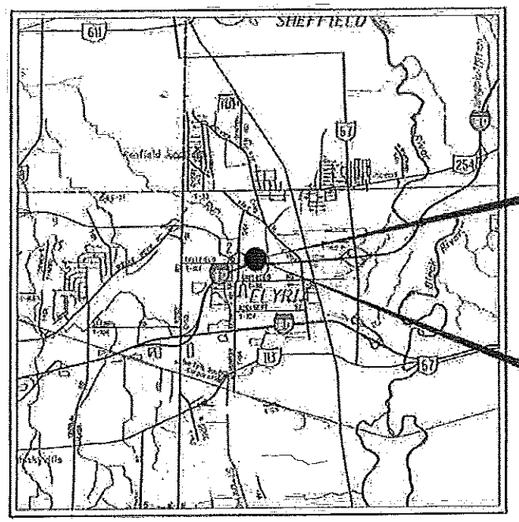
LOR - IR 90-11.78
180474 PID - 84591
Dist 3 8/23/2018

Conformed Set

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



LOCATION MAP

LATITUDE: 41° 24' 14" N LONGITUDE: 82° 08' 41" W

SCALE IN MILES 0 1 2 3 4

N

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

DESIGN DESIGNATION

	IR-90	SR-2
CURRENT ADT (2019)	7000	32300
DESIGN YEAR ADT (2039)	8500	39100
DESIGN HOURLY VOLUME (2039)	850	3910
DIRECTIONAL DISTRIBUTION	1.0	1.0
TRUCKS (24 HOUR B&C)	31%	7%
DESIGN SPEED	65	65
LEGAL SPEED	65	65

DESIGN FUNCTIONAL CLASSIFICATION:
RURAL INTERSTATE
NHS PROJECT YES

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

OHIO Utilities Protection SERVICE — Call Before You Dig 1-800-362-2764
(Non-members must be called directly)

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

PLAN PREPARED BY:
Gannett Fleming
2500 CORPORATE EXCHANGE DR, SUITE 230
COLUMBUS, OHIO 43231

ENGINEERS SEAL:

STATE OF OHIO — JOSEPH ROCCHI — E-62228 — REGISTERED PROFESSIONAL ENGINEER

SIGNED: Joseph Rocchi
DATE: 7-07-2017

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

LOR-90-11.78

LORAIN COUNTY

ELYRIA TOWNSHIP

INDEX OF SHEETS:

PROJECT DESCRIPTION

REHABILITATE BRIDGE NO. LOR-90-1178 OVER SR-2. INCLUDES ROADWAY APPROACH AND GUARDRAIL IMPROVEMENTS.

PROJECT EARTH DISTURBED AREA:
N/A (NOI NOT REQUIRED)
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:
N/A (NOI NOT REQUIRED)
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 AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED
DATE 2/13/18 DISTRICT DEPUTY DIRECTOR

APPROVED Jerry Wray
DATE 6-4-18 DIRECTOR, DEPARTMENT OF TRANSPORTATION

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	7/18/14	CB-2.2	1/15/16	TC-41.20	10/18/13	AS-1-15	7/17/15		
BP-5.1	7/19/13			TC-42.20	10/18/13	EXJ-4-87	7/19/02		
BP-9.1	7/19/13	HW-2.1	1/15/16	TC-52.10	10/18/13	PCB-91	1/18/13		
		HW-2.2	1/15/16	TC-52.20	7/15/16	SDR-1-13	1/17/14		
MGS-1.1	7/9/13					VPF-1-90	7/17/15		
MGS-2.1	7/9/13	DM-1.1	1/15/16	MT-95.30	7/15/16				
MGS-3.1	7/18/14	DM-1.2	1/18/13	MT-95.40	1/20/17				
MGS-3.2	1/18/13	DM-4.1	1/15/16	MT-95.45	1/20/17				
MGS-4.3	1/8/13	DM-4.3	1/15/16	MT-98.28	1/20/17				
MGS-6.1	7/19/13	DM-4.4	1/15/16	MT-99.30	1/16/15				
				MT-99.60	7/15/16				
		RM-4.2	4/18/14	MT-101.70	1/17/14				
		RM-4.5	7/18/14	MT-101.75	7/15/16				
		RM-4.6	7/19/13	MT-102.20	7/18/14				

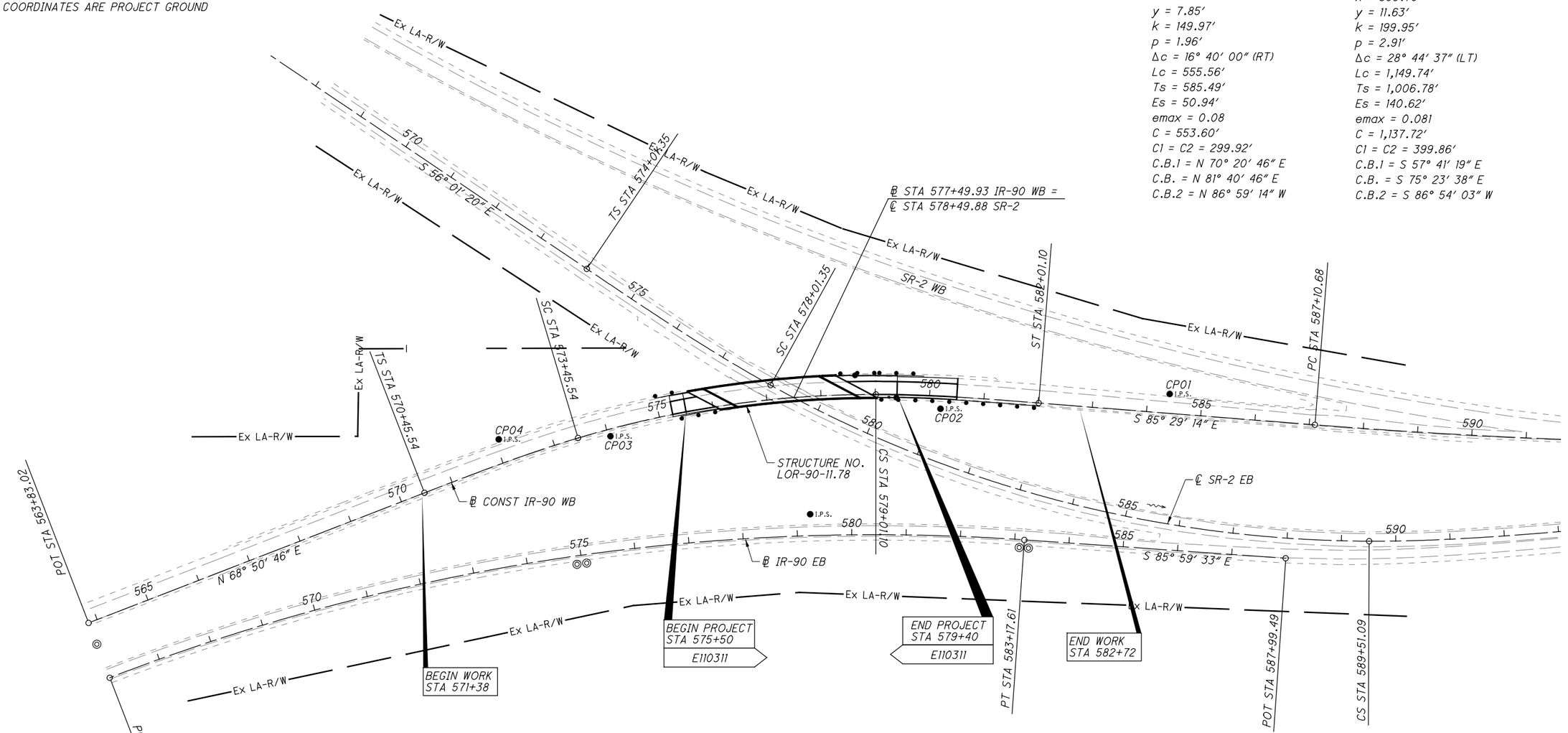
SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
800	4/20/2018	
832	1/17/14	

FEDERAL PROJECT NO.	E110311
PID NO.	84591
CONSTRUCTION PROJECT NO.	
RAILROAD INVOLVEMENT	NONE
	LOR-90-11.78

1 / 75

COORDINATE DATA			
POINT	STATION	COORDINATES	
		NORTHING	EASTING
IR-90 WB			
TS	570+45.54, ℄	632970.6525	2065425.6360
SC	573+45.54, ℄	633071.5263	2065708.0809
CS	579+01.10, ℄	633151.6379	2066255.8530
ST	582+01.10, ℄	633135.8739	2066555.3562

ALL COORDINATES ARE PROJECT GROUND



℄ IR-90 WB (℄ CONST)
P.I.STA 576+31.03
Δ = 25° 40' 00" (RT)
Dc = 3° 00' 00"
R = 1,909.86'
Ls = 300.00'
θs = 4° 30' 00"
LT = 200.06'
ST = 100.06'
x = 299.81'
y = 7.85'
k = 149.97'
p = 1.96'
Δc = 16° 40' 00" (RT)
Lc = 555.56'
Ts = 585.49'
Es = 50.94'
emax = 0.08
C = 553.60'
C1 = C2 = 299.92'
C.B.1 = N 70° 20' 46" E
C.B. = N 81° 40' 46" E
C.B.2 = N 86° 59' 14" W

℄ SR-2 EB
P.I.STA 584+08.13
Δ = 38° 44' 37" (LT)
Dc = 2° 30' 00"
R = 2,291.83'
Ls = 400.00'
θs = 5° 00' 00"
LT = 266.77'
ST = 133.43'
x = 399.70'
y = 11.63'
k = 199.95'
p = 2.91'
Δc = 28° 44' 37" (LT)
Lc = 1,149.74'
Ts = 1,006.78'
Es = 140.62'
emax = 0.081
C = 1,137.72'
C1 = C2 = 399.86'
C.B.1 = S 57° 41' 19" E
C.B. = S 75° 23' 38" E
C.B.2 = S 86° 54' 03" W

℄ IR-90 EB
P.I.STA 574+74.24
Δ = 25° 09' 03" (RT)
Dc = 1° 28' 00"
R = 3,906.53'
T = 871.45'
L = 1,714.82'
E = 96.02'
C = 1,701.09'
C.B. = N 81° 26' 03" E

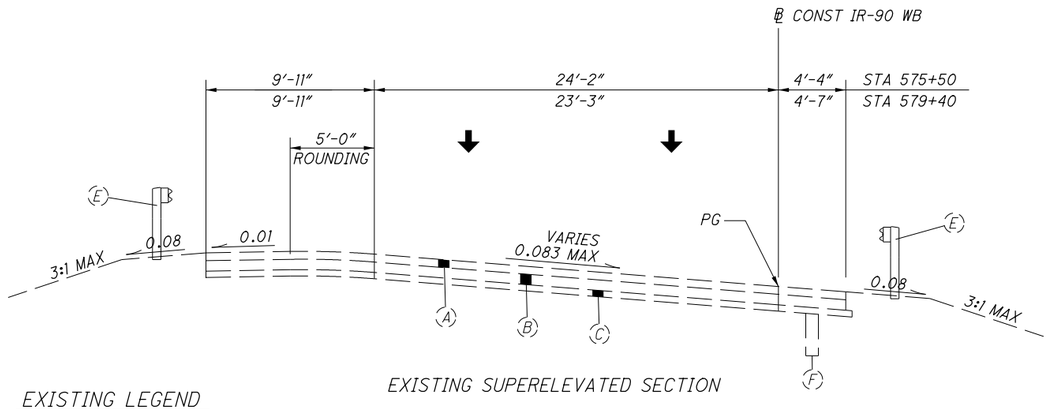
SURVEY CONTROL POINTS				
POINT	COORDINATES		ELEVATION	DESCRIPTION
	NORTHING	EASTING		
CP01	633152.4780	2066796.2269	743.414	IRON PIN
CP02	633125.2412	2066374.6793	754.027	DRILLHS
CP03	633074.8008	2065767.6076	769.024	IRON PIN
CP04	632931.4353	2066134.9622	752.372	IRON PIN

ALL COORDINATES ARE PROJECT GROUND

HORIZONTAL SCALE IN FEET
0 50 100 200
CALCULATED AA
CHECKED PRS

SCHEMATIC PLAN

LOR-90-11.78



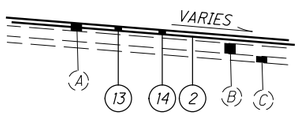
EXISTING SUPERELEVATED SECTION

EXISTING LEGEND

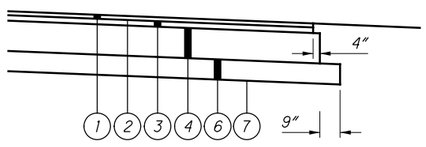
- (A) EXISTING 7.5" ASPHALT CONCRETE (DEPTH OF ASPHALT OVERLAY ON IR-90 IS UNKNOWN)
- (B) EXISTING 9" CONCRETE PAVEMENT
- (C) EXISTING 6" AGGREGATE BASE
- (D) EXISTING AGGREGATE BASE (VARIABLE THICKNESS)
- (E) EXISTING GUARDRAIL
- (F) EXISTING UNDERDRAIN

PROPOSED LEGEND

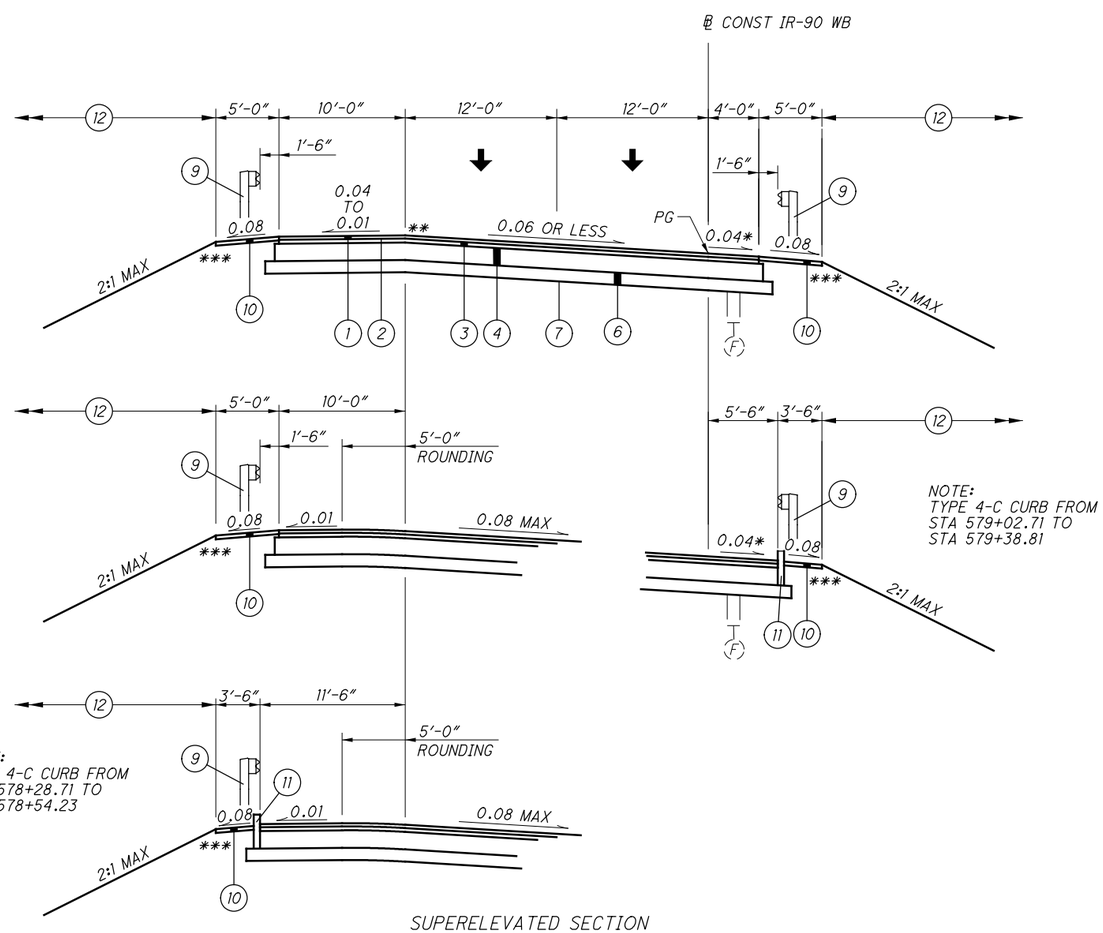
1. ITEM 442 - 1-1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE A, (448)
2. ITEM 407 - TACK COAT (0.04 GAL/SY)
3. ITEM 442 - 1-3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, TYPE A, (448)
4. ITEM 301 - 9" ASPHALT CONCRETE BASE, PG64-22
5. ITEM 526 - REINFORCED CONCRETE APPROACH SLAB WITH QA/QC (T=17"), AS PER PLAN
6. ITEM 304 - 6" AGGREGATE BASE
7. ITEM 204 - SUBGRADE COMPACTION
8. ITEM 605 - 6" BASE PIPE UNDERDRAIN
9. ITEM 606 - GUARDRAIL, TYPE MGS
10. ITEM 441 - 2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), (UNDER GUARDRAIL), AS PER PLAN
11. ITEM 609 - CURB, TYPE 4-C
12. ITEM 659 - SEEDING AND MULCHING
13. ITEM 254 - 1-1/2" PAVEMENT PLANING, ASPHALT CONCRETE
14. ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE A, (448) (VARIABLE THICKNESS - 3" MAX)



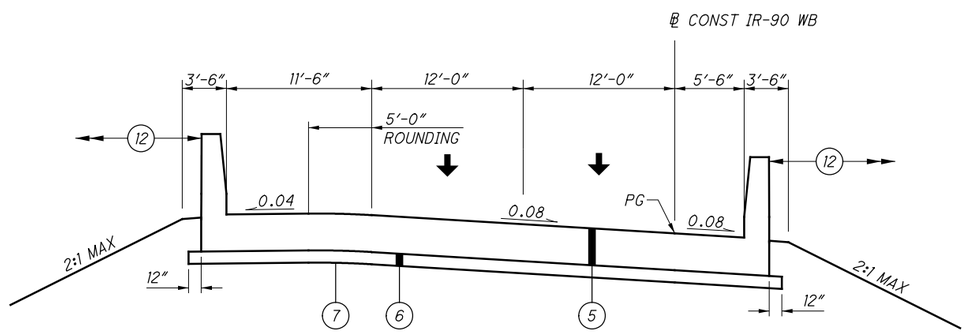
PAVEMENT PLANING - SLOPE CORRECTION DETAIL
STA 575+25.00 TO STA 575+50.00
STA 579+40.00 TO STA 580+50.00



ASPHALT PAVEMENT - EDGE COURSE DETAIL



SUPERELEVATED SECTION
STA 575+50.00 TO STA 576+05.40
STA 578+92.28 TO STA 579+40.00



APPROACH SLAB - SUPERELEVATED SECTION
STA 576+05.40 TO STA 576+35.40
BRIDGE LIMITS: STA 576+35.40 TO STA 578+62.28
STA 578+62.28 TO STA 578+92.28

* OR RATE OF SUPER IF GREATER
** 7% MAXIMUM GRADE BREAK
*** 10' ROUNDING

TYPICAL SECTIONS

LOR-90-11.78

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

UTILITIES
THERE ARE NO KNOWN UNDERGROUND OR OVERHEAD UTILITIES WITHIN THE PROJECT CONSTRUCTION LIMITS.

EXISTING PLANS
EXISTING PLANS ENTITLED LOR-90-9.48 (1973) MAY BE INSPECTED IN THE ODOT DISTRICT 3 OFFICE AT 906 CLARK AVENUE, ASHLAND, OHIO 44805.

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

PROJECT CONTROL
POSITIONING METHOD: GPS
MONUMENT TYPE: IRON PIN SET WITH ALUMINUM CAP

VERTICAL POSITIONING
ORTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: GEOID12A

HORIZONTAL POSITIONING
REFERENCE FRAME: NAD 83(2011)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE, NORTH ZONE (3401)
COMBINED SCALE FACTOR: 1.00007375
ORIGIN OF COORDINATE SYSTEM: N 0.0, E 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 = 3.28083333 U.S SURVEY FEET.

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.

PROTECTION OF RIGHT-OF-WAY LANDSCAPING
PRIOR TO BEGINNING WORK, THE CONTRACTOR, THE PROJECT ENGINEER, AND A REPRESENTATIVE OF THE MAINTAINING AGENCY WILL REVIEW AND RECORD ALL LANDSCAPING ITEMS WITHIN THE RIGHT OF WAY (BOTH WITHIN AND OUTSIDE THE CONSTRUCTION LIMITS) A RECORD OF THIS REVIEW WILL BE KEPT IN THE PROJECT ENGINEER'S FILES. PRIOR TO FINAL ACCEPTANCE, A FINAL REVIEW OF LANDSCAPING ITEMS WILL BE MADE.

CONSTRICT ALL ACTIVITIES, EQUIPMENT STORAGE, AND STAGING TO WITHIN THE CONSTRUCTION LIMITS. UNLESS OTHERWISE IDENTIFIED IN THE PLANS OR PROPOSAL, THE CONSTRUCTION LIMITS ARE IDENTIFIED AS 30 FEET FROM THE EDGE OF PAVEMENT.

SUBMIT A WRITTEN REQUEST TO THE PROJECT ENGINEER TO USE ANY AREA OUTSIDE THESE LIMITS. THE DOCUMENT SUBMITTED MUST CLEARLY IDENTIFY THE AREA AND EXPLAIN THE PROPOSED USE AND RESTORATION OF THE AREA. THE USE OF THESE AREAS FOR DISPOSAL OF WASTE MATERIAL AND CONSTRUCTION DEBRIS, EXCAVATION OF BORROW MATERIAL AND PLACEMENT OF PORTABLE PLANTS IS PROHIBITED. THE REQUEST MUST BE APPROVED, IN WRITING, BEFORE THE CONTRACTOR HAS PERMISSION TO USE THE AREA.

ANY ITEMS DAMAGED BEYOND THE CONSTRUCTION LIMITS AS DEFINED ABOVE WILL BE REPLACED IN KIND OR AS APPROVED BY THE PROJECT ENGINEER.

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.

PART-WIDTH CONSTRUCTION
BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

ITEM 659- SEEDING AND MULCHING
THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SOIL ANALYSIS TEST	1 EA
659, TOPSOIL	95 CY
659, SEEDING AND MULCHING	(SEE SHEET 23 FOR QTY)
659, REPAIR SEEDING AND MULCHING	43 SY
659, COMMERCIAL FERTILIZER	0.12 TON
659, LIME	0.18 ACRE
659, WATER	3 M GAL

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.

ITEM 204 - PROOF ROLLING
THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.

ITEM 204 - PROOF ROLLING	2 HOUR

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL
WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

ITEM 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.

ITEM 623 - CONSTRUCTION LAYOUT STAKES, AS PER PLAN
AFTER COMPLETION OF ALL WORK, BUT PRIOR TO FINAL ACCEPTANCE OF THE PROJECT, AN OHIO PROFESSIONAL SURVEYOR SHALL DETERMINE THE MINIMUM VERTICAL CLEARANCES OF ALL EXISTING AND NEW BRIDGES WITHIN THE PROJECT LIMITS. AT A MINIMUM, MEASUREMENTS SHALL BE TAKEN ALONG EACH FASCIA BEAM AT THE EDGE OF SHOULDERS, EDGE LINES, LANE LINES, AND CROWN OF THE ROADWAY BELOW. THE ODOT DISTRICT 3 VERTICAL CLEARANCE SURVEY FORM SHALL BE USED, WHERE APPLICABLE, TO DOCUMENT THE MEASUREMENTS. WHERE THE ODOT DISTRICT 3 VERTICAL CLEARANCE SURVEY FORM IS NOT APPLICABLE, THE MEASUREMENTS SHALL BE DOCUMENTED ON A CONTRACTOR-DEVELOPED FORM THAT CLOSELY RESEMBLES THE ODOT DISTRICT 3 VERTICAL CLEARANCE SURVEY FORM AND ACCURATELY DEPICTS THE BRIDGE AND BELOW LANE AND SHOULDER CONFIGURATION. THE COMPLETED FORM SHALL BEAR THE STAMP OR SEAL OF THE OHIO PROFESSIONAL SURVEYOR WHO HAS TAKEN THE MEASUREMENTS AND SHALL BE SUBMITTED TO THE PROJECT ENGINEER PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.

THE ODOT DISTRICT 3 VERTICAL CLEARANCE SURVEY FORM CAN BE DOWNLOADED FROM THE FOLLOWING WEBSITE:

ftp://ftp.dot.state.oh.us/pub/Districts/D03/Vertical%20Clearance/

PAVING UNDER GUARDRAIL
THIS OPERATION SHALL INCLUDE PREPARATION OF THE GRADED SHOULDER USING 209, LINEAR GRADING AS PER PLAN, AND PAVING UNDER THE GUARDRAIL USING 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), UNDER GUARDRAIL, AS PER PLAN.

ITEM 209, LINEAR GRADING AS PER PLAN, SHALL CONSIST OF EXCAVATING TOPSOIL, AND PLACING GRANULAR MATERIAL.

ALL COLLECTED DEBRIS AND TOPSOIL, INCLUDING RHIZOMES, ROOTS AND OTHER VEGETATIVE PLANT MATERIAL SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED IN 105.17.

THE REMOVED MATERIAL SHALL BE REPLACED WITH COMPACTABLE GRANULAR MATERIAL CONFORMING TO 703.16 PLACED TO GRADE AS DETAILED ON THE TYPICAL SECTION OR AS APPROVED BY THE ENGINEER.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 209, LINEAR GRADING, AS PER PLAN.

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 441 TO THE DEPTH SPECIFIED USING ONE OF THE FOLLOWING METHODS:

METHOD A:
1. SET GUARDRAIL POSTS
2. PLACE ITEM 441

METHOD B:
1. PLACE ITEM 441
2. BORE ASPHALT AT POST LOCATIONS (MAY BE OMITTED IF STEEL POSTS ARE USED)
3. SET GUARDRAIL POSTS
4. PATCH AROUND POSTS. THE MATERIALS USED FOR PATCHING SHALL BE AN ASPHALT CONCRETE APPROVED BY THE ENGINEER. PATCHED AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 441, ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 1, (448), UNDER GUARDRAIL, AS PER PLAN.

ASBESTOS NOTIFICATION
AN ASBESTOS SURVEY OF THE BRIDGE STRUCTURE SCHEDULED FOR DEMOLITION WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE BRIDGE STRUCTURE. THIS BRIDGE IS IDENTIFIED AS: LOR-IR90-11.78 OVER SR2.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORMS, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO THE ADDRESS BELOW AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION.

OHIO EPA, NEDO
2110 E. AURORA ROAD
TWINSBURG, OHIO 44087

THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER. INFORMATION REQUIRED ON THE FORM WILL INCLUDE: 1) THE CONTRACTORS NAME AND ADDRESS, 2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL AND 3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED. COPIES OF THE OEPA FORM AND BRIDGE INSPECTION REPORT ARE AVAILABLE FOR REVIEW AT THE ODOT DISTRICT 3 OFFICE, 906 NORTH CLARK AVENUE, ASHLAND OH, 44805

BASIS FOR PAYMENT - THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

BRIDGE IDENTIFICATION SIGN
BRIDGE IDENTIFICATION SIGN WILL BE PLACED AT FORWARD APPROACH OFF THE LEFT SHOULDER, FACING TRAFFIC, AND BEHIND THE GUARDRAIL. A QUANTITY OF ONE SIGN WILL BE INSTALLED. THE SIGN WILL HAVE A NON-REFLECTIVE WHITE SHEETING BACKGROUND, PER CMS 730.20, AND ONLY THE SLM OF THE BRIDGE.

THE SIGN WILL BE MOUNTED IN COMBINATION WITH SIGN OM-3R-12 ON A NEW NO. 3 POST AND WILL BE INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-41.20, MOST CURRENT REVISION.

INSTALL SIGN FOR THE FOLLOWING BRIDGE: LOR-90-1178 [1 APPROACH]

THE FOLLOWING QUANTITY HAS BEEN INCLUDED:
ITEM 630 - SIGN, FLAT SHEET, AS PER PLAN 0.8 SQ FT

GENERAL NOTES

LOR-90-11.78

ITEM 614, MAINTAINING TRAFFIC

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

1. A MINIMUM OF ONE 12' LANE FOR ONE-WAY TRAFFIC SHALL BE MAINTAINED ON IR-90 ON THE EXISTING PAVEMENT AND PAVEMENT WEDGE DURING STAGE 1 AND ON THE NEW CONSTRUCTION DURNING STAGE 2.

2. TWO 12' LANES SHALL BE MAINTAINED ON SR-2 EB DURING STAGE 1 AND STAGE 2 OF CONSTRUCTION. SHORT TERM CLOSURES WILL BE PERMITTED FOR SPECIFIC CONSTRUCTION ACTIVITIES WITH APPROVAL OF THE ENGINEER. NO LANE CLOSURES OUTSIDE OF THE PERMITTED LANE CLOSURE TIMES WILL BE ALLOWED.

3. 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.

4. 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 TYPE AND LOCATION AS FOLLOWS IN THE MAINTENANCE OF TRAFFIC PLANS.

5. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (419) 281-0513, FOURTEEN (14) DAYS PRIOR TO THE BEGINNING OF WORK.

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

7. THE CONTRACTOR SHALL REMOVE AND REPLACE ALL EXISTING PAVEMENT MARKINGS IN CONFLICT WITH THE PROPOSED MOT.

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.

MAINTAINING TRAFFIC GENERAL

THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL FLAGS, FLAGGERS, WATCHERS, BARRICADES, SIGNS, SIGN SUPPORTS AND INCIDENTALS RELATED TO TRAFFIC CONTROL.

SIGNS FURNISHED SHALL BE IN NEW OR LIKE NEW CONDITIONS. LIKE NEW SIGNS SHALL BE SUBJECT TO THE APPROVAL OF THE PROJECT ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES FOR PROVIDING AND MAINTAINING LIGHTS, SIGNS, AND BARRICADES FOR THE MAINTENANCE OF TRAFFIC AND SAFETY OF HIS/HER WORK AT THE LOCATIONS SHOWN ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

IF THE CONTRACTOR FAILS TO COMPLY WITH THE PROVISIONS FOR TRAFFIC CONTROL AS SET FORTH IN THESE PLANS AND PROVISIONS OF THE OMUTCD AND THE FAILURE RESULTS IN A CONDITION AT THE WORK SITE WHICH IS UNSAFE FOR TRAFFIC, THE ENGINEER SHALL SUSPEND WORK UNTIL THE CONTRACTOR COMPLIES WITH THE NECESSARY REQUIREMENTS.

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

WORK ZONE MARKINGS AND SIGNS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS AND SIGNS PER THE REQUIREMENTS OF C&MS 614.04 AND 614.11.

ITEM 614, WORK ZONE EDGE LINE, CLASS III, 4", 642 PAINT 1.00 MILE

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.

SEQUENCE OF CONSTRUCTION

ALL REFERENCES TO LEFT OR RIGHT LANE OR SHOULDER IN THE SEQUENCE OF CONSTRUCTION IS TO BE APPLIED IN THE DIRECTION OF TRAVEL.

PRE-STAGE 1

1. CLOSE THE RIGHT TRAVEL LANE OF IR-90 WB PER SCD MT-95.30.
2. PLACE THE ASPHALT WEDGE.

STAGE 1

IR-90 WB

1. SHIFT IR-90 TRAFFIC ONTO THE RIGHT SIDE OF THE ROADWAY AND ASPHALT WEDGE PREVIOUSLY PLACED PRIOR TO STAGE 1 AS SHOWN IN THE PLANS.
2. PERFORM APPROACH PAVEMENT WORK, GUARDRAIL, DRAINAGE, AND BRIDGE CONSTRUCTION ON THE SOUTH SIDE OF IR-90. REFERENCE THE BRIDGE STAGING PLANS FOR ADDITIONAL DETAILS.

SR-2 EB

1. CLOSE THE RIGHT SHOULDER OF SR-2 AS SHOWN IN THE PLANS.
2. COMPLETE THE PIER REHABILITATION AND CONSTRUCTION OF THE STAGE 1 CAP ON PIER NO. 1 (WEST PIER).
3. SHIFT TRAFFIC ONTO THE RIGHT SIDE OF SR-2 AND CLOSE THE LEFT SHOULDER AND PART OF THE EXISTING LEFT LANE AS SHOWN IN THE PLANS.
4. REMOVE THE EXISTING CONCRETE BARRIER, COMPLETE THE PIER REHABILITATION AND CONSTRUCTION OF THE STAGE 1 CAP ON PIER NO. 2 (EAST PIER),

STAGE 2

IR-90 WB

1. SHIFT IR-90 TRAFFIC TO THE LEFT SIDE OF THE ROAD AS SHOWN IN THE PLANS.
2. PERFORM APPROACH PAVEMENT WORK, GUARDRAIL, DRAINAGE, AND BRIDGE CONSTRUCTION ON THE NORTH SIDE OF IR-90. REFERENCE THE BRIDGE STAGING PLANS FOR ADDITIONAL DETAILS.
3. APPLY FINAL PAVEMENT MARKINGS AND REOPEN TO TRAFFIC.

SR-2 EB

1. FINISH THE PIER REHABILITATION AND CONSTRUCTION OF THE STAGE 2 CAP ON PIER No. 2 (EAST PIER), RECONSTRUCT THE CONCRETE BARRIER, AND BRIDGE TERMINAL ASSEMBLY.
2. SHIFT TRAFFIC BACK ONTO THE FINAL LANE CONFIGURATION AND CLOSE THE RIGHT SHOULDER AS SHOWN IN THE PLANS.
3. COMPLETE THE PIER REHABILITATION AND CONSTRUCTION OF THE STAGE 2 CAP ON PIER NO. 1 (WEST PIER).

STAGE 3 (NOT SHOWN)

1. PERFORM THE BRIDGE STEEL PAINTING OPERATION BY CLOSING ONE LANE OF SR-2 EB IN ACCORDANCE WITH THE PERMITTED LANE CLOSURE TIMES AND BY USING SCD MT-95.30.

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS. THE APPROVED LIST IS AVAILABLE AT THE "ROADWAY STANDARDS: PROPRIETARY ROADSIDE SAFETY DEVICES" WEB PAGE ON THE OFFICE OF ROADWAY ENGINEERING WEBSITE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

DELINEATION OF PORTABLE AND PERMANENT BARRIERS

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL AND ON PERMANENT CONCRETE BARRIER (INCLUDING BRIDGE PARAPETS) LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER TRAFFIC SCD MT-101.70. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614.03 AND SCD MT-101.70. WHEN THE PB CONTAINS GLARE SCREEN, ONE SET OF THREE VERTICAL STRIPES OF SHEETING SHALL BE CONSIDERED EQUIVALENT TO AN OBJECT MARKER, ONE-WAY.

INCREASED BARRIER DELINEATION, AS SPECIFIED HEREIN, SHALL BE INSTALLED ON ALL PB AND CONCRETE PERMANENT BARRIER LOCATED WITHIN 5 FEET OF THE EDGE OF THE TRAVELED LANE ALONG TAPERS AND TRANSITION AREAS AND ALONG CURVES (OUTSIDE ONLY) WITH DEGREE OF CURVATURE GREATER THAN OR EQUAL TO 3 DEGREES.

THE INCREASED BARRIER DELINEATION SHALL CONSIST OF EITHER DELINEATION PANELS OR THE TRIPLE STACKING OF WORK ZONE BARRIER REFLECTORS.

DELINEATION PANELS SHALL CONSIST OF PANELS OF DELINEATION, APPROXIMATELY 34 INCHES LONG AND 6 INCHES WIDE AND SHALL BE "CRIMPED." PANELS SHALL BE INSTALLED AND SPACED PER TRAFFIC SCD MT-101.70.

TRIPLE-STACKED BARRIER REFLECTORS SHALL CONSIST OF ALIGNING THREE BARRIER REFLECTORS VERTICALLY, AT LOCATIONS WHERE A SINGLE BARRIER REFLECTOR WOULD BE OTHERWISE ATTACHED. THERE SHALL BE NO OPEN SPACE BETWEEN THE ADJACENT BARRIER REFLECTORS. THE TRIPLE-STACKED BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THEY SHALL BE SPACED AND ALIGNED PER TRAFFIC SCD MT-101.70.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

ITEM 614, BARRIER REFLECTOR, TYPE 1 (1-WAY)	77 EACH
ITEM 614, OBJECT MARKER, ONE-WAY	77 EACH
ITEM 614, INCREASED BARRIER DELINEATION	3830 FEET

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING EACH OF THE ABOVE ITEMS.

ALONG RUNS OF INCREASED BARRIER DELINEATION WHERE THIS ITEM IS PROVIDED, THE QUANTITY SHALL BE MEASURED AS THE ENTIRE LENGTH OF THE RUN OF INCREASED BARRIER DELINEATION, INCLUDING THE SPACES BETWEEN THE INDIVIDUAL DELINEATION PANELS OR STACKS OF BARRIER REFLECTORS.

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 OFFICE OF COMMUNICATIONS. 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, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTICE TO OFFICE OF COMMUNICATIONS TIME TABLE

ITEM	DURATION OF CLOSURE	NOTICE DUE TO OFFICE OF COMMUNICATIONS
RAMP & ROAD CLOSURES	>= 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE
LANECLOSURES & RESTRICTIONS	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WEEKS	2 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 NOTICE TO OFFICE OF COMMUNICATIONS TIME TABLE.

CALCULATED AA CHECKED PRS

MAINTENANCE OF TRAFFIC GENERAL NOTES

LOR-90-11.78

GENERAL NOTES OF TRAFFIC MAINTENANCE

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 OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, 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 REQUIREMENTS OF CMS 614 AND THE OMUTCD, 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 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 AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

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.

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 ENGINEER. 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 40 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.

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

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

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING

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

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

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF $50 FOR EACH MINUTE THE ABOVE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

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.

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.

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 PRECONSTRUCTION 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 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
18 SIGN MONTH ASSUMING 2 PCMS SIGNS FOR 9 MONTHS

ITEM 618, RUMBLE STRIPS, (ASPHALT CONCRETE), AS PER PLAN

THE CONTRACTOR SHALL MILL 2 INCHES BY 2 FEET WIDE STRIP OF THE EXISTING SHOULDER IN ORDER TO REMOVE THE EXISTING RUMBLE STRIPS IN AREAS WHERE TRAFFIC IS SHIFTED. THE SPECIFIC AREAS TO BE MLLED ARE IDENTIFIED BELOW. THE CONTRACTOR SHALL THEN COAT ALL MILLED SURFACES, HORIZONTAL AND VERTICAL, WITH APPROVED AC LIQUID. NEXT THE CONTRACTOR SHALL PLACE 2 INCHES OF ITEM 442, ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE A, (448). ONCE THE PROJECT IS COMPLETE, THE CONTRACTOR SHALL INSTALL NEW RUMBLE STRIPS AS PER CMS 618. ALL COSTS ASSOCIATED WITH THE MILLING OF EXISTING PAVEMENT, PLACEMENT OF THE SURFACE COURSE, AND INSTALLATION OF THE RUMBLE STRIPS, UNLESS ITEMIZED ELSEWHERE IN THE PLANS, SHALL BE INCLUDED IN THE UNIT PRICE BID PER FOOT FOR ITEM 618, RUMBLE STRIPS, (ASPHALT CONCRETE), AS PER PLAN.

STAGE 1
IR-90, STA 582+70 TO STA 584+40
SR-2, STA 570+80 TO STA 584+45

STAGE 2
IR-90, STA 570+80 TO STA 575+25
IR-90, STA 580+50 TO STA 583+60

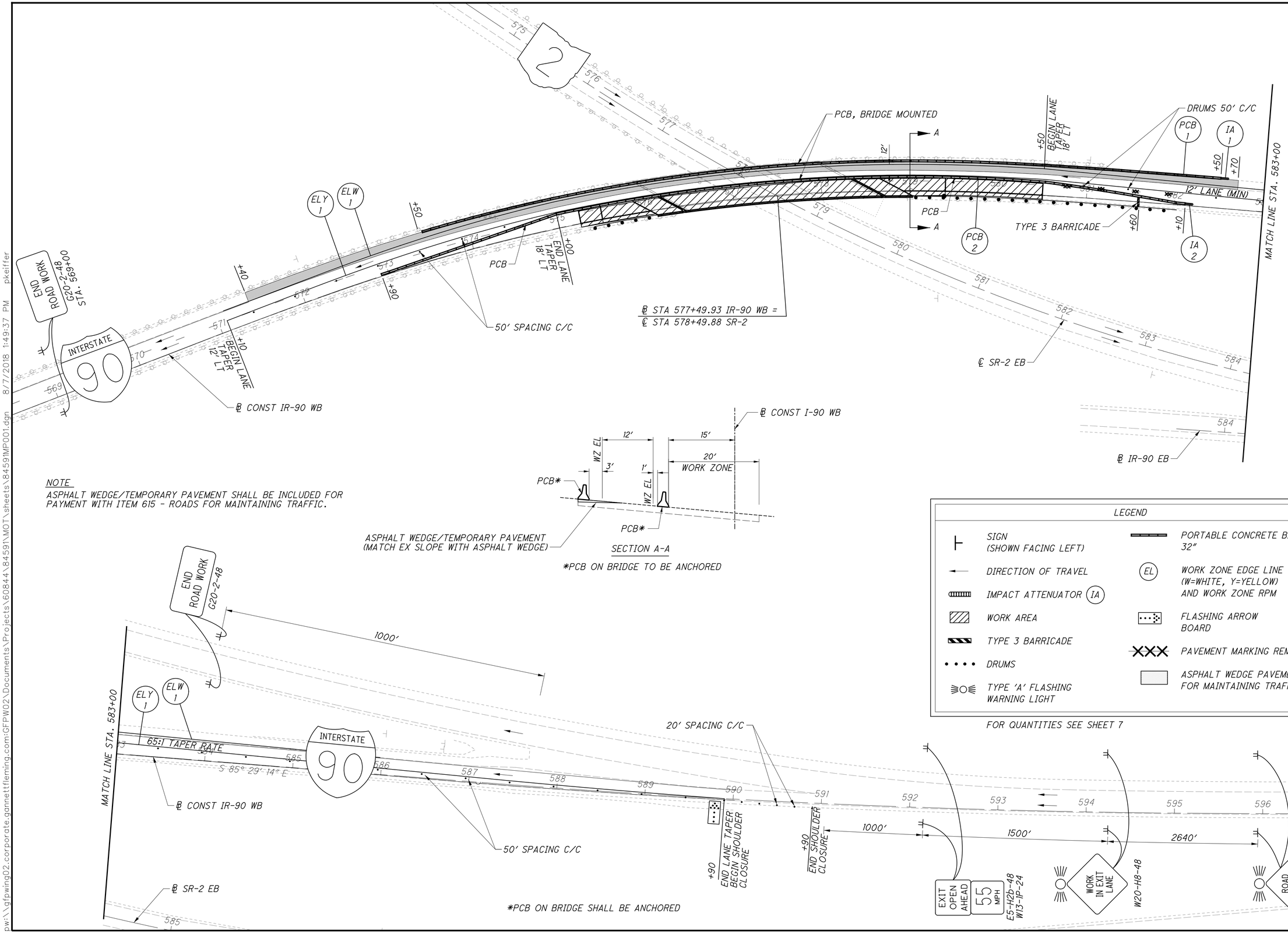
A QUANTITY OF 2290 FEET HAS BEEN CARRIED TO THE GENERAL SUMMARY.

REF NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	614 WORK ZONE RAISED PAVEMENT MARKER	614 WORK ZONE EDGE LINE, CLASS 1, 4"	614 WORK ZONE CHANNELIZING LINE, CLASS 1, 8"	622 PORTABLE BARRIER, 32"	622 PORTABLE BARRIER, 32", BRIDGE MOUNTED
					EACH	EACH	MILE	FT	FT	FT
IR-90 - STAGE 1										
IA1	8	582+50.00		LT	1					
IA2	8	582+10.00		LT	1					
ELY1	8	571+10.00	589+90.00	LT		94	0.36			
ELW1	8	571+10.00	589+90.00	LT		94	0.36			
PCB1	8	573+50.00	582+50.00	LT					680	230
PCB2	8	572+90.00	582+10.00	LT					690	230
IR-90 - STAGE 2										
IA1	9	582+70.00		LT	1					
ELY1	9	570+80.00	589+80.00	LT		95	0.36			
ELW1	9	570+80.00	589+80.00	RT		95	0.36			
PCB1	9	571+40.00	582+70.00	LT					900	230
SR-2 - STAGE 1										
IA1	10	575+50.00		RT	1					
PCB1	10	575+50.00	578+50.00	RT					300	
SR-2 - STAGE 2										
IA1	11	576+55.00		LT	1					
IA1	10	575+50.00		RT	1					
PCB1	11	576+55.00	579+25.00	LT					270	
PCB1	10	575+50.00	578+50.00	RT					300	
ELW1	11	570+80.00	584+45.00			69	0.26			
ELY1	11	570+80.00	584+45.00			69	0.26			
CH1	11	570+80.00	584+45.00			69		1365		
SUBTOTAL					6	585	1.96	1365	3140	690
TOTALS CARRIED TO GENERAL SUMMARY					6	585	1.96	1365	3140	690

CALCULATED AAF
CHECKED PRS

MAINTENANCE OF TRAFFIC QUANTITES

LOR-90-11.78



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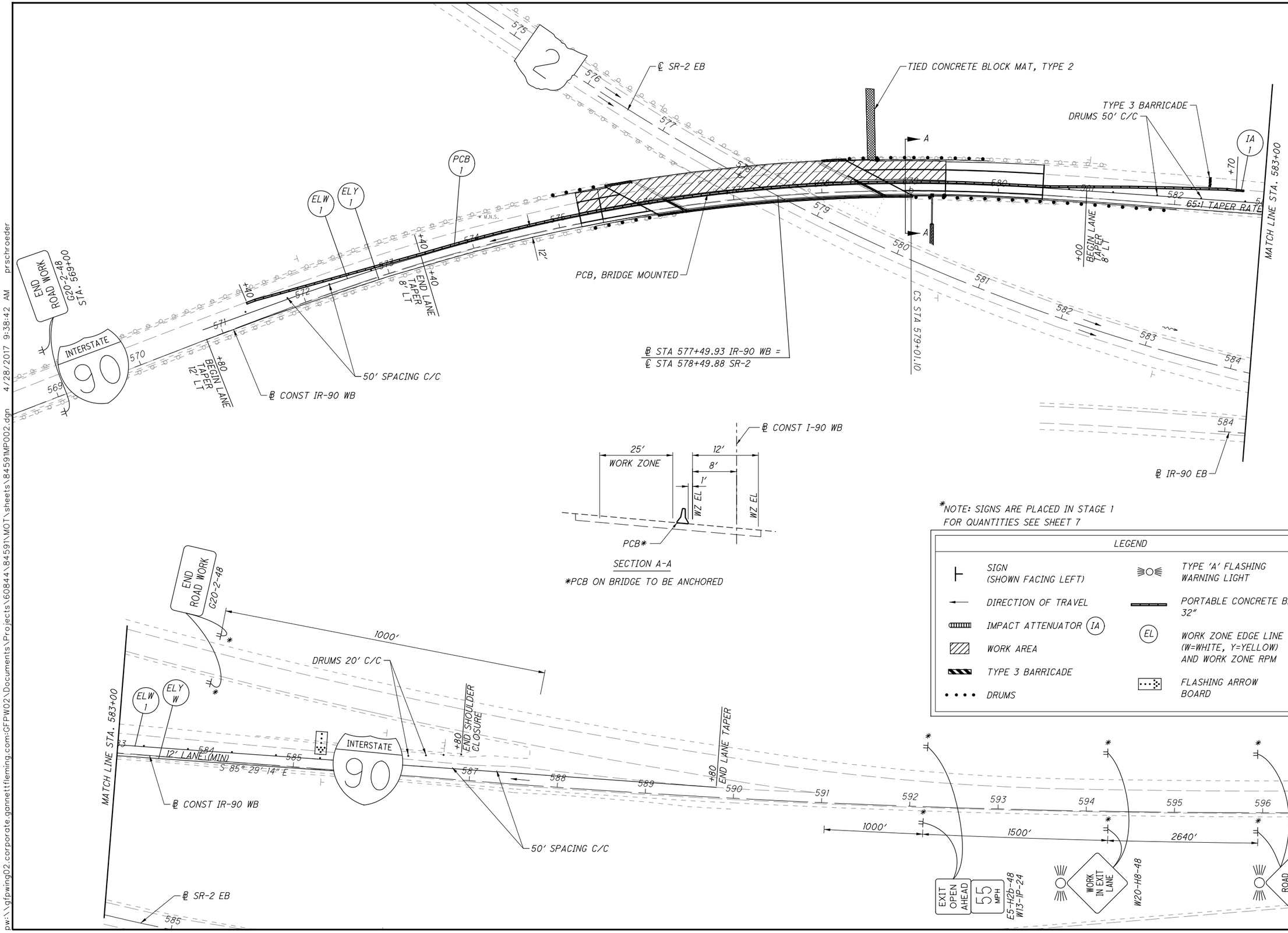
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED AA
CHECKED PRS

MAINTENANCE OF TRAFFIC STAGE 1

LOR-90-11.78

8
75



0 25 50 100 HORIZONTAL SCALE IN FEET

CALCULATED AA CHECKED PRS

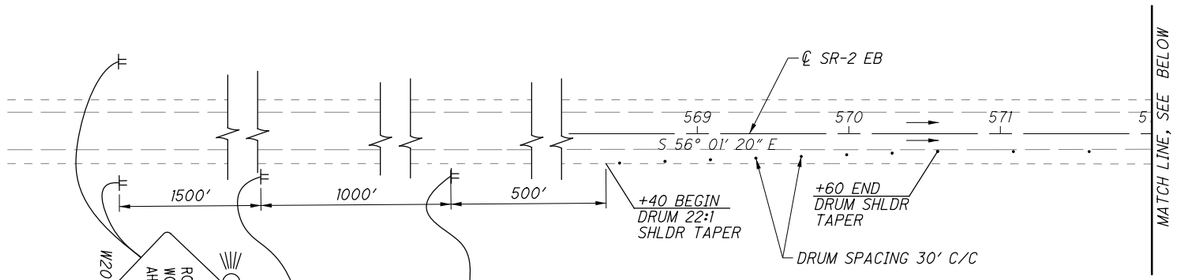
MAINTENANCE OF TRAFFIC STAGE 2

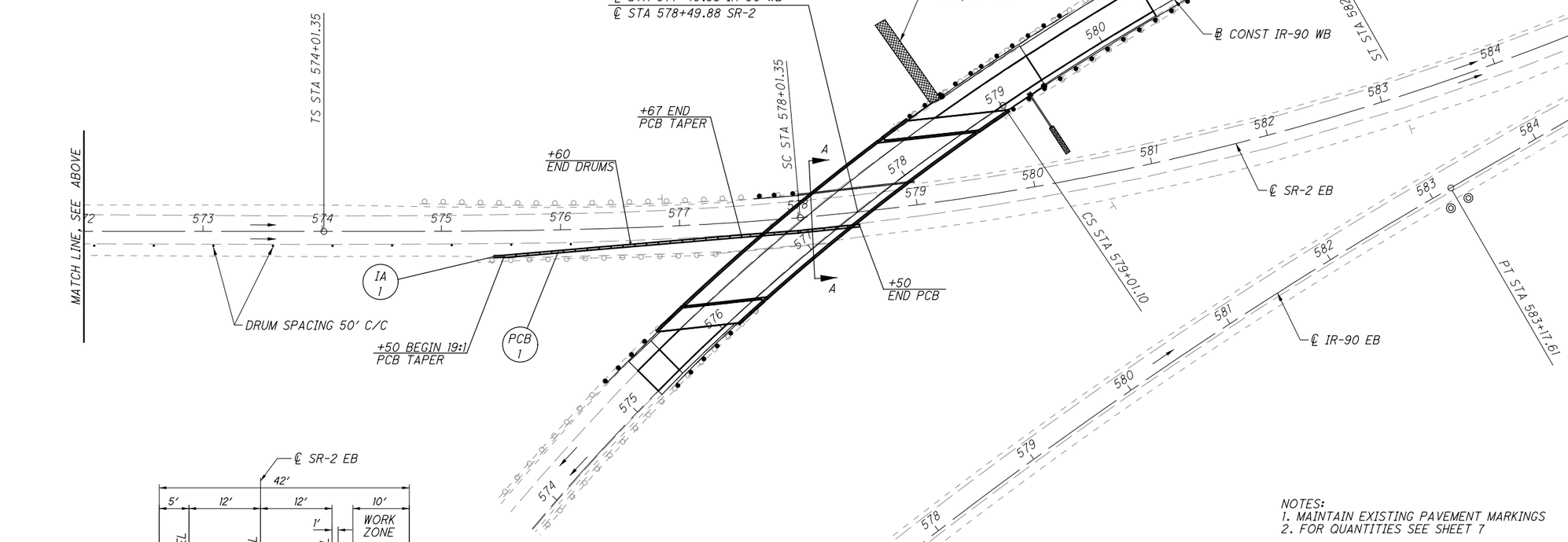
LOR-90-11.78

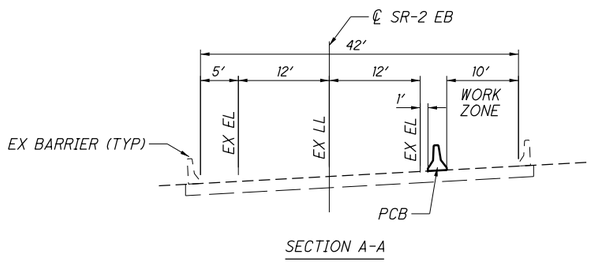
9 75

LEGEND

- SIGN (SHOWN FACING LEFT)
- DIRECTION OF TRAVEL
- IMPACT ATTENUATOR (IA)
- WORK AREA
- TYPE 3 BARRICADE
- DRUMS
- TYPE 'A' FLASHING WARNING LIGHT
- PORTABLE CONCRETE BARRIER, 32"
- (EL) WORK ZONE EDGE LINE







SECTION A-A

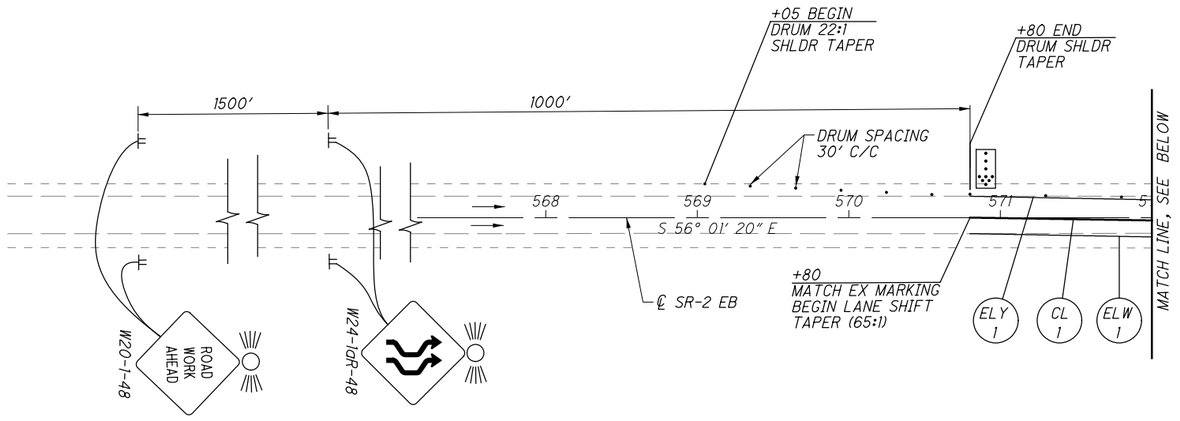
NOTES:
1. MAINTAIN EXISTING PAVEMENT MARKINGS
2. FOR QUANTITIES SEE SHEET 7

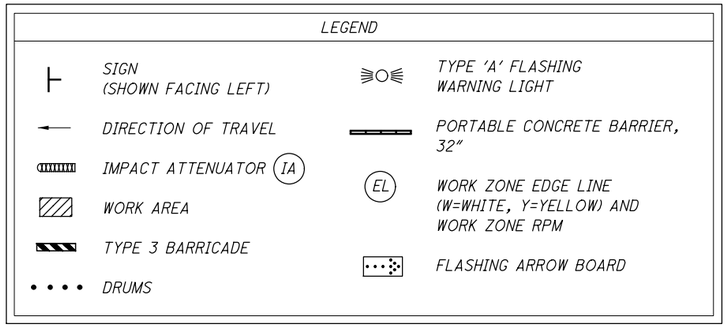
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED AA
CHECKED PRS

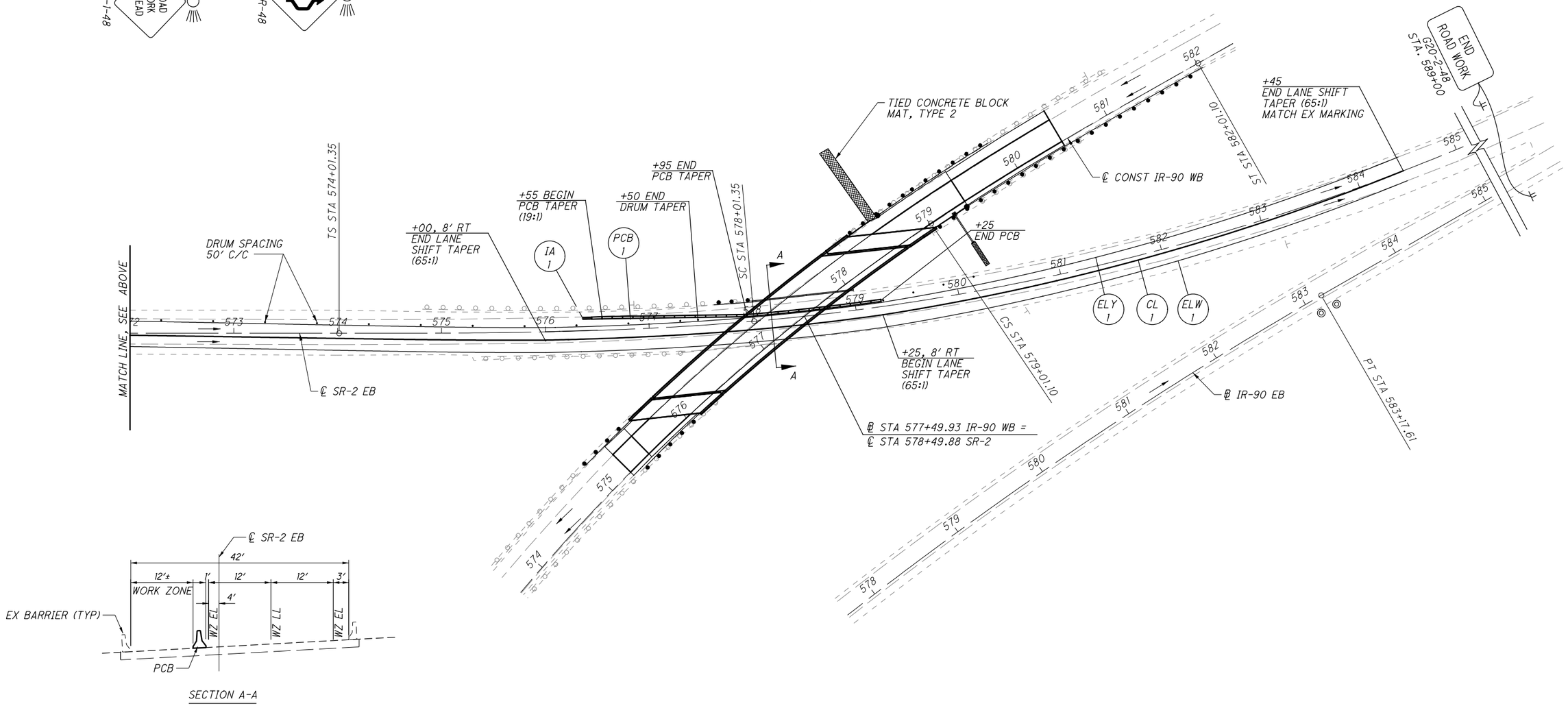
MAINTENANCE OF TRAFFIC
SR-2 - RT SHOULDER CLOSURE

LOR-90-11.78





FOR QUANTITIES SEE SHEET 7



SECTION A-A

pw:\\gfpwing02.corporate.gannettfleming.com:GFPW02\Documents\Projects\60844\84591\MOT\sheets\84591MP102.dgn 4/28/2017 9:38:52 AM prschroeder

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED AA
CHECKED PRS

MAINTENANCE OF TRAFFIC
SR-2 - LT SHOULDER/ LANE CLOSURE

LOR-90-11.78

CALCULATED PRS

CHECKED PRS

MOT CROSS SECTIONS - STAGE 1

STA. 571+00.00 TO STA. 573+50.00

LOR-90-11.78

ASPHALT END WIDTH	ASPHALT CU. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		575+00.00 769.79				
3.7	7		0	1.8	0	3
		574+50.00 770.42				
3.9	7		0	1.9	0	4
		574+00.00 771.02				
3.5	6		0	2.4	0	4
	20				0	11

ASPHALT END WIDTH	ASPHALT CU. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	47	ACROSS BRIDGE				
		BRIDGE LIMITS: 576+35.40 TO STA 578+62.28				
4.7			0	0		
	4				0	0
		768.32 575+91.40 (ABUTMENT CORNER) 768.30				
4.2			0	0		
				1.4	0	1
	3					
		768.74 575+68.01 (BEGIN ABUTMENT WALL) 768.73				
3.8			0	1.4		
	7				0	3
		769.05 575+50.00 769.05				
		BEGIN PROJECT - STA 575+50				
	61				0	4

CALCULATED PRS
CHECKED PRS

MOT CROSS SECTIONS - STAGE 1
STA. 574+00.00 TO STA. 575+91.40

LOR-90-11.78

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CALCULATED PRS
CHECKED PRS

MOT CROSS SECTIONS - STAGE 1
STA. 578+68.64 TO STA. 579+50.00

LOR-90-11.78

ASPHALT END WIDTH	ASPHALT CU. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		℄ I-90 WB				
2.2		581+00.00 754.42	0	1.6		
	5				0	4
3.0		580+50.00 755.90	0	2.2		
	6				0	4
3.2		580+00.00 757.42	0	2.3		
	6				0	4
	17				0	12

ASPHALT END WIDTH	ASPHALT CU. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		℄ I-90 WB				
		END WORK - STA 582+72				
0	0	+70 END ASPHALT WEDGE	0	0	0	0
1		582+50.00 749.93	0	0.3		
	3				0	1
2.2		582+00.00 751.47	0	0.7		
	4				0	2
2.3		581+50.00 752.96	0	1.0		
	4				0	2
	11				0	5

THE MOT CROS SECTION QUANTITIES
ARE PROVIDED FOR INFORMATION ONLY
ASPHALT WEDGE = 136 CY
EMBANKMENT = 49 CY

CALCULATED PRS
CHECKED PRS

MOT CROSS SECTIONS - STAGE 1
STA. 580+00.00 TO STA. 582+50.00

LOR-90-11.78

SHEET NUMBER															PARTICIPATION	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
OC	4	5	6	7	18	23									01/IMS/BR						
																				ROADWAY	
	LUMP														LUMP	201	11000	LUMP		CLEARING AND GRUBBING	4
					589										589	202	23000	589	SY	PAVEMENT REMOVED	
					99										99	202	30700	99	FT	CONCRETE BARRIER REMOVED	
					669										669	202	38000	669	FT	GUARDRAIL REMOVED	
					1										1	202	47000	1	EACH	BRIDGE TERMINAL ASSEMBLY REMOVED	
						347									347	203	10000	347	CY	EXCAVATION	
						8									8	203	20000	8	CY	EMBANKMENT	
828															828	204	10000	828	SY	SUBGRADE COMPACTION	
	2														2	204	45000	2	HOUR	PROOF ROLLING	
					462.5										462.5	606	15050	462.5	FT	GUARDRAIL, TYPE MGS	
					2										2	606	26150	2	EACH	ANCHOR ASSEMBLY, MGS TYPE E	
					3										3	606	35002	3	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
					2										2	606	35102	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
					69										69	622	10160	69	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	
					1										1	622	25000	1	EACH	CONCRETE BARRIER END SECTION, TYPE D	
					1										1	622	25050	1	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	
					15										15	626	00102	15	EACH	BARRIER REFLECTOR, TYPE 1 (1-WAY)	
					17										17	626	00110	17	EACH	BARRIER REFLECTOR, TYPE 2 (1-WAY)	
																				EROSION CONTROL	
					83										83	601	21060	83	SY	TIED CONCRETE BLOCK MAT, TYPE 2	
					6										6	601	32204	6	CY	ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC	
	1														1	659	00100	1	EACH	SOIL ANALYSIS TEST	
	95														95	659	00300	95	CY	TOPSOIL	
						850									850	659	10000	850	SY	SEEDING AND MULCHING	
	43														43	659	14000	43	SY	REPAIR SEEDING AND MULCHING	
	0.12														0.12	659	20000	0.12	TON	COMMERCIAL FERTILIZER	
	0.18														0.18	659	31000	0.18	ACRE	LIME	
	3														3	659	35000	3	MGAL	WATER	
															2900	832	30000	2900	EACH	EROSION CONTROL	
																				DRAINAGE	
					0.2										0.2	602	20000	0.2	CY	CONCRETE MASONRY	
					34										34	611	05200	34	FT	12" CONDUIT, TYPE F, 707.05 TYPE C OR 707.21	
					1										1	611	98180	1	EACH	CATCH BASIN, NO. 3A	
																				PAVEMENT	
574															574	254	01000	574	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 1 1/2"	
123															123	301	46000	123	CY	ASPHALT CONCRETE BASE, PG64-22	
136															136	304	20000	136	CY	AGGREGATE BASE	
43															43	407	10000	43	GAL	TACK COAT	
18															18	441	50701	18	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), (UNDER GUARDRAIL), AS PER PLAN	4
45															45	442	20000	45	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448)	
24															24	442	20200	24	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448)	
					63										63	609	24510	63	FT	CURB, TYPE 4-C	
					1094										1094	618	40100	1094	FT	RUMBLE STRIPS, (ASPHALT CONCRETE)	
			2290												2290	618	40101	2290	FT	RUMBLE STRIPS, (ASPHALT CONCRETE), AS PER PLAN	6
																				TRAFFIC CONTROL	
					24.0										24.0	630	03100	24.0	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
					6.0										6.0	630	80100	6.0	SF	SIGN, FLAT SHEET	
	0.8														0.8	630	80101	0.8	SF	SIGN, FLAT SHEET, AS PER PLAN	4
					3										3	630	84900	3	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
					2										2	630	86002	2	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
					1.26										1.26	646	10000	1.26	MILE	EDGE LINE, 4"	
					0.63										0.63	646	10100	0.63	MILE	LANE LINE, 4"	

OC = OFFICE CALCS

CALCULATED AAF
CHECKED PRS

GENERAL SUMMARY

LOR-90-11.78

SHEET NUMBER															PARTICIPATION	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
OC	4	5	6	7	18	23									01/IMS/BR						
																				STRUCTURES (OVER 20' SPAN)	
																				FOR LOR-90-1178 QUANTITIES, SEE SHEET 29	
																				MAINTENANCE OF TRAFFIC	
			40												40	614	11110	40	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
		3830													3830	614	11630	3830	FT	INCREASED BARRIER DELINEATION	
				6											6	614	12336	6	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
				585											585	614	12800	585	EACH	WORK ZONE RAISED PAVEMENT MARKER	
		77													77	614	13310	77	EACH	BARRIER REFLECTOR, TYPE 1 (1-WAY)	
		77													77	614	13350	77	EACH	OBJECT MARKER, ONE WAY	
			18												18	614	18601	18	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	6
				1.96											1.96	614	22000	1.96	MILE	WORK ZONE EDGE LINE, CLASS I, 4"	
		1.00													1.00	614	22350	1.00	MILE	WORK ZONE EDGE LINE, CLASS III, 4", 642 PAINT	
				1365											1365	614	23000	1365	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 8"	
															LUMP	615	10000	LUMP		ROADS FOR MAINTAINING TRAFFIC	15
		1													1	616	10000	1	MGAL	WATER	
				3140											3140	622	41000	3140	FT	PORTABLE BARRIER, 32"	
				690											690	622	41020	690	FT	PORTABLE BARRIER, 32", BRIDGE MOUNTED	
																				INCIDENTALS	
															LUMP	614	11000	LUMP		MAINTAINING TRAFFIC	
															9	619	16010	9	MNTH	FIELD OFFICE, TYPE B	
															LUMP	623	10001	LUMP		CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN	4
															LUMP	624	10000	LUMP		MOBILIZATION	

CALCULATED AAF
CHECKED PRS

GENERAL SUMMARY

LOR-90-11.78

REF NO.	SHEET NO.	STATION FROM		STATION TO		SIDE	202 PAVEMENT REMOVED	202 GUARDRAIL REMOVED	202 CONCRETE BARRIER REMOVED	202 BRIDGE TERMINAL ASSEMBLY REMOVED	601 TIED CONCRETE BLOCK MAT, TYPE 2	601 ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC	602 CONCRETE MASONRY	606 GUARDRAIL, TYPE MGS	606 ANCHOR ASSEMBLY, MGS TYPE E	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	609 CURB, TYPE 4-C	611 12" CONDUIT, TYPE F, 707.05 TYPE C OR 707.21	611 CATCH BASIN, NO. 3A	618 RUMBLE STRIPS, (ASPHALT CONCRETE)	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE D	622 CONCRETE BARRIER END SECTION, TYPE D	622 CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	626 BARRIER REFLECTOR, TYPE 1 (1-WAY)	626 BARRIER REFLECTOR, TYPE 2 (1-WAY)	630 GROUND MOUNTED SUPPORT, NO. 3 POST	630 SIGN, FLAT SHEET	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	646 LANE LINE, 4"	646 EDGE LINE, 4"
							SY	FT	FT	EACH	SY	CY	CY	FT	EACH	EACH	EACH	FT	FT	EACH	FT	FT	EACH	EACH	EACH	EACH	FT	SF	EACH	EACH	MILE	MILE
R1	19		574+99.83		575+69.70	LT		71.1																							
R2	19		575+39.63		576+34.90	RT		95.3																							
R3	19		578+09.50		581+18.80	LT		313.6																							
R4	19		578+94.30		580+70.90	RT		176.2																							
R5	19	SR2	577+63.92	SR2	578+01.72	LT		12.5		1																					
R6	19	SR2	578+01.11	SR2	578+99.28	LT			98.2																						
R7	19		578+17.90			LT																							2	1		
R8	19		578+97.20			RT																							1	1		
R9	19		575+50.00		576+43.57	LT/RT	212																								
R10	19		578+00.52		579+40.00	LT/RT	377																								
P1	19	SR2	577+63.92	SR2	578+99.93	LT								12.5		1						69	1	1	3	1					
P2	19		571+40.00		575+73.84	LT															433.8										
P3	19		575+25.00		576+05.40	RT															80.4										
P4	19		578+48.64		582+70.00	LT															421.4										
P5	19		578+92.28		580+50.00	RT															157.7										
GR1	19		574+99.83		575+61.19	LT								62.5			1									3					
GR2	19		575+39.63		576+14.85	RT								75.0			1									3					
GR3	19		578+28.11		579+87.88	LT								87.5	1	1										4					
GR4	19		579+02.11		582+02.53	RT								225.0	1	1										6					
GR5	19		576+14.85		579+02.11	RT																			6						
GR6	19		575+61.19		578+28.11	LT																			6						
D1	19		579+25.00		579+25.00	RT						5.8	0.2							34	1										
EC1	19		578+52.50		578+61.50	LT					82.8																				
S1	19		578+29.00			LT																					12.5	3.0			
S2	19		579+03.00			RT																					11.5	3.0			
ELW1	19		570+80.00		589+90.00	LT																									0.37
ELY1	19		570+80.00		589+90.00	LT/RT																									0.37
LL1	19		570+80.00		589+90.00	LT																								0.37	
ELW2	19	SR2	570+80.00	SR2	584+45.00	RT																									0.26
ELY2	19	SR2	570+80.00	SR2	584+45.00	LT																									0.26
LL2	19	SR2	570+80.00	SR2	584+45.00	LT/RT																								0.26	
C1	19		578+28.71		578+54.23	LT												26													
C2	19		579+02.71		579+38.81	RT												37													
ALL STATIONS IR-90 UNLESS OTHERWISE NOTED																															
SUBTOTAL							589	668.7	98.2	1	82.8	5.8	0.2	462.5	2	3	2	63	34	1	1093.3	69	1	1	15	17	24.0	6.0	3	2	0.63	1.26
TOTALS CARRIED TO GENERAL SUMMARY							589	669	99	1	83	6	0.2	462.5	2	3	2	63	34	1	1094	69	1	1	15	17	24.0	6.0	3	2	0.63	1.26

CALCULATED AAF
CHECKED PRS

ROADWAY QUANTITES

LOR-90-11.78

℄ CONST IR-90 WB

P.I. STA 576+31.03
Δ = 25° 40′ 00″ (RT)
Dc = 3° 00′ 00″
R = 1,909.86′
Ls = 300.00′
θs = 4° 30′ 00″
LT = 200.06′
ST = 100.06′
x = 299.81′
y = 7.85′
k = 149.97′
p = 1.96′
Δc = 16° 40′ 00″ (RT)
Lc = 555.56′
Ts = 585.49′
E = 50.94′
emax = 0.08

NOTE: PLACE BRIDGE INDENTIFICATION SIGN ON POST WITH SIGN S1.

TOLL BOOTHS 1 MILE — PREPARE TO STOP — EXISTING SIGN (TO REMAIN)

TO WEST INTERSTATE 80 — EXISTING SIGN (TO REMAIN)

Ex LA-R/W

CURB, TYPE 4-C (TYP)
MGS BTA, TYPE 1 (TYP)
TIED CONCRETE BLOCK MAT, TYPE 2
BTA, TYPE 1
EXISTING SIGNS (TBR)
OM-3R-12 STA 578+29, LT
OM-3L-12 STA 579+03, RT
OM-3L-12 STA 579+01.10
MGS BTA, TYPE 2 (TYP)
+99.83 GUARDRAIL SPLICE
+39.63 GUARDRAIL SPLICE
+87.88 MGS AA, TYPE E
+02.53 MGS AA, TYPE E
12″ TYPE F
RCP, C W/GF
90″ RCP
MGS GR
LON
SC STA 578+01.35
ST STA 582+01.10
CB3A
HW
CONST LIMITS
END PROJECT STA 579+40
END WORK STA 582+72
BEGIN PROJECT STA 575+50
BEGIN WORK STA 571+38
℄ STA 577+49.93 IR-90 WB = ℄ STA 578+49.88 SR-2
℄ CONST IR-90 WB
℄ IR-90 EB
℄ SR-2 EB
TS STA 570+45.54
SC STA 573+45.54
I.P.S.
M.N.S.
S 85° 29′ 14″ E
S 85° 59′ 33″ E

S1 R7 GR6 ELW 1 R5 R6 P1 EC1 R3 GR3 P4 R10 GR1 R1 P2 LL 1 ELY 1 P3 R9 GR2 R2 GR5 R8 S2 P5 R4 GR4 C1 C2 D1 ELW 2 LL 2 ELY 2

ITEM 254 - PAVEMENT PLANING AND
ITEM 442 - ASPHALT SURFACE (SLOPE CORRECTION)

ELW = ITEM 646 - EDGE LINE (WHITE)
ELY = ITEM 646 - EDGE LINE (YELLOW)
LL = ITEM 646 - LANE LINE
TBR - TO BE REMOVED

DETAIL (SR-2 EB)
NOT TO SCALE

MGS GR
MGS BTA, TYPE 1
CONCRETE BARRIER END SECTION, TYPE D
℄ IR-90 WB
+63.92 GUARDRAIL SPLICE
BTA, TYPE 1 TO BE REMOVED
+01.11 BEGIN CONC BARRIER, TYPE D
CONCRETE BARRIER, TYPE D, TO BE REMOVED AND REPLACED
CONCRETE BARRIER END ANCHORAGE REINFORCED, TYPE D
+99.93 END CONC BARRIER, TYPE D
℄ SR-2 EB
R5 R6 P1

P.V.I. STA 577+00.00
ELEV = 766.55′
300.00′ VC
BRIDGE LIMITS
PROP PROFILE GRADE
-1.48 %
-1.67 %
-3.03 %
-3.11 %
+35.40
+62.28
+50.00 MATCH EXIST PAVT ELEV AND WIDTH ELEV = 769.05
+49.93 ℄ SR-2
+40.00 MATCH EXIST PAVT ELEV AND WIDTH ELEV = 759.29
STA 579+25.00, 5.50′ RT
CB-3A, GRATE ELEV 759.27
6″ (W) 756.27
12″ (S) 755.27
EXISTING PROFILE
(76X.XX) DENOTES BRIDGE DECK ELEVATION

769.05 768.62 768.16 767.67 767.16 766.61 766.04 765.44 764.81 764.15 763.47 762.75 762.01 761.26 760.50 759.74
772.50 772.54 772.57 772.51 772.45 772.36 772.25 772.10 771.94 771.75 771.54 771.29 771.02 770.73 770.42 770.12 769.79 769.43 769.05 768.61 768.14 767.63 756.57 (767.18) 749.23 (766.68) 744.86 (766.14) 744.82 (765.46) 744.01 (764.85) 745.98 (764.20) 743.35 (763.54) 748.07 (762.81) 752.72 (762.03) 761.23 760.44 759.72 759.00 758.21 757.42 756.67 755.90 755.16 754.42 753.69 752.96 752.22 751.47 750.70 749.93 749.18 748.42 747.72 747.02 746.31 745.59 744.99 744.38 743.86 743.34
780 770 760 750 740 730 720
571 572 573 574 575 576 577 578 579 580 581 582 583 584 585

CALCULATED PRS | CHECKED PEK

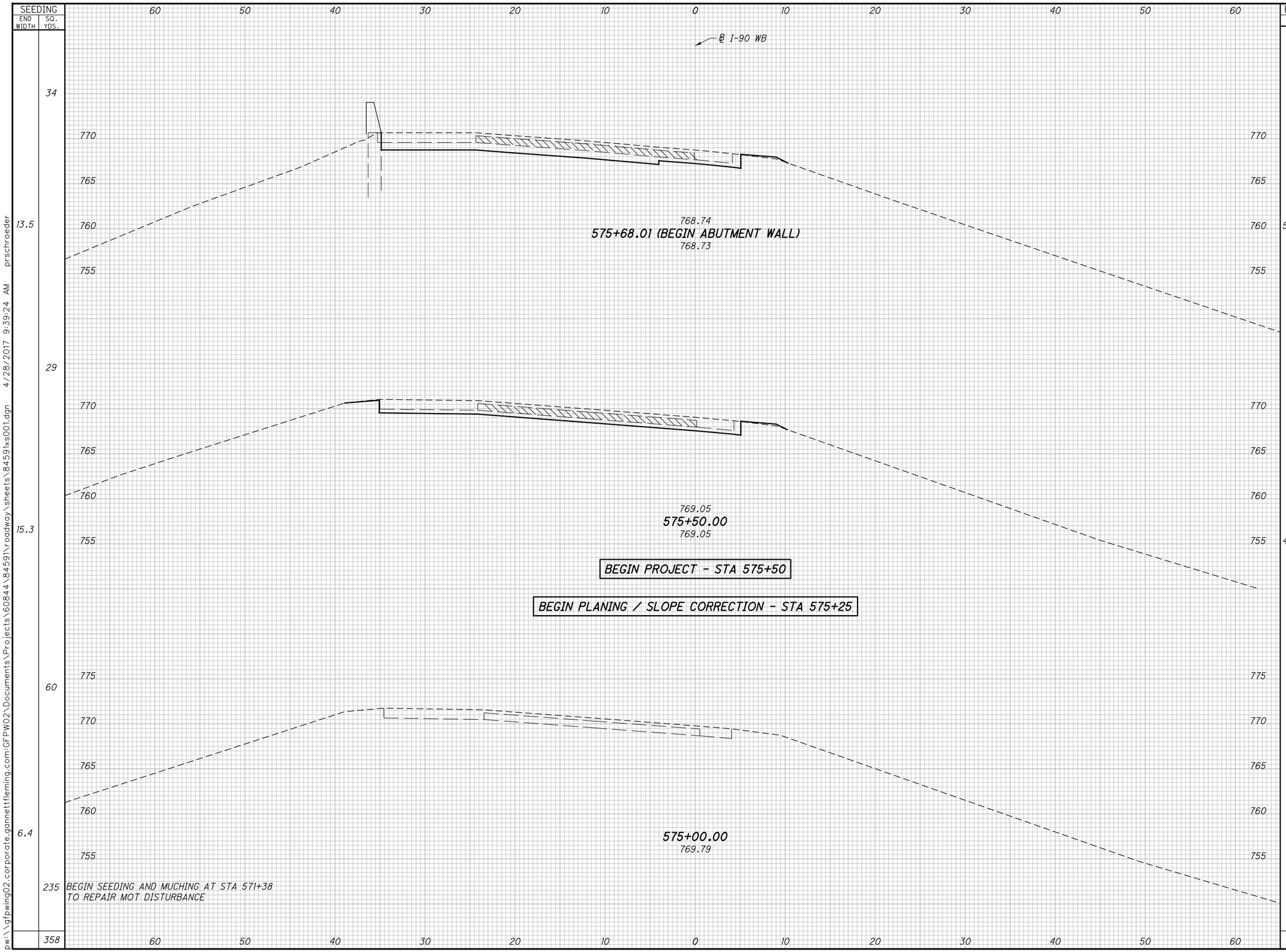
HORIZONTAL SCALE IN FEET
0 25 50 100

PLAN AND PROFILE
STA 571+00 TO STA 585+00

LOR-90-11.78

19
75

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
				45	0
	34				
13.5		54.6	0.6		
	29			32	0
15.3		42.6	0.6		
	60				
6.4					
	235				
	358			77	0



CALCULATED PRS
CHECKED PEK

CROSS SECTIONS
STA. 575+00.00 TO STA. 575+68.01

LOR-90-11.78

20
75

SEEDING END WIDTH	SEEDING SQ. YDS.
	13
13.8	
	40
13.2	
8.2	
	63
8.2	
	48
7.9	
7.9	
12.9	
	164

60 50 40 30 20 10 0 10 20 30 40 50 60

℄ I-90 WB

760.65
578+95.17 (END ABUTMENT WALL)
760.59

AHEAD
578+68.64, BACK

761.45
578+68.64 (ABUTMENT CORNER)
761.43

577+99.26, AHEAD

BRIDGE LIMITS: 576+35.40 TO STA 578+62.28

576+45.79, BACK

AHEAD
BACK

768.32
575+91.40 (ABUTMENT CORNER)
768.30

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		8	1
45.0	0.3		
		47	0
51.0	0.2		
51.0	0.2	12	0
25.5	0.1		
25.5	0.1	60	0
24.8	0.2		
		75	1
49.5	0.3		
		202	2

CALCULATED PRS
CHECKED PEK

CROSS SECTIONS
STA. 575+91.40 TO STA. 578+95.17

LOR-90-11.78

SEEDING END WIDTH	SEEDING SQ. YDS.
6.9	13
16.9	110
32.7	123

60 50 40 30 20 10 0 10 20 30 40 50 60

℄ I-90 WB

760 / 755 / 750 / 745

BACK

579+50.00
759.00

END PROJECT - STA 579+40

759.29
579+40.00
759.29

PROP CB-3A
STA 579+25, 5.5' RT
GRATE ELEV = 759.27
12" S = 755.27
6" W = 756.27

20' - 12" CONDUIT,
TYPE F, 707.05 TYPE C
OR 707.21 @ 40.0%
MAINTAIN 18" MIN
COVER OVER PIPE

760.50
579+00.00
760.44

PROP HW-2.1
STA 579+25, 37.7' RT
12" N = 747.50

RCP, TYPE C,
W/GEOTEXTILE FABRIC,
26'X4'X1.5'

6' - 12" CONDUIT,
TYPE F, 707.05 TYPE C
OR 707.21 @ 1.00%

STA 579+25, 11.50' RT
GRADE BREAK
USE 22.5% VERT. BEND
℄ = 754.94

STA 579+25, 30.0 RT
GRADE BREAK
USE 22.5% VERT. BEND
℄ = 747.58

8' - 12" CONDUIT,
TYPE F, 707.05 TYPE C
OR 707.21 @ 1.00%

740

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
44.2	2.1	68	6
47.7	5.7	68	6

CALCULATED PRS
CHECKED PEK

CROSS SECTIONS
STA. 579+00.00 TO STA. 579+50.00

LOR-90-11.78

22
75

SEEDING END WIDTH	SEEDING SQ. YDS.	60	50	40	30	20	10	0	10	20	30	40	50	60	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	205	END SEEDING AND MUCHING AT STA 582+72.00 TO REPAIR MOT DISTURBANCE						℄ I-90 WB										

760
755
750
745

581+00.00
754.42

END PLANING / SLOPE CORRECTION - STA 580+50

760
755
750
745

580+50.00
755.90

760
755
750
745

580+00.00
757.42

	205	TOTAL THIS SHEET												TOTAL THIS SHEET			0	0
	850	TOTAL CARRIED TO GENERAL SUMMARY	40	30	20	10	0	10	20	30	40	TOTAL CARRIED TO GENERAL SUMMARY			347	8

CALCULATED PRS
CHECKED PEK

CROSS SECTIONS
STA. 580+00.00 TO STA. 581+00.00

LOR-90-11.78

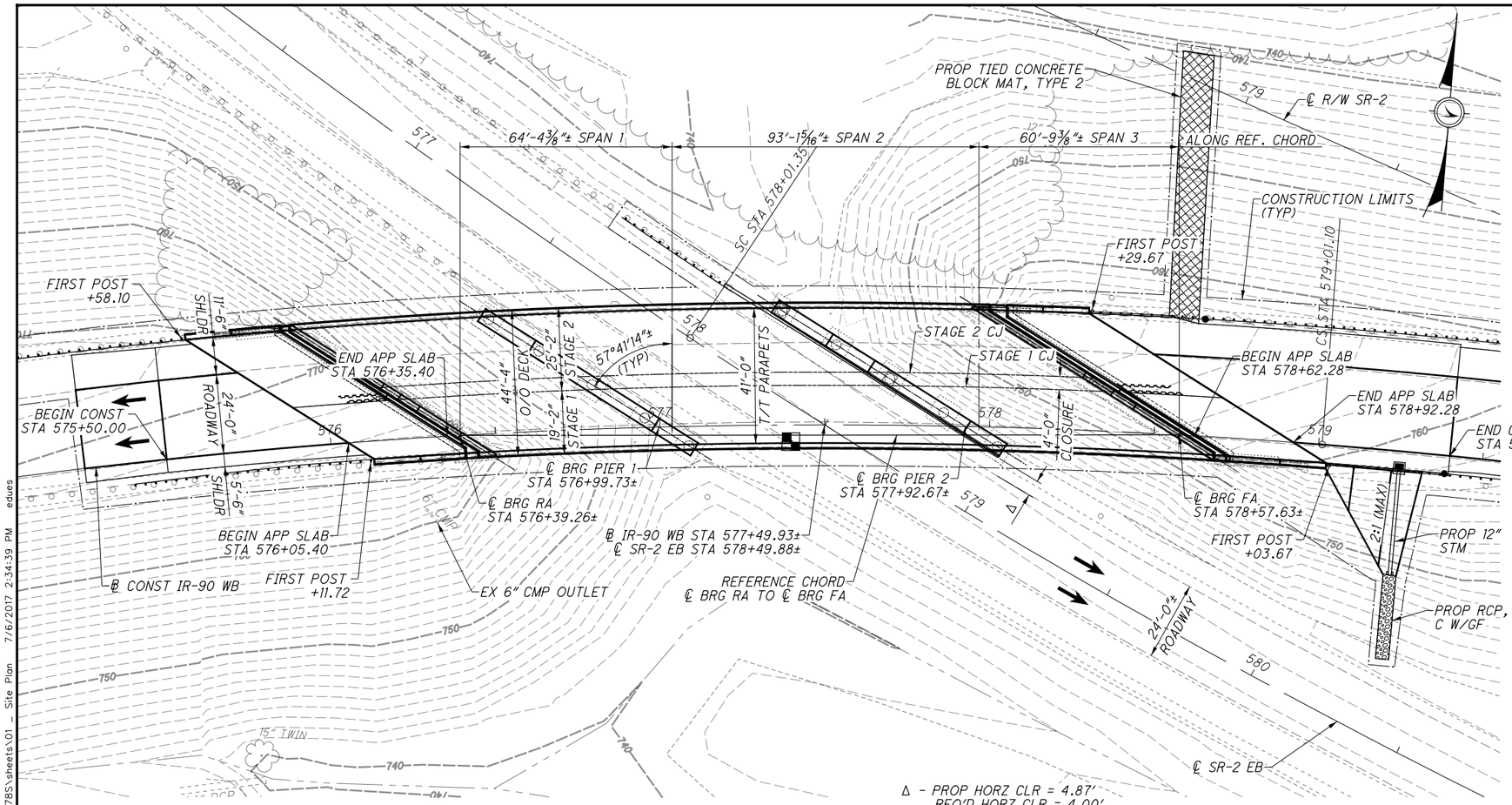
23
75

LEFT LANE					PROFILE GRADE LINE		REMARKS
PAV'T ELEV	RATE "G"	ELEV CORR	X-SLOPE	WIDTH	STATION	ELEVATION	
772.84					574+00.00	771.02	
772.56					574+24.00	770.73	
772.27					574+50.00	770.42	
771.93					574+75.00	770.12	
771.57					575+00.00	769.79	
771.24		1.80	0.075	24.00	575+25.00	769.43	BEGIN RESURFACING/MATCH EXISTING
770.90		1.85	**0.077**	24.00	575+50.00	769.05	BEGIN PROJECT
770.54		1.92	0.080	24.00	575+75.00	768.62	
770.08		1.92	0.080	24.00	576+00.00	768.16	
769.59		1.92	0.080	24.00	576+25.00	767.67	
769.08		1.92	0.080	24.00	576+50.00	767.16	
768.53		1.92	0.080	24.00	576+75.00	766.61	
767.96		1.92	0.080	24.00	577+00.00	766.04	
767.36		1.92	0.080	24.00	577+25.00	765.44	
766.73		1.92	0.080	24.00	577+50.00	764.81	
766.07		1.92	0.080	24.00	577+75.00	764.15	
765.39		1.92	0.080	24.00	578+00.00	763.47	
764.67		1.92	0.080	24.00	578+25.00	762.75	
763.93		1.92	0.080	24.00	578+50.00	762.01	
763.18		1.92	0.080	24.00	578+75.00	761.26	
762.42		1.92	0.080	24.00	579+00.00	760.50	
762.39		1.92	0.080	24.00	579+01.10	760.47	CS STA/END FULL SE (0.08)
761.55	1:213	1.81	**0.075**	24.00	579+25.00	759.74	
761.03	1:213	1.74	**0.072**	24.00	579+40.00	759.29	END PROJECT
760.69	1:213	1.69	**0.070**	24.00	579+50.00	759.00	
759.78	1:213	1.57	**0.065**	24.00	579+75.00	758.21	
758.87	1:213	1.45	**0.061**	24.00	580+00.00	757.42	
758.00	1:213	1.33	**0.056**	24.00	580+25.00	756.67	
757.12	1:213	1.22	**0.051**	24.00	580+50.00	755.90	END RESURFACING/MATCH EXISTING
756.23					580+75.00	755.16	
755.36					581+00.00	754.42	
754.49					581+25.00	753.69	

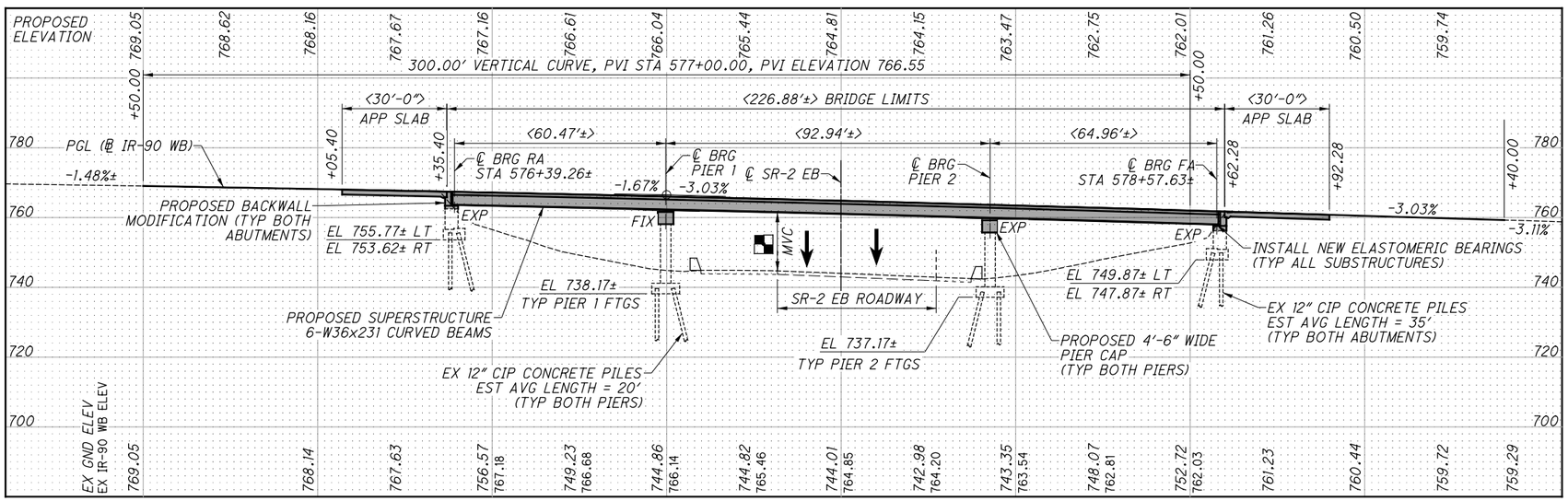
CALCULATED PRS
CHECKED PEK

SUPERELEVATION TABLE

LOR-90-11.78



PLAN



PROFILE ALONG ℄ IR-90 WB

<MEASURED ALONG ℄ CONST IR-90 WB>

NOTES

1. DATUM ADJUSTMENT: BASED UPON SURVEYED BEAM SEAT ELEVATIONS, EXISTING STRUCTURE ELEVATIONS ARE 0.83± FEET LOWER THAN THOSE SHOWN ON THE ORIGINAL CONSTRUCTION PLANS DATED 1970.
2. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

TRAFFIC DATA

IR-90 WB (ROUTE ON)	SR-2 EB (ROUTE UNDER)
2019 ADT = 7,000	2019 ADT = 32,300
2019 ADTT = 2,170	2019 ADTT = 2,261
2039 ADT = 8,500	2039 ADT = 39,100
2039 ADTT = 2,635	2039 ADTT = 2,737

HORIZONTAL CURVE DATA

℄ CONST IR-90 WB	℄ SR-2 EB
P.I. STA. 576+31.03	P.I. STA. 584+08.13
Δ = 25° 40′ 00″ (RT)	Δ = 38° 44′ 37″ (LT)
Dc = 3° 00′ 00″	Dc = 2° 30′ 00″
R = 1909.86′	R = 2291.83
T_s = 585.49′	T_s = 1006.78′
L_c = 555.56′	L_c = 1,149.74′

FOR ADDITIONAL CURVE AND SPIRAL DATA, SEE SHEET 19/75

LEGEND:

- POINT OF MINIMUM VERTICAL CLEARANCE
- APPROXIMATE LIMITS OF TEMP SHORING

REFERENCE CHORD DEFINITION

℄ RA BRG TO ℄ FA BRG, LENGTH = 218′-3 1/16″±, BEARING = N85°26′00″E

EXISTING STRUCTURE

TYPE: DOG-LEGGED CONTINUOUS WELDED PLATE GIRDERS (A36) WITH A NON-COMPOSITE REINFORCED CONCRETE DECK, STUB ABUTMENTS, AND INDIVIDUAL COLUMN PIERS
SPANS: 60′-6″±, 93′-0″±, 65′-0″±, C/C BEARINGS @ ℄ IR-90 WB
ROADWAY: 40′-6″± T/T PARAPETS: 2 - 12′-0″± LANES 5′-3″± RIGHT SHOULDER, 11′-3″± LEFT SHOULDER
ORIGINAL DESIGN LOADING: HS 20-44 (INTERSTATE ALTERNATE)
ALIGNMENT: 3°00′ 00″ CURVE RIGHT (1909.86′± RADIUS)
SKEW: 57°45′33″± RIGHT FORWARD TO TANGENT IR-90 @ SR-2
WEARING SURFACE: 4″± ASPHALT (1.5″ ORIGINAL + 2.5″ OVERLAY)
SUPERELEVATION: 0.0833±
APPROACH SLABS: AS-1-67 (30′± LONG)
YEAR BUILT: 1974 ORIGINAL CONSTRUCTION
STRUCTURE FILE NUMBER: 4704401
DISPOSITION: TO BE REHABILITATED

PROPOSED STRUCTURE

TYPE: CURVED CONTINUOUS ROLLED STEEL BEAMS (W36x231, PAINTED A709) WITH COMPOSITE REINFORCED CONCRETE DECK, STUB ABUTMENTS, AND CAPPED COLUMN PIERS
SPANS: 60.47′±, 92.94′±, 64.96′±, C/C BRGS ALONG ℄ IR-90 WB
ROADWAY: 41′-0″ T/T PARAPETS: 2 - 12′-0″ LANES 5′-6″ RIGHT SHOULDER, 11′-6″ LEFT SHOULDER
DESIGN LOADINGS:
SUPERSTRUCTURE AND PIER CAPS: HL-93 AND FATIGUE (CASE 1) WITH 60PSF FWS
EX SUBSTRUCTURE: HS20-44 WITH NO FWS
ALIGNMENT: 3°00′ 00″ CURVE RIGHT (1909.86′ RADIUS)
SKEW: 57°41′14″± RIGHT FORWARD TO ℄ REFERENCE CHORD
WEARING SURFACE: 1″ MONOLITHIC CONCRETE
SUPERELEVATION: 0.08
APPROACH SLABS: MODIFIED AS-1-15 (30′ LONG, 17″ THICK, NO SLEEPER SLAB)
COORDINATES: LATITUDE N 41° 24′ 12.28″ LONGITUDE W 82° 08′ 39.29″

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE, SUITE 230
COLUMBUS, OHIO 43231

DESIGNED VDT/EFD | DRAWN VDT/EFD | REVIEWED MTO | DATE 1/2017
CHECKED CTM | REVISED | STRUCTURE FILE NUMBER 4704401

LORAIN COUNTY
STA. 576+35.40±
TO STA. 578+62.28±

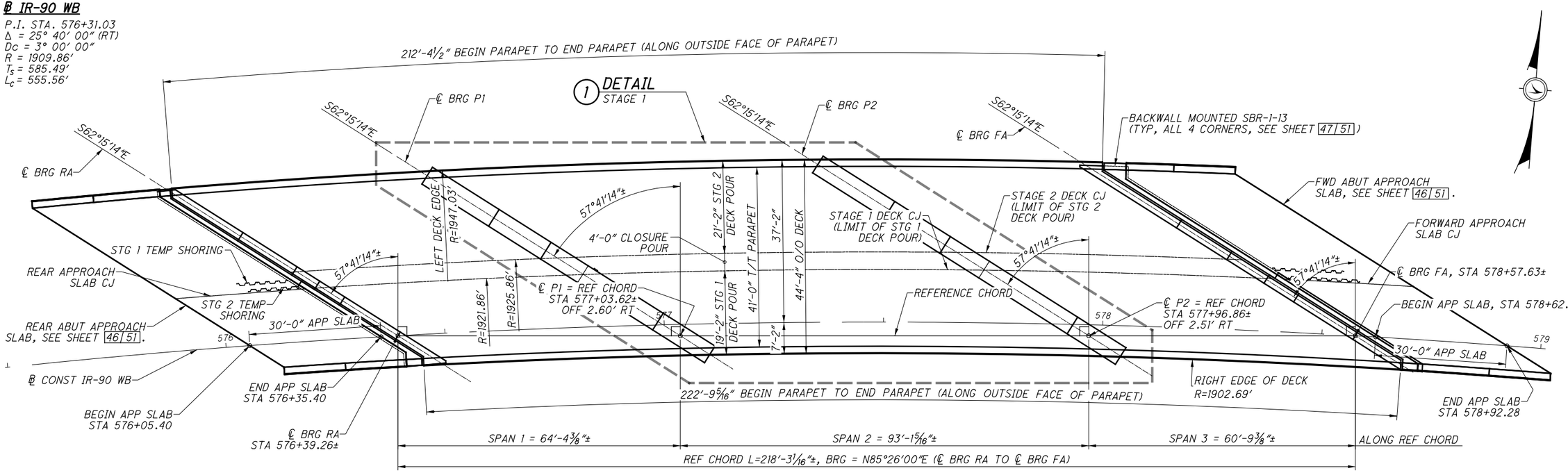
SITE PLAN
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

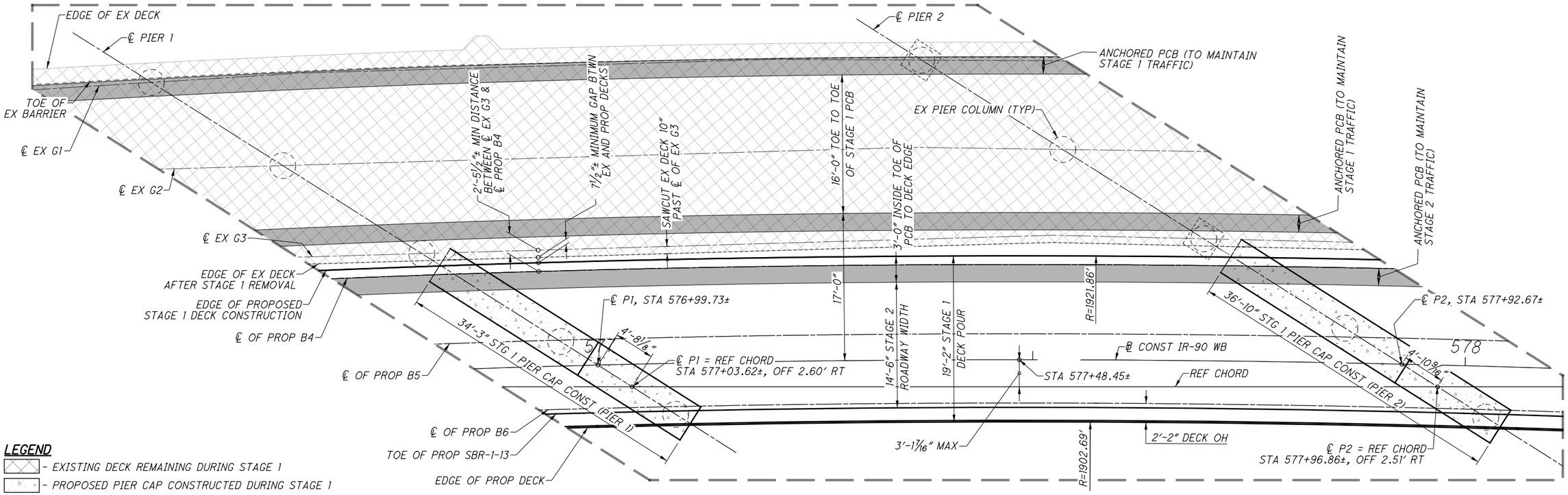
SUBMITTAL: FINAL TRACINGS
PID: 84591
PENTABLE: 84591_ODOTV8SS3_Pen.tbPLOT DRIVER: ODOTV8SS3_PDF.pltcfg
pw:\\gfpwing02.corporate.gannettfleming.com:GFPW02\Documents\Projects\60844\84591\structures\LOR090_1178\sheets\01 - Site Plan 7/6/2017 2:34:39 PM edues

℄ IR-90 WB

P.I. STA. 576+31.03
Δ = 25° 40′ 00″ (RT)
Dc = 3° 00′ 00″
R = 1909.86′
T_S = 585.49′
L_C = 555.56′



GENERAL PLAN
FINAL BRIDGE GEOMETRY



1 DETAIL
STAGE 1 CONSTRUCTION AND CLEARANCES (SPAN 2)

SUBMITTAL: FINAL TRACINGS
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DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

DESIGNED	DRAWN	REVIEWED	DATE
EFD	EFD	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CTM		4704401	

GENERAL PLAN VIEWS
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

PRIMARY PROPOSED WORK

1. PERFORM ALL WORK IN 2 PRIMARY STAGES TO MAINTAIN ONE LANE OF IR-90 TRAFFIC AT ALL TIMES.
2. REPLACE THE EXISTING 5-GIRDER DOG-LEGGED SUPERSTRUCTURE WITH A NEW CURVED SUPERSTRUCTURE CONSISTING OF 6 BEAMS (W36x231, A709, GR50) AND A COMPOSITE REINFORCED CONCRETE DECK.
3. REMOVE THE EXISTING ABUTMENT BACKWALLS, TOP OF WINGWALLS, AND REBUILD THE ABUTMENT BEARING SEATS TO ACCOMMODATE THE NEW SUPERSTRUCTURE AND NEW ELASTOMERIC BEARINGS.
4. INSTALL NEW FULL WIDTH APPROACH SLABS (30' LONG).
5. CONSTRUCT NEW PIER CAPS ON THE EXISTING CONCRETE COLUMNS. INSTALL TEMPORARY SUPPORTS FOR THE STAGE 1 PIER CAP OVERHANGS.
6. FIBER WRAP PIER COLUMNS AS DETAILED IN THE PLANS.

REFERENCED STANDARD DRAWINGS

AS-1-15	REVISED 07-17-2015
EXJ-4-87	REVISED 07-19-2002
PCB-91	REVISED 01-18-2013
SBR-1-13	REVISED 01-17-2014
VPF-1-90	REVISED 07-17-2015

REFERENCED SUPPLEMENTAL SPECIFICATIONS

800 DATED 07-20-2018

DESIGN SPECIFICATIONS

THE NEW SUPERSTRUCTURE, BEARINGS, AND PIER CAPS CONFORM TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS", ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2014 (SEVENTH EDITION), INCLUDING THE 2015 AND 2016 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007. THE CURVED SUPERSTRUCTURE DESIGN WAS A 3-D GRILLAGE MODEL, AND NO SPECIAL DESIGN SPECIFICATIONS WERE USED.

ABUTMENT BACKWALL CONFORMS TO THE "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 (17TH EDITION), AND THE 2004 ODOT BRIDGE DESIGN MANUAL.

SPECIAL DESIGN SPECIFICATIONS

THE BRIDGE REQUIRED THE USE OF A THREE DIMENSIONAL MODEL USING THE GRILLAGE DESIGN METHOD TO ANALYZE THE STRUCTURE. THE COMPUTER PROGRAM USED FOR STRUCTURAL ANALYSIS WAS LEAP BRIDGE STEEL. THIS PROGRAM WAS USED TO DESIGN THE STEEL BEAMS AND CROSSFRAMES AND TO CALCULATE REACTIONS FOR THE DESIGN OF THE BEARINGS AND SUBSTRUCTURES.

DEAD LOAD DISTRIBUTION: THE NON-COMPOSITE DEAD LOAD WAS DISTRIBUTED TO THE BEAMS BASED ON TRIBUTARY AREA. COMPOSITE DEAD LOAD WAS DISTRUBUTED EQUALLY TO ALL BEAMS.

LIVE LOAD DISTRIBUTION: THE DESIGN ANALYSIS WAS CARRIED OUT BY APPLYING TRUCK AND LANE LOADS DIRECTLY TO THE GRILLAGE MODEL, RATHER THAN BY USING CALCULATED DISTRIBUTION FACTORS.

LRFD OPERATIONAL IMPORTANCE

A LOAD MODIFIER OF 1.00 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5, AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING

LRFD (SUPERSTRUCTURE, BEARINGS, AND PIER CAP)

HL-93
FUTURE WEARING SURFACE (FWS) OF 0.060 KSF

LFD (FOUNDATIONS, FOOTINGS, COLUMNS, ABUTMENTS)

HS20-44
NO FUTURE WEARING SURFACE APPLIED

DESIGN DATA

CONCRETE

SUBSTRUCTURE (NEW), CLASS QC1: F'_C = 4.0 KSI
SUPERSTRUCTURE (NEW), CLASS QC2: F'_C = 4.5 KSI
SUBSTRUCTURE (EX), CLASS C: F'_C = 4.0 KSI

STEEL

STRUCTURAL STEEL, ASTM A709 (GRADE 50): F_Y = 50 KSI
REINFORCING (NEW), ASTM A615 OR A996: MINIMUM F_Y = 60 KSI
REINFORCING (EX), ASTM A615/A616/A617: YIELD STRESS = 40 KSI

DECK PROTECTION METHODS

EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER
CLASS QC2 CONCRETE
SEALING OF CONCRETE SURFACES

MONOLITHIC WEARING SURFACE

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

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 THAT HAVE BEEN VERIFIED IN THE FIELD.

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 2.56 KIPS.

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

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

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

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 ASPHALT 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.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN (CONTINUED)

PROTECTION OF STEEL SUPPORT SYSTEMS

BEFORE DECK SLAB CUTTING IS PERMITTED AT THE STAGE 1 CUTLINE, DRAW THE OUTLINE OF GIRDER 3 ON THE SURFACE OF THE DECK. DRILL SMALL DIAMETER PILOT HOLES 2" OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF THE GIRDER 3 FLANGE EDGES. DECK CUTS OVER OR WITHIN 2" OF THE GIRDER 3 FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2" OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. STAGE 1 REMOVAL METHODS AROUND GIRDER 3 SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING OF THE PRIMARY STRUCTURAL MEMBER.

PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE USED FOR MAINTAINING TRAFFIC. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER, TO THE DIRECTOR. OBTAIN DIRECTOR'S APPROVAL BEFORE PERFORMING THE REPAIRS.

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.

CUT LINE CONSTRUCTION JOINT PREPARATION

SAWCUT 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 MATERIALS 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.

MEASUREMENT & PAYMENT

THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN.

ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN

THIS ITEM INCLUDES REMOVAL OF THE EXISTING ASPHALT WEARING COURSE ATOP BRIDGE DECK AND APPROACH SLABS, INCLUDING THE WEDGE LAYER INSTALLED FOR STAGE 1 MOT, AS SHOWN ON SHEETS 7 | 51 AND 8 | 51 .

ITEM 502 - STRUCTURE FOR MAINTAINING TRAFFIC, AS PER PLAN:

THIS WORK CONSISTS OF PROVIDING, MAINTAINING, AND SUBSEQUENTLY REMOVING TEMPORARY SUPPORTS REQUIRED TO SUPPORT STAGE 1 PIER CAPS UNTIL THE STAGE 2 PIER CAP CONCRETE IS FULLY CURED, AS SHOWN IN THE PLANS. ALL PROVISIONS OF ITEM 502 SHALL APPLY EXCEPT AS MODIFIED HEREIN.

THE DESIGN SHOWN IN THE PLANS FOR TEMPORARY SUPPORT OF THE PIER CAP IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO SUPPORT THE STAGE 1 PIER CAP AND STAGE 2 TRAFFIC.

THE DESIGN SHOWN IN THESE PLANS IS NOT INTENDED TO BE USED FOR PIER CAP FALSEWORK SUPPORT. METHODS OF FALSEWORK AND SUPPORT SHALL COMPLY WITH THE REQUIREMENTS OF CMS 508.

THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN IN THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE STAGE 1 PIER CAP. IF CONSTRUCTING AN ALTERNATE DESIGN FOR THE TEMPORARY SUPPORT, PREPARE AND PROVIDE DESIGN CALCULATIONS AND PLANS IN ACCORDANCE WITH CMS 501.05.

IF CONSTRUCTING AN ALTERNATE DESIGN FOR THE TEMPORARY SUPPORT, DESIGN THE TEMPORARY SUPPORT ACCORDING TO THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS EXCEPT THAT THE DESIGN LIVE LOADING, HL-93, MAY BE REDUCED BY 25 PERCENT. USE AN OPERATIONAL IMPORTANCE LOAD MODIFIER OF 1.05 AND A REDUNDANCY LOAD MODIFIER OF 1.05 FOR THE DESIGN OF THE TEMPORARY SUPPORT. THE LOADS USED FOR THE REPRESENTATIVE DESIGN ARE AS FOLLOWS:

UNFACTORED DESIGN LOADS	
DL	125 KIPS
LL+IM	70 KIPS

DO NOT REMOVE THE TEMPORARY SUPPORTS UNTIL THE STAGE 2 PIER CAP CONCRETE HAS CURED ACCORDING TO CMS 511.14.

THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF THE PIER CAP AT THE CONTRACT LUMP SUM PRICE FOR ITEM 502 - STRUCTURE FOR MAINTAINING TRAFFIC, AS PER PLAN. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN.

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN

IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR FIELD CUT THE REINFORCING STEEL DESIGNATED IN THE PLANS, AS NECESSARY, IN ORDER TO MAINTAIN THE REQUIRED CLEARANCES AND BAR SPACINGS. REPAIR ALL DAMAGE TO THE EPOXY COATING, AS A RESULT OF THIS WORK, ACCORDING TO CMS 709.00.

ITEM 510 - DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT

DOWEL HOLES FOR #5 REINFORCING SHALL BE ¾" DIAMETER AND A MINIMUM OF 8" DEEP.

LOR-90-1178 BRIDGE PLAN SUMMARY

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

DESIGNED CTM | DRAWN CTM | REVIEWED MTO | DATE 1/2017
CHECKED VDT | REVISED | STRUCTURE FILE NUMBER 4704401

BRIDGE GENERAL NOTES 1 OF 2
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

A QUANTITY OF 300 POUNDS HAS BEEN INCLUDED TO BE USED AS DEEMED NECESSARY BY THE ENGINEER.

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN

IN ADDITION TO THE BRIDGE DECK PARAPETS, THE DEPARTMENT WILL PAY FOR CONCRETE PARAPETS ON THE BACKWALLS AND APPROACH SLABS WITH ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN.

ITEM 512 - CONCRETE REPAIR BY EPOXY INJECTION, AS PER PLAN

THIS CONTINGENCY QUANTITY MAY BE USED TO REPAIR EXISTING CONCRETE CRACKS ON ANY SUBSTRUCTURE ELEMENTS TO REMAIN.

IF THE REPAIR IS TO OCCUR ON COLUMNS IN THE FIBER WRAP ZONE, THE REPAIR SHALL BE TO THE SATISFACTION OF THE FIBER WRAP MANUFACTURER.

A TOTAL OF 50 FEET OF CONTINGENCY QUANTITY IS INCLUDED AND USED AS APPROVED BY THE ENGINEER.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE LENGTH OF CRACK REPAIRS BY THE NUMBER OF FEET REPAIRED AND ACCEPTED.

ITEM 514 - PAINTING OF STRUCTURAL STEEL

ALL EXPOSED STRUCTURAL STEEL SHALL BE CLEANED PER 514.14 AND PAINTED AFTER THE COMPLETION OF THE CLOSURE POUR. CLEANING TO BE PAID FOR WITH THE INTERMEDIATE PAINT COAT.

THE TOTAL SURFACE AREA OF BEAMS, DIAPHRAGMS AND CONNECTION PLATES TO BE PAINTED INCLUDES A 2% ALLOWANCE FOR INCIDENTALS.

FINISH COAT ON FASCIA BEAMS (EXTERIOR & BOTTOM FLANGE ONLY) SHALL BE FCN 595B-24148 (GLOSSY GREEN). ALL OTHER STRUCTURAL STEEL TO BE PAINTED SHALL HAVE FINISH COAT OF FCN 595B-16480 (GLOSS LIGHT GREEN)

ITEM 519 - SPECIAL - COMPOSITE FIBER WRAP SYSTEM

THIS ITEM INCLUDES ALL WORK NECESSARY TO PROVIDE FIBER WRAPPING TO THE LIMITS DETAILED IN THE PLANS. WORK INCLUDES LABOR, MATERIALS, PREPARATION OF EXISTING PIER COLUMN CONCRETE, INSTALLATION PER MANUFACTURER'S SPECIFICATIONS, EXISTING GROUND EXCAVATION, BACKFILLING AFTER COMPLETION, AND ANY OTHER INCIDENTALS NECESSARY TO COMPLETE THE WORK PER THE PROJECT SPECIFICATIONS.

IF UNSOUND EXISTING PIER COLUMN CONCRETE IS FOUND, REPAIR PER THE REQUIREMENTS OF ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN OR ITEM 512 - CONCRETE REPAIR BY EPOXY INJECTION, AS PER PLAN.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE FIBERWRAP BY THE SURFACE AREA BEING COVERED IN SQUARE FEET.

ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

A CONTINGENCY QUANTITY IS BEING PROVIDED TO ALLOW FOR UNSOUND CONCRETE TO BE PATCHED. THIS CONTINGENCY QUANTITY MAY BE USED TO REPAIR EXISTING UNSOUND CONCRETE ON ANY SUBSTRUCTURE ELEMENTS TO REMAIN.

IF THE PATCHING IS TO OCCUR ON COLUMNS IN THE FIBER WRAP ZONE, THE REPAIR SHALL BE TO THE SATISFACTION OF THE FIBER WRAP MANUFACTURER.

A TOTAL OF 70 SQUARE FEET OF CONTINGENCY QUANTITY IS INCLUDED AND USED AS APPROVED BY THE ENGINEER.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE SPALL REPAIRS BY THE NUMBER OF SQUARE FEET OF SPALLS REPAIRED AND ACCEPTED.

STANDARD PLAN ABBREVIATIONS AND SYMBOLS

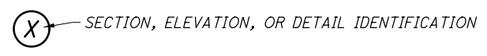
ABUT =	ABUT
APP =	APPROACH
AVE =	AVENUE
⟨B#⟩ =	BEAM
BF =	BOTTOM FLANGE
BM =	BENCHMARK
BOT =	BOTTOM
BRG =	BEARING
BTWN =	BETWEEN
C.B. =	CHORD BEARING
C/C =	CENTER TO CENTER
CB =	CATCH BASIN
CCTV =	CLOSED CIRCUIT TELEVISION
CIP =	CAST IN PLACE
CJ =	CONSTRUCTION JOINT
CJ-O =	OPTIONAL CONSTRUCTION JOINT
CLR =	CLEAR
CMP =	CORRUGATED METAL PIPE
CMS =	CONSTRUCTION MATERIAL SPECIFICATIONS
CONST =	CONSTRUCTION
CP =	COVER PLATE
CSP/N =	CORRUGATED STEEL PIPE (NON-PERFORATED)
CSP/P =	PERFORATED CORRUGATED STEEL PIPE
DIA =	DIAMETER
DND =	DO NOT DISTURB
DPRM =	DIAPHRAGM
E/P =	EDGE OF PAVEMENT
E/S =	EDGE OF SHOULDER
EB =	EASTBOUND
EF =	EACH FACE
ELEC =	ELECTRIC
ELEV or EL =	ELEVATION
EX =	EXISTING
EXP =	EXPANSION
F/F =	FACE TO FACE
FA =	FORWARD ABUTMENT
FF =	FAR FACE/FILL FACE
FO =	FIBER OPTIC
FTG =	FOOTING
⟨G#⟩ =	GIRDER NUMBER
GR =	GUARDRAIL
H.C. =	HORIZONTAL CURVE
HORZ =	HORIZONTAL
I/I =	INSIDE TO INSIDE
IR =	INTERSTATE ROUTE
JT =	JOINT
LT =	LEFT
MAX =	MAXIMUM
MH =	MANHOLE
MHC =	MINIMUM HORIZONTAL CLEARANCE
MIN =	MINIMUM
MISC =	MISCELLANEOUS
MSE =	MECHANICALLY STABILIZED EARTH
MVC =	MINIMUM VERTICAL CLEARANCE
NB =	NORTHBOUND
NE =	NORTHEAST
NF =	NEAR FACE
NO =	NUMBER
NW =	NORTHWEST
O/O =	OUT TO OUT
OD =	OUTSIDE DIAMETER
OH =	OVERHANG
OVHD =	OVERHEAD
ODOT =	OHIO DEPARTMENT OF TRANSPORTATION
P.V.I. =	POINT OF VERTICAL INTERSECTION
PC =	POINT OF CURVE
PCB =	PORTABLE CONCRETE BARRIER
PEJF =	PREFORMED EXPANSION JOINT FILLER
PGL =	PROFILE GRADE LINE
PI =	POINT OF INTERSECTION
PMVC =	POINT OF MINIMUM VERTICAL CLEARANCE
POT =	POINT ON TANGENT
PROP =	PROPOSED
PT =	POINT OF TANGENT
PVMT =	PAVEMENT
RA =	REAR ABUTMENT
RCP =	REINFORCED CONCRETE PIPE
RD =	ROAD
REF =	REFERENCE
REINF. =	REINFORCING OR REBAR
REQ'D =	REQUIRED
RT =	RIGHT
R/W =	RIGHT OF WAY
S/O =	SERIES OF
SR =	STATE ROUTE
SB =	SOUTHBOUND
SCD =	STANDARD CONSTRUCTION DRAWING
SE =	SOUTHEAST
SER =	SERIES
SF =	SQUARE FEET
SHLDR =	SHOULDER
SPA =	SPACES
ST =	STREET OR SPAN TOTAL
STA =	STATION
STD =	STANDARD
STG =	STAGE
STM =	STORM
SW =	SOUTHWEST
T/ =	TOP OF
T/B =	TOP AND BOTTOM
T/T =	TOE TO TOE
TBR =	TO BE REMOVED
TEMP =	TEMPORARY
TYP =	TYPICAL
U.N.O. =	UNLESS NOTED OTHERWISE
VC =	VERTICAL CURVE
VERT =	VERTICAL
WB =	WEST BOUND
WW =	WINGWALL

STANDARD PLAN DETAILING NOMENCLATURE

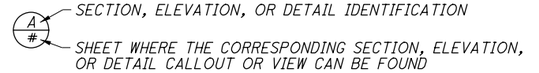
THROUGHOUT THE PLANS, SECTIONS AND DETAILS ARE REFERENCED TO THEIR CORRESPONDING VIEWS THROUGH THE USE OF STANDARD CALLOUTS. THE VIEWS OF SECTIONS, ELEVATIONS, AND DETAILS WILL HAVE UNIQUE NUMBERS ON THE PAGES ON WHICH THEY ARE SHOWN.

LETTERS WILL BE UTILIZED FOR SECTION AND ELEVATION CALLOUTS.
NUMBERS WILL BE UTILIZED FOR DETAIL CALLOUTS.

IF A SECTION, ELEVATION, OR DETAIL VIEW IS ON THE SAME SHEET FROM WHICH IT IS CUT, THE CALLOUT WILL APPEAR AS FOLLOWS:



IF A SECTION, ELEVATION, OR DETAIL VIEW IS ON A DIFFERENT SHEET FROM WHICH IT IS CUT, THE CALLOUT WILL APPEAR AS FOLLOWS:



MEMBERS WILL BE IDENTIFIED AS FOLLOWS: ⟨X#⟩

STRUCTURE DESIGNATION
"G" FOR EXISTING PLATE GIRDER
"B" FOR PROPOSED BEAM

IDENTIFICATION NUMBER

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

DESIGNED	DRAWN	REVIEWED	DATE
CTM	CTM	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
VDT		4704401	

BRIDGE GENERAL NOTES 2 OF 2
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

4 / 51

28 / 75

SUBMITTAL: FINAL TRACINGS
PID: 84591
PLOT DRIVER: ODOTV8iSS3_PDF.pltcfg
PENTABLE: 84591_ODOTV8iSS3_Pen.tbl
pw:\\gfpwing02.corporate.gannettfleming.com:GFPW02\Documents\Projects\60844\84591\structures\LOR090_1178S\sheets\06 _General Notes 2 of2 7/6/2017 2:35:27 PM edues

ESTIMATED BRIDGE QUANTITIES

CADD Setup: VDT 10/2016
CADD Check: EFD 1/2017

Calc: VDT, 4/21/2017
Check: CTM/EFD, 4/28/2017

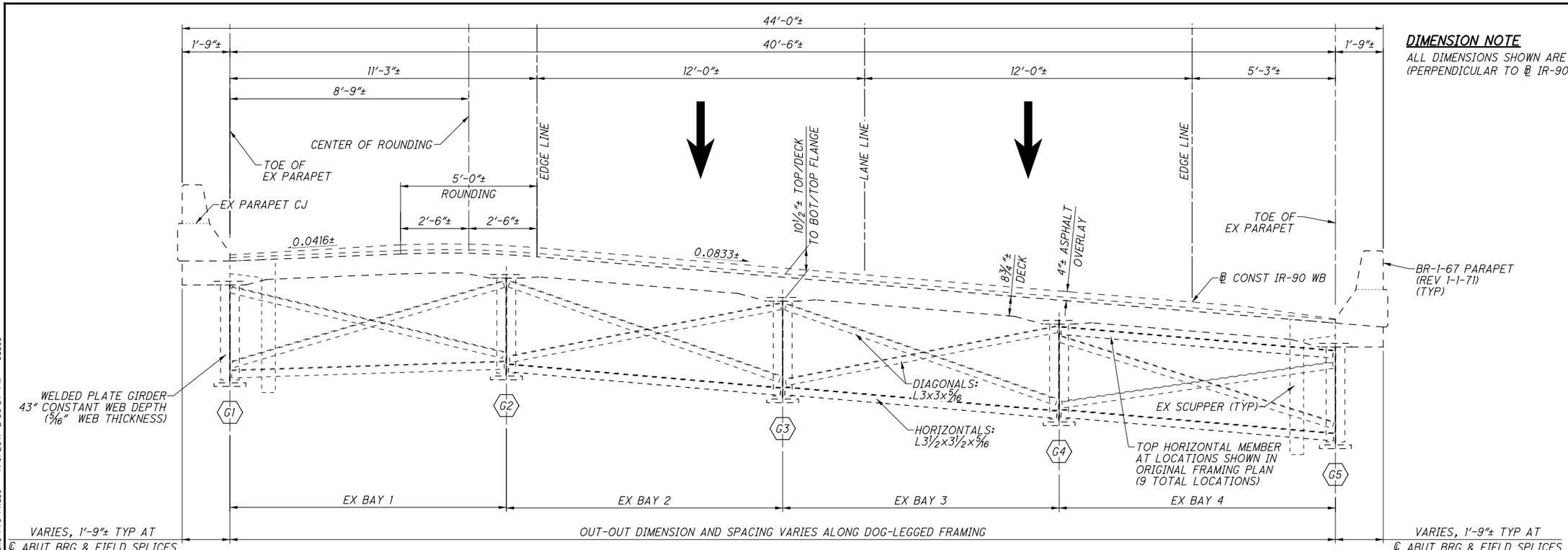
ITEM	ITEM EXT.	TOTAL QUANTITY (01/IMS/BR)	TOTAL STAGE 1	TOTAL STAGE 2	UNIT	DESCRIPTION	STAGE 1				STAGE 2				GEN.	AS PER PLAN SHEET NO. (OF 51)
							REAR ABUT	FWD ABUT	PIERS	SUPER	REAR ABUT	FWD ABUT	PIERS	SUPER		
202	11203	LUMP				PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN									LUMP	3
202	22900	160	100	60	SY	APPROACH SLAB REMOVED	50	50			30	30				
202	23501	1,065	502	563	SY	WEARING COURSE REMOVED, AS PER PLAN				502				563		3
502	11101	LUMP				STRUCTURE FOR MAINTAINING TRAFFIC, AS PER PLAN									LUMP	3
503	11101	LUMP				COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN									LUMP	11, 12, 18, 19
503	21101	160	80	80	CY	UNCLASSIFIED EXCAVATION , AS PER PLAN	33	47			40	40				23
509	10001	119,339	55,034	64,305	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	2,705	3,222	7,532	41,575	2,915	3,526	9,318	48,546		3
509	20001	300			LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN									300	3
510	10000	198	88	110	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	44	44			48	62				
511	34446	273	121	152	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK				121				152		
511	34451	84	43	41	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN				43				41		4
511	42512	108	45	63	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER CAP			45				63			
511	45712	95	44	51	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT	21	23			23	28				
512	10101	986	459	527	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	34	40	153	232	39	45	225	218		27
512	10601	50			FT	CONCRETE REPAIR BY EPOXY INJECTION, AS PER PLAN									50	4
512	33000	79	35	44	SY	TYPE 2 WATERPROOFING	14	21			22	22				
512	74000	235	122	113	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	19	18	85		20	30	63			
513	10261	345,720	171,975	173,745	LB	STRUCTURAL STEEL MEMBERS, LEVEL 3, AS PER PLAN				171,975				173,745		37
513	20000	5,673	2,877	2,796	EACH	WELDED STUD SHEAR CONNECTORS				2,877				2,796		
514	00060	16,970	8,265	8,705	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT				8,265				8,705		
514	00066	16,970	8,265	8,705	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT				8,265				8,705		
514	10000	20			EACH	FINAL INSPECTION REPAIR									20	
516	11211	157	68	89	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN				68				89		45
516	13600	18	9	9	SF	1" PREFORMED EXPANSION JOINT FILLER				9				9		
516	44001	6	3	3	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN , REAR ABUTMENT: 1.50" THICK x 13" WIDE x 11" LONG WITH BEVELED LOAD PLATE AND VULCANIZED MASONRY PLATE	3				3					30
516	44101	5	3	2	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN , PIER 1: 2.62" THICK x 17" WIDE x 15.5" LONG WITH BEVELED LOAD PLATE			3				2			31
516	44101	1		1	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN , PIER 1: 2.62" THICK x 17" WIDE x 15.5" LONG WITH 1.5" LOAD PLATE							1			31
516	44201	5	3	2	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN , PIER 2, 3.57" THICK x 17" WIDE x 15.5" LONG WITH BEVELED LOAD PLATE			3				2			32
516	44201	1		1	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN , PIER 2, 3.57" THICK x 17" WIDE x 15.5" LONG WITH 1.5" LOAD PLATE							1			32
516	44201	6	3	3	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN , FORWARD ABUTMENT: 3.99" THICK x 15" WIDE x 12" LONG WITH BEVELED LOAD PLATE AND VULCANIZED MASONRY PLATE		3				3				30
518	21200	147	74	73	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	29	45			38	35				
SPECIAL	51900100	1,457	549	908	SF	COMPOSITE FIBER WRAP SYSTEM			549				908			4
519	11101	70			SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN									70	4
526	30011	289	127	162	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN	63	64			82	80				
607	39900	436	223	213	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC				223				213		

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

DESIGNED VDT | CHECKED EFD
DRAWN VDT | REVISED 8/2018
REVIEWED MTO | DATE 1/2017
STRUCTURE FILE NUMBER 4704401

ESTIMATED BRIDGE QUANTITIES
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

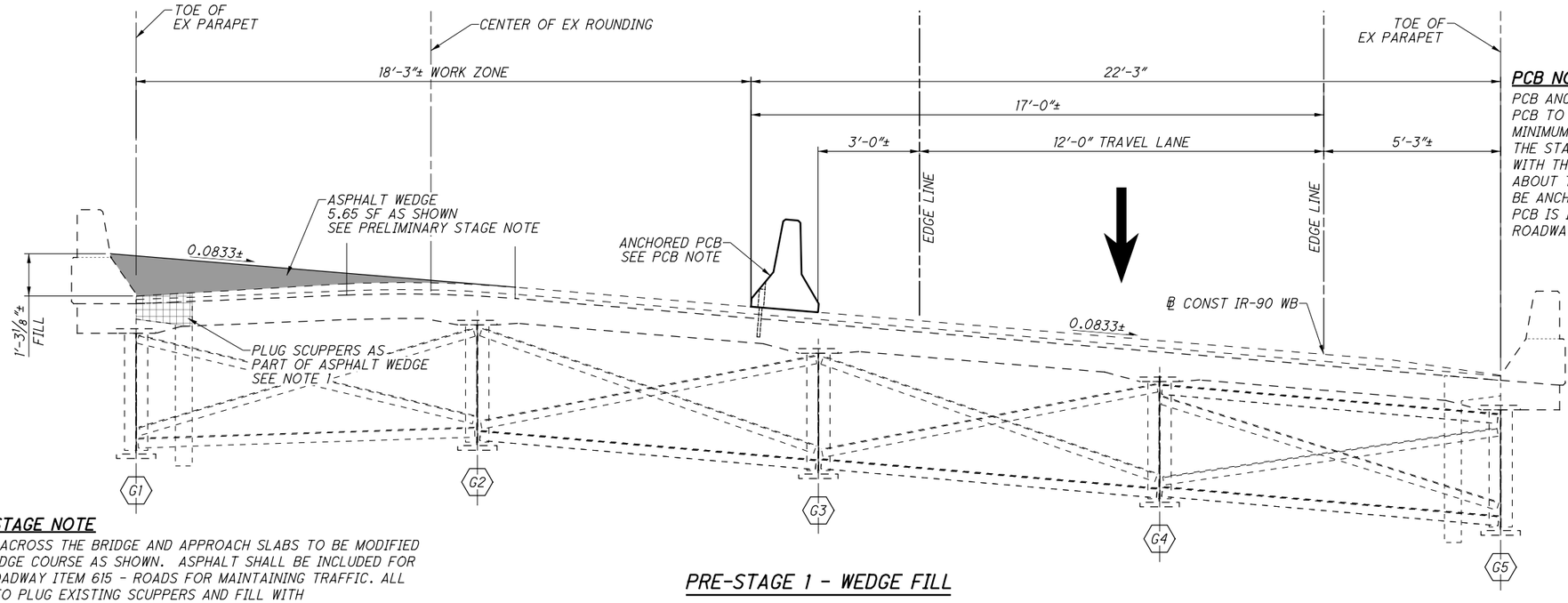


DIMENSION NOTE

ALL DIMENSIONS SHOWN ARE RADIAL (PERPENDICULAR TO ℄ IR-90)

EXISTING TRANSVERSE SECTION

LOOKING UPSTATION



PCB NOTE

PCB ANCHORAGE IS REQURIED FOR STAGE 1 TRAFFIC. PCB TO BE INSTALLED PER STD DWG PCB-91. A MINIMUM OF TWO ANCHORS SHALL BE PROVIDED ON THE STAGE 1 TRAFFIC SIDE FOR EACH PCB SEGMENT, WITH THE ANCHOR PATTERN BEING SYMMETRICAL ABOUT THE CENTER OF EACH SEGMENT. PCB SHALL BE ANCHORED TO EXISTING APPROACH SLABS AS WELL. PCB IS INCLUDED AND PAID FOR WITH THE ROADWAY MOT QUANTITIES.

PRELIMINARY STAGE NOTE

SUPERELEVATION ACROSS THE BRIDGE AND APPROACH SLABS TO BE MODIFIED WITH ASPHALT WEDGE COURSE AS SHOWN. ASPHALT SHALL BE INCLUDED FOR PAYMENT WITH ROADWAY ITEM 615 - ROADS FOR MAINTAINING TRAFFIC. ALL WORK REQUIRED TO PLUG EXISTING SCUPPERS AND FILL WITH ASPHALT SHALL BE INCLUDED IN THE COST FOR ITEM 615.

PRE-STAGE 1 - WEDGE FILL

SUBMITTAL: FINAL TRACINGS
PID: 84591
PLOT DRIVER: ODOTV8ISS3_PDF.pltcfg
PENTABLE: 84591_ODOTV8ISS3_Pen.tbl
pw:\\gfswing02.corporate.gannettfleming.com:GFPW02\Documents\Projects\60844\84591\structures\LOR090_1178S\sheets\11 _ Existing and Pre-Phase 7/6/2017 2:36:37 PM edues

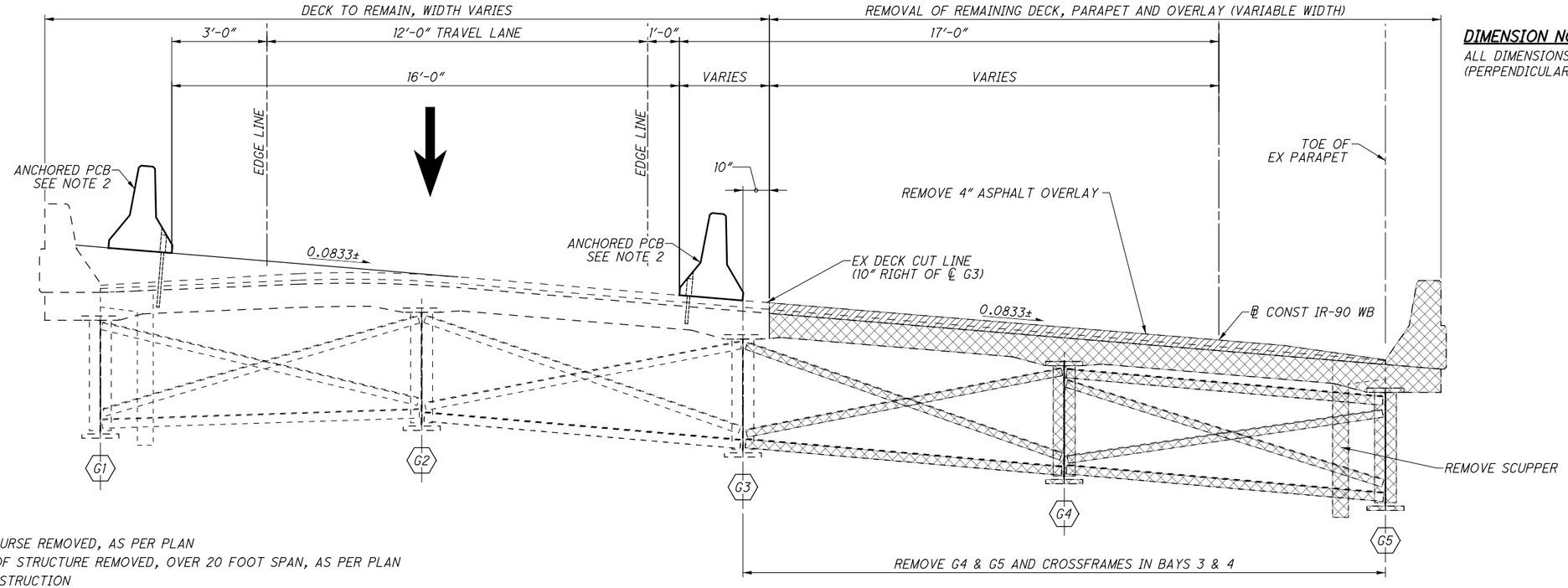
DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

DESIGNED	DRAWN	REVIEWED	DATE
EFD	EFD	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CTM		4704401	

EXISTING SECTION AND PRE-STAGE 1 CONST SECTION

BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591



DIMENSION NOTE

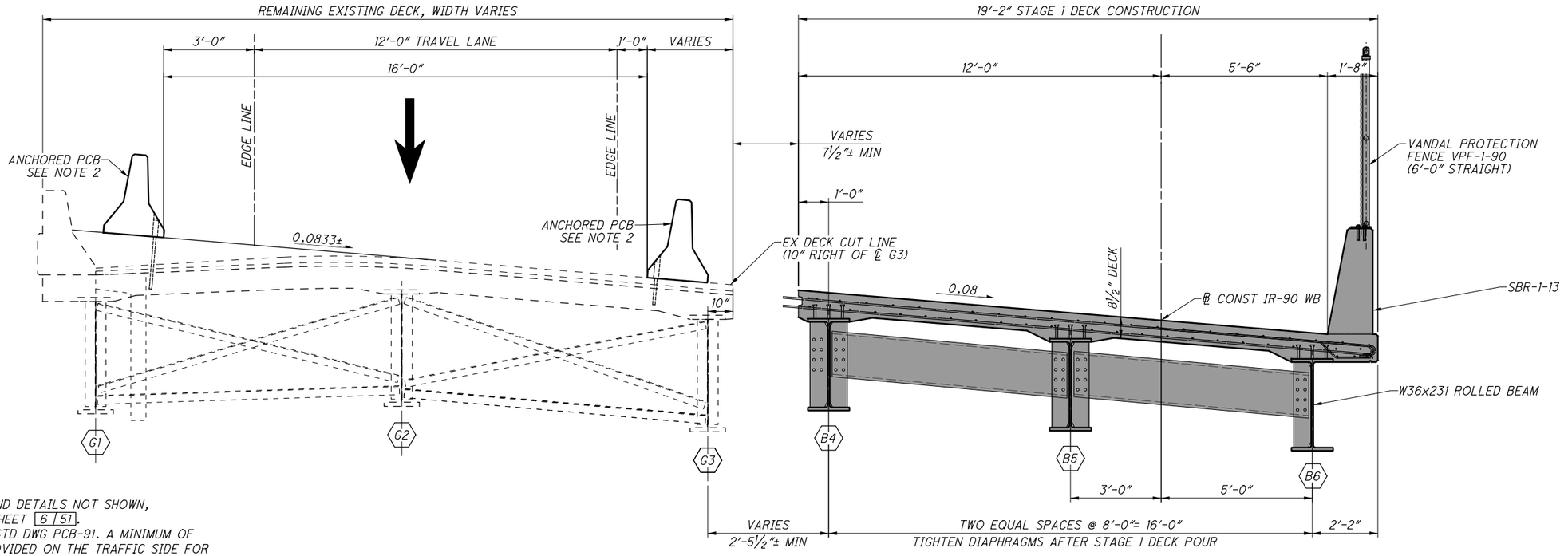
ALL DIMENSIONS SHOWN ARE RADIAL (PERPENDICULAR TO ℄ IR-90)

LEGEND

- ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN
- ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
- PROPOSED STAGE 1 CONSTRUCTION

STAGE 1 REMOVAL

REMOVE RIGHT OVERLAY, DECK, GIRDERS, AND DRAINAGE STRUCTURES



NOTES

1. FOR EXISTING DIMENSIONS AND DETAILS NOT SHOWN, SEE EXISTING SECTION ON SHEET 6 51.
2. PCB TO BE INSTALLED PER STD DWG PCB-91. A MINIMUM OF TWO ANCHORS SHALL BE PROVIDED ON THE TRAFFIC SIDE FOR EACH PCB SEGMENT, WITH THE ANCHOR PATTERN BEING SYMMETRICAL ABOUT THE CENTER OF EACH SEGMENT. PCB IS INCLUDED AND PAID FOR WITH ROADWAY MOT QUANTITIES.

STAGE 1 CONSTRUCTION

CONSTRUCT NEW RIGHT SUPERSTRUCTURE (ATOP REHABILITATED SUBSTRUCTURES)

SUBMITTAL: FINAL TRACINGS
PID: 84591
PENTABLE: 84591_ODOTV8iSS3_Pen.tbl
PLOT DRIVER: ODOTV8iSS3_PDF.pltcfg
pw:\\gfpwing02.corporate.gannettfleming.com:GFPW02\Documents\Projects\60844\84591\structures\LOR090_1178S\sheets\12 _ Replace-Stage 1 7/6/2017 2:36:49 PM edues

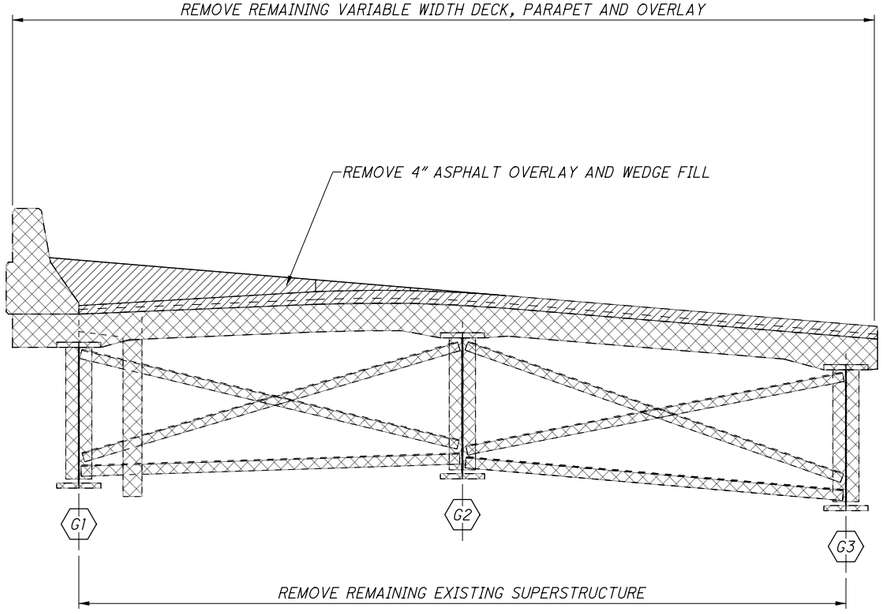
DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

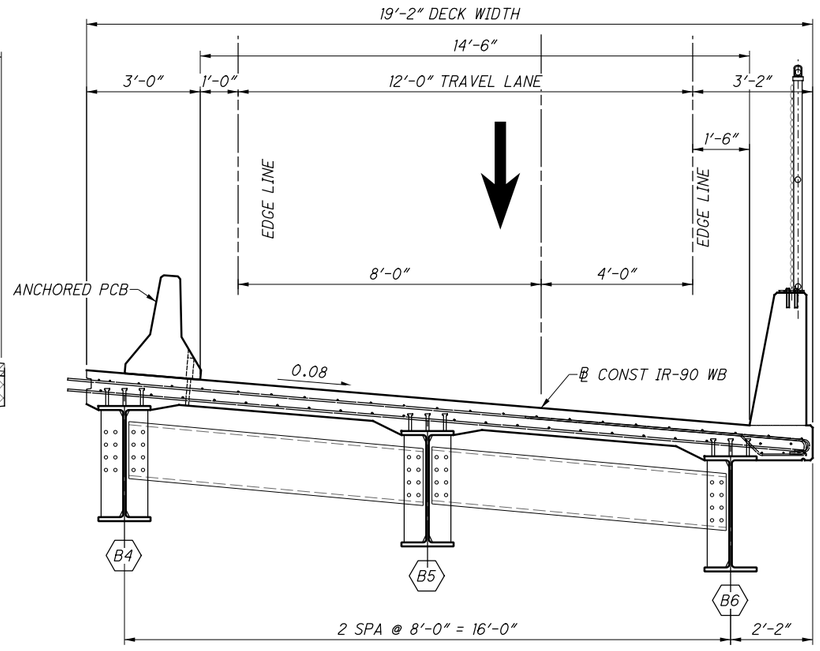
DESIGNED	DRAWN	REVIEWED	DATE
EFD	EFD	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CTM		4704401	

STAGED CONSTRUCTION SECTIONS - STAGE 1

BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591





DIMENSION NOTE

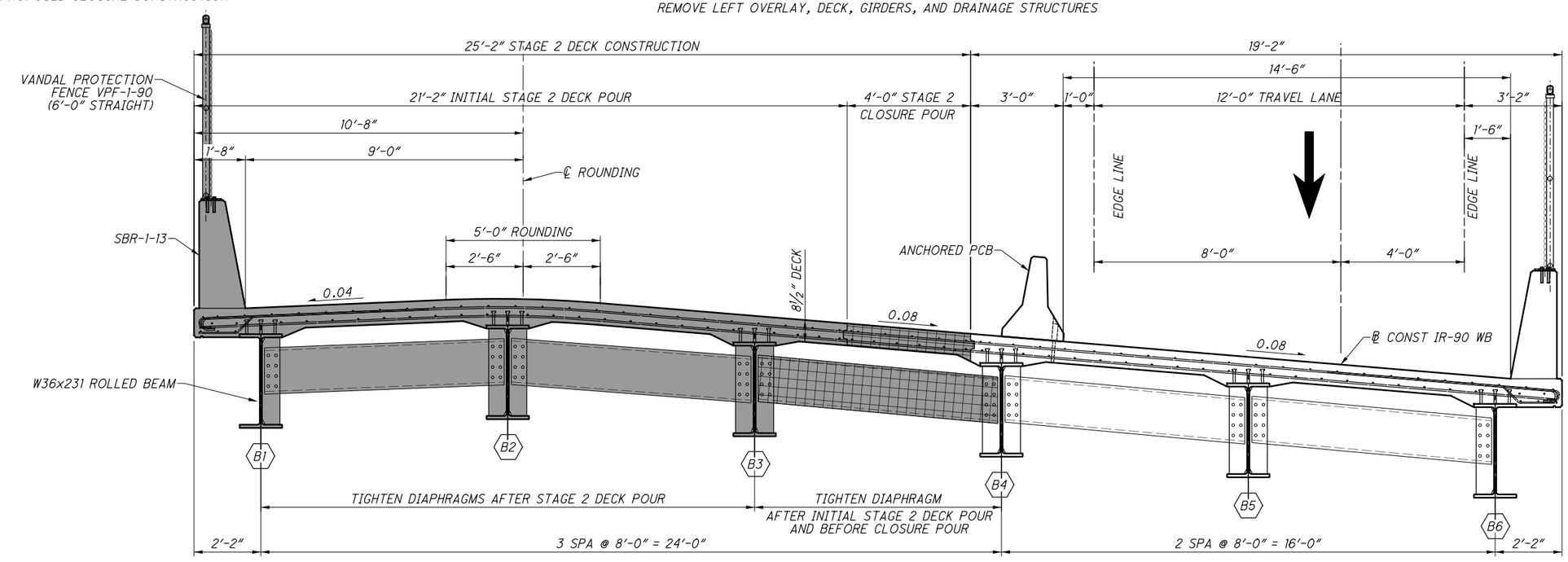
ALL DIMENSIONS SHOWN ARE RADIAL (PERPENDICULAR TO ℄ IR-90)

LEGEND

- ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN
- ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
- PROPOSED STAGE 2 CONSTRUCTION
- PROPOSED CLOSURE CONSTRUCTION

STAGE 2 REMOVAL

REMOVE LEFT OVERLAY, DECK, GIRDERS, AND DRAINAGE STRUCTURES



NOTES

1. FOR EXISTING DIMENSIONS AND DETAILS NOT SHOWN, SEE EXISTING SECTION ON SHEET 6 / 51.
2. PCB TO BE INSTALLED PER STD DWG PCB-91. A MINIMUM OF TWO ANCHORS SHALL BE PROVIDED ON THE TRAFFIC SIDE FOR EACH PCB SEGMENT, WITH THE ANCHOR PATTERN BEING SYMMETRICAL ABOUT THE CENTER OF EACH SEGMENT. PCB IS INCLUDED AND PAID FOR WITH ROADWAY MOT QUANTITIES.

STAGE 2 CONSTRUCTION

CONSTRUCT NEW LEFT SUPERSTRUCTURE (ATOP REHABILITATED SUBSTRUCTURES)

SUBMITTAL: FINAL TRACINGS
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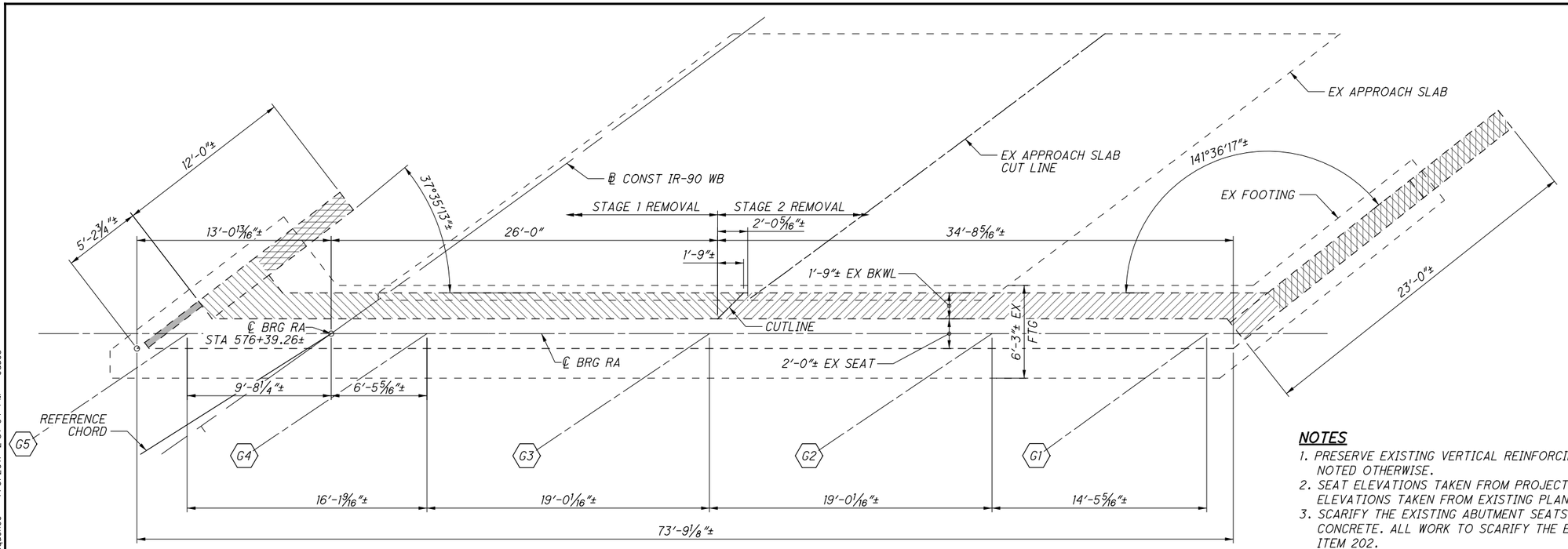
PENTABLE: 84591_ODOTV8SS3_Pen.tbl
PLOT_DRIVER: ODOTV8iSS3_PDF.pltcfg
pw:\\gfpwing02.corporate.gannettfleming.com:GFPW02\Documents\Projects\60844\84591\structures\LOR090_1178S\sheets\13 _ Replace-Stage 2 7/6/2017 2:36:56 PM edues

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

DESIGNED	DRAWN	REVIEWED	DATE
EFD	EFD	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CTM		4704401	

STAGED CONSTRUCTION SECTIONS - STAGE 2
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

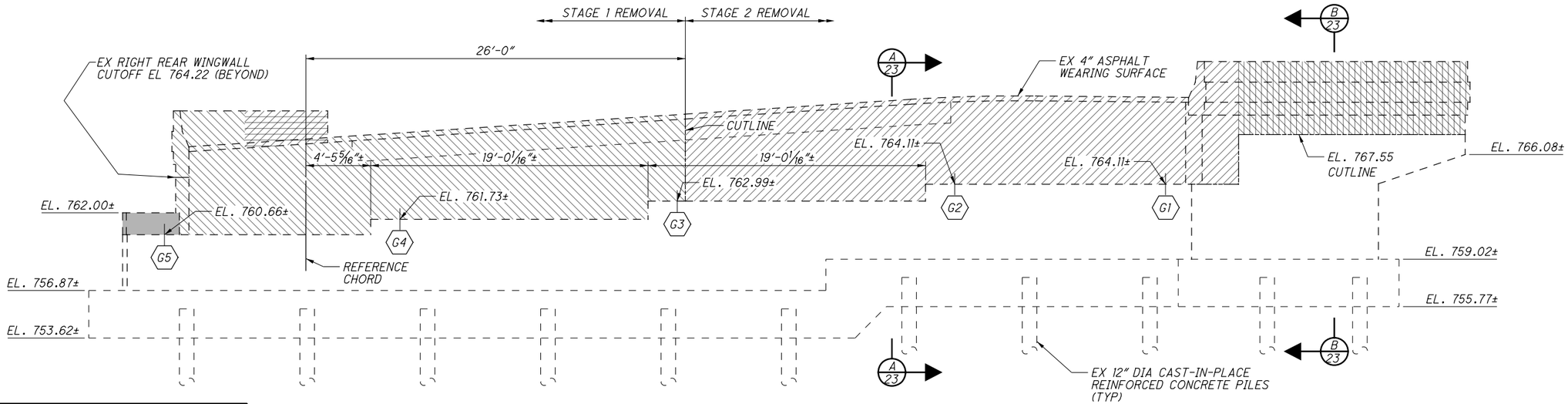


EXISTING REAR ABUTMENT PLAN

LIMITS OF STAGED REMOVAL

NOTES

1. PRESERVE EXISTING VERTICAL REINFORCING ABOVE THE CUTLINE UNLESS NOTED OTHERWISE.
2. SEAT ELEVATIONS TAKEN FROM PROJECT SURVEY. OTHER EXISTING ABUTMENT ELEVATIONS TAKEN FROM EXISTING PLANS WITH DATUM ADJUSTMENT.
3. SCARIFY THE EXISTING ABUTMENT SEATS BEFORE POURING ANY PROPOSED CONCRETE. ALL WORK TO SCARIFY THE EXISTING SEAT TO BE PAID FOR BY ITEM 202.



EXISTING REAR ABUTMENT ELEVATION

LIMITS OF STAGED REMOVAL
(ALONG ℄ BEARING)

LEGEND

- STAGE 1 BACKWALL REMOVAL (TO EX BEARING SEAT ELEVATION)
- STAGE 1 WINGWALL & WINGWALL PARAPET REMOVAL
- STAGE 1 CHEEKWALL REMOVAL (TO EX BEARING SEAT ELEVATION) REMOVE VERTICAL CHEEKWALL REINFORCING TO SEAT ELEVATION
- STAGE 2 BACKWALL REMOVAL (TO EX BEARING SEAT ELEVATION)
- STAGE 2 WINGWALL & WINGWALL PARAPET REMOVAL

REFERENCES: REAR ABUT

SUBMITTAL: FINAL TRACINGS
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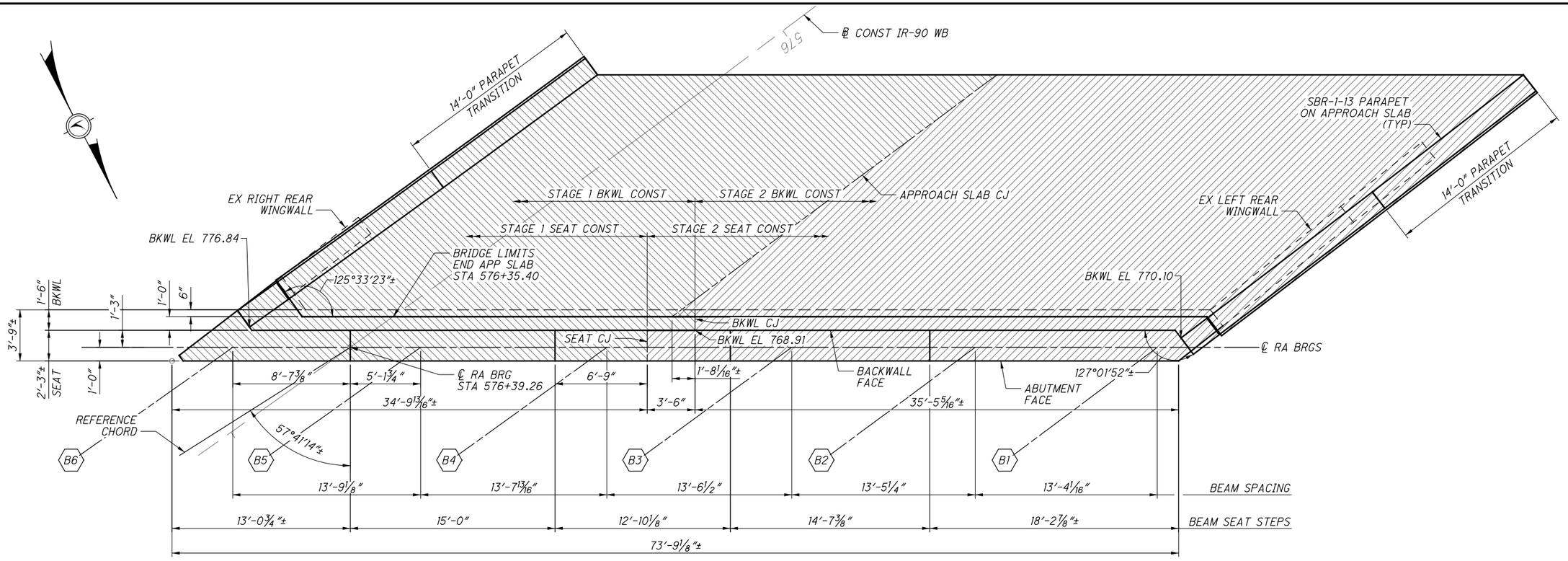
DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

DESIGNED	DRAWN	REVIEWED	DATE
CTM	CTM	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EFD		4704401	

REAR ABUTMENT: EXISTING DETAILS AND REMOVAL SEQUENCE

BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

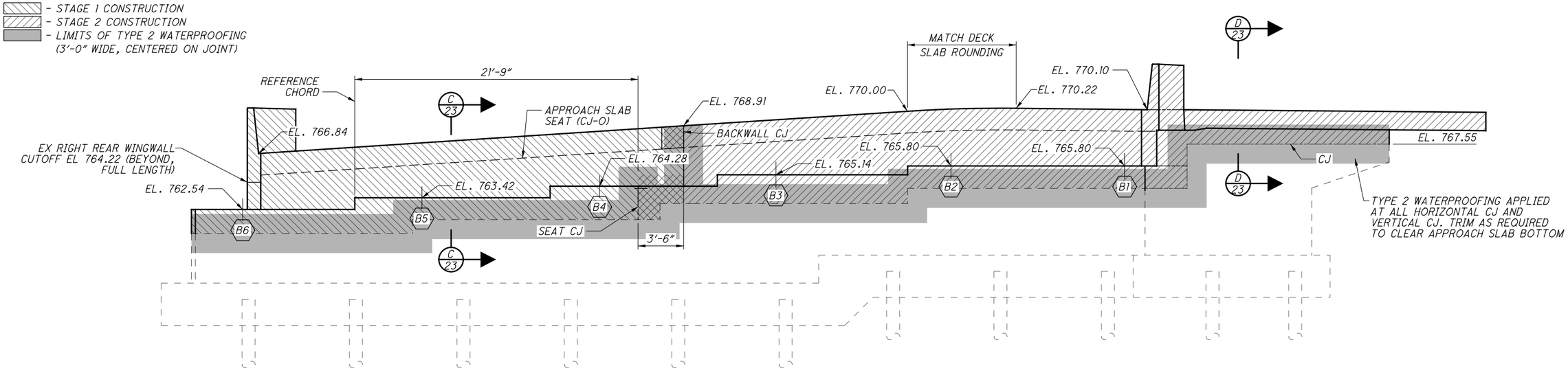
LOR-90-11.78
PID No. 84591



PROPOSED REAR ABUTMENT PLAN

LEGEND

- STAGE 1 CONSTRUCTION
- STAGE 2 CONSTRUCTION
- LIMITS OF TYPE 2 WATERPROOFING (3'-0" WIDE, CENTERED ON JOINT)



PROPOSED REAR ABUTMENT ELEVATION

APPROACH SLAB PARAPETS NOT SHOWN

NOTES

1. BACKWALL ELEVATIONS GIVEN AT FRONT FACE OF BACKWALL.
2. PRESERVE EX VERTICAL REINFORCING UNLESS NOTED OTHERWISE.

REFERENCES: REAR ABUT

EX RA & SEQUENCING	9 | 51
FINAL RA & SEQUENCING	10 | 51
RA, STAGE 1	11 | 51
RA, STAGE 2	12 | 51
RA, CORNER REINFORCING	13 | 51
RIGHT REAR WINGWALL	14 | 51
LEFT REAR WINGWALL	15 | 51
ABUTMENT TYPICAL DETAILS	23 | 51
FA PLANS	16 | 51 TO 22 | 51
REINFORCING TABLES	49 | 51 TO 51 | 51

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REAR ABUTMENT: PROPOSED FINAL ABUTMENT & SEQUENCING

BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

10 / 51

34 / 75

SUBMITTAL: FINAL TRACINGS
PID: 84591
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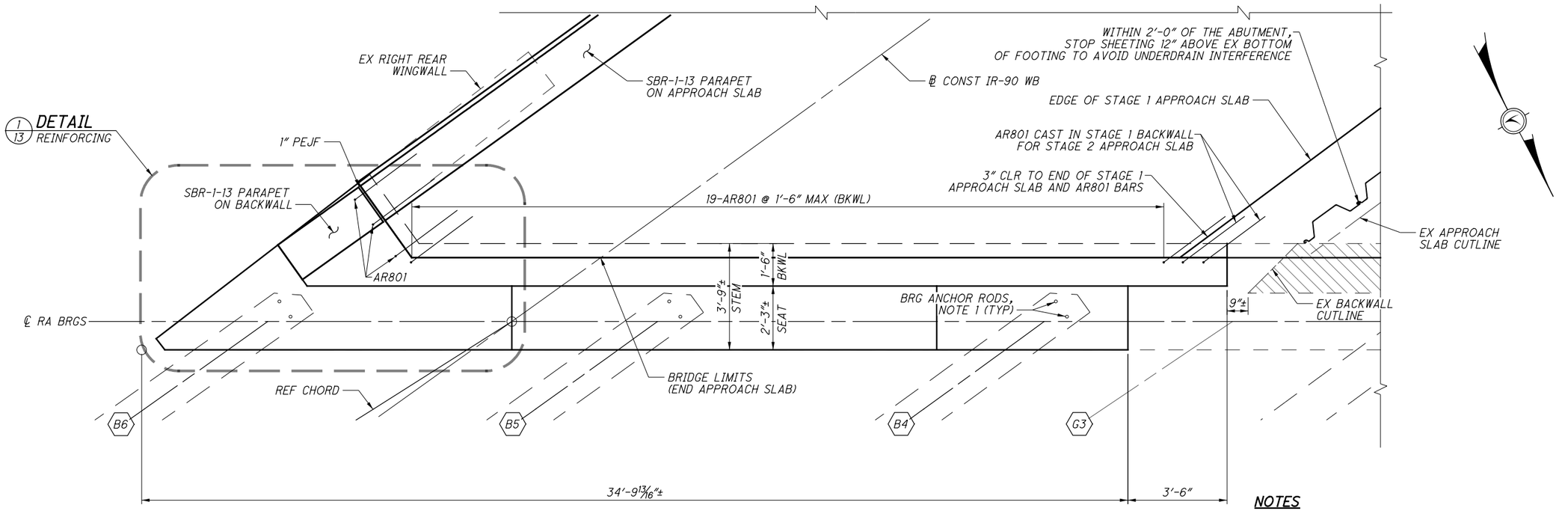


REAR ABUTMENT PLAN - STAGE 1 CONSTRUCTION

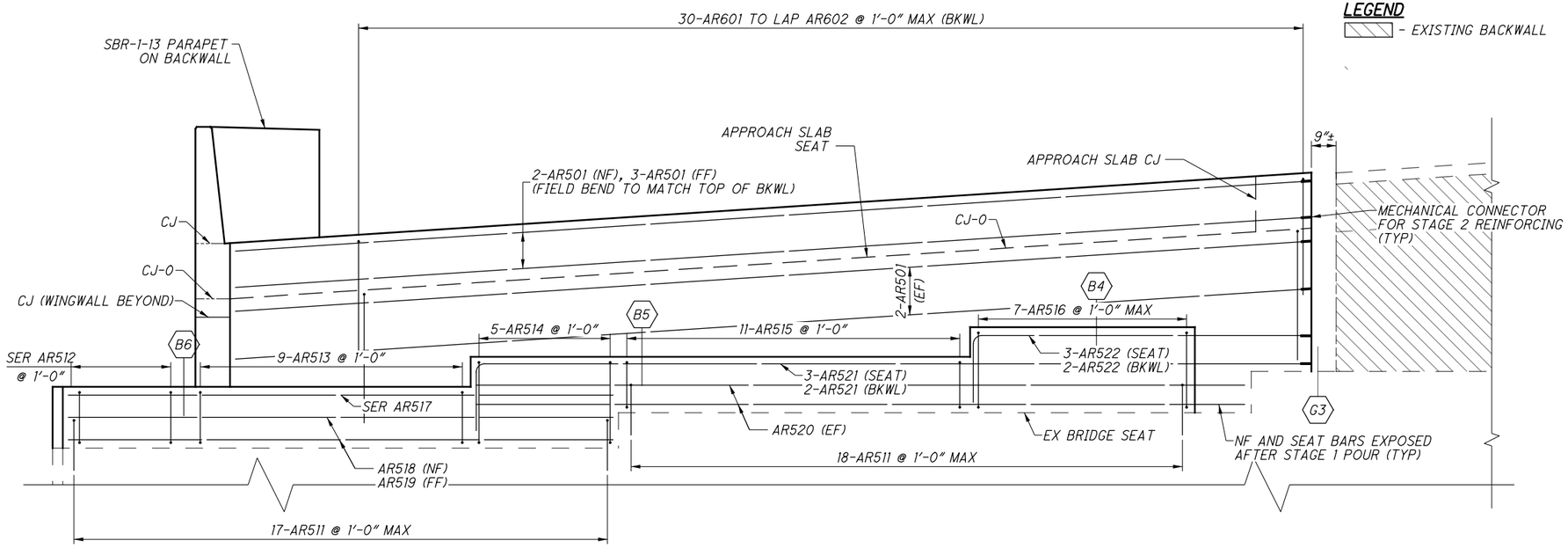
SEE SHEET 10/51 FOR ADDITIONAL ABUTMENT DIMENSIONS

NOTES

1. ANCHOR ROD LOCATIONS VARY DUE TO BEAM END SKEW. FOR ANCHOR ROD PLACEMENT DETAILS, SEE SHEET 30/51. ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE-SETTING OF BEARING ANCHORS.
2. BARS DESIGNATED (SEAT) ARE TO BE EVENLY SPACED ACROSS THE WIDTH OF THE BEAM SEAT. BARS DESIGNATED (BKWL) ARE TO BE EVENLY SPACED ACROSS THE BACKWALL WIDTH.

LEGEND

▨ - EXISTING BACKWALL



REAR ABUTMENT ELEVATION - STAGE 1 CONSTRUCTION

APPROACH SLAB PARAPETS NOT SHOWN
SEE SHEET 10/51 FOR ABUTMENT ELEVATIONS

REFERENCES: REAR ABUT

EX RA & SEQUENCING - 9/51
FINAL RA & SEQUENCING - 10/51
RA, STAGE 1 - 11/51
RA, STAGE 2 - 12/51
RA, CORNER REINFORCING - 13/51
RIGHT REAR WINGWALL - 14/51
LEFT REAR WINGWALL - 15/51
ABUTMENT TYPICAL DETAILS - 23/51
FA PLANS - 16/51 TO 22/51
REINFORCING TABLES - 49/51 TO 51/51

DESIGN AGENCY
Gannett Fleming
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REAR ABUTMENT: STAGE 1 CONSTRUCTION

BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

SUBMITTAL: FINAL TRACINGS
PID: 84591
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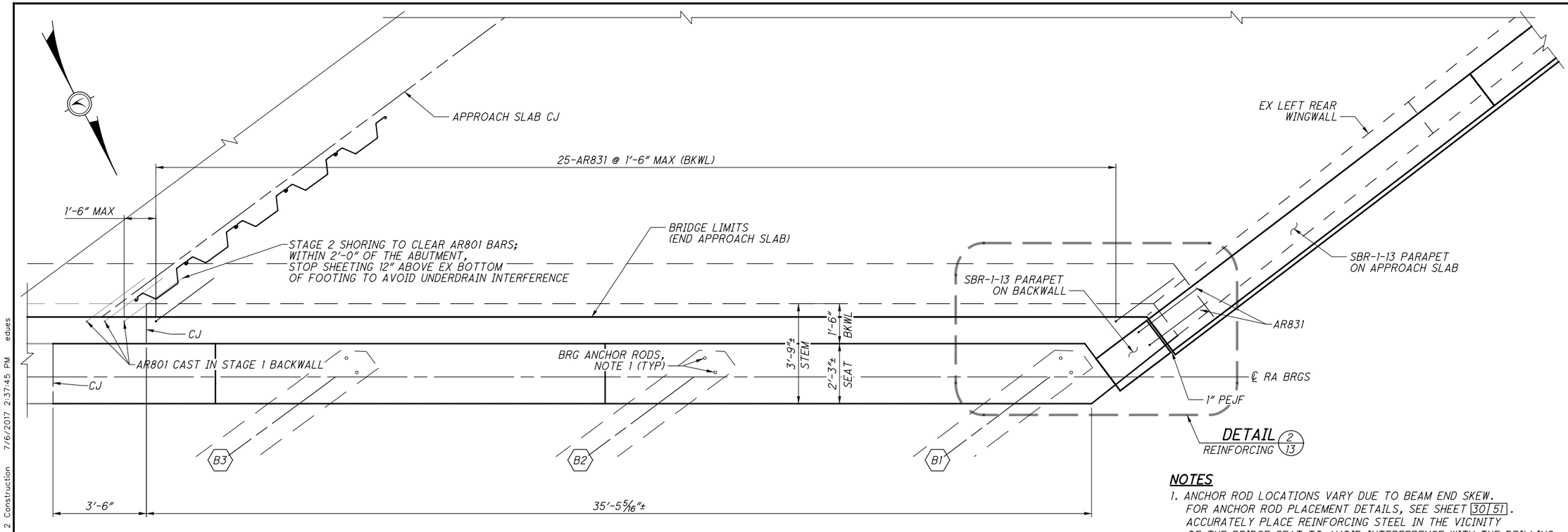
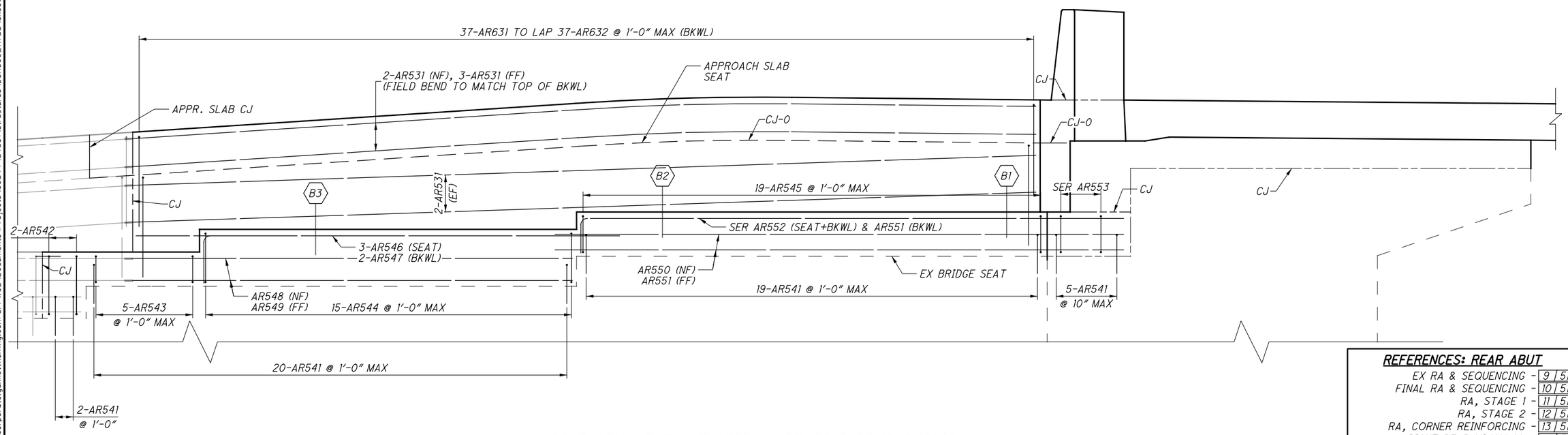


NOTES

1. ANCHOR ROD LOCATIONS VARY DUE TO BEAM END SKEW.
   FOR ANCHOR ROD PLACEMENT DETAILS, SEE SHEET 30/51.
   ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY
   OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING
   OF BEARING ANCHOR HOLES OR THE PRE-SETTING OF BEARING ANCHORS.
2. BARS DESIGNATED (SEAT) ARE TO BE EVENLY SPACED ACROSS THE WIDTH
   OF THE BEAM SEAT. BARS DESIGNATED (BKWL) ARE TO BE EVENLY SPACED
   ACROSS THE BACKWALL WIDTH.

REAR ABUTMENT PLAN - STAGE 2 CONSTRUCTION

SEE SHEET 10/51 FOR ADDITIONAL ABUTMENT DIMENSIONS



REAR ABUTMENT ELEVATION - STAGE 2 CONSTRUCTION

APPROACH SLAB PARAPETS NOT SHOWN
SEE SHEET 10/51 FOR ABUTMENT ELEVATIONS

REFERENCES: REAR ABUT

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE SUITE 230
COLUMBUS, OHIO 43231

DESIGNED CTM | DRAWN CTM | REVIEWED MTO | DATE 1/2017
CHECKED EFD | REVISED | STRUCTURE FILE NUMBER 4704401

REAR ABUTMENT: STAGE 2 CONSTRUCTION

BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

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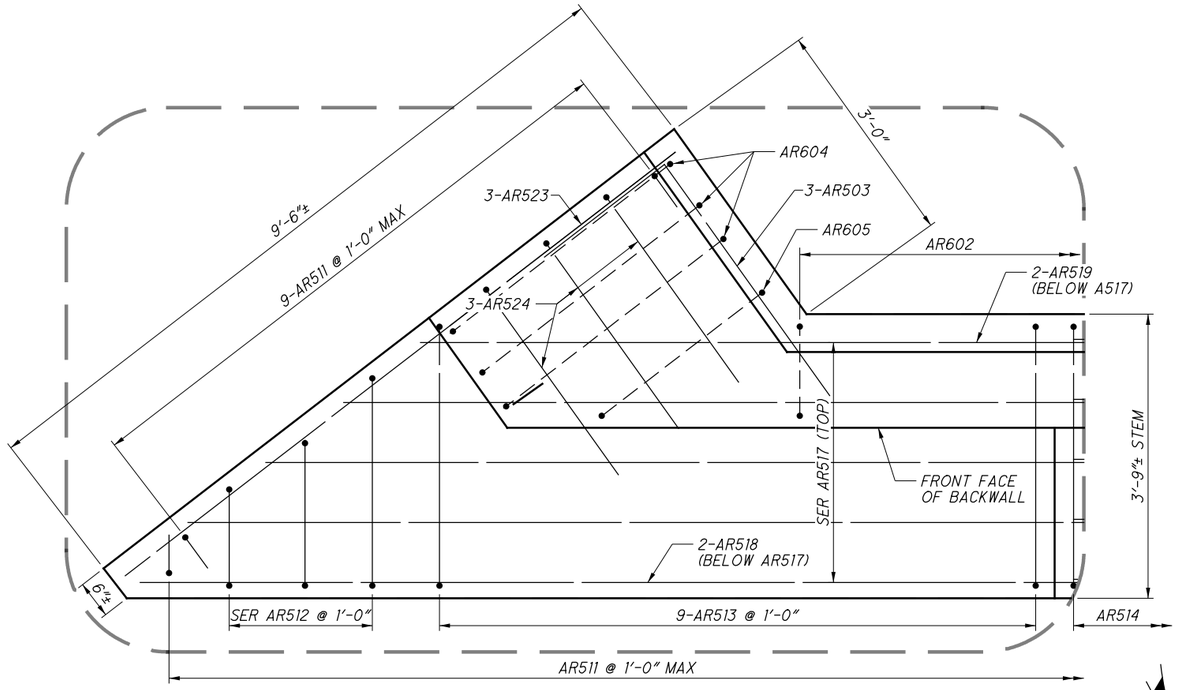
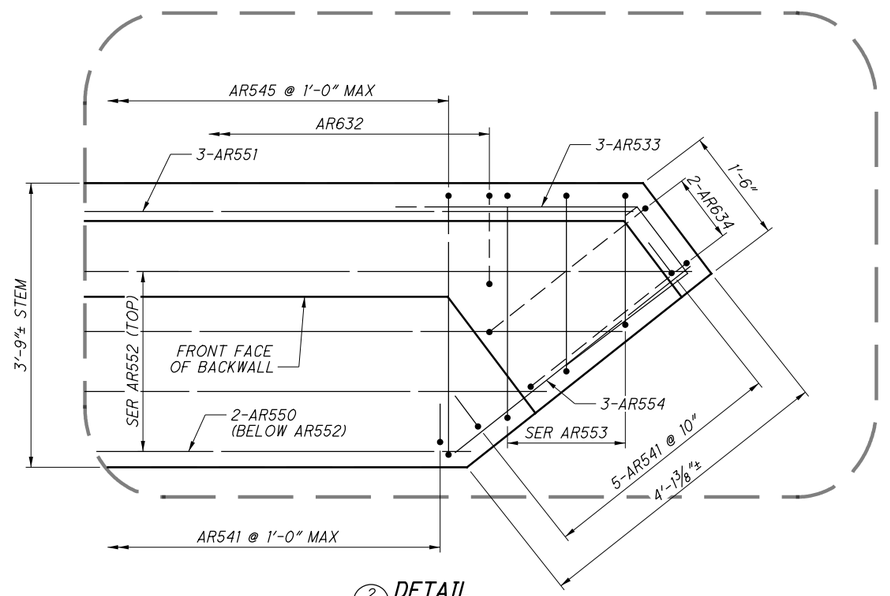
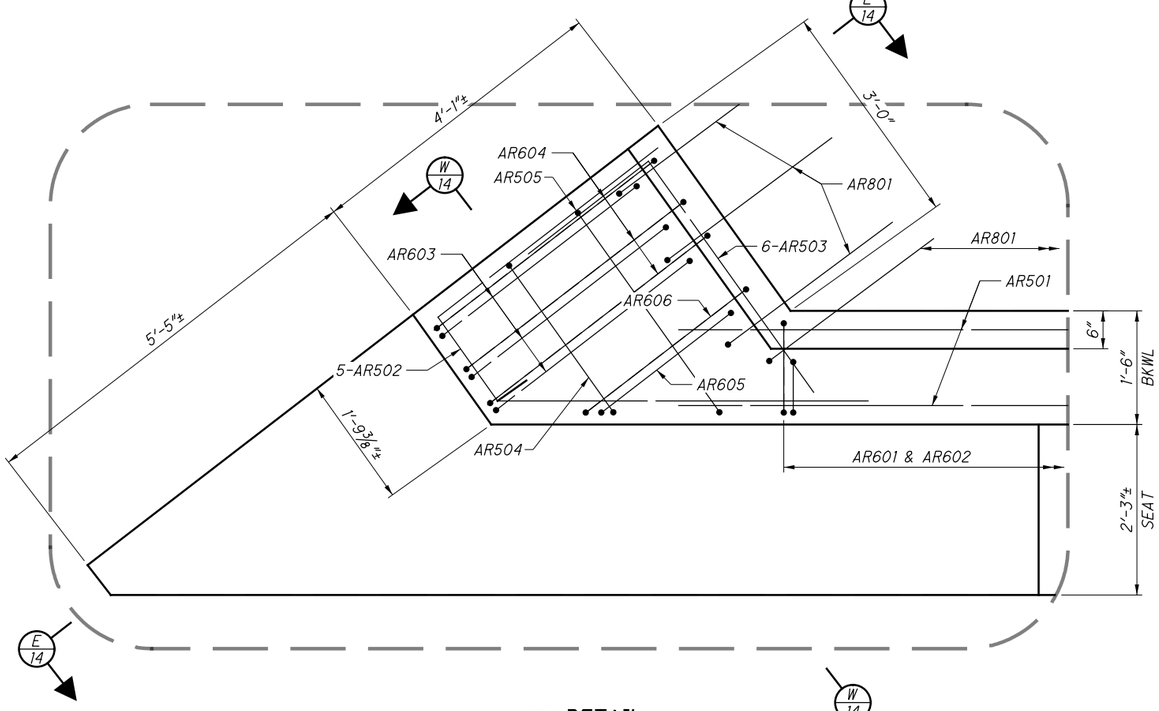


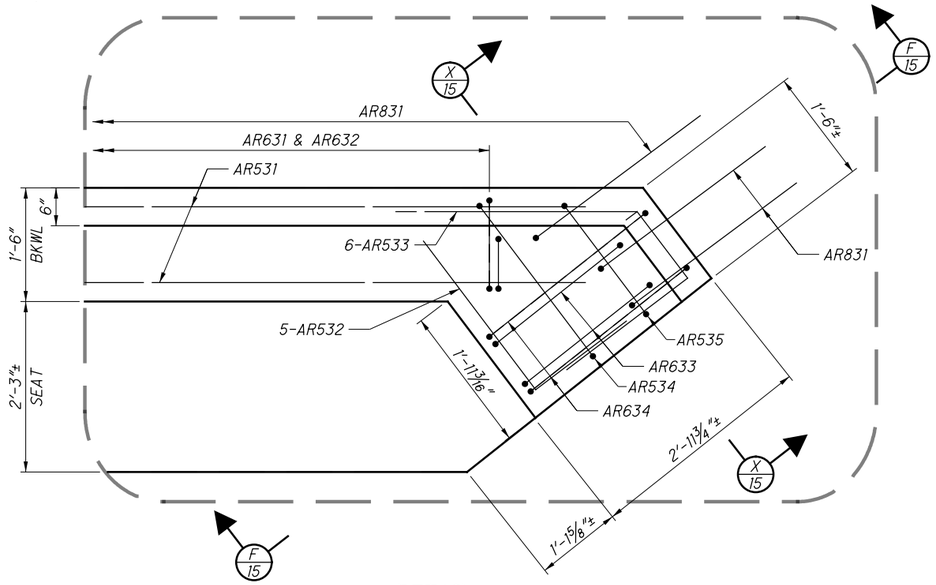
1/11 **DETAIL**
ABUTMENT STEM REINFORCING



2/12 **DETAIL**
ABUTMENT STEM REINFORCING



1/11 **DETAIL**
BACKWALL REINFORCING



2/12 **DETAIL**
BACKWALL REINFORCING

NOTES

1. STEM AND BACKWALL DIMENSIONS AND ORIENTATION ARE TAKEN FROM SURVEY AND EXISTING PLANS. MATCH EXISTING STEM AND BACKWALL LIMITS AT CORNERS.

DESIGN AGENCY
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2500 CORPORATE EXCHANGE DRIVE, SUITE 230
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CTM	CTM	MTO	1/2017
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EFD		4704401	

REAR ABUTMENT: CORNER REINFORCING DETAILS

BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

13 / 51

37 / 75

SUBMITTAL: FINAL TRACINGS
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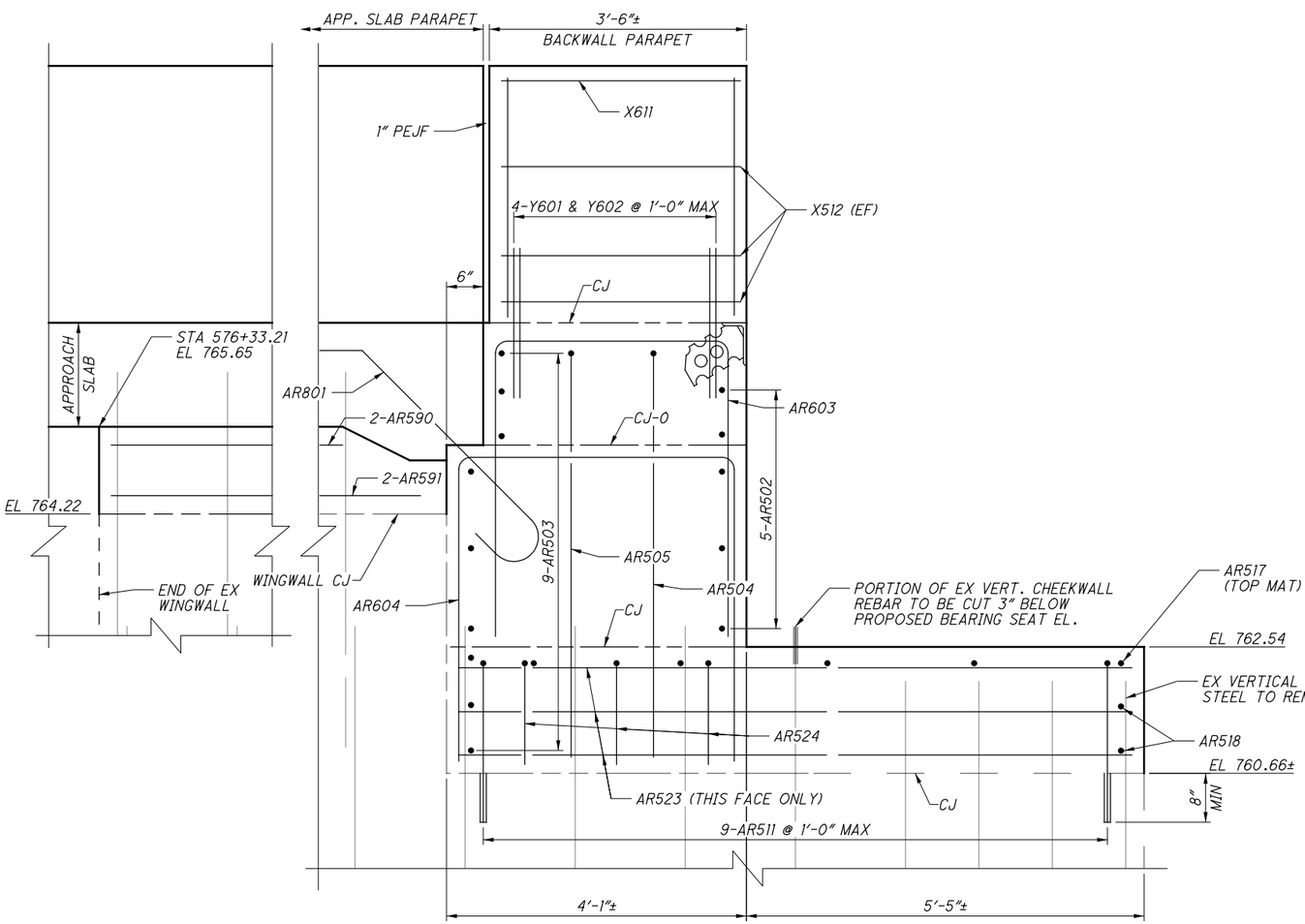
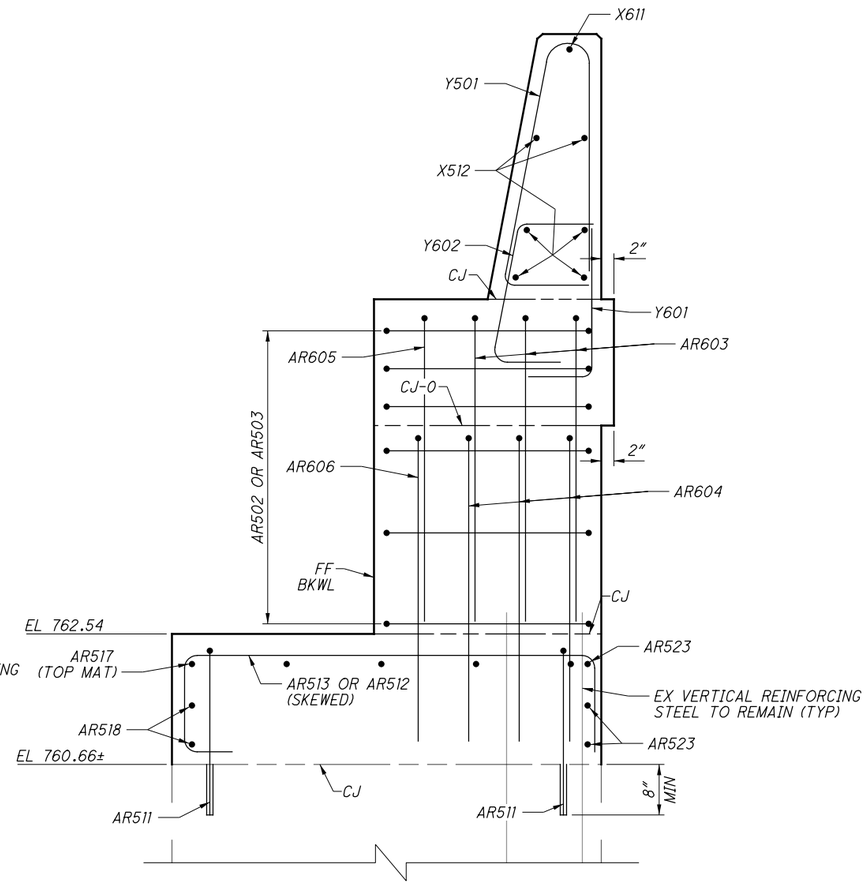


E/13 SECTION
RIGHT REAR CORNER



W/13 SECTION
RIGHT REAR CORNER

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DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
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COLUMBUS, OHIO 43231

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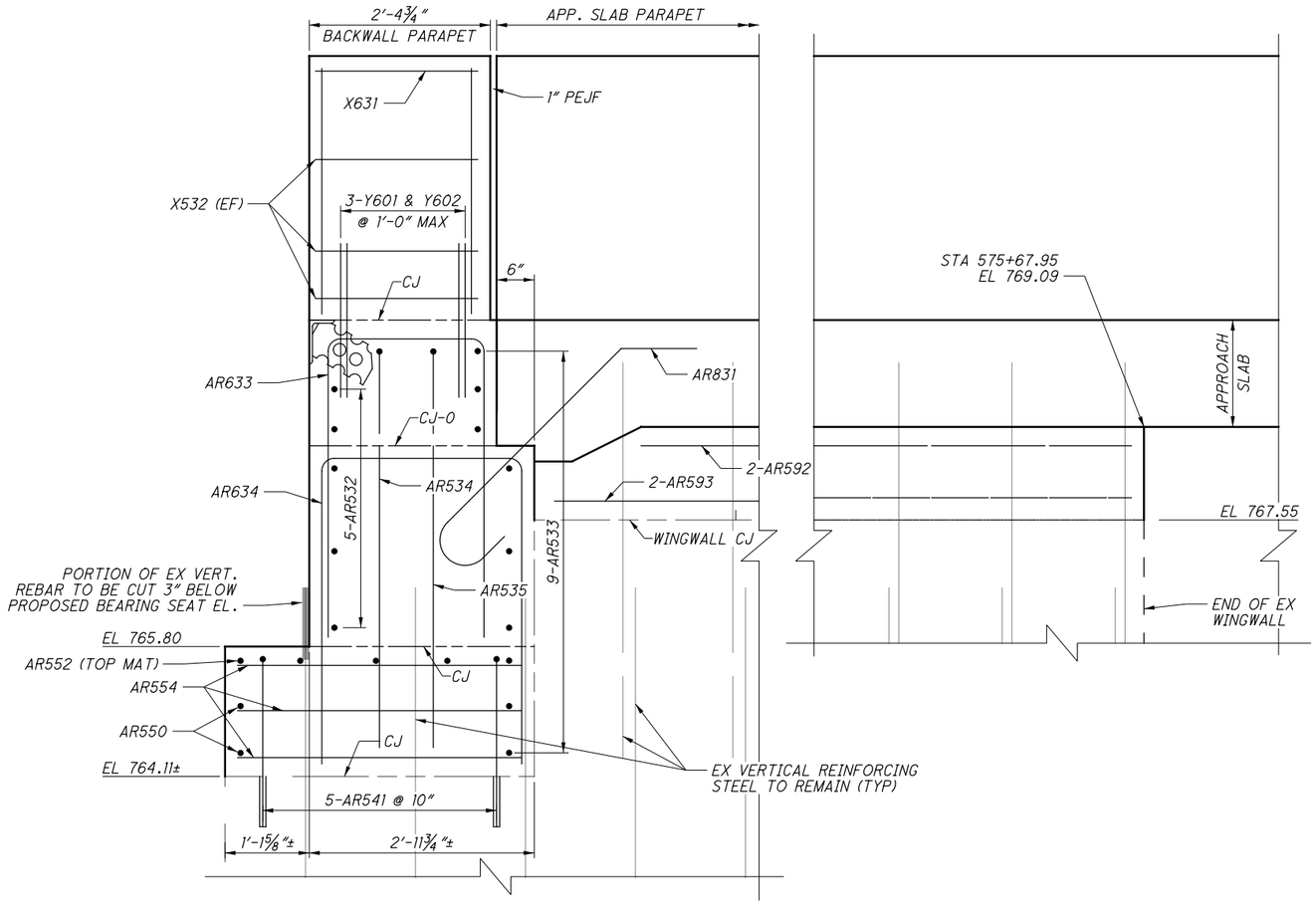
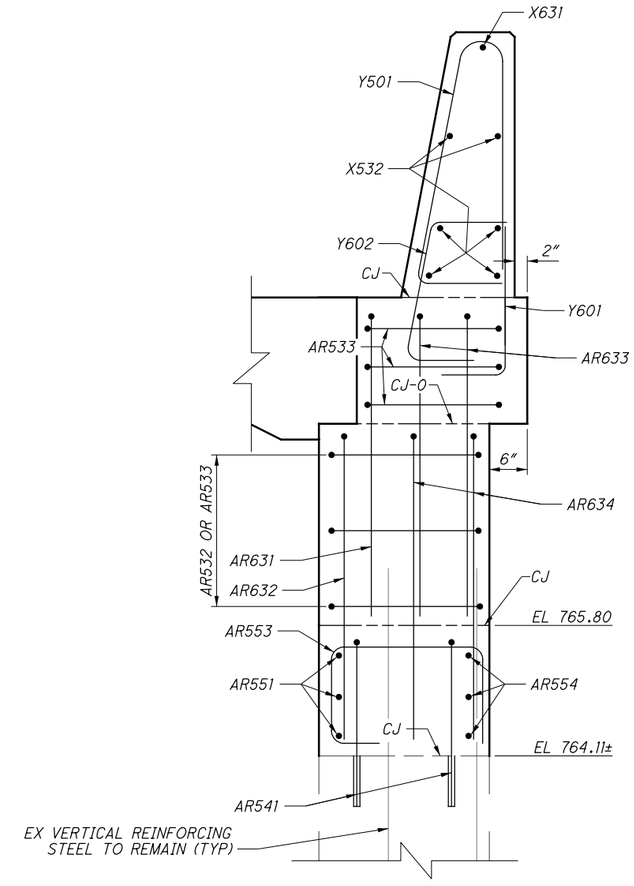
RIGHT REAR WINGWALL DETAILS

BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591



F/13 SECTION
LEFT REAR CORNER



X/13 SECTION
LEFT REAR CORNER

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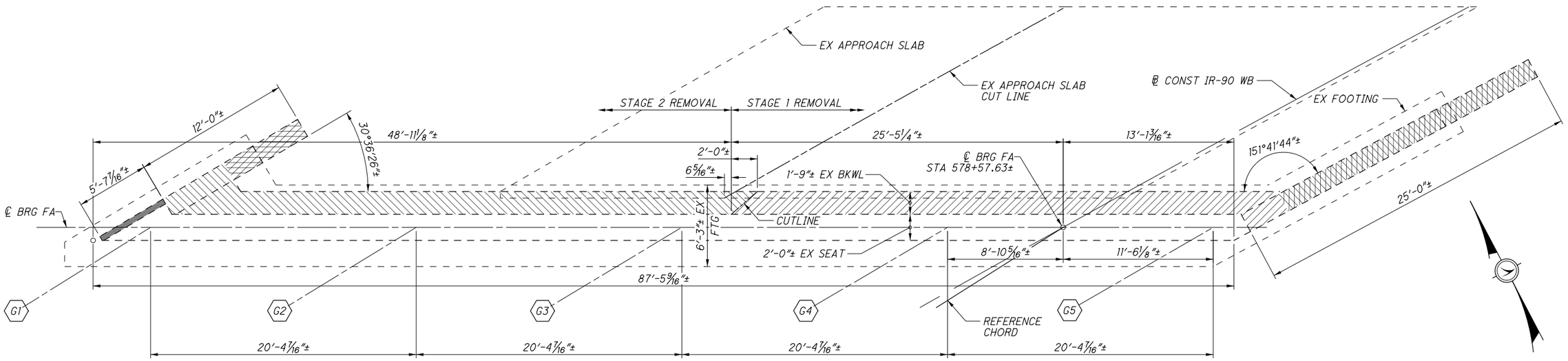
EFD		4704401	

LEFT REAR WINGWALL DETAILS

BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591



LEGEND

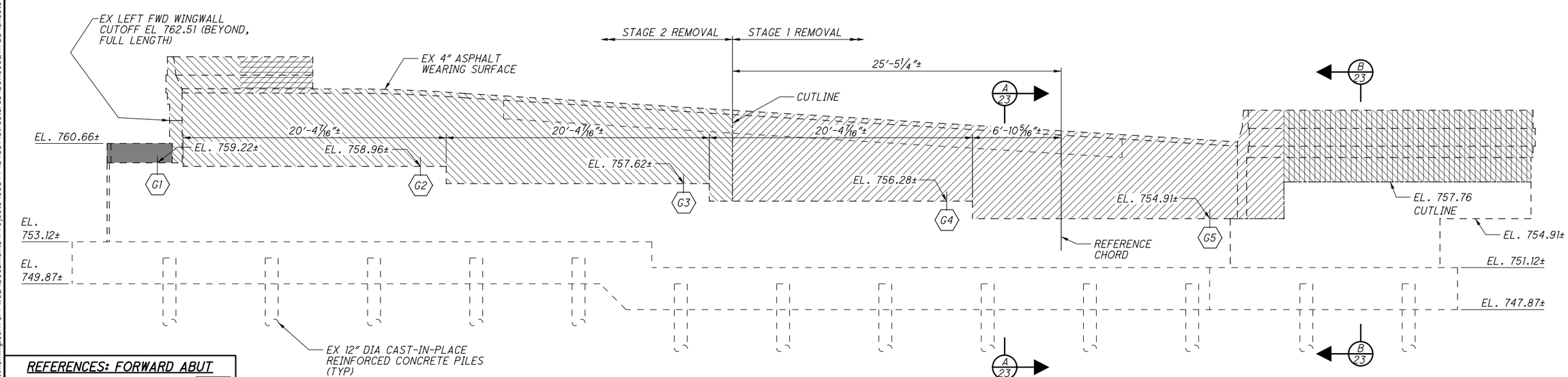
- STAGE 1 BACKWALL REMOVAL (TO EX BEARING SEAT ELEVATION)
- STAGE 1 WINGWALL & WINGWALL PARAPET REMOVAL
- STAGE 2 CHEEKWALL REMOVAL (TO EX BEARING SEAT ELEVATION)
- STAGE 2 BACKWALL REMOVAL (TO EX BEARING SEAT ELEVATION)
- STAGE 2 WINGWALL & WINGWALL PARAPET REMOVAL

EXISTING FORWARD ABUTMENT PLAN

LIMITS OF STAGED REMOVAL

NOTES

1. PRESERVE EXISTING VERTICAL REINFORCING ABOVE THE CUTLINE UNLESS NOTED OTHERWISE.
2. SEAT ELEVATIONS TAKEN FROM PROJECT SURVEY. OTHER EXISTING ABUTMENT ELEVATIONS TAKEN FROM EXISTING PLANS WITH DATUM ADJUSTMENT.
3. SCARIFY THE EXISTING ABUTMENT SEATS BEFORE POURING ANY PROPOSED CONCRETE. ALL WORK TO SCARIFY THE EXISTING SEAT TO BE PAID FOR BY ITEM 202.



EXISTING FORWARD ABUTMENT ELEVATION

LIMITS OF STAGED REMOVAL
(ALONG ℄ BEARING)

REFERENCES: FORWARD ABUT

SUBMITTAL: FINAL TRACINGS
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DESIGN AGENCY
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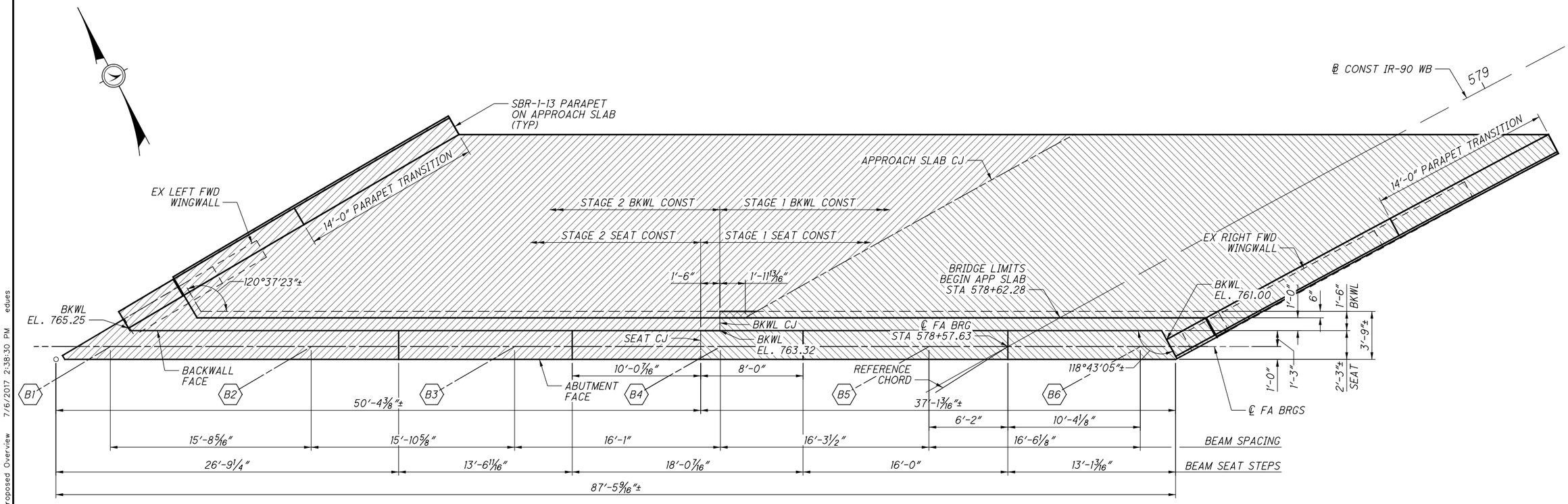
2500 CORPORATE EXCHANGE DRIVE SUITE 230
COLUMBUS, OHIO 43231

DESIGNED	DRAWN	REVIEWED	DATE
CTM	CTM	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EFD		4704401	

FORWARD ABUTMENT: EXISTING DETAILS AND REMOVAL SEQUENCE
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

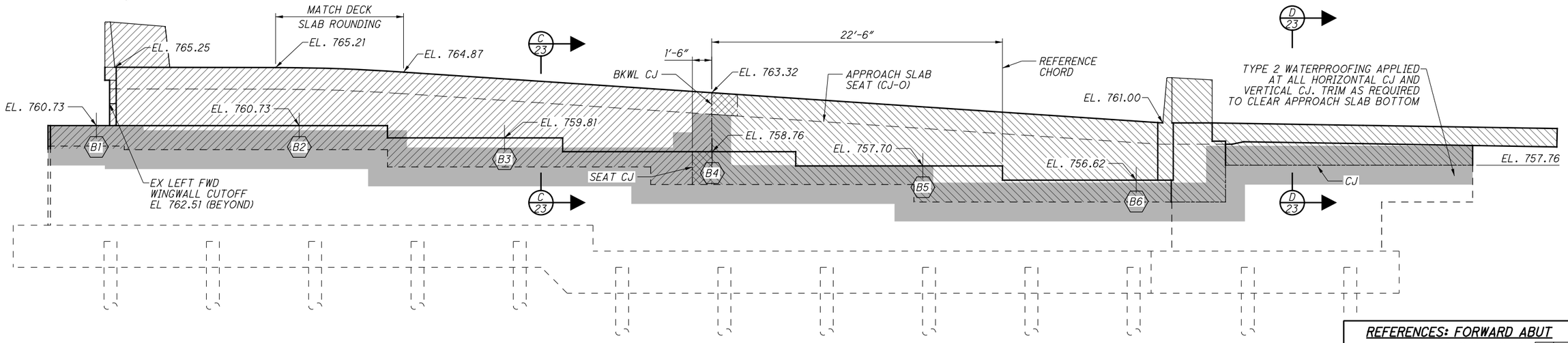
LOR-90-11.78
PID No. 84591



PROPOSED FORWARD ABUTMENT PLAN

LEGEND

- STAGE 1 CONSTRUCTION
- STAGE 2 CONSTRUCTION
- LIMITS OF TYPE 2 WATERPROOFING (3'-0" WIDE, CENTERED ON JOINT)



PROPOSED FORWARD ABUTMENT ELEVATION

APPROACH SLAB PARAPETS NOT SHOWN

NOTES

1. BRIDGE SEAT ELEVATIONS HAVE BEEN ADJUSTED UPWARD 1/8" AT THE FORWARD ABUTMENT TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.
2. BACKWALL ELEVATIONS GIVEN AT FRONT FACE OF BACKWALL.
3. PRESERVE EX VERTICAL REINFORCING UNLESS NOTED OTHERWISE.

REFERENCES: FORWARD ABUT

SUBMITTAL: FINAL TRACINGS
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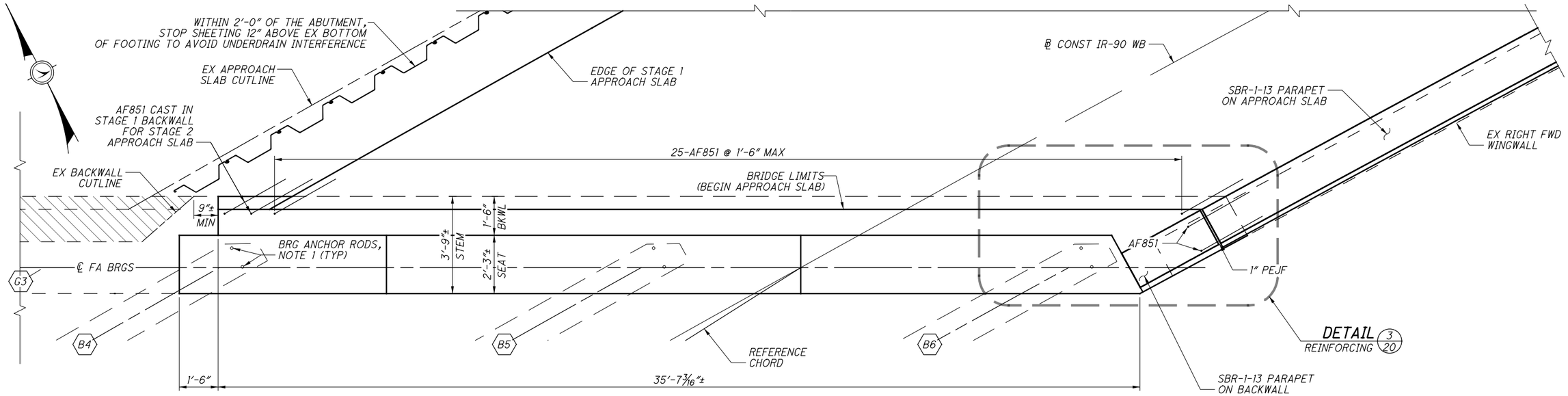
COLUMBUS, OHIO 43231

DESIGNED	DRAWN	REVIEWED	DATE
CTM	CTM	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EFD		4704401	

FORWARD ABUTMENT: PROPOSED FINAL ABUTMENT & SEQUENCING

BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591



FORWARD ABUTMENT PLAN - STAGE 1 CONSTRUCTION

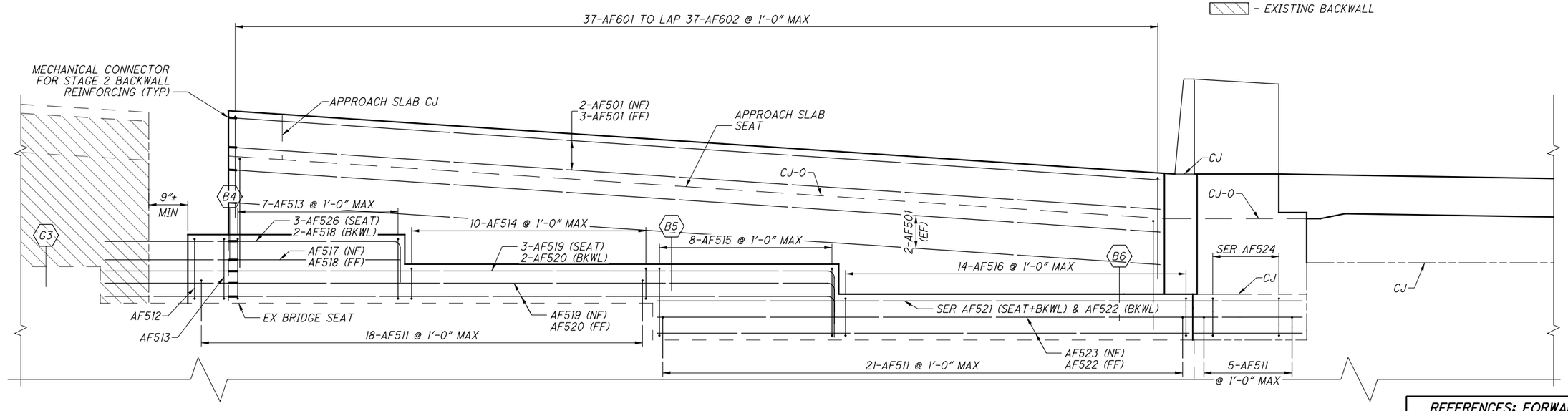
SEE SHEET 17 | 51 FOR ADDITIONAL ABUTMENT DIMENSIONS

NOTES

1. ANCHOR ROD LOCATIONS VARY DUE TO BEAM END SKEW. FOR ANCHOR ROD PLACEMENT DETAILS, SEE SHEET 30 | 51. ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE-SETTING OF BEARING ANCHORS.
2. BARS DESIGNATED (SEAT) ARE TO BE EVENLY SPACED ACROSS THE WIDTH OF THE BEAM SEAT. BARS DESIGNATED (BKWL) ARE TO BE EVENLY SPACED ACROSS THE BACKWALL WIDTH.

LEGEND

▨ - EXISTING BACKWALL



FORWARD ABUTMENT ELEVATION - STAGE 1 CONSTRUCTION

APPROACH SLAB PARAPETS NOT SHOWN
SEE SHEET 17 | 51 FOR ABUTMENT ELEVATIONS

REFERENCES: FORWARD ABUT

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE SUITE 230
COLUMBUS, OHIO 43231

DESIGNED CTM | DRAWN CTM | REVIEWED MTO | DATE 1/2017
CHECKED EFD | REVISED | STRUCTURE FILE NUMBER 4704401

FORWARD ABUTMENT: STAGE 1 CONSTRUCTION

BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

SUBMITTAL: FINAL TRACINGS
PID: 84591
PLOT DRIVER: ODOTV8iSS3_PDF.pltcfg
PENTABLE: 84591_ODOTV8iSS3_Pen.tbl
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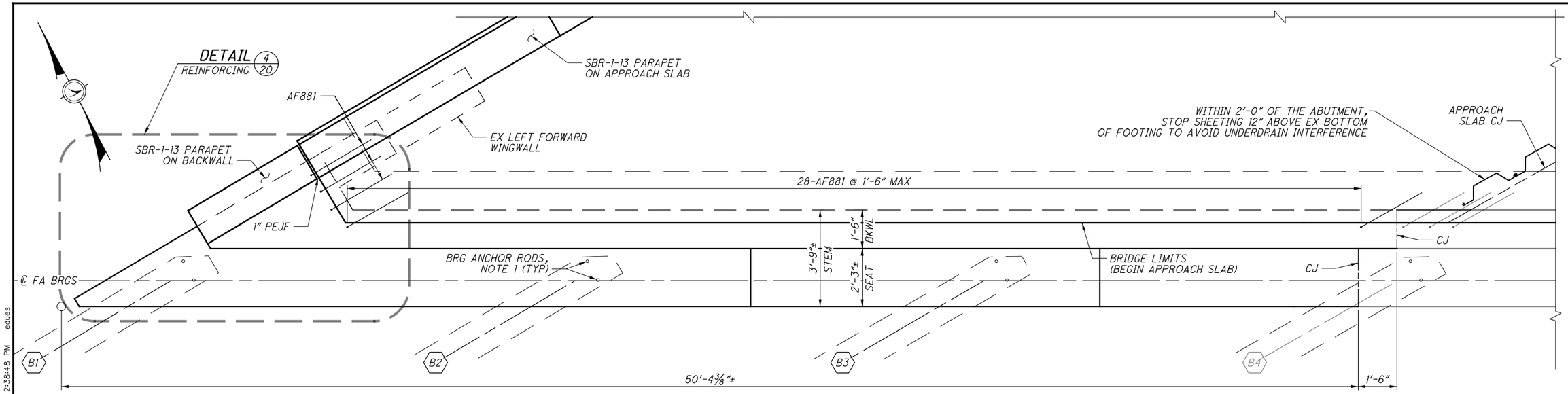
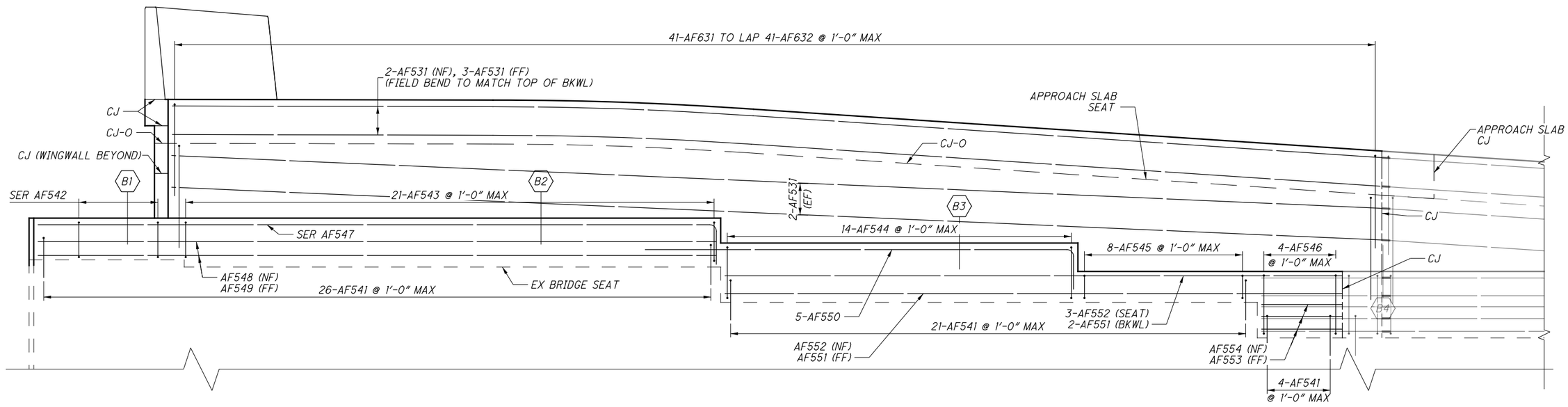


FORWARD ABUTMENT PLAN - STAGE 2 CONSTRUCTION

SEE SHEET 17 | 51 FOR ADDITIONAL ABUTMENT DIMENSIONS



FORWARD ABUTMENT ELEVATION - STAGE 2 CONSTRUCTION

APPROACH SLAB PARAPETS NOT SHOWN
SEE SHEET 17 | 51 FOR ABUTMENT ELEVATIONS

NOTES

1. ANCHOR ROD LOCATIONS VARY DUE TO BEAM END SKEW. FOR ANCHOR ROD PLACEMENT DETAILS, SEE SHEET 30 | 51. ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE-SETTING OF BEARING ANCHORS.

REFERENCES: FORWARD ABUT

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE SUITE 230
COLUMBUS, OHIO 43231

DESIGNED	DRAWN	REVIEWED	DATE
CTM	CTM	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EFD		4704401	

FORWARD ABUTMENT: STAGE 2 CONSTRUCTION

BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

SUBMITTAL: FINAL TRACINGS
PID: 84591
PLOT DRIVER: ODOTV8iSS3_PDF.pltcfg
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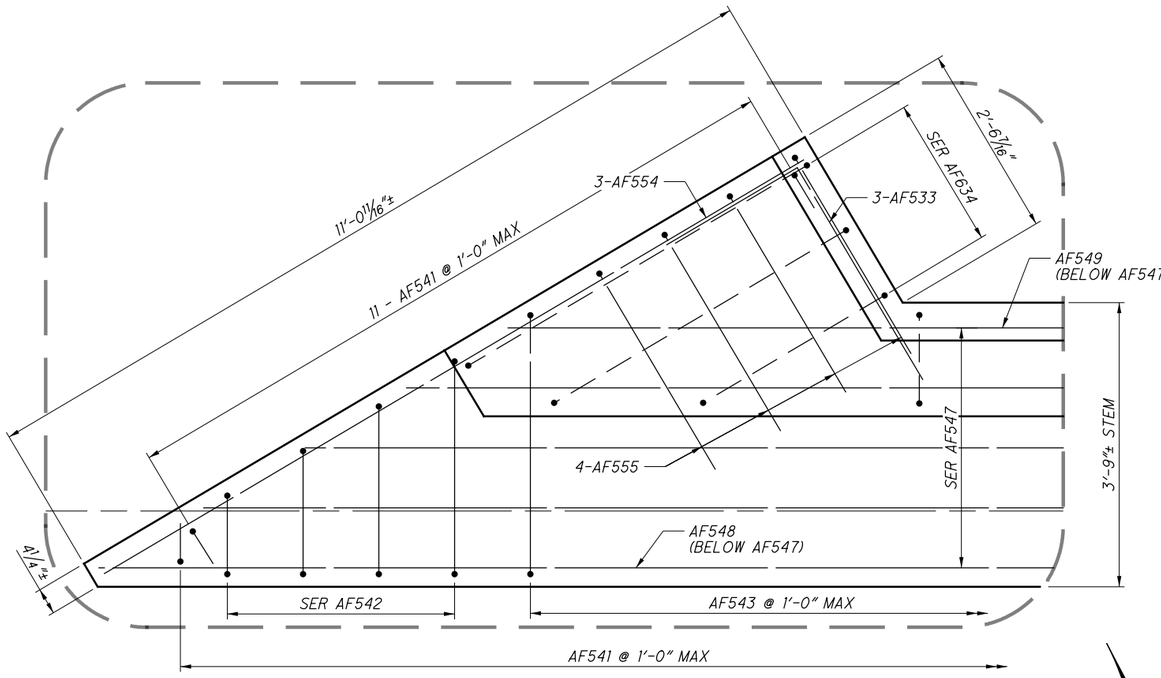
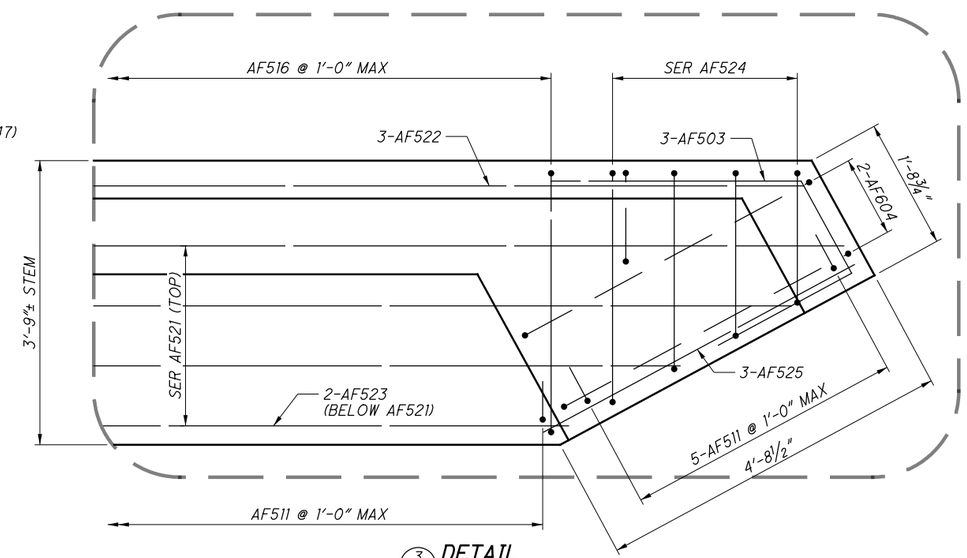
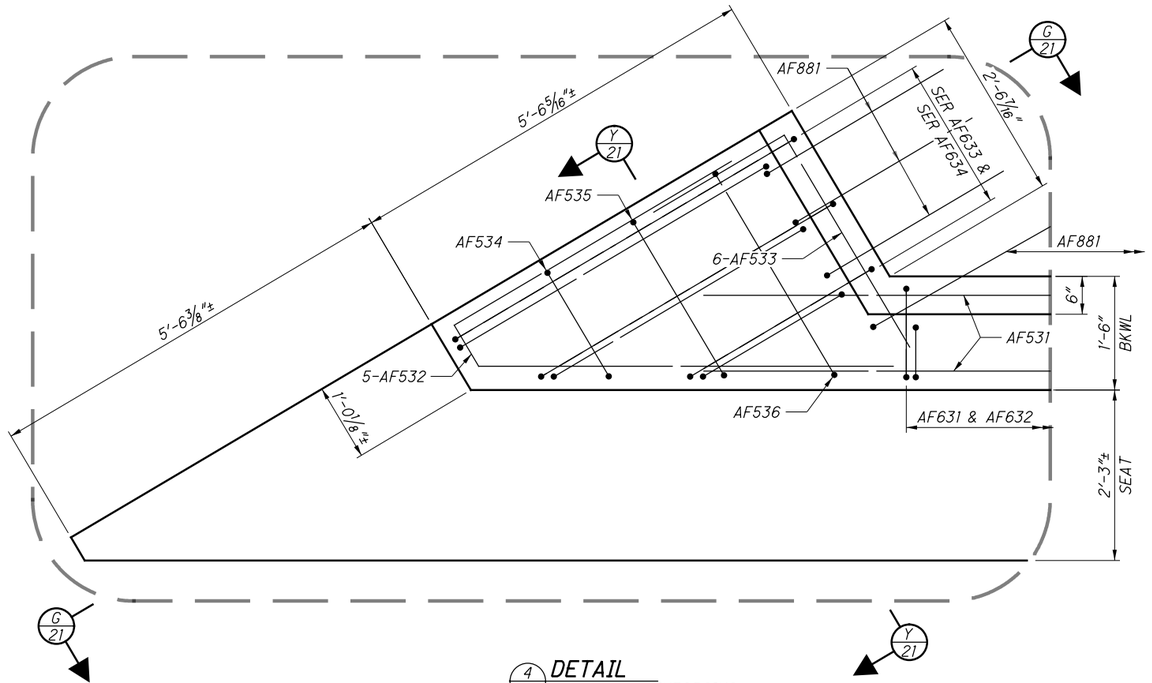


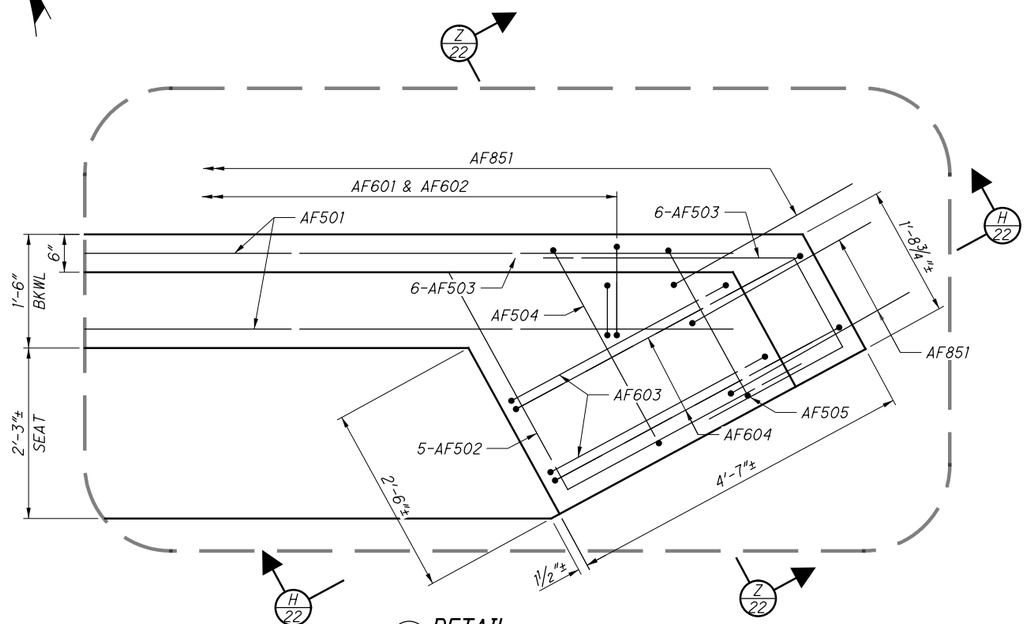
4/19 DETAIL
ABUTMENT STEM REINFORCING



3/18 DETAIL
ABUTMENT STEM REINFORCING



4/19 DETAIL
BACKWALL REINFORCING



3/18 DETAIL
BACKWALL REINFORCING

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE SUITE 230
COLUMBUS, OHIO 43231

DESIGNED	DRAWN	REVIEWED	DATE
CTM	CTM	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EFD		4704401	

FORWARD ABUTMENT: CORNER REINFORCING DETAILS

BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

20 / 51

44
75

SUBMITTAL: FINAL TRACINGS
PID: 84591
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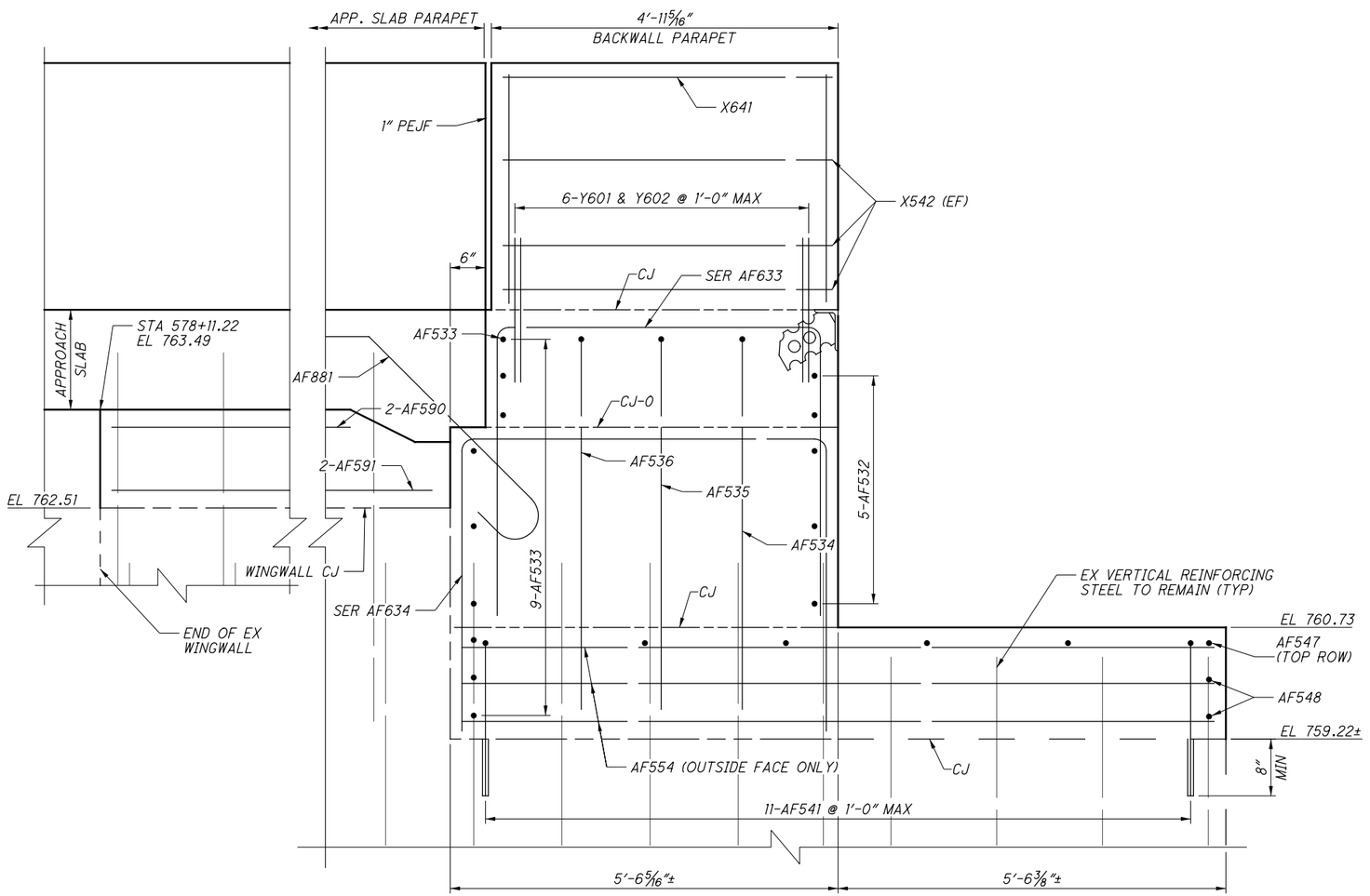
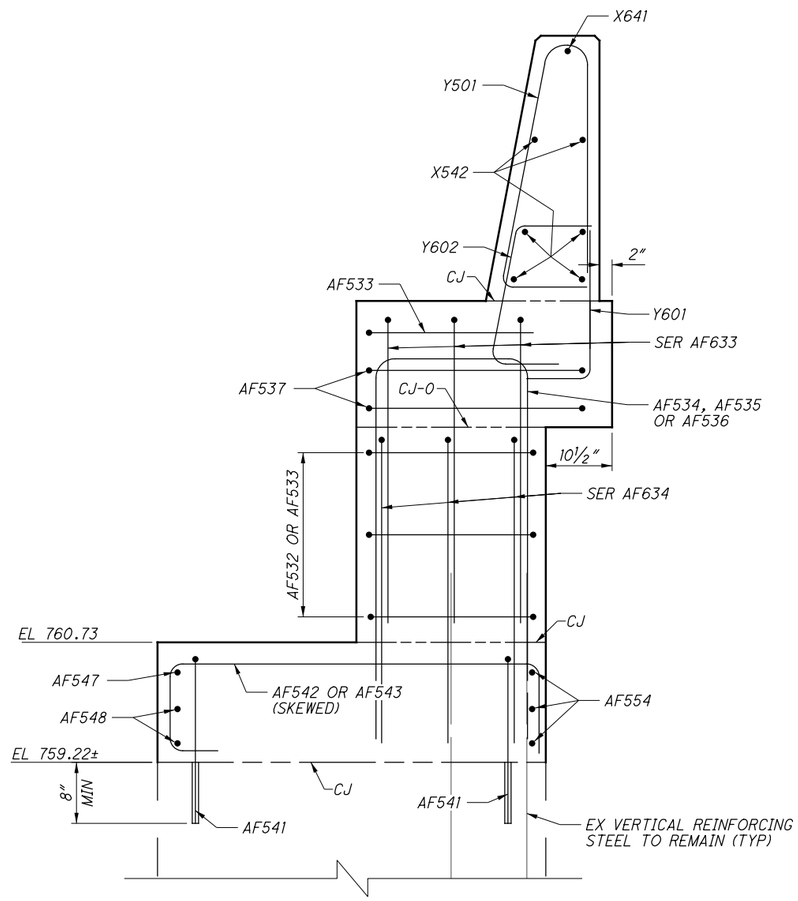


G/20 SECTION
LEFT FORWARD CORNER



Y/20 SECTION
LEFT FORWARD CORNER

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

DESIGNED	DRAWN	REVIEWED	DATE
CTM	CTM	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EFD		4704401	

LEFT FORWARD WINGWALL DETAILS

BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

21 / 51

45 / 75

SUBMITTAL: FINAL TRACINGS
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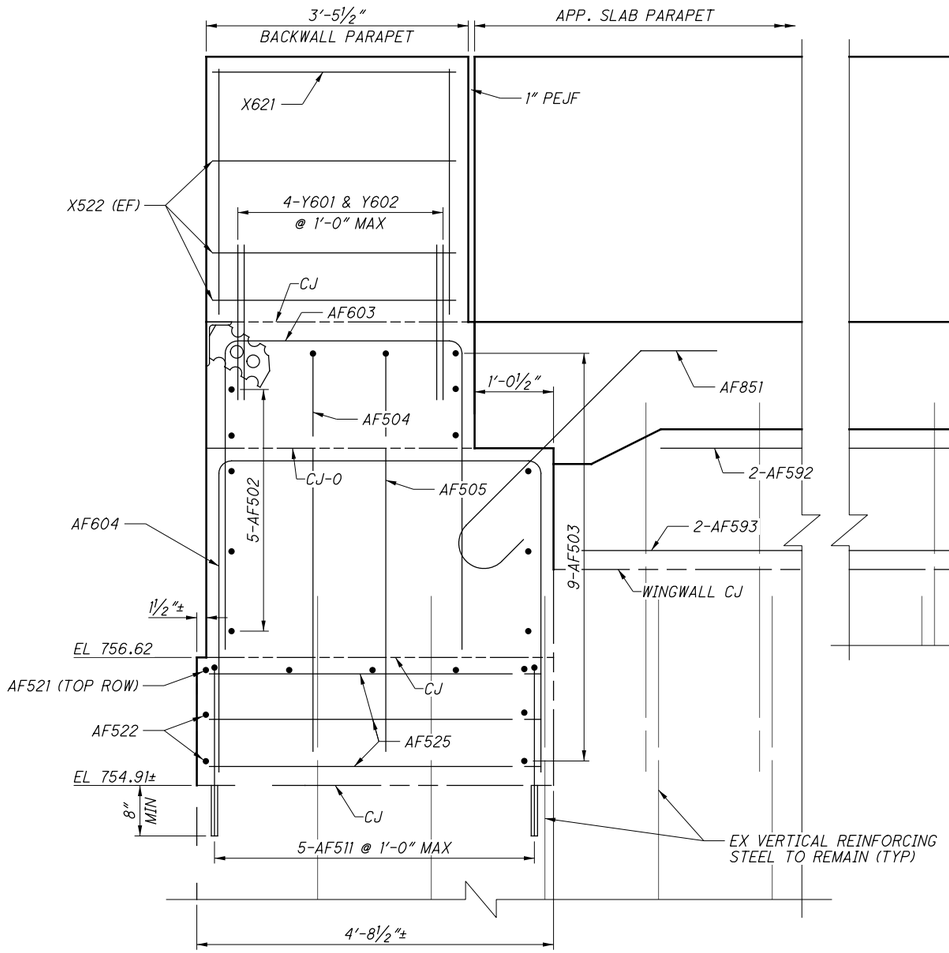
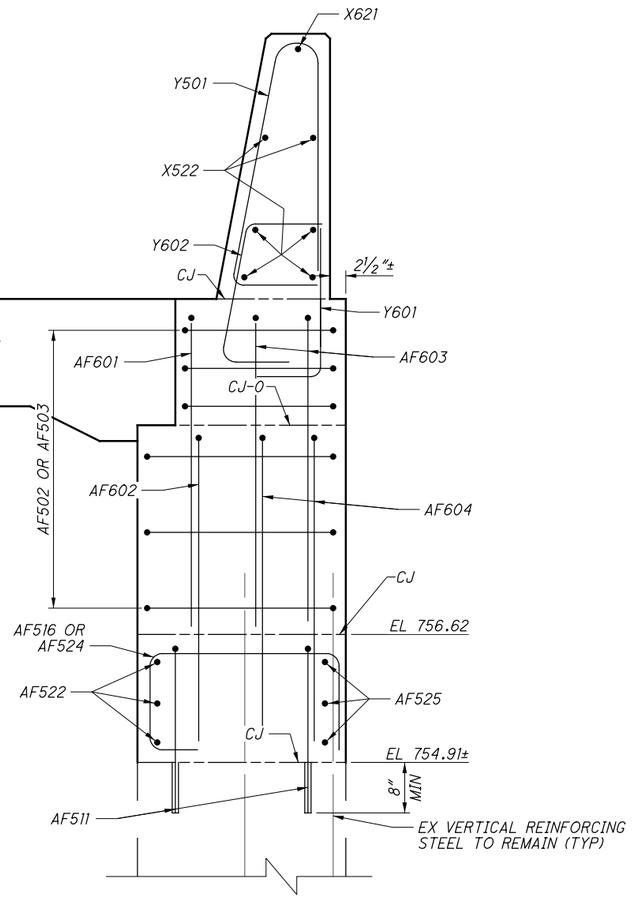


H/20 SECTION
RIGHT FORWARD CORNER



Z/20 SECTION
RIGHT FORWARD CORNER

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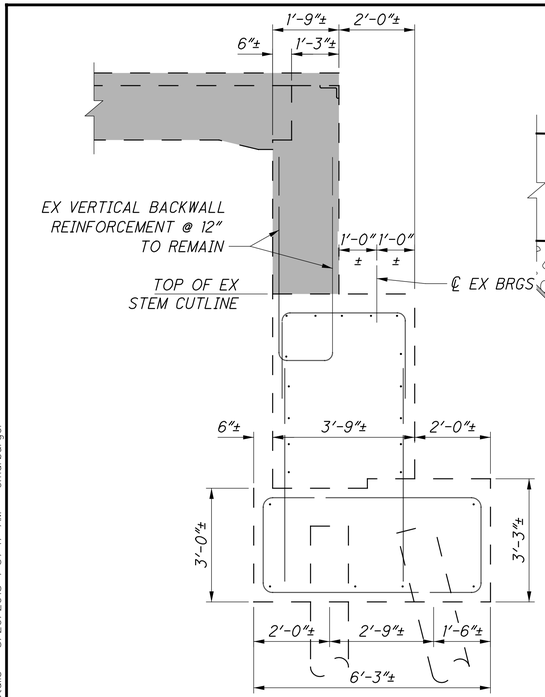
DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE SUITE 230
COLUMBUS, OHIO 43231

DESIGNED	DRAWN	REVIEWED	DATE
CTM	CTM	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EFD		4704401	

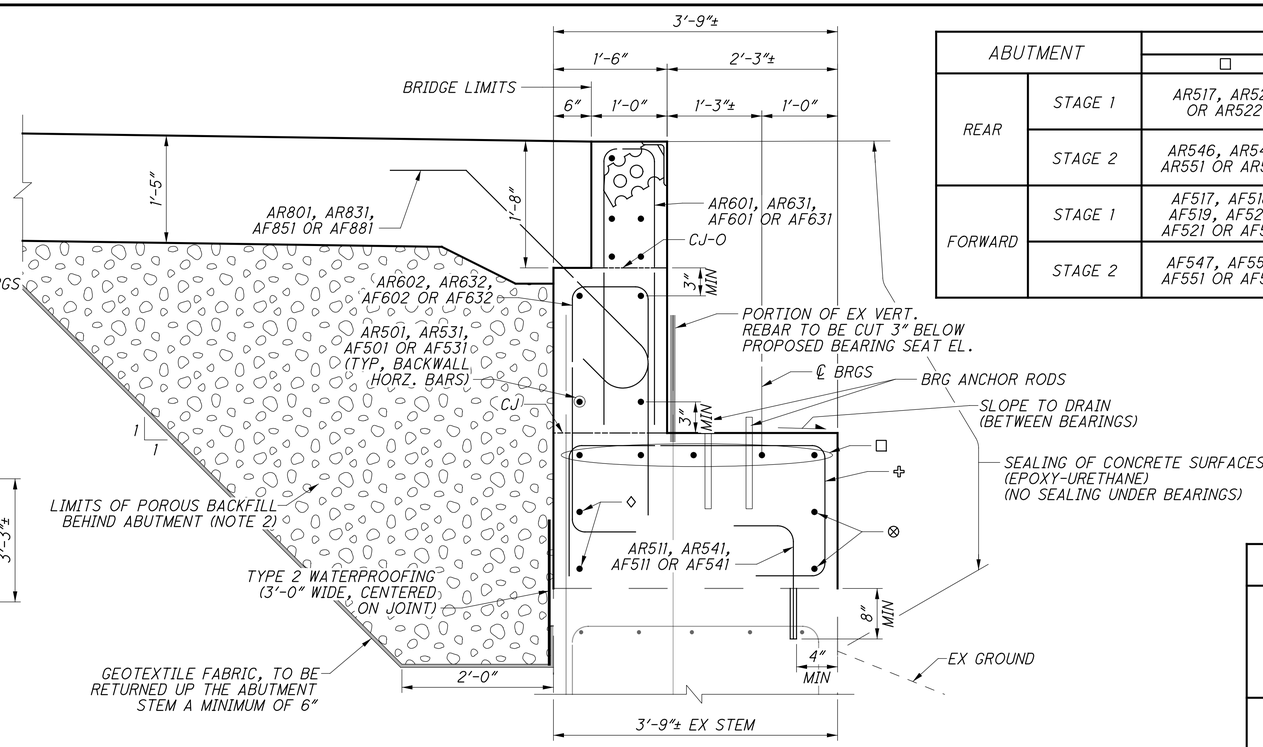
RIGHT FORWARD WINGWALL DETAILS

BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591



A 9 16 SECTION



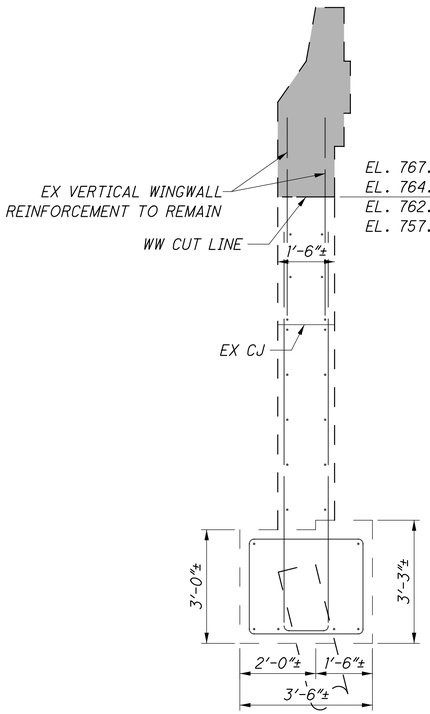
C 10 17 SECTION

ABUTMENT		SYMBOL			
		□	◇	⊗	✣
REAR	STAGE 1	AR517, AR521 OR AR522	AR519 OR AR520	AR518 OR AR520	AR512, AR513, AR514, AR515 OR AR516
	STAGE 2	AR546, AR547 AR551 OR AR552	AR549 OR AR551	AR548 OR AR550	AR542, AR543 AR544, AR545 OR AR553
FORWARD	STAGE 1	AF517, AF518, AF519, AF520, AF521 OR AF522	AF518, AF520 OR AF522	AF517, AF519 OR AF523	AF512, AF513, AF514, AF515 OR AF516
	STAGE 2	AF547, AF550, AF551 OR AF552	AF549, AF551 OR AF553	AF548, AF552 OR AF554	AF542, AF543, AF544, AF545 OR AF546

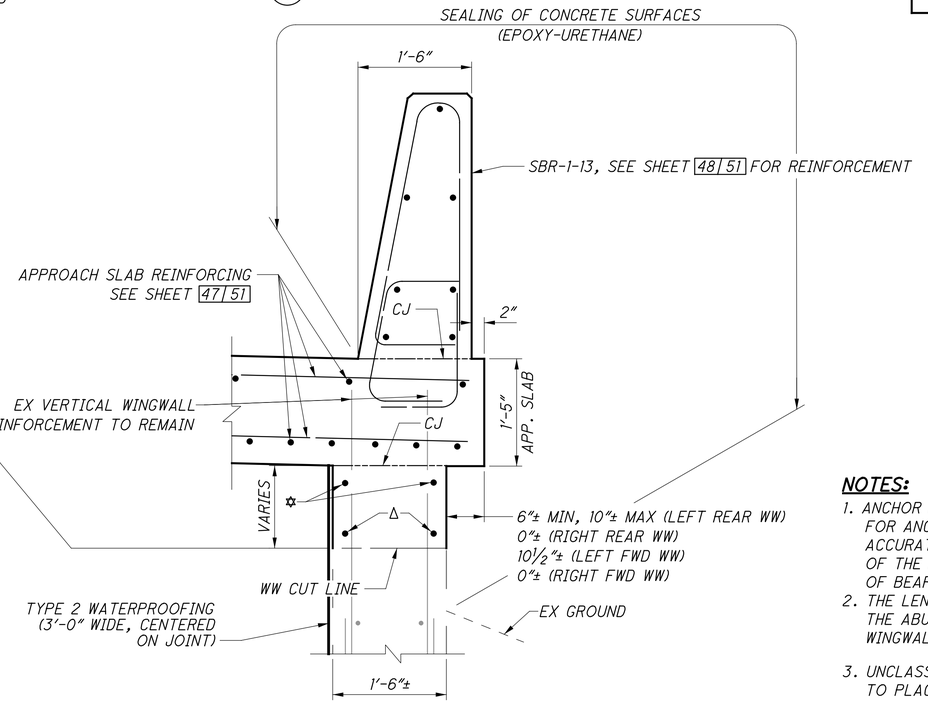
WINGWALL		SYMBOL	
		✡	△
REAR	STAGE 1	AR590	AR591
	STAGE 2	AR592	AR593
FORWARD	STAGE 1	AF592	AF593
	STAGE 2	AF590	AF591

LEGEND

▭ - SUBSTRUCTURE REMOVAL LIMITS



B 9 16 SECTION



D 10 17 SECTION

NOTES:

1. ANCHOR ROD LOCATIONS VARY DUE TO BEAM END SKEW. FOR ANCHOR ROD PLACEMENT DETAILS, SEE SHEET 30 51. ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE-SETTING OF BEARING ANCHORS.
2. THE LENGTH OF THE PROPOSED POROUS BACKFILL IS THE LENGTH OF THE ABUTMENT, FROM INSIDE FACE OF WINGWALL TO INSIDE FACE OF WINGWALL.
3. UNCLASSIFIED EXCAVATION INCLUDES THE EXCAVATION VOLUME REQUIRED TO PLACE THE POROUS BACKFILL BEHIND THE ABUTMENTS.

SUBMITTAL: FINAL TRACINGS PLOT DRIVER: ODOTV8iSS3_PDF.pltcfg
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PENTABLE: 84591_ODOTV8i_Pen.tbl
pw:\\gfpwing02.corporate.gannettfleming.com:GFPW02\Documents\Projects\60844\84591\structures\LOR090_1178S\sheets\40 _Abutment Typical Details 8/20/2018 7:37:17 AM cmarburger

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

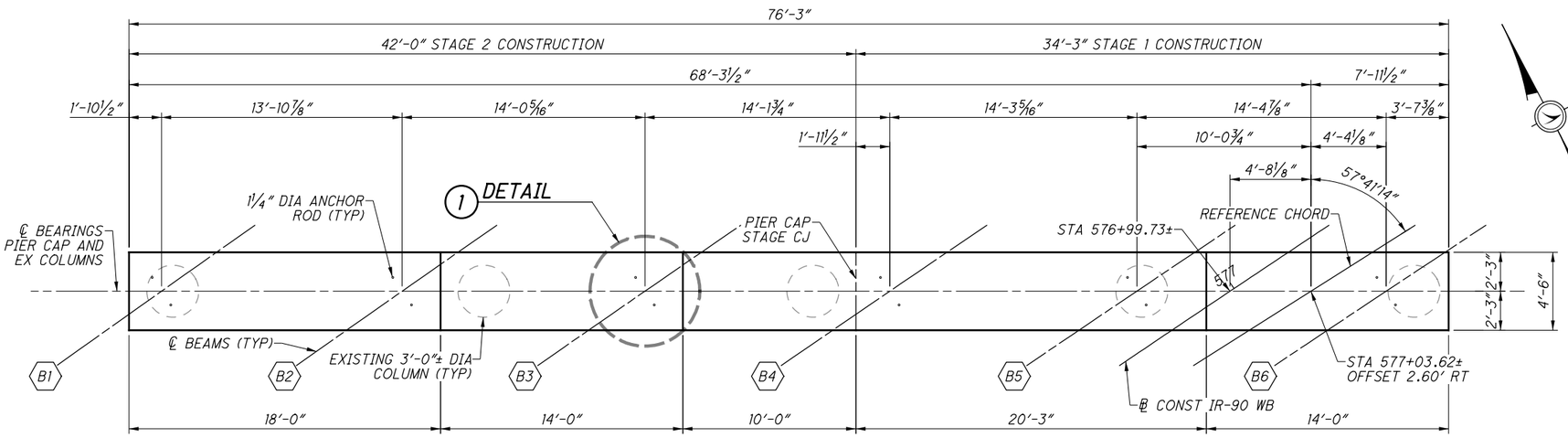
DESIGNED CTM | DRAWN CTM | CHECKED EFD | REVIEWED MTO | DATE 1/2017 | REVISED 8/2018

STRUCTURE FILE NUMBER 4704401

ABUTMENT TYPICAL DETAILS

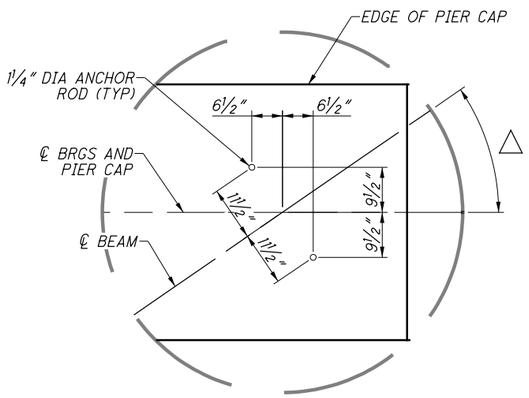
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591



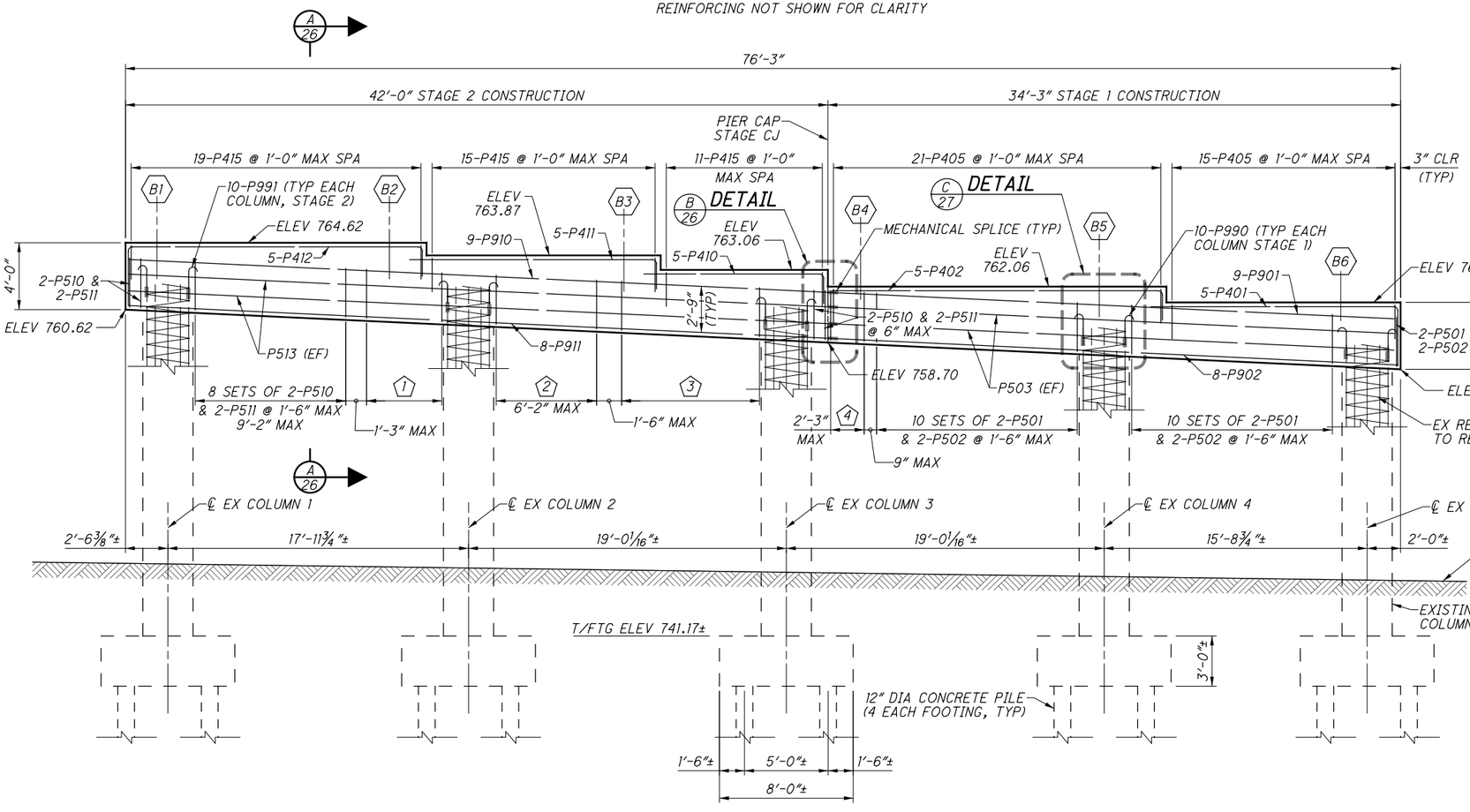
PIER 1 PLAN

REINFORCING NOT SHOWN FOR CLARITY



1 DETAIL
ANCHOR ROD LAYOUT
(TYP ALL BEAMS)

FOR △ ANGLES, SEE SHEET 34 51



PIER 1 ELEVATION

LOOKING UPSTATION

1 = 7 SETS OF 2-P510 & 2-P511 @ 9" MAX
2 = 6 SETS OF 2-P510 & 2-P511 @ 1'-6" MAX
3 = 12 SETS OF 2-P510 & 2-P511 @ 9" MAX
4 = 5 SETS OF 2-P501 & 2-P502 @ 6" MAX

NOTES:

1. SPACE #5 STIRRUPS 2" MIN TO 4" MAX CLEAR FROM EXISTING COLUMN REINFORCING.
2. STAGE 1 PIER CAP OVERHANG TEMPORARY SUPPORT NOT SHOWN FOR CLARITY. FOR TEMPORARY SUPPORT DETAILS, SEE SHEET 28 51.
3. BRIDGE SEAT REINFORCING, SETTING ANCHORS: ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE-SETTING OF BEARING ANCHORS.
4. BRIDGE SEAT ELEVATIONS HAVE BEEN ADJUSTED UPWARD ⅛" AT PIER 1 TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.
5. COLUMN SPACING BASED ON EXISTING PLANS. ACTUAL DIMENSIONS MAY VARY SLIGHTLY IN THE FIELD.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

DESIGNED	DRAWN	REVIEWED	DATE
VDT	VDT	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CTM		4704401	

PIER 1 PLAN AND ELEVATION
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

24 / 51

48 / 75

SUBMITTAL: FINAL TRACINGS
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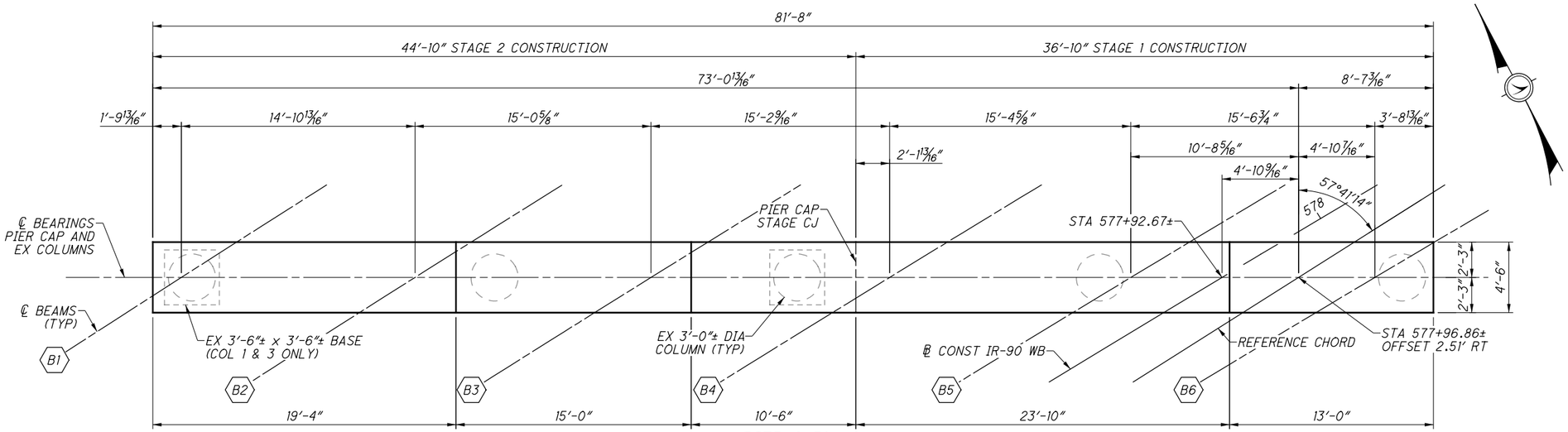
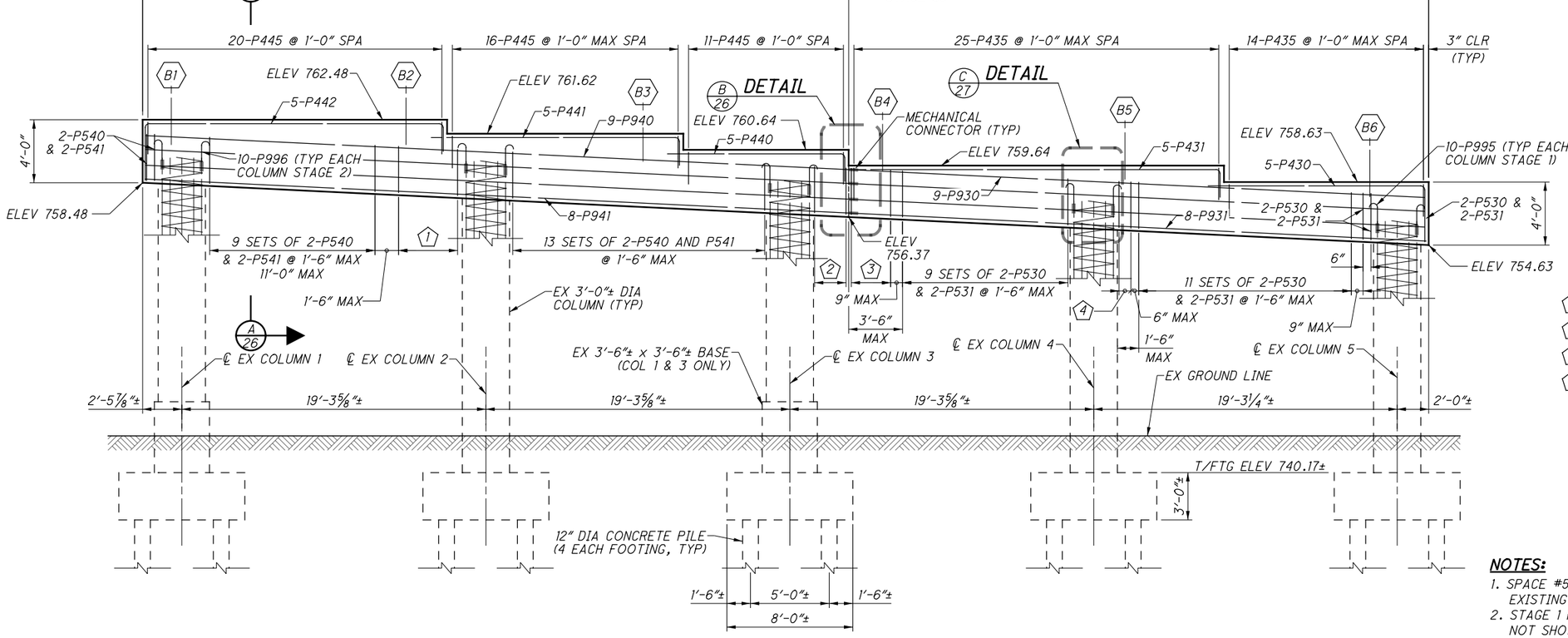


PIER 2 PLAN

REINFORCING NOT SHOWN FOR CLARITY



PIER 2 ELEVATION

LOOKING UPSTATION

1 = 6 SETS OF 2-P540 & 2-P541 @ 9" MAX

2 = 5 SETS OF 2-P540 & 2-P541 @ 6" MAX

3 = 6 SETS OF 2-P530 & 2-P531 @ 6" MAX

4 = 4 SETS OF 2-P530 & 2-P531 @ 4" MAX

NOTES:

1. SPACE #5 STIRRUPS 2" MIN TO 4" MAX CLEAR FROM EXISTING COLUMN REINFORCING.
2. STAGE 1 PIER CAP OVERHANG TEMPORARY SUPPORT NOT SHOWN FOR CLARITY. FOR TEMPORARY SUPPORT DETAILS, SEE SHEET 28/51.
3. BRIDGE SEAT ELEVATIONS HAVE BEEN ADJUSTED UPWARD 3/16" AT PIER 2 TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.
4. COLUMN SPACING BASED ON EXISTING PLANS. ACTUAL DIMENSIONS MAY VARY SLIGHTLY IN THE FIELD.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE SUITE 230
COLUMBUS, OHIO 43231

DESIGNED	DRAWN	REVIEWED	DATE
VDT	VDT	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CTM		4704401	

PIER 2 PLAN AND ELEVATION
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

25 / 51

49 / 75

SUBMITTAL: FINAL TRACINGS
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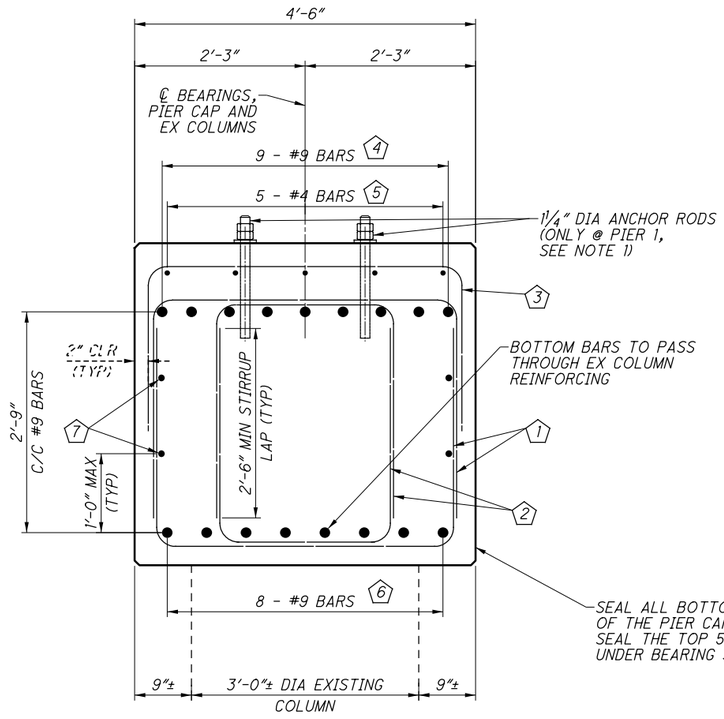
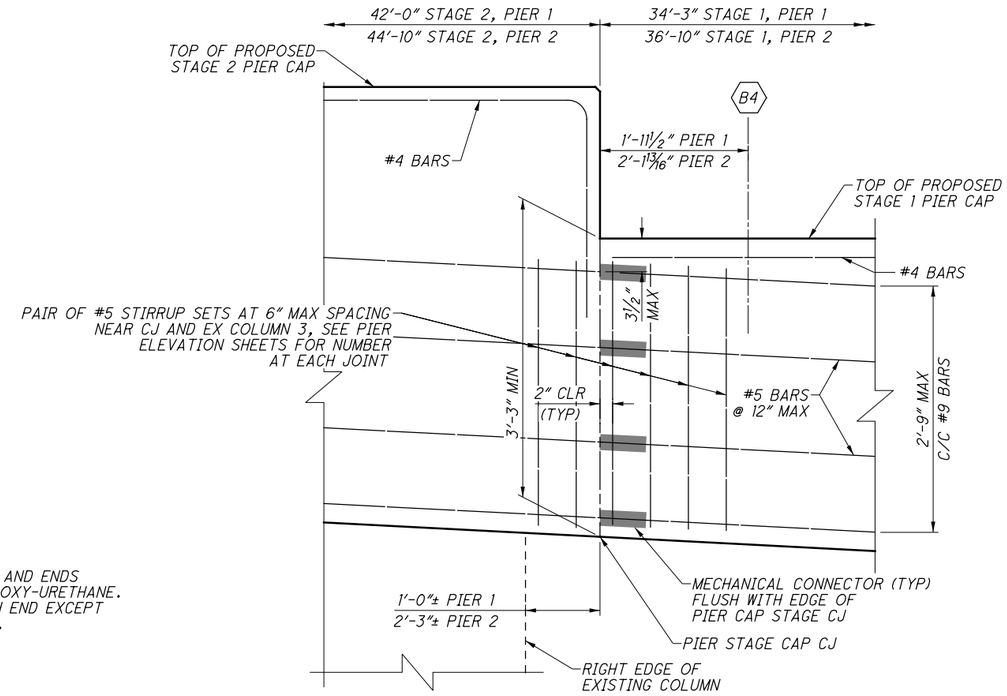


A / 24 & 25 **SECTION** TYP PIER CAP



B / 24 & 25 **DETAIL** PIER CAP STAGE CJ (DIMENSIONS ARE ALONG ℄ PIER CAP)

PIER REINFORCING

	PIER 1		PIER 2	
	STAGE 1	STAGE 2	STAGE 1	STAGE 2
1	P501	P510	P530	P540
2	P502	P511	P531	P541
3	P405	P415	P435	P445
4	P901	P910	P930	P940
5	P401 OR P402	P410, P411 OR P412	P430 OR P431	P440, P441 OR P442
6	P902	P911	P931	P941
7	P503	P513	P533	P543

NOTES:

1. PIER 1: BRIDGE SEAT REINFORCING, SETTING ANCHORS: ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE-SETTING OF BEARING ANCHORS.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

DESIGNED	DRAWN	REVIEWED	DATE
VDT	VDT	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CTM		4704401	

PIER CAP DETAILS
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

26 / 51

50 / 75

SUBMITTAL: FINAL TRACINGS
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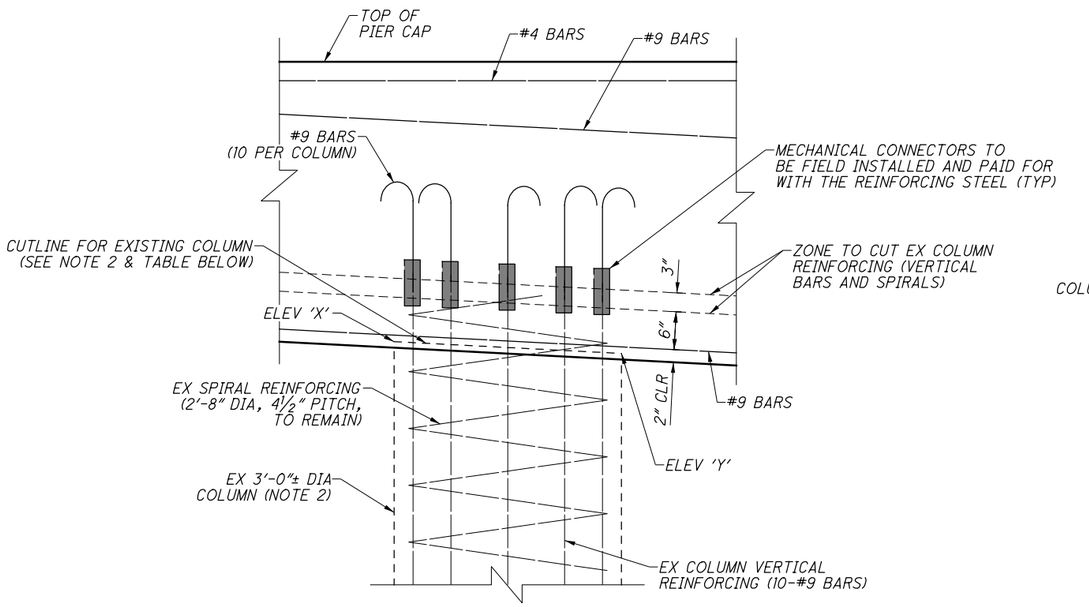

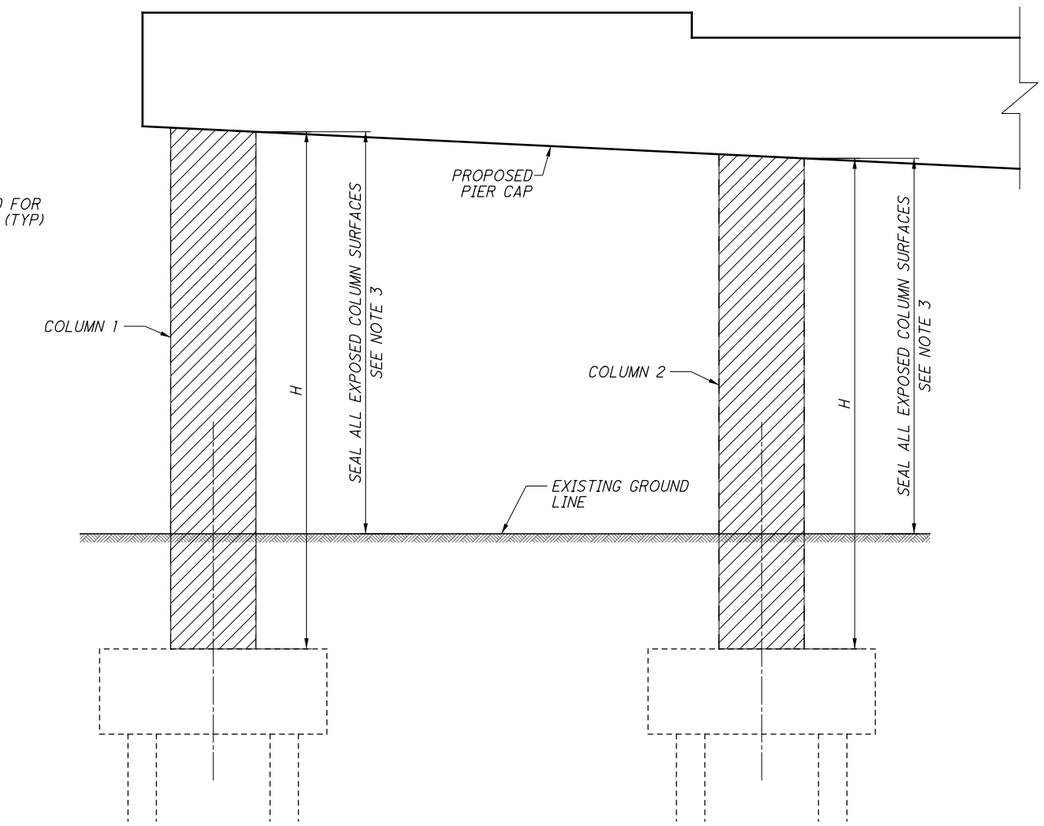

C/24 DETAIL
COLUMN-PIER CAP

LEGEND:

▨ - FIBER WRAP LIMITS

PIER COLUMN FIBER WRAP AND SEALING LIMITS

EX COLUMN CUT ELEVATION

	PIER 1					PIER 2				
	COL 1	COL 2	COL 3	COL 4	COL 5	COL 1	COL 2	COL 3	COL 4	COL 5
ELEV 'X'	760.73	759.89	759.00	758.10	757.37	758.60	757.66	756.73	755.79	754.86
ELEV 'Y'	760.59	759.75	758.85	757.96	757.23	758.45	757.52	756.58	755.65	754.72

ALL ELEVATIONS ARE CONSIDERED ±½"

FIBER WRAP LIMITS OF COLUMN CONFINEMENT

	PIER 1					PIER 2				
	COL 1	COL 2	COL 3	COL 4	COL 5	COL 1	COL 2	COL 3	COL 4	COL 5
'H'	FULL HEIGHT (19'-5"±)	FULL HEIGHT (18'-7"±)	FULL HEIGHT (17'-8"±)	FULL HEIGHT (16'-9"±)	FULL HEIGHT (16'-0"±)	**FULL HEIGHT (13'-9"±)	*FULL HEIGHT (15'-0"±)	**FULL HEIGHT (11'-11"±)	*FULL HEIGHT (13'-2"±)	*FULL HEIGHT (12'-3"±)

* FULL HEIGHT OF EXPOSED COLUMN ABOVE GRADE ONLY
** FULL HEIGHT OF EXPOSED COLUMN ABOVE SQUARE BASE ONLY

NOTES:

1. COLUMN FIBER WRAP MUST ACHIEVE A CONFINING STRESS OF 0.150 KSI FOR THE ENTIRE HEIGHT. CONTRACTOR TO DETERMINE THE WRAPPING REQUIREMENTS (NUMBER OF LAYERS, METHOD OF APPLICATION, ETC.) PER THE MANUFACTURER'S GUIDELINES. REFER TO PAY ITEM 530: SPECIAL - STRUCTURE, MISC.: FIBER WRAP, SHEET 4 | 51, FOR MORE DETAILS.

2. WHEN REMOVING THE TOP OF THE EX COLUMN CONCRETE DOWN TO THE ELEVATIONS SPECIFIED IN THE TABLE (THIS SHEET), ENSURE THAT NO DAMAGE IS DONE TO THE EXISTING STEEL TO REMAIN.

3. SEAL ALL COLUMNS FROM BOTTOM OF CAP TO FINAL GRADE ELEVATION. SEALANT APPLIED TO CONCRETE SURFACES SHALL BE EPOXY-URETHANE. SEALANT APPLIED TO FIBER WRAPPED SURFACES SHALL BE IN COMPLIANCE WITH FIBER WRAP MANUFACTURER REQUIREMENTS FOR PROTECTION AGAINST UV AND SALT SPRAY. IF A SEALER OTHER THAN THE TYPICAL PROJECT EPOXY-URETHANE SEALER IS USED ON FIBER WRAPPED SURFACES, SELECT COLOR OF FIBER WRAP SEALER TO MATCH COLOR OF CONCRETE SURFACE SEALER. THE COST TO SEAL THE COLUMNS SHALL BE INCLUDED IN THE COST OF ITEM 512: SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) INCLUDING ANY SPECIALTY FIBER WRAP SEALANTS THAT MAY BE REQUIRED.

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DESIGN AGENCY
Gannett Fleming
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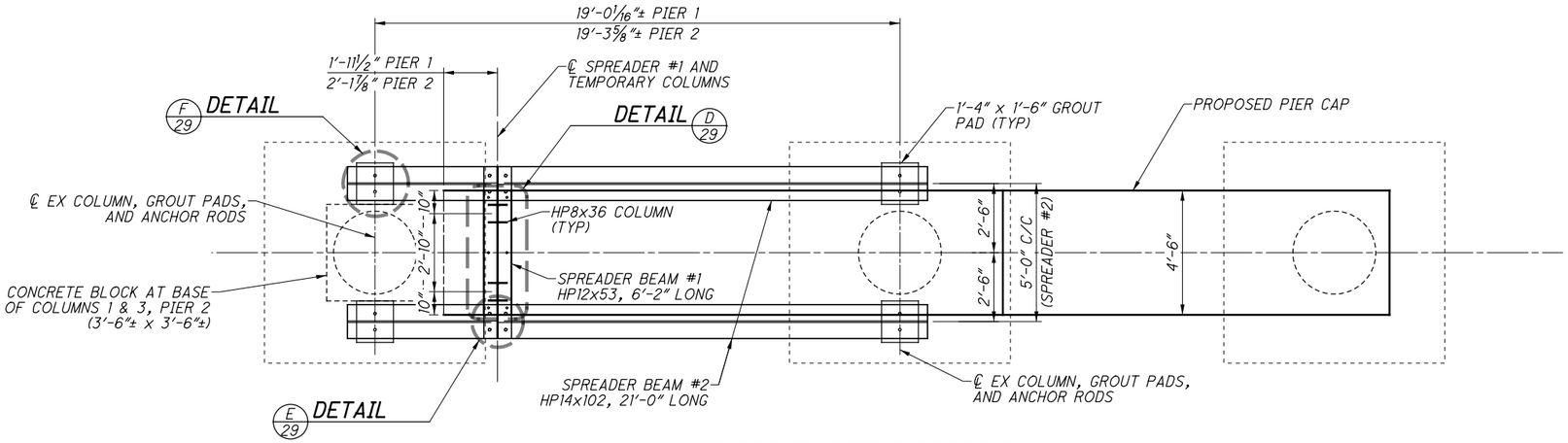
2500 CORPORATE EXCHANGE DRIVE SUITE 230
COLUMBUS, OHIO 43231

DESIGNED VDT | DRAWN VDT | REVIEWED MTO | DATE 1/2017
CHECKED CTM | REVISED | STRUCTURE FILE NUMBER 4704401

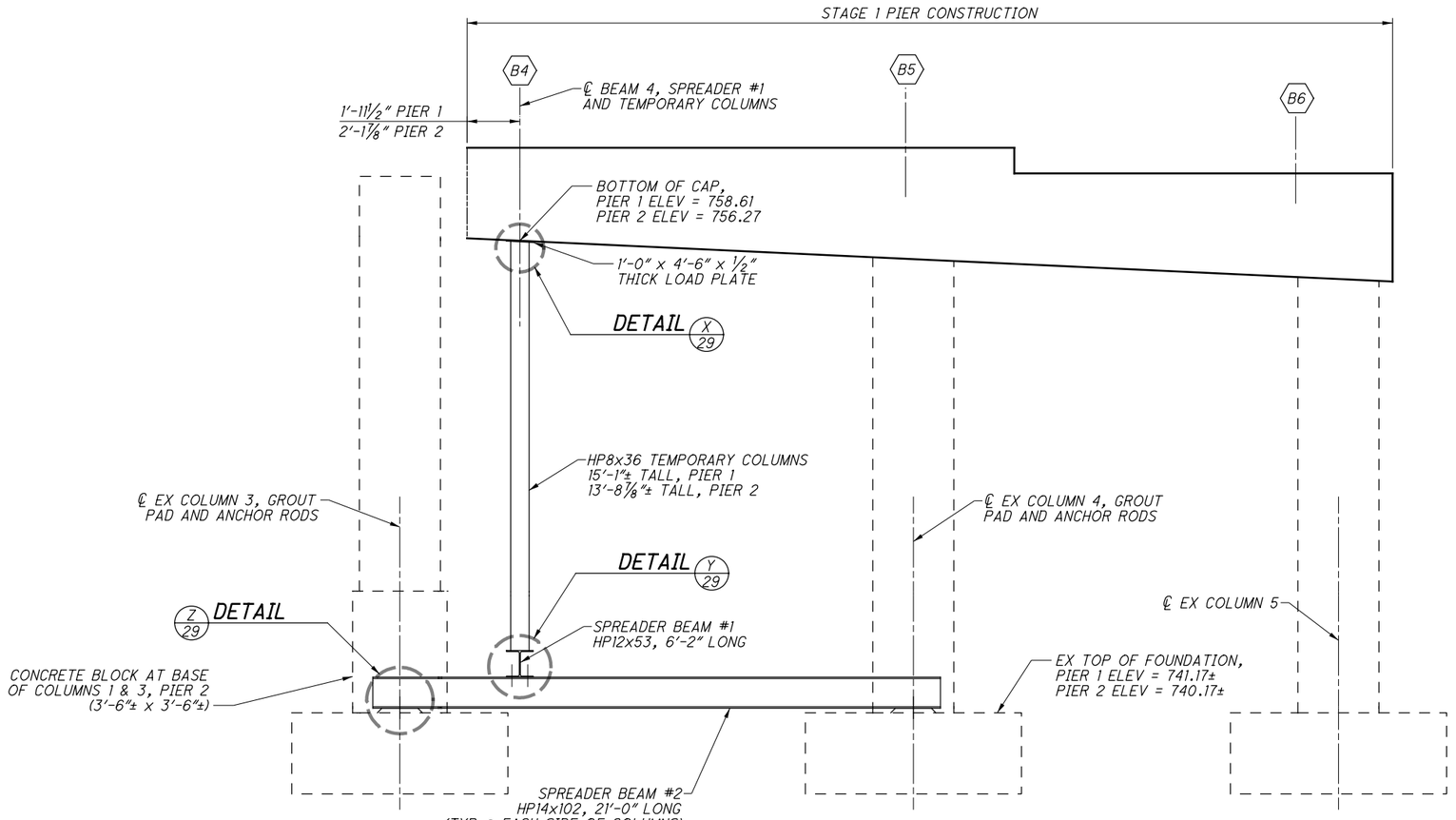
PIER COLUMN DETAILS
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591



TEMPORARY PIER SUPPORT PLAN

PIER 1 SHOWN, PIER 2 SIMILAR



TEMPORARY PIER SUPPORT ELEVATION

PIER 1 SHOWN, PIER 2 SIMILAR

NOTES:

1. THE SUPPORT COLUMNS ARE INTENDED TO BE CENTERED UNDER BEAM 4. ℄ OF THE COLUMNS MUST BE WITHIN ±3" OF ℄ BEAM 4 ALONG THE ℄ OF THE PIER.

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DESIGN AGENCY
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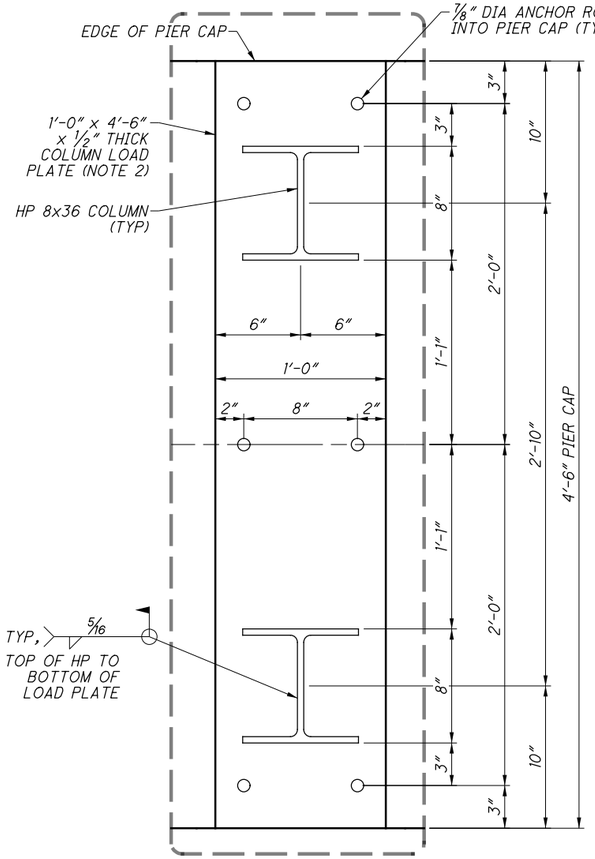
COLUMBUS, OHIO 43231

DESIGNED	DRAWN	REVIEWED	DATE
VDT	VDT	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CTM		4704401	

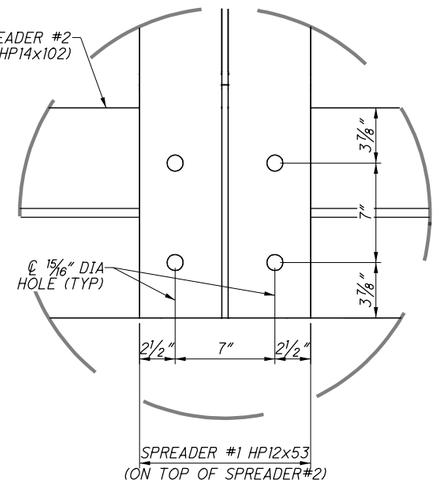
PIER CAP TEMPORARY SUPPORT: PLAN AND ELEVATION

BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

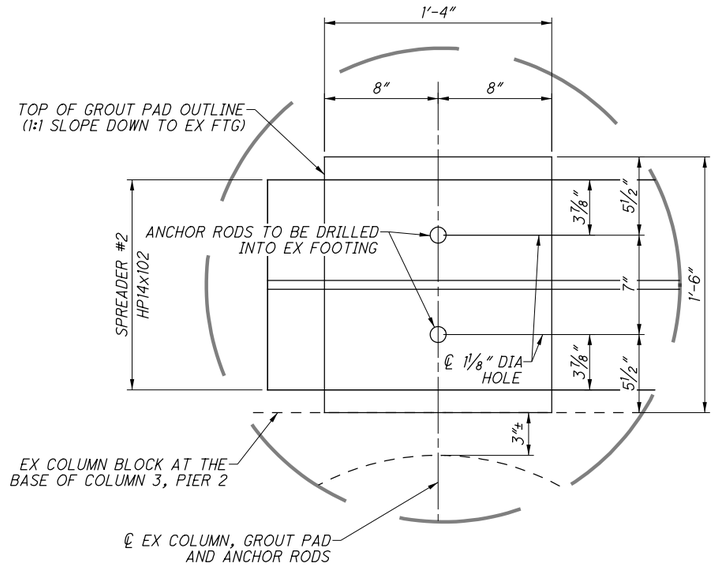
LOR-90-11.78
PID No. 84591



D 28 **PLAN**
COLUMN-CAP LOAD PLATE



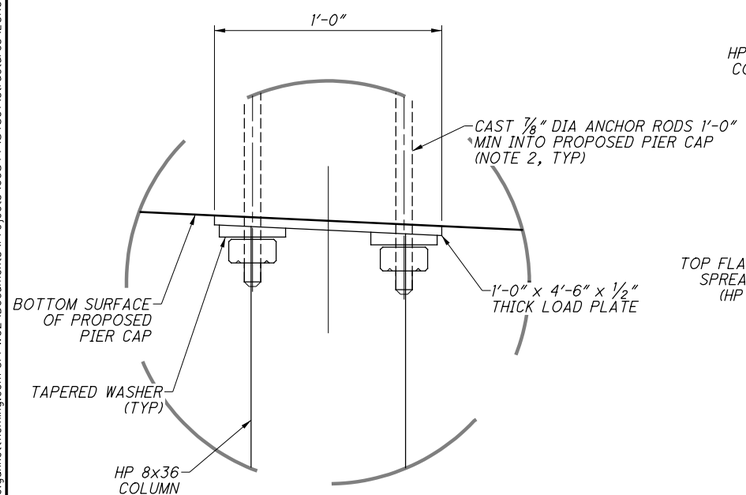
E 28 **PLAN**
SPREADER#1-SPREADER#2 CONNECTION



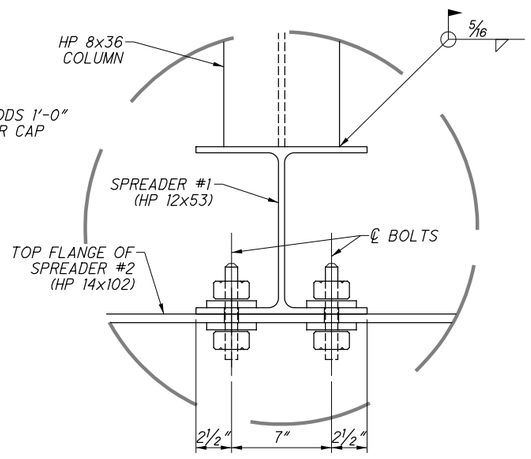
F 28 **PLAN**
SPREADER#2-FTG CONNECTION

NOTES:

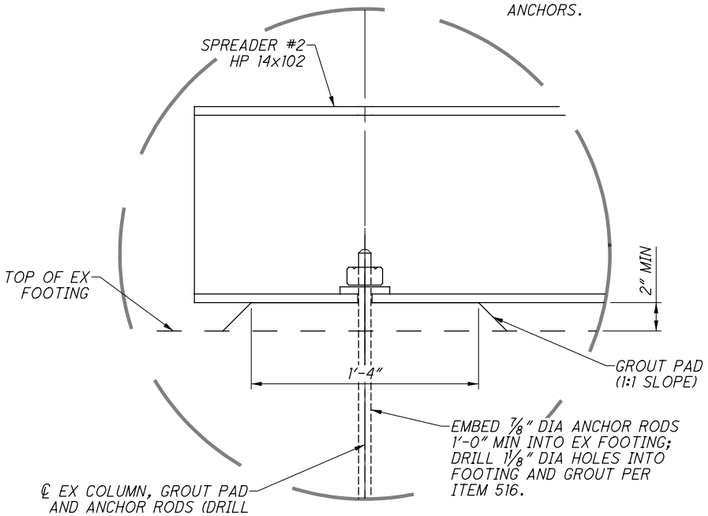
1. ALL ANCHOR RODS ARE ⅞" DIA, ASTM F1554, GRADE 55. ALL OTHER BOLTS ARE TO BE ⅞" DIA, ASTM 325. ALL RELATED HOLES TO BE 15/16" UNLESS NOTED OTHERWISE.
2. UPON COMPLETION OF STAGE 2 PIER CAP, THE COLUMN LOAD PLATE SHALL BE REMOVED AND THE BOLTS SHALL BE CUT FLUSH WITH THE BOTTOM OF THE CAP AND COATED WITH GALVANIZED PAINT.
3. PIER CAP REINFORCING, SETTING ANCHORS: ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE TEMPORARY SUPPORT TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR HOLES OR THE PRE-SETTING OF ANCHORS.



X 28 **ELEVATION**
COLUMN-CAP LOAD PLATE



Y 28 **ELEVATION**
SPREADER#1-SPREADER#2 CONNECTION



Z 28 **ELEVATION**
SPREADER#2-FTG CONNECTION

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CHECKED CTM | REVISED | STRUCTURE FILE NUMBER 4704401

PIER CAP TEMPORARY SUPPORT: DETAILS

BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

SUBMITTAL: FINAL TRACINGS
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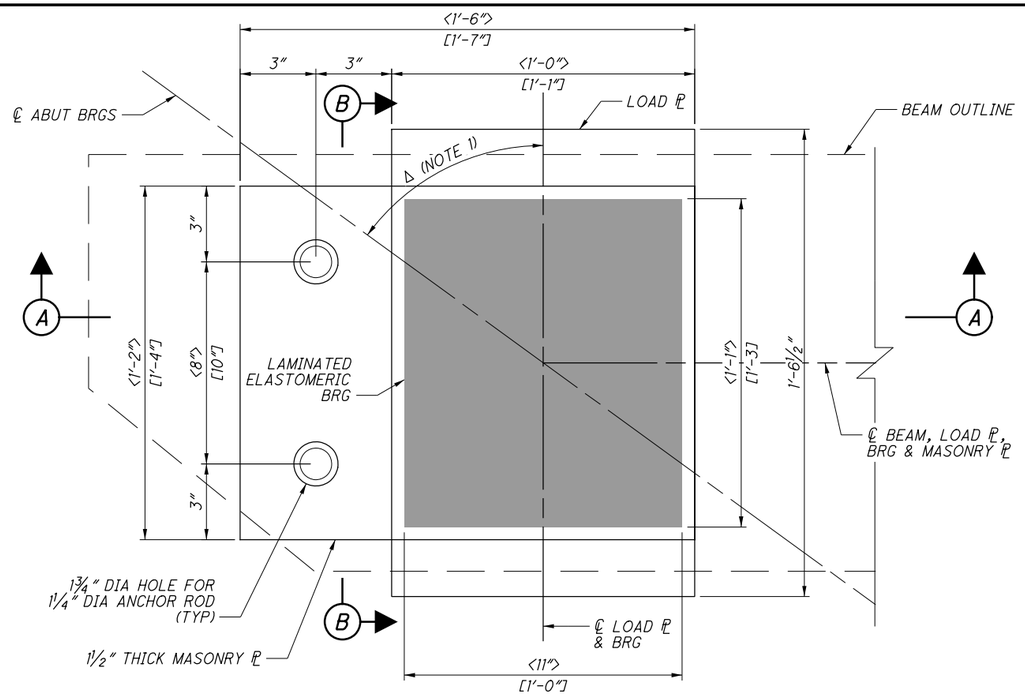
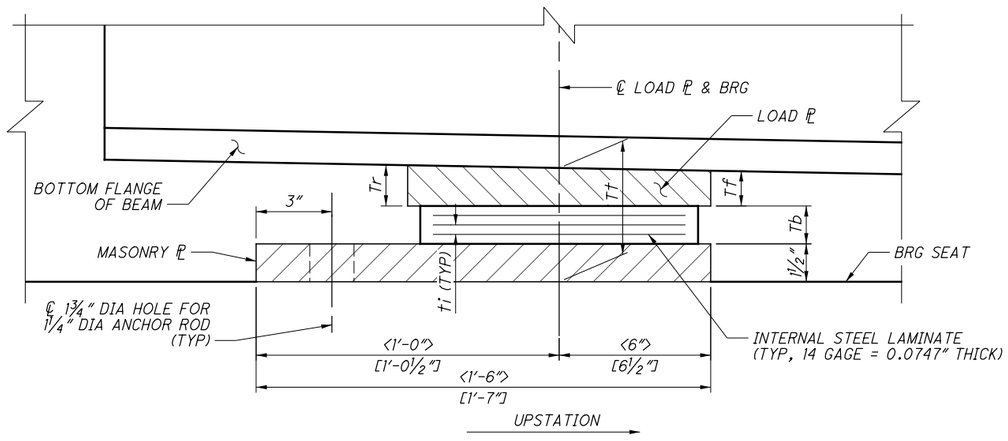


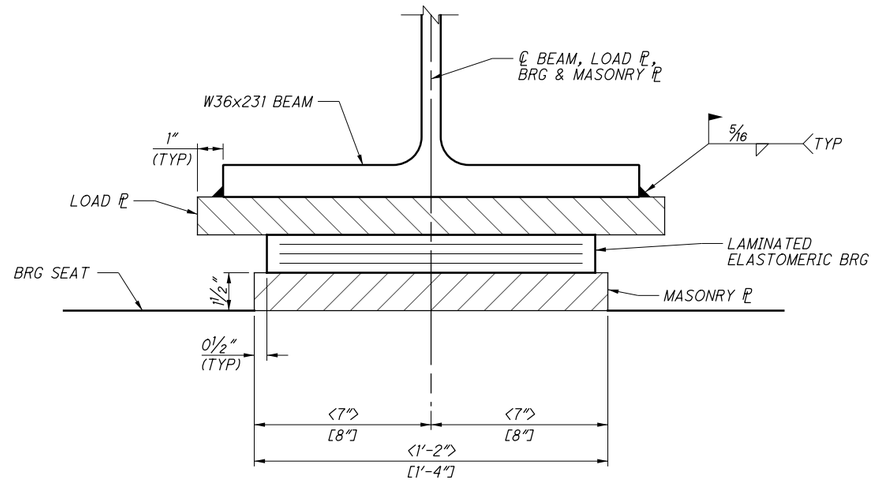
ABUTMENT EXPANSION BEARING PLAN

REAR ABUTMENT SHOWN, FORWARD SIMILAR (SEE NOTE 4)



(A) ELEVATION

REAR ABUTMENT SHOWN, FORWARD SIMILAR (SEE NOTE 4)



(B) SECTION

BEARING SCHEDULE

SUPPORT	BEARING TYPE	DEAD LOAD (KIPS)	SERVICE LL+IM (KIPS)	TOTAL LOAD (KIPS)	ti	NO. OF ti's	NO. OF INTERNAL LAMINATES	Tb	LOAD PLATE		Tt @ ℄ BRG
									Tr	Tf	
REAR ABUT B1, B3-B6	EXPANSION	33.5	83.0	116.5	0.32"	4	3	1.50"	1.61"	1.39"	4.50"
REAR ABUT B2	EXPANSION	33.5	83.0	116.5	0.32"	4	3	1.50"	2.50"	2.28"	5.39"
FWD ABUT B1	EXPANSION	32.9	89.0	121.9	0.434"	8	7	3.99"	2.91"	2.55"	8.22"
FWD ABUT B2-B6	EXPANSION	32.9	89.0	121.9	0.434"	8	7	3.99"	1.68"	1.32"	6.99"

NOTES

1. FOR ANGULAR DATA, Δ, SEE "BEARING ANGULAR DATA" TABLE ON SHEET 34/51.
2. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG-TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
3. THE STEEL LOAD PLATE AND MASONRY PLATE SHALL BE ASTM A709, GRADE 50 STEEL. BOND THE LOAD PLATE AND MASONRY PLATE BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.
4. DIMENSIONS IN ⟨DIM⟩ REFERENCE THE REAR ABUTMENT BEARINGS. DIMENSIONS IN [DIM] REFERENCE THE FORWARD ABUTMENT BEARINGS. DIMENSIONS NOT IN BRACKETS ARE APPLICABLE TO ALL ABUTMENT BEARINGS.
5. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.
6. FURNISHING AND INSTALLING ANCHOR RODS SHALL BE INCLUDED FOR PAYMENT WITH THE BEARINGS.
7. BEARING STEEL PAINT COLOR SHALL MATCH THE PROPOSED BEAM PAINT COLOR.

DESIGN AGENCY
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DESIGNED	DRAWN	REVIEWED	DATE
CTM	CTM	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
VDT		4704401	

ABUTMENT BEARING DETAILS
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

30 / 51

54 / 75

SUBMITTAL: FINAL TRACINGS
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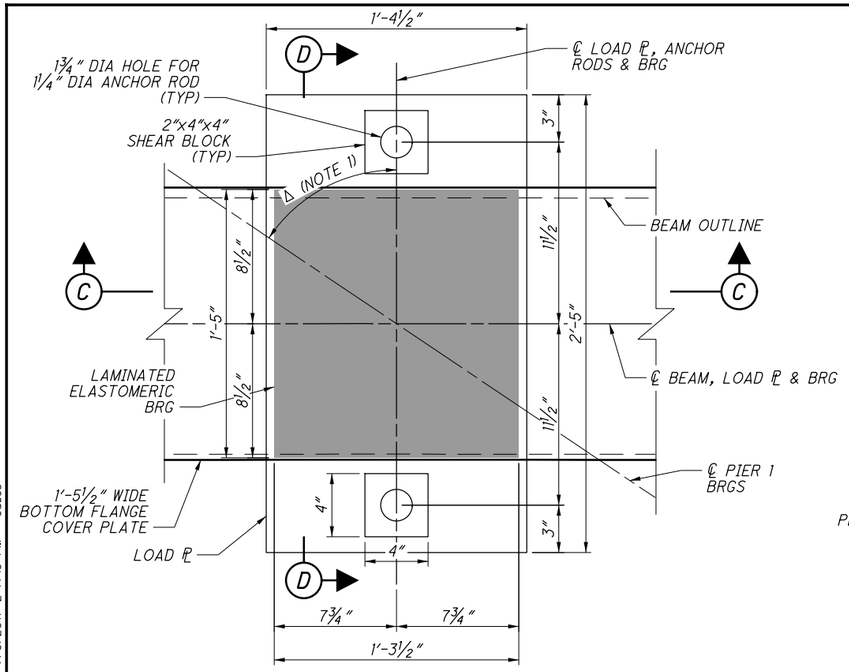
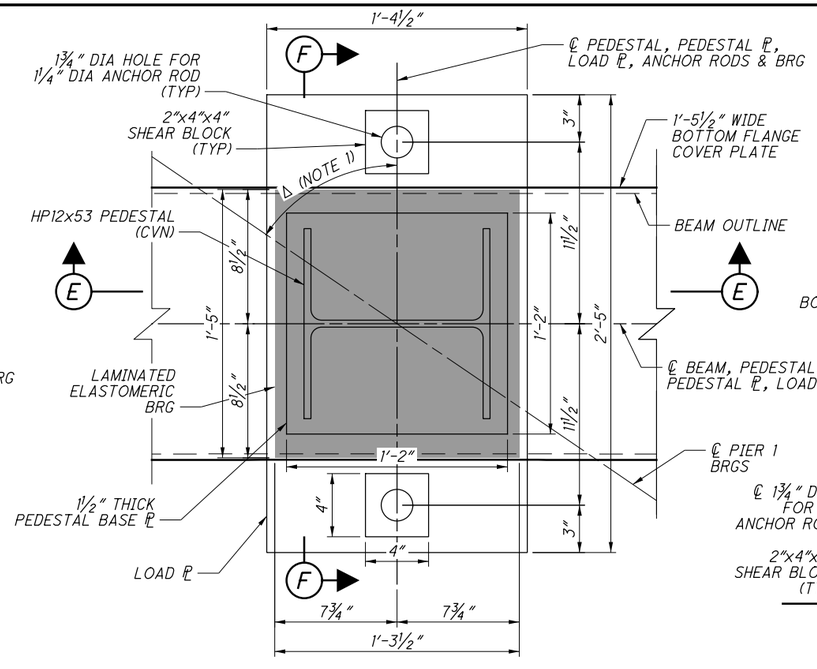


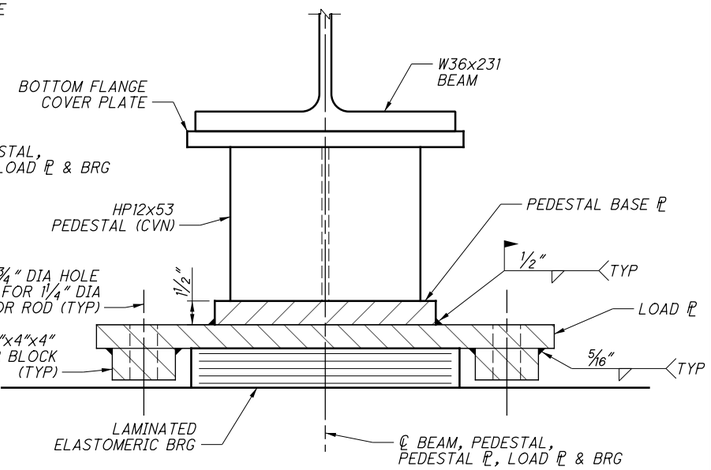
PIER 1 FIXED BEARING

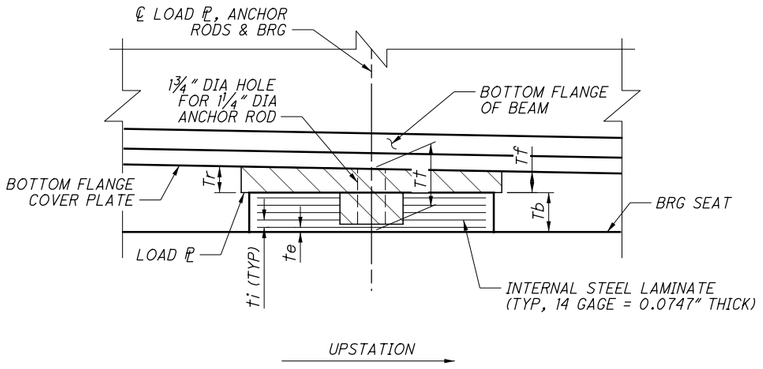
B1, B3, B5 & B6 SHOWN, B2 SIMILAR



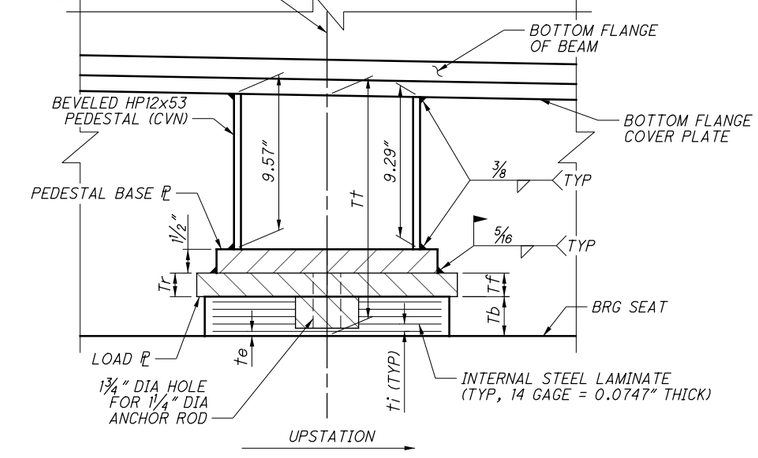
PIER 1 FIXED BEARING

B4

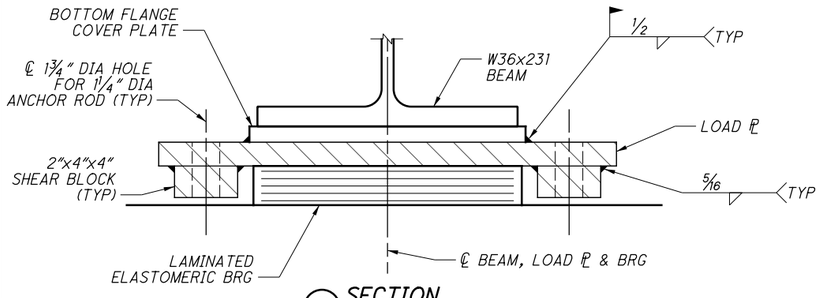




C ELEVATION



E ELEVATION



D SECTION

F SECTION

NOTES

1. FOR ANGULAR DATA, Δ, SEE "BEARING ANGULAR DATA" TABLE ON SHEET 34 51.
2. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG-TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
3. THE STEEL LOAD PLATE, HP PEDESTAL, PEDESTAL PLATE AND SHEAR BLOCKS SHALL BE ASTM A709, GRADE 50 STEEL. BOND THE LOAD PLATE BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.
4. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.
5. FURNISHING AND INSTALLING ANCHOR RODS SHALL BE INCLUDED FOR PAYMENT WITH THE BEARINGS.
6. THE BEVELED HP PEDESTAL AND PEDESTAL BASE PLATE TO BE INCLUDED FOR PAYMENT WITH ITEM 513 - STRUCTURAL STEEL.
7. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

BEARING SCHEDULE

SUPPORT	BEARING TYPE	DEAD LOAD (KIPS)	SERVICE LL+IM (KIPS)	TOTAL LOAD (KIPS)	ti	NO. OF ti's	te	NO. OF te's	NO. OF INTERNAL LAMINATES	Tb	LOAD ℙ		Tt @ ℄ BRG
											Tr	Tf	
PIER 1 B1, B3, B5, B6	FIXED	146.3	158.1	304.4	0.40"	5	0.25"	1	5	2.62"	1.67"	1.33"	4.12"
PIER 1 B2	FIXED	146.3	158.1	304.4	0.40"	5	0.25"	1	5	2.62"	2.06"	1.72"	4.51"
PIER 1 B4	FIXED	146.3	158.1	304.4	0.40"	5	0.25"	1	5	2.62"	1.50"	1.50"	15.05"

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DESIGN AGENCY
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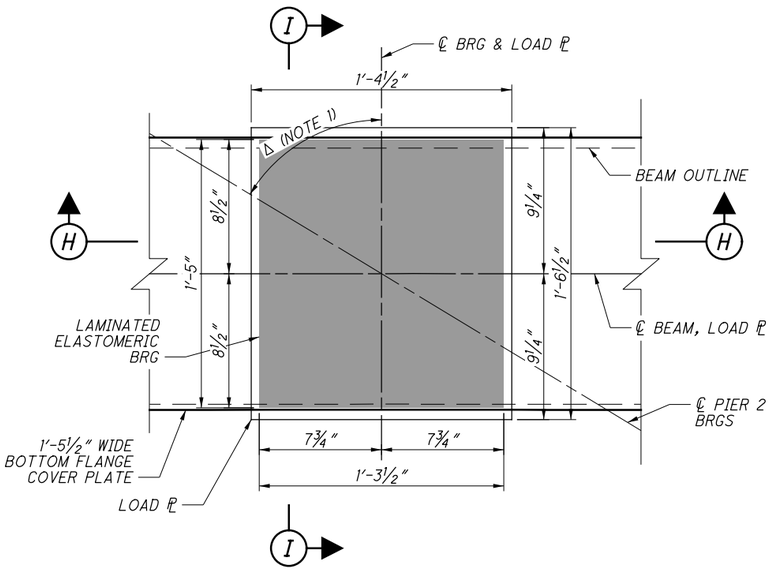
2560 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

DESIGNED	DRAWN	REVIEWED	DATE
CTM	CTM	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
VDT		4704401	

PIER 1 BEARING DETAILS

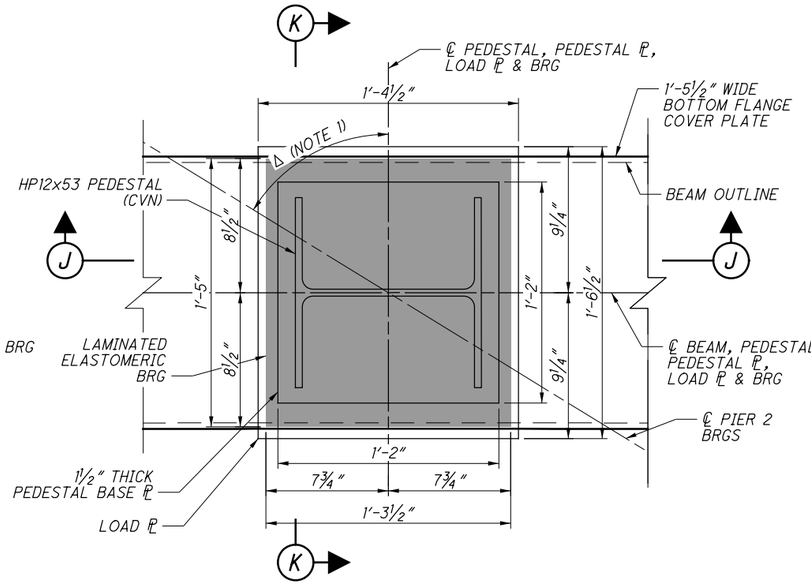
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591



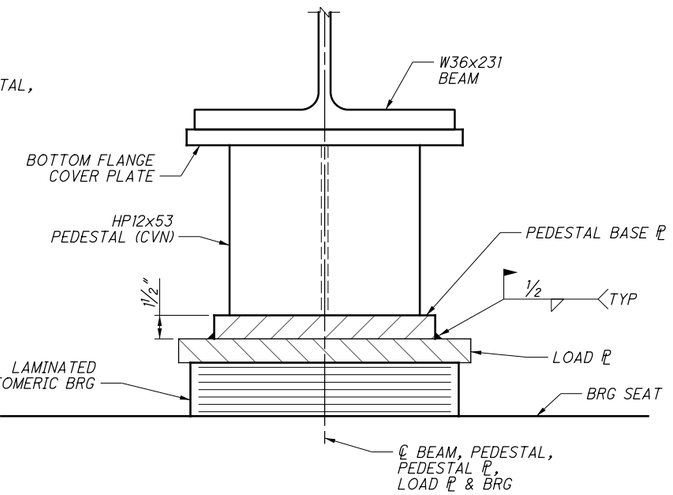
PIER 2 EXPANSION BEARING

B2, B3, B5 & B6 SHOWN, B1 SIMILAR

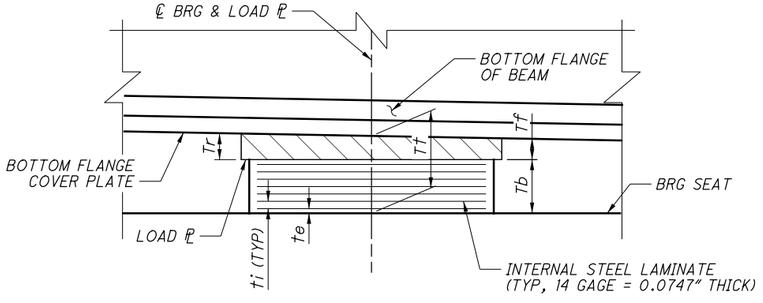


PIER 2 EXPANSION BEARING

B4

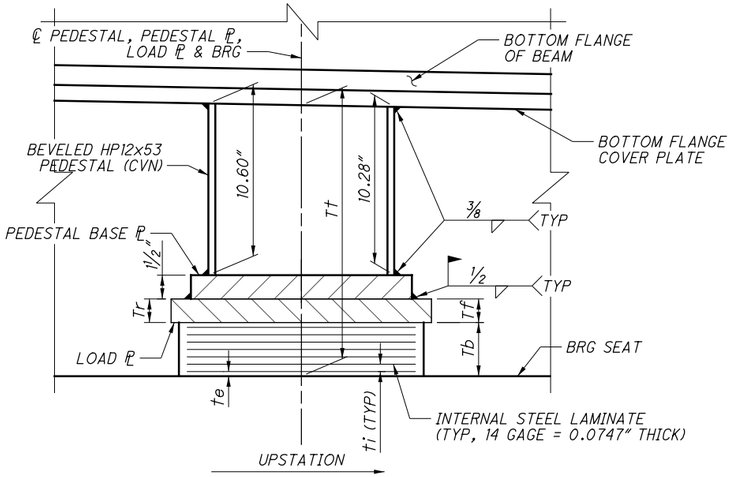


K SECTION



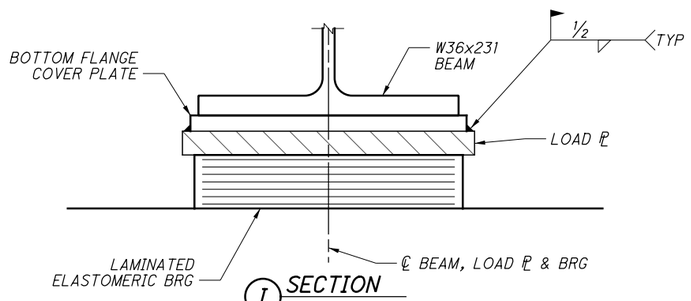
UPSTATION

H ELEVATION



UPSTATION

J ELEVATION



I SECTION

BEARING SCHEDULE

SUPPORT	BEARING TYPE	DEAD LOAD (KIPS)	SERVICE LL+IM (KIPS)	TOTAL LOAD (KIPS)	ti	NO. OF ti's	te	NO. OF te's	NO. OF INTERNAL LAMINATES	Tb	LOAD ℄		Tt @ ℄ BRG
											Tr	Tf	
PIER 2 B2, B3, B5, B6	EXPANSION	149.8	148.8	298.6	0.40"	7	0.25"	1	7	3.57"	1.71"	1.29"	5.07"
PIER 2 B1	EXPANSION	149.8	148.8	298.6	0.40"	7	0.25"	1	7	3.57"	2.22"	1.80"	5.58"
PIER 2 B4	EXPANSION	149.8	148.8	298.6	0.40"	7	0.25"	1	7	3.57"	1.50"	1.50"	17.01"

NOTES

1. FOR ANGULAR DATA, Δ, SEE "BEARING ANGULAR DATA" TABLE ON SHEET 34 51.
2. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG-TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
3. THE STEEL LOAD PLATE, HP PEDESTAL AND PEDESTAL PLATE SHALL BE ASTM A709, GRADE 50 STEEL. BOND THE LOAD PLATE BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.
4. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.
5. THE BEVELED HP PEDESTAL AND PEDESTAL BASE PLATE TO BE INCLUDED FOR PAYMENT WITH ITEM 513 - STRUCTURAL STEEL.
6. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

DESIGN AGENCY
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COLUMBUS, OHIO 43231

DESIGNED CTM | DRAWN CTM | REVIEWED MTO | DATE 1/2017
CHECKED VDT | REVISED | STRUCTURE FILE NUMBER 4704401

PIER 2 BEARING DETAILS

BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

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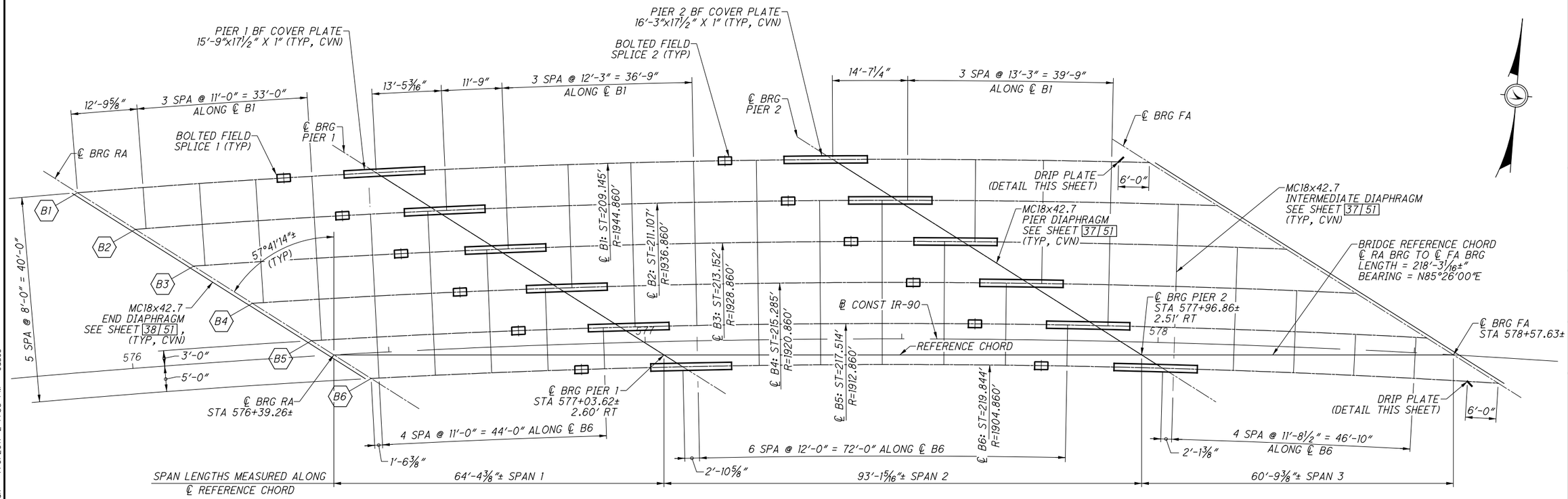
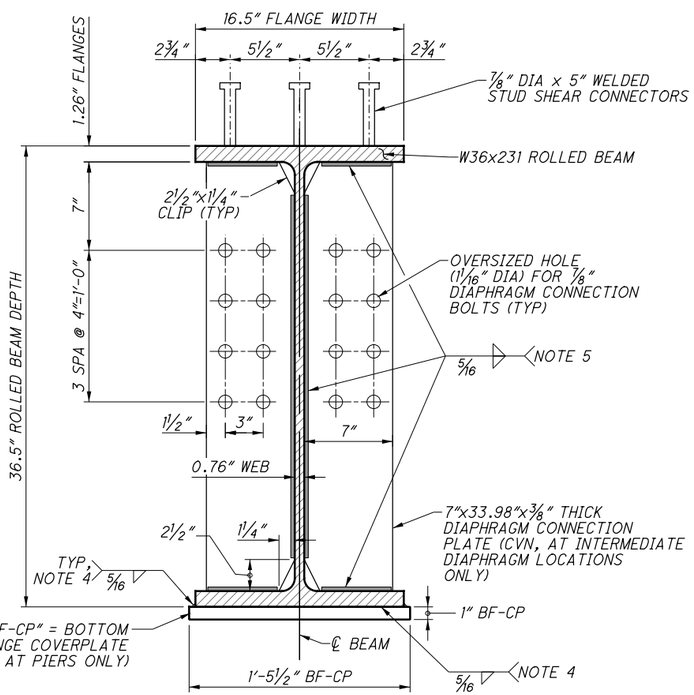
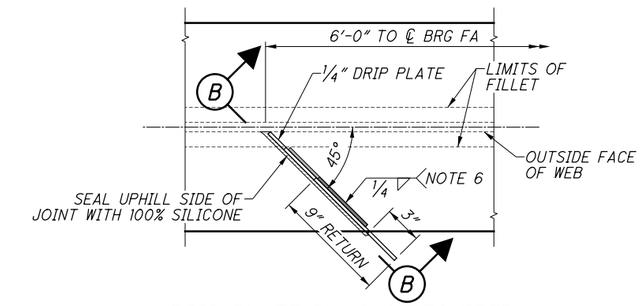


SUPERSTRUCTURE FRAMING PLAN (W36x231 ROLLED BEAMS, CVN)

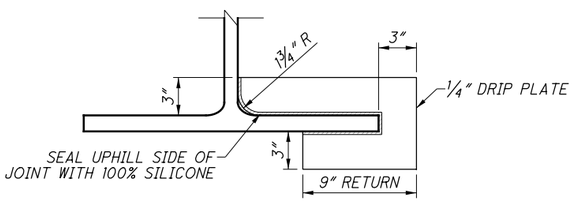
SEE NOTES 1 & 2



A / 34 TYPICAL BEAM SECTION
SEE NOTE 3



DRIP PLATE PLAN (2 REQUIRED)
B6 SHOWN, B1 MIRRORED HORIZONTAL (SEE NOTE 6)



B / DRIP PLATE SECTION

NOTES:

1. FRAMING PLAN DIMENSIONS ARE TAKEN HORIZONTAL. BEAM LENGTH DIMENSIONS ARE TAKEN AT THE CENTERLINE AT THE BOTTOM OF THE BOTTOM FLANGE OF THE ROLLED SHAPE.
2. INTERMEDIATE DIAPHRAGM SPACING IS GIVEN RADIAL TO ℄ OF EXTERIOR BEAMS. INTERMEDIATE DIAPHRAGMS ARE DIMENSIONED FROM ℄ TO ℄ OF CONNECTION PLATES. INTERMEDIATE DIAPHRAGMS ARE POSITIONED RADIALLY THROUGHOUT. PIER DIAPHRAGMS AND ABUTMENT CROSSFRAMES ARE PARALLEL TO THE ℄ BRG.
3. TYPICAL SECTION SHOWS DIAPHRAGM CONNECTION PLATES AND BOTTOM FLANGE COVER PLATES. BOTH ARE ONLY PRESENT AT INTERMEDIATE LOCATIONS CONSISTENT WITH THE FRAMING PLAN AND BEAM DETAILS.
4. BOTTOM FLANGE COVER PLATE WELDS SHALL END WITHIN ⅛" TO ¼" FROM THE ENDS OF THE COVER PLATE. TRANSVERSE WELDS AT THE COVER PLATE ENDS SHALL END ⅛" TO ¼" FROM THE EDGE OF THE FLANGE.
5. TERMINATE DIAPHRAGM CONNECTION PLATE WELDS ¼" ±⅛" FROM THE ENDS OF THE CONNECTION PLATE.
6. DRIP PLATES ARE TO BE INSTALLED ON THE OUTSIDE FACE OF BEAMS 1 AND 6. THE DOWNHILL (FORWARD) SIDE OF EACH PLATE SHALL BE WELDED THROUGHOUT THE LIMITS OF THE PLATE AND FLANGE WIDTH (EXCLUDING FILLET). WELDS SHALL TERMINATE ¼" ± ⅛" FROM THE ENDS OF THE LIMITS. THE UPHILL (REAR) SIDE OF EACH PLATE SHALL HAVE ALL INTERFACES AND GAPS FILLED WITH 100% SILICONE SEALANT. PAYMENT FOR THE DRIP PLATE AND SEALANT SHALL BE INCLUDED FOR PAYMENT WITH ITEM 513, STRUCTURAL STEEL.
7. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
8. THE SUPERSTRUCTURE DESIGN DID NOT INCLUDE THE USE OF TEMPORARY SUPPORTS FOR ERECTION.

REFERENCES: STEEL DETAILS

TRANSVERSE SECTION	39 51
FRAMING PLAN	33 51
BEAM ELEVATION & DIMENSIONS	34 51
BOLTED FIELD SPLICE DETAILS	35 51
BEAM CAMBER & BLOCKING	36 51
DIAPHRAGM DETAILS	37 51 TO 38 51

DESIGN AGENCY
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DESIGNED	DRAWN	REVIEWED	DATE
EFD	EFD	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CTM		4704401	

SUPERSTRUCTURE FRAMING PLAN AND DETAILS
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

33 / 51

57 / 75

SUBMITTAL: FINAL TRACINGS
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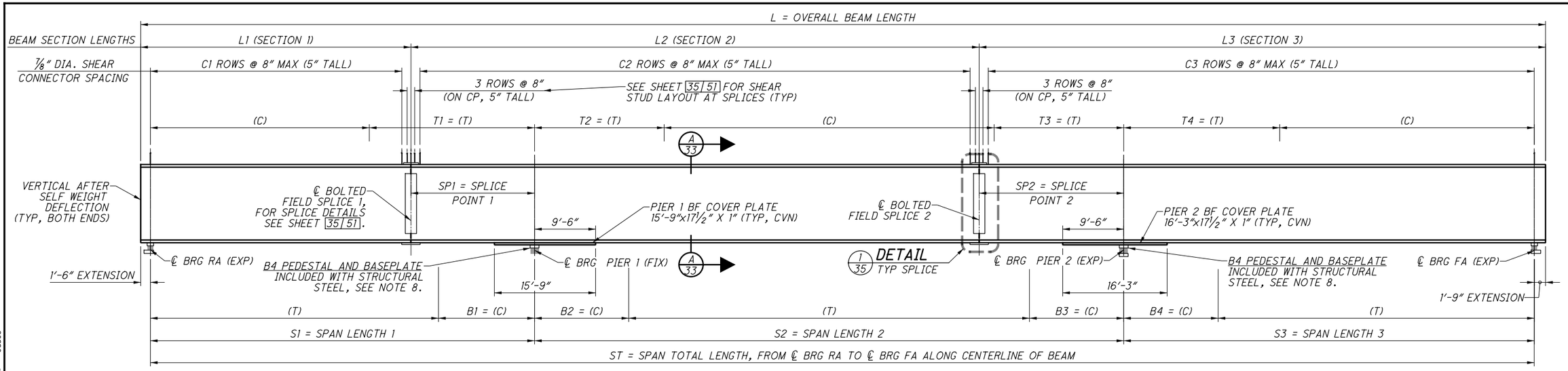


W36X231 (CVN) ROLLED BEAM ELEVATION SCHEMATIC

DIMENSIONS ALONG ℄ BEAM *UPSTATION*

BEAM DIMENSION DATA TABLE (DIMENSIONS TAKEN ALONG CENTERLINE OF BEAMS)

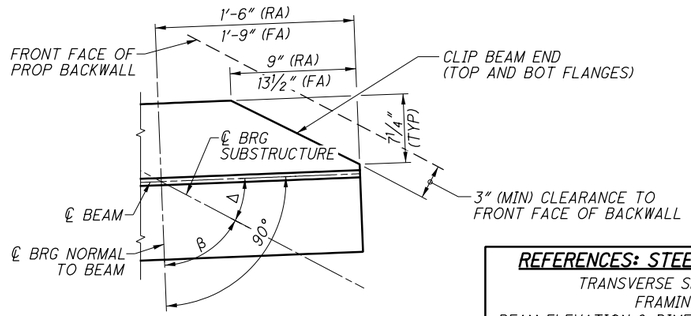
BEAM NUMBER	SPAN LENGTH				BEAM LENGTH (INCL. EXTENSIONS)				SPLICE POINT		TOP FLANGE TENSION				BOTTOM FLANGE COMPRESSION				SHEAR CONNECTORS		
	ST	S1	S2	S3	L	L1	L2	L3	SP1	SP2	T1	T2	T3	T4	B1	B2	B3	B4	C1	C2	C3
B1	209.145'	58.334'	89.071'	61.740'	212.395'	41.801'	86.090'	84.504'	18.033'	21.014'	29.167'	22.268'	21.377'	30.870'	14.000'	14.251'	13.361'	15.435'	59	126	123
B2	211.107'	58.792'	89.896'	62.419'	214.357'	41.936'	86.983'	85.438'	18.356'	21.269'	25.868'	20.676'	19.777'	26.840'	14.110'	14.383'	13.484'	14.981'	59	127	124
B3	213.152'	59.267'	90.756'	63.129'	216.402'	42.016'	87.751'	86.635'	18.751'	21.756'	24.299'	20.874'	19.966'	25.252'	14.224'	14.521'	13.613'	15.151'	60	128	126
B4	215.285'	59.760'	91.651'	63.874'	218.535'	42.035'	88.396'	88.104'	19.225'	22.480'	25.697'	20.163'	20.163'	24.272'	14.940'	14.664'	14.664'	14.691'	60	129	128
B5	217.514'	60.272'	92.586'	64.656'	220.764'	41.875'	89.033'	89.856'	19.897'	23.450'	27.122'	20.369'	22.221'	25.862'	15.068'	13.888'	14.814'	14.871'	59	130	131
B6	219.844'	60.804'	93.562'	65.478'	223.094'	42.533'	89.653'	90.908'	19.771'	23.680'	32.834'	21.519'	24.326'	28.810'	15.201'	13.099'	15.906'	14.405'	60	131	133

BEARING ANGULAR DATA

BEAM NUMBER	REAR ABUT		PIER 1		PIER 2		FWD ABUT	
	Δ	β	Δ	β	Δ	β	Δ	β
B1	37° 00' 18"	52° 59' 42"	35° 17' 11"	54° 42' 49"	32° 39' 44"	57° 20' 16"	30° 50' 36"	59° 09' 24"
B2	36° 41' 23"	53° 18' 37"	34° 57' 02"	55° 02' 58"	32° 17' 29"	57° 42' 31"	30° 26' 41"	59° 33' 19"
B3	36° 22' 11"	53° 37' 49"	34° 36' 33"	55° 23' 27"	31° 54' 48"	58° 05' 12"	30° 02' 17"	59° 57' 43"
B4	36° 02' 40"	53° 57' 20"	34° 15' 43"	55° 44' 17"	31° 31' 41"	58° 28' 19"	29° 37' 22"	60° 22' 38"
B5	35° 42' 50"	54° 17' 10"	33° 54' 30"	56° 05' 30"	31° 08' 07"	58° 51' 53"	29° 11' 55"	60° 48' 05"
B6	35° 22' 40"	54° 37' 20"	33° 32' 56"	56° 27' 04"	30° 44' 04"	59° 15' 56"	28° 45' 54"	61° 14' 06"

NOTES

1. FRAMING PLAN AND BEAM ELEVATION HORIZONTAL DIMENSIONS TAKEN ALONG THE BEAM CENTERLINE AT THE BOTTOM OF THE BOTTOM FLANGE.
2. (C) = ZONE OF COMPRESSION IN FLANGE, (T) = ZONE OF TENSION IN FLANGE TENSION AND COMPRESSION ZONES ARE BASED UPON FATIGUE LOAD CASE.
3. DIAPHRAGM CONNECTION PLATES AND BEAM CAMBER NOT SHOWN. SEE SHEET 36 51 FOR REQUIRED CAMBER.
4. ANGULAR DATA FOR ALL BEAM BEARING LOCATIONS IS MEASURED FROM A LINE TANGENT TO THE ℄ BEAM AT ℄ BRG SUBSTRUCTURE. THE BEAM END SHOWN IS AT THE FORWARD ABUTMENT, REAR ABUTMENT IS ROTATED 180 DEGREES.
5. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST ¼" FOR THICKNESSES UP TO ¾" OR ⅝" FOR GREATER THAN ¾" THICK.
6. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
7. BEAM DIMENSIONS "L1", "L2", AND "L3" ARE MEASURED TO THE ℄ OF FIELD SPLICE(S) (NO DEDUCTION IS MADE THE FOR THE GAP AT THE SPLICE).
8. PEDESTAL (HP12x53) AND PEDESTAL BASEPLATE ARE INCLUDED ON BEAM B4 PIER BEARINGS TO ALLOW FOR PIER CAP CONSTRUCTION THAT DOES NOT ENCROACH UPON EXISTING GIRDER G3. PEDESTAL AND BASEPLATE SHALL BE SHOP APPLIED TO BEAM B4 AND INCLUDED FOR PAYMENT WITH ITEM 513, STRUCTURAL STEEL. FOR PEDESTAL AND BASEPLATE DETAILS, SEE BEARING SHEETS 31 51 & 32 51 .



BEAM END AND BEARING ANGULAR DETAIL

SEE NOTE 4

REFERENCES: STEEL DETAILS

TRANSVERSE SECTION - 39 51
FRAMING PLAN - 33 51
BEAM ELEVATION & DIMENSIONS - 34 51
BOLTED FIELD SPLICE DETAILS - 35 51
BEAM CAMBER & BLOCKING - 36 51
DIAPHRAGM DETAILS - 37 51 TO 38 51

DESIGN AGENCY
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DESIGNED EFD | DRAWN EFD | CHECKED CTM | REVIEWED MTO | DATE 1/2017 | REVISED | STRUCTURE FILE NUMBER 4704401

BEAM ELEVATION AND DIMENSIONS
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

34 / 51

58 / 75

SUBMITTAL: FINAL TRACINGS
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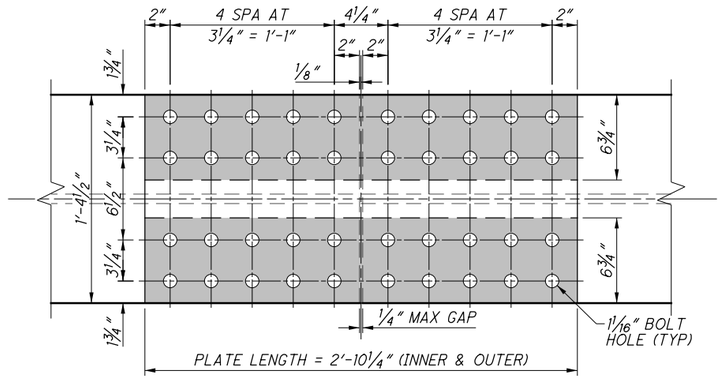
NOTES

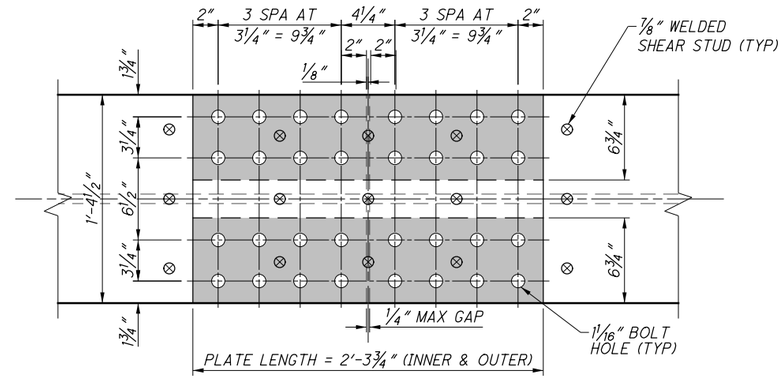
1. A STEEL WEIGHT OF 817 POUNDS (INCLUDING BOLT WEIGHT) PER SPLICE IS INCLUDED FOR PAYMENT WITH ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL 3, AS PER PLAN. A TOTAL OF 12 SPLICES ARE REQUIRED.
2. HIGH STRENGTH BOLTS USED IN FIELD SPLICES SHALL BE 1" DIAMETER ASTM A325 INSTALLED IN STANDARD SIZED HOLES.
3. BOLT HEADS SHALL BE PLACED ON THE OUTSIDE FACE OF EXTERIOR BEAMS, ON THE BOTTOM OF THE BOTTOM FLANGE OUTER SPLICE PLATES, AND ON THE TOP OF THE TOP FLANGE OUTER SPLICE PLATES.
4. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

LEGEND

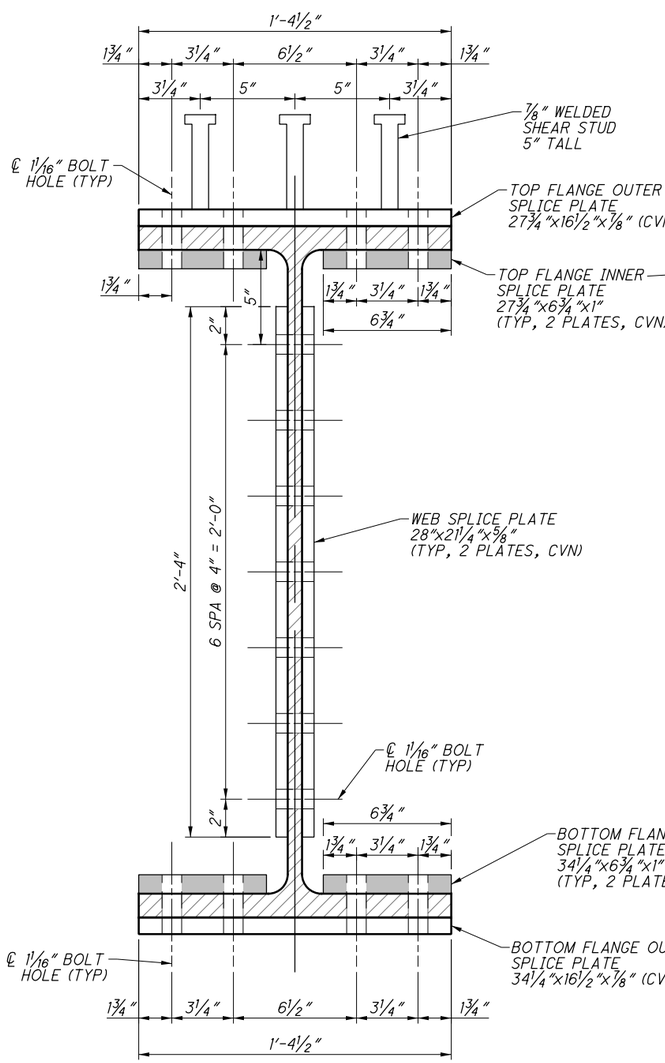
- INNER FLANGE PLATE (6¾" WIDE x 1" THICK)
- W36x231 BEAM FLANGE AND WEB



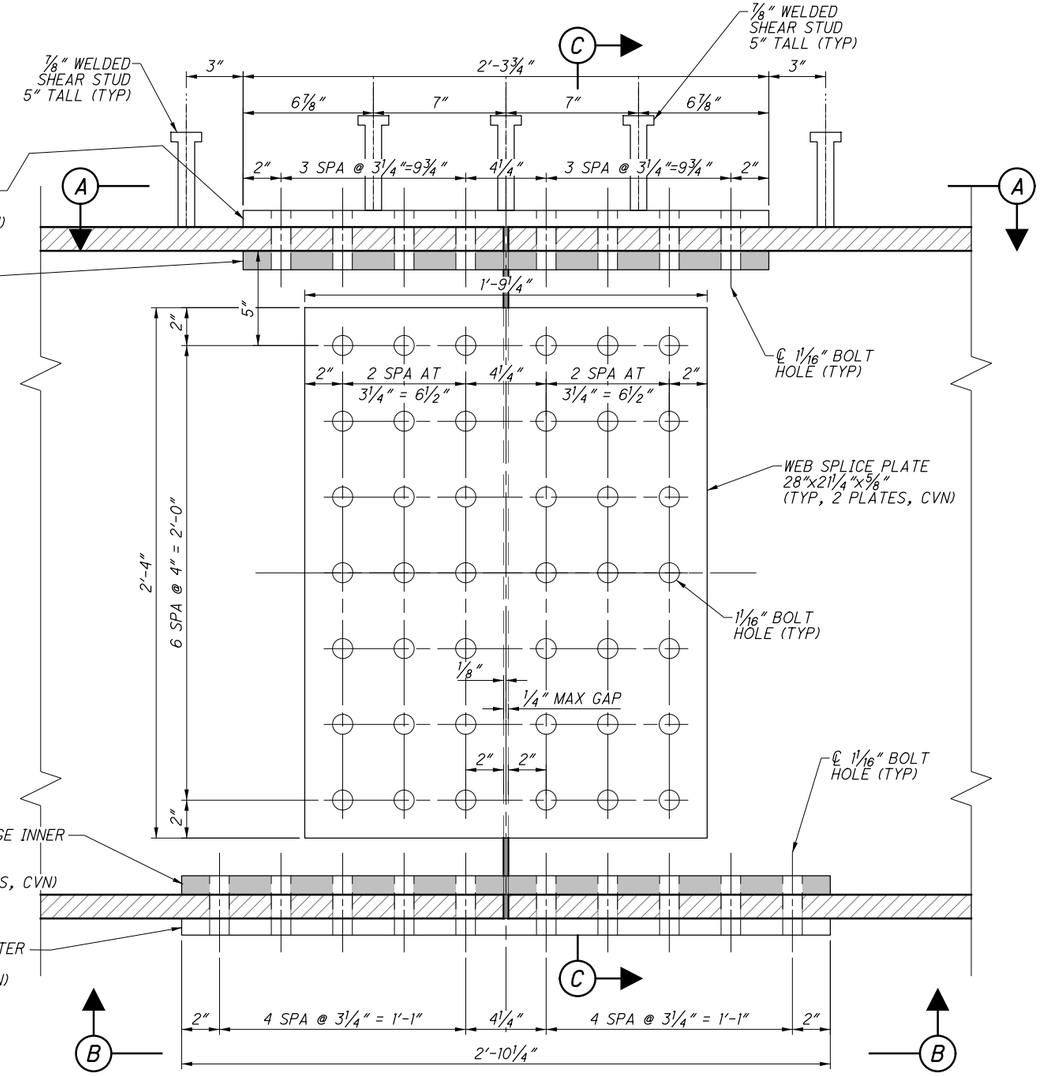
B PLAN VIEW
BOTTOM FLANGE SPLICE



A PLAN VIEW
TOP FLANGE SPLICE



C SECTION
FIELD SPLICE



1/34 TYP, ALL SPLICES
BOLTED FIELD SPLICE DETAIL

REFERENCES: STEEL DETAILS

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DESIGN AGENCY
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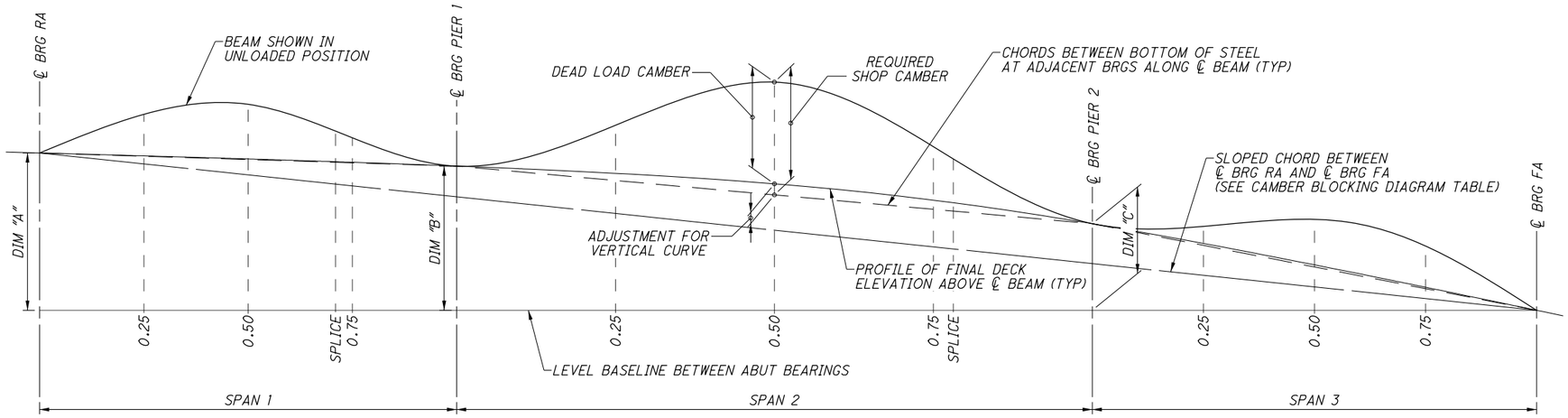
DESIGNED	DRAWN	REVIEWED	DATE
EFD	EFD	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CTM		4704401	

BOLTED FIELD SPLICE DETAILS
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

CAMBER BLOCKING DIAGRAM TABLE *				
BEAM NUMBER	DIMENSION			CHORD SLOPE
	A	B	C	
B1	57.2"	42.6"	18.3"	-2.28%
B2	59.4"	44.2"	19.0"	-2.34%
B3	61.6"	45.9"	19.8"	-2.41%
B4	63.9"	47.6"	20.6"	-2.47%
B5	66.3"	49.5"	21.4"	-2.54%
B6	68.8"	51.4"	22.2"	-2.61%

* BLOCKING DIMENSIONS ARE FROM THE LEVEL BASELINE TO THE BOTTOM OF STEEL AND INCLUDE AN ALLOWANCE FOR THE 1" BOTTOM FLANGE COVER PLATE AT THE PIERS.



CAMBER AND BLOCKING DIAGRAM

ALONG CENTERLINE BEAM

NOTES

1. CAMBER IS MEASURED ALONG THE ROLLED BEAM BOTTOM FLANGE.

REFERENCES: STEEL DETAILS

TRANSVERSE SECTION - 39/51
FRAMING PLAN - 33/51
BEAM ELEVATION & DIMENSIONS - 34/51
BOLTED FIELD SPLICE DETAILS - 35/51
BEAM CAMBER & BLOCKING - 36/51
DIAPHRAGM DETAILS - 37/51 TO 38/51

BEAM CAMBER AND DEFLECTIONS

Point		BEAM 1					BEAM 2				
		DISTANCE FROM RA (AT CENTERLINE BEAM)	DEFLECTION DUE TO WEIGHT OF STEEL	DEFLECTION DUE TO REMAINING DEAD LOAD	ADJUSTMENT REQUIRED FOR VERTICAL CURVE	TOTAL CAMBER	DISTANCE FROM RA (AT CENTERLINE BEAM)	DEFLECTION DUE TO WEIGHT OF STEEL	DEFLECTION DUE TO REMAINING DEAD LOAD	ADJUSTMENT REQUIRED FOR VERTICAL CURVE	TOTAL CAMBER
REAR ABUT		0.00'	0.00"	0.00"	0.00"	**0.00"**	0.00'	0.00"	0.00"	0.00"	**0.00"**
Span 1	0.25	14.58'	0.03"	0.10"	0.22"	**0.35"**	14.70'	0.02"	0.09"	0.22"	**0.33"**
	0.50	29.17'	0.02"	0.09"	0.29"	**0.40"**	29.40'	0.02"	0.07"	0.30"	**0.39"**
	Splice	40.30'	0.00"	0.01"	0.24"	**0.25"**	40.44'	0.00"	0.01"	0.25"	**0.26"**
	0.75	43.75'	0.00"	-0.01"	0.22"	**0.21"**	44.09'	-0.01"	-0.01"	0.23"	**0.21"**
Pier 1		58.33'	0.00"	0.00"	0.00"	**0.00"**	58.79'	0.00"	0.00"	0.00"	**0.00"**
Span 2	0.25	80.60'	0.12"	0.46"	0.53"	**1.11"**	81.27'	0.12"	0.47"	0.55"	**1.14"**
	0.50	102.87'	0.20"	0.78"	0.73"	**1.71"**	103.74'	0.19"	0.76"	0.75"	**1.70"**
	0.75	125.14'	0.12"	0.48"	0.55"	**1.15"**	126.21'	0.11"	0.48"	0.58"	**1.17"**
	Splice	126.39'	0.11"	0.45"	0.52"	**1.08"**	127.42'	0.10"	0.45"	0.54"	**1.09"**
Pier 2		147.41'	0.00"	0.00"	0.00"	**0.00"**	148.69'	0.00"	0.00"	0.00"	**0.00"**
Span 3	0.25	162.84'	0.00"	-0.01"	0.28"	**0.27"**	164.29'	0.00"	0.02"	0.29"	**0.31"**
	0.50	178.28'	0.03"	0.11"	0.37"	**0.51"**	179.90'	0.03"	0.14"	0.39"	**0.56"**
	0.75	193.71'	0.04"	0.12"	0.28"	**0.44"**	195.50'	0.03"	0.15"	0.30"	**0.48"**
FWD ABUT		209.15'	0.00"	0.00"	0.00"	**0.00"**	211.11'	0.00"	0.00"	0.00"	**0.00"**

Point		BEAM 3					BEAM 4				
		DISTANCE FROM RA (AT CENTERLINE BEAM)	DEFLECTION DUE TO WEIGHT OF STEEL	DEFLECTION DUE TO REMAINING DEAD LOAD	ADJUSTMENT REQUIRED FOR VERTICAL CURVE	TOTAL CAMBER	DISTANCE FROM RA (AT CENTERLINE BEAM)	DEFLECTION DUE TO WEIGHT OF STEEL	DEFLECTION DUE TO REMAINING DEAD LOAD	ADJUSTMENT REQUIRED FOR VERTICAL CURVE	TOTAL CAMBER
REAR ABUT		0.00'	0.00"	0.00"	0.00"	**0.00"**	0.00'	0.00"	0.00"	0.00"	**0.00"**
Span 1	0.25	14.82'	0.02"	0.10"	0.23"	**0.35"**	14.94'	0.03"	0.11"	0.24"	**0.38"**
	0.50	29.63'	0.02"	0.06"	0.31"	**0.39"**	29.88'	0.03"	0.09"	0.32"	**0.44"**
	Splice	40.52'	0.00"	-0.01"	0.26"	**0.25"**	40.54'	0.01"	0.03"	0.27"	**0.31"**
	0.75	44.45'	-0.01"	-0.03"	0.24"	**0.20"**	44.82'	0.00"	0.00"	0.25"	**0.25"**
Pier 1		59.27'	0.00"	0.00"	0.00"	**0.00"**	59.76'	0.00"	0.00"	0.00"	**0.00"**
Span 2	0.25	81.96'	0.13"	0.55"	0.58"	**1.26"**	82.67'	The	0.47"	0.60"	**1.20"**
	0.50	104.65'	0.20"	0.87"	0.78"	**1.85"**	105.59'	0.22"	0.80"	0.81"	**1.83"**
	0.75	127.33'	0.12"	0.49"	0.60"	**1.21"**	128.50'	0.14"	0.49"	0.62"	**1.25"**
	Splice	128.27'	0.12"	0.47"	0.57"	**1.16"**	128.93'	0.14"	0.48"	0.61"	**1.23"**
Pier 2		150.02'	0.00"	0.00"	0.00"	**0.00"**	151.41'	0.00"	0.00"	0.00"	**0.00"**
Span 3	0.25	165.81'	0.01"	0.05"	0.30"	**0.36"**	167.38'	0.00"	-0.01"	0.31"	**0.30"**
	0.50	181.59'	0.05"	0.20"	0.41"	**0.66"**	183.35'	0.04"	0.11"	0.43"	**0.58"**
	0.75	197.37'	0.04"	0.19"	0.31"	**0.54"**	199.32'	0.04"	0.13"	0.32"	**0.49"**
FWD ABUT		213.15'	0.00"	0.00"	0.00"	**0.00"**	215.29'	0.00"	0.00"	0.00"	**0.00"**

Point		BEAM 5					BEAM 6				
		DISTANCE FROM RA (AT CENTERLINE BEAM)	DEFLECTION DUE TO WEIGHT OF STEEL	DEFLECTION DUE TO REMAINING DEAD LOAD	ADJUSTMENT REQUIRED FOR VERTICAL CURVE	TOTAL CAMBER	DISTANCE FROM RA (AT CENTERLINE BEAM)	DEFLECTION DUE TO WEIGHT OF STEEL	DEFLECTION DUE TO REMAINING DEAD LOAD	ADJUSTMENT REQUIRED FOR VERTICAL CURVE	TOTAL CAMBER
REAR ABUT		0.00'	0.00"	0.00"	0.00"	**0.00"**	0.00'	0.00"	0.00"	0.00"	**0.00"**
Span 1	0.25	15.07'	0.02"	0.11"	0.25"	**0.38"**	15.20'	0.03"	0.10"	0.26"	**0.39"**
	0.50	30.14'	0.02"	0.10"	0.34"	**0.46"**	30.40'	0.02"	0.08"	0.35"	**0.45"**
	Splice	40.38'	0.01"	0.03"	0.28"	**0.32"**	41.03'	0.00"	0.00"	0.29"	**0.29"**
	0.75	45.20'	0.00"	-0.01"	0.25"	**0.24"**	45.60'	-0.01"	-0.03"	0.26"	**0.22"**
Pier 1		60.27'	0.00"	0.00"	0.00"	**0.00"**	60.80'	0.00"	0.00"	0.00"	**0.00"**
Span 2	0.25	83.42'	0.13"	0.48"	0.62"	**1.23"**	84.19'	0.14"	0.57"	0.65"	**1.36"**
	0.50	106.57'	0.20"	0.80"	0.85"	**1.85"**	107.59'	0.22"	0.89"	0.88"	**1.99"**
	0.75	129.71'	0.12"	0.49"	0.65"	**1.26"**	130.98'	0.13"	0.51"	0.68"	**1.32"**
	Splice	129.41'	0.12"	0.50"	0.66"	**1.28"**	130.69'	0.13"	0.52"	0.68"	**1.33"**
Pier 2		152.86'	0.00"	0.00"	0.00"	**0.00"**	154.37'	0.00"	0.00"	0.00"	**0.00"**
Span 3	0.25	169.02'	0.00"	0.03"	0.33"	**0.36"**	170.74'	0.01"	0.06"	0.33"	**0.40"**
	0.50	185.19'	0.04"	0.15"	0.44"	**0.63"**	187.11'	0.05"	0.21"	0.43"	**0.69"**
	0.75	201.35'	0.04"	0.16"	0.34"	**0.54"**	203.47'	0.05"	0.20"	0.30"	**0.55"**
FWD ABUT		217.51'	0.00"	0.00"	0.00"	**0.00"**	219.84'	0.00"	0.00"	0.00"	**0.00"**

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

DATE 1/2017
REVIEWED MTO
STRUCTURE FILE NUMBER 4704401
DRAWN EFD
REVISED EFD
DESIGNED EFD
CHECKED CTM

BEAM CAMBER AND BLOCKING
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

36 / 51

60 / 75

SUBMITTAL: FINAL TRACINGS PLOT DRIVER: ODOTV8iSS3_PDF.pltcfg
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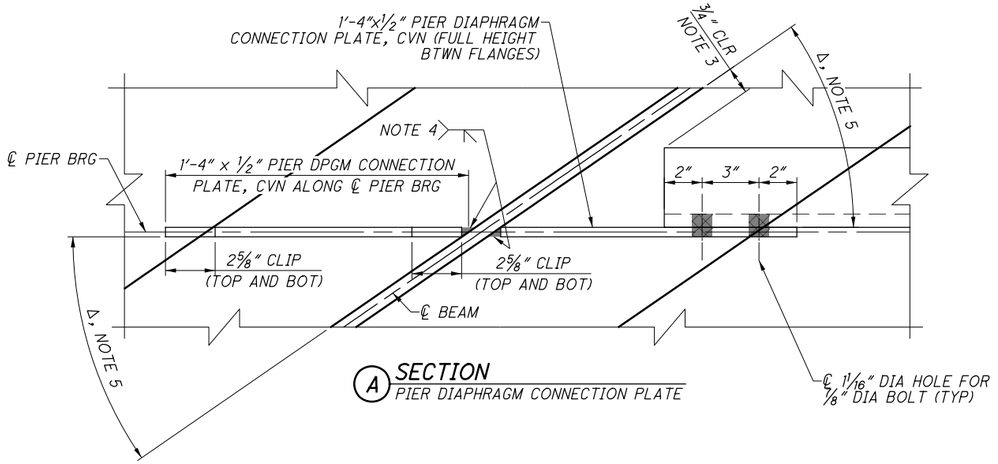
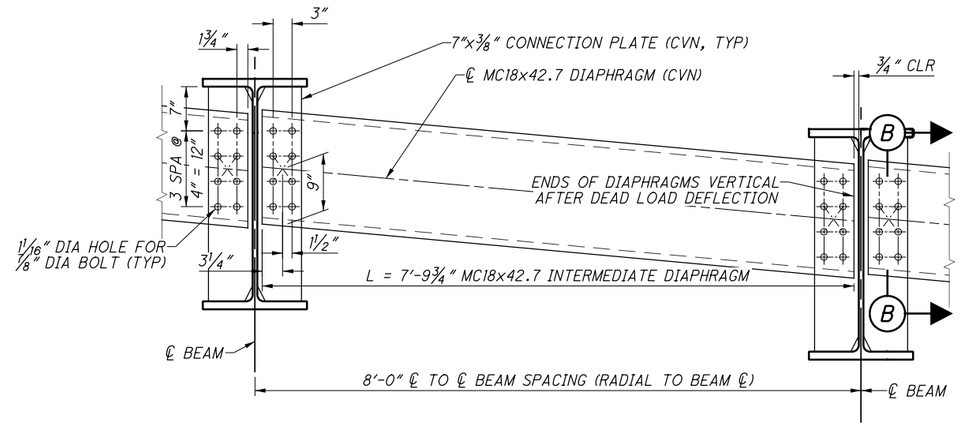
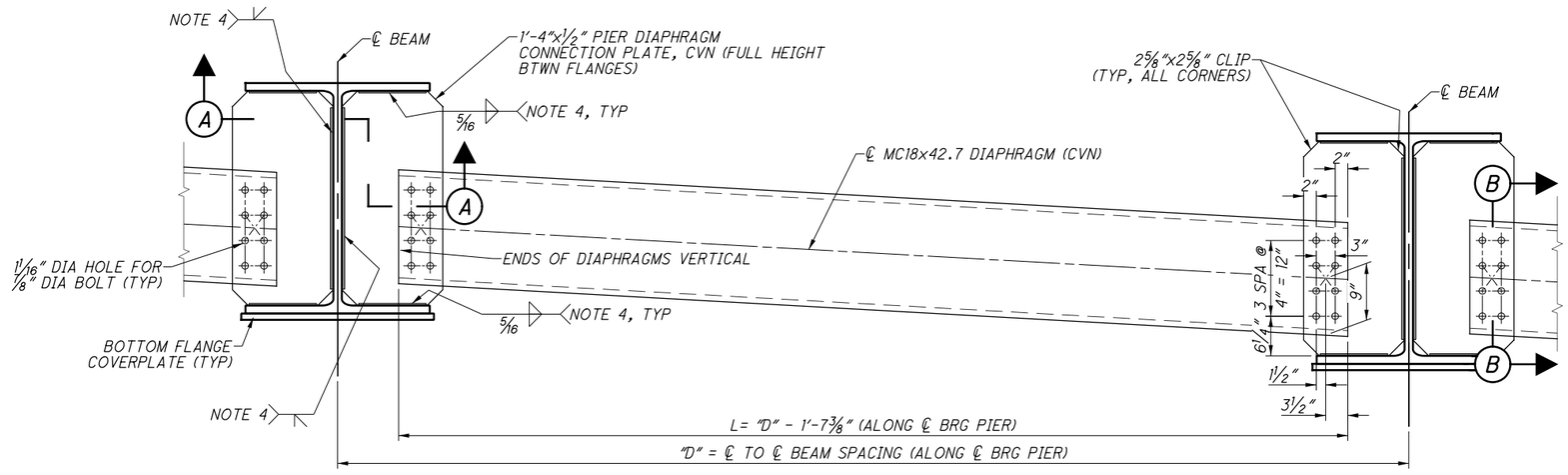


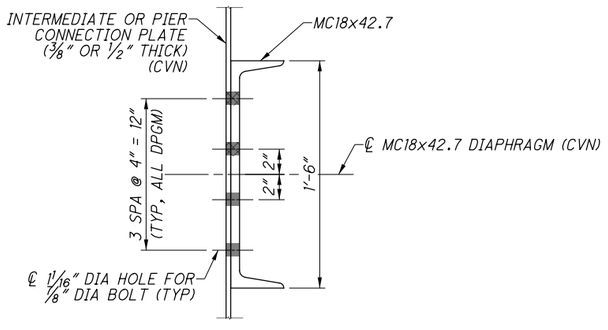
A SECTION
PIER DIAPHRAGM CONNECTION PLATE



ELEVATION, INTERMEDIATE DIAPHRAGM
RADIAL TO BEAMS



ELEVATION, PIER DIAPHRAGM
PARALLEL TO ℄ PIER BEARING



B SECTION
DIAPHRAGM CONNECTION

NOTES
1. ALL DIAPHRAGM CONNECTION BOLTS SHALL BE ⅞" DIAMETER ASTM A325.
2. INTERMEDIATE AND PIER DIAPHRAGM FLANGES ARE TO POINT UPSTATION. PIER DIAPHRAGM CONNECTION PLATES SHALL NOT BE INSTALLED ON THE OUTSIDE FACE OF BEAMS 1 AND 6.
3. THE PIER DIAPHRAGM FLANGE SHALL BE ¾" CLEAR TO THE BEAM WEB. THE DETAILS SHOWN ARE EXPECTED TO EXCEED THE CLEAR DISTANCE. IF, DURING INSTALLATION, THE CLEAR DISTANCE IS NOT ACHIEVED, THE OUTSTANDING FLANGE OF THE DIAPHRAGM MAY BE CLIPPED IN THE FIELD TO ACHIEVE THE DESIRED CLEARANCE.
4. TERMINATE DIAPHRAGM CONNECTION PLATE WELDS ¼" ±⅛" FROM THE ENDS OF THE CONNECTION PLATE.
5. FOR ANGULAR DATA, SEE "BEARING ANGULAR DATA" TABLE ON SHEET 34/51.
6. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

REFERENCES: STEEL DETAILS
TRANSVERSE SECTION - 39/51
FRAMING PLAN - 33/51
BEAM ELEVATION & DIMENSIONS - 34/51
BOLTED FIELD SPLICE DETAILS - 35/51
BEAM CAMBER & BLOCKING - 36/51
DIAPHRAGM DETAILS - 37/51 TO 38/51

DESIGN AGENCY
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CHECKED CTM | REVISED | STRUCTURE FILE NUMBER 4704401

INTERMEDIATE AND PIER DIAPHRAGM DETAILS
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

SUBMITTAL: FINAL TRACINGS
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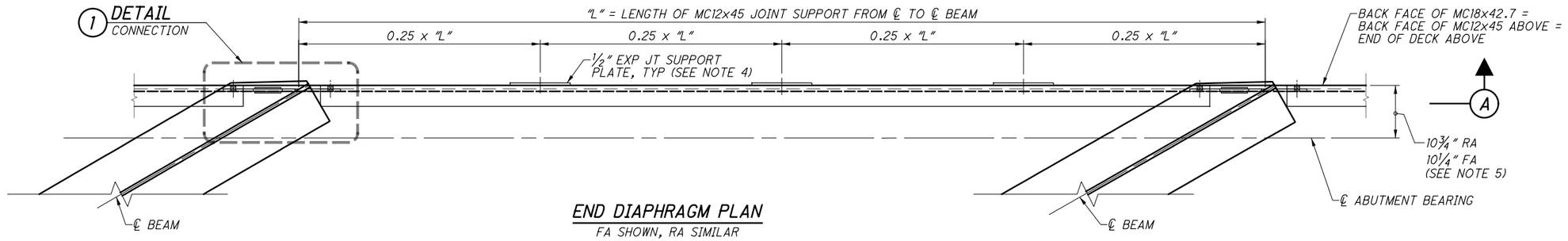
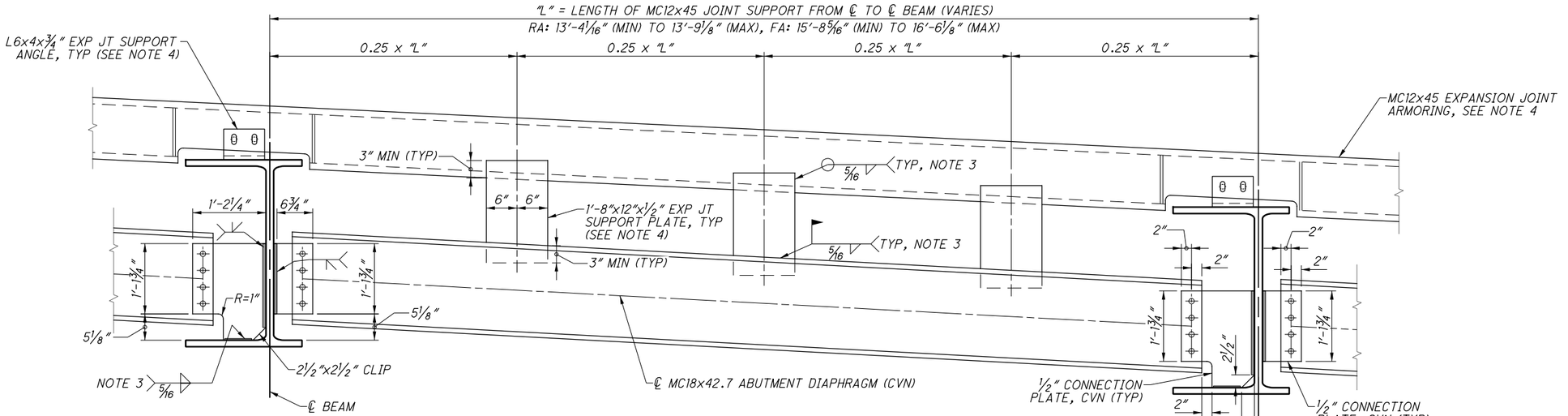


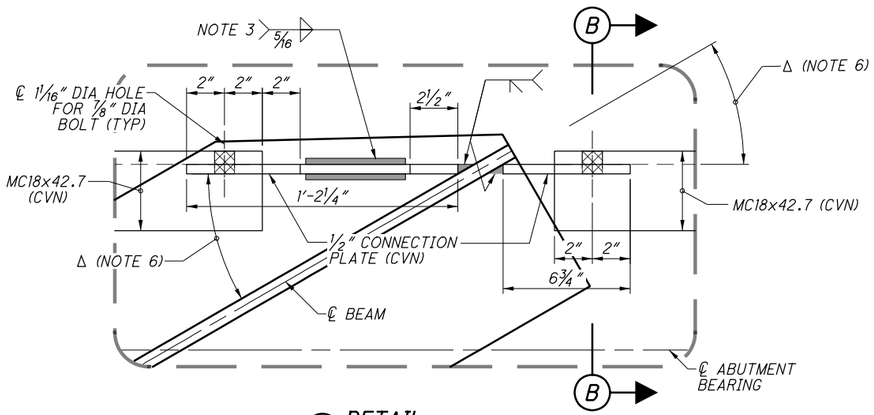
END DIAPHRAGM PLAN

FA SHOWN, RA SIMILAR



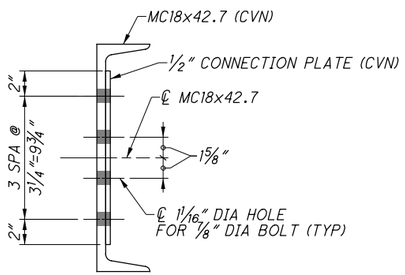
A ELEVATION PARALLEL TO ℄ ABUTMENT

SHOWN AT FACE OF DIAPHRAGM CONNECTION PLATES



1 DETAIL

CONNECTION



B SECTION

NOTES

1. ALL ABUTMENT DIAPHRAGM CONNECTION BOLTS SHALL BE ⅞" DIAMETER ASTM A325.
2. ABUTMENT DIAPHRAGM FLANGES ARE TO POINT AWAY FROM THE BACKWALL.
3. TERMINATE CONNECTION AND SUPPORT PLATE FILLET WELDS ¼" ±⅛" FROM THE END OF THE PLATE OR SUPPORTING MEMBER.
4. SEE SHEET 45 51 AND SCD EXJ-4-87 FOR EXPANSION JOINT DETAILS NOT SHOWN. EXPANSION JOINT SUPPORT PLATES, ANGLES, AND MC 12x45 SHALL BE INCLUDED FOR PAYMENT WITH THE EXPANSION JOINT PAY ITEM.
5. END OF DECK DISTANCE PAST ℄ BRG ASSUMES A 1¼" JOINT RETAINER.
6. FOR ANGULAR DATA, SEE "BEARING ANGULAR DATA" TABLE ON SHEET 34 51.

REFERENCES: STEEL DETAILS

TRANSVERSE SECTION -	39 51
FRAMING PLAN -	33 51
BEAM ELEVATION & DIMENSIONS -	34 51
BOLTED FIELD SPLICE DETAILS -	35 51
BEAM CAMBER & BLOCKING -	36 51
DIAPHRAGM DETAILS -	37 51 TO 38 51

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COLUMBUS, OHIO 43231

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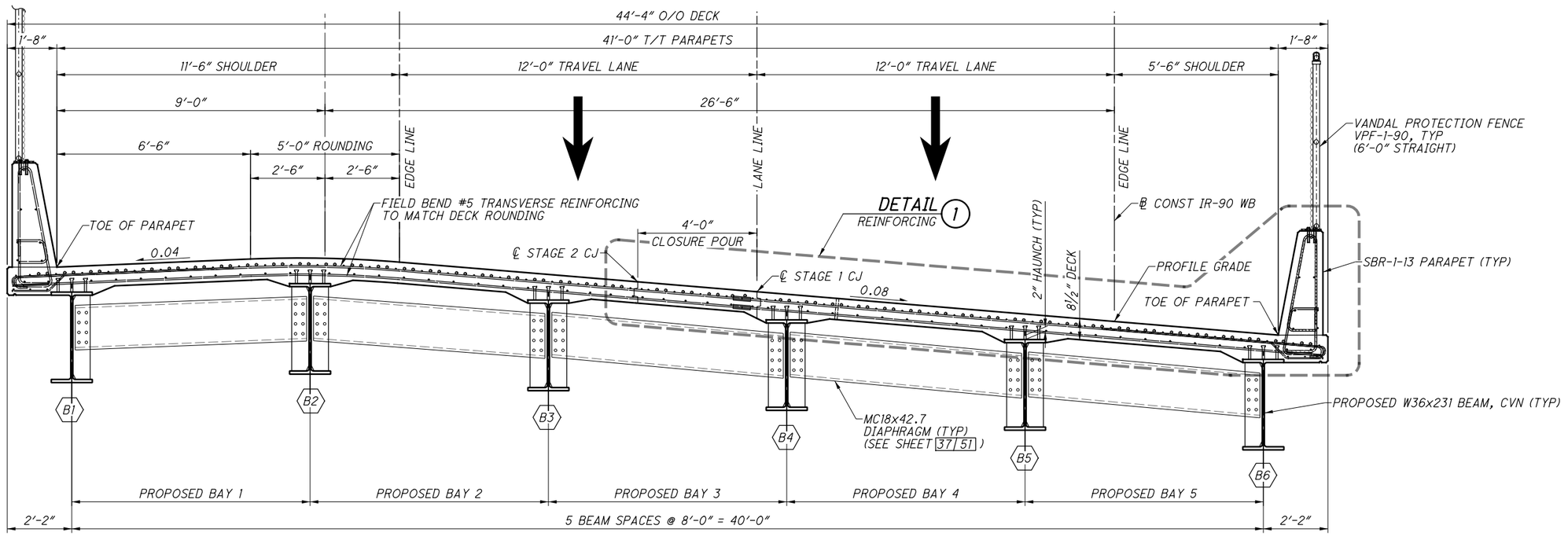
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CTM		4704401	

END DIAPHRAGM DETAILS
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

38 / 51

62
75



TRANSVERSE SECTION

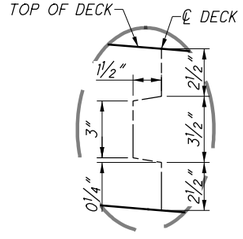
LOOKING UPSTATION

NOTES

1. THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED UPON THE CONSTANT SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM HAUNCH. THE ESTIMATE ASSUMES AN AVERAGE HAUNCH THICKNESS OF 3.26" AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE OF 9". DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM IS ±3" THE HAUNCH THICKNESS IS MEASURED AT THE CENTERLINE OF THE BEAM, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE OF THE BEAM, MINUS THE DECK THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.
2. SEAL ALL LONGITUDINAL CONSTRUCTION JOINTS FOR THE LENGTH OF THE JOINTS A MINIMUM OF 12" ON EITHER SIDE OF THE JOINT. SEAL GROUTED ANCHOR HOLES A MINIMUM OF 8" AROUND THE CENTER OF THE HOLE SEALANT SHALL BE HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM), 705.15. THE COST OF GROUTING ANCHOR HOLES AND HMWM SEALANT SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE DECK CONCRETE.

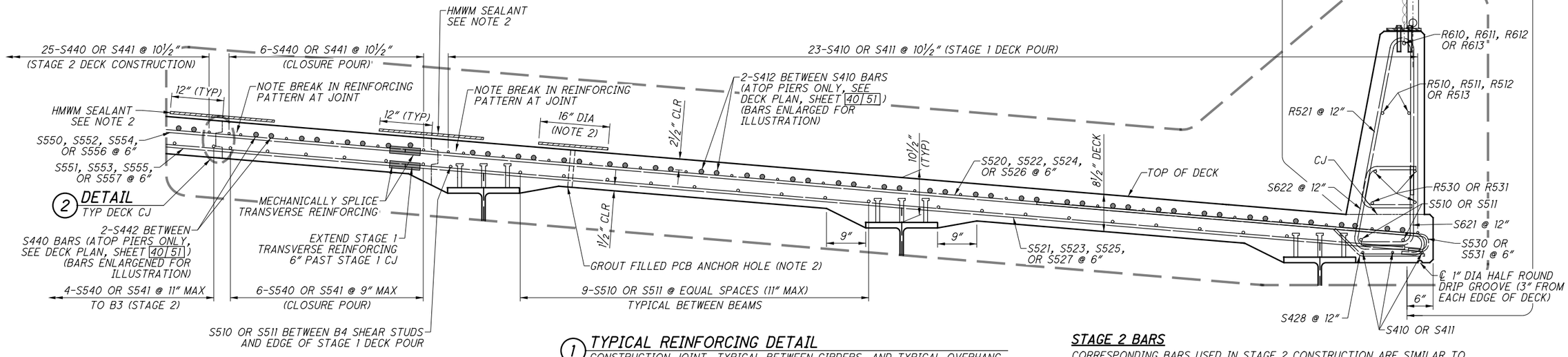
SUPERSTRUCTURE REFERENCES

STEEL DETAILS -	33 51	TO	38 51
BEARING DETAILS -	30 51	TO	32 51
DECK DETAILS -	40 51	TO	44 51
END DAM DETAILS -	45 51		
APPROACH SLAB & PARAPET DETAILS -	46 51	TO	48 51
REINFORCING TABLES -	49 51	TO	51 51



2 CJ DETAIL

TYPICAL KEYWAY



1 TYPICAL REINFORCING DETAIL

CONSTRUCTION JOINT, TYPICAL BETWEEN GIRDERS, AND TYPICAL OVERHANG

STAGE 2 BARS

CORRESPONDING BARS USED IN STAGE 2 CONSTRUCTION ARE SIMILAR TO THOSE SHOWN IN STAGE 1, WITH A VALUE OF 30 ADDED TO THE BAR NUMBER.

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
CTM		4704401	

TRANSVERSE SECTION AND DECK REINFORCING DETAILS
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

39 / 51

63 / 75

SUBMITTAL: FINAL TRACINGS PLOT DRIVER: ODOTV8iSS3_PDF.pltcfg
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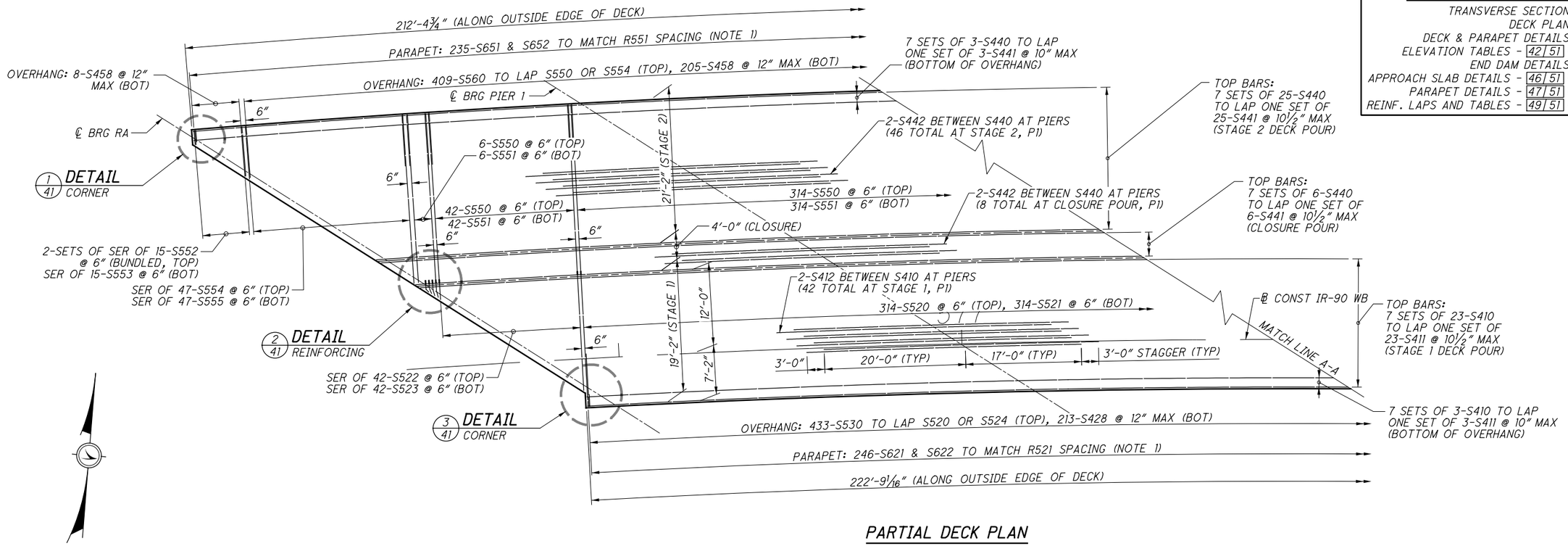
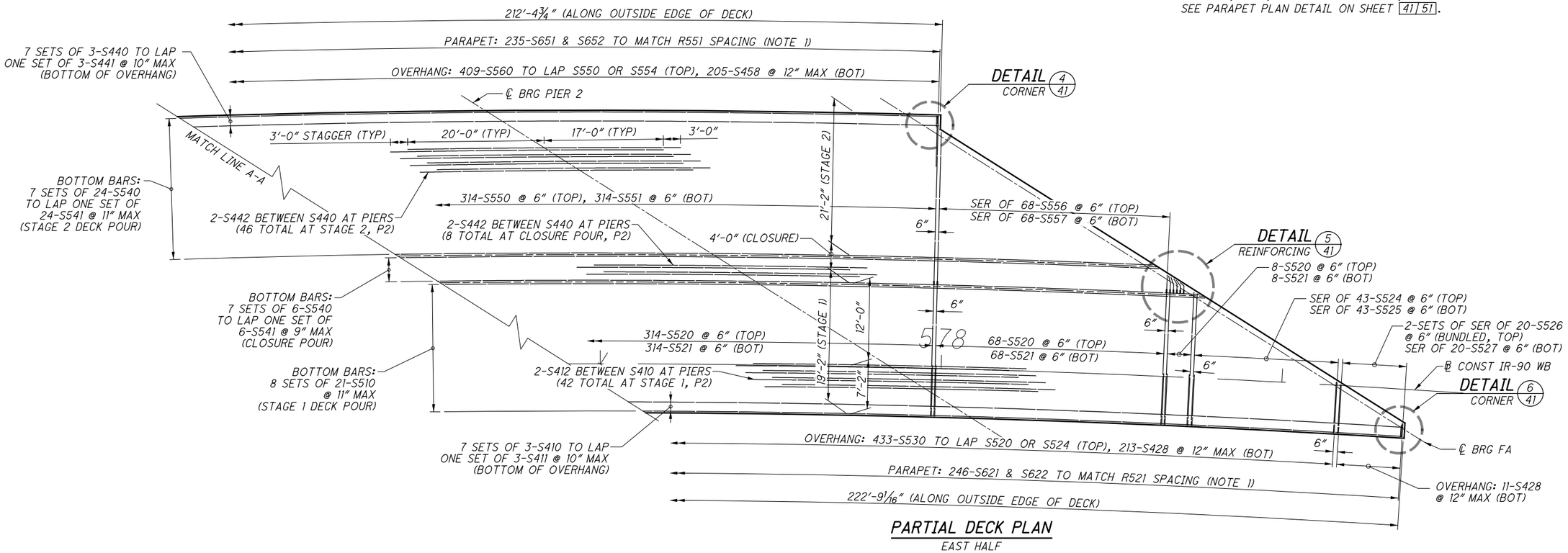
REFERENCES: DECK DETAILS

TRANSVERSE SECTION -	39 | 51
DECK PLAN -	40 | 51
DECK & PARAPET DETAILS -	41 | 51
ELEVATION TABLES -	42 | 51 TO 44 | 51
END DAM DETAILS -	45 | 51
APPROACH SLAB DETAILS -	46 | 51 TO 47 | 51
PARAPET DETAILS -	47 | 51 TO 48 | 51
REINF. LAPS AND TABLES -	49 | 51 TO 51 | 51



PARTIAL DECK PLAN
WEST HALF

NOTES
1. FOR S621, S622, S651 & S652 SPACING, SEE PARAPET PLAN DETAIL ON SHEET 41 \| 51.



PARTIAL DECK PLAN
EAST HALF

DESIGN AGENCY
Gannett Fleming
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COLUMBUS, OHIO 43231

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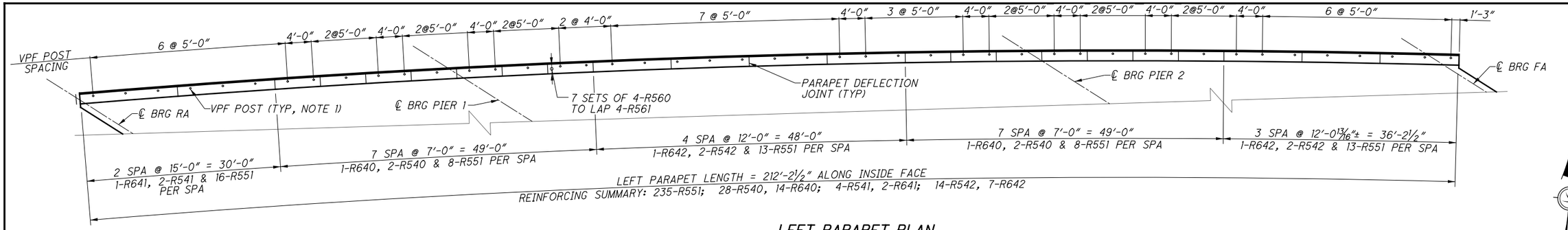
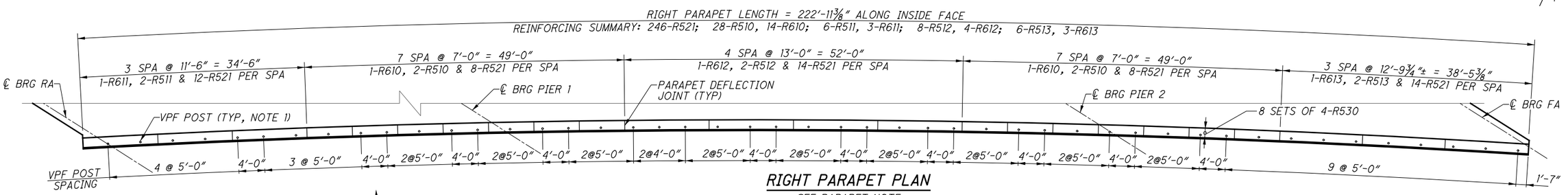
EFD	EFD	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CTM		4704401	

DECK REINFORCING PLAN
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

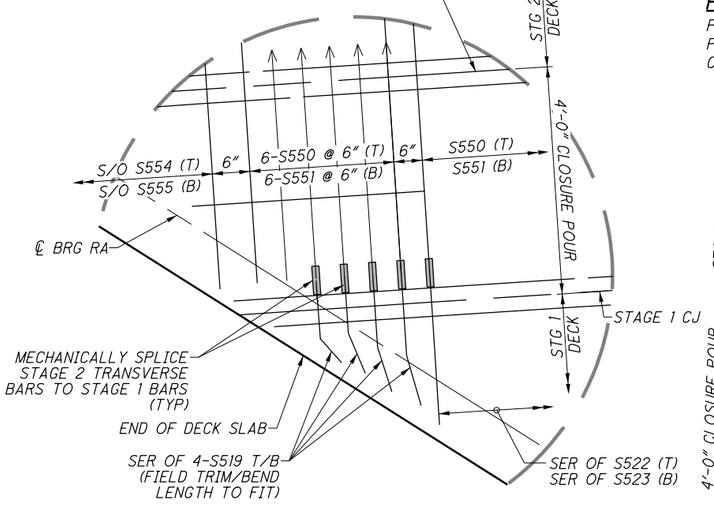


LEFT PARAPET PLAN
SEE PARAPET NOTE

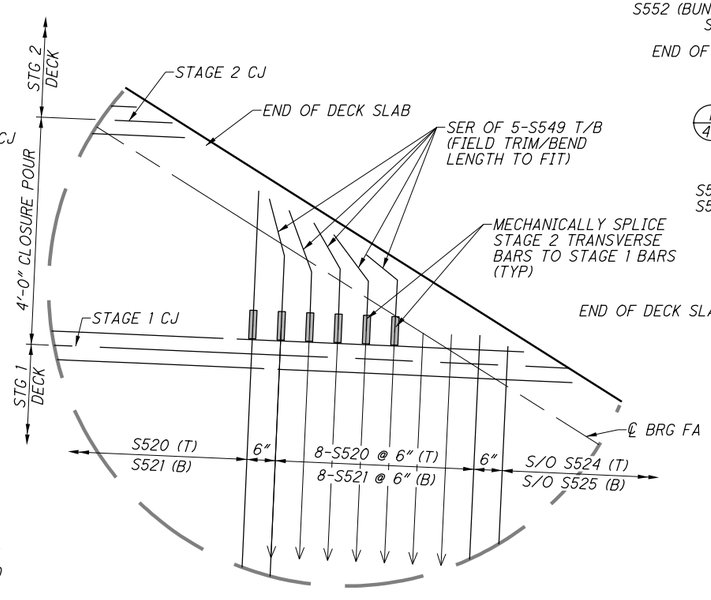


RIGHT PARAPET PLAN
SEE PARAPET NOTE

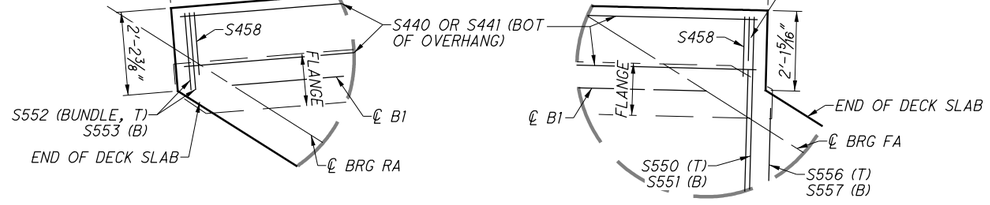
PARAPET NOTE
PARAPET REINFORCING SHALL BE PLACED TO CLEAR DEFLECTION JOINTS PER ODOT SCD SBR-1-13. TYPICAL DEFLECTION JOINT DETAILS AND CLEARANCES ARE SHOWN ON SHEET 48|51 .



2/40 DETAIL, T/B REINFORCING
CJ AT REAR ABUTMENT

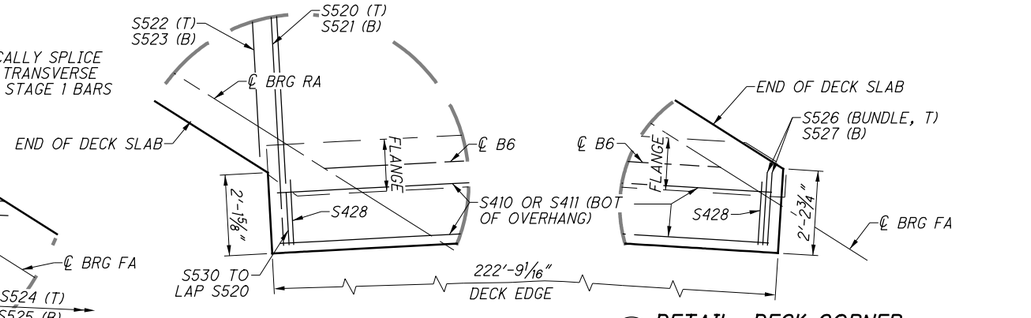


5/40 DETAIL, T/B REINFORCING
CJ AT FORWARD ABUTMENT



1/40 DETAIL, DECK CORNER
LEFT REAR CORNER

4/40 DETAIL, DECK CORNER
LEFT FWD CORNER



3/40 DETAIL, DECK CORNER
RIGHT REAR CORNER

6/40 DETAIL, DECK CORNER
RIGHT FWD CORNER

NOTES
1. VANDAL PROTECTION FENCE (VPF) SHALL BE INSTALLED THE FULL LENGTH OF BOTH BRIDGE PARAPETS WITH POST SPACINGS AS SHOWN. THE VPF SHALL BE INSTALLED IN ACCORDANCE WITH THE ODOT SCD VPF-1-90.
2. FOR PARAPET DEFLECTION JOINT DETAIL, SEE SHEET 48|51 .

REFERENCES: DECK DETAILS

TRANSVERSE SECTION -	39|51
DECK PLAN -	40|51
DECK & PARAPET DETAILS -	41|51
ELEVATION TABLES -	42|51 TO 44|51
END DAM DETAILS -	45|51
APPROACH SLAB DETAILS -	46|51 TO 47|51
PARAPET DETAILS -	47|51 TO 48|51
REINF. LAPS AND TABLES -	49|51 TO 51|51

DESIGN AGENCY
Gannett Fleming
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COLUMBUS, OHIO 43231

DESIGNED	DRAWN	REVIEWED	DATE
EFD	EFD	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CTM		4704401	

DECK REINFORCING AND PARAPET DETAILS
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

41 / 51

65 / 75

SUBMITTAL: FINAL TRACINGS
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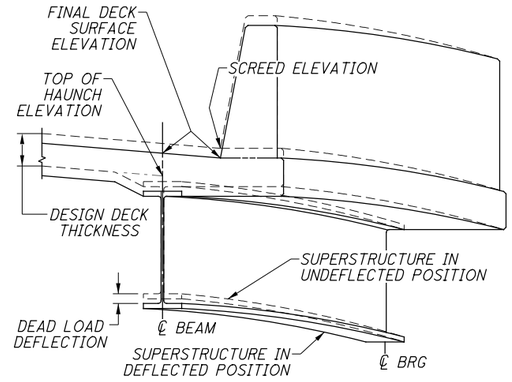
TOP OF HAUNCH ELEVATIONS TABLE

SPAN NO.	LOCATION	BEAM 1 (LINE 2)		BEAM 2 (LINE 4)		BEAM 3 (LINE 6)		BEAM 4 (LINE 9)		BEAM 5 (LINE 10)		BEAM 6 (LINE 12)	
		STATION	T/HAUNCH ELEVATION	STATION	T/HAUNCH ELEVATION	STATION	T/HAUNCH ELEVATION	STATION	T/HAUNCH ELEVATION	STATION	T/HAUNCH ELEVATION	STATION	T/HAUNCH ELEVATION
RA		575+92.04	769.38	576+02.55	769.46	576+13.22	768.72	576+24.06	767.86	576+35.08	767.00	576+46.28	766.13
SPAN NO. 1	0.25 L	576+06.14	769.13	576+16.81	769.19	576+27.65	768.44	576+38.67	767.58	576+49.87	766.70	576+61.26	765.82
	0.50 L	576+20.39	768.85	576+31.23	768.90	576+42.24	768.14	576+53.44	767.27	576+64.83	766.38	576+76.41	765.48
	SPLICE	576+31.62	768.61	576+42.42	768.66	576+53.33	767.90	576+64.36	767.02	576+75.39	766.14	576+87.42	765.22
	0.75 L	576+34.78	768.55	576+45.79	768.59	576+56.99	767.82	576+68.37	766.93	576+79.95	766.03	576+91.74	765.12
PIER 1		576+49.33	768.24	576+60.52	768.28	576+71.90	767.49	576+83.48	766.59	576+95.26	765.68	577+07.25	764.76
SPAN NO. 2	0.25 L	576+70.65	767.83	576+82.11	767.85	576+93.77	767.05	577+05.64	766.13	577+17.72	765.20	577+30.03	764.27
	0.50 L	576+92.32	767.37	577+04.07	767.37	577+16.03	766.56	577+28.20	765.62	577+40.60	764.67	577+53.23	763.71
	0.75 L	577+14.36	766.82	577+26.41	766.80	577+38.68	765.96	577+51.18	765.00	577+63.92	764.03	577+76.90	763.05
	SPLICE	577+16.16	766.77	577+28.19	766.75	577+40.22	765.92	577+52.25	764.97	577+64.28	764.02	577+77.31	763.04
PIER 2		577+36.79	766.22	577+49.16	766.18	577+61.76	765.32	577+74.60	764.34	577+87.70	763.34	578+01.05	762.33
SPAN NO. 3	0.25 L	577+51.66	765.84	577+64.25	765.79	577+77.07	764.91	577+90.15	763.91	578+03.49	762.90	578+17.10	761.88
	0.50 L	577+66.72	765.46	577+79.53	765.39	577+92.59	764.51	578+05.91	763.49	578+19.51	762.46	578+33.38	761.42
	0.75 L	577+81.97	765.05	577+95.01	764.97	578+08.32	764.06	578+21.90	763.03	578+35.76	761.99	578+49.91	760.93
FA		577+97.42	764.61	578+10.71	764.51	578+24.27	763.59	578+38.11	762.54	578+52.25	761.48	578+66.70	760.40



TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATION DETAIL

NOTES

1. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

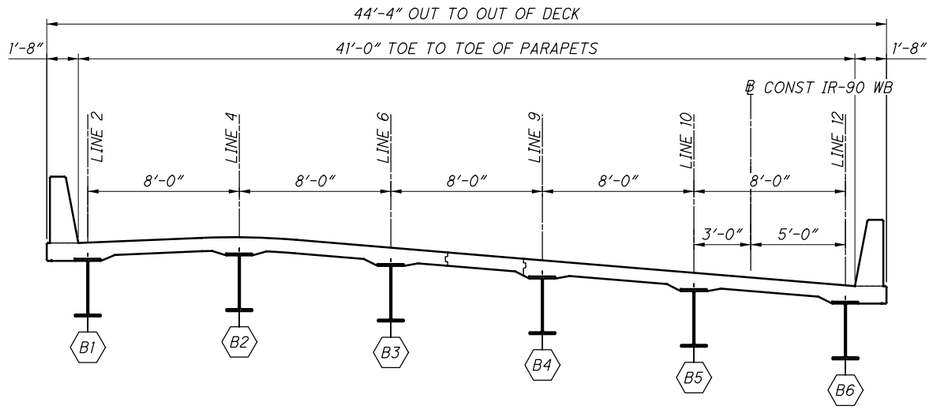
2. DEFLECTIONS USED FOR TOP OF HAUNCH ELEVATIONS ARE BASED UPON THE STAGED DECK POURS SHOWN IN THESE PLANS.
   ELEVATIONS FOR BEAMS 4-6 ASSUME DEFLECTIONS FROM THE STAGE 1 DECK POUR.
   ELEVATIONS FOR BEAMS 1-3 ASSUME DEFLECTIONS FROM THE INITIAL STAGE 2 DECK POUR.

   THE CLOSURE POUR CONCRETE AND OTHER ANTICIPATED DEAD LOADS ARE APPLIED EQUALLY TO ALL BEAMS.

3. ALL DIMENSIONS IN THE SUPERSTRUCTURE SECTION ARE SHOWN NORMAL TO THE BASELINE OF CONSTRUCTION OF IR-90 WB.

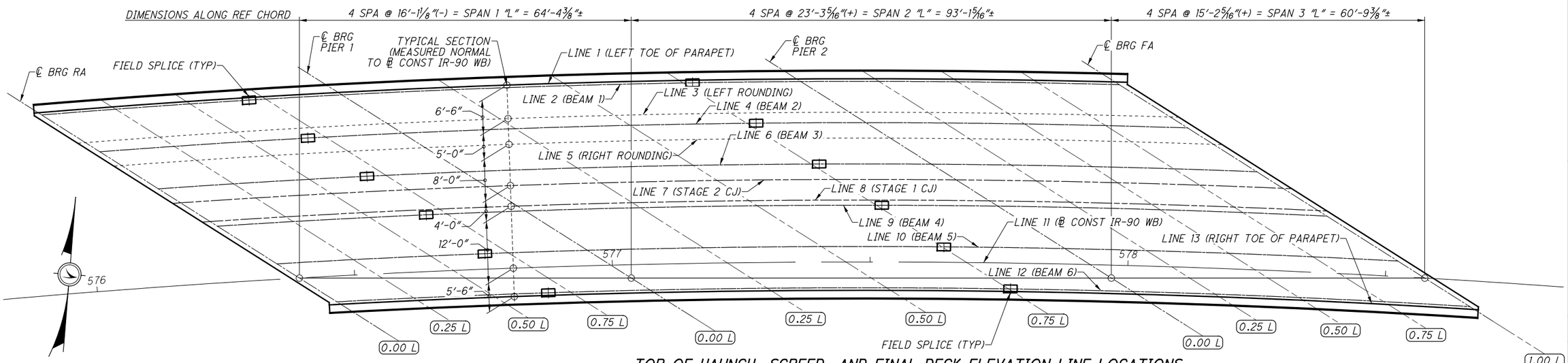
REFERENCES: DECK DETAILS

TRANSVERSE SECTION -	39 | 51
DECK PLAN -	40 | 51
DECK & PARAPET DETAILS -	41 | 51
ELEVATION TABLES -	42 | 51 TO 44 | 51
END DAM DETAILS -	45 | 51
APPROACH SLAB DETAILS -	46 | 51 TO 47 | 51
PARAPET DETAILS -	47 | 51 TO 48 | 51
REINF. LAPS AND TABLES -	49 | 51 TO 51 | 51



SUPERSTRUCTURE SECTION: TOP OF HAUNCH LINES

LOOKING UPSTATION, SEE NOTE 3



TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATION LINE LOCATIONS

ALL ℄ BEARINGS AND SKEW LINES ARE 57°41′14″ RIGHT FORWARD TO REFERENCE CHORD

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DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

DESIGNED	DRAWN	REVIEWED	DATE
EFD	EFD	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CTM		4704401	

TOP OF HAUNCH ELEVATIONS
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

SCREED ELEVATION TABLE																
SPAN NO.	LOCATION	LT PARAPET (LINE 1)		LT ROUND (LINE 3)		RT ROUND (LINE 5)		STAGE 2 CJ (LINE 7)		STAGE 1 CJ (LINE 8)		PGL (LINE 11)		RT PARAPET (LINE 13)	
		STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION
RA		575+91.39	770.08	575+99.91	770.18	576+06.53	769.96	576+17.26	769.11	576+22.70	768.68	576+39.26	767.38	576+46.99	766.78
SPAN NO. 1	0.25 L	576+05.48	769.83	576+14.13	769.92	576+20.86	769.69	576+31.76	768.83	576+37.28	768.39	576+54.12	767.08	576+61.98	766.47
	0.50 L	576+19.72	769.55	576+28.50	769.63	576+35.34	769.39	576+46.42	768.52	576+52.03	768.08	576+69.15	766.75	576+77.14	766.13
	0.75 L	576+34.10	769.25	576+43.02	769.32	576+49.97	769.08	576+61.24	768.19	576+66.94	767.75	576+84.35	766.40	576+92.48	765.77
PIER 1		576+48.63	768.95	576+57.70	769.01	576+64.76	768.76	576+76.22	767.87	576+82.02	767.42	576+99.73	766.05	577+08.00	765.41
SPAN NO. 2	0.25 L	576+69.94	768.53	576+79.23	768.59	576+86.46	768.32	576+98.20	767.42	577+04.15	766.95	577+22.31	765.56	577+30.80	764.92
	0.50 L	576+91.59	768.08	577+01.11	768.12	577+08.53	767.84	577+20.57	766.92	577+26.67	766.44	577+45.31	765.01	577+54.03	764.36
	0.75 L	577+13.61	767.53	577+23.38	767.55	577+30.99	767.26	577+43.34	766.31	577+49.60	765.83	577+68.75	764.37	577+77.72	763.69
PIER 2		577+36.03	766.93	577+46.05	766.93	577+53.86	766.63	577+66.55	765.66	577+72.99	765.17	577+92.67	763.67	578+01.90	762.97
SPAN NO. 3	0.25 L	577+50.89	766.55	577+61.08	766.54	577+69.03	766.23	577+81.95	765.25	577+88.50	764.75	578+08.56	763.23	578+17.96	762.52
	0.50 L	577+65.93	766.17	577+76.30	766.15	577+84.40	765.83	577+97.55	764.84	578+04.23	764.32	578+24.68	762.78	578+34.26	762.06
	0.75 L	577+81.16	765.76	577+91.73	765.73	577+99.97	765.40	578+13.38	764.39	578+20.18	763.87	578+41.03	762.30	578+50.81	761.57
FA		577+96.60	765.32	578+07.36	765.28	578+15.76	764.94	578+29.43	763.90	578+36.37	763.38	578+57.63	761.78	578+67.62	761.04

NOTES

1. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

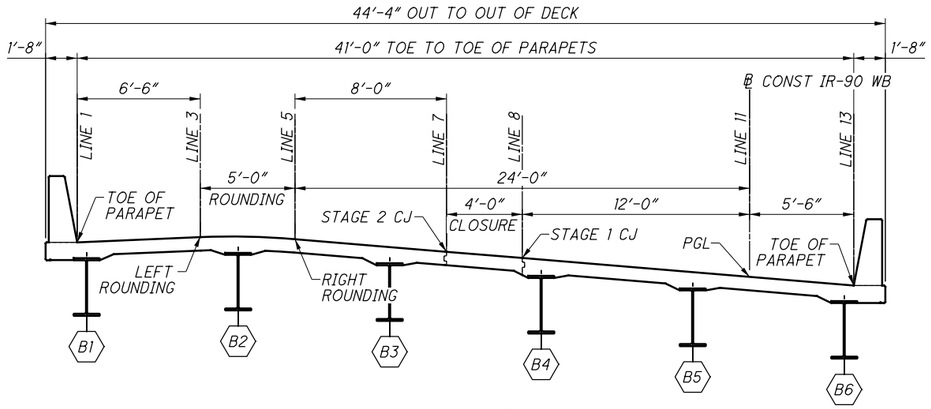
2. DEFLECTIONS USED FOR SCREED ELEVATIONS ARE BASED UPON THE STAGED DECK POURS SHOWN IN THESE PLANS.
   ELEVATIONS FOR BEAMS 4-6 ASSUME DEFLECTIONS FROM THE STAGE 1 DECK POUR.
   ELEVATIONS FOR BEAMS 1-3 ASSUME DEFLECTIONS FROM THE INITIAL STAGE 2 DECK POUR.

   THE CLOSURE POUR CONCRETE AND OTHER ANTICIPATED DEAD LOADS ARE APPLIED EQUALLY TO ALL BEAMS.

3. ALL DIMENSIONS IN THE SUPERSTRUCTURE SECTION ARE SHOWN NORMAL TO THE BASELINE OF CONSTRUCTION OF IR-90 WB.

REFERENCES: DECK DETAILS

TRANSVERSE SECTION - 39 / 51
DECK PLAN - 40 / 51
DECK & PARAPET DETAILS - 41 / 51
ELEVATION TABLES - 42 / 51 TO 44 / 51
END DAM DETAILS - 45 / 51
APPROACH SLAB DETAILS - 46 / 51 TO 47 / 51
PARAPET DETAILS - 47 / 51 TO 48 / 51
REINF. LAPS AND TABLES - 49 / 51 TO 51 / 51



SUPERSTRUCTURE SECTION: SCREED LINE LOCATIONS

LOOKING UPSTATION, SEE NOTE 3

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DESIGN AGENCY
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ENGINEERS & ARCHITECTS, P.C.
2560 CORPORATE EXCHANGE DRIVE SUITE 230
COLUMBUS, OHIO 43231

DESIGNED EFD | DRAWN EFD | REVIEWED MTO | DATE 1/2017
CHECKED CTM | REVISED | STRUCTURE FILE NUMBER 4704401

SCREED LINE ELEVATIONS TABLE
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

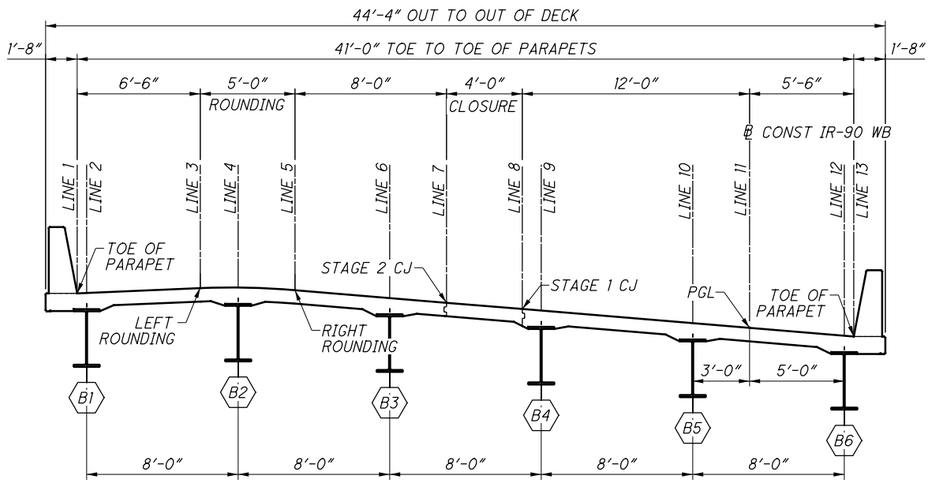
43 / 51
67 / 75

FINAL DECK SURFACE ELEVATIONS

SPAN NO.	LOCATION	LT PARAPET (LINE 1)		BEAM 1 (LINE 2)		LT ROUND (LINE 3)		BEAM 2 (LINE 4)		RT ROUND (LINE 5)		BEAM 3 (LINE 6)		STAGE 2 CJ (LINE 7)	
		STATION	DECK ELEVATION	STATION	DECK ELEVATION	STATION	DECK ELEVATION	STATION	DECK ELEVATION	STATION	DECK ELEVATION	STATION	DECK ELEVATION	STATION	DECK ELEVATION
RA		575+91.39	770.08	575+92.04	770.09	575+99.91	770.18	576+02.55	770.16	576+06.53	769.96	576+13.22	769.43	576+17.26	769.11
SPAN NO. 1	0.25 L	576+05.48	769.82	576+06.14	769.82	576+14.13	769.91	576+16.81	769.89	576+20.86	769.68	576+27.65	769.14	576+31.76	768.82
	0.50 L	576+19.72	769.54	576+20.39	769.55	576+28.50	769.62	576+31.23	769.60	576+35.34	769.38	576+42.24	768.84	576+46.42	768.51
	SPLICE	N/A	N/A	576+31.62	769.32	N/A	N/A	576+42.42	769.37	N/A	N/A	576+53.33	768.61	N/A	N/A
	0.75 L	576+34.10	769.25	576+34.78	769.25	576+43.02	769.32	576+45.79	769.30	576+49.97	769.08	576+56.99	768.53	576+61.24	768.20
PIER 1		576+48.63	768.95	576+49.33	768.95	576+57.70	769.01	576+60.52	768.98	576+64.76	768.76	576+71.90	768.20	576+76.22	767.87
SPAN NO. 2	0.25 L	576+69.94	768.49	576+70.65	768.49	576+79.23	768.54	576+82.11	768.51	576+86.46	768.27	576+93.77	767.71	576+98.20	767.36
	0.50 L	576+91.59	768.00	576+92.32	768.00	577+01.11	768.03	577+04.07	768.00	577+08.53	767.76	577+16.03	767.18	577+20.57	766.83
	0.75 L	577+13.61	767.48	577+14.36	767.48	577+23.38	767.50	577+26.41	767.46	577+30.99	767.21	577+38.68	766.62	577+43.34	766.26
	SPLICE	N/A	N/A	577+16.16	767.44	N/A	N/A	577+28.19	767.41	N/A	N/A	577+40.22	766.58	N/A	N/A
PIER 2		577+36.03	766.93	577+36.79	766.93	577+46.05	766.93	577+49.16	766.88	577+53.86	766.63	577+61.76	766.03	577+66.55	765.66
SPAN NO. 3	0.25 L	577+50.89	766.55	577+51.66	766.55	577+61.08	766.54	577+64.25	766.49	577+69.03	766.23	577+77.07	765.62	577+81.95	765.25
	0.50 L	577+65.93	766.16	577+66.72	766.15	577+76.30	766.14	577+79.53	766.08	577+84.40	765.82	577+92.59	765.19	577+97.55	764.82
	0.75 L	577+81.16	765.75	577+81.97	765.75	577+91.73	765.72	577+95.01	765.66	577+99.97	765.39	578+08.32	764.75	578+13.38	764.37
FA		577+96.60	765.32	577+97.42	765.32	578+07.36	765.28	578+10.71	765.22	578+15.76	764.94	578+24.27	764.30	578+29.43	763.90

FINAL DECK SURFACE ELEVATIONS (CONTINUED)

SPAN NO.	LOCATION	STAGE 1 CJ (LINE 8)		BEAM 4 (LINE 9)		BEAM 5 (LINE 10)		PGL (LINE 11)		BEAM 6 (LINE 12)		RT PARAPET (LINE 13)	
		STATION	DECK ELEVATION	STATION	DECK ELEVATION	STATION	DECK ELEVATION	STATION	DECK ELEVATION	STATION	DECK ELEVATION	STATION	DECK ELEVATION
RA		576+22.70	768.68	576+24.06	768.57	576+35.08	767.71	576+39.26	767.38	576+46.28	766.84	576+46.99	766.78
SPAN NO. 1	0.25 L	576+37.28	768.38	576+38.67	768.27	576+49.87	767.40	576+54.12	767.07	576+61.26	766.52	576+61.98	766.46
	0.50 L	576+52.03	768.07	576+53.44	767.96	576+64.83	767.08	576+69.15	766.74	576+76.41	766.18	576+77.14	766.13
	SPLICE	N/A	N/A	576+64.36	767.73	576+75.39	766.84	N/A	N/A	576+87.42	765.93	N/A	N/A
	0.75 L	576+66.94	767.75	576+68.37	767.64	576+79.95	766.74	576+84.35	766.40	576+91.74	765.83	576+92.48	765.78
PIER 1		576+82.02	767.42	576+83.48	767.30	576+95.26	766.39	576+99.73	766.05	577+07.25	765.47	577+08.00	765.41
SPAN NO. 2	0.25 L	577+04.15	766.90	577+05.64	766.79	577+17.72	765.86	577+22.31	765.51	577+30.03	764.92	577+30.80	764.86
	0.50 L	577+26.67	766.36	577+28.20	766.24	577+40.60	765.29	577+45.31	764.93	577+53.23	764.33	577+54.03	764.27
	0.75 L	577+49.60	765.78	577+51.18	765.66	577+63.92	764.69	577+68.75	764.32	577+76.90	763.70	577+77.72	763.64
	SPLICE	N/A	N/A	577+52.25	765.63	577+64.28	764.68	N/A	N/A	577+77.31	763.69	N/A	N/A
PIER 2		577+72.99	765.17	577+74.60	765.04	577+87.70	764.05	577+92.67	763.67	578+01.05	763.04	578+01.90	762.97
SPAN NO. 3	0.25 L	577+88.50	764.75	577+90.15	764.62	578+03.49	763.61	578+08.56	763.23	578+17.10	762.58	578+17.96	762.52
	0.50 L	578+04.23	764.31	578+05.91	764.18	578+19.51	763.15	578+24.68	762.76	578+33.38	762.11	578+34.26	762.04
	0.75 L	578+20.18	763.85	578+21.90	763.72	578+35.76	762.68	578+41.03	762.28	578+49.91	761.61	578+50.81	761.55
FA		578+36.37	763.38	578+38.11	763.25	578+52.25	762.18	578+57.63	761.78	578+66.70	761.11	578+67.62	761.04



SUPERSTRUCTURE SECTION: FINAL DECK SURFACE LOCATIONS

LOOKING UPSTATION, SEE NOTE 2

NOTES

1. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.
2. ALL DIMENSIONS IN THE SUPERSTRUCTURE SECTION ARE SHOWN NORMAL TO THE BASELINE OF CONSTRUCTION OF IR-90 WB.

REFERENCES: DECK DETAILS

TRANSVERSE SECTION - 39/51
DECK PLAN - 40/51
DECK & PARAPET DETAILS - 41/51
ELEVATION TABLES - 42/51 TO 44/51
END DAM DETAILS - 45/51
APPROACH SLAB DETAILS - 46/51 TO 47/51
PARAPET DETAILS - 47/51 TO 48/51
REINF. LAPS AND TABLES - 49/51 TO 51/51

DESIGN AGENCY
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2500 CORPORATE EXCHANGE DRIVE SUITE 230
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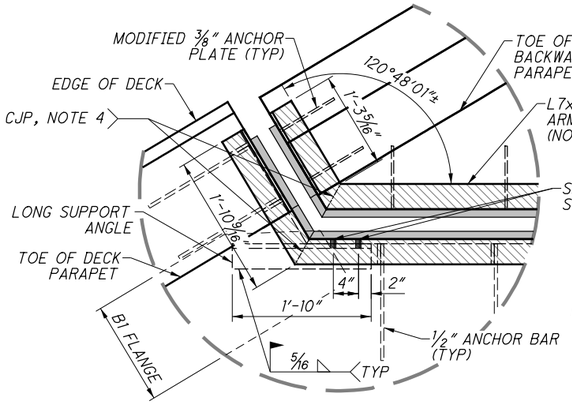
DESIGNED EFD | DRAWN EFD | REVIEWED MTO | DATE 1/2017
CHECKED CTM | REVISED | STRUCTURE FILE NUMBER 4704401

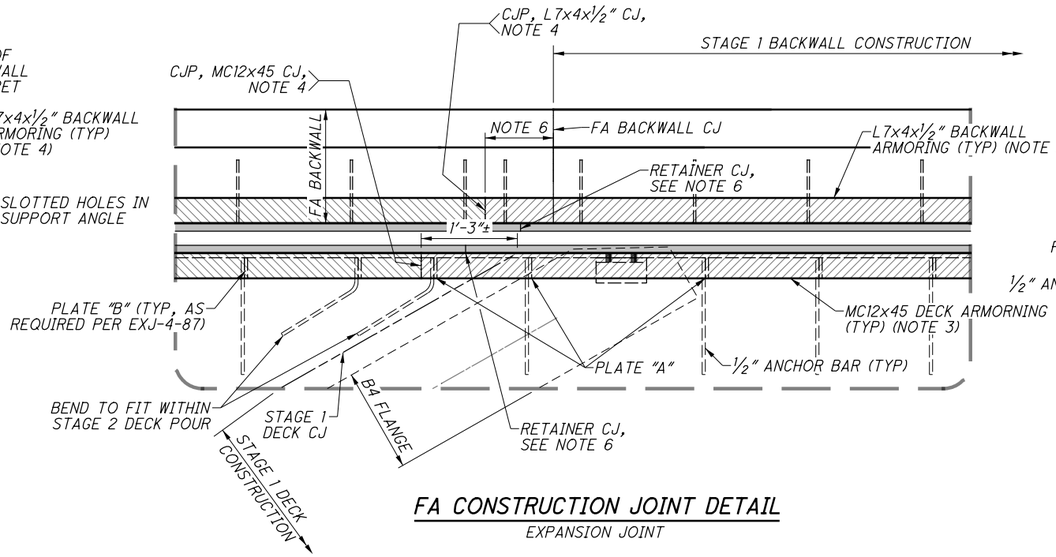
FINAL DECK ELEVATIONS TABLE
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591



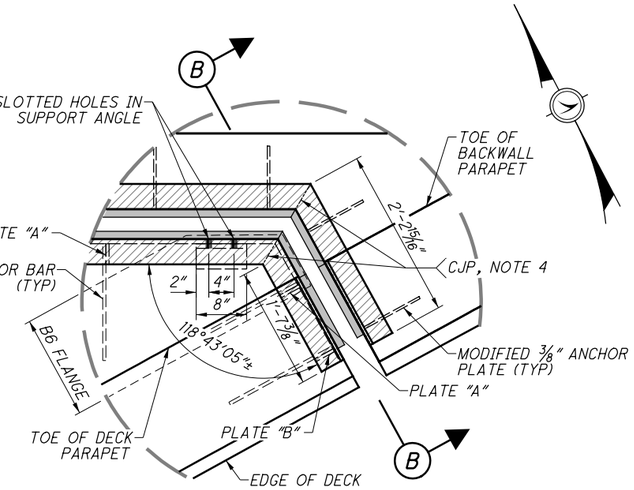
LEFT FWD CORNER DETAIL

EXPANSION JOINT



FA CONSTRUCTION JOINT DETAIL

EXPANSION JOINT

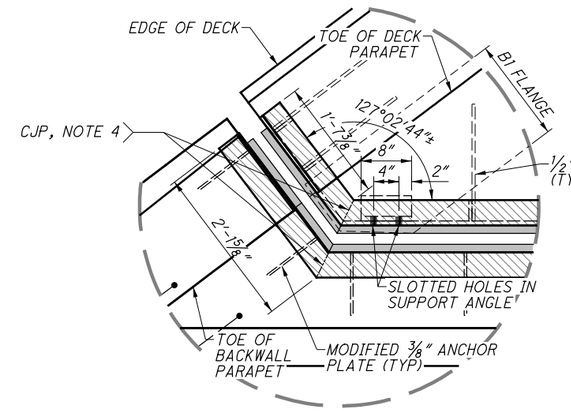


RIGHT FWD CORNER DETAIL

EXPANSION JOINT

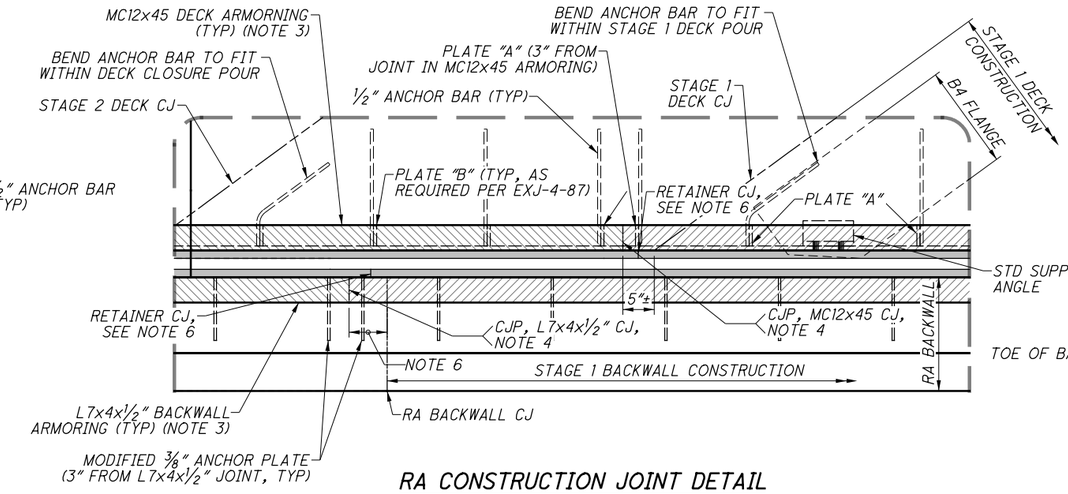
LEGEND

- STAGE 1 ARMORING INSTALLED
- STAGE 2 ARMORING INSTALLED
- RETAINER INSTALLED PER EXJ-4-87



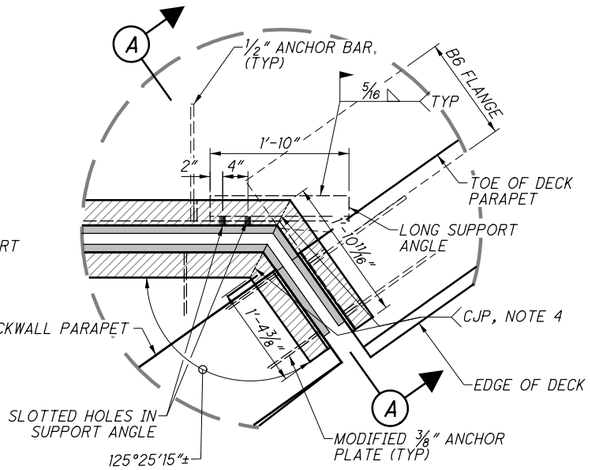
LEFT REAR CORNER DETAIL

EXPANSION JOINT



RA CONSTRUCTION JOINT DETAIL

EXPANSION JOINT



RIGHT REAR CORNER DETAIL

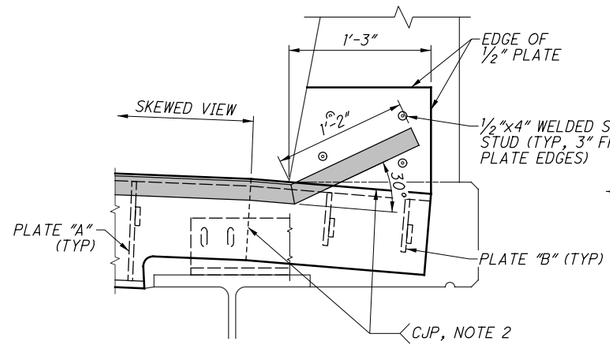
EXPANSION JOINT

EXPANSION JOINT OPENING TABLE

ABUTMENT	TEMPERATURE (°F)						
	30°	40°	50°	60°	70°	80°	90°
RA (3" SEAL)	1 7/8"	1 13/16"	1 3/4"	1 11/16"	1 5/8"	1 9/16"	1 1/2"
FA (4" SEAL)	2 7/16"	2 5/16"	2 3/16"	2 1/16"	1 15/16"	1 13/16"	1 11/16"

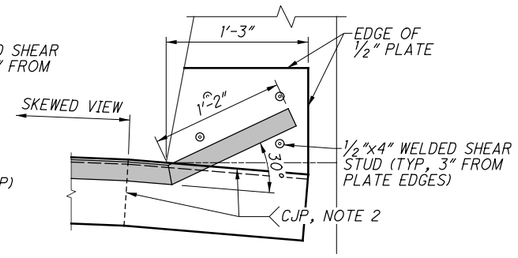
NOTES

1. INSTALLATION OF SEAL: DURING INSTALLATION OF THE SUPPORT/ARMOR FOR THE SUPERSTRUCTURE SIDE OF THE EXPANSION JOINT SEAL, OBSERVE THE SEATING OF BEAMS ON BEARINGS TO ASSURE THAT POSITIVE BEARING IS MAINTAINED.
2. HORIZONTAL ANGLE IN STRIP SEAL SHALL BE SHOP CREATED BY SHOP VULCANIZING.
3. ARMORING DETAILS ARE TO BE PROVIDED PER THESE PLANS AND THE EXJ-4-87 DETAILS. ARMORING IS TO BE ANGLED TO MATCH THE ROADWAY SLOPE. SLOPE IS VARIABLE AND TO MATCH FRONT OF BACKWALL ELEVATIONS GIVEN ON SHEETS 10 51 & 17 51 AND FINAL DECK ELEVATIONS GIVEN ON SHEET 44 51 .
4. COMPLETE JOINT PENETRATION (CJP) WELDS SHALL BE USED FOR ALL JOINTS IN ARMORING PER STANDARD DRAWING EXJ-4-87. CJP WELDS IN ARMORING SHALL BE GROUND SMOOTH ON ALL SURFACES ACCESSIBLE FROM THE ROADWAY SURFACE, IN ADDITION TO ALL SURFACES IN CONTACT WITH THE SEAL RETAINER.
5. ADDITIONAL JOINT DETAILS, INCLUDING JOINT SUPPORT PLATES ARE SHOWN ON SHEET 38 51 . SEE STANDARD DRAWING EXJ-4-87 FOR DETAILS AND NOTES NOT SHOWN IN THE PLANS.
6. PROVIDE BACKWALL ARMORING A MINIMUM OF 4 1/2" LONGER (11" MAX) THAN THE STAGE 1 BACKWALL TO ALLOW FOR ONE ANCHOR PLATE TO BE EMBEDDED IN THE STAGE 2 CONCRETE AND THE CJP WELDED SPLICE. ENSURE ANY PARTIAL PENETRATION WELDED JOINTS IN THE RETAINER ARE AT LEAST 3 INCHES OFFSET FROM ANY JOINTS IN DECK OR BACKWALL ARMORING.



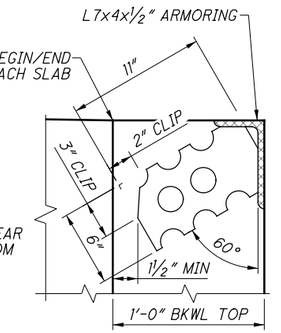
A END OF DECK SECTION

OTHER CORNERS SIMILAR



B END OF BACKWALL SECTION

OTHER CORNERS SIMILAR



MODIFIED 3/8" ANCHOR PLATE

2"X3" CLIP, OTHER DETAILS TO MATCH EXJ-4-87

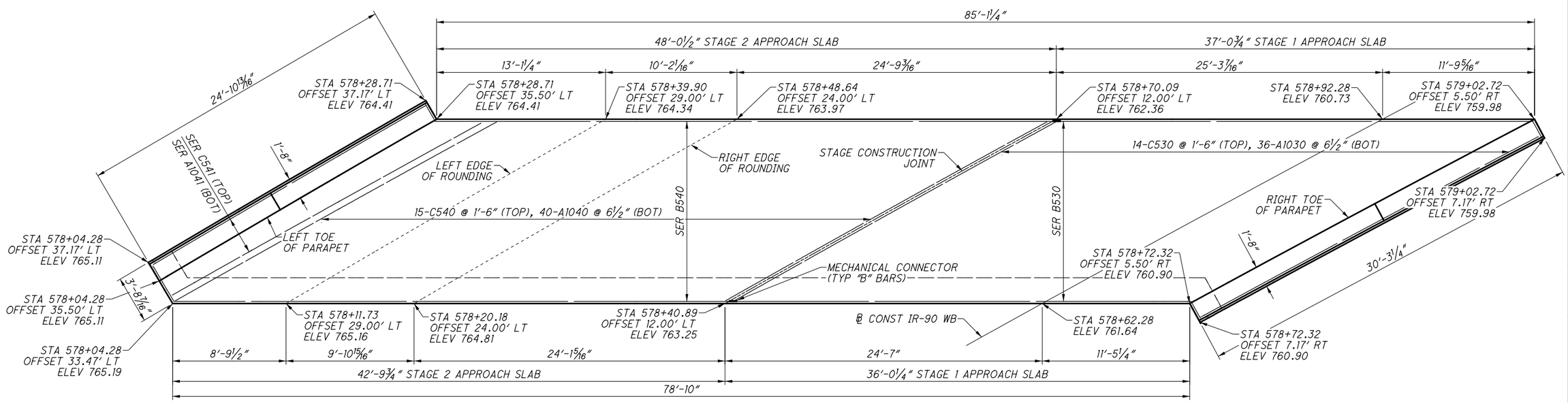
SUBMITTAL: FINAL TRACINGS
PID: 84591
PLOT DRIVER: ODOTV8ISS3_PDF.pltcfg
PENTABLE: 84591_ODOTV8ISS3_Pen.tbl
pw:\\gfswing02.corporate.gannettfleming.com:GFPW02\Documents\Projects\60844\84591\structures\LOR090_1178S\sheets\81_End Dam Details 7/6/2017 2:44:40 PM edues

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

DESIGNED	DRAWN	REVIEWED	DATE
EFD	VDT	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CTM		4704401	

END DAM DETAILS (STRIP SEALS)
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

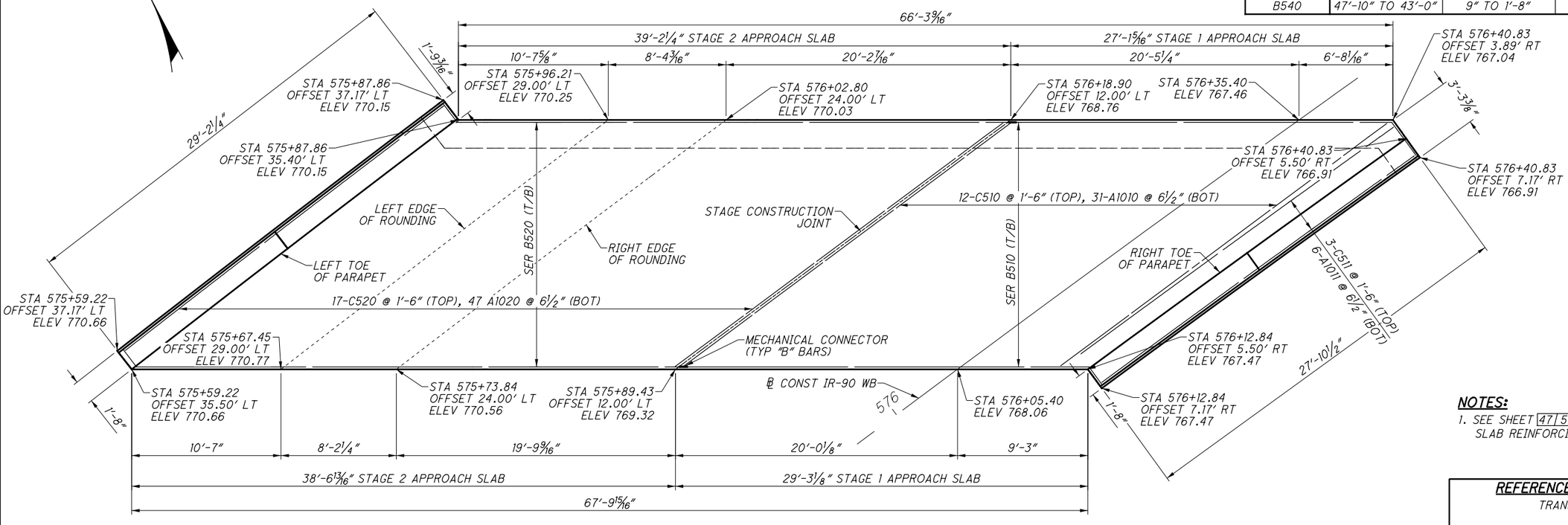
LOR-90-11.78
PID No. 84591



FORWARD APPROACH SLAB PLAN

REBAR NOT SHOWN FOR CLARITY

TYPE 19 "B" BARS			
BAR MARK	DIMENSIONS		
	A	B	C
B510	29'-1" TO 27'-3"	11" TO 1'-8"	1'-3" TO 2'-4"
B520	38'-5" TO 39'-0"	11"	1'-3"
B530	35'-10" TO 37'-3"	8"	1'-3"
B540	47'-10" TO 43'-0"	9" TO 1'-8"	1'-4" TO 2'-10"



REAR APPROACH SLAB PLAN

REBAR NOT SHOWN FOR CLARITY

NOTES:

1. SEE SHEET 47 51 FOR APPROACH SLAB REINFORCING DETAILS.

REFERENCES: DECK DETAILS

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

DESIGNED VDT | DRAWN VDT | REVIEWED MTO | DATE 1/2017
CHECKED CTM | REVISED | STRUCTURE FILE NUMBER 4704401

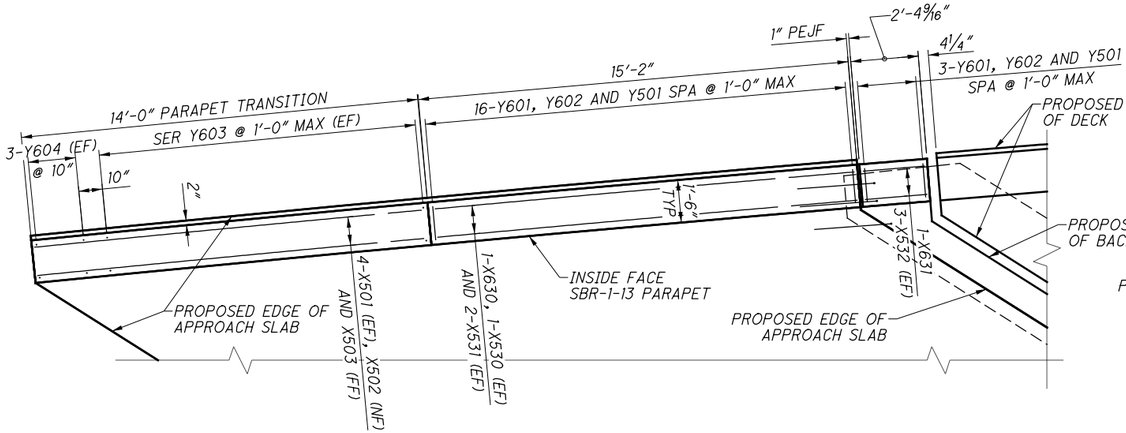
APPROACH SLAB DETAILS
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

46 / 51

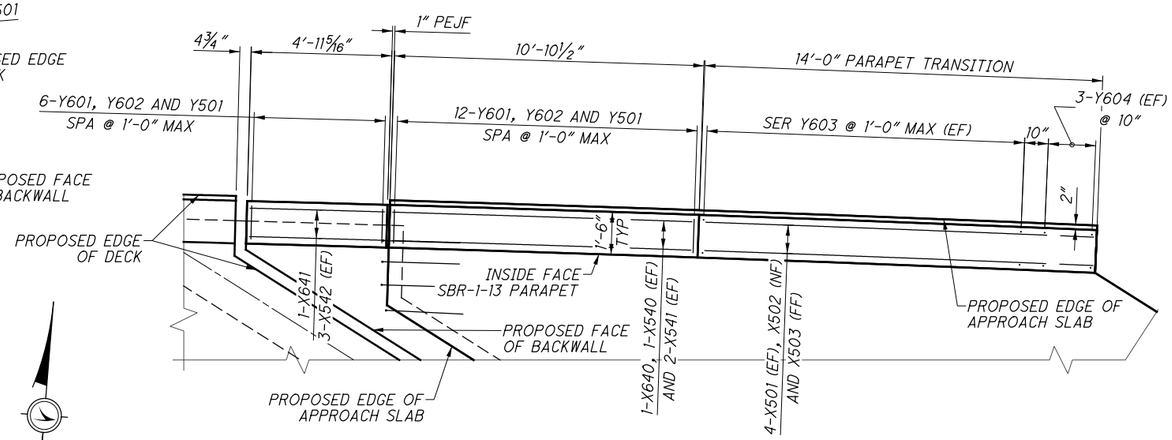
70 / 75

SUBMITTAL: FINAL TRACINGS
PID: 84591
PENTABLE: 84591_ODOTV8iSS3_Pen.tbl
PLOT_DRIVER: ODOTV8iSS3_PDF.pltcfg
pw:\\gfpwing02.corporate.gannettfleming.com:GFPW02\Documents\Projects\60844\84591\structures\LOR090_1178S\sheets\83 _Approach Slab Details 7/6/2017 2:44:54 PM edues



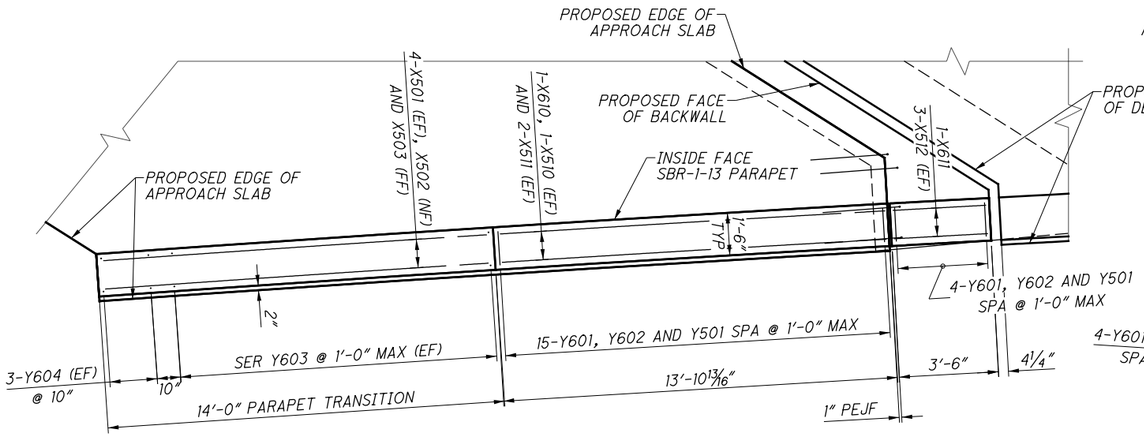
LEFT REAR (NORTHWEST) PARAPET TRANSITION PLAN

ATOP BACKWALL AND APPROACH SLAB



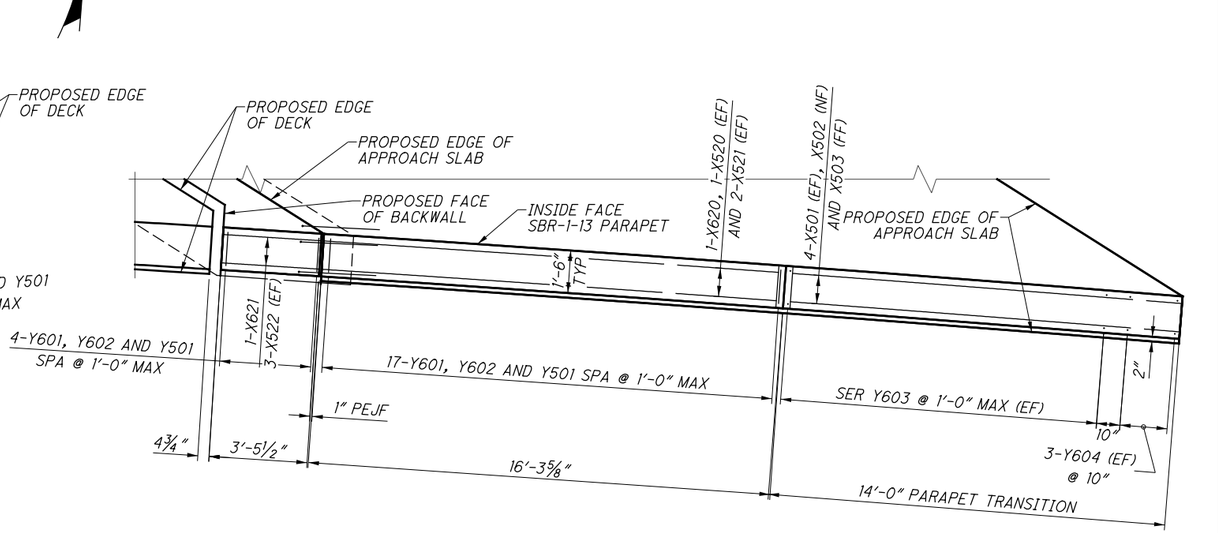
LEFT FORWARD (NORTHEAST) PARAPET TRANSITION PLAN

ATOP BACKWALL AND APPROACH SLAB



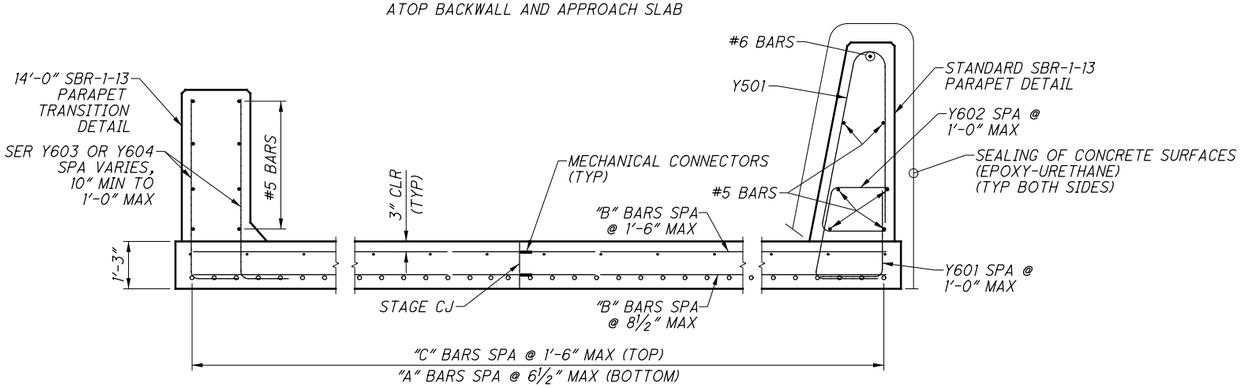
RIGHT REAR (SOUTHWEST) PARAPET TRANSITION PLAN

ATOP BACKWALL AND APPROACH SLAB



RIGHT FORWARD (SOUTHEAST) PARAPET TRANSITION PLAN

ATOP BACKWALL AND APPROACH SLAB



APPROACH SLAB REINFORCING

SEE SHEET 46 51 FOR REBAR DETAILS

NOTES:

1. ALL PARAPET LENGTHS ARE MEASURED FROM THE INSIDE FACE OF THE PARAPET.
2. APPROACH SLAB DETAILS NOT SHOWN SHALL BE CONSTRUCTED AS PER STANDARD CONSTRUCTION DRAWING AS-1-81. APPROACH SLAB REINFORCING IS LISTED AS INFORMATION ONLY AND NOT CARRIED TO THE REINFORCING SUMMARY.
3. PARAPET "Y" BARS SHOWN ON THIS PAGE ARE INCLUDED WITH THE PARAPET REINFORCING TABLE, BUT IS PLACED WITH THE APPROACH SLAB CONCRETE.
4. FOR FURTHER APPROACH PARAPET REINFORCING DETAILS, SEE SHEET 48 51.

REFERENCES: DECK DETAILS

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

DESIGNED VDT | DRAWN VDT | REVIEWED MTO | DATE 1/2017
CHECKED CTM | REVISED | STRUCTURE FILE NUMBER 4704401

PARAPET TRANSITION AND APPROACH SLAB REINFORCING DETAILS

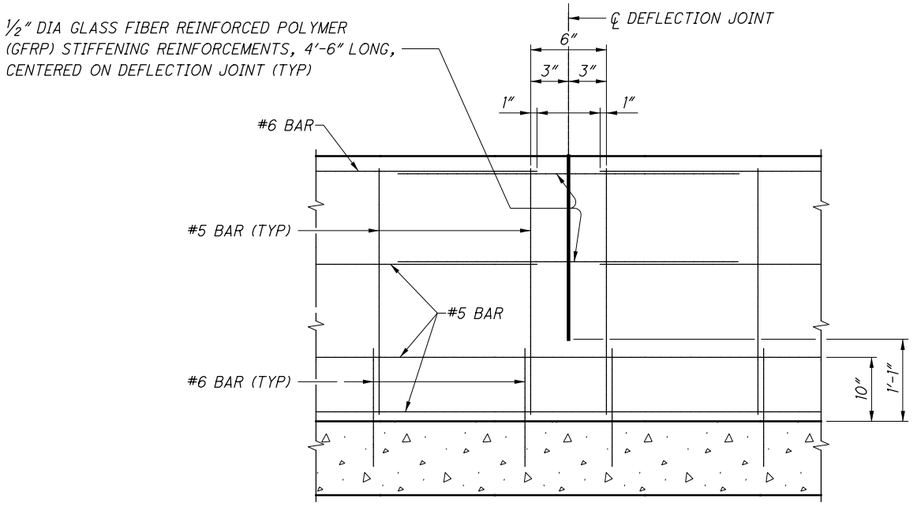
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

47 / 51

71 / 75

SUBMITTAL: FINAL TRACINGS
PID: 84591
PENTABLE: 84591_ODOTV8iSS3_Pen.tbl
PLOT DRIVER: ODOTV8iSS3_PDF.pltcfg
pw:\\gfpwing02.corporate.gannettfleming.com:GFPW02\Documents\Projects\60844\84591\structures\LOR090_11.78\sheets\85 _Parapet Aproach Plans 7/6/2017 2:45:06 PM edues



DEFLECTION JOINT DETAIL

GFRP REBAR STIFFENING DETAIL AT DEFLECTION JOINTS

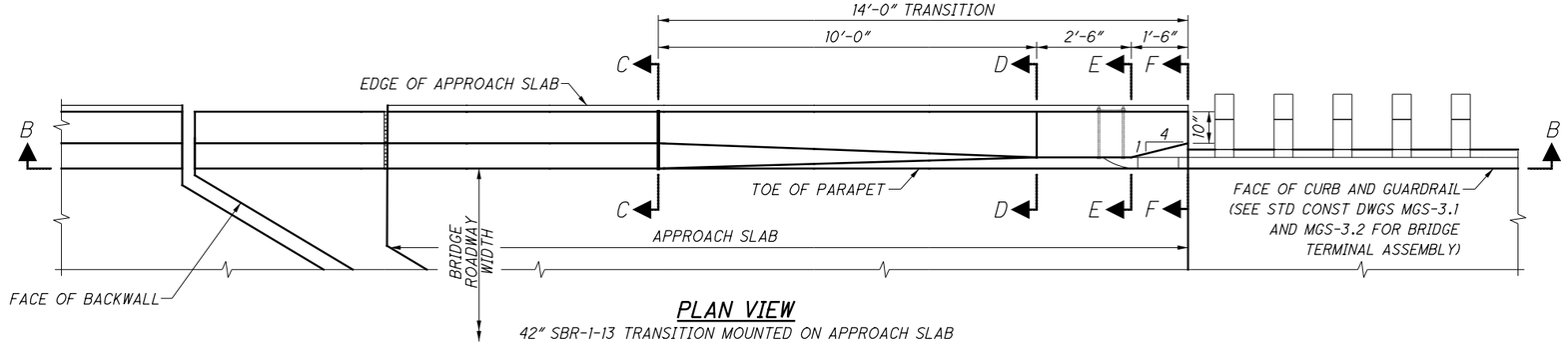
REFERENCES: DECK DETAILS

TRANSVERSE SECTION -	39 | 51
DECK PLAN -	40 | 51
DECK & PARAPET DETAILS -	41 | 51
ELEVATION TABLES -	42 | 51 TO 44 | 51
END DAM DETAILS -	45 | 51
APPROACH SLAB DETAILS -	46 | 51 TO 47 | 51
PARAPET DETAILS -	47 | 51 TO 48 | 51
REINF. LAPS AND TABLES -	49 | 51 TO 51 | 51

PARAPET REBAR TABLE

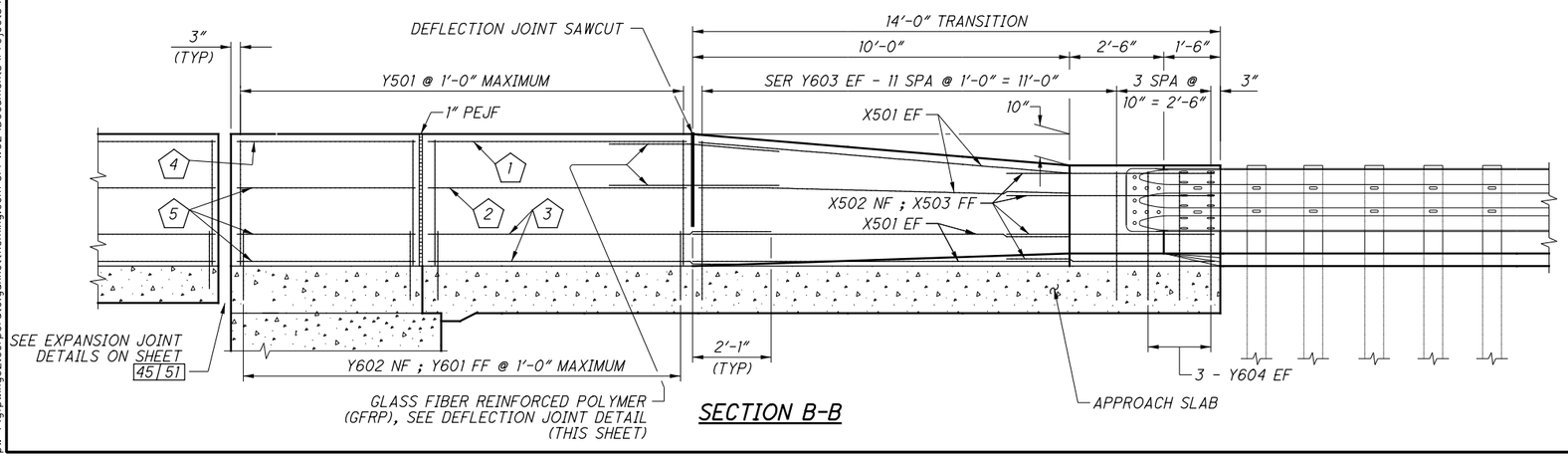
BAR MARK	1	2*	3*	4	5*
RIGHT REAR (SW)	X610	X510	X511	X611	X512
RIGHT FWD (SE)	X620	X520	X521	X621	X522
LEFT REAR (NW)	X630	X520	X531	X631	X532
LEFT FWD (NE)	X640	X530	X541	X641	X542

* DENOTES BAR PLACEMENT ON EACH FACE

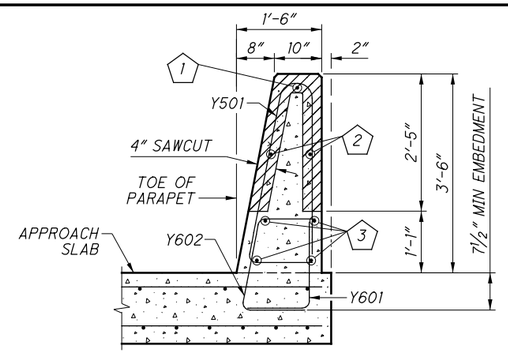


PLAN VIEW

42" SBR-1-13 TRANSITION MOUNTED ON APPROACH SLAB

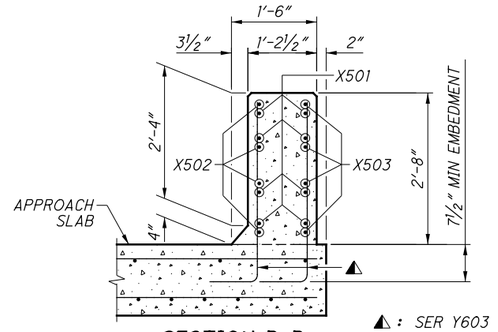


SECTION B-B

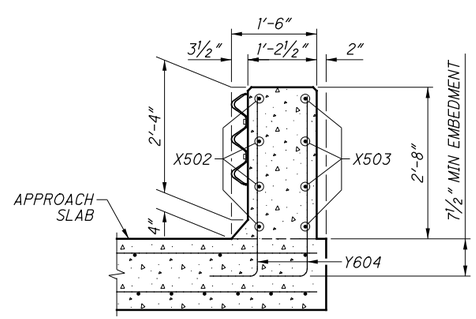


SECTION C-C

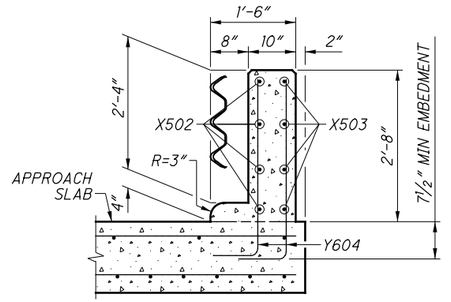
(GFRP NOT SHOWN)



SECTION D-D



SECTION E-E



SECTION F-F

NOTES:

1. FOR ADDITIONAL DETAILS, SEE STD DWG SBR-1-13.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

DESIGNED	DRAWN	REVIEWED	DATE
VDT	VDT	MTO	1/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CTM		4704401	

PARAPET TRANSITION DETAILS
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

48 / 51

72 / 75

SUBMITTAL: FINAL TRACINGS
PID: 84591
PENTABLE: 84591_ODOTV8iSS3_Pen.tbl
PLOT DRIVER: ODOTV8iSS3_PDF.pltcfg
pw:\\gfpwing02.corporate.gannettfleming.com:GFW02\Documents\Projects\60844\84591\structures\LOR090_1178S\sheets\87_Parapet Transition Details 7/6/2017 2:45:16 PM edues

	MARK	NUMBER			LENGTH	WEIGHT			TYPE	DIMENSIONS				
		Stage 1	Stage 2	TOTAL		Stg 1	Stg 2	TOTAL		A	B	C	D	INC
	Rear Abutment													
*	AR501	9		9	30'-0"	282		282	STR.					
	AR502	5		5	9'-1"	47		47	10	2'-10"	4'-0"	1'-4"	3'-0"	
	AR503	9		9	5'-8"	53		53	1	3'-9"	2'-0"			
	AR504	1		1	9'-11"	10		10	2	3'-11"	2'-4"	3'-11"		
	AR505	1		1	13'-10"	14		14	2	5'-5"	3'-3"	5'-5"		
	AR511	44		44	2'-2"	99		99	1	9"	1'-6"			
		1		1	4'-11"						1'-3"			
	AR512	SER OF		SER OF	to	18		18	7	1'-6"	to	1'-6"	1'-0"	8 3/4"
		3		3	6'-5"						2'-9"			
	AR513	9		9	7'-0"	66		66	7	1'-6"	3'-4"	1'-6"	1'-0"	
	AR514	5		5	8'-8"	45		45	7	2'-4"	3'-4"	2'-4"	1'-0"	
	AR515	11		11	6'-8"	76		76	7	1'-4"	3'-4"	1'-4"	1'-0"	
	AR516	7		7	8'-4"	61		61	7	2'-2"	3'-4"	2'-2"	1'-0"	
		1		1	12'-6"									
	AR517	SER OF		SER OF	to	75		75	STR.					11 1/4"
		5		5	16'-3"									
	AR518	2		2	16'-3"	34		34	STR.					
	AR519	2		2	12'-6"	26		26	STR.					
	AR520	4		4	23'-0"	96		96	STR.					
*	AR521	5		5	26'-11"	140		140	1	2'-0"	25'-0"			
*	AR522	5		5	11'-11"	62		62	1	2'-0"	10'-0"			
	AR523	3		3	9'-1"	28		28	STR.					
	AR524	3		3	4'-5"	14		14	1	1'-6"	3'-0"			
	AR531		9	9	37'-0"		347	347	STR.					
	AR532		5	5	3'-11"		20	20	1	2'-6"	1'-6"			
	AR533		9	9	6'-2"		58	58	10	1'-11"	2'-7"	1'-1"	2'-0"	
	AR534		1	1	13'-3"		14	14	2	5'-6"	2'-6"	5'-6"		
	AR535		1	1	12'-6"		13	13	2	5'-6"	1'-9"	5'-6"		
	AR541		48	48	2'-2"		108	108	1	9"	1'-6"			
	AR542		2	2	8'-4"		17	17	7	2'-2"	3'-4"	2'-2"	1'-0"	
	AR543		5	5	6'-0"		31	31	7	1'-0"	3'-4"	1'-0"	1'-0"	
	AR544		15	15	7'-8"		120	120	7	1'-10"	3'-4"	1'-10"	1'-0"	
	AR545		19	19	6'-8"		132	132	7	1'-4"	3'-4"	1'-4"	1'-0"	
	AR546		3	3	17'-11"		56	56	1	1'-10"	16'-2"			
	AR547		2	2	18'-8"		39	39	STR.					
	AR548		2	2	20'-3"		42	42	STR.					
	AR549		2	2	17'-0"		35	35	STR.					
	AR550		2	2	20'-8"		43	43	STR.					
	AR551		3	3	23'-0"		72	72	STR.					
			1	1	19'-3"						18'-0"			
	AR552		SER OF	SER OF	to		87	87	1	1'-4"	to			1'-0"
			4	4	22'-3"						21'-0"			
			1	1	5'-0"						1'-8"			
	AR553		SER OF	SER OF	to		18	18	7	1'-4"	to	1'-4"	1'-0"	7 3/4"
			3	3	6'-4"						3'-0"			
	AR554		3	3	3'-8"		11	11	STR.					
	AR590	2		2	5'-4"	11		11	STR.					
	AR591	2		2	6'-10"	14		14	STR.					
	AR592		2	2	18'-0"		38	38	STR.					
	AR593		2	2	19'-6"		41	41	STR.					
	AR601	30		30	7'-2"	323		323	2	3'-5"	8"	3'-5"		
	AR602	30		30	9'-4"	421		421	7	3'-11"	1'-2"	3'-11"	10"	
	AR603	3		3	10'-10"	49		49	2	4'-0"	3'-2"	4'-0"		
	AR604	3		3	11'-7"	52		52	2	4'-1"	3'-9"	4'-1"		
	AR605	1		1	9'-10"	15		15	2	4'-0"	2'-2"	4'-0"		
	AR606	1		1	10'-6"	16		16	2	4'-1"	2'-8"	4'-1"		
	AR631		37	37	7'-2"		398	398	2	3'-5"	8"	3'-5"		
	AR632		37	37	9'-0"		500	500	7	3'-10"	1'-0"	3'-10"	10"	
	AR633		2	2	9'-7"		29	29	2	3'-11"	2'-1"	3'-11"		
	AR634		2	2	10'-3"		31	31	2	4'-0"	2'-7"	4'-0"		
	AR801	24		24	8'-2"	523		523	18	5'-10"	1'-0"	1'-0"		
	AR831		27	27	8'-2"		589	589	18	5'-10"	1'-0"	1'-0"		
	Y601	4	3	7	2'-6"	15	11	26	1	1'-0"	1'-8"			
	Y602	4	3	7	3'-4"	20	15	35	29	11"	1'-8"	1'-0"	3 3/4"	
					SUB-TOTAL	2,705	2,915	5,620						

	MARK	NUMBER			LENGTH	WEIGHT			TYPE	DIMENSIONS				
		Stage 1	Stage 2	TOTAL		Stg 1	Stg 2	TOTAL		A	B	C	D	INC
	Forward Abutment													
*	AF501	9		9	38'-0"	357		357	STR.					
	AF502	5		5	5'-11"	31		31	1	3'-0"	3'-0"			
	AF503	9		9	6'-5"	60		60	10	1'-7"	2'-10"	1'-4"	2'-0"	
	AF504	1		1	13'-8"	14		14	2	5'-6"	2'-11"	5'-6"		
	AF505	1		1	12'-11"	13		13	2	5'-6"	2'-2"	5'-6"		
	AF511	44		44	2'-2"	99		99	1	9"	1'-6"			
	AF512	1		1	7'-10"	8		8	7	2'-1"	3'-0"	2'-1"	1'-0"	
	AF513	8		8	8'-2"	68		68	7	2'-1"	3'-4"	2'-1"	1'-0"	
	AF514	10		10	6'-0"	63		63	7	1'-0"	3'-4"	1'-0"	1'-0"	
	AF515	8		8	8'-10"	74		74	7	2'-5"	3'-4"	2'-5"	1'-0"	
	AF516	14		14	6'-8"	97		97	7	1'-4"	3'-4"	1'-4"	1'-0"	
	AF517	1		1	11'-0"	11		11	STR.					
*	AF518	3		3	6'-6"	20		20	STR.					
	AF519	5		5	28'-3"	147		147	1	1'-6"	26'-10"			
*	AF520	4		4	22'-4"	93		93	STR.					
		1		1	19'-10"									
	AF521	SER OF		SER OF	to	90		90	STR.					1'-2 3/4"
		4		4	23'-7"									
	AF522	3		3	23'-2"	72		72	STR.					
	AF523	2		2	19'-10"	41		41	STR.					
		1		1	4'-10"						1'-8"			
	AF524	SER OF		SER OF	to	23		23	7	1'-3"	to	1'-3"	1'-0"	5 1/4"
		4		4	6'-2"						3'-0"			
	AF525	3		3	4'-8"	15		15	STR.					
	AF526	3		3	12'-5"	39		39	1	1'-6"	11'-0"			
	AF531		9	9	43'-0"		404	404	STR.					
	AF532		5	5	9'-10"		51	51	10	2'-9"	4'-8"	7"	4'-0"	
	AF533		9	9	5'-2"		48	48	1	3'-3"	2'-0"			
	AF534		1	1	12'-8"		13	13	2	5'-8"	1'-7"	5'-8"		
	AF535		1	1	13'-5"		14	14	2	5'-8"	2'-4"	5'-8"		
	AF536		1	1	14'-1"		15	15	2	5'-8"	3'-0"	5'-8"		
	AF541		62	62	2'-2"		140	140	1	9"	1'-6"			
			1	1	3'-10"						1'-0"			
	AF542		SER OF	SER OF	to		20	20	7	1'-1"	to	1'-1"	1'-0"	7"
			4	4	5'-7"						2'-9"			
	AF543		21	21	6'-8"		146	146	7	1'-4"	3'-4"	1'-4"	1'-0"	
	AF544		14	14	7'-6"		110	110	7	1'-9"	3'-4"	1'-9"	1'-0"	
	AF545		8	8	5'-6"		46	46	7	9"	3'-4"	9"	1'-0"	
	AF546		4	4	8'-2"		34	34	7	2'-1"	3'-4"	2'-1"	1'-0"	
			1	1	21'-6"						20'-3"			
	AF547		SER OF	SER OF	to		127	127	1	1'-4"	to			1'-4 3/4"
			5	5	27'-1"						25'-10"			
	AF548		2	2	25'-10"		54	54	STR.					
	AF549		2	2	20'-3"		42	42	STR.					
	AF550		5	5	17'-10"		93	93	1	1'-8"	16'-3"			
	AF551		3	3	24'-11"		78	78	STR.					
	AF552		4	4	23'-3"		97	97	STR.					
	AF553		3	3	4'-6"		14	14	STR.					
	AF554		3	3	3'-0"		9	9	STR.					
	AF555		4	4	4'-3"		18	18	1	1'-4"	3'-0"			
	AF590		2	2	4'-10"		10	10	STR.					
	AF591		2	2	6'-4"		13	13	STR.					
	AF592	2		2	20'-6"	43		43	STR.					
	AF593	2		2	21'-6"	45		45	STR.					
	AF601	37		37	7'-10"	435		435	2	3'-9"	8"	3'-9"		
	AF602	37		37	9'-6"	528		528	7	4'-0"	1'-2"	4'-0"	10"	
	AF603	2		2	10'-10"	33		33	2	4'-0"	3'-2"	4'-0"		
	AF604	2		2	12'-1"	36		36	2	4'-1"	4'-3"	4'-1"		
	AF631		41	41	8'-0"		493	493	2	3'-10"	8"	3'-10"		
	AF632		41	41	9'-10"		606	606	7	4'-2"	1'-2"	4'-2"	10"	
			1	1	12'-4"						4'-8"			
	AF633		SER OF	SER OF	to		50	50	2	4'-0"	to	4'-0"		
			3	3	9'-10"						2'-2"			
			1	1	12'-10"						5'-2"			
	AF634		SER OF	SER OF	to		52	52	2	4'-0"	to	4'-0"		
			3	3	10'-5"						2'-9"			
	AF851	29		29	8'-2"	632		632	18	5'-10"	1'-0"	1'-0"		
	AF881		31	31	8'-2"		676	676	18	5'-10"	1'-0"	1'-0"		
	Y601	4	6	10	2'-6"	15	23	38	1	1'-0"	1'-8"			
	Y602	4	6	10	3'-4"	20	30	50	29	11"	1'-8"	1'-0"	3 3/4"	
					SUB-TOTAL	3,222	3,526	6,748						

NOTES:

1. FOR REINFORCING BEND DIAGRAM AND NOTES, SEE SHEET 51 / 51.

** = ALL OR SOME BARS PROVIDED WITH MECHANICAL CONNECTOR*

REINFORCING DETAILS

RA DETAILS - 11 / 51 TO 13 / 51
FA DETAILS - 18 / 51 TO 20 / 51
SUPERSTRUCTURE SECTION - 39 / 51
DECK DETAILS - 40 / 51 TO 41 / 51
PARAPET DETAILS - 47 / 51 TO 48 / 51

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

DESIGNED VDT | DRAWN VDT | REVIEWED MTO | DATE 1/2017
CHECKED EFD | REVISED | STRUCTURE FILE NUMBER 4704401

REINFORCING STEEL LIST 1 OF 3

BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

49 / 51

73 / 75

	MARK	NUMBER					LENGTH	WEIGHT			TYPE	DIMENSIONS		
		Stage 1		Stage 2		TOTAL								
		Pier 1	Pier 2	Pier 1	Pier 2			Stg 1	Stg 2	TOTAL		A	B	C
	Piers													
	P401	5				5	18'-4"	61		61	1	14'-10"	3'-7"	
	P402	5				5	21'-5"	72		72	1	19'-9"	1'-9"	
	P405	36				36	8'-0"	192		192	2	2'-0"	4'-2"	2'-0"
	P410			5		5	12'-5"		41	41	1	10'-9"	1'-9"	
	P411			5		5	16'-5"		55	55	1	14'-9"	1'-9"	
	P412			5		5	22'-7"		75	75	2	3'-7"	17'-5"	1'-9"
	P415			45		45	8'-0"		240	240	2	2'-0"	4'-2"	2'-0"
	P430		5			5	17'-3"	58		58	1	13'-9"	3'-7"	
	P431		5			5	25'-0"	84		84	1	23'-4"	1'-9"	
	P435		39			39	8'-0"	208		208	2	2'-0"	4'-2"	2'-0"
	P440				5	5	12'-11"		43	43	1	11'-3"	1'-9"	
	P441				5	5	17'-5"		58	58	1	15'-9"	1'-9"	
	P442				5	5	23'-11"		80	80	2	3'-7"	18'-9"	1'-9"
	P445				47	47	8'-0"		251	251	2	2'-0"	4'-2"	2'-0"
	P501	52				52	9'-7"	520		520	2	2'-10"	4'-2"	2'-10"
	P502	52				52	7'-9"	420		420	2	2'-10"	2'-4"	2'-10"
*	P503	4				4	34'-1"	142		142	STR.			
	P510			74		74	9'-7"		740	740	2	2'-10"	4'-2"	2'-10"
	P511			74		74	7'-9"		598	598	2	2'-10"	2'-4"	2'-10"
	P513			4		4	41'-10"		175	175	STR.			
	P530		66			66	9'-7"	660		660	2	2'-10"	4'-2"	2'-10"
	P531		66			66	7'-9"	533		533	2	2'-10"	2'-4"	2'-10"
*	P533		4			4	36'-8"	153		153	STR.			
	P540				70	70	9'-7"		700	700	2	2'-10"	4'-2"	2'-10"
	P541				70	70	7'-9"		566	566	2	2'-10"	2'-4"	2'-10"
	P543				4	4	44'-8"		186	186	STR.			
*	P901	9				9	34'-1"	1,043		1,043	STR.			
*	P902	8				8	34'-1"	927		927	STR.			
	P910			9		9	41'-10"		1,280	1,280	STR.			
	P911			8		8	41'-10"		1,138	1,138	STR.			
*	P930		9			9	36'-8"	1,122		1,122	STR.			
*	P931		8			8	36'-8"	997		997	STR.			
	P940				9	9	44'-8"		1,367	1,367	STR.			
	P941				8	8	44'-8"		1,215	1,215	STR.			
*	P990	20				20	2'-6"	170		170	16	1'-3"		
*	P991			30		30	2'-6"		255	255	16	1'-3"		
*	P995		20			20	2'-6"	170		170	16	1'-3"		
*	P996				30	30	2'-6"		255	255	16	1'-3"		
							SUB-TOTAL	7,532	9,318	16,850				

	Mark	NUMBER			LENGTH	WEIGHT			TYPE	DIMENSIONS				
		Stage 1	Stage 2	TOTAL		Stg 1	Stg 2	TOTAL		A	B	C	D	INC
	Deck													
	S410	182		182	30'-0"	3,647		3,647	STR.					
	S411	26		26	26'-4"	457		457	STR.					
	S412	84		84	40'-0"	2,244		2,244	STR.					
	S428	224		224	1'-11"	287		287	19	1'-2"	6"	6"		
	S440		238	238	30'-0"		4,770	4,770	STR.					
	S441		34	34	20'-6"		466	466	STR.					
	S442		108	108	40'-0"		2,886	2,886	STR.					
	S458		213	213	1'-11"		273	273	19	1'-2"	6"	6"		
	S510	168		168	30'-0"	5,257		5,257	STR.					
		2		2	1'-7"									
*	S519	SER OF		SER OF	to	16		16	STR.					3"
		4		4	2'-4"									
*	S520	390		390	20'-2"	8,203		8,203	16	19'-7"				
*	S521	390		390	19'-7"	7,966		7,966	STR.					
		1		1	2'-8"									
*	S522	SER OF		SER OF	to	435		435	STR.					4 1/4"
		42		42	17'-3"									
		1		1	2'-8"									
*	S523	SER OF		SER OF	to	435		435	STR.					4 1/4"
		42		42	17'-3"									
		1		1	7'-11"					7'-4"				
	S524	SER OF		SER OF	to	630		630	16	to				3 1/2"
		43		43	20'-2"					19'-4"				
		1		1	7'-4"									
	S525	SER OF		SER OF	to	604		604	STR.					3 1/2"
		43		43	19'-4"									
		2		2	2'-5"					1'-10"				
	S526	SER OF		SER OF	to	216		216	16	to				3 1/2"
		20		20	8'-0"					7'-1"				
		1		1	1'-10"									
	S527	SER OF		SER OF	to	92		92	STR.					3 1/4"
		20		20	7'-1"									
	S530	433		433	8'-2"	3,688		3,688	16	7'-7"				
	S540		210	210	30'-0"		6,571	6,571	STR.					
	S541		30	30	24'-0"		751	751	STR.					
			2	2	1'-7"									
	S549		SER OF	SER OF	to		20	20	STR.					2"
			5	5	2'-3"									
	S550		362	362	25'-1"		9,471	9,471	16	24'-6"				
	S551		362	362	24'-6"		9,250	9,250	STR.					
			2	2	2'-7"					2'-0"				
	S552		SER OF	SER OF	to		163	163	16	to				4 1/2"
			15	15	7'-10"					7'-2"				
			1	1	2'-0"									
	S553		SER OF	SER OF	to		72	72	STR.					4 1/2"
			15	15	7'-2"									
			1	1	8'-1"					7'-6"				
	S554		SER OF	SER OF	to		819	819	16	to				4 1/2"
			47	47	25'-4"					24'-6"				
			1	1	7'-6"									
	S555		SER OF	SER OF	to		790	790	STR.					4 1/2"
			47	47	24'-6"									
			1	1	2'-4"									
	S556		SER OF	SER OF	to		858	858	STR.					3 1/2"
			68	68	22'-0"									
			1	1	2'-4"									
	S557		SER OF	SER OF	to		858	858	STR.					3 1/2"
			68	68	22'-0"									
	S560		409	409	8'-2"		3,484	3,484	16	7'-7"				
	S621	246		246	2'-6"	924		924	1	1'-0"	1'-8"			
	S622	246		246	3'-4"	1,232		1,232	29	11"	1'-8"	1'-0"	3 3/4"	
	S651		235	235	2'-6"		882	882	1	1'-0"	1'-8"			
	S652		235	235	3'-4"		1,177	1,177	29	11"	1'-8"	1'-0"	3 3/4"	
					SUB-TOTAL	36,333	43,561	79,894						

NOTES:

1. FOR BEND DIAGRAMS AND REINFORCING NOTES, SEE SHEET 51 | 51 .

** = ALL OR SOME BARS PROVIDED WITH MECHANICAL CONNECTOR*

REINFORCING DETAILS

RA DETAILS - 11 | 51 *TO* 13 | 51
FA DETAILS - 18 | 51 *TO* 20 | 51
SUPERSTRUCTURE SECTION - 39 | 51
DECK DETAILS - 40 | 51 *TO* 41 | 51
PARAPET DETAILS - 47 | 51 *TO* 48 | 51

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

DESIGNED VDT | DRAWN VDT | REVIEWED MTO | DATE 1/2017
CHECKED EFD | REVISED | STRUCTURE FILE NUMBER 4704401

REINFORCING STEEL LIST 2 OF 3

BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

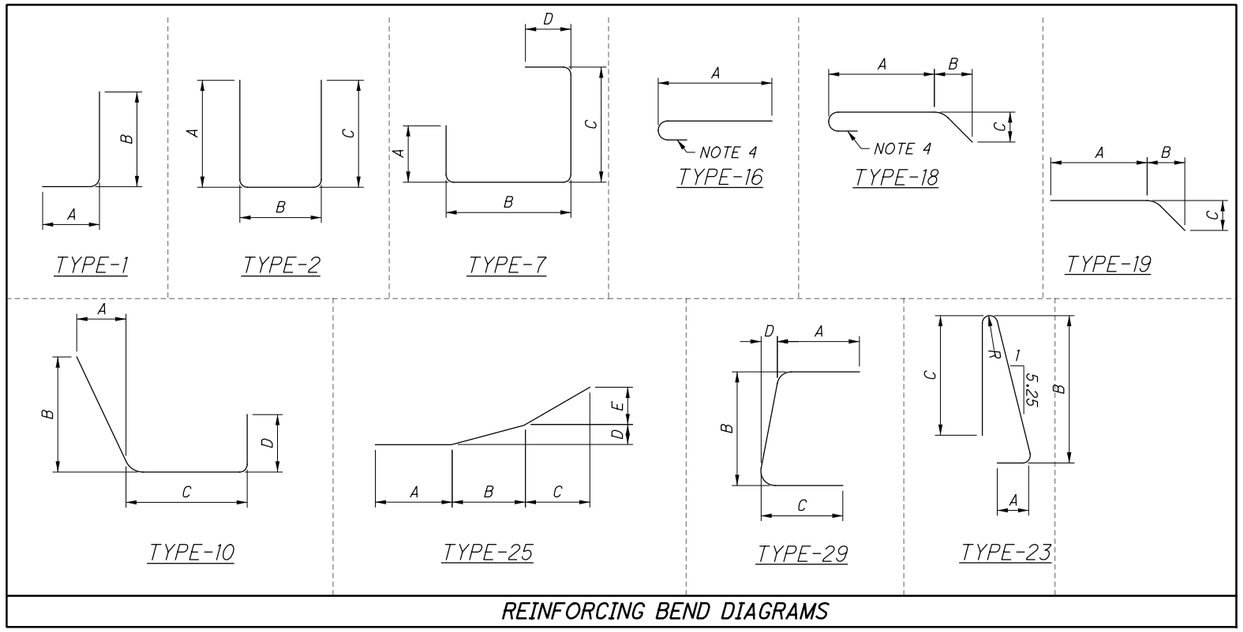
LOR-90-11.78
PID No. 84591

50 / 51

74 / 75

SUBMITTAL: FINAL TRACINGS
PID: 84591
PENTABLE: 84591_ODOTV8iSS3_Pen.tbl
PLOT_DRIVER: ODOTV8iSS3_PDF.pltcfg
pw:\\gfpwing02.corporate.gannettfleming.com:GFPW02\Documents\Projects\60844\84591\structures\LOR090_1178S\sheets\92 _Rebar 2 of 3 7/6/2017 2:45:59 PM edues

Mark	NUMBER			LENGTH	WEIGHT			TYPE	DIMENSIONS						
	Stage 1	Stage 2	TOTAL		Stg 1	Stg 2	TOTAL		A	B	C	D	E	R	INC
Parapet															
R510	28		28	6'-8"	195		195	STR.							
R511	6		6	11'-2"	70		70	STR.							
R512	8		8	12'-8"	106		106	STR.							
R513	6		6	12'-5"	78		78	STR.							
R521	246		246	7'-6"	1,924		1,924	23	11"	3'-3"	3'-0"			2 3/4"	
R530	32		32	30'-0"	1,001		1,001	STR.							
R540		28	28	6'-8"		195	195	STR.							
R541		4	4	14'-8"		61	61	STR.							
R542		14	14	11'-8"		170	170	STR.							
R551		235	235	7'-6"		1,838	1,838	23	11"	3'-3"	3'-0"			2 3/4"	
R560		28	28	30'-0"		876	876	STR.							
R561		4	4	19'-6"		81	81	STR.							
R610	14		14	6'-8"	140		140	STR.							
R611	3		3	11'-2"	50		50	STR.							
R612	4		4	12'-8"	76		76	STR.							
R613	3		3	12'-5"	56		56	STR.							
R640		14	14	6'-8"		140	140	STR.							
R641		2	2	14'-8"		44	44	STR.							
R642		7	7	11'-8"		123	123	STR.							
X501	16	16	32	10'-0"	167	167	334	STR.							
X502	8	8	16	5'-9"	48	48	96	25	1'-10"	2'-5"	1'-5"	1 1/2"	5"		
X503	8	8	16	5'-8"	48	48	96	STR.							
X510	2		2	13'-8"	29		29	STR.							
X511	4		4	15'-9"	66		66	STR.							
X512	6		6	3'-0"	19		19	STR.							
X520	2		2	15'-10"	33		33	STR.							
X521	4		4	18'-0"	75		75	STR.							
X522	6		6	3'-0"	19		19	STR.							
X530		2	2	14'-10"		31	31	STR.							
X531		4	4	17'-0"		71	71	STR.							
X532		6	6	2'-0"		13	13	STR.							
X540		2	2	10'-6"		22	22	STR.							
X541		4	4	12'-9"		53	53	STR.							
X542		6	6	4'-6"		28	28	STR.							
X610	1		1	13'-8"	21		21	STR.							
X611	1		1	3'-0"	5		5	STR.							
X620	1		1	15'-10"	24		24	STR.							
X621	1		1	3'-0"	5		5	STR.							
X630		1	1	14'-10"		22	22	STR.							
X631		1	1	2'-0"		3	3	STR.							
X640		1	1	10'-6"		16	16	STR.							
X641		1	1	4'-6"		7	7	STR.							
Y501	40	37	77	7'-6"	313	289	602	23	11"	3'-3"	3'-0"			2 3/4"	
Y601	32	28	60	2'-6"	120	105	225	1	1'-0"	1'-8"					
Y602	32	28	60	3'-4"	160	140	300	29	11"	1'-8"	1'-0"	3 3/4"			
	4	4	8	4'-0"						3'-2"					
Y603	SER OF	SER OF	SER OF	to	322	322	644	1	1'-0"	to					1"
	12	12	12	4'-11"						4'-1"					
Y604	12	12	24	4'-0"	72	72	144	1	1'-0"	3'-2"					
				SUB-TOTAL	5,242	4,985	10,227								
				TOTAL ALL REINFORCING	55,034	64,305	119,339								



REINFORCING BEND DIAGRAMS

* = ALL OR A PORTION OF BARS PROVIDED WITH MECHANICAL CONNECTOR

MINIMUM LAP SPLICE LENGTH:

#4 BAR (ALL) = 2'-0"
#5 BAR (ALL) = 2'-6"
#6 BAR (ALL) = 3'-0"

NOTES:

1. ALL REINFORCEMENT BARS SHALL BE EPOXY COATED. PAYMENT FOR REINFORCING, INCLUDING MECHANICAL CONNECTORS, SHALL BE MADE WITH ITEM 509 - EPOXY COATED REINFORCING STEEL
2. "STR." IN THE TYPE COLUMN INDICATES STRAIGHT BARS.
3. "SER OF" DENOTES SERIES OF BARS, E.G "X" SER OF "Y" = "X" SERIES OF "Y" BARS/SERIES.
4. REFER TO C.M.S SECTION 509.05 FOR STANDARD BEND DIMENSIONS.
5. MECHANICAL CONNECTORS: AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED IN ACCORDANCE WITH C.M.S. SECTION 509.07. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER RECOMMENDED PROCEDURES.

   CONNECTORS AND DOWEL BARS USED WITH EPOXY COATED BARS SHALL BE EPOXY COATED. COATING FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS THAT HAVE BEEN DAMAGED OR THAT OTHERWISE DO NOT MEET SPECIFICATIONS WITH RESPECT TO COLOR, CONTINUITY AND UNIFORMITY, MAY BE REPAIRED AS DIRECTED BY THE ENGINEER, OR THEY SHALL BE REPLACED WITH MATERIAL WITH MEETS THE SPECIFICATIONS. FOR BARS UTILIZING A MECHANICAL CONNECTOR, THE BAR LENGTH FOR PAYMENT IS MEASURED TO THE CENTER OF THE PLANNED MECHANICAL CONNECTION. EXTRA BAR LENGTH AND/OR BAR END PREPARATION MAY BE NECESSARY DEPENDING UPON THE TYPE OF MECHANICAL CONNECTOR FURNISHED AND THOSE COSTS SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 509. CONNECTORS AND DOWEL BAR EXTENSIONS SHALL CONFORM TO AND BE INCLUDED IN THE BID PRICE FOR ITEM 509.

REINFORCING DETAILS

RA DETAILS - 11 | 51 TO 13 | 51
FA DETAILS - 18 | 51 TO 20 | 51
SUPERSTRUCTURE SECTION - 39 | 51
DECK DETAILS - 40 | 51 TO 41 | 51
PARAPET DETAILS - 47 | 51 TO 48 | 51

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

DESIGNED VDT | DRAWN VDT | REVIEWED MTO | DATE 1/2017
CHECKED EFD | REVISED | STRUCTURE FILE NUMBER 4704401

REINFORCING STEEL LIST 3 OF 3
BRIDGE NO. LOR-90-1178
OVER STATE ROUTE 2

LOR-90-11.78
PID No. 84591

51 / 51

75 / 75

SUBMITTAL: FINAL TRACINGS
PID: 84591
PLOT DRIVER: ODOTV8iSS3_PDF.pltcfg
PENTABLE: 84591_ODOTV8iSS3_Pen.tbl
pw:\\gfpwing02.corporate.gannettfleming.com:GFPW02\Documents\Projects\60844\84591\structures\LOR090_1178S\sheets\93_Rebar 3 of 3 7/6/2017 2:46:25 PM edues