

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

**MOT-235-1.77R**

CITY OF HUBER HEIGHTS  
MONTGOMERY COUNTY

PROJECT DESCRIPTION

REPLACE DETERIORATED NON-COMPOSITE BOX BEAM SUPERSTRUCTURE WITH COMPOSITE BOX BEAM SUPERSTRUCTURE ON MODIFIED SEMI-INTEGRAL ABUTMENTS WITH MINOR APPROACH WORK.

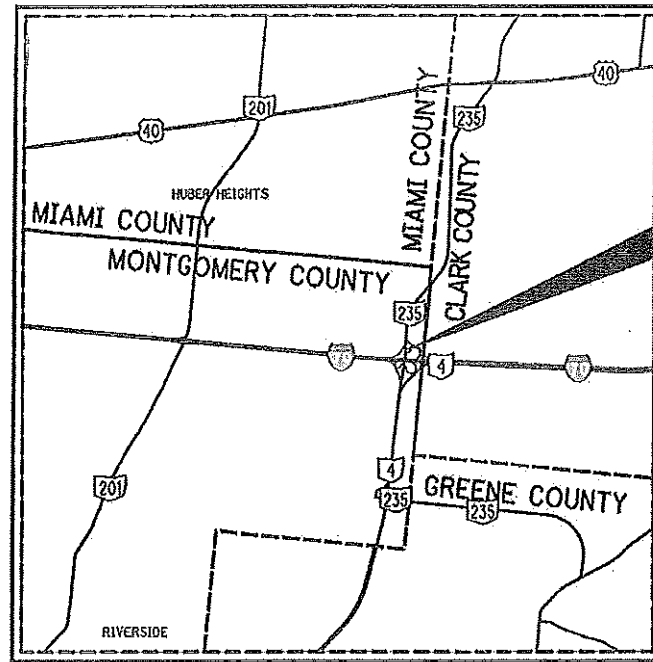
PROJECT EARTH DISTURBED AREA: 0.18 ACRES  
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.27 ACRES  
NOTICE OF INTENT EARTH DISTURBED AREA: N/A (NOI NOT REQUIRED)

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2016 SPECIFICATIONS

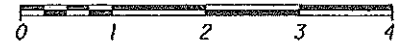
THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.



LOCATION MAP

LATITUDE: N 39° 52' 02" LONGITUDE: W 84° 03' 19"

SCALE IN MILES



PORTION TO BE IMPROVED	-----
INTERSTATE HIGHWAY	=====
FEDERAL ROUTES	-----
STATE ROUTES	-----
COUNTY & TOWNSHIP ROADS	-----
OTHER ROADS	-----

DESIGN DESIGNATION

CURRENT ADT (2018)	14000
DESIGN YEAR ADT (2038)	15000
DESIGN HOURLY VOLUME (2038)	1400
DIRECTIONAL DISTRIBUTION	57%
TRUCKS (24 HOUR B&C)	10%
DESIGN SPEED	60 MPH
LEGAL SPEED	60 MPH

DESIGN FUNCTIONAL CLASSIFICATION:

URBAN PRINCIPAL ARTERIAL  
NHS PROJECT ..... NO

DESIGN EXCEPTIONS

DESIGN FEATURE	APPROVAL DATES	SHEET NUMBERS
DEGREE OF CURVE	10/31/17	16
HORIZONTAL SSD	10/31/17	16

INDEX OF SHEETS:

TITLE SHEET	1
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**UNDERGROUND UTILITIES**  
CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

**OHIO Utilities Protection SERVICE**  
Call Before You Dig  
1-800-382-2764  
(Non-members must be called directly)

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

PLAN PREPARED BY:  
OHIO DEPARTMENT OF TRANSPORTATION  
DISTRICT 7  
1001 ST. MARY'S AVE  
SIDNEY, OH 45365

ENGINEERS SEAL:



SIGNED: Daniel Herlian  
DATE: 11/2/17

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-3.1	7/18/14	BR-1.13	1/17/14	800-2016 10/20/17	OEPA 2/10/14
BP-5.1	7/19/13	PSBD-2-07	1/21/11	809 7/21/17	DEMO
		VPF-1-80	7/17/15	821 4/20/12	
DM-1.1	7/21/17			832 1/17/14	
DM-1.2	1/18/13	MT-95.30	7/21/17	844 7/17/15	
DM-4.1	1/15/16	MT-98.29	1/20/17	921 4/20/12	
DM-4.4	1/15/16	MT-101.60	1/20/17		
		MT-105.10	7/19/13		
MGS-1.1	7/21/17				
MGS-2.1	7/19/13	TC-41.20	10/18/13		
MGS-3.1	7/21/17	TC-42.20	10/18/13		
MGS-3.2	1/18/13	TC-52.10	10/18/13		
MGS-6.1	7/19/13	TC-52.20	7/21/17		
		TC-61.30	1/20/17		
AS-1-15	7/17/15	TC-65.10	1/17/14		
AS-2-15	7/17/15	TC-65.11	7/21/17		

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND RAMP AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEETS 5-10.

APPROVED: *Randy Chevaley*, P.E. P.S. /RPH  
DATE: 11/2/17 DISTRICT DEPUTY DIRECTOR

APPROVED: *James W. ...*  
DATE: 11-27-17 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO.  
E140(969)

PID NO.  
97242

CONSTRUCTION PROJECT NO.

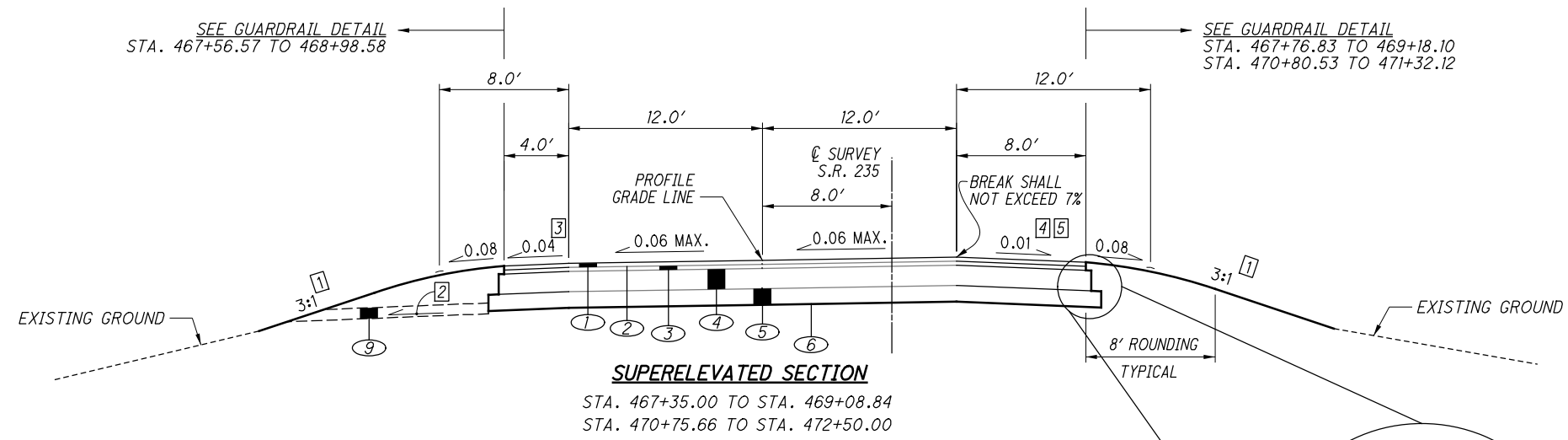
RAILROAD INVOLVEMENT  
NONE

MOT-235-1.77R

MOT - SR 235-01.77 R  
180146 PID - 97242  
Dist 7 2/15/2018  
Contract Proposal Available @  
www.contracts.dot.state.oh.us/home  
Conformed Set

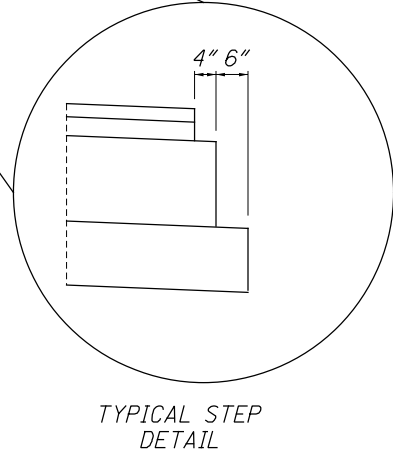
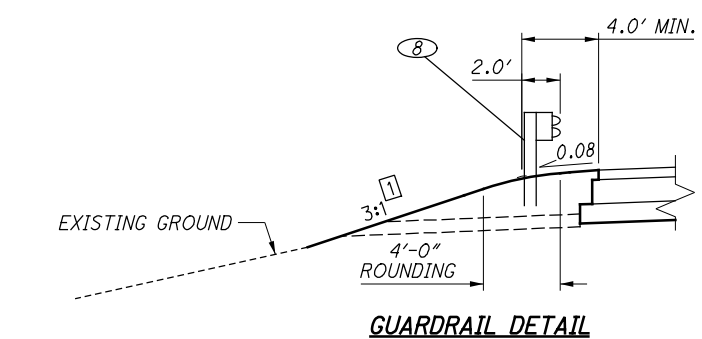
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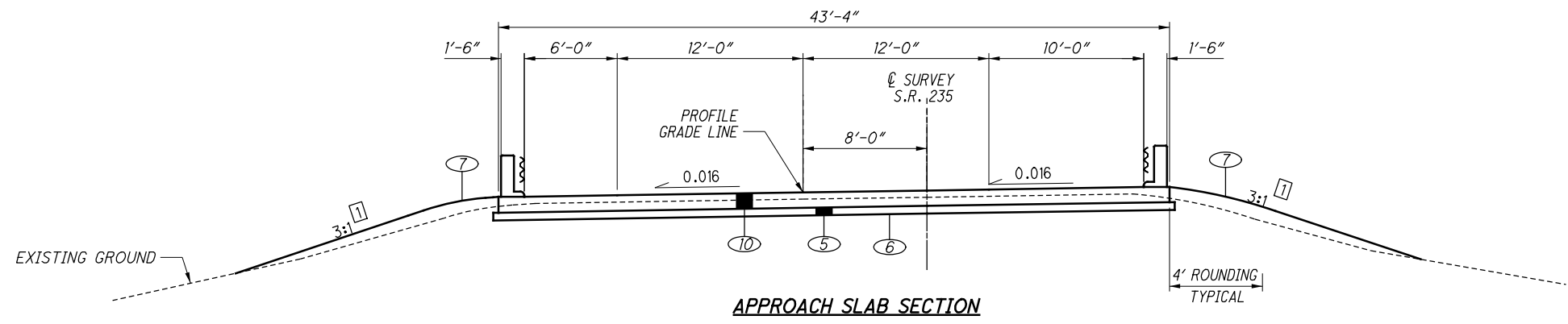


- LEGEND**
- ① ITEM 442 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE A, (448), AS PER PLAN
  - ② ITEM 407 TACK COAT (APPLIED AT A RATE OF 0.055 GAL/SY)
  - ③ ITEM 442 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE A, (448), AS PER PLAN
  - ④ ITEM 302 7 1/2" ASPHALT CONCRETE BASE, PG64-22
  - ⑤ ITEM 304 6" AGGREGATE BASE
  - ⑥ ITEM 204 SUBGRADE COMPACTION
  - ⑦ ITEM 659 SEEDING AND MULCHING (SEE GENERAL NOTES)
  - ⑧ ITEM 606 GUARDRAIL, TYPE MGS WITH LONG POSTS
  - ⑨ ITEM 605 AGGREGATE DRAINS
  - ⑩ ITEM 526 REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=12")

- ① UNLESS OTHERWISE SHOWN ON CROSS SECTIONS.
- ② 0.08 DESIRABLE, 0.04 MINIMUM.
- ③ 0.04 OR RATE OF SUPERELEVATION, IF GREATER.
- ④ VARIES, 0.04 TO 0.01
- ⑤ PROVIDE 50 FT. TRANSITION FOR RIGHT SHOULDER CROSS SLOPE TO MATCH APPROACH SLAB SECTION (STA. 468+61.33 TO 469+11.33)



**EXISTING PAVEMENT BUILD-UP**  
 (A) 9"± ASPHALT CONCRETE  
 12"± OF AGGREGATE BASE  
 (BY RECORD PLANS, EXCLUDING OVERLAYS)



**LIMITING STATIONS**  
 STA. 469+08.84 TO STA. 469+23.84 = 15.0 FT.  
 STA. 469+23.84 TO STA. 470+60.66 = BRIDGE LIMITS  
 STA. 470+60.66 TO STA. 470+75.66 = 15.0 FT.

TYPICAL SECTIONS

MOT-235-1.77R

**ROUNDING**

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

**UTILITIES**

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

HIGHWAY LIGHTING	TRAFFIC CAMERA
ODOT - DISTRICT 7	BRYAN COMER, P.E.
1001 ST. MARYS AVE.	ODOT ITS LAB
SIDNEY, OHIO 45365	1606 WEST BROAD STREET
(937) 497-6897	COLUMBUS, OH 43223
JUSTIN YOH	614-387-4113
	cen.its.lab@dot.ohio.gov

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.

**UTILITY NOTIFICATION**

EVEN THOUGH ODOT IS LISTED AS A MEMBER OF THE OHIO UTILITIES PROTECTION SERVICE (OUPS), THE CONTRACTOR ON THIS PROJECT IS REQUIRED TO CONTACT ODOT DISTRICT 7 TRAFFIC DEPARTMENT AND ITS DIRECTLY SO THAT THE ODOT UTILITIES, LOCATED WITHIN THIS PROJECT, ARE MARKED.

THE CONTRACTOR SHALL NOTIFY DISTRICT 7 TRAFFIC AT (937)497-6841; ODOT ITS LAB AT (614)387-4113

THE ABOVE REQUIREMENTS ARE IN ADDITION TO SECTIONS 105.07 & 107.16 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS).

THE COST FOR THE ABOVE DESCRIBED WORK IS INCIDENTAL TO THE OVERALL BID PRICE OF THE PROJECT.

**ITS DOWNTIME**

SEE SUPPLEMENTAL SPECIFICATION 809 FOR DOWNTIME REQUIREMENTS OF ITS DEVICES.

**EXISTING PLANS**

- MOT-40R-23.41/CLA-40R-0.00 R/W PLANS (1955)
- MOT-70-22.72 / CLA-70-0.00 (1984) EXISTING STRUCTURE
- MOT-70-16.70 + VARIOUS VANDAL PROTECTION FENCE (1990)
- VAR-DAYTON SPRINGFIELD FREEWAY MANAGEMENT SYSTEM (ITS PROJECT) (2011)

MAY BE INSPECTED IN THE ODOT DISTRICT 7 OFFICE IN SIDNEY, OHIO.

**WORK LIMITS**

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

**CLEARING AND GRUBBING**

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

**SURVEYING PARAMETERS**

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET 16 AND 17 OF THE PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

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

**PROJECT CONTROL**

POSITIONING METHOD: VRS GPS OBSERVATION, DIFFERENTIAL LEVELING AND CONVENTIONAL TRAVERSE WITH TOTAL STATION.

MONUMENT TYPE: 5/8" REBAR WITH PLASTIC CAP INSCRIBE "EMHT TRAV"

**VERTICAL POSITIONING**

ORTHOMETRIC HEIGHT DATUM: NAVD88  
GEOID: GEOID12B

**HORIZONTAL POSITIONING**

REFERENCE FRAME: NAD83(2011)  
ELLIPSOID: GRS80  
MAP PROJECTION: LAMBERT CONFORMAL CONIC  
COORDINATE SYSTEM: OHIO STATE PLANE (SOUTH ZONE 3402)  
COMBINED SCALE FACTOR: 0.9999357368 (GROUND TO GRID)  
ORIGIN OF COORDINATE SYSTEM: 0, 0, 0

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

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

**AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS**

THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PRIVATE USE AIRPORT OR HELIPORT. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF 88 FT. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, COORDINATION WITH THE AIRPORT OWNER AND THE ODOT OFFICE OF AVIATION WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. FOR PRIVATE USE AIRPORTS OR HELIPORTS, COORDINATE WITH THE AIRPORT OWNER AND THE ODOT OFFICE OF AVIATION. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT, UNTIL COORDINATION IS MET AND DOCUMENTATION HAS BEEN FURNISHED TO THE PROJECT ENGINEER. IF COORDINATION IS NOT OBTAINED, THEN THE PROJECT ENGINEER WILL HAVE THE AUTHORITY TO PROVIDE RESTRICTIONS AS REQUIRED.

WRIGHT-PATTERSON AIR FORCE BASE  
U.S AIR FORCE  
DAYTON, OH 45433  
(937) 257-2131  
AIRFIELD MANAGER:  
ROMULO ALCANTARA  
(937) 257-6206

**ITEM 630 - SIGN, FLAT SHEET, AS PER PLAN**

THIS ITEM SHALL BE USED TO INSTALL A NEW STRUCTURE IDENTIFICATION SIGN ON THE CONCRETE PARAPET/GUARDRAIL. SEE THIS SHEET AND SHEET 16 FOR LOCATION OF SIGNS.

THE SIGN SIZE SHALL BE 24" X 4". THE SIGN SHALL BE ALUMINUM WITH NONREFLECTIVE WHITE SHEETING BACKGROUND AS PER CMS 730.20. LETTERS SHALL BE BLACK 2" HEIGHT, SERIES C STROKE WIDTH, AND SILK SCREENED AS PER CMS 730.22. SIGNS SHALL BE BOLTED TO THE GUARDRAIL BY USING TWO 5/16" DIAMETER BOLTS X 6" LONG AND TWO 5/16" NUTS. SIGNS SHALL BE FASTENED TO THE CONCRETE PARAPET BY USING TWO 5/16" DIAMETER BOLTS X 3" LONG TAP CONS OR EQUIVALENT.

PAYMENT SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO PERFORM THE ITEM OF WORK AS DESCRIBED ABOVE.

◦ MOT- 235 -0177R ◦

**STRUCTURE IDENTIFICATION SIGN**

**LOCATIONS:**

1. AT REAR ABUTMENT, RIGHT SIDE, ON CONCRETE PARAPET WALL, FACING ROADWAY
2. AT GUARDRAIL IN FRONT OF EAST COLUMN OF PIER 2

**ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE B**

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

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

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

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE B, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING REFLECTIVE SHEETING AND ALL RELATED HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

**ITEM 442 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE A, (448), AS PER PLAN**

THE ASPHALT BINDER TO BE USED IS PG64-22.

**ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E**

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

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

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

**SEEDING AND MULCHING**

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS AFFECTED BY EXCAVATION AS SHOWN ON THE CROSS SECTIONS:

SHEET NUMBER	ITEM 203 EXCAVATION	ITEM 203 EMBANKMENT	ITEM 659 SEEDING AND MULCHING
	CU. YD.	CU. YD.	SQ. YD.
18	6	1	19
19	70	14	105
20	71	19	201
21	25	15	89
22	1	3	28
23	47	13	145
24	78	4	175
25	29	1	39
TOTALS	327	70	801

659, REPAIR SEEDING AND MULCHING 40 SQ. YD.  
801 S.Y. X 0.05

659, COMMERCIAL FERTILIZER 0.11 TON  
801 S.Y. X 9 X (30/1000) X (1/2000)

659, WATER 4.3 M. GAL.  
801 S.Y. X 9 X 300 X 2 X (1/1000)

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

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CALCULATED  
DHC  
CHECKED  
RPH  
  
**GENERAL NOTES ( 1 OF 2 )**  
  
**MOT - 235 - 1.77R**  
  
3  
47

**ITEM 202, ANCHOR ASSEMBLY REMOVED, TYPE A, AS PER PLAN**

THE INTENT OF THIS ITEM IS TO REMOVE THE EXISTING TYPE A ANCHOR ASSEMBLIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING THE TYPE A, AND THE CONCRETE ANCHOR PAD COMPLETELY AND REMOVE FROM PROJECT SITE. THE CONTRACTOR SHALL BACKFILL THE VOID WITH SUITABLE BACKFILL MATERIAL THAT HAS BEEN APPROVED BY THE ENGINEER. ALL WORK, LABOR EQUIPMENT, MATERIAL, AND INCIDENTALS NECESSARY TO TO COMPLETE THIS ITEM OF WORK SHALL BE INCLUDED IN THE COST PER EACH, FOR ITEM 202, ANCHOR ASSEMBLY REMOVED, TYPE A, AS PER PLAN.

**ITEM 605, AGGREGATE DRAINS**

STATION	SIDE	LENGTH
467+65	LT.	22'
467+90	LT.	21'
468+15	LT.	17'
468+40	LT.	14'
468+65	LT.	11'
468+90	LT.	14'
470+75	LT.	12'
471+00	LT.	14'
471+25	LT.	15'
471+50	LT.	16'
471+75	LT.	18'
472+00	LT.	16'
TOTALS TO GENERAL SUMMARY		190'

CALCULATED
DHG
CHECKED
RPH

**GENERAL NOTES (2 OF 2)**

**MOT - 235 - 1.77R**

**ITEM 614, MAINTAINING TRAFFIC**

A MINIMUM OF ONE LANE OF TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 75 CONSECUTIVE CALENDAR DAYS, WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEET 7. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF \$1500 FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

MOT-235-01.77R BRIDGE WILL BE CLOSED FOR THIS PROJECT. TRAFFIC WILL BE DETOURED FOR S.R. 235 NORTH AND FOR THE IR-70 EAST TO SR 235 NORTH RAMP. THE DETOUR FOR THESE TWO CLOSURES WILL BE IR-70 EAST TO EXIT 44A (IR-675 SOUTH/CINCINNATI) TO EXIT 24 (SR 444/FAIRBORN/WPAFB AREA A) TO I-675 NORTH TO EXIT 26B (IR-70/SR-4 WEST).

DURING BEAM REMOVAL AND BEAM INSTALLATION, THE I-70 WEST EXIT RAMP TO S.R. 235/S.R. 4 SOUTH MAY BE CLOSED FROM 6:00 P.M. TO 3:00 A.M. THE DETOUR FOR THIS CLOSURE WILL BE I-70 WEST TO EXIT 38 (S.R. 201/HUBER HEIGHTS) TO I-70 EAST TO EXIT 41A (S.R. 235/S.R. 4 SOUTH/FAIRBORN).

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48 X 30 INCH ROAD CLOSED SIGNS, SIGN SUPPORTS, BARRICADES AND LIGHTS, AS DETAILED IN SCD MT-101.60 AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC:

- S.R. 235 NORTH EXIT RAMP TO I-70 WEST, INDIANAPOLIS
- I-70 EAST EXIT RAMP (EXIT 41) TO S.R. 235 NORTH, NEW CARLISLE (EXIT 41B)
- I-70 WEST EXIT RAMP (EXIT 41) TO S.R. 4/S.R. 235 SOUTH, DAYTON (BEAM REMOVAL/BEAM INSTALLATION)

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES OF THE PROPER TYPE AND LOCATION.

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

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

NOTICE OF CLOSURE SIGN TIME TABLE		
ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
RAMP & ROAD CLOSURES	>= 2 WKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HRS & < 2 WKS	7 CALENDAR DAYS PRIOR TO CLOSURE
	< 12 HRS	2 BUSINESS DAYS PRIOR TO CLOSURE

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

SR 235 WILL BE  
CLOSED MMM-DD  
FOR 75 DAYS  
INFO: 1-888-200-9919

RAMP WILL BE  
CLOSED MMM-DD  
FOR 75 DAYS  
INFO: 1-888-200-9919

W20-H13-60

W20-H13-60

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

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

**FLOODLIGHTING**

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

**NOTIFICATION OF TRAFFIC RESTRICTIONS**

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE SPECIAL HAULING PERMITS SECTION (Hauling.Permits@dot.ohio.gov) AND THE D7 PUBLIC INFORMATION OFFICER. THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION TIME TABLE		
ITEM	DURATION OF CLOSURE	NOTICE DUE TO D7 PIO
RAMP & ROAD CLOSURES	>= 2 WKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HRS & < 2 WKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 12 HRS	4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES AND RESTRICTIONS	>= 2 WKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WKS	5 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

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

**DUST CONTROL**

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

ITEM 616, WATER 1 M. GAL

**DETOUR SIGNING**

THE CONTRACTOR SHALL PROVIDE THE DETOUR SIGNING AS SHOWN ON SHEET 7 AND 9. PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT FOR ITEM 614 DETOUR SIGNING.

**COORDINATION OF WORK:**

MOT-235-1.77R PID 97242, D07-BH-FY18 PID 95833, AND CLA-70-3.10/3.12 PID 91731 PROJECT NO. 170040

THE CONTRACTOR IS ADVISED THAT CONSTRUCTION PROJECTS WITHIN OR NEAR THE WORK LIMITS OF THIS PLAN MAY IMPACT THE PROJECT SCHEDULE, SEQUENCE OF CONSTRUCTION AND/OR TRAFFIC CONTROL BETWEEN ADJACENT/OVERLAPPING WORKZONES. THE CONTRACTOR IS REQUIRED TO COORDINATE ALL MAINTENANCE OF TRAFFIC OPERATIONS WITH ADJACENT CONSTRUCTION PROJECTS. THIS IS A REQUIREMENT PER CMS 105.08.

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**MAINTENANCE OF TRAFFIC GENERAL NOTES (1 OF 2)**

**MOT-235-1.77R**

**ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN**

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE OFFICE OF MATERIALS MANAGEMENT WEB PAGE. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 800 FEET AND 650 FEET, RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH C&MS 614.03.

THE PROBABLE PCMS LOCATIONS ARE LISTED BELOW:

1 PCMS SIGN (LOCATED ON N.B. S.R. 235 FOR NOTIFICATION OF CLOSURE OF N.B. S.R. 235)

1 PCMS SIGN (LOCATED TO NOTIFY OF THE CLOSURE OF THE E.B. I-70 TO N.B. S.R. 235 RAMP)

1 PCMS SIGN (LOCATED TO NOTIFY OF THE CLOSURE OF THE W.B. I-70 TO S.B. S.R. 235/4 RAMP FOR BEAM REMOVAL/BEAM INSTALLATION)

PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED AWAY FROM ALL TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGEABLE MESSAGES WILL BE IMPLEMENTED WITHIN 2 HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRE-CONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE. THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR PHONE AREAS) ALLOW REMOTE SIGN ACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES. ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM OR EQUIVALENT) SHALL BE FURNISHED FOR USE BY THE DISTRICT TRAFFIC ENGINEER, OR EQUIVALENT, AND SHALL BE INSURED AGAINST THEFT.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF C&MS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 3 SIGN MONTH

ASSUMING 3 PCMS SIGNS FOR 1 MONTH

**ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS**

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE ODOT INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE ODOT, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

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

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE ODOT, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION OR AT THE POINT OF ROAD CLOSURE IN WORK ZONES.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 16 HOURS

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

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

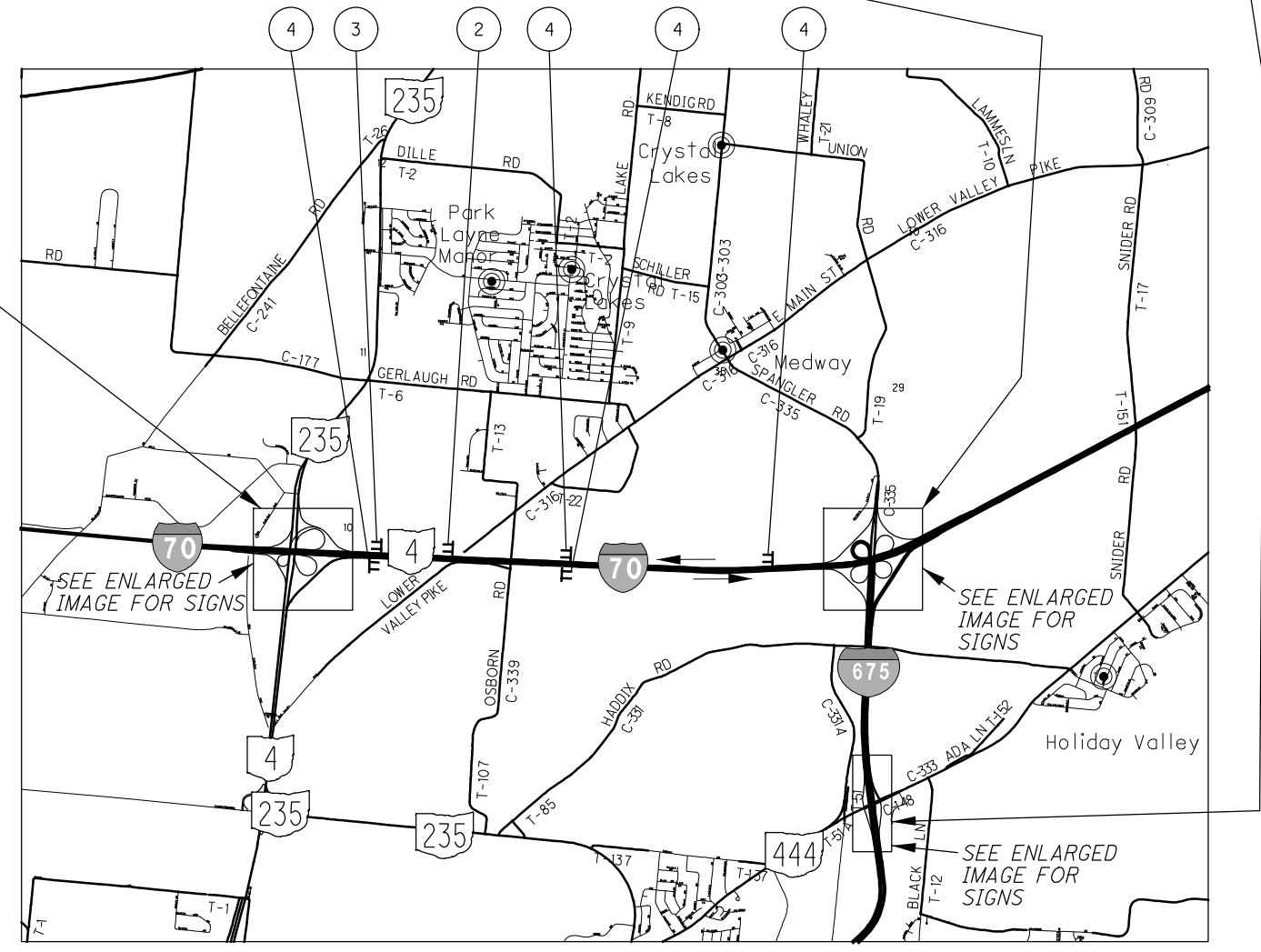
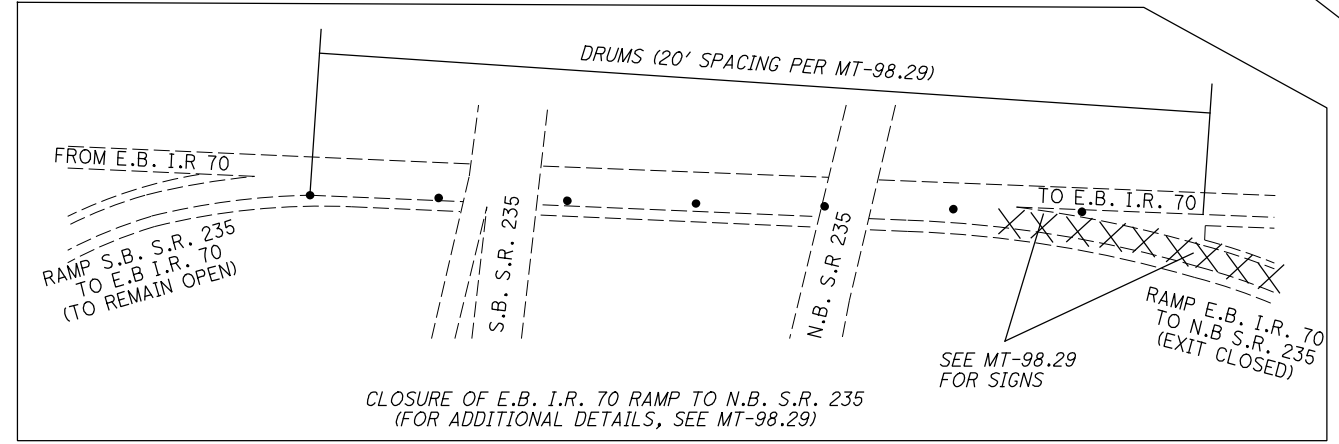
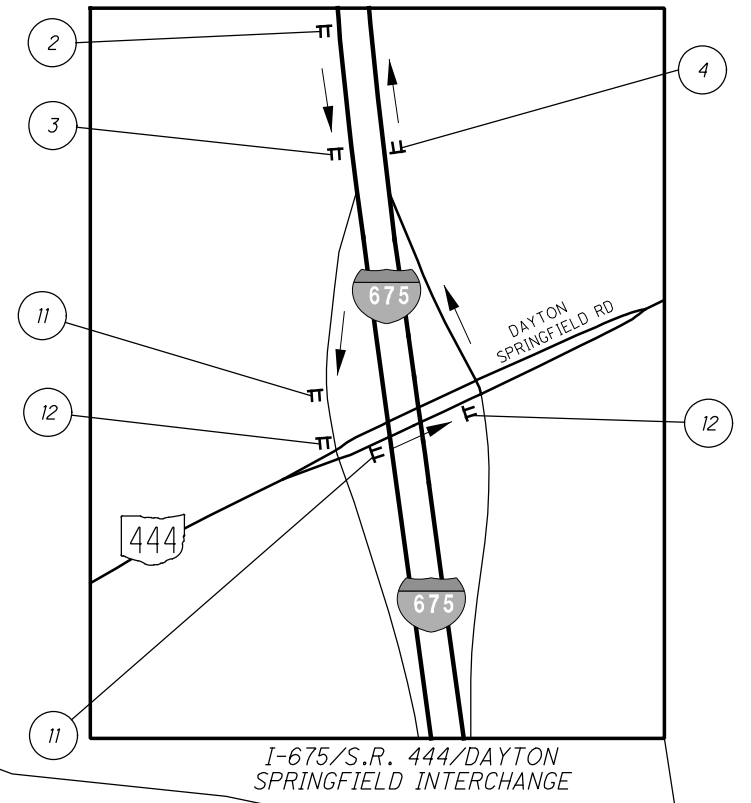
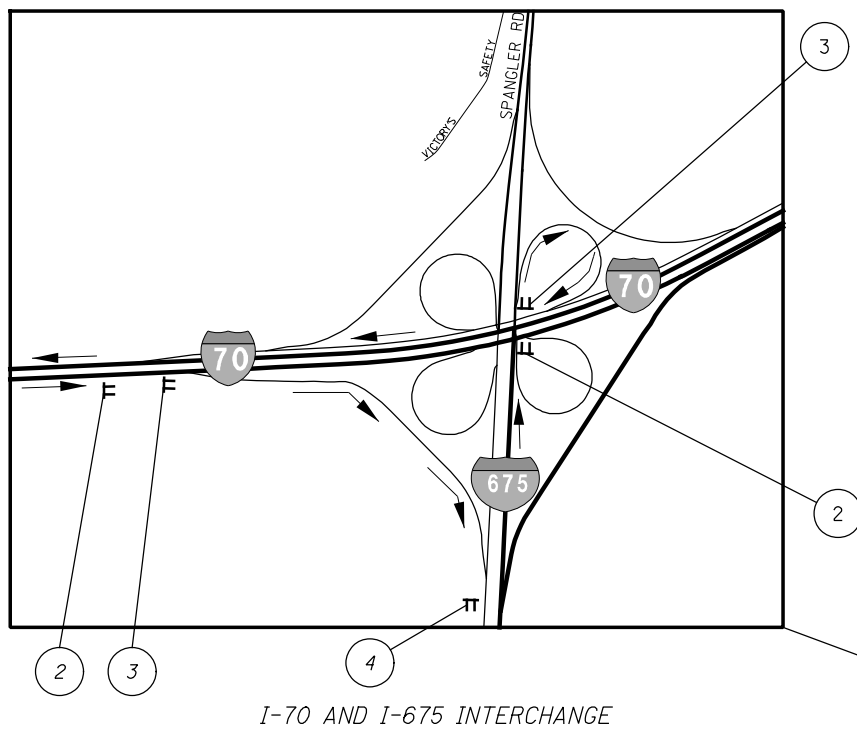
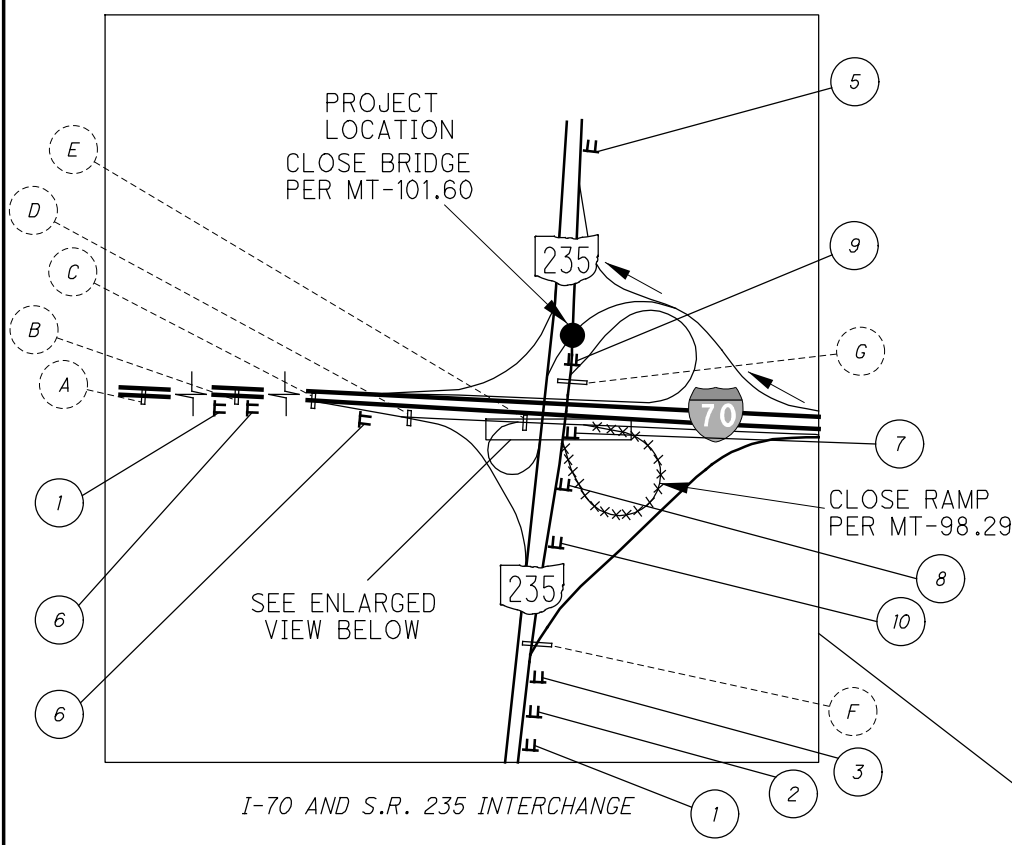
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MAINTENANCE OF TRAFFIC GENERAL NOTES (2 OF 2)

MOT-235-1.77R

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**NOTES:**

1. FOR SIGN NUMBERINGS AND LETTERS, SEE SHEET 8.

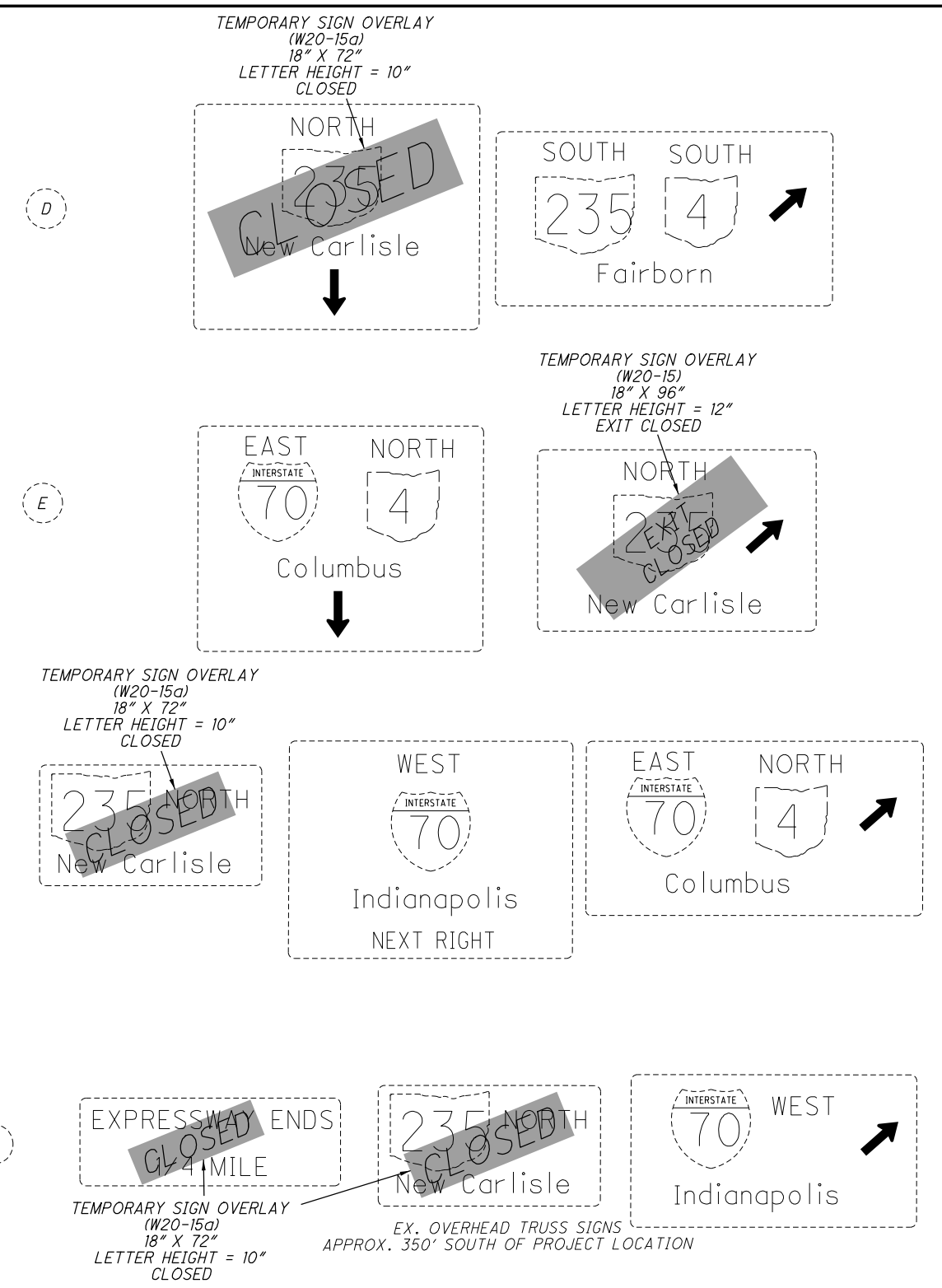
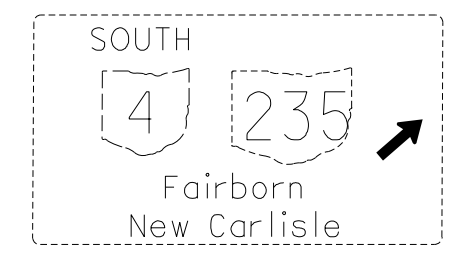
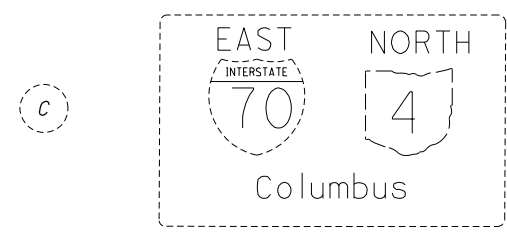
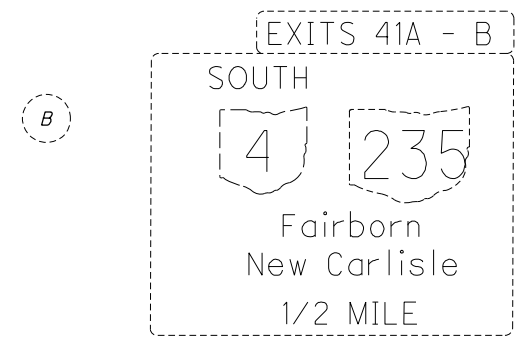
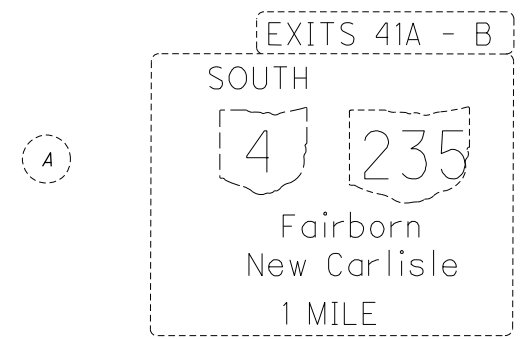
**DETOUR MAP**

CALCULATED	DHG	CHECKED	BAB
<b>MAINTENANCE OF TRAFFIC DETOUR PLAN</b>			
<b>MOT-235-1.77R</b>			
7 47			

- 1 W20-2-48
- 2 M4-8-24
- 2 M3-1-24
- 2 MI-5-30-3
- 2 M5-2-21
- 3 M4-8-24
- 3 M3-1-24
- 3 MI-5-30-3
- 3 M6-2-21
- 4 M4-8-24
- 4 M3-1-24
- 4 MI-5-30-3
- 5 M4-8A-24

- 6 M4-8-24
- 6 M3-1-24
- 6 MI-5-30-3
- 6 M6-3-21
- 7 W20-3-48
- 7 W16-2-30
- 8 TYPE A WARNING LIGHT PER MT-101.60
- 8 W20-3-48
- 8 W16-2-30
- 9 R11-2-48 ON TYPE III BARRICADE
- 10 TYPE A WARNING LIGHT PER MT-101.60
- 10 W20-1-48

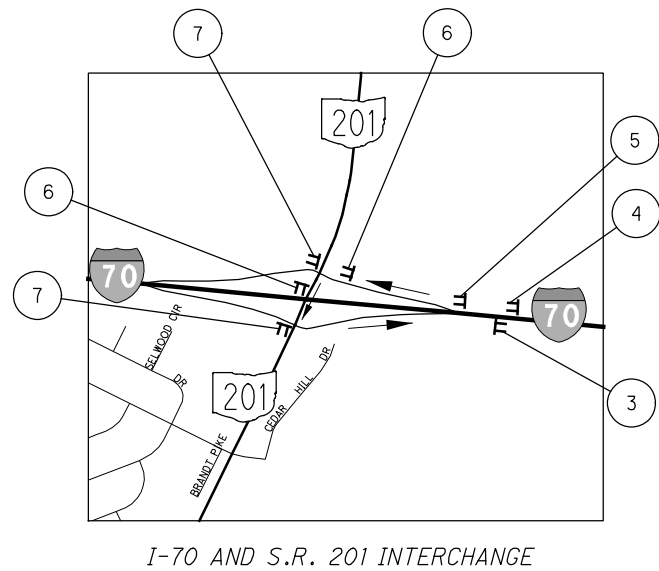
- 11 M4-8-24
- 11 M3-1-24
- 11 MI-5-30-3
- 11 M5-1L-24
- 12 M4-8-24
- 12 M3-1-24
- 12 MI-5-30-3
- 12 M6-1-24



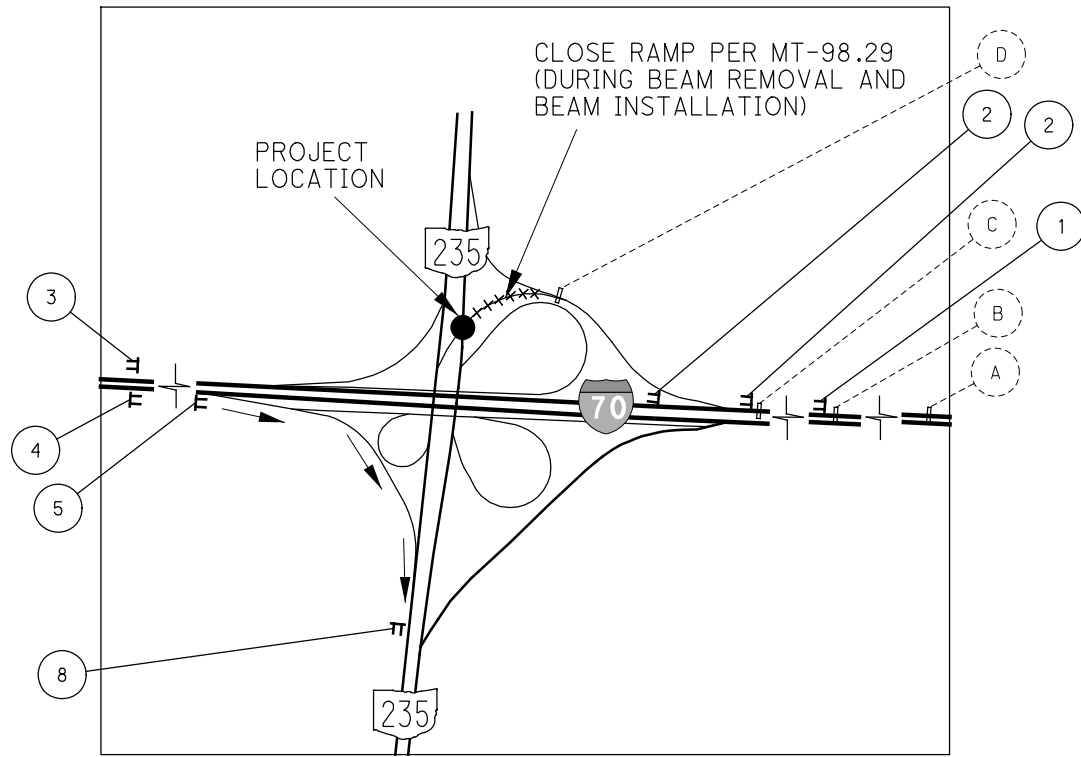
**NOTES:**  
1. FOR DETOUR MAP, SEE SHEET 7.



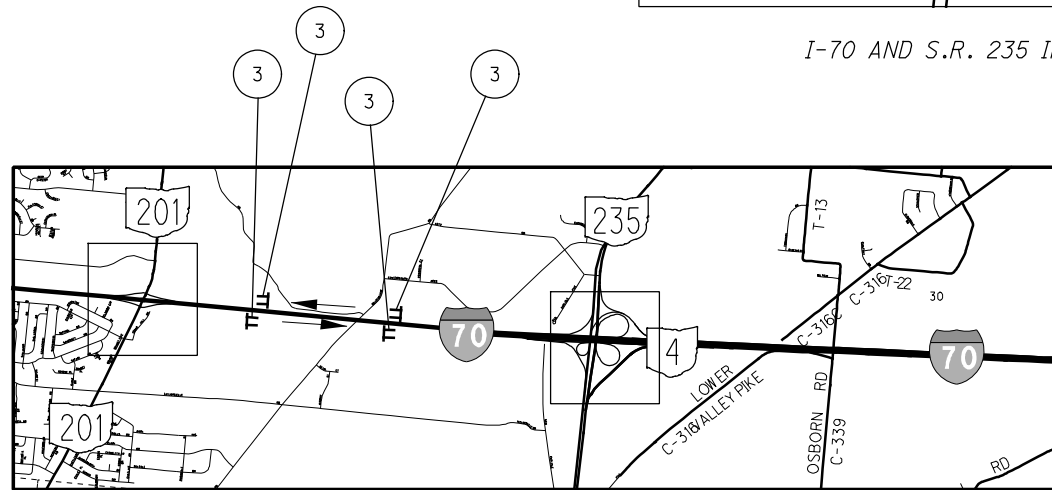
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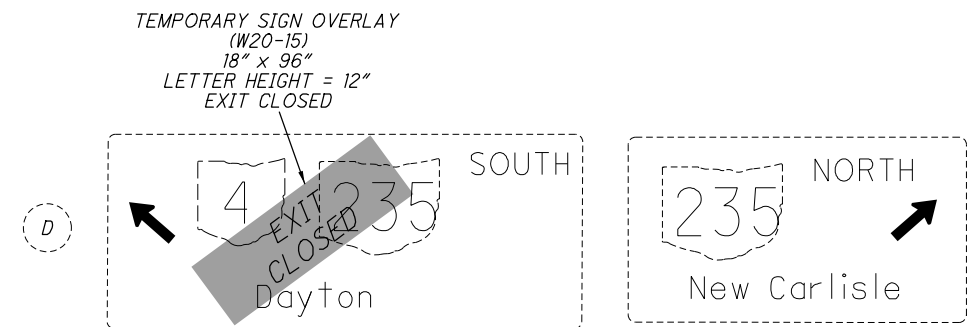
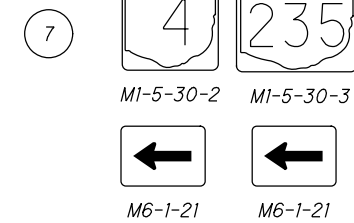
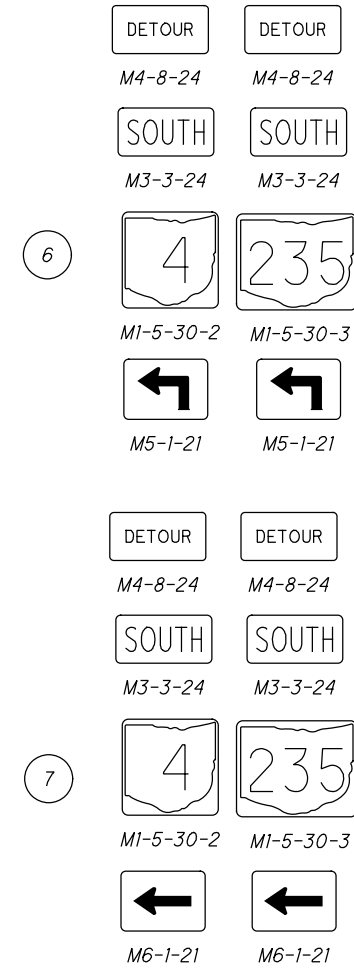
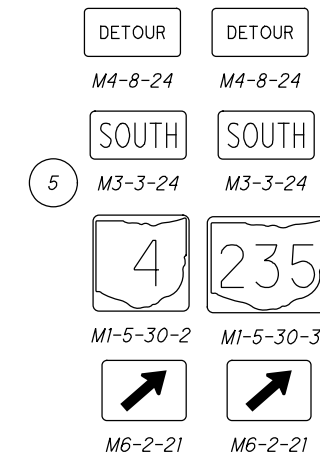
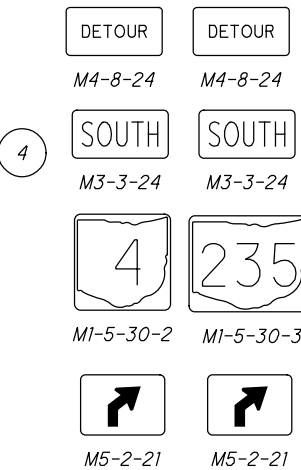
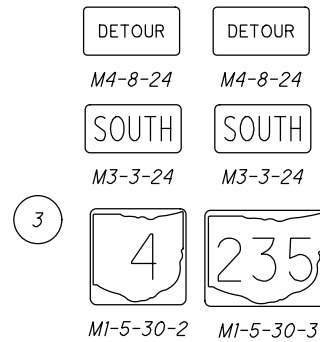
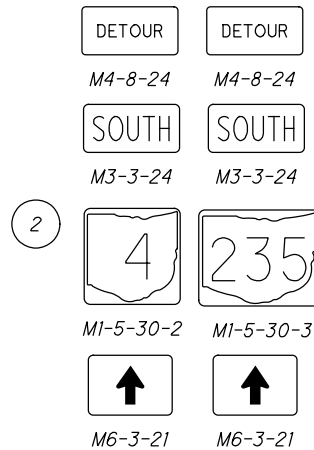
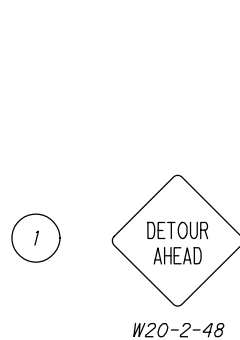
I-70 AND S.R. 201 INTERCHANGE



I-70 AND S.R. 235 INTERCHANGE

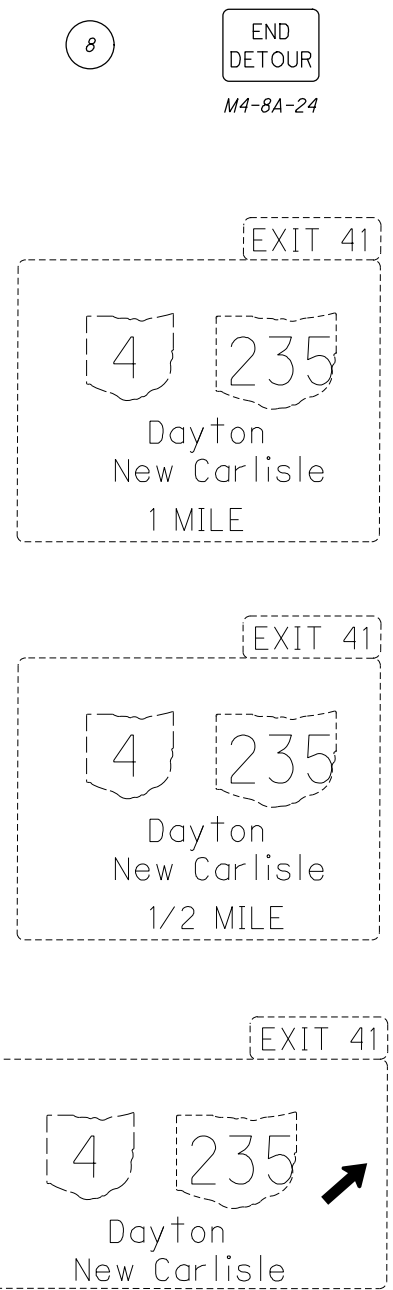


DETOUR MAP



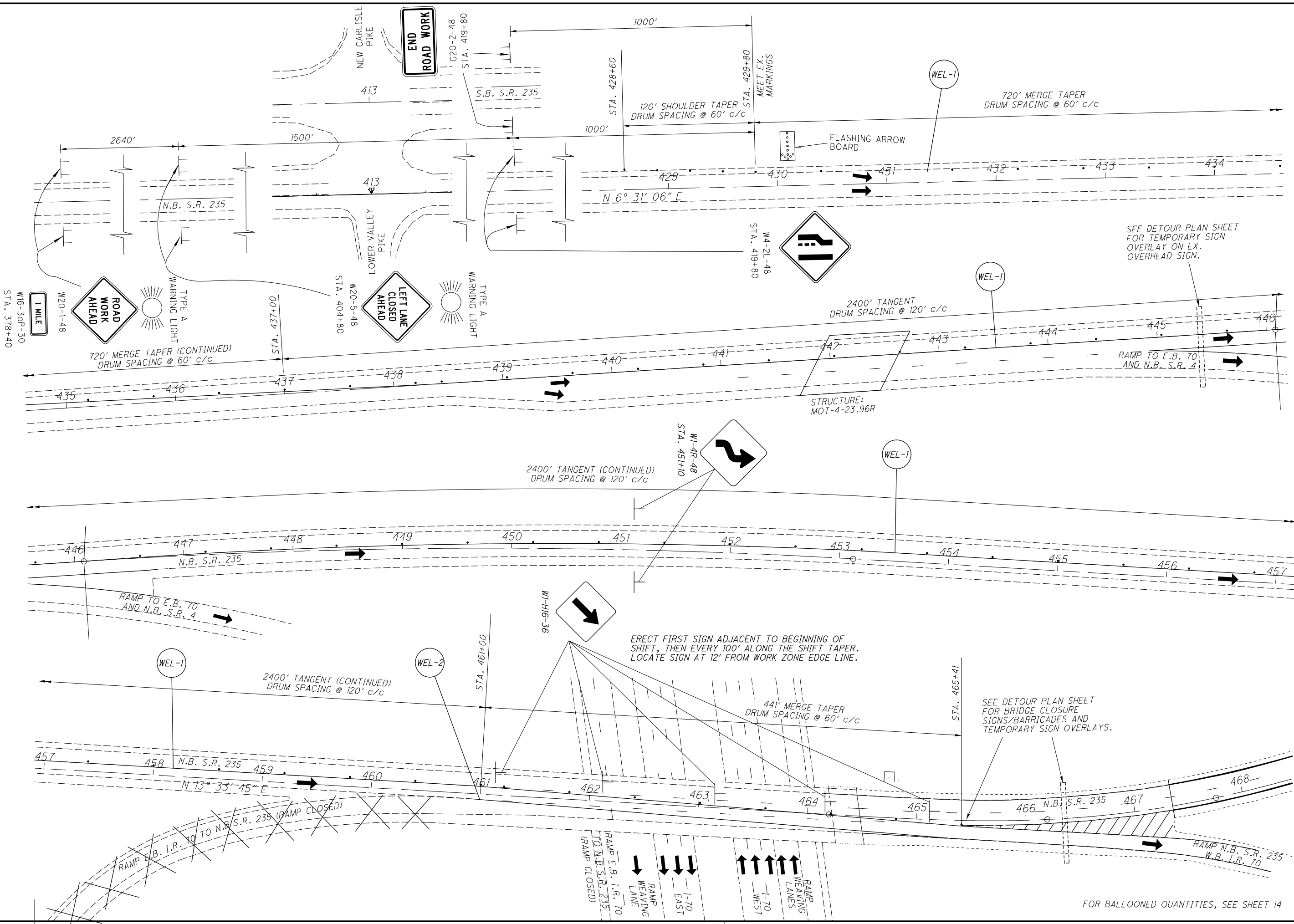
**NOTES:**

- DETOUR SHOWN ON THIS SHEET IS TO BE USED DURING THE NIGHT TIME CLOSURE OF THE WB I-70 TO SB SR 4/235 RAMP (RAMP UNDER THE BRIDGE) DURING THE BEAM REMOVAL/BEAM INSTALLATION.
- DETOURS FOR S.R. 235 NORTH AND THE I-70 EAST TO S.R. 235 NORTH RAMP ARE SHOWN ON OTHER SHEETS.



CALCULATED: DHG  
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**MOT-235-1.77R**  
**MAINTENANCE OF TRAFFIC DETOUR PLAN FOR WB I-70 TO SB SR 235 / SR 4 RAMP CLOSURE FOR BEAM REMOVAL/ERECTION**

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**MAINTENANCE OF TRAFFIC DETAILS**  
**N.B. S.R. 235 CLOSURE**



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SHEET NUM.											PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED	CHECKED	DHG	
		5	6	29							01/S<2/BR		EXT	TOTAL							
											<b>STRUCTURE REPAIR (MOT-235-0177R)</b>										
				LS							LS	202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	28				
				224							224	202	22900	224	SY	APPROACH SLAB REMOVED					
				804							804	202	23500	804	SY	WEARING COURSE REMOVED					
				267							267	202	75260	267	FT	VANDAL PROTECTION FENCE REMOVED					
				LS							LS	503	21300	LS		UNCLASSIFIED EXCAVATION					
				34,737							34,737	509	10000	34,737	LB	EPOXY COATED REINFORCING STEEL					
				42							42	510	10000	42	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT					
				211							211	511	31612	211	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE					
				41							41	511	34450	41	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)					
				4							4	511	44110	4	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING					
				705							705	512	10100	705	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)					
				4							4	512	10600	4	FT	CONCRETE REPAIR BY EPOXY INJECTION					
				2							2	515	12041	2	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB21-36, AS PER PLAN (BEAM LENGTH = 43'-11 3/4")	29				
				4							4	515	12041	4	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB21-36, AS PER PLAN (BEAM LENGTH = 44'-9 1/2")	29				
				9							9	515	12050	9	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB21-48 (BEAM LENGTH = 43'-11 3/4")					
				18							18	515	12050	18	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB21-48 (BEAM LENGTH = 44'-9 1/2")					
				16							16	516	13600	16	SF	1" PREFORMED EXPANSION JOINT FILLER					
				20							20	516	13900	20	SF	2" PREFORMED EXPANSION JOINT FILLER					
				119							119	516	14020	119	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL					
				89							89	516	31011	89	FT	2" DEEP JOINT SEALER, AS PER PLAN	28				
				66							66	516	41100	66	EACH	1/8" PREFORMED BEARING PAD					
				132							132	516	43100	132	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) (5" X 12" X 1")					
				47							47	518	21200	47	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC					
				122							122	518	40000	122	FT	6" PERFORATED CORRUGATED PLASTIC PIPE					
				30							30	518	40010	30	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS					
				145							145	526	10011	145	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=12"), AS PER PLAN	28				
				92							92	526	90010	92	FT	TYPE A INSTALLATION					
				170							170	607	39900	170	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC					
				23							23	844	10001	23	SF	CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN	28				
											<b>MAINTENANCE OF TRAFFIC</b>										
				LS							LS	614	11110	16	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE					
				3							3	614	18601	3	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	6				
				1							0.77	614	22210	0.77	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 740.06, TYPE I					
				1							1	616	10000	1	MGAL	WATER					
											<b>INCIDENTALS</b>										
											LS	614	11000	LS		MAINTAINING TRAFFIC					
											3	619	16010	3	MNTH	FIELD OFFICE, TYPE B					
											LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING					
											LS	624	10000	LS		MOBILIZATION					

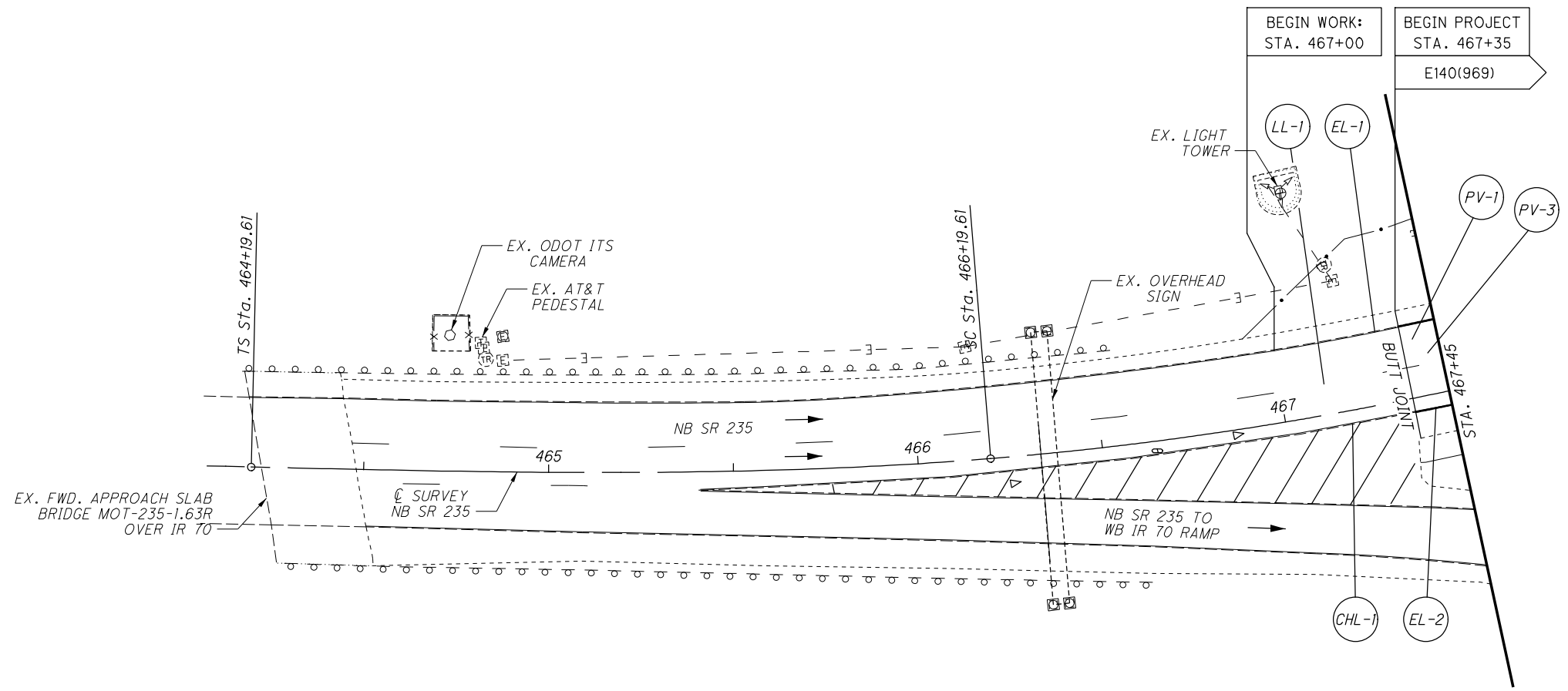
GENERAL SUMMARY (2 OF 2)

MOT-235-1.77R

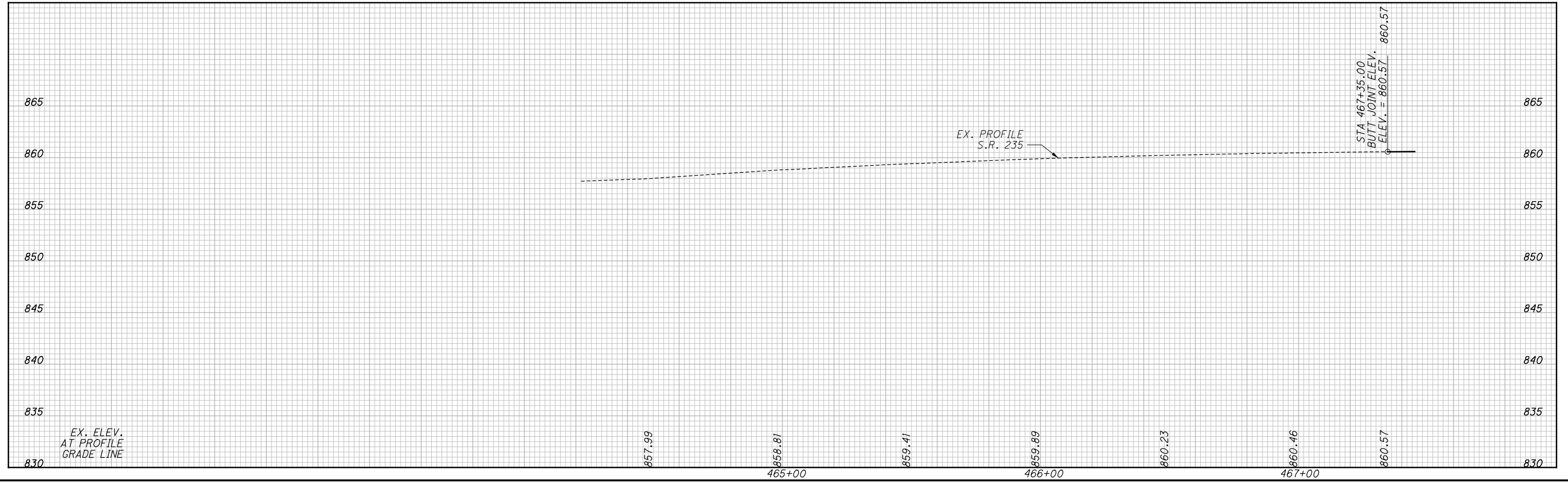
REF NO.	SHEET NO.	STATION TO STATION				202	202	202	202	204	302	304	407	442	601	606	606	606	606	606	609	626	626	626			
						GUARDRAIL REMOVED	ANCHOR ASSEMBLY REMOVED, TYPE A, AS PER PLAN	BRIDGE TERMINAL ASSEMBLY REMOVED	PAVEMENT REMOVED, ASPHALT	SUBGRADE COMPACTION	ASPHALT CONCRETE BASE, PG64-22	AGGREGATE BASE	TACK COAT (0.055 GAL/SY)	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448), AS PER PLAN	TIED CONCRETE BLOCK MAT, TYPE 2	GUARDRAIL, TYPE MGS WITH LONG POSTS	ANCHOR ASSEMBLY, MGS TYPE B	ANCHOR ASSEMBLY, MGS TYPE E	ANCHOR ASSEMBLY, MGS TYPE T	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	CURB, TYPE 4-C	BARRIER REFLECTOR, TYPE 1(ONE-WAY) YELLOW	BARRIER REFLECTOR, TYPE 1(ONE-WAY) WHITE	BARRIER REFLECTOR, TYPE 2(ONE-WAY) YELLOW	BARRIER REFLECTOR, TYPE 2(ONE-WAY) WHITE	
					FT	EACH	EACH	SY	SY	CY	CY	GAL	CY	SY	FT	EACH	EACH	EACH	EACH	EACH	FT	EACH	EACH	EACH			
					TO																						
PV-1	15,16	467+35.00		468+99.80	LT/RT				631.26																		
PV-2	16,17	470+84.68		472+50	LT/RT				684.07																		
PV-3	15,16	467+35.00		469+08.84	LT/RT					741.97	147.4	119.47	37.69	57.11													
PV-4	16,17	470+75.66		472+50.00	LT/RT					779.67	157.13	125.57	39.63	60.04													
PV-5	16	469+08.84		469+23.84	LT/RT					77.4		12.24															
PV-6	16	470+60.66		470+75.66	LT/RT					77.17		12.22															
GRR-1	16	467+45.00		469+11.95	LT.	166.95	1	1																			
GR-1	16	467+56.57		468+98.58	LT.										75	1			1				4				
GRR-2	16	467+82.40		469+33.12	RT.	150.72	1	1																			
GR-2	16	467+76.83		469+18.10	RT.										62.5		1		1					4			
GRR-3	16	470+66.31		471+16.73	RT.	50.42		1																			
GR-3	16	470+80.53		471+32.12	RT.										40.625			1		1				2			
C-1	16	468+77.44		468+96.06	LT.																19						
C-2	16	468+97.56		469+15.61	RT.																19						
RF-1	16	468+96.06		470+63.39	LT.																	5					
RF-2	16	469+15.61		470+82.27	RT.																	5					
E-1	16	470+64			LT.									16													
E-2	16	470+83			RT.									13													
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>					369	2	3	1316	1677	305	270	78	118	29	179	1	1	1	2	1	38	5	5	4	6		



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FOR BALLOON QUANTITIES SEE SHEET 13-14.



CALCULATED
REB
CHECKED
DHG

PLAN AND PROFILE - SR 235  
STA. 464+19.61 TO STA. 467+45

MOT-235-1.77R



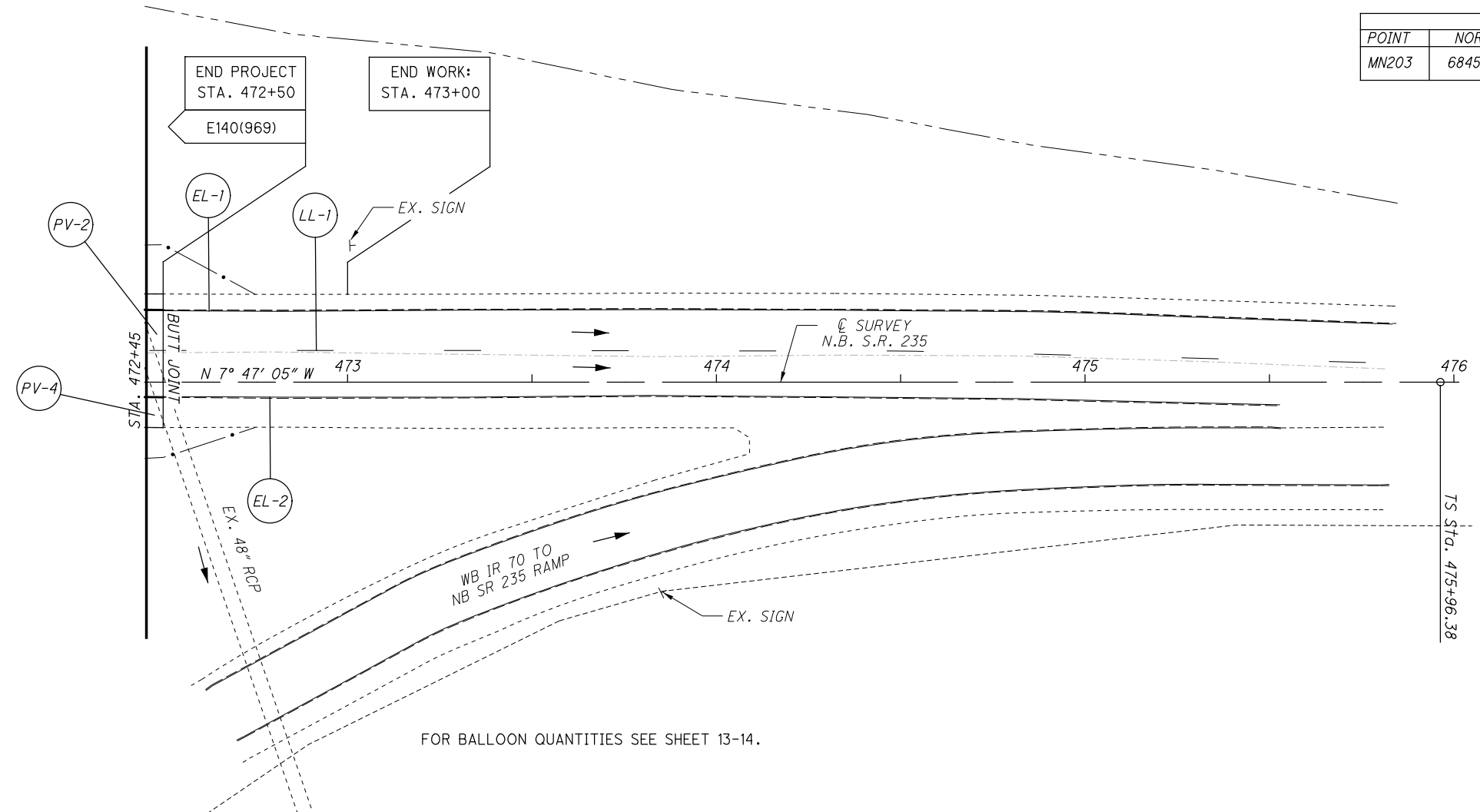


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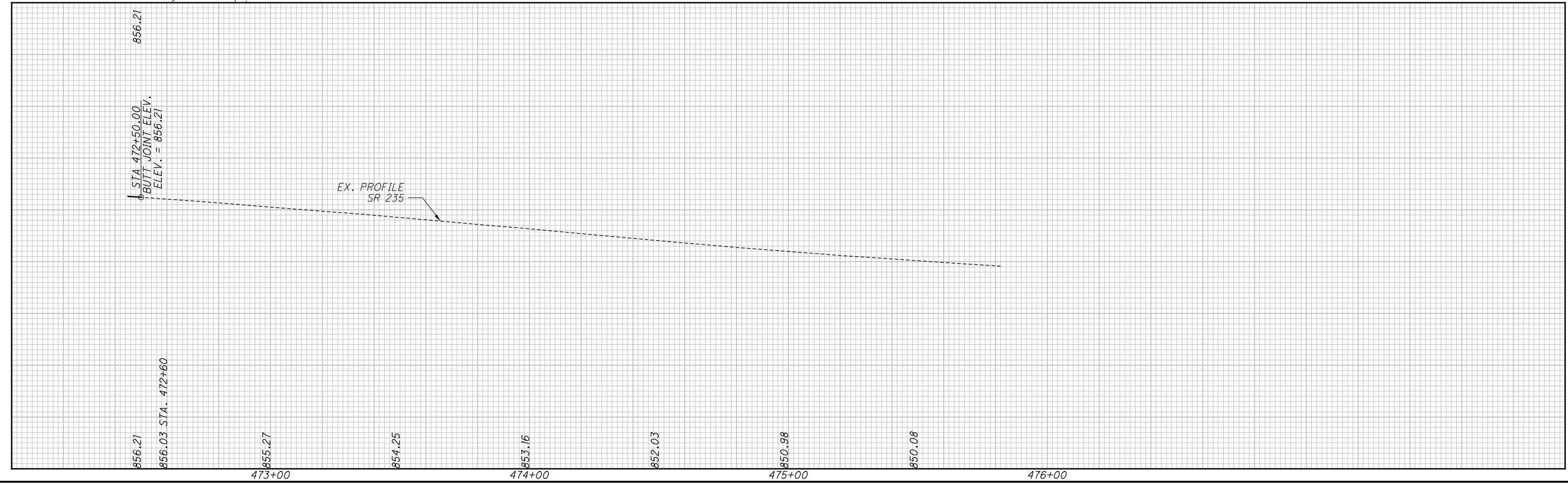
PRIMARY CONTROL MONUMENT					
POINT	NORTHING	EASTING	STATION	OFFSET	COMMENT
MN203	684506.086	1531945.853	476+39.97	28.304' LT.	5/8" REBAR WITH PLASTIC CAP INSCRIBED WITH "EMHT TRAV"



CALCULATED  
REB  
CHECKED  
DHG



FOR BALLOON QUANTITIES SEE SHEET 13-14.



PLAN AND PROFILE - SR 235  
STA. 472+45 TO STA. 476+00

MOT-235-1.77R

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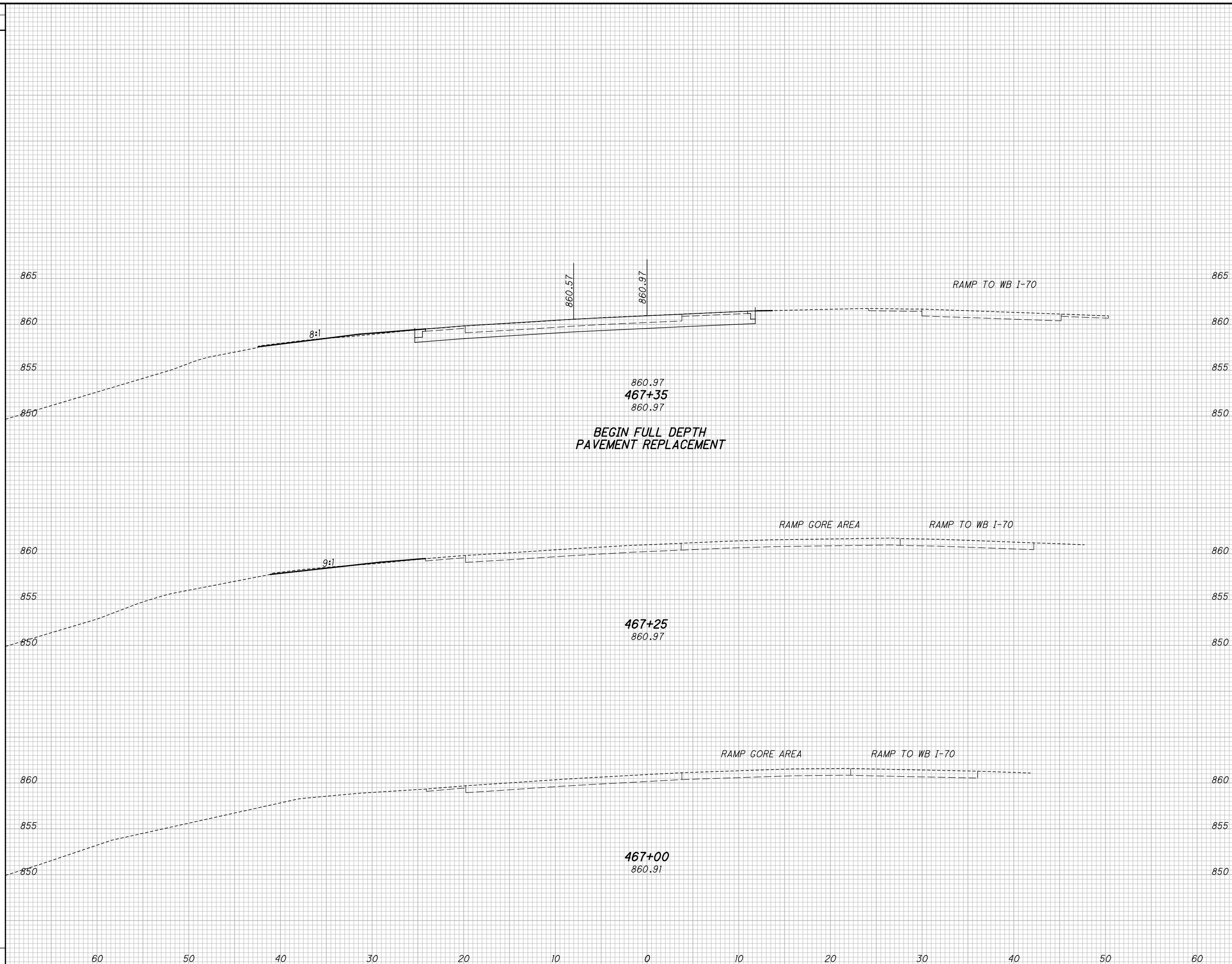
SEEDING	
END WIDTH	SO. YDS.
19	
17	
18	

END AREA		VOLUME		CALCULATED REB	CHECKED DHC
CUT	FILL	CUT	FILL		
		32	2		
		1	1		
		6	1		

**CROSS SECTIONS - S.R. 235  
STA. 467+00.00 TO STA. 467+35.00**

**MOT-235-1.77R**

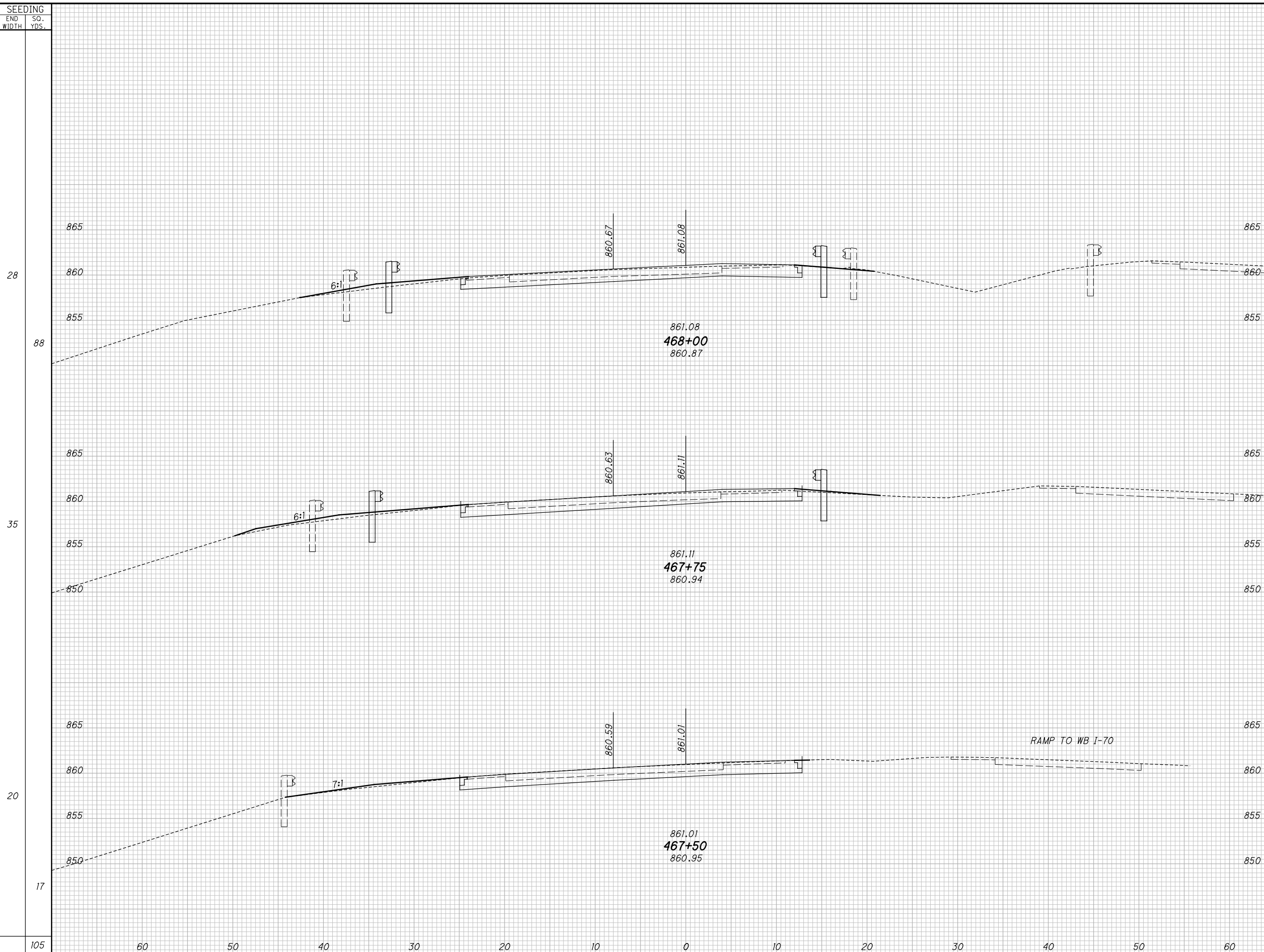
18  
47



SEEDING  
 END SO.  
 WIDTH YDS.  
 105

END AREA		VOLUME		CALCULATED	REB	CHECKED	DHC
CUT	FILL	CUT	FILL				
27	5	25	6				
28	9	27	6				
31	4	18	2				
		70	14				

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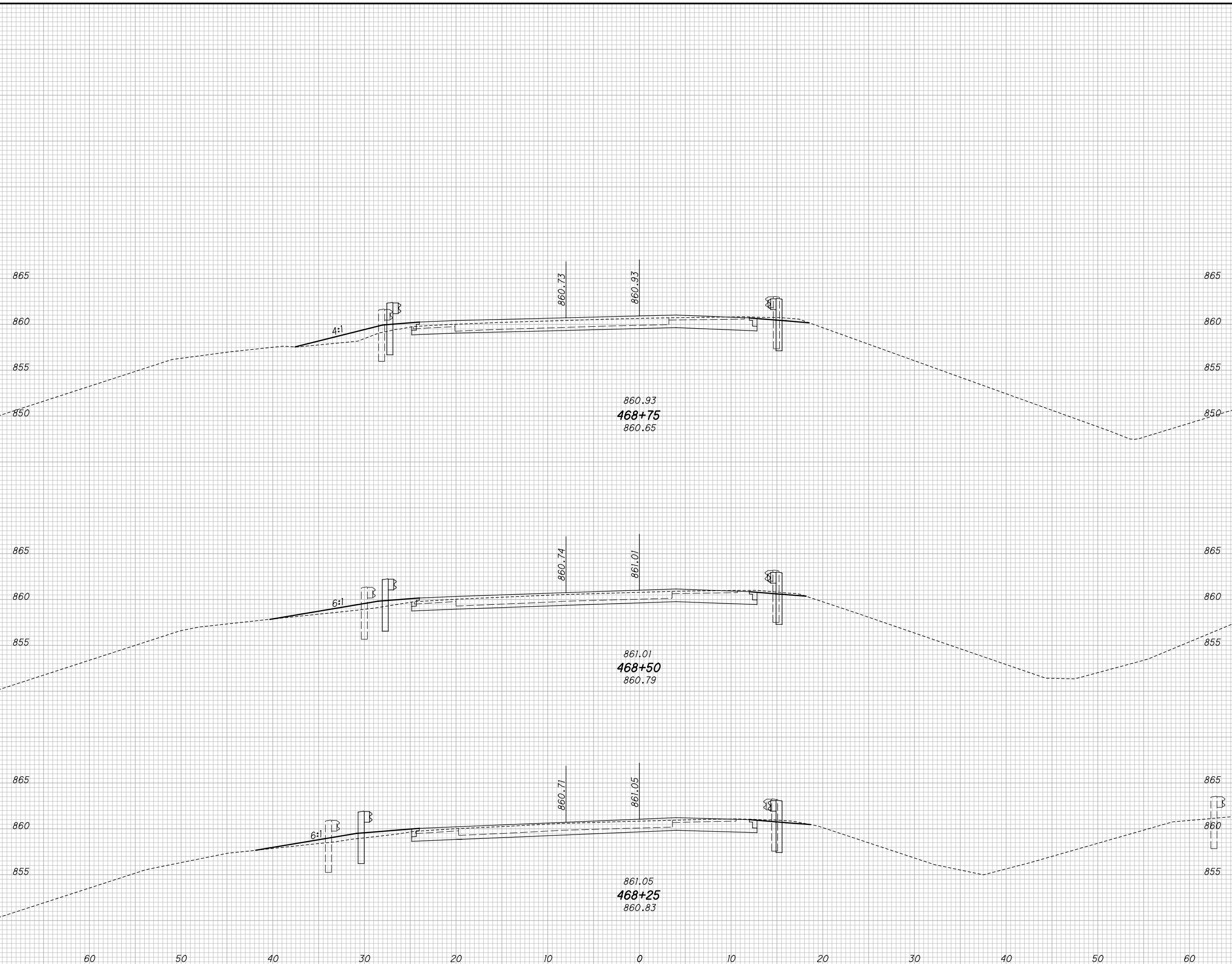


CROSS SECTIONS - S.R. 235  
 STA. 467+50.00 TO STA. 468+00.00

MOT-235-1.77R

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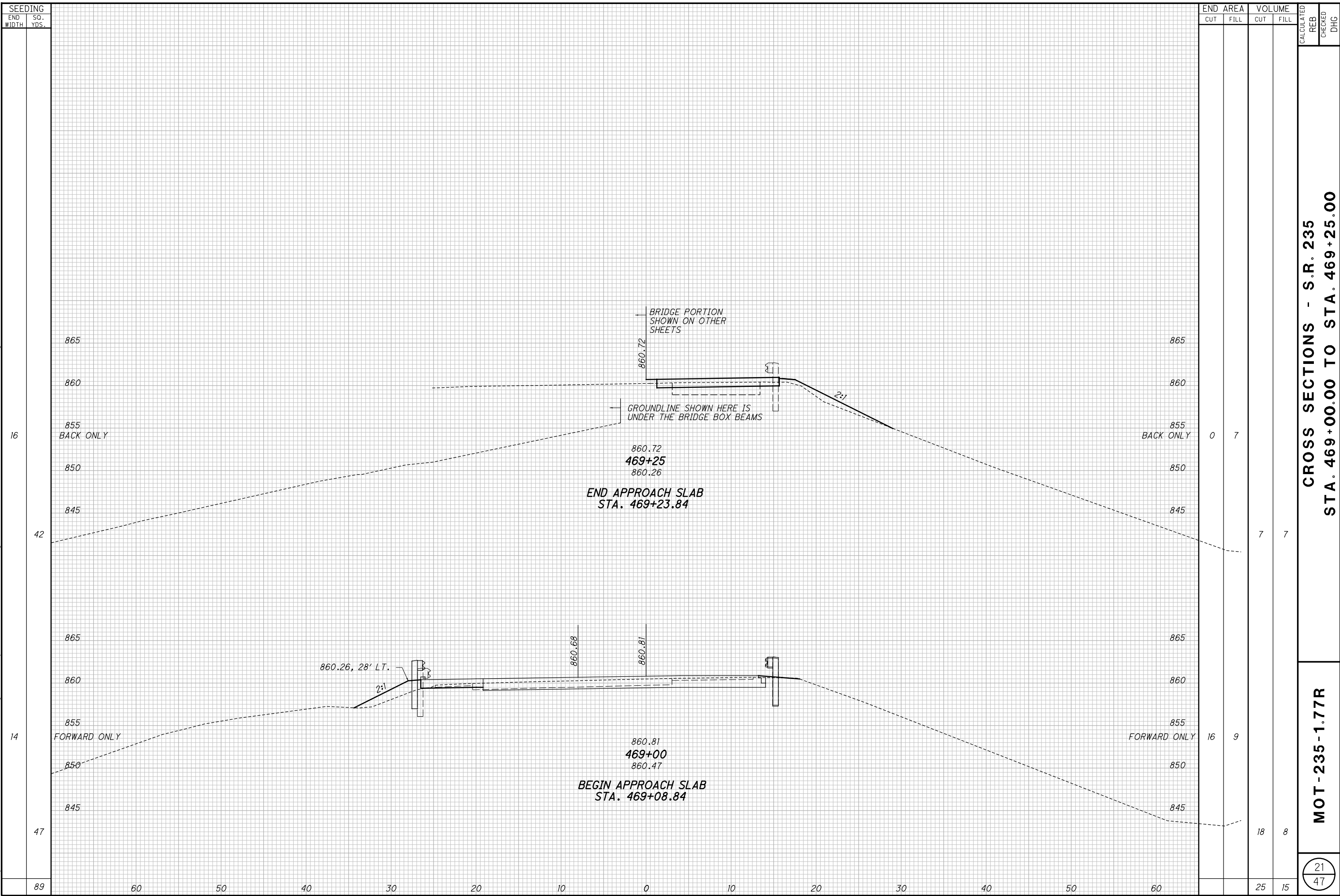
SEEDING	END AREA		VOLUME		CALCULATED	REB	CHECKED	DHC
	CUT	FILL	CUT	FILL				
20	23	9	22	7				
23	25	7	24	6				
25	26	7	25	6				
74			71	19				



**CROSS SECTIONS - S.R. 235  
STA. 468+25.00 TO STA. 468+75.00**

**MOT-235-1.77R**

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SEEDING	
END WIDTH	SO. YDS.
16	
42	
14	
47	
89	

END AREA		VOLUME		CALCULATED REB	CHECKED DHC
CUT	FILL	CUT	FILL		
0	7	7	7		
16	9	18	8		
		25	15		

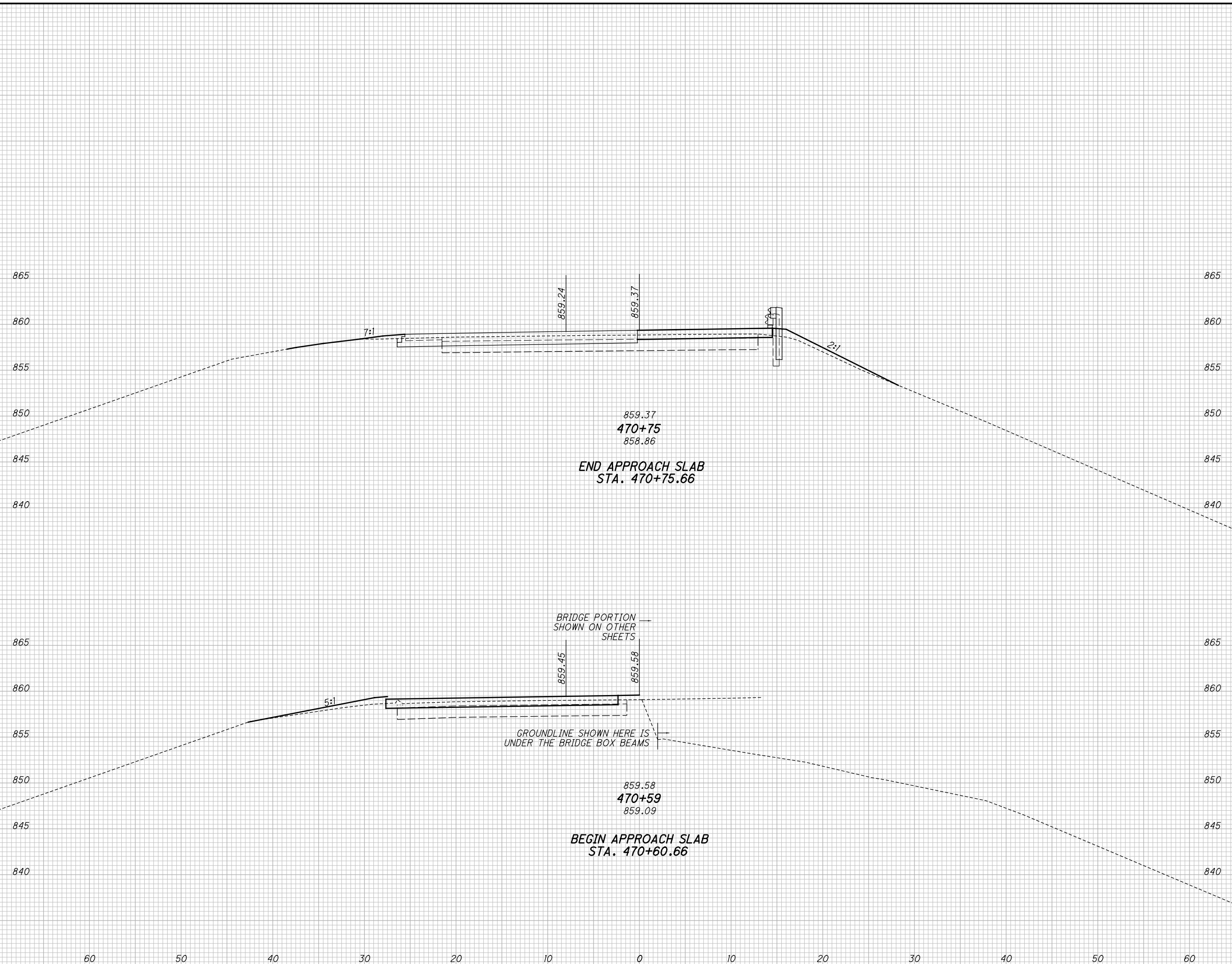
CROSS SECTIONS - S.R. 235  
STA. 469+00.00 TO STA. 469+25.00

MOT-235-1.77R

21  
47

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SEEDING	
END WIDTH	SO. YDS.
28	
14	
20	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
4	7	1	3
0	5		
		1	3

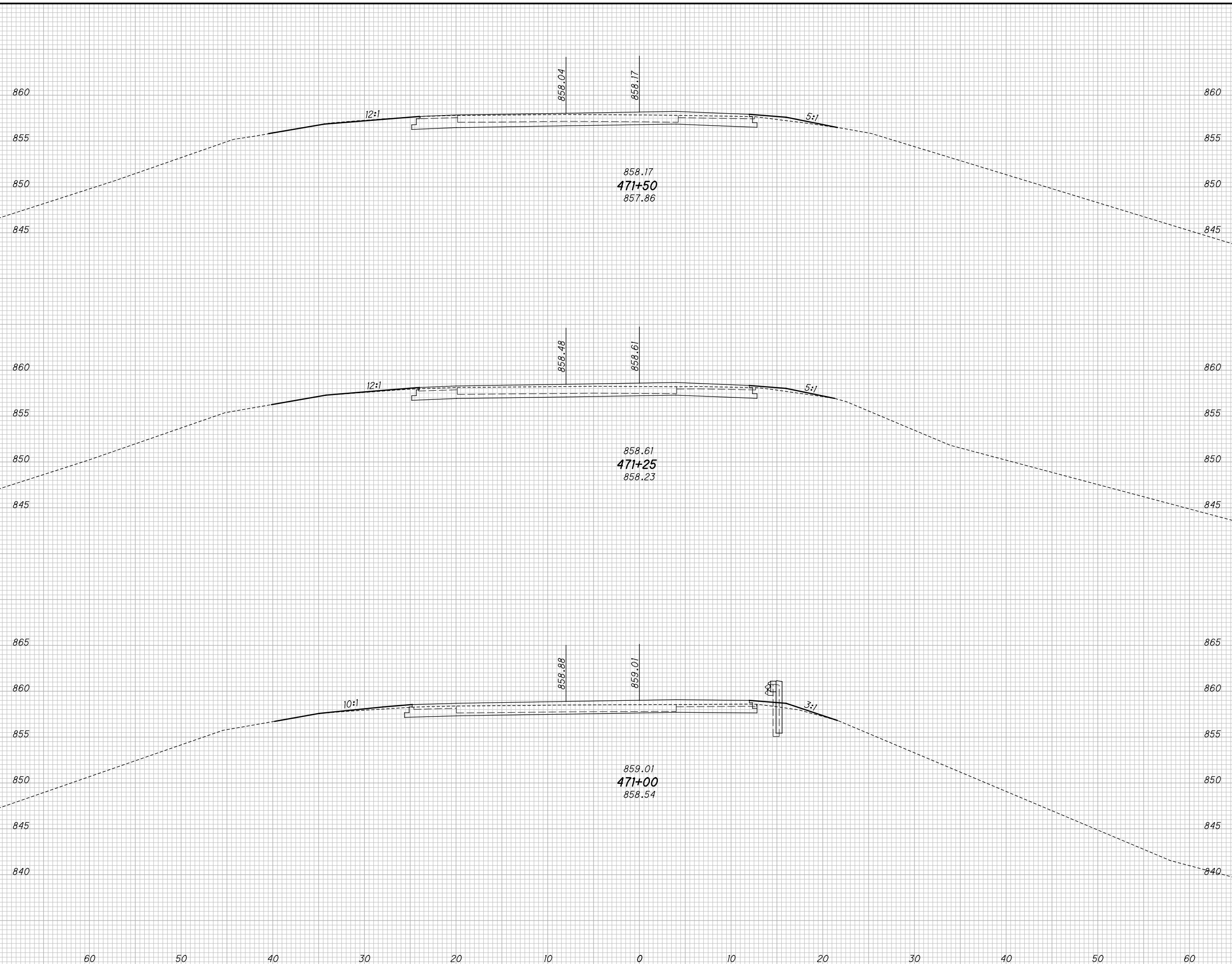
**CROSS SECTIONS - S.R. 235**  
**STA. 470+59.00 TO STA. 470+75.00**

**MOT-235-1.77R**

22  
47

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SEEDING	
END WIDTH	SO. YDS.
145	33
60	20
50	56
40	20
30	56
20	20
10	56
0	20
10	56
20	20
30	56
40	20
50	56
60	20



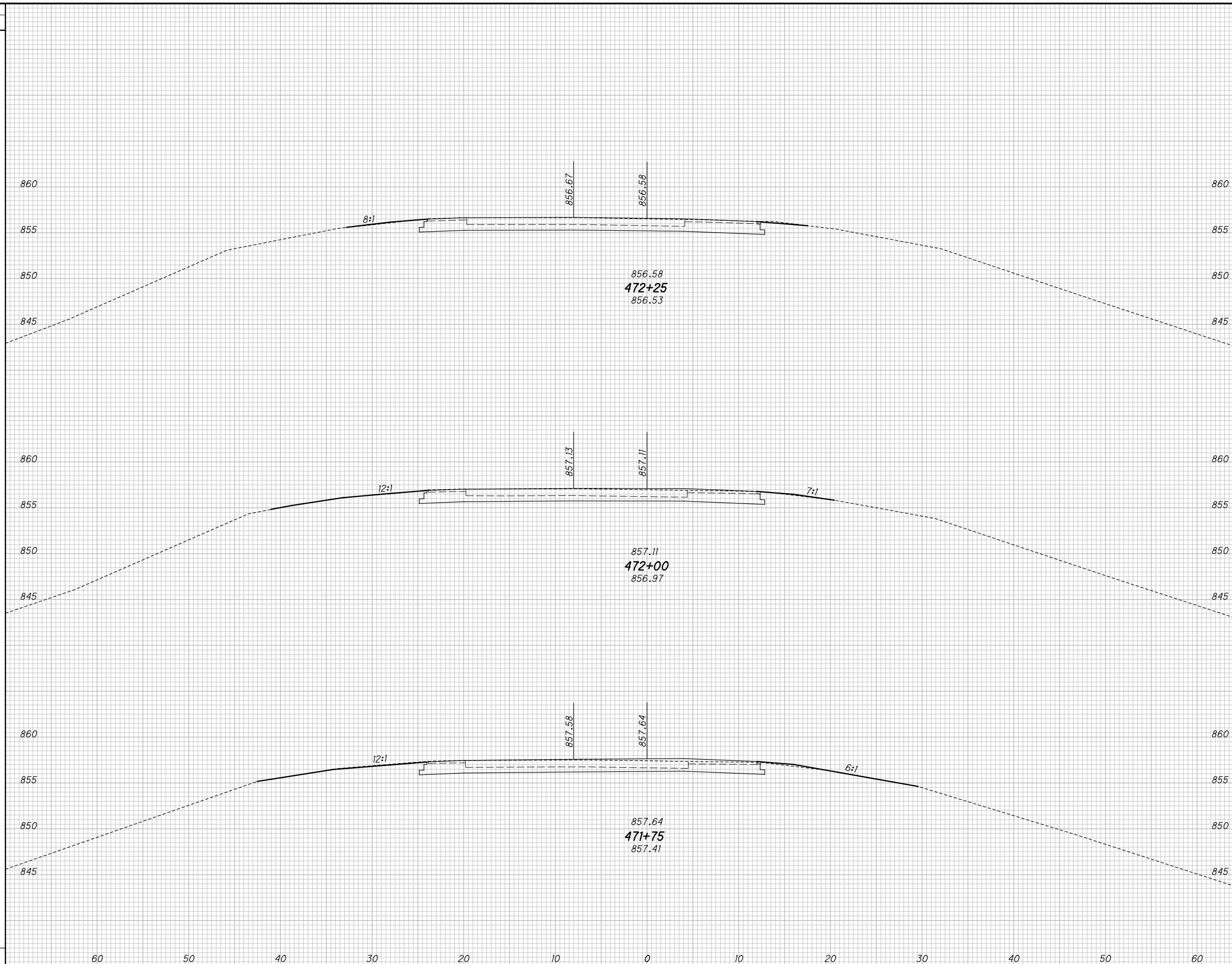
END AREA		VOLUME	
CUT	FILL	CUT	FILL
24	3	21	3
21	3	17	4
16	5	9	6
		47	13

**CROSS SECTIONS - S.R. 235  
STA. 471+00.00 TO STA. 471+50.00**

**MOT-235-1.77R**

23  
47

SEEDING  
 END SO.  
 WIDTH YDS.  
 14  
 44  
 18  
 64  
 28  
 67  
 175



END AREA		VOLUME	
CUT	FILL	CUT	FILL
31	1	28	1
29	1	26	1
27	2	24	2
		78	4

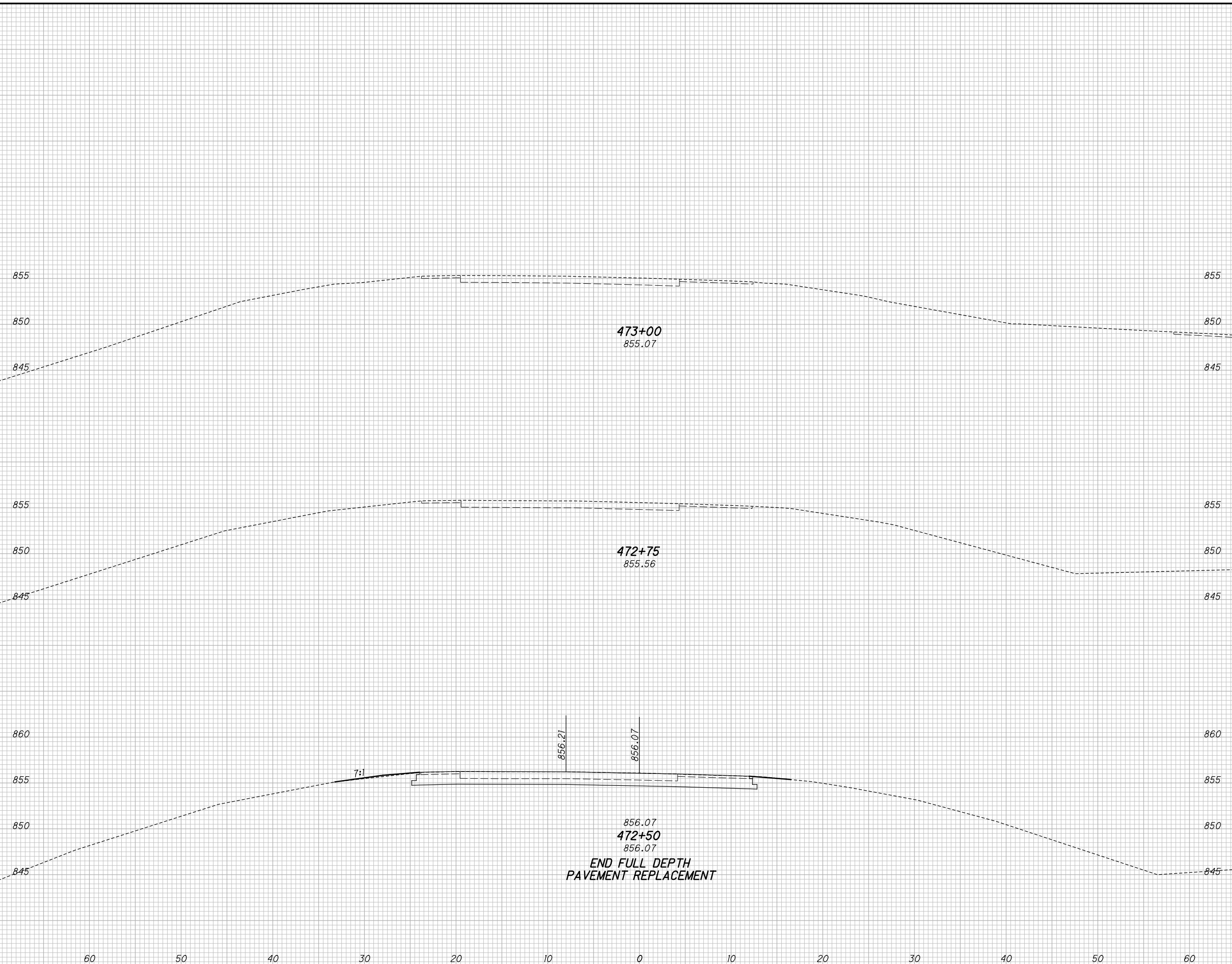
CALCULATED  
 REB  
 CHECKED  
 DHC  
**CROSS SECTIONS - S.R. 235**  
**STA. 471+75.00 TO STA. 472+25.00**  
**MOT-235-1.77R**  
 24  
 47

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SEEDING	
END WIDTH	SO. YDS.
39	
14	
39	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
31	2	29	1
		29	1

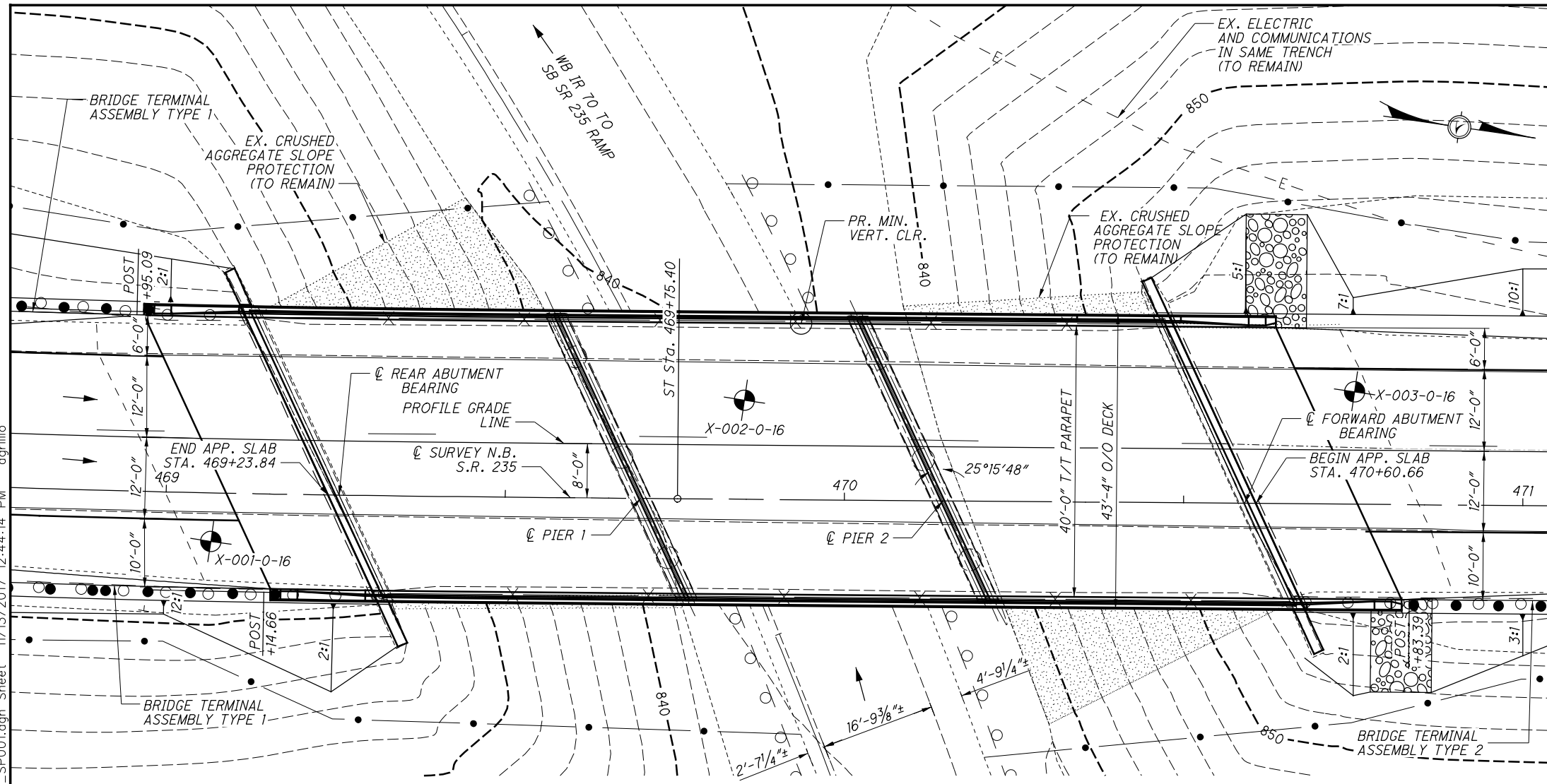
**CROSS SECTIONS - S.R. 235**  
**STA. 472+50.00 TO STA. 473+00.00**

**MOT-235-1.77R**

25  
47

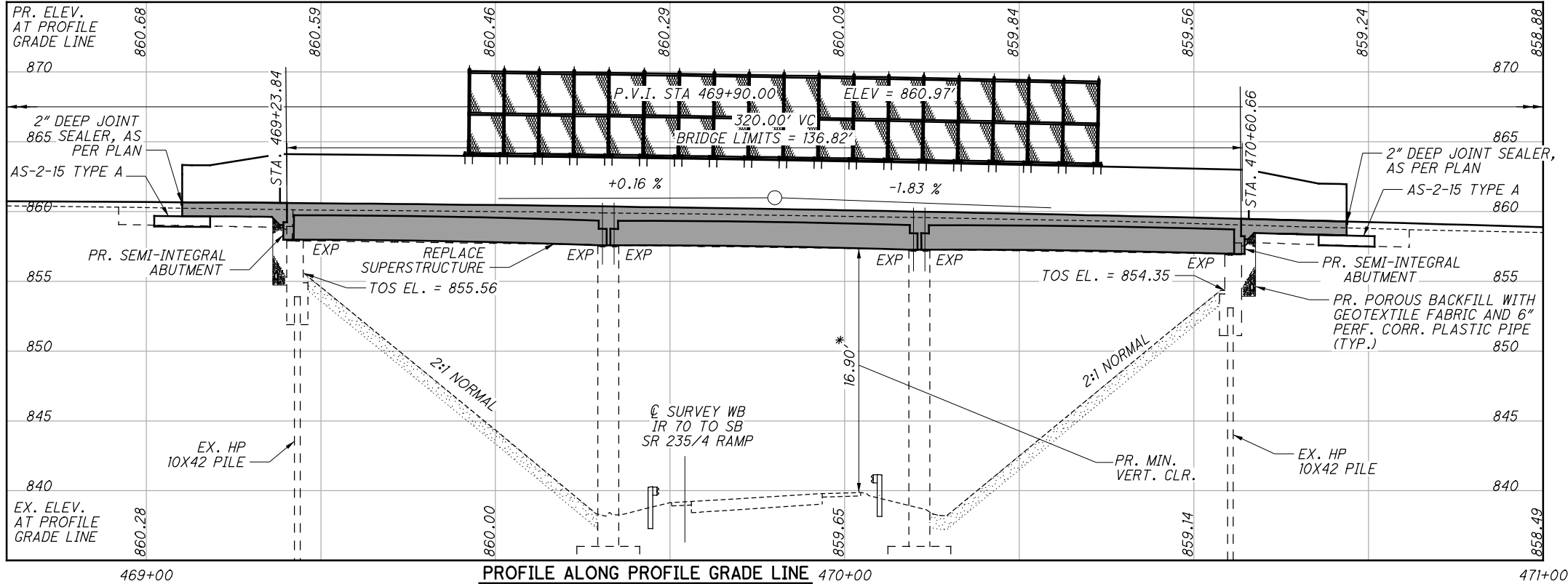


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PLAN

\*REQUIRED MINIMUM VERTICAL CLEARANCE = 16.5'  
 EX. MINIMUM VERTICAL CLEARANCE = 16.83' #  
 PROP. MINIMUM VERTICAL CLEARANCE = 16.90' (TO BE FIELD VERIFIED)  
 HORIZONTAL SCALE IN FEET



PROFILE ALONG PROFILE GRADE LINE

**BENCHMARK DATA**

BM #1 STA. 467+09.46, ELEV. 851.66, OFFSET 61.22' LT., CUT  
 BM #2 STA. 471+92.61, ELEV. 847.44, OFFSET 166.34' LT., CUT  
 BM #3 STA. 476+96.61, ELEV. 838.63, OFFSET 68.79' RT., CUT

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEETS 16-17.

DESIGN TRAFFIC:  
 2018 ADT = 14000      2018 ADTT = 1400  
 2038 ADT = 15000      2038 ADTT = 1500  
 DIRECTIONAL DISTRIBUTION = 57%

**NOTES**

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

**PAVEMENT CORE INFORMATION:**

X-001-0-16 = 2.5" ASPHALT ON APPROACH SLAB  
 X-002-0-16 = 4" ASPHALT ON BOX BEAM  
 X-003-0-16 = 5.5" ASPHALT ON APPROACH SLAB

**LEGEND**

● PAVEMENT CORE  
 # - BASED ON EXISTING GROUND SURVEY

**EXISTING STRUCTURE**

TYPE: PRESTRESSED CONCRETE BOX BEAMS ON CAPPED COLUMN PIERS  
 SPANS: 3 @ 44.5' C/C SUBSTRUCTURES  
 ROADWAY: 38'-10" T/T PARAPET  
 LOADING: HS20-44 & ALTERNATE MILITARY LOADING  
 SKEW: 25°-15'-48" R.F.  
 APPROACH SLABS: AS-1-81 (25' LONG)  
 ALIGNMENT: SPIRAL AND TANGENT  
 SUPERELEVATION: 0.016 +/- FT/FT AND VARIES  
 STRUCTURAL FILE NUMBER: 5709792  
 DATE BUILT: 1987  
 WEARING SURFACE: 4"± ASPHALT CONCRETE  
 DISPOSITION: SUPERSTRUCTURE TO BE REPLACED

**PROPOSED STRUCTURE**

TYPE: COMPOSITE CONCRETE BOX BEAM WITH SEMI-INTEGRAL ABUTMENTS ON CAPPED COLUMN PIERS  
 SPANS: 3 @ 44.5' C/C SUBSTRUCTURES  
 ROADWAY: 40'-0" T/T PARAPET  
 LOADING: HS20 AND ALTERNATE MILITARY, FWS = 60 PSF  
 SKEW: 25°-15'-48" R.F.  
 APPROACH SLABS: 15' LONG (AS-1-15 & AS-2-15)  
 ALIGNMENT: SPIRAL AND TANGENT  
 SUPERELEVATION: 0.016 FT/FT  
 WEARING SURFACE: 1" MONOLITHIC CONCRETE  
 COORDINATES: LATITUDE 39° 52' 02"  
 LONGITUDE 84° 03' 19"

**PROPOSED WORK**

1. REMOVE NON-COMPOSITE BOX BEAMS AND REPLACE WITH COMPOSITE BOX BEAM SUPERSTRUCTURE.
2. REHAB PIERS BY EPOXY INJECTING LARGE CRACKS, PATCHING SPALLS WITH SCC CONCRETE.
3. SEALING CONCRETE SURFACES WITH EPOXY URETHANE.

WORK LISTED IS NOT INCLUSIVE. CONTRACTOR WILL SEQUENCE WORK AS NEEDED.

DESIGN AGENCY	ODOT DISTRICT 7
DESIGNED	LCG
DRAWN	LCG
REVIEWED	MRB
DATE	10/19/2017
STRUCTURE FILE NUMBER	5709792
MONTGOMERY COUNTY	STA. 469+23.84
SITE PLAN	BRIDGE NO.: MOT-235-0177R
PID No. 97242	N.B. S.R. 235 OVER S.B. S.R. 235/4 RAMP
MOT-235-1.77R	1/21
27	47

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**STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS**

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-15 DATED/REVISED 7/17/15

AS-2-15 DATED/REVISED 7/17/15

BR-1-13 DATED/REVISED 1/17/14

PSBD-2-07 DATED/REVISED 1/21/11

VPF-1-90 DATED/REVISED 7/17/15

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

844 DATED 7/17/15

**DESIGN SPECIFICATIONS**

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, INCLUDING THE 2004 ODOT BRIDGE DESIGN MANUAL.

**DESIGN LOADING**

HS20 AND THE ALTERNATE MILITARY LOADING.

FUTURE WEARING SURFACE (FWS) OF 60 POUNDS PER SQUARE FOOT.

**DESIGN DATA**

CONCRETE QC2 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE QC1 - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

CONCRETE FOR PRESTRESSED BEAMS:  
COMPRESSIVE STRENGTH (FINAL) - 7000PSI  
COMPRESSIVE STRENGTH (RELEASE) - 5000 PSI

PRESTRESSING STRAND:  
AREA = 0.167 SQUARE INCHES  
ULTIMATE STRENGTH = 270 KSI  
INITIAL STRESS = 202.5 KSI (LOW RELAXATION STRANDS)

**DECK PROTECTION METHOD**

EPOXY COATED REINFORCING STEEL

2-1/2" CONCRETE COVER

**MONOLITHIC WEARING SURFACE**

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

**EXISTING STRUCTURE VERIFICATION**

EXISTING STRUCTURE VERIFICATION: DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

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

**ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN**

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

**APPROACH SLAB CONCRETE PARAPETS**

THE REINFORCING STEEL AND THE CONCRETE FOR THE PARAPETS ON THE APPROACH SLABS ARE INCLUDED IN ITEMS 509 AND 511 FOR PAYMENT.

**BEARING PAD SHIMS**

BEARING PAD SHIMS: PLACE 1/8" THICK PREFORMED BEARING PAD SHIMS, PLAN AREA 5 INCHES BY 12 INCHES, UNDER THE ELASTOMERIC BEARING PADS WHERE REQUIRED FOR PROPER BEARING. FURNISH TWO SHIMS PER BEAM. THE DEPARTMENT WILL MEASURE THIS ITEM BY THE TOTAL NUMBER SUPPLIED. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516 - 1/8" PREFORMED BEARING PADS. ANY UNUSED SHIMS WILL BECOME THE PROPERTY OF THE STATE.

**DECK PLACEMENT DESIGN ASSUMPTIONS:**

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.42 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSE-WORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

**ITEM 516 - 2" DEEP JOINT SEALER, AS PER PLAN**

A 2" DEEP X 1" WIDE STRIP SHALL BE SAWCUT OUT OF THE PROPOSED ROADWAY ASPHALT SURFACE ABUTTING THE ENDS OF THE APPROACH SLABS AFTER THE APPROACH SLABS ARE PROPERLY CURED. JOINT SEALER AS PER 705.04 SHALL BE USED TO SEAL THE JOINT CREATED.

**ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC /QA (T=12"), AS PER PLAN**

APPROACH SLAB CONCRETE SHALL BE PLACED SEPARATELY FROM THE SUPERSTRUCTURE CONCRETE.

**ITEM 844 CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN**

844.01 DESCRIPTION

INSTALL CONCRETE PATCHES USING GALVANIC ANODES PER SUPPLEMENTAL SPECIFICATION 844 EXCEPT AS NOTED BELOW.

ALL CONCRETE PATCHES SHALL BE PLACED TO THE EXISTING SURFACE UNLESS OTHERWISE DETAILED IN THE PLANS.

844.02 MATERIALS

PROVIDE A SUPERPLASTICIZED DENSE CONCRETE (SDC) CONCRETE MIX (PER SUPPLEMENTAL SPECIFICATION 848.06 & 848.14) WITH THE FOLLOWING ADDITIONAL PROPERTY:

MINIMUM SPREAD 24"

PROVIDE AN SDC CONCRETE MIX AT A MIN. 24 INCH SPREAD THAT ALLOWS THE CONCRETE MIX TO BE PLACED THROUGH A 3 1/2" DIAMETER ACCESS HOLE THROUGH THE FORM AND SELF CONSOLIDATE. THE FINAL CONCRETE MIX WILL BE A SELF CONSOLIDATING CONCRETE USING AN APPROVED SELF CONSOLIDATING ADMIXTURE.

DURING THE CONCRETE OPERATIONS ASSURE THE REPRESENTATIVES OF THE READY MIX PRODUCER AND THE CHEMICAL ADMIXTURE MANUFACTURER ARE ON SITE TO DETERMINE ANY ADJUSTMENTS REQUIRED TO COMPLETE THE CONCRETE PLACEMENT. MAKE BATCHES OF AT LEAST 3 CU. YDS. PER DELIVERY. DELIVER AND PLACE ALL SDC CONCRETE PRIOR TO 9:00 A.M. TO HELP AVOID ADVERSE TEMPERATURE EFFECTS ON THE MIX CHARACTERISTICS.

844.03 CLEANING AND REPAIR OF REINFORCING STEEL

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

844.04 GALVANIC ANODE INSTALLATION

INSTALL ANODE UNITS AND REPAIR MATERIAL IMMEDIATELY FOLLOWING PREPARATION AND CLEANING OF STEEL REINFORCEMENT. REPAIR MATERIAL SHALL BE PLACED NO LATER THAN ONE (1) WEEK AFTER CONCRETE REMOVAL UNLESS APPROVED BY THE ENGINEER. GALVANIC ANODES SHALL BE INSTALLED IN THE LOCATIONS AND SPACING AS SPECIFIED IN THE PLANS. IN NO CASE, SHALL THE SPACING EXCEED 18 INCHES.

THE CONTRACTOR SHALL PERFORM HIS WORK AS TO NOT DAMAGE THE EMBEDDED ANODES OR CREATE ANY AIR VOIDS AROUND THE EMBEDDED ANODES WHILE SETTING FORMWORK OR PLACING CONCRETE.

844.06 QUALITY CONTROL

THE PROPOSED FORM SYSTEM MUST BE SUBMITTED, AND ACCEPTED BY THE PROJECT ENGINEER PRIOR TO THE INSTALLATION OF ANY FORMWORK. THE FORM SYSTEM SHALL NOT BE SUPPORTED THROUGH THE PATCH. THE FORM SYSTEM SHALL PROVIDE ENOUGH HEAD PRESSURE TO ENSURE THE PATCH IS FULLY CONSOLIDATED AND NULL OF VOIDS.

844.08 BASIS OF PAYMENT

PAYMENT FOR ALL OF THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 844 CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN

DESIGNED		DRAWN	REVIEWED	DATE	DESIGN AGENCY
DHG	DHG	DHG	MRB	10/19/2017	ODOT DISTRICT 7
CHECKED	CHECKED	REVISED	STRUCTURE FILE NUMBER		PLANNING & ENGINEERING
CWW	CWW		5709792		
<b>GENERAL NOTES</b>					
BRIDGE NO.: MOT-235-0177R					
N.B. S.R. 235 OVER S.B. S.R. 235/4 RAMP					
<b>MOT-235-1.77R</b>					
<b>PID No. 97242</b>					
2/21					
28					
47					

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ESTIMATED QUANTITIES (01/S<2/BR)

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	2/21
202	22900	224	SY	APPROACH SLAB REMOVED				224	
202	23500	804	SY	WEARING COURSE REMOVED				804	
202	75260	267	FT	VANDAL PROTECTION FENCE REMOVED				267	
503	21300	LS		UNCLASSIFIED EXCAVATION				LUMP	
509	10000	34737	LB	EPOXY COATED REINFORCING STEEL	1083		25174	8480	
510	10000	42	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	42				
511	31612	211	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE			211		
511	34450	41	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)			34	7	
511	44110	4	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	4				
512	10100	705	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	72	219	414		
512	10600	4	FT	CONCRETE REPAIR BY EPOXY INJECTION		4			
515	12041	4	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB21-36, AS PER PLAN (BEAM LENGTH = 44'-9 1/2")			4		3/21
515	12041	2	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB21-36, AS PER PLAN (BEAM LENGTH = 43'-11 3/4")			2		3/21
515	12050	18	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB21-48 (BEAM LENGTH = 44'-9 1/2")			18		
515	12050	9	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB21-48 (BEAM LENGTH = 43'-11 3/4")			9		
516	13600	16	SF	1" PREFORMED EXPANSION JOINT FILLER	16				
516	13900	20	SF	2" PREFORMED EXPANSION JOINT FILLER	20				
516	14020	119	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	119				
516	31011	89	FT	2" DEEP JOINT SEALER, AS PER PLAN				89	2/21
516	41100	66	EACH	1/8" PREFORMED BEARING PAD	22	44			
516	43100	132	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) (5"x12"x1")	44	88			
518	21200	47	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	47				
518	40000	122	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	122				
518	40010	30	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	30				
526	10011	145	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=12"), AS PER PLAN				145	2/21
526	90010	92	FT	TYPE A INSTALLATION				92	
607	39900	170	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC			170		
844	10001	23	SF	CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN		23			2/21

**TEMPORARY VERTICAL CLEARANCE DURING CONSTRUCTION**

ANY WORK (FALSEWORK, TRAFFIC PROTECTION, CONTAINMENT, ETC.) OVER LIVE TRAFFIC THAT REDUCES THE 'EXISTING MINIMUM VERTICAL CLEARANCE' IS PROHIBITED UNLESS WRITTEN NOTIFICATION IS PROVIDED AS DEFINED IN THE MAINTENANCE OF TRAFFIC GENERAL NOTES. ANY WORK OVER LIVE TRAFFIC SHALL NOT REDUCE THE VERTICAL CLEARANCE BELOW THE 'REQUIRED MINIMUM VERTICAL CLEARANCE' AS LISTED IN THE PLANS.

ANY WORK OVER LIVE TRAFFIC REQUIRING THE TEMPORARY VERTICAL CLEARANCE IS TO BE REMOVED AS SOON AS IT IS NO LONGER NEEDED FOR CONSTRUCTION. A SECOND NOTICE IS TO BE SENT TO ODOT'S SPECIAL HAULING PERMITS SECTION UPON REMOVAL.

LOWERING THE VERTICAL CLEARANCE DURING CONSTRUCTION IS CONSIDERED THE CONTRACTOR'S MEANS AND METHODS OF ACCOMPLISHING THE WORK, AND THEREFORE THE STATE IS NOT RESPONSIBLE FOR ANY DAMAGE FROM VEHICULAR IMPACTS THAT MAY RESULT AS PER 107.10.

**ITEM 515, PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB21-36, AS PER PLAN (BEAM LENGTH = 44'-9 1/2")**

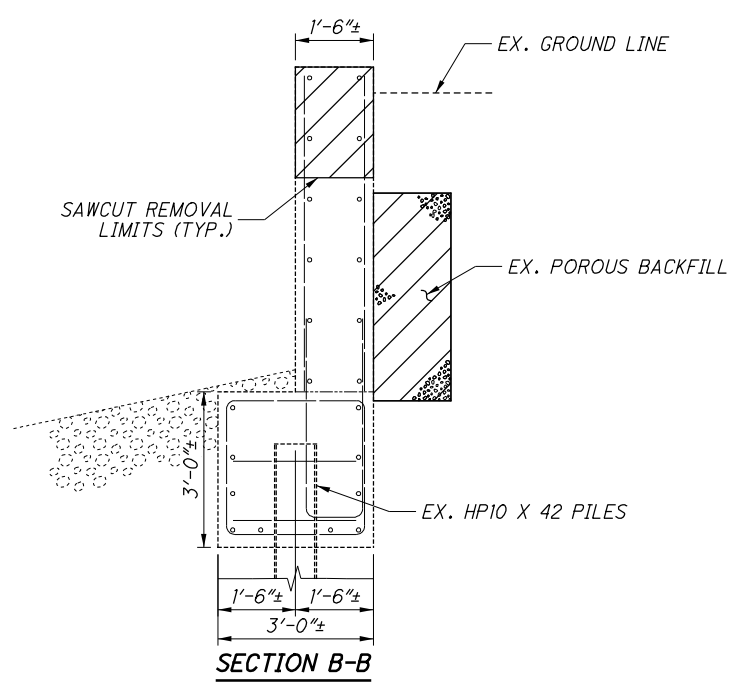
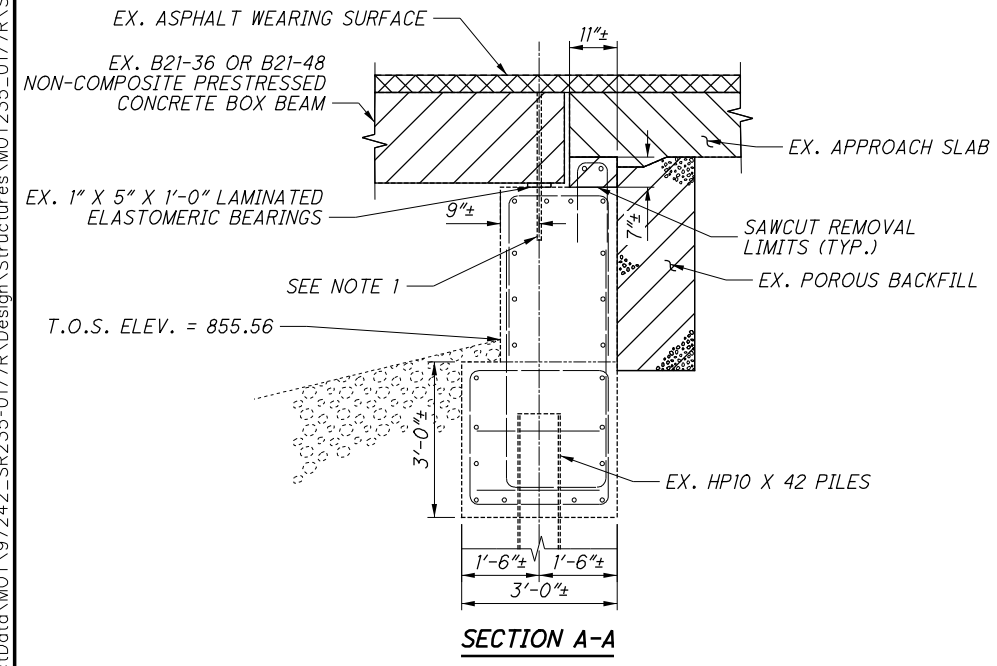
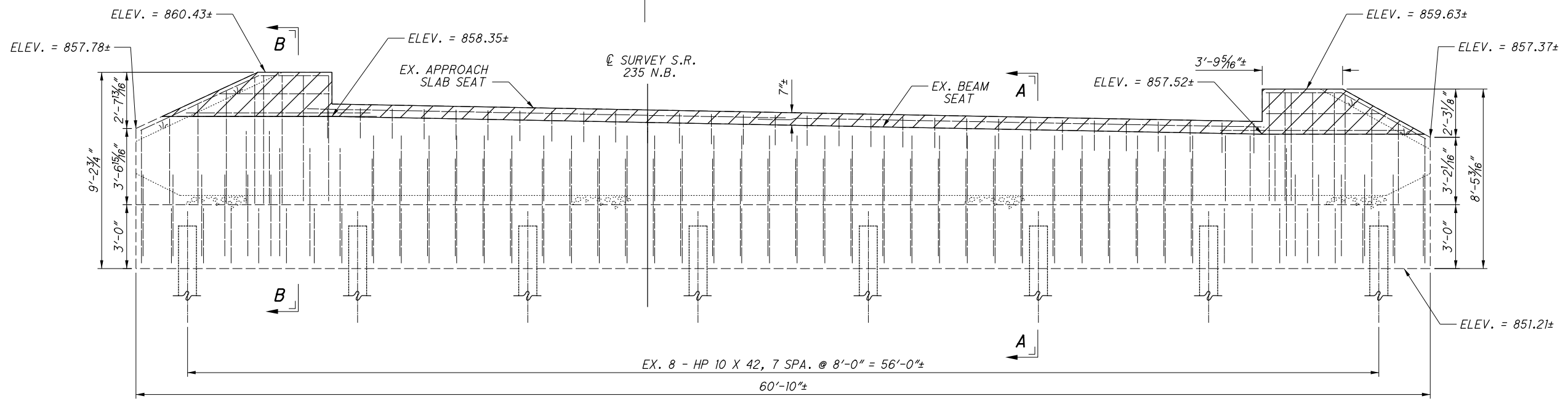
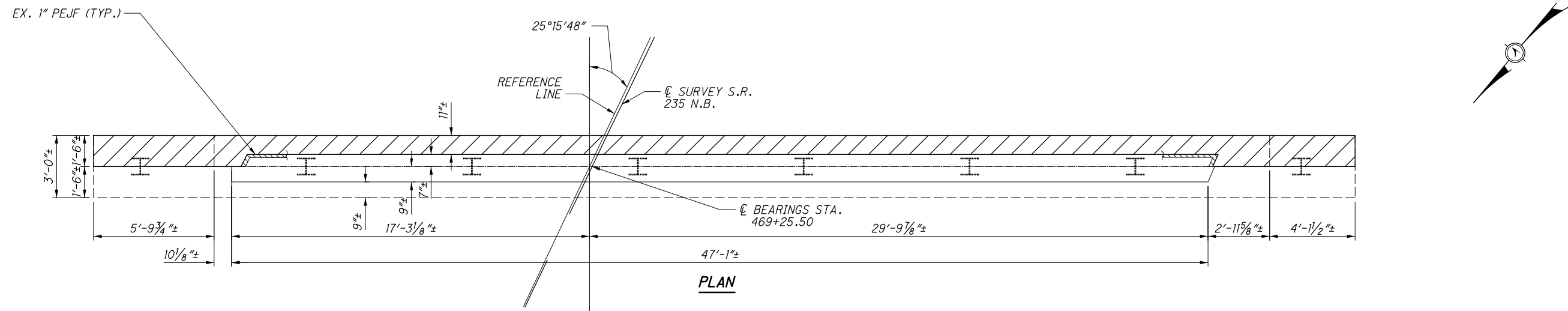
EXCEPT AS SHOWN ON THE PSBD-2-07 STANDARD DRAWING, THE DEPARTMENT WILL NOT PERMIT INSERTS OR HOLES IN THE BOTTOM FLANGE ALONG THE LENGTH OF THE ENTIRE BEAM.

**ITEM 515, PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB21-36, AS PER PLAN (BEAM LENGTH = 43'-11 3/4")**

EXCEPT AS SHOWN ON THE PSBD-2-07 STANDARD DRAWING, THE DEPARTMENT WILL NOT PERMIT INSERTS OR HOLES IN THE BOTTOM FLANGE ALONG THE LENGTH OF THE ENTIRE BEAM.

DESIGN AGENCY ODOT DISTRICT 7 PLANNING & ENGINEERING
REVIEWED DATE MRB 10/19/2017 STRUCTURE FILE NUMBER 5709792
DRAWN DHG REVISED
DESIGNED DHG CHECKED CWW
ESTIMATED QUANTITIES BRIDGE NO.: MOT-235-0177R N.B. S.R. 235 OVER S.B. S.R. 235/4 RAMP
MOT-235-1.77R PID No. 97242
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**NOTES AND LEGEND**

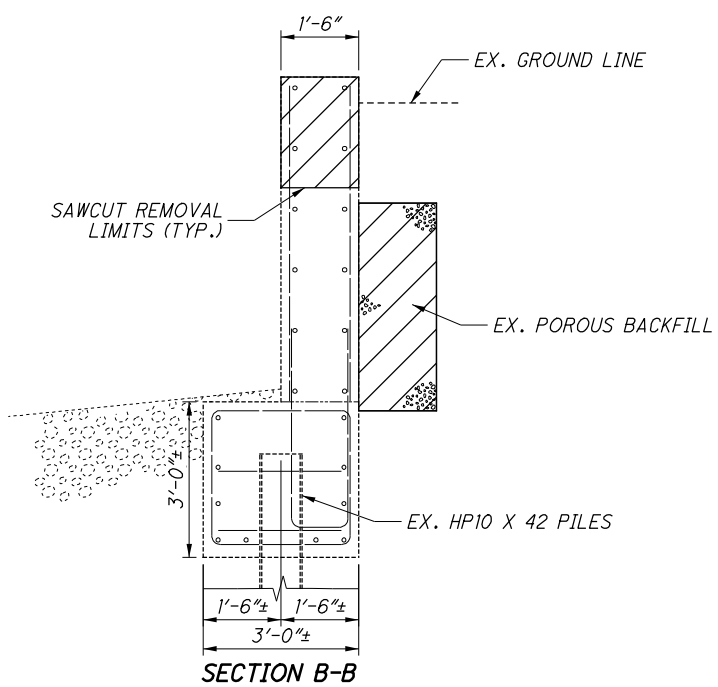
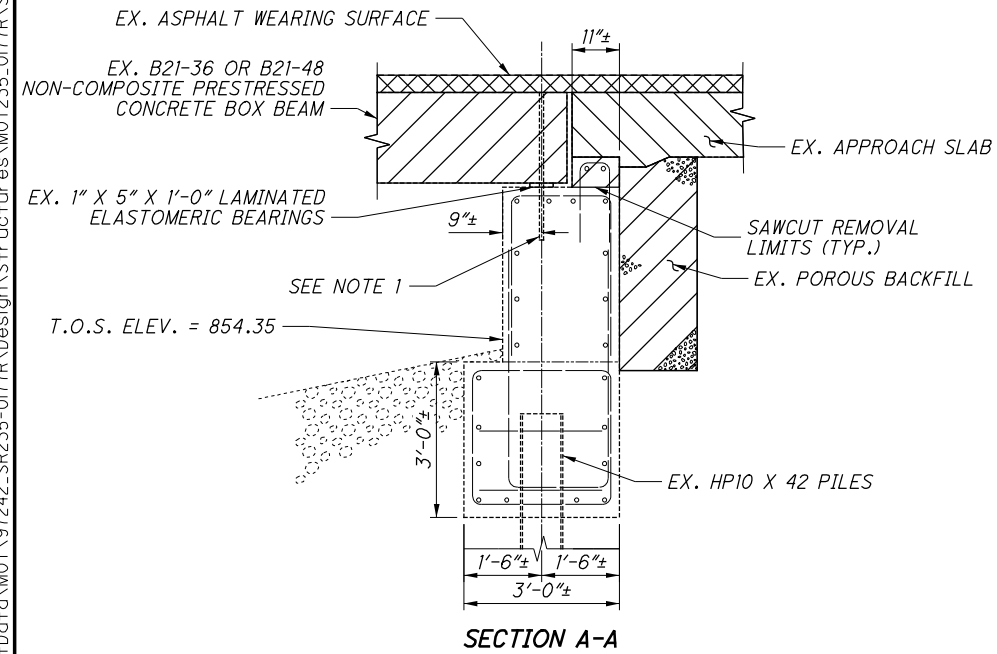
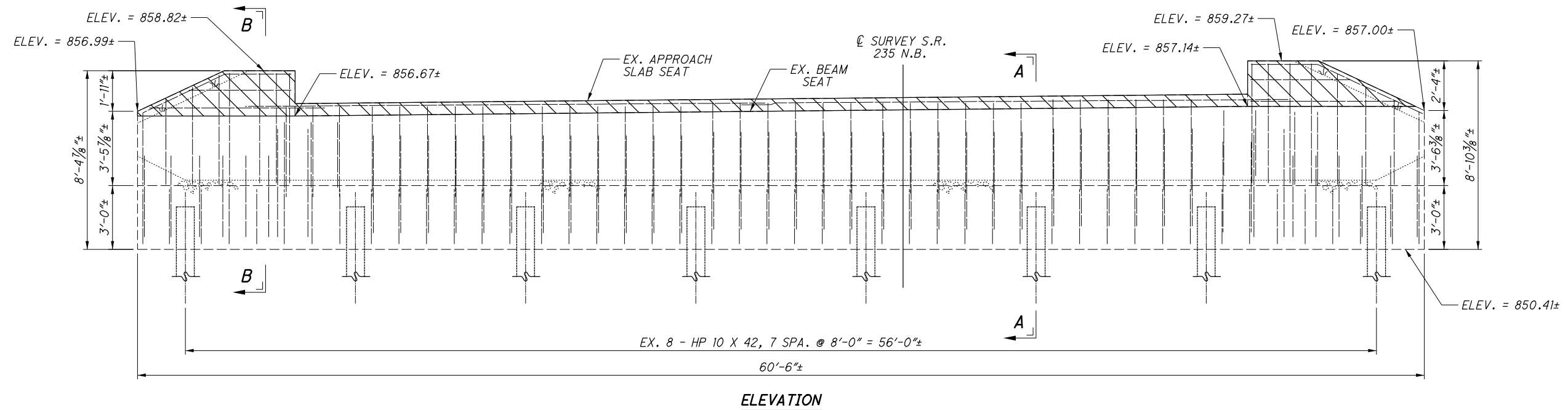
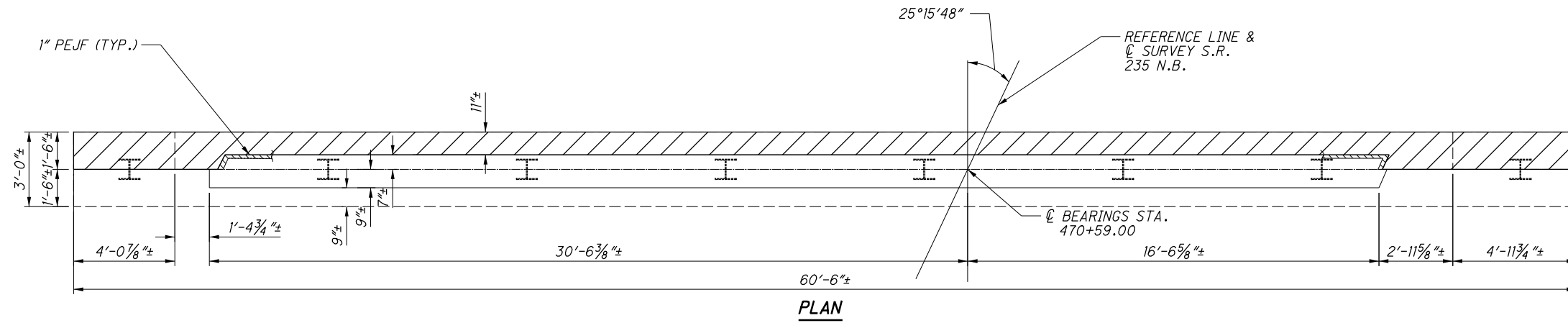
- ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
- ITEM 202, WEARING COURSE REMOVED
- ITEM 202, APPROACH SLAB REMOVED

C.J. = CONSTRUCTION JOINT

1. PRESTRESSED BOX BEAM ANCHORS SHALL BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
2. EXISTING REINFORCING STEEL IS TO BE CUT FLUSH AT THE PROPOSED CONSTRUCTION JOINT.
3. DIMENSIONS TAKEN FROM EXISTING PLANS ARE CONSIDERED TO BE ± AND ARE FOR REFERENCE ONLY.

DESIGN AGENCY ODOT DISTRICT 7 PLANNING & ENGINEERING	DATE 10/19/2017	REVIEWED MRB	STRUCTURE FILE NUMBER 5709792
DRAWN LCG	CHECKED CWV	DESIGNED LCG	REVISOR CWV
<b>REMOVAL DETAILS (REAR ABUTMENT)</b>			
BRIDGE NO.: MOT-235-0177R			
N.B. S.R. 235 OVER S.B. S.R. 235/4 RAMP			
<b>MOT-235-1.77R</b>		<b>PID No. 97242</b>	
4 / 21		30 / 47	

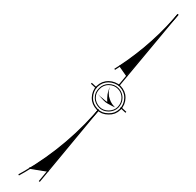
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**NOTES AND LEGEND**

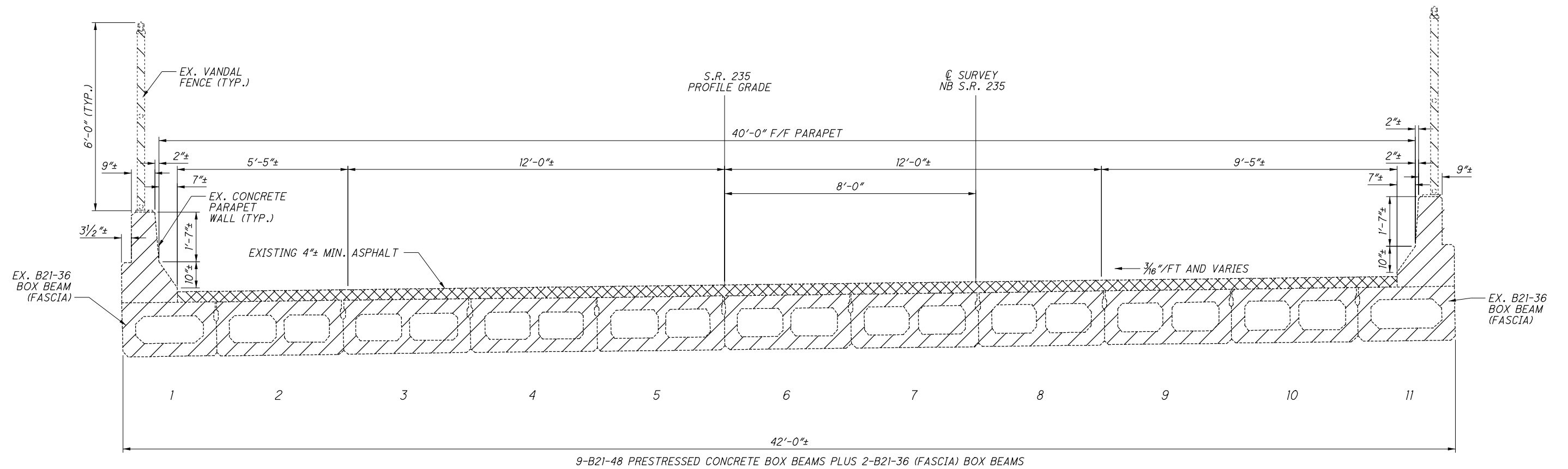
- ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
- ITEM 202, WEARING COURSE REMOVED
- ITEM 202, APPROACH SLAB REMOVED

1. PRESTRESSED BOX BEAM ANCHORS SHALL BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
2. EXISTING REINFORCING STEEL IS TO BE CUT FLUSH AT THE PROPOSED CONSTRUCTION JOINT.
3. DIMENSIONS TAKEN FROM EXISTING PLANS ARE CONSIDERED TO BE ± AND ARE FOR REFERENCE ONLY.



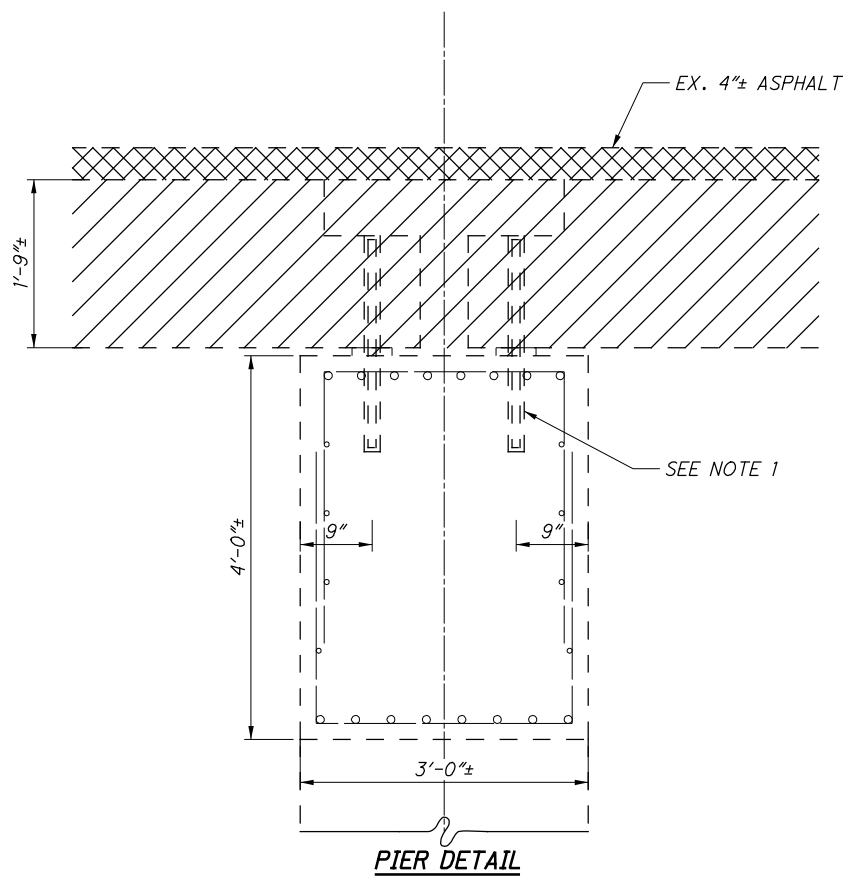
DESIGN AGENCY ODOT DISTRICT 7 PLANNING & ENGINEERING	DATE 10/19/2017	REVIEWED MRB	STRUCTURE FILE NUMBER 5709792
DESIGNED DHG	CHECKED CWW	DRAWN DHG	REVISED
<b>REMOVAL DETAILS (FORWARD ABUTMENT)</b>			
BRIDGE NO.: MOT-235-0177R			
N.B. S.R. 235 OVER S.B. S.R. 235/4 RAMP			
<b>MOT-235-1.77R</b>		<b>PID No. 97242</b>	
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9-B21-48 PRESTRESSED CONCRETE BOX BEAMS PLUS 2-B21-36 (FASCIA) BOX BEAMS

**TRANSVERSE SECTION REMOVAL**



**PIER DETAIL**

**NOTES AND LEGEND**

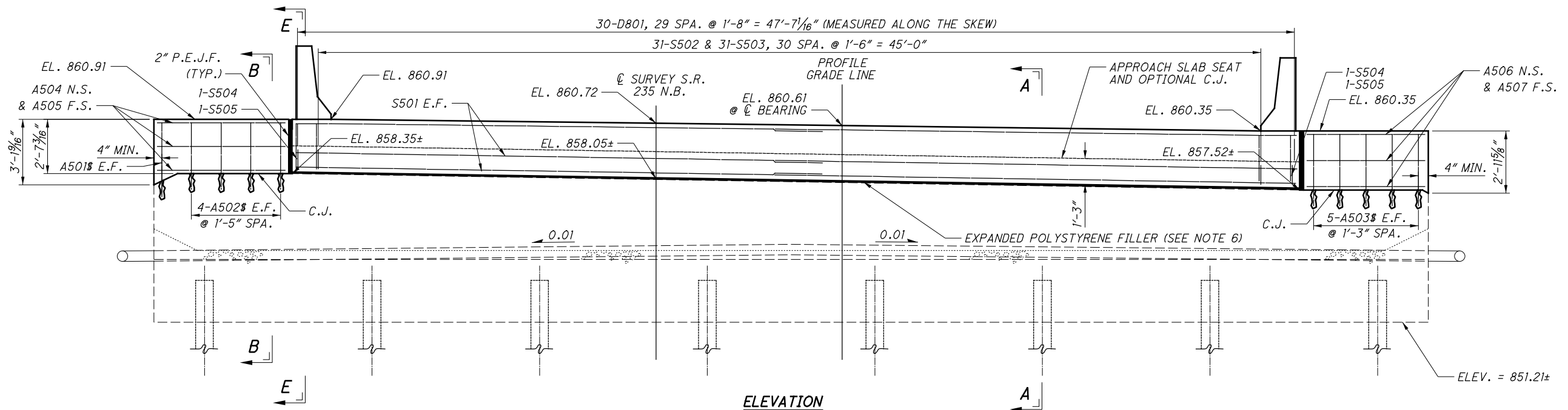
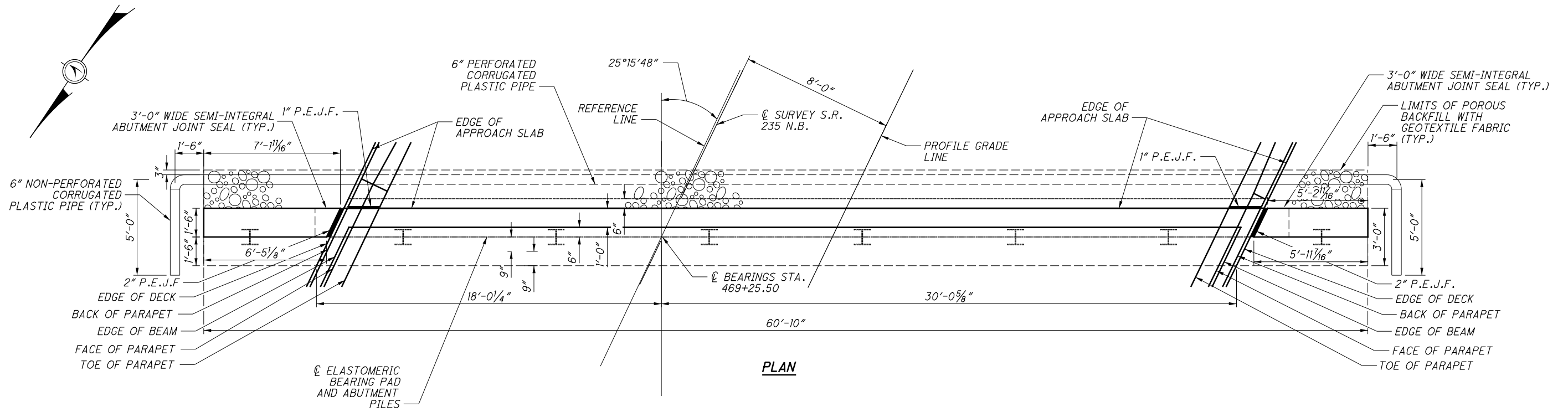
- ITEM 202, VANDAL PROTECTION FENCE REMOVED
- ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
- ITEM 202, WEARING COURSE REMOVED

1. PRESTRESSED BOX BEAM ANCHORS SHALL BE REMOVED PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

DESIGN AGENCY ODOT DISTRICT 7 PLANNING & ENGINEERING
REVIEWED DATE MRB 10/19/2017 STRUCTURE FILE NUMBER 5709792
DRAWN DHG REVISED
DESIGNED DHG CHECKED CWW
<b>SUPERSTRUCTURE REMOVAL DETAILS</b> BRIDGE NO.: MOT-235-0177R N.B. S.R. 235 OVER S.B. S.R. 235/4 RAMP
<b>MOT-235-1.77R</b> PID No. 97242
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**NOTES & LEGEND**

1. POROUS BACKFILL WITH GEOTEXTILE FABRIC, 2 FEET THICK SHALL EXTEND DOWN TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
  2. ABUTMENT DIAPHRAGM CONCRETE: PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE.
  3. ABUTMENT CONCRETE: DO NOT PLACE THE ABUTMENT CONCRETE ABOVE THE BRIDGE SEAT CONSTRUCTION JOINT UNTIL THE PRESTRESSED CONCRETE BOX BEAMS HAVE BEEN ERECTED.
  4. FOR SECTIONS, SEE SHEET [9/21](#).
  5. SEE REINFORCING STEEL LIST FOR REBAR DETAIL [20/21](#).
  6. EXPANDED POLYSTYRENE FILLER TO BE INCLUDED WITH SUPERSTRUCTURE CONCRETE FOR PAYMENT.
- #5 BAR LAP LENGTH = 2'-6"
- § - BAR TO BE DOWELED INTO EXISTING STRUCTURE  
 E.F. - EACH FACE  
 N.S. - NEAR SIDE  
 F.S. - FAR SIDE  
 P.E.J.F. - PREFORMED EXPANSION JOINT FILLER  
 C.J. - CONSTRUCTION JOINT

DESIGN AGENCY  
 ODOT DISTRICT 7  
 PLANNING & ENGINEERING

REVIEWED DATE  
 MRB 10/19/2017  
 STRUCTURE FILE NUMBER  
 5709792

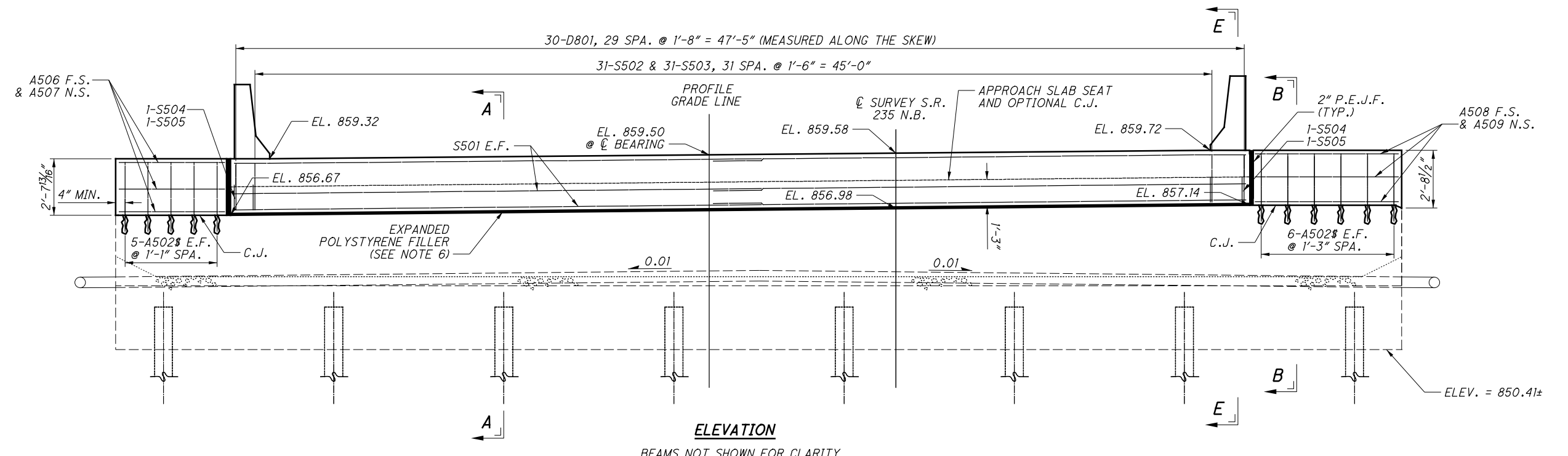
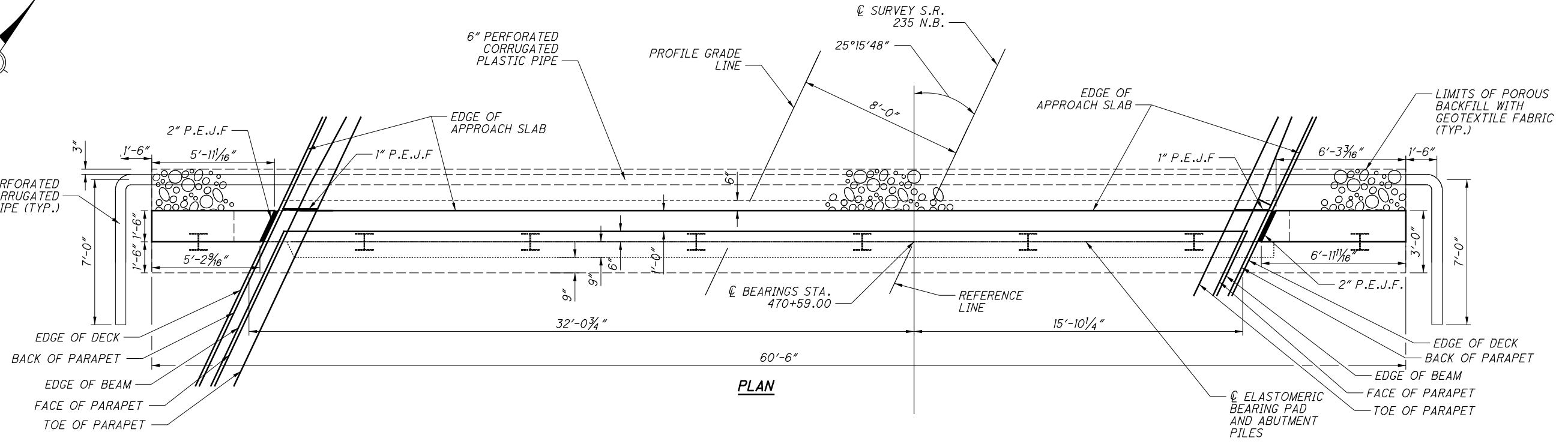
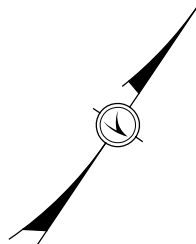
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REAR ABUTMENT DETAILS  
 BRIDGE NO.: MOT-235-0177R  
 N.B. S.R. 235 OVER S.B. S.R. 235/4 RAMP

MOT-235-1.77R  
 PID No. 97242

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**NOTES & LEGEND**

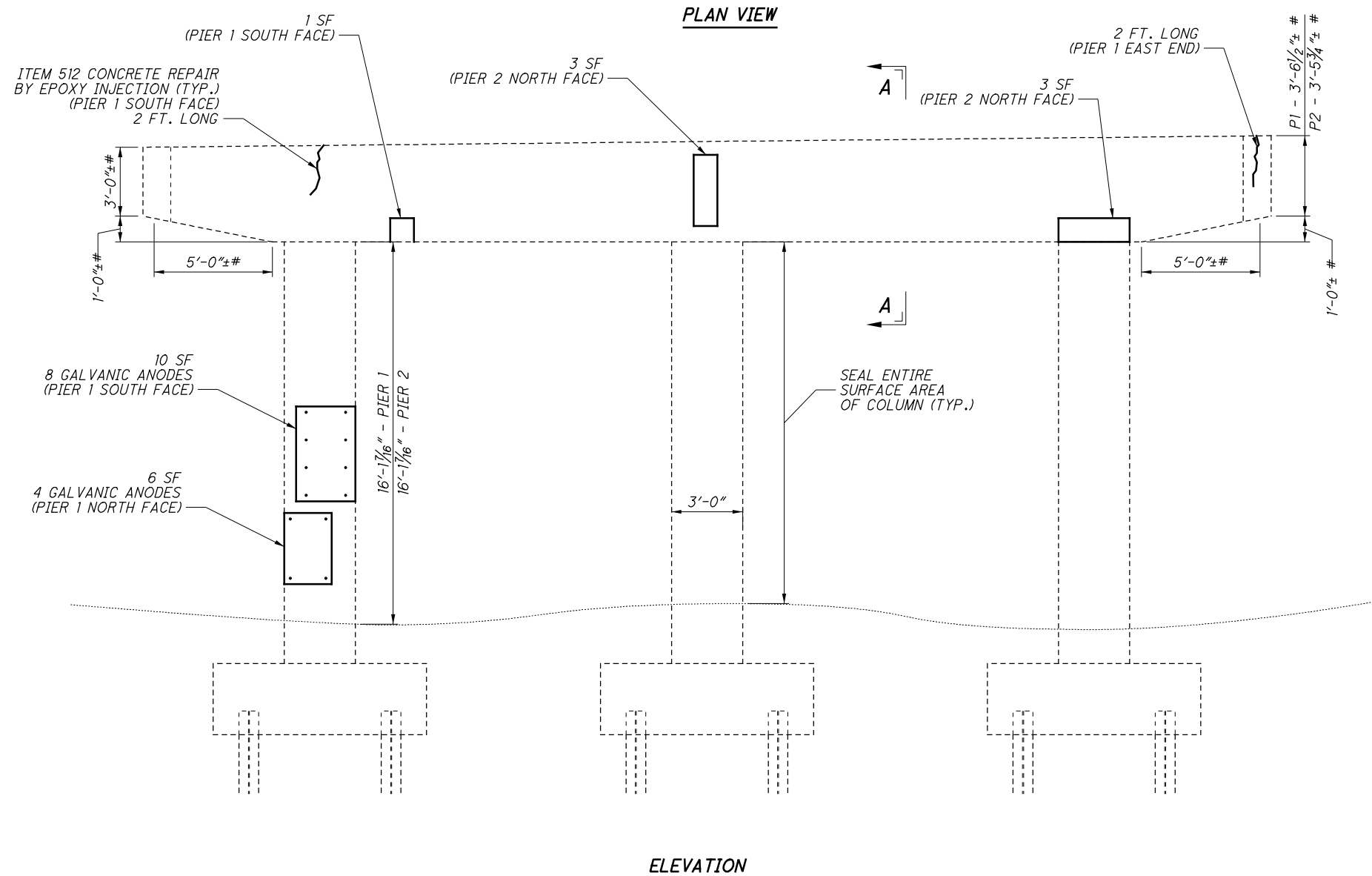
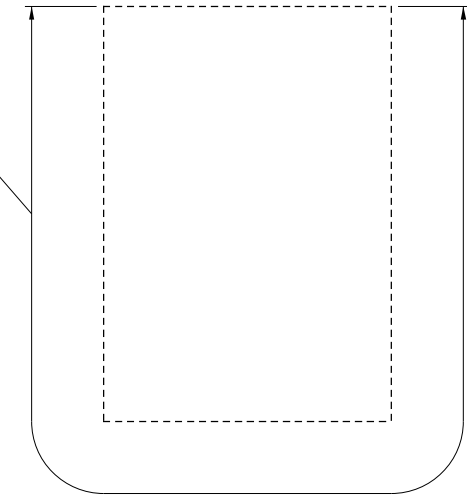
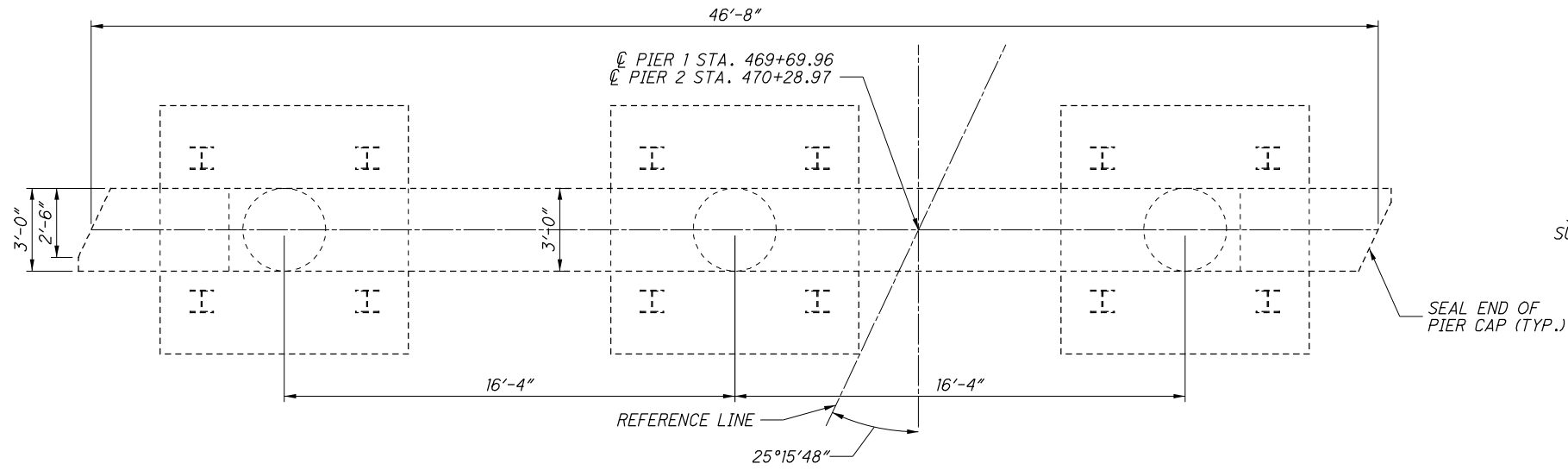
1. POROUS BACKFILL WITH GEOTEXTILE FABRIC, 2 FEET THICK SHALL EXTEND DOWN TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
  2. ABUTMENT DIAPHRAGM CONCRETE: PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE.
  3. ABUTMENT CONCRETE: DO NOT PLACE THE ABUTMENT CONCRETE ABOVE THE BRIDGE SEAT CONSTRUCTION JOINT UNTIL THE PRESTRESSED CONCRETE BOX BEAMS HAVE BEEN ERECTED.
  4. FOR SECTIONS, SEE SHEET [9/21](#).
  5. SEE REINFORCING STEEL LIST FOR REBAR DETAIL [20/21](#).
  6. EXPANDED POLYSTYRENE FILLER TO BE INCLUDED WITH SUPERSTRUCTURE CONCRETE FOR PAYMENT.
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- § - BAR TO BE DOWELED INTO EXISTING STRUCTURE  
 E.F. - EACH FACE  
 N.S. - NEAR SIDE  
 F.S. - FAR SIDE  
 P.E.J.F. - PREFORMED EXPANSION JOINT FILLER  
 C.J. - CONSTRUCTION JOINT

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DESIGNED LCG	DRAWN LCG	REVIEWED MRB	DATE 10/19/2017
CHECKED DHG	REVISED	STRUCTURE FILE NUMBER 5709792	DESIGN AGENCY ODOT DISTRICT 7 PLANNING & ENGINEERING
<b>FORWARD ABUTMENT DETAILS</b> BRIDGE NO.: MOT-235-0177R N.B. S.R. 235 OVER S.B. S.R. 235/4 RAMP			
<b>MOT-235-1.77R</b> PID No. 97242		8 / 21 <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> <span style="margin-right: 5px;">34</span> <span>47</span> </div>	



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**SECTION A-A**

	ITEM 844E10001 CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
PIER #1 =	17 SQ. FT.
PIER #2 =	6 SQ. FT.
TOTAL =	23 SQ. FT.

	# OF ANODES	
PIER #1 =	12	
TOTAL =	12	FOR REFERENCE ONLY

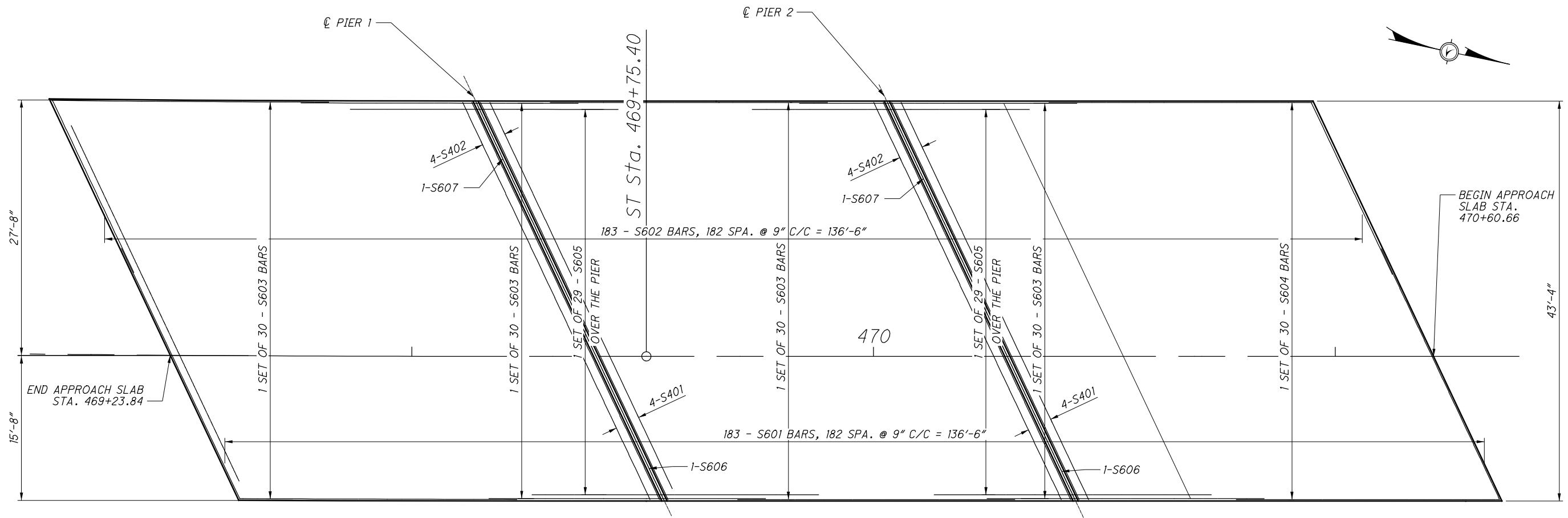
	ITEM 512E10600 CONCRETE REPAIR BY EPOXY INJECTION
PIER #1 =	4 FT.
TOTAL =	4 FT.

**NOTES & LEGEND**

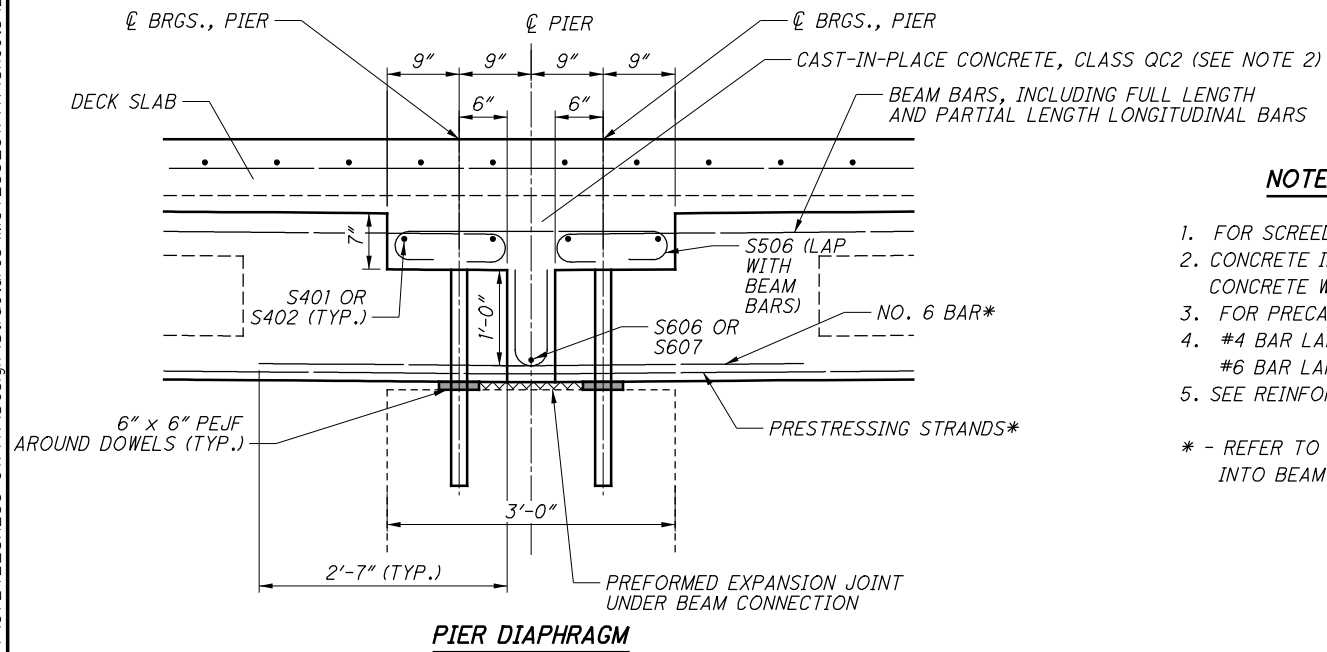
- EXISTING REINFORCING STEEL IS NOT SHOWN FOR CLARITY.
- # - ELEVATIONS AND DIMENSIONS ARE GIVEN AT THE CENTERLINE OF THE PIER.



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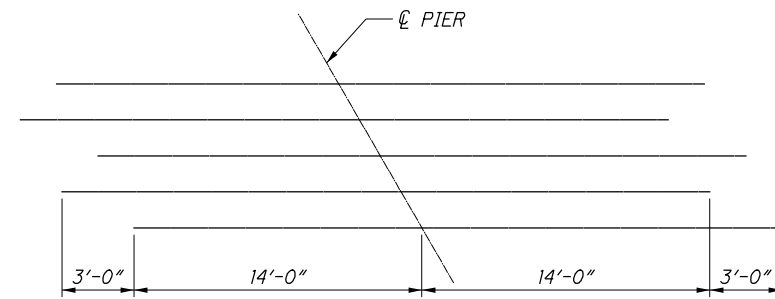


**DECK REINFORCING PLAN**



**NOTES & LEGEND**

1. FOR SCREED AND FINAL ELEVATIONS, SEE SHEET [15/21].
  2. CONCRETE INCLUDED WITH ITEM 511, CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE FOR PAYMENT.
  3. FOR PRECAST BEAM DETAILS, SEE SHEET [13/21] AND [14/21].
  4. #4 BAR LAP LENGTH = 2'-0"  
#6 BAR LAP LENGTH = 3'-0"
  5. SEE REINFORCING STEEL LIST FOR REBAR DETAIL [20/21].
- \* - REFER TO PSBD-2-07 FOR REINFORCEMENT DETAIL INTO BEAM CONNECTION POUR.



**STAGGER DIAGRAM**

FOR S605 OVER PIERS 1 & 2

DESIGN AGENCY  
ODOT DISTRICT 7  
PLANNING & ENGINEERING

DESIGNED  
DHG  
CHECKED  
CWW

DRAWN  
DHG  
REVISED

REVIEWED  
MRB  
DATE  
10/19/2017  
STRUCTURE FILE NUMBER  
5709792

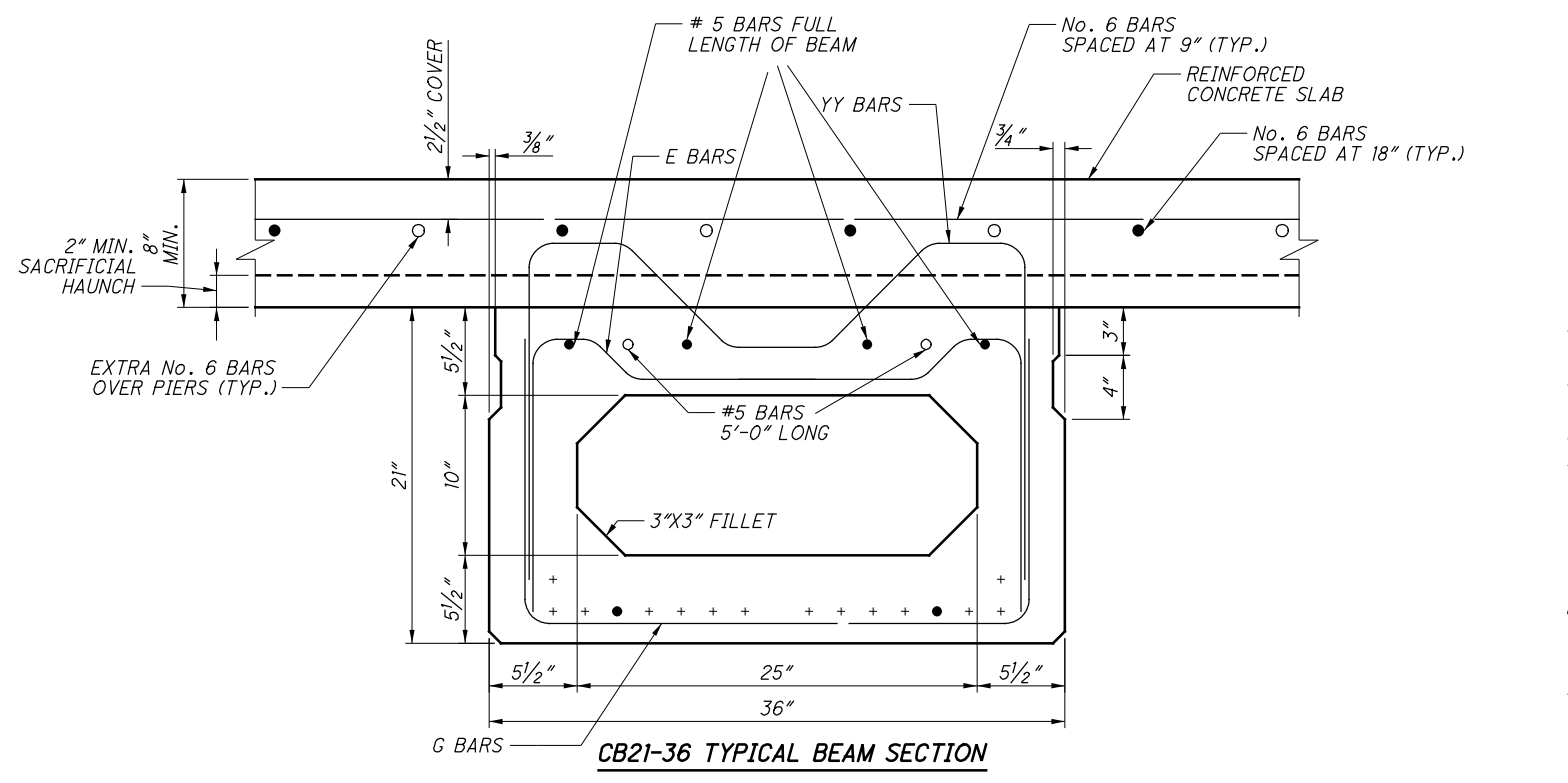
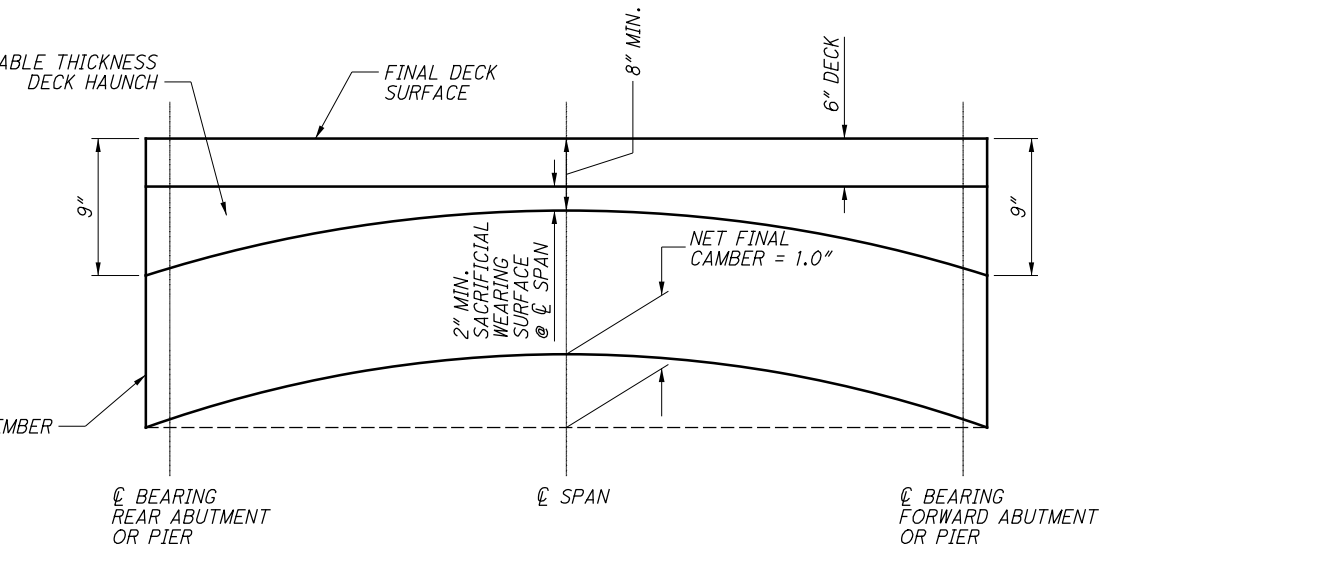
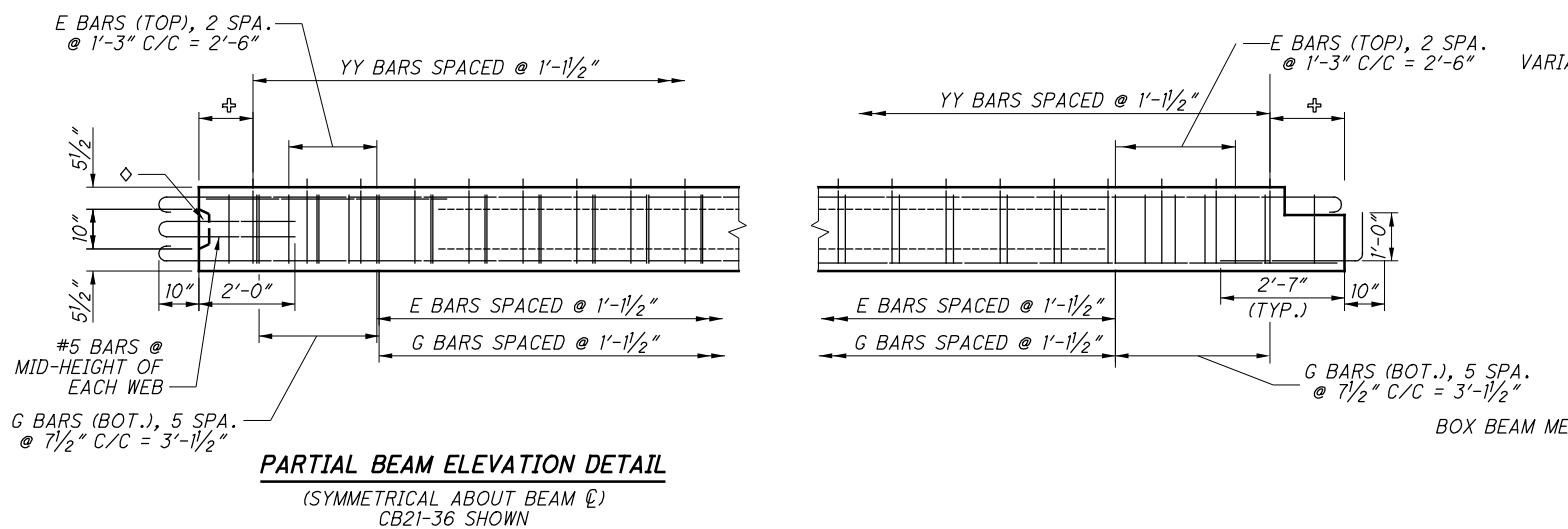
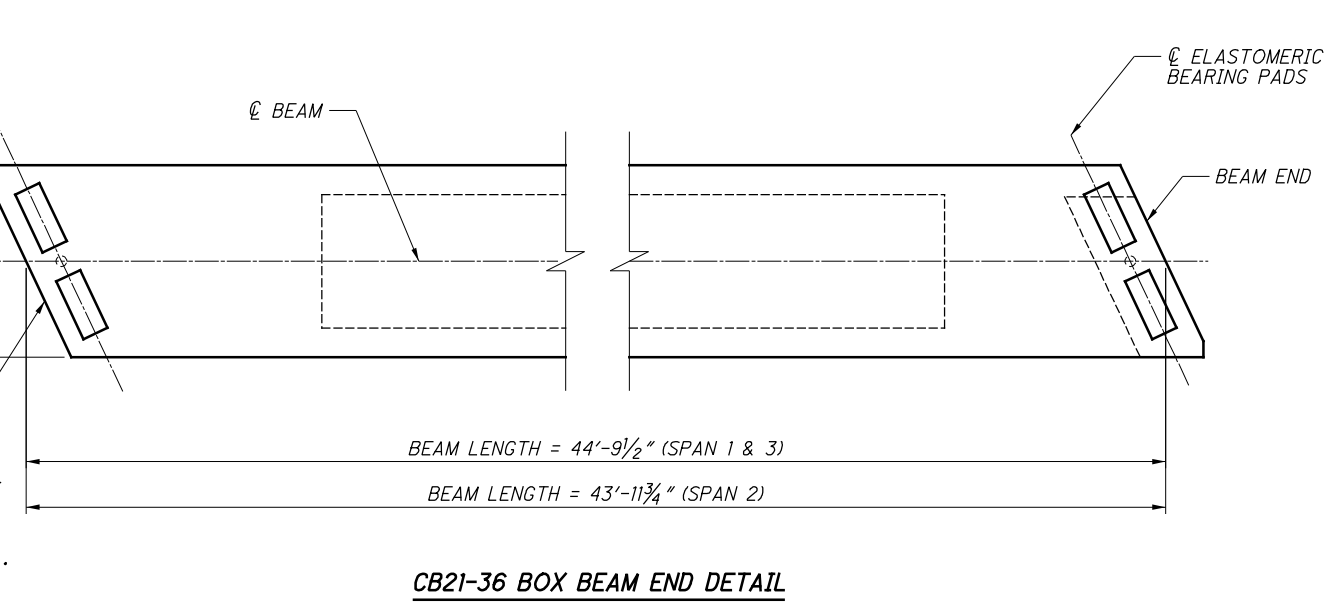
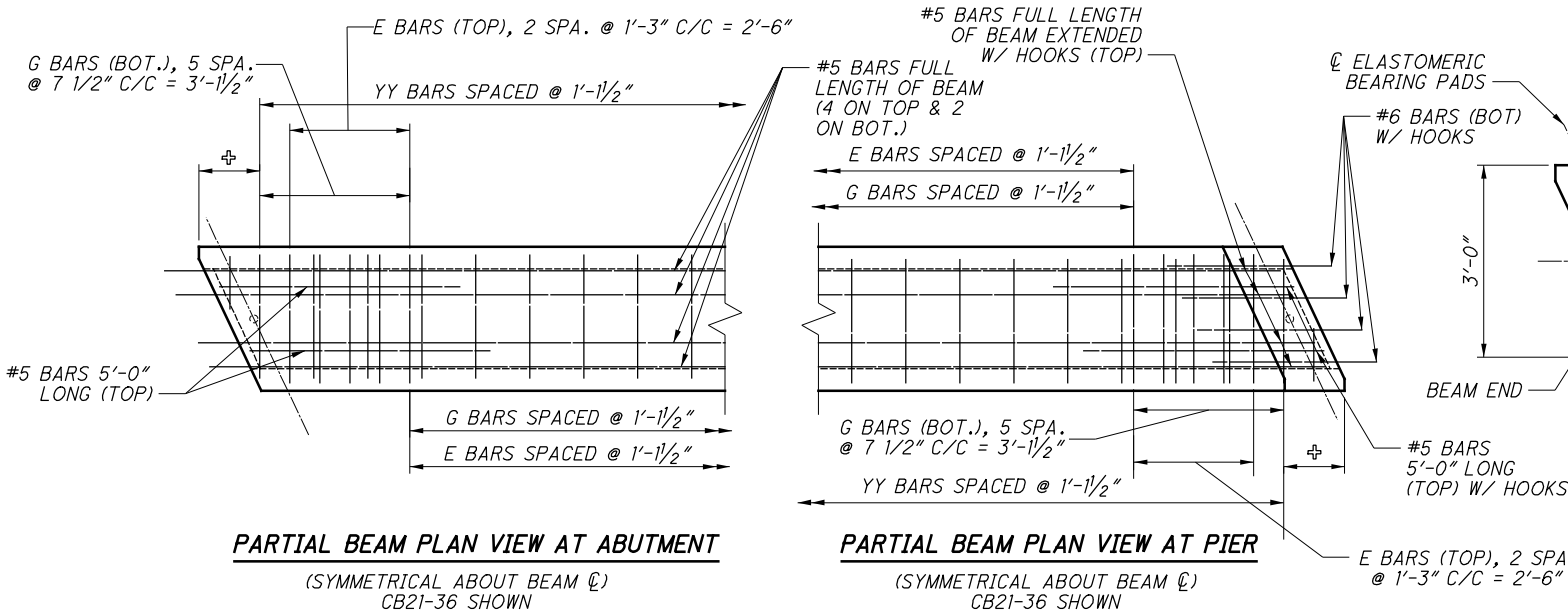
**DECK PLAN**  
BRIDGE NO.: MOT-235-0177R  
N.B. S.R. 235 OVER S.B. S.R. 235/4 RAMP

**MOT-235-1.77R**  
PID No. 97242

12 / 21

38  
47

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**NOTES & LEGEND**

**CAMBER**

ESTIMATED CAMBER AT DAY 0 (D0) IS  $\frac{3}{4}$  INCHES.

ESTIMATED CAMBER AT DAY 30 (D30) IS  $1\frac{3}{8}$  INCHES.

DEFLECTION DUE TO REMAINING DEAD LOAD (E.G. CONCRETE DECK, DIAPHRAGMS, BARRIERS, UTILITIES, ETC.) IS  $\frac{3}{8}$  INCHES.

THE BEAM SEAT ELEVATIONS ASSUME ESTIMATED CAMBER D30.

**DECK SLAB THICKNESS FOR CONCRETE QUANTITY**

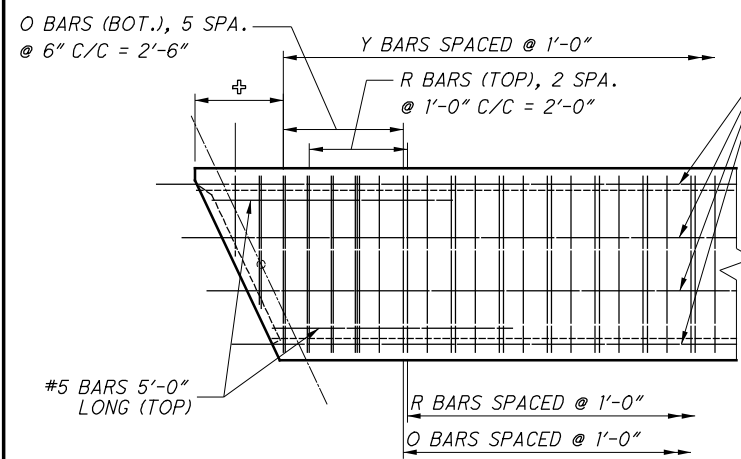
THE ESTIMATED QUANTITY OF DECK CONCRETE IS MEASURED ACCORDING TO C&MS 511. IN ADDITION TO THE DESIGN SLAB THICKNESS, THE QUANTITY INCLUDES A VARIABLE HAUNCH THICKNESS THAT PROVIDES AN ALLOWANCE FOR: VERTICAL GRADE ADJUSTMENT AND BEAM CAMBER.

$\oplus$  - BEAM END REINFORCEMENT NOT SHOWN FOR CLARITY. SEE STD. DWG. PSB2-2-07 FOR ADDITIONAL DETAILS

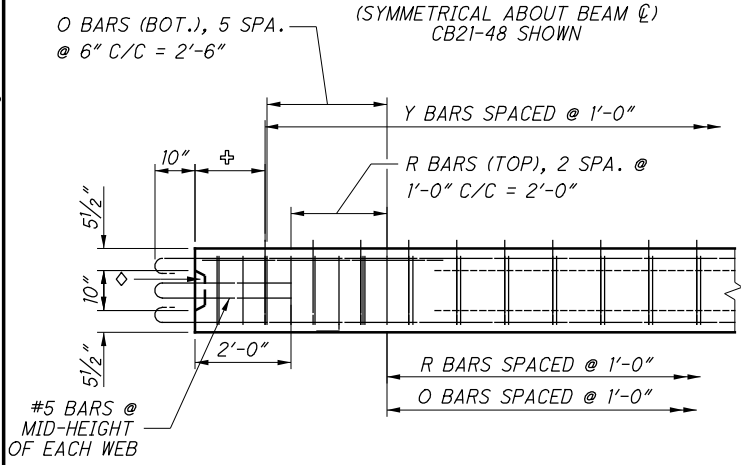
$\diamond$  - SHEAR KEY IS 25" X 10" X 2 1/2" AND IS CENTERED ABOUT THE CENTERLINE OF THE BEAM

DESIGNED	LCG	CHECKED	CWW
DRAWN	LCG	REVISED	
REVIEWED	MRB	DATE	10/19/2017
STRUCTURE FILE NUMBER	5709792	DESIGN AGENCY	ODOT DISTRICT 7
PLANNING & ENGINEERING			
SUPERSTRUCTURE DETAILS (1 OF 3)			
BRIDGE NO.: MOT-235-0177R			
N.B.: S.R. 235 OVER S.B. S.R. 235/4 RAMP			
MOT-235-1.77R		PID No. 97242	
13 / 21		39 / 47	

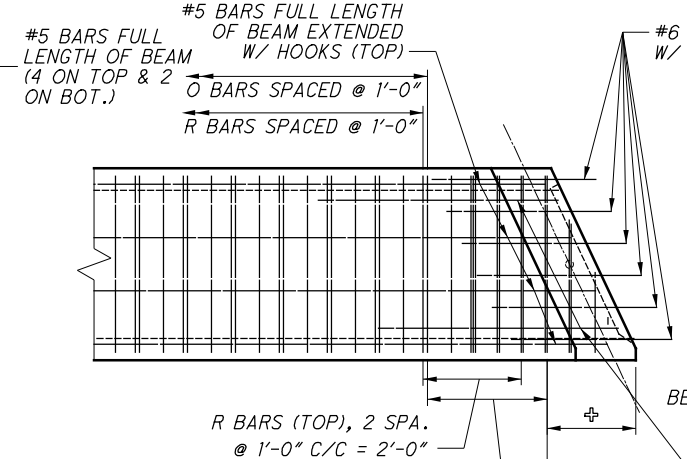
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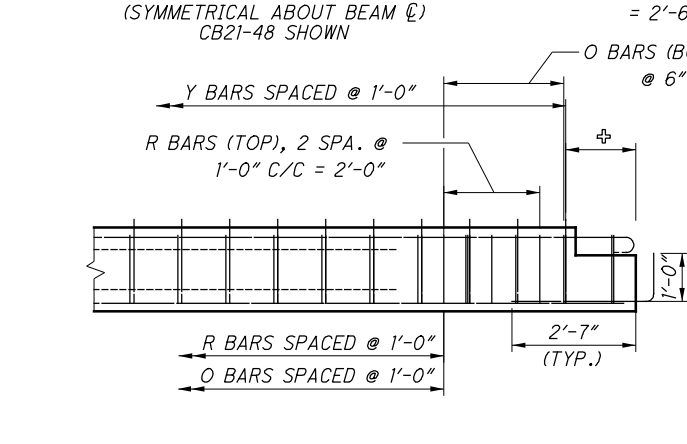
**PARTIAL BEAM PLAN VIEW**  
(SYMMETRICAL ABOUT BEAM CL)  
CB21-48 SHOWN



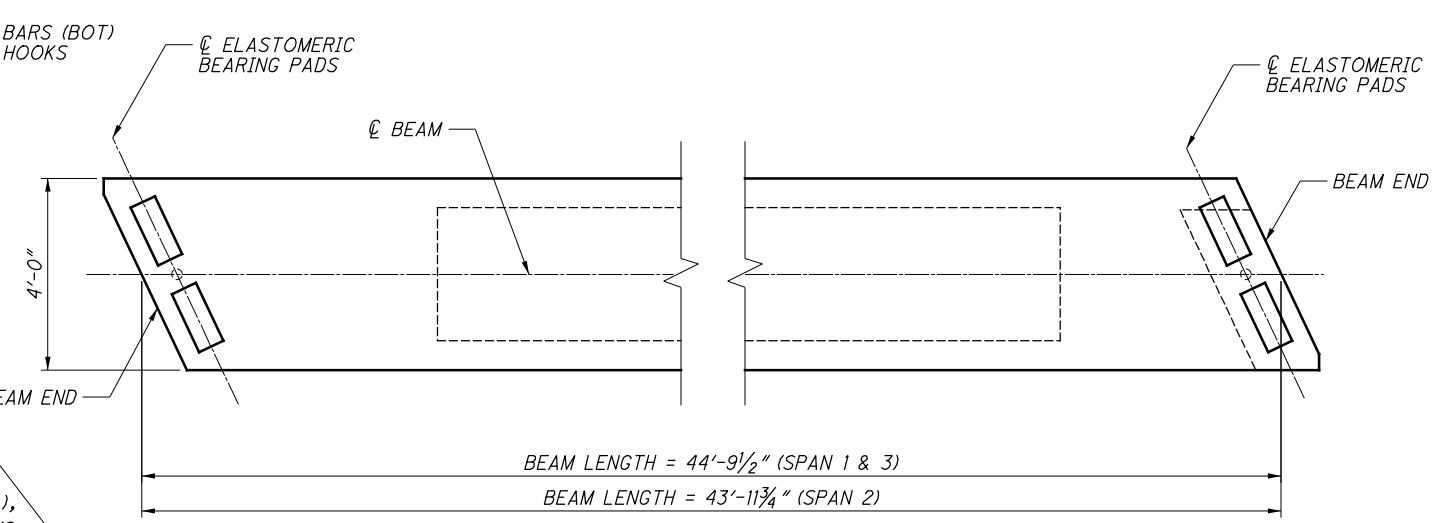
**PARTIAL BEAM ELEVATION DETAIL AT ABUTMENT**  
(SYMMETRICAL ABOUT BEAM CL)  
CB21-48 SHOWN



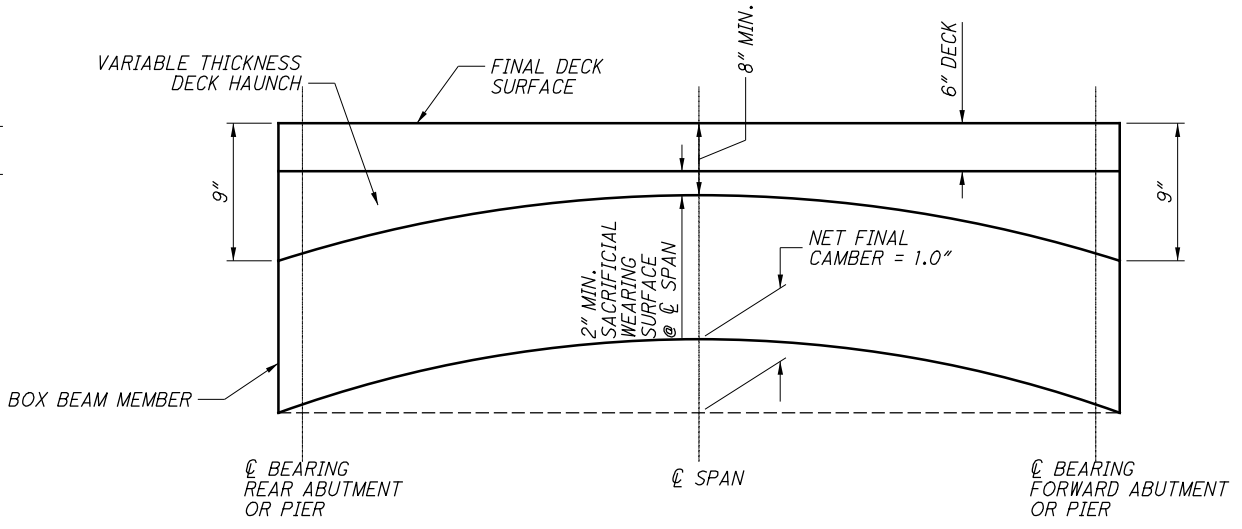
**PARTIAL BEAM PLAN VIEW AT PIER**  
(SYMMETRICAL ABOUT BEAM CL)  
CB21-48 SHOWN



**PARTIAL BEAM ELEVATION DETAIL AT PIER**  
(SYMMETRICAL ABOUT BEAM CL)  
CB21-48 SHOWN



**CB21-48 BOX BEAM END DETAIL**



**CONCRETE THICKNESS DIAGRAM**

**NOTES & LEGEND**

**CAMBER**

ESTIMATED CAMBER AT DAY 0 (D0) IS 3/4 INCHES.

ESTIMATED CAMBER AT DAY 30 (D30) IS 1 3/8 INCHES.

DEFLECTION DUE TO REMAINING DEAD LOAD (E.G. CONCRETE DECK, DIAPHRAGMS, BARRIERS, UTILITIES, ETC.) IS 3/8 INCHES.

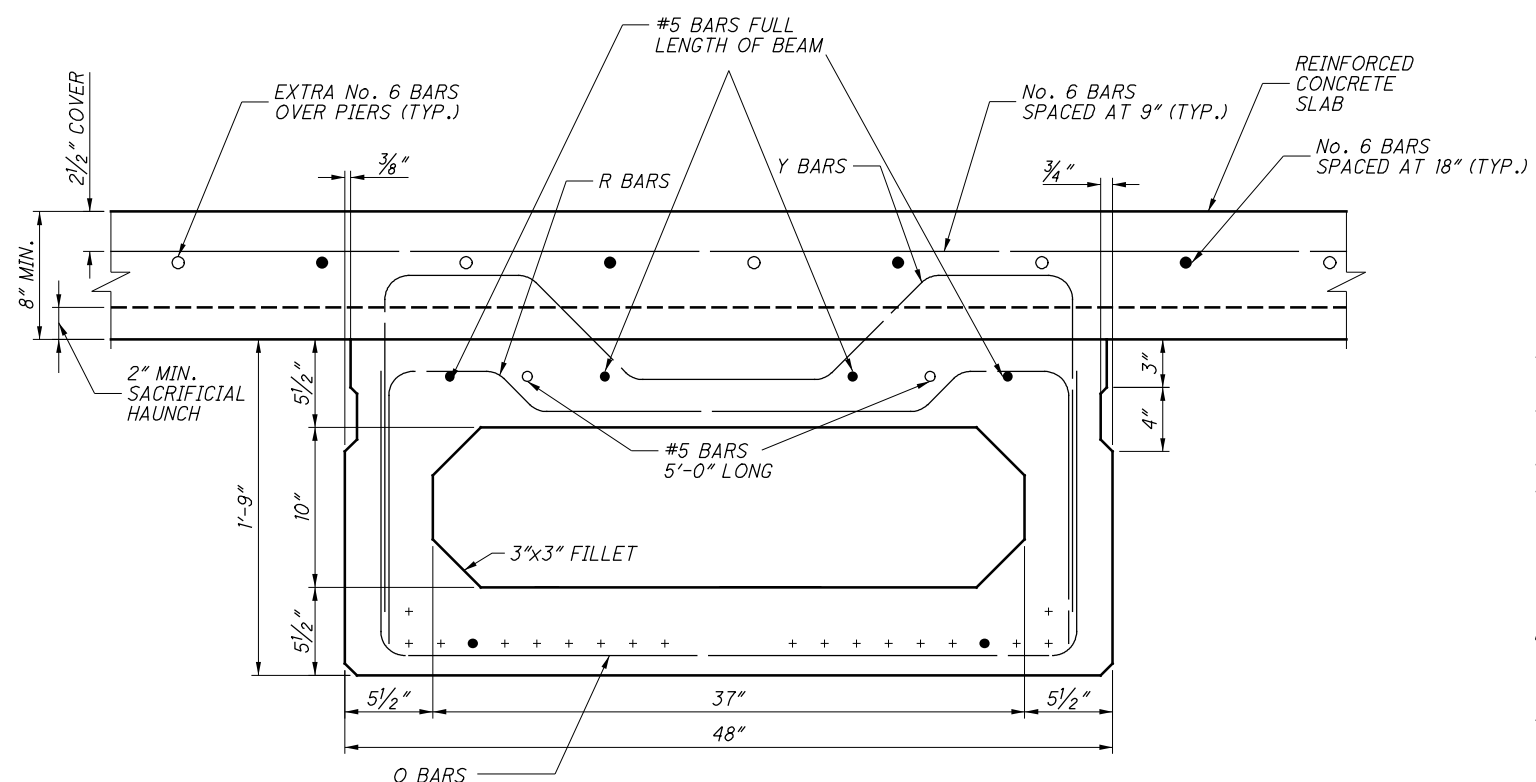
THE BEAM SEAT ELEVATIONS ASSUME ESTIMATED CAMBER D30.

**DECK SLAB THICKNESS FOR CONCRETE QUANTITY**

THE ESTIMATED QUANTITY OF DECK CONCRETE IS MEASURED ACCORDING TO C&MS 511. IN ADDITION TO THE DESIGN SLAB THICKNESS, THE QUANTITY INCLUDES A VARIABLE HAUNCH THICKNESS THAT PROVIDES AN ALLOWANCE FOR: VERTICAL GRADE ADJUSTMENT AND BEAM CAMBER.

⊕ - BEAM END REINFORCEMENT NOT SHOWN FOR CLARITY. SEE STD. DWG. PSBD-2-07 FOR ADDITIONAL DETAILS

◇ - SHEAR KEY IS 37" X 10" X 2 1/2" AND IS CENTERED ABOUT THE CENTERLINE OF THE BEAM

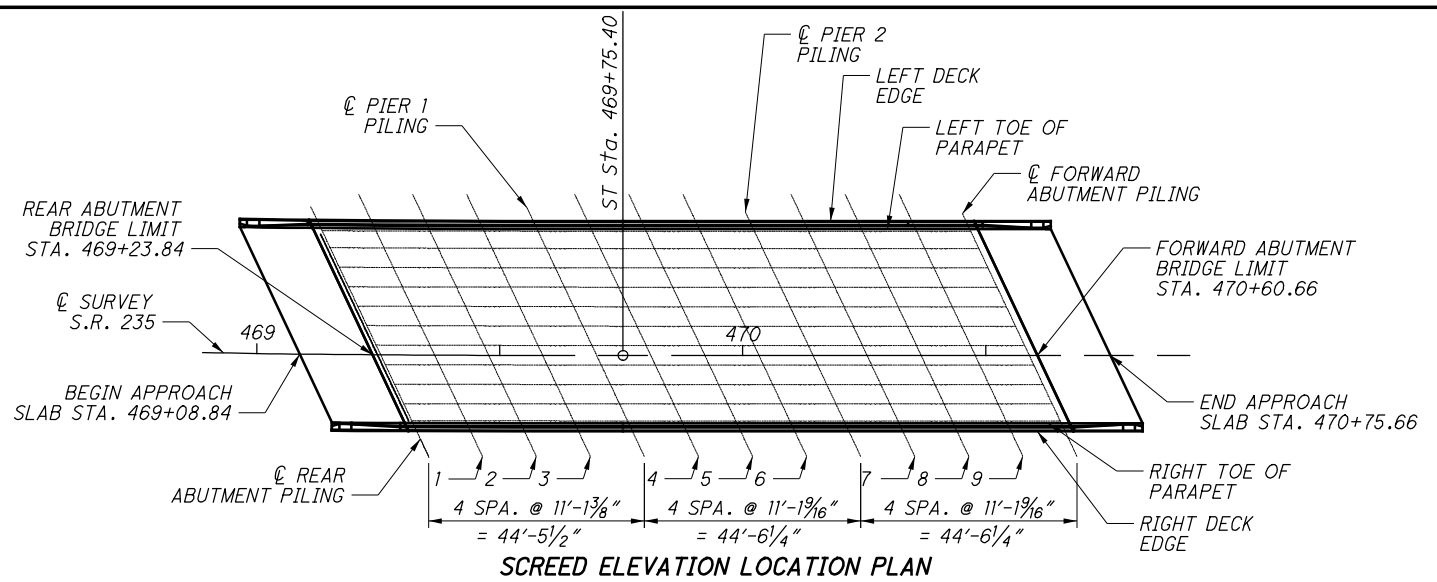


**CB21-48 TYPICAL BEAM SECTION**

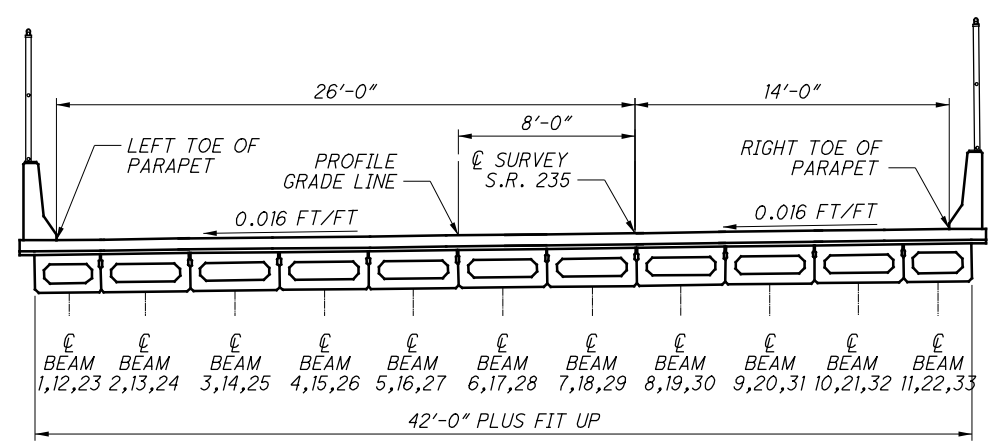
DESIGNED	DHG	CHECKED	CWW	DESIGN AGENCY	ODOT DISTRICT 7
DRAWN	DHG	REVIEWED	MRB	DATE	10/19/2017
STRUCTURE FILE NUMBER	5709792	PLANNING & ENGINEERING			
<b>SUPERSTRUCTURE DETAILS (2 OF 3)</b>					
BRIDGE NO.: MOT-235-0177R					
N.B. S.R. 235 OVER S.B. S.R. 235/4 RAMP					
<b>MOT-235-1.77R</b>		<b>PID No. 97242</b>			
14 / 21		40 47			



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SCREED ELEVATION LOCATION PLAN



SCREED ELEVATION LOCATION TRANSVERSE SECTION

COMPOSITE BOX BEAM SCREED ELEVATIONS														
LOCATION		R. A.	1	2	3	☉ OF PIER 1	4	5	6	☉ OF PIER 2	7	8	9	F. A.
LEFT TOE OF PARAPET	STATION	469+12.92	469+24.13	469+35.33	469+46.51	469+57.66	469+68.82	469+79.95	469+91.08	470+02.21	470+13.34	470+24.47	470+35.60	470+46.73
	ELEVATION	860.35	860.34	860.28	860.22	860.13	860.07	860.00	859.90	859.79	859.71	859.59	859.47	859.32
PROFILE GRADE	STATION	469+21.65	469+32.79	469+43.93	469+55.05	469+66.18	469+77.32	469+88.45	469+99.58	470+10.71	470+21.83	470+32.96	470+44.09	470+55.23
	ELEVATION	860.61	860.59	860.54	860.46	860.36	860.30	860.22	860.12	859.99	859.90	859.79	859.66	859.50
☉ SURVEY S.R. 235	STATION	469+25.50	469+36.61	469+47.73	469+58.84	469+69.95	469+81.09	469+92.22	470+03.35	470+14.48	470+25.61	470+36.74	470+47.87	470+59.00
	ELEVATION	860.72	860.69	860.63	860.56	860.46	860.40	860.31	860.21	860.08	859.99	859.87	859.74	859.58
RIGHT TOE OF PARAPET	STATION	469+32.19	469+43.27	469+54.35	469+65.45	469+76.56	469+87.70	469+98.83	470+09.96	470+21.09	470+32.22	470+43.35	470+54.48	470+65.61
	ELEVATION	860.91	860.87	860.82	860.74	860.64	860.57	860.48	860.37	860.24	860.14	860.02	859.88	859.72

NOTES

1. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
2. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.

COMPOSITE BOX BEAM FINAL DECK SURFACE ELEVATIONS														
LOCATION		R. A.	1	2	3	☉ OF PIER 1	4	5	6	☉ OF PIER 2	7	8	9	F. A.
LEFT TOE OF PARAPET	STATION	469+12.92	469+24.13	469+35.33	469+46.51	469+57.66	469+68.82	469+79.95	469+91.08	470+02.21	470+13.34	470+24.47	470+35.60	470+46.73
	ELEVATION	860.35	860.31	860.26	860.20	860.13	860.05	859.97	859.88	859.79	859.68	859.57	859.45	859.32
☉ BEAM 1, 12, 23	STATION	469+13.16	469+24.37	469+35.57	469+46.74	469+57.90	469+69.06	469+80.19	469+91.32	470+02.45	470+13.58	470+24.71	470+35.84	470+46.97
	ELEVATION	860.36	860.31	860.26	860.20	860.14	860.06	859.98	859.89	859.79	859.69	859.57	859.45	859.32
☉ BEAM 2, 13,24	STATION	469+14.87	469+26.06	469+37.25	469+48.41	469+59.56	469+70.71	469+81.84	469+92.97	470+04.10	470+15.23	470+26.36	470+37.49	470+48.62
	ELEVATION	860.41	860.36	860.31	860.25	860.18	860.11	860.02	859.93	859.83	859.73	859.61	859.49	859.36
☉ BEAM 3, 14, 25	STATION	469+16.81	469+27.99	469+39.16	469+50.31	469+61.45	469+72.60	469+83.72	469+94.86	470+05.99	470+17.11	470+28.25	470+39.38	470+50.51
	ELEVATION	860.46	860.42	860.36	860.30	860.23	860.16	860.07	859.98	859.88	859.77	859.66	859.53	859.40
☉ BEAM 4, 15, 26	STATION	469+18.75	469+29.91	469+41.07	469+52.21	469+63.34	469+74.49	469+85.62	469+96.75	470+07.88	470+19.00	470+30.13	470+41.26	470+52.39
	ELEVATION	860.52	860.47	860.42	860.36	860.28	860.21	860.12	860.03	859.92	859.82	859.70	859.57	859.44
☉ BEAM 5, 16, 27	STATION	469+20.69	469+31.83	469+42.97	469+54.11	469+65.23	469+76.37	469+87.50	469+98.64	470+09.77	470+20.89	470+32.02	470+43.15	470+54.28
	ELEVATION	860.58	860.53	860.47	860.41	860.34	860.26	860.17	860.07	859.97	859.86	859.74	859.62	859.48
PROFILE GRADE	STATION	469+21.65	469+32.79	469+43.93	469+55.05	469+66.18	469+77.32	469+88.45	469+99.58	470+10.71	470+21.83	470+32.96	470+44.09	470+55.23
	ELEVATION	860.61	860.56	860.50	860.43	860.36	860.28	860.19	860.10	859.99	859.88	859.76	859.64	859.50
☉ BEAM 6, 17, 28	STATION	469+22.62	469+33.75	469+44.88	469+56.00	469+67.12	469+78.26	469+89.39	470+00.52	470+11.65	470+22.78	470+33.91	470+45.04	470+56.17
	ELEVATION	860.63	860.58	860.53	860.46	860.39	860.31	860.22	860.12	860.02	859.90	859.79	859.66	859.52
☉ BEAM 7, 18, 29	STATION	469+24.54	469+35.66	469+46.78	469+57.89	469+69.01	469+80.15	469+91.28	470+02.41	470+13.54	470+24.67	470+35.80	470+46.93	470+58.06
	ELEVATION	860.69	860.64	860.58	860.51	860.44	860.36	860.27	860.17	860.06	859.95	859.83	859.70	859.56
☉ SURVEY S.R. 235	STATION	469+25.50	469+36.61	469+47.73	469+58.84	469+69.95	469+81.09	469+92.22	470+03.35	470+14.48	470+25.61	470+36.74	470+47.87	470+59.00
	ELEVATION	860.72	860.67	860.61	860.54	860.46	860.38	860.29	860.19	860.08	859.97	859.85	859.72	859.58
☉ BEAM 8, 19, 30	STATION	469+26.46	469+37.56	469+48.67	469+59.79	469+70.90	469+82.04	469+93.17	470+04.30	470+15.48	470+26.55	470+37.68	470+48.81	470+59.94
	ELEVATION	860.75	860.69	860.63	860.56	860.49	860.40	860.31	860.21	860.11	859.99	859.87	859.74	859.60
☉ BEAM 9, 20, 31	STATION	469+28.37	469+39.47	469+50.57	469+61.68	469+72.79	469+83.93	469+95.06	470+06.19	470+17.32	470+28.44	470+39.57	470+50.70	470+61.83
	ELEVATION	860.80	860.75	860.68	860.62	860.54	860.45	860.36	860.26	860.15	860.04	859.91	859.78	859.64
☉ BEAM 10, 21, 32	STATION	469+30.29	469+41.37	469+52.46	469+63.56	469+74.67	469+85.81	469+96.94	470+08.07	470+19.20	470+30.33	470+41.46	470+52.59	470+63.72
	ELEVATION	860.86	860.80	860.74	860.67	860.59	860.50	860.41	860.31	860.20	860.08	859.96	859.82	859.68
☉ BEAM 11, 22, 33	STATION	469+31.96	469+43.03	469+54.12	469+65.22	469+76.33	469+87.46	469+98.59	470+09.73	470+20.86	470+31.98	470+43.11	470+54.24	470+65.37
	ELEVATION	860.90	860.85	860.78	860.71	860.63	860.55	860.45	860.35	860.24	860.12	859.99	859.86	859.72
RIGHT TOE OF PARAPET	STATION	469+32.19	469+43.27	469+54.35	469+65.45	469+76.56	469+87.70	469+98.83	470+09.96	470+21.09	470+32.22	470+43.35	470+54.48	470+65.61
	ELEVATION	860.91	860.85	860.79	860.72	860.64	860.55	860.46	860.35	860.24	860.12	860.00	859.86	859.72

DESIGN AGENCY: ODOT DISTRICT 7  
 PLANNING & ENGINEERING

REVIEWED DATE: 10/19/2017  
 MRB STRUCTURE FILE NUMBER: 5709792

DRAWN: DHG  
 CHECKED: CWW

DESIGNED: DHG  
 CHECKED: CWW

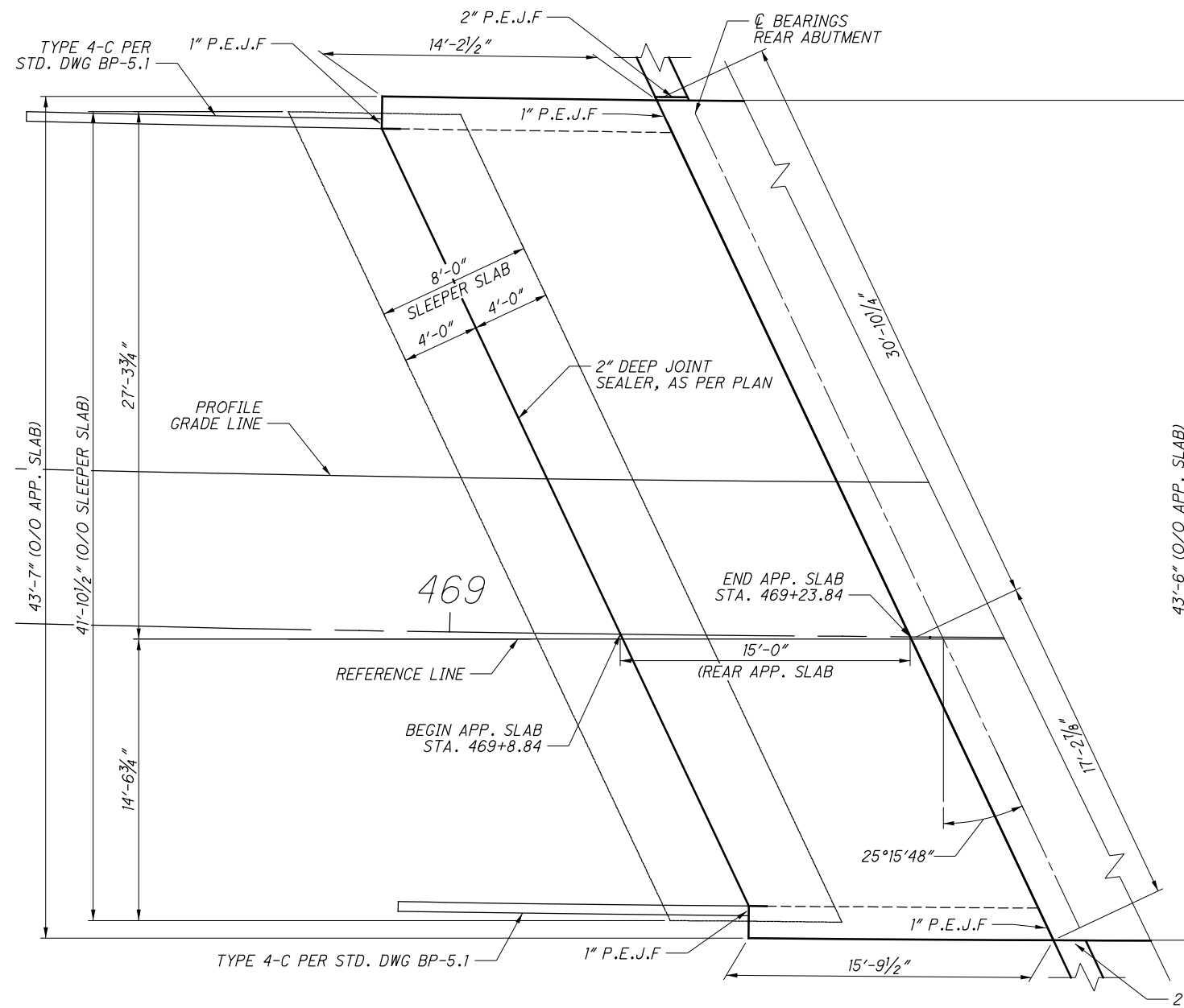
SUPERSTRUCTURE DETAILS (3 OF 3)  
 BRIDGE NO.: MOT-235-0177R  
 N.B. S.R. 235 OVER S.B. S.R. 235/4 RAMP

MOT-235-1.77R  
 PID No. 97242

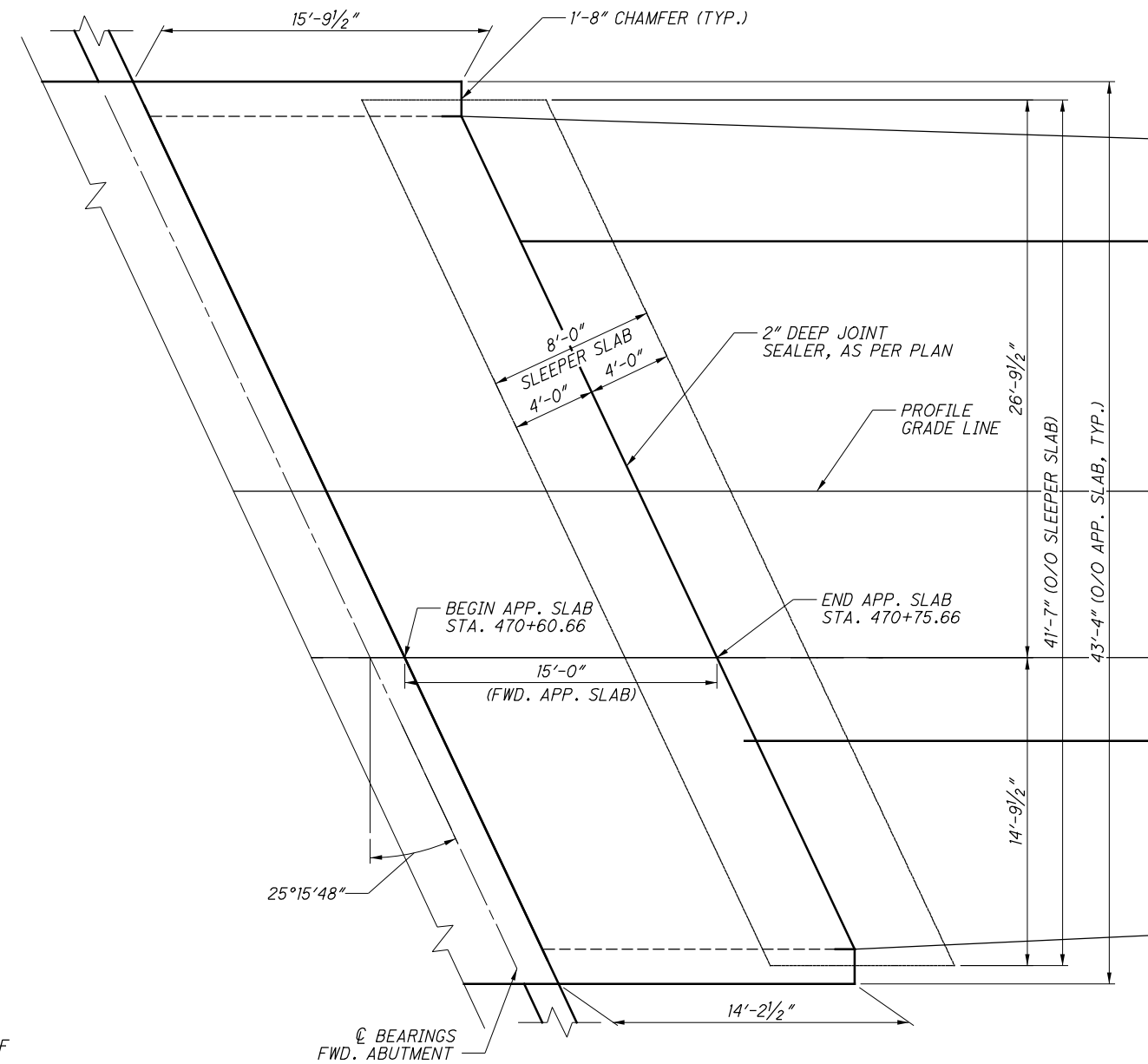
15 / 21

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APPROACH SLAB PLAN



**NOTES & LEGEND:**

- FOR ADDITIONAL APPROACH SLAB NOTES AND DETAILS, REFER TO STANDARD BRIDGE DRAWING AS-1-15.
- FOR ADDITIONAL APPROACH SLAB INSTALLATION NOTES AND DETAILS, REFER TO STANDARD BRIDGE DRAWING AS-2-15.
- FOR ADDITIONAL CONCRETE CURB NOTES AND DETAILS, REFER TO ROADWAY STANDARD CONSTRUCTION DRAWING BP-5.1
- STATION AND OFFSETS ARE TAKEN FROM THE CENTERLINE OF SURVEY N.B. S.R. 235.
- APPROACH SLAB CONCRETE CANNOT BE PLACED WITH THE DECK CONCRETE.

P.E.J.F - PREFORMED EXPANSION JOINT FILLER

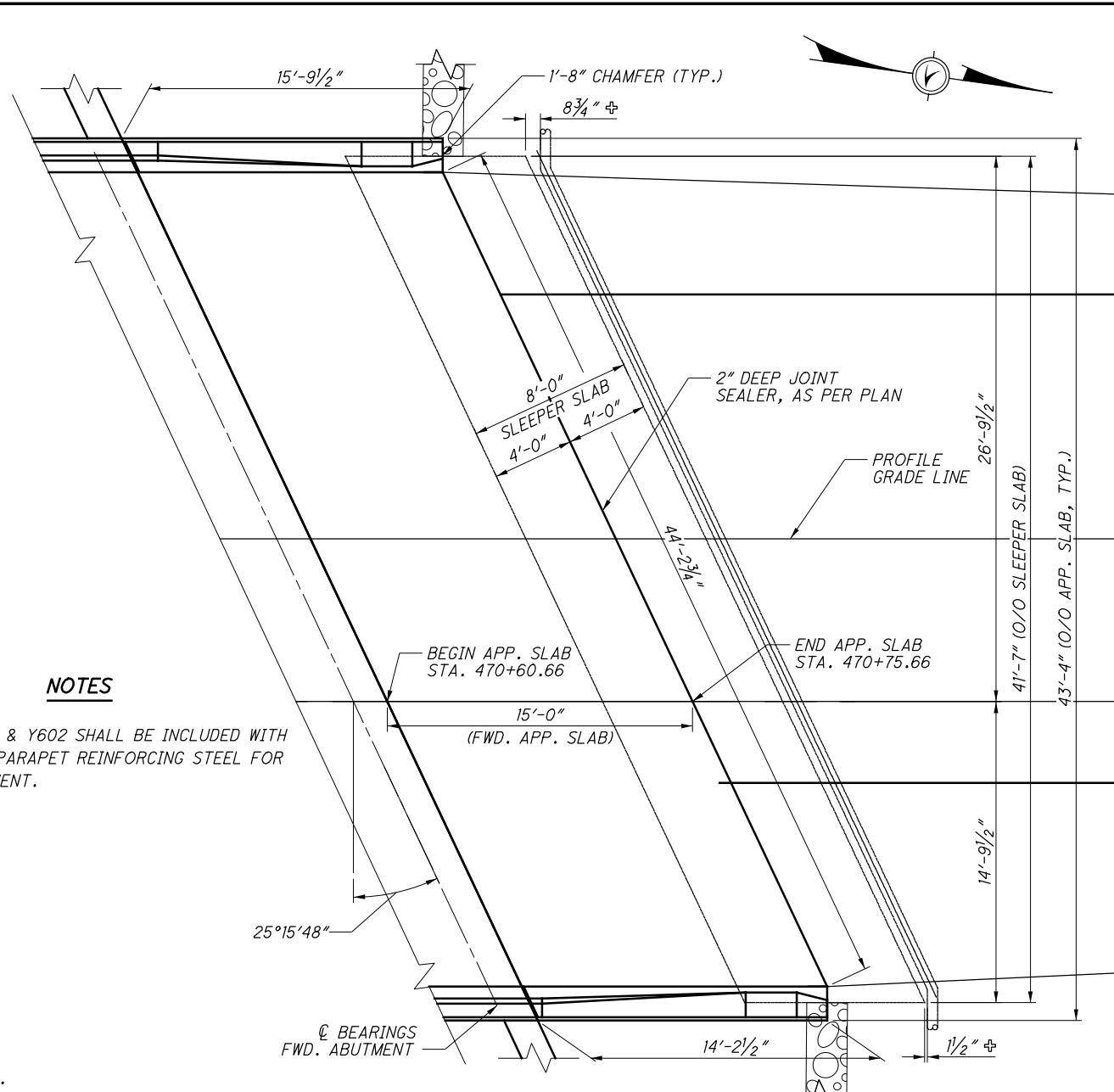
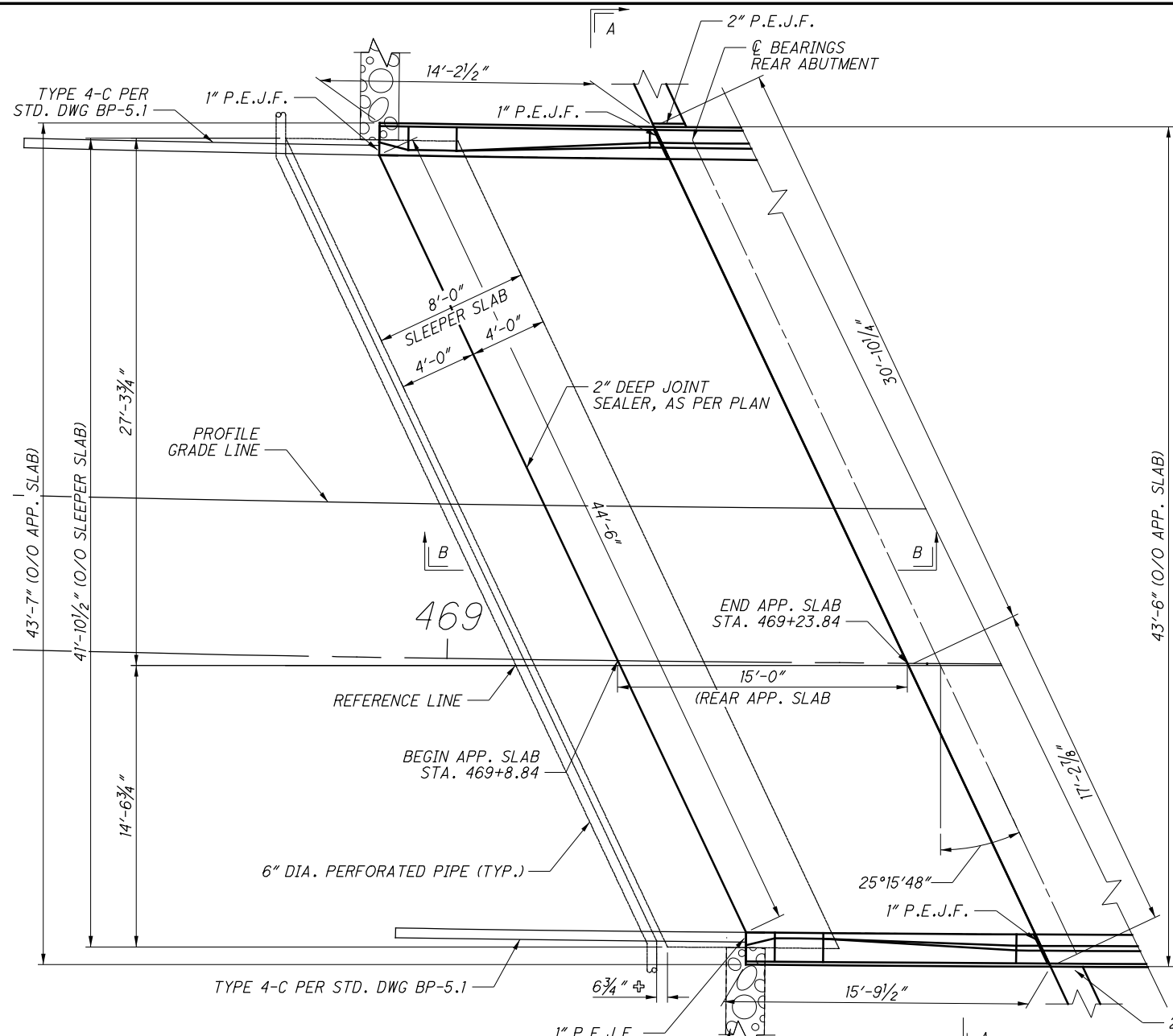
TOP OF APPROACH SLAB ELEVATIONS										
LOCATION		LEFT TOE OF PARAPET			PROFILE GRADE			RIGHT TOE OF PARAPET		
		STATION	OFFSET	ELEVATION	STATION	OFFSET	ELEVATION	STATION	OFFSET	ELEVATION
REAR APP. SLAB	0.0 L	468+96.06	26	860.40	469+04.94	8	860.67	469+15.61	14	860.98
	0.5 L	469+3.65	26	860.38	469+12.46	8	860.64	469+23.07	14	860.95
	1.0 L	469+11.23	26	860.36	469+19.98	8	860.61	469+30.54	14	860.92
FWD. APP. SLAB	0.0 L	470+48.39	26	859.29	470+56.88	8	859.47	470+67.27	14	859.69
	0.5 L	470+55.89	26	859.20	470+64.38	8	859.38	470+74.77	14	859.59
	1.0 L	470+63.39	26	859.10	470+71.89	8	859.29	470+82.27	14	859.49

TOP OF SLEEPER SLAB ELEVATIONS										
LOCATION		LEFT EDGE			PROFILE GRADE			RIGHT EDGE		
		STATION	OFFSET	ELEVATION	STATION	OFFSET	ELEVATION	STATION	OFFSET	ELEVATION
REAR SLEEPER SLAB	0.0 L	468+91.15	26.79	859.34	469+00.47	8	859.68	469+11.57	14.79	860.00
	0.5 L	468+95.66	26.79	859.36	469+04.94	8	859.66	469+15.99	14.79	859.99
	1.0 L	469+00.17	26.79	859.38	469+09.40	8	859.65	469+20.41	14.79	859.97
FWD. SLEEPER SLAB	0.0 L	470+58.59	26.79	858.15	470+67.47	8	858.34	470+78.21	14.79	858.55
	0.5 L	470+63.02	26.79	858.10	470+71.87	8	858.28	470+82.64	14.79	858.48
	1.0 L	470+67.44	26.79	858.04	470+76.31	8	858.22	470+87.06	14.79	858.43

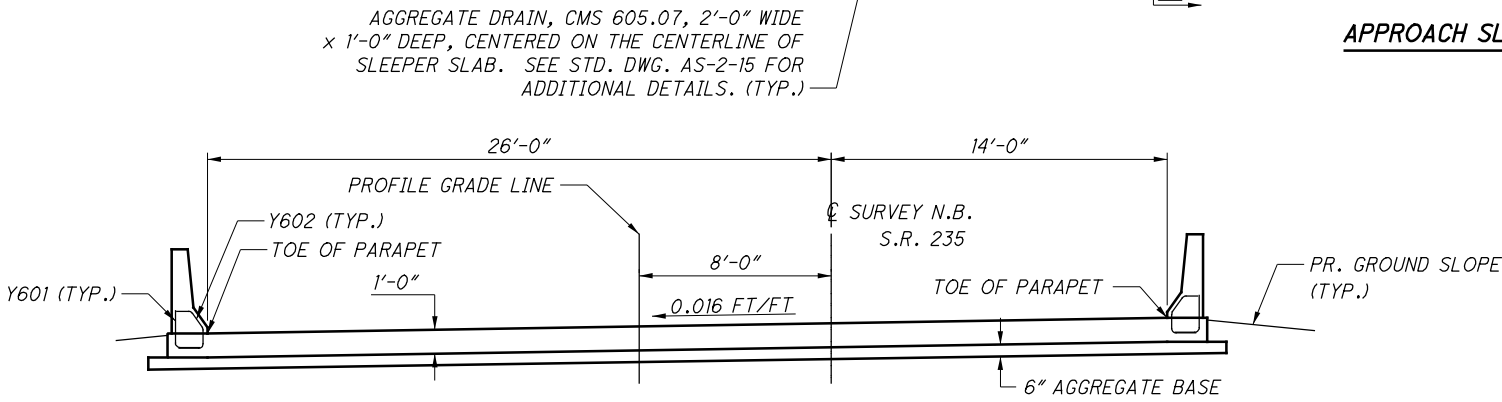
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 PLANNING & ENGINEERING  
 DATE: 10/19/2017  
 STRUCTURE FILE NUMBER: 5709792  
 REVIEWED: MRB  
 DRAWN: CWW  
 CHECKED: DHG  
 DESIGNED: CWW  
 REVISIONS: NONE  
**APPROACH SLAB DETAILS (1 OF 2)**  
 BRIDGE NO.: MOT-235-0177R  
 N.B. S.R. 235 OVER S.B. S.R. 235/4 RAMP  
**MOT-235-1.77R**  
 PID No. 97242  
 16 / 21  
 42  
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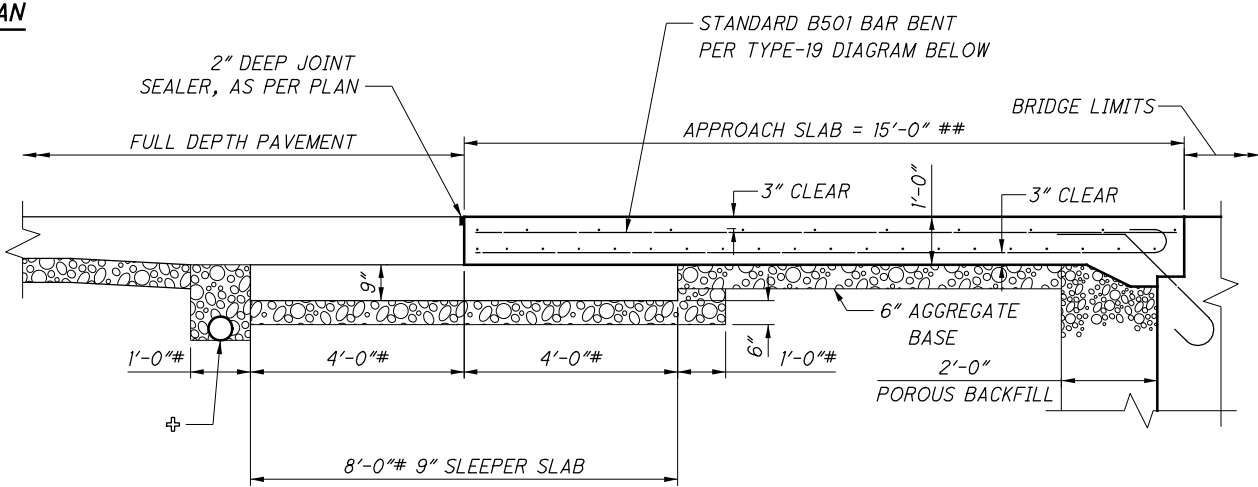
**NOTES**  
 1. Y601 & Y602 SHALL BE INCLUDED WITH THE PARAPET REINFORCING STEEL FOR PAYMENT.

**APPROACH SLAB PLAN**



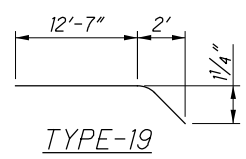
**SECTION A-A**

(STANDARD APP. SLAB REINFORCING STEEL NOT SHOWN)



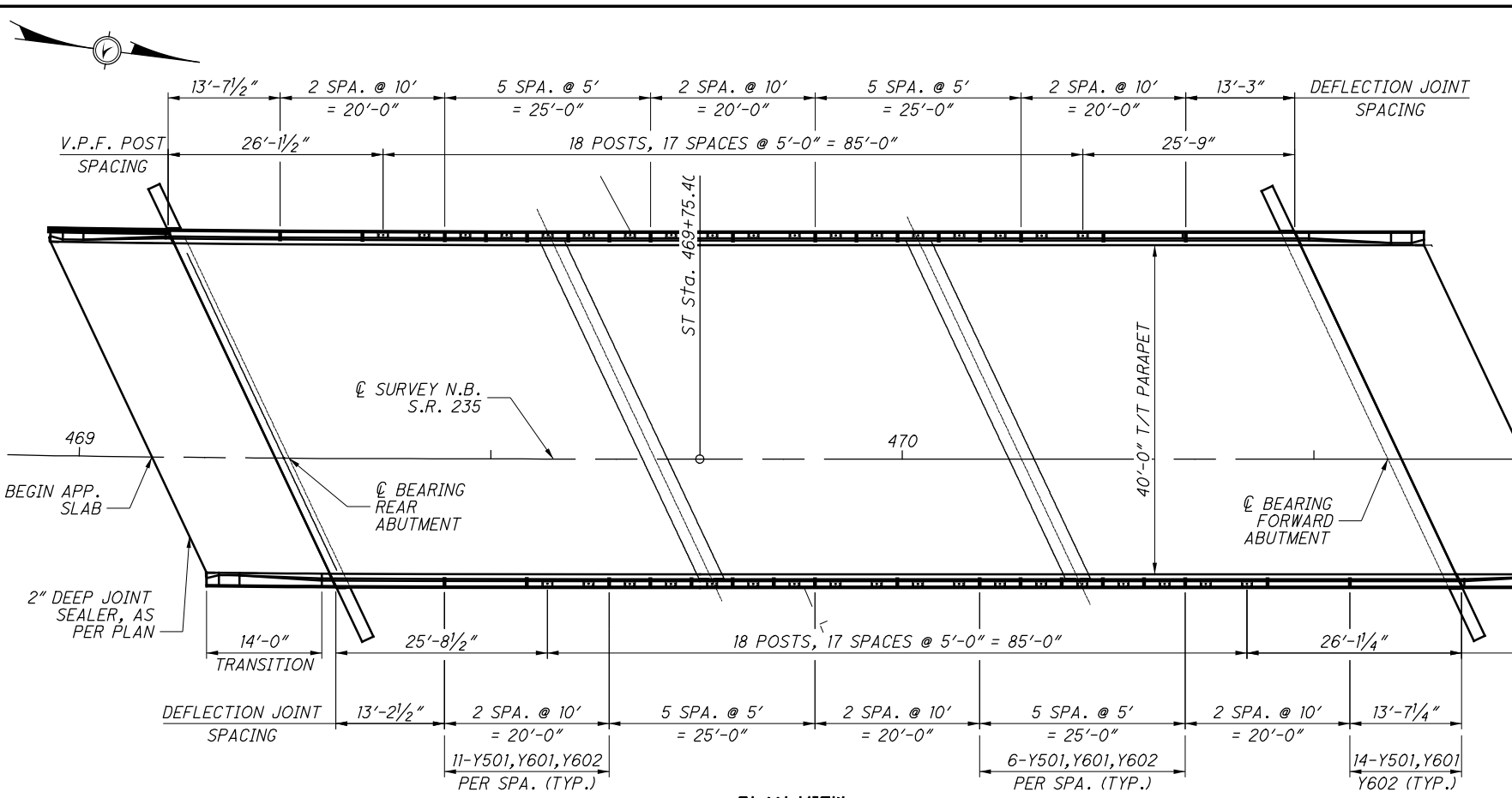
**SECTION B-B**

- # - DIMENSION MEASURED PERPENDICULAR TO  $\text{\textcircled{C}}$  BEARING
- ## - DIMENSION MEASURED PARALLEL TO  $\text{\textcircled{C}}$  REFERENCE LINE
- ⊕ - PLACE 6" DIA. PERFORATED PIPE TO AVOID INTERFERENCE WITH GUARDRAIL POST
- P.E.J.F - PREFORMED EXPANSION JOINT FILLER

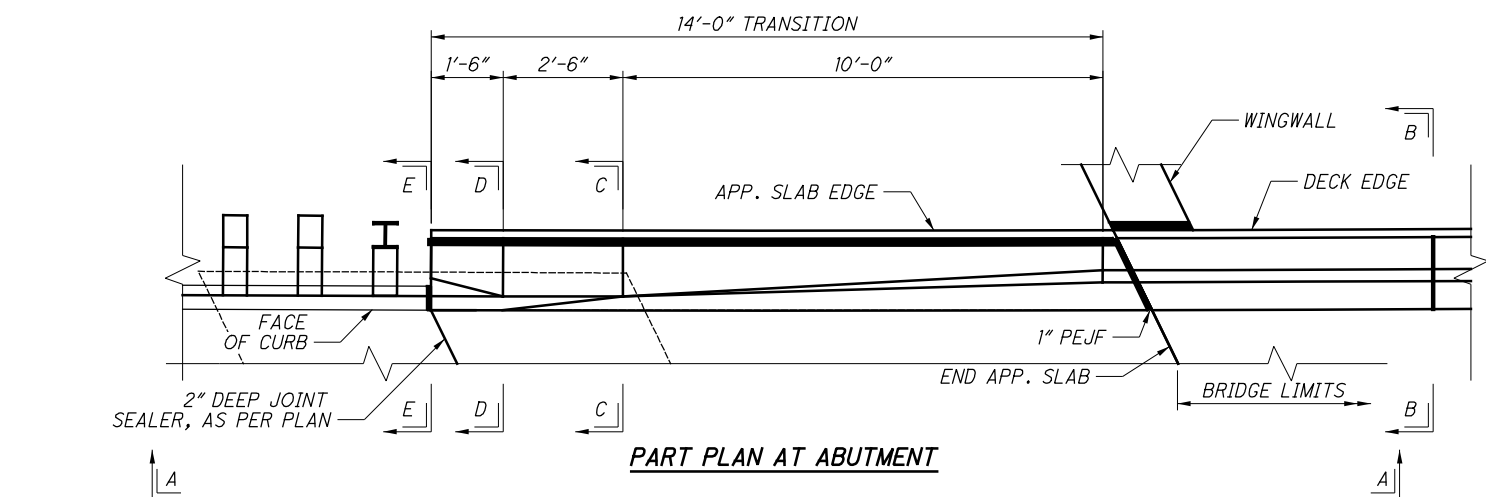


DESIGN AGENCY ODOT DISTRICT 7 PLANNING & ENGINEERING	
REVIEWED MRB	DATE 10/19/2017
DRAWN CWW	STRUCTURE FILE NUMBER 5709792
DESIGNED CWW	CHECKED DHG
<b>APPROACH SLAB DETAILS (2 OF 2)</b>	
BRIDGE NO.: MOT-235-0177R N.B. S.R. 235 OVER S.B. S.R. 235/4 RAMP	
<b>MOT-235-1.77R</b>	<b>PID No. 97242</b>
17 / 21	43 47

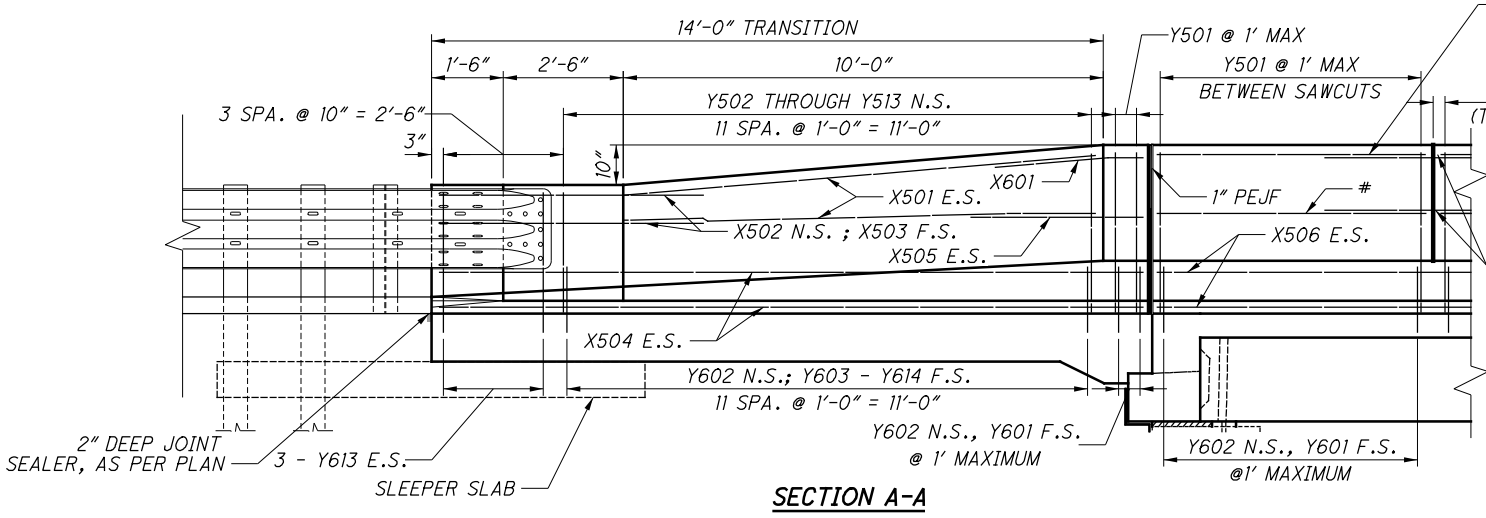
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**PLAN VIEW**



**PART PLAN AT ABUTMENT**

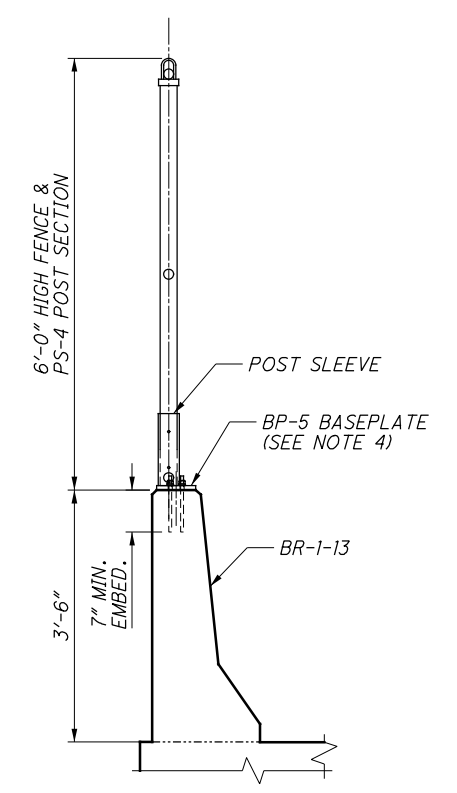
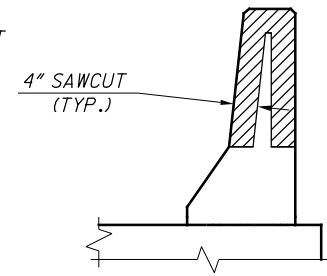


**SECTION A-A**

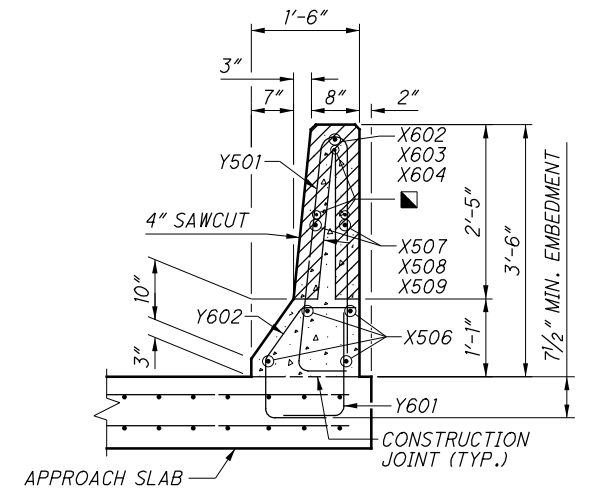
**LEGEND:**  
 N.S. = NEAR SIDE  
 F.S. = FAR SIDE  
 E.S. = EACH SIDE

**NOTES**

1. SEE SHEET 13 AND 14 FOR ROADWAY QUANTITIES.
2. PLACE WINGWALL CONCRETE AFTER THE INSTALLATION OF THE RAILING IS COMPLETE.
3. FOR ADDITIONAL NOTES AND INFORMATION SEE BR-1-13 AND THE GENERAL NOTES.
4. FOR ADDITIONAL VANDAL PROTECTION FENCE INFORMATION SEE VPF-1-90.
5. SEE REINFORCING STEEL LIST FOR REBAR DETAIL [21/21].

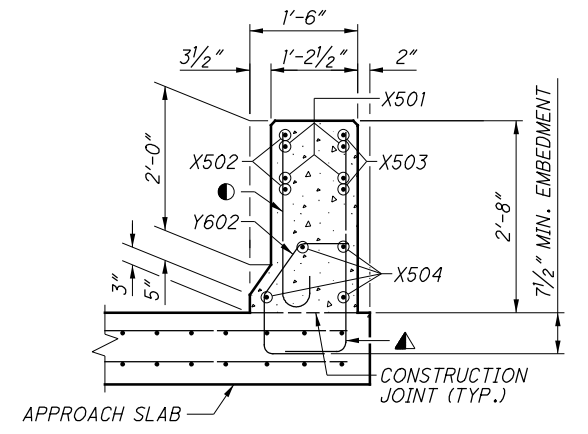


**TYPICAL FENCING CONNECTION DETAIL**



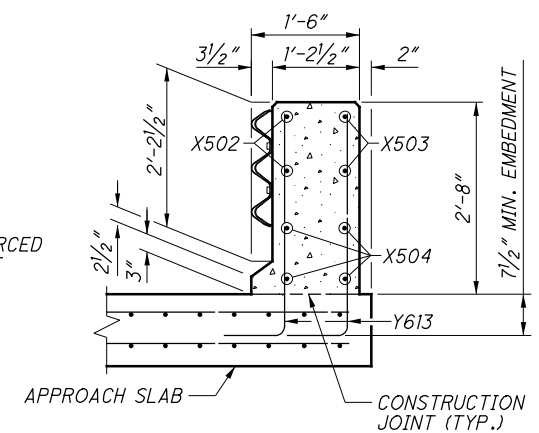
**SECTION B-B**

■ : 1/2" DIA. GLASS FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENT

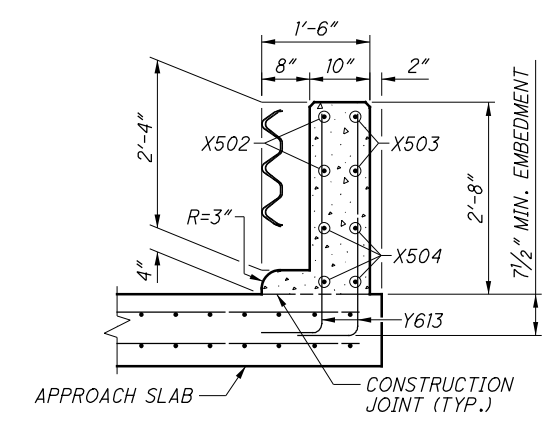


**SECTION C-C**

● : Y502 THROUGH Y513  
 ▲ : Y603 THROUGH Y614



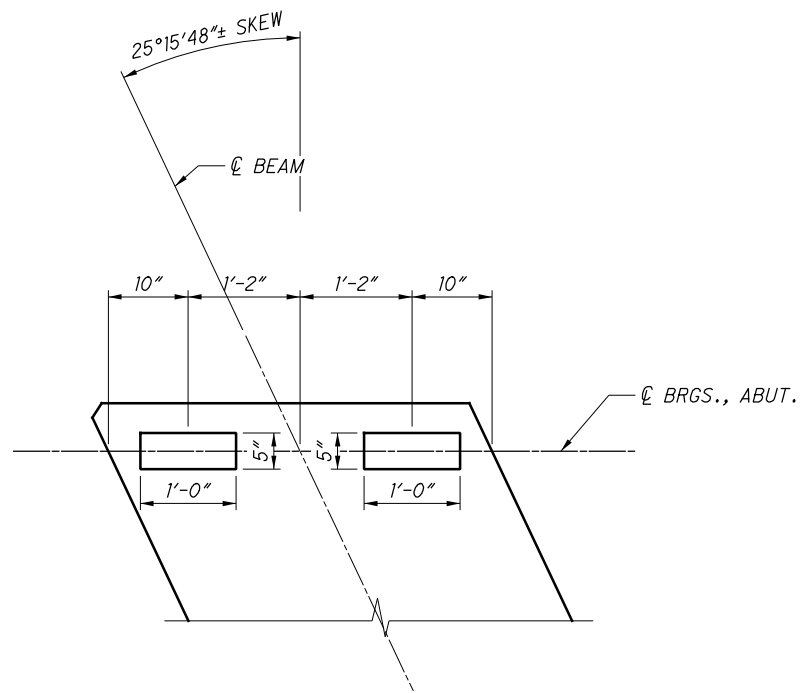
**SECTION D-D**



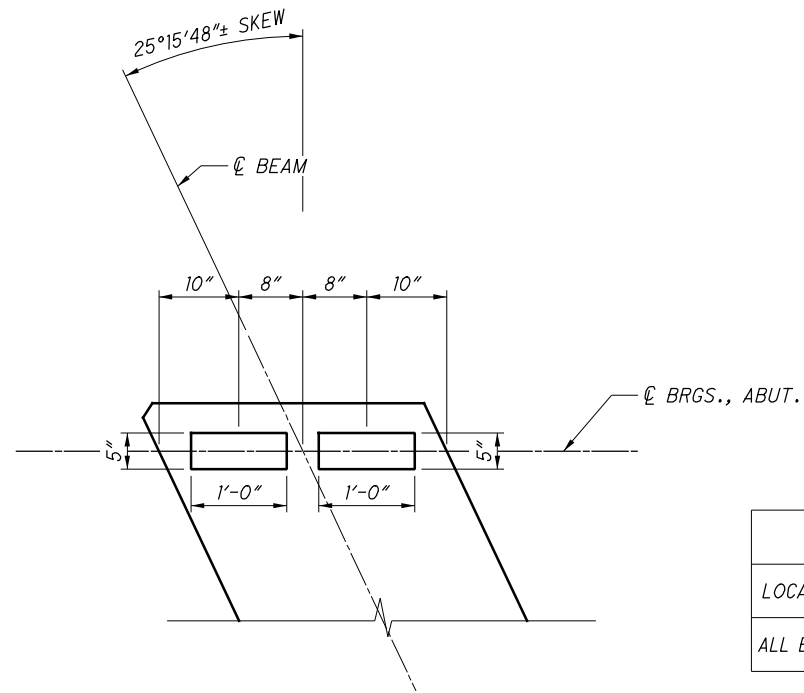
**SECTION E-E**

DESIGNED	CWW	CHECKED	DHG
DRAWN	CWW	REVISED	
REVIEWED	MRB	DATE	10/19/2017
DESIGN AGENCY	ODOT DISTRICT 7		
	PLANNING & ENGINEERING		
PARAPET TRANSITION DETAILS			
BRIDGE NO.: MOT-235-0177R			
N.B. S.R. 235 OVER S.B. S.R. 235/4 RAMP			
MOT-235-1.77R		PID No. 97242	
18 / 21		44 / 47	

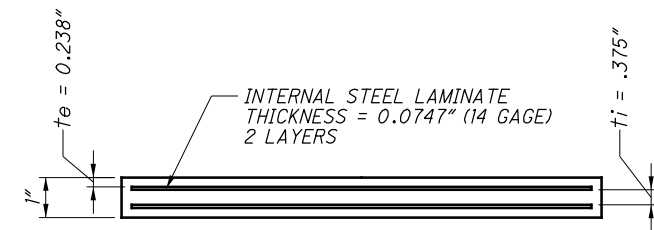
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**ABUTMENT BEARING PAD LAYOUT (CB21-48)**



**ABUTMENT BEARING PAD LAYOUT (CB21-36)**



**LAMINATED ELASTOMERIC BEARING PAD  
5" X 12" X 1"**

BEARING DIMENSIONS								SERVICE LIMIT STATE LOAD REACTIONS		
								DEAD	LIVE	TOTAL
LOCATION	L	W	$t_i$	$t_e$	$n_{ie}$	$n_s$	ABUTMENT	12.75 K	9.34 K	22.09 K
ALL BEAMS	5"	12"	0.375"	0.238"	1	2	PIER	12.74 K	9.34 K	22.08 K

**NOTES & LEGEND**

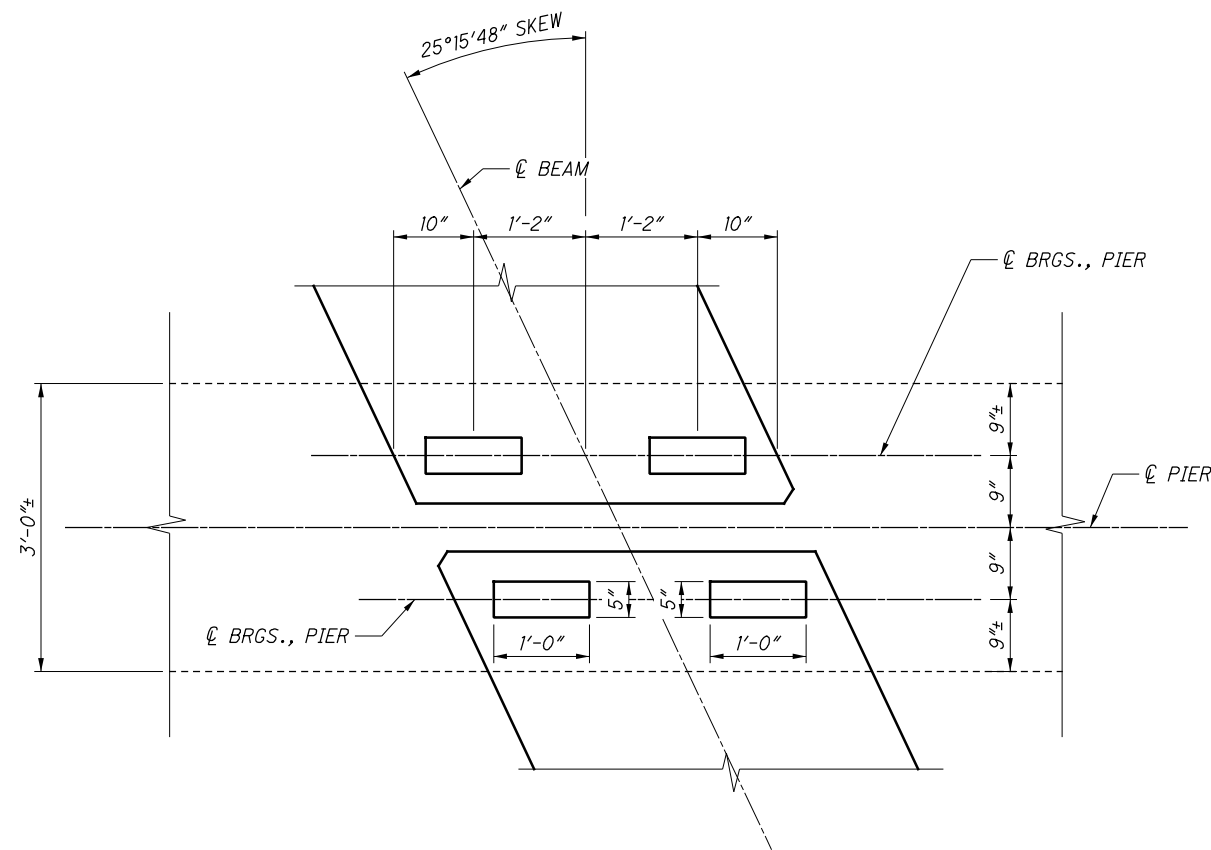
ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

$t_i$  = THICKNESS OF INTERNAL ELASTOMER LAYER

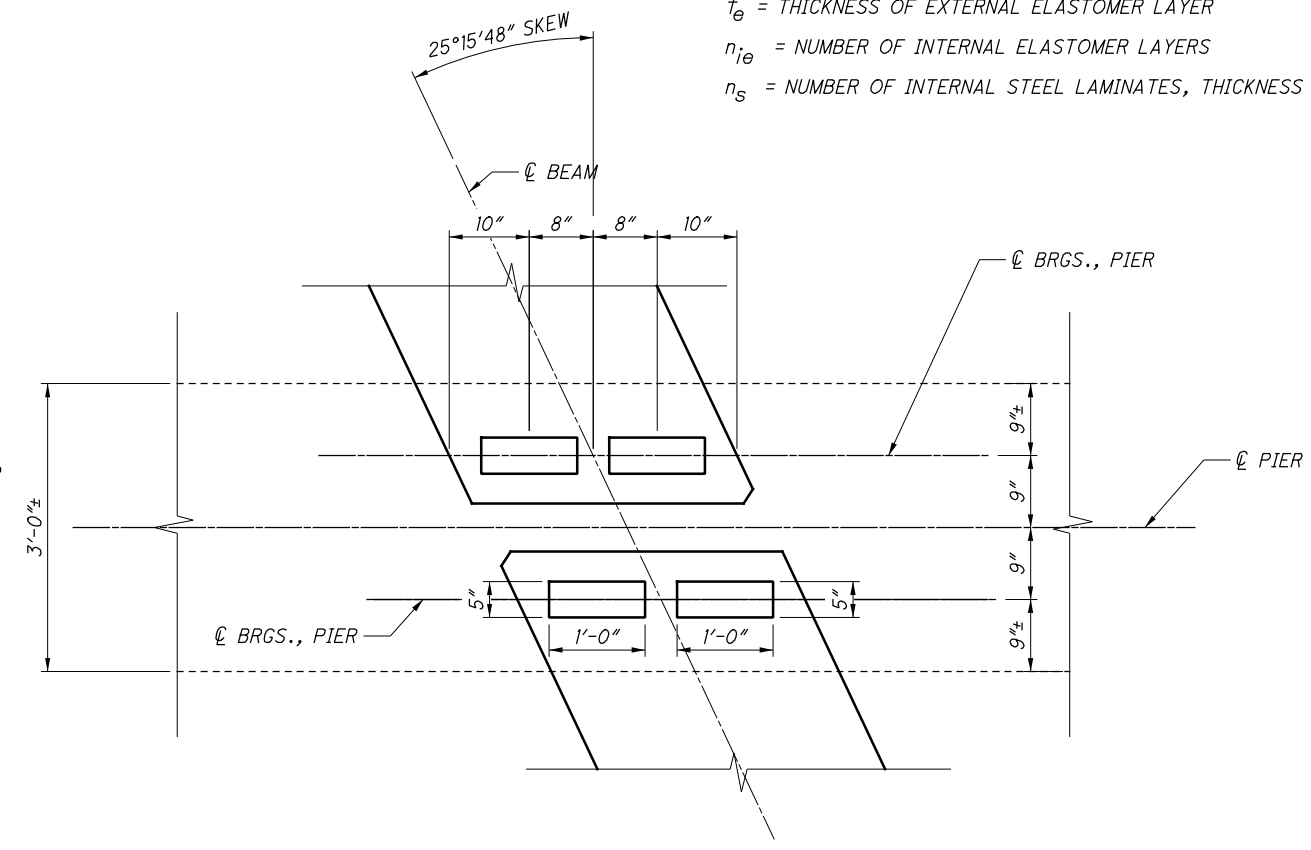
$t_e$  = THICKNESS OF EXTERNAL ELASTOMER LAYER

$n_{ie}$  = NUMBER OF INTERNAL ELASTOMER LAYERS

$n_s$  = NUMBER OF INTERNAL STEEL LAMINATES, THICKNESS = 0.0747"



**PIER BEARING PAD LAYOUT (CB21-48)**



**PIER BEARING PAD LAYOUT (CB21-36)**

DESIGN AGENCY  
ODOT DISTRICT 7  
PLANNING & ENGINEERING

REVIEWED DATE  
MRB 10/19/2017  
STRUCTURE FILE NUMBER  
5709792

DRAWN  
DHG  
CHECKED  
CWW

BEARING DETAILS  
BRIDGE NO.: MOT-235-0177R  
N.B. S.R. 235 OVER S.B. S.R. 235/4 RAMP

MOT-235-1.77R  
PID No. 97242

19 / 21

45  
47

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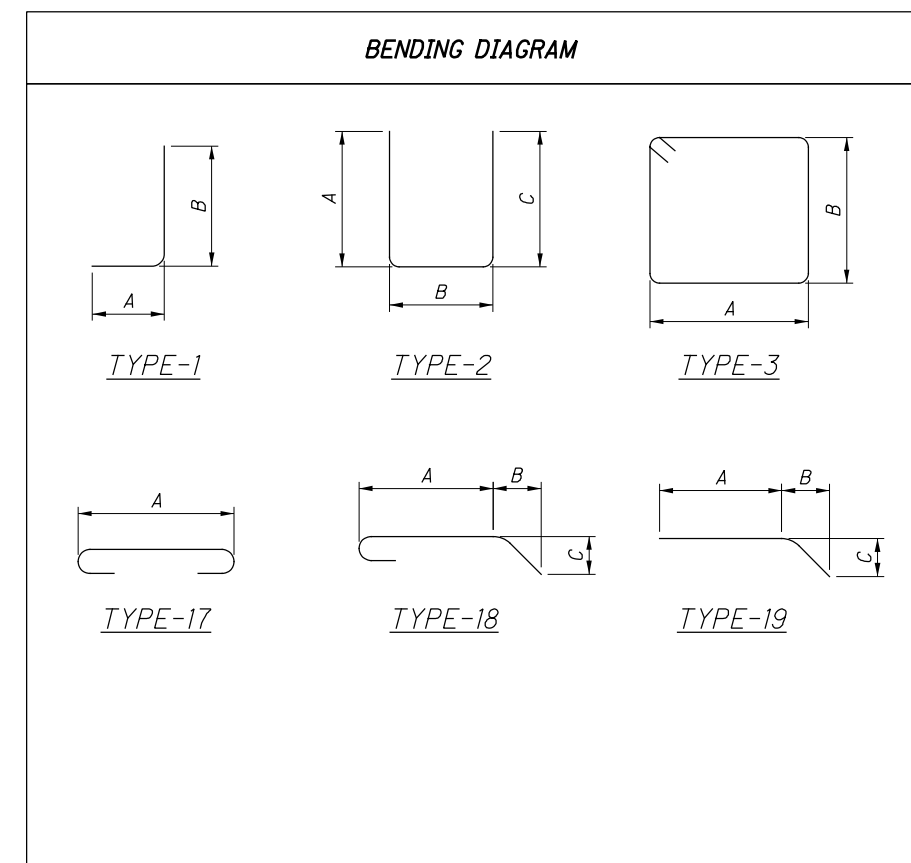
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS							DOWEL
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC	
<b>SUBSTRUCTURE</b>														
A501	2		2	4'-4"	9	1	1'-0"	3'-6"						2
A502	8	22	30	4'-0"	125	1	1'-0"	3'-2"						30
A503	10		10	4'-2"	43	1	1'-0"	3'-4"						10
A504	3		3	6'-2"	19	STR								
A505	3		3	6'-7"	21	STR								
A506	3	3	6	5'-5"	34	STR								
A507	3	3	6	5'-0"	32	STR								
A508		3	3	6'-0"	19	STR								
A509		3	3	6'-5"	20	STR								
D801	30	30	60	4'-9"	761	18	2'-7"	1'-0"	1'-0"					
SUB-TOTAL					1,083		SUB-TOTAL							42
<b>SUPERSTRUCTURE</b>														
S401			8	30'-0"	160	STR								
S402			8	19'-7"	105	STR								
S501	8	8		25'-2"	420	STR								
S502	31	31		4'-10"	313	3	1'-2"	0'-11"						
S503	31	31		4'-9"	307	2	2'-2"	0'-8"	2'-2"					
S504	2	2		5'-10"	24	3	1'-8"	0'-11"						
S505	2	2		5'-3"	22	2	2'-2"	1'-2"	2'-2"					
S506			88	3'-10"	352	17	2'-8"							
S601			183	30'-0"	8246	STR								
S602			183	20'-8"	5681	STR								
S603			120	30'-0"	5407	STR								
S604			30	28'-6"	1284	STR								
S605			58	31'-0"	2701	STR								
S606			2	30'-0"	90	STR								
S607			2	20'-7"	62	STR								
SUB-TOTAL					25,174		SUB-TOTAL							

**NOTES & LEGEND**

THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN INDICATED BY THE FIRST DIGIT.

BAR DIMENSIONS ARE SHOWN OUT TO OUT UNLESS OTHERWISE NOTED.

ALL REINFORCING STEEL TO BE EPOXY COATED.



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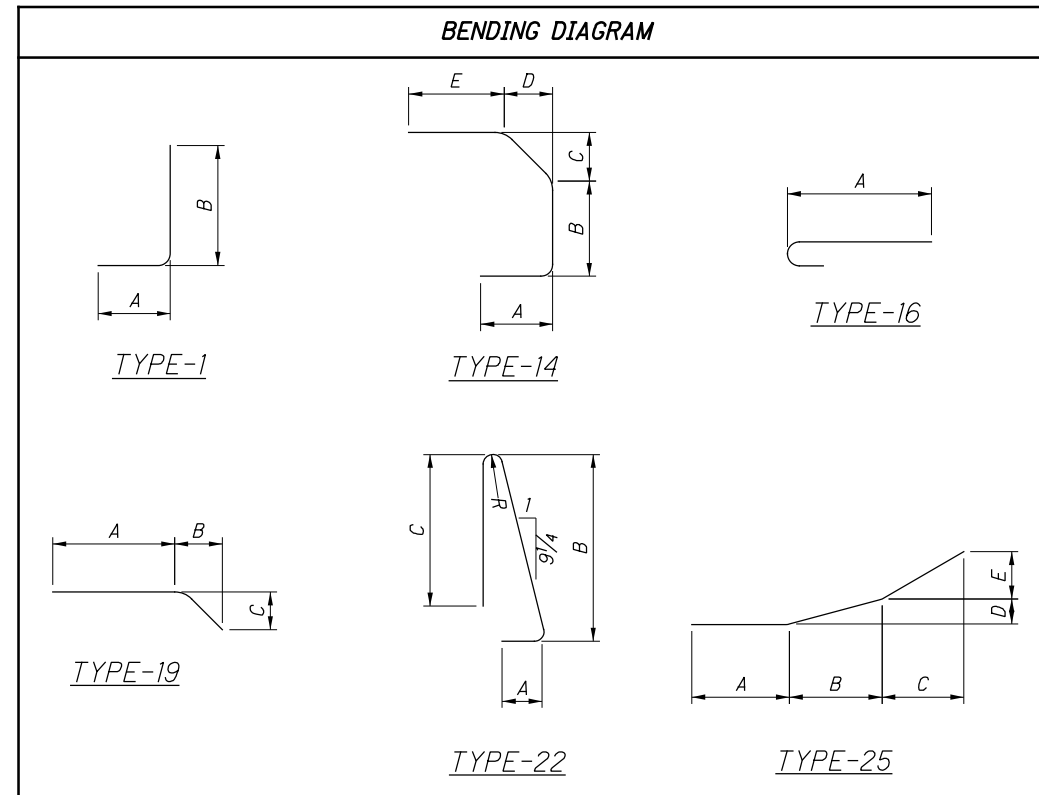
MARK	TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
<b>PARAPET AND TRANSITIONS</b>											
X501	16	10'-0"	167	STR							
X502	8	5'-8"	47	25	1'-10"	2'-5"	1'-4 1/4"	0'-1 1/2"	0'-5"		
X503	8	5'-8"	47	STR							
X504	16	13'-10"	231	STR							
X505	8	3'-7"	30	STR							
X506	40	30'-0"	1252	STR							
X507	40	4'-8"	195	STR							
X508	24	9'-8"	242	STR							
X509	8	13'-3"	111	STR							
X601	4	3'-1"	19	19	2'-4 1/4"	0'-8 3/4"	0'-0 3/4"				
X602	20	4'-8"	140	STR							
X603	12	9'-8"	174	STR							
X604	4	13'-3"	80	STR							
Y501	316	6'-11"	2280	22	0'-8"	3'-3"	3'-0"			0'-1 1/2"	
Y502	4	3'-10"	16	16	3'-3"						
Y503	4	3'-9"	16	16	3'-2"						
Y504	4	3'-8"	15	16	3'-1"						
Y505	4	3'-7"	15	16	3'-0"						
Y506	4	3'-6"	15	16	2'-11"						
Y507	4	3'-5"	14	16	2'-10"						
Y508	4	3'-4"	14	16	2'-9"						
Y509	4	3'-3"	14	16	2'-8"						
Y510	4	3'-2"	13	16	2'-7"						
Y511	4	3'-1"	13	16	2'-6"						
Y512	4	3'-0"	13	16	2'-5"						
Y513	4	2'-11"	12	16	2'-4"						
Y601	316	2'-5"	1147	1	1'-0"	1'-6 1/2"					
Y602	364	3'-1"	1686	14	1'-0"	0'-10"	0'-8 1/2"	0'-6"	0'-7"		
Y603	4	4'-10"	29	1	1'-0"	3'-11 1/2"					
Y604	4	4'-9"	29	1	1'-0"	3'-10 1/2"					
Y605	4	4'-8"	28	1	1'-0"	3'-9 1/2"					
Y606	4	4'-7"	28	1	1'-0"	3'-8 1/2"					
Y607	4	4'-6"	27	1	1'-0"	3'-7 1/2"					
Y608	4	4'-5"	27	1	1'-0"	3'-6 1/2"					
Y609	4	4'-4"	26	1	1'-0"	3'-5 1/2"					
Y610	4	4'-3"	26	1	1'-0"	3'-4 1/2"					
Y611	4	4'-2"	25	1	1'-0"	3'-3 1/2"					
Y612	4	4'-1"	25	1	1'-0"	3'-2 1/2"					
Y613	28	4'-0"	168	1	1'-0"	3'-1 1/2"					
Y614	4	3'-11"	24	1	1'-0"	3'-0 1/2"					
<b>SUB-TOTAL</b>			<b>8,480</b>								

**NOTES & LEGEND**

THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN INDICATED BY THE FIRST DIGIT.

BAR DIMENSIONS ARE SHOWN OUT TO OUT UNLESS OTHERWISE NOTED.

ALL REINFORCING STEEL TO BE EPOXY COATED.



DESIGN AGENCY  
ODOT DISTRICT 7  
PLANNING & ENGINEERING

REVIEWED DATE  
MRB 10/19/2017  
STRUCTURE FILE NUMBER  
5709792

DRAWN CWW  
CWW  
REVISED

DESIGNED CWW  
CWW  
CHECKED DHG

**REINFORCING STEEL LIST (2 OF 2)**  
BRIDGE NO.: MOT-235-0177R  
N.B. S.R. 235 OVER S.B. S.R. 235/4 RAMP

**MOT-235-1.77R**  
PID No. 97242

# SPECIAL PROVISIONS

## OEPA Notification of Demolition and Renovation FOR

CRS: MOT-235-0177R  
 DATE: 02/10/2014

The following form is the OEPA Notification of Demolition and Renovation form for the existing structure MOT-235-0177R structure.

These sections of the Notification form need to be completed prior to submission:

- V. Other Operator: (demolition/general) - Include the name and address of the general contractor
- VII. Scheduled Dates Demolition Or Renovation: - Include both the estimated start and completion dates
- X. Description of planned Demolition
- XVIII. A signature or the owner, date, and title

The form must be submitted at least 10 working days in advance of the start of demolition.

The form (with mandatory fee) should be submitted to:

Asbestos Program ☐  
 Ohio EPA, DAPC ☐  
 P.O. Box 1049 ☐  
 Columbus, OH 43216-1049 ☐

### OHIO ENVIRONMENTAL PROTECTION AGENCY NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #				
<b>I. Type of Notification (check one):</b> <input checked="" type="checkbox"/> Original <input type="checkbox"/> Revised <input type="checkbox"/> Canceled							
<b>II. Facility Description</b> (include building name, number, and floor or room number) Building Name: Bridge MOT-SR235-0177R , NB Overpass of I-70 on SR 235 Address: See Above City: <u>Dayton</u> State: <u>OHIO</u> Zip Code: _____    County: <u>Montgomery</u> Site Location (specific): _____ Building Size (square feet): # of Floors: _____ Age in Years: <u>N/A</u> Present Use: <u>Bridge</u> Prior Use: <u>Bridge</u>							
<b>IV. Is Asbestos Present? (check one):</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							
<b>V. Facility Information</b> Owner Name: <u>Ohio Department of Transportation - District 7</u> Address: <u>1001 St. Mary's Avenue P.O. Box 9696</u> City: <u>Sidney</u> State: <u>Ohio</u> Zip Code: <u>45365-0969</u> Contact: <u>Ms. Tricia Bishop</u> Telephone: <u>(937)-497-6721</u> Fax: <u>N/A</u> Removal Contractor Name: _____    License # _____ Address: _____ City: _____    State: _____    Zip Code: _____ Contact: _____    Telephone: <u>( )</u> Fax: <u>( )</u> Other Operator (demolition/general): _____    License # _____ Address: _____ City: _____    State: _____    Zip Code: _____ Contact: _____    Telephone: <u>( )</u> Fax: <u>( )</u>							
<b>VI. Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM and Category I and Category II nonfriable ACM:</b>  Visual inspection for suspect asbestos containing materials. Suspect asbestos containing materials were sampled and analyzed for asbestos content by Polarized Light Microscopy   Ohio Asbestos Hazard Evaluation Specialist: Name: <u>David Mousie</u> Certification # <u>ES34290</u>							
<b>VII. Approximate Amount of Asbestos Materials: None Identified</b>							
	RACM to be Removed	Nonfriable Asbestos Material to be Removed		Nonfriable Asbestos Material NOT to be Removed			
		Category I	Category II	Category I	Category II		
Pipes (linear feet)	Not Applicable						
Surface Area (square feet)	Not Applicable						
Facility Components (cubic feet)	Not Applicable						
<b>VIII. Scheduled Dates Demolition or Renovation:</b> Start: _____    Complete: _____							
<b>IX. Dates for Asbestos Removal (MM/DD/YY)</b> Start: _____    Complete: _____							
Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:							
Complete all unshaded spaces, except demolitions which involve less than 260 linear feet, 160 square feet, or 35 cubic feet of RACM, need not complete spaces VII, XI, XII, XIII, XIV, and XV. Notifications for Emergency Demolition or Emergency Renovation must supply attachments.							



OHIO ENVIRONMENTAL PROTECTION AGENCY  
NOTIFICATION OF DEMOLITION AND RENOVATION

Page 2 of 2

<b>X. Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components: N/A</b>
<b>XI. Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures: N/A</b>
<b>XII. Waste Transporter #1</b> Name: _____ Address: _____ City: _____ State: _____ Zip Code: _____ Contact: _____ Telephone: (____) _____ Fax: (____) _____ <b>Waste Transporter #2</b> Name: _____ Address: _____ City: _____ State: _____ Zip Code: _____ Contact: _____ Telephone: (____) _____ Fax: (____) _____
<b>XIII. Waste Disposal</b> Name: _____ Address: _____ City: _____ State: _____ Zip Code: _____ Contact: _____ Telephone: (____) _____ Fax: (____) _____
<b>XIV. Emergency Demolition (complete Item XIV and all other sections, only if this project is an Emergency Demo.)</b> 1. Attach a copy of the Order to this notice. 2. Name of Authority Issuing Order: _____ Title: _____ 3. Authority of Order (Citation of Code): _____ 4. Date of Order (MM/DD/YY): _____ Date Order to Begin: _____
<b>XV. Emergency Renovation (Attach separate sheet with the following information of project is Emergency Reno.)</b> 1. Date and Hour of the Emergency 2. Description of the Sudden, Unexpected Event 3. Explanation of how the event caused unsafe conditions or equipment damage or an unreasonable financial burden.
<b>XVI. Description of procedures to be followed in the event that unexpected RACM is found or nonfriable ACM becomes crumbled, pulverized or reduced to powder.</b>
<b>XVII. I certify that an individual trained in the provisions of NESHAPS (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.</b>  _____ Signature of Owner/Operator      Date      Type or Print Name and Title
<b>XVIII. I acknowledge the existence of laws prohibiting the submission of false or misleading statements and I certify that facts contained in this notification are true, accurate, and complete.</b>  _____ Signature of Owner/Operator      Date      Type or Print Name and Title
Original Notification must be mailed or hand delivered at least ten working days (Monday-Friday excluding weekends) Before demolitions or renovation begins, except emergency demolitions and emergency renovations (see regulation) Which must be submitted as soon as possible before operations begin. (Form revised 11/12/97)