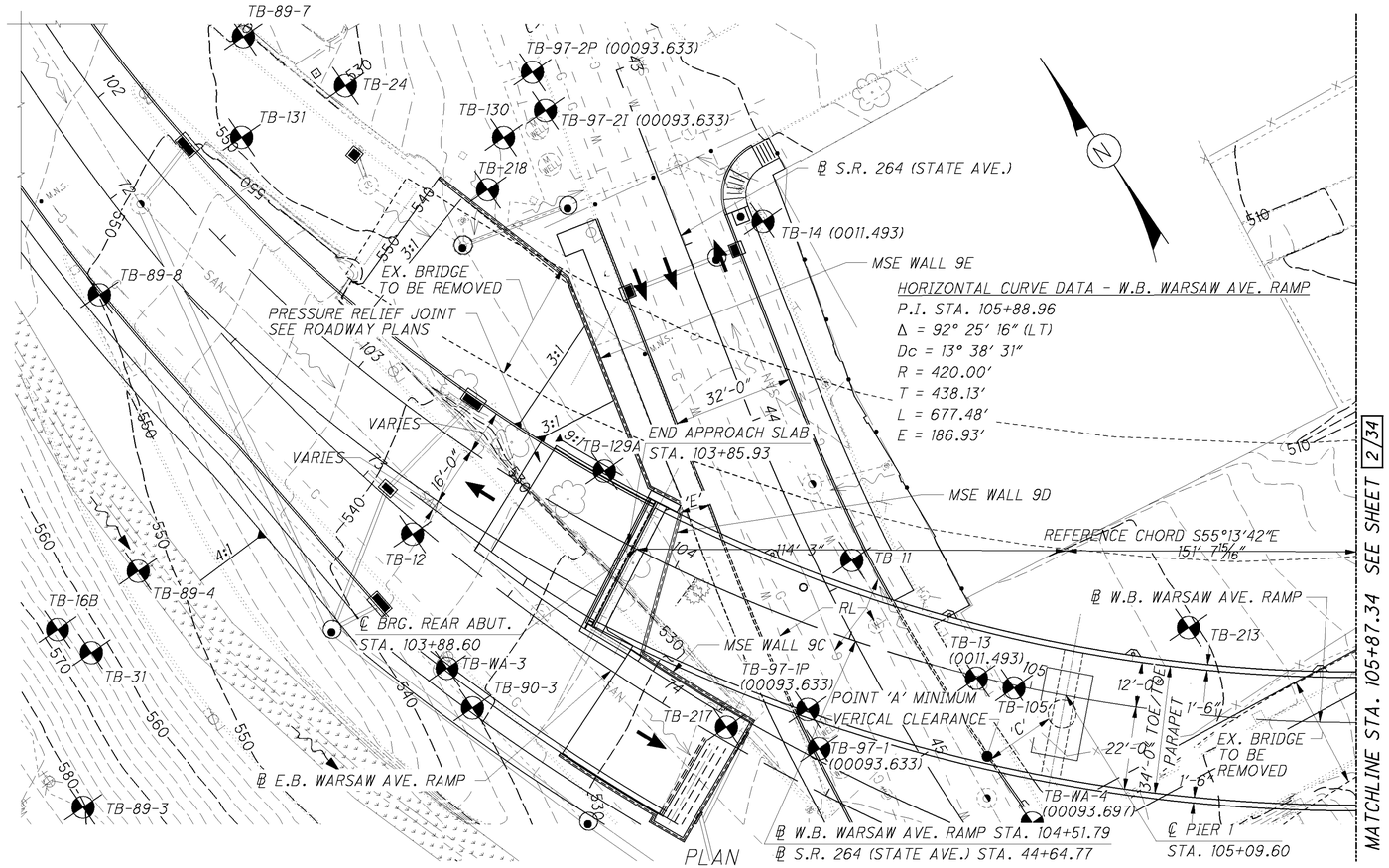

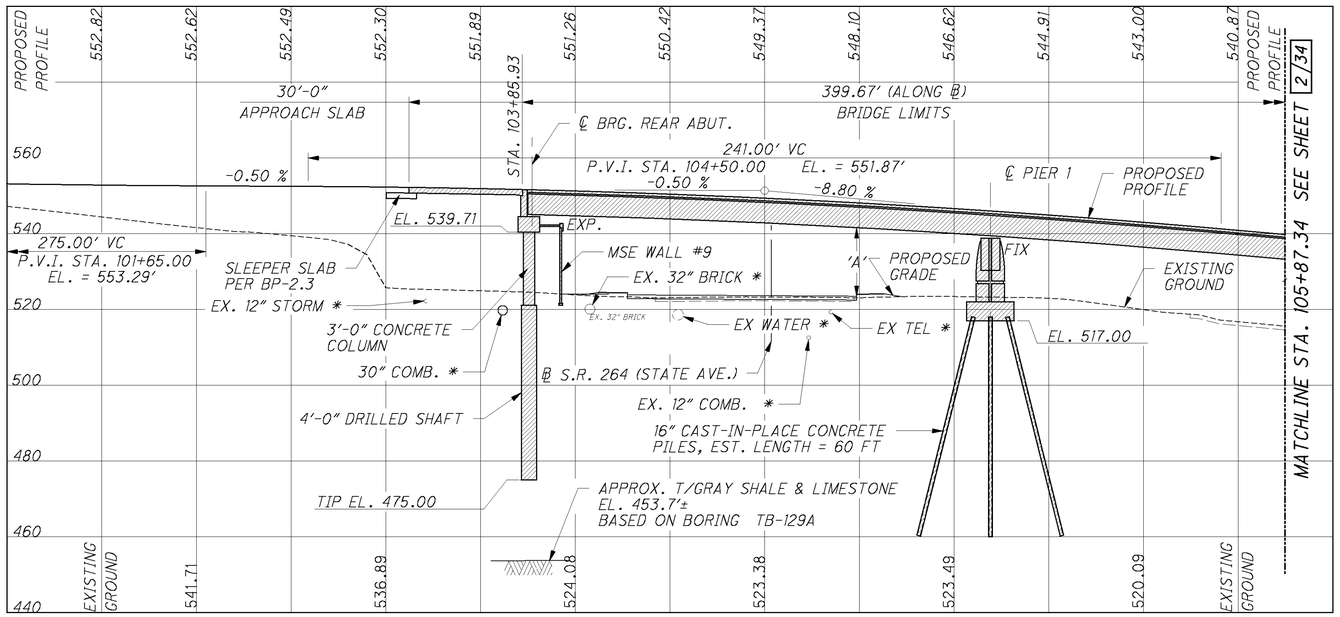

PROFILE ALONG ℄ W.B. WARSAW AVE. RAMP

* EX UTILITIES TO BE RELOCATED BY OTHERS

BENCHMARK DATA

BM #1 STA. 102+33.95 (HUB SET)	ELEV. 533.32	OFFSET 48.84' LT
BM #2 STA. 102+61.09 (PKF)	ELEV. 520.21	OFFSET 99.63' LT
BM #3 STA. 107+73.32 (PKF)	ELEV. 502.57	OFFSET 24.51 LT

NOTES

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

DESIGN TRAFFIC:
2006 ADT = 4305 2006 ADTT = 43
2026 ADT = 4390 2026 ADTT = 44

SEE ROADWAY PLANS FOR DISPOSITION OF EXISTING UTILITIES.

LEGEND

- SOIL BORING LOCATION
- EXISTING PIER LOCATION
- POINT OF MINIMUM VERTICAL CLEARANCE

RL - EXISTING UTILITY TO BE RELOCATED
TB - TEST BORING

VERTICAL CLEARANCE
REQUIRED MINIMUM VERTICAL CLEARANCE = 16'-6"
'A' ACTUAL MINIMUM VERTICAL CLEARANCE = 17'-3"

HORIZONTAL CLEARANCE
'C' REQUIRED MINIMUM HORIZONTAL CLEARANCE = 15'-0"
'C' ACTUAL MINIMUM HORIZONTAL CLEARANCE = 19'-2"

'E' REQUIRED MINIMUM HORIZONTAL CLEARANCE = 15'-0"
'E' ACTUAL MINIMUM HORIZONTAL CLEARANCE = 8'-6"

EXISTING STRUCTURE

TYPE: 5-SPAN STEEL FRAMES WITH ALTERNATELY SUSPENDED SPANS SUPPORTING A GIRDER-FLOORBEAM-STRINGER SYSTEM WITH REINFORCED CONCRETE DECK. THE SUPERSTRUCTURE IS SUPPORTED BY REINFORCED CONCRETE ABUTMENT ON SPREAD FOOTINGS AND TAPERED, BUILT-UP STEEL COLUMN STRADDLE BENTS ON DRILLED CASSIONS OR PEDESTALS AND PILING.

SPANS: 61.355', 86.234', 55.000', 78.026', 56.084' (MEASURED ALONG CHORDS BETWEEN ℄ BEARING ABUTMENT AND PIERS.

ROADWAY: 24' F/F SAFETY CURB

LOADING: POSTED 16 TON

WEARING SURFACE: CONCRETE

SKEW: NONE (RADIAL)

APPROACH SLABS: AS-1-54 (25' LONG)

CROWN: VARIES

STRUCTURAL FILE NUMBER: 3102785

DATE BUILT: 1950

DISPOSITION: TO BE REMOVED

PROPOSED STRUCTURE

TYPE: 3-SPAN CONTINUOUS PLATE GIRDERS A709 GRADE 50 (PAINTED) WITH COMPOSITE CONCRETE DECK. SUPPORTED BY REINFORCED CONCRETE ABUTMENTS AND PIERS ON PILING OR DRILLED SHAFTS.

SPANS: 121', 152.5', 121', c/c BEARINGS ALONG ℄ (114'-3", 151'-7 15/16", 114'-3" c/c BEARINGS ALONG REFERENCE CHORD)

ROADWAY: 34'-0" TOE/TOE PARAPET

LOADING: HS25 CASE II AND ALTERNATE MILITARY FUTURE WEARING SURFACE (FWS) OF 60 PSF

SKEW: NONE (RADIAL)

WEARING SURFACE: MONOLITHIC CONCRETE

APPROACH SLABS: 30' LONG (AS-1-81) MODIFIED

ALIGNMENT: LEFT CURVE - RADIUS = 420'

SUPERELEVATION: VARIES TO 0.058 FT/FT

COORDINATES: LATITUDE N 39° 06' 05"
LONGITUDE W 84° 33' 15"

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050
Columbus, Ohio 43240

DESIGNED XAC | DRAWN KML | REVIEWED RMK | DATE 02-20-08
CHECKED SJA | REVISED | STRUCTURE FILE NUMBER 3111636

HAMILTON COUNTY
STA. 103+85.93
STA. 107+85.60

SITE PLAN 1
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

1 / 34

370
657

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MATCHLINE STA. 105+87.34 SEE SHEET 1/34

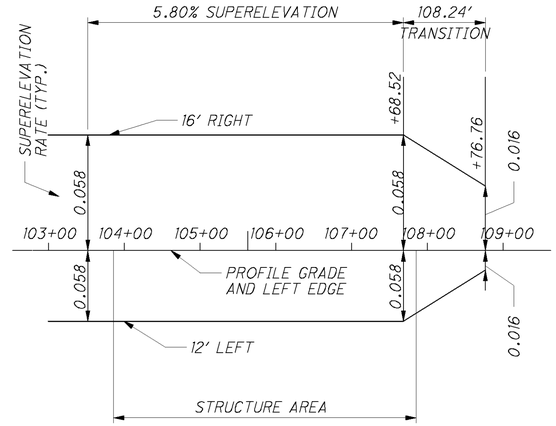
HORIZONTAL CURVE DATA - W.B. WARSAW AVE. RAMP
P.I. STA. 105+88.96
Δ = 92° 25' 16" (LT)
Dc = 13° 38' 31"
R = 420.00'
T = 438.13'
L = 677.48'
E = 186.93'

EX. NEAVE STREET TO BE REMOVED BY OTHERS
NEAVE ST.
MSE WALL 6A
P.I. STA. 108+28.13
P.I. STA. 109+34.06
℄ BRG. FWD. ABUT. STA. 107+83.10
PROPOSED SCUPPER
EX. BRIDGE TO BE REMOVED
TB-12 (0011.493)
REFERENCE CHORD S55°13'42"E
TB-WA-6 (00093.697)
℄ PIER 2 STA. 106+62.10
POINT 'B' MINIMUM VERICAL CLEARANCE
TB-WA-7 (00093.697)
TB-WA-5 (00093.697)
TB-EW-3 (00093.697)
1'-6" PARAPET 34'-0" TOE/TOE 1'-6"
MSE WALL 6B
MSE WALL 6C
TB-211
TB-210
TB-WW-2 (00093.697)
TB-113
TB-114
TB-115
SETTLEMENT PLATFORM LOCATION (TYP.)
S 88° 18' 16" E
VARIES
16'-0" 1 LANE
BEGIN APPROACH SLAB STA. 107+85.60
7'-10"
PRESSURE RELIEF JOINT SEE ROADWAY PLANS
℄ W.B. ELBERON AVE. RAMP
℄ W.B. WARSAW AVE. RAMP
500
510
106
107
98
99

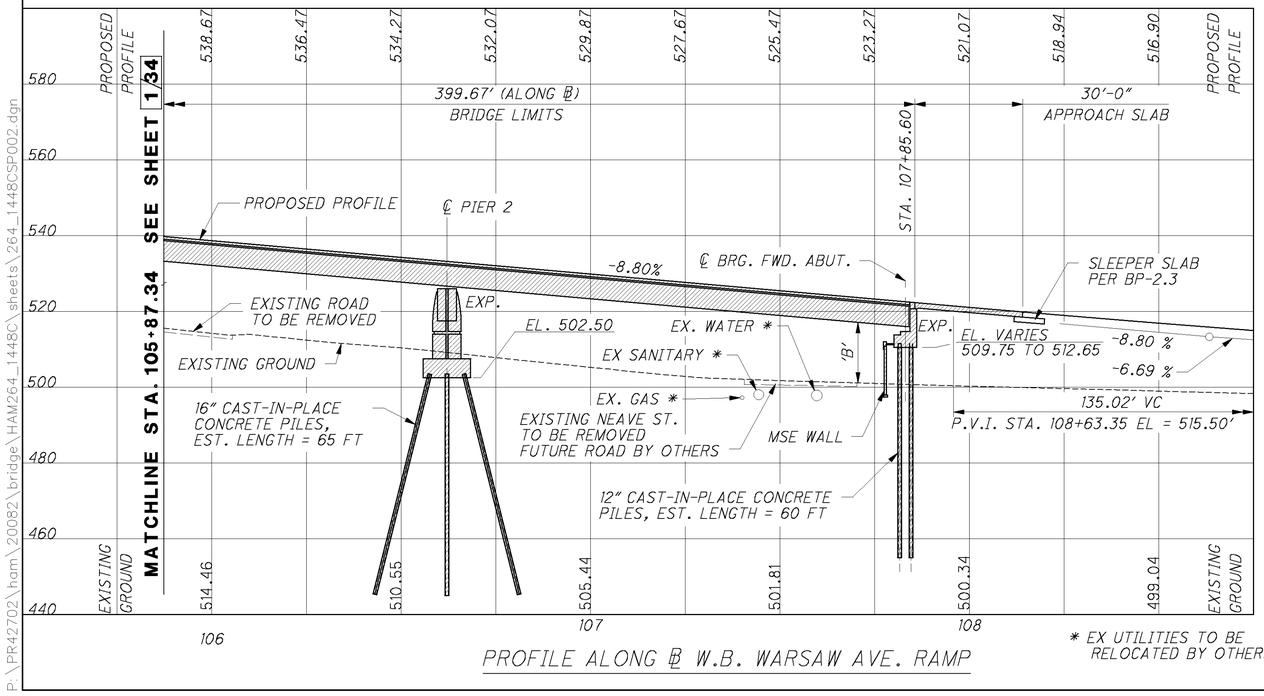
PLAN

VERTICAL CLEARANCE
REQUIRED MINIMUM VERTICAL CLEARANCE = 14'-6"
'B' ACTUAL MINIMUM VERTICAL CLEARANCE = 15'-6"

HORIZONTAL CLEARANCE
REQUIRED MINIMUM HORIZONTAL CLEARANCE = 15'-0"
'D' ACTUAL MINIMUM HORIZONTAL CLEARANCE = 7'-0"



SUPERELEVATION DIAGRAM



PROFILE ALONG ℄ W.B. WARSAW AVE. RAMP

* EX UTILITIES TO BE RELOCATED BY OTHERS

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DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (513) 771-7904
Cincinnati, Ohio 45242

DATE 02-20-08
REVIEWED RMK
STRUCTURE FILE NUMBER 3111636
DRAWN KML
REVISED
DESIGNED XAC
CHECKED SJA

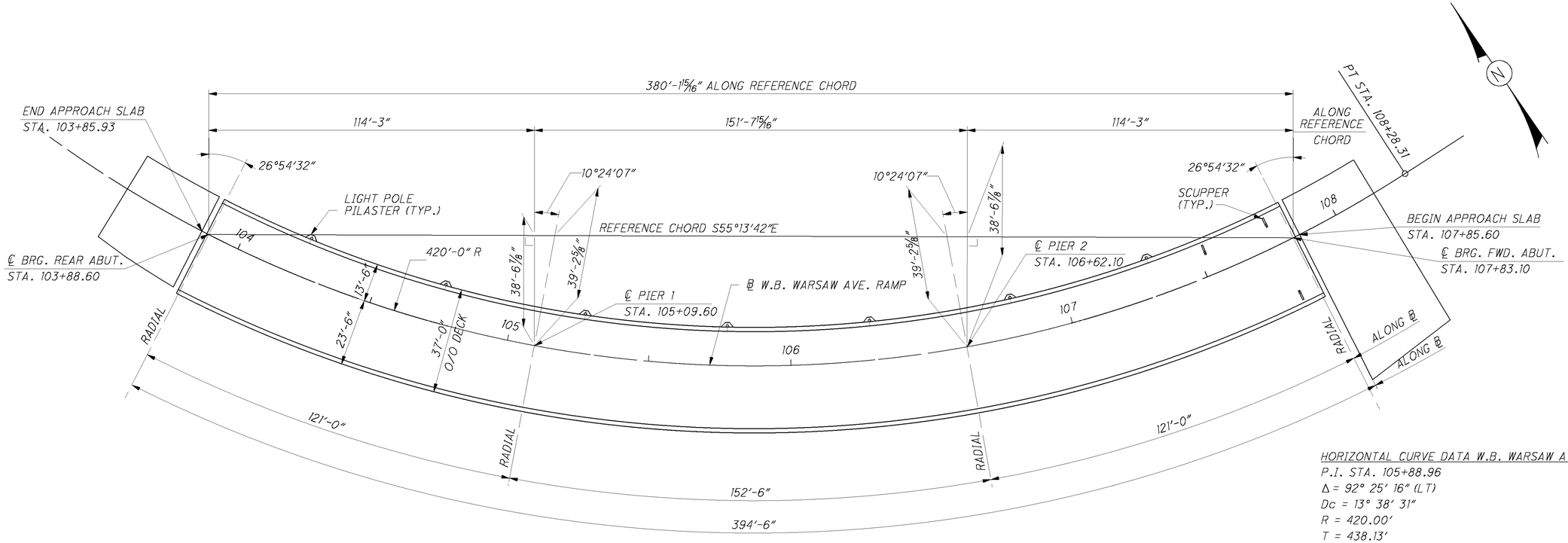
HAMILTON COUNTY
STA. 103+85.93
STA. 107+85.60

SITE PLAN 2
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

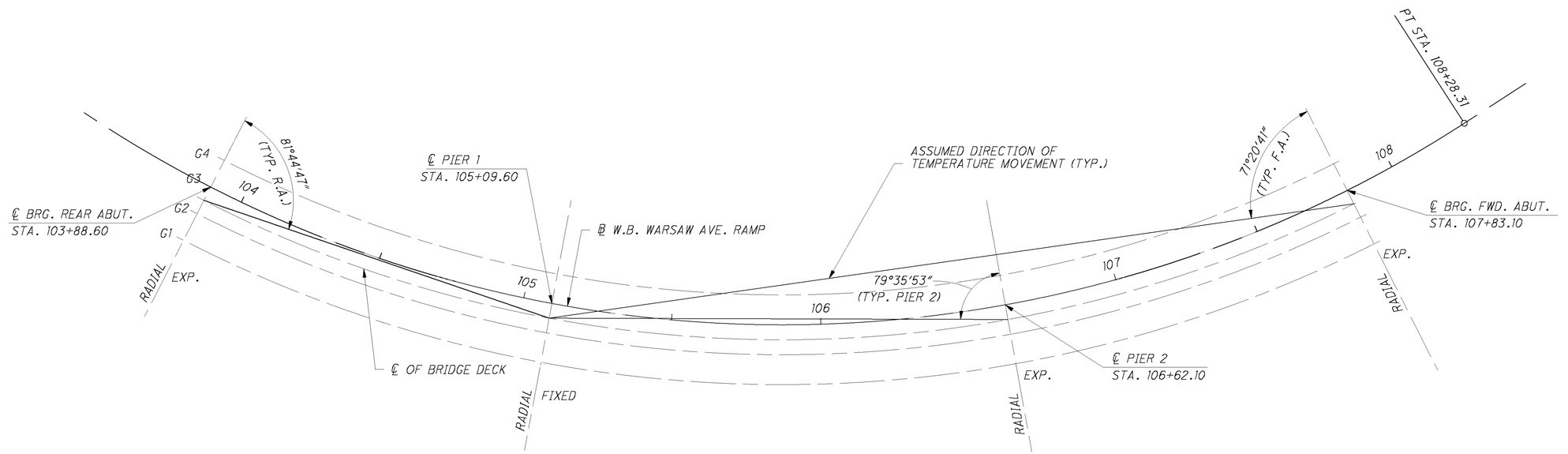
2 / 34

371
657



GENERAL PLAN

HORIZONTAL CURVE DATA W.B. WARSAW AVE. RAMP:
P.I. STA. 105+88.96
Δ = 92° 25' 16" (LT)
Dc = 13° 38' 31"
R = 420.00'
T = 438.13'
L = 677.48'
E = 186.93'



BEARING MOVEMENT DIAGRAM

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DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (614) 459-2070
Columbus, Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
XAC	KML	RMK	02-20-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SJA		3111636	

HAMILTON COUNTY
STA. 103+85.93
STA. 107+85.60

GENERAL PLAN
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

DESIGN REFERENCES:

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

AS-1-81	REVISED 07-19-2002
BR-1	REVISED 07-19-2002
GSD-1-96	REVISED 07-19-2002
EXJ-4-87	REVISED 07-19-2002

AND TO SUPPLEMENTAL SPECIFICATIONS:
898 DATED 10-15-10

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO), 2002 SPECIFICATIONS, THE 2003 AASHTO HORIZONTALLY CURVED STEEL GIRDER GUIDE SPECIFICATIONS, AND THE ODOT BRIDGE DESIGN MANUAL.

SPECIAL DESIGN SPECIFICATIONS:

THE GRILLAGE DESIGN METHOD WAS USED TO ANALYZE THE STRUCTURE. THE COMPUTER PROGRAM USED FOR STRUCTURAL ANALYSIS WAS MDX. THE BRIDGE COMPONENTS DESIGNED BY THIS METHOD AND THE LIVE LOAD DISTRIBUTION FACTORS USED WERE:

DEAD LOAD DISTRIBUTION: NON-COMPOSITE DEAD LOAD AND FUTURE WEARING SURFACE DEAD LOAD WERE DISTRIBUTED BASED ON TRIBUTARY AREA. COMPOSITE PARAPET DEAD LOAD WAS APPLIED AS LINE LOAD TO EXTERIOR GIRDERS.

LIVE LOADS FLOATED BETWEEN BARRIERS FOR MAXIMUM EFFECT.

DESIGN LOADING:

HS25, CASE II, AND ALTERNATE MILITARY LOADING

FUTURE WEARING SURFACE OF 60 PSF

VEHICLE COLLISION - PIER 1 HAS BEEN DESIGNED FOR A STATIC HORIZONTAL FORCE OF 400 KIPS, ASSUMED TO ACT IN ANY DIRECTION, AT A DISTANCE OF 4.0 FEET ABOVE FINISHED GRADE (REF. AASHTO LRFD 3.6.5.2). PIER DESIGN WAS CHECKED FOR AASHTO STANDARD SPECIFICATION CASE VII, TREATING THIS FORCE AS EARTHQUAKE LOAD.

THIS STRUCTURE HAS BEEN DESIGN TO ACCOMMODATE 3 INCHES OF HORIZONTAL MOVEMENT AND $\frac{5}{8}$ INCH OF VERTICAL SETTLEMENT OF THE REAR ABUTMENT DUE TO HILLSIDE CREEP.

DESIGN DATA:

CONCRETE CLASS QSC2 - COMPRESSIVE STRENGTH 4,500 PSI (SUPERSTRUCTURE).

CONCRETE, CLASS QSC1 - COMPRESSIVE STRENGTH 4,000 PSI (SUBSTRUCTURE).

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

SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82, OR A615

STRUCTURAL STEEL ASTM A709 GRADE 50 - YIELD STRENGTH 50,000 PSI.

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL
2½ INCH CONCRETE COVER
SEALING OF CONCRETE SURFACES

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

MAINTENANCE OF TRAFFIC:

TRAFFIC WILL BE DETOURED DURING BRIDGE CONSTRUCTION. BRIDGE MUST BE BUILT IN ACCORDANCE WITH MAINTENANCE OF TRAFFIC GENERAL NOTES.

FINISH COLORS:

THE COLOR FOR THE ALTERNATE STEEL PARAPET RAILS AND ALL HARDWARE SHALL BE FEDERAL COLOR NUMBER 27038, BLACK 30% SHEEN.

THE COLOR FOR ITEM 513 - STRUCTURAL STEEL MEMBERS (OUTSIDE FACE AND BOTTOM) FLANGES OF THE FASCIA BEAMS, LEVEL 5, SHALL BE FEDERAL COLOR NUMBER 27038, BLACK 30% SHEEN. ALL OTHER BRIDGE SUPERSTRUCTURE STRUCTURAL STEEL ELEMENTS SHALL BE PAINTED WITH ODOT STANDARD, FEDERAL COLOR NUMBER 10324, DARK NEUTRAL.

THE COLOR FOR ITEM 512 - THE PIERS WILL BE SEALED WITH EPXOY URETHANE SEALER, FEDERAL COLOR NUMBER 11136, TERRA COTTA. ALL REMAINING CONCRETE SURFACES ARE TO BE SEALED WITH CLEAR NON-EPOXY.

DESIGN AND MAINTENANCE TO ALLOW FOR HILLSIDE MOVEMENT:

IT IS ANTICIPATED THAT THE REAR ABUTMENT COULD MOVE DUE TO HILLSIDE CREEP. FOR THIS REASON A DISTANCE OF 6" WAS PROVIDED FROM THE END OF THE GIRDER TO THE ABUTMENT BACKWALL. FUTURE MAINTENANCE STEPS WILL BE REQUIRED EACH TIME THE REAR ABUTMENT MOVES MORE THAN 1".

REMOVE TOP 1'-6" OF REAR ABUTMENT BACKWALL AND REPLACE EXPANSION JOINT IF THE JOINT OPENING (SEE DIM. A ON DETAILS) IS LESS THAN 1 ½" AT 60 DEGREES FAHRENHEIT. THE EXPANSION JOINT WAS DESIGNED TO INITIALLY PROJECT 3" FROM THE BACKWALL TO ALLOW FOR FUTURE ADJUSTMENT WITHOUT HAVING TO REMOVE THE ENTIRE BACKWALL.

RESET ABUTMENT BEARINGS WHEN SHEAR DEFORMATION OF THE ELASTOMERIC PAD EXCEEDS 1" TOP TO BOTTOM AT 60 DEGREES FAHRENHEIT. THE BEARING WAS DESIGNED WITH OVERSIZED HOLES IN THE MASONRY PLATE TO ALLOW FOR HORIZONTAL ADJUSTMENT. ADD OR REMOVE STEEL SHIMS FOR SEISMIC PEDESTAL TO MAINTAIN 1" GAP FROM BEARING LOAD PLATE.

UTILITY LINES

UTILITY LINES: THE UTILITY(IES) SHALL BEAR ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

DRILLED SHAFTS:

THE DESIGN LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 122 TONS AT THE REAR ABUTMENT. THIS LOAD IS RESISTED BY END BEARING ONLY. THE ALLOWABLE END BEARING IS 10 TONS PER SQUARE FOOT. THE REINFORCING STEEL SHALL BE EPOXY COATED ACCORDING TO 709.00.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE)

PILE DESIGN LOADS (ULTIMATE BEARING VALUE): THE ULTIMATE BEARING VALUE IS 95 TONS PER PILE FOR THE FORWARD ABUTMENT PILES. THE ULTIMATE BEARING VALUE IS 180 TONS PER PILE FOR THE PIER PILES.

FORWARD ABUTMENT PILES:
12" CAST-IN-PLACE CONCRETE PILES
26 PILES 65 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEMS

PIER 1 PILES:
16" CAST-IN-PLACE CONCRETE PILES
16 PILES 55 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEMS

PIER 2 PILES:
16" CAST-IN-PLACE CONCRETE PILES
16 PILES 55 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEMS

BATTERED PILES:

BATTERED PILES: THE BLOW COUNT FOR BATTERED PILES SHALL BE THE BLOW COUNT DETERMINED FOR VERTICAL PILES OF THE SAME ULTIMATE BEARING VALUE DIVIDED AN EFFICIENCY FACTOR (D). COMPUTE THE EFFICIENCY FACTOR (D) AS FOLLOWS:

$$D = \frac{1-UG}{\sqrt{(1+G^2)}}$$

U = COEFFICIENT OF FRICTION, WHICH IS ESTIMATED AT 0.05 FOR DOUBLE-ACTING AIR OPERATED OR DIESEL HAMMERS; 0.1 FOR SINGLE-ACTING AIR OPERATED OR DIESEL HAMMERS; AND 0.2 FOR DROP HAMMERS.

G = RATE OF BATTER (1/3, 1/4, ETC.)

SUGGESTED GIRDER ERECTION SEQUENCE:

A SUGGESTED ERECTION SEQUENCE IS DEVELOPED AS SHOWN ON SHEET 24/34 . THE CONTRACTOR HAS AN OPTION TO DEVELOP HIS OWN METHOD OF CONSTRUCTION. THE COST OF THE ALTERNATE DESIGN IS PAID UNDER ITEM 513 - SUPERSTRUCTURE STEEL MEMBERS, LEVEL 5.

EXISTING STRUCTURE PLANS:

CONSTRUCTION PLANS FOR THE EXISTING BRIDGE ARE ON FILE AT THE DEPARTMENT OF TRANSPORTATION, DISTRICT 8 OFFICE, 505 SOUTH STATE ROUTE 741, LEBANON, OHIO AND ARE AVAILABLE FOR REFERENCE.

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

THIS ITEM SHALL INCLUDE THE REMOVAL OF THE EXISTING WEST BOUND WARSAW AVENUE RAMP, EXCEPT THE REAR ABUTMENT AND ITS TURNED BACK WINGWALL THAT WILL BE PART OF THE PROPOSED RETAINING WALL. CARE SHALL BE TAKEN WHEN REMOVING THE SUPERSTRUCTURE, EXPANSION JOINT AND BEARINGS ON THE EXISTING BRIDGE.

ITEM 512 SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION):

APPLY A CLEAR PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

PERMANENT GRAFFITI PROTECTION ON PIERS SHALL BE APPLIED TO THE LIMITS SHOWN IN THE PLANS.

ITEM 524 - DRILLED SHAFTS, 48" DIAMETER ABOVE BEDROCK, AS PER PLAN

ALTERNATE INSTALLATION OF DRILLED SHAFTS SO THAT ADJACENT SHAFT CONCRETE HAS CURED 3 DAYS PRIOR TO DRILLING ANOTHER SHAFT WITHIN 12 FEET CENTER TO CENTER.

ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), 17", AS PER PLAN:

FURNISH APPROACH SLABS CONFORMING TO CMS 526 EXCEPT CONCRETE SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 898, QC/QA CONCRETE, CLASS QSC2. THE ACCEPTED QUANTITIES SHALL INCLUDE: CONCRETE, CURBS, REINFORCING STEEL, JOINT FILLERS, JOINT SEALERS, JOINT SEALS, AND WATERPROOFING. IN ADDITION, THE PARAPET TRANSITIONS ON THE APPROACH SLABS, INCLUDING THE CONCRETE, REINFORCING STEEL, HMWM AND SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) SHALL BE INCLUDED IN THE COST OF THE APPROACH SLABS. THE DEPARTMENT WILL MEASURE APPROACH SLABS BY THE NUMBER OF SQUARE YARDS. THE DEPARTMENT WILL INITIALLY PAY THE FULL BID PRICE TO THE CONTRACTOR UPON COMPLETING THE WORK. THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE AND DECK CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK) AS PER PLAN:

THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE AND DECK CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

ITEM SPECIAL - INCLINOMETER

REAR ABUTMENT:
FURNISH AND INSTALL A 3.34 INCH (85 MM) DIAMETER INCLINOMETER CASING THROUGH THE ABUTMENT SEAT AS SHOWN ON THE ABUTMENT DRAWINGS. THE INCLINOMETER CASING IS TO BE CAPPED AT THE TOP. THE INCLINOMETER CASING IS TO BE COMPRISED OF ABS PLASTIC WITH QC (QUICK CONNECT) CONNECTIONS. PROTECT THE TOP OF THE INCLINOMETER CASING WITH A FLUSH MOUNT PROTECTIVE COVER INSTALLED IN THE ABUTMENT SEAT. PROVIDE THE FLUSH MOUNT PROTECTIVE COVER IN ACCORDANCE WITH SECTION 506.2.2 OF THE ODOT SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS.

FORM A VOID BETWEEN THE BOTTOM OF ABUTMENT FOOTING AND THE TOP OF THE PRIMARY GROUT TO ALLOW FOR VERTICAL DISPLACEMENT. PLACE SECONDARY GROUT AT LEAST 30 DAYS AFTER BRIDGE PARAPET IS CONSTRUCTED.

CARE SHOULD BE TAKEN DURING INSTALLATION TO INSURE THE CASING REMAINS IN PLACE DURING PLACEMENT OF ADJACENT FILL AND CONCRETE SO THAT THE INCLINOMETER IS NOT DAMAGED OR ROTATED. ORIENT THE CASING GROOVES PARALLEL AND PERPENDICULAR TO THE FOOTING.

THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE PROTECTION OF THE INSTRUMENTATION AND ALL DAMAGE DURING THE LIFE OF THE CONTRACT. PAYMENT FOR THIS ITEM SHALL BE PAID UNDER "ITEM SPECIAL - INCLINOMETERS" AND INCLUDES FURNISHING ALL MATERIALS (SLOPE INDICATOR TUBING,COUPLINGS, END PLUGS, OUTER CASING AND PROTECTIVE CAP) AS WELL AS LABOR AND EQUIPMENT NECESSARY TO INSTALL THE INCLINOMETER CASING AT THE DESIGNATED PLAN LOCATIONS.

THE INCLINOMETER CASING SHOULD MEET THE DETAILS DESCRIBED ABOVE OR APPROVED EQUIVALENT. SUPPLIERS OF INCLINOMETER CASING INCLUDE:

GLOBAL DRILLING SUPPLIERS, INC.
12101 CENTRON PLACE
CINCINNATI, OHIO 45246
PH: 513-671-8700

DURHAM GEO SLOPE INDICATORS
12123 HARBOUR REACH DR.
MUKILTEO, WA 98275
PH: 773-728-5822

DESIGN AGENCY: BURGESS & NIPLE

DESIGNED	DRAWN	REVIEWED	DATE
XAC	SJA	RMK	02-20-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SJA		3111636	

GENERAL NOTES 1
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

4 / 34

373
657

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ABBREVIATIONS

THE FOLLOWING ABBREVIATIONS HAVE BEEN USED THROUGHOUT THESE PLANS TO INDICATE THE DESIGNATIONS CONTAINED IN THE LEGEND BELOW:

ABUT. - ABUTMENT
APPR. - APPROACH

℄ - BASELINE
BOT. - BOTTOM
BRGS. - BEARINGS
B.S. - BOTH SIDES

℄ - CENTERLINE
C/C - CENTER TO CENTER
CIP - CAST-IN-PLACE
C.J. - CONTRUCTION JOINT
CJP - COMPLETE JOINT PENETRATION
CLR. - CLEARANCE
CMS - CONSTRUCTION AND MATERIAL SPECIFICATIONS
CONC. - CONCRETE
CONST. - CONSTRUCTION
CS - INDICATES BUTT WELD SUBJECT TO COMPRESSIVE STRESSES ONLY
CU YD - CUBIC YARD
CVN - CHARPY V-NOTCH

DIA. - DIAMETER

E.F. - EACH FACE
EL. - ELEVATION
EQ. - EQUAL

EX. - EXISTING
EXP. - EXPANSION

F.A. - FORWARD ABUTMENT
F.F. - FAR FACE
F.S. - FIELD SPLICE
FT/FT - FOOT PER FOOT
FTG. - FOOTING
FWD. - FORWARD

GEN. - GENERAL

HPC - HIGH PERFORMANCE CONCRETE

LF - LEFT FORWARD
LT. - LEFT

MAX. - MAXIMUM
MIN. - MINIMUM
MISC. - MISCELLANEOUS
MOT - MAINTENANCE OF TRAFFIC
MSE - MECHANICALLY STABILIZED EARTH

N.F. - NEAR FACE
N.P.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE
NO./# - NUMBER

O/O - OUT TO OUT

PC - POINT OF CURVATURE
P.C.P.P - PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
PG - PROFILE GRADE
PI - POINT OF INTERSECTION
PROP. - PROPOSED
PT - POINT OF TANGENCY
PVC - POINT OF VERTICAL CURVATURE
PVI - POINT OF VERTICAL INTERSECTION
PVT - POINT OF VERTICAL TANGENCY

R. - RADIUS
R.A. - REAR ABUTMENT
RF - RIGHT FORWARD
RT. - RIGHT
R/W - RIGHT OF WAY

SAN. - SANITARY
SER. - SERIES
SHT. - SHEET
S.O. - SERIES OF
SPA. - SPACES OR SPACING
SR - STATE ROUTE
STA. - STATION
STD. - STANDARD
STM. - STORM
STR. - STRAIGHT

TBM - TEMPORARY BENCH MARK
TEMP. - TEMPORARY
T.O.S. - TOE OF SLOPE
T/PARAPET - TOE OF PARAPET
T/T - TOE TO TOE
TYP. - TYPICAL

U.G. - UNDERGROUND

VAR. - VARIES
VC - VERTICAL CURVE
VERT. - VERTICAL

W/O - WITHOUT
WB - WESTBOUND

PILE DRIVING CONSTRAINTS

PRIOR TO DRIVING ABUTMENT PILES TO THE ULTIMATE BEARING VALUE (UBV), CONSTRUCT THE MSE WALL AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENT UP TO THE BOTTOM OF THE FOOTING FOR A MINIMUM DISTANCE OF 200 FT BEHIND EACH ABUTMENT. PROVIDE A SURCHARGE FROM THE BOTTOM OF THE ABUTMENT FOOTING TO THE BOTTOM OF THE SUBGRADE, FOR A MINIMUM DISTANCE OF 200 FEET BEHIND EACH ABUTMENT. SURCHARGE LOADS SHALL REMAIN UNTIL THE REQUIRED SETTLEMENT HAS OCCURED AND AS DIRECTED BY THE ENGINEER. COMPLETE THE MSE WALL AND EMBANKMENT CONSTRUCTION IMMEDIATELY FOLLOWING THE SURCHARGE REMOVAL.

THE CONTRACTOR MAY PRE-DRIVE ABUTMENT PILES BEFORE CONSTRUCTING MSE WALLS. PRE-DRIVING CONSISTS OF INSTALLING THE ABUTMENT PILES INTO THE SOIL ONLY AS FAR AS NECESSARY SO THAT THE PIPE WILL REMAIN VERTICAL DURING MSE WALL CONSTRUCTION. IF PRE-DRIVING PILES, INSTALL PILE SLEEVES AROUND PILES BEFORE CONSTRUCTING THE MSE WALL. AT LEAST THREE FEET OF PILE MUST EXTEND ABOVE THE TOP OF THE PILE SLEEVE TO MEET THE REQUIREMENTS OF CMS 507.09 REGARDING SPLICES. DO NOT DRIVE ABUTMENT PILES TO THE UBV UNTIL AFTER THE ABOVE REQUIRED MSE WALL AND EMBANKMENT HAVE BEEN CONSTRUCTED, AND THE SPECIFIED WAITING PERIOD HAS ELAPSED.

IF NOT PRE-DRIVING ABUTMENT PILES, INSTALL THE ABUTMENT PILES THROUGH PILE SLEEVES AFTER THE ABOVE REQUIRED MSE WALL AND EMBANKMENT HAVE BEEN CONSTRUCTED AND THE SPECIFIED WAITING PERIOD HAS ELAPSED.

ABUTMENT PILE DRIVING TO THE UBV (FOR PILES DRIVEN AFTER MSE CONSTRUCTION) OR PILE REDRIVING (FOR PILES PRE-DRIVEN BEFORE MSE CONSTRUCTION) MAY NOT BEGIN UNTIL A MINIMUM 30 CALENDAR DAY WAITING PERIOD HAS ELAPSED AFTER THE COMPLETION OF EMBANKMENT AND SURCHARGE CONSTRUCTION. IN ADDITION, CONSECUTIVE SETTLEMENT READINGS, RECORDED AFTER EMBANKMENT CONSTRUCTION IS COMPLETE AND AT LEAST ONE WEEK (168 HOURS) APART, SHALL RESULT IN ELEVATION DIFFERENCES EQUAL TO OR LESS THAN 1/8 INCH FOR ABUTMENT CONSTRUCTION TO CONTINUE. IF SETTLEMENT RATES EXCEED 2 INCH PER MONTH AFTER EMBANKMENT CONSTRUCTION HAS BEEN COMPLETE FOR 40 DAYS, REMAINING ABUTMENT CONSTRUCTION, INCLUDING ANY NECESSARY CORRECTIVE MEASURES, MAY PROCEED ONLY AT THE DIRECTION OF THE ENGINEER.

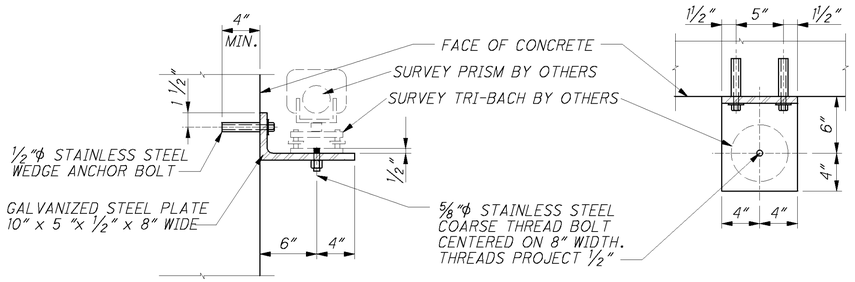
THE ENGINEER MAY ADJUST THE SPECIFIED WAITING PERIOD BASED ON SETTLEMENT PLATFORM READINGS. AFTER THE SPECIFIED WAITING PERIOD HAS ELAPSED, DRIVE ABUTMENT PILES TO THE UBV. IN ORDER TO REMOVE ANY NEGATIVE SKIN FRICTION THAT HAS DEVELOPED DURING THE WAITING PERIOD, DRIVE EACH ABUTMENT PILE A DISTANCE OF AT LEAST 0.5 INCH.

ITEM 513 - STRUCTURAL STEEL MISC. : SURVEY PRISM MOUNT

FURNISH AND INSTALL STEEL BRACKETS TO SUPPORT A CIRCULAR SURVEY PRISM AT LOCATIONS SHOWN ON THE REAR ABUTMENT ELEVATION.

CARE SHOULD BE TAKEN DURING INSTALLATION TO INSURE THE BRACKET IS INSTALLED LEVEL AND PLUM. LOCATE ABUTMENT REINFORCEMENT PRIOR TO DRILLING ANCHOR BOLTS AND ADJUST BRACKET LOCATION TO MISS THE REINFORCEMENT.

PAYMENT FOR THIS ITEM SHALL BE PAID UNDER "ITEM 513 -STRUCTURAL STEEL MISC. : SURVEY PRISM MOUNT" AND INCLUDES FURNISHING ALL MATERIALS AS WELL AS LABOR AND EQUIPMENT NECESSARY TO INSTALL THE PRISM MOUNTS AT THE DESIGNATED LOCATIONS.



SURVEY PRISM MOUNT ELEVATION

SURVEY PRISM MOUNT PLAN

ITEM SPECIAL-SETTLEMENT PLATFORMS:

DESCRIPTION: THIS ITEM CONSISTS OF FURNISHING, CONSTRUCTING, AND MAINTAINING SETTLEMENT PLATFORMS AND SETTLMENT MONUMENTS AND OBTAINING SETTLEMENT READINGS AS REQUIRED BY THE PLANS OR AS DIRECTED BY THE ENGINEER. AT THE OPTION AND EXPENSE OF THE CONTRACTOR, ADDITIONAL SETTLEMENT PLATFORMS MAY BE INSTALLED AT LOCATIONS APPROVED BY THE ENGINEER. SETTLEMENT READINGS SHALL BE TAKEN WEEKLY DURING CONSTRUCTION AND DURING ANY SPECIFIED WAITING PERIOD. THE READINGS SHALL BE PLOTTED ON GRAPH PAPER PRESENTING DEFORMATION (ON THE NEGATIVE Y-AXIS) AND FILL HEIGHT (ON THE POSITIVE Y-AXIS) VERSUS TIME (ON THE X-AXIS). A COPY OF EACH CUMULATIVE PLOT SHALL BE SENT TO THE DISTRICT GEOTECHNICAL ENGINEER AND THE OFFICE OF GEOTECHNICAL ENGINEERING, ATTENTION: GEOTECHNICAL DESIGN COORDINATOR, AFTER EACH SETTLEMENT READING IS RECORDED.

THE DEPARTMENT WILL CONSIDER VIBRATING WIRE SETTLEMENT MONITORING PLATFORMS IN LIEU OF THE CONVENTIONAL SETTLEMENT PLATFORMS. THE CONTRACTOR SHOULD PROVIDE DETAILS OF THE PROPOSED VIBRATING WIRE SETTLEMENT PLATFORMS AS WELL AS DESIGN DRAWINGS OF THE PROPOSED PLATFORM AND CABLING LAYOUT TO THE ENGINEER AT LEAST 30 DAYS PRIOR TO CONSTRUCTION. THE DEPARTMENT WILL REQUIRE 10 WORKING DAYS FOR REVIEW AND APPROVAL. THE DESIGN DRAWINGS SHOULD ILLUSTRATE THE PROPOSED SETTLEMENT VIBRATING WIRE SETTLEMENT PLATFORM LOCATIONS WITH ALL EXISTING AND PROPOSED SITE FEATURES TO VERIFY THE PROPOSED CABLING WILL NOT CONFLICT WITH EXISTING FACILITIES, PROPOSED FACILITIES OR UTILITIES. NO ADDITIONAL PAYMENT WILL BE PROVIDED IF THE CONTRACTOR ELECTS TO UTILIZE VIBRATING WIRE SETTLEMENT PLATFORMS.

MATERIALS: SOUND LUMBER SUCH AS 3/4-INCH (19MM) EXTERIOR GRADE PLYWOOD SHALL BE USED FOR THE BASE. THE PIPE SHALL BE 2-1/2-INCH (64MM) STANDARD BLACK PIPE WITH THREADED FITTINGS AS SHOWN ON THE PLANS. A STEEL PLATE 36" X 36" X 1/8" (915MM X 915MM X 3.2MM) MAY BE SUBSTITUTED FOR THE LUMBER FOR THE PLATFORMS, AT THE CONTRACTOR'S OPTION.

CONSTRUCTION METHODS: THE PLATFORM SHALL CONFORM TO THE DETAILS SHOWN ON THE PLANS. THE PLATFORM SHALL BE SET ON A LEVEL SURFACE. THE PIPE SHALL BE FIRMLY SECURED TO THE PLATFORM AND SHALL BE MAINTAINED IN A PLUMB POSITION DURING THE PLACEMENT OF THE EMBANKMENT. THE PIPE SHALL BE MARKED AT INTERVALS TO FACILITATE MEASUREMENT OF THE DEPTH OF FILL. THE CONTRACTOR SHALL STOP WORK IN ANY LOCATION WHERE THE SETTLEMENT PLATFORM HAS BEEN DISTURBED OR DAMAGED. PLATFORMS OR PIPES DAMAGED OR DISPLACED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR PROPER CONDITION AT THE CONTRACTOR'S EXPENSE.

PRIOR TO PAVING, THE TOP OF THE SETTLEMENT PLATFORM PIPE SHALL BE CUT OFF TWO FEET (600MM) BELOW THE FINISHED SURFACE OF THE SUBGRADE OR FINISHED GROUND SURFACE, WHICHEVER IS APPLICABLE.

CONTRACTOR WILL ESTABLISH SURVEY MONUMENTS AT A MINIMUM OF SIX (6) LOCATIONS AROUND EXTERIOR PERIMETER OF WALL TO MONITOR SETTLEMENT AT BASE. MONUMENTS TO BE SURVEYED AT REGULAR INTERVALS DURING CONSTRUCTION AT SAME FREQUENCY AS SETTLEMENT PLATFORMS. MONUMENTS MAY CONSIST OF CHISELED NOTCHES ON WALL FACE OR STEEL RODS OR CONCRETE PIERS SET AT LEAST 30 INCHES BELOW GRADE AT BASE OF WALL.

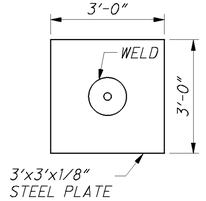
METHOD OF MEASUREMENT: THE NUMBER OF SETTLEMENT PLATFORMS TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF SETTLEMENT PLATFORMS COMPLETED, MAINTAINED, AND ACCEPTED BY THE ENGINEER.

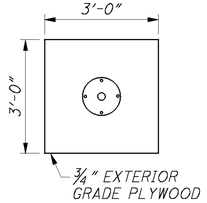
BASIS OF PAYMENT: PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE EACH FOR "ITEM SPECIAL-SETTLEMENT PLATFORMS" WHICH IS COMPENSATION FOR CONSTRUCTION MAINTAINING, AND MONITORING THE SETTLEMENT PLATFORMS AND MONUMENTS INCLUDING FURNISHING ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK. PAYMENT SHALL NOT BE MADE FOR SETTLEMENT PLATFORMS WHICH BECOME USELESS DUE TO DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS.

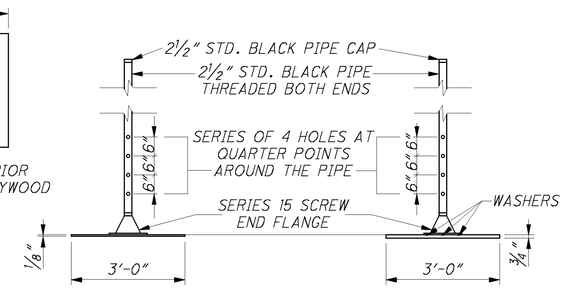
THE PLATFORMS MUST BE READ WEEKLY DURING CONSTRUCTION OF THE EMBANKMENTS AND WEEKLY DURING THE 60 DAY WAITING PERIOD. THE INFORMATION FROM THE PLATFORM CAN BE USED BY THE OFFICE OF GEOTECHNICAL ENGINEERING TO SHORTEN OR LENGTHEN THE WAITING PERIOD.

THE CONTRACTOR SHALL PROVIDE PROTECTION FOR ALL PLATFORMS DURING CONSTRUCTION. THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR THE ABOVE WORK TO BE USED AS DIRECTED BY THE ENGINEER.

ITEM SPECIAL - SETTLEMENT PLATFORM 6 EACH







NOTES:

1. SETTLEMENT PLATES SHALL BE PLACED AT THE LOCATIONS INDICATED IN THE WICKDRAIN PLANS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
2. CONTRACTOR HAS OPTION OF USING EITHER STEEL OR PLYWOOD PLATFORM BASE.
3. CONTRACTOR SHALL FURNISH MATERIALS AND LABOR TO EXTEND PIPE UP THROUGH ENTIRE FILL.
4. SETTLEMENT PLATFORMS SHALL BE ANCHORED BY STAKES DRIVEN AT EACH CORNER TO PREVENT OVERTURNING.

DESIGN AGENCY BURGESS & NIPLE

DESIGNED XAC | DRAWN SJA | REVIEWED RMK | DATE 02-20-08
CHECKED SJA | REVISED | STRUCTURE FILE NUMBER 3111636

GENERAL NOTES 2
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

5 / 34

374 / 657

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ESTIMATED QUANTITIES

CALC.	DATE	CHK'D	DATE
JHL	1/8/2009	ADZ	1/21/2009

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIERS	SUPER.	APPROACH SLAB	GENERAL	SHT. REF.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN						4 / 34
202	22900	134	SY	APPROACH SLAB REMOVED				134		
SPECIAL	20307502	1	EACH	INCLINOMETER	1					5 / 34
SPECIAL	20365000	6	EACH	SETTLEMENT PLATFORM	6					5 / 34
503	21300	LUMP		UNCLASSIFIED EXCAVATION						
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION						
507	00501	1560	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN, AS PER PLAN	1560					5 / 34
507	00550	1690	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	1690					
507	00700	2000	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN		2000				
507	00750	2160	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED		2160				
509	10000	217865	LB	EPOXY COATED REINFORCING STEEL	26978	35581	155306			
512	10001	84	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION)		84				4 / 34
512	10050	1208	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	319		889			
512	10100	192	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		192				
513	10300	634780	LB	STRUCTURAL STEEL MEMBERS, LEVEL 5			634780			
513	20000	4107	EACH	WELDED STUD SHEAR CONNECTORS			4107			
513	95030	2	EACH	STRUCTURAL STEEL MISC. : SURVEY PRISM MOUNT	2					5 / 34
514	00060	30640	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			30640			
514	00066	30640	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			30640			
514	10000	23	EACH	FINAL INSPECTION REPAIR			23			
516	11211	37	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN (5")			37			9 / 34
516	11211	71	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN (4")			71			9 / 34
516	13600	11	SF	1" PREFORMED EXPANSION JOINT FILLER	11					
516	13900	18	SF	2" PREFORMED EXPANSION JOINT FILLER	18					
516	44400	4	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (1'-8" DIA. x 5 3/16") (SPECIAL)	4					
516	44400	4	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (2'-1 1/4" DIA. x 5 1/2") (FIXED)		4				
516	44400	4	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (2'-2 1/2" DIA. x 6 3/8") (EXPANSION)		4				
516	44400	4	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (1'-8" DIA. x 5 3/16") (EXPANSION)	4					
517	76300	802	FT	RAILING, MISC: RAILING ALTERNATE, MINNESOTA RAILING *			802			6 & 25 / 34
518	12300	3	EACH	SCUPPERS, INCLUDING SUPPORTS			3			
518	51100	35	FT	8" PIPE DOWNSPOUT, INCLUDING SPECIALS					35	
518	60030	24	FT	PIPE HORIZONTAL CONDUCTOR					24	
523	20000	3	EACH	DYNAMIC LOAD TESTING	1	2				
524	94903	230	FT	DRILLED SHAFTS, 48" DIAMETER, ABOVE BEDROCK, AS PER PLAN	230					4 / 34
898	10201	444	CY	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN			444			4 / 34
898	10709	352	SY	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), (T=17"), AS PER PLAN				352		4 / 34
898	11000	92	CY	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET)			92			
898	20100	125	CY	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (PIER ABOVE FOOTING)		125				
898	20160	213	CY	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (ABUTMENT INCLUDING FOOTING) **	213					
898	20300	93	CY	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (FOOTING)		93				

* RAILING, MISC: RAILING ALTERNATE, MINNESOTA RAILING IS A REQUIRED BID ITEM. IF SELECTED BY THE OWNER IT WILL REPLACE BID ITEM 898: QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET). CONCRETE IN ALTERNATE RAILING SHALL BE QC/QA CONCRETE,CLASS QSC2. IF SELECTED BY THE OWNER ALTERNATE RAILING AND ALL NECESSARY TRANSITIONS SHALL BE DETAILED PER MINNESOTA STANDARD DRAWING FIGURE 5-397.157 AND SUBMITTED FOR SHOP DRAWING REVIEW PRIOR TO FABRICATION. THE COST OF ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR PAINING, REINFORCEMENT, SEALING, RAILINGS AND SHOP DRAWING PREPARATION SHALL BE INCLUDED WITH THIS ITEM FOR PAYMENT. SEE SHEET 4/34 FOR COLOR REQUIREMENTS. ALL REINFORCEMENT SHALL BE EPOXY COATED. THE ALTERNATE RAILING OPTION WILL REPLACE 20,479 POUNDS OF REINFORCEMENT AND 695 SQ. YD. OF SEALING.

** CONCRETE FOR REAR ABUTMENT COLUMNS IS INCLUDED WITH THIS ITEM FOR PAYMENT.

DESIGN AGENCY BURGESS & NIPLE

DESIGNED XAC | DRAWN SJA | REVIEWED RMK | DATE 02-20-08

CHECKED SJA | REVISED | STRUCTURE FILE NUMBER 3111636

ESTIMATED QUANTITIES
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

6 / 34

375
657

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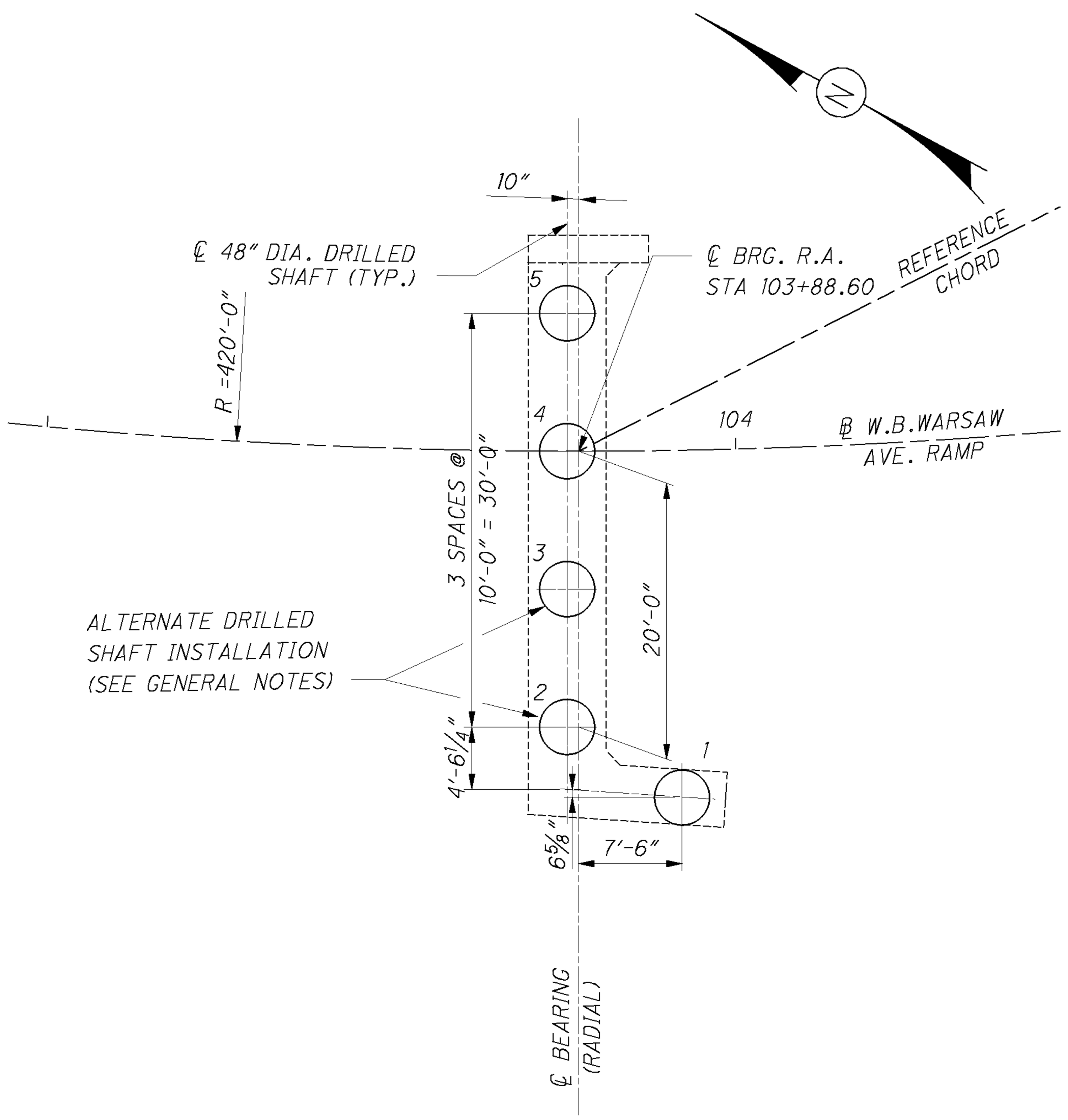
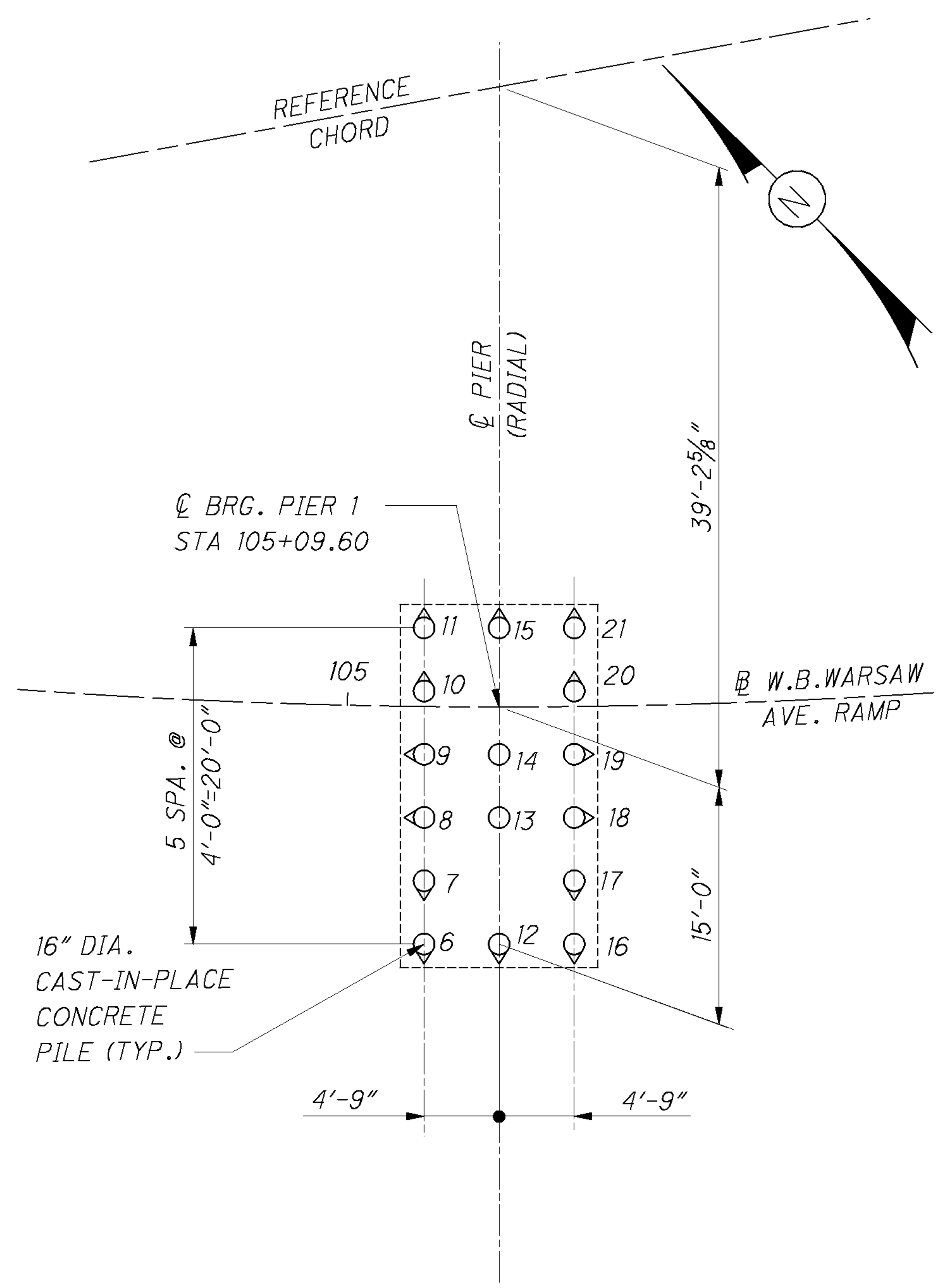


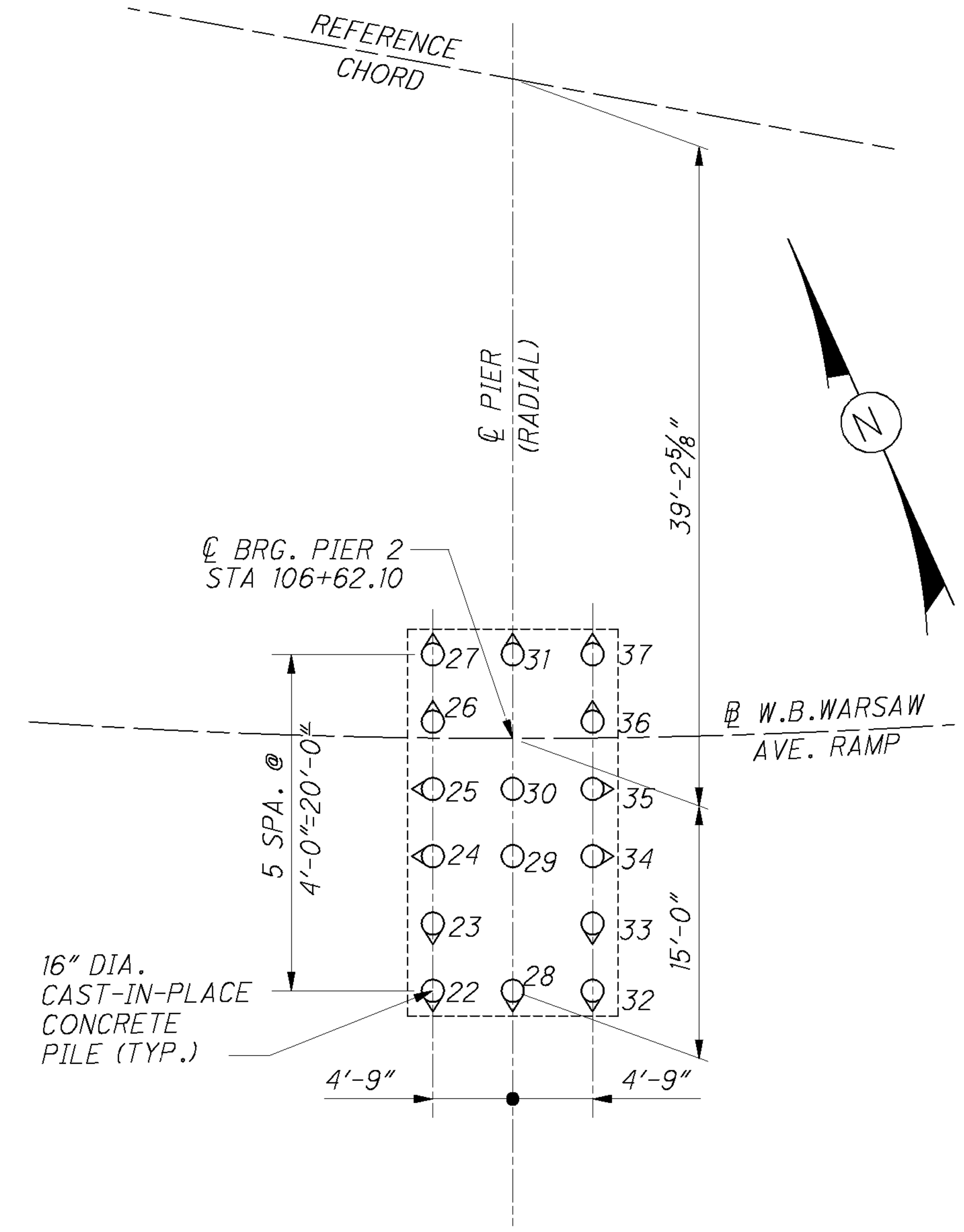
FOUNDATION PLAN

REAR ABUTMENT



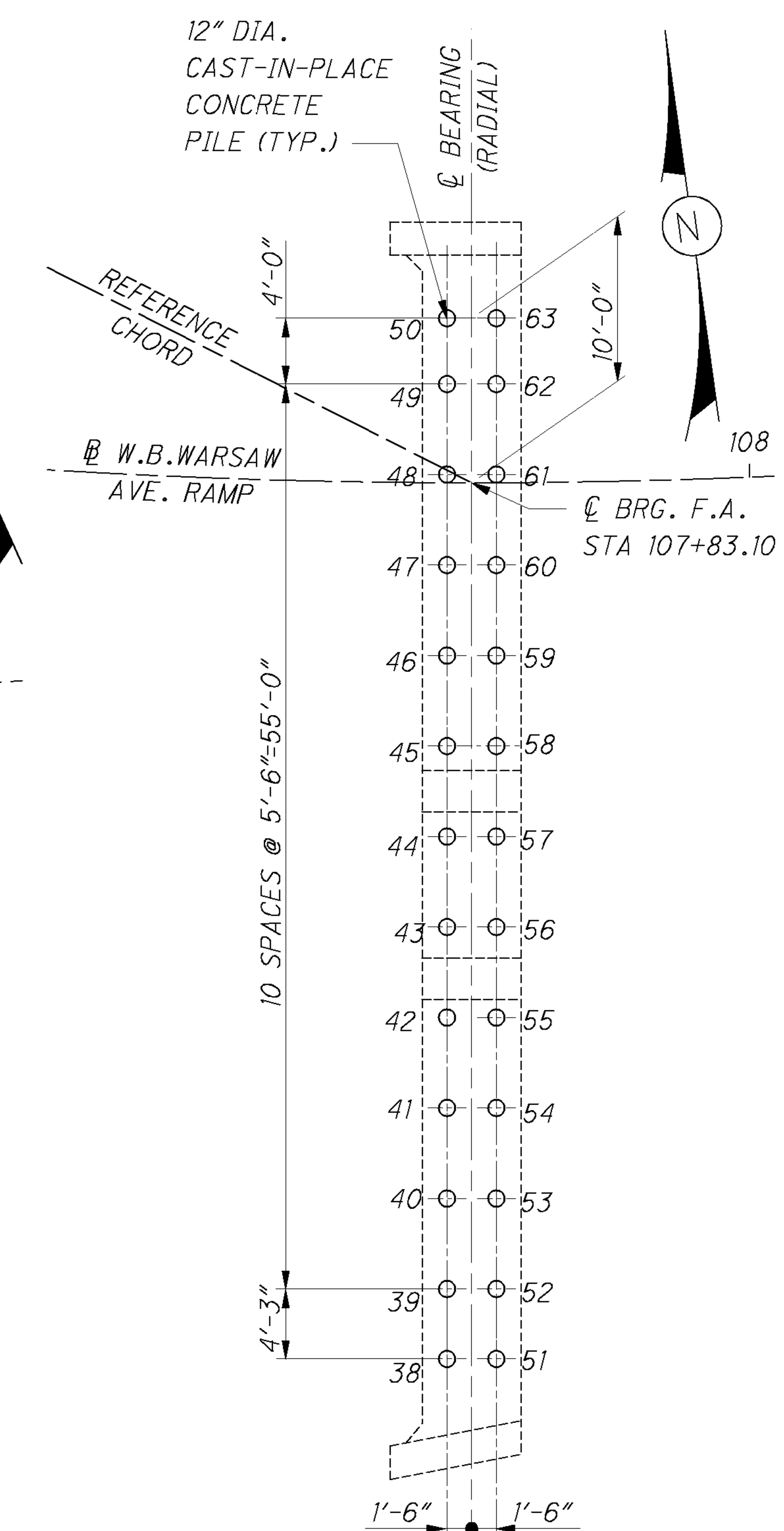
FOUNDATION PLAN

PIER 1



FOUNDATION PLAN

PIER 2



FOUNDATION PLAN

FORWARD ABUTMENT

LEGEND:

- PROPOSED 48" DIA. DRILLED SHAFT
- PROPOSED VERTICAL PILE
- PROPOSED PILE BATTERED (1:4) IN DIRECTION OF ARROW
- N ○ DENOTES PILE NUMBER 'N'

NOTES:

1. REMOVE EXISTING FOUNDATIONS AND PORTIONS OF EXISTING FOUNDATIONS THAT INTERFERE WITH PROPOSED FOUNDATIONS AS PER 202.03.

DESIGN AGENCY: BURGESS & NIPLE

DESIGNED	DRAWN	REVIEWED	DATE
XAC	KML	RMK	02-20-08
CHECKED SJA	REVISED	STRUCTURE FILE NUMBER 3111636	

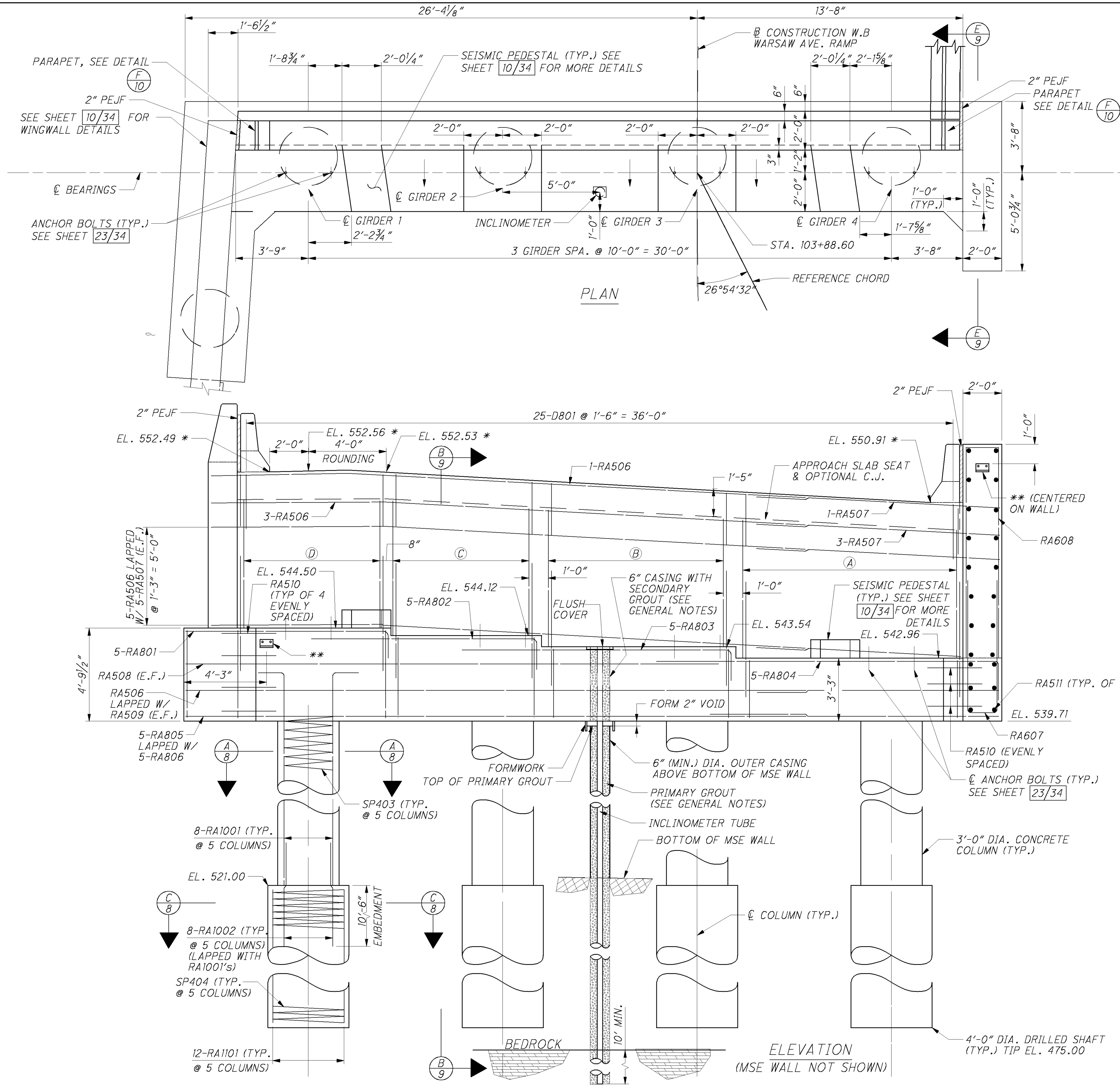
FOUNDATION PLAN

BRIDGE NO. HAM-264-1448

W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79

PID No. 20082



LEGEND:

↓ = SLOPE 1/2" BETWEEN BEARING SEATS (TYP.)

* = ELEVATION GIVEN AT FACE OF JOINT ARMOR

** = SURVEY PRISM MOUNT (SEE GENERAL NOTES)

BOT. = BOTTOM
E.F. = EACH FACE
P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
U.N.O. = UNLESS NOTED OTHERWISE
S.O. = SERIES OF

(A) = 1 S.O. 12 RA603 (E.F.) LAPPED W/ 12-RA601, 12-RA602, 12-RA501 & 12-RA502 @ 1'-0" = 11'-0"

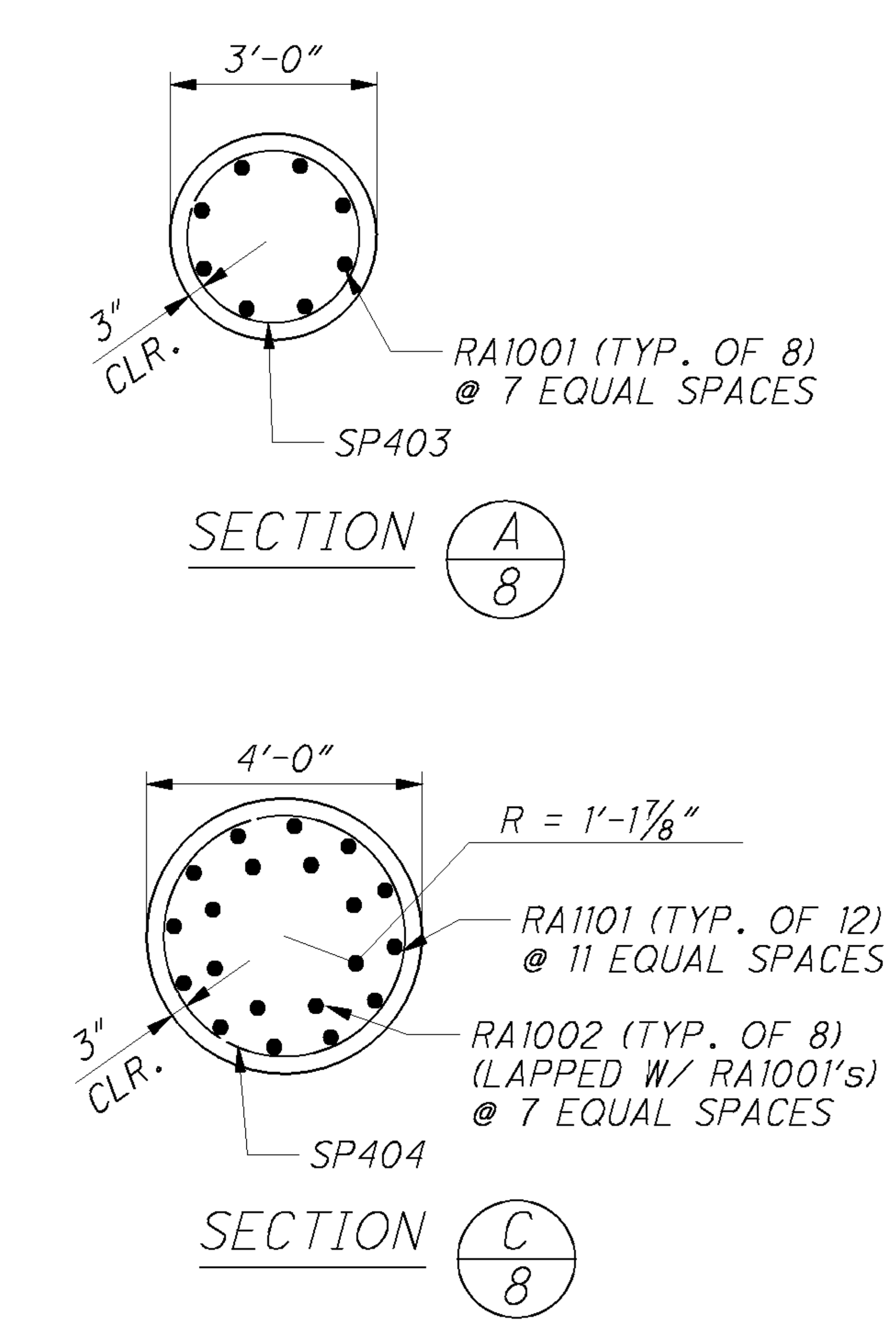
(B) = 1 S.O. 10 RA604 (E.F.) LAPPED W/ 10-RA601, 10-RA602, 10-RA501, & 10-RA503 @ 1'-0" = 9'-0"

(C) = 1 S.O. 8 RA605 (E.F.) LAPPED W/ 8-RA601, 8-RA602, 8-RA501, & 8-RA504 @ 1'-0" = 7'-0"

(D) = 8-RA606 (E.F.) LAPPED W/ 8-RA601, 8-RA602, 8-RA501, & 8-RA505 @ 1'-0" = 7'-0"

NOTES:

MIN. LAP LENGTHS
#5'S = 2'-6"
#6'S = 3'-10"
#8'S = 4'-11"
#10'S = 8'-2"



DESIGN AGENCY: BURGESS & NIPLE

DESIGNED	DRAWN	REVIEWED	DATE
XAC	XAC	RMK	02-20-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SJA		3111636	

REAR ABUTMENT PLAN AND ELEVATION
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

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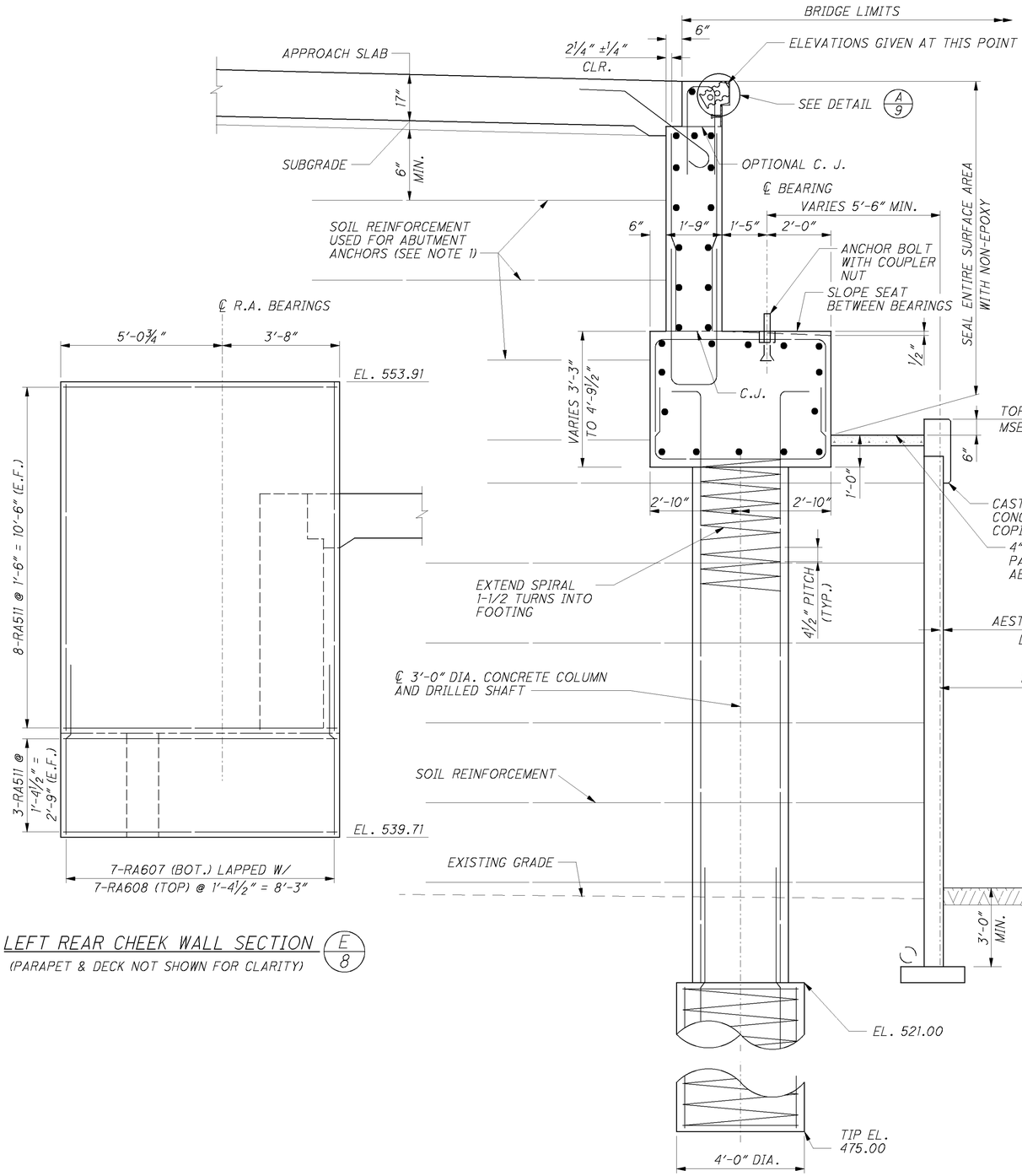


LEFT REAR CHEEK WALL SECTION E/8

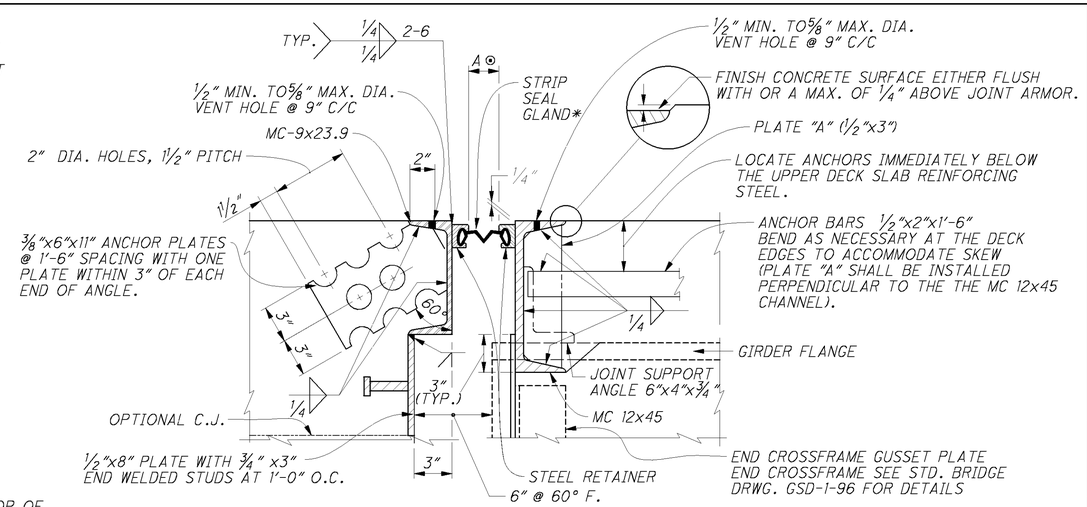
(PARAPET & DECK NOT SHOWN FOR CLARITY)

ABUTMENT SECTION B/8

REAR ABUTMENT

NOTES:

1. IN ADDITION TO LATERAL EARTH PRESSURE, AN UNFACTORED HORIZONTAL LOAD FROM THE SUPERSTRUCTURE OF 2.77 KIPS PER FOOT APPLIED PERPENDICULAR TO THE FACE OF WALL AND THE BASE OF THE CONCRETE FOOTING SHALL BE RESISTED BY SOIL REINFORCEMENT ANCHORS.
2. SEE SHEET 8/34 FOR LEGEND AND ADDITIONAL NOTES.



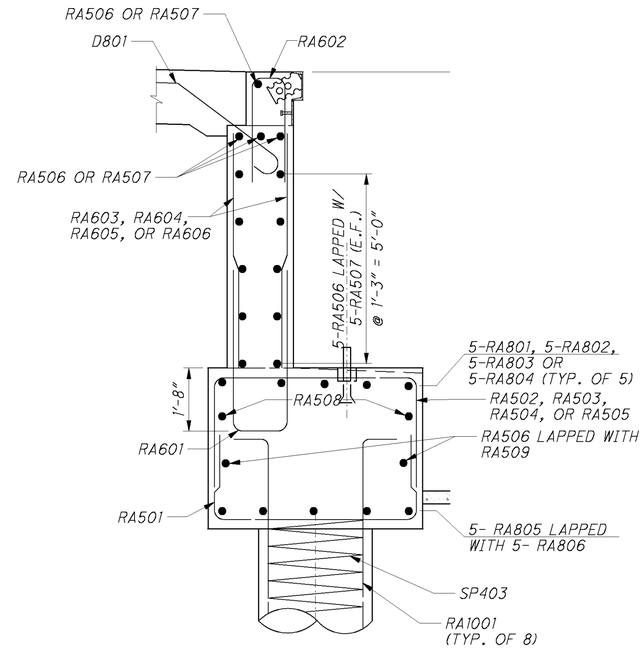
DETAIL A/9

* 5" STRIP SEAL GLAND FOR REAR ABUTMENT
4" STRIP SEAL GLAND FOR FWD. ABUTMENT

MODIFIED EXPANSION JOINT DETAIL
REAR ABUTMENT ONLY (SEE STANDARD DRAWING EXJ-4-87 FOR MORE DETAILS)

	JOINT OPENING DIMENSIONS						
TEMP (°F)	30	40	50	60	70	80	90
"A" - REAR	3 ¾"	3 11/16"	3 9/16"	3 ½"	3 ⅜"	3 5/16"	3 ¼"
"A" - FORWARD	2 ½"	2 ¼"	2 1/16"	1 ⅞"	1 11/16"	1 ½"	1 ¼"

MINIMUM JOINT OPENING (DIMENSION"A") AT TIME THE SEAL GLAND RETAINERS ARE INSTALLED SHALL NOT BE LESS THAN 1½". IF THE JOINT OPENING IS LESS, INSTALLATION SHALL BE POSTPONED UNTIL THE TEMPERATURE DROPS A SUFFICIENT AMOUNT TO ALLOW THE 1½" OPENING.



REAR ABUTMENT REINFORCING

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (614) 459-2068
Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
XAC	GTT	RMK	02-18-10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SJA		3111636	

REAR ABUTMENT SECTION AND DETAILS
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

9 / 34

378
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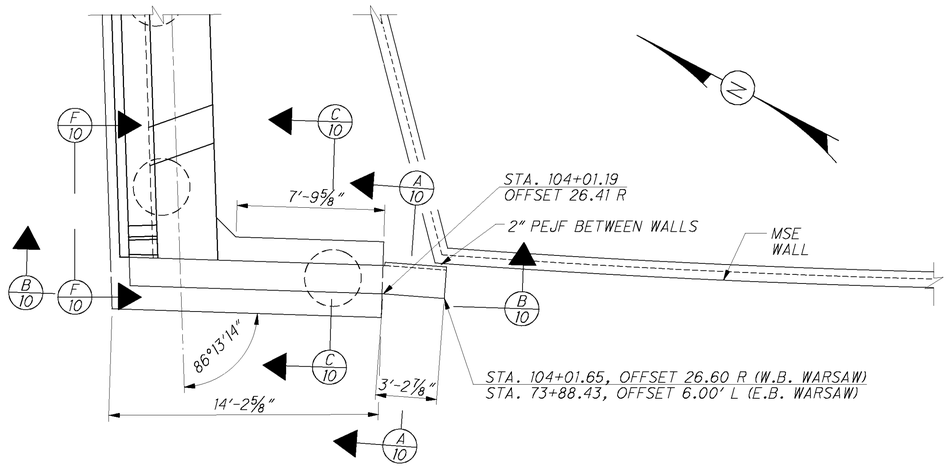
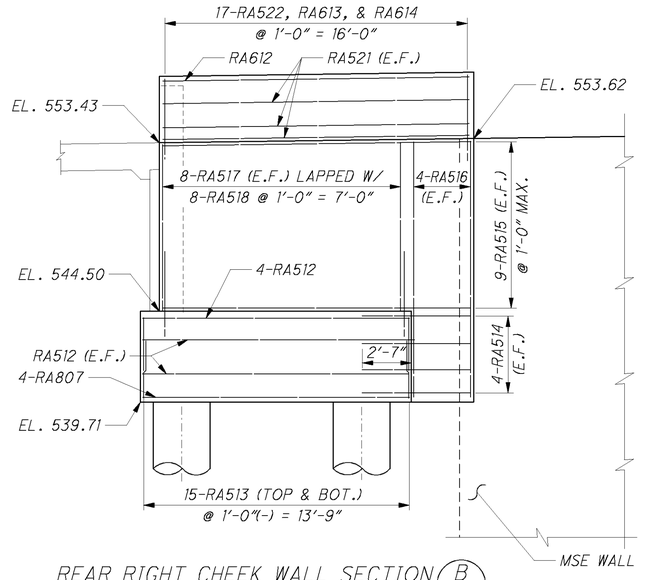
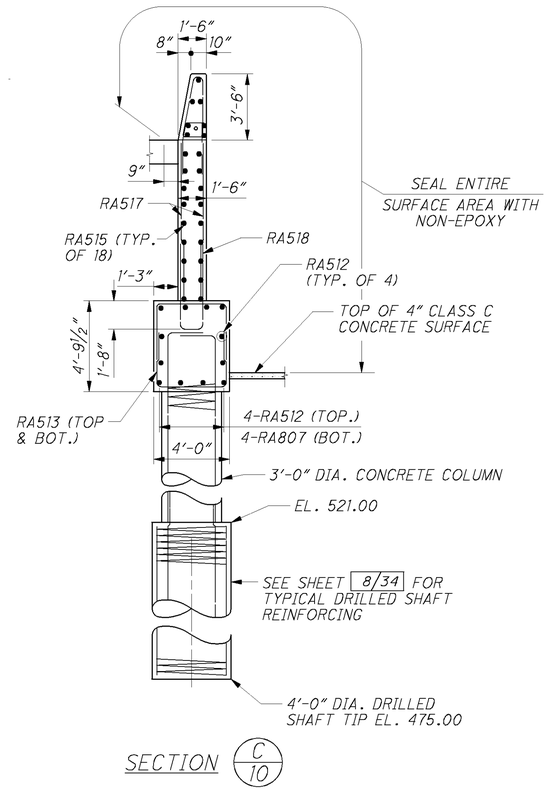


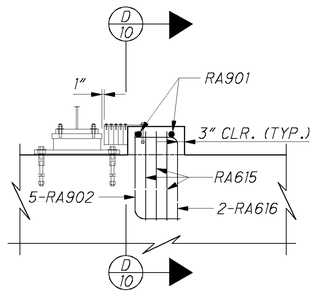
REAR ABUTMENT RIGHT WINGWALL PLAN



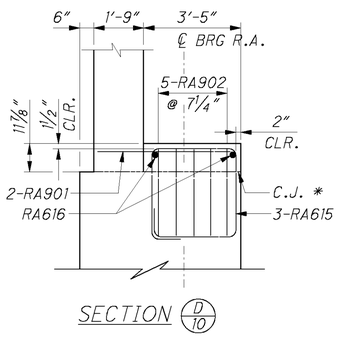
REAR RIGHT CHEEK WALL SECTION (B/10)
(ADJACENT PARAPETS NOT SHOWN FOR CLARITY)



SECTION (C/10)



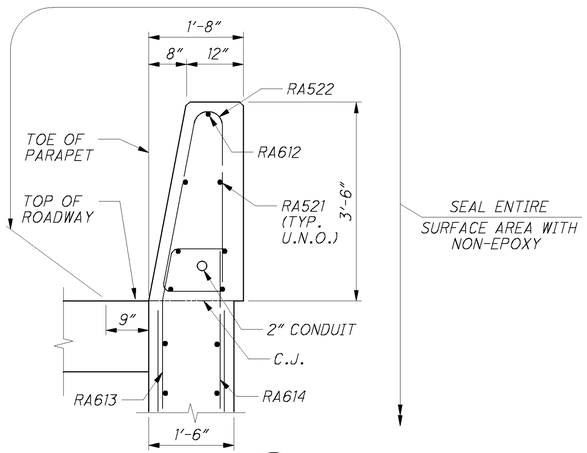
GIRDER 1 SHOWN,
GIRDER 4 OPPOSITE HAND



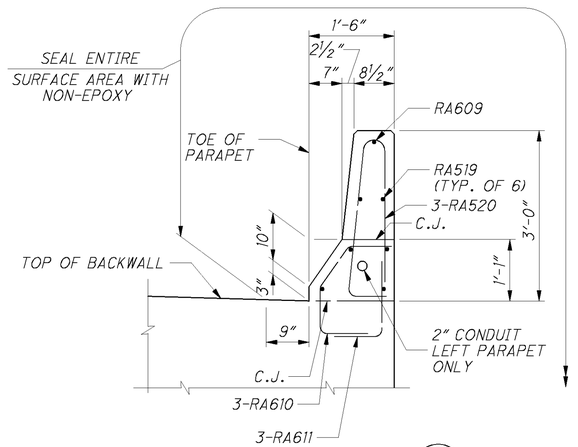
SECTION (D/10)

* FINISH THE SURFACE OF THE BEAM SEAT IN THIS AREA WITH A SERRATED TROWEL. THE SERRATIONS SHALL BE ¼" DEEP MINIMUM.

REAR ABUTMENT SEISMIC PEDESTAL DETAILS



PARAPET DETAIL (A/10)



PARAPET DETAIL (F/10)

(RIGHT RETAINING WALL PARAPET NOT SHOWN FOR CLARITY)

NOTE:

1. SEE SHEET 8/34 FOR LEGEND & ADDITIONAL NOTES.

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (614) 459-2070
Cincinnati, Ohio 45202

DESIGNED	DRAWN	REVIEWED	DATE
XAC	XAC	RMK	02-20-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SJA		3111636	

REAR ABUTMENT WINGWALL DETAILS
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

10 / 34

379
657

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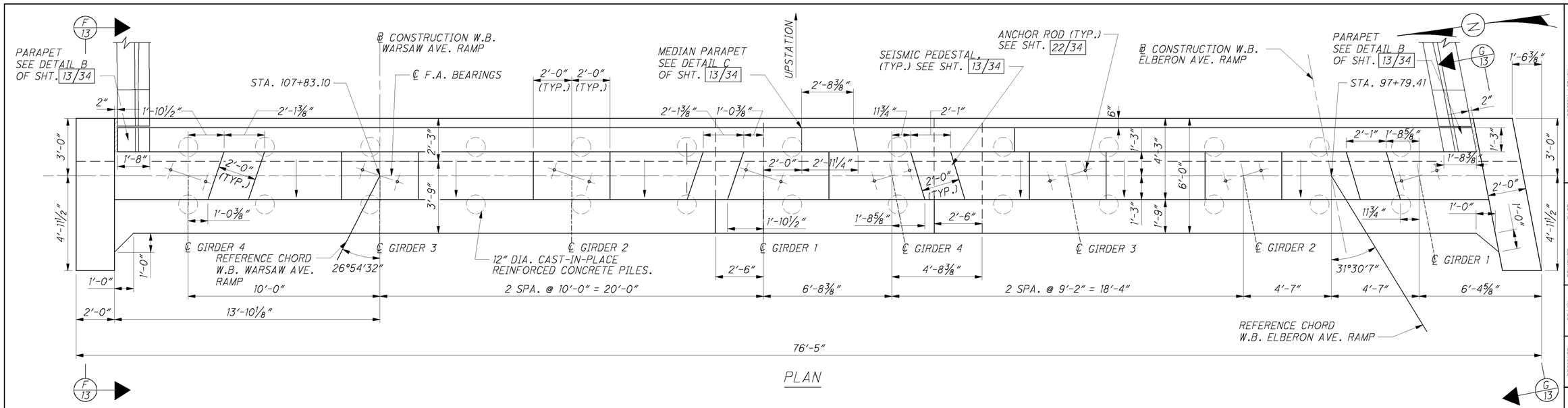

LEGEND:

BOT. = BOTTOM
E.F. = EACH FACE
F.F. = FAR FACE
N.F. = NEAR FACE
S.O. = SERIES OF
U.N.O. = UNLESS NOTED OTHERWISE

* = ELEVATIONS GIVEN @ FACE OF JOINT ARMOR

** = SEE DETAIL D ON SHEET 13/34

▼ = SLOPE ½" BETWEEN BEARING SEATS

Ⓐ = 4-FA501, FA603, FA605 & FA606 @ 1'-5" = 4'-3"

Ⓑ = 5-FA502, FA603, FA604 & FA606 @ 1'-3" = 5'-0"

NOTES:

1. MIN. LAP LENGTHS:
   #5's = 2'-6"
   #6's = 3'-10" (UNLESS NOTED OTHERWISE)
   #8's = 4'-11"

DESIGN AGENCY
BURGESS & NIPLE
8 E. Long Street, Suite 1100
Columbus, Ohio 43215

DESIGNED	DRAWN	REVIEWED	DATE
XAC	KML	RMK	02-18-10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SJA		3111636	

FORWARD ABUTMENT PLAN AND ELEVATION
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

11 / 34

380 / 657

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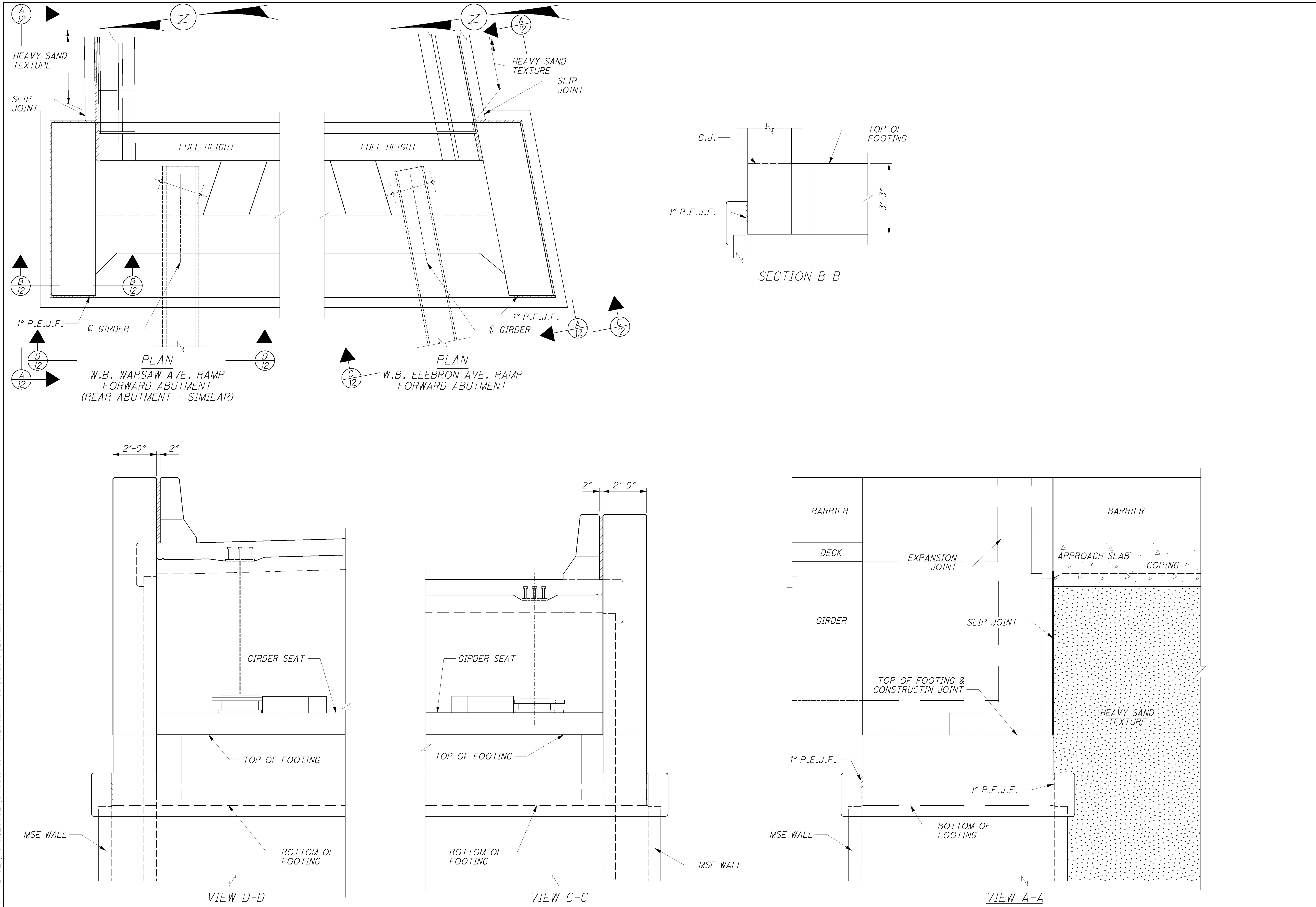

DESIGN AGENCY
BURGESS & NIPLE

DESIGNED	DRAWN	REVIEWED	DATE
XAC	KML	RMK	02-20-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SJA		3111636	

ABUTMENT ARCHITECTURAL DETAILS

BRIDGE NO. HAM-264-1448

W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79

PID No. 20082

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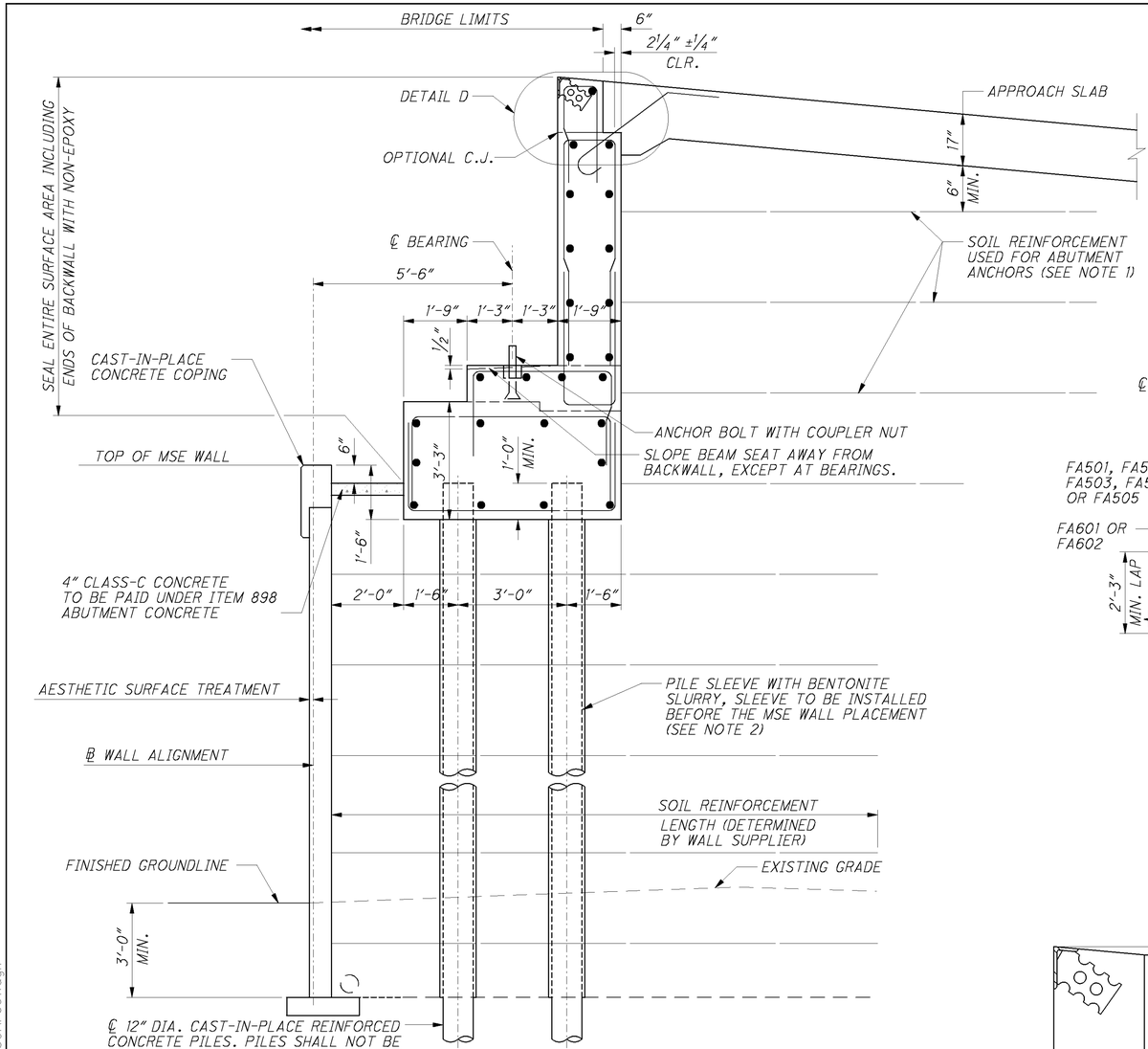
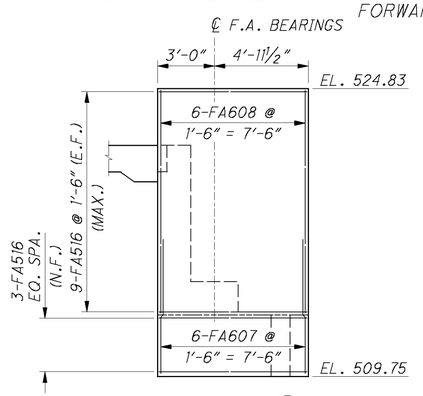
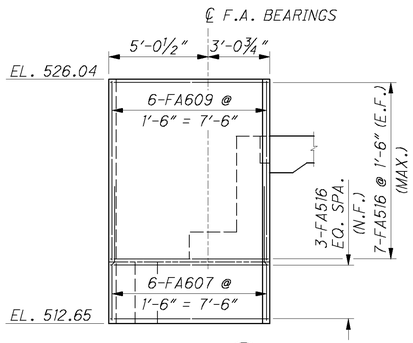


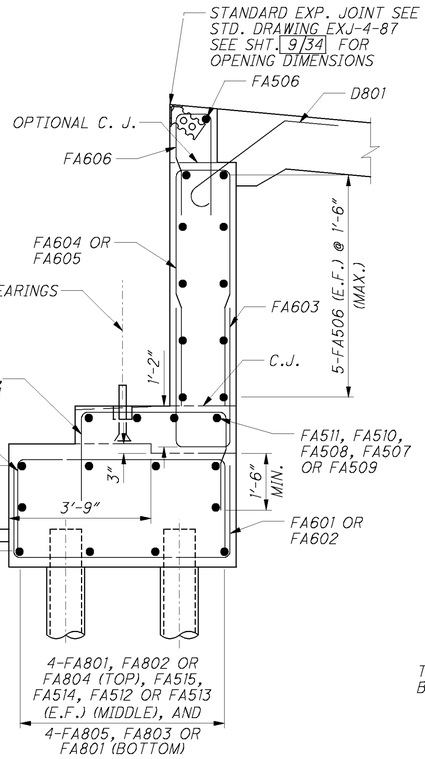
ABUTMENT SECTION (A/11)
FORWARD ABUTMENT



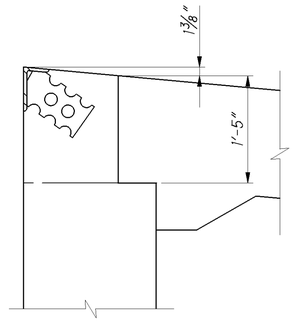
SECTION (F/11)
(PARAPETS & DECK NOT SHOWN FOR CLARITY)



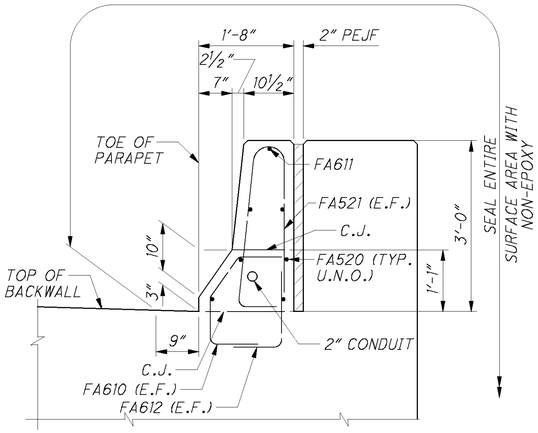
SECTION (G/11)
(PARAPETS & DECK NOT SHOWN FOR CLARITY)



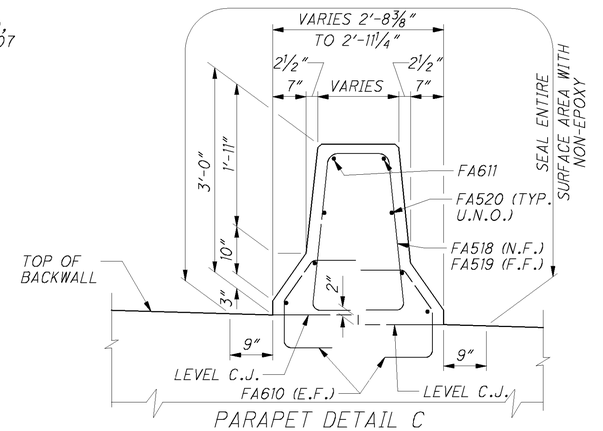
FWD. ABUTMENT REINFORCING



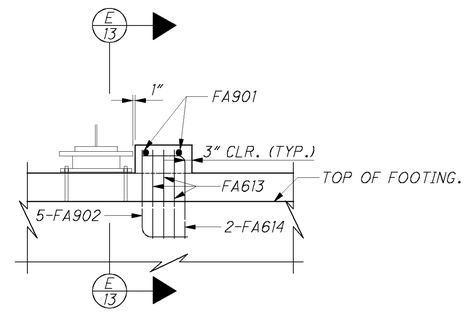
DETAIL D
(REINFORCING NOT SHOWN FOR CLARITY)



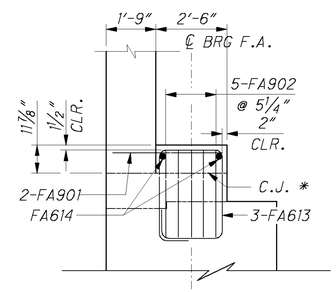
PARAPET DETAIL B



PARAPET DETAIL C



GIRDER 4 SHOWN, GIRDER 1 OPPOSITE HAND



SECTION (E/13)

* FINISH THE SURFACE OF THE BEAM SEAT IN THIS AREA WITH A SERRATED TROWEL. THE SERRATIONS SHALL BE ¼″ DEEP MINIMUM.

FORWARD ABUTMENT SEISMIC PEDESTAL DETAILS

NOTES:

1. IN ADDITION TO LATERAL EARTH PRESSURE, AN UNFACTORED HORIZONTAL LOAD FROM THE SUPERSTRUCTURE OF 2.83 KIPS PER FOOT APPLIED PERPENDICULAR TO THE FACE OF WALL AND THE BASE OF THE CONCRETE FOOTING SHALL BE RESISTED BY SOIL REINFORCEMENT ANCHORS.
2. SLEEVES FOR PILES SHALL BE INSTALLED FROM THE BOTTOM ELEVATION OF THE MSE WALL TO THE FOOTING ELEVATION PRIOR TO BACKFILL PLACEMENT. SEE MSE WALL PLANS AND NOTES FOR ADDITIONAL DETAILS.

DESIGN AGENCY: BURGESS & NIPLE
361 Summit Blvd., Ste. 110, Birmingham (Cincinnati), Ohio 45202

DESIGNED	DRAWN	REVIEWED	DATE
XAC	GTT	RMK	02-18-10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SJA		3111636	

FORWARD ABUTMENT DETAILS
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

13 / 34

382 / 657

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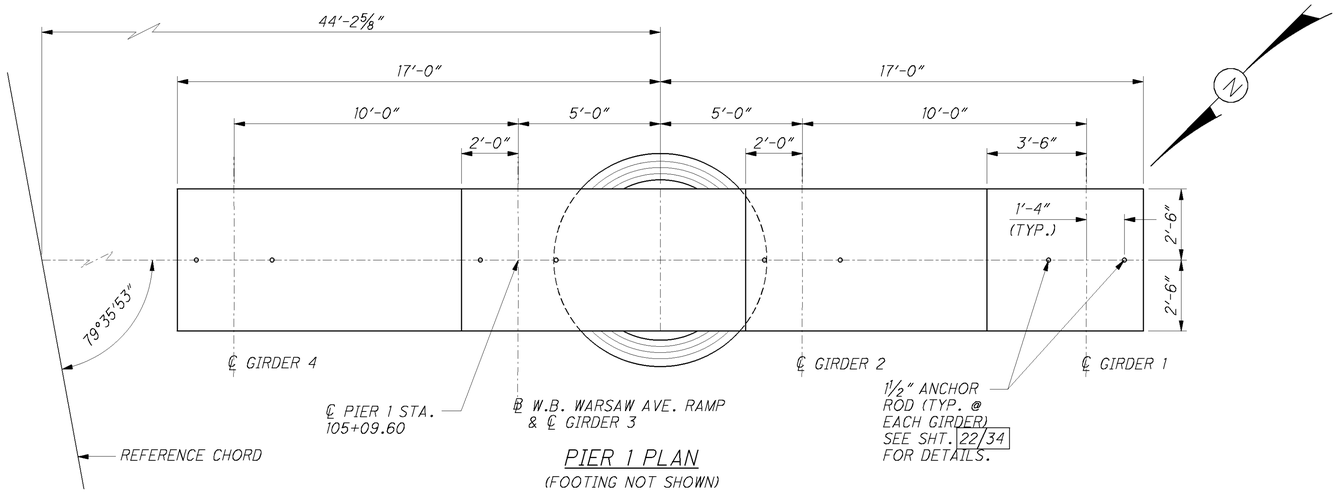
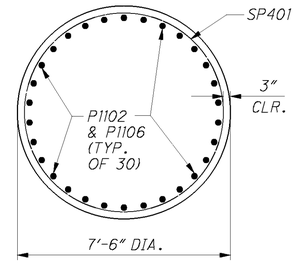


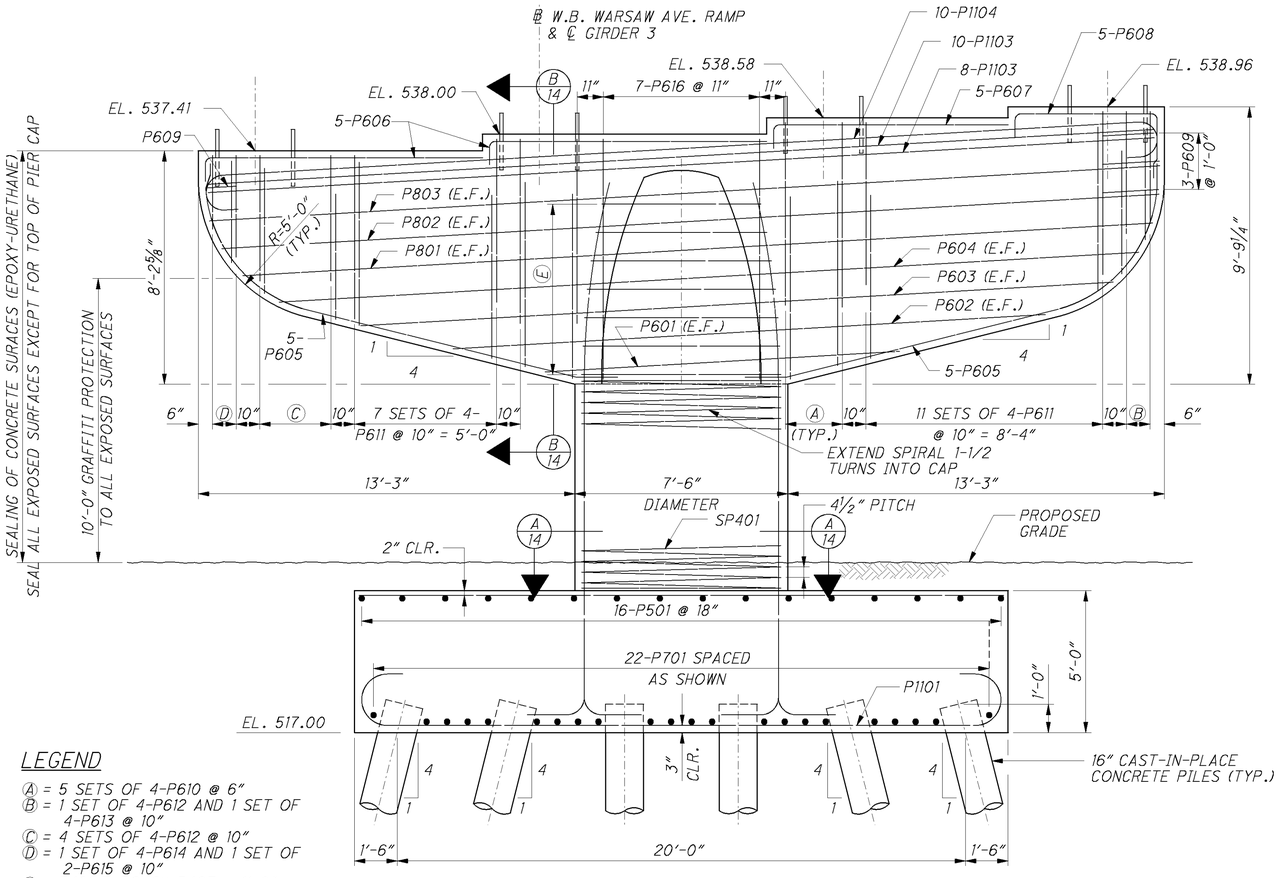
PIER 1 PLAN
(FOOTING NOT SHOWN)



SECTION (A/14)

NOTES

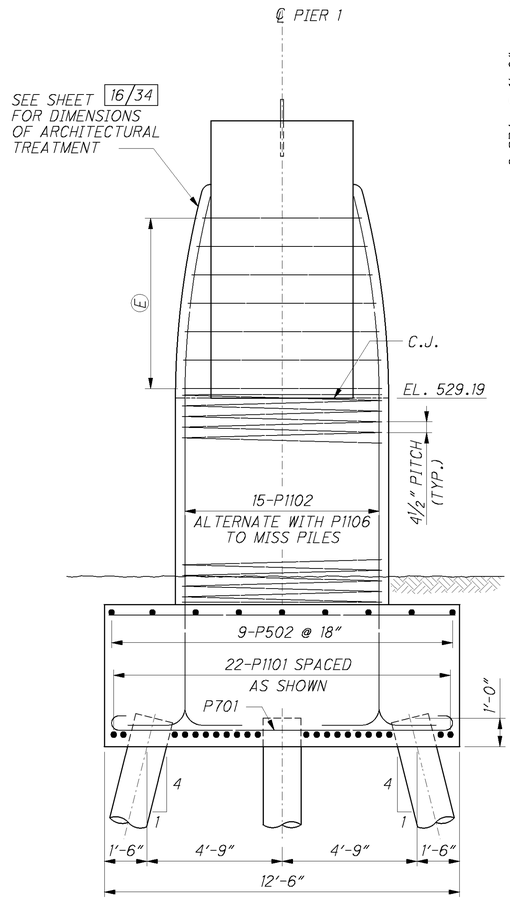
1. BRIDGE SEAT REINFORCING, SETTING ANCHORS: ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE-SETTING OF BEARING ANCHORS.
2. BRIDGE SEAT ELEVATIONS HAVE BEEN ADJUSTED UPWARD ⅛ INCH AT PIERS TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.
3. SEALING OF BEAM SEATS: IF THE BEAMS SEATS ARE SEALED WITH AN EPOXY OR NON-EPOXY SEALER PRIOR TO SETTING THE BEARINGS, DO NOT APPLY SEALER TO THE CONCRETE SURFACES UNDER THE PROPOSED BEARING LOCATIONS. IF THESE LOCATIONS ARE SEALED, REMOVE THE SEALER TO THE SATISFACTION OF THE ENGINEER PRIOR TO SETTING THE BEARINGS. THE DEPARTMENT WILL NOT PAY FOR THIS REMOVAL.



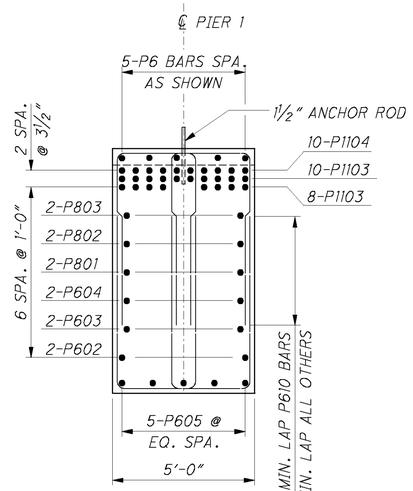
PIER 1 ELEVATION

LEGEND

Ⓐ = 5 SETS OF 4-P610 @ 6"
Ⓑ = 1 SET OF 4-P612 AND 1 SET OF 4-P613 @ 10"
Ⓒ = 4 SETS OF 4-P612 @ 10"
Ⓓ = 1 SET OF 4-P614 AND 1 SET OF 2-P615 @ 10"
Ⓔ = P401 THROUGH P407 @ 1'-0"
C.J. = CONSTRUCTION JOINT
W.B. = WESTBBOUND



PIER 1 SIDE VIEW
(CAP REINFORCING STEEL NOT SHOWN)



SECTION (B/14)

DESIGN AGENCY
BURGESS & NIPLE
37 West Broad, Suite 1100
Columbus, Ohio 43215

DATE 01-28-08
REVIEWED TMB
STRUCTURE FILE NUMBER 3111636
DRAWN RMK
REVISED
DESIGNED RMK
CHECKED JHL

PIER 1 DETAILS
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

14 / 34

383
657

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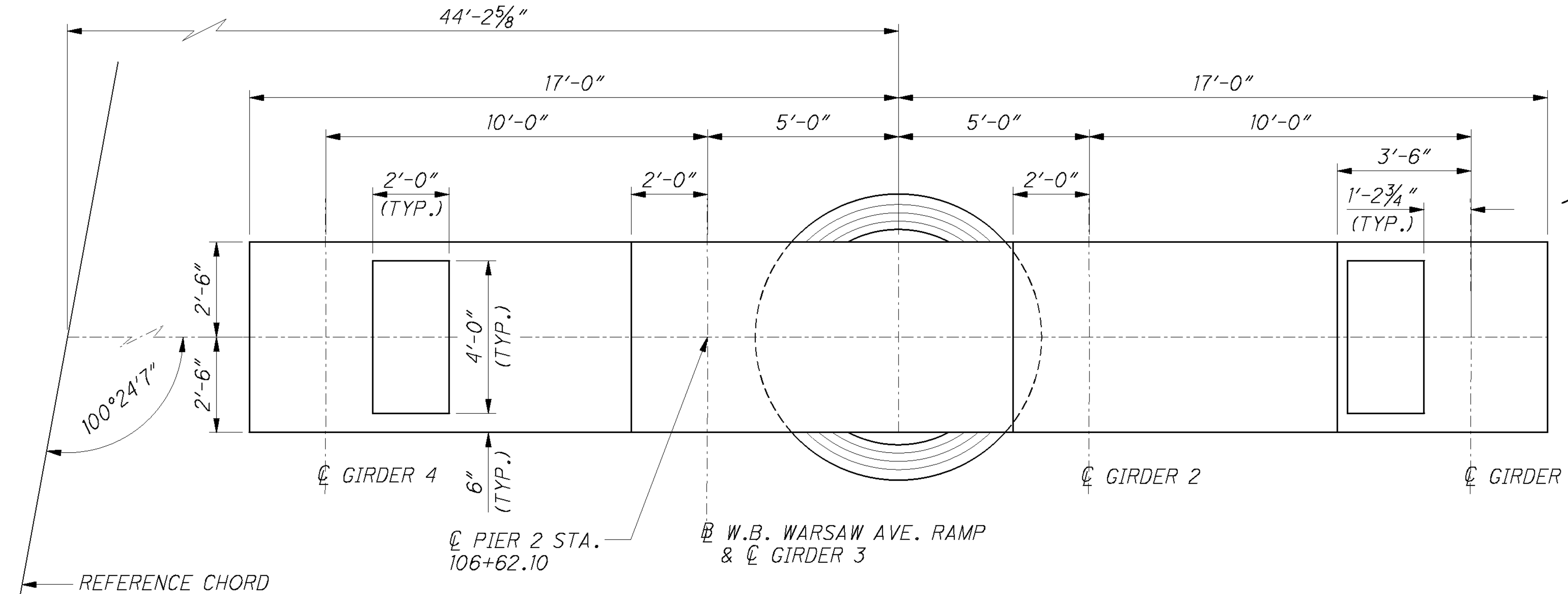
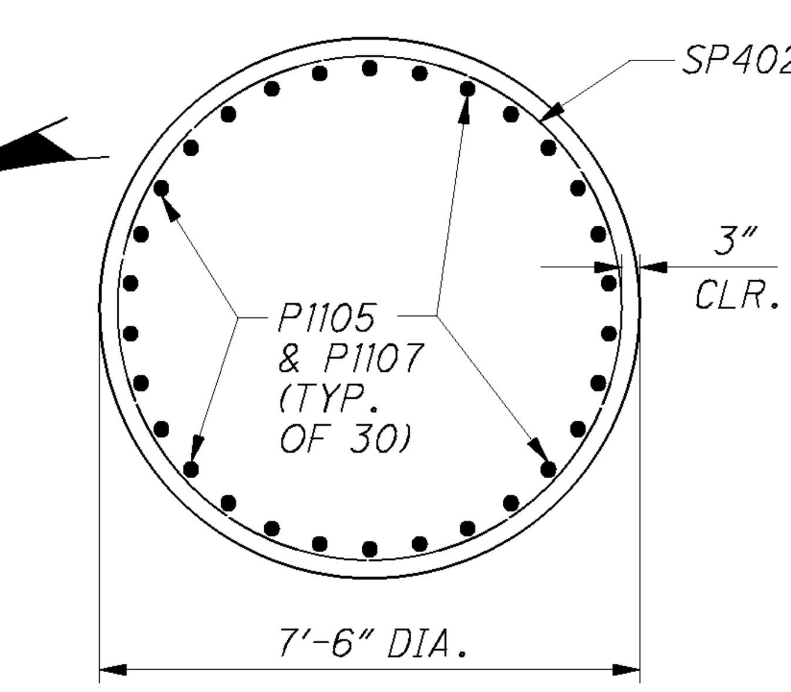


PIER 2 PLAN

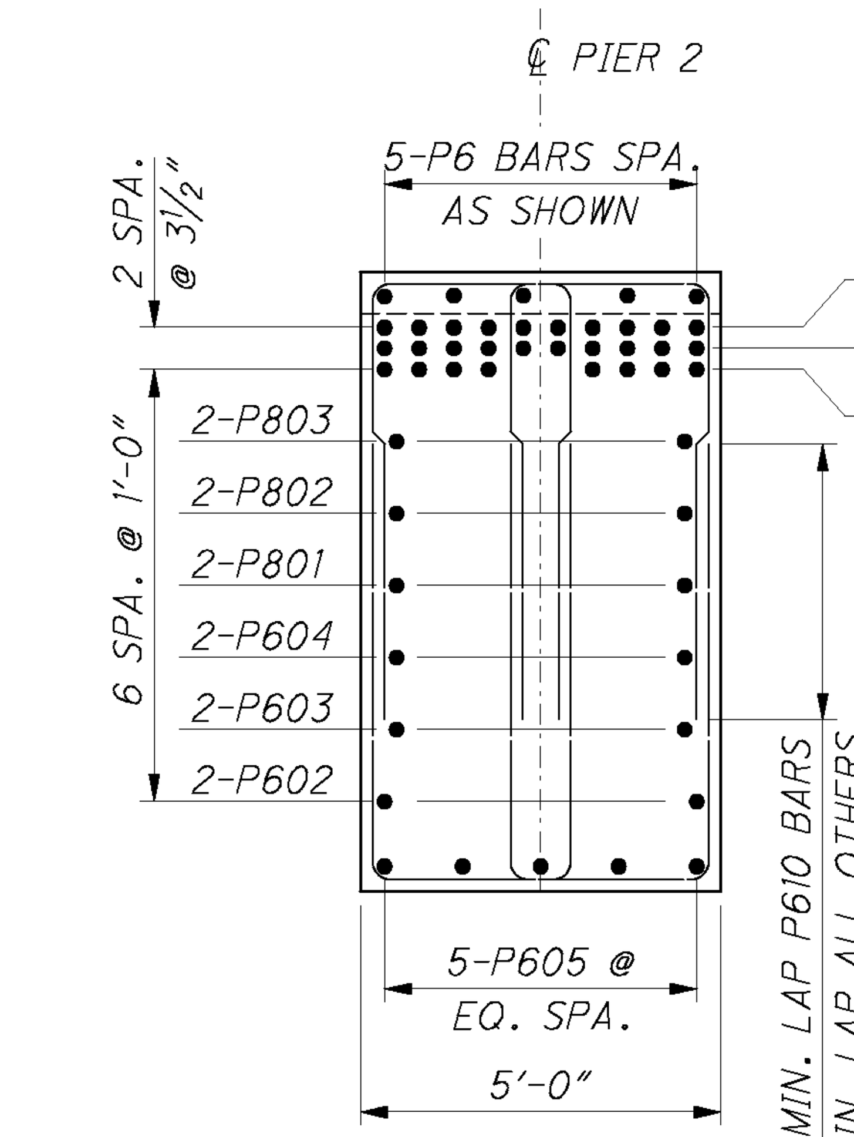
(FOOTING NOT SHOWN)



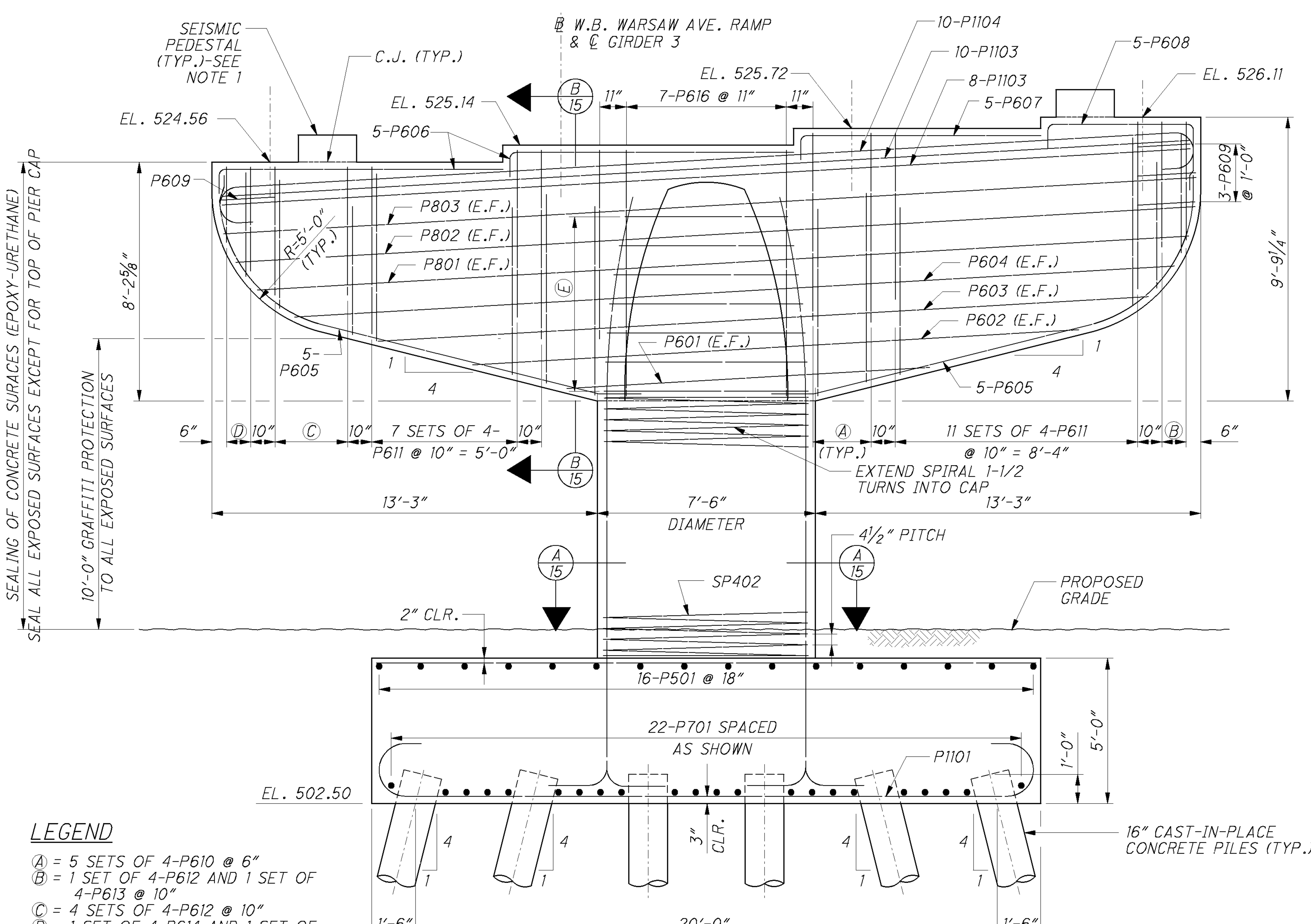
SECTION A/15

NOTES

1. SEE SHEET 16/34 FOR SEISMIC PEDESTAL DETAILS.
2. BRIDGE SEAT ELEVATIONS HAVE BEEN ADJUSTED UPWARD ⅛ INCH AT PIERS TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.
3. SEALING OF BEAM SEATS: IF THE BEAMS SEATS ARE SEALED WITH AN EPOXY OR NON-EPOXY SEALER PRIOR TO SETTING THE BEARINGS, DO NOT APPLY SEALER TO THE CONCRETE SURFACES UNDER THE PROPOSED BEARING LOCATIONS. IF THESE LOCATIONS ARE SEALED, REMOVE THE SEALER TO THE SATISFACTION OF THE ENGINEER PRIOR TO SETTING THE BEARINGS. THE DEPARTMENT WILL NOT PAY FOR THIS REMOVAL.



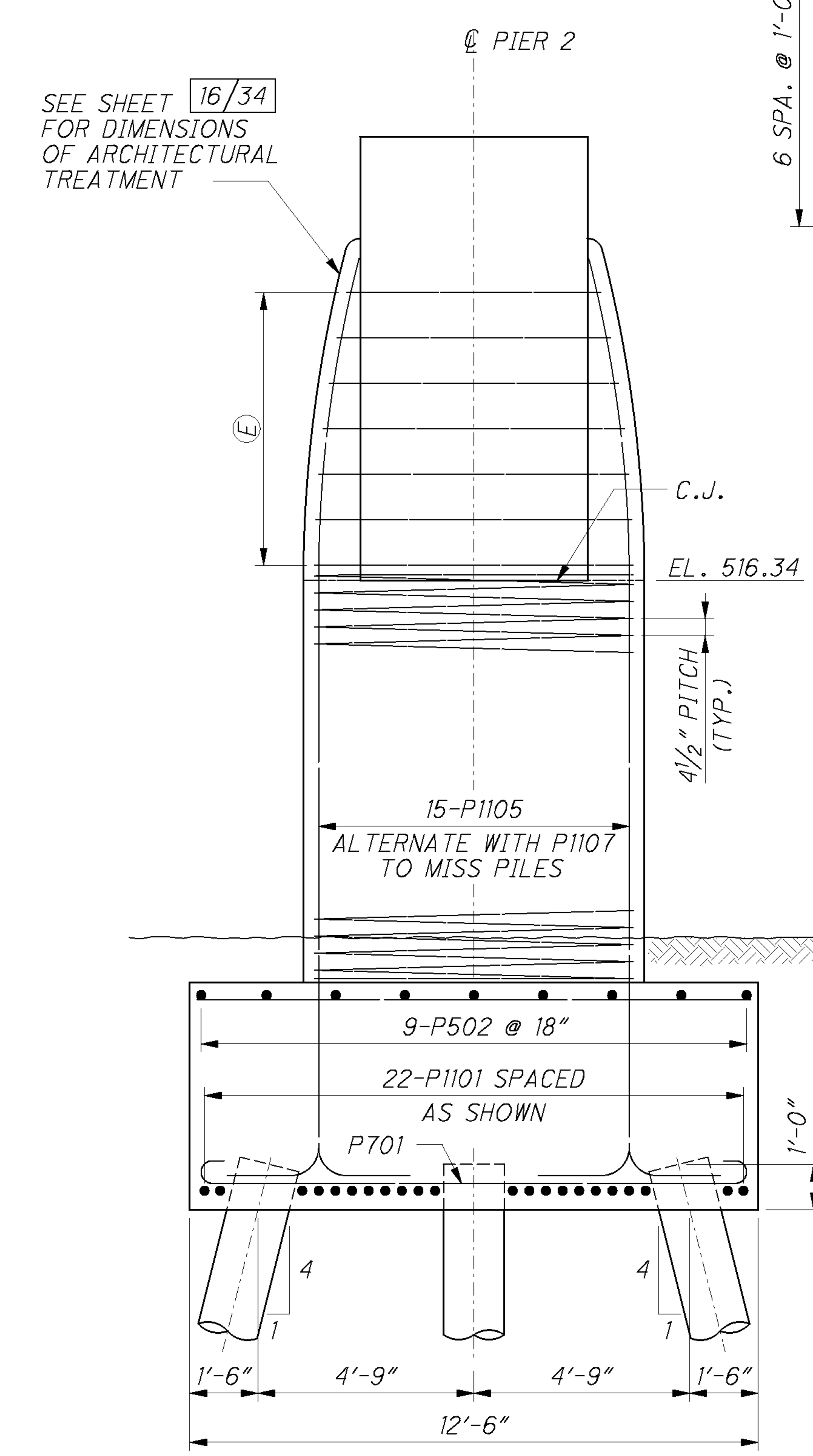
SECTION B/15



LEGEND

Ⓐ = 5 SETS OF 4-P610 @ 6"
Ⓑ = 1 SET OF 4-P612 AND 1 SET OF 4-P613 @ 10"
Ⓒ = 4 SETS OF 4-P612 @ 10"
Ⓓ = 1 SET OF 4-P614 AND 1 SET OF 2-P615 @ 10"
Ⓔ = P401 THROUGH P407 @ 1'-0"
C.J. = CONSTRUCTION JOINT
W.B. = WESTBBOUND

PIER 2 ELEVATION



PIER 2 SIDE VIEW

(CAP REINFORCING STEEL NOT SHOWN)

DESIGN AGENCY: BURGESS & NIPLE, 312 Plum Street, 16th Floor, Cincinnati, Ohio 45202

DESIGNED	DRAWN	REVIEWED	DATE
RMK	RMK	TMB	01-28-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JHL		3111636	

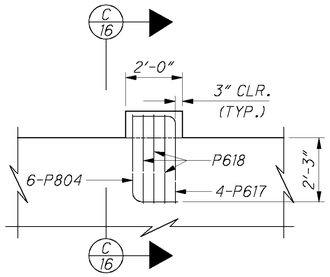
PIER 2 DETAILS

BRIDGE NO. HAM-264-1448

W.B. WARSAW AVE. RAMP OVER S.R. 264

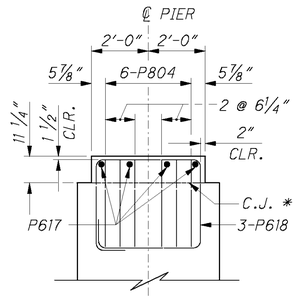
HAM-50-18.79

PID No. 20082



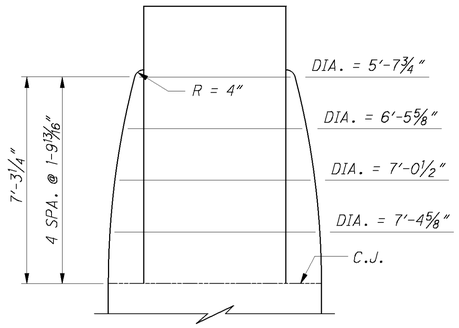
FRONT VIEW OF SEISMIC PEDESTAL

PEDESTAL FOR GIRDER 4 SHOWN
PEDESTAL FOR GIRDER 1 OPPOSITE HAND



SECTION (C/16)

* FINISH THE SURFACE OF THE BEAM SEAT IN THIS AREA WITH A SERRATED TROWEL. THE SERRATIONS SHALL BE ¼" DEEP MINIMUM.



ARCHITECTURAL TREATMENT

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DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (614) 459-2070
5085 Reed Road, Columbus, Ohio 43220

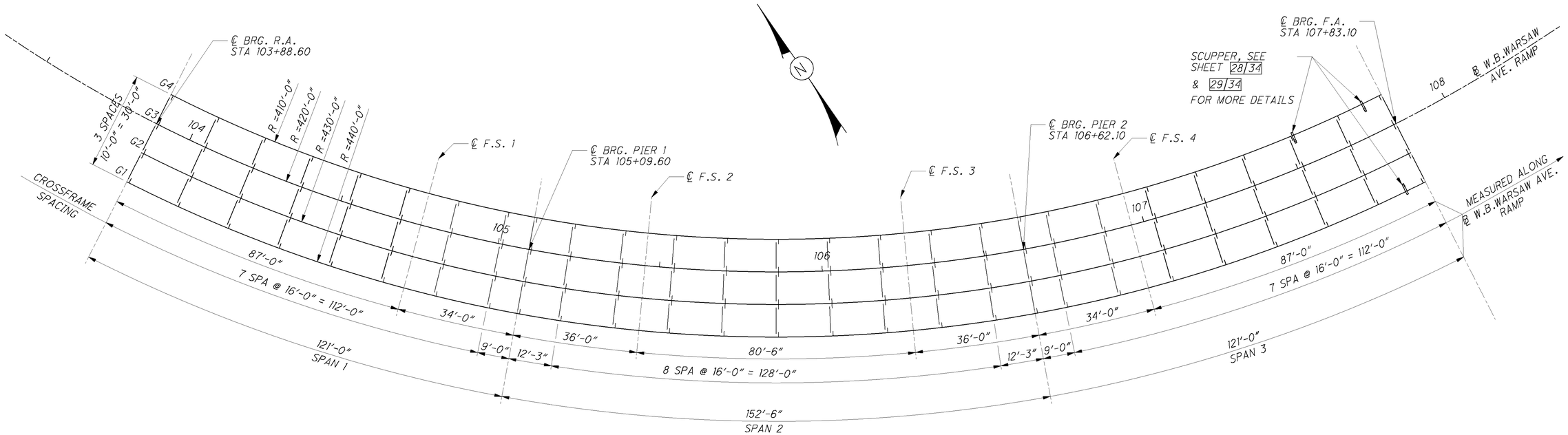
DESIGNED	DRAWN	REVIEWED	DATE
RMK	RMK	TMB	01-28-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JHL		3111636	

PIER DETAILS 3
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

16 / 34

385
657



FRAMING PLAN

NOTES:

1. ALL MATERIAL TO BE ASTM-A709, GRADE 50.
2. ALL ℄ BEARINGS AND CROSSFRAMES ARE RADIAL TO THE CENTER OF CURVATURE.
3. ALL STEEL TO BE SHOP PRIMED AND FIELD PAINTED ACCORDING TO ITEM 514.
4. BEARING STIFFENERS AND ENDS OF GIRDERS TO BE VERTICAL AFTER TOTAL DEAD LOAD IS APPLIED.
5. SPLICES AND INTERMEDIATE STIFFENERS TO BE NORMAL TO GIRDERS.
6. END CROSSFRAMES SHALL BE PER STANDARD DRAWINGS GSD-1-96 AND EXJ-4-87.

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (614) 459-2044
Columbus, Ohio 43230

DESIGNED	DRAWN	REVIEWED	DATE
XAC	KML	RMK	02-20-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SJA		3111636	

FRAMING PLAN
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

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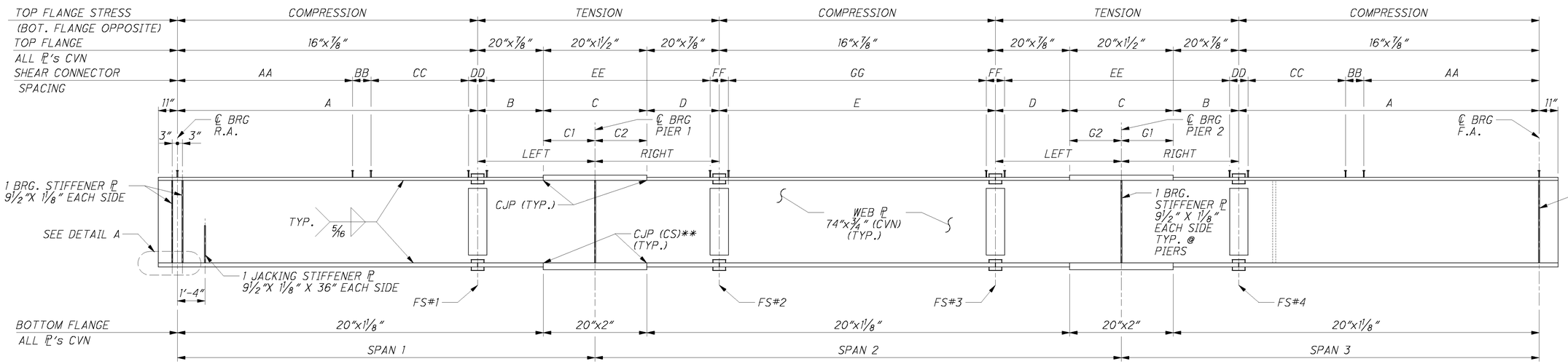


GIRDER ELEVATION
(CROSSFRAME STIFFENERS NOT SHOWN)

** CJP (CS) TYP FOR BOTTOM FLANGE BUTT WELDS

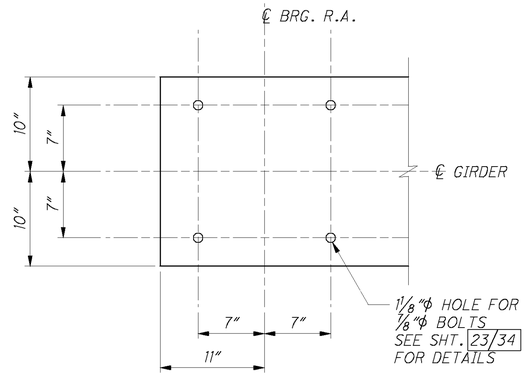
GIRDER	GIRDER DIMENSIONS				
	A	B	C	D	E
1	91'-1 11/16"	19'-10 1/8"	31'-5 1/8"	22'-0 "	84'-4 "
2	89'-0 7/8"	19'-5 11/16"	30'-8 9/16"	21'-6 "	82'-5 "
3	87'-0 "	19'-0 "	30'-0 "	21'-0 "	80'-6 "
4	84'-11 1/8"	18'-6 9/16"	29'-3 7/16"	20'-6 "	78'-7 "

SHEAR CONNECTOR SPACING							
	AA	BB	CC	DD	EE	FF	GG
GIRDER	SPA. @ 14 1/2''		SPA. @ 13''		SPA. @ 13 1/2''		SPA. @ 13 1/2''
1	42 SPA. = 50'-9 "	0'-7 "	35 SPA. = 37'-11 "	4'-2 15/16"	61 SPA. = 68'-7 1/2"	4'-7 "	71 SPA. = 79'-10 1/2"
2	41 SPA. = 49'-6 1/2"	0'-10 "	34 SPA. = 36'-10 "	3'-11 3/8"	60 SPA. = 67'-6 "	3'-11 "	70 SPA. = 78'-9 "
3	40 SPA. = 48'-4 "	1'-1 "	33 SPA. = 35'-9 "	3'-7 3/4"	59 SPA. = 66'-4 1/2"	3'-9 3/4"	68 SPA. = 76'-6 "
4	39 SPA. = 47'-1 1/2"	1'-1 "	32 SPA. = 34'-8 "	4'-1 7/8"	57 SPA. = 64'-1 1/2"	4'-3 1/4"	66 SPA. = 74'-3 "

GIRDER	SPAN LENGTHS				
	SPAN 1	SPAN 2	SPAN 3	TOTAL	RADIUS
℄	121'-0 "	152'-6 "	121'-0 "	394'-6 "	420'-0 "
1	126'-9 1/8"	159'-9 1/8"	126'-9 1/8"	413'-3 7/16"	440'-0 "
2	123'-10 3/16"	156'-1 9/16"	123'-10 9/16"	403'-10 11/16"	430'-0 "
3	121'-0 "	152'-6 "	121'-0 "	394'-6 "	420'-0 "
4	118'-1 7/16"	148'-10 7/16"	118'-1 7/16"	385'-1 5/16"	410'-0 "

GIRDER	FIELD SPLICE DISTANCE FROM PIER			
	PIER 1		PIER 2	
	LEFT	RIGHT	LEFT	RIGHT
1	35'-7 7/16"	37'-8 9/16"	37'-8 9/16"	35'-7 7/16"
2	34'-9 11/16"	36'-10 5/16"	36'-10 5/16"	34'-9 11/16"
3	34'-0 "	36'-0 "	36'-0 "	34'-0 "
4	33'-2 5/16"	35'-1 11/16"	35'-1 11/16"	33'-2 5/16"

GIRDER	FLANGE SPLICE DISTANCE FROM PIER			
	PIER 1		PIER 2	
	C1	C2	G1	G2
1	15'-8 9/16"	15'-8 9/16"	15'-8 9/16"	15'-8 9/16"
2	15'-4 5/16"	15'-4 5/16"	15'-4 5/16"	15'-4 5/16"
3	15'-0 "	15'-0 "	15'-0 "	15'-0 "
4	14'-7 11/16"	14'-7 11/16"	14'-7 11/16"	14'-7 11/16"



DETAIL A

BOTTOM FLANGE BOLT HOLE DETAIL
(REAR ABUTMENT ONLY)

NOTES:

1. 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 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER THAN 3/4" THICK.
2. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
3. GRIND COMPLETE JOINT PENETRATION WELDS SMOOTH IN LONGITUDINAL DIRECTION TO REMOVE WELD REINFORCEMENT.
4. ALL LONGITUDINAL DIMENSIONS SHOWN ARE ALONG ℄ OF GIRDER AND ARE HORIZONTAL (EFFECTS OF THE LONGITUDINAL GRADE ARE NOT INCLUDED.)
5. SHEAR STUD SPACING MAY BE ADJUSTED LOCALLY AS REQUIRED TO CLEAR FLANGE SPLICES.

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (614) 459-2068
Columbus, Ohio 43240

DESIGNED XAC | DRAWN KML | REVIEWED RMK | DATE 02-20-08
CHECKED BES | REVISED | STRUCTURE FILE NUMBER 3111636

GIRDER ELEVATION
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

18 / 34

387
657

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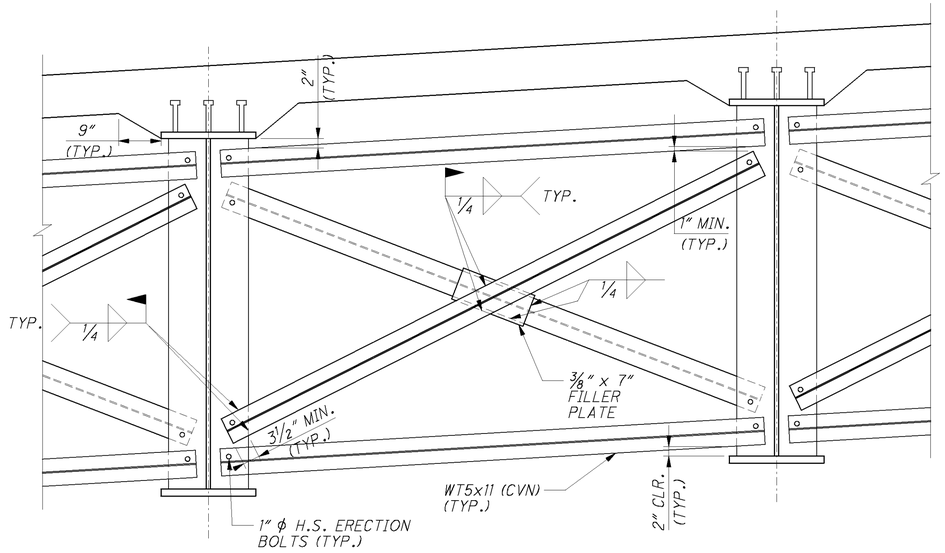
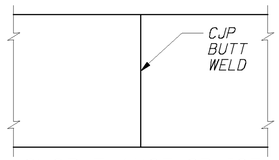
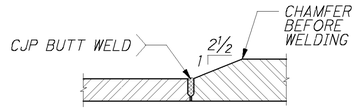


TYPICAL INTERMEDIATE CROSSFRAME



SHOP FLANGE SPLICE

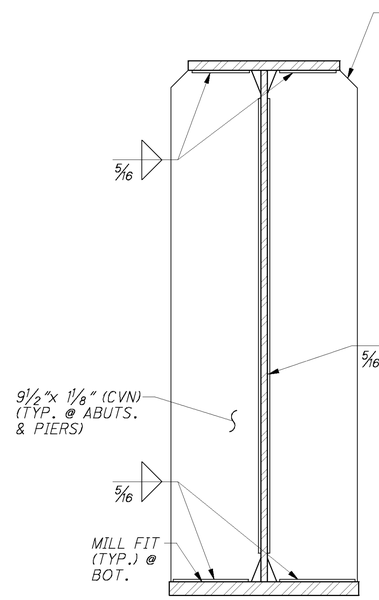
PLAN VIEW



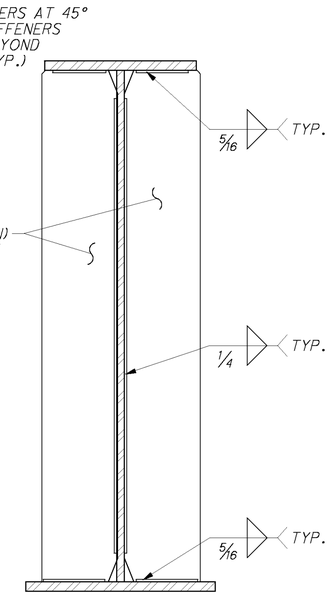
FLANGE WELD DETAIL

(WELD CONFIGURATION SHOWN FOR ILLUSTRATION ONLY. ACTUAL CONFIGURATION TO BE DETERMINED BY THE CONTRACTOR)

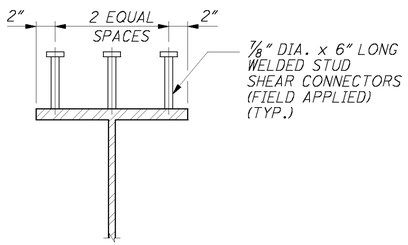
(GRIND COMPLETE JOINT PENETRATION WELD SMOOTH IN A LONGITUDINAL DIRECTION TO REMOVE WELD REINFORCEMENT.)



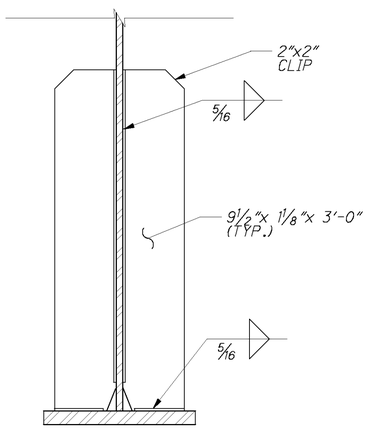
BEARING STIFFENER



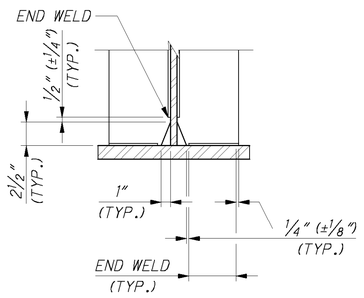
INTERMEDIATE STIFFENER WITH CROSSFRAMES



GIRDER SHEAR CONNECTOR DETAIL



JACKING STIFFENER



STIFFENER WELD DETAIL

NOTES:

1. INTERMEDIATE STIFFENERS ON FASCIA GIRDERS SHALL ONLY BE PLACED ON THE INSIDE OF THE WEB.
2. SEE SHT. 28/34 & 29/34 FOR SCUPPER DETAILS.
3. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
4. ERECTION BOLTS: THE HOLE DIAMETER IN THE CROSS FRAMES AND GIRDER STIFFENERS SHALL BE 3/16" LARGER THAN THE DIAMETER OF THE ERECTION BOLTS. ERECTION BOLTS SHALL BE HIGH STRENGTH BOLTS AND SHALL REMAIN IN PLACE. SUPPLY TWO HARDENED WASHERS WITH EACH HIGH STRENGTH BOLT. FULLY TORQUE THE BOLTS OR USE A LOCK WASHER IN ADDITION TO THE TWO HARDENED WASHERS. FURNISH ERECTION BOLTS AS PART OF ITEM 513.

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (513) 459-2051
Cincinnati, Ohio 45202

DESIGNED	DRAWN	REVIEWED	DATE
XAC	KML	RMK	02-20-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SJA		3111636	

CROSSFRAME DETAILS

BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

19 / 34

388
657

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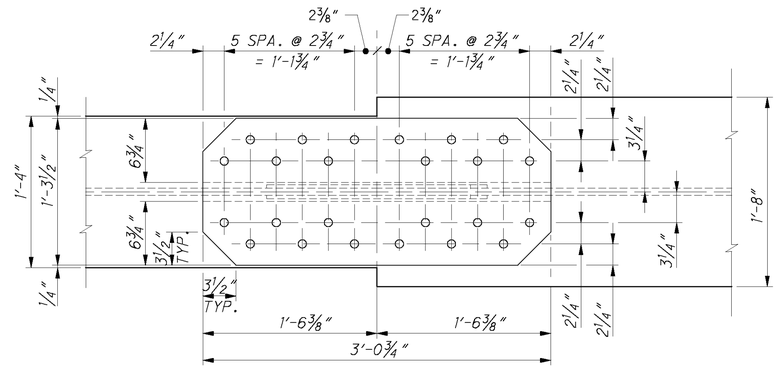
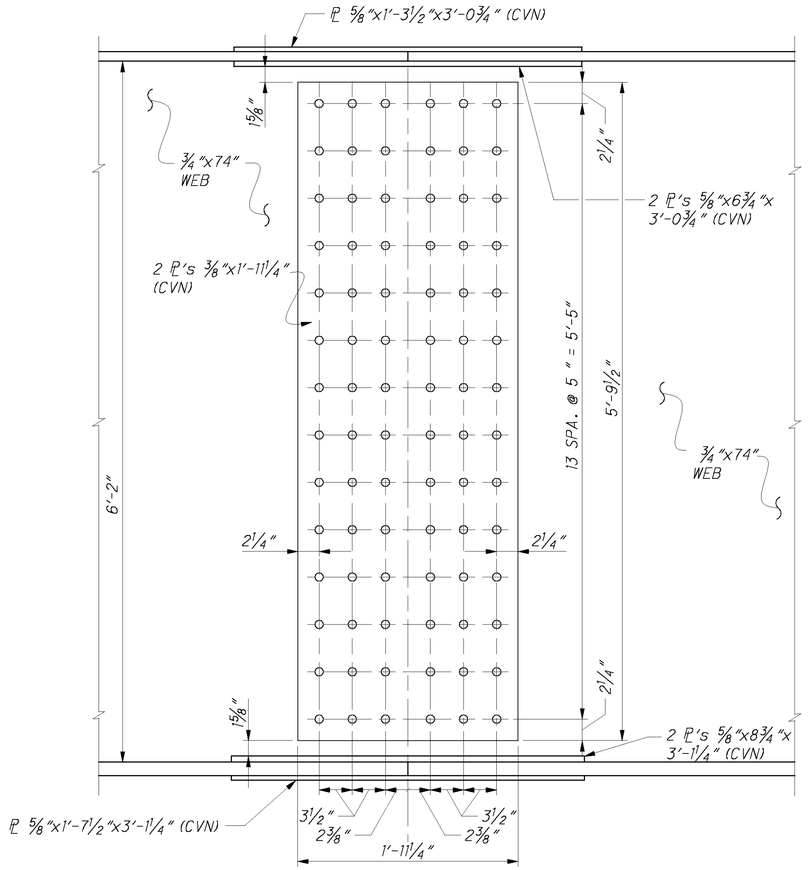
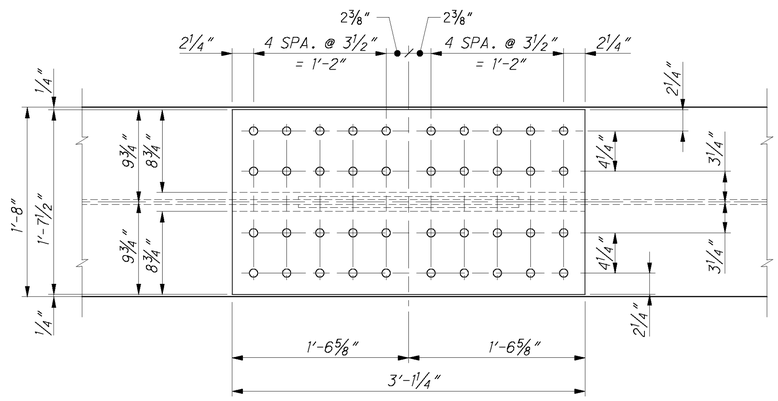


TOP FLANGE PLAN

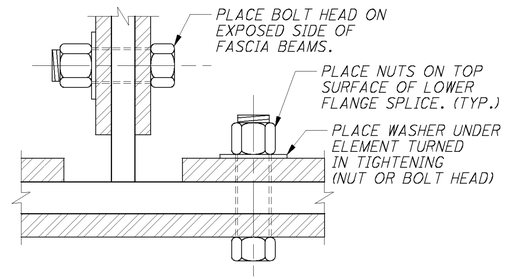
F.S.1 & F.S.3 SHOWN
F.S.2 & F.S.4 OPPOSITE HAND



GIRDER FIELD SPLICE ELEVATION



BOTTOM FLANGE PLAN



PARTIAL SECTION

(AT ℄ OF GIRDER SPLICE)

NOTES:

1. ALL BOLTS SHALL BE 1⅛" DIA. HIGH STRENGTH BOLTS, ASTM A325 TYPE 1, GALVANIZED.
2. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050

DESIGNED	DRAWN	REVIEWED	DATE
XAC	KML	RMK	02-20-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		3111636	

FIELD SPLICE DETAILS
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

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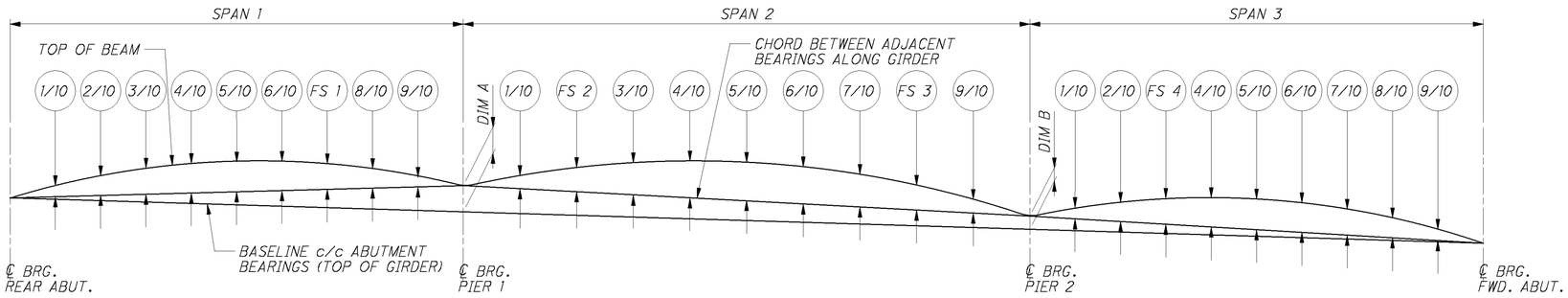


CAMBER DIAGRAM
(NOT TO SCALE)

BLOCKING DIMENSION		
GIRDER	DIM. A	DIM. B
G1	3′-4 1/8″	1′-9 13/16″
G2	3′-3 15/16″	1′-9 1/16″
G3	3′-3 3/4″	1′-9″
G4	3′-3 9/16″	1′-8 1/2″

NOTES:

1. POSITIVE CAMBER IS UPWARD.
2. GEOMETRIC CORRECTION IS A COMBINATION OF VERTICAL CURVE AND SUPERELEVATION TRANSITION CORRECTIONS.
3. CAMBER VALUES DO NOT INCLUDE ALLOWANCES FOR LOSS DUE TO HEAT CURVING. IF HEAT CURVING IS USED, ADJUST CAMBERS PER AASHTO 10.15.3.

CAMBER TABLE (VALUE IN INCHES)

		SPAN 1										SPAN 2										SPAN 3									
GIRDER 1	REAR ABUT.	1/10 SPAN	2/10 SPAN	3/10 SPAN	4/10 SPAN	5/10 SPAN	6/10 SPAN	SPLICE NO. 1	8/10 SPAN	9/10 SPAN	℄ PIER 1	1/10 SPAN	SPLICE NO. 2	3/10 SPAN	4/10 SPAN	5/10 SPAN	6/10 SPAN	7/10 SPAN	SPLICE NO. 3	9/10 SPAN	℄ PIER 2	1/10 SPAN	2/10 SPAN	SPLICE NO. 4	4/10 SPAN	5/10 SPAN	6/10 SPAN	7/10 SPAN	8/10 SPAN	9/10 SPAN	FWD. ABUT.
DELFECTION DUE TO WEIGHT OF STEEL	0	1/4″	1/16″	9/16″	5/8″	5/8″	1/2″	5/16″	3/16″	1/16″	0	0″	3/16″	5/16″	1/16″	1/2″	1/16″	5/16″	3/16″	0″	0	1/16″	3/16″	5/16″	1/2″	5/8″	5/8″	9/16″	7/16″	1/4″	0
DEFLECTION DUE TO REMAINING DEAD LOAD	0	1/8″	1 9/16″	2 1/16″	2 5/16″	2 3/16″	1 3/4″	1 1/16″	5/8″	3/16″	0	1/8″	1 13/16″	1/4″	1 13/16″	2″	1 13/16″	1 1/4″	5/16″	1/8″	0	3/16″	5/8″	1 1/16″	1 11/16″	2 1/8″	2 1/4″	2 1/16″	1 9/16″	7/8″	0
GEOMETRIC CORRECTION	0	2 3/4″	4 1/8″	6 3/8″	7 1/4″	7 3/16″	7 1/4″	6 1/8″	4 1/8″	2 3/4″	0	2 5/8″	4 9/16″	4 1/8″	4 5/8″	3 13/16″	3 1/16″	2 5/16″	1 13/16″	3/4″	0	1/8″	1/4″	5/16″	1/2″	5/8″	3/4″	7/8″	1″	1/8″	0
TOTAL (REQUIRED SHOP CAMBER)	0	3 1/8″	6 1/8″	9″	10 3/16″	10 3/8″	9 1/2″	7 1/2″	5 11/16″	3″	0	2 3/4″	5 9/16″	6 1/16″	6 1/8″	6 5/16″	5 5/16″	3 1/8″	2 13/16″	1/8″	0	3/8″	1 1/16″	1 11/16″	2 11/16″	3 3/8″	3 5/8″	3 1/2″	3″	2″	0
GIRDER 2																															
DELFECTION DUE TO WEIGHT OF STEEL	0	3/16″	3/8″	1/2″	1/2″	1/2″	3/8″	1/4″	1/8″	1/16″	0	0″	3/16″	5/16″	1/16″	1/16″	1/16″	5/16″	3/16″	0″	0	1/16″	1/8″	1/4″	3/8″	1/2″	1/2″	1/2″	3/8″	3/16″	0
DEFLECTION DUE TO REMAINING DEAD LOAD	0	1 1/16″	1 1/4″	1 5/8″	1 13/16″	1 11/16″	1 3/8″	1 1/16″	1/2″	1/8″	0	1/8″	3/4″	1/8″	1 9/16″	1 3/4″	1 9/16″	1 1/8″	3/4″	1/8″	0	1/8″	1/16″	1 3/16″	1 5/16″	1 1/16″	1 3/16″	1 5/16″	1 1/8″	1/4″	0
GEOMETRIC CORRECTION	0	2 3/4″	4 13/16″	6 3/8″	7 1/4″	7 9/16″	7 1/4″	6 1/8″	4 1/8″	2 3/4″	0	2 5/8″	4 9/16″	4 1/8″	4 5/8″	3 13/16″	3 1/16″	2 5/16″	1 13/16″	3/4″	0	1/16″	1/8″	3/16″	5/16″	5/16″	1/16″	1/2″	9/16″	1/2″	0
TOTAL (REQUIRED SHOP CAMBER)	0	3 5/8″	6 1/16″	8 1/2″	9 9/16″	9 3/4″	9″	7 3/16″	5 1/2″	2 15/16″	0	2 3/4″	5 1/2″	6 5/16″	6 5/8″	6″	5 1/16″	3 3/4″	2 3/4″	1/8″	0	1/4″	1 1/16″	1 1/4″	2″	2 1/2″	2 3/4″	2 5/8″	2 7/16″	1 3/8″	0
GIRDER 3																															
DELFECTION DUE TO WEIGHT OF STEEL	0	1/8″	5/16″	3/8″	7/16″	3/8″	5/16″	3/16″	3/16″	0″	0	0″	3/16″	1/4″	3/8″	1/16″	3/8″	1/4″	3/16″	0″	0	0″	1/8″	3/16″	5/16″	3/8″	1/16″	3/8″	1/4″	1/8″	0
DEFLECTION DUE TO REMAINING DEAD LOAD	0	9/16″	1″	1 5/16″	1 1/16″	1 3/8″	1 1/16″	1/16″	5/8″	1/16″	0	1/8″	1 1/16″	1″	1 3/8″	1 9/16″	1 3/8″	1″	1/16″	1/8″	0	1/8″	3/8″	1/16″	1 1/16″	1 5/16″	1 1/16″	1 5/16″	1 3/16″	9/16″	0
GEOMETRIC CORRECTION	0	2 3/4″	4 13/16″	6 3/8″	7 1/4″	7 9/16″	7 1/4″	6 1/8″	4 13/16″	2 3/4″	0	2 9/16″	4 9/16″	4 1/8″	4 5/8″	3 13/16″	3 1/16″	2 5/16″	1 13/16″	3/4″	0	0″	0″	0″	0″	0″	0″	0″	0″	0″	0
TOTAL (REQUIRED SHOP CAMBER)	0	3 1/16″	6 1/8″	8 1/16″	9 1/8″	9 5/16″	8 5/8″	7″	5 5/8″	2 13/16″	0	2 11/16″	5 1/16″	6 1/8″	6 3/8″	5 5/16″	4 7/16″	3 9/16″	2 11/16″	1/8″	0	1/8″	1/2″	1/8″	1 3/8″	1 11/16″	1 1/8″	1 11/16″	1 3/16″	1 1/16″	0
GIRDER 4																															
DELFECTION DUE TO WEIGHT OF STEEL	0	1/8″	1/4″	1/4″	5/16″	5/16″	1/4″	1/8″	1/16″	0″	0	1/16″	3/16″	1/4″	3/8″	3/8″	3/8″	1/4″	3/16″	1/16″	0	0″	1/16″	1/8″	1/4″	5/16″	5/16″	1/4″	3/16″	1/8″	0
DEFLECTION DUE TO REMAINING DEAD LOAD	0	1/16″	1 3/16″	1″	1 1/8″	1 1/16″	1 3/16″	1/2″	1/4″	1/16″	0	1/8″	1 1/16″	15/16″	1 1/4″	1 3/8″	1 1/4″	15/16″	1 1/16″	1/8″	0	1/16″	1/4″	1/2″	1 3/16″	1″	1 1/8″	1″	3/4″	3/8″	0
GEOMETRIC CORRECTION	0	2 3/4″	4 13/16″	6 3/8″	7 1/4″	7 9/16″	7 1/4″	6 1/8″	4 1/8″	2 3/4″	0	2 9/16″	4 9/16″	4 1/8″	4 5/8″	3 13/16″	3 1/16″	2 5/16″	1 13/16″	3/4″	0	- 1/16″	- 1/8″	- 3/16″	- 1/4″	- 5/16″	- 3/8″	- 1/2″	- 9/16″	- 1/2″	0
TOTAL (REQUIRED SHOP CAMBER)	0	3 5/16″	5 1/8″	7 5/8″	8 11/16″	8 15/16″	8 5/16″	6 3/4″	5 5/16″	2 13/16″	0	2 3/4″	5 1/16″	6 1/16″	6 1/4″	5 9/16″	4 11/16″	3 1/2″	2 11/16″	15/16″	0	0″	3/16″	1/16″	1 3/16″	1″	1 1/16″	3/4″	7/8″	0″	0

CAMBER IS CALCULATED FOR THE ENTIRE DECK SLAB PLACED AT THE SAME TIME.

DESIGN AGENCY: BURGESS & NIPLE
BURGESS & NIPLE, INC. | 5085 Reed Road, Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
XAC	KML	RMK	02-20-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SJA		3111636	

CAMBER DIAGRAM
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

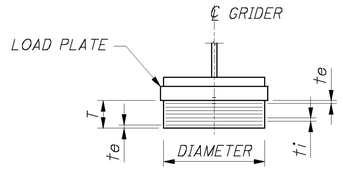
HAM-50-18.79
PID No. 20082

LAMINATED ELASTOMERIC BEARINGS

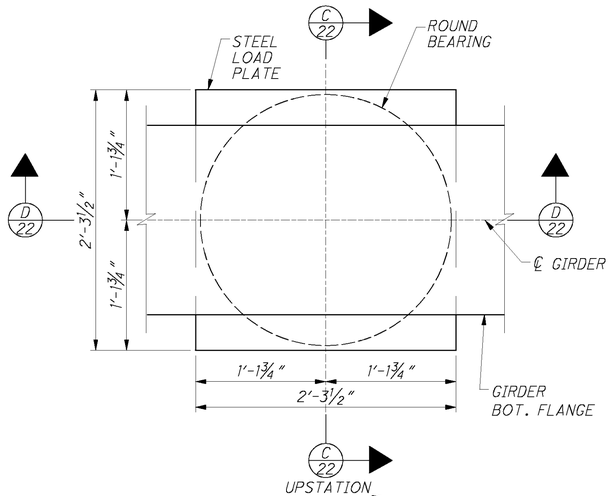
LOCATION	BEARING TYPE	BEARING DIMENSIONS DIAMETER	ti	te	T	N	STEEL LOAD PLATE LENGTH x WIDTH x THICKNESS	BEVEL DIMENSIONS A	B	REACTIONS (KIPS) DL	LL	MAXIMUM DESIGN REACTION (KIPS)
REAR ABUTMENT	SPECIAL	20"	3/4"	1/2"	5 3/16"	6	1'-9" x 2'-0" x 2" AVG.	2 1/4"	1 3/4"	123	81	204
PIER 1	FIXED	25 1/4"	13/16"	1/2"	5 1/2"	6	2'-2 1/4" x 3'-1 1/2" x 2" AVG.	2 7/8"	1 1/8"	401	148	549
PIER 2	EXP.	26 1/2"	13/16"	1/2"	6 3/8"	7	2'-3 1/2" x 2'-3 1/2" x 2" AVG.	3 3/16"	13/16"	401	148	549
FORWARD ABUTMENT	EXP.	20"	3/4"	1/2"	5 3/16"	6	1'-9" x 2'-7" x 2" AVG.	2 15/16"	1 1/16"	123	81	204

ti = THICKNESS OF INTERNAL LAMINATE
te = THICKNESS OF EXTERNAL LAMINATE
T = TOTAL THICKNESS OF ELASTOMERIC BEAING

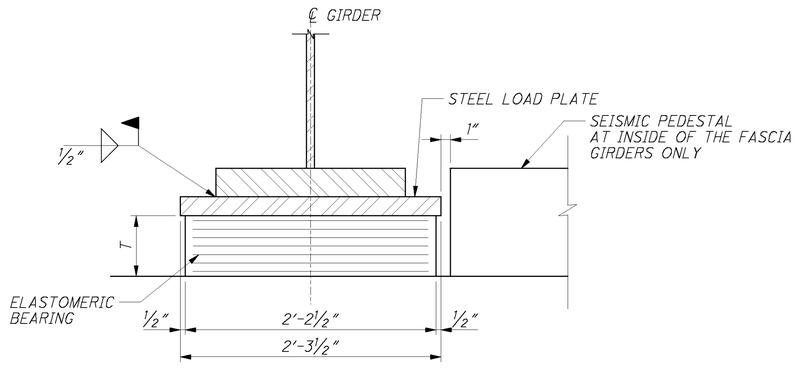
N = NO. OF STEEL LAMINATES
INTERNAL STEEL LAMINATE THICKNESS = 0.075"
DUROMETER OF ELASTOMER = 60 DUROMETER
LOAD PLATE THICKNESS IS MEASURED AT CENTERLINE OF BEARINGS.



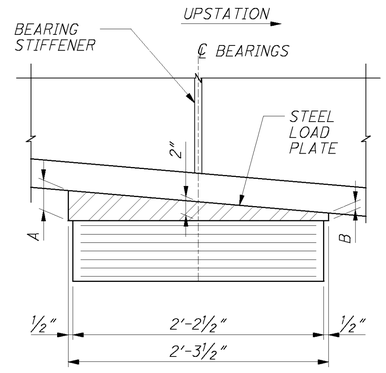
LAMINATED ELASTOMERIC EXPANSION BEARINGS



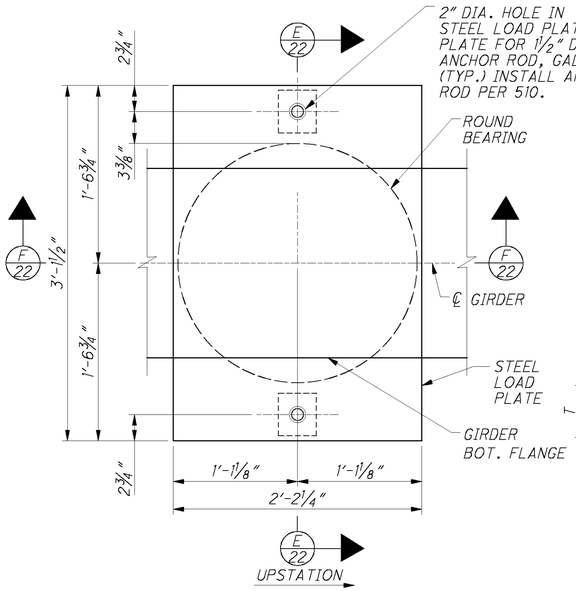
BEARING PLAN
(PIER 2 EXPANSION BEARING)



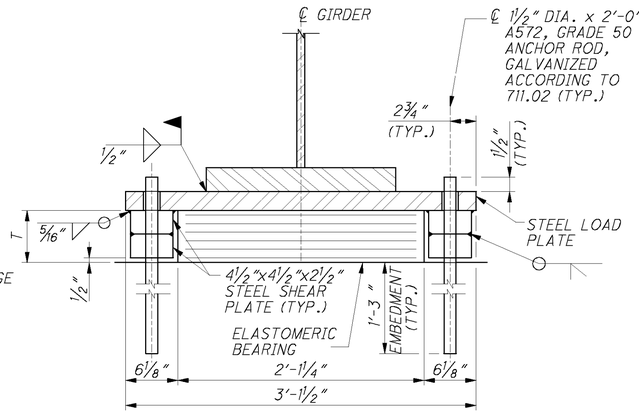
SECTION C 22



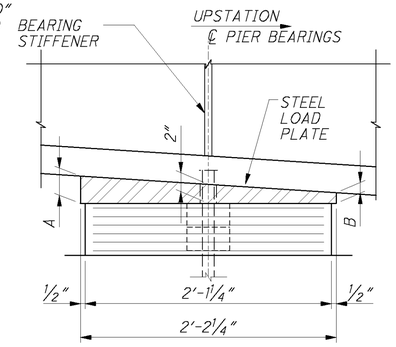
SECTION D 22



BEARING PLAN
(PIER 1 FIXED BEARING)



SECTION E 22



SECTION F 22

NOTES:

EACH BEARING ASSEMBLY SHALL BE SHOP MARKED WITH THE FOLLOWING INFORMATION: TOP, FORWARD STATION DIRECTION, AND LOCATION (REAR ABUTMENT, PIER, FORWARD ABUTMENT).

ABUTMENT AND PIER ELASTOMERIC BEARINGS:
THE ELASTOMER SHALL HAVE A HARDNESS OF 60 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6. (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

BEARING REPOSITIONING:
IF BEAMS ARE PLACED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60°F ± 10°F, THE BEAMS SHALL BE RAISED TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F ± 10°F.

WELDING:
CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300° F AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

LOAD PLATE:
THE STEEL LOAD PLATE, STEEL PLATE, STEEL FILL PLATE AND MASONRY PLATE SHALL BE THE SAME MATERIAL AS THE ATTACHED STRUCTURAL STEEL AND BE SIMILARLY CLEANED AND COATED. SURFACE PREPARATION AND PRIMING SHALL BE DONE IN THE SHOP AND BE INCLUDED IN THE PRICE BID FOR BEARINGS. FIELD COATS SHALL BE INCLUDED IN THE PRICE BID FOR PAINTING MAIN STRUCTURAL STEEL.

THE STEEL LOAD PLATES AND STEEL MASONRY PLATES SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

BASIS OF PAYMENT:
THE UNIT BID PRICE INCLUDES ALL MATERIALS, LABOR, TESTING AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL ELASTOMERIC BEARINGS INCLUDING STEEL LOAD PLATES, STEEL PLATE, STEEL FILL PLATE, MASONRY PLATE, ANCHOR BOLTS, THREADED STUDS, NUTS, WASHERS AND FABRIC PADS. PAYMENT WILL BE INCLUDED WITH THE APPROPRIATE 516 ITEM.

DESIGN AGENCY
BURGESS & NIPLE
191 West Nationwide Blvd. Suite 1000
Columbus, Ohio 43215

DESIGNED	DRAWN	REVIEWED	DATE
XAC	XAC	RMK	02-20-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SJA		3111636	

BEARING DETAILS 1
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

22 / 34

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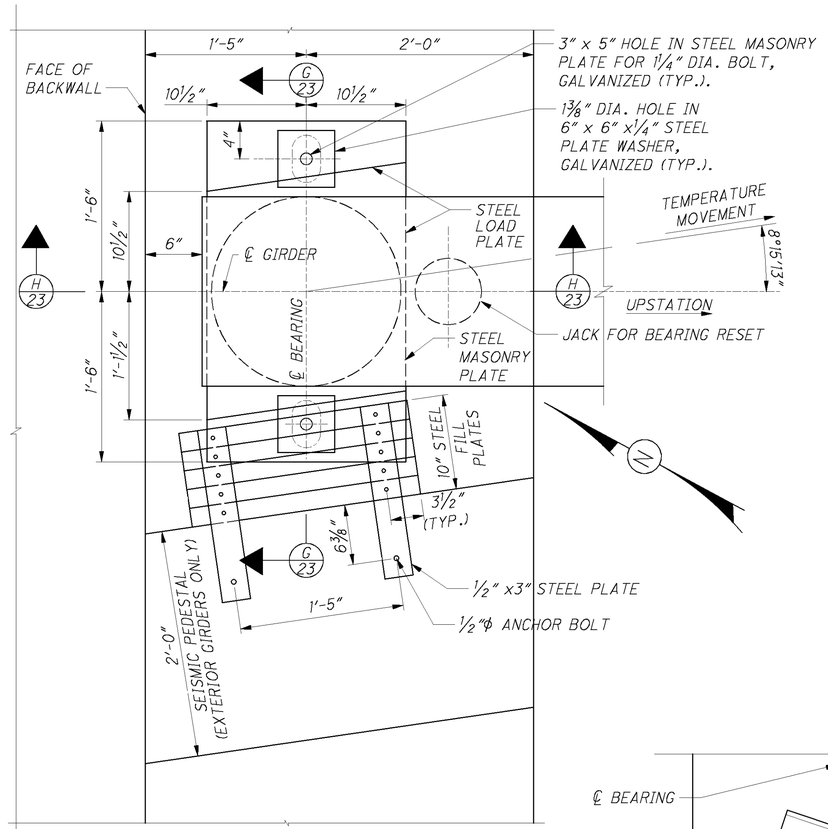
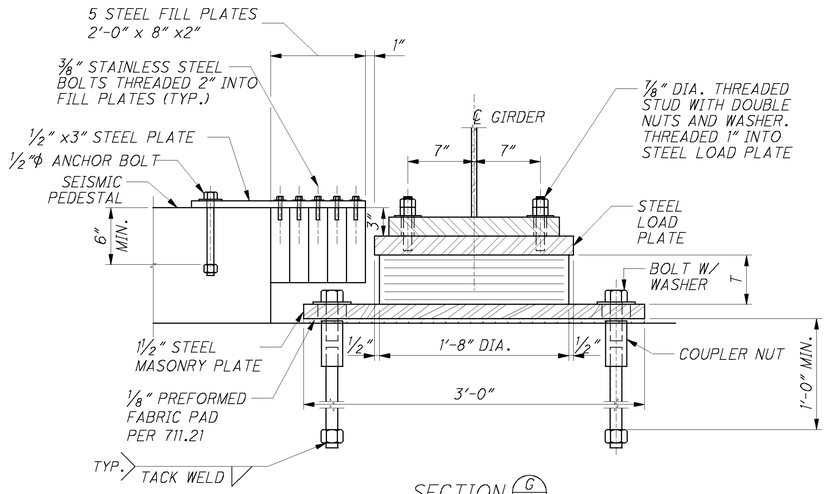
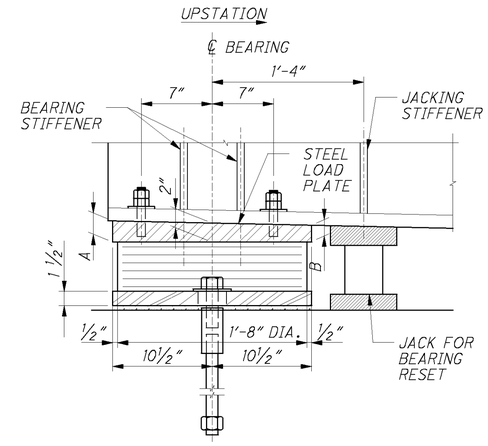


REAR ABUTMENT BEARING PLAN

(GIRDER G4 SHOWN, GIRDER G1 OPPOSITE HAND
GIRDER G2 & G3 - NO SEISMIC PEDESTAL)



SECTION G 23



SECTION H 23

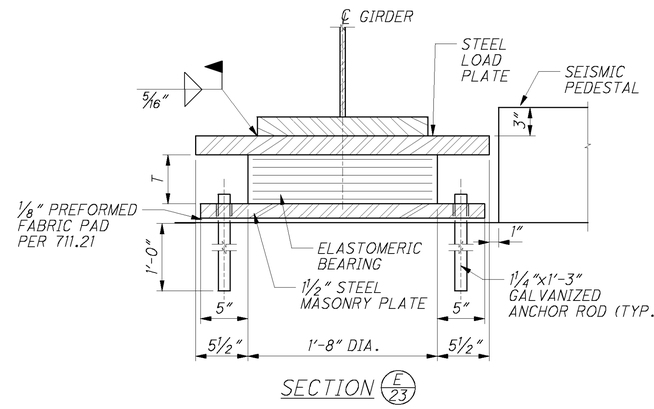
JACKING DESIGN CRITERIA			
LOCATION	DEAD LOAD REACTION (KIPS)	LIVE LOAD & IMPACT REACTION (KIPS)	TOTAL REACTION (KIPS)
REAR ABUTMENT	123	102	225

NOTES:

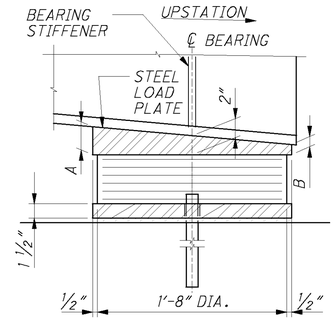
1. JACKING STIFFENERS HAVE BEEN DESIGNED SO THAT BEARINGS CAN BE REPLACED WITH THE BRIDGE UNDER DEAD LOAD AND FULL LIVE LOAD.
2. JACKS SHALL BE PLACED AT THE POSITION SHOWN. ALL ABUTMENT BEARINGS SHALL BE RAISED SIMULTANEOUSLY USING JACKS THAT WILL ALLOW SYNCHRONOUS LIFT.

FORWARD ABUTMENT BEARING PLAN

(GIRDER G4 SHOWN, GIRDER G1 OPPOSITE HAND
GIRDER G2 & G3 - NO SEISMIC PEDESTAL)



SECTION E 23



SECTION F 23

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (513) 459-3706
Cincinnati, Ohio 45202
DESIGNED XAC
DRAWN XAC
CHECKED SJA
REVIEWED RMK
DATE 02-20-08
REVISED
STRUCTURE FILE NUMBER 3111636

BEARING DETAILS 2

BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

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GIRDER ERECTION NOTES:

THE CONSTRUCTION SEQUENCE SHOWN DEMONSTRATES ONE FEASIBLE ALTERNATIVE TO ERECT THE CURVED GIRDERS. THE CONTRACTOR HAS THE OPTION OF USING AN ALTERNATE METHOD OF GIRDER ERECTION WITH PRIOR APPROVAL OF THE ENGINEER.

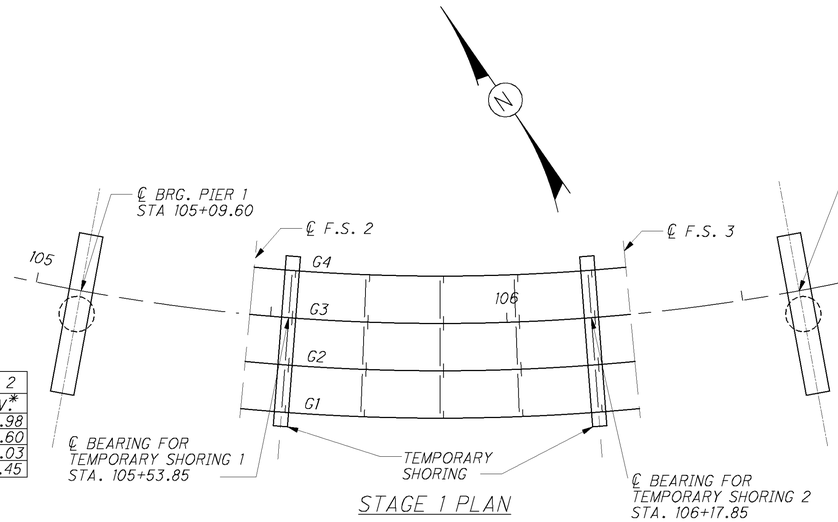
THE TEMPORARY SHORING REACTIONS REPRESENT VERTICAL DEAD LOAD REACTIONS OF THE GIRDERS AND CROSSFRAMES. CONTRACTOR MUST ACCOUNT FOR ADDITIONAL LOADS DUE TO HIS ERECTION METHODS.

SUBMIT SHOP DRAWINGS WITH PROPOSED GIRDER ERECTION DETAILS IN CONFORMANCE WITH SECTION 501.04.

VERTICAL AND HORIZONTAL STABILITY SHALL BE MAINTAINED FOR EACH STAGE BY THE CONTRACTOR AS ALL INTERMEDIATE STAGES ARE UNSTABLE WITHOUT TEMPORARY SHORING AND BRACING. THE DESIGN OF SHORING AND BRACING SHALL INCLUDE ADDITIONAL LOADING DUE TO WIND AND CONSTRUCTION LIVE LOAD ON THE PREVIOUS STAGE(S). THE CONTRACTOR SHALL SUBMIT THE SHORING AND BRACING DESIGN TO THE ENGINEER FOR APPROVAL PRIOR TO PLACING ANY GIRDERS.

	SHORING REACTIONS	TEMPORARY SHORING 1			TEMPORARY SHORING 2		
GIRDER	DEAD LOAD	STA.	OFFSET	ELEV.*	STA.	OFFSET	ELEV.*
G1	14.9 KIPS	105+53.85	20' RT.	536.80	106+17.85	20' RT.	530.98
G2	15.3 KIPS	105+53.85	10' RT.	536.42	106+17.85	10' RT.	530.60
G3	15.0 KIPS	105+53.85	0	535.84	106+17.85	0	530.03
G4	14.0 KIPS	105+53.85	10' LT.	535.27	106+17.85	10' LT.	529.45

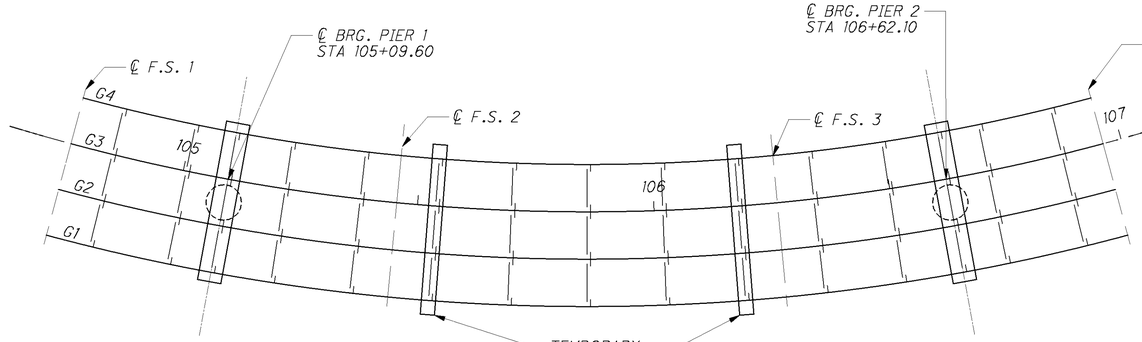
*ELEVATIONS ARE ARE AT BOTTOM OF BOTTOM GIRDER FLANGE. ELEVATION GIVEN IS FINAL GIRDER ELEVATION + TOTAL GIRDER CAMBER



STAGE 1 PLAN

STAGE 1:

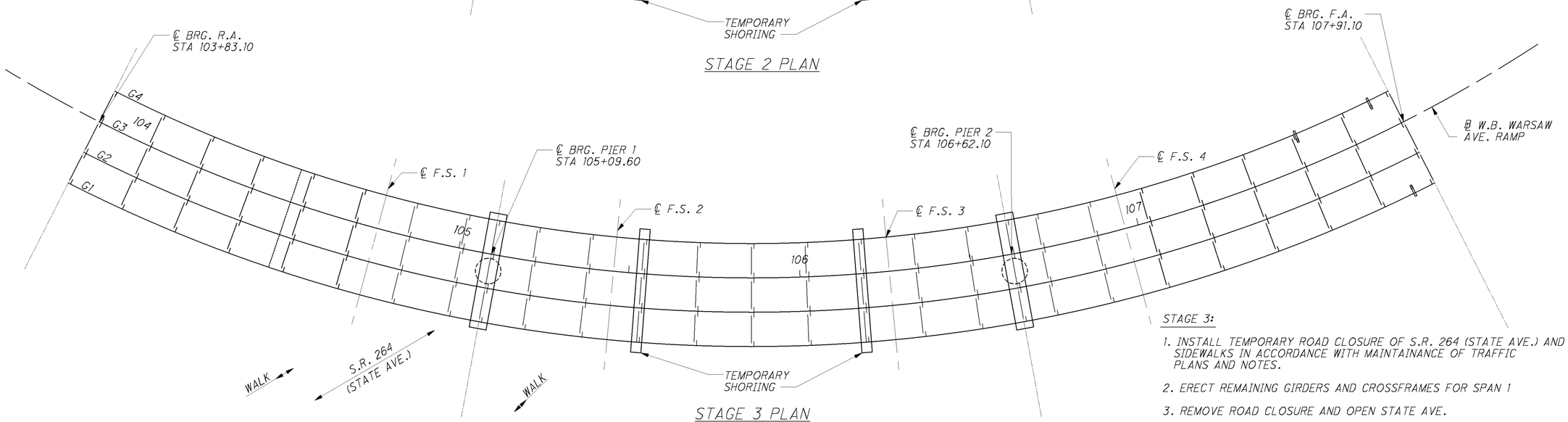
1. CONSTRUCT TEMPORARY SHORING WITH BEARINGS CENTERED BELOW CROSSFRAME STIFFENERS AS SHOWN
2. ERECT GIRDER G4 BETWEEN SPLICE 2 AND 3
3. BRACE GIRDER G4 AND ERECT GIRDER G3
4. INSTALL CROSSFRMES BETWEEN GIRDERS G4 AND G3
5. INSTALL GIRDER G2 AND CROSSFRAMES BETWEEN GIRDER G3 AND G2
6. INSTALL GIRDER G1 AND CROSSFRAMES BETWEEN GIRDER G1 AND G1



STAGE 2 PLAN

STAGE 2:

1. ERECT GIRDERS AND CROSSFRAMES BETWEEN SPICE 1 AND 2
2. ERECT GIRDERS AND CROSSFRAMES BETWEEN SPLICE 3 AND 4



STAGE 3 PLAN

STAGE 3:

1. INSTALL TEMPORARY ROAD CLOSURE OF S.R. 264 (STATE AVE.) AND SIDEWALKS IN ACCORDANCE WITH MAINTAINANCE OF TRAFFIC PLANS AND NOTES.
2. ERECT REMAINING GIRDERS AND CROSSFRAMES FOR SPAN 1
3. REMOVE ROAD CLOSURE AND OPEN STATE AVE.
4. ERECT REMAINING GIRDERS AND CROSSFRAMES FOR SPAN 3
5. REMOVE TEMPORARY GIRDER BRACING AND SHORING

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (614) 459-2070
5085 Reed Road, Columbus, Ohio 43220

DESIGNED XAC | DRAWN SJA | REVIEWED RMK | DATE 02-20-08
CHECKED SJA | REVISED | STRUCTURE FILE NUMBER 3111636

SUGGESTED GIRDER ERECTION SEQUENCE
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

24 / 34

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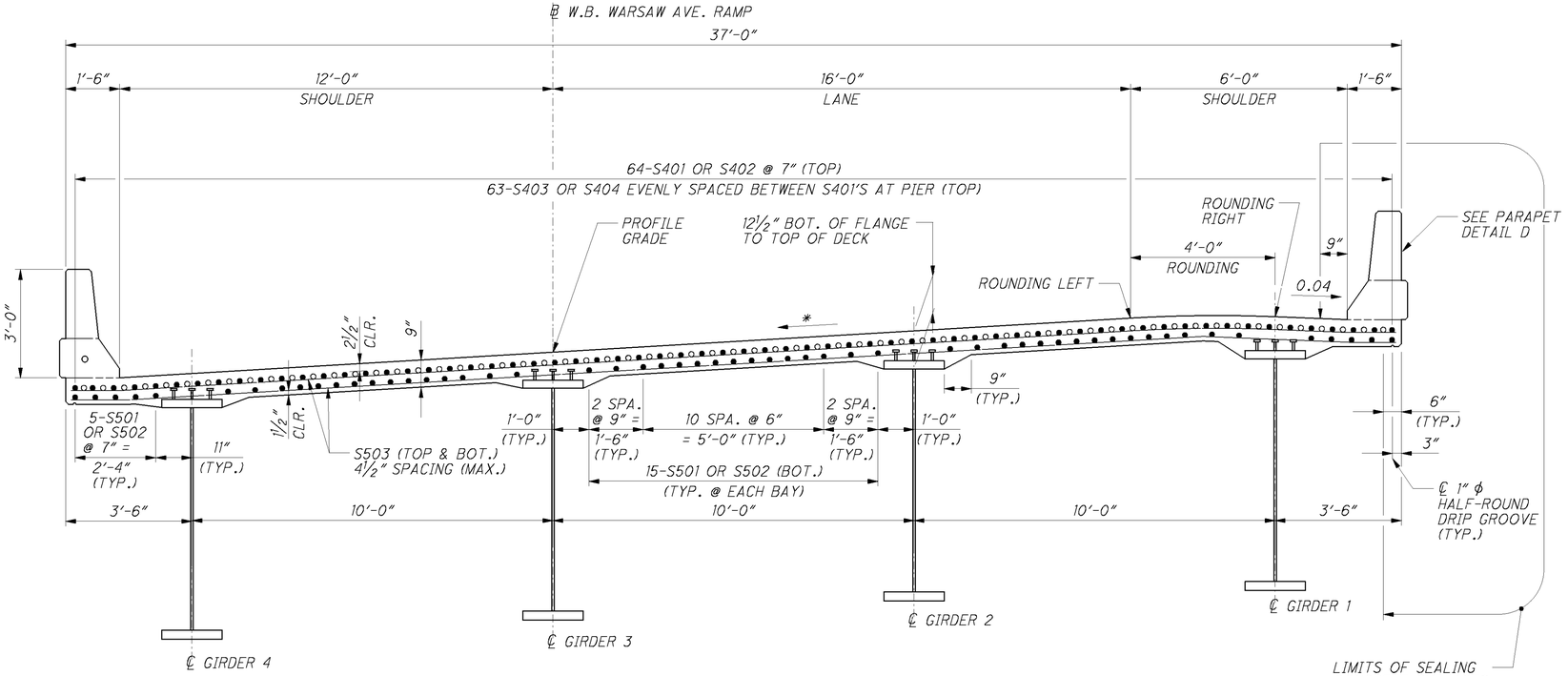
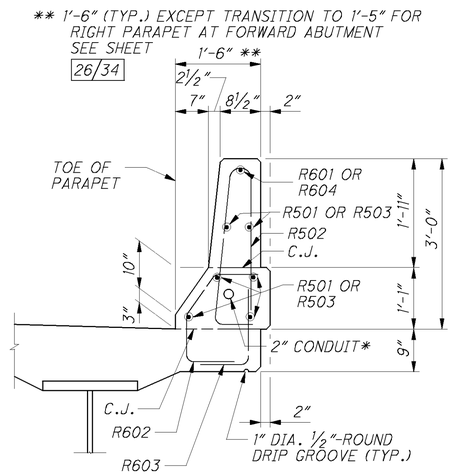


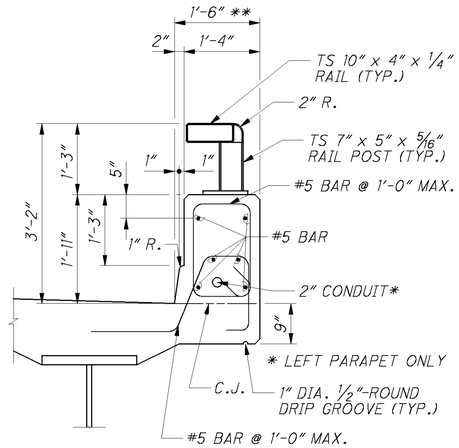
BRIDGE TRANSVERSE SECTION

(* VARIES -0.016 FT/FT TO 0.058 FT/FT, SEE DIAGRAM ON SHEET 2/34)



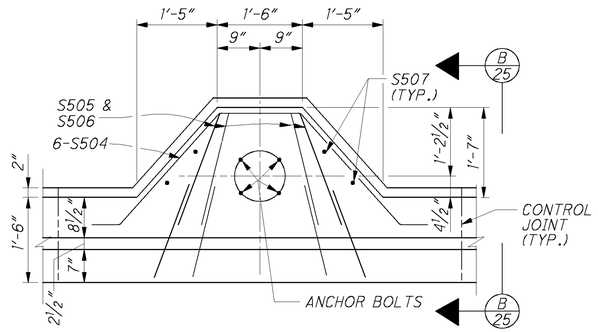
PARAPET DETAIL D

* LEFT PARAPET ONLY

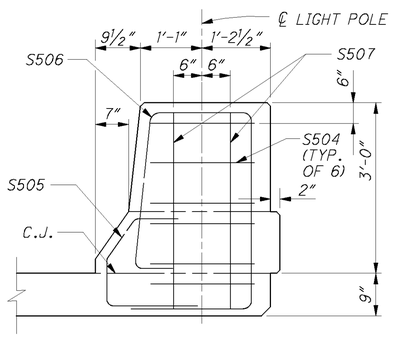


ALTERNATE PARAPET DETAIL

(ALTERNATE BID ITEM)



LIGHT POLE PILASTER DETAIL



VIEW (B/25)

LEGEND:

C.J. = CONSTRUCTION JOINT
BOT. = BOTTOM

NOTES:

1. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 3½ INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE OF 9 INCHES. 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 GIRDER FLANGE IS ± 3 INCHES.

   THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.

2. SUPERSTRUCTURE SHALL BE SEALED WITH NON-EPOXY AS INDICATED

3. SEE SHEET 6/34 FOR NOTES FOR ALTERNATE PARAPETS.

DESIGN AGENCY
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(614) 459-2050 FAX (614) 459-2070
Cincinnati, Ohio 45202

DATE 02-20-08
REVIEWED RMK
STRUCTURE FILE NUMBER 3111636
DRAWN KML
REVISED
DESIGNED KML
CHECKED SJA

TRANSVERSE SECTION
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

25/34

394/657

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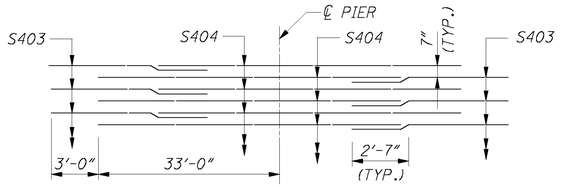
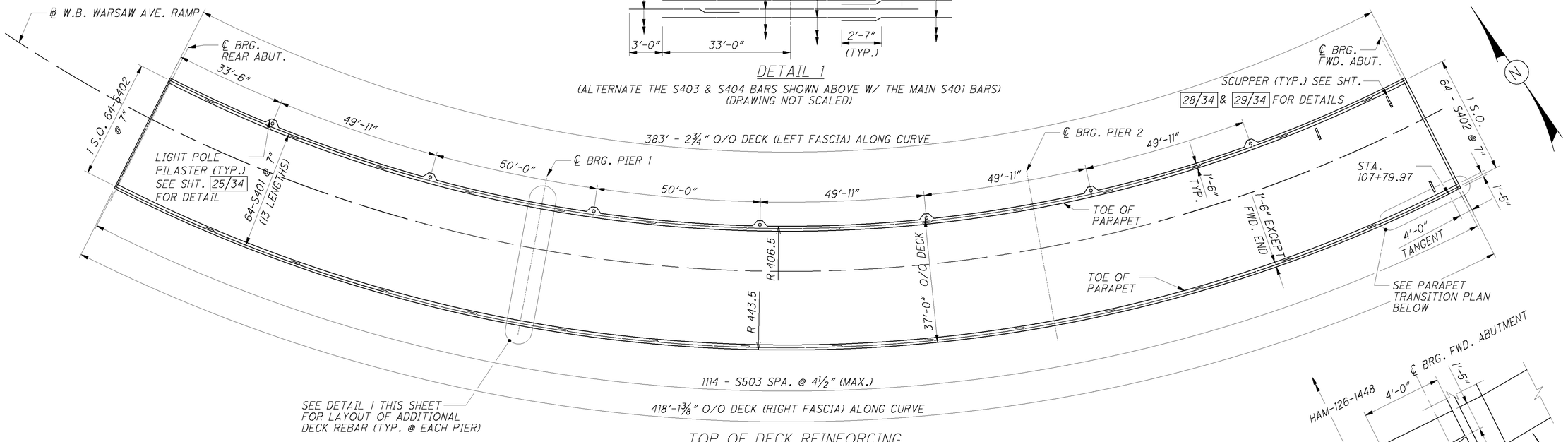
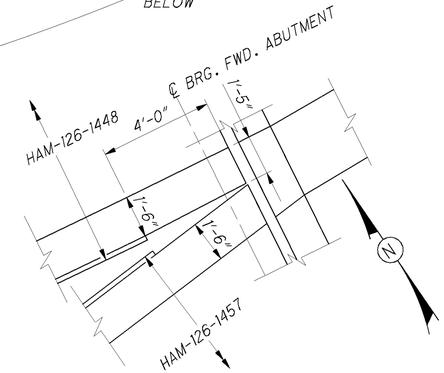


DETAIL 1

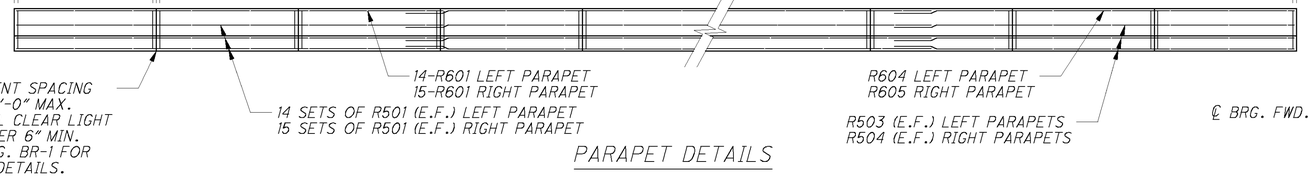
(ALTERNATE THE S403 & S404 BARS SHOWN ABOVE W/ THE MAIN S401 BARS)
(DRAWING NOT SCALED)



TOP OF DECK REINFORCING



PARAPET TRANSITION PLAN



PARAPET DETAILS

BOTTOM OF DECK REINFORCING

NOTE:

1. MIN. LAP LENGTH: NO. 4 BAR = 2'-7", NO. 5 BAR = 3'-3"
   NO. 6 BAR = 3'-10"

2. PLACE TRANSVERSE S503 BARS RADIALLY.

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (513) 779-7851
(Cincinnati, Ohio 45242)

DESIGNED	DRAWN	REVIEWED	DATE
XAC	KML	RMK	02-20-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SJA		3111636	

DECK PLAN
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

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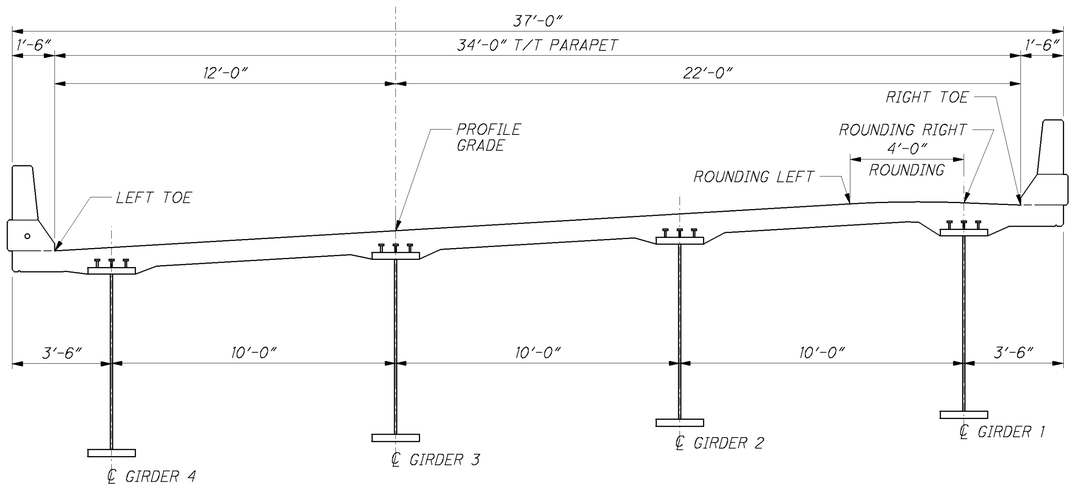

BRIDGE TYPICAL SECTION

SCREED ELEVATIONS

SCREED LOCATIONS	STATION	LEFT TOE	GIRDER 4	PROFILE GRADE & GIRDER 3	GIRDER 2	ROUNDING LEFT	GIRDER 1	RIGHT TOE
℄ BRG. REAR ABUT.	103+88.60	550.88	550.99	551.57	552.15	552.50	552.54	552.46
1/10 SPAN	104+00.70	550.58	550.70	551.29	551.88	552.24	552.28	552.20
2/10 SPAN	104+12.80	550.23	550.35	550.95	551.55	551.92	551.96	551.88
3/10 SPAN	104+24.90	549.82	549.93	550.54	551.15	551.53	551.57	551.49
4/10 SPAN	104+37.00	549.34	549.46	550.07	550.68	551.07	551.10	551.02
5/10 SPAN	104+49.10	548.80	548.92	549.52	550.14	550.52	550.56	550.48
6/10 SPAN	104+61.20	548.20	548.32	548.92	549.52	549.90	549.94	549.86
SPLICE NO.1	104+75.60	547.41	547.53	548.13	548.72	549.08	549.12	549.04
8/10 SPAN	104+85.40	546.83	546.95	547.56	548.13	548.49	548.52	548.44
9/10 SPAN	104+97.50	546.08	546.20	546.78	547.37	547.72	547.75	547.67
℄ PIER 1	105+09.60	545.29	545.41	545.99	546.57	546.92	546.95	546.87
1/10 SPAN	105+24.85	544.24	544.36	544.94	545.52	545.86	545.90	545.82
SPLICE NO.2	105+45.60	542.71	542.83	543.41	543.99	544.35	544.38	544.30
3/10 SPAN	105+55.35	541.94	542.06	542.65	543.23	543.59	543.63	543.55
4/10 SPAN	105+70.60	540.67	540.79	541.38	541.97	542.34	542.37	542.29
5/10 SPAN	105+85.85	539.34	539.45	540.05	540.64	541.01	541.05	540.97
6/10 SPAN	106+01.10	537.99	538.10	538.69	539.29	539.65	539.69	539.61
7/10 SPAN	106+16.35	536.62	536.73	537.32	537.91	538.27	538.30	538.22
SPLICE NO.3	106+26.10	535.73	535.85	536.43	537.02	537.37	537.41	537.33
9/10 SPAN	106+46.85	533.87	533.98	534.56	535.14	535.49	535.52	535.44
℄ PIER 2	106+62.10	532.51	532.63	533.21	533.79	550.14	534.17	534.09
1/10 SPAN	106+74.20	531.45	531.57	532.15	532.74	533.09	533.12	533.04
2/10 SPAN	106+86.30	530.40	530.52	531.11	531.70	532.06	532.09	532.01
SPLICE NO.4	106+96.10	529.56	529.68	530.27	530.86	531.23	531.27	531.19
4/10 SPAN	107+10.50	528.32	528.44	529.04	529.64	530.02	530.05	529.97
5/10 SPAN	107+22.60	527.27	527.39	527.99	528.60	528.99	529.03	528.95
6/10 SPAN	107+34.70	526.22	526.33	526.94	527.55	527.94	527.97	527.89
7/10 SPAN	107+46.80	525.14	525.26	525.86	526.47	526.86	526.89	526.81
8/10 SPAN	107+58.90	524.06	524.17	524.77	525.37	525.75	525.78	525.70
9/10 SPAN	107+71.00	522.97	523.09	523.67	524.25	524.61	524.64	524.56
℄ BRG. FWD. ABUT.	107+83.10	521.93	522.04	522.56	523.08	523.40	523.42	523.34

NOTES:

1. SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

DESIGN AGENCY
BURGESS & NIPLE
(BURGESS & NIPLE, LTD.) Ohio
Cincinnati, Ohio 45202

DATE 02-20-08
REVIEWED RMK
STRUCTURE FILE NUMBER 3111636
DRAWN KML
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SCREED ELEVATIONS
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

27 / 34

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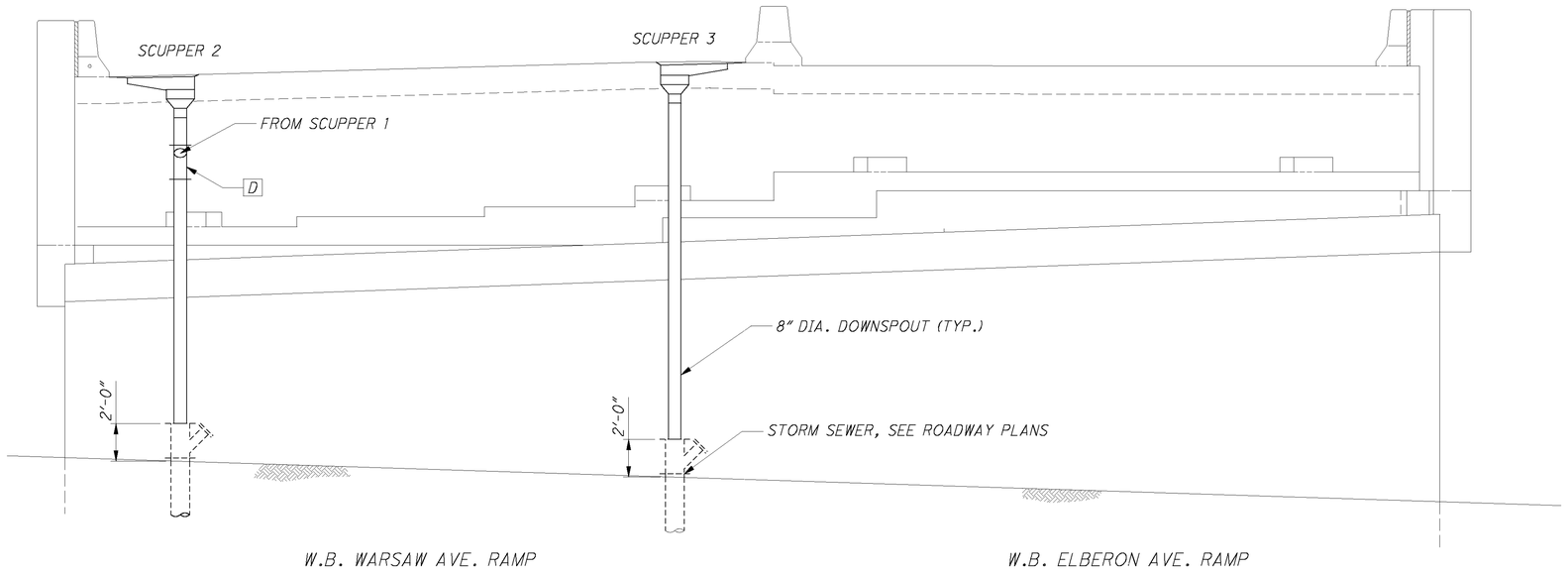
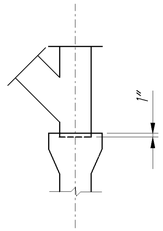
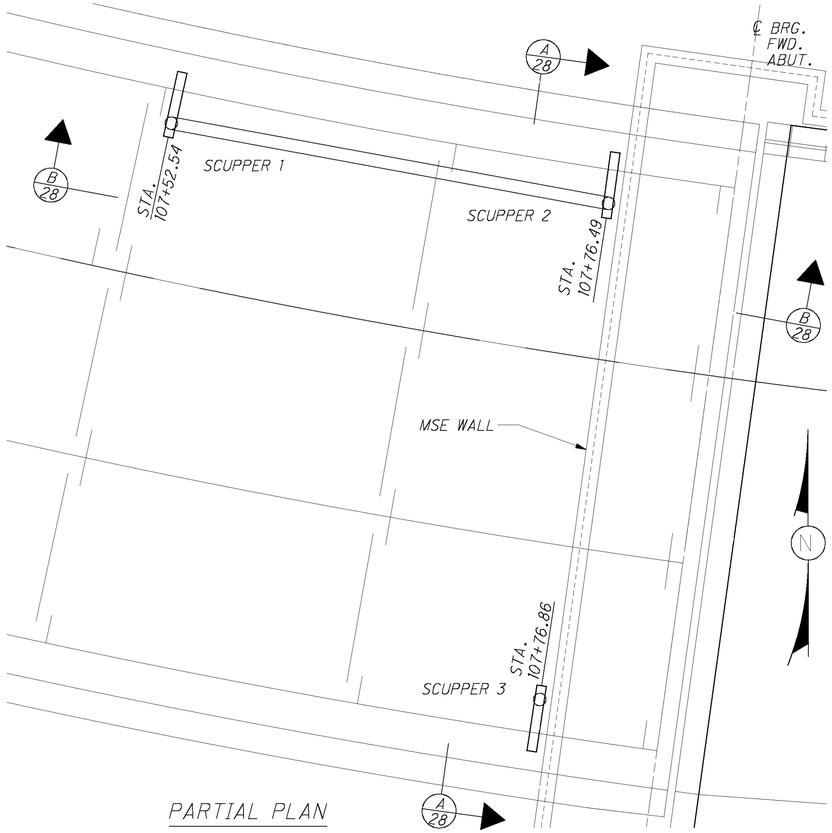


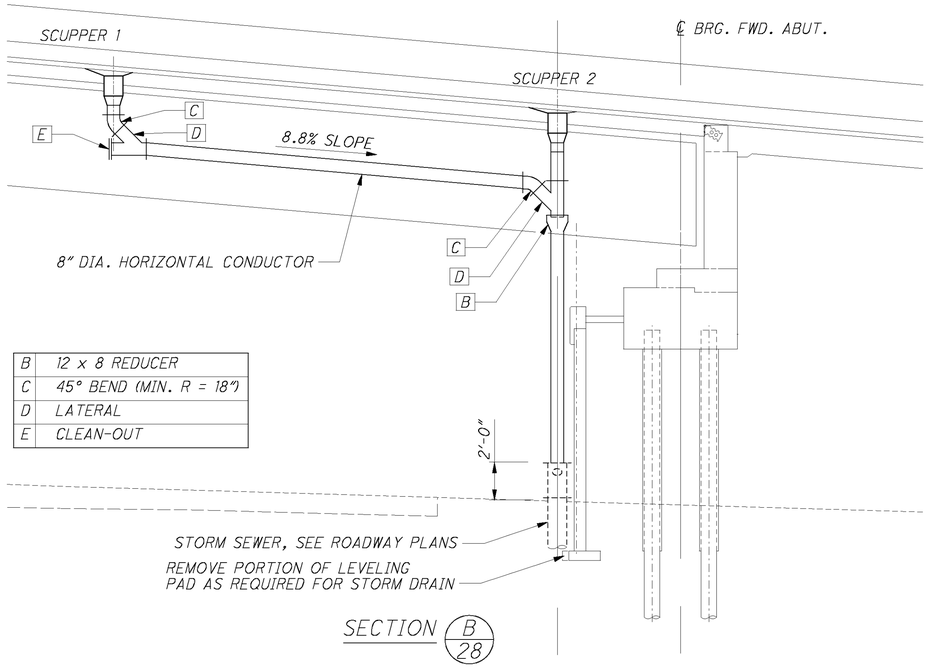
SECTION A/28



REDUCER DETAIL



PARTIAL PLAN



B	12 x 8 REDUCER
C	45° BEND (MIN. R = 18")
D	LATERAL
E	CLEAN-OUT

SECTION B/28

DESIGN AGENCY
BURGESS & NIPLE
(C) BURGESS & NIPLE, LTD. 2008
Cincinnati, Ohio 45202

DESIGNED	DRAWN	REVIEWED	DATE
XAC	KML	RMK	02-20-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SJA		3111636	

SCUPPER DETAILS 1
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

28 / 34

397
657

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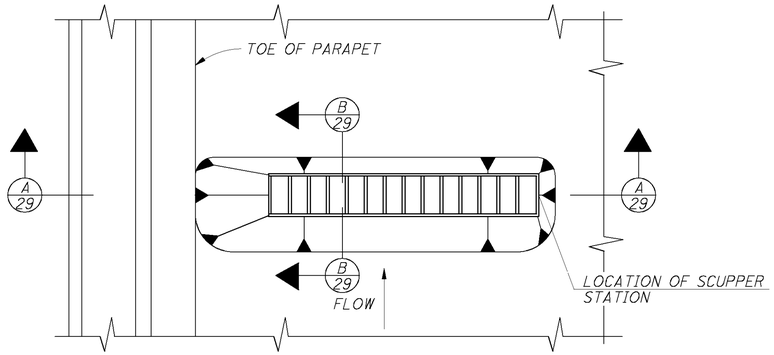
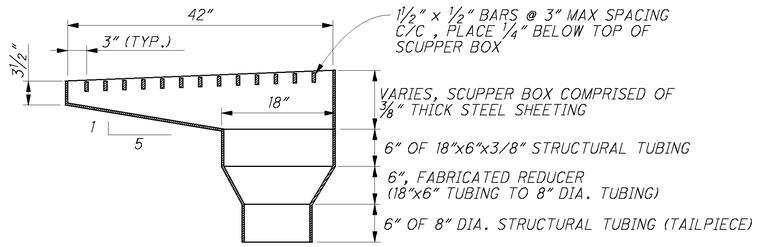
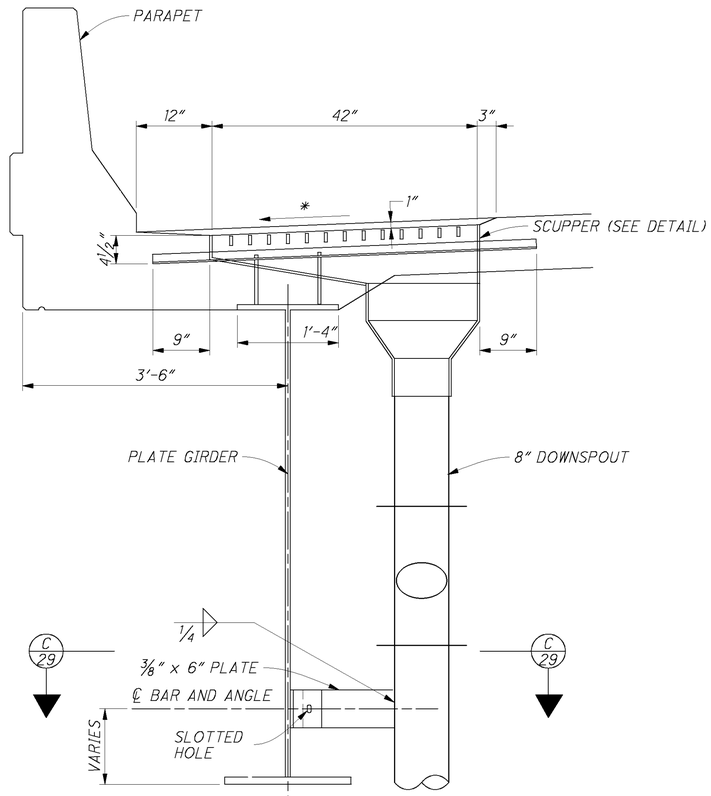


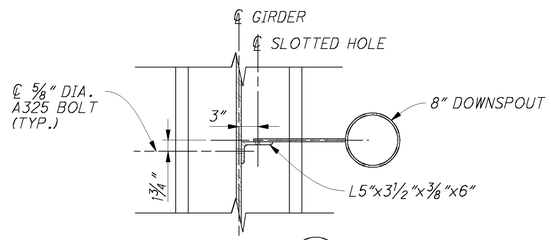
PLAN



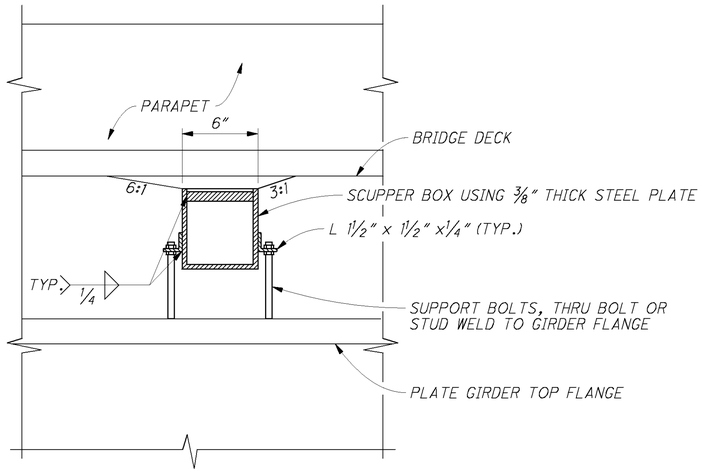
SCUPPER BOX DETAIL



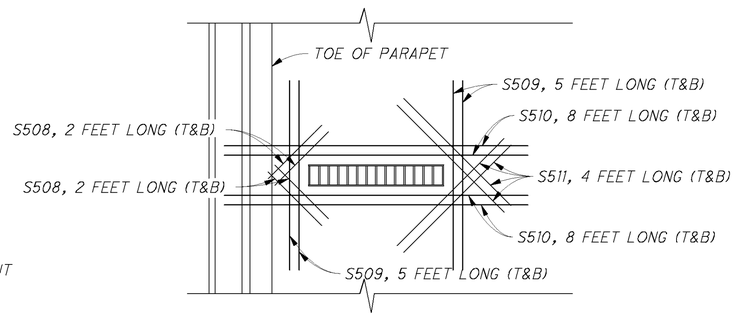
SECTION A 29



SECTION C 29



SECTION B 29



ADDITIONAL DECK REINFORCING DETAIL

T&B = TOP AND BOTTOM

SCUPPER NOTES:

ALL MATERIALS INCLUDING STEEL PLATES, STRUCTURAL TUBING, SUPPORT ANGLES AND OTHER HARDWARE SHALL BE GALVANIZED PER 711.02.

SCUPPER BOXES AND REDUCERS SHALL BE MADE OF ⅜" GALVANIZED STRUCTURAL STEEL PLATES CONFORMING TO 518 AND 711.02.

STRUCTURAL STEEL TUBING SHALL BE PER 518 AND 707.10.

FIELD CUT DECK REINFORCING AS REQUIRED TO INSTALL SCUPPERS.

PAYMENT:

ALL MATERIALS, EQUIPMENT, DELIVERY AND LABOR NECESSARY IN THE FABRICATION AND INSTALLATION FOR THE SCUPPER AS DETAILED SHALL BE INCLUDED IN THE UNIT PRICE OF:

SCUPPER, INCLUDING SUPPORTS, AS PER PLAN.

DOWNSPOUT NOTES:

ALL DOWNSPOUTS TO BE GALVANIZED STEEL PIPE OF THE SIZE SHOWN IN THE PLANS AND IN ACCORDANCE WITH ITEMS 518.06 AND 748.06. ALL FIELD WELDS TO BE GALVANIZED PER 711.02 AND WITH THE APPROVAL OF THE ENGINEER.

DOWNSPOUTS SHALL BE CONNECTED TO THE BRIDGE SCUPPER ASSEMBLIES BY WELDING OR USE OF CLAMP TYPE COUPLINGS WITH RING GASKETS.

VERTICAL DOWNSPOUTS SHALL BE ATTACHED TO THE MSE WALL AND COPING BY USE OF STRAPS. THE DOWNSPOUT CONTRACTOR IS RESPONSIBLE FOR CONNECTING THE VERTICAL DOWNSPOUT TO THE UNDERGROUND PIPE DRAINAGE SYSTEM BY OTHERS.

HORIZONTAL PIPE RUNS SHALL BE SUPPORTED BY USE OF HANGERS AND STRAPS ATTACHED TO THE CONCRETE BRIDGE DECK. STRAPS SHALL BE PLACED AT A MAXIMUM SPACING OF 6 FEET C/C.

ALL MATERIALS, EQUIPMENT, BENDS, WYES, TEES, CLEANOUTS, FIELD GALVANIZING AND LABOR NECESSARY FOR THE FABRICATION AND INSTALLATION OF THE DOWNSPOUT AS SHOWN IN THE PLANS SHALL BE INCLUDED IN THE UNIT PRICE OF:

8" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN

PIPE HORIZONTAL CONDUCTORS

* CROSS SLOPE AT SCUPPERS

SCUPPER 1: 5.8%
SCUPPER 2: 5.5%
SCUPPER 3: 4%

DESIGN AGENCY
BURGESS & NIPLE
5085 Reed Road, Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
XAC	KML	RMK	02-18-10
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SJA		3111636	

SCUPPER DETAILS 2
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

29 / 34

398
657

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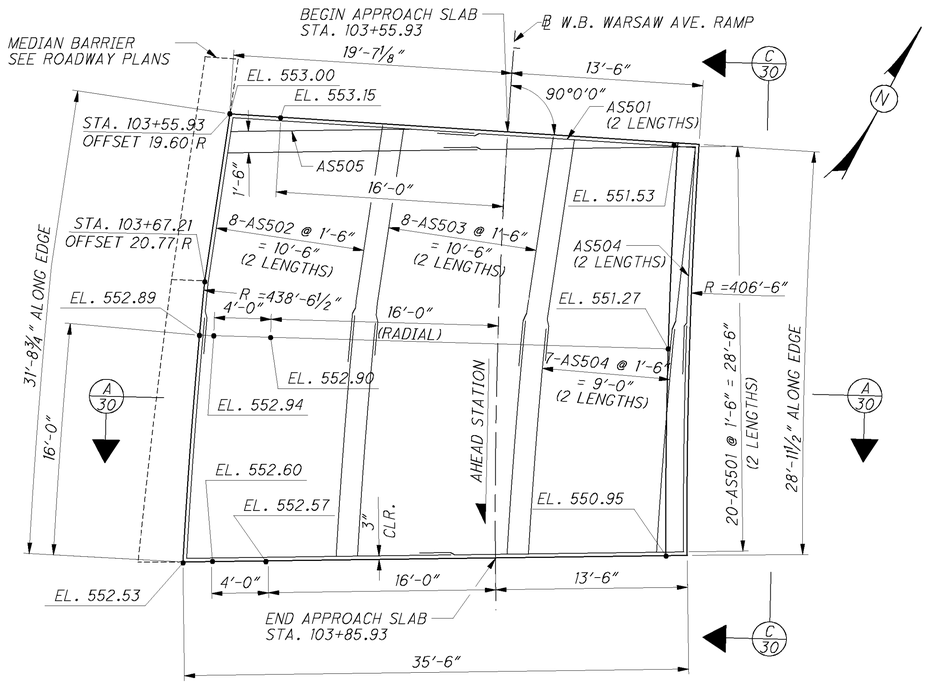
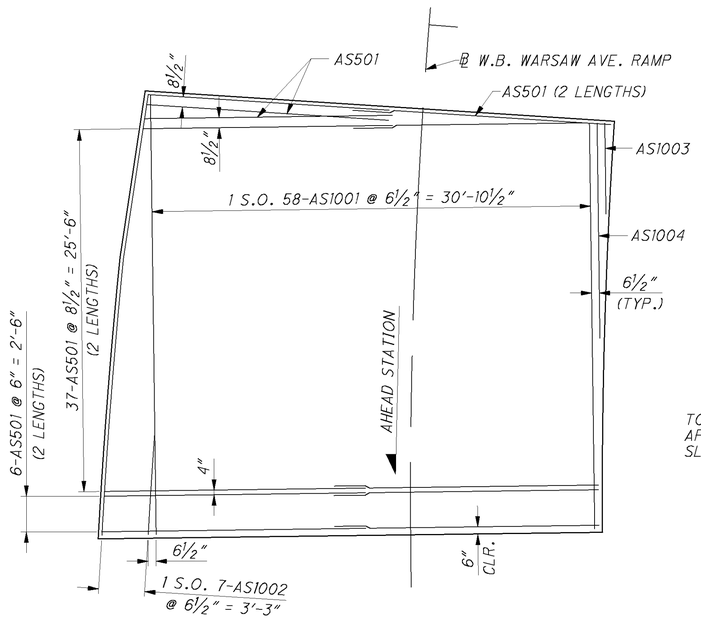
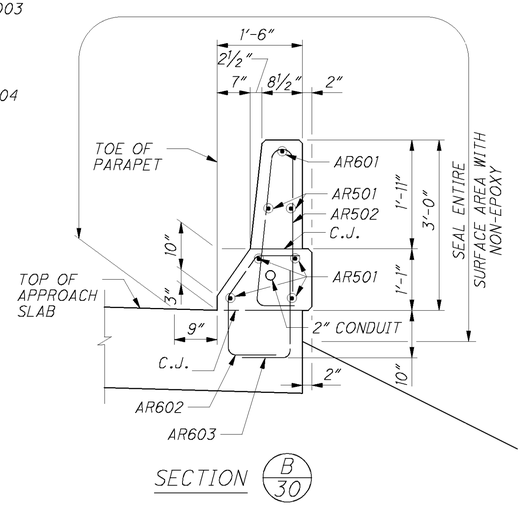


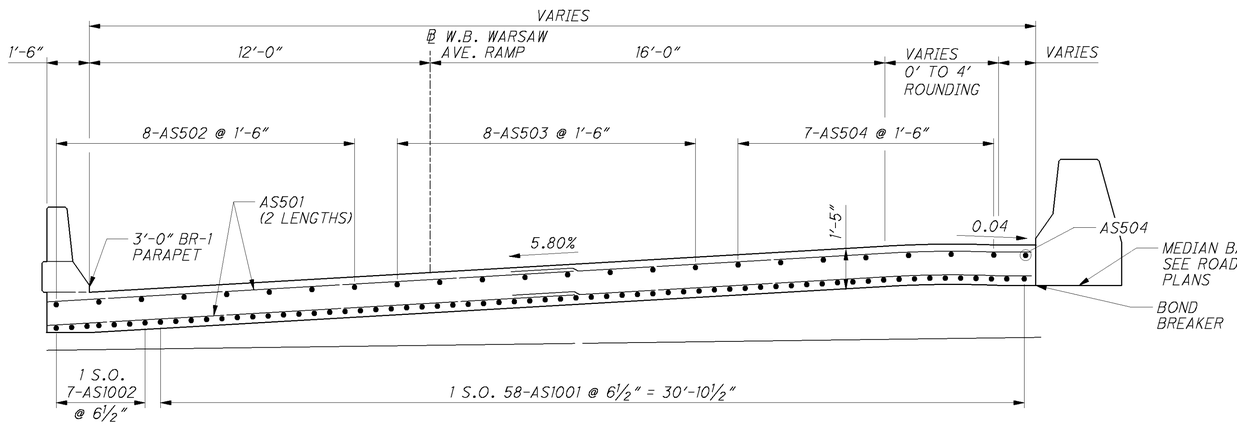
REAR APPROACH SLAB
(TOP REINFORCING)



REAR APPROACH SLAB
(BOTTOM REINFORCING)

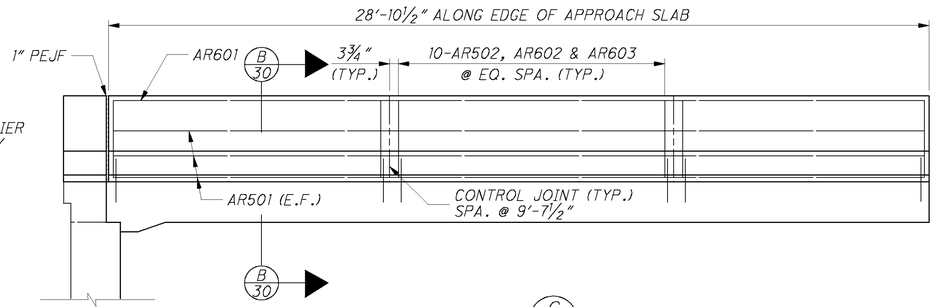


SECTION B/30



SECTION A/30

(REINFORCING SPACING MEASURED
PERPENDICULAR TO LEFT EDGE OF PARAPET)



VIEW C/30

NOTE:

1. SEE STANDARD DRAWING BR-1 FOR ADDITIONAL PARAPET DETAILS.
2. MINIMUM LAP LENGTH FOR #5 BARS = 2'-6"

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (614) 459-2070
Cincinnati, Ohio 45202

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SJA		3111636	

REAR APPROACH SLAB
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

30 / 34

399
657

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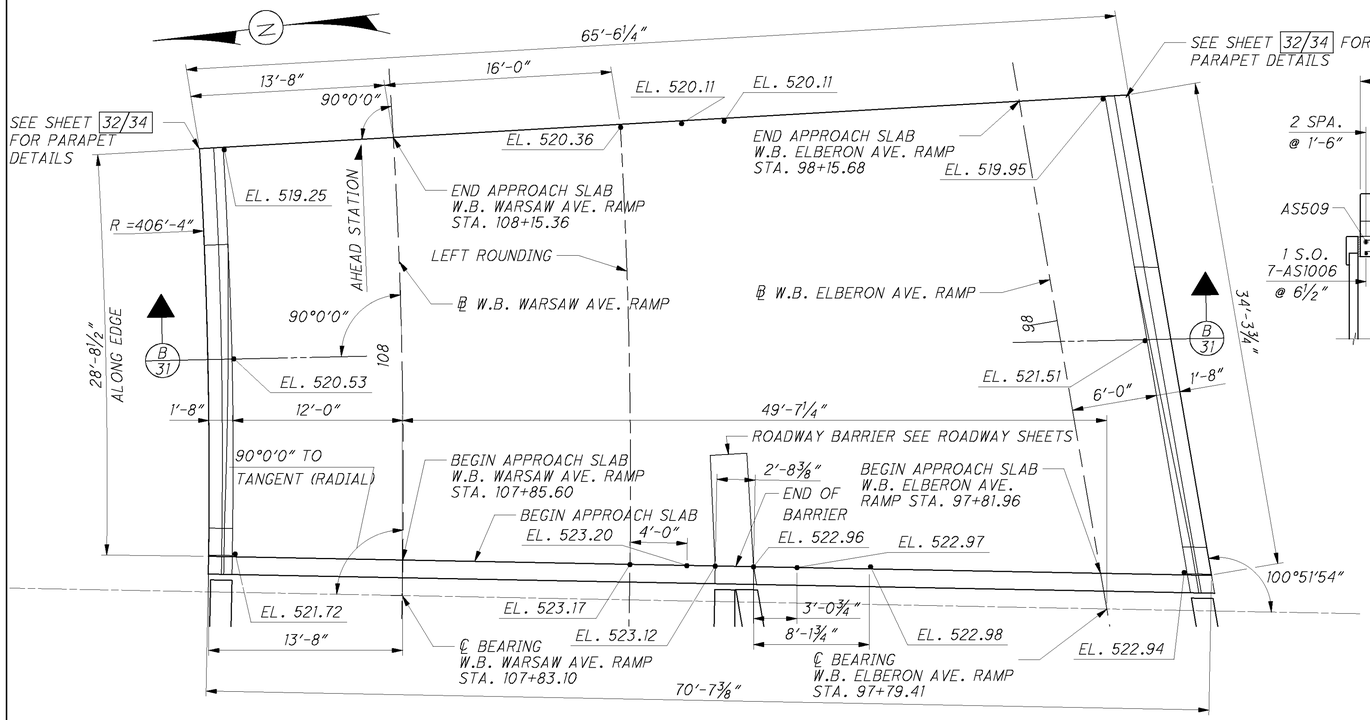
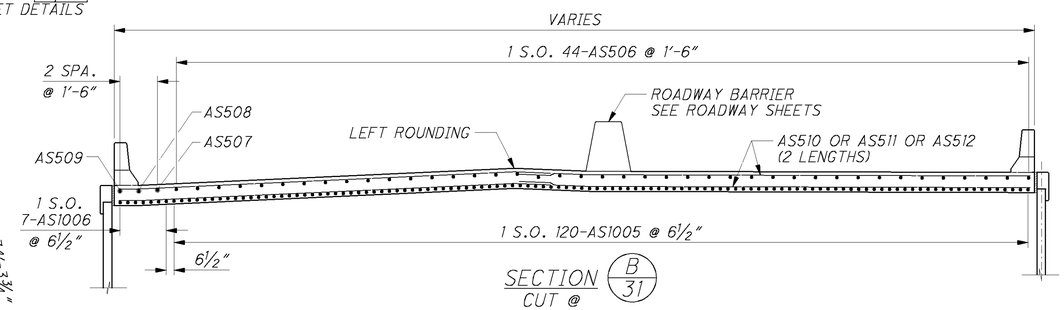


FORWARD APPROACH SLAB



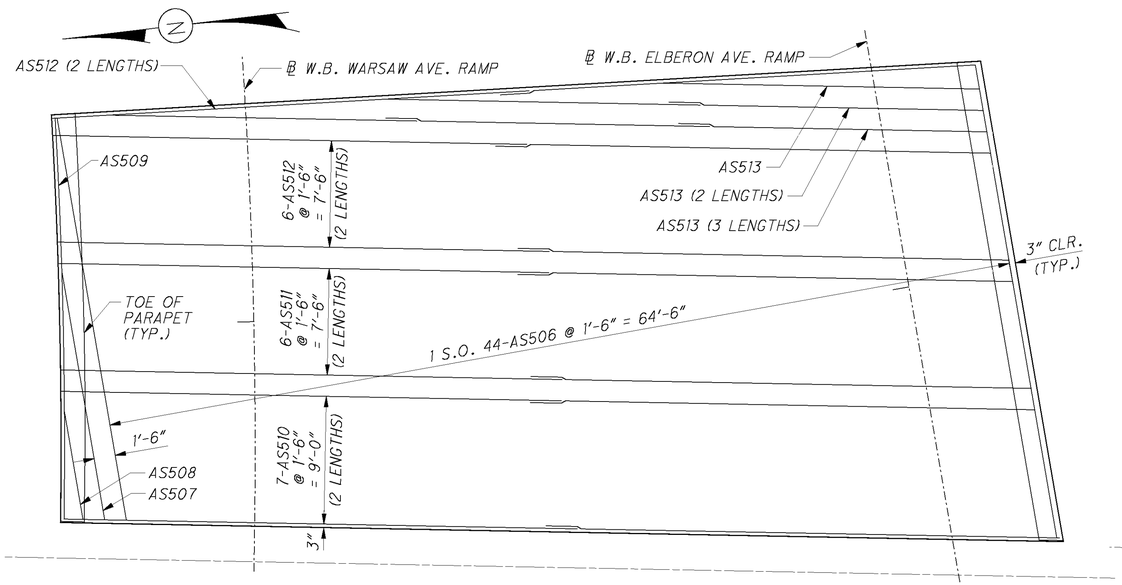
SECTION B/31
CUT @ STA. 108+00
(REINFORCING SPACING MEASURED PERPENDICULAR TO EDGE OF RIGHT PARAPET)

LEGEND:

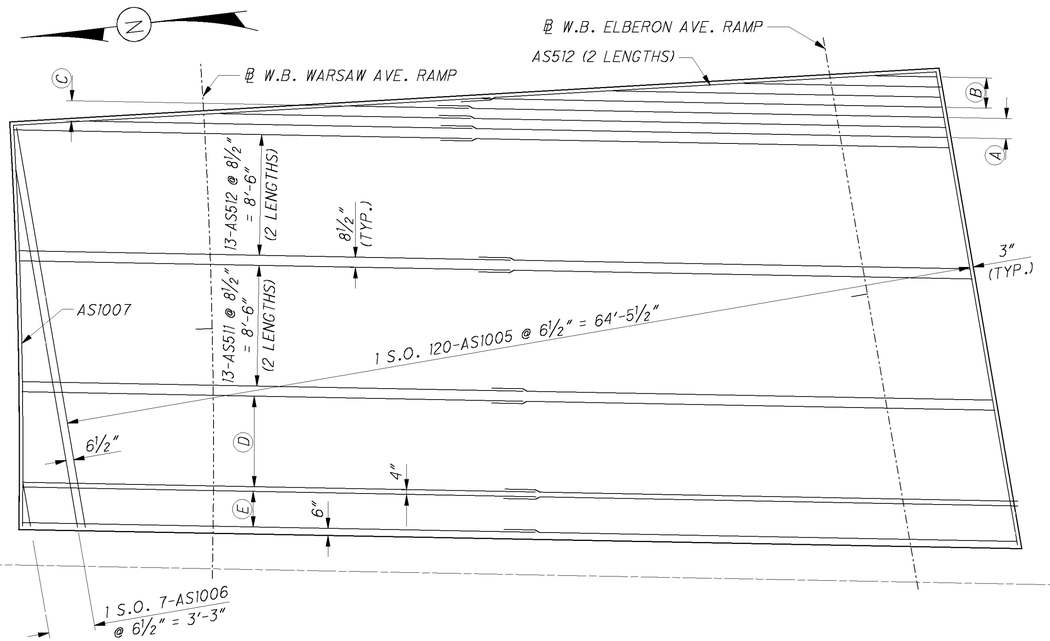
- (A) = 3-AS514 @ 8½"
- (B) = 1 S.O. 4-AS515 @ 8½"
- (C) = 1 S.O. 3-AS516 @ 8½"
- (D) = 10-AS510 @ 8½" = 6'-4½" (2 LENGTHS)
- (E) = 6-AS510 @ 6" = 2'-6" (2 LENGTHS)

NOTE:

1. MINIMUM LAP LENGTH FOR #5 BARS = 2'-6"



FORWARD APPROACH SLAB
(TOP REINFORCING)



FORWARD APPROACH SLAB
(BOTTOM REINFORCING)

DESIGN AGENCY
BURGESS & NIPLE
INFRASTRUCTURE | GIS | BIM
Cincinnati, Ohio 45202

DESIGNED	DRAWN	REVIEWED	DATE
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SJA		3111636	

FORWARD APPROACH SLAB 1
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

31 / 34

400 / 657

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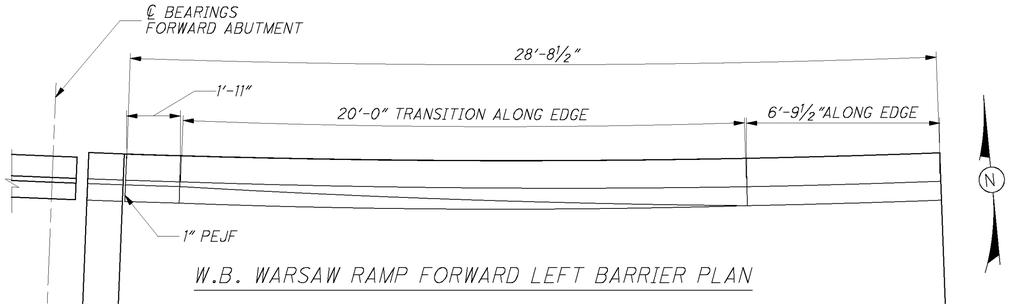
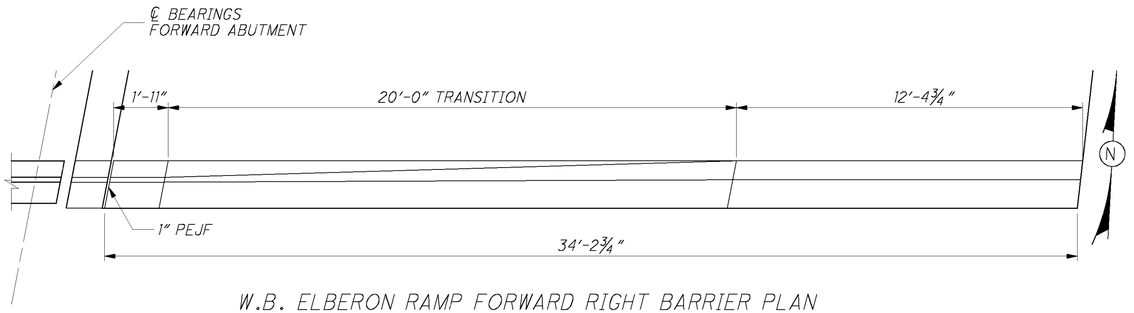
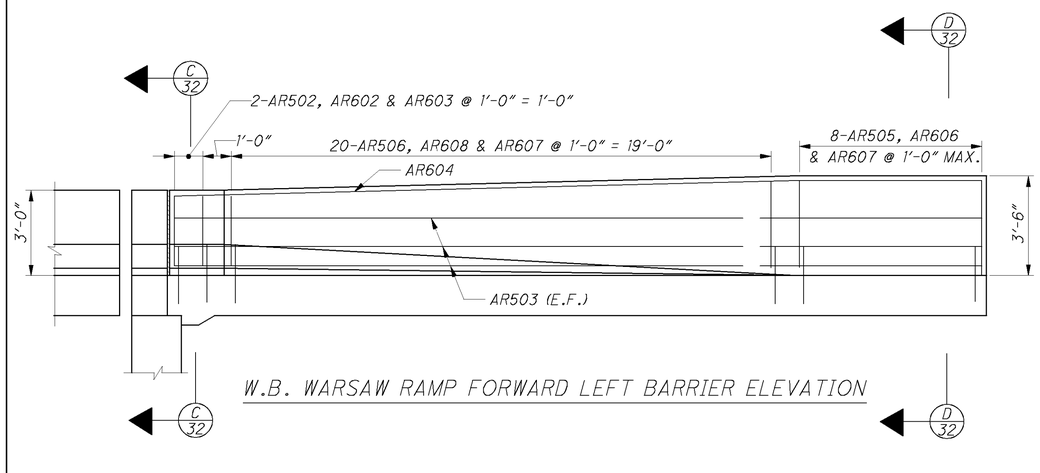


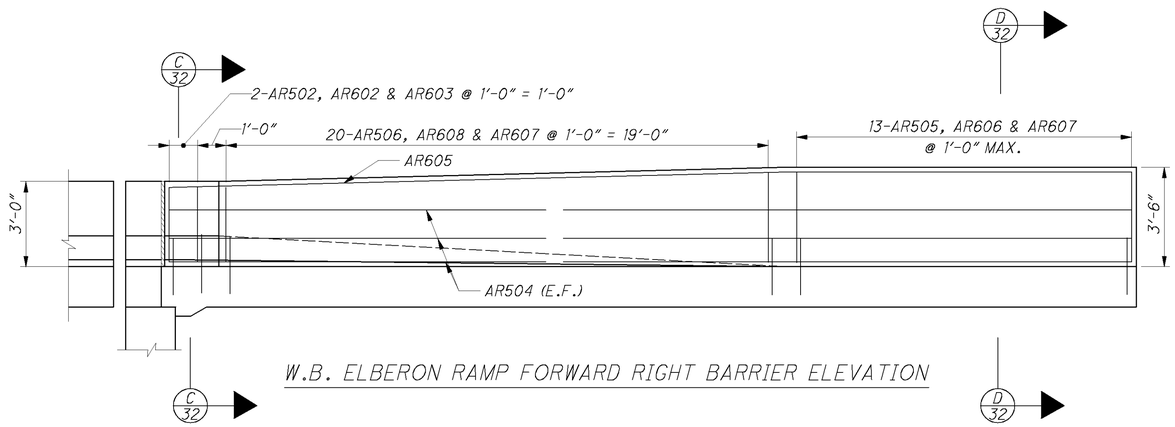
W.B. WARSAW RAMP FORWARD LEFT BARRIER PLAN



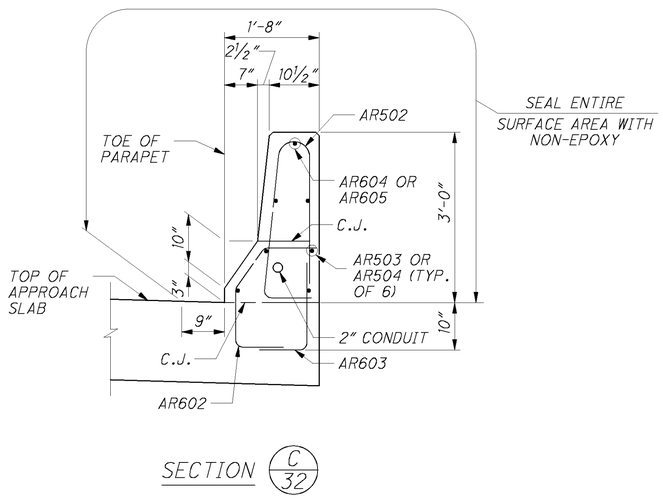
W.B. ELBERON RAMP FORWARD RIGHT BARRIER PLAN



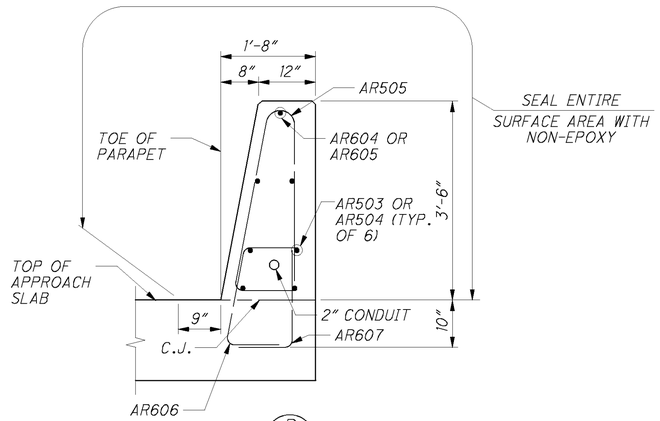
W.B. WARSAW RAMP FORWARD LEFT BARRIER ELEVATION



W.B. ELBERON RAMP FORWARD RIGHT BARRIER ELEVATION



SECTION C/32



SECTION D/32

NOTE:

1. SEE STANDARD DRAWING BR-1 AND SBR-1 FOR MORE DETAILS.

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (513) 459-3964
Cincinnati, Ohio 45202

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FORWARD APPROACH SLAB 2
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

32 / 34

401
657

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FORWARD ABUTMENT REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A.	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
D802	49	5'-2"	676	28	2'-10"	1'-5"				
FA501	31	8'-8"	280	18	3'-11"	2'-6"	2'-6"			
FA502	5	11'-8"	61	18	3'-11"	4'-0"	4'-0"			
FA503	1	10'-10"	11	18	3'-11"	3'-7"	3'-7"			
FA504	6	10'-8"	67	18	3'-11"	3'-6"	3'-6"			
FA505	8	9'-8"	81	18	3'-11"	3'-0"	3'-0"			
FA506	20	36'-9"	767	STR						
FA507	6	12'-0"	75	STR						
FA508	6	11'-5"	71	STR						
FA509	4	14'-0"	58	STR						
FA510	4	10'-0"	42	STR						
FA511	4	33'-5"	139	STR						
FA512	1	29'-7"	31	STR						
FA513	1	30'-9"	32	STR						
FA514	2	14'-0"	29	STR						
FA515	2	35'-6"	74	STR						
FA516	38	7'-6"	297	STR						
FA517	6	5'-0"	31	26	0'-6½"	0'-7½"	1'-8½"	1'-11"	1'-7"	
FA518	1	9'-7"	10	5	1'-1"	2'-8"	0'-3½"	2'-7"		
FA519	1	9'-4"	10	5	1'-1"	2'-8"	0'-3½"	2'-4"		
FA520	18	0'-10"	16	STR						
FA521	4	6'-2"	25	2	2'-6"	2'-9"	0'-8"	0'-3½"	0'-3½"	
FA601	106	10'-2"	1619	18	5'-8"	2'-5"	2'-5"			
	4	10'-6"				2'-7"	2'-7"			
FA602	S.O.	TO	266	18	5'-8"	TO	TO			0'-4⅝"
	4	11'-8"				3'-2"	3'-2"			
FA603	51	11'-5"	875	18	1'-5"	5'-2"	5'-2"			
FA604	24	9'-11"	357	18	1'-5"	4'-5"	4'-5"			
FA605	27	13'-5"	544	18	1'-5"	6'-2"	6'-2"			
FA606	51	6'-11"	530	18	0'-11"	3'-2"	3'-2"			
FA607	12	16'-6"	297	18	1'-8"	7'-7"	7'-7"			
FA608	6	23'-0"	207	18	1'-8"	10'-10"	10'-10"			
FA609	6	19'-6"	176	18	1'-8"	9'-1"	9'-1"			
FA610	8	4'-5"	53	6	0'-11"	2'-0"	0'-10½"	0'-6"	0'-8½"	
FA611	4	0'-10"	5	STR						
FA612	4	3'-3"	20	1	0'-11"	2'-6"				
FA613	12	13'-6"	243	35	2'-0"	4'-2"	1'-0"	1'-0"		
FA614	8	5'-7"	67	1	1'-7"	4'-2"				
	2	29'-7"								
FA801	S.O.	TO	644	STR						0'-4⅝"
	4	30'-9"								
FA802	4	15'-5"	165	STR						
FA803	4	20'-0"	214	20	3'-6"	6'-0"	13'-1"			
FA804	4	37'-3"	398	STR						
FA805	4	39'-11"	426	20	3'-6"	6'-0"	33'-0"			
FA901	8	3'-11"	107	STR						
FA902	20	5'-6"	374	1	1'-7"	4'-2"				
		TOTAL	10470							

PARAPET ON APPROACH SLAB REINFORCING STEEL LIST (△)

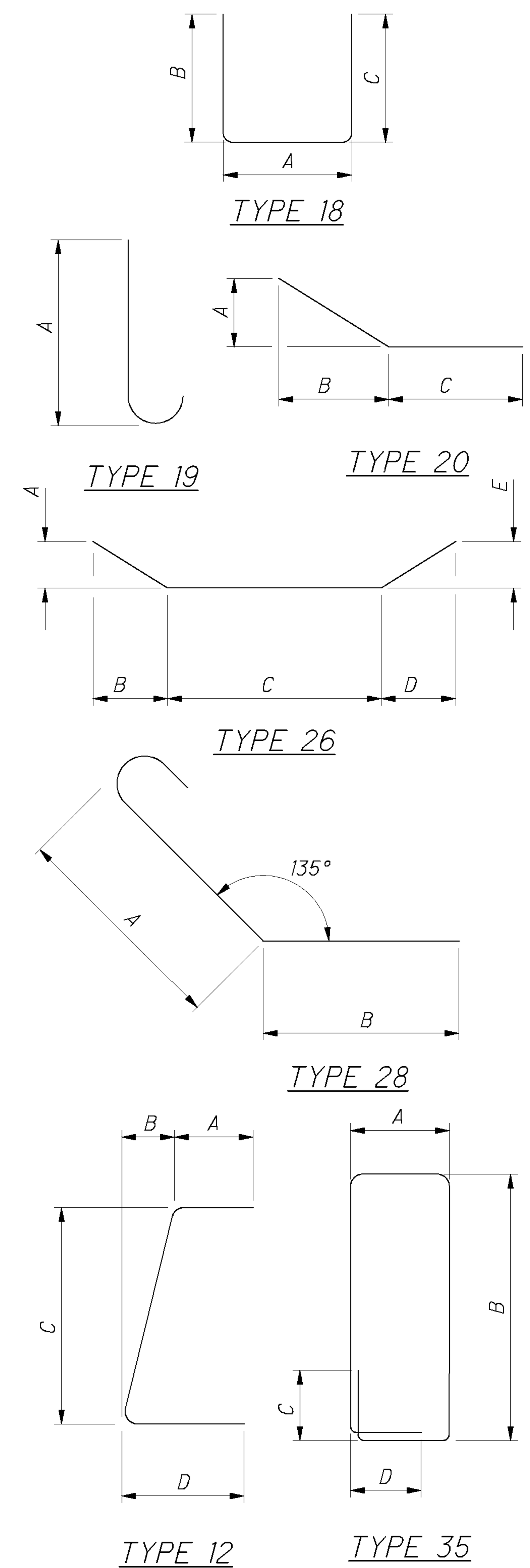
MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A.	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
AR501	6	28'-7"	179	STR						
AR502	34	5'-10"	204	2	2'-6"	2'-9"	0'-8"	0'-3½"	0'-1½"	
AR503	6	28'-4"	177	STR						
AR504	6	33'-9"	211	STR						
AR505	21	7'-4"	161	2	3'-0"	3'-2"	1'-1"	0'-7"	0'-2¾"	
	2	5'-10"			2'-6"	2'-9"	0'-8"	0'-3½"	0'-1½"	
AR506	S.O.	TO	273	2	TO	TO	TO	TO	TO	0'-1"
	20	7'-4"			3'-0"	3'-2"	1'-1"	0'-7"	0'-2¾"	
AR601	1	28'-7"	43	STR						
AR602	34	3'-1"	157	6	0'-9"	0'-9½"	0'-10½"	0'-6"	0'-8½"	
AR603	34	2'-6"	128	1	0'-11"	1'-9"				
AR604	1	28'-4"	43	STR						
AR605	1	33'-9"	51	STR						
AR606	21	3'-8"	113	12	1'-1"	0'-4"	1'-9"	1'-1"		
AR607	61	2'-8"	244	1	1'-1"	1'-9"				
	2	3'-1"			0'-9"	0'-9½"	0'-10½"	0'-6"	0'-8½"	
AR608	S.O.	TO	205	6	TO	TO	TO	TO	TO	0'-0⅜"
	20	3'-9"			1'-1"	0'-0"	1'-1"	0'-4"	1'-9"	
		TOTAL	2189							

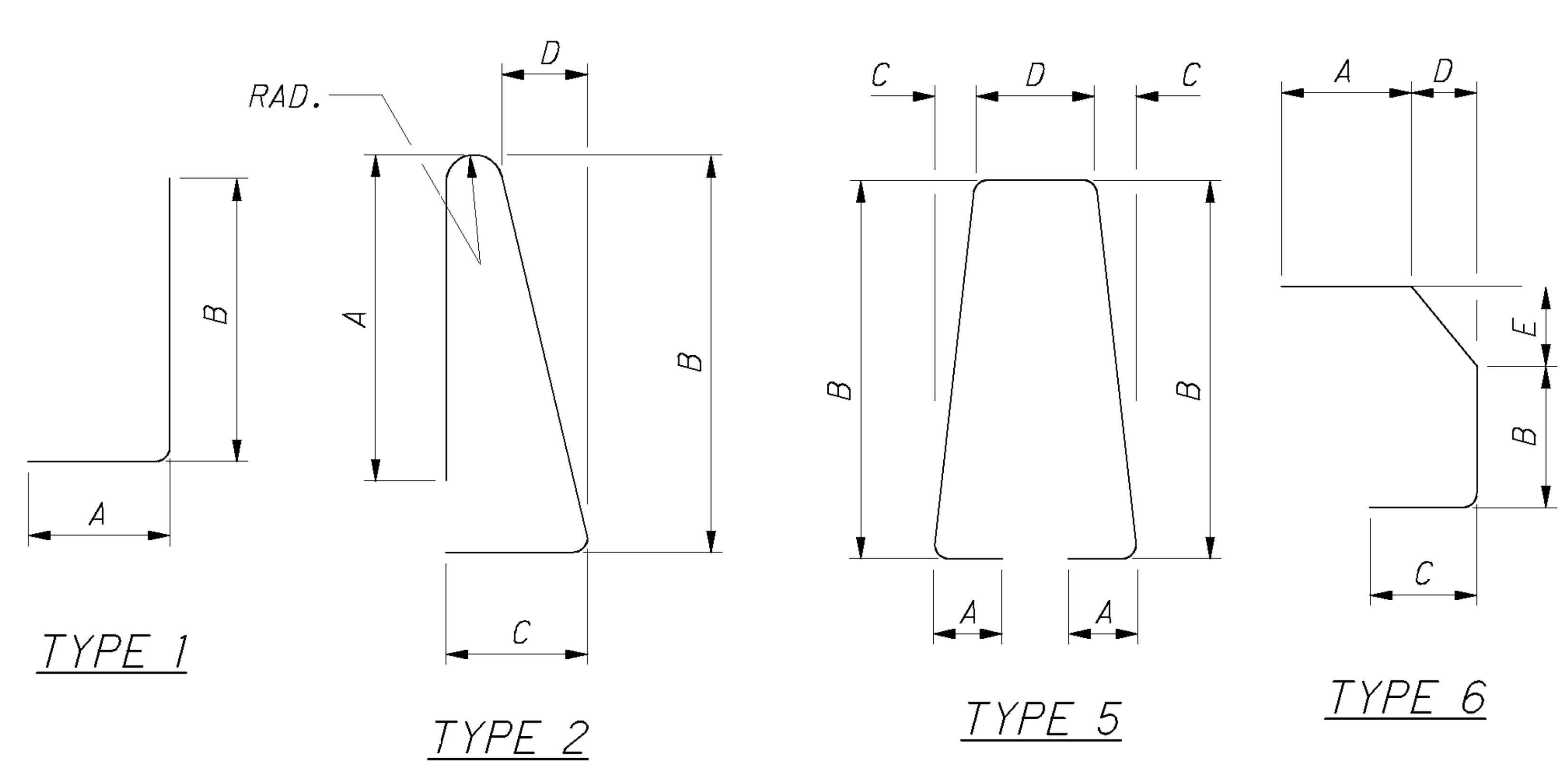
APPROACH SLAB REINFORCING STEEL LIST (△)

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A.	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
AS501	132	18'-10"	2593	STR						
AS502	16	17'-0"	284	STR						
AS503	16	16'-5"	274	STR						
AS504	16	15'-11"	266	STR						
AS505	1	12'-9"	13	STR						
	1	28'-8"								
AS506	S.O.	TO	1434	STR						0'-1½"
	44	33'-10"								
AS507	1	17'-9"	19	STR						
AS508	1	7'-9"	8	STR						
AS509	1	28'-4"	30	STR						
AS510	46	36'-5"	1747	STR						
AS511	38	35'-5"	1443	STR						
AS512	42	34'-7"	1515	STR						
AS513	6	22'-3"	139	STR						
AS514	3	30'-0"	94	STR						
	1	4'-8"								
AS515	S.O.	TO	78	STR						9'-4"
	4	32'-8"								
	1	14'-7"								
AS516	S.O.	TO	75	STR						9'-4"
	3	33'-3"								
	1	29'-11"			28'-6½"					
AS1001	S.O.	TO	7768	19	TO					0'-0½"
	58	32'-4"			30'-11½"					
	1	8'-8"			7'-3"					
AS1002	S.O.	TO	623	19	TO					4'-0"
	7	32'-8"			31'-3"					
AS1003	1	6'-5"	28	STR						
AS1004	1	15'-2"	65	STR						
	1	29'-11"			28'-6"					
AS1005	S.O.	TO	16825	19	TO					0'-0½"
	120	35'-3"			33'-10"					
	1	4'-7"			3'-2"					
AS1006	S.O.	TO	476	19	TO					3'-8⅞"
	7	27'-0"			25'-7"					
AS1007	1	29'-9"	128	19	28'-4"					
		TOTAL	35925							

PARAPET REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A.	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
R501	174	30'-0"	5444	STR						
R502	803	5'-10"	4886	2	2'-6"	2'-9"	0'-8"	0'-3½"	0'-1½"	
R503	6	8'-5"	53	STR						
R504	6	16'-7"	104	STR						
R601	29	30'-0"	1307	STR						
R602	803	3'-1"	3719	6	0'-9"	0'-9½"	0'-10½"	0'-6"	0'-8½"	
R603	803	2'-3"	2714	1	0'-11"	1'-6"				
R604	1	16'-7"	25	STR						
R605	1	25'-4"	38	STR						
		TOTAL	18290							





LEGEND:

△ = REINFORCING STEEL INCLUDED W/ ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB, T=17"), AS PER PLAN

RAD. = RADIUS

NOTES:

1. ALL BARS SHALL BE EPOXY COATED.
2. BAR DIMENSIONS SHOWN ARE OUT TO OUT.

DESIGN AGENCY: BURGESS & NIPLE, 312 Plum Street, 12th Floor, Cincinnati, Ohio 45202

DESIGNED: JHL | DRAWN: AAA | REVIEWED: RMK | DATE: 02-18-10
CHECKED: MAK | REVISED: | STRUCTURE FILE NUMBER: 3111636

REINFORCING STEEL LIST 1
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

REAR ABUTMENT REINFORCING STEEL LIST

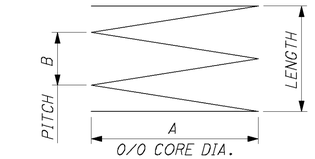
	MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A.	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
	D801	25	5'-2"	345	28	2'-10"	1'-5"				
	RA1001	40	22'-3"	3830	1	1'-10"	20'-9"				
	RA1002	40	18'-9"	3227	STR						
*	RA1101	60	45'-6"	14504	STR						
	RA501	38	10'-1"	400	18	5'-4"	2'-6"	2'-6"			
	RA502	12	10'-7"	132	18	5'-4"	2'-9"	2'-9"			
	RA503	10	11'-9"	123	18	5'-4"	3'-4"	3'-4"			
	RA504	8	12'-11"	108	18	5'-4"	3'-11"	3'-11"			
	RA505	8	13'-7"	113	18	5'-4"	4'-3"	4'-3"			
	RA506	16	30'-0"	501	STR						
	RA507	14	14'-2"	207	1	1'-6"	12'-10"				
	RA508	2	28'-10"	60	STR						
	RA509	2	15'-5"	32	1	1'-6"	14'-1"				
	RA510	7	4'-0"	29	26	0'-10½"	0'-10½"	1'-7½"	0'-10½"	0'-10½"	
	RA511	22	8'-3"	189	STR						
	RA512	8	13'-9"	115	STR						
	RA513	30	10'-5"	326	18	3'-8"	3'-6"	3'-6"			
	RA514	8	5'-7"	47	STR						
	RA515	18	16'-2"	304	STR						
	RA516	8	13'-5"	112	STR						
	RA517	16	8'-9"	146	STR						
	RA518	8	9'-11"	83	18	1'-2"	4'-6"	4'-6"			
	RA519	6	1'-2"	7	STR						
	RA520	3	5'-10"	18	2	2'-6"	2'-9"	0'-8"	0'-3½"	0'-1½"	
	RA521	6	16'-2"	101	STR						
	RA522	17	7'-5"	132	2	3'-0"	3'-2"	1'-1"	0'-8"	0'-2¾"	
	RA601	38	12'-1"	690	18	1'-5"	5'-6"	5'-6"			
	RA602	38	8'-1"	461	18	0'-11"	3'-9"	3'-9"			
		2	6'-4"								
	RA603	S.O.	TO	239	STR						0'-0⅝"
		12	6'-11"								
		2	6'-5"								
	RA604	S.O.	TO	202	STR						0'-0½"
		10	6'-11"								
		2	6'-5"								
	RA605	S.O.	TO	159	STR						0'-0¾"
		8	6'-10"								
	RA606	16	6'-5"	154	STR						
	RA607	7	15'-0"	158	18	1'-8"	6'-10"	6'-10"			
	RA608	7	22'-8"	238	18	1'-8"	10'-8"	10'-8"			
	RA609	1	1'-2"	2	STR						
	RA610	3	4'-3"	19	6	0'-9"	2'-0"	0'-10½"	0'-6"	0'-8½"	
	RA611	3	3'-3"	15	1	0'-11"	2'-6"				
	RA612	1	16'-2"	24	STR						
	RA613	17	3'-11"	100	9	1'-1"	0'-2"	2'-0"	0'-11"		
	RA614	17	2'-11"	74	STR						
	RA615	6	13'-6"	122	35	3'-0"	3'-2"	1'-0"	1'-0"		
	RA616	4	4'-7"	28	1	1'-7"	3'-1½"				
	RA801	5	12'-2"	162	1	2'-3"	10'-1"				
	RA802	5	11'-10"	158	1	2'-5"	9'-7"				
	RA803	5	14'-3"	190	1	2'-5"	12'-0"				
	RA804	5	17'-4"	231	1	2'-0"	15'-6"				
	RA805	5	30'-0"	401	STR						
	RA806	5	18'-4"	245	1	2'-0"	16'-6"				
	RA807	4	13'-9"	147	STR						
	RA901	4	4'-8"	63	STR						
	RA902	10	4'-5"	150	1	1'-7"	3'-1½"				
	SP403	5	19'-0"	1389	15	2'-6"	0'-4½"				
*	SP404	5	45'-6"	4527	15	3'-6"	0'-4½"				
			TOTAL	35539							

PIER REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A.	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
SP401	1	7'-2"	346	15	7'-0"	0'-4½"				
SP402	1	8'-10"	417	15	7'-0"	0'-4½"				
P401	2	23'-6"	31	97	7'-0"	1'-7"				
P402	2	23'-3"	31	97	6'-11"	1'-7"				
P403	2	22'-10"	31	97	6'-9½"	1'-7"				
P404	2	22'-3"	30	97	6'-7½"	1'-7"				
P405	2	21'-4"	29	97	6'-4"	1'-7"				
P406	2	20'-4"	27	97	6'-0"	1'-7"				
P407	2	19'-0"	25	97	5'-7"	1'-7"				
P501	32	12'-2"	406	STR						
P502	18	22'-8"	426	STR						
P601	4	12'-6"	75	STR						
P602	4	20'-10"	125	STR						
P603	4	26'-6"	159	STR						
P604	4	30'-3"	181	STR						
P605	20	18'-1"	543	98						
P606	20	10'-7"	317	1	9'-9"	1'-0"				
P607	10	9'-1"	136	1	8'-3"	1'-0"				
P608	10	7'-11"	118	18	5'-0"	1'-0"	2'-3"			
P609	8	8'-2"	98	18	4'-6"	2'-0"	2'-0"			
P610	80	15'-5"	1852	18	2'-9"	6'-6"	6'-6"			
P611	144	13'-11"	3010	18	2'-9"	5'-9"	5'-9"			
P612	40	11'-3"	675	18	2'-9"	4'-5"	4'-5"			
P613	8	10'-1"	121	18	2'-9"	3'-10"	3'-10"			
P614	8	9'-7"	115	18	2'-9"	3'-7"	3'-7"			
P615	4	11'-1"	66	16	2'-9"	2'-7"				
P616	14	21'-6"	452	18	4'-8"	8'-7"	8'-7"			
P617	8	4'-5"	53	1	1'-6"	3'-1"				
P618	6	14'-8"	132	96						
P701	44	13'-10"	1244	22	12'-2"					
P801	4	32'-0"	341	STR						
P802	4	32'-11"	351	STR						
P803	4	33'-5"	356	STR						
P804	12	4'-5"	141	1	1'-6"	3'-1"				
P1101	44	25'-10"	6039	22	22'-8"					
P1102	15	20'-7"	1640	99	11'-9"	7'-2"	2'-0"			
P1103	36	33'-3"	6359	STR						
P1104	20	36'-8"	3896	22	33'-6"					
P1105	15	22'-3"	1773	99	13'-5"	7'-2"	2'-0"			
P1106	15	20'-7"	1641	100	11'-9"	7'-2"	2'-0"			
P1107	15	22'-3"	1773	100	13'-5"	7'-2"	2'-0"			
		TOTAL	35581							

DECK SLAB REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A.	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
S401	832	30'-0"	16673	STR						
	2	14'-7"								
S402	S.O.	TO	1992	STR						0'-3⅜"
	64	32'-0"								
S403	126	31'-7"	2658	STR						
S404	126	40'-0"	3367	STR						
S501	770	30'-0"	24093	STR						
	2	6'-4"								
S502	S.O.	TO	1731	STR						0'-3⅜"
	55	23'-10"								
S503	2228	36'-8"	85206	STR						
S504	42	7'-0"	307	60	1'-10"	1'-4"	1'-10"	0'-6"		
S505	28	3'-10"	112	6	0'-9"	0'-10½"	1'-6"	0'-6"	0'-8½"	
S506	28	10'-4"	302	62	2'-2"	3'-5"	1'-9"	0'-6"	2'-9"	
S507	28	3'-5"	100	STR						
S508	24	2'-0"	50	STR						
S509	24	5'-0"	125	STR						
S510	24	8'-0"	200	STR						
S511	24	4'-0"	100	STR						
		TOTAL	137016							



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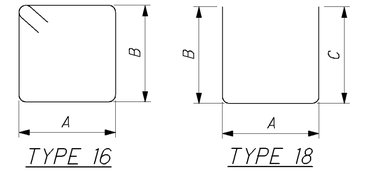
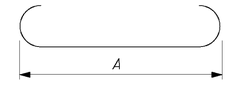


TYPE 16 TYPE 18



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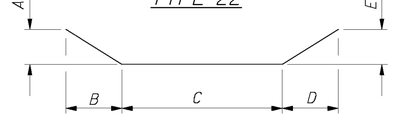

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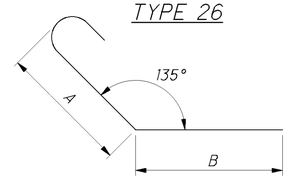

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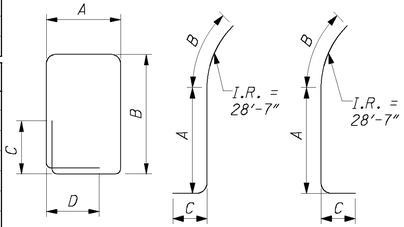
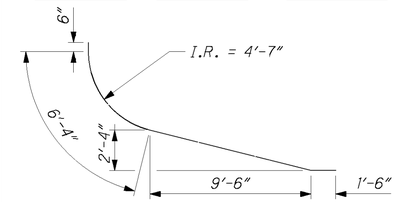


TYPE 35 TYPE 99 TYPE 100



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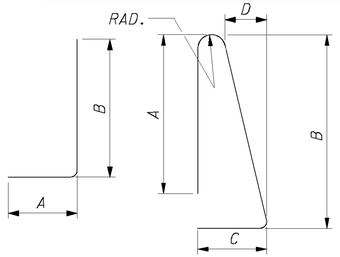
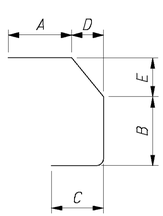


TYPE 1

TYPE 2



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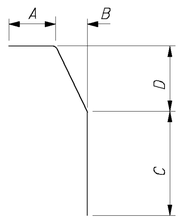

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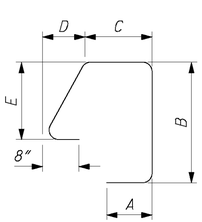
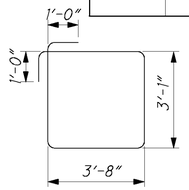


TYPE 62



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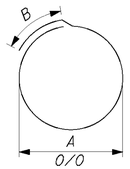
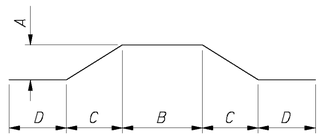


TYPE 97



TYPE 60

LEGEND:

RAD. = RADIUS
* = REINFORCING STEEL INCLUDED W/ ITEM 524 - DRILLED SHAFTS, 48" DIAMETER, ABOVE BEDROCK, AS PER PLAN FOR PAYMENT

NOTES:

1. ALL BARS SHALL BE EPOXY COATED.
2. BAR DIMENSIONS SHOWN ARE OUT TO OUT.

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (614) 459-2068
Columbus, Ohio 43230

DATE 02-18-10
REVIEWED RMK
STRUCTURE FILE NUMBER 3111636
DRAWN AAA
REVISED
DESIGNED JHL/RMK
CHECKED MAK/JHL

REINFORCING STEEL LIST 2
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

34 / 34

403
657

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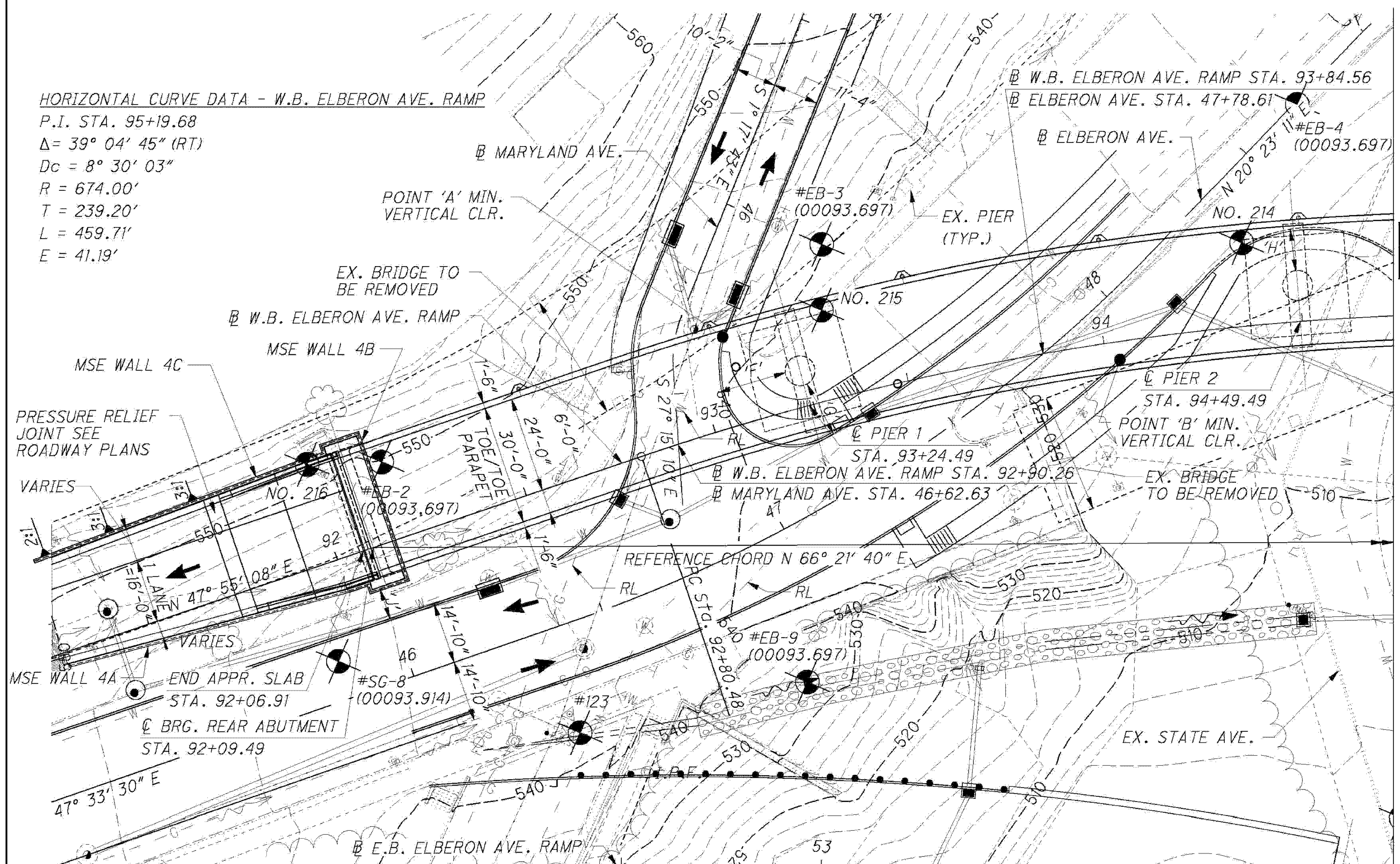
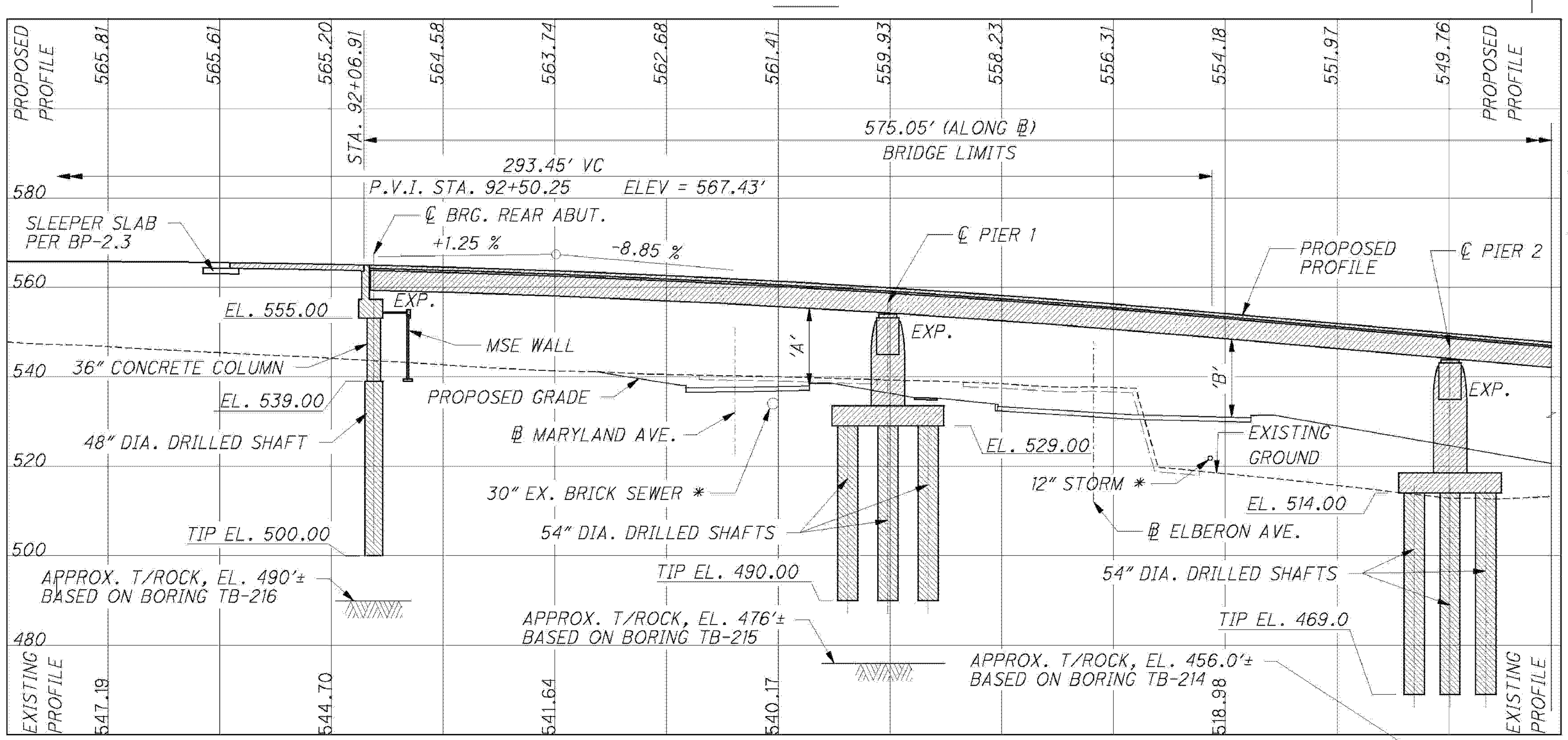


PLAN



PROFILE ALONG ℄ W.B. ELBERON AVE. RAMP

* EX UTILITIES TO BE RELOCATED BY OTHERS

VERTICAL CLEARANCE
REQUIRED MINIMUM VERTICAL CLEARANCE = 14′-6″

'A' ACTUAL MINIMUM VERTICAL CLEARANCE = 14′-10½″
'B' ACTUAL MINIMUM VERTICAL CLEARANCE = 19′-1¼″

HORIZONTAL CLEARANCE
REQUIRED MINIMUM HORIZONTAL CLEARANCE = 15′-0″
'F' ACTUAL MINIMUM HORIZONTAL CLEARANCE = 16′-7″
'G' ACTUAL MINIMUM HORIZONTAL CLEARANCE = 14′-3″
'H' ACTUAL MINIMUM HORIZONTAL CLEARANCE = 10′-5″
'J' ACTUAL MINIMUM HORIZONTAL CLEARANCE = 7′-9″

BENCHMARK DATA

BM #1 STA. 92+55.69, ELEV. 541.03, OFFSET 54.63′, RT
CHISELED BENCH MARK FOUND
BM #2 STA. 97+87.15, ELEV. 502.57, OFFSET 60.54′, LT
PK NAIL FOUND

NOTES

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

DESIGN TRAFFIC:
2006 ADT = 5325 2006 ADTT = 53
2026 ADT = 5325 2026 ADTT = 53

SEE ROADWAY PLANS FOR DISPOSITION OF EXISTING UTILITIES.

LEGEND

- SOIL BORING LOCATION
- EXISTING PIER LOCATION
- I.P.F. = IRON PIN FOUND
- POINT OF MINIMUM VERTICAL CLEARANCE
- RL - EXISTING UTILITY TO BE RELOCATED

EXISTING STRUCTURE

TYPE: 9-SPAN STEEL FRAMES WITH ALTERNATELY SUSPENDED SPANS SUPPORTING A GIRDER-FLOORBEAM-STRINGER SYSTEM WITH REINFORCED CONCRETE DECK. THE SUPERSTRUCTURE IS SUPPORTED BY REINFORCED CONCRETE ABUTMENT ON SPREAD FOOTINGS AND TAPERED, BUILT-UP STEEL COLUMN STRADDLE BENTS ON DRILLED CASSIONS OR PEDESTALS AND PILING.

SPANS: 80.393′, 72.0′, 86.632′, 52.0′, 67.988′ 61.790′, 100.983′ 55.117′, 55.482′ (MEASURED ALONG CHORDS BETWEEN ℄ BEARING ABUTMENT AND PIERS.)

ROADWAY: VARIES, 22.0′ - 24.0 F/F SAFETY CURB W/ 5′-0″ SIDEWALK

LOADING: POSTED 16 TONS

WEARING SURFACE: CONCRETE

SKEW: VARIES

APPROACH SLABS: AS-1-54 (25′ LONG)

CROWN: VARIES

STRUCTURAL FILE NUMBER: 3102785

DATE BUILT: 1950

DISPOSITION: TO BE REMOVED

PROPOSED STRUCTURE

TYPE: 5-SPAN CONTINUOUS PLATE GIRDERS A709 GRADE 50 (PAINTED) WITH COMPOSITE CONCRETE DECK. SUPPORTED BY REINFORCED CONCRETE ABUTMENTS AND PIERS ON PILING OR DRILLED SHAFTS.

SPANS: 115′, 125′, 125′, 115′, 89′-11⁄16″, c/c BEARINGS ALONG ℄ (109′-6¼″, 123′-1³⁄16″, 124′-9½″, 112′-6⅞″, 84′-9⅜″ c/c BEARINGS ALONG REFERENCE CHORD)

ROADWAY: 30′-0″ TOE/TOE PARAPET

LOADING: HS25 CASE II AND ALTERNATE MILITARY FUTURE WEARING SURFACE (FWS) OF 60 PSF

SKEW: RADIAL EXCEPT 10°51′54″ LF AT FWD. ABUT.

WEARING SURFACE: MONOLITHIC CONCRETE

APPROACH SLABS: 30′ LONG (AS-1-81), MODIFIED

ALIGNMENT: TANGENT WITH RIGHT CURVE - RADIUS = 674′

SUPERELEVATION: VARIES TO 0.050 FT/FT MAX

COORDINATES: LATITUDE N 39° 06′ 05″
LONGITUDE W 84° 33′ 17″

DESIGN AGENCY: BURGESS & NIPLE

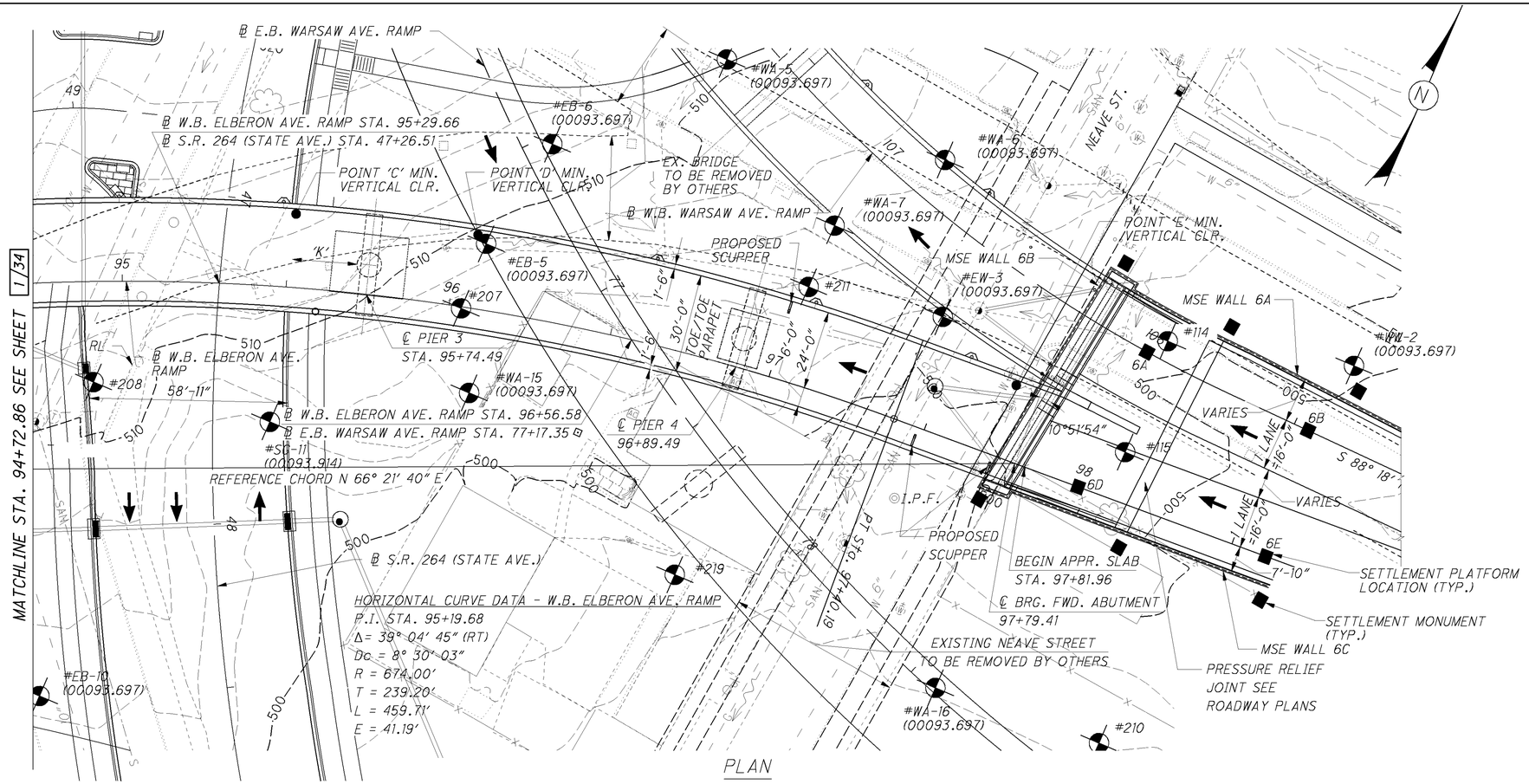
DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE
SJA	XAC	KML		RMK	03-05-08

STRUCTURE FILE NUMBER 3111652

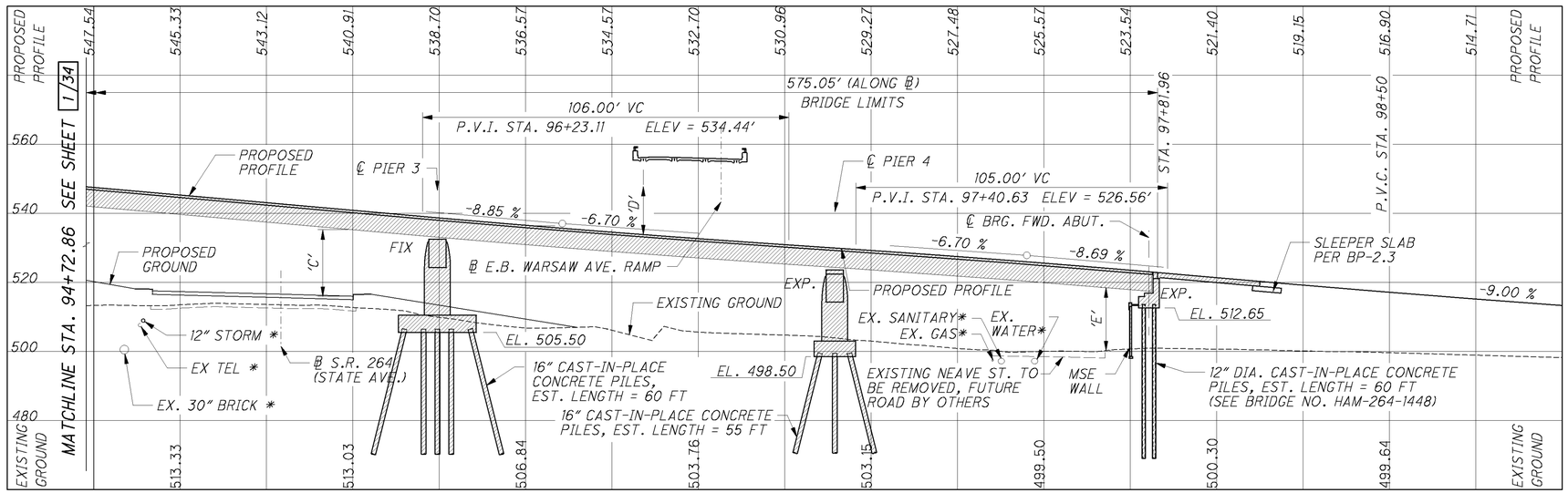
HAMILTON COUNTY
STA. 92+06.91
STA. 97+81.96

SITE PLAN 1
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082



PLAN



PROFILE ALONG ℄ W.B. ELBERON AVE. RAMP

<u>VERTICAL CLEARANCE</u>
'C' REQUIRED MINIMUM VERTICAL CLEARANCE = 16'-6"
'C' ACTUAL MINIMUM VERTICAL CLEARANCE = 19'-1"

'D' REQUIRED MINIMUM VERTICAL CLEARANCE = 16'-6"
'D' ACTUAL MINIMUM VERTICAL CLEARANCE = 16'-6"

'E' REQUIRED MINIMUM VERTICAL CLEARANCE = 14'-6"
'E' ACTUAL MINIMUM VERTICAL CLEARANCE = 18'-3"

<u>HORIZONTAL CLEARANCE</u>
REQUIRED MINIMUM HORIZONTAL CLEARANCE = 15'-0"
'K' ACTUAL MINIMUM HORIZONTAL CLEARANCE = 19'-9"

* EX UTILITIES TO BE RELOCATED BY OTHERS

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (513) 459-2051
Cincinnati, Ohio 45242

DESIGNED	DRAWN	REVIEWED	DATE
SJA	KML	RMK	03-05-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		3111652	

HAMILTON COUNTY
STA. 92+06.91
STA. 97+81.96

SITE PLAN 2
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

2 / 34

405
657

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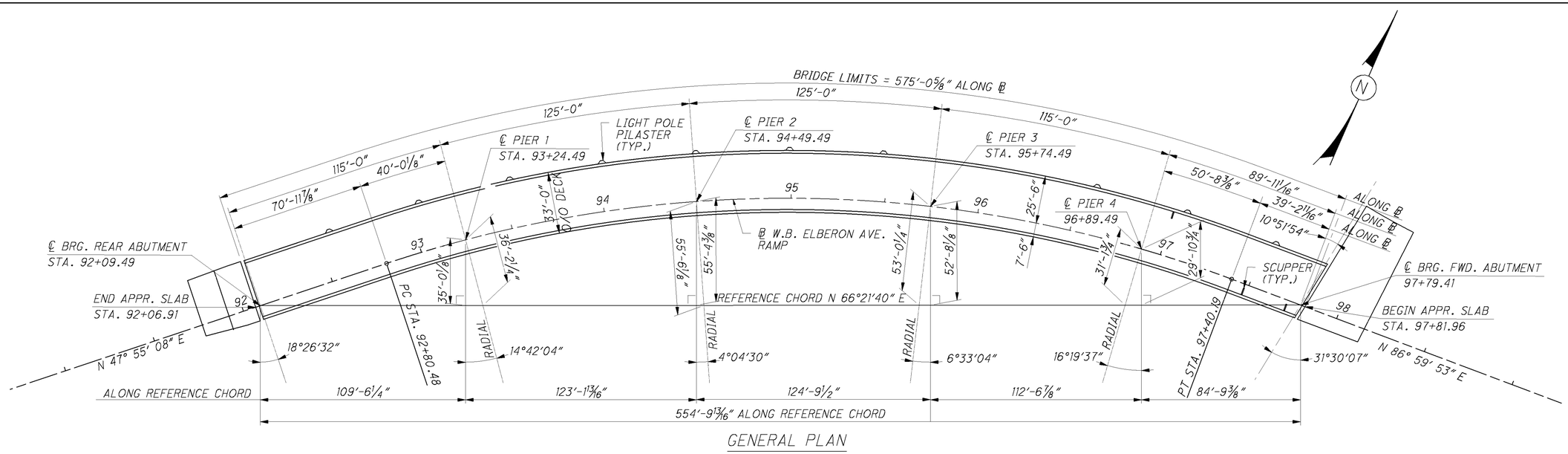
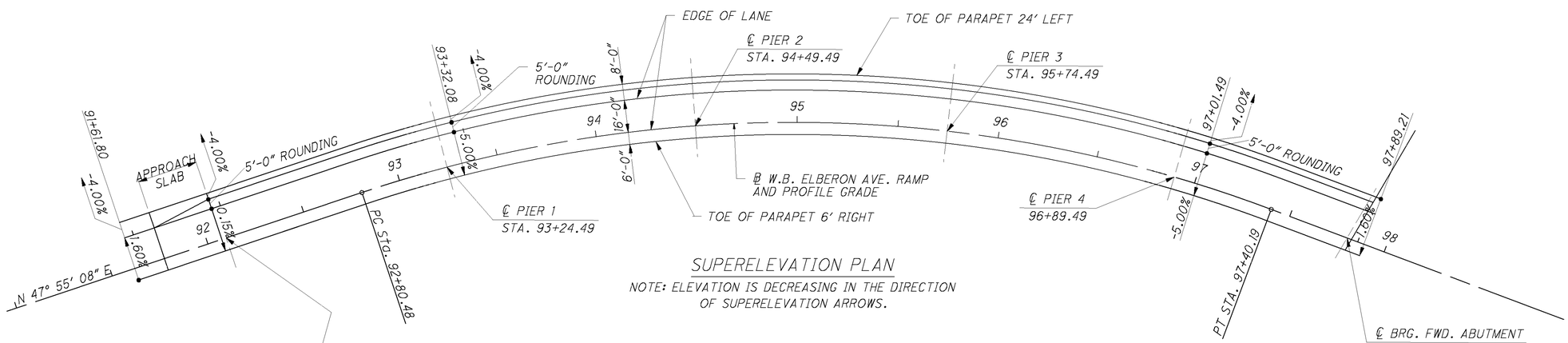


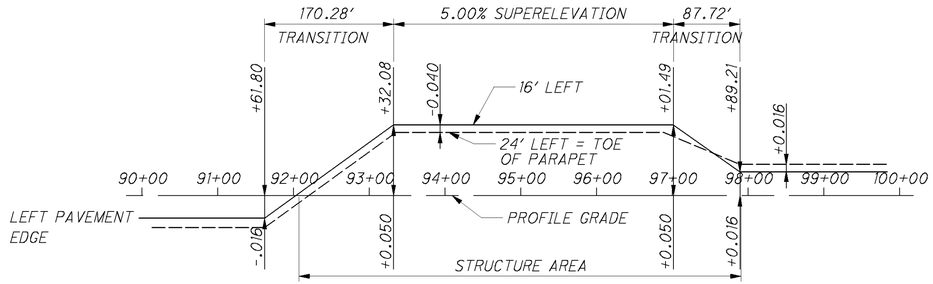
GENERAL PLAN

CURVE DATA - WB ELBERON RAMP
P.I. STA. 95+19.68
Δ = 39° 04' 45" (RT)
Dc = 8° 30' 03"
R = 674.00'
T = 239.20'
L = 459.71'
E = 41.19'



SUPERELEVATION PLAN

NOTE: ELEVATION IS DECREASING IN THE DIRECTION OF SUPERELEVATION ARROWS.



SUPERELEVATION DIAGRAM

DESIGN AGENCY
BURGESS & NIPPLE
81 East Gay Street, Suite 1000
Columbus, Ohio 43215

DESIGNED	DRAWN	REVIEWED	DATE
SJA	GTT	RMK	03-05-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		3162508	

GENERAL PLAN
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

3 / 34

406
657

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DESIGN REFERENCES:

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

AS-1-81	REVISED 07-19-2002
BR-1	REVISED 07-19-2002
GSD-1-96	REVISED 07-19-2002
EXJ-4-87	REVISED 07-19-2002
SBR-1-99	REVISED 07-19-2002

AND TO SUPPLEMENTAL SPECIFICATIONS:
898 DATED 10-15-10

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO), 2002 SPECIFICATIONS, THE 2003 AASHTO HORIZONTALLY CURVED STEEL GIRDER GUIDE SPECIFICATIONS, AND THE ODOT BRIDGE DESIGN MANUAL.

SPECIAL DESIGN SPECIFICATIONS:

THE GRILLAGE DESIGN METHOD WAS USED TO ANALYZE THE STRUCTURE. THE COMPUTER PROGRAM USED FOR STRUCTURAL ANALYSIS WAS MDX. THE BRIDGE COMPONENTS DESIGNED BY THIS METHOD AND THE LIVE LOAD DISTRIBUTION FACTORS USED WERE:

DEAD LOAD DISTRIBUTION: NON-COMPOSITE DEAD LOAD AND FUTURE WEARING SURFACE DEAD LOAD WERE DISTRIBUTED BASED ON TRIBUTARY AREA. COMPOSITE PARAPET DEAD LOAD WAS APPLIED AS LINE LOAD TO EXTERIOR GIRDERS.

LIVE LOADS FLOATED BETWEEN BARRIERS FOR MAXIMUM EFFECT.

DESIGN LOADING:

HS25, CASE II, AND ALTERNATE MILITARY LOADING

FUTURE WEARING SURFACE OF 60 PSF

VEHICLE COLLISION - PIERS 1-3 HAVE BEEN DESIGNED FOR A STATIC HORIZONTAL FORCE OF 400 KIPS, ASSUMED TO ACT IN ANY DIRECTION, AT A DISTANCE OF 4.0 FEET ABOVE FINISHED GRADE (REF. AASHTO LRFD 3.6.5.2). PIER DESIGN WAS CHECKED FOR AASHTO STANDARD SPECIFICATION CASE VII, TREATING THIS FORCE AS EARTHQUAKE LOAD.

THIS STRUCTURE HAS BEEN DESIGN TO ACCOMMODATE 3 INCHES OF HORIZONTAL MOVEMENT DUE TO HILLSIDE CREEP. THIS MAY RESULT IN 5/8 INCH OF VERTICAL SETTLEMENT OF THE REAR ABUTMENT AND PIER 1 ALONG WITH 3/4 INCH OF VERTICAL SETTLEMENT AT PIER 2.

DESIGN DATA:

CONCRETE CLASS QSC2 - COMPRESSIVE STRENGTH 4,500 PSI (SUPERSTRUCTURE).

CONCRETE, CLASS QSC1 - COMPRESSIVE STRENGTH 4,000 PSI (SUBSTRUCTURE).

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

SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82, OR A615

STRUCTURAL STEEL ASTM A709 GRADE 50 - YIELD STRENGTH 50,000 PSI.

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL
2½ INCH CONCRETE COVER
SEALING OF CONCRETE SURFACES

WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE ONE (1) INCH THICK.

MAINTENANCE OF TRAFFIC:

TRAFFIC WILL BE DETOURED DURING BRIDGE CONSTRUCTION. BRIDGE MUST BE BUILT IN ACCORDANCE WITH MAINTENANCE OF TRAFFIC GENERAL NOTES.

FINISH COLORS:

THE COLOR FOR THE ALTERNATE STEEL PARAPET RAILS AND ALL HARDWARE SHALL BE FEDERAL COLOR NUMBER 27038, BLACK 30% SHEEN.

THE COLOR FOR ITEM 513 - STRUCTURAL STEEL MEMBERS (OUTSIDE FACE AND BOTTOM) FLANGES OF THE FASCIA BEAMS, LEVEL 5, SHALL BE FEDERAL COLOR NUMBER 27038, BLACK 30% SHEEN. ALL OTHER BRIDGE SUPERSTRUCTURE STRUCTURAL STEEL ELEMENTS SHALL BE PAINTED WITH ODOT STANDARD, FEDERAL COLOR NUMBER 10324, DARK NEUTRAL.

THE COLOR FOR ITEM 512 - THE PIERS WILL BE SEALED WITH EPXOY URETHANE SEALER, FEDERAL COLOR NUMBER 11136, TERRA COTTA. ALL REMAINING CONCRETE SURFACES ARE TO BE SEALED WITH CLEAR NON-EPOXY.

ITEM 512 SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION):

APPLY A CLEAR PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

PERMANENT GRAFFITI PROTECTION SHALL BE APPLIED TO THE LIMITS SHOWN IN THE PLANS.

ITEM 524 - DRILLED SHAFTS, 48" DIAMETER ABOVE BEDROCK, AS PER PLAN
& ITEM 524 - DRILLED SHAFTS, 54" DIAMETER ABOVE BEDROCK, AS PER PLAN

ALTERNATE INSTALLATION OF DRILLED SHAFTS SO THAT ADJACENT SHAFT CONCRETE HAS CURED 3 DAYS PRIOR TO DRILLING ANOTHER SHAFT WITHIN 12 FEET CENTER TO CENTER.

DRILLED SHAFTS:

THE DESIGN LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 90 TONS AT THE REAR ABUTMENT, 155 TONS AT PIER 1 AND 159 TONS AT PIER 2. THIS LOAD IS RESISTED BY END BEARING ONLY. THE ALLOWABLE END BEARING IS 10 TONS PER SQUARE FOOT. THE REINFORCING STEEL SHALL BE EPOXY COATED ACCORDING TO 709.00.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE)

PILE DESIGN LOADS (ULTIMATE BEARING VALUE): THE ULTIMATE BEARING VALUE IS 120 TONS PER PILE FOR PIER 3 PILES AND 176 TONS PER PILE FOR PIER 4 PILES.

PIER 3 PILES:
16" CAST-IN-PLACE CONCRETE PILES
17 PILES 65 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEMS

PIER 4 PILES:
16" CAST-IN-PLACE CONCRETE PILES
12 PILES 60 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEMS

FORWARD ABUTENT:
FORWARD ABUTMENT PILES ARE INCLUDED WITH BRIDGE HAM-264-1448.

BATTERED PILES:

BATTERED PILES: THE BLOW COUNT FOR BATTERED PILES SHALL BE THE BLOW COUNT DETERMINED FOR VERTICAL PILES OF THE SAME ULTIMATE BEARING VALUE DIVIDED AN EFFICIENCY FACTOR (D). COMPUTE THE EFFICIENCY FACTOR (D) AS FOLLOWS:

$$D = \frac{1-UG}{\sqrt{(1+G^2)}}$$

U = COEFFICIENT OF FRICTION, WHICH IS ESTIMATED AT 0.05 FOR DOUBLE-ACTING AIR OPERATED OR DIESEL HAMMERS; 0.1 FOR SINGLE-ACTING AIR OPERATED OR DIESEL HAMMERS; AND 0.2 FOR DROP HAMMERS.

G = RATE OF BATTER (1/3, 1/4, ETC.)

SUGGESTED GIRDER ERECTION SEQUENCE:

A SUGGESTED ERECTION SEQUENCE IS DEVELOPED AS SHOWN ON SHEET 23/34. THE CONTRACTOR HAS AN OPTION TO DEVELOP HIS OWN METHOD OF CONSTRUCTION. THE COST OF THE ALTERNATE DESIGN IS PAID UNDER ITEM 513 - SUPERSTRUCTURE STEEL MEMBERS, LEVEL 5.

DESIGN AND MAINTENANCE TO ALLOW FOR HILLSIDE MOVEMENT:

IT IS ANTICIPATED THAT THE REAR ABUTMENT AND PIERS 1 &2 COULD MOVE DUE TO HILLSIDE CREEP. FOR THIS REASON A DISTANCE OF 6" WAS PROVIDED FROM THE END OF THE GIRDER TO THE ABUTMENT BACKWALL. FUTURE MAINTENANCE STEPS WILL BE REQUIRED EACH TIME THE ABUTMENT OR PIERS MOVE MORE THAN 1".

REMOVE TOP 1'-6" OF REAR ABUTMENT BACKWALL AND REPLACE EXPANSION JOINT IF THE JOINT OPENING (SEE DIM. A ON DETAILS) IS LESS THAN 1½" AT 60 DEGREES FAHRENHEIT. THE EXPANSION JOINT WAS DESIGNED TO INITIALLY PROJECT 3" FROM THE BACKWALL TO ALLOW FOR FUTURE ADJUSTMENT WITHOUT HAVING TO REMOVE THE ENTIRE BACKWALL.

RESET ABUTMENT AND PIER BEARINGS WHEN SHEAR DEFORMATION OF THE ELASTOMERIC PAD EXCEEDS 1" TOP TO BOTTOM AT 60 DEGREES FAHRENHEIT. THE REAR ABUTMENT BEARING WAS DESIGNED WITH OVERSIZED HOLES IN THE MASONRY PLATE TO ALLOW FOR HORIZONTAL ADJUSTMENT. ADD OR REMOVE STEEL SHIMS FOR SEISMIC PEDESTAL TO MAINTAIN 1" GAP FROM BEARING LOAD PLATE.

UTILITY LINES:

UTILITY LINES: THE UTILITY(IES) SHALL BEAR ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

EXISTING STRUCTURE PLANS:

CONSTRUCTION PLANS FOR THE EXISTING BRIDGE ARE ON FILE AT THE DEPARTMENT OF TRANSPORTATION, DISTRICT 8 OFFICE, 505 SOUTH STATE ROUTE 741, LEBANON, OHIO AND ARE AVAILABLE FOR REFERENCE.

ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), 17", AS PER PLAN:

FURNISH APPROACH SLABS CONFORMING TO CMS 526 EXCEPT CONCRETE SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 898, QC/QA CONCRETE, CLASS QSC2. THE ACCEPTED QUANTITIES SHALL INCLUDE: CONCRETE, CURBS, REINFORCING STEEL, JOINT FILLERS, JOINT SEALERS, JOINT SEALS, AND WATERPROOFING. IN ADDITION, THE PARAPET TRANSITIONS ON THE APPROACH SLABS, INCLUDING THE CONCRETE, REINFORCING STEEL, HMWM AND SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) SHALL BE INCLUDED IN THE COST OF THE APPROACH SLABS. THE DEPARTMENT WILL MEASURE APPROACH SLABS BY THE NUMBER OF SQUARE YARDS. THE DEPARTMENT WILL INITIALLY PAY THE FULL BID PRICE TO THE CONTRACTOR UPON COMPLETING THE WORK. THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE AND DECK CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK) AS PER PLAN:

THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE AND DECK CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

FORWARD ABUTENT AND FORWARD APPROACH SLAB:

THE FORWARD ABUTMENT AND APPROACH SLAB ARE DETAILED AND INCLUDED WITH BRIDGE HAM-264-1448 FOR PAYMENT.

DESIGN AGENCY: BURGESS & NIPLE
DESIGNED: SJA | DRAWN: KML | REVIEWED: RMK | DATE: 03-05-08
CHECKED: XAC | REVISED: | STRUCTURE FILE NUMBER: 3111652
GENERAL NOTES 01
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264
HAM-50-18.79
PID No. 20082

ABBREVIATIONS

THE FOLLOWING ABBREVIATIONS HAVE BEEN USED THROUGHOUT THESE PLANS TO INDICATE THE DESIGNATIONS CONTAINED IN THE LEGEND BELOW:

ABUT. - ABUTMENT
APPR. - APPROACH

℄ - BASELINE
BOT. - BOTTOM
BRGS. - BEARINGS
B.S. - BOTH SIDES

℄ - CENTERLINE
C/C - CENTER TO CENTER
CIP - CAST-IN-PLACE
C.J. - CONTRUCTION JOINT
CJP - COMPLETE JOINT PENETRATION
CLR. - CLEARANCE
CMS - CONSTRUCTION AND MATERIAL SPECIFICATIONS
CONC. - CONCRETE
CONST. - CONSTRUCTION
CS - INDICATES BUTT WELD SUBJECT TO COMPRESSIVE STRESSES ONLY
CU YD - CUBIC YARD
CVN - CHARPY V-NOTCH

DIA. - DIAMETER

E.F. - EACH FACE
EL. - ELEVATION
EQ. - EQUAL
EX. - EXISTING
EXP. - EXPANSION

F.A. - FORWARD ABUTMENT
F.F. - FAR FACE
F.S. - FIELD SPLICE
FT/FT - FOOT PER FOOT
FTG. - FOOTING
FWD. - FORWARD

GEN. - GENERAL

HPC - HIGH PERFORMANCE CONCRETE

LF - LEFT FORWARD
LT. - LEFT

MAX. - MAXIMUM
MIN. - MINIMUM
MISC. - MISCELLANEOUS
MOT - MAINTENANCE OF TRAFFIC
MSE - MECHANICALLY STABILIZED EARTH

N.F. - NEAR FACE
N.P.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE
NO./# - NUMBER

O/O - OUT TO OUT

PC - POINT OF CURVATURE
P.C.P.P - PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
PG - PROFILE GRADE
PI - POINT OF INTERSECTION
PROP. - PROPOSED
PT - POINT OF TANGENCY
PVC - POINT OF VERTICAL CURVATURE
PVI - POINT OF VERTICAL INTERSECTION
PVT - POINT OF VERTICAL TANGENCY

R. - RADIUS
R.A. - REAR ABUTMENT
RF - RIGHT FORWARD
RT. - RIGHT
R/W - RIGHT OF WAY

SAN. - SANITARY
SER. - SERIES
SHT. - SHEET
S.O. - SERIES OF
SPA. - SPACES OR SPACING
SR - STATE ROUTE
STA. - STATION
STD. - STANDARD
STM. - STORM
STR. - STRAIGHT

TBM - TEMPORARY BENCH MARK
TEMP. - TEMPORARY
T.O.S. - TOE OF SLOPE
T/PARAPET - TOE OF PARAPET
T/T - TOE TO TOE
TYP. - TYPICAL

U.G. - UNDERGROUND

VAR. - VARIES
VC - VERTICAL CURVE
VERT. - VERTICAL

W/O - WITHOUT
WB - WESTBOUND

PILE DRIVING CONSTRAINTS

PRIOR TO DRIVING ABUTMENT PILES TO THE ULTIMATE BEARING VALUE (UBV), CONSTRUCT THE MSE WALL AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENT UP TO THE BOTTOM OF THE FOOTING FOR A MINIMUM DISTANCE OF 200 FT BEHIND EACH ABUTMENT. PROVIDE A SURCHARGE FROM THE BOTTOM OF THE ABUTMENT FOOTING TO THE BOTTOM OF THE SUBGRADE, FOR A MINIMUM DISTANCE OF 200 FEET BEHIND EACH ABUTMENT. SURCHARGE LOADS SHALL REMAIN UNTIL THE REQUIRED SETTLEMENT HAS OCCURED AND AS DIRECTED BY THE ENGINEER. COMPLETE THE MSE WALL AND EMBANKMENT CONSTRUCTION IMMEDIATELY FOLLOWING THE SURCHARGE REMOVAL.

THE CONTRACTOR MAY PRE-DRIVE ABUTMENT PILES BEFORE CONSTRUCTING MSE WALLS. PRE-DRIVING CONSISTS OF INSTALLING THE ABUTMENT PILES INTO THE SOIL ONLY AS FAR AS NECESSARY SO THAT THE PIPE WILL REMAIN VERTICAL DURING MSE WALL CONSTRUCTION. IF PRE-DRIVING PILES, INSTALL PILE SLEEVES AROUND PILES BEFORE CONSTRUCTING THE MSE WALL. AT LEAST THREE FEET OF PILE MUST EXTEND ABOVE THE TOP OF THE PILE SLEEVE TO MEET THE REQUIREMENTS OF CMS 507.09 REGARDING SPLICES. DO NOT DRIVE ABUTMENT PILES TO THE UBV UNTIL AFTER THE ABOVE REQUIRED MSE WALL AND EMBANKMENT HAVE BEEN CONSTRUCTED, AND THE SPECIFIED WAITING PERIOD HAS ELAPSED.

IF NOT PRE-DRIVING ABUTMENT PILES, INSTALL THE ABUTMENT PILES THROUGH PILE SLEEVES AFTER THE ABOVE REQUIRED MSE WALL AND EMBANKMENT HAVE BEEN CONSTRUCTED AND THE SPECIFIED WAITING PERIOD HAS ELAPSED.

ABUTMENT PILE DRIVING TO THE UBV (FOR PILES DRIVEN AFTER MSE CONSTRUCTION) OR PILE REDRIVING (FOR PILES PRE-DRIVEN BEFORE MSE CONSTRUCTION) MAY NOT BEGIN UNTIL A MINIMUM 30 CALENDAR DAY WAITING PERIOD HAS ELAPSED AFTER THE COMPLETION OF EMBANKMENT AND SURCHARGE CONSTRUCTION. IN ADDITION, CONSECUTIVE SETTLEMENT READINGS, RECORDED AFTER EMBANKMENT CONSTRUCTION IS COMPLETE AND AT LEAST ONE WEEK (168 HOURS) APART, SHALL RESULT IN ELEVATION DIFFERENCES EQUAL TO OR LESS THAN 1/8 INCH FOR ABUTMENT CONSTRUCTION TO CONTINUE. IF SETTLEMENT RATES EXCEED 2 INCH PER MONTH AFTER EMBANKMENT CONSTRUCTION HAS BEEN COMPLETE FOR 40 DAYS, REMAINING ABUTMENT CONSTRUCTION, INCLUDING ANY NECESSARY CORRECTIVE MEASURES, MAY PROCEED ONLY AT THE DIRECTION OF THE ENGINEER.

THE ENGINEER MAY ADJUST THE SPECIFIED WAITING PERIOD BASED ON SETTLEMENT PLATFORM READINGS. AFTER THE SPECIFIED WAITING PERIOD HAS ELAPSED, DRIVE ABUTMENT PILES TO THE UBV. IN ORDER TO REMOVE ANY NEGATIVE SKIN FRICTION THAT HAS DEVELOPED DURING THE WAITING PERIOD, DRIVE EACH ABUTMENT PILE A DISTANCE OF AT LEAST 0.5 INCH.

ITEM 513 - STRUCTURAL STEEL MISC. : SURVEY PRISM MOUNT

FURNISH AND INSTALL STEEL BRACKETS TO SUPPORT A CIRCULAR SURVEY PRISM AT LOCATIONS SHOWN ON THE REAR ABUTMENT ELEVATION.

CARE SHOULD BE TAKEN DURING INSTALLATION TO INSURE THE BRACKET IS INSTALLED LEVEL AND PLUM. LOCATE ABUTMENT REINFORCEMENT PRIOR TO DRILLING ANCHOR BOLTS AND ADJUST BRACKET LOCATION TO MISS THE REINFORCEMENT.

PAYMENT FOR THIS ITEM SHALL BE PAID UNDER "ITEM 513 -STRUCTURAL STEEL MISC. : SURVEY PRISM MOUNT" AND INCLUDES FURNISHING ALL MATERIALS AS WELL AS LABOR AND EQUIPMENT NECESSARY TO INSTALL THE PRISM MOUNTS AT THE DESIGNATED LOCATIONS.

ITEM SPECIAL - INCLINOMETER

REAR ABUTMENT:
FURNISH AND INSTALL A 3.34 INCH (85 MM) DIAMETER INCLINOMETER CASING THROUGH THE ABUTMENT SEAT AS SHOWN ON THE ABUTMENT DRAWINGS. THE INCLINOMETER CASING IS TO BE CAPPED AT THE TOP. THE INCLINOMETER CASING IS TO BE COMPRISED OF ABS PLASTIC WITH QC (QUICK CONNECT) CONNECTIONS. PROTECT THE TOP OF THE INCLINOMETER CASING WITH A FLUSH MOUNT PROTECTIVE COVER INSTALLED IN THE ABUTMENT SEAT. PROVIDE THE FLUSH MOUNT PROTECTIVE COVER IN ACCORDANCE WITH SECTION 506.2.2 OF THE ODOT SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS.

PIERS 1 AND 2:
FURNISH AND INSTALL A 3.34 INCH (85 MM) DIAMETER INCLINOMETER CASING THROUGH THE FOOTING AS SHOWN ON THE PIER DRAWINGS. THE INCLINOMETER CASING IS TO BE COMPRISED OF ABS PLASTIC WITH QC (QUICK CONNECT) CONNECTIONS. PROTECT THE TOP OF THE INCLINOMETER CASING WITH A PROTECTIVE COVER. PROVIDE THE PROTECTIVE COVER IN ACCORDANCE WITH SECTION 506.2.1 OF THE ODOT SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS. THE TOP CAP SHALL INCLUDE A HASP SO THAT THE TOP CAN BE LOCKED.

FORM A VOID BETWEEN THE BOTTOM OF ABUTMENT OR PIER FOOTING AND THE TOP OF THE PRIMARY GROUT TO ALLOW FOR VERTICAL DISPLACEMENT. PLACE SECONDARY GROUT AT LEAST 30 DAYS AFTER BRIDGE PARAPET IS CONSTRUCTED.

CARE SHOULD BE TAKEN DURING INSTALLATION TO INSURE THE CASING REMAINS IN PLACE DURING PLACEMENT OF ADJACENT FILL AND CONCRETE SO THAT THE INCLINOMETER IS NOT DAMAGED OR ROTATED. ORIENT THE CASING GROOVES PARALLEL AND PERPENDICULAR TO THE FOOTING.

THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE PROTECTION OF THE INSTRUMENTATION AND ALL DAMAGE DURING THE LIFE OF THE CONTRACT. PAYMENT FOR THIS ITEM SHALL BE PAID UNDER "ITEM SPECIAL - INCLINOMETERS" AND INCLUDES FURNISHING ALL MATERIALS (SLOPE INDICATOR TUBING,COUPLINGS, END PLUGS, OUTER CASING AND PROTECTIVE CAP) AS WELL AS LABOR AND EQUIPMENT NECESSARY TO INSTALL THE INCLINOMETER CASING AT THE DESIGNATED PLAN LOCATIONS.

THE INCLINOMETER CASING SHOULD MEET THE DETAILS DESCRIBED ABOVE OR APPROVED EQUIVALENT. SUPPLIERS OF INCLINOMETER CASING INCLUDE:

GLOBAL DRILLING SUPPLIERS, INC.
12101 CENTRON PLACE
CINCINNATI, OHIO 45246
PH: 513-671-8700

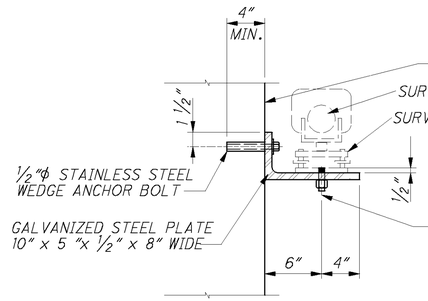
DURHAM GEO SLOPE INDICATORS
12123 HARBOUR REACH DR.
MUKILTEO, WA 98275
PH: 773-728-5822

ITEM 513 - STRUCTURAL STEEL MISC. : SURVEY PRISM MOUNT

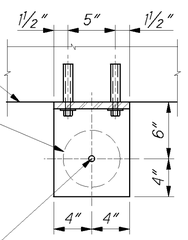
FURNISH AND INSTALL STEEL BRACKETS TO SUPPORT A CIRCULAR SURVEY PRISM AT LOCATIONS SHOWN ON THE REAR ABUTMENT AND PIER 1 & 2 ELEVATION.

CARE SHOULD BE TAKEN DURING INSTALLATION TO INSURE THE BRACKET IS INSTALLED LEVEL AND PLUM. LOCATE ABUTMENT AND PIER REINFORCEMENTT PRIOR TO DRILLING ANCHOR BOLTS AND ADJUST BRACKET LOCATION TO MISS THE REINFORCEMENT.

PAYMENT FOR THIS ITEM SHALL BE PAID UNDER "ITEM 513 -STRUCTURAL STEEL MISC. : SURVEY PRISM MOUNT" AND INCLUDES FURNISHING ALL MATERIALS AS WELL AS LABOR AND EQUIPMENT NECESSARY TO INSTALL THE PRISM MOUNTS AT THE DESIGNATED LOCATIONS.



SURVEY PRISM MOUNT ELEVATION



SURVEY PRISM MOUNT PLAN

ESTIMATED QUANTITIES

CALC.	DATE	CHK'D	DATE
JHL	1/8/2009	ADZ	1/21/2009

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIERS	SUPER.	APPROACH SLAB	GENERAL	SHT. REF.
202	11002	LUMP		STRUCTURE REMOVED, OVER 20 FOOT SPAN					LUMP	
202	22900	134	SY	APPROACH SLAB REMOVED				134		
SPECIAL	20307502	3	EACH	INCLINOMETER	1	2				5 / 34
503	21300	LUMP		UNCLASSIFIED EXCAVATION						
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION						
507	00700	1680	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN		1680				
507	00750	1825	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED		1825				
509	10000	280847	LB	EPOXY COATED REINFORCING STEEL	9753	71197	199897			
512	10001	118	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION)		118				4 / 34
512	10050	1339	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	102		1237			
512	10100	381	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		381				
513	10300	642378	LB	STRUCTURAL STEEL MEMBERS, LEVEL 5			642378			
513	20000	6336	EACH	WELDED STUD SHEAR CONNECTORS			6336			
513	95030	4	EACH	STRUCTURAL STEEL MISC. : SURVEY PRISM MOUNT	2	2				5 / 34
514	00060	33787	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			33787			
514	00066	33787	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			33787			
514	10000	25	EACH	FINAL INSPECTION REPAIR			25			
516	11211	37	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN			37			10 / 34
516	13600	7	SF	1" PREFORMED EXPANSION JOINT FILLER	7					
516	13900	15	SF	2" PREFORMED EXPANSION JOINT FILLER	15					
516	44200	4	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (1'-6" DIA. x 3 9/16") (EXPANSION)	4					
516	44300	4	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (2'-0" DIA. x 4 3/8") (EXPANSION)		4				
516	44400	4	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (1'-6" DIA. x 8 1/2") (SPECIAL)	4					
516	44400	4	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (2'-2" DIA. x 6") (FIXED)		4				
516	44400	4	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (2'-2" DIA. x 6") (EXPANSION)		4				
516	44400	4	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (2'-2" DIA. x 6 7/8") (EXPANSION)		4				
517	76300	1159	FT	RAILING, MISC: RAILING ALTERNATE, MINNESOTA RAILING *			1159			6 & 24 / 34
518	12300	3	EACH	SCUPPERS, INCLUDING SUPPORTS			3			
518	51100	27	FT	8" PIPE DOWNSPOUT, INCLUDING SPECIALS					34	
518	60030	103	FT	PIPE HORIZONTAL CONDUCTOR					103	
523	20000	2	EACH	DYNAMIC LOAD TESTING		2				
524	94903	156	FT	DRILLED SHAFTS, 48" DIAMETER, ABOVE BEDROCK, AS PER PLAN	156					4 / 34
524	94907	756	FT	DRILLED SHAFTS, 54" DIAMETER, ABOVE BEDROCK, AS PER PLAN		756				4 / 34
898	10201	555	CY	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN			555			4 / 34
898	10709	108	SY	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), (T=17"), AS PER PLAN				108		4 / 34
898	11000	135	CY	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET)			135			
898	20100	256	CY	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (PIER ABOVE FOOTING)		256				
898	20160	54	CY	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (ABUTMENT INCLUDING FOOTING)	54					
898	20300	311	CY	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (FOOTING)		311				

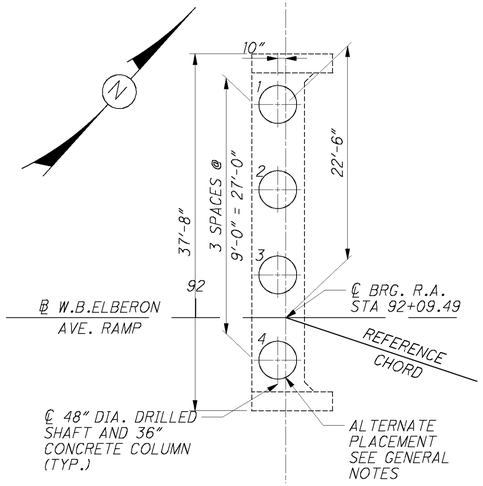
* RAILING, MISC: RAILING ALTERNATE, MINNESOTA RAILING IS A REQUIRED BID ITEM. IF SELECTED BY THE OWNER IT WILL REPLACE BID ITEM 898: QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET). CONCRETE IN ALTERNATE RAILING SHALL BE QC/QA CONCRETE,CLASS QSC2. IF SELECTED BY THE OWNER ALTERNATE RAILING AND ALL NECESSARY TRANSITIONS SHALL BE DETAILED PER MINNESOTA STANDARD DRAWING FIGURE 5-397.157 AND SUBMITTED FOR SHOP DRAWING REVIEW PRIOR TO FABRICATION. THE COST OF ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR PAINING, REINFORCEMENT, SEALING, RAILINGS AND SHOP DRAWING PREPARATION SHALL BE INCLUDED WITH THIS ITEM FOR PAYMENT. SEE SHEET 4 /34 FOR COLOR REQUIREMENTS. ALL REINFORCEMENT SHALL BE EPOXY COATED. THE ALTERNATE RAILING OPTION WILL REPLACE 27,596 POUNDS OF REINFORCEMENT AND 948 SQ. YD. OF SEALING.

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (614) 459-2241
Columbus, Ohio 43212

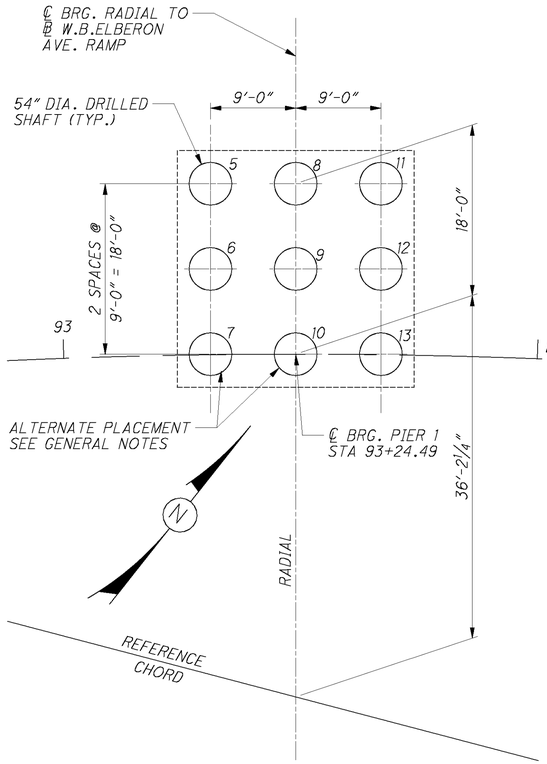
DATE 03-05-08
REVIEWED RMK
STRUCTURE FILE NUMBER 3111652
DRAWN SJA
REVISED
DESIGNED SJA
CHECKED XAC

ESTIMATED QUANTITIES
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

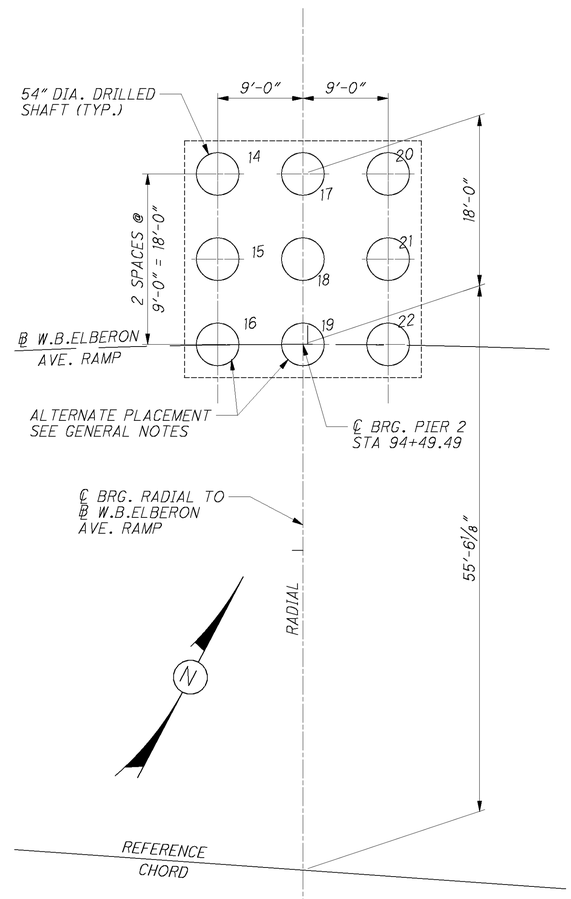
HAM-50-18.79
PID No. 20082



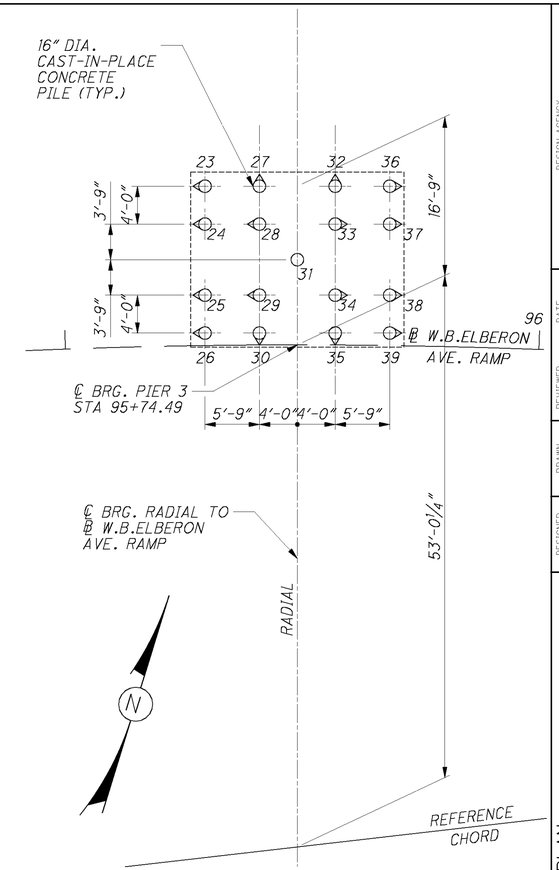
FOUNDATION PLAN
REAR ABUTMENT



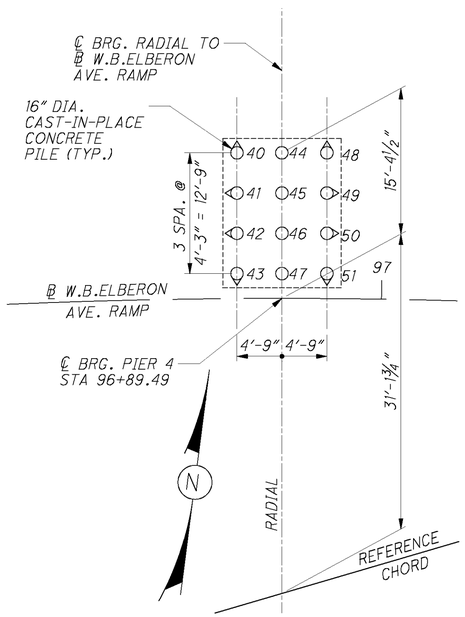
FOUNDATION PLAN
PIER 1



FOUNDATION PLAN
PIER 2



FOUNDATION PLAN
PIER 3



FOUNDATION PLAN
PIER 4

LEGEND:

- PROPOSED 48" OR 54" DIA. DRILLED SHAFT
- PROPOSED VERTICAL PILE
- PROPOSED PILE BATTERED (1:4) IN DIRECTION OF ARROW
- N○ DENOTES PILE NUMBER 'N'

NOTES:

1. REMOVE EXISTING FOUNDATIONS AND PORTIONS OF EXISTING FOUNDATIONS THAT INTERFERE WITH PROPOSED FOUNDATIONS AS PER 202.03.
2. FOR FOWARD ABUTMENT FOUNDATION PLAN SEE BRIDGE NO. HAM-264-1448.

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (513) 779-7851
Cincinnati, Ohio 45202

DESIGNED	DRAWN	REVIEWED	DATE
SJA	KML	RMK	03-05-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		3111652	

FOUNDATION PLAN
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

7 / 34

410
657

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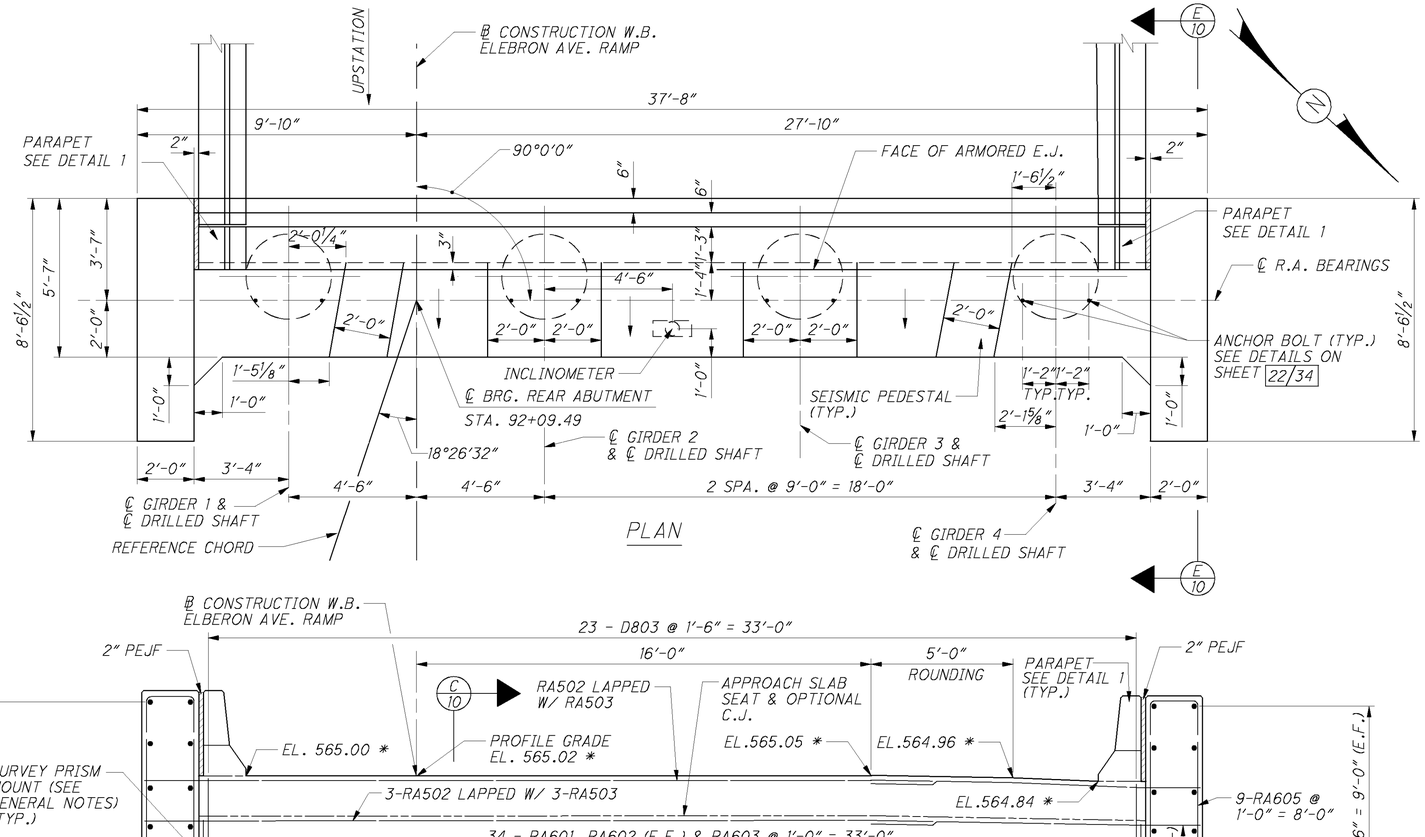
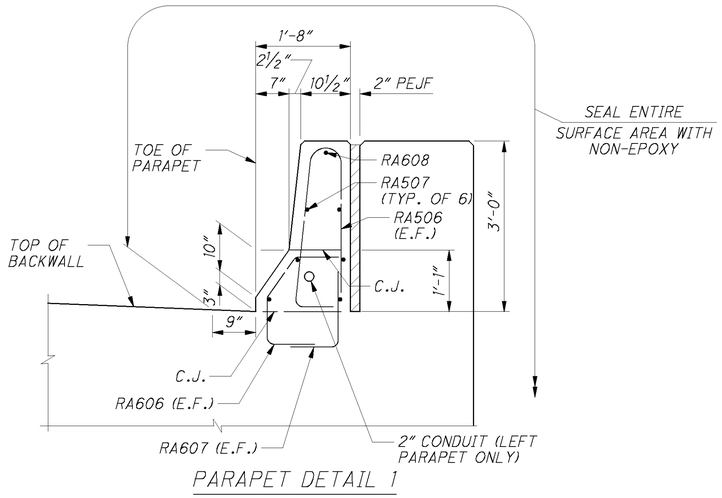
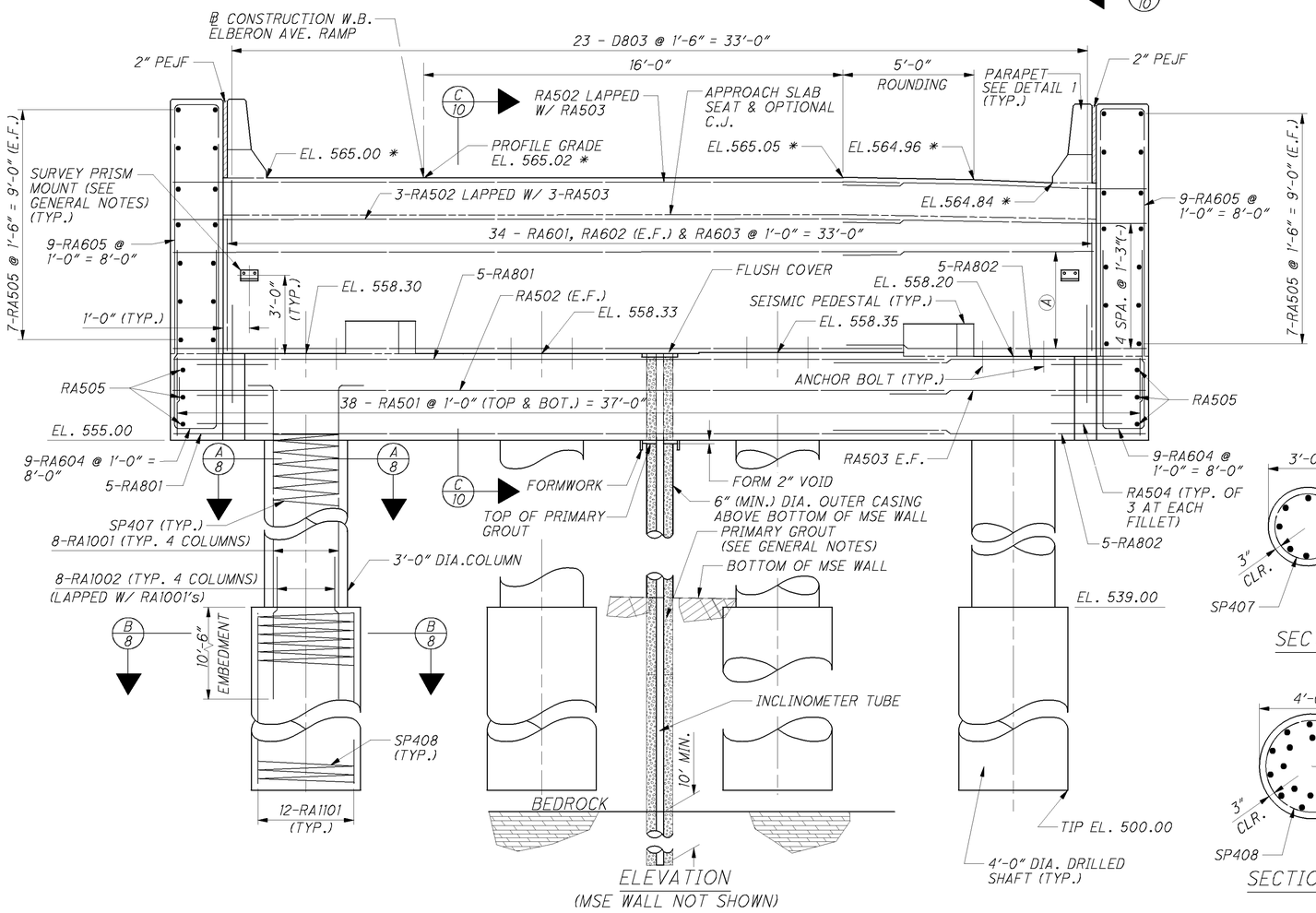
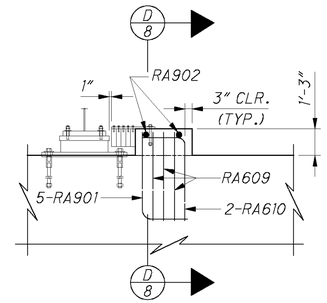




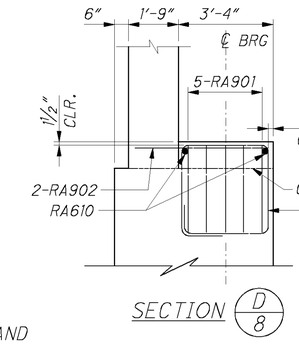
PARAPET DETAIL 1



ELEVATION
(MSE WALL NOT SHOWN)



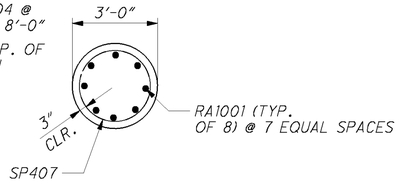
GIRDER 1 SHOWN, GIRDER 4 OPPOSITE HAND



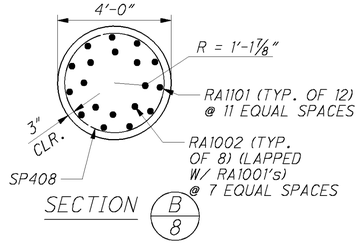
SECTION D 8

** FINISH THE SURFACE OF THE BEAM SEAT IN THIS AREA WITH A SERRATED TROWEL. THE SERRATIONS SHALL BE ¼" DEEP MINIMUM.

REAR ABUTMENT SEISMIC PEDESTAL DETAILS



SECTION A 8



SECTION B 8

LEGEND:

SLOPE ½" BETWEEN BEARING SEATS (TYP.)

* ELEVATION GIVEN AT FACE OF JOINT ARMOR

BOT. = BOTTOM
E.F. = EACH FACE
N.F. = NEAR FACE
(A) = 4-RA502 LAPPED W/ 4-RA503 (TYP. E.F.)

NOTES:

1. FORWARD ABUTMENT IS DETAILED AND BID WITH BRIDGE HAM-264-1448.
2. MIN. LAP LENGTHS:
   #5's = 2'-6"
   #6's = 3'-10"
   #8's = 4'-11"
   #10's = 8'-2"

DESIGN AGENCY
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DESIGNED	DRAWN	REVIEWED	DATE
SJA	SJA	RMK	03-05-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		3111652	

REAR ABUTMENT PLAN AND ELEVATION
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

8 / 34

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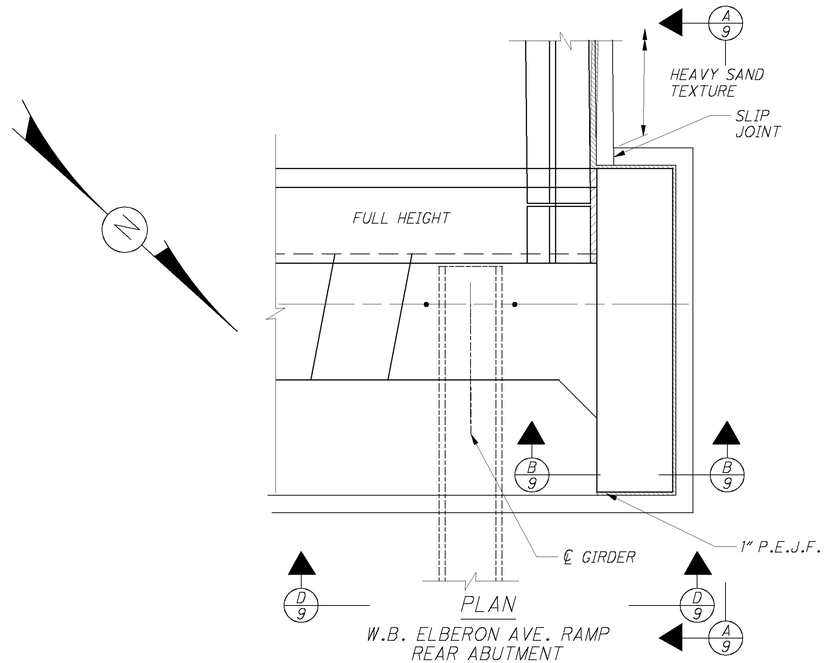
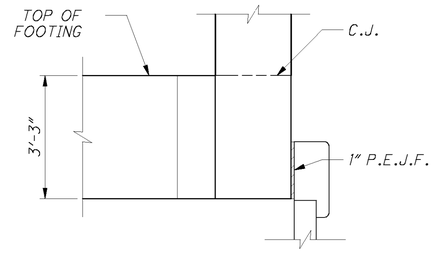
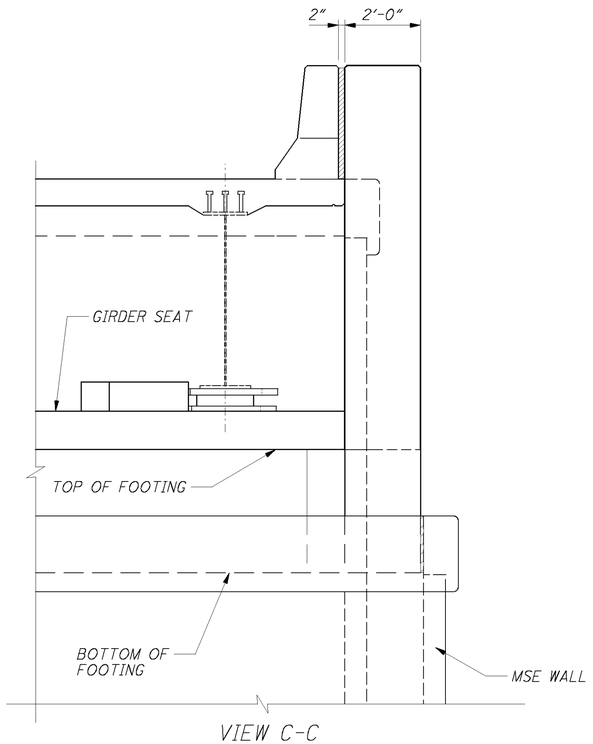


PLAN

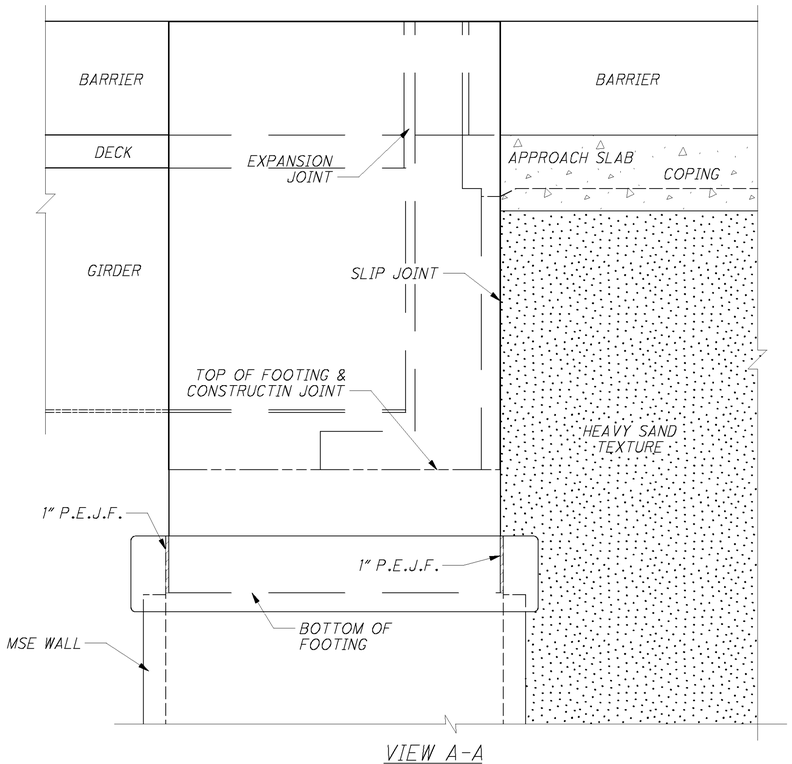
W.B. ELBERON AVE. RAMP
REAR ABUTMENT



SECTION B-B



VIEW C-C



VIEW A-A

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050
5085 Reed Road, Columbus, Ohio 43220

DESIGNED	DRAWN	REVIEWED	DATE
XAC	KML	RMK	02-20-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SJA		3111636	

ABUTMENT ARCHITECTURAL DETAILS
BRIDGE NO. HAM-264-1448
W.B. WARSAW AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

9 / 34

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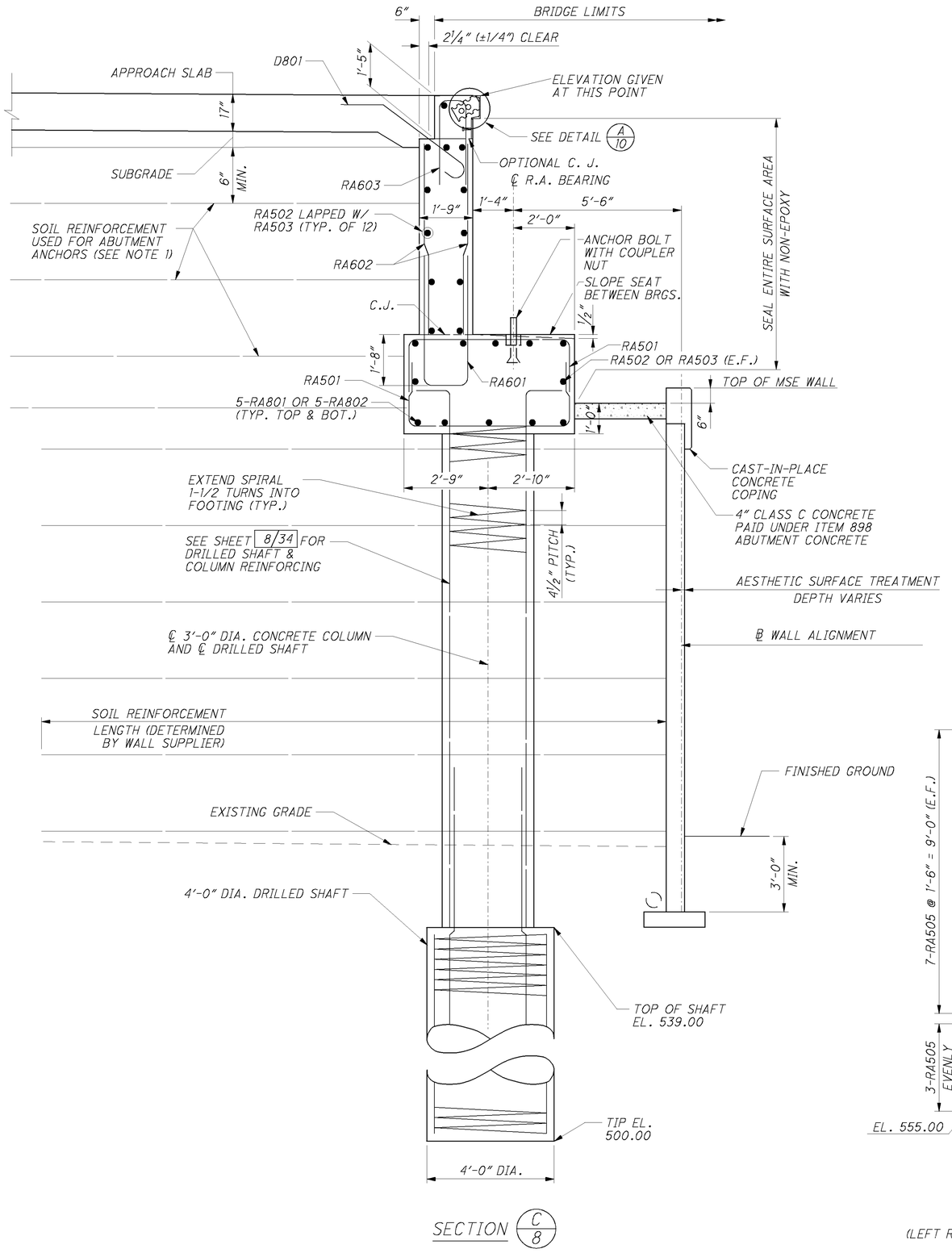
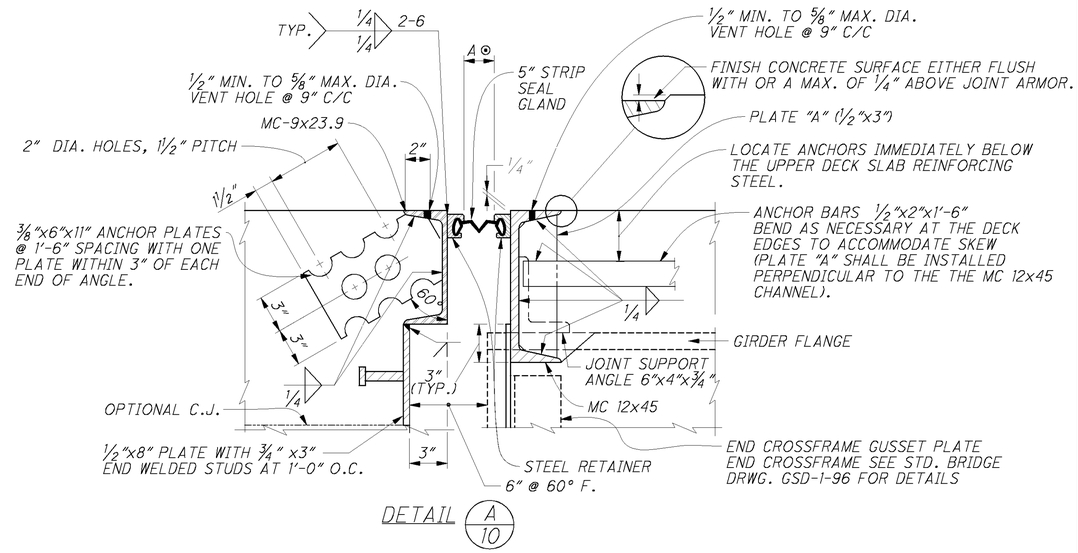


SECTION C/8

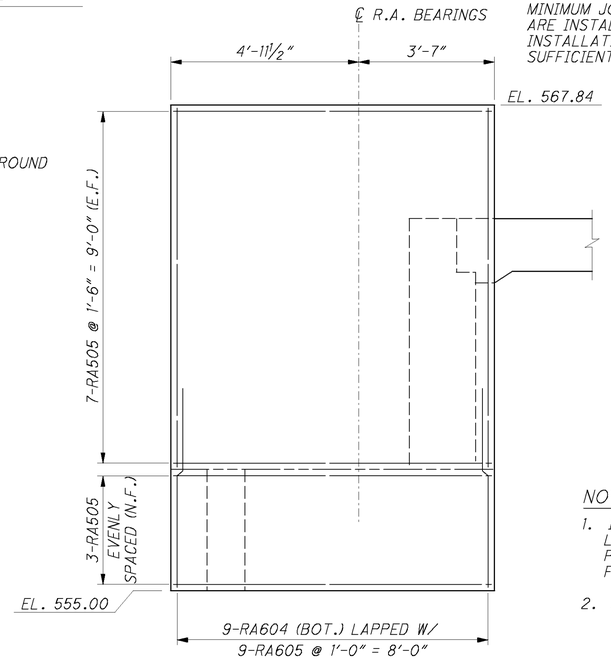


DETAIL A/10

MODIFIED EXPANSION JOINT DETAIL
REAR ABUTMENT ONLY (SEE STANDARD DRAWING EXJ-4-87 FOR MORE DETAILS)

	JOINT OPENING DIMENSIONS						
TEMP (°F)	30	40	50	60	70	80	90
"A" - REAR ABUT.	3 3/16"	2 15/16"	2 5/8"	2 3/8"	2 1/16"	1 13/16"	1 9/16"
"A" - FORWARD ABUTMENT SEE BRIDGE HAM-264-1448							

MINIMUM JOINT OPENING (DIMENSION"A") AT TIME THE SEAL GLAND RETAINERS ARE INSTALLED SHALL NOT BE LESS THAN 1½". IF THE JOINT OPENING IS LESS, INSTALLATION SHALL BE POSTPONED UNTIL THE TEMPERATURE DROPS A SUFFICIENT AMOUNT TO ALLOW THE 1½" OPENING.



SECTION E/8

(LEFT REAR CHEEK WALL SHOWN, RIGHT REAR CHEEK WALL SIMILAR)
(PARAPET & DECK NOT SHOWN FOR CLARITY)

NOTES:

1. IN ADDITION TO LATERAL EARTH PRESSURE, AN UNFACTORED HORIZONTAL LOAD FROM THE SUPERSTRUCTURE OF 1.85 KIPS PER FOOT APPLIED PERPENDICULAR TO THE FACE OF WALL AND THE BASE OF THE CONCRETE FOOTING SHALL BE RESISTED BY SOIL REINFORCEMENT ANCHORS.
2. SEE SHEET 8/34 FOR ADDITIONAL NOTES & LEGEND.

DESIGN AGENCY
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Toledo, Ohio 43604

DESIGNED	DRAWN	REVIEWED	DATE
SJA	SJA	RMK	03-05-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		3111652	

REAR ABUTMENT SECTION AND DETAILS
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

10 / 34

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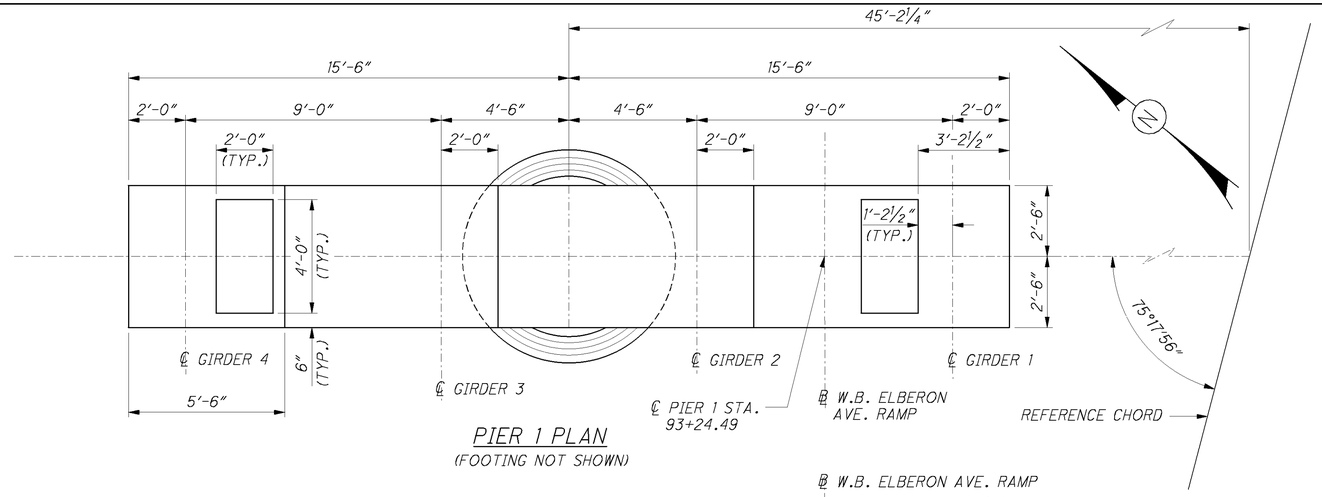
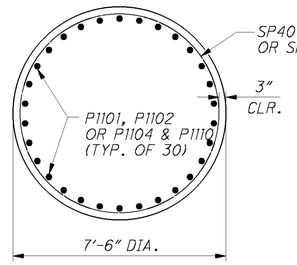


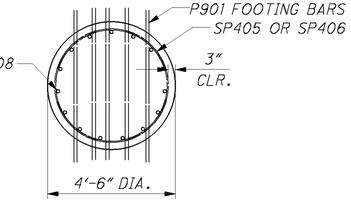
PIER 1 PLAN
(FOOTING NOT SHOWN)

NOTES

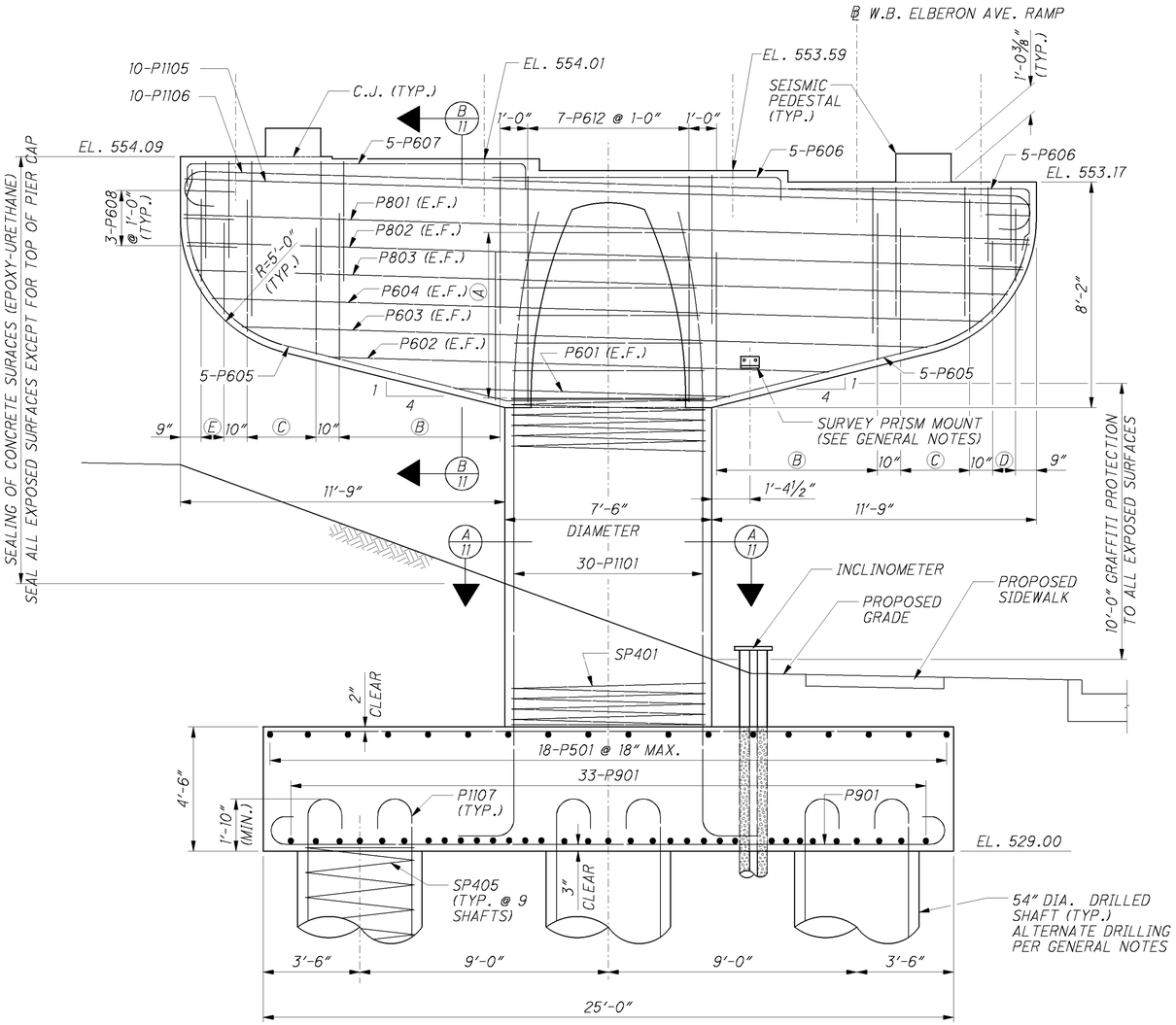
1. SEE SHEET 12/34 FOR SEISMIC PEDESTAL DETAILS.
2. SEE SHEET 14/34 FOR ARCHITECTURAL TREATMENT.
3. SEE SHEET 12/34 FOR INCLINOMETER DETAILS.
3. MINIMUM LAP LENGTH FOR #6 BARS = 2'-2"



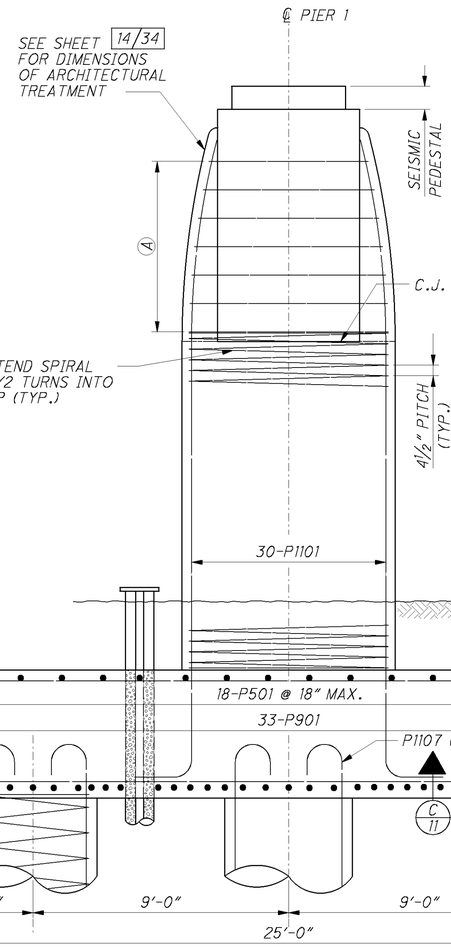
SECTION A/11 A/12 A/14



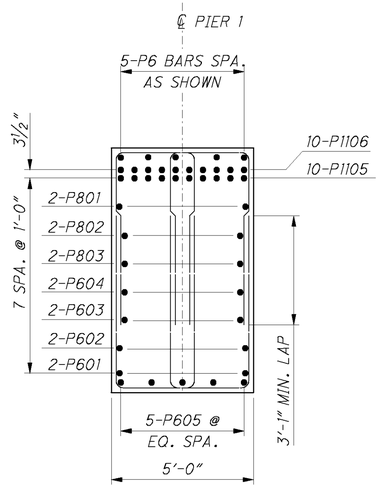
SECTION C/11 C/12



PIER 1 ELEVATION



PIER 1 SIDE VIEW
(CAP REINFORCING STEEL NOT SHOWN)



SECTION B/11 B/12 B/13 B/14

LEGEND

(A) = P401 THROUGH P407 @ 1'-0"
(B) = 8 SETS OF 2-P609 @ 10" = 5'-10" (T&B)
(C) = 4 SETS OF 2-P610 @ 10" = 2'-6" (T&B)
(D) = 2 SETS OF 2-P611 @ 10" = 10" (T&B)
(E) = 2 SETS OF 2-P615 @ 10" = 10" (T&B)

BOT. = BOTTOM
C.J. = CONSTRUCTION JOINT
T&B = TOP & BOTTOM
W.B. = WEST BOUND

DESIGN AGENCY
BURGESS & NIPLE
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Cincinnati, Ohio 45202

DESIGNED	DRAWN	REVIEWED	DATE
SJA	AAA	TMB	03-05-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RMK		3162508	

PIER 1 DETAILS
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

11 / 34

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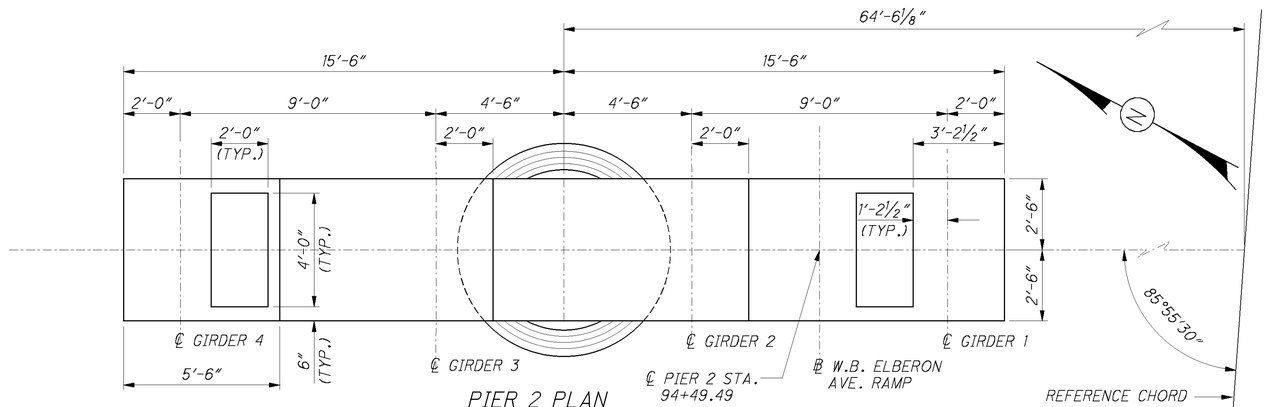
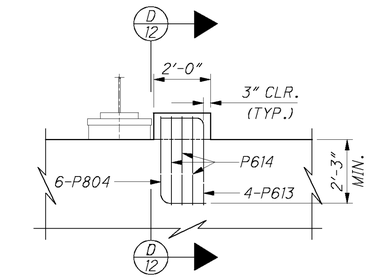
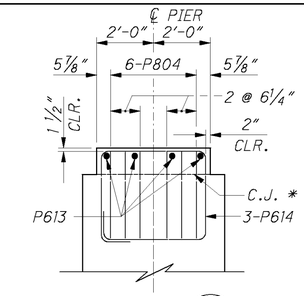


PIER 2 PLAN
(FOOTING NOT SHOWN)

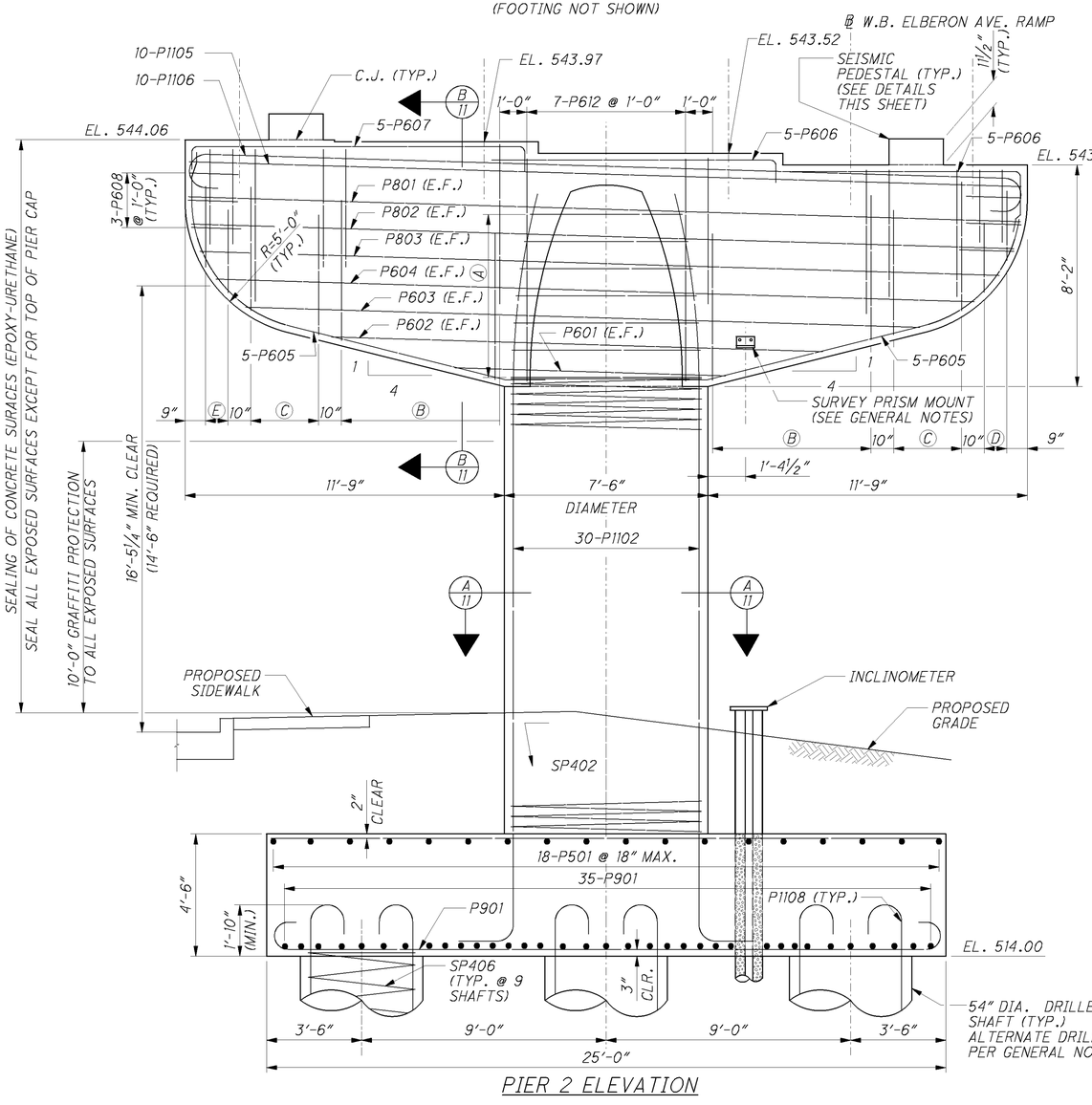


FRONT VIEW OF SEISMIC PEDESTAL
PEDESTAL FOR GIRDER 4 SHOWN
PEDESTAL FOR GIRDER 1 OPPOSITE HAND

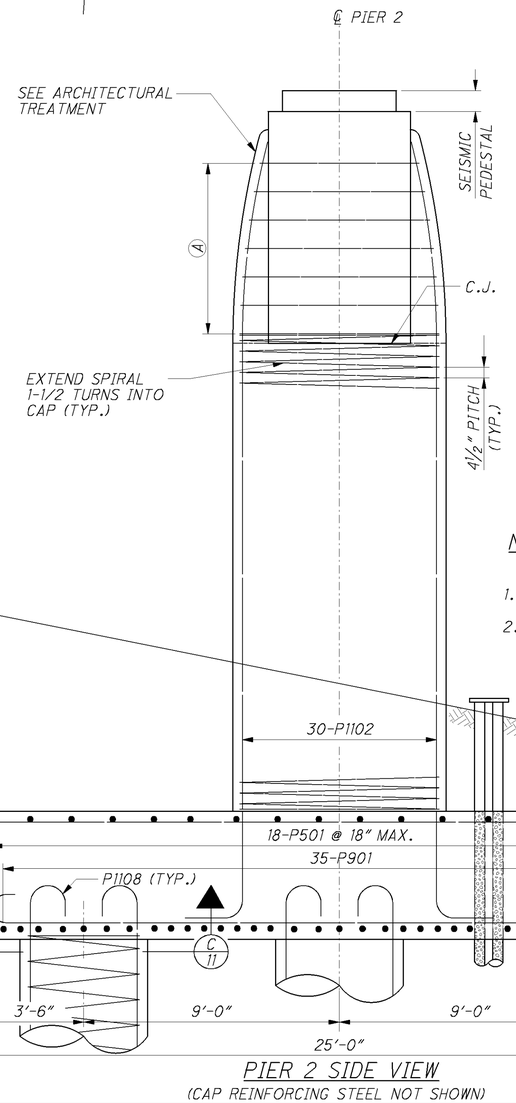


SECTION D 12

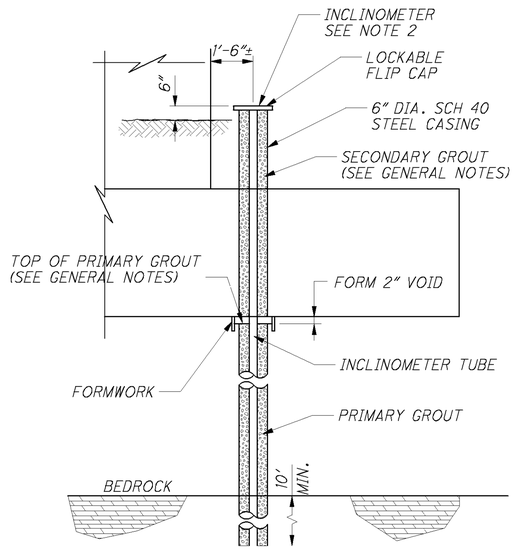
* FINISH THE SURFACE OF THE BEAM SEAT IN THIS AREA WITH A SERRATED TROWEL. THE SERRATIONS SHALL BE 1/4" DEEP MINIMUM.



PIER 2 ELEVATION



PIER 2 SIDE VIEW
(CAP REINFORCING STEEL NOT SHOWN)



SECTION VIEW OF INCLINOMETER

NOTES

1. SEE SHEET 14/34 FOR ARCHITECTURAL TREATMENT.
2. INSTALL AN INCLINOMETER BETWEEN TWO DRILLED SHAFTS AT PIERS 1 AND 2. SEE GENERAL NOTES FOR ADDITIONAL DETAILS.

LEGEND

(A) = P401 THROUGH P407 @ 1'-0"
(B) = 8 SETS OF 2-P609 @ 10" = 5'-10" (T&B)
(C) = 4 SETS OF 2-P610 @ 10" = 2'-6" (T&B)
(D) = 2 SETS OF 2-P611 @ 10" = 10" (T&B)
(E) = 2 SETS OF 2-P615 @ 10" = 10" (T&B)

BOT. = BOTTOM
C.J. = CONSTRUCTION JOINT
T&B = TOP & BOTTOM
W.B. = WEST BOUND

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (614) 459-2070
Columbus, Ohio 43230

DESIGNED SJA | DRAWN AAA | CHECKED RMK | REVIEWED TMB | DATE 03-05-08 | REVISED | STRUCTURE FILE NUMBER 3162508

PIER 2 DETAILS
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

12 / 34

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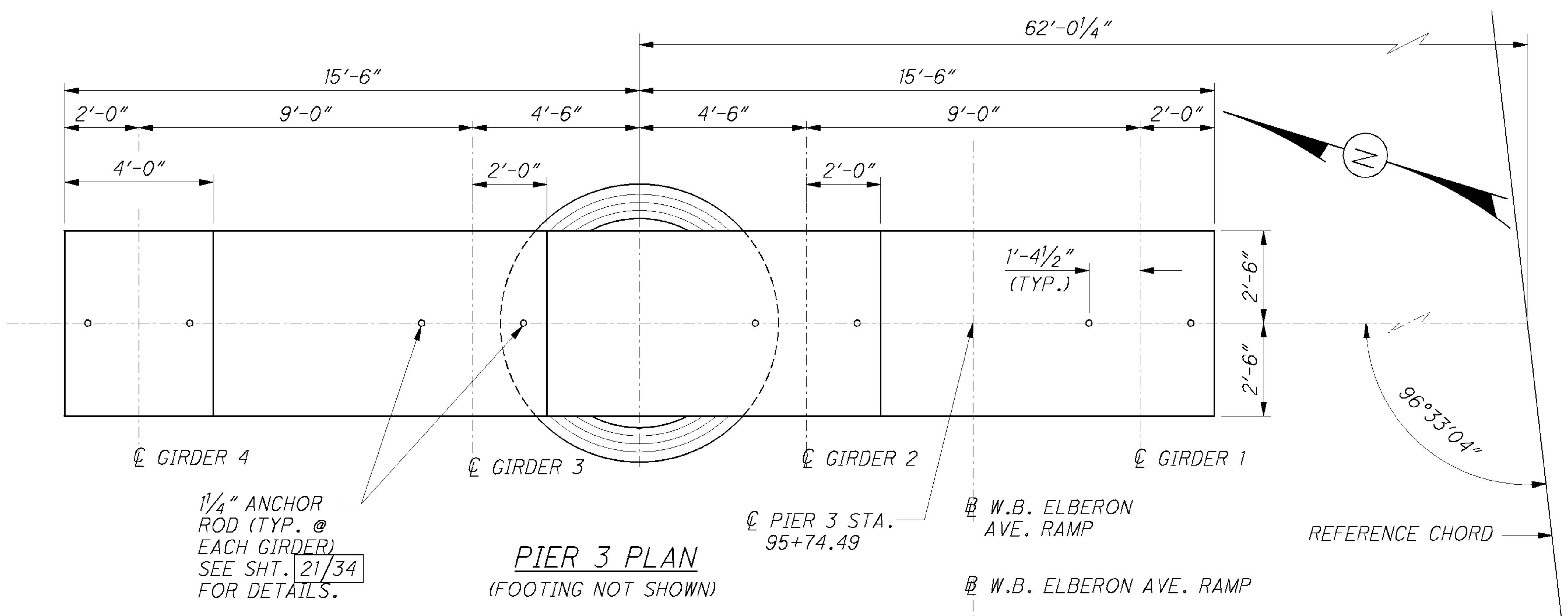
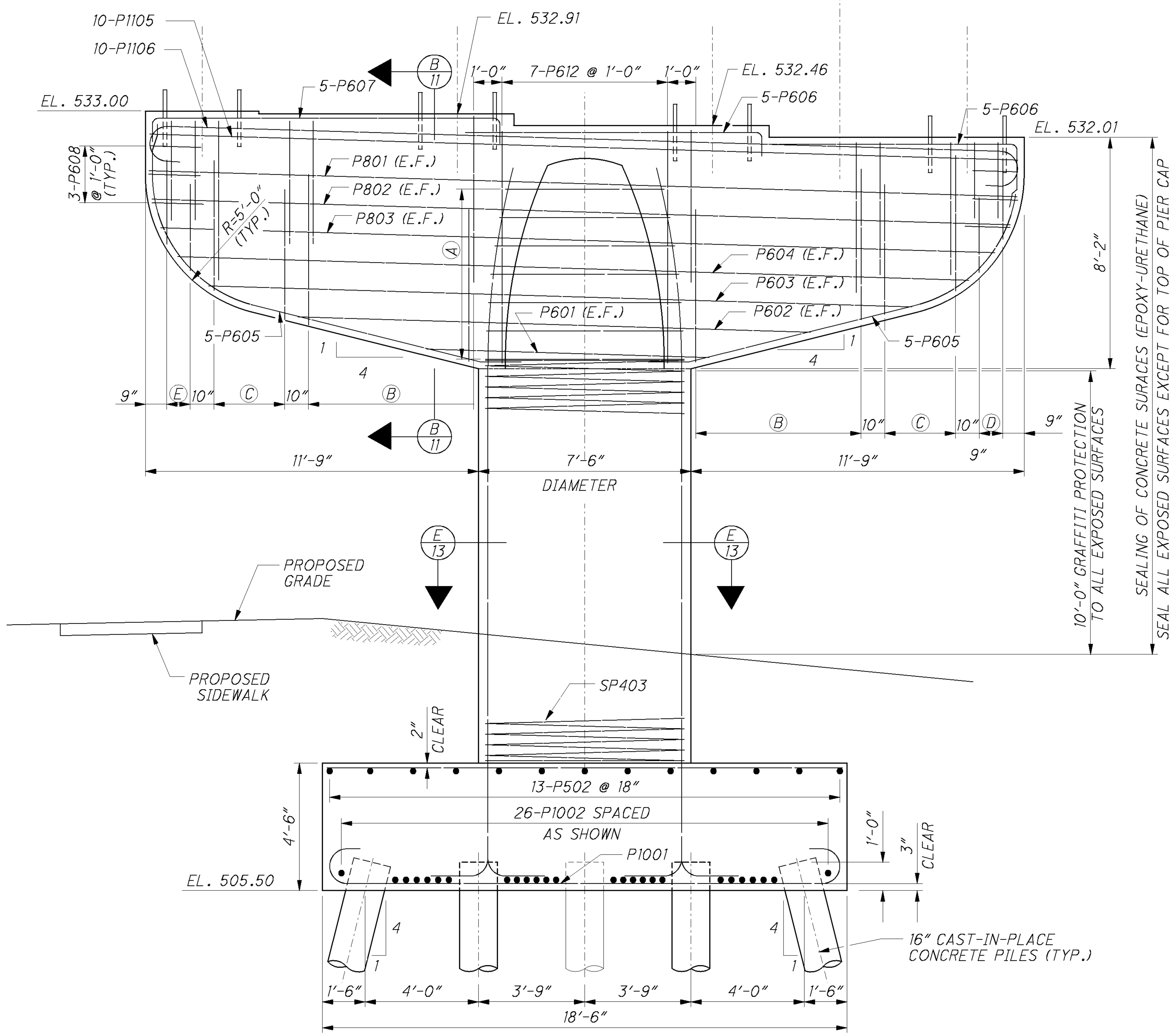
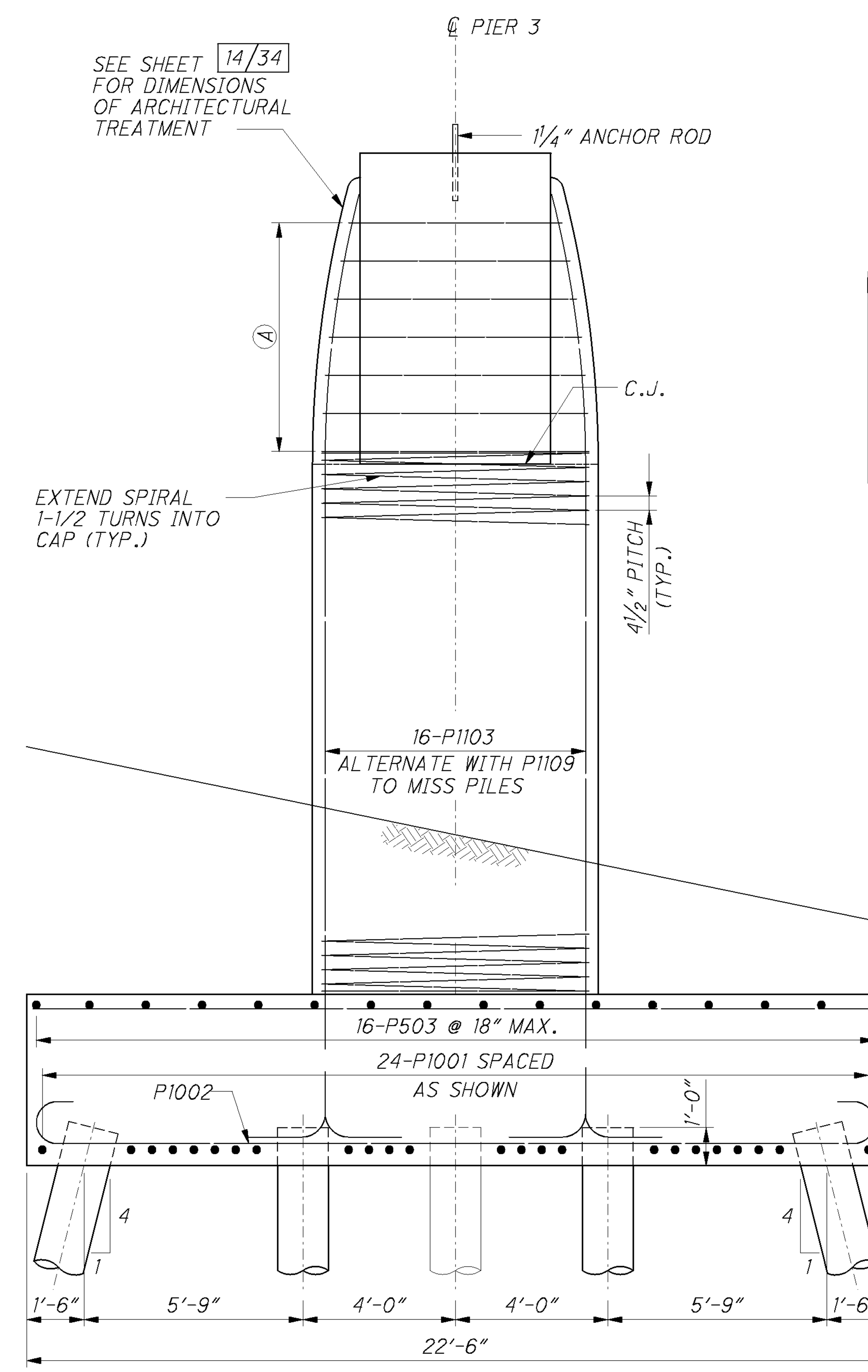


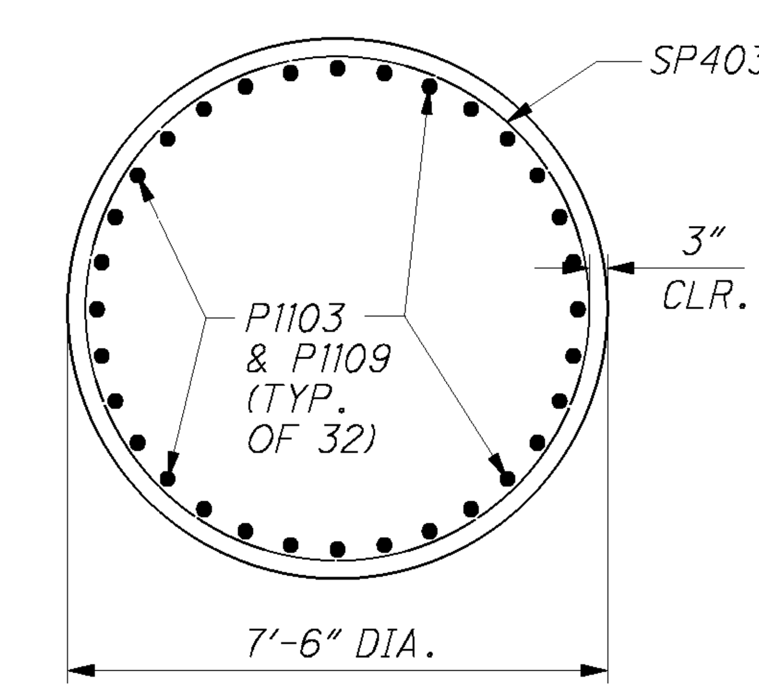
PIER 3 PLAN
(FOOTING NOT SHOWN)



PIER 3 ELEVATION



PIER 3 SIDE VIEW
(CAP REINFORCING STEEL NOT SHOWN)



SECTION E/13

NOTES

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.
2. SEE SHEET 14/34 FOR ARCHITECTURAL TREATMENT.

LEGEND

Ⓐ = P401 THROUGH P407 @ 1'-0"
Ⓑ = 8 SETS OF 2-P609 @ 10" = 5'-10" (T&B)
Ⓒ = 4 SETS OF 2-P610 @ 10" = 2'-6" (T&B)
Ⓓ = 2 SETS OF 2-P611 @ 10" = 10" (T&B)
Ⓔ= 2 SETS OF 2-P615 @ 10" = 10" (T&B)

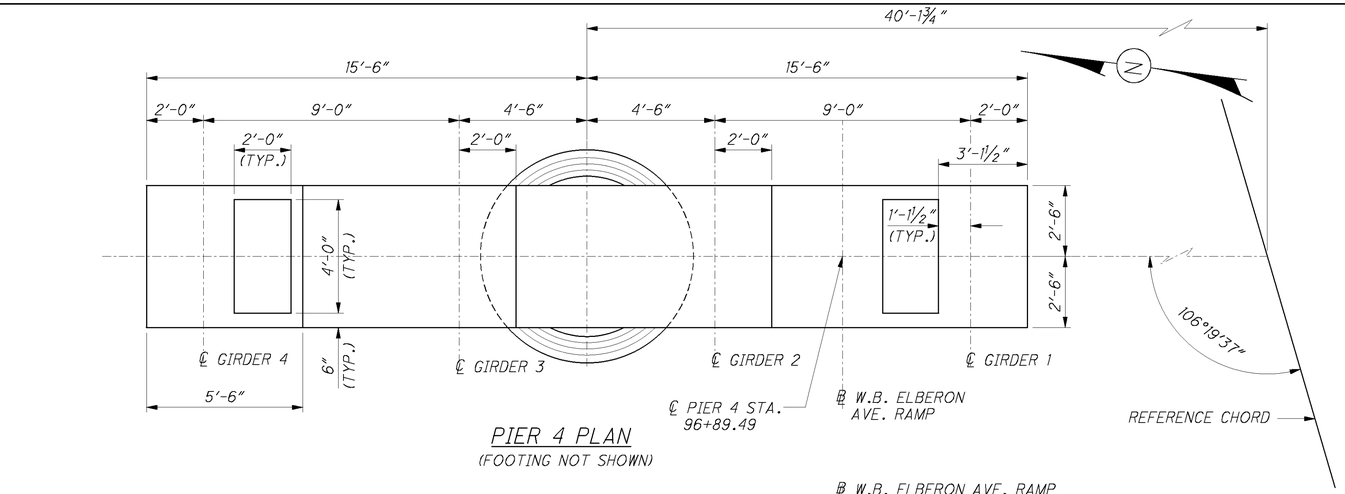
BOT. = BOTTOM
C.J. = CONSTRUCTION JOINT
T&B = TOP & BOTTOM
W.B. = WEST BOUND

DESIGN AGENCY: BURGESS & NIPLE

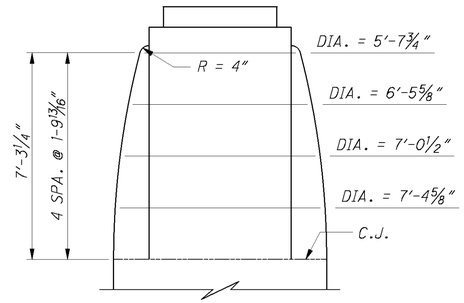
DESIGNED	DRAWN	REVIEWED	DATE
SJA	AAA	TMB	03-05-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RMK		3162508	

PIER 3 DETAILS
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

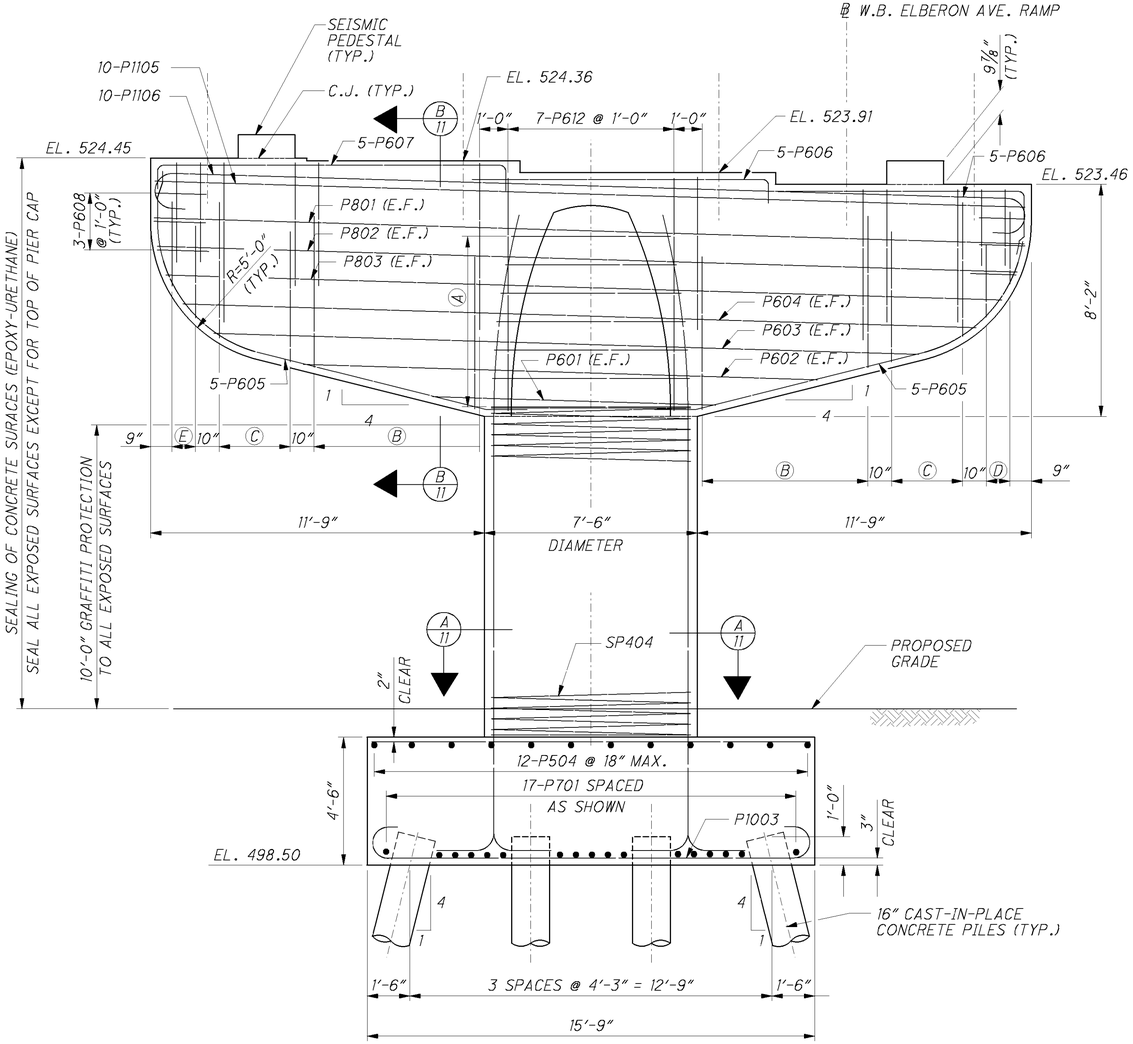
HAM-50-18.79
PID No. 20082



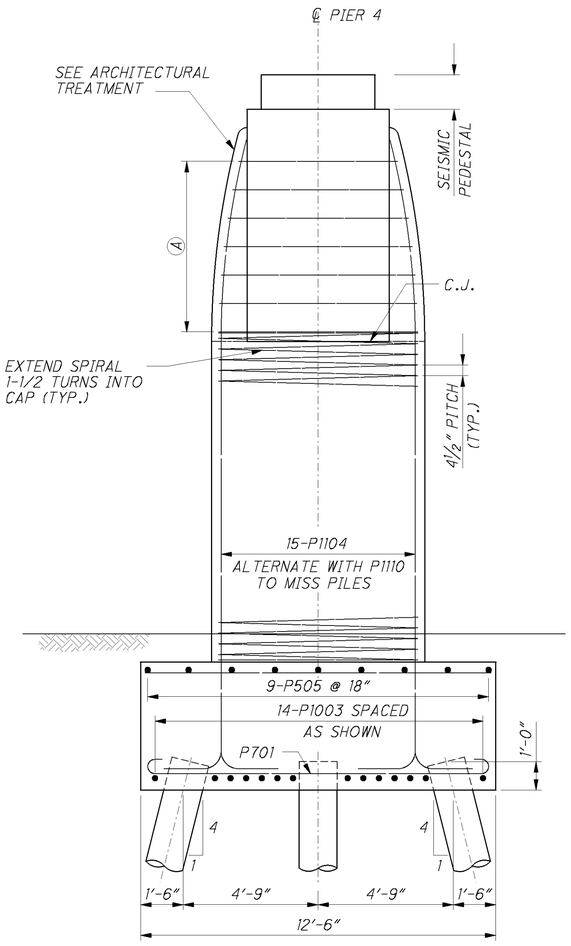
PIER 4 PLAN
(FOOTING NOT SHOWN)



ARCHITECTURAL TREATMENT



PIER 4 ELEVATION



PIER 4 SIDE VIEW
(CAP REINFORCING STEEL NOT SHOWN)

LEGEND

Ⓐ = P401 THROUGH P407 @ 1'-0"
Ⓑ = 8 SETS OF 2-P609 @ 10" = 5'-10" (T&B)
Ⓒ = 4 SETS OF 2-P610 @ 10" = 2'-6" (T&B)
Ⓓ = 2 SETS OF 2-P611 @ 10" = 10" (T&B)
Ⓔ = 2 SETS OF 2-P615 @ 10" = 10" (T&B)

BOT. = BOTTOM
C.J. = CONSTRUCTION JOINT
T&B = TOP & BOTTOM
W.B. = WEST BOUND

NOTES

1. SEE SHEET 12/34 FOR SEISMIC PEDESTAL DETAILS.

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (614) 459-2070
Columbus, Ohio 43240

DESIGNED SJA | DRAWN AAA | CHECKED RMK | REVIEWED RMK | DATE 03-05-08
REVISED | STRUCTURE FILE NUMBER 3162508

PIER 4 DETAILS
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

14 / 34

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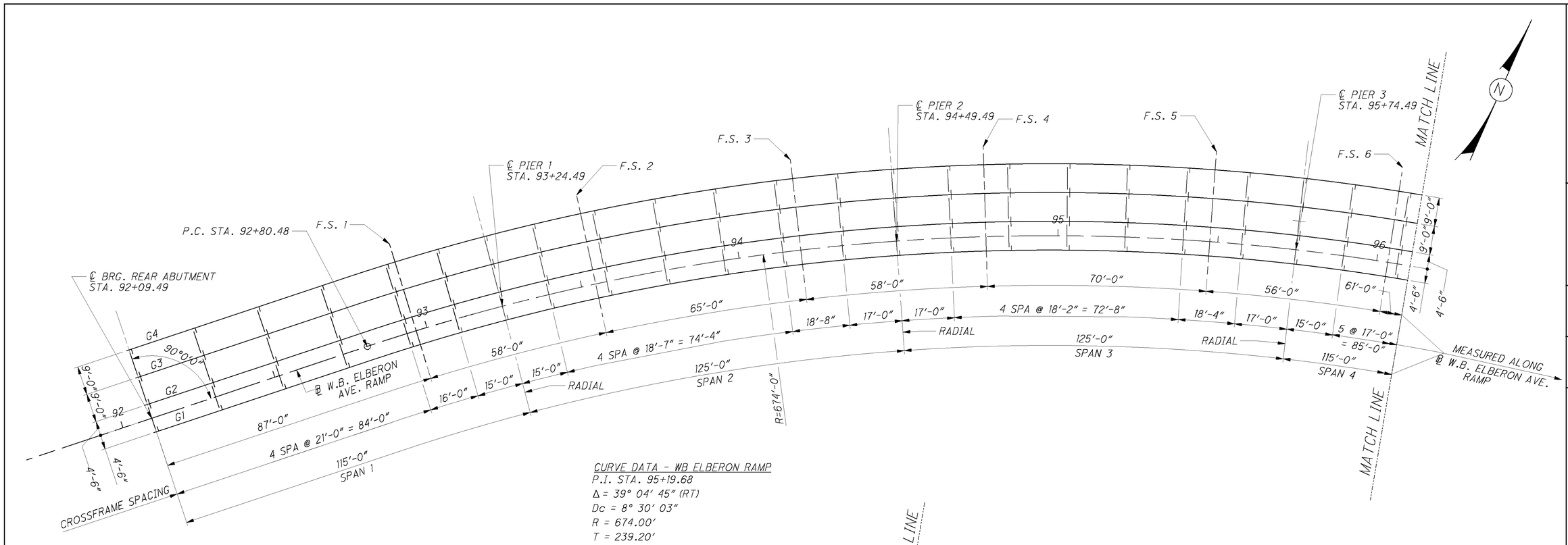
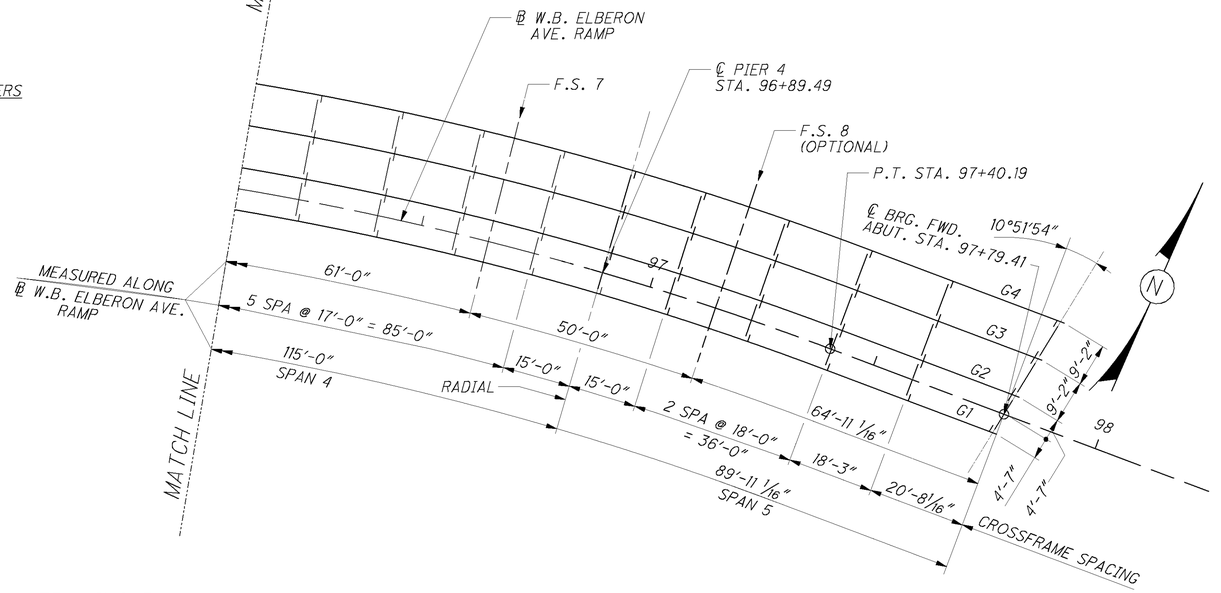


CURVE DATA - WB ELBERON RAMP
P.I. STA. 95+19.68
Δ = 39° 04′ 45″ (RT)
Dc = 8° 30′ 03″
R = 674.00′
T = 239.20′
L = 459.71′
E = 41.19′

RADIUS OF CURVED GIRDERS
G1 = 669′-6″
G2 = 678′-6″
G3 = 687′-6″
G4 = 696′-6″

NOTES:

1. ALL MATERIAL TO BE ASTM-A709, GRADE 50.
2. ALL BEARINGS EXCEPT FORWARD ABUTMENT AND CROSSFRAMES ARE RADIAL TO THE CENTER OF CURVATURE.
3. ALL STEEL TO BE SHOP PRIMED AND FIELD PAINTED ACCORDING TO ITEM 514.
4. BEARING STIFFENERS AND ENDS OF GIRDERS TO BE VERTICAL AFTER TOTAL DEAD LOAD IS APPLIED.
5. SPLICES AND INTERMEDIATE STIFFENERS TO BE NORMAL TO GIRDERS.
6. END CROSSFRAMES SHALL BE PER STANDARD DRAWINGS GSD-1-96 AND EXJ-4-87.



FRAMING PLAN

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (614) 459-2068
Cincinnati, Ohio 45202

DESIGNED SJA | DRAWN KML | REVIEWED RMK | DATE 03-05-08
CHECKED XAC | REVISED | STRUCTURE FILE NUMBER 3111652

FRAMING PLAN
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

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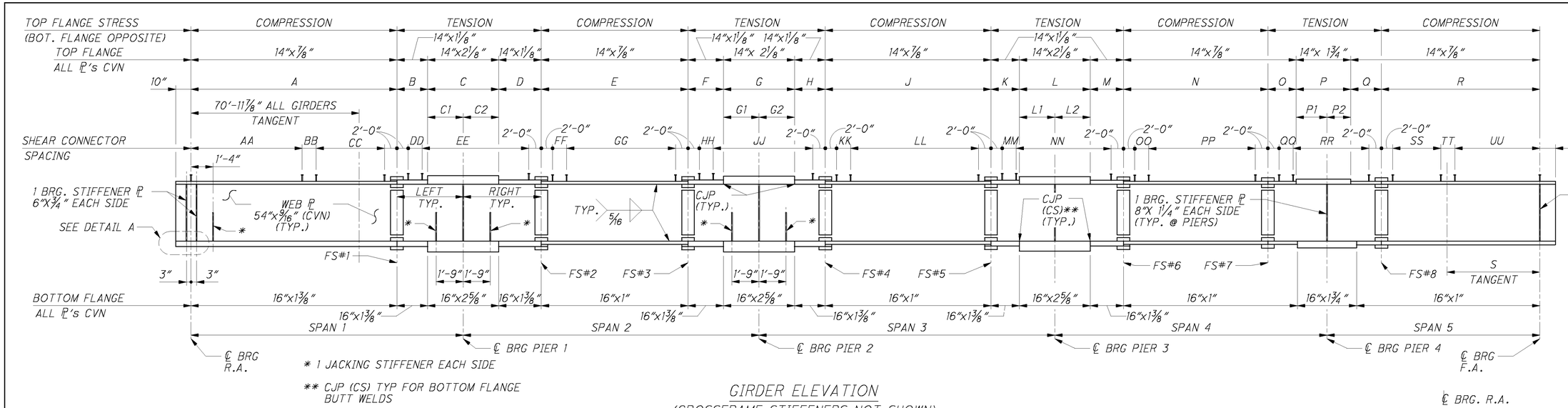


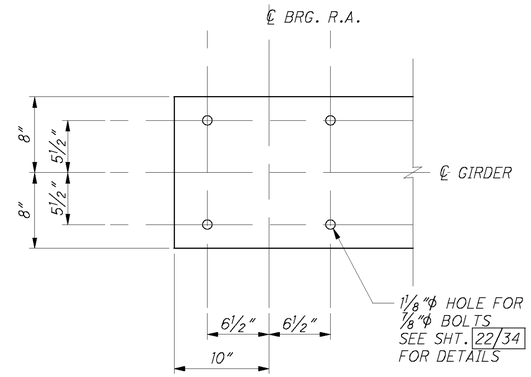
* 1 JACKING STIFFENER EACH SIDE

** CJP (CS) TYP FOR BOTTOM FLANGE BUTT WELDS

GIRDER ELEVATION
(CROSSFRAME STIFFENERS NOT SHOWN)

NOTES:

1. ALL MATERIAL TO BE ASTM-A709, GRADE 50.
2. 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 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER THAN 3/4" THICK.
3. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
4. COMPLETE JOINT PENETRATION WELDS SHALL BE GROUND SMOOTH IN LONGITUDINAL DIRECTION TO REMOVE WELD REINFORCRMENT.
5. ALL LONGITUDINAL DIMENSIONS SHOWN ARE ALONG ℄ OF GIRDER AND ARE HORIZONTAL (EFFECTS OF THE LONGITUDINAL GRADE ARE NOT INCLUDED.)
6. SHEAR STUD SPACING MAY BE ADJUSTED LOCALLY AS REQUIRED TO CLEAR FLANGE SPLICES.



DETAIL A

BOTTOM FLANGE BOLT HOLE DETAIL
(REAR ABUTMENT ONLY)

	GIRDER DIMENSIONS (MEASURED IN FEET ALONG ℄ OF GIRDER)																
GIRDER	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S
1	86'-10 11/16"	13'-9 3/4"	30'-0 "	13'-9 5/8"	64'-6 13/16"	15'-9 5/8"	28'-0 "	13'-9 3/4"	69'-6 3/8"	14'-3 13/16"	25'-0 "	16'-3 11/16"	60'-7 1/8"	13'-10 "	22'-0 "	13'-10 "	63'-10 11/16"	38'-4 5/16"
2	87'-1 5/16"	14'-0 "	30'-4 13/16"	13'-11 13/16"	65'-5 3/16"	16'-0 1/8"	28'-4 1/2"	14'-0 "	70'-5 5/8"	14'-6 1/8"	25'-4 1/16"	16'-6 5/16"	61'-4 1/8"	14'-0 1/4"	22'-3 9/16"	14'-0 1/4"	65'-11 1/2"	40'-1 1/16"
3	87'-3 1/8"	14'-2 9/16"	30'-9 1/16"	14'-2 1/16"	66'-3 5/8"	16'-2 1/16"	28'-9 1/16"	14'-2 3/16"	71'-4 13/16"	14'-8 7/16"	25'-8 1/16"	16'-8 15/16"	62'-2 1/16"	14'-2 7/16"	22'-7 1/8"	14'-2 1/16"	68'-3/8 "	41'-9 13/16"
4	87'-6 1/16"	14'-4 1/16"	31'-2 1/2"	14'-4 1/4"	67'-2 1/16"	16'-5 1/4"	29'-1 9/16"	14'-4 1/16"	72'-4 1/16"	14'-10 3/4"	26'-0 1/8"	16'-11 9/16"	63'-0 1/16"	14'-4 1/16"	22'-10 5/8"	14'-4 1/16"	70'-1 3/16"	43'-6 1/2"

	SHEAR CONNECTOR SPACING																			
	AA	BB	CC	DD	EE	FF	GG	HH	JJ	KK	LL	MM	NN	OO	PP	QQ	RR	SS	TT	UU
GIRDER	SPA. @ 16"		SPA. @ 12"		SPA. @ 14"		SPA. @ 12"		SPA. @ 14"		SPA. @ 13"		SPA. @ 12"		SPA. @ 11"		SPA. @ 12"	SPA. @ 10"		SPA. @ 14"
1	35 SPA.=46'-8 "	1'-2 11/16"	37 SPA.=37'-0 "	1'-1 3/8"	45 SPA.=52'-6 "	0'-6 13/16"	60 SPA.=60'-0 "	1'-1 3/8"	45 SPA.=52'-6 "	0'-6 3/8"	60 SPA.=65'-0 "	0'-7 1/2"	51 SPA.=51'-0 "	0'-8 1/8"	61 SPA.=55'-11 "	0'-8 "	45 SPA.=45'-0 "	30 SPA.=25'-0 "	0'-8 11/16"	31 SPA.=36'-2 "
2	35 SPA.=46'-8 "	0'-5 5/16"	38 SPA.=38'-0 "	0'-8 5/8"	46 SPA.=53'-8 "	0'-5 3/16"	61 SPA.=61'-0 "	0'-8 5/8"	46 SPA.=53'-8 "	1'-5 5/8"	60 SPA.=65'-0 "	1'-4 1/2"	51 SPA.=51'-0 "	0'-6 1/8"	62 SPA.=56'-10 "	1'-4 "	45 SPA.=45'-0 "	32 SPA.=26'-8 "	1'-1 1/2"	31 SPA.=36'-2 "
3	35 SPA.=46'-8 "	0'-7 1/8"	38 SPA.=38'-0 "	1'-5 15/16"	46 SPA.=53'-8 "	1'-3 5/8"	61 SPA.=61'-0 "	0'-3 15/16"	47 SPA.=54'-10 "	1'-3 13/16"	61 SPA.=66'-1 "	1'-1 7/16"	52 SPA.=52'-0 "	0'-5 11/16"	63 SPA.=57'-9 "	1'-0 "	46 SPA.=46'-0 "	35 SPA.=29'-2 "	0'-8 3/8"	31 SPA.=36'-2 "
4	35 SPA.=46'-8 "	0'-10 7/16"	38 SPA.=38'-0 "	1'-1 1/4"	47 SPA.=54'-10 "	1'-2 1/16"	62 SPA.=62'-0 "	1'-1 1/4"	47 SPA.=54'-10 "	1'-2 1/16"	62 SPA.=67'-2 "	0'-10 7/16"	53 SPA.=53'-0 "	1'-3 1/16"	63 SPA.=57'-9 "	0'-8 "	47 SPA.=47'-0 "	37 SPA.=30'-10 "	1'-1 3/16"	31 SPA.=36'-2 "

	SPAN LENGTHS				
GIRDER	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5
℄	115'-0 "	125'-0 "	125'-0 "	115'-0 "	89'-11 1/16"
1	114'-8 1/2"	124'-2 "	124'-2 "	114'-2 13/16"	88'-8 1/16"
2	115'-3 1/2"	125'-10 "	125'-10 "	115'-9 7/16"	91'-1 1/2"
3	115'-10 9/16"	127'-6 1/16"	127'-6 1/16"	117'-3 5/8"	93'-6 3/8"
4	116'-5 5/8"	129'-2 1/16"	129'-2 1/16"	118'-10 1/16"	95'-11 1/4"

	WEB SPLICE DISTANCE FROM PIER							
	PIER 1		PIER 2		PIER 3		PIER 4	
GIRDER	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT
℄	28'-0 "	30'-0 "	30'-0 "	28'-0 "	27'-0 "	29'-0 "	25'-0 "	25'-0 "
1	27'-9 3/4"	29'-9 5/8"	29'-9 5/8"	27'-9 3/4"	26'-9 13/16"	28'-9 11/16"	24'-10 "	24'-10 "
2	28'-2 1/4"	30'-2 3/8"	30'-2 3/8"	28'-2 1/4"	27'-2 3/16"	29'-2 5/16"	25'-2 "	25'-2 "
3	28'-6 3/4"	30'-7 3/16"	30'-7 3/16"	28'-6 3/4"	27'-6 1/2"	29'-7 "	25'-6 "	25'-6 "
4	28'-11 3/16"	31'-0 "	31'-0 "	28'-11 3/16"	27'-10 13/16"	29'-11 5/8"	25'-10 "	25'-10 "

	FLANGE SPLICE DISTANCE FROM PIER							
	PIER 1		PIER 2		PIER 3		PIER 4	
GIRDER	C1	C2	G1	G2	L1	L2	P1	P2
1	14'-0 "	16'-0 "	14'-0 "	14'-0 "	12'-6 "	12'-6 "	11'-0 "	11'-0 "
2	14'-2 1/4"	16'-2 9/16"	14'-2 1/4"	14'-2 1/4"	12'-8 "	12'-8 "	11'-1 3/4"	11'-1 3/4"
3	14'-4 1/2"	16'-5 3/16"	14'-4 1/2"	14'-4 1/2"	12'-10 1/16"	12'-10 1/16"	11'-3 9/16"	11'-3 9/16"
4	14'-6 3/4"	16'-7 3/4"	14'-6 3/4"	14'-6 3/4"	13'-1/16"	13'-1/16"	11'-5 5/16"	11'-5 5/16"

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (513) 771-7904
5085 Reed Road, Columbus, Ohio 43220

DATE 03-05-08
REVIEWED RMK
STRUCTURE FILE NUMBER 3111652
DRAWN KML
REVISED
DESIGNED SJA
CHECKED XAC

GIRDER ELEVATION
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

16 / 34

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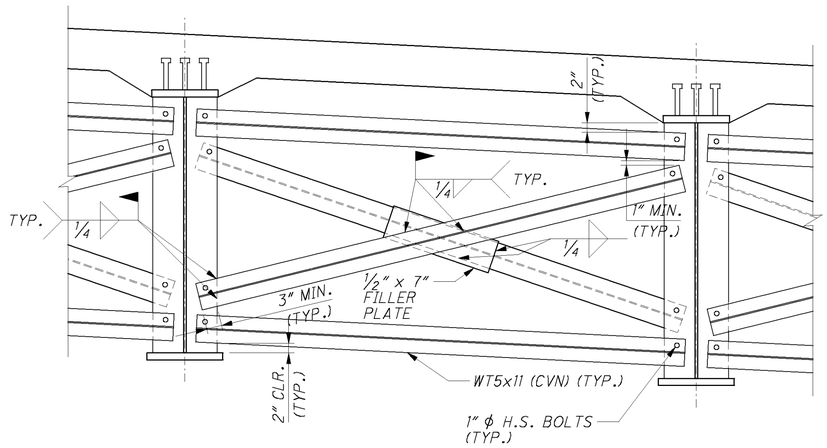
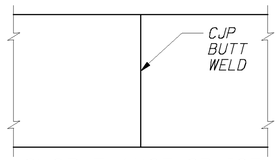
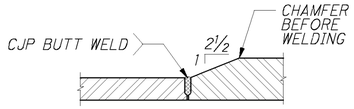


TYPICAL INTERMEDIATE CROSSFRAME



SHOP FLANGE SPLICE

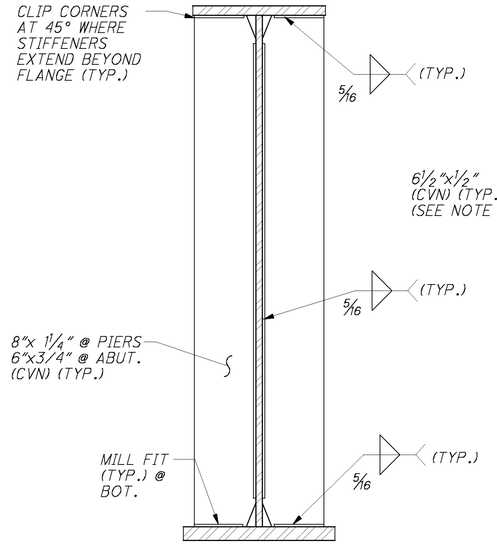
PLAN VIEW



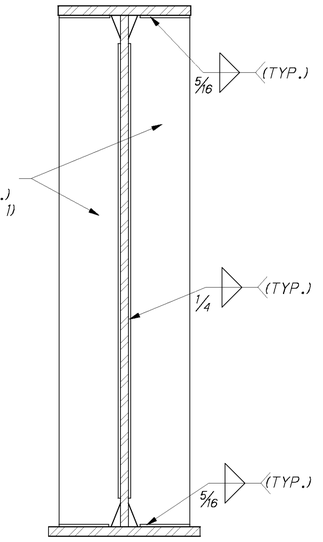
FLANGE WELD DETAIL

(WELD CONFIGURATION SHOWN FOR ILLUSTRATION ONLY. ACTUAL CONFIGURATION TO BE DETERMINED BY THE CONTRACTOR)

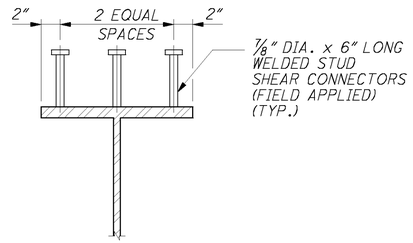
(GRIND COMPLETE JOINT PENETRATION WELD SMOOTH IN A LONGITUDINAL DIRECTION TO REMOVE WELD REINFORCEMENT.)



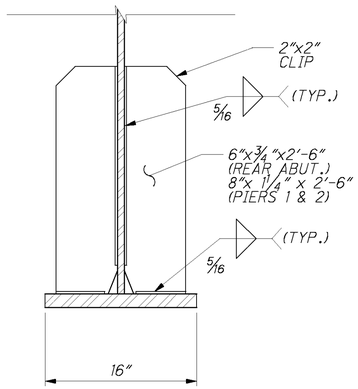
BEARING STIFFENER



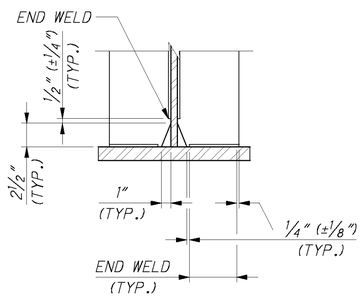
INTERMEDIATE STIFFENER WITH CROSSFRAMES



GIRDER SHEAR CONNECTOR DETAIL



JACKING STIFFENER



STIFFENER WELD DETAIL

NOTES:

1. INTERMEDIATE STIFFENERS ON FASCIA GIRDERS SHALL ONLY BE PLACED ON THE INSIDE OF THE WEB.
2. SEE SHT. 28, 29 & 30/34 FOR SCUPPER DETAILS.
3. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
4. ERECTION BOLTS: THE HOLE DIAMETER IN THE CROSS FRAMES AND GIRDER STIFFENERS SHALL BE 3/16" LARGER THAN THE DIAMETER OF THE ERECTION BOLTS. ERECTION BOLTS SHALL BE HIGH STRENGTH BOLTS AND SHALL REMAIN IN PLACE. SUPPLY TWO HARDENED WASHERS WITH EACH HIGH STRENGTH BOLT. FULLY TORQUE THE BOLTS OR USE A LOCK WASHER IN ADDITION TO THE TWO HARDENED WASHERS. FURNISH ERECTION BOLTS AS PART OF ITEM 513.

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (513) 779-7851
Cincinnati, Ohio 45202

DESIGNED SJA | DRAWN KML | CHECKED XAC | REVIEWED RMK | DATE 03-05-08

STRUCTURE FILE NUMBER 3111652

GIRDER DETAILS
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

17 / 34

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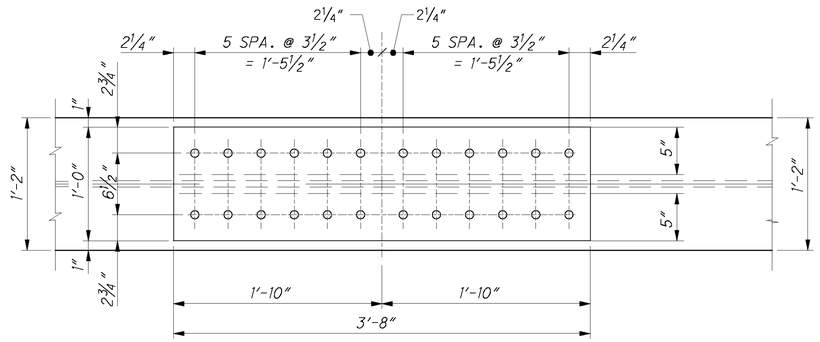
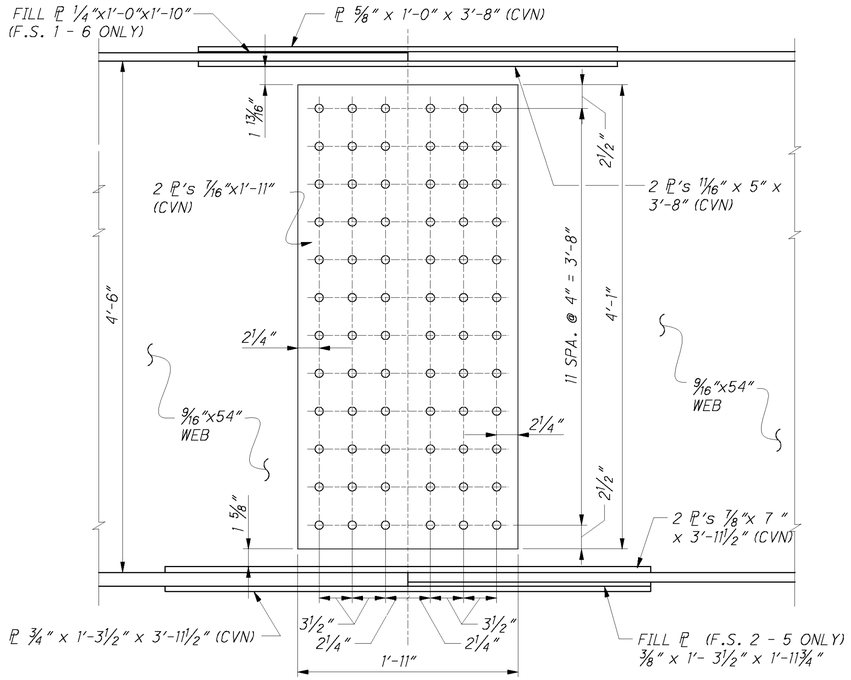
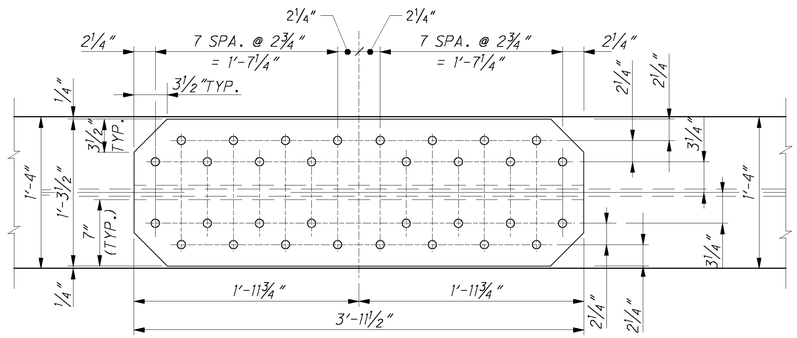


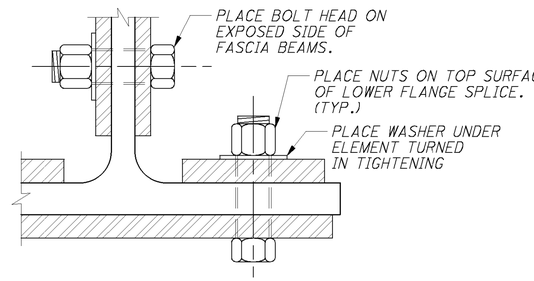
TOP FLANGE PLAN



GIRDER FIELD SPLICE ELEVATION



BOTTOM FLANGE PLAN



PARTIAL SECTION

(AT ℄ OF FIELD SPLICE)

NOTES:

1. ALL BOLTS SHALL BE 1⅛" DIA. HIGH STRENGTH BOLTS, ASTM A325 TYPE 1, GALVANIZED.
2. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050

DESIGNED	DRAWN	REVIEWED	DATE
SJA	KML	RMK	03-05-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		3111652	

SPLICE DETAILS
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

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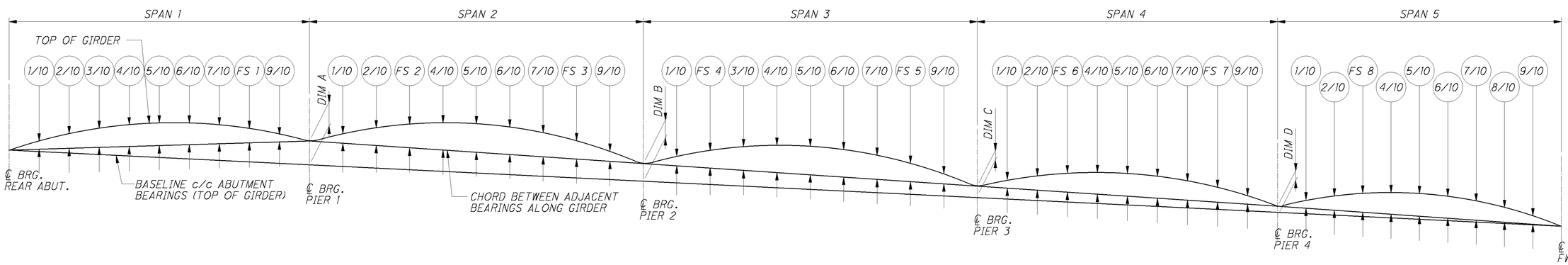

CAMBER TABLE (VALUE IN INCHES)

GIRDER 1	REAR ABUT.	SPAN 1 1/10	SPAN 1 2/10	SPAN 1 3/10	SPAN 1 4/10	SPAN 1 5/10	SPAN 1 6/10	SPAN 1 7/10	SPAN 1 SPLICE NO. 1	SPAN 1 9/10	℄ PIER 1	SPAN 2 1/10	SPAN 2 2/10	SPAN 2 SPLICE NO. 2	SPAN 2 4/10	SPAN 2 5/10	SPAN 2 6/10	SPAN 2 7/10	SPAN 2 SPLICE NO. 3	SPAN 2 9/10	℄ PIER 2	SPAN 3 1/10	SPAN 3 SPLICE NO. 4	SPAN 3 3/10	SPAN 3 4/10	SPAN 3 5/10	SPAN 3 6/10	SPAN 3 7/10	SPAN 3 SPLICE NO. 5	SPAN 3 9/10	℄ PIER 3
DEFLECTION DUE TO WEIGHT OF STEEL	0	3/16"	5/16"	3/8"	7/16"	7/16"	3/8"	1/4"	3/16"	1/16"	0	0"	0"	0"	1/8"	1/8"	1/8"	1/16"	1/16"	0"	0	1/16"	1/8"	3/16"	1/4"	1/4"	1/4"	3/16"	1/8"	1/16"	0
DEFLECTION DUE TO REMAINING DEAD LOAD	0	3/4"	1 5/16"	1 3/4"	1 15/16"	1 1/8"	1 5/16"	1 3/16"	1/8"	1/4"	0	- 1/16"	1/16"	1/8"	9/16"	1 1/16"	5/8"	1/16"	5/16"	0"	0	3/16"	9/16"	13/16"	1 1/8"	1 3/16"	1 1/8"	13/16"	1/2"	3/16"	0
GEOMETRIC CORRECTION	0	2 1/16"	4 3/8"	5 3/4"	6 9/16"	6 13/16"	6 9/16"	5 3/4"	5 1/8"	2 1/16"	0	2 3/16"	3 1/8"	1 11/16"	5 3/8"	5 1/8"	4 1/4"	3 3/16"	2 9/16"	1 1/16"	0	0"	0"	0"	0"	0"	0"	0"	0"	0"	0
TOTAL (REQUIRED SHOP CAMBER)	0	3 3/8"	6"	7 1/8"	8 15/16"	9 1/8"	8 9/16"	7 3/16"	6 3/16"	2 3/4"	0	2 1/8"	3 15/16"	1 13/16"	6 1/16"	5 15/16"	5"	3 11/16"	2 15/16"	1 1/16"	0	1/4"	11/16"	1"	1 3/8"	1 1/16"	1 3/8"	1"	5/8"	1/4"	0
GIRDER 2																														
DEFLECTION DUE TO WEIGHT OF STEEL	0	3/16"	5/16"	3/8"	7/16"	7/16"	3/8"	1/4"	3/16"	1/16"	0	0"	0"	0"	1/8"	1/8"	1/8"	1/16"	1/16"	0"	0	1/16"	1/8"	3/16"	1/4"	5/16"	1/4"	3/16"	1/8"	1/16"	0
DEFLECTION DUE TO REMAINING DEAD LOAD	0	1 1/16"	1 5/16"	1 11/16"	1 1/8"	1 13/16"	1 9/16"	1 1/8"	1/8"	1/4"	0	- 1/16"	1/16"	3/16"	9/16"	1 1/16"	5/8"	1/16"	1/4"	0"	0	3/16"	9/16"	1/8"	1 3/16"	1 5/16"	1 3/16"	1/8"	9/16"	3/16"	0
GEOMETRIC CORRECTION	0	2 1/16"	4 3/8"	5 3/4"	6 9/16"	6 13/16"	6 9/16"	5 3/4"	4 15/16"	2 1/16"	0	2 1/16"	4 1/8"	1 15/16"	5 3/16"	5 5/16"	4 3/8"	3 5/16"	2 5/8"	1 1/8"	0	0"	0"	0"	0"	0"	0"	0"	0"	0"	0
TOTAL (REQUIRED SHOP CAMBER)	0	3 5/16"	6"	7 13/16"	8 1/8"	9 1/16"	8 1/2"	7 1/8"	6"	2 3/4"	0	2 3/8"	4 3/16"	2 1/8"	6 1/4"	6 1/8"	5 1/4"	3 13/16"	2 15/16"	1 1/8"	0	1/4"	11/16"	1 1/16"	1 1/16"	1 5/8"	1 1/16"	1 1/16"	11/16"	1/4"	0
GIRDER 3																														
DEFLECTION DUE TO WEIGHT OF STEEL	0	3/16"	5/16"	1/16"	1/16"	1/16"	3/8"	1/4"	3/16"	1/16"	0	0"	0"	0"	1/8"	1/8"	1/8"	1/8"	1/16"	0"	0	1/16"	1/8"	1/4"	5/16"	5/16"	5/16"	1/4"	1/8"	1/16"	0
DEFLECTION DUE TO REMAINING DEAD LOAD	0	1 1/16"	1 5/16"	1 3/4"	1 1/8"	1 1/8"	1 9/16"	1 1/8"	1/8"	1/4"	0	- 1/16"	1/8"	3/16"	5/8"	3/4"	1 1/16"	1/2"	5/16"	0"	0	3/16"	5/8"	15/16"	1 5/16"	1 1/16"	1 5/16"	15/16"	5/8"	3/16"	0
GEOMETRIC CORRECTION	0	2 1/16"	4 3/8"	5 3/4"	6 9/16"	6 13/16"	6 1/2"	5 3/4"	4 1/8"	2 1/16"	0	2 3/4"	4 3/8"	2 3/16"	5 3/4"	5 1/16"	4 1/2"	3 3/8"	2 11/16"	1 1/8"	0	0"	0"	0"	0"	0"	0"	0"	0"	0"	0
TOTAL (REQUIRED SHOP CAMBER)	0	3 9/16"	6"	7 15/16"	8 1/8"	9 1/8"	8 1/16"	7 1/8"	5 15/16"	2 3/4"	0	2 11/16"	4 1/2"	2 3/8"	6 1/2"	6 5/16"	5 5/16"	4"	3 1/16"	1 1/8"	0	1/4"	3/4"	1 3/16"	1 5/8"	1 3/4"	1 3/8"	1 3/16"	3/4"	1/4"	0
GIRDER 4																														
DEFLECTION DUE TO WEIGHT OF STEEL	0	3/16"	5/16"	1/16"	1/16"	1/16"	3/8"	1/4"	3/16"	1/16"	0	0"	0"	1/16"	1/8"	3/16"	1/8"	1/8"	1/16"	0"	0	1/16"	3/16"	1/4"	5/16"	3/8"	5/16"	1/4"	1/8"	1/16"	0
DEFLECTION DUE TO REMAINING DEAD LOAD	0	3/4"	1 3/8"	1 13/16"	2"	1 15/16"	1 11/16"	1 3/16"	15/16"	1/4"	0	0"	3/16"	1/4"	3/4"	15/16"	13/16"	9/16"	3/8"	0"	0	1/4"	3/4"	1 1/8"	1 1/2"	1 5/8"	1 1/2"	1 1/8"	11/16"	1/4"	0
GEOMETRIC CORRECTION	0	2 1/16"	4 3/8"	5 3/4"	6 9/16"	6 13/16"	6 9/16"	5 3/4"	4 13/16"	2 1/16"	0	2 15/16"	4 9/16"	2 5/16"	5 1/8"	5 3/16"	4 5/8"	3 1/16"	2 3/4"	1 1/8"	0	0"	0"	0"	0"	0"	0"	0"	0"	0"	0
TOTAL (REQUIRED SHOP CAMBER)	0	3 3/8"	6 1/16"	8"	9"	9 3/16"	8 5/8"	7 3/16"	5 15/16"	2 3/4"	0	2 5/16"	4 3/4"	2 5/8"	6 3/4"	6 11/16"	5 9/16"	4 1/8"	3 3/16"	1 1/8"	0	5/16"	15/16"	1 3/8"	1 13/16"	2"	1 13/16"	1 3/8"	13/16"	5/16"	0

CAMBER TABLE (VALUE IN INCHES)

GIRDER 1	℄ PIER 3	SPAN 4 1/10	SPAN 4 2/10	SPAN 4 SPLICE NO. 6	SPAN 4 4/10	SPAN 4 5/10	SPAN 4 6/10	SPAN 4 7/10	SPAN 4 SPLICE NO. 7	SPAN 4 9/10	℄ PIER 4	SPAN 5 1/10	SPAN 5 2/10	SPAN 5 SPLICE NO. 8	SPAN 5 4/10	SPAN 5 5/10	SPAN 5 6/10	SPAN 5 7/10	SPAN 5 8/10	SPAN 5 9/10	FWD. ABUT.
DEFLECTION DUE TO WEIGHT OF STEEL	0	0"	1/16"	1/16"	1/8"	1/8"	1/8"	1/8"	1/16"	0"	0	0"	1/16"	1/16"	1/8"	3/16"	3/16"	1/8"	1/8"	1/16"	0
DEFLECTION DUE TO REMAINING DEAD LOAD	0	0"	3/16"	5/16"	5/8"	1 11/16"	1 11/16"	1/2"	5/16"	1/16"	0	1/16"	1/4"	1/16"	5/8"	3/4"	1 3/16"	1 1/16"	9/16"	5/16"	0
GEOMETRIC CORRECTION	0	-1 1/16"	-2 1/2"	-3"	-3 3/4"	-3 15/16"	-3 3/4"	-3 1/4"	-2 9/16"	-1 1/4"	0	5/8"	1 3/16"	1 9/16"	1 15/16"	2"	1 15/16"	1 3/4"	1 5/16"	3/4"	0
TOTAL (REQUIRED SHOP CAMBER)	0	-1 1/16"	-2 1/4"	-2 5/8"	-3"	-3 1/8"	-2 15/16"	-2 5/8"	-2 3/16"	-1 3/16"	0	1 11/16"	1 1/2"	2 1/16"	2 1/16"	2 15/16"	2 15/16"	2 9/16"	2"	1 1/8"	0
GIRDER 2																					
DEFLECTION DUE TO WEIGHT OF STEEL	0	0"	1/16"	1/16"	1/8"	1/8"	1/8"	1/8"	1/16"	0"	0	0"	1/16"	1/16"	1/8"	3/16"	3/16"	1/16"	1/8"	1/16"	0
DEFLECTION DUE TO REMAINING DEAD LOAD	0	0"	1/8"	1/4"	9/16"	1 11/16"	5/8"	1/16"	1/4"	0"	0	1/8"	5/16"	1/2"	3/4"	1/8"	1/8"	3/4"	9/16"	5/16"	0
GEOMETRIC CORRECTION	0	-1 1/16"	-2 1/2"	-3"	-3 3/4"	-3 15/16"	-3 3/4"	-3 1/4"	-2 9/16"	-1 1/4"	0	1 1/16"	1 3/4"	2 1/8"	2 1/2"	2 5/8"	2 1/2"	2 1/8"	1 5/8"	1/8"	0
TOTAL (REQUIRED SHOP CAMBER)	0	-1 1/16"	-2 5/16"	-2 11/16"	-3 1/16"	-3 1/8"	-3"	-2 1/16"	-2 1/4"	-1 1/4"	0	1 3/16"	2 1/8"	2 3/4"	3 1/16"	3 11/16"	3 9/16"	3 1/16"	2 5/16"	1 1/4"	0
GIRDER 3																					
DEFLECTION DUE TO WEIGHT OF STEEL	0	0"	0"	1/16"	1/8"	1/8"	1/8"	1/8"	1/16"	0"	0	0"	1/16"	1/8"	3/16"	3/16"	3/16"	3/16"	1/8"	1/16"	0
DEFLECTION DUE TO REMAINING DEAD LOAD	0	0"	1/8"	1/4"	5/8"	1 11/16"	5/8"	1/2"	1/4"	0"	0	1/8"	5/16"	9/16"	1 3/16"	1"	1"	1/8"	1 1/16"	3/8"	0
GEOMETRIC CORRECTION	0	-1 1/16"	-2 1/2"	-3"	-3 3/4"	-3 15/16"	-3 3/4"	-3 1/4"	-2 9/16"	-1 1/4"	0	1 1/16"	2 5/16"	2 1/16"	3 1/8"	3 3/16"	3 1/16"	2 9/16"	1 15/16"	1 1/16"	0
TOTAL (REQUIRED SHOP CAMBER)	0	-1 1/16"	-2 3/8"	-2 11/16"	-3"	-3 1/8"	-3"	-2 5/8"	-2 1/4"	-1 1/4"	0	1 9/16"	2 11/16"	3 3/8"	4 1/8"	4 3/8"	4 1/4"	3 5/8"	2 3/4"	1 1/2"	0
GIRDER 4																					
DEFLECTION DUE TO WEIGHT OF STEEL	0	0"	0"	1/16"	1/8"	1/8"	1/8"	1/8"	1/16"	0"	0	1/16"	1/16"	1/8"	3/16"	1/4"	1/4"	3/16"	3/16"	1/16"	0
DEFLECTION DUE TO REMAINING DEAD LOAD	0	0"	3/16"	5/16"	11/16"	1 13/16"	3/4"	1/2"	1/4"	0"	0	3/16"	1/16"	5/8"	1"	1 3/16"	1 3/16"	1 1/16"	1 3/16"	7/16"	0
GEOMETRIC CORRECTION	0	-1 1/16"	-2 1/2"	-3"	-3 3/4"	-3 15/16"	-3 3/4"	-3 1/4"	-2 9/16"	-1 1/4"	0	1 1/2"	2 1/16"	2 13/16"	3 3/8"	3 9/16"	3 3/8"	2 13/16"	2 1/8"	1 1/8"	0
TOTAL (REQUIRED SHOP CAMBER)	0	-1 1/16"	-2 5/16"	-2 5/8"	-2 15/16"	-3"	-2 1/8"	-2 5/8"	-2 1/4"	-1 1/4"	0	1 3/4"	2 5/16"	3 9/16"	4 9/16"	5"	4 13/16"	4 1/16"	3 1/8"	1 5/8"	0

CAMBER IS CALCULATED FOR THE ENTIRE DECK SLAB PLACED AT THE SAME TIME.

BLOCKING DIMENSION				
GIRDER	DIM. A	DIM. B	DIM. C	DIM. D
G1	3'-2 15/16"	2'-3"	0'-4 3/8"	0'-5/8"
G2	3'-6 13/16"	2'-7 1/8"	0'-8 1/16"	0'-4 5/8"
G3	3'-10 13/16"	2'-11 7/8"	1'-5/8"	0'-8 13/16"
G4	4'-5/16"	3'-1/16"	1'-1 9/16"	0'-9 3/8"

NOTES:

1. POSITIVE CAMBER IS UPWARD.
2. GEOMETRIC CORRECTION IS A COMBINATION OF VERTICAL CURVE AND SUPERELEVATION TRANSITION CORRECTIONS.
3. CAMBER VALUES DO NOT INCLUDE ALLOWANCES FOR LOSS DUE TO HEAT CURVING. IF HEAT CURVING IS USED, ADJUST CAMBERS PER AASHTO 10.15.3.

DESIGN AGENCY: BURGESS & NIPLE, 8 Triad Center, Suite 350, Salt Lake City, Utah 84180

DESIGNED SJA | DRAWN KML | CHECKED XAC | REVIEWED RMK | DATE 03-05-08

STRUCTURE FILE NUMBER 3111652

CAMBER DIAGRAM

BRIDGE NO. HAM-264-1457 OVER S.R. 264

W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79

PID No. 20082

19 / 34

422 / 657

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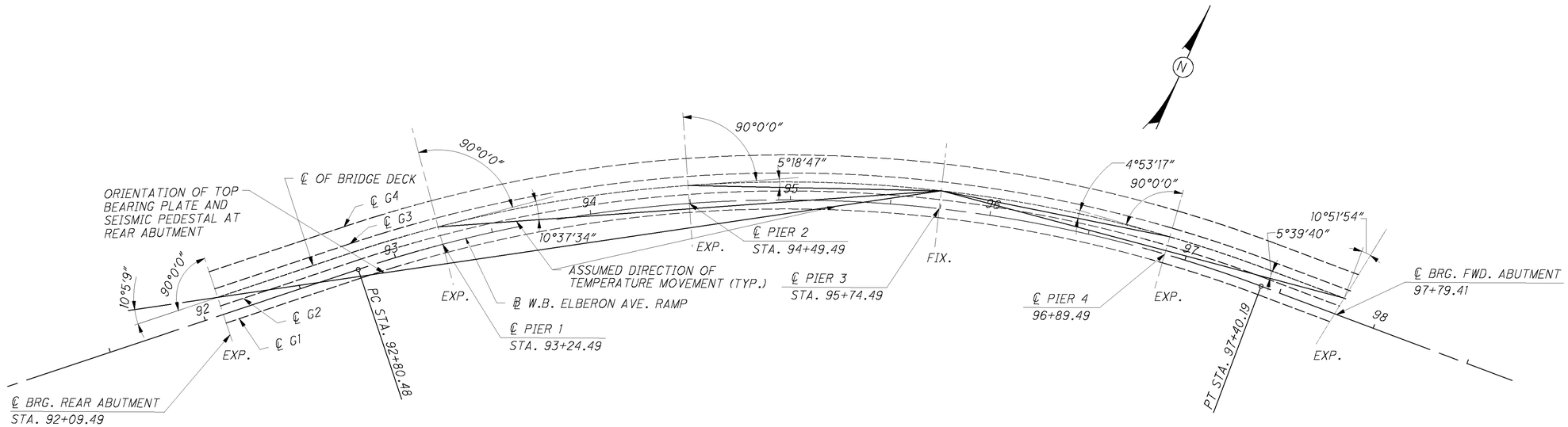

BEARING MOVEMENT DIAGRAM

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DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (614) 459-2241
Columbus, Ohio 43240

DESIGNED	DRAWN	REVIEWED	DATE
SJA	KML	RMK	03-05-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		3111652	

BEARING MOVEMENT DIAGRAM
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

20 / 34

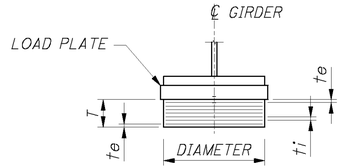
423
657

LAMINATED ELASTOMERIC BEARINGS

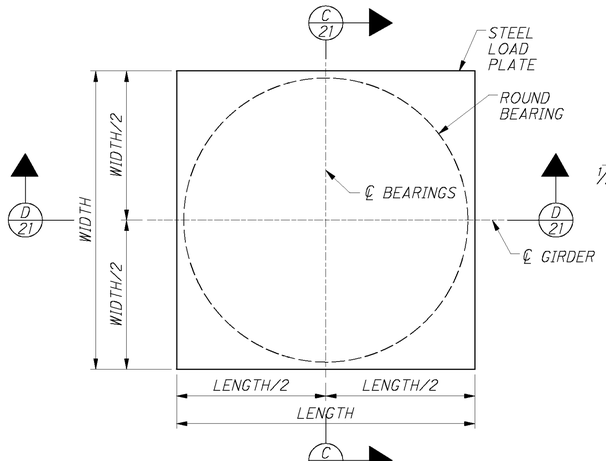
LOCATION	BEARING TYPE	BEARING DIMENSIONS DIAMETER	ti	te	T	N	STEEL LOAD PLATE LENGTH x WIDTH x THICKNESS	BEVEL DIMENSIONS A	B	REACTIONS (KIPS) DL	LL	MAXIMUM DESIGN REACTION (KIPS)
REAR ABUTMENT	SPECIAL	18"	3/4"	1/2"	8 1/2"	10	1'-7" x 1'-8" x 2" AVG.	2 1/4"	1 3/4"	82	71	153
PIER 1	EXP.	26"	3/4"	1/2"	6 1/8"	8	2'-3" x 2'-3" x 2 3/4" AVG.	3 5/8"	1 1/8"	275	125	400
PIER 2	EXP.	26"	3/4"	1/2"	6"	7	2'-3" x 2'-3" x 2 3/4" AVG.	3 15/16"	1 1/2"	251	125	376
PIER 3	FIXED	26"	3/4"	1/2"	6"	7	2'-3" x 3'-2 1/2" x 2 3/4" AVG.	3 15/16"	1 1/2"	249	127	376
PIER 4	EXP.	24"	3/4"	1/2"	4 3/8"	5	2'-1" x 2'-1" x 2 3/4" AVG.	3 1/2"	1 15/16"	223	114	337
FORWARD ABUTMENT	EXP.	18"	3/4"	1/2"	3 9/16"	4	1'-7" x 2'-5" x 2" AVG.	2 13/16"	1 3/16"	64	71	135

ti = THICKNESS OF INTERNAL LAMINATE
te = THICKNESS OF EXTERNAL LAMINATE
T = TOTAL THICKNESS OF ELASTOMERIC BEARING

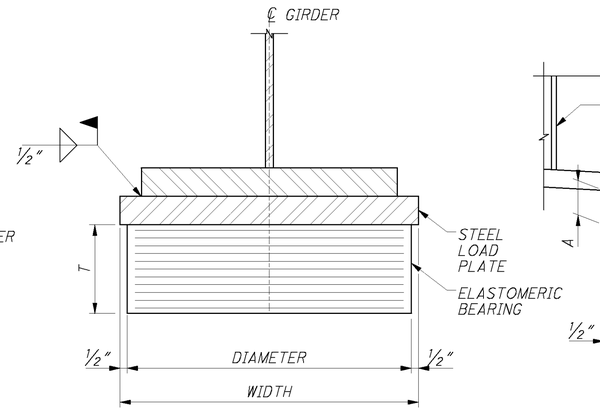
N = NO. OF STEEL LAMINATES
INTERNAL STEEL LAMINATE THICKNESS = 0.075"
DUROMETER OF ELASTOMER = 50 DUROMETER
LOAD PLATE THICKNESS IS MEASURED AT CENTERLINE OF BEARINGS.



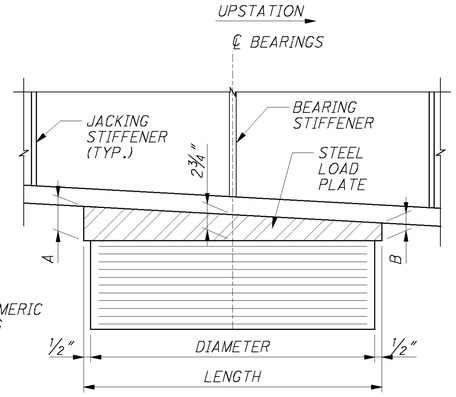
LAMINATED ELASTOMERIC BEARINGS



PIER BEARING PLAN
(EXPANSION)
PIER 1, 2 & 4

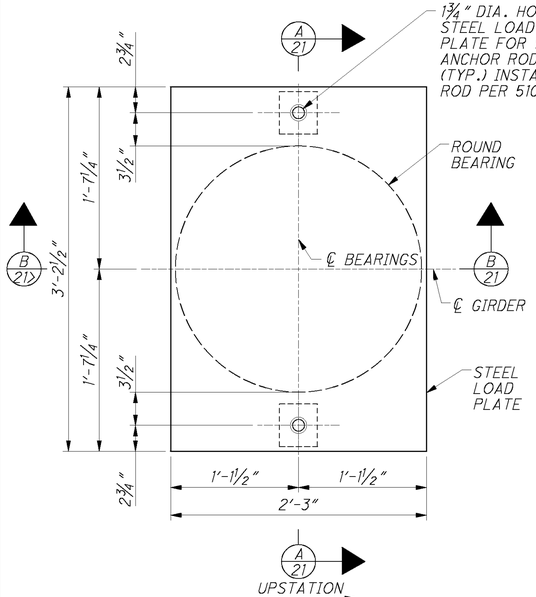


SECTION C 21

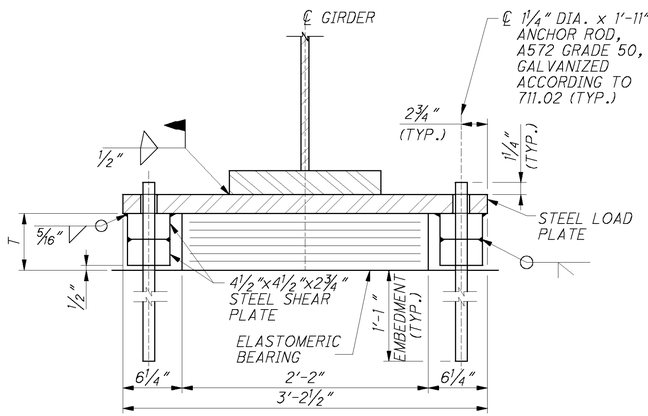


SECTION D 21

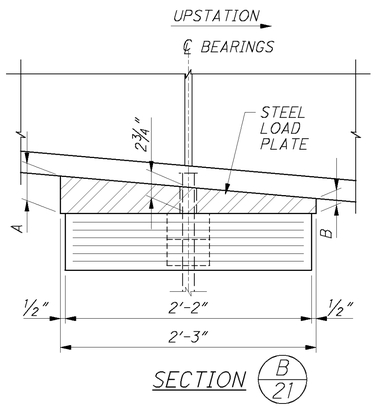
JACKING STIFFENERS FOR
PIERS 1 & 2 SHOWN
(PIER 4 - NO JACKING
STIFFENERS REQUIRED)



PIER BEARING PLAN
(FIXED)
PIER 3



SECTION A 21



SECTION B 21

NOTES:

EACH BEARING ASSEMBLY SHALL BE SHOP MARKED WITH THE FOLLOWING INFORMATION: TOP, FORWARD STATION DIRECTION, LOCATION (REAR ABUTMENT, PIER 1, PIER 2, PIER 3, PIER 4, FORWARD ABUTMENT.)

REAR ABUTMENT ELASTOMERIC BEARINGS:
THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.5. (METHOD B) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

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

BEARING REPOSITIONING:
IF GIRDERS ARE PLACED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60°F ± 10°F, THE GIRDERS SHALL BE RAISED TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F ± 10°F.

WELDING:
CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300° F AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

LOAD PLATE:
THE STEEL LOAD PLATE, STEEL PLATE, STEEL FILL PLATE AND MASONRY PLATE SHALL BE THE SAME MATERIAL AS THE ATTACHED STRUCTURAL STEEL AND BE SIMILARLY CLEANED AND COATED. SURFACE PREPARATION AND PRIMING SHALL BE DONE IN THE SHOP AND BE INCLUDED IN THE PRICE BID FOR BEARINGS. FIELD COATS SHALL BE INCLUDED IN THE PRICE BID FOR PAINTING MAIN STRUCTURAL STEEL.

THE STEEL LOAD PLATES SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

BASIS OF PAYMENT:
THE UNIT BID PRICE INCLUDES ALL MATERIALS, LABOR, TESTING AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL ELASTOMERIC BEARINGS INCLUDING STEEL LOAD PLATES, STEEL PLATE, STEEL FILL PLATE, MASONRY PLATE, ANCHOR BOLTS, THREADED STUDS, NUTS, WASHERS AND FABRIC PADS. PAYMENT WILL BE INCLUDED WITH THE APPROPRIATE 516 ITEM.

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (614) 459-2070
Columbus, Ohio 43230

DESIGNED SJA | DRAWN KML | CHECKED XAC | REVIEWED RMK | DATE 03-05-08
STRUCTURE FILE NUMBER 3111652

BEARING DETAILS 1
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

21 / 34

424 / 630

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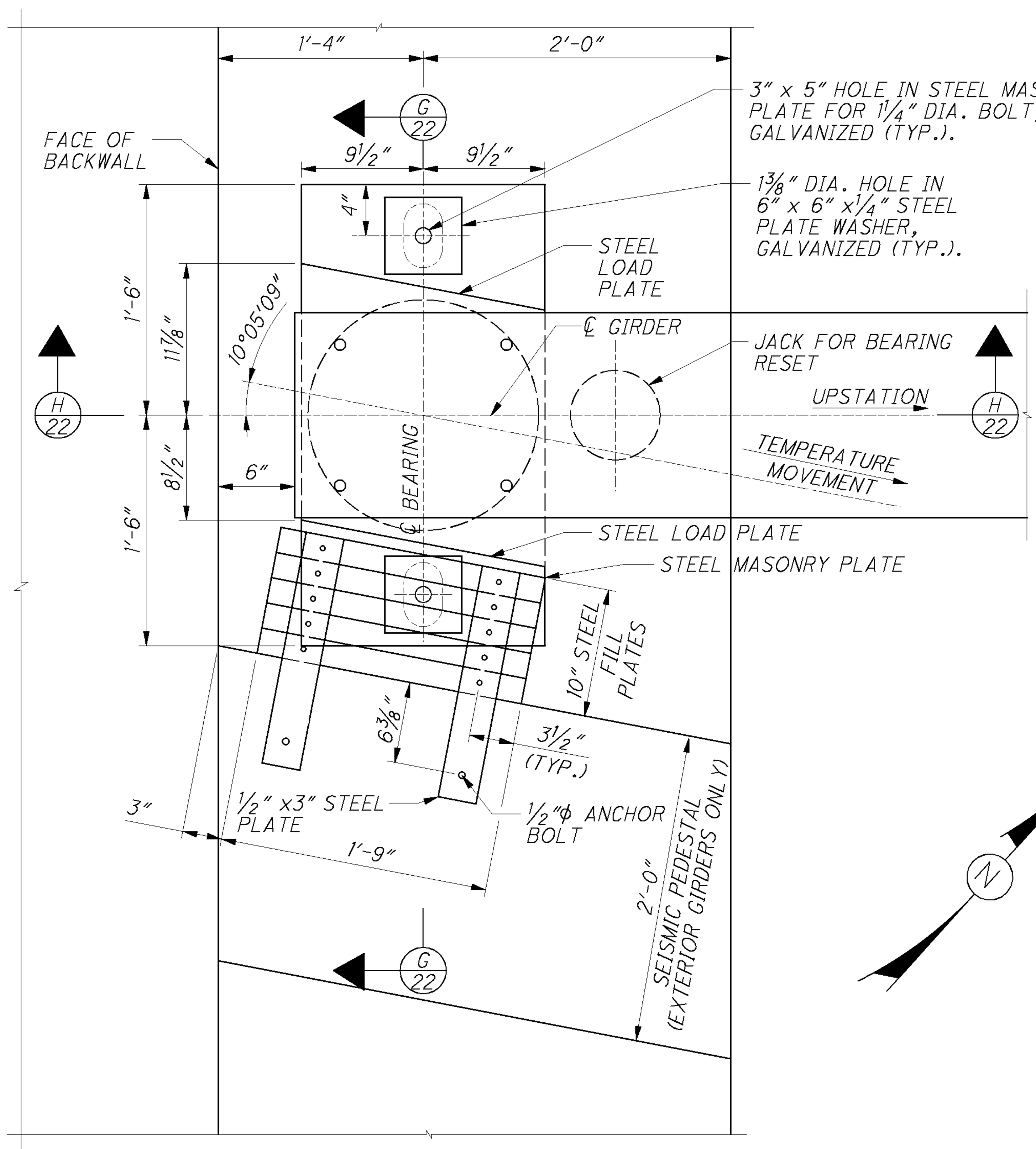
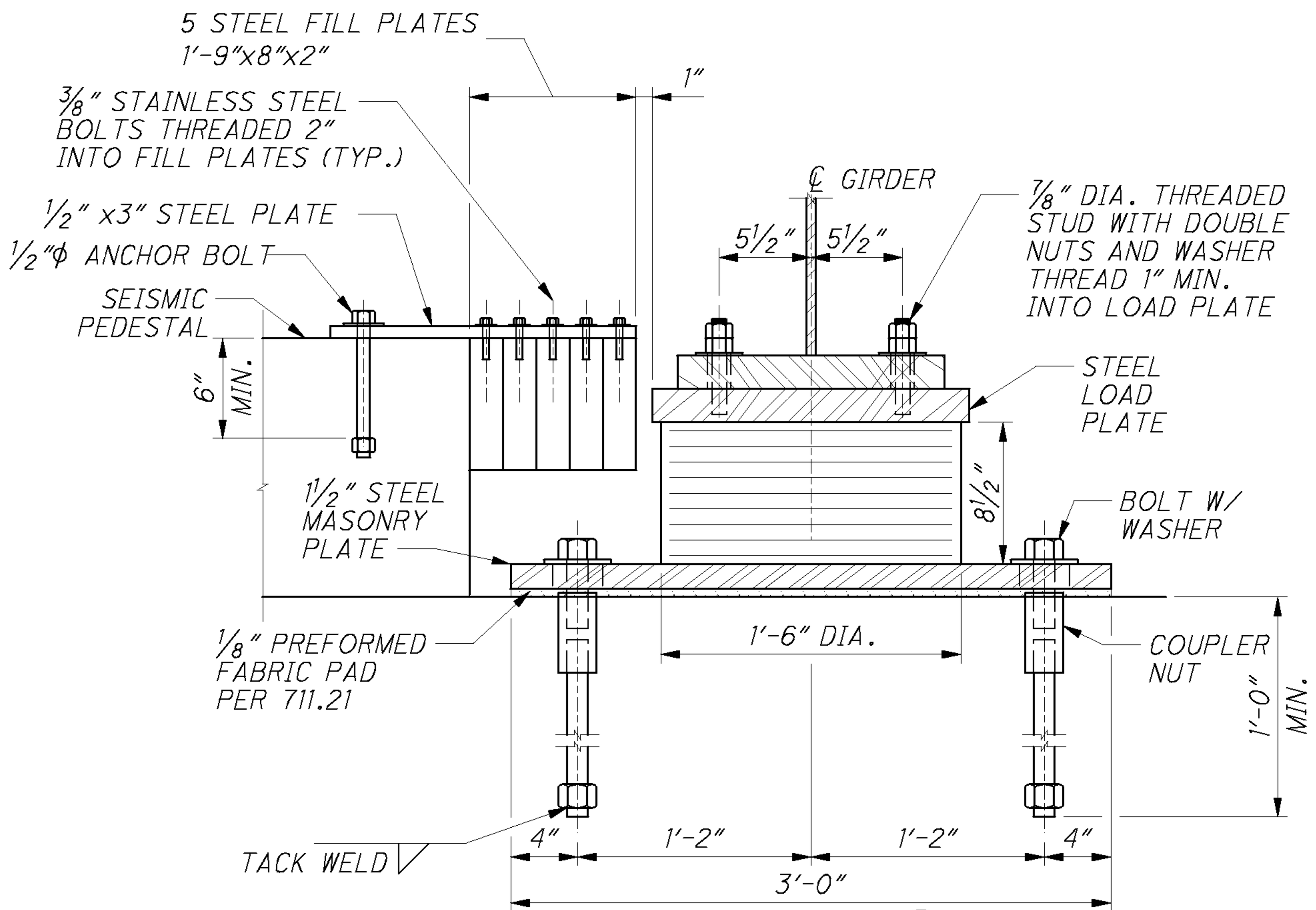
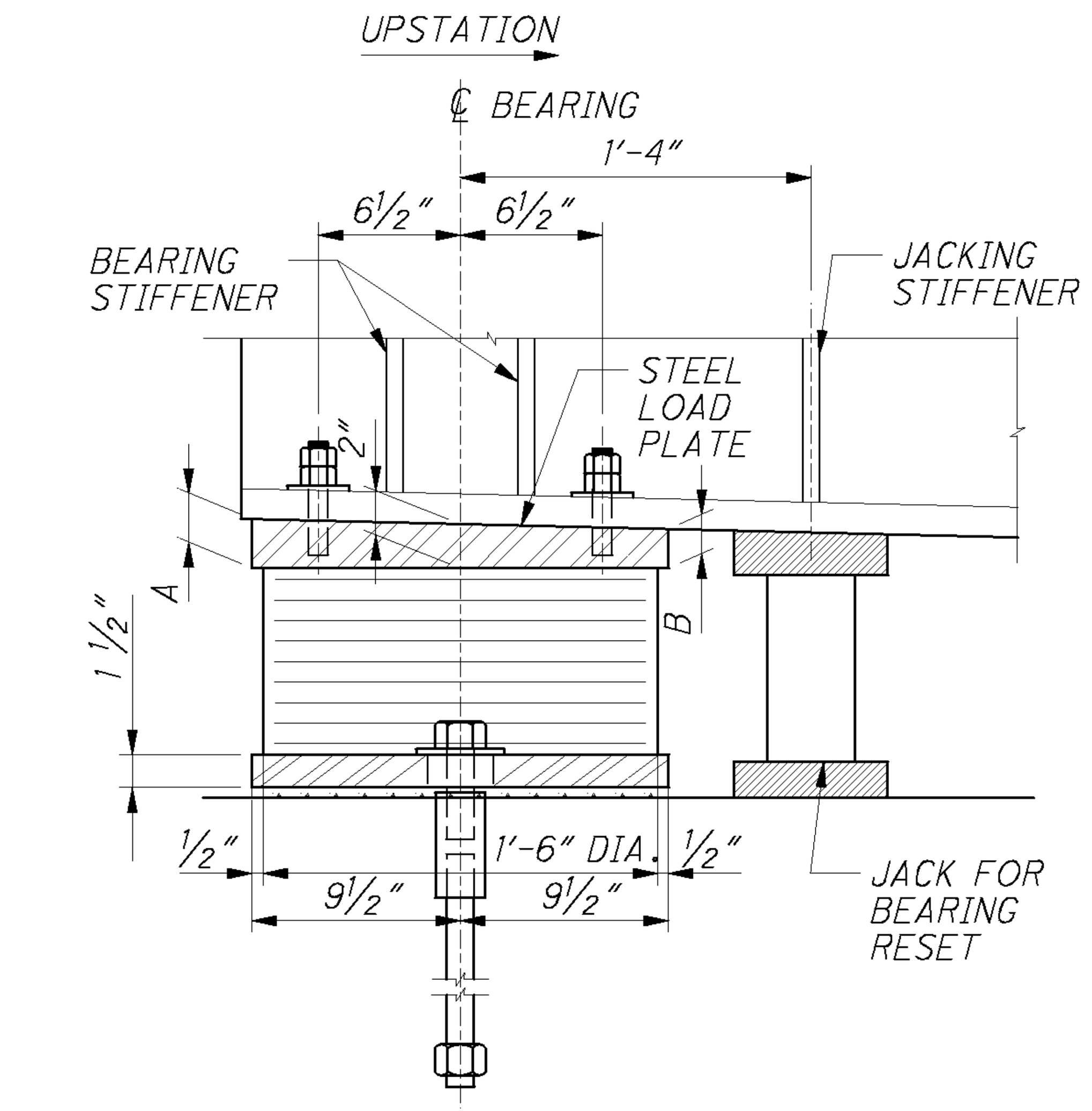


REAR ABUTMENT BEARING PLAN
(SPECIAL)



SECTION G/22

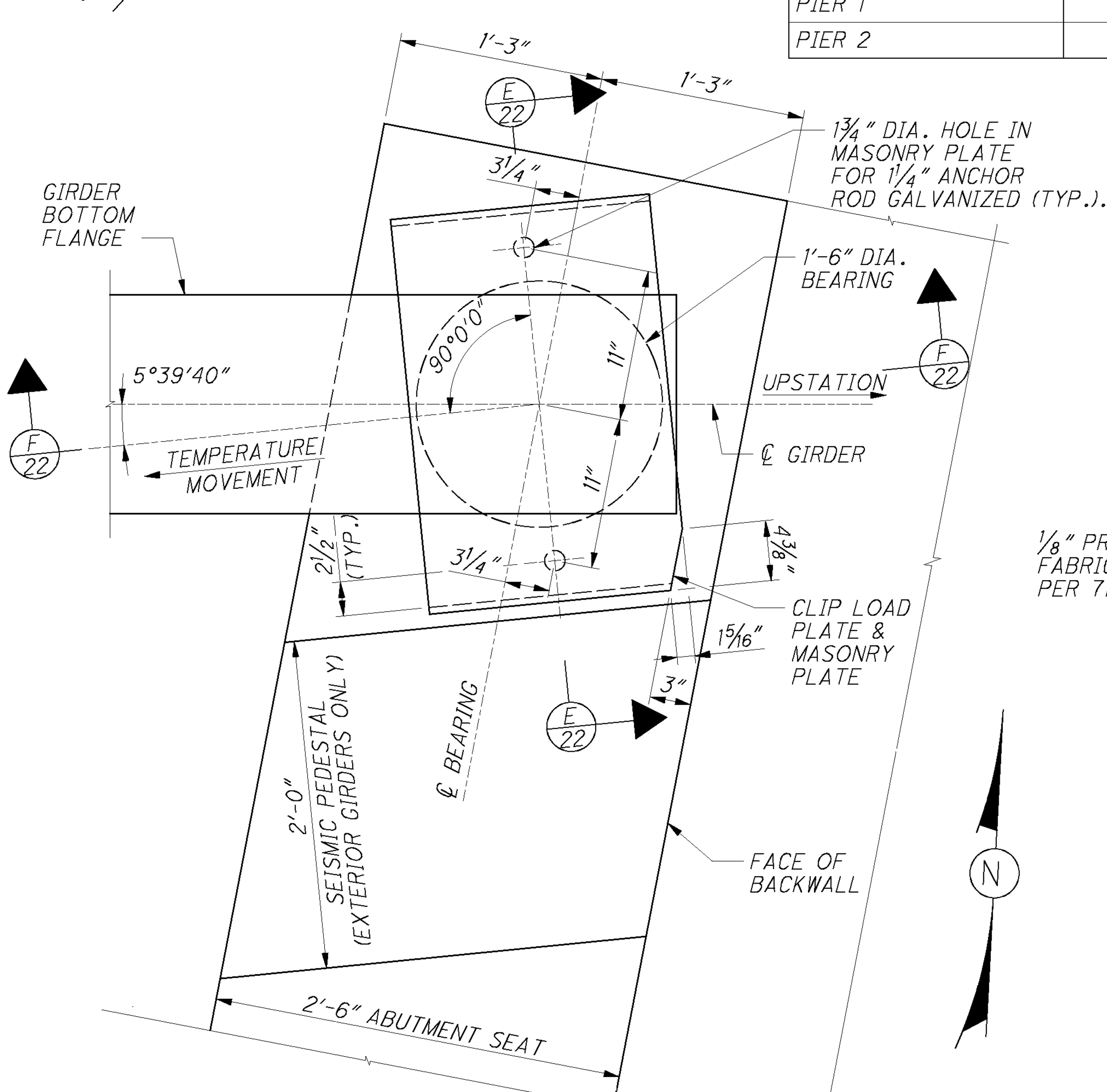


SECTION H/22

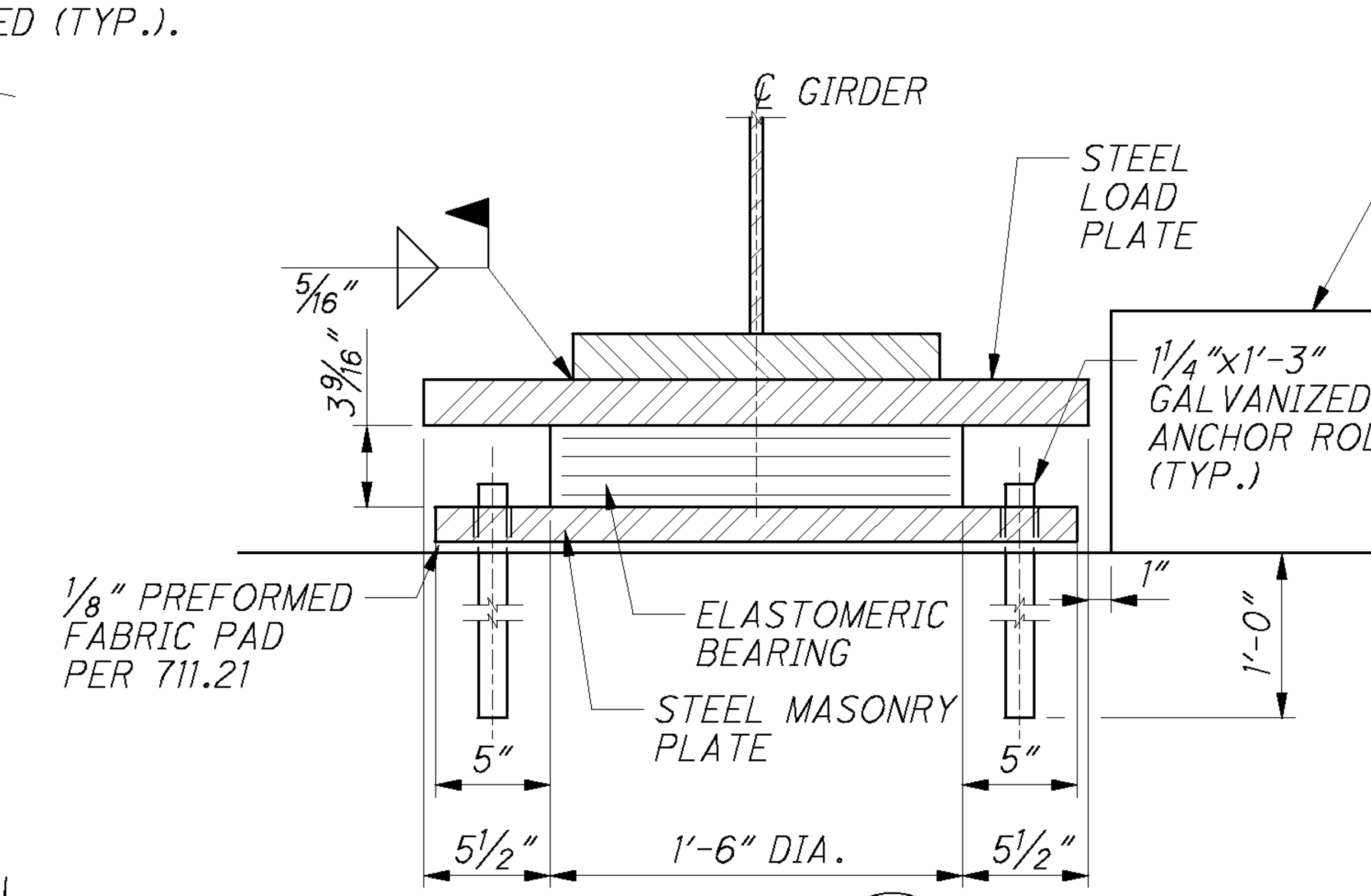
JACKING DESIGN CRITERIA			
LOCATION	DEAD LOAD REACTION (KIPS)	LIVE LOAD & IMPACT REACTION (KIPS)	TOTAL REACTION (KIPS)
REAR ABUTMENT	82	89	171
PIER 1	275	156	431
PIER 2	251	156	407

NOTES:

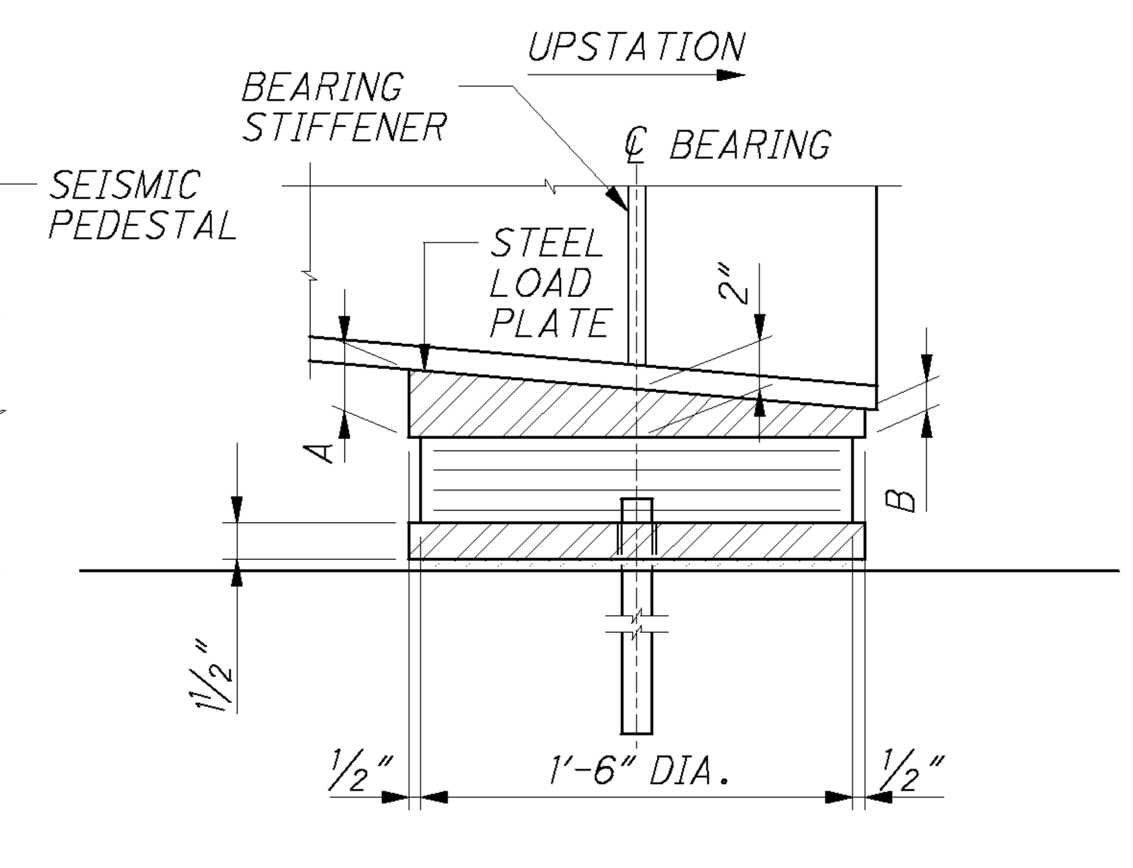
1. JACKING STIFFENERS HAVE BEEN DESIGNED SO THAT BEARINGS CAN BE REPLACED WITH THE BRIDGE UNDER DEAD LOAD AND FULL LIVE LOAD.
2. JACKS SHALL BE PLACED AT THE POSITION SHOWN. EACH ABUTMENT OR PIER SHALL BE RAISED SIMULTANEOUSLY USING JACKS THAT WILL ALLOW SYNCHRONOUS LIFT.



FORWARD ABUTMENT BEARING PLAN
(GIRDER G4 SHOWN, GIRDER G1 OPPOSITE HAND
GIRDER G2 & G3 - NO SEISMIC PEDESTAL)



SECTION E/22



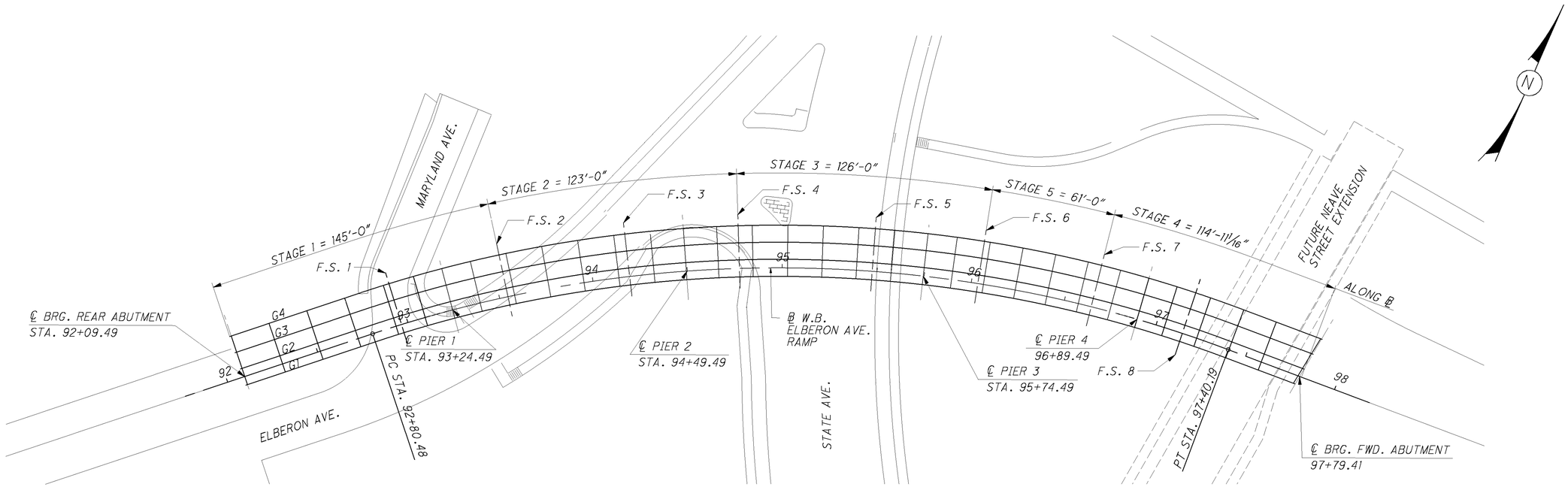
SECTION F/22

DESIGN AGENCY: BURGESS & NIPLE

DESIGNED	DRAWN	REVIEWED	DATE
SJA	KML	RMK	03-05-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		3111652	

BEARING DETAILS 2
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082



PLAN

GIRDER ERECTION NOTES:

THE CONSTRUCTION SEQUENCE SHOWN DEMONSTRATES ONE FEASIBLE ALTERNATIVE TO ERECT THE CURVED GIRDERS. THE CONTRACTOR HAS THE OPTION OF USING AN ALTERNATE METHOD OF GIRDER ERECTION WITH PRIOR APPROVAL OF THE ENGINEER.

** THE GIRDER WEIGHTS REPRESENT VERTICAL DEAD LOAD OF THE SPLICED GIRDER SEGMENT ONLY. CONTRACTOR MUST ACCOUNT FOR ADDITIONAL LOADS DUE TO WIND AND HIS ERECTION METHODS.

SUBMIT SHOP DRAWINGS WITH PROPOSED GIRDER ERECTION DETAILS IN CONFORMANCE WITH SECTION 501.04.

VERTICAL AND HORIZONTAL STABILITY SHALL BE MAINTAINED FOR EACH STAGE BY THE CONTRACTOR AS ALL INTERMEDIATE STAGES ARE UNSTABLE WITHOUT TEMPORARY SHORING AND BRACING. THE DESIGN OF SHORING AND BRACING SHALL INCLUDE ADDITIONAL LOADING DUE TO WIND AND CONSTRUCTION LIVE LOAD ON THE PREVIOUS STAGE(S). THE CONTRACTOR SHALL SUBMIT THE SHORING AND BRACING DESIGN TO THE ENGINEER FOR APPROVAL PRIOR TO PLACING ANY GIRDERS.

COORDINATE WITH ROADWAY AND UTILITY CONSTRUCTION BELOW BRIDGE.

GIRDER	STAGE 1 **	STAGE 2 **	STAGE 3 **	STAGE 4 **	STAGE 5 **
	GIRDER WEIGHT (KIPS) (GIRDER + F.S. 1)	GIRDER WEIGHT (KIPS) (GIRDER + F.S. 3)	GIRDER WEIGHT (KIPS) (GIRDER + F.S. 5)	GIRDER WEIGHT (KIPS) (GIRDER ONLY)	GIRDER WEIGHT (KIPS) (GIRDER + F.S. 8)
G1	39	32	32	13	27
G2	39	33	32	13	28
G3	40	33	33	13	29
G4	40	33	33	13	29

SUGGESTED GIRDER ERECTION SEQUENCE:

1. SPLICE ON GROUND THEN ERECT SEGMENT OF GIRDER G1
2. BRACE GIRDER G1 TO SUBSTRUCTURE TO PREVENT OVERTURNING
3. SPLICE ON GROUND AND THEN ERECT SEGMENT OF GIRDER G2
4. INSTALL CROSSFRAMES BETWEEN GIRDERS G1 AND G2
5. SPLICE ON GROUND THEN ERECT SEGMENT OF GIRDER G3
6. INSTALL CROSSFRAMES BETWEEN GIRDER G2 AND G3
7. SPLICE ON GROUND AND THEN ERECT SEGMENT OF GIRDER G4
8. INSTALL CROSSFRAMES BETWEEN GIRDER G3 AND G4

DESIGN AGENCY
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Columbus, Ohio 43230

REVIEWED RMK DATE 03-05-08
STRUCTURE FILE NUMBER 3111652
DRAWN SJA REVISED
DESIGNED SJA CHECKED XAC

SUGGESTED GIRDER ERECTION SEQUENCE
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

23 / 34

426
657

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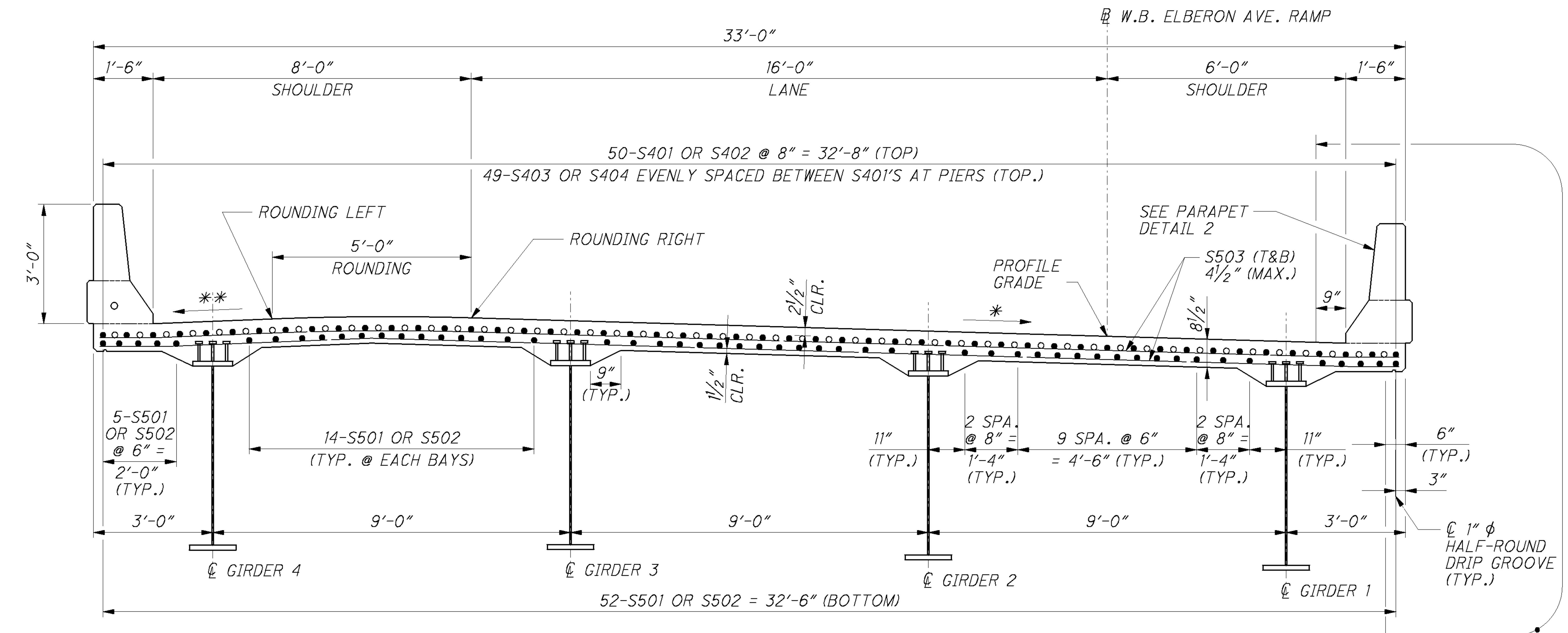
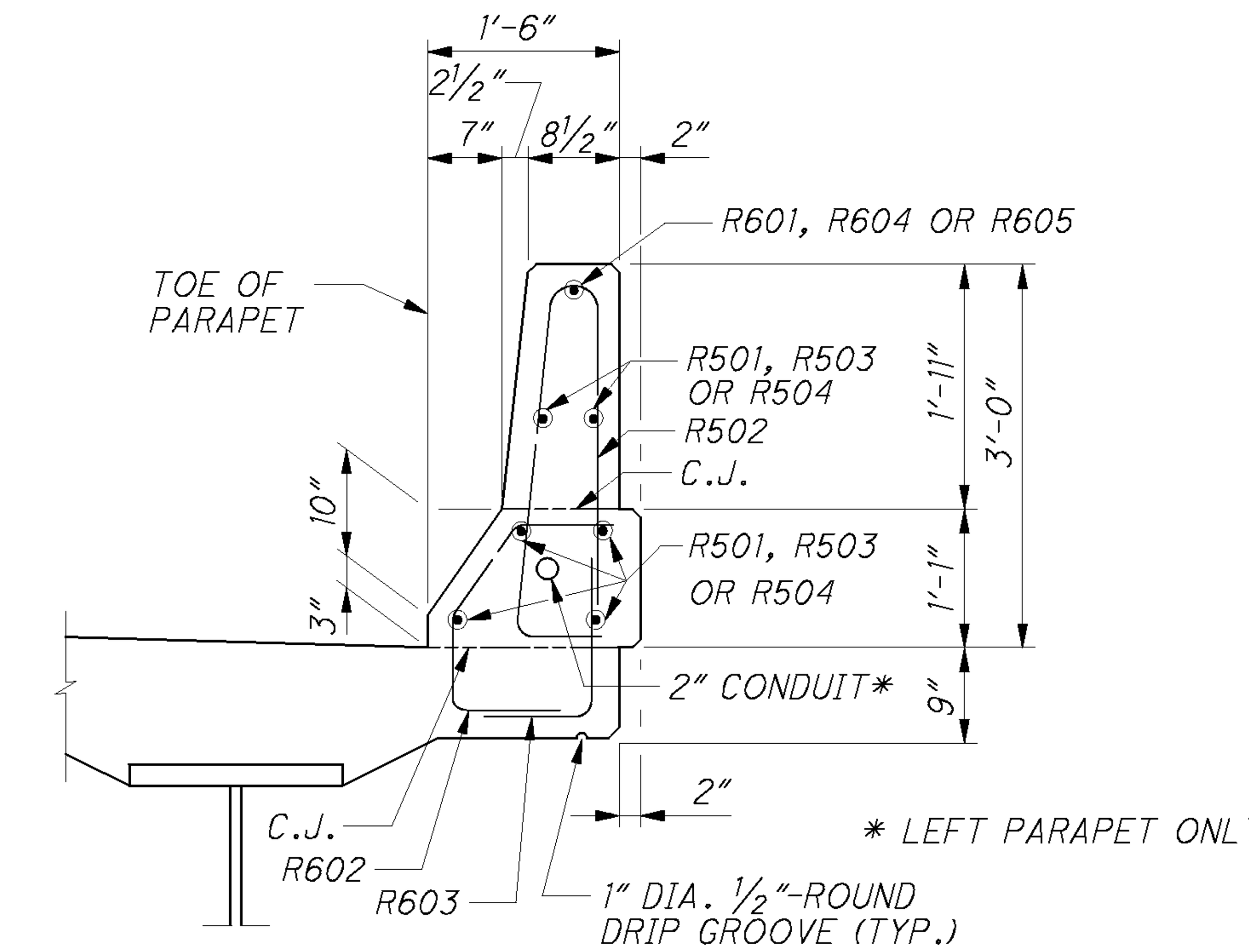
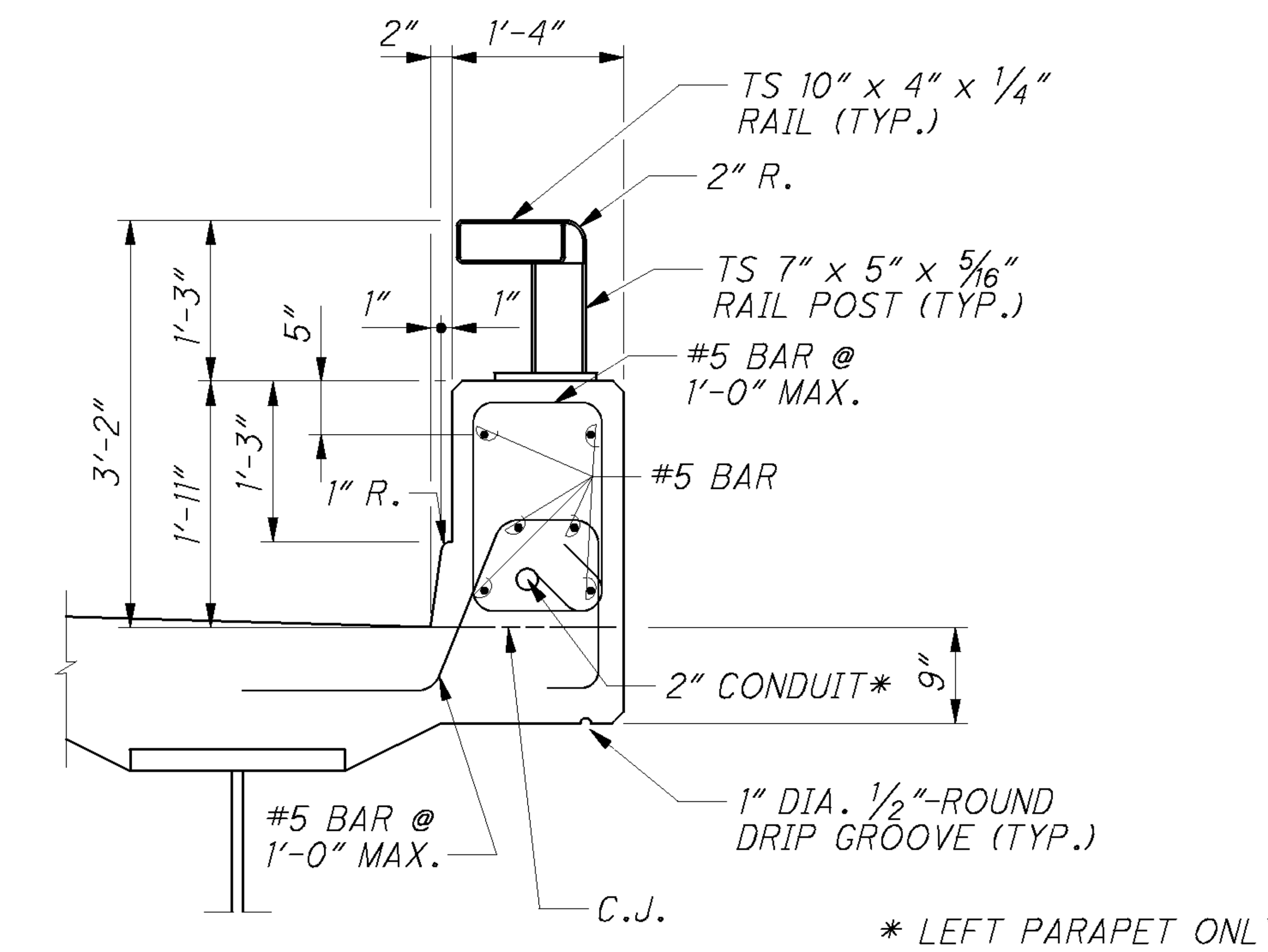


BRIDGE DECK SECTION
(NORMAL)

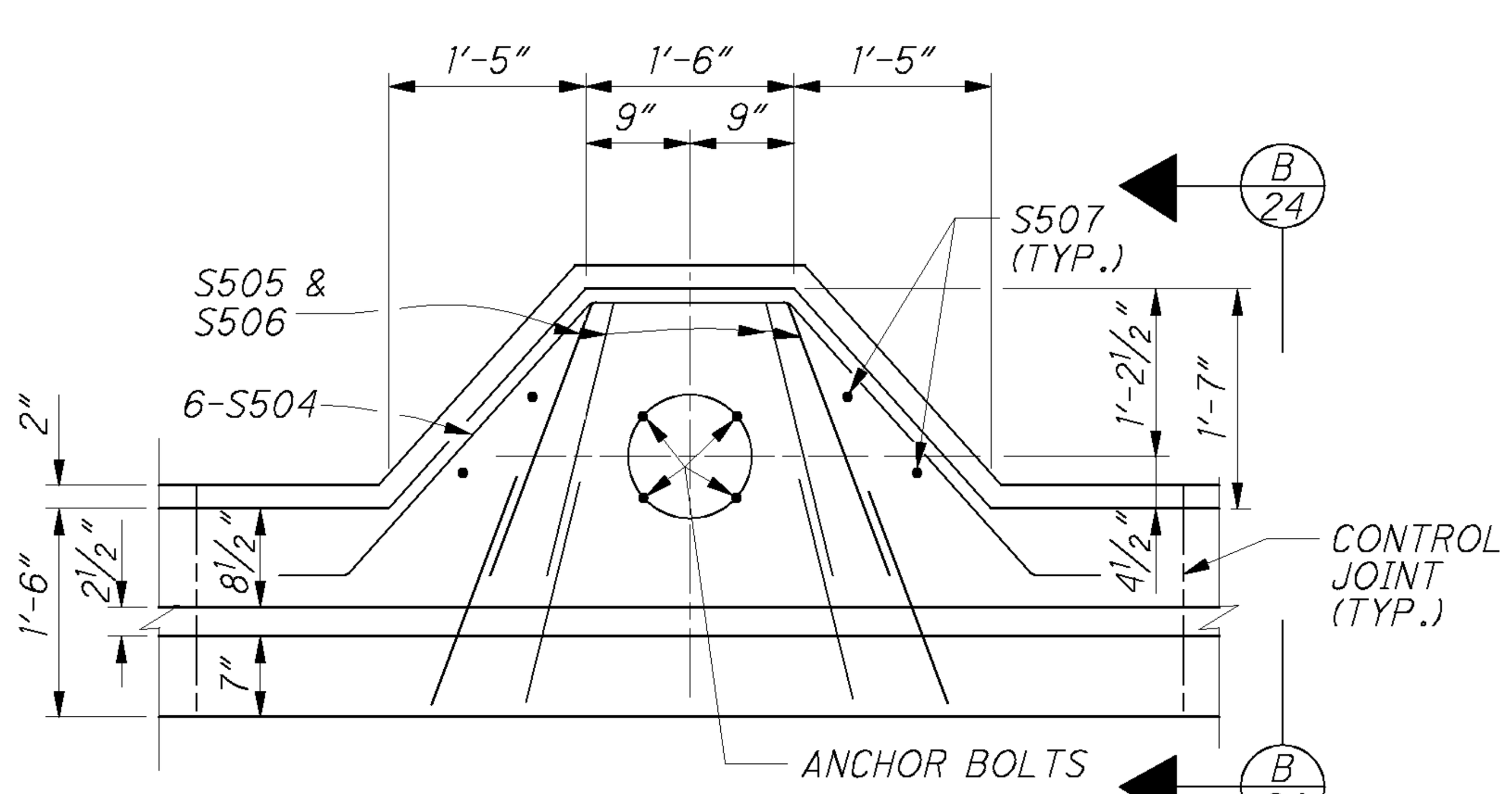
* VARIES FROM -0.002 TO -0.050 FT/FT
** -0.040 FT / FT EXCEPT VARIES FROM -0.040 TO +0.016 FT/FT IN SPAN 5
(SEE SUPERELEVATION PLAN SHT. 3/34)



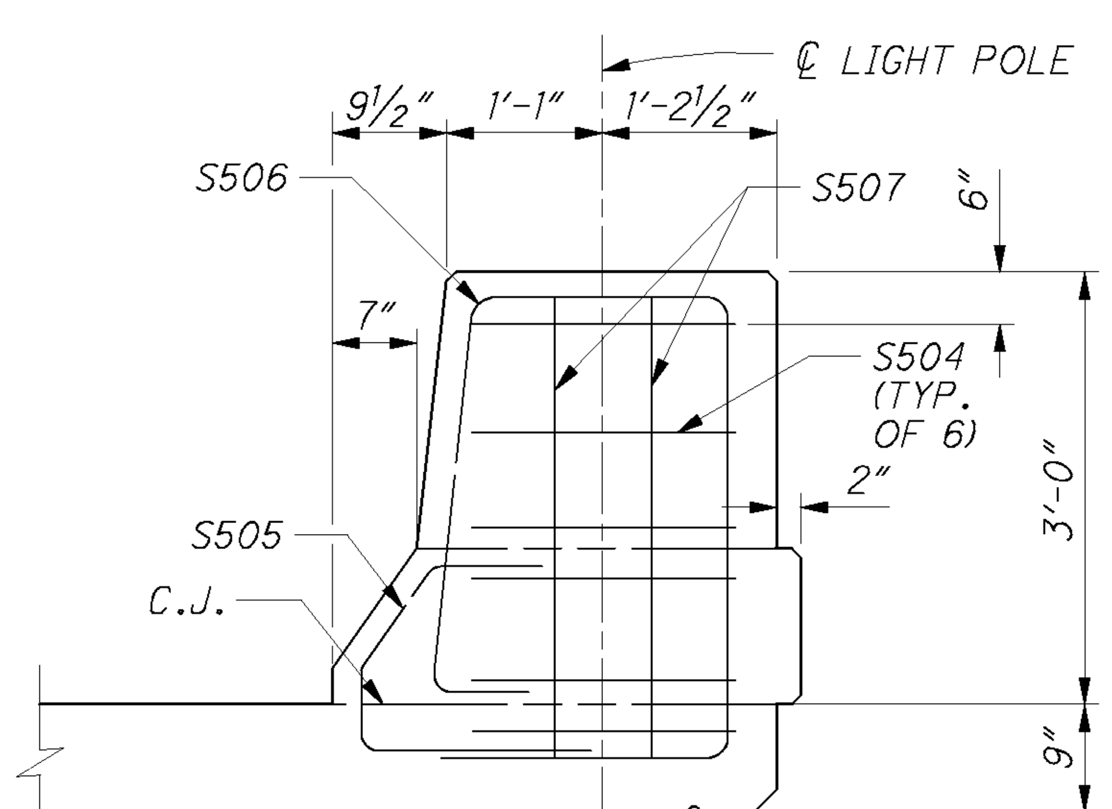
PARAPET DETAIL 2



ALTERNATE PARAPET DETAIL
(ALTERNATE BID ITEM)



LIGHT POLE PILASTER DETAIL



VIEW B/24

LEGEND:

C.J. = CONSTRUCTION JOINT
T&B = TOP & BOTTOM

NOTES:

1. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 4⅛ INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE OF 9 INCHES. 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 GIRDER FLANGE IS ± 3 INCHES.

   THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.

2. SUPERSTRUCTURE SHALL BE SEALED WITH NON-EPOXY AS INDICATED

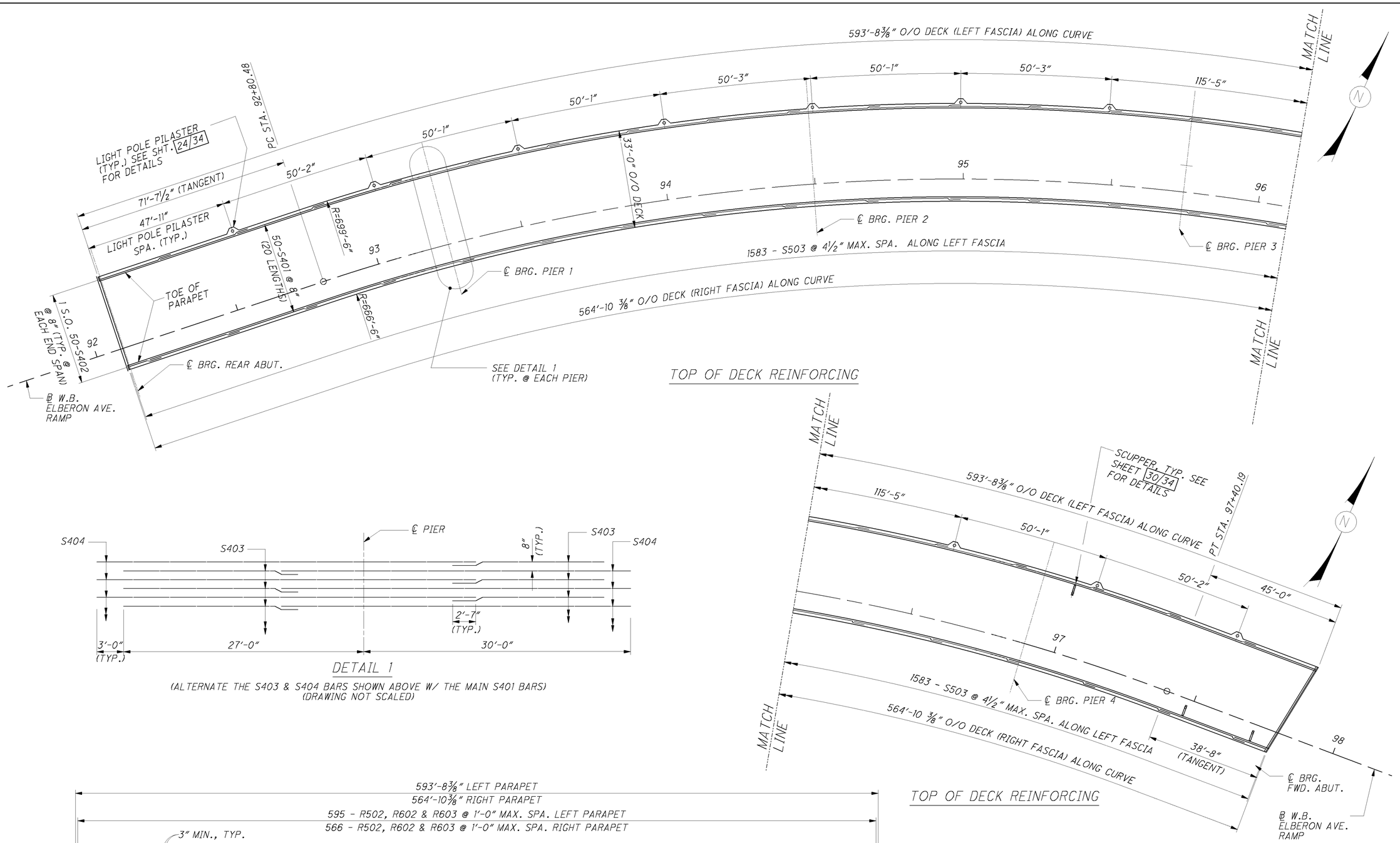
3. SEE SHEET 6/33 FOR NOTES FOR ALTERNATE PARAPETS.

DESIGN AGENCY: BURGESS & NIPLE

DESIGNED	DRAWN	REVIEWED	DATE
SJA	KML	RMK	02-18-10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		3111652	

TYPICAL SECTION
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

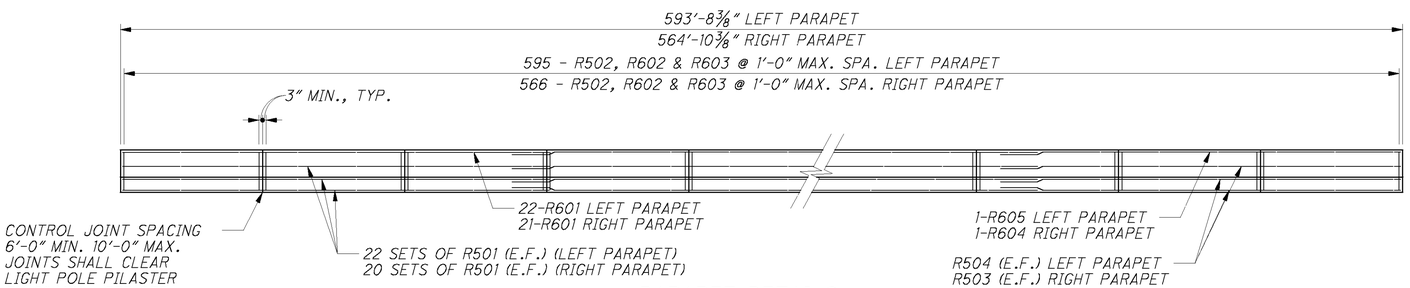
HAM-50-18.79
PID No. 20082



TOP OF DECK REINFORCING

DETAIL 1

(ALTERNATE THE S403 & S404 BARS SHOWN ABOVE W/ THE MAIN S401 BARS)
(DRAWING NOT SCALED)



PARAPET DETAILS

NOTE:

1. MIN. LAP LENGTH: NO. 4 BAR = 2'-7"
2. MIN. LAP LENGTH: NO. 5 BAR = 3'-3"
3. MIN. LAP LENGTH: NO. 6 BAR = 3'-10"

DESIGN AGENCY
BURGESS & NIPLE
8 East Gay Street, Suite 1100
Columbus, Ohio 43215

DATE 03-05-08
REVIEWED RMK
STRUCTURE FILE NUMBER 3111652
DRAWN KML
REVISED
DESIGNED SJA
CHECKED XAC

DECK PLAN 1
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

25 / 34

428 / 657

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NOTE:

1. MIN. LAP LENGTH: NO. 5 BAR = 3'-3"

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (614) 459-2044
Columbus, Ohio 43202

DESIGNED	DRAWN	REVIEWED	DATE
SJA	KML	RMK	03-05-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		3111652	

DECK PLAN 2
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

26 / 34

429 / 657

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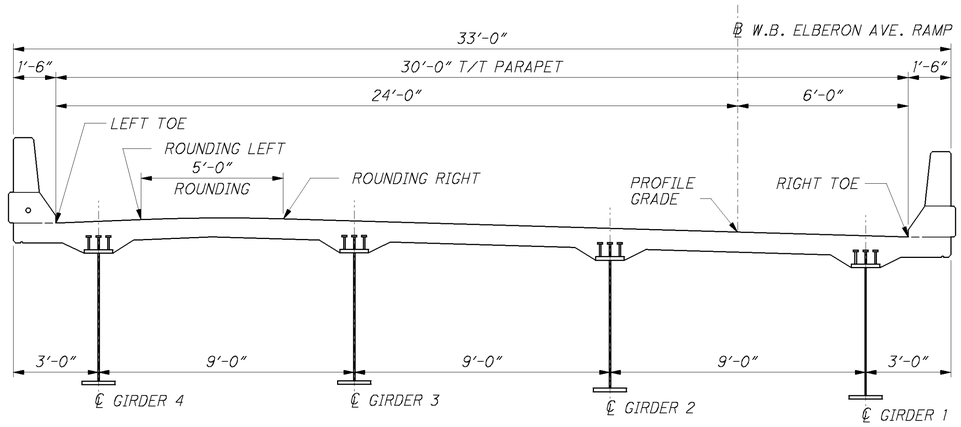
SCREED ELEVATIONS

SCREED LOCATIONS	STATION	LEFT TOE	GIRDER 4	ROUNDING LEFT	ROUNDING RIGHT	GIRDER 3	GIRDER 2	GIRDER 1	RIGHT TOE
℄ BRG. REAR ABUT.	92+09.49	564.82	564.88	564.94	565.03	565.03	565.00	564.98	564.98
1/10 SPAN	92+20.99	564.66	564.72	564.78	564.86	564.85	564.78	564.72	564.71
2/10 SPAN	92+32.49	564.46	564.52	564.58	564.64	564.61	564.51	564.41	564.39
3/10 SPAN	92+43.99	564.19	564.25	564.31	564.36	564.32	564.17	564.03	564.01
4/10 SPAN	92+55.49	563.85	563.91	563.97	564.01	563.96	563.77	563.59	563.56
5/10 SPAN	92+66.99	563.45	563.51	563.57	563.59	563.53	563.31	563.09	563.05
6/10 SPAN	92+78.49	562.98	563.04	563.10	563.12	563.04	562.78	562.52	562.48
7/10 SPAN	92+89.99	562.45	562.51	562.57	562.58	562.50	562.19	561.89	561.84
SPLICE NO.1	92+96.49	562.13	562.19	562.25	562.26	562.16	561.84	561.52	561.46
9/10 SPAN	93+12.99	561.26	561.32	561.38	561.37	561.26	560.88	560.50	560.43
℄ PIER 1	93+24.49	560.61	560.67	560.73	560.71	560.60	560.17	559.75	559.68
1/10 SPAN	93+36.99	559.84	559.90	559.96	559.93	559.81	559.36	558.91	558.83
2/10 SPAN	93+49.49	558.98	559.04	559.10	559.07	558.95	558.49	558.04	557.97
SPLICE NO.2	93+57.49	558.40	558.46	558.52	558.49	558.37	557.91	557.46	557.39
4/10 SPAN	93+74.49	557.12	557.18	557.24	557.20	557.08	556.62	556.17	556.10
5/10 SPAN	93+86.99	556.10	556.16	556.22	556.18	556.05	555.60	555.15	555.07
6/10 SPAN	93+99.49	555.00	555.06	555.12	555.08	554.96	554.50	554.05	553.98
7/10 SPAN	94+11.99	553.87	553.93	553.99	553.96	553.83	553.38	552.93	552.86
SPLICE NO.3	94+19.49	553.19	553.25	553.31	553.28	553.16	552.70	552.25	552.18
9/10 SPAN	94+36.99	551.61	551.67	551.73	551.71	551.58	551.13	550.68	550.61
℄ PIER 2	94+49.49	550.51	550.57	550.63	550.60	550.48	550.03	549.58	549.50
1/10 SPAN	94+61.99	549.42	549.48	549.54	549.51	549.39	548.93	548.48	548.41
SPLICE NO.4	94+77.49	548.09	548.15	548.21	548.18	548.05	547.60	547.14	547.07
3/10 SPAN	94+86.99	547.28	547.34	547.40	547.36	547.24	546.78	546.33	546.25
4/10 SPAN	94+99.49	546.20	546.26	546.32	546.28	546.16	545.70	545.24	545.17
5/10 SPAN	95+11.99	545.11	545.17	545.23	545.19	545.06	544.60	544.15	544.07
6/10 SPAN	95+24.49	543.99	544.05	544.11	544.07	543.95	543.49	543.03	542.96
7/10 SPAN	95+36.99	542.85	542.91	542.97	542.94	542.81	542.36	541.90	541.83
SPLICE NO.5	95+47.49	541.89	541.95	542.01	541.98	541.85	541.40	540.95	540.87
9/10 SPAN	95+61.99	540.57	540.63	540.69	540.66	540.54	540.08	539.63	539.56
℄ PIER 3	95+74.49	539.45	539.51	539.57	539.54	539.42	538.97	538.52	538.44
1/10 SPAN	95+85.99	538.45	538.51	538.57	538.55	538.42	537.97	537.52	537.45
2/10 SPAN	95+97.49	537.50	537.56	537.62	537.59	537.47	537.02	536.57	536.49
SPLICE NO.6	96+03.49	537.02	537.08	537.14	537.11	536.98	536.53	536.09	536.01
4/10 SPAN	96+20.49	535.69	535.74	535.80	535.77	535.65	535.20	534.75	534.68
5/10 SPAN	96+31.99	534.81	534.87	534.93	534.90	534.77	534.32	533.87	533.80
6/10 SPAN	96+43.49	533.94	534.00	534.06	534.03	533.91	533.46	533.01	532.93
7/10 SPAN	96+54.99	533.09	533.15	533.21	533.18	533.06	532.61	532.16	532.09
SPLICE NO.7	96+64.49	532.40	532.46	532.52	532.50	532.37	531.92	531.48	531.40
9/10 SPAN	96+77.99	531.46	531.52	531.58	531.56	531.44	530.99	530.54	530.46
℄ PIER 4	96+89.49	530.69	530.75	530.81	530.79	530.66	530.21	529.76	529.69



BRIDGE TYPICAL SECTION

NOTES:

1. SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

SCREED ELEVATIONS

SCREED LOCATIONS	LEFT TOE		GIRDER 4		ROUNDING LEFT		ROUNDING RIGHT		GIRDER 3		GIRDER 2		GIRDER 1		RIGHT TOE	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ PIER 4	96+89.49	530.69	96+89.49	530.75	96+89.49	530.81	96+89.49	530.79	96+89.49	530.66	96+89.49	530.21	96+89.49	529.76	96+89.49	529.69
1/10 SPAN	96+98.79	530.07	96+98.77	530.13	96+98.76	530.20	96+98.69	530.17	96+98.66	530.05	96+98.54	529.61	96+98.42	529.16	96+98.40	529.09
2/10 SPAN	97+08.10	529.42	97+08.06	529.48	97+08.02	529.53	97+07.89	529.51	97+07.83	529.39	97+07.59	528.98	97+07.35	528.56	97+07.31	528.49
SPLICE NO.8	97+14.49	528.96	97+14.49	529.01	97+14.49	529.05	97+14.49	529.01	97+14.49	528.90	97+14.49	528.49	97+14.49	528.08	97+14.49	528.01
4/10 SPAN	97+26.70	528.05	97+26.63	528.09	97+26.55	528.13	97+26.30	528.10	97+26.17	528.01	97+25.70	527.67	97+25.22	527.33	97+25.13	527.28
5/10 SPAN	97+36.00	527.33	97+35.91	527.36	97+35.81	527.40	97+35.50	527.36	97+35.34	527.28	97+34.75	526.99	97+34.15	526.69	97+34.05	526.64
6/10 SPAN	97+45.49	526.57	97+45.36	526.59	97+45.23	526.62	97+44.81	526.59	97+44.59	526.53	97+43.83	526.28	97+43.06	526.03	97+42.93	525.98
7/10 SPAN	97+55.12	525.76	97+54.95	525.78	97+54.79	525.81	97+54.23	525.78	97+53.95	525.73	97+52.94	525.54	97+51.93	525.34	97+51.76	525.31
8/10 SPAN	97+64.75	524.93	97+64.55	524.94	97+64.34	524.96	97+63.65	524.95	97+63.30	524.91	97+62.05	524.78	97+60.80	524.63	97+60.60	524.61
9/10 SPAN	97+74.39	524.07	97+74.14	524.08	97+73.89	524.09	97+73.07	524.09	97+72.65	524.07	97+71.16	523.99	97+69.68	523.90	97+69.43	523.89
℄ BRG. FWD. ABUT.	97+84.02	523.18	97+83.73	523.19	97+83.45	523.20	97+82.49	523.21	97+82.01	523.21	97+80.28	523.19	97+78.55	523.15	97+78.26	523.15

DESIGN AGENCY
BURGESS & NIPLE
8 E. Long Street • Ste 1100
Columbus, Ohio 43215

DATE 03-05-08
REVIEWED RMK
STRUCTURE FILE NUMBER 3111652
DRAWN KML
REVISED
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SCREED ELEVATIONS
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

27 / 34

430 / 657

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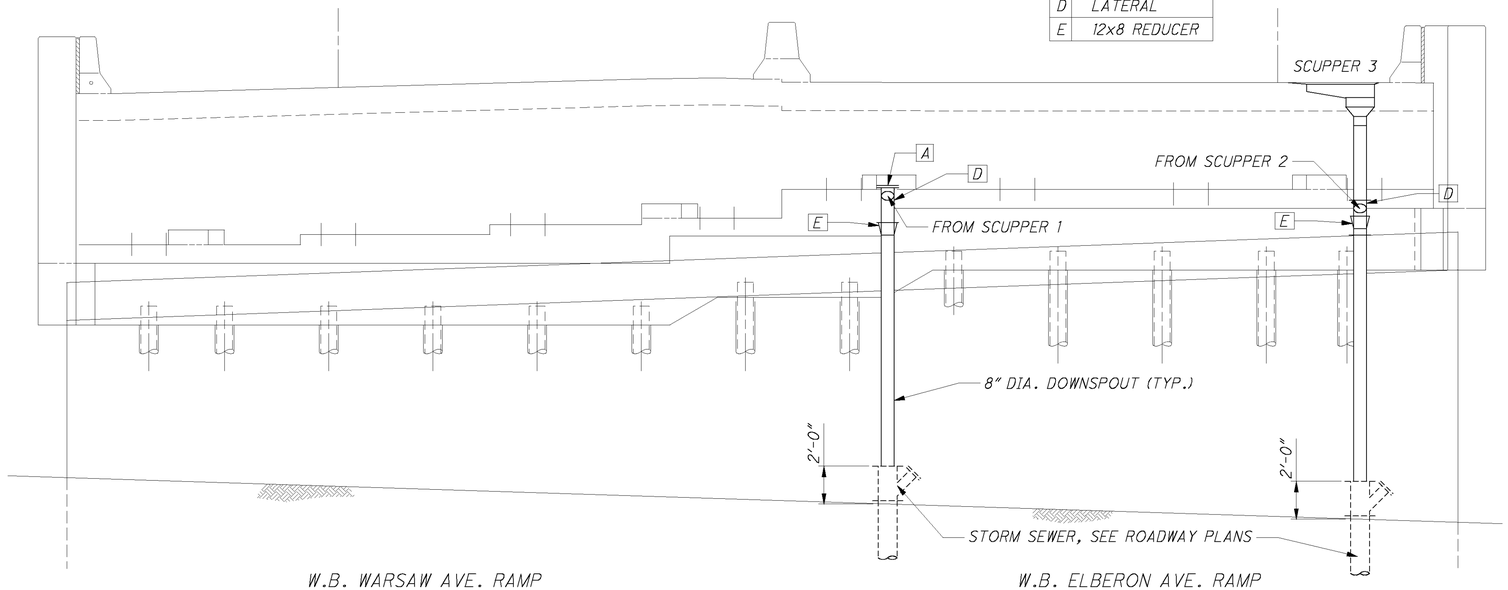
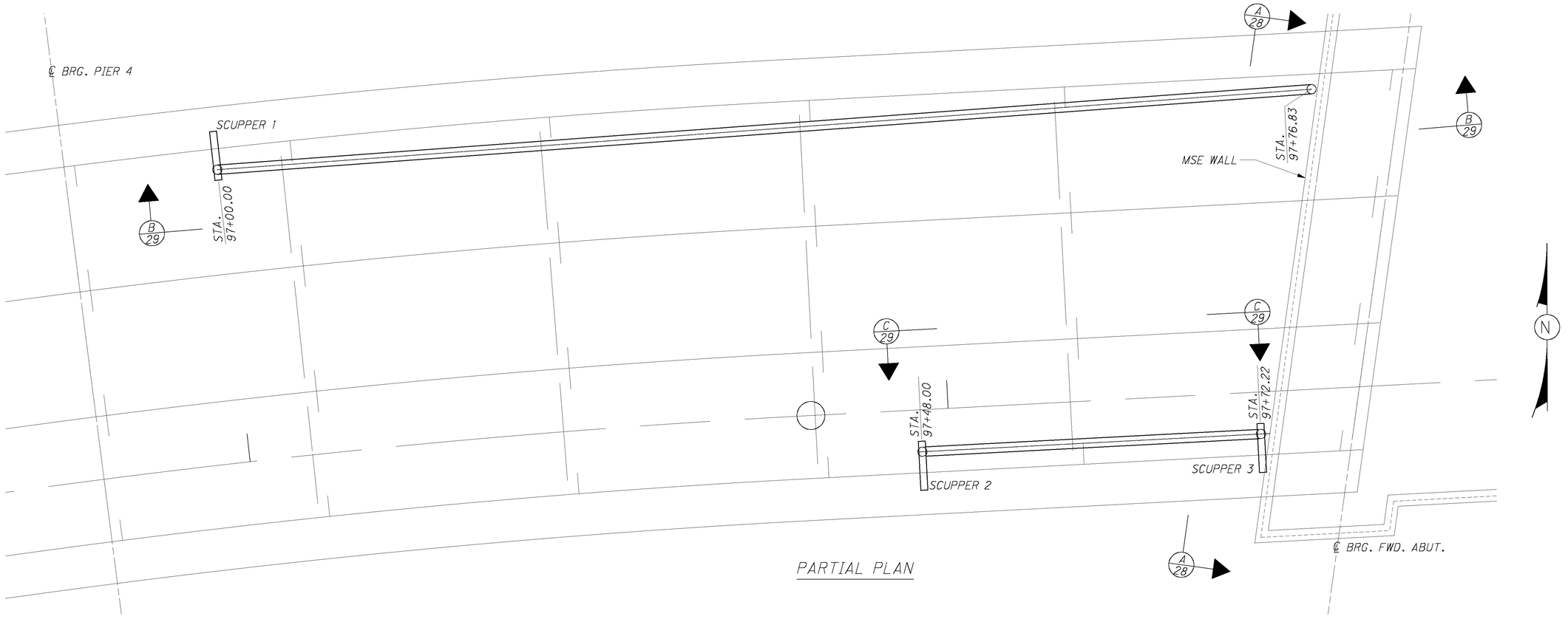
A	CLEAN-OUT
D	LATERAL
E	12x8 REDUCER



SECTION A/28



PARTIAL PLAN

P:\PR42702\ham\20082\structures\HAM264_1457C\sheets\264_1457CMD001.dgn

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (614) 459-2241
5085 Reed Road, Columbus, Ohio 43220

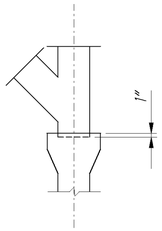
DESIGNED SJA	DRAWN KML	REVIEWED RMK	DATE 03-05-08
CHECKED XAC	REVISED	STRUCTURE FILE NUMBER 3111652	

SCUPPER DETAIL 1
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

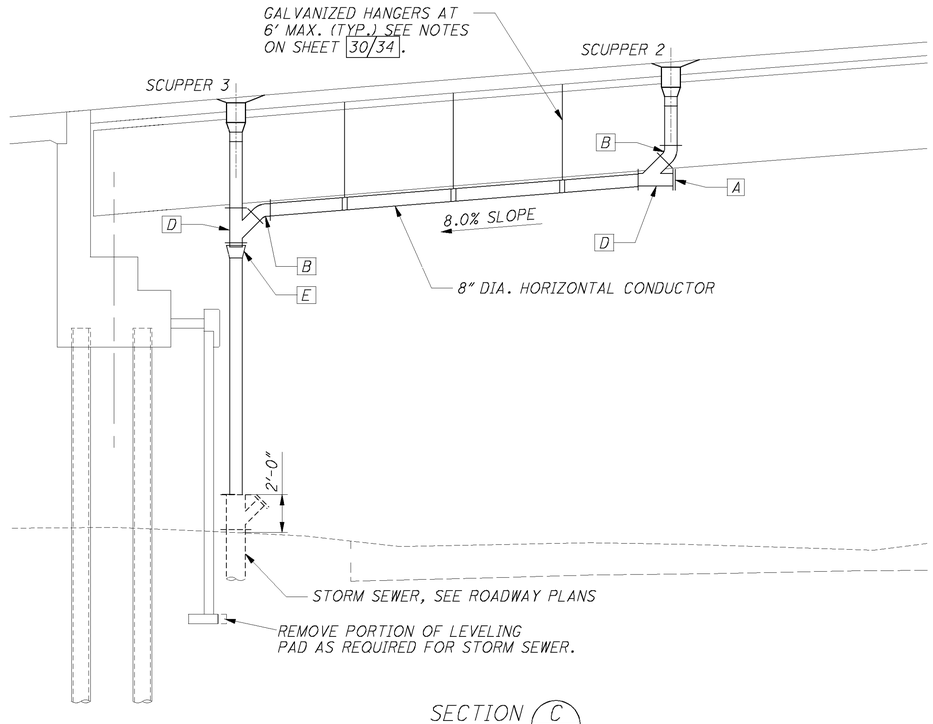
HAM-50-18.79
PID No. 20082

28 / 34

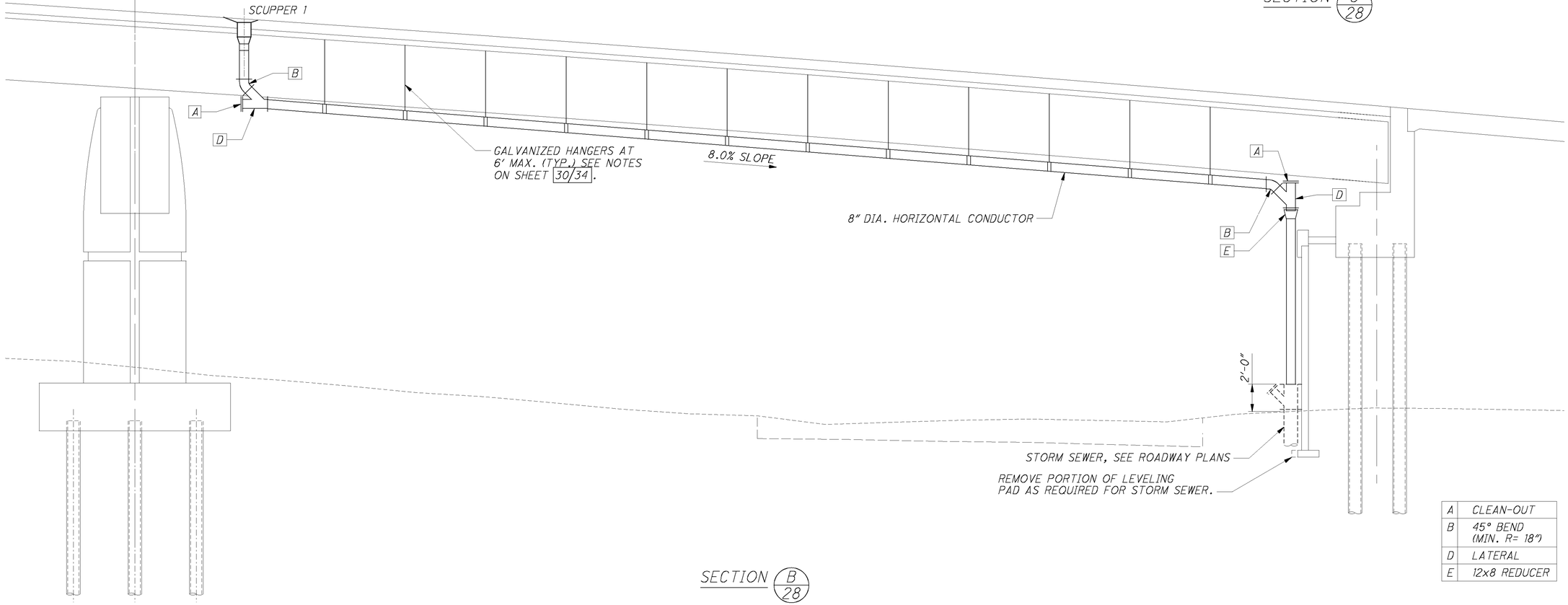
431
657



REDUCER DETAIL



SECTION C / 28



SECTION B / 28

A	CLEAN-OUT
B	45° BEND (MIN. R= 18")
D	LATERAL
E	12x8 REDUCER

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (614) 459-2070
Columbus, Ohio 43230

REVIEWED DATE
STRUCTURE FILE NUMBER 3111652
DRAWN KML
REVISED
DESIGNED SJA
CHECKED XAC

SCUPPER DETAIL 2
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

29 / 34

432 / 657

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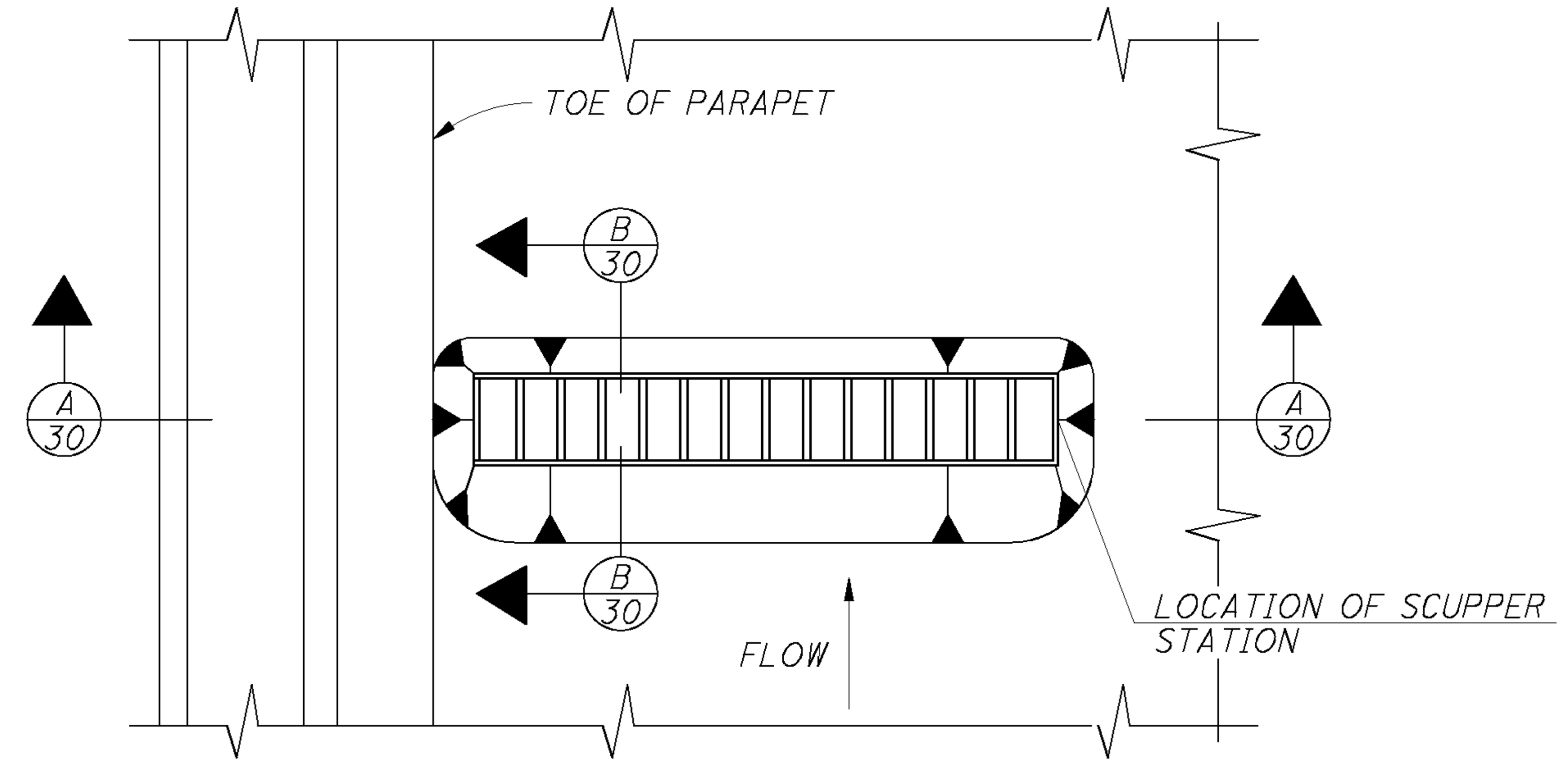
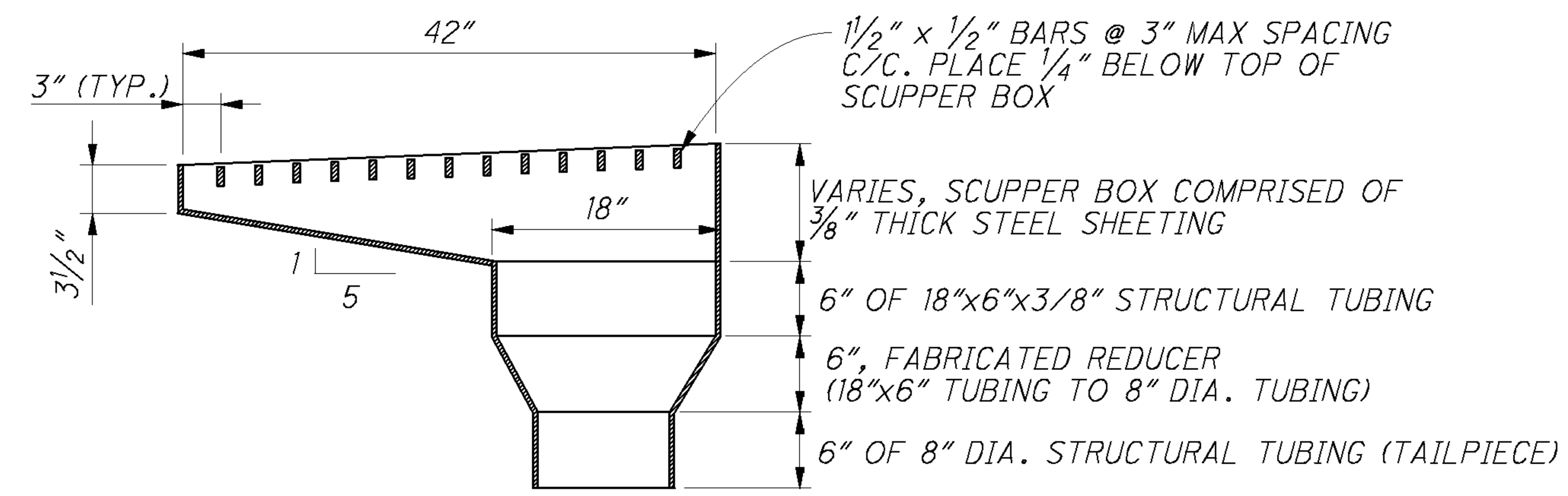
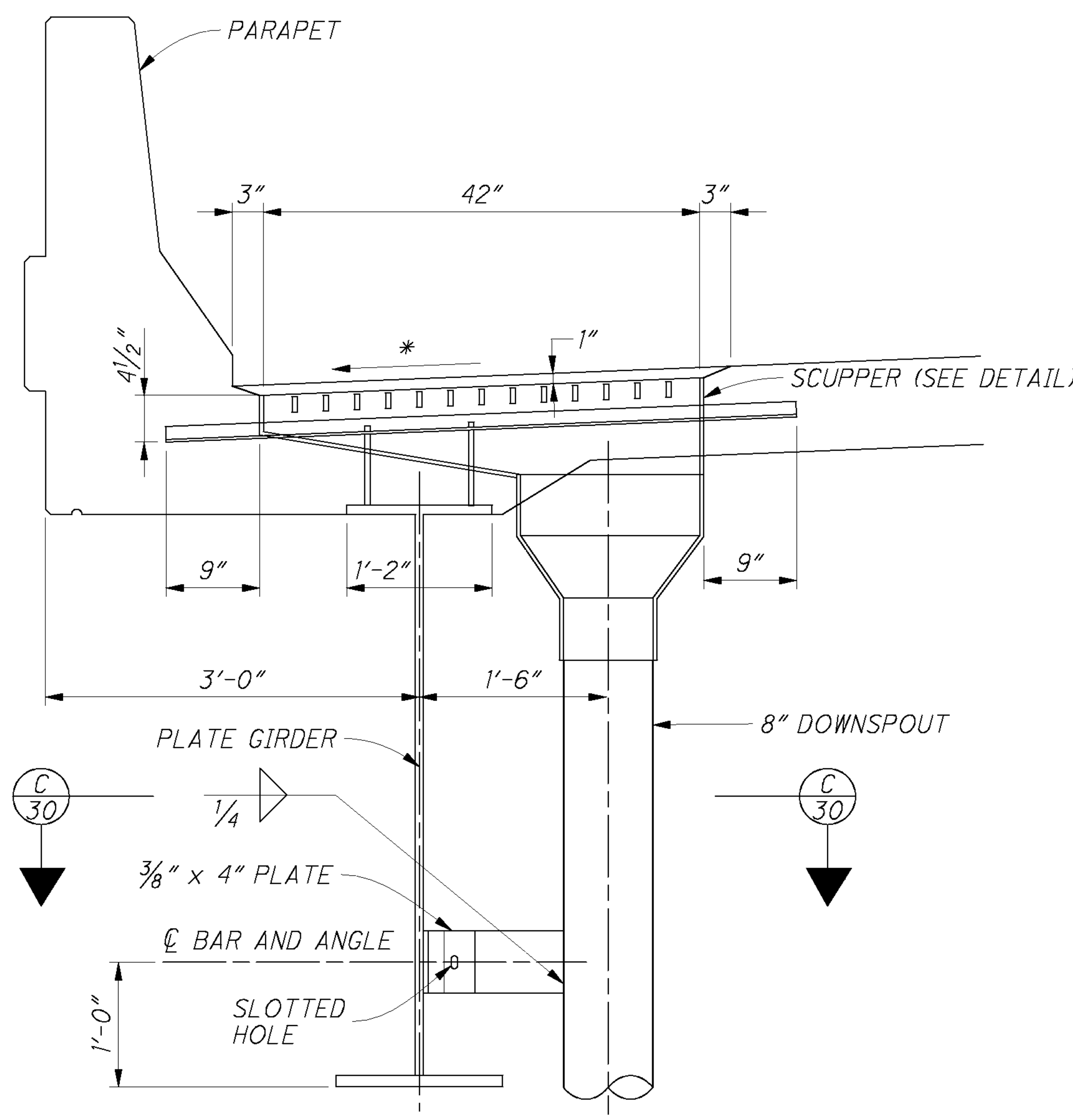


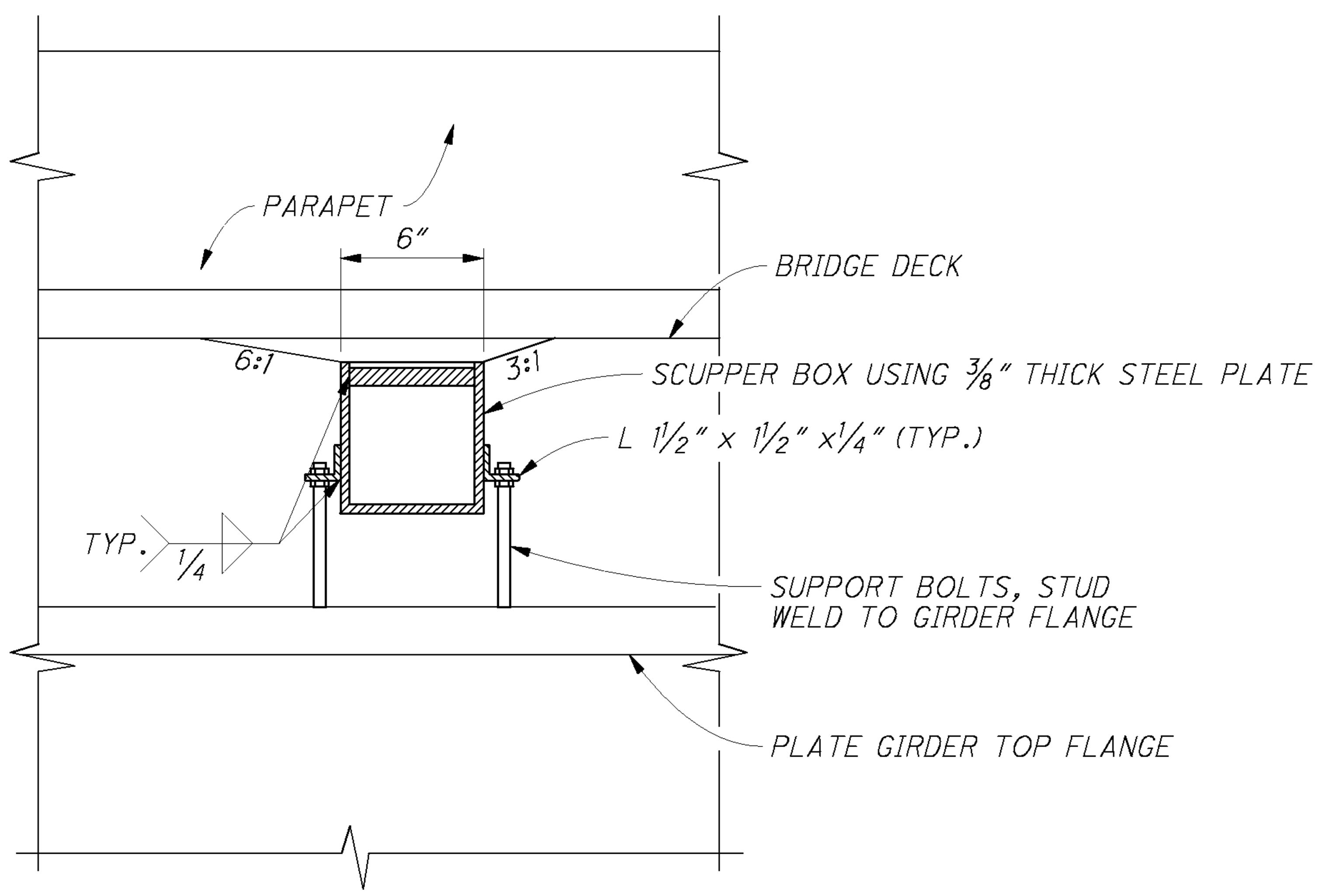
PLAN



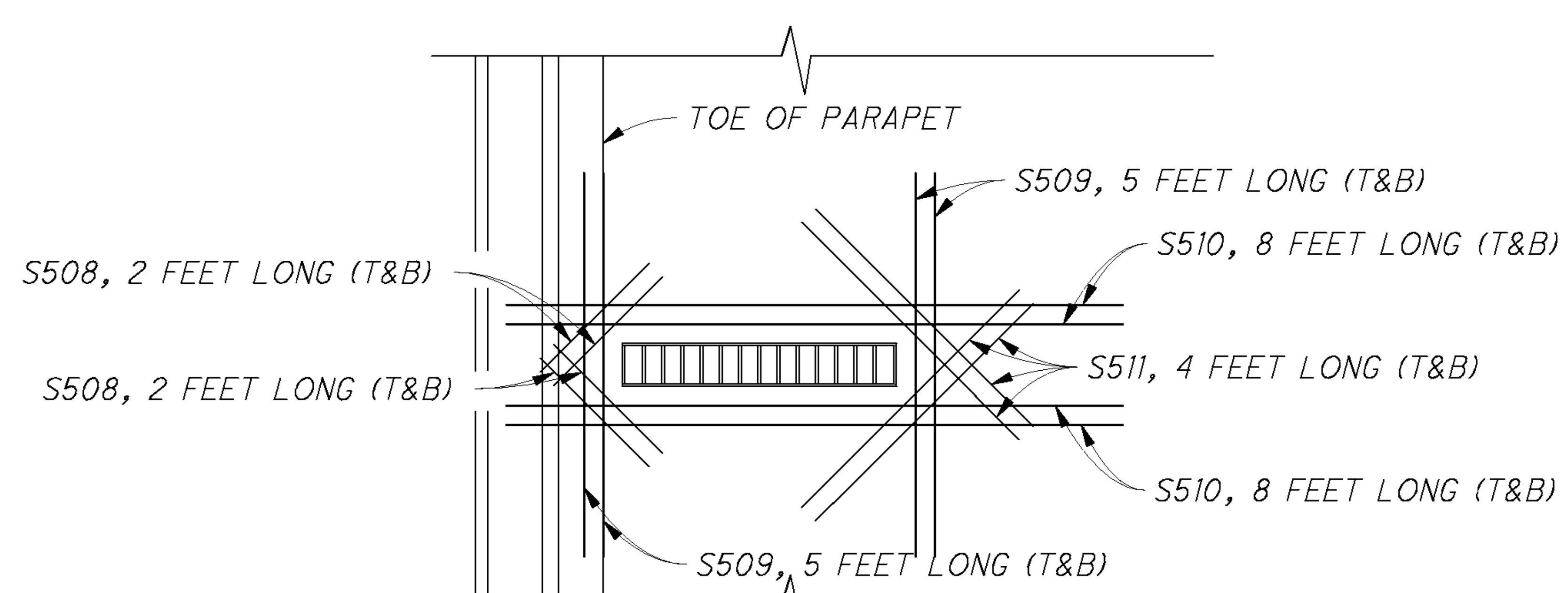
SCUPPER BOX DETAIL



SECTION A/30

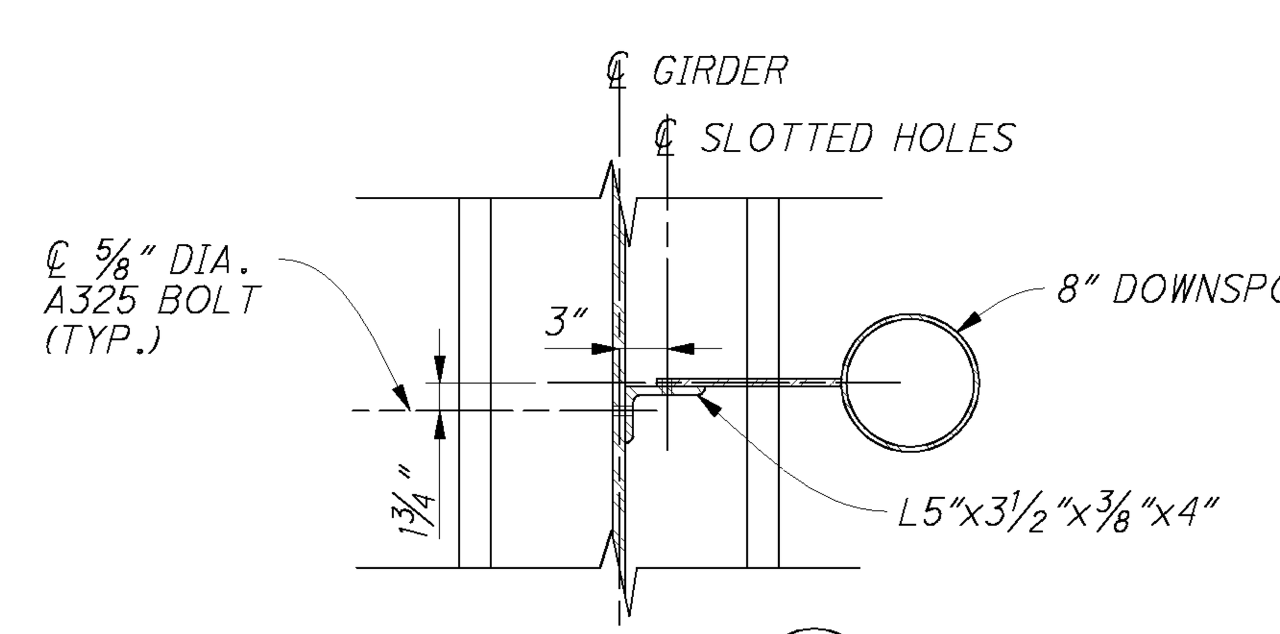


SECTION B/30



ADDITIONAL DECK REINFORCING DETAIL

T&B = TOP AND BOTTOM



SECTION C/30

SCUPPER NOTES:

ALL MATERIALS INCLUDING STEEL PLATES, STRUCTURAL TUBING, SUPPORT ANGLES AND OTHER HARDWARE SHALL BE GALVANIZED PER 711.02.

SCUPPER BOXES AND REDUCERS SHALL BE MADE OF ⅜" GALVANIZED STRUCTURAL STEEL PLATES CONFORMING TO 518 AND 711.02.

STRUCTURAL STEEL TUBING SHALL BE PER 518 AND 707.10.

FIELD CUT DECK REINFORCING AS REQUIRED TO INSTALL SCUPPERS.

PAYMENT:

ALL MATERIALS, EQUIPMENT, DELIVERY AND LABOR NECESSARY IN THE FABRICATION AND INSTALLATION FOR THE SCUPPER AS DETAILED SHALL BE INCLUDED IN THE UNIT PRICE OF:

SCUPPER, INCLUDING SUPPORTS, AS PER PLAN.

DOWNSPOUT NOTES:

ALL DOWNSPOUTS TO BE GALVANIZED STEEL PIPE OF THE SIZE SHOWN IN THE PLANS AND IN ACCORDANCE WITH ITEMS 518.06 AND 748.06. ALL FIELD WELDS TO BE GALVANIZED PER 711.02 AND WITH THE APPROVAL OF THE ENGINEER.

DOWNSPOUTS SHALL BE CONNECTED TO THE BRIDGE SCUPPER ASSEMBLIES BY WELDING OR USE OF CLAMP TYPE COUPLINGS WITH RING GASKETS.

HORIZONTAL PIPE RUNS SHALL BE SUPPORTED BY USE OF GALVANIZED HANGERS AND STRAPS ATTACHED TO THE CONCRETE BRIDGE DECK OR CROSSFRAMES. STRAPS SHALL BE PLACED AT A MAXIMUM SPACING OF 6 FEET C/C.

VERTICAL DOWNSPOUTS SHALL BE ATTACHED TO THE MSE WALL AND COPING BY USE OF STRAPS. THE DOWNSPOUT CONTRACTOR IS RESPONSIBLE FOR CONNECTING THE VERTICAL DOWNSPOUT TO THE UNDERGROUND PIPE DRAINAGE SYSTEM BY OTHERS.

ALL MATERIALS, EQUIPMENT, BENDS, WYES, TEES, CLEANOUTS, FIELD GALVANIZING AND LABOR NECESSARY FOR THE FABRICATION AND INSTALLATION OF THE DOWNSPOUT AS SHOWN IN THE PLANS SHALL BE INCLUDED IN THE UNIT PRICE OF:

8" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN

PIPE HORIZONTAL CONDUCTORS

LEGEND:

* SCUPPER 1 = 0.040 FT/FT

* SCUPPER 2 = 0.032 FT/FT

* SCUPPER 3 = 0.023 FT/FT

DESIGN AGENCY: BURGESS & NIPLE

DESIGNED	DRAWN	REVIEWED	DATE
SJA	KML	RMK	02-18-10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		3111652	

SCUPPER DETAIL 3

BRIDGE NO. HAM-264-1457

W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79

PID No. 20082

30/34

433/657

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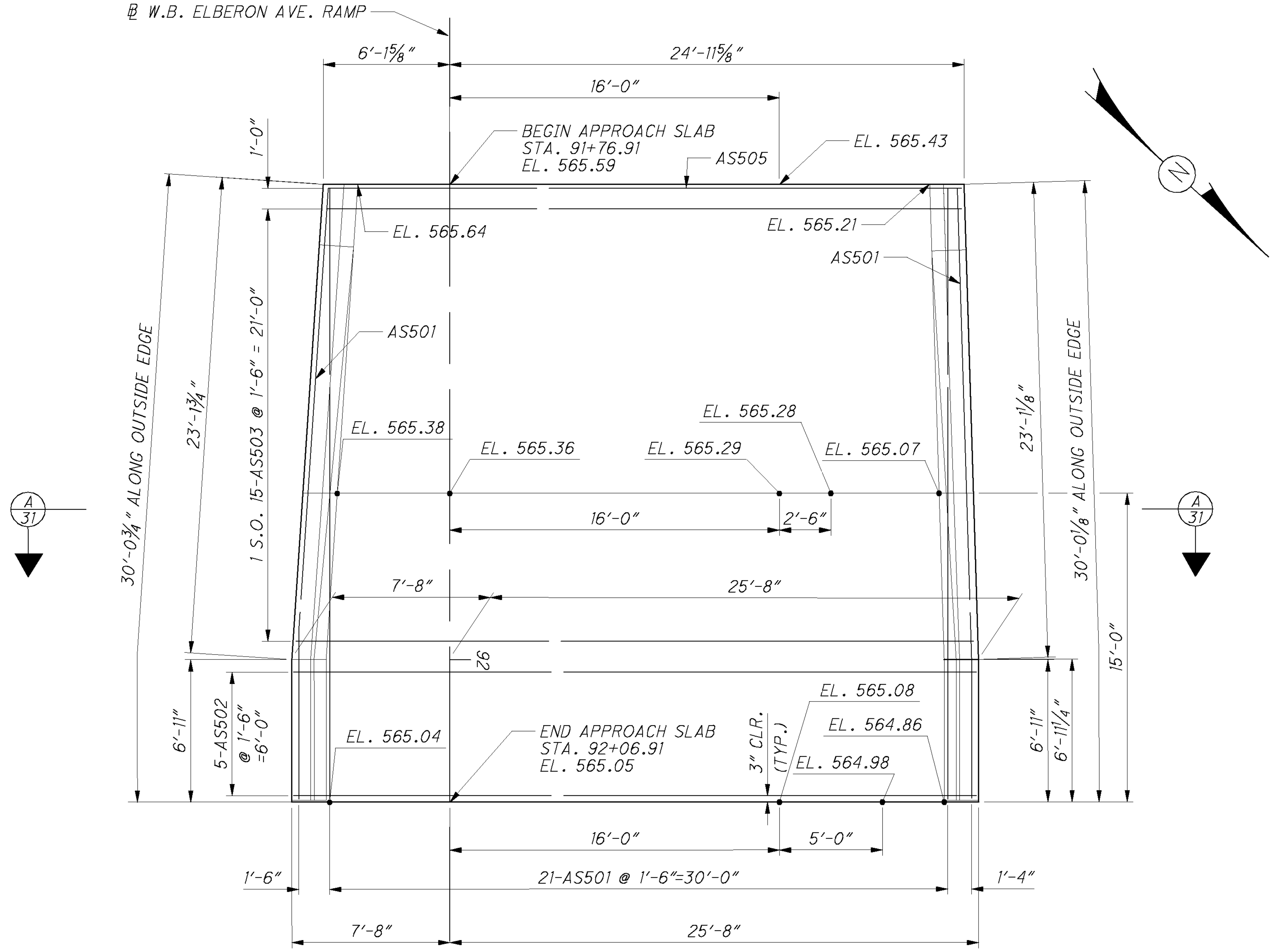
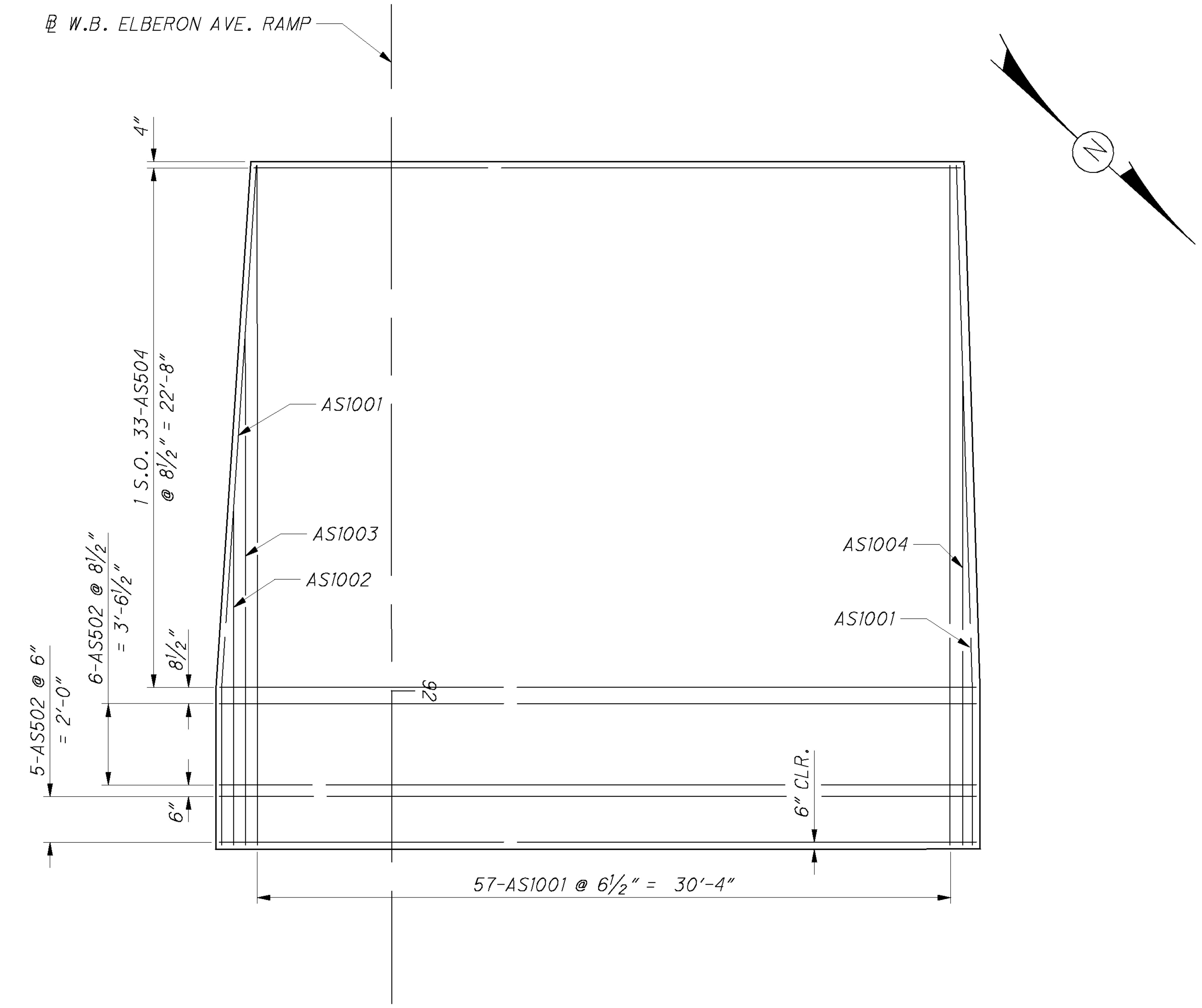
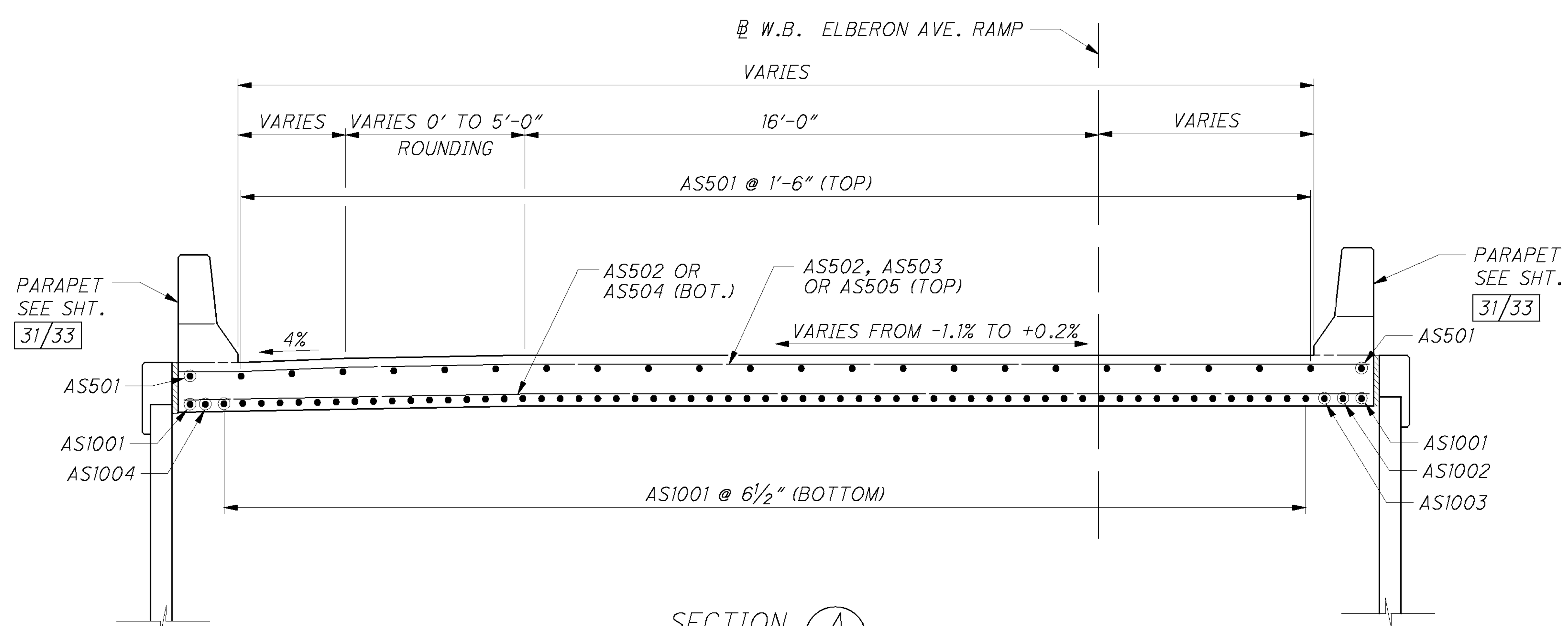


REAR APPROACH SLAB
LAYOUT AND TOP REINFORCING



REAR APPROACH SLAB
BOTTOM REINFORCING



SECTION A/31

NOTE:

SEE STANDARD DRAWING BR-1 AND SBR-1 FOR MORE DETAILS.

DESIGN AGENCY: BURGESS & NIPLE

DESIGNED SJA | CHECKED XAC | DRAWN SJA | REVISED | REVIEWED RMK | DATE 03-05-08 | STRUCTURE FILE NUMBER 3111652

REAR APPROACH SLAB PLAN & SECTION
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

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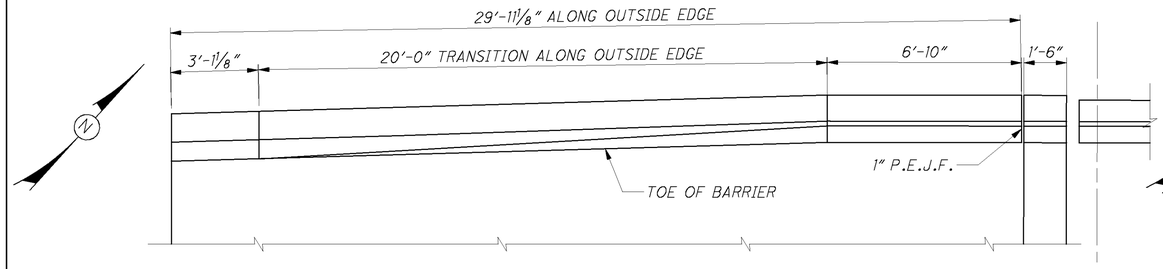
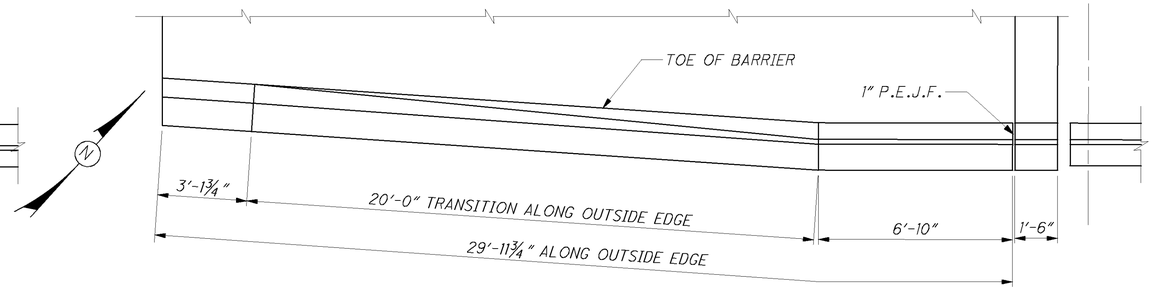
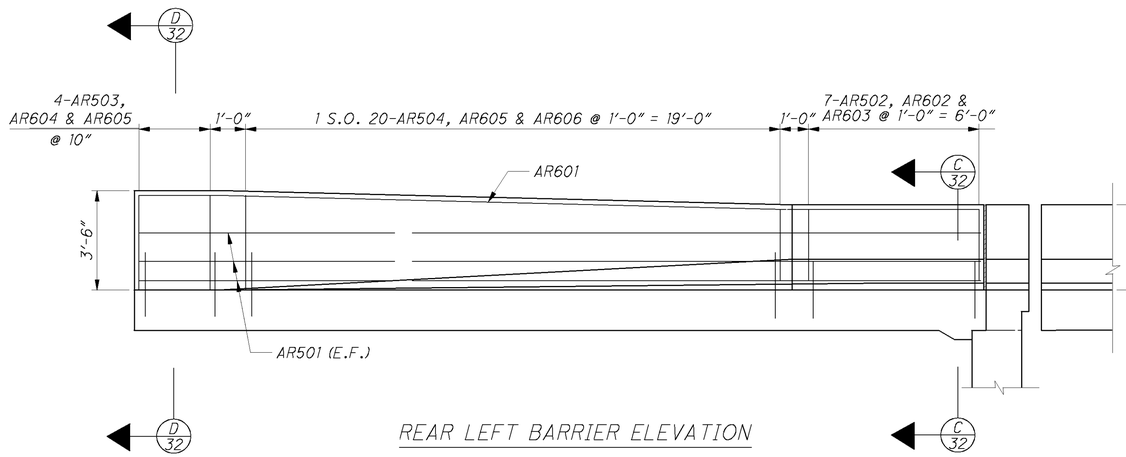


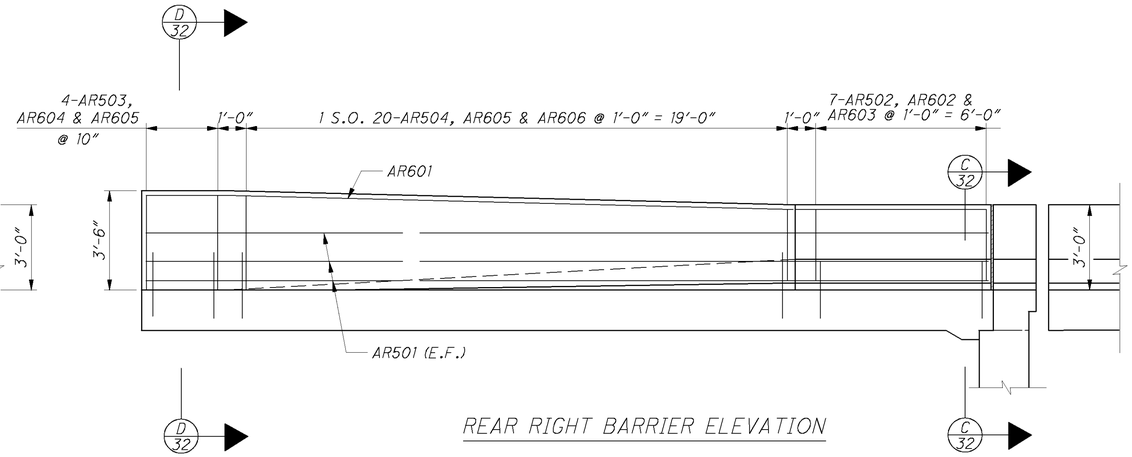
REAR LEFT BARRIER PLAN



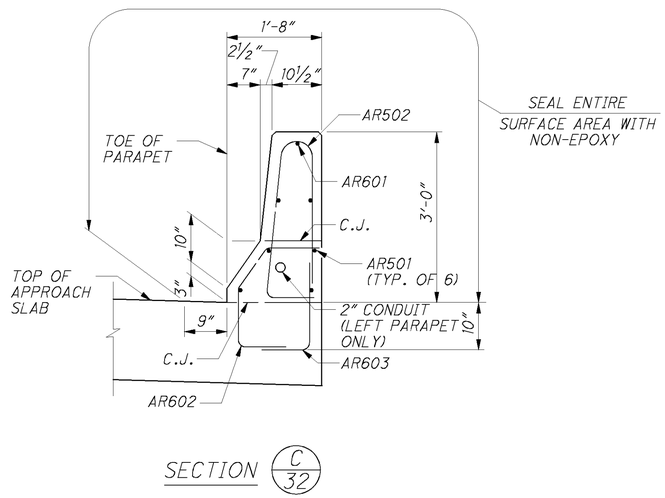
REAR RIGHT BARRIER PLAN



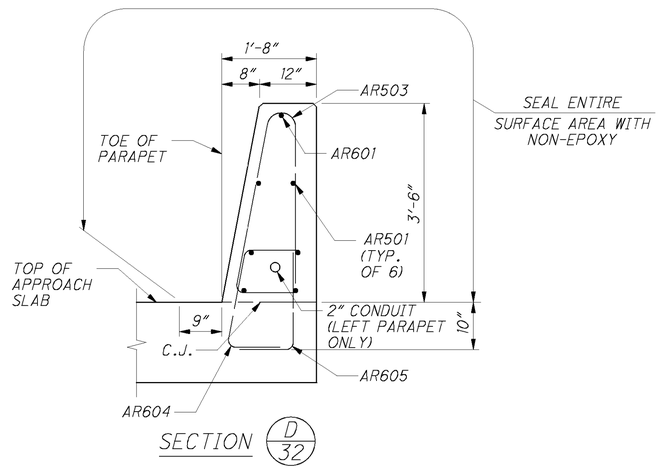
REAR LEFT BARRIER ELEVATION



REAR RIGHT BARRIER ELEVATION



SECTION C 32



SECTION D 32

NOTE:

SEE STANDARD DRAWING BR-1 AND SBR-1 FOR MORE DETAILS.

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (513) 771-1380
Cincinnati, Ohio 45202

DESIGNED	DRAWN	REVIEWED	DATE
SJA	SJA	RMK	02-18-10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		3111652	

REAR APPROACH SLAB DETAILS
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

32 / 34

435
657

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DECK SLAB REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A.	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
S401	1000	30'-0"	20040	STR						
	2	9'-4"								
S402	S.O.	TO	1105	STR						0'-3½"
	50	23'-9"								
S403	196	40'-0"	5237	STR						
S404	196	19'-7"	2564	STR						
S501	1092	30'-0"	34169	STR						
	2	3'-0"								
S502	S.O.	TO	1107	STR						0'-3⅜"
	52	17'-5"								
S503	3166	32'-8"	107870	STR						
S504	60	7'-0"	438	60	1'-10"	1'-4"	1'-10"	0'-6"		
S505	40	3'-10"	160	6	0'-9"	0'-10½"	1'-6"	0'-6"	0'-8½"	
S506	40	10'-4"	431	62	2'-2"	3'-5"	1'-9"	0'-6"	2'-9"	
S507	40	3'-4"	139	STR						
S508	24	2'-0"	50	STR						
S509	24	5'-0"	125	STR						
S510	24	8'-0"	200	STR						
S511	24	4'-0"	100	STR						
		TOTAL	173735							

APPROACH SLAB REINFORCING STEEL LIST (△)

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A.	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
AS501	23	29'-6"	708	STR						
AS502	16	32'-10"	548	STR						
	1	30'-9"								
AS503	S.O.	TO	497	STR						0'-1¾"
	15	32'-9"								
	1	30'-8"								
AS504	S.O.	TO	1093	STR						0'-0⅞"
	33	32'-10"								
AS505	1	30'-8"	32	STR						
AS1001	59	30'-11"	7849	19	29'-6"					
AS1002	1	16'-0"	69	19	14'-7"					
AS1003	1	23'-10"	103	19	22'-5"					
AS1004	1	22'-1"	95	19	20'-8"					
		TOTAL	10994							

PARAPET REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A.	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
R501	252	30'-0"	7885	STR						
R502	1161	5'-10"	7064	2	2'-6"	2'-9"	0'-8"	0'-3½"	0'-1½"	
R503	6	29'-6"	185	STR						
R504	6	4'-11"	31	STR						
R601	43	30'-0"	1938	STR						
R602	1161	3'-0"	5231	6	0'-9"	0'-9"	0'-10½"	0'-6"	0'-8½"	
R603	1161	2'-2"	3778	1	0'-11"	1'-5"				
R604	1	15'-0"	23	STR						
R605	1	17'-8"	27	STR						
		TOTAL	26162							

PARAPET ON APPROACH SLAB REINFORCING STEEL LIST (△)

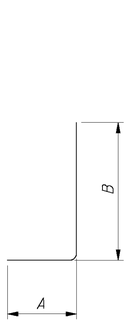
MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A.	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
AR501	12	29'-6"	369	20	0'-3"	6'-8"	22'-10"			
AR502	14	5'-10"	84	2	2'-6"	2'-9"	0'-8"	0'-3½"	0'-1½"	
AR503	8	7'-4"	61	2	3'-0"	3'-2"	1'-1"	0'-7"	0'-2¾"	
	2	5'-10"			2'-6"	2'-9"	0'-8"	0'-3½"	0'-1½"	
AR504	S.O.	TO	273	2	TO	TO	TO	TO	TO	0'-1"
	20	7'-4"			3'-0"	3'-2"	1'-1"	0'-7"	0'-2¾"	
AR601	2	29'-6"	89	20	0'-3"	6'-8"	22'-10"			
AR602	14	3'-1"	65	6	0'-9"	0'-9½"	0'-10½"	0'-6"	0'-8½"	
AR603	14	2'-6"	53	1	0'-11"	1'-9"				
AR604	8	3'-8"	43	12	1'-1"	0'-4"	1'-9"	1'-1"		
AR605	48	2'-8"	192	1	1'-1"	1'-9"				
	2	3'-1"			0'-9"	0'-9½"	0'-10½"	0'-6"	0'-8½"	
AR606	S.O.	TO	205	6	TO	TO	TO	TO	TO	0'-0⅜"
	20	3'-9"			1'-1"	0'-0"	1'-1"	0'-4"	1'-9"	
		TOTAL	1434							

LEGEND:

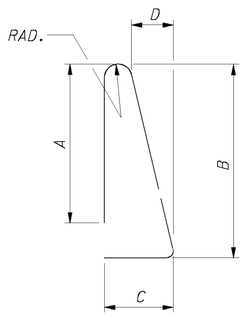
△ = REINFORCING STEEL INCLUDED W/ ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), (T=17"), AS PER PLAN FOR PAYMENT.
RAD. = RADIUS

NOTES:

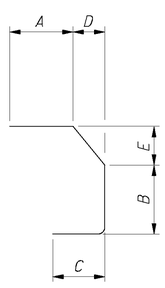
1. ALL BARS SHALL BE EPOXY COATED.
2. BAR DIMENSIONS SHOWN ARE OUT TO OUT.



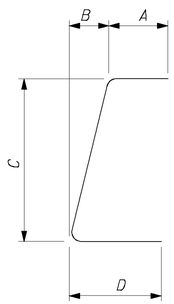
TYPE 1



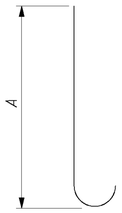
TYPE 2



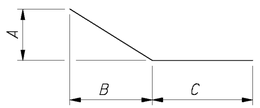
TYPE 6



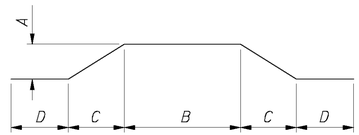
TYPE 12



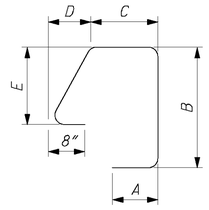
TYPE 19



TYPE 20



TYPE 60



TYPE 62

DESIGN AGENCY
BURGESS & NIPLE
191 West Nationwide Blvd. Suite 1500
Columbus, Ohio 43215

DESIGNED JHL | DRAWN AAA | REVIEWED RMK | DATE 02-18-10
CHECKED MAK | REVISED | STRUCTURE FILE NUMBER 3111652

REINFORCING STEEL LIST 1
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

HAM-50-18.79
PID No. 20082

33 / 34

436
657

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PIER REINFORCING STEEL LIST

	MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A.	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
	SP401	1	11'-6"	493	15	7'-0"	0'-4½"				
	SP402	1	16'-5"	685	15	7'-0"	0'-4½"				
	SP403	1	13'-10"	584	15	7'-0"	0'-4½"				
	SP404	1	12'-4"	525	15	7'-0"	0'-4½"				
**	SP405	9	39'-0"	8022	15	4'-0"	0'-4½"				
**	SP406	9	45'-0"	9222	15	4'-0"	0'-4½"				
	P401	4	23'-6"	63	97	7'-0"	1'-7"				
	P402	4	23'-3"	62	97	6'-11"	1'-7"				
	P403	4	22'-10"	61	97	6'-9½"	1'-7"				
	P404	4	22'-3"	59	97	6'-7½"	1'-7"				
	P405	4	21'-4"	57	97	6'-4"	1'-7"				
	P406	4	20'-4"	54	97	6'-0"	1'-7"				
	P407	4	19'-0"	51	97	5'-7"	1'-7"				
	P501	72	24'-8"	1852	STR						
	P502	13	22'-2"	301	STR						
	P503	16	18'-2"	303	STR						
	P504	12	12'-2"	152	STR						
	P505	9	15'-5"	145	STR						
	P601	8	11'-4"	136	STR						
	P602	8	19'-6"	234	STR						
	P603	8	25'-4"	304	STR						
	P604	8	27'-11"	335	STR						
	P605	40	17'-0"	1021	95						
	P606	40	11'-1"	666	1	10'-3"	1'-0"				
	P607	20	16'-2"	486	18	12'-6"	2'-0"	2'-0"			
	P608	24	8'-2"	294	18	4'-6"	2'-0"	2'-0"			
	P609	256	14'-3"	5479	18	2'-9"	5'-11"	5'-11"			
	P610	128	11'-9"	2259	18	2'-9"	4'-8"	4'-8"			
	P611	32	9'-1"	437	18	2'-9"	3'-4"	3'-4"			
	P612	28	20'-8"	869	18	4'-8"	8'-2"	8'-2"			
	P613	24	4'-5"	159	1	1'-6"	3'-1"				
	P614	18	14'-10"	401	35	3'-8"	3'-2"	1'-0"	1'-0"		
	P615	32	10'-1"	485	18	2'-9"	3'-10"	3'-10"			
	P701	17	13'-10"	481	22	12'-2"					
	P801	8	30'-7"	653	STR						
	P802	8	30'-2"	644	STR						
	P803	8	29'-4"	627	STR						
	P804	36	4'-5"	425	1	1'-6"	3'-1"				
	P901	136	27'-2"	12562	22	24'-8"					
	P1001	24	21'-0"	2169	22	18'-2"					
	P1002	26	25'-0"	2797	22	22'-2"					
	P1003	14	18'-3"	1099	22	15'-5"					
	P1101	30	24'-5"	3892	99	15'-7"	7'-2"	2'-0"			
	P1102	30	29'-4"	4676	99	20'-6"	7'-2"	2'-0"			
	P1103	32	26'-9"	2274	99	17'-11"	7'-2"	2'-0"			
	P1104	30	25'-2"	2006	99	16'-4"	7'-2"	2'-0"			
	P1105	40	30'-4"	6446	STR						
	P1106	40	33'-8"	7155	22	30'-6"					
**	P1107	135	42'-7"	30543	19	41'-0"					
**	P1108	135	48'-7"	34847	19	47'-0"					
	P1109	16	26'-9"	2274	100	17'-11"	7'-2"	2'-0"			
	P1110	15	25'-2"	2005	100	16'-4"	7'-2"	2'-0"			
			TOTAL	153831							

REAR ABUTMENT REINFORCING STEEL LIST

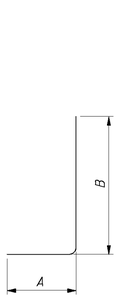
	MARK	NO.	LENGTH	WEIGHT	TYPE	DIM A.	DIM B	DIM C	DIM D	DIM E/RAD	INCR.
	D803	23	5'-2"	317	28	2'-10"	1'-5"				
*	RA1001	32	19'-6"	2685	1	1'-10"	18'-0"				
*	RA1002	32	18'-9"	2582	STR						
*	RA1101	48	38'-6"	9818	STR						
	RA501	76	10'-6"	832	18	5'-3"	2'-9"	2'-9"			
	RA502	14	30'-0"	438	STR						
	RA503	14	9'-8"	141	STR						
	RA504	6	4'-0"	25	26	0'-10½"	0'-10½"	1'-7½"	0'-10½"	0'-10½"	
	RA505	34	8'-0"	284	STR						
	RA506	4	6'-2"	25	2	2'-6"	2'-9"	0'-8"	0'-3½"	0'-3½"	
	RA507	12	0'-10"	10	STR						
	RA601	34	12'-3"	626	18	1'-5"	5'-7"	5'-7"			
	RA602	68	5'-0"	511	STR						
	RA603	34	8'-1"	413	18	0'-11"	3'-9"	3'-9"			
	RA604	18	15'-6"	419	18	1'-8"	7'-1"	7'-1"			
	RA605	18	20'-0"	541	18	1'-8"	9'-4"	9'-4"			
	RA606	4	4'-5"	27	6	0'-11"	2'-0"	0'-10½"	0'-6"	0'-8½"	
	RA607	4	3'-3"	20	1	0'-11"	2'-6"				
	RA608	2	0'-10"	3	STR						
	RA609	6	13'-2"	119	35	3'-0"	3'-0"	1'-0"	1'-0"		
	RA610	4	4'-4"	26	1	1'-6"	3'-0"				
	RA801	10	30'-0"	801	STR						
	RA802	10	12'-1"	323	STR						
	RA901	10	4'-3"	142	1	1'-6"	3'-0"				
	RA902	4	4'-9"	65	STR						
	SP407	4	16'-3"	960	15	2'-6"	0'-4½"				
*	SP408	4	38'-6"	3078	15	3'-6"	0'-4½"				
			TOTAL	25231							

LEGEND:

* = REINFORCING STEEL INCLUDED W/ ITEM 524 - DRILLED SHAFTS, 48" DIAMETER, ABOVE BEDROCK, AS PER PLAN FOR PAYMENT
** = REINFORCING STEEL INCLUDED W/ ITEM 524 - DRILLED SHAFTS, 54" DIAMETER, ABOVE BEDROCK, AS PER PLAN FOR PAYMENT

NOTES:

1. ALL BARS SHALL BE EPOXY COATED.
2. BAR DIMENSIONS SHOWN ARE OUT TO OUT.



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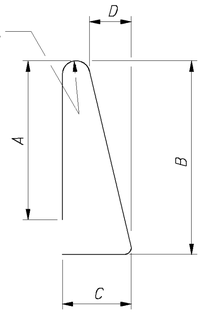

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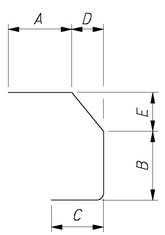

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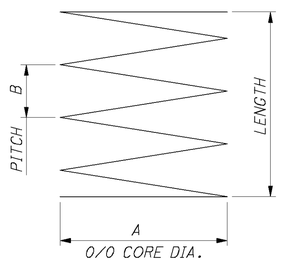
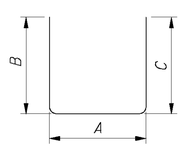
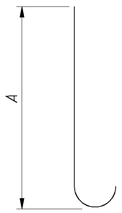


TYPE 15



TYPE 18



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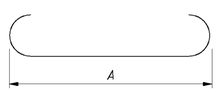
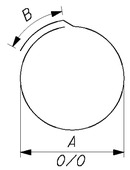
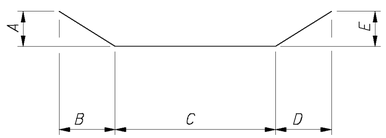


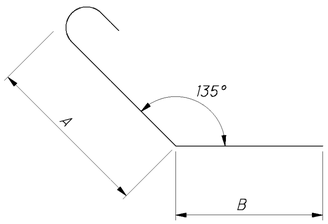
TYPE 22



TYPE 97



TYPE 26



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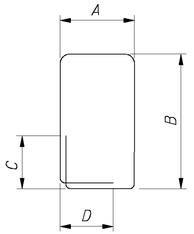

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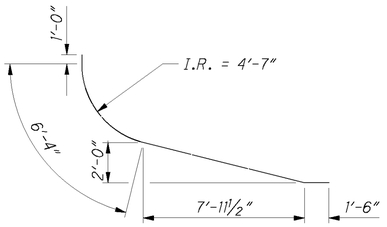
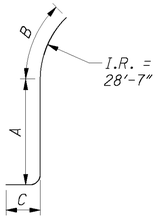
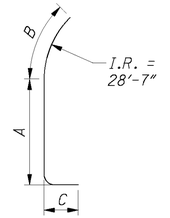


TYPE 95



TYPE 99



TYPE 100

DESIGN AGENCY
BURGESS & NIPLE
(614) 459-2050 FAX (614) 459-2070
Cincinnati, Ohio 45202

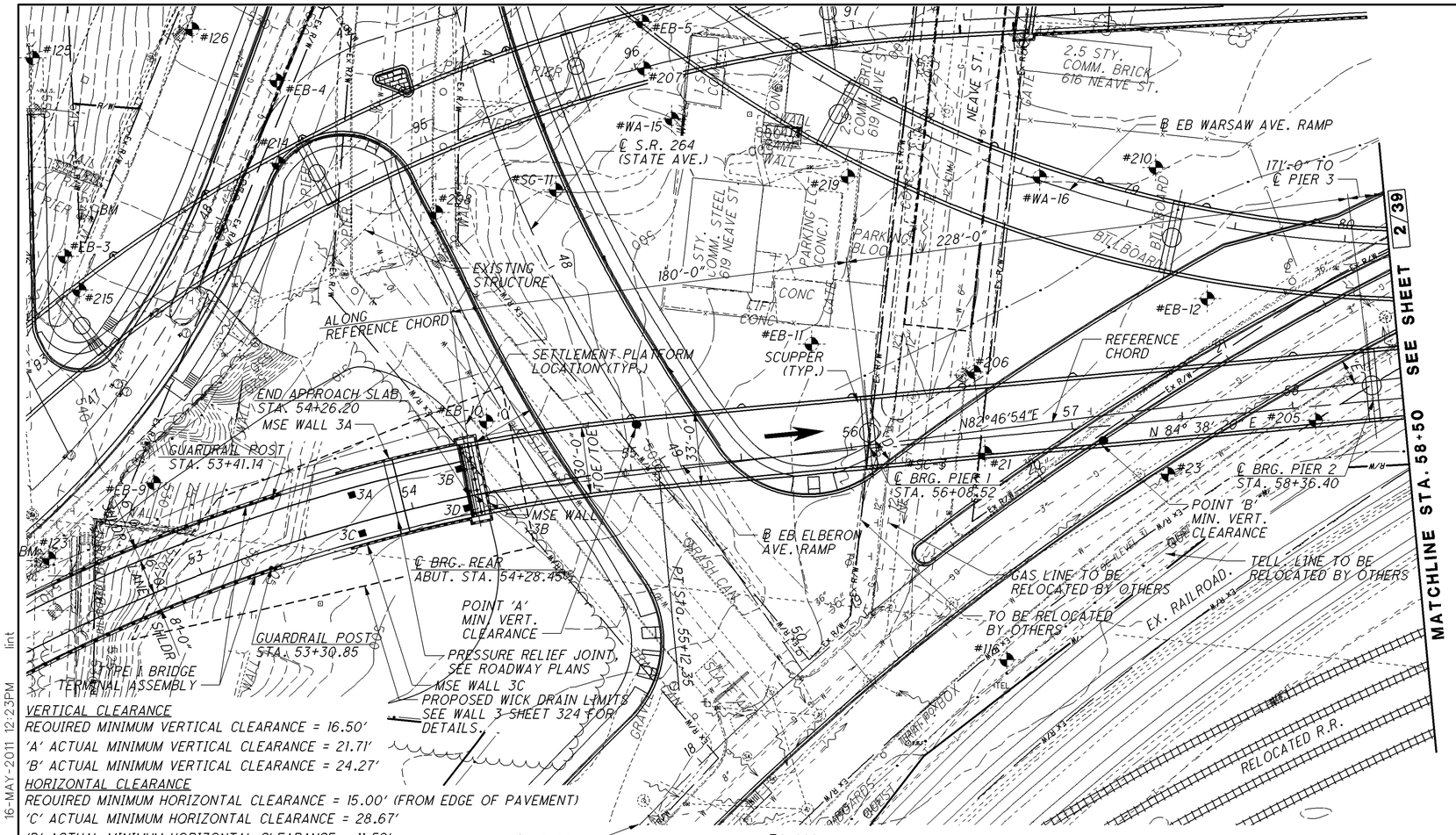
DESIGNED JHL | DRAWN AAA | REVIEWED RMK | DATE 02-18-10
CHECKED MAK | REVISED | STRUCTURE FILE NUMBER 3111652

REINFORCING STEEL LIST 2
BRIDGE NO. HAM-264-1457
W.B. ELBERON AVE. RAMP OVER S.R. 264

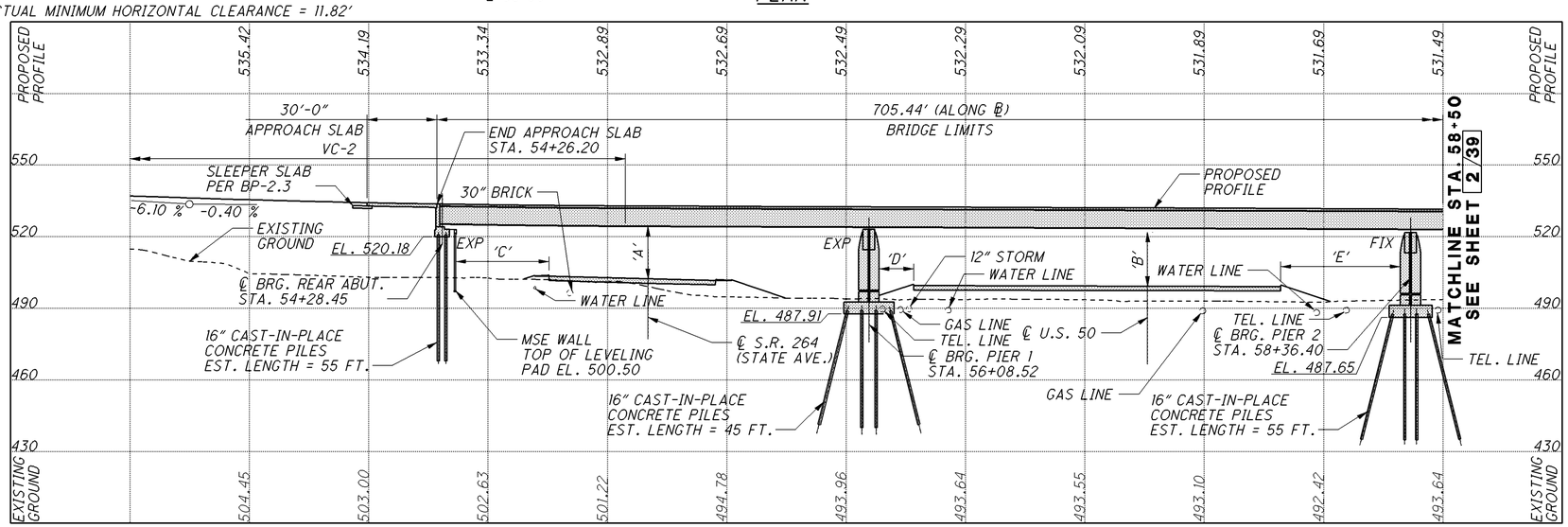
HAM-50-18.79
PID No. 20082

34 / 34

437
657



PLAN



PROFILE ALONG ℄ EB. ELBERON AVE. RAMP

BENCHMARK DATA

BM STA. 52+50.05 , ELEV. 541.03 , OFFSET 42.78', LT.
CHISELED BENCH MARK FOUND

BM STA. 54+04.22 , ELEV. 508.93 , OFFSET 78.32', LT.
PK NAIL SET

BM STA. 62+91.20 , ELEV. 493.11 , OFFSET 85.06', LT.
PK NAIL FOUND

BM STA. 63+96.84 , ELEV. 493.63 , OFFSET 112.06', LT.
BENCH MARK

NOTES:

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

DESIGN TRAFFIC:

1996 ADT = 7,082 1996 ADTT = 284
2020 ADT = 9,171 2020 ADTT = 367

LEGEND:

SOIL BORING LOCATION

CURVE DATA

HORIZONTAL	VERTICAL	
	VC-1	VC-2
P.I. STA. 52+65.68 Δ = 37°24'59" (RT) Dc = 7°18'11" R = 784.56' T = 265.68' L = 512.35' E = 43.77'	P.V.I. STA 50+75.35 ELEV = 548.82' 105.00' VC -5.00 % -6.10 %	P.V.I. STA 53+25.00 ELEV = 533.59' 364.99' VC -6.10 % -0.40 %

EXISTING STRUCTURE

TYPE: 4-SPAN STEEL FRAMES WITH ALTERNATING SUSPENDED SPANS SUPPORTING A GIRDER - FLOORBEAM - STRINGER SYSTEM WITH REINFORCED CONCRETE DECK. THE SUPERSTRUCTURE IS SUPPORTED BY REINFORCED CONCRETE ABUTMENTS ON SPREAD FOOTINGS AND TAPERED, BUILT UP STEEL COLUMN STRADDLE BENTS ON PEDESTALS AND PILING.

LENGTH OF SPANS: 60.171', 84.254', 77.055' 57.668' (MEASURED ALONG CHORDS BETWEEN ℄ BEARING ABUTMENT AND PIERS)

ROADWAY WIDTH: VARIES 22'-24' FACE TO FACE CURB WITH 5' SIDEWALK

SKEW ANGLE: TANGENT

LOADING: POSTED 16 TON

DATE OF CONSTRUCTION: 1947

STRUCTURE FILE NO.: 3102785

APPROACH SLAB: 25'-0" (ESTIMATED)

WEARING SURFACE: ASPHALT

PROPOSED STRUCTURE

TYPE: 4-SPAN CONTINUOUS COMPOSITE STEEL GIRDERS WITH REINFORCED CONCRETE DECK, STUB ABUTMENTS, AND T-TYPE PIERS. (A709 GRADE 50 STEEL)

SPANS: 180' - 228' - 171' - 121' C/C BRGS. ALONG REFERENCE CHORD

ROADWAY: 30'-0" TOE/TOE PARAPET

LOADING: HS25 CASE II AND ALTERNATE MILITARY, FWS = 60 PSF

SKEW: NONE (RADIAL)

WEARING SURFACE: MONOLITHIC CONCRETE

APPROACH SLABS: 30'-0" LONG (AS-1-81)

ALIGNMENT: RIGHT CURVE (784.56' RADIUS), TANGENT, LEFT CURVE (1,300' RADIUS)

SUPERELEVATION: VARIES TO 0.046 MAX.

COORDINATES: LATITUDE 39°06'04" N
LONGITUDE 84°33'10" W

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

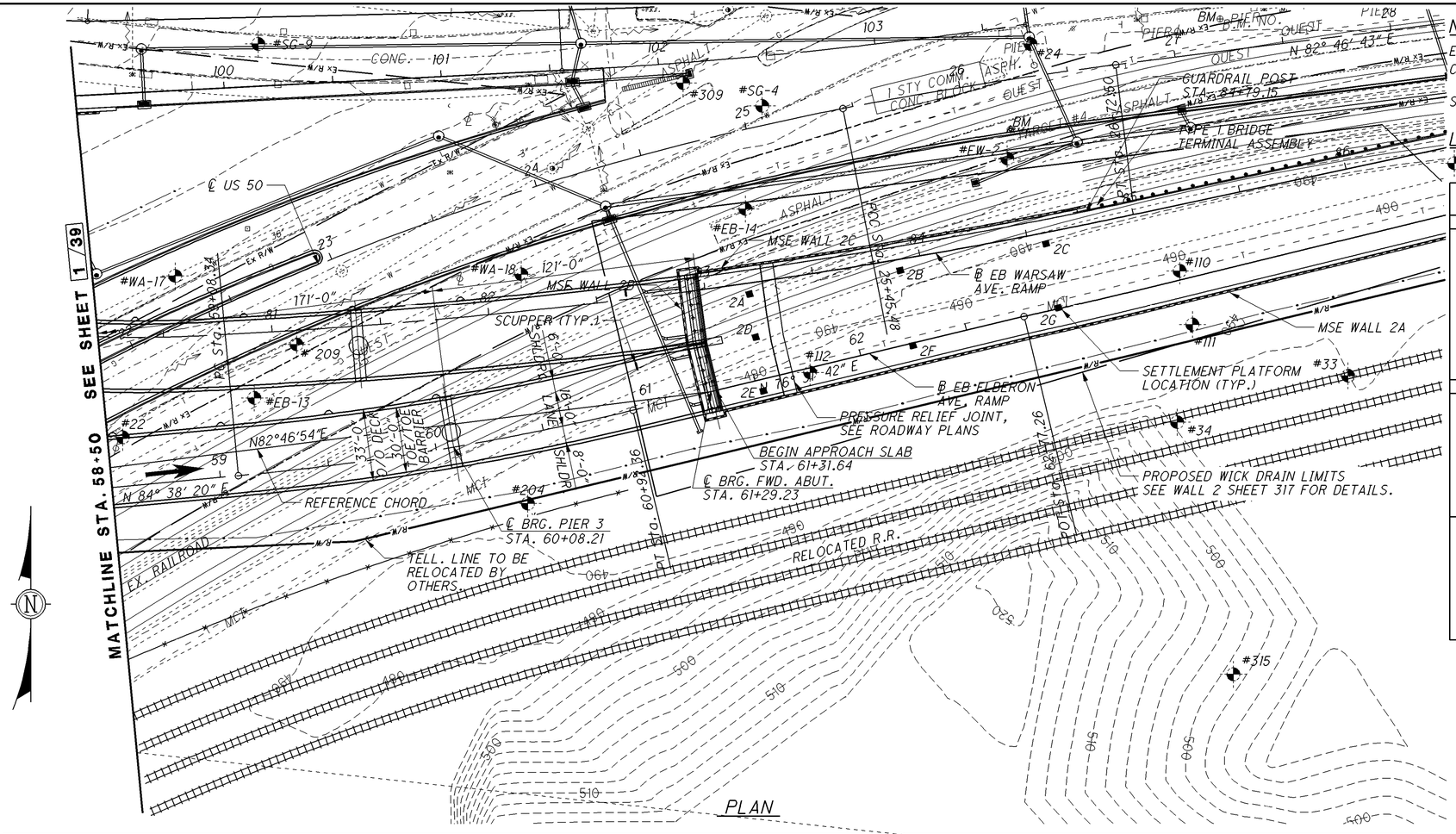
DRAWN	REVIEWED	DATE
LEL	EBS	11/16/10
DESIGNED	CHECKED	STRUCTURE FILE NUMBER
PJL	SAP	3102793

HAMILTON COUNTY
STA. 54+26.20
STA. 61+31.64

SITE PLAN 1

BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082



NOTES

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

SEE SHEET 1/39 FOR ADDITIONAL DETAILS.

LEGEND

SOIL BORING LOCATION

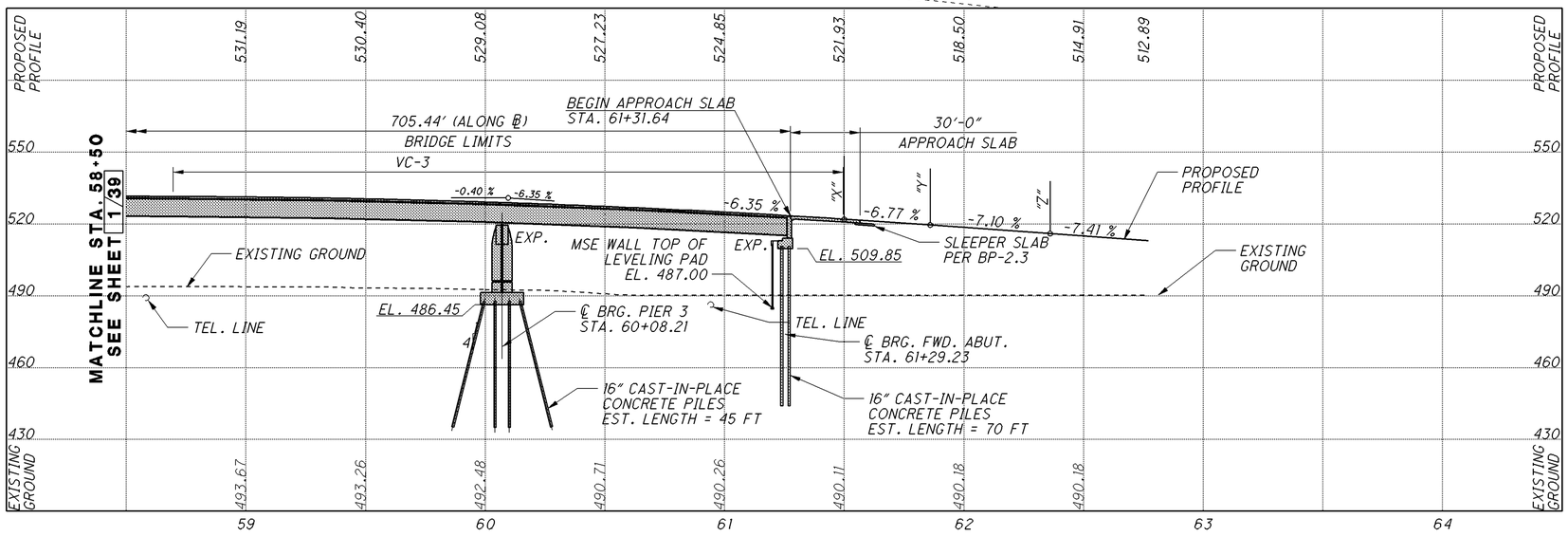
CURVE DATA

HORIZONTAL

P.I. STA. 60+00.50
Δ = 8°06'39" (LT)
Dc = 4°24'27"
R = 1,300.00'
T = 92.17'
L = 184.03'
E = 3.26'

VERTICAL

VC-3	"X"
P.V.I. STA 60+09.58 ELEV = 530.85' 280.00' VC -0.40 % — -6.35 %	P.V.I. STA 61+50.00 ELEV = 521.93' -6.35 % — -6.77 % NO CURVE
"Y"	**"Z"**
P.V.I. STA 61+85.94 ELEV = 519.50' -6.77 % — -7.10 % NO CURVE	P.V.I. STA 62+36.11 ELEV = 515.94' -7.10 % — -7.41 % NO CURVE



PROFILE ALONG ℄ EB ELBERON AVE. RAMP

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAP		30102793	

HAMILTON COUNTY
STA. 54+26.20
STA. 61+31.64

SITE PLAN 2
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM--50-18.79
PID No. 20082

2 / 39

439
657

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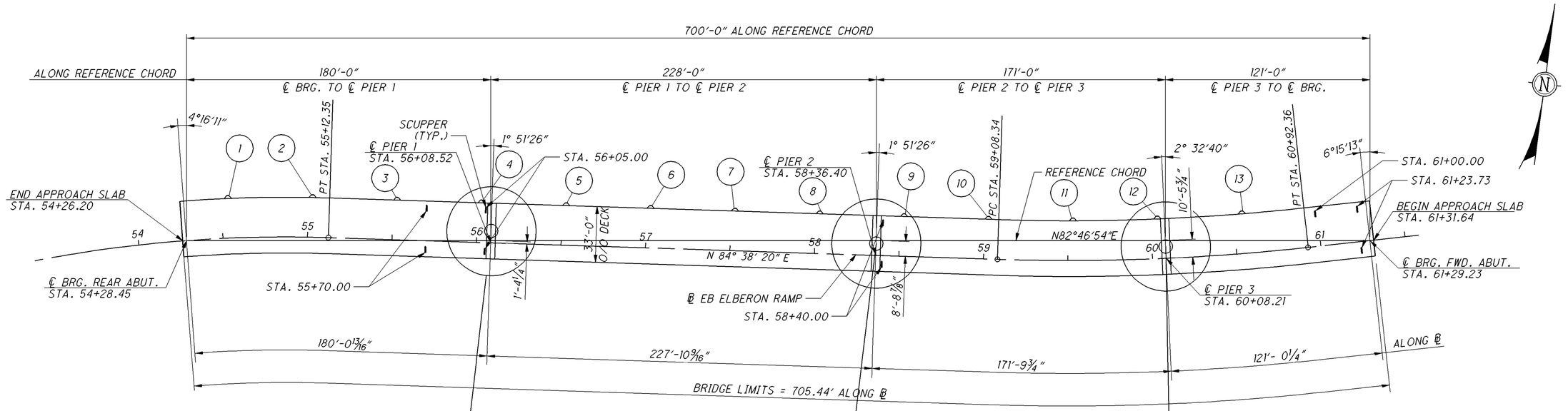

P.I. STA. 52+65.68
Δ = 37° 24' 59" (RT)
Dc = 7° 18' 11"
R = 784.56'
T = 265.68'
L = 512.35'
E = 43.77'

GENERAL PLAN

P.I. STA. 60+00.50
Δ = 8° 06' 39" (LT)
Dc = 4° 24' 27"
R = 1,300.00'
T = 92.17'
L = 184.03'
E = 3.26'

EB ELBERON AVE. RAMP
PAVEMENT TRANSITION DETAIL

LIGHT STANDARD LOCATIONS	
POINT	STATION
1	54+52.00
2	55+02.00
3	55+52.00
4	56+02.00
5	56+52.00
6	57+02.00
7	57+52.00
8	58+02.00
9	58+53.00
10	59+02.00
11	59+53.00
12	60+04.00
13	60+54.00

PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED PJL | DRAWN LEL | REVIEWED EBS | DATE 11/16/10
CHECKED SAP | REVISED | STRUCTURE FILE NUMBER 3102793

GENERAL PLAN
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

3 / 39

440
657

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-81	DATED/REVISED	07-19-02
BR-1	DATED/REVISED	07-19-02
GSD-1-96	DATED/REVISED	07-19-02
EXJ-4-87	DATED/REVISED	07-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

840	DATED	07-17-09
898	DATED	07-17-09

DESIGN SPECIFICATIONS

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE FOLLOWING SPECIFICATIONS:

- "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17th EDITION, 2002.
- THE ODOT BRIDGE DESIGN MANUAL.
- AASHTO GUIDE SPECIFICATIONS FOR HORIZONTALLY CURVED STEEL GIRDER HIGHWAY BRIDGES, 2003.
- SECTION 3.6.5 OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2005, INCLUDING THE 2008 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007 SHALL BE REFERENCED AS IT APPLIES TO THE PIER COLUMN DESIGN. NO OTHER SECTION OF THIS SPECIFICATION SHALL BE APPLICABLE FOR THESE PLANS.

DESIGN LOADING

DESIGN LOADING: HS25, CASE II AND THE ALTERNATE MILITARY LOADING.

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

DESIGN DATA

CONCRETE CLASS QSC2 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS QSC1 - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

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

STRUCTURAL STEEL - ASTM A709 GRADE 50, MINIMUM YIELD STRENGTH 50,000 PSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
2-1/2" CONCRETE COVER
SEALING OF CONCRETE SURFACES

MONOLITHIC WEARING SURFACE

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

PILE DRIVING CONSTRAINTS

PRIOR TO DRIVING ABUTMENT PILES TO THE ULTIMATE BEARING VALUE (UBV), CONSTRUCT THE MSE WALL AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENT UP TO THE BOTTOM OF THE FOOTING FOR A MINIMUM DISTANCE OF 200 FT BEHIND EACH ABUTMENT. PROVIDE A SURCHARGE FROM THE BOTTOM OF THE ABUTMENT FOOTING TO THE BOTTOM OF THE SUBGRADE, FOR A MINIMUM DISTANCE OF 200 FEET BEHIND EACH ABUTMENT. SURCHARGE LOADS SHALL REMAIN UNTIL THE REQUIRED SETTLEMENT HAS OCCURED AND AS DIRECTED BY THE ENGINEER. COMPLETE THE MSE WALL AND EMBANKMENT CONSTRUCTION IMMEDIATELY FOLLOWING THE SURCHARGE REMOVAL.

THE CONTRACTOR MAY PRE-DRIVE ABUTMENT PILES BEFORE CONSTRUCTING MSE WALLS. PRE-DRIVING CONSISTS OF INSTALLING THE ABUTMENT PILES INTO THE SOIL ONLY AS FAR AS NECESSARY SO THAT THE PIPE WILL REMAIN VERTICAL DURING MSE WALL CONSTRUCTION. IF PRE-DRIVING PILES, INSTALL PILE SLEEVES AROUND PILES BEFORE CONSTRUCTING THE MSE WALL. AT LEAST THREE FEET OF PILE MUST EXTEND ABOVE THE TOP OF THE PILE SLEEVE TO MEET THE REQUIREMENTS OF CMS 507.09 REGARDING SPLICES. DO NOT DRIVE ABUTMENT PILES TO THE UBV UNTIL AFTER THE ABOVE REQUIRED MSE WALL AND EMBANKMENT HAVE BEEN CONSTRUCTED, AND THE SPECIFIED WAITING PERIOD HAS ELAPSED.

IF NOT PRE-DRIVING ABUTMENT PILES, INSTALL THE ABUTMENT PILES THROUGH PILE SLEEVES AFTER THE ABOVE REQUIRED MSE WALL AND EMBANKMENT HAVE BEEN CONSTRUCTED AND THE SPECIFIED WAITING PERIOD HAS ELAPSED.

PILE DRIVING CONSTRAINTS (CONT.)

ABUTMENT PILE DRIVING TO THE UBV (FOR PILES DRIVEN AFTER MSE CONSTRUCTION) OR PILE REDRIVING (FOR PILES PRE-DRIVEN BEFORE MSE CONSTRUCTION) MAY NOT BEGIN UNTIL A MINIMUM 30 CALENDAR DAY WAITING PERIOD HAS ELAPSED AFTER THE COMPLETION OF EMBANKMENT AND SURCHARGE CONSTRUCTION. IN ADDITION, CONSECUTIVE SETTLEMENT READINGS, RECORDED AFTER EMBANKMENT CONSTRUCTION IS COMPLETE AND AT LEAST ONE WEEK (168 HOURS) APART, SHALL RESULT IN ELEVATION DIFFERENCES EQUAL TO OR LESS THAN 1/8 INCH FOR ABUTMENT CONSTRUCTION TO CONTINUE. IF SETTLEMENT RATES EXCEED 1/2 INCH PER MONTH AFTER EMBANKMENT CONSTRUCTION HAS BEEN COMPLETE FOR 40 DAYS, REMAINING ABUTMENT CONSTRUCTION, INCLUDING ANY NECESSARY CORRECTIVE MEASURES, MAY PROCEED ONLY AT THE DIRECTION OF THE ENGINEER.

THE ENGINEER MAY ADJUST THE SPECIFIED WAITING PERIOD BASED ON SETTLEMENT PLATFORM READINGS. AFTER THE SPECIFIED WAITING PERIOD HAS ELAPSED, DRIVE ABUTMENT PILES TO THE UBV. IN ORDER TO REMOVE ANY NEGATIVE SKIN FRICTION THAT HAS DEVELOPED DURING THE WAITING PERIOD, DRIVE EACH ABUTMENT PILE A DISTANCE OF AT LEAST 0.5 INCH.

PROPRIETARY RETAINING WALL DATA

THE PROPRIETARY WALL SUPPLIER SHALL DESIGN THE INTERNAL STABILITY OF A MECHANICALLY STABILIZED EARTH (MSE) WALL IN ACCORDANCE WITH THE SPECIAL PROVISIONS TO SUPPORT THE ABUTMENT. THE DESIGN FOR INTERNAL STABILITY SHALL INCLUDE AN UNFACTORED HORIZONTAL STRIP LOAD FROM THE SUPERSTRUCTURE OF 1.9 K/FT (REAR ABUTMENT) AND 1.3 K/FT (FORWARD ABUTMENT) APPLIED PERPENDICULAR TOTHE FACE OF WALL AT THE BASE OF THE CONCRETE FOOTING.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE)

PILE DESIGN LOADS (ULTIMATE BEARING VALUE): THE ULTIMATE BEARING VALUE IS 158 TONS PER PILE FOR THE 16" CAST-IN-PLACE CONCRETE FORWARD ABUTMENT PILES AND 150 TONS PER PILE FOR THE 16" CAST-IN-PLACE REAR ABUTMENT PILES.

THE ULTIMATE BEARING VALUE IS 164 TONS PER PILE FOR THE PIER 1 PILES, 160 TONS PER PILE FOR PIER 2 PILES, AND 158 TONS PER PILE FOR PIER 3 PILES. ALL PIER PILES SHALL BE 16" CAST-IN-PLACE CONCRETE.

ABUTMENT PILES:
11 PILES 60 FEET LONG, ORDER LENGTH (REAR ABUTMENT)
8 PILES 75 FEET LONG, ORDER LENGTH (FORWARD ABUTMENT)
2 DYNAMIC LOAD TESTING ITEM

PIER 1 PILES:
28 PILES 50 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

PIER 2 PILES:
24 PILES 60 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

PIER 3 PILES:
20 PILES 50 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

BATTERED PILES

BATTERED PILES: THE BLOW COUNT FOR BATTERED PILES SHALL BE THE BLOW COUNT DETERMINED FOR VERTICAL PILES OF THE SAME ULTIMATE BEARING VALUE DIVIDED AN EFFICIENCY FACTOR (D). COMPUTE THE EFFICIENCY FACTOR (D) AS FOLLOWS:

$$D = \frac{1-UG}{\sqrt{(1+G^2)}}$$

U = COEFFICIENT OF FRICTION, WHICH IS ESTIMATED AT 0.05 FOR DOUBLE-ACTING AIR OPERATED OR DIESEL HAMMERS; 0.1 FOR SINGLE-ACTING AIR OPERATED OR DIESEL HAMMERS; AND 0.2 FOR DROP HAMMERS.

G = RATE OF BATTER (1/3, 1/4, ETC.)

UTILITY LINES

UTILITY LINES: THE UTILITY(IES) SHALL BORE ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

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

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN: THIS ITEM SHALL INCLUDE THE REMOVAL OF THE EXISTING EASTBOUND ELBERON AVENUE RAMP.

ITEM 202, APPROACH SLAB REMOVED, AS PER PLAN:

ITEM 202, APPROACH SLAB REMOVED, AS PER PLAN: THIS ITEM SHALL INCLUDE THE REMOVAL OF THE APPROACH SLABS FOR THE EXISTING EASTBOUND ELBERON AVENUE RAMP.

ITEM 511, CLASS HP CONCRETE, SUPERSTRUCTURE, AS PER PLAN

ITEM 511, CLASS HP CONCRETE, SUPERSTRUCTURE, AS PER PLAN: LOCATE THE LOWER CONTACT POINT OF THE OVERHANG FALSEWORK AT LEAST 76 INCHES +/- 2 IN. BELOW THE BOTTOM OF THE GIRDER'S TOP FLANGE. THE BRACKET CONTACT POINT LOCATION REQUIREMENTS OF C&MS 508 DO NOT APPLY.

ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION):

APPLY A CLEAR PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

PERMANENT GRAFFITI PROTECTION SHALL BE APPLIED TO THE LIMITS SHOWN IN THE PLANS.

ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN

THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE AND DECK CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), AS PER PLAN

FURNISH APPROACH SLABS CONFORMING TO CMS 526 EXCEPT CONCRETE SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 898, QC/QA CONCRETE, CLASS QSC2. THE ACCEPTED QUANTITIES SHALL INCLUDE: CONCRETE, CURBS, REINFORCING STEEL, JOINT FILLERS, JOINT SEALERS, JOINT SEALS, AND WATERPROOFING. THE DEPARTMENT WILL MEASURE APPROACH SLABS BY THE NUMBER OF SQUARE YARDS. THE DEPARTMENT WILL INITIALLY PAY THE FULL BID PRICE TO THE CONTRACTOR UPON COMPLETING THE WORK. THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE AND DECK CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

MAINTENANCE OF TRAFFIC

FOR MAINTENANCE OF TRAFFIC NOTES AND DETAILS, REFER TO SHEETS 24 THRU 81.

COLORS:

THE COLOR FOR THE ALTERNATE STEEL PARAPET RAILS AND ALL HARDWARE SHALL BE FEDERAL COLOR NUMBER 27038 (BLACK, 30% SHEEN).

LIGHT POLES LOCATED ON THE BRIDGE SHALL BE FEDERAL COLOR NUMBER 27038 (BLACK, 30% SHEEN).

THE COLOR FOR ITEM 513 STRUCTURAL STEEL MEMBERS, LEVEL 5, SHALL BE AS FOLLOWS:

THE OUTSIDE FACE AND BOTTOM FLANGES OF THE FASCIA BEAMS TO BE PAINTED FEDERAL COLOR NUMBER 27038 (BLACK, 30% SHEEN)

ALL REMAINING BRIDGE SUPERSTRUCTURE ELEMENTS TO BE PAINTED FEDERAL COLOR NUMBER 10324 (DARK NEUTRAL)

ITEM 512 SEALING OF CONCRETE SURFACES (NON-EPOXY) SHALL BE CLEAR.

THE COLOR FOR ITEM 512 SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) AT THE PIERS SHALL BE FEDERAL COLOR NUMBER 11136 (TERRA COTTA)

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAP		3102793	

GENERAL NOTES
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

PROPOSED WORK:

1. PROTECT AND MAINTAIN ALL TRAFFIC DURING CONSTRUCTION.
2. INSTALL DETOUR AND REMOVE EXISTING STRUCTURE.
3. CONSTRUCT ABUTMENT AND PIER FOUNDATIONS.
4. CONSTRUCT MSE RETAINING WALLS.
5. CONSTRUCT PIERS AND ABUTMENTS.
6. CONSTRUCT SUPERSTRUCTURE.
7. SEAL CONCRETE SURFACES AS SHOWN IN THE PLANS.

EXISTING STRUCTURE PLANS:

CONSTRUCTION PLANS FOR EXISTING BRIDGE ARE ON FILE AT THE DEPARTMENT OF TRANSPORTATION, DISTRICT 8 OFFICE, 505 SOUTH STATE ROUTE 741, LEBANON, OHIO AND ARE AVAILABLE FOR REFERENCE.

ABBREVIATIONS:

N.F. = NEAR FACE
F.F. = FAR FACE
E.F. = EACH FACE
TYP. = TYPICAL
MIN. = MINIMUM
STA. = STATION
SPA. = SPACES
CONST. = CONSTRUCTION
EL. ELEVATION
C.I.P. = CAST-IN-PLACE
BRG. = BEARING
EX. = EXISTING
PROP. = PROPOSED
A.P.P. = AS PER PLAN
R.A. = REAR ABUTMENT
F.A. = FORWARD ABUTMENT
O/O = OUT TO OUT
CLR. = CLEAR
LT. = LEFT
RT. = RIGHT
EST. = ESTIMATE
P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
P.C.P.P. = PERFORATED CORRUGATED PLASTIC PIPE
N.P.C.P.P. = NON-PERFORATED CORRUGATED PLASTIC PIPE
INV. = INVERT
FWD. = FORWARD
ABUT. = ABUTMENT
CONC. = CONCRETE
EA. = EACH
STD. = STANDARD
DWG. = DRAWING
DIA. = DIAMETER
E.B. = EASTBOUND
W.B. = WESTBOUND
W.P. = WORK POINT
C/C = CENTER TO CENTER
STRUCT. = STRUCTURE
TEMP. = TEMPORARY
C.J. = CONSTRUCTION JOINT

BARRIER TRANSITIONS FOR ALTERNATE BID ITEM RAILING

DESIGN DETAILS ARE INCLUDED FOR BARRIER TRANSITIONS FOR STANDARD ODOT RAILING. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR TRANSITIONS OF THE ALTERNATE BID ITEM RAILING SELECTED. DESIGN DETAILS OF SIMILAR AESTHETIC RAILING TRANSITIONS ARE ON FILE WITH THE CITY FROM PREVIOUS PROJECTS SUCH AS THE FORMER COLUMBIA PARKWAY PROJECT. THE CONTRACTOR SHOULD CONTACT RICHARD SZEKERESH, P.E., PRINCIPAL STRUCTURAL ENGINEER FOR THE CITY OF CINCINNATI AT (513) 352-3419 OR RICHARD.SZEKERESH@CINCINNATI-OH.GOV FOR THESE DRAWINGS PRIOR TO DEVELOPING OR SUBMITTING SHOP DRAWINGS.

ITEM SPECIAL - MISC: TEMPORARY SURCHARGE

DESCRIPTION: THIS ITEM CONSISTS OF DESIGNING, CONSTRUCTING, AND REMOVING A TEMPORARY SURCHARGE AT THE LOCATIONS AND LIMITS SHOWN IN THE PLANS.

AS DIRECTED IN THE PILE DRIVING CONSTRAINTS, A TEMPORARY SURCHARGE IS NECESSARY AT THE ABUTMENTS FOR THIS BRIDGE TO MITIGATE EMBANKMENT SETTLEMENT. CONSTRUCT THE TEMPORARY SURCHARGE SO IT EXTENDS VERTICALLY FROM THE ELEVATION OF THE BOTTOM OF THE PROPOSED ABUTMENT FOOTING TO THE PROPOSED ROADWAY SUBGRADE ELEVATION. CONSTRUCT THE TEMPORARY SURCHARGE USING ITEM 203 EMBANKMENT WITH A DRY DENSITY OF AT LEAST 105 PCF AFTER COMPACTION. SUPPORT THE SIDES OF THE TEMPORARY SURCHARGE SO THAT THE TOP OF THE SURCHARGE MATERIAL IS NO MORE THAN 2 FEET (MEASURED HORIZONTALLY) FROM THE BACK FACE OF THE PROPOSED MSE WALLS. CONSTRUCT THE TEMPORARY SURCHARGE SO THAT IT EXTENDS AT LEAST 200 FEET BEHIND EACH ABUTMENT. PREPARE AND PROVIDE SHOP DRAWINGS AND DESIGN CALCULATIONS FOR THE TEMPORARY SURCHARGE, INCLUDING THE METHOD USED TO SUPPORT THE SIDES OF THE TEMPORARY SURCHARGE AND ALL DETAILS OF THE SUPPORT SYSTEM. ENSURE THE TEMPORARY SURCHARGE DESIGN ACCOMMODATES THE LOCATION AND COMPOSITION OF THE PROPOSED MSE WALLS FOR THE BRIDGE STRUCTURE. HAVE TWO OHIO REGISTERED ENGINEERS SIGN, SEAL, AND DATE THE DRAWINGS AND CALCULATIONS ACCORDING TO C&MS 501.05. SUBMIT THE DRAWINGS AND CALCULATIONS TO THE ENGINEER AT LEAST 30 DAYS BEFORE CONSTRUCTION OF THE TEMPORARY SURCHARGE BEGINS.

REMOVE THE TEMPORARY SURCHARGE AFTER THE CONDITIONS SPECIFIED IN THE PILE DRIVING CONSTRAINTS ARE SATISFIED AND THE ENGINEER AUTHORIZES REMOVAL. BASIS OF PAYMENT: THE DEPARTMENT WILL PAY FOR ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO DESIGN, CONSTRUCT AND REMOVE THE TEMPORARY SURCHARGE AT THE REAR AND FORWARD ABUTMENTS FOR THE BRIDGE AT THE CONTRACT LUMP SUM BID PRICE FOR ITEM SPECIAL 690E98400 SPECIAL-MISC: TEMPORARY SURCHARGE.

ITEM SPECIAL-SETTLEMENT PLATFORMS:

DESCRIPTION: THIS ITEM CONSISTS OF FURNISHING, CONSTRUCTING, AND MAINTAINING SETTLEMENT PLATFORMS AND OBTAINING SETTLEMENT READINGS AS REQUIRED BY THE PLANS OR AS DIRECTED BY THE ENGINEER. AT THE OPTION AND EXPENSE OF THE CONTRACTOR, ADDITIONAL SETTLEMENT PLATFORMS MAY BE INSTALLED AT LOCATIONS APPROVED BY THE ENGINEER. SETTLEMENT READINGS SHALL BE TAKEN WEEKLY DURING CONSTRUCTION AND DURING ANY SPECIFIED WAITING PERIOD. THE READINGS SHALL BE PLOTTED ON GRAPH PAPER PRESENTING DEFORMATION (ON THE NEGATIVE Y-AXIS) AND FILL HEIGHT (ON THE POSITIVE Y-AXIS) VERSUS TIME (ON THE X-AXIS). A COPY OF EACH CUMULATIVE PLOT SHALL BE SENT TO THE DISTRICT GEOTECHNICAL ENGINEER AND THE OFFICE OF GEOTECHNICAL ENGINEERING, ATTENTION: GEOTECHNICAL DESIGN COORDINATOR, AFTER EACH SETTLEMENT READING IS RECORDED.

THE DEPARTMENT WILL CONSIDER VIBRATING WIRE SETTLEMENT MONITORING PLATFORMS IN LIEU OF THE CONVENTIONAL SETTLEMENT PLATFORMS. THE CONTRACTOR SHOULD PROVIDE DETAILS OF THE PROPOSED VIBRATING WIRE SETTLEMENT PLATFORMS AS WELL AS DESIGN DRAWINGS OF THE PROPOSED PLATFORM AND CABLING LAYOUT TO THE ENGINEER AT LEAST 30 DAYS PRIOR TO CONSTRUCTION. THE DEPARTMENT WILL REQUIRE 10 WORKING DAYS FOR REVIEW AND APPROVAL. THE DESIGN DRAWINGS SHOULD ILLUSTRATE THE PROPOSED SETTLEMENT VIBRATING WIRE SETTLEMENT PLATFORM LOCATIONS WITH ALL EXISTING AND PROPOSED SITE FEATURES TO VERIFY THE PROPOSED CABLING WILL NOT CONFLICT WITH EXSITING FACILITIES, PROPOSED FACILITIES OR UTILITIES. NO ADDITIONAL PAYMENT WILL BE PROVIDED IF THE CONTRACTOR ELECTS TO UTILIZE VIBRATING WIRE SETTLEMENT PLATFORMS.

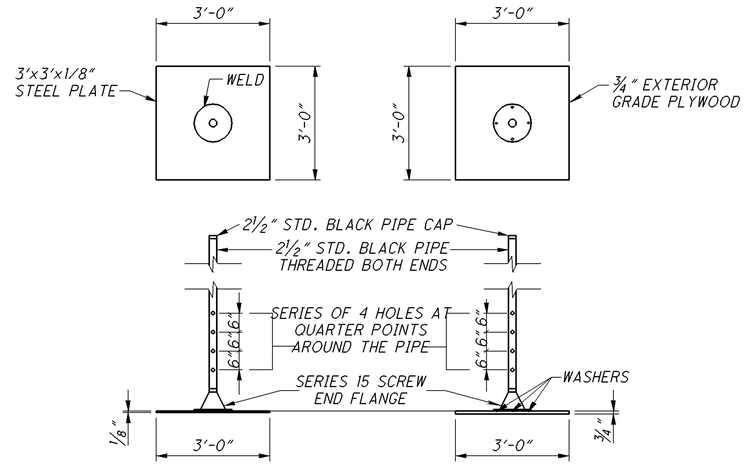
MATERIALS: SOUND LUMBER SUCH AS ¾ INCH EXTERIOR GRADE PLYWOOD SHALL BE USED FOR THE BASE. THE PIPE SHALL BE 2½" STANDARD BLACK PIPE WITH THREADED FITTINGS AS SHOWN ON THE PLANS. A STEEL PLATE 36"x36"x1/8" MAY BE SUBSTITUTED FOR THE LUMBER FOR THE PLATFORMS, AT CONTRACTORS OPTION.

CONSTRUCTION REQUIREMENTS: THE 36"x36" PLATFORM SHALL BE CONFORM TO THE DETAILS SHOWN ON THE PLANS. THE PLATFORM SHALL BE SET ON A LEVEL SURFACE. THE PIPES SHALL BE FIRMLY SECURED TO THE PLATFORMS AND SHALL BE MAINTAINED IN PLUMB POSITION DURING THE PLACEMENT OF THE EMBANKMENT. PIPES SHALL BE MARKED AT INTERVALS BY THE CONTRACTOR TO FACILITATE MEASUREMENT OF THE DEPTH OF FILL. THE CONTRACTOR SHALL STOP WORK IN ANY LOCATION WHERE A SETTLEMENT PLATFORM HAS BEEN DISTURBED OR DAMAGED UNTIL THE NECESSARY CORRECTIONS OR REPLACEMENT HAS BEEN PERFORMED.

PRIOR TO PAVING, THE TOP OF THE SETTLEMENT PLATFORM PIPE SHALL BE CUT OFF 2 FEET BELOW THE FINISHED SURFACE OF THE SUBGRADE OR TOPSOIL SURFACE, WHICHEVER IS APPLICABLE.

METHOD OF MEASUREMENT: THE NUMBER OF SETTLEMENT PLATFORMS TO BE PAID FOR WILL BE THE ACTUAL NUMBER OF SETTLEMENT PLATFORMS COMPLETED, MAINTAINED, AND ACCEPTED BY THE ENGINEER.

BASIS OF PAYMENT: PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE PER EACH FOR "ITEM SPECIAL, SETTLEMENT PLATFORMS" WHICH IS COMPENSATED FOR CONSTRUCTION, MAINTAINING AND MONITORING THE SETTLEMENT PLATFORMS INCLUDING FURNISHING ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK. PAYMENT WILL NOT BE MADE FOR SETTLEMENT PLATFORMS WHICH BECOME USELESS BECAUSE OF DAMAGE INFLICTED BY THE CONTRACTOR'S OPERATIONS



NOTES:

1. SETTLEMENT PLATES SHALL BE PLACED AT THE LOCATIONS INDICATED ON WALLS 2 AND 3 SHEETS 319 AND 324, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
2. CONTRACTOR HAS OPTION OF USING EITHER STEEL OR PLYWOOD PLATFORM BASE.
3. CONTRACTOR SHALL FURNISH MATERIALS AND LABOR TO EXTEND PIPE UP THROUGH ENTIRE FILL.
4. SETTLEMENT PLATFORMS SHALL BE ANCHORED BY STAKES DRIVEN AT EACH CORNER TO PREVENT OVERTURNING.
5. CONTRACTOR WILL ESTABLISH MONUMENTS AT A MINIMUM OF SIX (6) LOCATIONS AROUND EXTERIOR PERIMETER OF WALL TO MONITOR SETTLEMENT AT BASE. MONUMENTS TO BE SURVEYED AT REGULAR INTERVALS DURING CONSTRUCTION AT SAME FREQUENCY AS SETTLEMENT PLATFORMS. MONUMENTS MAY CONSIST OF CHISELED NOTCHES ON WALL FACE OR STEEL RODS OR CONCRETE PIERS SET AT LEAST 30 INCHES BELOW GRADE AT BASE OF WALL.

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

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GENERAL NOTES
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

ITEM	EXTENSION	STRUCTURE TOTAL ODOT	STRUCTURE TOTAL CITY	UNIT	ESTIMATED QUANTITIES DESCRIPTION	HAM-050-1875 ABUT.	PIER	SUPER.	GEN.	SEE SHEET NO.
202	11203	1		LUMP	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					4/39
202	22901	134		SQ YD	APPROACH SLAB REMOVED, AS PER PLAN				134	4/39
SPECIAL	203E65000	7		EACH	SETTLEMENT PLATFORM	7				
503	11100	1		LUMP	COFFERDAMS AND EXCAVATION BRACING					4/39
503	21300	1		LUMP	UNCLASSIFIED EXCAVATION					
505	11100	1		LUMP	PILE DRIVING EQUIPMENT MOBILIZATION					
507	00700	4,645		FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	1,165	3,480			
507	00750	5,100		FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	1,260	3,840			
509	10000	356,968		LB	EPOXY COATED REINFORCING STEEL	15,101	106,280	235,587		
512	10001	84		SQ YD	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)		84			4/39
512	10050	1,763		SQ YD	SEALING OF CONCRETE SURFACES (NON-EPOXY)	141		1,622		
512	10100	404		SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		404			
513	10300	1,484,020		LB	STRUCTURAL STEEL MEMBERS, LEVEL 5			1,484,020		
513	20000	5,432		EACH	WELDED STUD SHEAR CONNECTORS			5,432		
514	00060	62,649		SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			62,649		
514	00066	62,649		SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			62,649		
514	10000	26		EACH	FINAL INSPECTION REPAIR			26		
516	11211	33		FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN (5" SEAL)			33		10/39
516	11211	33		FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN (4" SEAL)			33		12/39
516	13600	37		SQ FT	1" PREFORMED EXPANSION JOINT FILLER			37		
516	13900	75		SQ FT	2" PREFORMED EXPANSION JOINT FILLER			75		
516	44301	4		EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (20" x 26" x 4 5/16" BEARING WITH 21" x 39" LOAD PLATE		4			23/39
516	44301	4		EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (16" x 24" x 4 5/8" BEARING WITH 17" x 25" LOAD PLATE		4			23/39
516	44401	4		EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (10" x 15" x 5 1/16" BEARING WITH 11" x 20" LOAD PLATE	4				23/39
516	44401	4		EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (22" x 28" x 6 7/16" BEARING WITH 23" x 29" LOAD PLATE		4			23/39
516	44401	4		EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (12" x 20" x 6 3/4" BEARING WITH 13" x 26" LOAD PLATE	4				23/39
517	76300		1,467	FT	RAILING, MISC.: RAILING ALTERNATE, MINNESOTA RAILING (SEE NOTE 2)			1,467		
518	12300	9		EACH	SCUPPERS, INCLUDING SUPPORTS			9		
518	51100	430		FT	8" PIPE DOWNSPOUT, INCLUDING SPECIALS			430		
523	20000	5		EACH	DYNAMIC LOAD TESTING	2	3			
SPECIAL	690E98400	1		LUMP	SPECIAL-MISC.: TEMPORARY SURCHARGE					
898	10201	707		CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN			707		4/39
898	10709	111		SQ YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), (T=17"), AS PER PLAN			111		4/39
898	11000	180		CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET)			180		
898	20100	268		CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (PIER ABOVE FOOTING)		268			
898	20160	135		CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (ABUTMENT INCLUDING FOOTING)	135				
898	20300	245		CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (FOOTING)		245			

CALC. BY: BKJ DATE: 8-07
CHK'D BY: PJL DATE: 9-07

NOTES:

1. FOR LIST OF ABBREVIATIONS SEE SHEET 5/39.

2. RAILING, MISC: RAILING ALTERNATIVE, MINNESOTA RAILING IS A REQUIRED BID ITEM. IF SELECTED BY THE OWNER IT WILL REPLACE BID ITEM 898: QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET). CONCRETE IN ALTERNATE RAILING SHALL BE QC/QA CONCRETE, CLASS QSC2. IF SELECTED BY THE OWNER ALTERNATE RAILING AND ALL NECESSARY TRANSITIONS SHALL BE DETAILED PER MINNESOTA STANDARD DRAWING FIGURE 5-397.157 AND SUBMITTED FOR SHOP DRAWING REVIEW PRIOR TO FABRICATION. THE COST OF ALL LABOR MATERIALS, AND EQUIPMENT NECESSARY FOR PAINTING, REINFORCEMENT, SEALING, RAILINGS, AND SHOP DRAWING PREPARATION SHALL BE INCLUDED WITH THIS ITEM FOR PAYMENT. SEE SHEET 4/39 FOR COLOR REQUIREMENTS. ALL REINFORCEMENT SHALL BE EPOXY COATED. THE ALTERNATE RAILING OPTION WILL REPLACE 37,888 POUNDS OF REINFORCEMENT AND 1,182 SQ.YD. OF SEALING.

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED PJL | DRAWN LEL | REVIEWED EBS | DATE 11/16/10
CHECKED SAP | REVISED | STRUCTURE FILE NUMBER 3102793

ESTIMATED QUANTITIES
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

6/39

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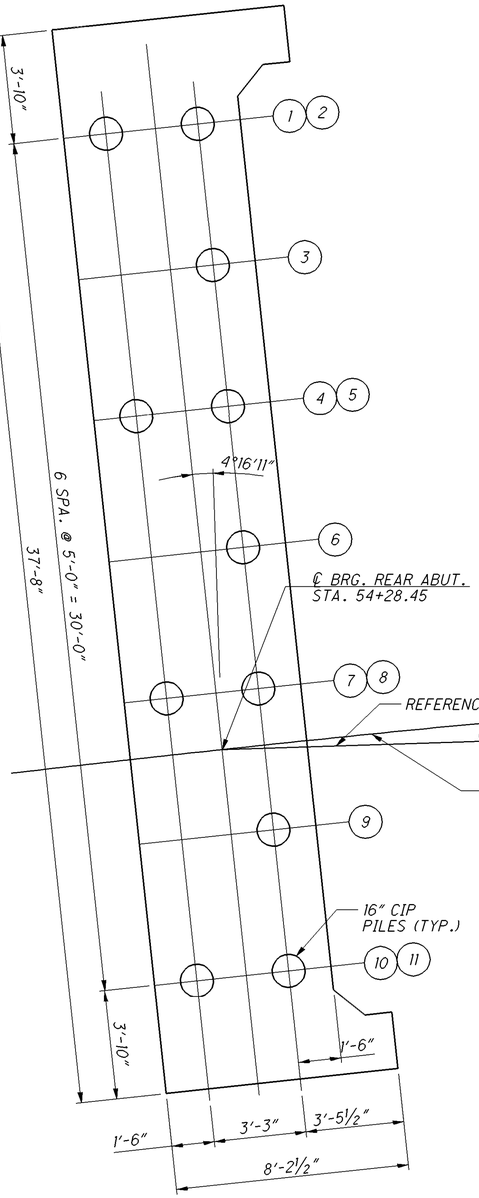
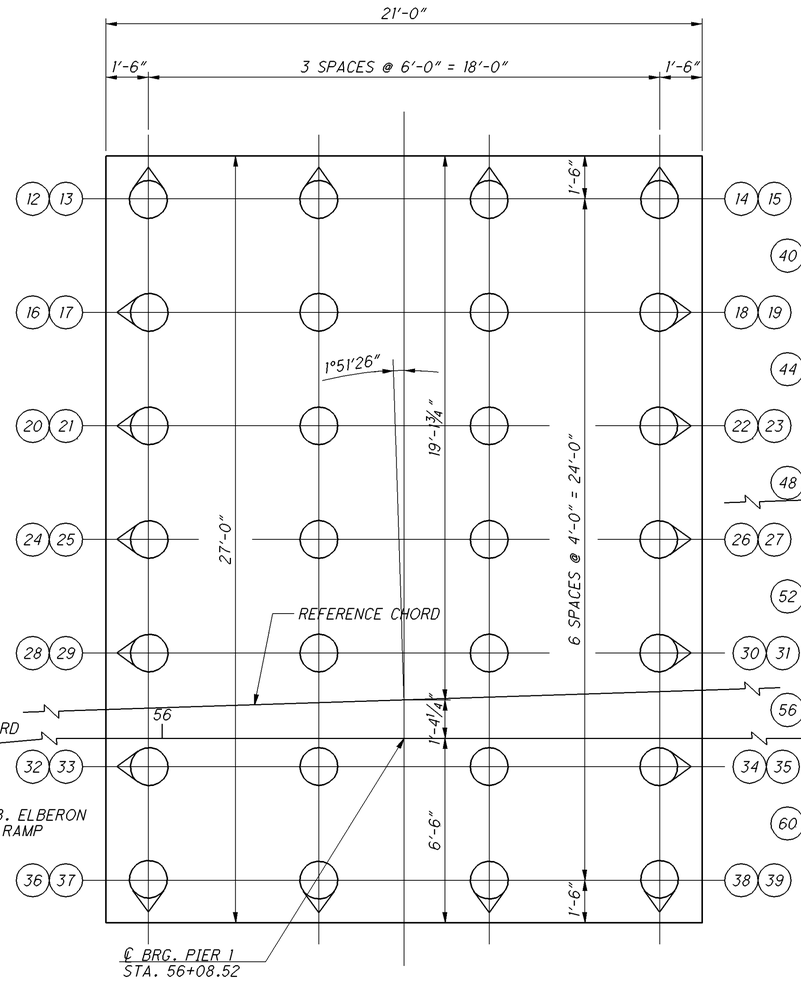
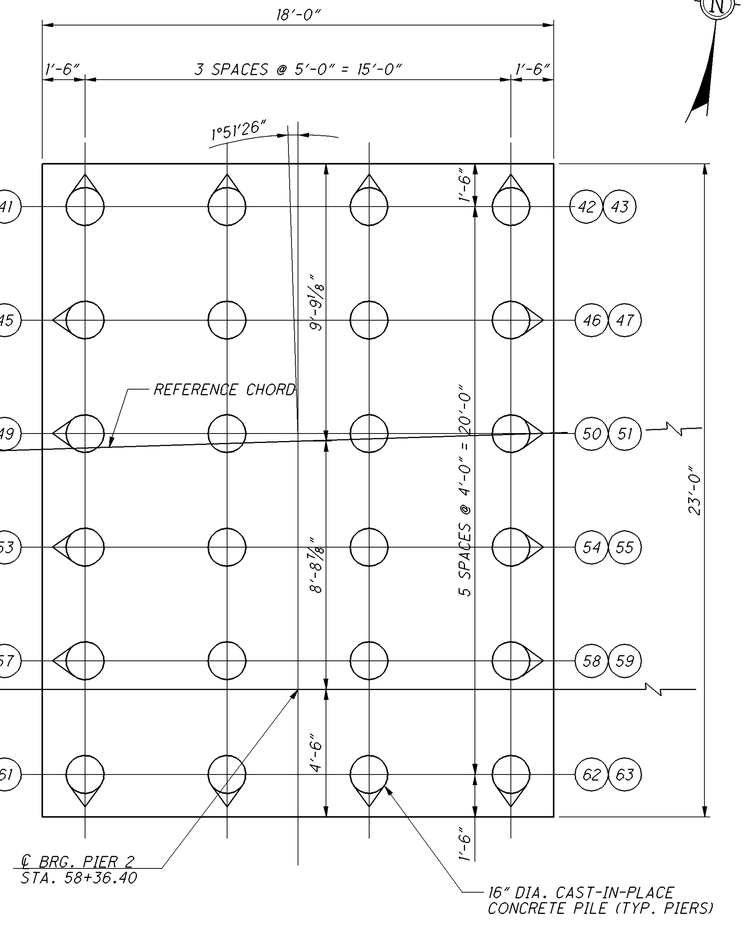


REAR ABUTMENT



PIER 1



PIER 2

FOUNDATION LAYOUT PLAN

LEGEND

- PROPOSED VERTICAL PILE
- PROPOSED PILE BATTERED (1:4) IN DIRECTION OF ARROW
- (N) DENOTES PILE NUMBER 'N'

FOUNDATION LAYOUT PLAN

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
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FOUNDATION LAYOUT PLAN
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

7 / 39

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657

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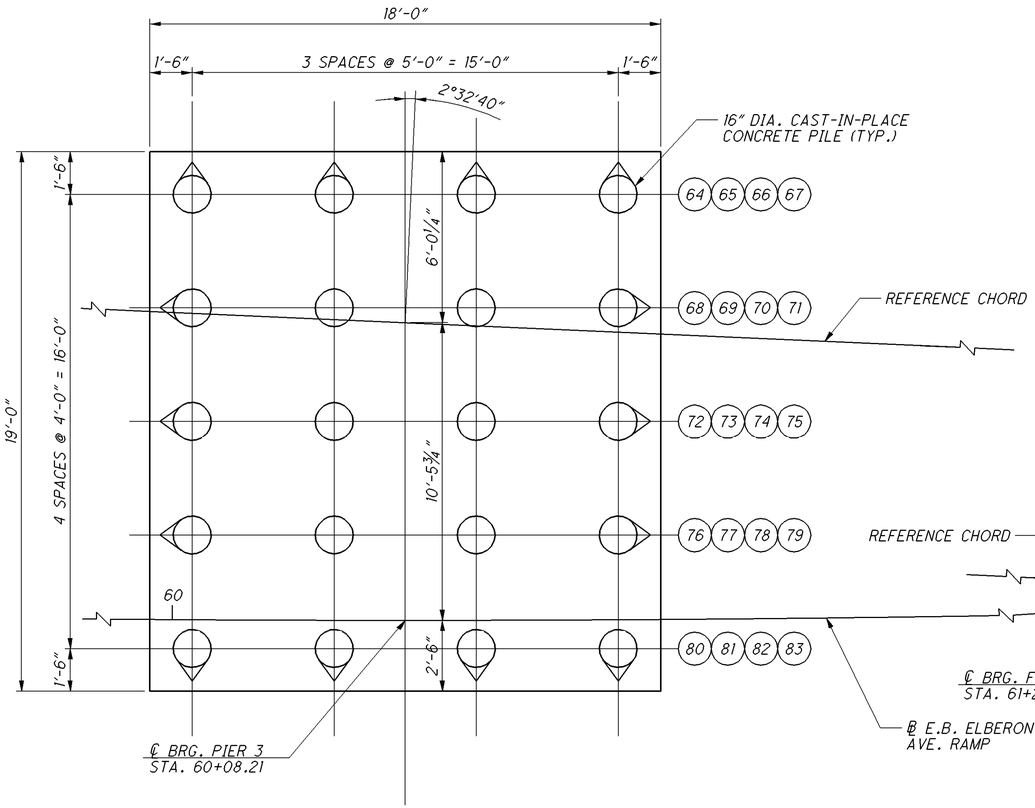
LEGEND

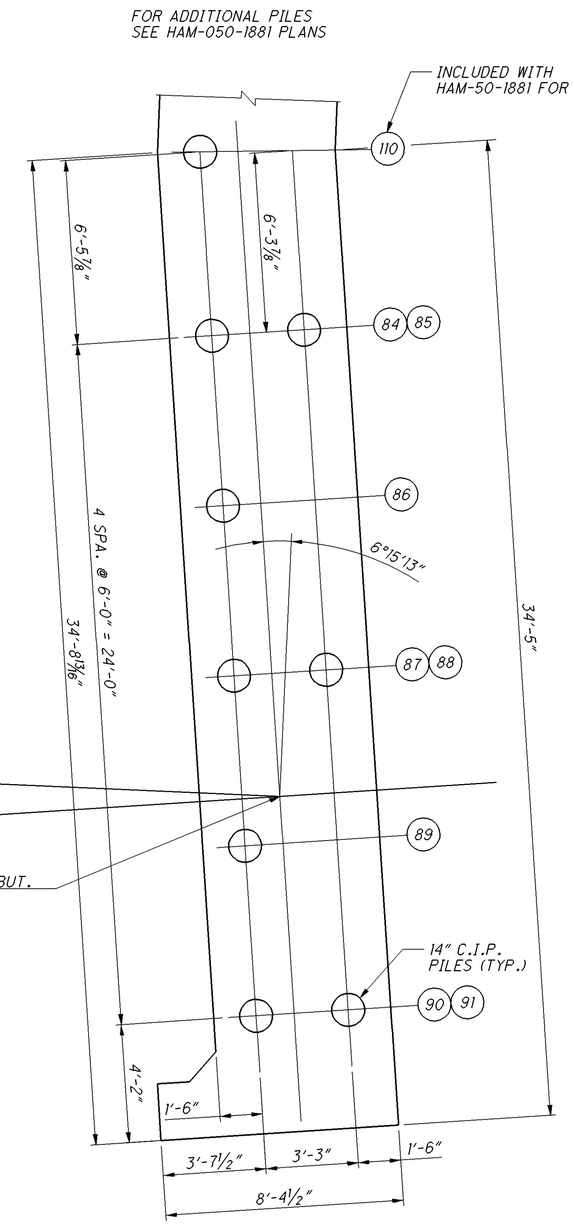
PROPOSED VERTICAL PILE

PROPOSED PILE BATTERED (1:4) IN DIRECTION OF ARROW

(N) DENOTES PILE NUMBER 'N'



PIER 3



FORWARD ABUTMENT

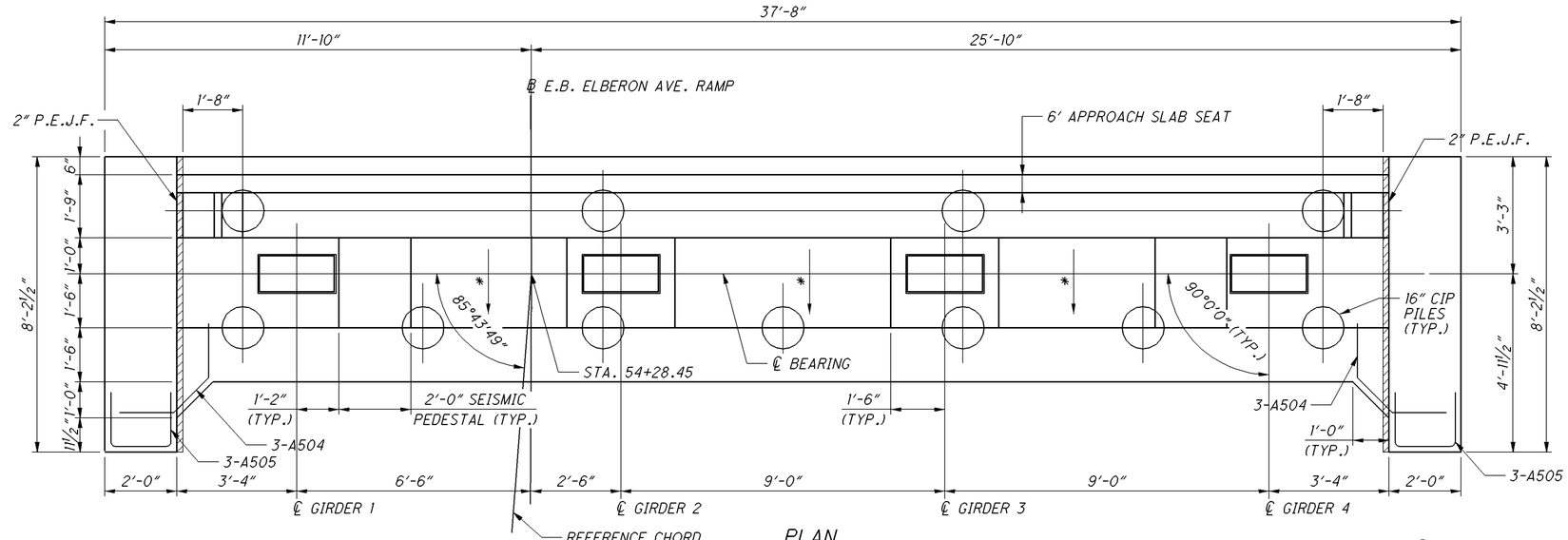
FOUNDATION LAYOUT PLAN

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

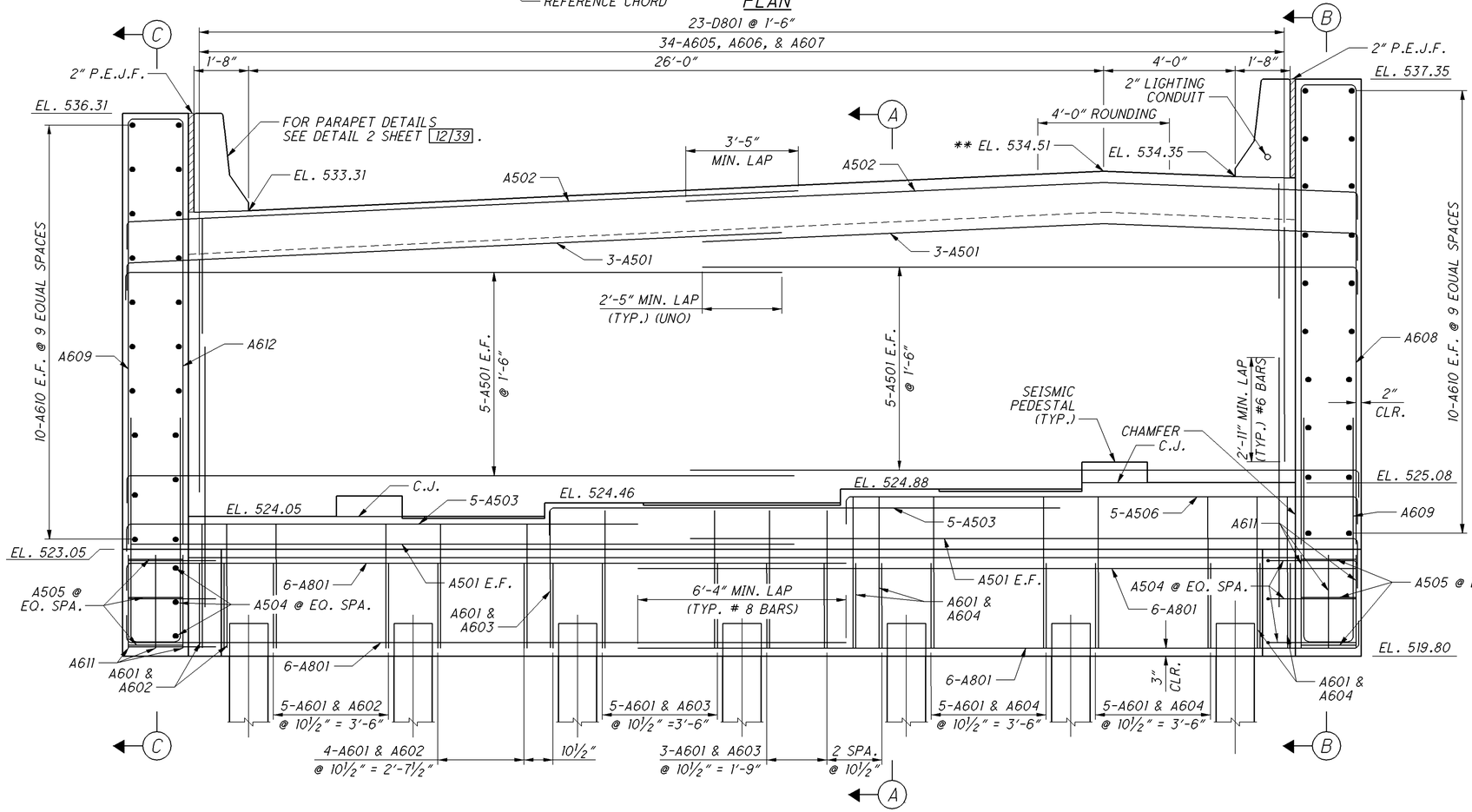
DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAP		3102793	

FOUNDATION LAYOUT PLAN
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082



PLAN



ELEVATION

LEGEND:

* - SLOPE ¾" BETWEEN BEARING SEATS

** - ELEVATION AT APPARENT GRADE BREAK AT CENTER OF SHOULDER ROUNDING.

NOTES:

1. ALL BACKWALL ELEVATIONS GIVEN AT FACE OF JOINT ARMOR.
2. FOR SEISMIC PEDESTAL DETAILS, SEE SHEET 10/39.
3. FOR SECTION A-A & B-B, SEE SHEET 10/39.
4. FOR FOUNDATION LAYOUT PLAN, SEE SHEET 7/39.
5. BRIDGE SEAT ELEVATIONS HAVE BEEN ADJUSTED UPWARD 0.332 INCHES AT THE REAR ABUTMENT TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAP		3102793	

REAR ABUTMENT

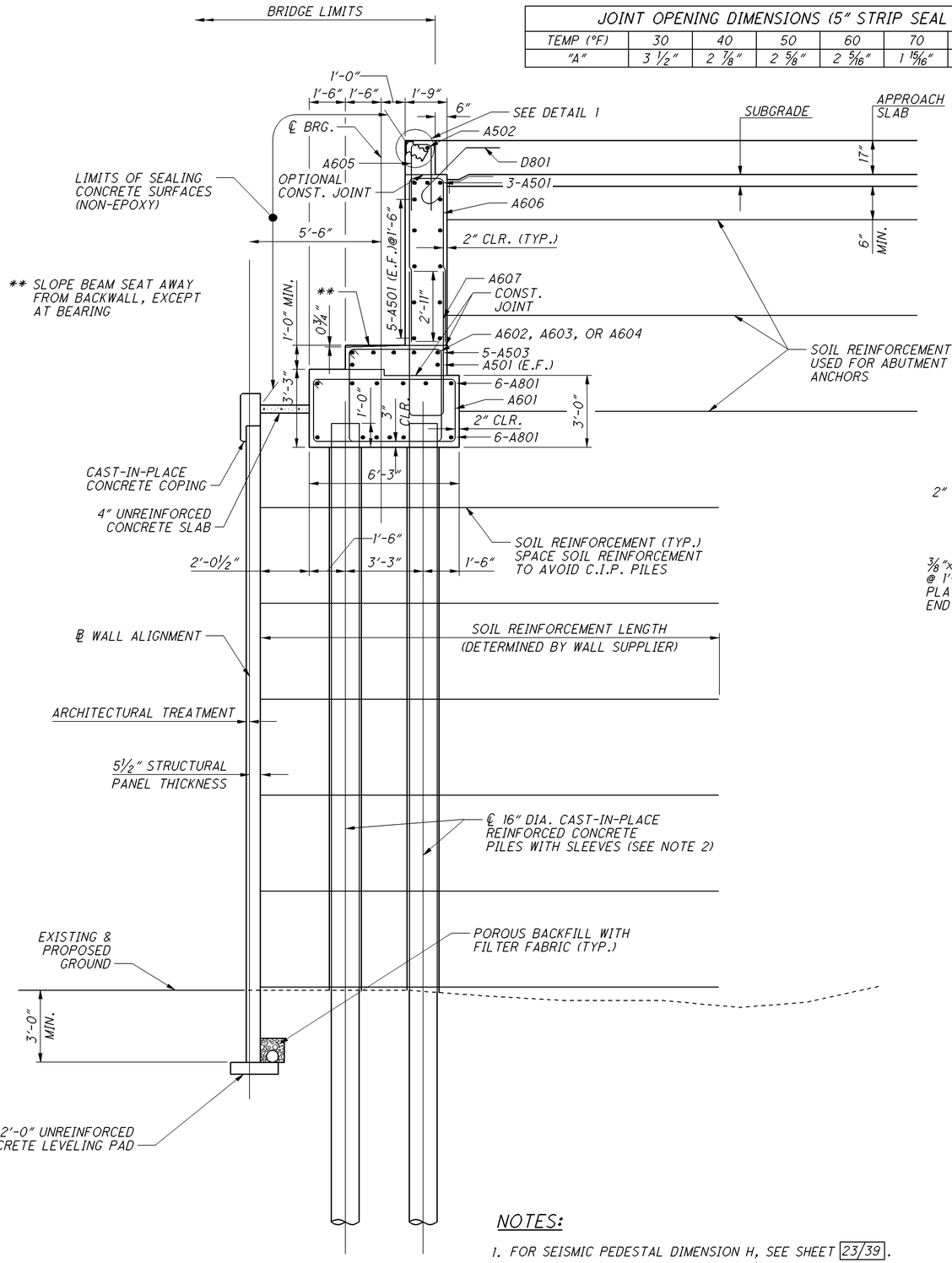
BRIDGE NO. HAM-050-1875

EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79

PID No. 20082

JOINT OPENING DIMENSIONS (5" STRIP SEAL GLAND)							
TEMP (°F)	30	40	50	60	70	80	90
"A"	3 1/2"	2 7/8"	2 5/8"	2 5/16"	1 15/16"	1 5/8"	1 3/8"

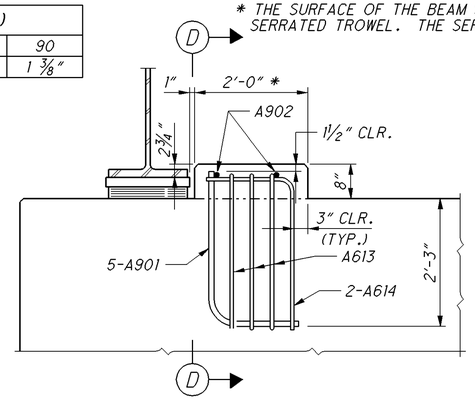


SECTION A-A

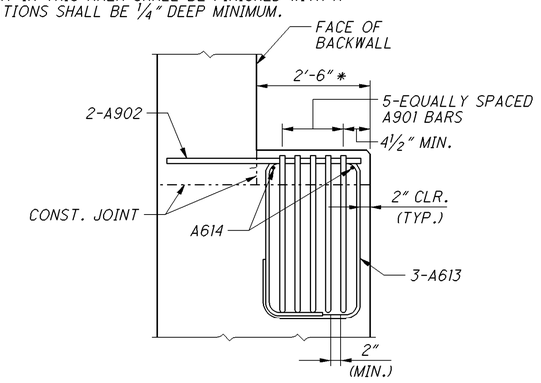
NOTES:

1. FOR SEISMIC PEDESTAL DIMENSION H, SEE SHEET 23/39.
2. FOR LOCATION OF SECTION A-A & B-B SEE SHEET 9/39.
3. FOR FOUNDATION LAYOUT PLAN, SEE SHEET 7/39.

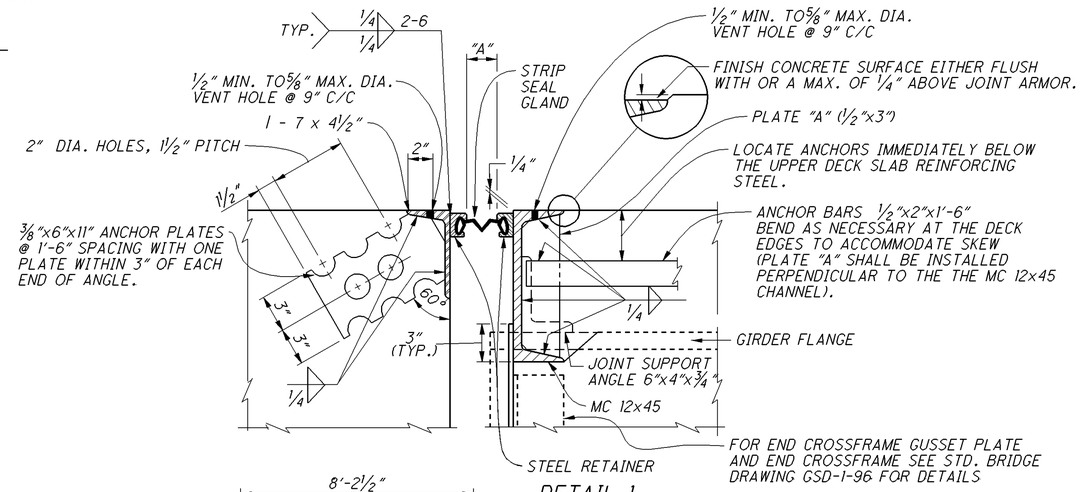
* THE SURFACE OF THE BEAM SEAT IN THIS AREA SHALL BE FINISHED WITH A SERRATED TROWEL. THE SERRATIONS SHALL BE ¼" DEEP MINIMUM.



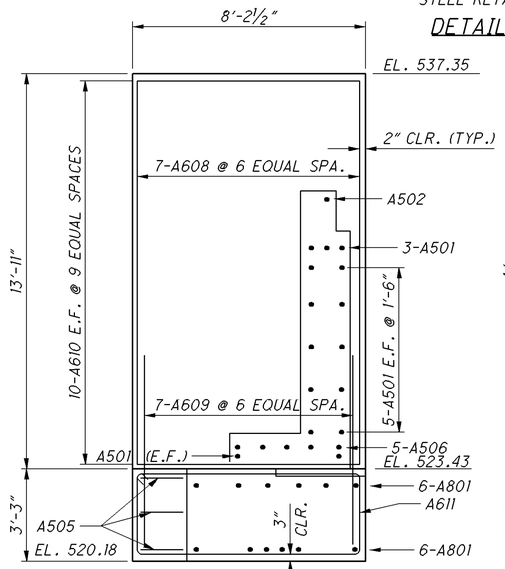
FRONT VIEW OF SEISMIC PEDESTAL



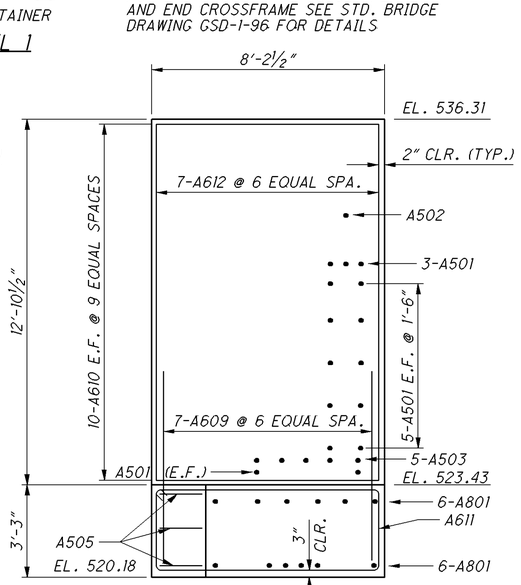
SECTION D-D



DETAIL 1



SECTION B-B
ELBERON RAMP EASTBOUND



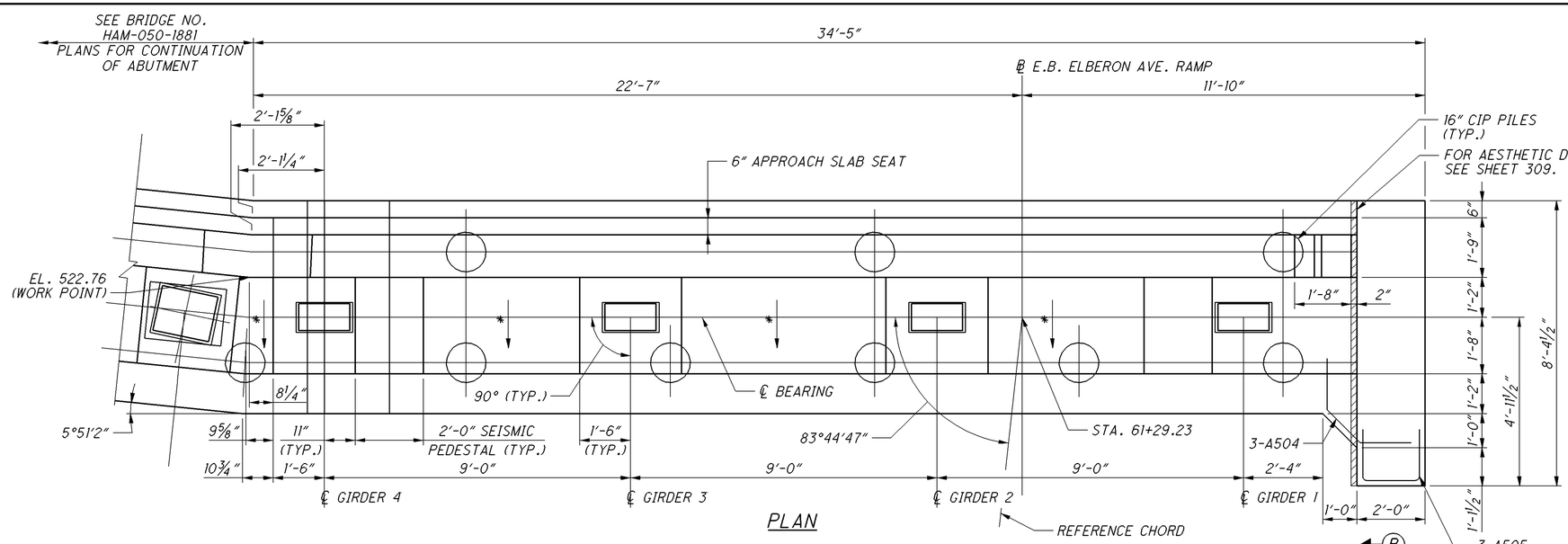
SECTION C-C
ELBERON RAMP EASTBOUND

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED PJL | DRAWN LEL | REVIEWED EBS | DATE 11/16/10
CHECKED SAP | REVISED | STRUCTURE FILE NUMBER 3102793

REAR ABUTMENT DETAILS
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082



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DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
BMG	NAL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PJL		3102793	

FORWARD ABUTMENT
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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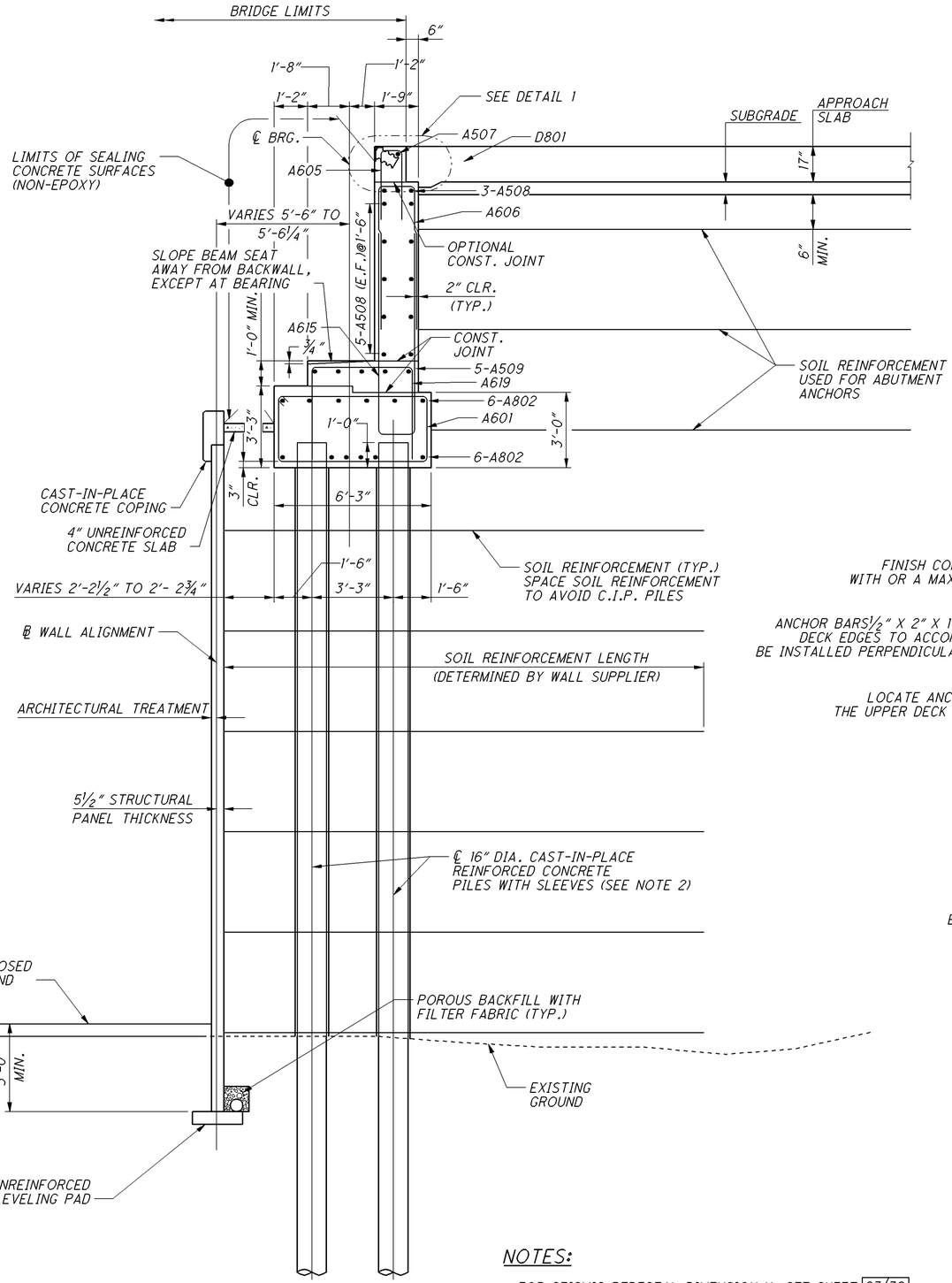
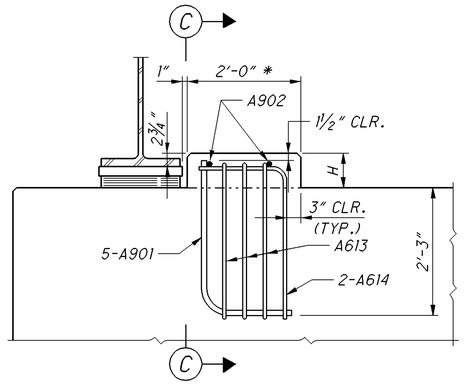
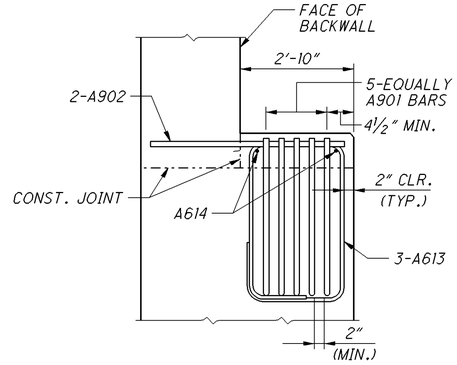


SECTION A-A



FRONT VIEW OF SEISMIC PEDESTAL

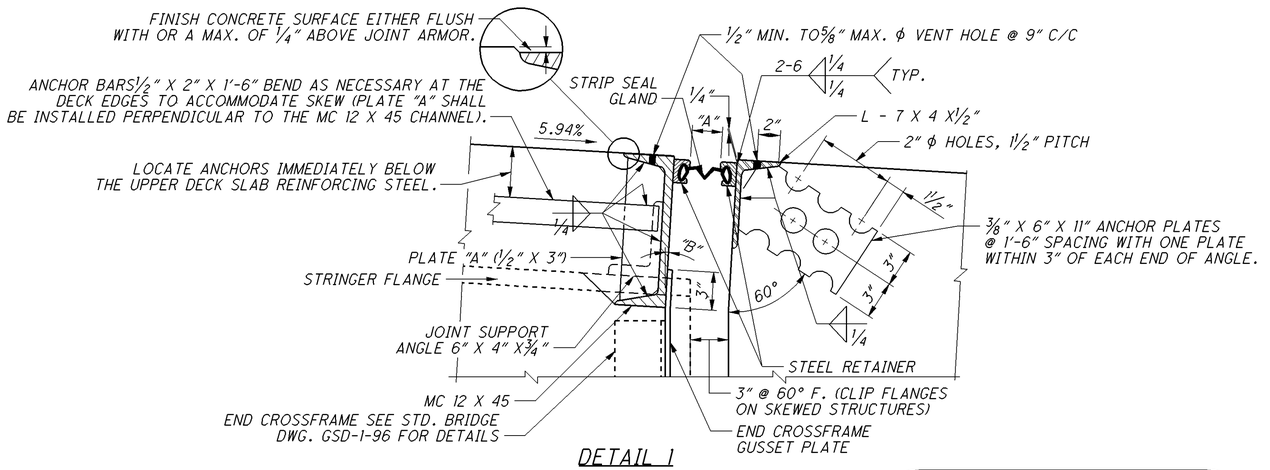
* FINISH THE SURFACE OF THE BEAM SEAT IN THIS AREA WITH A SERRATED TROWEL. THE SERRATION SHALL BE ¼" DEEP MINIMUM.



SECTION C-C

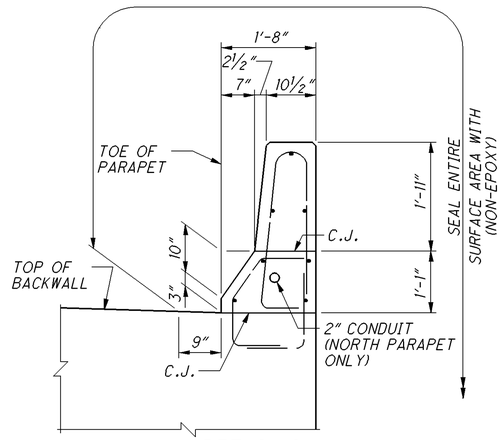
JOINT OPENING DIMENSIONS (4" STRIP SEAL GLAND)							
TEMP (°F)	30	40	50	60	70	80	90
"A"	2 5/8"	2 3/8"	2 1/8"	1 7/8"	1 11/16"	1 7/16"	1¼"

"B" = 3°23'06"



DETAIL 1

MODIFIED EXPANSION JOINT DETAIL (SEE STANDARD DRAWING EXJ-4-87 FOR NOTES & DETAILS)



DETAIL 2

NOTES:

1. FOR SEISMIC PEDESTAL DIMENSION H, SEE SHEET 23/39.
2. FOR LOCATION OF SECTION A-A, SEE SHEET 11/39.
3. FOR LOCATION OF DETAIL 2, SEE SHEETS 9/39 AND 11/39.
4. FOR REINFORCING STEEL IN DETAIL 2, SEE SHEETS 31/39 AND 32/39.

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED BMG | CHECKED PJL
DRAWN NAL | REVISED
REVIEWED EBS | DATE 11/16/10
STRUCTURE FILE NUMBER 3102793

FORWARD ABUTMENT DETAILS
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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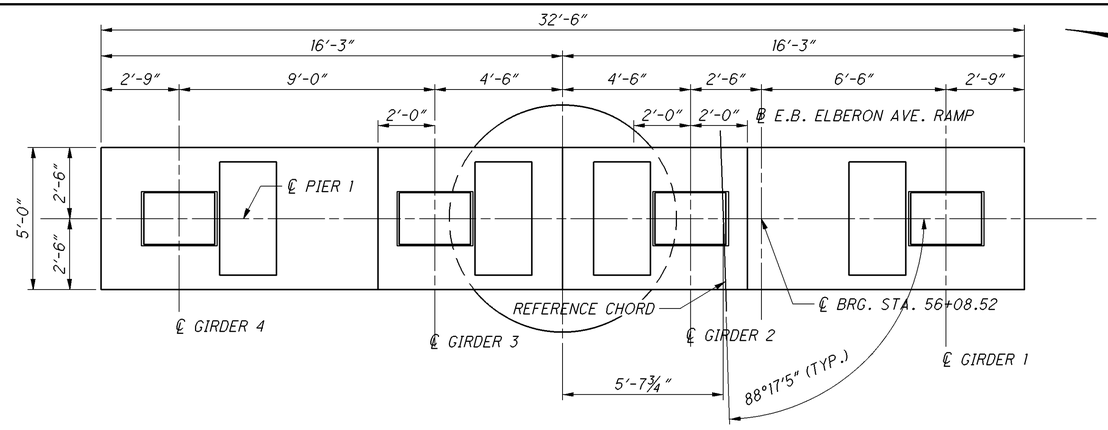
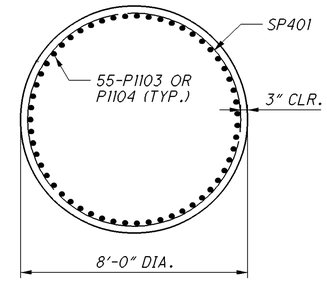




NOTES:

1. SEE SHEET 23/39 FOR SEISMIC PEDESTAL DIMENSION H.
2. SEE SHEET 16/39 FOR AESTHETIC DETAILS.
3. ANCHORAGE OF SPIRAL REINFORCEMENT SHALL BE PROVIDED BY 1½ EXTRA TURNS OF SPIRAL BAR AT EACH END OF A SPIRAL UNIT. SPIRAL REINFORCEMENT SHALL EXTEND FROM THE TOP OF THE FOOTING TO THE BOTTOM ROW OF HORIZONTAL CAP REINFORCEMENT.
4. BRIDGE SEAT ELEVATIONS HAVE BEEN ADJUSTED UPWARD 0.310 INCHES AT PIER 1 TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.
5. ALTERNATE DIRECTION OF THE BOTTOM LEG OF FOOTING/ COLUMN DOWEL BARS.

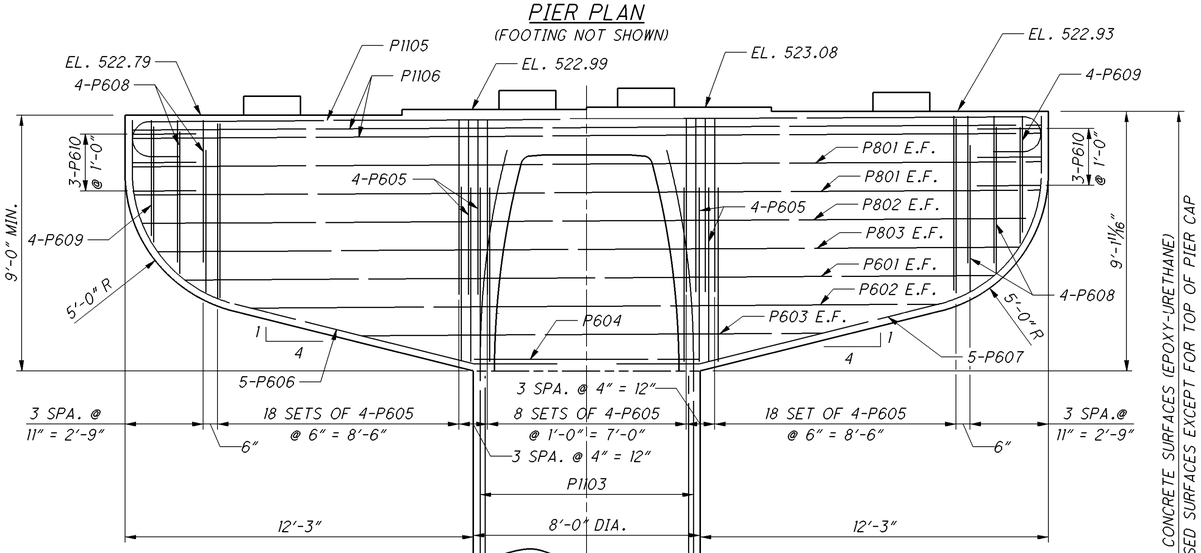
MINIMUM LAPS:

#6 BARS 3'-10"

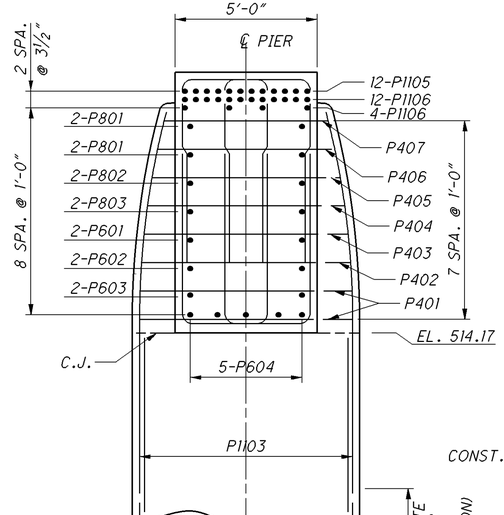
#11 BARS 12'-7"

PIER PLAN

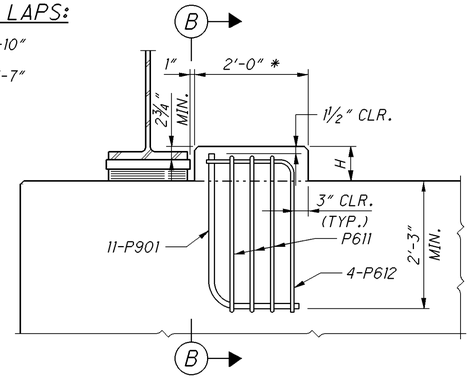
(FOOTING NOT SHOWN)

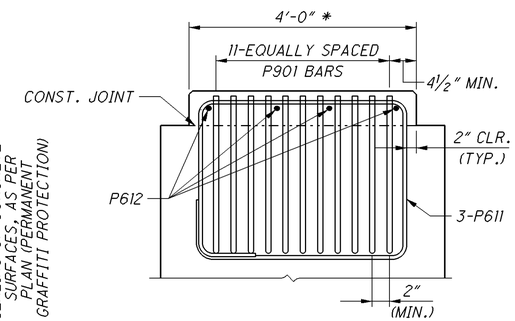


SECTION A-A



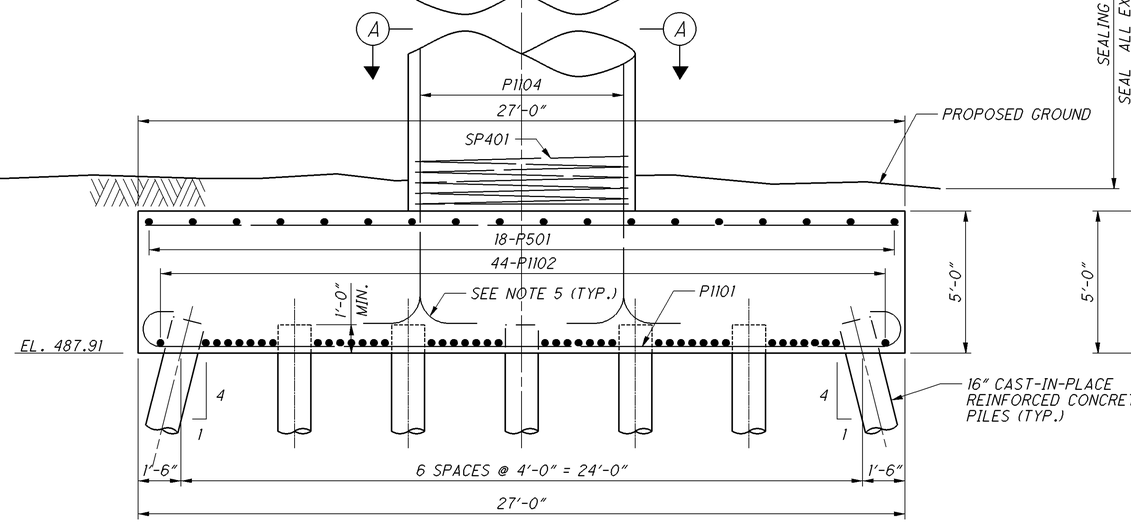
FRONT VIEW OF SEISMIC PEDESTAL





SECTION B-B

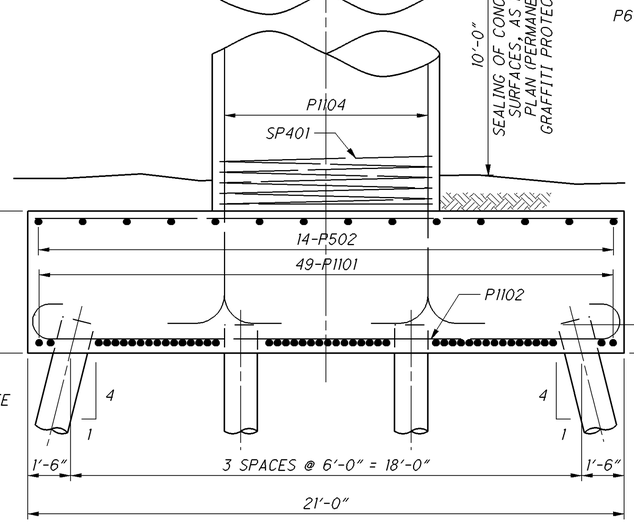
* THE SURFACE OF THE BEAM SEAT IN THIS AREA SHALL BE FINISHED WITH A SERRATED TROWEL. THE SERRATIONS SHALL BE ¼" DEEP MINIMUM.



ELEVATION SECTION

ELBERON RAMP EASTBOUND (LOOKING UPSTATION AT PIER 1)

SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
SEAL ALL EXPOSED SURFACES EXCEPT FOR TOP OF PIER CAP



PIER SIDE VIEW

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JSK		3102793	

PIER 1 DETAILS

BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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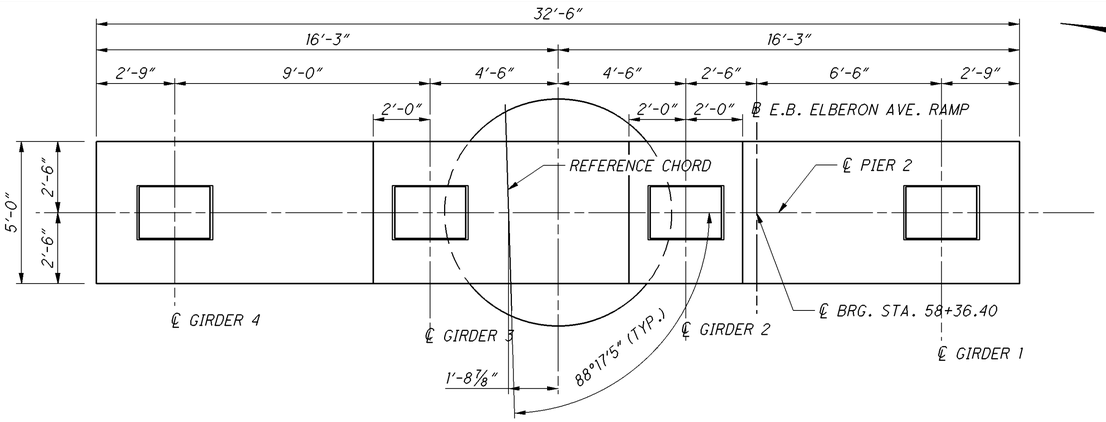
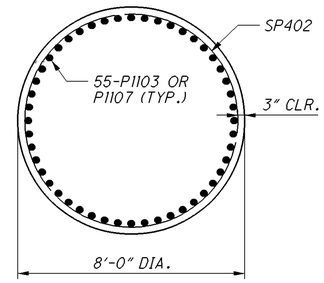


PIER PLAN
(FOOTING NOT SHOWN)



SECTION A-A

NOTES:

1. BRIDGE SEAT REINFORCING, SETTING ANCHORS: ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE PRE-SETTING OF BEARING ANCHORS.
2. SEE SHEET 16/39 FOR AESTHETIC DETAILS.

3. ANCHORAGE OF SPIRAL REINFORCEMENT SHALL BE PROVIDED BY 1½ EXTRA TURNS OF SPIRAL BAR AT EACH END OF A SPIRAL UNIT. SPIRAL REINFORCEMENT SHALL EXTEND FROM THE TOP OF THE FOOTING TO THE BOTTOM ROW OF HORIZONTAL CAP REINFORCEMENT.

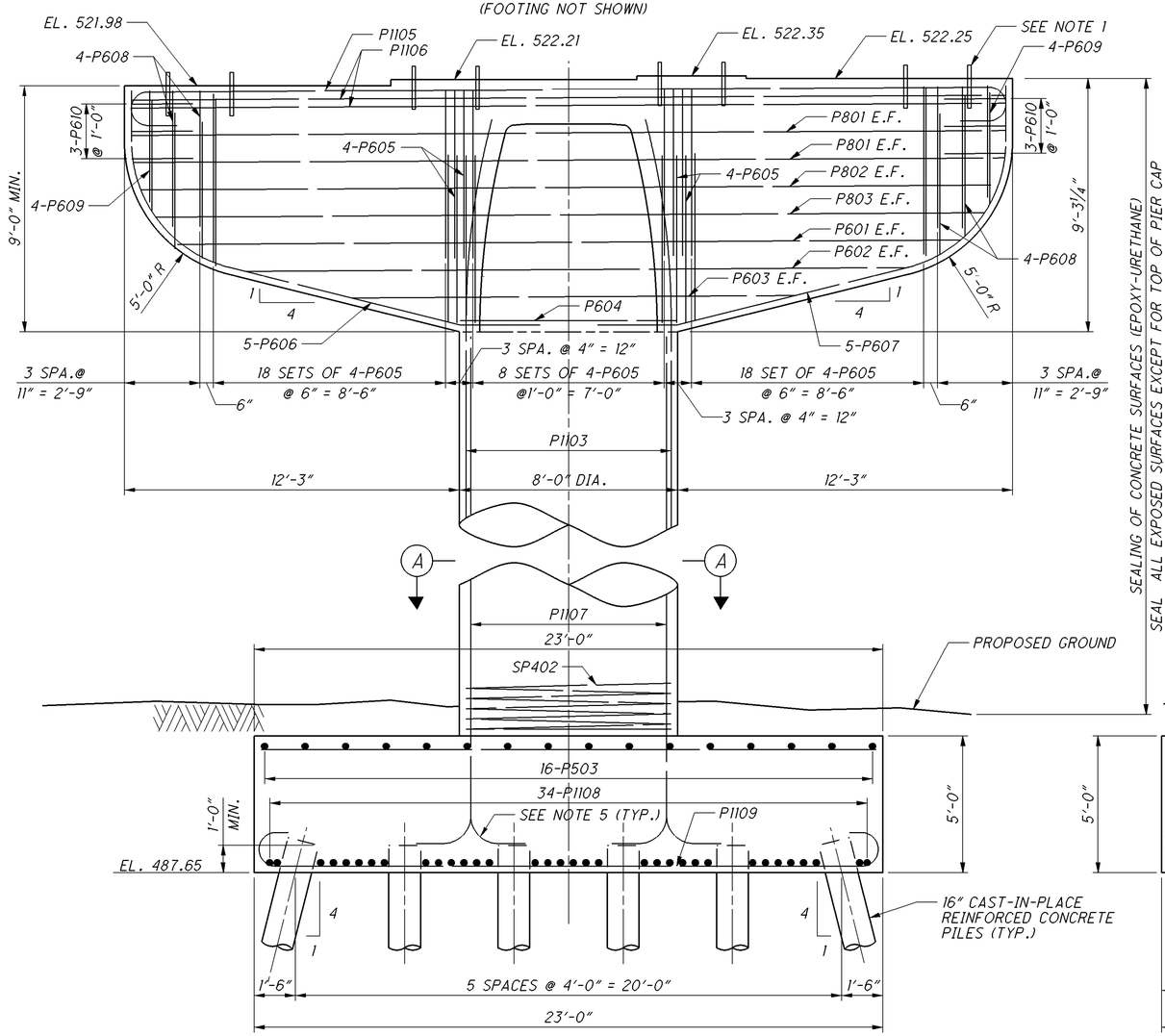
4. BRIDGE SEAT ELEVATIONS HAVE BEEN ADJUSTED UPWARD0.206 INCHES AT PIER 2 TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.

5. ALTERNATE DIRECTION OF THE BOTTOM LEG OF FOOTING/ COLUMN DOWEL BARS.

MINIMUM LAPS:

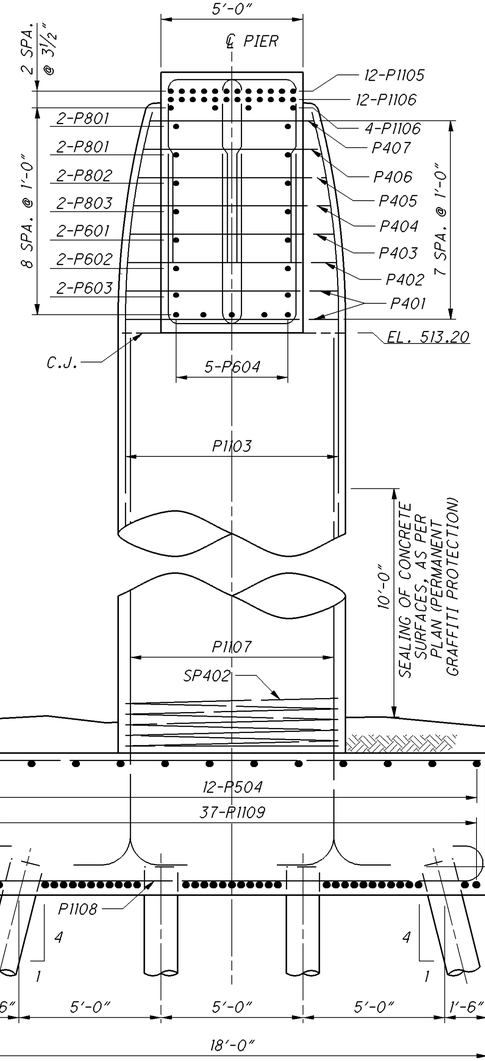
#6 BARS 3'-10"

#11 BARS 12'-7"



ELEVATION SECTION
ELBERON RAMP EASTBOUND (LOOKING UPSTATION AT PIER 2)

SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
SEAL ALL EXPOSED SURFACES EXCEPT FOR TOP OF PIER CAP



PIER SIDE VIEW

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JSK		3102793	

PIER 2 DETAILS
BRIDGE NO. HAM-050-1875
OVER S.R. 264 AND U.S.R. 50
EB ELBERON AVE. RAMP

HAM-50-18.79
PID No. 20082

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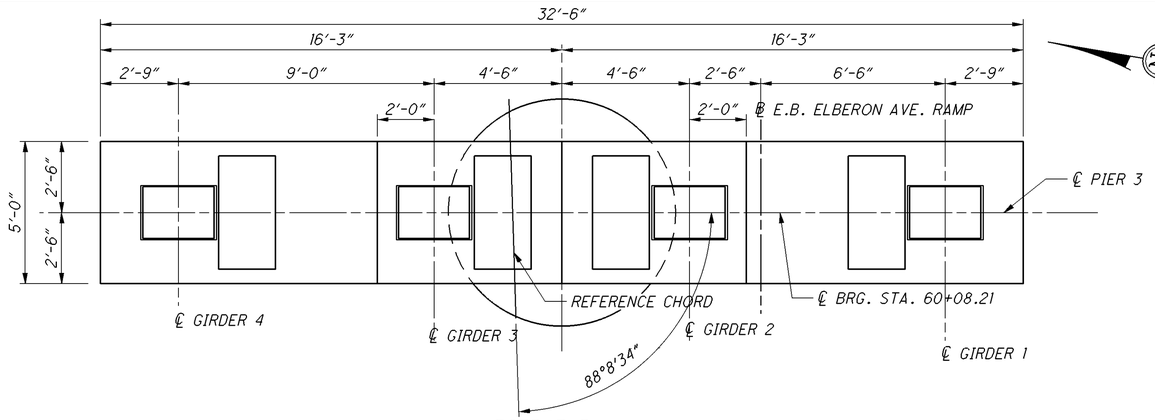
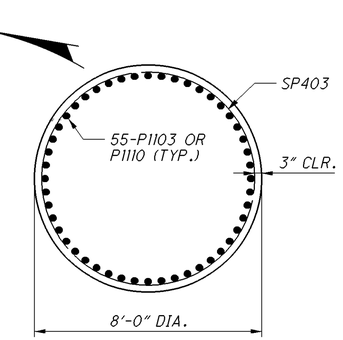


PIER 3 PLAN



SECTION A-A

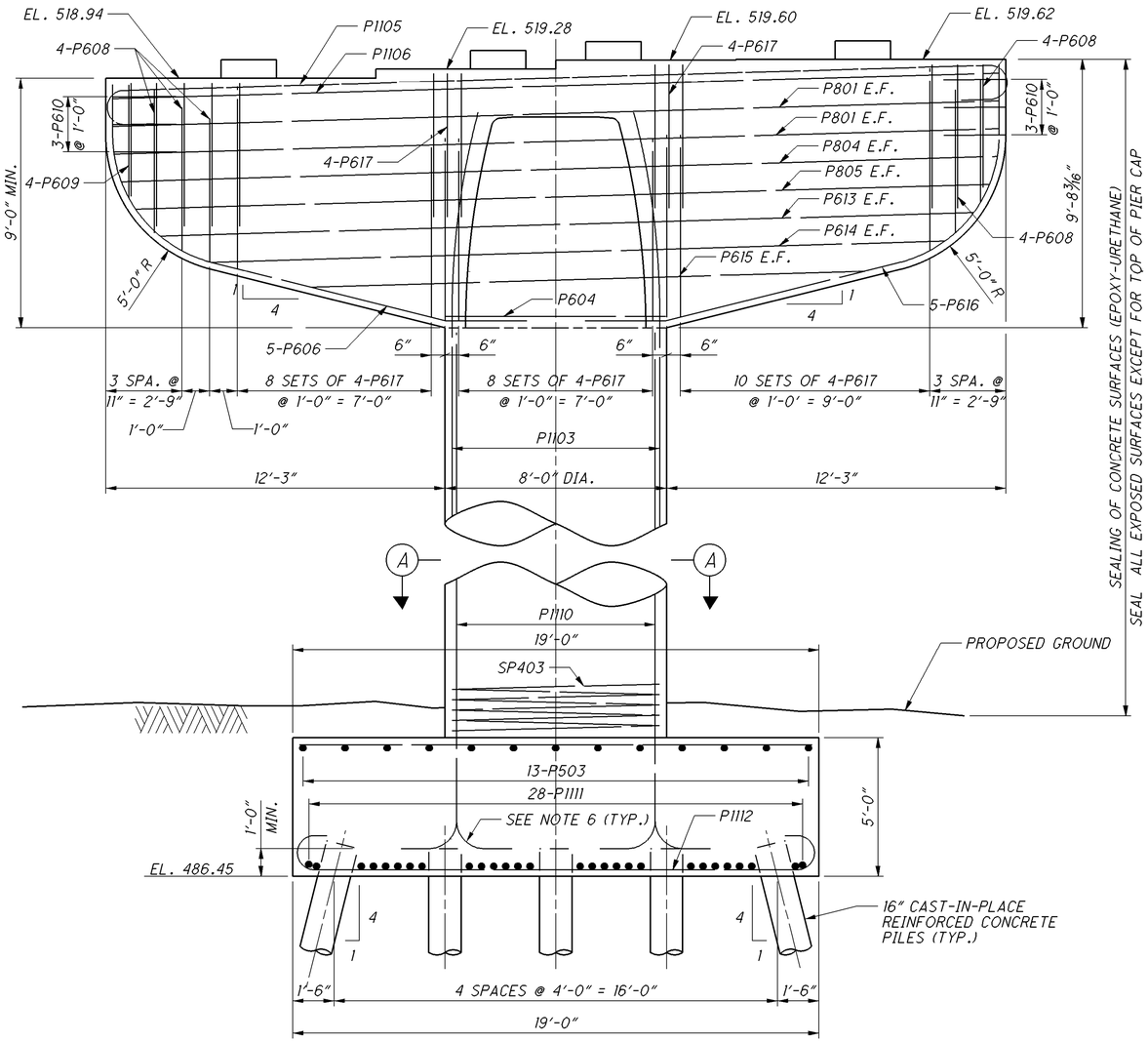
NOTES:

1. SEE SHEET 23/39 FOR SEISMIC PEDESTAL DIMENSION H.
2. SEE SHEET 16/39 FOR AESTHETIC DETAILS.
3. SEE SHEET 13/39 FOR SEISMIC PEDESTAL DETAILS.
4. ANCHORAGE OF SPIRAL REINFORCEMENT SHALL BE PROVIDED BY 1½ EXTRA TURNS OF SPIRAL BAR AT EACH END OF A SPIRAL UNIT. SPIRAL REINFORCEMENT SHALL EXTEND FROM THE TOP OF THE FOOTING TO THE BOTTOM ROW OF HORIZONTAL CAP REINFORCEMENT.
5. BRIDGE SEAT ELEVATIONS HAVE BEEN ADJUSTED UPWARD 0.216 INCHES AT PIER 3 TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.
6. ALTERNATE DIRECTION OF THE BOTTOM LEG OF FOOTING/ COLUMN DOWEL BARS.

MINIMUM LAPS:

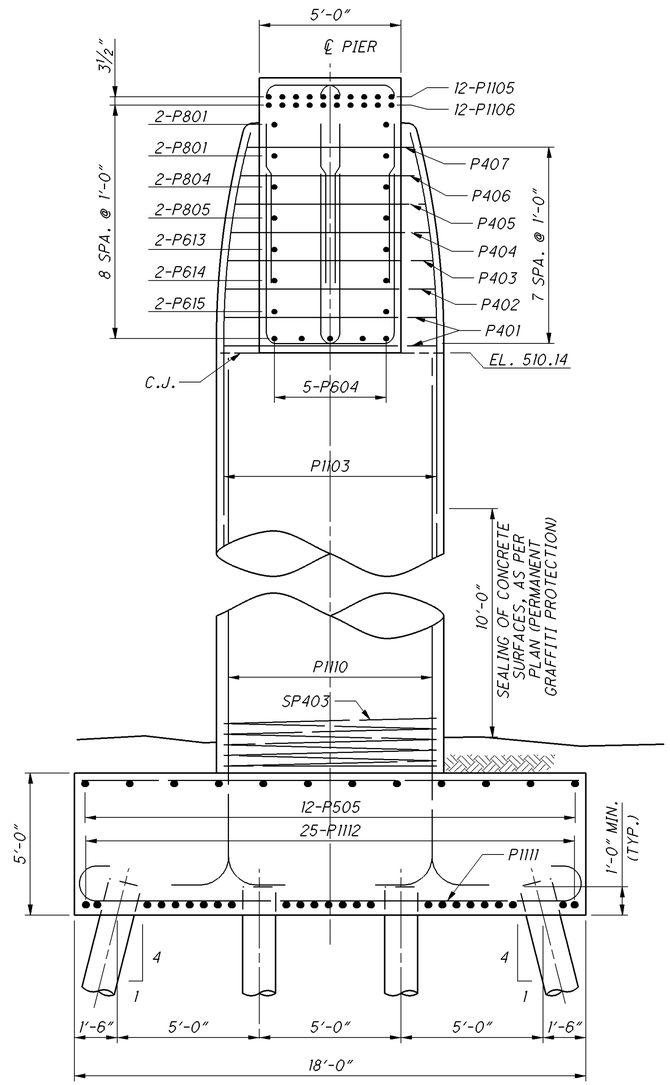
#6 BARS 3'-10"

#11 BARS 12'-7"



ELEVATION SECTION

ELBERON RAMP EASTBOUND (LOOKING UPSTATION AT PIER 3)



PIER SIDE VIEW

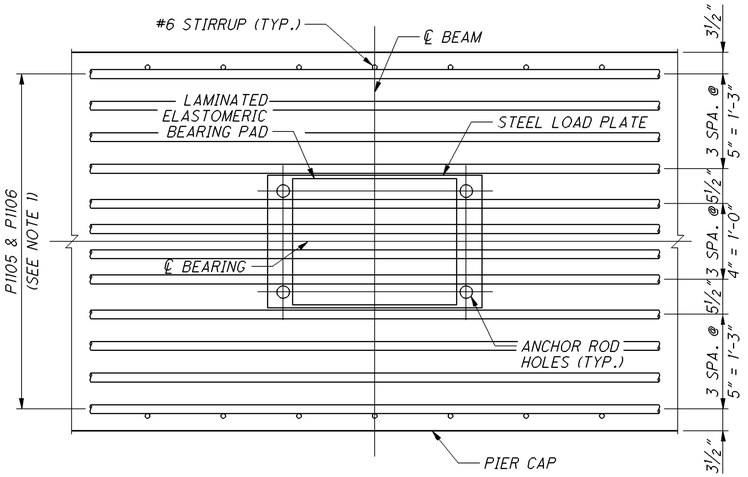
DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED PJL | DRAWN LEL | REVIEWED EBS | DATE 11/16/10
CHECKED JSK | REVISED | STRUCTURE FILE NUMBER 3102793

PIER 3 DETAILS

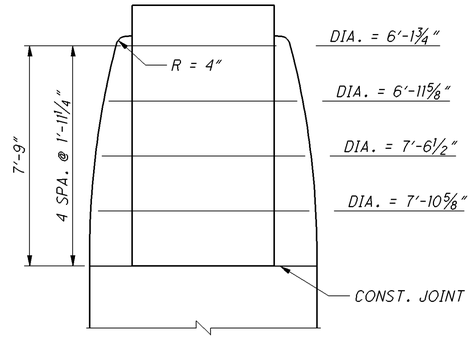
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082



BEARING ANCHOR ROD PLAN

PIER 2 ONLY
TYPICAL EACH GIRDER



AESTHETIC TREATMENT

NOTES:

1. BARS IN UPPER LAYERS SHALL BE PLACED DIRECTLY ABOVE BOTTOM LAYERS WITH CLEAR DISTANCE BETWEEN LAYERS NOT NESS THAN 1 INCH.

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JSK		3102793	

PIER DETAILS
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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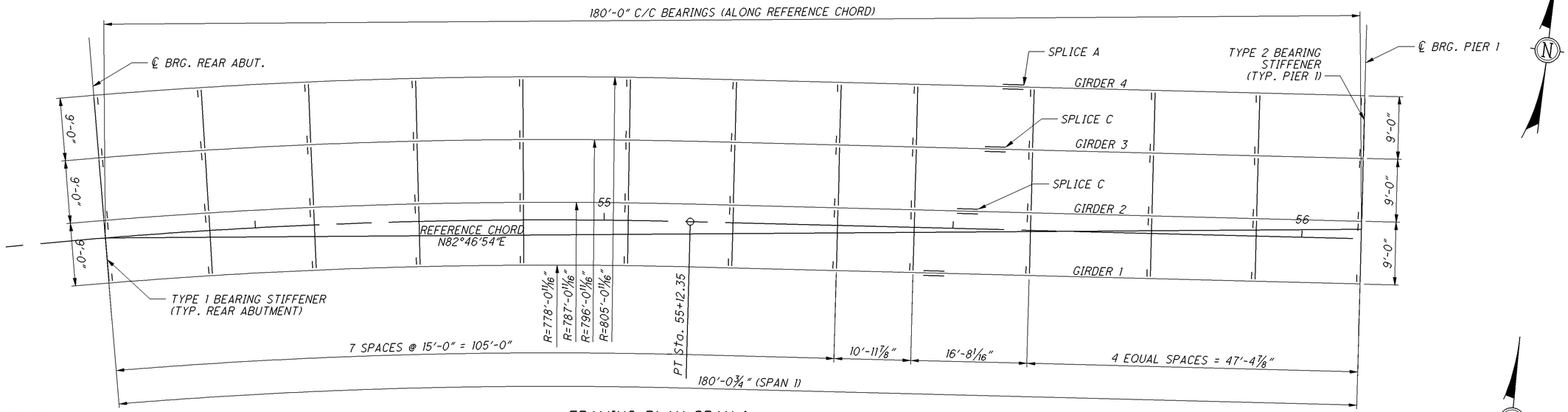
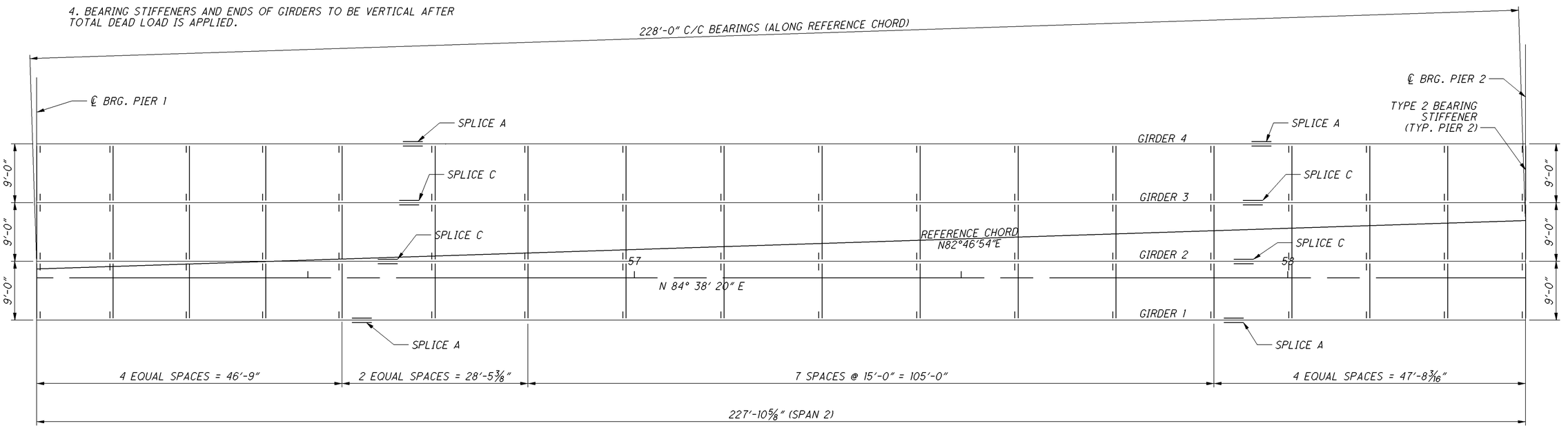


FRAMING PLAN SPAN 1

NOTES:

1. ALL MATERIAL TO BE ASTM-A709, GRADE 50.
2. MEASUREMENTS OF ALL BEARINGS AND CROSSFRAMES ARE RADIAL TO THE CENTERLINE OF CURVATURE.
3. ALL STEEL TO BE SHOP PRIMED AND FIELD PAINTED ACCORDING TO ITEM 514.
4. BEARING STIFFENERS AND ENDS OF GIRDERS TO BE VERTICAL AFTER TOTAL DEAD LOAD IS APPLIED.
5. SPLICES AND INTERMEDIATE STIFFENERS TO BE NORMAL TO GIRDERS.
6. END CROSSFRAMES SHALL BE PER STANDARD DRAWINGS GSD-1-96 AND EXJ-4-87.



FRAMING PLAN SPAN 2

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED PJL | DRAWN LEL | REVIEWED EBS | DATE 11/16/10
CHECKED SAP | REVISED | STRUCTURE FILE NUMBER 3102793

FRAMING PLAN 1 OF 2
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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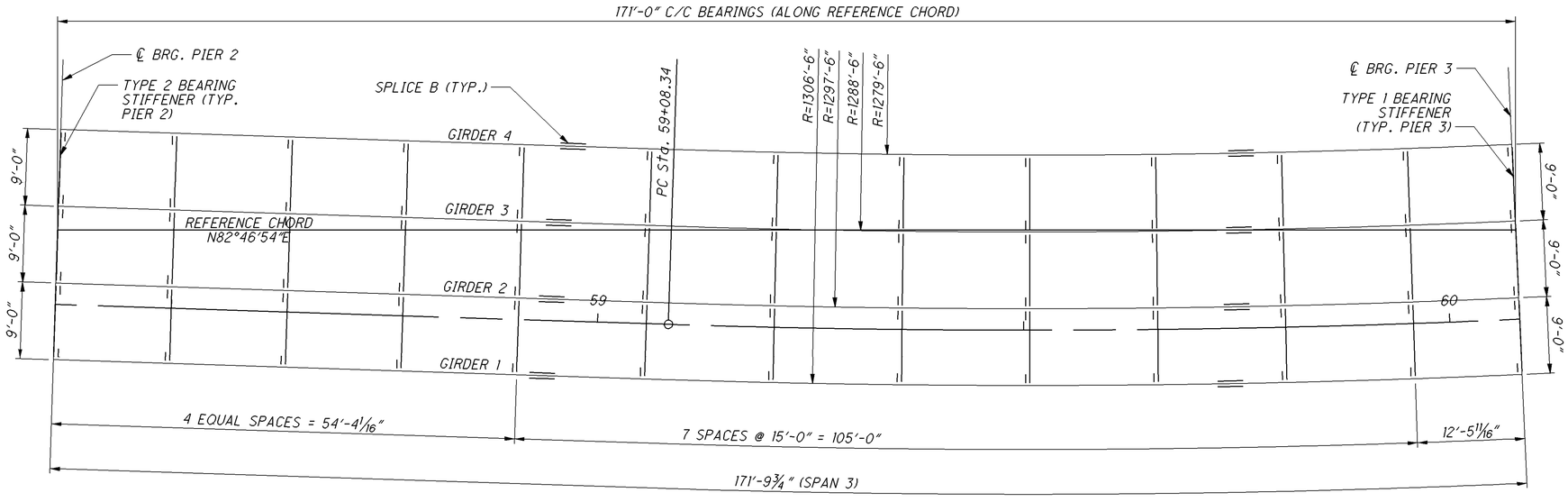
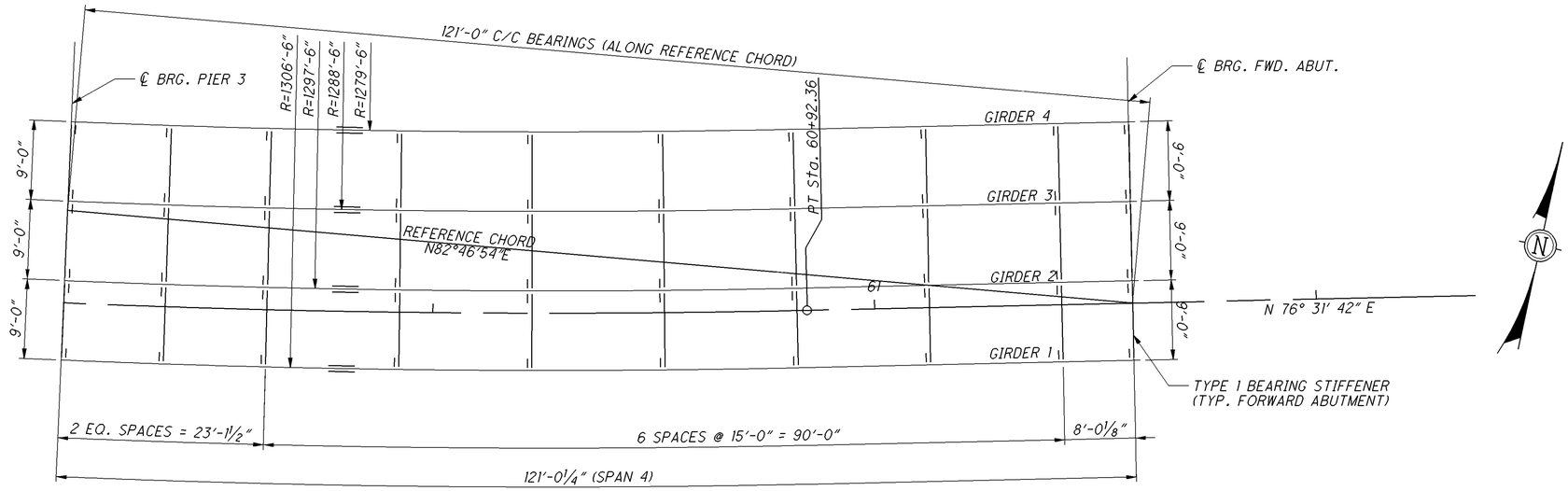


FRAMING PLAN SPAN 3



FRAMING PLAN SPAN 4

NOTES:

1. SEE SHEET 17/39 FOR DETAIL NOTES.

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DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED PJL | DRAWN LEL | REVIEWED EBS | DATE 11/16/10
CHECKED SAP | REVISED | STRUCTURE FILE NUMBER 3102793

FRAMING PLAN 2 OF 2
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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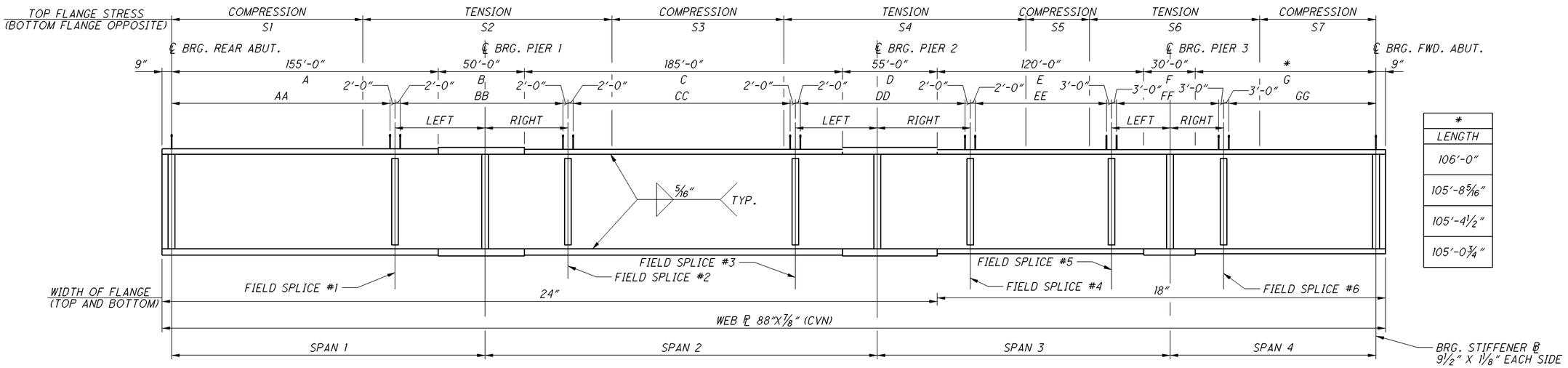


*
LENGTH
106'-0"
105'-8 5/16"
105'-4 1/2"
105'-0 3/4"

GIRDER ELEVATION

(CROSSFRAME STIFFENERS NOT SHOWN)

GIRDER PLATES THICKNESS (CVN)								
GIRDER	PLATE	A	B	C	D	E	F	G
1	TOP	1 1/2"	3"	1 1/2"	2 1/4"	7/8"	7/8"	7/8"
	BOTTOM	1 3/4"	3"	1 3/4"	2 1/2"	7/8"	1 1/2"	7/8"
2	TOP	1 1/2"	3"	1 1/2"	2 1/4"	7/8"	7/8"	7/8"
	BOTTOM	1 3/4"	3"	1 3/4"	2 1/2"	7/8"	1 1/2"	7/8"
3	TOP	1 1/2"	3"	1 1/2"	2 1/4"	7/8"	7/8"	7/8"
	BOTTOM	1 3/4"	3"	1 3/4"	2 1/2"	7/8"	1 1/2"	7/8"
4	TOP	1 1/2"	3"	1 1/2"	2 1/4"	7/8"	7/8"	7/8"
	BOTTOM	1 3/4"	3"	1 3/4"	2 1/2"	7/8"	1 1/2"	7/8"

SPAN LENGTHS					
GIRDER	SPAN 1	SPAN 2	SPAN 3	SPAN 4	TOTAL
℄	180'-0 13/16"	227'-10 9/16"	171'-9 3/4"	121'-0 1/4"	700'-9 3/8"
1	179'-4 7/16"	227'-10 9/16"	172'-3 3/4"	121'-5 1/4"	701'-0"
2	180'-4"	227'-10 9/16"	171'-7 1/2"	120'-10 1/4"	700'-8 5/16"
3	181'-3 1/2"	227'-10 9/16"	170'-11 3/16"	120'-3 1/4"	700'-4 1/2"
4	182'-3 1/16"	227'-10 9/16"	170'-2 7/8"	119'-8 1/4"	700'-0 3/4"

FIELD SPLICE DISTANCE FROM PIER						
GIRDER	PIER 1		PIER 2		PIER 3	
	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT
1	60'-4 9/16"	50'-5 3/8"	43'-11 3/4"	58'-0 1/2"	33'-10 3/16"	32'-1 3/16"
2	56'-9 1/8"	53'-5 3/8"	43'-4 13/16"	57'-10 13/16"	33'-2 1/2"	31'-6 1/4"
3	53'-11 5/8"	55'-9 3/8"	42'-11 3/8"	57'-6"	33'-0 3/4"	31'-6 3/8"
4	52'-7 3/16"	55'-4 1/16"	42'-7 5/16"	57'-10 5/16"	32'-11 1/16"	31'-4 15/16"

FIELD SECTION LENGTHS							
GIRDER	FS 1	FS 2	FS 3	FS 4	FS 5	FS 6	FS 7
1	119'-8 7/8"	110'-9 15/16"	133'-5 3/8'	102'-0 1/4"	80'-5 1/16"	65'-11 3/8"	90'-1 1/16"
2	124'-3 13/16"	110'-2 1/2"	131'-0 3/8"	101'-3 5/8"	80'-6 1/8"	64'-8 3/4"	90'-1 1/16"
3	128'-13/16"	109'-9"	129'-1 13/16"	100'-5 3/8"	80'-4 1/16"	64'-7 1/16"	89'-6"
4	130'-4 15/16"	107'-11 5/8"	129'-10 13/16"	100'-6 1/4"	79'-4 15/16"	64'-3 15/16"	89'-0 3/8"

TOP FLANGE STRESS							
GIRDER	S1	S2	S3	S4	S5	S6	S7
1	93'-8 5/8"	149'-2 1/2"	106'-6 1/8"	142'-8 1/8"	38'-8 1/4"	101'-5 1/2"	68'-8 1/16"
2	110'-1 1/16"	133'-3"	111'-11 1/16"	131'-1 3/16"	49'-4 5/16"	90'-6"	74'-5 5/8"
3	114'-5 3/16"	132'-0 1/4"	110'-10 1/16"	128'-9 5/8"	51'-0"	88'-3 3/4"	74'-11 3/4"
4	114'-2 5/8"	138'-6 1/2"	102'-7 11/16"	145'-7 7/16"	31'-1 5/16"	98'-7 3/16"	69'-4 1/16"

ROWS OF SHEAR CONNECTORS (SEE NOTE 7)							
GIRDER	AA	BB	CC	DD	EE	FF	GG
1	59	54	65	50	38	30	44
2	61	54	64	49	38	30	44
3	63	53	63	49	38	30	43
4	64	52	63	49	38	30	43

NOTES:

1. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

2. 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 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER THAN 3/4" THICK.

3. FLANGE SPLICE LOCATIONS MAY BE CONSIDERED OPTIONAL IF NO CHANGE IN FLANGE THICKNESS OR WIDTH IS REQUIRED.

4. GRIND COMPLETE JOINT PENETRATION WELDS SMOOTH IN LONGITUDINAL DIRECTION TO REMOVE WELD REINFORCEMENT.

5. ALL LONGITUDINAL DIMENSIONS SHOWN ARE ALONG ℄ OF GIRDER AND ARE HORIZONTAL (EFFECTS OF THE LONGITUDINAL GRADE ARE NOT INCLUDED.)

6. SHEAR STUD SPACING MAY BE ADJUSTED LOCALLY AS REQUIRED TO CLEAR FLANGE SPLICES.

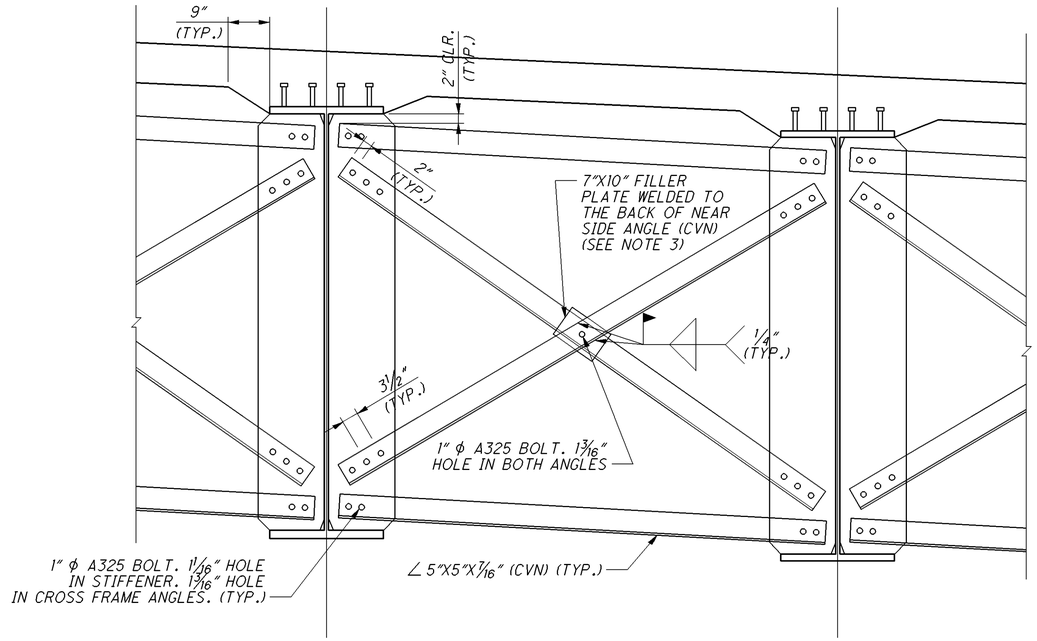
7. ROWS OF 4 SHEAR CONNECTORS TO BE SPACED AT 24" MAXIMUM.

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

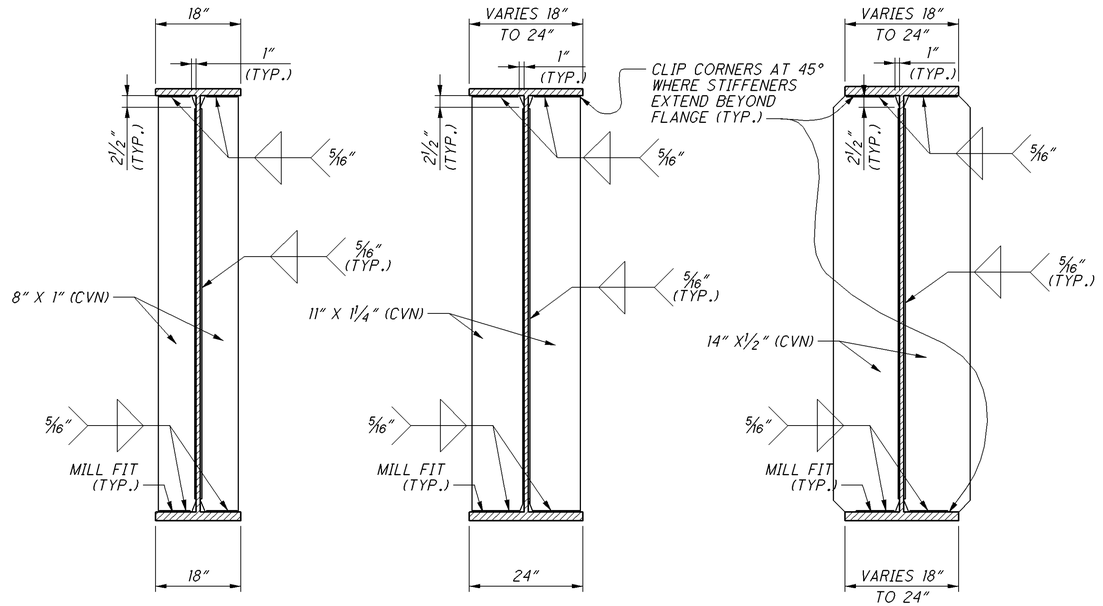
DESIGNED PJL | DRAWN LEL | REVIEWED EBS | DATE 11/16/10
CHECKED SAP | REVISED | STRUCTURE FILE NUMBER 3102793

GIRDER ELEVATION
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082



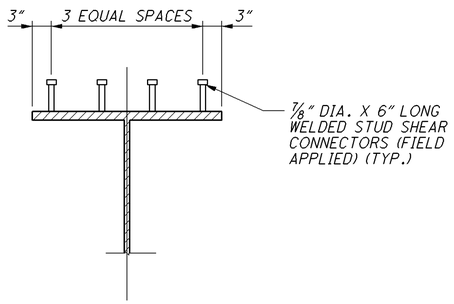
TYPICAL INTERMEDIATE CROSSFRAME



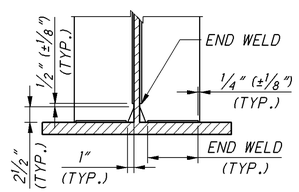
BEARING STIFFENER
TYPE 1

BEARING STIFFENER
TYPE 2

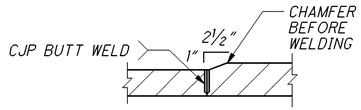
INTERMEDIATE STIFFENER WITH CROSSFRAMES



GIRDER SHEAR CONNECTOR DETAIL



STIFFENER WELD DETAIL



FLANGE WELD DETAIL

(WELD CONFIGURATION SHOWN FOR ILLUSTRATION ONLY. ACTUAL CONFIGURATION TO BE DETERMINED BY THE CONTRACTOR)

(GRIND COMPLETE JOINT PENETRATION WELD SMOOTH IN A LONGITUDINAL DIRECTION TO REMOVE WELD REINFORCEMENT.)

NOTES:

1. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

2. HIGH STRENGTH BOLTS SHALL BE 1" DIAMETER A325 UNLESS OTHERWISE NOTED.

3. 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 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER THAN 3/4" THICK.

4. SEE SHEETS 36/39 THRU 39/39 FOR SCUPPER DETAILS.

5. FILLER PLATE THICKNESS SHALL BE SAME THICKNESS AS CONNECTOR PLATE.

6. INTERMEDIATE STIFFENERS ON FACIA GIRDERS SHALL ONLY BE PLACED ON THE INSIDE OF THE WEB.

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAP		3102793	

CROSSFRAME AND SPLICE DETAILS
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

20/39

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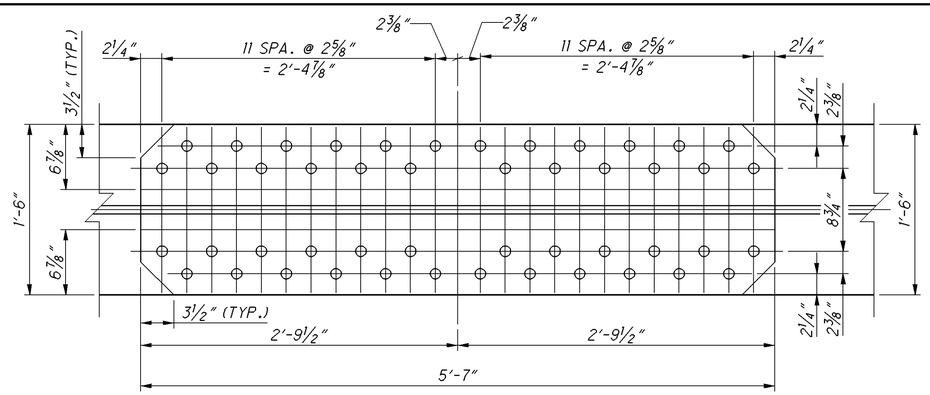
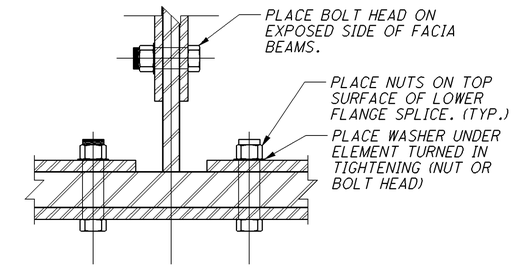
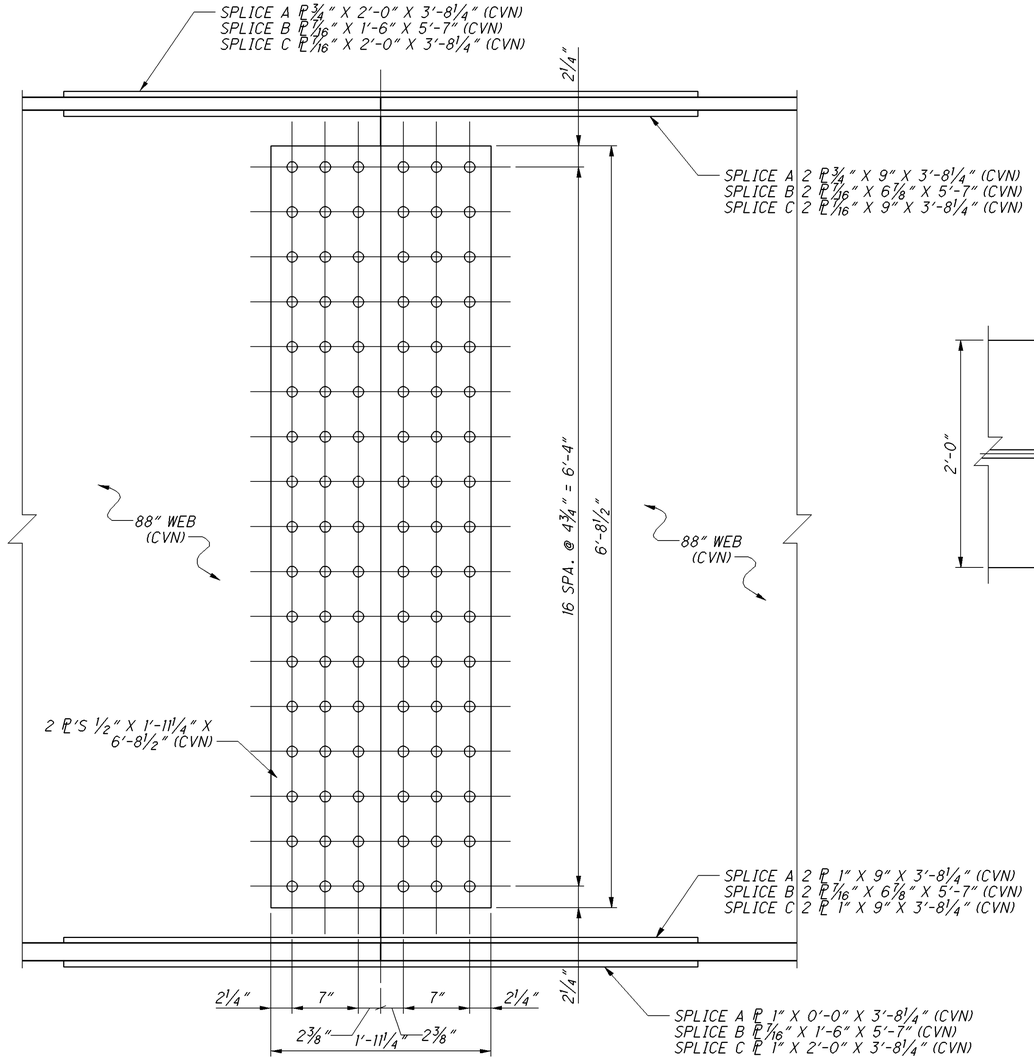


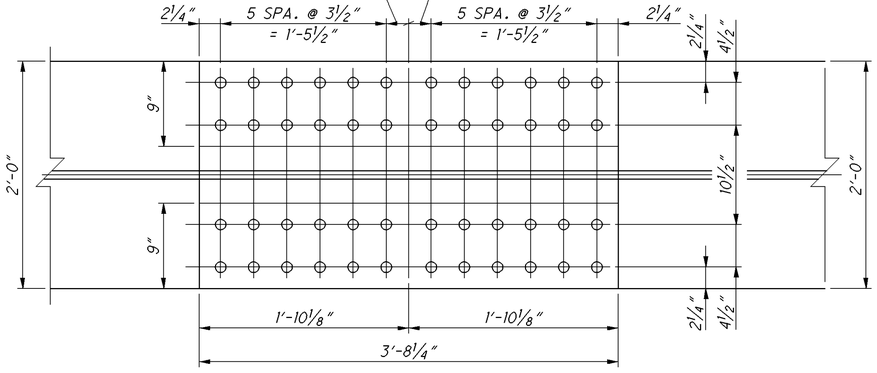
TOP & BOTTOM FLANGE PLAN
SLICE B



PARTIAL SECTION
(SECTION AT ℄ GIRDER SPLICE)



GIRDER FIELD SPLICE ELEVATION



TOP & BOTTOM FLANGE PLAN
SLICE A & C

NOTES:

1. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

2. ALL BOLTS SHALL BE 1 1/8" DIA. HIGH STRENGTH BOLTS, ASTM A325 TYPE 1, GALVANIZED.

3. THREADS SHALL BE EXCLUDED FROM SHEAR PLANES.

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAP		3102793	

FIELD SPLICE DETAILS
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

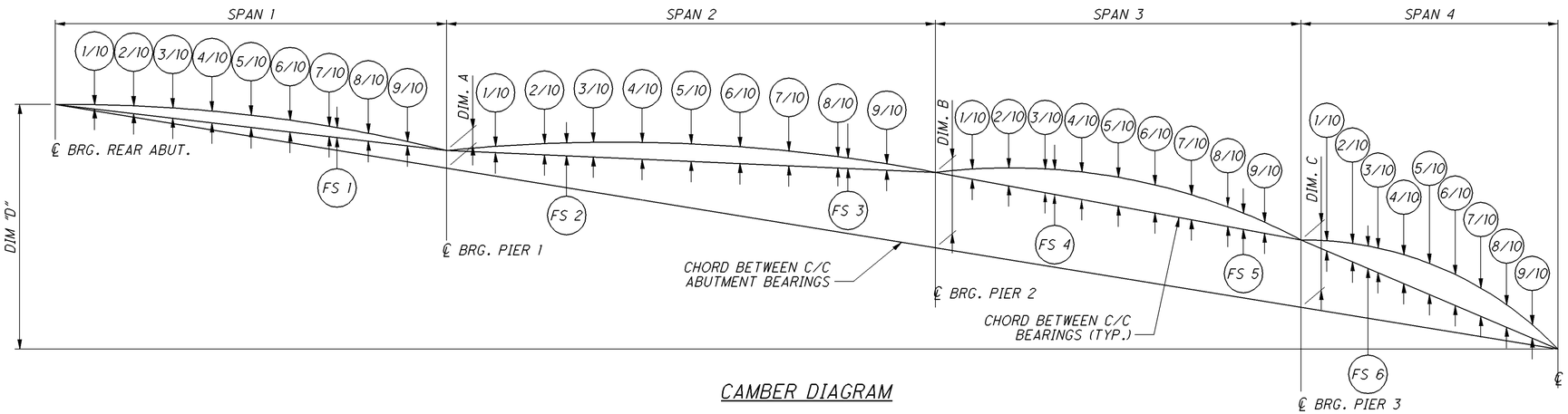
HAM-50-18.79
PID No. 20082

CAMBER TABLE (VALUE IN INCHES)

GIRDER	SPAN LOCATION	SPAN 1											SPAN 2											
		℄ BRG. REAR ABUT	1/10	2/10	3/10	4/10	5/10	6/10	7/10	SPLICE 1	8/10	9/10	℄ BRG. PIER 1	1/10	2/10	SPLICE 2	3/10	4/10	5/10	6/10	7/10	8/10	SPLICE 3	9/10	℄ BRG. PIER 2
4	DEFLECTION DUE TO WEIGHT OF STEEL	0	7/16	13/16	1	1 1/8	1	13/16	9/16	9/16	5/16	1/8	0	1/16	3/8	9/16	3/4	1	1 1/8	1 1/8	7/8	9/16	1/2	1/4	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	1 7/8	1 5/8	2 1/8	2 5/16	2 1/8	1 3/4	1 3/16	1 3/16	1 1/16	1/4	0	1/8	1 1/16	1	1 3/8	1 15/16	2 3/16	2 1/8	1 1/16	1 1/16	15/16	3/8	0
	GEOMETRIC CORRECTION	0	-9/16	-9/16	-1 3/8	-1 5/8	-1 3/8	-1 1/8	-1 3/16	-1 3/16	- 9/16	- 1/4	0	-1 1/4	-1 1/16	-1	-1 5/16	-1 3/16	-1 1/16	- 9/16	- 7/16	- 1/4	- 1/4	- 1/8	0
	HEAT CURVING ADJUSTMENT	0	3/16	5/16	3/8	7/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	REQUIRED SHOP CAMBER	0	15/16	2 3/16	2 3/16	2 3/16	1 3/4	1 7/16	15/16	7/8	7/16	1/16	0	-1	0	9/16	1 3/16	2 1/8	2 11/16	2 11/16	2 3/16	1 3/8	1 3/16	1/2	0
3	DEFLECTION DUE TO WEIGHT OF STEEL	0	3/8	5/8	13/16	7/8	13/16	5/8	7/16	3/8	3/16	1/16	0	1/8	7/16	5/8	13/16	1 1/16	1 3/16	1 3/16	15/16	5/8	1/2	1/4	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	3/4	1 3/8	1 3/4	1 7/8	1 3/4	1 3/8	15/16	7/8	1/2	1/8	0	1/4	1 3/16	1 1/8	1 1/2	2	2 1/4	2 3/16	1 3/4	1 1/16	15/16	7/16	0
	GEOMETRIC CORRECTION	0	-1	-1 7/16	-2 1/8	-2 5/16	-1 15/16	-1 3/16	-1 1/8	-3/4	- 3/8	0	-3/4	-1 1/16	-5/8	-5/8	- 1/2	- 7/16	- 3/8	- 1/4	- 3/16	- 1/8	- 1/16	0
	HEAT CURVING ADJUSTMENT	0	3/16	5/16	3/8	7/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	REQUIRED SHOP CAMBER	0	1/4	7/8	13/16	7/8	5/8	1/2	3/16	1/8	- 1/8	- 3/16	0	- 3/8	9/16	1 1/16	1 11/16	2 9/16	3 1/16	3	2 7/16	1 1/2	1 5/16	9/16	0
2	DEFLECTION DUE TO WEIGHT OF STEEL	0	1/4	1/2	5/8	1 1/16	5/8	7/16	1/4	1/4	1/8	-0	0	3/16	1/2	1 1/16	1/8	1 3/16	1 1/4	1 3/16	1	5/8	9/16	1/4	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	9/16	1 1/16	1 3/8	1 7/16	1 5/16	1 1/16	11/16	5/8	5/16	1/16	0	5/16	15/16	1 1/4	1 9/16	2 1/8	2 3/8	2 1/4	1 3/4	1 1/8	15/16	7/16	0
	GEOMETRIC CORRECTION	0	-1 5/8	-2 5/8	-3 3/16	-3 3/16	-2 11/16	-2 3/16	-1 5/8	-1 9/16	-1 1/16	- 9/16	0	- 3/16	- 1/8	- 1/8	- 1/8	- 1/8	- 1/8	- 1/16	- 1/16	- 1/16	- 1/16	-0	0
	HEAT CURVING ADJUSTMENT	0	3/16	5/16	3/8	7/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	REQUIRED SHOP CAMBER	0	-9/16	-3/4	-13/16	-5/8	-3/4	-11/16	-1 1/16	-11/16	-1 1/16	- 1/2	0	3/8	1 5/16	1 3/4	2 5/16	3 3/16	3 1/2	3 3/8	2 11/16	1 11/16	1 7/16	5/8	0
1	DEFLECTION DUE TO WEIGHT OF STEEL	0	3/16	3/8	7/16	7/16	3/8	1/4	1/8	1/8	0	- 1/16	0	1/4	9/16	3/4	15/16	1 1/4	1 3/8	1 1/4	1	5/8	9/16	1/4	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	1 1/16	1 3/16	1	1 1/16	15/16	1 1/16	3/8	3/8	1/8	- 1/16	0	3/8	1	1 5/16	1 11/16	2 3/16	2 1/16	2 1/4	1 13/16	1 1/8	15/16	7/16	0
	GEOMETRIC CORRECTION	0	-2	-3 5/16	-3 5/8	-3 3/16	-3	-2 3/8	-1 13/16	-1 3/4	-1 3/16	-5/8	0	3/16	1/8	1/8	1/8	1/8	1/8	1/16	1/16	1/16	1/16	0	0
	HEAT CURVING ADJUSTMENT	0	3/16	5/16	1/16	1/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	REQUIRED SHOP CAMBER	0	-1 3/16	-1 1/8	-1 3/4	-1 5/8	-1 11/16	-1 1/16	-1 5/16	-1 1/4	-1 1/16	-11/16	0	13/16	1 3/4	2 1/4	2 3/4	3 9/16	3 1/8	3 5/8	2 1/8	1 13/16	1 9/16	11/16	0

CAMBER TABLE (VALUE IN INCHES)

GIRDER	SPAN LOCATION	SPAN 3												SPAN 4										
		℄ BRG. PIER 2	1/10	2/10	3/10	SPLICE 4	4/10	5/10	6/10	7/10	8/10	SPLICE 5	9/10	℄ BRG. PIER 3	1/10	2/10	SPLICE 6	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ BRG. FWD. ABUT.
4	DEFLECTION DUE TO WEIGHT OF STEEL	0	- 1/16	- 1/16	0	1/16	1/8	3/16	3/16	1/8	1/16	1/16	0	0	0	1/16	1/8	1/8	3/16	1/4	1/4	1/4	3/16	1/16	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	- 1/16	1/16	1/4	5/16	1/2	5/8	11/16	9/16	5/16	5/16	1/8	0	1/16	3/16	5/16	3/8	1/2	9/16	5/8	9/16	7/16	1/4	0
	GEOMETRIC CORRECTION	0	2 7/8	5 3/4	8 3/16	8 3/8	8 15/16	8 1/2	7 1/4	6 3/16	4 7/8	4 5/8	2 13/16	0	1 1/8	1 7/8	2 1/8	2 5/16	2 5/16	2 5/16	2 9/16	2 1/2	2 1/16	1 3/16	0
	HEAT CURVING ADJUSTMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	REQUIRED SHOP CAMBER	0	2 13/16	5 13/16	8 1/2	8 3/4	9 9/16	9 5/16	8 1/16	6 7/8	5 5/16	5 1/16	2 15/16	0	1 1/4	2 3/16	2 9/16	2 13/16	3	3 1/8	3 7/16	3 5/16	2 5/8	1 9/16	0
3	DEFLECTION DUE TO WEIGHT OF STEEL	0	- 1/16	- 1/16	0	1/16	1/8	3/16	3/16	1/8	1/16	1/16	0	0	1/16	1/16	1/8	3/16	1/4	1/4	1/4	1/4	3/16	1/8	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	- 1/16	1/16	5/16	3/8	9/16	11/16	11/16	9/16	5/16	5/16	1/8	0	1/16	3/16	5/16	3/8	9/16	5/8	11/16	5/8	7/16	1/4	0
	GEOMETRIC CORRECTION	0	2 3/4	5 7/16	7 3/4	7 15/16	8 11/16	8 9/16	7 11/16	6 5/8	5 3/16	4 15/16	3	0	1 5/16	2 5/16	2 11/16	2 7/8	3 1/8	3 3/16	3 1/4	3	2 3/8	1 3/8	0
	HEAT CURVING ADJUSTMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	REQUIRED SHOP CAMBER	0	2 5/8	5 1/2	8 1/16	8 5/16	9 5/16	9 7/16	8 9/16	7 3/8	5 5/8	5 3/8	3 1/16	0	1 11/16	2 9/16	3 1/8	3 7/16	3 7/8	4 1/16	4 3/16	3 7/8	3	1 3/4	0
2	DEFLECTION DUE TO WEIGHT OF STEEL	0	- 1/16	- 1/16	0	1/16	1/8	3/16	3/16	1/8	1/16	1/16	0	0	1/16	1/8	1/8	3/16	1/4	1/4	5/16	1/4	3/16	1/8	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	- 1/16	1/8	5/16	3/8	9/16	3/4	3/4	5/8	3/8	5/16	1/8	0	1/16	3/16	5/16	3/8	9/16	11/16	11/16	5/8	1/2	1/4	0
	GEOMETRIC CORRECTION	0	2 1/2	5	7 1/16	7 3/8	8 5/16	8 11/16	8 5/16	7 5/16	5 5/8	5 3/8	3 3/16	0	1 5/8	2 13/16	3 3/8	3 11/16	4 3/16	4 5/16	4 1/4	3 3/4	2 1/8	1 5/8	0
	HEAT CURVING ADJUSTMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	REQUIRED SHOP CAMBER	0	2 7/16	5 1/16	7 7/16	7 3/4	8 15/16	9 9/16	9 3/16	8 1/16	6 1/16	5 3/4	3 5/16	0	1 11/16	3 1/8	3 13/16	4 1/4	5	5 5/16	5 3/16	4 5/8	3 9/16	2	0
1	DEFLECTION DUE TO WEIGHT OF STEEL	0	- 1/16	- 1/16	0	0	1/8	3/16	3/16	1/8	1/16	1/16	0	0	1/16	1/8	1/8	3/16	1/4	5/16	5/16	1/4	3/16	1/8	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	-0	1/8	5/16	3/8	9/16	3/4	3/4	5/8	3/8	5/16	1/8	0	1/16	1/4	5/16	7/16	9/16	11/16	3/4	11/16	1/2	1/4	0
	GEOMETRIC CORRECTION	0	2 3/8	4 3/4	6 3/4	7	8 1/16	8 3/4	8 5/8	7 11/16	5 7/8	5 9/16	3 5/16	0	1 3/4	3 1/8	3 3/4	4 1/8	4 13/16	5	4 3/4	4 1/8	3 1/8	1 3/4	0
	HEAT CURVING ADJUSTMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	REQUIRED SHOP CAMBER	0	2 5/16	4 13/16	7 1/16	7 7/16	8 3/4	9 5/8	9 9/16	8 7/16	6 5/16	6	3 7/16	0	1 7/8	3 7/16	4 1/4	4 3/4	5 5/8	6	5 13/16	5 1/16	3 13/16	2 1/8	0



CAMBER DIAGRAM

BLOCKING DIMENSIONS				
GIRDER	DIM "A"	DIM "B"	DIM "C"	DIM "D"
4	8 7/8"	3'-5 3/8"	3'-2 1/16"	11'-5 3/4"
3	1'-0 1/16"	3'-7 5/8"	3'-4 3/4"	11'-1 5/16"
2	1'-4 1/2"	3'-10 3/4"	3'-8 9/16"	10'-7 3/16"
1	1'-7 3/16"	4'-0 9/16"	3'-10 11/16"	10'-3 1/2"

DESIGN AGENCY
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CAMBER TABLE AND CAMBER DIAGRAM
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

LAMINATED ELASTOMERIC BEARINGS DATA

LOCATION	BEARING TYPE	BEARING DIMENSIONS						STEEL LOAD PLATE		BEVEL DIMENSIONS			REACTIONS (KIPS)		MAXIMUM DESIGN	SEISMIC PED.
		L	W	ti	te	T	N	LENGTH	WIDTH	A	B	C	DL	LL	REACTIONS (KIPS)	H
REAR ABUTMENT	EXP.	12"	20"	7/16"	1/4"	6 3/4"	13	13"	26"	1 11/16"	1 5/8"	1 1/2"	174	103	277	12"
PIER 1	EXP.	22"	28"	5/8"	3/8"	6 7/16"	9	23"	29"	1 9/16"	1 9/16"	1 1/2"	565	205	770	11"
PIER 2	FIXED	20"	26"	5/8"	3/8"	4 5/16"	6	21"	39"	1 9/16"	1 9/16"	1 1/2"	460	189	649	
PIER 3	EXP.	16"	24"	1/2"	1/4"	4 5/8"	8	17"	25"	2 1/16"	1 13/16"	1 1/2"	320	161	481	10"
FWD. ABUTMENT	EXP.	10"	15"	3/8"	1/4"	5 1/16"	11	11"	20"	2 1/8"	1 13/16"	1 1/2"	94	87	181	10"

ti = THICKNESS OF INTERNAL LAMINATE
te = THICKNESS OF EXTERNAL LAMINATE
T = TOTAL THICKNESS OF ELASTOMERIC BEARING

L = LENGTH OF ELASTOMERIC BEARING
W = WIDTH OF ELASTOMERIC BEARING
N = NO. OF STEEL LAMINATES

NOTES:

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

2. WELDING: CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300° (F) AS DETERMINED BY USE OF A PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICE.

3. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.5 (METHOD B) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

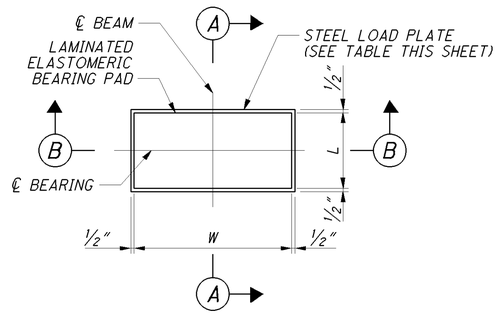
4. ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS AND LOAD PLATES SHALL BE INCLUDED IN ITEM 516, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE, AS PER PLAN FOR PAYMENT.

5. FOR LIST OF ABBREVIATIONS, SEE SHEET 5/39 .

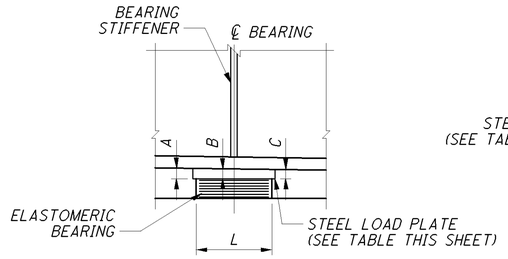
6. STEEL LOAD PLATES SHALL BE ASTM A709 GRADE 50 AND SHALL BE SHOP PAINTED WITH IN ORGANIC ZINE PRIMER AS SPECIFIED IN CMS 513.27. PAYMENT IS INCLUDED IN THE UNIT PRICE BID FOR EACH BEARING. APPLY PAINT TO THE EXPOSED STEEL LOAD PLATES IN ACCORDANCE WITH CMS 514.

7. THE STEEL LOAD PLATES SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

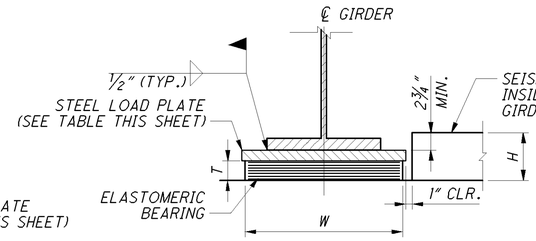
8. BEARING REPOSITIONING:
IF BEAMS ARE PLACED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60°F ± 10°F, THE BEAMS SHALL BE RAISED TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F ± 10°F.



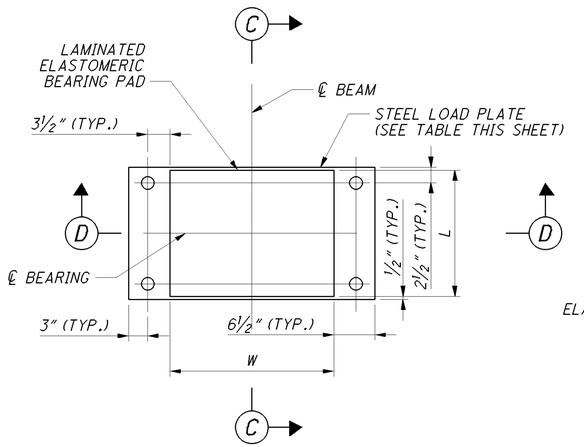
BEARING PLAN VIEW
(EXPANSION BEARING)



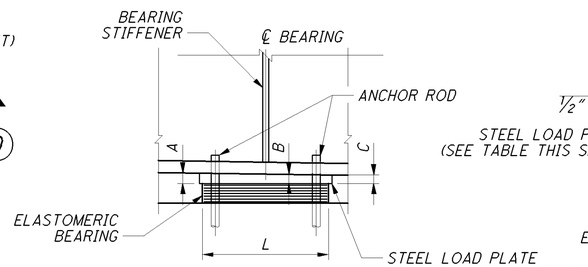
SECTION A-A



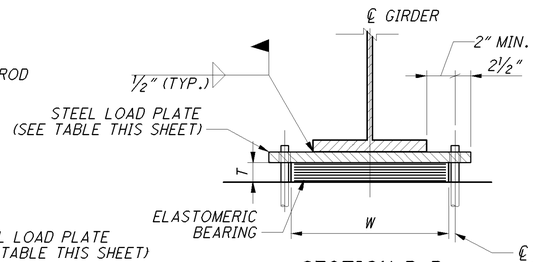
SECTION B-B



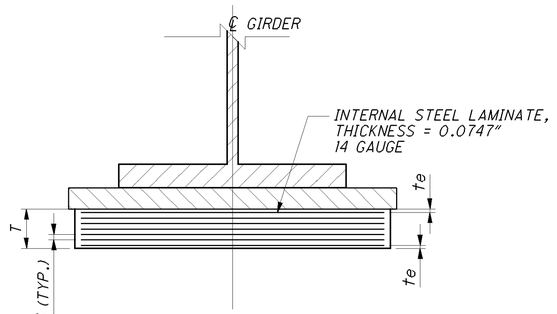
BEARING PLAN VIEW
(FIXED BEARING)



SECTION C-C



SECTION D-D



LAMINATED ELASTOMERIC BEARING PAD DETAIL

℄ 2" ϕ HOLE IN STEEL LOAD PLATE FOR 1 1/2" ϕ X 2'-0" A572, GRADE 50 ANCHOR ROD. GALVANIZED ACCORDING TO 711.02. INSTALL ANCHOR ROD PER 510. INCLUDE DOWEL HOLES AND ANCHOR RODS WITH ITEM 516 FOR PAYMENT.

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SUITE 2500
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAP		3102793	

BEARING DETAILS
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

23/39

460/657

NOTES:

1. THE CONSTRUCTION SEQUENCE SHOWN DEMONSTRATES ONE FEASIBLE ALTERNATIVE TO ERECT THE CURVED GIRDERS. THE CONTRACTOR HAS THE OPTION OF USING AN ALTERNATIVE METHOD OF GIRDER ERECTION WITH PRIOR APPROVAL OF THE ENGINEER.

2. THE TEMPORARY SHORING REACTIONS REPRESENT VERTICAL DEAD LOAD REACTIONS OF THE GIRDERS AND CROSSFRAMES. CONTRACTOR MUST ACCOUNT FOR ADDITIONAL LOADS DUE TO HIS ERECTION METHODS.

3. SUBMIT SHOP DRAWINGS WITH PROPOSED GIRDER ERECTION DETAILS IN CONFORMANCE WITH SECTION 501.04.

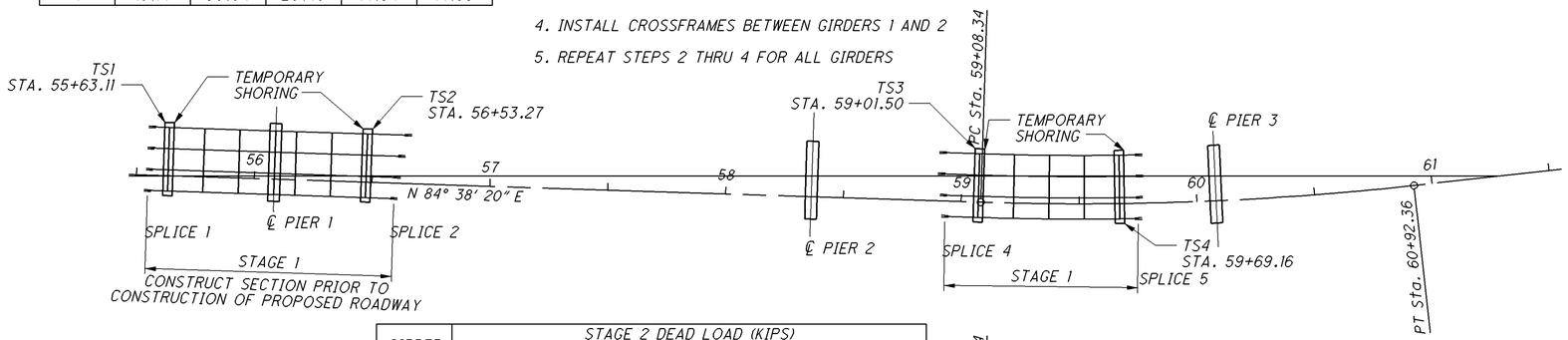
4. VERTICAL AND HORIZONTAL STABILITY SHALL BE MAINTAINED FOR EACH STAGE BY THE CONTRACTOR AS ALL INTERMEDIATE STAGES ARE UNSTABLE WITHOUT TEMPORARY SHORING AND BRACING. THE DESIGN OF SHORING AND BRACING SHALL INCLUDE ADDITIONAL LOADING DUE TO WIND AND CONSTRUCTION LIVE LOAD ON THE PREVIOUS STAGE(S). THE CONTRACTOR SHALL SUBMIT THE SHORING AND BRACING DESIGN TO THE ENGINEER FOR APPROVAL PRIOR TO PLACING ANY GIRDERS.

5. THIS RECOMMENDED CONSTRUCTION PLAN ASSUMES THAT TEMPORARY SHORING SHALL BE CONSTRUCTED PRIOR TO THE PROPOSED ROADWAY WORK AND AFTER THE RAILROAD RELOCATION.

GIRDER	STAGE 1 DEAD LOAD (KIPS)				
	TS1	PIER 1	TS2	TS3	TS4
1	20.77	36.04	16.36	15.36	14.34
2	18.36	36.04	18.45	15.05	14.67
3	16.38	36.04	20.18	14.85	14.83
4	15.14	36.04	20.48	14.34	14.98

STAGE 1

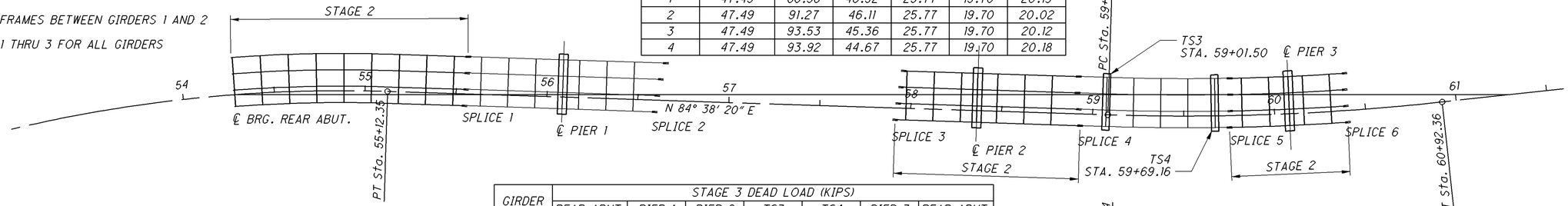
1. CONSTRUCT TEMPORARY SHORING WITH BEARINGS CENTERED BELOW CROSSFRAME STIFFENERS AS SHOWN
2. ERECT GIRDER 1 AS SHOWN
3. BRACE GIRDER 1 AND ERECT GIRDER 2
4. INSTALL CROSSFRAMES BETWEEN GIRDERS 1 AND 2
5. REPEAT STEPS 2 THRU 4 FOR ALL GIRDERS
6. ALL PROPOSED WORK FOR NEAVE ST. SHALL BE COMPLETED PRIOR TO THE INSTALLATION OF TEMPORARY SUPPORTS AT STA. 56+53.27.
7. ALL RAILROAD RELOCATION WORK SHALL BE COMPLETED PRIOR TO STAGE 1 CONSTRUCTION.



STAGE 2

1. ERECT GIRDER 1 AS SHOWN
2. BRACE GIRDER 1 AND ERECT GIRDER 2
3. INSTALL CROSSFRAMES BETWEEN GIRDERS 1 AND 2
4. REPEAT STEPS 1 THRU 3 FOR ALL GIRDERS

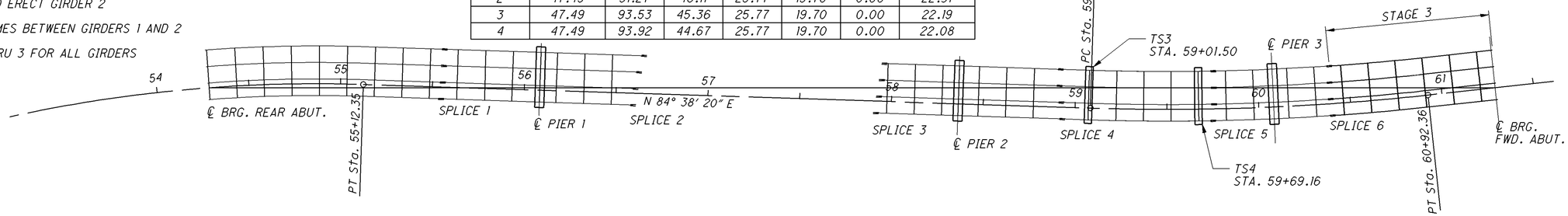
GIRDER	STAGE 2 DEAD LOAD (KIPS)					
	REAR ABUT.	PIER 1	PIER 2	TS3	TS4	PIER 3
1	47.49	88.58	46.92	25.77	19.70	20.13
2	47.49	91.27	46.11	25.77	19.70	20.02
3	47.49	93.53	45.36	25.77	19.70	20.12
4	47.49	93.92	44.67	25.77	19.70	20.18



STAGE 3

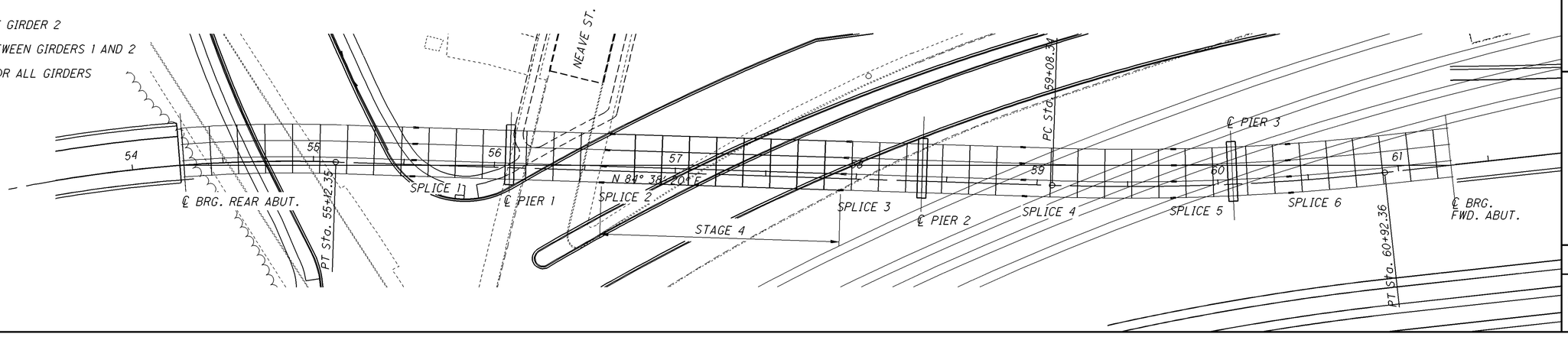
1. ERECT GIRDER 1 AS SHOWN
2. BRACE GIRDER 1 AND ERECT GIRDER 2
3. INSTALL CROSSFRAMES BETWEEN GIRDERS 1 AND 2
4. REPEAT STEPS 1 THRU 3 FOR ALL GIRDERS

GIRDER	STAGE 3 DEAD LOAD (KIPS)						
	REAR ABUT.	PIER 1	PIER 2	TS3	TS4	PIER 3	REAR ABUT.
1	47.49	88.58	46.92	25.77	19.70	30.70	22.42
2	47.49	91.27	46.11	25.77	19.70	0.00	22.31
3	47.49	93.53	45.36	25.77	19.70	0.00	22.19
4	47.49	93.92	44.67	25.77	19.70	0.00	22.08



STAGE 4

1. ERECT GIRDER 1 AS SHOWN
2. BRACE GIRDER 1 AND ERECT GIRDER 2
3. INSTALL CROSSFRAMES BETWEEN GIRDERS 1 AND 2
4. REPEAT STEPS 1 THRU 3 FOR ALL GIRDERS



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312 ELM STREET
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CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
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SUGGESTED GIRDER ERECTION SEQUENCE
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

24 / 39

461
657

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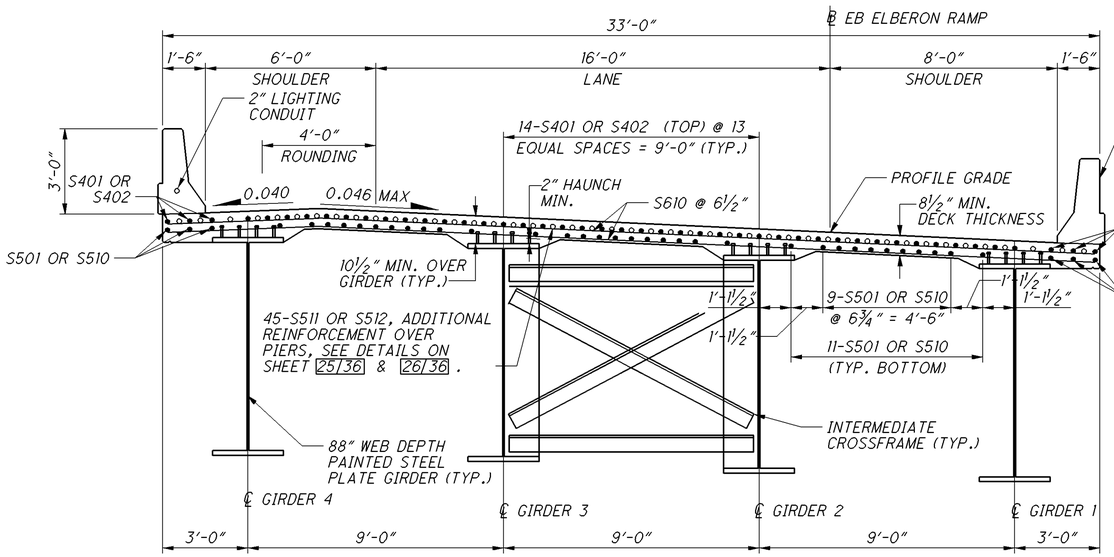
NOTES:

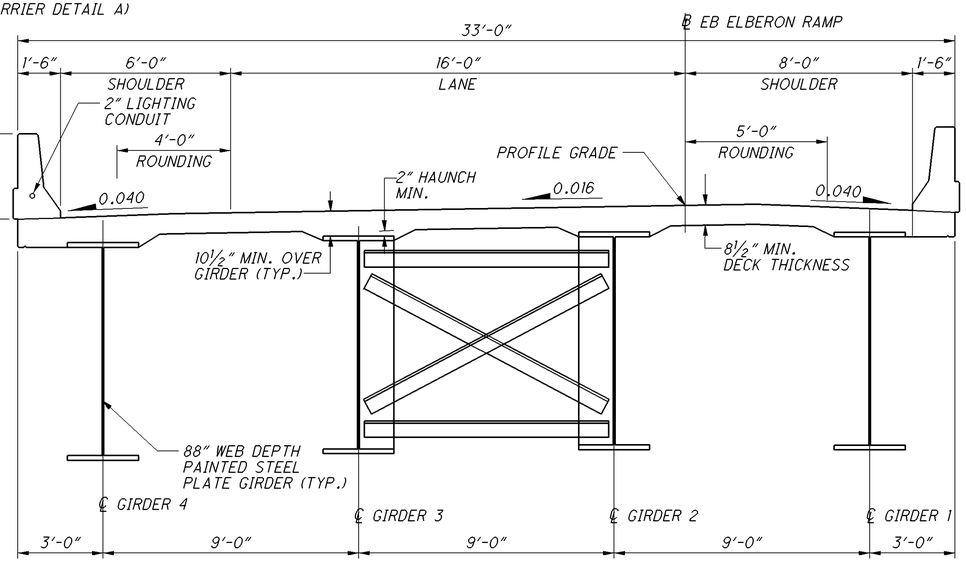
1. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 5 INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE OF 9 INCHES. 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 GIRDER FLANGE IS +/- 3 INCHES.

2. THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.



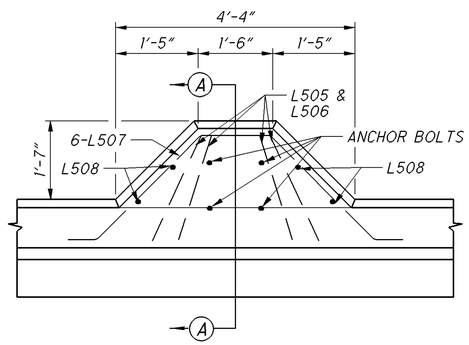
TYPICAL SECTION

ELBERON RAMP EASTBOUND (LOOKING UPSTATION AT PIER 1)

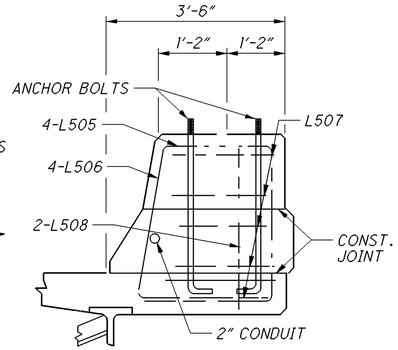


TYPICAL SECTION

ELBERON RAMP EASTBOUND (LOOKING UPSTATION AT PIER 2)
(REINFORCING NOT SHOWN FOR CLARITY)

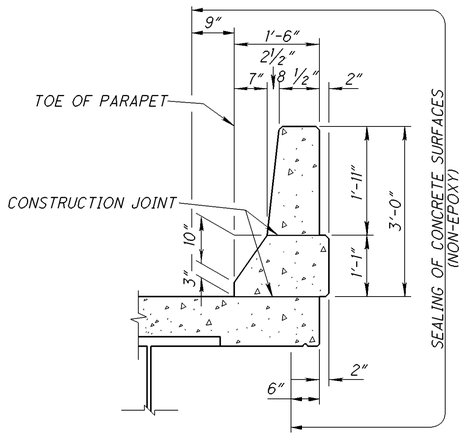


PLAN

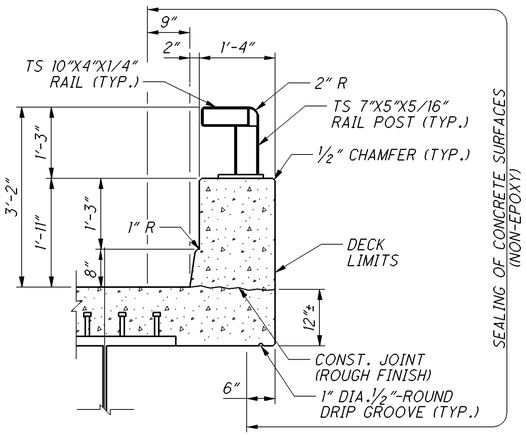


SECTION "A-A"

LIGHT POLE PILASTER FOR BRIDGE WITH STANDARD ROADWAY RAILING



BARRIER DETAIL A



OPTIONAL BARRIER DETAIL

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED PJL | DRAWN LEL | REVIEWED EBS | DATE 11/16/10
CHECKED SAP | REVISED | STRUCTURE FILE NUMBER 3102793

TRANSVERSE SECTION
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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657

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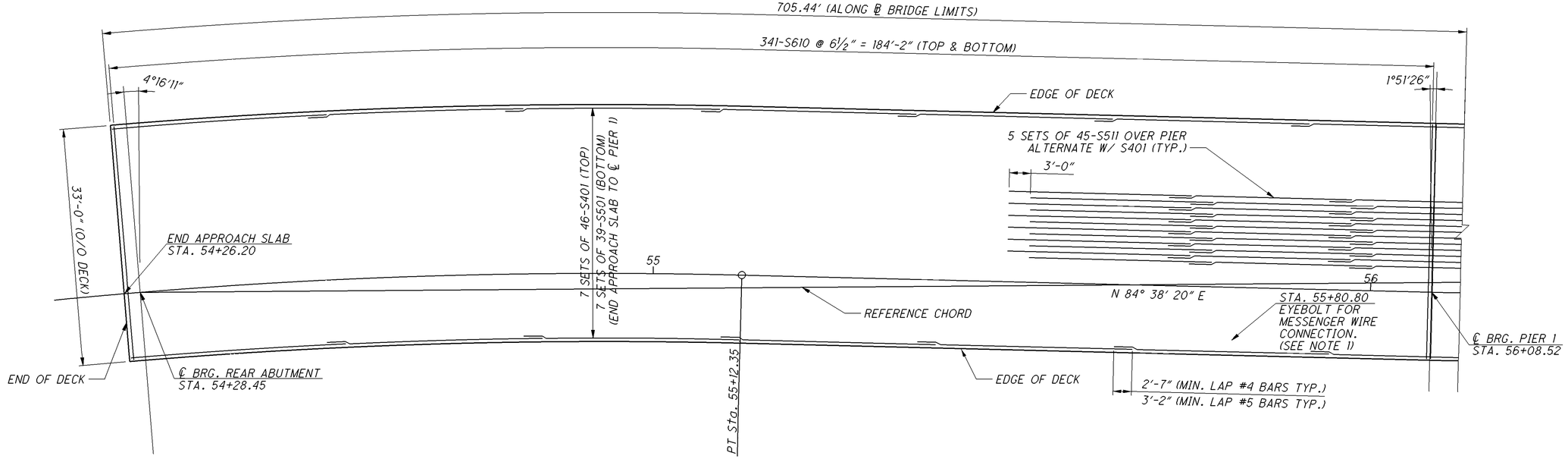
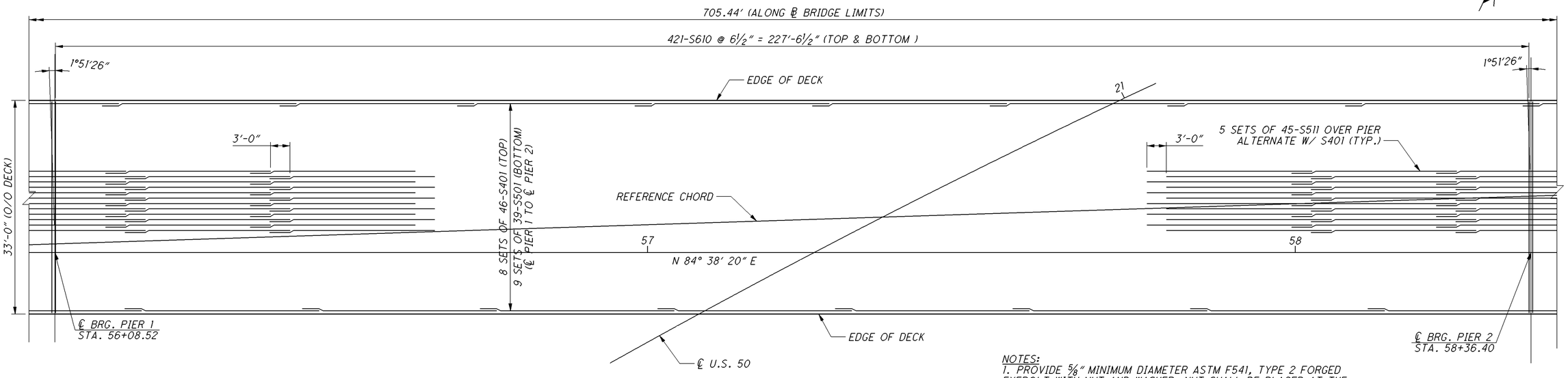


SPAN 1 DECK PLAN



SPAN 2 DECK PLAN

NOTES:
1. PROVIDE ⅝" MINIMUM DIAMETER ASTM F541, TYPE 2 FORGED EYEBOLT WITH NUT AND WASHER. NUT SHALL BE PLACED AT THE END OF THREADING AND WELDED TO THREADS. THE WASHER SHALL BE PLACED AT THE DECK EDGE. ALL MATERIAL SHALL BE GALVANIZED PER CMS 711.02. THE EYEBOLT SHALL BE LOCATED AT THE VERTICAL CENTER OF THE DECK EDGE AND SHALL BE CAST IN PLACE INTO THE CONCRETE A MINIMUM OF 8". THE CONTRACTOR SHALL SELECT AN EYEBOLT WITH A MINIMUM TENSILE CAPACITY (ALLOWABLE CAPACITY) OF 1325 POUNDS.

PAYMENT FOR ALL LABOR AND MATERIALS NECESSARY TO PERFORM THIS WORK SHALL BE INCLUDED WITH ITEM 898 OC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN.

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	6/2/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	3102793

DECK PLAN 1 OF 2
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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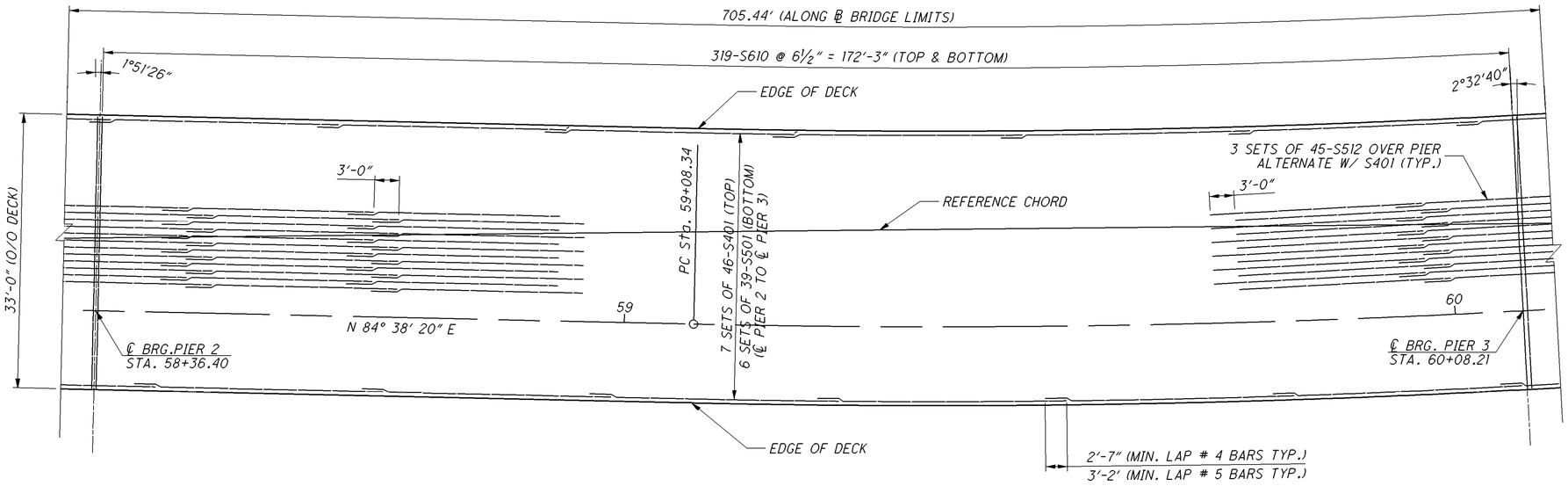
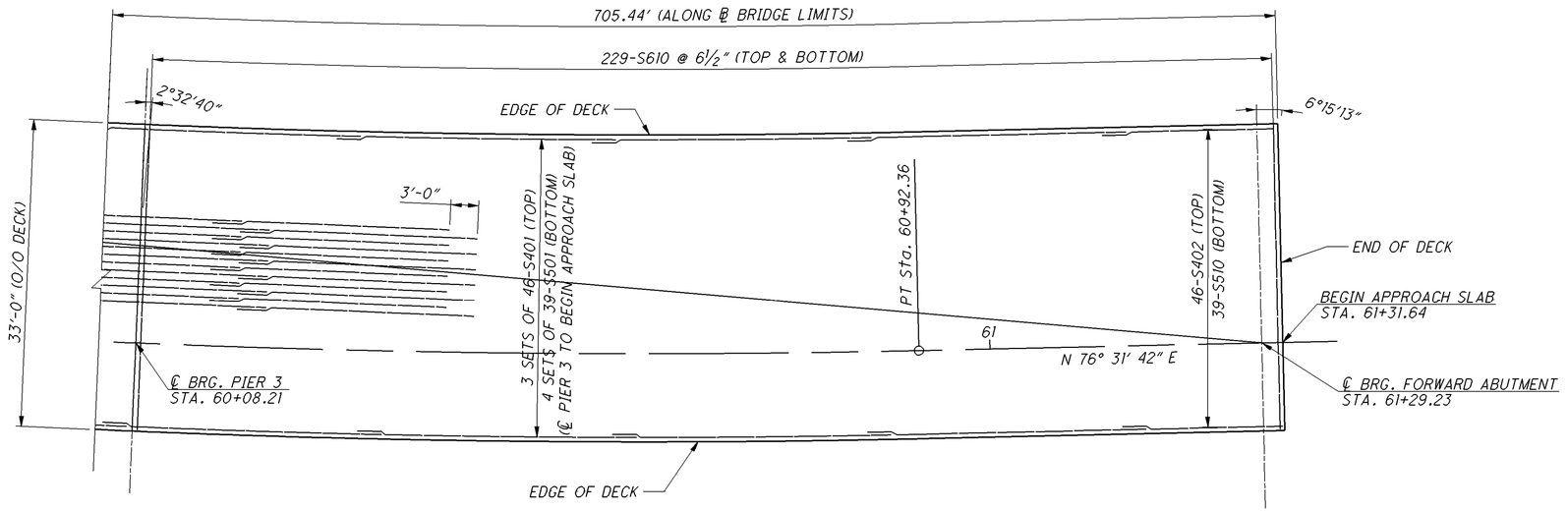


SPAN 3 DECK PLAN



SPAN 4 DECK PLAN

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	6/2/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	3102793

DECK PLAN 2 OF 2
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

SCREED TABLE

	SPAN LOCATION	SPAN 1												SPAN 2										
		℄ BRG. REAR ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	SPLICE 1	8/10	9/10	℄ BRG. PIER 1	1/10	2/10	SPLICE 2	3/10	4/10	5/10	6/10	7/10	8/10	SPLICE 3	9/10	℄ BRG. PIER 2
LEFT TOE OF BARRIER	STATION	54+28.45	54+46.46	54+64.46	54+82.47	55+00.48	55+18.48	55+36.49	55+54.50	55+56.14	55+72.50	55+90.51	56+08.52	56+31.30	56+54.09	56+64.74	56+76.88	56+99.67	57+22.46	57+45.24	57+68.03	57+90.82	57+95.57	58+13.61	58+36.40
	DECK ELEVATION	534.33	534.06	533.84	533.55	533.31	533.11	532.91	532.71	532.70	532.52	532.32	532.12	531.92	531.83	531.78	531.73	531.64	531.55	531.46	531.37	531.28	531.26	531.19	531.10
	DEFLECTION	0.00	0.08	0.15	0.19	0.21	0.18	0.15	0.10	0.10	0.06	0.02	0.00	0.01	0.06	0.09	0.12	0.16	0.18	0.18	0.14	0.09	0.08	0.03	0.00
	SCREED ELEVATION	534.33	534.14	533.99	533.75	533.52	533.29	533.06	532.82	532.79	532.57	532.34	532.12	531.93	531.89	531.87	531.85	531.80	531.73	531.64	531.51	531.37	531.34	531.22	531.10
GIRDER 4	STATION	54+28.45	54+46.46	54+64.46	54+82.47	55+00.48	55+18.48	55+36.49	55+54.50	55+56.14	55+72.50	55+90.51	56+08.52	56+31.30	56+54.09	56+64.74	56+76.88	56+99.67	57+22.46	57+45.24	57+68.03	57+90.82	57+95.57	58+13.61	58+36.40
	DECK ELEVATION	534.39	534.12	533.90	533.61	533.37	533.17	532.97	532.77	532.76	532.58	532.38	532.18	531.98	531.89	531.84	531.79	531.70	531.61	531.52	531.43	531.34	531.32	531.25	531.16
	DEFLECTION	0.00	0.08	0.15	0.19	0.21	0.18	0.15	0.10	0.10	0.06	0.02	0.00	0.01	0.06	0.09	0.12	0.16	0.18	0.18	0.14	0.09	0.08	0.03	0.00
	SCREED ELEVATION	534.39	534.20	534.05	533.81	533.58	533.35	533.12	532.88	532.85	532.63	532.40	532.18	531.99	531.95	531.93	531.91	531.86	531.79	531.70	531.57	531.43	531.40	531.28	531.16
LEFT CROWN	STATION	54+28.45	54+46.46	54+64.46	54+82.47	55+00.48	55+18.48	55+36.49	55+54.50	55+56.14	55+72.50	55+90.51	56+08.52	56+31.30	56+54.09	56+64.74	56+76.88	56+99.67	57+22.46	57+45.24	57+68.03	57+90.82	57+95.57	58+13.61	58+36.40
	DECK ELEVATION	534.49	534.22	534.00	533.71	533.47	533.27	533.07	532.87	532.86	532.68	532.48	532.28	532.08	531.99	531.94	531.89	531.80	531.71	531.62	531.53	531.44	531.42	531.35	531.26
	DEFLECTION	0.00	0.08	0.15	0.19	0.21	0.18	0.15	0.10	0.10	0.06	0.02	0.00	0.01	0.06	0.09	0.12	0.16	0.18	0.18	0.14	0.09	0.08	0.03	0.00
	SCREED ELEVATION	534.49	534.30	534.15	533.91	533.68	533.45	533.22	532.98	532.95	532.73	532.50	532.28	532.09	532.05	532.03	532.01	531.96	531.89	531.80	531.67	531.53	531.50	531.38	531.26
GIRDER 3	STATION	54+28.45	54+46.46	54+64.46	54+82.47	55+00.48	55+18.48	55+36.49	55+54.50	55+55.89	55+72.50	55+90.51	56+08.52	56+31.30	56+54.09	56+62.29	56+76.88	56+99.67	57+22.46	57+45.24	57+68.03	57+90.82	57+94.33	58+13.61	58+36.40
	DECK ELEVATION	534.19	533.92	533.71	533.46	533.26	533.11	532.95	532.80	532.79	532.65	532.50	532.34	532.18	532.09	532.06	532.00	531.91	531.82	531.73	531.63	531.54	531.53	531.45	531.36
	DEFLECTION	0.00	0.07	0.13	0.16	0.17	0.14	0.12	0.08	0.07	0.04	0.01	0.00	0.02	0.07	0.09	0.12	0.17	0.19	0.18	0.14	0.09	0.08	0.03	0.00
	SCREED ELEVATION	534.19	533.99	533.83	533.62	533.44	533.25	533.07	532.88	532.86	532.69	532.51	532.34	532.20	532.16	532.14	532.12	532.08	532.01	531.91	531.78	531.63	531.61	531.49	531.36
GIRDER 2	STATION	54+28.45	54+46.46	54+64.46	54+82.47	55+00.48	55+18.48	55+36.49	55+54.50	55+55.51	55+72.50	55+90.51	56+08.52	56+31.30	56+54.09	56+60.62	56+76.88	56+99.67	57+22.46	57+45.24	57+68.03	57+90.82	57+93.12	58+13.61	58+36.40
	DECK ELEVATION	533.78	533.51	533.29	533.11	532.97	532.88	532.79	532.70	532.70	532.61	532.52	532.43	532.32	532.23	532.21	532.14	532.05	531.96	531.87	531.78	531.69	531.68	531.60	531.50
	DEFLECTION	0.00	0.06	0.10	0.13	0.14	0.11	0.09	0.05	0.05	0.02	0.00	0.00	0.03	0.08	0.09	0.13	0.18	0.20	0.19	0.15	0.09	0.09	0.03	0.00
	SCREED ELEVATION	533.78	533.57	533.39	533.24	533.11	532.99	532.88	532.75	532.75	532.63	532.52	532.43	532.35	532.31	532.30	532.27	532.23	532.16	532.05	531.93	531.78	531.76	531.63	531.50
PGL	STATION	54+28.45	54+46.46	54+64.46	54+82.47	55+00.48	55+18.48	55+36.49	55+54.50	55+55.51	55+72.50	55+90.51	56+08.52	56+31.30	56+54.09	56+60.62	56+76.88	56+99.67	57+22.46	57+45.24	57+68.03	57+90.82	57+93.12	58+13.61	58+36.40
	DECK ELEVATION	533.66	533.40	533.18	533.01	532.89	532.82	532.74	532.67	532.67	532.60	532.53	532.46	532.36	532.27	532.25	532.18	532.09	532.00	531.91	531.82	531.73	531.72	531.64	531.54
	DEFLECTION	0.00	0.06	0.10	0.13	0.14	0.11	0.09	0.05	0.05	0.02	0.00	0.00	0.03	0.08	0.09	0.13	0.18	0.20	0.19	0.15	0.09	0.09	0.03	0.00
	SCREED ELEVATION	533.66	533.45	533.28	533.14	533.03	532.93	532.83	532.73	532.72	532.62	532.53	532.46	532.39	532.35	532.34	532.31	532.27	532.20	532.09	531.97	531.82	531.80	531.67	531.54
RIGHT CROWN	STATION	54+28.45	54+46.46	54+64.46	54+82.47	55+00.48	55+18.48	55+36.49	55+54.50	55+55.22	55+72.50	55+90.51	56+08.52	56+31.30	56+54.09	56+60.09	56+76.88	56+99.67	57+22.46	57+45.24	57+68.03	57+90.82	57+92.41	58+13.61	58+36.40
	DECK ELEVATION	533.55	533.28	533.06	532.91	532.81	532.75	532.70	532.64	532.64	532.59	532.53	532.48	532.40	532.31	532.29	532.22	532.13	532.04	531.95	531.86	531.77	531.76	531.68	531.58
	DEFLECTION	0.00	0.05	0.09	0.12	0.12	0.09	0.07	0.04	0.04	0.02	0.00	0.00	0.03	0.08	0.09	0.14	0.18	0.20	0.19	0.15	0.09	0.09	0.03	0.00
	SCREED ELEVATION	533.55	533.33	533.15	533.03	532.93	532.85	532.77	532.69	532.68	532.61	532.54	532.48	532.43	532.39	532.38	532.36	532.31	532.24	532.14	532.01	531.86	531.85	531.71	531.58
GIRDER 1	STATION	54+28.45	54+46.46	54+64.46	54+82.47	55+00.48	55+18.48	55+36.49	55+54.50	55+54.92	55+72.50	55+90.51	56+08.52	56+31.30	56+54.09	56+59.55	56+76.88	56+99.67	57+22.46	57+45.24	57+68.03	57+90.82	57+91.70	58+13.61	58+36.40
	DECK ELEVATION	533.37	533.10	532.88	532.75	532.65	532.59	532.54	532.48	532.48	532.43	532.37	532.32	532.24	532.15	532.13	532.06	531.97	531.88	531.79	531.70	531.61	531.60	531.52	531.42
	DEFLECTION	0.00	0.04	0.08	0.10	0.11	0.08	0.06	0.03	0.03	0.01	0.00	0.00	0.03	0.08	0.10	0.14	0.18	0.20	0.19	0.15	0.09	0.09	0.03	0.00
	SCREED ELEVATION	533.37	533.14	532.96	532.85	532.76	532.67	532.60	532.52	532.51	532.44	532.37	532.32	532.28	532.24	532.23	532.20	532.15	532.08	531.98	531.85	531.70	531.69	531.55	531.42
RIGHT TOE OF BARRIER	STATION	54+28.45	54+46.46	54+64.46	54+82.47	55+00.48	55+18.48	55+36.49	55+54.50	55+54.92	55+72.50	55+90.51	56+08.52	56+31.30	56+54.09	56+59.55	56+76.88	56+99.67	57+22.46	57+45.24	57+68.03	57+90.82	57+91.70	58+13.61	58+36.40
	DECK ELEVATION	533.30	533.03	532.81	532.69	532.59	532.53	532.48	532.42	532.42	532.37	532.31	532.26	532.18	532.09	532.07	532.00	531.91	531.82	531.73	531.64	531.55	531.54	531.46	531.36
	DEFLECTION	0.00	0.04	0.08	0.10	0.11	0.08	0.06	0.03	0.03	0.01	0.00	0.00	0.03	0.08	0.10	0.14	0.18	0.20	0.19	0.15	0.09	0.09	0.03	0.00
	SCREED ELEVATION	533.30	533.07	532.89	532.79	532.70	532.61	532.54	532.46	532.45	532.38	532.31	532.26	532.22	532.18	532.17	532.14	532.09	532.02	531.92	531.79	531.64	531.63	531.49	531.36

NOTES:

1. SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED PJL | DRAWN LEL | REVIEWED EBS | DATE 11/16/10 | CHECKED SAP | REVISED | STRUCTURE FILE NUMBER 3102793

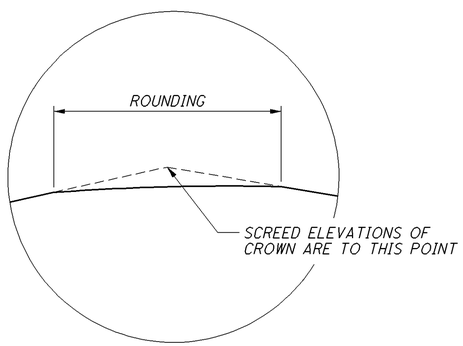
SCREED TABLE 1 OF 2

BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

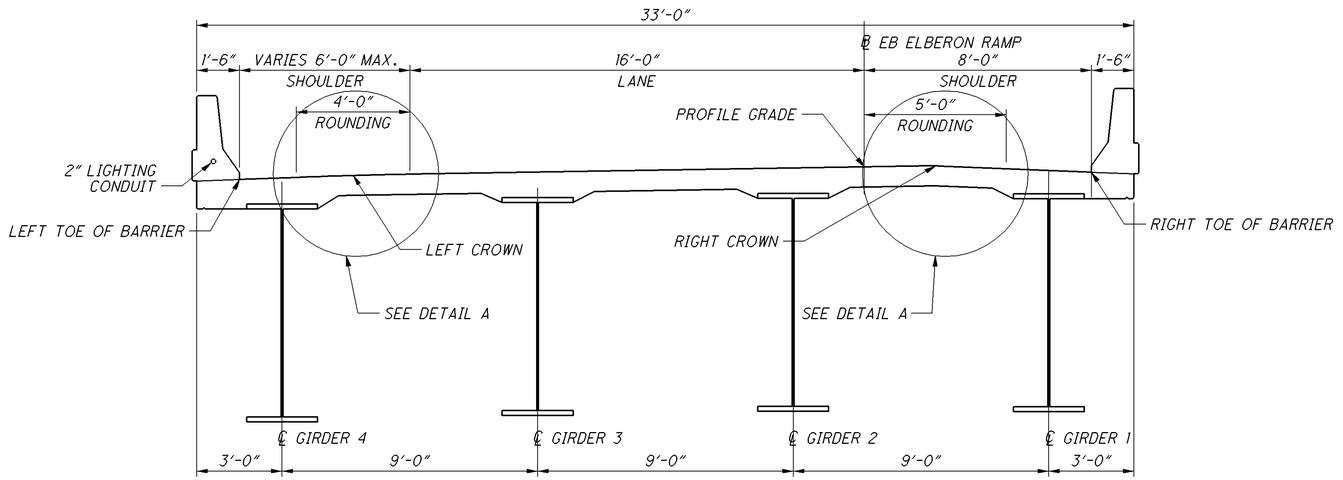
HAM-50-18.79
PID No. 20082

SCREED TABLE

		SPAN 3													SPAN 4									
	SPAN LOCATION	℄ BRG. PIER 2	1/10	2/10	3/10	SPLICE 4	4/10	5/10	6/10	7/10	8/10	SPLICE 5	9/10	℄ BRG. PIER 3	1/10	2/10	SPLICE 6	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ BRG.
LEFT TOE OF BARRIER	STATION	58+36.40	58+53.58	58+70.76	58+87.94	58+91.68	59+05.12	59+22.30	59+39.48	59+56.67	59+73.85	59+75.67	59+91.03	60+08.21	60+20.31	60+32.41	60+39.90	60+44.51	60+56.62	60+68.72	60+80.82	60+92.92	61+05.02	61+17.12	61+29.23
	DECK ELEVATION	531.10	531.03	530.96	530.85	530.80	530.61	530.26	529.84	529.45	529.03	528.98	528.55	528.01	527.59	527.13	526.83	526.65	526.14	525.62	525.13	524.61	524.05	523.48	522.89
	DEFLECTION	0.00	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.04	0.03	0.02	0.01	0.00	0.00	0.02	0.02	0.03	0.04	0.05	0.05	0.05	0.04	0.02	0.00
	SCREED ELEVATION	531.10	531.02	530.96	530.88	530.83	530.65	530.31	529.90	529.49	529.06	529.00	528.56	528.01	527.59	527.15	526.86	526.68	526.18	525.67	525.18	524.65	524.09	523.50	522.89
GIRDER 4	STATION	58+36.40	58+53.58	58+70.76	58+87.94	58+91.68	59+05.12	59+22.30	59+39.48	59+56.67	59+73.85	59+75.67	59+91.03	60+08.21	60+20.31	60+32.41	60+39.90	60+44.51	60+56.62	60+68.72	60+80.82	60+92.92	61+05.02	61+17.12	61+29.23
	DECK ELEVATION	531.16	531.09	531.02	530.91	530.86	530.67	530.32	529.90	529.51	529.09	529.04	528.61	528.07	527.65	527.19	526.89	526.71	526.20	525.68	525.19	524.67	524.11	523.53	522.91
	DEFLECTION	0.00	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.04	0.03	0.02	0.01	0.00	0.00	0.02	0.02	0.03	0.04	0.05	0.05	0.05	0.04	0.02	0.00
	SCREED ELEVATION	531.16	531.08	531.02	530.94	530.89	530.71	530.37	529.96	529.55	529.12	529.06	528.62	528.07	527.65	527.21	526.92	526.74	526.24	525.73	525.24	524.71	524.15	523.55	522.91
LEFT CROWN	STATION	58+36.40	58+53.58	58+70.76	58+87.94	58+91.68	59+05.12	59+22.30	59+39.48	59+56.67	59+73.85	59+75.67	59+91.03	60+08.21	60+20.31	60+32.41	60+39.90	60+44.51	60+56.62	60+68.72	60+80.82	60+92.92	61+05.02	61+17.12	61+29.23
	DECK ELEVATION	531.26	531.19	531.12	531.01	530.96	530.77	530.42	530.00	529.61	529.19	529.14	528.71	528.17	527.75	527.29	526.99	526.81	526.30	525.78	525.29	524.77	524.21	523.63	523.01
	DEFLECTION	0.00	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.04	0.03	0.02	0.01	0.00	0.00	0.02	0.02	0.03	0.04	0.05	0.05	0.05	0.04	0.02	0.00
	SCREED ELEVATION	531.26	531.18	531.12	531.04	530.99	530.81	530.47	530.06	529.65	529.22	529.16	528.72	528.17	527.75	527.31	527.02	526.84	526.34	525.83	525.34	524.81	524.25	523.65	523.01
GIRDER 3	STATION	58+36.40	58+53.58	58+70.76	58+87.94	58+91.29	59+05.12	59+22.30	59+39.48	59+56.67	59+73.85	59+75.77	59+91.03	60+08.21	60+20.31	60+32.41	60+39.44	60+44.51	60+56.62	60+68.72	60+80.82	60+92.92	61+05.02	61+17.12	61+29.23
	DECK ELEVATION	531.36	531.29	531.22	531.12	531.07	530.90	530.59	530.22	529.84	529.42	529.37	528.94	528.40	527.98	527.53	527.25	527.04	526.53	526.00	525.48	524.93	524.35	523.73	523.08
	DEFLECTION	0.00	0.00	0.01	0.03	0.03	0.04	0.06	0.06	0.05	0.03	0.03	0.01	0.00	0.01	0.02	0.03	0.03	0.04	0.05	0.06	0.05	0.04	0.02	0.00
	SCREED ELEVATION	531.36	531.29	531.23	531.14	531.10	530.94	530.65	530.28	529.89	529.45	529.40	528.95	528.40	527.98	527.54	527.27	527.08	526.58	526.06	525.54	524.98	524.38	523.75	523.08
GIRDER 2	STATION	58+36.40	58+53.58	58+70.76	58+87.94	58+92.46	59+05.12	59+22.30	59+39.48	59+56.67	59+73.85	59+75.70	59+91.03	60+08.21	60+20.31	60+32.41	60+39.49	60+44.51	60+56.62	60+68.72	60+80.82	60+92.92	61+05.02	61+17.12	61+29.23
	DECK ELEVATION	531.50	531.44	531.37	531.26	531.21	531.08	530.84	530.53	530.17	529.75	529.70	529.27	528.72	528.30	527.85	527.57	527.37	526.85	526.31	525.75	525.15	524.53	523.87	523.18
	DEFLECTION	0.00	0.00	0.01	0.03	0.03	0.05	0.06	0.06	0.05	0.03	0.03	0.01	0.00	0.01	0.02	0.03	0.03	0.05	0.06	0.06	0.05	0.04	0.02	0.00
	SCREED ELEVATION	531.50	531.43	531.37	531.29	531.25	531.13	530.90	530.59	530.22	529.78	529.72	529.28	528.72	528.31	527.87	527.60	527.40	526.90	526.37	525.81	525.21	524.57	523.89	523.18
PGL	STATION	58+36.40	58+53.58	58+70.76	58+87.94	58+92.46	59+05.12	59+22.30	59+39.48	59+56.67	59+73.85	59+75.70	59+91.03	60+08.21	60+20.31	60+32.41	60+39.49	60+44.51	60+56.62	60+68.72	60+80.82	60+92.92	61+05.02	61+17.12	61+29.23
	DECK ELEVATION	531.54	531.48	531.41	531.30	531.26	531.13	530.90	530.61	530.26	529.84	529.79	529.36	528.81	528.39	527.94	527.66	527.46	526.94	526.40	525.82	525.22	524.58	523.91	523.21
	DEFLECTION	0.00	0.00	0.01	0.03	0.03	0.05	0.06	0.06	0.05	0.03	0.03	0.01	0.00	0.01	0.02	0.03	0.03	0.05	0.06	0.06	0.05	0.04	0.02	0.00
	SCREED ELEVATION	531.54	531.47	531.41	531.33	531.29	531.18	530.96	530.67	530.31	529.87	529.81	529.37	528.81	528.40	527.96	527.69	527.49	526.99	526.46	525.88	525.27	524.62	523.93	523.21
RIGHT CROWN	STATION	58+36.40	58+53.58	58+70.76	58+87.94	58+92.90	59+05.12	59+22.30	59+39.48	59+56.67	59+73.85	59+75.43	59+91.03	60+08.21	60+20.31	60+32.41	60+39.76	60+44.51	60+56.62	60+68.72	60+80.82	60+92.92	61+05.02	61+17.12	61+29.23
	DECK ELEVATION	531.58	531.52	531.45	531.34	531.30	531.18	530.97	530.70	530.35	529.93	529.88	529.45	528.90	528.48	528.03	527.74	527.55	527.03	526.49	525.90	525.28	524.63	523.95	523.24
	DEFLECTION	0.00	0.00	0.01	0.03	0.03	0.05	0.06	0.06	0.05	0.03	0.03	0.01	0.00	0.01	0.02	0.03	0.03	0.05	0.06	0.06	0.05	0.04	0.02	0.00
	SCREED ELEVATION	531.58	531.51	531.45	531.37	531.33	531.23	531.03	530.76	530.40	529.96	529.91	529.46	528.90	528.49	528.05	527.77	527.58	527.08	526.54	525.96	525.33	524.67	523.97	523.24
GIRDER 1	STATION	58+36.40	58+53.58	58+70.76	58+87.94	58+93.33	59+05.12	59+22.30	59+39.48	59+56.67	59+73.85	59+75.16	59+91.03	60+08.21	60+20.31	60+32.41	60+40.02	60+44.51	60+56.62	60+68.72	60+80.82	60+92.92	61+05.02	61+17.12	61+29.23
	DECK ELEVATION	531.42	531.36	531.29	531.18	531.13	531.02	530.81	530.54	530.19	529.77	529.73	529.29	528.74	528.32	527.87	527.57	527.39	526.87	526.33	525.74	525.12	524.47	523.79	523.08
	DEFLECTION	0.00	0.00	0.01	0.03	0.03	0.05	0.06	0.06	0.05	0.03	0.03	0.01	0.00	0.01	0.02	0.03	0.03	0.05	0.06	0.06	0.06	0.04	0.02	0.00
	SCREED ELEVATION	531.42	531.35	531.29	531.21	531.17	531.07	530.87	530.60	530.24	529.80	529.76	529.30	528.74	528.33	527.89	527.60	527.42	526.92	526.38	525.80	525.18	524.51	523.81	523.08
RIGHT TOE OF BARRIER	STATION	58+36.40	58+53.58	58+70.76	58+87.94	58+93.33	59+05.12	59+22.30	59+39.48	59+56.67	59+73.85	59+75.16	59+91.03	60+08.21	60+20.31	60+32.41	60+40.02	60+44.51	60+56.62	60+68.72	60+80.82	60+92.92	61+05.02	61+17.12	61+29.23
	DECK ELEVATION	531.36	531.30	531.23	531.12	531.07	530.96	530.75	530.48	530.13	529.71	529.67	529.23	528.68	528.26	527.81	527.51	527.33	526.81	526.27	525.68	525.06	524.41	523.73	523.02
	DEFLECTION	0.00	0.00	0.01	0.03	0.03	0.05	0.06	0.06	0.05	0.03	0.03	0.01	0.00	0.01	0.02	0.03	0.03	0.05	0.06	0.06	0.06	0.04	0.02	0.00
	SCREED ELEVATION	531.36	531.29	531.23	531.15	531.11	531.01	530.81	530.54	530.18	529.74	529.70	529.24	528.68	528.27	527.83	527.54	527.36	526.86	526.32	525.74	525.12	524.45	523.75	523.02



DETAIL A



SCREED POINT LOCATIONS

NOTES:

1. SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAP		3102793	

SCREED TABLE 2 OF 2
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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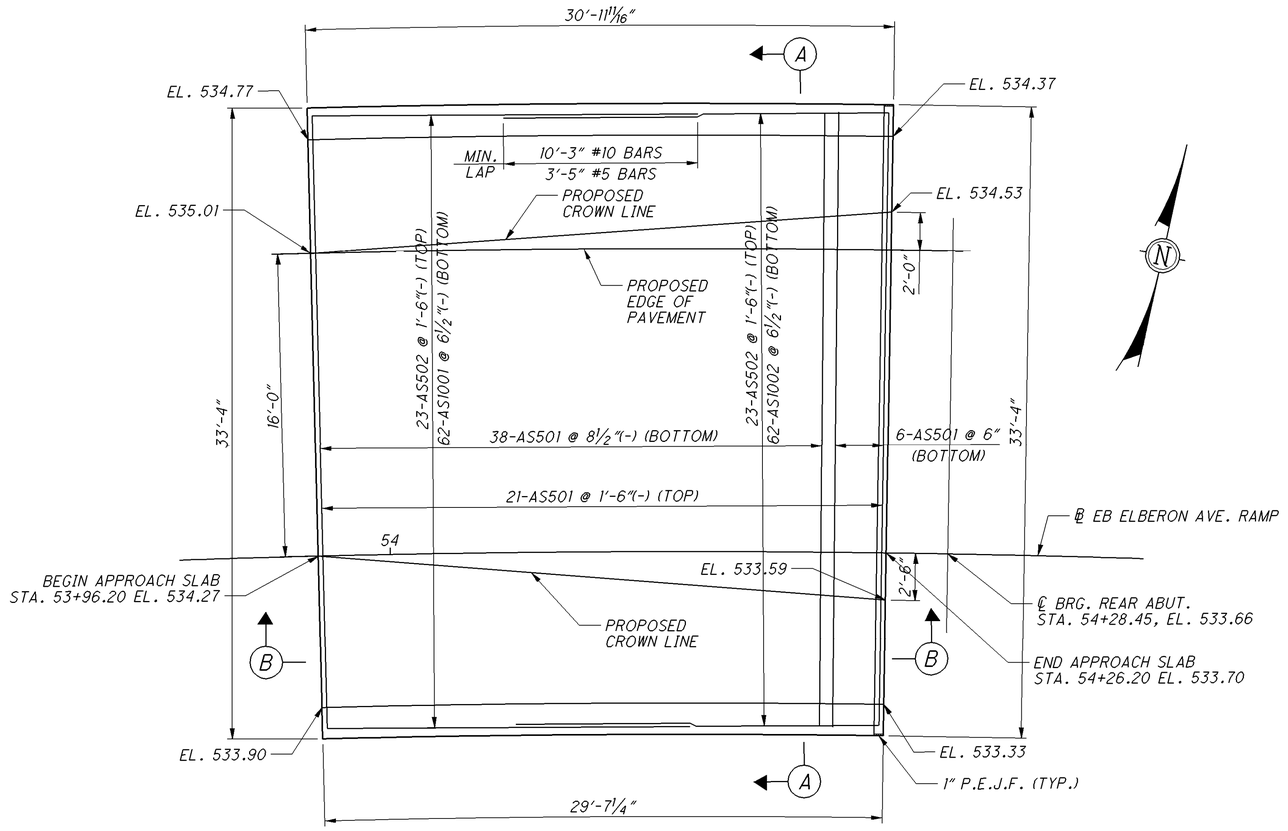
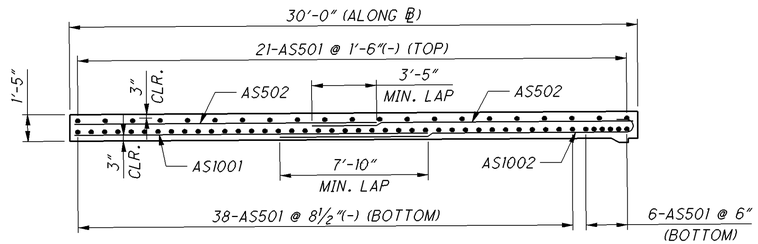
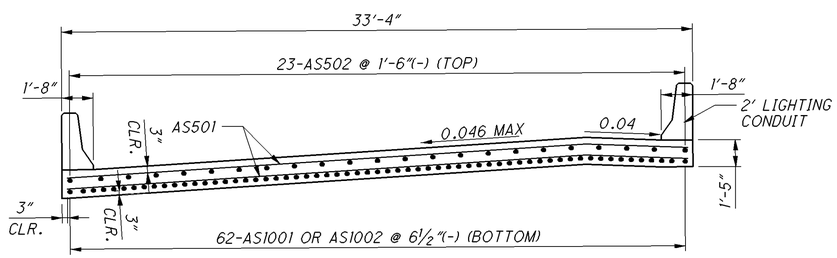


REAR APPROACH SLAB PLAN



SECTION B-B



SECTION A-A

NOTE:

1. SEE STANDARD DRAWING AS-1-81 FOR MORE DETAILS.
2. SEE HAM-050-1881 FOR FORWARD APPROACH SLAB DETAILS.

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312 ELM STREET
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APPROACH SLAB DETAILS
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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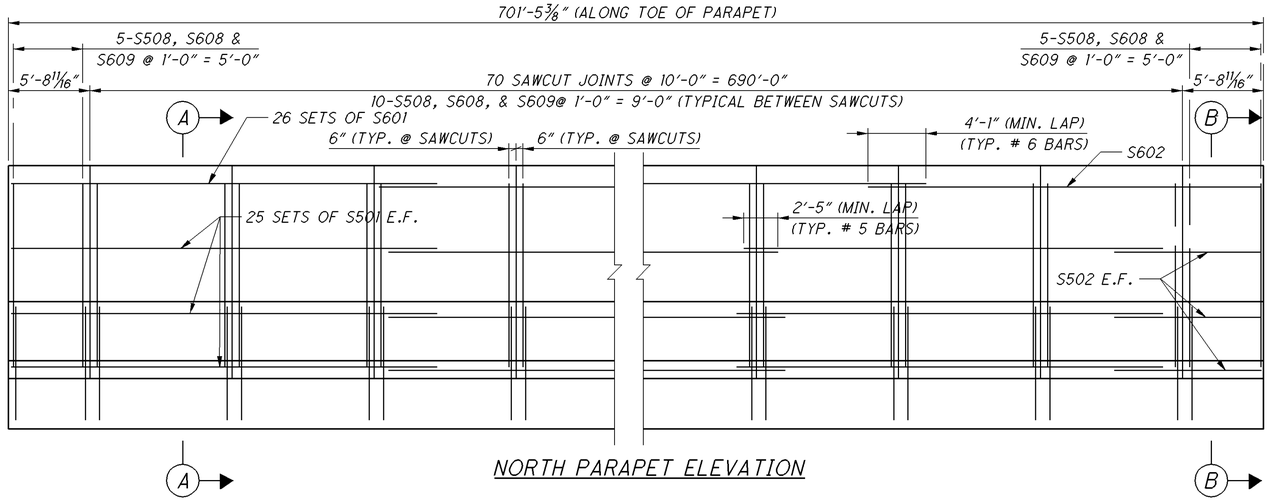
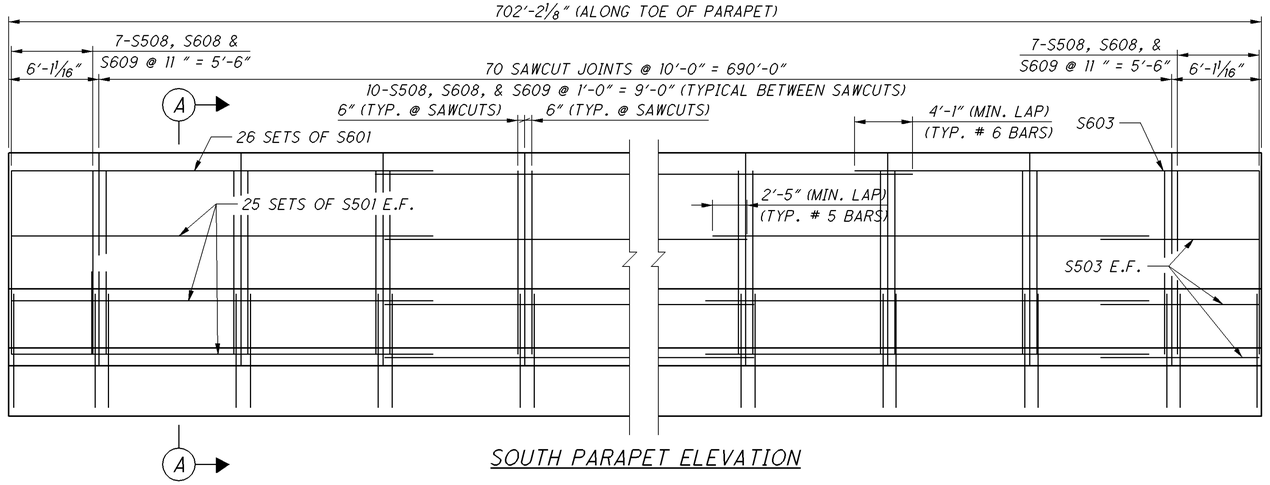


NORTH PARAPET ELEVATION



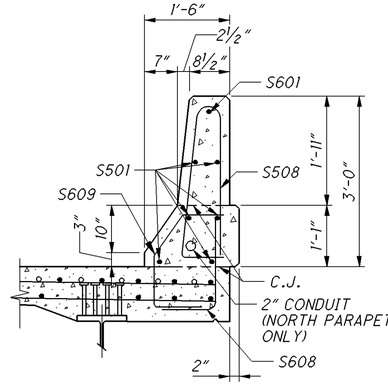
SOUTH PARAPET ELEVATION

NOTE:

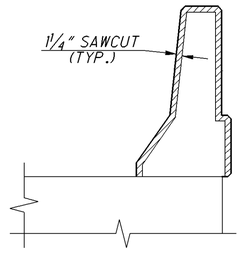
1. SEE STANDARD CONSTRUCTION DRAWING BR-1 FOR ADDITIONAL NOTES AND DETAILS.

2. PROVIDE 2" RIGID GALVANIZED STEEL CONDUIT, INCLUDING CAPPED VERTICAL EXTENSION. (SEE LIGHTING PLAN SHEETS FOR DETAILS) SEE SHEET 32/39 FOR APPROACH SLAB CONDUIT.

3. PROVIDE EXPANSION COUPLINGS. (SEE LIGHTING GENERAL NOTES FOR DETAILS)

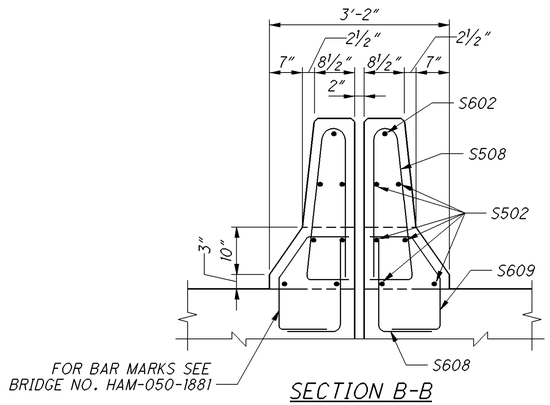


SECTION A-A

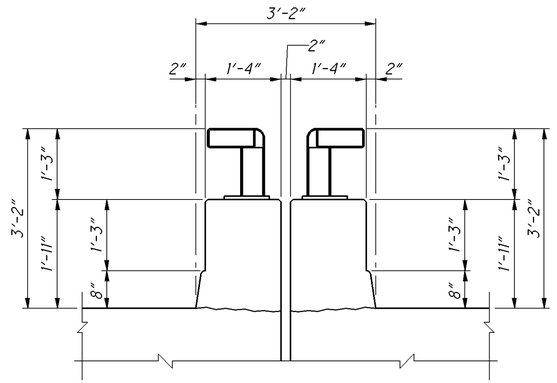


DETAIL A

(SECTION THROUGH SAWCUT)
SAWCUT PERIMETER = 7'-1"

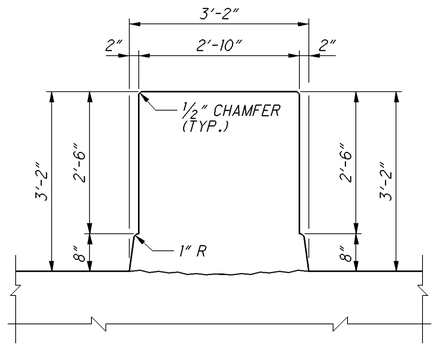


SECTION B-B



SECTION B-B

ALTERNATE



SECTION H-H

ALTERNATE

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DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

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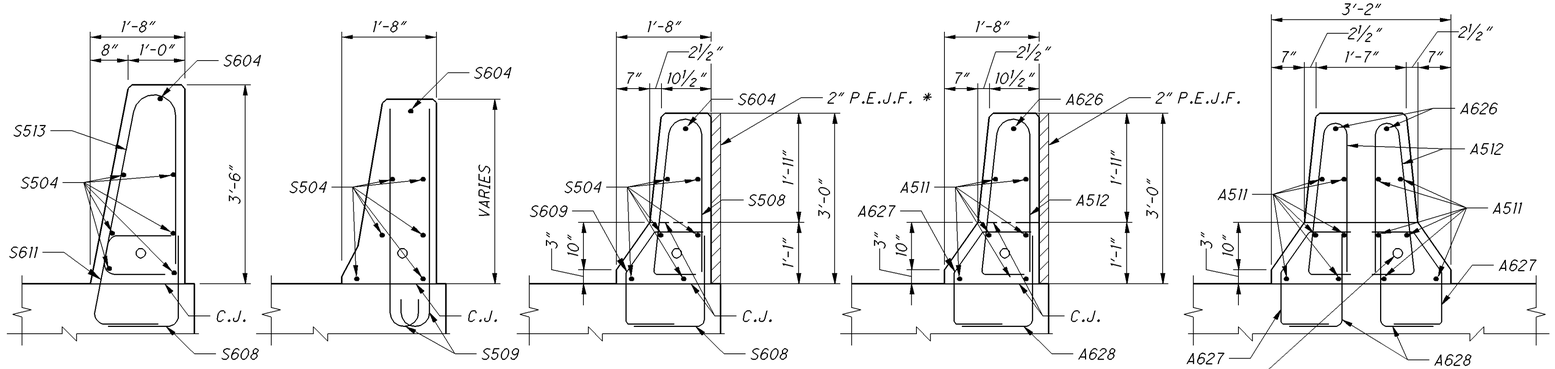
PARAPET DETAILS

BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082



SECTION C-C

SECTION D-D

(REAR NORTH SHOWN OTHERS SIMILAR)

SECTION E-E

SECTION F-F

SECTION G-G

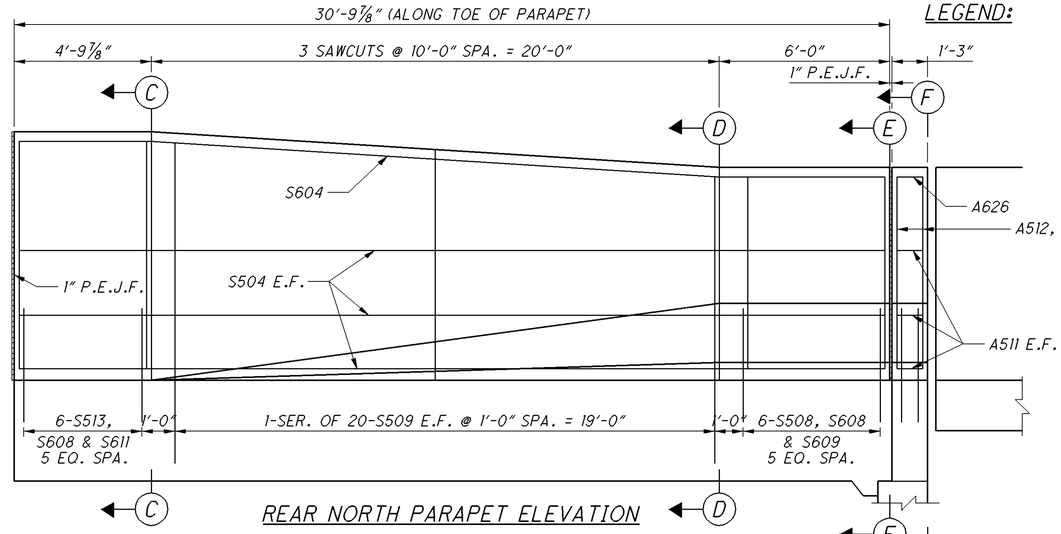
SECTION H-H

NOTE:

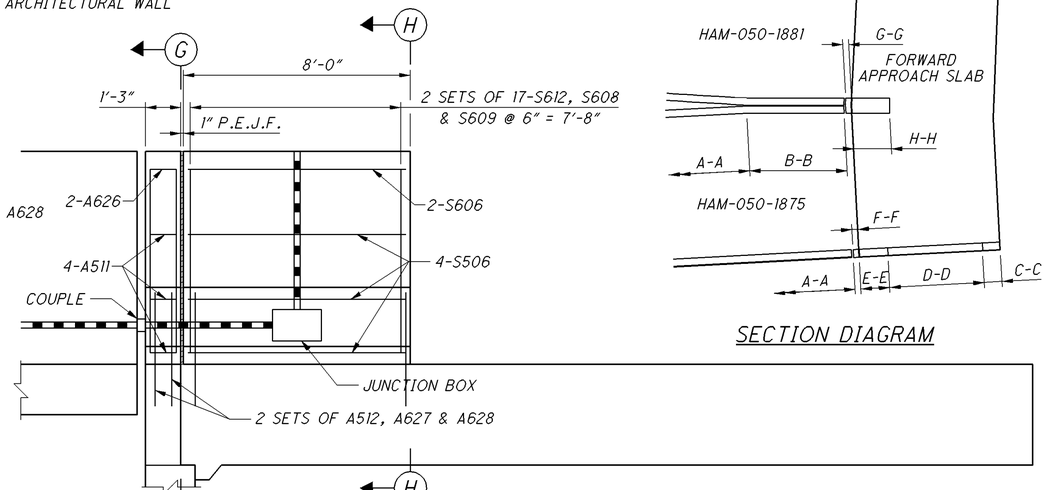
1. 2" LIGHTING CONDUIT TO BE PLACED IN NORTH PARAPET ONLY.
2. FOR ALTERNATE SECTION H-H, SEE SHEET 31/39 .

LEGEND:

* 2" P.E.J.F. ONLY NEEDED IN AREA OF ARCHITECTURAL WALL

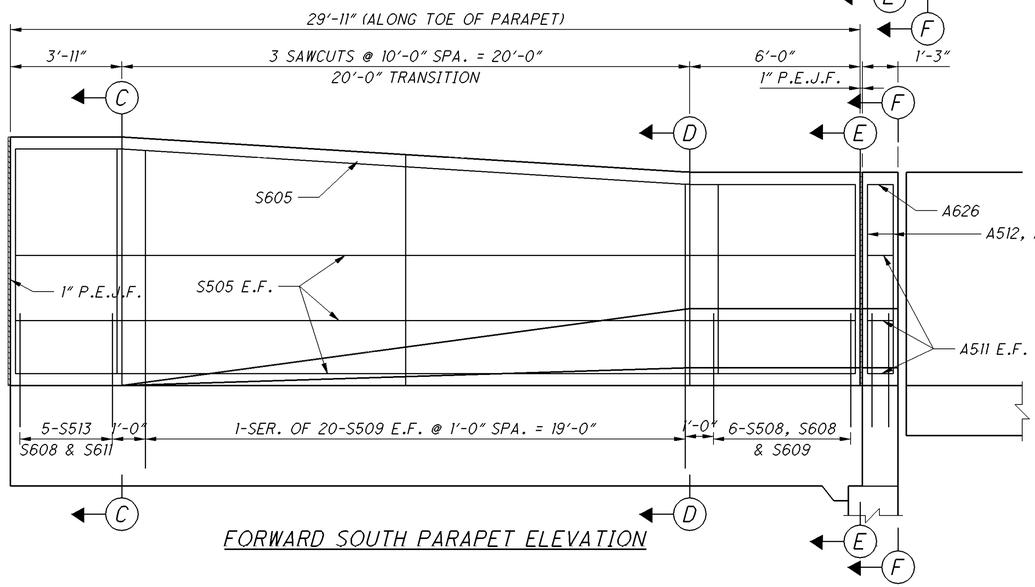


REAR NORTH PARAPET ELEVATION

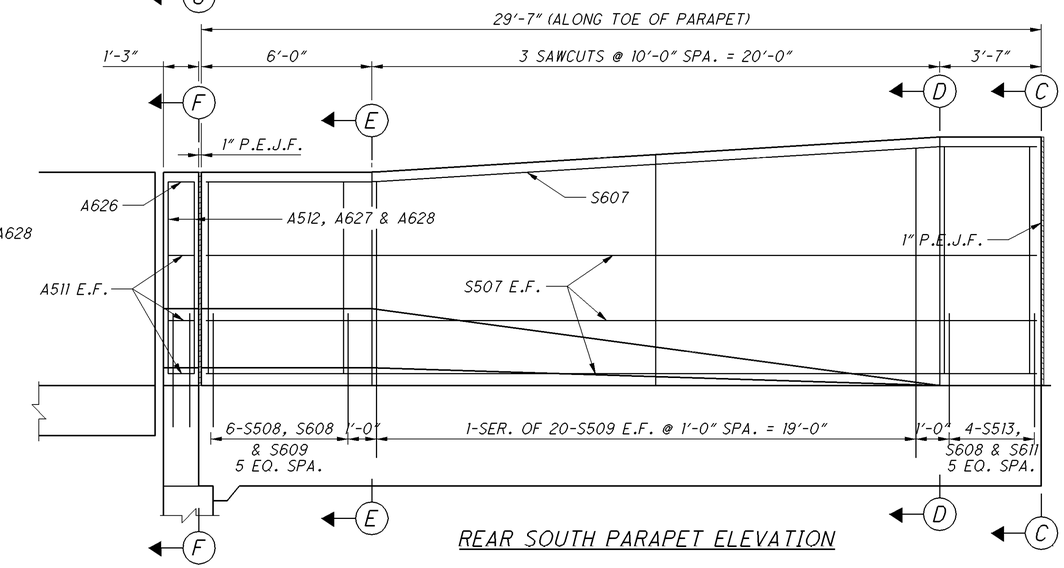


FORWARD NORTH PARAPET ELEVATION

SECTION DIAGRAM



FORWARD SOUTH PARAPET ELEVATION



REAR SOUTH PARAPET ELEVATION

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
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PARAPET DETAILS
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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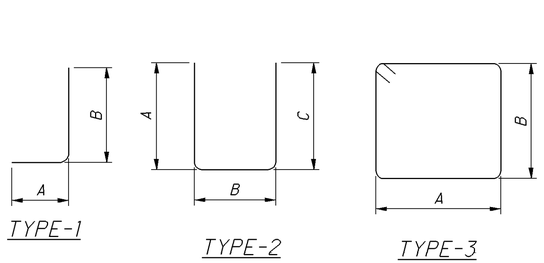
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
SUPERSTRUCTURE											
S401	1150	30'-0"	23,046	STR							
S402	46	18'-9"	576	STR							
S501	1314	30'-0"	41,115	STR							
S502	6	11'-6"	72	STR							
S503	6	12'-3"	77	STR							
S504	6	30'-5"	190	STR							
S505	6	29'-7"	185	STR							
S506	12	3'-8"	46	STR							
S507	6	29'-3"	183	STR							
S508	1422	6'-0"	8,899	23	8"	2'-9"	2'-6"			1½"	
	6	4'-7"			4'-0"						
S509	SER. OF	TO	611	16	TO						⅜"
	20	5'-2"			4'-7"						
S510	39	7'-8"	312	STR							
S511	450	21'-1"	9,895	STR							
S512	135	25'-6"	3,591	STR							
S513	15	7'-5"	116	23	1'-1"	3'-2"	3'-0"			2¾"	
S601	52	30'-0"	2,343	STR							
S602	1	27'-3"	41	STR							
S603	1	28'-0"	42	STR							
S604	1	30'-5"	46	STR							
S605	1	29'-7"	44	STR							
S606	2	3'-8"	11	STR							
S607	1	29'-3"	44	STR							
S608	1471	2'-5"	5,339	1	11"	1'-8"					
S609	1456	3'-10"	8,383	14	10½"	1'-8"	8½"	6"	9"		
S610	2620	32'-8"	128,551	STR							
S611	15	3'-8"	83	30	1'-8"	1'-1"					
S612	34	6'-0"	306		8"	2'-9"	2'-6"			1½"	
SUPERSTRUCTURE TOTAL			234,147								
LIGHT PILASTER											
L505	52	2.83	154	2	7"	1'-10"	7"				
L506	52	9.25	502	9	6"	3'-7"	2'-4"	3'-7"			
L507	78	7.25	590	33	1'-10"	1'-4"	1'-0"	6"			
L508	52	3.58	194	STR							
LIGHT PILASTER TOTAL			1,440								
GRAND TOTAL			235,587								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
REAR APPROACH SLAB											
AS501	65	32'-10"	2,226	STR							
AS502	46	16'-6"	792	STR							
AS1001	62	20'-9"	1,342	STR							
AS1002	62	22'-2"	1,434	16	20'-9"						
APPROACH SLAB TOTAL			5,794								
FOR INFORMATION ONLY NOT INCLUDED WITH ITEM 509.											

NOTE:

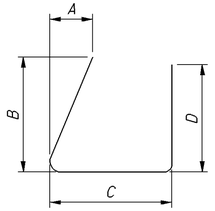
1. FOR FORWARD APPROACH SLAB SEE BRIDGE NO. HAM-050-1881.



TYPE-1

TYPE-2

TYPE-3



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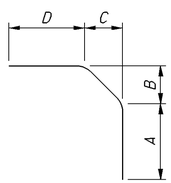

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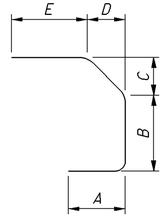

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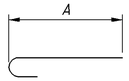

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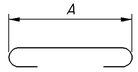

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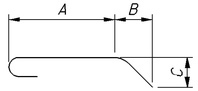

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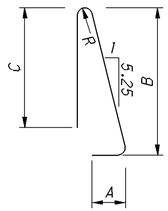
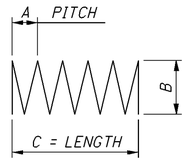
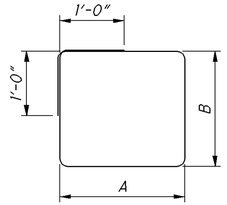


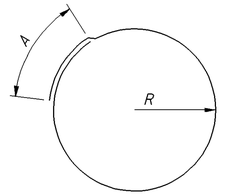
TYPE-23



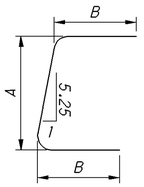
TYPE - 27



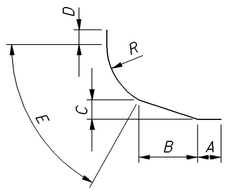
TYPE-28



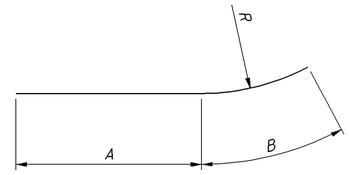
TYPE - 29



TYPE 30



TYPE-31



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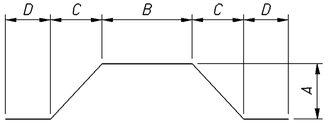

TYPE - 33

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DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAP		3102793	

REINFORCING STEEL LIST

BRIDGE NO. HAM-050-1875

EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79

PID No. 20082

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
PIER 1											
SP401	1	21'-1"	925	27	4½"	7'-6"	21'-1"				
P401	2	25'-2""	34	29	1'-7"					3'-9"	
P402	1	24'-8"	16	29	1'-7"					3'-8"	
P403	1	24'-1"	16	29	1'-7"					3'-7"	
P404	1	23'-7"	16	29	1'-7"					3'-6"	
P405	1	22'-7"	15	29	1'-7"					3'-4"	
P406	1	21'-6"	14	29	1'-7"					3'-2"	
P407	1	19'-11"	13	29	1'-7"					2'-11"	
P501	18	20'-8"	388	STR.							
P502	14	26'-8"	390	STR.							
P601	2	28'-6"	86	STR.							
P602	2	24'-3"	73	STR.							
P603	2	16'-3"	49	STR.							
P604	5	8'-0"	60	STR.							
P605	192	15'-4"	4,422	2	6'-4"	3'-0"	6'-4"				
P606	5	19'-8"	148	31	2'-11"	6'-8¼"	2'-2"	1'-9"		4'-9"	
P607	5	19'-11"	150	31	2'-11"	6'-8¼"	2'-2"	2'-0"		4'-9"	
P608	16	13'-0'	312	2	5'-2"	3'-0"	5'-2"				
P609	8	10'-10"	130	2	4'-1"	3'-0"	4'-1"				
P610	6	8'-10"	80	2	2'-3"	4'-8"	2'-3"				
P611	12	15'-0"	270	28	3'-8"	3'-1"					
P612	16	4'-6"	108	1	1'-6"	3'-1 "					
P801	4	32'-0"	342	STR.							
P802	2	31'-4"	167	STR.							
P803	2	30'-4"	162	STR.							
P901	44	4'-4"	648	1	1'-6"	3'-1"					
P1101	49	29'-10"	7,767	17	26'-8"						
P1102	44	23'-10"	5,572	17	20'-8"						
P1103	55	20'-7"	6,015	32	13'-3"	7'-4"				29'-4"	
P1104	55	26'-4"	7,695	1	2'-0"	24'-8"					
P1105	12	35'-2"	2,242	17	32'-0"						
P1106	16	32'-0"	2,720	STR.							
PIER 1 SUB-TOTAL			41,045								
PIER 2											
SP402	1	20'-6"	901	27	4½"	7'-6"	20'-6"				
P401	2	25'-2"	34	29	1'-7"					3'-9"	
P402	1	24'-8"	16	29	1'-7"					3'-8"	
P403	1	24'-1"	16	29	1'-7"					3'-7"	
P404	1	23'-7"	16	29	1'-7"					3'-6"	
P405	1	22'-7"	15	29	1'-7"					3'-4"	
P406	1	21'-6"	14	29	1'-7"					3'-2"	
P407	1	19'-11"	13	29	1'-7"					2'-11"	
P503	16	17'-8"	295	STR.							
P504	12	22'-8"	284	STR.							
P601	2	28'-6"	86	STR.							
P602	2	24'-3"	73	STR.							
P603	2	16'-3"	49	STR.							
P604	5	8'-0"	60	STR.							
P605	192	15'-4"	4,422	2	6'-4"	3'-0"	6'-4"				
P606	5	19'-8'	148	31	2'-11'	6'-8¼"	2'-2"	1'-9"		4'-9"	
P607	5	19'-11"	150	31	2'-11"	6'-8¼"	2'-2"	2'-0"		4'-9"	
P608	16	13'-0"	312	2	5'-2"	3'-0"	5'-2"				
P609	8	10'-10'	130	2	4'-1"	3'-0"	4'-1"				
P610	6	8'-10'	80	2	2'-3"	4'-8"	2'-3"				

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
PIER 2 (CONT.)											
P801	4	32'-0"	342	STR.							
P802	2	31'-4"	167	STR.							
P803	2	30'-4"	162	STR.							
P1103	55	20'-7"	6,015	32	13'-3"	7'-4"				29'-4"	
P1105	12	35'-2"	2,242	17	32'-0'						
P1106	16	32'-0'	2,720	STR.							
P1107	55	25'-10"	7,549	1	2'-0"	24'-2"					
P1108	34	20'-10"	3,763	17	17'-8"						
P1109	37	25'-10"	5,078	17	22'-8"						
PIER 2 SUB-TOTAL			35,152								
PIER 3											
SP403	1	18'-8"	824	27	4½"	7'-6"	18'-8"				
P401	2	25'-2"	34	29	1'-7"					3'-9"	
P402	1	24'-8"	16	29	1'-7"					3'-8"	
P403	1	24'-1"	16	29	1'-7"					3'-7"	
P404	1	23'-7"	16	29	1'-7"					3'-6"	
P405	1	22'-7"	15	29	1'-7"					3'-4"	
P406	1	21'-6"	14	29	1'-7"					3'-2"	
P407	1	19'-11"	13	29	1'-7"					2'-11"	
P503	13	17'-8"	240	STR.							
P505	12	18'-8"	234	STR.							
P604	5	8'-0"	60	STR.							
P606	5	19'-8"	148	31	2'-11"	6'-8¼"	2'-2"	1'-9"		4'-9"	
P608	20	13'-0"	391	2	5'-2"	3'-0"	5'-2"				
P609	4	10'-10"	65	2	4'-1"	3'-0"	4'-1"				
P610	6	8'-10"	80	2	2'-3"	4'-8"	2'-3"				
P611	12	15'-0"	270	28	3'-8"	3'-1"					
P612	16	4'-6"	108	1	1'-6"	3'-1"					
P613	2	29'-5"	88	STR.							
P614	2	26'-6"	79	STR.							
P615	2	20'-0"	60	STR.							
P616	5	20'-8"	155	31	2'-11"	6'-8¼"	2'-2"	2'-6"		4'-9"	
P617	112	15'-10"	2,664	2	6'-7"	3'-0"	6'-7"				
P801	4	32'-0"	342	STR.							
P804	2	31'-8"	169	STR.							
P805	2	30'-9"	164	STR.							
P901	44	4'-4"	509	1	1'-6"	3'-1"					
P1103	55	20'-7"	6,015	32	13'-3"	7'-4"				29'-4"	
P1105	12	35'-2"	2,242	17	32'-0"						
P1106	12	32'-0"	2,040	STR.							
P1110	55	24'-2"	7,013	1	2'-0"	22'-4"					
P1111	28	20'-10"	3,099	17	17'-8"						
P1112	25	21'-10'	2,900	17	18'-8"						
PIER 3 SUB-TOTAL			30,083								
PIER TOTAL			106,280								

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED PJL | DRAWN LEL | REVIEWED EBS | DATE 11/16/10 | CHECKED SAP | REVISED | STRUCTURE FILE NUMBER 3102793

REINFORCING STEEL LIST
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
REAR ABUTMENT											
A501	30	21'-1"	660	1	10"	20'-4"					
A502	2	21'-3"	44	1	10"	20'-6"					
A503	10	16'-3"	169	1	10"	15'-6"					
A504	6	4'-5"	28	13	1'-6"	1'-0"	1'-0"				
A505	6	4'-5"	28	2	1'-6"	1'-8"	1'-6"				
A506	5	16'-11"	88	2	10"	15'-6"	10"				
A507	0	30'-1"	0	1	10"	29'-4"					
A508	0	29'-1"	0	1	10"	28'-4"					
A509	0	30'-9"	0	1	10"	30'-0"					
A510	0	7'-7"	0	1	1'-9"	5'-11"					
A511	12	11"	11	STR							
A512	4	6'-0"	25	23	8"	2'-9"	2'-6"			2 9/16"	
A601	34	16'-4"	834	3	5'-11"	2'-7"					
A602	11	14'-8"	242	3	3'-11"	3'-9"					
A603	9	15'-6"	210	3	3'-11"	4'-2"					
A604	14	16'-4"	343	3	3'-11"	4'-7"					
A605	34	6'-0"	306	2	2'-9"	10"	2'-9"				
A606	34	15'-11"	813	2	7'-5"	1'-5"	7'-5"				
A607	34	16'-3"	830	2	7'-7'	1'-5"	7'-7"				
A608	7	29'-2"	307	2	13'-11"	1'-8"	13'-11"				
A609	14	13'-6"	284	2	6'-1"	1'-8"	6'-1"				
A610	40	7'-10"	471	STR							
A611	6	20'-8"	186	3	7'-10"	2'-10"					
A612	7	27'-2"	286	2	12'-11"	1'-8"	12'-11"				
A613	6	10'-10"	98	28	2'-1'	2'-9"	1'-0"				
A614	4	4'-2"	25	1	1'-7"	2'-9"					
A615	0	15'-3"	0	2	7'-1"	1'-5"	7'-1"				
A616	0	26'-10"	0	2	12'-9"	1'-8"	12'-9"				
A617	0	8'-0"	0	STR							
A618	0	21'-0"	0	3	8'-0"	2'-10"					
A619	0	15'-8"	0	3	4'-3"	3'-11"					
A620	0	15'-10"	0	3	4'-3"	4'-0"					
A621	0	17'-0"	0	3	4'-3"	4'-7"					
A622	0	17'-8"	0	3	4'-3"	4'-11"					
A623	0	15'-6"	0	3	4'-3"	3'-10"					
A624	0	16'-8"	0	3	5'-11"	2'-9"					
A625	0	17'-10"	0	3	5'-11"	3'-4"					
A626	2	11"	3	STR							
A627	4	3'-10"	23	14	10 9/16"	1'-8"	8 5/8"	6"	9"		
A628	4	2'-5"	15	1	11"	1'-8"					
A801	24	22'-11"	1469	1	1'-4"	21'-10"					
A802	0	20'-7"	0	1	1'-4"	19'-5"					
A803	0	19'-5"	0	STR							
A901	10	4'-1"	139	1	1'-7"	2'-9"					
A902	4	2'-5"	33	STR							
D801	23	5'-2"	316	18	2'-10"	11"	1'-0"				
REAR ABUT. SUB-TOTAL			8,286								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
FORWARD ABUTMENT											
A501		21'-1"	0	1	10"	20'-4"					
A502		21'-3"	0	1	10"	20'-6"					
A503		16'-3"	0	1	10"	15'-6"					
A504	3	4'-5"	14	13	1'-6"	1'-0"	1'-0"				
A505	3	4'-5"	14	2	1'-6"	1'-8"	1'-6"				
A506		16'-11"	0	2	10"	15'-6"	10"				
A507	1	30'-1"	31	1	10"	29'-4"					
A508	13	29'-1"	394	1	10"	28'-4"					
A509	5	30'-9"	160	1	10"	30'-0"					
A510	5	7'-7"	40	1	1'-9"	5'-11"					
A511	18	11"	17	STR							
A512	6	6'-0"	38	23	8"	2'-9"	2'-6"			2 9/16"	
A601	30	16'-4"	736	3	5'-11"	2'-7"					
A602		14'-8"	0	3	3'-11"	3'-9"					
A603		15'-6"	0	3	3'-11"	4'-2"					
A604		16'-4"	0	3	3'-11"	4'-7"					
A605	33	6'-0"	297	2	2'-9"	10"	2'-9"				
A606	33	15'-11"	789	2	7'-5"	1'-5"	7'-5"				
A607		16'-3"	0	2	7'-7'	1'-5"	7'-7"				
A608		29'-2"	0	2	13'-11"	1'-8"	13'-11"				
A609	7	13'-6"	142	2	6'-1"	1'-8"	6'-1"				
A610		7'-10"	0	STR							
A611		20'-8"	0	3	7'-10"	2'-10"					
A612		27'-2"	0	2	12'-11"	1'-8"	12'-11"				
A613	6	10'-10"	98	28	2'-1'	2'-9"	1'-0"				
A614	4	4'-2"	25	1	1'-7"	2'-9"					
A615	33	15'-3"	756	2	7'-1"	1'-5"	7'-1"				
A616	7	26'-10"	282	2	12'-9"	1'-8"	12'-9"				
A617	20	8'-0"	240	STR							
A618	3	21'-0"	95	3	8'-0"	2'-10"					
A619	28	15'-8"	659	3	4'-3"	3'-11"					
A620	1	15'-10"	24	3	4'-3"	4'-0"					
A621	1	17'-0"	26	3	4'-3"	4'-7"					
A622	1	17'-8"	27	3	4'-3"	4'-11"					
A623	1	15'-6"	23	3	4'-3"	3'-10"					
A624	1	16'-8"	25	3	5'-11"	2'-9"					
A625	1	17'-10"	27	3	5'-11"	3'-4"					
A626	3	11"	4	STR							
A627	6	3'-10"	35	14	10 9/16"	1'-8"	8 5/8"	6"	9"		
A628	6	2'-5"	22	1	11"	1'-8"					
A801		22'-11"	0	1	1'-4"	21'-10"					
A802	18	20'-7"	989	1	1'-4"	19'-5"					
A803	6	19'-5"	311	STR							
A901	10	4'-1"	139	1	1'-7"	2'-9"					
A902	4	2'-5"	33	STR							
D801	22	5'-2"	303	18	2'-10"	11"	1'-0"				
FWD. ABUT.SUB-TOTAL			6,815								
ABUTMENT TOTAL			15,101								

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED PJL | DRAWN LEL | REVIEWED EBS | DATE 11/16/10
CHECKED SAP | REVISED | STRUCTURE FILE NUMBER 3102793

REINFORCING STEEL LIST
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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472
657

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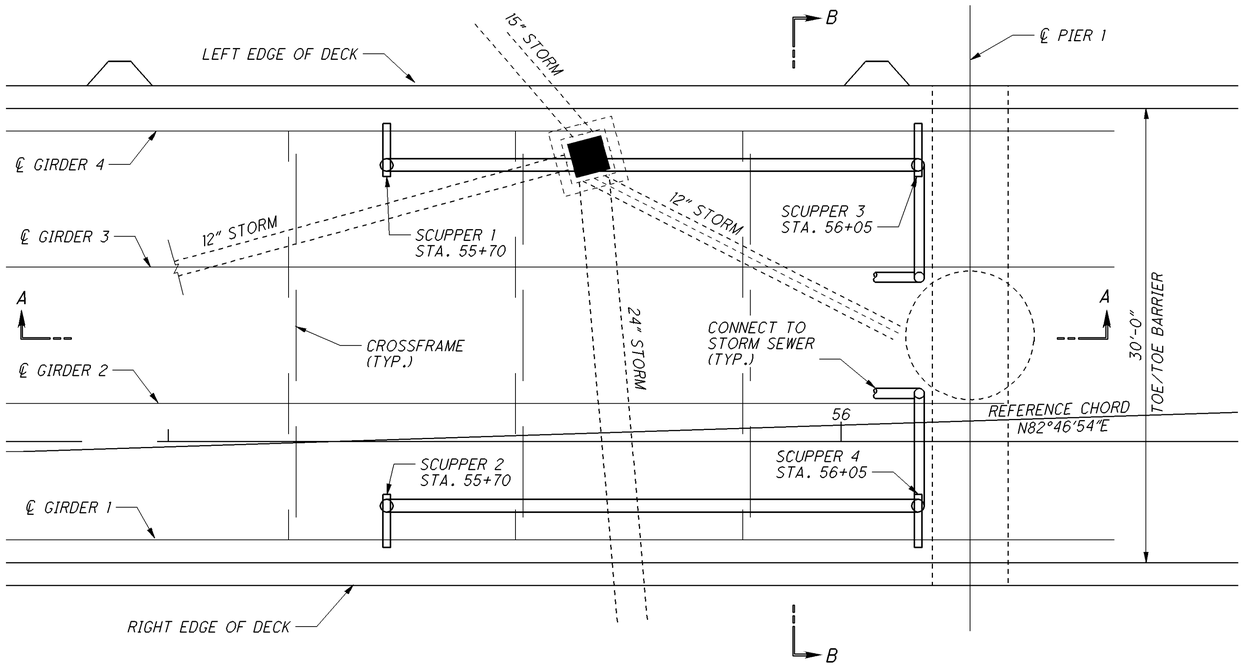
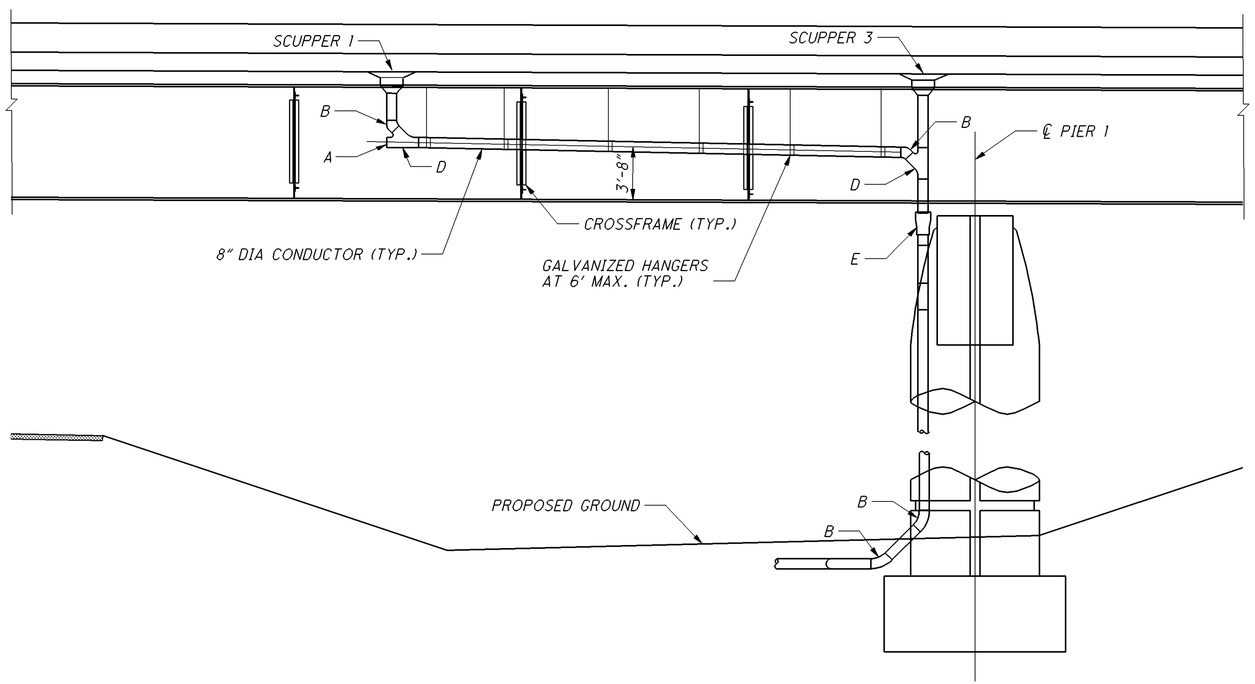
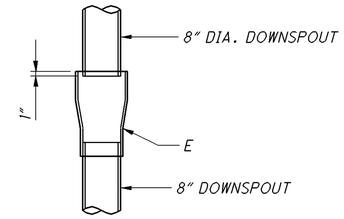


PARTIAL PLAN

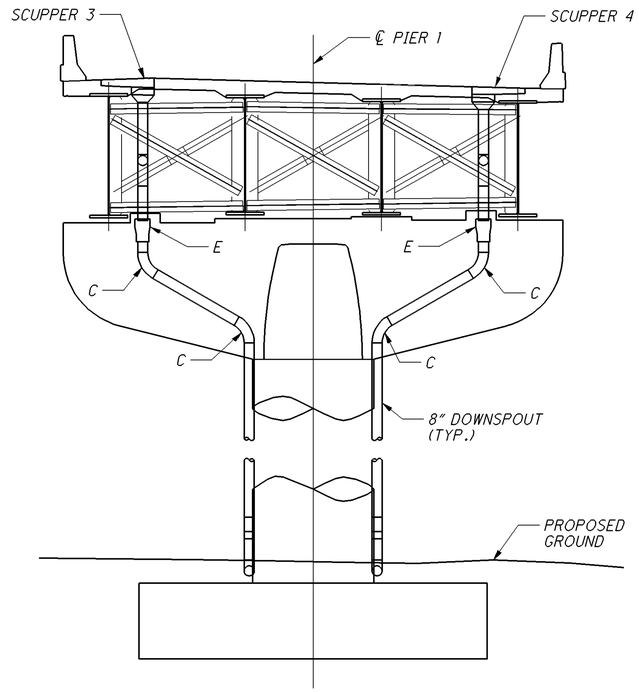


SECTION A-A



REDUCER DETAIL

A	CLEANOUT
B	45° BEND
C	60° BEND
D	LATERAL
E	12X8 REDUCER



SECTION B-B

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAP		3102793	

SCUPPER DETAILS
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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473
657

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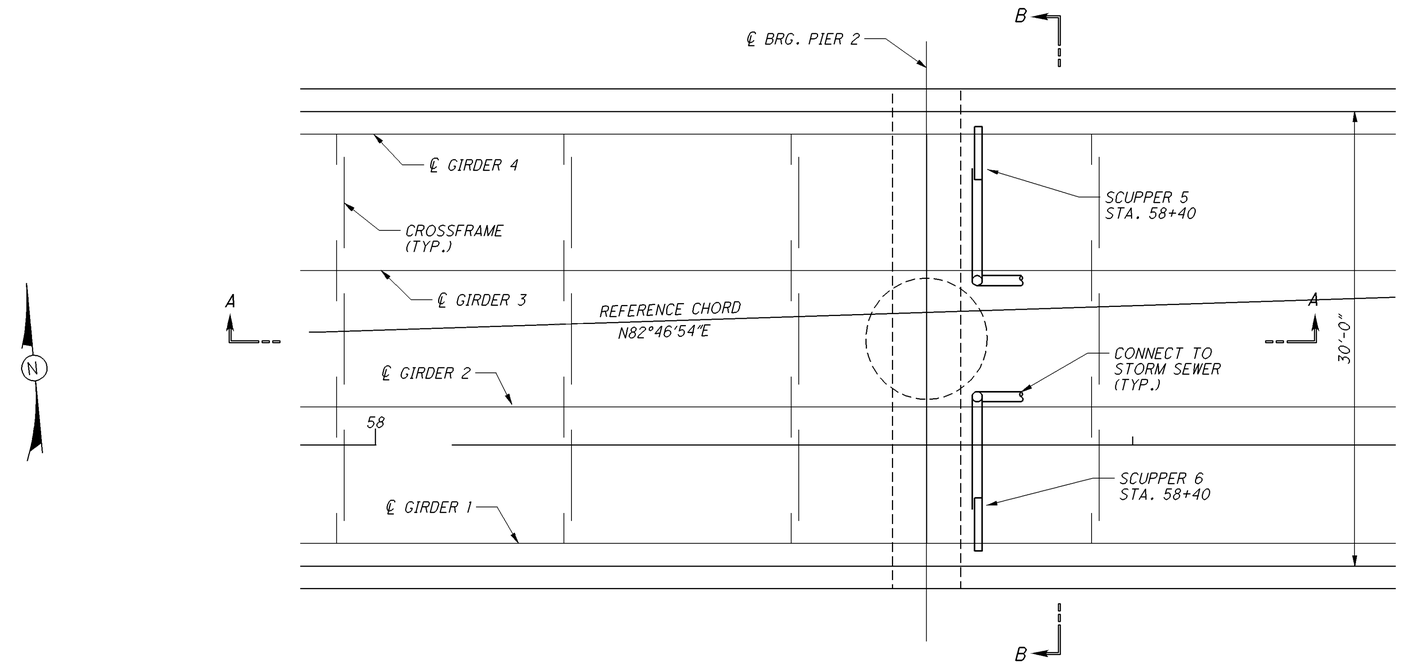
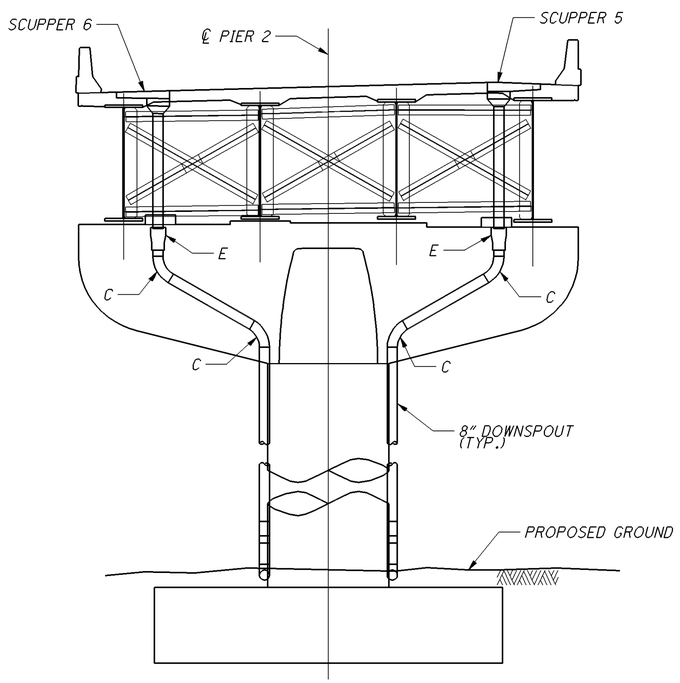
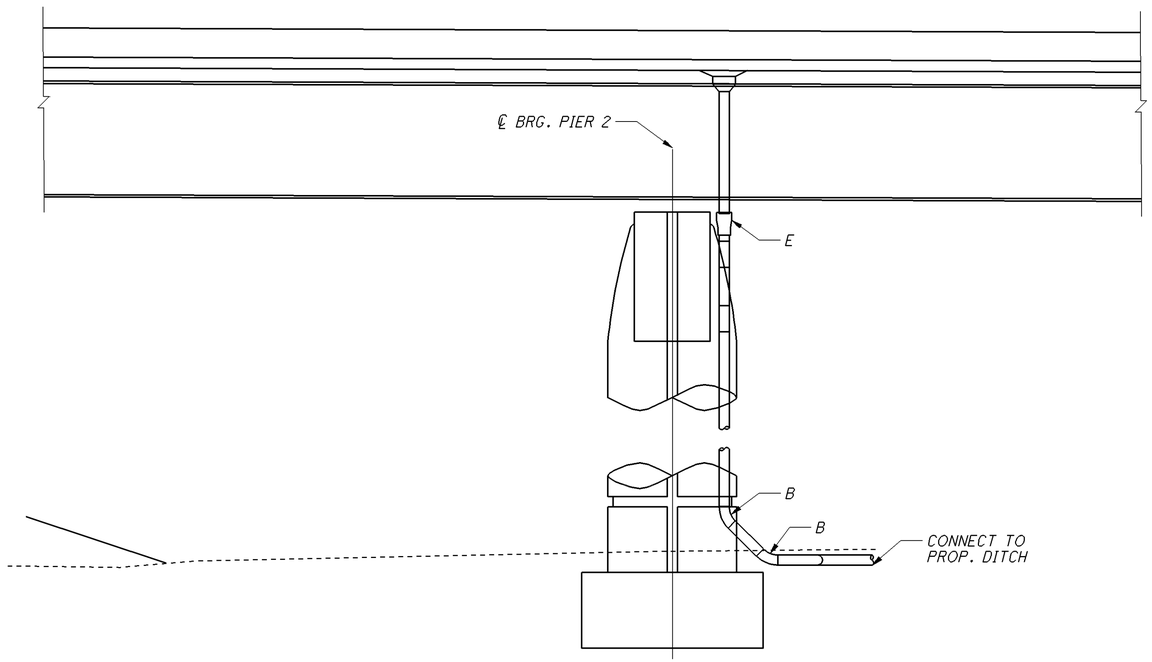
A	CLEANOUT
B	45° BEND
C	60° BEND
D	LATERAL
E	12X8 REDUCER



PARTIAL PLAN



SECTION B-B



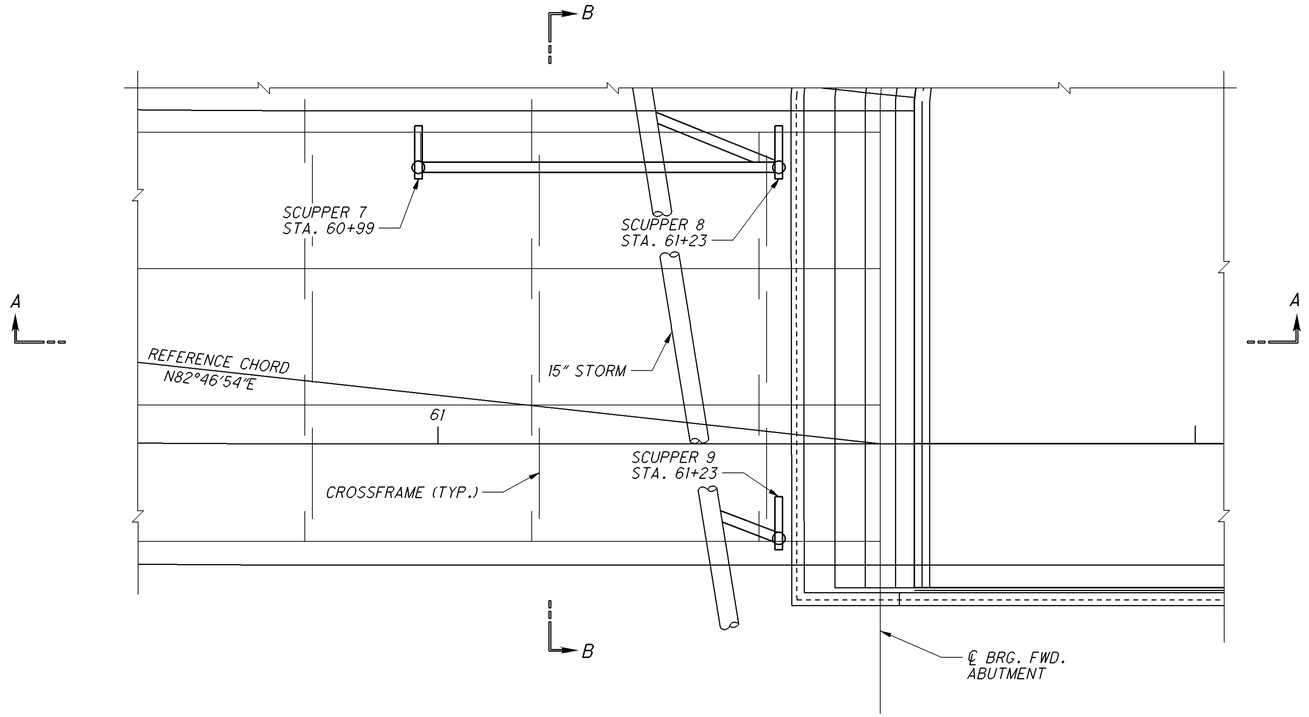
SECTION A-A

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
PJL	EJC	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAP		3102793	

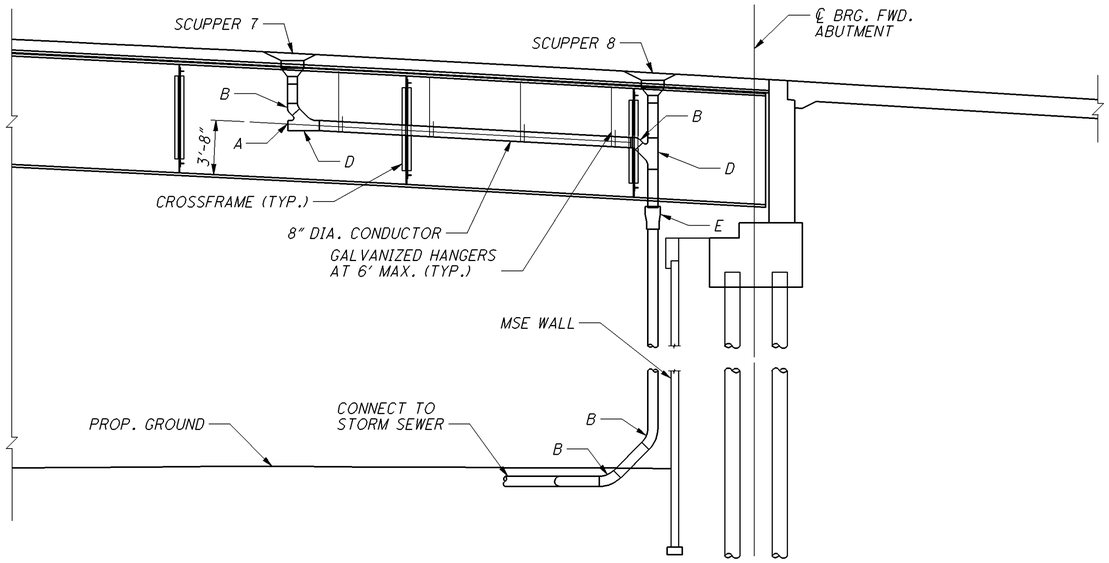
SCUPPER DETAILS
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

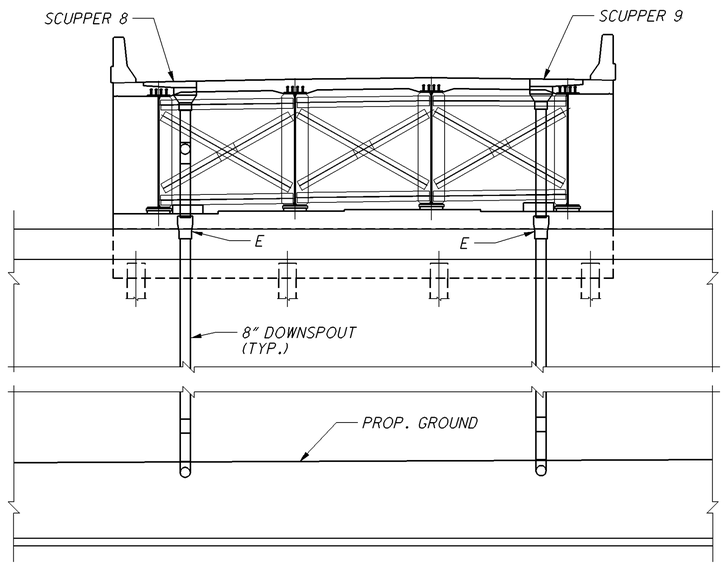


PARTIAL PLAN

A	CLEANOUT
B	45° BEND
C	60° BEND
D	LATERAL
E	12X8 REDUCER



SECTION A-A



SECTION B-B

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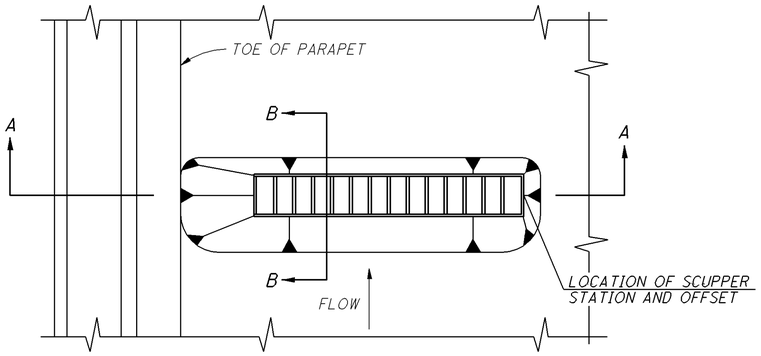
DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

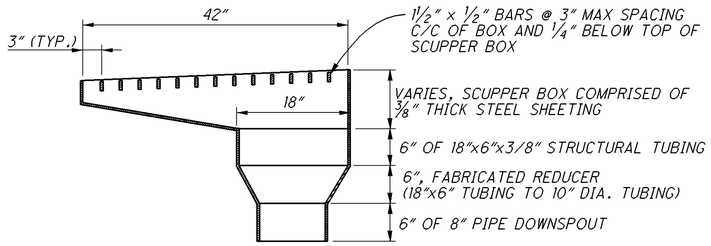
DESIGNED	DRAWN	REVIEWED	DATE
PJL	BKJ	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAP		3102793	

SCUPPER DETAILS
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

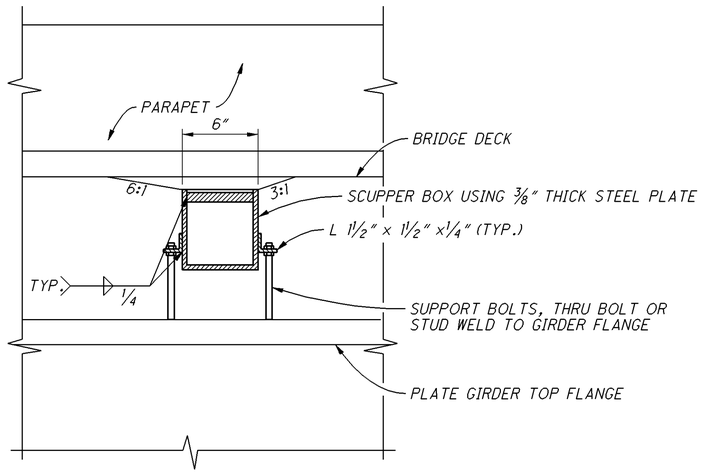
HAM-50-18.79
PID No. 20082



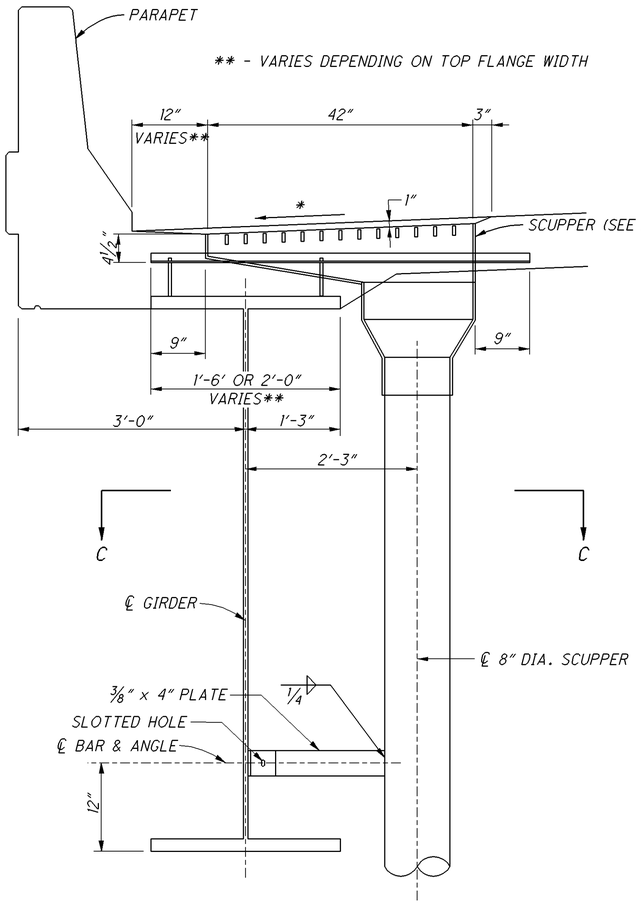
PLAN



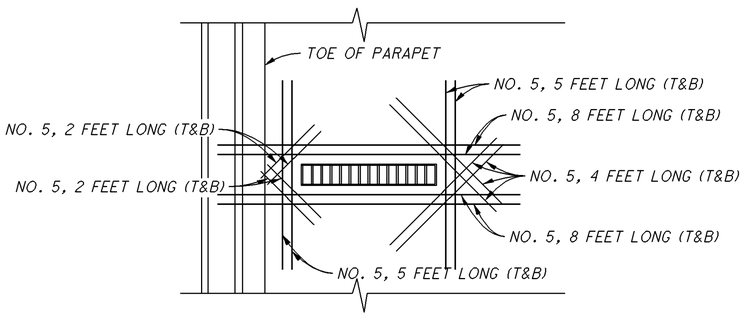
SCUPPER BOX DETAIL



SECTION B-B

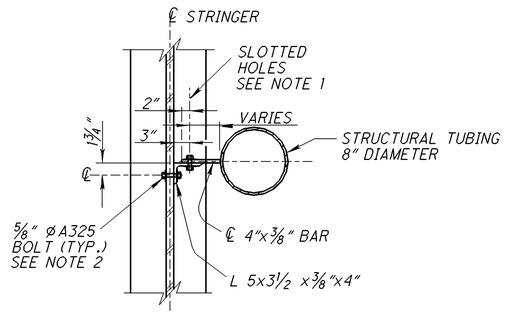


SECTION A-A



ADDITIONAL DECK REINFORCING DETAIL

T&B = TOP AND BOTTOM



SECTION C-C

SCUPPER NOTES:

ALL MATERIALS INCLUSING STEEL PLATES, STRUCTURAL TUBING, SUPPORT ANGLES AND OTHER HARDWARE SHALL BE GALVANIZED PER 711.02.

SCUPPER BOXES AND REDUCERS SHALL BE MADE OF ⅜" GALVANIZED STRUCTURAL STEEL PLATES CONFORMING TO 518 AND 711.02.

STRUCTURAL STEEL TUBING SHALL BE PER 518, 707.11 AND 748.06.

ALL DOWNSPOUTS TO BE GALVANIZED STEEL PIPE OF THE SIZE SPECIFIED AND IN ACCORDANCE WITH ITEM 748.06.

PAYMENT:

ALL MATERIALS, EQUIPMENT, DELIVERY AND LABOR NECESSARY IN THE FABRICATION AND INSTALLATION FOR THE SCUPPER AS DETAILED SHALL BE INCLUDED IN THE UNIT PRICE OF:

SCUPPER, INCLUDING SUPPORTS, AS PER PLAN.

DOWNSPOUT NOTES:

ALL DOWNSPOUTS TO BE GALVANIZED STEEL PIPE OF THE SIZE SHOWN IN THE PLANS AND IN ACCORDANCE WITH ITEMS 518.06 AND 748.06. ALL FIELD WELDS TO BE GALVANIZED PER 711.02 AND WITH THE APPROVAL OF THE ENGINEER.

DOWNSPOUTS SHALL BE CONNECTED TO THE BRIDGE SCUPPER ASSEMBLIES BY WELDING OR USE OF CLAMP TYPE COUPLINGS WITH RING GASKETS.

HORIZONTAL PIPE RUNS SHALL BE SUPPORTED BY USE OF HANGARS AND STRAPS ATTACHED TO THE CONCRETE BRIDGE DECK. STRAPS SHALL BE PLACED AT A MAXIMUM SPACING OF 6 FEET C/C.

VERTICAL DOWNSPOUTS SHALL BE ATTACHED TO THE SUBSTRUCTURE BY USE OF STRAPS AND AT THE LOCATIONS INDICATED ON THE PLANS. THE DOWNSPOUT CONTRACTOR IS RESPONSIBLE FOR CONNECTING THE VERTICAL DOWNSPOUT TO THE UNDERGROUND PIPE DRAINAGE SYSTEM BY OTHERS.

ALL MATERIALS, EQUIPMENT, BENDS, WYES, TEES, CLEANOUTS, HORIZONTAL CONDUCTORS, HANGERSM FIELD GALVANIZING AND LABOR NECESSARY FOR THE FABRICATION AND INSTALLATION OF THE DOWNSPOUT AS SHOWN IN THE PLANS SHALL BE INCLUDED IN THE UNIT PRICE OF:

PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN

FASTENER NOTES:

1. THE SIZE OF THE SLOTTED HOLES SHALL BE 1¹⁄₁₆" x 1⁹⁄₁₆". THE SLOT SHALL BE HORIZONTAL IN THE 4" x ⅜" BAR AND VERTICAL IN THE ANGLE. BOLTS SHALL BE ⅝" DIAMETER A325 TYPE 1, GALVANIZED, WITH HEX NUT AND TWO WASHERS. TIGHTEN ACCORDING TO 513.
2. THE BOLTS SHALL BE ⅝" DIAMETER A325 TYPE 1 GALVANIZED EACH ASSEMBLY SHALL INCLUDE A BOLT, NUT AND TWO WASHERS. TIGHTEN ACCORDING TO 513. AFTER THE DECK CONCRETE HAS BEEN POURED, FIELD DRILL THE 1³⁄₁₆" DIAMETER HOLE IN THE WEB.

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAP		3102793	

SCUPPER DETAILS
BRIDGE NO. HAM-050-1875
EB ELBERON AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

39/39

476
657

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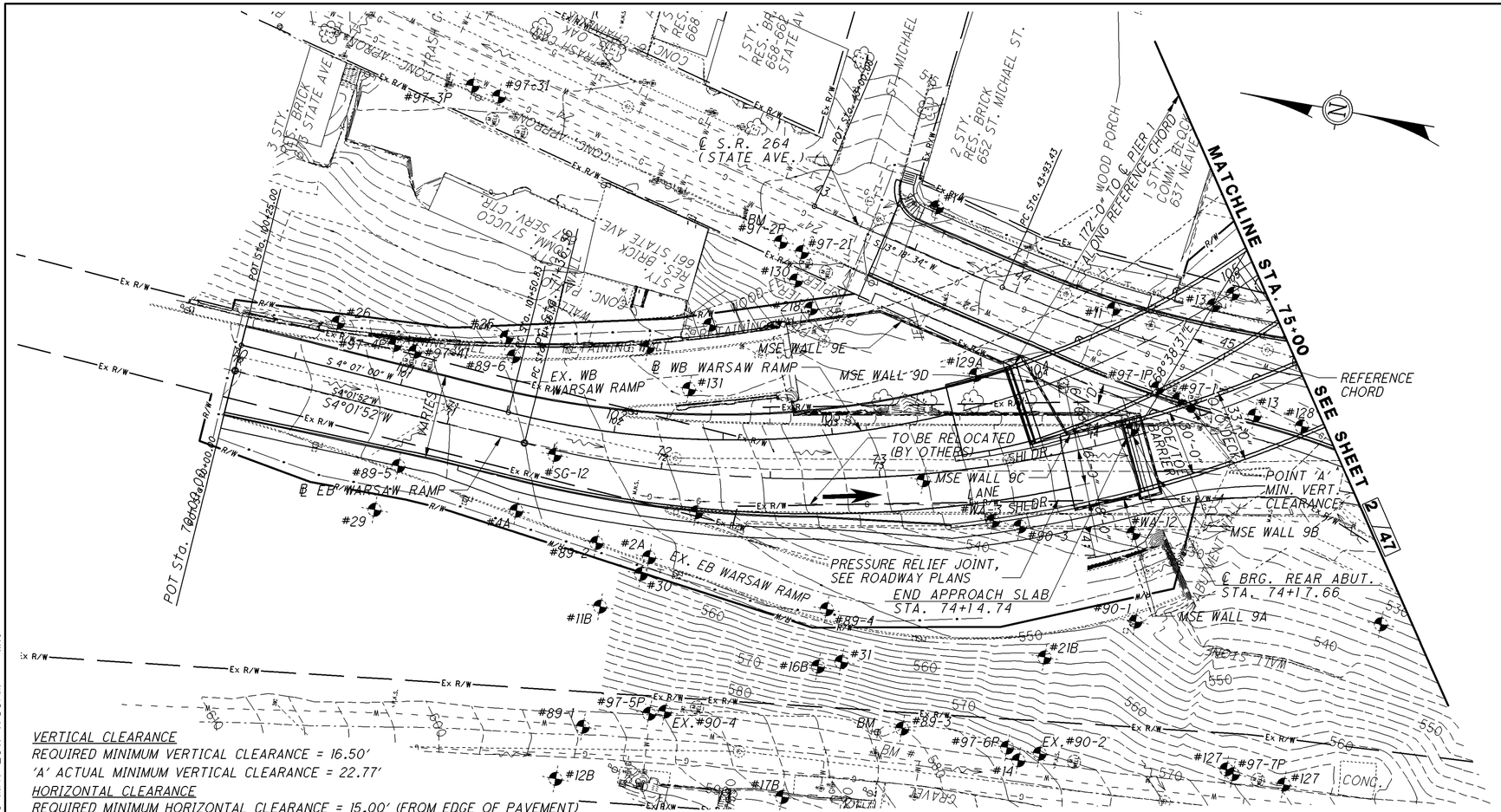

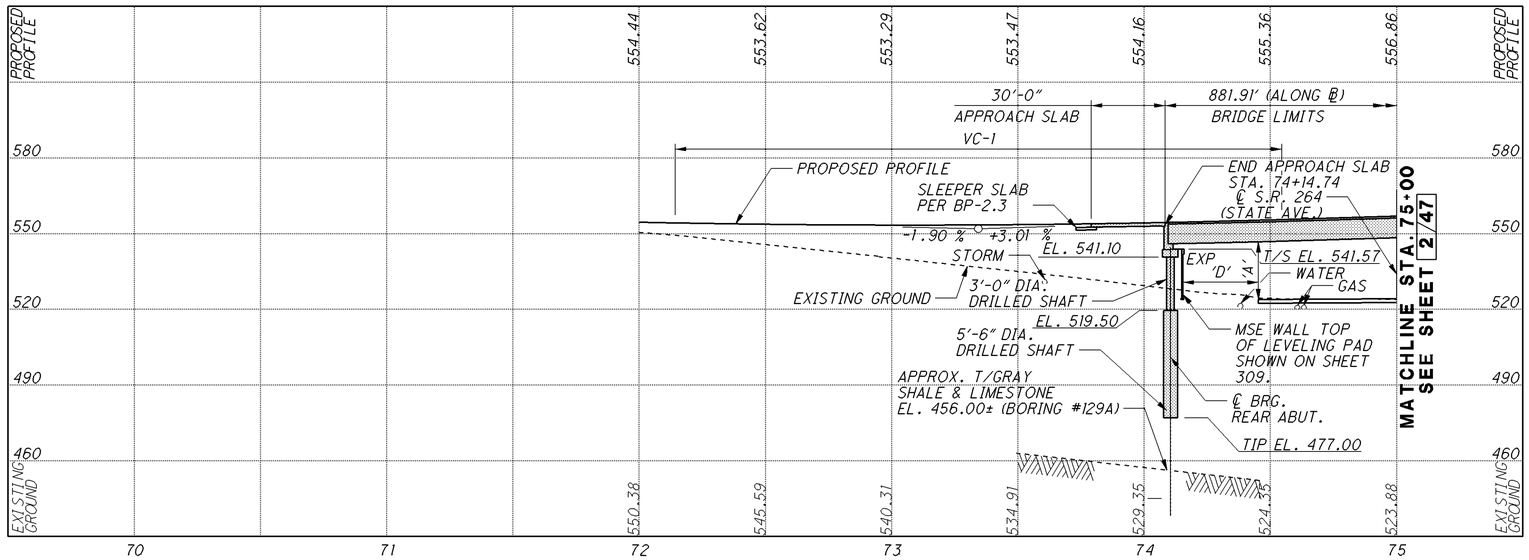

PROFILE ALONG ℄ EB WARSAW AVE. RAMP

VERTICAL CLEARANCE

REQUIRED MINIMUM VERTICAL CLEARANCE = 16.50'

'A' ACTUAL MINIMUM VERTICAL CLEARANCE = 22.77'

HORIZONTAL CLEARANCE

REQUIRED MINIMUM HORIZONTAL CLEARANCE = 15.00' (FROM EDGE OF PAVEMENT)

'D' ACTUAL MINIMUM HORIZONTAL CLEARANCE = 9.85'

BENCHMARK DATA

BM STA. 72+29.05 , ELEV. 520.21 , OFFSET 116.15', LT. PK NAIL FOUND

BM STA. 72+94.26 , ELEV. 583.44 , OFFSET 116.32', RT. BENCH MARK

BM STA. 84+35.65 , ELEV. 493.11 , OFFSET 49.60', LT. PK NAIL FOUND

BM STA. 85+57.92 , ELEV. 493.63 , OFFSET 79.64', LT. BENCH MARK

NOTES

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

DESIGN TRAFFIC:

1996 ADT = 5,065 *1996 ADTT = 203*

2020 ADT = 6,559 *2020 ADTT = 263*

LEGEND

SOIL BORING LOCATION

CURVE DATA

HORIZONTAL	VERTICAL
P.I. STA. 77+55.47 Δ = 96°45'57" (LT) Dc = 10°25'03" R = 550.00' T = 619.11' L = 928.89' E = 278.13'	VC-1 P.V.I. STA. 73+34.46 ELEV = 551.89' 240.39' VC K=49 -1.90 % +3.01 %

EXISTING STRUCTURE

TYPE: 4-SPAN STEEL FRAMES WITH ALTERNATING SUSPENDED SPANS SUPPORTING A GIRDER - FLOORBEAM - STRINGER SYSTEM WITH REINFORCED CONCRETE DECK. THE SUPERSTRUCTURE IS SUPPORTED BY REINFORCED CONCRETE ABUTMENTS ON SPREAD FOOTINGS AND TAPERED, BUILT UP STEEL COLUMNS STRADDLE BENTS ON DRILLED CAISONS OR PEDESTALS AND PILING.

LENGTH OF SPANS: 62.518', 92.218', 54.588' 55.479' (C/C BRGS. MEASURED ALONG CHORDS BETWEEN ℄ ABUTMENT AND PIERS)

ROADWAY WIDTH: 24' FACE TO FACE CURB

SKEW ANGLE: VARIES

LOADING: POSTED 16 TON

DATE OF CONSTRUCTION: 1947

STRUCTURE FILE NO.: 3102785

APPROACH SLAB: 25'-0" (ESTIMATED)

WEARING SURFACE: ASPHALT

PROPOSED STRUCTURE

TYPE: 5-SPAN CONTINUOUS COMPOSITE STEEL GIRDERS WITH REINFORCED CONCRETE DECK, STUB ABUTMENTS, AND T-TYPE PIERS. (A709 GRADE 50 STEEL)

SPANS: 172' - 155' - 116' - 192' - 172' C/C BEARINGS ALONG REFERENCE CHORD

ROADWAY: 30'-0" TOE/TOE PARAPET

LOADING: HS25 CASE II AND ALTERNATE MILITARY, FWS = 60 PSF

SKEW: NONE (RADIAL)

WEARING SURFACE: MONOLITHIC CONCRETE

APPROACH SLABS: 30'-0" LONG (AS-1-81)

ALIGNMENT: CURVE LEFT (RADIUS 550') TO CURVE LEFT (RADIUS 2684.87')

SUPERELEVATION: VARIES TO 0.046 MAX.

COORDINATES: LATITUDE 41°40'07" N
LONGITUDE 88°12'44" W

DESIGN AGENCY
PARSONS BRINCKERHOFF
OUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAP		3102858	

HAMILTON COUNTY
STA. 74+14.74
STA. 82+96.65

SITE PLAN 1
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

1/47

477/657

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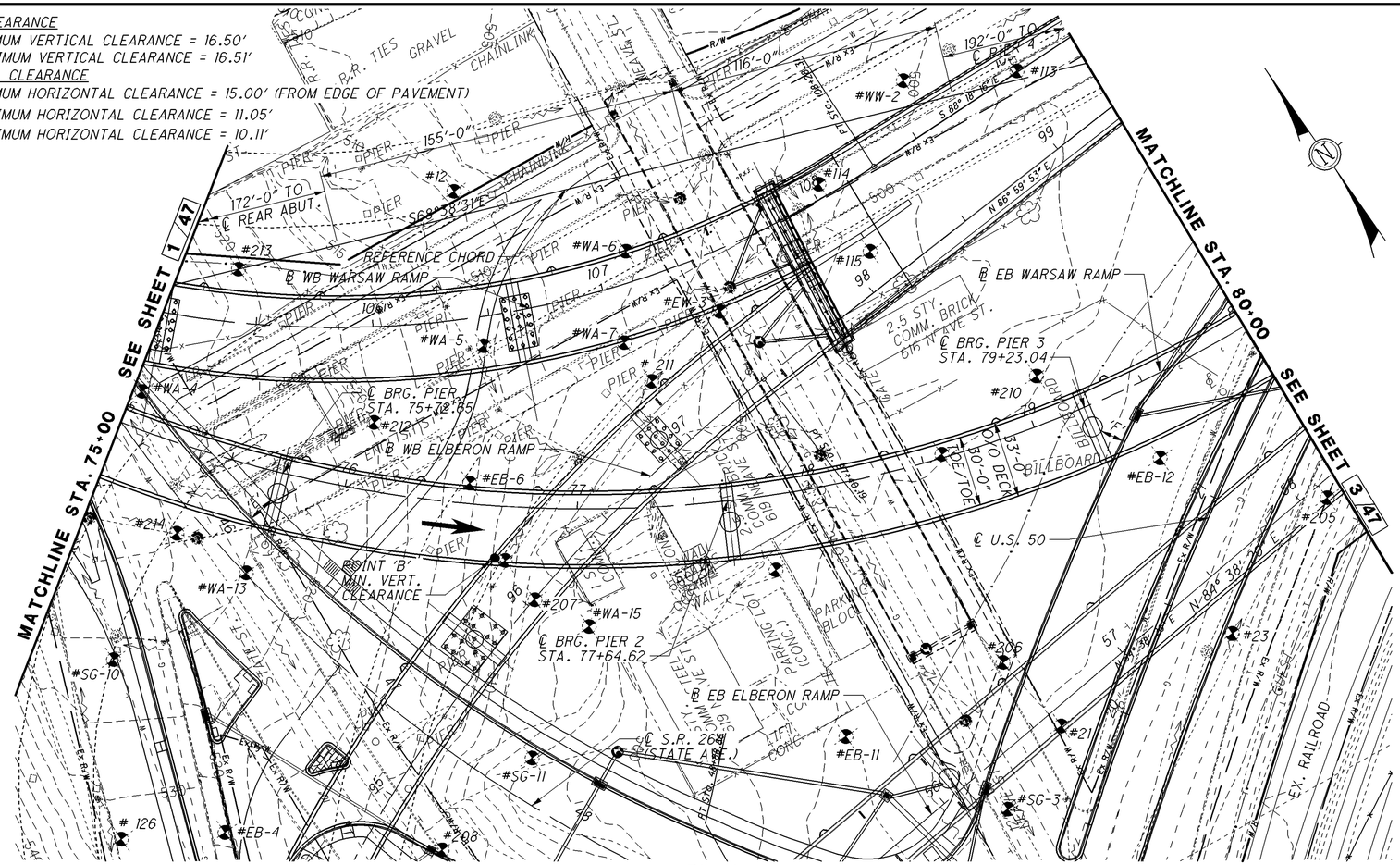
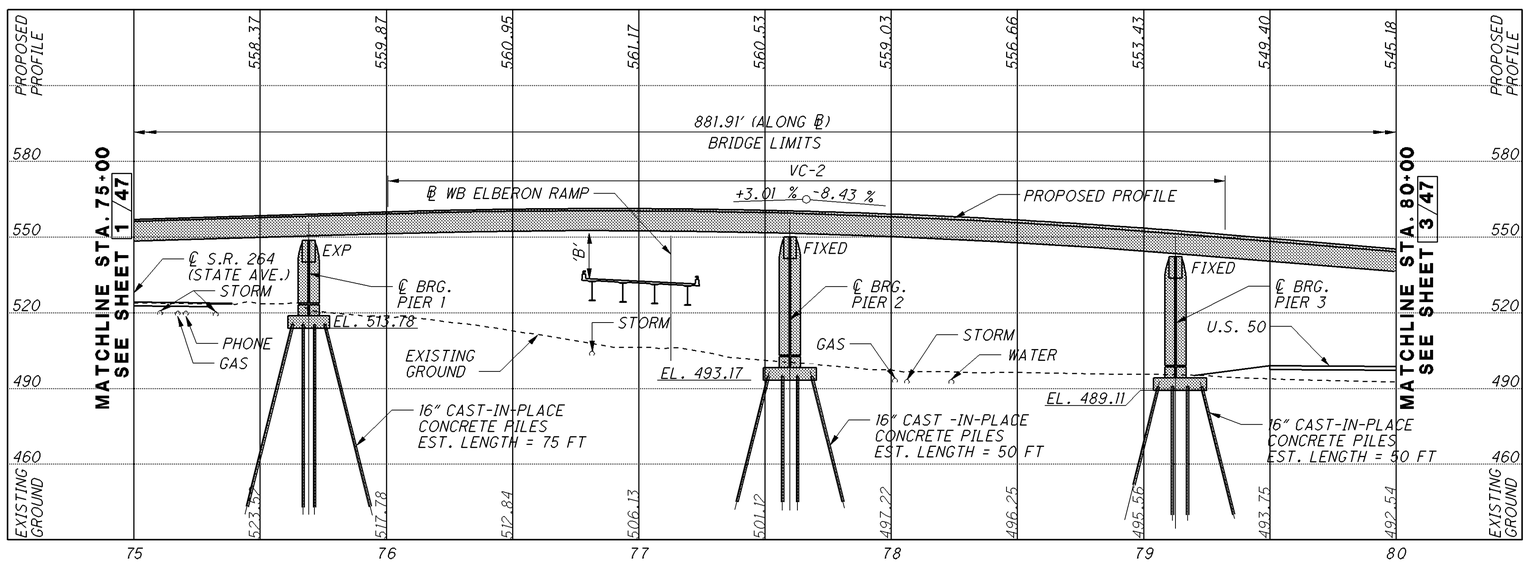
* VERTICAL CLEARANCE
REQUIRED MINIMUM VERTICAL CLEARANCE = 16.50'
'B' ACTUAL MINIMUM VERTICAL CLEARANCE = 16.51'
** HORIZONTAL CLEARANCE
REQUIRED MINIMUM HORIZONTAL CLEARANCE = 15.00' (FROM EDGE OF PAVEMENT)
'E' ACTUAL MINIMUM HORIZONTAL CLEARANCE = 11.05'
'F' ACTUAL MINIMUM HORIZONTAL CLEARANCE = 10.11'



PLAN



PROFILE ALONG ℄ EB WARSAW AVE. RAMP

NOTES

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

SEE SHEET 1/47 FOR ADDITIONAL DETAILS.

LEGEND

SOIL BORING LOCATION

CURVE DATA

HORIZONTAL	VERTICAL
P.I. STA. 77+55.47 Δ = 96°45'57" (LT) Dc = 10°25'03" R = 550.00' T = 619.11' L = 928.89' E = 278.13'	VC-2 P.V.I. STA 77+66.43 ELEV = 564.87' 331.64' VC K=29 +3.01 % -8.43 %

DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

DRAWN LEL | REVIEWED EBS | DATE 11/16/10
DESIGNED PJL | CHECKED SAP | REVISED | STRUCTURE FILE NUMBER 3102858

HAMILTON COUNTY
STA. 74+14.74
STA. 82+96.65

SITE PLAN 2
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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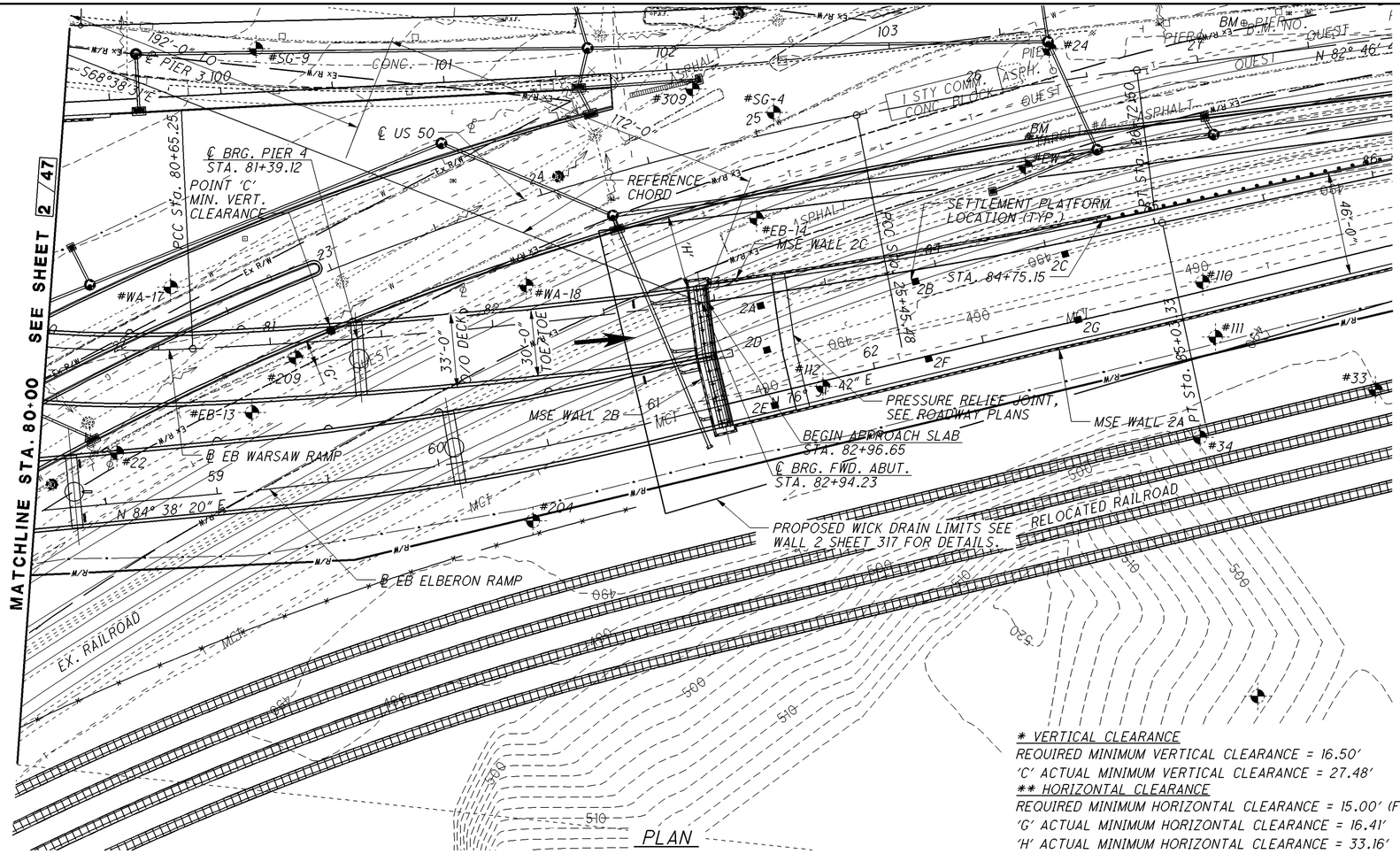

NOTES

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

SEE SHEET 1/47 FOR ADDITIONAL DETAILS.

LEGEND

SOIL BORING LOCATION

CURVE DATA

HORIZONTAL	VERTICAL
P.I. STA. 82+84.78 Δ = 9°20'56" (LT) Dc = 2°08'02" R = 2,684.87' T = 219.53' L = 438.08' E = 8.96'	VC-3 P.V.I. STA 82+00.00 ELEV = 528.32' 190.00' VC K=85 -8.43 % -6.18 %

DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

DESIGNED PJL | DRAWN LEL | CHECKED SAP | REVIEWED EBS | DATE 11/16/10

STRUCTURE FILE NUMBER 3102858

REVISED

HAMILTON COUNTY
STA. 74+14.74
STA. 82+96.65

SITE PLAN 3
BRIDGE NO. HAM-50-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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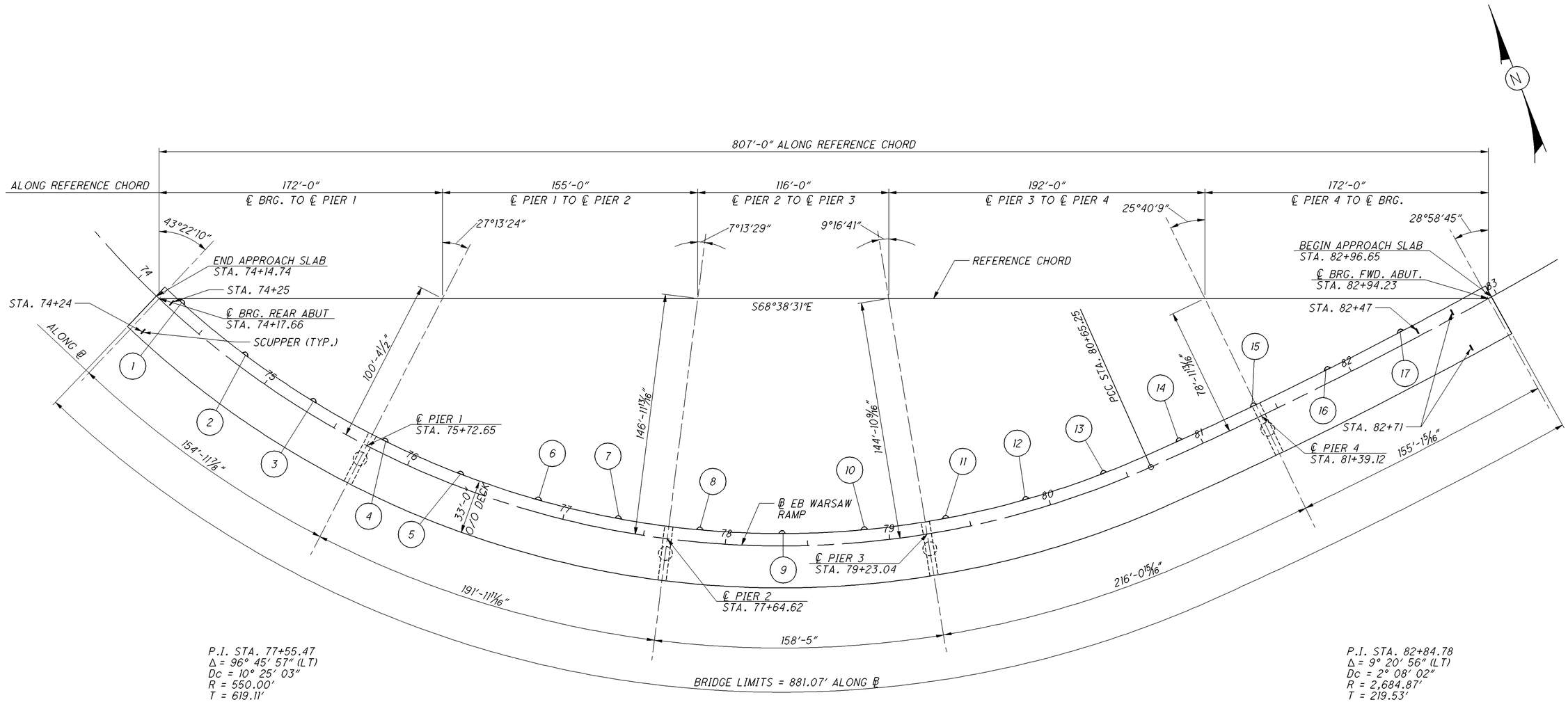
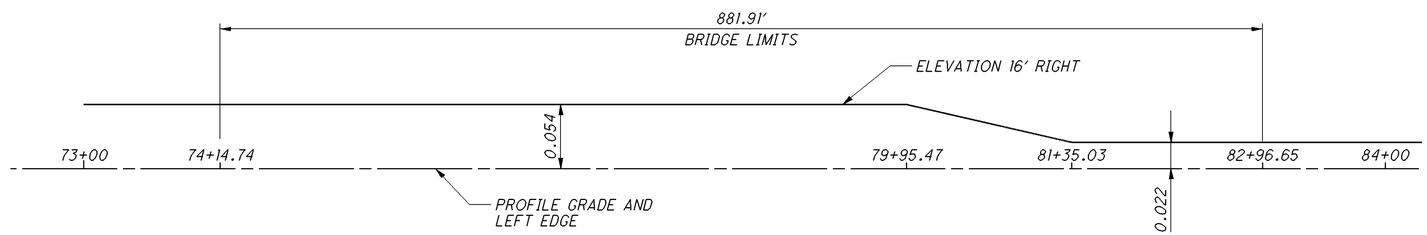


P.I. STA. 77+55.47
Δ = 96° 45' 57" (LT)
Dc = 10° 25' 03"
R = 550.00'
T = 619.11'
L = 928.89'
E = 278.13'

P.I. STA. 82+84.78
Δ = 9° 20' 56" (LT)
Dc = 2° 08' 02"
R = 2,684.87'
T = 219.53'
L = 438.08'
E = 8.96'

GENERAL PLAN



EB WARSAW AVE. RAMP
PAVEMENT TRANSITION DETAIL

LIGHT STANDARD LOCATIONS	
POINT	STATION
1	74+29.42
2	74+80.06
3	75+30.85
4	75+81.50
5	76+32.06
6	76+82.72
7	77+33.25
8	77+83.90
9	78+34.55
10	78+85.20
11	79+35.77
12	79+86.41
13	80+37.03
14	80+87.46
15	81+37.51
16	81+87.59
17	82+37.72

DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	11/16/10
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SAP		3102858	

GENERAL PLAN
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-81	DATED/REVISED	07-19-02
BR-1	DATED/REVISED	07-19-02
EXJ-4-87	DATED/REVISED	07-19-02
SBR-1-99	DATED/REVISED	07-19-02
GSD-1-96	DATED/REVISED	07-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

840	DATED	07-17-09
898	DATED	07-17-09

DESIGN SPECIFICATIONS

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE FOLLOWING SPECIFICATIONS:

- "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17th EDITION, 2002.
- THE ODOT BRIDGE DESIGN MANUAL.
- AASHTO GUIDE SPECIFICATIONS FOR HORIZONTALLY CURVED STEEL GIRDER HIGHWAY BRIDGES, 2003.
- SECTION 3.6.5 OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2005, INCLUDING THE 2008 INTERM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007 SHALL BE REFERENCED AS IT APPLIES TO THE PIER COLUMN DESIGN. NO OTHER SECTION OF THIS SPECIFICATION SHALL BE APPLICABLE FOR THESE PLANS.

DESIGN LOADING

DESIGN LOADING: HS25, CASE II AND THE ALTERNATE MILITARY LOADING.

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

DESIGN DATA

CONCRETE CLASS QSC2 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS QSC1 - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

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

STRUCTURAL STEEL - ASTM A709 GRADE 50, MINIMUM YIELD STRENGTH 50,000 PSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
2-1/2" CONCRETE COVER
SEALING OF CONCRETE SURFACES

MONOLITHIC WEARING SURFACE

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

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

THIS ITEM SHALL INCLUDE THE REMOVAL OF THE EXISTING EASTBOUND WARSAW AVENUE RAMP.

ITEM 202, APPROACH SLAB REMOVED, AS PER PLAN

THIS ITEM SHALL INCLUDE THE REMOVAL OF THE APPROCH SLABS FOR THE EXISTING EASTBOUND WARSAW AVENUE RAMP.

ITEM 511, CLASS HP CONCRETE, SUPERSTRUCTURE, AS PER PLAN

ITEM 511, CLASS HP CONCRETE, SUPERSTRUCTURE, AS PER PLAN: LOCATE THE LOWER CONTACT POINT OF THE OVERHANG FALSEWORK AT LEAST 76 INCHES MEASURED BELOW THE BOTTOM OF THE GIRDER'S TOP FLANGE. THE BRACKET CONTACT POINT LOCATION REQUIREMENTS OF C&MS 508 DO NOT APPLY.

ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION):

APPLY A CLEAR PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

PERMANENT GRAFFITI PROTECTION SHALL BE APPLIED TO THE LIMITS SHOWN IN THE PLANS.

PILE DRIVING CONSTRAINTS

PRIOR TO DRIVING ABUTMENT PILES TO THE ULTIMATE BEARING VALUE (UBV), CONSTRUCT THE MSE WALL AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENT UP TO THE BOTTOM OF THE FOOTING FOR A MINIMUM DISTANCE OF 200 FT BEHIND EACH ABUTMENT. PROVIDE A SURCHARGE FROM THE BOTTOM OF THE ABUTMENT FOOTING TO THE BOTTOM OF THE SUBGRADE, FOR A MINIMUM DISTANCE OF 200 FEET BEHIND EACH ABUTMENT. SURCHARGE LOADS SHALL REMAIN UNTIL THE REQUIRED SETTLEMENT HAS OCCURED AND AS DIRECTED BY THE ENGINEER. COMPLETE THE MSE WALL AND EMBANKMENT CONSTRUCTION IMMEDIATELY FOLLOWING THE SURCHARGE REMOVAL.

THE CONTRACTOR MAY PRE-DRIVE ABUTMENT PILES BEFORE CONSTRUCTING MSE WALLS. PRE-DRIVING CONSISTS OF INSTALLING THE ABUTMENT PILES INTO THE SOIL ONLY AS FAR AS NECESSARY SO THAT THE PIPE WILL REMAIN VERTICAL DURING MSE WALL CONSTRUCTION. IF PRE-DRIVING PILES, INSTALL PILE SLEEVES AROUND PILES BEFORE CONSTRUCTING THE MSE WALL. AT LEAST THREE FEET OF PILE MUST EXTEND ABOVE THE TOP OF THE PILE SLEEVE TO MEET THE REQUIREMENTS OF CMS 507.09 REGARDING SPLICES. DO NOT DRIVE ABUTMENT PILES TO THE UBV UNTIL AFTER THE ABOVE REQUIRED MSE WALL AND EMBANKMENT HAVE BEEN CONSTRUCTED, AND THE SPECIFIED WAITING PERIOD HAS ELAPSED.

IF NOT PRE-DRIVING ABUTMENT PILES, INSTALL THE ABUTMENT PILES THROUGH PILE SLEEVES AFTER THE ABOVE REQUIRED MSE WALL AND EMBANKMENT HAVE BEEN CONSTRUCTED AND THE SPECIFIED WAITING PERIOD HAS ELAPSED.

ABUTMENT PILE DRIVING TO THE UBV (FOR PILES DRIVEN AFTER MSE CONSTRUCTION) OR PILE REDRIVING (FOR PILES PRE-DRIVEN BEFORE MSE CONSTRUCTION) MAY NOT BEGIN UNTIL A MINIMUM 30 CALENDAR DAY WAITING PERIOD HAS ELAPSED AFTER THE COMPLETION OF EMBANKMENT AND SURCHARGE CONSTRUCTION. IN ADDITION, CONSECUTIVE SETTLEMENT READINGS, RECORDED AFTER EMBANKMENT CONSTRUCTION IS COMPLETE AND AT LEAST ONE WEEK (168 HOURS) APART, SHALL RESULT IN ELEVATION DIFFERENCES EQUAL TO OR LESS THAN 1/8 INCH FOR ABUTMENT CONSTRUCTION TO CONTINUE. IF SETTLEMENT RATES EXCEED 1/2 INCH PER MONTH AFTER EMBANKMENT CONSTRUCTION HAS BEEN COMPLETE FOR 40 DAYS, REMAINING ABUTMENT CONSTRUCTION, INCLUDING ANY NECESSARY CORRECTIVE MEASURES, MAY PROCEED ONLY AT THE DIRECTION OF THE ENGINEER.

THE ENGINEER MAY ADJUST THE SPECIFIED WAITING PERIOD BASED ON SETTLEMENT PLATFORM READINGS. AFTER THE SPECIFIED WAITING PERIOD HAS ELAPSED, DRIVE ABUTMENT PILES TO THE UBV. IN ORDER TO REMOVE ANY NEGATIVE SKIN FRICTION THAT HAS DEVELOPED DURING THE WAITING PERIOD, DRIVE EACH ABUTMENT PILE A DISTANCE OF AT LEAST 0.5 INCH.

PROPRIETARY RETAINING WALL DATA

THE PROPRIETARY WALL SUPPLIER SHALL DESIGN THE INTERNAL STABILITY OF A MECHANICALLY STABILIZED EARTH (MSE) WALL IN ACCORDANCE WITH THE SPECIAL PROVISIONS TO SUPPORT THE ABUTMENT. THE DESIGN FOR INTERNAL STABILITY SHALL INCLUDE AN UNFACTORED HORIZONTAL STRIP LOAD FROM THE SUPERSTRUCTURE OF 1.6 K/FT (REAR ABUTMENT) AND 1.7 K/FT (FORWARD ABUTMENT) APPLIED PERPENDICULAR TOTHE FACE OF WALL AT THE BASE OF THE CONCRETE FOOTING.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE)

PILE DESIGN LOADS (ULTIMATE BEARING VALUE): THE ULTIMATE BEARING VALUE IS 158 TONS PER PILE FOR THE 16" CAST-IN-PLACE CONCRETE FORWARD ABUTMENT PILES.

THE ULTIMATE BEARING VALUE IS 175 TONS PER PILE FOR THE PIER 1 PILES, 140 TONS PER PILE FOR PIER 2 PILES, 155 TONS PER PILE FOR PIER 3 PILES, AND 175 TONS PER PILE FOR PIER 4 PILES. ALL PIER PILES SHALL BE 16" CAST-IN-PLACE CONCRETE.

ABUTMENT PILES:
9 PILES 75 FEET LONG, ORDER LENGTH (FORWARD ABUTMENT)
1 DYNAMIC LOAD TESTING ITEM

PIERS 1 PILES:
24 PILES 80 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

PIER 2 & 3 PILES:
28 PILES 55 FEET LONG, ORDER LENGTH
2 DYNAMIC LOAD TESTING ITEM

PIER 4 PILES:
24 PILES 45 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

BATTERED PILES

BATTERED PILES: THE BLOW COUNT FOR BATTERED PILES SHALL BE THE BLOW COUNT DETERMINED FOR VERTICAL PILES OF THE SAME ULTIMATE BEARING VALUE DIVIDED AN EFFICIENCY FACTOR (D). COMPUTE THE EFFICIENCY FACTOR (D) AS FOLLOWS:

$$D = \frac{1-UG}{\sqrt{(1+G^2)}}$$

U = COEFFICIENT OF FRICTION, WHICH IS ESTIMATED AT 0.05 FOR DOUBLE-ACTING AIR OPERATED OR DIESEL HAMMERS; 0.1 FOR SINGLE-ACTING AIR OPERATED OR DIESEL HAMMERS; AND 0.2 FOR DROP HAMMERS.

G = RATE OF BATTER (1/3, 1/4, ETC.)

UTILITY LINES

UTILITY LINES: THE UTILITY(IES) SHALL BORE ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

DRILLED SHAFTS

THE DESIGN LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 200 TONS AT THE ABUTMENTS. THIS LOAD IS RESISTED BY SHAFT END BEARING. THE ALLOWABLE BEARING END PRESSURE IS 10 TONS PER SQUARE FOOT. THE REINFORCING STEEL SHALL BE EPOXY COATED ACCORDING TO 709.00.

ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), AS PER PLAN

FURNISH APPROACH SLABS CONFORMING TO CMS 526 EXCEPT CONCRETE SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 898, QC/QA CONCRETE, CLASS QSC2. THE ACCEPTED QUANTITIES SHALL INCLUDE: CONCRETE, CURBS, REINFORCING STEEL, JOINT FILLERS, JOINT SEALERS, JOINT SEALS, AND WATERPROOFING. THE DEPARTMENT WILL MEASURE APPROACH SLABS BY THE NUMBER OF SQUARE YARDS. THE DEPARTMENT WILL INITIALLY PAY THE FULL BID PRICE TO THE CONTRACTOR UPON COMPLETING THE WORK. THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE AND DECK CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN

THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE AND DECK CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

MAINTENANCE OF TRAFFIC

FOR MAINTENANCE OF TRAFFIC NOTES AND DETAILS, REFER TO SHEETS 24 THRU 81.

COLORS:

THE COLOR FOR THE ALTERNATE STEEL PARAPET RAILS AND ALL HARDWARE SHALL BE FEDERAL COLOR NUMBER 27038 (BLACK, 30% SHEEN).

LIGHT POLES LOCATED ON THE BRIDGE SHALL BE FEDERAL COLOR NUMBER 27038 (BLACK, 30% SHEEN).

THE COLOR FOR ITEM 513 STRUCTURAL STEEL MEMBERS, LEVEL 5, SHALL BE AS FOLLOWS:

THE OUTSIDE FACE AND BOTTOM FLANGES OF THE FASCIA BEAMS TO BE PAINTED FEDERAL COLOR NUMBER 27038 (BLACK, 30% SHEEN)

ALL REMAINING BRIDGE SUPERSTRUCTURE ELEMENTS TO BE PAINTED FEDERAL COLOR NUMBER 10324 (DARK NEUTRAL)

ITEM 512 SEALING OF CONCRETE SURFACES (NON-EPOXY) SHALL BE CLEAR.

THE COLOR FOR ITEM 512 SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) AT THE PIERS SHALL BE FEDERAL COLOR NUMBER 11136 (TERRA COTTA)

DESIGN AND MAINTENANCE TO ALLOW FOR HILLSIDE MOVEMENT:

IT IS ANTICIPATED THAT THE REAR ABUTMENT COULD MOVE DUE TO HILLSIDE CREEP. FOR THIS REASON A DISTANCE OF 6" WAS PROVIDED FROM THE END OF THE GIRDER TO THE ABUTMENT BACKWALL.

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAP		3102858	

GENERAL NOTES
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

PROPOSED WORK:

1. PROTECT AND MAINTAIN ALL TRAFFIC DURING CONSTRUCTION.
2. INSTALL DETOUR AND REMOVE EXISTING STRUCTURE.
3. CONSTRUCT ABUTMENT AND PIER FOUNDATIONS.
4. CONSTRUCT MSE RETAINING WALLS.
5. CONSTRUCT PIERS AND ABUTMENTS.
6. CONSTRUCT SUPERSTRUCTURE.
7. SEAL CONCRETE SURFACES AS SHOWN IN THE PLANS.

EXISTING STRUCTURE PLANS:

CONSTRUCTION PLANS FOR EXISTING BRIDGE ARE ON FILE AT THE DEPARTMENT OF TRANSPORTATION, DISTRICT 8 OFFICE, 505 SOUTH STATE ROUTE 741, LEBANON, OHIO AND ARE AVAILABLE FOR REFERENCE.

ABBREVIATIONS:

N.F. = NEAR FACE	P.E.J.F. = PREFORMED EXPANSION
F.F. = FAR FACE	JOINT FILLER
E.F. = EACH FACE	P.C.P.P. = PERFORATED CORRUGATED
TYP. = TYPICAL	PLASTIC PIPE
MIN. = MINIMUM	N.P.C.P.P. = NON-PERFORATED CORRUGATED
STA. = STATION	PLASTIC PIPE
SPA. = SPACES	INV. = INVERT
CONST. = CONSTRUCTION	FWD. = FORWARD
EL. ELEVATION	ABUT. = ABUTMENT
C.I.P. = CAST-IN-PLACE	CONC. = CONCRETE
BRG. = BEARING	EA. = EACH
EX. = EXISTING	STD. = STANDARD
PROP. = PROPOSED	DWG. = DRAWING
A.P.P. = AS PER PLAN	DIA. = DIAMETER
R.A. = REAR ABUTMENT	E.B. = EASTBOUND
F.A. = FORWARD ABUTMENT	W.B. = WESTBOUND
O/O = OUT TO OUT	W.P. = WORK POINT
CLR. = CLEAR	C/C = CENTER TO CENTER
LT. = LEFT	STRUCT. = STRUCTURE
RT. = RIGHT	TEMP. = TEMPORARY
EST. = ESTIMATE	C.J. = CONSTRUCTION JOINT

BARRIER TRANSITIONS FOR ALTERNATE BID ITEM RAILING

DESIGN DETAILS ARE INCLUDED FOR BARRIER TRANSITIONS FOR STANDARD ODOT RAILING. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR TRANSITIONS OF THE ALTERNATE BID ITEM RAILING SELECTED. DESIGN DETAILS OF SIMILAR AESTHETIC RAILING TRANSITIONS ARE ON FILE WITH THE CITY FROM PREVIOUS PROJECTS SUCH AS THE FORMER COLUMBIA PARKWAY PROJECT. THE CONTRACTOR SHOULD CONTACT RICHARD SZEKERESH, P.E., PRINCIPAL STRUCTURAL ENGINEER FOR THE CITY OF CINCINNATI AT (513) 352-3419 OR RICHARD.SZEKERESH@CINCINNATI-OH.GOV FOR THESE DRAWINGS PRIOR TO DEVELOPING OR SUBMITTING SHOP DRAWINGS.

ITEM SPECIAL - INCLINOMETER

REAR ABUTMENT:
FURNISH AND INSTALL A 3.34 INCH (85 MM) DIAMETER INCLINOMETER CASING THROUGH THE ABUTMENT SEAT AS SHOWN ON THE ABUTMENT DRAWINGS. THE INCLINOMETER CASING IS TO BE CAPPED AT THE TOP. THE INCLINOMETER CASING IS TO BE COMPRISED OF ABS PLASTIC WITH QC (QUICK CONNECT) CONNECTIONS. PROTECT THE TOP OF THE INCLINOMETER CASING WITH A FLUSH MOUNT PROTECTIVE COVER INSTALLED IN THE ABUTMENT SEAT. PROVIDE THE FLUSH MOUNT PROTECTIVE COVER IN ACCORDANCE WITH SECTION 506.2.2 OF THE ODOT SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS.

FORM A VOID BETWEEN THE BOTTOM OF ABUTMENT FOOTING AND THE TOP OF THE PRIMARY GROUT TO ALLOW FOR VERTICAL DISPLACEMENT. PLACE SECONDARY GROUT AT LEAST 30 DAYS AFTER BRIDGE PARAPET IS CONSTRUCTED.

CARE SHOULD BE TAKEN DURING INSTALLATION TO INSURE THE CASING REMAINS IN PLACE DURING PLACEMENT OF ADJACENT FILL AND CONCRETE SO THAT THE INCLINOMETER IS NOT DAMAGED OR ROTATED. ORIENT THE CASING GROVES PARALLEL AND PERPENDICULAR TO THE FOOTING.

THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE PROTECTION OF THE INSTRUMENTATION AND DAMAGE FROM EQUIPMENT DURING THE LIFE OF THE CONTRACT. PAYMENT FOR THIS ITEM SHALL BE PAID UNDER "ITEM SPECIAL - INCLINOMETERS" AND INCLUDES FURNISHING ALL MATERIALS (SLOPE INDICATOR TUBING,COUPLINGS, END PLUGS, OUTER CASING AND PROTECTIVE CAP) AS WELL AS LABOR AND EQUIPMENT NECESSARY TO INSTALL THE INCLINOMETER CASING AT THE DESIGNATED PLAN LOCATIONS.

THE INCLINOMETER CASING SHOULD MEET THE DETAILS DESCRIBED ABOVE OR APPROVED EQUIVALENT. SUPPLIERS OF INCLINOMETER CASING INCLUDE:

GLOBAL DRILLING SUPPLIERS, INC.
12101 CENTRON PLACE
CINCINNATI, OHIO 45246
PH: 513-671-8700

DURHAM GEO SLOPE INDICATORS
12123 HARBOUR REACH DR.
MUKILTEO, WA 98275
PH: 773-728-5822

ITEM SPECIAL-SETTLEMENT PLATFORMS:

DESCRIPTION: THIS ITEM CONSISTS OF FURNISHING, CONSTRUCTING, AND MAINTAINING SETTLEMENT PLATFORMS AND OBTAINING SETTLEMENT READINGS AS REQUIRED BY THE PLANS OR AS DIRECTED BY THE ENGINEER. AT THE OPTION AND EXPENSE OF THE CONTRACTOR, ADDITIONAL SETTLEMENT PLATFORMS MAY BE INSTALLED AT LOCATIONS APPROVED BY THE ENGINEER. SETTLEMENT READINGS SHALL BE TAKEN WEEKLY DURING CONSTRUCTION AND DURING ANY SPECIFIED WAITING PERIOD. THE READINGS SHALL BE PLOTTED ON GRAPH PAPER PRESENTING DEFORMATION (ON THE NEGATIVE Y-AXIS) AND FILL HEIGHT (ON THE POSITIVE Y-AXIS) VERSUS TIME (ON THE X-AXIS). A COPY OF EACH CUMULATIVE PLOT SHALL BE SENT TO THE DISTRICT GEOTECHNICAL ENGINEER AND THE OFFICE OF GEOTECHNICAL ENGINEERING, ATTENTION: GEOTECHNICAL DESIGN COORDINATOR, AFTER EACH SETTLEMENT READING IS RECORDED.

THE DEPARTMENT WILL CONSIDER VIBRATING WIRE SETTLEMENT MONITORING PLATFORMS IN LIEU OF THE CONVENTIONAL SETTLEMENT PLATFORMS. THE CONTRACTOR SHOULD PROVIDE DETAILS OF THE PROPOSED VIBRATING WIRE SETTLEMENT PLATFORMS AS WELL AS DESIGN DRAWINGS OF THE PROPOSED PLATFORM AND CABLING LAYOUT TO THE ENGINEER AT LEAST 30 DAYS PRIOR TO CONSTRUCTION. THE DEPARTMENT WILL REQUIRE 10 WORKING DAYS FOR REVIEW AND APPROVAL. THE DESIGN DRAWINGS SHOULD ILLUSTRATE THE PROPOSED SETTLEMENT VIBRATING WIRE SETTLEMENT PLATFORM LOCATIONS WITH ALL EXISTING AND PROPOSED SITE FEATURES TO VERIFY THE PROPOSED CABLING WILL NOT CONFLICT WITH EXSITING FACILITIES, PROPOSED FACILITIES OR UTILITIES. NO ADDITIONAL PAYMENT WILL BE PROVIDED IF THE CONTRACTOR ELECTS TO UTILIZE VIBRATING WIRE SETTLEMENT PLATFORMS.

MATERIALS: SOUND LUMBER SUCH AS ¾ INCH EXTERIOR GRADE PLYWOOD SHALL BE USED FOR THE BASE. THE PIPE SHALL BE 2½" STANDARD BLACK PIPE WITH THREADED FITTINGS AS SHOWN ON THE PLANS. A STEEL PLATE 36"x36"x1/8" MAY BE SUBSTITUTED FOR THE LUMBER FOR THE PLATFORMS, AT CONTRACTORS OPTION.

CONSTRUCTION REQUIREMENTS: THE 36"x36" PLATFORM SHALL BE CONFORM TO THE DETAILS SHOWN ON THE PLANS. THE PLATFORM SHALL BE SET ON A LEVEL SURFACE. THE PIPES SHALL BE FIRMLY SECURED TO THE PLATFORMS AND SHALL BE MAINTAINED IN PLUMB POSITION DURING THE PLACEMENT OF THE EMBANKMENT. PIPES SHALL BE MARKED AT INTERVALS BY THE CONTRACTOR TO FACILITATE MEASUREMENT OF THE DEPTH OF FILL. THE CONTRACTOR SHALL STOP WORK IN ANY LOCATION WHERE A SETTLEMENT PLATFORM HAS BEEN DISTURBED OR DAMAGED UNTIL THE NECESSARY CORRECTIONS OR REPLACEMENT HAS BEEN PERFORMED.

PRIOR TO PAVING, THE TOP OF THE SETTLEMENT PLATFORM PIPE SHALL BE CUT OFF 2 FEET BELOW THE FINISHED SURFACE OF THE SUBGRADE OR TOPSOIL SURFACE, WHICHEVER IS APPLICABLE.

METHOD OF MEASUREMENT: THE NUMBER OF SETTLEMENT PLATFORMS TO BE PAID FOR WILL BE THE ACTUAL NUMBER OF SETTLEMENT PLATFORMS COMPLETED, MAINTAINED, AND ACCEPTED BY THE ENGINEER.

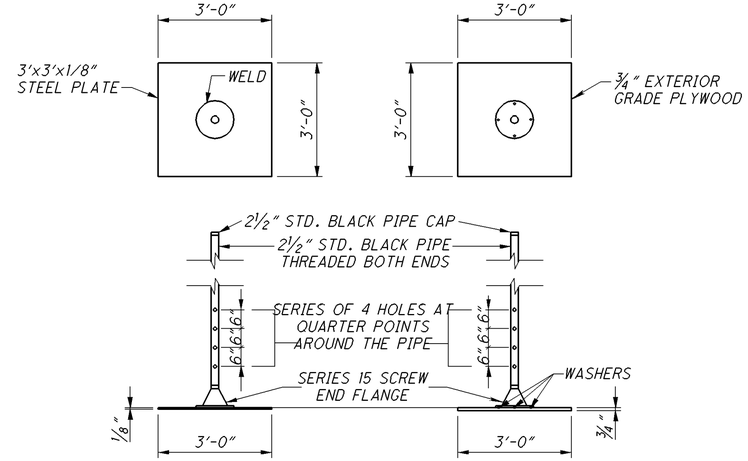
BASIS OF PAYMENT: PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE PER EACH FOR "ITEM SPECIAL, SETTLEMENT PLATFORMS" WHICH IS COMPENSATED FOR CONSTRUCTION, MAINTAINING AND MONITORING THE SETTLEMENT PLATFORMS INCLUDING FURNISHING ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK. PAYMENT WILL NOT BE MADE FOR SETTLEMENT PLATFORMS WHICH BECOME USELESS BECAUSE OF DAMAGE INFLICTED BY THE CONTRACTOR'S OPERATIONS

ITEM SPECIAL - MISC: TEMPORARY SURCHARGE

DESCRIPTION: THIS ITEM CONSISTS OF DESIGNING, CONSTRUCTING, AND REMOVING A TEMPORARY SURCHARGE AT THE LOCATIONS AND LIMITS SHOWN IN THE PLANS.

AS DIRECTED IN THE PILE DRIVING CONSTRAINTS, A TEMPORARY SURCHARGE IS NECESSARY AT THE ABUTMENTS FOR THIS BRIDGE TO MITIGATE EMBANKMENT SETTLEMENT. CONSTRUCT THE TEMPORARY SURCHARGE SO IT EXTENDS VERTICALLY FROM THE ELEVATION OF THE BOTTOM OF THE PROPOSED ABUTMENT FOOTING TO THE PROPOSED ROADWAY SUBGRADE ELEVATION. CONSTRUCT THE TEMPORARY SURCHARGE USING ITEM 203 EMBANKMENT WITH A DRY DENSITY OF AT LEAST 105 PCF AFTER COMPACTION. SUPPORT THE SIDES OF THE TEMPORARY SURCHARGE SO THAT THE TOP OF THE SURCHARGE MATERIAL IS NO MORE THAN 2 FEET (MEASURED HORIZONTALLY) FROM THE BACK FACE OF THE PROPOSED MSE WALLS. CONSTRUCT THE TEMPORARY SURCHARGE SO THAT IT EXTENDS AT LEAST 200 FEET BEHIND EACH ABUTMENT. PREPARE AND PROVIDE SHOP DRAWINGS AND DESIGN CALCULATIONS FOR THE TEMPORARY SURCHARGE, INCLUDING THE METHOD USED TO SUPPORT THE SIDES OF THE TEMPORARY SURCHARGE AND ALL DETAILS OF THE SUPPORT SYSTEM. ENSURE THE TEMPORARY SURCHARGE DESIGN ACCOMMODATES THE LOCATION AND COMPOSITION OF THE PROPOSED MSE WALLS FOR THE BRIDGE STRUCTURE. HAVE TWO OHIO REGISTERED ENGINEERS SIGN, SEAL, AND DATE THE DRAWINGS AND CALCULATIONS ACCORDING TO C&MS 501.05. SUBMIT THE DRAWINGS AND CALCULATIONS TO THE ENGINEER AT LEAST 30 DAYS BEFORE CONSTRUCTION OF THE TEMPORARY SURCHARGE BEGINS.

REMOVE THE TEMPORARY SURCHARGE AFTER THE CONDITIONS SPECIFIED IN THE PILE DRIVING CONSTRAINTS ARE SATISFIED AND THE ENGINEER AUTHORIZES REMOVAL. BASIS OF PAYMENT: THE DEPARTMENT WILL PAY FOR ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO DESIGN, CONSTRUCT AND REMOVE THE TEMPORARY SURCHARGE AT THE REAR AND FORWARD ABUTMENTS FOR THE BRIDGE AT THE CONTRACT LUMP SUM BID PRICE FOR ITEM SPECIAL 690E98400 SPECIAL-MISC: TEMPORARY SURCHARGE.



NOTES:

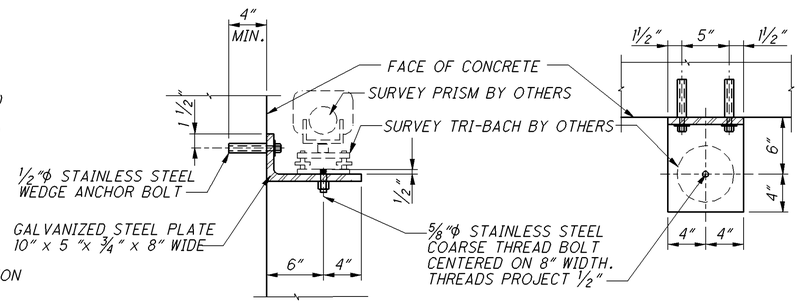
1. SETTLEMENT PLATES SHALL BE PLACED AT THE LOCATIONS INDICATED ON WALL 6 SHEET 337, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
2. CONTRACTOR HAS OPTION OF USING EITHER STEEL OR PLYWOOD PLATFORM BASE.
3. CONTRACTOR SHALL FURNISH MATERIALS AND LABOR TO EXTEND PIPE UP THROUGH ENTIRE FILL.
4. SETTLEMENT PLATFORMS SHALL BE ANCHORED BY STAKES DRIVEN AT EACH CORNER TO PREVENT OVERTURNING.
5. CONTRACTOR WILL ESTABLISH MONUMENTS AT A MINIMUM OF SIX (6) LOCATIONS AROUND EXTERIOR PERIMETER OF WALL TO MONITOR SETTLEMENT AT BASE. MONUMENTS TO BE SURVEYED AT REGULAR INTERVALS DURING CONSTRUCTION AT SAME FREQUENCY AS SETTLEMENT PLATFORMS. MONUMENTS MAY CONSIST OF CHISELED NOTCHES ON WALL FACE OR STEEL RODS OR CONCRETE PIERS SET AT LEAST 30 INCHES BELOW GRADE AT BASE OF WALL.

ITEM 513 - STRUCTURAL STEEL MISC. : SURVEY PRISM MOUNT

FURNISH AND INSTALL STEEL BRACKETS TO SUPPORT A CIRCULAR SURVEY PRISM AT LOCATIONS SHOWN ON THE REAR ABUTMENT ELEVATION.

CARE SHOULD BE TAKEN DURING INSTALLATION TO INSURE THE BRACKET IS INSTALLED LEVEL AND PLUM. LOCATE ABUTMENT REINFORCEMENT PRIOR TO DRILLING ANCHOR BOLTS AND ADJUST BRACKET LOCATION TO MISS THE REINFORCEMENT.

PAYMENT FOR THIS ITEM SHALL BE PAID UNDER "ITEM 513 -STRUCTURAL STEEL MISC. : SURVEY PRISM MOUNT" AND INCLUDES FURNISHING ALL MATERIALS AS WELL AS LABOR AND EQUIPMENT NECESSARY TO INSTALL THE PRISM MOUNTS AT THE DESIGNATED LOCATIONS.



SURVEY PRISM MOUNT ELEVATION

SURVEY PRISM MOUNT PLAN

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED PJL | DRAWN LEL | REVIEWED EBS | DATE 11/16/10
CHECKED SAP | REVISED | STRUCTURE FILE NUMBER 3102858

GENERAL NOTES
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

6 / 47
482
657

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ITEM	EXTENSION	STRUCTURE TOTAL ODOT	STRUCTURE TOTAL CITY	UNIT	ESTIMATED QUANTITIES DESCRIPTION	HAM-050-1881 ABUT.	HAM-050-1881 PIER	HAM-050-1881 SUPER.	HAM-050-1881 GEN.	SEE SHEET NO.
202	11203	1		LUMP	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER					5/47
202	22901	134		SQ YD	APPROACH SLAB REMOVED, AS PER PLAN				134	5/47
SPECIAL	203E65000	4		EACH	SETTLEMENT PLATFORM	4				
SPECIAL	203E07502	1		EACH	INCLINOMETER	1				
503	11100	1		LUMP	COFFERDAMS AND EXCAVATION BRACING					
503	21300	1		LUMP	UNCLASSIFIED EXCAVATION					
505	11100	1		LUMP	PILE DRIVING EQUIPMENT MOBILIZATION					
507	00700	6,190		FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	630	5,560			
507	00750	6,755		FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	675	6,080			
509	10000	499,718		POUND	EPOXY COATED REINFORCING STEEL	14,995	157,261	327,462		
512	10001	112		SQ YD	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)		112			5/47
512	10050	2,108		SQ YD	SEALING OF CONCRETE SURFACES (NON-EPOXY)	133		1,975		
512	10100	1,302		SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		1,302			
513	10300	1,827,097		POUND	STRUCTURAL STEEL MEMBERS, LEVEL 5			1,827,097		
513	20000	5,910		EACH	WELDED STUD SHEAR CONNECTORS			5,910		
513	95030	2		EACH	STRUCTURAL STEEL, MISC.: SURVEY PRISM MOUNTS			2		
514	00060	77,023		SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			77,023		
514	00066	77,023		SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			77,023		
514	10000	31		EACH	FINAL INSPECTION REPAIR			31		
516	11211	65		FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN			65		11&13/47
516	13600	25		SQ FT	1" PREFORMED EXPANSION JOINT FILLER			25		
516	13900	79		SQ FT	2" PREFORMED EXPANSION JOINT FILLER			79		
516	44401	4		EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (20" x 20" x 14¼" BEARING WITH 21" x 21" x 2" LOAD PLATE)	4				30/47
516	44401	16		EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (22" x 24" x 8⅝" BEARING WITH 23" x 25" x 2" LOAD PLATE)		16			30/47
516	44401	4		EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (16" x 20" x 11⅝" BEARING WITH 17" x 21" x 2" LOAD PLATE)	4				30/47
517	76300		1,840	FT	RAILING, MISC.: RAILING ALTERNATE, MINNESOTA RAILING (SEE NOTE 2)			1,840		
518	12300	5		EACH	SCUPPERS, INCLUDING SUPPORTS			5		
518	51100	235		FT	8" PIPE DOWNSPOUT, INCLUDING SPECIALS			235		
523	20000	4		EACH	DYNAMIC LOAD TESTING	1	3			
524	94702	86		FT	DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK	86				
524	94930	170		FT	DRILLED SHAFTS, 66" DIAMETER, ABOVE BEDROCK	170				
SPECIAL	690E98400	1		LUMP	SPECIAL-MISC.: TEMPORARY SURCHARGE					
898	10201	943		CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN			943		5/47
898	10709	323		SQ YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), (T=17"), AS PER PLAN			323		5/47
898	11000	236		CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET)			236		
898	20100	447		CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (PIER ABOVE FOOTING)		447			
898	20160	135		CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (ABUTMENT INCLUDING FOOTING)	135				
898	20300	351		CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (FOOTING)		351			

CALC. BY: BKJ DATE: 3/2008
CHK'D BY: PJL DATE: 3/2008

NOTES:

1. FOR LIST OF ABBREVIATIONS SEE SHEET 6/47.

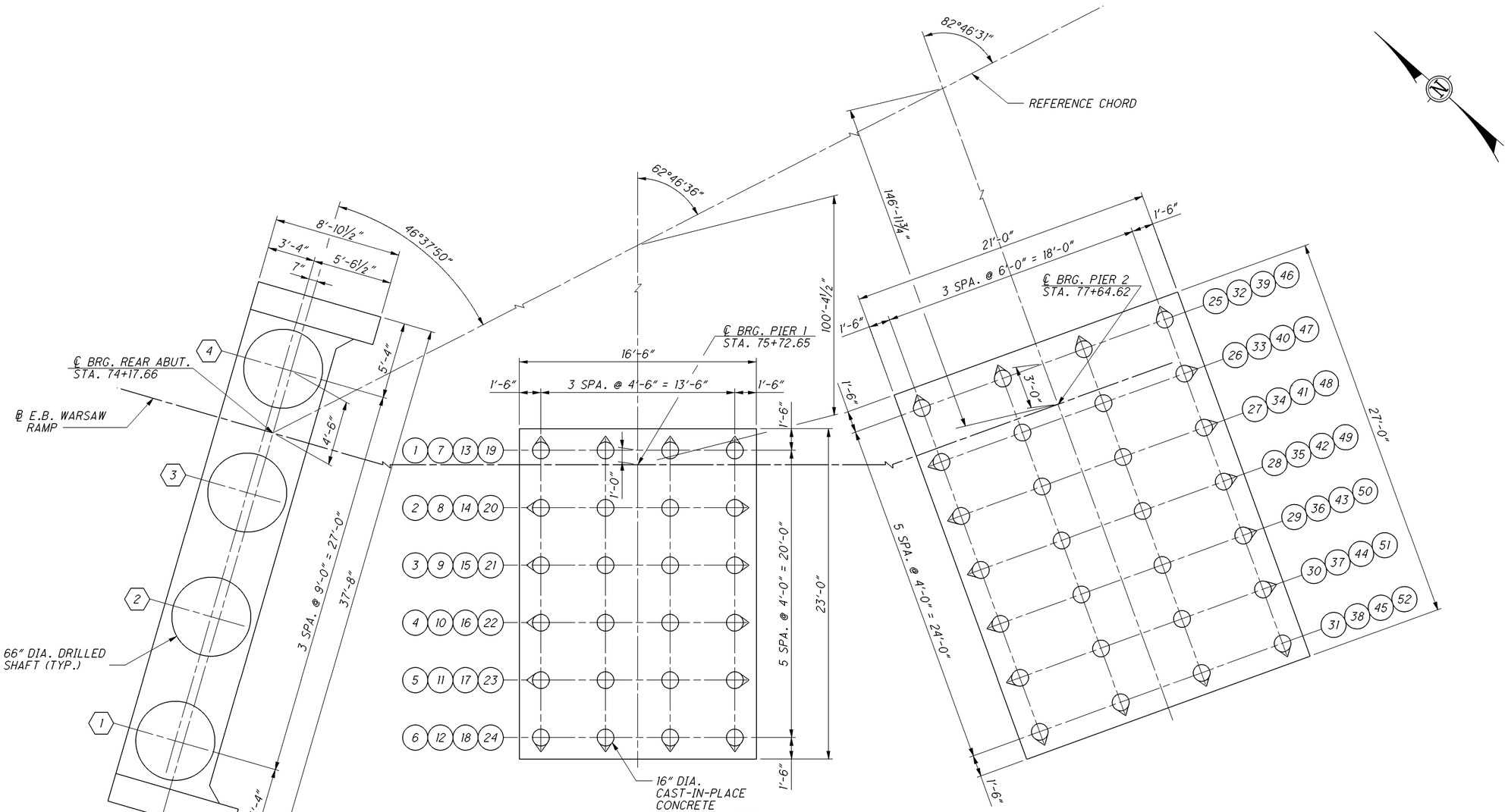
2. RAILING, MISC: RAILING ALTERNATIVE, MINNESOTA RAILING IS A REQUIRED BID ITEM. IF SELECTED BY THE OWNER IT WILL REPLACE BID ITEM 898: QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET). CONCRETE IN ALTERNATE RAILING SHALL BE QC/QA CONCRETE, CLASS QSC2. IF SELECTED BY THE OWNER ALTERNATE RAILING AND ALL NECESSARY TRANSITIONS SHALL BE DETAILED PER MINNESOTA STANDARD DRAWING FIGURE 5-397.157 AND SUBMITTED FOR SHOP DRAWING REVIEW PRIOR TO FABRICATION. THE COST OF ALL LABOR MATERIALS, AND EQUIPMENT NECESSARY FOR PAINTING, REINFORCEMENT, SEALING, RAILINGS, AND SHOP DRAWING PREPARATION SHALL BE INCLUDED WITH THIS ITEM FOR PAYMENT. SEE SHEET 5/47 FOR COLOR REQUIREMENTS. ALL REINFORCEMENT SHALL BE EPOXY COATED. THE ALTERNATE RAILING OPTION WILL REPLACE 47,363 POUNDS OF REINFORCEMENT AND 1,471 SQ.YD. OF SEALING.

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAP		3102793	

ESTIMATED QUANTITIES
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082



REAR ABUTMENT

PIER 1

PIER 2

FOUNDATION LAYOUT PLAN

LEGEND:

- PROPOSED VERTICAL PILE
- PROPOSED PILE BATTERED (1:4) IN DIRECTION OF ARROW
- (N) DENOTES PILE NUMBER "N"
- ⟨N⟩ DENOTES DRILLED SHAFT NUMBER "N"

NOTE:

FOR ADDITIONAL FOUNDATION LAYOUT PLAN, SEE SHEET 9/47.

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
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PJL		3102858	

FOUNDATION LAYOUT PLAN I
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

8 / 47

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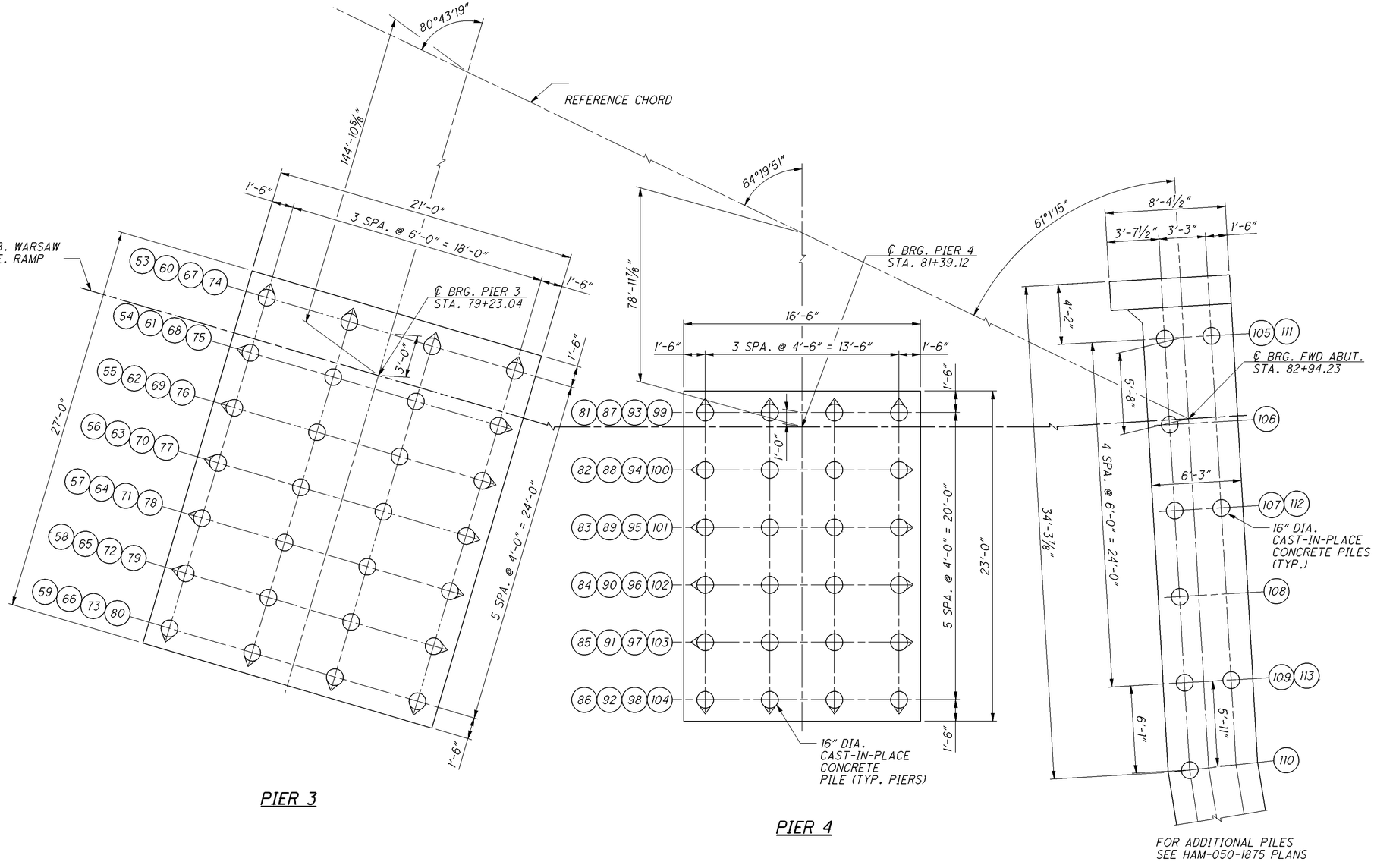

PIER 3

PIER 4

FORWARD ABUTMENT

FOUNDATION LAYOUT PLAN

LEGEND:

- ◯ PROPOSED VERTICAL PILE
- ◁◯ PROPOSED PILE BATTERED (1:4) IN DIRECTION OF ARROW
- (N) DENOTES PILE NUMBER 'N'

NOTE:

FOR ADDITIONAL FOUNDATION LAYOUT PLAN, SEE SHEET 8/47.

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
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FOUNDATION LAYOUT PLAN II

BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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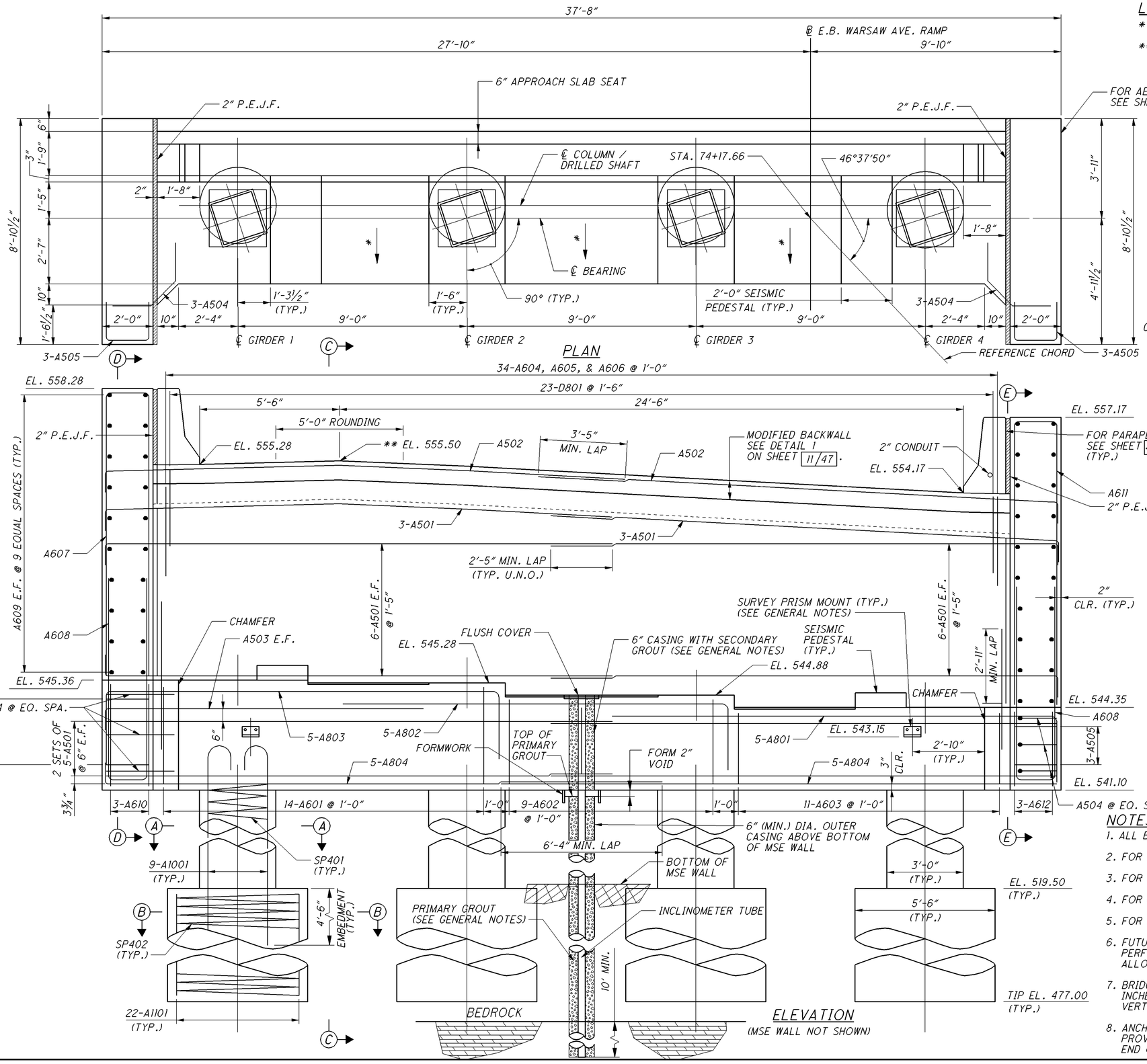

NOTES:

1. ALL BACKWALL ELEVATIONS GIVEN AT FACE OF JOINT ARMOR.
2. FOR JOINT ARMOR DETAIL, SEE SHEET 11/47.
3. FOR SECTIONS A-A, B-B, C-C, D-D, AND E-E, SEE SHEET 11/47.
4. FOR FOUNDATION LAYOUT PLAN, SEE SHEET 8/47.
5. FOR SEISMIC PEDESTAL DIMENSION H, SEE SHEET 32/47.
6. FUTURE JACKING OF THE ABUTMENT BEAM SEAT SHALL BE PERFORMED UNDER DEAD LOAD ONLY, NO LIVE LOAD WILL BE ALLOWED.
7. BRIDGE SEAT ELEVATIONS HAVE BEEN ADJUSTED UPWARD 0.438 INCHES AT THE REAR ABUTMENT TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.
8. ANCHORAGE OF SPIRAL REINFORCEMENT SHALL BE PROVIDED BY 1½ EXTRA TURNS OF SPIRAL BAR AT EACH END OF A SPIRAL UNIT.

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
BMG	NAL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PJL		3102858	

REAR ABUTMENT
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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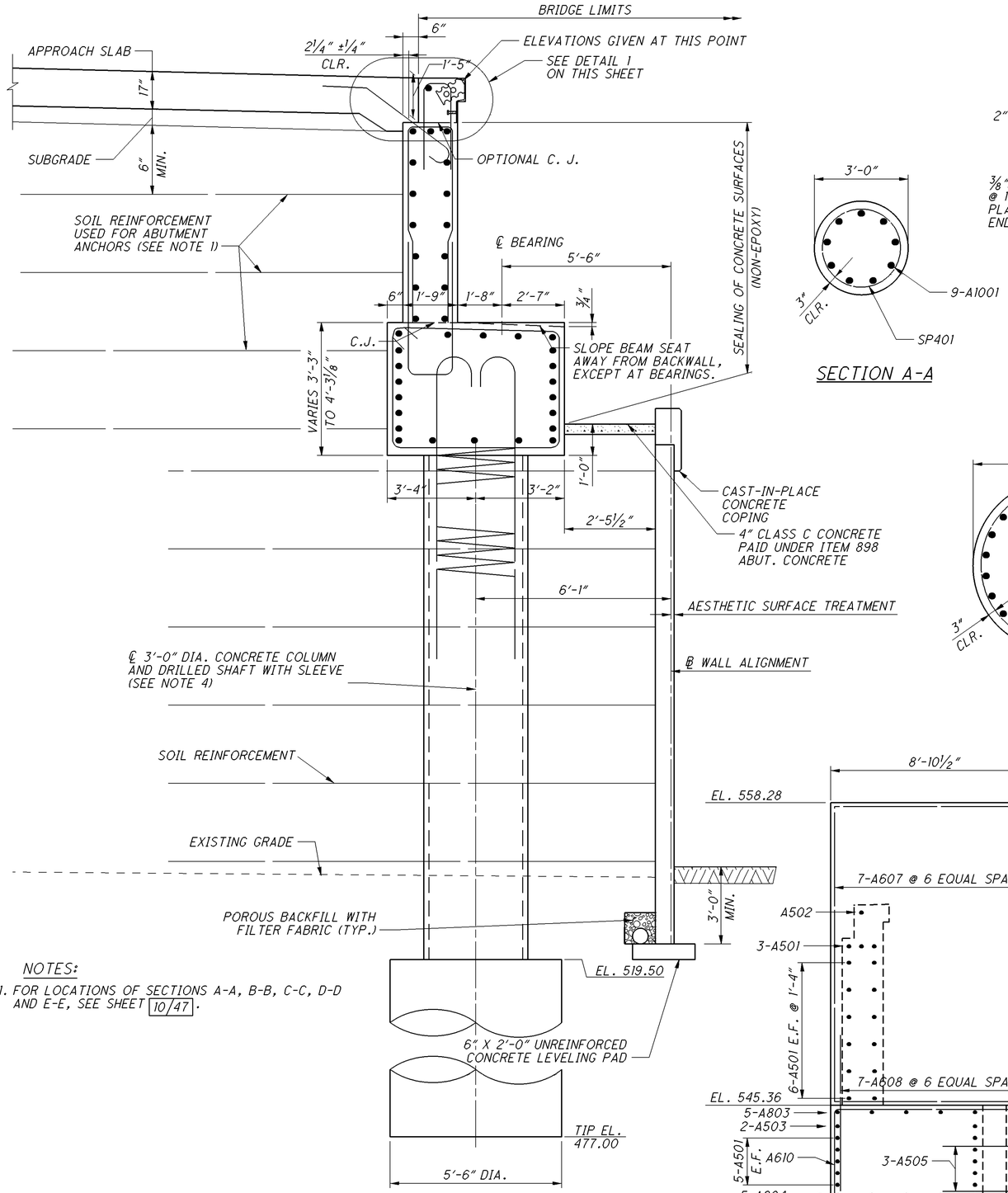
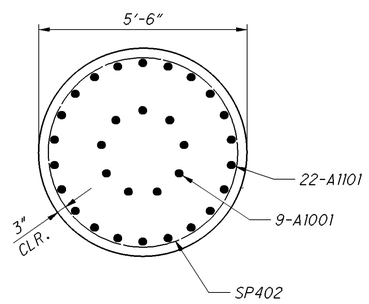


SECTION C-C

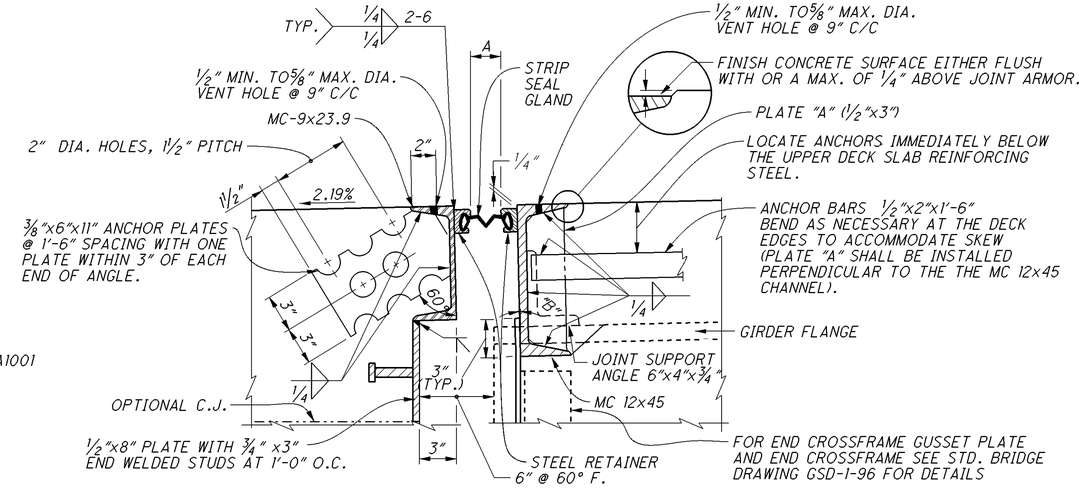
NOTES:

1. FOR LOCATIONS OF SECTIONS A-A, B-B, C-C, D-D AND E-E, SEE SHEET 10/47.

SECTION A-A



SECTION B-B

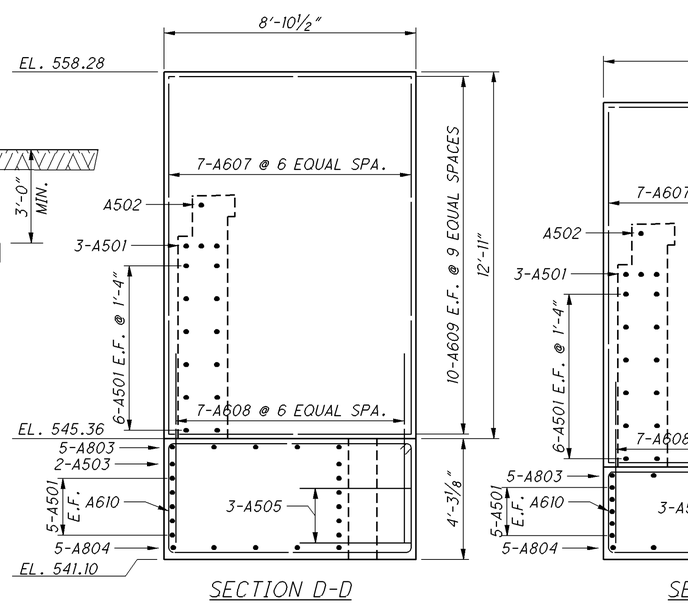


DETAIL 1

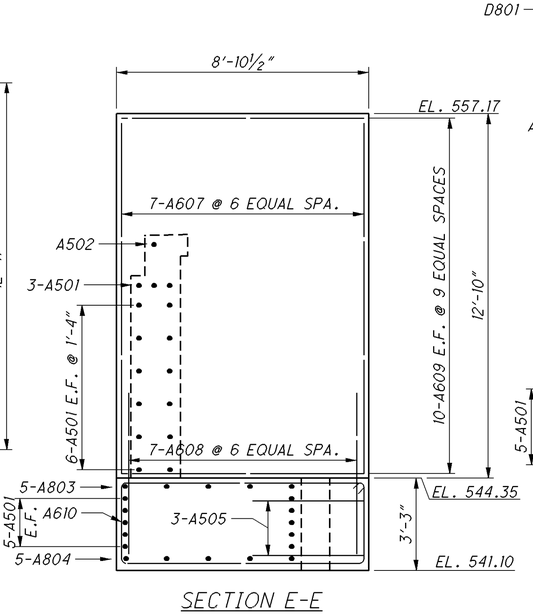
JOINT OPENING DIMENSIONS (5" STRIP SEAL GLAND)							
TEMP (°F)	30	40	50	60	70	80	90
"A"	3¼"	2 15/16"	2 9/16"	2¼"	1 15/16"	1⅝"	1¼"

"B" = 1°15'16"

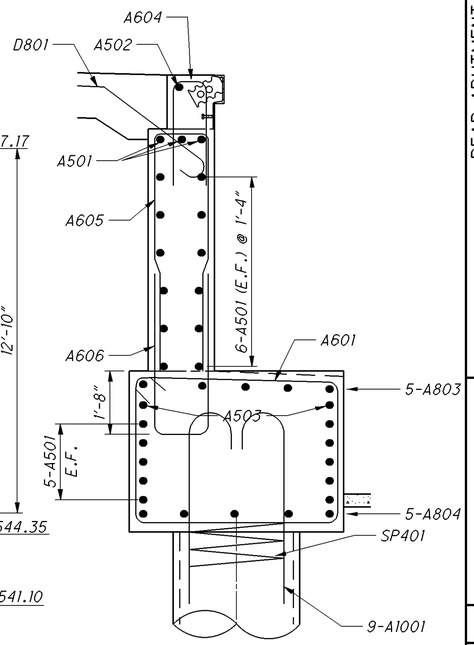
MINIMUM JOINT OPENING (DIMENSION"A") AT TIME THE SEAL GLAND RETAINERS ARE INSTALLED SHALL NOT BE LESS THAN 1½". IF THE JOINT OPENING IS LESS, INSTALLATION SHALL BE POSTPONED UNTIL THE TEMPERATURE DROPS A SUFFICIENT AMOUNT TO ALLOW THE 1½" OPENING.



SECTION D-D



SECTION E-E



REAR ABUTMENT REINFORCING

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
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PJL		3102858	

REAR ABUTMENT DETAILS
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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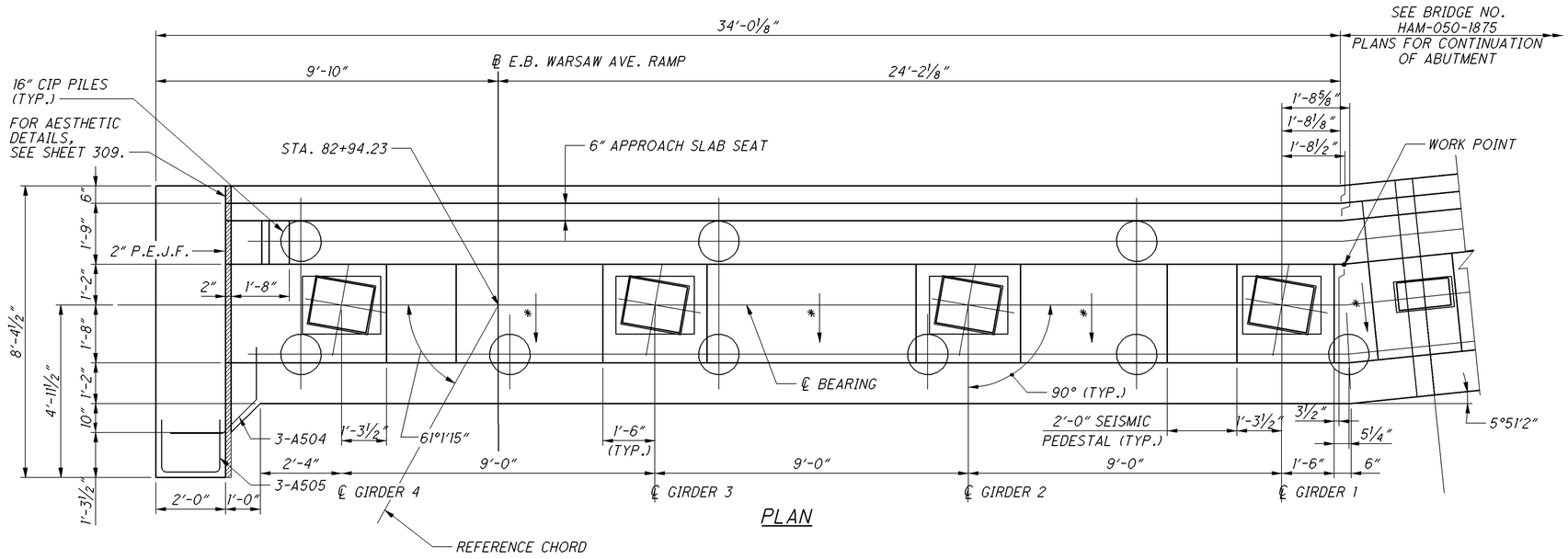
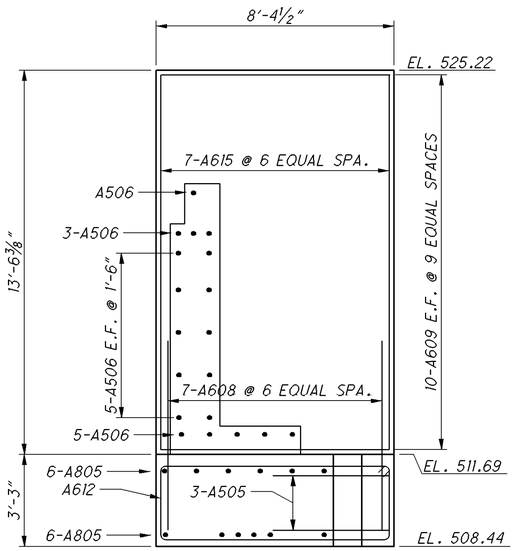
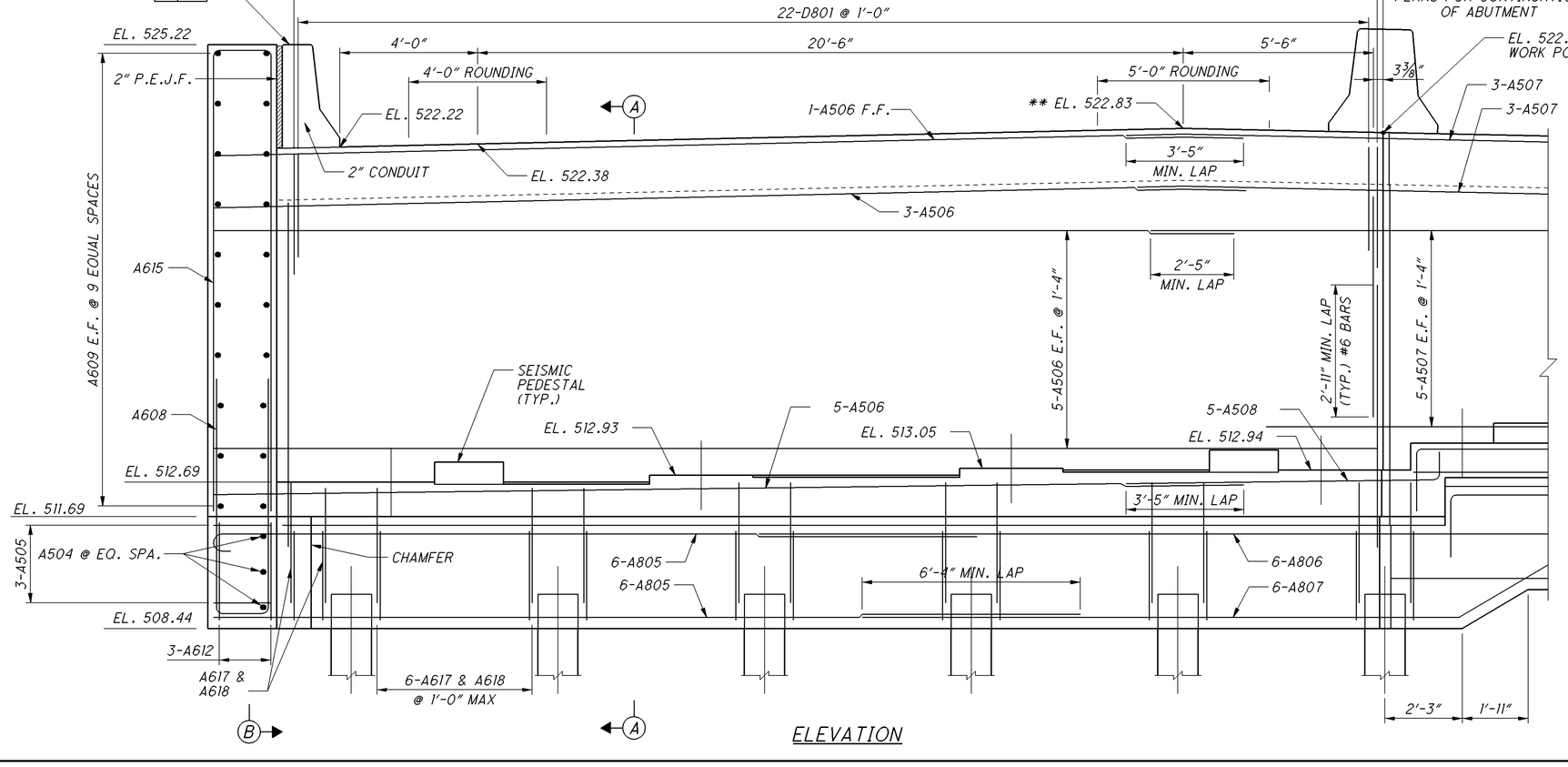


PLAN



SECTION B-B



ELEVATION

LEGEND:

* - SLOPE 3/4" BETWEEN BEARING SEATS

** - ELEVATION AT APPARENT GRADE BREAK AT CENTER OF SHOULDER ROUNDING.

NOTES:

1. ALL BACKWALL ELEVATIONS GIVEN AT FACE OF JOINT ARMOR.
2. FOR SEISMIC PEDESTAL DETAILS, SEE SHEET 13/47.
3. FOR SECTION A-A, SEE SHEET 13/47.
4. FOR FOUNDATION LAYOUT PLAN, SEE SHEET 9/47.
5. BRIDGE SEAT ELEVATIONS HAVE BEEN ADJUSTED UPWARD 0.381 INCHES AT THE FORWARD ABUTMENT TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
BMG	NAL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PJL		3102858	

FORWARD ABUTMENT
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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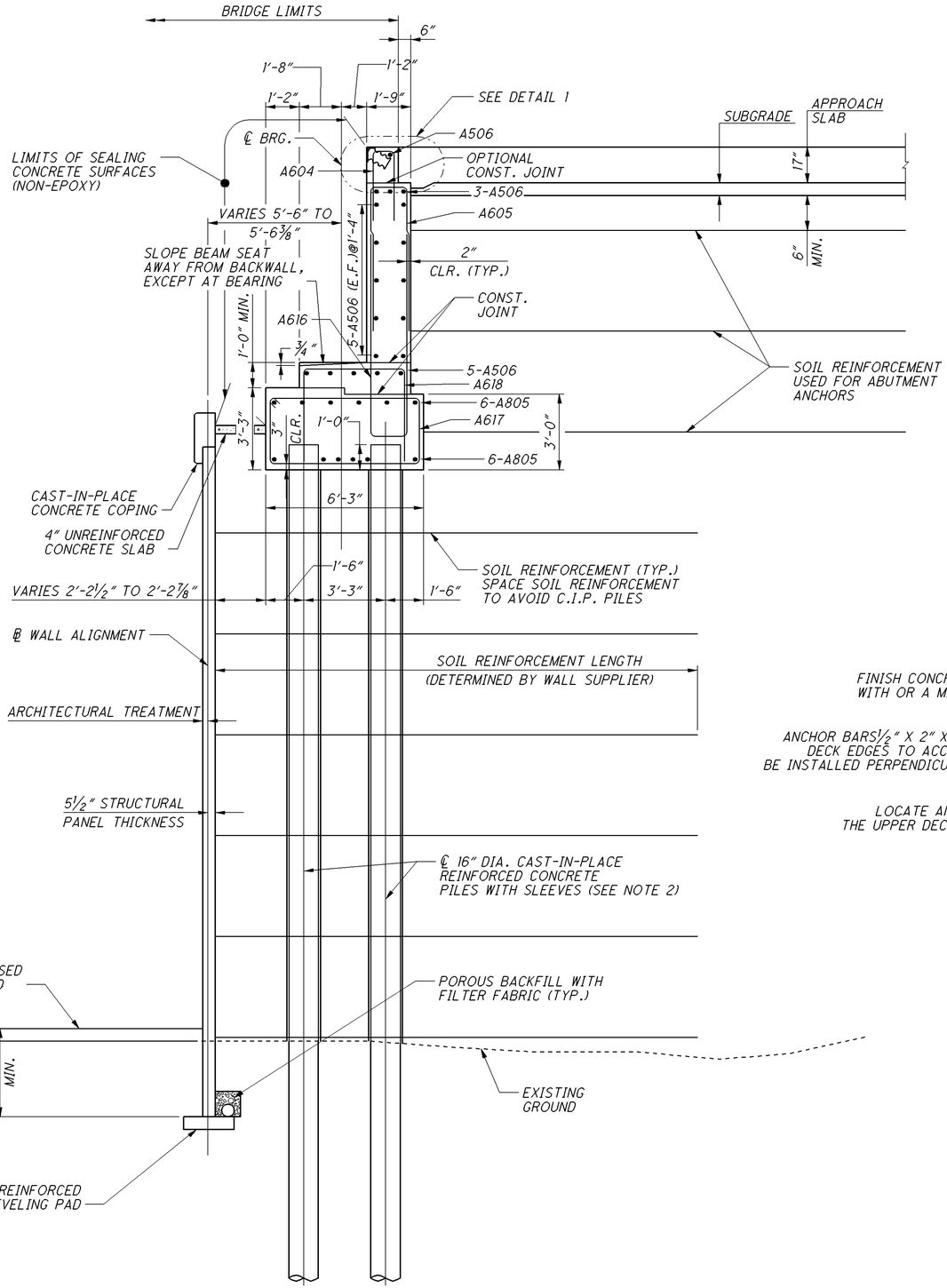
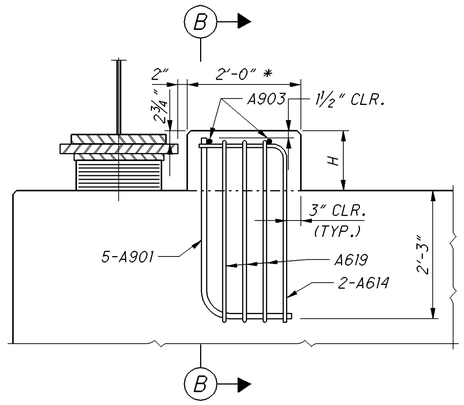
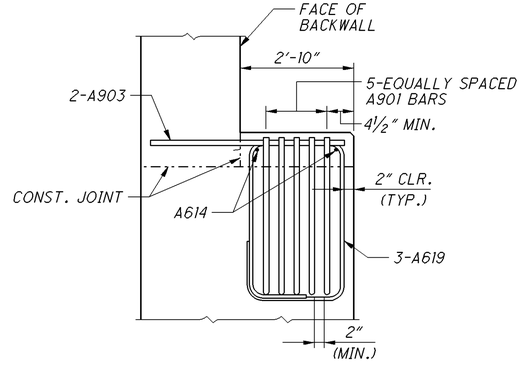


SECTION A-A



FRONT VIEW OF SEISMIC PEDESTAL

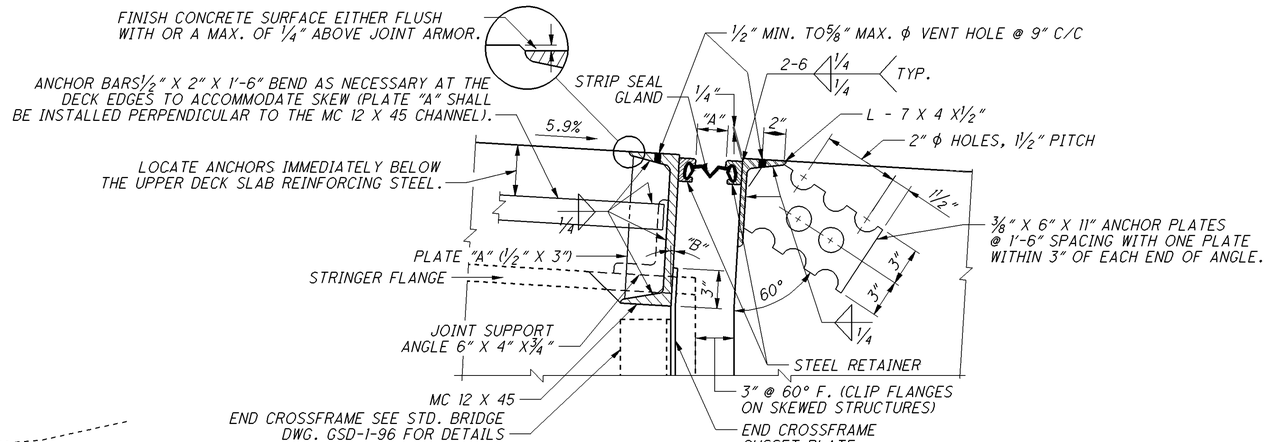
* FINISH THE SURFACE OF THE BEAM SEAT IN THIS AREA WITH A SERRATED TROWEL. THE SERRATION SHALL BE 1/4" DEEP MINIMUM.



SECTION B-B

JOINT OPENING DIMENSIONS (5" STRIP SEAL GLAND)							
TEMP (°F)	30	40	50	60	70	80	90
"A"	3 1/4"	2 15/16"	2 9/16"	2 1/4"	1 7/8"	1 1/2"	1 3/16"

"B" = 3°21'44"



DETAIL 1

MODIFIED EXPANSION JOINT DETAIL (SEE STANDARD DRAWING EXJ-4-87 FOR NOTES & DETAILS)

NOTES:

1. FOR SEISMIC PEDESTAL DIMENSION H, SEE SHEET 32/47.
2. FOR LOCATION OF SECTION A-A, SEE SHEET 12/47.

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
PJL		3102858	

FORWARD ABUTMENT DETAILS
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

13 / 47

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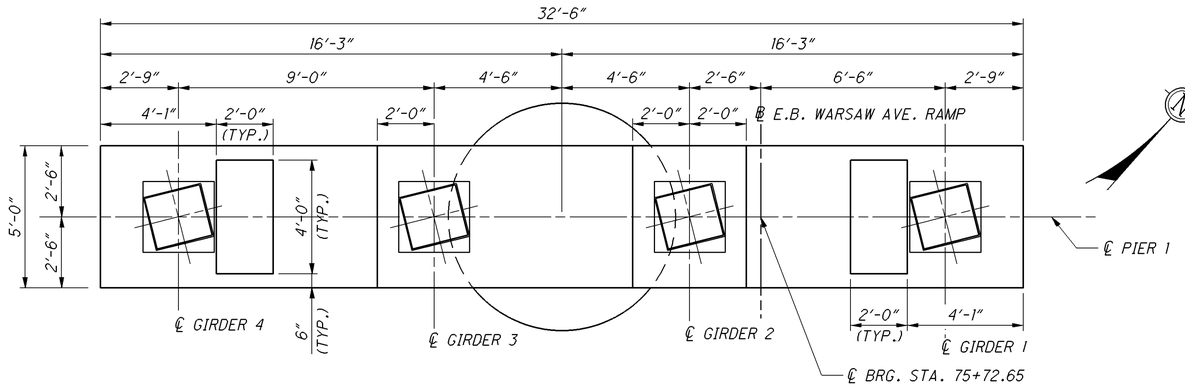
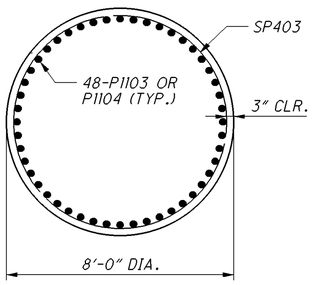




NOTES:

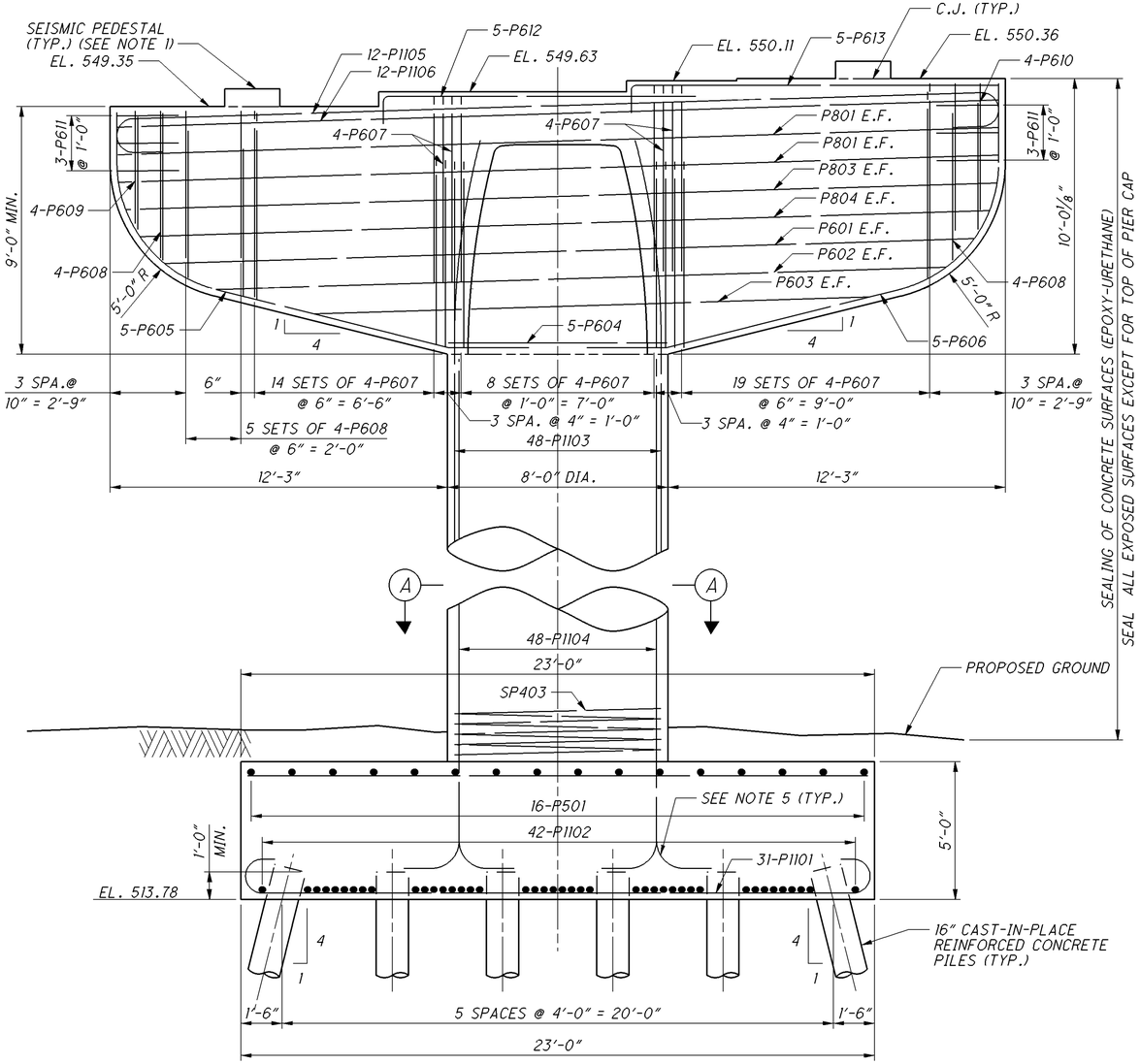
1. SEE SHEET 17/47 FOR SEISMIC PEDESTAL DETAILS.
2. SEE SHEET 18/47 FOR AESTHETIC DETAILS.
3. ANCHORAGE OF SPIRAL REINFORCEMENT SHALL BE PROVIDED BY 1½ EXTRA TURNS OF SPIRAL BAR AT EACH END OF A SPIRAL UNIT. SPIRAL REINFORCEMENT SHALL EXTEND FORM THE TOP OF THE FOOTING TO THE BOTTOM ROW OF HORIZONTAL CAP REINFORCEMENT.
4. BRIDGE SEAT ELEVATIONS HAVE BEEN ADJUSTED UPWARD 0.545 INCHES AT PIER 1 TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.
5. ALTERNATE DIRECTION OF THE BOTTOM LEG OF FOOTING/ COLUMN DOWEL BARS.

MINIMUM LAPS:

#6 BARS 3'-10"

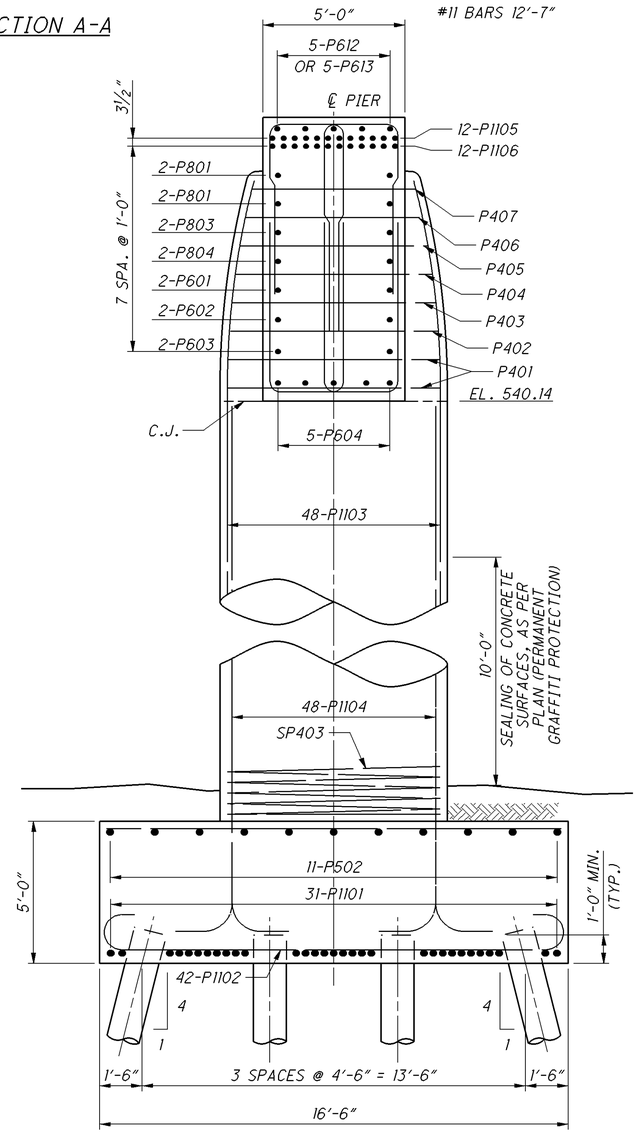
#11 BARS 12'-7"

PIER PLAN



ELEVATION SECTION

SECTION A-A



PIER SIDE VIEW

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JSK		3102858	

PIER 1 DETAILS
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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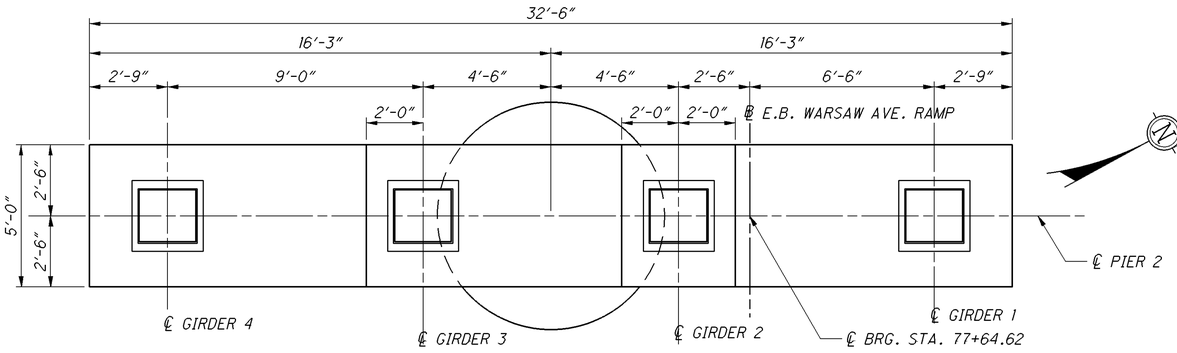
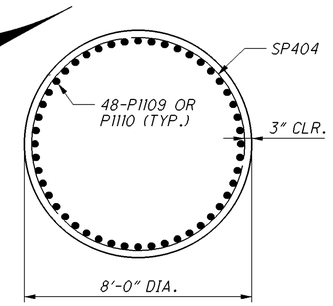




NOTES:

1. BRIDGE SEAT REINFORCING, SETTING ANCHORS: ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE PRE-SETTING OF BEARING ANCHORS. SEE SHEET 18/47 FOR MORE DETAILS.

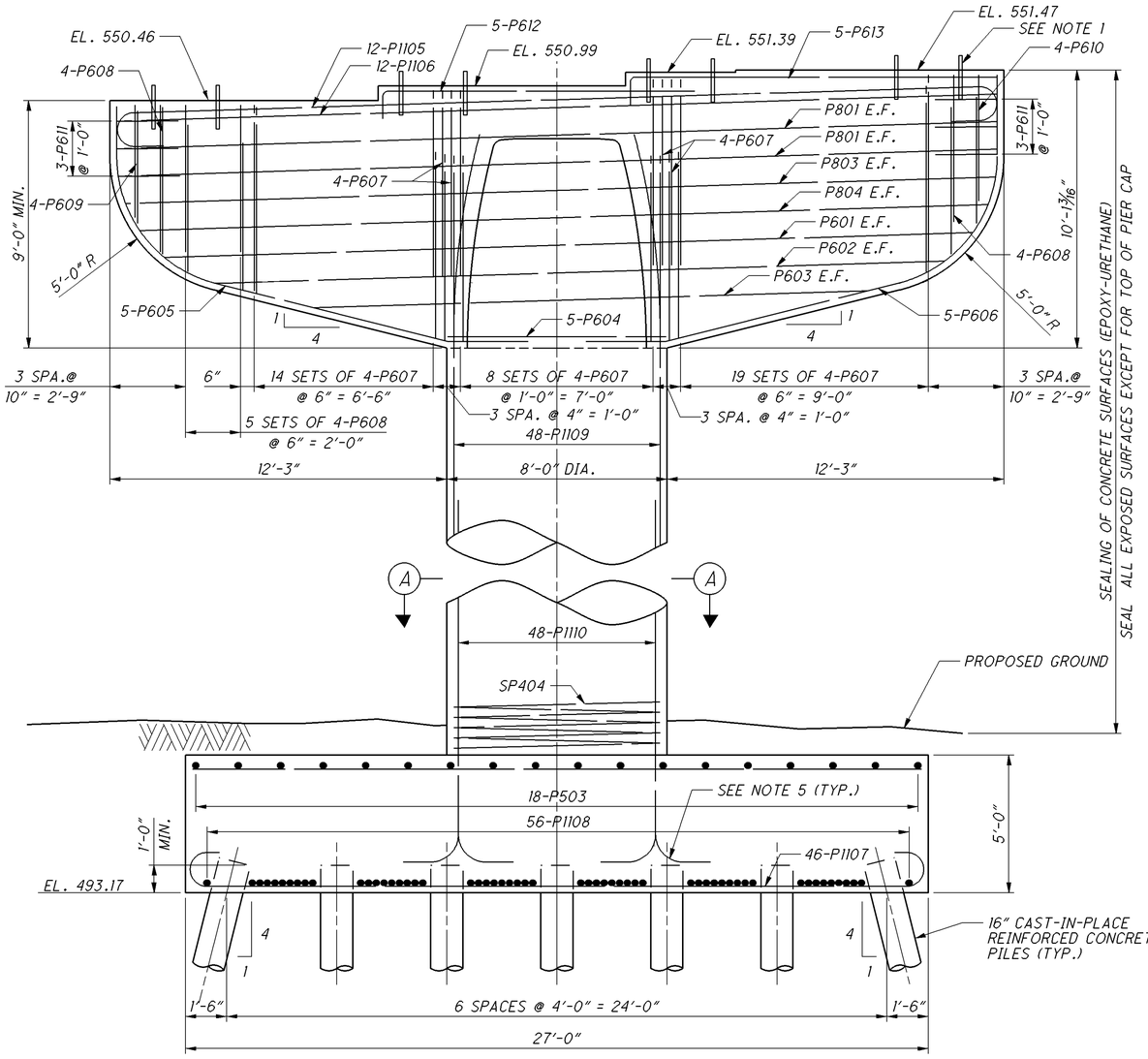
2. SEE SHEET 18/47 FOR AESTHETIC DETAILS.

3. ANCHORAGE OF SPIRAL REINFORCEMENT SHALL BE PROVIDED BY 1½ EXTRA TURNS OF SPIRAL BAR AT EACH END OF A SPIRAL UNIT. SPIRAL REINFORCEMENT SHALL EXTEND FROM THE TOP OF THE FOOTING TO THE BOTTOM ROW OF HORIZONTAL CAP REINFORCEMENT.

4. BRIDGE SEAT ELEVATIONS HAVE BEEN ADJUSTED UPWARD 0.449 INCHES AT PIER 2 TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.

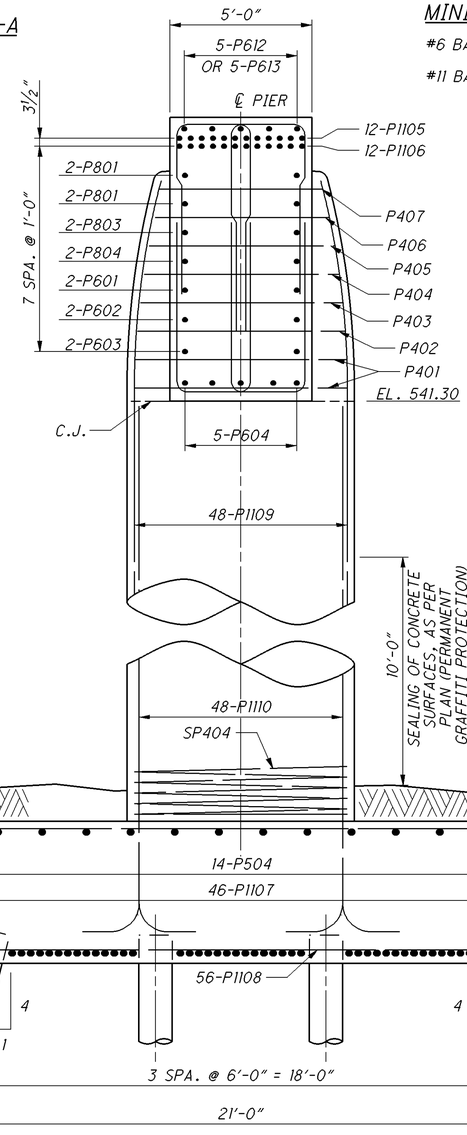
5. ALTERNATE DIRECTION OF THE BOTTOM LEG OF FOOTING/ COLUMN DOWEL BARS.

PIER PLAN



ELEVATION SECTION

SECTION A-A



PIER SIDE VIEW

MINIMUM LAPS:

#6 BARS 3'-10"

#11 BARS 12'-7"

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DESIGN AGENCY
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PIER 2 DETAILS
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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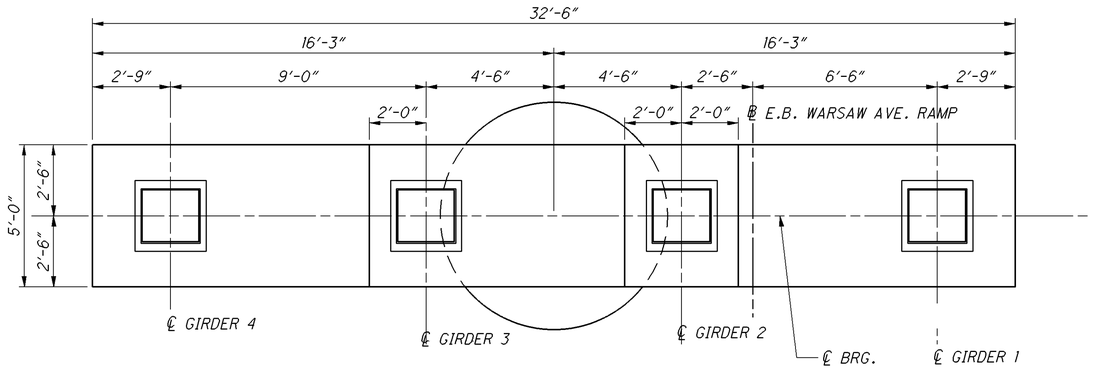
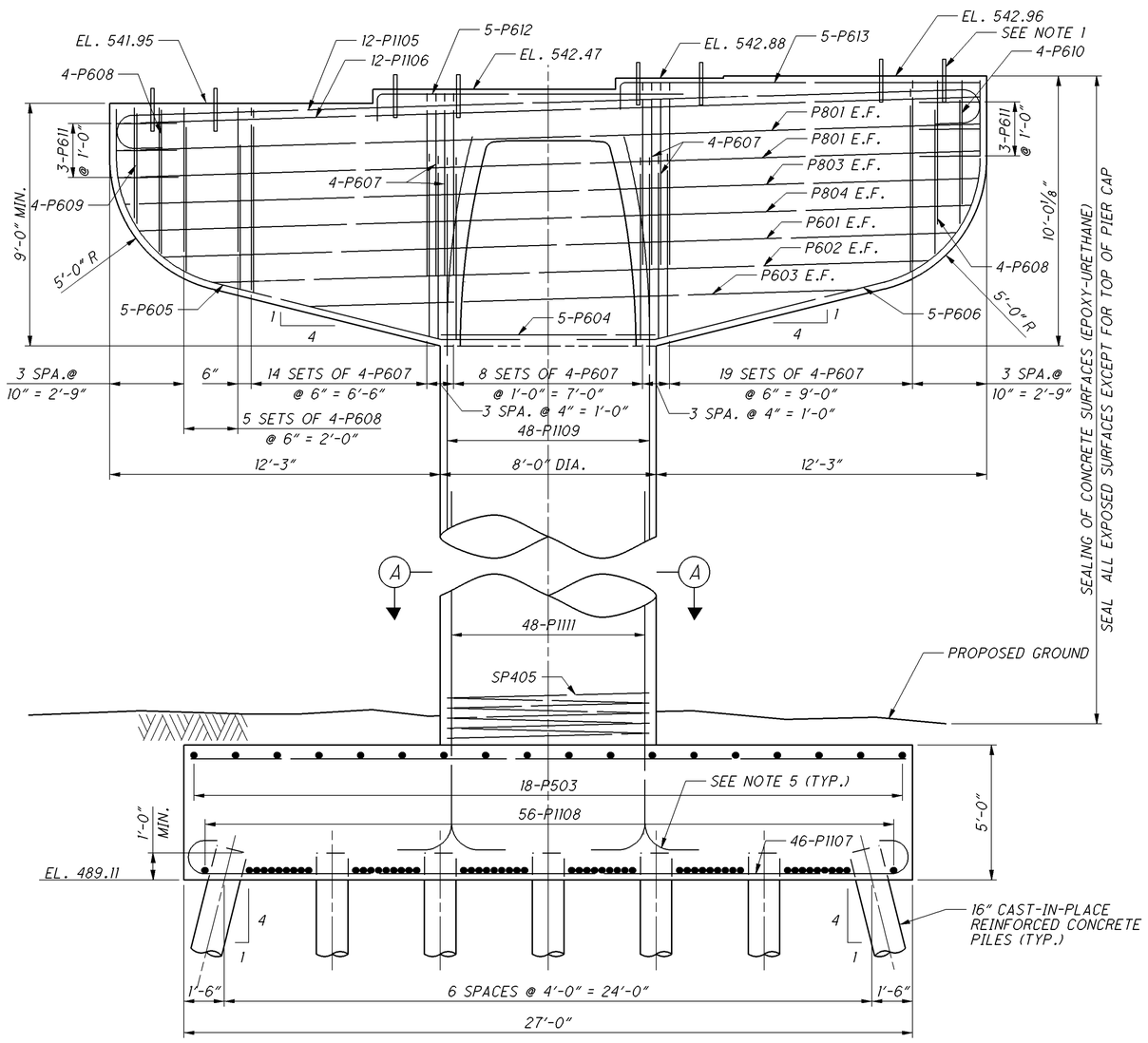
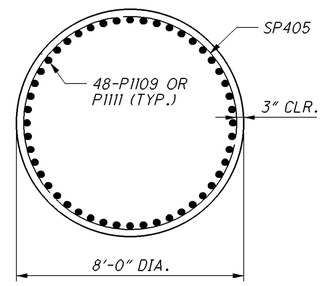


PIER PLAN



ELEVATION SECTION



SECTION A-A

NOTES:

1. BRIDGE SEAT REINFORCING, SETTING ANCHORS: ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE PRE-SETTING OF BEARING ANCHORS. SEE SHEET 18/47 FOR MORE DETAILS.

2. SEE SHEET 18/47 FOR AESTHETIC DETAILS.

3. ANCHORAGE OF SPIRAL REINFORCEMENT SHALL BE PROVIDED BY 1½ EXTRA TURNS OF SPIRAL BAR AT EACH END OF A SPIRAL UNIT. SPIRAL REINFORCEMENT SHALL EXTEND FROM THE TOP OF THE FOOTING TO THE BOTTOM ROW OF HORIZONTAL CAP REINFORCEMENT.

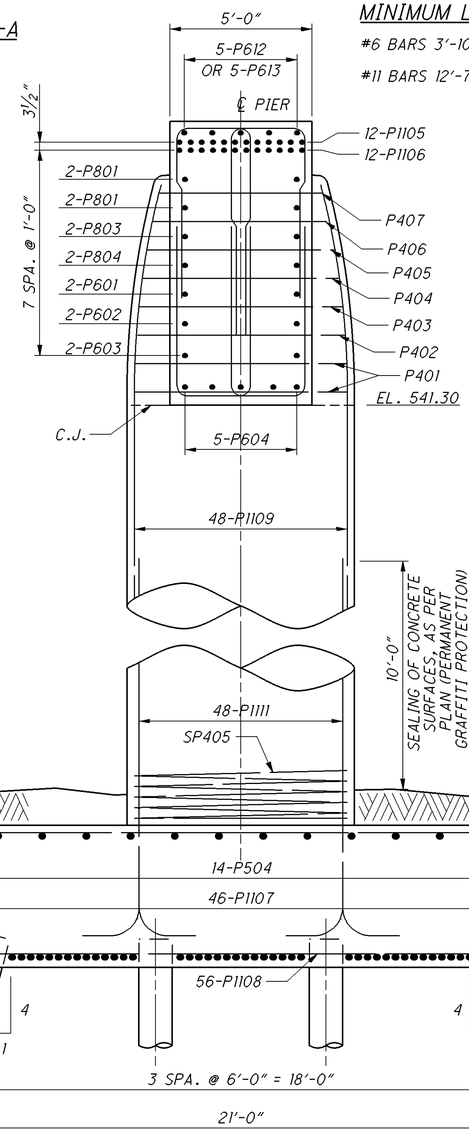
4. BRIDGE SEAT ELEVATIONS HAVE BEEN ADJUSTED UPWARD 0.545 INCHES AT PIER 3 TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.

5. ALTERNATE DIRECTION OF THE BOTTOM LEG OF FOOTING/ COLUMN DOWEL BARS.

MINIMUM LAPS:

#6 BARS 3'-10"

#11 BARS 12'-7"



PIER SIDE VIEW

DESIGN AGENCY	PB AMERICAS, INC. 312 ELM STREET SUITE 2500 CINCINNATI, OHIO 45202
DESIGNED	PJL
DRAWN	LEL
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DATE	11/16/10
CHECKED	JSK
REVISED	
STRUCTURE FILE NUMBER	3102858

PIER 3 DETAILS

BRIDGE NO. HAM-050-1881

EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79

PID No. 20082

16 / 47

492 / 657

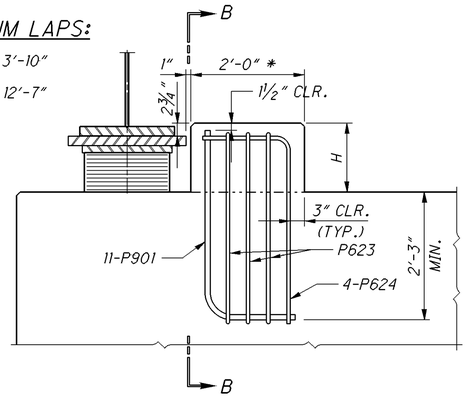
NOTES:

1. SEE SHEET 31/47 FOR SEISMIC PEDESTAL DIMENSION H.
2. SEE SHEET 18/47 FOR AESTHETIC DETAILS.
3. ANCHORAGE OF SPIRAL REINFORCEMENT SHALL BE PROVIDED BY 1½ EXTRA TURNS OF SPIRAL BAR AT EACH END OF A SPIRAL UNIT.
4. BRIDGE SEAT ELEVATIONS HAVE BEEN ADJUSTED UPWARD 0.526 INCHES AT PIER 4 TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.
5. ALTERNATE DIRECTION OF THE BOTTOM LEG OF FOOTING/ COLUMN DOWEL BARS.

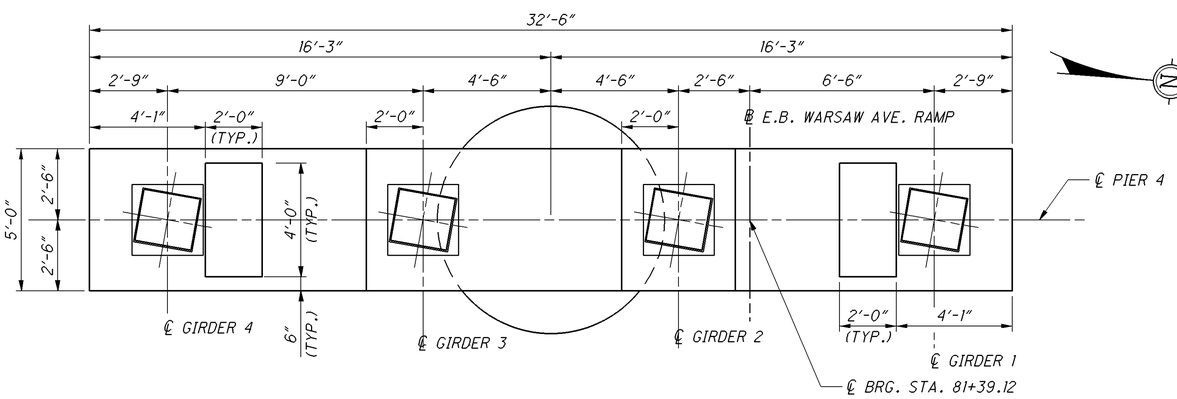
MINIMUM LAPS:

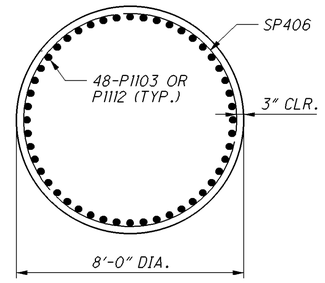
#6 BARS 3'-10"

#11 BARS 12'-7"

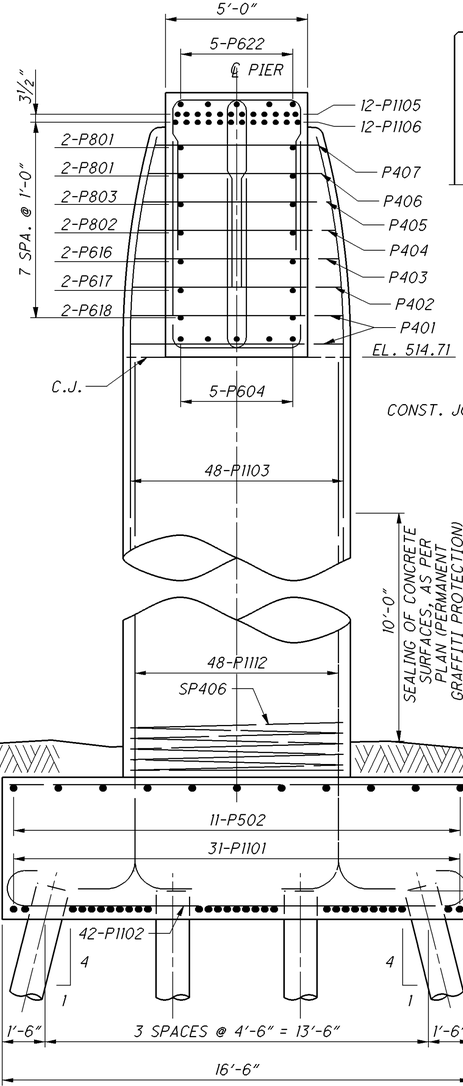


PIER PLAN

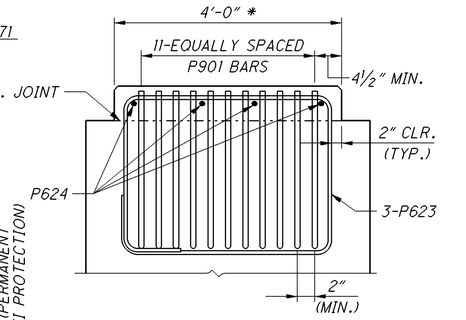




SECTION A-A



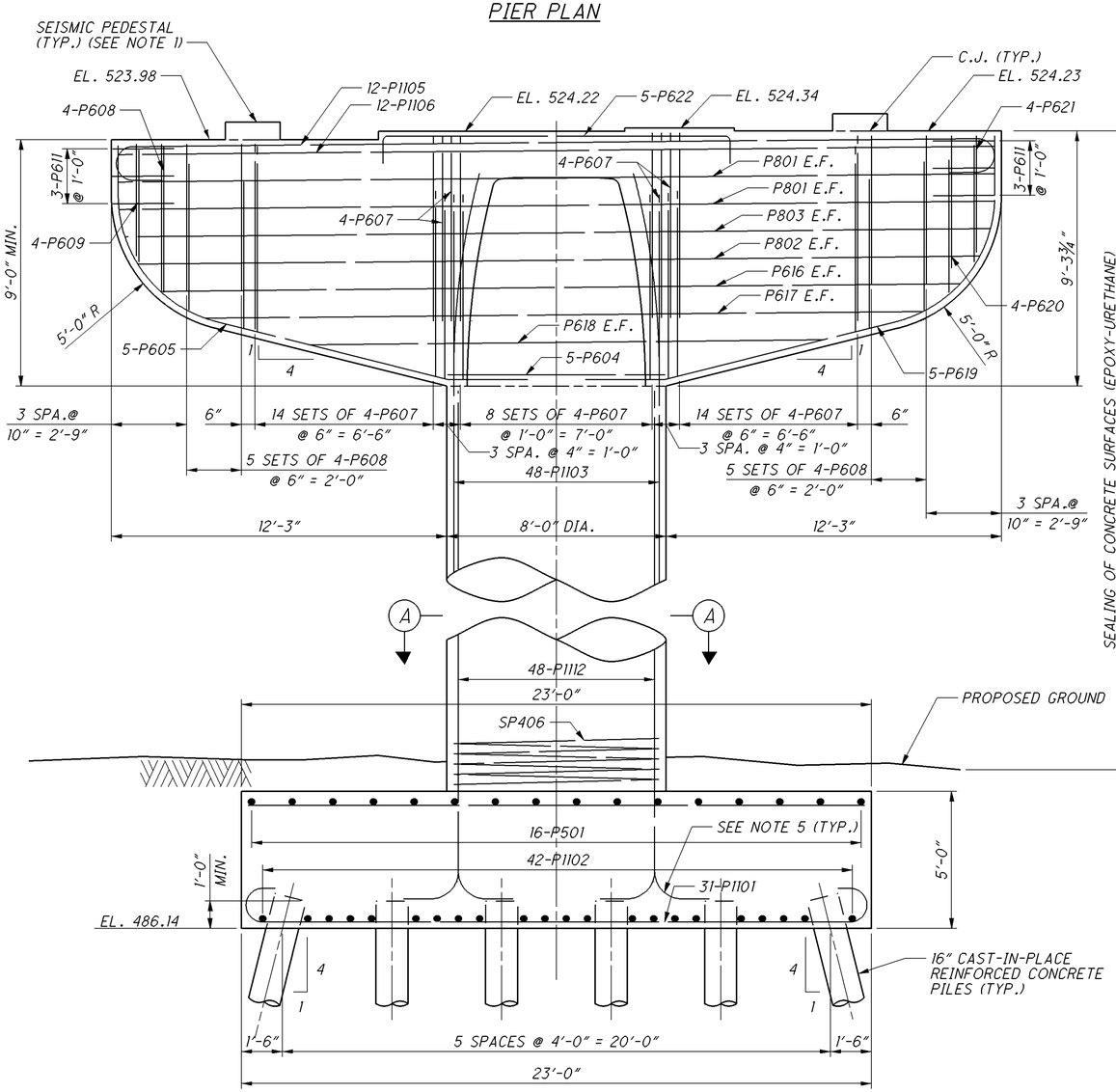
FRONT VIEW OF SEISMIC PEDESTAL



SECTION B-B

* THE SURFACE OF THE BEAM SEAT IN THIS AREA SHALL BE FINISHED WITH A SERRATED TROWEL. THE SERRATIONS SHALL BE ¼" DEEP MINIMUM.

ELEVATION SECTION



SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
SEAL ALL EXPOSED SURFACES EXCEPT FOR TOP OF PIER CAP

PIER SIDE VIEW

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JSK		3102858	

PIER 4 DETAILS
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

17 / 47

493 / 657

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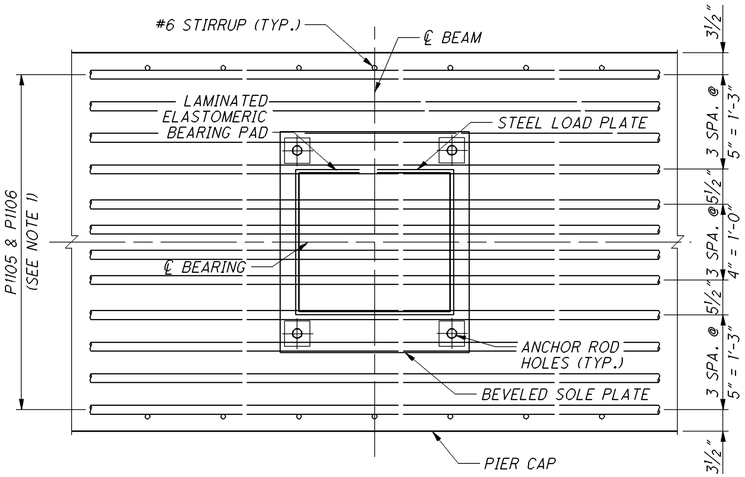
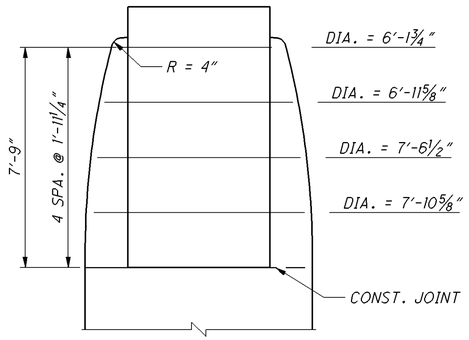


BEARING ANCHOR ROD PLAN

PIERS 2 & 3
TYPICAL EACH GIRDER



AESTHETIC TREATMENT

NOTES:

1. BARS IN UPPER LAYERS SHALL BE PLACED DIRECTLY ABOVE BOTTOM LAYERS WITH CLEAR DISTANCE BETWEEN LAYERS NOT NESS THAN 1 INCH.

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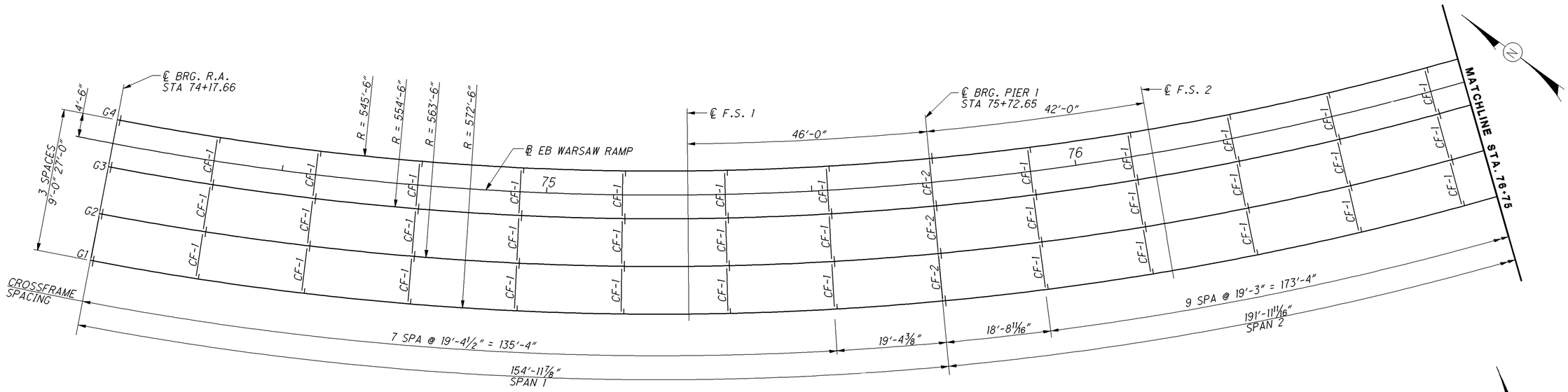
DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

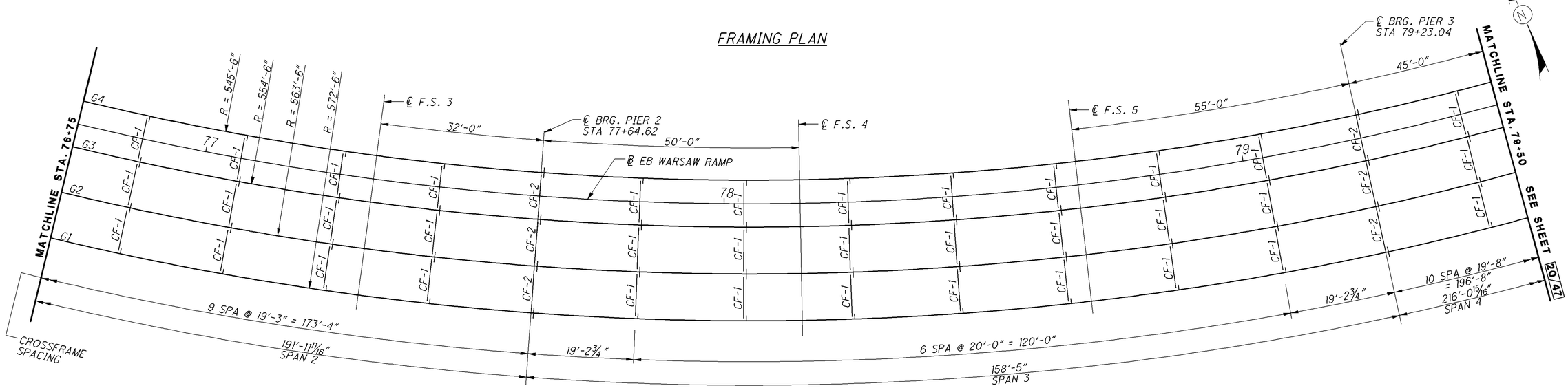
DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JSK		3102858	

PIER AESTHETIC DETAILS
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082



FRAMING PLAN



FRAMING PLAN

NOTES:

1. ALL MATERIAL TO BE ASTM-A709, GRADE 50.
2. ALL BEARINGS AND CROSSFRAMES ARE RADIAL TO THE CENTER OF CURVATURE.
3. ALL STEEL TO BE SHOP PRIMED AND FIELD PAINTED ACCORDING TO ITEM 514.
4. BEARING STIFFENERS AND ENDS OF GIRDERS TO BE VERTICAL AFTER TOTAL DEAD LOAD IS APPLIED.
5. SPLICES AND INTERMEDIATE STIFFENERS TO BE NORMAL TO GIRDERS.
6. END CROSSFRAMES SHALL BE PER STANDARD DRAWING GSD-1-96.

DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

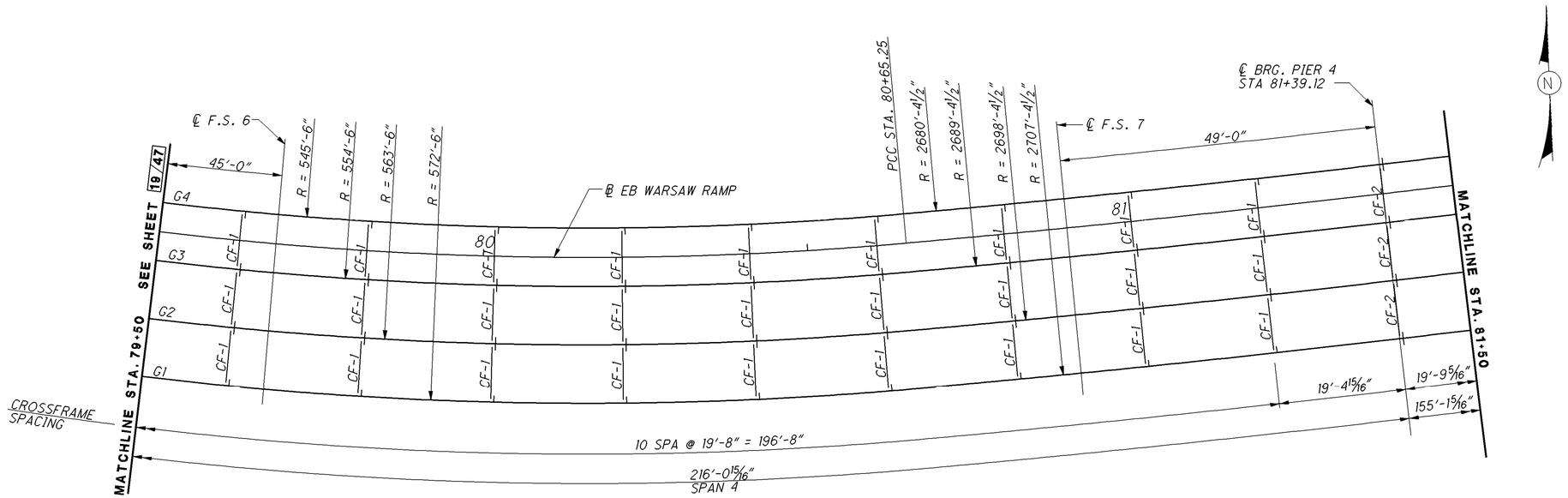
DESIGNED	DRAWN	REVIEWED	DATE
MJB	CBS	PJL	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJD		3102858	

FRAMING PLAN
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

19 / 47

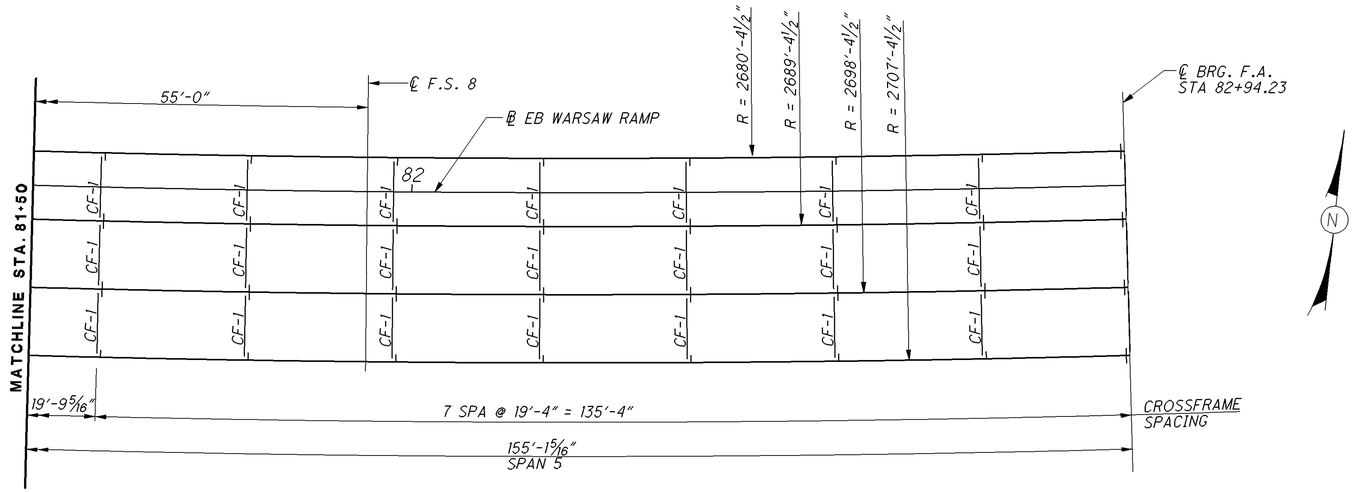
495
657



FRAMING PLAN

NOTES:

1. ALL MATERIAL TO BE ASTM-A709, GRADE 50.
2. ALL BEARINGS AND CROSSFRAMES ARE RADIAL TO THE CENTER OF CURVATURE.
3. ALL STEEL TO BE SHOP PRIMED AND FIELD PAINTED ACCORDING TO ITEM 514.
4. BEARING STIFFENERS AND ENDS OF GIRDERS TO BE VERTICAL AFTER TOTAL DEAD LOAD IS APPLIED.
5. SPLICES AND INTERMEDIATE STIFFENERS TO BE NORMAL TO GIRDERS.
6. END CROSSFRAMES SHALL BE PER STANDARD DRAWING GSD-1-96.



FRAMING PLAN

DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

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MJB	CBS	PJL	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJD		3102858	

FRAMING PLAN
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

20/47

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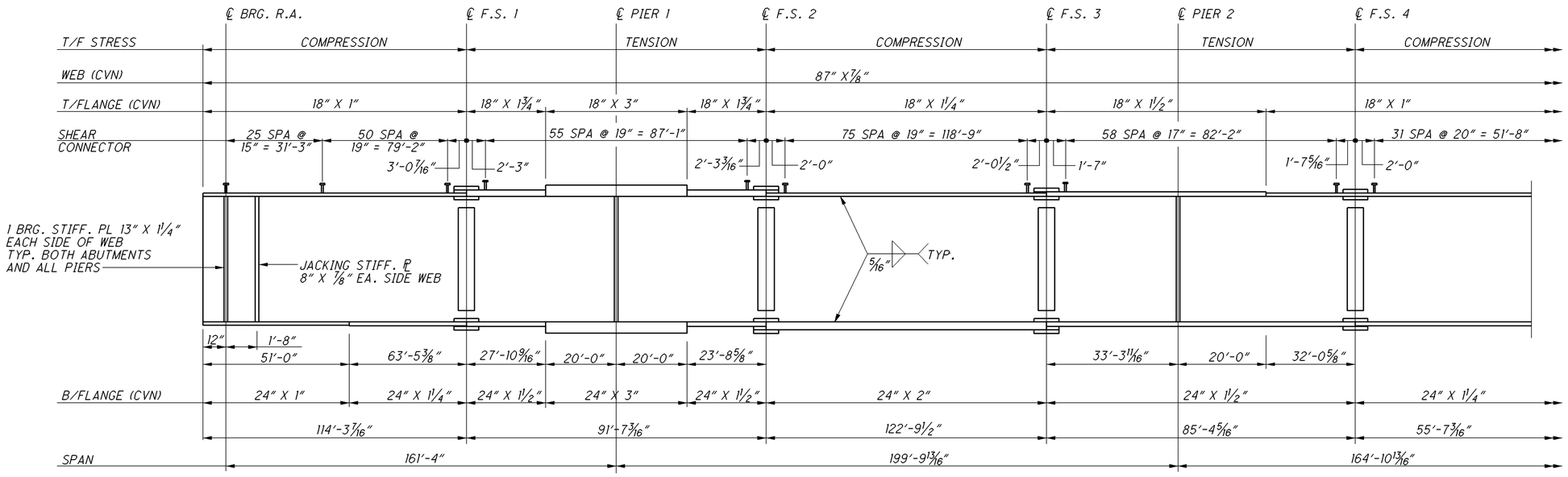
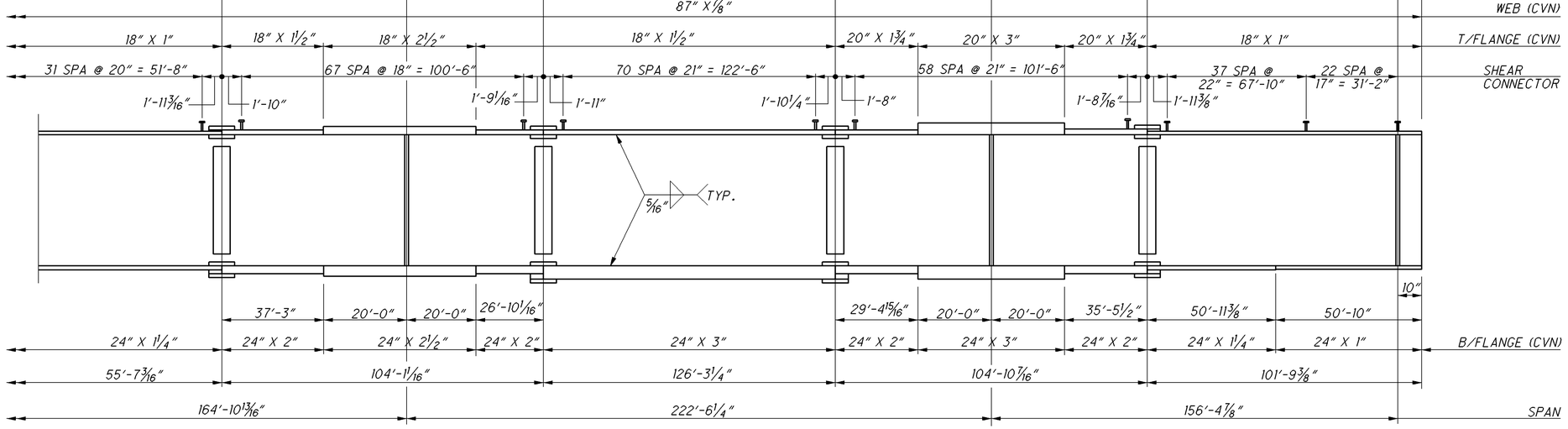




GIRDER ELEVATION - GIRDER 1

NOTES:

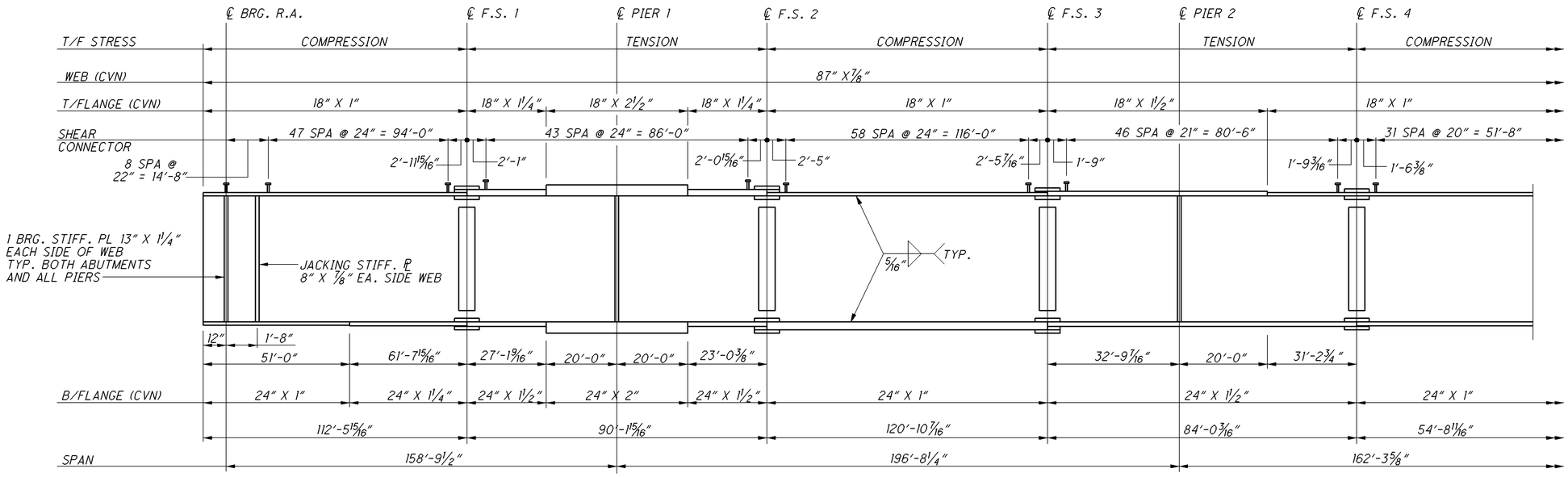
1. WHERE A SHAPE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01
2. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "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 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER 3/4" THICK.
3. ALL LONGITUDINAL DIMENSIONS SHOWN ARE ALONG ℄ GIRDER AND ARE HORIZONTAL (EFFECTS OF THE LONGITUDINAL GRADE ARE NOT INCLUDED.)
4. SHEAR STUD SPACING MAY BE ADJUSTED LOCALLY AS REQUIRED TO CLEAR FLANGE SPLICES.

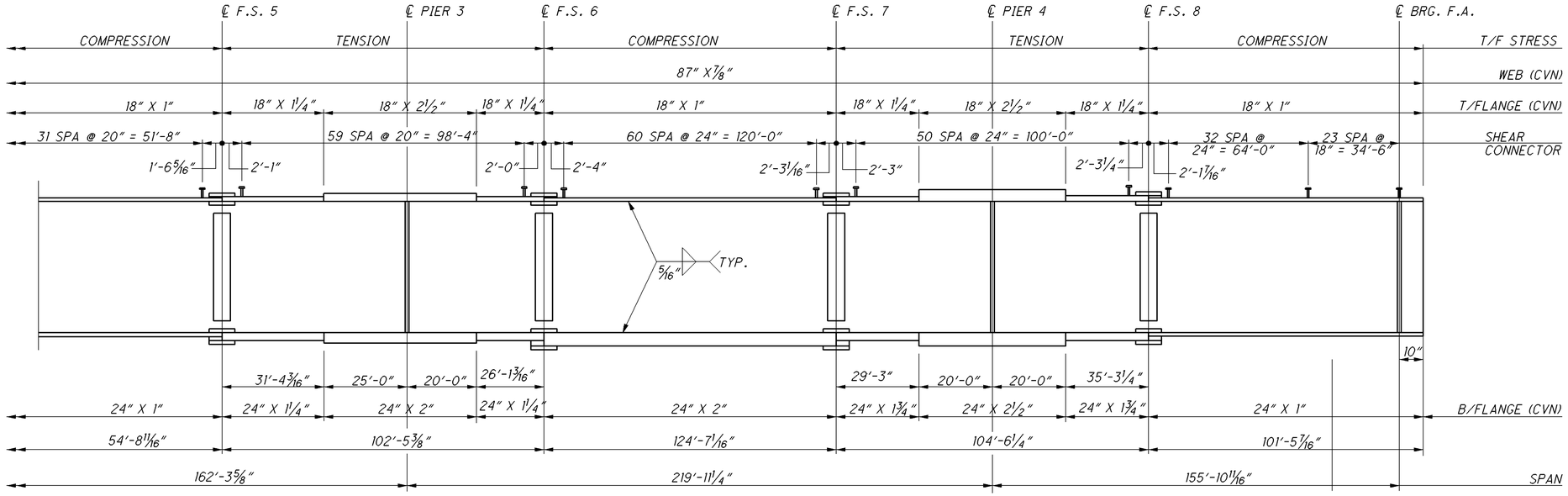
DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

DESIGNED	DRAWN	REVIEWED	DATE
MJB	CBS	PJL	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJD		3102858	

GIRDER ELEVATION
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082





NOTES:

1. WHERE A SHAPE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01
2. 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 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER 3/4" THICK.
3. ALL LONGITUDINAL DIMENSIONS SHOWN ARE ALONG ℄ GIRDER AND ARE HORIZONTAL (EFFECTS OF THE LONGITUDINAL GRADE ARE NOT INCLUDED.)
4. SHEAR STUD SPACING MAY BE ADJUSTED LOCALLY AS REQUIRED TO CLEAR FLANGE SPLICES.

GIRDER ELEVATION - GIRDER 2

DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJD		3102858	

GIRDER ELEVATION
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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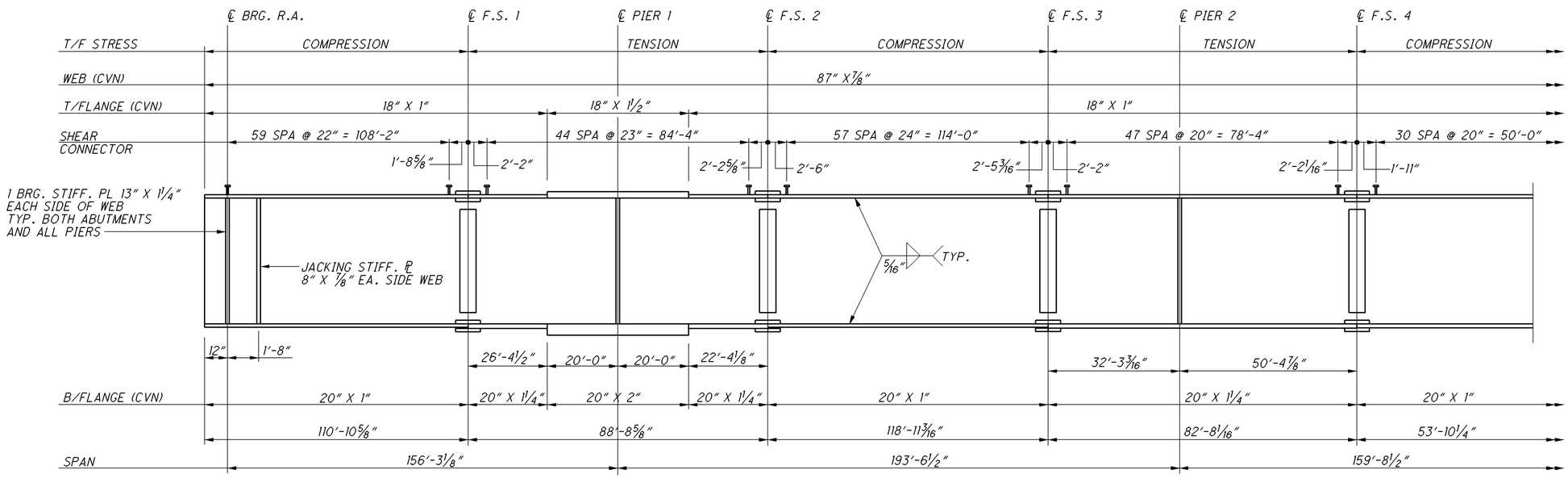
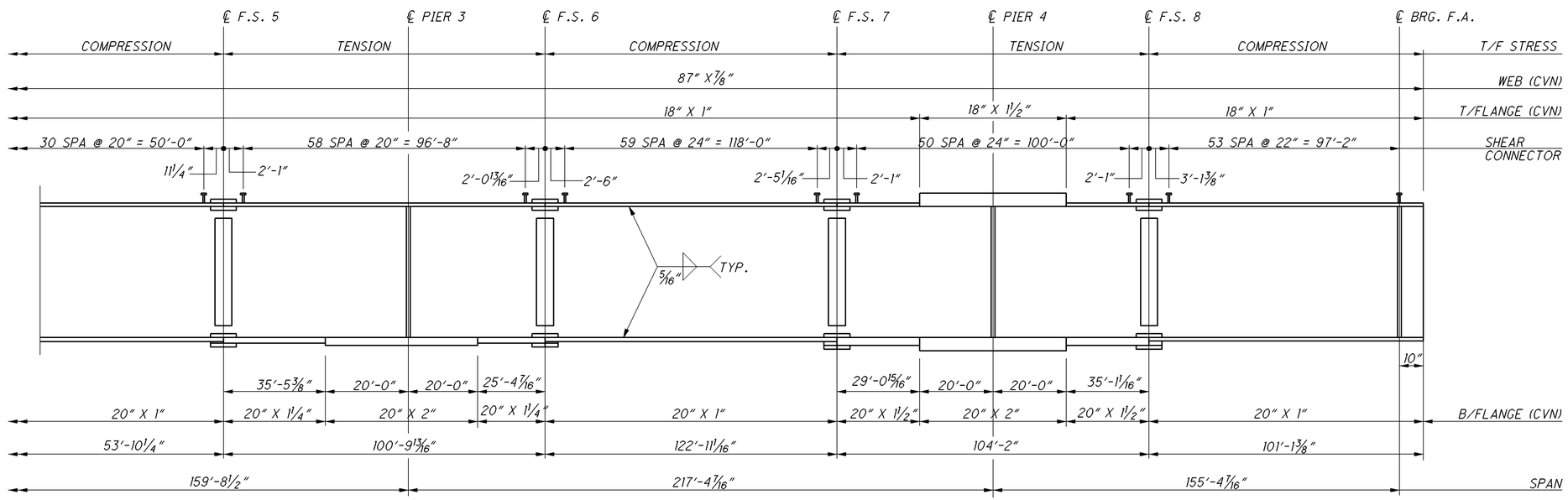




NOTES:

1. WHERE A SHAPE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01
2. 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 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER 3/4" THICK.
3. ALL LONGITUDINAL DIMENSIONS SHOWN ARE ALONG ℄ GIRDER AND ARE HORIZONTAL (EFFECTS OF THE LONGITUDINAL GRADE ARE NOT INCLUDED.)
4. SHEAR STUD SPACING MAY BE ADJUSTED LOCALLY AS REQUIRED TO CLEAR FLANGE SPLICES.

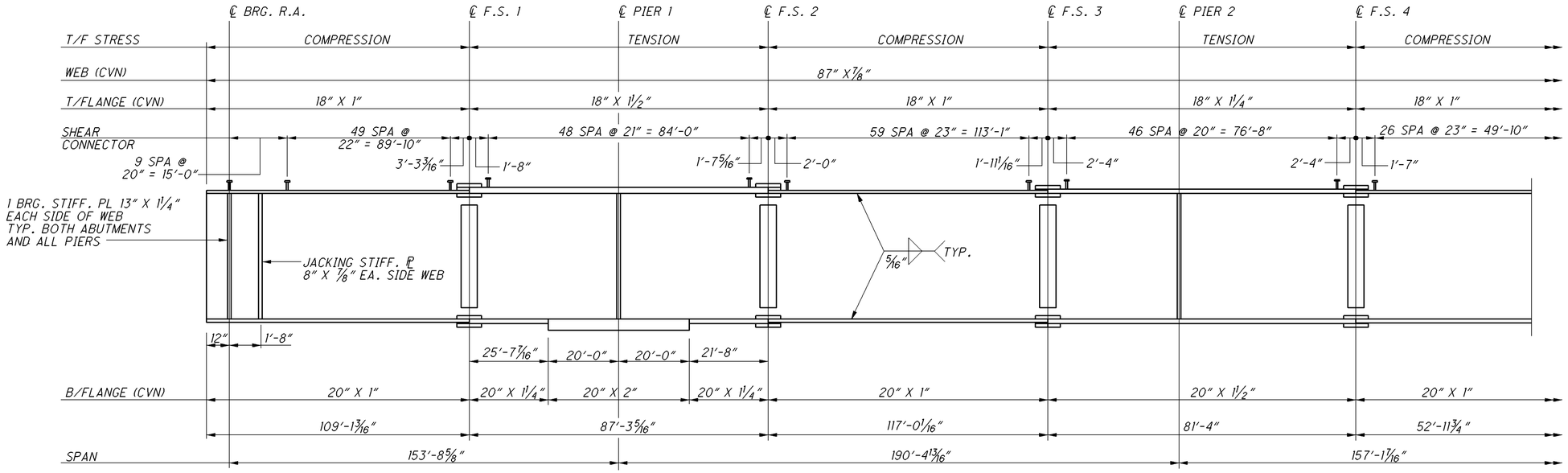
GIRDER ELEVATION - GIRDER 3

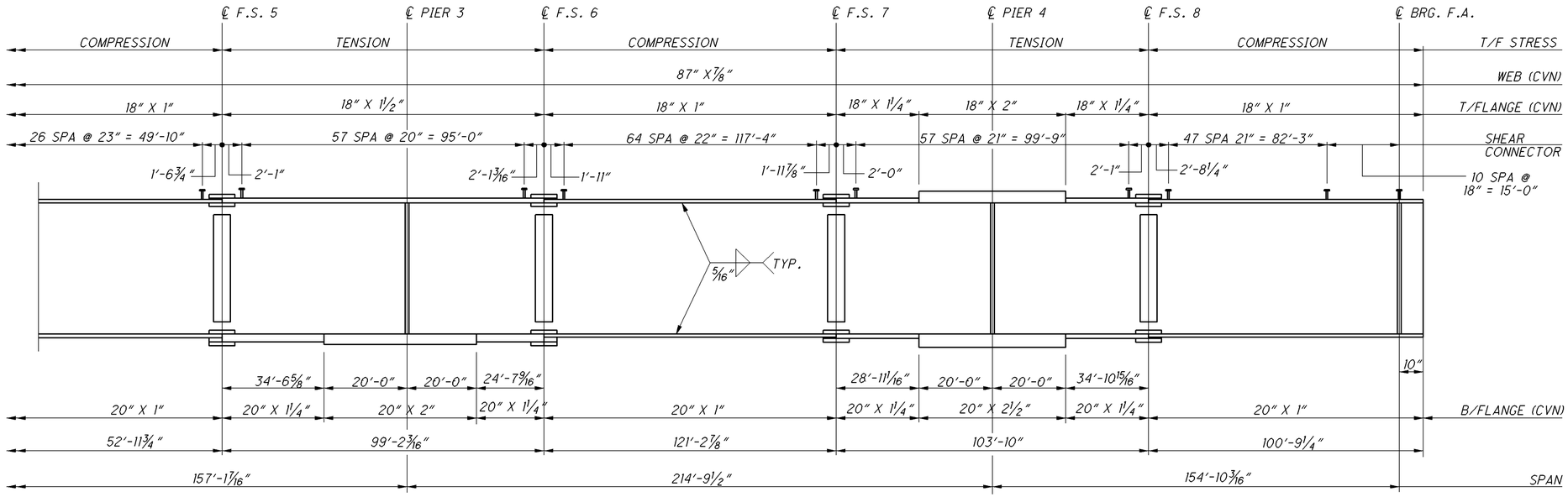
DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

DESIGNED	DRAWN	REVIEWED	DATE
MJB	CBS	PJL	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJD		3102858	

GIRDER ELEVATION
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082





NOTES:

1. WHERE A SHAPE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01

2. 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 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER 3/4" THICK.

3. ALL LONGITUDINAL DIMENSIONS SHOWN ARE ALONG ℄ GIRDER AND ARE HORIZONTAL (EFFECTS OF THE LONGITUDINAL GRADE ARE NOT INCLUDED.)

4. SHEAR STUD SPACING MAY BE ADJUSTED LOCALLY AS REQUIRED TO CLEAR FLANGE SPLICES.

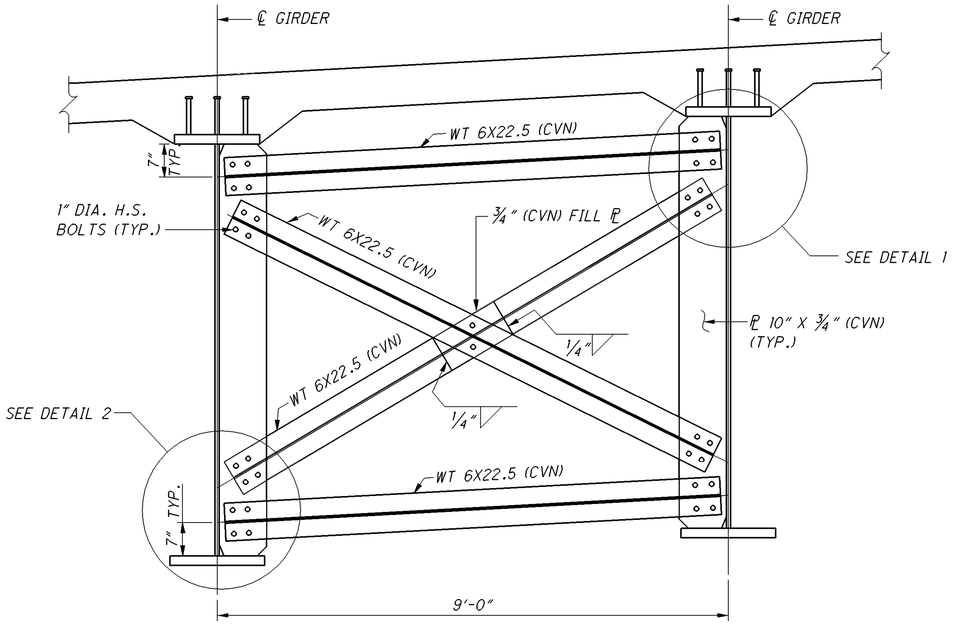
GIRDER ELEVATION - GIRDER 4

DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

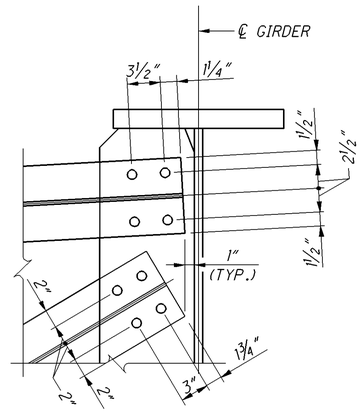
DESIGNED	DRAWN	REVIEWED	DATE
MJB	CBS	PJL	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJD		3102858	

GIRDER ELEVATION
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

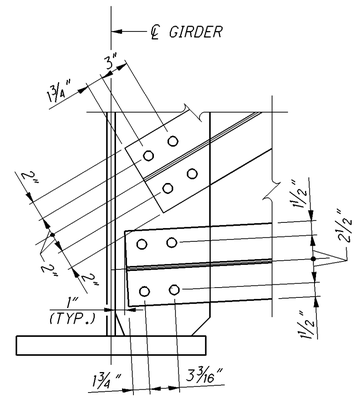
HAM-50-18.79
PID No. 20082



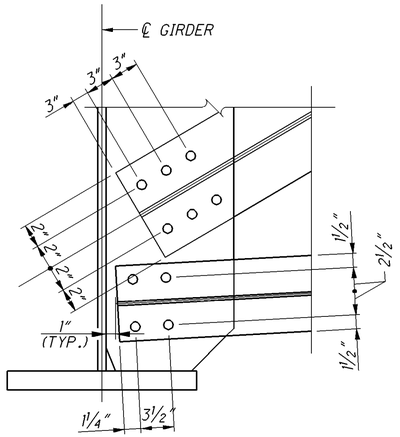
CROSSFRAME - TYPE CF-1



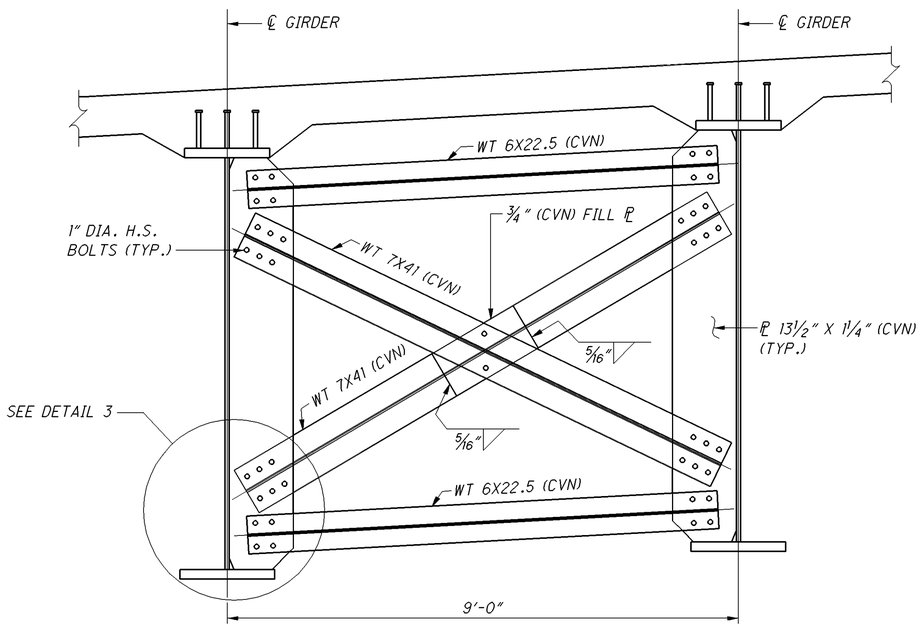
DETAIL 1



DETAIL 2



DETAIL 3



CROSSFRAME - TYPE CF-2

NOTES:

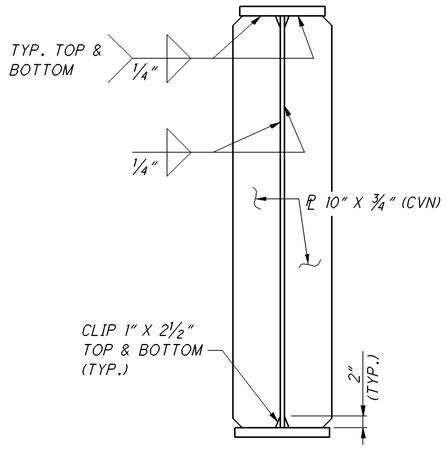
1. ALL CROSSFRAME MEMBERS INCLUDING CONNECTION STIFFENERS, FILL PLATES AND WT SHAPES SHALL BE DESIGNATED (CVN) AND MEET THE MINIMUM TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
2. ALL BOLTS USED IN CROSSFRAME CONNECTIONS SHALL BE 1" DIAMETER HIGH STRENGTH A325, TYPE 1 GALVANIZED. ALL HOLES IN CROSSFRAME CONNECTIONS SHALL BE 1 1/16" DIAMETER.
3. SEE SHEETS 19/47 AND 20/47 FOR LOCATIONS OF CROSSFRAME TYPES CF-1 & CF-2.

DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

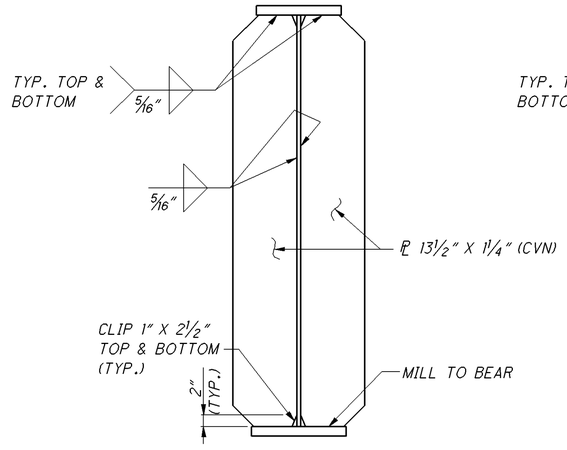
DESIGNED	DRAWN	REVIEWED	DATE
MJB	DDE	PJL	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ELA		3102858	

PLATE GIRDER DETAILS
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

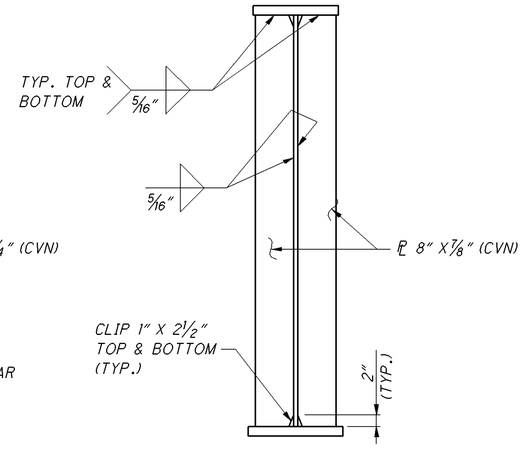
HAM-50-18.79
PID No. 20082



INTERMEDIATE STIFFENER CONNECTION PLATE



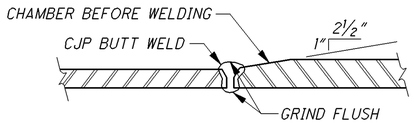
INTERIOR BEARING STIFFENER



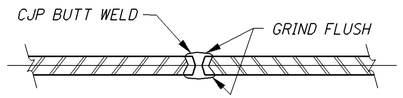
JACKING STIFFENER

STIFFENER WELD DETAIL

SHEAR CONNECTOR DETAIL



FLANGE WELD DETAIL



SHOP WEB SPLICE

NOTES:

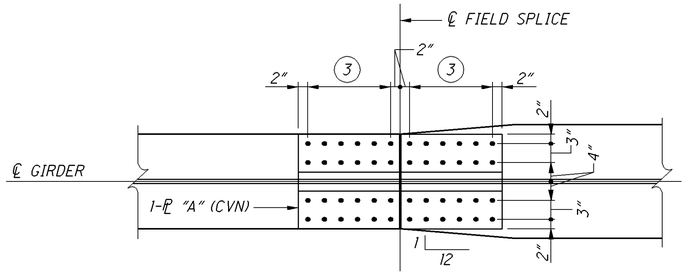
1. ALL STIFFENER PLATES DESIGNATED (CVN) SHALL MEET THE MINIMUM TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01
2. SEE SHEET 25/47 FOR HOLES IN STIFFENERS FOR CROSSFRAME CONNECTIONS.
3. INTERMEDIATE STIFFENER CONNECTION PLATES ON FASCIA GIRDERS SHALL ONLY BE PLACED ON THE INSIDE OF THE WEB.

DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

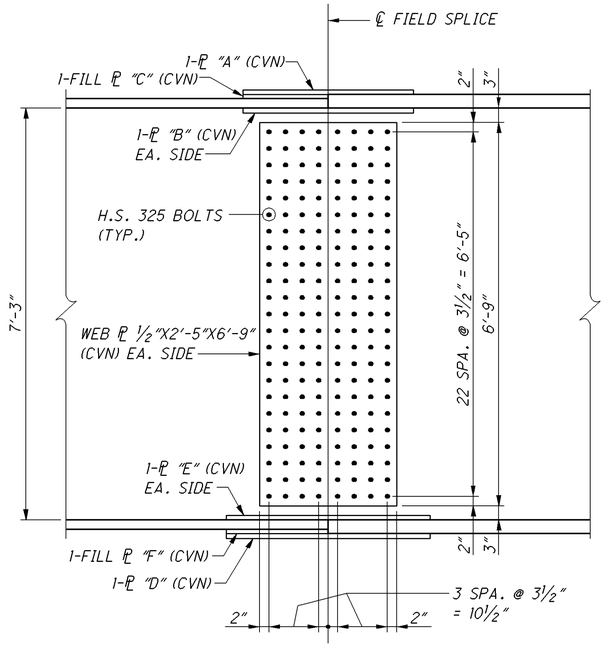
DESIGNED MJD | DRAWN DDE | CHECKED ELA | REVIEWED PJL | DATE 11/16/10 | REVISED | STRUCTURE FILE NUMBER 3102858

PLATE GIRDER DETAILS
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

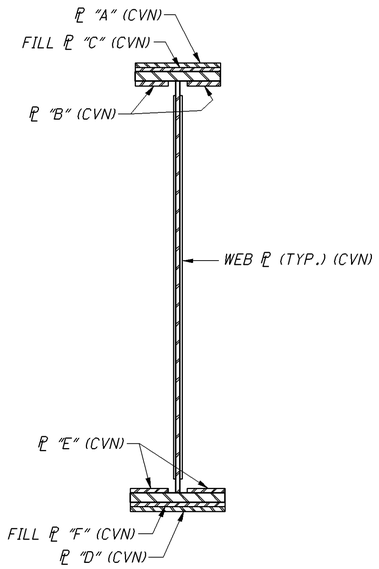
HAM-50-18.79
PID No. 20082



PLAN
TOP FLANGE



ELEVATION



SECTION THRU BEAM @ SPLICE

NOTES:

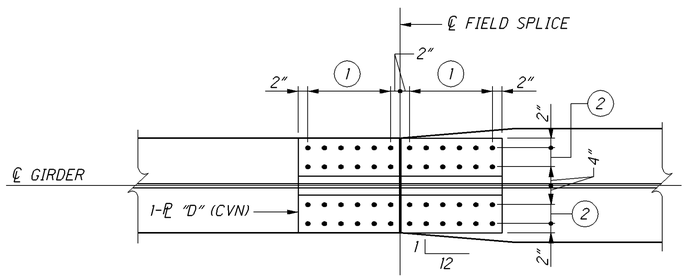
1. PLATE SIZES AND NUMBER OF ROWS OF BOLTS IN BOTTOM FLANGE SHOWN ON SHEET 28/47 .
2. BOLTS USED IN FIELD SPLICE CONNECTIONS SHALL BE 1" DIAMETER HIGH STRENGTH A325, TYPE 1 GALVANIZED. ALL HOLES SHALL BE 1 1/16" DIAMETER.
3. ALL PLATES DESIGNATED CVN SHALL MEET THE MINIMUM TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01

LEGEND:

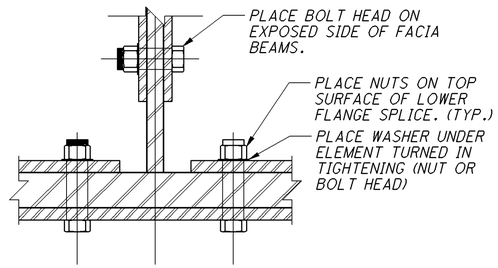
(1) NUMBER OF ROWS OF BOLTS ACROSS BOTTOM FLANGE

(2) NUMBER OF LINES OF BOLTS IN BOTTOM FLANGE

(3) NUMBER OF ROWS OF BOLTS ACROSS TOP FLANGE



PLAN
BOTTOM FLANGE



PARTIAL SECTION
(SECTION AT ℄ GIRDER SPLICE)

PLATE GIRDER DETAILS
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

27 / 47

503
657

DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

DESIGNED	DRAWN	REVIEWED	DATE
ELA	DDE	PJL	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJD		3102858	

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FIELD SPLICE NO. 1

	GIRDER 1	GIRDER 2	GIRDER 3	GIRDER 4
PLATE A	18" X ½" X 36"	18" X ½" X 36"	18" X ½" X 29"	18" X ½" X 36"
PLATE B	7" X ½" X 36"	7" X ½" X 36"	7" X ½" X 29"	7" X ½" X 36"
PLATE C	¾"	¼"	N/A	½"
PLATE D	24" X ½" X 50"	24" X ½" X 43"	20" X ½" X 36"	20" X ½" X 43"
PLATE E	10" X ½" X 50"	10" X ½" X 43"	8" X ½" X 36"	8" X ½" X 43"
PLATE F	¼"	¼"	¼"	¼"
①	6 SPA. @ 3½"	5 SPA. @ 3½"	4 SPA. @ 3½"	5 SPA. @ 3½"
②	6"	6"	4"	4"
③	4 SPA. @ 3½"	4 SPA. @ 3½"	3 SPA. @ 3½"	4 SPA. @ 3½"

FIELD SPLICE NO. 2

	GIRDER 1	GIRDER 2	GIRDER 3	GIRDER 4
PLATE A	18" X ½" X 36"	18" X ½" X 36"	18" X ½" X 29"	18" X ½" X 36"
PLATE B	7" X 10½" X 36"	7" X ½" X 36"	7" X ½" X 29"	7" X ½" X 36"
PLATE C	¾"	¼"	N/A	½"
PLATE D	24" X ½" X 64"	24" X ½" X 43"	20" X ½" X 36"	20" X ½" X 43"
PLATE E	10" X ½" X 64"	10" X ½" X 43"	8" X ½" X 36"	8" X ½" X 43"
PLATE F	¾"	½"	¼"	¼"
①	8 SPA. @ 3½"	5 SPA. @ 3½"	4 SPA. @ 3½"	5 SPA. @ 3½"
②	6"	6"	4"	4"
③	4 SPA. @ 3½"	4 SPA. @ 3½"	3 SPA. @ 3½"	4 SPA. @ 3½"

FIELD SPLICE NO. 3

	GIRDER 1	GIRDER 2	GIRDER 3	GIRDER 4
PLATE A	18" X ½" X 36"	18" X ½" X 36"	18" X ½" X 29"	18" X ½" X 36"
PLATE B	7" X ½" X 36"	7" X ½" X 36"	7" X ½" X 29"	7" X ½" X 36"
PLATE C	¼"	½"	N/A	¼"
PLATE D	24" X ⅞" X 64"	24" X ½" X 43"	20" X ½" X 36"	20" X ½" X 43"
PLATE E	10" X ⅞" X 64"	10" X ½" X 43"	8" X ½" X 36"	8" X ½" X 43"
PLATE F	½"	½"	¼"	½"
①	8 SPA. @ 3½"	5 SPA. @ 3½"	4 SPA. @ 3½"	5 SPA. @ 3½"
②	6"	6"	4"	4"
③	4 SPA. @ 3½"	4 SPA. @ 3½"	3 SPA. @ 3½"	4 SPA. @ 3½"

FIELD SPLICE NO. 4

	GIRDER 1	GIRDER 2	GIRDER 3	GIRDER 4
PLATE A	18" X ½" X 36"	18" X ½" X 36"	18" X ½" X 29"	18" X ½" X 36"
PLATE B	7" X ½" X 36"	7" X ½" X 36"	7" X ½" X 29"	7" X ½" X 36"
PLATE C	N/A	N/A	N/A	¼"
PLATE D	24" X ½" X 57"	24" X ½" X 43"	20" X ½" X 36"	20" X ½" X 43"
PLATE E	10" X ½" X 57"	10" X ½" X 43"	8" X ½" X 36"	8" X ½" X 43"
PLATE F	¼"	½"	¼"	½"
①	7 SPA. @ 3½"	5 SPA. @ 3½"	4 SPA. @ 3½"	5 SPA. @ 3½"
②	6"	6"	4"	4"
③	4 SPA. @ 3½"	4 SPA. @ 3½"	3 SPA. @ 3½"	4 SPA. @ 3½"

FIELD SPLICE NO. 5

	GIRDER 1	GIRDER 2	GIRDER 3	GIRDER 4
PLATE A	18" X ½" X 36"	18" X ½" X 36"	18" X ½" X 29"	18" X ½" X 36"
PLATE B	7" X ½" X 36"	7" X ½" X 36"	7" X ½" X 29"	7" X ½" X 36"
PLATE C	½"	¼"	N/A	½"
PLATE D	24" X ½" X 57"	24" X ½" X 43"	20" X ½" X 36"	20" X ½" X 43"
PLATE E	10" X ½" X 57"	10" X ½" X 43"	8" X ½" X 36"	8" X ½" X 43"
PLATE F	¾"	¼	¼"	¼"
①	7 SPA. @ 3½"	5 SPA. @ 3½"	4 SPA. @ 3½"	5 SPA. @ 3½"
②	6"	6"	4"	4"
③	4 SPA. @ 3½"	4 SPA. @ 3½"	3 SPA. @ 3½"	4 SPA. @ 3½"

FIELD SPLICE NO. 6

	GIRDER 1	GIRDER 2	GIRDER 3	GIRDER 4
PLATE A	18" X ½" X 43"	18" X ½" X 36"	18" X ½" X 29"	18" X ½" X 36"
PLATE B	7" X ½" X 43"	7" X ½" X 36"	7" X ½" X 29"	7" X ½" X 36"
PLATE C	1"	¼"	N/A	½"
PLATE D	24" X ⅞" X 71"	24" X ½" X 57"	20" X ½" X 36"	20" X ½" X 43"
PLATE E	10" X 1 X 71"	10" X ⅞" X 57"	8" X ½" X 36"	8" X ½" X 43"
PLATE F	1"	¾"	¼"	¼"
①	9 SPA. @ 3½"	7 SPA. @ 3½"	4 SPA. @ 3½"	5 SPA. @ 3½
②	6"	6"	4"	4"
③	5 SPA. @ 3½"	4 SPA. @ 3½"	3 SPA. @ 3½"	4 SPA. @ 3½"

FIELD SPLICE NO. 7

	GIRDER 1	GIRDER 2	GIRDER 3	GIRDER 4
PLATE A	18" X ½" X 43"	18" X ½" X 36"	18" X ½" X 29"	18" X ½" X 36"
PLATE B	7" X ½" X 43"	7" X ½" X 36"	7" X ½" X 29"	7" X ½" X 36"
PLATE C	¼"	¼"	½"	¼"
PLATE D	24" X ⅞" X 71"	24" X ⅞" X 57"	20" X ½" X 36"	20" X ½" X 43"
PLATE E	10" X 1 X 71"	10" X ⅞" X 57"	8" X ½" X 36"	8" X ½" X 43"
PLATE F	1"	¼"	½"	¼"
①	9 SPA. @ 3½"	7 SPA. @ 3½"	4 SPA. @ 3½"	5 SPA. @ 3½"
②	6"	6"	4"	4"
③	5 SPA. @ 3½"	4 SPA. @ 3½"	3 SPA. @ 3½"	4 SPA. @ 3½"

FIELD SPLICE NO. 8

	GIRDER 1	GIRDER 2	GIRDER 3	GIRDER 4
PLATE A	18" X ½" X 36"	18" X ½" X 36"	18" X ½" X 29"	18" X ½" X 36"
PLATE B	7" X ½" X 36"	7" X ½" X 36"	7" X ½" X 29"	7" X ½" X 36"
PLATE C	¼	¼"	N/A	¼"
PLATE D	24" X ½" X 57"	24" X ½" X 43"	20" X ½" X 36"	20" X ½" X 43"
PLATE E	10" X ½" X 57"	10" X ½" X 43"	8" X ½" X 36"	8" X ½" X 43"
PLATE F	¾"	¾"	½"	¼"
①	7 SPA. @ 3½"	5 SPA. @ 3½"	4 SPA. @ 3½"	5 SPA. @ 3½"
②	6"	6"	4"	4"
③	4 SPA. @ 3½"	4 SPA. @ 3½"	3 SPA. @ 3½"	4 SPA. @ 3½"

DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

DESIGNED	DRAWN	REVIEWED	DATE
ELA	DDE	PJL	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJD		3102858	

PLATE GIRDER SPLICES
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

504
657

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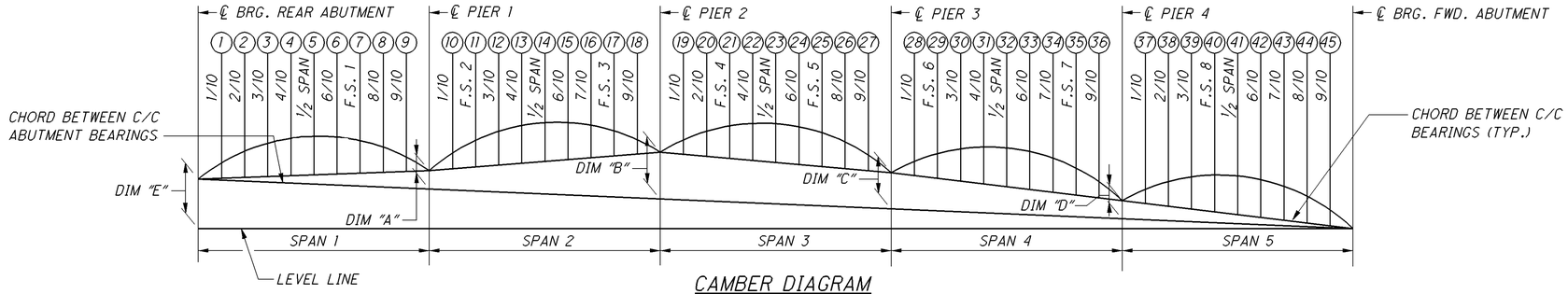

CAMBER DIAGRAM

NOTES:

1. POSITIVE CAMBER IS UPWARD.
2. GEOMETRIC CORRECTION IS A COMBINATION OF VERTICAL CURVE AND SUPERELEVATION TRANSITION CORRECTIONS.
3. GIRDER CAMBER IS CALCULATED FOR ENTIRE DECK SLAB PLACED AT THE SAME TIME.

CAMBER TABLE

	LOCATION	SPAN 1									SPAN 2									SPAN 3								
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
GIRDER 4	DELFECTION DUE TO WEIGHT OF STEEL	1/4"	1/2"	9/16"	5/8"	9/16"	1/2"	5/16"	3/16"	1/16"	1/8"	3/8"	9/16"	3/4"	13/16"	3/4"	5/8"	5/16"	1/8"	-0"	0"	1/8"	1/8"	1/8"	1/8"	1/16"	-0"	-1/16"
	DEFLECTION DUE TO REMAINING DEAD LOAD	1/2"	7/8"	1 1/8"	1 3/16"	1 1/8"	1 5/16"	5/8"	5/16"	1/16"	1/4"	3/4"	1 1/8"	1 1/2"	1 5/8"	1 9/16"	1 1/4"	1 1/16"	5/16"	-1/16"	0"	1/8"	3/16"	3/16"	1/8"	1/16"	-1/16"	-1/8"
	DEFLECTION DUE TO HEAT CURVING	1/4"	1/2"	5/8"	1 1/16"	5/8"	9/16"	3/8"	3/16"	1/16"	1/16"	5/16"	1/2"	5/8"	3/4"	3/4"	9/16"	5/16"	1/8"	-0"	0"	1/8"	1/8"	1/8"	1/8"	1/16"	-0"	-1/16"
	GEOMETRIC CORRECTION	-1 5/16"	-1 5/16"	-1 3/16"	-1"	-1 3/16"	-1 1/16"	-1/2"	-5/16"	-3/16"	5 9/16"	11 9/16"	14 1 1/16"	17 3/16"	18 1/8"	17 9/16"	15 7/16"	10 1/4"	6 1 1/16"	4 5/8"	8 5/16"	11 1/4"	12 7/16"	13"	12 7/16"	11 3/4"	8 5/16"	4 1 1/16"
	REQUIRED SHOP CAMBER	1/16"	9/16"	1 1/8"	1 1/2"	1 1/2"	1 1/4"	1 3/16"	3/8"	0"	6"	12 15/16"	16 7/8"	20 1/16"	21 5/16"	20 5/8"	17 15/16"	11 9/16"	7 5/16"	4 9/16"	8 3/8"	11 9/16"	12 15/16"	13 1/2"	12 7/8"	12 1/16"	8 3/16"	4 1/2"
GIRDER 3	DELFECTION DUE TO WEIGHT OF STEEL	1/4"	1/2"	5/8"	5/8"	9/16"	7/16"	1/4"	1/8"	-0"	3/16"	9/16"	13/16"	1 1/16"	1 3/16"	1 1/8"	15/16"	1/2"	1/4"	-1/8"	-1/8"	-1/8"	-1/8"	-3/16"	-3/16"	-3/16"	-1/4"	-3/16"
	DEFLECTION DUE TO REMAINING DEAD LOAD	9/16"	1 1/16"	1 1/4"	1 5/16"	1 3/16"	1 5/16"	5/8"	1/4"	1/16"	5/16"	1 5/16"	1 3/8"	1 13/16"	2 1/16"	2"	1 5/8"	1/8"	1/2"	-3/16"	-3/16"	-1/8"	-1/8"	-1/8"	-3/16"	-1/4"	-5/16"	-1/4"
	DEFLECTION DUE TO HEAT CURVING	5/16"	1/2"	5/8"	1 1/16"	5/8"	1/2"	3/8"	3/16"	1/16"	1/16"	5/16"	1/2"	1 1/16"	3/4"	3/4"	5/8"	3/8"	3/16"	-1/8"	-1/8"	-1/16"	-1/16"	-1/16"	-1/16"	-1/8"	-3/16"	-1/8"
	GEOMETRIC CORRECTION	-1 5/16"	-1 5/16"	-1 3/16"	-1"	-1 3/16"	-1 1/16"	-1/2"	-5/16"	-3/16"	5 9/16"	11 9/16"	14 1 1/16"	17 3/16"	18 1/8"	17 9/16"	15 7/16"	10 1/4"	6 1 1/16"	4 5/8"	8 5/16"	11 1/4"	12 7/16"	13"	12 7/16"	11 3/4"	8 5/16"	4 1 1/16"
	REQUIRED SHOP CAMBER	3/16"	3/4"	1 5/16"	1 5/8"	1 9/16"	1 1/4"	1 1/16"	1/4"	-1/16"	6 1/8"	13 5/16"	17 5/16"	20 1 1/16"	22 1/16"	21 3/8"	18 5/8"	12"	7 5/8"	4 1/4"	7 1/8"	10 7/8"	12 3/16"	12 5/8"	12"	11 3/16"	7 9/16"	4 1/8"
GIRDER 2	DELFECTION DUE TO WEIGHT OF STEEL	5/16"	9/16"	5/8"	5/8"	1/2"	5/16"	1/8"	0"	-1/16"	1/4"	3/4"	1 1/16"	1 3/8"	1 9/16"	1 1/2"	1 1/4"	1 1/16"	3/8"	-3/16"	-5/16"	-1/16"	-1/16"	-1/2"	-1/2"	-1/2"	-1/16"	-5/16"
	DEFLECTION DUE TO REMAINING DEAD LOAD	5/8"	1 3/16"	1 3/8"	1 7/16"	1 1/4"	1 5/16"	9/16"	1/4"	0"	3/8"	1 1/16"	1 9/16"	2 1/8"	2 7/16"	2 3/8"	2"	1 1/8"	5/8"	-1/4"	-3/8"	-1/16"	-1/16"	-1/2"	-9/16"	-9/16"	-9/16"	-3/8"
	DEFLECTION DUE TO HEAT CURVING	1/4"	1/2"	5/8"	5/8"	5/8"	1/2"	5/16"	1/8"	1/16"	1/16"	1/4"	7/16"	5/8"	1 1/16"	1 1/16"	5/8"	5/16"	3/16"	-1/16"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-3/16"	-1/8"	-1/8"
	GEOMETRIC CORRECTION	-1 5/16"	-1 5/16"	-1 3/16"	-1"	-1 3/16"	-1 1/16"	-1/2"	-5/16"	-3/16"	5 9/16"	11 9/16"	14 1 1/16"	17 3/16"	18 1/8"	17 9/16"	15 7/16"	10 1/4"	6 1 1/16"	4 5/8"	8 5/16"	11 1/4"	12 7/16"	13"	12 7/16"	11 3/4"	8 5/16"	4 1 1/16"
	REQUIRED SHOP CAMBER	1/4"	1 5/16"	1 1/16"	1 1 1/16"	1 1/2"	1 1/8"	1/2"	1/16"	-3/16"	6 1/4"	13 5/8"	17 3/4"	21 1/4"	22 3/4"	22 1/8"	19 1/4"	12 3/8"	7 7/8"	4 1/8"	7 1/16"	10 1/4"	11 7/16"	11 7/8"	11 1/4"	10 1/2"	7 1/8"	3 15/16"
GIRDER 1	DELFECTION DUE TO WEIGHT OF STEEL	5/16"	9/16"	5/8"	5/8"	7/16"	1/4"	0"	-1/8"	-1/8"	5/16"	7/8"	1 5/16"	1 1 1/16"	1 15/16"	1 1/8"	1 5/8"	1 5/16"	9/16"	-5/16"	-9/16"	-1 1/16"	-3/4"	-1 3/16"	-7/8"	-1 3/16"	-1 1/16"	-7/16"
	DEFLECTION DUE TO REMAINING DEAD LOAD	3/4"	1 5/16"	1 9/16"	1 9/16"	1 5/16"	1 5/16"	7/16"	1/8"	-1/16"	3/8"	1 3/16"	1 1 3/16"	2 7/16"	2 1 3/16"	2 3/4"	2 5/16"	1 5/16"	3/4"	-3/8"	-5/8"	-3/4"	-1 3/16"	-7/8"	-1 5/16"	-1 5/16"	-1 3/16"	-1/2"
	DEFLECTION DUE TO HEAT CURVING	5/16"	1/2"	5/8"	5/8"	9/16"	7/16"	1/4"	1/8"	0"	1/16"	1/4"	7/16"	9/16"	1 1/16"	1 1/16"	5/8"	3/8"	3/16"	-1/16"	-1/8"	-3/16"	-3/16"	-3/16"	-1/4"	-1/4"	-3/16"	-1/8"
	GEOMETRIC CORRECTION	-1 5/16"	-1 5/16"	-1 3/16"	-1"	-1 3/16"	-1 1/16"	-1/2"	-5/16"	-3/16"	5 9/16"	11 9/16"	14 1 1/16"	17 3/16"	18 1/8"	17 9/16"	15 7/16"	10 1/4"	6 1 1/16"	4 5/8"	8 5/16"	11 1/4"	12 7/16"	13"	12 7/16"	11 3/4"	8 5/16"	4 1 1/16"
	REQUIRED SHOP CAMBER	3/8"	1 1/8"	1 5/8"	1 1 3/16"	1 1/2"	1 5/16"	1/4"	-3/16"	-5/16"	6 3/8"	13 1 5/16"	18 1/4"	21 1 5/16"	23 1/2"	22 1 5/16"	20"	12 7/8"	8 3/16"	3 1/8"	7"	9 5/8"	10 1 1/16"	11 1/16"	10 7/16"	9 3/4"	6 5/8"	3 5/8"

CAMBER TABLE

	LOCATION	SPAN 4									SPAN 5								
		28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
GIRDER 4	DELFECTION DUE TO WEIGHT OF STEEL	1/4"	5/8"	15/16"	1 1/8"	1 3/16"	1 1/16"	3/4"	1/2"	1/8"	1/16"	3/16"	3/8"	7/16"	5/8"	1 1/16"	5/8"	1/2"	1/4"
	DEFLECTION DUE TO REMAINING DEAD LOAD	1/2"	1 5/16"	1 15/16"	2 3/8"	2 1/2"	2 1/4"	1 1 1/16"	1 3/16"	5/16"	1/16"	1/4"	5/8"	1 3/16"	1 3/16"	1 5/16"	1 3/16"	1 5/16"	1/2"
	DEFLECTION DUE TO HEAT CURVING	3/16"	1/2"	3/4"	15/16"	1"	7/8"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"
	GEOMETRIC CORRECTION	-1/8"	-3/8"	-5/8"	-3/4"	-3/4"	-3/4"	-3/4"	-3/4"	-1 1/16"	-1 9/16"	-2 3/4"	-3 5/8"	-3 1 5/16"	-4 5/16"	-4 1 1/16"	-3 9/16"	-2 3/4"	-1 9/16"
	REQUIRED SHOP CAMBER	1 3/16"	2"	2 15/16"	3 1 1/16"	3 1/8"	3 1/16"	1 1 1/16"	1 5/16"	-3/16"	-1 1/16"	-2 5/16"	-2 5/8"	-2 1 1/16"	-2 7/16"	-2 1/8"	-1 3/4"	-1 5/16"	-3/4"
GIRDER 3	DELFECTION DUE TO WEIGHT OF STEEL	7/16"	1"	1 3/8"	1 1 1/16"	1 1 3/16"	1 5/8"	1 1/4"	7/8"	5/16"	-1/16"	0"	1/8"	1/4"	7/16"	1/2"	7/16"	3/8"	3/16"
	DEFLECTION DUE TO REMAINING DEAD LOAD	1 1/16"	1 1 1/16"	2 1/16"	2 1 5/16"	3 1/8"	2 1 3/16"	2 1/8"	1 1/2"	1/2"	-1/16"	1/8"	3/8"	1/2"	7/8"	1"	1"	3/4"	7/16"
	DEFLECTION DUE TO HEAT CURVING	1/4"	9/16"	13/16"	1"	1"	15/16"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"
	GEOMETRIC CORRECTION	1/4"	5/16"	3/8"	5/16"	1/8"	-1/8"	-5/16"	-7/16"	-9/16"	-1 9/16"	-2 3/4"	-3 5/8"	-3 1 5/16"	-4 5/16"	-4 1 1/16"	-3 9/16"	-2 3/4"	-1 9/16"
	REQUIRED SHOP CAMBER	1 9/16"	3 1/2"	5"	5 15/16"	6"	5 1/4"	3 1/16"	1 15/16"	3/16"	-1 5/8"	-2 5/8"	-3 1/16"	-3 3/16"	-3"	-2 5/8"	-2 1/8"	-1 9/16"	-7/8"
GIRDER 2	DELFECTION DUE TO WEIGHT OF STEEL	9/16"	1 5/16"	1 15/16"	2 5/16"	2 3/8"	2 3/16"	1 1 1/16"	1 1/4"	7/16"	-1/8"	-1/8"	-1/16"	-0"	3/16"	1/4"	1/4"	1/4"	1/8"
	DEFLECTION DUE TO REMAINING DEAD LOAD	1/8"	2 1/16"	2 15/16"	3 9/16"	3 1 1/16"	3 3/8"	2 5/8"	1 7/8"	5/8"	-3/16"	-1/8"	1/16"	1/4"	9/16"	3/4"	3/4"	5/8"	5/16"
	DEFLECTION DUE TO HEAT CURVING	1/4"	1/2"	3/4"	15/16"	1"	7/8"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"
	GEOMETRIC CORRECTION	9/16"	1 1/16"	1 7/16"	1 5/16"	1 5/16"	9/16"	3/16"	-1/8"	-1/2"	-1 9/16"	-2 3/4"	-3 5/8"	-3 1 5/16"	-4 5/16"	-4 1 1/16"	-3 9/16"	-2 3/4"	-1 9/16"
	REQUIRED SHOP CAMBER	2 1/4"	4 15/16"	7"	8 1/8"	8"	6 15/16"	4 1/2"	3"	5/8"	-1 13/16"	-3"	-3 9/16"	-3 1 1/16"	-3 9/16"	-3 1/8"	-2 9/16"	-1 7/8"	-1 1/16"
GIRDER 1	DELFECTION DUE TO WEIGHT OF STEEL	3/4"	1 3/4"	2 7/16"	2 15/16"	3 1/16"	2 3/4"	2 3/16"	1 9/16"	9/16"	-1/4"	-5/16"	-5/16"	-1/4"	-1/8"	0"	1/16"	1/8"	1/16"
	DEFLECTION DUE TO REMAINING DEAD LOAD	2 9/16"	2 1/16"	3 1/16"	4 3/16"	4 3/8"	3 15/16"	3 1/16"	2 1/4"	1 3/16"	-1/4"	-5/16"	-3/16"	-1/16"	1/4"	7/16"	1/2"	7/16"	1/4"
	DEFLECTION DUE TO HEAT CURVING	1/4"	9/16"	3/4"	15/16"	15/16"	7/8"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"
	GEOMETRIC CORRECTION	3/4"	1 1/16"	2"	1 1/8"	1 1/16"	15/16"	7/16"	1/16"	-1/16"	-1 9/16"	-2 3/4"	-3 5/8"	-3 1 5/16"	-4 5/16"	-4 1/16"	-3 9/16"	-2 3/4"	-1 9/16"
	REQUIRED SHOP CAMBER	4 5/16"	6 1/8"	8 5/8"	9 15/16"	9 3/4"	8 1/2"	5 1 1/16"	3 1/8"	15/16"	-2 1/16"	-3 3/8"	-4 1/8"	-4 1/4"	-4 1/8"	-3 1 1/16"	-3"	-2 3/16"	-1 3/16"

BLOCKING

GIRDER	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "D"	DIM. "E"
1	10'-4 1/8"	18'-8"	16'-1"	5'-4 5/8"	32'-7 1/2"
2	10'-3 1/2"	18'-6 3/4"	15'-11 1/4"	5'-4 3/8"	32'-5 5/8"
3	10'-2 3/4"	18'-4 7/8"	15'-8 1/2"	5'-4 1/4"	32'-2 1/8"
4	10'-1 7/8"	18'-3"	15'-5 3/4"	5'-4 1/4"	31'-10 3/4"

SPAN LENGTH

	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5
GIRDER 4	153'-8 5/8"	190'-4 13/16"	157'-1 7/16"	214'-9 1/2"	154'-10 3/16"
℄ EB RAMP	154'-11 7/8"	191'-11 1 1/16"	158'-5"	216'-0 15/16"	155'-1 5/16"
GIRDER 3	156'-3 1/8"	193'-6 1/2"	159'-8 1/2"	219'-11 1/4"	155'-10 1 1/16"
GIRDER 2	158'-9 1/2"	196'-8 1/4"	162'-3 5/8"	219'-11 1/4"	155'-10 1 1/16"
GIRDER 1	161'-4"	199'-9 13/16"	164'-10 13/16"	222'-6 1/4"	155'-5 1/16"

DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

DESIGNED	DRAWN	REVIEWED	DATE
MJD	DDE	PJL	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ELA		3102858	

GIRDER CAMBER DIAGRAM
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

505
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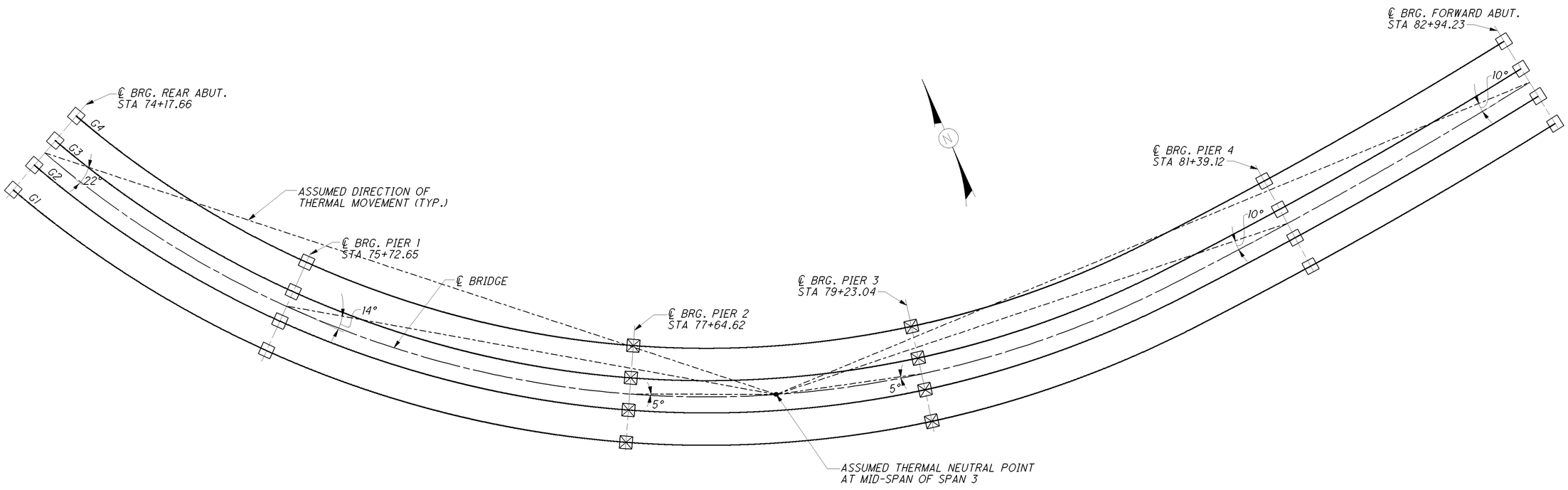


BEARING PLAN

NOTES:

EACH BEARING ASSEMBLY SHALL BE SHOP MARKED WITH THE FOLLOWING INFORMATION: TOP, FORWARD STATION DIRECTION, LOCATION (REAR ABUTMENT, PIER NUMBER, FORWARD ABUTMENT) AND BEAM LINE NUMBER.

PIER ELASTOMERIC BEARINGS:
THE ELASTOMER SHALL HAVE A HARDNESS OF 60 DUROMETER, THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.5 (METHOD B) OF THE AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES.

ABUTMENT ELASTOMERIC BEARINGS:
THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER, THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.5 (METHOD B) OF THE AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES.

BEARING REPOSITIONING:
IF BEAMS ARE PLACED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60°F ± 10°F, THE BEAMS SHALL BE RAISED TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F ± 10°F.

WELDING:
CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300°F AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

LOAD PLATE:
THE STEEL LOAD PLATE AND BEVELED SOLE PLATE SHALL BE THE SAME MATERIAL AS THE ATTACHED STRUCTURAL STEEL AND SHALL BE SIMILARLY CLEANED AND COATED. SURFACE PREPARATION AND PRIMING SHALL BE DONE IN THE SHOP AND BE INCLUDED IN THE PRICE BID FOR BEARINGS. FIELD COATS SHALL BE INCLUDED IN THE PRICE BID FOR PAINTING MAIN STRUCTURAL STEEL.

THE STEEL LOAD PLATES SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS AND LOAD PLATES SHALL BE INCLUDED IN ITEM 516, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE, AS PER PLAN FOR PAYMENT.

LEGEND

☒ FIXED BEARINGS

☐ EXPANSION BEARINGS

DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

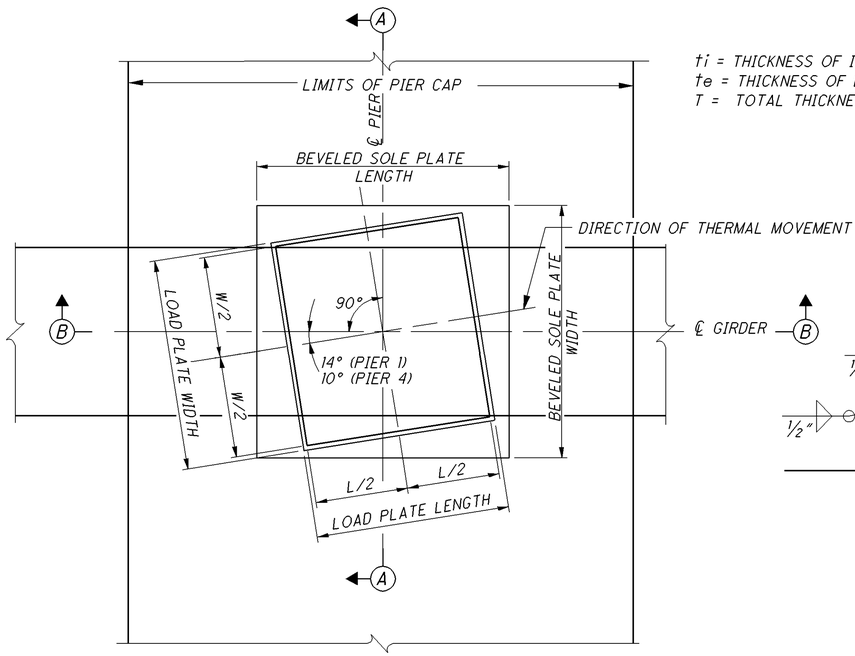
DESIGNED	DRAWN	REVIEWED	DATE
ELA	CBS	PJL	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJD		3102858	

BEARING DETAILS - 1 OF 3
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

LAMINATED ELASTOMERIC BEARINGS DATA

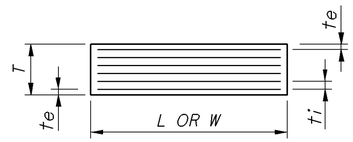
LOCATION	BEARING TYPE	BEARING DIMENSIONS						STEEL PLATES (LENGTH×WIDTH×THICKNESS)		BEVEL DIMENSIONS			SERVICE REACTION		MAXIMUM REACTION
		L	W	ti	te	T	N	LOAD PLATE	BEVELED SOLE PLATE	A	B	C	DL	LL	
Pier 1	EXPANSION	22.0"	24.0"	13/16"	1/2"	8.625"	9	1'-11"x2'-1"x2"	2'-6"x2'-6"x2 1/2"	2"	2 1/2"	3"	569.2k	169.5k	739k
Pier 2	FIXED	22.0"	24.0"	13/16"	1/2"	8.625"	9	1'-11"x2'-1"x2"	2'-11"x2'-7"x2 1/2"	3"	2 1/2"	2"	430.8k	170.0k	601k
Pier 3	FIXED	22.0"	24.0"	13/16"	1/2"	8.625"	9	1'-11"x2'-1"x2"	2'-11"x2'-7"x2 1/2"	3 1/8"	2 1/2"	1 1/8"	559.0k	180.2k	740k
Pier 4	EXPANSION	22.0"	24.0"	13/16"	1/2"	8.625"	9	1'-11"x2'-1"x2"	2'-6"x2'-6"x2 1/2"	3 3/4"	2 1/2"	1 1/4"	567.0k	165.9k	733k



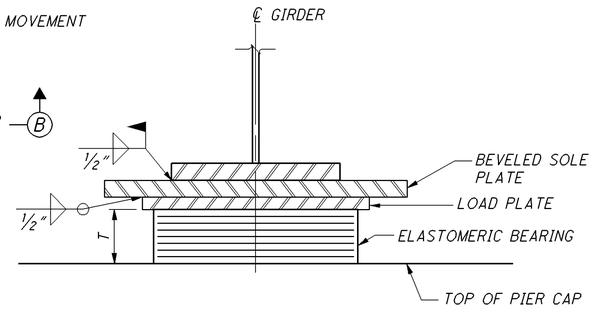
BEARING PLAN
PIERS 1 & 4 - EXPANSION BEARINGS

ti = THICKNESS OF INTERNAL LAMINATE
te = THICKNESS OF EXTERNAL LAMINATE
T = TOTAL THICKNESS OF ELASTOMERIC BEARING

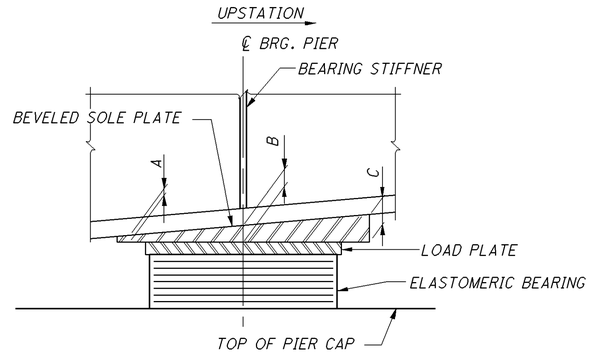
N = NUMBER OF STEEL LAMINATES
INTERNAL STEEL LAMINATE THICKNESS = 0.125"
DUROMETER OF ELASTOMER = 60 DUROMETER
BEVELED SOLE PLATE THICKNESS IS MEASURED AT ℄ OF PIER



ELASTOMERIC BEARINGS



SECTION A-A



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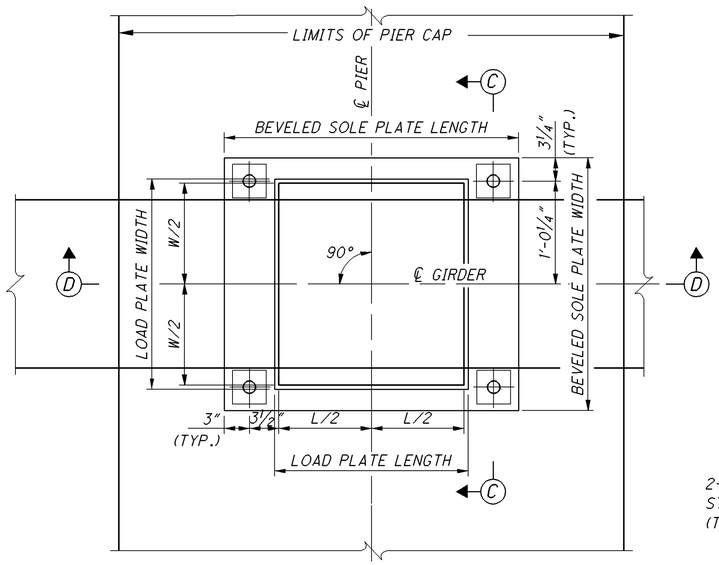
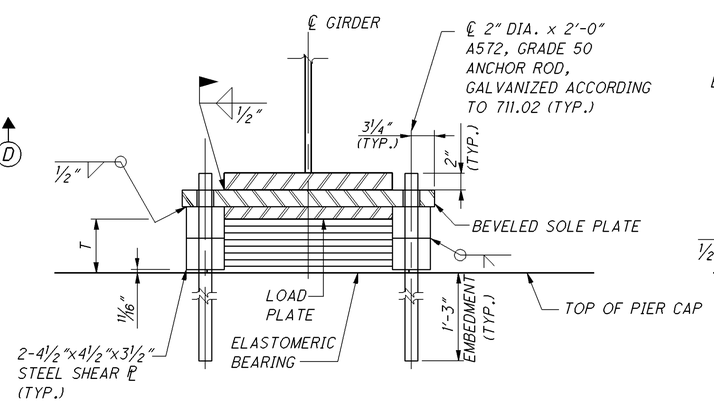
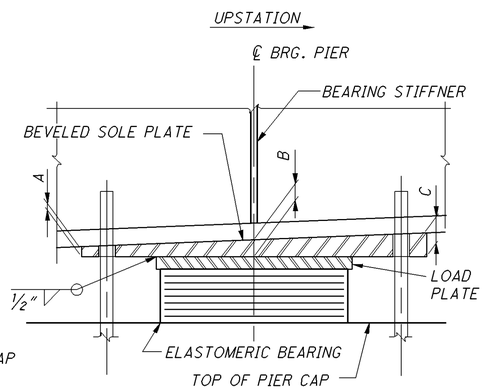


BEARING PLAN
PIERS 2 & 3 - FIXED BEARINGS



SECTION C-C



SECTION D-D

DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

DESIGNED	DRAWN	REVIEWED	DATE
ELA	DDE	PJL	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJD		3102858	

BEARING DETAILS - 2 OF 3
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

31 / 47

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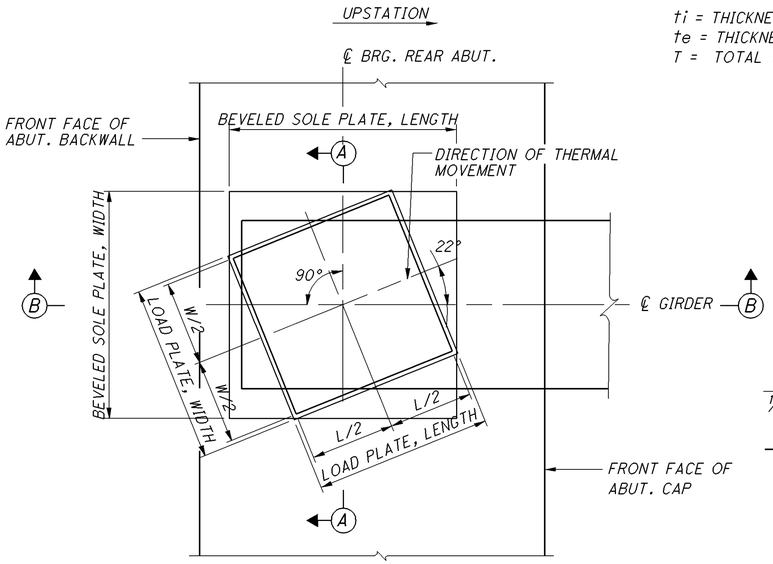
LAMINATED ELASTOMERIC BEARINGS DATA

LOCATION	BEARING TYPE	BEARING DIMENSIONS						STEEL PLATES (LENGTHxWIDTHxTHICKNESS)		BEVEL DIMENSIONS			SERVICE REACTION		MAXIMUM REACTION
		L	W	ti	te	T	N	LOAD PLATE	BEVELED SOLE PLATE	A	B	C	DL	LL	
REAR ABUT.	EXPANSION	20.0"	20.0"	3/4"	1/2"	14.250"	16	1'-9"x1'-9"x2"	2'-3"x2'-3"x2 1/2"	2 1/4"	2 1/2"	2 3/4"	140.2k	80.6k	221k
FORWARD ABUT.	EXPANSION	16.0"	20.0"	3/4"	1/2"	11.625"	13	1'-5"x1'-9"x2"	1'-8"x2'-3"x2 1/2"	3 1/8"	2 1/2"	1 1/8"	111.4k	72.6k	184k

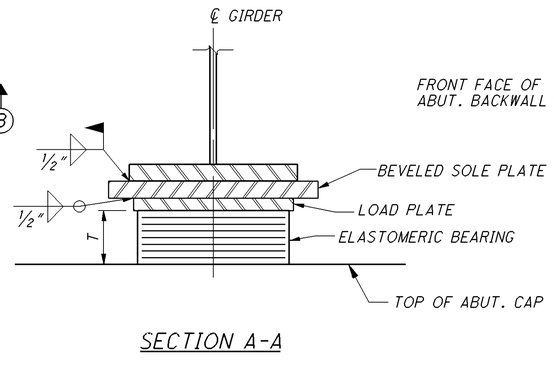
ti = THICKNESS OF INTERNAL LAMINATE
te = THICKNESS OF EXTERNAL LAMINATE
T = TOTAL THICKNESS OF ELASTOMERIC BEARING

N = NUMBER OF STEEL LAMINATES
INTERNAL STEEL LAMINATE THICKNESS = 0.125"
DUROMETER OF ELASTOMER = 50 DUROMETER
BEVELED SOLE PLATE THICKNESS IS MEASURED AT ℄ OF ABUTMENT

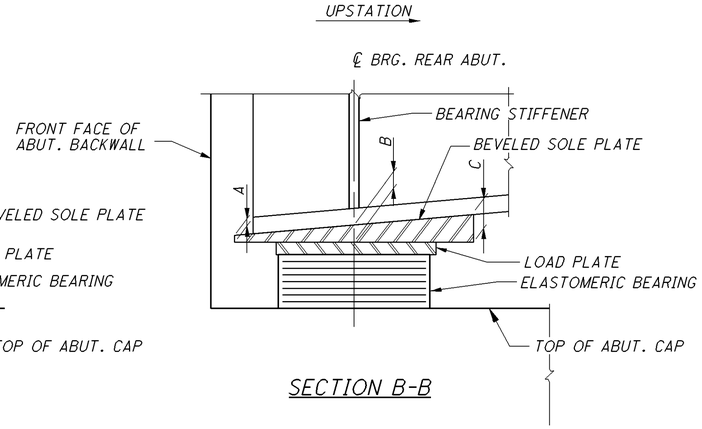
ELASTOMERIC BEARINGS



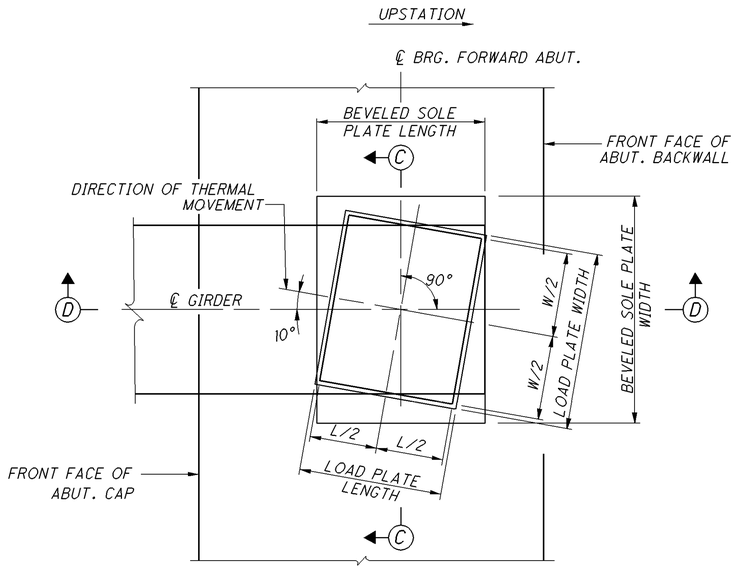
BEARING PLAN
REAR ABUTMENT - EXPANSION BEARING



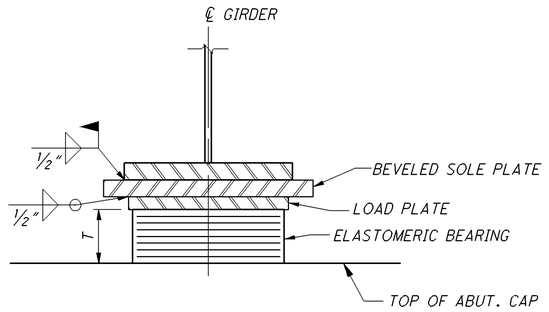
SECTION A-A



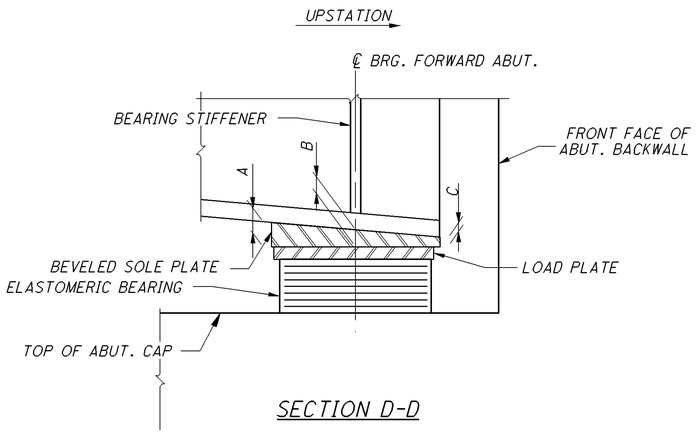
SECTION B-B



BEARING PLAN
FORWARD ABUTMENT - EXPANSION BEARING



SECTION C-C



SECTION D-D

DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

DESIGNED ELA | DRAWN DDE | REVIEWED PJL | DATE 11/16/10
CHECKED MJD | REVISED | STRUCTURE FILE NUMBER 3102858

BEARING DETAILS - 3 OF 3
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

NOTES:

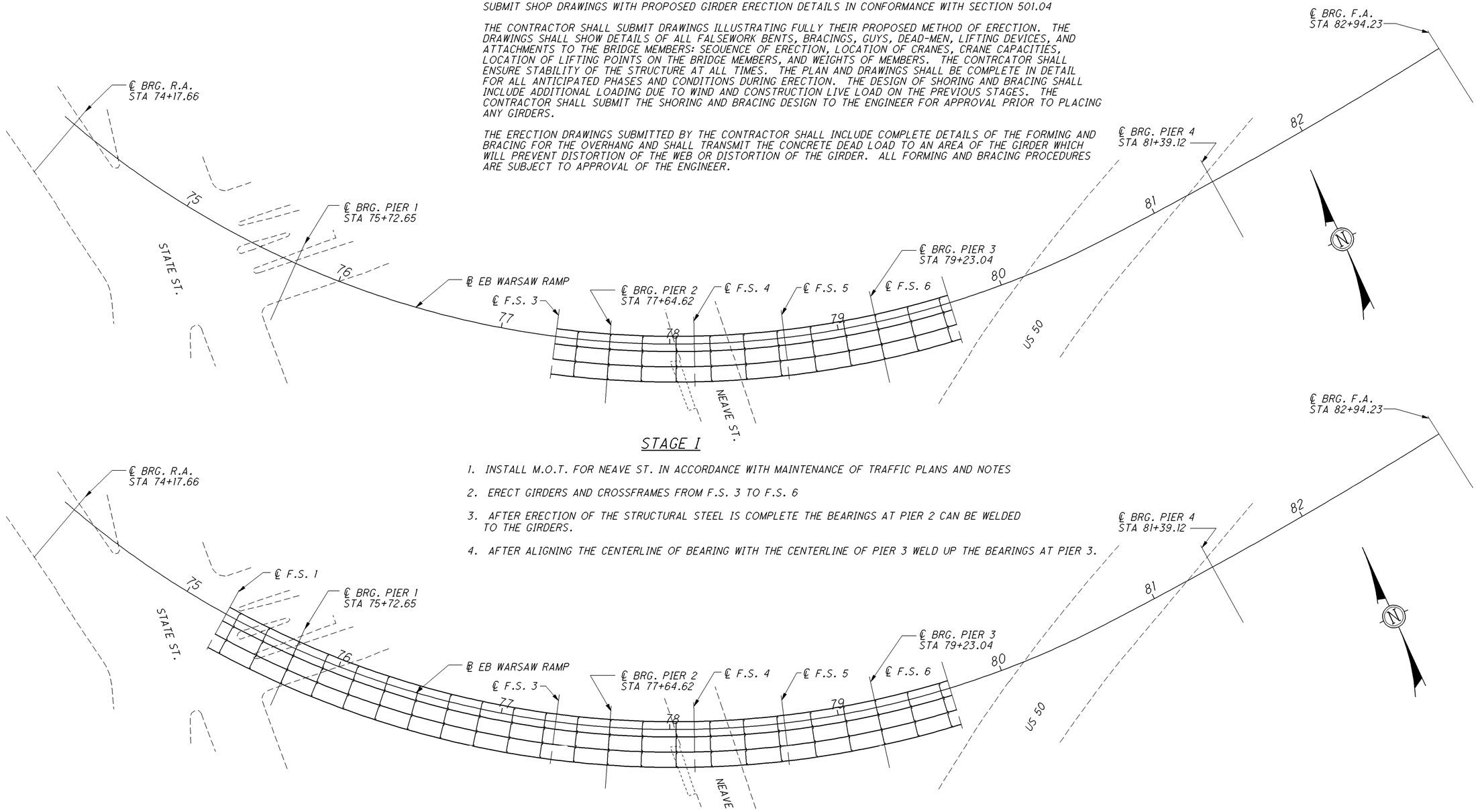
THE PROPOSED GIRDER ERECTION SEQUENCE IS PRESENTED AS ONE METHOD THAT THE CONTRACTOR MAY USE TO ERECT THE GIRDERS. THE PROPOSED SCHEME UTILIZES LIFTING CRANES AND HOLDING CRANES TO FACILITATE THE ERECTION. ALTERNATE ERECTION SCHEMES MAY BE DEVELOPED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR REVIEW.

ACTUAL CRANE LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR.

SUBMIT SHOP DRAWINGS WITH PROPOSED GIRDER ERECTION DETAILS IN CONFORMANCE WITH SECTION 501.04

THE CONTRACTOR SHALL SUBMIT DRAWINGS ILLUSTRATING FULLY THEIR PROPOSED METHOD OF ERECTION. THE DRAWINGS SHALL SHOW DETAILS OF ALL FALSEWORK BENTS, BRACINGS, GUYS, DEAD-MEN, LIFTING DEVICES, AND ATTACHMENTS TO THE BRIDGE MEMBERS: SEQUENCE OF ERECTION, LOCATION OF CRANES, CRANE CAPACITIES, LOCATION OF LIFTING POINTS ON THE BRIDGE MEMBERS, AND WEIGHTS OF MEMBERS. THE CONTRCATOR SHALL ENSURE STABILITY OF THE STRUCTURE AT ALL TIMES. THE PLAN AND DRAWINGS SHALL BE COMPLETE IN DETAIL FOR ALL ANTICIPATED PHASES AND CONDITIONS DURING ERECTION. THE DESIGN OF SHORING AND BRACING SHALL INCLUDE ADDITIONAL LOADING DUE TO WIND AND CONSTRUCTION LIVE LOAD ON THE PREVIOUS STAGES. THE CONTRACTOR SHALL SUBMIT THE SHORING AND BRACING DESIGN TO THE ENGINEER FOR APPROVAL PRIOR TO PLACING ANY GIRDERS.

THE ERECTION DRAWINGS SUBMITTED BY THE CONTRACTOR SHALL INCLUDE COMPLETE DETAILS OF THE FORMING AND BRACING FOR THE OVERHANG AND SHALL TRANSMIT THE CONCRETE DEAD LOAD TO AN AREA OF THE GIRDER WHICH WILL PREVENT DISTORTION OF THE WEB OR DISTORTION OF THE GIRDER. ALL FORMING AND BRACING PROCEDURES ARE SUBJECT TO APPROVAL OF THE ENGINEER.



STAGE I

1. INSTALL M.O.T. FOR NEAVE ST. IN ACCORDANCE WITH MAINTENANCE OF TRAFFIC PLANS AND NOTES
2. ERECT GIRDERS AND CROSSFRAMES FROM F.S. 3 TO F.S. 6
3. AFTER ERECTION OF THE STRUCTURAL STEEL IS COMPLETE THE BEARINGS AT PIER 2 CAN BE WELDED TO THE GIRDERS.
4. AFTER ALIGNING THE CENTERLINE OF BEARING WITH THE CENTERLINE OF PIER 3 WELD UP THE BEARINGS AT PIER 3.

STAGE II

1. INSTALL M.O.T. FOR STATE ST. IN ACCORDANCE WITH MAINTENANCE OF TRAFFIC PLANS AND NOTES
2. ERECT GIRDERS AND CROSSFRAMES FROM F.S. 3 TO F.S. 1
3. AFTER ERECTION OF THE STRUCTURAL STEEL IS COMPLETE THE BEARINGS AT PIER 1 CAN BE WELDED TO THE GIRDERS.

DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
ELA		3102858	

SUGGESTED GIRDER ERECTION SEQUENCE
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

33 / 47

509
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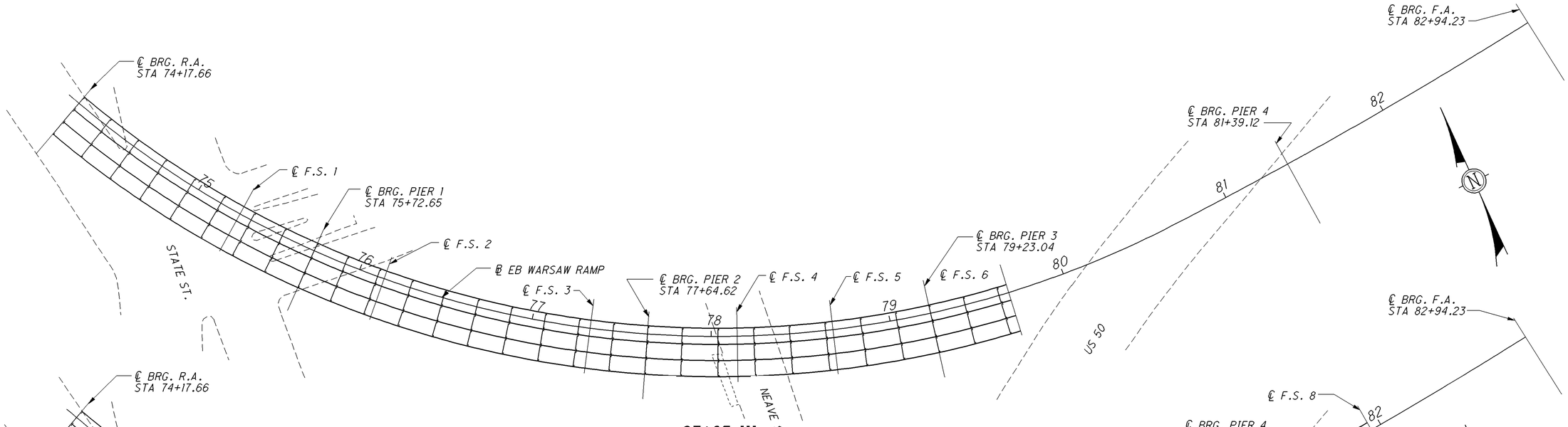

STAGE III

1. INSTALL M.O.T. FOR STATE ST. IN ACCORDANCE WITH MAINTENANCE OF TRAFFIC PLANS AND NOTES
2. ERECT GIRDERS AND CROSSFRAMES FROM F.S. 1 TO REAR ABUT.
3. AFTER ERECTION OF THE STRUCTURAL STEEL IS COMPLETE THE BEARINGS AT THE REAR ABUTMENT CAN BE WELDED TO THE GIRDERS.

STAGE IV

1. INSTALL M.O.T. FOR US 50 IN ACCORDANCE WITH MAINTENANCE OF TRAFFIC PLANS AND NOTES
2. ERECT GIRDERS AND CROSSFRAMES FROM F.S. 6 TO F.S. 8
3. AFTER ERECTION OF THE STRUCTURAL STEEL IS COMPLETE THE BEARINGS AT PIER 4 CAN BE WELDED TO THE GIRDERS.

STAGE V

1. INSTALL M.O.T. FOR US 50 IN ACCORDANCE WITH MAINTENANCE OF TRAFFIC PLANS AND NOTES
2. ERECT GIRDERS AND CROSSFRAMES FROM F.S. 8 TO FORWARD ABUTMENT
3. AFTER ERECTION OF THE STRUCTURAL STEEL IS COMPLETE THE BEARINGS AT THE FORWARD ABUTMENT CAN BE WELDED TO THE GIRDERS.

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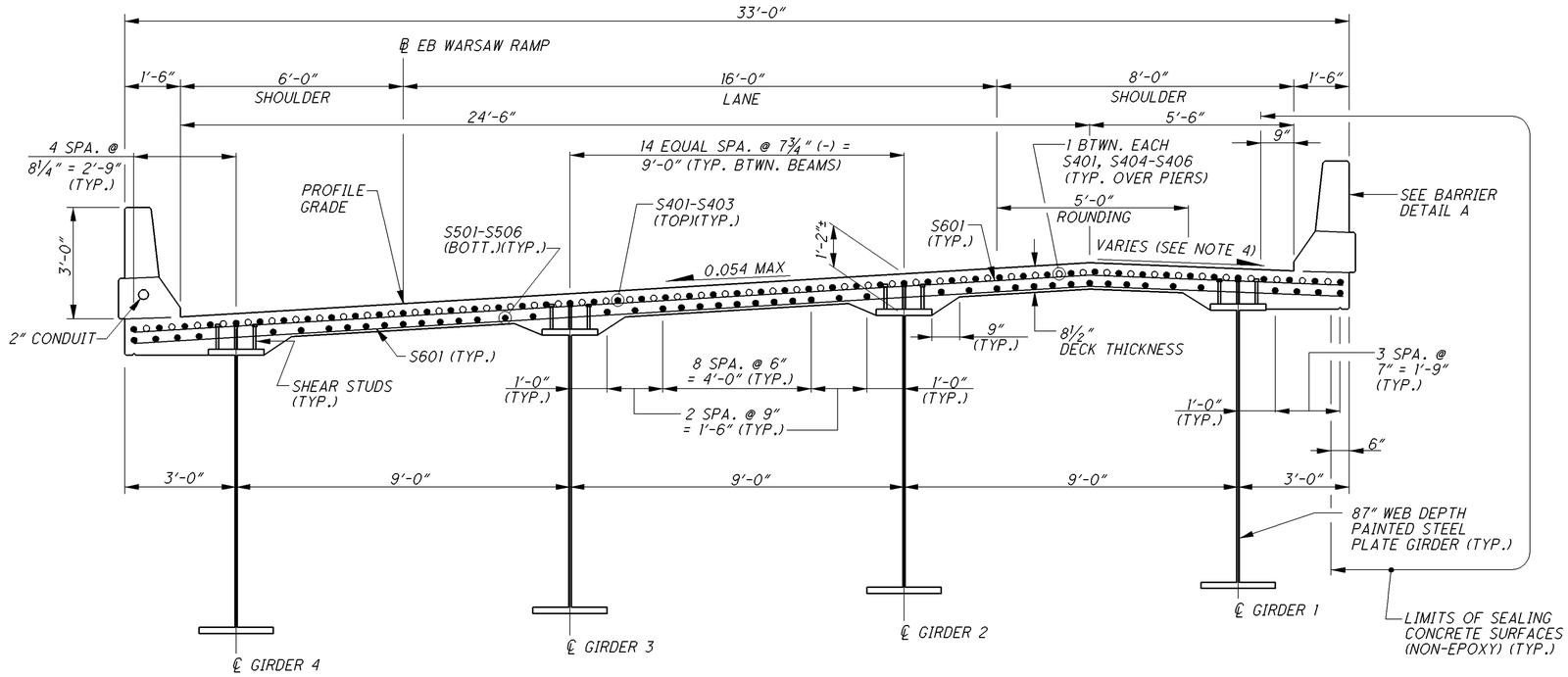
DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

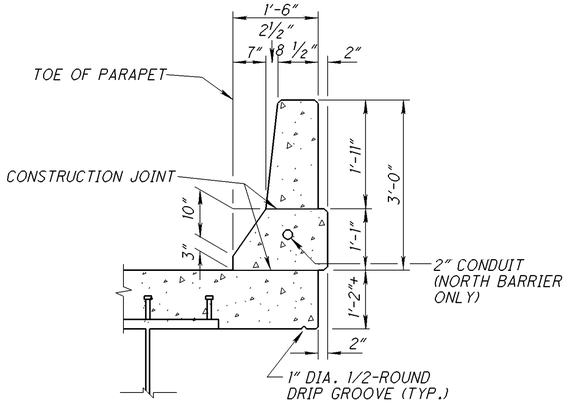
DESIGNED	DRAWN	REVIEWED	DATE
MJB	DDE	PJL	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ELA		3102858	

SUGGESTED GIRDER ERECTION SEQUENCE

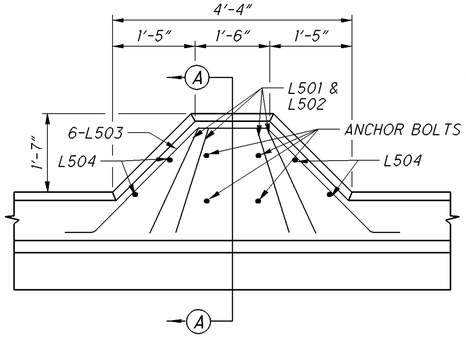
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

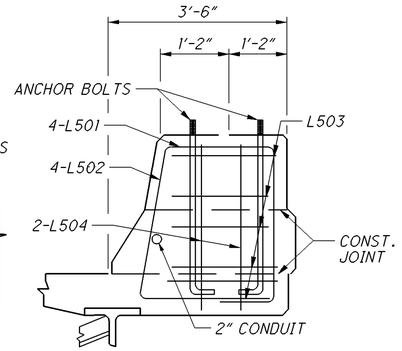




BARRIER DETAIL A



PLAN



SECTION "A-A"

LIGHT POLE PILASTER FOR BRIDGE WITH STANDARD ROADWAY RAILING

NOTES:

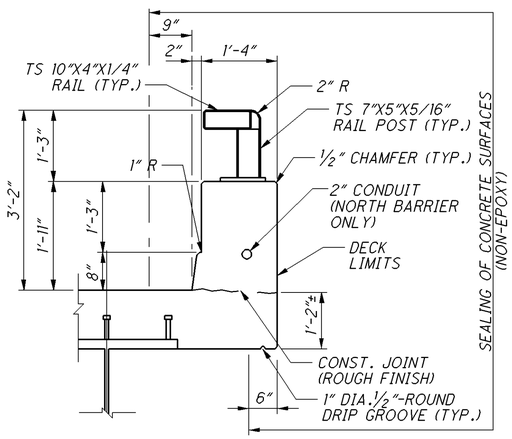
1. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM/GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 5½ INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM/GIRDER FLANGE OF 9 INCHES. 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/GIRDER FLANGE IS +/- 3-INCHES.

THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.

2. SUPERSTRUCTURE SHALL BE SEALED WITH EPOXY-URETHANE AS INDICATED.

3. FOR LIGHT POLE LOCATIONS SEE SHEET 4/47 .

4. VARIES FROM 4.0% AT STA. 82+66.65 TO 0.09% AT STA. 82+96.65



ALTERNATE BARRIER DETAIL

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
ELA	CBS	PJL	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJD		3102858	

TRANSVERSE SECTION
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S. R. 50

HAM-50-18.79
PID No. 20082

35 / 47

511
657

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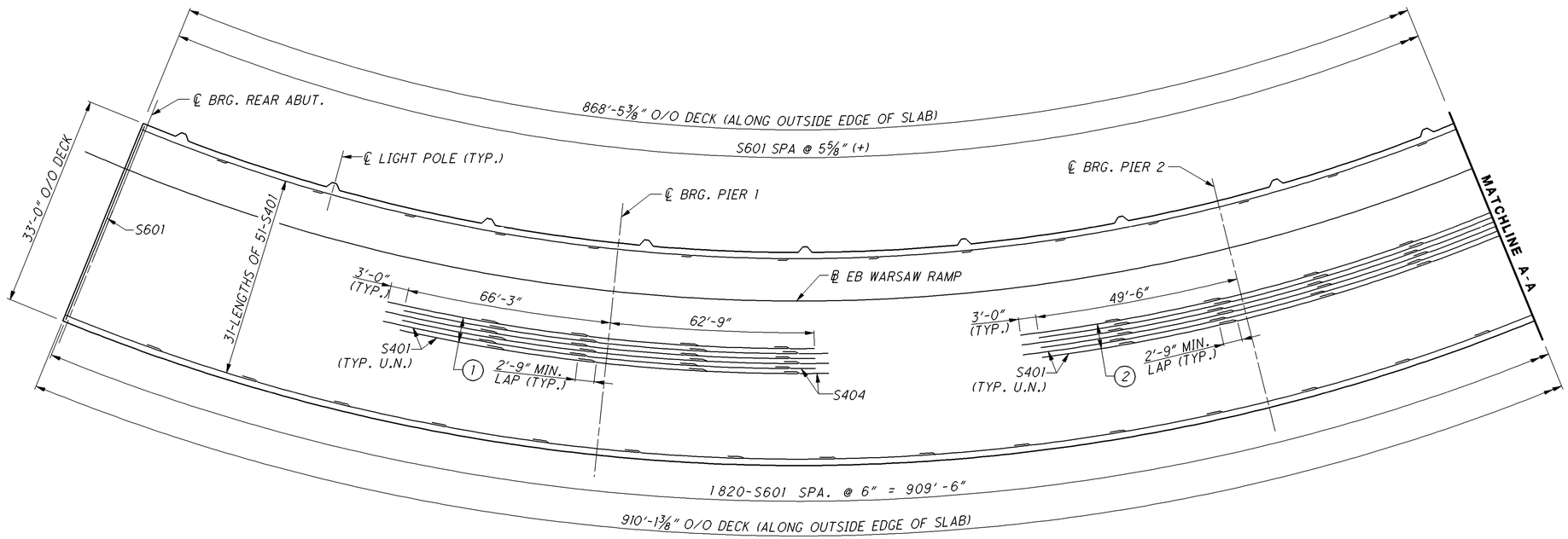
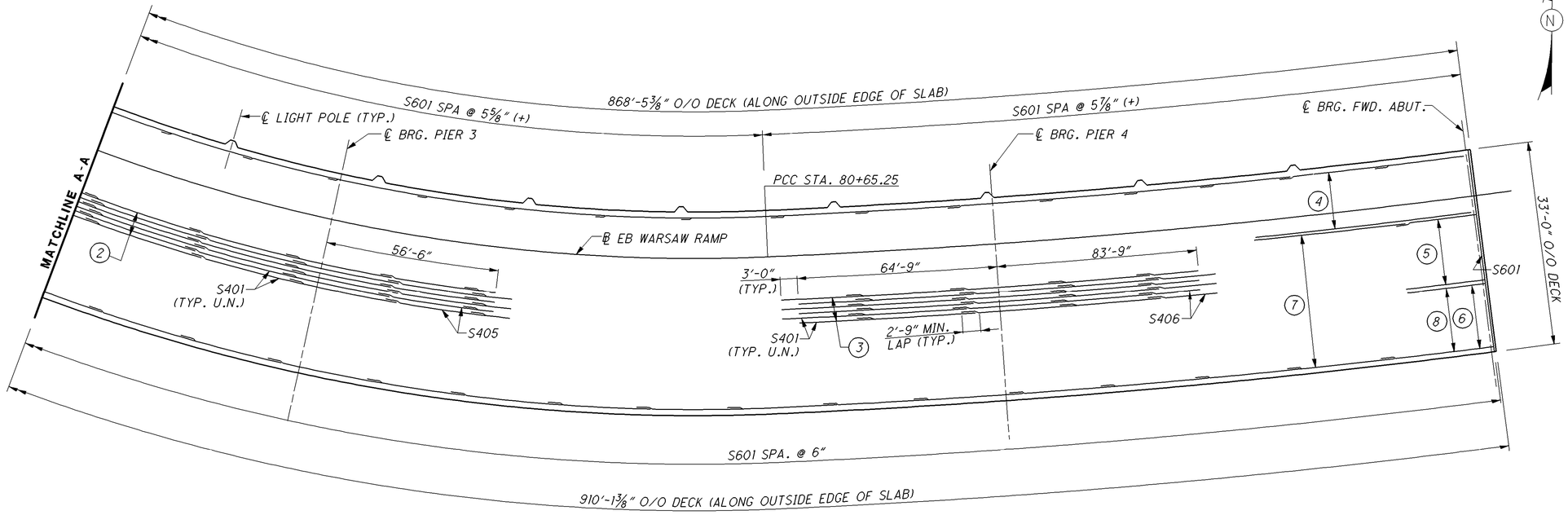


TOP OF DECK REINFORCING



TOP OF DECK REINFORCING

LEGEND

1. ALTERNATE 4 SETS OF 50-S401 & 50-S404 WITH TOP LONGITUDINAL S401 DECK BAR
2. ALTERNATE 9 SETS OF 50-S401 & 50-S405 WITH TOP LONGITUDINAL S401 DECK BAR
3. ALTERNATE 5 SETS OF 50-S401 & 50-S406 WITH TOP LONGITUDINAL S401 DECK BAR
4. 1 SET OF 8-S401
5. 1 SET OF 21-S402
6. 1 SET OF 22-S403
7. 1 SET OF 43-S401
8. 1 SET OF 22-S401

NOTES:

1. MIN. LAP FOR NO. 4 BAR = 2'-9"
2. SEE SHEET 41/47 FOR PARAPET REINFORCEMENT
3. SEE SHEET 4/47 FOR LIGHT POLE LOCATIONS
4. SEE SHEET 35/47 FOR TYPICAL SECTION

DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

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DECK PLAN
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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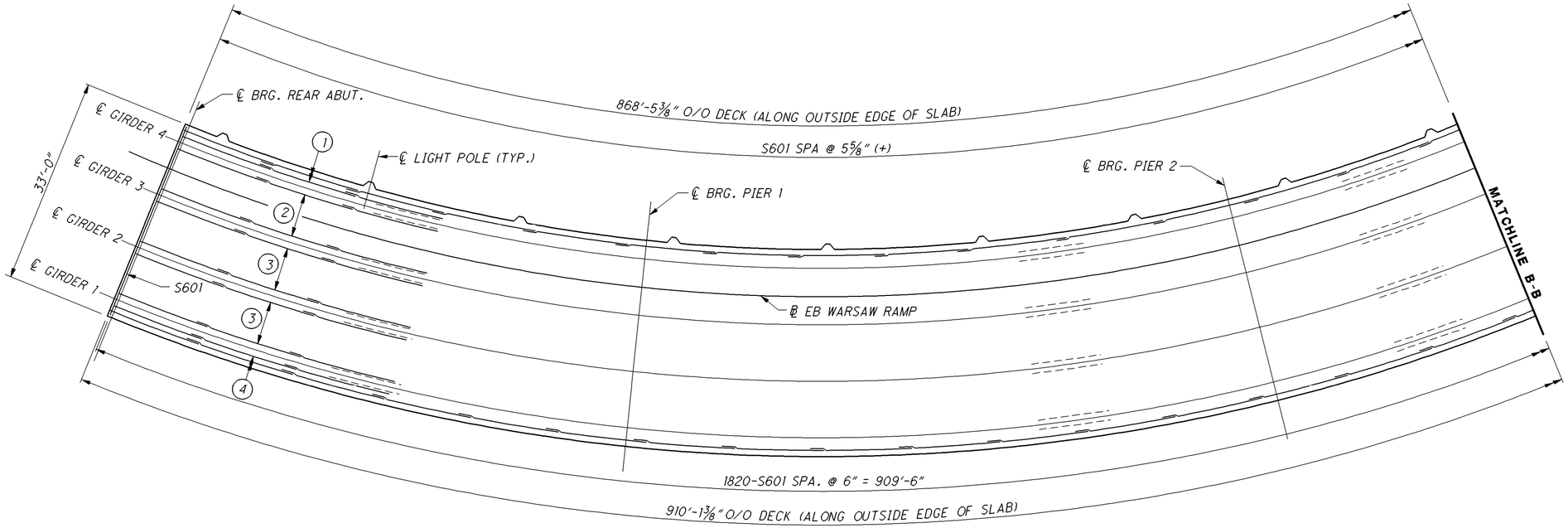
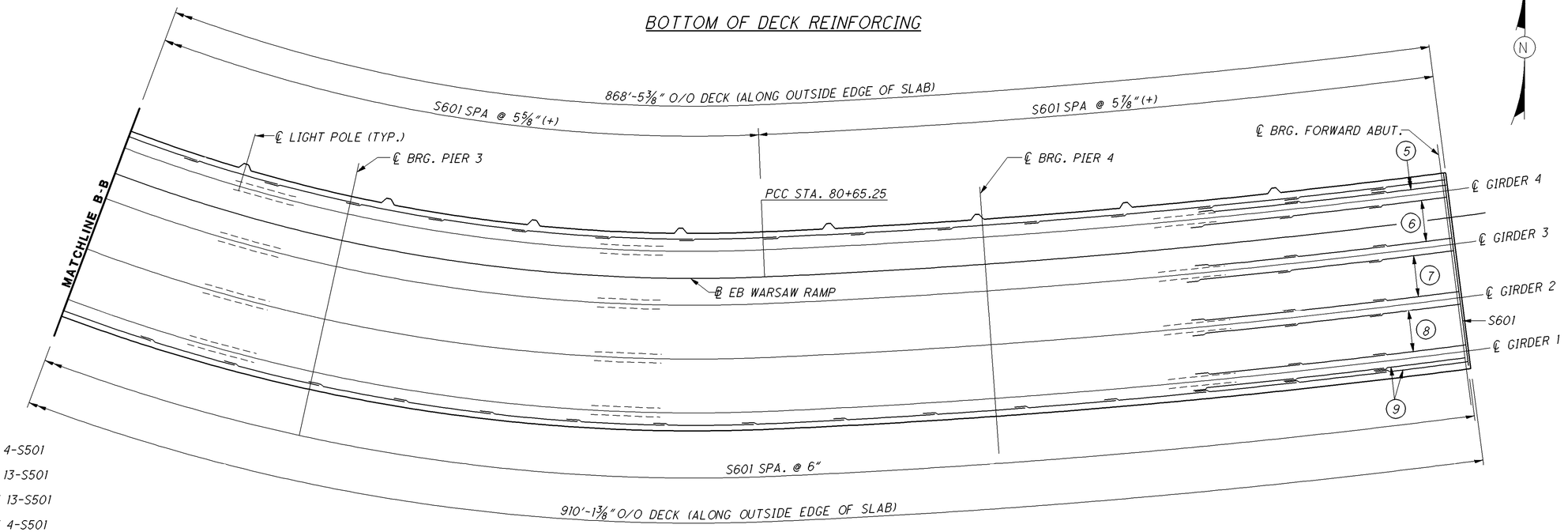


BOTTOM OF DECK REINFORCING



BOTTOM OF DECK REINFORCING

LEGEND

1. 31 SETS OF 4-S501
2. 31 SETS OF 13-S501
3. 32 SETS OF 13-S501
4. 32 SETS OF 4-S501
5. 1 SET OF 4-S502
6. 1 SET OF 13-S503
7. 1 SET OF 13-S504
8. 1 SET OF 13-S505
9. 1 SET OF 4-S506

NOTES:

1. MIN. LAP FOR NO. 5 BAR = 2'-5"
2. SEE SHEET 41/47 FOR PARAPET REINFORCEMENT
3. SEE SHEET 4/47 FOR LIGHT POLE LOCATIONS
4. SEE SHEET 35/47 FOR TYPICAL SECTION

DESIGN AGENCY
PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

DESIGNED	DRAWN	REVIEWED	DATE
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DECK PLAN
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
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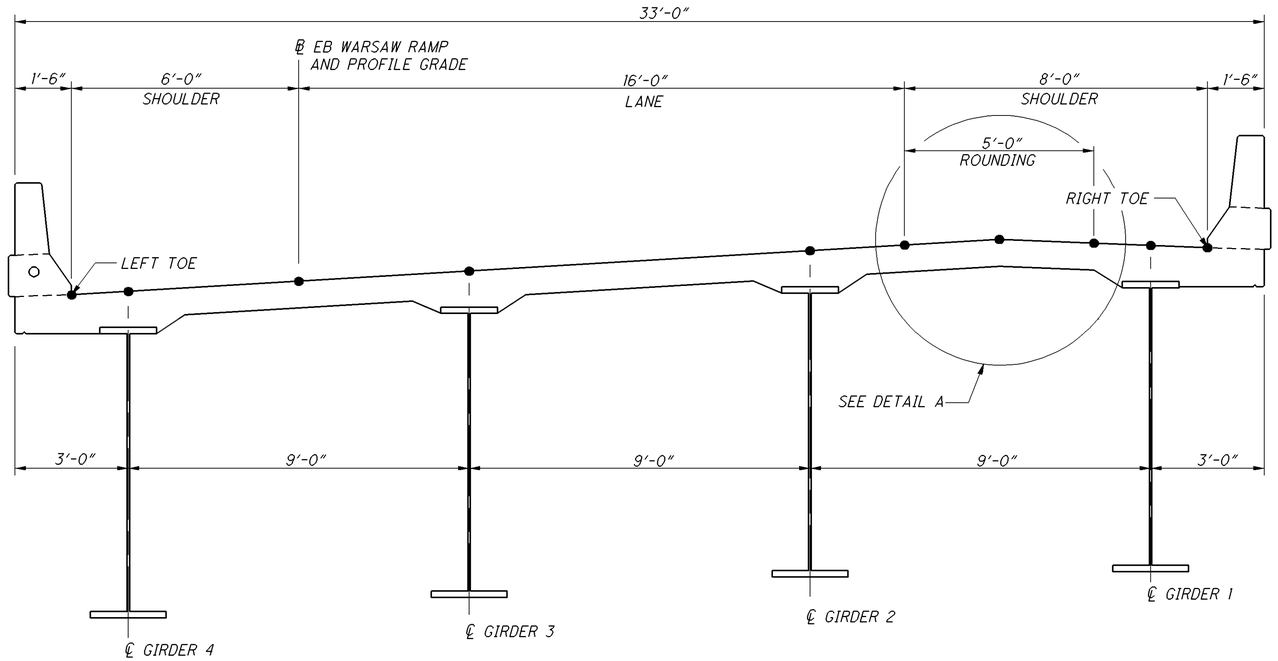
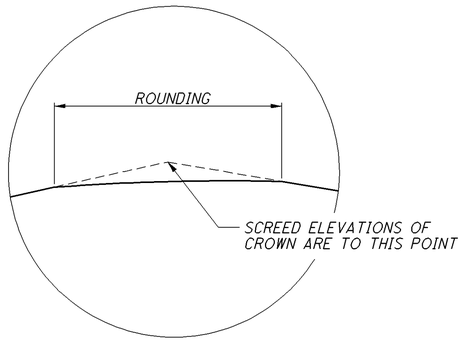


BRIDGE TYPICAL SECTION



DETAIL A

LEGEND

- LOCATION OF SCREED LINE

NOTES:

1. SCREED ELEVATIONS ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

SCREED ELEVATIONS

SPAN LOCATION	STATION	LEFT TOE	GIRDER 4	PROFILE GRADE	GIRDER 3	GIRDER 2	LEFT ROUNDING	CROWN	RIGHT ROUNDING	GIRDER 1	RIGHT TOE
ABUT. 1	74+17.66	554.210	554.291	554.534	554.777	555.263	555.398	555.533	555.433	555.373	555.313
1/10 SPAN	74+33.16	554.636	554.717	554.964	555.210	555.702	555.839	555.976	555.878	555.819	555.759
2/10 SPAN	74+48.66	555.104	555.185	555.434	555.683	556.179	556.318	556.456	556.360	556.302	556.242
3/10 SPAN	74+64.16	555.590	555.671	555.920	556.169	556.666	556.804	556.943	556.846	556.788	556.728
4/10 SPAN	74+79.66	556.065	556.146	556.394	556.642	557.136	557.273	557.411	557.314	557.256	557.196
5/10 SPAN	74+95.16	556.523	556.604	556.850	557.097	557.585	557.722	557.858	557.759	557.700	557.640
6/10 SPAN	75+10.65	556.970	557.051	557.294	557.538	558.022	558.156	558.291	558.190	558.130	558.070
F.S. 1	75+26.65	557.419	557.500	557.741	557.983	558.463	558.595	558.728	558.625	558.564	558.504
8/10 SPAN	75+41.65	557.839	557.920	558.160	558.401	558.881	559.013	559.146	559.044	558.982	558.922
9/10 SPAN	75+57.15	558.279	558.360	558.601	558.842	559.324	559.458	559.591	559.490	559.429	559.369
℄ PIER 1	75+72.65	558.736	558.817	559.060	559.303	559.789	559.924	560.059	559.959	559.899	559.839
1/10 SPAN	75+91.85	559.335	559.416	559.662	559.907	560.398	560.534	560.671	560.572	560.513	560.453
F.S. 2	76+14.65	560.018	560.099	560.349	560.598	561.095	561.234	561.372	561.275	561.217	561.157
3/10 SPAN	76+30.24	560.410	560.491	560.744	560.997	561.499	561.639	561.779	561.684	561.627	561.567
4/10 SPAN	76+49.44	560.766	560.847	561.104	561.360	561.870	562.012	562.154	562.061	562.006	561.946
5/10 SPAN	76+68.64	560.973	561.054	561.314	561.573	562.087	562.231	562.375	562.284	562.230	562.170
6/10 SPAN	76+87.83	561.030	561.111	561.371	561.631	562.147	562.292	562.436	562.346	562.291	562.231
7/10 SPAN	77+07.03	560.936	561.017	561.276	561.535	562.048	562.192	562.335	562.244	562.189	562.129
F.S. 3	77+32.62	560.590	560.671	560.924	561.177	561.681	561.821	561.962	561.868	561.811	561.751
9/10 SPAN	77+45.42	560.331	560.412	560.662	560.911	561.408	561.547	561.686	561.590	561.532	561.472
℄ PIER 2	77+64.62	559.853	559.934	560.177	560.420	560.906	561.041	561.176	561.076	561.016	560.956
1/10 SPAN	77+80.46	559.383	559.464	559.701	559.938	560.416	560.548	560.680	560.577	560.515	560.455
2/10 SPAN	77+96.30	558.841	558.922	559.154	559.387	559.855	559.985	560.114	560.008	559.945	559.885
F.S. 4	78+14.62	558.114	558.195	558.423	558.651	559.110	559.237	559.364	559.256	559.191	559.131
4/10 SPAN	78+27.99	557.504	557.585	557.812	558.038	558.492	558.618	558.744	558.634	558.569	558.509
5/10 SPAN	78+43.83	556.697	556.778	557.003	557.227	557.679	557.804	557.929	557.819	557.753	557.693
6/10 SPAN	78+59.67	555.796	555.877	556.101	556.326	556.779	556.904	557.029	556.919	556.853	556.793
F.S. 5	78+68.04	555.280	555.361	555.587	555.812	556.267	556.393	556.519	556.409	556.344	556.284
8/10 SPAN	78+91.36	553.720	553.801	554.030	554.260	554.726	554.855	554.983	554.876	554.812	554.752
9/10 SPAN	79+07.20	552.560	552.641	552.876	553.112	553.588	553.720	553.851	553.747	553.685	553.625
PIER 3	79+23.04	551.329	551.410	551.653	551.896	552.382	552.517	552.652	552.552	552.492	552.432
1/10 SPAN	79+44.65	549.572	549.653	549.905	550.156	550.658	550.797	550.937	550.841	550.784	550.724
F.S. 6	79+68.04	547.677	547.758	548.018	548.278	548.795	548.939	549.083	548.992	548.937	548.877
3/10 SPAN	79+87.86	546.069	546.150	546.416	546.681	547.208	547.355	547.502	547.414	547.361	547.301
4/10 SPAN	80+09.47	544.313	544.389	544.643	544.898	545.401	545.543	545.684	545.598	545.547	545.487
5/10 SPAN	80+31.08	542.534	542.603	542.835	543.067	543.528	543.657	543.786	543.701	543.650	543.590
6/10 SPAN	80+52.69	540.717	540.778	540.986	541.194	541.607	541.722	541.838	541.751	541.699	541.639
7/10 SPAN	80+74.30	538.842	538.896	539.077	539.258	539.619	539.720	539.820	539.731	539.677	539.617
F.S. 7	80+90.12	537.486	537.535	537.695	537.855	538.175	538.264	538.353	538.261	538.205	538.145
9/10 SPAN	81+17.51	535.154	535.193	535.317	535.441	535.688	535.757	535.825	535.729	535.671	535.611
PIER 4	81+39.12	533.389	533.422	533.521	533.620	533.818	533.873	533.928	533.828	533.768	533.708
1/10 SPAN	81+54.63	532.163	532.196	532.291	532.386	532.575	532.627	532.680	532.577	532.516	532.456
2/10 SPAN	81+70.14	530.979	531.012	531.104	531.195	531.376	531.426	531.476	531.371	531.309	531.249
3/10 SPAN	81+85.65	529.833	529.866	529.954	530.043	530.219	530.267	530.315	530.208	530.144	530.084
F.S. 8	81+94.12	529.220	529.253	529.341	529.429	529.602	529.650	529.698	529.590	529.526	529.466
5/10 SPAN	82+16.68	527.619	527.652	527.739	527.825	527.997	528.044	528.092	527.984	527.919	527.859
6/10 SPAN	82+32.19	526.540	526.573	526.661	526.748	526.922	526.970	527.018	526.911	526.847	526.787
7/10 SPAN	82+47.70	525.473	525.506	525.596	525.686	525.864	525.913	525.962	525.857	525.793	525.733
8/10 SPAN	82+63.21	524.420	524.453	524.545	524.637	524.821	524.872	524.924	524.820	524.757	524.697
9/10 SPAN	82+78.72	523.381	523.414	523.510	523.606	523.797	523.850	523.902	523.800	523.739	523.679
ABUT. 2	82+94.23	522.364	522.397	522.496	522.595	522.793	522.848	522.903	522.803	522.743	522.683

DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

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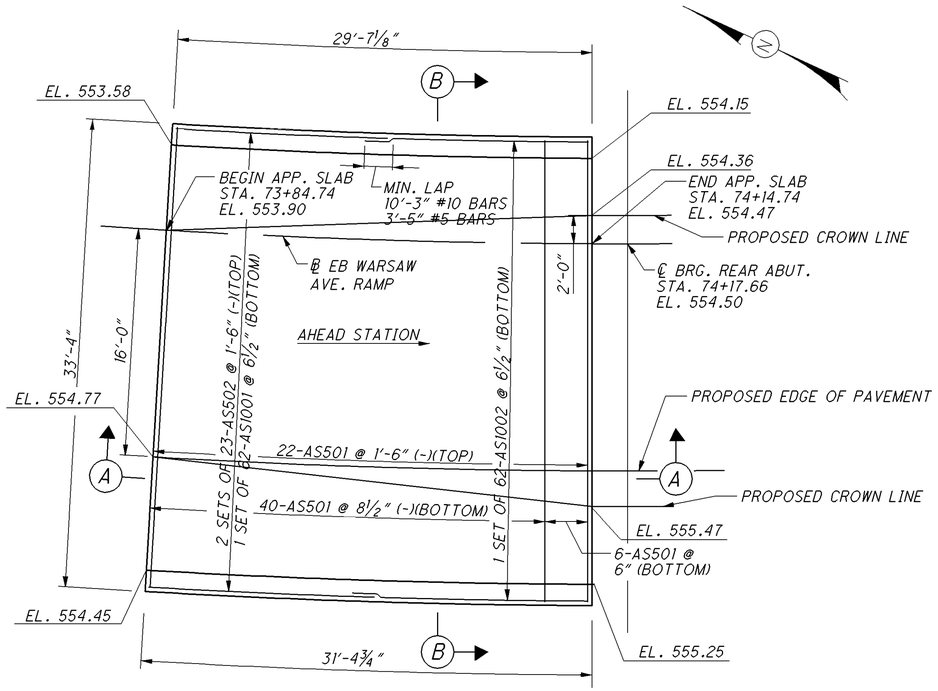
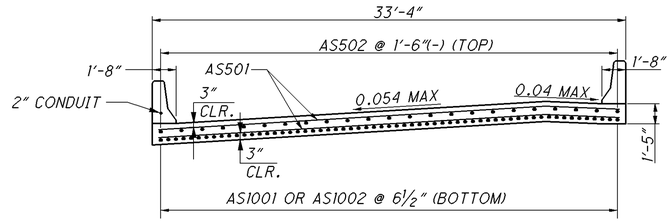
ELA	DDE	PJL	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJD		3102858	

SCREED ELEVATIONS
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082



REAR APPROACH SLAB PLAN



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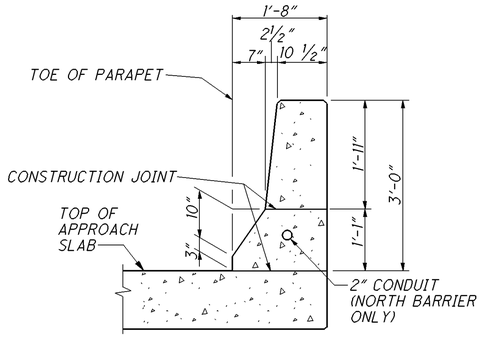

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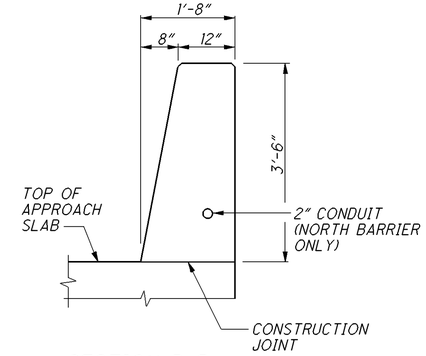

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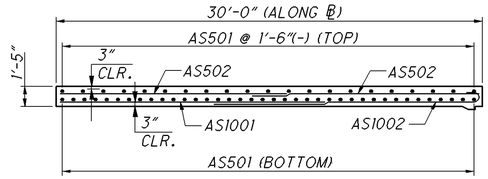
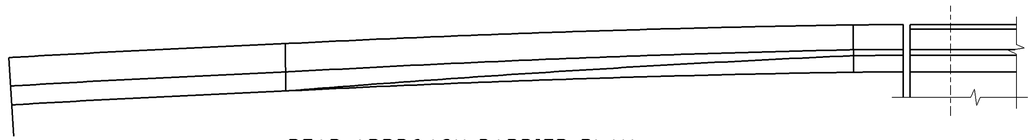
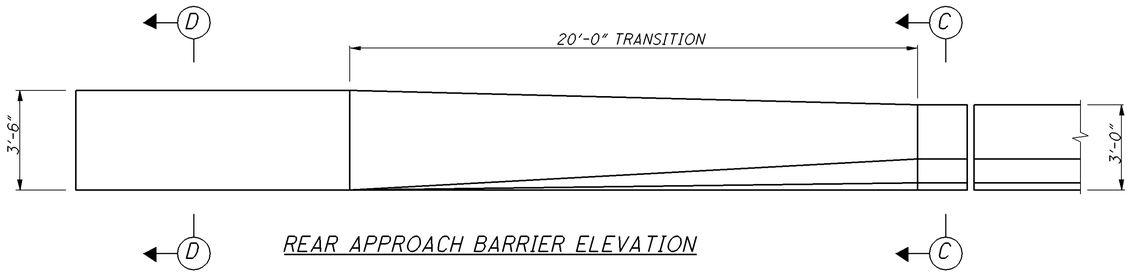


SECTION A-A



REAR APPROACH BARRIER PLAN



REAR APPROACH BARRIER ELEVATION

NOTES:

1. FOR BARRIER REINFORCEMENT, SEE SHEETS 41A / 47.

DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAP		3102858	

APPROACH SLAB
BRIDGE NO. HAM-050-1881
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HAM-50-18.79
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39 / 47

515
657

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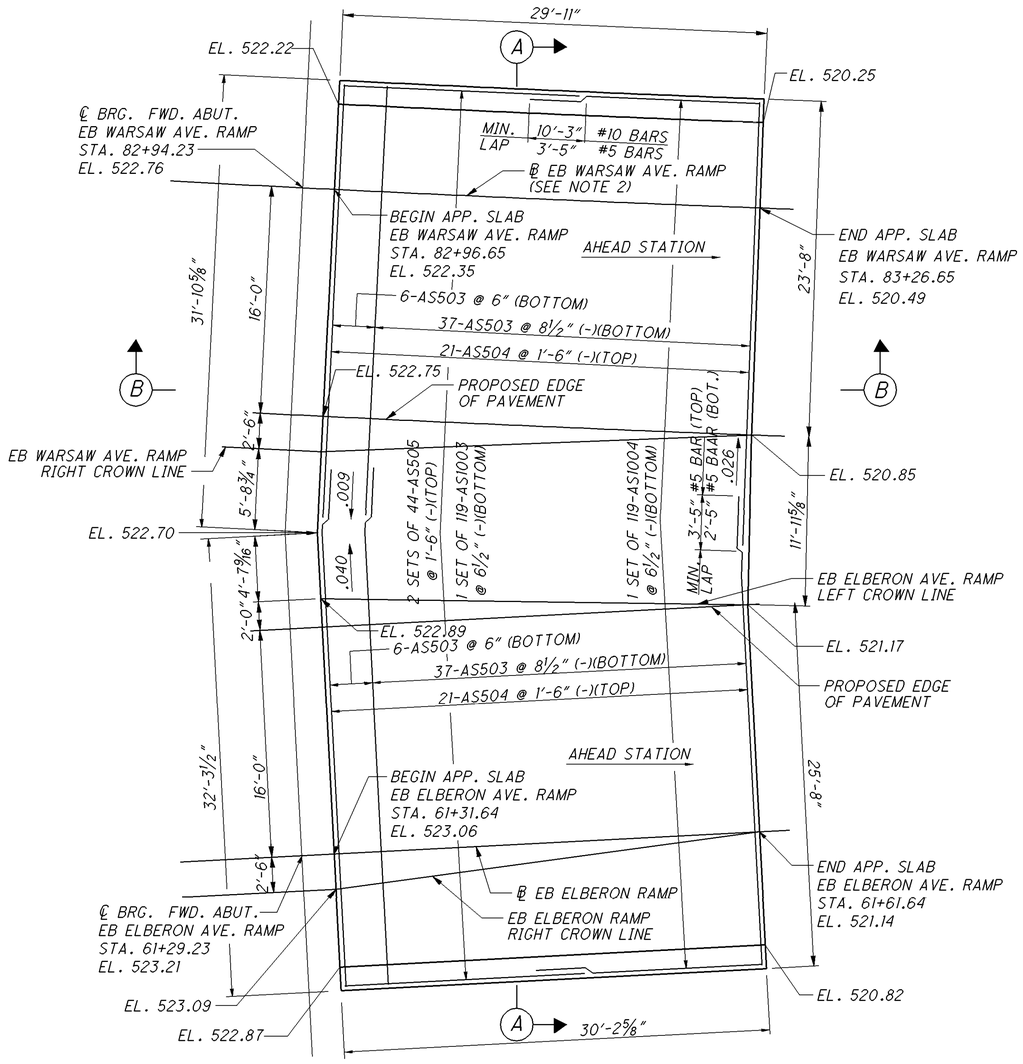
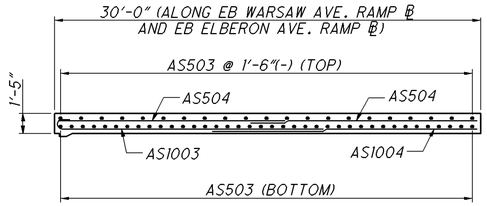
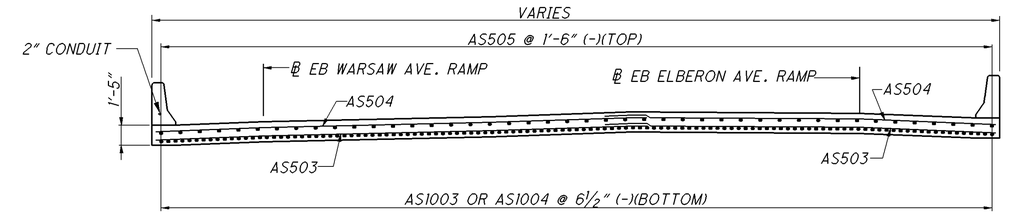


FORWARD APPROACH SLAB PLAN

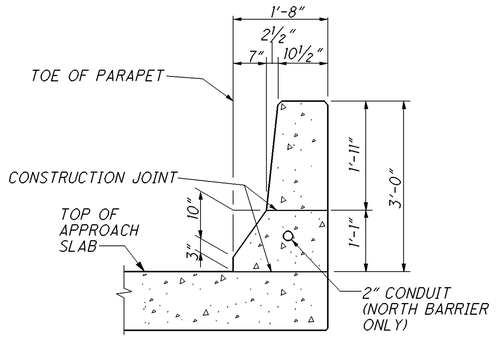
EB WARSAW AVE. RAMP AND EB ELBERON AVE. RAMP



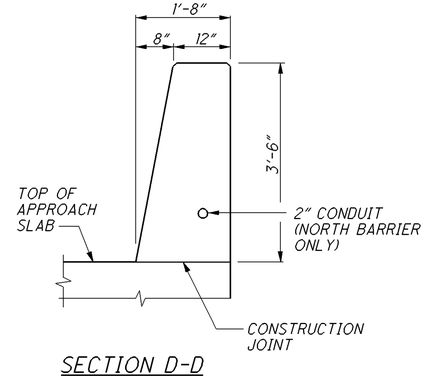
SECTION B-B



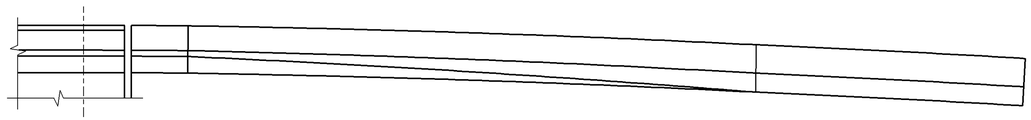
SECTION A-A



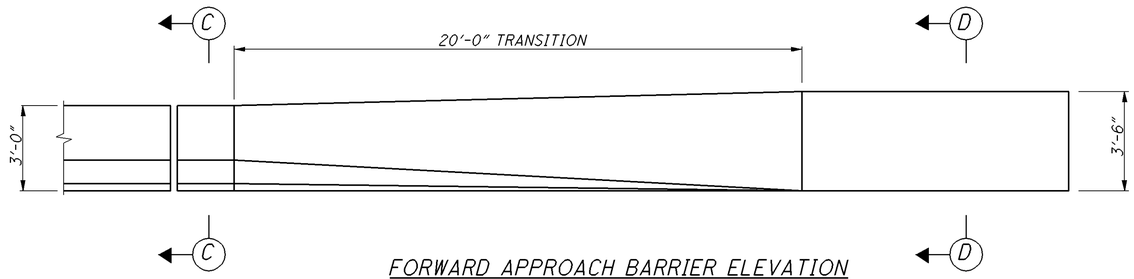
SECTION C-C



SECTION D-D



FORWARD APPROACH BARRIER PLAN



FORWARD APPROACH BARRIER ELEVATION

NOTES:

1. FOR BARRIER REINFORCEMENT, SEE SHEETS 41A/47.

2. PROVIDE CROSS SLOPE TRANSITION FROM BRIDGE DECK TO ROADWAYSECTION ON THE APPROACH SLAB. ESTABLISH GRADE BREAK AT THE RAMP BASELINE TO PREFORM TRANSITION.

DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

DESIGNED	DRAWN	REVIEWED	DATE
ELA	CBS	PJL	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAP		3102858	

APPROACH SLAB
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

40 / 47

516
657

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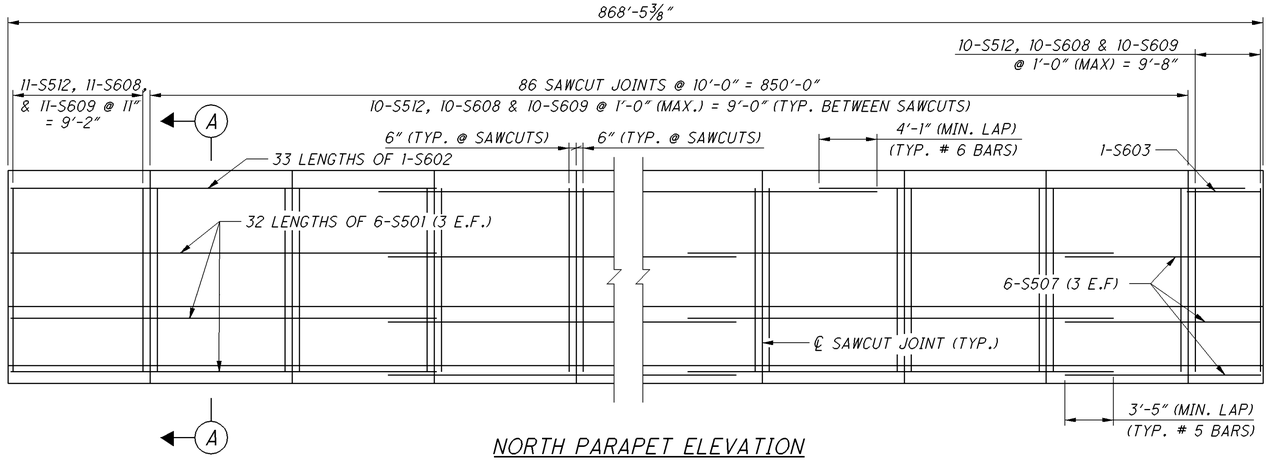
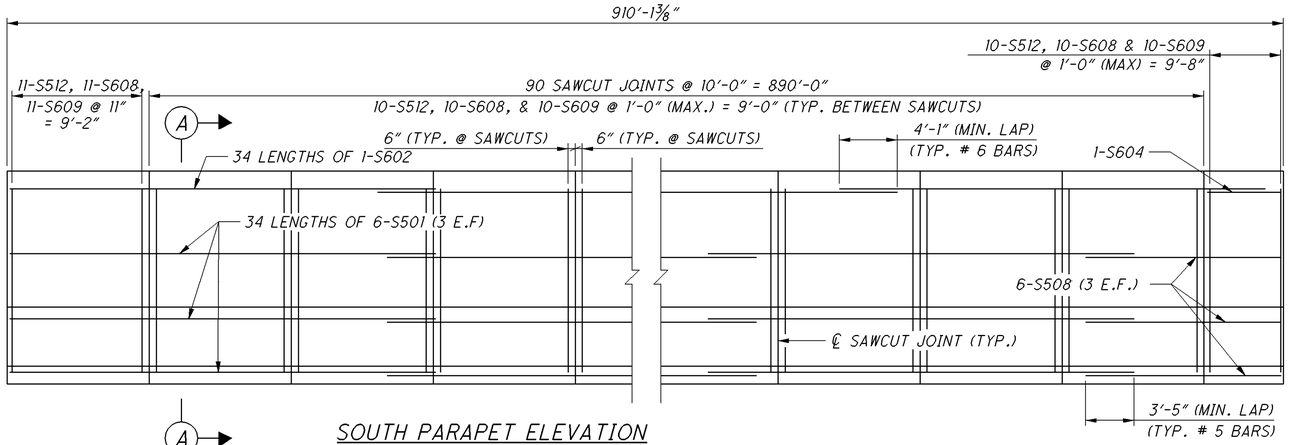
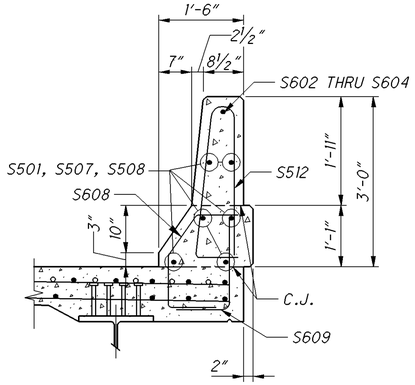


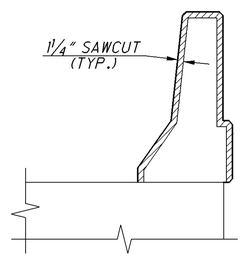
NORTH PARAPET ELEVATION
(LOOKING NORTH)



SOUTH PARAPET ELEVATION
(LOOKING NORTH)



SECTION A-A



DETAIL A
(SECTION THROUGH SAWCUT)
SAWCUT PERIMETER = 7'-6"

NOTES:

1. SEE STANDARD DRAWING BR-1 FOR ADDITIONAL INFORMATION.
2. SEE SHEETS 39/47 AND 40/47 FOR DETAILS OF PARAPET ON APPROACH.

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
ELA	CBS	PJL	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJD		3102858	

PARAPET DETAILS
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

41 / 47

517
657

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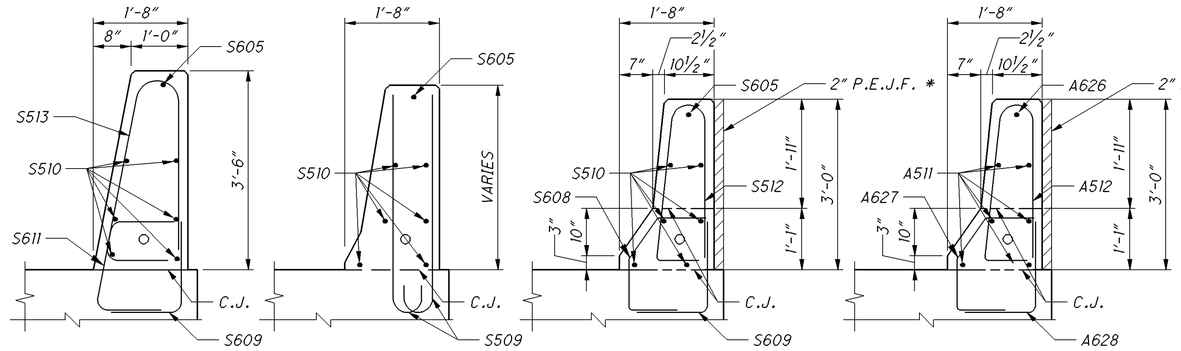
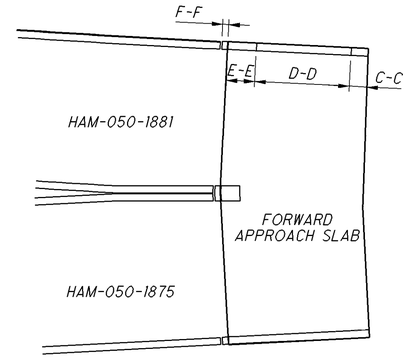


SECTION C-C | SECTION D-D | SECTION E-E | SECTION F-F

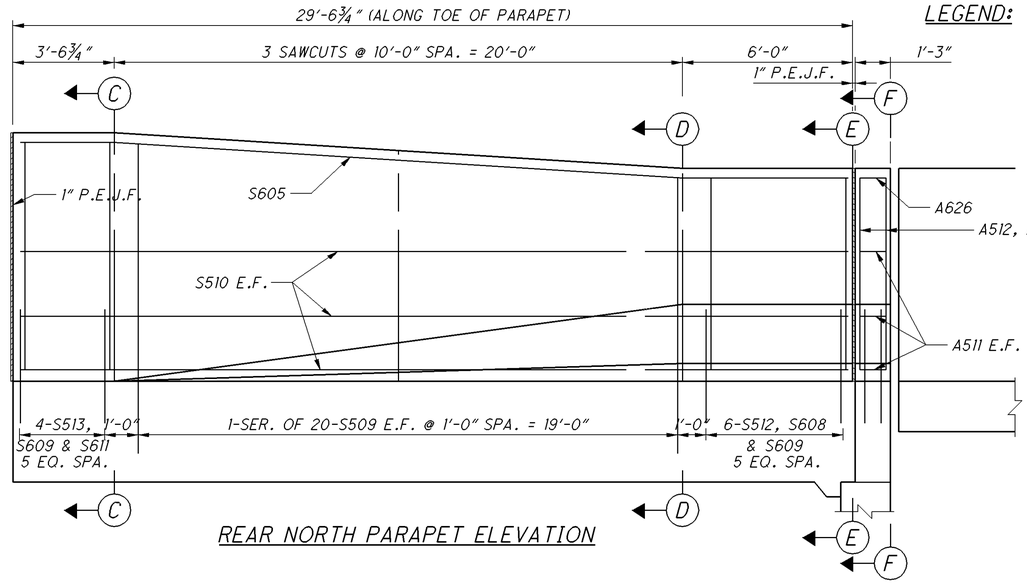
(REAR NORTH SHOWN OTHERS SIMILAR)

* 2" P.E.J.F. ONLY NEEDED IN AREA OF ARCHITECTURAL WALL

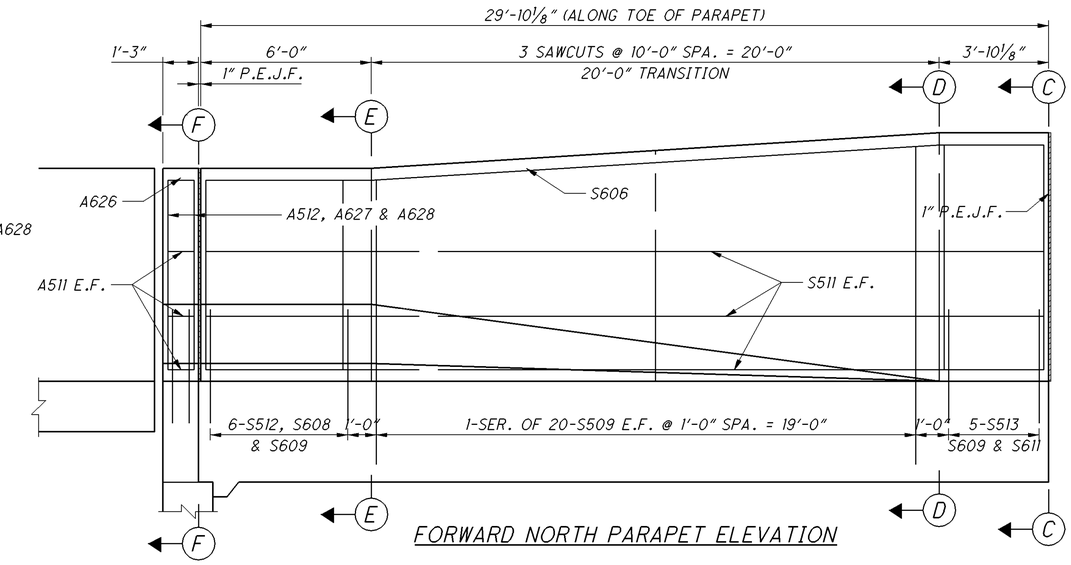


SECTION DIAGRAM

LEGEND:



REAR NORTH PARAPET ELEVATION

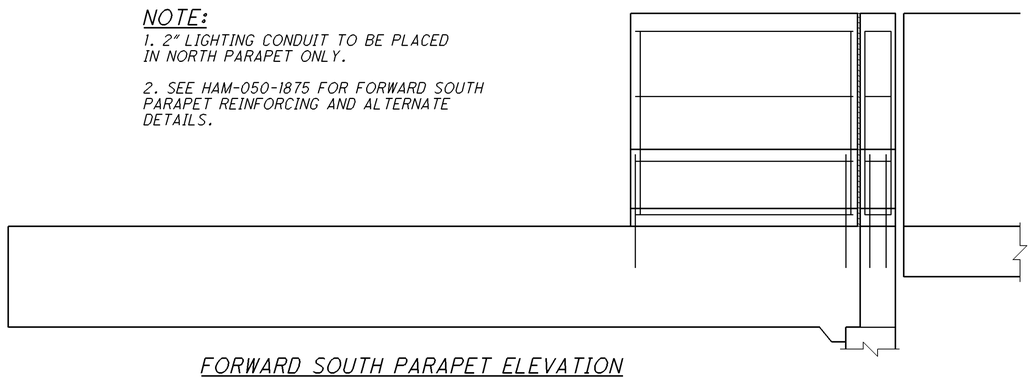


FORWARD NORTH PARAPET ELEVATION

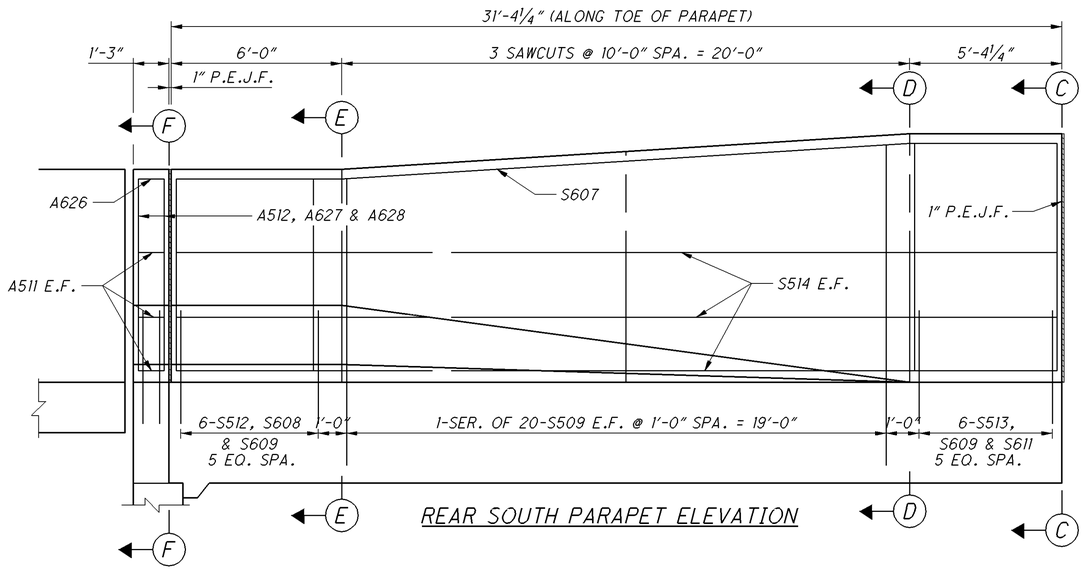
NOTE:

1. 2" LIGHTING CONDUIT TO BE PLACED IN NORTH PARAPET ONLY.

2. SEE HAM-050-1875 FOR FORWARD SOUTH PARAPET REINFORCING AND ALTERNATE DETAILS.



FORWARD SOUTH PARAPET ELEVATION



REAR SOUTH PARAPET ELEVATION

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAP		3102858	

PARAPET DETAILS
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

41A / 47

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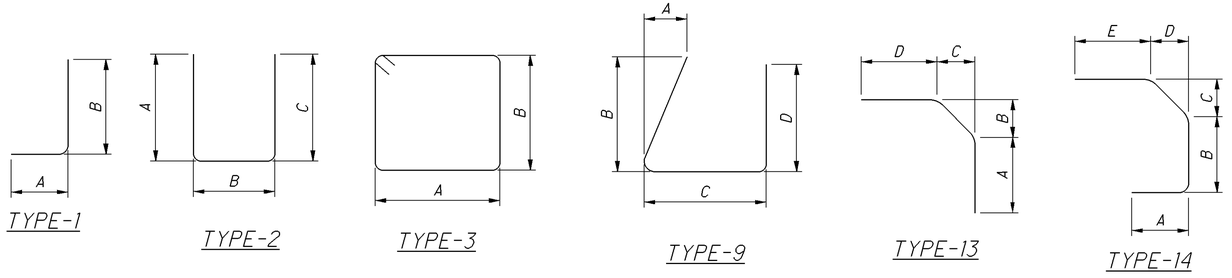
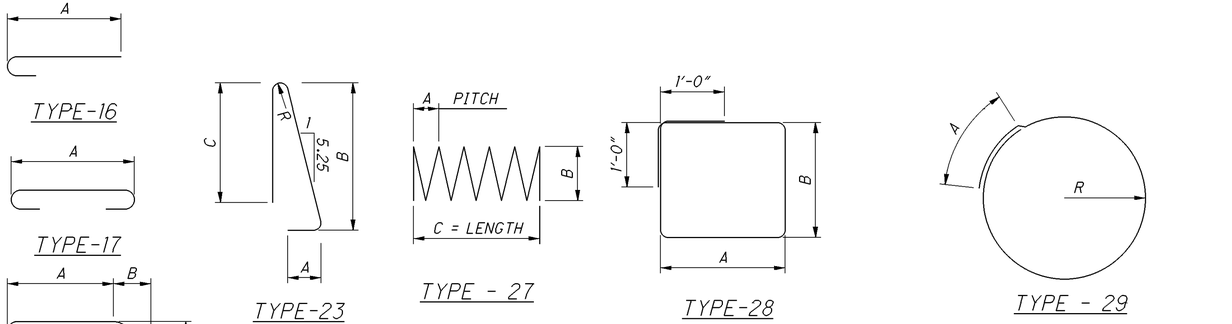
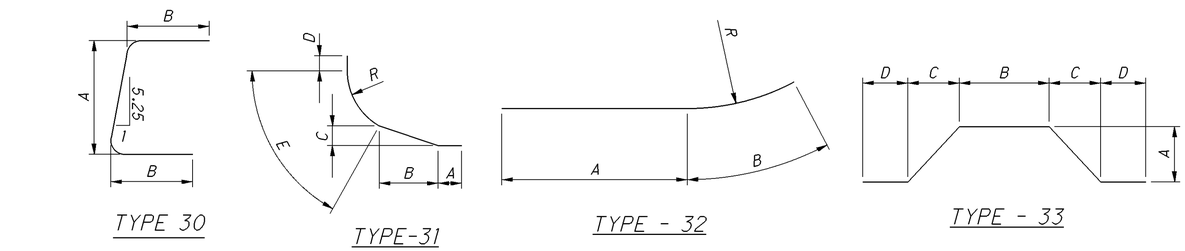
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SUPERSTRUCTURE											
S401	2,554	30'-0"	51,182	STR							
S402	21	15'-10"	222	STR							
S403	22	39'-9"	584	STR							
S404	50	23'-0"	768	STR							
S405	50	29'-6"	985	STR							
S406	50	15'-3"	509	STR							
S501	1,883	30'-0"	58,919	STR							
S502	4	13'-0"	54	STR							
S503	13	27'-6"	373	STR							
S504	13	11'-3"	153	STR							
S505	13	22'-8"	307	STR							
S506	4	27'-1"	113	STR							
S507	6	17'-5"	109	STR							
S508	6	5'-11"	37	STR							
	6	4'-7"			4'-0"						
S509	SER OF	TO	611	16	TO						
	20	5'-2"			4'-7"						
S510	6	29'-2"	183	STR							
S511	6	29'-6"	185	STR							
S512	1,800	6'-0"	11,264	23	8"	2'-9"	2'-6"			1½"	
S513	15	7'-5"	116	23	1'-1"	3'-2"	3'-0"			2⅞"	
S514	6	31'-0"	194	STR							
S601	3,640	32'-8"	178,598	STR							
S602	67	30'-0"	3,019	STR							
S603	1	12'-10"	19	STR							
S604	1	28'-7"	43	STR							
S605	1	29'-2"	44	STR							
S606	1	29'-6"	44	STR							
S607	1	31'-0"	47	STR							
S608	1,800	3'-10"	10,364	14	10½"	1'-8"	8½"	6"	9"		
S609	1,800	2'-5"	6,534	1	11"	1'-8"					
SUPERSTRUCTURE TOTAL			325,580								
LIGHT PILASTER											
L501	68	2'-10"	201	2	7"	1'-10'	7"				
L502	68	9'-3"	656	9	6"	3'-7"	2'-4"	3'-7"			
L503	102	7'-3"	771	33	1'-10"	1'-4"	1'-0"	6"			
L504	68	3'-7"	254	STR							
LIGHT PILASTER TOTAL			1,882								
GRAND TOTAL			327,462								

MARK	NUMBER REAR	FWD.	TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
APPROACH SLABS													
AS501	68		68	32'-10"	2,329	STR.							
AS502	46		46	17'-2"	824	STR.							
AS503		86	86	33'-1"	2,968	STR.							
AS504		42	42	33'-7"	1,471	STR.							
AS505		88	88	16'-10"	1,545	STR.							
AS1001	62		62	20'-7"	5,491	STR.							
AS1002	62		62	20'-7"	5,491	16	20'-7"						
AS1003		119	119	20'-3"	10,369	STR.							
AS1004		119	119	21'-8"	11,095	16	20'-3"						
APPROACH SLAB TOTAL					41,583								
FOR INFORMATION ONLY NOT INCLUDED WITH ITEM 509.													







DESIGN AGENCY
PARSONS BRINCKERHOFF
QUADE & DOUGLAS, INC.
6235 ENTERPRISE COURT
DUBLIN, OHIO 43016

DESIGNED PJL | DRAWN LEL | REVIEWED EBS | DATE 11/16/10 | CHECKED SAP | REVISED

STRUCTURE FILE NUMBER 3102858

REINFORCING LIST 1
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

42 / 47

519
657

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PIER 1											
SP403	1	21'-9"	953	27	4½"	7'-6"	21'-9"				
P401	2	25'-2"	34	29	1'-7"					3'-9"	
P402	1	24'-8"	16	29	1'-7"					3'-8"	
P403	1	24'-1"	16	29	1'-7"					3'-7"	
P404	1	23'-7"	16	29	1'-7"					3'-6"	
P405	1	22'-7"	15	29	1'-7"					3'-4"	
P406	1	21'-6"	14	29	1'-7"					3'-2"	
P407	1	19'-11"	13	29	1'-7"					2'-11"	
P501	16	16'-2"	270	STR.							
P502	11	22'-8"	260	STR.							
P601	2	29'-5"	88	STR.							
P602	2	26'-7"	80	STR.							
P603	2	20'-2"	61	STR.							
P604	5	8'-0"	60	STR.							
P605	5	19'-8"	148	31	2'-11"	6'-8¼"	2'-2"	1'-9"		4'-9"	
P606	5	20'-9"	156	31	2'-11"	6'-8¼"	2'-2"	2'-10"		4'-9"	
P607	180	16'-2"	4,371	2	6'-9"	3'-0"	6'-9"				
P608	28	13'-6"	568	2	5'-5"	3'-0"	5'-5"				
P609	4	10'-10"	65	2	4'-1"	3'-0"	4'-1"				
P610	4	11'-10"	71	2	4'-7"	3'-0"	4'-7"				
P611	6	8'-10"	80	2	2'-3"	4'-8"	2'-3"				
P612	5	12'-2"	91	1	1'-0"	11'-4"					
P613	5	14'-2"	106	1	1'-0"	13'-4"					
P623	6	16'-4"	147	28	3'-8"	3'-8"					
P624	8	5'-1"	60	1	1'-6"	3'-8"					
P801	4	32'-0"	342	STR.							
P802	2	31'-8"	169	STR.							
P803	2	30'-11"	165	STR.							
P901	22	4'-11"	368	1	1'-6"	3'-8"					
P1101	31	25'-10"	4,255	17	22'-8"						
P1102	42	19'-4'	4,314	17	16'-2"						
P1103	48	20'-7"	5,249	32	13'-3"	7'-4"				29'-4"	
P1104	48	27'-3"	6,949	1	2'-0"	25'-7"					
P1105	12	35'-2"	2,242	17	32'-0"						
P1106	12	32'-0"	2,040	STR.							
PIER 1 TOTAL			33,852								
PIER 2											
SP404	1	43'-6"	1,858	27	4½"	7'-6"	43'-6"				
P401	2	25'-2"	34	29	1'-7"					3'-9"	
P402	1	24'-8"	16	29	1'-7"					3'-8"	
P403	1	24'-1"	16	29	1'-7"					3'-7"	
P404	1	23'-7"	16	29	1'-7"					3'-6"	
P405	1	22'-7"	15	29	1'-7"					3'-4"	
P406	1	21'-6"	14	29	1'-7"					3'-2"	
P407	1	19'-11'	13	29	1'-7"					2'-11"	
P503	18	20'-8"	388	STR.							
P504	14	26'-8"	389	STR.							
P601	2	29'-5"	88	STR.							
P602	2	26'-7"	80	STR.							
P603	2	20'-2"	61	STR.							

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PIER 2											
P604	5	8'-0"	60	STR.							
P605	5	19'-8"	148	31	2'-11"	6'-8¼"	2'-2"	1'-9"			
P606	5	20'-9"	156	31	2'-11"	6'-8¼"	2'-2"	2'-10"			
P607	180	16'-2"	4,371	2	6'-9"	3'-0"	6'-9"			4'-9"	
P608	28	13'-6"	568	2	5'-5"	3'-0"	5'-5"			4'-9"	
P609	4	10'-10'	65	2	4'-1"	3'-0"	4'-1"				
P610	4	11'-10"	71	2	4'-7"	3'-0"	4'-7"				
P611	6	8'-10"	80	2	2'-3"	4'-8"	2'-3"				
P612	5	12'-2"	91	1	1'-0"	11'-4"					
P613	5	14'-2"	106	1	1'-0"	13'-4"					
P801	4	32'-0"	342	STR.							
P803	2	31'-8"	169	STR.							
P804	2	30'-11"	165	STR.							
P1105	12	35'-2"	2,242	17	32'-0"						
P1106	12	32'-0"	2,040	STR.							
P1107	46	30'-0"	7,332	17	26'-10"						
P1108	56	23'-10"	7,091	17	20'-8"						
P1109	48	29'-7"	7,544	32	22'-3"	7'-4"				29'-4"	
P1110	48	39'-8"	10,116	1	2'-0"	38'-0"					
PIER 2 TOTAL			45,745								
PIER 3											
SP405	1	39'-1"	1,674	27	4½"	7'-6"	39'-1"				
P401	2	25'-2"	34	29	1'-7"					3'-9"	
P402	1	24'-8"	16	29	1'-7"					3'-8"	
P403	1	24'-1"	16	29	1'-7"					3'-7"	
P404	1	23'-7"	16	29	1'-7"					3'-6"	
P405	1	22'-7"	15	29	1'-7"					3'-4"	
P406	1	21'-6"	14	29	1'-7"					3'-2"	
P407	1	19'-11"	13	29	1'-7"					2'-11"	
P503	18	20'-8"	388	STR.							
P504	14	26'-8"	389	STR.							
P601	2	29'-5"	88	STR.							
P602	2	26'-7"	80	STR.							
P603	2	20'-2"	61	STR.							
P604	5	8'-0"	60	STR.							
P605	5	19'-8"	148	31	2'-11"	6'-8¼"	2'-2"	1'-9"		4'-9"	
P606	5	20'-9"	156	31	2'-11"	6'-8¼"	2'-2"	2'-10"		4'-9"	
P607	180	16'-2"	4,371	2	6'-9"	3'-0"	6'-9"				
P608	28	13'-6"	568	2	5'-5"	3'-0"	5'-5"				
P609	4	10'-10"	65	2	4'-1"	3'-0"	4'-1"				
P610	4	11'-10"	71	2	4'-7"	3'-0"	4'-7"				
P611	6	8'-10"	80	2	2'-3"	4'-8"	2'-3"				
P612	5	12'-2"	91	1	1'-0"	11'-4"					
P613	5	14'-2"	106	1	1'-0"	13'-4"					
P801	4	32'-0'	342	STR.							
P803	2	31'-8"	169	STR.							
P804	2	30'-11"	165	STR.							
P1105	12	35'-2"	2,242	17	32'-0"						
P1106	12	32'-0"	2,040	STR.							
P1107	46	30'-0"	7,332	17	26'-10"						
P1108	56	23'-10"	7,091	17	20'-10'						

NOTE:

1. PIER REINFORCEMENT CONTINUED ON SHEET 44/47 .

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED PJL | DRAWN LEL | CHECKED SAP | REVISED

REVIEWED EBS | DATE 11/16/10 | STRUCTURE FILE NUMBER 3102858

REINFORCING STEEL LIST

BRIDGE NO. HAM-050-1881

EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79

PID No. 20082

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PIER 3											
P1109	48	29'-7"	7,544	32	22'-3"	7'-4"				29'-4"	
P1111	48	35'-2"	8,968	1	2'-0"	33'-6"					
PIER 3 TOTAL			44,413								
PIER 4											
SP406	1	24'-1"	1,050	27	4½"	7'-6"	24'-1"				
P401	2	25'-2"	34	29	1'-7"					3'-9"	
P402	1	24'-8"	16	29	1'-7"					3'-8"	
P403	1	24'-1"	16	29	1'-7"					3'-7"	
P404	1	23'-7"	16	29	1'-7"					3'-6"	
P405	1	22'-7"	15	29	1'-7"					3'-4"	
P406	1	21'-6"	14	29	1'-7"					3'-2"	
P407	1	19'-11"	13	29	1'-7"					2'-11"	
P501	16	16'-2"	270	STR.							
P502	11	22'-8"	260	STR.							
P604	5	8'-0"	60	STR.							
P605	5	19'-8"	148	31	2'-11"	6'-8¼"	2'-2"	1'-9"		4'-9"	
P607	160	16'-2"	3,885	2	6'-9"	3'-0"	6'-9"				
P608	44	13'-6"	892	2	5'-5"	3'-0"	5'-5"				
P609	4	10'-10"	65	2	4'-1"	3'-0"	4'-1"				
P611	6	8'-10"	80	2	2'-3"	4'-8"	2'-3"				
P616	2	29'-3"	88	STR.							
P617	2	26'-3"	79	STR.							
P618	2	18'-10"	57	STR.							
P619	5	20'-9"	156	31	2'-11"	6'-8¼"	2'-2"	2'-10"		4'-9"	
P620	4	12'-4"	74	2	4'-10"	3'-0"	4'-10"				
P621	4	11'-2"	67	2	4'-3"	3'-0"	4'-3"				
P622	5	14'-4"	108	2	1'-0"	12'-8"	1'-0"				
P623	6	16'-2"	146	28	3'-8"	3'-8"					
P624	8	5'-0"	60	1	1'-6"	3'-8"					
P801	4	32'-0"	342	STR.							
P802	2	30'-9"	164	STR.							
P803	2	31'-8"	169	STR.							
P901	22	4'-11"	368	1	1'-6"	3'-8"					
P1101	31	25'-10"	4,255	17	22'-8"						
P1102	42	19'-4"	4,314	17	12'-2"						
P1103	48	20'-7"	5,249	32	13'-3"	7'-4"				29'-4"	
P1105	12	35'-2"	2,242	17	32'-0"						
P1106	12	32'-0"	2,040	STR.							
P1112	48	25'-3"	6,439	1	2'-0"	23'-7"					
PIER 4 TOTAL			33,251								
PIER TOTAL			157,261								

MARK	NUMBER REAR ABUT.	FWD. ABUT.	TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
ABUTMENTS													
D801	23	22	45	5'-2"	621	18	2'-10"	11"	1'-0"				
A501	50		50	21'-1"	1,099	1	10"	20'-4"					
A502	2		2	21'-3"	44	1	10"	20'-6"					
A503	2		2	12'-7"	26	1	10"	11'-10"					
A504	6	3	9	4'-5"	41	13	1'-6"	1'-0"	1'-0"	1'-6"			
A505	6	3	9	4'-5"	41	2	1'-6"	1'-8"	1'-6"				
A506		19	19	30'-9"	609	1	10"	30'-0"					
A507		16	16	15'-0"	250	STR							
A508		5	5	9'-9"	51	1	10"	9'-0"					
A511	6	12	18	11"	17	STR							
A512	2	4	6	6'-0"	38	23	8"	2'-9"	2'-6"			2"	
A601	14		14	19'-2"	403	3	6'-2"	3'-9"					
A602	9		9	18'-4"	248	3	6'-2"	3'-4"					
A603	11		11	17'-4"	286	3	6'-2"	2'-10"					
A604	34	32	66	6'-0"	595	2	2'-9"	10"	2'-9"				
A605	34	32	66	19'-1"	1,892	2	9'-0"	1'-5"	9'-0"				
A606	34		34	11'-11"	609	2	5'-5"	1'-5"	5'-5"				
A607	7		7	26'-10"	282	2	12'-9"	1'-8"	12'-9"				
A608	14	7	21	15'-4"	484	2	7'-0"	1'-8"	7'-0"				
A609	40	20	60	8'-6"	766	STR							
A610	3		3	24'-0"	108	3	8'-6"	3'-10'					
A611	7		7	24'-6"	258	2	11'-7"	1'-8"	11'-7"				
A612	3	3	6	22'-0"	198	3	8'-6'	2'-10'					
A613	6		6	14'-6"	131	28	3'-11"	2'-9"	1'-0"				
A614	4	3	7	4'-2"	44	1	1'-7"	2'-9"					
A615		7	7	26'-0"	273	2	12'-4'	1'-8"	12'-4"				
A616		32	32	14'-9"	709	2	6'-10'	1'-5"	6'-10"				
A617		32	32	16'-4"	785	3	5'-11"	2'-7"					
A618		32	32	15'-6"	745	3	4'-3"	3'-10"					
A619		3	3	11'-8"	53	28	2'-6"	2'-9"	1'-0"				
A626	1	2	3	11"	4	STR							
A627	2	4	6	3'-10"	35	14	10½"	1'-8"	8½"	6"	9"		
A628	2	4	6	2'-5"	22	1	11"	1'-8"					
A801	5		5	18'-7"	248	1	1'-4"	17'-6"					
A802	5		5	16'-4"	218	1	1'-4"	15'-2"					
A803	5		5	17'-10"	238	2	1'-4"	15'-6"	1'-4"				
A804	10		10	23'-0"	614	1	1'-4"	21'-10"					
A805		12	12	31'-2"	999	1	1'-4"	30'-0'					
A806		6	6	18'-2"	291	1	1'-4"	17'-0"					
A807		6	6	19'-1"	306	19	12'-6"	6'-0"	3'-4"				
A901	10	5	15	4'-1"	208	1	1'-7"	2'-9"					
A902	4		4	5'-8"	77	STR							
A903		2	2	4'-3"	29	STR							
A1001	36		36	21'-11"	4,247	16							
A1101	176		176	42'-3"	25,637	STR							
SP401	4		4	27'-5"	1,265	27							
SP402	4		4	27'-5"	4,804	27							
REAR ABUTMENT TOTAL					43,628								
FORWARD ABUTMENT TOTAL					7,320								
ABUTMENT TOTAL					50,948								

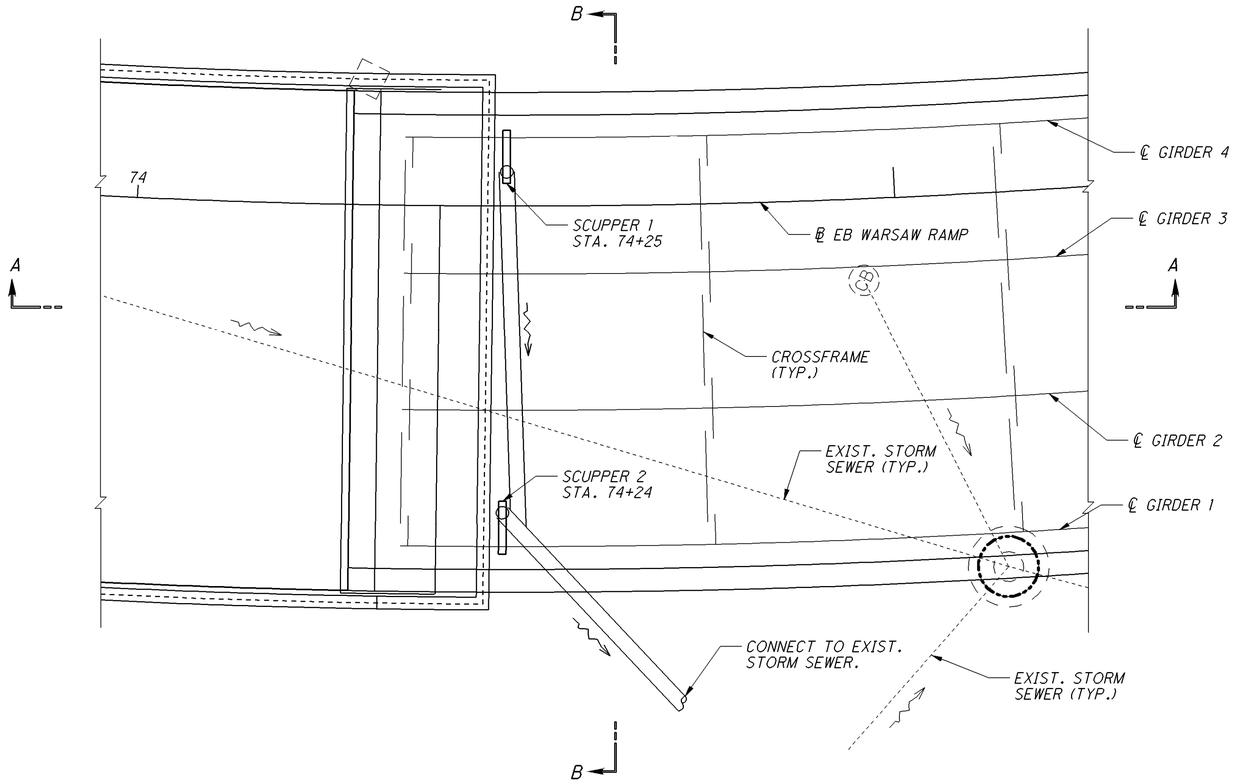
DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED PJL | DRAWN LEL | CHECKED SAP | REVIEWED EBS | DATE 11/16/10 | REVISED | STRUCTURE FILE NUMBER 3102858

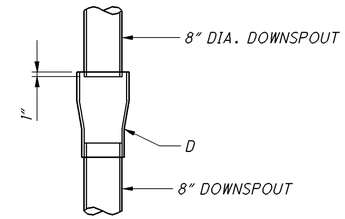
REINFORCING STEEL LIST

BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

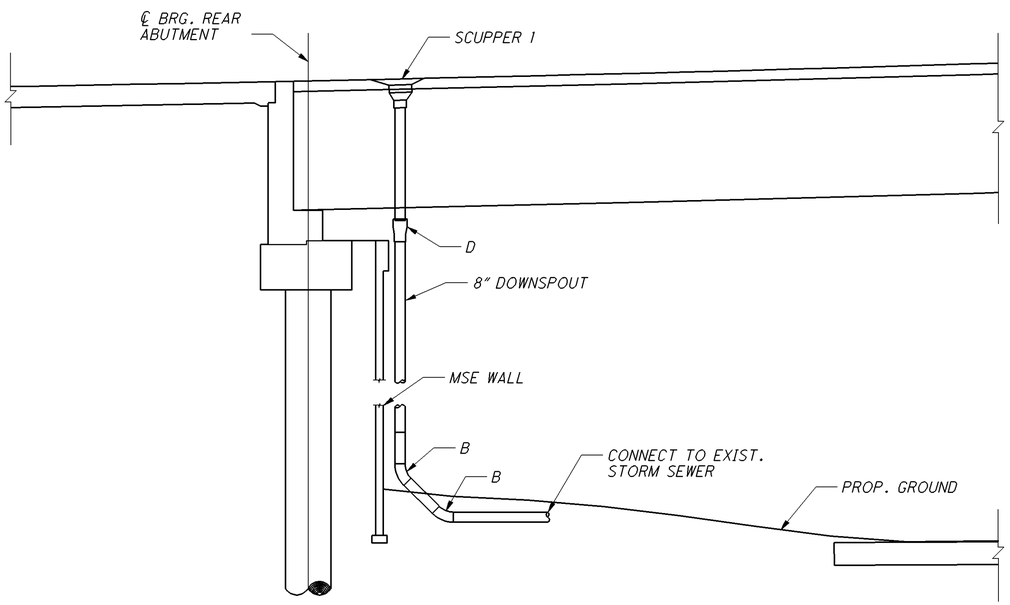


PARTIAL PLAN

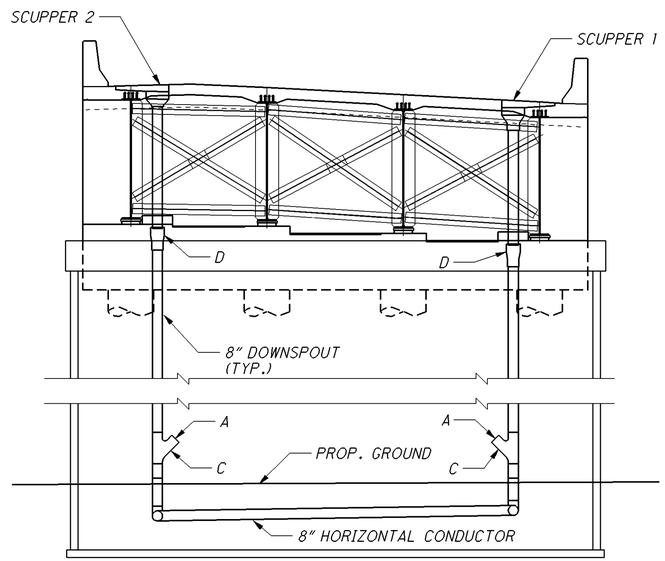


REDUCER DETAIL

A	CLEANOUT
B	45° BEND
C	LATERAL
D	12X8 REDUCER



SECTION A-A



SECTION B-B

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DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

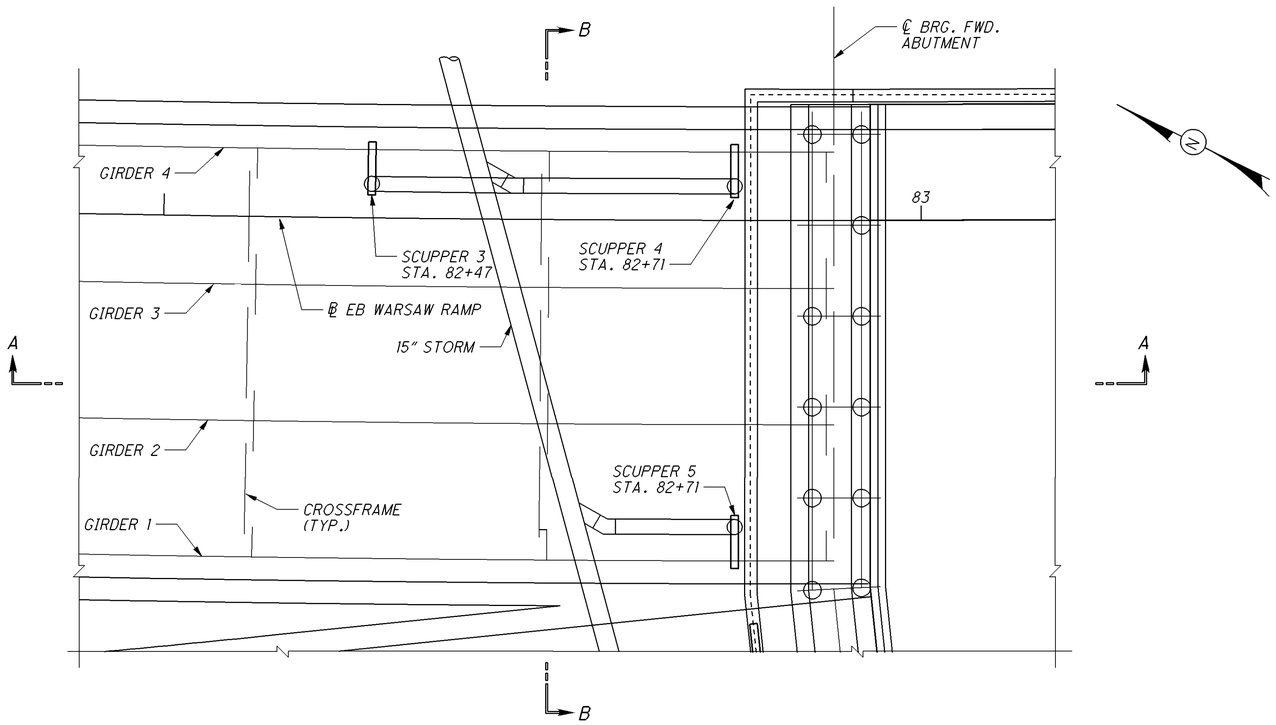
DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAP		3102858	

SCUPPER DETAILS
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

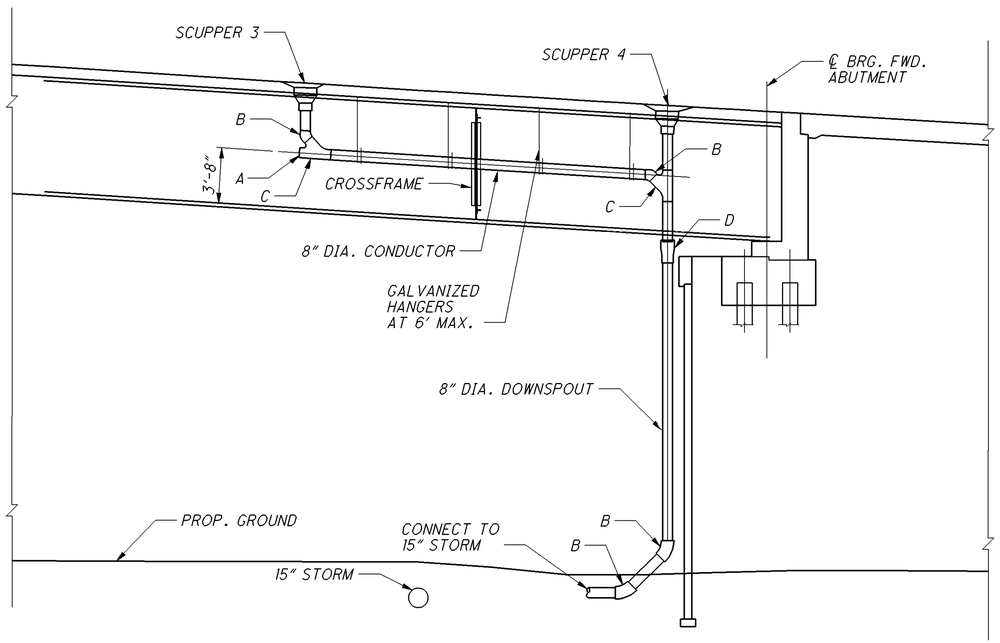
45 / 47

522
657

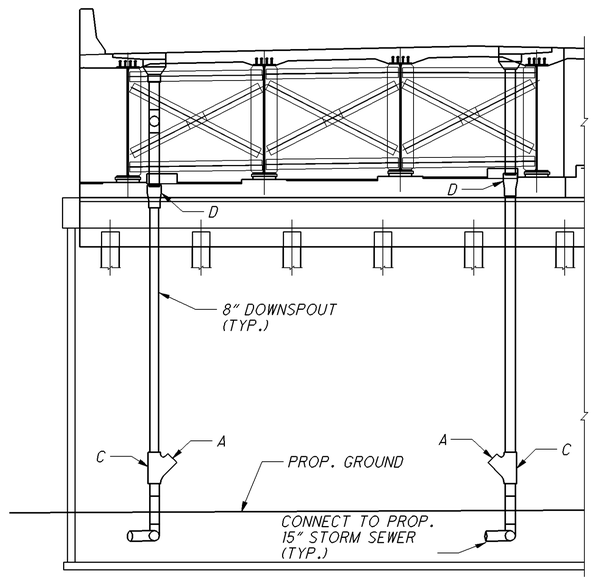


PARTIAL PLAN

A	CLEANOUT
B	45° BEND
C	LATERAL
D	12X8 REDUCER



SECTION A-A



SECTION B-B

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
PJL	LEL	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAP		3102858	

SCUPPER DETAILS
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

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657

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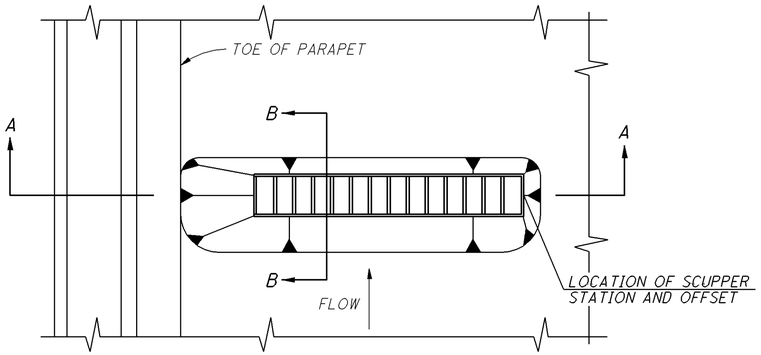
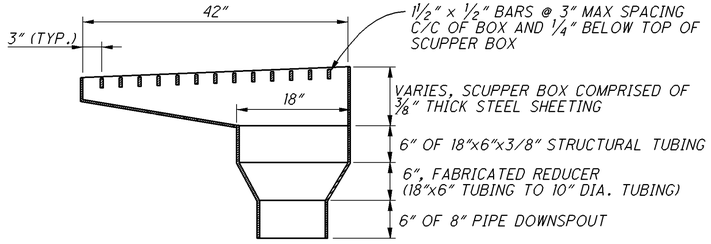
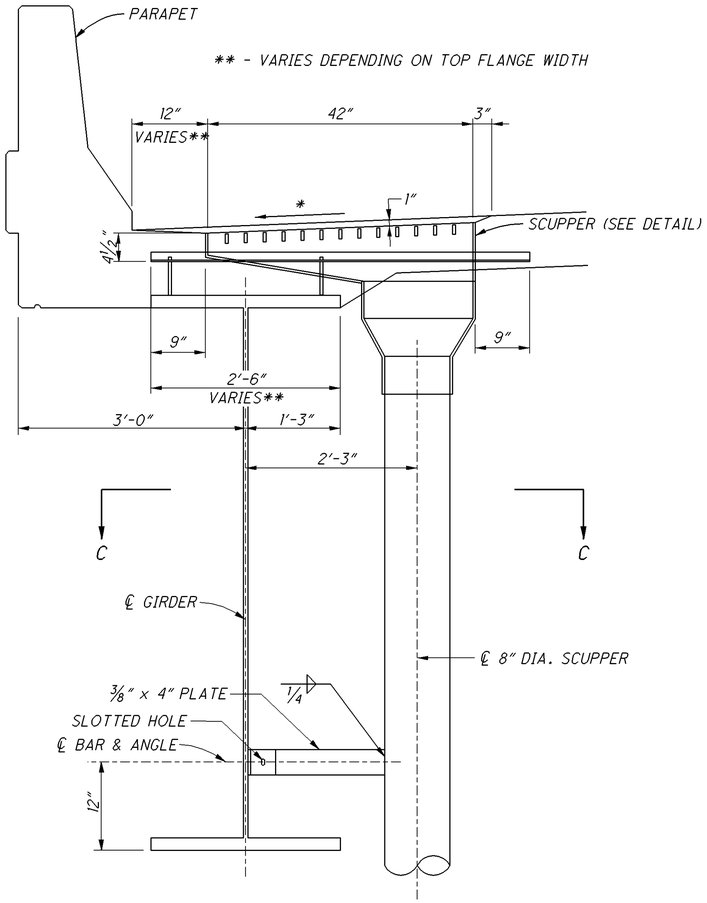


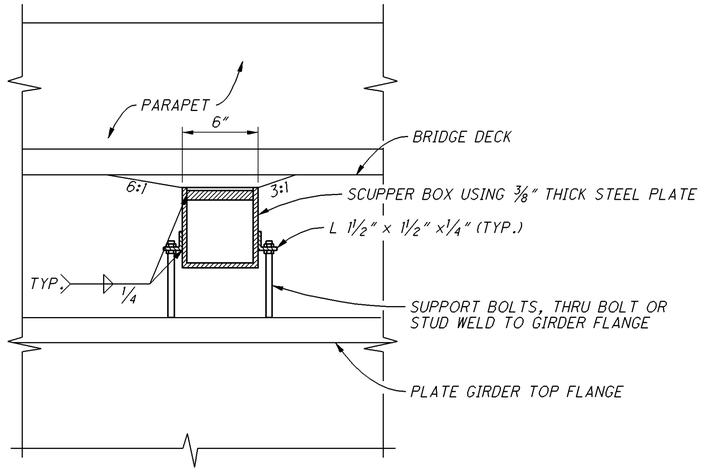
PLAN



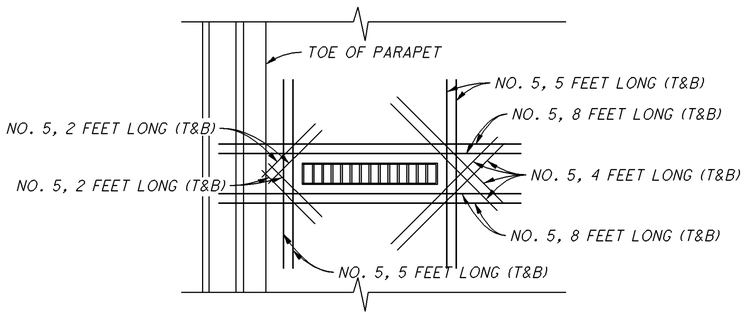
SCUPPER BOX DETAIL



SECTION A-A



SECTION B-B



ADDITIONAL DECK REINFORCING DETAIL

T&B = TOP AND BOTTOM

SCUPPER NOTES:

ALL MATERIALS INCLUSING STEEL PLATES, STRUCTURAL TUBING, SUPPORT ANGLES AND OTHER HARDWARE SHALL BE GALVANIZED PER 711.02.

SCUPPER BOXES AND REDUCERS SHALL BE MADE OF ⅜" GALVANIZED STRUCTURAL STEEL PLATES CONFORMING TO 518 AND 711.02.

STRUCTURAL STEEL TUBING SHALL BE PER 518, 707.11 AND 748.06.

ALL DOWNSPOUTS TO BE GALVANIZED STEEL PIPE OF THE SIZE SPECIFIED AND IN ACCORDANCE WITH ITEM 748.06.

PAYMENT:

ALL MATERIALS, EQUIPMENT, DELIVERY AND LABOR NECESSARY IN THE FABRICATION AND INSTALLATION FOR THE SCUPPER AS DETAILED SHALL BE INCLUDED IN THE UNIT PRICE OF:

SCUPPER, INCLUDING SUPPORTS, AS PER PLAN.

DOWNSPOUT NOTES:

ALL DOWNSPOUTS TO BE GALVANIZED STEEL PIPE OF THE SIZE SHOWN IN THE PLANS AND IN ACCORDANCE WITH ITEMS 518.06 AND 748.06. ALL FIELD WELDS TO BE GALVANIZED PER 711.02 AND WITH THE APPROVAL OF THE ENGINEER.

DOWNSPOUTS SHALL BE CONNECTED TO THE BRIDGE SCUPPER ASSEMBLIES BY WELDING OR USE OF CLAMP TYPE COUPLINGS WITH RING GASKETS.

HORIZONTAL PIPE RUNS SHALL BE SUPPORTED BY USE OF HANGARS AND STRAPS ATTACHED TO THE CONCRETE BRIDGE DECK. STRAPS SHALL BE PLACED AT A MAXIMUM SPACING OF 6 FEET C/C.

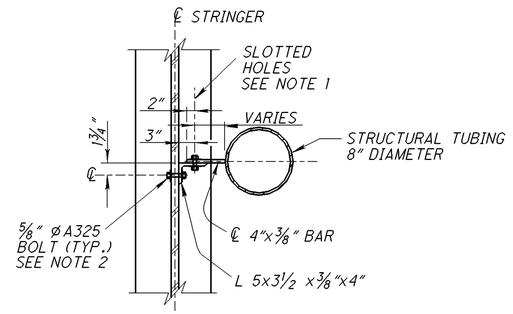
VERTICAL DOWNSPOUTS SHALL BE ATTACHED TO THE SUBSTRUCTURE BY USE OF STRAPS AND AT THE LOCATIONS INDICATED ON THE PLANS. THE DOWNSPOUT CONTRACTOR IS RESPONSIBLE FOR CONNECTING THE VERTICAL DOWNSPOUT TO THE UNDERGROUND PIPE DRAINAGE SYSTEM BY OTHERS.

ALL MATERIALS, EQUIPMENT, BENDS, WYES, TEES, CLEANOUTS, HORIZONTAL CONDUCTORS, HANGERSM FIELD GALVANIZING AND LABOR NECESSARY FOR THE FABRICATION AND INSTALLATION OF THE DOWNSPOUT AS SHOWN IN THE PLANS SHALL BE INCLUDED IN THE UNIT PRICE OF:

PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN

FASTENER NOTES:

1. THE SIZE OF THE SLOTTED HOLES SHALL BE 11/16" x 1 9/16". THE SLOT SHALL BE HORIZONTAL IN THE 4" x ⅜" BAR AND VERTICAL IN THE ANGLE. BOLTS SHALL BE ⅝" DIAMETER A325 TYPE 1, GALVANIZED, WITH HEX NUT AND TWO WASHERS. TIGHTEN ACCORDING TO 513.
2. THE BOLTS SHALL BE ⅝" DIAMETER A325 TYPE 1 GALVANIZED EACH ASSEMBLY SHALL INCLUDE A BOLT, NUT AND TWO WASHERS. TIGHTEN ACCORDING TO 513. AFTER THE DECK CONCRETE HAS BEEN POURED, FIELD DRILL THE 13/16" DIAMETER HOLE IN THE WEB.



SECTION C-C

DESIGN AGENCY
PB AMERICAS, INC.
312 ELM STREET
SUITE 2500
CINCINNATI, OHIO 45202

DESIGNED	DRAWN	REVIEWED	DATE
PJL	BKJ	EBS	11/16/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAP		3102858	

SCUPPER DETAILS
BRIDGE NO. HAM-050-1881
EB WARSAW AVE. RAMP OVER S.R. 264 AND U.S.R. 50

HAM-50-18.79
PID No. 20082

47 / 47

524
657

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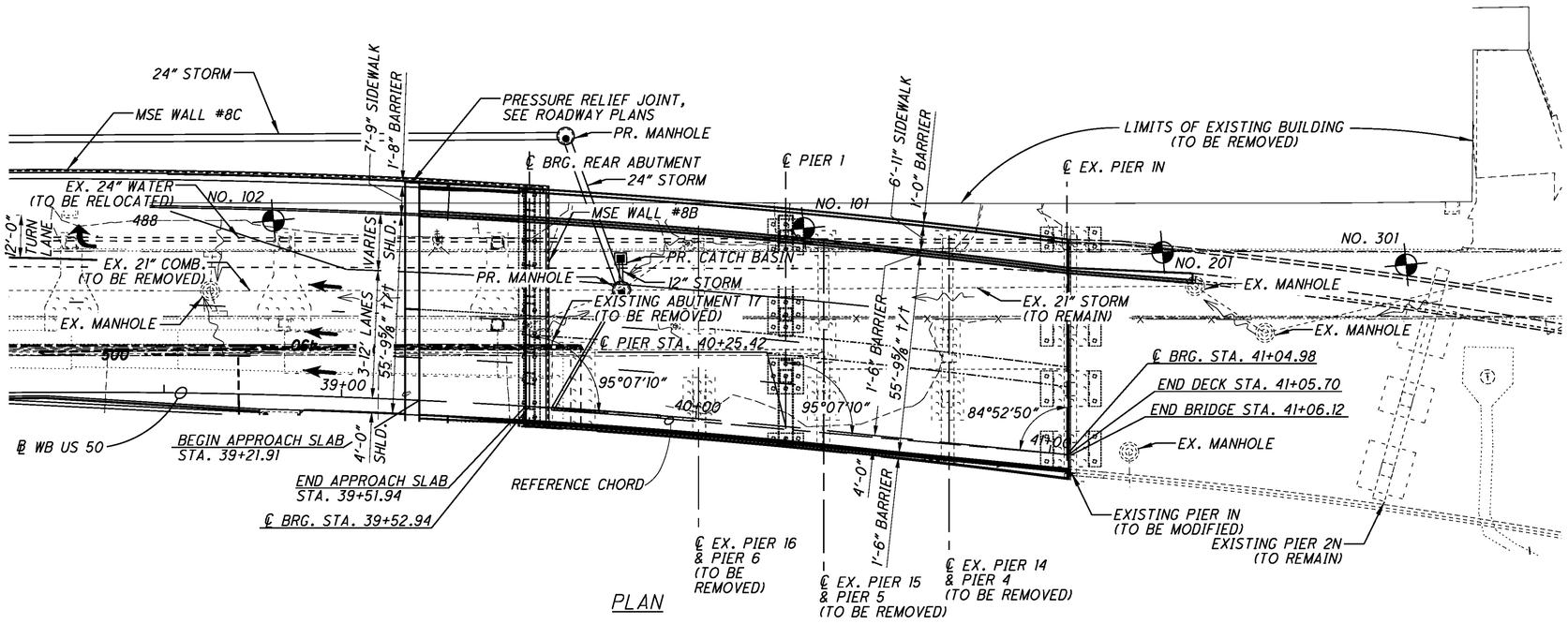
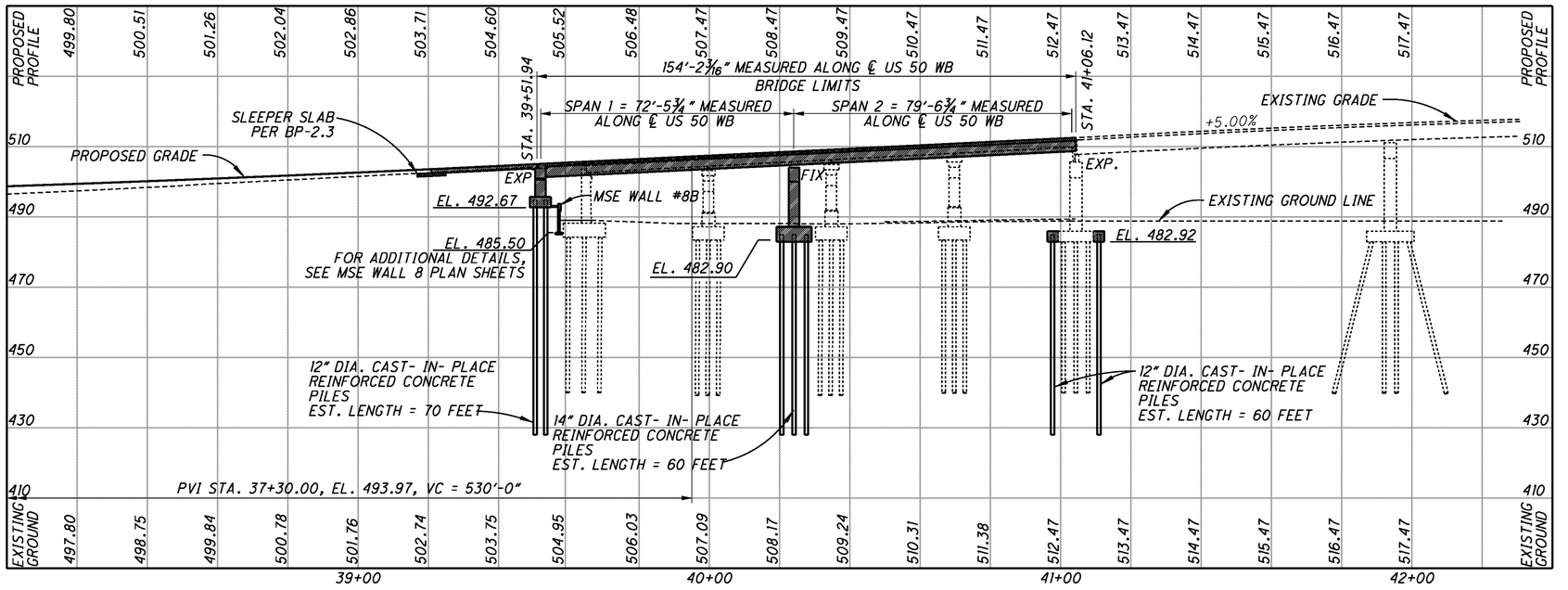
HORIZONTAL CURVE DATA US 50 W.B.
P.I. STA. 39+88.03
Δ = 03°26'09" (RT)
Dc = 02°36'23"
R = 2,198.33'
T = 65.93'
L = 131.82'
E = 0.99'
eMAX = N/C



PLAN



PROFILE ALONG ℄ WESTBOUND U.S. 50

BENCHMARK DATA

BM #1 STA. 37+13.12 ELEV. 493.12 OFFSET 625.73' LT.

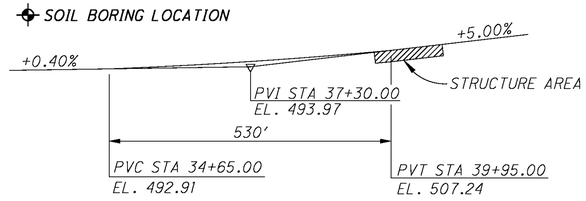
NOTES

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

DESIGN TRAFFIC:
2006 ADT = 52500 2006 ADTT = 1313 (CURRENT)
2026 ADT = 53400 2026 ADTT = 1335 (DESIGN)
DIRECTIONAL DISTRIBUTION = 50%

LEGEND

SOIL BORING LOCATION



VERTICAL ALIGNMENT

EXISTING STRUCTURE

TYPE: SIMPLE SPAN STEEL BEAMS WITH REINFORCED CONCRETE DECK SUPPORTED ON REINFORCED CONCRETE SUBSTRUCTURE.
SPANS: 34'-4", 35'-0", 35'-0", 35'-0"
ROADWAY: VARIES F/F SAFETY CURB
LOADING: CF=2000 (57) ADEQUATE FOR AASHTO ALTERNATE LOADING
WEARING SURFACE: ASPHALT
SKEW: NONE
APPROACH SLABS: NONE
ALIGNMENT:
CROWN:
STRUCTURAL FILE NUMBER: 3102807L & 3102815R
DATE BUILT: BUILT IN 1940 REHAB IN 1963
DISPOSITION: PARTIALLY REMOVED

PROPOSED STRUCTURE (LEFT)

TYPE: W44 ROLLED BEAMS WITH COMPOSITE REINFORCED CONCRETE DECK ON SEMI-INTEGRAL REAR ABUTMENT WITH MSE WALLS, REINFORCED CONCRETE CAP AND COLUMN PIERS, AND MODIFIED EXISTING PIER IN
SPANS: 72'-6½" SPAN 1, 79'-5 13/16" SPAN 2, MEASURED ALONG REFERENCE CHORD ℄ BRG. TO ℄ BRG.
ROADWAY: VARIES FROM 55'-9⅝" TO 54'-10¾" TOE OF PARAPET TO TOE OF SIDEWALK CURB + 8'-5" SIDEWALK
LOADING: HS25 (CASE II) AND ALTERNATE MILITARY
STRUCTURAL FILE NUMBER: 3102807
FUTURE WEARING SURFACE: 60 PSF
SKEW: 05°07'10" RF MEASURED FROM REFERENCE CHORD
APPROACH SLABS: 30' LONG (AS-1-81)
ALIGNMENT: CURVED RIGHT
CROWN: SUPERELEVATION
COORDINATES: LATITUDE N 39°06'07"
LONGITUDE W 84°32'47"

DESIGN AGENCY
KZF DESIGN
Architecture | Engineering | Interiors | Planning
KZF DESIGN, INC. 700 Walnut Street, Suite 400 Cincinnati, OH 45202
TEL 513.421.6211 FAX 513.421.3830 WEB www.kzf.com

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE
DEF	DAT	RBK	---	BMB	11-29-10

STRUCTURE FILE NUMBER 3102807

HAMILTON COUNTY
STA. 39+51.94
STA. 41+06.12

SITE PLAN
BRIDGE NO. HAM-50-1903 LEFT
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

1 / 65

525
630

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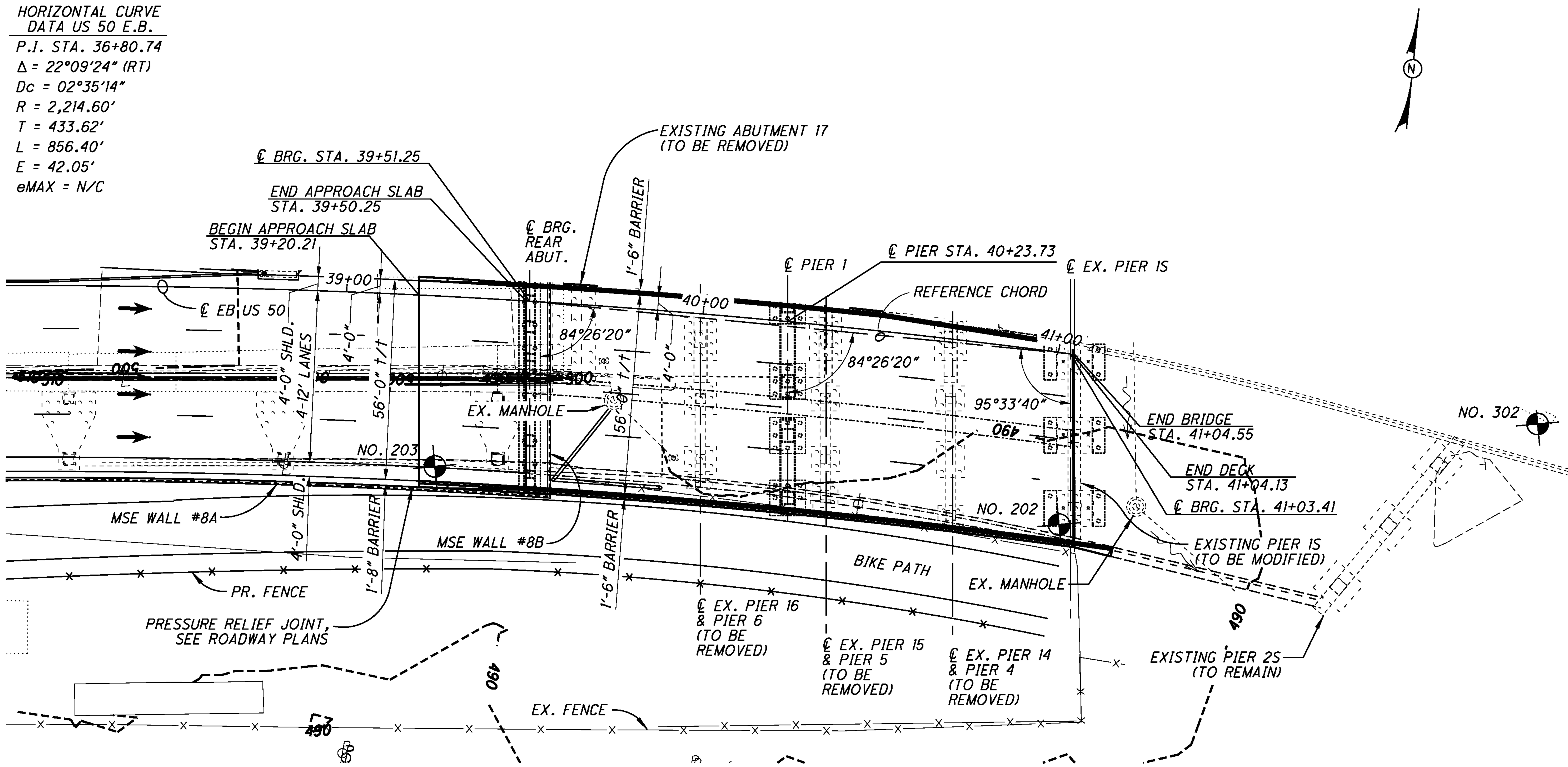
BENCHMARK DATA

BM #1 STA. 37+13.12 ELEV. 493.12 OFFSET 625.73' LT.



PLAN

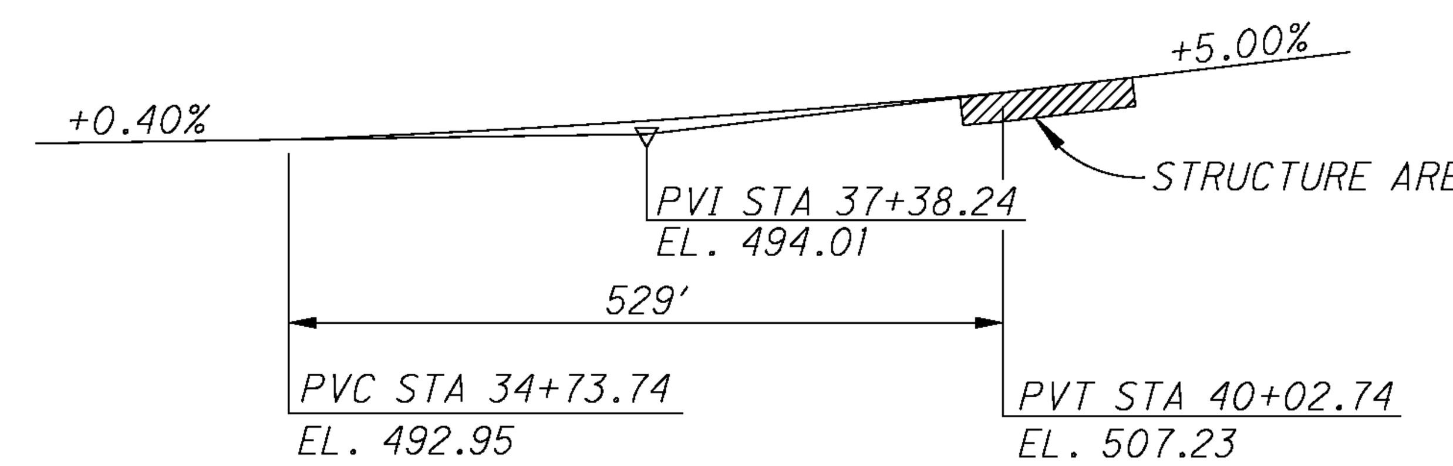
NOTES

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

DESIGN TRAFFIC:
2006 ADT = 52500 2006 ADTT = 1313 (CURRENT)
2026 ADT = 53400 2026 ADTT = 1335 (DESIGN)
DIRECTIONAL DISTRIBUTION = 50%

LEGEND

⌖ SOIL BORING LOCATION



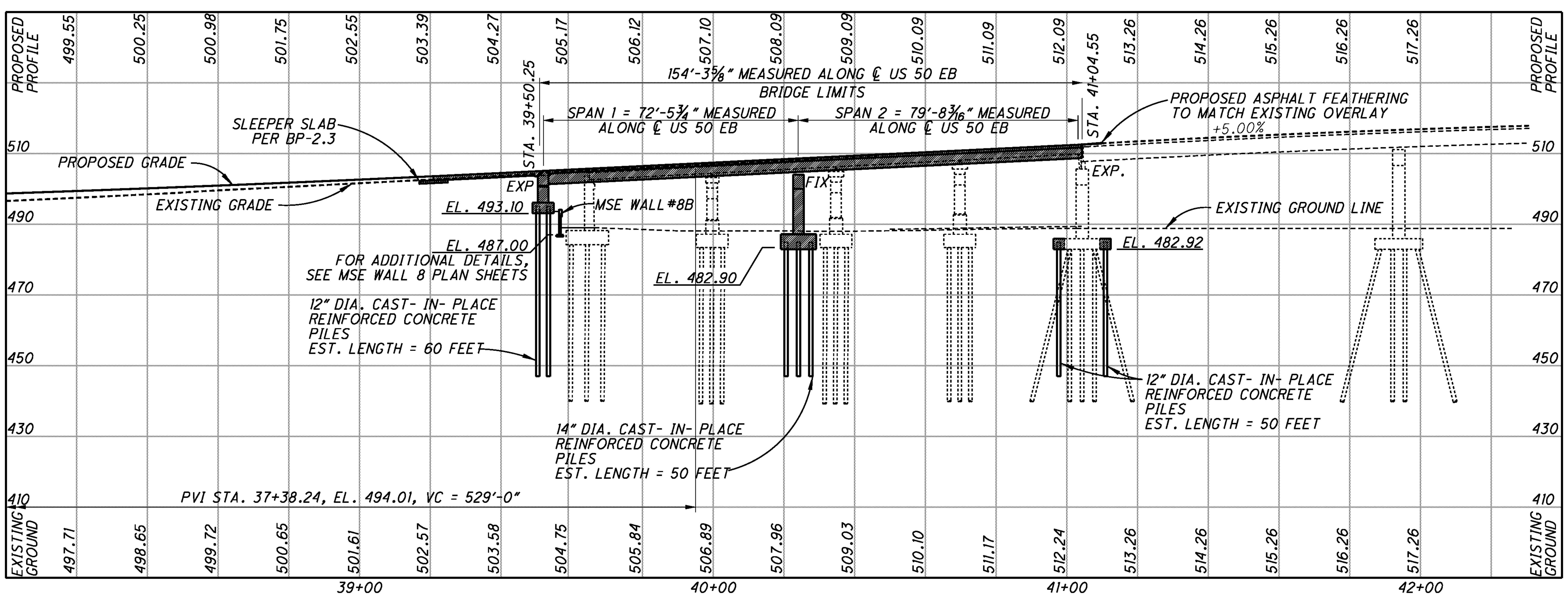
VERTICAL ALIGNMENT

EXISTING STRUCTURE

TYPE: SIMPLE SPAN STEEL BEAMS WITH REINFORCED CONCRETE DECK SUPPORTED ON REINFORCED CONCRETE SUBSTRUCTURE.
SPANS: 34'-4", 35'-0", 35'-0", 35'-0"
ROADWAY: VARIES F/F SAFETY CURB
LOADING: CF=2000 (57) ADEQUATE FOR AASHTO ALTERNATE LOADING
WEARING SURFACE: ASPHALT
SKEW: NONE
APPROACH SLABS: NONE
ALIGNMENT:
CROWN:
STRUCTURAL FILE NUMBER: 3102807L & 3102815R
DATE BUILT: BUILT IN 1940 REHAB IN 1963
DISPOSITION: PARIALLY REMOVED

PROPOSED STRUCTURE (RIGHT)

TYPE: W44 ROLLED BEAMS WITH COMPOSITE REINFORCED CONCRETE DECK ON SEMI-INTEGRAL REAR ABUTMENT WITH MSE WALLS, REINFORCED CONCRETE CAP AND COLUMN PIERS, AND MODIFIED EXISTING PIER 1S
SPANS: 72'-7⅛" SPAN 1, 79'-6½" SPAN 2 MEASURED ALONG REFERENCE CHORD ℄ BRG. TO ℄ BRG.
ROADWAY: VARIES FROM 56'-0" TO 54'-0⅜" TOE/TOE PARAPET
LOADING: HS25 (CASE II) AND ALTERNATE MILITARY
STRUCTURAL FILE NUMBER: 3102815
FUTURE WEARING SURFACE: 60 PSF
SKEW: 05°33'40" RF MEASURED FROM REFERENCE CHORD
APPROACH SLABS: 30' LONG (AS-1-81)
ALIGNMENT: CURVED RIGHT
CROWN: SUPERELEVATION
COORDINATES: LATITUDE N 39°06'07"
LONGITUDE W 84°32'47"



PROFILE ALONG ℄ EASTBOUND U.S. 50

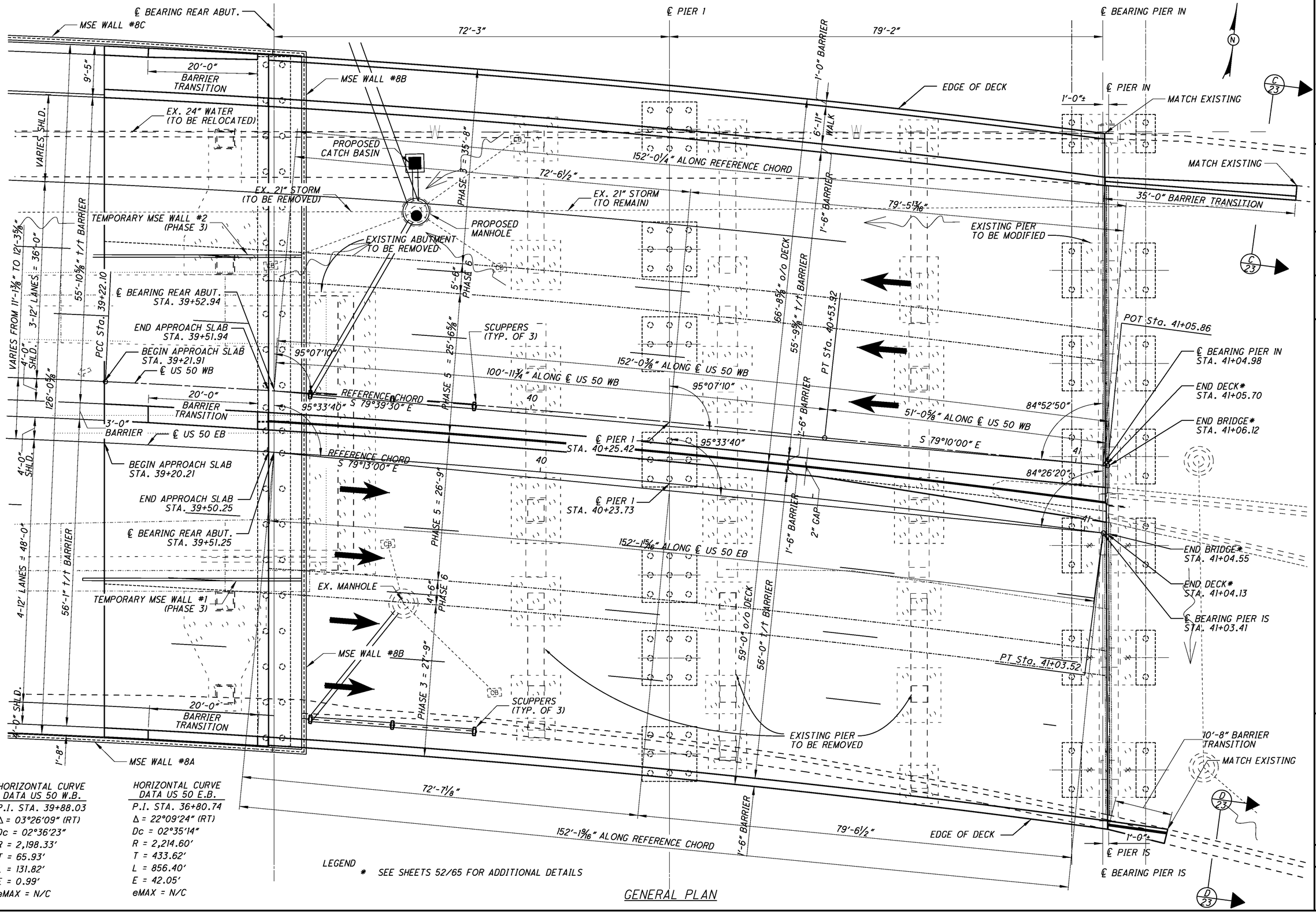
DESIGN AGENCY: KZF DESIGN — Architecture | Engineering | Interiors | Planning

DESIGNED DEF | CHECKED DAT | DRAWN RBK | REVISED | REVIEWED BMB | DATE 11-29-10 | STRUCTURE FILE NUMBER 3102815

HAMILTON COUNTY
STA. 39+50.25
STA. 41+04.55

SITE PLAN
BRIDGE NO. HAM-50-1903 RIGHT
OVER VACANT LAND

HAM-50-18.79
PID No. 20082



DESIGN AGENCY
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DESIGNED DEF | DRAWN RBK | CHECKED DAT | REVIEWED BMB | DATE 11-29-10 | REVISED | STRUCTURE FILE NUMBER 31028017/3102815

GENERAL PLAN
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

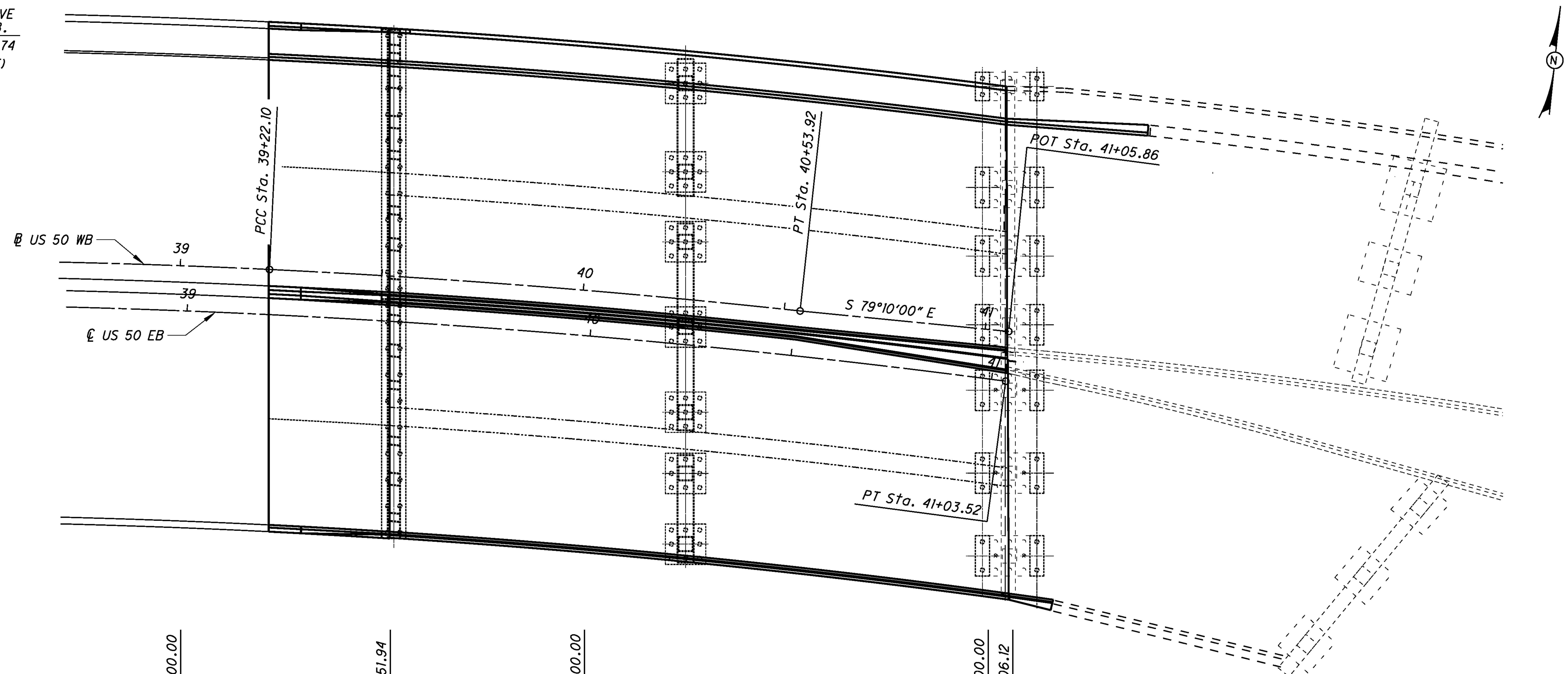
HAM-50-18.79
PID No. 20082

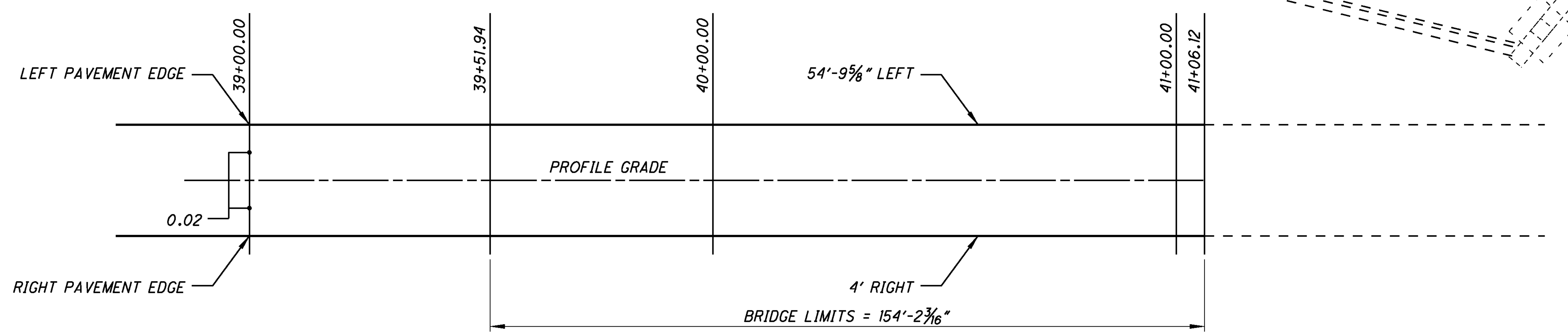
3 / 65

527 / 657

HORIZONTAL CURVE DATA US 50 W.B.
P.I. STA. 39+88.03
Δ = 03°26'09" (RT)
Dc = 02°36'23"
R = 2,198.33'
T = 65.93'
L = 131.82'
E = 0.99'
eMAX = N/C

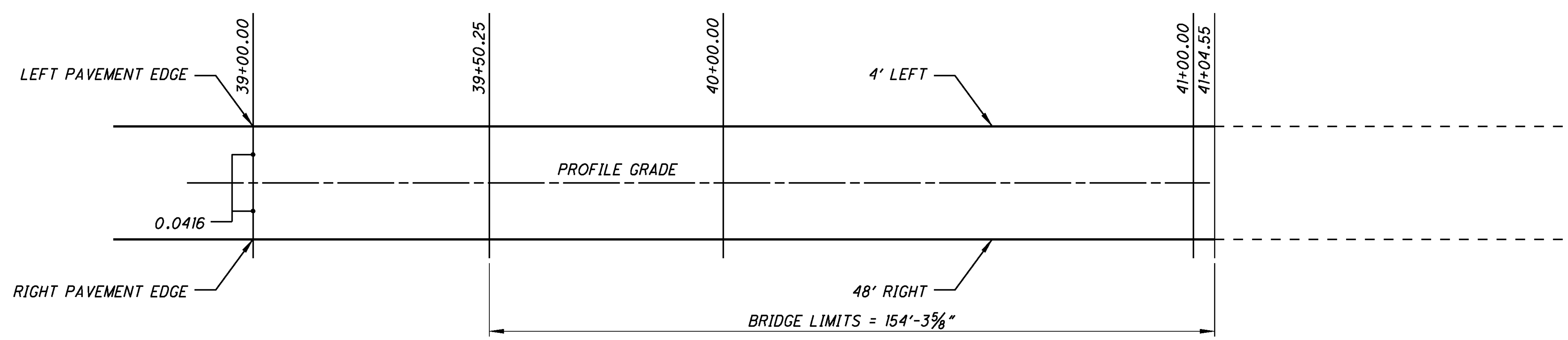
HORIZONTAL CURVE DATA US 50 E.B.
P.I. STA. 36+80.74
Δ = 22°09'24" (RT)
Dc = 02°35'14"
R = 2,214.60'
T = 433.62'
L = 856.40'
E = 42.05'
eMAX = N/C





PAVEMENT TRANSITION DETAIL
BRIDGE NO. HAM-50-1903 L

NOTES:
1. FOR MORE DETAILS, SEE ROADWAY PAVEMENT DETAIL SHEETS.



PAVEMENT TRANSITION DETAIL
BRIDGE NO. HAM-50-1903 R

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DESIGN AGENCY
KZF DESIGN
Architecture | Engineering | Interiors | Planning

DESIGNED	DRAWN	REVIEWED	DATE
DEF	RBK	BMB	11-29-10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DAT		3102807/3102815	

PAVEMENT TRANSITION DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

GENERAL NOTES

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFERENCE SHALL BE MADE TO STANDARD DRAWING(S):

AS-1-81	REVISED 07-19-02	BR-1	REVISED 07-19-02
BR-2-98	REVISED 07-19-02	EXJ-4-87	REVISED 07-19-02
GSD-1-96	REVISED 07-19-02	PCB-91	REVISED 07-19-02
SICD-1-96	REVISED 07-19-02		

AND TO FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

840	DATED 10-15-10	843	DATED 04-18-03
898	DATED 10-15-10		

DESIGN SPECIFICATIONS:

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

DESIGN LOADING:

HS25, CASE II AND THE ALTERNATE MILITARY LOADING
FUTURE WEARING SURFACE (FWS) OF 60 LBS./SQ. FT.

DESIGN STRESSES:

CONCRETE CLASS QSC2 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)
CONCRETE CLASS QSC1 - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)
REINFORCING STEEL - ASTM A615 OR A996 GRADE 60,
MINIMUM YIELD STRENGTH 60,000 PSI
STRUCTURAL STEEL - ASTM A709 GRADE 50, YIELD STRENGTH 50,000 PSI

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER
HMWM RESIN SEALER AT DECK JOINTS

MONOLITHIC WEARING SURFACE:

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

PILE DESIGN LOADS (ULTIMATE BEARING VALUE):

THE ULTIMATE BEARING VALUE IS 85 TONS PER 12" CIP REINFORCED CONCRETE PILE FOR THE REAR ABUTMENT PILES.
THE ULTIMATE BEARING VALUE IS 130 TONS PER 14" CIP REINFORCED CONCRETE PILE FOR THE PROPOSED PIER 1 PILES.
THE ULTIMATE BEARING VALUE IS 85 TONS PER 12" CIP REINFORCED CONCRETE PILE FOR THE MODIFIED PIER IN/IS PILES.

ABUTMENT PILES:
20 PILES 60 FEET LONG, ORDER LENGTH
22 PILES 70 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEMS

PIER PILES:
25 PIER PILES 50 FEET LONG, ORDER LENGTH (PROPOSED PIER 1)
36 PIER PILES 60 FEET LONG, ORDER LENGTH (PROPOSED PIER 1)
12 PIER PILES 50 FEET LONG, ORDER LENGTH (MODIFIED PIER IN/IS)
16 PIER PILES 60 FEET LONG, ORDER LENGTH (MODIFIED PIER IN/IS)
2 DYNAMIC LOAD TESTING ITEMS

MAINTENANCE OF TRAFFIC:

FOR MAINTENANCE OF TRAFFIC NOTES AND DETAILS, REFER TO MAINTENANCE OF TRAFFIC SHEETS.

UTILITY LINES:

ALL UTILITY(IES) SHALL BE LOCATED, FLAGGED, VERIFIED AND CONFIRMED BY THE CONTRACTOR WHICH ARE TO BE RELOCATED, ABANDONED OR LEFT IN PLACE BEFORE REMOVAL, RENOVATION, AND INSTALLATION OF THE NEW BRIDGE FOUNDATIONS. COORDINATE ALL UTILITY(IES) WITH THE ROADWAY PLANS AND UTILITY(IES) PLANS.

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.

CONCRETE PARAPETS:

AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, SAWCUT 1¼" DEEP CONTROL JOINTS INTO THE PERIMETER OF THE CONCRETE PARAPET STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. PLACE THE SAWCUTS AT A MINIMUM OF 6 FEET AND A MAXIMUM OF 10 FEET CENTERS. USE AN EDGE GUIDE, FENCE, OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF ¼ INCH. SEAL THE PERIMETER OF THE DEFLECTION CONTROL JOINT TO A MINIMUM DEPTH OF 1 INCH WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. LEAVE THE BOTTOM ½ INCH OF THE INSIDE AND OUTSIDE FACE UNSEALED TO ALLOW WATER TO ESCAPE.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN:

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICIATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARTELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF THE 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 503, COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN:

TEMPORARY MSE WALLS:
TEMPORARY MSE WALLS #1 AND #2 ARE NEEDED TO SUPPORT THE STAGED CONSTRUCTION OF THE BRIDGE ABUTMENT. THE TEMPORARY MSE WALLS SHALL NOT BE REMOVED, BUT SHALL BE INCORPORATED INTO THE EMBANKMENT FOR THE PERMANENT MSE WALLS AS CONSTRUCTION IS COMPLETED IN STAGES. THIS ITEM SHALL INCLUDE THE DESIGN AND CONSTRUCTION OF SELF-SUPPORTING, TEMPORARY MSE WALLS USED TO SUPPORT THE LONGITUDINAL STAGE CONSTRUCTION AND BACKFILL, THE APPROACH SLAB, AND THE APPROACH PAVEMENT, OVER THE LIMITS OF THE EXCAVATION FOR THE PROPOSED MSE ABUTMENTS. THE TEMPORARY MSE WALLS SHALL BE DESIGNED TO SUPPORT THE DIFFERENT PHASES OF STAGE CONSTRUCTIONS, FROM THE BOTTOM OF THE MSE EMBANKMENT TO THE PROPOSED FINISHED GRADE. THE DESIGN FOR THE TEMPORARY MSE WALLS SHALL BE IN ACCORDANCE WITH THE SAME SPECIFICATIONS AND REQUIREMENTS AS THE PERMANENT MSE RETAINING WALLS. THE TEMPORARY MSE WALL DESIGN SHALL BE COMPLETED PER CMS 501.05.

ITEM 507 - 12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN, AS PER PLAN:

LOW OVERHEAD CONDITIONS EXIST AT PIER IS AND PIER IN FOR INSTALLATION OF THE FOLLOWING PILES: 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130. SUBMIT, FOR THE ENGINEER'S ACCEPTANCE, A WRITTEN INSTALLATION PLAN FOR DRIVING THE LOW OVERHEAD PILES TO THE ULTIMATE BEARING VALUE PROVIDED IN THE PLANS. INCLUDE IN THE PLAN THE PROPOSED EQUIPMENT AND METHODS FOR DRIVING THE PILES IN THE LOW OVERHEAD CONDITIONS. ALSO INCLUDE A WAVE EQUATION ANALYSES THAT DEMONSTRATES THE PROPOSED EQUIPMENT AND METHODS ARE SUITABLE FOR DRIVING THE PILES. SUBMIT THE INSTALLATION PLAN AT LEAST 30 DAYS BEFORE BEGINNING TO DRIVE THE PILING IN THE LOW OVERHEAD CONDITIONS. ALLOW AT LEAST 14 DAYS FOR THE DEPARTMENT'S REVIEW.

PAYMENT FOR ITEM 507 - 12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN, AS PER PLAN INCLUDES ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO DRIVE THE PILES IN THE LOW OVERHEAD CONDITIONS, INCLUDING THE COST OF SPLICING WITHIN THE PLAN ORDER LENGTH.

ITEM 516 - SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN:

INSTALL A 3 FOOT WIDE NEOPRENE SHEET AT LOCATIONS SHOWN IN THE PLANS. SECURE THE NEOPRENE SHEETING TO THE CONCRETE WITH 1¼" x #10 GAGE (LENGTH x SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKES THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTNER SPACING IS 9 INCHES. USE OF OTHER SIMILIAR GALVANIZED DEVICES, WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE, WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 6 INCHES, +/-, FROM THE TOP OF THE NEOPRENE STRIP, FOR THE VERTICAL JOINTS SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS, STARTING AT 6 INCHES, +/-, FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS AT 6 INCHES, CENTER TO CENTER, ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

THE VERTICAL NEOPRENE STRIPS SHALL COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAP LENGTHS OF THE HORIZONTAL STRIPS THAT ARE NOT VULCANIZED OR ADHESIVE BONDED, SHALL BE AT LEAST 1 FOOT IN LENGTH, OR 6 INCHES IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 3/32" THICK GENERAL PURPOSE, HEAVY-DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E.I.DUPONT DE NEMOURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, INCHES	D751	0.094±0.01
BREAKING STRENGTH, GRAB, LBS MINIMUM (LONG. x TRANS.)	D751	700x700
ADHESIVE STRIP, 1" WIDE x 2" LONG, LBS MINIMUM	D751	9
BURST STRENGTH, PSI MINIMUM	D751	1400
HEAT AGING, 70 HR. 212°F, 180° BEND WITHOUT CRACKING	D2136	NO CRACKING OR COATING
LOW TEMP. BRITTLENESS, 1 HR, -40°F, BEND AROUND ¼" MANDREL	D2136	NO CRACKING OR COATING

METHOD OF MEASUREMENT:
THE DEPARTMENT WILL MEASURE THE TOTAL LENGTH OF JOINT TO BE SEALED BY THE NUMBER OF FEET.

BASIS OF PAYMENT:
THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN.

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN:

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

ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), AS PER PLAN:

FURNISH APPROACH SLAB CONFORMING TO CMS 526 EXCEPT CONCRETE SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 989, QC/QA CONCRETE, CLASS QSC2. THE ACCEPTED QUANTITIES SHALL INCLUDE: CONCRETE, CURBS, REINFORCING STEEL, JOINT FILLERS, JOINT SEALERS, JOINT SEALS, AND WATERPROOFING. THE DEPARTMENT WILL MEASURE APPROACH SLABS BY THE NUMBER OF SQUARE YARDS. THE DEPARTMENT WILL INITIALLY PAY THE FULL BID PRICE TO THE CONTRACTOR UPON COMPLETING THE WORK. THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE AND DECK CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN:

THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE AND DECK CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

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DESIGNED	DRAWN	REVIEWED	DATE
DEF	RBK	BMB	11-29-10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
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GENERAL NOTES
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

GENERAL NOTES

DECK PLACEMENT DESIGN ASSUMPTIONS:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ANALYSIS AND DESIGN OF THE BRIDGE SUPERSTRUCTURE (STEEL BEAMS AND ALL BRACING), AS WELL AS THE ANALYSIS AND DESIGN OF THE CONSTRUCTION FALSEWORK AND SUPPORT SYSTEMS. THE CONTRACTOR SHALL SUBMIT FOR REVIEW ALL ANALYSIS AND DESIGN CALCULATIONS RELATED TO CONFORMANCE WITH THESE NOTES, THE ASSUMPTIONS BELOW AND ODOT'S BRIDGE DESIGN MANUAL (BDM) SECTIONS 302.2.7.2b, 302.2.7.2c, AND 302.2.7.3. ALL CALCULATIONS SHALL BE PREPARED AND SEALED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER.

THE FOLLOWING ASSUMPTIONS ARE MADE:

1. THE RAIL-TO-RAIL LENGTH (W) ASSUMPTION WAS 36.667 FT. MEASURED PERPENDICULAR TO THE CENTERLINE OF THE BRIDGE. REFER TO MAXIMUM WHEEL LOAD DATA UNDER SECTION E., LOAD DATA, OF ODOT'S BRIDGE DESIGN MANUAL SECTION 302.2.7.2.c.
2. AN EIGHT-WHEEL FINISHING MACHINE WAS ASSUMED, WITH A MAXIMUM WHEEL LOAD OF 1.0 KIP FOR A TOTAL MACHINE LOAD OF 8.0 KIPS.
3. A MINIMUM OUT-TO-OUT WHEEL SPACING OF 103 INCHES WAS ASSUMED AT EACH END OF THE MACHINE.
4. A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 INCHES WAS ASSUMED.
5. A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65 INCHES WAS ASSUMED

THE CONTRACTOR SHALL CONFIRM THE ABOVE ASSUMPTIONS ARE INCORPORATED IN THEIR DESIGN CALCULATIONS, AND IF DEVIATIONS ARE MADE TO THE ABOVE ASSUMPTIONS, CONTRACTOR SHALL MODIFY THE DESIGN AND CALCULATIONS TO INCORPORATE SAID DEVIATIONS.

PROPOSED WORK:

1. PROTECT AND MAINTAIN ALL TRAFFIC DURING CONSTRUCTION.
2. INSTALL DETOUR, PORTABLE CONRETE BARRIER AND TEMPORARY BEAM.
3. REMOVE PORTION OF EXISTING STRUCTURE.
4. CONSTRUCT PORTION OF ABUTMENT, TEMPORARY MSE RETAINING WALL, MSE RETAINING WALL, PIERS, AND SUPERSTRUCTURE AND SEAL CONCRETE SURFACES AS SHOWN IN THE PLANS.
5. INSTALL DETOUR AND PORTABLE CONCRETE BARRIER.
6. REMOVE REMAINING PORTION OF EXISTING STRUCTURE.
7. CONSTRUCT REMAINING PORTION OF ABUTMENT, MSE RETAINING WALL, PIERS AND SUPERSTRUCTURE AND SEAL CONCRETE SURFACES AS SHOWN IN THE PLANS.
8. CONSTRUCT REMAINING PORTION OF SUPERSTRUCTURE AND SEAL CONCRETE SURFACES AS SHOWN IN THE PLANS.

SEQUENCE OF CONSTRUCTION:

SEE PHASE CONSTRUCTION PLAN DETAILS FOR SEQUENCE OF CONSTRUCTION NOTES ON SHEETS 09/65 - 14/65 .

FINISH COLORS

THE COLOR FOR ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 2, SHALL BE AS FOLLOWS:

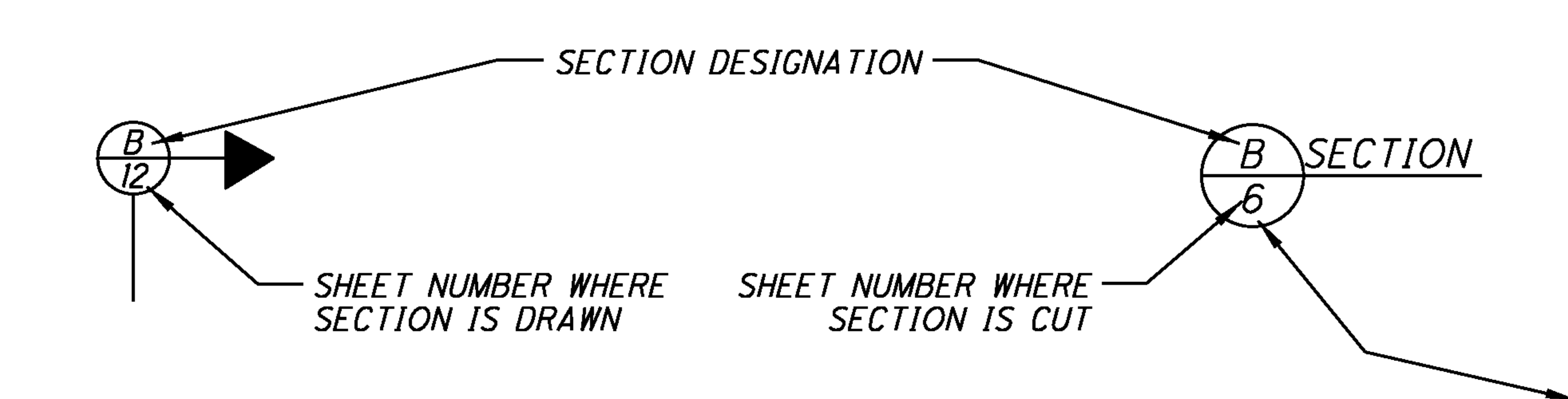
THE OUTSIDE FACE AND BOTTOM FLANGES OF THE FASCIA BEAMS TO BE PAINTED FEDERAL COLOR NUMBER 27038 (SEMI-GLOSS BLACK, 30% SHEEN)

ALL REMAINING BRIDGE SUPERSTRUCTURE ELEMENTS TO BE PAINTED FEDERAL COLOR NUMBER 10324 (DARK NEUTRAL)

ABBREVIATION LIST

N.F. =	NEAR FACE	P.E.J.F. =	PREFORMED EXPANSION JOINT FILLER
F.F. =	FAR FACE	P.C.P.P. =	PERFORATED CORRUGATED PLASTIC PIPE
E.F. =	EACH FACE	N.P.C.P.P. =	NON-PERFORATED CORRUGATED PLASTIC PIPE
TYP. =	TYPICAL	INV. =	INVERT
MIN. =	MINIMUM	FWD. =	FORWARD
STA. =	STATION	ABUT. =	ABUTMENT
SPA. =	SPACES	CONC. =	CONCRETE
CONST. =	CONSTRUCTION	EA. =	EACH
EL. =	ELEVATION	STD. =	STANDARD
C.I.P. =	CAST-IN-PLACE	DWG. =	DRAWING
BRG. =	BEARING	DIA. =	DIAMETER
EX. =	EXISTING	E.B. =	EASTBOUND
PROP. =	PROPOSED	W.B. =	WESTBOUND
A.P.P. =	AS PER PLAN	W.P. =	WORK POINT
R.A. =	REAR ABUTMENT	C/C =	CENTER TO CENTER
F.A. =	FORWARD ABUTMENT	STRUCT. =	STRUCTURE
O/O =	OUT TO OUT	TEMP. =	TEMPORARY
F/F =	FACE TO FACE	C.J. =	CONSTRUCTION JOINT
CLR. =	CLEAR	BTM. =	BOTTOM
LT. =	LEFT		
RT. =	RIGHT		
EST. =	ESTIMATE		
EQ. =	EQUAL		

SECTION CONVENTION



DESIGN AGENCY KZF DESIGN Architecture | Engineering | Interiors | Planning

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GENERAL NOTES
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CALCULATED BY: RBK DATE: 02/25/09
CHECKED BY: DAT DATE: 02/27/09

PARTICIPATION	ESTIMATED QUANTITIES									
100% DISTRICT	ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIER	SUPER.	GEN.	A.P.P.
LUMP	202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	5/65
LUMP	503	11101	LUMP		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LUMP	5/65
LUMP	503	21300	LUMP		UNCLASSIFIED EXCAVATION				LUMP	
LUMP	505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
1870	507	00500	1870	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	1430	440			
440	507	00501	440	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN, AS PER PLAN		440			5/65
2500	507	00550	2500	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	1540	960			
1980	507	00600	1980	FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN		1980			
2160	507	00650	2160	FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED		2160			
142793	509	10000	142793	POUND	EPOXY COATED REINFORCING STEEL	10226	24568	107999		
396	510	10000	396	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT		396			
936	512	10100	936	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	82	291	471	92	
4	512	33000	4	SQ YD	TYPE 2 WATERPROOFING	4				
324089	513	10240	324089	POUND	STRUCTURAL STEEL MEMBERS, LEVEL 2			324089		
3969	513	20000	3969	EACH	WELDED STUD SHEAR CONNECTORS			3969		
14548	514	00060	14548	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			14548		
14548	514	00066	14548	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			14548		
7	514	10000	7	EACH	FINAL INSPECTION REPAIR			7		
66	516	11210	66	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			66		
14	516	13600	14	SQ FT	1" PERFORMED EXPANSION JOINT FILLER			14		
352	516	13900	352	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	21		331		
100	516	14021	100	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN	100				5/65
7	516	44100	7	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE)			7		
					15"x15"x2½" BEARING WITH 16"x16" LOAD PLATE					
7	516	44100	7	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE)			7		
					19"x19"x2½" BEARING WITH 27"x21" LOAD PLATE					
7	516	44100	7	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE)			7		
					16"x12"x2½" BEARING WITH 18"x14" LOAD PLATE					
154	517	75120	154	FT	RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING)			154		
3	518	12201	3	EACH	SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN			3		65/65
55	518	21200	55	CU YD	POROUS BACKFILL WITH FILTER FABRIC				55	
67	518	40000	67	FT	6" PERFORATED CORRUGATED PLASTIC PIPE				67	
48	518	51101	48	FT	8" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN			48		65/65
8	519	11101	8	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN		8			5/65
3	523	20000	3	EACH	DYNAMIC LOAD TESTING	1	2			
29	898	10200	29	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK)			29		
345	898	10201	345	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN			345		5/65
223	898	10709	223	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), (T=17"), AS PER PLAN				223	5/65
51	898	11000	51	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET)			47	4	
67	898	20100	67	CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (PIER ABOVE FOOTING)		67			
72	898	20160	72	CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (ABUTMENT INCLUDING FOOTING)	72				
81	898	20300	81	CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (FOOTING)		81			

DESIGN AGENCY
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DATE 11-29-10
REVIEWED BMB
STRUCTURE FILE NUMBER 3102807/3102815
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DESIGNED DEF
CHECKED DAT

ESTIMATED QUANTITIES
BRIDGE HAM-50-1903 L
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

7/65

531/657

CALCULATED BY:	RBK	DATE:	02/25/09
CHECKED BY:	DAT	DATE:	02/27/09

ESTIMATED QUANTITIES

PARTICIPATION 100% DISTRICT	ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIER	SUPER.	GEN.	A.P.P.
LUMP	202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	5/65
LUMP	503	11101	LUMP		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LUMP	5/65
LUMP	503	21300	LUMP		UNCLASSIFIED EXCAVATION				LUMP	
LUMP	505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
1370	507	00500	1370	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	1100	270			
270	507	00501	270	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN, AS PER PLAN		270			5/65
1800	507	00550	1800	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	1200	600			
1125	507	00600	1125	FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN		1125			
1250	507	00650	1250	FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED		1250			
123826	509	10000	123826	POUND	EPOXY COATED REINFORCING STEEL	8834	24569	90423		
292	510	10000	292	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT		292			
640	512	10100	640	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	73	247	268	52	
4	512	33000	4	SQ YD	TYPE 2 WATERPROOFING	4				
277593	513	10240	277593	POUND	STRUCTURAL STEEL MEMBERS, LEVEL 2			277593		
3402	513	20000	3402	EACH	WELDED STUD SHEAR CONNECTORS			3402		
12470	514	00060	12470	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			12470		
12470	514	00066	12470	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			12470		
6	514	10000	6	SQ YD	FINAL INSPECTION REPAIR			6		
58	516	11210	58	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			58		
10	516	13600	10	SQ FT	1" PERFORMED EXPANSION JOINT FILLER			10		
352	516	13900	352	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	21		331		
82	516	14021	82	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN	82				5/65
6	516	44100	6	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE)			6		
					15"x15"x2½" BEARING WITH 16"x16" LOAD PLATE					
6	516	44100	6	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE)			6		
					19"x19"x2½" BEARING WITH 27"x21" LOAD PLATE					
6	516	44100	6	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE)			6		
					16"x12"x2½" BEARING WITH 18"x14" LOAD PLATE					
LUMP	516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN			LUMP		15/65
3	518	12201	3	EACH	SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN			3		65/65
49	518	21200	49	CU YD	POROUS BACKFILL WITH FILTER FABRIC				49	
58	518	40000	58	FT	6" PERFORATED CORRUGATED PLASTIC PIPE				58	
15	518	40012	15	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE				15	
48	518	51101	48	FT	8" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN			48		65/65
5	519	11101	5	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN		5			5/65
26	898	10200	26	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK)			29		
282	898	10201	282	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN			282		5/65
198	898	10709	198	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), (T=17"), AS PER PLAN				198	5/65
47	898	11000	47	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET)			43	4	
52	898	20100	52	CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (PIER ABOVE FOOTING)		52			
64	898	20160	64	CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (ABUTMENT INCLUDING FOOTING)	64				
63	898	20300	63	CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (FOOTING)		63			

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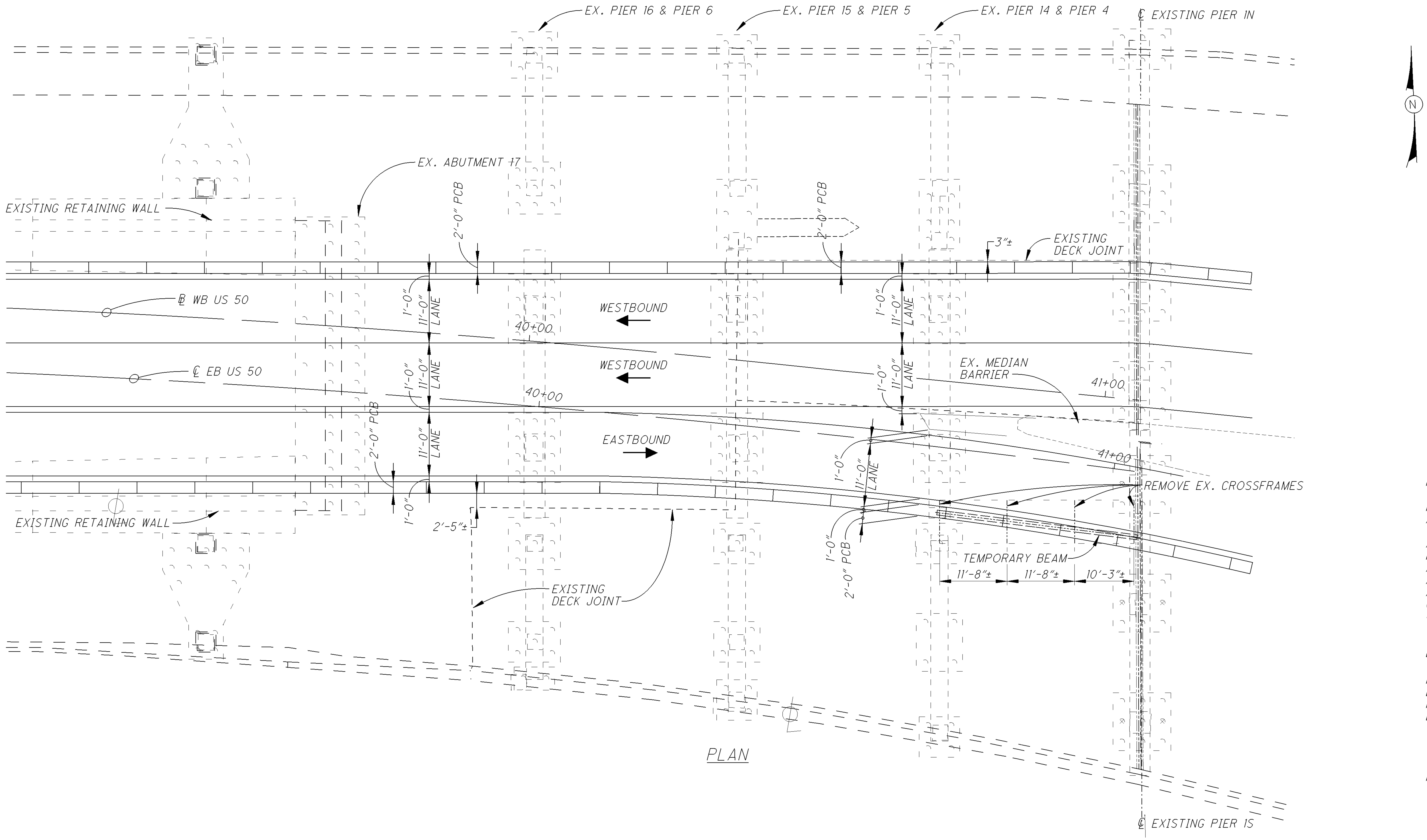
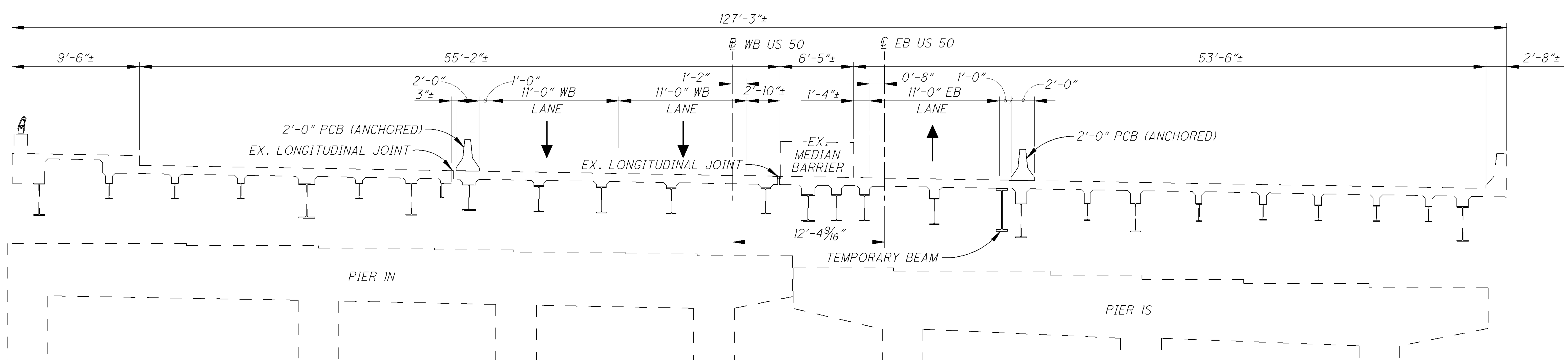
STRUCTURE FILE NUMBER 3102807/3102815

ESTIMATED QUANTITIES
BRIDGE HAM-50-1903 R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082



PLAN



SECTION AT EXISTING PIER IN AND IS

PHASE 1

PHASE 1 OCCURS DURING MOT PHASE 4A.

MAINTAIN (2) 11'-0" LANES WESTBOUND AND (1) 11'-0" LANE EASTBOUND. INSTALL TEMPORARY BEAM AND PCB. PCB MUST BE ANCHORED TO THE BRIDGE DECK USING 1"ϕ HIGH STRENGTH THROUGH BOLTS OR APPROVED RESIN ANCHORS. WHEN RESIN ANCHORS ARE USED THEY MUST BE EMBEDDED A MINIMUM OF 6½" INTO FIRM CONCRETE. GENERALLY, ALL ANCHORS SHALL BE PLACED ON THE TRAFFIC SIDE OF THE BARRIER WITH THE ANCHOR PATTERN SYMMETRICAL ABOUT THE CENTER OF EACH SEGMENT. 4 ANCHOR BOLTS ARE REQUIRED PER BARRIER.

REMOVE FOUR EXISTING 21WF62 BRACES BETWEEN EXISTING PIER 14 AND EXISTING PIER IS. REMOVE END CROSSFRAME AT EXISTING PIER IS AS NEEDED FOR INSTALLING TEMPORARY BEAM.

TEMPORARY BEAM SHALL BE IN PLACE PRIOR TO PHASE 1 AND LEFT IN PLACE UNTIL PHASE 4.

PHASE 1 CONSTRUCTION DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

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PID No. 20082

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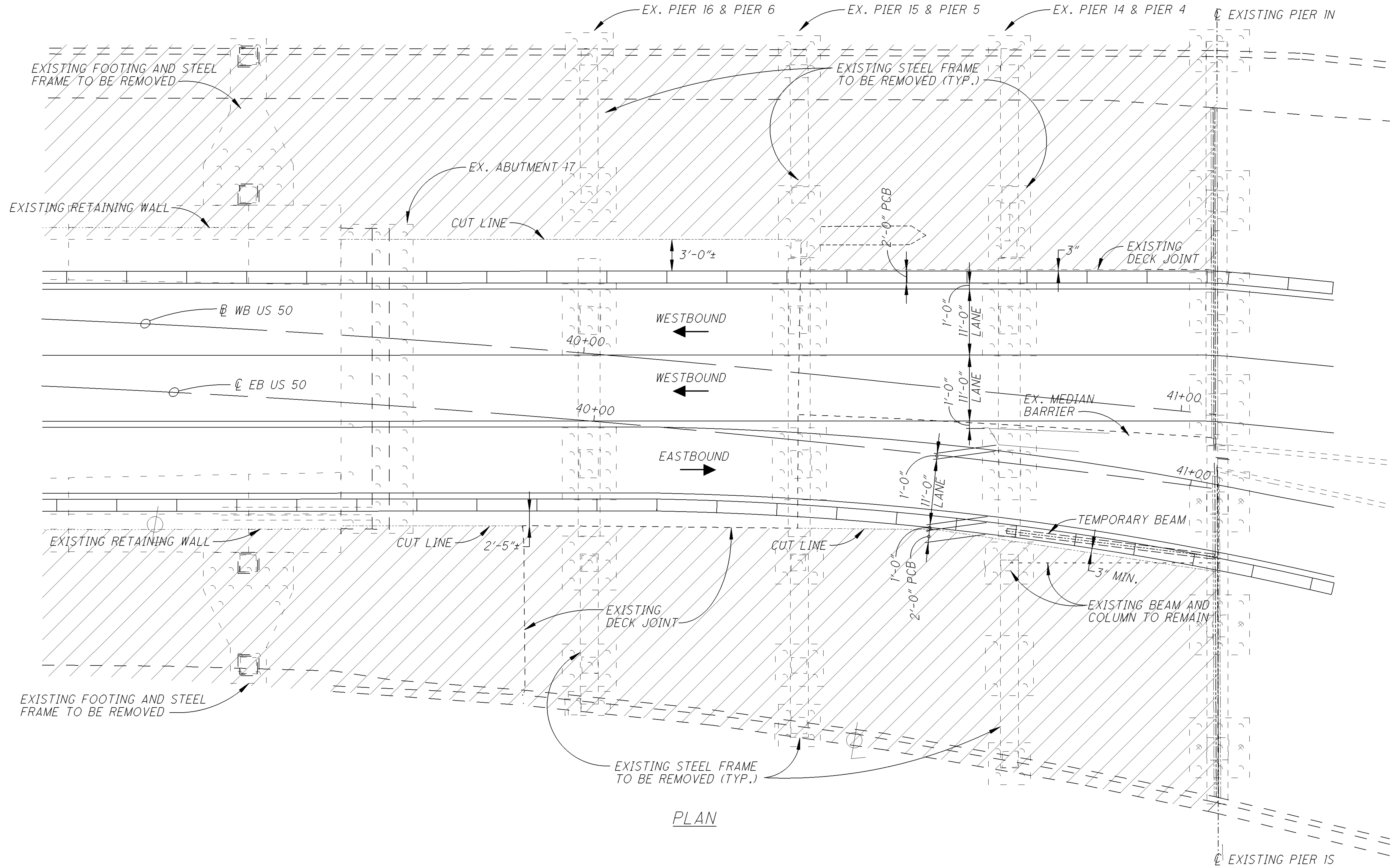


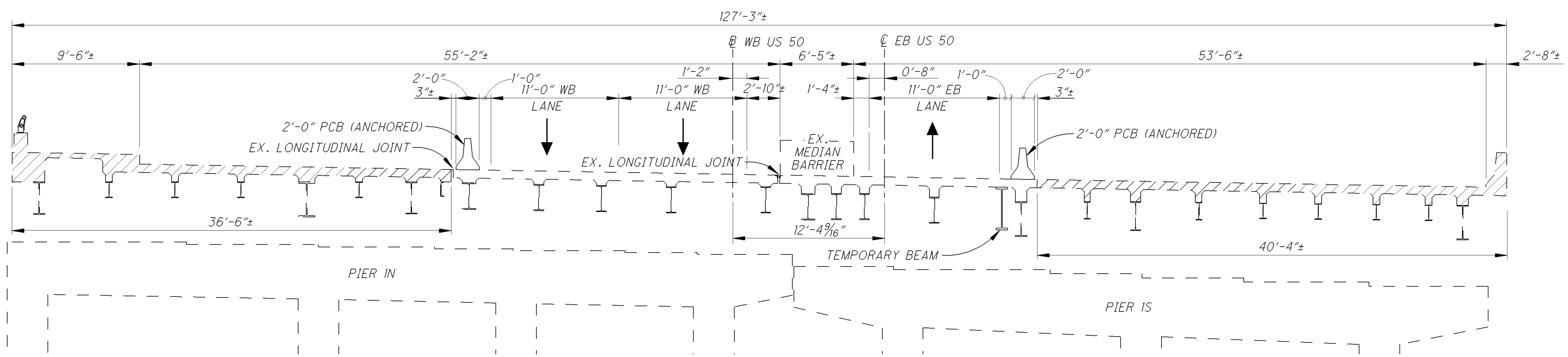
DENOTES PORTION OF STRUCTURE TO BE REMOVED.

PHASE 2

PHASE 2 OCCURS DURING MOT PHASE 4A.

REMOVE PORTIONS OF EXISTING BRIDGE WHILE MAINTAINING (2) 11'-0" LANES WESTBOUND AND (1) 11'-0" LANES EASTBOUND.

PCB MUST BE ANCHORED TO THE BRIDGE DECK USING 1"ϕ HIGH STRENGTH THROUGH BOLTS OR APPROVED RESIN ANCHORS. WHEN RESIN ANCHORS ARE USED THEY MUST BE EMBEDDED A MINIMUM OF 6½" INTO FIRM CONCRETE. GENERALLY, ALL ANCHORS SHALL BE PLACED ON THE TRAFFIC SIDE OF THE BARRIER WITH THE ANCHOR PATTERN SYMMETRICAL ABOUT THE CENTER OF EACH SEGMENT. 4 ANCHOR BOLTS ARE REQUIRED PER BARRIER.



SECTION AT EXISTING PIER IN AND IS

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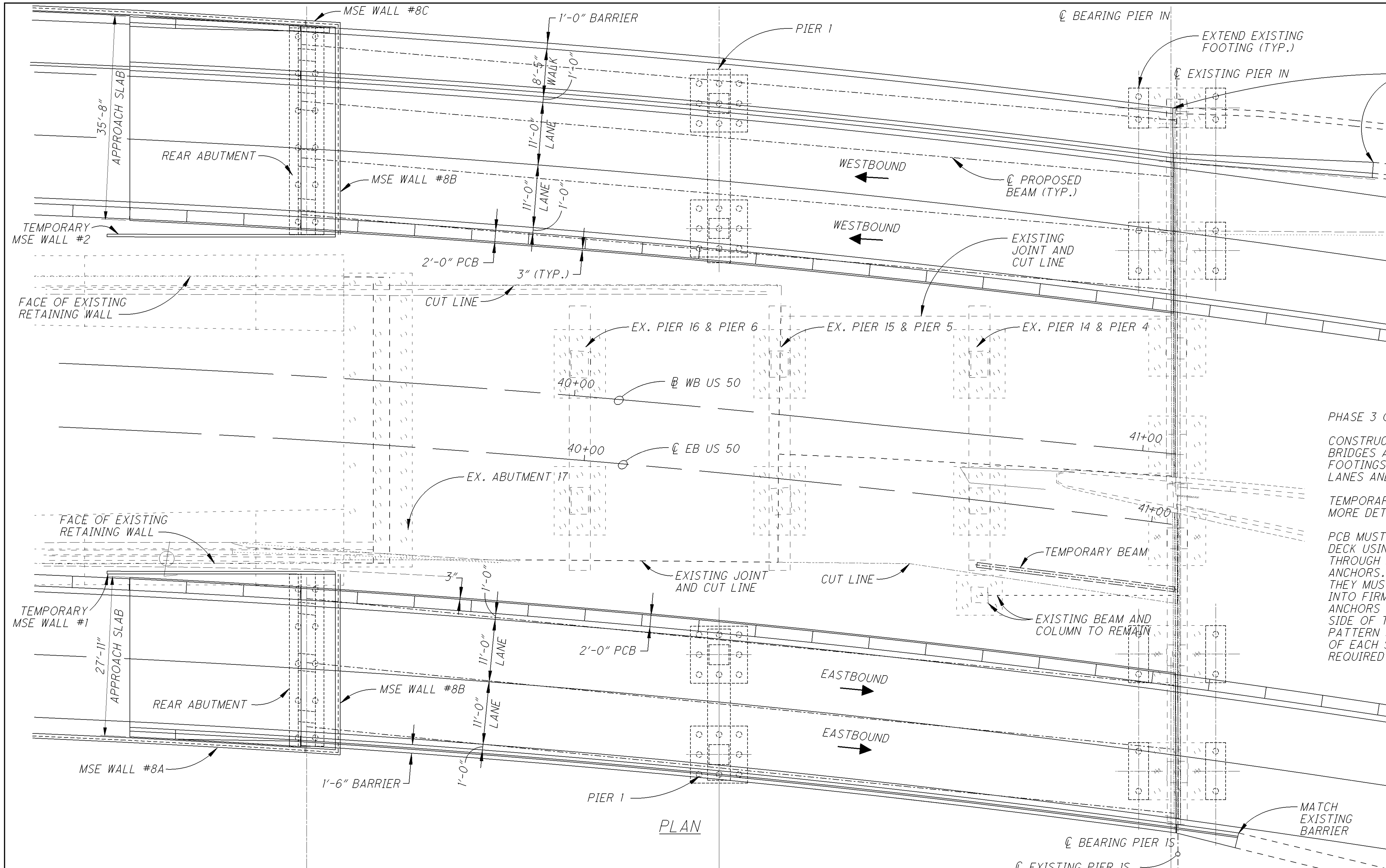
PHASE 2 CONSTRUCTION DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082



PLAN

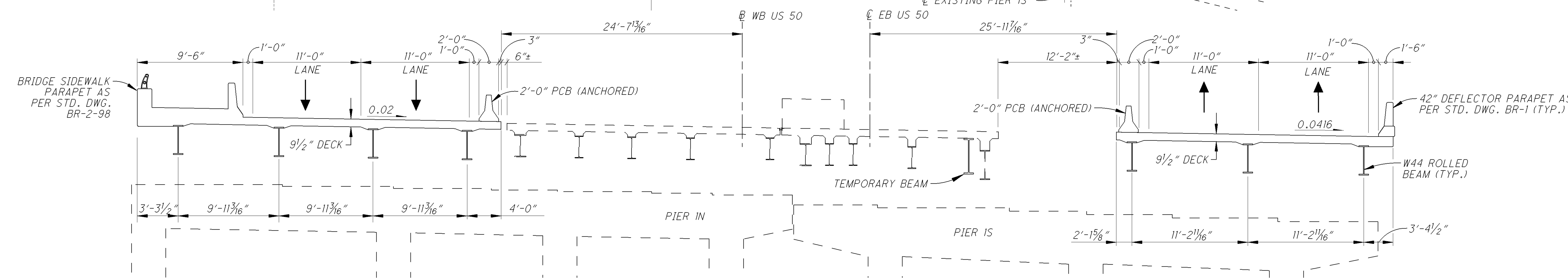
PHASE 3

PHASE 3 OCCURS DURING MOT PHASE 4B.

CONSTRUCT PORTIONS OF NEW EASTBOUND AND WESTBOUND BRIDGES AND RETAINING WALLS. EXTEND EXISTING PIER FOOTINGS AND ADD PILING. MAINTAIN 2-11' WESTBOUND LANES AND 2-11' EASTBOUND LANES.

TEMPORARY MSE WALLS SHALL BE CONSTRUCTED. FOR MORE DETAILS SEE SHEET 16-17/65.

PCB MUST BE ANCHORED TO THE BRIDGE DECK USING 1"ϕ HIGH STRENGTH THROUGH BOLTS OR APPROVED RESIN ANCHORS. WHEN RESIN ANCHORS ARE USED THEY MUST BE EMBEDDED A MINIMUM OF 6½" INTO FIRM CONCRETE. GENERALLY, ALL ANCHORS SHALL BE PLACED ON THE TRAFFIC SIDE OF THE BARRIER WITH THE ANCHOR PATTERN SYMMETRICAL ABOUT THE CENTER OF EACH SEGMENT. 4 ANCHOR BOLTS ARE REQUIRED PER BARRIER.



SECTION AT EXISTING PIER IN AND IS

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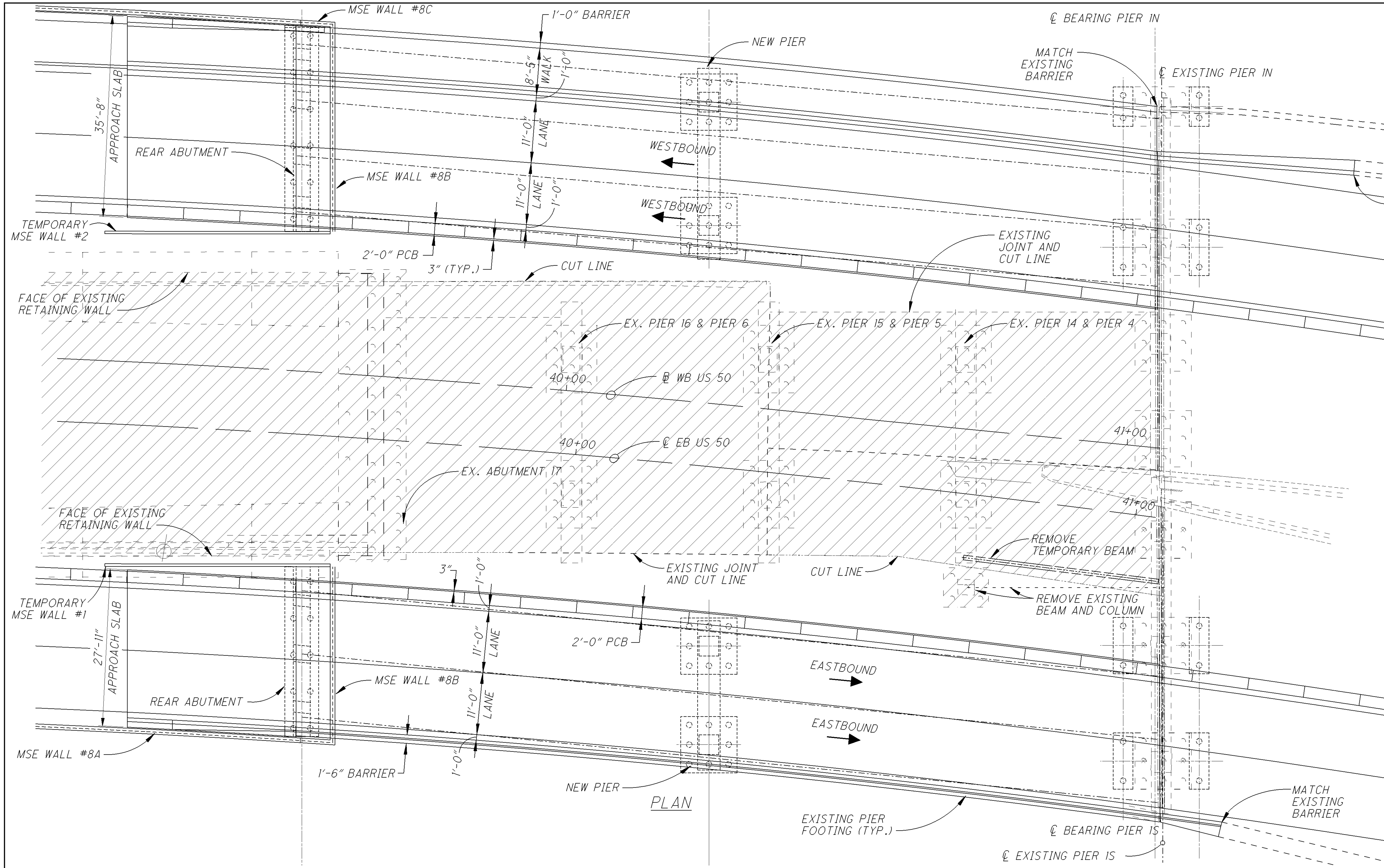
PHASE 3 CONSTRUCTION DETAILS
BRIDGE HAM-50-1903 L/R OVER VACANT LAND

HAM-50-18.79
PID No. 20082



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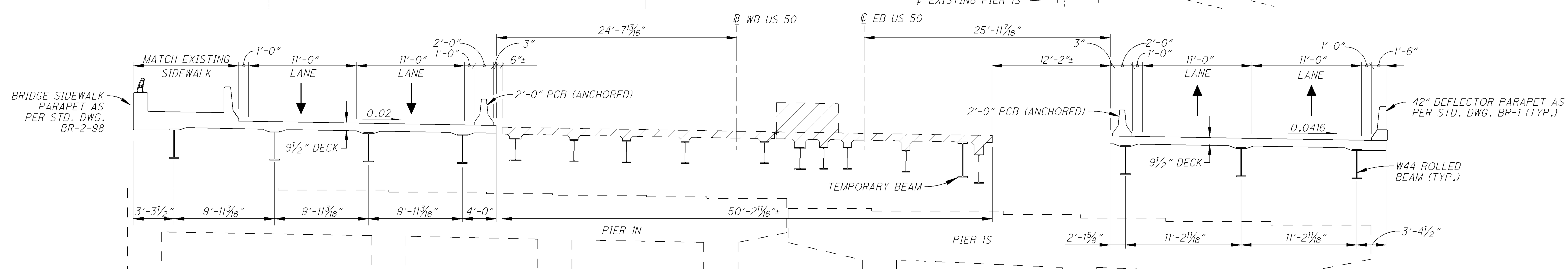

SECTION AT EXISTING PIER IN AND IS

DENOTES PORTION OF STRUCTURE TO BE REMOVED.

PHASE 4

PHASE 4 OCCURS DURING MOT PHASE 4B.

REMOVE REMAINING PORTIONS OF EXISTING BRIDGE WHILE MAINTAINING 2-11' LANES WESTBOUND AND 2-11' LANES EASTBOUND.

PCB MUST BE ANCHORED TO THE BRIDGE DECK USING 1"ϕ HIGH STRENGTH THROUGH BOLTS OR APPROVED RESIN ANCHORS. WHEN RESIN ANCHORS ARE USED THEY MUST BE EMBEDDED A MINIMUM OF 6 1/2" INTO FIRM CONCRETE. GENERALLY, ALL ANCHORS SHALL BE PLACED ON THE TRAFFIC SIDE OF THE BARRIER WITH THE ANCHOR PATTERN SYMMETRICAL ABOUT THE CENTER OF EACH SEGMENT. 4 ANCHOR BOLTS ARE REQUIRED PER BARRIER.

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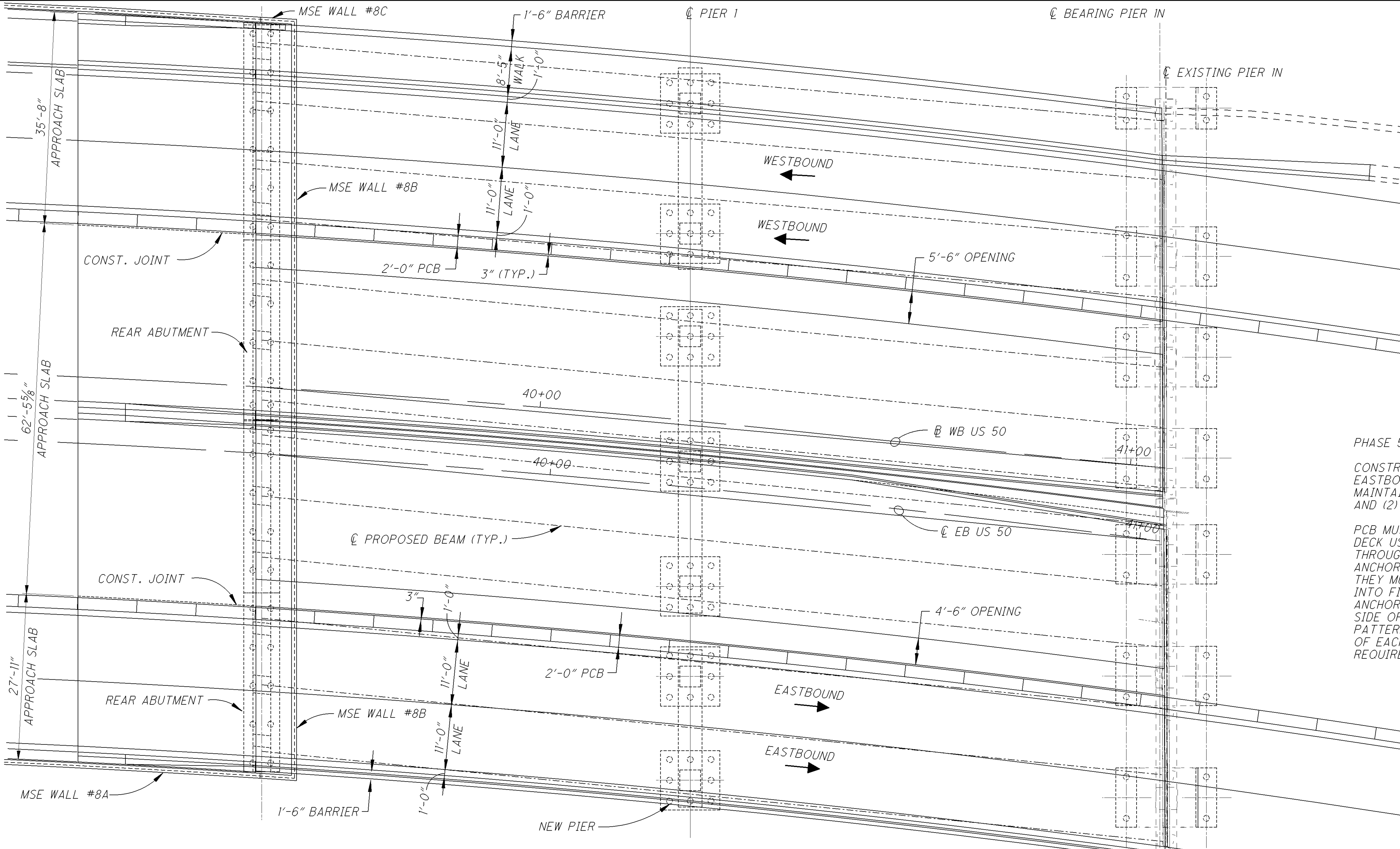
PHASE 4 CONSTRUCTION DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082



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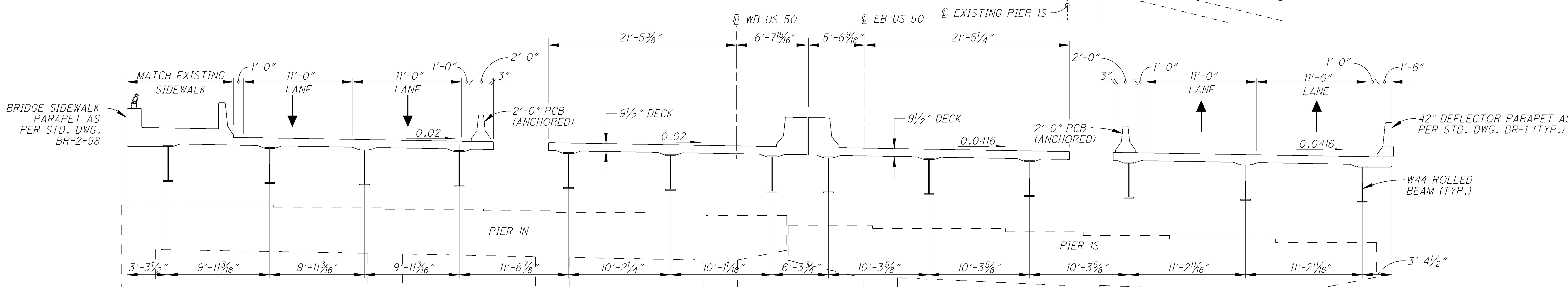

SECTION AT EXISTING PIER IN AND IS

PHASE 5

PHASE 5 OCCURS DURING MOT PHASE 4B

CONSTRUCT CENTER PORTION OF NEW EASTBOUND AND WESTBOUND BRIDGES. MAINTAIN (2) 11'-0" WESTBOUND LANES AND (2) 11'-0" EASTBOUND LANES.

PCB MUST BE ANCHORED TO THE BRIDGE DECK USING 1"ϕ HIGH STRENGTH THROUGH BOLTS OR APPROVED RESIN ANCHORS. WHEN RESIN ANCHORS ARE USED THEY MUST BE EMBEDDED A MINIMUM OF 6½" INTO FIRM CONCRETE. GENERALLY, ALL ANCHORS SHALL BE PLACED ON THE TRAFFIC SIDE OF THE BARRIER WITH THE ANCHOR PATTERN SYMMETRICAL ABOUT THE CENTER OF EACH SEGMENT. 4 ANCHOR BOLTS ARE REQUIRED PER BARRIER.

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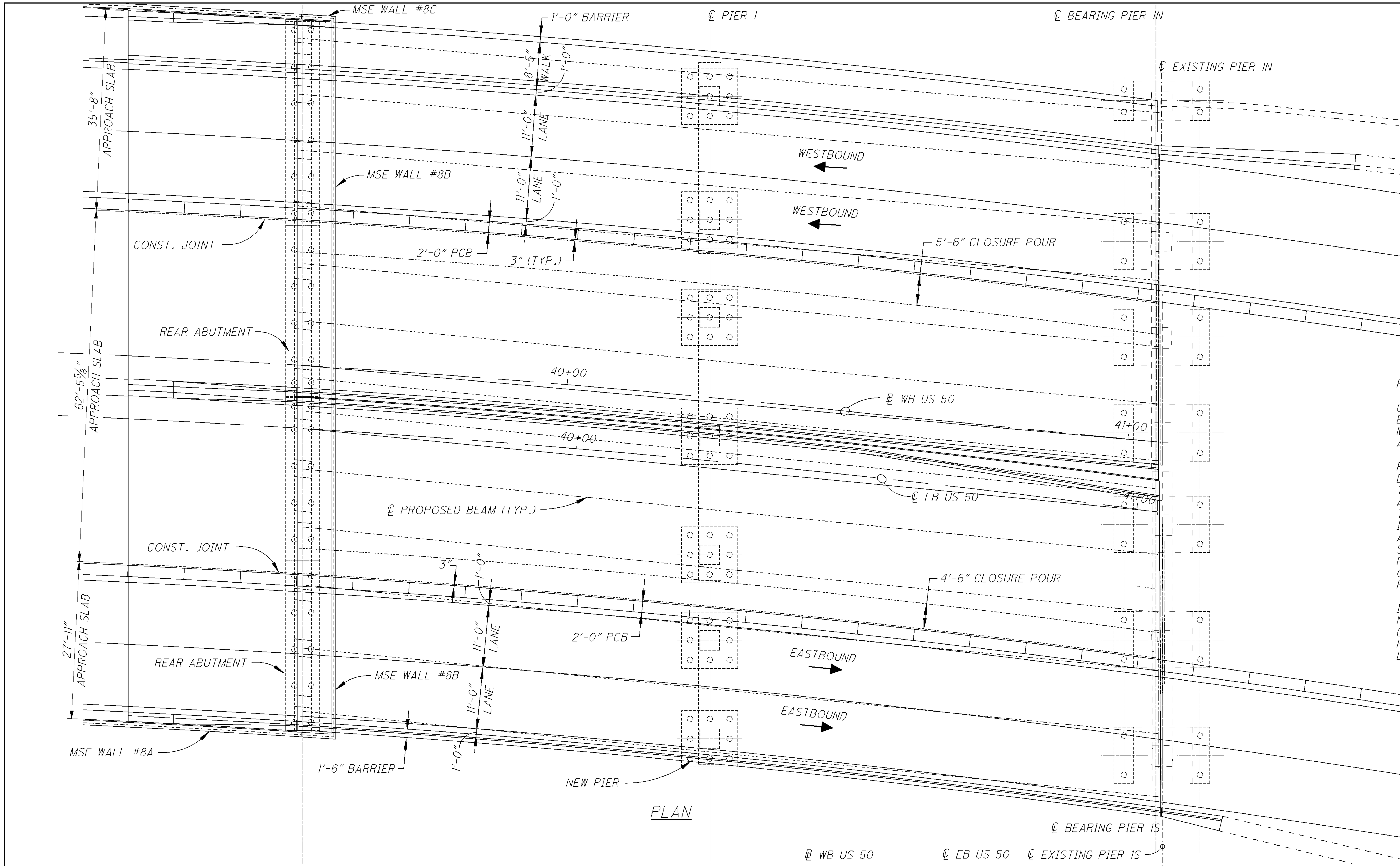
PHASE 5 CONSTRUCTION DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082



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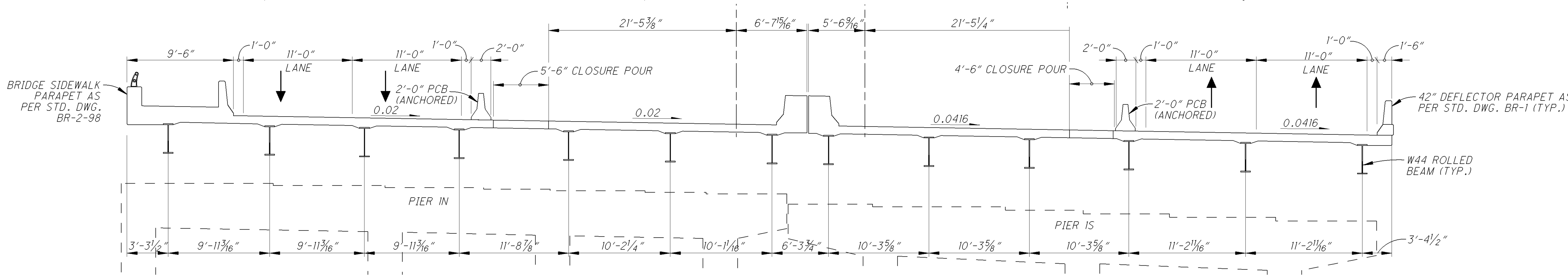

SECTION AT EXISTING PIER IN AND IS

PHASE 6

PHASE 6 OCCURS DURING MOT PHASE 4B.

CONSTRUCT CLOSURE POUR OF NEW EASTBOUND AND WESTBOUND BRIDGES. MAINTAIN (2) 11'-0" WESTBOUND LANES AND (2) 11'-0" EASTBOUND LANES.

PCB MUST BE ANCHORED TO THE BRIDGE DECK USING 1"φ HIGH STRENGTH THROUGH BOLTS OR APPROVED RESIN ANCHORS. WHEN RESIN ANCHORS ARE USED THEY MUST BE EMBEDDED A MINIMUM OF 6½" INTO FIRM CONCRETE. GENERALLY, ALL ANCHORS SHALL BE PLACED ON THE TRAFFIC SIDE OF THE BARRIER WITH THE ANCHOR PATTERN SYMMETRICAL ABOUT THE CENTER OF EACH SEGMENT. 4 ANCHOR BOLTS ARE REQUIRED PER BARRIER.

INTERMEDIATE AND END CROSSFRAMES SHALL NOT BE PERMANETLY ATTACHED IN THE CLOSURE POUR LOCATION UNTIL THE CONCRETE POURS ON BOTH SIDES OF THE CLOSURE POUR LOCATION HAVE BEEN COMPLETED.

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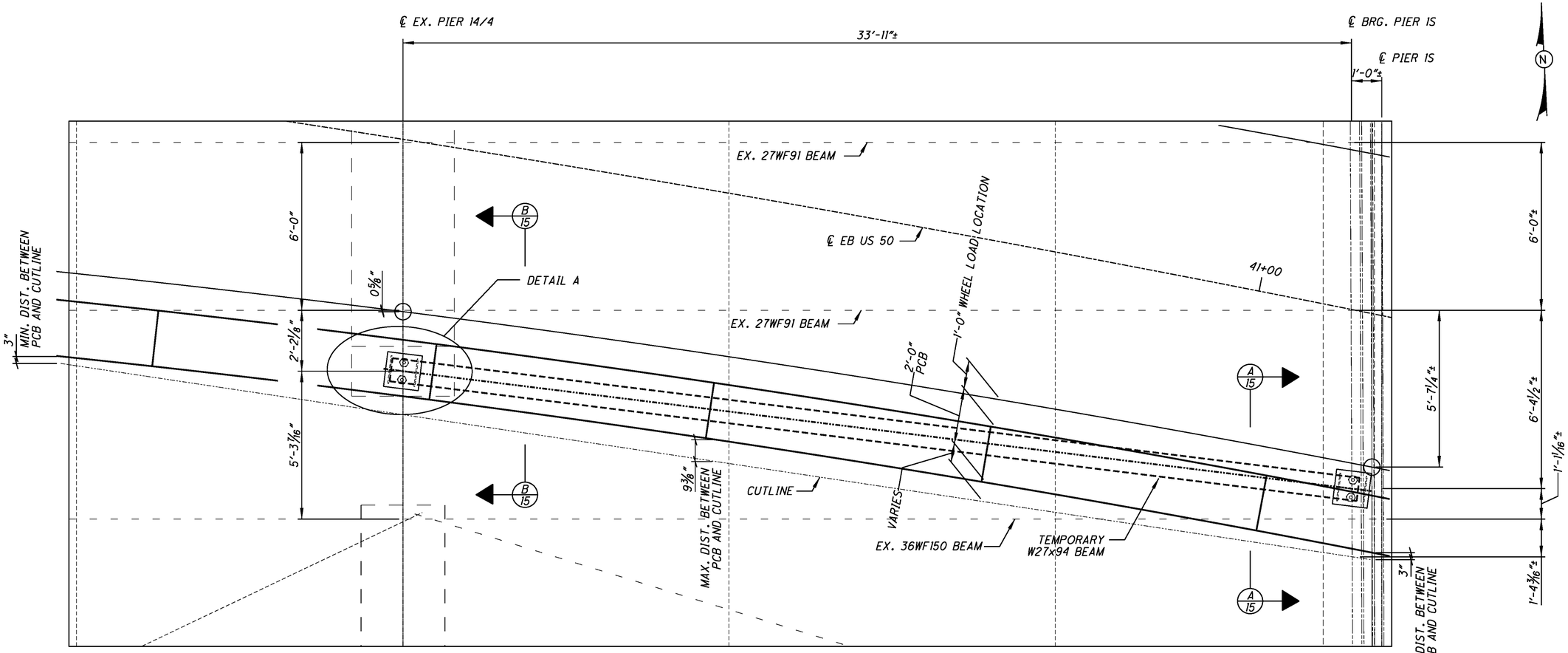
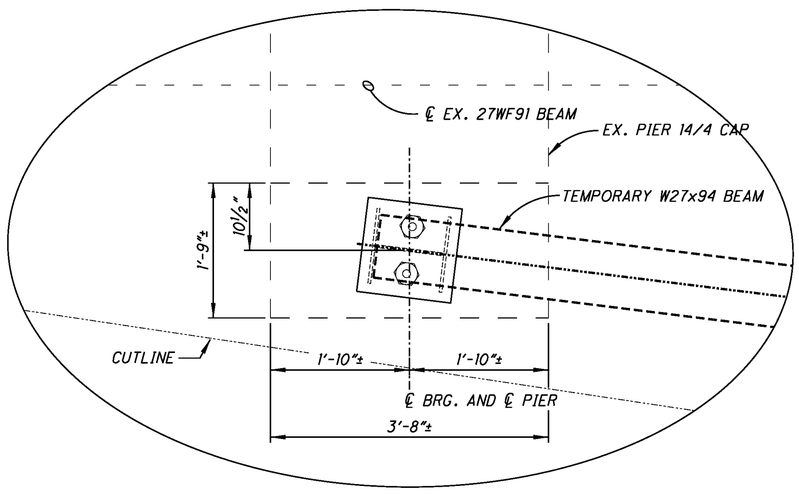
PHASE 6 CONSTRUCTION DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

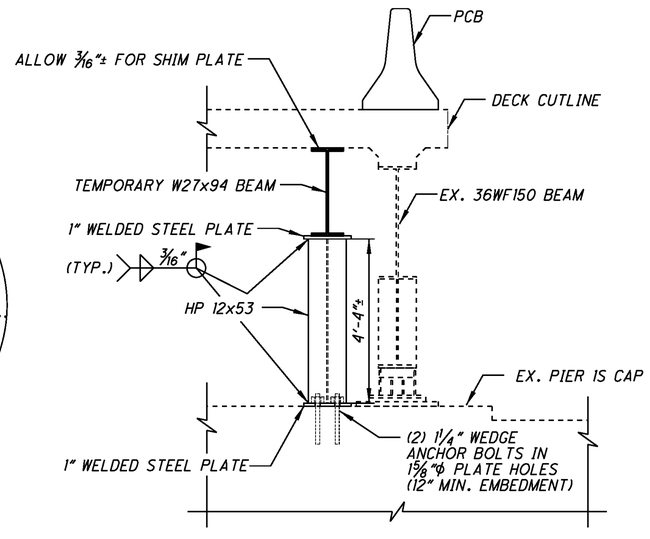
HAM-50-18.79
PID No. 20082



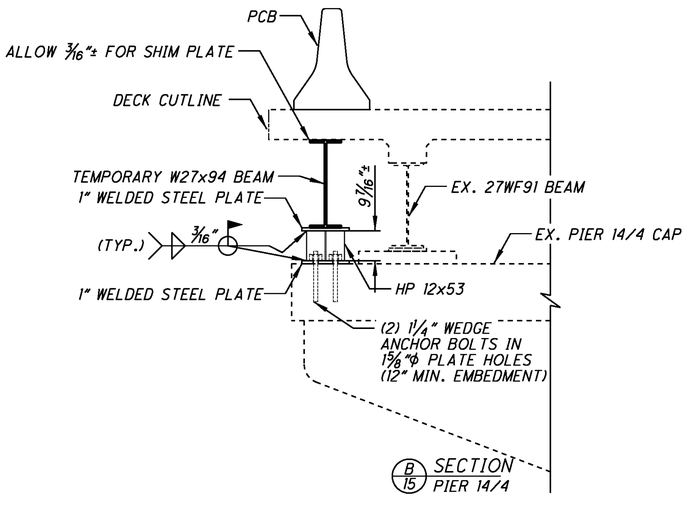
PARTIAL PLAN
PHASE 2



DETAIL A



A 15 SECTION
PIER IS



B 15 SECTION
PIER 14/4

NOTE:
1. THE TEMPORARY BEAM SHALL BE INSTALLED PRIOR TO PHASE 1 AND SHALL BE REMOVED DURING PHASE 4. ALL COST ASSOCIATED WITH INSTALLATION OF THE TEMPORARY BEAM SHALL BE INCLUDED IN ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

DESIGN AGENCY
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4701 Belleview, Suite 300, Kansas City, Missouri 64112
TEL 913.621.6211 FAX 913.621.9830 WEB www.kzf.com

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TEMPORARY BEAM DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

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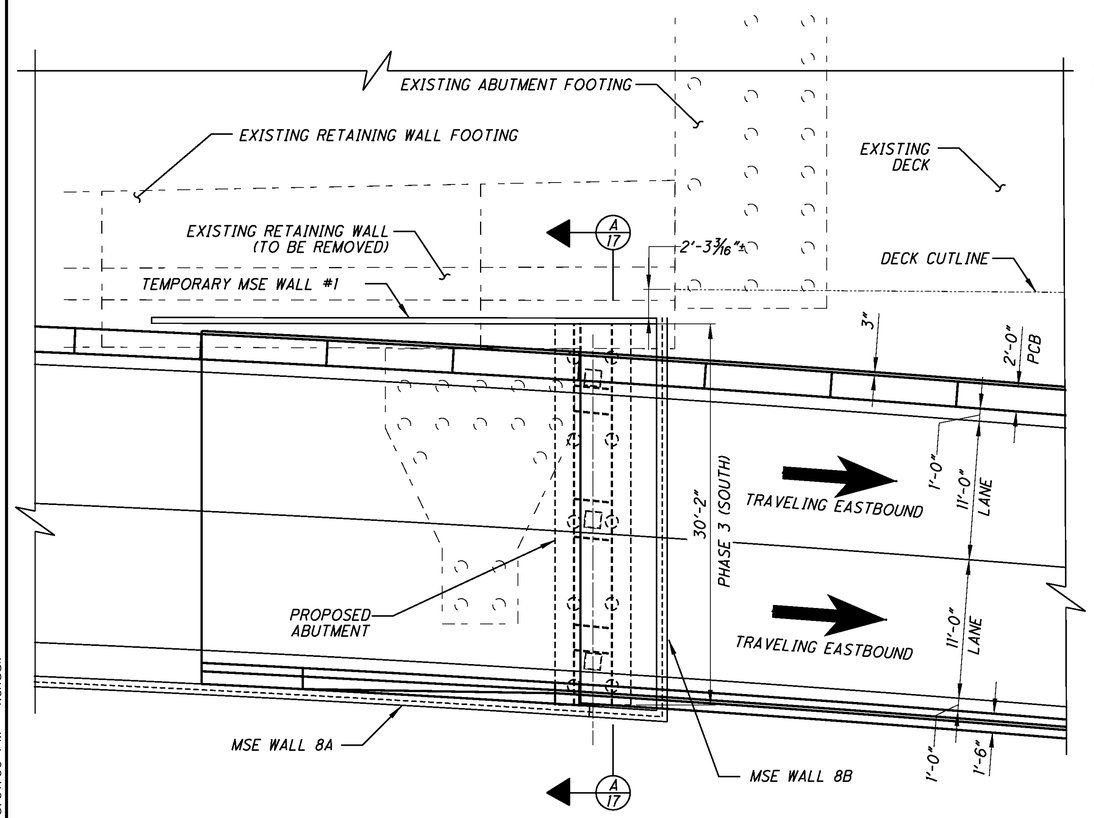
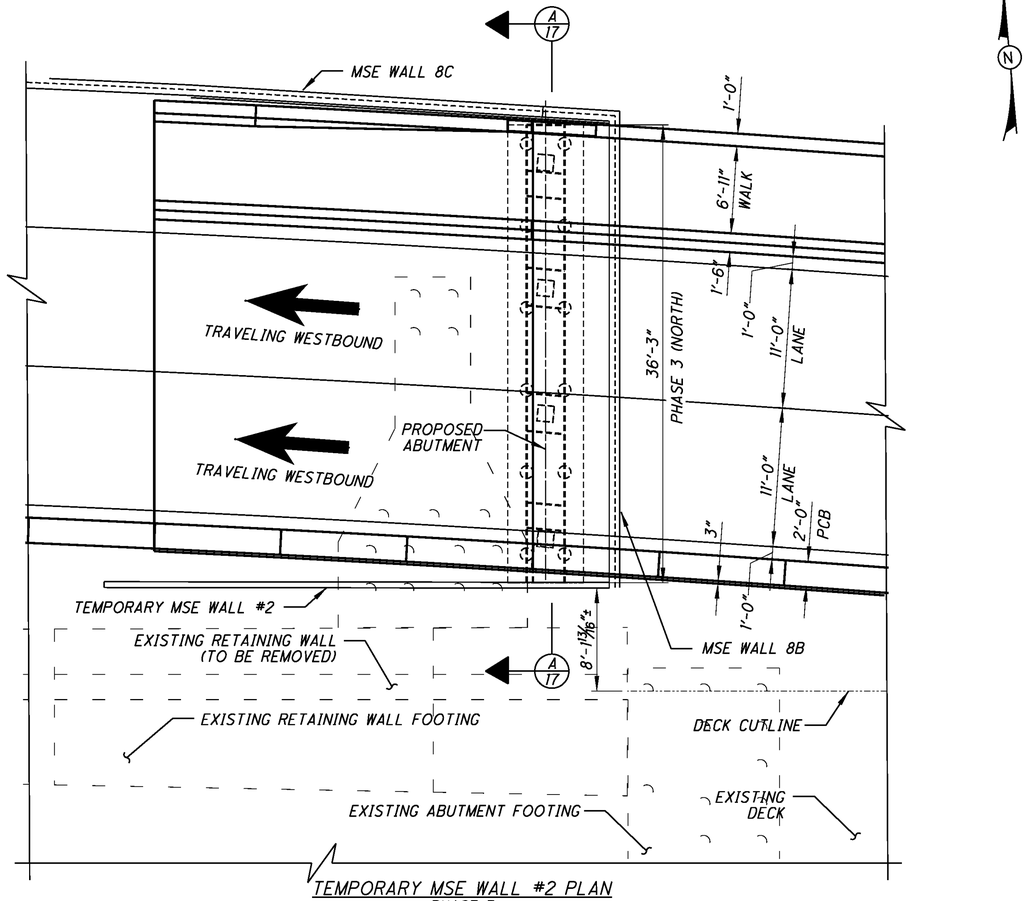
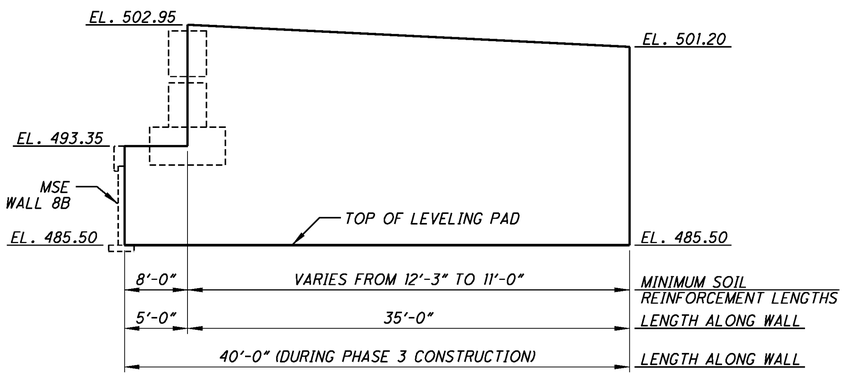
657



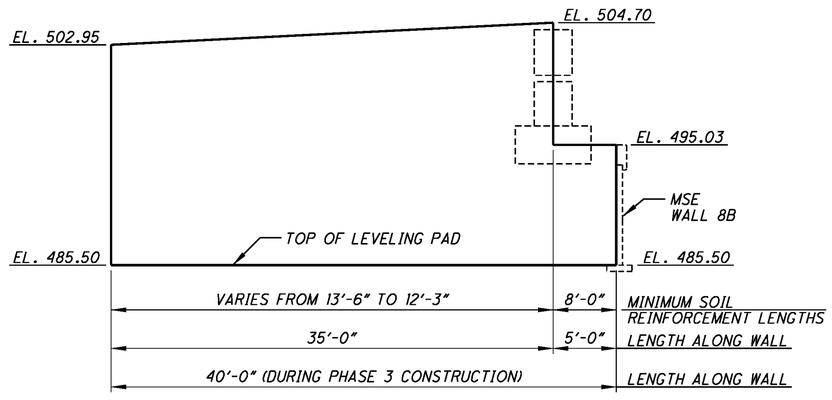
TEMPORARY MSE WALL #1 PLAN
PHASE 3



TEMPORARY MSE WALL #2 PLAN
PHASE 3



TEMPORARY MSE WALL #1 ELEVATION
(LOOKING SOUTH)



TEMPORARY MSE WALL #2 ELEVATION
(LOOKING NORTH)

NOTES:
1. MINIMUM SOIL REINFORCEMENT LENGTHS BASED ON 70% OF WALL HEIGHT

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4270 Ivy Pointe Blvd., Suite 225, Cincinnati, OH 45245
TEL 513.821.6211 FAX 513.821.3830 WEB www.kzf.com

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TEMPORARY MSE WALL DETAILS
BRIDGE HAM-50-1903 L/R
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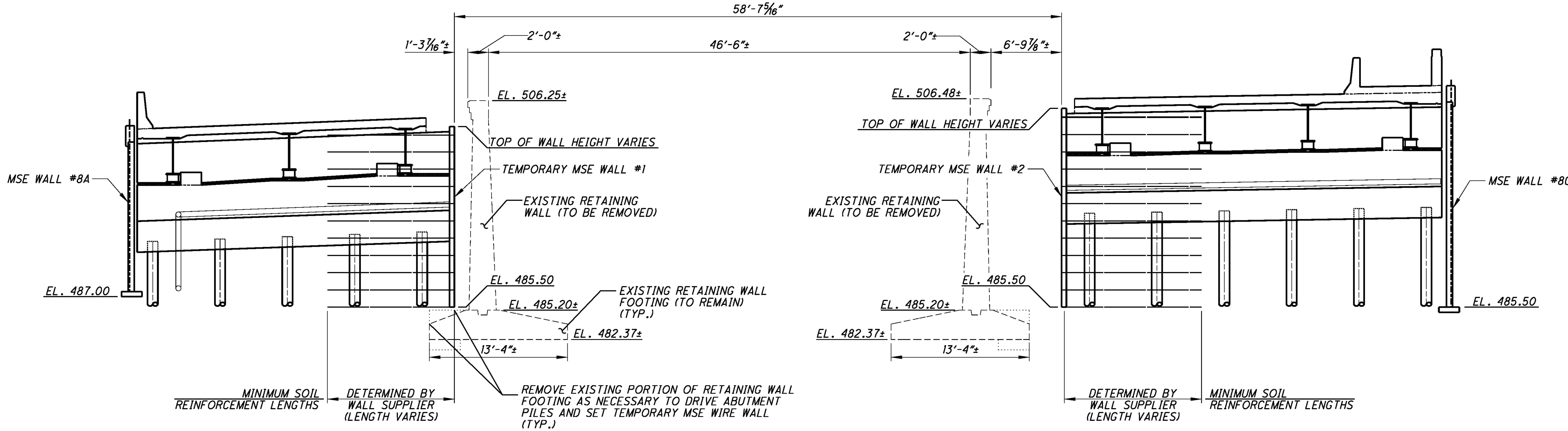
540
657



A/17 SECTION
PHASE 3

NOTES:
1. FOR ADDITIONAL DETAILS ON MSE WALL 8 SEE RETAINING WALL PLAN SHEETS.

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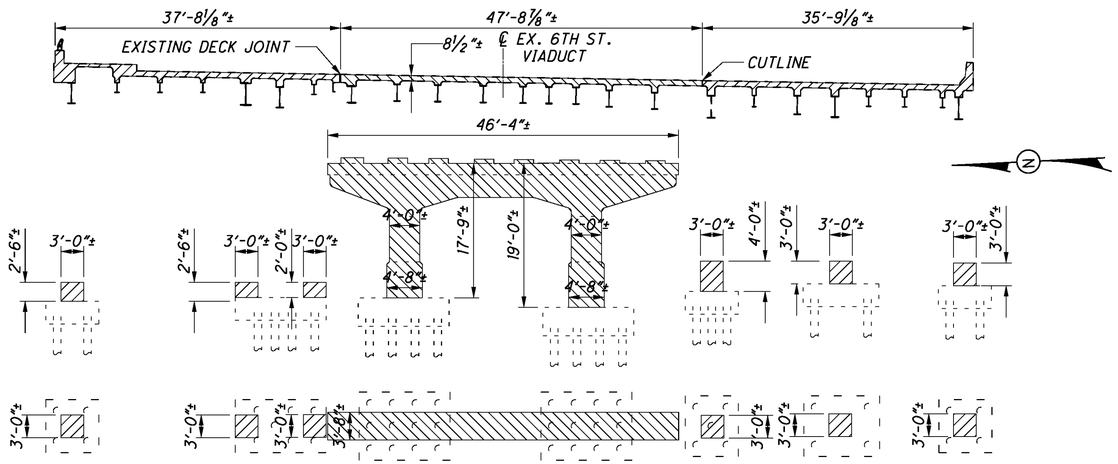
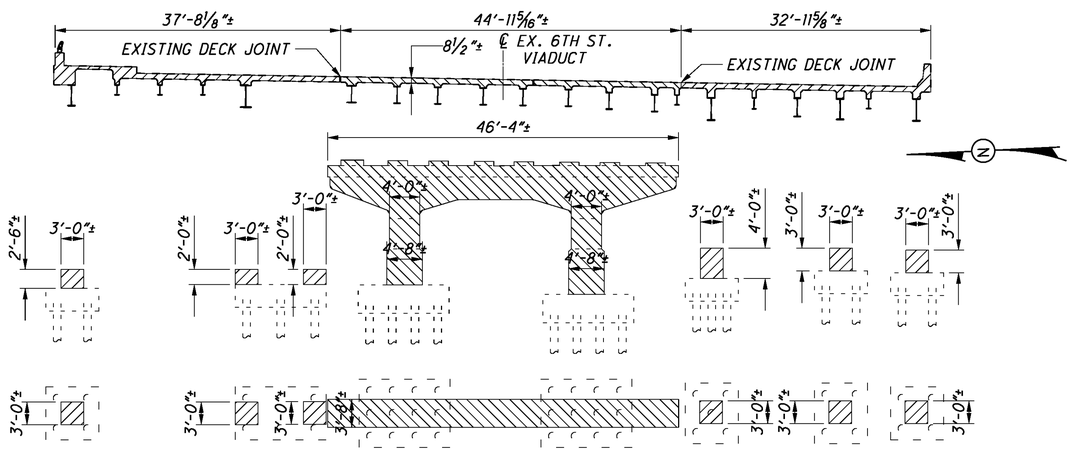
TEMPORARY MSE WALL DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082



EXISTING PIER 4 & 14
LOOKING UP STATION



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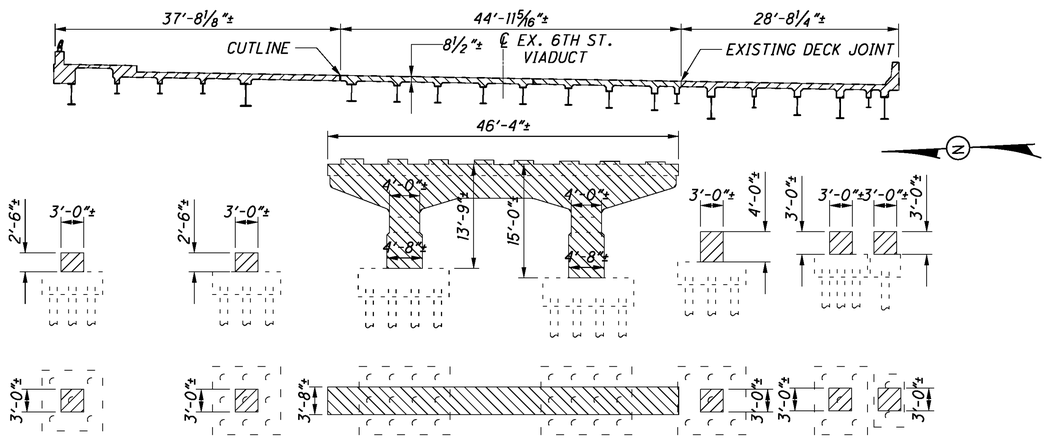

EXISTING PIER 6 & 16
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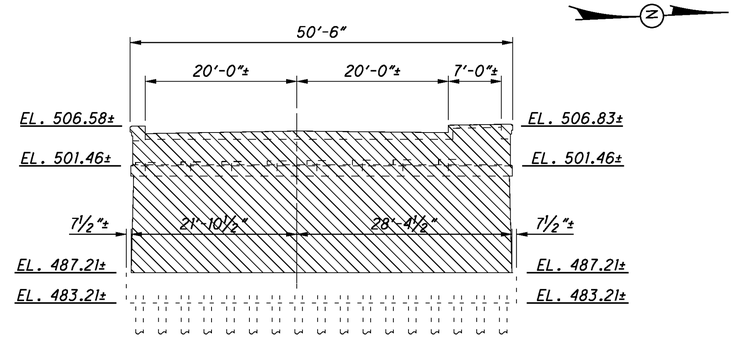
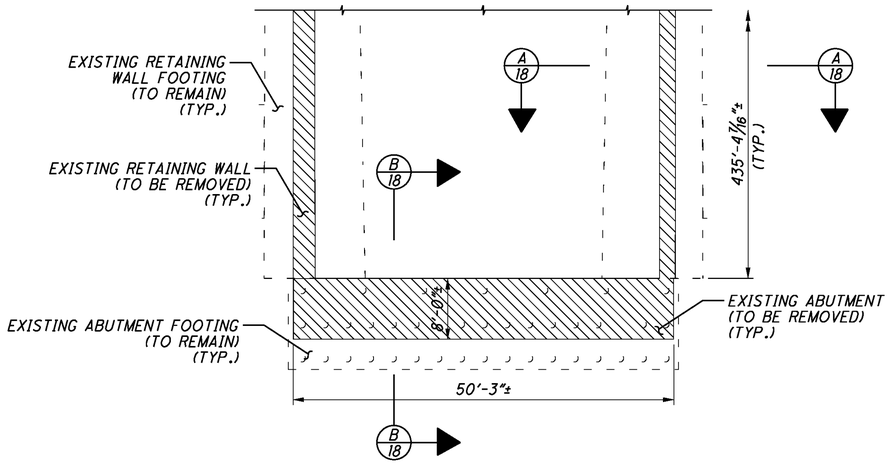
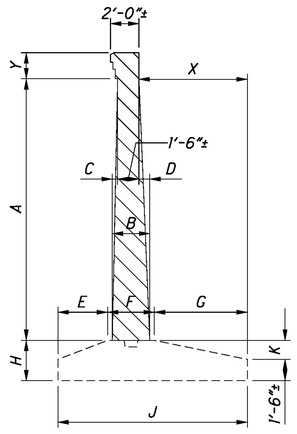


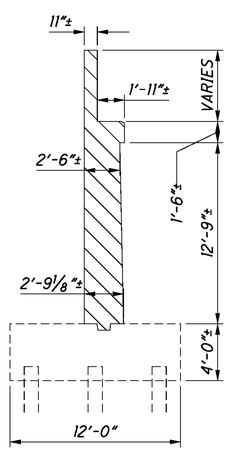


EXISTING ABUTMENT 17
LOOKING BACK STATION



EXISTING CONCRETE RETAINING WALL DIMENSIONS					
	7'-7 1/2"±		0'-4 1/2"±		6'-6 1/2"±
X	TO	C	TO	G	TO
	1'-0"±		0'-0"±		0'-0"±
	2'-0 1/4"±		0'-9 1/8"±		2'-10"±
Y	TO	D	TO	H	TO
	1'-10"±		0'-0"±		1'-6"±
	18'-5"±		3'-6"±		13'-4"±
A	TO	E	TO	J	TO
	2'-10 5/8"±		1'-0"±		4'-0"±
	2'-7 5/8"±		3'-3 1/2"±		1'-4"±
B	TO	F	TO	K	TO
	2'-9 1/8"±		0'-0"±		0'-0"±

A / 18 SECTION
SOUTH EXISTING RETAINING WALL SHOWN
NORTH EXISTING RETAINING WALL SIMILAR



B / 18 SECTION
EXISTING REAR ABUTMENT

STAGE 2 REMOVAL

STAGE 4 REMOVAL

NOTES:
1. ONLY CONCRETE STRUCTURE SHOWN, EXISTING STEEL FRAME TO BE REMOVED.

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CINCINNATI, OHIO 45202 WEB www.kzf.com
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REMOVAL DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

18 / 65

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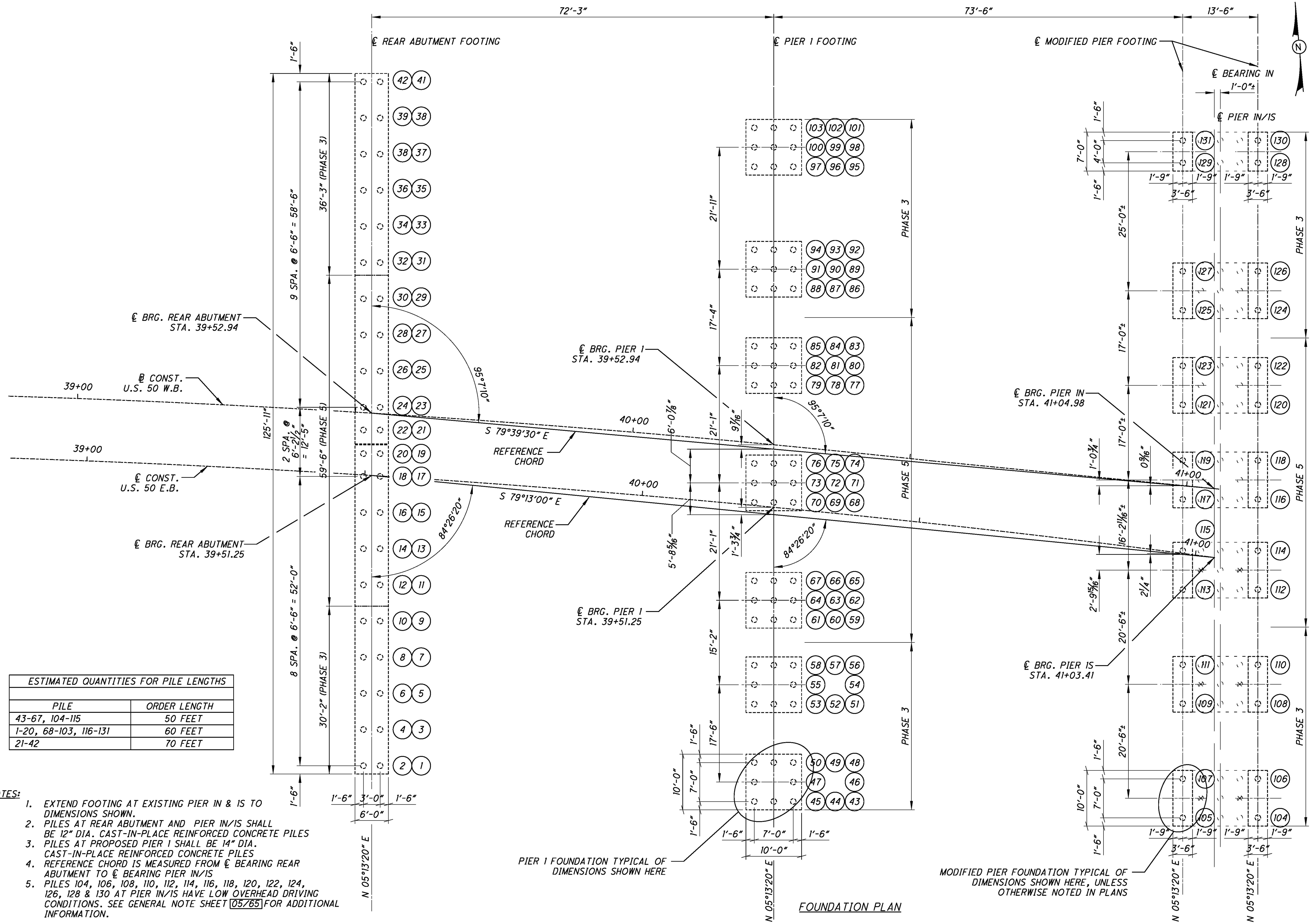

ESTIMATED QUANTITIES FOR PILE LENGTHS	
PILE	ORDER LENGTH
43-67, 104-115	50 FEET
1-20, 68-103, 116-131	60 FEET
21-42	70 FEET

NOTES:

1. EXTEND FOOTING AT EXISTING PIER IN & IS TO DIMENSIONS SHOWN.
2. PILES AT REAR ABUTMENT AND PIER IN/IS SHALL BE 12" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES
3. PILES AT PROPOSED PIER 1 SHALL BE 14" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES
4. REFERENCE CHORD IS MEASURED FROM ℄ BEARING REAR ABUTMENT TO ℄ BEARING PIER IN/IS
5. PILES 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128 & 130 AT PIER IN/IS HAVE LOW OVERHEAD DRIVING CONDITIONS. SEE GENERAL NOTE SHEET 05/65 FOR ADDITIONAL INFORMATION.

FOUNDATION PLAN

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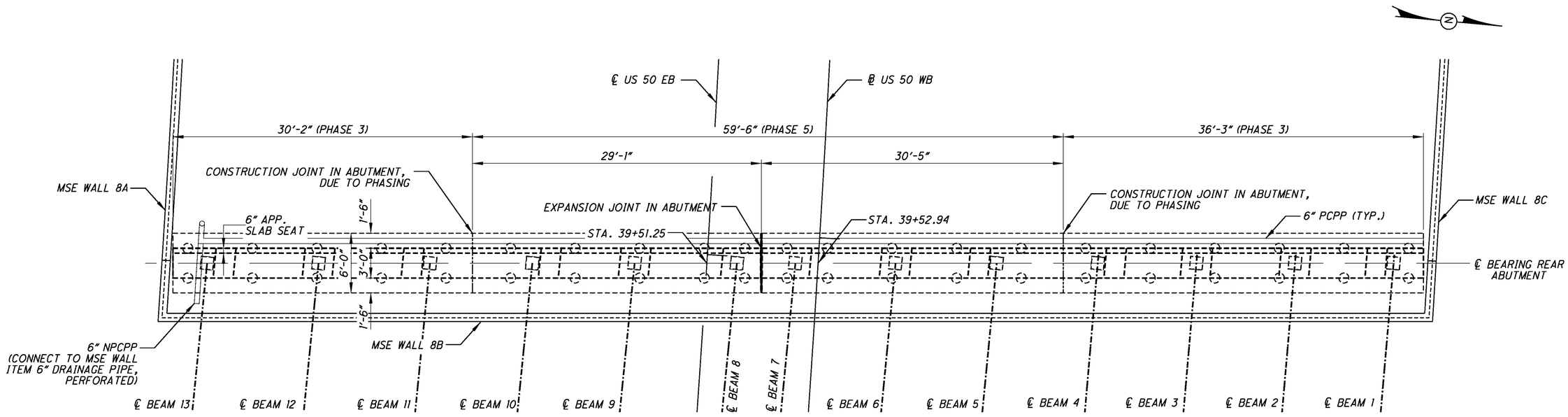
FOUNDATION PLAN
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

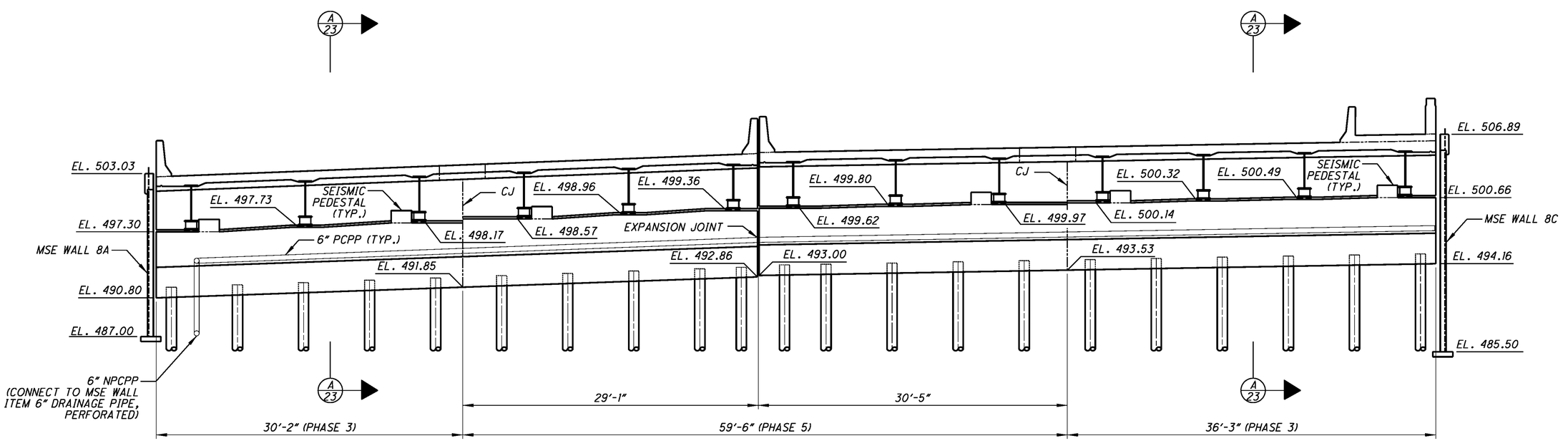
HAM-50-18.79
PID No. 20082

19/65

543/657



PLAN
BRIDGE NO. HAM-50-1903 L/R



ELEVATION
BRIDGE NO. HAM-50-1903 L/R

NOTES:

1. TYPE 2 WATERPROOFING SHALL BE APPLIED AT VERTICAL CONSTRUCTION JOINT ON BACK SIDE OF ABUTMENT FROM TOP OF OF THE FOOTING TO THE APPROACH SLAB SEAT, 3'-0" WIDE CENTERED ON THE JOINT.

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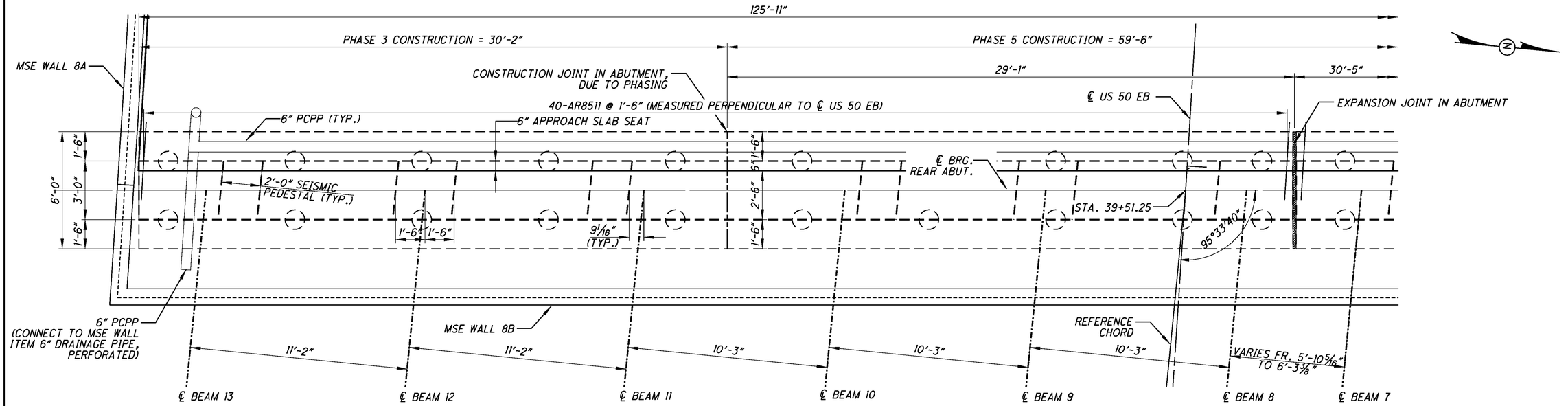
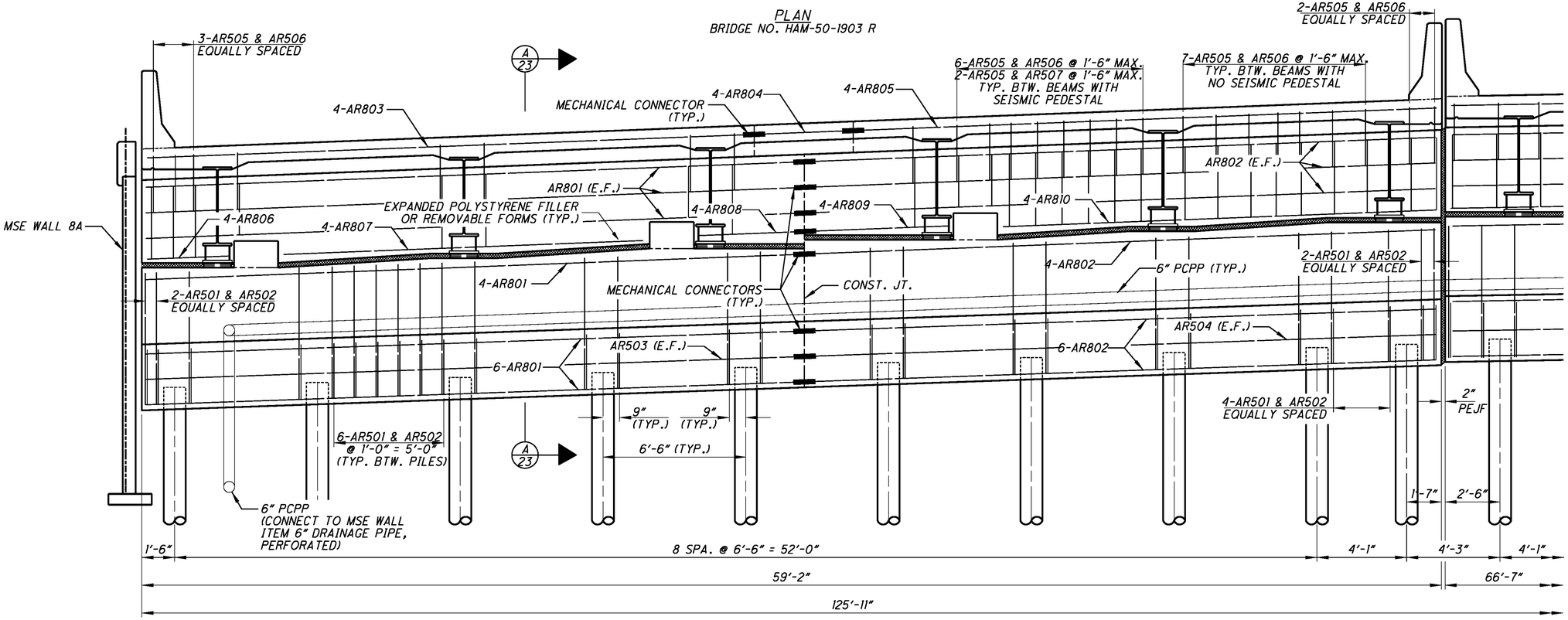
REAR ABUTMENT DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082



PLAN
BRIDGE NO. HAM-50-1903 R



ELEVATION
BRIDGE NO. HAM-50-1903 R

NOTES:
1. MECHANICAL CONNECTORS TO BE INCLUDED FOR PAYMENT WITH ITEM 898 QC/QA CONCRETE.

REAR ABUTMENT DETAILS
BRIDGE HAM-50-1903 R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

21 / 65

545 / 657

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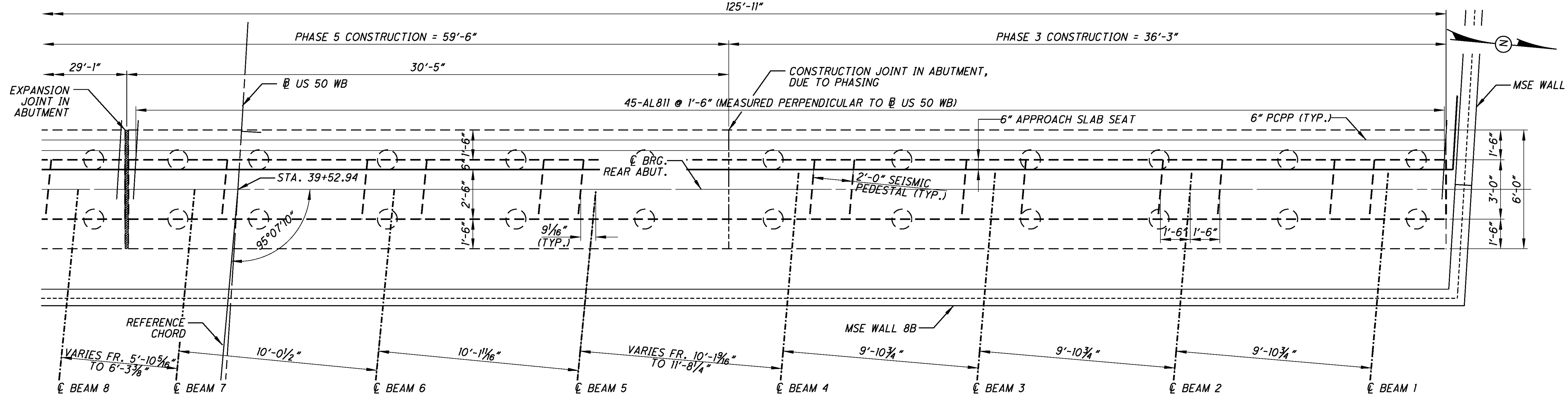
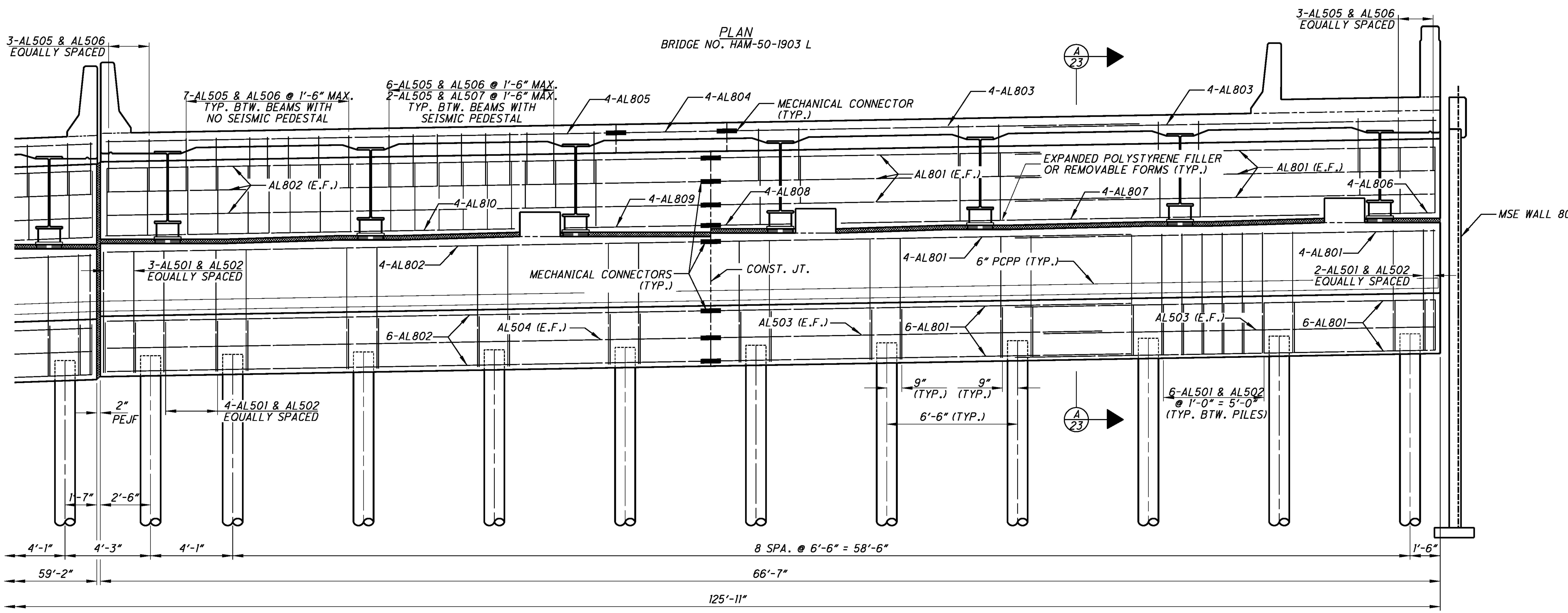


PLAN
BRIDGE NO. HAM-50-1903 L



ELEVATION
BRIDGE NO. HAM-50-1903 L

NOTES:
1. MECHANICAL CONNECTORS TO BE INCLUDED FOR PAYMENT WITH ITEM 898 QC/QA CONCRETE

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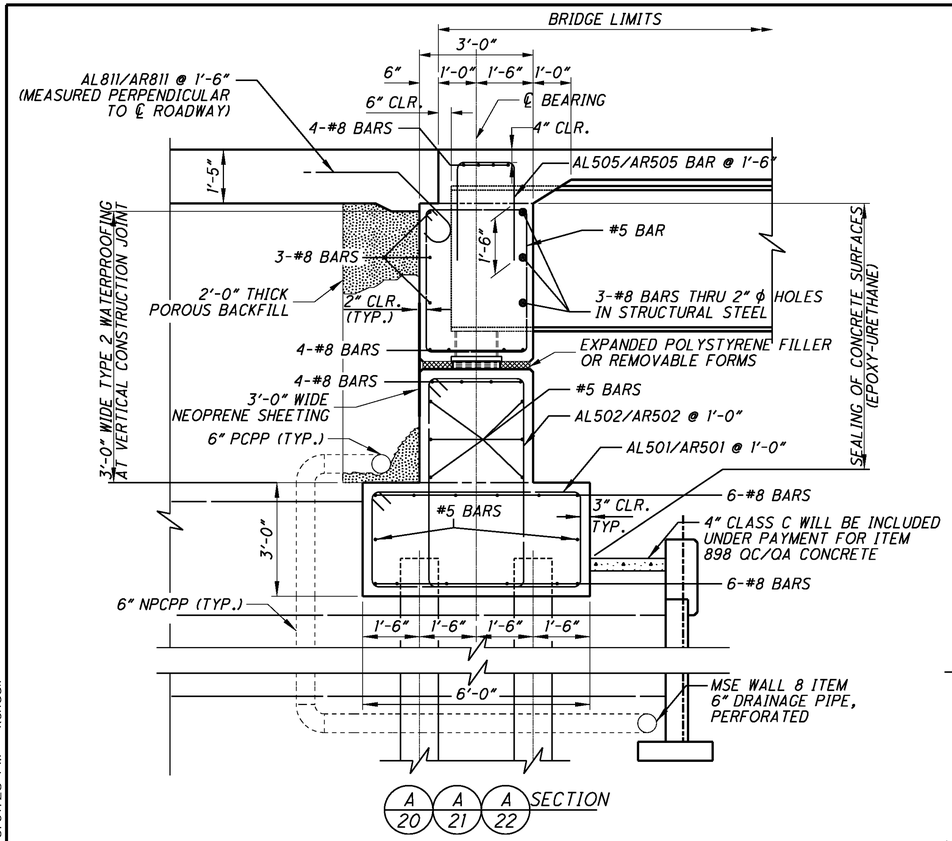
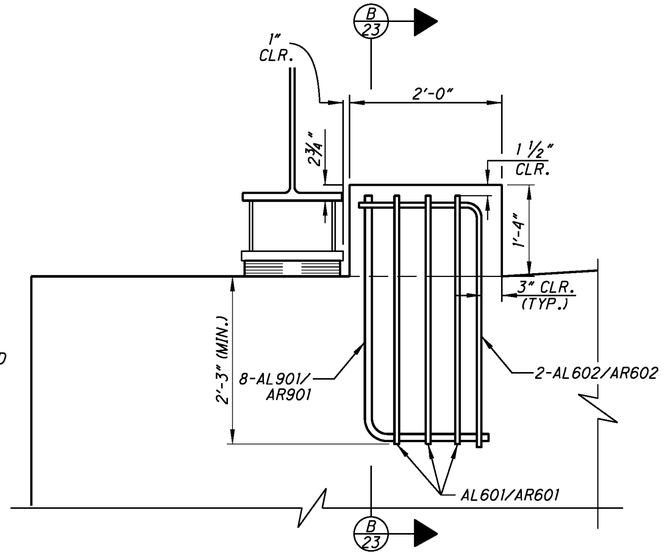
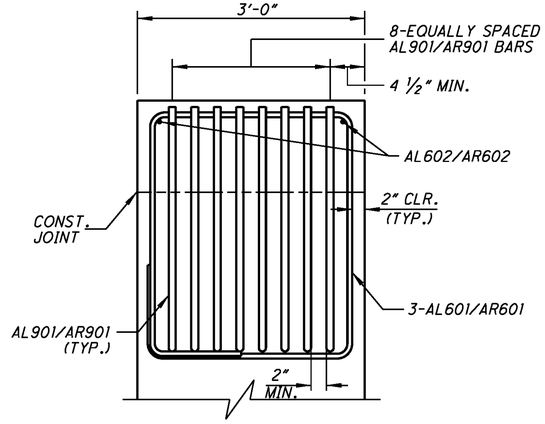
REAR ABUTMENT DETAILS
BRIDGE HAM-50-1903 L
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

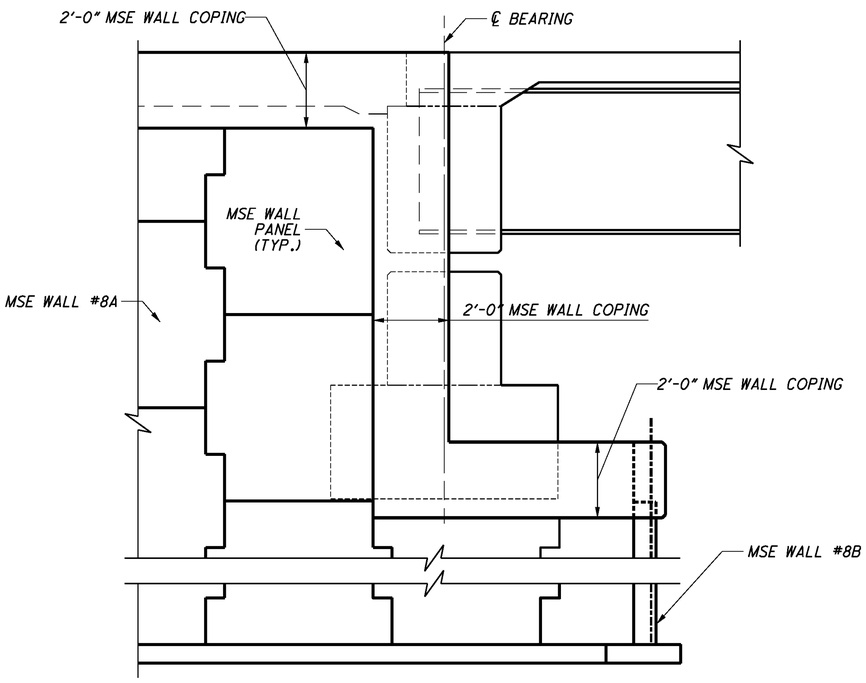




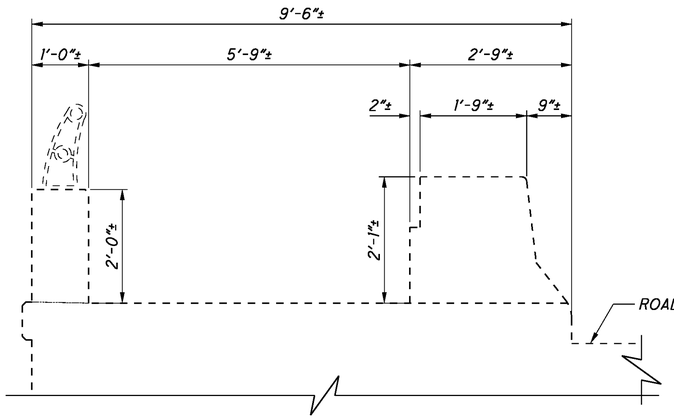
SEISMIC PEDESTAL DETAIL



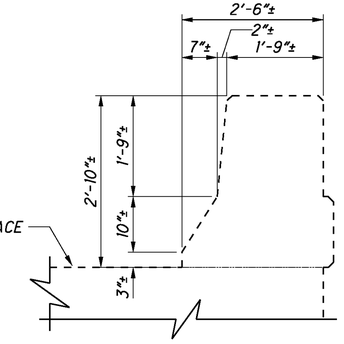
B 23 SECTION



ELEVATION
MSE WALL #8 AND COPING



C 3 SECTION
EXISTING CONDITIONS



D 3 SECTION
EXISTING CONDITIONS

NOTES:
1. FOR ADDITIONAL ABUTMENT DETAILS, SEE ODOT STD. DWG. A-1-69 AND SICD-1-96
2. FOR ADDITIONAL MSE DETAILS, SEE MSE WALL 8 DETAIL SHEETS.

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REAR ABUTMENT DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

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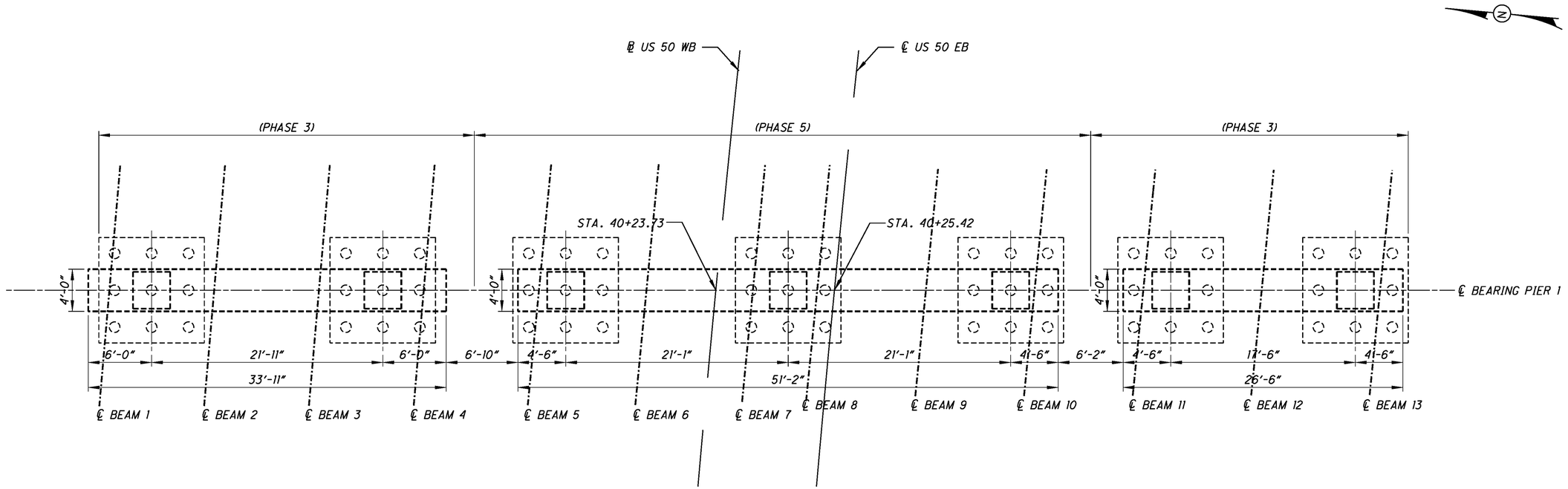
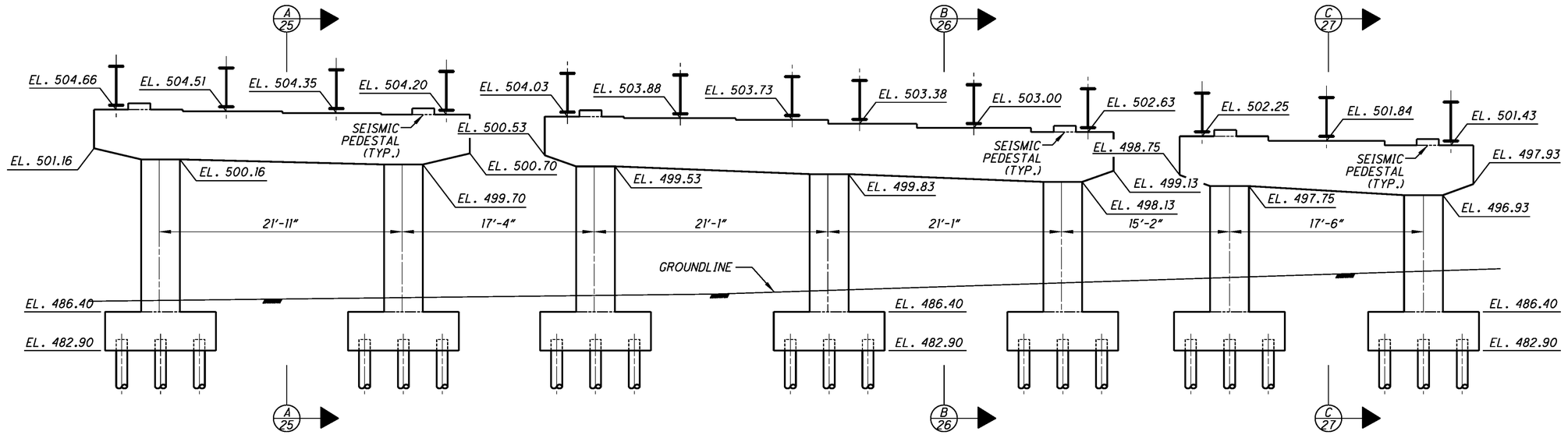


PLAN
BRIDGE NO. HAM-50-1903 L/R



ELEVATION
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PIER 1 DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

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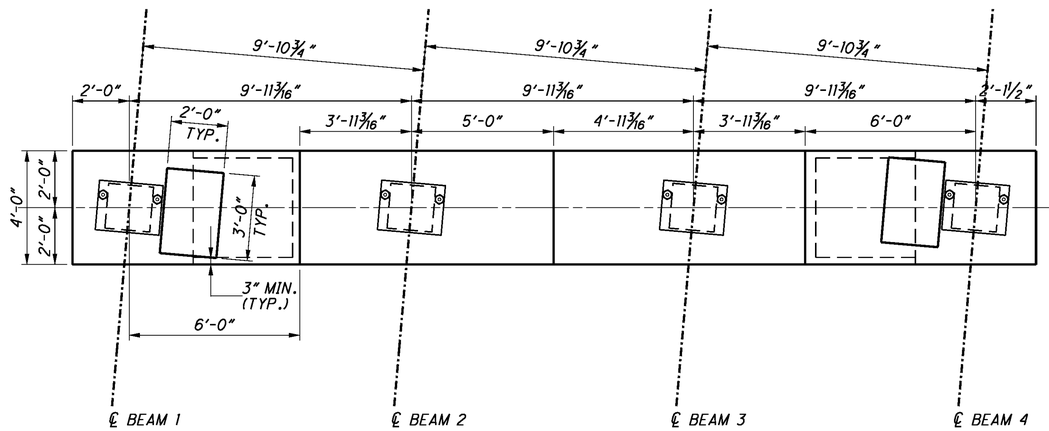

PLAN
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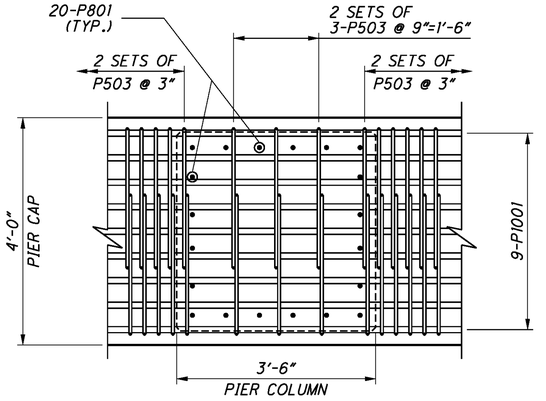
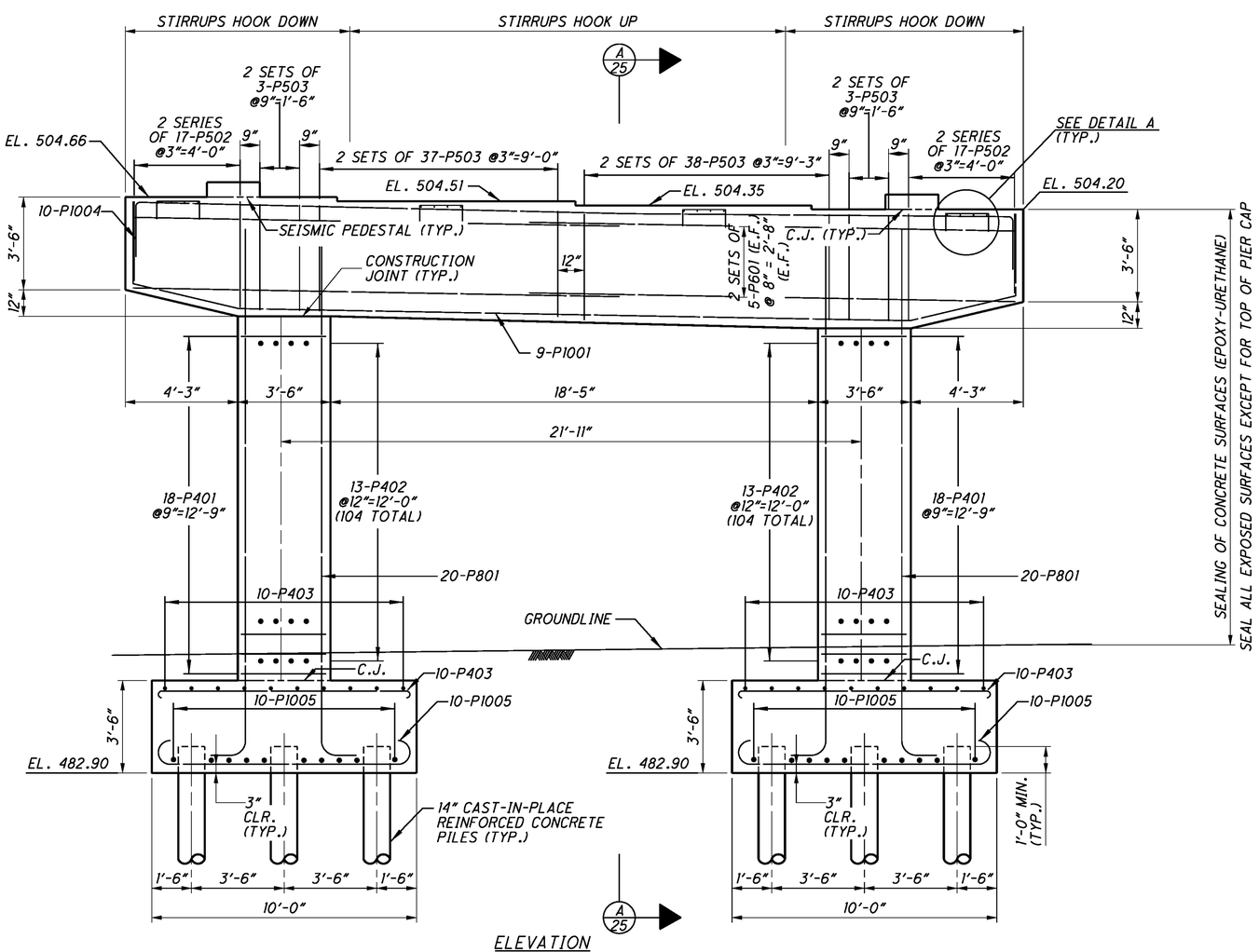


PIER 1 PLAN DETAIL
INTERSECTION OF REINFORCING
IN CAP AND COLUMN (TYP.)



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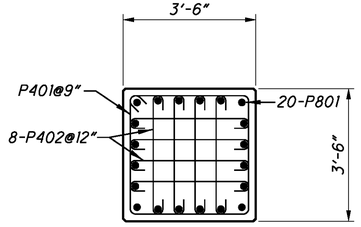

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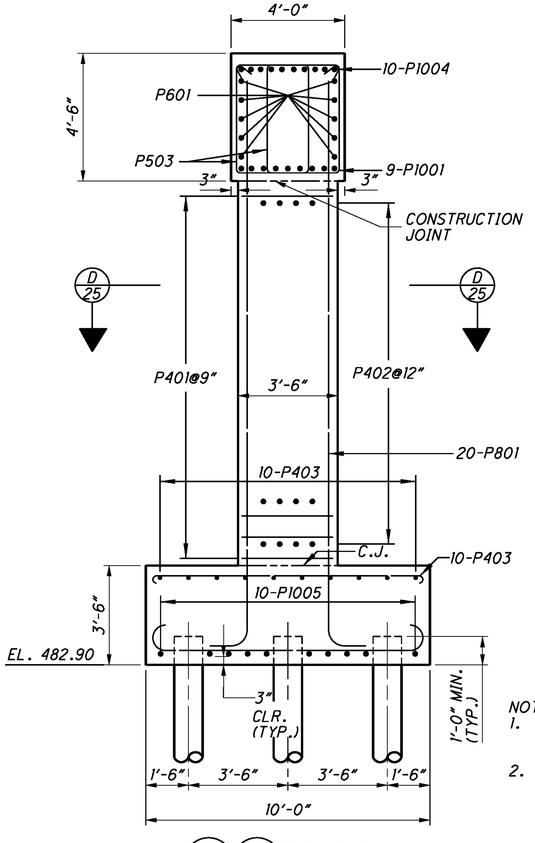
SECTION



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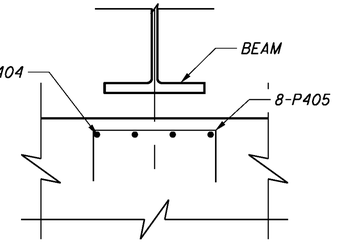
SECTION



DETAIL A
BEAM SEAT REINFORCING

NOTES:
1. THE CORNER WITH THE 135° BENDS OF THE CLOSED TYPE STIRRUP SHALL BE PLACED IN THE COMPRESSION ZONE OF THE CONCRETE PIER CAP.
2. 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. FOR ADDITIONAL DETAILS ON ANCHOR DOWELS, SEE SHEET 39/65.
3. MIN. LAP #6 BAR = 2'-11"

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PIER 1 DETAILS
BRIDGE HAM-50-1903 L
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

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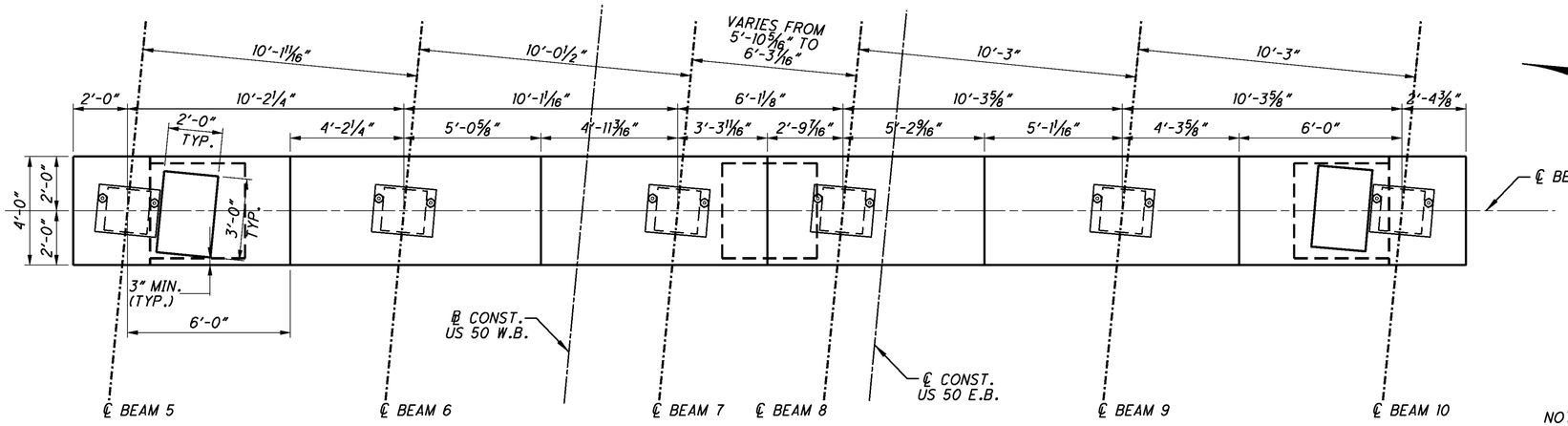

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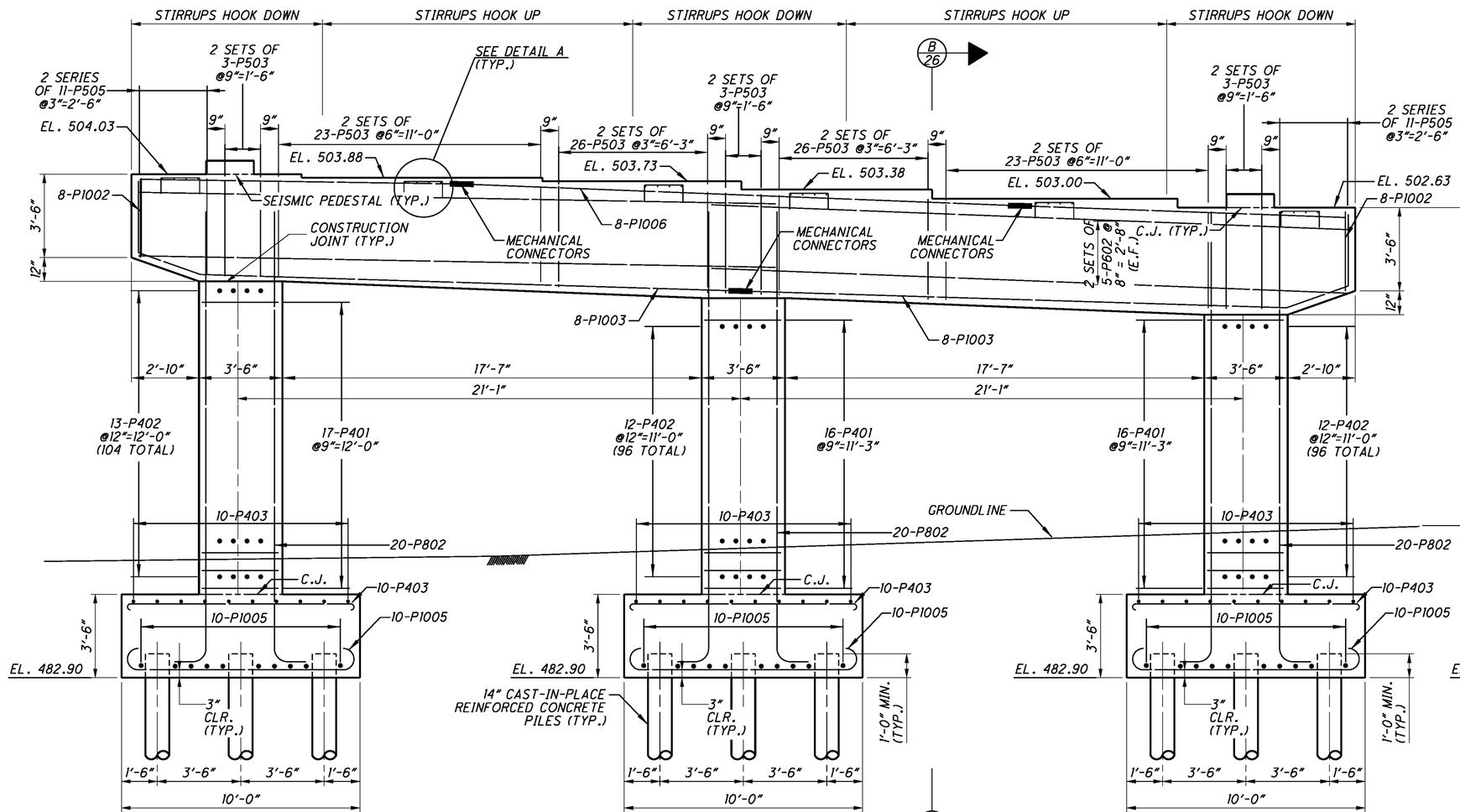

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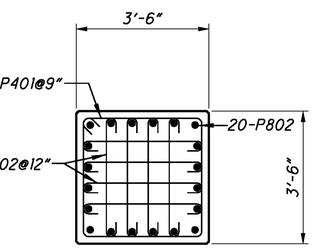
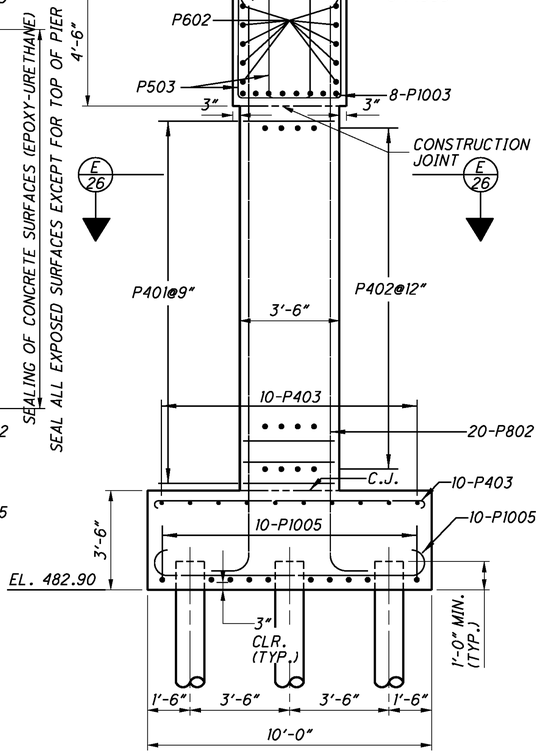
BRIDGE NO. HAM-50-1903 L/R



E 26 SECTION

NOTES:

1. THE CORNER WITH THE 135° BENDS OF THE CLOSED TYPE STIRRUP SHALL BE PLACED IN THE COMPRESSION ZONE OF THE CONCRETE PIER CAP.
2. 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. FOR ADDITIONAL DETAILS ON ANCHOR DOWELS, SEE SHEET 39/65.
3. MECHANICAL CONNECTORS SHALL BE INCLUDED IN PAYMENT FOR ITEM 898 - QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (PIER ABOVE FOOTING).
4. MIN. LAP #6 BAR = 2'-11"



B 24 B 26 SECTION

PIER 1 DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

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550 / 657

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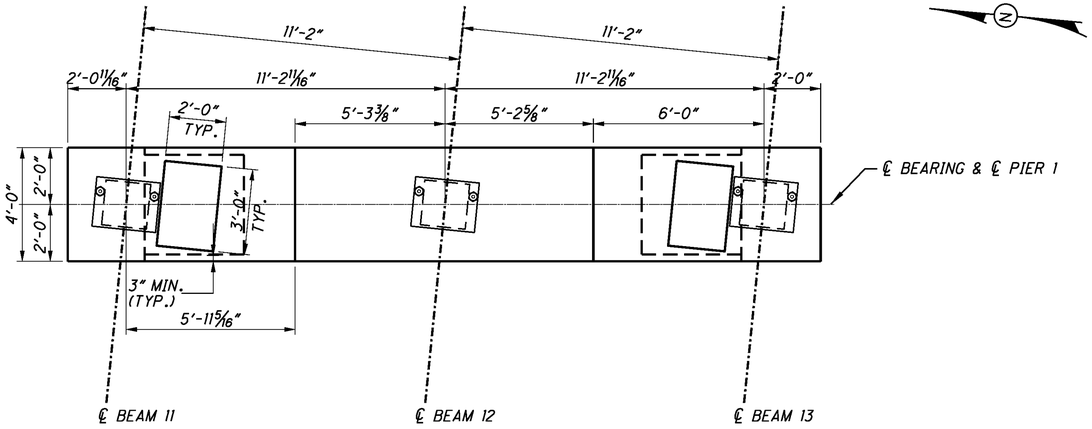
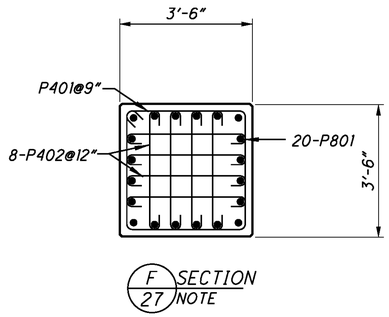
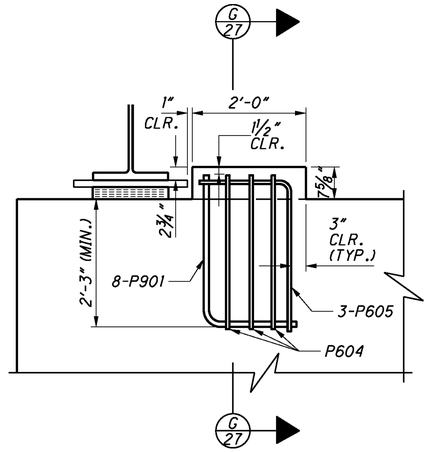


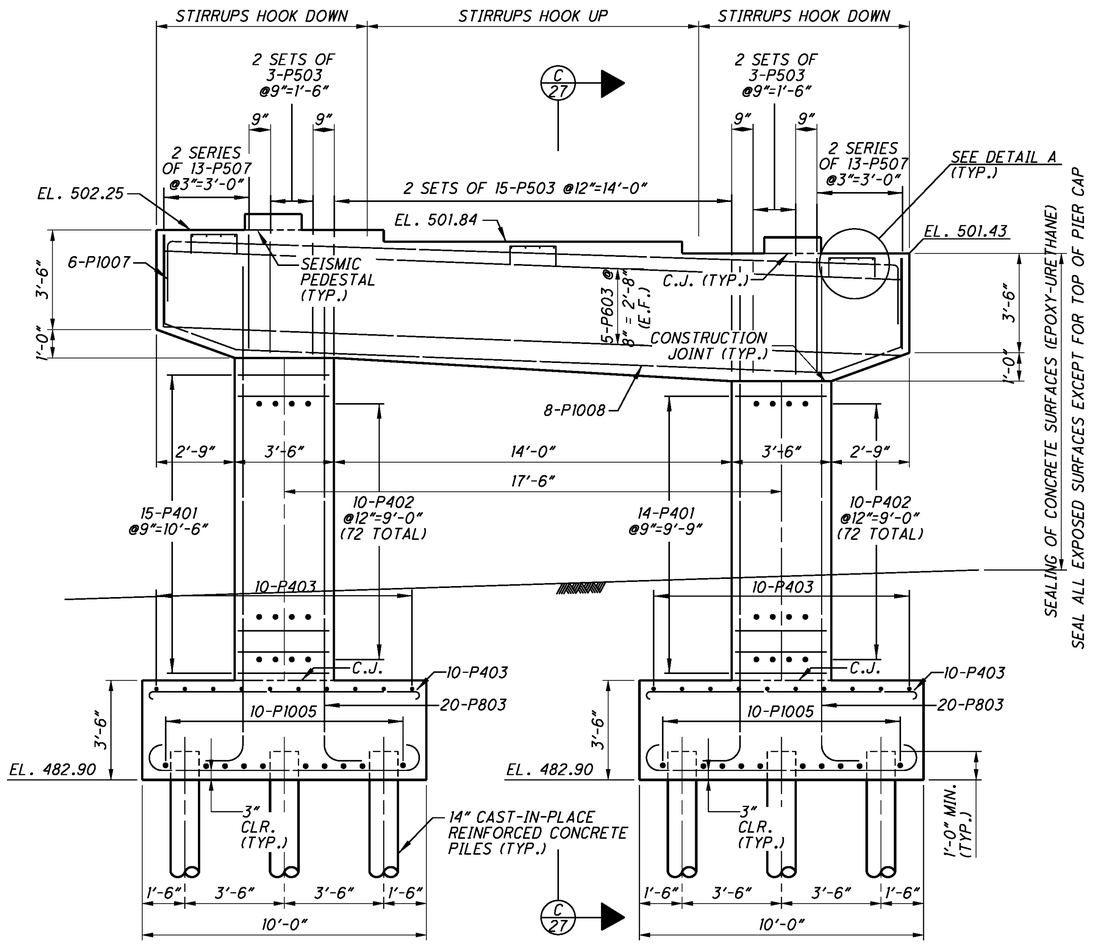
PLAN
BRIDGE NO. HAM-50-1903 R



F/27 SECTION NOTE

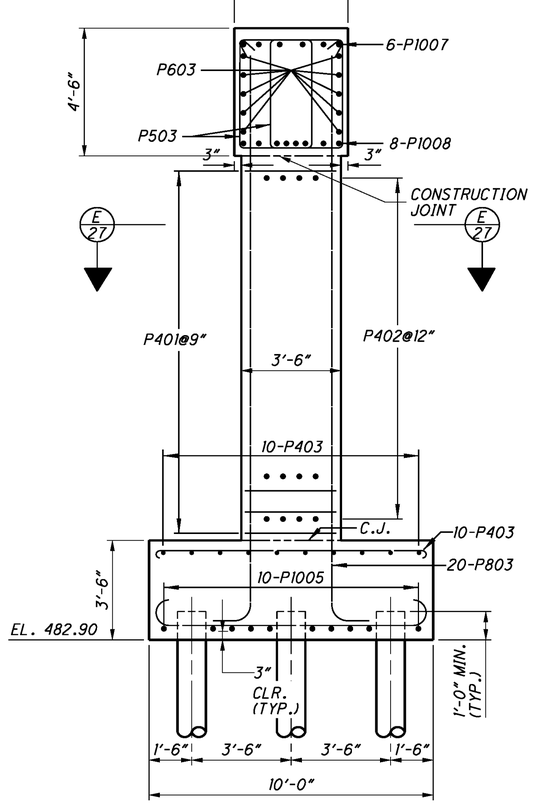


FRONT VIEW OF SEISMIC PEDESTAL

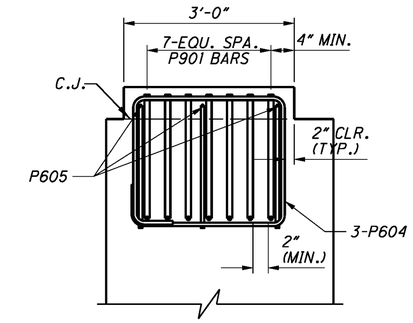


ELEVATION
BRIDGE NO. HAM-50-1903 R

SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
SEAL ALL EXPOSED SURFACES EXCEPT FOR TOP OF PIER CAP



C/24 C/27 SECTION



G/27 SECTION

NOTES:
1. THE CORNER WITH THE 135° BENDS OF THE CLOSED TYPE STIRRUP SHALL BE PLACED IN THE COMPRESSION ZONE OF THE CONCRETE PIER CAP.
2. 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. FOR ADDITIONAL DETAILS ON ANCHOR DOWELS, SEE SHEET 39/65.

DESIGN AGENCY
KZF DESIGN
Architecture | Engineering | Interiors | Planning

CINCINNATI, OHIO 45202
TEL 513.421.6211 FAX 513.421.3830 WEB www.kzf.com

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DEF	RBK	BMB	11-29-10
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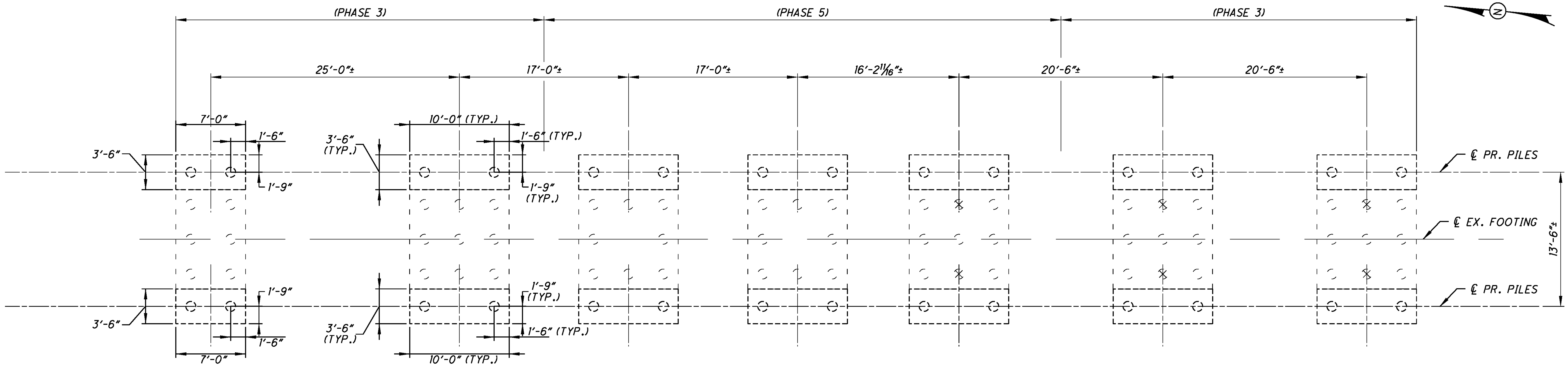
DAT		3102807/3102815	

PIER 1 DETAILS
BRIDGE HAM-50-1903 R
OVER VACANT LAND

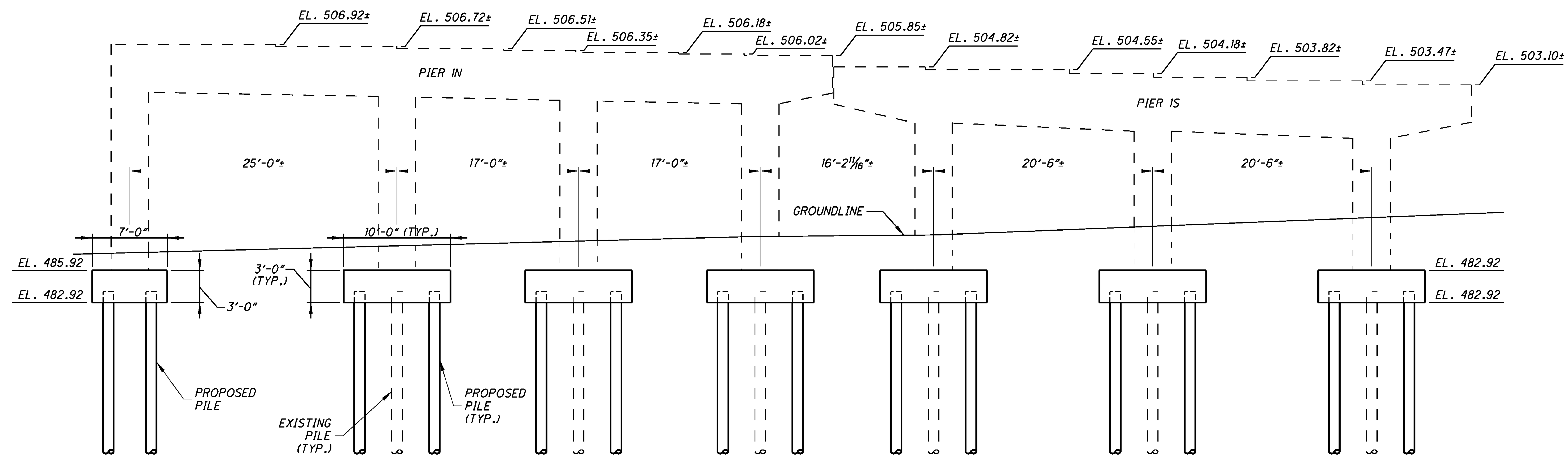
HAM-50-18.79
PID No. 20082

27 / 65

551 / 657



PLAN
BRIDGE NO. HAM-50-1903 L/R



ELEVATION
BRIDGE NO. HAM-50-1903 L/R

NOTES:
1. PROPOSED PILES SHALL BE 12" CAST-IN-PLACE REINFORCED CONCRETE PILES

DESIGN AGENCY
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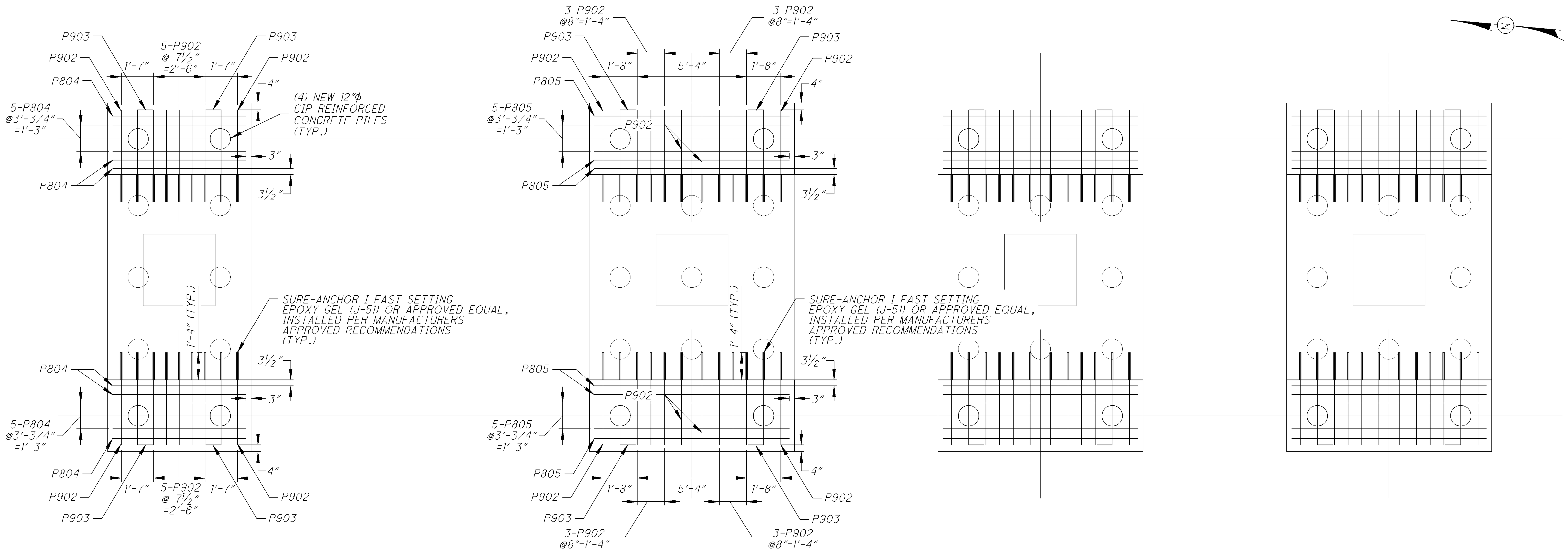
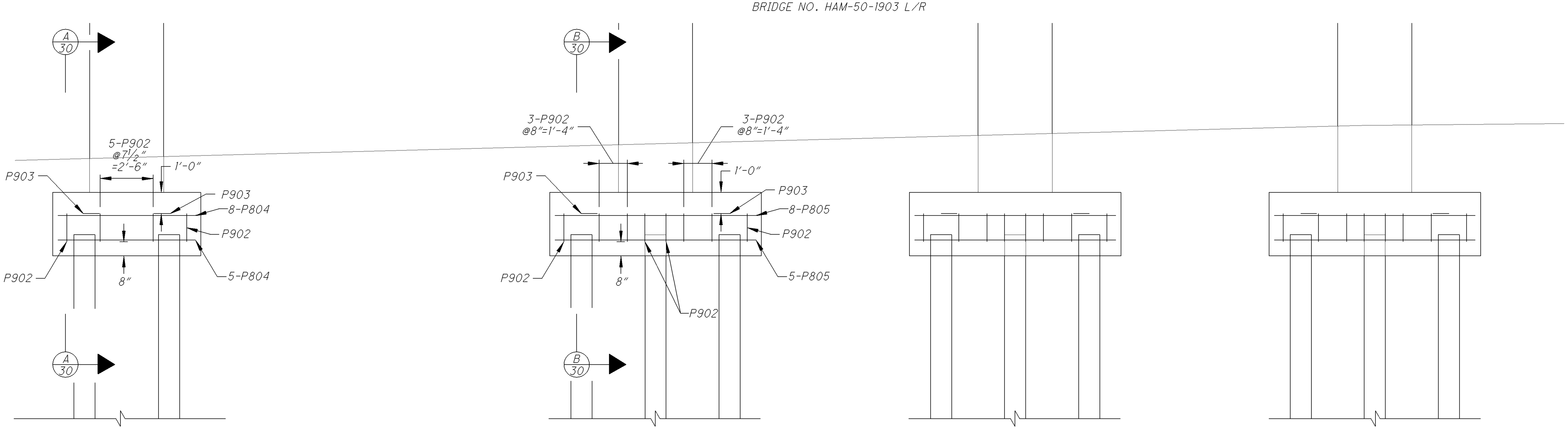
PIER IN/IS DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082



TYPICAL FOR 3 SECTIONS

PLAN
BRIDGE NO. HAM-50-1903 L/R



TYPICAL FOR 3 SECTIONS

ELEVATION
BRIDGE NO. HAM-50-1903 L/R

NOTES:
1. PROPOSED PILES SHALL BE 12" CAST-IN-PLACE REINFORCED CONCETE PILES

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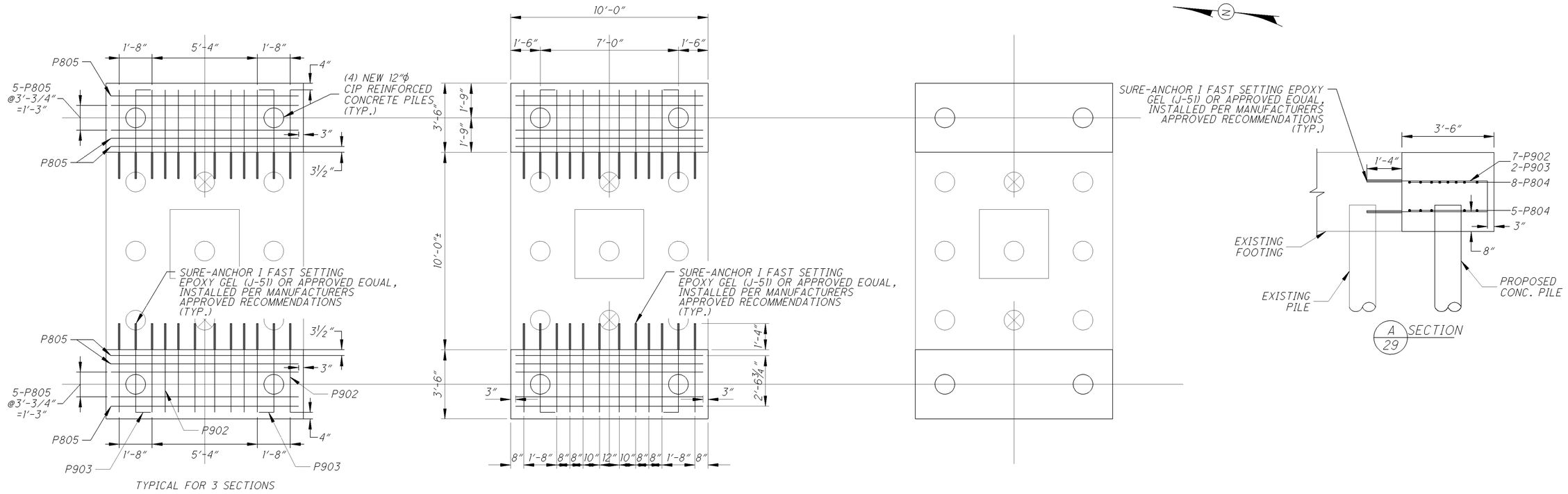
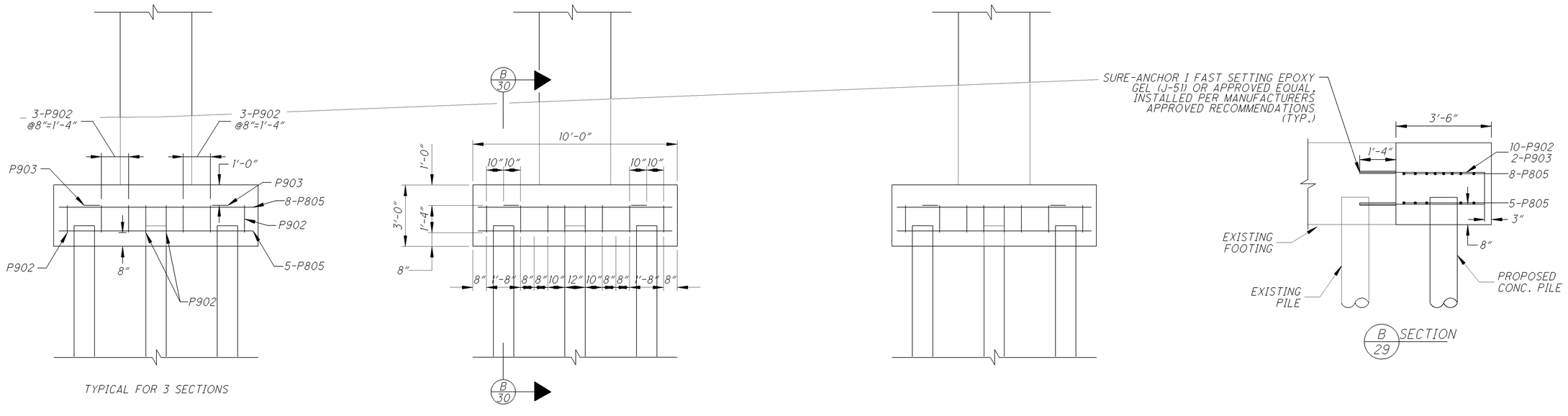
PIER IN/IS DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082





NOTES:

1. PROPOSED PILES SHALL BE 12" CAST-IN-PLACE REINFORCED CONCETE PILES

DESIGN AGENCY
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Architecture | Engineering | Interiors | Planning
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TEL 513.621.6211 FAX 513.621.8630 WEB www.kzfdesign.com

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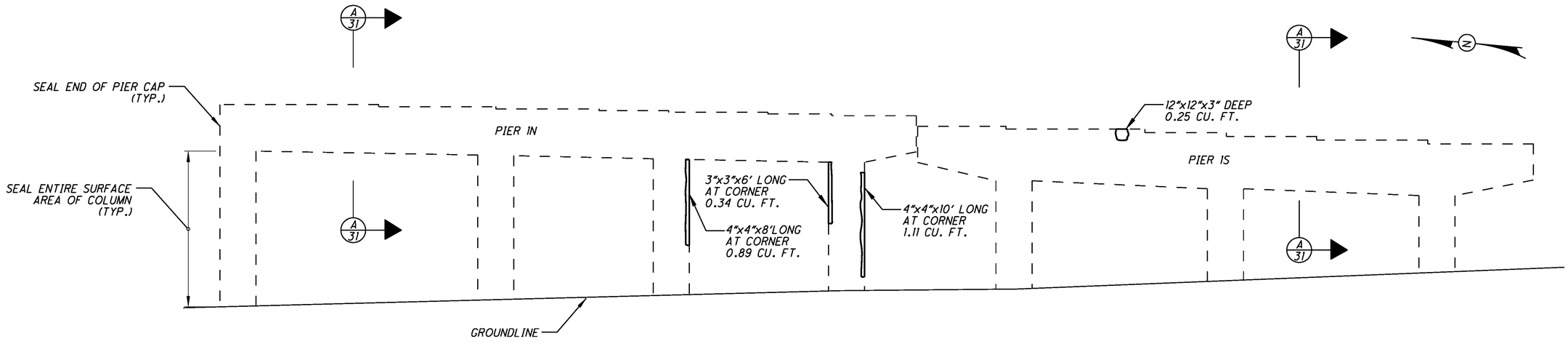
PIER IN/IS DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

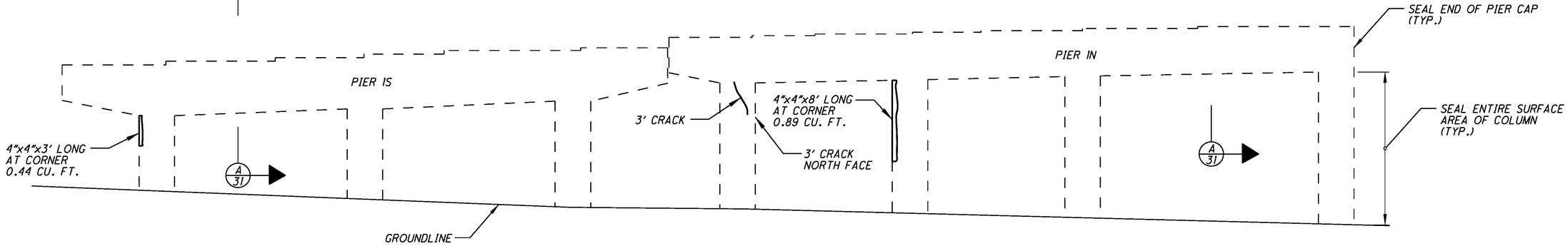
30 / 65

554
657



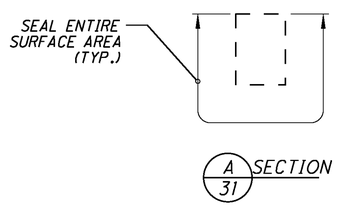
PIER IN
(LOOKING EAST)

PIER IS
(LOOKING EAST)



PIER IS
(LOOKING WEST)

PIER IN
(LOOKING WEST)



NOTES:

1. CONCRETE SEALER SHALL BE EPOXY-URETHANE AND SHALL BE INCLUDED WITH ITEM 512 SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) FOR PAYMENT
2. PATCH CONCRETE WITH TROWABLE MORTAR AS DETERMINED BY ODOT CONSTRUCTION ENGINEER. PAYMENT SHALL BE INCLUDED WITH ITEM 519 PATCHING CONCRETE STRUCTURE.
3. EPOXY INJECT ALL CRACKS AS DETERMINED BY ODOT CONSTRUCTION ENGINEER. PAYMENT SHALL BE INCLUDED WITH ITEM 519 PATCHING CONCRETE STRUCTURE.

DESIGN AGENCY
KZF DESIGN
Architecture | Engineering | Interiors | Planning
4270 Ivy Pointe Blvd., Suite 225, Cincinnati, OH 45245
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DEF	RBK	BMB	11-29-10
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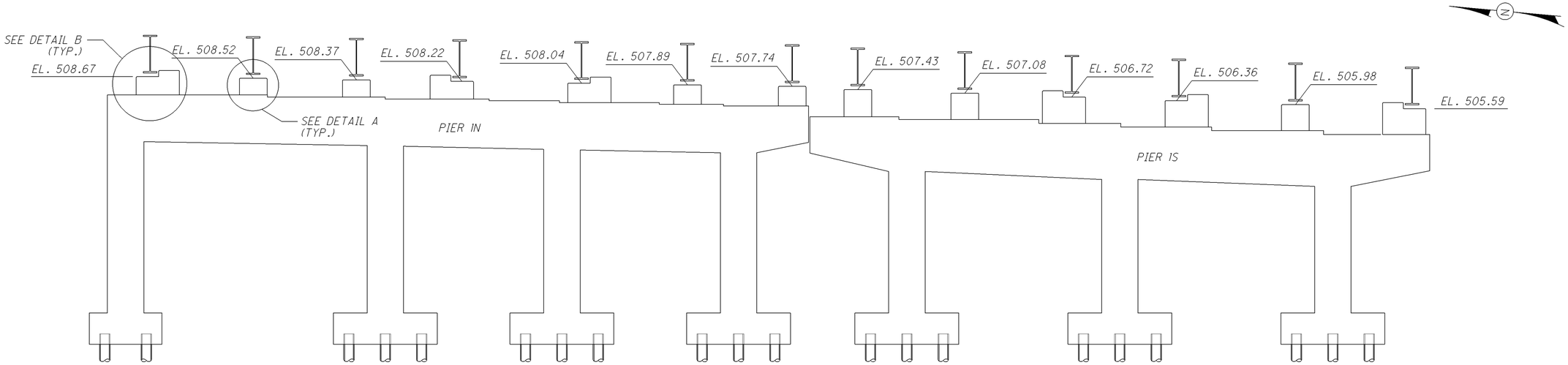
PIER IN/IS DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

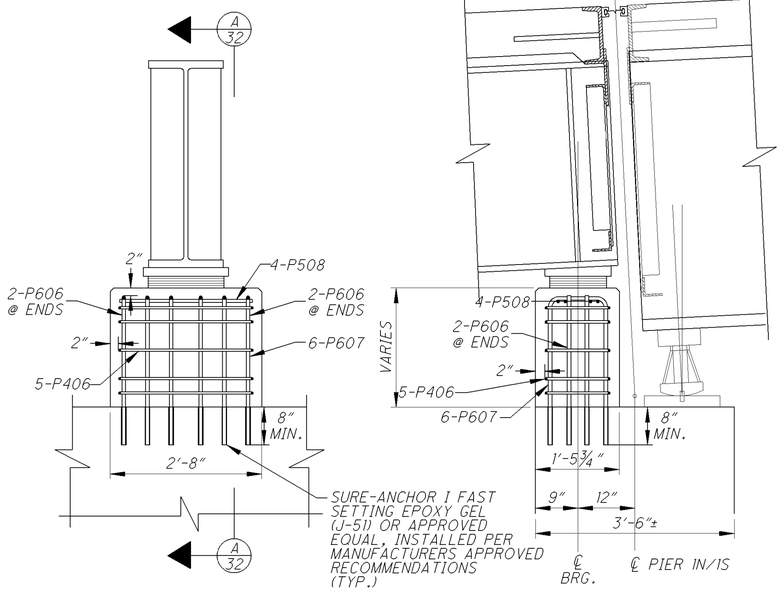
HAM-50-18.79
PID No. 20082

31 / 65

555
657

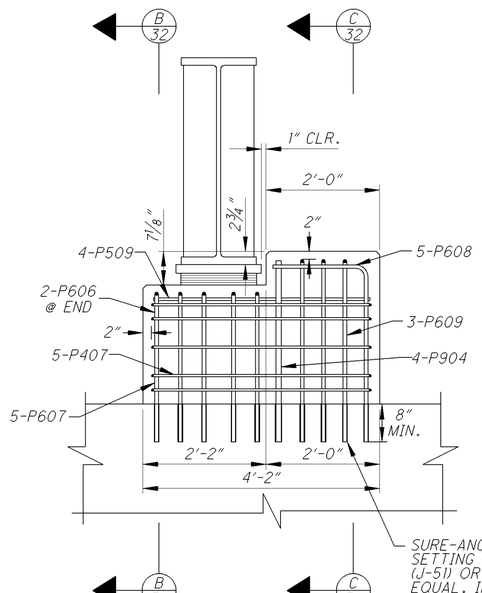


ELEVATION
BRIDGE NO. HAM-50-1903 L/R

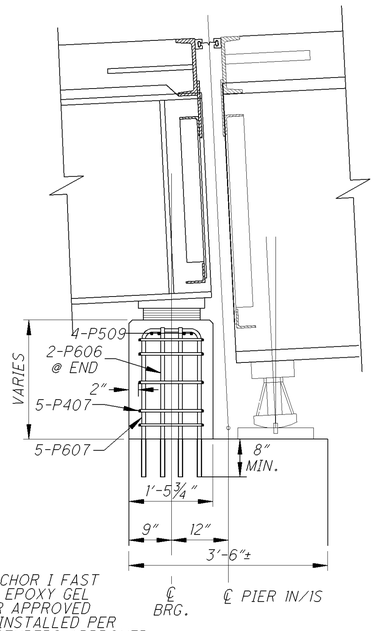


DETAIL A
BEAM SEAT PEDESTAL

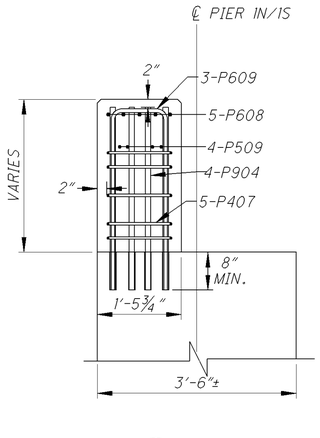
A
32
SECTION



DETAIL B
BEAM SEAT/SEISMIC PEDESTAL



B
32
SECTION



C
32
SECTION

DESIGN AGENCY
KZFDESIGN
Architecture | Engineering | Interiors | Planning
437 Grant Street, Suite 1501, Pittsburgh, PA 15219
TEL. 412.921.8211 FAX 412.921.8606 WEB www.kzfdesign.com

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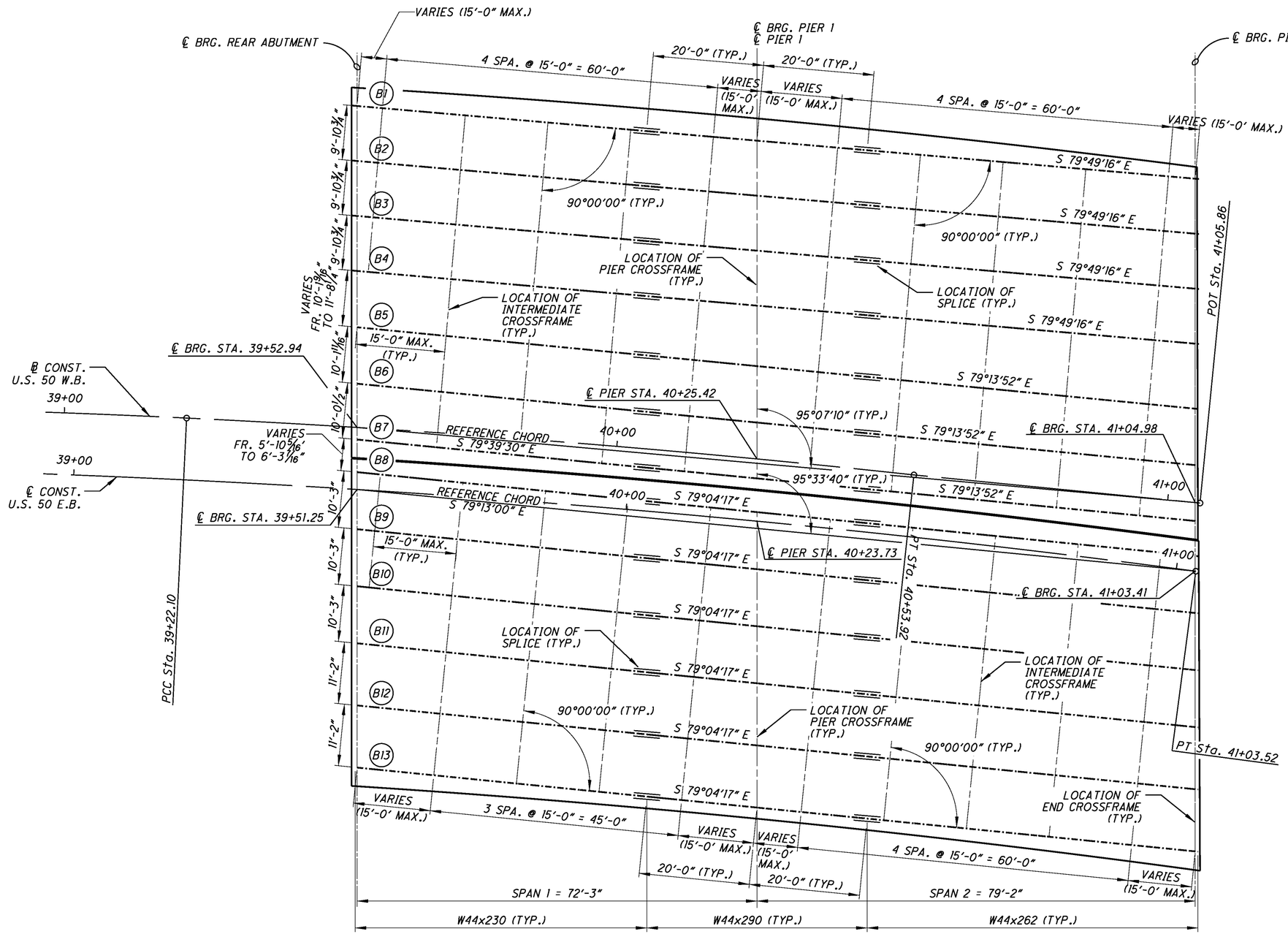
PIER IN/IS DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

32 / 65

556
657



BEAM LENGTHS	
BEAM 1	153'-7⅞"
BEAM 2	153'-7⅞"
BEAM 3	153'-7⅞"
BEAM 4	153'-7⅞"
BEAM 5	153'-9⅝"
BEAM 6	153'-9⅝"
BEAM 7	153'-9⅝"
BEAM 8	153'-10⅛"
BEAM 9	153'-10⅛"
BEAM 10	153'-10⅛"
BEAM 11	153'-10⅛"
BEAM 12	153'-10⅛"
BEAM 13	153'-10⅛"

NOTES:
1. SEE SHEET 37/65 FOR CROSSFRAME DETAILS.
2. THE CONTRACTOR HAS THE OPTION TO SUBSTITUTE THE W44 ROLLED BEAMS WITH A PLATE GIRDER OF SIMILAR PROPERTIES. ALL COST TO MAKE THE SUBSTITUTION SHOULD BE BORNE BY THE CONTRACTOR AT NO COST TO THE STATE. ALL DESIGN CALCULATIONS, RATING AND ASSOCIATED CAD PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE SIGNED AND SEALED BY AN OHIO PROFESSIONAL ENGINEER. THIS SUBSTITUTION SHALL ALSO BE AGREED UPON WITH THE APPROVAL OF THE ENGINEER.

FRAMING PLAN
BRIDGE NO. HAM-50-1903 L/R

DESIGN AGENCY
KZF DESIGN
Architecture | Engineering | Interiors | Planning
425 Metro Place North, Suite 300, Dublin, Ohio 43017
TEL 513.421.6211 FAX 513.421.3830 WEB www.kzf.com

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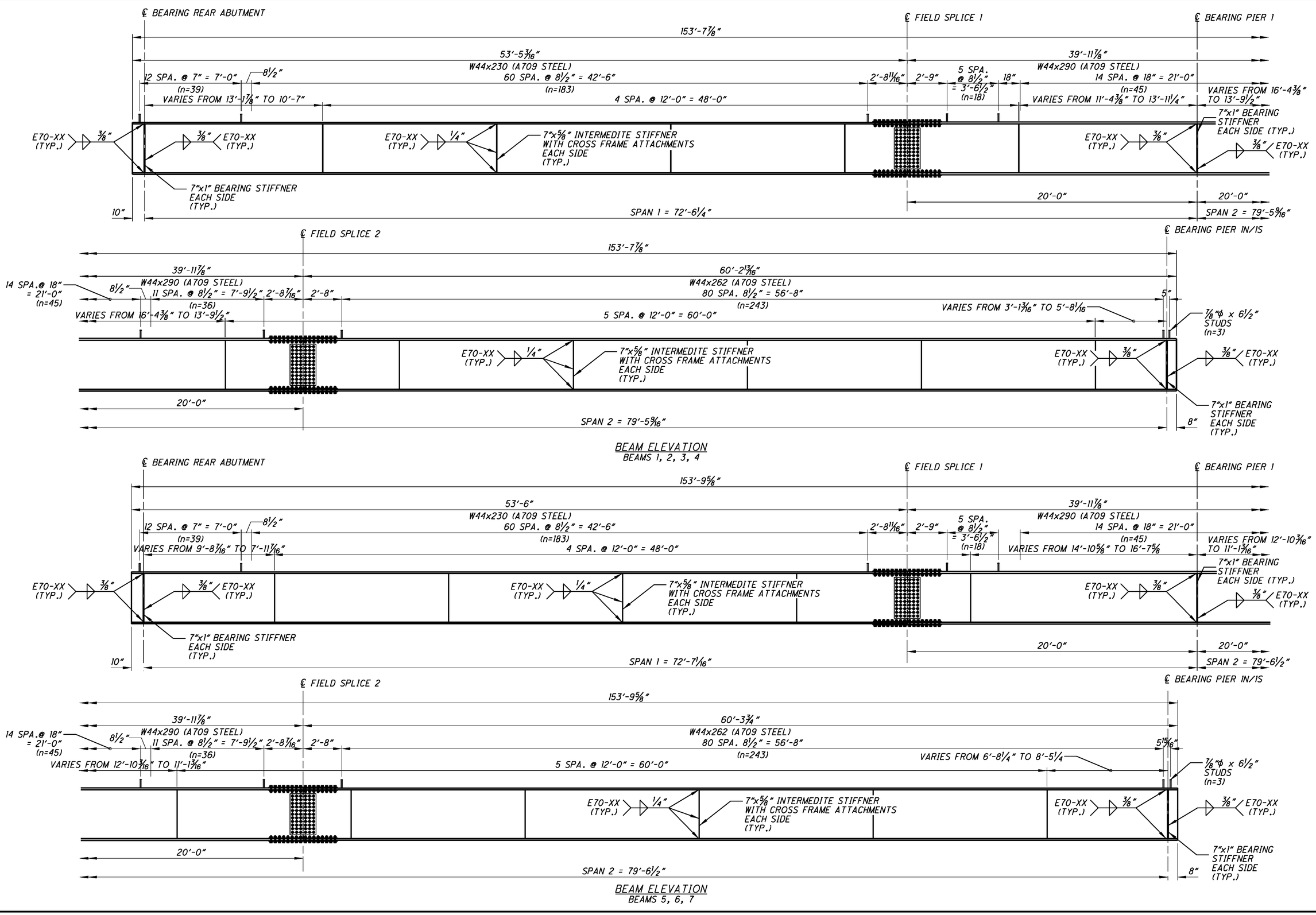
FRAMING PLAN
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

33 / 65

557 / 657



DESIGN AGENCY
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428 Main Street, Suite 100, Cincinnati, Ohio 45202
TEL 513.421.4211 FAX 513.421.3830 WEB www.kzf.com

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BEAM ELEVATION
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

34 / 65

558
657

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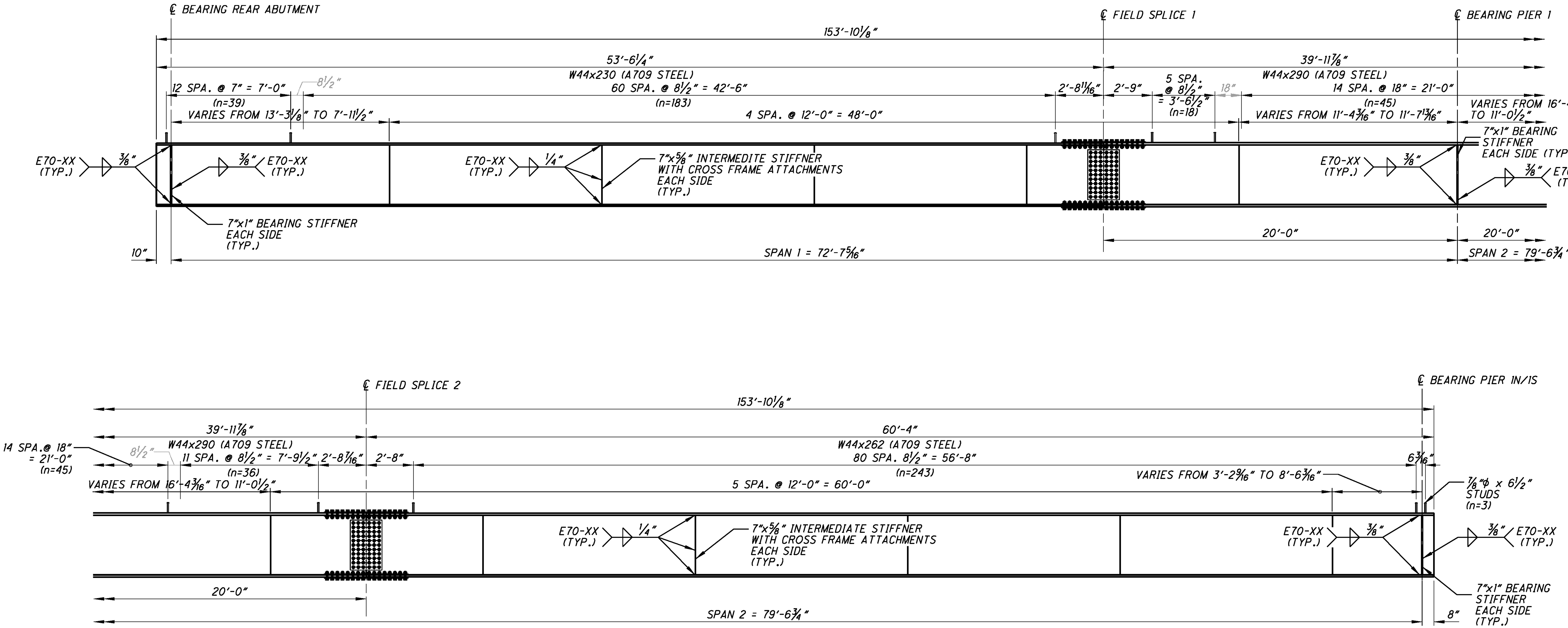
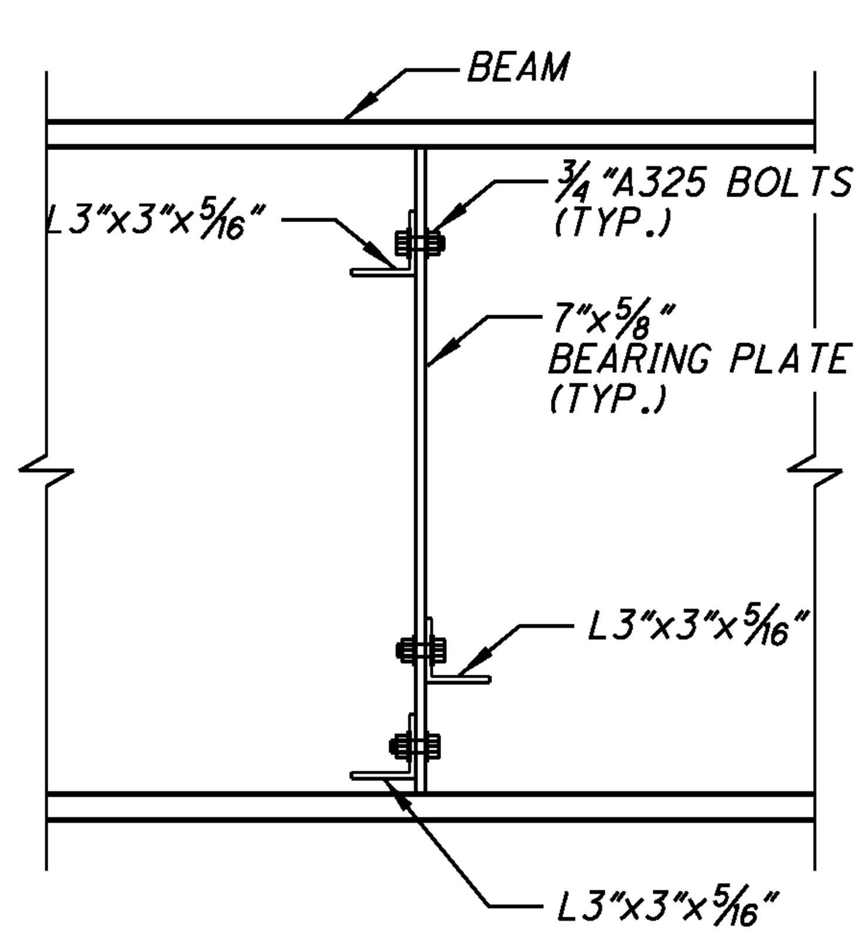
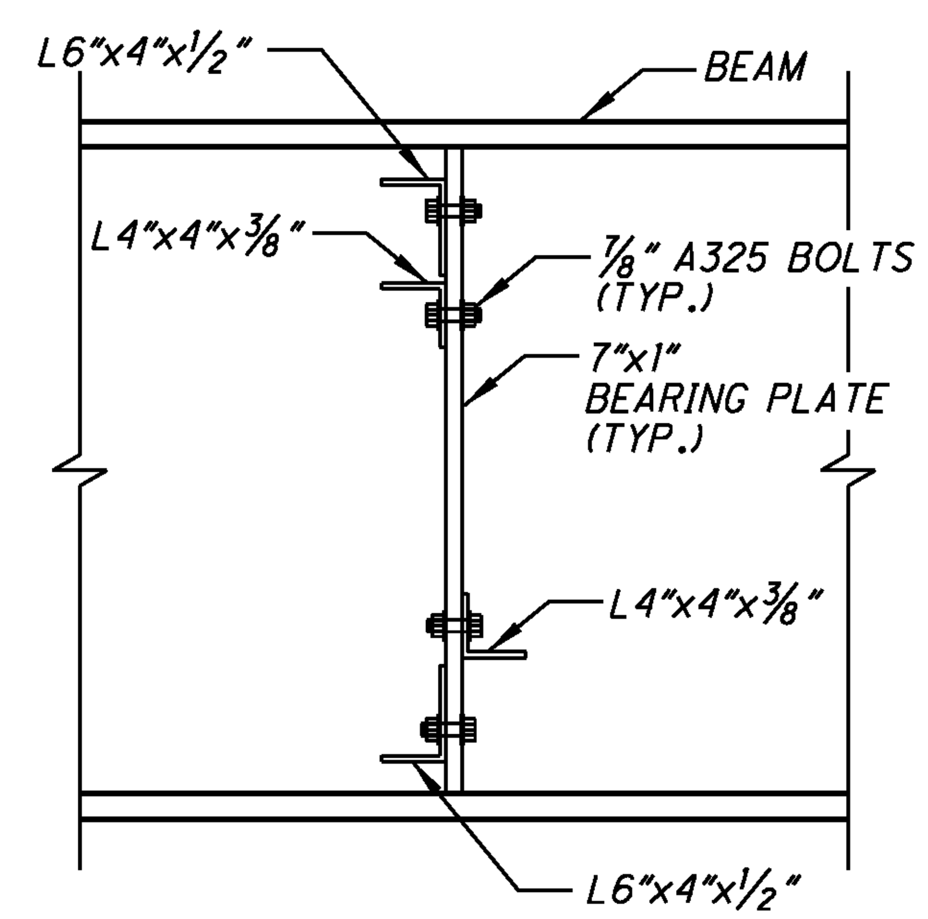


BEAM ELEVATION
BEAMS 8, 9, 10, 11, 12, 13



(A/37) INTERMEDIATE CROSSFRAME SECTION



(B/37) PIER 1 CROSSFRAME SECTION

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BEAM ELEVATION
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

35/65

559/657

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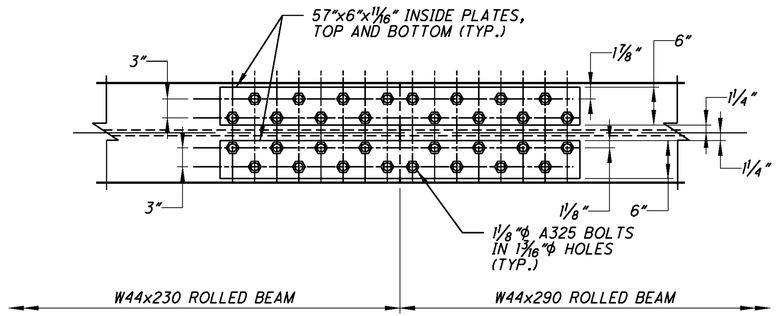
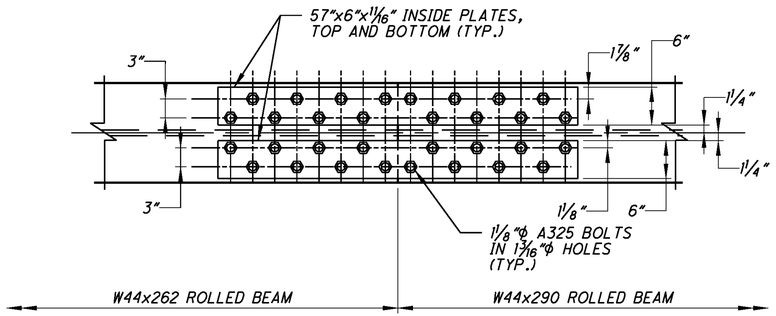
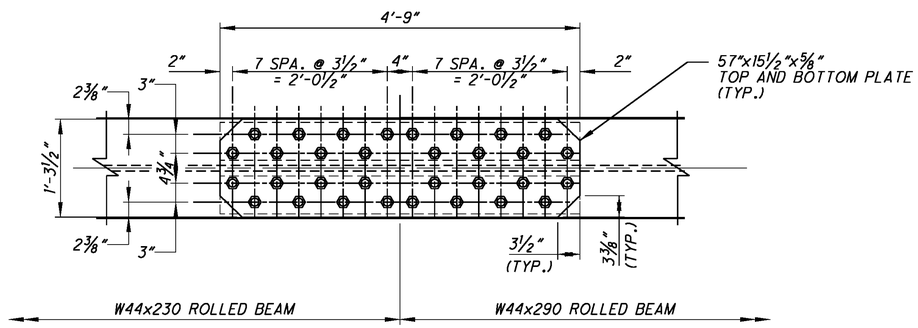


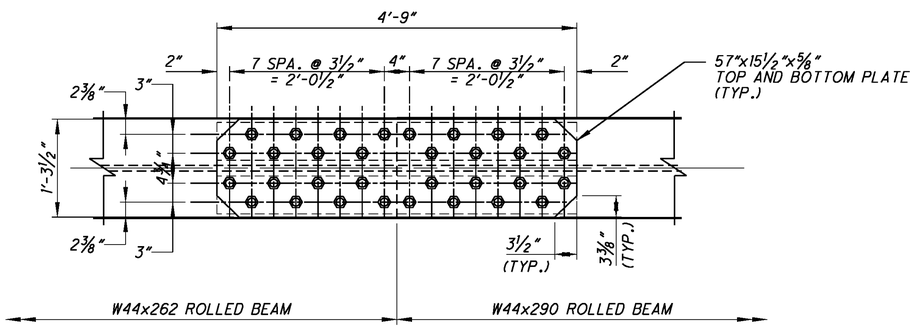
W44x230 - W44x290 PLAN
INSIDE FLANGE PLATES



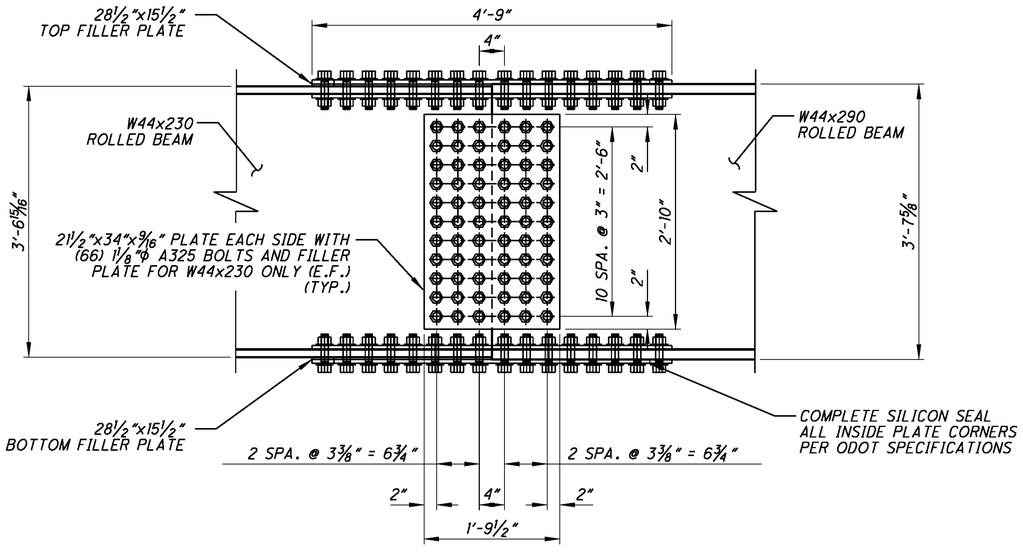
W44x262 - W44x290 PLAN
INSIDE FLANGE PLATES



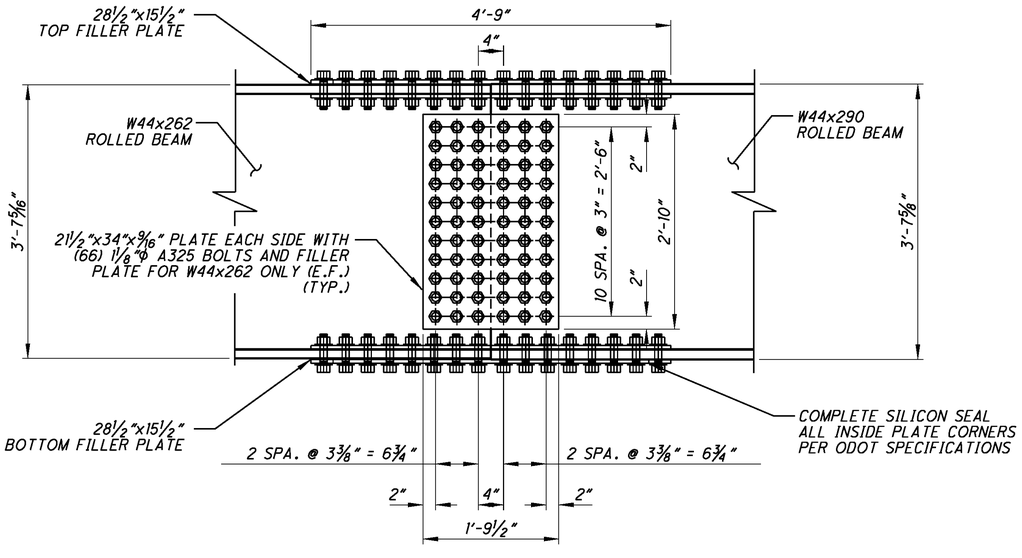
W44x230 - W44x290 PLAN
OUTSIDE FLANGE PLATES



W44x262 - W44x290 PLAN
OUTSIDE FLANGE PLATES



W44x230 - W44x290 ELEVATION



W44x262 - W44x290 ELEVATION

DESIGN AGENCY
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TEL 513.421.6211 FAX 513.421.3830 WEB www.kzf.com

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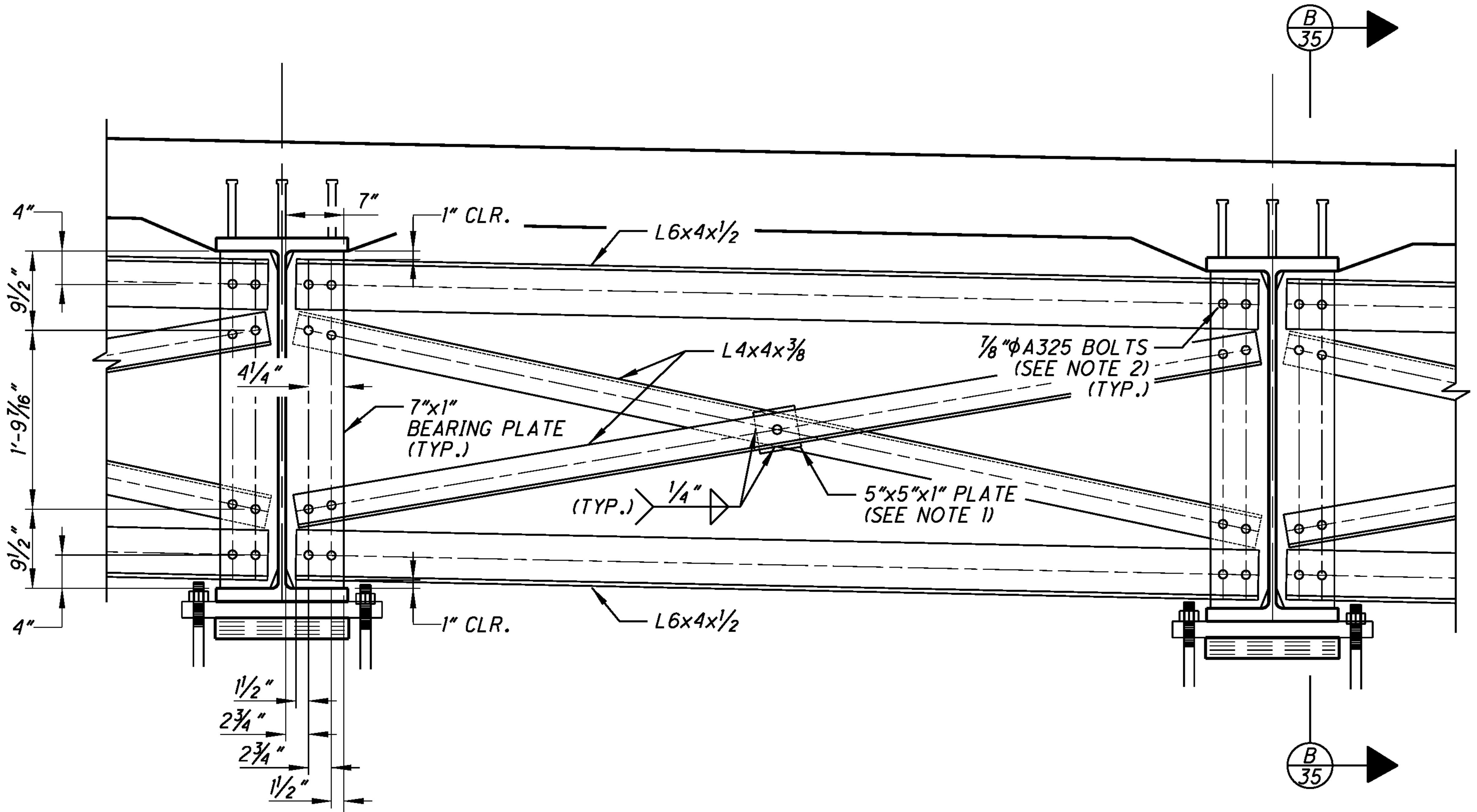
BEAM SPLICE DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

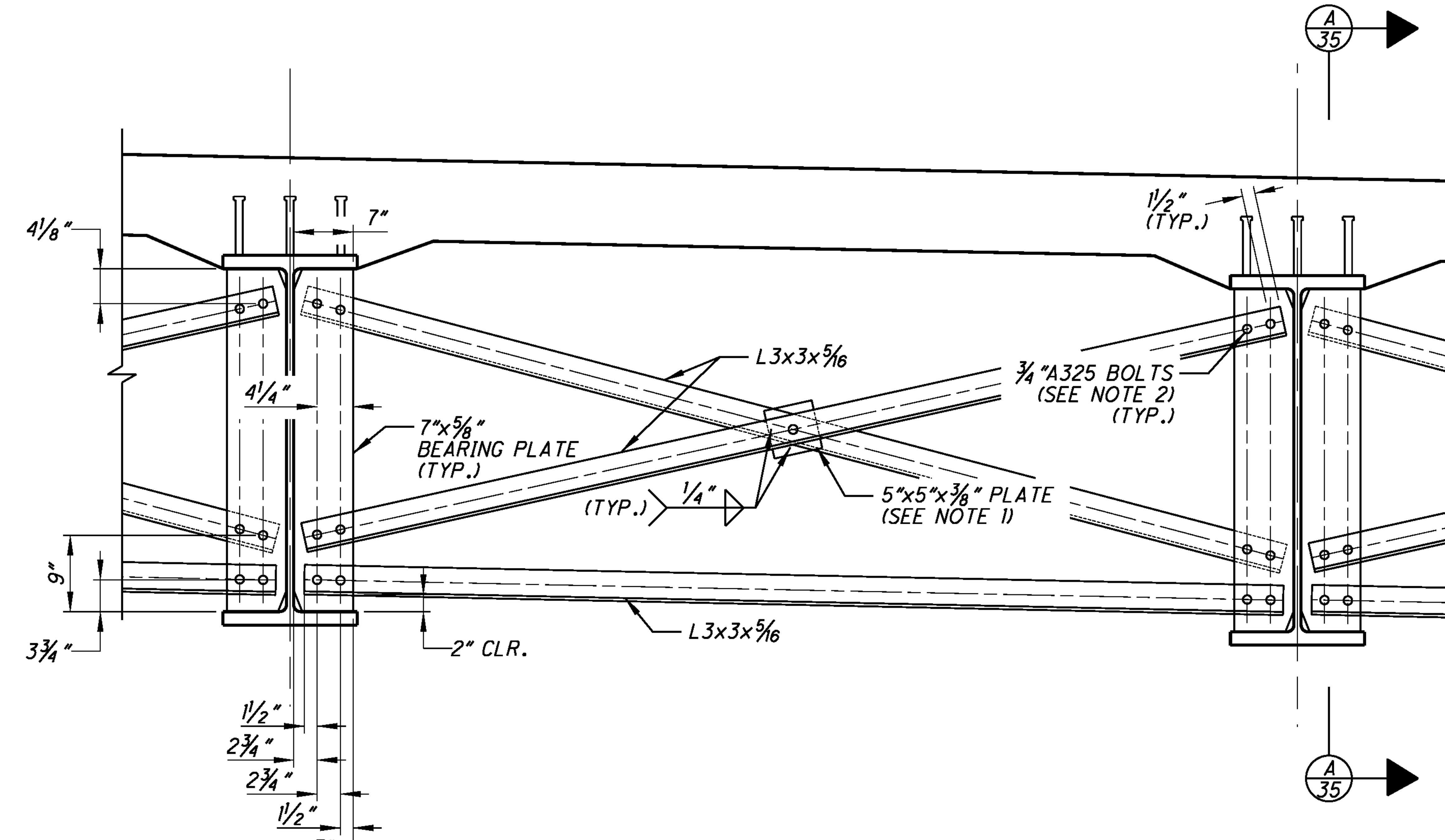
HAM-50-18.79
PID No. 20082

36 / 65

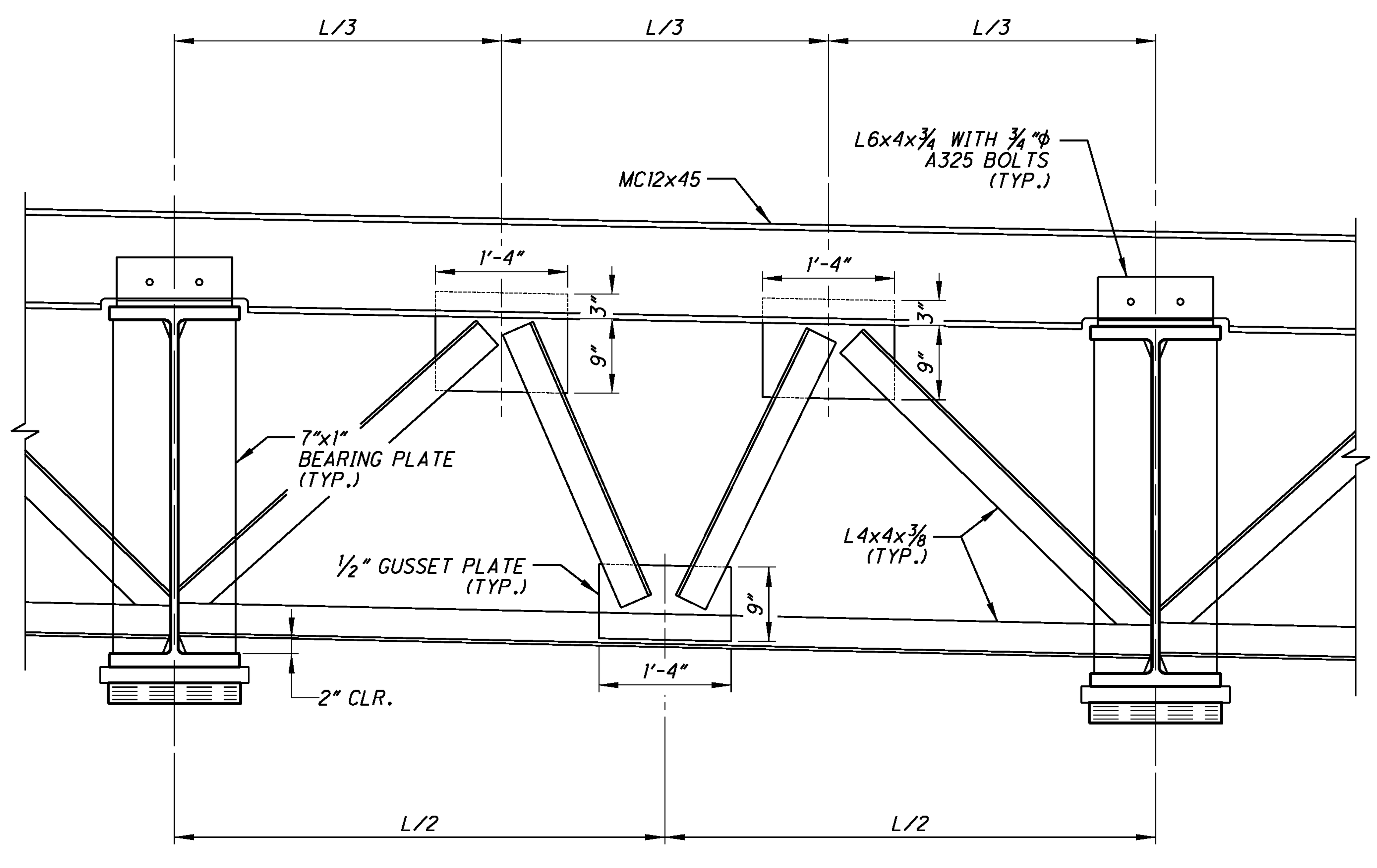
560 / 657



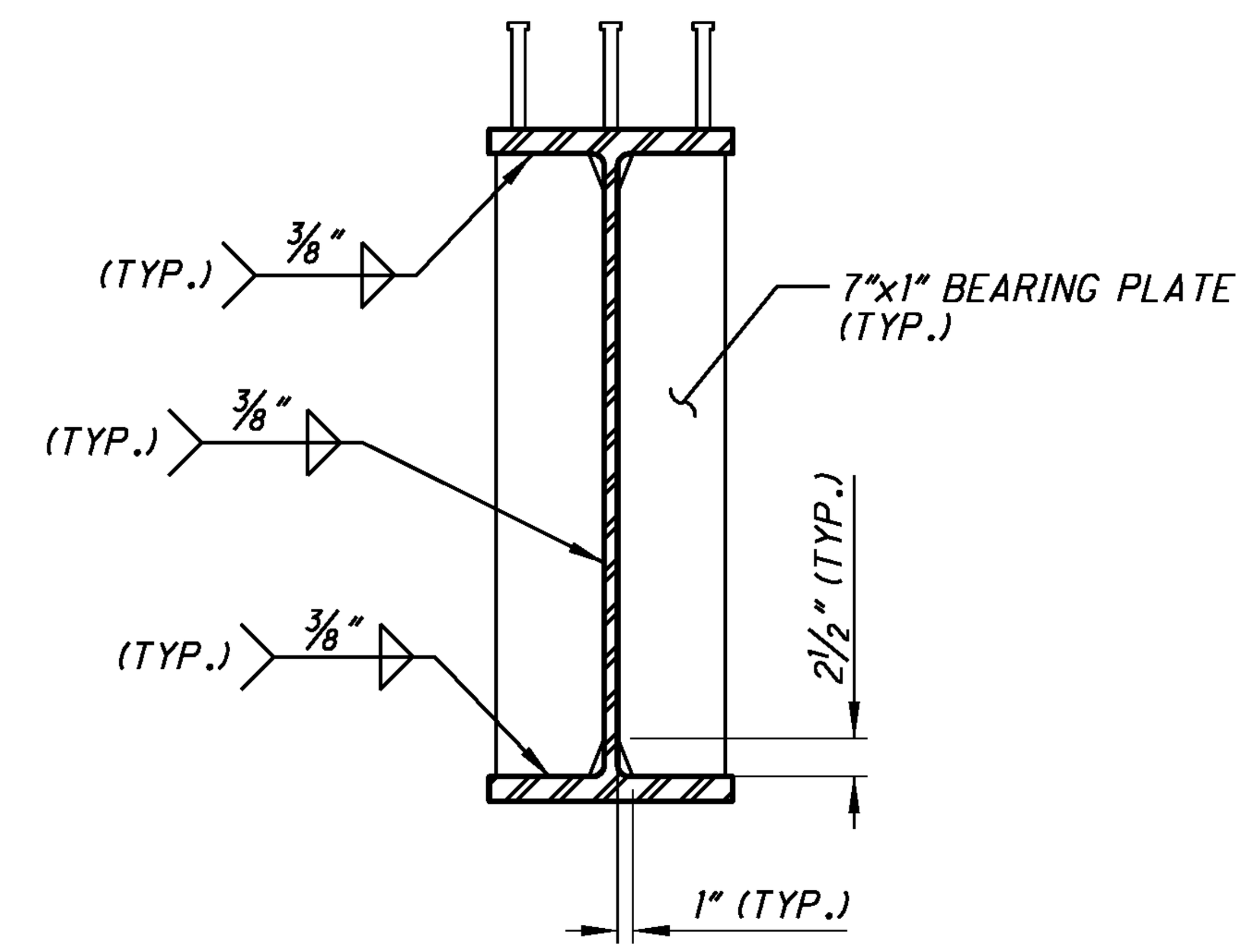
TYPICAL PIER 1 CROSSFRAME



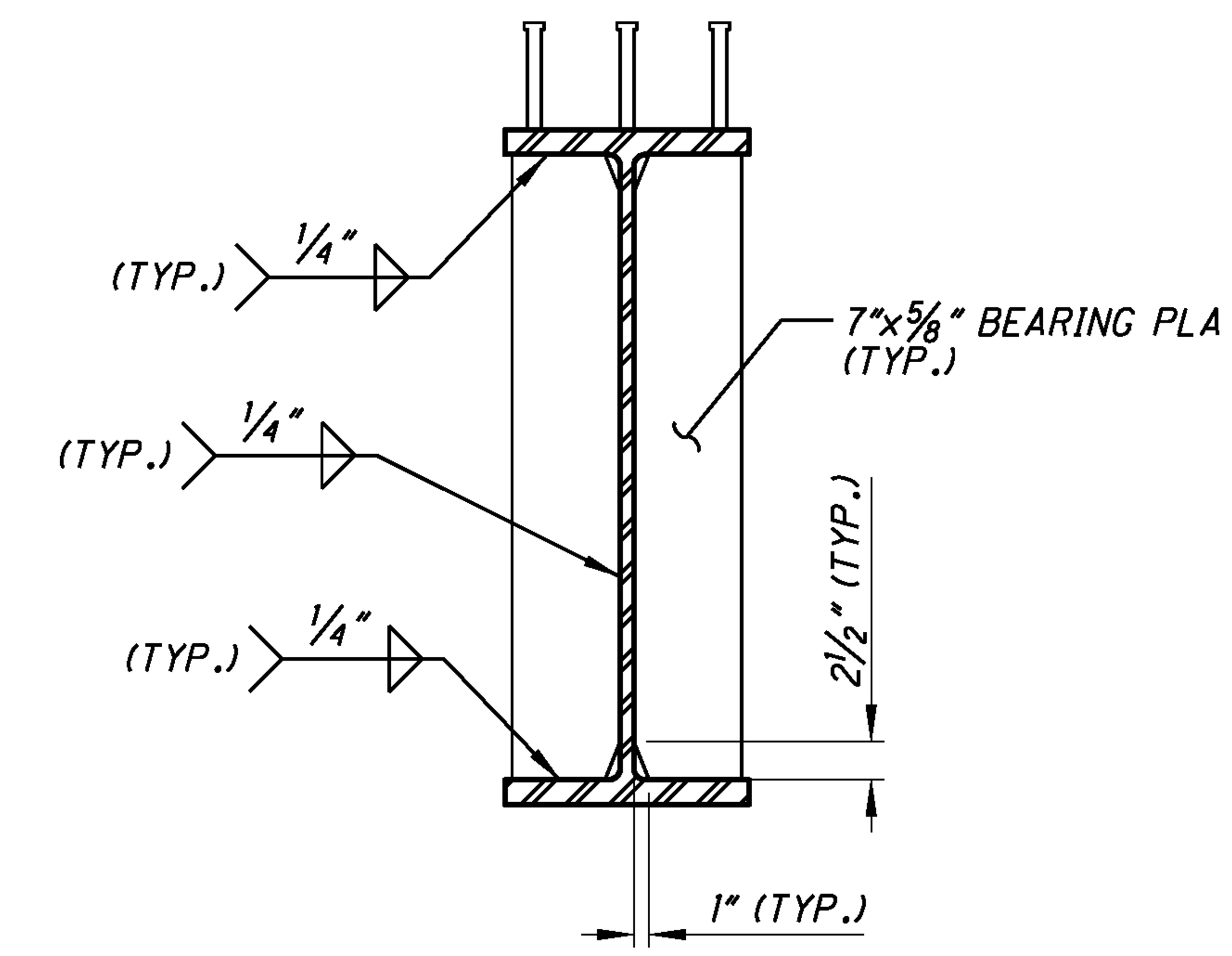
TYPICAL INTERMEDIATE CROSSFRAME



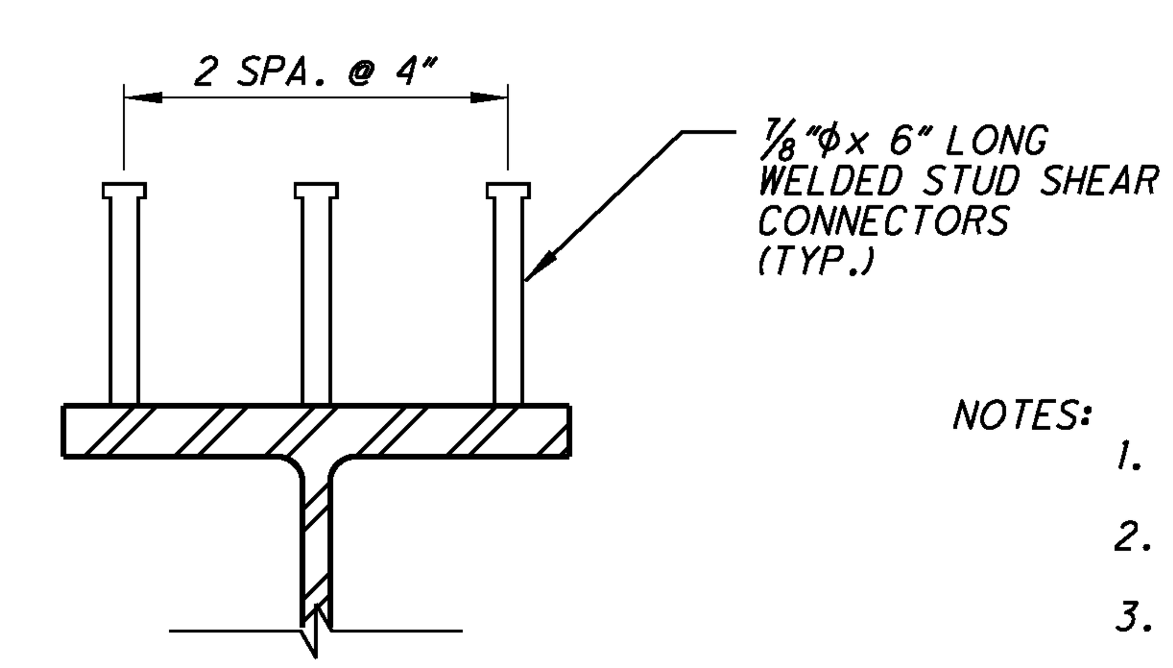
TYPICAL END CROSSFRAME



BEARING STIFFENER



INTERMEDIATE STIFFENER WITH CROSSFRAMES



BEAM SHEAR CONNECTOR DETAIL

NOTES:

1. FILLER PLATE WELDED TO NEAR SIDE ANGLE BACK WITH 1 1/16" HOLE FOR 7/8"φ A325 BOLTS IN BOTH ANGLES
2. PROVIDE 15/16"φ HOLE IN BEARING PLATE AND 1"φ HOLE IN ANGLE FOR 7/8"φ A325 BOLTS
3. PROVIDE 13/16"φ HOLE IN BEARING PLATE AND 7/8"φ HOLE IN ANGLE FOR 3/4"φ A325 BOLTS
4. ALL STEEL MATERIAL SHALL BE MINIMUM ASTM A709 - GRADE 50
5. FOR ADDITIONAL INFORMATION, SEE ODOT STANDARD DRAWINGS GSD-1-96 AND EXJ-4-87
6. ALL 7/8"φ AND 3/4"φ BOLTS SHALL BE TYPE 1 GALVANIZED BOLTS

DESIGN AGENCY KZF DESIGN

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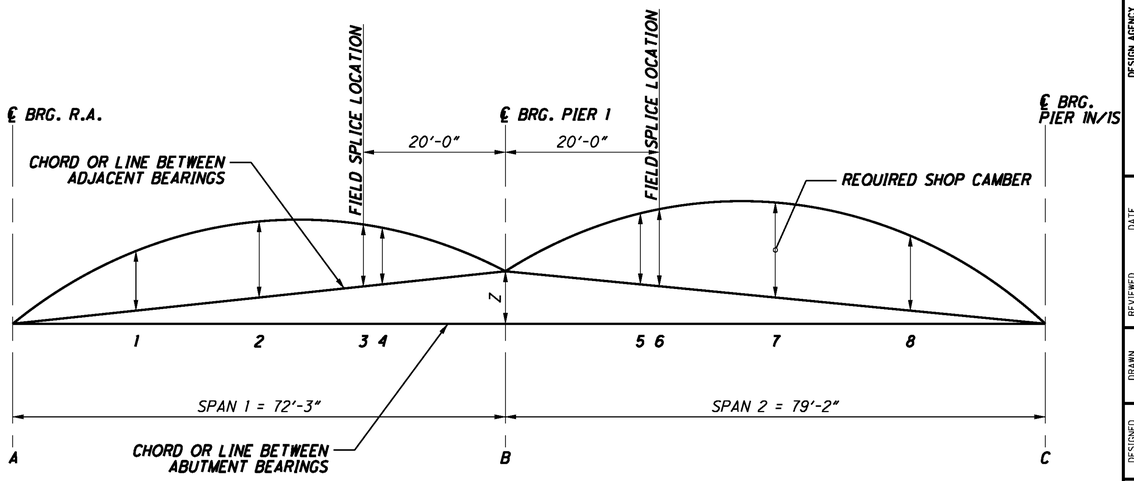
BEAM DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

DEFLECTION AND CAMBER TABLE (IN.)

		SPAN 1					SPAN 2					
	LOCATION	A	1	2	3	4	B	5	6	7	8	C
BEAM 1	DEFLECTION DUE TO WEIGHT OF STEEL	0	1/8	1/8	1/16	1/16	0	3/16	3/16	3/16	3/16	0
	DEFLECTION DUE TO WEIGHT OF SLAB	0	5/16	3/8	1/8	1/8	0	5/16	5/16	5/8	1/2	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	0
	REQUIRED SHOP CAMBER	0	1/2	9/16	3/16	3/16	0	9/16	9/16	15/16	13/16	0
BEAM 2	DEFLECTION DUE TO WEIGHT OF STEEL	0	1/8	1/8	1/16	1/16	0	3/16	3/16	3/16	3/16	0
	DEFLECTION DUE TO WEIGHT OF SLAB	0	5/16	3/8	1/8	1/8	0	5/16	5/16	5/8	1/2	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	0
	REQUIRED SHOP CAMBER	0	1/2	9/16	3/16	3/16	0	9/16	9/16	15/16	13/16	0
BEAM 3	DEFLECTION DUE TO WEIGHT OF STEEL	0	1/8	1/8	1/16	1/16	0	3/16	3/16	3/16	3/16	0
	DEFLECTION DUE TO WEIGHT OF SLAB	0	5/16	3/8	1/8	1/8	0	5/16	5/16	5/8	1/2	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	0
	REQUIRED SHOP CAMBER	0	1/2	9/16	3/16	3/16	0	9/16	9/16	15/16	13/16	0
BEAM 4	DEFLECTION DUE TO WEIGHT OF STEEL	0	1/8	1/8	1/16	1/16	0	1/8	1/8	1/4	3/16	0
	DEFLECTION DUE TO WEIGHT OF SLAB	0	5/16	3/8	1/8	1/8	0	5/16	5/16	5/8	1/2	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	0
	REQUIRED SHOP CAMBER	0	1/2	9/16	3/16	3/16	0	1/2	1/2	1	13/16	0
BEAM 5	DEFLECTION DUE TO WEIGHT OF STEEL	0	1/8	1/8	1/16	1/16	0	1/8	1/8	1/4	3/16	0
	DEFLECTION DUE TO WEIGHT OF SLAB	0	5/16	3/8	1/8	1/8	0	5/16	5/16	5/8	1/2	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	0
	REQUIRED SHOP CAMBER	0	1/2	9/16	3/16	3/16	0	1/2	1/2	1	13/16	0
BEAM 6	DEFLECTION DUE TO WEIGHT OF STEEL	0	1/8	1/8	1/16	1/16	0	1/8	1/8	3/16	3/16	0
	DEFLECTION DUE TO WEIGHT OF SLAB	0	5/16	3/8	1/8	1/8	0	5/16	5/16	5/8	1/2	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	0
	REQUIRED SHOP CAMBER	0	1/2	9/16	3/16	3/16	0	1/2	1/2	15/16	13/16	0
BEAM 7	DEFLECTION DUE TO WEIGHT OF STEEL	0	1/8	1/8	1/16	1/16	0	1/8	1/8	3/16	3/16	0
	DEFLECTION DUE TO WEIGHT OF SLAB	0	5/16	3/8	1/8	1/8	0	5/16	5/16	5/8	1/2	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	0
	REQUIRED SHOP CAMBER	0	1/2	9/16	3/16	3/16	0	1/2	1/2	15/16	13/16	0
BEAM 8	DEFLECTION DUE TO WEIGHT OF STEEL	0	1/8	1/8	1/16	1/16	0	1/8	1/8	1/4	3/16	0
	DEFLECTION DUE TO WEIGHT OF SLAB	0	5/16	3/8	1/8	1/8	0	5/16	5/16	5/8	1/2	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	0	0	0	0	0	0	0	1/16	1/16	0
	REQUIRED SHOP CAMBER	0	7/16	1/2	3/16	3/16	0	7/16	7/16	15/16	3/4	0
BEAM 9	DEFLECTION DUE TO WEIGHT OF STEEL	0	1/8	1/8	1/16	1/16	0	1/8	1/8	1/4	3/16	0
	DEFLECTION DUE TO WEIGHT OF SLAB	0	5/16	3/8	1/8	1/8	0	5/16	5/16	5/8	1/2	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	0	0	0	0	0	0	0	1/16	1/16	0
	REQUIRED SHOP CAMBER	0	7/16	1/2	3/16	3/16	0	7/16	7/16	15/16	3/4	0
BEAM 10	DEFLECTION DUE TO WEIGHT OF STEEL	0	1/8	1/8	1/16	1/16	0	1/8	1/8	1/4	3/16	0
	DEFLECTION DUE TO WEIGHT OF SLAB	0	5/16	3/8	1/8	1/8	0	5/16	5/16	5/8	1/2	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	0	0	0	0	0	0	0	1/16	1/16	0
	REQUIRED SHOP CAMBER	0	7/16	1/2	3/16	3/16	0	7/16	7/16	15/16	3/4	0
BEAM 11	DEFLECTION DUE TO WEIGHT OF STEEL	0	1/8	1/8	1/16	1/16	0	1/8	1/8	1/4	3/16	0
	DEFLECTION DUE TO WEIGHT OF SLAB	0	5/16	3/8	1/8	1/8	0	5/16	5/16	5/8	1/2	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	0	0	0	0	0	0	0	1/16	1/16	0
	REQUIRED SHOP CAMBER	0	7/16	1/2	3/16	3/16	0	7/16	7/16	15/16	3/4	0
BEAM 12	DEFLECTION DUE TO WEIGHT OF STEEL	0	1/8	3/16	1/16	1/16	0	1/8	1/8	1/4	1/4	0
	DEFLECTION DUE TO WEIGHT OF SLAB	0	5/16	3/8	1/8	1/8	0	5/16	5/16	5/8	1/2	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	0	0	0	0	0	0	0	1/16	1/16	0
	REQUIRED SHOP CAMBER	0	7/16	9/16	3/16	3/16	0	7/16	7/16	15/16	13/16	0
BEAM 13	DEFLECTION DUE TO WEIGHT OF STEEL	0	1/8	3/16	1/16	1/16	0	1/8	1/8	1/4	1/4	0
	DEFLECTION DUE TO WEIGHT OF SLAB	0	5/16	3/8	1/8	1/8	0	5/16	5/16	5/8	1/2	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	0	0	0	0	0	0	0	1/16	1/16	0
	REQUIRED SHOP CAMBER	0	7/16	9/16	3/16	3/16	0	7/16	7/16	15/16	13/16	0



CAMBER DIAGRAM

NOTE
SPAN 1 IS DIVIDED INTO 4 EQUAL INCREMENTS OF 18'-0¾"
& SPAN 2 IS DIVIDED INTO 4 EQUAL INCREMENTS OF 19'-9½".

BLOCKING TABLE (IN.)	
BEAM NUMBER	Z
1	2 3/16
2	2 1/2
3	2 5/8
4	2 7/16
5	2 9/16
6	2 5/8
7	2 3/4
8	2
9	2 1/16
10	2 1/16
11	2 1/16
12	2 1/16
13	2 1/8

DESIGN AGENCY
KZF DESIGN
Architecture | Engineering | Interiors | Planning
4601 Madison, Suite 300, Kansas City, Missouri 64112
TEL 913.621.6211 FAX 913.621.9830 WEB www.kzf.com

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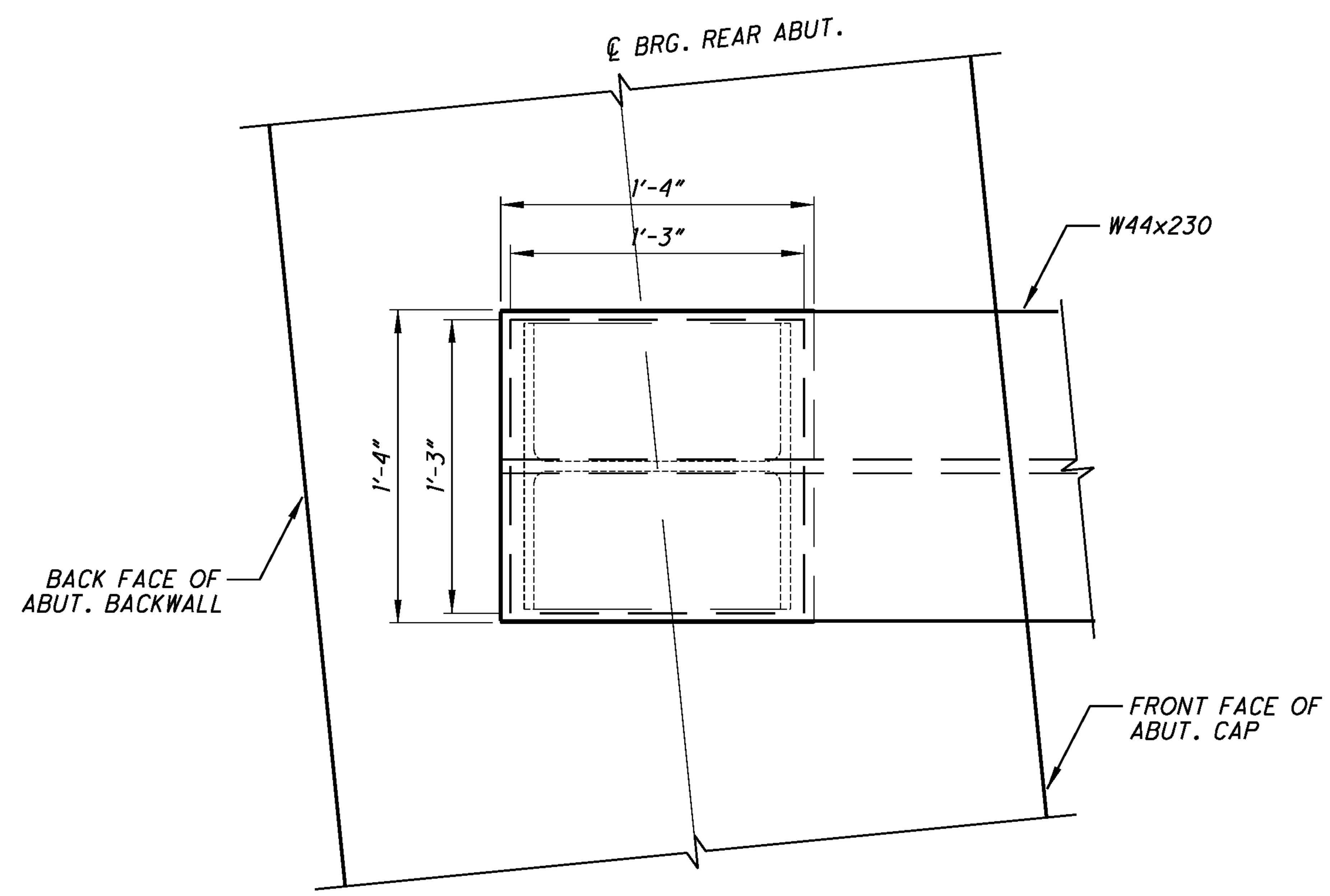
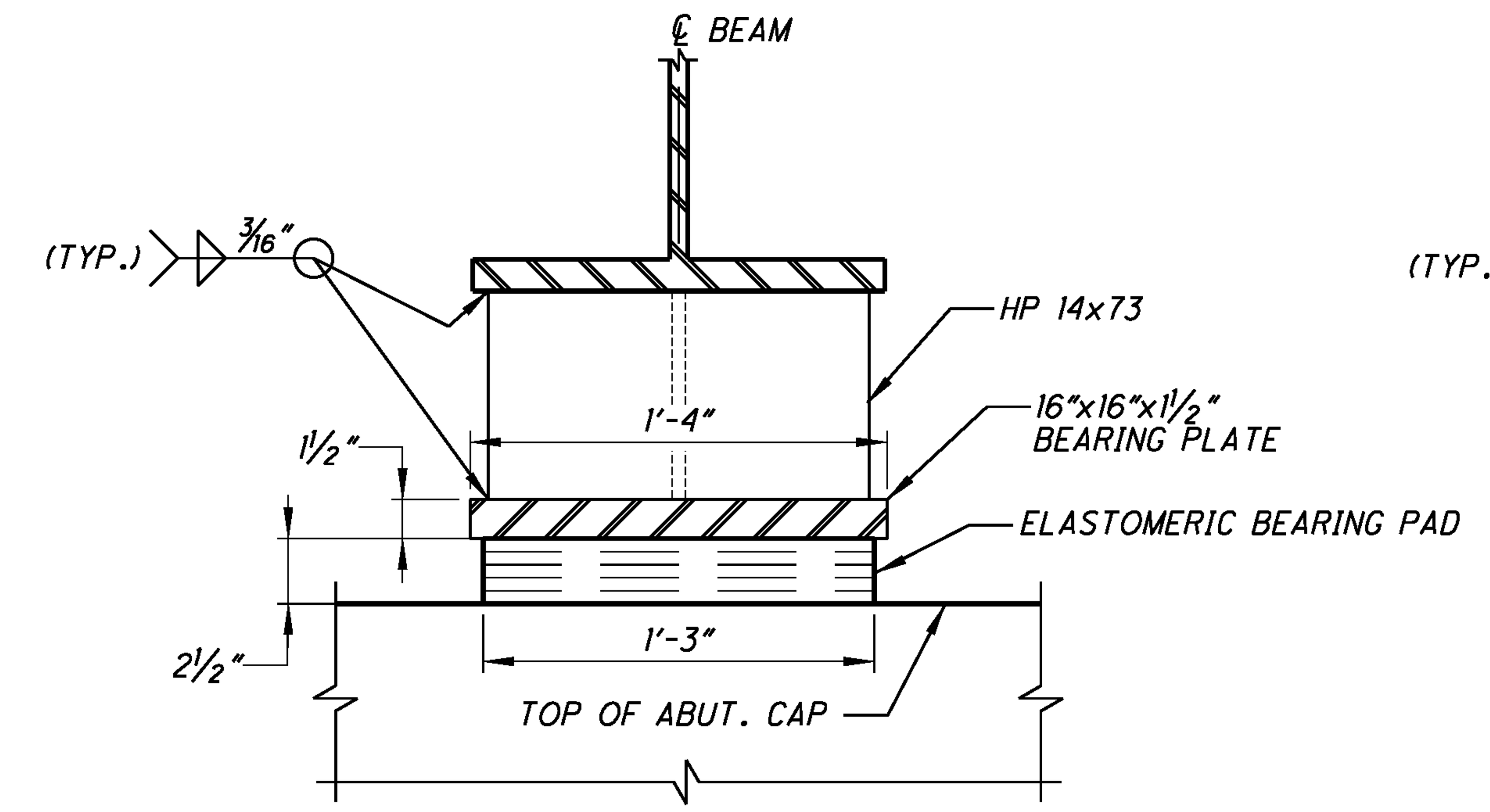
CAMBER DIAGRAM
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

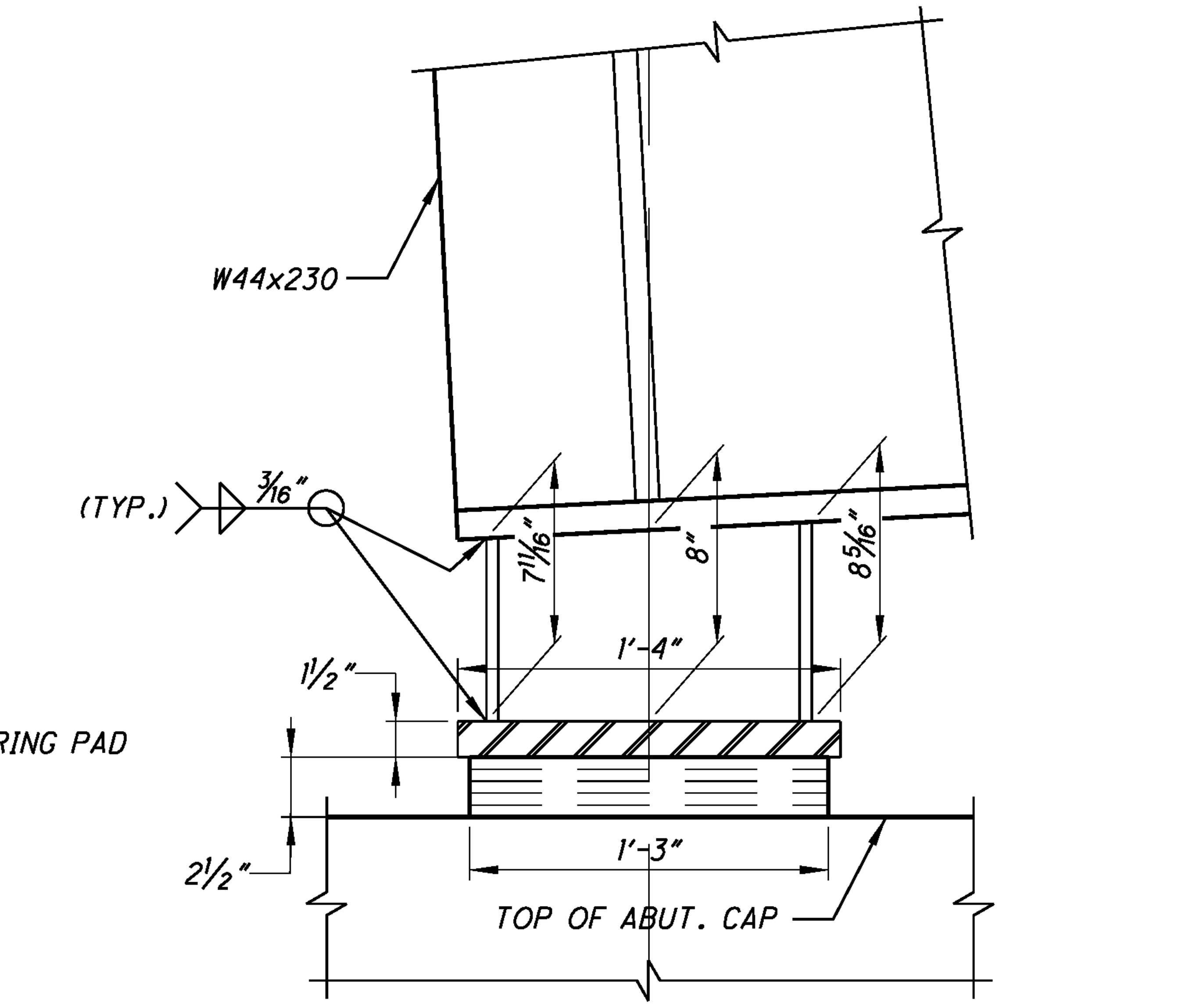
HAM-50-18.79
PID No. 20082



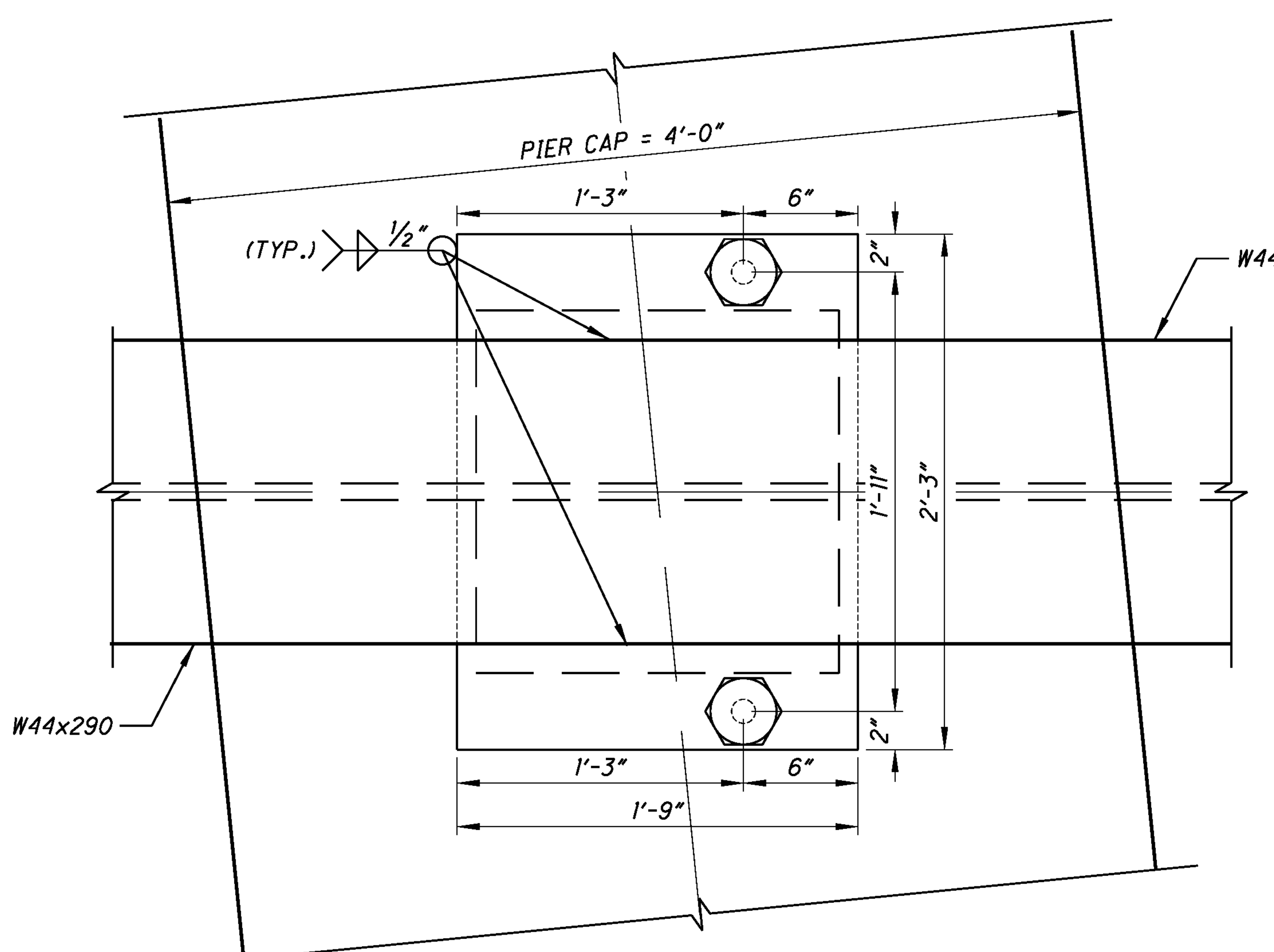
BEARING PLAN
REAR ABUTMENT - EXPANSION BEARING



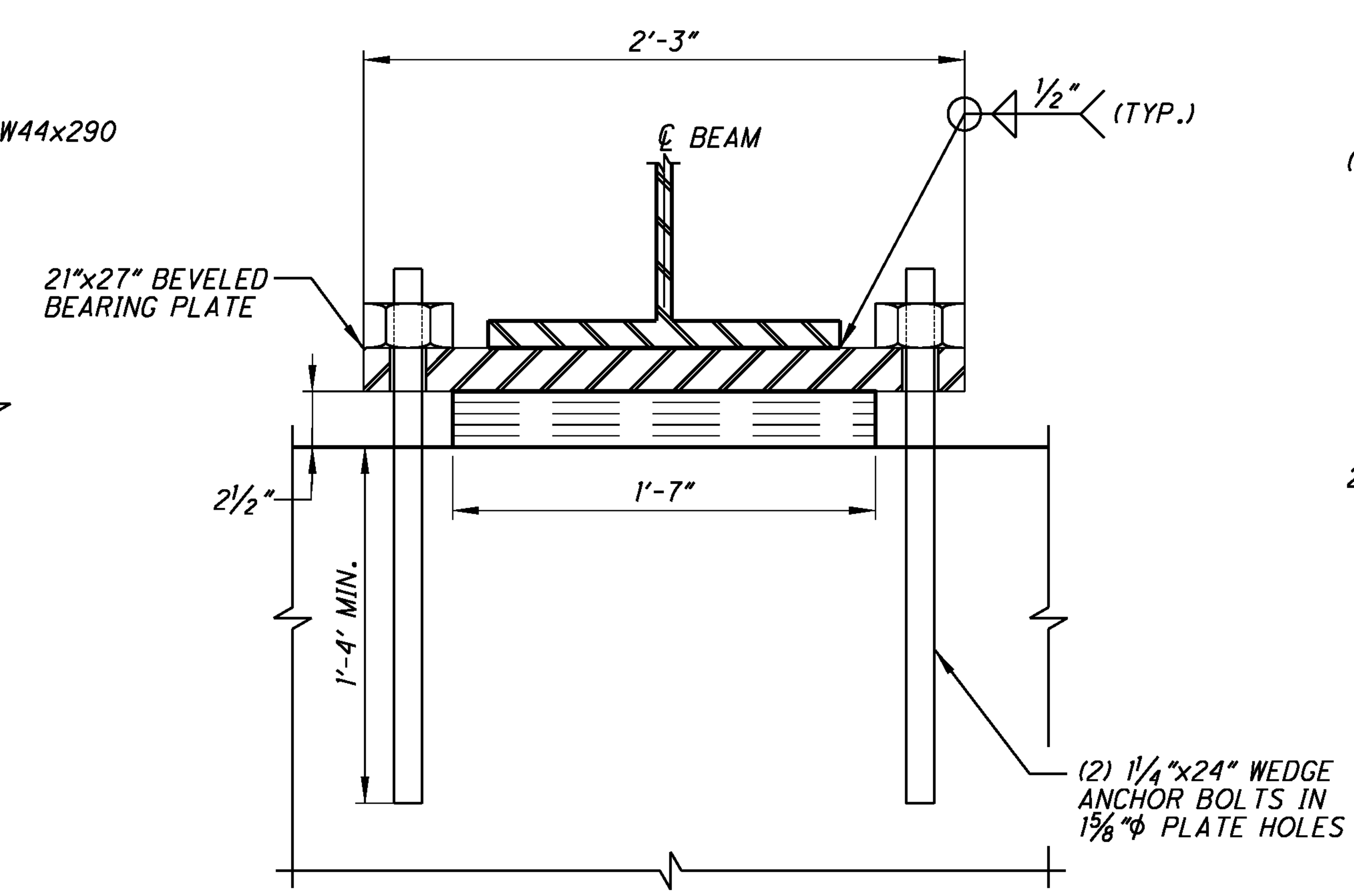
BEARING SECTION
REAR ABUTMENT - EXPANSION BEARING



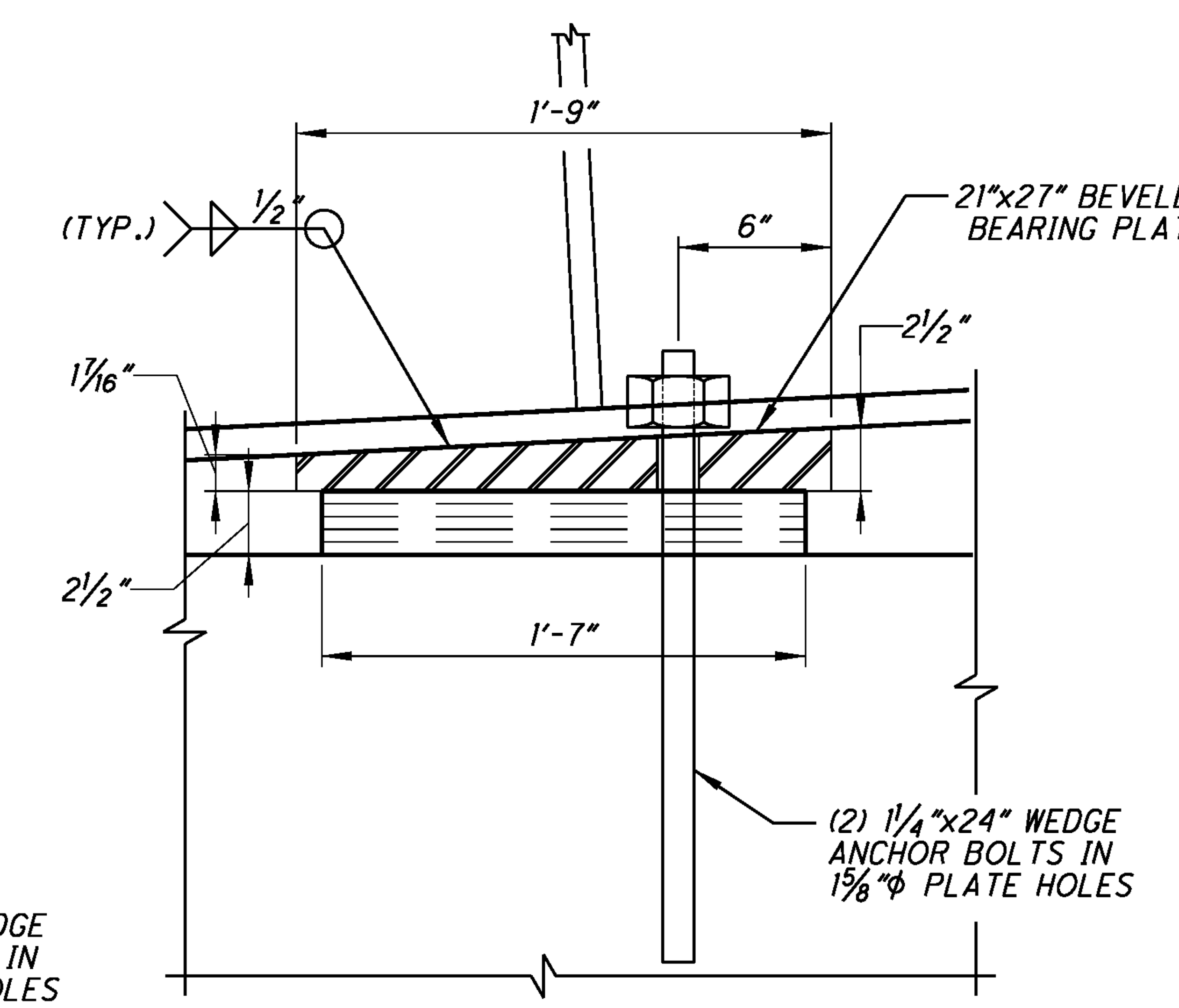
BEARING ELEVATION
REAR ABUTMENT - EXPANSION BEARING



BEARING PLAN
PIER 1 - FIXED BEARING



BEARING SECTION
PIER 1 - FIXED BEARING



BEARING ELEVATION
PIER 1 - FIXED BEARING

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BEARING DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

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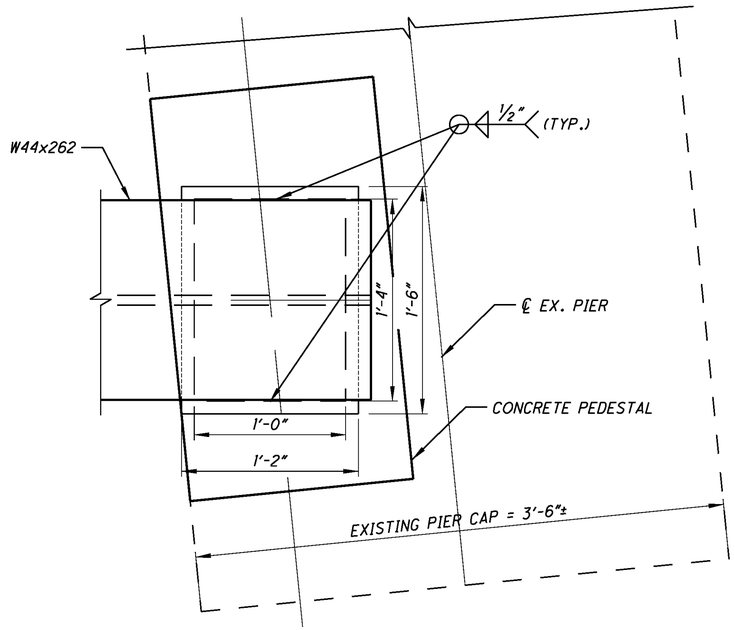
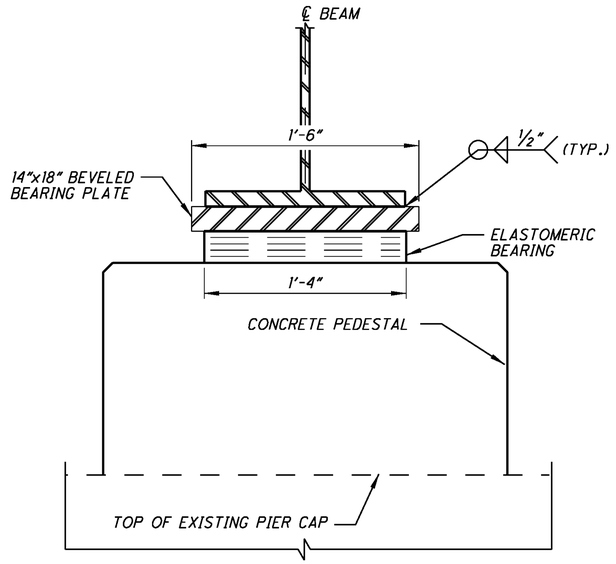
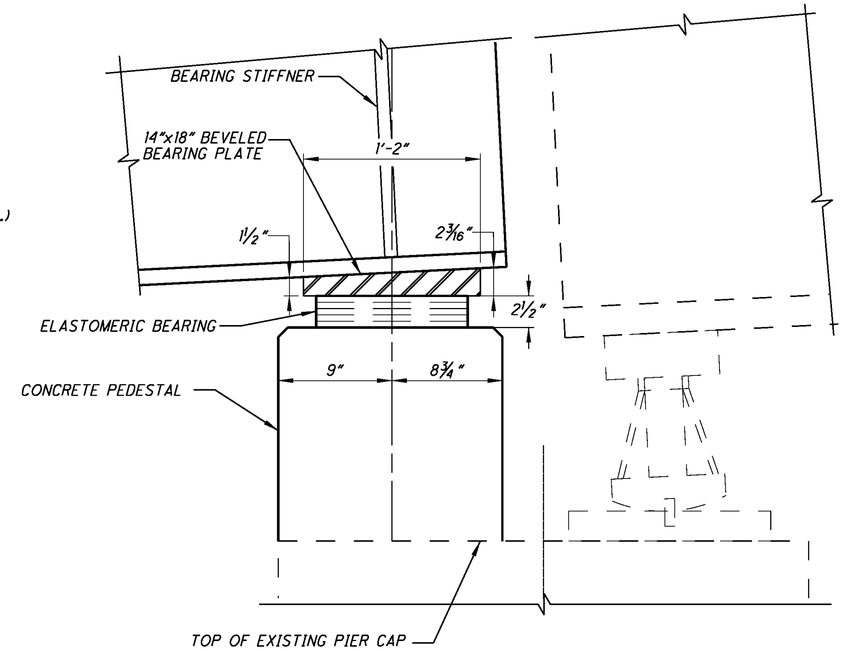


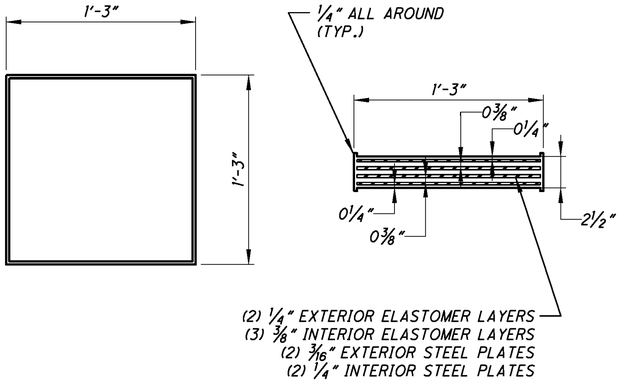
BEARING PLAN
PIER IN/IS - EXPANSION BEARING



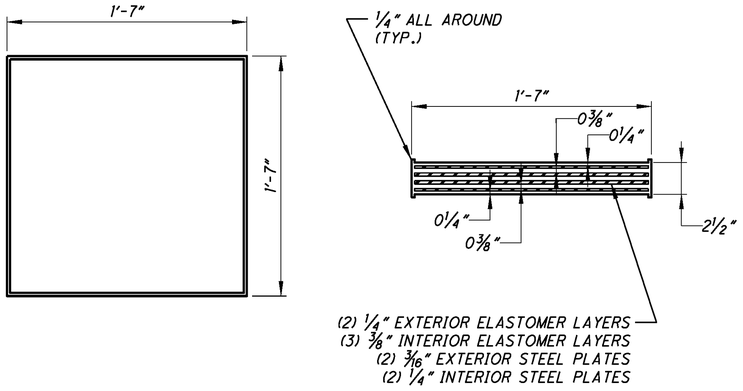
BEARING SECTION
PIER IN/IS - EXPANSION BEARING



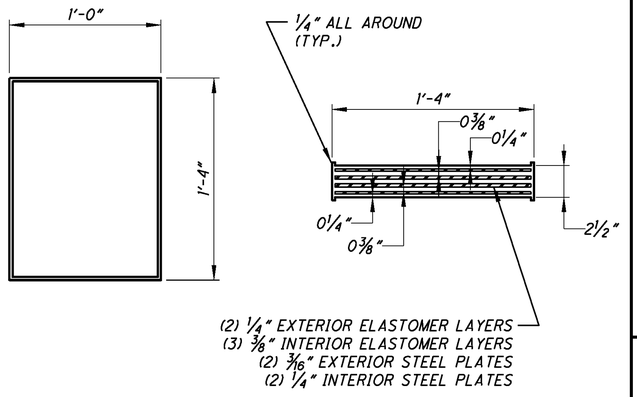
BEARING ELEVATION
PIER IN/IS - EXPANSION BEARING



BEARING PAD DETAILS
REAR ABUTMENT



BEARING PAD DETAILS
PIER 1



BEARING PAD DETAILS
PIER IN/IS

NOTE:
1. FOR ADDITIONAL DETAILS ON CONCRETE PEDESTAL, SEE SHEET 32/65
2. WELDING: CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300 °F AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES
3. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 60 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
4. BEARINGS SHALL BE DESIGNED FOR THE FOLLOWING LOADS:

	REAR ABUTMENT	PIER 1	PIER IN/IS
MAX. DEAD LOAD =	70 KIPS	257 KIPS	82 KIPS
MAX. LIVE LOAD =	82 KIPS	107 KIPS	83 KIPS
TOTAL DESIGN LOAD =	152 KIPS	364 KIPS	165 KIPS

DESIGN AGENCY
KZF DESIGN
Architecture | Engineering | Interiors | Planning
4601 College Blvd., Suite 205, Leawood, Kansas 66211
TEL 913.621.6211 FAX 913.621.9830 WEB www.kzf.com

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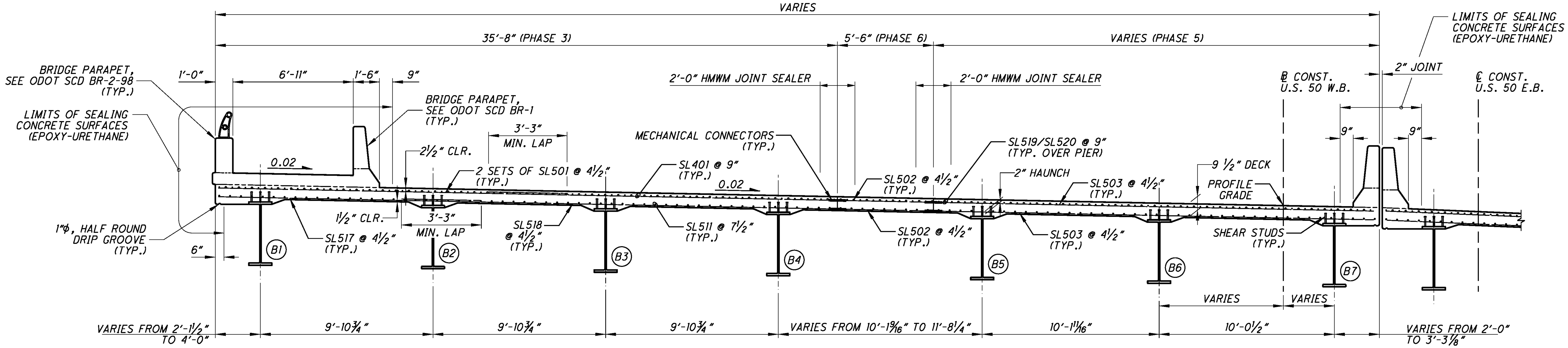
BEARING DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

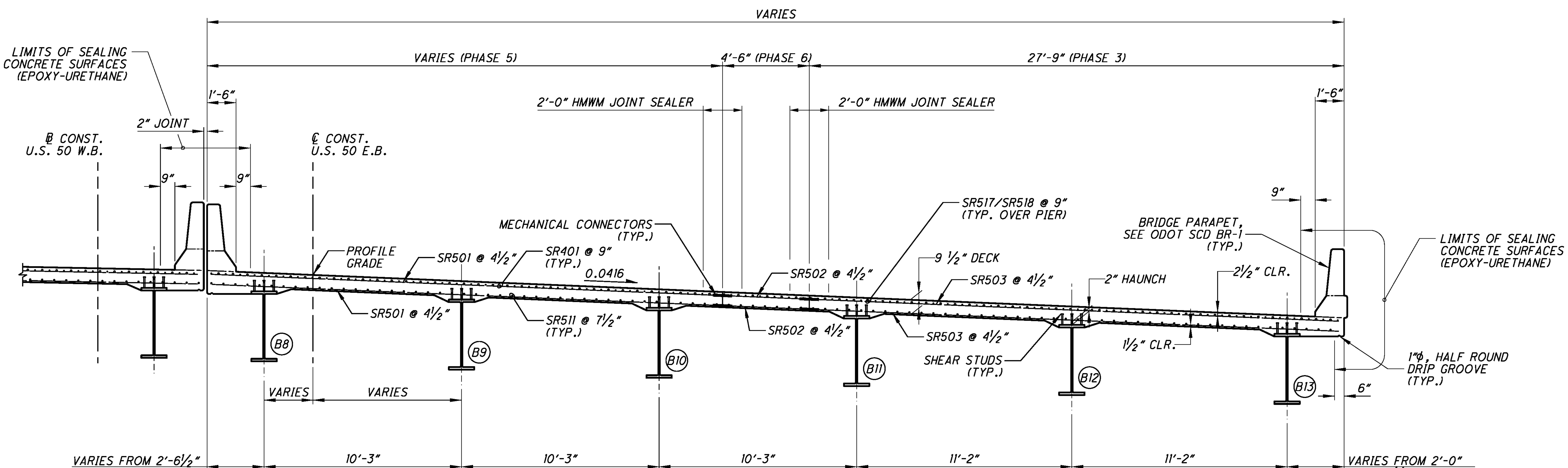
HAM-50-18.79
PID No. 20082

40 / 65

564
657



BRIDGE TYPICAL SECTION
BRIDGE NO. HAM-50-1903 L



BRIDGE TYPICAL SECTION
BRIDGE NO. HAM-50-1903 R

NOTES:

1. FOR ADDITIONAL SIDEWALK AND BARRIER DETAILS, SEE SHEET 47/65
2. MIN. LAP FOR A NO. 5 BAR = 3'-3"
3. HMWM RESIN SEALER AND MECHANICAL CONNECTORS SHALL BE INCLUDED IN PAYMENT FOR ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN.

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TRANSVERSE SECTION
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

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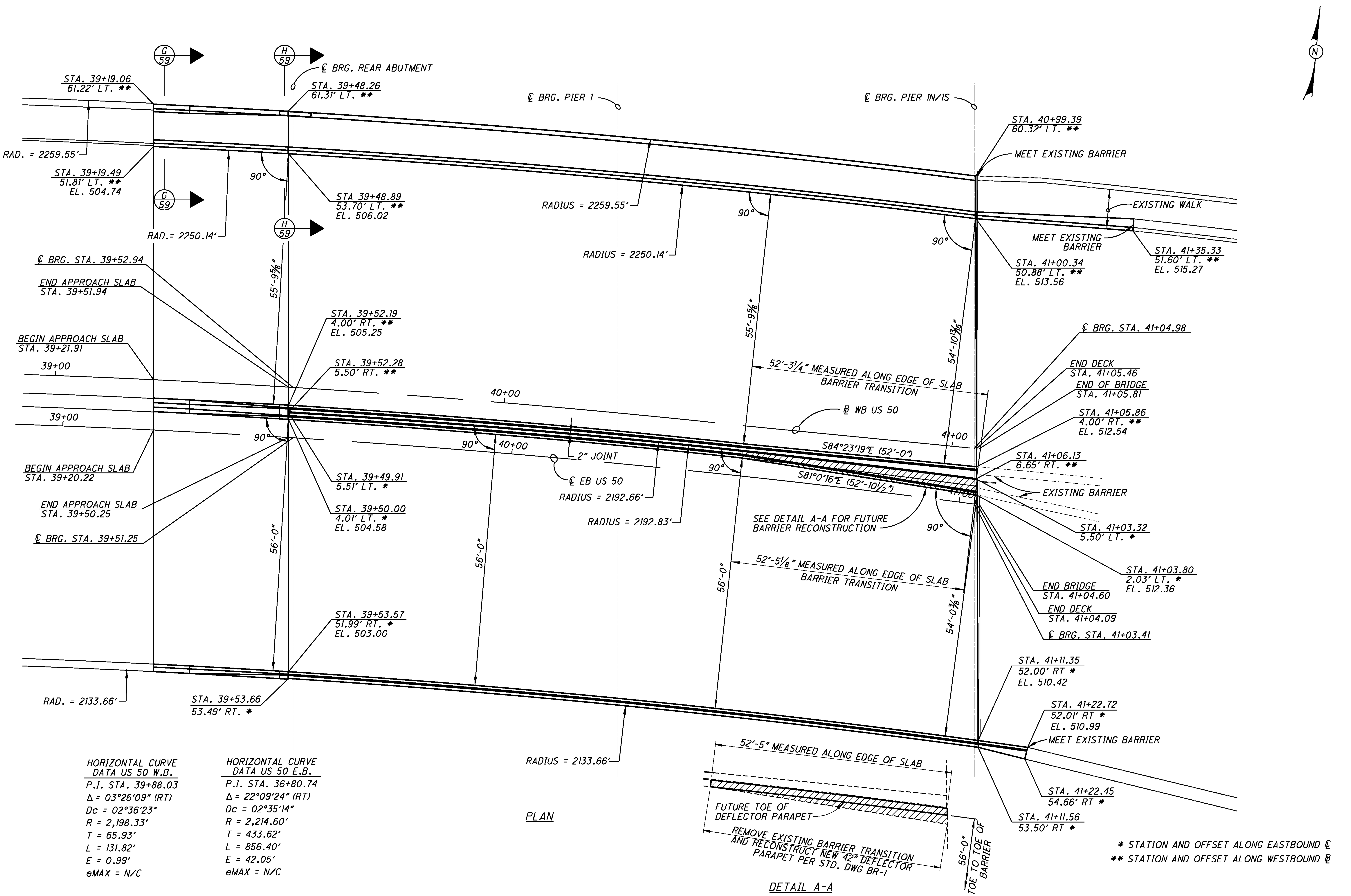

PLAN

HORIZONTAL CURVE DATA US 50 W.B.	HORIZONTAL CURVE DATA US 50 E.B.
P.I. STA. 39+88.03	P.I. STA. 36+80.74
Δ = 03°26'09" (RT)	Δ = 22°09'24" (RT)
Dc = 02°36'23"	Dc = 02°35'14"
R = 2,198.33'	R = 2,214.60'
T = 65.93'	T = 433.62'
L = 131.82'	L = 856.40'
E = 0.99'	E = 42.05'
eMAX = N/C	eMAX = N/C

* STATION AND OFFSET ALONG EASTBOUND ℄
** STATION AND OFFSET ALONG WESTBOUND ℄

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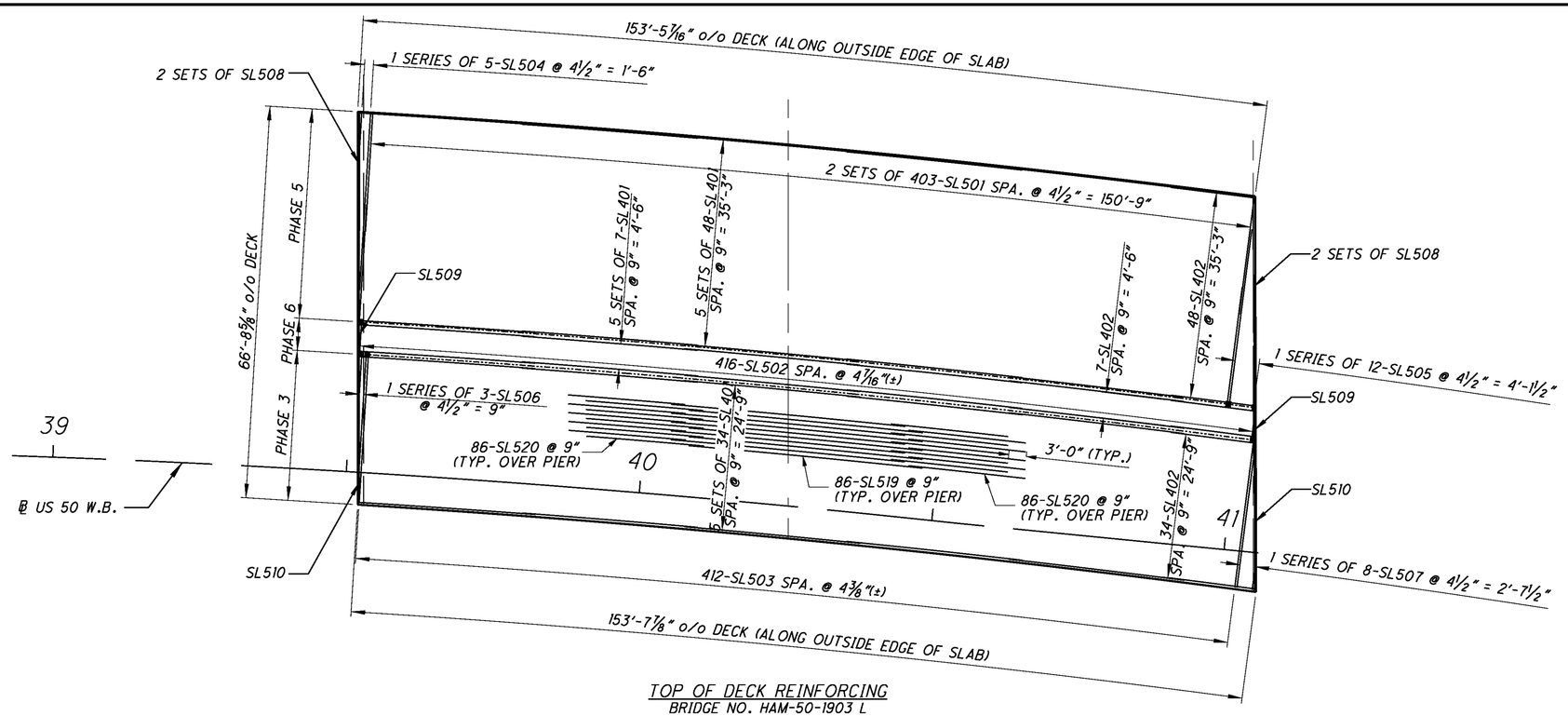
DAT		3102807/3102815	

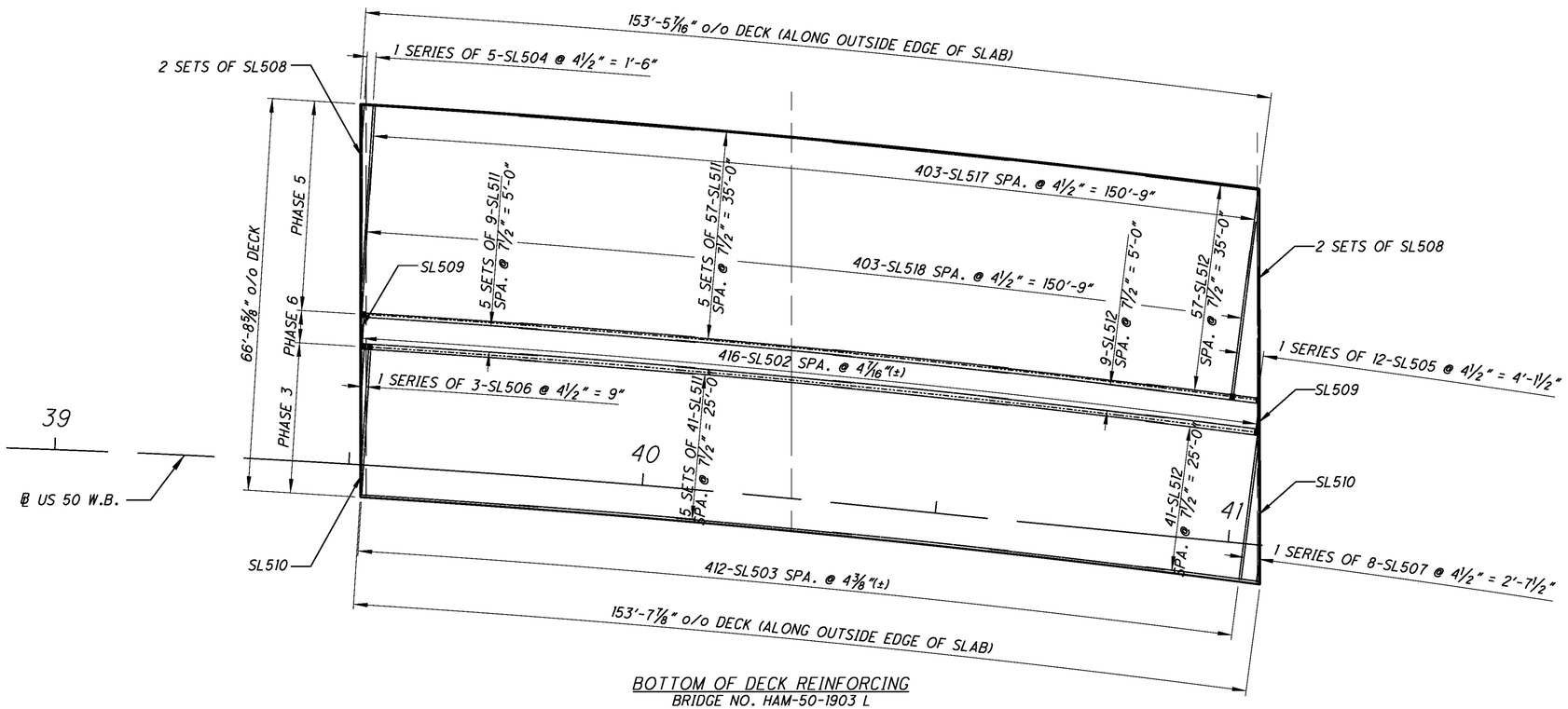
BRIDGE DECK LAYOUT
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

42/65
566/657



TOP OF DECK REINFORCING
BRIDGE NO. HAM-50-1903 L



BOTTOM OF DECK REINFORCING
BRIDGE NO. HAM-50-1903 L

NOTES:
1. MIN. LAP FOR A NO. 4 BAR = 2'-7"
2. MIN. LAP FOR A NO. 5 BAR = 3'-3"
3. FOR REINFORCING IN PARAPET SEE SHEET 49-51/65

DESIGN AGENCY
KZF DESIGN
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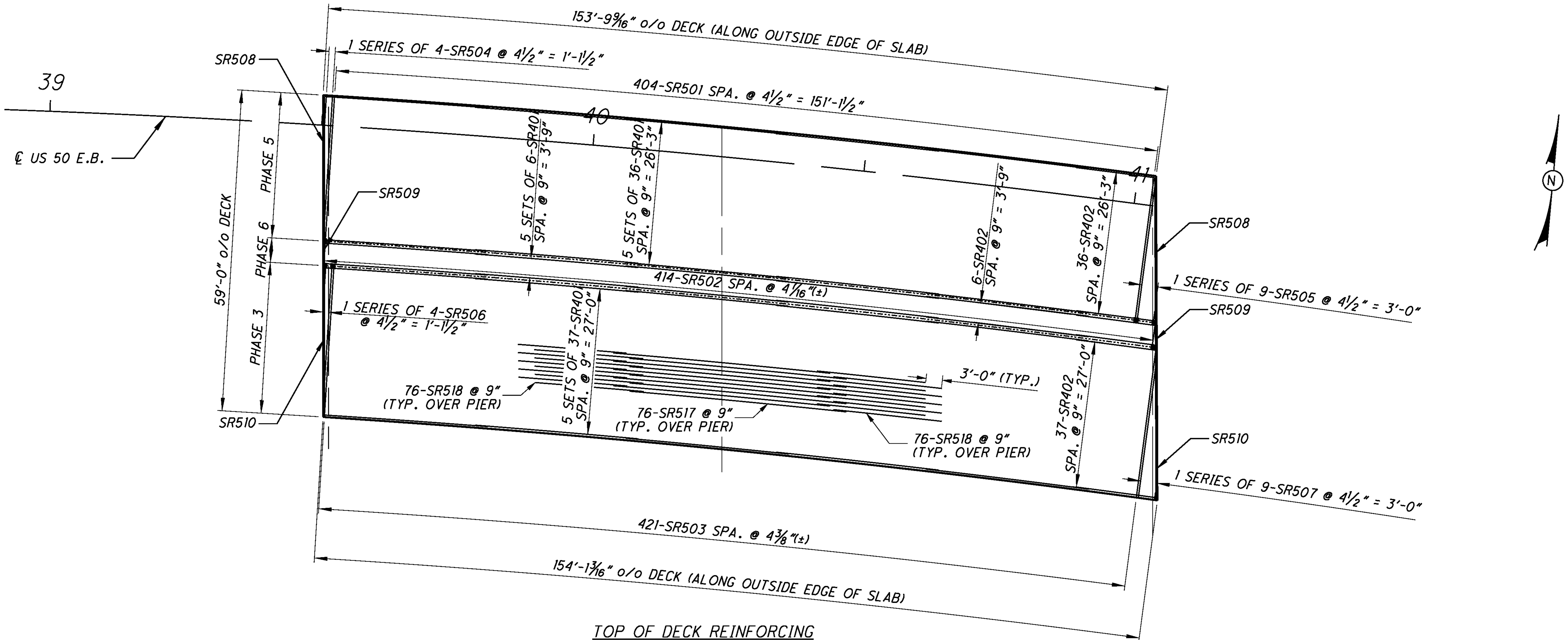
DECK PLAN
BRIDGE HAM-50-1903 L
OVER VACANT LAND

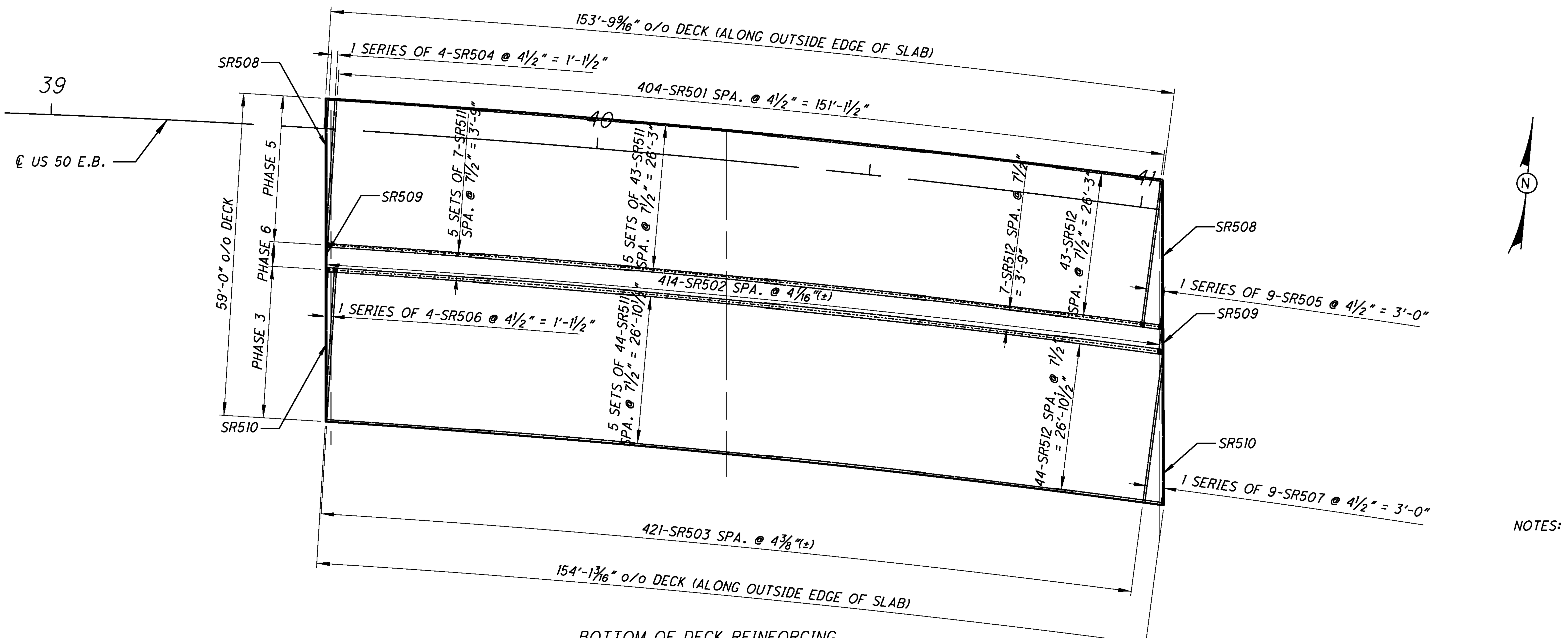
HAM-50-18.79
PID No. 20082

43 / 65

567
657



TOP OF DECK REINFORCING
BRIDGE NO. HAM-50-1903 R



BOTTOM OF DECK REINFORCING
BRIDGE NO. HAM-50-1903 R

NOTES:
1. MIN. LAP FOR A NO. 4 BAR = 2'-7"
2. MIN. LAP FOR A NO. 5 BAR = 3'-3"
3. FOR REINFORCING IN PARAPET SEE SHEET 49-51/65

DESIGN AGENCY KZF DESIGN — Architecture | Engineering | Interiors | Planning

DESIGNED	DRAWN	REVIEWED	DATE
DEF	RBK	BMB	11-29-10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DAT		3102807/3102815	

DECK PLAN
BRIDGE HAM-50-1903 R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

44/65

568/657

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SCREED TABLE
BRIDGE NO. HAM-50-1903 L

	SPAN LOCATION	CL BRG REAR ABUT	1/4 SPAN	1/2 SPAN	SPLICE	3/4 SPAN	CL BRG PIER 1	1/4 SPAN	SPLICE	1/2 SPAN	3/4 SPAN	CL BRG PIER IN
LEFT EDGE OF DECK	STATION	39+49.24	39+66.85	39+84.47	40+00.28	40+02.10	40+19.75	40+39.09	40+39.22	40+59.20	40+79.11	40+99.05
	OFFSET	61.22 LT.	61.22 LT.	61.22 LT.	61.22 LT.	61.22 LT.	61.22 LT.	61.22 LT.	61.22 LT.	61.17 LT.	60.84 LT.	60.33 LT.
	DECK ELEVATION	506.25	507.07	507.92	508.71	508.80	509.68	510.65	510.66	511.65	512.64	513.63
	DEFLECTION	0.000 IN.	0.499 IN.	0.568 IN.	0.255 IN.	0.224 IN.	0.000 IN.	0.469 IN.	0.492 IN.	0.945 IN.	0.772 IN.	0.000 IN.
	SCREED ELEVATION	506.25	507.11	507.97	508.73	508.82	509.68	510.69	510.70	511.73	512.71	513.63
BEAM 1	STATION	39+49.44	39+67.10	39+84.77	40+00.61	40+02.44	40+20.11	40+39.47	40+39.60	40+59.53	40+79.40	40+99.26
	OFFSET	57.94 LT.	57.55 LT.	57.29 LT.	57.19 LT.	57.18 LT.	57.22 LT.	57.43 LT.	57.43 LT.	57.75 LT.	57.98 LT.	58.21 LT.
	DECK ELEVATION	506.19	507.01	507.86	508.64	508.74	509.62	510.59	510.60	511.60	512.60	513.60
	DEFLECTION	0.000 IN.	0.499 IN.	0.568 IN.	0.255 IN.	0.224 IN.	0.000 IN.	0.469 IN.	0.492 IN.	0.945 IN.	0.772 IN.	0.000 IN.
	SCREED ELEVATION	506.19	507.05	507.91	508.67	508.75	509.62	510.63	510.64	511.68	512.66	513.60
LEFT FACE OF BARRIER	STATION	39+49.80	39+67.48	39+85.18	40+01.05	40+02.88	40+20.60	40+40.03	40+40.16	40+60.12	40+80.04	40+99.98
	OFFSET	51.81 LT.	51.81 LT.	51.81 LT.	51.81 LT.	51.81 LT.	51.81 LT.	51.81 LT.	51.81 LT.	51.74 LT.	51.40 LT.	50.89 LT.
	DECK ELEVATION	506.08	506.91	507.77	508.56	508.65	509.54	510.51	510.51	511.51	512.50	513.49
	DEFLECTION	0.000 IN.	0.499 IN.	0.568 IN.	0.255 IN.	0.224 IN.	0.000 IN.	0.469 IN.	0.492 IN.	0.945 IN.	0.772 IN.	0.000 IN.
	SCREED ELEVATION	506.08	506.95	507.82	508.58	508.67	509.54	510.55	510.56	511.59	512.56	513.49
BEAM 2	STATION	39+50.02	39+67.76	39+85.51	40+01.43	40+03.26	40+21.01	40+40.45	40+40.58	40+60.50	40+80.37	41+00.23
	OFFSET	48.03 LT.	47.64 LT.	47.39 LT.	47.29 LT.	47.29 LT.	47.33 LT.	47.55 LT.	47.55 LT.	47.87 LT.	48.10 LT.	48.32 LT.
	DECK ELEVATION	506.02	506.84	507.70	508.49	508.58	509.47	510.44	510.45	511.45	512.45	513.45
	DEFLECTION	0.000 IN.	0.499 IN.	0.568 IN.	0.255 IN.	0.224 IN.	0.000 IN.	0.469 IN.	0.492 IN.	0.945 IN.	0.772 IN.	0.000 IN.
	SCREED ELEVATION	506.02	506.88	507.74	508.51	508.60	509.47	510.48	510.49	511.53	512.51	513.45
BEAM 3	STATION	39+50.62	39+68.44	39+86.26	40+02.25	40+04.09	40+21.91	40+41.44	40+41.58	40+61.47	40+81.34	41+01.20
	OFFSET	38.12 LT.	37.73 LT.	37.49 LT.	37.40 LT.	37.39 LT.	37.44 LT.	37.67 LT.	37.67 LT.	37.99 LT.	38.21 LT.	38.44 LT.
	DECK ELEVATION	505.85	506.68	507.54	508.33	508.42	509.31	510.30	510.30	511.30	512.30	513.30
	DEFLECTION	0.000 IN.	0.499 IN.	0.568 IN.	0.255 IN.	0.224 IN.	0.000 IN.	0.469 IN.	0.492 IN.	0.945 IN.	0.772 IN.	0.000 IN.
	SCREED ELEVATION	505.85	506.72	507.58	508.35	508.44	509.31	510.33	510.34	511.38	512.37	513.30
BEAM 4	STATION	39+51.21	39+69.11	39+87.02	40+03.07	40+04.92	40+22.83	40+42.44	40+42.58	40+62.44	40+82.31	41+02.17
	OFFSET	28.20 LT.	27.82 LT.	27.59 LT.	27.50 LT.	27.50 LT.	27.56 LT.	27.79 LT.	27.79 LT.	28.10 LT.	28.33 LT.	28.56 LT.
	DECK ELEVATION	505.68	506.51	507.38	508.17	508.27	509.16	510.15	510.15	511.15	512.15	513.15
	DEFLECTION	0.000 IN.	0.514 IN.	0.585 IN.	0.262 IN.	0.231 IN.	0.000 IN.	0.483 IN.	0.506 IN.	0.972 IN.	0.794 IN.	0.000 IN.
	SCREED ELEVATION	505.68	506.55	507.42	508.20	508.29	509.16	510.19	510.20	511.24	512.22	513.15
CONST. JOINT	STATION	39+51.37	39+69.27	39+98.17	40+03.24	40+05.09	40+23.01	40+42.67	40+42.81	40+62.70	40+82.63	41+02.57
	OFFSET	25.56 LT.	25.56 LT.	25.56 LT.	25.56 LT.	25.56 LT.	25.56 LT.	25.56 LT.	25.56 LT.	25.45 LT.	25.09 LT.	24.54 LT.
	DECK ELEVATION	505.63	506.47	507.89	508.14	508.24	509.13	510.11	510.12	511.11	512.10	513.09
	DEFLECTION	0.000 IN.	0.515 IN.	0.586 IN.	0.263 IN.	0.231 IN.	0.000 IN.	0.484 IN.	0.507 IN.	0.975 IN.	0.797 IN.	0.000 IN.
	SCREED ELEVATION	505.63	506.52	507.94	508.17	508.25	509.13	510.16	510.16	511.20	512.17	513.09
CONST. JOINT	STATION	39+51.71	39+69.65	39+87.59	40+03.72	40+05.55	40+23.53	40+43.24	40+43.35	40+63.25	40+83.17	41+03.11
	OFFSET	20.06 LT.	20.06 LT.	20.06 LT.	20.06 LT.	20.06 LT.	20.06 LT.	20.06 LT.	20.06 LT.	19.95 LT.	19.57 LT.	19.02 LT.
	DECK ELEVATION	505.54	506.38	507.25	508.06	508.15	509.05	510.03	510.04	511.03	512.02	513.01
	DEFLECTION	0.000 IN.	0.519 IN.	0.589 IN.	0.265 IN.	0.232 IN.	0.000 IN.	0.487 IN.	0.508 IN.	0.981 IN.	0.801 IN.	0.000 IN.
	SCREED ELEVATION	505.54	506.42	507.30	508.08	508.17	509.05	510.07	510.08	511.11	512.09	513.01
BEAM 5	STATION	39+51.83	39+69.82	39+87.83	40+03.99	40+05.83	40+23.84	40+43.58	40+43.69	40+63.55	40+83.44	41+03.32
	OFFSET	18.06 LT.	17.49 LT.	17.07 LT.	16.83 LT.	16.81 LT.	16.69 LT.	16.73 LT.	16.73 LT.	16.83 LT.	16.85 LT.	16.87 LT.
	DECK ELEVATION	505.50	506.34	507.21	508.01	508.10	509.00	509.98	509.99	510.98	511.98	512.97
	DEFLECTION	0.000 IN.	0.520 IN.	0.591 IN.	0.266 IN.	0.233 IN.	0.000 IN.	0.489 IN.	0.509 IN.	0.984 IN.	0.803 IN.	0.000 IN.
	SCREED ELEVATION	505.50	506.38	507.25	508.03	508.12	509.00	510.02	510.03	511.07	512.05	512.97
BEAM 6	STATION	39+52.46	39+70.53	39+88.62	40+04.86	40+06.71	40+24.80	40+44.62	40+44.74	40+64.55	40+84.43	41+04.32
	OFFSET	7.89 LT.	7.33 LT.	6.92 LT.	6.67 LT.	6.65 LT.	6.54 LT.	6.59 LT.	6.59 LT.	6.69 LT.	6.71 LT.	6.73 LT.
	DECK ELEVATION	505.33	506.17	507.04	507.85	507.94	508.84	509.83	509.84	510.83	511.83	512.82
	DEFLECTION	0.000 IN.	0.508 IN.	0.578 IN.	0.260 IN.	0.228 IN.	0.000 IN.	0.478 IN.	0.498 IN.	0.963 IN.	0.786 IN.	0.000 IN.
	SCREED ELEVATION	505.33	506.21	507.09	507.87	507.96	508.84	509.87	509.88	510.91	511.89	512.82
CL US 50 WB	STATION	39+52.94	39+71.05	39+89.16	40+05.43	40+07.28	40+25.42	40+45.31	40+45.43	40+65.20	40+85.09	41+04.98
	OFFSET	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	DECK ELEVATION	505.19	506.05	506.93	507.74	507.83	508.74	509.74	509.74	510.73	511.72	512.72
	DEFLECTION	0.000 IN.	0.508 IN.	0.578 IN.	0.260 IN.	0.228 IN.	0.000 IN.	0.478 IN.	0.498 IN.	0.963 IN.	0.786 IN.	0.000 IN.
	SCREED ELEVATION	505.19	506.09	506.98	507.76	507.85	508.74	509.78	509.78	510.81	511.79	512.72
BEAM 7	STATION	39+53.08	39+71.24	39+89.41	40+05.72	40+07.58	40+25.75	40+45.67	40+45.79	40+65.53	40+85.42	41+05.30
	OFFSET	2.18 RT.	2.74 RT.	3.14 RT.	3.38 RT.	3.40 RT.	3.50 RT.	3.44 RT.	3.44 RT.	3.35 RT.	3.33 RT.	3.31 RT.
	DECK ELEVATION	505.16	506.00	506.88	507.69	507.78	508.69	509.68	509.69	510.68	511.67	512.67
	DEFLECTION	0.000 IN.	0.508 IN.	0.578 IN.	0.260 IN.	0.228 IN.	0.000 IN.	0.478 IN.	0.498 IN.	0.963 IN.	0.786 IN.	0.000 IN.
	SCREED ELEVATION	505.16	506.04	506.93	507.71	507.80	508.69	509.72	509.73	510.76	511.74	512.67
RIGHT FACE OF BARRIER	STATION	39+53.19	39+71.33	39+89.47	40+05.78	40+07.63	40+25.80	40+45.73	40+45.84	40+65.60	40+85.48	41+05.37
	OFFSET	4.00 RT.	4.00 RT.	4.00 RT.	4.00 RT.	4.00 RT.	4.00 RT.	4.00 RT.	4.00 RT.	4.00 RT.	4.00 RT.	4.00 RT.
	DECK ELEVATION	505.13	505.98	506.86	507.68	507.77	508.68	509.68	509.68	510.67	511.66	512.66
	DEFLECTION	0.000 IN.	0.508 IN.	0.578 IN.	0.260 IN.	0.228 IN.	0.000 IN.	0.478 IN.	0.498 IN.	0.963 IN.	0.786 IN.	0.000 IN.
	SCREED ELEVATION	505.13	506.02	506.91	507.70	507.79	508.68	509.72	509.72	510.75	511.73	512.66
RIGHT EDGE OF DECK	STATION	39+53.29	39+71.43	39+89.59	40+05.91	40+07.76	40+25.95	40+45.89	40+46.00	40+65.76	40+85.69	41+05.63
	OFFSET	5.50 RT.	5.50 RT.	5.50 RT.	5.50 RT.	5.50 RT.	5.50 RT.	5.50 RT.	5.50 RT.	5.65 RT.	6.05 RT.	6.63 RT.
	DECK ELEVATION	505.10	505.96	506.84	507.66	507.75	508.66	509.65	509.66	510.65	511.63	512.62
	DEFLECTION	0.000 IN.	0.508 IN.	0.578 IN.	0.260 IN.	0.228 IN.	0.000 IN.	0.478 IN.	0.498 IN.	0.963 IN.	0.786 IN.	0.000 IN.
	SCREED ELEVATION	505.10	506.00	507.42	507.92	507.98	508.66	510.13	510.16	511.61	512.42	512.62

SCREED TABLE
BRIDGE NO. HAM-50-1903 R

	SPAN LOCATION	CL BRG REAR ABUT	1/4 SPAN	1/2 SPAN	SPLICE	3/4 SPAN	CL BRG PIER 1	1/4 SPAN	SPLICE	1/2 SPAN	3/4 SPAN	CL BRG PIER IS
LEFT EDGE OF DECK	STATION	39+50.90	39+68.96	39+87.03	40+03.25	40+05.11	40+23.20	40+43.04	40+43.15	40+62.90	40+82.78	41+02.69
	OFFSET	5.51 LT.	5.52 LT.	5.52 LT.	5.52 LT.	5.52 LT.	5.52 LT.	5.52 LT.	5.52 LT.	5.52 LT.	5.51 LT.	5.50 LT.
	DECK ELEVATION	504.99	505.82	506.69	507.49	507.58	508.49	509.48	509.48	510.47	511.46	512.46
	DEFLECTION	0.000 IN.	0.481 IN.	0.547 IN.	0.246 IN.	0.216 IN.	0.000 IN.	0.451 IN.	0.469 IN.	0.908 IN.	0.742 IN.	0.000 IN.
	SCREED ELEVATION	504.99	505.86	506.73	507.51	507.60	508.49	509.52	509.52	510.55	511.53	512.46
LEFT FACE OF BARRIER	STATION	39+51.00	39+69.07	39+87.15	40+03.38	40+05.24	40+23.35	40+43.20	40+43.31	40+63.14	40+83.14	41+03.14
	OFFSET	4.01 LT.	4.02 LT.	4.02 LT.	4.02 LT.	4.02 LT.	4.02 LT.	4.02 LT.	4.02 LT.	3.44 LT.	2.65 LT.	2.04 LT.
	DECK ELEVATION	504.93	505.77	506.63	507.43	507.53	508.43	509.42	509.43	510.40	511.36	512.34
	DEFLECTION	0.000 IN.	0.481 IN.	0.547 IN.	0.246 IN.	0.216 IN.	0.000 IN.	0.451 IN.	0.469 IN.	0.908 IN.	0.742 IN.	0.000 IN.
	SCREED ELEVATION	504.93	505.81	506.68	507.45	507.54	508.43	509.46	509.47	510.47	511.43	512.34
BEAM 8	STATION	39+51.05	39+69.17	39+87.30	40+03.59	40+05.44	40+23.57	40+43.45	40+43.56	40+63.32	40+83.19	41+03.05
	OFFSET	3.12 LT.	2.53 LT.	2.08 LT.	1.80 LT.	1.78 LT.	1.63 LT.	1.63 LT.	1.63 LT.	1.81 LT.	2.18 LT.	2.72 LT.
	DECK ELEVATION	504.89	505.71	506.56	507.35	507.44	508.34	509.34	509.34	510.34	511.35	512.36
	DEFLECTION	0.000 IN.	0.481 IN.	0.547 IN.	0.246 IN.	0.216 IN.	0.000 IN.	0.451 IN.	0.469 IN.	0.908 IN.	0.742 IN.	0.000 IN.
	SCREED ELEVATION	504.89	505.75	506.60	507.37	507.46	508.34	509.37	509.38	510.41	511.41	512.36
CL US 50 EB	STATION	39+51.25	39+69.35	39+87.47	40+03.73	40+05.59	40+23.73	40+43.62	40+43.73	40+63.53	40+83.46	41+03.41
	OFFSET	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	DECK ELEVATION	504.77	505.61	506.48	507.28	507.38	508.28	509.28	509.28	510.27	511.27	512.27
	DEFLECTION	0.000 IN.	0.481 IN.	0.547 IN.	0.246 IN.	0.216 IN.	0.000 IN.	0.451 IN.	0.469 IN.	0.908 IN.	0.742 IN.	0.000 IN.
	SCREED ELEVATION	504.77	505.65	506.53	507.30	507.39	508.28	509.31	509.32	510.35	511.33	512.27
BEAM 9	STATION	39+51.70	39+69.91	39+88.12	40+04.48	40+06.35	40+24.56	40+44.53	40+44.64	40+64.49	40+84.45	41+04.41
	OFFSET	7.16 RT.	7.75 RT.	8.19 RT.	8.46 RT.	8.48 RT.	8.63 RT.	8.61 RT.	8.61 RT.	8.42 RT.	8.05 RT.	7.50 RT.
	DECK ELEVATION	504.50	505.32	506.17	506.97	507.06	507.96	508.96	508.97	509.97	510.98	512.00
	DEFLECTION	0.000 IN.	0.481 IN.	0.547 IN.	0.246 IN.	0.216 IN.	0.000 IN.	0.451 IN.	0.469 IN.	0.908 IN.	0.742 IN.	0.000 IN.
	SCREED ELEVATION	504.50	505.36	506.22	506.99	507.08	507.96	509.00	509.01	510.05	511.05	512.00
BEAM 10	STATION	39+52.35	39+70.64	39+88.94	40+05.38	40+07.25	40+25.55	40+45.61	40+45.72	40+65.67	40+85.73	41+05.77
	OFFSET	17.44 RT.	18.02 RT.	18.46 RT.	18.72 RT.	18.75 RT.	18.88 RT.	18.86 RT.	18.86 RT.	18.65 RT.	18.27 RT.	17.71 RT.
	DECK ELEVATION	504.10	504.92	505.78	506.59	506.68	507.59	508.59	508.60	509.60	510.62	511.65
	DEFLECTION	0.000 IN.	0.481 IN.	0.547 IN.	0.246 IN.	0.216 IN.	0.000 IN.	0.451 IN.	0.469 IN.	0.908 IN.	0.742 IN.	0.000 IN.
	SCREED ELEVATION	504.10	504.96	505.83	506.61	506.70	507.59	508.63	508.64	509.68	510.68	511.65
CONST. JOINT	STATION	39+52.60	39+70.88	39+89.16	40+05.59	40+07.47	40+25.78	40+45.87	40+45.98	40+65.97	40+86.10	41+06.25
	OFFSET	21.24 RT.	21.23 RT.	21.23 RT.	21.23 RT.	21.23 RT.	21.23 RT.	21.23 RT.	21.23 RT.	21.23 RT.	21.24 RT.	21.25 RT.
	DECK ELEVATION	503.95	504.80	505.68	506.49	506.59	507.50	508.51	508.51	509.51	510.52	511.52
	DEFLECTION	0.000 IN.	0.486 IN.	0.552 IN.	0.248 IN.	0.218 IN.	0.000 IN.	0.454 IN.	0.472 IN.	0.916 IN.	0.749 IN.	0.000 IN.
	SCREED ELEVATION	503.95	504.84	505.72	506.51	506.60	507.50	508.54	508.55	509.59	510.58	511.52
CONST. JOINT	STATION	39+52.89	39+71.20	39+89.53	40+05.99	40+07.87	40+26.22	40+46.35	40+46.46	40+66.50	40+86.66	41+06.87
	OFFSET	25.74 RT.	25.73 RT.	25.73 RT.	25.73 RT.	25.73 RT.	25.73 RT.	25.73 RT.	25.73 RT.	25.73 RT.	25.74 RT.	25.75 RT.
	DECK ELEVATION	503.78	504.63	505.51	506.33	506.42	507.34	508.34	508.35	509.35	510.36	511.37
	DEFLECTION	0.000 IN.	0.492 IN.	0.559 IN.	0.251 IN.	0.221 IN.	0.000 IN.	0.460 IN.	0.479 IN.	0.929 IN.	0.760 IN.	0.000 IN.
	SCREED ELEVATION	503.78	504.67	505.56	506.35	506.44	507.34	508.38	508.39	509.43	510.42	511.37
BEAM 11	STATION	39+53.01	39+71.39	39+89.77	40+06.29	40+08.16	40+26.56	40+46.71	40+46.82	40+66.86	40+87.01	41+07.15
	OFFSET	27.72 RT.	28.30 RT.	28.73 RT.	28.99 RT.	29.01 RT.	29.14 RT.	29.10 RT.	29.10 RT.	28.89 RT.	28.49 RT.	27.92 RT.
	DECK ELEVATION	503.70	504.53	505.40	506.20	506.30	507.21	508.22	508.23	509.24	510.26	511.29
	DEFLECTION	0.000 IN.	0.496 IN.	0.564 IN.	0.254 IN.	0.223 IN.	0.000 IN.	0.465 IN.	0.484 IN.	0.938 IN.	0.766 IN.	0.000 IN.
	SCREED ELEVATION	503.70	504.57	505.44	506.23	506.32	507.21	508.26	508.27	509.32	510.33	511.29
BEAM 12	STATION	39+53.74	39+72.21	39+90.69	40+07.29	40+09.17	40+27.66	40+47.92	40+48.03	40+68.17	40+88.43	41+08.67
	OFFSET	38.92 RT.	39.49 RT.	39.91 RT.	40.16 RT.	40.19 RT.	40.30 RT.	40.26 RT.	40.26 RT.	40.04 RT.	39.63 RT.	39.04 RT.
	DECK ELEVATION	503.27	504.10	504.98	505.79	505.88	506.80	507.82	507.82	508.84	509.87	510.91
	DEFLECTION	0.000 IN.	0.512 IN.	0.582 IN.	0.262 IN.	0.230 IN.	0.000 IN.	0.480 IN.	0.499 IN.	0.967 IN.	0.790 IN.	0.000 IN.
	SCREED ELEVATION	503.27	504.15	505.03	505.81	505.90	506.80	507.86	507.86	508.92	509.93	510.91
BEAM 13	STATION	39+54.47	39+73.04	39+91.61	40+08.30	40+10.19	40+28.77	40+49.14	40+49.25	40+69.50	40+89.85	41+10.20
	OFFSET	50.12 RT.	50.69 RT.	51.10 RT.	51.34 RT.	51.36 RT.	51.47 RT.	51.42 RT.	51.42 RT.	51.18 RT.	50.76 RT.	50.16 RT.
	DECK ELEVATION	502.84	503.68	504.56	505.38	505.47	506.39	507.41	507.42	508.44	509.48	510.52
	DEFLECTION	0.000 IN.	0.512 IN.	0.582 IN.	0.262 IN.	0.230 IN.	0.000 IN.	0.480 IN.	0.499 IN.	0.967 IN.	0.790 IN.	0.000 IN.
	SCREED ELEVATION	502.84	503.72	504.60	505.40	505.49	506.39	507.45	507.46	508.52	509.54	510.52
RIGHT FACE OF BARRIER	STATION	39+54.69	39+73.13	39+91.68	40+08.34	40+10.25	40+28.83	40+49.20	40+49.31	40+69.59	40+90.01	41+10.45
	OFFSET	51.99 RT.	51.98 RT.	51.98 RT.	51.98 RT.	51.98 RT.	51.98 RT.	51.98 RT.	51.98 RT.	51.99 RT.	51.99 RT.	52.00 RT.
	DECK ELEVATION	502.76	503.63	504.52	505.35	505.45	506.38	507.39	507.40	508.41	509.43	510.46
	DEFLECTION	0.000 IN.	0.512 IN.	0.582 IN.	0.262 IN.	0.230 IN.	0.000 IN.	0.480 IN.	0.499 IN.	0.967 IN.	0.790 IN.	0.000 IN.
	SCREED ELEVATION	502.76	503.67	504.57	505.37	505.47	506.38	507.43	507.44	508.49	509.50	510.46
RIGHT EDGE OF DECK	STATION	39+54.84	39+73.24	39+91.81	40+08.48	40+10.39	40+28.98	40+49.36	40+49.48	40+69.77	40+90.21	41+10.66
	OFFSET	53.49 RT.	53.48 RT.	53.48 RT.	53.48 RT.	53.48 RT.	53.48 RT.	53.48 RT.	53.48 RT.	53.49 RT.	53.49 RT.	53.50 RT.
	DECK ELEVATION	502.71	503.57	504.47	505.30	505.39	506.32	507.34	507.35	508.36	509.38	510.40
	DEFLECTION	0.000 IN.	0.512 IN.	0.582 IN.	0.262 IN.	0.230 IN.	0.000 IN.	0.480 IN.	0.499 IN.	0.967 IN.	0.790 IN.	0.000 IN.
	SCREED ELEVATION	502.71	503.61	504.52	505.32	505.41	506.32	507.38	507.39	508.44	509.45	510.40

NOTE:
THE ELEVATIONS SHOWN ARE THE TOP OF THE CONCRETE DECK THAT ARE REQUIRED BEFORE THE CONCRETE IS PLACED.

DESIGN AGENCY
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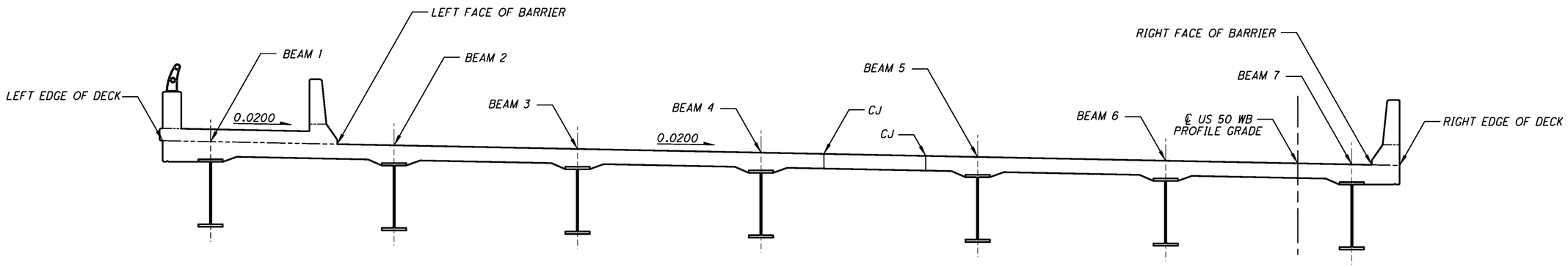
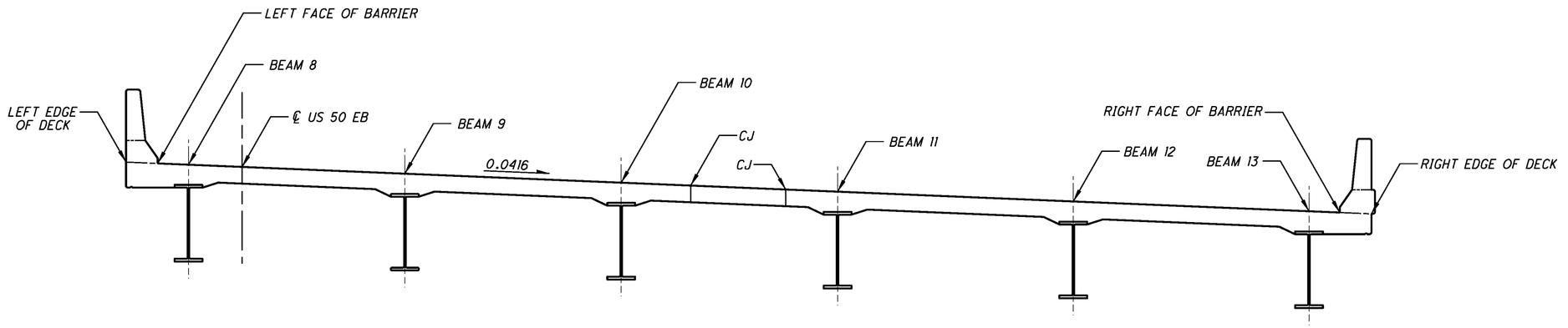
DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
DEF	DAT	RBK		BMB	11-29-10	3102807/3102815

SCREED TABLE
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082



BRIDGE TYPICAL SECTION
BRIDGE NO. HAM-50-1903 L



BRIDGE TYPICAL SECTION
BRIDGE NO. HAM-50-1903 R

SCREED LOCATION POINTS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

DESIGN AGENCY
KZF DESIGN
Architecture | Engineering | Interiors | Planning
KZF DESIGN, INC. 700 Main Street, Hamilton, Ohio 45013
TEL. 513.821.6211 FAX 513.821.9830 WEB www.kzf.com

DESIGNED	DRAWN	REVIEWED	DATE
DEF	RBK	BMB	11-29-10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DAT		31028017/3102815	

HAM-50-18.79
PID No. 20082

46 / 65

570
657

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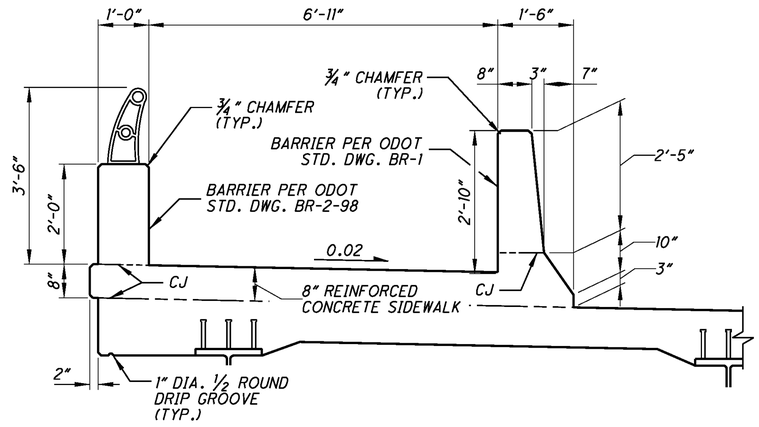
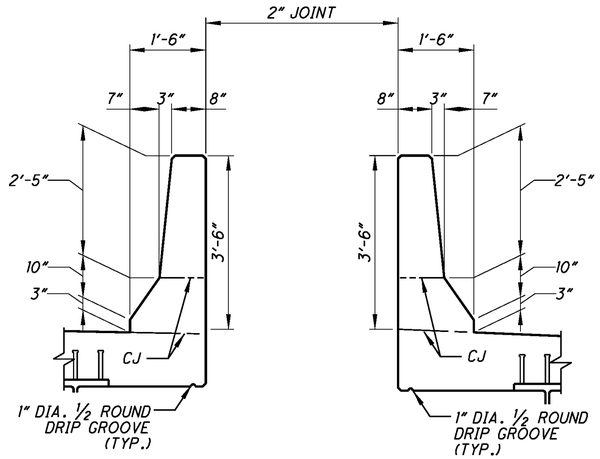
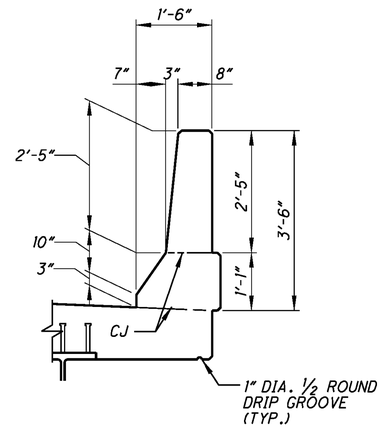


NORTH PEDESTRIAN/VEHICULAR BARRIER AND SIDEWALK SECTION
BRIDGE NO. HAM-50-1903 L



SOUTH VEHICULAR BARRIER SECTION
BRIDGE NO. HAM-50-1903 L

NORTH VEHICULAR BARRIER SECTION
BRIDGE NO. HAM-50-1903 R



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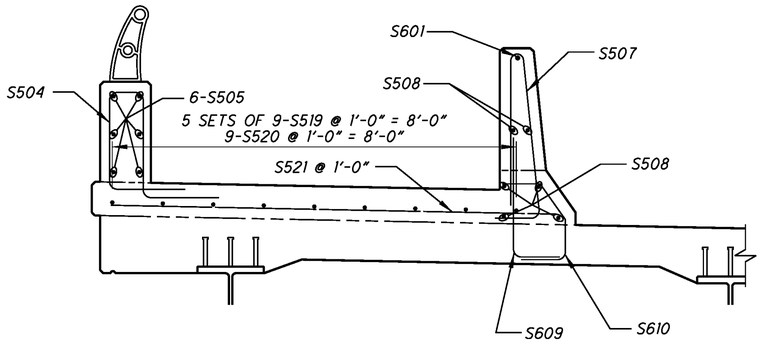
BRIDGE NO. HAM-50-1903 R



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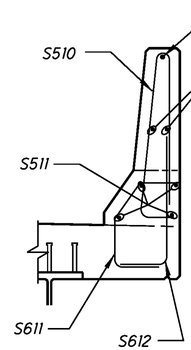
BRIDGE NO. HAM-50-1903 L



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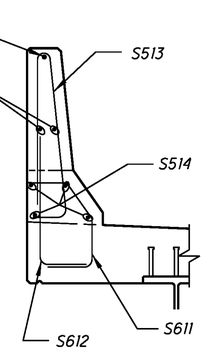

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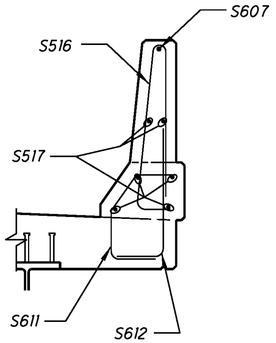

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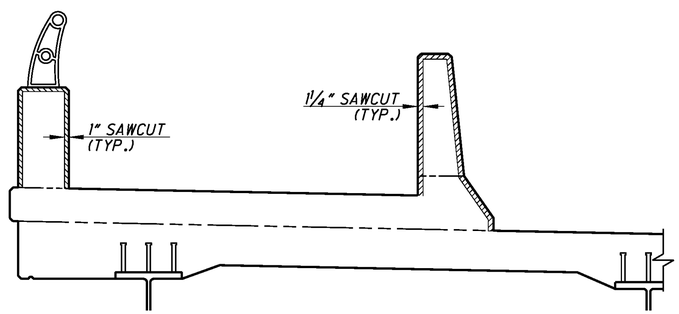
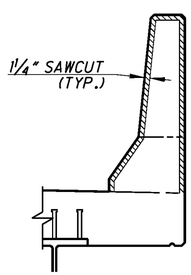


NORTH PEDESTRIAN/VEHICULAR BARRIER AND SIDEWALK SECTION
BRIDGE NO. HAM-50-1903 L



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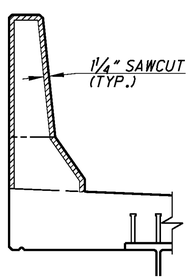

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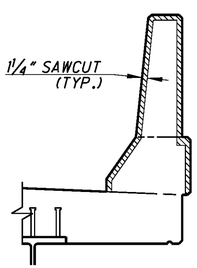

SOUTH VEHICULAR BARRIER SECTION
BRIDGE NO. HAM-50-1903 R

NOTES:
1. FOR ADDITIONAL PARAPET DETAILS, SEE SHEET 48-49/65
2. FOR ADDITIONAL PARAPET DETAILS, SEE ODOT STD. DWG. BR-1 AND BR-2-98
3. REINFORCING IN NORTH PEDESTRIAN BARIER (SEE ODOT STD. DWG. BR-2-98) SHALL BE INCLUDED IN ITEM 517, RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING)

DESIGN AGENCY
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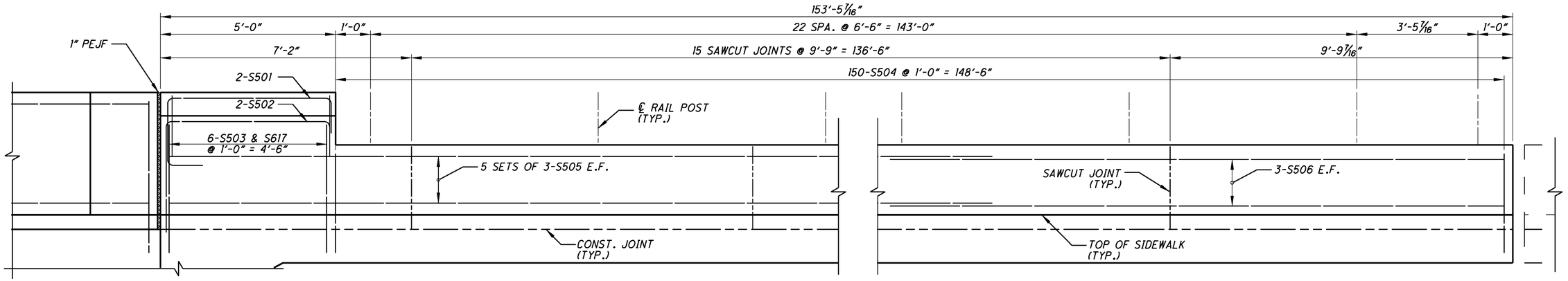
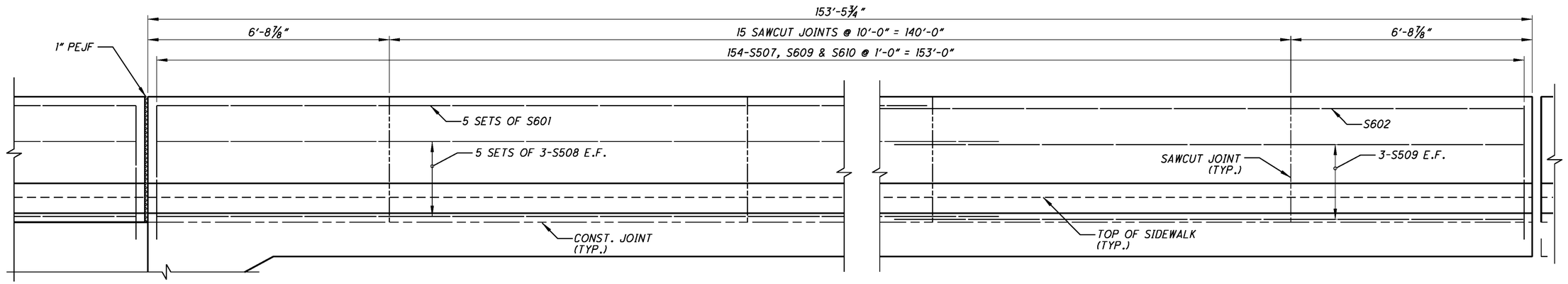
SIDEWALK AND PARAPET DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

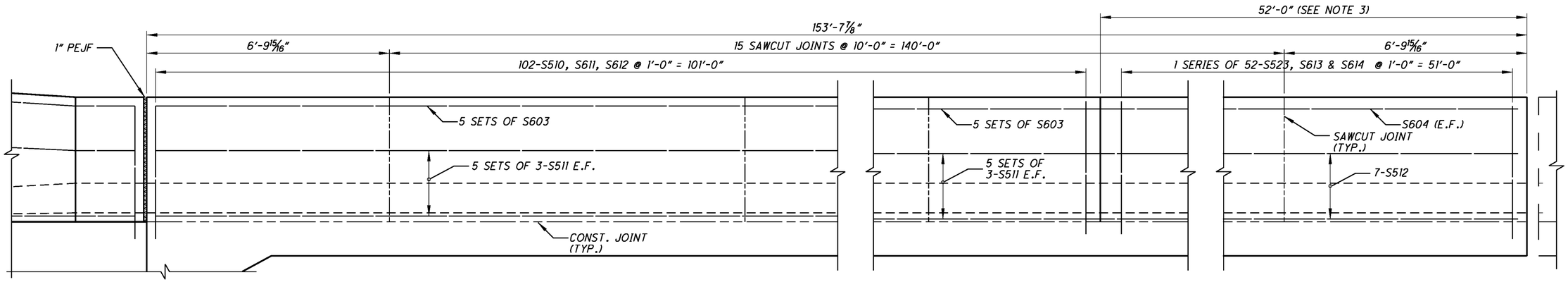
HAM-50-18.79
PID No. 20082



NORTH PEDESTRAIN BARRIER - LOOKING NORTH
BRIDGE NO. HAM-50-1903 L



NORTH VEHICULAR BARRIER - LOOKING NORTH
BRIDGE NO. HAM-50-1903 L



SOUTH VEHICULAR BARRIER - LOOKING NORTH
BRIDGE NO. HAM-50-1903 L

NOTES:

1. MIN. LAP FOR A NO. 5 BAR = 2'-11"
2. MIN. LAP FOR A NO. 6 BAR = 3'-5"
3. FOR PARAPET TO BARRIER TRANSITION, SEE SHEET 50-51/65
4. REINFORCING IN NORTH PEDESTRIAN BARIER (SEE ODOT STD. DWG. BR-2-98) SHALL BE INCLUDED IN ITEM 517, RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING)

DESIGN AGENCY
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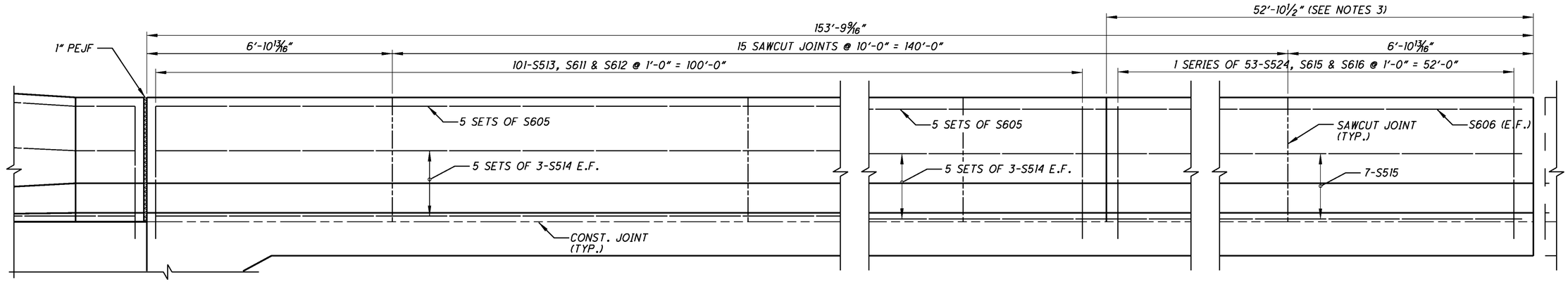
PARAPET DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

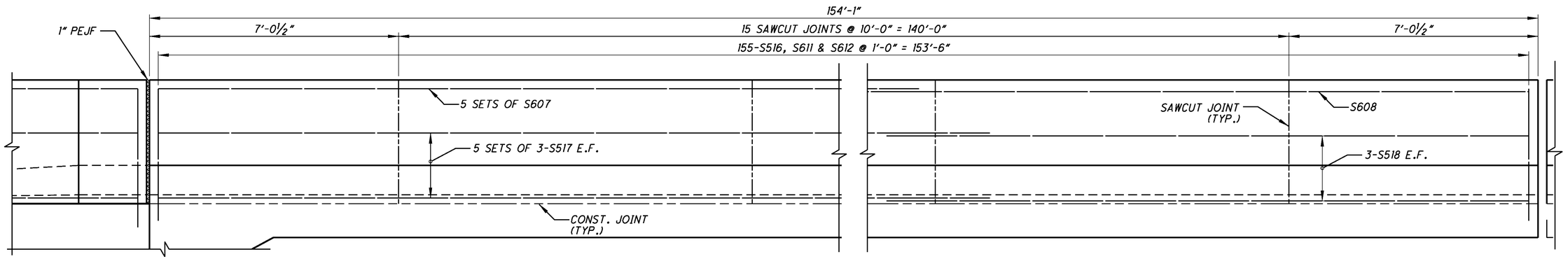
HAM-50-18.79
PID No. 20082

48 / 65

572 / 657



NORTH VEHICULAR BARRIER - LOOKING NORTH
HAM-50-1903 R



SOUTH VEHICULAR BARRIER - LOOKING NORTH
HAM-50-1903 R

NOTES:
1. MIN. LAP FOR A NO. 5 BAR = 2'-11"
2. MIN. LAP FOR A NO. 6 BAR = 3'-5"
3. FOR PARAPET TO BARRIER TRANSITION, SEE SHEET 50-51/65

DESIGN AGENCY
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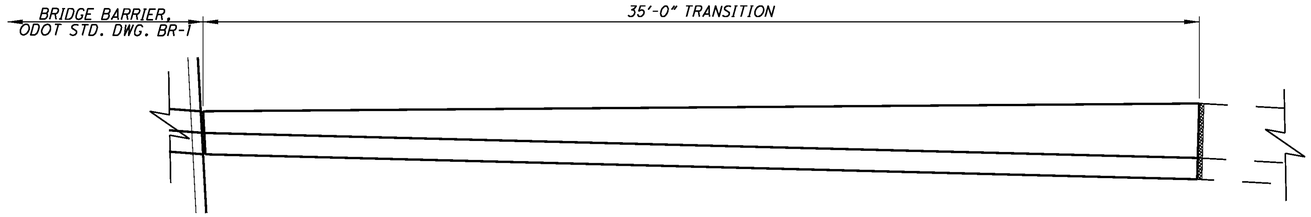
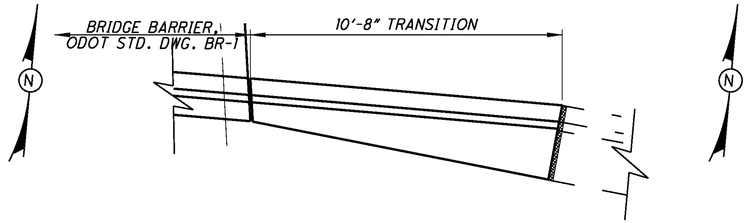
DAT		3102807/3102815	

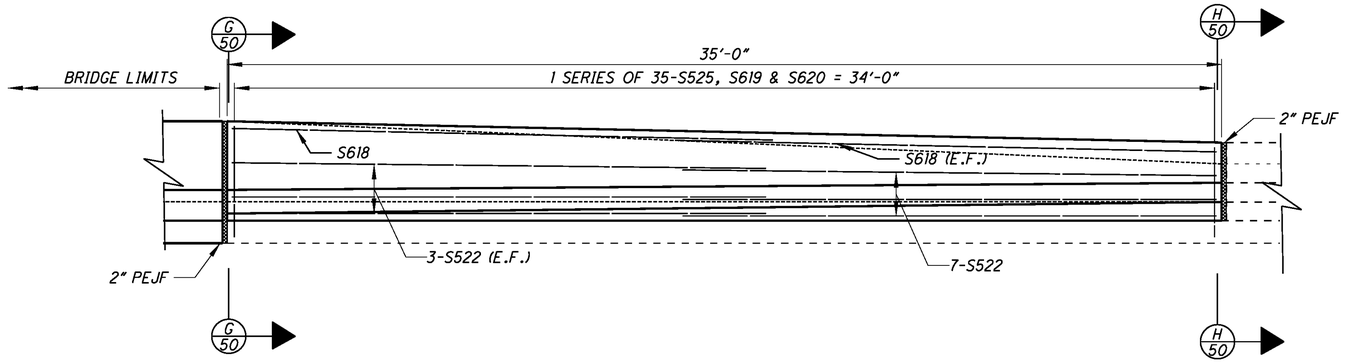
PARAPET DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082





LEFT FORWARD BARRIER PLAN
BRIDGE NO. HAM-50-1903 L



RIGHT FORWARD BARRIER PLAN
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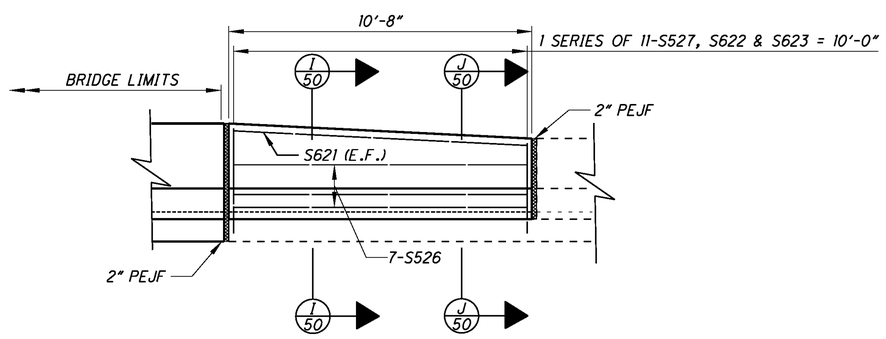

LEFT FORWARD BARRIER ELEVATION - LOOKING NORTH
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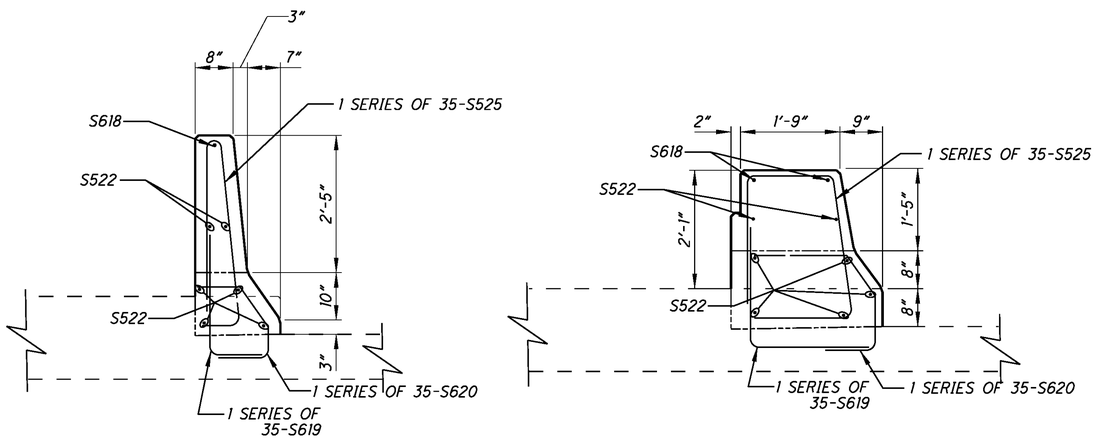
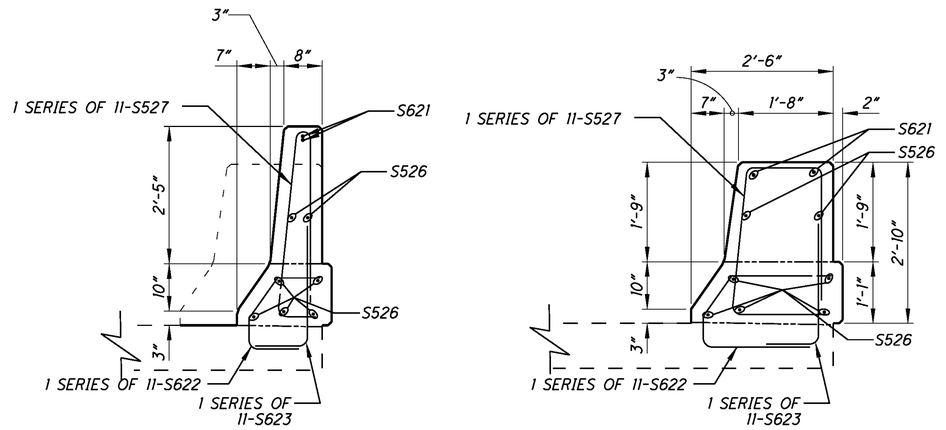


G/50 SECTION

H/50 SECTION

RIGHT FORWARD BARRIER ELEVATION - LOOKING NORTH
BRIDGE NO. HAM-50-1903 R



I/50 SECTION

J/50 SECTION

NOTES:
1. FOR ADDITIONAL BARRIER DETAILS, SEE SHEET 48-49/65

DESIGN AGENCY
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BARRIER TRANSITION DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

50/65

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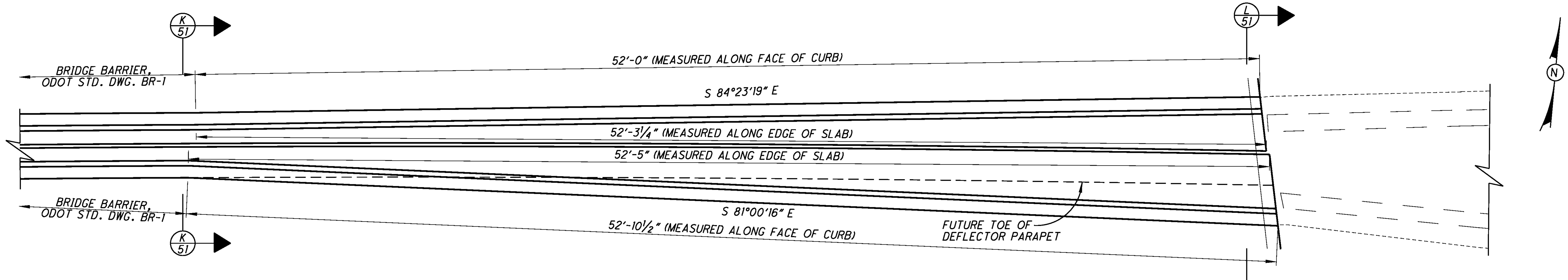

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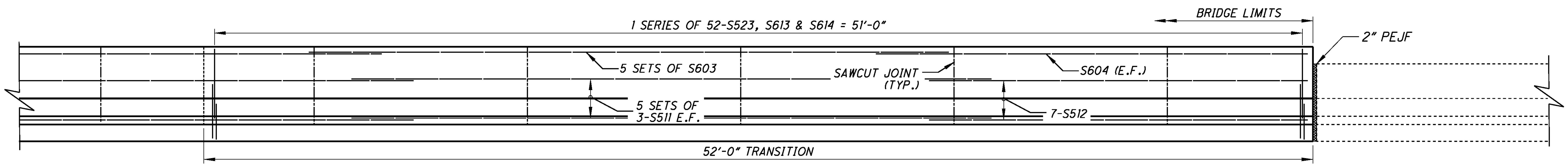
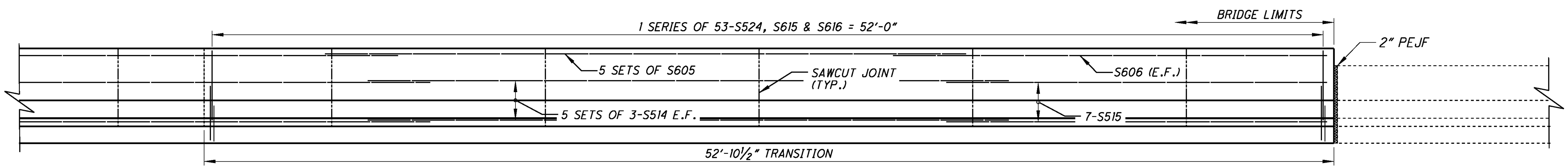
BRIDGE NO. HAM-50-1903 L/R



LEFT FORWARD BARRIER ELEVATION - LOOKING NORTH
BRIDGE NO. HAM-50-1903 L



RIGHT FORWARD BARRIER ELEVATION - LOOKING SOUTH
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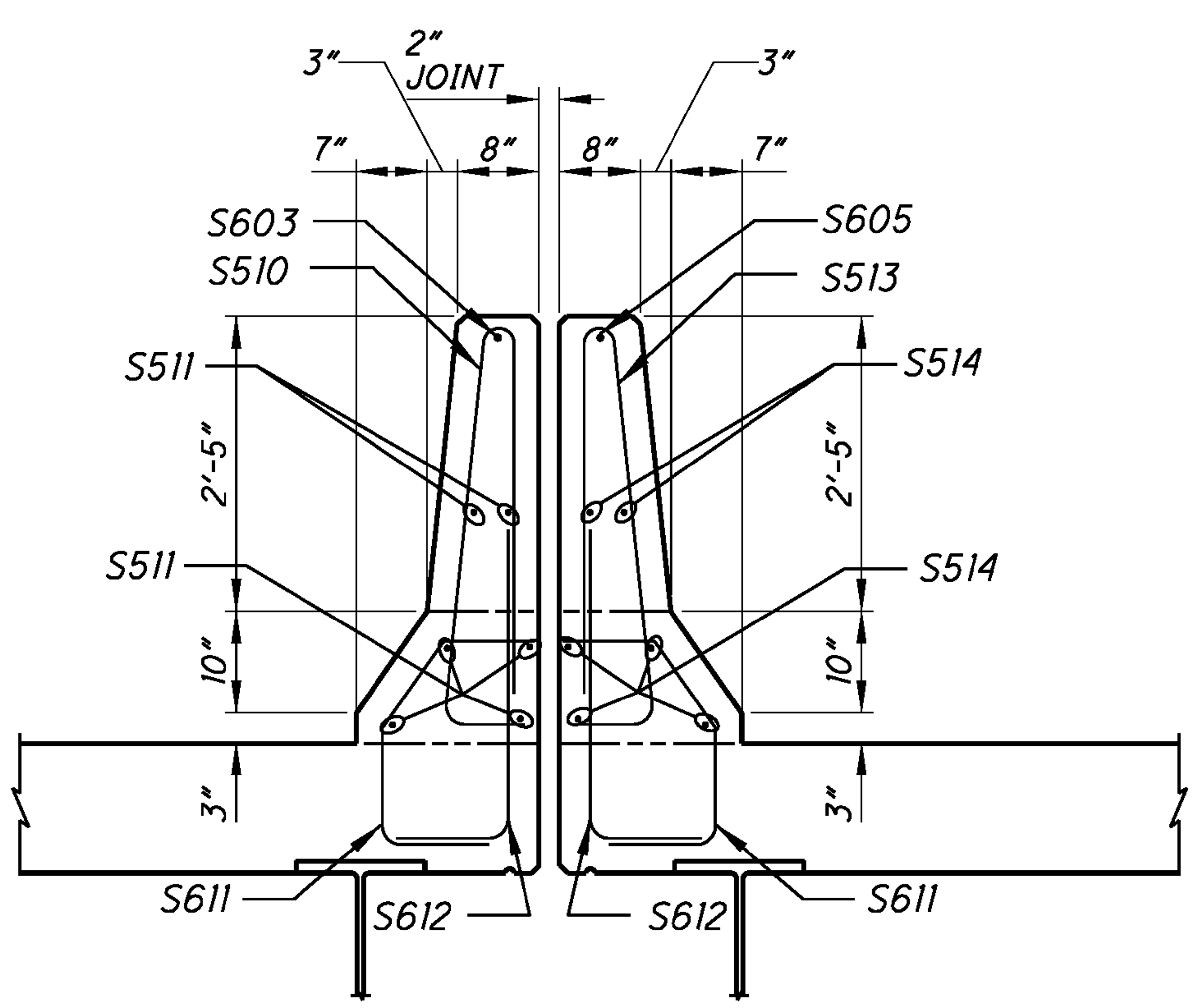
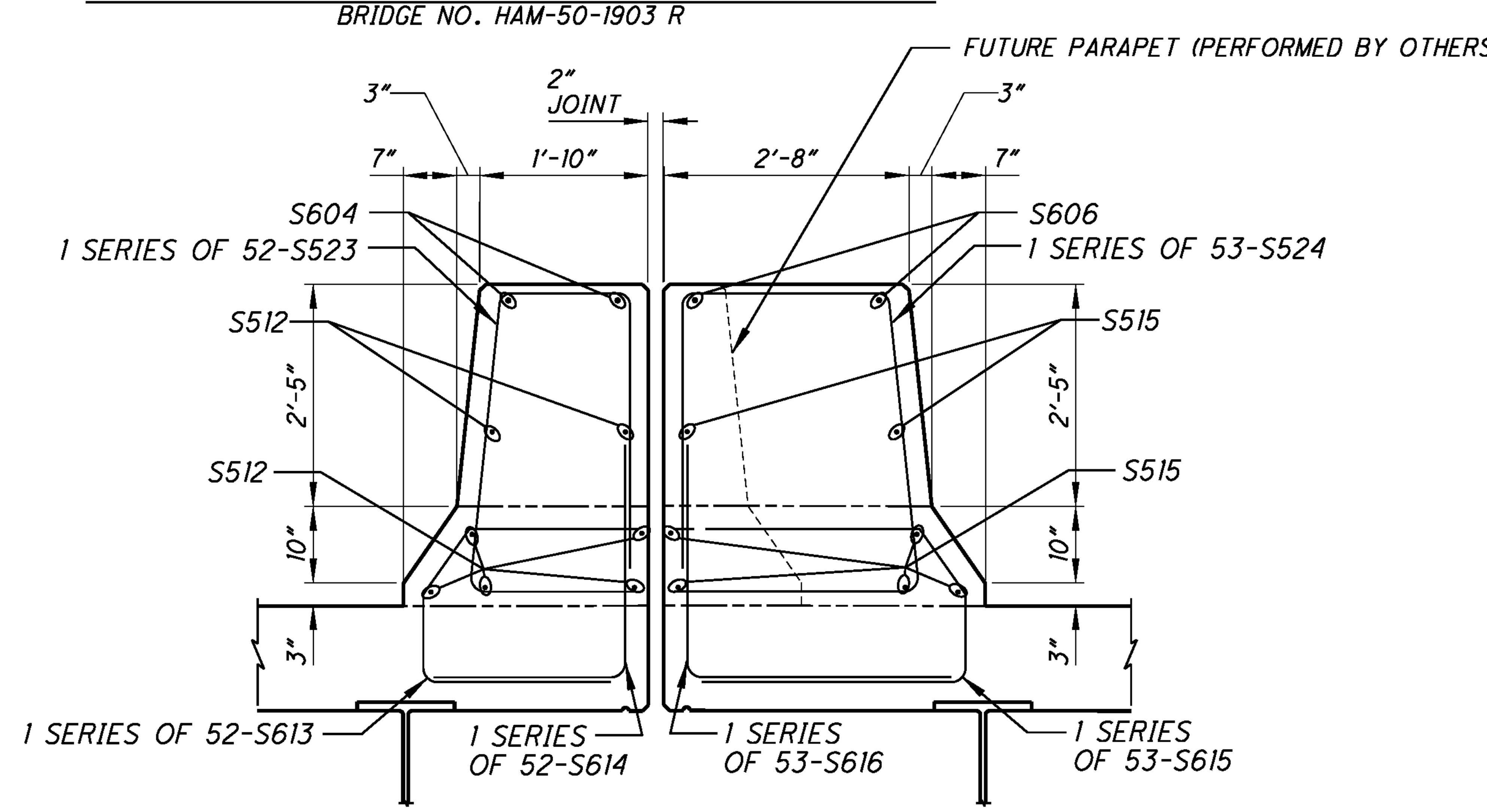


K/51 SECTION



L/51 SECTION

NOTES:
1. FOR ADDITIONAL BARRIER DETAILS, SEE SHEET 48-49/65

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KZF DESIGN
Architecture | Engineering | Interiors | Planning

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DAT		3102807/3102815	

BARRIER TRANSITION DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

51/65

575/657

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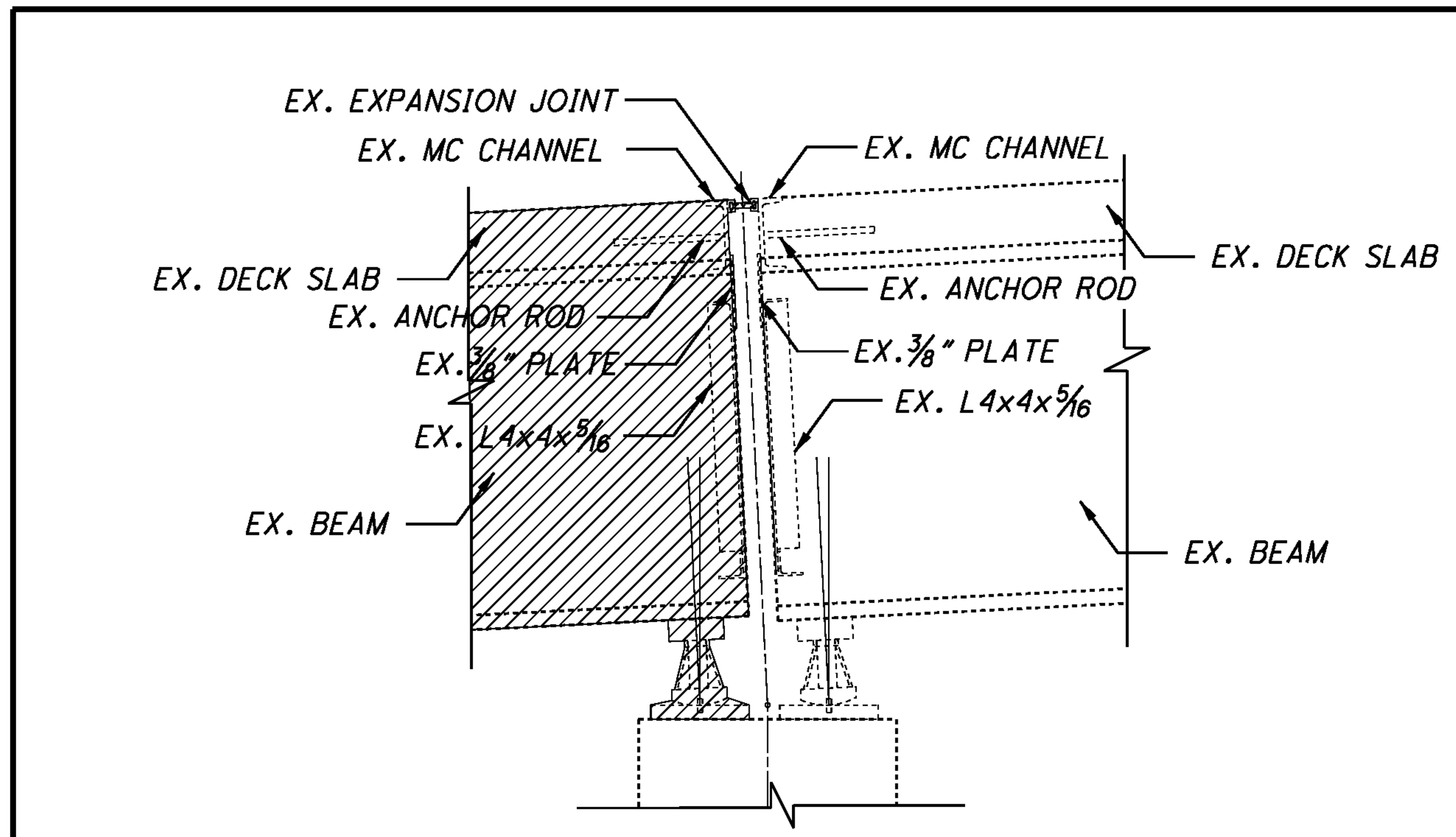
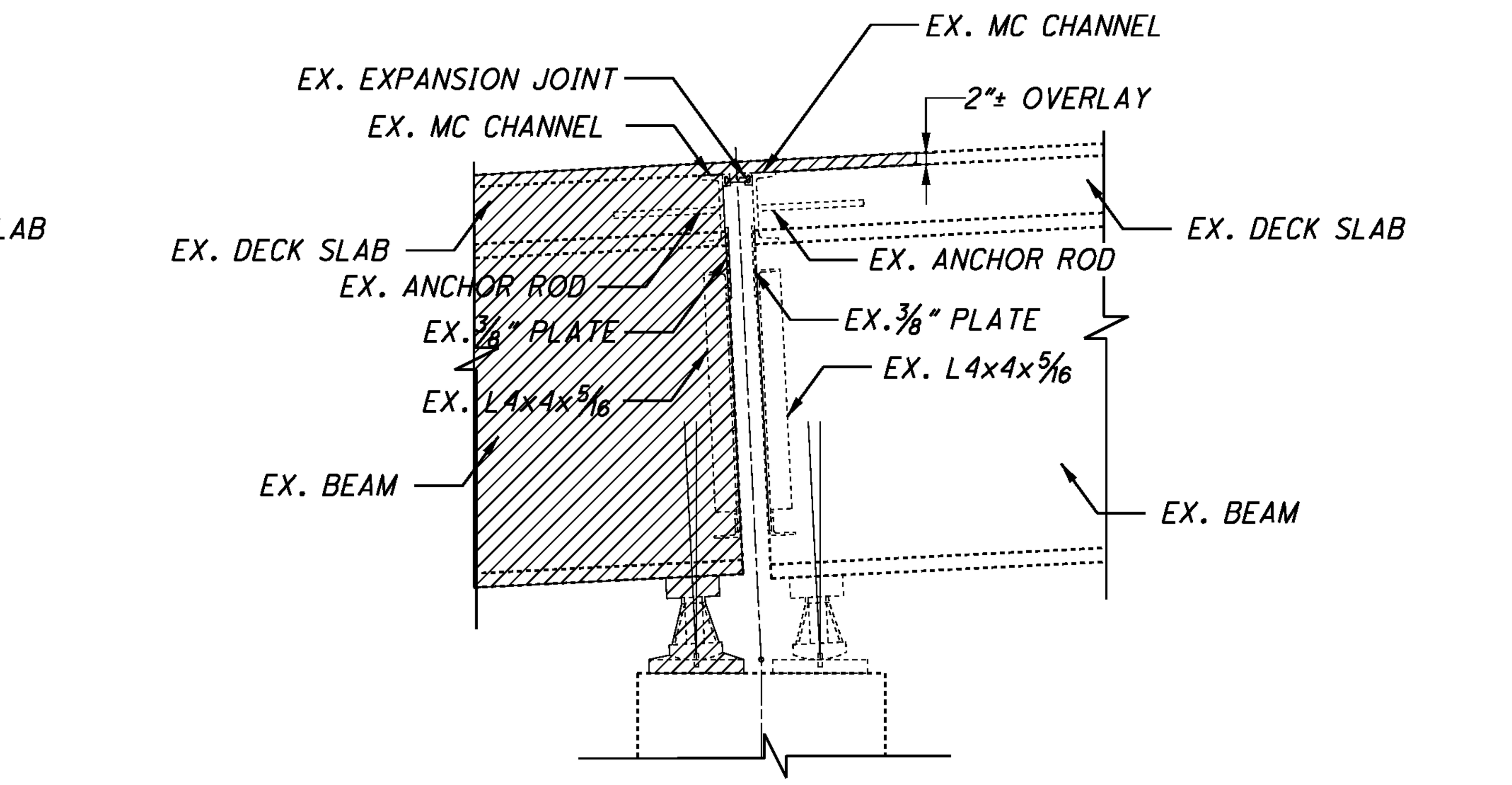


EXISTING EXPANSION JOINT SECTION
BRIDGE NO. HAM-50-1903 L



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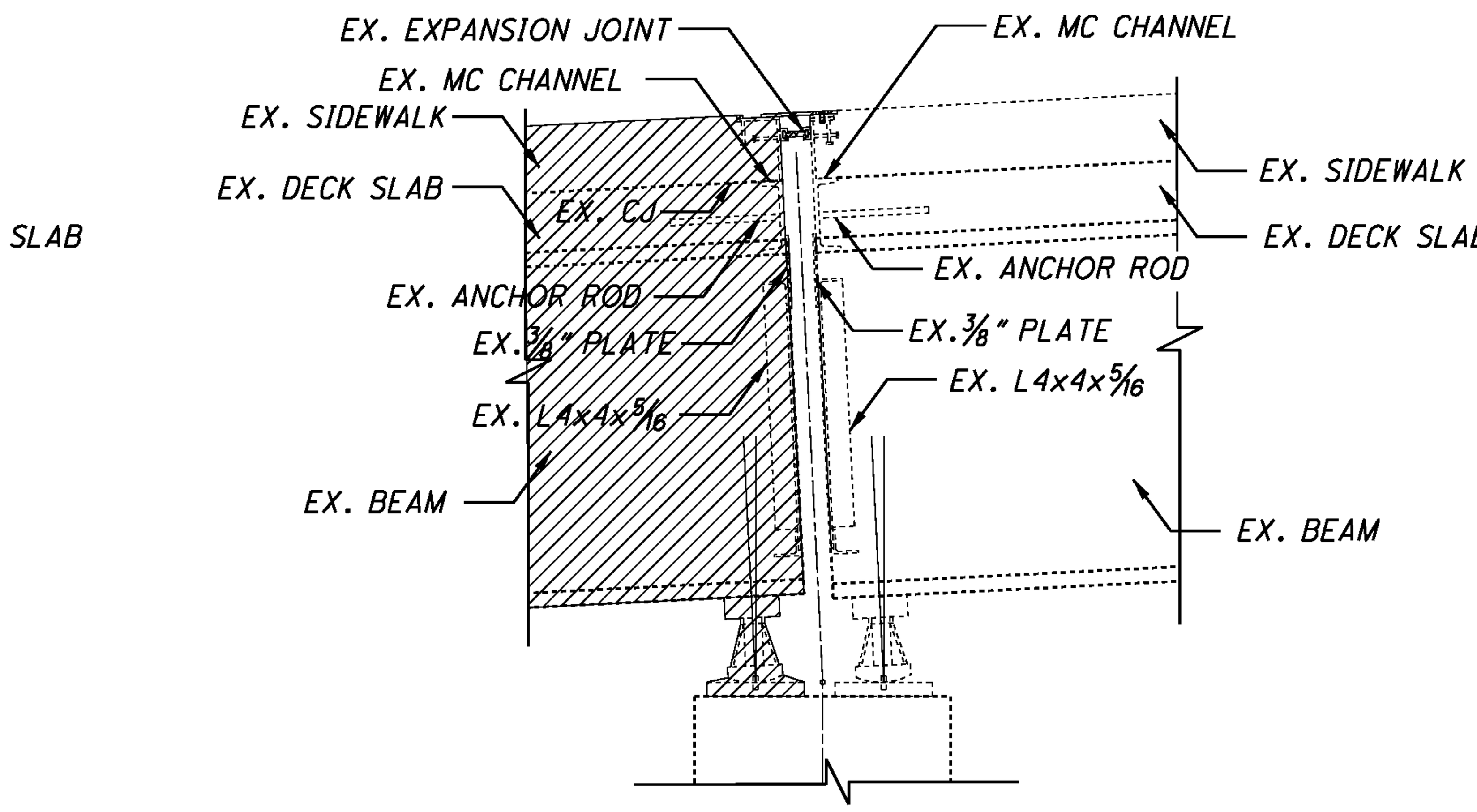
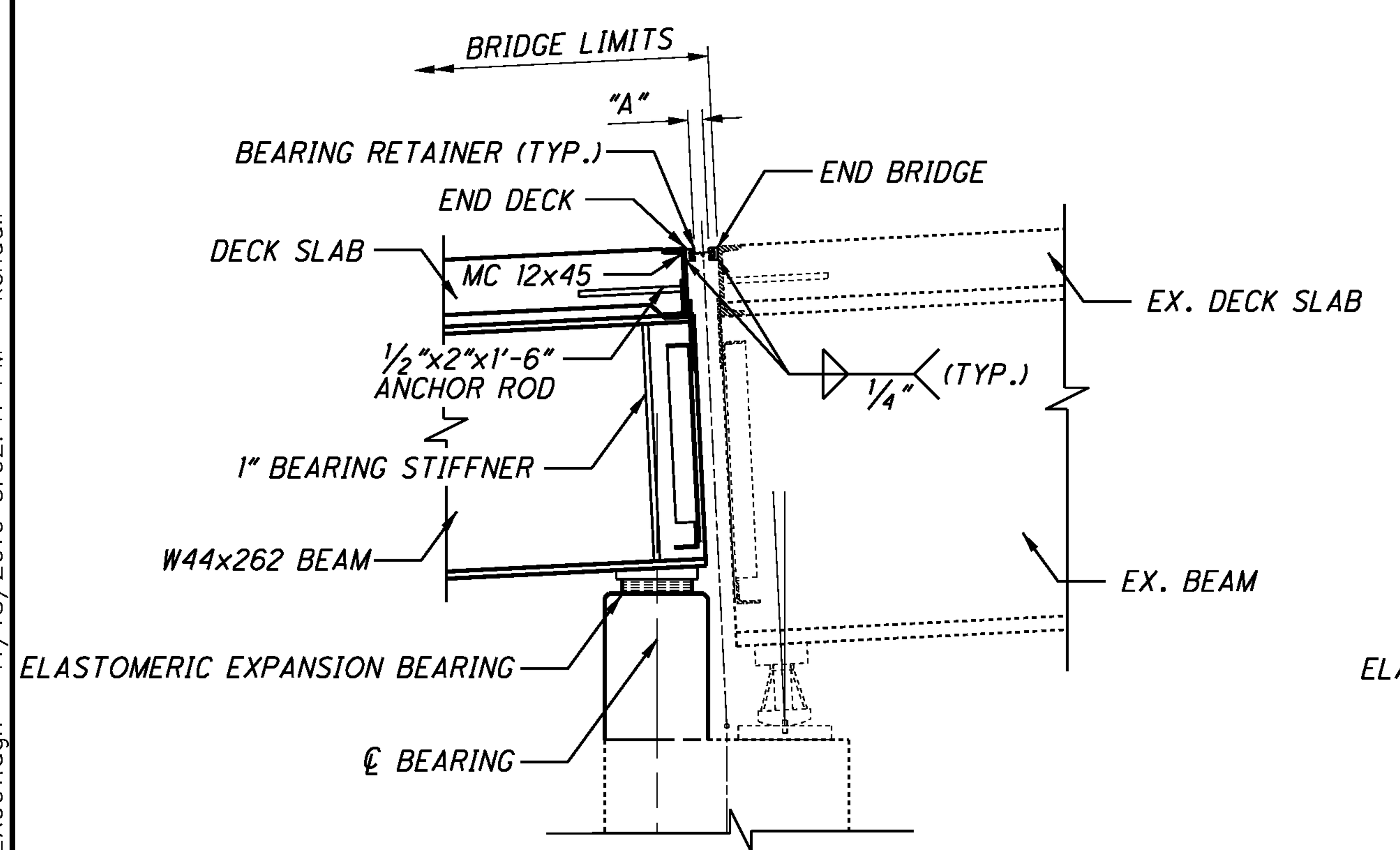
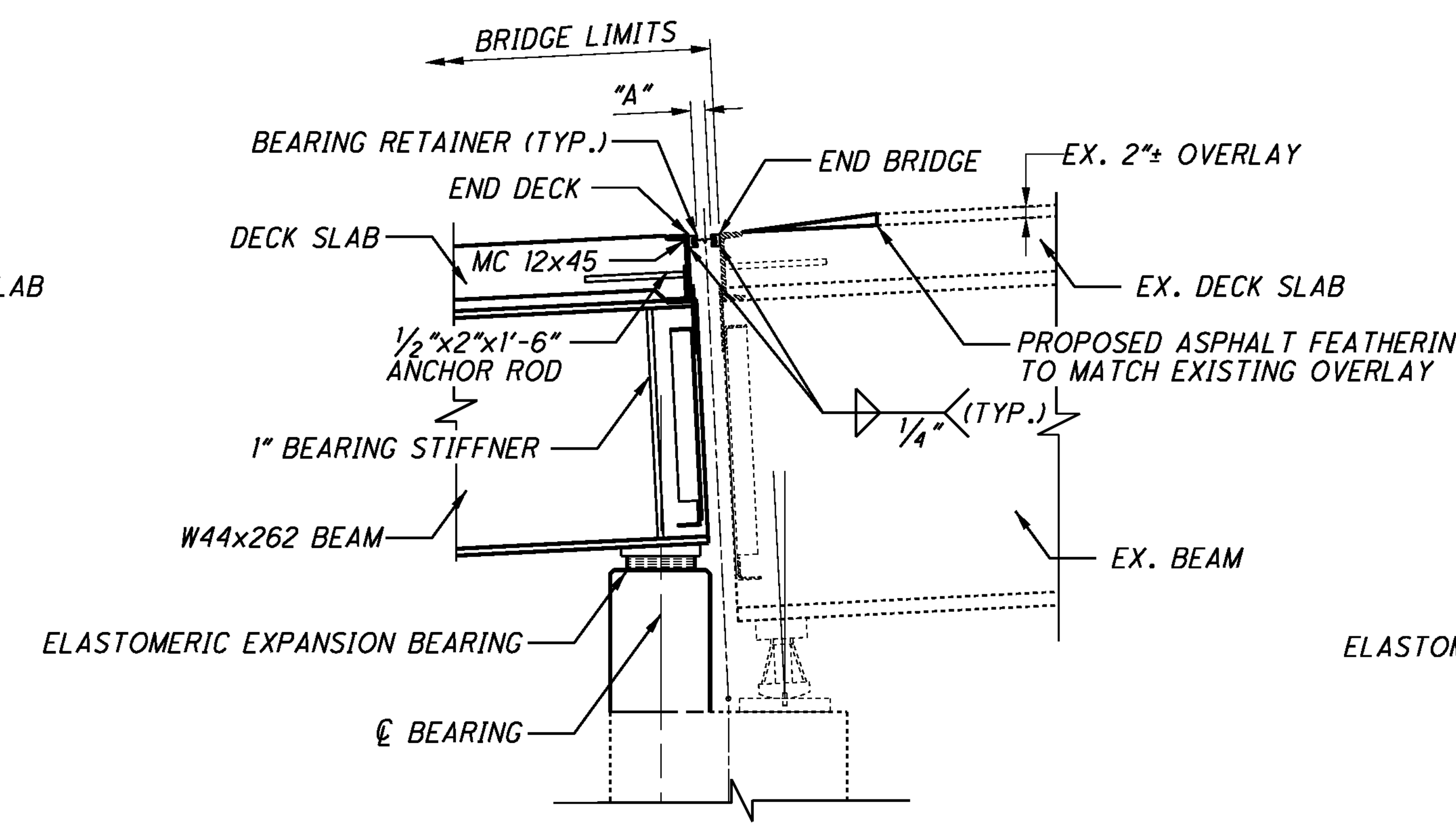
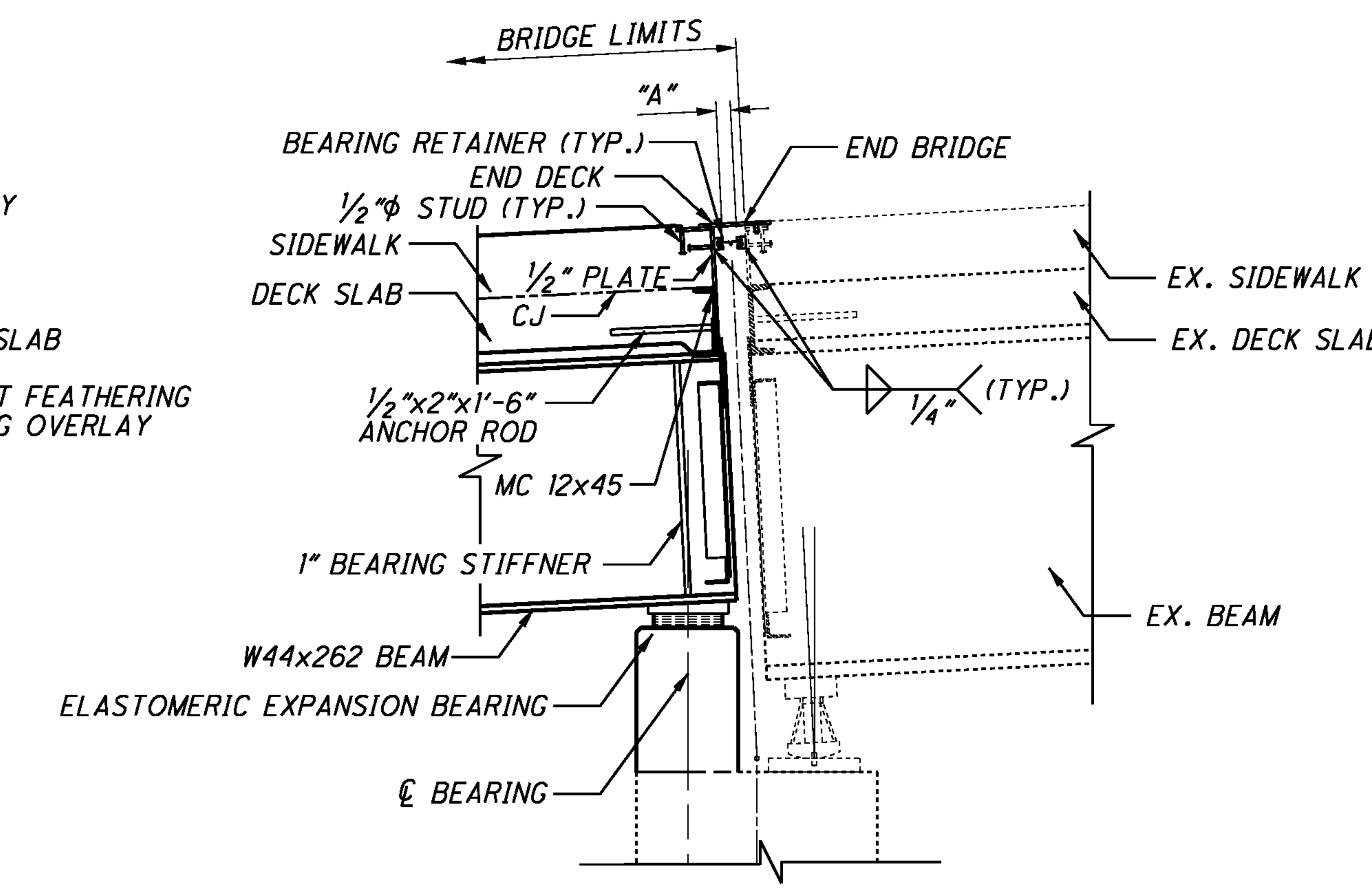


EXISTING EXPANSION JOINT SECTION AT SIDEWALK
BRIDGE NO. HAM-50-1903 L







PROPOSED EXPANSION JOINT SECTION
BRIDGE NO. HAM-50-1903 L

PROPOSED EXPANSION JOINT SECTION
BRIDGE NO. HAM-50-1903 R

PROPOSED EXPANSION JOINT SECTION AT SIDEWALK
BRIDGE NO. HAM-50-1903 L

3" STRIP SEAL DIMENSION "A" (SEE STD. DWG. EXJ-4-87)	30°	40°	50°	60°	70°	80°	90°
LEFT BRIDGE (WESTBOUND)	1 13/16	1 3/4	1 11/16	1 21/32	1 19/32	1 9/16	1 1/2
RIGHT BRIDGE (EASTBOUND)	1 13/16	1 3/4	1 11/16	1 21/32	1 19/32	1 9/16	1 1/2
LEFT BRIDGE (SIDEWALK)	1 13/16	1 3/4	1 11/16	1 21/32	1 19/32	1 9/16	1 1/2

LEGEND:

PORTIONS OF STRUCTURE TO BE REMOVED

NOTES:

1. CONTRACTOR TO FIELD VERIFY COMPLETE MAKE-UP OF EXISITING EXPANSION JOINT. IF EXISTING EXPANSION JOINT IS DIFFERENT THAN THAT OF WHICH IS DELINEATED IN THE PLANS, CONTRACTOR SHALL SUBMIT A PROPOSED REMOVAL AND INSTALLATION PROCEDURE TO ODOT INSPECTOR FOR APPROVAL PRIOR TO BEGINNING WORK.
2. REFER TO ODOT STD. DWG. EXJ-4-87 AND GSD-1-96 FOR MORE DETAILS.
3. THE STRIP SEAL SHALL BE OF ONE CONTINUOUS PIECE ACROSS THE TOTAL WIDTH OF EACH STRUCTURE. NO SPLICES WILL BE ACCEPTABLE.

DESIGN AGENCY
KZF DESIGN
Architecture | Engineering | Interiors | Planning

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DEF	RBK	BMB	11-29-10
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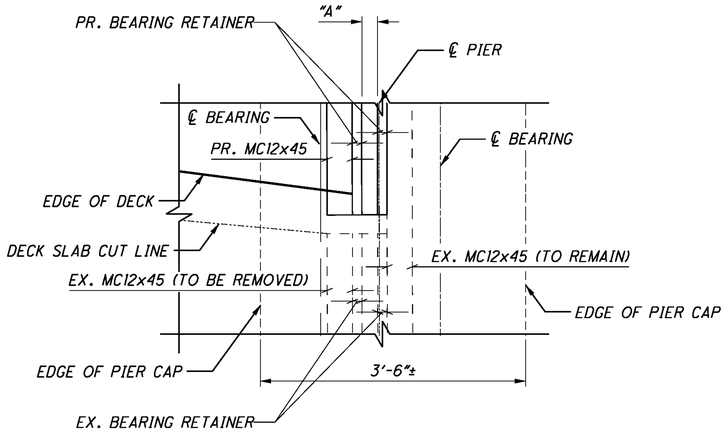
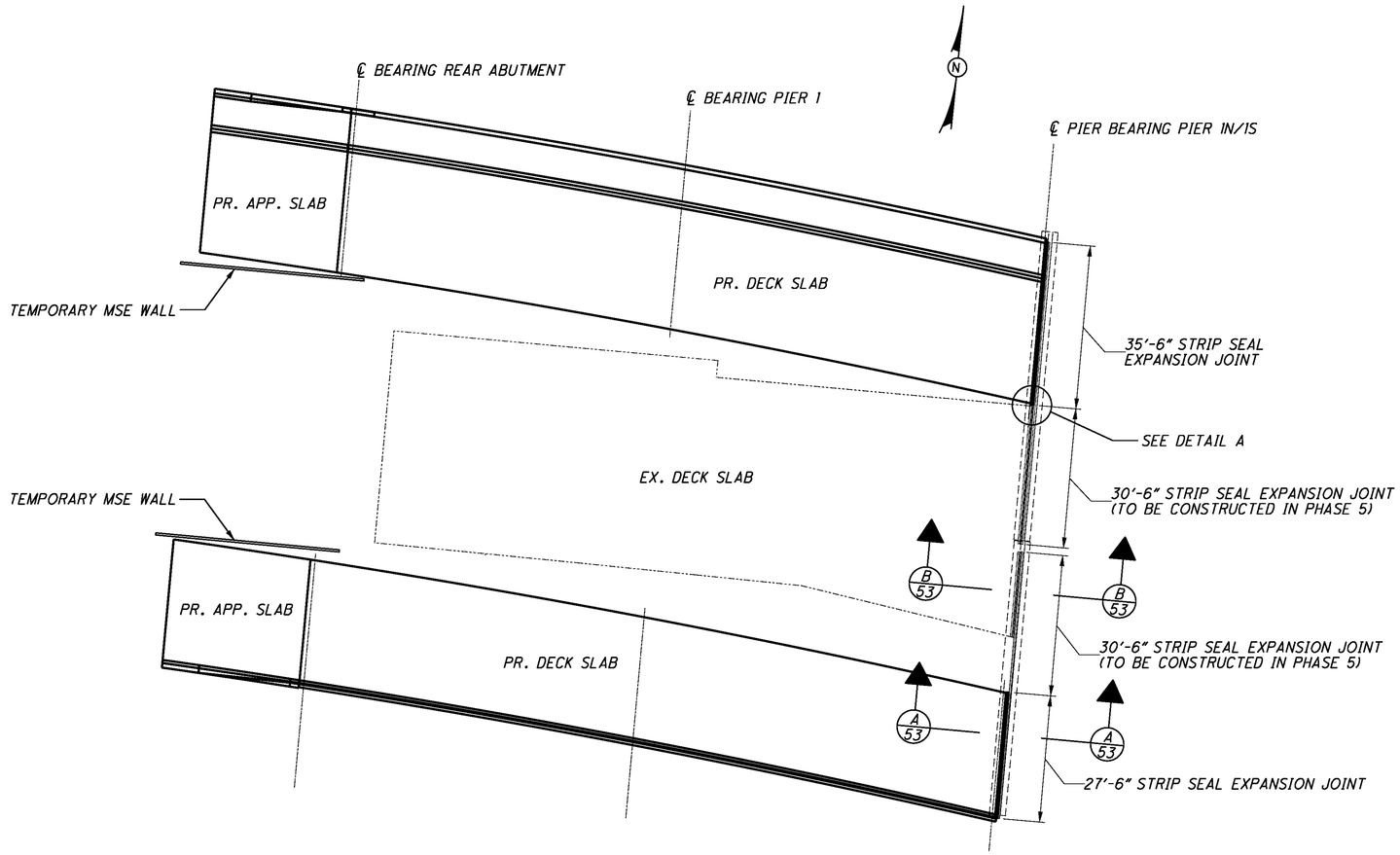
DAT		3102807/3102815	

EXPANSION JOINT DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

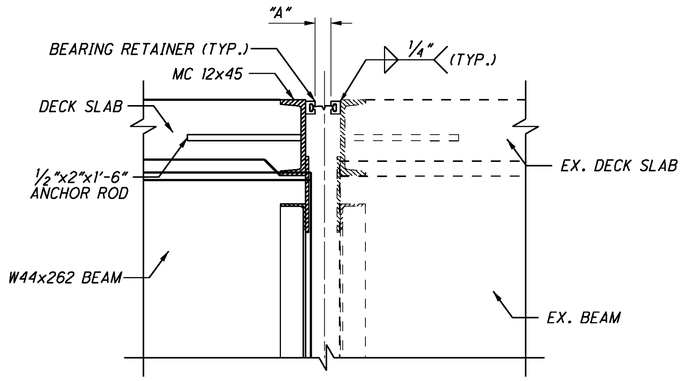
HAM-50-18.79
PID No. 20082



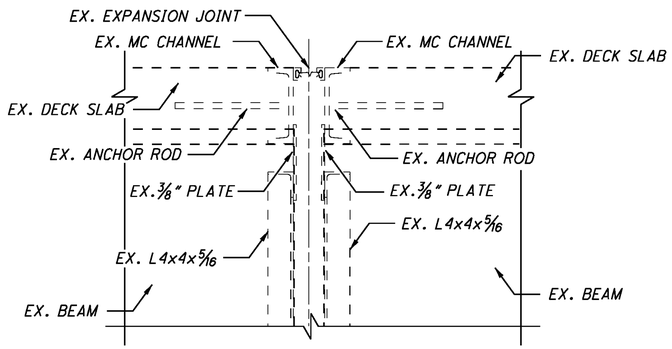
DETAIL A
BRIDGE NO. HAM-50-1903 L SHOWN
BRIDGE NO. HAM-50-1903 R SIMILIAR



SCHEMATIC PLAN - PHASE 3 CONSTRUCTION
BRIDGE NO. HAM-50-1903 L/R



A 53 SECTION



B 53 SECTION

NOTES:
1. CONTRACTOR TO FIELD VERIFY COMPLETE MAKE-UP OF EXISITING EXPANSION JOINT. IF EXISTING EXPANSION JOINT IS DIFFERENT THAN SHOWN IN THE PLANS, CONTRACTOR SHALL SUBMIT A PROPOSED REMOVAL AND INSTALLATION PROCEDURE TO ODOT INSPECTOR FOR APPROVAL PRIOR TO BEGINNING WORK.
2. REFER TO ODOT STD. DWG. EXJ-4-87 AND GSD-1-96 FOR ADDITIONAL DETAILS.

DESIGN AGENCY
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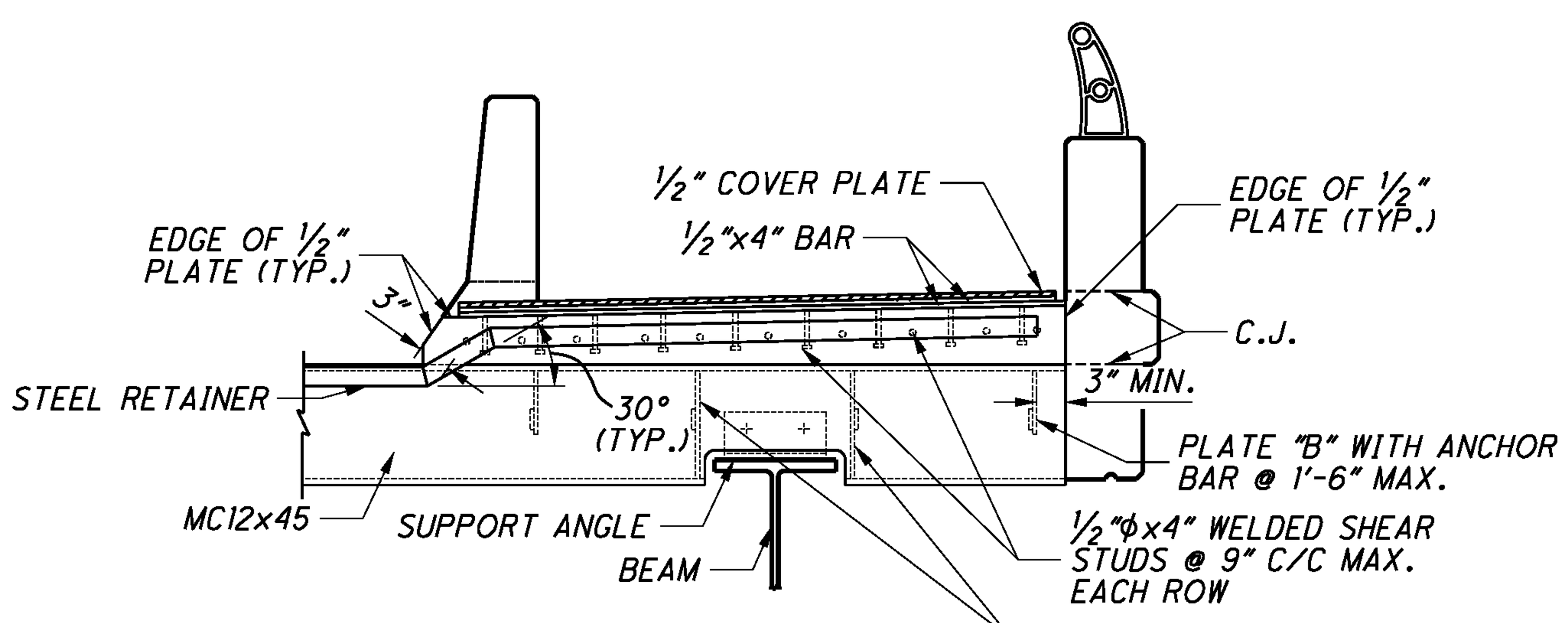
EXPANSION JOINT DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

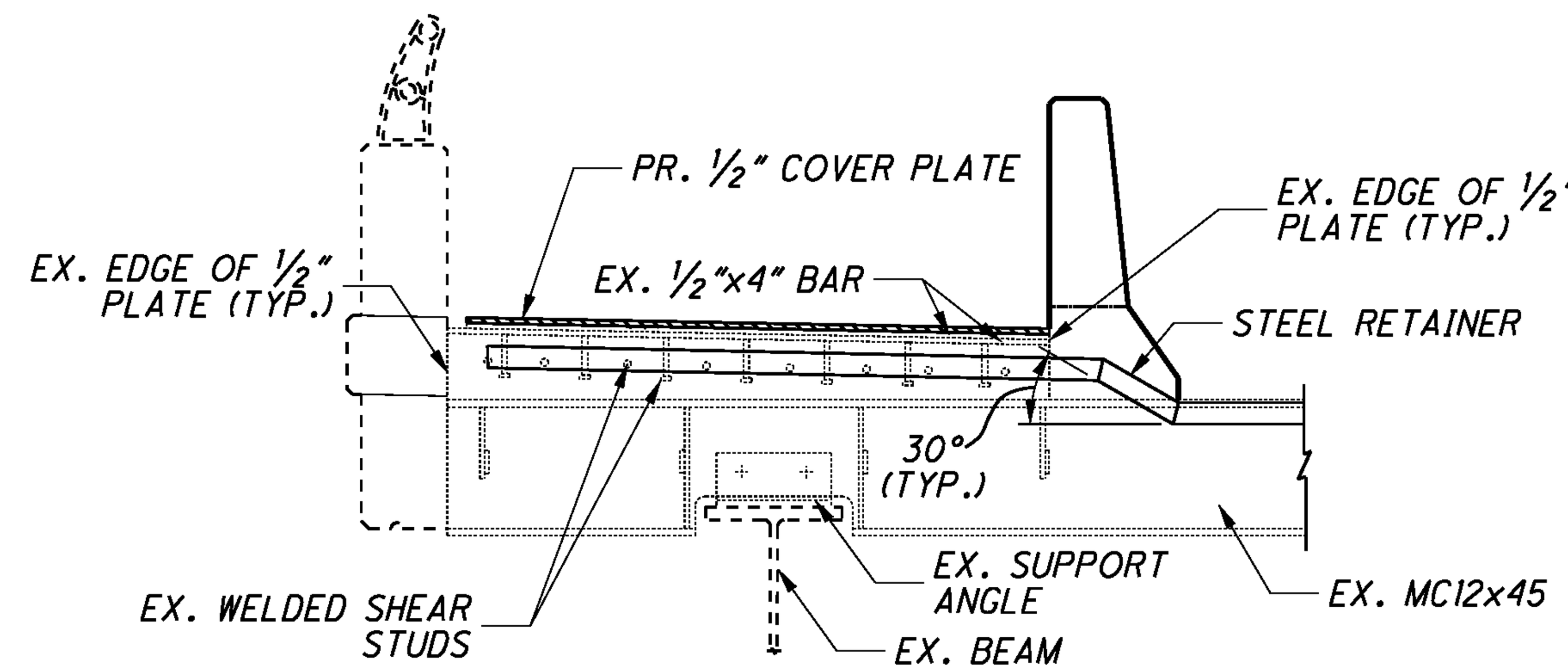
HAM-50-18.79
PID No. 20082

53 / 65

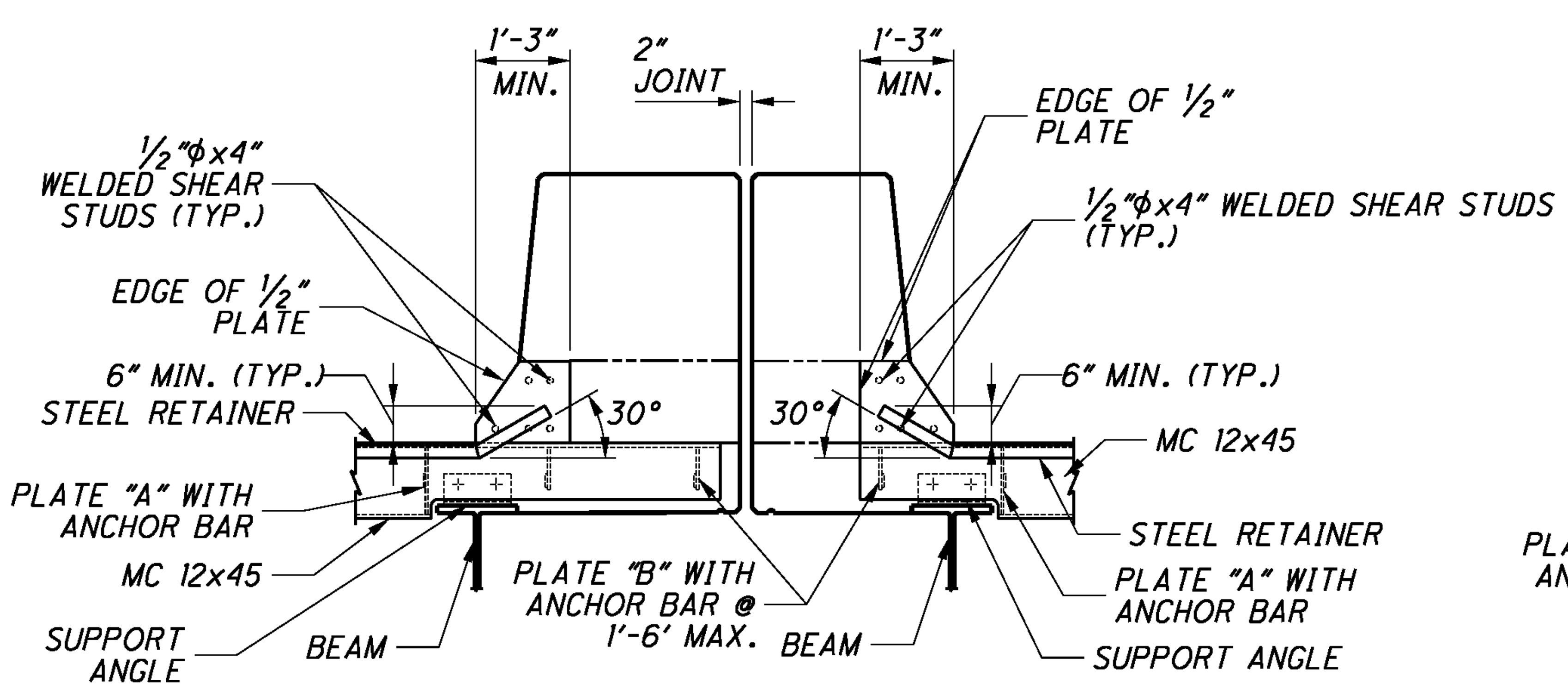
577 / 657



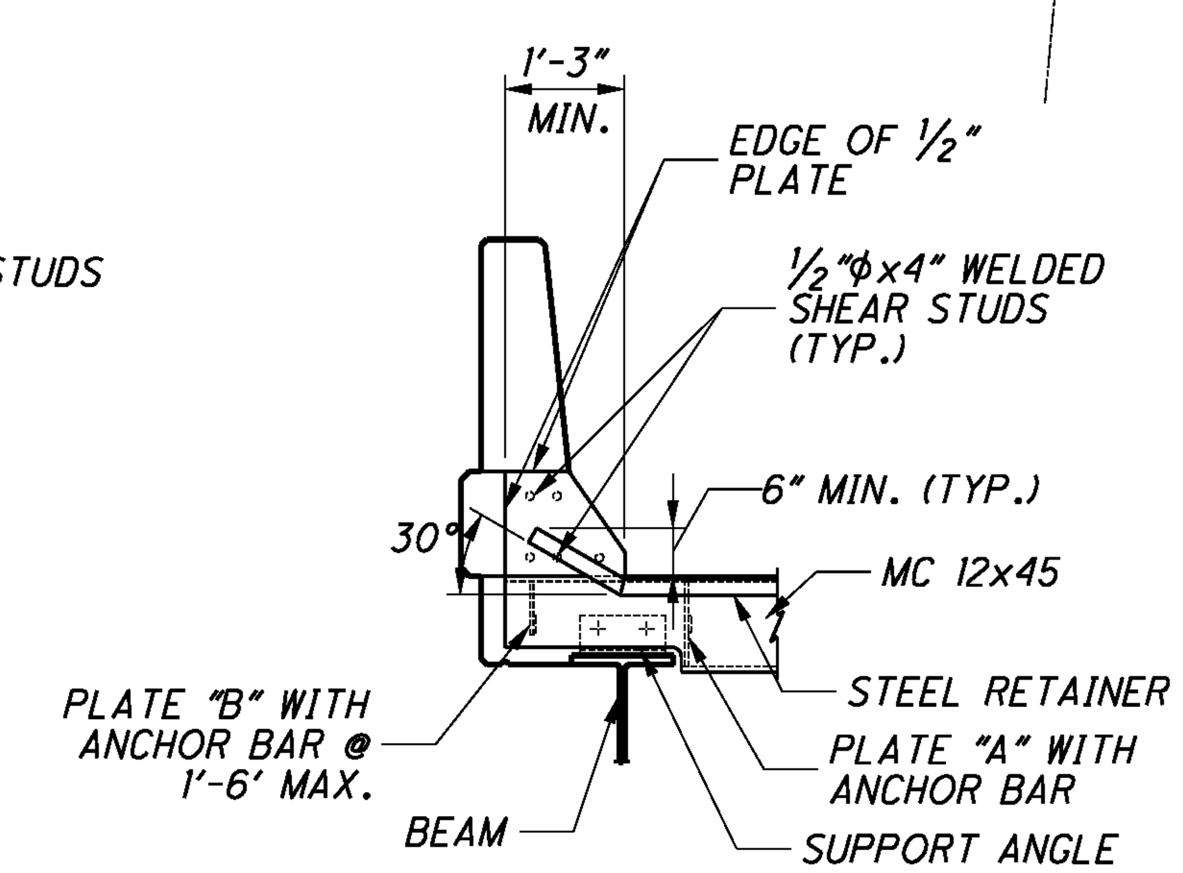
A/54 SECTION



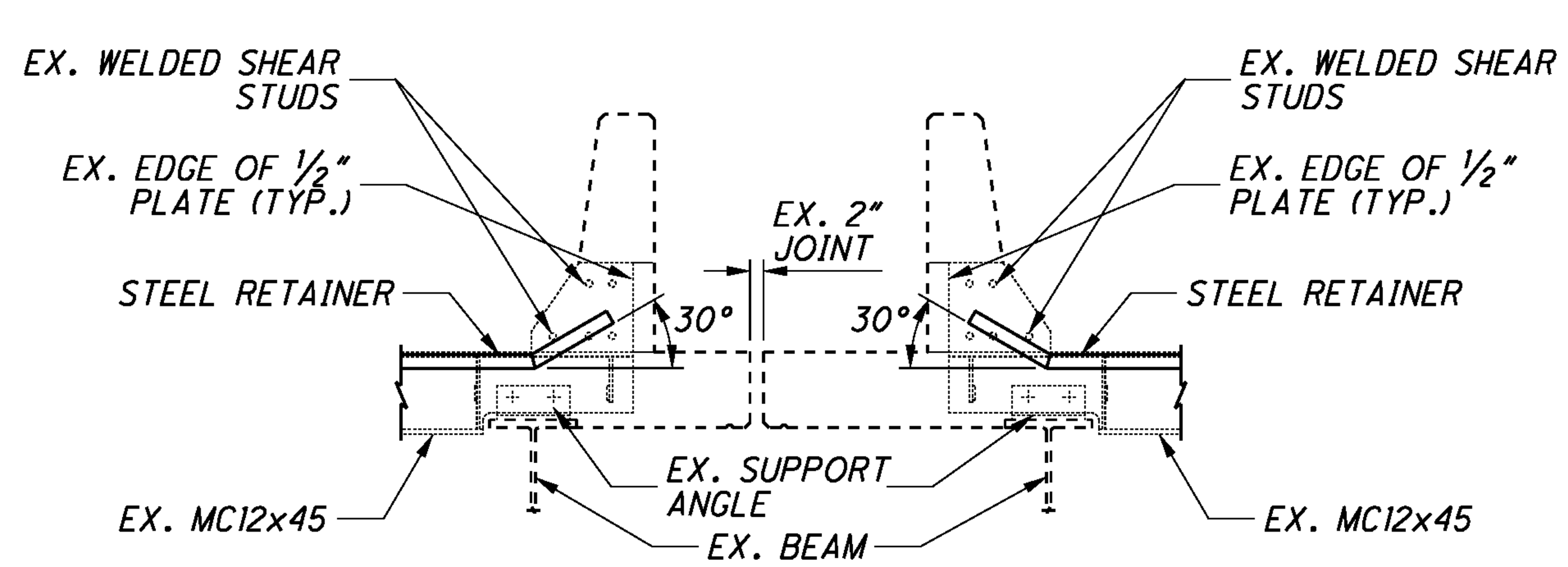
B/54 SECTION



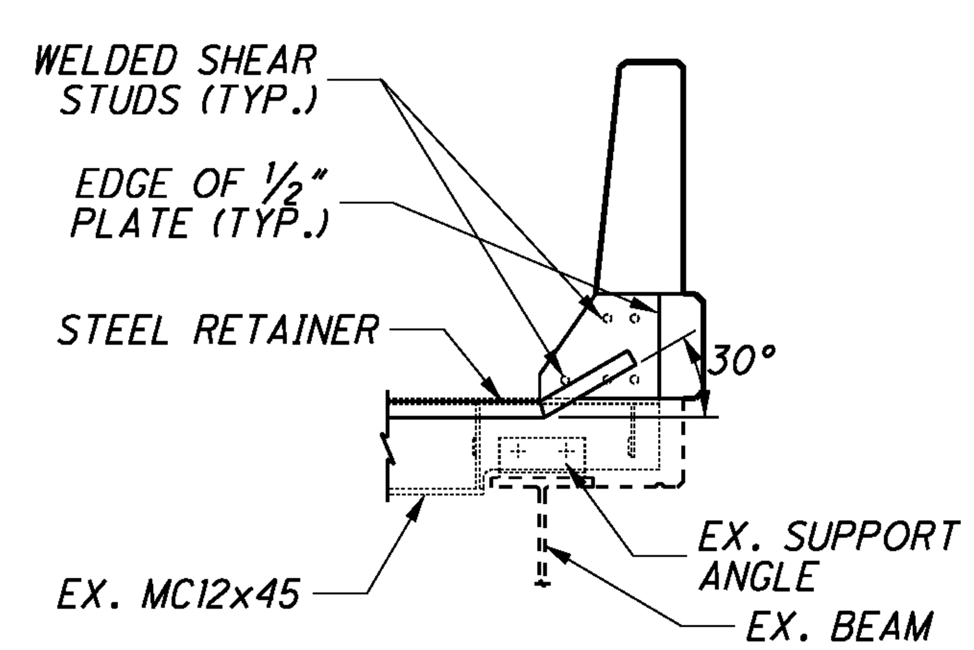
C/54 SECTION



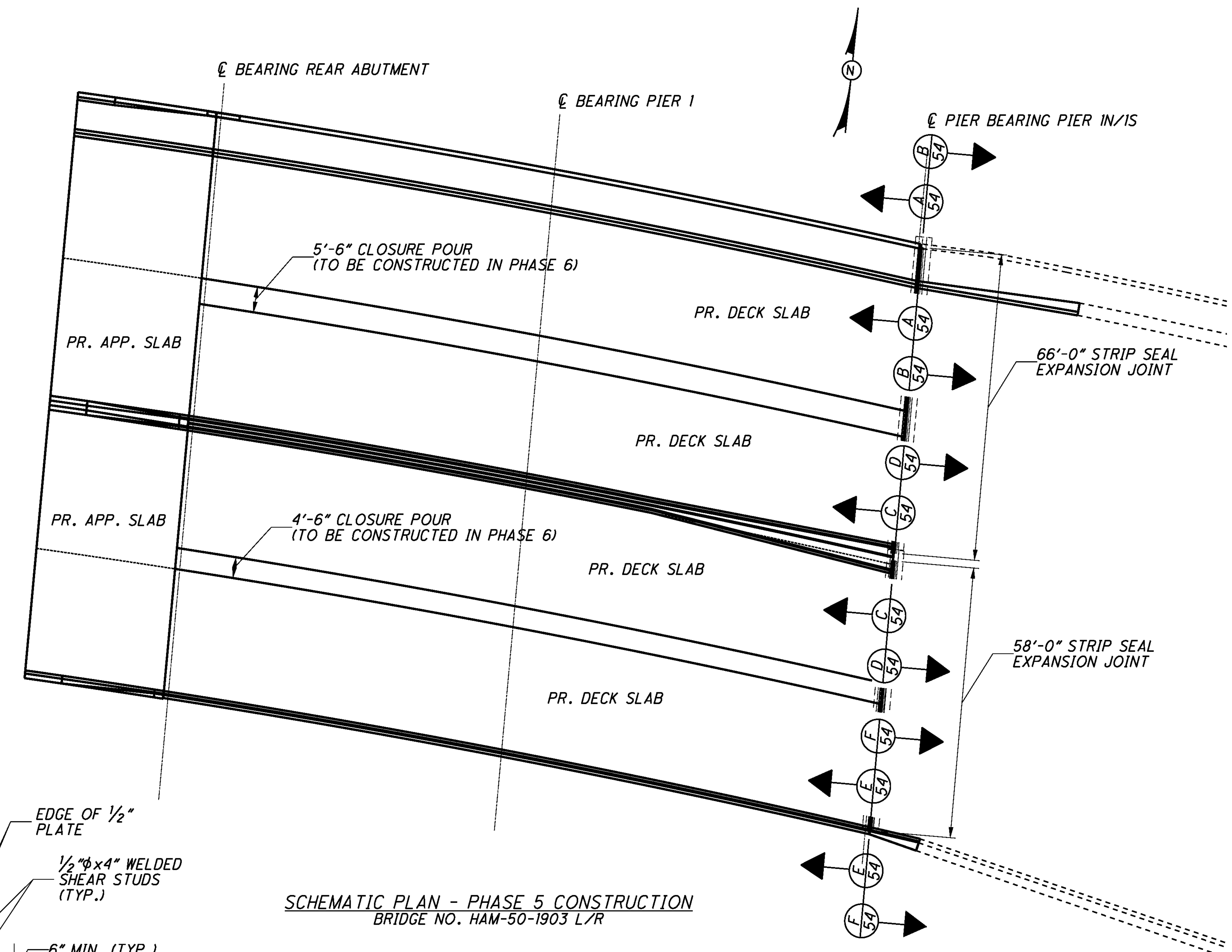
E/54 SECTION



D/54 SECTION



F/54 SECTION



SCHEMATIC PLAN - PHASE 5 CONSTRUCTION
BRIDGE NO. HAM-50-1903 L/R

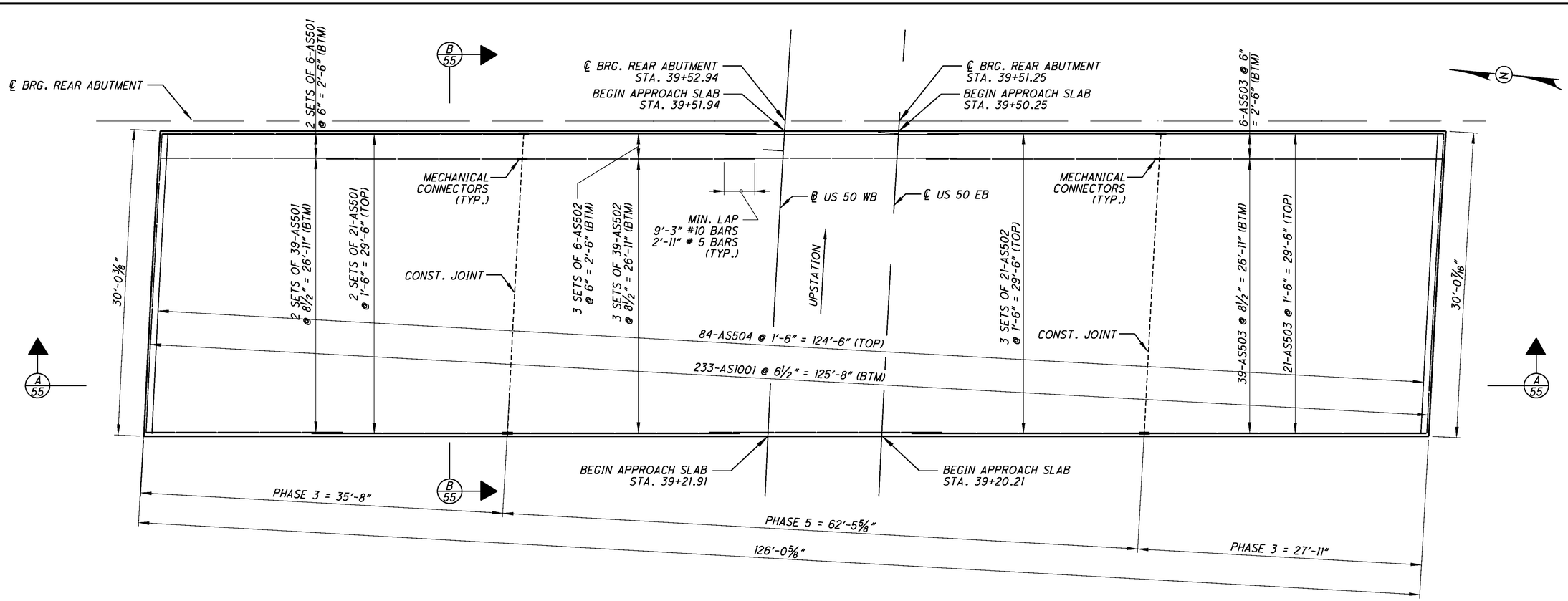
NOTES:

1. CONTRACTOR TO FIELD VERIFY COMPLETE MAKE-UP OF EXISITING EXPANSION JOINT. IF EXISTING EXPANSION JOINT IS DIFFERENT THAN SHOWN IN THE PLANS, CONTRACTOR SHALL SUBMIT A PROPOSED REMOVAL AND INSTALLATION PROCEDURE TO ODOT INSPECTOR FOR APPROVAL PRIOR TO BEGINNING WORK.
2. REFER TO ODOT STD. DWG. EXJ-4-87 FOR ADDITIONAL DETAILS.

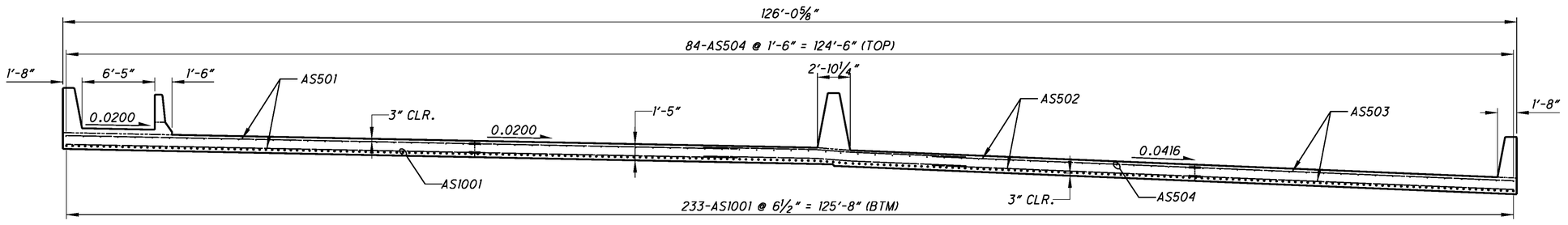
DESIGNED	DRAWN	REVIEWED	DATE
DEF	RBK	BMB	11-29-10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DAT		3102807/3102815	

EXPANSION JOINT DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

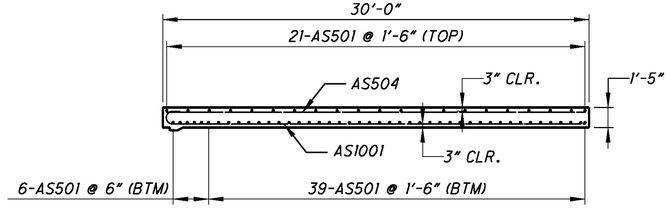
HAM-50-18.79
PID No. 20082



REAR APPROACH SLAB PLAN
BRIDGE NO. HAM-50-1903 L/R



A 55 SECTION
BRIDGE NO. HAM-50-1903 L/R



B 55 SECTION
BRIDGE NO. HAM-50-1903 L/R

NOTES:
1. MIN. LAP FOR NO. 5 BAR = 2'-11"
2. REINFORCING IN APPROACH SLAB SHALL BE PAID FOR UNDER ITEM 898, QC/QA CONCRETE, CLASS QSC2 SUPERSTRUCTURE (APPROACH SLAB)

DESIGN AGENCY
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4020 Kinross Lakes Parkway, Richfield, Ohio 44286
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DESIGNED	DRAWN	REVIEWED	DATE
DEF	RBK	BMB	11-29-10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DAT		31028017/3102815	

APPROACH SLAB DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

55 / 65

579
657

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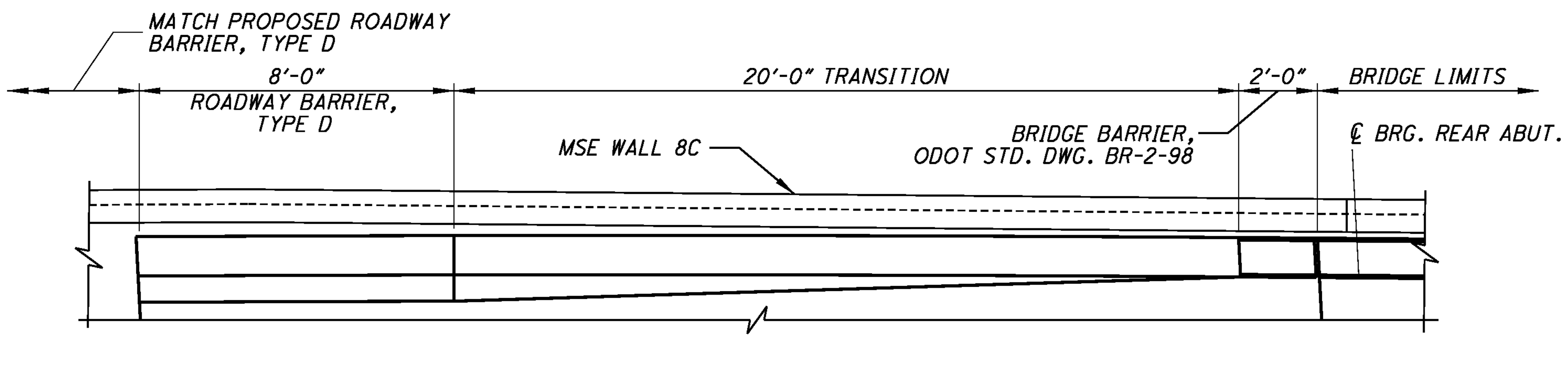
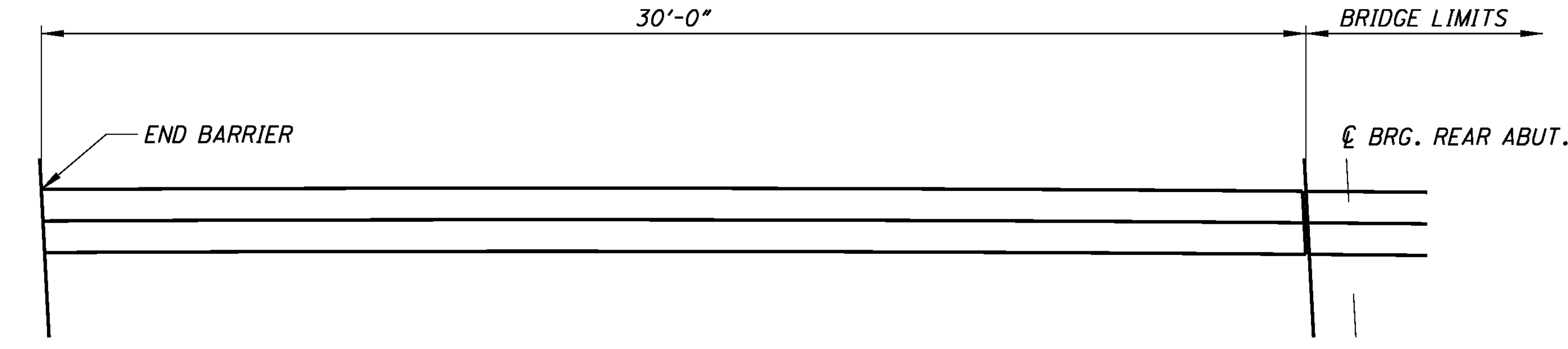
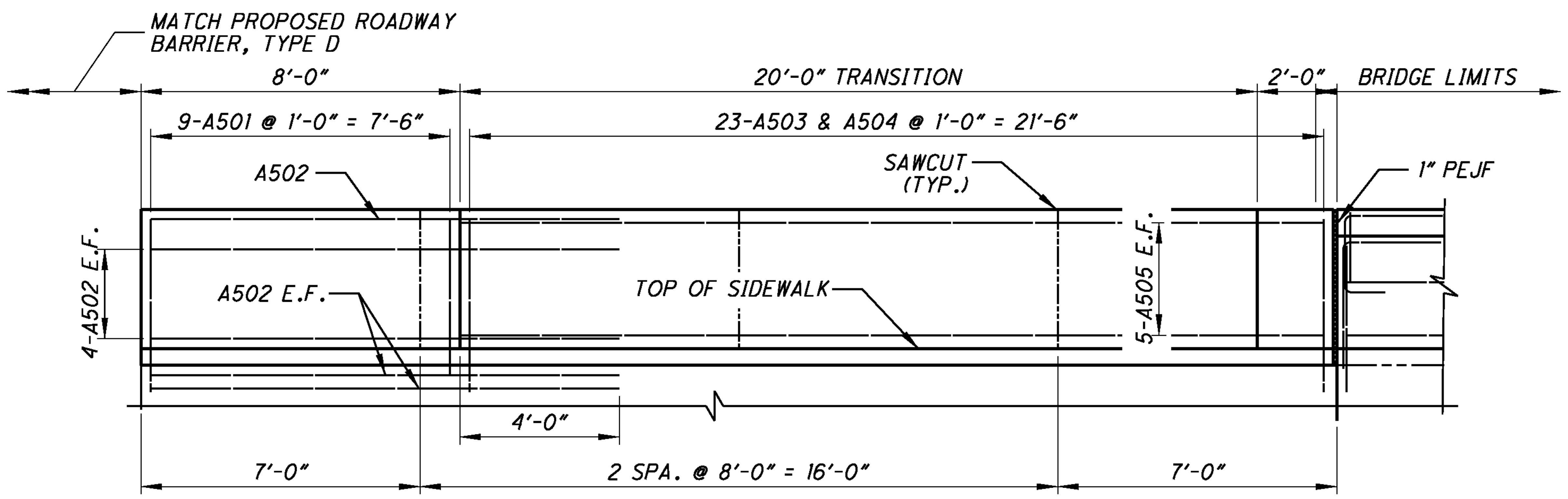
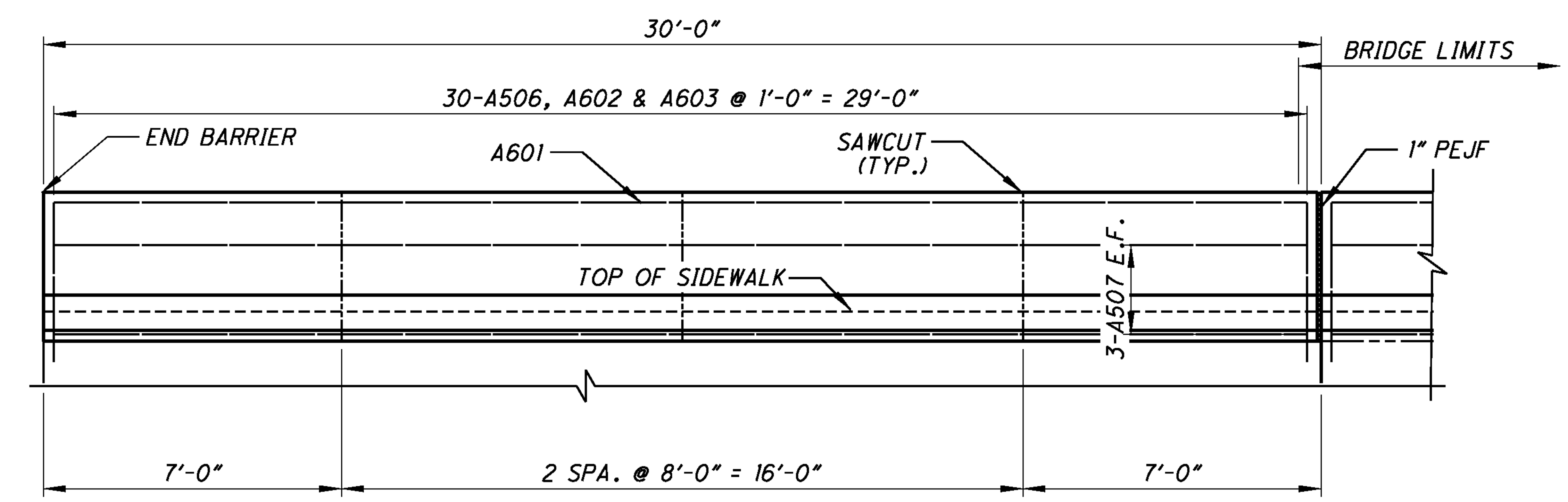


LEFT REAR PEDESTRIAN BARRIER PLAN
BRIDGE NO. HAM-50-1903 L



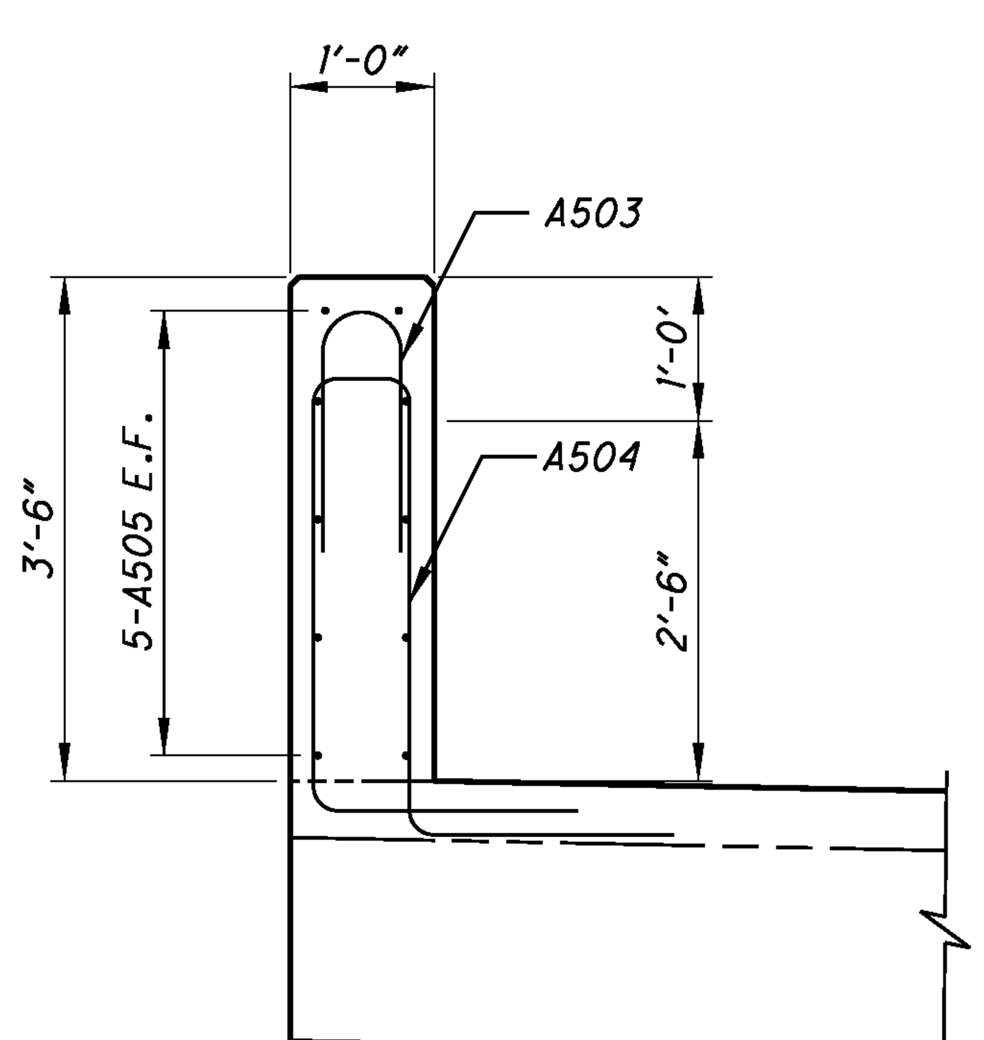
LEFT REAR VEHICULAR BARRIER PLAN
BRIDGE NO. HAM-50-1903 L



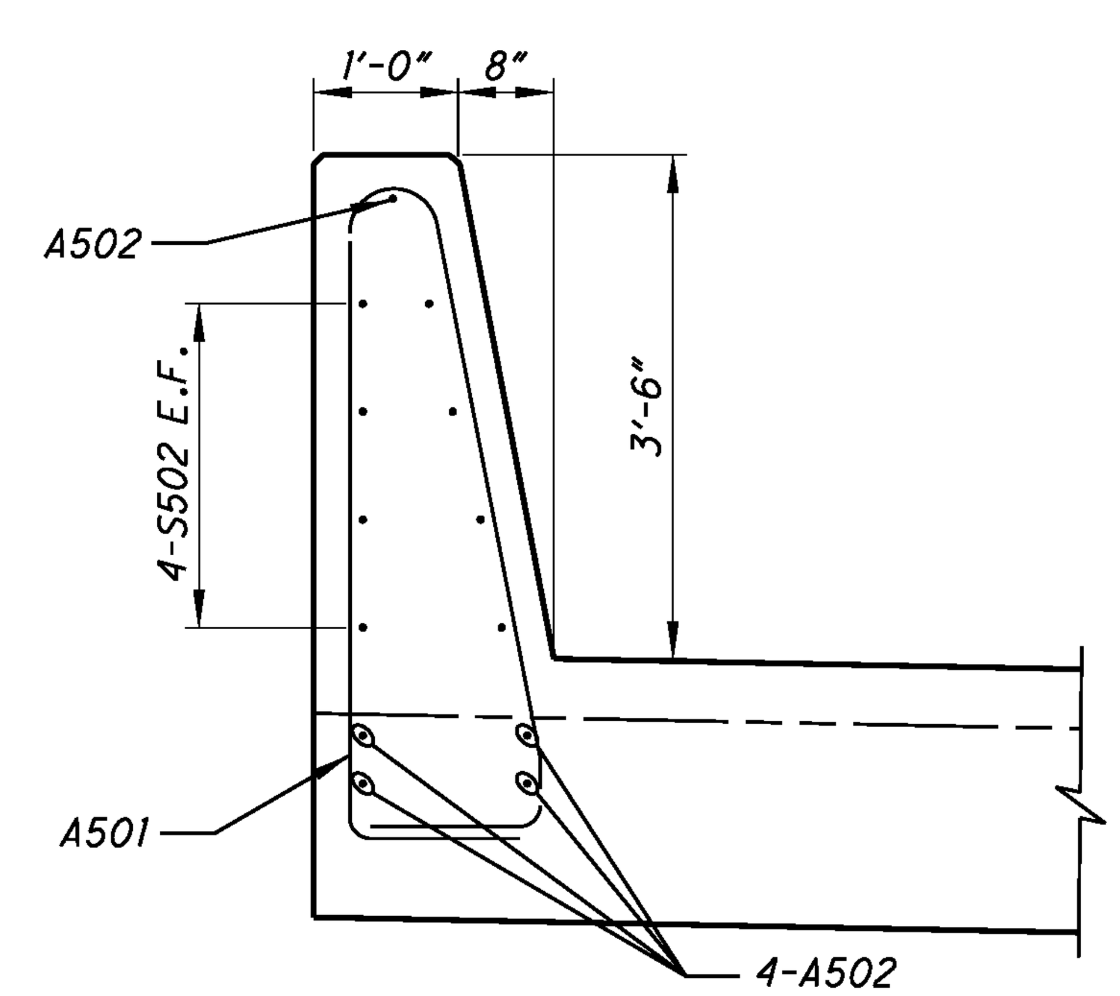


LEFT REAR PEDESTRIAN BARRIER ELEVATION - LOOKING NORTH
BRIDGE NO. HAM-50-1903 L

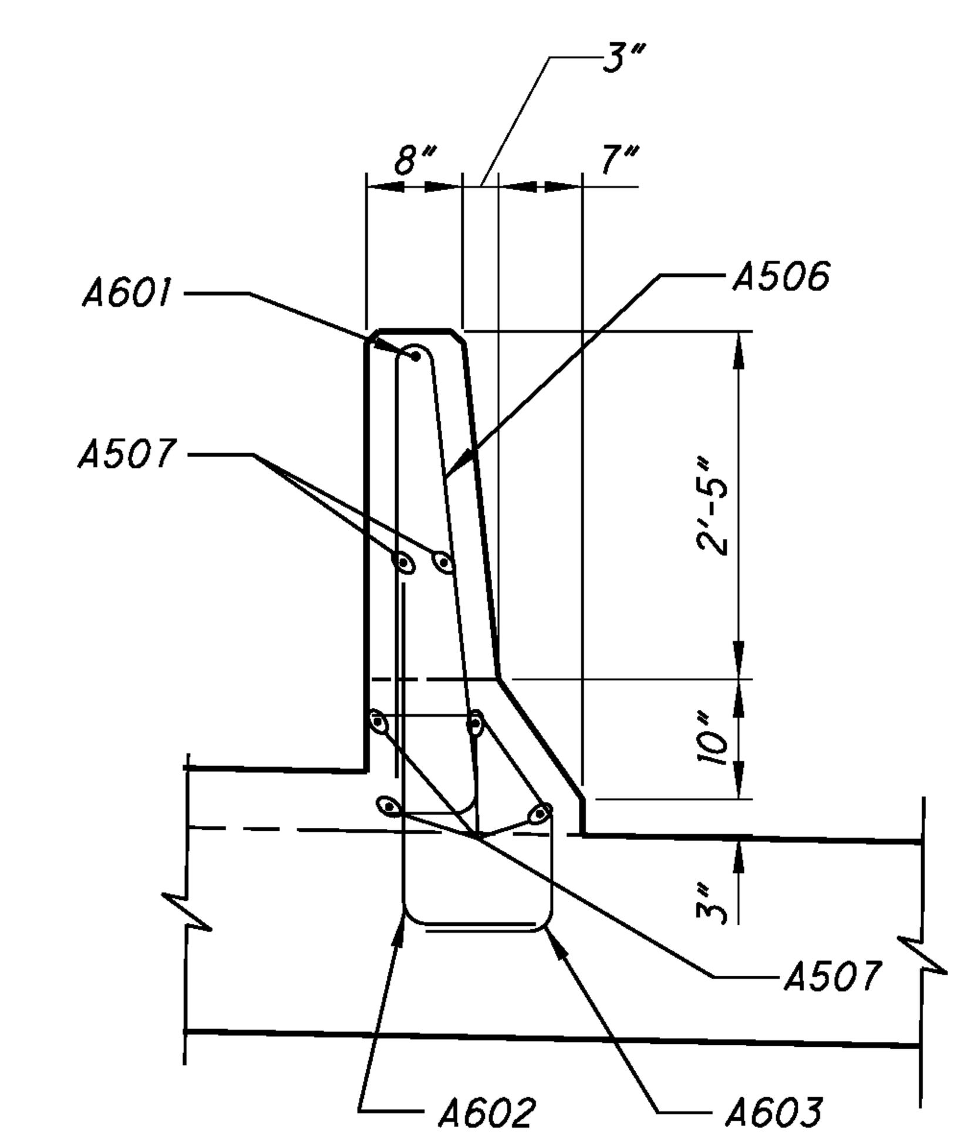
LEFT REAR VEHICULAR BARRIER ELEVATION - LOOKING NORTH
BRIDGE NO. HAM-50-1903 L



A/56 SECTION



B/56 SECTION



C/56 SECTION

NOTES:
1. FOR ADDITIONAL BARRIER TRANSITION DETAILS, SEE SHEET 48-49/65

DESIGN AGENCY KZF DESIGN
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DESIGNED	DRAWN	REVIEWED	DATE
DEF	RBK	BMB	11-29-10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DAT		3102807/3102815	

APPROACH SLAB DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

56/65

580/657

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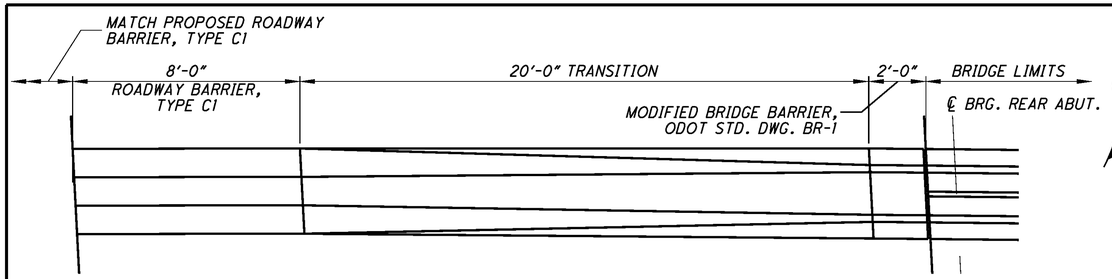
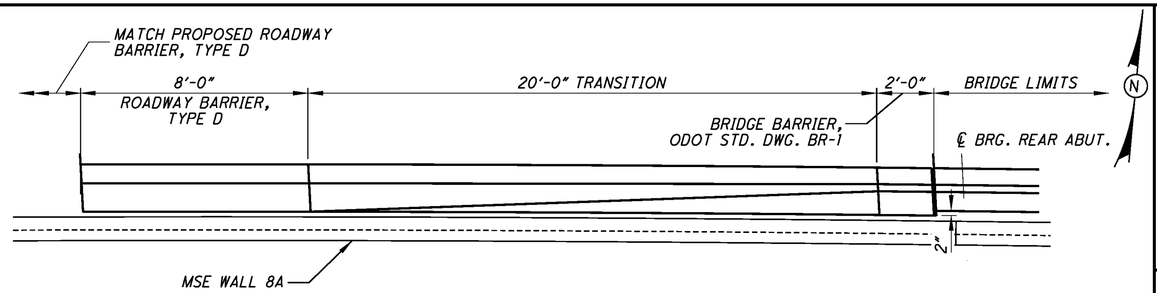
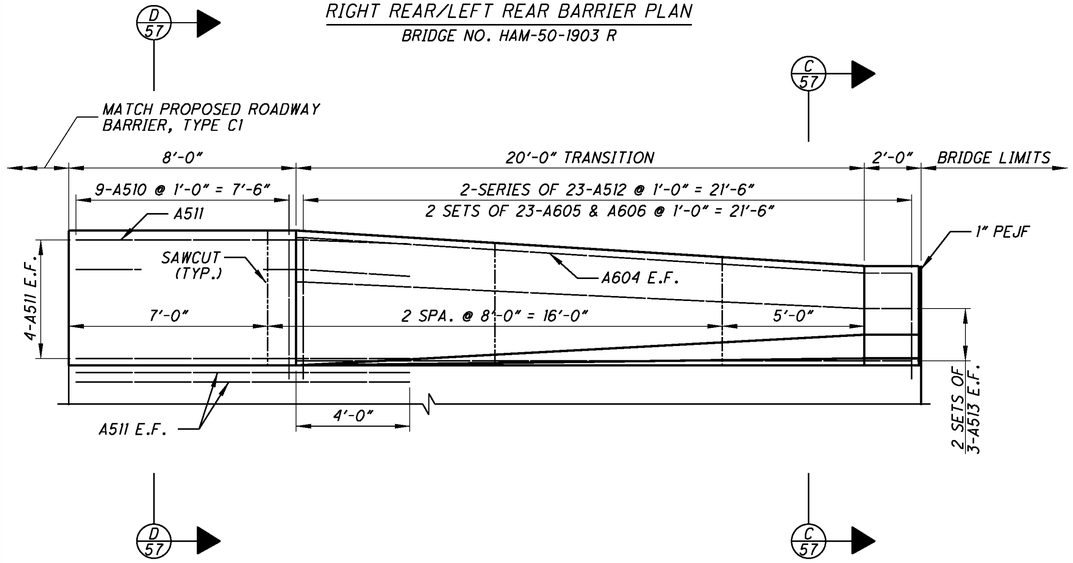




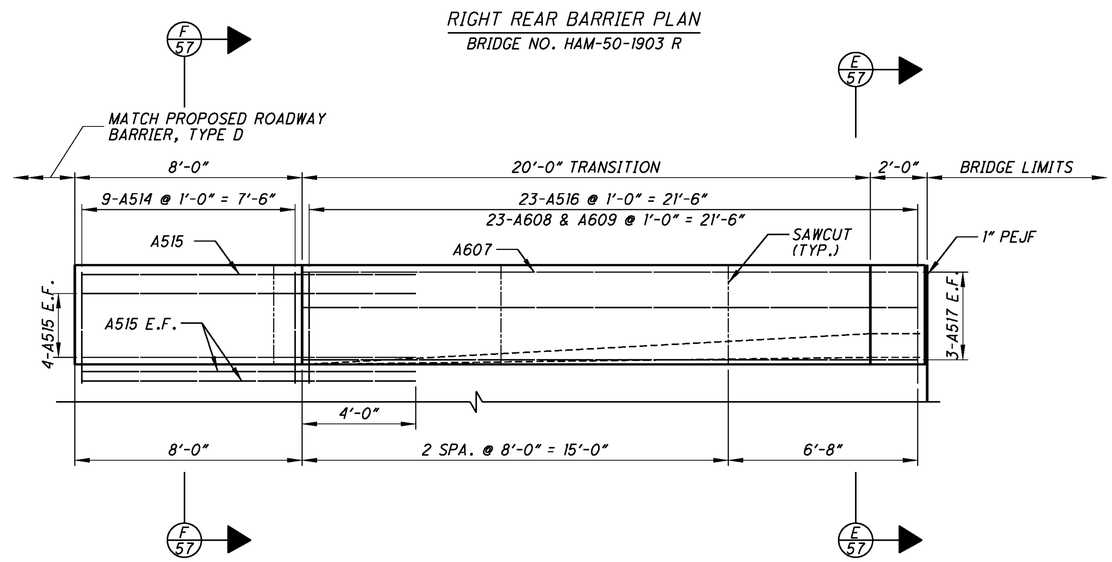
RIGHT REAR/LEFT REAR BARRIER PLAN

BRIDGE NO. HAM-50-1903 R



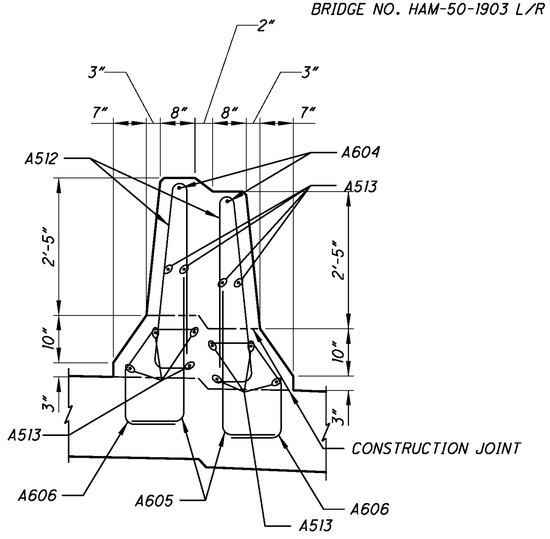
RIGHT REAR BARRIER PLAN

BRIDGE NO. HAM-50-1903 R

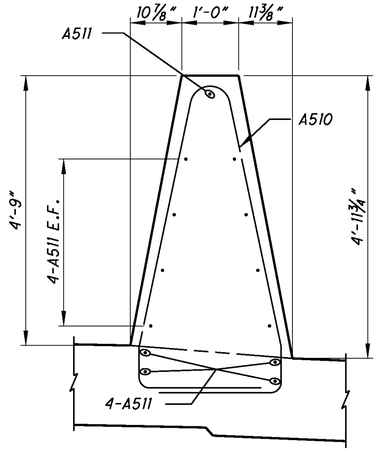


RIGHT REAR/LEFT REAR BARRIER ELEVATION - LOOKING NORTH

BRIDGE NO. HAM-50-1903 L/R



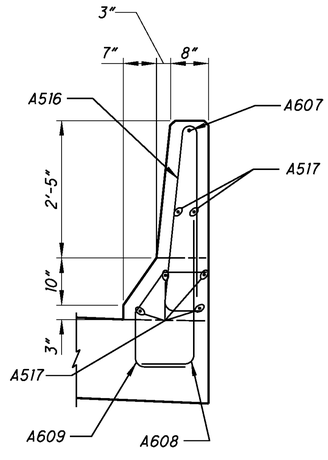
C 57 SECTION



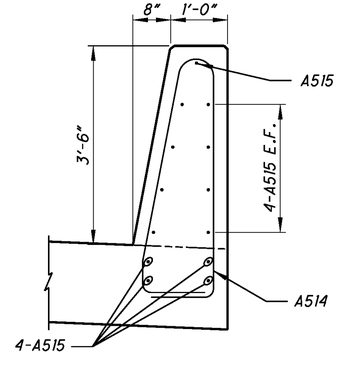
D 57 SECTION

RIGHT REAR BARRIER ELEVATION - LOOKING NORTH

BRIDGE NO. HAM-50-1903 R



E 57 SECTION



F 57 SECTION

NOTES:

1. FOR ADDITIONAL BARRIER TRANSITION DETAILS, SEE SHEET 48-49/65

DESIGN AGENCY
KZF DESIGN
Architecture | Engineering | Interiors | Planning
Cincinnati, Ohio 45202 TEL: 513.421.6211 FAX: 513.421.3830 WEB: www.kzf.com

DESIGNED	DRAWN	REVIEWED	DATE
DEF	RBK	BMB	11-29-10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DAT		31028017/3102815	

APPROACH SLAB DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

57 / 65

581 / 657

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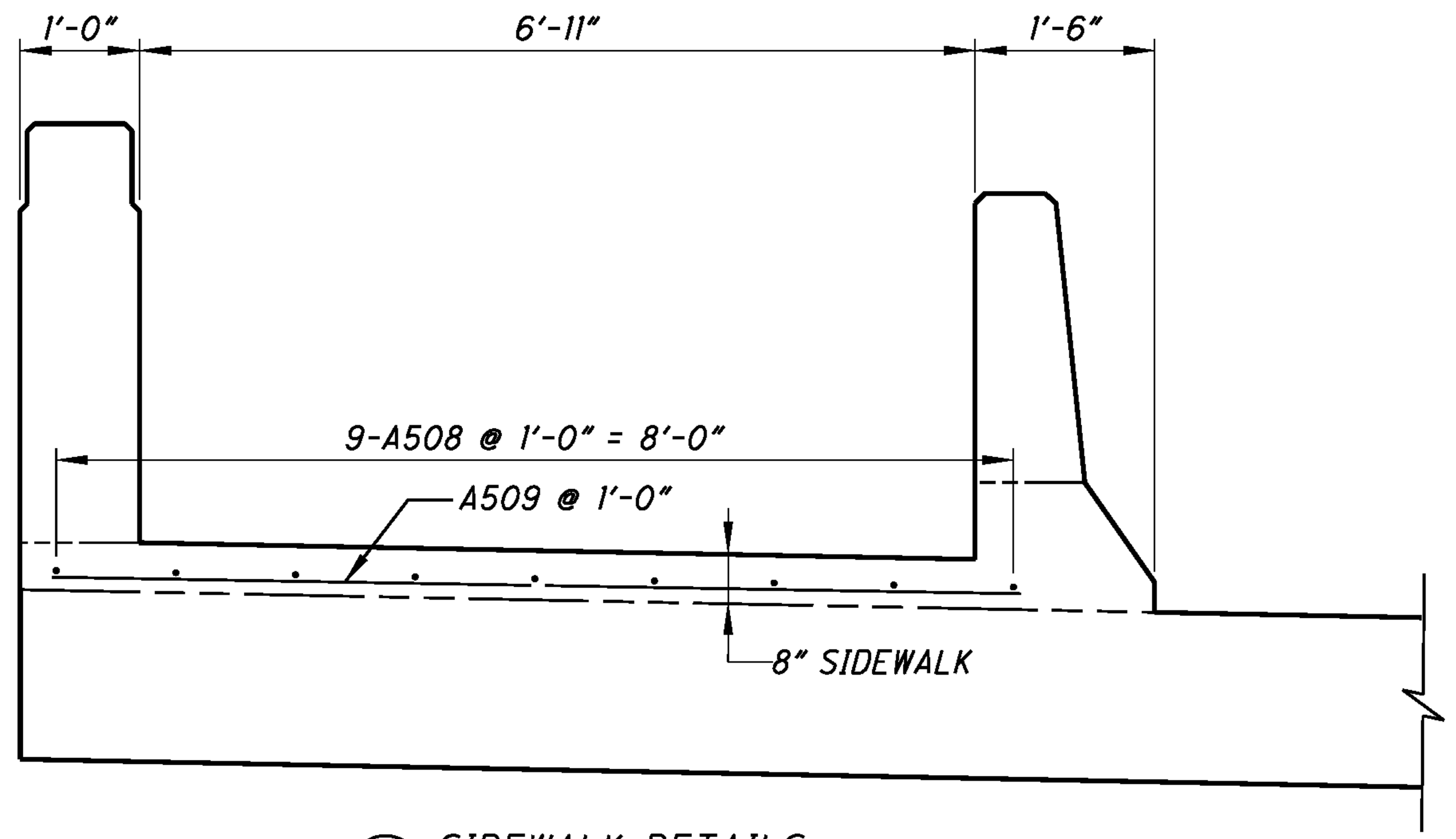
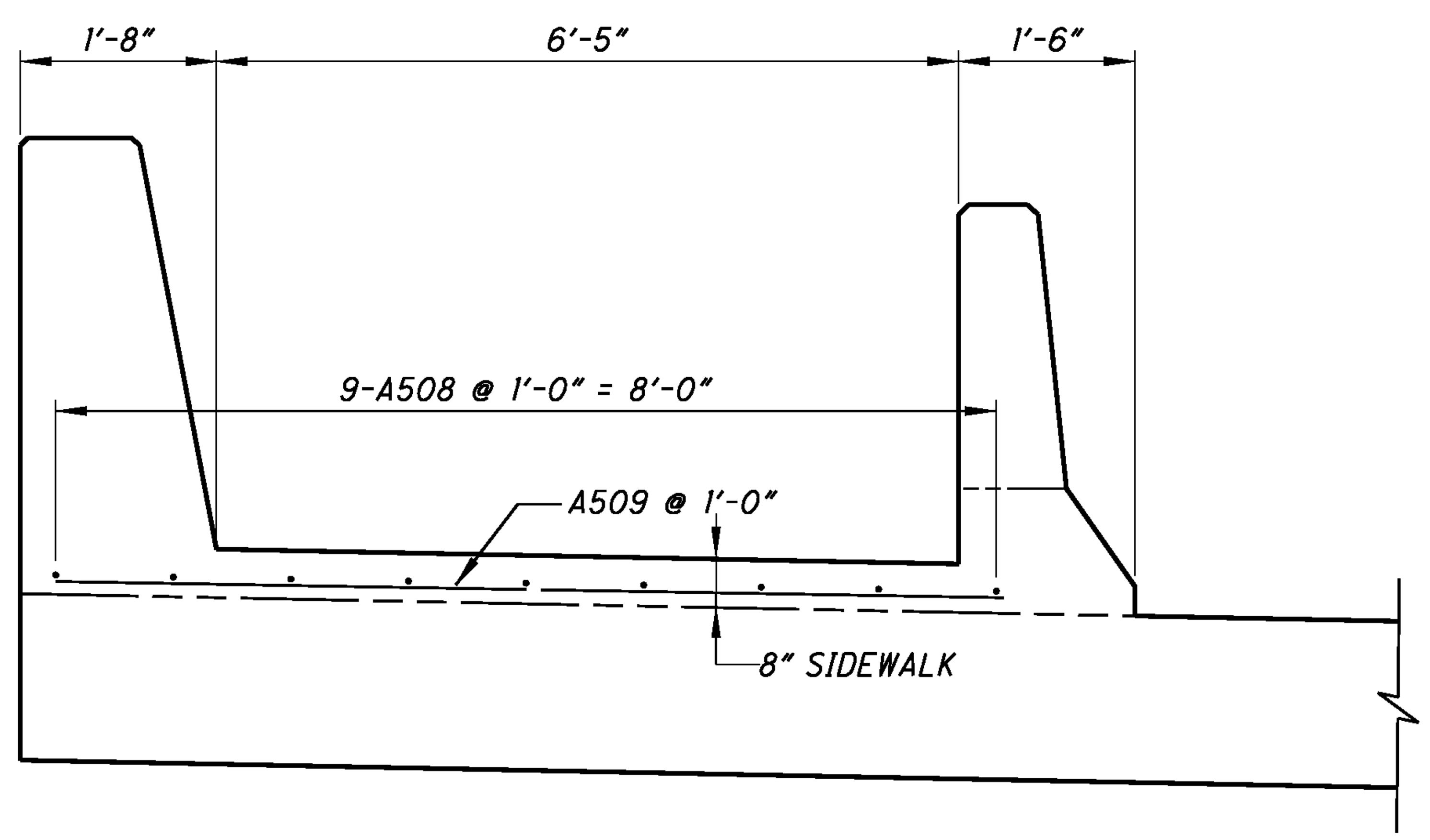


H/42 SIDEWALK DETAILS
BRIDGE NO. HAM-50-1903 L



G/42 SIDEWALK DETAILS
BRIDGE NO. HAM-50-1903 L

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DEF	RBK	BMB	11-29-10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DAT		3102807/3102815	

APPROACH SLAB DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	TOP	BOTTOM	TOTAL				A	B	C	D	E	R	INC
DECK SLAB REINFORCING STEEL LIST													
SL401	445	0	445	30'-0"	8918	STR							
SL402	89	0	89	15'-10"	941	STR							
SL501	806		806	20'-0"	16813	STR							
SL502	416	416	832	5'-6"	4773	STR							
SL503	412	412	824	25'-3"	21701	STR							
	1	1	2	6'-0"									
SL504	SERIES OF	SERIES OF	SERIES OF	TO	188	STR							
	5	5	5	30'-0"									
	1	1	2	2'-0"									
SL505	SERIES OF	SERIES OF	SERIES OF	TO	407	STR							
	12	12	12	30'-0"									
	1	1	2	2'-0"									
SL506	SERIES OF	SERIES OF	SERIES OF	TO	100	STR							
	3	3	3	30'-0"									
	1	1	2	3'-2"									
SL507	SERIES OF	SERIES OF	SERIES OF	TO	218	STR							
	8	8	8	23'-0"									
SL508	4	4	8	20'-1"	168	STR							
SL509	2	2	4	5'-6"	23	STR							
SL510	2	2	4	25'-6"	106	STR							
SL511		535	535	30'-0"	16740	STR							
SL512		107	107	19'-3"	2148	STR							
SL513	12	12	24	2'-0"	50	STR							
SL514	12	12	24	4'-0"	100	STR							
SL515	12	12	24	5'-0"	125	STR							
SL516	12	12	24	8'-0"	200	STR							
SL517		403	403	15'-0'	6305	STR							
SL518		403	403	25'-0"	10508	STR							
SL519	86		86	40'-0"	3588	STR							
SL520	86		86	20'-0"	1794	STR							
SR401	395	0	395	30'-0"	7916	STR							
SR402	79	0	79	15'-10"	836	STR							
SR501	404	404	808	26'-6"	22333	STR							
SR502	414	414	828	4'-6"	3886	STR							
SR503	421	421	842	27'-6"	24151	STR							
	1	1	2	5'-6"									
SR504	SERIES OF	SERIES OF	SERIES OF	TO	121	STR							
	4	4	4	23'-6"									
	1	1	2	2'-2"									
SR505	SERIES OF	SERIES OF	SERIES OF	TO	253	STR							
	9	9	9	24'-10"									
	1	1	2	3'-6"									
SR506	SERIES OF	SERIES OF	SERIES OF	TO	104	STR							
	4	4	4	21'-6"									
	1	1	2	1'-2"									
SR507	SERIES OF	SERIES OF	SERIES OF	TO	235	STR							
	9	9	9	23'-10"									
SR508	2	2	4	26'-9"	112	STR							
SR509	2	2	4	4'-6"	19	STR							
SR510	2	2	4	27'-9"	116	STR							
SR511		470	470	30'-0"	14706	STR							
SR512		94	94	19'-3"	1887	STR							
SR513	12	12	24	2'-0"	50	STR							
SR514	12	12	24	4'-0"	100	STR							
SR515	12	12	24	5'-0"	125	STR							
SR516	12	12	24	8'-0"	200	STR							
SR517	76		76	40'-0"	3171	STR							
SR518	76		76	20'-0"	1585	STR							
				SUB-TOTAL	177821	LBS							

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC
REAR ABUTMENT REINFORCING STEEL LIST													
AL501	63		63	15'-6"	1018	3	5'-6"	2'-6"					
AL502	63		63	16'-6"	1084	3	2'-6"	6'-0"					
AL503	10		10	19'-5"	203	STR							
AL504	8		8	30'-0"	250	STR							
AL505	51		51	6'-11"	368	2	2'-7"	2'-0"	2'-7"				
AL506	45		45	10'-6"	493	3	2'-6"	3'-0"					
AL507	6		6	9'-2"	57	3	2'-6"	2'-4"					
AL601	9		9	11'-6"	155	3	2'-8"	3'-5"					
AL602	6		6	4'-9"	43	1	3'-4"	1'-7"					
AL801	44		44	20'-11"	2457	STR							
AL802	22		22	30'-0"	1762	STR							
AL803	8		8	20'-6"	438	STR							
AL804	4		4	5'-6"	59	STR							
AL805	4		4	25'-4"	271	STR							
AL806	4		4	3'-3"	35	STR							
AL807	4		4	23'-9"	254	STR							
AL808	4		4	4'-0"	43	STR							
AL809	4		4	7'-3"	77	STR							
AL810	4		4	20'-4"	217	STR							
AL811	45		45	4'-8"	561	18	2'-10"	1'-0"	1'-0"				
AL901	24		24	4'-8"	381	1	3'-4"	1'-7"					
AR501	56		56	15'-6"	905	3	5'-6"	2'-6"					
AR502	56		56	16'-6"	964	3	2'-6"	6'-0"					
AR503	8		8	30'-0"	250	STR							
AR504	8		8	28'-9"	240	STR							
AR505	43		43	6'-11"	310	2	2'-7"	2'-0"	2'-7"				
AR506	37		37	10'-6"	405	3	2'-6"	3'-0"					
AR507	6		6	9'-2"	57	3	2'-6"	2'-4"					
AR601	9		9	11'-6"	155	3	2'-8"	3'-5"					
AR602	6		6	4'-9"	43	1	3'-4"	1'-7"					
AR801	22		22	30'-0"	1762	STR							
AR802	22		22	28'-9"	1689	STR							
AR803	4		4	27'-8"	295	STR							
AR804	4		4	4'-6"	48	STR							
AR805	4		4	26'-7"	284	STR							
AR806	4		4	3'-8"	39	STR							
AR807	4		4	16'-5"	175	STR							
AR808	4		4	4'-9"	51	STR							
AR809	4		4	6'-6"	69	STR							
AR810	4		4	19'-9"	211	STR							
AR811	40		40	4'-8"	498	18	2'-10"	1'-0"	1'-0"				
AR901	24		24	4'-8"	381	1	3'-4"	1'-7"					
				SUB-TOTAL	19059	LBS							

NOTES:
1. ALL REINFORCING STEEL TO BE EPOXY COATED
2. "STR" IN THE TYPE COLUMN INDICATES STRAIGHT BARS
3. REFER TO ODOT CMS SEC. 509.05 FOR STANDARD BAR DIMENSIONS
4. ALL DIMENSIONS ARE OUT TO OUT
5. REINFORCING IN APPROACH SLAB SHALL BE INCLUDED IN ITEM 898, OC/OA CONCRETE, CLASS OSC2 SUPERSTRUCTURE (APPROACH SLAB)
6. REINFORCING IN NORTH PEDESTRIAN BARIER (SEE ODOT STD. DWG. BR-2-98) SHALL BE INCLUDED IN ITEM 517, RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING)

DESIGN AGENCY
KZF DESIGN
Architecture | Engineering | Interiors | Planning
6200 Shamrock Court, Suite 300, Dublin, Ohio 43016
TEL 614.621.6211 FAX 614.621.8830 WEB www.kzf.com

DESIGNED DEF | DRAWN RBK | REVIEWED BMB | DATE 11-29-10
CHECKED DAT | REVISED | STRUCTURE FILE NUMBER 3102807/3102815

REINFORCING STEEL LIST
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

59 / 65

583
657

MARK	NUMBER				LENGTH	WEIGHT	TYPE	DIMENSIONS						
	PIER 1 (NORTH)	PIER 1 (CENTER)	PIER 1 (SOUTH)	TOTAL				A	B	C	D	E	R	INC
PIER 1 REINFORCING STEEL LIST														
P401	36	49	29	114	12'-0"	914	3	3'-1"	3'-1"					
P402	208	296	144	648	3'-7"	1551	17	3'-0"						
P403	40	60	40	140	10'-1"	943	17	9'-6"						
P404	16	24	12	52	3'-7"	124	STR							
P405	32	48	24	104	2'-9"	191	2	0-'-8"	1'-7"	0'-8"				
P501	REINFORCING STEEL BAR DESIGNATION NOT USED IN STEEL LIST													
	4			4	10'-6"				3'-0"					
P502	SERIES OF			SERIES OF	TO	822	3	2'-6"	TO					1 5/8"
	17			17	12'-8"				4'-1"					
P503	162	214	42	418	12'-8"	5522	3	2'-6"	4'-1"					
P504	REINFORCING STEEL BAR DESIGNATION NOT USED IN STEEL LIST													
		4		4	11'-0"				3'-3"					
P505		SERIES OF		SERIES OF	TO	543	3	2'-6"	TO					0'-2"
		11		11	12'-8"				4'-1"					
P506	REINFORCING STEEL BAR DESIGNATION NOT USED IN STEEL LIST													
			4	4	10'-10"				3'-2"					
P507			SERIES OF	SERIES OF	TO	637	3	2'-6"	TO					1 7/8"
			13	13	12'-8"				4'-1"					
P601	20			20	18'-5"	553	STR							
P602		20		20	26'-9"	804	STR							
P603			10	10	26'-0"	391	STR							
P604	6	6	6	18	10'-2"	275	3	2'-8"	2'-9"					
P605	6	6	6	18	4'-3"	115	1	1'-7"	2'-10"					
P801	40			40	21'-2"	2261	1	1'-4"	20'-0"					
P802		60		60	20'-2"	3231	1	1'-4"	19'-0"					
P803			40	40	19'-2"	2047	1	1'-4"	18'-0"					
P901	16	16	16	48	4'-2"	680	1	1'-7"	2'-10"					
P1001	9			9	39'-4"	1523	15	0'-0"	3'-0"	1'-0"	4'-0"	25'-4"		
P1002		16		16	16'-2"	1113	1	2'-0"	14'-6"					
P1003		16		16	29'-8"	2042	13	3'-0"	1'-0"	4'-0"	22'-8"			
P1004	10			10	36'-6"	1571	2	2'-0"	33'-2"	2'-0"				
P1005	40	60	40	140	11'-8"	7028	17	9'-6"						
P1006		8		8	23'-6"	809	STR							
P1007			6	6	29'-0"	749	2	2'-0"	25'-8"	2'-0"				
P1008			8	8	34-'11"	1202	15	0'-0"	3'-0"	1'-0"	4'-0"	20'-11"		
					SUB-TOTAL	37640	LBS							

NOTES:
1. ALL REINFORCING STEEL TO BE EPOXY COATED
2. "STR" IN THE TYPE COLUMN INDICATES STRAIGHT BARS
3. REFER TO ODOT CMS SEC. 509.05 FOR STANDARD BAR DIMENSIONS
4. ALL DIMENSIONS ARE OUT TO OUT
5. REINFORCING IN APPROACH SLAB SHALL BE INCLUDED IN ITEM 898, QC/QA CONCRETE, CLASS QSC2 SUPERSTRUCTURE (APPROACH SLAB)
6. REINFORCING IN NORTH PEDESTRIAN BARIER (SEE ODOT STD. DWG. BR-2-98) SHALL BE INCLUDED IN ITEM 517, RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING)

DESIGN AGENCY
KZF DESIGN
Architecture | Engineering | Interiors | Planning

DESIGNED DEF | CHECKED DAT | DRAWN RBK | REVISED | REVIEWED BMB | DATE 11-29-10 | STRUCTURE FILE NUMBER 3102807/3102815

REINFORCING STEEL LIST
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	LEFT STRUCT.	RIGHT STRUCT.	TOTAL				A	B	C	D	E	R	INC
BRIDGE BARRIER REINFORCING STEEL LIST													
S501	2		2	8'-3"	17	7	1'-0"	4'-8"	1'-11"	1'-0"			
S502	2		2	8'-7"	18	2	1'-0"	4'-8"	3'-2"				
S503	6		6	3'-7"	22	24	0'-6"	1'-6"				0'-3"	
S504	150		150	7'-8"	1199	30	1'-6"	8"	2'-4"	2'-2"			
S505	30		30	30'-0"	939	STR							
S506	6		6	17'-7"	110	STR							
S507	154		154	7'-1"	1138	23	0'-8"	3'-3"	3'-0"			0'-1 1/2"	
S508	30		30	30'-0"	939	STR							
S509	6		6	17'-7"	110	STR							
S510	102		102	7'-1"	754	23	0'-8"	3'-3"	3'-0"			0'-1 1/2"	
S511	30		30	30'-0"	939	STR							
S512	7		7	17'-9"	130	STR							
S513		101	101	7'-1"	746	23	0'-8"	3'-3"	3'-0"			0'-1 1/2"	
S514		30	30	30'-0"	939	STR							
S515		7	7	17'-10"	130	STR							
S516		155	155	7'-1"	1145	23	0'-8"	3'-3"	3'-0"			0'-1 1/2"	
S517		30	30	30'-0"	939	STR							
S518		6	6	18'-3"	114	STR							
S519	45		45	30'-0"	1408	STR							
S520	9		9	17'-7"	165	STR							
S521	154		154	9'-0"	1446	STR							
S522	13		13	18'-8"	253	STR							
	1		1	6'-10"			0'-8"			0'-3"			
S523	SERIES OF		SERIES OF	TO	434	36	TO	3'-3"	3'-0"	TO			0'-0 1/2"
	52		52	9'-2"			1'-10"			1'-5"			
		1	1	6'-10"			0'-8"			0'-3"			
S524		SERIES OF	SERIES OF	TO	488	36	TO	3'-3"	3'-0"	TO			0'-1"
		53	53	10'-10"			2'-8"			2'-3"			
	1		1	7'-1"			0'-8"			0'-3"			
S525	SERIES OF		SERIES OF	TO	298	36	TO	3'-3"	3'-0"	TO			0'-0 3/4"
	35		35	9'-3"			1'-9"			1'-4"			
S526		7	7	10'-4"	75	STR							
		1	1	7'-1"			0'-8"			0'-3"			
S527		SERIES OF	SERIES OF	TO	93	36	TO	3'-3"	3'-0"	TO			0'-2 1/2"
		11	11	9'-1'			1'-8"			1'-3"			
S601	5		5	30'-0"	225	STR							
S602	1		1	20'-1"	30	STR							
S603	5		5	30'-0"	225	STR							
S604	2		2	20'-3"	61	STR							
S605		5	5	30'-0"	225	STR							
S606		2	2	20'-4"	61	STR							
S607		5	5	30'-0"	225	STR							
S608		1	1	21'-0"	32	STR							
S609	154		154	3'-3"	752	1	0'-11"	2'-6"					
S610	154		154	3'-0"	694	14	0'-10 1/2"	0'-6 1/2"	0'-8 1/2"	0'-6"	0'-9"		
S611	102	256	358	3'-0"	1613	14	0'-10 1/2"	0'-6 1/2"	0'-8 1/2"	0'-6"	0'-9"		
S612	102	256	358	3'-3"	1748	1	2'-6"	0'-11"					
	1		1	3'-1"			0'-10 1/2"				0'-9"		
S613	SERIES OF		SERIES OF	TO	332	14	TO	0'-6 1/2"	0'-8 1/2"	0'-6"	TO		0'-0 1/2"
	52		52	5'-5"			2'-0 1/2"				1'-11"		
	1		1	3'-3"			0'-11"						
S614	SERIES OF		SERIES OF	TO	299	1	TO	2'-6"					0'-0 1/4"
	52		52	4'-5"			2'-1"						
		1	1	3'-1"			0'-10 1/2"				0'-9"		
S615		SERIES OF	SERIES OF	TO	405	14	TO	0'-6 1/2"	0'-8 1/2"	0'-6"	TO		0'-1"
		53	53	7'-1"			2'-10 1/2"				2'-9"		
		1	1	3'-3"			0'-11"						
S616		SERIES OF	SERIES OF	TO	338	1	TO	2'-6"					0'-0 1/2"
		53	53	5'-3"			2'-11"						
S617	6		6	9'-11"	89	30	1'-10"	0'-8"	3'-2"	3'-0"			
S618	3		3	19'-1"	86	STR							
	1		1	3'-3"			0'-11"						
S619	SERIES OF		SERIES OF	TO	199	1	TO	2'-6"					0'-0 3/8"
	35		35	4'-4"			2'-0"						
	1		1	3'-1"			0'-10 1/2"				0'-9"		
S620	SERIES OF		SERIES OF	TO	210	14	TO	0'-6 1/2"	0'-8 1/2"	0'-6"	TO		0'-0 5/8"
	35		35	4'-11"			1'-11 1/2"				1'-10"		
S621		2	2	10'-4"	31	STR							
		1	1	3'-1"			0'-10 1/2"				0'-9"		
S622		SERIES OF	SERIES OF	TO	65	14	TO	0'-6 1/2"	0'-8 1/2"	0'-6"	TO		0'-2"
		11	11	4'-9"			1'-10 1/2"				1'-9"		
		1	1	3'-3"			0'-11"						
S623		SERIES OF	SERIES OF	TO	62	1	TO	2'-6"					0'-1 1/4"
		11	11	4'-3"			1'-11"						
				SUB-TOTAL	22996								

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	PIER IN	PIER IS	TOTAL				A	B	C	D	E	R	INC
PIER IN/IS REINFORCING STEEL LIST													
P406	20	15	35	6'-8"	156	3	2'-4"	1'-2"					
P407	15	15	30	9'-8"	194	3	3'-10"	1'-2"					
P508	16	12	28	2'-4"	68	STR							
P509	12	12	24	3'-10"	96	STR							
P606	22	18	40	3'-0"	180	STR							
P607	39	33	72	6'-10"	739	2	3'-0"	1'-2"	3'-0"				
P608	15	15	30	5'-1"	229	1	1'-8"	3'-7"					
P609	9	9	18	8'-0"	216	2	3'-7"	1'-2"	3'-7"				
P804	26		26	6'-6"	451	STR							
P805	78	78	156	9'-6"	3957	STR							
P902	74	60	134	9'-9"	4442	2	4'-6"	1'-4"	4'-6"				
P903	16	12	28	5'-0"	476	1	0'-9"	4'-6"					
P904	12	12	24	3'-7"	292	STR							
				SUB-TOTAL	11497	LBS							

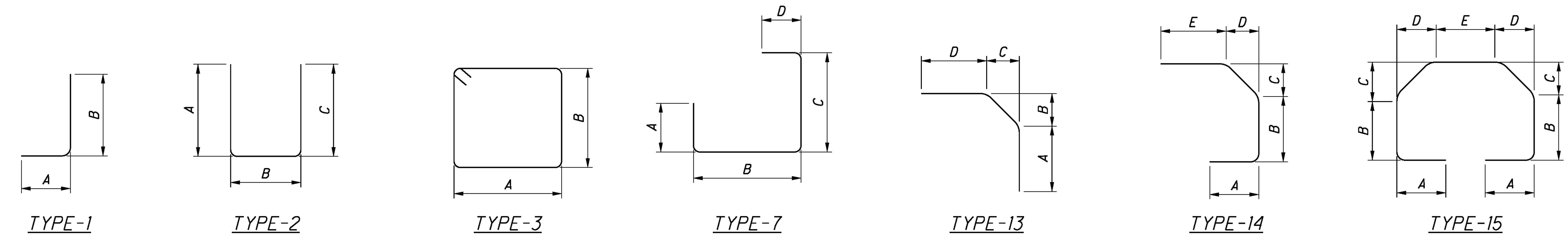
NOTES:
1. ALL REINFORCING STEEL TO BE EPOXY COATED
2. "STR" IN THE TYPE COLUMN INDICATES STRAIGHT BARS
3. REFER TO ODOT CMS SEC. 509.05 FOR STANDARD BAR DIMENSIONS
4. ALL DIMENSIONS ARE OUT TO OUT
5. REINFORCING IN APPROACH SLAB SHALL BE INCLUDED IN ITEM 898, QC/QA CONCRETE, CLASS QSC2 SUPERSTRUCTURE (APPROACH SLAB)
6. REINFORCING IN NORTH PEDESTRIAN BARIER (SEE ODOT STD. DWG. BR-2-98) SHALL BE INCLUDED IN ITEM 517, RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING)

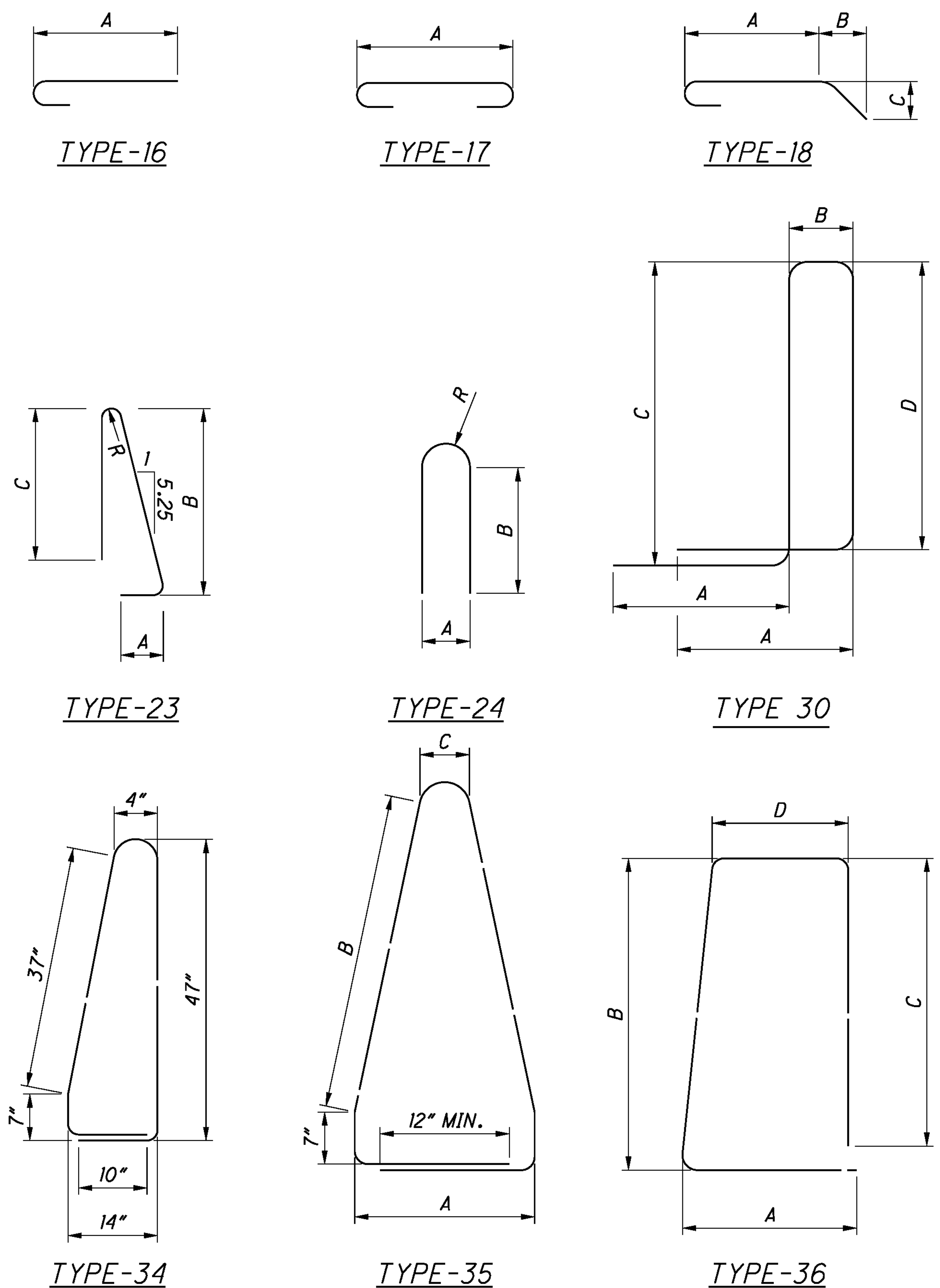
DESIGN AGENCY
KZF DESIGN
Architecture | Engineering | Interiors | Planning

DESIGNED DEF
CHECKED DAT
DRAWN RBK
REVISED
REVIEWED BMB
DATE 11-29-10
STRUCTURE FILE NUMBER 3102807/3102815

REINFORCING STEEL LIST
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082





MARK	NUMBER TOP	NUMBER BOTTOM	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
APPROACH SLAB REINFORCING STEEL LIST													
A501	9		9	9'-5"	88	34							
A502	13		13	11'-9"	159	STR							
A503	23		23	3'-7"	86	24	0'-6"	1'-6"				0-3"	
A504	23		23	9'-11"	238	30	1'-10"	8"	3'-3"	3'-0"			
A505	10		10	21'-8"	226	STR							
A506	30		30	6'-10"	214	23	0'-8"	3'-3"	3'-0"			0'-1 1/2"	
A507	6		6	29'-8"	186	STR							
A508	9		9	29'-8"	278	STR							
A509	31		31	8'-0"	259	STR							
A510	9		9	14'-2'	133	35	2'-6"	4'-5"	0'-8"				
A511	13		13	11'-10"	160	STR							
	2		2	6'-10"				3'-3"	3'-0"				
A512	SERIES OF		SERIES OF	TO	388	23	0'-8"	TO	TO			0'-1 1/2"	0'-1 3/8"
	23		23	9'-4"				4'-6"	4'-3"				
A513	12		12	21'-10"	273	STR							
A514	9		9	9'-5"	205	34							
A515	13		13	11'-10"	296	STR							
A516	23		23	6'-10'	524	23	0'-8"	3'-3"	3'-0"			0'-1 1/2"	
A517	6		6	21'-10"	137	STR							
			0										
A601	1		1	29'-8"	45	STR							
A602	30		30	3'-3"	146	1	0'-11"	2'-6"					
A603	30		30	3'-0"	135	14	0'-10 1/2"	0'-6 1/2"	0'-8 1/2"	0'-6"	0'-9"		
A604	2		2	22'-0"	66	STR							
A605	46		46	3'-3"	225	1	0'-11"	2'-6"					
A606	46		46	3'-0"	207	14	0'-10 1/2"	0'-6 1/2"	0'-8 1/2"	0'-6"	0'-9"		
A607	1		1	22'-0"	33	STR							
A608	23		23	3'-3"	112	1	0'-11"	2'-6"					
A609	23		23	3'-0"	104	14	0'-10 1/2"	0'-6 1/2"	0'-8 1/2"	0'-6"	0'-9"		
AS501	42	90	132	19'-3"	2650	STR							
AS502	63	135	198	22'-10'	4715	STR							
AS503	21	45	66	27'-9"	1910	STR							
AS504	84		84	29'-6'	2585	STR							
AS1001		233	233	30'-11"	30997	16	29'-6"						
				SUB-TOTAL	47781	LBS							
				LEFT	142792	LBS							
				RIGHT	123825	LBS							
				STRUCTURE TOTAL	266617	LBS							

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED
2. "STR" IN THE TYPE COLUMN INDICATES STRAIGHT BARS
3. REFER TO ODOT CMS SEC. 509.05 FOR STANDARD BAR DIMENSIONS
4. ALL DIMENSIONS ARE OUT TO OUT
5. REINFORCING IN APPROACH SLAB SHALL BE INCLUDED IN ITEM 898, OC/QA CONCRETE, CLASS QSC2 SUPERSTRUCTURE (APPROACH SLAB)
6. REINFORCING IN NORTH PEDESTRIAN BARIER (SEE ODOT STD. DWG. BR-2-98) SHALL BE INCLUDED IN ITEM 517, RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING)

DESIGN AGENCY
KZF DESIGN
Architecture | Engineering | Interiors | Planning

DESIGNED DEF | CHECKED DAT | DRAWN RBK | REVISED | REVIEWED BMB | DATE 11-29-10
STRUCTURE FILE NUMBER 3102807/3102815

REINFORCING STEEL LIST
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

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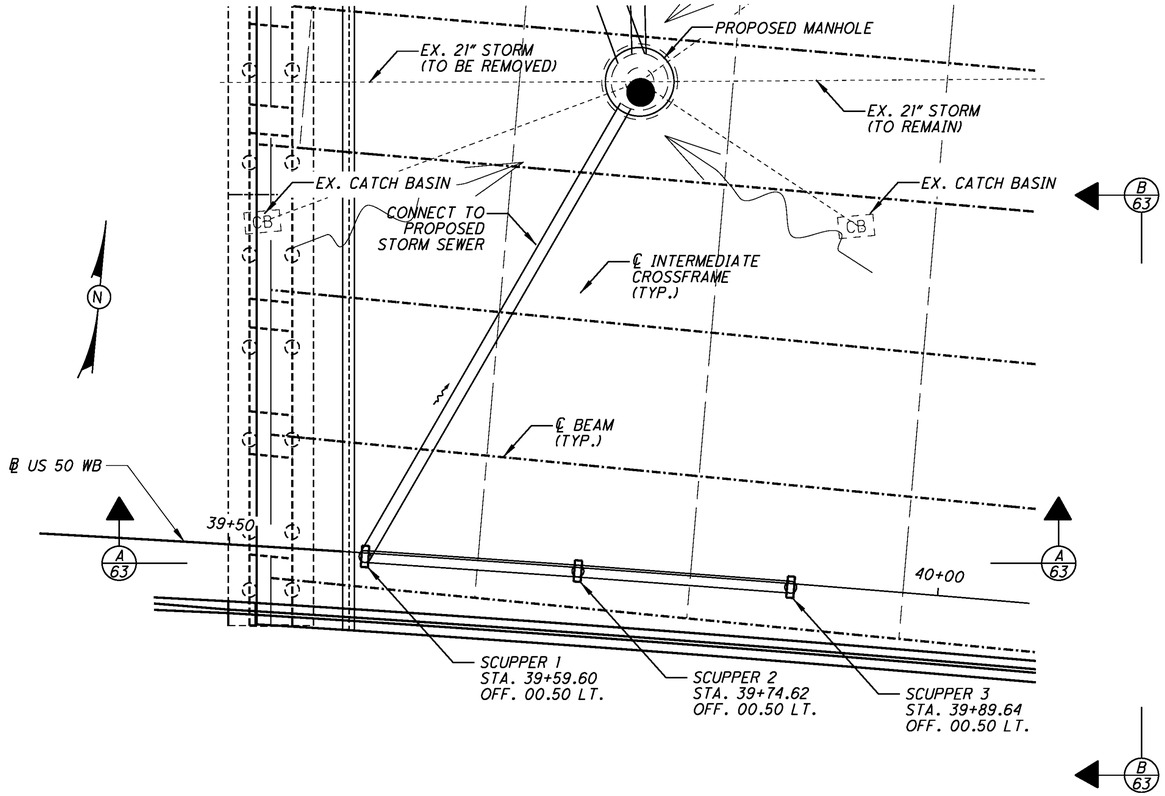
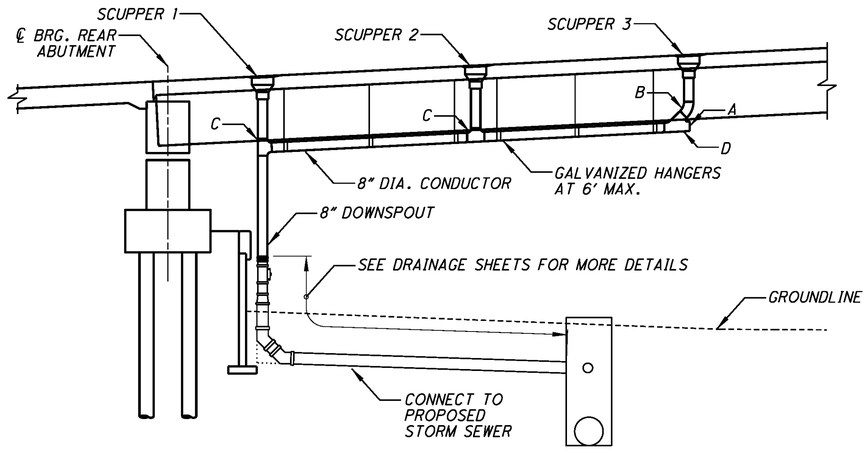
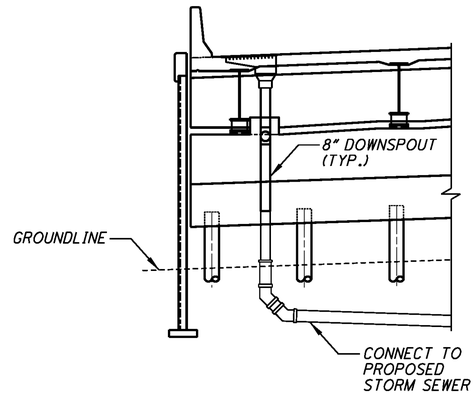


PARTIAL PLAN
BRIDGE NO. HAM-50-1903 L

A	CLEANOUT
B	45° BEND
C	TEE
D	LATERAL



A 63 SECTION



B 63 SECTION

DESIGN AGENCY
KZF DESIGN
Architecture | Engineering | Interiors | Planning
CINCINNATI, OHIO 45202 COLUMBUS, OHIO 43215
TEL 513.421.6211 FAX 513.421.3850 WEB www.kzf.com

DESIGNED	DRAWN	REVIEWED	DATE
DEF	RBK	BMB	11-29-10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DAT		31028017/3102815	

SCUPPER DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

63 / 65

587
657

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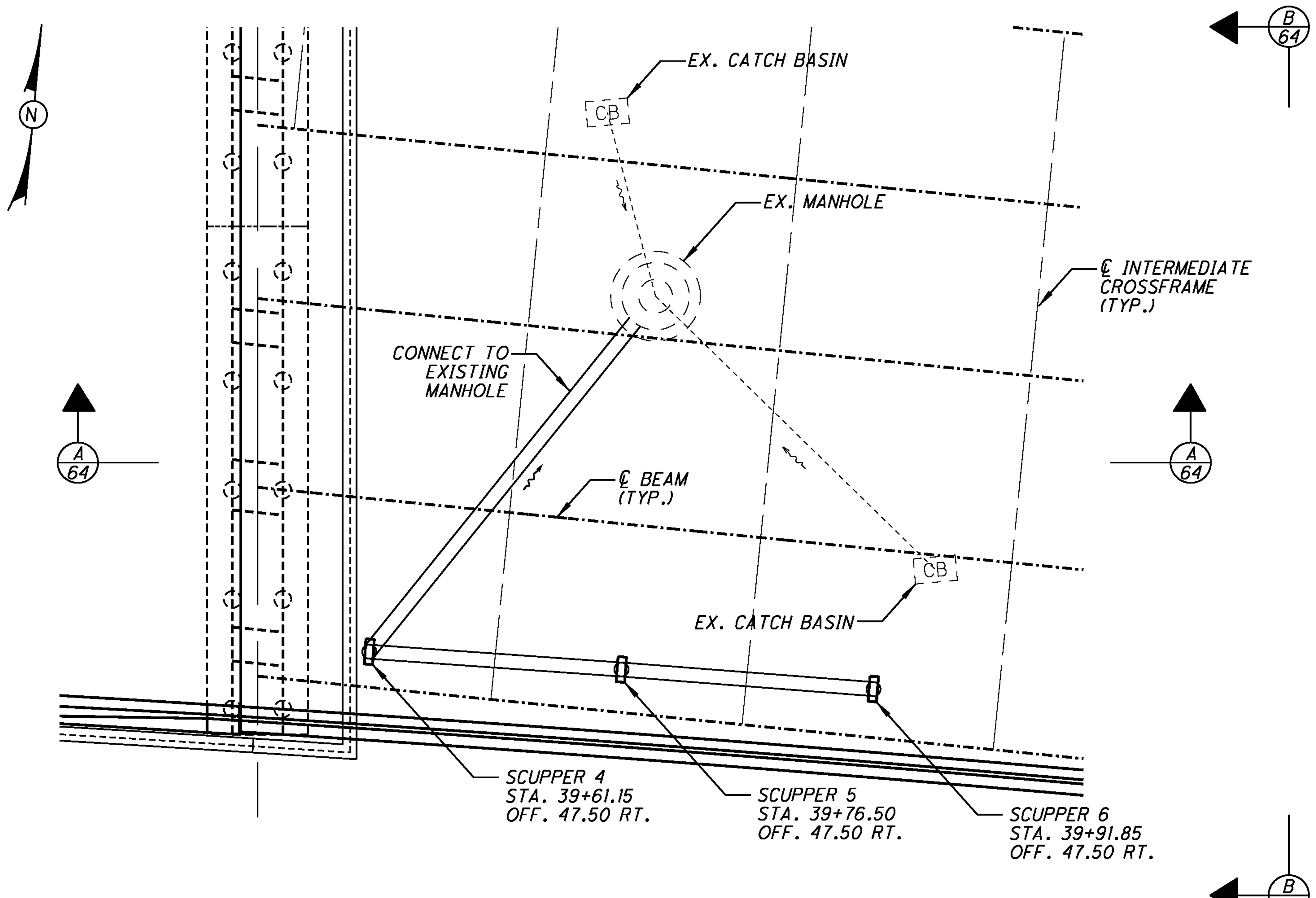
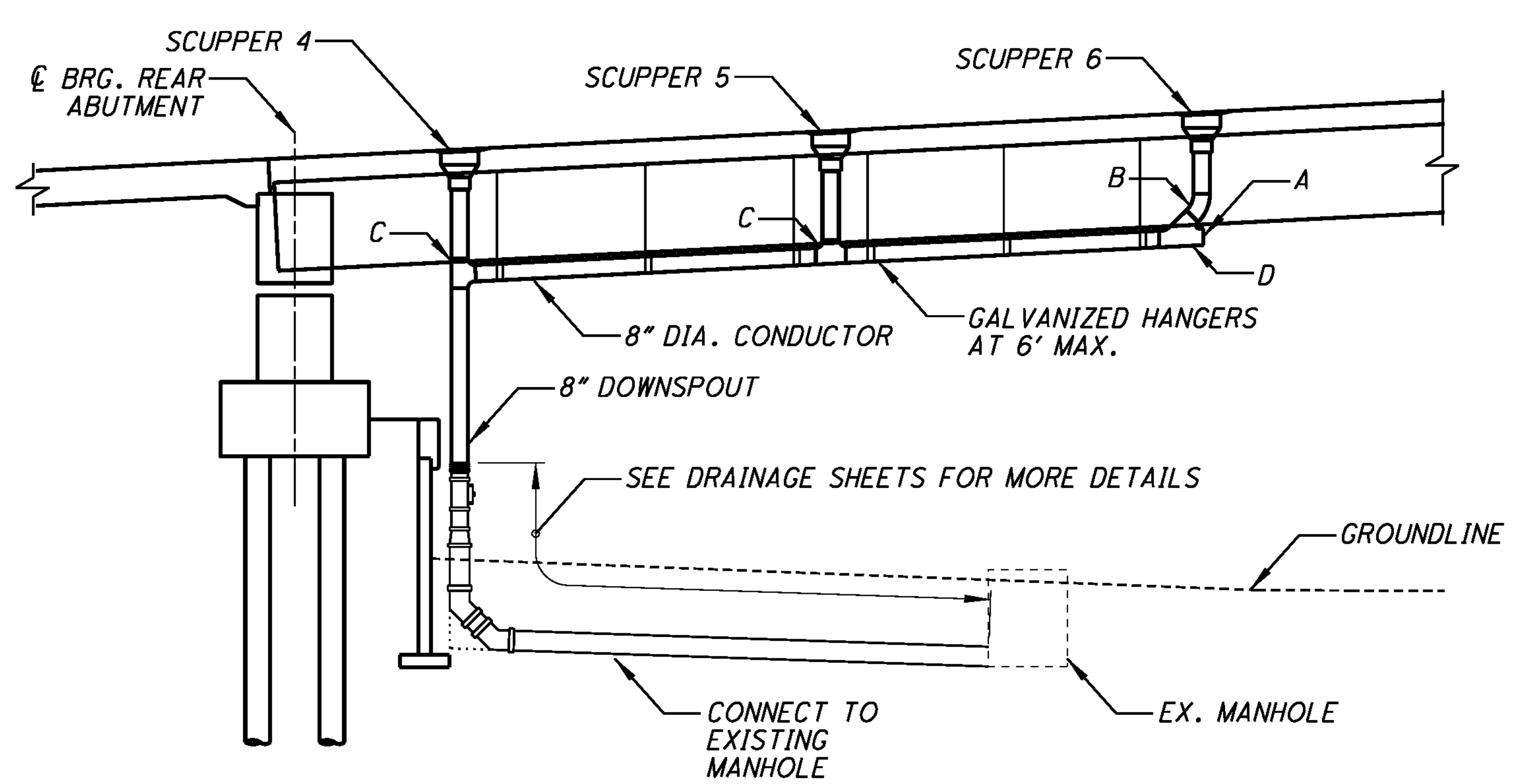
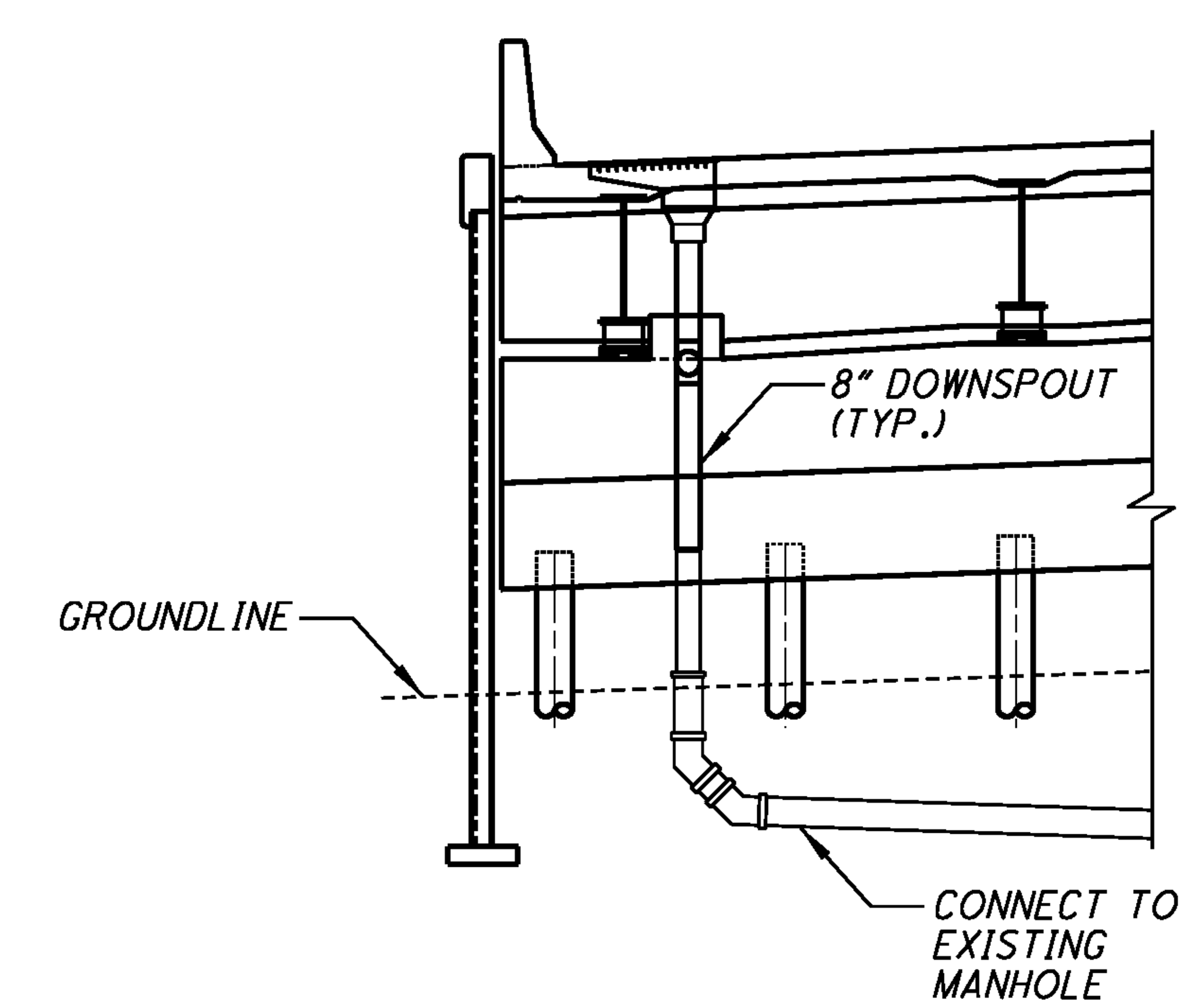


PARTIAL PLAN
BRIDGE NO. HAM-50-1903 R

A	CLEANOUT
B	45° BEND
C	TEE
D	LATERAL



A/64 SECTION



B/64 SECTION

DESIGN AGENCY KZF DESIGN Architecture | Engineering | Interiors | Planning

DESIGNED DEF | DRAWN RBK | REVIEWED BMB | DATE 11-29-10
CHECKED DAT | REVISED | STRUCTURE FILE NUMBER 3102807/3102815

SCUPPER DETAILS
BRIDGE HAM-50-1903 L/R
OVER VACANT LAND

HAM-50-18.79
PID No. 20082

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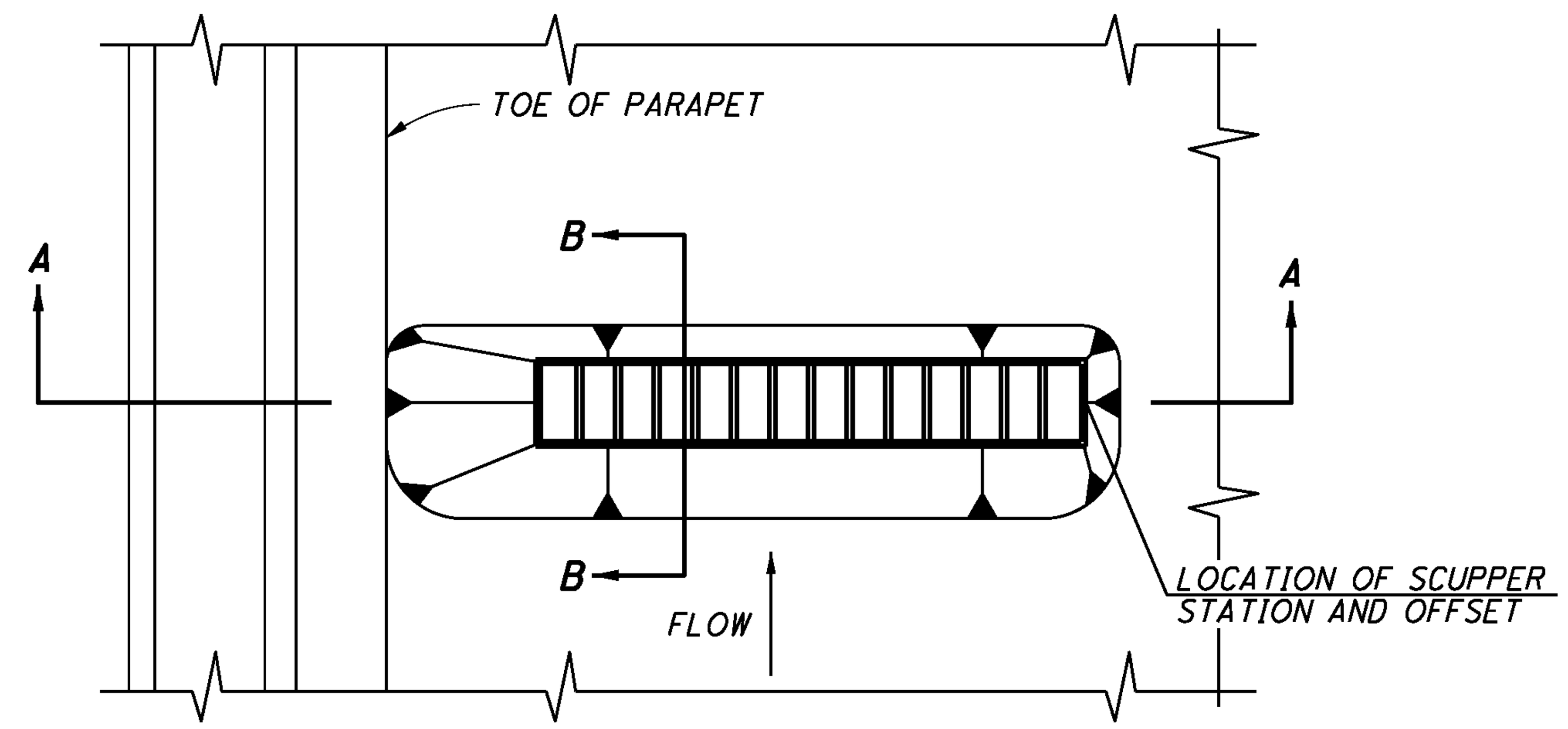
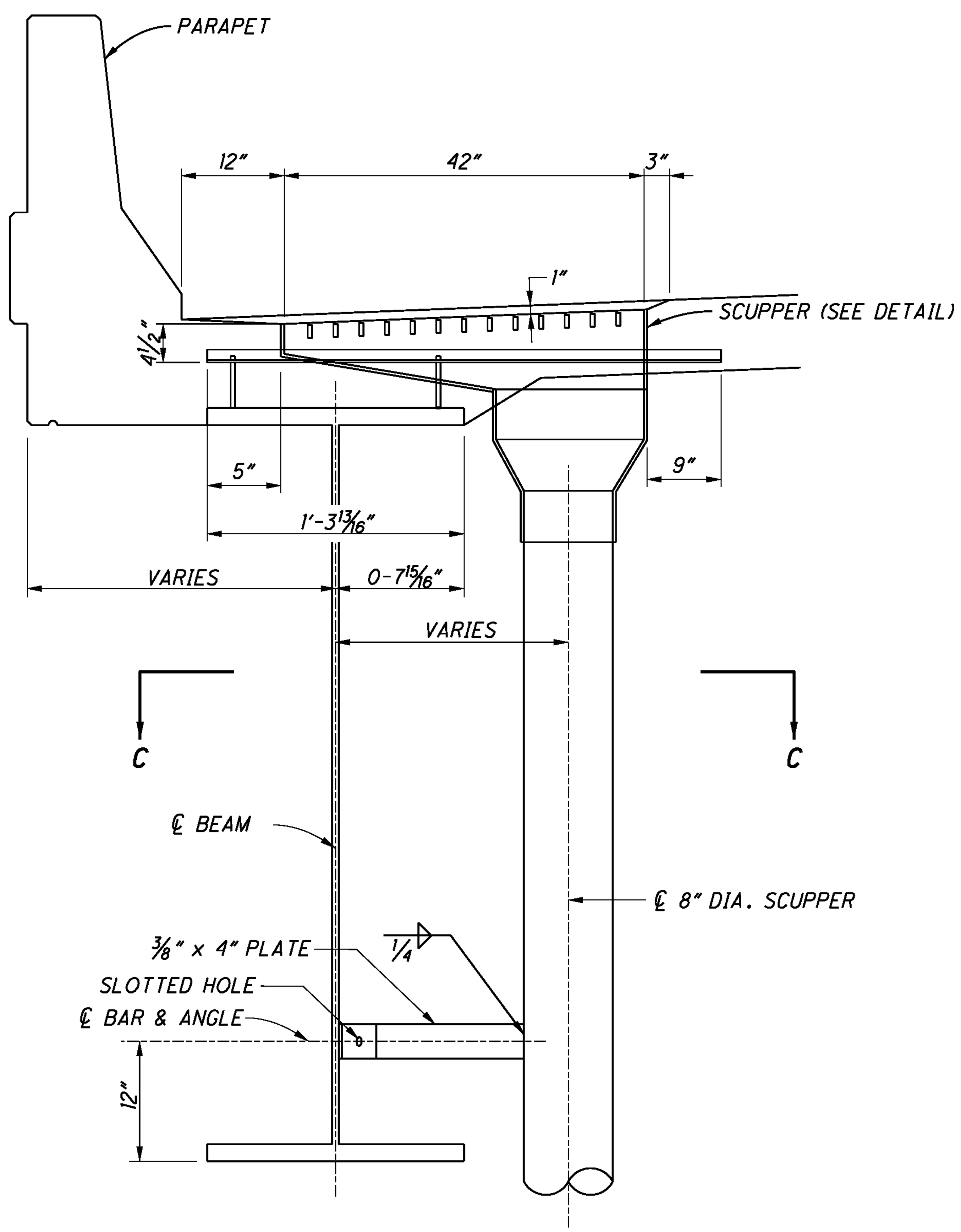
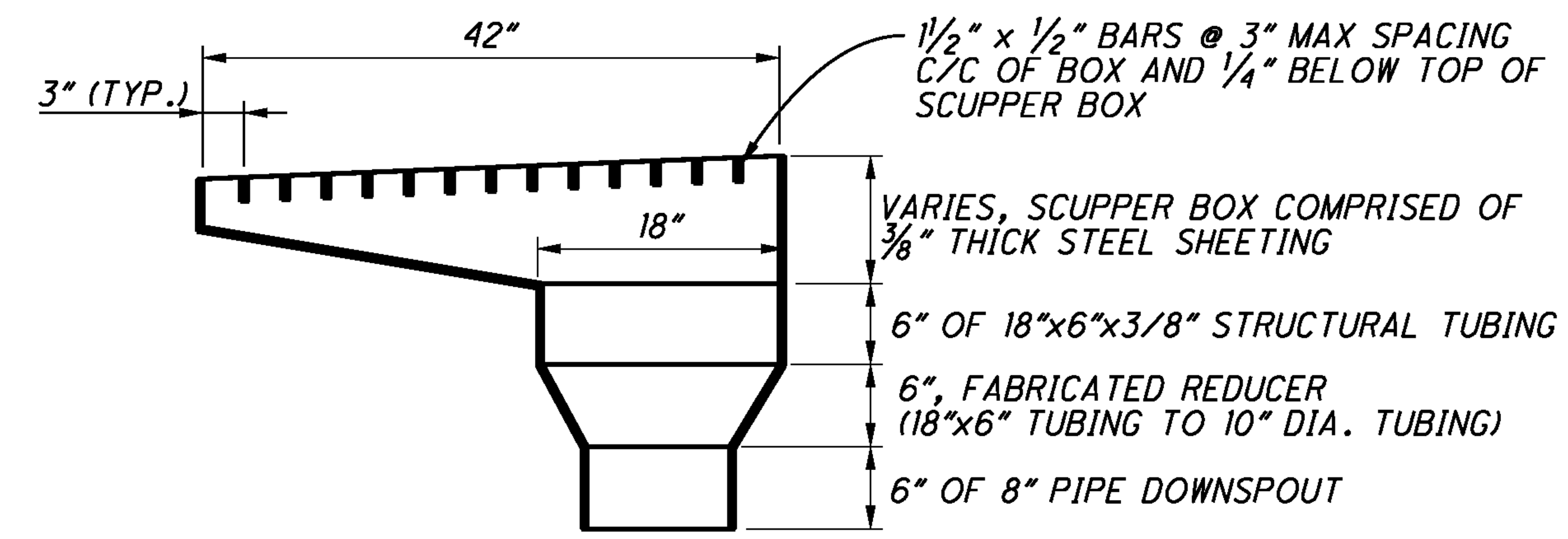


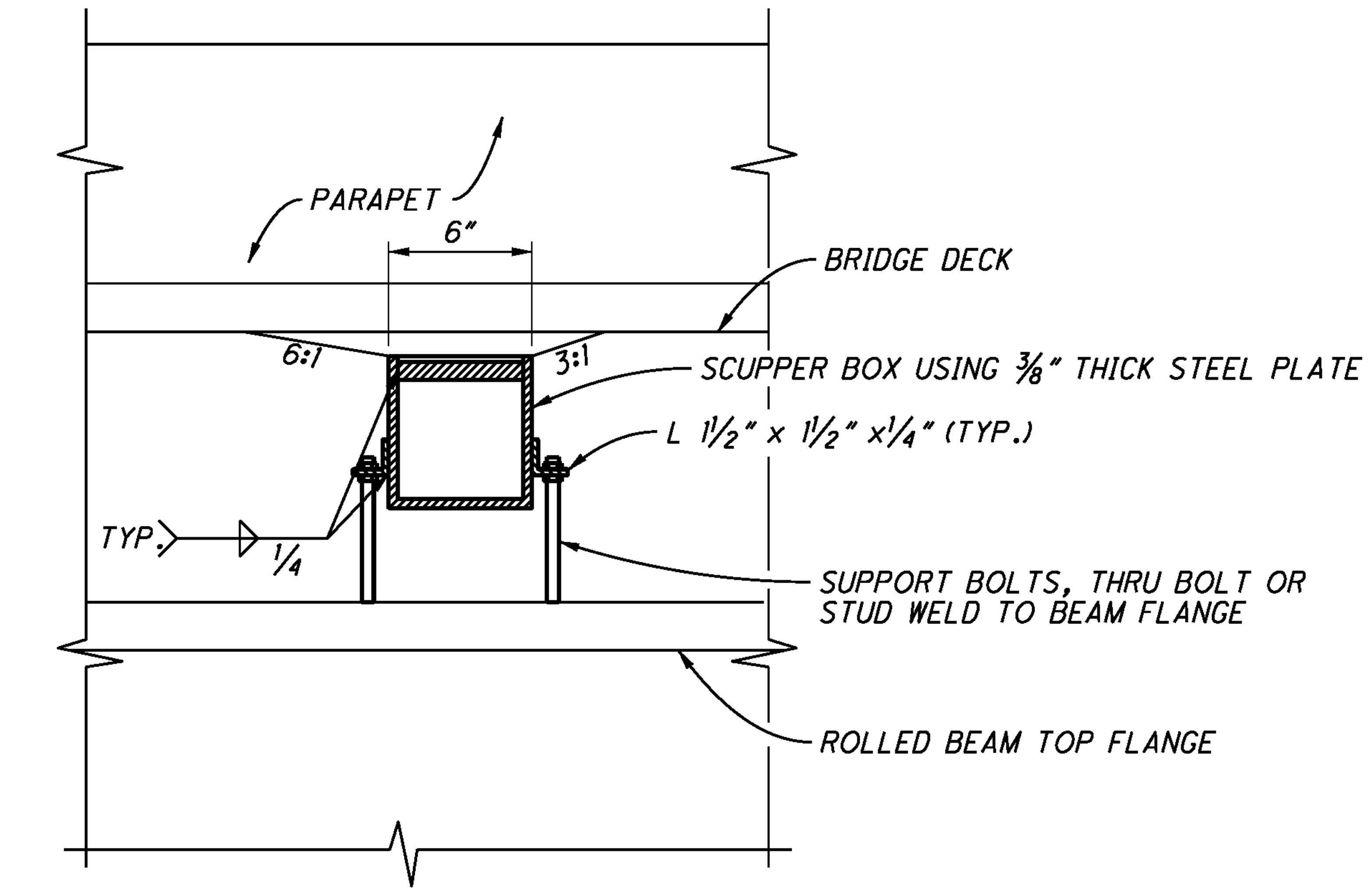
PLAN



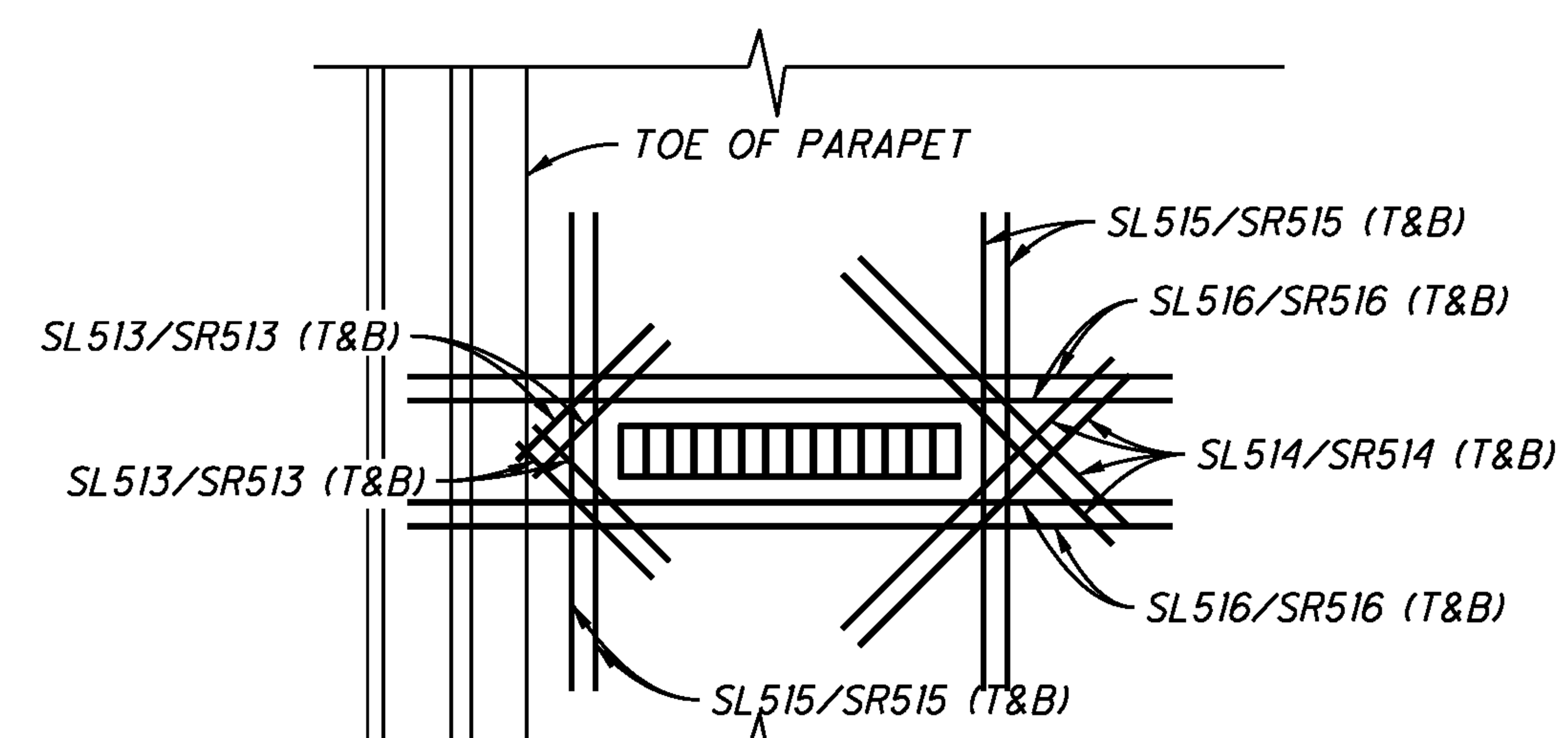
SECTION A-A



SCUPPER BOX DETAIL



SECTION B-B



ADDITIONAL DECK REINFORCING DETAIL

T&B = TOP AND BOTTOM

SCUPPER NOTES:

ALL MATERIALS INCLUDING STEEL PLATES, STRUCTURAL TUBING, SUPPORT ANGLES AND OTHER HARDWARE SHALL BE GALVANIZED PER 711.02.

SCUPPER BOXES AND REDUCERS SHALL BE MADE OF 3/8" GALVANIZED STRUCTURAL STEEL PLATES CONFORMING TO 518 AND 711.02.

STRUCTURAL STEEL TUBING SHALL BE PER 518, 707.11 AND 748.06.

ALL DOWNSPOUTS TO BE GALVANIZED STEEL PIPE OF THE SIZE SPECIFIED AND IN ACCORDANCE WITH ITEM 748.06.

PAYMENT:

ALL MATERIALS, EQUIPMENT, DELIVERY AND LABOR NECESSARY IN THE FABRICATION AND INSTALLATION FOR THE SCUPPER AS DETAILED SHALL BE INCLUDED IN THE UNIT PRICE OF:

SCUPPER, INCLUDING SUPPORTS, AS PER PLAN.

DOWNSPOUT NOTES:

ALL DOWNSPOUTS TO BE GALVANIZED STEEL PIPE OF THE SIZE SHOWN IN THE PLANS AND IN ACCORDANCE WITH ITEMS 518.06 AND 748.06. ALL FIELD WELDS TO BE GALVANIZED PER 711.02 AND WITH THE APPROVAL OF THE ENGINEER.

DOWNSPOUTS SHALL BE CONNECTED TO THE BRIDGE SCUPPER ASSEMBLIES BY WELDING OR USE OF CLAMP TYPE COUPLINGS WITH RING GASKETS.

HORIZONTAL PIPE RUNS SHALL BE SUPPORTED BY USE OF HANGARS AND STRAPS ATTACHED TO THE CONCRETE BRIDGE DECK. STRAPS SHALL BE PLACED AT A MAXIMUM SPACING OF 6 FEET C/C.

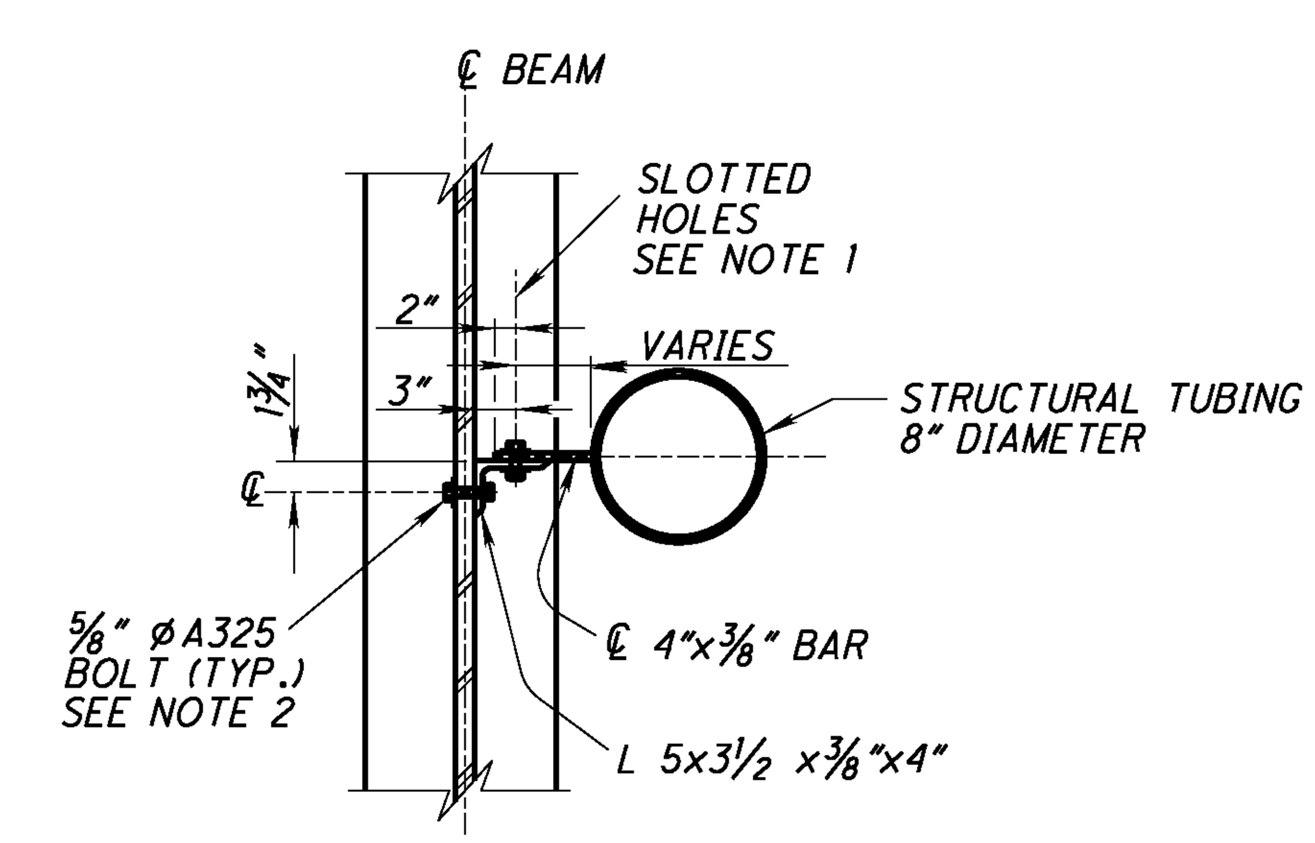
VERTICAL DOWNSPOUTS SHALL BE ATTACHED TO THE SUBSTRUCTURE BY USE OF STRAPS AND AT THE LOCATIONS INDICATED ON THE PLANS. THE DOWNSPOUT CONTRACTOR IS RESPONSIBLE FOR CONNECTING THE VERTICAL DOWNSPOUT TO THE UNDERGROUND PIPE DRAINAGE SYSTEM BY OTHERS.

ALL MATERIALS, EQUIPMENT, BENDS, WYES, TEES, CLEANOUTS, HORIZONTAL CONDUCTORS, HANGERS, FIELD GALVANIZING AND LABOR NECESSARY FOR THE FABRICATION AND INSTALLATION OF THE DOWNSPOUT AS SHOWN IN THE PLANS SHALL BE INCLUDED IN THE UNIT PRICE OF:

PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN

FASTENER NOTES:

1. THE SIZE OF THE SLOTTED HOLES SHALL BE 1 1/16" x 1 9/16". THE SLOT SHALL BE HORIZONTAL IN THE 4" x 3/8" BAR AND VERTICAL IN THE ANGLE. BOLTS SHALL BE 5/8" DIAMETER A325 TYPE I, GALVANIZED, WITH HEX NUT AND TWO WASHERS. TIGHTEN ACCORDING TO 513.
2. THE BOLTS SHALL BE 5/8" DIAMETER A325 TYPE 1 GALVANIZED EACH ASSEMBLY SHALL INCLUDE A BOLT, NUT AND TWO WASHERS. TIGHTEN ACCORDING TO 513. AFTER THE DECK CONCRETE HAS BEEN POURED, FIELD DRILL THE 13/16" DIAMETER HOLE IN THE WEB.



SECTION C-C

DESIGN AGENCY KZF DESIGN Architecture | Engineering | Interiors | Planning

DESIGNED	DRAWN	REVIEWED	DATE
DEF	RBK	BMB	11-29-10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DAT		3102807/3102815	

SCUPPER DETAILS
BRIDGE HAM-50-1903 L/R OVER VACANT LAND

HAM-50-18.79
PID No. 20082

65/65

589/657

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CALCULATED	CHECKED
RBK	DAT

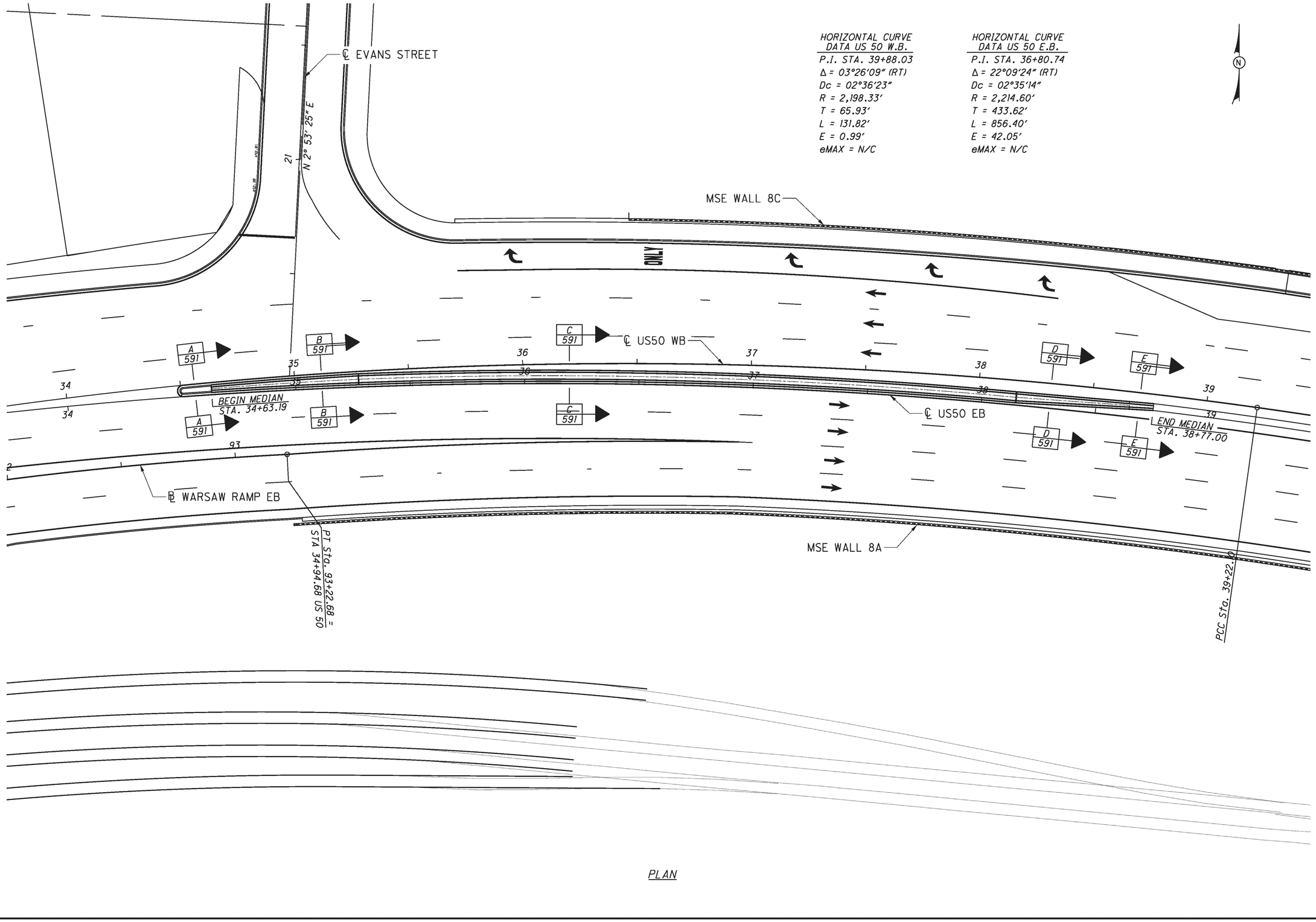
MEDIAN BARRIER AND FOUNDATION

HAM-50-18.79

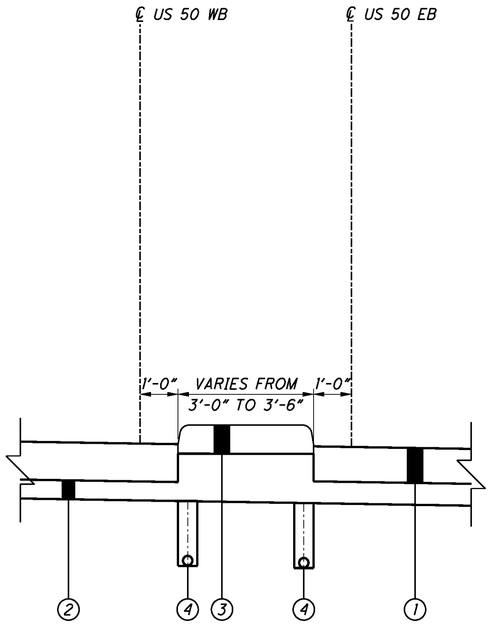
590
657

HORIZONTAL CURVE DATA US 50 W.B.
P.I. STA. 39+88.03
Δ = 03°26'09" (RT)
Dc = 02°36'23"
R = 2,198.33'
T = 65.93'
L = 131.82'
E = 0.99'
eMAX = N/C

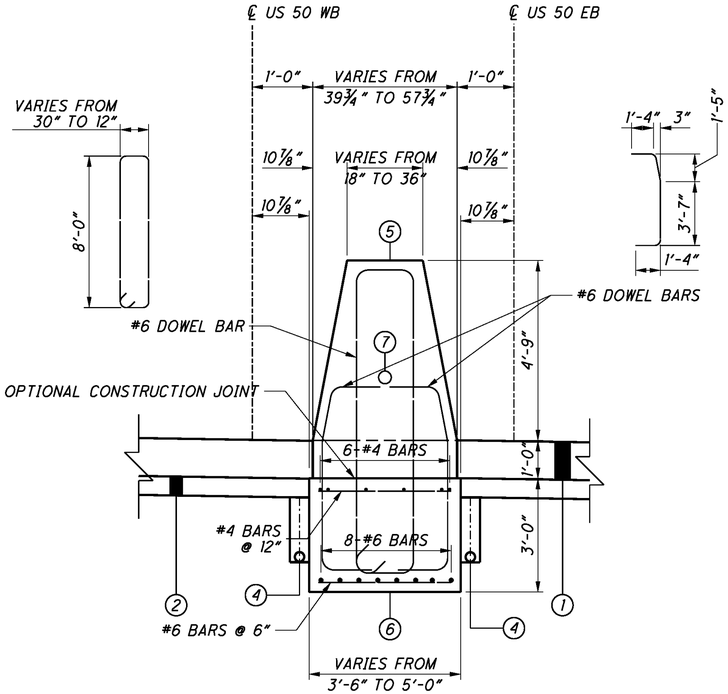
HORIZONTAL CURVE DATA US 50 E.B.
P.I. STA. 36+80.74
Δ = 22°09'24" (RT)
Dc = 02°35'14"
R = 2,214.60'
T = 433.62'
L = 856.40'
E = 42.05'
eMAX = N/C



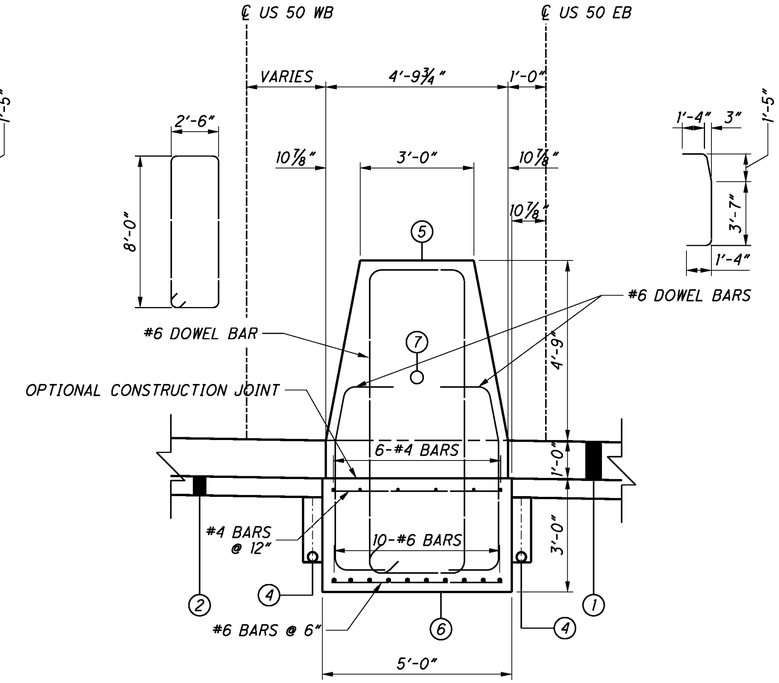
PLAN



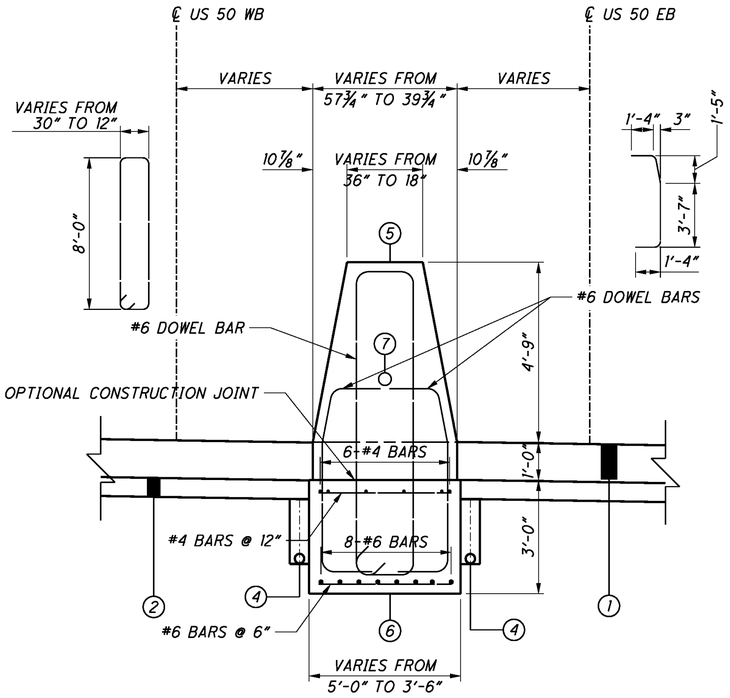
A 590 SECTION
FROM STA. 34+50.84
TO STA. 34+63.19



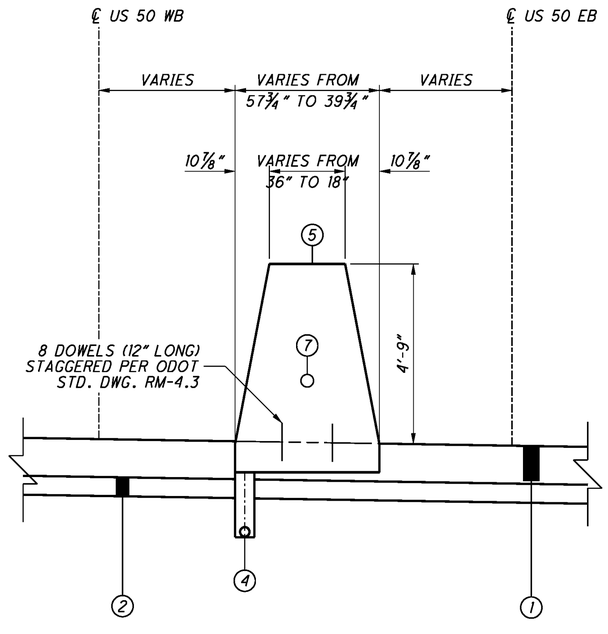
B 590 TRANSITION SECTION
FROM STA. 34+63.19
TO STA. 35+27.54



C 590 SECTION
FROM STA. 35+27.54
TO STA. 38+15.00



D 590 TRANSITION SECTION
FROM STA. 38+15.00
TO STA. 38+64.65



E 590 TRANSITION SECTION
FROM STA. 38+64.65
TO STA. 38+77.00

1. ITEM 305 - 12" CONCRETE PAVEMENT
2. ITEM 304 - 6" AGGREGATE BASE
3. ITEM 609 - 6" CONCRETE TRAFFIC ISLAND
4. ITEM 605 - 6" BASE PIPE UNDERDRAINS
5. ITEM 511 - CLASS C CONCRETE
6. ITEM 511 - CLASS C CONCRETE, FOOTING
7. ITEM 625 - CONDUIT, 4", 725.04 (INCLUDED IN HIGHWAY LIGHTING PAY ITEMS)

DESIGN DATA:
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)
REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI, ASTM A615

NOTES:
1. EPOXY COATED REINFORCING STEEL SHALL BE INCLUDED WITH PAYMENT FOR ITEM 511
2. SEE LIGHTING PLAN SHEETS FOR CONDUIT QUANTITIES
3. DRAINAGE INLETS AND UNDERDRAINS SHALL BE FIELD ADJUSTED
4. SEE DRAINAGE PLAN SHEETS FOR UNDERDRAIN QUANTITIES

CALCULATED RBK
CHECKED DAT

MEDIAN BARRIER AND FOUNDATION

HAM-50-18.79

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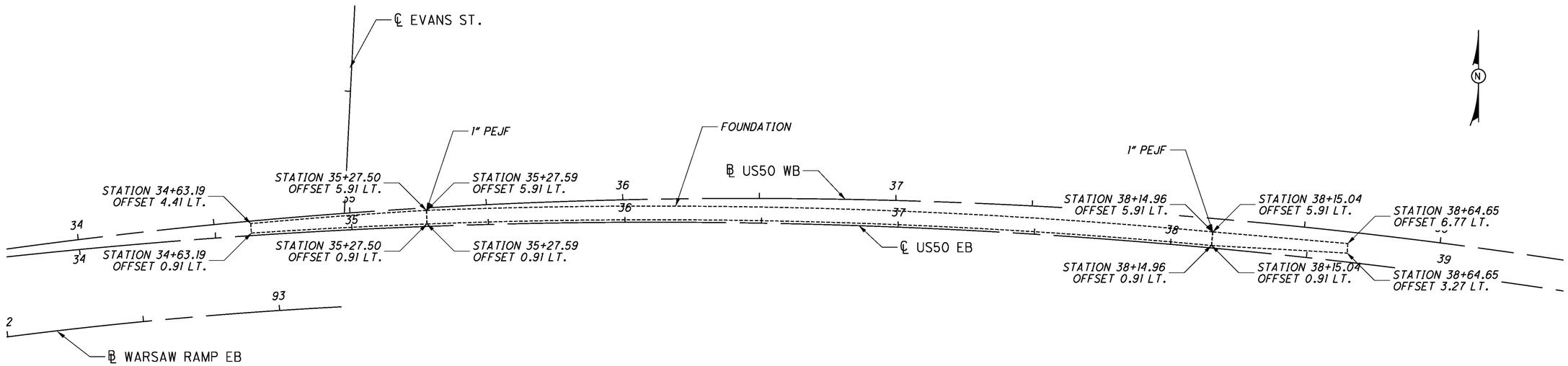
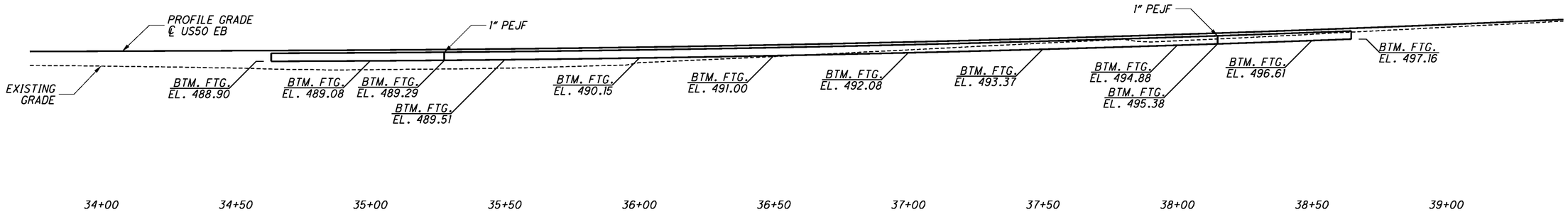
657



FOUNDATION PLAN



FOUNDATION PROFILE

CALCULATED BY:	RBK	DATE:	03/11/09
CHECKED BY:	DAT	DATE:	03/11/09

ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION
503	21300	LUMP		UNCLASSIFIED EXCAVATION
511	46000	332	CU YD	CLASS C CONCRETE
511	46500	214	CU YD	CLASS C CONCRETE, FOOTING
516	13600	36	SQ FT	1" PREFORMED EXPANSION JOINT FILLER
609	54000	43	SQ YD	6" CONCRETE TRAFFIC ISLAND

NOTES:
1. STATION AND OFFSETS FOR GATWAY ELEMENT FOOTING ARE MEASURED FROM ℄ CONSTRUCTION US 50 EASTBOUND
2. SEE ROADWAY SHEETS FOR PAVEMENT DETAILS AND PLAN AND PROFILE DETAILS

CALCULATED RBK
CHECKED DAT

MEDIAN BARRIER AND FOUNDATION

HAM-50-18.79

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657

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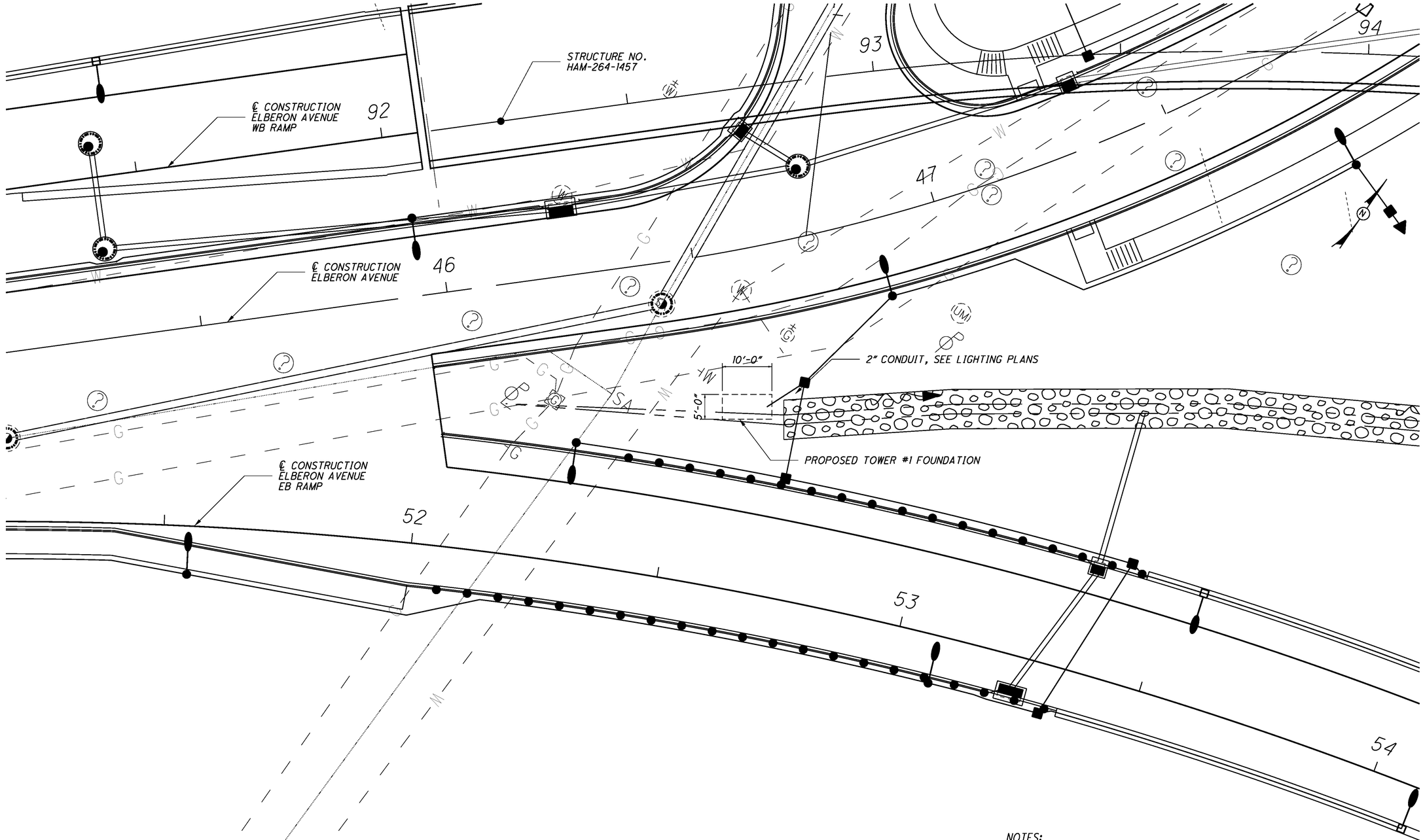

NOTES:

1. STATION AND OFFSETS FOR FOR TOWER ELEMENT FOOTING ARE MEASURED FROM ℄ CONSTRUCTION ELBERON AVENUE

CALCULATED RBK
CHECKED DAT

TOWER #1 FOUNDATION DETAILS

HAM-50-18.79

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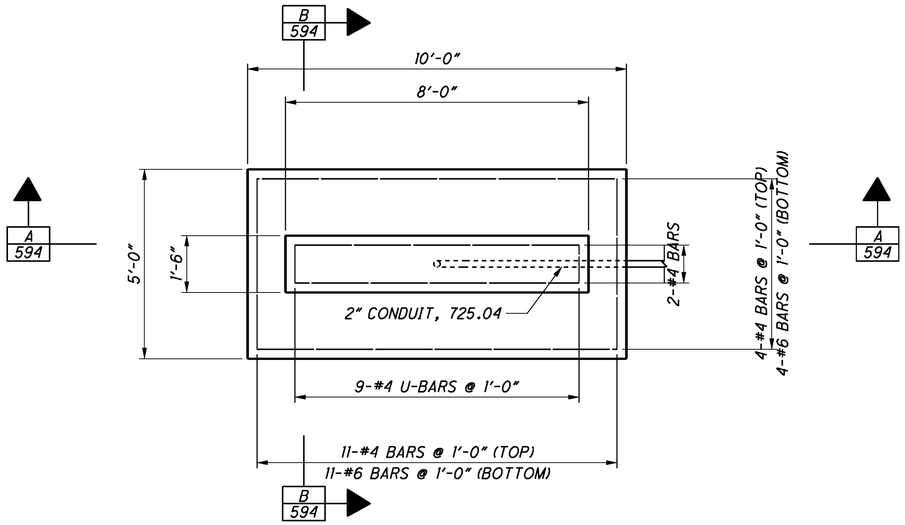
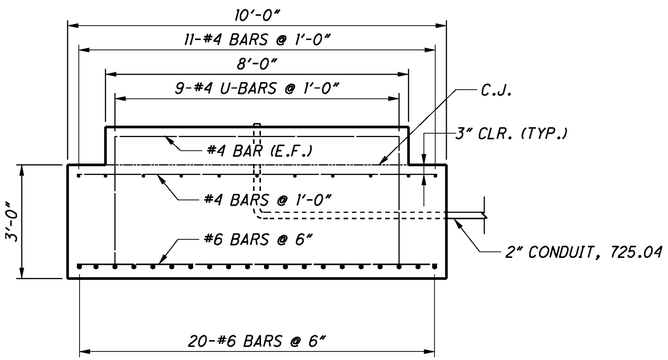
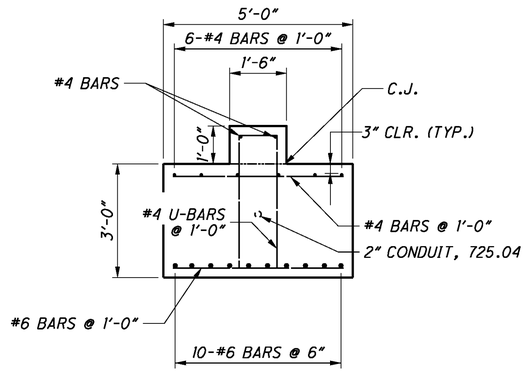


FOOTING PLAN



A 594 SECTION



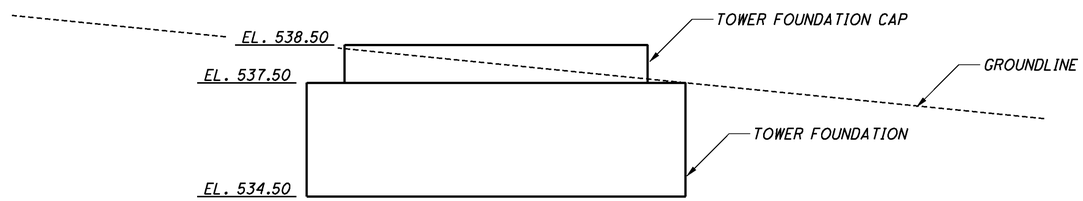
B 594 SECTION

CALCULATED BY: RBK DATE: 03/11/09
CHECKED BY: DAT DATE: 03/11/09

PARTICIPATION	ESTIMATED QUANTITIES				
100% LOCAL	ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION
LUMP	503	21300	LUMP		UNCLASSIFIED EXCAVATION
1	511	46000	1	CU YD	CLASS C CONCRETE
6	511	46500	6	CU YD	CLASS C CONCRETE, FOOTING

DESIGN DATA:
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)
REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI, ASTM A615

NOTES:
1. EPOXY COATED REINFORCING STEEL SHALL BE INCLUDED WITH PAYMENT FOR ITEM 511
2. SEE LIGHTING PLAN SHEETS FOR CONDUIT QUANTITIES



TOWER #1 FOUNDATION ELEVATION

CALCULATED RBK
CHECKED DAT

TOWER #1 FOUNDATION DETAILS

HAM-50-18.79

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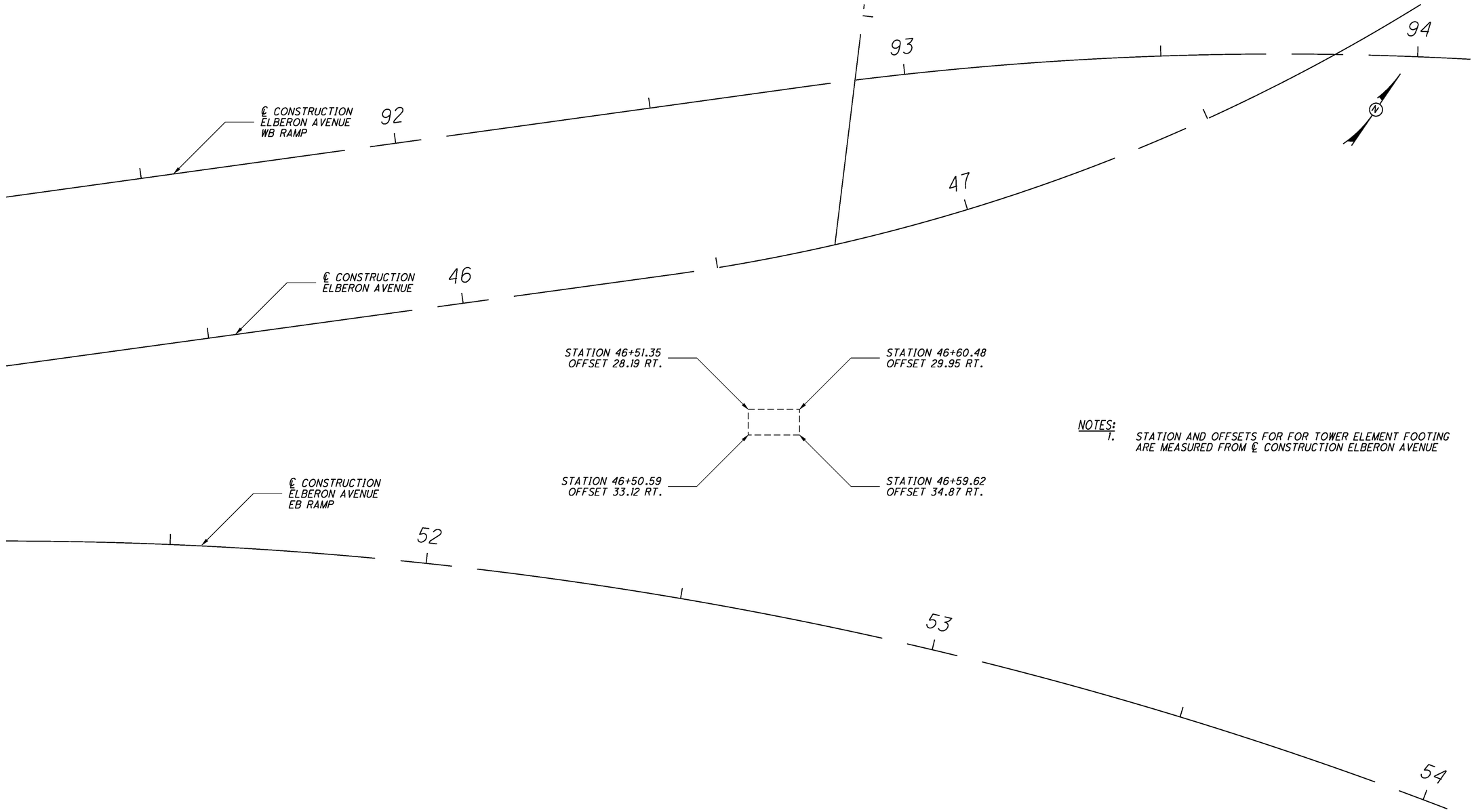
657



NOTES:

1. STATION AND OFFSETS FOR FOR TOWER ELEMENT FOOTING ARE MEASURED FROM ℄ CONSTRUCTION ELBERON AVENUE

CALCULATED RBK
CHECKED DAT

TOWER #1 FOUNDATION DETAILS

HAM-50-18.79

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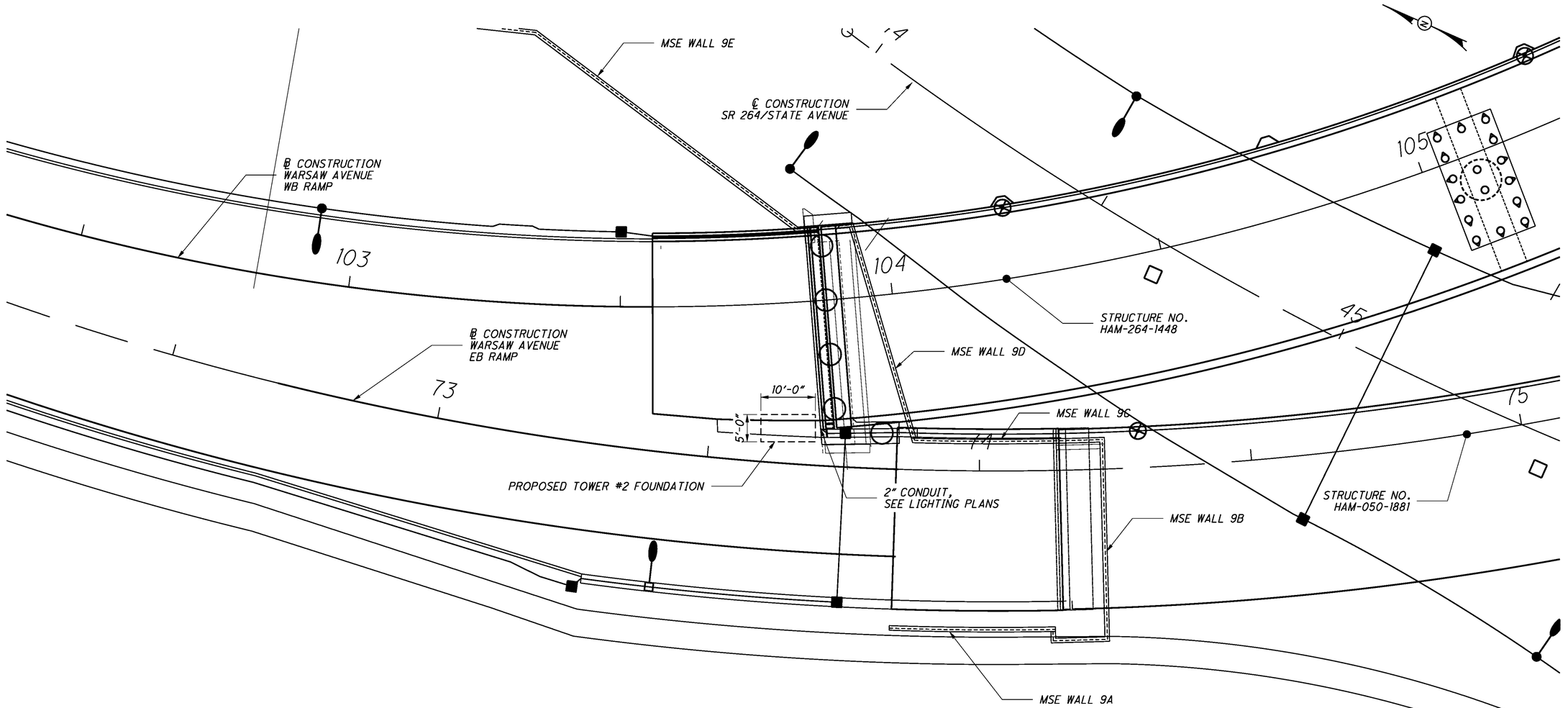
657



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CALCULATED RBK
CHECKED DAT

TOWER #2 FOUNDATION DETAILS

HAM-50-18.79

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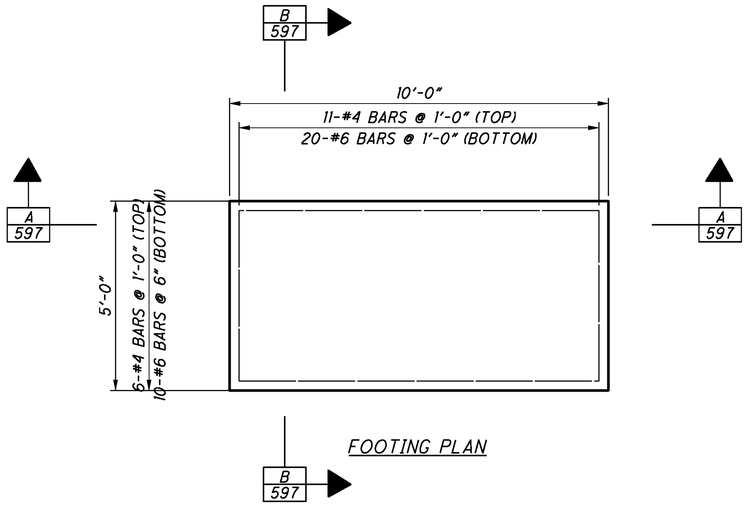
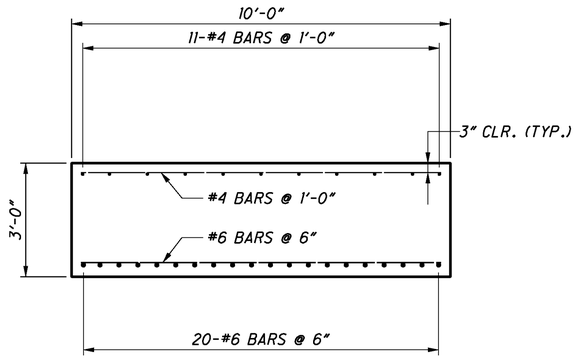
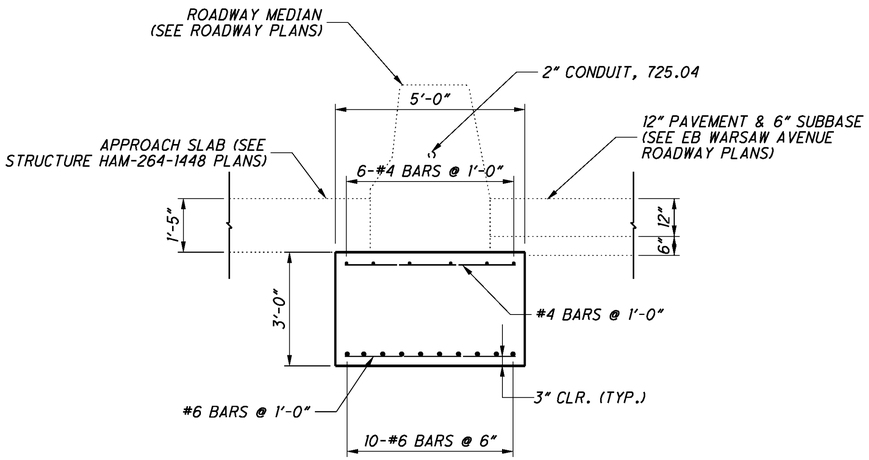


FOOTING PLAN



A 597 SECTION



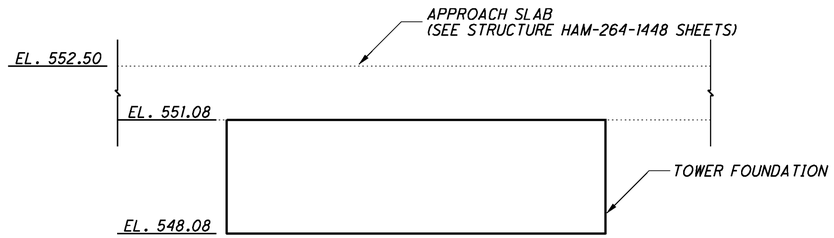
B 597 SECTION

CALCULATED BY: RBK	DATE: 03/11/09
CHECKED BY: DAT	DATE: 03/11/09

PARTICIPATION	ESTIMATED QUANTITIES				
100% LOCAL	ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION
LUMP	503	21300	LUMP		UNCLASSIFIED EXCAVATION
6	511	46500	6	CU YD	CLASS C CONCRETE, FOOTING

DESIGN DATA:
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)
REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI, ASTM A615

NOTES:
1. EPOXY COATED REINFORCING STEEL SHALL BE INCLUDED WITH PAYMENT FOR ITEM 511
2. SEE LIGHTING PLAN SHEETS FOR CONDUIT QUANTITIES



TOWER FOUNDATION #2 ELEVATION

CALCULATED RBK
CHECKED DAT

TOWER #2 FOUNDATION DETAILS

HAM-50-18.79

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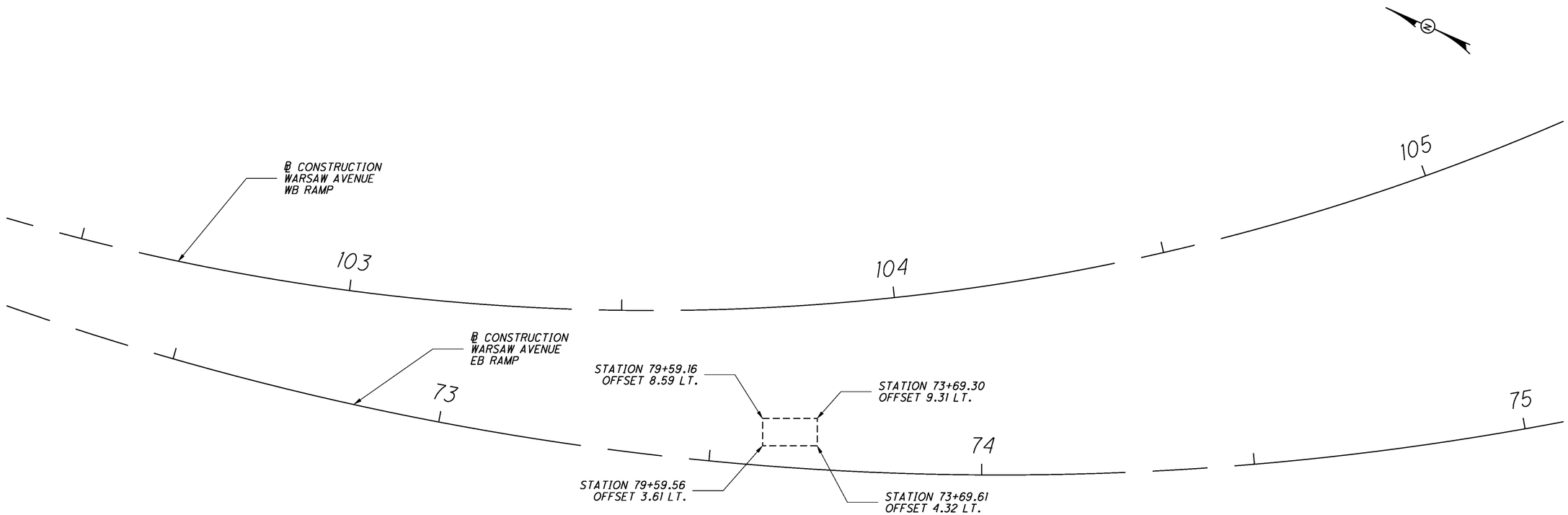
657



NOTES:

1. STATION AND OFFSETS FOR FOR TOWER ELEMENT FOOTING ARE MEASURED FROM ℄ CONSTRUCTION WARSAW AVENUE EB RAMP

CALCULATED RBK
CHECKED DAT

TOWER #2 FOUNDATION DETAILS

HAM-50-18.79

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657

	GENERAL SUMMARY						
ODOT ITEM	ODOT ITEM NUMBER AND/OR EXTENSION	100% PROJECT COST	100% GCWW COST	TOTAL QUANTITY	UNITS	DESCRIPTION	GCWW SPEC. NUMBER
SPECIAL	638E80500	20		0	FT.	FURNISHING AND LAYING 4" DUCTILE IRON PIPE AND FITTINGS (CIN. 1101)	1101
SPECIAL	638E80600	232		0	FT.	FURNISHING AND LAYING 6" DUCTILE IRON PIPE AND FITTINGS (CIN. 1101)	1101
SPECIAL	638E80700	459		0	FT.	FURNISHING AND LAYING 8" DUCTILE IRON PIPE AND FITTINGS (CIN. 1101)	1101
SPECIAL	638E80800	31		0	FT.	FURNISHING AND LAYING 10" DUCTILE IRON PIPE AND FITTINGS (CIN. 1101)	1101
SPECIAL	638E80900	158		0	FT.	FURNISHING AND LAYING 12" DUCTILE IRON PIPE AND FITTINGS (CIN. 1101)	1101
SPECIAL	638E81000	2079		0	FT.	FURNISHING AND LAYING 16" DUCTILE IRON PIPE AND FITTINGS (CIN. 1101)	1101
SPECIAL	638E81200	16		0	FT.	FURNISHING AND LAYING 24" DUCTILE IRON PIPE AND FITTINGS (CIN. 1101)	1101
SPECIAL	638E81600	750		0	FT.	FURNISHING AND LAYING 24" PRESTRESSED CONCRETE WATER PIPE AND FITTINGS (CIN. 1101)	1101
SPECIAL	638E81800	232		0	FT.	FURNISHING AND LAYING 36" PRESTRESSED CONCRETE WATER PIPE AND FITTINGS (CIN. 1101)	1101
SPECIAL	638E82000	6		0	TON	HAULING WATER WORK MATERIAL (CIN. 1102)	1102
SPECIAL	638E84500	66		0	CU. YD.	CONCRETE, CLASS C (CIN. 1110)	1110
SPECIAL	638E85800	11		0	EACH	FURNISHING AND INSTALLING FIRE HYDRANT (CIN. 1112)	1112
SPECIAL	638E86000	5		0	EACH	REMOVING FIRE HYDRANT (CIN. 1114)	1114
SPECIAL	638E86100	7		0	EACH	FURNISHING AND INSTALLING 6" FIRE HYDRANT EXTENSION (CIN. 1115)	1115
SPECIAL	638E86100	4		0	EACH	FURNISHING AND INSTALLING 18" FIRE HYDRANT EXTENSION (CIN. 1115)	1115
SPECIAL	638E86300	14		0	EACH	FURNISHING AND INSTALLING VALVE BOX, COMPLETE (CIN. 1116)	1116
SPECIAL	638E86300	2		0	EACH	FURNISHING AND INSTALLING VALVE BOX W 1" AIR RELEASE, COMPLETE (CIN. 1116)	1116
SPECIAL	638E86300	15		0	EACH	FURNISHING AND INSTALLING VALVE BOX W 2" AIR RELEASE, COMPLETE (CIN. 1116)	1116
SPECIAL	638E86302	6		0	EACH	FIELD WELDING TIE JOINT (CIN. 1117)	1117
SPECIAL	638E86400	100		0	CU. YD.	*ADDITIONAL EXCAVATION (CIN. 1119)	1119
SPECIAL	638E86404	100		0	CU. YD.	*EXPLORATORY EXCAVATION (CIN. 1120)	1120
SPECIAL	638E86600	6		0	EACH	REMOVING EXISTING MANHOLE CURB AND COVER (CIN. 1122)	1122
SPECIAL	638E86700	13		0	EACH	REMOVING EXISTING VALVE BOX (CIN. 1122)	1122
SPECIAL	638E86800	100		0	FT.	*CHANGING 8" AND UNDER PIPE SEWER (CIN. 1123)	1123
SPECIAL	638E86900	100		0	FT.	*CHANGING 10" THRU 24" PIPE SEWER (CIN. 1123)	1123
SPECIAL	638E87100	22		0	EACH	RESETTING EXISTING VALVE BOX, COMPLETE (CIN. 1125)	1125
SPECIAL	638E87300	72		0	FT.	HAULING, INSTALLING AND CONNECTING 1" COPPER SERVICE PIPE (CIN. 1126)	1126
SPECIAL	638E87500	80		0	FT.	HAULING, INSTALLING AND CONNECTING 2" COPPER SERVICE PIPE (CIN. 1126)	1126
SPECIAL	638E88500	1		0	EACH	DISCONNECTING EXISTING (3/4)" SERVICE BRANCH (CIN. 1130)	1130
SPECIAL	638E88700	2		0	EACH	FURNISHING AND INSTALLING CURB AND ROADWAY BOX (CIN. 1131)	1131
SPECIAL	638E90300	1		0	EACH	REMOVING CURB AND ROADWAY BOX (CIN. 1138)	1138
509	E25000	7874		0	POUND	REINFORCING STEEL	509
602	E98200	1		0	CU. YD.	*BRICK MASONRY	602
604	E34501	9		0	EACH	MANHOLE ADJUSTED TO GRADE	604
638	E11500	1		0	MBF	*SHEETING AND BRACING ORDERED LEFT IN PLACE	637
202	202E98200	600		0	L.F.	*STREET CAR RAILS REMOVED	202
	* CONTINGENCY						

CAUTION UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG

CALL 1-800-362-2764 (TOLL FREE)
(IT'S THE LAW)

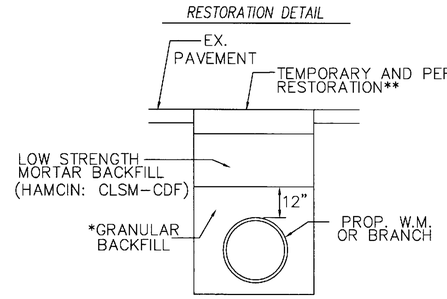
OhioEPA

Ohio Environmental Protection Agency
"Self-Certification" letter required prior to the start of construction.

☒ OEPA CERTIFICATION EXEMPT

Supervising Engineer - Design 6/11/10

RESTORATION DETAIL



*BACKFILL OF THE WATER MAIN TRENCH SHALL BE DONE IN ACCORDANCE WITH C.W.W. SPECIFICATIONS. ALL WATER MAIN(S) LOCATED OUTSIDE OF THE PAVEMENT AREA SHALL UTILIZE GRANULAR BACKFILL IN LIEU OF THE CONTROL DENSITY FILL. ALL OF THESE COSTS SHALL BE INCLUDED UNDER ITEM 1101, "FURNISHING AND INSTALLING DUCTILE IRON PIPE AND FITTINGS".

**TEMPORARY AND PERMANENT RESTORATION SHALL BE DONE IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS AND/OR PROJECT PLAN TYPICAL SECTIONS. IN AREA(S) WHERE THE EXISTING PAVEMENT; BASE AND/OR SUB-BASE ARE NOT TO BE DISTURBED, THE COST FOR PAVEMENT RESTORATION SHALL BE INCLUDED IN THE APPROPRIATE CONTRACTOR'S UNIT BID PRICE FOR ITEM 1101 OR ITEM 1126. IN THOSE AREAS WHERE THE PAVEMENT; BASE AND/OR SUB-BASE IS TO BE REPLACED UNDER THE ROADWAY CONTRACT, THE COST FOR PAVEMENT RESTORATION SHALL BE INCLUDED UNDER THE APPROPRIATE PAVEMENT BID ITEMS.

CONTROLLED DENSITY FILL MUST MEET BOTH HAMCIN: CLSM-CDF PERFORMANCE SPECIFICATION AND O.D.O.T. SPECIFICATION. ALL FLOWABLE FILL PRODUCTS SHALL MEET THE REQUIREMENTS OF THE CURRENT CINCINNATI WATER WORKS MATERIALS TESTING AND SPECIFICATIONS FOR FLOWABLE FILL PRODUCTS (DATED 2/8/99). THE C.W.W. REQUIREMENT IS IN ADDITION TO HAMCIN SPECIFICATIONS FOR FLOWABLE FILL PRODUCTS. COPIES OF THE C.W.W. REQUIREMENT ARE MADE AVAILABLE AT THE C.W.W. ENGINEERING OFFICES AT 4747 SPRING GROVE AVENUE, CONTACT; RUSS WEBER AT 591-7862. ALSO, THE CONTRACTOR SHALL SUBMIT, PRIOR TO THE START OF CONSTRUCTION, THE NECESSARY DOCUMENTATION FOR REVIEW AND APPROVAL BY THE C.W.W.

INDEX

APPROVED:

STATE OF OHIO
JASON A. FLEMING
E-67710
REGISTERED
PROFESSIONAL ENGINEER

SUPERVISING ENGINEER - DESIGN 6/11/10 DATE

PRINCIPAL ENGINEER - SYSTEM FACILITIES 6/11/10 DATE

CHIEF ENGINEER 6/11/10 DATE

CINCINNATI FIRE DEPARTMENT

CINCINNATI WATER WORKS
ENGINEERING DIVISION
June, 2010

Revisions		
No.	By	Date

Designed By:

Drawn By:

HORIZONTAL & VERTICAL SCALE IN FEET
0 10 20 40

CALCULATED M.J.C. CHECKED J.A.F.

HAM 50-18.79 WALDVOGEL VIADUCT
GCWW WATER MAIN REPLACEMENT

GCWW JOB NO. 09060
WW001843 - 4-3474

1/14
599
657

GENERAL PROVISIONS

THE CONTRACTOR IS ADVISED THAT THERE ARE SEVERAL CHANGES TO THE MOST RECENT EDITION OF THE CITY OF CINCINNATI SUPPLEMENT DATED JANUARY 1, 2008. THESE GENERAL PROVISIONS INCLUDE THESE CHANGES. THE SUPPLEMENT AND A SUMMARY OF CHANGES CAN BE PURCHASED OR DOWNLOADED FROM THE CITY'S WEBSITE: HTTP: //WWW.CINCINNATI-OH.GOV/TRANSENG/PAGES/-7297-/.

WATER MAIN ITEMS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIAL SPECIFICATIONS, DATED JANUARY 1, 2008, AND MODIFIED BY THE CITY OF CINCINNATI SUPPLEMENT TO SAID STATE OF OHIO SPECIFICATIONS, EFFECTIVE JANUARY 1, 2008, AND ANY SUPPLEMENTS OR CHANGES THERETO. COPIES OF THE STATE SPECIFICATIONS ARE ON FILE AT THE OFFICE OF CONTRACT SALES OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, 25 SOUTH FRONT STREET,COLUMBUS, OHIO, AND AT THE OFFICES OF THE CITY ENGINEER OF CINCINNATI, OHIO. SUBMITTAL OF A BID FOR THIS PROJECT IMPLIES THAT THE CONTRACTOR HAS TAKEN ALL PROVISIONS OF THE SUPPLEMENT INTO ACCOUNT.

WATER MAIN ITEMS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF CINCINNATI, DEPARTMENT OF PURCHASING, STANDARD SPECIFICATION NO. 4-11-74 TITLED SUPPLEMENTAL CONDITIONS - HEAVY CONSTRUCTION WORK.

THE GREATER CINCINNATI WATER WORKS (GCWW) UNDERSTANDS THAT DIFFERING SITE CONDITIONS RESULTS IN EXTRA WORK/CHANGE ORDERS TO THE PROJECT. CHANGE ORDERS ON GCWW CONTRACTS WILL BE DONE IN STRICT ACCORDANCE WITH ITEM 109.05 C OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS DATED JANUARY 1, 2008 OR MOST RECENT EDITION AND AS MODIFIED IN THIS CITY OF CINCINNATI SUPPLEMENT. GCWW LIMITS THE MARK UP ON WAGES AND FRINGE BENEFITS AS DESCRIBED IN 109.05 C. 2. "LABOR" TO 30%. IT IS EXPRESSLY UNDERSTOOD THAT REGARDLESS OF THE NATURE OF THE CLAIM, OR CHANGE IN SCOPE OF WORK, THE CONTRACTOR IS NOT ENTITLED TO COMPENSATION FOR LOSS OF ANTICIPATED PROFIT OR PRODUCTION.

AS DEFINED IN THE CITY OF CINCINNATI SUPPLEMENT, SECTIONS 107.07 AND 107.071, THE CONTRACTOR IS REQUIRED TO SUBMIT, AT THE TIME OF THE PRE-CONSTRUCTION MEETING, A SITE SAFETY PLAN. FURTHERMORE, THE CONTRACTOR SHALL HAVE AN AUTHORIZED AND COMPETENT SAFETY REPRESENTATIVE ASSIGNED TO THE PROJECT SITE.

THE CONTRACTOR IS ADVISED THAT HE HAS CERTAIN RESPONSIBILITIES UNDER SECTION 153.64 OF THE OHIO REVISED CODE. FOR ALL UNDERGROUND UTILITIES, CONTACT THE OHIO UTILITIES PROTECTION SERVICE AT 1-800-362-2764 (TOLL FREE) 48 HOURS IN ADVANCE OF WORK. THE CONTRACTOR IS ADVISED THAT ALL UTILITY INFORMATION HAS BEEN SHOWN ON THE CONTRACT PLANS FROM INFORMATION PROVIDED BY THE OWNER OF EACH UTILITY IN COMPLIANCE WITH SEC. 153.64 OF THE OHIO REVISED CODE. IN CASES WHERE UTILITY INFORMATION IS INCORRECT AND IT RESULTS IN A CHANGE IN THE CONTRACT PLANS THE CONTRACTOR SHALL FIRST NOTIFY THE OWNER OF THE UTILITY TO DETERMINE THE NECESSARY COURSE OF ACTION. THE CONTRACTOR SHALL SUBMIT ANY SUBSEQUENT CLAIMS AS A RESULT OF DOWNTIME OR ADDITIONAL WORK TO THE OWNER OF THE CONFLICTING UTILITY. THE GCWW WILL NOT ACCEPT CLAIMS FOR ANY UTILITY OTHER THAN THOSE AS A RESULT OF INCORRECT WATER MAIN AND RELATED APPURTENANCE INFORMATION.

THE CONTRACTOR MUST LOCATE OR "POT HOLE" ALL UTILITIES WITHIN THE ALIGNMENT OF THE PROPOSED MAIN A MINIMUM OF 50 FEET AHEAD OF PIPE LAYING. TEST HOLES MUST BE DUG, OR TRENCH EXCAVATED, A MINIMUM OF 50 FEET (15.2 M) IN ADVANCE OF PIPE LAYING, TO ASSURE PROPER CLEARANCE BETWEEN THE WATER MAIN AND ANY UTILITY CROSSING, OR UNDERGROUND STRUCTURE. ALL UTILITIES AND STRUCTURES SHALL BE SUITABLY BRACED AND SUPPORTED. THE CONTRACTOR SHALL UNDERSTAND THAT ANY OBSTRUCTIONS ENCOUNTERED IN THE INSTALLATION OF THE MAIN, DUE TO THE FAILURE OF HAVING 50 FEET (15.2M) OF TRENCH EXCAVATED AHEAD OF LAYING OPERATIONS, MAY REQUIRE REMOVAL AND RELAYING OF THE PIPE AT THE AT THE CONTRACTORS EXPENSE. THE GCWW WILL NOT ACCEPT A CLAIM FOR DIFFERENT UTILITY CONDITIONS ENCOUNTERED WHEN TEST HOLES ARE NOT PERFORMED AS REQUIRED.

ITEM 1120, "EXPLORATORY EXCAVATION", SHALL NOT INCLUDE EXCAVATIONS WITHIN THE LIMITS OF THE PROPOSED TRENCH AS DEFINED IN 1101.04 AND 1101.05. TEST HOLES ARE REQUIRED ON ALL UTILITIES WITHIN 50 FEET OF THE LAST LAID PIPE. TEST HOLES WITHIN THE ALIGNMENT OF THE PROPOSED TRENCH ARE INCLUDED IN THE CONTRACTOR'S UNIT BID FOR ITEM 1101. LOCATIONS TO BE EXPLORED WILL VARY FROM AREAS WITHIN THE ROADWAY TO AREAS OUTSIDE OF THE ROADWAY.

IT IS THE NATURE OF CONSTRUCTION THAT UNMARKED UTILITIES OR UTILITIES NOT SHOWN ON THE PLANS MAY BE ENCOUNTERED WITHIN THE EXCAVATION FOR THE PROPOSED WORK. THE CONTRACTOR IS RESPONSIBLE TO IDENTIFY AND REMOVE ANY ABANDONED UTILITIES ENCOUNTERED THAT CROSS THE EXCAVATION. NO EXTRA PAYMENT WILL BE MADE TO THE CONTRACTOR FOR THE IDENTIFICATION AND REMOVAL OF THE ABANDONED UTILITY. ALL COSTS SHALL BE INCLUDED IN THE CONTRACTOR'S UNIT PRICE BID FOR THE APPROPRIATE ITEM 1101-FURNISHING & LAYING PIPE AND FITTINGS." IF ABANDONED UTILITIES ARE ENCOUNTERED ALONG THE LENGTH OF THE TRENCH, THE CONTRACTOR MAY BE REQUIRED TO REMOVE THE ABANDONED UTILITY AS DIRECTED BY THE PROJECT ENGINEER. SUCH WORK WOULD BE PAID UNDER A CHANGE ORDER.

STREET PAVEMENT OR SIDEWALK SHOULD NOT BE DISTURBED FOR A DISTANCE OF MORE THAN 200 FEET (61.0 M) AHEAD OF THE LAST LAID PIPE. BACKFILL SHALL BE COMPLETED WITHIN 50 FEET (15.2 M) OF THE LAST LAID PIPE. TEMPORARY OR PERMANENT SURFACE RESTORATION MUST BE INSTALLED WITHIN A DISTANCE OF 200 FEET (61.0 M) OF THE LAID PIPE, INCLUDING THOSE AREAS WHERE MAIN INSTALLATIONS OCCUR WITHIN A CLOSED LANE OR CLOSED STREET CONDITION. ROADWAY PLATES MAY BE USED AS A TEMPORARY MEASURE FOR A PERIOD NOT TO EXCEED 24 HOURS WITHOUT THE APPROVAL OF THE GCWW.

ANY UNDERMINED PAVEMENT OF MORE THAN 6 INCHES HORIZONTAL MUST BE REMOVED PRIOR TO STARTING TRENCH BACKFILL. IF UNDERMINING OF PAVEMENT OCCURS MORE THAN 1 FOOT, THEN PAVEMENT MUST BE SHORED TO PROTECT TRAFFIC, OR ARRANGEMENTS MADE FOR ADDITIONAL LANE CLOSURES MUST BE MADE. IF PROBLEMS CONTINUE TO OCCUR REGARDING TRENCHING INTEGRITY, SHEETING AND BRACING CAN BE REQUIRED BY THE CITY ENGINEER OR THE CITY ENGINEER'S REPRESENTATIVE, AT THE CONTRACTOR'S EXPENSE. IF ANY TUNNELING IS NECESSARY, ADEQUATE INFORMATION SHOWN IN BOTH PLAN AND PROFILE AND TUNNELING PROCEDURES MUST BE SUBMITTED TO THE CITY ENGINEER'S OFFICE PRIOR TO COMMENCEMENT OF WORK.

THE GCWW HAS MADE EVERY EFFORT TO DEPICT THE PIPE SEWERS AND LATERAL INFORMATION ON THE PLANS. THE CONTRACTOR IS ADVISED THAT SEWER LATERALS ARE SHOWN IN PLAN VIEW ONLY. THE CONTRACTOR SHALL DETERMINE THE ELEVATION OF THE SEWER LATERALS IN ADVANCE OF LAYING THE WATER MAIN AT THESE CROSSINGS. IF THE SEWER LATERALS REQUIRE CHANGING IN ORDER TO AVOID CONFLICT WITH THE WATER MAIN, OR IF THE CONTRACTOR ENCOUNTERS A PIPE SEWER OR LATERAL IN THE EXCAVATION THAT WAS NOT SHOWN ON THE PLANS AND REQUIRES A CHANGE OF GRADE OR ALIGNMENT DUE TO THE INSTALLATION OF THE WATER MAIN, THE CONTRACTOR SHALL FURNISH ALL NECESSARY LABOR, MATERIAL, TOOLS, AND EQUIPMENT REQUIRED TO CHANGE THE GRADE OR ALIGNMENT OF PIPE SEWERS AND LATERALS OF VARIOUS SIZES, ALLOWING INSTALLATION OF WATER MAINS AND APPURTENANCES AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE GCWW INSPECTOR. THIS WORK SHALL INCLUDE ALL NECESSARY EXCAVATION, BACKFILL, AND RESTORATION. THE CONTRACTOR WILL BE COMPENSATED UNDER ITEM 1123, "CHANGING PIPE SEWERS 8 INCH AND UNDER". WHEN CROSSING SANITARY AND COMBINATION SEWERS, A VERTICAL CLEARANCE OF 18" MUST BE MAINTAINED.

THE CONTRACTOR IS RESPONSIBLE FOR ALL PIPE SEWERS DISTURBED IN THE COMPLETION OF THIS PROJECT. IN THE EVENT IT BECOMES NECESSARY TO REPAIR OR REPLACE EXISTING PIPE SEWERS, THE CONTRACTOR MUST NOTIFY SEWER MAINTENANCE, 244-1369, BEFORE PROCEEDING WITH THE WORK.
FINAL RESTORATION SHALL BE DONE IN ACCORDANCE WITH THE RESTORATION DETAIL DRAWING AS SHOWN ON SHEET 1.

THE CONTRACTOR IS ADVISED THAT DUE TO THE ALIGNMENT OF THE PROPOSED WATER MAIN, IT MAY BE NECESSARY TO A TEMPORARY VALVE BOX OVER AN EXISTING CHAMBERED VALVE THAT MUST REMAIN IN SERVICE DURING THE WATER MAIN INSTALLATION AS DIRECTED BY THE GCWW INSPECTOR. THE CHAMBER SHALL BE ABANDONED, A VALVE BOX (FURNISHED BY THE CONTRACTOR) PLACED OVER THE VALVE, AND UPON PROJECT COMPLETION, THE VALVE BOX MUST BE REMOVED. THE CONTRACTOR WILL NOT RECEIVE ADDITIONAL COMPENSATION FOR THIS WORK, BUT SHOULD INCLUDE THE COST OF THIS WORK IN HIS UNIT BID PRICE FOR ITEM 1101, "FURNISHING & LAYING DUCTILE IRON PIPE AND FITTINGS".

IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADEQUATE WATER SUPPLY FOR DOMESTIC AND FIRE FIGHTING PURPOSES. IN ORDER TO ACCOMPLISH THE WATER MAIN CONNECTIONS WITH A MINIMUM AMOUNT OF INCONVENIENCE TO THE CONSUMERS, IT MAY BE NECESSARY TO DO THE WORK AT OTHER THAN NORMAL WORKING HOURS OR AS MAY BE SCHEDULED BY THE THE CONTRACTOR IS ADVISED THAT THE OPERATING PRESSURE OF THE EXISTING WATER MAIN WITHIN THE LIMITS OF THE SUBJECT PROJECT IS APPROXIMATELY 49-55 P.S.I.

IN ORDER TO MINIMIZE THE INCONVENIENCE OF THE CONSUMERS, THE NUMBER OF SHUTDOWNS REQUIRED TO DO THE PROPOSED WATER MAIN WORK SHALL BE LIMITED. ONLY ONE SHUTDOWN, LIMITED TO 8 HOURS, WILL BE ALLOWED DURING A 24 HOUR PERIOD.

ALL GAS SERVICE BRANCHES HAVE A MINIMUM COVER OF 18 INCHES. ALL WATER SERVICE BRANCHES HAVE A MINIMUM COVER OF 3.0 FEET.

THE CONTRACTOR IS ADVISED THAT IT SHALL BE NECESSARY TO INSTALL TEMPORARY PLUGS/CAPS ON THE EXISTING AND PROPOSED WATER MAINS IN ORDER TO MAINTAIN SERVICE DURING TESTING AND WATER MAIN AND BRANCH CONNECTIONS. THESE TEMPORARY PLUGS SHALL BE FURNISHED BY THE CONTRACTOR. HE IS RESPONSIBLE FOR THEIR PROPER INSTALLATION. THE COST FOR THIS WORK SHALL BE INCLUDED IN THE CONTRACTOR'S UNIT BID PRICE FOR THE APPROPRIATE ITEM 1101, "FURNISHING & LAYING DUCTILE IRON PIPE AND FITTINGS".

THE CONTRACTOR IS REQUIRED TO EXCAVATE AND EXPOSE THE EXISTING UTILITIES AND EXISTING WATER MAINS ALONG THE LINE OF THE PROPOSED WATER MAIN AND ALL PROPOSED CONNECTION POINTS TO VERIFY LOCATION, DIAMETER, LINE AND GRADE.ALSO, IF THE REMOVAL OF THE BULKHEAD OR PLUG IS REQUIRED ALL EXCAVATION AND TEMPORARY/PERMANENT RESTORATION SHALL BE COMPENSATED UNDER THE CONTRACTOR'S UNIT BID PRICE FOR ITEM 1101, "FURNISHING & LAYING DUCTILE IRON PIPE AND FITTINGS".

THE CONTRACTOR IS ADVISED THAT ALL C.J. PLUGS ARE TO BE RESTRAINED WITH A FIELD LOK GASKET AND ALL M.J. CAPS ARE TO BE RESTRAINED USING A MEGALUG ASSEMBLY. THIS INCLUDES TEMPORARY PLUGS AND CAPS FOR TESTING PURPOSES. WHEN A TEMPORARY PLUG IS USED, THE CONTRACTOR IS PERMITTED TO REMOVE THE PLUG BY CUTTING THE SECTION OF PIPE CONTAINING THE PLUG AND USING A SOLID SLEEVE AT THAT POINT TO COMPLETE THE TIE-IN.

IN THE EVENT THAT A CAP IS USED, THE CONTRACTOR SHALL REMOVE THE MEGALUG ASSEMBLY AND CAP BEFORE COMPLETING THE TIE-IN.

THE CONTRACTOR IS ADVISED THAT ON ANY FIRE HYDRANT REQUIRED TO BE RELOCATED WITH THIS PROJECT, ALL BOLT ASSEMBLIES SHALL BE REPLACED. THE COST FOR THIS WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 1113 "RELOCATING EXISTING FIRE HYDRANTS". NO PART OF ANY FIRE HYDRANT SETTING SHALL BE INSTALLED CLOSER THAN FIVE FEET TO ANY DRIVEWAY, INLET, UTILITY POLE OR GUY WIRE ANCHOR.

ITEM 1111, "WATER WORKS VALVE CHAMBERS", SHALL ALSO COVER THE FURNISHING AND INSTALLING OF PRECAST REINFORCED CONCRETE CHAMBERS IN ACCORDANCE WITH O.D.O.T. SPECIFICATION 706.13. ALL PERTINENT PROVISIONS OF THIS ITEM AND GCWW STANDARD DRAWING NO. 104-1A SHALL APPLY. PRECAST CHAMBERS SHALL BE USED IN ALL LOCATIONS WHERE SPACE PERMITS AND AS DIRECTED BY THE GCWW. AIR COCKS MAY BE NECESSARY FOR THE PROPER OPERATION OF THE WATER SYSTEM. THE CHAMBER AND M.H.C. & C. REQUIRED FOR THE AIR COCK, WHICH MAY NOT BE SHOWN ON THE DRAWING, WILL BE FURNISHED AND INSTALLED BY THE CONTRACTOR, IF REQUIRED BY THE GCWW.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR THE REMOVAL AND REPLACEMENT OF ANY POLES AND GUYS NECESSARY FOR THE INSTALLATION OF THE PROPOSED WATER MAINS, AND ANY COST CONNECTED THERETO SHALL BE AT HIS ALL PIPE AND SPECIALS SHALL BE IN ACCORDANCE WITH CITY OF CINCINNATI SPECIFICATION 40-110-91. ALL PROCURED WATER MAIN AND APPURTENANCE MATERIALS, OTHER THAN THOSE FURNISHED THROUGH THE GCWW MUST BE PROPERLY CERTIFIED; CERTIFIED FOR GCWW INSPECTION: OR ALREADY INSPECTED BY THE GCWW. PIPE, FITTINGS, VALVES AND FIRE HYDRANTS MUST BE GCWW INSPECTED AND STAMPED MATERIALS. THE CONTRACTOR SHOULD BE ADVISED THAT ALL FITTINGS (BENDS, OFFSET BENDS, TEES, CROSSES, SLEEVES, CAPS AND PLUGS) SUPPLIED FOR THIS JOB MAY BE EITHER ANSI/AWWA C-110 FULL-BODY DUCTILE IRON, CEMENT LINED FITTINGS OR ANSI/AWWA C-153 COMPACT DUCTILE IRON, FUSION BONDED EPOXY COATED FITTINGS IN ACCORDANCE WITH CITY OF CINCINNATI, DEPARTMENT OF PURCHASING, STANDARD SPECIFICATION NO. 40-110-03 FOR PIPE AND FITTINGS WATER, DUCTILE IRON 3" TO 60".

ALL FITTINGS ARE SUBJECT TO INSPECTION AND APPROVAL BY APPROPRIATE GCWW INSPECTION PERSONNEL. MINOR PINHOLES AND ABRASIONS TO EPOXY COATED VALVES AND FITTINGS ARE TO BE REPAIRED USING 3M HOT MELT PATCH COMPOUNDS (H.M.P.C.) IN THE STICK FORM. REPAIR PROCEDURES SHALL BE IN ACCORDANCE WITH THE GENERAL APPLICATION STEPS IDENTIFIED FOR THE H.M.P.C.

ALL REPAIRS TO EPOXY COATED FITTINGS ARE SUBJECT TO INSPECTION AND APPROVAL BY APPROPRIATE GCWW INSPECTION PERSONNEL. ALL REJECTED MATERIAL, INCLUDING PIPE AND FITTINGS, SHALL BE REMOVED FROM THE PROJECT SITE IMMEDIATELY. THE CONTRACTOR MUST MAINTAIN ACCESS TO SIDEWALKS AT ALL TIMES. STORAGE OF ANY MATERIALS WITHIN THE PUBLIC RIGHT OF WAY, INCLUDING SIDEWALKS, IS NOT PERMITTED UNLESS APPROVED BY GCWW, THE PROJECT ENGINEER, OR AS INDICATED ON THE APPROVED PLANS.

ALL COPPER TUBING SHALL BE TYPE "K" OF A STANDARD NOMINAL SIZE: 3/4", 1", 1-1/2" AND 2". ALL FITTINGS WILL HAVE COPPER FLARE TYPE CONNECTIONS AND SHALL BE IN ACCORDANCE WITH CITY OF CINCINNATI SPECIFICATION NO. 40-113-76. THE CONTRACTOR SHALL FURNISH THE NECESSARY CERTIFICATIONS FOR BRANCH MATERIAL.

ALL PROPOSED WATER MAINS WILL BE HYDROSTATICALLY TESTED FOR LEAKAGE IN ACCORDANCE WITH 1101.054,'HYDROSTATIC TEST FOR LEAKAGE', OF THE APPROPRIATE ITEM 1101, "FURNISHING & LAYING DUCTILE IRON PIPE AND FITTINGS". THE CONTRACTOR WILL BE RESPONSIBLE FOR FILLING, FLUSHING, AND PRESSURE TESTING NEW WATER MAINS, 20" OR SMALLER. THE CONTRACTOR WILL PROVIDE ALL LABOR, MATERIAL AND EQUIPMENT (INCLUDING THE NECESSARY PUMPS TO APPLY THE PRESSURE TEST).

THE WATER WORKS WILL PROVIDE THE NECESSARY METER AND GAUGE. ALL COSTS FOR THIS WORK SHALL BE INCLUDED IN THE CONTRACTOR'S UNIT BID PRICE FOR ITEM 1101, "FURNISHING & LAYING DUCTILE IRON PIPE AND FITTINGS". ONCE THE FILLING AND PRESSURE TESTING ARE COMPLETED, THE CONTRACTOR WILL BE RESPONSIBLE FOR FLUSHING THE PROPOSED WATER MAIN AND THE CGWW WILL BE RESPONSIBLE FOR BACTERIA SAMPLING. THE GCWW WILL BE RESPONSIBLE FOR FILLING, PRESSURE TESTING AND FLUSHING NEW WATER MAINS GREATER THAN 20".

HORIZONTAL & VERTICAL SCALE IN FEET
0 10 20 40

CALCULATED M.J.C.
CHECKED J.A.F.

HAM 50-18.79 WALDVOGEL VIADUCT
GCWW WATER MAIN REPLACEMENT

GCWW JOB NO. 09060
WW001843 - 4-3474

1A/14
599A
657

SUGGESTED BILL OF MATERIAL
(FURNISHED BY CONTRACTOR)

750	L.F.	– 24" PRESTRESSED CONCRETE CYLINDER PIPE, CINTI. STD. CLASS II
232	L.F.	– 36" PRESTRESSED CONCRETE CYLINDER PIPE, CINTI. STD. CLASS II
1	EACH	– 4" DUCTILE IRON PIPE, C.J., TH. CL. 55, 18' LENGTH
12	EACH	– 6" DUCTILE IRON PIPE, C.J., TH. CL. 55, 18' LENGTH
26	EACH	– 8" DUCTILE IRON PIPE, C.J., TH. CL. 55, 18' LENGTH
2	EACH	– 10" DUCTILE IRON PIPE, C.J., TH. CL. 55, 18' LENGTH
9	EACH	– 12" DUCTILE IRON PIPE, C.J., TH. CL. 56, 18' LENGTH
113	EACH	– 16" DUCTILE IRON PIPE, C.J., TH. CL. 56, 18' LENGTH
1	EACH	– 24" DUCTILE IRON PIPE, C.J., TH. CL. 56, 18' LENGTH
10	EACH	– POLY TUBE, 20" WIDE X 20' LONG, 8 MIL. THICK
29	EACH	– POLY TUBE, 24" WIDE X 20' LONG, 8 MIL. THICK
12	EACH	– POLY TUBE, 30" WIDE X 20' LONG, 8 MIL. THICK
123	EACH	– POLY TUBE, 37" WIDE X 20' LONG, 8 MIL. THICK
1	EACH	– POLY TUBE, 54" WIDE X 20' LONG, 8 MIL. THICK
30	ROLLS	– POLY TAPE, 2" WIDE X 100' LONG
2	EACH	– 4" 45° BENDS, 2 M.J.
5	EACH	– 6" 45° BENDS, 2 M.J.
2	EACH	– 8" 45° BENDS, 2 M.J.
4	EACH	– 12" 45° BENDS, 2 M.J.
16	EACH	– 16" 45° BENDS, 2 M.J.
1	EACH	– 16" 22 1/2° BENDS, 2 M.J.
1	EACH	– 10" 11 1/4° BENDS, 2 M.J.
1	EACH	– 16" 11 1/4° BENDS, 2 M.J.
2	EACH	– 6" CAP, M.J. (TEMP.)
1	EACH	– 8" CAP, M.J. (TEMP.)
1	EACH	– 10" CAP, M.J. (TEMP.)
1	EACH	– 12" CAP, M.J. (TEMP.)
2	EACH	– 16" CAP, M.J. (TEMP.)
1	EACH	– 4" PLUG, M.J. (TEMP.)
1	EACH	– 4" SOLID SLEEVE, 2 M.J.
3	EACH	– 16" SOLID SLEEVE, 2 M.J.
3	EACH	– 6" SOLID SLEEVE, D.P.
1	EACH	– 10" SOLID SLEEVE, D.P.
1	EACH	– 12" SOLID SLEEVE, D.P.
1	EACH	– 8" X 6" TEES, 2 M.J. X FLG.
1	EACH	– 10" X 6" TEES, 2 M.J. X FLG.
1	EACH	– 12" X 4" TEES, 2 M.J. X FLG.
1	EACH	– 12" X 6" TEES, 2 M.J. X FLG.
8	EACH	– 16" X 6" TEES, 2 M.J. X FLG.
1	EACH	– 16" X 8" TEES, 2 M.J. X FLG.
1	EACH	– 16" X 10" TEE, 3 M.J.
1	EACH	– 24" X 12" TEE, 3 M.J.
1	EACH	– 10" X 8" REDUCERS, 2 M.J.
1	EACH	– 4" VALVES, FLG. X M.J.
11	EACH	– 6" VALVES, FLG. X M.J.
1	EACH	– 8" VALVES, FLG. X M.J.
1	EACH	– 12" VALVES, 2 M.J.
16	EACH	– VALVE BOX COMPLETE, (IRON)
16	EACH	– VALVE BOX FROST PLUGS
1	EACH	– 4" FLANGE TYTE RUBBER GASKETS
11	EACH	– 6" FLANGE TYTE RUBBER GASKETS
1	EACH	– 8" FLANGE TYTE RUBBER GASKETS
7	EACH	– 6" FIRE HYDRANT EXTENSION, 6" LONG
4	EACH	– 6" FIRE HYDRANT EXTENSION, 18" LONG
11	EACH	– 6" FIRE HYDRANTS
8	EACH	– 4" MEGALUG ASSEMBLIES
36	EACH	– 6" MEGALUG ASSEMBLIES
8	EACH	– 8" MEGALUG ASSEMBLIES
7	EACH	– 10" MEGALUG ASSEMBLIES
16	EACH	– 12" MEGALUG ASSEMBLIES
63	EACH	– 16" MEGALUG ASSEMBLIES
10	EACH	– 16" FIELD LOK GASKETS
3	EACH	– 16" TRANSITION COUPLING
4	EACH	– 24" TRANSITION COUPLING
72	Lin. Ft.	– 1" Copper Service Pipe
80	Lin. Ft.	– 2" Copper Service Pipe
1	EACH	– 1" Ferrule
1	EACH	– 2" Ferrule
1	EACH	– 1" Insulating Coupling
1	EACH	– 2" Insulating Coupling
1	EACH	– 1" x 1" Copper to Lead Coupling
1	EACH	– 2" x 2" Copper to Lead Coupling
1	EACH	– 1" Stop Cock
1	EACH	– 2" Stop Cock
2	EACH	– Curb Boxes

FURNISHED BY G.C.W.W.

(16" BUTTERFLY VALVE MATERIAL)

2–16" BUTTERFLY VALVES, 2 FLG. CL. 250B
W/ANSI B16.1 CL 250 FLG. W/125# DRILLING
4–16" D.I.P. ADAPTERS, FLG. X P.E.
W/ANSI B16.1 CL. 250 FLG.W/125# DRILLING (4.0' LONG)
4–16" FLANGE TYTE RUBBER GASKET
64–1" X 6 1/2" STUD BOLT
128–1" COARSE HEX NUT

(24" BUTTERFLY VALVE MATERIAL)

3–24" BUTTERFLY VALVE, STD. CL. 250B
W/ANSI B–16.1 CL. 125 FLANGES W/125# DRILLING
120–1 1/4" X 8 1/2" STUD BOLTS
240–1 1/4" HEX NUTS & WASHERS
6–24" FLANGE TYTE RUBBER GASKET
6–24" D.I.P. ADAPTERS, FLG. X P.E.,
4.0' LONG W/ANSI B–16.1 CL. 125# DRILLING
3–24" PIPE COUPLING

(36" BUTTERFLY VALVE MATERIAL)

2–36" BUTTERFLY VALVE, STD. CL. 250B
W/ANSI B–16.1 CL. 125 FLANGES W/125# DRILLING
128–1 1/2" X 10 1/4" STUD BOLTS
256–1 1/2" HEX NUTS & WASHERS
4–36" FLANGE TYTE RUBBER GASKET
4–36" D.I.P. ADAPTERS, FLG. X P.E.,
4.0' LONG W/ANSI B–16.1 CL. 125# DRILLING
2–24" PIPE COUPLING

AIR RELEASE MATERIAL

(1" Air Release Material)

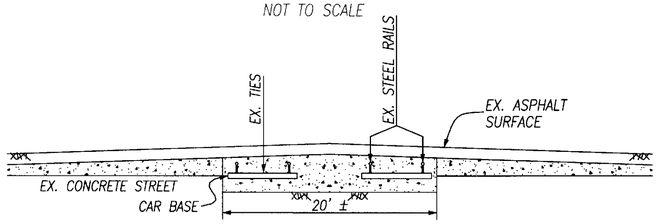
2–Valve Box Complete, (Iron)
2–Valve Box Frost Plugs
2–1" Ferrules
10–L.F. 1" Copper Service Pipe
2–1" Blow–Off Assembly
(AY McDonald Part #76109BCAP)

(2" Air Release Material)

15–Valve Box Complete, (Iron)
15–Valve Box Frost Plugs
15–2" Ferrules
75–L.F. 2" Copper Service Pipe
15–2" Blow–Off Assembly
(AY McDonald Part #76109BCAP)

STREET CAR BASE AND RAIL

NOT TO SCALE



STREET CAR BASE AND RAIL NOTE:

THE CONTRACTOR IS ADVISED THAT STREET CAR BASE AND RAILS SHALL BE ENCOUNTERED THROUGHOUT THIS PROJECT. WHEN IT BECOMES NECESSARY TO REMOVE ANY EXISTING STREET CAR BASE AND RAILS THAT CONFLICT WITH THE WATER MAIN INSTALLATION OR CONNECTIONS, THE CONTRACTOR SHALL REMOVE ALL RAILS, BASE AND TIES WITHIN THE CONFINES OF THE TRENCH. ALL COST ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE CONTRACTOR'S UNIT BID PRICE FOR ITEM 202 – "STREET CAR RAILS REMOVED".

ITEM 202 – "STREET CAR RAILS REMOVED"

DESCRIPTION: THIS ITEM WILL COVER THE REMOVAL OF ANY STREET CAR BASE AND RAILS ENCOUNTERED WITHIN THE CONFINES OF THE TRENCH DURING CONSTRUCTION OF THE PROPOSED WATER MAIN(S). BASIS OF PAYMENT: THE CONTRACTOR SHALL BE COMPENSATED FOR THIS WORK PER LINEAL FOOT OF PROPOSED WATER MAIN TRENCH IN WHICH THE RAILS, BASE, AND TIES ARE TO BE REMOVED.

THE MATERIALS LISTED ARE ONLY SUGGESTED FOR USE DURING THE WATER MAIN AND BRANCH RELOCATION WORK AS PROPOSED ON THE DRAWINGS. THE CONTRACTOR SHALL FURNISH ADDITIONAL MATERIAL WHERE NEEDED. NO ALLOWANCE WILL BE MADE FOR UNUSED MATERIAL NOR WILL ANY EXTRA PAYMENT BE MADE FOR ADDITIONAL SPECIALS REQUIRED TO COMPLETE THE WATER MAIN WORK. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN FIELD MEASUREMENTS BEFORE ORDERING. BEFORE ORDERING MATERIAL THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN FIELD MEASUREMENTS AND FOR FIELD VERIFYING THE O.D. OF EXISTING WATER MAINS WHERE SLEEVES AND PIPE COUPLINGS ARE INVOLVED.

NOTE 1:
VALVES FURNISHED BY THE CONTRACTOR SHALL BE; U.S. PIPE METROSEAL GATE VALVE, KENNEDY VALVE KEN SEAL II RESILIENT GATE VALVE, CLOW F–6100 SERIES RESILIENT WEDGE GATE VALVE, MUELLER 2360 RESILIENT WEDGE GATE VALVE.

NOTE 2:
LOW–LEAD BRASS MATERIAL REQUIREMENTS: ALL COMPONENTS IN CONTACT WITH WATER SHALL BE FABRICATED FROM SEBILOY II OR FEDERALLOY I–836 ALLOYS OR A MATERIAL APPROVED BY THE ENGINEER.

ALL COMPONENTS THAT DO NOT COME IN CONTACT WITH WATER SHALL COMPLY WITH THE REQUIREMENTS OF ASTM B 62 COPPER ALLOY NUMBER. COATED OR WASHED METALS ARE NOT ACCEPTABLE IF THEIR LEAD LEVELS EXCEED .25% BY WEIGHT PRIOR TO THE COATING OR WASHING PROCESS.

ALL SERVICE FITTINGS AND MATERIALS SHALL BE CERTIFIED AS SUITABLE FOR CONTACT WITH DRINKING WATER BY AN ACCREDITED CERTIFICATION ORGANIZATION IN ACCORDANCE WITH ANSI/NSF STANDARD 61, DRINKING WATER SYSTEMS COMPONENTS – HEALTH EFFECTS.

ALL SERVICE FITTINGS SHALL EITHER BE STAMPED OR EMBOSSED WITH THE LETTER "NL", TO INDICATE "NO–LEAD", OR MARKED TO INDICATE THAT THE PRODUCT IS MANUFACTURED FROM THE LOW–LEAD ALLOYS.

CERTIFICATION OF COMPLIANCE IS REQUIRED TO BE SUBMITTED TO THE CINCINNATI WATER WORKS PRIOR TO USE.

CWW NOTE:
ALL FIELD LAYOUT OF DUCTILE IRON WATER MAIN PIPE AND SPECIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE PERFORMED BY A LICENSED SURVEYOR. CONCRETE WATER MAIN LAYOUT TO BE PERFORMED BY GCWW SURVEY STAFF.

CONCRETE PIPE SPECIAL NOTES

THIS PROJECT HAS BEEN DESIGNATED AS A 24" & 36" REINFORCED CONCRETE PIPE INSTALLATION. THE CONTRACTOR IS ADVISED THAT HIS BID SHALL REFLECT THE FURNISHING (MANUFACTURE, DELIVERY AND STORAGE) OF 24" AND 36" RCP AS DESIGNED AND SPECIFIED WITHIN THIS PROJECT PLAN AND CONTRACT DOCUMENT.
DUE TO THE NATURE OF THIS PROJECT AND THE LONG LEAD TIMES REQUIRED TO MANUFACTURE, DELIVER AND STORE RCP, THE CONTRACTOR SHALL, UPON RECOMMENDATION FOR AWARD, BEGIN THE PROCESS FOR RELEASE OF PIPE FROM MANUFACTURER. SUPPLY THE CWW A LAYING SCHEDULE AND SHOP DRAWINGS FOR REVIEW AND APPROVAL. THE MANUFACTURER OF MATERIAL SHALL BEGIN IMMEDIATELY UPON THIS APPROVAL. THE CONTRACTOR SHALL BE COMPENSATED FOR STORED MATERIAL. THE GREATER CINCINNATI WATER WORKS SHALL BE RESPONSIBLE FOR THE SURVEY LAYOUT OF ALL PIPE FOR THIS PROJECT. ADDITIONALLY, THE CWW MUST BE ADVISED OF THE MANUFACTURE DATE AS A CWW REPRESENTATIVE SHALL BE IN THE MANUFACTURER'S PLANT TO WITNESS AND CONDUCT QUALITY ASSURANCE AND MATERIAL TESTS. ALL COSTS ASSOCIATED WITH THIS TESTING SHALL BE THE RESPONSIBILITY OF THE CWW.

CONCRETE PIPE SPECIFICATIONS:
THE VENDOR WILL BE REQUIRED TO PRODUCE AN AFFIDAVIT STATING THAT ALL MATERIALS WERE MANUFACTURED IN ACCORDANCE WITH APPLICABLE AWWA AND CITY OF CINCINNATI SPECIFICATIONS, OR, WHERE CONSTRUCTION SEQUENCE REQUIRED PARTIAL DELIVERIES, 89% LESS SHIPPING, WILL BE PAID FOR MATERIALS STORED AT THE MANUFACTURER'S YARD UPON RECEIPT OF AN AFFIDAVIT STATING THE ABOVE COMPLIANCE WITH SPECIFICATIONS AND THAT ALL MATERIAL WILL BE RESERVED AND MARKED FOR THE EXCLUSIVE USE OF THE CITY OF CINCINNATI, AND WILL BE AVAILABLE FOR SHIPMENT UPON DEMAND OF THE CITY OF CINCINNATI FOR ITS USE ON THIS CONTRACT. ANY MATERIAL STORED AT MANUFACTURER'S YARD THAT IS RESERVED AND MARKED FOR CITY'S USE UNDER CONTRACT SHALL BE FULLY PROTECTED FROM LOSS OR DAMAGE BY INSURANCE. THE INSURANCE SHALL BE IN AN AMOUNT EQUAL TO THE CONTRACT VALUE OF THE STORED MATERIAL.

AFFIDAVIT OF COMPLIANCE:
AN AFFIDAVIT OF COMPLIANCE AS STIPULATED IN AWWA C 301, SECTION 1.10.IS REQUIRED. THE AFFIDAVIT SHALL STATE THAT ALL PIPE AND FITTINGS SUPPLIED UNDER THIS CONTRACT COMPLY WITH APPLICABLE AWWA AND CITY OF CINCINNATI SPECIFICATIONS.

SPECIFICATIONS:
SHALL BE IN ACCORDANCE WITH CITY OF CINCINNATI STANDARD SPECIFICATION NO. 46–187–97 DATED FEBRUARY 1, 1997 AND DRAWING NO. D–3474–G. BID PRICES SHALL INCLUDE ALL NUTS, BOLTS, GASKETS, LUBRICATION, AND ANY OTHER NECESSARY INCIDENTALS TO THE CONSTRUCTION OF THE PROPOSED INSTALLATION. FLANGES SHALL BE CLASS 125 AS TO THE DIMENSIONS IN ACCORDANCE WITH A.S.N.I. SPECIFICATIONS B–16.1, LATEST REVISION UNLESS OTHERWISE INDICATED ON THE CONTRACT DRAWINGS. THE BLIND FLANGES FOR MANHEADS ARE TO BE SHIPPED ASSEMBLED WHERE INDICATED ON THE DRAWINGS, PIPE JOINTS SHALL BE RESTRAINED BY USE OF A SUITABLE MECHANICAL DEVICE, OTHER THAN CLAMP TYPE, APPROVED BY THE CWW DIRECTOR. IT SHALL PROVIDE A POSITIVE LOCKING OF THE JOINT WHEN THE PIPE IS INSTALLED, UNDER INDICATED PRESSURE CONDITIONS. BIDDERS SHALL SUBMIT WITH THEIR BIDS, DRAWINGS AND EXPLANATORY LITERATURE OF THE TYPE OF RESTRAINING DEVICE TO BE FURNISHED, IF THE DEVICE IS OTHER THAN PREVIOUSLY FURNISHED TO THE WATER WORKS BY THE MANUFACTURER. TEMPORARY TEST BULKHEADS SHALL BE RESTRAINED UTILIZING STANDARD CLAMP TYPE JOINTS, THE BULKHEADS SHALL HAVE TWO 2" TAPS FOR MUELLER THREADED OUTLETS. CONCRETE PIPE MANUFACTURER TO FURNISH ALL FASTENERS AND GASKETS.
THE CONTRACTOR SHALL ORDER 2 EACH ADDITIONAL HALF BEVEL AND FULL BEVEL ADAPTERS BEYOND WHAT MAY BE REQUIRED IN THE LAYING SCHEDULE PRODUCED BY THE CONCRETE PIPE MANUFACTURER. THIS WILL INSURE THAT FLEXIBILITY EXISTS DURING PIPE INSTALLATION, NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS MATERIAL. ANY UNUSED CONCRETE PIPE MATERIAL SHALL BECOME THE PROPERTY OF THE CINCINNATI WATER WORKS. THE CONTRACTOR SHALL DELIVER THIS UNUSED MATERIAL TO THE CINCINNATI WATER WORKS PIPE YARD AT 4747 SPRING GROVE AVENUE. ALL ASSOCIATED COSTS WILL NOT BE COMPENSATED AND SHOULD BE INCLUDED UNDER ITEM 1101. "FURNISHING AND LAYING 24" & 36" REINFORCED CONCRETE PIPE".

CONCRETE PIPE SPECIAL NOTES CONTINUED SHEET 2

Designed By:	Revisions No.	By	Date
Drawn By:			

HORIZONTAL & VERTICAL SCALE IN FEET
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CALCULATED M.J.C.
CHECKED J.A.F.

HAM 50–18.79 WALDVOGEL VIADUCT
GCWW WATER MAIN REPLACEMENT

GCWW JOB NO. 09060
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