleaning And Touch-Up Of Shop Primer And Connections, System OZEU (Application Of Shop Primer For System IZEU Is Included In The Cost Of Steel), And Field Cleaning And Painting Of Faying Surfaces With Inorganic Zinc			Lump		
516	6	Each	Bearing Devices, Fixed		6			
516	18	Each	Bearing Devices, Expansion	12	6			
SP516B	794	Lin.Ft.	Sealing Of Construction Joints	228		566		
518	93	Cu.Yd.	Porous Backfill With Filter Fabric	93				
518	174	Lin.Ft.	6" Perforated Corrugated Plastic Pipe, As Per Plan	174				G1/G1
518	121	Lin.Ft.	6" Non-Perforated Corrugated Plastic Pipe, Including Specials, As Per Plan	121				G1/G1
SP519	50	Sq. Ft.	Patching Concrete Structures	30			20 (***)	
523	3	Hour	Dynamic Load Test				3 ‡	
SP525A	Lump Sum		Worker Protection				Lump	
SP525A	20	Each	Protective Clothing/Equipment Set				20	
SP525A	Lump Sum		Establish Regulated Areas				Lump	
SP525A	Lump Sum		Paint Waste/Hazardous Waste Classification, Handling And Disposal				Lump	
SP525A	Lump Sum		Containment System				Lump	
SP527	Lump Sum		Falsework, Temporary Bracing And Protective Structures			Lump		
SP533W	106	Lin.Ft.	4 Inch Continuous Strip Seal In Structural Steel Joint (Widening)			106		
SP533R	151	Lin.Ft.	Replacement Of 4 Inch Continuous Strip Seal In Structural Steel Joint			151		
SP536	975	Sq.Yd.	Concrete Weatherproofing, Deck, Abutment Slabs And Approach Slabs	254		721		
SP536	363	Sq.Yd.	Concrete Weatherproofing, Barriers And Parapets	40		323		
SP536	359	Sq.Yd.	Concrete Weatherproofing, Substructure	107	252			
601	465	Sq.Yd.	Crushed Aggregate Slope Protection	465				
SP825	14225	Pound	Galvanized Reinforcing Steel, Grade 60		14225			
Special	140	Lin.Ft.	Drilled Shaft, 48" Diameter, Above Bedrock		140			
Special	36	Lin.Ft.	Drilled Shaft, 42" Diameter, Into Bedrock		36			
Special	20	Lin.Ft.	Proof Testing Drilled Shaft		20			

(*) As A Contingency 6 Cu. Yd. Of Concrete Has Been Included In The Estimated Quantity For Superstructure Concrete In The General Column, To Be Used As Directed By The Engineer For Additional Concrete Required In The Haunches Due To Profile Adjustment.

(**) See Note 14 On Bridge General Notes Sheet G1/G1.

(***) See Note 3 On Sheet 2/21.

(‡) Load Tests Are Contingency Items To Be Used As Directed By The Engineer.

ABUT./APPR. SLAB FOUNDATION & ABUTMENT
(Limits of Unclassified Excavation)

SECTION A-A
(Wingwalls)

NOTE:

Item SP202, Portions Of Structure Removed, Includes But Is Not Limited To The Following:

* Superstructure Concrete 30 C.Y.
* Concrete Parapets 329 Lin. Ft.
* Abutment Slab Concrete 3 C.Y.
* Approach Slab Concrete 1 C.Y.
* Substructure Concrete 1 C.Y.
* Scuppers 12 Each
* Expansion Joints 8 Lin. Ft.
* F.O.C. Conduit And Appurtenances 166 Lin.Ft.

The Above Quantities Are Given For Information Only. The Contractor Shall Obtain His Own Quantities To Be Used As A Basis For Determining His Bid Price For The Item SP202, Portions Of Structure Removed.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
ESTIMATED QUANTITIES
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.30)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ CHECKED: JPM DATE: 6/98
DRAWN: CMZ IN CHARGE: JM SCALE:

3/21

CONTRACT 77-99-05 SHEET 242 OF 276

OTCK9D

REAR ABUTMENT

PIER-1

PIER-2

FORWARD ABUTMENT

FOUNDATION PLAN

NOTES

1. Denotes Existing Vertical Pile Location ~~And Number~~
2. Denotes Existing 1:4 Battered Pile Location ~~And Number~~
3. Denotes Proposed Vertical Pile Location And Number.
4. Denotes Proposed 1:4 Battered Pile Location And Number.
5. Denotes Drilled Shaft Location And Number.
6. For Additional Drilled Shaft Notes And Details See Sheet 5/21, 6/21 and 14/21.
7. All Piles Shall Be HP10x42, With Steel Points To Bedrock.
8. Approximate Top Of Bedrock Elevation:
   Rear Abutment– 593.9
   Pier 1– 596.6
   Pier 2– 596.6
   Forward Abutment– 595.0
9. Max. Calculated Design Load Per Pile = 40.1 Tons/Pile.
10. Max. Allowable Capacity Per Pile = 55 Tons/Pile.
11. Max Calculated Design Load Per Drilled Shaft = 608 k.
12. Max. Allowable Drilled Shaft End Bearing Capacity = 70 k.s.f.
13. For Additional Piling Notes See Sheet 2/21

–PILING TABLE–

Pile No.	Top Cut-Off Elev.	Estimated Length (Ft.)	Batter
1–8	643.68	50.0	None
9,11,13,14,16,17	634.81	43.0	1:4
10,12,15,18	634.81	41.0	None
19,22,25,27	635.37	41.0	None
20,21,23,24,26,28	635.37	42.0	1:4
29–36	642.48	48.0	None

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
FOUNDATION PLAN
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.30)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ | CHECKED: JPM | DATE: 6/98
DRAWN: CMZ | IN CHARGE: JM | SCALE:

4/21

CONTRACT 77-99-05 SHEET 243 OF 276

OTCK9D

H:\BRIDGE\OTCK9D.DWG
AutoCAD DWG Scale 1:1
Last Edit Revision 06/23
Last Plot Revision 06/23
Description: FINAL TRACING PLOT

DRILLED SHAFT NOTES

ITEM SPECIAL – DRILLED SHAFT

DESCRIPTION
THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING DRILLED SHAFTS OF THE TYPE AND SIZE SPECIFIED IN THE PLANS. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIAL AND APPURTENANCES REQUIRED TO COMPLETE THE WORK AS SPECIFIED. THE LENGTH(S) OF THE DRILLED SHAFTS SHOWN IN THESE PLANS HAS BEEN ESTIMATED FROM AVAILABLE SUBSURFACE INFORMATION. THE CONTRACTOR IS EXPECTED TO FURNISH THE PROPOSED DRILLED SHAFTS AS PER THESE PLAN REQUIREMENTS, WITH THE UNDERSTANDING THAT THE ACTUAL LENGTH REQUIRED BASED ON CONDITIONS ENCOUNTERED DURING CONSTRUCTION MAY DIFFER FROM THE ESTIMATED LENGTH SHOWN IN THE PLANS.

THE LIMITS OF EACH DRILLED SHAFT SHALL BE DEFINED AT THE TOP BY THE PLAN ELEVATION AND AT THE BOTTOM BY THE ELEVATION OF THE BOTTOM OF THE BEDROCK SOCKET AS APPROVED BY THE ENGINEER.

A CASING MAY BE NECESSARY FOR THE CONSTRUCTION OF EACH DRILLED SHAFT. DRILLED SHAFT CASINGS MAY BE REMOVED PROVIDED ALL PLAN REQUIREMENTS ARE SATISFIED.

CONTRACTOR QUALIFICATION
THE CONTRACTOR SHALL SUBMIT INFORMATION TO THE ENGINEER TO DOCUMENT THAT HIS PERSONNEL ARE EXPERIENCED IN THE CONSTRUCTION OF DRILLED SHAFTS OF THE TYPE AND SIZE SPECIFIED ON THE PLANS. THIS INFORMATION SHALL BE SUBMITTED AT THE PRECONSTRUCTION CONFERENCE. THE CONTRACTOR IS REQUESTED TO INFORM THE ENGINEER 48 HOURS BEFORE THE DATES WHEN THE CONTRACTOR WILL BE CONSTRUCTING THE DRILLED SHAFTS.

CASING
THE CASING SHALL BE MADE OF STEEL, SHALL BE WATER TIGHT AND SHALL BE OF AMPLE STRENGTH TO WITHSTAND HANDLING STRESSES AND EXTERNAL SUBSURFACE PRESSURES. THE CASING SHALL BE SEATED INTO THE BEDROCK, THUS ATTEMPTING TO SEAL OUT INCOMING WATER. THE CASING LENGTH SHALL BE AS NECESSARY TO CONSTRUCT EACH DRILLED SHAFT. THE DIAMETER OF THE CASING SHALL BE NO LESS THAN THE DIAMETER OF THE DRILLED SHAFT BEING CONSTRUCTED.

THE DIAMETER OF THE FURNISHED CASINGS SHALL BE LARGE ENOUGH TO ALLOW THE CONSTRUCTION OF A BEDROCK SOCKET WITH DIAMETER EQUAL TO OR GREATER THAN THE PLAN DIAMETER.

TEMPORARY CASING
ALL SUBSURFACE CASINGS SHALL BE CONSIDERED TEMPORARY UNLESS THE CASING IS REQUIRED TO BE LEFT IN PLACE. THE CONTRACTOR MAY REMOVE ANY CASING CONSIDERED TEMPORARY. IF THE CASING IS TO BE REMOVED IT SHALL BE REMOVED WHILE THE CONCRETE IS STILL IN A PLASTIC STATE (BEFORE THE CONCRETE ATTAINS INITIAL SET). DURING REMOVAL OF THE CASING, THE LEVEL OF FRESH CONCRETE IN THE CASING SHALL MAINTAIN A 5 FOOT MINIMUM CLEARANCE ABOVE THE BOTTOM OF THE CASING. AS THE CASING IS WITHDRAWN CARE SHALL BE TAKEN TO MAINTAIN AN ADEQUATE LEVEL OF CONCRETE WITHIN THE CASING SO THAT FLUID TRAPPED BEHIND THE CASING IS DISPLACED UPWARD AND DISCHARGED AT THE GROUND SURFACE WITHOUT CONTAMINATING OR DISPLACING THE SHAFT CONCRETE.

EXCAVATION
WHEN OBJECTS SUCH AS LARGE BOULDERS, WASTE DEBRIS OR OTHER MATERIALS OTHER THAN SOIL ARE ENCOUNTERED, THEY SHALL BE REMOVED. BLASTING WILL NOT BE ALLOWED. THE DRILLED SHAFTS SHALL PENETRATE INTO BEDROCK TO A DEPTH THAT PROVIDES A BEDROCK SOCKET LENGTH THAT IS NOT LESS THAN THE BEDROCK SOCKET SHOWN IN THE PLANS. WHEN A CASING WHICH EXTENDS DOWN TO BEDROCK IS USED, THE BEDROCK SOCKET SHALL BE MEASURED FROM THE BOTTOM OF THE CASING TO THE BOTTOM OF THE DRILLED BEDROCK EXCAVATION. WHEN THE ENGINEER IS ASSURED THAT A PORTION OF THE METAL CASING IS EMBEDDED IN BEDROCK, UPON THE ENGINEER'S CONCURRENCE, THE EMBEDDED DISTANCE MAY BE INCLUDED AS PART OF THE BEDROCK SOCKET.

DEWATERING
THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING ANY INCOMING WATER TO THE EXTENT THAT THE SHAFT EXCAVATION IS MAINTAINED DRY ENOUGH FOR PERFORMANCE OF THE REQUIRED INSPECTION OPERATION. THE PREFERRED METHOD OF CONSTRUCTION IS TO PLACE THE CONCRETE IN A CLEAN, DRY EXCAVATION. THE CONTRACTOR IS EXPECTED TO MAKE A REASONABLE ATTEMPT TO SEAL WATER OUT OF THE DRILLED SHAFT EXCAVATION.

BOTTOM CLEAN OUT
THE BOTTOM OF THE DRILLED SHAFT EXCAVATION SHALL BE AS CLEAN AS PRACTICABLE (NO MORE THAN ONE INCH OF LOOSE MATERIAL ON THE BOTTOM). PRIOR TO CONCRETE PLACEMENT, DRILLING SPOILS THAT ADHERE TO THE VERTICAL SIDES OF THE BEDROCK SOCKETS ARE TO BE REMOVED.

APPROVAL BEFORE CONCRETE PLACEMENT
THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A WRITTEN PLAN OF STEPS AND PROCEDURES HE PROPOSES TO FOLLOW WHEN PLACING THE CONCRETE AND MONITORING THE CONCRETE PLACEMENT. CONCRETE SHALL NOT BE PLACED IN ANY DRILLED SHAFT EXCAVATION WITHOUT PRIOR APPROVAL FROM THE ENGINEER. THE DRILLED SHAFT EXCAVATION SHALL BE INSPECTED IMMEDIATELY BEFORE THE CONCRETE IS PLACED. A LIGHT POWERFUL ENOUGH TO THOROUGHLY INSPECT THE SIDES, BOTTOM AND REINFORCING STEEL CAGE OF THE DRILLED SHAFT IS REQUIRED.

CONCRETE PLACEMENT
THE CONCRETE FOR THE DRILLED SHAFT SHALL BE PLACED AS PER ITEM 511 EXCEPT AS MODIFIED BY THE PLANS. IF THE DRILLED SHAFT HAS A BEDROCK SOCKET, THE CONCRETE FOR THE BEDROCK SOCKET SHALL BE PLACED AGAINST THE IN-SITU BEDROCK. THE CONCRETE FOR THE DRILLED SHAFT SHALL BE PLACED PROMPTLY AFTER THE FINAL INSPECTION OF THE SHAFT. IF PRACTICABLE, THE CONCRETE SHALL BE PLACED IN A CLEAN DRY EXCAVATION, HOWEVER, NO MORE THAN 3 INCHES OF STANDING WATER WILL BE PERMITTED. THE DRY CONSTRUCTION METHOD CAN ONLY BE USED WHEN LESS THAN 12 INCHES OF WATER ACCUMULATES ABOVE THE BASE OF THE HOLE DURING A ONE HOUR PERIOD WHEN NO PUMPING IS PERMITTED. CARE SHALL BE TAKEN TO ENSURE THAT CONCRETE IS NOT BEING PLACED IN MOVING WATER. THE CONCRETE MAY BE PLACED IN A DRY DRILLED SHAFT EXCAVATION BY THE FREE FALL METHOD PROVIDED THE CONCRETE FALLS TO ITS FINAL POSITION THROUGH AIR WITHOUT STRIKING THE SIDES OF THE HOLE, THE REINFORCING STEEL CAGE OR ANY OTHER OBSTRUCTION. THE FREE FALL METHOD ALLOWS THE CONCRETE TO BE DROPPED FROM THE TOP THROUGH A CENTERING CHUTE TO THE CONCRETE'S FINAL POSITION. USE FREE FALL PLACEMENT WITH A 25 FOOT MAXIMUM HEIGHT OF FREE FALL. SUPPORT THE DROP CHUTE SO THAT THE MAXIMUM HEIGHT OF FREE FALL OF THE CONCRETE MEASURED FROM THE BOTTOM OF THE CHUTE IS 25 FEET.

SHOULD IT BE DETERMINED THAT THIS REQUIREMENT CAN NOT BE ACHIEVED OR IF THE ENGINEER DETERMINES THAT DEWATERING IS NOT PRACTICABLE THE ENGINEER SHALL REQUIRE THAT THE CONCRETE BE PLACED UNDER WATER BY MEANS OF A CONCRETE PUMP OR TREMIE.

CONCRETE PLACEMENT BY TREMIE
TREMIES MAY BE USED FOR CONCRETE PLACEMENT IN LIEU OF A CONCRETE PUMP IN EITHER WET OR DRY HOLES. TREMIES USED TO PLACE CONCRETE SHALL CONSIST OF A TUBE OF SUFFICIENT LENGTH, WEIGHT AND DIAMETER TO DISCHARGE CONCRETE AT THE SHAFT BASE ELEVATION. THE TREMIE SHALL NOT CONTAIN ALUMINUM PARTS WHICH WILL HAVE CONTACT WITH THE CONCRETE. THE TREMIE INSIDE DIAMETER SHALL BE NOT LESS THAN 10 INCHES. THE INSIDE AND OUTSIDE SURFACES OF THE TREMIE SHALL BE CLEAN AND SMOOTH TO PERMIT BOTH FLOW OF CONCRETE AND UNIMPEDED WITHDRAWAL DURING CONCRETING. THE WALL THICKNESS OF THE TREMIE SHALL BE ADEQUATE TO PREVENT CRIMPING OR SHARP BENDS WHICH RESTRICT CONCRETE PLACEMENT.

THE TREMIE USED FOR CONCRETE PLACEMENT SHALL BE WATERTIGHT. UNDERWATER PLACEMENT SHALL NOT BEGIN UNTIL THE TREMIE IS PLACED TO THE SHAFT BOTTOM ELEVATION. VALVES, BOTTOM PLATES OR PLUGS SHALL BE USED SO THAT CONCRETE DISCHARGE CAN BEGIN WITHIN ONE TREMIE DIAMETER OF THE BASE. PLUGS SHALL EITHER BE REMOVED FROM THE EXCAVATION OR BE OF A MATERIAL, APPROVED BY THE ENGINEER, WHICH WILL NOT CAUSE A DEFECT IN THE SHAFT IF NOT REMOVED. THE DISCHARGE END OF THE TREMIE SHALL BE CONSTRUCTED TO PERMIT THE FREE RADIAL FLOW OF CONCRETE DURING PLACEMENT OPERATIONS. THE TREMIE DISCHARGE END SHALL BE IMMERSED AT LEAST 10 FEET IN CONCRETE AT ALL TIMES AFTER STARTING THE FLOW OF CONCRETE. THE CONCRETE IN THE TREMIE SHALL BE MAINTAINED AT A POSITIVE PRESSURE DIFFERENTIAL AT ALL TIMES TO PREVENT WATER INTRUSION INTO THE SHAFT CONCRETE.

IF AT ANY TIME DURING THE CONCRETE POUR, THE TREMIE LINE ORIFICE IS REMOVED FROM THE FLUID CONCRETE COLUMN AND DISCHARGES CONCRETE ABOVE THE RISING CONCRETE LEVEL, THE DRILLED SHAFT SHALL BE CONSIDERED DEFECTIVE. IN SUCH CASE, THE CONTRACTOR SHALL REMOVE THE REINFORCING CAGE AND CONCRETE, COMPLETE ANY NECESSARY SIDEWALL REMOVAL DIRECTED BY THE ENGINEER AND REPOUR THE SHAFT. ALL COSTS OF REPLACEMENT OF DEFECTIVE SHAFTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

PUMPED CONCRETE
THE CONCRETE MAY BE PUMPED INTO EITHER WET OR DRY HOLES. FOR UNCASED WET HOLES, THE PUMPING SHALL BE AS FOLLOWS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

THE DRILLED SHAFT EXCAVATION SHALL BE FILLED WITH WATER TO SUCH A DEPTH THAT ALL WATER MOTION HAS CEASED. THE CONCRETE SHALL THEN BE PLACED BY MEANS OF A CONCRETE PUMP. THE CONCRETE PUMP PIPE SHALL HAVE A DIAMETER THAT IS NOT LESS THAN 4 INCHES. THE CONCRETE PUMP EQUIPMENT SHALL BE SO ARRANGED THAT NO VIBRATIONS RESULT WHICH MIGHT DAMAGE FRESH CONCRETE. PIPES CARRYING CONCRETE FROM THE PUMP TO THE SHAFT SHOULD BE ARRANGED WITH A MINIMUM NUMBER OF BENDS. THE PIPE USED TO CONVEY THE CONCRETE TO THE BOTTOM OF THE DRILLED SHAFT EXCAVATION SHALL BE ANCHORED TO THE STEEL CASING TO PREVENT THE PIPE FROM UNDULATING DURING THE INITIAL PLACEMENT OF THE CONCRETE.

THE PUMPING EQUIPMENT SHALL BE SUITABLE IN KIND AND ADEQUATE IN CAPACITY FOR THE WORK REQUIRED. THE USE OF ALUMINUM PIPE AS A CONVEYANCE FOR THE CONCRETE WILL NOT BE PERMITTED. AN ADEQUATE QUANTITY OF GROUT, MORTAR OR CONCRETE WITH COARSE AGGREGATE OMITTED SHALL BE PUMPED THROUGH THE EQUIPMENT AHEAD OF THE SPECIFICATION CONCRETE TO PROVIDE LUBRICATION TO THE PUMPING SYSTEM. THE CONCRETE USED FOR LUBRICATION SHALL NOT BE PLACED IN THE SHAFT. THE LUBRICATION PROCESS WILL NOT BE REPEATED AS LONG AS THE PUMPING OPERATIONS ARE CONTINUOUS. THE OPERATION OF THE PUMP SHALL BE SUCH THAT A CONTINUOUS STREAM OF CONCRETE WITHOUT AIR POCKETS IS PRODUCED. IN ORDER TO PREVENT THE CONTAMINATION OF THE CONCRETE PLACED INITIALLY AT THE BOTTOM OF THE SHAFT, THE OUTLET END OF THE PUMPING PIPE SHALL BE SEALED WITH A DIAPHRAGM OR PLUG THAT IS FLUSHED OUT WHEN THE HYDROSTATIC PRESSURE FROM THE COLUMN OF CONCRETE EXCEEDS THAT OF THE WATER IN THE SHAFT. THE INITIAL RATE OF CONCRETE PLACEMENT MUST BE CAREFULLY CONTROLLED SO AS NOT TO LIFT OR DISPLACE THE CAGE OF REINFORCING STEEL. THE CONVEYING SYSTEM SHALL BE WATER TIGHT AND THE OUTLET END SHALL ALWAYS REMAIN WELL BELOW THE TOP OF THE FRESHLY PLACED CONCRETE. THE PREFERRED CONCRETE PLACEMENT PROCEDURE IS TO MAINTAIN THE OUTLET END OF THE PUMPING SYSTEM AT APPROXIMATELY 10 FEET BELOW THE TOP OF THE FRESH CONCRETE. WHEN THE CONCRETE REACHES THE TOP OF THE DRILLED SHAFT COLUMN ALL LAITANCE SHALL BE REMOVED.

IF THE CONCRETE PUMP LINE ORIFICE IS REMOVED FROM THE FLUID CONCRETE COLUMN AT ANY TIME DURING THE CONCRETE POUR AND DISCHARGES CONCRETE ABOVE THE RISING CONCRETE LEVEL, THE DRILLED SHAFT SHALL BE CONSIDERED DEFECTIVE. IN SUCH CASE, THE CONTRACTOR SHALL REMOVE THE REINFORCING CAGE AND CONCRETE, COMPLETE ANY NECESSARY SIDEWALL REMOVAL DIRECTED BY THE ENGINEER AND REPOUR THE SHAFT. ALL COSTS OF REPLACEMENT OF DEFECTIVE SHAFTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

SEPARATE PAYMENT FOR PUMPING CONCRETE WILL NOT BE MADE, BUT THE COST THEREOF SHALL BE INCLUDED IN THE CONTRACT BID PRICES PER LINEAR FOOT OF THE DRILLED SHAFT ITEMS

TOLERANCES
THE CONTRACTOR SHALL LOCATE AND CONSTRUCT THE TOP CENTER OF THE PIER DRILLED SHAFTS WITHIN A TWO-INCH RADIUS OF THE POSITION INDICATED BY THE PLANS. THE SHAFTS ARE TO BE INSTALLED VERTICALLY AND MUST BE WITHIN 1.0 PERCENT OF PLUMB FOR THE TOTAL LENGTH OF THE DRILLED SHAFT.

CONCRETE
CONCRETE FOR ALL DRILLED SHAFTS SHALL BE CLASS S CONCRETE AND SHALL BE IN ACCORDANCE WITH ITEM 511 EXCEPT AS MODIFIED AND SUPPLEMENTED HEREIN. THE REQUIRED SLUMP IS SIX (6) INCHES, PLUS OR MINUS ONE (1) INCH. THE MAXIMUM WATER TO CEMENT RATIO SHALL BE 0.50. THE MAXIMUM COARSE AGGREGATE SIZE SHALL BE NO. 8. THE TOP 3 TO 5 FEET OF CONCRETE IN THE DRILLED SHAFTS ARE REQUIRED TO BE VIBRATED. ONLY A MINIMAL VIBRATORY EFFORT IS NECESSARY. SPECIAL CARE SHALL BE TAKEN NOT TO OVER-VIBRATE THE DRILLED SHAFT CONCRETE. NOTE: IF THE CASING IS REMOVED USING A VIBRATORY HAMMER, NO OTHER VIBRATORY EFFORT IS NEEDED.

REINFORCING STEEL
ALL REINFORCING STEEL SHALL BE GALVANIZED AND SHALL MEET THE REQUIREMENTS OF ITEM SP825. THE REINFORCING STEEL SHALL BE GRADE 60. THE REINFORCING STEEL CAGE SHALL BE COMPLETELY ASSEMBLED PRIOR TO PLACEMENT AND THE LENGTH SHALL BE AS NECESSARY TO CONSTRUCT EACH DRILLED SHAFT. SEE PLAN SHEETS FOR DETAILS OF REINFORCING STEEL. NOTE THAT THE LENGTHS PROVIDED IN THE REINFORCING STEEL LIST ARE ESTIMATED LENGTHS. THE REINFORCING STEEL SHALL BE PLACED AT PLAN LOCATION.

SPACERS
CONCRETE SPACERS OR OTHER APPROVED NONCORROSIVE SPACING DEVICES SHALL BE USED AT SUFFICIENT INTERVALS (NEAR THE BOTTOM AND AT INTERVALS NOT EXCEEDING 10 FEET) TO ENSURE CONCENTRIC SPACING FOR THE ENTIRE CAGE LENGTH. SPACERS SHALL BE CONSTRUCTED OF APPROVED MATERIAL EQUAL IN QUALITY AND DURABILITY TO THE CONCRETE SPECIFIED FOR THE SHAFT. THE SPACERS SHALL HAVE ADEQUATE DIMENSIONS TO ENSURE THE PROPER ANNULAR SPACE BETWEEN THE OUTSIDE OF THE REINFORCING CAGE AND THE SIDE OF THE EXCAVATED HOLE. CYLINDRICAL CONCRETE FEET (BOTTOM SUPPORTS) SHALL BE PROVIDED TO ENSURE THAT THE BOTTOM OF THE CAGE IS MAINTAINED THE PROPER DISTANCE ABOVE THE BASE.

INSPECTION
AN INSPECTION RECORD CHART HAS BEEN INCLUDED WITH THE PLANS ON SHEET 6 OF 21 AND SHOULD BE COMPLETED BY THE ENGINEER. MEASUREMENTS SHOULD BE OBTAINED PRIOR TO PLACING CONCRETE. THE CONTRACTOR SHOULD PROVIDE ALL NECESSARY EQUIPMENT NEEDED TO OBTAIN MEASUREMENTS FOR COMPLETING THE CHART. THE CONTRACTOR SHALL ASSIST THE ENGINEER IN OBTAINING THESE MEASUREMENTS. WHEN THE INSPECTION RECORD CHART IS COMPLETED, THE ENGINEER SHOULD SUBMIT A COPY TO THE OHIO TURNPIKE COMMISSION; ATTENTION: CHIEF ENGINEER.

METHOD OF MEASUREMENT
THE TOTAL PAY LENGTH OF EACH DRILLED SHAFT SHALL BE THE COMPLETED AND ACCEPTED LENGTH MEASURED ALONG THE AXIS OF THE DRILLED SHAFT FROM THE BOTTOM OF THE BEDROCK SOCKET TO THE PROPOSED TOP ELEVATION, AS PER PLAN. THE REINFORCING STEEL THAT PROJECTS FROM THE DRILLED SHAFT INTO THE PIER COLUMN AS SPECIFIED BY THE PLANS IS INCLUDED WITH THE DRILLED SHAFT FOR PAYMENT BUT SHALL NOT BE INCLUDED IN THE MEASURED LENGTH OF THE DRILLED SHAFT.

THE TOTAL LENGTH OF EACH DRILLED SHAFT SHALL BE DIVIDED INTO TWO SEGMENTS. THE LENGTH OF THE LOWER SEGMENT IS THE LENGTH OF THE BEDROCK SOCKET AND THE LENGTH OF THE UPPER SEGMENT IS THE LENGTH OF THE DRILLED SHAFT ABOVE THE BEDROCK SOCKET.

BASIS OF PAYMENT
PAYMENT FOR FURNISHING AND INSTALLING DRILLED SHAFTS WILL BE MADE AT THE CONTRACT UNIT PRICE PER LINEAR FOOT OF ACCEPTED SHAFT LENGTH AS PER ITEM SPECIAL – "DRILLED SHAFT, 48" DIAMETER, ABOVE BEDROCK" AND ITEM SPECIAL – "DRILLED SHAFT, 42" DIAMETER, INTO BEDROCK", WHICH SHALL INCLUDE ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY TO COMPLETE THE ITEMS AS SPECIFIED.

DESIGN PARAMETERS
THE DESIGN LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 608 KIPS WHICH IS ASSUMED TO BE RESISTED BY SHAFT END BEARING PRESSURE. THE ALLOWABLE END BEARING PRESSURE IS 70 KIPS PER SQUARE FOOT.

ITEM SPECIAL – PROOF TESTING DRILLED SHAFT

DESCRIPTION
THE ENGINEER MAY REQUIRE THE BEDROCK BELOW THE BOTTOM OF THE BEDROCK SOCKET OF ANY OR EVERY DRILLED SHAFT TO BE CORED TO VERIFY THE INTEGRITY OF THE BEDROCK. THE MINIMUM REQUIREMENTS ARE ONE PROOF TEST AT ONE OF THE DRILLED SHAFTS AT EACH SUBSTRUCTURE LOCATION.

THIS ITEM SHALL CONSIST OF OBTAINING CONTINUOUS CYLINDRICAL CORES OF BEDROCK FOR A DEPTH OF 10 FEET BELOW THE BOTTOM OF THE BEDROCK SOCKET, THEREBY DISCLOSING THE SEQUENCE OF STRATIFICATION. AT THE CONTRACTOR'S OPTION, THE REQUIRED CORES MAY BE MADE BEFORE OR AFTER THE EXCAVATION IS MADE FOR THE DRILLED SHAFTS. THE BEDROCK CORES SHALL HAVE A STANDARD NX CORE AND AN ATTEMPT SHALL BE MADE TO OBTAIN A NINETY PERCENT RECOVERY RATE. THE ENGINEER SHALL BE FURNISHED THE RECOVERED SAMPLES, LABELED APPROXIMATELY AS TO THE LOCATION AND DEPTH (ELEVATION OR ORIGIN).

METHOD OF MEASUREMENT
THE TOTAL LENGTH OF ALL REQUIRED BEDROCK CORES ACCEPTED FOR PAYMENT SHALL BE THE LENGTHS MEASURED FROM THE BOTTOM OF THE BEDROCK SOCKET TO THE BOTTOM OF THE BEDROCK CORE EXCEPT THAT THE PAYMENT LENGTH FOR EACH BEDROCK CORE SHALL NOT BE LONGER THAN 10 FEET.

BASIS OF PAYMENT
PAYMENT FOR THIS WORK SHALL BE AT THE CONTRACT UNIT PRICE PER LINEAR FOOT OF ACCEPTED CORING AS PER ITEM SPECIAL – "PROOF TESTING DRILLED SHAFT", WHICH SHALL INCLUDE ALL LABOR AND EQUIPMENT NECESSARY TO COMPLETE THE WORK AS SPECIFIED.

APPROVAL BEFORE DRILLED SHAFT CONSTRUCTION: THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A WRITTEN PLAN OF STEPS AND PROCEDURES HE PROPOSES TO FOLLOW AND EQUIPMENT TO BE USED WHEN DRIVING THE CASING, EXCAVATING INSIDE THE CASING, DEWATERING, PLACING THE CONCRETE AND MONITORING THE CONCRETE PLACEMENT. A COPY OF THE PROCEDURE SHALL BE FURNISHED DIRECTLY TO THE ENGINEER.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
DRILLED SHAFT NOTES & DETAIL
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.30)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ | CHECKED: JPM | DATE: 6/98
DRAWN: CMZ | IN CHARGE: JM | SCALE:

CONTRACT 77-99-05 SHEET 244 OF 276

OTCK9D

H:\BRIDGE\OTCK9D.DWG
AutoCAD Dwg. Scale
Last Plotted: 1:1
Last Revision By: ZAGG
Description: FINAL TRACING

PROJECT NO. _____	GENERAL CONTRACTOR _____ DRILLING CONTRACTOR _____ PROJECT ENGINEER _____	TYPE & MODEL OF DRILLING MACHINERY _____ MAX. CONTINUOUS TORQUE _____ FT.-LB. CROWD (MAX. CONTINUOUS DOWNWARD FORCE) _____ LBS.	TYPE OF CONCRETE PUMP _____ HOSE DIAMETER _____ INCHES CAPACITY _____ CU. FT./MIN.	COST PER LINEAL FOOT _____ ABOVE THE BEDROCK SOCKET _____ IN BEDROCK SOCKET _____ TYPE OF ROCK _____

SUBSTRUCTURE UNIT		DATE AND TIME OF DRILLING		APPROX. ELEVATION OF TOP OF OVER BURDEN	LENGTH OF DRILLED SHAFTS ABOVE THE BEDROCK SOCKET				OBSTRUCTIONS ENCOUNTERED			LENGTH OF DRILLED SHAFTS IN BEDROCK SOCKET			STEEL CASING			REINFORCING STEEL				CONCRETE					TOLERANCES			PLAN SHAFT DIAMETER (INCH)	CONSTRUCTED SHAFT DIAMETER (INCH)
PIER OR ABUT	SHAFT NO.	STARTED	FINISHED		THROUGH AIR (FEET)	THROUGH WATER (FEET)	THROUGH OVER BURDEN (FEET)	PAY LENGTH (FEET)	NUMBER	SIZE (INCH)	ELAPSED TIME FOR REMOVAL (HR.)	APPROX. ELEVATION OF TOP OF BEDROCK	ELEV. OF BOTT. OF BEDROCK SOCKET	LENGTH OF BEDROCK SOCKET (FEET)	LENGTH (FEET)	CASING GAUGE	WAS CASING LEFT IN PLACE ?	VERTICAL		SPIRAL		SLUMP TEST RESULT (INCH)	CYLINDER STRENGTH f'_c (P.S.I.)	AIR TEMP. (F)	TIME NEEDED TO PLACE CONCRETE (HR.)	QUANTITY (CU.YD.)	DEVIATION FROM PLUMB		DEVIATION OF COLUMN TOP CENTER FROM PLAN LOCATION HORIZONTALLY (INCH)		
		DATE / TIME	DATE / TIME															BAR SIZE NO.	NO. OF REBARS	BAR SIZE NO.	PITCH (INCH)						N-S (INCH)	E-W (INCH)			

ABUTMENT PLAN

(Rear Abutment Shown– Forward Abutment Similar Except Approach Slab Seats Are At EB & WB Sides)

Note: Median Barrier Not Shown On Plan View For Clarity. For Dimensions And Details See Sheet No. 10/21, 11/21 & 12/21

SCHEMATIC PLAN

(Finished Abutment Slab Elevations)

SECTION D–D

(Typ. Anchor Dowel Layout)

NOTES

1. (G) Indicates Rear Abutment Beam
   (L) Indicates Forward Abutment Beam
2. For Sections A–A, B–B & H–H See Sheet No. 10/21
3. For Abutment Seat Elevations See Sheet No. 8/21 & 9/21
4. For Foundation Plan & Dimensions See Sheet No. 4/21
5. For Abutment Slab Reinforcing See Sheet No. 11/21 & 12/21
6. Porous Backfill With Filter Fabric, 2 Feet Thick Shall Extend From The Bottom Of The Footings Up To The Bottom Of The Abutment Slab Or Approach Slab And Laterally As Shown On The Plans. See Porous Backfill Detail On Sheet No. 10/21
7. (*) Drill EA607 Dowel Holes 1'-3" Deep And Grout Bars Per Item 510. See Anchor Dowel Detail On This Sheet.
8. (**) Remove A Portion Of The Existing Abutment Slab As Necessary To Accomodate The Installation Of The Expansion Joint.
9. Longitudinal Or Transverse Construction Joints Shall Not Be Permitted In The Abutment Slab, Except As Shown In The Plans.
10. ▨ Denotes Concrete Removal Per Item SP202–Portions Of Structure Removed.

TABLE OF FINISHED ABUTMENT SLAB ELEVATIONS

POINT/LOCATION	REAR ABUT.	FORWARD ABUT.
A	647.42 ±	646.05 ±
B	646.87	645.81
C	646.68	645.48
D	647.07 ±	645.52 ±
E	647.37 ±	646.22 ±
F	646.92	645.86
G	646.73	645.53
H	647.12 ±	645.71 ±

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
ABUTMENT PLAN
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.30)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ | CHECKED: JPM | DATE: 6/98
DRAWN: CMZ | IN CHARGE: JM | SCALE:

ABUTMENT ELEVATION

(Reinforcing Symmetric About ℄)

GRADE BEAM ELEVATION

(Reinforcing Symmetric About ℄ Except As Shown)
(Elevations Shown Are Along Abut. Slab Joint)

VIEW E-E
(Typ. All Quadrants)

SECTION G-G
(Typical Of All)

VIEW F-F

TABLE OF ABUTMENT SEAT ELEVATIONS

BEAM LINE	Rear Abut.
F	642.48
G	642.34
H	642.19
I	641.99
J	642.08
K	642.15

NOTES

1. Groove And Seal With 705.04 As Shown On ODOT Std. Dwg. BP-2.1 At The Top Of The Barrier. Cost To Be Included With The Cost Of Barrier Concrete.
2. For Abutment Slab Elevations See Sheet 7/21
3. Special Care Shall Be Taken To Finish The Concrete Under Bearings To A Flat, Level Surface. The Concrete Surface Shall Be Steel Trowel Finished Without Brushing And The Flatness Of The Finished Surface Shall Not Vary From A Straight Edge Laid On The Surface In Any Direction Within The Limits Of The Bearing Footprint By More Than 1/16 Inch. Surfaces Which Fail To Conform To The Required Flatness Shall Be Ground Until Acceptable
4. Epoxy Coated Reinforcing Splice Lengths Shall Be 1'-11" For #5 Bars, 2'-4" For #6 Bars Unless Noted Otherwise.
5. For Foundation Plan See Sheet 4/21
6. The Backwall And Bridge Seat At Each Curtain Wall Shall Be Patched Per Item SP519 After Concrete Removal.
7. See Anchor Dowel Detail And Note 7 On Sheet 7/21.
8. See Sheet 10/21 For Porous Backfill Details.
9. ○ Rear Abut. Beam
10. For Abutment Deck Joint Details See Sheet No. 19/21.
11. ▨ Denotes Concrete Removal Per Item SP202-Portions Of Structure Removed.

SP519-PATCHING CONCRETE STRUCTURES

LOCATION	Measured Qty.	Estimated Qty.
Rear Abutments	10 S.F.	15 S.F.
Fwd. Abutments	10 S.F.	15 S.F.
Contingency		20 S.F. **
Total		50 S.F. *

**-See Note On Sheet 2/21.
*-This quantity Is Carried To The Estimated Quantity Table On Sheet 3/21.

ITEM SP519-PATCHING CONCRETE STRUCTURES: Physical Inventory Of Measured Quantities Of Deterioration Was Performed In November, 1996.

Estimated Quantities Have Been Increased By 50% Over Measured Quantities To Allow For Additional Deterioration.

Exact Dimensions And Locations Of Patches Shall Be Determined By The Engineer In The Field For Final Pay Quantity.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
REAR ABUTMENT ELEVATION
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.30)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ | CHECKED: JPM | DATE: 6/98
DRAWN: CMZ | IN CHARGE: JM | SCALE:

ABUTMENT ELEVATION

(Reinforcing Symmetric About ℄)

GRADE BEAM ELEVATION

(Reinforcing Symmetric About ℄ Except As Shown)
(Elevation Shown Along Abut. Slab Joint)

TABLE OF ABUTMENT SEAT ELEVATIONS

BEAM LINE	Forward Abut.
F	641.49
G	641.33
H	641.24
I	640.84
J	640.92
K	641.00

NOTES

1. Groove And Seal With 705.04 As Shown On ODOT Std. Dwg. BP-2.1 At The Top Of The Barrier. Cost To Be Included With The Cost Of Barrier Concrete.
2. For Abutment Slab Elevations See Sheet 7/21.
3. Special Care Shall Be Taken To Finish The Concrete Under Bearings To A Flat, Level Surface. The Concrete Surface Shall Be Steel Trowel Finished Without Brushing And The Flatness Of The Finished Surface Shall Not Vary From A Straight Edge Laid On The Surface In Any Direction Within The Limits Of The Bearing Footprint By More Than 1/16 Inch. Surfaces Which Fail To Conform To The Required Flatness Shall Be Ground Until Acceptable
4. Epoxy Coated Reinforcing Splice Lengths Shall Be 1'-11" For #5 Bars, 2'-4" For #6 Bars, Unless Noted Otherwise.
5. For Foundation Plan See Sheet 4/21.
6. The Backwall And Bridge Seat At Each Curtain Wall Shall Be Patched Per Item SP519 After Concrete Removal.
7. See Anchor Dowel Detail And Note 7 On Sheet 7/21.
8. See Sheet 10/21 For Porous Backfill Details.
9. ⬡ Forward Abut. Beam
10. For Abutment Deck Joint Details See Sheet No. 19/21.
11. ▨ Denotes Concrete Removal Per Item SP202-Portions Of Structure Removed.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
FORWARD ABUTMENT ELEVATION
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.30)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ | CHECKED: JPM | DATE: 6/98
DRAWN: CMZ | IN CHARGE: JM | SCALE:

CONTRACT 77-99-05 SHEET 248 OF 276

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SECTION H–H (REAR ABUTMENTS)

(E.B. Rear Shown–W.B. Similar Except With Approach Seat)

(See Sht. 7/21 For Location)

SECTION A–A (REAR ABUTMENTS)

(E.B. Rear Shown–W.B. Rear Similar Except With Approach Seat)

(See Sht. 7/21 For Location)

POROUS BACKFILL DETAIL

(Typ. Both Abutments)

SECTION B–B (FORWARD ABUTMENTS)

(See Sht. 7/21 For Location)

SECTION A–A (FORWARD ABUTMENTS)

(See Sht. 7/21 For Location)

(**) Slope @ 1/8"/Ft. To Drain

(***) Groove And Seal With 705.04 As Shown On ODOT Standard Drawing BP–2.1, At The Top Of The Barriers. Cost To Be Included With The Cost Of Appropriate Barrier Concrete Pay Item Or Approach Slab Pay Item.

DETAIL A

(Slab Barrier Reinforcement)

(Reinf. Symmetric About ℄)

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
ABUTMENT DETAILS
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.30)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

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CONTRACT 77-99-05 SHEET 249 OF 276

OTCK9D

ABUTMENT SLAB REINFORCING PLAN

SECTION C-C

(*) Seal Construction Joint As Per Item SP516B

(***) Groove And Seal With 705.04 As Shown On ODOT Standard Drawing BP-2.1, At The Top Of The Barriers. Cost To Be Included With The Cost Of Appropriate Barrier Concrete Pay Item Or Approach Slab Pay Item.

Denotes Concrete Removal Per Item SP202-Portions Of Structure Removed.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
REAR ABUTMENT SLAB PLAN
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.30)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ CHECKED: JPM DATE: 6/98
DRAWN: CMZ IN CHARGE: JM SCALE:

11/21

CONTRACT 77-99-05 SHEET 250 OF 276

OTCK90

ABUTMENT SLAB REINFORCING PLAN

SECTION C-C

(*) Seal Construction Joint As Per Item SP516B

(***) Groove And Seal With 705.04 As Shown On ODOT Standard Drawing BP-2.1, At The Top Of The Barriers. Cost To Be Included With The Cost Of Appropriate Barrier Concrete Pay Item Or Approach Slab Pay Item.

Denotes Concrete Removal Per Item SP202-Portions Of Structure Removed.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
FORWARD ABUTMENT SLAB PLAN
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.30)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ	CHECKED: JPM	DATE: 6/98
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12/21

CONTRACT 77-99-05 SHEET 251 OF 276

OTCK9C

PIER PLAN

(Anchor Rods Shown Are ⊕ Pier 1 Only)

PIER ELEVATION

SECTION B-B

SECTION C-C

SECTION A-A

Table Of Pier Seat Elevations		
Location	Pier 1	Pier 2
Beam F	642.53	641.69
Beam G	642.39	641.53
Beam H	642.26	641.41
Beam I	642.00	641.10
Beam J	642.08	641.17
Beam K	642.15	641.24

*-Located Along ℄ Pier Bearing

N

NOTES

1. Galvanized Reinforcing Splice Lengths: Shall Be 1'-11" For #5 Bars, 4'-1" For #9 Bars & 6'-9" For #11 Bars Unless Otherwise Noted.
2. Surface Under Bearings: Special Care Shall Be Taken To Finish The Concrete Under Bearings To A Flat, Level Surface. The Concrete Surface Shall Be Steel Trowel Finished Without Brushing And The Flatness Of The Finished Surface Shall Not Vary From A Straight Edge Laid On The Surface In Any Direction Within The Limits Of The Bearing Footprint By More than 1/16". Surfaces Which Fail To Conform To The Required Flatness Shall Be Ground Until Acceptable.
3. Minimum Clearance To Reinforcing Shall Be 2" Unless Otherwise Noted.
4. For Foundation Plan Layout See Sheet 4/21
5. Pier 1 Cap Reinforcing In The Vicinity Of The Pier Seat Shall Be Accurately Placed To Avoid Interference With The Drilling Of Anchor Rod Dowels Or Presetting Of Bearing Anchors.
6. Reinforcing Shown Is Typical For Both Piers Unless Otherwise Noted.
7. For Drilled Shaft Notes & Details, See Sheet 5/21 & 6/21
8. All Reinforcing Designated GDSxxx Shall Be Included With Drilled Shaft Items For Payment. See Drilled Shaft Reinforcement Schedule Sht. 21/21 For Details.

ANCHOR BOLT DETAIL @ PIER 1 & STIRRUP SPACING @ ENDS OF PIERS

NO.	REVISIONS	BY	DAT

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
PIER DETAILS
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.3

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ	CHECKED: JPM	DATE: 6/98
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14/21

CONTRACT 77-99-05 SHEET 253 OF 276

OTCK9

FRAMING PLAN

‡ Denotes Existing ASTM A7 Steel Beams

SECTION A–A

BEAM END DETAILS

(Typical For All New Stringers)

STRUCTURAL NOTES:

1. Where A Shape Or A Plate Is Designated (CVN) The Material Shall Meet Specified Minimum Notch Toughness Requirements As Specified In 711.01 Of CMS.
2. Welded Attachments For Supports Of Concrete Deck Finishing Machine Or Any Other Purpose Is Prohibited. Only Those Welds Shown On The Plan For Attachment Of Shear Stud Connectors, Bearings, Expansion Joint Supports And Connection Plates Shall Be Permitted.
3. During The Erection Of Diaphragms, Care Should Be Taken To Insure That Stringers, Bearing Parts And Bridge Seats Remain In Bearing Contact.
4. See "Typical Weld End Detail" For Connection Plates, Sheet 16/21.
5. High Strength Bolts Shall Be 1" Diameter, Galvanized And Shall Conform To ASTM A325, SP513, SP514, SP514A Or SP514B And SP711.
6. All Bearing Anchor Rods Are 1¼"øx1'-7" (ASTM A307) And Shall Be Galvanized According To 711.02, And Grouted Using SP853 Grout Anchoring.
7. Use Std. Bolted Beam Splice. See ODOT Std. Dwg. BS-1-93 For Details.
8. Place Diaphragms Between Beam Lines E–F & K–L Finger Tight. Complete Tightening After Deck Has Cured.
9. Use ⅜"x5" Plates For Bearing & Intermediate Connection Plates.
10. Welded Stud Shear Connectors Shall Conform To AASHTO M-169 And Item 513.
11. All Structural Steel Shall Be ASTM A-36, Unless Noted Otherwise.

BEAM ELEVATION

(WB Fascia Beam Shown)

LEGEND:

(C)–Region Of Comp. Only In Top Flange
(T)–Region Of Tension Only In Top Flange
(R)–Region Of Stress Reversal In Top Flange

SECTION B–B

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
FRAMING PLAN & DETAILS
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CEW	CHECKED: JPM	DATE: 6/98
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CONTRACT 77-99-05 SHEET 254 OF 276

15/21

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SECTION B-B

PIER DIAPHRAGMS

For Intermediate Diaphragms, See "Typical Transverse Section & Details", Sheet 18/21.

END DIAPHRAGMS

SECTION A-A

EXISTING REMOVAL PLAN

(Reinforcement Not Shown)

PROPOSED PLAN

MEDIAN SCUPPER REMOVAL & REPAIR DETAILS

(Westbound Shown, Eastbound Similar)
[At 6 Existing Scupper Locations]

EXISTING FASCIA BEAMS

NEW BEAMS

INTERMEDIATE & BEARING CONNECTION PLATE DETAILS

(***) Grind Connection Plate Edges In Accordance With SP514A Or SP514B

TYPICAL WELD END DETAIL

LEGEND

- Deck & Parapet To Be Removed Per Item SP202
- Scupper To Be Removed Per Item SP202

NOTES

1. Reuse Portion Of Exposed Exist. Deck Reinforcing In New Widening. Clean Any Damaged Epoxy Coating As Per CMS 709. The Cost To Be Incidental To Item SP202, Portions Of Structure Removed.
2. The Holes In Connection Plates Attached To Existing Beams At Intermediate And End Diaphragms, Shall Be Field Drilled Per CMS 513.14.
3. For Additional Notes See Sheet 15/21
4. For Outer Scupper Removal And Repair Details, See Sheet 16A/21.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
SUPERSTRUCTURE DETAILS I
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

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CONTRACT 77-99-05 SHEET 255 OF 276

SECTION A–A

SECTION B–B

EXISTING REMOVAL PLAN
(Reinforcement Not Shown)

PROPOSED PLAN

OUTER SCUPPER REMOVAL & REPAIR DETAILS

(Westbound Shown, Eastbound Similar)
[At 6 Existing Scupper Locations]

LEGEND

- Deck To Be Removed Per Item SP202
- Scupper To Be Removed Per Item SP202

NOTES

1. Reuse Portion Of Exposed Exist. Deck Reinforcing. Clean Any Damaged Epoxy Coating As Per CMS 709. The Cost To Be Incidental To Item SP202, Portions Of Structure Removed.
2. For Median Scupper Removal And Repair Details, See Sheet 16/21.
3. All Outer Scupper Removals & Repairs Shall Be Performed During Phase I Traffic.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
SUPERSTRUCTURE DETAILS IA
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ CHECKED: JPM DATE: 6/98
DRAWN: CMZ IN CHARGE: JM SCALE:

DECK SLAB PLAN

(Westbound Bridge Shown, Eastbound Bridge Similar)
(Scupper Removal Areas Not Shown)

CAMBER DIAGRAM

SECTION C-C

FINISHED DECK ELEVATIONS

	SPAN 1			SPAN 2				SPAN 3	
LOCATION	℄ Brg. R.A.	½	℄ Brg. Pier-1	FS-1	½	FS-2	℄ Brg. Pier-2	½	℄ Brg. F.A.
Exist. Beam Line "E"	647.37	647.18	647.06	646.99	646.87	646.73	646.68	646.49	646.38
Beam Line "F"	647.19	647.05	646.93	646.85	646.72	646.59	646.53	646.37	646.20
Beam Line "G"	647.05	646.93	646.79	646.71	646.58	646.44	646.37	646.21	646.04
Beam Line "H"	646.90	646.78	646.66	646.58	646.45	646.31	646.25	646.11	645.95
Toe Median Barrier (W.B.)	646.88	646.75	646.62	646.54	646.41	646.27	646.21	646.03	645.86
Toe Median Barrier (E.B.)	646.67	646.53	646.38	646.29	646.15	645.99	645.92	645.73	645.53
Beam Line "I"	646.70	646.55	646.40	646.31	646.15	646.00	645.94	645.74	645.55
Beam Line "J"	646.79	646.64	646.48	646.39	646.26	646.08	646.01	645.82	645.63
Beam Line "K"	646.86	646.71	646.55	646.47	646.33	646.16	646.08	645.90	645.71
Exist. Beam Line "L"	647.02	646.80	646.64	646.56	646.40	646.27	646.20	645.99	645.84

DEFLECTION AND CAMBER SCHEDULE *

All New Beams

Westbound Lanes	Span-1	Span-2			Span-3
	½	FS-1	½	FS-2	½
Deflection Due To Weight Of Steel	0	1/16"	1/16"	1/16"	0
Deflection Due To Remaining D.L.	⅛"	⅛"	⅛"	⅛"	⅛"
Adjustment Due To Vertical Curve	¼"	¼"	¼"	¼"	¼"
Required Shop Camber	⅜"	7/16"	7/16"	7/16"	⅜"

* Positive Values Indicate Camber Above Chord Between Adjacent Bearings

DEFLECTION AND CAMBER SCHEDULE *

All New Beams

Eastbound Lanes	Span-1	Span-2			Span-3
	½	FS-1	½	FS-2	½
Deflection Due To Weight Of Steel	0	1/16"	1/16"	1/16"	0
Deflection Due To Remaining D.L.	⅛"	⅛"	⅛"	⅛"	⅛"
Adjustment Due To Vertical Curve	⅜"	⅜"	⅜"	⅜"	⅜"
Required Shop Camber	½"	9/16"	9/16"	9/16"	½"

NOTES:

1. Epoxy Coated Reinforcing Splice Lengths Shall Be 1'-6" For #4 Bars, 1'-11" For #5 Bars Unless Noted Otherwise.
2. Longitudinal Or Transverse Construction Joints Shall Not Be Permitted In The Deck Slab, Except Where Shown.
3. See "Typical Transverse Section & Details", Sheet 18/21 For Additional Information.
4. See Sheet 19/21 And Ohio Turnpike Standard Drawings DJ-1 And DJ-2 For Additional Deck Joint Information.
5. Longitudinal Reinforcement Shall Be Alternated, As Shown, For Both Top And Bottom Mats.
6. See "Scupper Removal & Repair Details", Sheet 16/21 & 16A/21 For Additional Information.

FINISHED PAVEMENT ELEVATIONS: The Elevations Shown Are Finished Deck Elevations. Proper Allowance Shall Be Made For The Dead Load Deflections Caused By The Weight Of The Deck Concrete. Refer To Structure General Notes For Additional Information.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
SUPERSTRUCTURE DETAILS II
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CEW DRAWN: CEW CHECKED: JPM IN CHARGE: JM DATE: 6/98 SCALE:

CONTRACT 77-99-05 SHEET 257 OF 276

OTCR-95

TYPICAL TRANSVERSE SECTION

PARAPET DEFLECTION JOINT

BARRIER PANEL ELEVATION

SECTION A-A

DETAIL A

DETAIL B

(Typical Intermediate Diaphragm)

NOTES:

1. Reuse Portion Of Exposed Exist. Deck Reinforcing In New Widening. Clean And Repair Damaged Epoxy Coating As Per CMS 709. The Cost To Be Incidental To Item SP202, Portions Of Structure Removed.
2. EPOXY COATED REINFORCING SPLICE LENGTHS Shall Be 1'-6" For #4 Bars, 1'-11" For #5 Bars, Unless Noted Otherwise.
3. (*) See General Note 1, On Sheet 2/21.
4. ▨ Denotes Removal Per Item SP202.
5. For Additional Diaphragm Notes, See Sheets 15/21 & 16/21

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
TYPICAL TRANSVERSE SECTION & DETAILS
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CEW	CHECKED: JPM	DATE: 6/98
DRAWN: CEW	IN CHARGE: JM	SCALE:

OTC-90

ABUTMENT DECK JOINT DIMENSIONS

(Rear Abutment, WB And Forward Abutment, EB Shown)
(Forward Abutment, WB And Rear Abutment, EB Similar)

SECTION B-B

Showing Removal Limits Of Existing Joint Where Proposed And Existing Work Meet.

NOTES:

1. The Existing Deck Joint Seals Shall Be Removed And Replaced With New Seals Across The Entire Width Of The Structure. Payment Shall Be Included With Item SP533R, And SP533W.
2. For Section A-A, Joint Opening Table "A" And Additional Details See Ohio Turnpike Standard Drawings DJ-1 And DJ-2.
3. Field Cutting Of The Existing Joint Armor At The Proposed Field Splice Locations Shall Be Completed By Methods Of Saw Cutting. No Burning Of The Existing Joint Armor At This Location Will Be Permitted. The Location Of The Field Splice Shall Be Field Verified. This Location Shall Also Extend A Minimum Distance Beyond The Concrete Removal Of The Deck And Abutment Slabs So That Field Weld Attachment Of New Joint Extension Can Be Achieved.
4. Existing Deck Elevations Shall Be Field Verified By The Contractor Before Fabrication Of Deck Joints. See General Note 6 On Sheet G1.
5. Use Extreme Care In Removing Deck And Abutment Slab Concrete In Vicinity Of Existing Joint Armor To Remain.
6. The Existing Steel Extrusions For The Strip Seals Is ACME Type M.
7. All Seals Shall Be Installed In One Piece In Each Deck After The Superstructure And Abutment Concrete Is Completed.

TABLE OF ELEVATIONS

LOCATION	ELEV. "A" @ Field Splice	ELEV. "B" @ Barrier
Rear Abut. (WB)	647.37±	646.88
Forward Abut. (WB)	646.38±	645.86
Rear Abut. (EB)	647.02±	646.67
Forward Abut. (EB)	645.84±	645.53

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rD LANE CONSTRUCTION
DECK JOINT DETAILS
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CEW | CHECKED: JPM | DATE: 6/98
DRAWN: CEW | IN CHARGE: JM | SCALE:

CONTRACT 77-99-C5 . SHEET 259 OF 276

07CK9D

ABUTMENT REINFORCEMENT
(Epoxy Coated)

MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
EA401	36	9'-0"		X	217
EA501	92	25'-6"		Str.	2447
EA502	12	25'-3"		V	316
EA503	72	7'-6"		VII	564
EA504	8	7'-11"		VII	67
EA505	8	8'-6"		VII	71
EA506	8 Ser. 20	7'-1" To 7'-5"	3/16"(+)	VII	1210
EA507	10	7'-6"		VII	79
EA508	20	7'-1"		VII	148
EA509	2	7'-4"		VII	16
EA510	60	5'-9"		VII	360
EA511	6	6'-2"		VII	39
EA512	·	NOT USED		·	
EA513	·	NOT USED		·	
EA514	8	4'-1"		Str.	34
EA515	8	6'-2"		Str.	52
EA516	8	8'-3"		Str.	69
EA517	32	11'-9"		IV	393
EA518	16	9'-11"		Str.	166
EA519	16 Ser. Of 7	6'-5" To 13'-9"	1'-2 11/16"(-)	VII	1178
EA520	·	NOT USED		·	
EA521	·	NOT USED		·	
EA522	8	4'-11"		Str.	41
EA523	8	7'-8"		Str.	64
EA524	6	7'-10"		VII	50
EA601	72	14'-1"		VII	1523
EA602	8	14'-3"		VII	172
EA603	8	14'-7"		VII	176
EA604	72	10'-0"		VII	1082
EA605	8	10'-5"		VII	126
EA606	8	11'-0"		VII	133
EA607	68	3'-6"		Str.	358
EA608	72	12'-5"		VII	1343
EA609	12	14'-6"		Str.	262
EA610	12	13'-6"		Str.	244
EA801	40	25'-6"		Str.	2724
(EPOXY COATED) ABUTMENT TOTAL (Lbs.) =					15724

BAR MARKS
Bar Marks With Prefix E Are Epoxy Coated, As Per SP509. Bar Marks With Prefix G Are Hot Dipped Galvanized As Per SP825.

THE BAR SIZE NUMBER Is Specified On The Plans In The Bar Mark Column. The First Digit Where Three Digits Are Used, And The First Two Digits Where Four Digits Are Used, Indicates The Bar Size Number. For Example, P601 Is A No. 6 Bar. Bar Dimensions Shown Are Out To Out Unless Otherwise Indicated. I.R. Indicates Inside Radius, Unless Otherwise Indicated. "STD." Written In Place Of A Dimension Indicates A Standard Bend At The End Of The Bar.

EPOXY COATED REINFORCING STEEL SUPPORT: In Accordance With The Requirements Of SP509 And 509.09, The Top And Bottom Mats Of All Longitudinal And Transverse Epoxy Coated Reinforcing Steel Shall Be Supported By Approved Epoxy Coated Devices With Spacing Not Exceeding 3'-0" Centers In Each Direction. Broken Concrete, Bricks, Etc. Shall Not Be Used For Support Of Reinforcing Steel.

REINFORCEMENT STEEL SAMPLES: Refer to O.T.C. General Conditions G-6.02 And CMS Section 700, 709.01 Through 709.05 And 709.08. Sufficient Additional Reinforcing Steel Shall Be Provided For Sampling. Random Samples Shall Be Replaced In The Structures By The Additional Steel, Spliced In Accordance With 509.08.

ABUTMENT SLAB REINFORCEMENT
(Epoxy Coated)

MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
EAS401	19	12'-5"		Str.	158
EAS402	1	12'-8"		Str.	9
EAS403	1	13'-1"		Str.	9
EAS404	1 SER. OF 5	4'-8" To 12'-9"	2'-0¼"	Str.	30
EAS405	1 SER. OF 5	3'-10" To 11'-11"	2'-0¼"	Str.	27
EAS406	2	14'-0"		Str.	19
EAS407	3	12'-6"		Str.	25
EAS408	62	11'-1"		Str.	460
EAS409	3 SER. OF 4	2'-11" To 9'-0"	2'-0 5/16"(+)	Str.	48
EAS410	2 SER OF 4	5'-2" To 11'-3"	2'-0 5/16"(+)	Str.	44
EAS411	2	11'-7"		Str.	16
EAS412	2	12'-2"		Str.	17
EAS413	1	11'-3"		Str.	8
EAS414	1	11'-9"		Str.	8
EAS415	1 SER. OF 5	3'-3" To 12'-4"	2'-3¼"	Str.	27
EAS416	1	12'-7"		Str.	9
EAS417	13	0'-9"		IV	7
EAS501	103	26'-6"		Str.	2847
EAS502	8	26'-2"		V	219
EAS503	8	26'-4"		V	220
EAS504	16	6'-0"		Str.	101
EAS505	57	5'-8"		II	337
EAS506	12	14'-1"		Str.	177
EAS507	24	12'-3"		Str.	307
EAS508	12	12'-9"		Str.	160
EAS509	6	15'-11"		Str.	100
EAS510	2	15'-8"		VIII	33
EAS511	14	3'-1"		II	45
EAS601	37	12'-5"		Str.	690
EAS602	1 Ser. Of 3	12'-8" TO 13'-1"	0'-2½"	Str.	58
EAS603	1 Ser. Of 9	4'-8" To 12'-9"	1'-0⅛"	Str.	118
EAS604	1 Ser. Of 9	3'-10" To 11'-11"	1'-0⅛"	Str.	107
EAS605	2	14'-0"		Str.	42
EAS606	3	12'-6"		Str.	57
EAS607	121	11'-1"		Str.	2015
EAS608	3 Ser. Of 7	2'-11" To 9'-0"	1'-0 5/16"(-)	Str.	188
EAS609	2 Ser. Of 7	5'-2" To 11'-3"	1'-0 5/16"(-)	Str.	173
EAS610	2	11'-4"		Str.	35
EAS611	2	11'-7"		Str.	35
EAS612	2	12'-2"		Str.	37
EAS613	1 Ser. Of 3	11'-3" To 11'-9"	0'-3"	Str.	52
EAS614	1 Ser. Of 9	3'-3" To 12'-4"	1'-1⅝"	Str.	106
EAS615	1	12'-7"		Str.	19
EAS616	57	2'-0"		IV	172
EAS617	57	2'-11"		VI	250
EAS618	57	5'-5"		I	464
EAS619	4	8'-7"		VII	52
EAS620	10	3'-8"		Str.	55
EAS621	2	4'-10"		Str.	15
EAS622	9	4'-6"		Str.	61
EAS623	8	1'-6"		Str.	18
EAS624	1	3'-6"		VI	6
EAS625	14	2'-5"		Str.	51
EAS626	8	2'-2"		VI	26
(EPOXY COATED) ABUTMENT SLAB TOTAL (Lbs.) =					10369

BENDING DIAGRAMS

TYPE I

MARK	"a"	"b"	"c"	I.R.
EAS618	7½"	2'-5"	2'-3"	2⅛"

TYPE II

MARK	"a"	"b"	"b"
EAS505	2'-9"	0'-5"	2'-9"
EAS511	2'-5"	0'-5"	0'-5"

TYPE IV

MARK	"a"	"b"
EA517	11'-0"	0'-10"
EAS616	1'-6"	0'-7½"
EAS417	0'-8"	0'-2"

TYPE V

MARK	"a"	"b"	"c"
EAS502	0'-10⅛"	1'-10"	24'-3"
EAS503	0'-6¾"	1'-2½"	25'-1"
EA502	0'-10⅛"	1'-10"	23'-4"

TYPE VIII

MARK	"a"	"b"	"c"	"d"	"e"
EAS510	2'-2"	2'-4"	1'-5"	1½"	5"

TYPE VI

MARK	"a"	"b"	"c"	"d"	"e"
EAS617	10"	10½"	6"	7"	8½"
EAS624	0'-0"	2'-2½"	6"	8"	8½"
EAS626	0'-0"	10"	6"	8"	8½"

TYPE VII

MARK	"a"	"b"
EA503	0'-11"	3'-5"
EA504	1'-4"	3'-5"
EA505	1'-11"	3'-5"
EA506	2'-8"	2'-4" To 2'-6" Incr.=⅛"(-)
EA507	2'-11"	2'-5"
EA508	2'-8"	2'-4"
EA509	2'-11"	2'-4"
EA510	1'-4"	2'-4"
EA511	1'-9"	2'-4"
EA519	1'-2"	2'-9" To 6'-5" Incr.=7 5/16"(+)
EA524	2'-11"	2'-7"
EA601	3'-8"	5'-4"
EA602	3'-10"	5'-4"
EA603	4'-2"	5'-4"
EA604	0'-11"	4'-8"
EA605	1'-4"	4'-8"
EA606	1'-11"	4'-8"
EA608	3'-8"	4'-6"
EAS619	1'-2"	3'-10"

TYPE X
EA401

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
REINFORCEMENT SCHEDULE I
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.30)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ CHECKED: J.P.M. DATE: 6/98
DRAWN: CMZ IN CHARGE: J.M. SCALE:

CONTRACT 77-99-03 SHEET 260 OF 276

SUPERSTRUCTURE REINFORCEMENT
(Epoxy Coated)

MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
ES401	70	39'-10"		IX	1863
ES402	140	40'-0"		Str.	3741
ES403	70	22'-4"		IX	1044
ES404	140	21'-9"		Str.	2034
ES405	30	4'-4"		Str.	87
ES501	462	24'-10"		Str.	11966
ES502	2 Ser. Of 20	22'-4" To 1'-6"	1'-1⅛"(+)	Str.	497
ES503	24	22'-3"		Str.	557
ES504	168	40'-0"		Str.	7009
ES505	274	5'-8"		II	1620
ES506	18	5'-2"		Str.	97
ES507	2 Ser. Of 21	24'-2" To 2'-3"	1'-1⅛"(+)	Str.	579
ES601	462	24'-10"		Str.	17232
ES602	2 Ser. Of 20	22'-4" To 1'-6"	1'-1⅛"(+)	Str.	716
ES603	4	27'-6"		V	166
ES604	4	27'-7"		V	166
ES605	274	5'-5"		I	2230
ES606	274	2'-11"		VI	1201
ES607	274	2'-0"		IV	823
ES608	12	5'-4"		Str.	96
ES609	2 Ser. Of 21	24'-2" To 2'-3"	1'-1⅛"(+)	Str.	833
ES610	12	3'-10"		Str.	69
(EPOXY COATED) SUPERSTRUCTURE TOTAL (Lbs.) = 54626					

PIER REINFORCEMENT
(Hot Dipped Galvanized, Coated As Per SP825)

MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
GP501	40	22'-5"		Str.	936
GP502	108	8'-1"		VII	911
GP503	10 Sets Of 6	7'-1" To 8'-1"	2"	VII	475
GP601	10	13'-8"		Str.	206
GP901	12	23'-3"		V	950
GP902	12	23'-2"		V	946
GP903	24	19'-3"		IV	1571
GP904	12	21'-10"		Str.	891
GP1101	24	21'-9"		Str.	2774
GP1102	24	21'-3"		Str.	2710
(Galvanized) PIER TOTAL (Lbs.) = 12370					

BAR MARKS
Bar Marks With Prefix E Are Epoxy Coated, As Per SP509
Bar Marks With Prefix G Are Hot Dipped Galvanized As Per SP825.

THE BAR SIZE NUMBER Is Specified On The Plans In The Bar Mark Column. The First Digit Where Three Digits Are Used, And The First Two Digits Where Four Digits Are Used, Indicates The Bar Size Number. For Example, P601 Is A No. 6 Bar. Bar Dimensions Shown Are Out To Out Unless Otherwise Indicated. I.R. Indicates Inside Radius, Unless Otherwise Indicated. "STD." Written In Place Of A Dimension Indicates A Standard Bend At The End Of The Bar.

EPOXY COATED REINFORCING STEEL SUPPORT: In Accordance With The Requirements Of SP509 And 509.09, The Top And Bottom Mats Of All Longitudinal And Transverse Epoxy Coated Reinforcing Steel Shall Be Supported By Approved Epoxy Coated Devices With Spacing Not Exceeding 3'-0" Centers In Each Direction. Broken Concrete, Bricks, Etc. Shall Not Be Used For Support Of Reinforcing Steel.

REINFORCEMENT STEEL SAMPLES: Refer to O.T.C. General Conditions G-6.02 And CMS Section 700, 709.01 Through 709.05 And 709.08. Sufficient Additional Reinforcing Steel Shall Be Provided For Sampling. Random Samples Shall Be Replaced In The Structures By The Additional Steel, Spliced In Accordance With 509.08.

SPIRAL REINFORCING (PIER)
(Hot Dipped Galvanized, Coated As Per SP825)

MARK	NUMBER	CORE DIA. OF SPIRAL	LENGTH	PITCH	# TURNS	WEIGHT (Lbs.)
GPS401	3	30	18'-4"	4½"	52	937
GPS402	3	30	17'-10"	4½"	51	918
SPIRAL TOTAL (Lbs.) = 1855						

DRILLED SHAFT REINFORCING NOTES

1. Bars in The Tables Below Are Included With Drilled Shaft Items For Payment. Lengths And Weights Are Estimates Only.
2. The Length Shown For The Spiral Reinforcing Bars Is The Vertical Distance From 2" Below The Top Of The Drilled Shaft To 3" Above The Base Of Drilled Shaft. The No. Of Turns Is The Length Divided By The Pitch + 1 1/2 Turns Provided At Each End, Expressed As The Nearest Whole Number. Spiral Reinforcing Bars May Have Deformations And Shall In Other Respects Conform To Item SP825.
3. For Additional Notes & Details, See Sheets 5/21, 6/21 & 14/21.

SPIRAL REINFORCING (DRILLED SHAFT)
(Hot Dipped Galvanized, Coated As Per SP825)

MARK	NUMBER	CORE DIA. OF SPIRAL	LENGTH	PITCH	# TURNS	WEIGHT (Lbs.)
GDS401	3	36	28'-10"	3"	119	2493
GDS402	3	36	28'-5"	3"	117	2451
SPIRAL TOTAL (Lbs.) = 4944						

DRILLED SHAFT REINFORCING
(Hot Dipped Galvanized, Coated As Per SP825)

MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
GDS1101	36	28'-10"		Str.	5515
GDS1102	36	28'-5"		Str.	5436
GDS1103	48	11'-1"		Str.	2827
(Galvanized) DRILLED SHAFT TOTAL (Lbs.) = 13778					

PIER SPIRAL REINFORCING BARS: The "Length" Shown In The Steel List For The Spiral Bars Is The Distance From The Top Of The Drilled Shaft To The Bottom Layer Of Reinforcing In The Pier Cap. Spiral Reinforcing Bars May Have Deformations And Shall In Other Respects Comform To Item SP825. 1-1/2 Turns Of Closed Coils Shall Be Provided At The Ends Of Each Spiral Unit.

PIER SPIRAL PITCH SPACERS: Three Steel Hot-Dipped Galvanized Angle Spacers, Each Weighing Approximately 0.80 Lb. Per Linear Foot, Shall Be Provided For Each Spiral Unit. They Shall Be Equally Spaced Along The Periphery Of Each Coil For Its Full Length. The Total Number Of Pounds Of These Spacers In The Pier Column Portion, Based On 2.4 Lb. Per Linear Foot, Will Be Paid For As Reinforcing Steel And Is Included In The Tabulated Spiral Weight. (For Drilled Shaft 36" Core Diameter Of The Spiral, Four Spacers At A Total Of 3.20 Lb. Per Linear Foot Shall Be Used, With Payment Included With The Drilled Shaft Items.)

PIER CONCRETE SPACERS Or Other Approved Noncorrosive Spacing Devices, Equal In Quality And Durability To The Column Concrete, Shall Be Used Near The Bottom And At Intervals Not Exceeding 10' To Ensure A Minimum 3" Clear Space Between The Outside Of The Reinforcing Cage And The Column Design Dimension.

BENDING DIAGRAMS

TYPE I

MARK	"a"	"b"	"c"	I.R.
ES605	7½"	2'-5"	2'-3"	2⅛"

TYPE VI

MARK	"a"	"b"	"c"	"d"	"e"
ES606	10"	10½"	6"	7"	8½"

TYPE II

MARK	"a"	"b"	"b"
ES505	2'-9"	5"	2'-9"

TYPE V

MARK	"a"	"b"	"c"
GP901	1'-5½"	3'-9¾"	19'-8"
GP902	1'-1¼"	3'-10⅛"	19'-8"
ES603	9½"	1'-7½"	25'-9"
ES604	9"	1'-6¼"	25'-11"

TYPE VII

MARK	"a"	"b"
GP502	2'-8"	2'-10"
GP503	2'-8"	2'-4" To 2'-10" Incr.=0'-1"

TYPE III

MARK	"a"	"b"
GDS401	3"	36"
GDS402	3"	36"
GPS401	4½"	30"
GPS402	4½"	30"

TYPE IV

MARK	"a"	"b"
GP903	18'-0"	1'-6"
ES607	1'-6"	7½"

TYPE IX

MARK	"a"	"b"	"c"
ES401	4"	39'-3½"	4½"
ES403	4"	21'-9"	4½"

NO.	REVISIONS	BY	DAT

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
REINFORCEMENT SCHEDULE II
OHIO TURNPIKE OVER WAGGONER ROAD (M.P. 83.30

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CEW CHECKED: JPM DATE: 6/98
DRAWN: CEW IN CHARGE: JM SCALE:

OTCK9E

PLAN

APPROACH SLAB FOR 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 S USING SHRINKAGE COMPENSATING CEMENT. REINFORCING STEEL: ASTM A615, A616 OR A617 – GRADE 60 MIN YIELD STRENGTH 60,000 P.S.I. AND SHALL BE EPOXY COATED.
3. LONGITUDINAL CONSTRUCTION JOINTS REQUIRED FOR STAGE CONSTRUCTION SHALL BE AS PER 511.09 .
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 ITEM SP 310-SUBBASE, TYPE I, GRADING A OR ITEM SP 304-AGGREGATE BASE DEPENDING ON MATERIAL SPECIFIED FOR THE MAINLINE PAVEMENT.
7. GROOVE AND SEAL WITH 705.04 AS PER ODOT STD. DWG. 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' ADDITIONAL INFORMATION SEE OTC STANDARD DRAWING AS-2.
13. THE FOLLOWING ITEMS SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE YARD FOR ITEM SP 611, CLASS 'S' CONCRETE, APPROACH SLAB, USING SHRINKAGE COMPENSATING CEMENT (T=12"):

    : ALL JOINTS
    : GROOVE AND JOINT SEAL
    : TYPE 'A' WATERPROOFING
    : 1" PREFORMED EXPANSION JOINT FILLER
    : MEDIAN BARRIERS

OHIO TURNPIKE COMMISSION

REINFORCED CONCRETE APPROACH SLAB – MEDIAN WIDENING

DATE: JANUARY 24, 1997 | SCALE: N.T.S.

O.T.C. STANDARD DRAWING AS-1

NOTE: ALL REINFORCING BARS SHALL BE EPOXY COATED.

SECTION A–A

SECTION C–C
FLEXIBLE PAVEMENT

SECTION B–B
REINFORCING AND DIMENSIONS SYMMETRICAL ABOUT CENTERLINE

SECTION C–C
COMPOSITE PAVEMENT

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

SECTION D–D
(FOR APPROACH SLAB WITH INTEGRAL
CONCRETE CURB)

NOTES:

A FOR LOCATIONS OF SECTIONS 'A–A', 'B–B', 'C–C', AND 'D–D' AND ADDITIONAL NOTES, SEE OTC STANDARD DRAWING AS–1

B THE REMOVAL SHALL BE PER 202.05 OF THE ODOT CMS BUT THE COST OF THE REMOVAL SHALL BE INCIDENTAL TO THE COST OF ITEM SP 611

BAR BENDING DIAGRAMS

OHIO TURNPIKE COMMISSION	
REINFORCED CONCRETE APPROACH SLAB SECTIONS AND DETAILS – MEDIAN WIDENING	
DATE: JANUARY 24, 1997	SCALE: N.T.S.
O.T.C. STANDARD DRAWING AS–2	

PLAN
(WITHOUT CURB)

APPROACH SLAB FOR SKEWED BRIDGE
(WITHOUT CURB)

NOTES

1. GENERAL
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. DESIGN DATA
CONCRETE CLASS S USING SHRINKAGE COMPENSATING CEMENT
REINFORCING STEEL: A.S.T.M. A615, A616 OR A617 – GRADE 60, MIN. YIELD STRENGTH 60,000 P.S.I. AND SHALL BE EPOXY COATED

3. PREFORMED EXPANSION JOINT FILLER AND SEALER AT THE CORNERS AND SIDES OF THE APPROACH SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YARD FOR THE APPROACH SLAB.

4. GROOVE AND JOINT SEAL SHOWN AT THE BRIDGE LIMIT END OF THE APPROACH SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YARD FOR THE APPROACH SLAB.

5. TYPE A WATERPROOFING SHOWN AT THE ABUTMENT SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YARD FOR THE APPROACH SLAB.

6. LONGITUDINAL CONSTRUCTION JOINTS REQUIRED FOR STAGE CONSTRUCTION SHALL BE AS PER 511.09.

7. 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 CONJUCTION 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 10FT. 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 O.D.O.T. STANDARD DRAWING BR-1.

8. APPROACH SLAB WIDTH SHALL EXTEND FROM GUTTER LINE TO GUTTER LINE AND BE 6" WIDER FOR EACH CURB BEYOND THE END OF THE PARAPETS.

9. 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 WITHIN THE LIMITS OF THE APPROACH SLAB.

10. TRANSVERSE JOINT DETAILS AT THE APPROACH PAVEMENT END OF THE APPROACH SLAB ARE USED IN CONJUNCTION WITH CONCRETE PAVEMENT OR CONCRETE BASE COURSE. PAYMENT FOR THE TRANSVERSE JOINT, INCLUDING DOWEL BARS, SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQ. YD. FOR THE APPROACH SLAB.

11. ITEM SP 310 SUBBASE TYPE I GRADING "A" SHALL BE PROVIDED UNDER ALL APPROACH SLABS.

12. GROOVE AND SEAL WITH 705.04 AS PER O.D.O.T. STD. DWG. BP-2.1.

13. 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.

PART PLAN VIEW
(WITH CURB)

SECTION B-B

SECTION A-A

OHIO TURNPIKE COMMISSION

REINFORCED CONCRETE APPROACH SLAB – CELLULAR ABUTMENTS

DATE: APRIL 22, 1997 | SCALE: N.T.S.

O.T.C. STANDARD DRAWING AS-3

PLAN – SKEW ANGLE < 10°
(STRIP SEAL SHOWN, COMPRESSION SEAL SIMILAR)

PLAN – SKEW ANGLE 10° TO 45°
(STRIP SEAL SHOWN, COMPRESSION SEAL SIMILAR)

PLAN – SKEW ANGLE > 45° (STRIP SEAL ONLY)

NOTE: WHEN SKEW ANGLE IS GREATER THAN 45°, FURNISH JOINT ASSEMBLIES IN TWO SECTIONS AND PROVIDE A FIELD SPLICE AT THE CENTERLINE OF ROADWAY.

GENERAL NOTES

1. INSTALLATION OF SEAL: DURING INSTALLATION OF SUPPORT/ARMOR FOR THE SUPERSTRUCTURE SIDE OF THE JOINT SEAL, THE SEATING OF BEAMS ON BEARINGS SHALL BE CAREFULLY OBSERVED TO ASSURE THAT POSITIVE BEARING IS MAINTAINED. PROPER VERICAL FIT OF THE SUPPORT/ARMOR ON THE BEAMS SHALL BE ACHIEVED BY POSITIONING OF THE SUPPORT ANGLES RATHER THAN BY CLAMPING FORCE.
2. ELASTOMERIC COMPRESSION SEALS SHALL BE USED AT FIXED JOINTS ONLY, AND AT SKEWS LESS THAN 45°.
3. STUD ANCHORS SHALL BE LOW CARBON STEEL ASTM A-108.
4. THE MINIMUM LENGTH OF RETAINER SHALL BE 6'-0" BETWEEN JOINTS UNLESS OTHERWISE SHOWN.
5. JOINTS IN EXTRUSIONS SHALL HAVE WATERTIGHT, PARTIAL PENETRATION BUTT WELDS COMPLETELY AROUND THE OUTER PERIPHERY OF THE ABUTTING SURFACES. WELDS WHICH WILL BE IN CONTACT WITH THE SEAL AND/OR ANCHOR PLATES SHALL BE GROUND SMOOTH.
6. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.
7. ELASTOMERIC COMPRESSION SEALS SHALL BE WATSON-BOWMAN ACME WJ-200, D.S. BROWN C-V 2000, ERIE METAL SPECIALTIES BR200 OR APPROVED EQUAL.
8. CONTINUOUS STRIP SEALS SHALL BE AS MANUFACTURED BY WATSON-BOWMAN ACME, D.S. BROWN OR APPROVED EQUAL, AND SHALL BE THE SIZE AS SPECIFIED. SEE STRIP SEAL SELECTION TABLE.
9. DETAILS AT DIAPHRAGMS SHOWN, DETAILS AT BEAMS OR GIRDERS SIMILAR.
10. TRANSVERSE JOINTS IN COMPRESSION SEAL ARMOR AND VERTICAL LEGS OF EXTRUSIONS SHALL HAVE COMPLETE PENETRATION BUTT WELDS. WELDS WHICH WILL BE IN CONTACT WITH SEALS SHALL BE GROUND FLUSH.
11. ARMOR STEEL COATING: FINISHED STEEL ASSEMBLY SHALL BE METALIZED, SEE SPECIAL PROVISIONS.

NOTE

FOR SECTIONS B-B & D-D AND DETAIL A, SEE OTC STANDARD DRAWING DKJ-2.

TABLE A

STRIP SEAL SIZE	STRIP SEAL JOINT OPENING						
	TEMPERATURE °F						
	30	40	50	60	70	80	90
3"	2 1/4"	2 1/8"	2"	1 7/8"	1 3/4"	1 5/8"	1 1/2"
4"	2 5/8"	2 1/2"	2 1/2"	2 3/8"	2 1/4"	2 1/8"	2"
5"	2 7/8"	2 3/4"	2 3/4"	2 5/8"	2 5/8"	2 1/2"	2 3/8"

SECTION A-A (COMPRESSION SEAL)

SECTION A-A (STRIP SEAL)
WATSON-BOWMAN ACME TYPE M, OR D.S. BROWN TYPE SSCM EXTRUSIONS SHOWN.

OHIO TURNPIKE COMMISSION

DECK JOINT DETAILS
CELLULAR ABUTMENTS

DATE: JUNE 25, 1997 | SCALE: N.T.S.

O.T.C. STANDARD DRAWING DJ-1

CAD FILE NAME: K:\OTCSL.STD\DJ-1

SECTION B–B (STRIP SEAL)

• SEE TABLE B FOR VALUE

SECTION B–B (COMPRESSION SEAL)

DETAIL A

NOTE: FOR JOINT DETAILS IN SIDEWALK SEE OTC STANDARD DRAWING DJ–3

NOTES

1. THE SPLIT EXTRUSION SHOWN IS A NORMAL EXTRUSION WHICH HAS BEEN MODIFIED. AT JOINT UPTURNS, ESPECIALLY ON SKEWED BRIDGE DECKS, THE USE OF SPLIT EXTRUSIONS MAY BE NECESSARY TO ENSURE GOOD SEAL INSTALLATION. ON SHOP DRAWINGS, WHERE THE SPLIT EXTRUSION IS NOT USED, THE SEAL MANUFACTURER OR HIS AGENT WARRANTS TO THE CHIEF ENGINEER THAT THE FURNISHED CONFIGURATION WILL PROVIDE FOR READY INSTALLATION AND REPLACEMENT OF THE SEAL.

2. SECTION F–F & G–G – THE BENT STEEL PLATES SHALL BE A–36 STEEL, GALVANIZED IN ACCORDANCE WITH ITEM 711.02.

   SHOP DRAWINGS SHALL BE SUBMITTED PER CMS 501.05.

   BASIS OF PAYMENT: THE UNIT PRICE SHALL INCLUDE ALL MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS TO FURNISH AND INSTALL THE BENT PLATES. PAYMENT WILL BE MADE AT THE UNIT PRICE BID PER POUND FOR ITEM 513, PARAPET PLATES, AS PER PLAN.

TABLE B

	SKEW ANGLE	
	<10°	10° – 45°
d	3/4" MIN	3/4"
x	6 15/16"	7 1/2"
h	10"	10"

STRIP SEAL SELECTION TABLE		
SEAL MOVEMENT RATING (SIZE)	MANUFACTURER & DESIGNATION •	
	THE D.S. BROWN COMPANY	WATSON–BOWMAN & ACME CORP.
3"	300L	SE–300
4"	400L	SE–400
5"	500L	SE–500

• OR APPROVED EQUAL

SECTION C–C

SECTION D–D

SECTION E–E

DETAIL – ALIGNMENT BRACKET

⊙ TEMPORARY WELD TO BE REMOVED AND GROUND SMOOTH IN FIELD. LOOSEN TEMPORARY JOINT ARMOR AFTER INITIAL SET OF CONCRETE, PREFERABLY NOT LATER THAN TWO HOURS AFTER CONCLUSION OF CONCRETE PLACEMENT.

DETAIL – ALIGNMENT BRACKET

SECTION F–F

PLAN – SKEWS > 45°

SECTION G–G

• DIMENSION SET EQUAL TO STRIP SEAL JOINT OPENING AT TIME OF INSTALLATION

OHIO TURNPIKE COMMISSION

DECK JOINT DETAILS

DATE: NOVEMBER 11, 1997 | SCALE: N.T.S.

O.T.C. STANDARD DRAWING DJ–2

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-36	YIELD STRESS = 36 KSI
	ASTM	A-572, A-588	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] = $0.75 \left(\frac{Fy\ I}{d} \right)$

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:

ASTM	A-36	1" DIAMETER HIGH STRENGTH BOLTS	ASTM	A-325
ASTM	A-572, A-588	1 1/8" DIAMETER HIGH STRENGTH BOLTS	ASTM	A-325

SPLICE MATERIAL WEIGHT PLUS THE WEIGHT OF FILLS, WHERE REQUIRED, SHALL BE INCLUDED WITH THE STRUCTURAL STEEL QUANTITY FOR PAYMENT.

FABRICATION AND ASSEMBLY: BEAM ENDS AT SPLICES SHALL BE CUT AND FIT AS PER PLAN. THE OPENING BETWEEN BEAM ENDS AFTER ASSEMBLY SHALL NOT EXCEED 1/4".

FILLS SHOWN ON THE PROJECT PLANS AND SHOP DRAWINGS SHALL BE DIMENSIONED TO THE NEAREST 1/16 INCH IN THICKNESS, BUT NOT LESS THAN 1/8 INCH THICK, BASED ON THE DIMENSIONS FOR DETAILING AND INTENDED RELATIVE POSITION OF THE ABUTTING FLANGES AND WEBS TO BE SPLICED. HOWEVER, IN THE FINAL SHOP ASSEMBLY, FILLS SHALL BE FURNISHED WITH THICKNESSES SUFFICIENT TO COMPENSATE FOR ANY MISALIGNMENT OF ABUTTING FLANGES AND WEBS DUE TO STANDARD ROLLING MILL TOLERANCES. THE ACTUAL FILLS USED IN THE SPLICE SHALL BE SUCH AS TO COMPENSATE FOR DIFFERENCES IN TOTAL THICKNESS OR RELATIVE POSITIONS OF MORE THAN 1/16 INCH.

VERTICAL CLEARANCE: FOR GRADE SEPARATION STRUCTURES AN ALLOWANCE OF 3/4 INCHES PLUS THE THICKNESS OF THE OUTSIDE FLANGE SPLICE PLATE SHALL BE USED IN COMPUTING THE ACTUAL VERTICAL CLEARANCE UNDER A BEAM SPLICE.

DESIGN AGENCY
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

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

REVISIONS	DESIGNED	DRAWN	CHECKED	REVIEWED
	GEA	SAM	SAM	

BS-1-93

STANDARD
BOLTED BEAM SPLICE
FOR STEEL BEAM BRIDGES

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	17½x⅝x4'-2"	7x⅝x4'-2"	64	7	3½	2 5/16	3	7⅛	B	33¼x⅜x20	60	960
W40X249	B	15½x⅝x4'-2"	6x⅝x4'-2"	64	7	3½	2 5/16	2	7⅛	B	33¼x⅜x20	60	890
W40X244	B	17½x9/16x4'-2"	7x9/16x4'-2"	64	7	3½	2 5/16	3	7⅛	B	33¼x⅜x20	60	910
W40X221	B	17½x½x3'-2"	7x½x3'-2"	48	5	3½	2 5/16	3	7⅛	B	33¼x⅜x20	60	720
W40X215	B	15½x9/16x4'-2"	6x9/16x4'-2"	64	7	3½	2 5/16	2	7⅛	B	33¼x½x20	60	820
W40X199	B	15½x½x3'-2"	6x½x3'-2"	48	5	3½	2 5/16	2	7⅛	B	33¼x½x20	60	650
W40X192	B	17½x⅜x3'-2"	7x⅜x3'-2"	48	5	3½	2 5/16	3	7⅛	B	33¼x⅜x20	60	630
W40X183	A	11½x⅝x2'-8"	4x⅝x2'-8"	40	4	3½	2 5/16	-	7⅛	B	33¼x½x20	60	560
W40X167	A	11½x½x2'-2"	4x½x2'-2"	32	3	3½	2 5/16	-	7⅛	B	33¼x½x20	60	470
W40X149	A	11½x7/16x2'-2"	4x7/16x2'-2"	32	3	3½	2 3/8	-	7	B	33¼x½x20	60	460
W36X300	B	16x¾x6'-3½"	6½x¾x6'-3½"	80	9	3¾	2 5/16	2½	7	C	31x13/16x26	80	1510
W36X280	B	16x11/16x5'-½"	6½x11/16x5'-½"	64	7	3¾	2 5/16	2½	7	B	31x11/16x20	60	1120
W36X260	B	16x⅝x5'-½"	6½x⅝x5'-½"	64	7	3¾	2¼	2½	7	B	31x11/16x20	60	1060
W36X245	B	16x9/16x5'-½"	6½x9/16x5'-½"	64	7	3¾	2 5/16	2½	6⅞	B	31x⅝x20	60	970
W36X230	B	16x7/16x5'-½"	6½x7/16x5'-½"	64	7	3¾	2 5/16	2½	6⅞	B	31x⅝x20	60	940
W36X210	A	12x⅝x3'-0"	4½x⅝x3'-0"	40	4	3½	2 9/16	-	7	B	31x11/16x20	60	670
W36X194	A	12x9/16x3'-0"	4½x9/16x3'-0"	40	4	3½	2⅝	-	6⅞	B	31x⅝x20	60	620
W36X182	A	12x9/16x3'-0"	4½x9/16x3'-0"	40	4	3½	2⅝	-	6⅞	B	31x⅝x20	60	600
W36X170	A	12x½x2'-5"	4½x½x2'-5"	32	3	3½	2 9/16	-	6⅞	B	31x9/16x20	60	510
W36X160	A	12x½x2'-5"	4½x½x2'-5"	32	3	3½	2⅝	-	6¾	B	31x9/16x20	60	500
W36X150	A	11¾x7/16x2'-5"	4½x7/16x2'-5"	32	3	3½	2⅝	-	6¾	A	31x½x14	40	380
W36X135	A	11¾x7/16x1'-10"	4½x7/16x1'-10"	24	2	3½	2⅝	-	6¾	A	31x7/16x14	40	310
W33X263	B	15½x11/16x4'-9"	6½x11/16x4'-9"	64	7	3½	2 3/16	2½	6⅜	C	28x13/16x26	72	1150
W33X241	B	15½x⅝x4'-9"	6½x⅝x4'-9"	64	7	3½	2¼	2½	6⅜	C	28x13/16x26	72	1090
W33X221	B	15½x9/16x4'-9"	6½x9/16x4'-9"	64	7	3½	2 3/16	2½	6⅜	B	28x11/16x20	54	890
W33X201	B	15½x½x3'-7"	6½x½x3'-7"	48	5	3½	2¼	2½	6¼	B	28x⅝x20	54	680
W33X169	A	11x9/16x3'-0"	4½x9/16x3'-0"	40	4	3½	2 3/8	-	6¾	B	28x⅝x20	54	570
W33X152	A	11x½x2'-5"	4½x½x2'-5"	32	3	3½	2 1/16	-	6¾	B	28x9/16x20	54	460
W33X141	A	11x7/16x2'-5"	4½x7/16x2'-5"	32	3	3½	2 1/16	-	6⅝	B	28x9/16x20	54	460
W33X130	A	11x7/16x1'-10"	4½x7/16x1'-10"	24	2	3½	2 1/16	-	6⅝	A	28x½x14	36	300
W33X118	A	11x⅜x1'-10"	4½x⅜x1'-10"	24	2	3½	2 1/16	-	6⅝	A	28x7/16x14	36	280
W30X211	B	15x9/16x5'-½"	6x9/16x5'-½"	64	7	3½	2 1/16	2	6¼	B	25x¾x20	48	910
W30X191	A	15x½x3'-7"	6x½x3'-7"	48	5	3½	3 1/16	-	8⅛	B	25x11/16x20	48	670
W30X173	A	14¾x½x3'-0"	6x½x3'-0"	40	4	3½	3 1/16	-	8⅛	B	25x⅝x20	48	570
W30X148	A	10x9/16x2'-5"	4x9/16x2'-5"	32	3	3½	2¼	-	6	B	25x⅝x20	48	460
W30X132	A	10x½x2'-5"	4x½x2'-5"	32	3	3½	2 3/16	-	6⅛	B	25x9/16x20	48	420
W30X124	A	10x7/16x1'-10"	4x7/16x1'-10"	24	2	3½	2¼	-	6	B	25x9/16x20	48	370
W30X116	A	10x7/16x1'-10"	4x7/16x1'-10"	24	2	3½	2¼	-	6	A	25x½x14	32	280
W30X108	A	10x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2¼	-	6	A	25x7/16x14	32	260
W30X99	A	10x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2¼	-	6	A	25x7/16x14	32	260
W30X90	A	10x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2 3/16	-	6	A	25x7/16x14	32	260
W27X194	A	14x9/16x3'-7"	5½x9/16x3'-7"	48	5	3½	3¼	-	7½	C	22x13/16x26	56	770
W27X178	A	14x½x3'-7"	5½x½x3'-7"	48	5	3½	3¼	-	7⅝	B	22x¾x20	42	630
W27X161	A	14x½x3'-0"	5½x½x3'-0"	40	4	3½	3¼	-	7½	B	22x11/16x20	42	540
W27X146	A	13¾x7/16x3'-0"	5½x7/16x3'-0"	40	4	3½	3¼	-	7½	B	22x⅝x20	42	500
W27X129	A	10x½x2'-5"	4x½x2'-5"	32	3	3½	2 1/16	-	5⅞	B	22x⅝x20	42	410
W27X114	A	10x7/16x1'-10"	4x7/16x1'-10"	24	2	3½	2⅛	-	5⅞	B	22x9/16x20	42	330
W27X102	A	10x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2 1/16	-	5⅞	A	22x½x14	28	250
W27X94	A	9¾x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2 1/16	-	5⅞	A	22x7/16x14	28	240
W27X84	A	9¾x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2 1/16	-	5⅞	A	22x7/16x14	28	240
W24X162	A	12½x9/16x3'-0"	5x9/16x3'-0"	40	4	3½	2 15/16	-	7⅛	C	19x13/16x26	48	620
W24X146	A	12½x½x3'-0"	5x½x3'-0"	40	4	3½	2⅞	-	7⅛	B	19x¾x20	36	490

PARTIAL SECTION
(AT ℄ OF BEAM SPLICE)

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

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

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

BEAM SPLICE DETAIL
WEB SPLICE - TYPE C

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
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
Richard L. Engel
ENGINEER OF BRIDGES
12-12-94
DATE

REVIEWED
CHECKED SAM
DESIGNED GEA
DRAWN SAM
REVISIONS

BS-1-93

STANDARD
BOLTED BEAM SPLICE
FOR STEEL BEAM BRIDGES
(FOR 36 KSI STEEL)

2/3

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	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	17½x⅜x3'-7"	7x⅜x3'-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	2⅛	-	7	B	33x9/16x21½	54	500
W36X300	B	16x¾x6'-3½"	6½x¾x6'-3½"	80	9	3¾	2 5/16	2½	7	C	31x7/8x28¼	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	12x15/16x4'-2"	4½x15/16x4'-2"	56	6	3½	2 9/16	-	7⅛	C	31x7/8x28¼	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 9/16	-	7	C	31x13/16x28¼	72	1010
W36X230	B	16x⅝x5'-½"	6½x⅝x5'-½"	64	7	3¾	2 9/16	2½	6⅞	C	31x11/16x28¼	72	1100
W36X210	A	12x⅝x3'-7"	4½x⅝x3'-7"	48	5	3½	2 5/16	-	7	C	31x13/16x28¼	72	910
W36X194	A	12x⅝x3'-0"	4½x⅝x3'-0"	40	4	3½	2⅝	-	6⅞	C	31x¾x28¼	72	780
W36X182	A	12x9/16x3'-0"	4½x9/16x3'-0"	40	4	3½	2⅝	-	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	2⅝	-	6¾	B	31x9/16x21½	54	510
W36X135	A	11⅞x7/16x2'-5"	4½x7/16x2'-5"	32	3	3½	2⅝	-	6¾	B	31x½x21½	54	460
W33X263	B	15½x11/16x5'-11"	6½x11/16x5'-11"	80	9	3½	2 7/16	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 7/16	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 7/16	-	6¾	B	29⅜x½x21½	48	470
W33X141	A	11x½x2'-5"	4½x½x2'-5"	32	3	3½	2 7/16	-	6⅝	B	29⅜x½x21½	48	460
W33X130	A	11x7/16x2'-5"	4½x7/16x2'-5"	32	3	3½	2 7/16	-	6⅝	B	29⅜x½x21½	48	440
W33X118	A	11x⅜x1'-10"	4½x⅜x1'-10"	24	2	3½	2 7/16	-	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	26½x9/16x28¼	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 3/16	-	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	-	7⅝	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 11/16	-	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 7/16	-	5⅞	B	24x7/16x21½	36	310
W27X94	A	9⅞x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2 11/16	-	5⅞	B	24x7/16x21½	36	300
W27X84	A	9⅞x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2 11/16	-	5⅞	A	24x⅜x14¾	24	230
W24X162	A	12½x9/16x3'-7"	5x9/16x3'-7"	48	5	3½	2 15/16	-	7⅛	C	20⅞x¾x28¼	48	690
W24X146	A	12½x½x3'-0"	5x½x3'-0"	40	4	3½	2⅞	-	7⅛	B	20⅞x⅝x21½	36	510

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

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

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

BEAM SPLICE DETAIL
WEB SPLICE - TYPE C

PARTIAL SECTION
(AT ℄ OF BEAM SPLICE)

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
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
Richard L. Sprague
ENGINEER OF BRIDGES
12-18-94
DATE

REVIEWED
CHECKED SAM
DESIGNED GEA
DRAWN SAM
REVISIONS

BS-1-93

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

3/3

ELEVATIONS OF FIXED BEARING

SEE TABLE FOR ADDITIONAL DIMENSIONS

	FIXED BEARING NO.	FIXED BEARINGS DIMENSIONS (INCHES) A	B	C	D	E	F	G	H	K	DIA.	WEIGHT EA. (LBS.)	MAXIMUM LOAD (LBS.)
①	F - 50	6	6	1 1/2	3	1 1/4	8	16	1 1/2	5 1/8	2	100	50,000
①	F - 100	7	9	1 3/4	4	1 1/2	9	18	1 1/2	5 5/8	2	143	100,000
	F - 150	9	9	2 1/2	5	1 1/2	11	20	2	6 7/8	2 1/2	244	150,000
	F - 200	10	10	3	6	2	11	22	2	7 7/8	2 1/2	300	200,000
	F - 250	11	10	3 1/2	7	2	12	24	2 1/2	8 7/8	3	400	250,000
	F - 300	12	11	3 3/4	8	2 1/2	14	25	2 1/2	9 5/8	3	502	300,000
②	F - 350	12	11	3 3/4	8	2 1/2	16	25	2 1/2	9 5/8	3	540	350,000
②	F - 400	12	12	3 3/4	8	2 1/2	18	26	2 1/2	9 5/8	3	610	400,000

① ONLY 2 ANCHOR RODS REQUIRED, PLACED IN DIAGONALLY OPPOSITE CORNERS OF THE MASONRY PLATE.

② BEARING STIFFENERS ARE REQUIRED ON BOTH SIDES OF THE BEAM OR GIRDER WEB ABOVE.

WEIGHTS GIVEN ARE FOR ONE COMPLETE BEARING, INCLUDING SHEET LEAD AND ANCHOR RODS.

BEARING PIN DETAIL

PLAN VIEW OF TOP OF PIER

SHOWING MASONRY PLATE FOR BRIDGE ON SKEW

MASONRY PLATE DIMENSIONS SHOWN IN TABLE MAY BE USED PROVIDED CLIPPED CORNERS DO NOT REDUCE THE BEARING AREA OF THE PLATE BY MORE THAN 5%. BEARINGS WITH CLIPPED MASONRY PLATES SHALL BE IDENTIFIED ON THE PLANS WITH THE WORD "MODIFIED". THUS : "F - 300 MODIFIED"

NOTES

DESIGN SPECIFICATIONS : THIS STANDARD DRAWING CONFORMS TO THE REQUIREMENTS OF "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1977, INCLUDING THE 1978, 1979, 1980 AND 1981 INTERIMS TO THE ABOVE AND THE OHIO SUPPLEMENT TO THESE SPECIFICATIONS, EXCEPT THAT THE MASONRY PLATES FOR THE BEARINGS ARE DESIGNED ON THE BASIS OF AN ALLOWABLE BENDING STRESS OF 30,000 P.S.I. ASSUMING UNIFORM DISTRIBUTION OF BEARING ON THE CONCRETE.

STEEL PLATES : IF THE SUPERSTRUCTURE MEMBERS ARE A36 STEEL THE PLATES SHALL BE THE SAME MATERIAL AND SHALL BE PAINTED IN ACCORDANCE WITH THE SAME SPECIFICATIONS. IF THE SUPERSTRUCTURE MEMBERS ARE A588 STEEL, UNPAINTED, THE PLATE ELEMENT ABOVE THE BEARING PIN SHALL ALSO BE A588 STEEL. THE PLATE ELEMENTS BELOW THE BEARING PIN MAY BE EITHER A36, GALVANIZED BEFORE WELDING, OR A588 UNPAINTED, BUT BOTH PLATES SHALL BE OF THE SAME MATERIAL.

BEARING PINS : IF THE SUPERSTRUCTURE MEMBERS ARE A36 STEEL THE PINS SHALL BE MADE FROM STOCK MEETING THE REQUIREMENTS OF 711.04 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, AND SHALL BE PAINTED IN ACCORDANCE WITH THE SAME SPECIFICATIONS AS THOSE FOR PAINTING THE SUPERSTRUCTURE MEMBERS. IF THE SUPERSTRUCTURE MEMBERS ARE A588 STEEL AND THE BOTTOM PLATES ARE A36, GALVANIZED, THE PINS SHALL BE AS ABOVE, GALVANIZED INSTEAD OF PAINTED. IF THE BOTTOM PLATES ARE A588 THE PINS SHALL ALSO BE A588. BEARING PINS MAY BE FABRICATED FROM ONE PIECE OF STOCK OR FROM ROD STOCK AND PLATES, WELDED AS SHOWN ON THESE DETAILS.

SURFACE FINISH : SURFACE FINISHES SHOWN ON THESE DETAILS SHALL BE MINIMUM BEFORE GALVANIZING. A 500 FINISH OR SMOOTHER SHALL BE USED WHERE NOT OTHERWISE NOTED.

ROADWAY GRADE : IF THE ROADWAY GRADE EXCEEDS 2% THE UPPER LOAD PLATE OF THE BEARING SHALL BE BEVELED TO MATCH THE GRADE. DIMENSION C SHALL BE MAINTAINED AT THE CENTER OF THE PLATE.

LATERAL EXPANSION : ALL BEARINGS MUST BE ACCURATELY PLACED SO THAT PROPER CLEARANCE WILL BE PROVIDED AT ALL BEARINGS FOR LATERAL EXPANSION OF THE SUPERSTRUCTURE. IF THE SUPERSTRUCTURE EXCEEDS 60' IN WIDTH THE 1/8" CLEARANCE SHOWN AT EACH END OF THE BEARING PIN SHALL BE INCREASED. A CLEARANCE OF 1/4" AT EACH END WILL BE ADEQUATE FOR A SUPERSTRUCTURE WIDTH UP TO 120'.

BEARING ANCHOR RODS : AT THE OPTION OF THE CONTRACTOR, THE BEARING ANCHOR RODS (OR FORMED HOLES), LOCATED AND SUPPORTED BY TEMPLATES, MAY BE CAST IN PLACE.

BRIDGE SEAT REINFORCING : PROJECT PLAN SHALL INCLUDE A PLAN VIEW OF THE SEAT AREA FOR THE FIXED BEARING SHOWING THE OUTLINE OF THE MASONRY PLATE, THE ANCHOR RODS AND THE MAIN REINFORCING BARS IN THE TOP OF THE BRIDGE SEAT. ADEQUATE DIMENSIONS SHALL BE PROVIDED TO ENSURE THAT THERE WILL BE NO INTERFERENCE BETWEEN THE ANCHOR RODS AND THE RE-BARS, AND THAT THE SEAT AREA WILL ACCOMODATE THE BEARING.

REVISIONS

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

STANDARD

FIXED BEARINGS
FOR STEEL BEAM AND GIRDER BRIDGES

APPROVED : Robert B. Pfeifer ENGINEER OF BRIDGES
DATE : 5-10-82
DRAWING NO. FB-1-82

PREPARED	TRACED	CHECKED	REVIEWED
DWI BFG	REF	FFE	WJJ

STRUCTURAL STEEL BOLSTER

See table below for additional dimensions.

STRUCTURAL STEEL ROCKER

See table below for additional dimensions.

Bolster No.	Rocker No.	Dimensions (inches)													Weight each (lb.)		Maximum Load (lb.)
		A	B	C	D	F	G	H	K	L	M	R	T	Y	Bolster	Rocker	
	R-75	2 1/2	8	2 1/2	1 3/4	1/2	7	9 5/8	9	18	16	5 1/2	1 1/2	1 3/16		205	75,000
B-100	R-100	2 1/2	10	2 1/2	2	1/2	7 1/2	10 5/8	9	19	17	6 1/2	1 1/2	1 3/16	225	250	100,000
B-125	R-125	3	11	3	2	1/2	8	12 1/8	10 1/2	20	18	7 1/2	1 1/2	1 7/16	295	315	125,000
B-150	R-150	3	12	3	2 1/4	1/2	8 1/2	13 3/8	11 1/2	22	19	8 1/2	1 3/4	1 7/16	360	400	150,000
B-175	R-175	3	14	3 1/2	2 1/2	1/2	9	15 1/8	12	23	20	9 1/2	2	1 7/16	455	505	175,000
B-200	R-200	3	16	3 1/2	2 3/4	5/8	9	16 3/8	12	24	21	10 1/2	2 1/4	1 7/16	540	605	200,000
B-225	R-225	3	17	3 1/2	2 3/4	5/8	9	16 7/8	13	25	22	11	2 1/4	1 7/16	590	665	225,000
B-250	R-250	3 1/2	18	3 1/2	2 3/4	3/4	10	17 5/8	13	26	23	11 1/2	2 1/2	1 11/16	695	775	250,000
B-275	R-275	3 1/2	19	3 1/2	3 1/4	3/4	12	18 3/8	14	27	24	12	2 3/4	1 11/16	800	945	275,000
B-300	R-300	3 1/2	20	3 1/2	3 1/4	3/4	12	19 1/8	14	28	25	12 1/2	3	1 11/16	895	1050	300,000

Weights given are for one rocker or bolster complete (including sheet lead, anchor bolts and washers).

TOP BEARING DETAIL

DOWEL DETAIL

DESIGN SPECIFICATIONS: This standard drawing conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated October 1, 1951, together with revisions thereof dated July 15, 1952, April 1, 1954 and February 1, 1955.

LIMITATION: This rocker and bolster design shall not be used where the anticipated movement is in excess of 2 inches.

REVISIONS	STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES
2-2-59	STANDARD ROCKERS AND BOLSTERS FOR STEEL BEAM AND GIRDER BRIDGES REACTIONS 75,000 lb. TO 300,000 lb.

APPROVED: Richard Dott
DATE: 3-1-55 ENGINEER OF BRIDGES

PREPARED	TRACED	CHECKED	REVIEWED	DRAWING NUMBER
HPB CFB JCM WHR	JVP	GEM GPH	CSO BFG CHA AJF DHO	RB-1-55