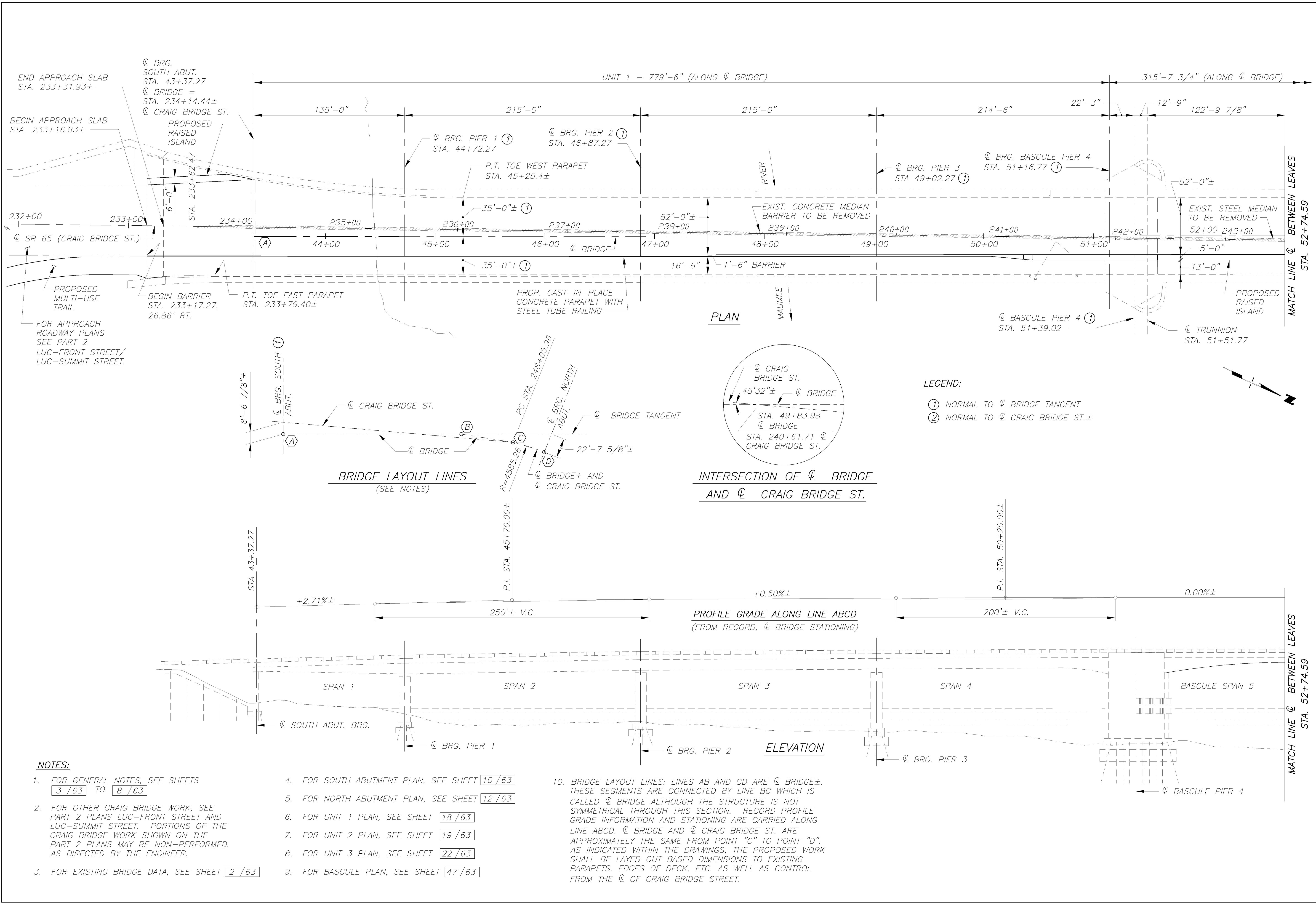


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drawing scale : 1"=40'  
plot scale : 1:480



**NOTES:**

- FOR GENERAL NOTES, SEE SHEETS 3/63 TO 8/63
- FOR OTHER CRAIG BRIDGE WORK, SEE PART 2 PLANS LUC-FRONT STREET AND LUC-SUMMIT STREET. PORTIONS OF THE CRAIG BRIDGE WORK SHOWN ON THE PART 2 PLANS MAY BE NON-PERFORMED, AS DIRECTED BY THE ENGINEER.
- FOR EXISTING BRIDGE DATA, SEE SHEET 2/63
- FOR SOUTH ABUTMENT PLAN, SEE SHEET 10/63
- FOR NORTH ABUTMENT PLAN, SEE SHEET 12/63
- FOR UNIT 1 PLAN, SEE SHEET 18/63
- FOR UNIT 2 PLAN, SEE SHEET 19/63
- FOR UNIT 3 PLAN, SEE SHEET 22/63
- FOR BASCULE PLAN, SEE SHEET 47/63
- BRIDGE LAYOUT LINES: LINES AB AND CD ARE  $\varnothing$  BRIDGE±. THESE SEGMENTS ARE CONNECTED BY LINE BC WHICH IS CALLED  $\varnothing$  BRIDGE ALTHOUGH THE STRUCTURE IS NOT SYMMETRICAL THROUGH THIS SECTION. RECORD PROFILE GRADE INFORMATION AND STATIONING ARE CARRIED ALONG LINE ABCD.  $\varnothing$  BRIDGE AND  $\varnothing$  CRAIG BRIDGE ST. ARE APPROXIMATELY THE SAME FROM POINT "C" TO POINT "D". AS INDICATED WITHIN THE DRAWINGS, THE PROPOSED WORK SHALL BE LAYED OUT BASED DIMENSIONS TO EXISTING PARAPETS, EDGES OF DECK, ETC. AS WELL AS CONTROL FROM THE  $\varnothing$  OF CRAIG BRIDGE STREET.

**acila**  
adachi civil, inc. associates, inc.  
5985 transportation boulevard, cleveland, ohio 44125

DESIGNED	TJW	CHECKED	DP
DRAWN	DMT	REVIEWED	
REVISED	EAF	DATE	3/21/06
STRUCTURE FILE NUMBER	4805917		

GENERAL PLAN AND ELEVATION  
CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  
OVER THE MAUMEE RIVER

LUC-280-2.34  
TRENCH  
RECLAMATION

1/63

460  
555

G:\02002\202016\Craig Bridge\02 General Plan 2.dwg 10/23/2005 8:25:21 AM EST  
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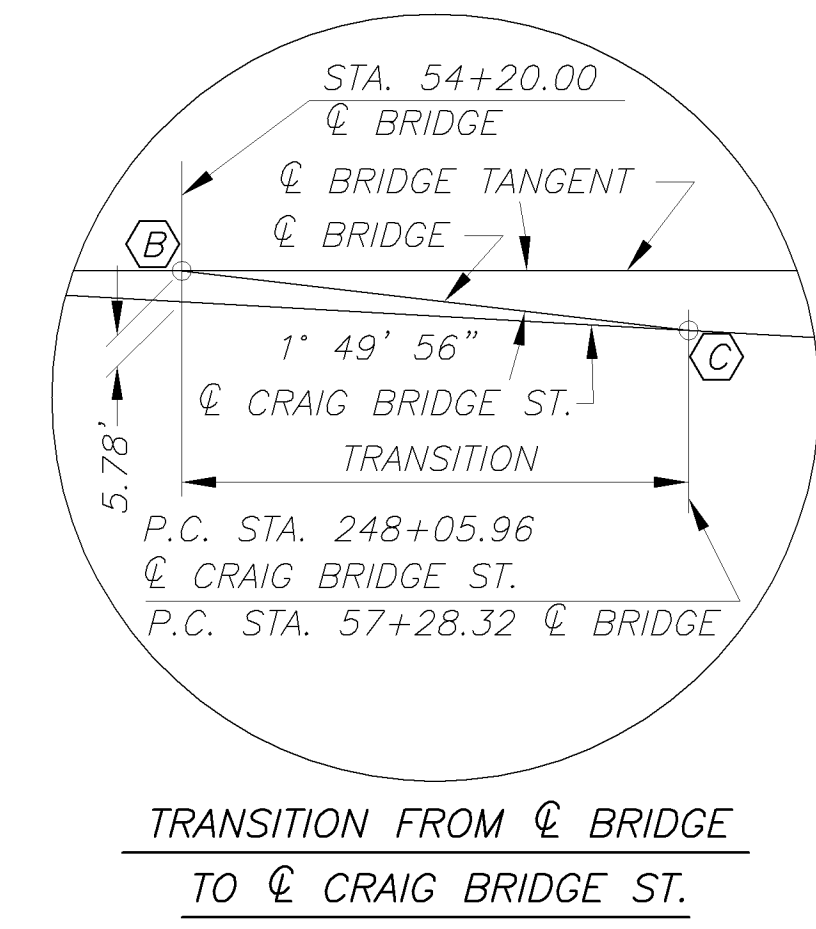
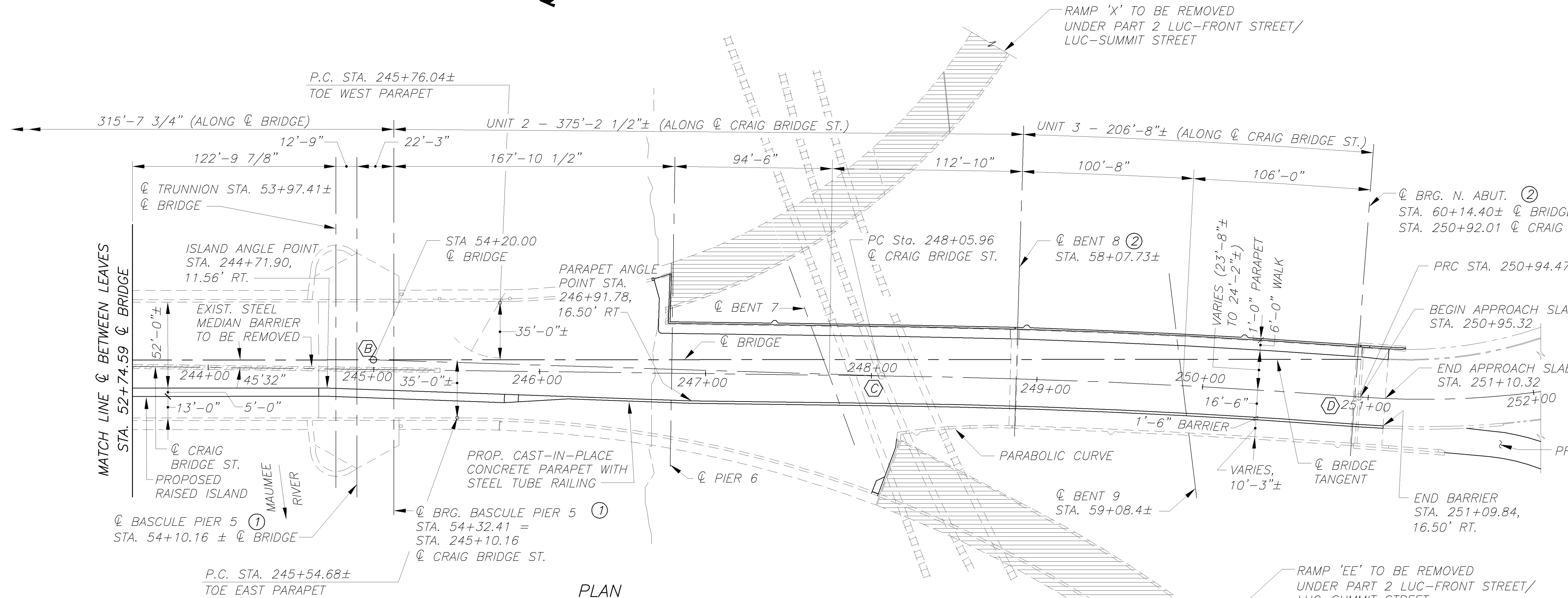
**NOTES:**  
1. FOR SHEET NOTES, SEE SHEET 1/6.3

**LEGEND:**  
① NORMAL TO  $\varnothing$  BRIDGE TANGENT  
② NORMAL TO  $\varnothing$  CRAIG BRIDGE ST.±

**CRAIG BRIDGE ST. CURVE DATA \***

P.I. STA = 249+50.26	P.I. STA = 252+24.15
D = 3° 36' 18" (RT)	D = 27° 57' 37" (LT)
Dc = 1' 14' 58"	Dc = 11' 00' 00"
R = 4,585.26'	R = 520.87'
T = 144.30'	T = 129.68'
L = 288.51'	L = 254.18'
E = 2.27'	E = 15.90'

\* FOR HORIZONTAL CONTROL POINTS, SEE PART 2 PLANS.



**EXISTING BRIDGE DATA**

TYPE: FIXED SPAN UNITS 1, 2 & 3 INCLUDE REINFORCED CONCRETE DECK WITH RIVETED PLATE GIRDERS AND ROLLED BEAM STRINGERS AND FLOOR BEAMS SUPPORTED BY REINFORCED CONCRETE SUBSTRUCTURE ON PILES. MOVEABLE SPAN CONSISTS OF A TWO-LEAF BASCULE WITH OPEN GRID STEEL DECK SUPPORTED BY REINFORCED CONCRETE BASCULE PIERS ON PILES.

SPANS: 135'-0"±, 2 AT 215'-0"±, 214'-6"±, 245'-7 3/4"±, 167'-10 1/2"±, 94'-6"±, 112'-10"±, 100'-8"±, 106'-0"±

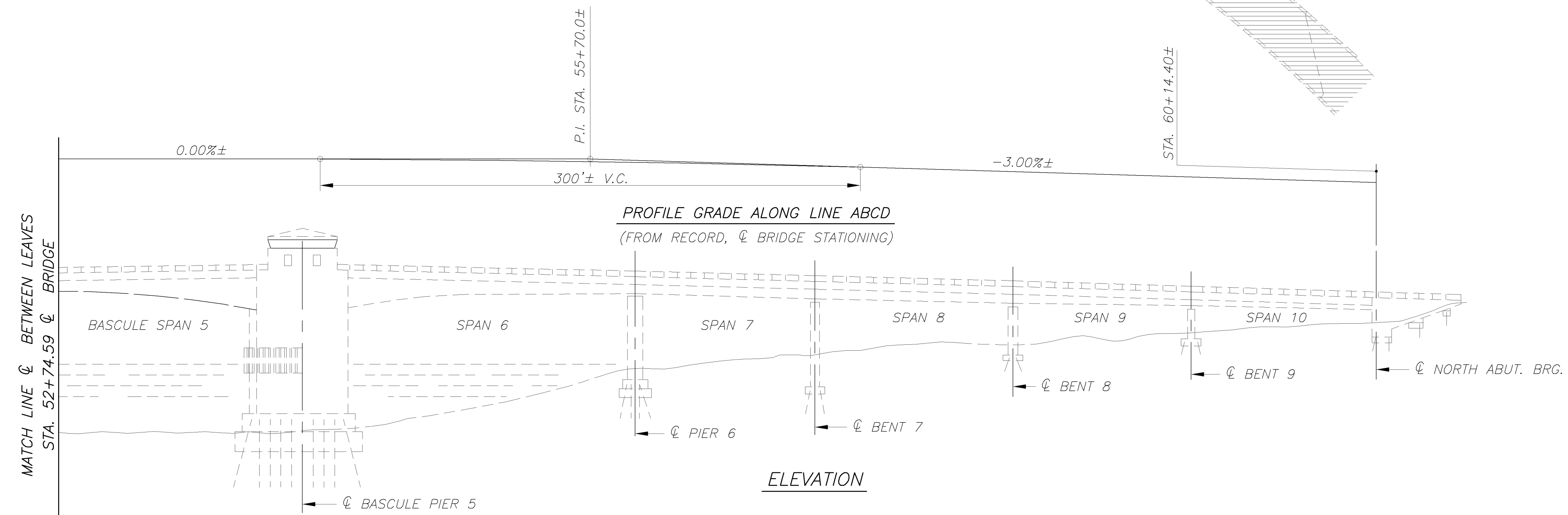
ROADWAY: 70'-0"± AND VARIES UNIT 1 & UNIT 2, 70'-0"± BASCULE SPAN, 58'-0"± UNIT 3 TOE TO TOE OF PARAPETS.

LOADING: CF 1200-51 FREQUENCY RATING  
SKEW: VARIES  
WEARING SURFACE: MONOLITHIC CONCRETE  
ALIGNMENT: TANGENT AND CURVE RIGHT  
APPROACH SLABS: 15'-0"±

COORDINATES: N 41° 39' 30"  
W 83° 30' 36"  
STRUCTURE FILE NO.: 4805917

**TRAFFIC DATA**

CURRENT YEAR ADT (2008).....	22,800
CURRENT YEAR ADTT (2008).....	1,824
DESIGN YEAR ADT (2028).....	27,390
DESIGN YEAR ADTT (2028).....	2,191



**acila**  
edacinc client lynn associates inc. cleveland, ohio 44126  
5995 transportation boulevard

REVIEWED	DATE	3/21/06
EAF	STRUCTURE FILE NUMBER	4805917
DRAWN	DMT	REMOVED
TJW	CHECKED	DP

**GENERAL PLAN AND ELEVATION**  
CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  
OVER THE MAUMEE RIVER

LUC-280-2.34  
TRENCH  
RECLAMATION

2/63

461  
555

STRUCTURAL GENERAL NOTES

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFERENCE SHALL BE MADE TO THE FOLLOWING STANDARD DRAWINGS:

BR-2-98	DATED (REVISED)	7-19-02
EXJ-4-87	DATED (REVISED)	7-19-02
GSD-1-96	DATED (REVISED)	7-19-02
HL-20.14	DATED (REVISED)	1-21-05

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

848	DATED (REVISED)	4-15-05
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DESIGN SPECIFICATIONS

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

DESIGN LOADING

EXISTING STRUCTURE: LOAD FREQUENCY CF 1200-51.  
PROPOSED STRUCTURE ELEMENTS AND MODIFICATIONS: HS25, CASE II

DESIGN DATA

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)  
CONCRETE CLASS C - 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.  
EXISTING MICROSILICA MODIFIED CONCRETE OVERLAY (BASCULE PIER ROADWAY ONLY).

PROPOSED WORK - CRAIG MEMORIAL BRIDGE

PROPOSED WORK SHALL GENERALLY CONSIST OF, BUT NOT BE LIMITED TO, THE FOLLOWING:

- COORDINATE ALL CRAIG BRIDGE WORK SPECIFIED HEREIN WITH RELATED CRAIG BRIDGE WORK SPECIFIED IN THE PART 2 PLANS LUC-FRONT STREET & LUC-SUMMIT STREET.
- REMOVE PORTIONS OF THE CENTER MEDIAN BARRIER, NOT INCLUDED FOR REMOVAL WITHIN THE PART 2 PLANS, FROM UNIT 1, THE BASCULE PIERS, THE BASCULE SPAN AND UNIT 2.
- REMOVE THE CONCRETE PARAPET FROM THE WEST EDGE OF THE DECK WITHIN UNIT 2, AND UNIT 3 NORTH OF REMOVED RAMP 'X'. COORDINATE WITH LIGHTING PLANS FOR RELATED WORK AT THIS LOCATION.
- REMOVE PORTIONS OF THE WEST WINGWALL AT THE NORTH ABUTMENT.
- REMOVE THE EXISTING PIPE HANDRAILS AND POSTS FROM THE EXTERIOR SIDEWALKS ALONG THE SOUTH ABUTMENT WINGWALLS, ENTIRE SUPERSTRUCTURE AND BASCULE PIERS.
- INSTALL A NEW 32" HIGH CONCRETE PARAPET WITH SUPPLEMENTAL STEEL RAILING, TRANSITION SECTIONS, A 5' WIDE CONCRETE ISLAND AND RELATED EXPANSION JOINT ASSEMBLIES ALONG THE WEST SIDE OF THE PROPOSED MULTI-USE TRAIL AT THE SOUTH APPROACH SLAB, SOUTH ABUTMENT SLAB, UNIT 1 DECK, BASCULE PIERS, UNIT 2 DECK, UNIT 3 DECK AND NORTH APPROACH SLAB.
- INSTALL AN ISLAND WITH STEEL CURB SIDES AND GRID DECK SURFACE ALONG THE WEST SIDE OF THE MULTI-USE TRAIL ON THE EXISTING OPEN GRID BASCULE SPAN DECK.
- INSTALL NEW FIBERGLASS DECK PLATES ON TOP OF THE EXISTING STEEL OPEN GRID DECK WITHIN THE MULTI-USE TRAIL PORTION OF THE BASCULE SPAN.
- MODIFY THE SOUTHEAST AND NORTHWEST TRAFFIC WARNING GATES AND RELATED BARRIER AND GUARDPOST MODIFICATIONS ON UNITS 1 & 2.
- REMOVE AND REPLACE THE EXISTING SOUTHWEST AND NORTHEAST SIDEWALK WARNING GATES AND INSTALL NEW OVERHEAD TRAFFIC WARNING GATES ON UNITS 1 & 2.

- INSTALL A NEW CONCRETE SIDEWALK, RELATED EXPANSION JOINT ASSEMBLIES AND A STANDARD BR-2-98 SIDEWALK RAILING ALONG THE WEST SIDE OF UNIT 2 AND UNIT 3 FROM REMOVED RAMP 'X' TO THE NORTH ABUTMENT. COORDINATE WITH LIGHTING PLANS FOR RELATED WORK AT THIS LOCATION.
- RECONSTRUCT UPPER PORTIONS OF THE NORTH ABUTMENT WESTERLY WINGWALL, INSTALL A STANDARD BR-2-98 SIDEWALK RAILING, INSTALL NEW SIDEWALK ON TOP OF THE EXISTING NORTH ABUTMENT APPROACH SLAB AND RESURFACE THE NORTH ABUTMENT APPROACH SLAB. COORDINATE WITH APPROACH ROADWAY WORK SPECIFIED WITHIN THE PART 2 PLANS.
- INSTALL NEW HANDRAILS ALONG THE EXTERIOR SIDEWALKS ALONG THE SOUTH ABUTMENT WINGWALLS, ENTIRE SUPERSTRUCTURE, BASCULE SPAN AND BASCULE PIERS.
- INSTALL SUPPLEMENTAL STEEL RAILINGS ON TOP OF THE EXISTING PARAPET ALONG THE EAST SIDE OF THE UNIT 2 AND UNIT 3 DECKS NORTH OF REMOVED RAMP 'EE'.
- INSTALL A NEW CONCRETE ISLAND ON THE SOUTH ABUTMENT APPROACH SLAB AND SOUTH ABUTMENT SLAB, WATERPROOF THE SOUTH ABUTMENT SLAB AND RESURFACE THE SOUTH ABUTMENT SLAB AND SOUTH ABUTMENT APPROACH SLAB. COORDINATE WITH APPROACH ROADWAY WORK SPECIFIED WITHIN THE PART 2 PLANS.
- INSTALL NEW DECK SCUPPER DRAINS, HORIZONTAL CONDUCTOR PIPING AND DOWNSPOUT PIPING.
- INSTALL NEW TRAFFIC LIGHT SIGNALS AND RELOCATE OTHER EXISTING TRAFFIC LIGHT SIGNALS AND SIGNS FOR THE BASCULE LIFT SPAN.
- PERFORM BASCULE LIFT SPAN BALANCING ADJUSTMENTS.

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 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.

ITEM 202 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES THAT ARE NOT SEPARATELY LISTED FOR PAYMENT. ITEMS TO BE REMOVED INCLUDE CONCRETE MEDIAN BARRIER, PORTIONS OF CONCRETE PARAPET NOT INCLUDED FOR REMOVAL UNDER OTHER ITEM(S), PORTIONS OF ABUTMENT WINGWALLS AND OTHER MISCELLANEOUS ITEMS THAT MAY BE ENCASED WITHIN THE CONCRETE TO BE REMOVED AND NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT DAMAGE PORTIONS OF THE EXISTING STRUCTURE TO REMAIN AND, WHERE SPECIFIED, NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS AND NOT MORE THAN 35 POUNDS FOR REMOVALS WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

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

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED REMOVALS AT THE CONTRACT LUMP SUM PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

ITEM 202 WEARING COURSE REMOVED, AS PER PLAN

THE CONTRACTOR SHALL EXERCISE CARE WHEN MACHINE GRINDING ON THE BRIDGE SUPERSTRUCTURE AND APPROACH SLABS. THE CONTRACTOR SHOULD VERIFY THE GRINDER DEPTH TO INSURE THAT NO DAMAGE FROM OVER-GRINDING WILL OCCUR. DAMAGE TO THE EXISTING BRIDGE DECK, ABUTMENT SLAB OR OTHER ITEMS TO REMAIN FROM REMOVAL OPERATIONS WILL BE REPAIRED OR REPLACED AT THE OPTION OF THE ENGINEER. CONCRETE REPAIRS SHALL BE AS PER ITEM 519. ALL COST FOR REPAIRS OR REPLACEMENT DUE TO IMPROPER REMOVAL PROCEDURES SHALL BE BORN BY THE CONTRACTOR.

ITEM 202 REMOVAL MISC.: STEEL HAND RAILING AT EXTERIOR SIDEWALK, FIXED SPAN

THIS ITEM SHALL INCLUDE REMOVAL AND DISPOSAL OF THE EXISTING STEEL HAND RAILING ON THE SOUTH ABUTMENT WINGWALLS, UNIT 1 DECK AND UNIT 2 DECK ONLY. THE EXISTING STEEL RAILS, STEEL POSTS, STEEL POST COLLARS AND CONCRETE WITHIN THE COLLARS SHALL BE REMOVED TO A MINIMUM OF 1/2" BELOW THE EXISTING CONCRETE SIDEWALK SURFACE. PORTIONS OF THE EXISTING POST ASSEMBLIES BELOW THE REMOVAL LIMITS INDICATED MAY BE LEFT IN PLACE.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LINEAR FOOT BASIS MEASURED FROM CENTER TO CENTER OF RAILING POSTS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202 REMOVAL MISC.: STEEL HAND RAILING AT EXTERIOR SIDEWALK, FIXED SPAN.

ITEM 202 REMOVAL MISC.: STEEL HAND RAILING AT EXTERIOR SIDEWALK, BASCULE SPAN

THIS ITEM SHALL INCLUDE REMOVAL AND DISPOSAL OF THE EXISTING STEEL HAND RAILING ON THE BASCULE LIFT SPAN. ALL WORK SHALL BE IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS.


MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LINEAR FOOT BASIS MEASURED FROM CENTER TO CENTER OF RAILING POSTS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202 REMOVAL MISC.: STEEL HAND RAILING AT EXTERIOR SIDEWALK, BASCULE SPAN.

ITEM 202 REMOVAL MISC.: STEEL HAND RAILING AT EXTERIOR SIDEWALK, BASCULE PIER

THIS ITEM SHALL INCLUDE REMOVAL AND DISPOSAL OF THE EXISTING STEEL HAND RAILING ON THE BASCULE PIERS. ALL WORK SHALL BE IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LINEAR FOOT BASIS MEASURED FROM CENTER TO CENTER OF RAILING POSTS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202 REMOVAL MISC.: STEEL HAND RAILING AT EXTERIOR SIDEWALK, BASCULE PIER.

drawing scale: 1" = 1'-0"  
plot scale: 1:1

 edache client lynn associates inc. 5595 transportation boulevard, cleveland, ohio 44126	DATE 3/21/06 REVIEWED EAF STRUCTURE FILE NUMBER 4805917	DRAWN --- DESIGNED T.J.W./BA CHECKED DP	STRUCUTURAL GENERAL NOTES CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER THE MAUMEE RIVER	LUC-280-2.34 TRENCH RECLAMATION	3/63 462 555
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STRUCTURAL GENERAL NOTES

ITEM 202 REMOVAL MISC.: STEEL MEDIAN BARRIER, BASCULE SPAN

DESCRIPTION: THIS WORK SHALL CONSIST OF THE REMOVAL AND DISPOSAL OF THE EXISTING STEEL SHELL MEDIAN BARRIER AS SHOWN IN THE CONTRACT DRAWINGS. THE CONTRACTOR SHALL FLAME-CUT THE EXISTING STEEL CONNECTION TABS FLUSH WITH THE TOP OF THE EXISTING GRID DECK. ROUGH OR SHARP EDGES SHALL BE GROUND SMOOTH TO THE SATISFACTION OF THE ENGINEER. ANY WELDS BETWEEN THE STEEL SHELL BARRIER AND JOINT CASTINGS SHALL BE GOUGED OUT AND GROUND SMOOTH. THE CONTRACTOR SHALL TAKE CARE TO NOT ALLOW SPARKS TO FALL THROUGH THE OPEN GRID INTO THE CHANNEL BELOW. THE CONTACTOR SHALL PERFORM CUTTING AND REMOVAL OPERATIONS WITH CARE SO AS TO NOT DAMAGE EXISTING MATERIAL TO REMAIN. EXISTING MATERIAL TO REMAIN DAMAGED DURING THE CONTACTORS OPERATIONS SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE DEPARTMENT.

THE BARRIER AND TABS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF SITE. COATINGS ON THE EXISTING STEEL BARRIER AND TABS DO NOT CONTAIN LEAD BASED PAINT.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE REMOVAL OF STEEL MEDIAN BARRIER BY THE NUMBER OF LINEAR FEET OF STEEL MEDIAN BARRIER REMOVED AND PROPERLY DISPOSED. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202 REMOVAL MISC.: STEEL MEDIAN BARRIER, BASCULE SPAN. THE WORK SHALL INCLUDE THE COST OF FLAME CUTTING TABS, GOUGING WELDS, REMOVING AND DISPOSAL OF THE EXISTING STEEL MEDIAN BARRIER, AND GRINDING REMAINING STEEL SURFACES AS REQUIRED TO THE FULL SATISFACTION OF THE ENGINEER.

ITEM 202 REMOVAL MISC.: SCUPPER ABANDONED

THIS WORK SHALL CONSIST OF THE REMOVAL AND DISPOSAL OF PORTIONS OF EXISTING DECK DRAINAGE SCUPPERS, REMOVAL AND DISPOSAL OF UNNECESSARY UNDER-DECK DRAINAGE PIPING AND RELATED STRUCTURAL PIPING SUPPORTS AND FILLING WITH CONCRETE THOSE SCUPPERS DESIGNATED ON THE PLANS TO BE ABANDONED. IF PORTIONS OF THE CONNECTING UNDER-DECK PIPING SYSTEM ARE REQUIRED TO REMAIN SO THAT OTHER SCUPPERS CONTINUE TO BE OPERATIONAL, THE CONTRACTOR SHALL REMOVE ONLY THE UNNECESSARY PIPING AND INSTALL SUITABLE CAPS, PLUGS AND/OR CLEAN-OUTS AT ENDS OF PIPING TO REMAIN. ALL WORK SHALL CONFORM TO 202 AND 518.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF SCUPPERS ABANDONED ON AN EACH BASIS REGARDLESS OF THE QUANTITY OF CONNECTING UNDER-DECK PIPING REMOVAL. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202 REMOVAL MISC.: SCUPPER ABANDONED.

ITEM 202 REMOVAL MISC.: SCUPPER REMOVED INCLUDING FULL-DEPTH REPAIR OF BRIDGE DECK

THIS WORK SHALL CONSIST OF THE COMPLETE REMOVAL AND DISPOSAL OF THOSE DECK DRAINAGE SCUPPERS DESIGNATED ON THE PLANS FOR COMPLETE REMOVAL, THE REMOVAL AND DISPOSAL OF UNNECESSARY UNDER-DECK DRAINAGE PIPING AND RELATED STRUCTURAL PIPING SUPPORTS AND THE COMPLETE FULL-DEPTH CONCRETE REPAIR OF THE DECK SLAB. IF PORTIONS OF THE CONNECTING UNDER-DECK PIPING SYSTEM ARE REQUIRED TO REMAIN SO THAT OTHER SCUPPERS CONTINUE TO BE OPERATIONAL, THE CONTRACTOR SHALL REMOVE ONLY THE UNNECESSARY PIPING AND INSTALL SUITABLE CAPS, PLUGS AND/OR CLEAN-OUTS AT ENDS OF PIPING TO REMAIN. DECK REMOVAL LIMITS SHALL BE RECTANGULAR IN SHAPE AND BE NO LARGER THAN NECESSARY TO REMOVE THE SCUPPER ASSEMBLY AND ELIMINATE ANY DISHED DECK SURFACE AROUND THE SCUPPER. SAWCUT THE PERIMETER OF THE REMOVAL AREA 1" DEEP AT THE TOP AND BOTTOM OF THE DECK. CAREFULLY REMOVE DECK CONCRETE WHILE LEAVING EXISTING REINFORCING STEEL INTACT. GRIND SMOOTH, IN THE LONGITUDINAL DIRECTION ONLY, ANY SCUPPER ATTACHMENTS TO THE STRUCTURAL STEEL. INSTALL, FINISH AND CURE NEW CLASS S DECK CONCRETE AND SEAL DECK CONSTRUCTION JOINTS WITH HMWM SEALER. THE DECK FINISH SHALL BE GROOVED BY HAND TO MATCH ADJACENT DECK GROOVING. COMPLETELY REMOVE ANY CURING MEMBRANE PRIOR TO APPLICATION OF THE HMWM CONSTRUCTION JOINT SEAL. ALL WORK SHALL CONFORM TO 202, 511 AND 518.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF SCUPPERS REMOVED ON AN EACH BASIS REGARDLESS OF THE QUANTITY OF CONNECTING UNDER-DECK PIPING REMOVAL. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202 REMOVAL MISC.: SCUPPER REMOVED INCLUDING FULL-DEPTH REPAIR OF BRIDGE DECK.

ITEM 510 DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN

THIS WORK SHALL CONFORM TO ITEM 510. DRILL DOWEL HOLES WHERE SHOWN IN THE PLANS. INSTALL REINFORCING STEEL ACCORDING TO ITEM 510 USING EPOXY GROUT, 705.20. PRIOR TO DRILLING DOWEL HOLES, LOCATE ALL EXISTING REINFORCING STEEL BARS IN THE AREA OF THE HOLE WITH THE AID OF A REINFORCING STEEL BAR LOCATOR (PACHOMETER). IF AN EXISTING BAR IS ENCOUNTERED AT THE SAME LOCATION AS A PROPOSED DOWEL HOLE, MOVE THE DOWEL HOLE TO EITHER SIDE OF THE EXISTING BAR.

ITEM 516 STRUCTURAL JOINT OR JOINT SEALER, MISC.: SIDEWALK EXPANSION JOINT

THIS WORK SHALL CONFORM TO ITEM 516 AND THE DETAILS SHOWN ON THE PLANS. THIS SHALL INCLUDE THE FABRICATED STRUCTURAL STEEL EXPANSION JOINT FOR THE PROPOSED SIDEWALK ALONG THE WEST SIDE OF UNIT 2 AND UNIT 3 AT BENT NO. 8 AND THE NORTH ABUTMENT. "CHECKERED" SURFACE STEEL PLATE SHALL BE USED FOR ALL PLATES SUBJECT TO FOOT TRAFFIC. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DECK CROSS SLOPES AT JOINT LOCATIONS SO THAT THE JOINT MATERIALS CAN BE PROPERLY FABRICATED.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF SIDEWALK EXPANSION JOINTS ON AN EACH BASIS REGARDLESS OF DETAILING DIFFERENCES WHICH MAY OCCUR AT EACH JOINT LOCATION. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF COMPLETE EXPANSION JOINT ASSEMBLIES AT THE CONTRACT PRICE FOR ITEM 516 STRUCTURAL JOINT OR JOINT SEALER, MISC.: SIDEWALK EXPANSION JOINT.

ITEM 516 STRUCTURAL JOINT OR JOINT SEALER, MISC.: PARAPET EXPANSION JOINT

THIS WORK SHALL CONFORM TO ITEM 516 AND THE DETAILS SHOWN ON THE PLANS. THIS SHALL INCLUDE THE FABRICATED STRUCTURAL STEEL EXPANSION JOINT FOR THE PROPOSED PARAPET ALONG THE WEST SIDE OF THE MULTI-USE TRAIL AT THE SOUTH ABUTMENT, BENT NO. 8 AND THE NORTH ABUTMENT. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AT JOINT LOCATIONS SO THAT THE JOINT MATERIALS CAN BE PROPERLY FABRICATED.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF PARAPET EXPANSION JOINTS ON AN EACH BASIS REGARDLESS OF DETAILING DIFFERENCES WHICH MAY OCCUR AT EACH JOINT LOCATION. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF COMPLETE EXPANSION JOINT ASSEMBLIES AT THE CONTRACT PRICE FOR ITEM 516 STRUCTURAL JOINT OR JOINT SEALER, MISC.: PARAPET EXPANSION JOINT.

ITEM 516 STRUCTURAL JOINT OR JOINT SEALER, MISC.: ISLAND EXPANSION JOINT

THIS WORK SHALL CONFORM TO ITEM 516 AND THE DETAILS SHOWN ON THE PLANS. THIS SHALL INCLUDE THE FABRICATED STRUCTURAL STEEL EXPANSION JOINT FOR THE PROPOSED ISLAND ALONG THE WEST SIDE OF THE MULTI-USE TRAIL AT THE UNIT 1 TO PIER 4 AND UNIT 2 TO PIER 5 LOCATIONS. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AT JOINT LOCATIONS SO THAT THE JOINT MATERIALS CAN BE PROPERLY FABRICATED.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF ISLAND EXPANSION JOINTS ON AN EACH BASIS REGARDLESS OF DETAILING DIFFERENCES WHICH MAY OCCUR AT EACH JOINT LOCATION. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF COMPLETE EXPANSION JOINT ASSEMBLIES AT THE CONTRACT PRICE FOR ITEM 516 STRUCTURAL JOINT OR JOINT SEALER, MISC.: ISLAND EXPANSION JOINT.

ITEM 516 STRUCTURAL JOINT OR JOINT SEALER, MISC.: FINGER JOINT COVER PLATE, FIXED SPAN

THIS WORK SHALL CONFORM TO ITEM 516 AND THE DETAILS SHOWN ON THE PLANS. THIS SHALL INCLUDE THE INSTALLATION OF 1/4" THICK "CHECKERED" STEEL PLATES TO COVER THE EXISTING STEEL FINGER JOINTS WITHIN THE WALKING SURFACE AREA OF THE MULTI-USE TRAIL AT ALL FINGER TYPE EXPANSION JOINT LOCATIONS INCLUDING THE SOUTH ABUTMENT, PIER 4, PIER 5, BENT 8 AND THE NORTH ABUTMENT. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AT JOINT LOCATIONS SO THAT THE JOINT COVER MATERIALS CAN BE PROPERLY FABRICATED. THE LEADING AND TRAILING EDGES OF THE COVER PLATES SHALL BE TAPERED AND ROUNDED TO APPROXIMATELY 3/16" MAXIMUM THICKNESS.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF FINGER JOINT COVER PLATE ON A SQUARE FOOT BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF COMPLETE FINGER COVER JOINT PLATE AT THE CONTRACT PRICE FOR ITEM 516 STRUCTURAL JOINT OR JOINT SEALER, MISC.: FINGER JOINT COVER PLATE, FIXED SPAN.


ITEM 517 RAILING MISC.: TWIN STEEL TUBE RAILING MOUNTED TO EXISTING CONCRETE PARAPET

THIS WORK SHALL CONSIST OF FABRICATING AND ERECTING TWIN GALVANIZED STEEL TUBE RAILING ON TOP OF THE EXISTING CONCRETE PARAPET ALONG THE EAST SIDE OF THE MULTI-USE TRAIL WITHIN UNIT 2 AND UNIT 3 AND ALONG THE TOP OF THE CONCRETE CLOSURE PARAPET TO BE CONSTRUCTED ALONG THE EDGE OF THE UNIT 2 DECK WHERE RAMP 'EE' IS TO BE REMOVED. ALL WORK SHALL CONFORM TO ITEM 517, THE DETAILS ON THE PLANS AND AS SPECIFIED HEREIN.

FURNISH SHAPED STRUCTURAL TUBING ACCORDING TO 707.10 (ASTM A500 GRADE B). HEAT CURVING OF HORIZONTAL RAIL ELEMENTS SHALL CONFORM TO THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. RAIL TUBE SPLICES ARE TO BE LOCATED SO THAT EACH TUBE SEGMENT SHALL BE CONNECTED TO NOT LESS THAN TWO POSTS. FURNISH STRUCTURAL STEEL PLATES ACCORDING TO 711.01 (ASTM A709 GR. 50). GALVANIZE ALL MATERIALS ACCORDING TO 711.02. PRIOR TO GALVANIZING, ROUND ALL STRUCTURAL TUBING ENDS AND REMOVE BURRS FROM TUBING SHAPES AND PLATES. TOPS OF POSTS AND ENDS OF TUBING EXPOSED TO VIEW SHALL BE FURNISHED WITH WELDED CAP PLATES OF THE SAME THICKNESS AS THE STRUCTURAL TUBING. GALVANIZED THREADED ANCHORS, CONNECTION BOLTS AND HEX NUTS SHALL CONFORM TO 711.10 (ASTM A307). NONSHRINK, NONMETALLIC GROUT ADHESIVE FOR THREADED ANCHORS SHALL CONFORM TO 705.20. DRILLING OF HOLES FOR THREADED ANCHORS, GROUT PLACEMENT, CURING AND LOADING SHALL CONFORM TO 510.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF RAILING ON A LINEAR FOOT BASIS MEASURED CENTER TO CENTER OF POST OR RAIL TERMINATION BASE PLATES. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF RAILING AT THE CONTRACT PRICE FOR ITEM 517 RAILING MISC.: TWIN STEEL TUBE RAILING MOUNTED TO EXISTING CONCRETE PARAPET.

drawing scale : 1" = 1'-0"  
plot scale : 1:1

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STRUCTURAL GENERAL NOTES CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER THE MAUMEE RIVER	
LUC-280-2.34 TRENCH RECLAMATION	
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STRUCTURAL GENERAL NOTES

ITEM 517 RAILING MISC.: STEEL HAND RAILING AT EXTERIOR SIDEWALK, FIXED SPAN

THIS WORK SHALL CONSIST OF FABRICATING AND ERECTING 42" HIGH GALVANIZED STEEL TUBE HAND RAILING AT THE EXTERIOR SIDEWALKS ALONG THE SOUTH ABUTMENT WINGWALLS, UNIT 1 AND UNIT 2 SIDEWALKS. IT IS THE INTENT OF THIS ITEM THAT NEW RAIL POSTS BE PLACED IN THE SAME LOCATION AS THE PREVIOUS RAILING POSTS REMOVED UNDER ITEM 202. THE PROPOSED BASE PLATE ASSEMBLY SHALL CONCEAL THE PREVIOUS POST PENETRATIONS THROUGH THE SIDEWALK SURFACE. THE CONTRACTOR SHALL VERIFY ALL RAILING DIMENSIONS IN THE FIELD PRIOR TO FABRICATION. ALL WORK SHALL CONFORM TO ITEM 517, THE DETAILS ON THE PLANS AND AS SPECIFIED HEREIN.

FURNISH SHAPED STRUCTURAL TUBING ACCORDING TO 707.10 (ASTM A500 GRADE B). HEAT CURVING OF HORIZONTAL RAIL ELEMENTS SHALL CONFORM TO THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. RAIL TUBE SPLICES ARE TO BE LOCATED SO THAT EACH TUBE SEGMENT SHALL BE CONNECTED TO NOT LESS THAN TWO POSTS. FURNISH STRUCTURAL STEEL PLATES ACCORDING TO 711.01 (ASTM A709 GR. 50).

GALVANIZE ALL MATERIALS ACCORDING TO 711.02. PRIOR TO GALVANIZING, ROUND ALL STRUCTURAL TUBING ENDS AND REMOVE BURRS FROM TUBING SHAPES AND PLATES. TOPS OF POSTS AND ENDS OF TUBING EXPOSED TO VIEW SHALL BE FURNISHED WITH WELDED CAP PLATES OF THE SAME THICKNESS AS THE STRUCTURAL TUBING. GALVANIZED THREADED ANCHORS, CONNECTION BOLTS AND HEX NUTS SHALL CONFORM TO 711.10 (ASTM A307). NONSHRINK, NONMETALLIC GROUT ADHESIVE FOR THREADED ANCHORS SHALL CONFORM TO 705.20. DRILLING OF HOLES FOR THREADED ANCHORS, GROUT PLACEMENT, CURING AND LOADING SHALL CONFORM TO 510.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF RAILING ON A LINEAR FOOT BASIS MEASURED CENTER TO CENTER OF POSTS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF RAILING AT THE CONTRACT PRICE FOR ITEM 517 RAILING MISC.: STEEL HAND RAILING AT EXTERIOR SIDEWALK, FIXED SPAN.

ITEM 517 RAILING MISC.: STEEL HAND RAILING AT EXTERIOR SIDEWALK, BASCULE SPAN

THIS WORK SHALL CONSIST OF FABRICATING AND ERECTING 42" HIGH GALVANIZED STEEL TUBE HAND RAILING AT THE EXTERIOR SIDEWALKS ALONG THE BASCULE LIFT SPAN. ALL WORK SHALL CONFORM TO ITEM 517 AND THE DETAILS ON THE PLANS.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF RAILING ON A LINEAR FOOT BASIS MEASURED CENTER TO CENTER OF POSTS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF RAILING AT THE CONTRACT PRICE FOR ITEM 517 RAILING MISC.: STEEL HAND RAILING AT EXTERIOR SIDEWALK, BASCULE SPAN.

ITEM 517 RAILING MISC.: STEEL HAND RAILING AT EXTERIOR SIDEWALK, BASCULE PIER

THIS WORK SHALL CONSIST OF FABRICATING AND ERECTING 42" HIGH GALVANIZED STEEL TUBE HAND RAILING AT THE EXTERIOR PERIMETER OF THE BASCULE PIERS. ALL WORK SHALL CONFORM TO ITEM 517 AND THE DETAILS ON THE PLANS.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF RAILING ON A LINEAR FOOT BASIS MEASURED CENTER TO CENTER OF POSTS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF RAILING AT THE CONTRACT PRICE FOR ITEM 517 RAILING MISC.: STEEL HAND RAILING AT EXTERIOR SIDEWALK, BASCULE PIER.

ITEM 517 RAILING MISC.: TWIN STEEL TUBE RAILING MOUNTED ON PROPOSED CONCRETE PARAPET

THIS WORK SHALL CONSIST OF FABRICATING AND ERECTING TWIN GALVANIZED STEEL TUBE RAILING ON TOP OF THE PROPOSED CONCRETE PARAPET ALONG THE WEST SIDE OF THE MULTI-USE TRAIL. IN ADDITION TO THE PROPOSED CONCRETE PARAPET ALONG THE WEST SIDE OF THE MULTI-USE TRAIL BEING CONSTRUCTED UNDER THE PART 1 PLANS, THIS ITEM SHALL ALSO INCLUDE THE INSTALLATION OF TWIN STEEL TUBE RAILING ON TOP OF THE ROADWAY APPROACH TYPE 'D' CONCRETE BARRIER INSTALLED UNDER THE PART 2 PLANS. THE CONTRACTOR SHALL COORDINATE THE WORK BETWEEN PART 1 AND PART 2. ALL WORK SHALL CONFORM TO ITEM 517, THE DETAILS ON THE PLANS AND AS SPECIFIED HEREIN.

FURNISH SHAPED STRUCTURAL TUBING ACCORDING TO 707.10 (ASTM A500 GRADE B). HEAT CURVING OF HORIZONTAL RAIL ELEMENTS SHALL CONFORM TO THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. RAIL TUBE SPLICES ARE TO BE LOCATED SO THAT EACH TUBE SEGMENT SHALL BE CONNECTED TO NOT LESS THAN TWO POSTS. FURNISH STRUCTURAL STEEL PLATES ACCORDING TO 711.01 (ASTM A709 GR. 50).

GALVANIZE ALL MATERIALS ACCORDING TO 711.02. PRIOR TO GALVANIZING, ROUND ALL STRUCTURAL TUBING ENDS AND REMOVE BURRS FROM TUBING SHAPES AND PLATES. TOPS OF POSTS AND ENDS OF TUBING EXPOSED TO VIEW SHALL BE FURNISHED WITH WELDED CAP PLATES OF THE SAME THICKNESS AS THE STRUCTURAL TUBING. CONNECTION BOLTS AND HEX NUTS SHALL CONFORM TO 711.10 (ASTM A307).

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF RAILING ON A LINEAR FOOT BASIS MEASURED CENTER TO CENTER OF POST OR RAIL TERMINATION BASE PLATES. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF RAILING AT THE CONTRACT PRICE FOR ITEM 517 RAILING MISC.: TWIN STEEL TUBE RAILING MOUNTED ON PROPOSED CONCRETE PARAPET.

ITEM 518 SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN

THIS WORK SHALL CONSIST OF CONSTRUCTING GALVANIZED STEEL SCUPPERS IN ACCORDANCE WITH STANDARD DRAWING GSD-1-96, ITEM 518 AND AS SHOWN ON THE DRAWINGS. INCLUDED WITH THIS WORK SHALL BE THE FULL DEPTH REMOVAL OF EXISTING DECK CONCRETE AS REQUIRED TO INSTALL THE NEW SCUPPER, FULL DEPTH DECK REPAIR AND ENCASEMENT OF THE SCUPPER WITH NEW CLASS S CONCRETE, SEALING DECK CONSTRUCTION JOINTS WITH HMWM SEALER AND THE FABRICATION OF A GALVANIZED STEEL TRANSITION PIECE TO ADAPT 8 INCH DIAMETER PIPE TO THE RECTANGULAR STRUCTURAL TUBE SCUPPER ASSEMBLY.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF SCUPPERS INSTALLED ON AN EACH BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF SCUPPERS AT THE CONTRACT PRICE FOR ITEM 518 SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN.

ITEM 518 DOWNSPOUT MODIFICATION, 18"

THIS WORK SHALL CONSIST OF MODIFYING THE EXISTING 18" GALVANIZED STEEL DOWNSPOUT PIPES AT THE SOUTH ABUTMENT TROUGH DRAIN. THE EXISTING DOWNSPOUT PIPE SHALL BE CUT OFF AT A SUFFICIENT DISTANCE BELOW THE LOWEST U-BOLT SUPPORT BRACKET AND ABOVE THE 30 DEGREE BEND FITTING TO ALLOW A FLEXIBLE RUBBER "FERNCO" STYLE COUPLING TO BE PLACED ON THE EXISTING STRAIGHT PIPE. NEW 18" GALVANIZED PIPE SHALL BE CONNECTED TO THE EXISTING PIPE AND EXTENDED VERTICALLY DOWN THE FACE OF ABUTMENT TO A DISTANCE OF 6"± ABOVE THE GRATE OF NEW CATCH BASINS TO BE INSTALLED WITH THE ROADWAY PLANS. THIS WORK SHALL INCLUDE THE FABRICATION AND INSTALLATION OF NOT LESS THAN TWO (2) ADDITIONAL GALVANIZED STEEL U-BOLT SUPPORT BRACKETS AT EACH DOWNSPOUT LOCATION. BRACKETS SHALL BE SIMILAR IN DESIGN TO THE EXISTING BRACKETS. THE NEW BRACKETS SHALL BE PLACED AT A 5 FOOT MAXIMUM VERTICAL SPACING STARTING AT THE LOWEST EXISTING U-BOLT BRACKET. ALL WORK SHALL CONFORM TO ITEM 518. THE CONTRACTOR SHALL COORDINATE WITH THE RELATED STORM SEWER AND CATCH BASIN INSTALLATION WORK.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF DOWNSPOUT MODIFICATIONS INSTALLED ON AN EACH BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF DOWNSPOUT MODIFICATION AT THE CONTRACT PRICE FOR ITEM 518 DOWNSPOUT MODIFICATION, 18".

ITEM 518 STRUCTURE DRAINAGE, MISC.: 8" PIPE HORIZONTAL CONDUCTOR

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING 8" PLASTIC HORIZONTAL CONDUCTOR PIPE, INCLUDING SPECIAL FITTINGS AND SUPPORTS, ATTACHED TO THE SUPERSTRUCTURE. THE PIPE CONDUCTOR SYSTEM SHALL INTERCEPT EXISTING OR NEW DECK SCUPPERS AND MAY HAVE VERTICAL OR STEEPLY SLOPED PORTIONS. ALL WORK SHALL CONFORM TO ITEM 518 AND THE DETAILS SHOWN ON THE PLANS. WORK LOCATIONS INCLUDE THE FOLLOWING:

1. A HORIZONTAL CONDUCTOR SHALL BE INSTALLED ON THE WEST SIDE OF UNIT 1-SPAN 1 TO INTERCEPT THE THREE (3) EXISTING SCUPPERS CLOSEST TO THE SOUTH ABUTMENT.
2. A HORIZONTAL CONDUCTOR SHALL BE INSTALLED ON THE EAST SIDE OF UNIT 1-SPAN 1 TO INTERCEPT THE TWO (2) EXISTING SCUPPERS CLOSEST TO THE SOUTH ABUTMENT.
3. A HORIZONTAL CONDUCTOR SHALL BE INSTALLED ON THE WEST SIDE OF UNIT 2 NORTH OF PIER NO. 6 TO INTERCEPT THE THREE (3) PROPOSED SCUPPERS.
4. A HORIZONTAL CONDUCTOR SHALL BE INSTALLED ON UNIT 3 TO INTERCEPT THE PROPOSED SCUPPER AT THE ROADWAY SIDE OF THE MULTI-USE TRAIL PARAPET ADJACENT TO THE NORTH ABUTMENT.

AN APPROPRIATE CLEAN-OUT SHALL BE PROVIDED AT THE HIGH END OF ALL CONDUCTOR RUNS AS SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL, FABRICATE AND INSTALL SUITABLE GALVANIZED STEEL PIPE SUPPORT BRACKET ASSEMBLIES. THE BRACKET SPACING SHALL NOT EXCEED 5' ON CENTER. WELDING BRACKETS TO THE EXISTING STRUCTURAL STEEL OR HANGING THE CONDUCTOR FROM THE UNDERSIDE OF THE DECK SLAB IS NOT PERMITTED. THE BRACKETS SHALL BE BOLTED TO THE WEB REGION OF THE EXISTING GIRDERS OR SUITABLY HUNG FROM FLOOR BEAMS OR STRINGERS.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF PIPE HORIZONTAL CONDUCTOR ON THE LINEAR FOOT BASIS ALONG THE CENTERLINE OF PIPE. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF PIPE HORIZONTAL CONDUCTOR AT THE CONTRACT PRICE FOR ITEM 518 STRUCTURE DRAINAGE, MISC.: 8" PIPE HORIZONTAL CONDUCTOR.

ITEM 848 SURFACE PREPARATION USING HYDRO DEMOLITION, AS PER PLAN

THIS ITEM SHALL CONFORM TO THE DETAILS SHOWN ON THE PLANS AND TO THE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 848. IT IS INTENDED TO APPLY TO THE DECK SURFACE REPAIR OF UNIT 1 AND UNIT 2 SUPERSTRUCTURES AFTER REMOVAL OF THE CONCRETE MEDIAN BARRIER. THIS WORK ALSO APPLIES AT AN ISOLATED AREA ON UNIT 2 ADJACENT TO THE REMOVED RAMP 'EE' WHERE MICROSILICA MODIFIED CONCRETE IS PROPOSED. IN ADDITION TO THE REQUIREMENTS OF 848.20, THE BOUNDARIES OF CONCRETE REMOVAL SHALL BE NEATLY SAW-CUT 1 INCH DEEP PRIOR TO THE HYDRO DEMOLITION OPERATIONS.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF SURFACE PREPARATION ON A SQUARE YARD BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF SURFACE PREPARATION AT THE CONTRACT PRICE FOR ITEM 848 SURFACE PREPARATION USING HYDRO DEMOLITION, AS PER PLAN.

drawing scale : 1" = 1'-0"  
plot scale : 1:1

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STRUCTURAL GENERAL NOTES

ITEM 848 EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN

THIS ITEM SHALL CONFORM TO THE DETAILS SHOWN ON THE PLANS AND TO THE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 848. IT IS INTENDED TO APPLY TO THE EXISTING BASCULE PIER 3 3/4"± THICK MICRO SILICA MODIFIED CONCRETE OVERLAY REPAIR AFTER REMOVAL OF THE CONCRETE MEDIAN BARRIER. IN ADDITION TO THE REQUIREMENTS OF 848.18, THE BOUNDARIES OF EXISTING OVERLAY REMOVAL SHALL BE NEATLY SAW-CUT PRIOR TO THE OVERLAY REMOVAL OPERATIONS. AT THE CONTRACTOR'S OPTION, THE SAW-CUTTING MAY BE PERFORMED PRIOR TO REMOVAL OF THE MEDIAN BARRIER. ALL REMOVAL OPERATIONS SHALL BE PERFORMED IN A MANNER WHICH WILL NOT DISTURB OR DELAMINATE ADJACENT AREAS OF EXISTING CONCRETE OVERLAY WHICH ARE TO REMAIN.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF EXISTING CONCRETE OVERLAY REMOVED ON A SQUARE YARD BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF SURFACE PREPARATION AT THE CONTRACT PRICE FOR ITEM 848 EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN.

CONCRETE PARAPETS

AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, SAWCUT 1 1/4" 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 [2 METER] 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 1/4 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 1/2 INCH OF THE INSIDE AND OUTSIDE FACE UNSEALED TO ALLOW WATER TO ESCAPE.

ITEM 514 FIELD PAINTING OF DAMAGED STRUCTURAL STEEL, TWO COAT, AS PER PLAN

1.0 DESCRIPTION. THIS ITEM CONSISTS OF FIELD PAINTING STRUCTURAL STEEL PREVIOUSLY COATED WITH AN OLDER EXISTING OZEU OR IZEU PAINT SYSTEM TO CORRECT DAMAGE BY NEW WELDMENTS AND ATTACHMENTS OR REMOVAL OF EXISTING WELDMENTS AND ATTACHMENTS. THIS WORK CONSIST OF PERFORMING SURFACE PREPARATION AND APPLYING A TWO-COAT PAINT SYSTEM TO THE PREPARED STEEL AND FEATHERED REMOVAL AREAS OF EXISTING OZEU OR IZEU PAINT SYSTEMS.

2.0 GENERAL. CMS 514.05 THROUGH 514.10 AND 514.13 APPLY UNLESS MODIFIED BY THESE NOTES.

3.0 WASHING EXISTING OZEU OR IZEU PAINTED SURFACES. CLEAN SURFACES TO BE COATED WITH LOW PRESSURE WATER CLEANING TO REMOVE ALL DIRT, DEBRIS, ANIMAL EXCREMENT, SALT CONTAMINANTS AND OTHER ACCUMULATED FOREIGN MATERIAL IN ACCORDANCE WITH SSPC-SP12 (LP WC), LOW PRESSURE WATER CLEANING. THE PRESSURE WASHER SHALL BE CAPABLE OF ACHIEVING AT LEAST 2000 POUNDS PER SQUARE INCH (13.79 MPA) AT THE NOZZLE. WHEN USING THE POWER WASHING EQUIPMENT, THE NOZZLE SHALL BE MAINTAINED NO MORE THAN 10 INCHES (254MM) FROM THE SURFACE. SUPPLY AND USE POTABLE WATER. ANY BIODEGRADABLE DETERGENTS OR CLEANERS USED IN CONJUNCTION WITH THIS METHOD SHALL BE ACCEPTED BY THE COATING'S MANUFACTURER.

COLLECT AND CONTAIN WATER AND DEBRIS REMOVED DURING WASHING OPERATIONS ABOVE WATER FEATURES IN CONFORMANCE WITH CMS 514.08 AND CMS 514.13.D FOR ANY DEBRIS. CREATE SETTLEMENT COLLECTION BASINS AND STRAIN ALL WASH WATER ABOVE LAND FEATURES AS NECESSARY TO PRODUCE VISIBLY CLEAR WATER AND COMPLY WITH CMS 514.08 AND CMS 514.13 FOR ANY DEBRIS.

ITEM 514 FIELD PAINTING OF DAMAGED STRUCTURAL STEEL, TWO COAT, AS PER PLAN CONT'D

4.0 SURFACE PREPARATION. AFTER THE PRESSURE WASHED SURFACE HAS DRIED, REMOVE EXISTING PAINT COATING TO CONTRACT LIMITS OR AS DIRECTED BY THE ENGINEER ACCORDING TO: SSPC-SP 11, POWER TOOL CLEANING TO BARE METAL, AS SHOWN ON THE PICTORIAL SURFACE PREPARATION STANDARDS FOR PAINTING STEEL SURFACES SHOWN IN SSPC-VIS 3; SSPC SP6, COMMERCIAL BLAST CLEANING, AS SHOWN ON THE PICTORIAL SURFACE PREPARATION STANDARDS FOR PAINTING STEEL SURFACES SHOWN IN SSPC-VIS 1; OR SSPC SP12 UHP WJ-4, ULTRAHIGH-PRESSURE WATER JETTING, AS SHOWN ON THE PICTORIAL SURFACE PREPARATION STANDARDS FOR PAINTING STEEL SURFACES SHOWN IN SSPC-VIS 4. SUPPLY BLAST WATER CONTAINING A COMMERCIALY AVAILABLE RUST INHIBITOR AT A DOSAGE THAT PREVENTS FLASH RUSTING FOR 12 HOURS AND DOCUMENTED AS ACCEPTABLE TO THE COATING'S MANUFACTURER. THE ENGINEER WILL USE THE SSPC-VIS 1, SSPC-VIS 3 OR SSPC-VIS 4 TO DETERMINE THE ACCEPTANCE OF THE SURFACE PREPARATION. FEATHER THE EXISTING PAINT TO EXPOSE A MINIMUM OF 1/2 INCH (13 MM) OF EACH COAT. CONTAIN AND DISPOSE OF WASTE GENERATED BY THE CLEANING ACCORDING TO CMS 514.13.D.

ROUND ALL EXPOSED CORNERS OF MAIN MATERIAL TO BE PAINTED AS NECESSARY TO ACHIEVE A 1/16 INCH RADIUS (1.6MM) OR EQUIVALENT FLAT SURFACE AT A 45 DEGREE ANGLE.

5.0 FIELD PAINTING. APPLY THE PRIME AND INTERMEDIATE COATS OF THE SPECIFIED THREE-COAT PAINT SYSTEM, CMS 708.02, ACCORDING TO CMS 514.15, 514.16, 514.17, 514.19 AND 514.20 TO CONTRACT LIMITS OR AS DIRECTED BY THE ENGINEER. TINT THE INTERMEDIATE COAT TO APPROXIMATELY THE SAME COLOR AS THE EXISTING FINISH COLOR, UNPAINTED WEATHERING STEEL OR AS DESIGNATED IN THE CONTRACT. MATCH THE COLOR TO THE ENGINEERS SATISFACTION. THE ENGINEER WILL DETERMINE THE PRIME COAT THICKNESS; PRIME AND INTERMEDIATE COAT THICKNESS USING A TYPE 2 MAGNETIC GAGE AT SPOT LOCATIONS. DO NOT APPLY THE FINISH COAT. THE PRIME AND INTERMEDIATE COAT OF PAINT SHALL MEET THE MINIMUM DRY FILM THICKNESS REQUIREMENTS OF CMS 514.20. APPLY PAINT AS FOLLOWS:

- A. APPLY THE PRIME COAT ONLY TO THE PREPARED SURFACE OF THE BARE STEEL AND THE EXISTING PRIME COAT EXPOSED BY FEATHERING. DO NOT APPLY THE PRIME COAT TO THE ADJACENT INTERMEDIATE COAT.
- B. APPLY CAULK AFTER PRIMING.
- C. APPLY THE INTERMEDIATE COAT ONLY TO THE NEW PRIME COAT, THE EXISTING INTERMEDIATE COAT AND THE EXISTING FINISH COAT THAT ARE EXPOSED BY FEATHERING.

AT THE PERIMETER OF THE REPAIR AREA, APPLY THE PRIME AND INTERMEDIATE COATS USING A BRUSH. IN LIEU OF BRUSHING, THE USE OF DOUBLE MASKING AREAS NOT TO BE COATED AND SPRAY TO FEATHERED REMOVAL LINES MAY BE PERFORMED.

BLEND REPAIR AREAS WITH THE ADJACENT COATING AND PROVIDE A FINISHED SURFACE IN THE PATCHED AREAS THAT IS SMOOTH AND HAS AN EVEN PROFILE WITH THE ADJACENT SURFACE.

6.0 MEASUREMENT. THE DEPARTMENT WILL MEASURE FIELD PAINTING OF DAMAGED STRUCTURAL STEEL, AS PER PLAN BY THE NUMBER OF SQUARE FEET (SQUARE METERS) OF STRUCTURAL STEEL PAINTED. THE DEPARTMENT WILL DETERMINE THE SURFACE AREA BY TAKING EXACT FIELD MEASUREMENTS OF ALL PAINTED SURFACES AND CALCULATIONS.

7.0 BASIS OF PAYMENT. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICES AS FOLLOWS:

THE DEPARTMENT MAY CONSIDER PAINT AS ELIGIBLE FOR PAYMENT FOR MATERIAL ON-HAND AS SPECIFIED IN 109.10, HOWEVER, ONLY PAINT THAT THE CONTRACTOR CAN PROVE TO THE ENGINEER WILL BE USED DURING THE CONSTRUCTION SEASON IS ELIGIBLE FOR PAYMENT. THE CONTRACTOR SHALL PROVIDE THE ENGINEER CALCULATIONS INDICATING THE TOTAL SQUARE FEET (SQUARE METER) OF STEEL TO BE PAINTED DURING THE CONSTRUCTION SEASON. THE CONTRACTOR SHALL ALSO PROVIDE CALCULATIONS SHOWING THE TOTAL NUMBER OF GALLONS (LITERS) REQUIRED.

ITEM 514 FIELD PAINTING OF DAMAGED STRUCTURAL STEEL, TWO COAT, AS PER PLAN CONT'D

IF THE CONTRACTOR CAUSES DAMAGE OR INJURY TO PUBLIC OR PRIVATE PROPERTY, THE DEPARTMENT WILL NOT PAY FOR RESTORING THE PROPERTY TO ITS ORIGINAL CONDITION.

THE DEPARTMENT WILL NOT PAY FOR REPAIRING ADJACENT COATINGS DAMAGED DURING THE WASHING, POWER TOOL CLEANING, OR BLAST CLEANING OPERATION.

THE DEPARTMENT WILL NOT PAY FOR REMOVING AND REPLACING AN AREA OF COATING BECAUSE A SPOT OR MAXIMUM AVERAGE THICKNESS EXCEEDS THE MAXIMUM SPOT THICKNESS.

THE DEPARTMENT WILL NOT PAY FOR ADDITIONAL TESTING REQUIRED BY ANY HAULER, TREATMENT FACILITY, DISPOSAL FACILITY OR LANDFILL.

THE DEPARTMENT WILL NOT PAY FOR ACCESSING, INSPECTING, AND REPAIRING AREAS THAT ARE NOT FOUND TO BE IN CONFORMANCE WITH THE SPECIFICATIONS AND PERTINENT CONTRACT DOCUMENTS.

ALL OTHER REQUIREMENTS OF THIS SPECIFICATION ARE CONSIDERED INCIDENTAL TO THE WORK.

ITEM UNIT	DESCRIPTION
514 SQUARE FEET (SQUARE METERS)	FIELD PAINTING OF DAMAGED STRUCTURAL STEEL, TWO COAT, AS PER PLAN

ITEM SPECIAL, HIGH SOLIDS CONTENT, COLD SPRAY-APPLIED ELASTOMERIC WATERPROOFING MEMBRANE

530.01 DESCRIPTION. THIS WORK CONSISTS OF APPLYING A COLD SPRAY-APPLIED ELASTOMERIC-TYPE MEMBRANE, TO THE ENTIRE SOUTH ABUTMENT SLAB AND PORTION OF THE SOUTH APPROACH SLAB INCLUDING THE FOLLOWING SURFACES OR AS LIMITED IN THE CONTRACT:

ON BRIDGES WITH CURBS, ISLANDS OR PARAPETS APPLY THE PRIMER; MEMBRANE AND TACK COAT 3 INCHES (75MM) UP THE CURB FACE. ON PRESTRESSED BOX BEAM BRIDGES WITH NO APPROACH SLAB, APPLY THE PRIMER; MEMBRANE AND TACK COAT 6 INCHES (150 MM) OVER THE ENDS OF THE BEAMS. ON PRESTRESSED AND SLAB BRIDGES WITH APPROACH SLABS, APPLY THE PRIMER; MEMBRANE AND TACK COAT 2 FEET (600 MM) OUT ONTO THE APPROACH SLAB.

IF THE PLANS REQUIRE SPRAY APPLIED MEMBRANE ON THE TOP EXTERIOR SURFACE OF PRECAST CONCRETE THREE-OR FOUR-SIDED STRUCTURES, APPLY THE PRIMER AND MEMBRANE TO OVERLAY THE VERTICAL EXTERIOR SIDES OF THE STRUCTURE BY 12 INCHES (300 MM).

THIS WORK INCLUDES: SURFACE PREPARATION; SURFACE TESTING; APPLICATIONS OF PRIMERS; APPLICATION OF SPRAY APPLIED ELASTOMERIC-TYPE MEMBRANE; MEMBRANE TESTING AND TACK COATS FOR APPLICATION OF A SEPARATELY SPECIFIED ASPHALT OVERLAY.

DESIGNED	DATE
TJW/BA	3/21/06
CHECKED	REVIEWED
DP	EAF
	STRUCTURE FILE NUMBER
	4805917

STRUCTURAL GENERAL NOTES

CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  
OVER THE MAUMEE RIVER

LUC-280-2.34  
TRENCH  
RECLAMATION

5A/63

464A  
555

STRUCTURAL GENERAL NOTES

ITEM SPECIAL, HIGH SOLIDS CONTENT, COLD SPRAY-APPLIED ELASTOMERIC WATERPROOFING MEMBRANE CONT'D

530.02 MATERIALS. SUPPLY AN ELASTOMERIC WATERPROOFING MEMBRANE SYSTEM FROM A SINGLE MANUFACTURER CONFORMING THE PROPERTIES DESCRIBED BELOW:

- A. PRIMER, 100% SOLIDS, TWO COMPONENT POLYMER PRIMER, CAPABLE OF CURING AT SUBSTRATE TEMPERATURES BETWEEN 32° F AND 104° F.
- B. MEMBRANE, ACCORDING TO THE FOLLOWING TABLE.

<u>PROPERTY, CURED PRODUCT</u>	<u>TEST METHOD</u>	<u>TYPICAL VALUE</u>
WEIGHT LOSS, MAX %	ASTM C1250	20%
NONVOLATILE, MIN %	ASTM C1250	80%
LOW TEMPERATURE CRACK BRIDGING	ASTM C1305	NO CRACKING
EXTENSIBILITY AFTER HEAT AGING, MIN, (INCH)	ASTM C1522	NO CRACKING AT ¼"
TENSILE STRENGTH (MACHINE DIRECTION)	ASTM D 882	275 LB/IN
TENSILE STRENGTH MODIFIED [1] (MACHINE DIRECTION),	ASTM D 882	200 PSI
TENSILE STRENGTH (90° MACHINE DIRECTION)	ASTM D 882	150 LB/IN
TENSILE STRENGTH MODIFIED [1] (90° MACHINE DIRECTION)	ASTM D 882	1000 PSI
ELONGATION AT BREAK, MODIFIED [1]	ASTM D 882	100%
MOISTURE VAPOR TRANSMISSION, PROCEDURE B, PERMEANCE (GRAINS/FT <sup>2</sup> /HR/IN Hg)	ASTM E 96	0.1 MAX
ADHESION TO CONCRETE	ASTM D 4541	150 PSI
PUNCTURE RESISTANCE-MEMBRANE	ASTM E 154	40 LB MIN
DRY FILM THICKNESS, METHODS A OR B OR EQUAL NON-DESTRUCTIVE ULTRASONIC TEST METHOD	ASTM D 4138	100 MILS MIN
READY TO RECEIVE TACK COAT		1 HOUR

[1] 12 INCHES/MINUTE TEST SPEED AND 1 INCH INITIAL DISTANCE BETWEEN THE GRIPS.

- C. TACK COAT. HIGH SOLIDS, SINGLE COMPONENT, POLYMER MODIFIED BITUMEN PRIMER DESIGNED TO PROVIDE ADHESION OF ASPHALT OVERLAYS TO THE ELASTOMERIC WATERPROOFING MEMBRANE.

530.03 GENERAL. APPLY COLD SPRAY-APPLIED ELASTOMERIC-TYPE MEMBRANE SYSTEM THAT HAS A UNIFORM THICKNESS.

PROVIDE ALL NECESSARY MATERIALS, EQUIPMENT AND LABOR TO APPLY COLD SPRAY-APPLIED ELASTOMERIC-TYPE MEMBRANE SYSTEM.

ENSURE THAT THE EDGE OF ANY EXPOSED APPLICATION IS SHARPLY DEFINED TRUE TO LINE WITH A UNIFORM EXPOSURE.

PROVIDE A MANUFACTURERS REPRESENTATIVE TO SUPERVISE ALL ASPECTS OF THE INSTALLATION AND TESTING.

ITEM SPECIAL, HIGH SOLIDS CONTENT, COLD SPRAY-APPLIED ELASTOMERIC WATERPROOFING MEMBRANE CONT'D

530.04 WORK LIMITATIONS. APPLY THE COLD SPRAY-APPLIED ELASTOMERIC-TYPE MEMBRANE SYSTEM IN THE FIELD FROM APRIL 1 TO OCTOBER 31. THE DEPARTMENT WILL NOT ISSUE A TIME EXTENSION DUE TO ADVERSE WEATHER DURING THE MONTH OF APRIL. THE PLANS MAY REQUIRE ADDITIONAL WORK LIMITATIONS FOR SPECIFIC BRIDGES OR PROJECTS.

- A. TEMPERATURE. PERFORM THE WORK BETWEEN 32° F AND 104° F.
- B. MOISTURE. DO NOT WATERPROOF:

1. IF THE CONCRETE SURFACE IS WET, DAMP, FROSTED, OR ICE-COATED.
2. DURING PERIODS OF RAIN, FOG, OR MIST.
3. AS DIRECTED BY THE MANUFACTURER'S REPRESENTATIVE OR ACCORDANCE WITH THE MANUFACTURES PRINTED INSTRUCTIONS.

530.05 PROTECTION OF PERSONS AND PROPERTY. COLLECT, REMOVE, AND DISPOSE OF ALL BUCKETS, RAGS, OR OTHER DISCARDED MATERIALS AND LEAVE THE JOB SITE IN A CLEAN CONDITION.

PROTECT ALL PORTIONS OF THE STRUCTURE THAT ARE NOT TO BE WATERPROOFED FROM DAMAGE OR DISFIGUREMENT BY SPLASHED, SPLATTERS, AND SMIRCHES OF WATERPROOFING MATERIALS.

IF THE CONTRACTOR CAUSES DIRECT OR INDIRECT DAMAGE OR INJURY TO PUBLIC OR PRIVATE PROPERTY, THE CONTRACTOR SHALL RESTORE THE PROPERTY, TO A CONDITION SIMILAR OR EQUAL TO THE CONDITION EXISTING BEFORE THE DAMAGE OR INJURY.

530.06 POLLUTION CONTROL. TAKE THE NECESSARY PRECAUTIONS TO COMPLY WITH POLLUTION CONTROL LAWS, RULES, OR REGULATIONS OF FEDERAL, STATE, OR LOCAL AGENCIES AND REQUIREMENTS OF THIS SPECIFICATION.

530.07 SAFETY REQUIREMENTS AND PRECAUTIONS. COMPLY WITH THE APPLICABLE SAFETY REQUIREMENTS OF THE OHIO INDUSTRIAL COMMISSION AND OSHA.

PROVIDE MATERIAL SAFETY DATA SHEETS (MSDS) AT THE PRECONSTRUCTION MEETING FOR ALL MATERIALS AND ABRASIVES USED ON THIS PROJECT. DO NOT BEGIN WORK UNTIL SUBMITTING THE MSDS TO THE ENGINEER.

530.08 PREPARATION OF SURFACE. CLEAN SURFACES OF ANY MATERIAL OR UNSOUND CONCRETE THAT WILL INHIBIT THE MEMBRANE ADHESION ACCORDING TO ASTM D4258. ACCEPTABLE SURFACES SHALL BE FREE OF OIL, GREASE, LOOSELY ADHERING CONCRETE, AND OTHER CONTAMINATION.

ABRASIVELY CLEAN SURFACES PER ASTM D4259. REPAIR ANY UNSOUND CONCRETE PER 519. DO NOT ALLOW TRAFFIC ON THE CLEANED SURFACE.

INSPECT, TEST AND APPROVE THE SURFACE PREPARATION AS DIRECTED BY THE MANUFACTURER'S REPRESENTATIVE IN ACCORDANCE WITH THE MANUFACTURERS PRINTED INSTRUCTIONS, PRIOR TO PRIMING.

530.09 PRIMER. APPLY AND TEST THE PRIMER COAT AS DIRECTED BY THE MANUFACTURER'S REPRESENTATIVE IN ACCORDANCE WITH THE MANUFACTURERS PRINTED INSTRUCTIONS.

530.10 COLD SPRAY-APPLIED ELASTOMERIC WATERPROOFING MEMBRANE. APPLY AND TEST THE WATERPROOFING MEMBRANE AS DIRECTED BY THE MANUFACTURER'S REPRESENTATIVE IN ACCORDANCE WITH THE MANUFACTURERS PRINTED INSTRUCTIONS.

530.11 DRY FILM THICKNESS. MEASURE THE WATERPROOFING MEMBRANE THICKNESS USING A NONDESTRUCTIVE ULTRASONIC GAGE OR OTHER DESTRUCTIVE TESTING GAGE. MEASURE THE DRY FILM THICKNESS, AT ONE RANDOMLY SELECTED LOCATION IN EACH 100 SQUARE FEET (9 M<sup>2</sup>) OF AREA THAT WAS WATERPROOFED. AT EACH SPOT LOCATION, TAKE THREE GAGE THICKNESS READINGS. MOVE THE PROBE 1 TO 3 INCHES (25 TO 75MM) FOR EACH NEW GAGE READING. DISCARD AN UNUSUALLY HIGH OR LOW GAGE READING THAT IS NOT CONSISTENTLY REPEATED. THE SPOT THICKNESS MEASUREMENT IS THE AVERAGE OF THE THREE GAGE READINGS.

THE AVERAGE OF FIVE SPOT MEASUREMENTS IN ANY 500-SQUARE FOOT (9 M<sup>2</sup>) AREA SHALL NOT BE LESS THAN THE SPECIFIED THICKNESS. NO SINGLE SPOT MEASUREMENT IN ANY 100-SQUARE FOOT (9 M<sup>2</sup>) AREA SHALL BE LESS THAN 80 PERCENT OF THE SPECIFIED MINIMUM THICKNESS.

ITEM SPECIAL, HIGH SOLIDS CONTENT, COLD SPRAY-APPLIED ELASTOMERIC WATERPROOFING MEMBRANE CONT'D

530.12 SPRAY APPLIED MEMBRANE - ADHESION TESTS. PERFORM ADHESION TESTS IN ACCORDANCE WITH ASTM D 4541 AT LOCATIONS RANDOMLY SELECTED BY THE ENGINEER IN EACH 500-SQUARE FEET (9 M<sup>2</sup>) AREA WATERPROOFED. PERFORM THE TEST IN THE PRESENCE OF THE ENGINEER OR INSPECTOR. THE MINIMUM ACCEPTABLE ADHESION VALUE SHALL BE 150 PSI. MAKE REPAIRS AS PER 530.13.

530.13 REPAIRS. REPAIR AND TEST THE WATERPROOFING MEMBRANE AS DIRECTED BY THE MANUFACTURER'S REPRESENTATIVE IN ACCORDANCE WITH THE MANUFACTURES PRINTED INSTRUCTIONS.

A. IF AN AREA IS LEFT UNTREATED OR THE MEMBRANE BECOMES DAMAGED, A PATCH REPAIR SHALL BE CARRIED OUT TO RESTORE THE INTEGRITY OF THE SYSTEM. THE DAMAGED AREA SHALL BE CUT BACK TO SOUND MATERIALS AND WIPED WITH SOLVENT (E.G. ACETONE) UP TO A WIDTH OF AT LEAST 2 INCH (50 MM) ON THE PERIPHERY, REMOVING ANY CONTAMINANTS. THE SUBSTRATE SHALL BE PRIMED AS NECESSARY, FOLLOWED BY THE APPLICATION OF THE MEMBRANE. A CONTINUOUS LAYER SHALL BE OBTAINED OVER THE SUBSTRATE WITH A 2-INCH (50 MM) OVERLAP ONTO EXISTING MEMBRANE.

B. WHERE THE MEMBRANE IS TO BE JOINED TO EXISTING CURED MATERIAL AND AT DAY JOINTS, THE NEW APPLICATION SHALL OVERLAP THE EXISTING ONE BY AT LEAST 4 INCH (100 MM). NO PREPARATION SHALL BE NECESSARY UNLESS THE EXISTING MATERIALS ARE CONTAMINATED WITH TACK COAT OR DIRT IN WHICH CASE THE REPAIR/OVERLAP SHALL FIRST BE WIPED WITH SOLVENT (E.G. ACETONE).

530.14 TACK COAT. APPLY AND TEST THE TACK COAT AS DIRECTED BY THE MANUFACTURER'S REPRESENTATIVE IN ACCORDANCE WITH THE MANUFACTURES PRINTED INSTRUCTIONS.

THE MEMBRANE TO BE TACK COATED SHALL BE CLEAN AND FREE FROM LOOSE DEBRIS, MOISTURE OR OTHER CONTAMINANTS. OIL, DIESEL OR GREASE SHALL BE REMOVED WITH SOLVENT APPROVED BY THE MANUFACTURER.

530.15 METHOD OF MEASUREMENT. THE DEPARTMENT WILL MEASURE SURFACE PREPARATION BY THE NUMBER OF SQUARE YEARS (SQUARE METERS) OF CONCRETE WATERPROOFED. THE DEPARTMENT WILL MEASURE HIGH SOLIDS CONTENT, COLD SPRAY-APPLIED ELASTOMERIC WATERPROOFING MEMBRANE BY THE NUMBER OF SQUARE YARDS (SQUARE METERS) OF CONCRETE WATERPROOFED. THE DEPARTMENT WILL MEASURE TACK COAT BY THE NUMBER OF SQUARE YARDS (SQUARE METERS) OF CONCRETE WATERPROOFED AND TACK COATED.

530.16 BASIS OF PAYMENT. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICES AS FOLLOWS:

IF THE CONTRACTOR CAUSES DAMAGE OR INJURY PUBLIC OR PRIVATE PROPERTY, THE DEPARTMENT WILL NOT PAY FOR RESTORING THE PROPERTY TO ITS ORIGINAL CONDITION.

THE DEPARTMENT WILL NOT PAY FOR REPAIRING ADJACENT COATINGS DAMAGED DURING THE SURFACE PREPARATION OR WATERPROOFING OPERATIONS.

THE COST OF TESTING IS INCIDENTAL TO THE PAYMENT OF THE HIGH SOLIDS CONTENT, COLD SPRAY-APPLIED ELASTOMERIC WATERPROOFING MEMBRANE.

THE DEPARTMENT WILL NOT PAY FOR REPAIRING AREAS OF COATING BECAUSE OF LOW COATING THICKNESS OR LOW ADHESIVE VALUES.

THE DEPARTMENT WILL NOT PAY FOR ADDITIONAL TESTING REQUIRED BY ANY HAULER, TREATMENT FACILITY, DISPOSAL FACILITY OR LANDFILL.

THE DEPARTMENT WILL PAY FOR FINAL INSPECTION ACCESS, TEST AREA PREPARATION AND TEST AREA REPAIR AT EACH SELECTED AREA UNDER FINAL INSPECTION REPAIR. THE DEPARTMENT WILL NOT PAY FOR ACCESSING, INSPECTING, AND REPAIRING AREAS THAT ARE NOT FOUND TO BE IN CONFORMANCE WITH THE SPECIFICATIONS AND PERTINENT CONTRACT DOCUMENTS.

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
530	SQUARE YARD	SURFACE PREPARATION OF CONCRETE SURFACES
530	SQUARE YARD	SPRAY-APPLIED ELASTOMERIC WATERPROOFING MEMBRANE
530	SQUARE YARD	TACK COAT FOR SPRAY-APPLIED ELASTOMERIC WATERPROOFING MEMBRANE
530	EACH	FINAL INSPECTION REPAIR

drawing scale : 1" = 1'-0"  
plot scale : 1:1

drawing scale : 1" = 1'-0"  
plot scale : 1:1

ITEM SPECIAL STRUCTURE, MISC: FIBERGLASS DECK PLATE

DESCRIPTION: THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING PERFORATED FIBERGLASS REINFORCED PLASTIC "FRP" PLATE FOR THE BASCULE SPAN MULTI-USE TRAIL AS SHOWN ON THE CONTRACT DRAWINGS.

THE CONTRACTOR SHALL FURNISH SHOP DRAWINGS OF "FRP" PLATE CLEARLY SHOWING MATERIAL SIZES, TYPES, STYLES, PART OR CATALOGUE NUMBERS, AND COMPLETE DETAILS FOR THE FABRICATION AND ERECTION OF COMPONENTS.

FIBERGLASS REINFORCEMENT SHALL BE BI-DIRECTIONAL ROVINGS AS NEEDED FOR THE APPLICATION. RESINS SHALL BE VINYL ESTER WITH CHEMICAL FORMULATIONS AS NECESSARY TO PROVIDE CORROSION RESISTANCE AND STRENGTH. ALL FINISHED SURFACES OF "FRP" ITEMS AND FABRICATIONS SHALL BE FREE OF VOIDS, AND WITHOUT DRYSPTS, CRACKS, CRAZES OR UNREINFORCED AREAS. ALL GLASS FIBERS SHALL BE WELL-COVERED WITH RESIN TO PROTECT AGAINST EXPOSURE DUE TO WEAR OR WEATHERING.

FLOOR PLATE SHALL BE OF ONE PIECE SOLID CONSTRUCTION, WITH NO CORE MANUFACTURED BY BUILDING MULTIPLE LAYERS OF RESIN IMPREGNATED FIBERGLASS REINFORCEMENTS, WHICH ARE CONTINUOUS AND EQUALLY ORIENTED IN LENGTH AND WIDTH. PERCENTAGE OF GLASS BY WEIGHT SHALL NOT EXCEED 65% SO AS TO ACHIEVE MAXIMUM CORROSION RESISTANCE AND STRENGTH. AFTER MOLDING, NO DRY GLASS FIBERS SHALL BE VISIBLE ON ANY SURFACE. ALL SURFACES SHALL BE UNIFORM WITH NO EVIDENCE OF FIBER ORIENTATION IRREGULARITIES, INTERLAMINAR VOIDS, POROSITY, RESIN-RICH OR RESIN-STARVED AREAS.

FLOOR PLATES SHALL HAVE A GRITTED SURFACE, INTEGRALLY MOLDED INTO THE PLATE DURING THE MANUFACTURING PROCESS. THE GRITTED SURFACE SHALL HAVE A STATIC COEFFICIENT OF FRICTION, AS PER ASTM D-2047, THAT MEETS OR EXCEEDS THE OSHA AND ADA REQUIREMENTS FOR SKID RESISTANCE.

FLOOR PLATE SHALL HAVE A FIRE RATING OF 25 OR LESS WHEN TESTED IN ACCORDANCE WITH ASTM E 84 AND MEET THE SELF-EXTINGUISHING REQUIREMENTS OF ASTM D-635. CERTIFICATES SHALL BE DATED WITHIN THE PAST TWO YEARS AND TEST DATA PERFORMED ONLY ON THE RESIN WILL NOT BE ACCEPTABLE.

FLOOR PLATE SHALL BE GRAY IN COLOR MEETING THE FEDERAL ID CODE 59516314 OR APPROVED EQUAL. A UV STABILIZER SHALL BE ADDED TO THE RESIN TO RETARD UV DEGREDEATION AND A POLYURETHANE COATING SHALL BE ADDED FOR MAXIMUM UV PROTECTION. THE THICKNESS OF THE PLATE SHALL BE EITHER 3/8 INCHES AS SHOWN ON THE CONTRACT DRAWINGS WITH A TOLERANCE PLUS OR MINUS 1/16 INCHES. FLOOR PLATE SHALL SUPPORT A UNIFORMLY DISTRIBUTED LOAD OF 100 PSI OVER A SPAN OF 3 3/4 INCHES.

FLOOR PLATE SHALL MEET THE DIMENSIONAL REQUIREMENTS AND TOLERANCES AS SHOWN OR SPECIFIED IN THE CONTRACT DRAWINGS. THE CONTRACTOR SHALL VERIFY MEASUREMENTS IN THE FIELD PRIOR TO FABRICATION. HOLES FOR DRAINAGE AND COUNTERSUNK BOLTS SHALL BE PROVIDED AS SHOWN ON THE CONTRACT DRAWINGS AND VERIFIED IN THE FIELD PRIOR TO THEIR DRILLING. CONTRACTOR SHALL ADJUST THE LOCATION OF HOLES AS REQUIRED TO MATCH FIELD CONDITIONS.

STEEL CONNECTION TABS SHALL BE FIELD WELDED TO THE EXISTING OPEN GRID AS SHOWN IN THE CONTRACT DRAWINGS. STEEL CONNECTION TABS SHALL BE ASTM A709 GRADE 36 GALVANIZED IN ACCORDANCE WITH ASTM A123. THESE TABS SHALL BE LOCATED IN THE FIELD PRIOR TO DRILLING HOLES IN THE "FRP" DECK PLATE.

AFTER WELDING, THE CONTRACTOR SHALL TOUCH UP THE GALVANIC COATING WITH EITHER ZINC SOLDER OR ZINC PAINT. ZINC SOLDER SHALL BE PREHEATED WITH MANUFACTURERS' INSTRUCTIONS FOR USE. THE HEATED SURFACE SHALL BE THEN RUBBED WITH A REPAIR STICK TO EVENLY DISTRIBUTE A LAYER OF ZINC ALLOY, OR IF ZINC PASTE IS USED, IT SHALL BE SPREAD EVENLY WITH A SPATULA OR A SIMILAR TOOL. ZINC SOLDER SHALL BE DEPOSITED AT A MINIMUM DRY FILM THICKNESS OF 75 µm. IF ZINC PAINT IS USED FOR REPAIRS, IT SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS FOR USE. USING A BRUSH OR BY SPRAY METHODS, ZINC PAINT SHALL BE APPLIED IN SUCH QUANTITY TO PRODUCE A MINIMUM DRY FILM THICKNESS OF 75 µm.

FASTENERS SHALL BE 5/8 INCH DIAMETER COUNTERSUNK FLAT HEAD BOLTS MADE OF 18-8 STAINLESS STEEL. CARE SHALL BE TAKEN WHEN TIGHTENING BOLTS TO NOT DAMAGE THE FIBERGLASS DECK PLATE. THE CONTRACTOR SHALL REPLACE DAMAGE PANELS OF FIBERGLASS DECK PLATE IN THEIR ENTIRETY AT NO ADDITIONAL COST TO THE DEPARTMENT.

THE CONTRACTOR SHALL PROVIDE TWO (2) EXTRA PANELS OF EACH SIZE USED ON THE PROJECT TO THE DEPARTMENT FOR FUTURE USE. THE EXTRA PANELS SHALL CONSIST OF TWO (2) 8'- 0" BY 4' - 0" PANELS AND TWO (2) 4' - 11 3/4" BY 4'-0" PANELS.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE FIBERGLASS DECK PLATE BY THE NUMBER OF SQUARE FEET OF FIBERGLASS DECK PLATE INSTALLED IN THE FIELD.

STRUCTURAL GENERAL NOTES

BASIS OF PAYMENT: THE CONTRACTOR SHALL BE PAID ON THE SQUARE FOOT BASIS FOR FIBERGLASS DECK PLATE INSTALLED IN THE FIELD TO THE SATISFACTION OF THE ENGINEER. THE WORK SHALL INCLUDE THE COST OF FIELD WELDING STEEL CONNECTION TABS TO EXISTING STEEL OPEN GRID DECK, GALVANIC COATING FIELD REPAIRS, AND ALL HARDWARE AND ATTACHMENTS NECESSARY FOR INSTALLATION OF THE "FRP" PLATE. EXTRA PANELS OF EACH SIZE USED ON THE PROJECT WILL NOT BE PAID FOR SEPERATELY AND ARE CONSIDERED INCIDENTAL TO THIS ITEM.

ITEM SPECIAL STRUCTURE, MISC.: FINGER JOINT MODIFICATION BASCULE SPAN

DESCRIPTION: THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING 1/2 INCH THICK RUBBER MAT IN THE MULTI-USE TRAIL ON THE NORTH FINGER JOINT CASTING AT THE CENTER ROAD BREAK OF THE BASCULE SPAN.

THE RUBBER MAT SHALL PROVIDE AN ADA COMPLIANT SURFACE OVER THE EXISTING FINGER JOINTS AS SHOWN ON THE CONTRACT DRAWINGS. THE RUBBER MAT SHALL ALLOW THE OPPOSING FINGERS OF THE JOINT TO PASS THROUGH THE CUTS IN THE MATS IN THE EVENT THAT THE OPPOSING LEAF IS OPENED FIRST.

THE CONTRACTOR SHALL FURNISH SHOP DRAWINGS OF RUBBER MAT CLEARLY SHOWING MATERIAL, SIZES, AND COMPLETE DETAILS FOR THE FABRICATION AND ERECTION OF THE MAT.

RUBBER MAT SHALL BE CONSTRUCTED OF POLYCHLOROPRENE (NEOPRENE) OR VIRGIN NATURAL POLYISOPRENE (NATURAL RUBBER) WITH A DUROMETER OF 30 - 40. THE CONTRACTOR SHALL SUBMIT SAMPLES TO THE ENGINEER FOR APPROVAL.

THE MAT SHALL BE MOUNTED TO THE EXISTING CASTING WITH 1/2 INCH DIAMETER LOW HEAD SOCKET HEAD CAP SCREWS AND FENDER WASHERS MADE OF 18-8 STAINLESS STEEL. HOLES IN THE RUBBER MADE SHALL BE COUNTERBORED AS SHOWN IN THE CONTRACT DRAWINGS. HOLES SHALL BE TAPPED INTO THE EXISTING STEEL JOINT CASTINGS. BOLTS SHALL BE TIGHTENED UNTIL THE HEAD IS FLUSH WITH THE TOP OF MAT.

THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS PRIOR TO FABRICATION.

THE CONTRACTOR SHALL SUPPLY ONE (1) EXTRA FULL LENGTH PIECE OF RUBBER MAT TO THE DEPARTMENT FOR FUTURE USE. THE EXTRA PIECE OF RUBBER MAT SHALL BE 2' - 1" WIDE BY 12' - 11 3/4" LONG AND OF THE THICKNESS SPECIFIED ABOVE. THE EXTRA PIECE OF MAT SHALL BE FURNISHED WITH CUTS AND TAPERS THAT MATCH THE RUBBER MAT INSTALLED IN THE FIELD.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE JOINT MODIFICATION BY THE NUMBER OF SQUARE FEET OF RUBBER MAT INSTALLED IN THE FIELD.

BASIS OF PAYMENT: THE CONTRACTOR SHALL BE PAID ON THE SQUARE FOOT BASIS FOR FINGER JOINT MODIFICATION BASED ON THE SQUARE FOOT OF RUBBER MAT INSTALLED IN THE FIELD TO THE SATISFACTION OF THE ENGINEER. THE WORK SHALL INCLUDE THE COST OF PROVIDING CUTS, TAPERS, COUNTERBORED HOLES, FIELD DRILLING AND TAPPING HOLES IN THE EXISTING FINGER JOINT CASTING, AND ALL HARDWARE NECESSARY FOR INSTALLATION OF THE RUBBER MAT. THE COST OF EXTRA PANELS SUPPLIED TO THE DEPARTMENT WILL NOT BE PAID FOR SEPERATELY AND WILL BE CONSIDERED INCIDENTAL TO THIS ITEM.

ITEM SPECIAL STRUCTURE, MISC.: BASCULE SPAN MEDIAN ISLAND

DESCRIPTION: THIS WORK SHALL CONSIST OF FURNISHING, FABRICATING, AND INSTALLING STEEL CURBS, FIBERGLASS OPEN GRID DECK, CONCRETE FILLED STEEL GRID DECK, AND STEEL END PLATES AS SHOWN IN THE CONTRACT DRAWINGS.

THE CONTRACTOR SHALL FURNISH SHOP DRAWINGS OF STEEL CURBS, OPEN FIBERGLASS GRID DECK, AND CONCRETE FILLED STEEL GRID DECK THAT CLEARLY SHOW MATERIALS, SIZES, WELD AND BEND DETAILS, CONNECTIONS, FABRICATION AND ERECTION DETAILS.

CURBING AND PLATES SHALL BE STEEL WELDMENTS FABRICATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2005 ODOT STANDARD SPECIFICATIONS, THE CONTRACT PLANS, AND THIS SPECIAL PROVISION. STEEL PLATE SHALL BE ASTM A709 GRADE 36. THE CONTRACTOR MAY SUBSTITUTE ASTM A709 GRADE 50 AT NO EXTRA COST. WELDMENTS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A123.

CURBS SHALL BE PROVIDED IN LENGTHS AS REQUIRED FOR GALVANIZING AND HANDLING.

CURBS SHALL BE ATTACHED TO EXISTING GRID DECK USING STEEL TABS WELDED TO THE GRID BARS AS SHOWN IN THE CONTRACT DRAWINGS. THE CONTRACTOR SHALL WELD THE STEEL CURBS TO THE EXISTING STEEL ROAD BREAK CASTINGS AS SHOWN IN THE CONTRACT DRAWINGS

AFTER WELDING, THE CONTRACTOR SHALL TOUCH UP THE GALVANIC COATING WITH EITHER ZINC SOLDER OR ZINC PAINT. ZINC SOLDER SHALL BE PREHEATED WITH MANUFACTURERS' INSTRUCTIONS FOR USE. THE HEATED SURFACE SHALL BE THEN RUBBED WITH A REPAIR STICK TO EVENLY DISTRIBUTE A LAYER OF ZINC ALLOY, OR IF ZINC PASTE IS USED, IT SHALL BE SPREAD EVENLY WITH A SPATULA OR A SIMILAR TOOL. ZINC SOLDER SHALL BE DEPOSITED AT A MINIMUM DRY FILM THICKNESS OF 75 µm. IF ZINC PAINT IS USED FOR REPAIRS, IT SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS FOR USE. USING A BRUSH OR BY SPRAY METHODS, ZINC PAINT SHALL BE APPLIED IN SUCH QUANTITY TO PRODUCE A MINIMUM DRY FILM THICKNESS OF 75 µm.

THE CONTRACTOR SHALL REMOVE CONCRETE AS REQUIRED TO ATTACH STEEL TABS TO THE CONCRETE FILLED PORTION OF THE GRID DECK. AFTER ATTACHING TABS TO GRID BARS, THE CONTACTOR SHALL PATCH HOLES IN CONCRETE WITH AN APPROVED NON-SHRINK GROUT IN ACCORDANCE WITH SECTION 705.22 OF THE 2005 ODOT STANDARD SPECIFICATIONS.

FIBERGLASS OPEN GRID DECK SHALL BE OF MOLDED CONSTRUCTION MANUFACTURED BY BUILDING MULTIPLE LAYERS OF RESIN- IMPREGNATED FIBERGLASS REINFORCEMENTS WHICH ARE CONTINUOUS AND EQUALLY ORIENTED IN LENGTH AND WIDTH. WT BEARING BARS SHALL HAVE A NOMINAL THICKNESS OF 2-INCH AS SHOWN ON THE CONTRACT DRAWINGS. PERCENTAGE OF GLASS BY WEIGHT SHALL NOT EXCEED 35% SO AS TO ACHIEVE MAXIMUM CORROSION RESISTANCE AND STRENGTH. AFTER MOLDING, NO DRY GLASS FIBERS SHALL BE VISIBLE ON ANY SURFACE. ALL SURFACES SHALL BE UNIFORM WITH NO EVIDENCE OF FIBER ORIENTATION IRREGULARITIES, INTERLAMINAR VOIDS, POROSITY, RESIN-RICH OR RESIN - STARVED AREAS.

OPEN GRID DECK SHALL HAVE A GRITTED SURFACE, INTERGRALLY MOLDED INTO THE GRID DURING THE MANUFACTURING PROCESS. OPEN GRID DECKSHALL BE UV RESISTANT AND HAVE A FIRE RATING OF 25 OR LESS WHEN TESTED IN ACCORDANCE WITH ASTM E 84. CERTIFICATES SHALL BE DATED WITHIN THE LAST TWO YEARS AND TEST DATA PERFORMED ONLY ON THE RESIN WILL NOT BE ACCEPTABLE.

FIBERGLASS OPEN GRID SHALL BE LIGHT GRAY IN COLOR MEETING THE DIMENSIONAL REQUIREMENTS AS SHOWN ON THE CONTRACT DRAWINGS. THE FIBERGLASS OPEN GRID SHAL WEIGH 2.8 POUNDS PER SQUARE FOOT AND SHALL SUPPORT A UNIFORMLY DISTRIBUTED LOAD OF 100 PSF OVER A SPAN OF 5'-0". STAINLESS STEEL SADDLE CLIPS AND BOLTS SHALL BE SUPPLIED IN ACCORDANCE WITH THE MANUFACTURERS REQUIREMENTS, THE CONTRACT DRAWINGS AND SPECIAL PROVISIONS. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF HOLES IN THE CURB WELDMENTS WITH THE FABRICATION AND INSTALLATION OF THE FIBERGLASS OPEN GRID DECK.

OPEN STEEL GRID DECK FOR THE MEDIAN ISLAND SHALL BE MANUFACTURED OF ASTM A709 GRADE 36 STEEL. THE CONTRACTOR MAY SUBSTITUTE ASTM A709 GRADE 50 STEEL AT NO ADDITIONAL COST. OPEN STEEL GRID SHALL BE 4 1/2 INCH DEEP RIVETED STEEL GRID DECK WEIGHING APPROXIMATELY 23.09 POUNDS PER SQUARE FOOT. THE GRID DECK SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123. THE GRID DECK SHALL BE WELDED TO THE CURB WELDMENT AS SHOWN ON THE CONTRACT DRAWINGS.

AFTER WELDING, THE CONTRACTOR SHALL TOUCH UP THE GALVANIC COATING WITH EITHER ZINC SOLDER OR ZINC PAINT. ZINC SOLDER SHALL BE PREHEATED WITH MANUFACTURERS' INSTRUCTIONS FOR USE. THE HEATED SURFACE SHALL BE THEN RUBBED WITH A REPAIR STICK TO EVENLY DISTRIBUTE A LAYER OF ZINC ALLOY, OR IF ZINC PASTE IS USED, IT SHALL BE SPREAD EVENLY WITH A SPATULA OR A SIMILAR TOOL. ZINC SOLDER SHALL BE DEPOSITED AT A MINIMUM DRY FILM THICKNESS OF 75 µm. IF ZINC PAINT IS USED FOR REPAIRS, IT SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS FOR USE. USING A BRUSH OR BY SPRAY METHODS, ZINC PAINT SHALL BE APPLIED IN SUCH QUANTITY TO PRODUCE A MINIMUM DRY FILM THICKNESS OF 75 µm.

AFTER INSTALLATION OF STEEL GRID DECK THE CONTRACTOR SHALL FILL THE OPEN GRID FROM THE TOP OF THE EXISTING CONCRETE FILLED GRID DECK TO THE TOP OF THE NEW STEEL GRID IN THE MEDIAN. THE CONCRETE SHALL BE NORMAL WEIGHT CONCRETE WEIGHING 150 POUNDS PER CUBIC FOOT. CONCRETE SHALL BE CLASS S WITH A STRENGTH OF 4,500 PSI IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2005 ODOT STANDARD SPECIFICATIONS.

THE WEIGHTS STEEL CURBS, FIBERGLASS OPEN GRID, AND CONCRETE FILLED GRID HAVE BEEN USED IN THE BRIDGE BALANCE TABLE PROVIDEIN THE CONTRACT DRAWINGS. THE CONTRACTOR SHALL MODIFY BRIDGE BALANCE BASED ON THE WEIGHT BASCULE MEDIAN AS FURNISHED AND INSTALLED IN THE FIELD.

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STRUCTURAL GENERAL NOTES  
CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  
OVER THE MAUMEE RIVER

LUC-280-2.34  
TRENCH  
RECLAMATION

6/63

465  
555



**STRUCTURAL GENERAL NOTES**

**ITEM SPECIAL STRUCTURE, MISC.: BASCULE SPAN MEDIAN ISLAND (CONT.)**

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE BASCULE SPAN MEDIAN ISLAND BY THE NUMBER OF LINEAR FEET OF BASCULE SPAN MEDIAN ISLAND INSTALLED IN THE FIELD. MEASUREMENTS WILL BE MADE FROM THE BACK TO BACK OF CURB END PLATES.

BASIS OF PAYMENT: THE CONTRACTOR SHALL BE PAID ON THE LINEAR FOOT BASIS FOR FURNISHING AND INSTALLING BASCULE SPAN MEDIAN BARRIER AS SHOWN IN THE PLANS AND TO THE SATISFACTION OF THE ENGINEER. THE WORK SHALL INCLUDE THE COST OF FABRICATING AND INSTALLING CURB WELDEMENTS AND CLIP PLATES, FURNISHING AND INSTALLING FIBERGLASS OPEN GRID DECK AND CONCRETE FILLED STEEL GRID DECK, GALVANIC COATING FIELD REPAIRS, AND CONCRETE REMOVALS AND GROUT PATCHING IN PORTIONS OF THE EXISTING GRID DECK NECESSARY FOR THE INSTALLATION, TO THE SATISFACTION OF THE ENGINEER. FOUR EXTRA FIBERGLASS OPEN GRID PANEL MEETING THE DIMENSIONAL REQUIREMENTS SHOWN ON THE CONTRACT DRAWINGS SHALL BE SUPPLIED TO THE DEPARTMENT FOR FUTURE USE AT NO ADDITIONAL COST. THE COST OF THE ADDITIONAL FIBERGLASS GRID PANELS SHALL BE INCIDENTAL TO THIS ITEM. THE COST OF MODIFYING THE BRIDGE BALANCE WILL BE INCLUDED IN ITEM SPECIAL-STRUCTURE, MISC.: SPAN BALANCING.

**ITEM SPECIAL STRUCTURE, MISC.: WARNING GATE MODIFICATION**

DESCRIPTIONS: THIS WORK SHALL CONSIST OF MODIFICATIONS TO THE EXISTING SOUTHEAST AND NORTHWEST WARNING GATES AS SHOWN IN THE CONTRACT DRAWINGS.

THE WORK AT THE SOUTHEAST WARNING GATE SHALL CONSIST OF REMOVING THE EXISTING STEEL PIPE GATE ARM, STEEL GUARD POST, CONCRETE BARRIER CURB, AND COUNTERWEIGHT BLOCKS TO REBALANCE THE GATE AS SHOWN IN THE CONTRACT DRAWINGS. THIS WORK SHALL ALSO INCLUDE FURNISHING OR FABRICATING AND INSTALLING STEEL GATE ARM CONNECTION WELDMENT, LIGHTWEIGHT COMPOSITE TUBULAR GATE ARM, AND MODIFIED GUARD POST AS SHOWN ON THE CONTRACT DRAWINGS. THIS WORK SHALL ALSO INCLUDE:

THE EXISTING GATE ARM SHALL BE REMOVED FROM THE GATE HOUSING BY REMOVING EXISTING TURNED BOLTS AS SHOWN ON THE CONTRACT DRAWINGS. THE EXISTING GATE ARMS ARE PAINTED AND MAY CONTAIN LEAD BASED PAINT. THE CONTRACTOR IS RESPONSIBLE FOR PROPER DISPOSAL OF HAZARDOUS MATERIALS IN ACCORDANCE WITH THE PROVISIONS OF THE 2005 ODOT STANDARD SPECIFICATIONS SECTION 514.13 SURFACE PREPARATION.

A NEW STEEL GATE ARM CONNECTION WELDMENT SHALL BE FABRICATED AS SHOWN ON THE CONTRACT DRAWINGS. PLATE FOR WELDMENT SHALL BE ASTM A 709 GRADE 36. WELDMENT SHALL BE HOT- DIPPED GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A123. HOLE FOR CONNECTION TO THE EXISTING GATE HOUSING SHALL BE SUBPUNCHED AND REAMED IN THE FIELD TO 1 1/16 INCH DIAMETER FOR 1-INCH DIAMETER ASTM A325 BOLTS. THE CONTRACTOR SHALL FIELD VERIFY GATE HOUSING MEASUREMENTS PRIOR TO FABRICATION. THE CONTRACTOR SHALL COORDINATE THE FABRICATION OF THE GATE ARM CONNECTION WELDMENT WITH THE GATE ARM PURCHASED. SOME MODIFICATION OF THE GATE ARM CONNECTION WELDMENT MAY BE REQUIRED AND SHALL BE SUPPLIED AT NO ADDITIONAL COST TO THE DEPARTMENT.

THE CONTRACTOR SHALL FURNISH AND INSTALL A LIGHTWEIGHT COMPOSITE GATE ARM AS SHOWN ON THE CONTRACT DRAWINGS. THE GATE ARM SHALL BE CONSTRUCTED OF SPECIAL HIGH-STRENGTH RECTANGULAR FIBERGLASS AND 6005-15 RECTANGULAR ALUMINUM TUBING. THE GATE ARM SHALL BE EQUIPPED WITH A SHEAR PIN CONNECTION DESIGNED FOR RAPID REINSTALLATION OR REPLACEMENT BY ONE PERSON. THE SHEAR PIN SHALL BE DESIGNED TO BREAK AWAY WHEN EXCESSIVE FORCE IS APPLIED TO PROTECT THE GATE OPERATOR AND MINIMIZE DAMAGE TO THE GATE AND VEHICLES.

THE GATE ARM SHALL BE COVERED ON BOTH SIDES WITH 16-INCH ALTERNATING RED AND WHITE ENGINEERING GRADE REFLECTORIZED SHEETING. THE GATE ARM SHALL BE EQUIPPED WITH 12V LIGHTS AS SHOWN ON THE CONTRACT DRAWINGS. ELECTRICAL WIRING AND CONNECTIONS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM SPECIAL STRUCTURE - MISC.: BRIDGE ELECTRICAL.

EXISTING STEEL GUARD POSTS SHALL BE FLAME CUT FLUSH WITH THE TOP OF SIDEWALK. THE POSTS SHALL BE REMOVED, MODIFIED, AND REINSTALLED TO NEW LOCATION AS SHOWN ON THE DRAWINGS TO ACCOMMODATE THE CHANGE IN GATE ARM LENGTH. THE EXISTING GUARD POSTS ARE PAINTED AND MAY CONTAIN LEAD BASED PAINT. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF HAZARDOUS WASTE, AS REQUIRED TO PERFORM THIS OPERATION, IN ACCORDANCE WITH THE 2005 ODOT STANDARD SPECIFICATION SECTION 514.13 SURFACE PREPARATIONS.

A STEEL PLATE CONFORMING TO ASTM A709 GRADE 36 AND GALVANIZED IN ACCORDANCE WITH ASTM A123 SHALL BE WELDED TO THE REMAINING PIECE OF THE GUARD POST AS SHOWN ON THE CONTRACT DRAWINGS TO CLOSE OFF THE OPENING IN THE DECK.

CONCRETE BARRIER SHALL BE REMOVED AS SHOWN ON THE DRAWINGS TO ACCOMMODATE THE RELOCATION OF THE EXISTING GUARD POST. THE EXISTING CONCRETE BARRIER CURB SHALL BE SAW- CUT TO PROVIDE SMOOTH EDGES. REINFORCING BARS SHALL BE REMOVED TO 1-INCH BELOW THE SURFACE OF CONCRETE AND THE HOLES SHALL BE FILLED WITH AN APPROVED NON-SHRINK GROUT IN ACCORDANCE WITH SECTION 705.22 OF THE 2005 ODOT STANDARD SPECIFICATIONS.

THE EXISTING STEEL GUARD POST SHALL BE RELOCATED AS SHOWN ON THE CONTRACT DRAWINGS TO ACCOMMODATE THE NEW LONGER GATE ARM. THE RELOCATED GUARD POST SHALL BE PROVIDED WITH STEEL BASE PLATE AND A FILL PLATE AS THICK AS NEEDED TO COMPLY WITH THE NOTES AND DIMENSIONS SPECIFIED IN THE CONTRACT DRAWINGS. THE PLATES SHALL BE ASTM A709 GRADE 36 AND HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123. THE CONTRACTOR SHALL DRILL AND GROUT ANCHOR BOLTS FOR THE RELOCATED GUARD POST AS SHOWN ON THE CONTRACT DRAWINGS. THE GUARD POST SHALL BE PLACED ON A NON-SHRINK GROUT LEVELING PAD. THE PAD SHALL BE SET TO MATE WITH THE GATE ARM. THE GATE ARM SHALL BE FITTED WITH A CURVED STEEL END PLATE. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS BEFORE MODIFYING AND SETTING THE STOP POST. THE CONTRACTOR SHALL ADJUST THE SPRING TENSION IN THE FRICTION LATCH AS REQUIRED FOR A SNUG FIT OF THE END OF THE GATE ARM.

GUARDPOST SHALL BE TOUCH UP PAINTED, AS REQUIRED AND APPROVED BY THE ENGINEER, IN ACCORDANCE WITH AND PAINTED UNDER ITEM 514 FIELD PAINTING MISC.: STRUCTURAL STEEL TOUCH UP.

THE WORK AT THE NORTHWEST WARNING GATE SHALL CONSIST OF CUTTING STEEL PIPE AT EXISTING WARNING GATE AND INSTALLING NEW STEEL PIPE AT THE END OF THE MODIFIED WARNING GATE AS SHOWN IN THE CONTRACT DRAWINGS. THE CUTS IN THE EXISTING WARNING GATE SHALL BE LOCATED IN THE FIELD SO THAT THE END OF THE MODIFIED GATE WILL BE LOCATED AT THE EAST EDGE OF THE SOUTHBOUND LANES. CUTS IN THE TOP AND BOTTOM PIPE SHALL BE MITER CUT AS SHOWN ON THE CONTRACT DRAWINGS. EXISTING END DIAGONALS SHALL BE REMOVED BY GOUGING OUT EXISTING WELDS. CARE SHALL BE TAKEN TO NOT DAMAGE EXISTING PIPE TO REMAIN. DAMAGED SECTIONS OF EXISTING PIPE SHALL BE REPAIRED TO THE ENGINEERS SATISFACTION AT NO ADDITIONAL COST. NEW SECTIONS OF PIPE TO BE INSTALLED AT THE END OF THE MODIFIED NORTHWEST WARNING GATE SHALL BE MITER CUT TO FIT THE EXISTING TOP AND BOTTOM PIPE SECTIONS. NEW PIPE SHALL BE GROOVE WELDED AS SHOWN IN THE CONTRACT DRAWINGS AND GROUND FLUSH.

SECTIONS OF EXISTING WARNING GATE TO BE REMOVED SHALL BE PROPERLY DISPOSED OF OFF SITE. THE WARNING GATES ARE PAINTED AND MAY CONTAIN LEAD BASED PAINT. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF HAZARDOUS WASTE, AS REQUIRED TO PERFORM THIS OPERATION, IN ACCORDANCE WITH THE 2005 ODOT STANDARD SPECIFICATIONS SECTION 514.13 SURFACE PREPARATION.

EXISTING CONDUCTORS FOR LIGHTS AT THE END OF THE EXISTING NORTHWEST GATE SHALL BE TERMINATED IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM SPECIAL STRUCTURE, MISC.: BRIDGE ELECTRICAL.

AFTER MODIFICATION OF EXISTING WARNING GATE ARM, THE CONTRACTOR SHALL REMOVE EXISTING BALANCE BLOCKS FROM THE REAR OF THE GATE AS REQUIRED TO PROPERLY BALANCE THE GATE ARM.

THE EXISTING NORTHWEST STEEL GUARD POST SHALL BE FLAME CUT FLUSH WITH THE TOP OF SIDEWALK. THE POST SHALL BE REMOVED, MODIFIED, AND REINSTALLED TO NEW LOCATION AS SHOWN ON THE DRAWINGS TO ACCOMMODATE THE CHANGE IN LENGTH OF THE EXISTING NORTHWEST GATE ARM

THE GUARDPOST IS PAINTED AND MAY CONTAIN LEAD BASED PAINT. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF HAZARDOUS WASTE, AS REQUIRED TO PERFORM THIS OPERATION, IN ACCORDANCE WITH THE 2005 ODOT STANDARD SPECIFICATION SECTION 514.13 SURFACE PREPARATION.

A NEW STEEL CAP PLATE SHALL BE WELDED TO THE REMAINING SECTION OF STEEL GUARD POST TO CLOSE THE OPENING IN THE SIDEWALK. THE STEEL CAP PLATE SHALL CONFORM TO ASTM A 709 GRADE 36 AND BE GALVANIZED IN ACCORDANCE WITH ASTM A123. THE CAP PLATE SHALL HAVE WELDED STEEL HEADED ANCHOR STUDS AS SHOWN IN THE CONTRACT DRAWINGS FOR ATTACHMENT OF THE NEW CONCRETE BARRIER CURB.

THE EXISTING STEEL GUARD POST SHALL BE RELOCATED AS SHOWN ON THE CONTRACT DRAWINGS TO ACCOMMODATE THE NEW LONGER GATE ARM. THE STEEL GUARD POST SHALL BE PROVIDED WITH STEEL BASE PLATE AND A FILL PLATE AS THICK AS NEEDED TO COMPLY WITH THE NOTES AND DIMENSIONS SPECIFIED IN THE CONTRACT DRAWINGS. THE PLATES SHALL BE ASTM A709 GRADE 36 AND HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123. THE CONTRACTOR SHALL DRILL AND GROUT ANCHOR BOLTS FOR THE RELOCATED GUARD POST AS SHOWN ON THE CONTRACT DRAWINGS. THE GUARD POST SHALL BE PLACED ON A NON-SHRINK GROUT LEVELING PAD. THE PAD SHALL BE SET TO MATE WITH THE GATE ARM. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS BEFORE MODIFYING AND SETTING THE GUARD POST. THE CONTRACTOR SHALL ADJUST THE SPRING TENSION IN THE FRICTION LATCH AS REQUIRED FOR A SNUG FIT OF THE END OF THE GATE ARM.

THE GUARDPOST AND GATE ARM SHALL BE TOUCH UP PAINTED, AS REQUIRED AND APPROVED BY THE ENGINEER, IN ACCORDANCE WITH AND PAINTED UNDER ITEM 514 FIELD PAINTING MISC.: STRUCTURAL STEEL TOUCH UP

NEW REINFORCED CONCRETE BARRIER CURB SHALL BE INSTALLED AS SHOWN ON THE CONTRACT DRAWINGS. REINFORCEMENT SHALL HAVE A MINIMUM YIELD STRENGTH OF 60,000 PSI AND BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2005 ODOT STANDARD SPECIFICATIONS. CONCRETE FOR THE BARRIER CURB SHALL BE CLASS S AND HAVE A MINIMUM COMPRESIVE STRENGTH OF 4,500 PSI AND BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2005 ODOT STANDARD SPECIFICATIONS.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE WARNING GATE MODIFICATIONS ON A LUMP SUM BASIS FOR THE MODIFICATIONS TO THE SOUTHEAST AND NORTHWEST WARNING GATES.

BASIS OF PAYMENT: THE CONTRACTOR SHALL BE PAID ON THE LUMP SUM BASIS FOR THE WORK REQUIRED TO MODIFY THE SOUTHEAST AND NORTHWEST WARNING GATES TO THE SATISFACTION OF THE ENGINEER. THE FOLLOWING WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE:

REMOVAL AND DISPOSAL OF THE FOLLOWING:  
EXISTING SOUTHEAST GATE ARM, CONCRETE BARRIER CURB REQUIRED FOR INSTALLATION OF THE WARNING GATES, BALANCE BLOCKS TO REBALANCE THE GATE, CUTTING REMOVING AND DISPOSING OF THE END OF THE NORTHWEST WARNING GATE , AND ALL PORTIONS OF THE EXISTING GATE ASSEMBLIES NOT INCORPORATED IN THE FINAL CONFIGURATION.

FURNISHING AND INSTALLING OF THE FOLLOWING:  
NEW LIGHTWEIGHT COMPOSITE GATE ARM AT THE SOUTHEAST WARNING GATE, RELOCATION OF THE GUARDPOSTS, NEW CONCRETE BARRIER CURB IN AREAS OF THE GATE MODIFICATIONS AS SHOWN IN THE CONTRACT DRAWINGS, COVERING THE GATES WITH RED AND WHITE REFLECTORIZED SHEETING, GROUT LEVELING PADS, DRILLING AND GROUTING ANCHOR BOLTS, AND ALL OTHER ATTACHMENTS, HARDWARE AND MATERIALS REQUIRED TO COMPLETE MODIFICATIONS OF THE EXISTING WARNING GATES AS SHOWN IN THE CONTRACT DRAWINGS AND IN THIS SPECIAL PROVISION.

ALL HAZARDOUS MATERIALS SHALL BE HANDLED, REMOVED, AND DISPOSED OF IN ACCORDANCE WITH THE 2005 ODOT STANDARD SPECIFICATIONS SECTION 514.13 SURFACE PREPARATION. HANDLING, REMOVAL, AND DISPOSAL OF HAZARDOUS MATERIALS IS INCLUDED IN THIS ITEM FOR PAYMENT.

COST OF WIRING FOR THE NEW SOUTHEAST GATE ARM, TERMINATION OF WIRING IN THE EXISTING NORTHWEST GATE ARM, AND TERMINATION OF CONDUCTORS FOR LIGHTS IS INCLUDED IN THE PRICE BID FOR ITEM 530 SPECIAL - STRUCTURE, MISC.: BRIDGE ELECTRICAL. THE COST OF TOUCH UP PAINTING OF EXISTING GUARDPOSTS AND EXISTING WARNING GATES IS INCLUDED IN THE PRICE BID FOR ITEM 514 FIELD PAINTING MISC.: STRUCTURAL STEEL TOUCH UP.

**ITEM SPECIAL STRUCTURE, MISC.: BRIDGE ELECTRICAL**

THIS SPECIFICATION DEFINES ELECTRICAL WORK TO BE COMPLETED BY THE CONTRACTOR AS PART OF THIS PROJECT. THE WORK TO BE PERFORMED INCLUDES:

WORK GENERALLY INCLUDES ALL LABOR, MATERIALS, AND EQUIPMENT FOR FURNISHING AND INSTALLING ALL NEW WIRING AND CONNECTIONS, MODIFICATION OF EXISTING WIRING AND CONNECTIONS AND REMOVAL OF EXISTING WIRING AND CONNECTIONS, AS REQUIRED FOR THE MODIFICATION OF THE WARNING GATES AT THE NORTHEAST AND SOUTHWEST QUADRANTS OF THE BRIDGE; PEDESTRIAN WARNING GATE REPLACEMENT IN THE NORTHWEST AND SOUTHEAST QUADRANTS OF THE BRIDGE; NEW TRAFFIC LIGHTS AT THE NORTH AND SOUTH APPROACHES OF THE BASCULE SPAN; AND RELOCATION OF THE EXISTING TRAFFIC SIGNALS AS SHOWN ON THE CONTRACT DRAWINGS. INSTALLATION OF ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS. THE WORK SHALL ALSO INCLUDE STRUCTURAL MODIFICATIONS TO THE EXISTING CONCRETE BARRIERS INCIDENTAL TO AND AS REQUIRED FOR THE PEDESTRIAN WARNING GATE REPLACEMENT AT THE Northeast and Southwest quadrants of the bridge.

drawing scale: 1" = 1'-0"  
plot scale: 1:1

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REVIEWED DATE 3/21/06  
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STRUCTURAL GENERAL NOTES  
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RECLAMATION

7/63

466  
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STRUCTURAL GENERAL NOTES

ITEM SPECIAL STRUCTURE, MISC.; BRIDGE ELECTRICAL (CONT.)

PEDESTRIAN WARNING GATE REPLACEMENTS:

THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE EXISTING PEDESTRIAN WARNING GATE AT THE NORTHEAST AND SOUTHWEST QUADRANTS OF THE BRIDGE. THE CONTRACTOR SHALL INSTALL A NEW WARNING GATE IN PLACE OF THE REMOVED PEDESTRIAN WARNING GATE AS SHOWN IN THE CONTRACT DRAWINGS. PRIOR TO FABRICATION OF THE NEW WARNING GATE, THE CONTRACTOR SHALL VERIFY ITS LOCATION AND DIMENSIONS IN THE FIELD.

TO INSTALL THE NEW GATE HOUSING, THE CONTRACTOR SHALL REMOVE THE EXISTING CONCRETE BARRIER AND SAW-CUT TO PROVIDE SMOOTH EDGES AS SHOWN IN THE CONTRACT DRAWINGS. REMOVAL OF THE PEDESTRIAN WARNING GATE IS LIMITED TO THE WARNING GATE HOUSING AND THE GATE ARM. THE CONTRACTOR SHALL ENSURE THAT THE CONDUITS AND WIRES SERVICING THE WARNING GATE ARE NOT DAMAGED DURING THE PROCESS OF DEMOLITION.

INSTALLATION SHALL BE PERFORMED ACCORDING TO MANUFACTURERS' INSTRUCTION. THE CONTRACTOR SHALL REUSE THE EXISTING POWER FEED, CONTROL, AND INDICATION CIRCUITS FROM THE DEMOLISHED PEDESTRIAN GATE AT THE NORTHEAST QUADRANT FOR THE NEW DOUBLE ARM WARNING GATE. THE NEW DOUBLE ARM WARNING GATE SHALL BE EQUIPPED WITH A 1/2 HP, 480 VOLT, AND THREE-PHASE MOTOR. THE MOTOR SHALL BE INSTANTLY REVERSING AND OVERLOAD PROTECTED.

THE GATE LIMIT SWITCH ASSEMBLY SHALL BE A SELF-CONTAINED UNIT. THE ASSEMBLY SHALL PROVIDE 8 INDEPENDENT SPDT CONTROL SWITCHES. SWITCHES SHALL BE RATED FOR 15 AMPS AT 480 VAC. SWITCHES SHALL BE CONTROLLED BY INDIVIDUALLY ADJUSTABLE CAMS. THE LIMIT SWITCH DESIGN SHALL PERMIT ADJUSTMENT OF ALL CAMS WITH THE GATE IN ANY POSITION. THE LIMIT SWITCH ASSEMBLY SHALL HAVE A REMOVABLE COVER TO PREVENT ACCIDENTAL CONTACT WITH SWITCH TERMINALS AND TO PROTECT THE SWITCHES FROM ENVIRONMENTAL EFFECTS. SHAFTS, CAMS, BUSHINGS, AND HOUSING PIECES SHALL BE OF NON-FERROUS CORROSION RESISTANT MATERIALS.

THE CONTRACTOR IS PERMITTED TO INSTALL A SUITABLE INTERMEDIATE TERMINAL BOX LOCATED WITHIN THE OPERATOR HOUSING, BETWEEN THE EXISTING CONDUITS AND THE NEW COMPONENTS TO EXTEND THE LEAD WIRES. BUTT SPLICES ARE NOT PERMITTED. GATE MOTOR SHALL BE PROVIDED WITH A DISCONNECT SWITCH LOCATED WITHIN THE GATE HOUSING TO OPEN ALL THREE PHASES AS REQUIRED BY THE NEC.

GATE CONTACTOR AND OVERLOADS SHALL BE INTERGRAL TO THE GATE OPERATOR.

EXISTING CONCRETE SHALL BE SAW CUT AND REMOVED AS SHOWN ON THE CONTRACT DRAWINGS. REINFORCEMENT SHALL BE REMOVED TO 1 INCH BELOW THE SURFACE OF CONCRETE AND VOIDS SHALL BE PATCHED WITH NON-SHRINK GROUT. NEW STEEL CLOSURE PLATE SHALL BE INSTALLED TO COVER OPENING IN EXISTING CONCRETE BARRIER CURB AS SHOWN IN THE CONTRACT DRAWINGS. STEEL CLOSURE PLATE AND CONNECTION ANGLES SHALL BE ASTM A709 GRADE 36. THE CONTRACTOR MAY SUBSTITUTE ASTM A709 GRADE 50 AT NO EXTRA COST. PLATE SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123. THE CONTRACTOR SHALL DRILL AND GROUT ANCHOR BOLTS INTO THE EXISTING CONCRETE BARRIER CURB IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE OF AN APPROVED GROUT SUPPLIER AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2005 ODOT STANDARD SPECIFICATIONS.

B & B ROADWAY PRODUCTS HAVE BEEN USED AS THE BASIS OF DESIGN. OTHER MANUFACTURERS' PRODUCTS OF EQUIVALENT QUALITY, DIMENSIONS AND OPERATING FEATURES MAY BE USED AT THE ENGINEER'S DISCRETION IF THEY COMPLY WITH ALL REQUIREMENTS SPECIFIED IN THE CONTRACT DOCUMENTS. CONTRACTOR RETAINS FULL RESPONSIBILITY FOR ACCEPTANCE OF SUBSTITUTED ITEMS.

WIRING CONNECTION OF A NEW WARNING GATE ARM IN THE SOUTHEAST QUADRANT:

THE CONTRACTOR SHALL CONNECT THE WIRES FOR NEW 44' SWING TYPE WARNING GATE ARM AT THE SOUTHEAST QUADRANT OF THE BRIDGE. THE CONTRACTOR SHALL REUSE THE EXISTING POWER FEED CIRCUITS FROM THE EXISTING GATE AT THE SOUTHEAST QUADRANT FOR THE NEW 44' GATE ARM.

THE WIRING AND CONNECTION OF A NEW WARNING GATE ARM SHALL BE COORDINATED WITH THE WORK IN ITEM SPECIAL - STRUCTURE MISC.: MODIFICATION OF EXISTING WARNING GATES.

B & B ROADWAY PRODUCTS HAVE BEEN USED AS THE BASIS OF DESIGN. OTHER MANUFACTURERS' PRODUCTS OF EQUIVALENT QUALITY, DIMENSIONS AND OPERATING FEATURES MAY BE USED AT THE ENGINEER'S DISCRETION IF THEY COMPLY WITH ALL REQUIREMENTS SPECIFIED IN THE CONTRACT DOCUMENTS. CONTRACTOR RETAINS FULL RESPONSIBILITY FOR ACCEPTANCE OF SUBSTITUTED ITEMS.

WIRING MODIFICATIONS AT THE NORTHWEST WARNING GATE:

THE CONTRACTOR SHALL TERMINATE EXISTING CONDUCTORS TO LIGHTS ON THE GATE ARM TO BE REMOVED. CONDUCTORS SHALL BE TERMINATED WITHIN THE MODIFIED GATE ARM AT THE LAST REMAINING SIGNAL. LIGHTS, SOCKETS, AND LENSES TO BE REMOVED SHALL BE SALVAGED AND TURNED OVER TO THE ENGINEER.

TRAFFIC LIGHT INSTALLATION:

THE CONTRACTOR SHALL INSTALL A NEW TRAFFIC LIGHT AT THE NORTH AND SOUTH APPROACHES TO THE BASCULE SPAN AS SHOWN ON THE CONTRACT DRAWINGS.

THE TRAFFIC LIGHT HOUSING SHALL BE A 12" HOUSING MADE FROM DIE CAST ALUMINUM ALLOY. THE HOUSING SHALL HAVE A GLOSS BLACK FINISH WITH A BACK DOOR.

THE TRAFFIC LIGHT FACE ARRANGEMENT SHALL BE A VERTICAL RED, YELLOW AND GREEN ARRANGEMENT.

THE LIGHT SOURCE SHALL BE ALL INCANDESCENT WITH A GLASS LENS AND CAP ALUMINUM VISORS.

EACH SIGNAL SHALL BE PROVIDED WITH A 5 OR 6 SECTION 12 TERMINAL WARNING STRIP; ONE SIDE WITH A QUICK DISCONNECT TERMINAL FOR SOCKET LEADS, AND THE OPPOSITE WITH A SCREW CLAMP TERMINAL FOR FIELD WIRING.

INSTALLATION OF THE TRAFFIC SIGNAL ON THE EXISTING SIGNAL STRUCTURE SHALL BE DONE ACCORDING TO MANUFACTURERS' INSTRUCTION. THE CONTRACTOR SHALL TIE INTO THE EXISTING SIGNAL CIRCUIT AT A JUNCTION BOX AND NOT ANOTHER TRAFFIC SIGNAL SO THAT REMOVAL OF EITHER SIGNAL WILL NOT AFFECT THE OPERATION OF THE REMAINING SIGNAL.

CONDUIT AND LIQUIDTITE FLEXIBLE METAL CONDUIT SHALL BE USED TO EXTEND THE TRAFFIC SIGNAL CIRCUIT AS REQUIRED BY THE APPLICABLE CODES.

TRAFFIC LIGHT RELOCATION:

THE CONTRACTOR SHALL RELOCATE EXISTING TRAFFIC LIGHTS TO THE CENTERS OF THE REALIGNED TRAVEL LANES. THE RELOCATED SIGNALS SHALL BE INSTALLED IN ACCORDANCE WITH THE SAME REQUIREMENTS AS THE NEW SIGNAL SPECIFIED ABOVE.

CONSTRUCTION:

THE CONTRACTOR SHALL PROVIDE [3] COPIES OF THE FOLLOWING DOCUMENTS PRIOR TO INSTALLATION TO THE ENGINEER FOR REVIEW AND EVALUATION: DATA ON SPECIFIED PRODUCT; CERTIFIED SHOP DRAWINGS ON SPECIFIED PRODUCT; COPIES OF INSTALLATION, OPERATION AND MAINTENANCE PROCEDURES FOR THE DOUBLE ARMED WARNING GATE, THE 44' GATE ARM, AND THE TRAFFIC LIGHT. PROCUREMENT OR INSTALLATION OF UNACCEPTABLE ITEMS IS NOT PERMITTED AND WILL BE REJECTED.

THE CONTRACTOR SHALL STORE, PROTECT, AND HANDLE PRODUCTS IN ACCORDANCE WITH RECOMMENDED PRACTICES LISTED IN THE MANUFACTURER'S INSTALLATION AND MAINTENANCE MANUALS. ITEMS SHALL BE STORED ON PALLETS OUT OF STANDING WATER. ENGINEERED ITEMS STORED OUT OF DOORS SHALL BE ADDITIONALLY TARPED TO PREVENT THE DETERIORATION OF THE FACTORY PACKAGING. SHOULD THE CONTRACTOR OPEN FACTORY PACKAGING FOR ANY REASON PRIOR TO INSTALLATION ON SITE, THE FACTORY PACKAGING SHALL BE RESTORED TO AN "AS DELIVERED" CONDITION PRIOR TO STORAGE AND DELIVERY.

THE CONTRACTOR SHALL MAKE ALL NECESSARY FIELD MEASUREMENTS TO VERIFY THAT EQUIPMENT WILL FIT IN ALLOCATED SPACES IN FULL COMPLIANCE WITH MINIMUM REQUIRED CLEARANCES SPECIFIED IN THE NATIONAL ELECTRICAL CODE, IN ACCORDANCE WITH THE CONTRACT DRAWINGS, AND THE MANUFACTURERS' RECOMMENDATIONS.

ANY INCIDENTAL APPARATUS, APPLIANCES, MATERIAL NOT HEREIN SPECIFICALLY MENTIONED OR INCLUDED THAT MAY BE FOUND NECESSARY TO COMPLETE THE PROJECT IN A MANNER SATISFACTORY TO THE DEPARTMENT SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AT NO ADDITIONAL COST.

ALL ELECTRICAL EQUIPMENT AND ITS INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT SPECIFICATIONS FOR MOVABLE HIGHWAY BRIDGES OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO).

ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT EDITION OF THE NATIONAL ELECTRICAL CODE AS ADOPTED AND AMENDED BY THE AUTHORITY HAVING JURISDICTION, AND TO ANY OTHER APPLICABLE LOCAL RULES AND ORDINANCES.

ALL EQUIPMENT AND MATERIALS SHALL BE NEW. ALL EQUIPMENT, MATERIALS, AND WORKMANSHIP SHALL BE TO THE SATISFACTION OF THE DEPARTMENT AND SHALL BE OF THE HIGHEST QUALITY. IF THE CONTRACTOR HAS ANY OBJECTION TO ANY FEATURE OF THE ELECTRICAL EQUIPMENT AS DESIGNED AND LAID OUT, HE OR SHE MUST STATE THEIR OBJECTION IN WRITING BEFORE HIS OR HER PROPOSAL IS SUBMITTED.

EACH PIECE OF ELECTRICAL EQUIPMENT AND APPARATUS SHALL HAVE A SCREWED, RIVETED OR OTHER PERMANENT CORROSION-RESISTING METAL NAMEPLATE ON WHICH IS STAMPED THE NAME OF THE MANUFACTURER AND THE RATING OR CAPACITY OF THE EQUIPMENT OR APPARATUS, AND MODEL NUMBER. EQUIPMENT WITH ADHESIVE OR OTHER NON METALLIC NAMEPLATES WILL NOT BE ACCEPTED.

ALL METAL PARTS EXCEPT STRUCTURAL STEEL SHALL BE OF CORROSION-RESISTING MATERIAL SUCH AS BRONZE OR STAINLESS STEEL. STRUCTURAL STEEL SHALL BE GALVANIZED OR OTHERWISE PROTECTED FROM CORROSION AS PERMITTED BY THE ENGINEER.

ALL ASSEMBLY HARDWARE AND ALL WIRE AND CABLE TERMINALS SHALL BE VIBRATION RESISTANT.

IF ANY DEPARTURES FROM THE PLANS OR THESE SPECIFICATIONS ARE DEEMED NECESSARY, DETAILS OF SUCH DEPARTURES AND THE REASONS THEREFORE SHALL BE SUBMITTED FOR APPROVAL AS SOON AS PRACTICAL. NO SUCH DEPARTURES SHALL BE MADE NOR WORK STARTED WITHOUT APPROVAL OF THE ENGINEER.

THE ELECTRICAL EQUIPMENT SHALL CONFORM TO THE STANDARDIZATION RULES OF IEEE AND NEMA.

ALL EQUIPMENT SHALL BE UL LISTED FOR THE APPLICATION. THE ELECTRICAL EQUIPMENT, MATERIAL, CONSTRUCTION AND INSTALLATION SHALL COMPLY WITH THE LATEST APPLICABLE CODES OR STANDARDS AND TECHNICAL DEFINITIONS, WHETHER OR NOT SPECIFICALLY MENTIONED OF: AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI); NATIONAL ELECTRIC CODE (NEC); NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA); INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE); AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME); ALL LAWS AND ORDINANCES OF THE CITY, COUNTY, OR STATE AGENCY HAVING JURISDICTION.

IN ORDER TO PREVENT DETERIORATION DUE TO CORROSION OF PARTS OF THE ELECTRICAL INSTALLATION, ALL HARDWARE, BOLTS, NUTS, STUDS, PINS, SCREWS, TERMINALS, SPRINGS, AND SIMILAR FASTENINGS AND FITTINGS SHALL BE, WHERE PRACTICABLE, OF AN APPROVED CORROSION RESISTING MATERIAL, SUCH AS STAINLESS STEEL OR BRONZE.

THE QUALITY OF THE WIRES AND CABLES, AND THEIR INSULATION AND COVERING, SHALL CONFORM TO THE ICEA-NEMA STANDARDS. WHERE THESE REQUIREMENTS DO NOT APPLY, WIRES AND CABLES SHALL CONFORM TO ASTM AND NEC REQUIREMENTS.

ALL WIRES SHALL BE STRANDED COPPER. NO WIRES SMALLER THAN NO. 12 AWG SHALL BE USED.

WIRES SHALL BE PERMANENTLY IDENTIFIED. THE MARKINGS SHALL BE ON A SLEEVE NOT LESS THAN 1/2" INCH LONG. EACH SLEEVE SHALL BE MARKED SO THAT THE IDENTIFICATION IS PERMANENT, WATERPROOF, AND RIGHT READING. ADHESIVE TYPE LABELS ARE NOT ACCEPTABLE.

WIRES SHALL BE CONTINUOUS FROM TERMINAL TO TERMINAL. SPLICES MAY BE USED ONLY WHERE FIELD MOUNTED DEVICES ARE SUPPLIED WITH PIGTAILS, SHALL BE NEATLY AND CAREFULLY MADE, AND MECHANICALLY AND ELECTRICALLY SECURE BEFORE SOLDERING. SPLICES SHALL BE CONTAINED BY HEAT SHRINKABLE TUBE TYPE SLEEVES (RATED 1000 VOLTS MINIMUM) WITH MASTIC APPLIED TO THE INNER SURFACE OF EACH TUBE. SPLICES SHALL NOT BE INSTALLED INSIDE CONDUITS.

CONDUIT CONNECTIONS TO MOTORS, LIMIT SWITCHES, BRAKE AND OTHER DEVICES, AS OTHERWISE SPECIFIED, SHALL INCLUDE A MINIMUM OF 18 INCH OF LIQUID TIGHT FLEXIBLE CONDUIT.

ELECTRICAL TESTING:

WHEN THE ENTIRE INSTALLATION IS COMPLETED, THE WARNING GATES AND TRAFFIC LIGHTS SHALL BE OPERATED AND VERIFIED TO BE WORKING PROPERLY. DURING THIS TEST, ALL EQUIPMENT SHALL BE INSPECTED BY THE CONTRACTOR AND THE ENGINEER TO DETERMINE WHETHER ALL FEATURES ARE IN PROPER WORKING ORDER AND FULLY MEET THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS. THE CONTRACTOR IS ACCOUNTABLE TO REWORK ANY NONCOMPLIANT ITEMS AT NO CHARGE TO THE DEPARTMENT.PPL

drawing scale : 1" = 1'-0"  
plot scale : 1:1

**acla**  
adachi-clint lynn associates inc.  
5995 transportation boulevard  
cleveland, ohio 44126

DATE 3/21/06  
REVIEWED EAF  
STRUCTURE FILE NUMBER 4805917

DRAWN DMT/TJW  
DESIGNED BA  
CHECKED JAH/BA

STRUCTURAL GENERAL NOTES  
CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  
OVER THE MAUMEE RIVER

LUC-280-2.34  
TRENCH  
RECLAMATION

7A/63

466A  
555

STRUCTURAL GENERAL NOTES

ITEM SPECIAL STRUCTURE, MISC.; BRIDGE ELECTRICAL (CONT.)

PEDESTRIAN WARNING GATE REPLACEMENTS:

THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE EXISTING PEDESTRIAN WARNING GATE AT THE NORTHEAST AND SOUTHWEST QUADRANTS OF THE BRIDGE. THE CONTRACTOR SHALL INSTALL A NEW WARNING GATE IN PLACE OF THE REMOVED PEDESTRIAN WARNING GATE AS SHOWN IN THE CONTRACT DRAWINGS. PRIOR TO FABRICATION OF THE NEW WARNING GATE, THE CONTRACTOR SHALL VERIFY ITS LOCATION AND DIMENSIONS IN THE FIELD.

TO INSTALL THE NEW GATE HOUSING, THE CONTRACTOR SHALL REMOVE THE EXISTING CONCRETE BARRIER and reinforcement to the limits shown on the drawings and SAW-CUT TO PROVIDE SMOOTH EDGES. New Concrete for barrier curb shall be Class s and have a minimum compressive strength of 4,500 psi in accordance with the requirements of 2005 ODOT standard specifications. REMOVAL OF THE PEDESTRIAN WARNING GATE IS LIMITED TO THE WARNING GATE HOUSING AND THE GATE ARM. THE CONTRACTOR SHALL ENSURE THAT THE CONDUITS AND WIRES SERVICING THE WARNING GATE ARE NOT DAMAGED DURING THE PROCESS OF DEMOLITION.

INSTALLATION SHALL BE PERFORMED ACCORDING TO MANUFACTURERS' INSTRUCTION. THE CONTRACTOR SHALL REUSE THE EXISTING POWER FEED, CONTROL, AND INDICATION CIRCUITS FROM THE DEMOLISHED PEDESTRIAN GATE AT THE NORTHEAST QUADRANT FOR THE NEW DOUBLE ARM WARNING GATE. THE NEW DOUBLE ARM WARNING GATE SHALL BE EQUIPPED WITH A ½ HP, 480 VOLT, AND THREE-PHASE MOTOR. THE MOTOR SHALL BE INSTANTLY REVERSING AND OVERLOAD PROTECTED.

THE GATE LIMIT SWITCH ASSEMBLY SHALL BE A SELF-CONTAINED UNIT. THE ASSEMBLY SHALL PROVIDE 8 INDEPENDENT SPDT CONTROL SWITCHES. SWITCHES SHALL BE RATED FOR 15 AMPS AT 480 VAC. SWITCHES SHALL BE CONTROLLED BY INDIVIDUALLY ADJUSTABLE CAMS. THE LIMIT SWITCH DESIGN SHALL PERMIT ADJUSTMENT OF ALL CAMS WITH THE GATE IN ANY POSITION. THE LIMIT SWITCH ASSEMBLY SHALL HAVE A REMOVABLE COVER TO PREVENT ACCIDENTAL CONTACT WITH SWITCH TERMINALS AND TO PROTECT THE SWITCHES FROM ENVIRONMENTAL EFFECTS. SHAFTS, CAMS, BUSHINGS, AND HOUSING PIECES SHALL BE OF NON-FERROUS CORROSION RESISTANT MATERIALS.

THE CONTRACTOR IS PERMITTED TO INSTALL A SUITABLE INTERMEDIATE TERMINAL BOX LOCATED WITHIN THE OPERATOR HOUSING, BETWEEN THE EXISTING CONDUITS AND THE NEW COMPONENTS TO EXTEND THE LEAD WIRES. BUTT SPLICES ARE NOT PERMITTED. GATE MOTOR SHALL BE PROVIDED WITH A DISCONNECT SWITCH LOCATED WITHIN THE GATE HOUSING TO OPEN ALL THREE PHASES AS REQUIRED BY THE NEC.

GATE CONTACTOR AND OVERLOADS SHALL BE INTERGRAL TO THE GATE OPERATOR.

EXISTING CONCRETE SHALL BE SAW CUT AND REMOVED AS SHOWN ON THE CONTRACT DRAWINGS. REINFORCEMENT SHALL BE REMOVED TO 1 INCH BELOW THE SURFACE OF CONCRETE AND VOIDS SHALL BE PATCHED WITH NON-SHRINK GROUT. NEW STEEL CLOSURE PLATE SHALL BE INSTALLED TO COVER OPENING IN EXISTING CONCRETE BARRIER CURB AS SHOWN IN THE CONTRACT DRAWINGS. STEEL CLOSURE PLATE AND CONNECTION ANGLES SHALL BE ASTM A709 GRADE 36. THE CONTRACTOR MAY SUBSTITUTE ASTM A709 GRADE 50 AT NO EXTRA COST. PLATE SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123. THE CONTRACTOR SHALL DRILL AND GROUT ANCHOR BOLTS INTO THE EXISTING CONCRETE BARRIER CURB IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE OF AN APPROVED GROUT SUPPLIER AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2005 ODOT STANDARD SPECIFICATIONS.

B & B ROADWAY PRODUCTS HAVE BEEN USED AS THE BASIS OF DESIGN. OTHER MANUFACTURERS' PRODUCTS OF EQUIVALENT QUALITY, DIMENSIONS AND OPERATING FEATURES MAY BE USED AT THE ENGINEER'S DISCRETION IF THEY COMPLY WITH ALL REQUIREMENTS SPECIFIED IN THE CONTRACT DOCUMENTS. CONTRACTOR RETAINS FULL RESPONSIBILITY FOR ACCEPTANCE OF SUBSTITUTED ITEMS.

WIRING CONNECTION OF A NEW WARNING GATE ARM IN THE SOUTHEAST QUADRANT:

THE CONTRACTOR SHALL CONNECT THE WIRES FOR NEW 44' SWING TYPE WARNING GATE ARM AT THE SOUTHEAST QUADRANT OF THE BRIDGE. THE CONTRACTOR SHALL REUSE THE EXISTING POWER FEED CIRCUITS FROM THE EXISTING GATE AT THE SOUTHEAST QUADRANT FOR THE NEW 44' GATE ARM.

THE WIRING AND CONNECTION OF A NEW WARNING GATE ARM SHALL BE COORDINATED WITH THE WORK IN ITEM SPECIAL – STRUCTURE MISC.: MODIFICATION OF EXISTING WARNING GATES.

B & B ROADWAY PRODUCTS HAVE BEEN USED AS THE BASIS OF DESIGN. OTHER MANUFACTURERS' PRODUCTS OF EQUIVALENT QUALITY, DIMENSIONS AND OPERATING FEATURES MAY BE USED AT THE ENGINEER'S DISCRETION IF THEY COMPLY WITH ALL REQUIREMENTS SPECIFIED IN THE CONTRACT DOCUMENTS. CONTRACTOR RETAINS FULL RESPONSIBILITY FOR ACCEPTANCE OF SUBSTITUTED ITEMS.

WIRING MODIFICATIONS AT THE NORTHWEST WARNING GATE:

THE CONTRACTOR SHALL TERMINATE EXISTING CONDUCTORS TO LIGHTS ON THE GATE ARM TO BE REMOVED. CONDUCTORS SHALL BE TERMINATED WITHIN THE MODIFIED GATE ARM AT THE LAST REMAINING SIGNAL. LIGHTS, SOCKETS, AND LENSES TO BE REMOVED SHALL BE SALVAGED AND TURNED OVER TO THE ENGINEER.

TRAFFIC LIGHT INSTALLATION:

THE CONTRACTOR SHALL INSTALL A NEW TRAFFIC LIGHT AT THE NORTH AND SOUTH APPROACHES TO THE BASCULE SPAN AS SHOWN ON THE CONTRACT DRAWINGS.

THE TRAFFIC LIGHT HOUSING SHALL BE A 12" HOUSING MADE FROM DIE CAST ALUMINUM ALLOY. THE HOUSING SHALL HAVE A GLOSS BLACK FINISH WITH A BACK DOOR.

THE TRAFFIC LIGHT FACE ARRANGEMENT SHALL BE A VERTICAL RED, YELLOW AND GREEN ARRANGEMENT.

THE LIGHT SOURCE SHALL BE ALL INCANDESCENT WITH A GLASS LENS AND CAP ALUMINUM VISORS.

EACH SIGNAL SHALL BE PROVIDED WITH A 5 OR 6 SECTION 12 TERMINAL WARNING STRIP; ONE SIDE WITH A QUICK DISCONNECT TERMINAL FOR SOCKET LEADS, AND THE OPPOSITE WITH A SCREW CLAMP TERMINAL FOR FIELD WIRING.

INSTALLATION OF THE TRAFFIC SIGNAL ON THE EXISTING SIGNAL STRUCTURE SHALL BE DONE ACCORDING TO MANUFACTURERS' INSTRUCTION. THE CONTRACTOR SHALL TIE INTO THE EXISTING SIGNAL CIRCUIT AT A JUNCTION BOX AND NOT ANOTHER TRAFFIC SIGNAL SO THAT REMOVAL OF EITHER SIGNAL WILL NOT AFFECT THE OPERATION OF THE REMAINING SIGNAL.

CONDUIT AND LIQUIDTITE FLEXIBLE METAL CONDUIT SHALL BE USED TO EXTEND THE TRAFFIC SIGNAL CIRCUIT AS REQUIRED BY THE APPLICABLE CODES.

TRAFFIC LIGHT RELOCATION:

THE CONTRACTOR SHALL RELOCATE EXISTING TRAFFIC LIGHTS TO THE CENTERS OF THE REALIGNED TRAVEL LANES. THE RELOCATED SIGNALS SHALL BE INSTALLED IN ACCORDANCE WITH THE SAME REQUIREMENTS AS THE NEW SIGNAL SPECIFIED ABOVE.

CONSTRUCTION:

THE CONTRACTOR SHALL PROVIDE [3] COPIES OF THE FOLLOWING DOCUMENTS PRIOR TO INSTALLATION TO THE ENGINEER FOR REVIEW AND EVALUATION: DATA ON SPECIFIED PRODUCT; CERTIFIED SHOP DRAWINGS ON SPECIFIED PRODUCT; COPIES OF INSTALLATION, OPERATION AND MAINTENANCE PROCEDURES FOR THE DOUBLE ARMED WARNING GATE, THE 44' GATE ARM, AND THE TRAFFIC LIGHT. PROCUREMENT OR INSTALLATION OF UNACCEPTABLE ITEMS IS NOT PERMITTED AND WILL BE REJECTED.

THE CONTRACTOR SHALL STORE, PROTECT, AND HANDLE PRODUCTS IN ACCORDANCE WITH RECOMMENDED PRACTICES LISTED IN THE MANUFACTURER'S INSTALLATION AND MAINTENANCE MANUALS. ITEMS SHALL BE STORED ON PALLETS OUT OF STANDING WATER. ENGINEERED ITEMS STORED OUT OF DOORS SHALL BE ADDITIONALLY TARPED TO PREVENT THE DETERIORATION OF THE FACTORY PACKAGING. SHOULD THE CONTRACTOR OPEN FACTORY PACKAGING FOR ANY REASON PRIOR TO INSTALLATION ON SITE, THE FACTORY PACKAGING SHALL BE RESTORED TO AN "AS DELIVERED" CONDITION PRIOR TO STORAGE AND DELIVERY.

THE CONTRACTOR SHALL MAKE ALL NECESSARY FIELD MEASUREMENTS TO VERIFY THAT EQUIPMENT WILL FIT IN ALLOCATED SPACES IN FULL COMPLIANCE WITH MINIMUM REQUIRED CLEARANCES SPECIFIED IN THE NATIONAL ELECTRICAL CODE, IN ACCORDANCE WITH THE CONTRACT DRAWINGS, AND THE MANUFACTURERS' RECOMMENDATIONS.

ANY INCIDENTAL APPARATUS, APPLIANCES, MATERIAL NOT HEREIN SPECIFICALLY MENTIONED OR INCLUDED THAT MAY BE FOUND NECESSARY TO COMPLETE THE PROJECT IN A MANNER SATISFACTORY TO THE DEPARTMENT SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AT NO ADDITIONAL COST.

ALL ELECTRICAL EQUIPMENT AND ITS INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT SPECIFICATIONS FOR MOVABLE HIGHWAY BRIDGES OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO).

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IN ORDER TO PREVENT DETERIORATION DUE TO CORROSION OF PARTS OF THE ELECTRICAL INSTALLATION, ALL HARDWARE, BOLTS, NUTS, STUDS, PINS, SCREWS, TERMINALS, SPRINGS, AND SIMILAR FASTENINGS AND FITTINGS SHALL BE, WHERE PRACTICABLE, OF AN APPROVED CORROSION RESISTING MATERIAL, SUCH AS STAINLESS STEEL OR BRONZE.

THE QUALITY OF THE WIRES AND CABLES, AND THEIR INSULATION AND COVERING, SHALL CONFORM TO THE ICEA-NEMA STANDARDS. WHERE THESE REQUIREMENTS DO NOT APPLY, WIRES AND CABLES SHALL CONFORM TO ASTM AND NEC REQUIREMENTS.

ALL WIRES SHALL BE STRANDED COPPER. NO WIRES SMALLER THAN NO. 12 AWG SHALL BE USED.

WIRES SHALL BE PERMANENTLY IDENTIFIED. THE MARKINGS SHALL BE ON A SLEEVE NOT LESS THAN 1/2" INCH LONG. EACH SLEEVE SHALL BE MARKED SO THAT THE IDENTIFICATION IS PERMANENT, WATERPROOF, AND RIGHT READING. ADHESIVE TYPE LABELS ARE NOT ACCEPTABLE.

WIRES SHALL BE CONTINUOUS FROM TERMINAL TO TERMINAL. SPLICES MAY BE USED ONLY WHERE FIELD MOUNTED DEVICES ARE SUPPLIED WITH PIGTAILS, SHALL BE NEATLY AND CAREFULLY MADE, AND MECHANICALLY AND ELECTRICALLY SECURE BEFORE SOLDERING. SPLICES SHALL BE CONTAINED BY HEAT SHRINKABLE TUBE TYPE SLEEVES (RATED 1000 VOLTS MINIMUM) WITH MASTIC APPLIED TO THE INNER SURFACE OF EACH TUBE. SPLICES SHALL NOT BE INSTALLED INSIDE CONDUITS.

CONDUIT CONNECTIONS TO MOTORS, LIMIT SWITCHES, BRAKE AND OTHER DEVICES, AS OTHERWISE SPECIFIED, SHALL INCLUDE A MINIMUM OF 18 INCH OF LIQUID TIGHT FLEXIBLE CONDUIT.

ELECTRICAL TESTING:

WHEN THE ENTIRE INSTALLATION IS COMPLETED, THE WARNING GATES AND TRAFFIC LIGHTS SHALL BE OPERATED AND VERIFIED TO BE WORKING PROPERLY. DURING THIS TEST, ALL EQUIPMENT SHALL BE INSPECTED BY THE CONTRACTOR AND THE ENGINEER TO DETERMINE WHETHER ALL FEATURES ARE IN PROPER WORKING ORDER AND FULLY MEET THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS. THE CONTRACTOR IS ACCOUNTABLE TO REWORK ANY NONCOMPLIANT ITEMS AT NO CHARGE TO THE DEPARTMENT.PPL

ITEM SPECIAL STRUCTURE, MISC.; BRIDGE ELECTRICAL (CONT.)

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE BRIDGE ELECTRICAL WORK ON A LUMP SUM BASIS.

<b>acila</b> <small>adachi clyde lynn associates inc. 5895 transportation boulevard cleveland, ohio 44128</small>	DATE 3/21/06	REVISION EAF STRUCTURE FILE NUMBER 4805917	DESIGNED BA CHECKED JAH/JA
STRUCTURAL GENERAL NOTES CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER THE MAUMEE RIVER			
LUC-280-2.34 TRENCH RECLAMATION			
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467 555			

STRUCTURAL GENERAL NOTES

**BASIS OF PAYMENT:** PAYMENT FOR ELECTRICAL WORK WILL BE MADE AS A CONTRACT LUMP SUM. THE LUMP SUM PRICE BID SHALL INCLUDE THE COST OF FURNISHING ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED FOR THE REMOVAL AND DISPOSAL OF THE EXISTING SOUTHWEST AND NORTHEAST PEDESTRIAN WARNING GATES AND THE INSTALLATION OF NEW OVERHEAD TYPE WARNING GATES WITH SIDEWALK ARMS AT THE SAME LOCATION. THIS WORK WILL INCLUDE THE REMOVAL AND DISPOSAL OF CONCRETE BARRIER CURB AND THE INSTALLATION OF STEEL CLOSURE PLATES AND CONNECTION ANGLES TO ACCOMMODATE THE INSTALLATION OF THE NEW GATE HOUSING, GALVANIZING OF THESE STEEL MEMBERS, CONCRETE SAWCUTS, PATCHING WITH NON-SHRINK GROUT, ANCHOR BOLTS, DRILLING AND GROUTING ANCHOR BOLTS, WIRING FOR THE NEW SOUTHWEST AND NORTHEAST WARNING GATES, WIRING FOR THE NEW SOUTHWEST LIGHTWEIGHT GATE ARM, TERMINATION OF THE WIRING IN THE EXISTING NORTHWEST WARNING GATE, RELOCATION OF EXISTING TRAFFIC SIGNALS, INSTALLATION OF NEW TRAFFIC SIGNALS, AND THE WIRING REQUIRED TO ACCOMMODATE THE NEW AND RELOCATED TRAFFIC SIGNALS.

ITEM SPECIAL – STRUCTURE, MISC.; BASCULE SPAN BALANCING

THIS SECTION GIVES GENERAL REQUIREMENTS WHICH APPLY TO THE PERFORMANCE OF ALL BALANCE TESTING, ALONG WITH ALL MATERIALS, LABOR, EQUIPMENT, AND TOOLS REQUIRED TO PROPERLY EXECUTE THE TESTING AND BALANCE ADJUSTMENT DURING CONSTRUCTION, AND FINAL TESTING AND BALANCE ADJUSTMENT OF THE SPAN IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS AND SPECIAL PROVISIONS. ALL WORK SHALL BE COORDINATED WITH ASSOCIATED STRUCTURAL AND ELECTRICAL WORK.

AT THE CONCLUSION OF ALL WORK, THE SPAN BALANCE SHALL BE CHECKED (STRAIN GAUGE METHOD) AND ADJUSTED TO OBTAIN PROPER BALANCE (A TOE REACTION OF 4,500 POUNDS SPAN HEAVY, ±1000 POUNDS, AND A PHI ANGLE BETWEEN 10° AND 42°). THE FINAL BALANCE CONDITION MAY BE ADJUSTED BASED UPON BRIDGE OPERATOR INPUT AND APPROVAL OF THE ENGINEER.

CONTRACTOR PROPOSED ALTERNATES:

IN THE EVENT THAT THE CONTRACTOR WISHES TO PROPOSE AN ALTERNATE TO ANY WORK RELATED TO SPAN BALANCING SHOWN ON THE PLANS OR DESCRIBED IN THIS SPECIAL PROVISION, SUCH PROPOSALS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. THE PROPOSAL SHALL INCLUDE THE APPROPRIATE DRAWINGS, SKETCHES, CALCULATIONS, AND DESCRIPTIONS SO THAT THE ADEQUACY OF THE PROPOSAL CAN BE PROPERLY EVALUATED. THE PROPOSAL SHALL IDENTIFY AND QUANTIFY THE BENEFITS THAT WILL RESULT FROM THE PROPOSED ALTERNATE. THE PROPOSAL SHALL INDICATE THE ADDED COSTS OR SAVINGS THAT WILL ACCRUE TO THE DEPARTMENT. THE CONTRACTOR SHALL REIMBURSE THE DEPARTMENT FOR ALL COSTS ASSOCIATED WITH REVIEWING AND EVALUATING THE PROPOSED ALTERNATE. SUCH REIMBURSEMENT WILL BE REQUIRED WHETHER OR NOT THE PROPOSED ALTERNATE IS AUTHORIZED FOR INCLUSION IN THE WORK.

CONTRACTOR RESPONSIBILITY:

THE CONTRACTOR SHALL HAVE A REPRESENTATIVE ON THE SITE AT ALL TIMES WHILE WORK IS IN PROGRESS TO OVERSEE ALL CONSTRUCTION INCLUDING ALL WORK OF EACH SUBCONTRACTOR.

MATERIALS:

MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) SPECIFICATION, AND THE AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) SPECIFICATIONS OF THE LATEST ISSUE. SUITABLE TEST BARS SHALL BE PROVIDED FOR EACH COMPONENT AS SPECIFIED FOR THAT MATERIAL IN THE ANNUAL BOOK OF ASTM STANDARDS OF THE MOST RECENT ISSUE. THIS SHALL BE IN ADDITION TO ANY AND ALL STANDARDS NORMALLY ADHERED TO BY THE MANUFACTURER.

STANDARD PRODUCTS:

TO THE GREATEST EXTENT POSSIBLE, MATERIALS AND EQUIPMENT SHALL BE ESSENTIALLY THE STANDARD CATALOGUED PRODUCTS OF MANUFACTURERS REGULARLY ENGAGED IN PRODUCTION OF SUCH MATERIALS OR EQUIPMENT AND SHALL BE MANUFACTURER'S LATEST STANDARD DESIGN THAT COMPLIES WITH THE SPECIFICATION REQUIREMENTS. MATERIALS AND EQUIPMENT SHALL ESSENTIALLY DUPLICATE ITEMS THAT HAVE BEEN IN SATISFACTORY COMMERCIAL OR INDUSTRIAL USE AT LEAST TWO YEARS PRIOR TO BID OPENING. WHERE TWO UNITS OF THE SAME CLASS OF EQUIPMENT ARE REQUIRED, THESE UNITS SHALL BE PRODUCTS OF A SINGLE MANUFACTURER; HOWEVER, THE COMPONENT PARTS OF THE SYSTEM NEED NOT BE THE PRODUCTS OF THE SAME MANUFACTURER.

MANUFACTURER'S RECOMMENDATIONS:

WHERE INSTALLATION PROCEDURES OR ANY PART THEREOF ARE REQUIRED TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER OF THE MATERIAL BEING INSTALLED, PRINTED COPIES OF THESE RECOMMENDATIONS SHALL BE FURNISHED TO THE ENGINEER PRIOR TO INSTALLATION. INSTALLATION OF THE ITEM SHALL NOT BE ALLOWED TO PROCEED UNTIL THE RECOMMENDATIONS ARE RECEIVED. FAILURE TO FURNISH THESE RECOMMENDATIONS CAN BE CAUSE FOR REJECTION OF THE MATERIAL.

SPAN BALANCE TESTING EQUIPMENT:

THE IMBALANCE OF THE SPANS SHALL BE MEASURED USING THE DYNAMIC STRAIN GAUGE TECHNIQUE.

THE SIGNAL CONDITIONING AND DATA COLLECTION EQUIPMENT SHALL RECORD ALL MEASUREMENTS IN DIGITAL FORM. THE SYSTEM SHALL MEASURE PINION SHAFT STRAINS AND DIRECT MEASUREMENT OF SPAN POSITION AND SPEED (ROTATION RATE).

FOIL TYPE STRAIN GAUGE ROSETTES SHALL BE USED.

THE CONTRACTOR SHALL SUBMIT THE FOLLOWING ITEMS FOR APPROVAL BY THE ENGINEER:

- A) DESCRIPTION OF THE BALANCING PROCEDURE INCLUDING TYPE AND METHOD OF INSTALLATION.
- B) LOCATION PLAN OF SPAN DRIVE EQUIPMENT INDICATING PROPOSED LOCATIONS FOR STRAIN GAUGES, AMPLIFIERS, CABLE OR RADIO LINKS, DATA ACQUISITION AND ALL ASSOCIATED CABLING.
- C) DETAILS AND METHODS OF TRANSMISSION OF SIGNALS FROM SHAFTING TO DATA ACQUISITION EQUIPMENT.
- D) ELEMENTARY WIRING DIAGRAMS OF INTERCONNECTION OF STRAIN GAUGES, AMPLIFIERS, DATA ACQUISITION EQUIPMENT.
- E) DESCRIPTION OF MECHANICAL AND ELECTRICAL FACTORS INCLUDING SAMPLE CALCULATIONS FOR OBTAINING SHAFT TORQUE FROM MEASURED STRAINS, SPAN IMBALANCE AND CURVE FITTING TECHNIQUES AND THE BASIS FOR FRICTION CORRECTIONS.

EXISTING CONDITIONS:

THE CONTRACTOR SHALL FULLY EXAMINE THE JOB SITE CONDITIONS PRIOR TO SUBMITTING HIS OR HER BID. ANY VARIATION IN THE EXISTING CONDITIONS FROM THOSE INDICATED ON THE PLANS SHALL BE NOTED, BROUGHT TO THE ATTENTION OF THE ENGINEER, AND SHALL BE TAKEN INTO ACCOUNT PRIOR TO BIDDING. ANY MODIFICATIONS REQUIRED TO THE EXISTING STRUCTURE, THE EXISTING MACHINERY, OR ANY CHANGES TO THE NEW MACHINERY LAYOUT OR ITS NEW SUPPORTING STRUCTURE FROM THAT SHOWN ON THE PLANS SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM. SPECIFIC ATTENTION SHOULD BE PAID TO THE LOCATION OF THE EXISTING RACK, PINION SHAFTS, AND INTERMEDIATE OPEN GEAR SETS, AT EACH OF THE FOUR CORNERS OF THE SPAN.

FIELD ERECTION:

THE BRIDGE SHALL REMAIN IN ITS BALANCED CONDITION, AS STATED ABOVE, THROUGHOUT THE DURATION OF CONSTRUCTION. THE CONTRACTOR SHALL PERFORM CALCULATIONS SUCH THAT ADJUSTMENTS TO BALANCE CAN BE MADE DURING CONSTRUCTION AS MATERIALS ARE ADDED OR REMOVED. WHEN WEIGHT ADJUSTMENTS ARE NECESSARY TO MAINTAIN BALANCE CONDITIONS, WEIGHT SHALL BE ADDED TO OR REMOVED FROM THE COUNTERWEIGHT POCKETS IN ACCORDANCE WITH THE APPROVED CALCULATIONS. THE BRIDGE BALANCE CONDITIONS SHALL BE ADJUSTED THE SAME DAY THAT THE CONSTRUCTION ACTIVITY OCCURS CAUSING A CHANGE IN BALANCE AND PRIOR TO ANY MARINE OPENING. AT NO TIME SHALL ANY BRAKES BE RELEASED UNTIL THE BRIDGE BALANCE HAS BEEN PROPERLY RESTORED. THE SPAN SHALL BE BALANCED AT THE CONCLUSION OF ALL CONSTRUCTION. THE BALANCE FOR EACH LEAF SHALL BE CHECKED USING THE STRAIN GAUGE TECHNIQUE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LABOR AND MATERIALS REQUIRED TO DETERMINE AND ADJUST THE BALANCE CONDITION BY THE REMOVAL OR ADDITION OF BALANCE BLOCKS TO ACHIEVE THE PROPER BALANCE CONDITION.

DYNAMIC STRAIN GAUGE MEASUREMENT:

THE MEASUREMENT OF SPAN BALANCE SHALL BE PERFORMED BY QUALIFIED SUBCONTRACTORS WITH A MINIMUM EXPERIENCE OF BALANCING SIX (6) TRUNNION BASCULE SPANS IN THE PAST FIVE YEARS.

BALANCE CALCULATIONS SHALL UTILIZE A MINIMUM OF 100 DATA POINTS FOR EACH OPENING OR CLOSING CYCLE PER PINION SHAFT.

FOR EACH SPAN, BOTH PINION SHAFTS OR INTERMEDIATE SHAFTS SHALL BE MEASURED SIMULTANEOUSLY.

PRIOR TO ANY BALANCING WORK, THE CONTRACTOR SHALL SUBMIT A BALANCING PROCEDURE WITH CALCULATIONS TO THE ENGINEER FOR APPROVAL.

THE SPAN BALANCE SHALL BE MAINTAINED IN A SLIGHTLY SPAN HEAVY CONDITION (2 TO 5 PERCENT) AT ALL TIMES. FOR EACH STRUCTURAL COMPONENT OR MEMBER OF SIGNIFICANT WEIGHT REMOVED OR ADDED TO THE SPAN, THE WEIGHT OF THE OBJECT AND THE VERTICAL AND HORIZONTAL DISTANCES FROM THE OBJECT CENTER OF GRAVITY TO THE CENTERLINE OF THE ROLL SHALL BE USED TO CALCULATE THE EXACT AMOUNT OF WEIGHT TO BE ADDED OR REMOVED FROM THE COUNTERWEIGHT. THE PHI ANGLE SHALL BE MAINTAINED AT A VALUE BETWEEN 40° AND 60°, SUCH THAT AN UNSAFE CONDITION NEVER EXISTS.

BALANCE BLOCKS THAT ARE ADDED OR REMOVED FROM THE SPAN SHALL BE WEIGHED AND THEIR WEIGHT AND PHYSICAL LOCATION SHALL BE RECORDED. A LOG OF COUNTERWEIGHT INFORMATION SHALL BE PROVIDED TO THE ENGINEER AND MAINTAINED AT THE JOB SITE. ALL BLOCKS SHALL BE PROVIDED BY THE DEPARTMENT OF TRANSPORTATION.

AT THE CONCLUSION OF CONSTRUCTION, THE SPAN SHALL BE BALANCED SUCH THAT THE SPECIFIED SPAN HEAVY CONDITION IS ACHIEVED.

BALANCING:

BALANCE BLOCKS SHALL BE SUPPLIED BY THE DEPARTMENT FOR ADDITIONAL COUNTERWEIGHT AND SHALL BE DISTRIBUTED APPROXIMATELY EQUALLY IN ALL POCKETS WHEN ADDED TO THE COUNTERWEIGHT.

FOR FINAL BALANCE OF THE BASCULE LEAVES, THE CONTRACTOR SHALL ADD, REMOVE, OR REARRANGE ADJUSTMENT BLOCKS AS NECESSARY TO MAKE THE LEAVES "SLIGHTLY" LEAF HEAVY, THAT IS, THE TOE REACTION SHALL BE APPROXIMATELY 4,500 POUNDS SPAN HEAVY, ±1000 POUNDS, AND A PHI ANGLE BETWEEN 10° AND 42°. NOTE: THE FINAL BALANCE CONDITIONS MAY BE ADJUSTED BASED UPON BRIDGE OPERATOR INPUT AND APPROVAL OF THE ENGINEER.

A DRIFT TEST MAY BE PERFORMED TO DETERMINE APPROXIMATE BALANCE. WHEN NO OUTSIDE FORCES ARE ACTING ON THE LEAF, IT SHOULD TEND TO SLOWLY DRIFT TO THE CLOSED POSITION. THE BALANCE SHALL BE CHECKED IN THE NEARLY CLOSED, MIDWAY, AND NEARLY OPEN POSITIONS. THE CHECKS SHALL BE MADE BY PLACING THE DRIVE SYSTEM IN A FREE WHEELING MODE AND THEN RELEASING THE BRAKES; THE LEAF SHOULD BEGIN TO DRIFT CLOSED. THE TIME THAT IT TAKES FROM THE MOMENT THAT THE BRAKES ARE RELEASED UNTIL THE LEAF HAS DRIFTED 1.0 DEGREE SHALL BE RECORDED. IF THE LEAF DRIFTS MORE THAN 1.0 DEGREE IN 10 SECONDS, ADDITIONAL ADJUSTMENT BLOCKS SHALL BE PLACED IN THE POCKETS AS NECESSARY. IF THE LEAF DRIFTS LESS THEN 1.0 DEGREE IN 60 SECONDS ADJUSTMENT BLOCKS SHALL BE REMOVED FROM THE POCKETS AS NECESSARY.

FINAL BALANCING SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER. ALL NECESSARY ADJUSTMENTS AND MATERIALS WHICH MAY BE REQUIRED WILL BE CONSIDERED AS PART OF THE WORK.

PRIOR TO BALANCING, THE CONTRACTOR SHALL REMOVE ANY AND ALL TRASH AND LOOSE MATERIAL FROM THE ADJUSTMENT POCKETS; ONLY ADJUSTMENT BLOCKS WILL BE PERMITTED IN THE POCKETS.

THE BALANCE OF THE BASCULE LEAVES SHALL BE CONSIDERED UNACCEPTABLE IF: AFTER FINAL BALANCING, THE BASCULE LEAF IS NOT "SLIGHTLY" LEAF HEAVY AS DEFINED ABOVE. THE ENGINEER'S JUDGMENT OF UNACCEPTABLE WILL BE FINAL.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE SPAN BALANCING ON A LUMP SUM BASIS.

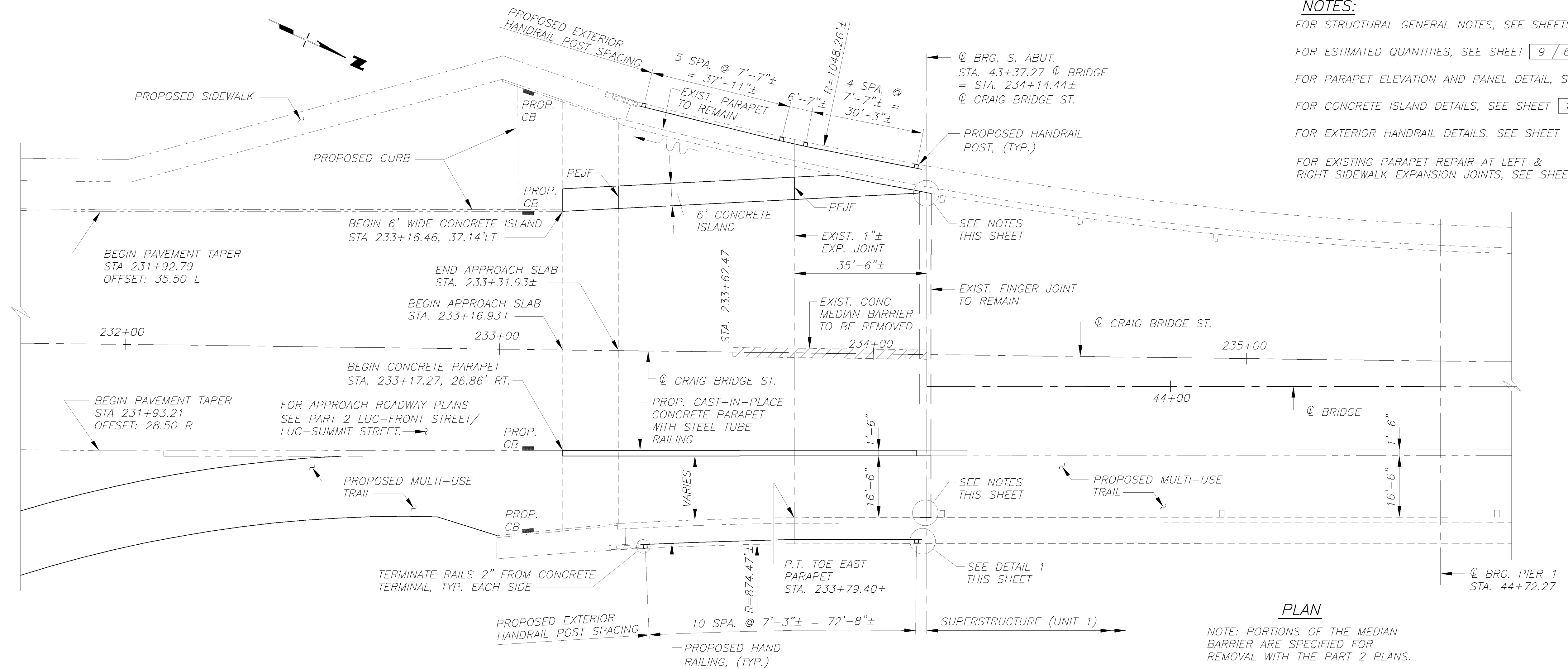
BASIS OF PAYMENT: THE CONTRACTOR SHALL BE PAID ON A LUMP SUM BASIS FOR THE PERFORMANCE OF ALL TESTING, ALONG WITH ALL MATERIALS, LABOR, EQUIPMENT, AND TOOLS REQUIRED TO PROPERLY EXECUTE THE TESTING AND BALANCE ADJUSTMENT OF THE SPAN IN ACCORDANCE WITH THE PLANS AND THESE SPECIFICATIONS. PROGRESS PAYMENTS WILL BE MADE. PRIOR TO THE BEGINNING OF ANY WORK UNDER THIS ITEM, THE CONTRACTOR SHALL SUBMIT A SCHEDULE OF WORK OUTLINING ALL WORK STAGES, PERCENTAGES AND PROBABLE COMPLETION DATES. PROGRESS PAYMENTS WILL BE MADE IN ACCORDANCE WITH THIS SCHEDULE AS SPECIFIC WORK TASKS ARE COMPLETED AND AT THE DISCRETION OF THE ENGINEER.

drawing scale : 1" = 1'-0"  
plot scale : 1:1

<p><b>acila</b> cedric clunt lynn associates inc. 5935 transportation boulevard cleveland, ohio 44126</p>	DATE	3/21/06
	REVIEWED	EAF
DESIGNED	BA	CHECKED
DRAWN	DMT/TJW	REVISED
STRUCTURE FILE NUMBER	4805917	
<p><b>STRUCTURAL GENERAL NOTES</b> CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER THE MAJUMEE RIVER</p>		
<p>LUC-280-2.34 TRENCH RECLAMATION</p>		8A/63
<p>467A 555</p>		

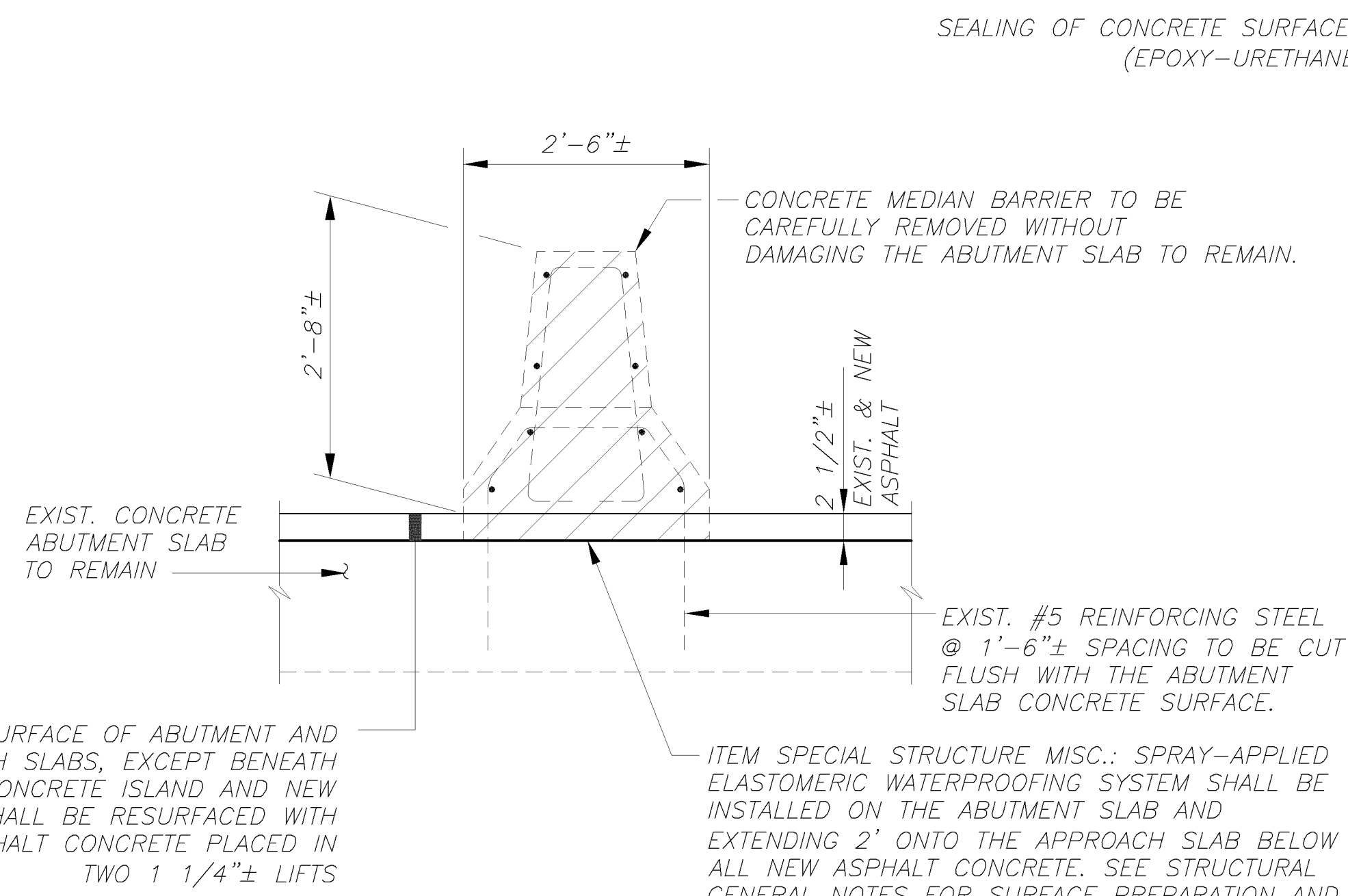


G:\02002\202016\Craig\_Bridge\10 s about plan.dwg 10/23/2005 8:48:20 AM EST  
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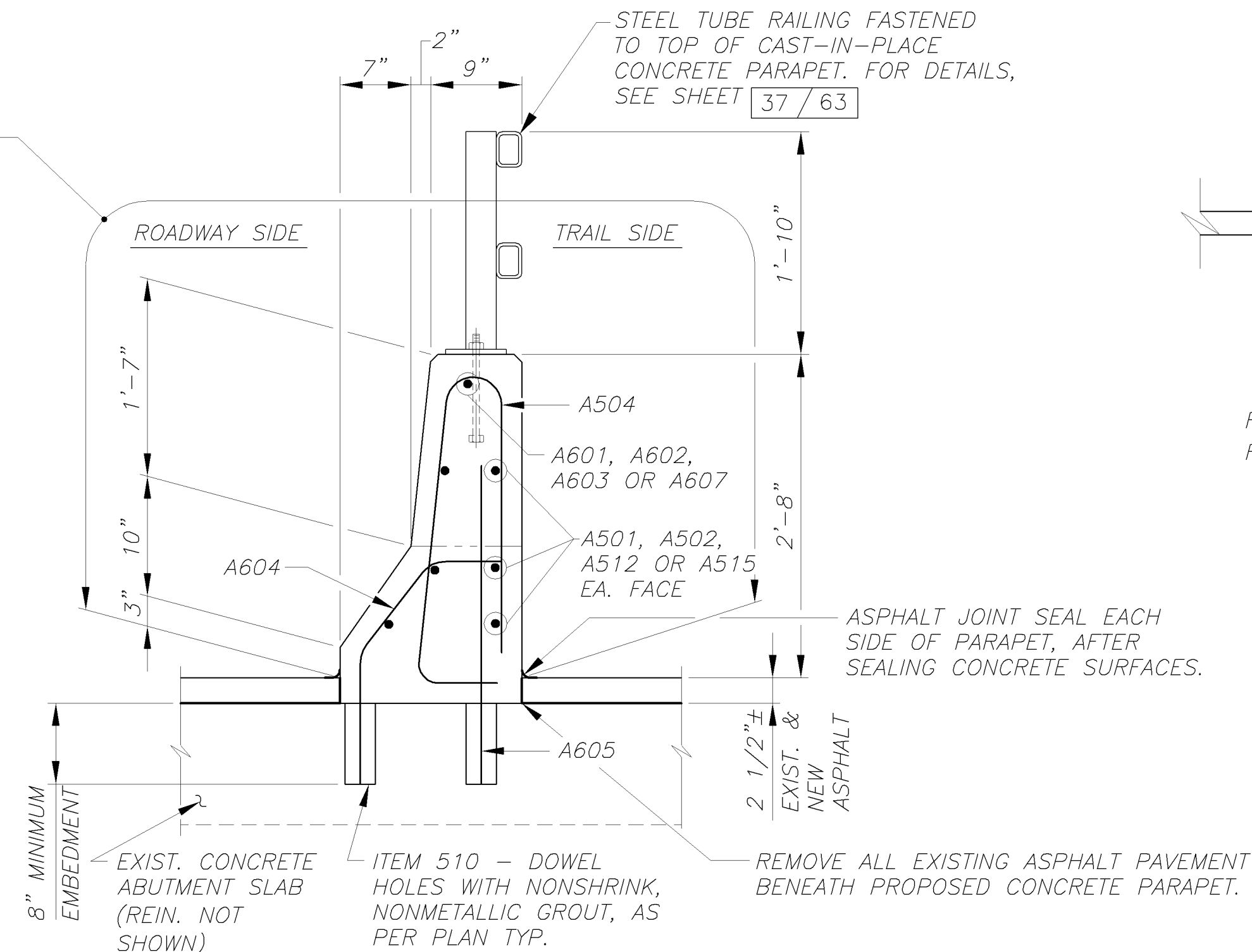


**NOTES:**  
FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 3 / 63 TO 8 / 63  
FOR ESTIMATED QUANTITIES, SEE SHEET 9 / 63  
FOR PARAPET ELEVATION AND PANEL DETAIL, SEE SHEET 27 / 63  
FOR CONCRETE ISLAND DETAILS, SEE SHEET 11 / 63  
FOR EXTERIOR HANDRAIL DETAILS, SEE SHEET 37 / 63  
FOR EXISTING PARAPET REPAIR AT LEFT & RIGHT SIDEWALK EXPANSION JOINTS, SEE SHEET 41A / 63

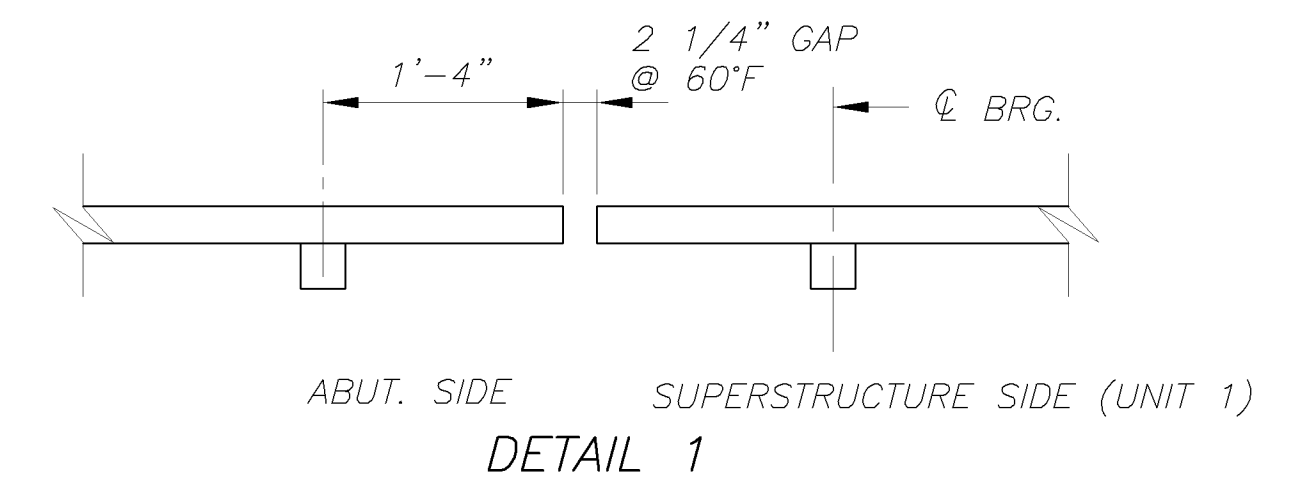
**PLAN**  
NOTE: PORTIONS OF THE MEDIAN BARRIER ARE SPECIFIED FOR REMOVAL WITH THE PART 2 PLANS.



**MEDIAN BARRIER REMOVAL/RESURFACING DETAIL**  
ABUTMENT SLAB REINFORCING NOT SHOWN



**TYPICAL PARAPET SECTION**  
ALONG WEST SIDE OF MULTI-USE TRAIL



RIGHT SIDE HANDRAIL SHOWN, LEFT SIDE HANDRAIL SIMILAR. FOR UNIT 1 HANDRAIL, SEE SHEET 18 / 63

G:\02002\202016\Craig\_Bridge\11 s about island det.s.dwg 10/23/2005 8:55:56 AM EST  
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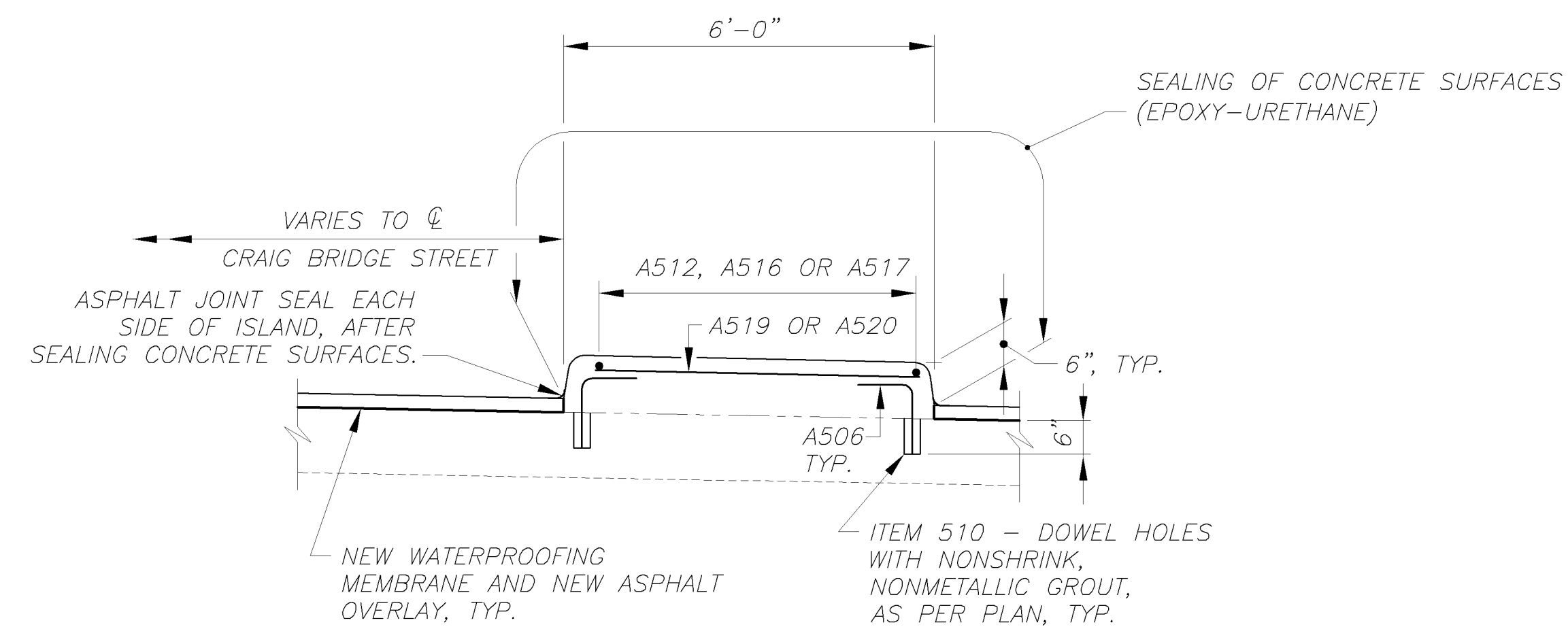
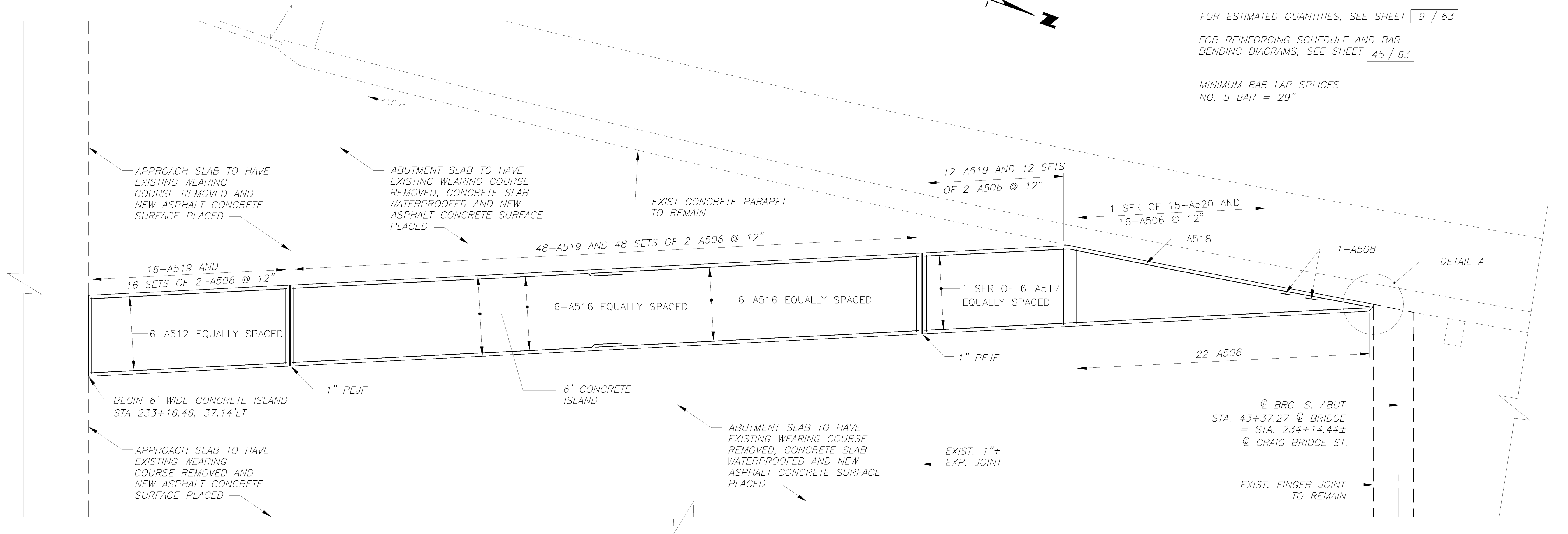
**NOTES**

FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 3 / 63 TO 8 / 63

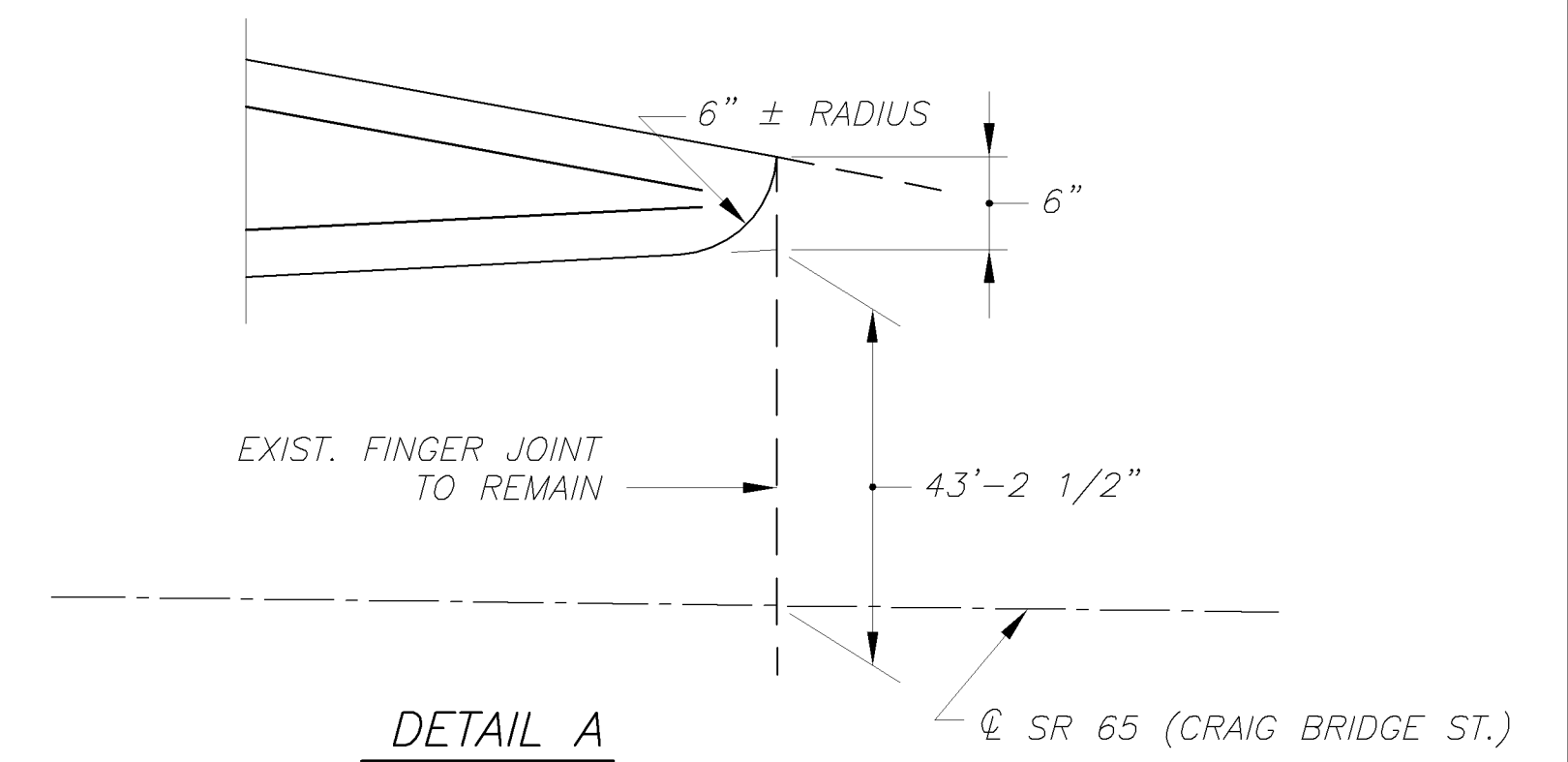
FOR ESTIMATED QUANTITIES, SEE SHEET 9 / 63

FOR REINFORCING SCHEDULE AND BAR BENDING DIAGRAM, SEE SHEET 45 / 63

MINIMUM BAR LAP SPLICES  
NO. 5 BAR = 29"



**ISLAND SECTION**  
LOOKING DOWNSTATION



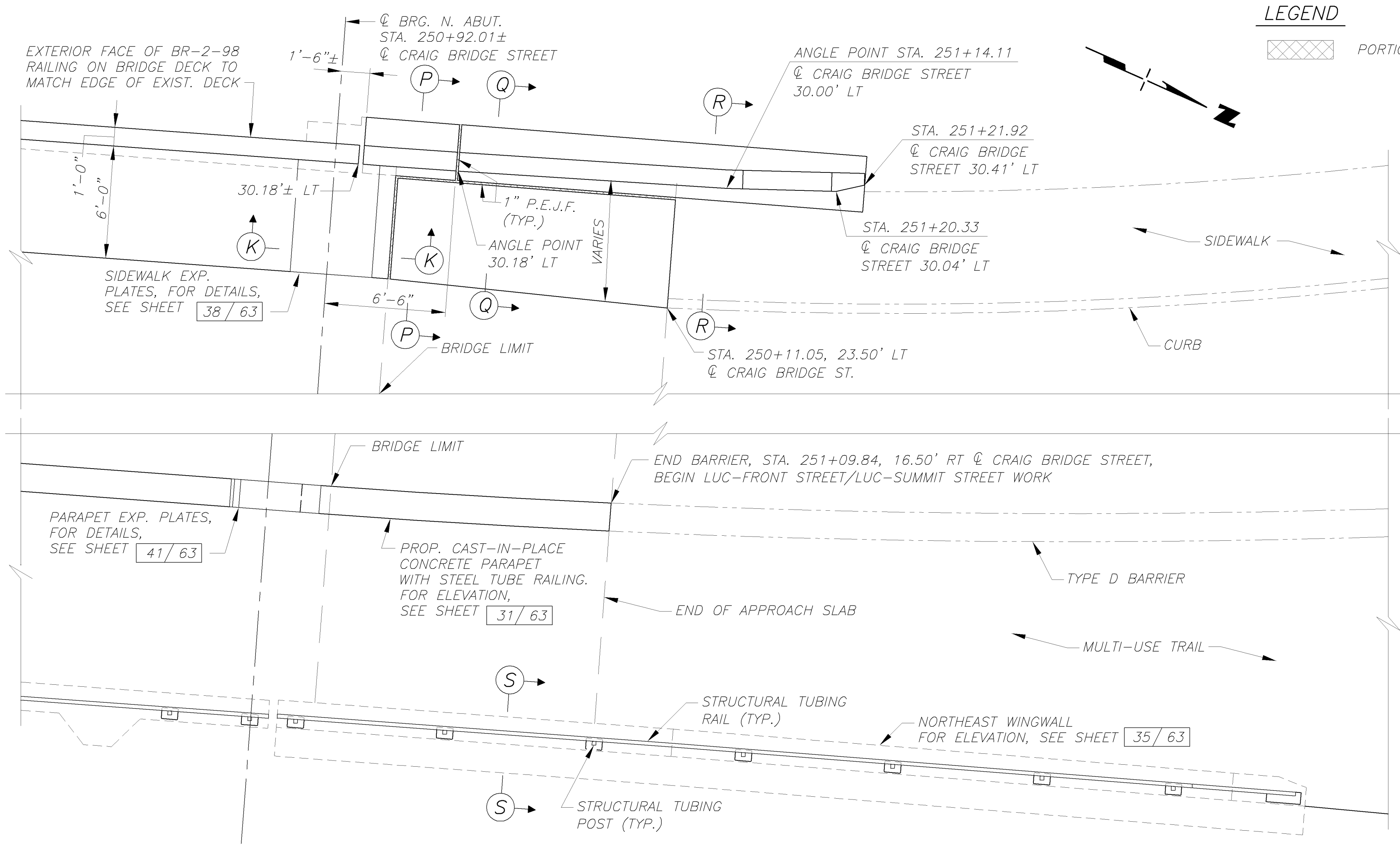
**DETAIL A**

DATE	3/21/06
REVIEWED	EAF
STRUCTURE FILE NUMBER	4805917
DESIGNED	TJW
CHECKED	DP
DRAWN	TJW
REVIS	

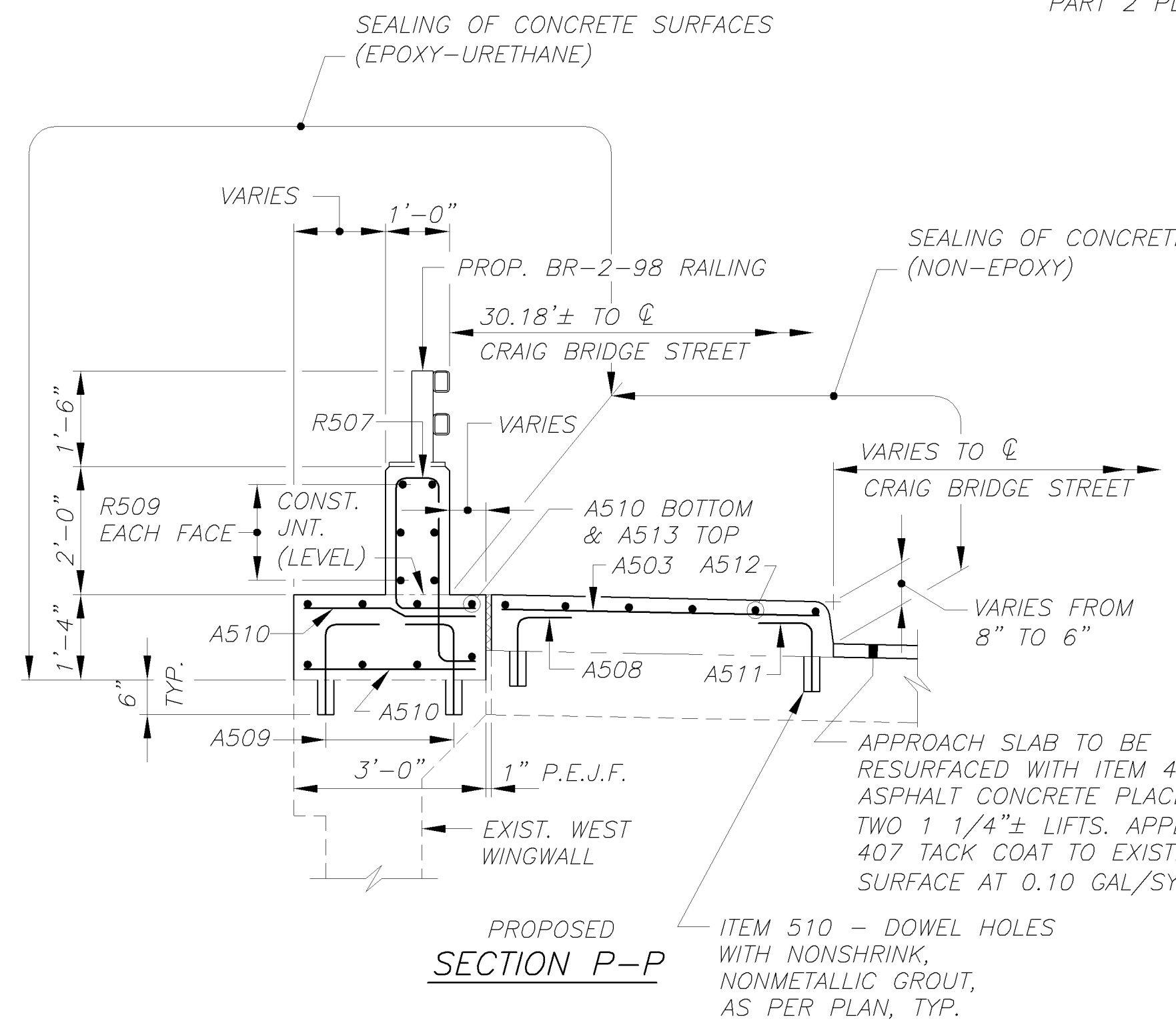
**SOUTH ABUTMENT CONCRETE ISLAND DETAILS**  
CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  
OVER THE MAUMEE RIVER

LUC-280-2.34  
TRENCH  
RECLAMATION

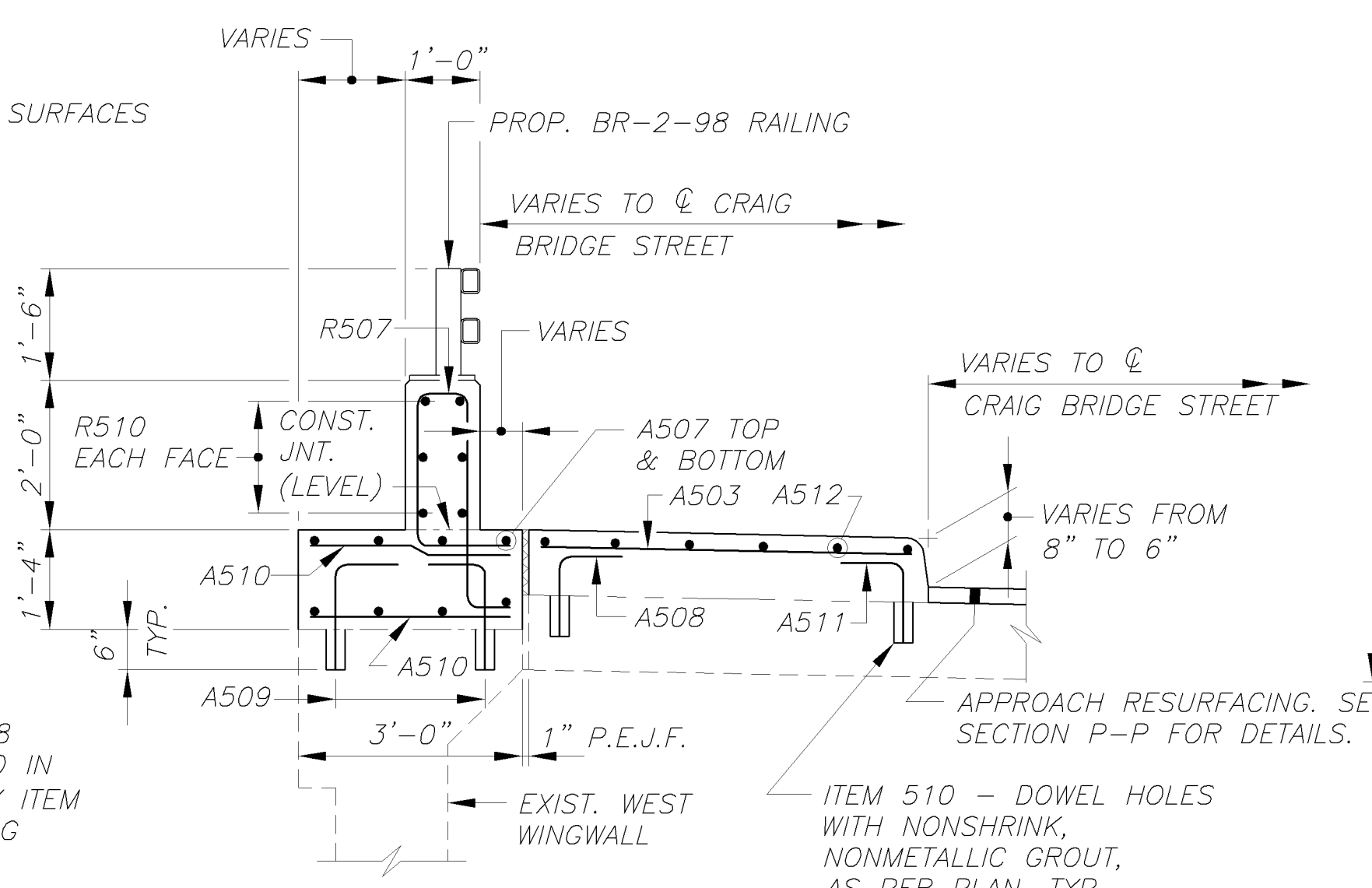
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plot scale: 1:48



**PLAN**  
BRIDGE TERMINAL ASSEMBLY AT WEST WINGWALL NOT SHOWN, SEE PART 2 PLANS.

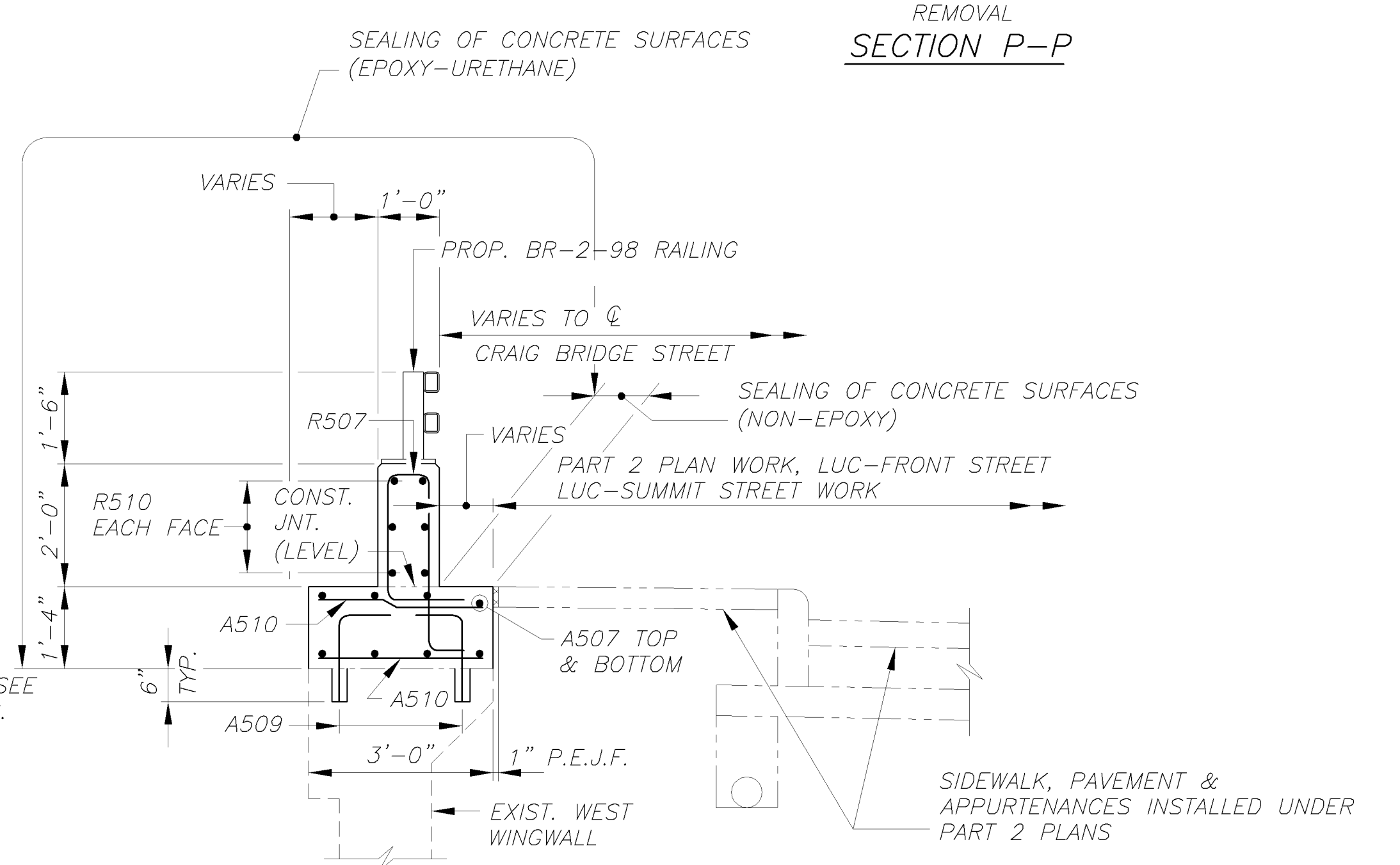


**SECTION P-P**



**SECTION Q-Q**

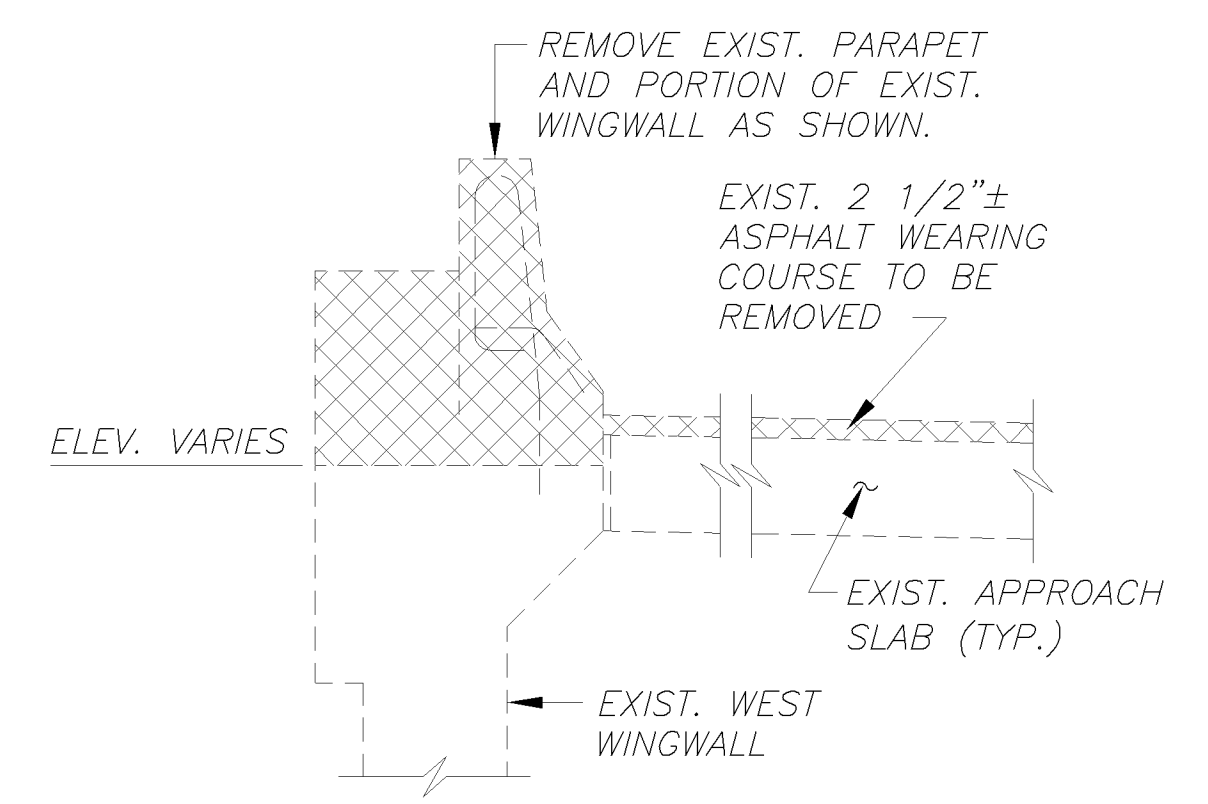
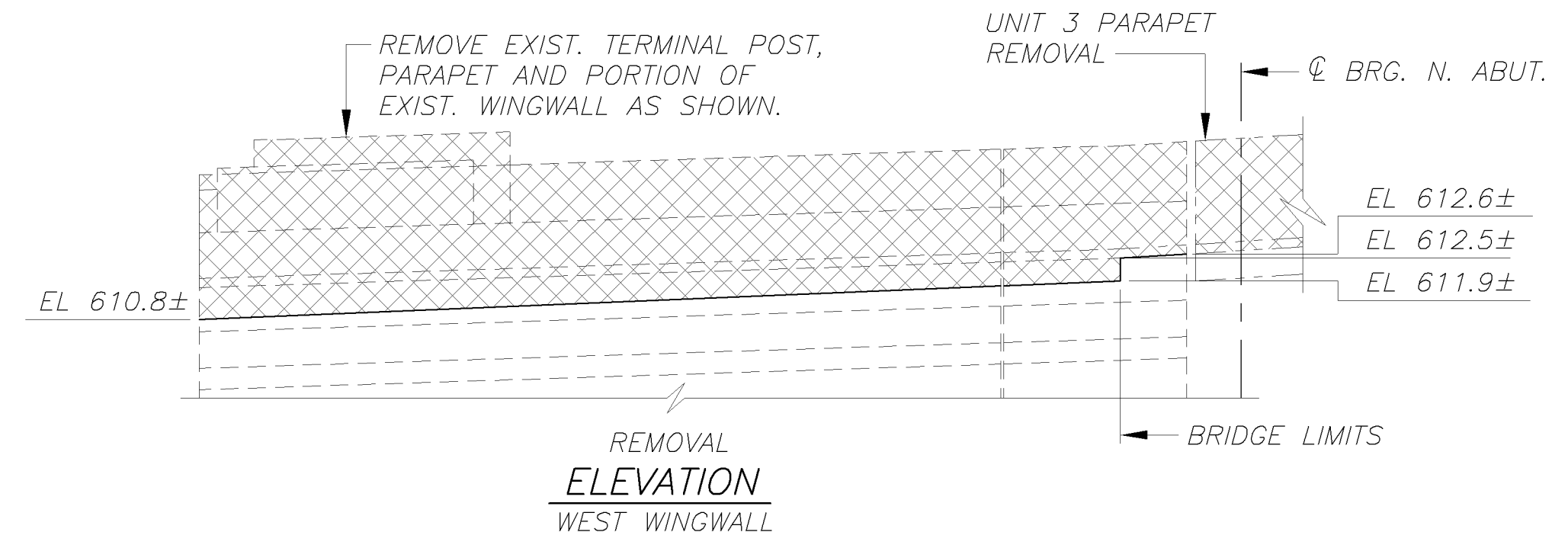
FOR SEALING LIMITS, SEE SECTION P-P



**SECTION R-R**

**LEGEND**  
 PORTIONS OF STRUCTURE REMOVED

**NOTES**  
FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 3/63 TO 8/63  
FOR ESTIMATED QUANTITIES, SEE SHEET 9/63  
FOR SECTION K-K AND S-S, SEE SHEETS 38/63 AND 35/63  
FOR REINFORCING SCHEDULE AND BAR BENDING DIAGRAMS, SEE SHEET 45/63  
FOR ADDITIONAL DETAILS, SEE SHEET 13/63  
FOR APPROACH PAVEMENT DETAILS, SEE SHEET PART 2 PLANS.

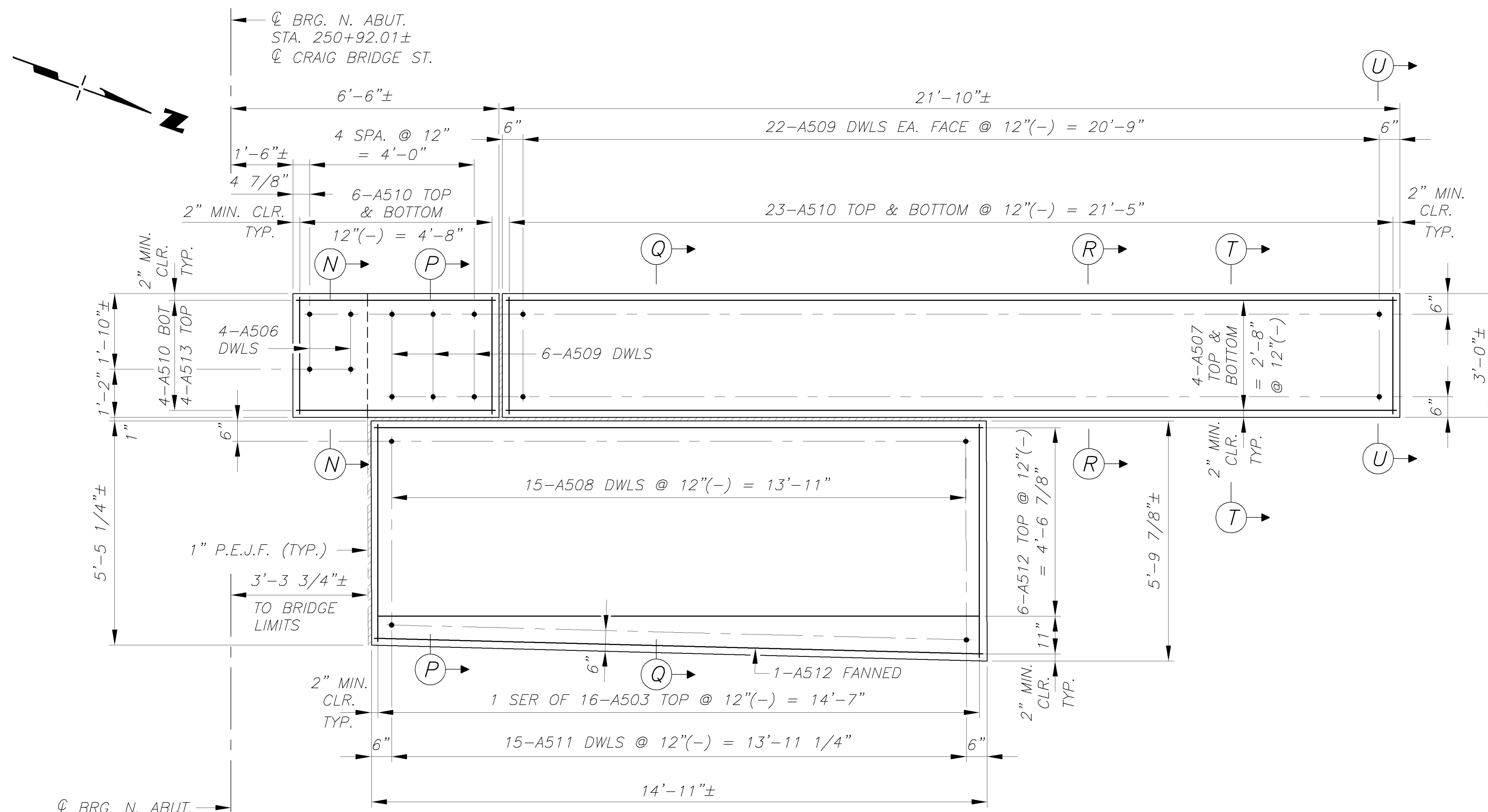


**REMOVAL SECTION P-P**

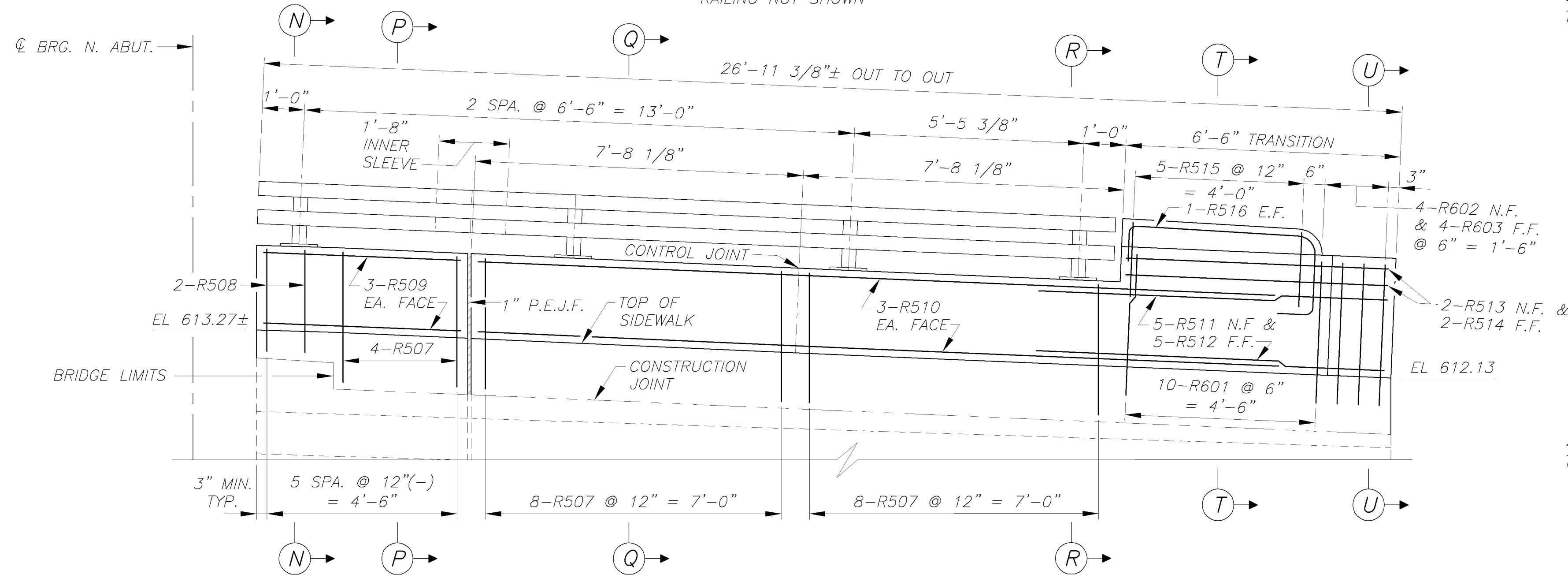
**acila**  
cleveland, ohio 44125  
595 transportation boulevard  
cleveland, ohio 44125  
DATE: 3/21/06  
STRUCTURE FILE NUMBER: 4805917  
DESIGNED: DMT  
CHECKED: DP  
DRAWN: DMT  
REMOVED: REVISED  
REVIEWED: EAF  
NORTH ABUTMENT PLAN  
CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  
OVER THE MAUMEE RIVER  
LUC-280-2.34  
TRENCH RECLAMATION  
12/63  
471  
555



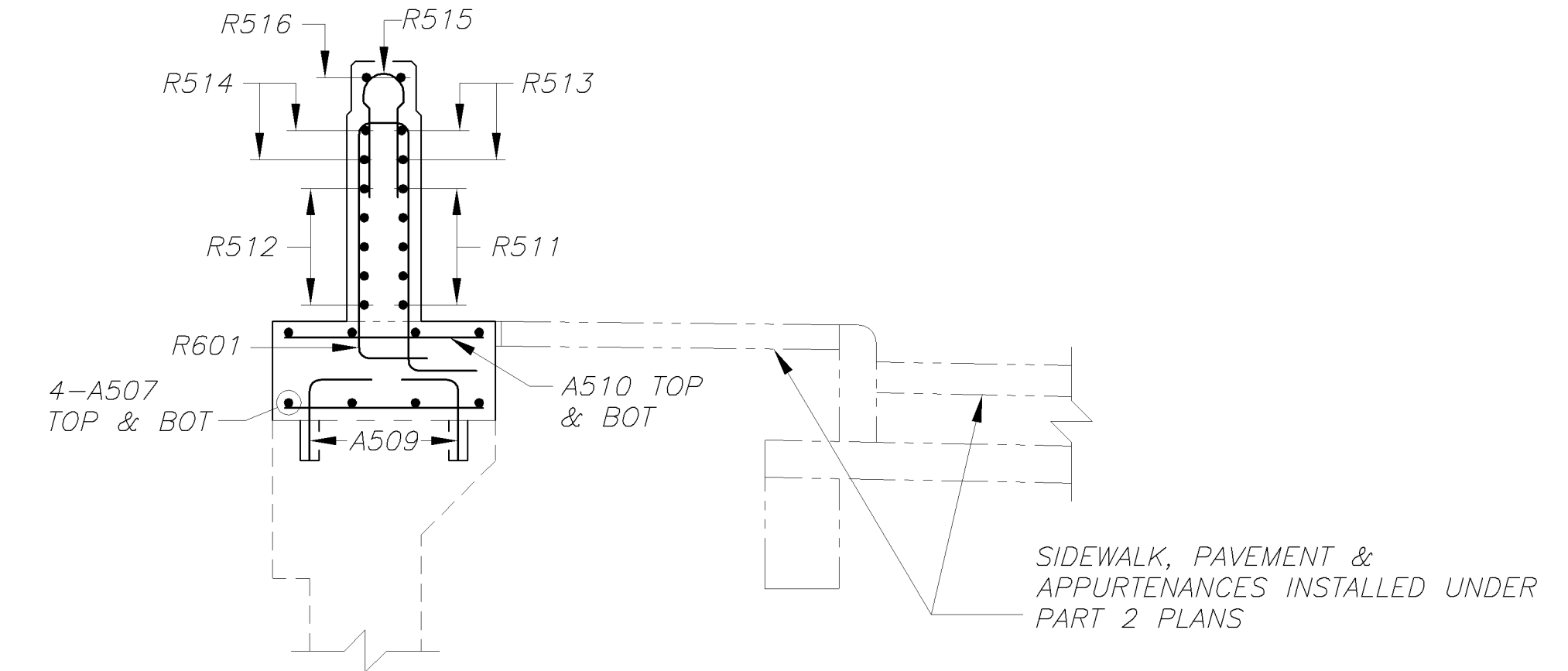
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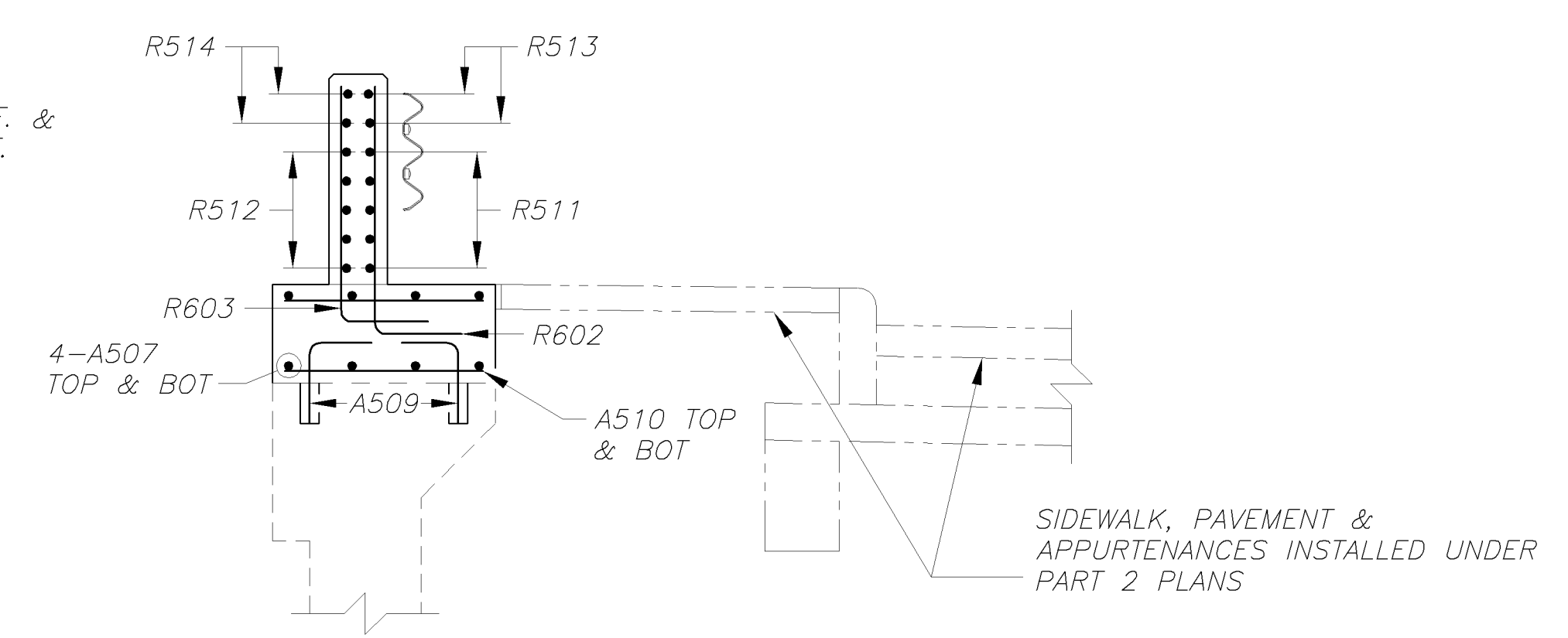
**PLAN**  
RAILING NOT SHOWN



**ELEVATION**  
WEST WINGWALL.  
FOR BRIDGE TERMINAL ASSEMBLY, NOT SHOWN, SEE PART 2 PLANS.



**SECTION T-T**



**SECTION U-U**

**RAILING TRANSITION SECTIONS**

FOR CALLOUTS AND DIMENSIONS NOT SHOWN, SEE STD. DWG. BR-2-98.  
FOR SEALING LIMITS, SEE SECTION R-R ON SHEET 12 / 63

**NOTES**  
FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 3 / 63 TO 8 / 63  
FOR ESTIMATED QUANTITIES, SEE SHEET 9 / 63  
FOR SECTION N-N, SEE SHEET 38 / 63  
FOR SECTION P-P, Q-Q AND R-R, SEE SHEET 12 / 63  
FOR REINFORCING SCHEDULE AND BAR BENDING DIAGRAMS, SEE SHEET 45 / 63

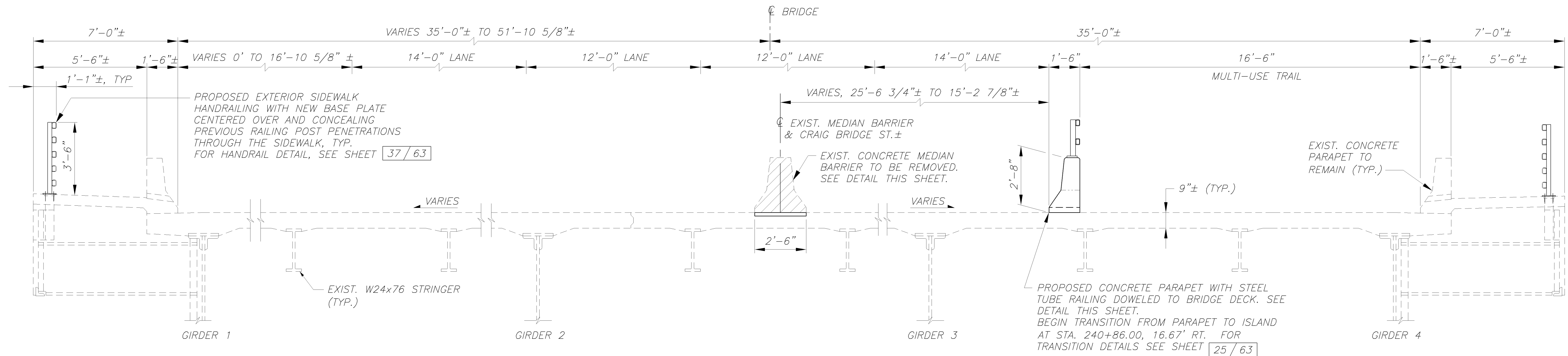
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	REVIEWED EAF STRUCTURE FILE NUMBER 4805917
DRAWN DMT	DESIGNED DMT
CHECKED DP	REVISIONS NONE
NORTH ABUTMENT DETAILS CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER THE MAUMEE RIVER	
LUC-280-2.34 TRENCH RECLAMATION	
13 / 63	
472 555	

G:\02002\202016\Craig\_Bridge\14 transverse section unit 1.dwg 10/23/2005 1:50:48 PM EST  
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**NOTES**

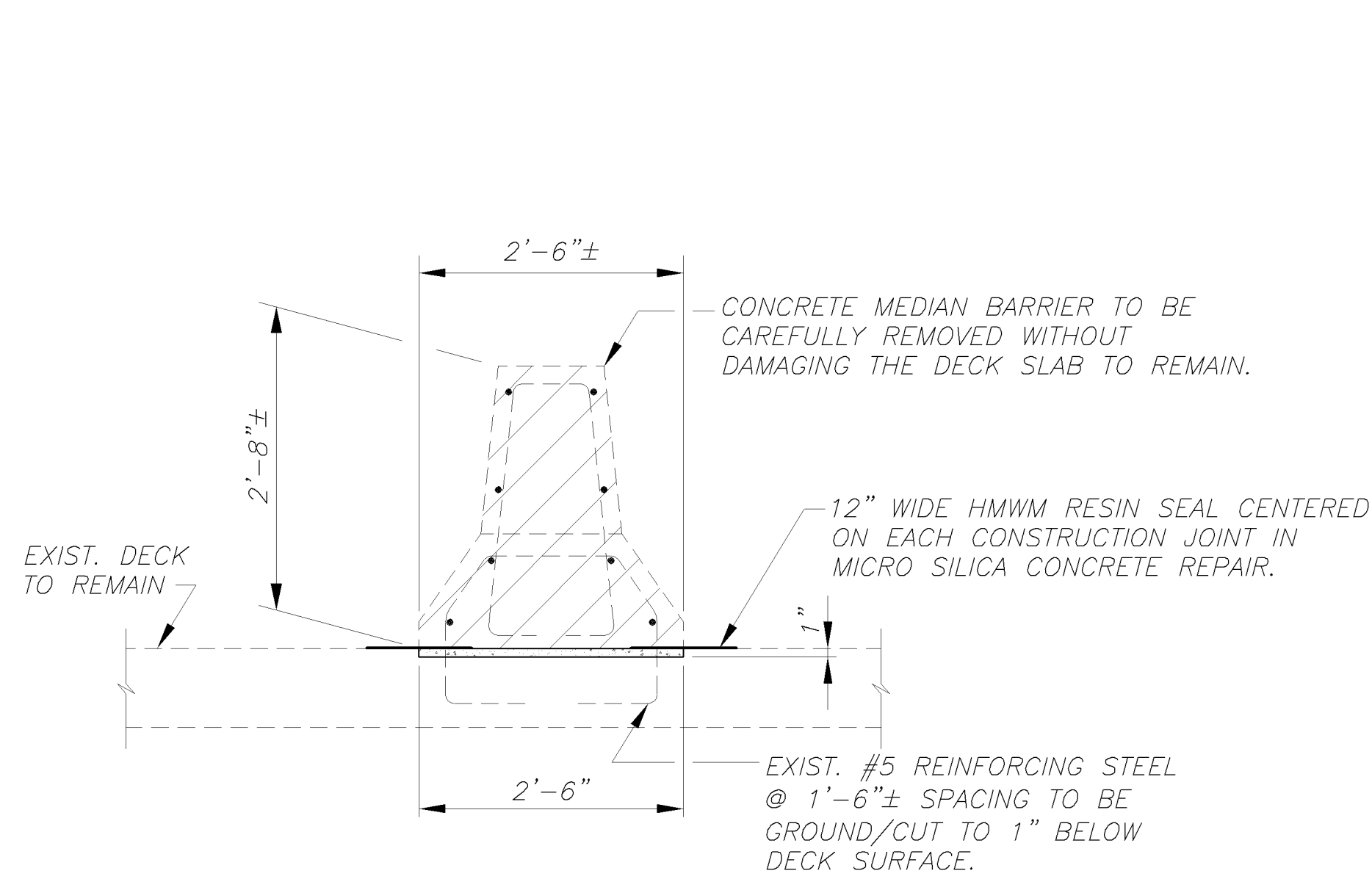
FOR UNIT 1 SLAB PLAN, SEE SHEET **18 / 63**

FOR MULTI-USE TRAIL PARAPET ELEVATION DETAILS, SEE SHEET **28 / 63**



**TRANSVERSE SECTION - UNIT 1**

EXISTING CROSS FRAMES, FLOOR BEAMS & REINFORCING STEEL NOT SHOWN



**MEDIAN BARRIER REMOVAL/DECK REPAIR DETAIL**

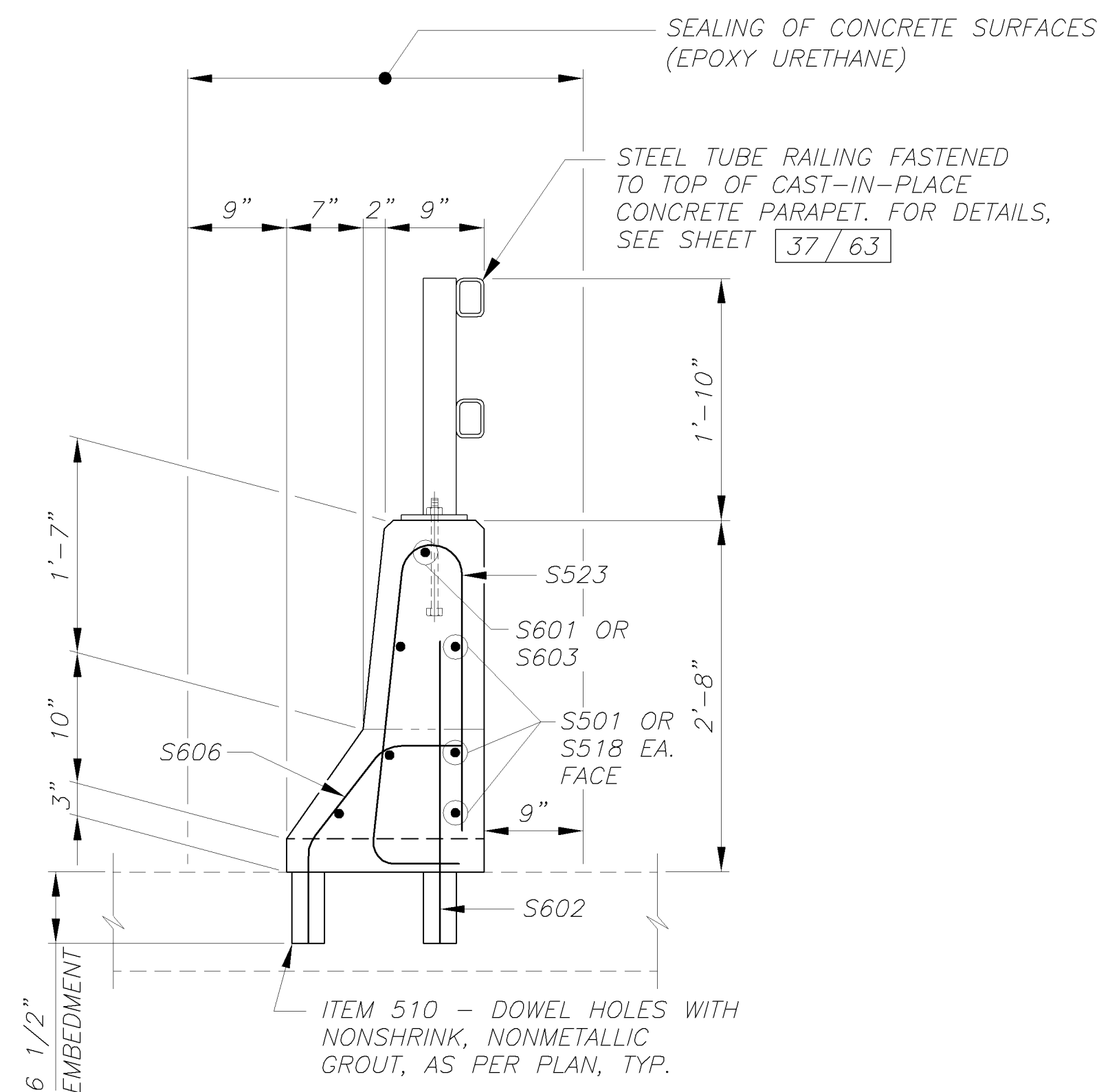
DECK SLAB REINFORCING NOT SHOWN

**REMOVAL NOTES:**

SAWCUT EDGE OF DECK SLAB REMOVAL AREA 1" DEEP.

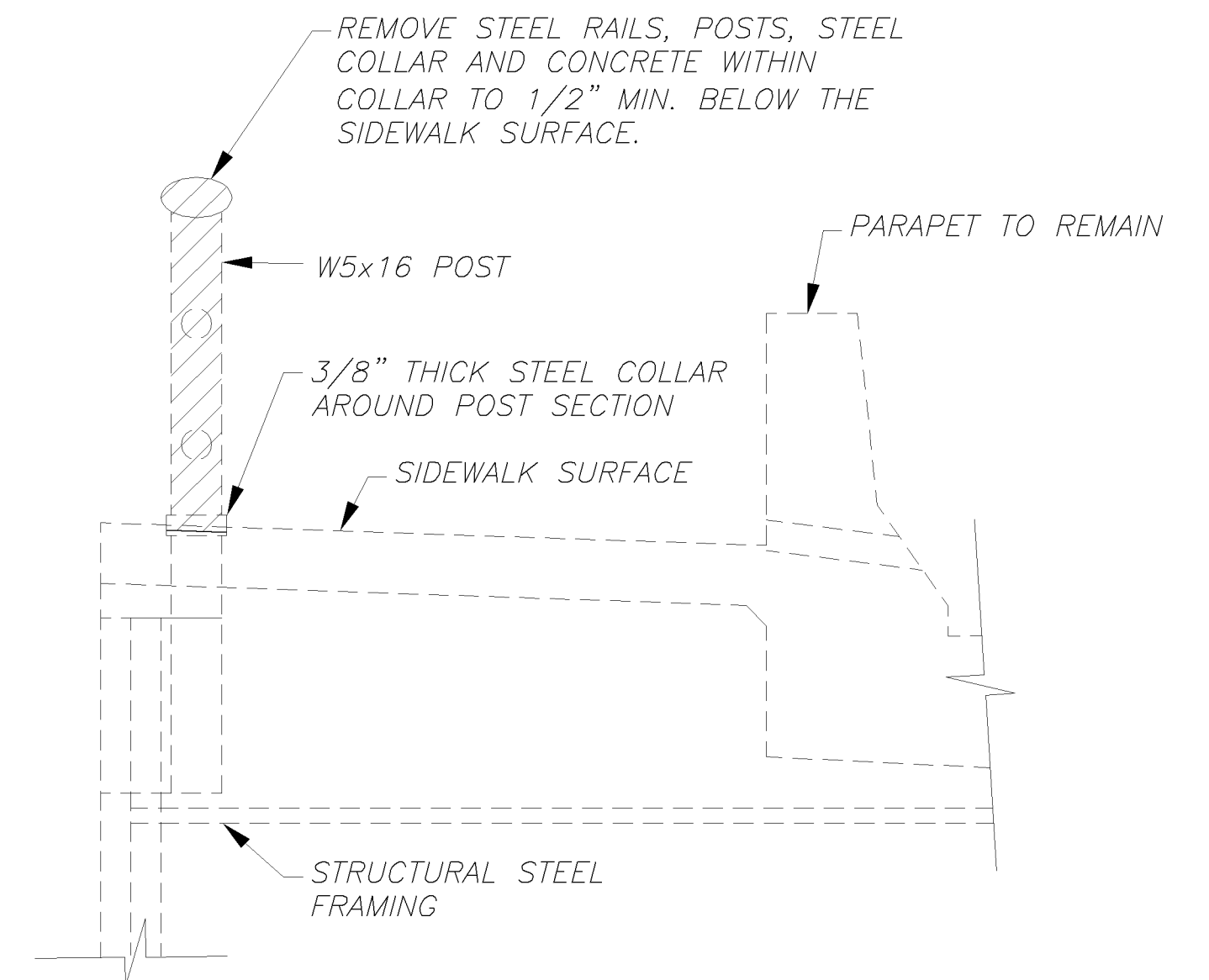
REMOVE CONCRETE UNDER MEDIAN BARRIER 1" DEEP USING HYDRODEMOLITION PER SS 848.

REPAIR DECK WITH MICROSILICA MODIFIED OVERLAY PER SS 848.



**TYPICAL PARAPET SECTION**

DECK SLAB REINFORCING NOT SHOWN



**TYPICAL EXTERIOR STEEL RAILING REMOVAL DETAIL**

APPLIES TO ALL FIXED SPAN UNITS AND SOUTH ABUTMENT WINGWALLS. SUPERSTRUCTURE RAILING REMOVAL SHOWN, SOUTH ABUTMENT RAILING REMOVAL SIMILAR.

REVIEWED	DATE
EAF	3/21/06

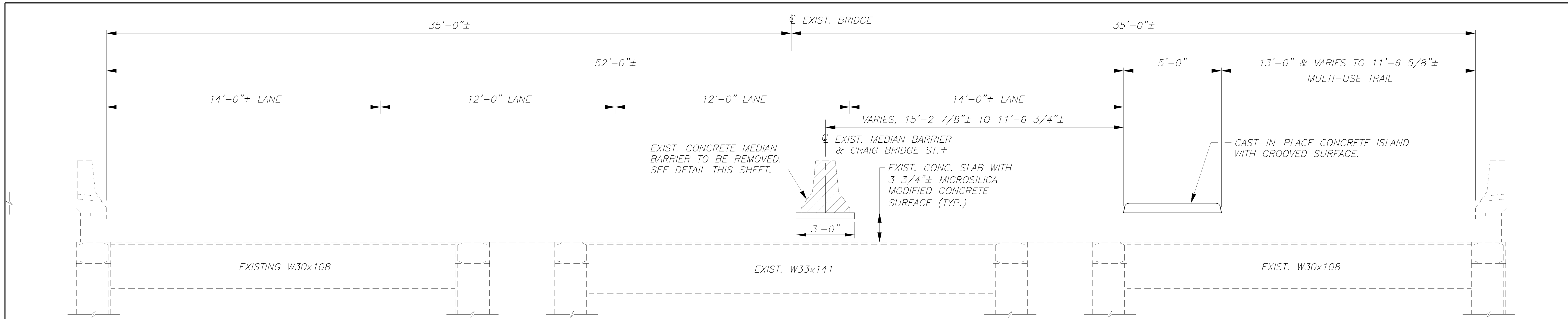
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TJW	3/21/06

DRAWN	DATE
DMT	3/21/06

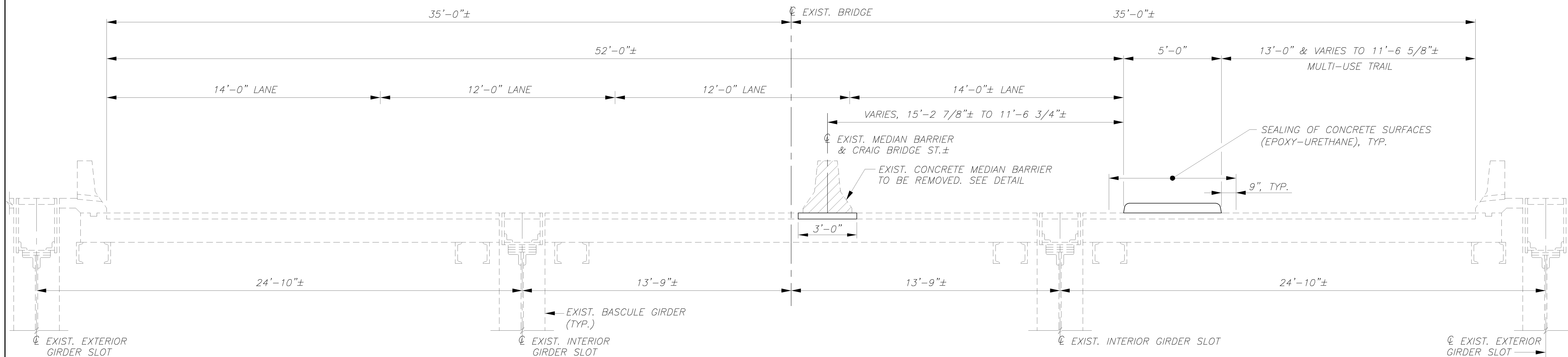
CHECKED	DATE
DP	3/21/06

STRUCTURE FILE NUMBER: 4805917

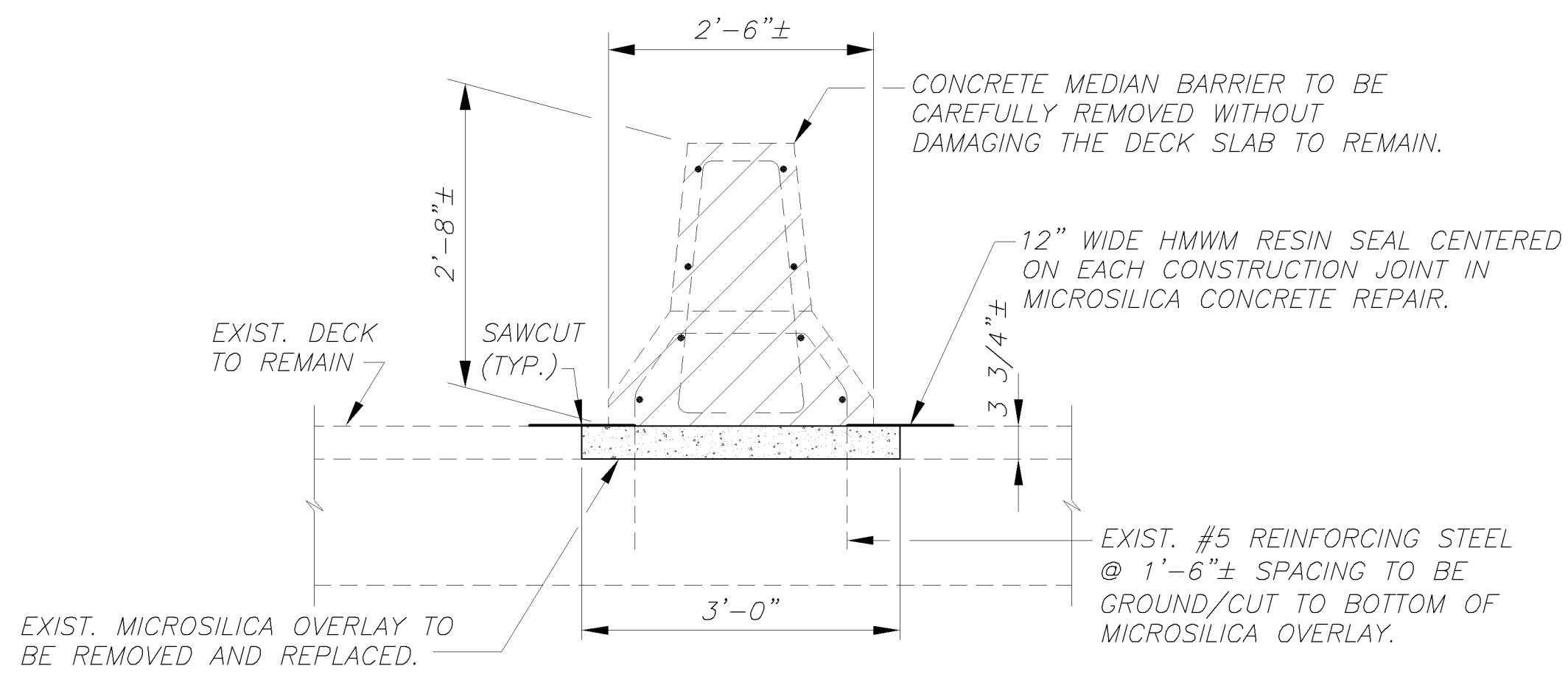
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drawing scale : 3/8" = 1'-0"  
plot scale : 1 = 1



TRANSVERSE SECTION - BASCULE PIERS



TRANSVERSE SECTION - BASCULE PIERS  
SHOWING BASCULE GIRDER SLOTS



MEDIAN BARRIER REMOVAL/REPAIR DETAIL  
BASCULE PIER SLAB REINFORCING NOT SHOWN

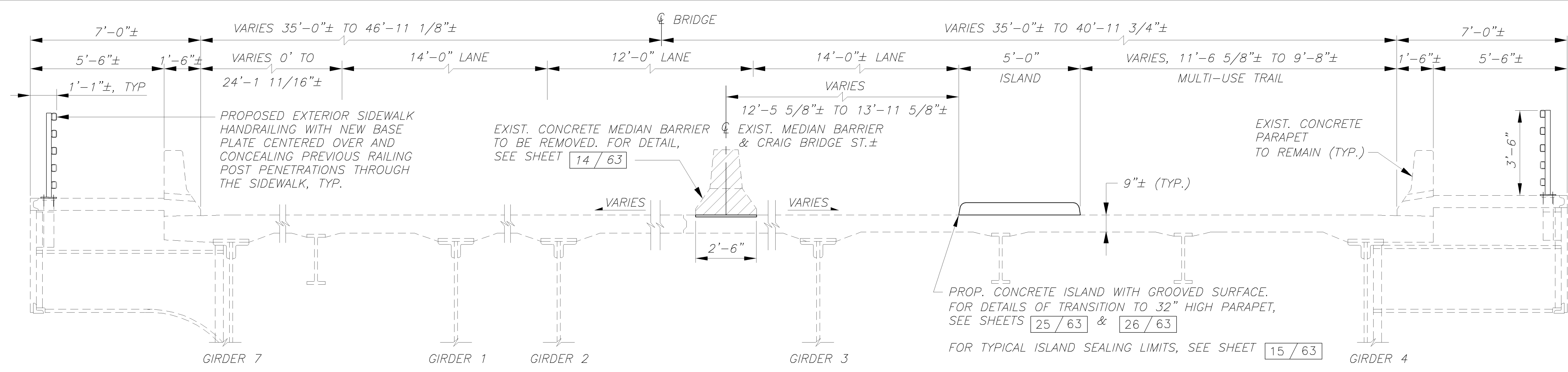
NOTES

FOR MULTI-USE TRAIL ISLAND DETAILS, SEE SHEETS  
25 / 63 AND 26 / 63

FOR EXTERIOR HANDRAIL REPLACEMENT ON BASCULE  
PIERS, SEE SHEET 55 / 63

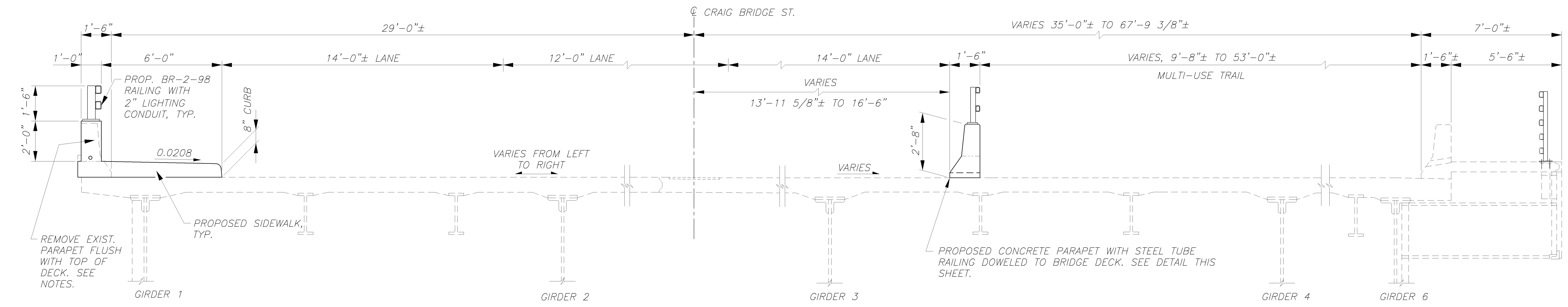
 <small>acila engineering inc. cleveland, ohio 44125</small>	
DATE	3/21/06
REVIEWED	EAF
STRUCTURE FILE NUMBER	4805917
DESIGNED	TJW
CHECKED	DP
DRAWN	DMT
REVISED	
TRANSVERSE SECTION - BASCULE PIER 4 & 5 ROADWAY CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER THE MAUMEE RIVER	
LUC-280-2.34 TRENCH RECLAMATION	
15 / 63	
474 555	

G:\02002\202016\Craig Bridge\16 transverse section unit 2.dwg 10/23/2005 4:52:30 PM EST  
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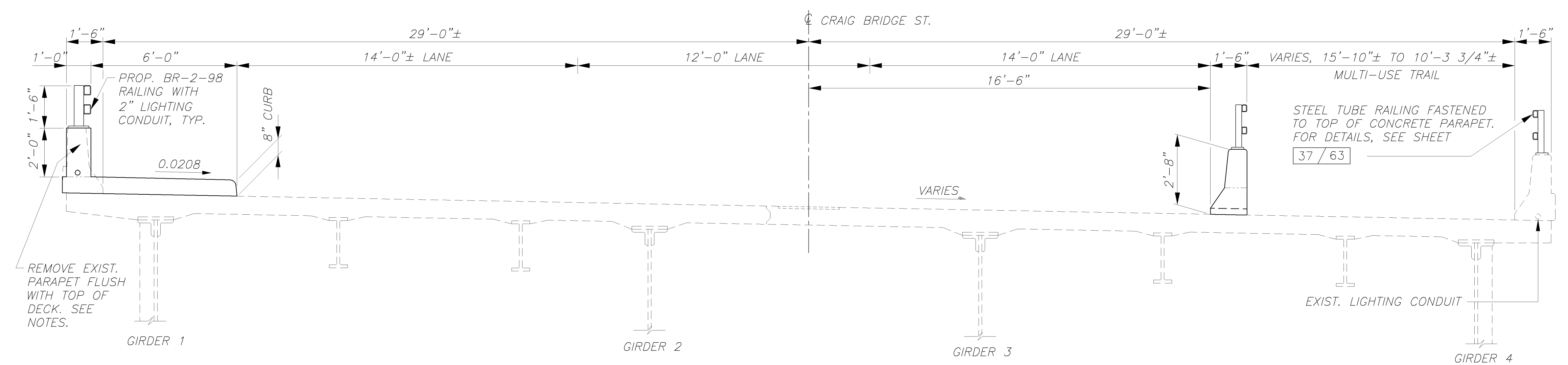
**TRANSVERSE SECTION - UNIT 2**

SHOWN SOUTH OF RAMP 'X' WITHIN AREA OF PROPOSED MULTI-USE TRAIL ISLAND  
EXISTING CROSS FRAMES, FLOOR BEAMS & REINFORCING STEEL NOT SHOWN



**TRANSVERSE SECTION - UNIT 2**

SHOWN NORTH OF RAMP 'X' & SOUTH OF RAMP 'EE' WITHIN AREA OF PROPOSED MULTI-USE TRAIL PARAPET  
EXISTING CROSS FRAMES, FLOOR BEAMS & REINFORCING STEEL NOT SHOWN

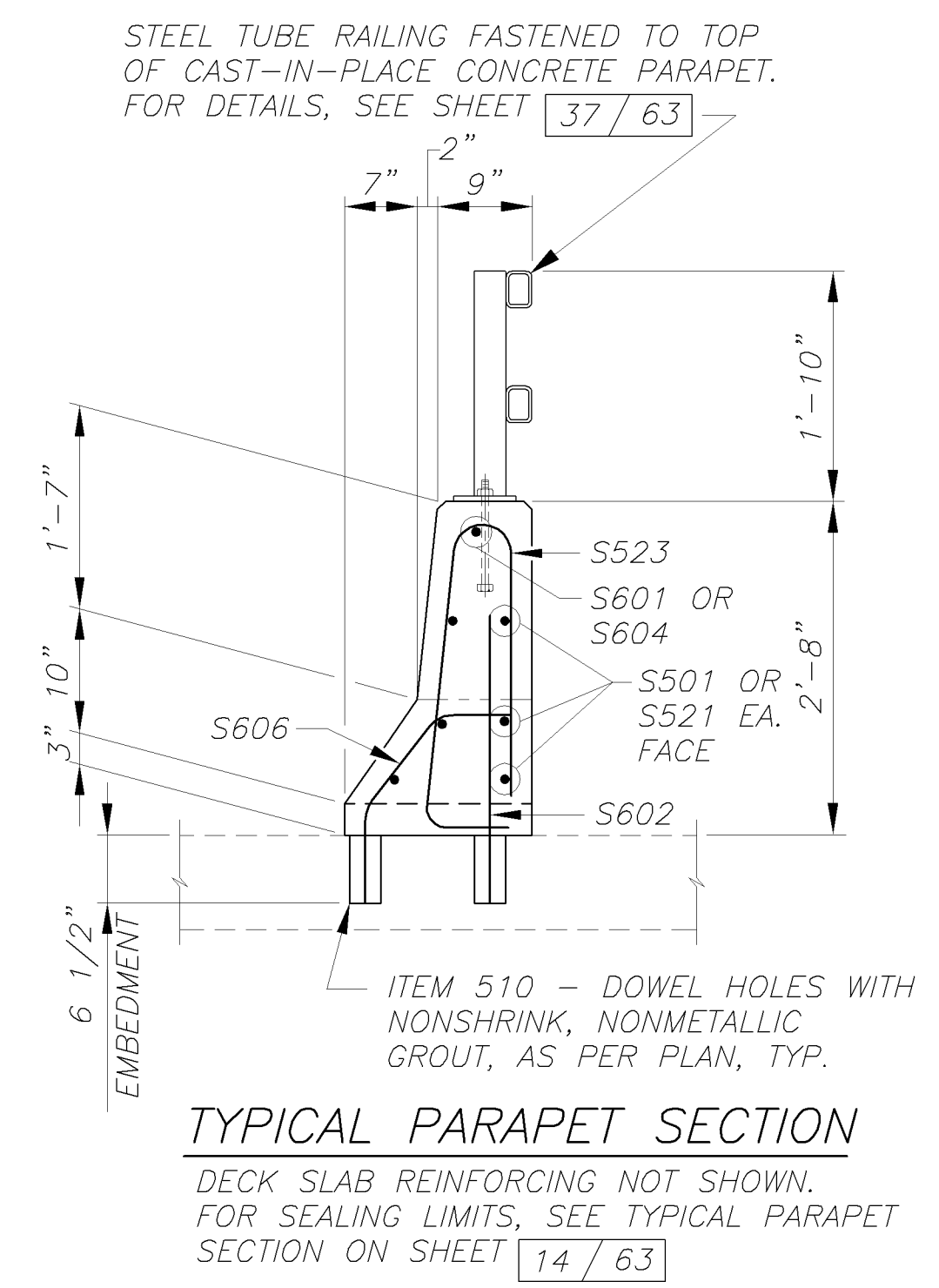


**TRANSVERSE SECTION - UNIT 2**

SHOWN NORTH OF RAMP 'EE' WITHIN AREA OF PROPOSED MULTI-USE TRAIL PARAPET  
EXISTING CROSS FRAMES, FLOOR BEAMS & REINFORCING STEEL NOT SHOWN FOR CLARITY

**NOTES**

- FOR UNIT 2 SLAB PLAN, SEE SHEET 19/63
- FOR SIDEWALK PLAN, SEE SHEETS 20/63 AND 21/63
- FOR MULTI-USE TRAIL PARAPET ELEVATION, SEE SHEET 29/63
- FOR SIDEWALK RAILING ELEVATION, SEE SHEET 32/63
- FOR EAST (RIGHT) PARAPET ELEVATION, SEE SHEET 34/63
- FOR REMOVAL OF WEST (LEFT) PARAPET AT LIGHT POLE PILASTERS AND RELATED PILASTER REINFORCING TO BE SALVAGED, SEE SHEET 44/63
- MEDIAN BARRIER REMOVAL NOT SHOWN IS INCLUDED WITH PART 2 PLANS.
- FOR TYPICAL PARAPET, ISLAND AND SIDEWALK SEALING LIMITS NOT SHOWN, SEE SHEETS 14/63, 15/63 & 17/63

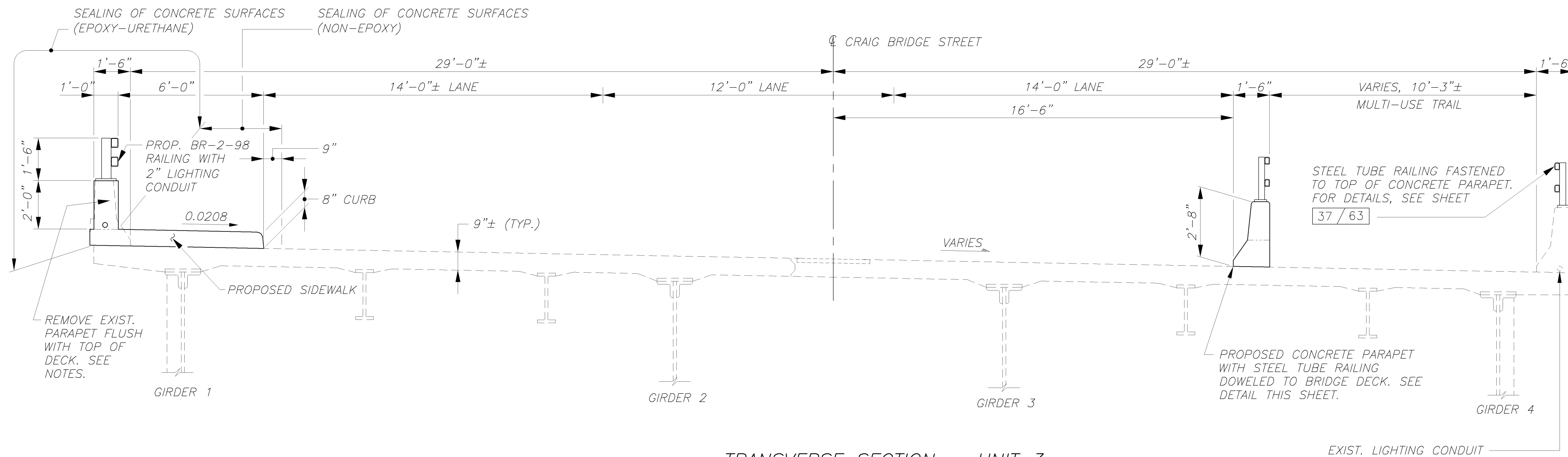


**TYPICAL PARAPET SECTION**

DECK SLAB REINFORCING NOT SHOWN.  
FOR SEALING LIMITS, SEE TYPICAL PARAPET SECTION ON SHEET 14/63

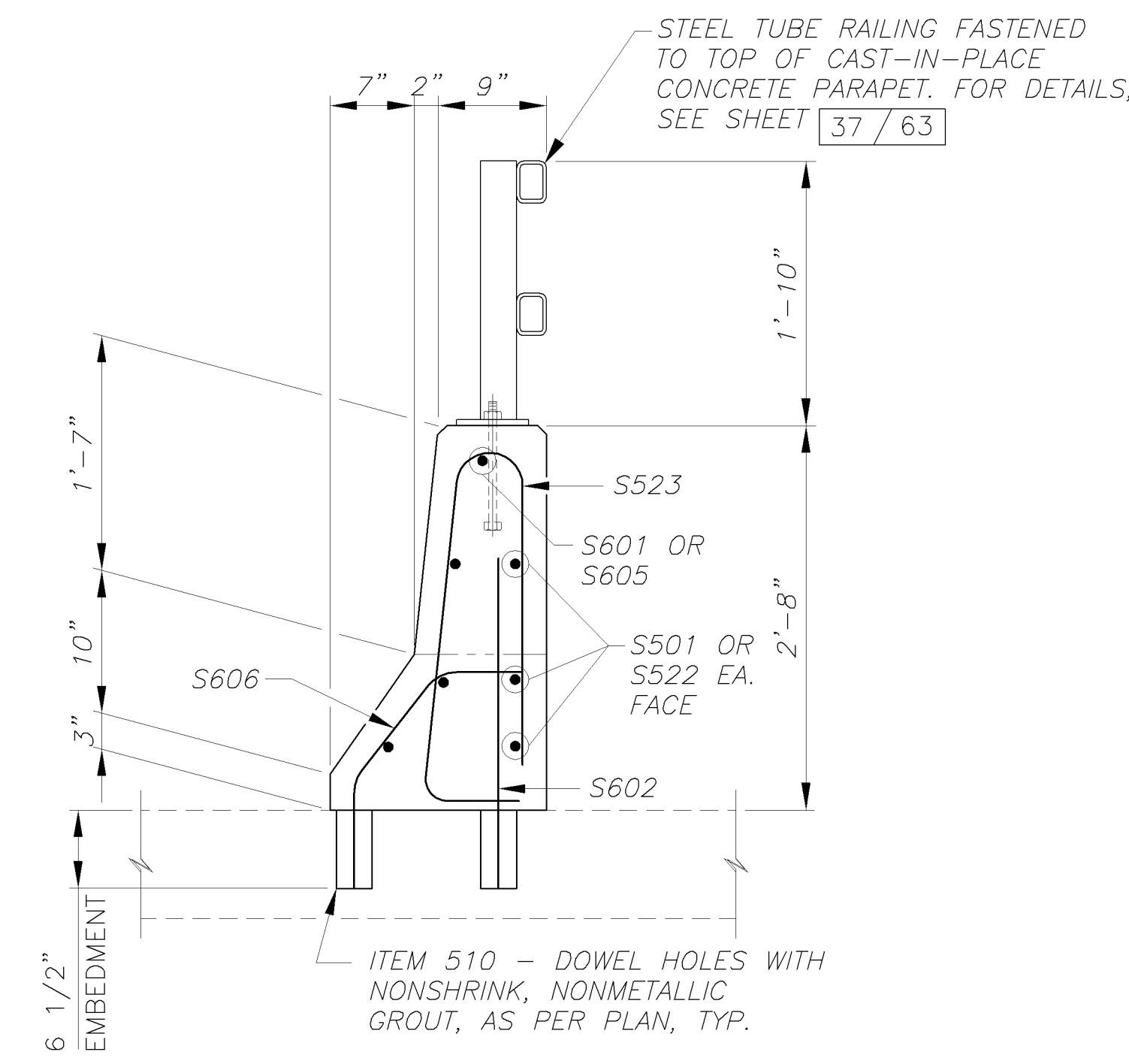
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LUC-280-2.34 TRENCH RECLAMATION	
16/63	
475 555	

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plot scale : 1 = 1



**TRANSVERSE SECTION - UNIT 3**  
EXISTING CROSS FRAMES & BRACING NOT SHOWN

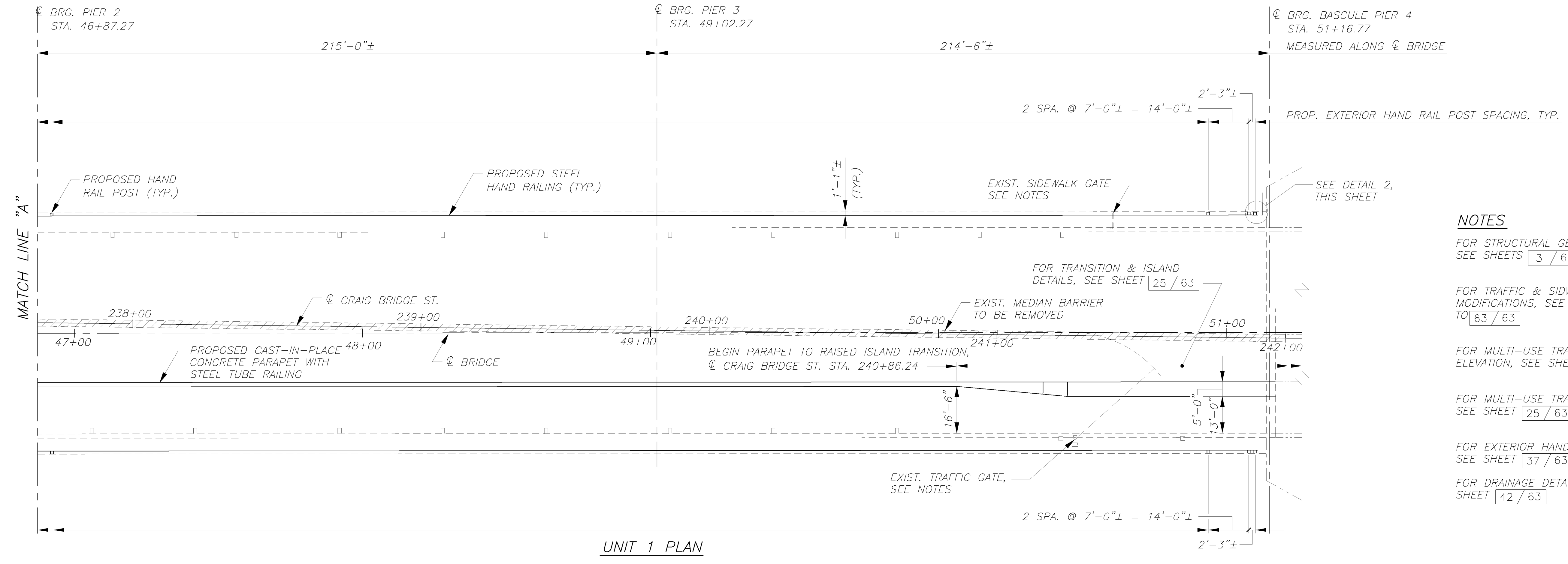
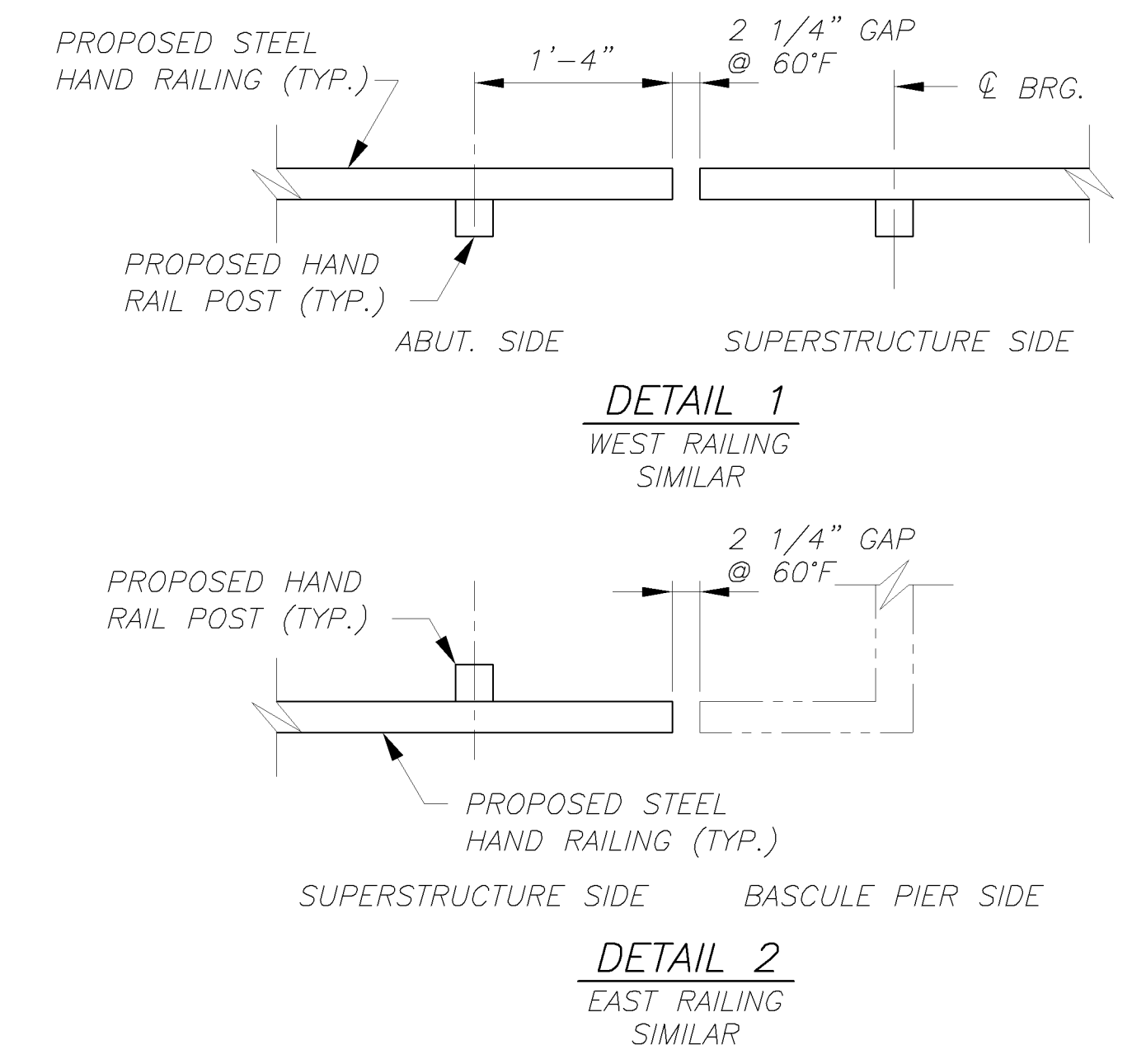
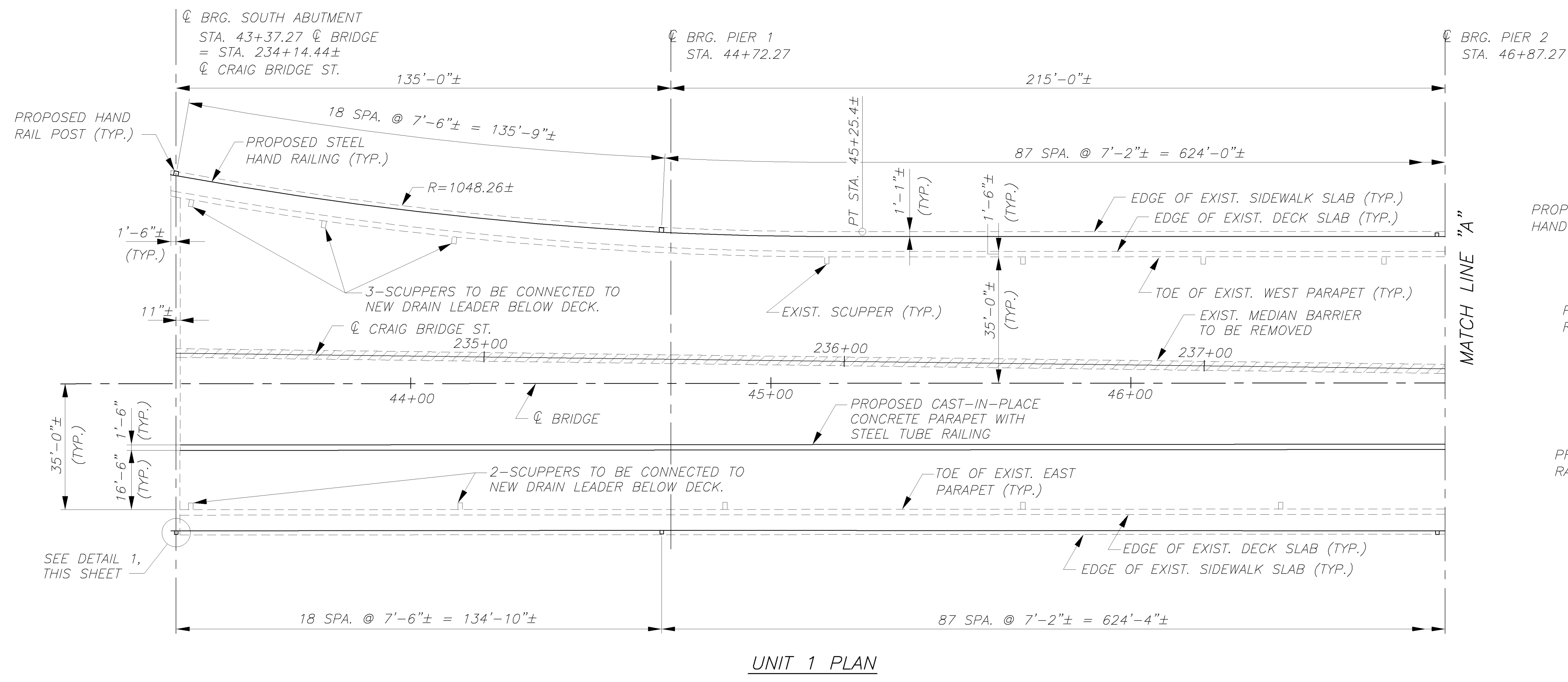
- NOTES**
- FOR UNIT 3 SLAB PLAN, SEE SHEET 22 / 63
  - FOR SIDEWALK PLAN, SEE SHEETS 23 / 63 AND 24 / 63
  - FOR MULTI-USE TRAIL PARAPET ELEVATION, SEE SHEET 30 / 63
  - FOR SIDEWALK RAILING ELEVATION, SEE SHEET 33 / 63
  - FOR EAST (RIGHT) PARAPET ELEVATION, SEE SHEET 35 / 63
  - FOR REMOVAL OF WEST (LEFT) PARAPET AT LIGHT POLE PILASTERS AND RELATED PILASTER REINFORCING TO BE SALVAGED, SEE SHEET 44 / 63
  - MEDIAN BARRIER REMOVAL NOT SHOWN IS INCLUDED WITH PART 2 PLANS.



**TYPICAL PARAPET SECTION**  
DECK SLAB REINFORCING NOT SHOWN.  
FOR SEALING LIMITS, SEE TYPICAL PARAPET SECTION ON SHEET 14 / 63

 <small>acila engineering &amp; construction, inc.  5895 transportation boulevard, cleveland, ohio 44128</small>		DATE	3/21/06
		REVIEWED	EAF
DESIGNED	TJW	CHECKED	DP
DRAWN	DMT	REVISED	
STRUCTURE FILE NUMBER	4805917		
<b>TRANSVERSE SECTION - UNIT 3</b> CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER THE MAJUMEE RIVER			
LUC-280-2.34		17 / 63	
TRENCH RECLAMATION			

G:\02002\202016\Craig\_Bridge\18\_slab plan unit 1.dwg 10/24/2005 7:59:57 AM EST  
drawing scale: 1" = 20'  
plot scale: 1" = 240'



- NOTES**
- FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 3/63 TO 8/63
  - FOR TRAFFIC & SIDEWALK GATE MODIFICATIONS, SEE SHEETS 48/63 TO 63/63
  - FOR MULTI-USE TRAIL PARAPET ELEVATION, SEE SHEET 28/63
  - FOR MULTI-USE TRAIL ISLAND DETAILS, SEE SHEET 25/63
  - FOR EXTERIOR HANDRAIL DETAIL, SEE SHEET 37/63
  - FOR DRAINAGE DETAILS, SEE SHEET 42/63

**acila**  
catholic columbian associates, inc.  
5995 transportation boulevard, cleveland, ohio 44128

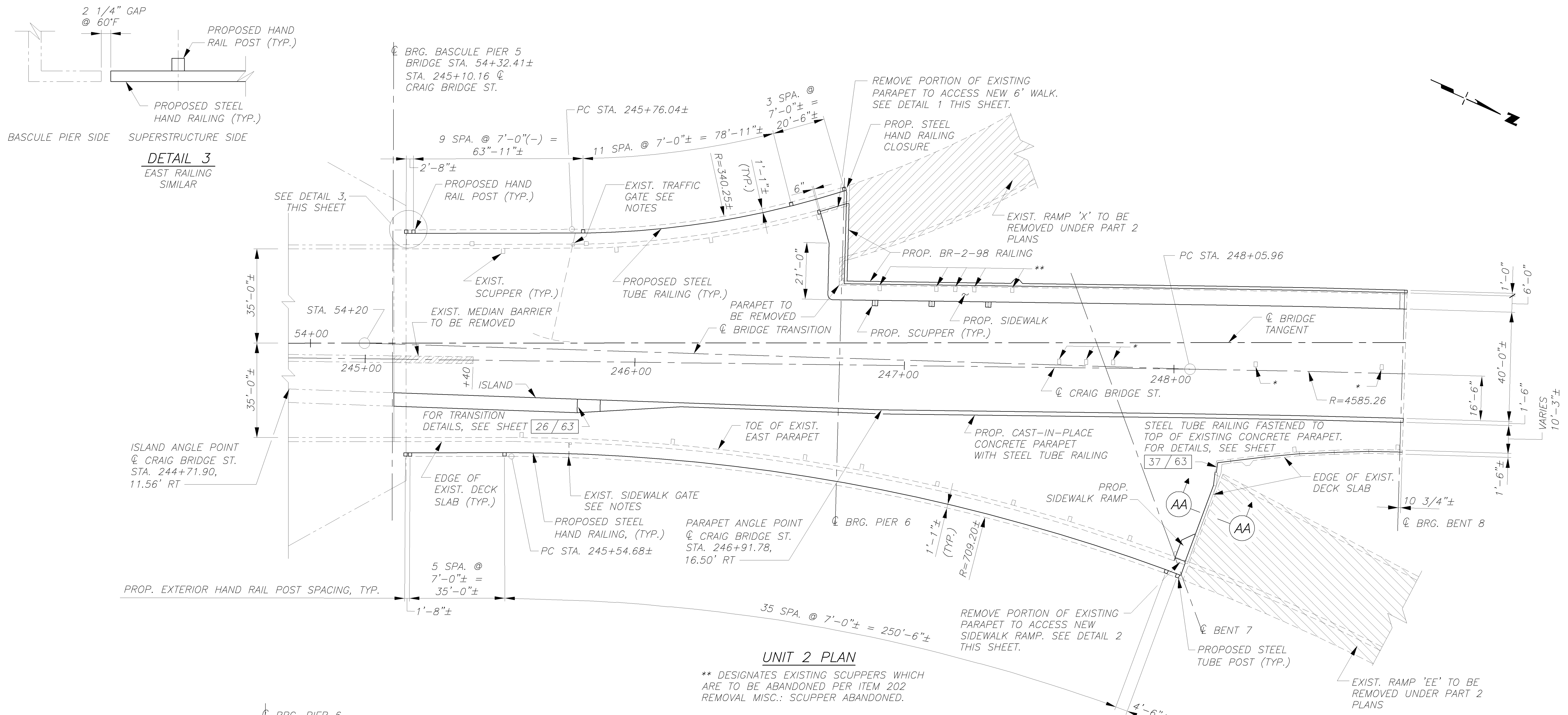
REVIEWED	DATE	3/21/06
EAF	STRUCTURE FILE NUMBER	4805917
DRAWN	DMT	REVIS
TJW	CHECKED	DP

SLAB PLAN - UNIT 1  
CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  
OVER THE MAJUMEE RIVER

LUC-280-2.34  
TRENCH  
RECLAMATION

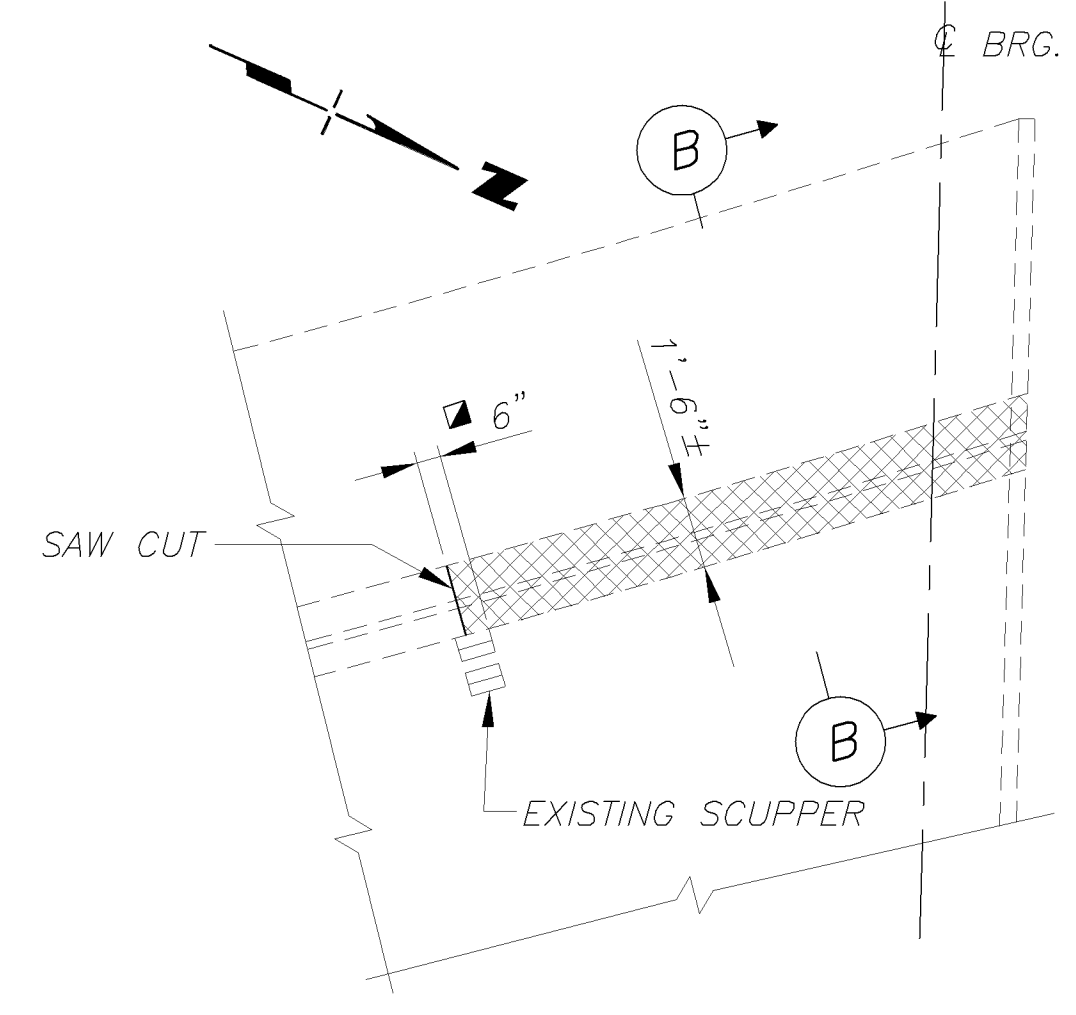
18/63

477  
555

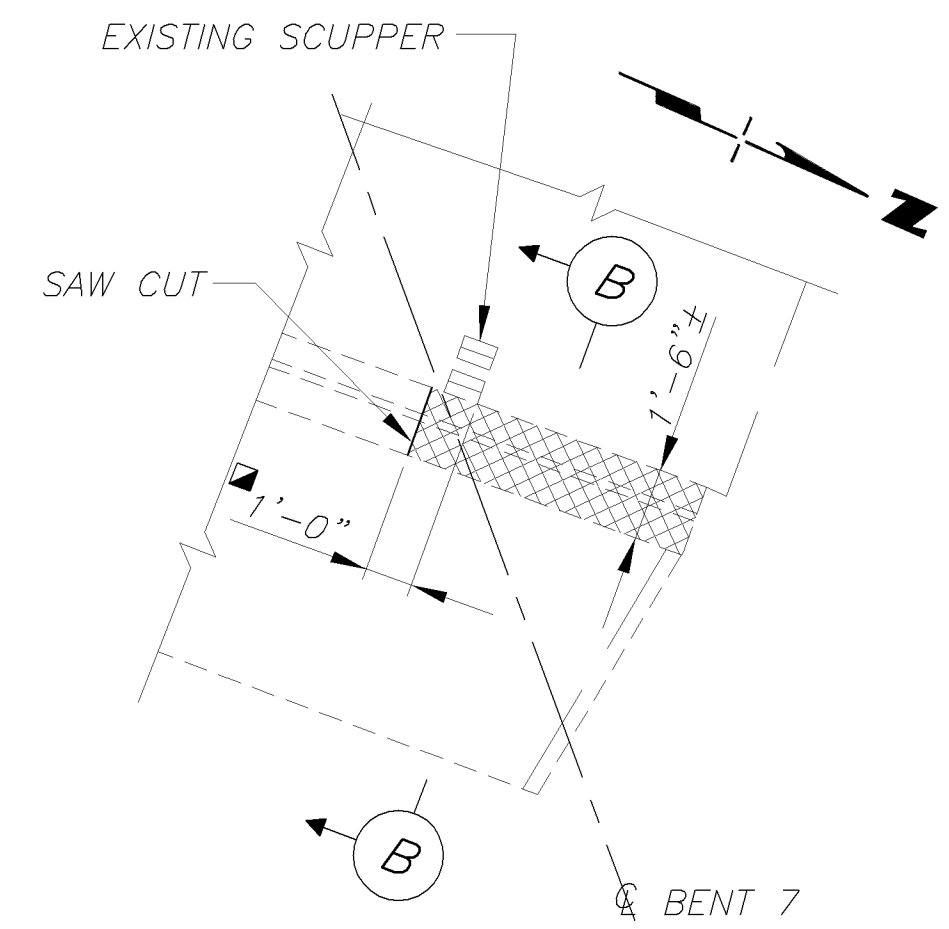


**UNIT 2 PLAN**

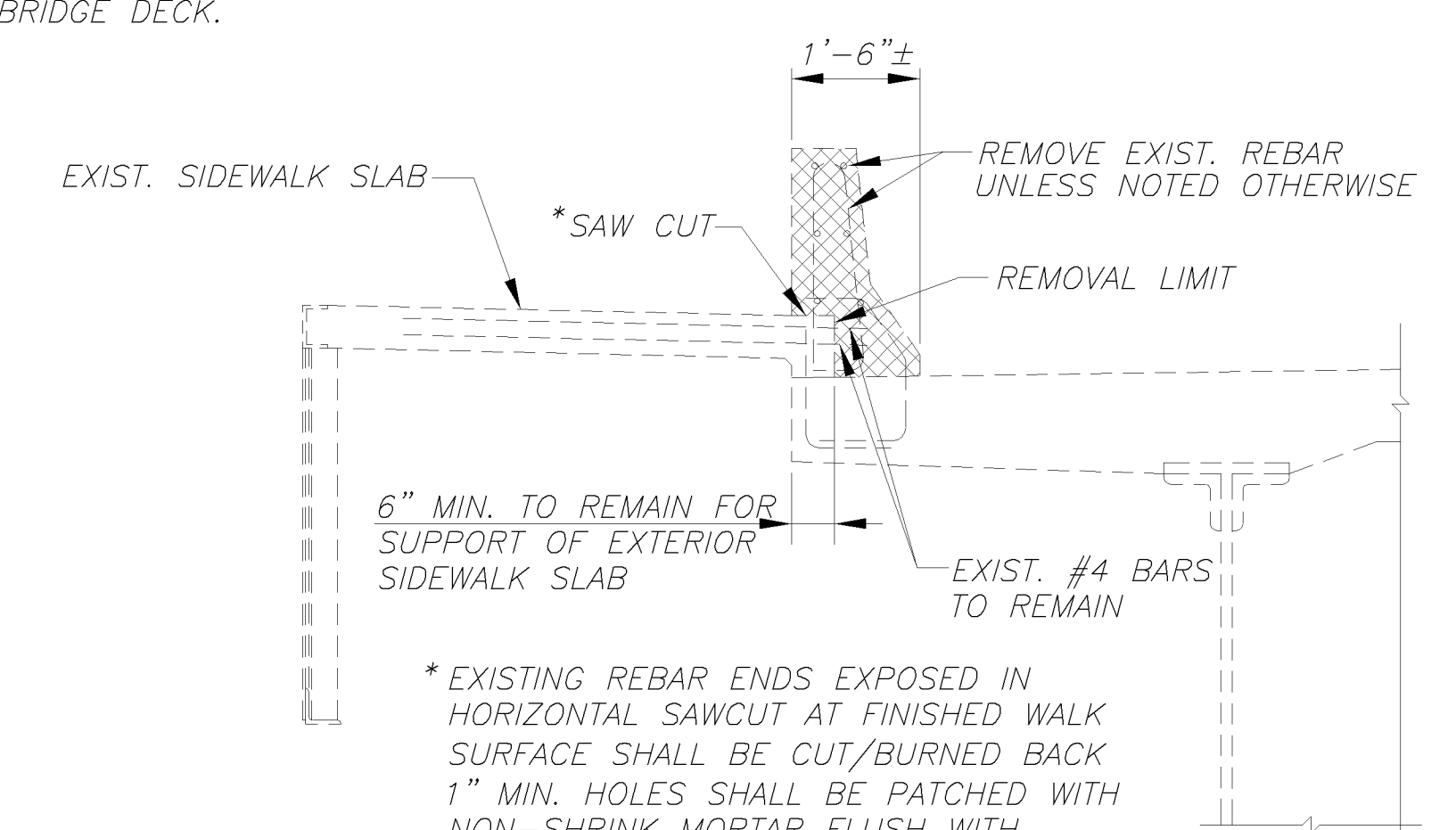
\*\* DESIGNATES EXISTING SCUPPERS WHICH ARE TO BE ABANDONED PER ITEM 202 REMOVAL MISC.: SCUPPER ABANDONED.  
 \* DESIGNATES EXISTING SCUPPERS WHICH ARE TO BE REMOVED PER ITEM 202 REMOVAL MISC.: SCUPPER REMOVED INCLUDING FULL-DEPTH REPAIR OF BRIDGE DECK.



**DETAIL 1**  
EXIST. RAIL NOT SHOWN



**DETAIL 2**  
EXIST. RAIL NOT SHOWN

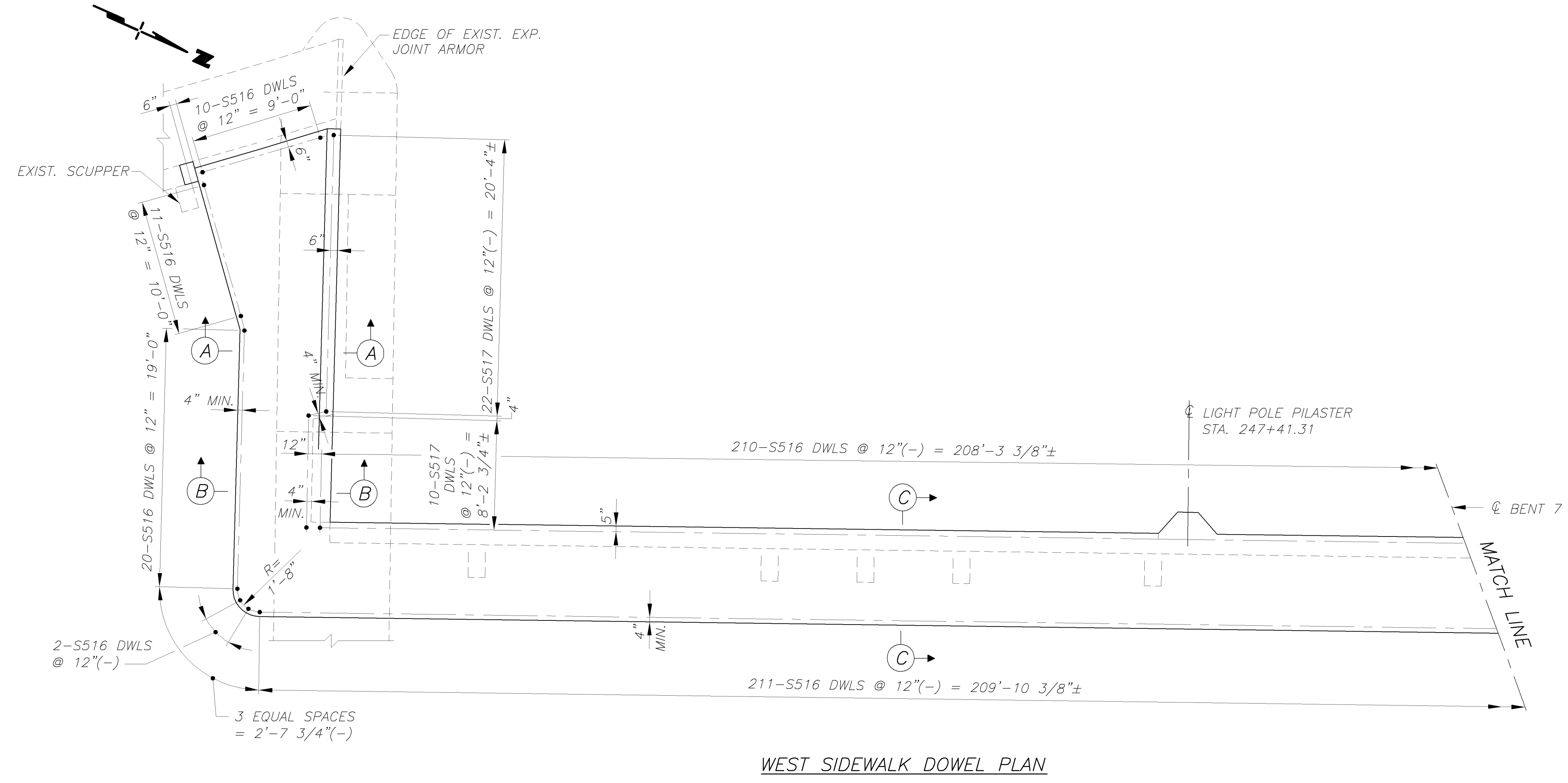


**SECTION B-B**

**NOTES**

- FOR SECTION AA-AA, SEE SHEET 34/63
- FOR MULTI-USE TRAIL PARAPET ELEVATION, SEE SHEET 29/63
- FOR SIDEWALK DETAILS, SEE SHEETS 20/63 & 21/63
- FOR MULTI-USE TRAIL ISLAND DETAILS SEE SHEET 26/63
- FOR SIDEWALK RAMP DETAILS AND DECK CORNER DETAILS AT REMOVED RAMPS, SEE SHEET 36/63
- FOR EXTERIOR HANDRAIL DETAIL, SEE SHEET 37/63
- FOR UNIT 2 DRAINAGE DETAILS, SEE SHEET 43/63
- FOR TRAFFIC & SIDEWALK GATE MODIFICATION DETAILS, SEE SHEETS 48/63 TO 63/63

G:\02002\202016\Craig\_Bridge\20\_dowel\_plan\_unit 2.dwg 10/24/2005 10:18:50 AM EST  
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plot scale : 1" = 64'



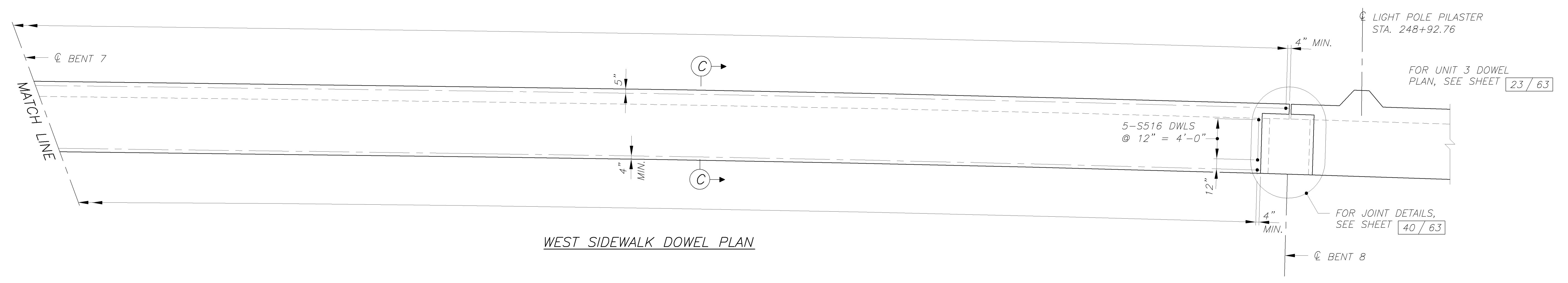
**NOTES:**

FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 3/63 TO 8/63

FOR LIGHT POLE PILASTER DETAILS AND WEST RAILING ELEVATIONS, SEE SHEET 44/63 AND 32/63

FOR SECTIONS A-A, B-B AND C-C, SEE SHEET 21/63

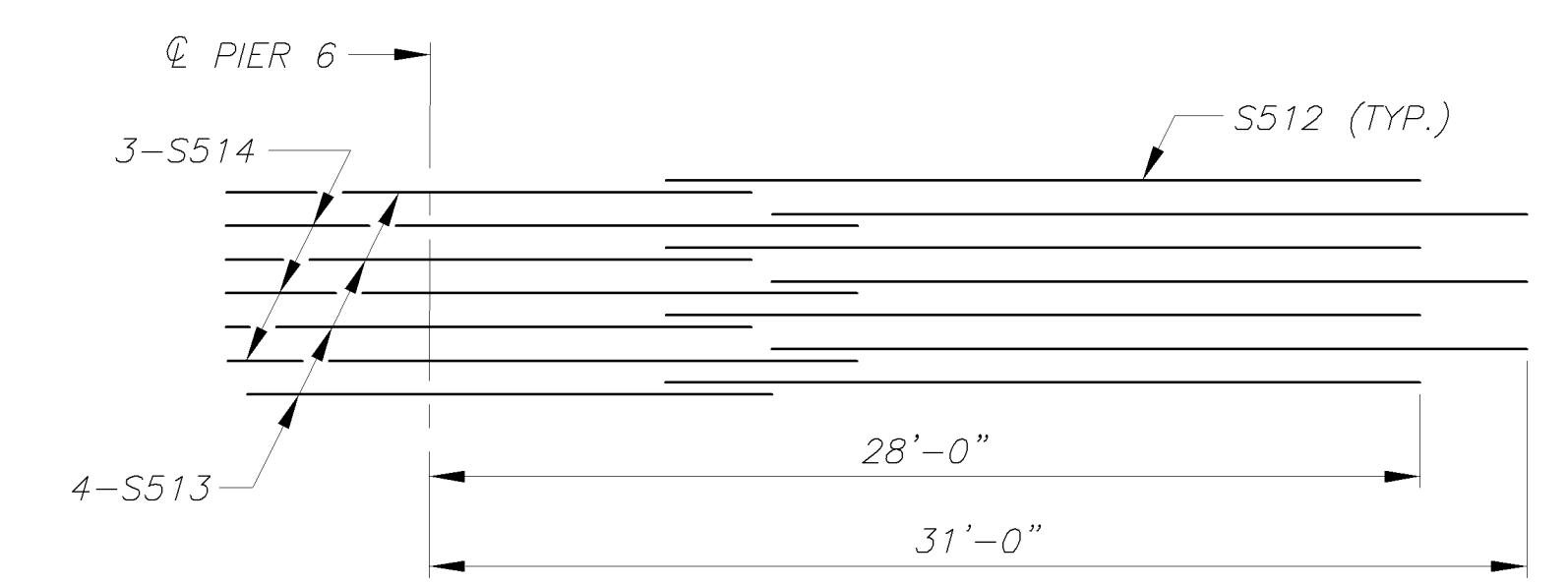
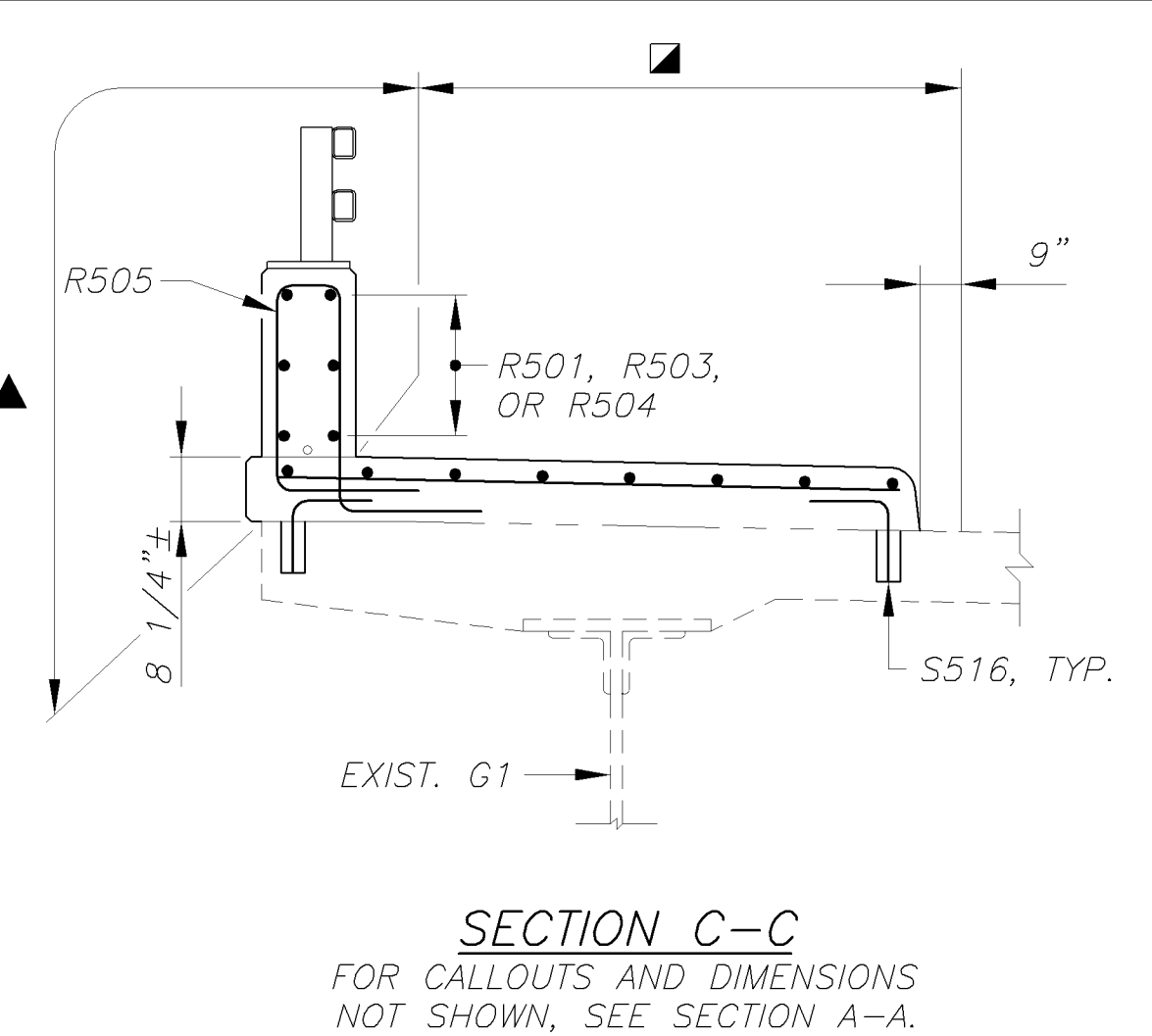
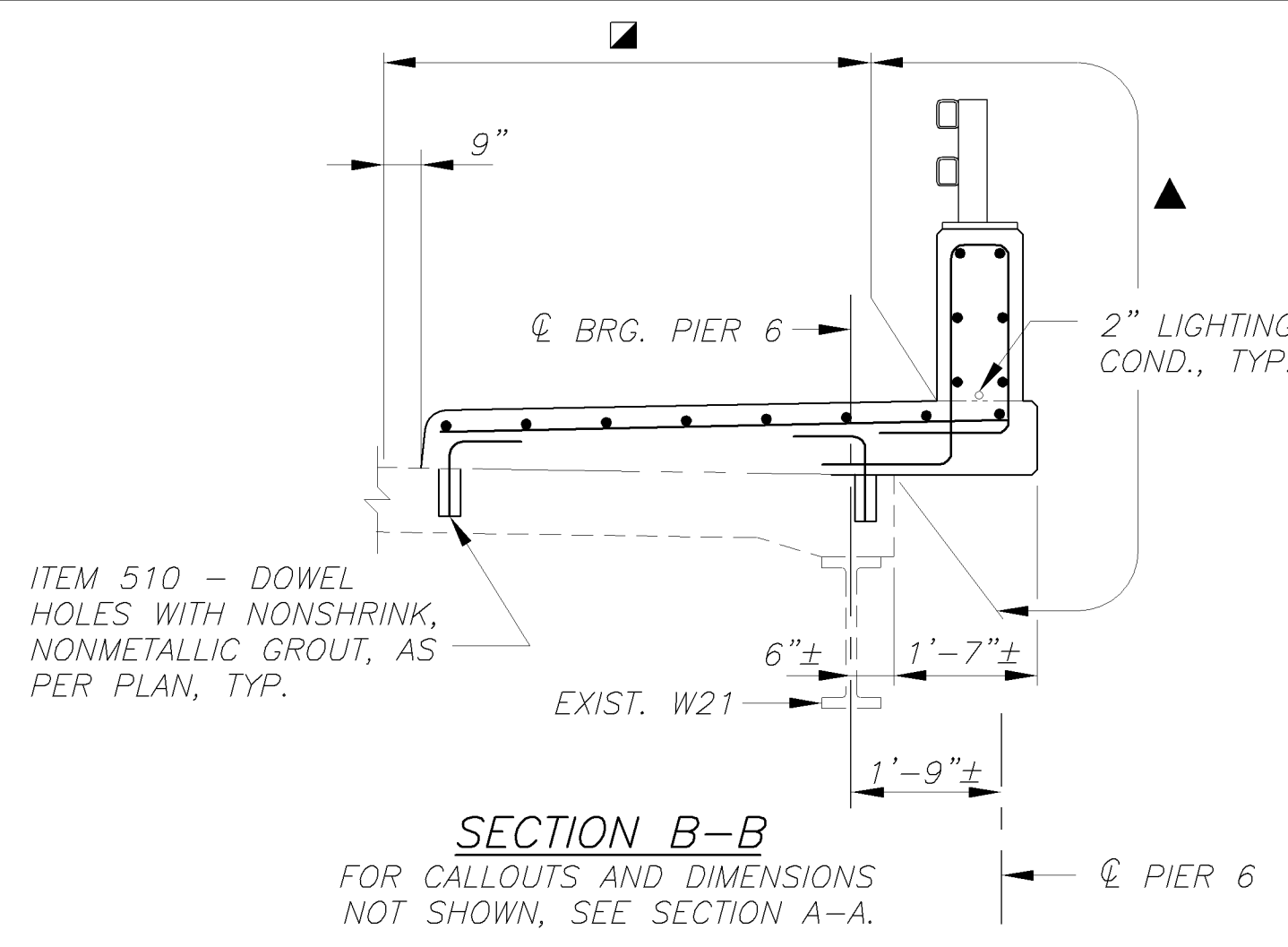
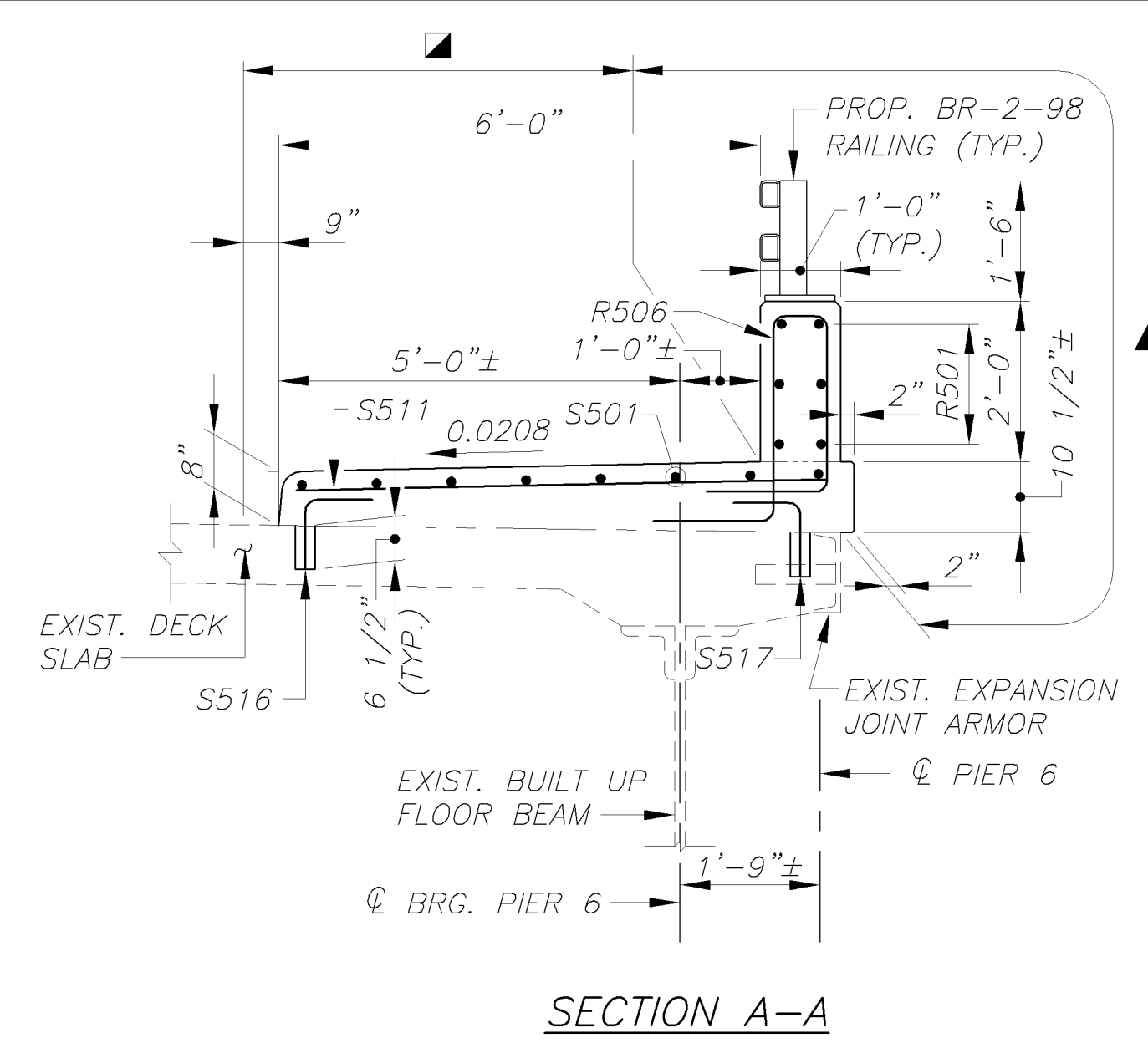
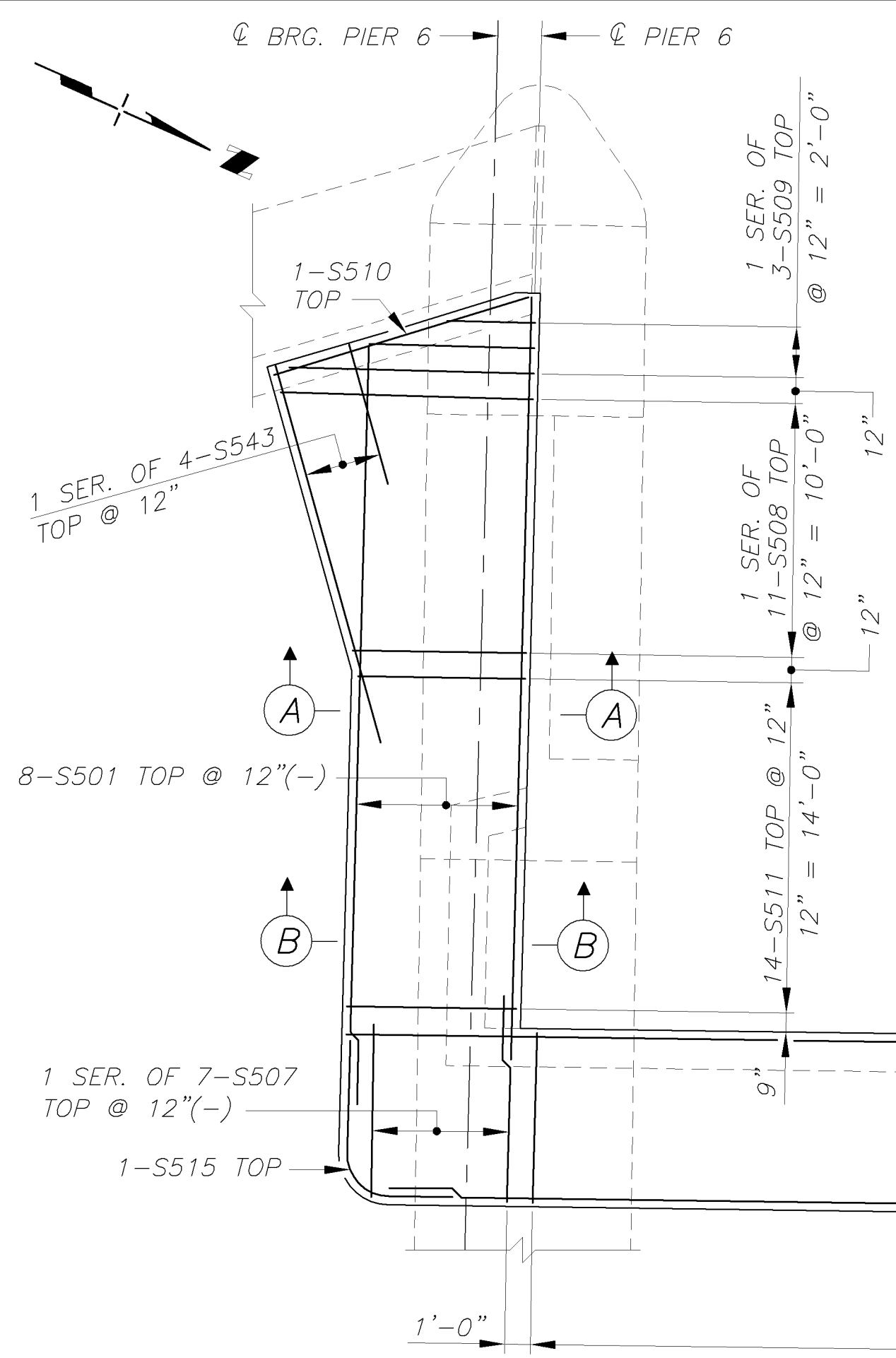
FOR REINFORCING SCHEDULE AND BAR BENDING DIAGRAMS, SEE SHEET 46/63



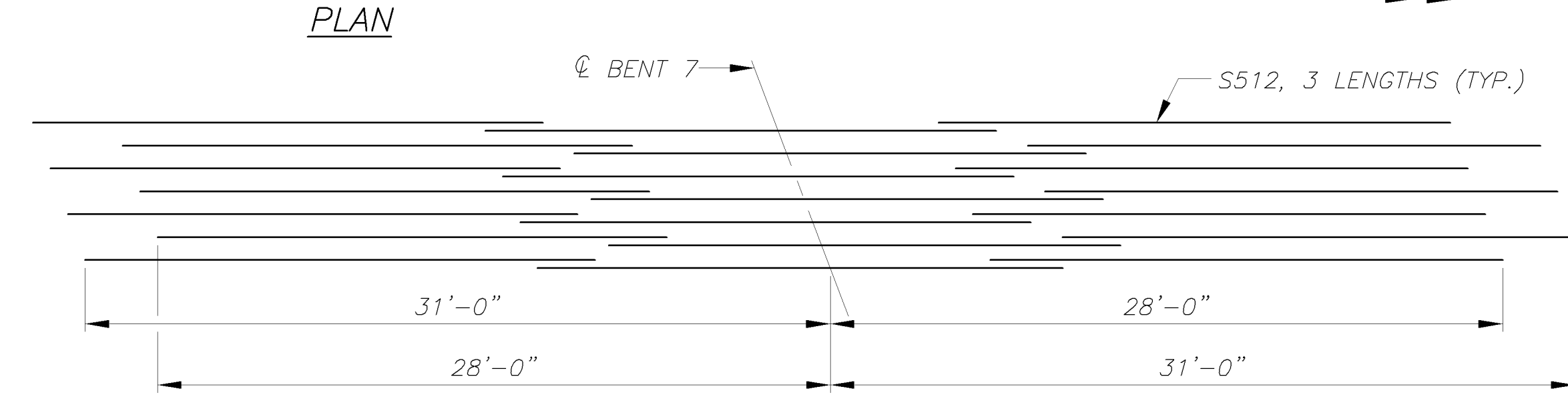
 <small>cedar-rapids-lynn-associates, inc. cleveland, ohio 44125</small>	<small>DATE</small> 3/21/06
	<small>REVIEWED</small> EAF
<small>DESIGNED</small> TJW	<small>STRUCTURE FILE NUMBER</small> 4805917
<small>DRAWN</small> DMT	<small>REVISION</small> ---
<b>SIDEWALK DOWEL PLAN - UNIT 2</b> CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER THE MAUMEE RIVER	
LUC-280-2.34 TRENCH RECLAMATION	
20/63	



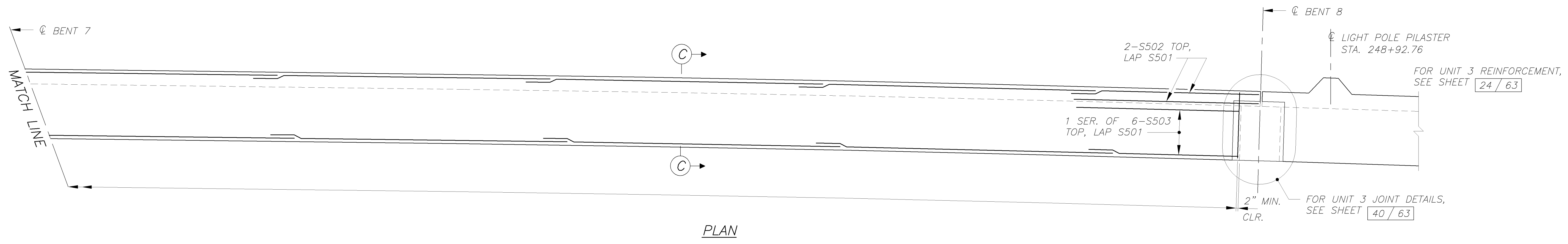
G:\02002\202016\Craig\_Bridge\21\_sidewalk\_details\_unit 2.dwg 10/24/2005 11:28:01 AM EST  
 drawing scale : 3/16" = 1'-0"  
 plot scale : 1" = 64'



**STAGGER DIAGRAM**  
 BARS TOP OVER  $\phi$  PIER 6  
 (ALTERNATE WITH S501)



**STAGGER DIAGRAM**  
 BARS TOP OVER  $\phi$  BENT 7  
 (ALTERNATE WITH S501)



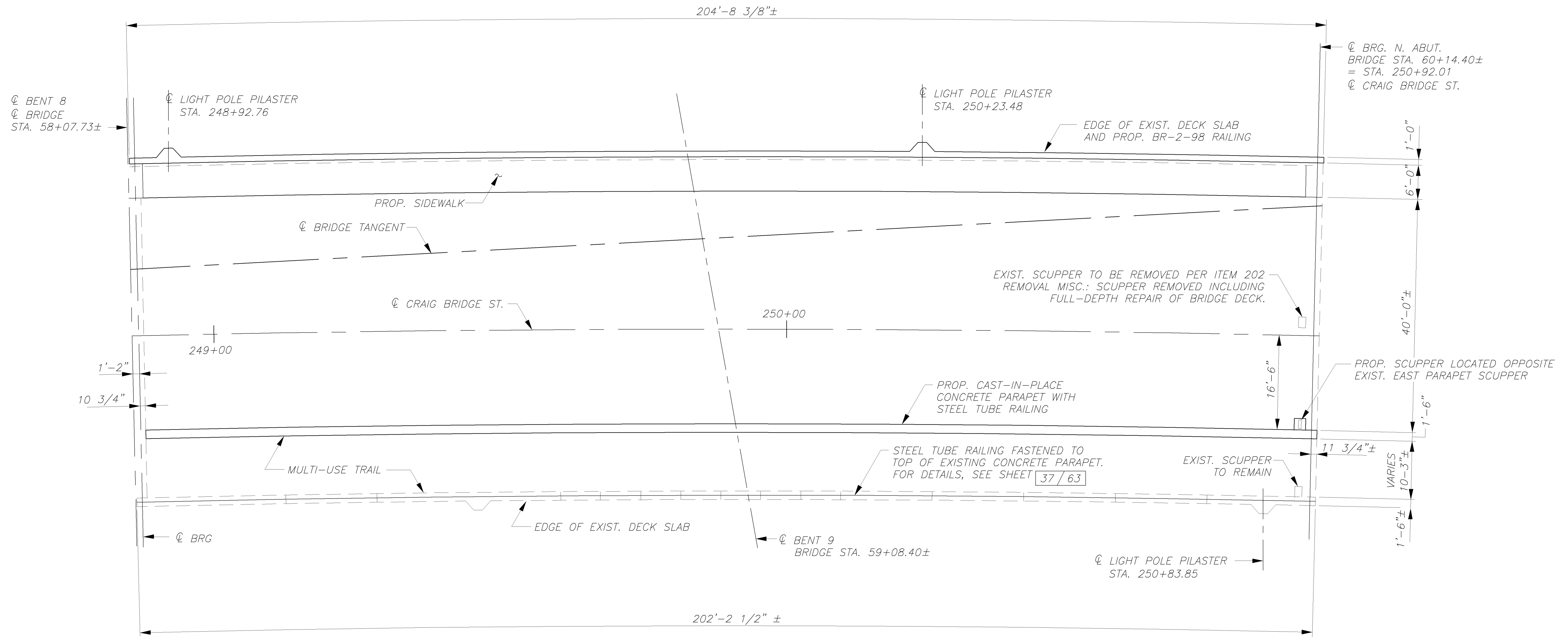
**PLAN**

- INDICATES SEALING OF CONCRETE SURFACES (NON-EPOXY)
- ▲ INDICATES SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

**NOTES:**  
 FOR STRUCTURAL GENERAL NOTES, SEE SHEETS **3/63** TO **8/63**  
 FOR LIGHT POLE PILASTER DETAILS AND RAILING ELEVATIONS, SEE SHEET **44/63** AND **32/63**  
 MINIMUM BAR LAP SPLICES NO. 5 BAR = 29"  
 FOR REINFORCING SCHEDULE AND BAR BENDING DIAGRAMS, SEE SHEET **46/63**

	DATE 3/21/06
	STRUCTURE FILE NUMBER 4805917
REVISIONS EAF DMT REW	DESIGNED TJW CHECKED DP
<b>SIDEWALK PLAN - UNIT 2</b> CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER THE MAJUMEE RIVER	
LUC-280-2.34 TRENCH RECLAMATION	
21/63	
480 555	

G:\02002\202016\Craig\_Bridge\22 slab plan unit 3.dwg 10/24/2005 10:00:57 AM EST  
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plot scale : 1" = 120'



UNIT 3 PLAN

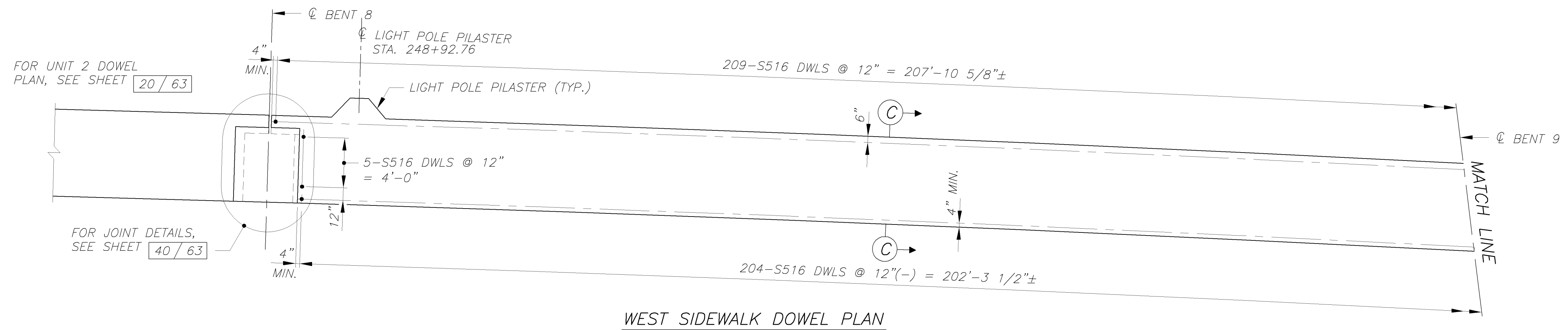
**NOTES**

FOR MULTI-USE TRAIL PARAPET ELEVATION, SEE SHEET 30/63

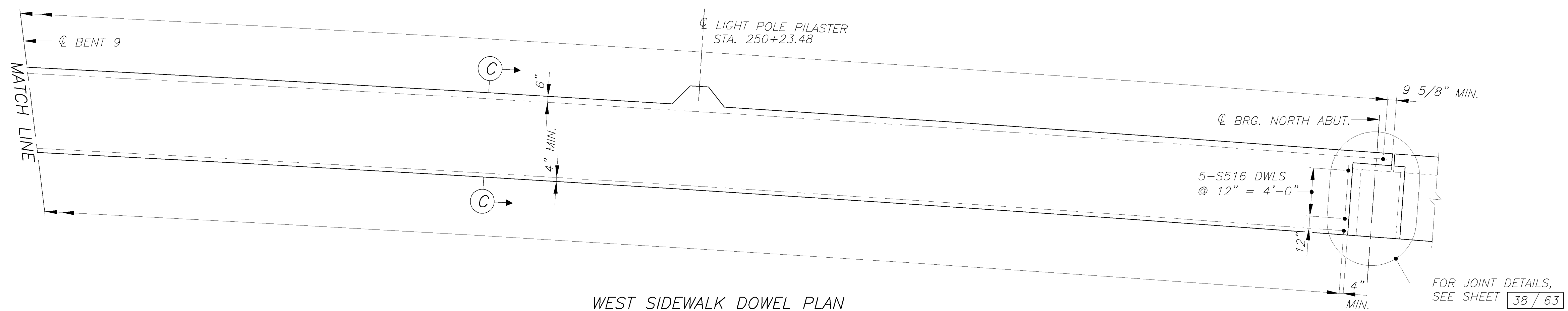
FOR SIDEWALK DETAILS, SEE SHEETS 23/63 & 24/63

FOR UNIT 3 DRAINAGE DETAILS, SEE SHEET 43A/63

G:\02002\202016\Craig\_Bridge\dowel\_plan\_unit\_3.dwg 9/20/2005 5:57:47 PM EDT  
drawing scale : 3/16" = 1'-0"  
plot scale : 1" = 64'



WEST SIDEWALK DOWEL PLAN



WEST SIDEWALK DOWEL PLAN

**NOTES:**

FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 3/63 TO 8/63

FOR LIGHT POLE PILASTER DETAILS AND RAILING ELEVATIONS, SEE SHEET 44/63 AND 33/63

FOR SECTION C-C, SEE SHEET 21/63

FOR REINFORCING SCHEDULE AND BAR BENDING DIAGRAM, SEE SHEET 45/63

**acila**  
cleveland, ohio 44125  
5895 transportation boulevard

DESIGNED	DATE	REVIEWED	DATE
DMT	3/21/06 <td>EAF</td> <td>3/21/06 </td>	EAF	3/21/06
CHECKED	STRUCTURE FILE NUMBER	REVISION	FILE NUMBER
DP	4805917		

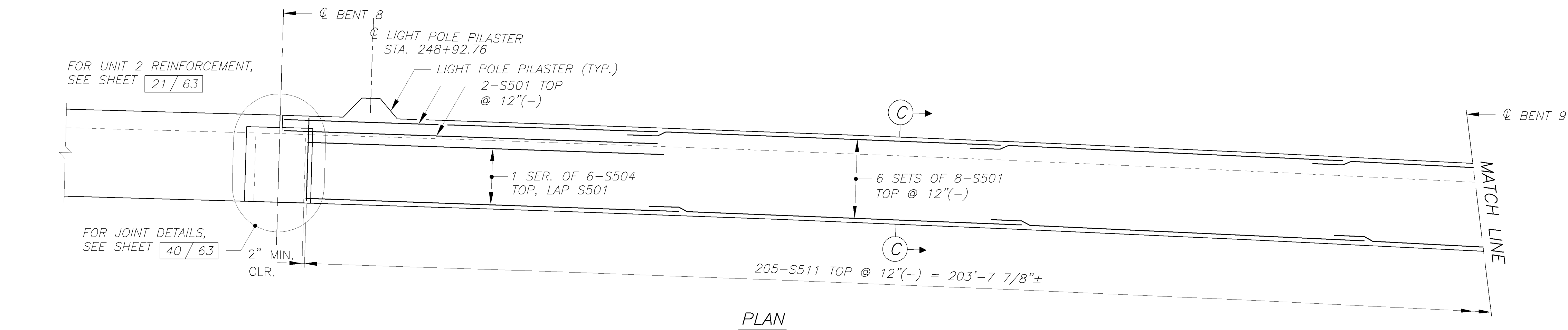
SIDEWALK DOWEL PLAN - UNIT 3  
CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  
OVER THE MAUMEE RIVER

LUC-280-2.34  
TRENCH  
RECLAMATION

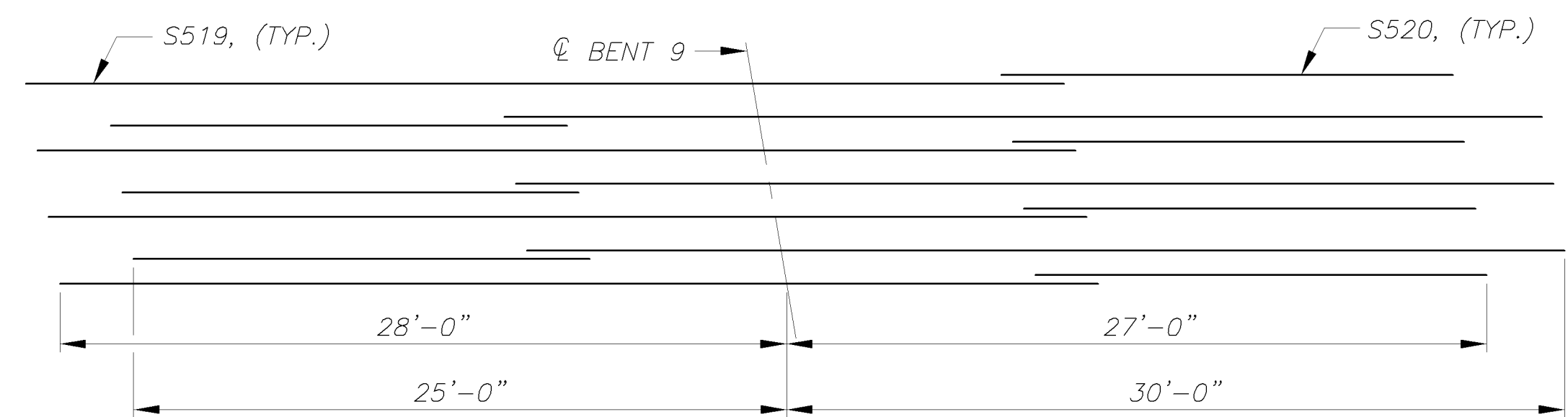
23/63

482  
555

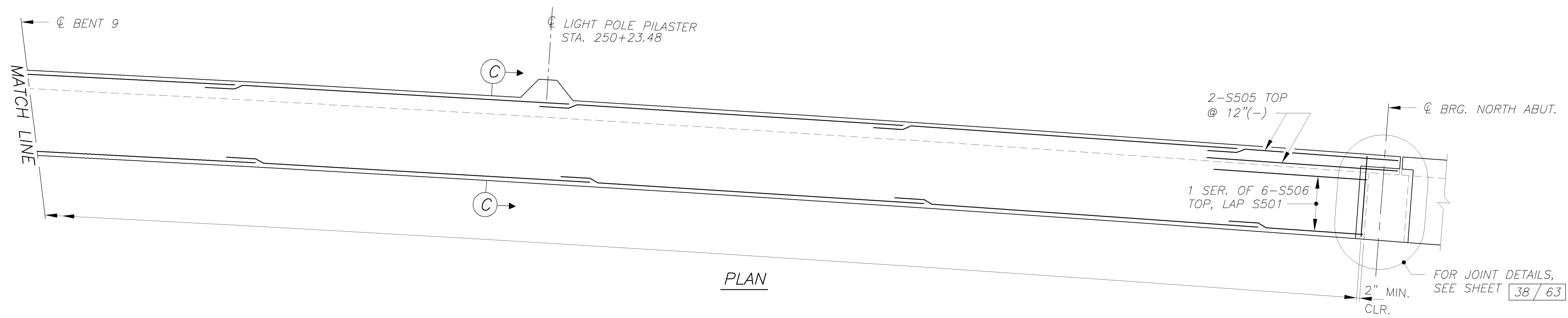
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drawing scale : 3/16" = 1'-0"  
plot scale : 1" = 64'



PLAN



STAGGER DIAGRAM  
BARS TOP OVER CL BENT 9  
(ALTERNATE WITH S501)



PLAN

NOTES:

FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 3 / 63 TO 8 / 63

FOR LIGHT POLE PILASTER DETAILS AND RAILING ELEVATIONS, SEE SHEET 44 / 63 AND 33 / 63

MINIMUM BAR LAP SPLICES  
NO. 5 BAR = 29"

FOR SECTION C-C, SEE SHEET 21 / 63

FOR REINFORCING SCHEDULE AND BAR BENDING DIAGRAMS, SEE SHEET 45 / 63

**acila**  
catholic columbian associates, inc.  
5895 transportation boulevard, cleveland, ohio 44128

DESIGNED	DRAWN	REVIEWED	DATE
DMT	DMT	EAF	3/21/06
CHECKED	REVIS	STRUCTURE FILE NUMBER	4805917
DP			

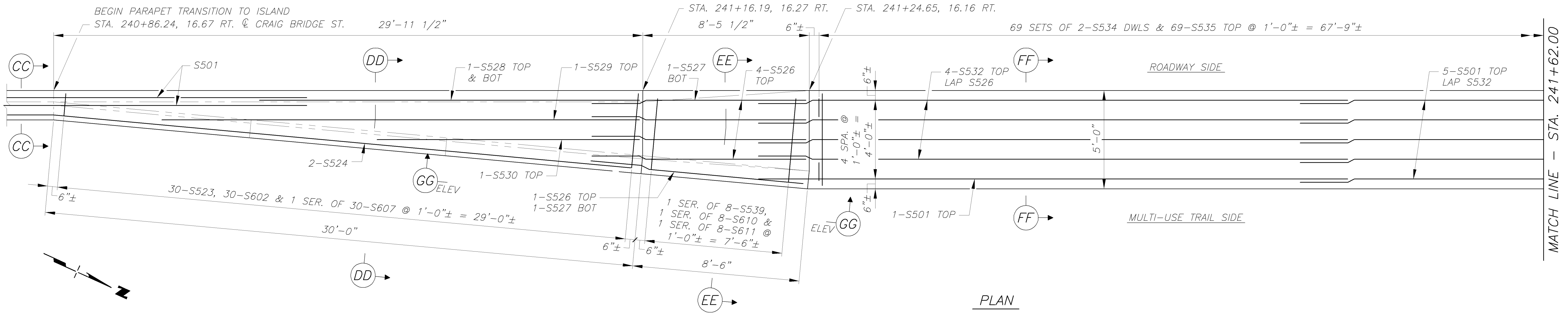
SIDEWALK PLAN - UNIT 3  
CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  
OVER THE MAUMEE RIVER

LUC-280-2.34  
TRENCH  
RECLAMATION

24 / 63

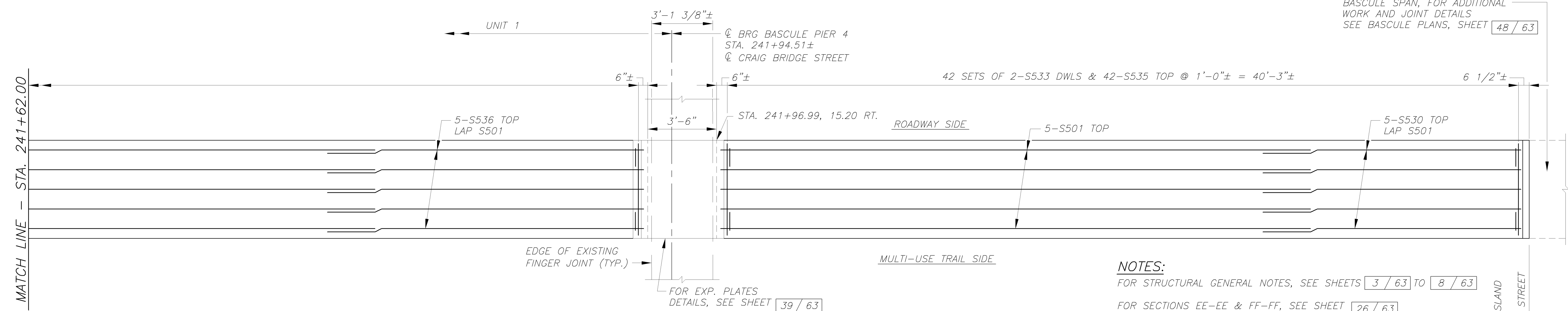
483  
555

G:\02002\202016\Craig Bridge\25 raised island det5\_unit 1.dwg 10/25/2005 2:18:35 PM EST  
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plot scale : 1" = 32'



PLAN

LONGITUDINAL REINFORCING ABOVE THE HORIZONTAL PARAPET  
CONSTRUCTION JOINT IS NOT SHOWN IN PLAN VIEW, SEE PARAPET ELEVATION VIEWS.

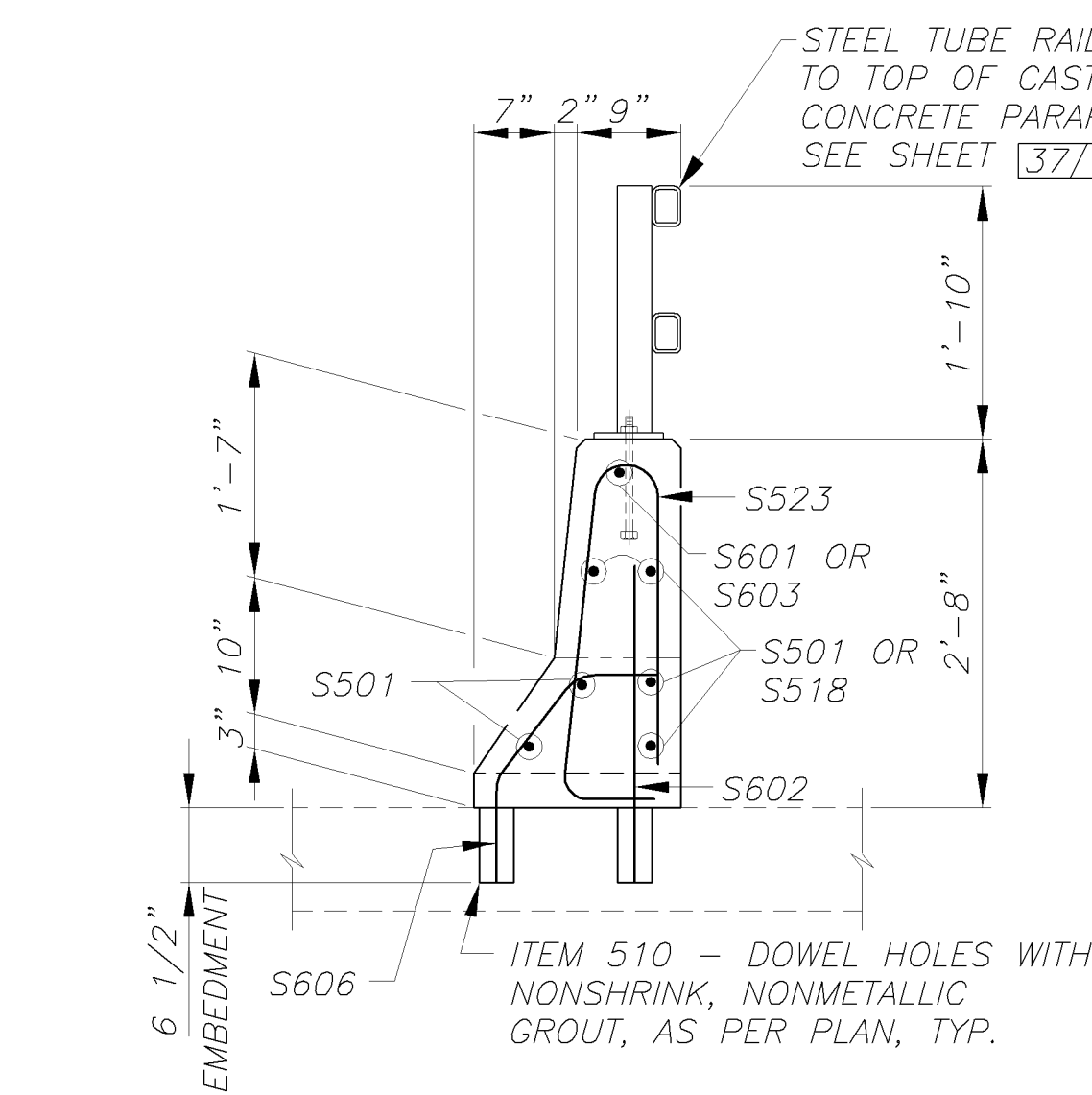


NOTES:

- FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 3 / 63 TO 8 / 63
- FOR SECTIONS EE-EE & FF-FF, SEE SHEET 26 / 63
- FOR UNIT 1 PARAPET ELEVATION, SEE SHEET 28 / 63
- MINIMUM BAR LAP SPLICES  
NO. 5 BAR = 29"  
NO. 6 BAR = 35"
- FOR REINFORCING SCHEDULE AND BAR BENDING DIAGRAMS, SEE SHEET 46 / 63

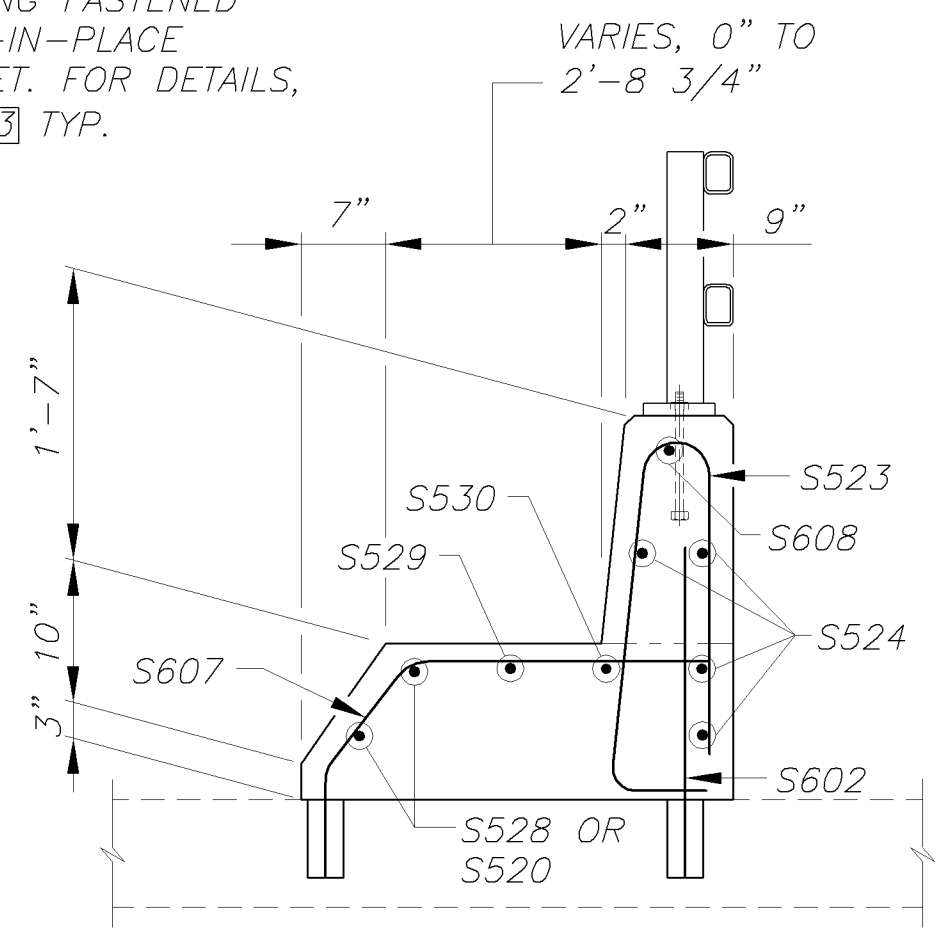
BASCULE SPAN, FOR ADDITIONAL WORK AND JOINT DETAILS SEE BASCULE PLANS, SHEET 48 / 63

END CONCRETE ISLAND  
STA. 242+38.3±  
CRAIG BRIDGE STREET



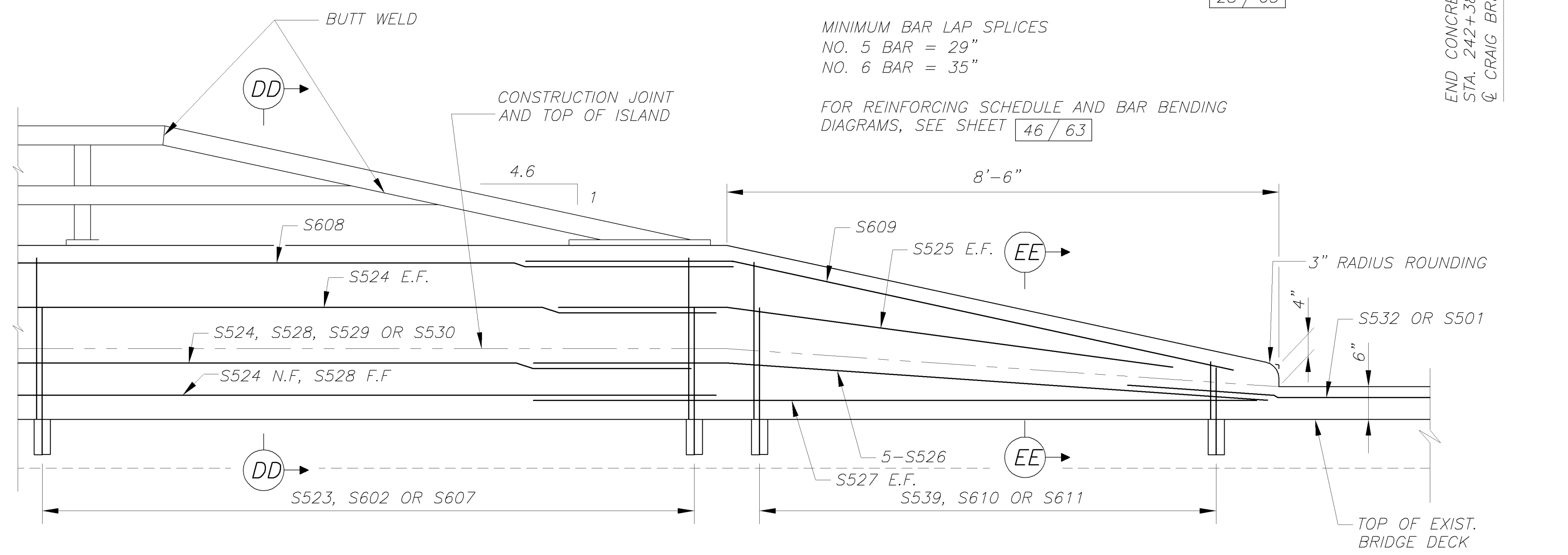
SECTION CC-CC

DECK SLAB REINFORCING NOT SHOWN



SECTION DD-DD

DECK SLAB REINFORCING NOT SHOWN

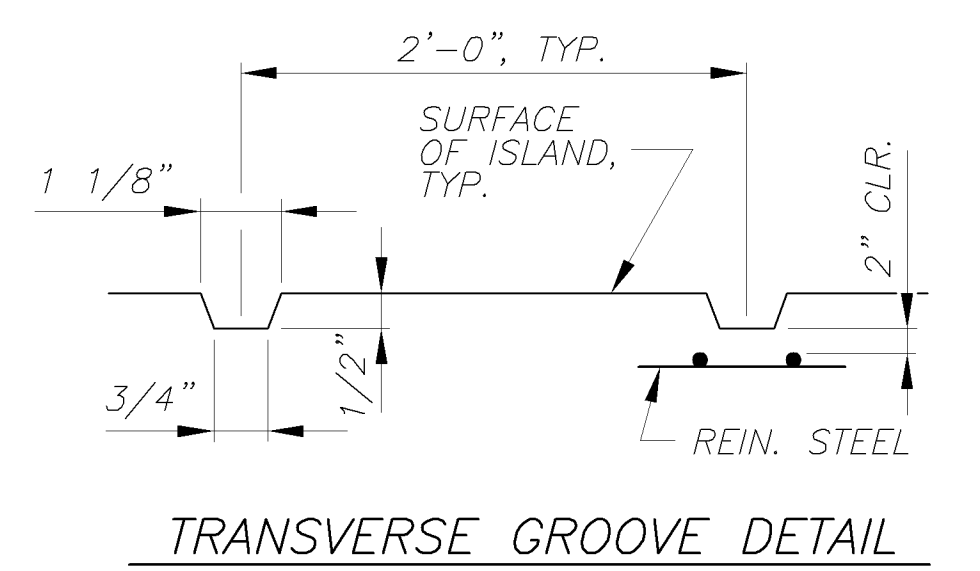
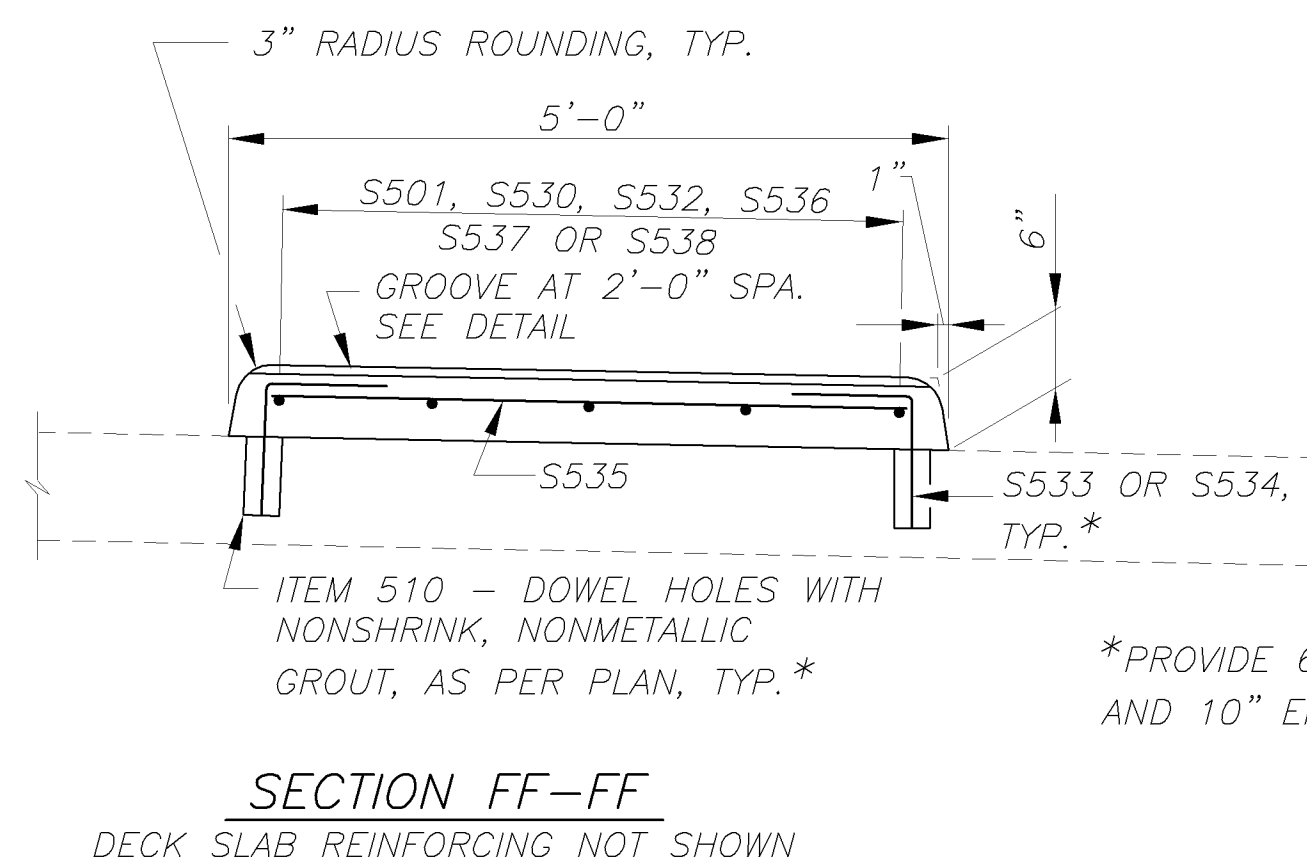
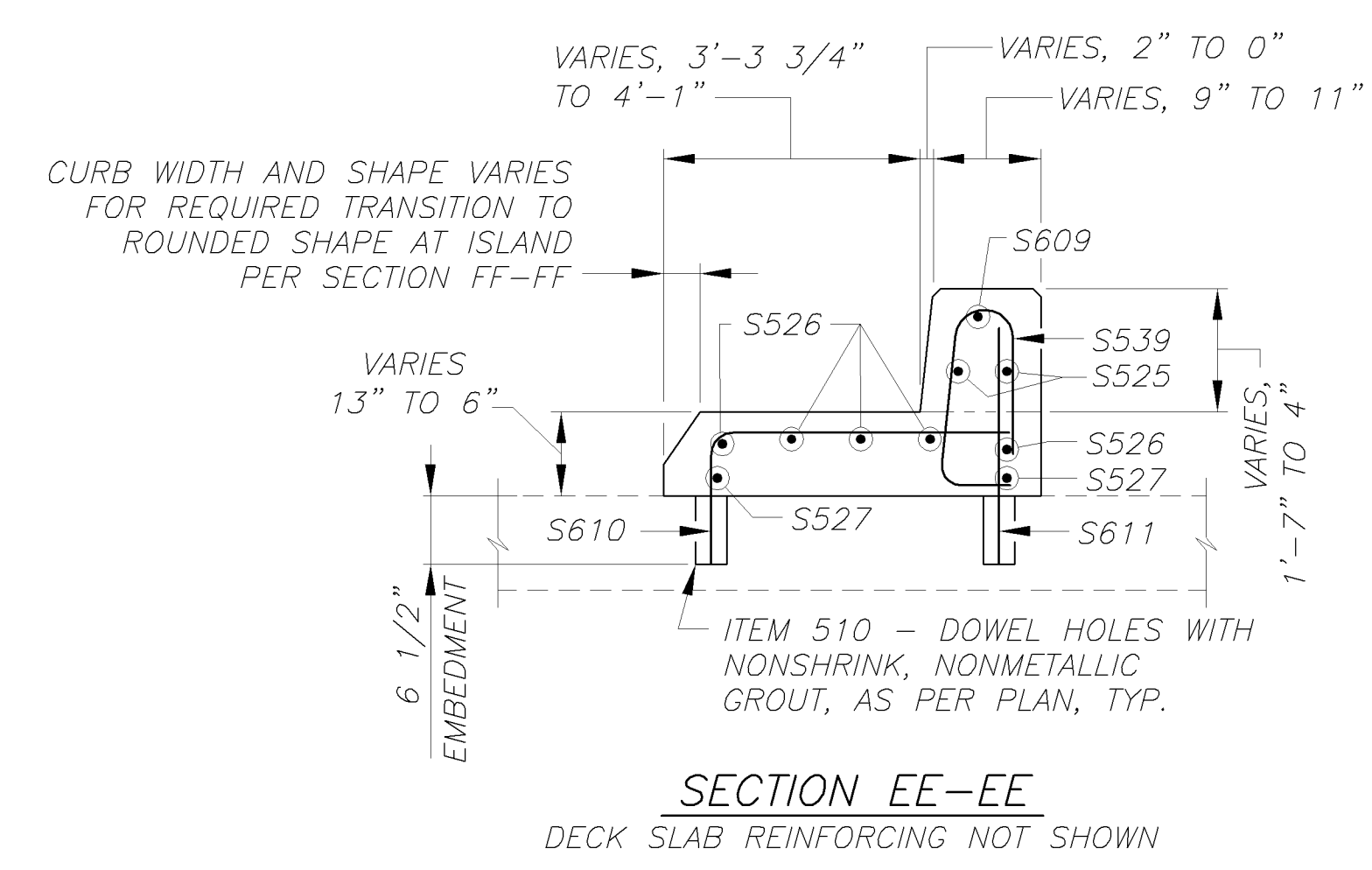
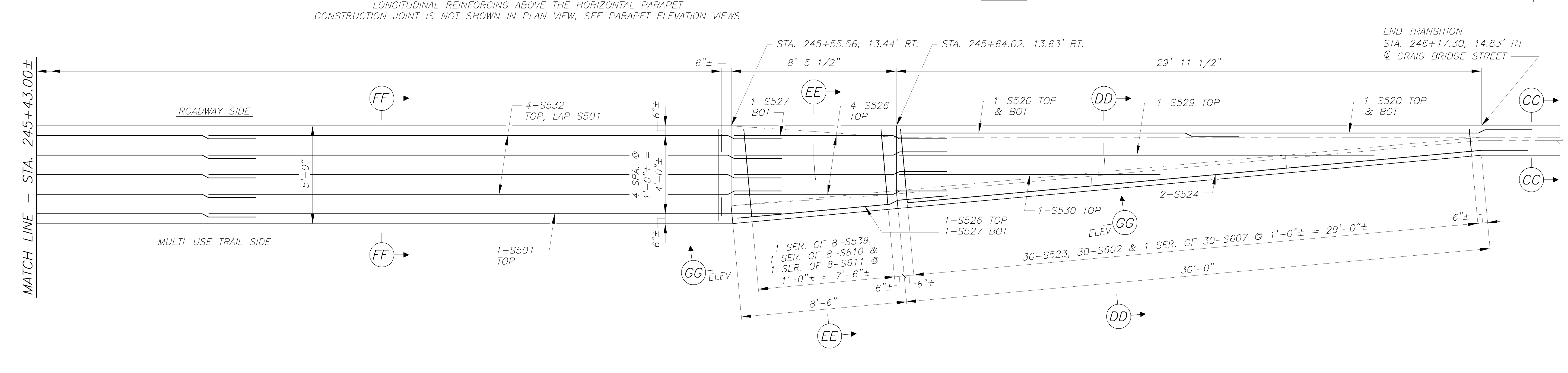
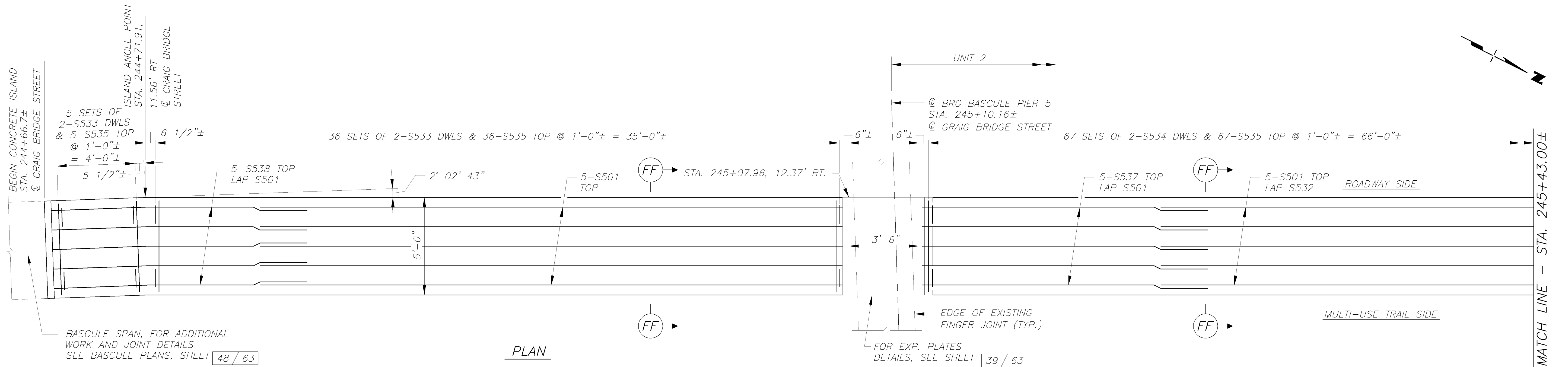


ELEVATION GG-GG

DECK SLAB REINFORCING NOT SHOWN.  
UNIT 1 SHOWN, UNIT 2 OPPOSITE HAND.

 <small>edwards clarke kelly lyons associates inc.</small> <small>5995 transportation boulevard, cleveland, ohio 44128</small>	DATE 3/21/06
	STRUCTURE FILE NUMBER 4805917
DRAWN DMT	REVISIONS EAF
DESIGNED TJW	CHECKED DP
MULTI-USE TRAIL ISLAND DETAILS - UNIT 1 & PIER 4 <small>CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  OVER THE MAUMEE RIVER</small>	
LUC-280-2.34 TRENCH RECLAMATION	
25 / 63	
484 555	

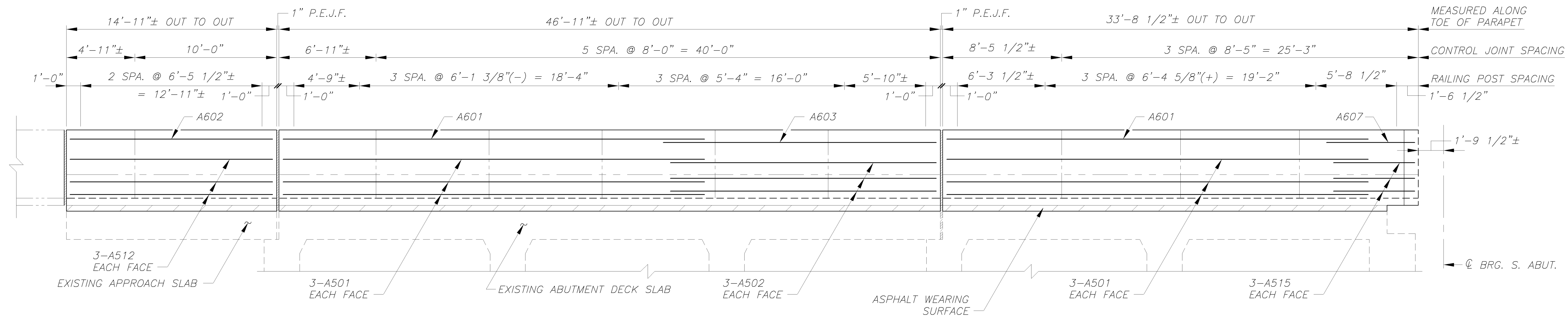
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plot scale: 1" = 32'



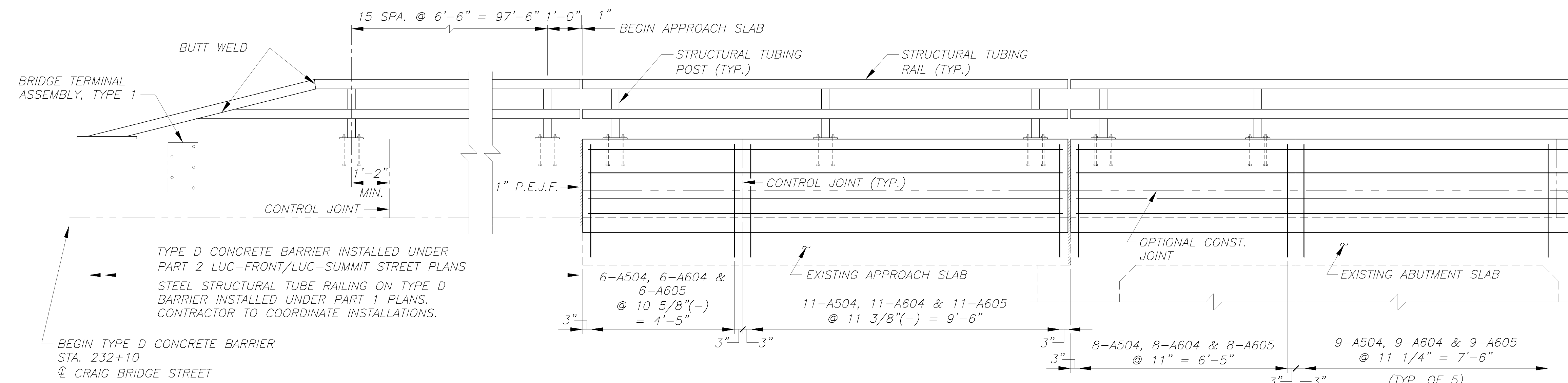
**NOTES:**  
FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 3/63 TO 8/63  
FOR SECTIONS CC-CC & DD-DD, SEE SHEET 25/63  
FOR UNIT 2 PARAPET ELEVATION, SEE SHEET 29/63  
MINIMUM BAR LAP SPLICES  
NO. 5 BAR = 29"  
NO. 6 BAR = 35"  
FOR REINFORCING SCHEDULE AND BAR BENDING DIAGRAMS, SEE SHEET 46/63

		DATE 3/21/06
DRAWN DMT	REVISION EAF	STRUCTURE FILE NUMBER 4805917
DESIGNED TJW	CHECKED DP	
MULTI-USE TRAIL ISLAND DETAILS - UNIT 2 & PIER 5 CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER THE MAJNEE RIVER		
LUC-280-2.34 TRENCH RECLAMATION		
26/63		
485 555		

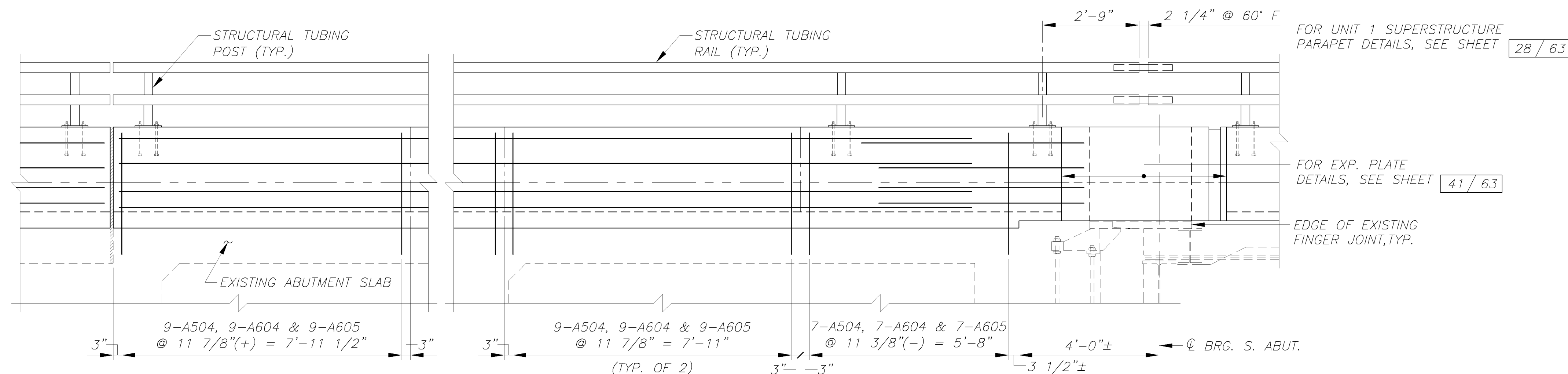
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drawing scale: 1/4" = 1'-0"  
plot scale: 1" = 48"



**PARAPET ELEVATION**  
ALONG WEST SIDE OF MULTI-USE TRAIL  
STEEL STRUCTURAL TUBE RAILING NOT SHOWN



**PARAPET PANEL DETAILS**

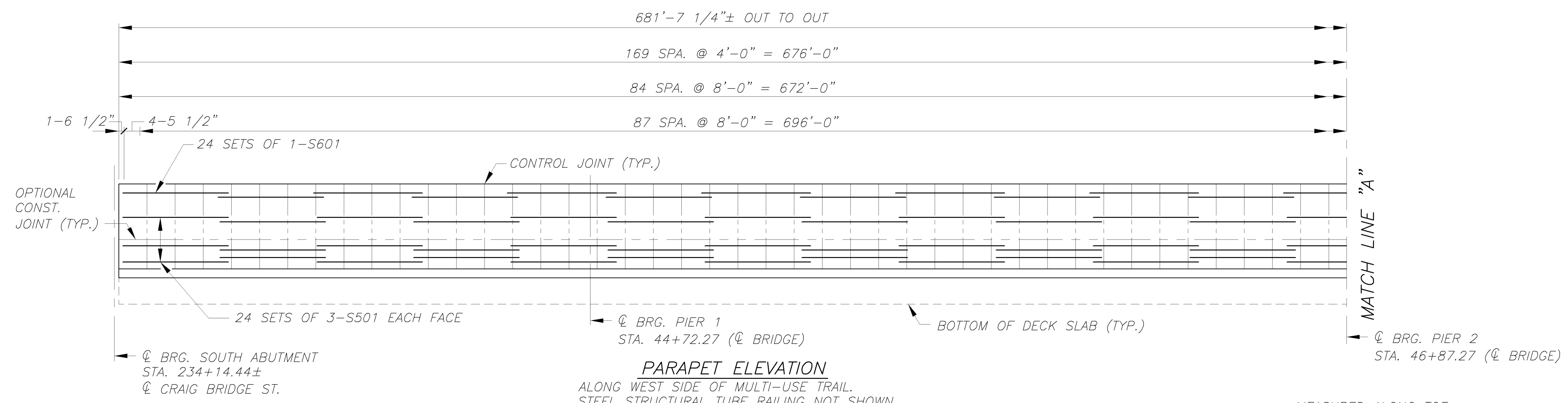


**PARAPET PANEL DETAILS**

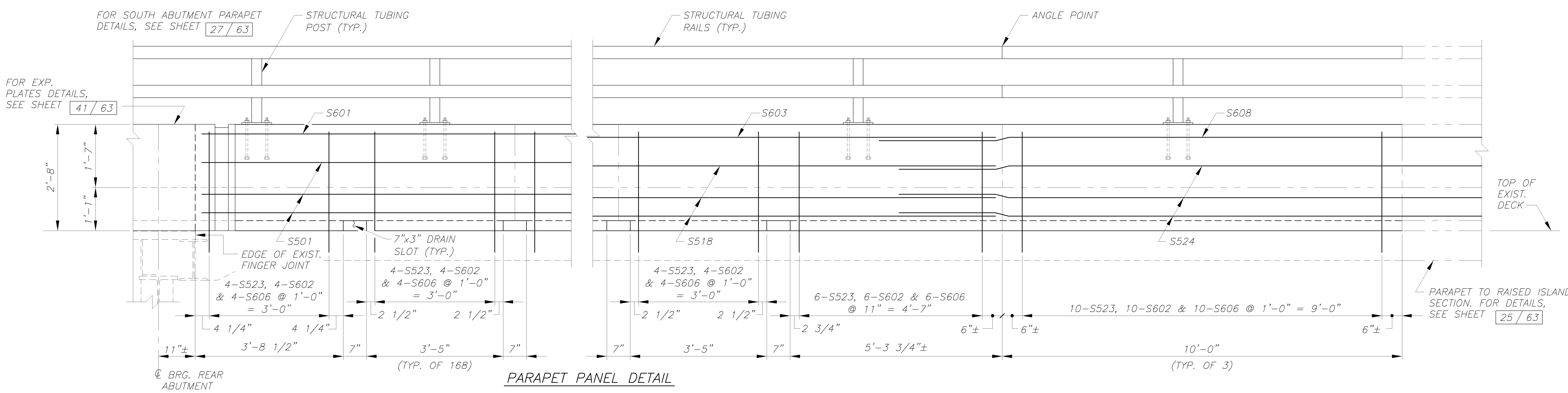
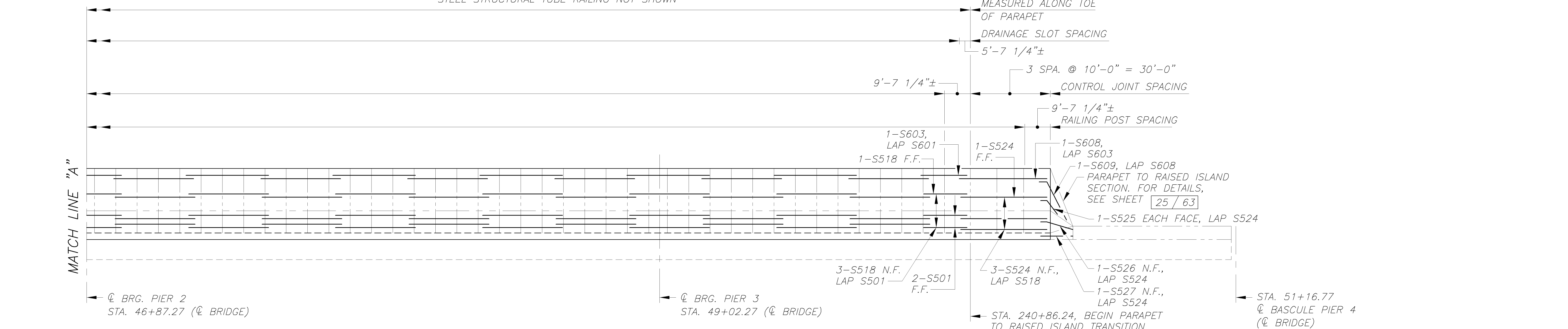
- NOTES:**  
FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 3/63 TO 8/63  
FOR ESTIMATED QUANTITIES, SEE SHEET 9/63  
FOR SOUTH ABUTMENT PLAN AND TYPICAL PARAPET SECTION, SEE SHEET 10/63  
FOR STEEL STRUCTURAL TUBE RAILING DETAILS, SEE SHEET 37/63  
MINIMUM BAR LAP SPLICES  
NO. 5 BAR = 29"  
NO. 6 BAR = 35"  
FOR REINFORCING SCHEDULE AND BAR BENDING DIAGRAMS, SEE SHEET 45/63

 <small>accl Associates, Inc.  5955 transportation boulevard,  cleveland, ohio 44128</small>	<small>DATE</small> 3/21/06
	<small>REVIEWED</small> EAF
<small>DESIGNED</small> DMT	<small>STRUCTURE FILE NUMBER</small> 4805917
<small>DRAWN</small> DMT	<small>REVISED</small> DP
<b>MULTI-USE TRAIL PARAPET ELEVATION - SOUTH ABUTMENT</b> <small>CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  OVER THE MAUMEE RIVER</small>	
<small>LUC-280-2.34  TRENCH  RECLAMATION</small>	
27/63	

G:\02002\202016\Craig\_Bridge\trailing\_parapet\_elevs\_unit1.DWG 10/7/2005 1:11:10 PM EDT  
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plot scale: 1" = 240'

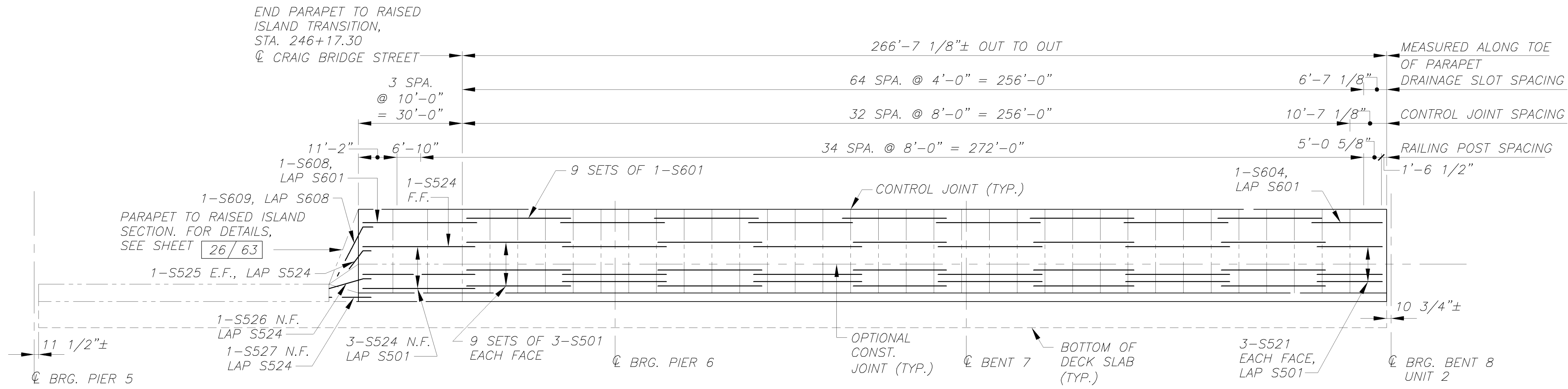


**NOTES:**  
FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 3/63 TO 8/63  
FOR ESTIMATED QUANTITIES, SEE SHEET 9/63  
FOR TYPICAL PARAPET SECTION, SEE SHEET 14/63  
MINIMUM BAR LAP SPLICES  
NO. 5 BAR = 29"  
NO. 6 BAR = 35"  
F.F. = FAR FACE  
N.F. = NEAR FACE  
FOR REINFORCING SCHEDULE AND BAR BENDING DIAGRAMS, SEE SHEET 46/63

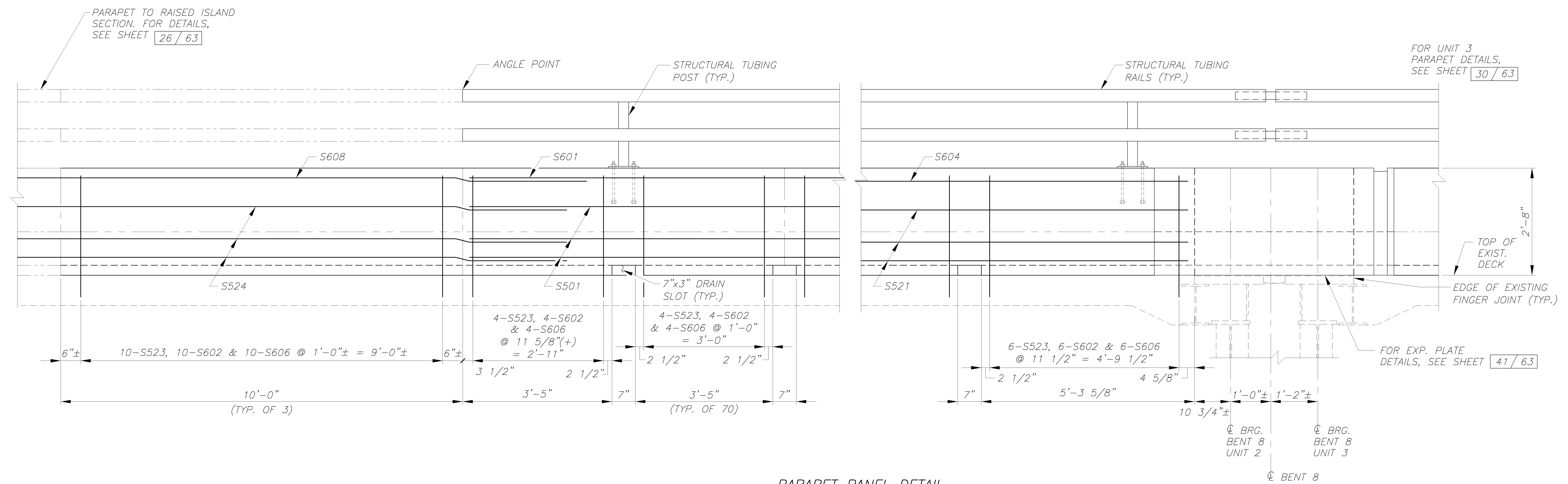




G:\02002\202016\Craig Bridge\rolling\_parapet\_elevs\_unit2.dwg 10/11/2005 9:36:44 AM EDT  
drawing scale: 1" = 20'  
plot scale: 1" = 240'



**PARAPET ELEVATION**  
ALONG WEST SIDE OF MULTI-USE TRAIL.  
STEEL STRUCTURAL TUBE RAILING NOT SHOWN

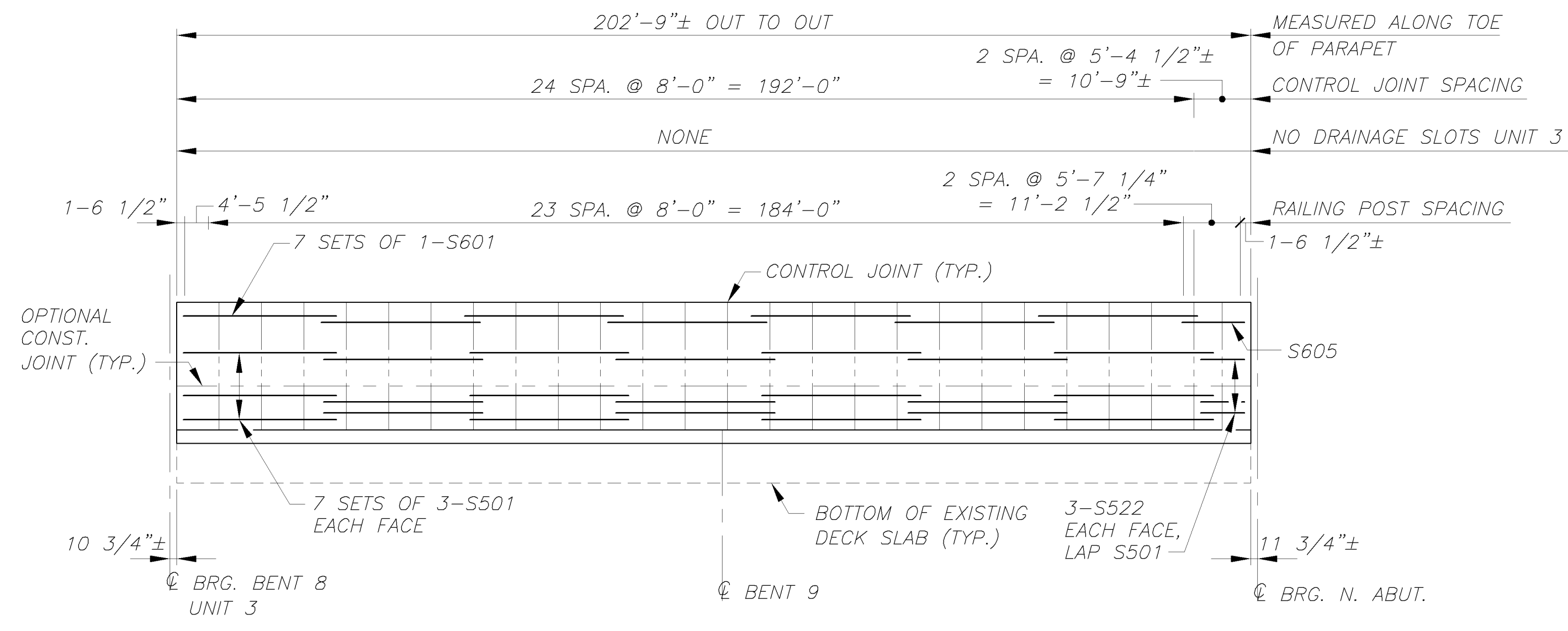


**PARAPET PANEL DETAIL**

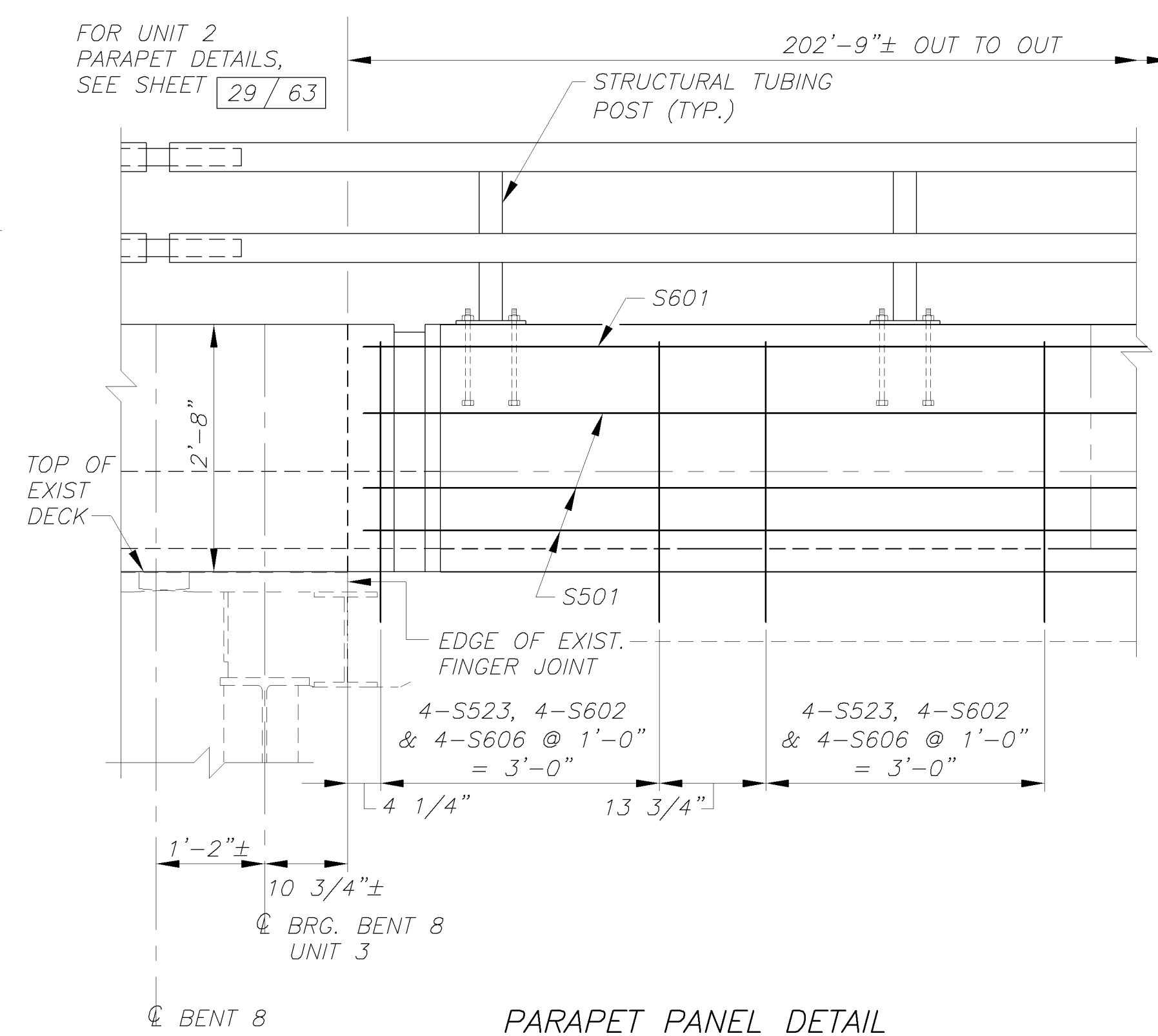
**NOTES:**  
FOR STRUCTURAL GENERAL NOTES, SEE SHEETS  
3 / 63 TO 8 / 63  
FOR ESTIMATED QUANTITIES, SEE SHEET 9 / 63  
FOR TYPICAL PARAPET SECTION, SEE SHEET 16 / 63  
MINIMUM BAR LAP SPLICES  
NO. 5 BAR = 29"  
NO. 6 BAR = 35"  
F.F. = FAR FACE  
N.F. = NEAR FACE  
FOR REINFORCING SCHEDULE AND BAR  
BENDING DIAGRAMS, SEE SHEET 46 / 63

 <small>acila engineering inc.  5995 transportation boulevard,  cleveland, ohio 44128</small>	<small>DATE</small> 3/21/06
	<small>REVIEWED</small> EAF
<small>STRUCTURE FILE NUMBER</small> 4805917	<small>DESIGNED</small> TJW
<small>DRAWN</small> DMT	<small>CHECKED</small> DP
MULTI-USE TRAIL PARAPET ELEVATION - UNIT 2 CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER THE MAJNEE RIVER	
LUC-280-2.34 TRENCH RECLAMATION	
29 / 63	

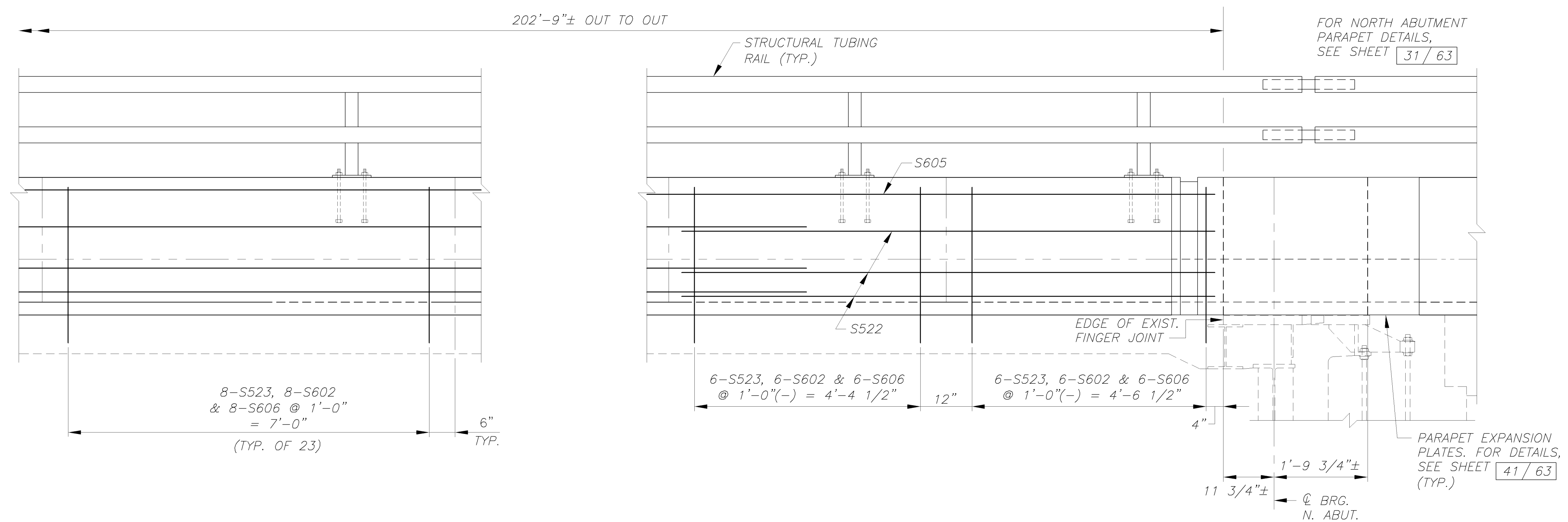
G:\02002\202016\Craig\_Bridge\railling\_parapet\_elevs\_unit3.dwg 10/5/2005 5:22:10 PM EDT  
drawing scale : 1" = 20'  
plot scale : 1" = 240'



**PARAPET ELEVATION**  
ALONG WEST SIDE OF MULTI-USE TRAIL.  
STEEL STRUCTURAL TUBE RAILING NOT SHOWN



**PARAPET PANEL DETAIL**



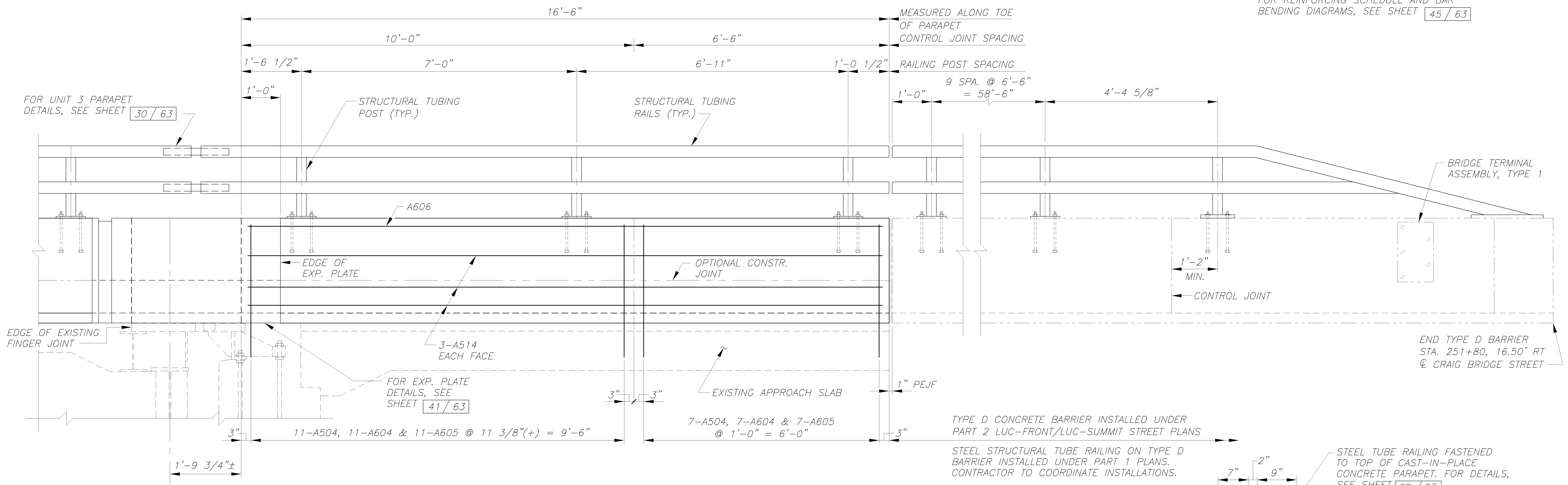
**PARAPET PANEL DETAIL**

**NOTES:**  
FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 3/63 TO 8/63  
FOR ESTIMATED QUANTITIES, SEE SHEET 9/63  
FOR TYPICAL PARAPET SECTION, SEE SHEET 17/63  
MINIMUM BAR LAP SPLICES  
NO. 5 BAR = 29"  
NO. 6 BAR = 35"  
F.F. = FAR FACE  
N.F. = NEAR FACE  
FOR REINFORCING SCHEDULE AND BAR BENDING DIAGRAMS, SEE SHEET 46/63

		DATE	3/21/06
		REVIEWED	EAF
DESIGNED	TJW	CHECKED	DP
DRAWN	DMT	REVISED	---
STRUCTURE FILE NUMBER 4805917		UNIT 3 MULTI-USE TRAIL PARAPET ELEVATION - CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER THE MAJUMEE RIVER	
LUC-280-2.34 TRENCH RECLAMATION		30/63	
489 555		489 555	

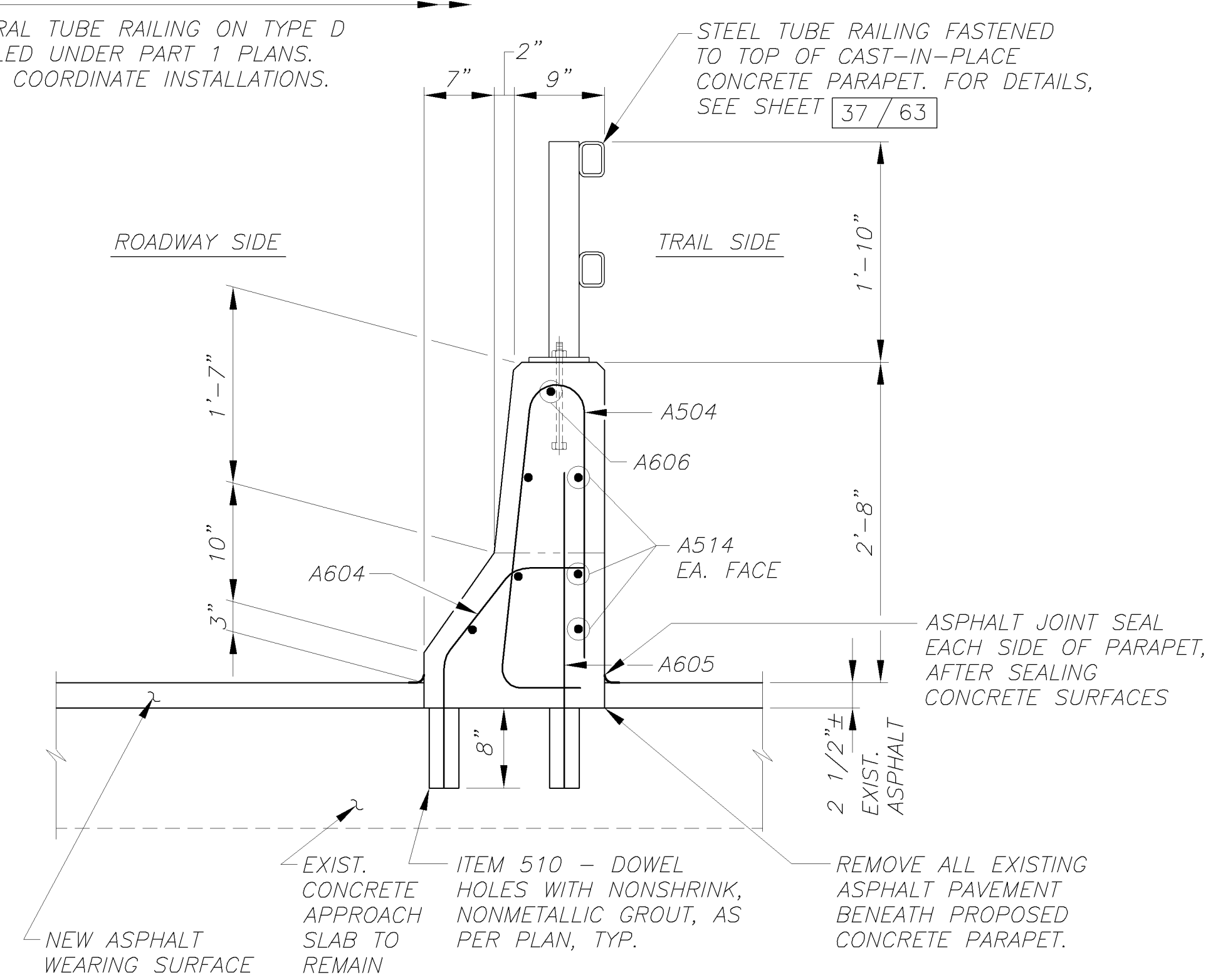
G:\02002\202016\Craig\_Bridge\railling\_parapet\_elevs\_n abut.dwg 10/6/2005 9:57:37 AM EDT  
drawing scale : 3/4" = 1'-0"  
plot scale : 1" = 16'

**NOTES:**  
FOR STRUCTURAL GENERAL NOTES, SEE SHEETS  
3 / 63 TO 8 / 63  
FOR ESTIMATED QUANTITIES, SEE SHEET 9 / 63  
MINIMUM BAR LAP SPLICES  
NO. 5 BAR = 29"  
NO. 6 BAR = 35"  
FOR REINFORCING SCHEDULE AND BAR  
BENDING DIAGRAMS, SEE SHEET 45 / 63



**PARAPET ELEVATION**  
ALONG WEST SIDE OF MULTI-USE TRAIL

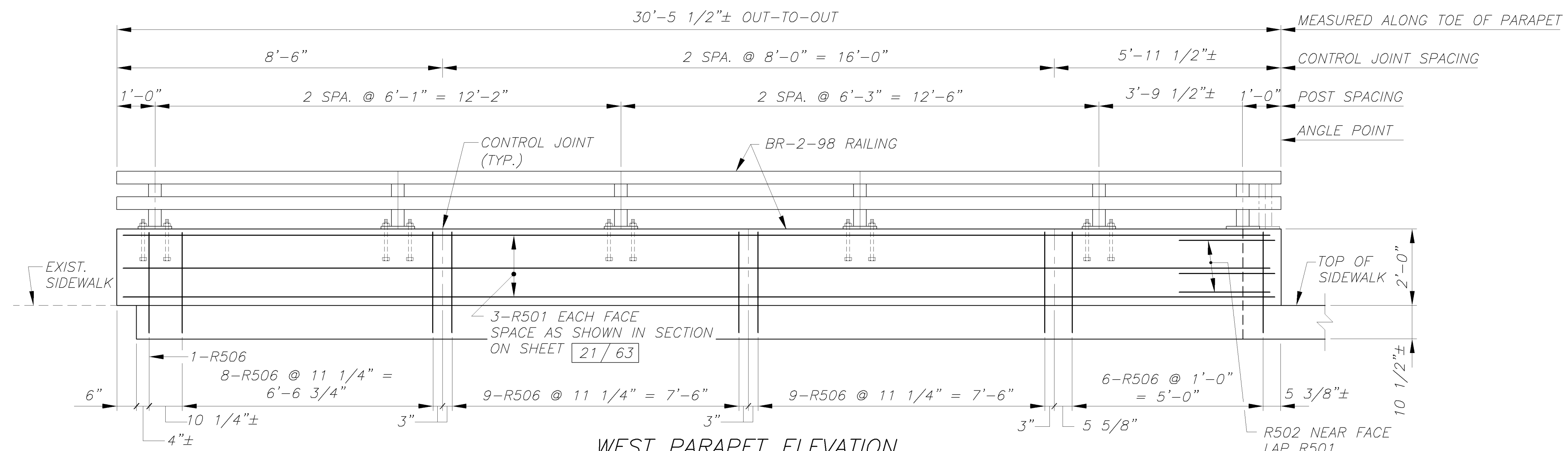
TYPE D CONCRETE BARRIER INSTALLED UNDER PART 2 LUC-FRONT/LUC-SUMMIT STREET PLANS.  
STEEL STRUCTURAL TUBE RAILING ON TYPE D BARRIER INSTALLED UNDER PART 1 PLANS. CONTRACTOR TO COORDINATE INSTALLATIONS.



**TYPICAL PARAPET SECTION**  
APPROACH SLAB REINFORCING NOT SHOWN  
FOR SEALING LIMITS, SEE TYPICAL PARAPET SECTION ON SHEET 10 / 63

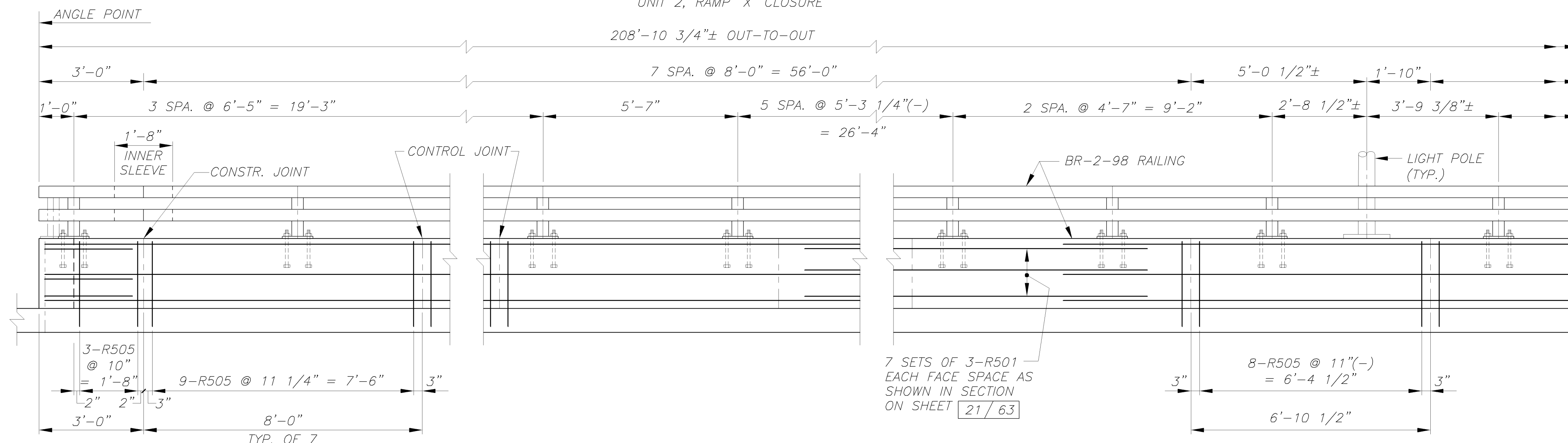
 <small>edwards clarke kelly lyman associates inc.  5895 transportation boulevard, cleveland, ohio 44128</small>	REVIEWED EAF	DATE 3/21/06
	DRAWN DMT	STRUCTURE FILE NUMBER 4805917
DESIGNED TJW	CHECKED DP	PROJECT MULTI-USE TRAIL PARAPET ELEVATION - NORTH ABUTMENT CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER THE MAJUMEE RIVER
LUC-280-2.34 TRENCH RECLAMATION		
31 / 63		
490 555		

G:\02002\202016\Craig\_Bridge\west\_railing\_parapet\_elev\_unit2.dwg 10/6/2005 9:35:12 AM EDT  
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plot scale : 1 = 1



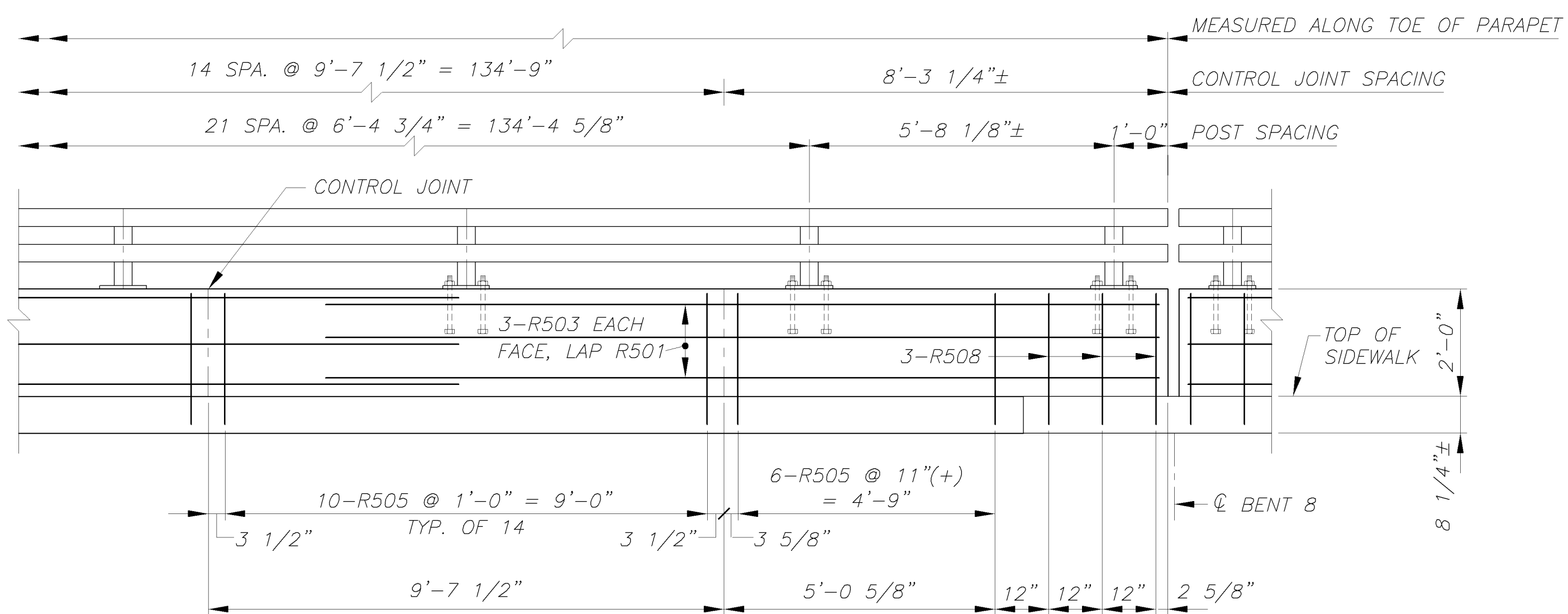
**WEST PARAPET ELEVATION**

UNIT 2, RAMP 'X' CLOSURE



**WEST PARAPET ELEVATION**

UNIT 2, PIER 6 TO BENT 8



**WEST PARAPET ELEVATION**

UNIT 2, PIER 6 TO BENT 8

**NOTES:**  
FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 3 / 63 TO 8 / 63  
FOR ESTIMATED QUANTITIES, SEE SHEET 9 / 63  
FOR LIGHT POLE PILASTER DETAILS, SEE SHEET 44 / 63  
MINIMUM BAR LAP SPLICES  
NO. 5 BAR = 29"  
FOR REINFORCING SCHEDULE AND BAR BENDING DIAGRAMS, SEE SHEET 47 / 63

		DATE	3/21/06
		REVIEWED	EAF
DESIGNED	TJW	STRUCTURE FILE NUMBER	4805917
<b>WEST SIDEWALK RAILING ELEVATION - UNIT 2</b> CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER THE MAJUMEE RIVER			
LUC-280-2.34 TRENCH RECLAMATION		32 / 63	
491 555			

G:\02002\202016\Craig\_Bridge\west\_railing\_parapet\_elev\_unit3.dwg 9/21/2005 11:37:24 AM EDT  
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plot scale : 1" = 1'

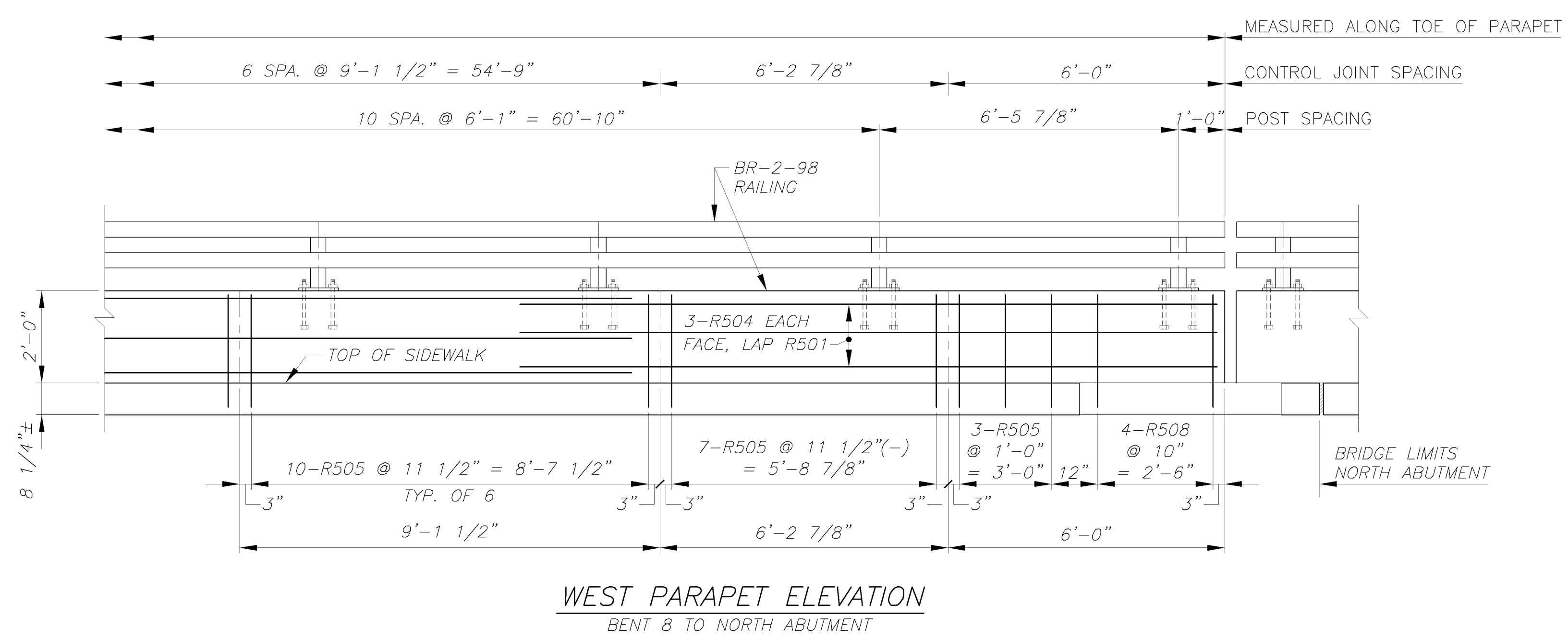
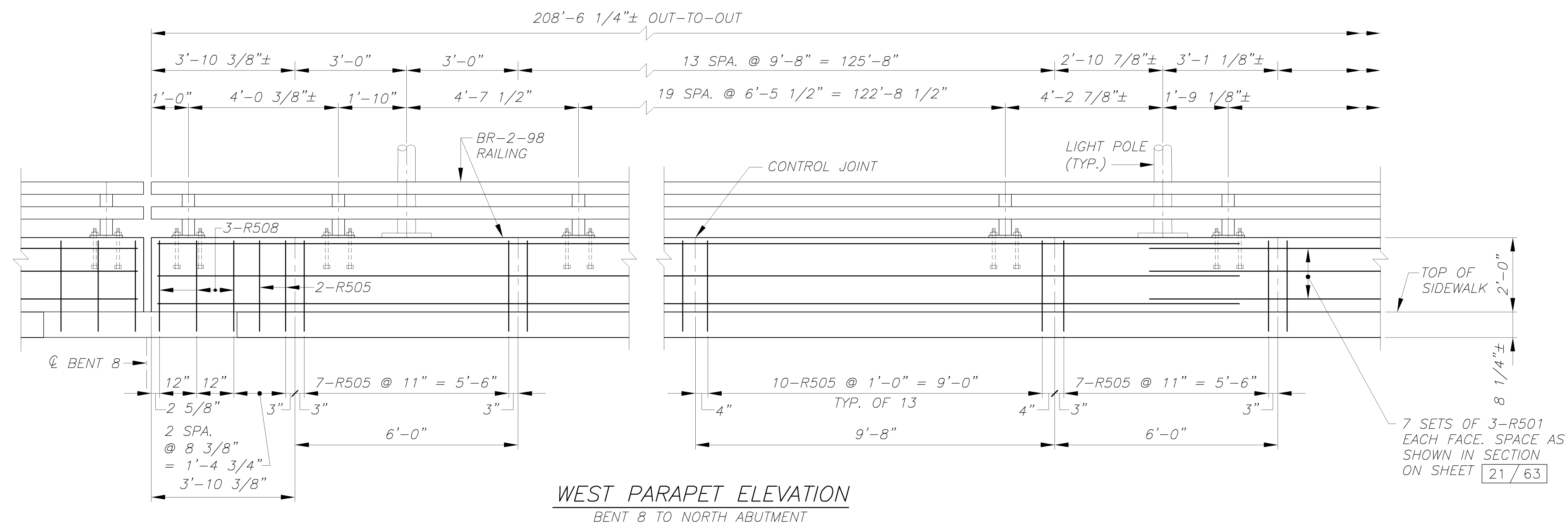
**NOTES:**  
FOR STRUCTURAL GENERAL NOTES, SEE SHEETS  
3 / 63 TO 8 / 63

FOR ESTIMATED QUANTITIES, SEE SHEET 9 / 63

FOR LIGHT POLE PILASTER DETAILS, SEE SHEET 44 / 63

MINIMUM BAR LAP SPLICES  
NO. 5 BAR = 29"

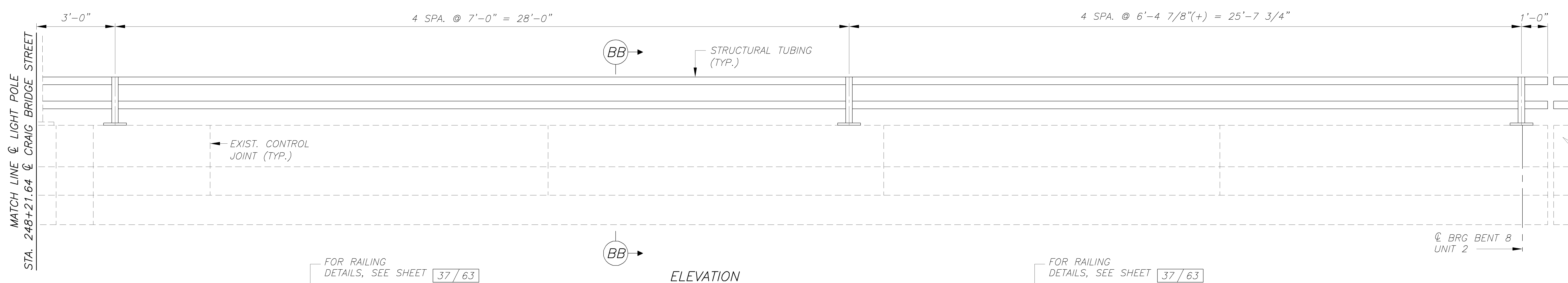
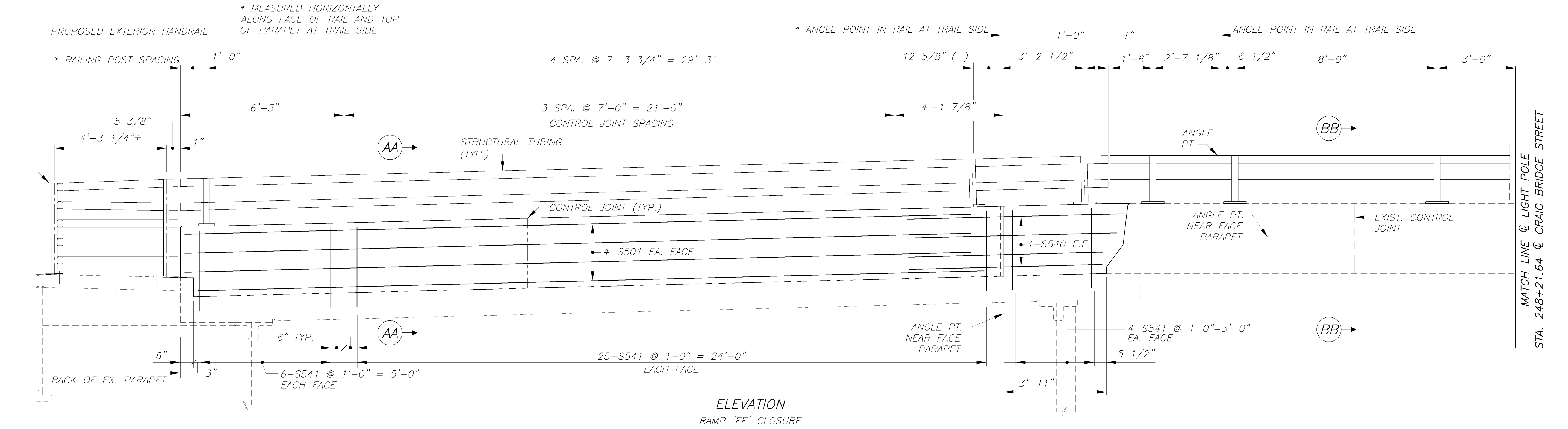
FOR REINFORCING SCHEDULE AND BAR  
BENDING DIAGRAMS, SEE SHEET 47 / 63



7 SETS OF 3-R501  
EACH FACE. SPACE AS  
SHOWN IN SECTION  
ON SHEET 21 / 63

<b>acila</b> <small>edwards clint lynn associates inc. 5895 transportation boulevard, cleveland, ohio 44126</small>																
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">DESIGNED</td> <td style="width: 25%;">DATE</td> <td style="width: 25%;">REVIEWED</td> <td style="width: 25%;">DATE</td> </tr> <tr> <td style="text-align: center;">TJW</td> <td style="text-align: center;">3/21/06</td> <td style="text-align: center;">EAF</td> <td style="text-align: center;">3/21/06</td> </tr> <tr> <td style="text-align: center;">CHECKED</td> <td style="text-align: center;">FILE NUMBER</td> <td style="text-align: center;">DRAWN</td> <td style="text-align: center;">REVISION</td> </tr> <tr> <td style="text-align: center;">DP</td> <td style="text-align: center;">4805917</td> <td style="text-align: center;">DMT</td> <td style="text-align: center;"></td> </tr> </table>	DESIGNED	DATE	REVIEWED	DATE	TJW	3/21/06	EAF	3/21/06	CHECKED	FILE NUMBER	DRAWN	REVISION	DP	4805917	DMT	
DESIGNED	DATE	REVIEWED	DATE													
TJW	3/21/06	EAF	3/21/06													
CHECKED	FILE NUMBER	DRAWN	REVISION													
DP	4805917	DMT														
<b>WEST SIDEWALK RAILING ELEVATION - UNIT 3</b> <small>CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  OVER THE MAUMEE RIVER</small>																
<b>LUC-280-2.34</b> <b>TRENCH RECLAMATION</b>																
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">33 / 63</td> <td style="width: 50%; text-align: center;">492 / 555</td> </tr> </table>	33 / 63	492 / 555														
33 / 63	492 / 555															

G:\02002\202016\Craig\_Bridge\ex east parapet with railing\_unit\_2.dwg 9/21/2005 11:45:21 AM EDT  
drawing scale : 1/2" = 1'-0"  
plot scale : 1" = 1'



SECTION AA-AA

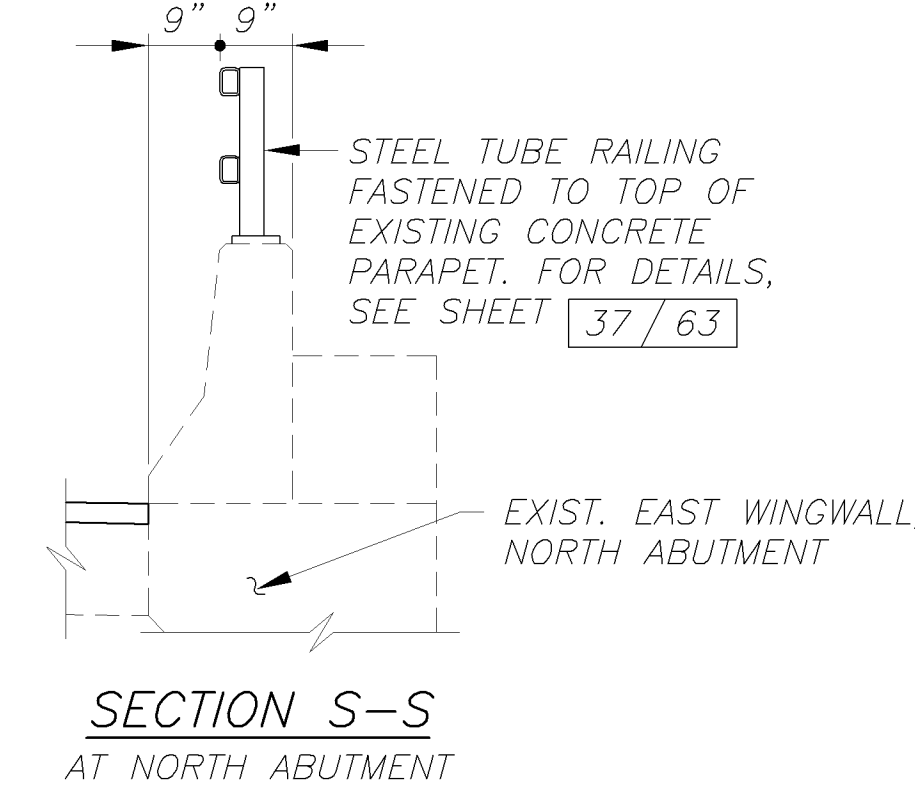
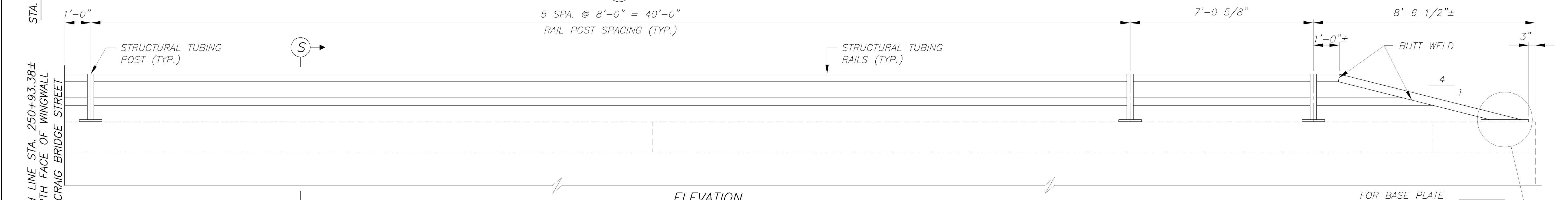
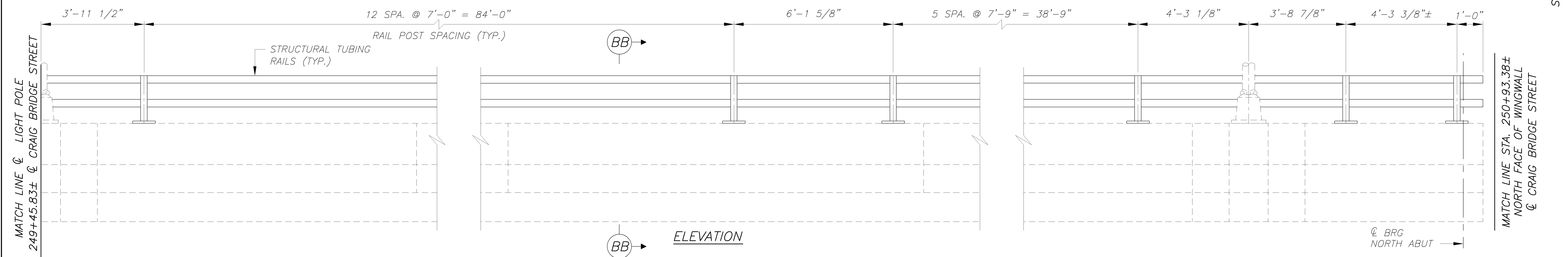
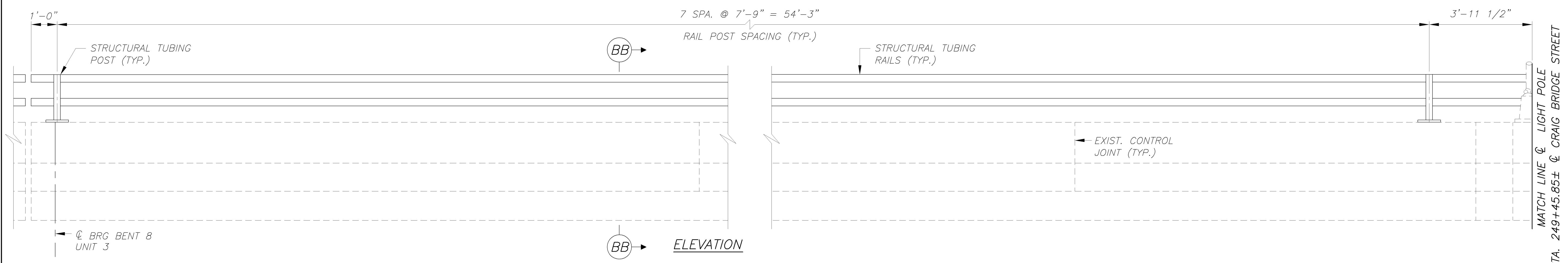
SECTION BB-BB

**NOTES:**  
FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 3/63 TO 8/63  
FOR ESTIMATED QUANTITIES, SEE SHEET 9/63  
FOR PLAN VIEW DETAILS, SEE SHEET 36/63

 <small>acila</small> <small>edwards clint lynn associates, inc.</small> <small>5895 transportation boulevard, cleveland, ohio 44128</small>	<small>DATE</small> 3/21/06
	<small>REVIEWED</small> <small>EAF</small> <small>STRUCTURE FILE NUMBER</small> 4805917
<small>DESIGNED</small> <small>TJW</small> <small>CHECKED</small> <small>DP</small>	<small>DRAWN</small> <small>DMT/TJW</small> <small>REVIS</small>
<b>EAST PARAPET ELEVATION - UNIT 2</b> CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER THE MAUMEE RIVER	
LUC-280-2.34 TRENCH RECLAMATION	
34/63	
493 555	

G:\02002\202016\Craig Bridge\ex east parapet with railing\_unit 3.dwg 10/5/2005 8:57:07 AM EDT  
drawing scale : 1/2" = 1'-0"  
plot scale : 1 = 1

**NOTES:**  
FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 3 / 63 TO 8 / 63  
FOR ESTIMATED QUANTITIES, SEE SHEET 9 / 63  
FOR SECTION BB-BB, SEE SHEET 34 / 63



STA. 249+45.85± @ CRAIG BRIDGE STREET

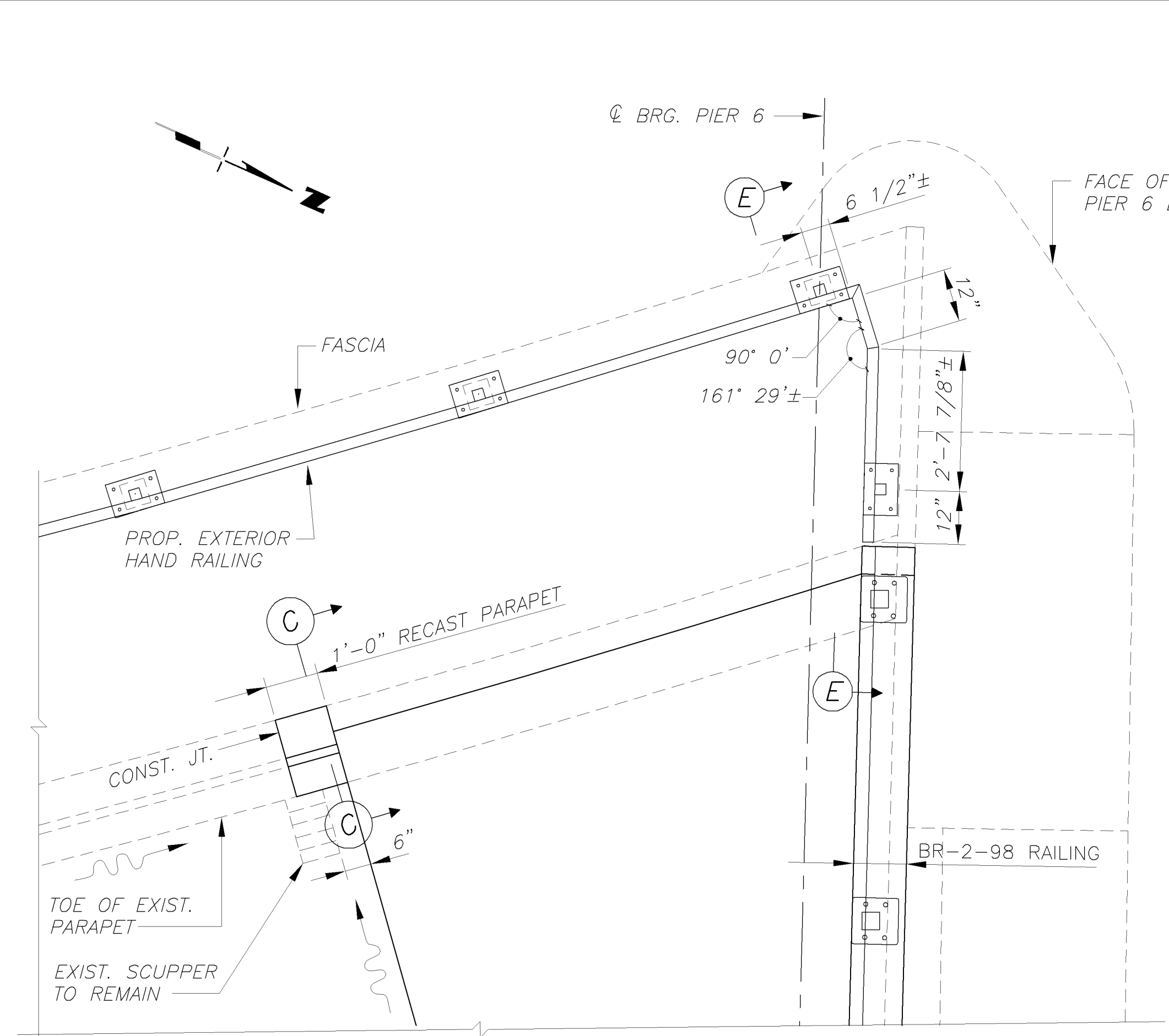
MATCH LINE @ LIGHT POLE & CRAIG BRIDGE STREET

© BRG NORTH ABUT

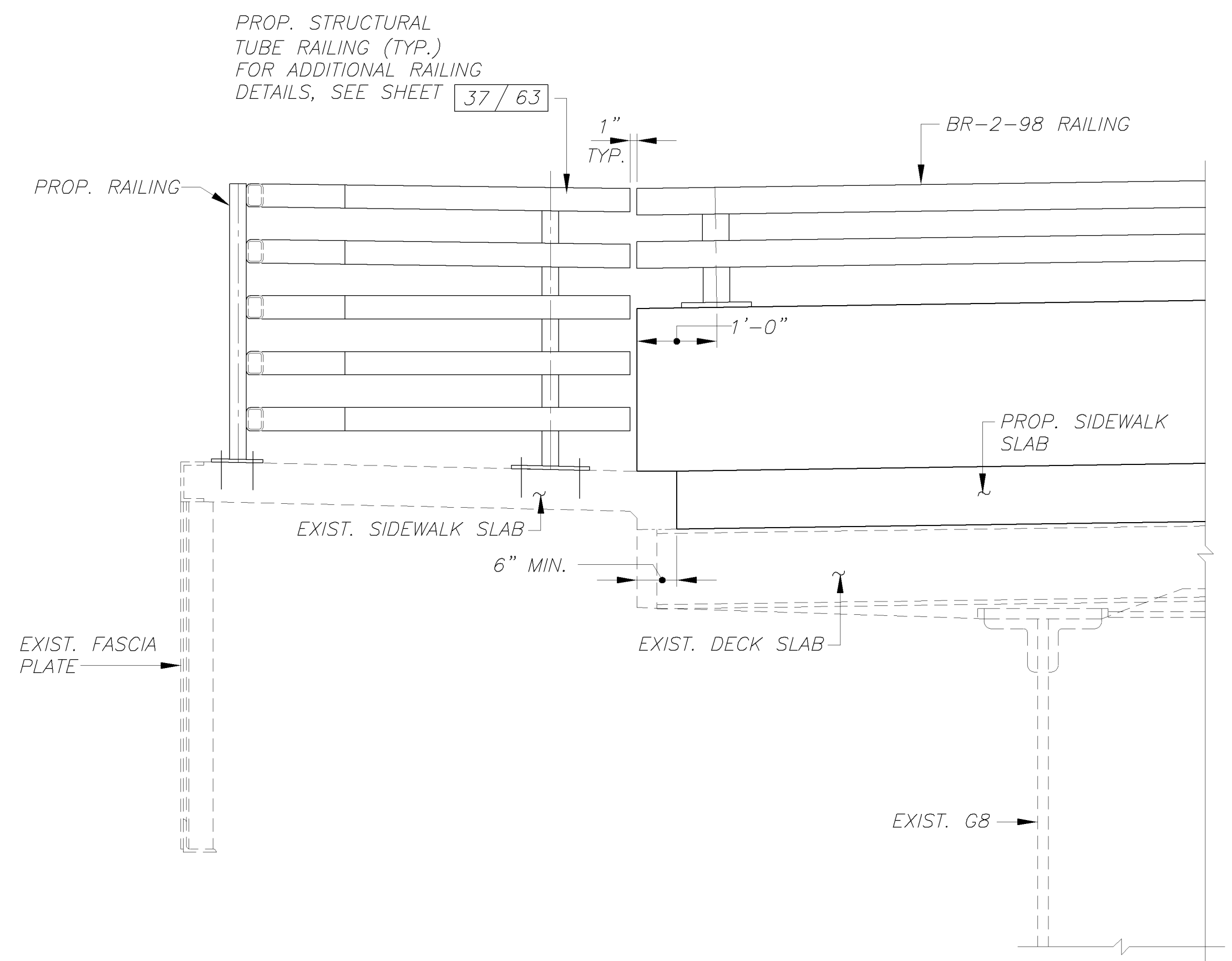
37 / 63

 <small>acila engineering inc.  5895 transportation boulevard, cleveland, ohio 44126</small>	<small>DESIGNED</small> TJW	<small>REVIEWED</small> EAF	<small>DATE</small> 3/21/06
	<small>CHECKED</small> DP	<small>REVISION</small> DMT	<small>STRUCTURE FILE NUMBER</small> 4805917
	<b>EAST PARAPET ELEVATION - UNIT 3 &amp; NORTH ABUTMENT</b>		
	<small>CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  OVER THE MAUMEE RIVER</small>		
<b>LUC-280-2.34 TRENCH RECLAMATION</b>			
35 / 63			

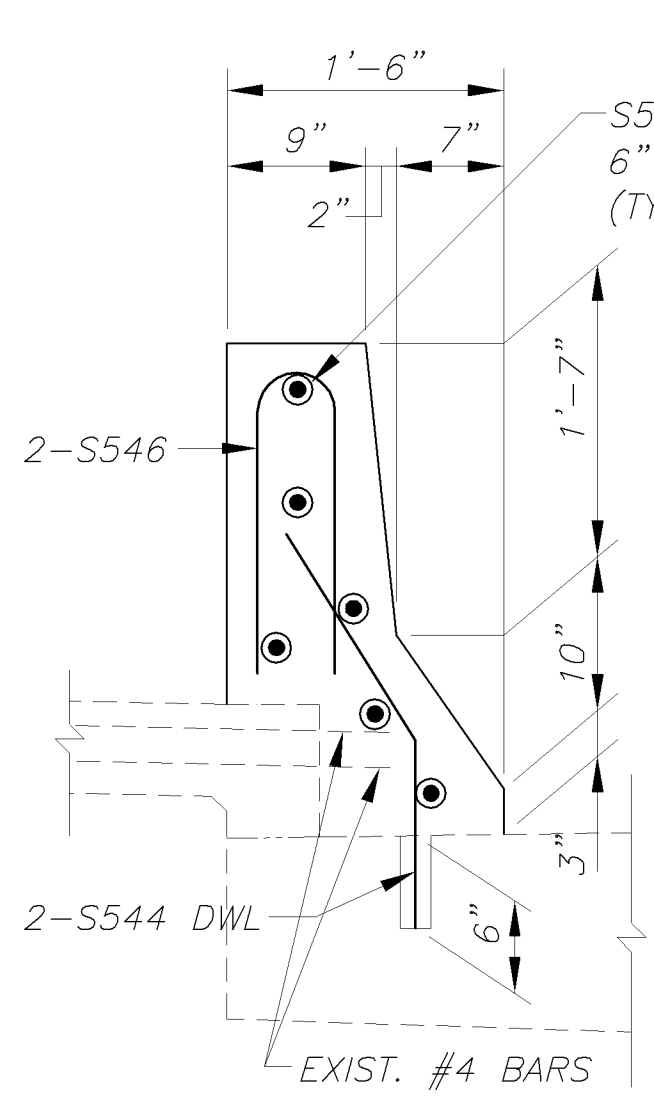
G:\02002\202016\Craig\_Bridge\unit\_2\_ramp\_x\_details.dwg 9/22/2005 11:46:45 AM EDT  
drawing scale: 1" = 1'-0"  
plot scale: 1" = 1'



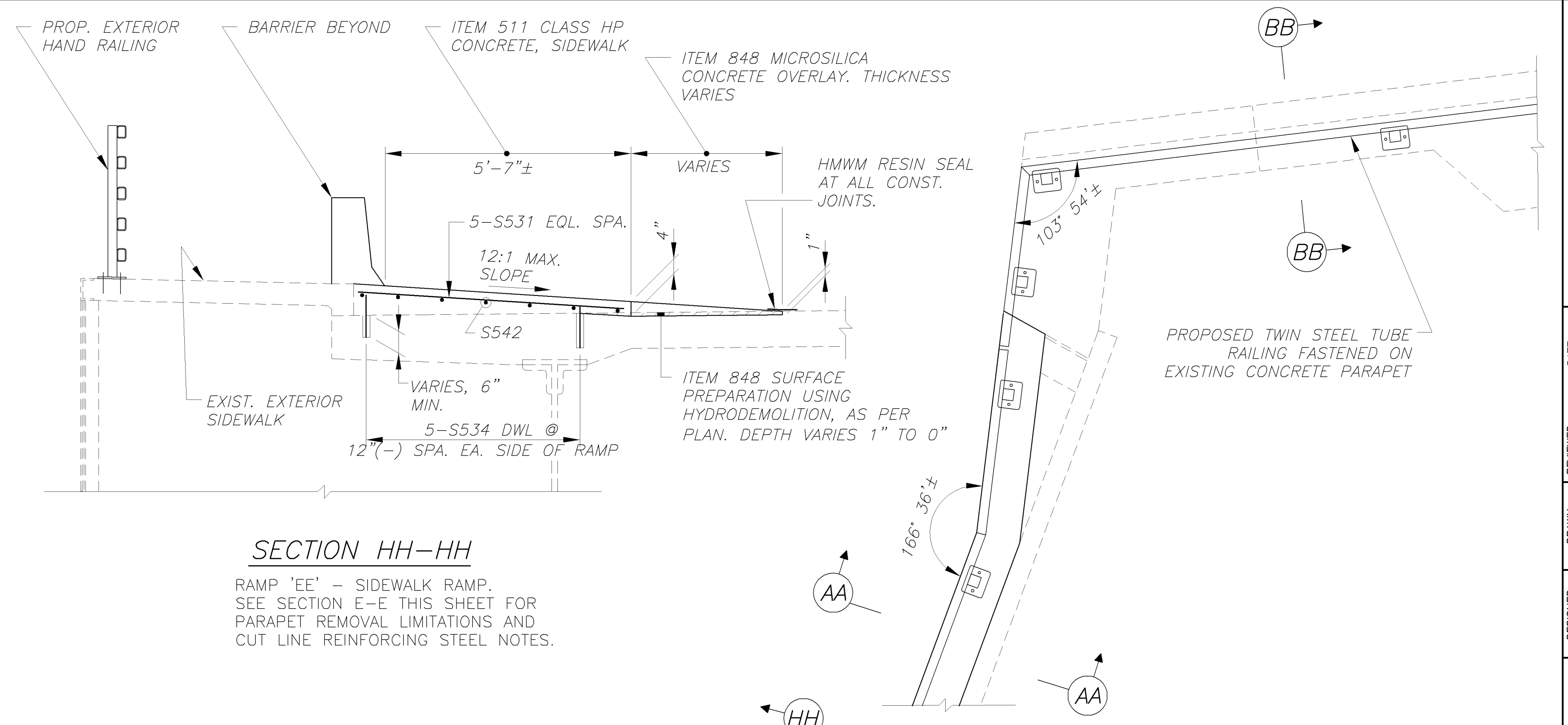
**DECK CORNER PLAN**  
UNIT 2 AT RAMP 'X'



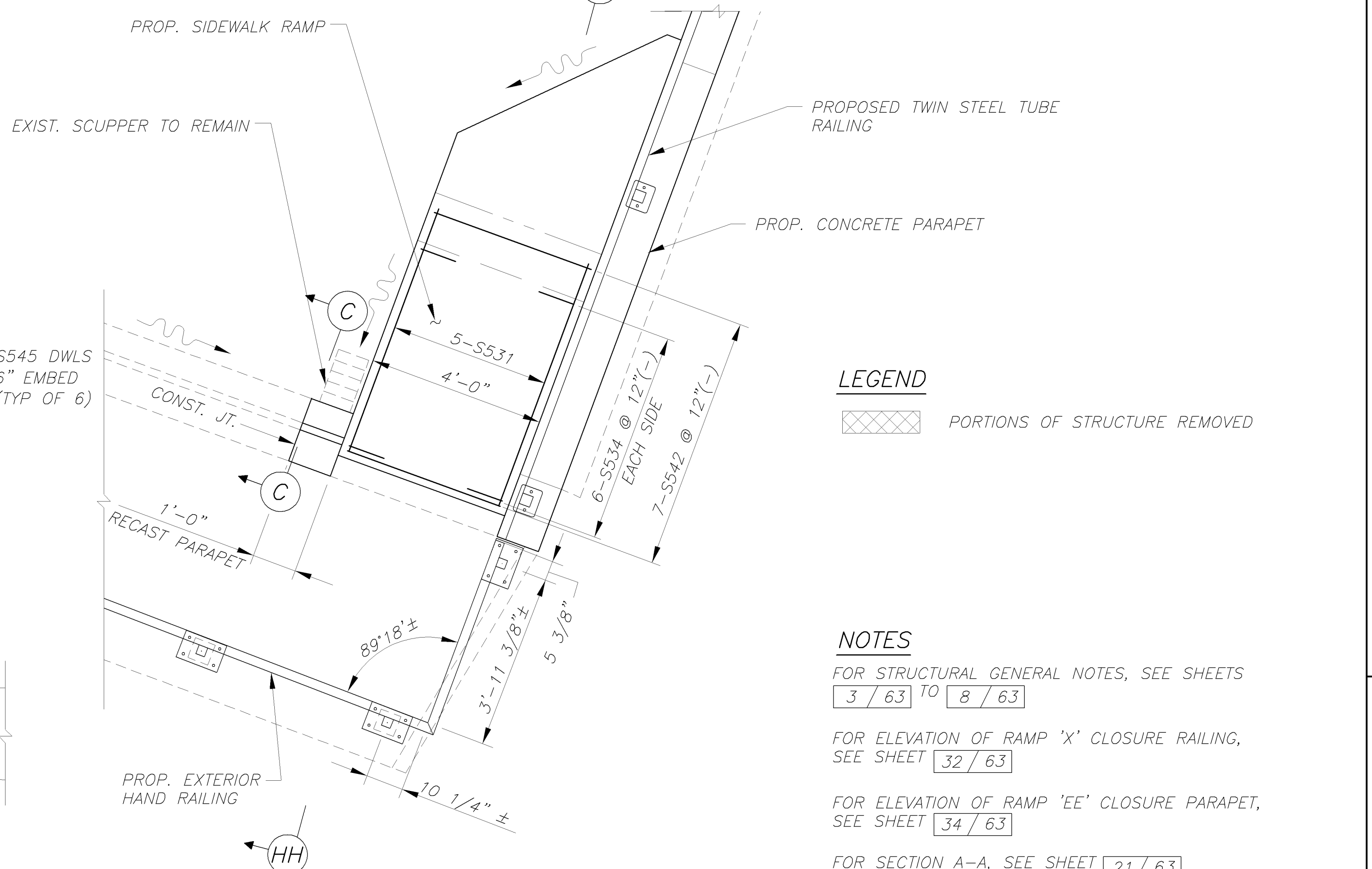
**SECTION E-E**



**SECTION C-C**



**SECTION HH-HH**  
RAMP 'EE' - SIDEWALK RAMP.  
SEE SECTION E-E THIS SHEET FOR  
PARAPET REMOVAL LIMITATIONS AND  
CUT LINE REINFORCING STEEL NOTES.



**DECK CORNER PLAN**  
UNIT 2 AT RAMP 'EE'

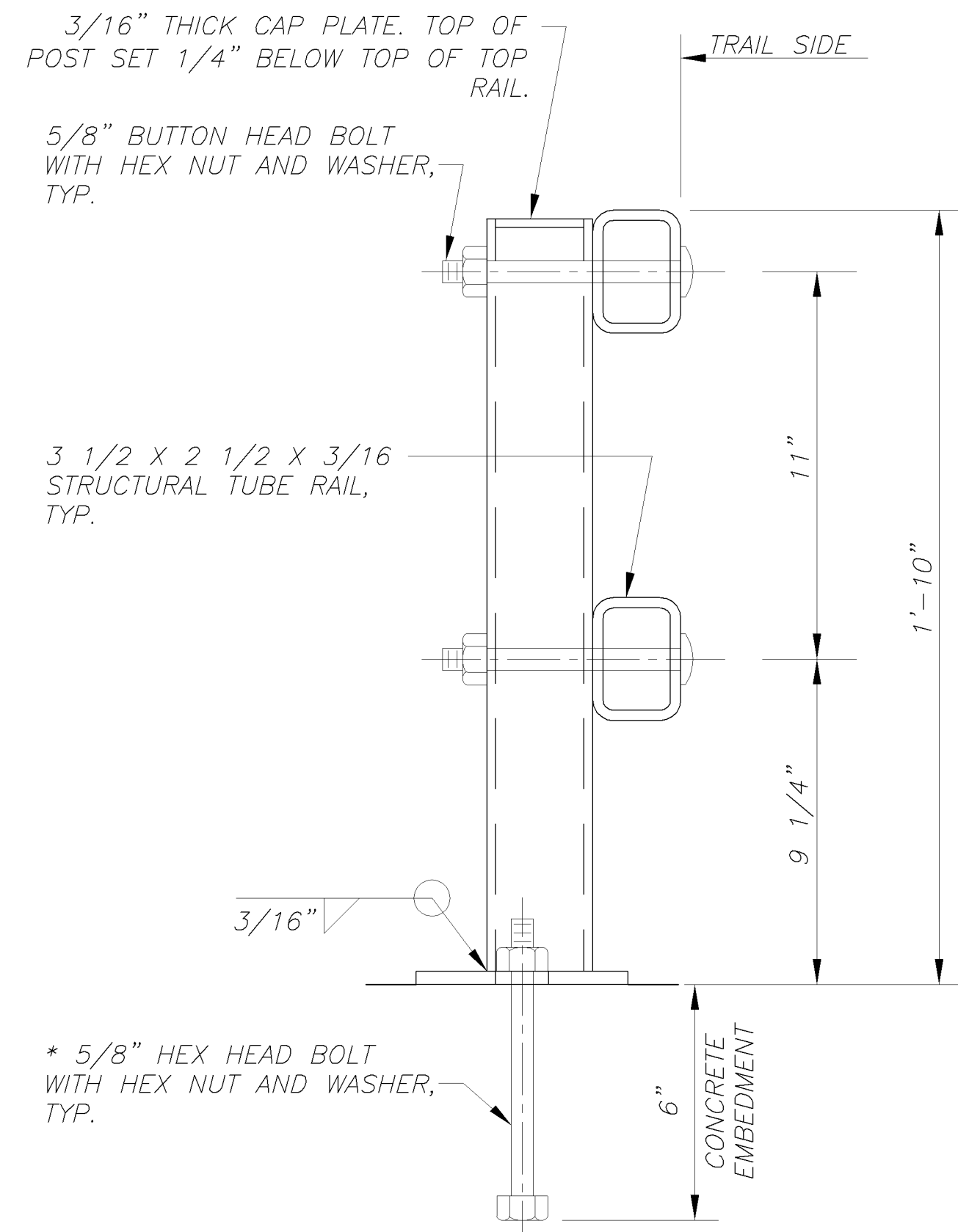
**LEGEND**  
 PORTIONS OF STRUCTURE REMOVED

**NOTES**  
FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 3/63 TO 8/63  
FOR ELEVATION OF RAMP 'X' CLOSURE RAILING, SEE SHEET 32/63  
FOR ELEVATION OF RAMP 'EE' CLOSURE PARAPET, SEE SHEET 34/63  
FOR SECTION A-A, SEE SHEET 21/63  
FOR SECTIONS AA-AA & BB-BB, SEE SHEET 34/63

 <small>acila engineering &amp; construction, inc.  5995 transportation boulevard, cleveland, ohio 44128</small>	<b>DATE</b> 3/21/06
	<b>REVIEWED</b> EAF <b>STRUCTURE FILE NUMBER</b> 4805917
<b>DESIGNED</b> TJW <b>CHECKED</b> DP	<b>DRAWN</b> DMT <b>REVISED</b> 
<b>RAILING &amp; DECK DETAILS - UNIT 2</b> CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER THE MAUMEE RIVER	
LUC-280-2.34 TRENCH RECLAMATION	
36/63	



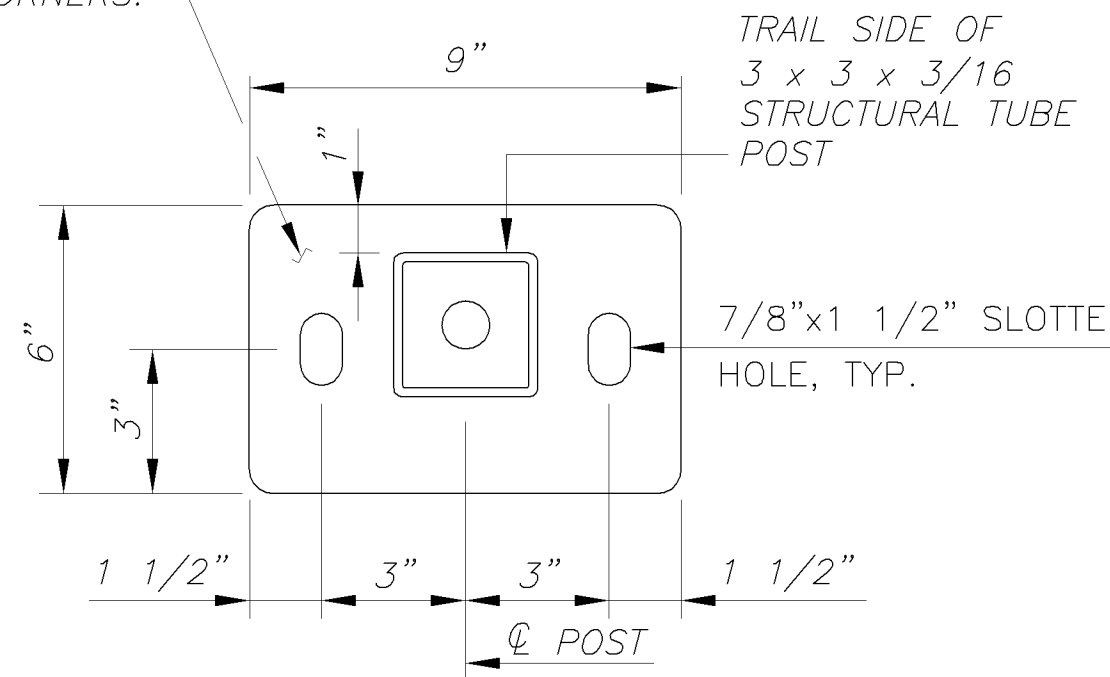
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drawing scale: 1" = 1'-0"  
plot scale: 1" = 1'



**POST SECTION**

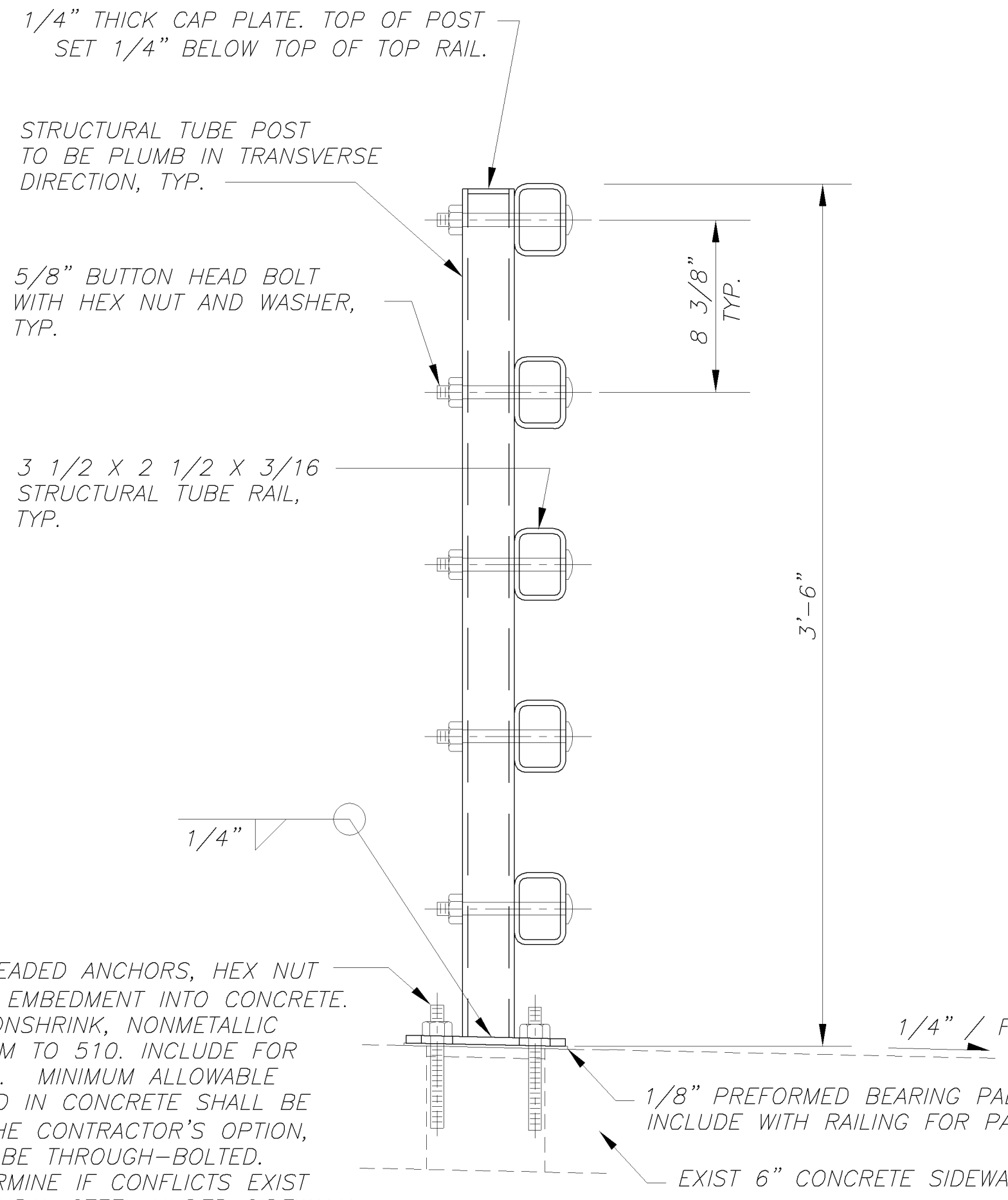
"ITEM 517 RAILING MISC.: TWIN STEEL TUBE RAILING MOUNTED ON PROPOSED CONCRETE PARAPET" IS SHOWN. "ITEM 517 RAILING MISC.: TWIN STEEL TUBE RAILING MOUNTED ON EXISTING CONCRETE PARAPET" IS SIMILAR.  
\* FOR MOUNTING TO EXISTING PARAPET, PROVIDE 5/8" GALVANIZED THREADED ANCHORS, HEX NUT AND WASHER WITH 4" MIN. EMBEDMENT INTO CONCRETE. DOWEL HOLES AND NONSHRINK, NONMETALLIC GROUT SHALL CONFORM TO 510. INCLUDE FOR PAYMENT WITH RAILING.

3/8" THICK PLATE WITH 1" DIA. HOLE CENTERED UNDER POST FOR GALVANIZING. PROVIDE 1/2" RADIUS ROUNDING AT 4 CORNERS.



**BASE PLATE**

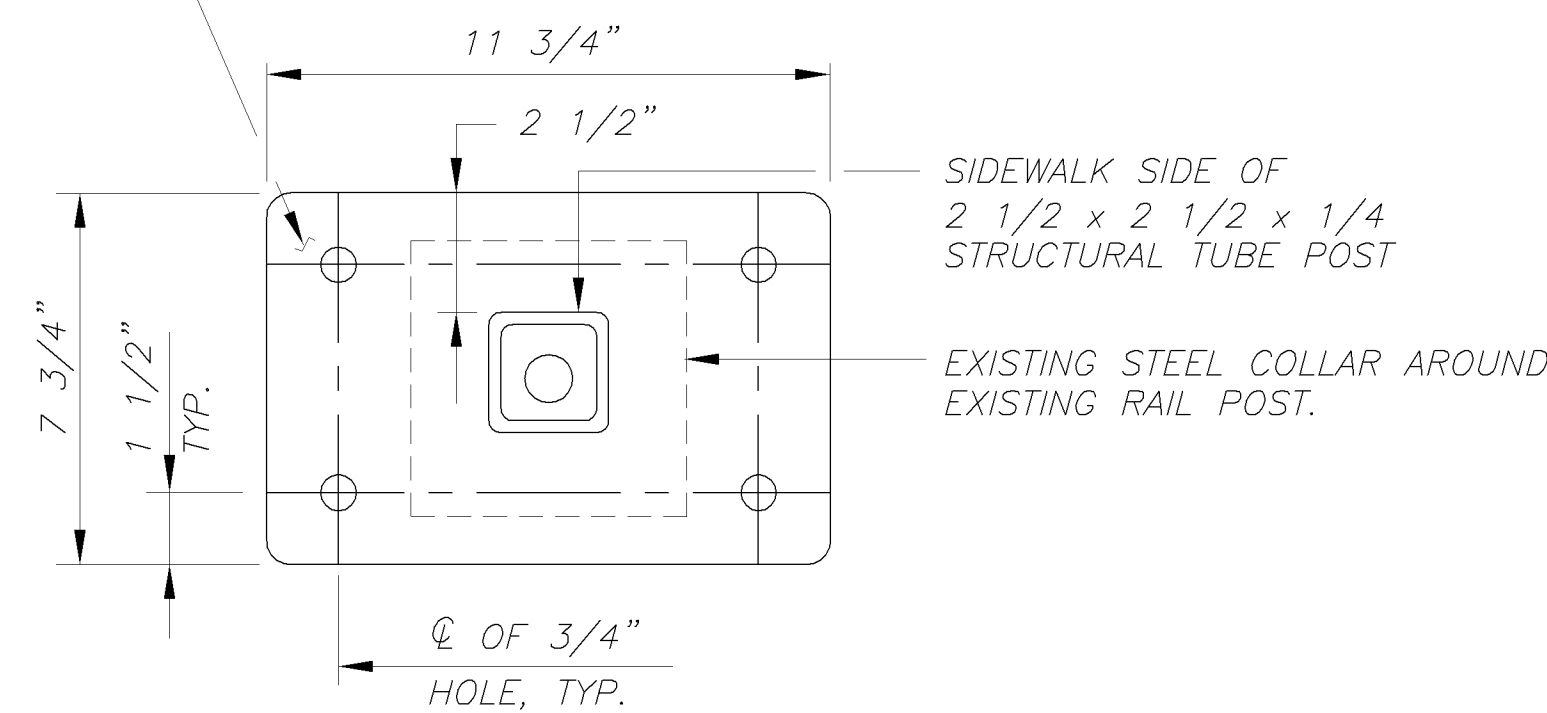
"ITEM 517 RAILING MISC.: TWIN STEEL TUBE RAILING MOUNTED ON PROPOSED CONCRETE PARAPET"



**POST SECTION**

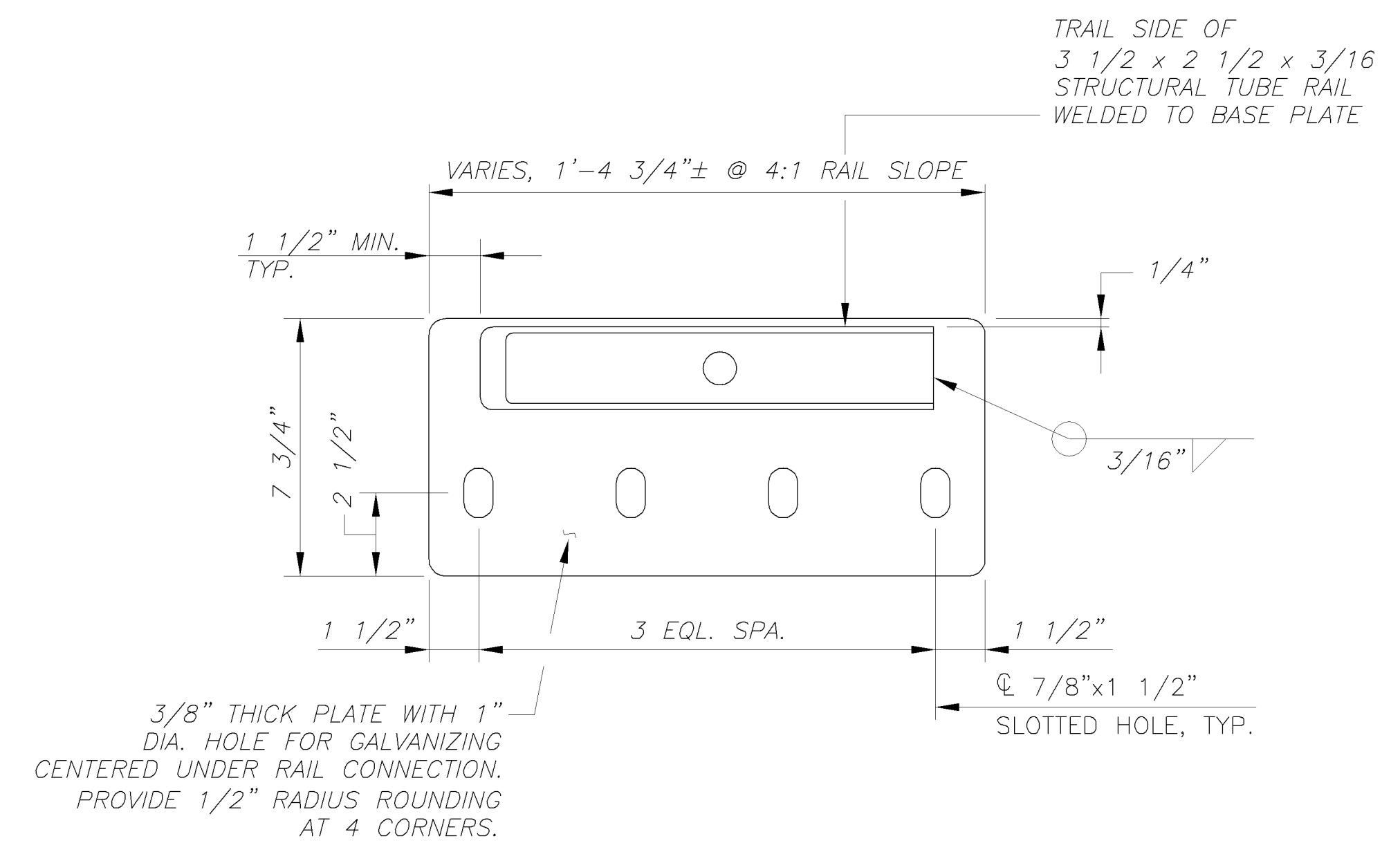
"ITEM 517 RAILING MISC.: STEEL HANDRAILING AT EXTERIOR SIDEWALK, FIXED SPAN". SEE ITEM 202 GENERAL NOTES FOR EXISTING RAILING REMOVAL.

3/8" THICK PLATE WITH 1" DIA. HOLE CENTERED UNDER POST FOR GALVANIZING. PROVIDE 1/2" RADIUS ROUNDING AT 4 CORNERS. NEW BASE PLATE TO BE CENTERED OVER PREVIOUS RAIL POST COLLAR.



**BASE PLATE**

"ITEM 517 RAILING MISC.: STEEL HANDRAILING AT EXTERIOR SIDEWALK, FIXED SPAN"



**BASE PLATE**

SHOWN AT HORIZONTAL RAIL TERMINATIONS. FOR ANCHOR BOLT INFORMATION, SEE POST SECTION "ITEM 517 RAILING MISC.: TWIN STEEL TUBE RAILING MOUNTED ON PROPOSED CONCRETE PARAPET"

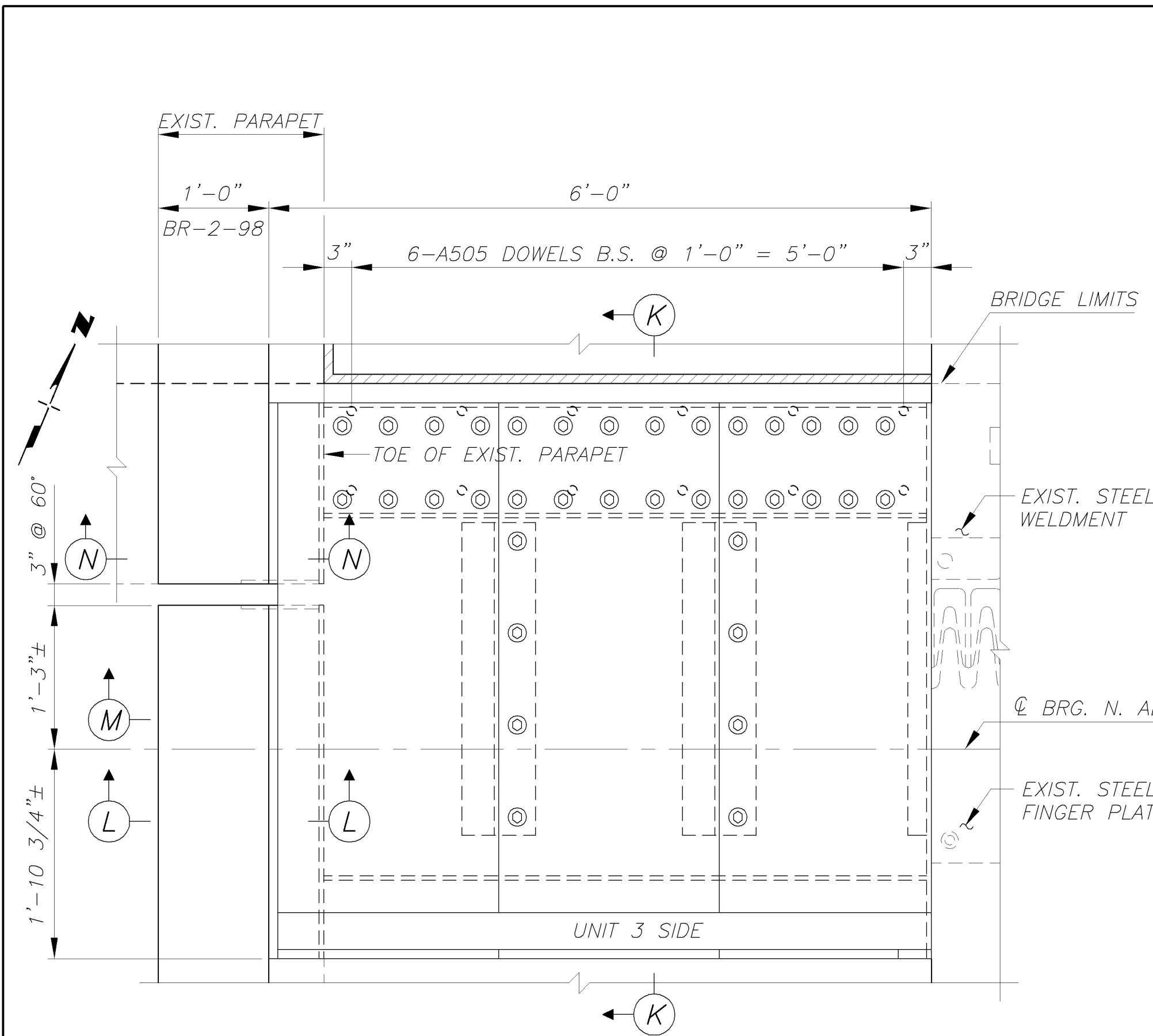
**NOTES**

FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 3/63 TO 8/63  
FOR DETAILS OF INTERNAL RAIL SPLICES, SEE STANDARD DRAWING BR-2-98. OUT-TO-OUT INNER SLEEVE DIMENSIONS SHALL BE 1/4" SMALLER IN EACH DIRECTION THAN THE INSIDE DIMENSIONS OF THE RAIL TUBE BEING SPLICED. PLACE RAIL SPLICES WHERE SHOWN ON THE PLANS AND AS REQUIRED FOR HANDLING.  
FOR DETAILS OF DRAIN HOLES, ADDITIONAL HOLES FOR GALVANIZING, POST CAP PLATE ATTACHMENT DETAILS AND BOLT HOLE REQUIREMENTS IN POSTS AND RAILS, SEE STANDARD DRAWING BR-2-98.

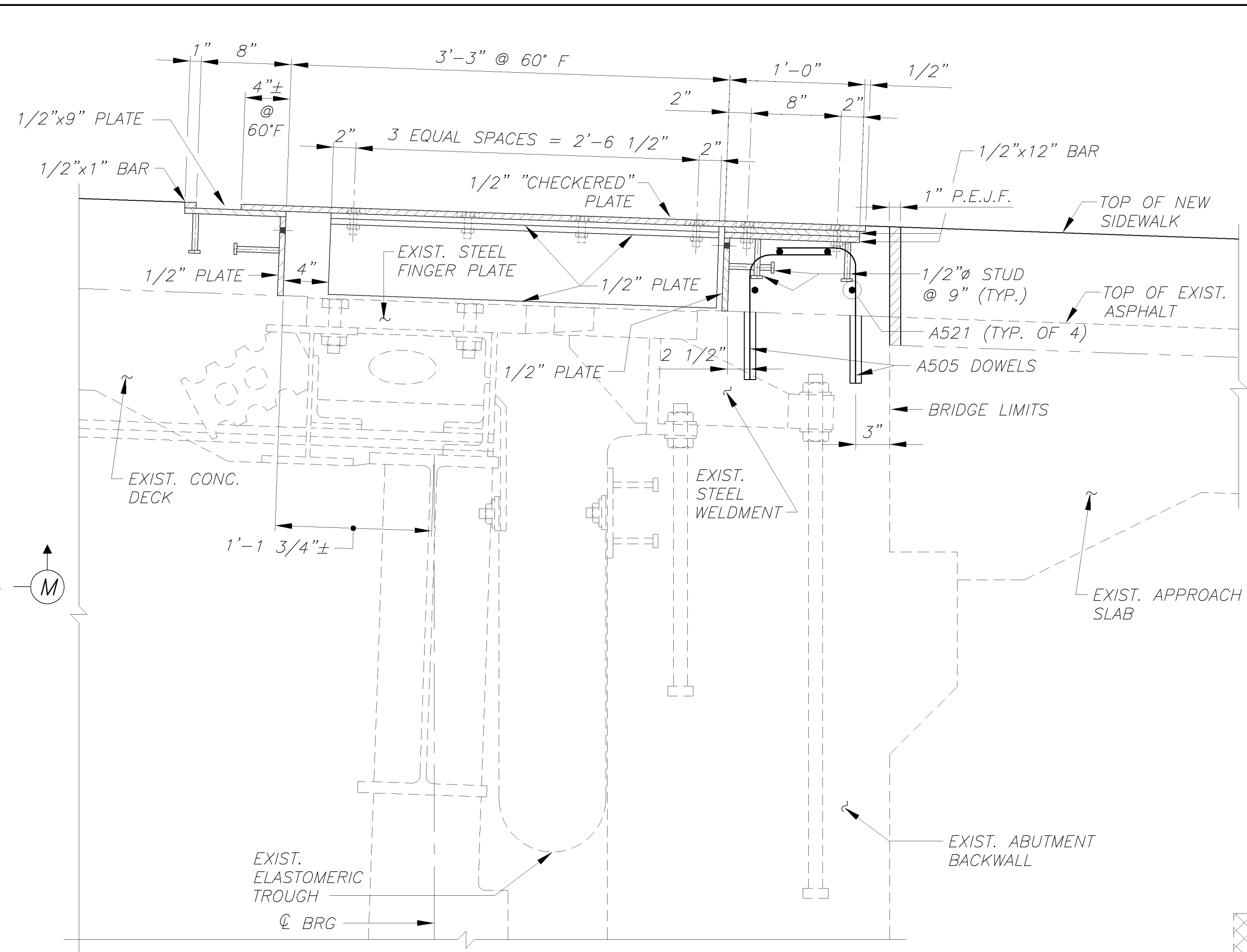
ALL RAIL TO RAIL BEND POINT CONNECTIONS, WHERE SHOWN ON THE PLANS, SHALL BE BUTT WELDED ALL THE WAY AROUND.

<b>acila</b> caldwell clark lyon associates, inc. 5895 transportation boulevard, cleveland, ohio 44128	
DESIGNED DP	CHECKED TJW
DRAWN DMT	REVIEWED EAF
DATE 3/21/06	STRUCTURE FILE NUMBER 4805917
MISCELLANEOUS RAILING DETAILS CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER THE MAUMEE RIVER	
LUC-280-2.34 TRENCH RECLAMATION	
37/63	
496 555	

G:\02002\202016\Craig\_Bridge\about joint details.dwg 10/4/2005 3:01:15 PM EDT  
drawing scale: 1" = 1'-0"  
plot scale: 1" = 1'

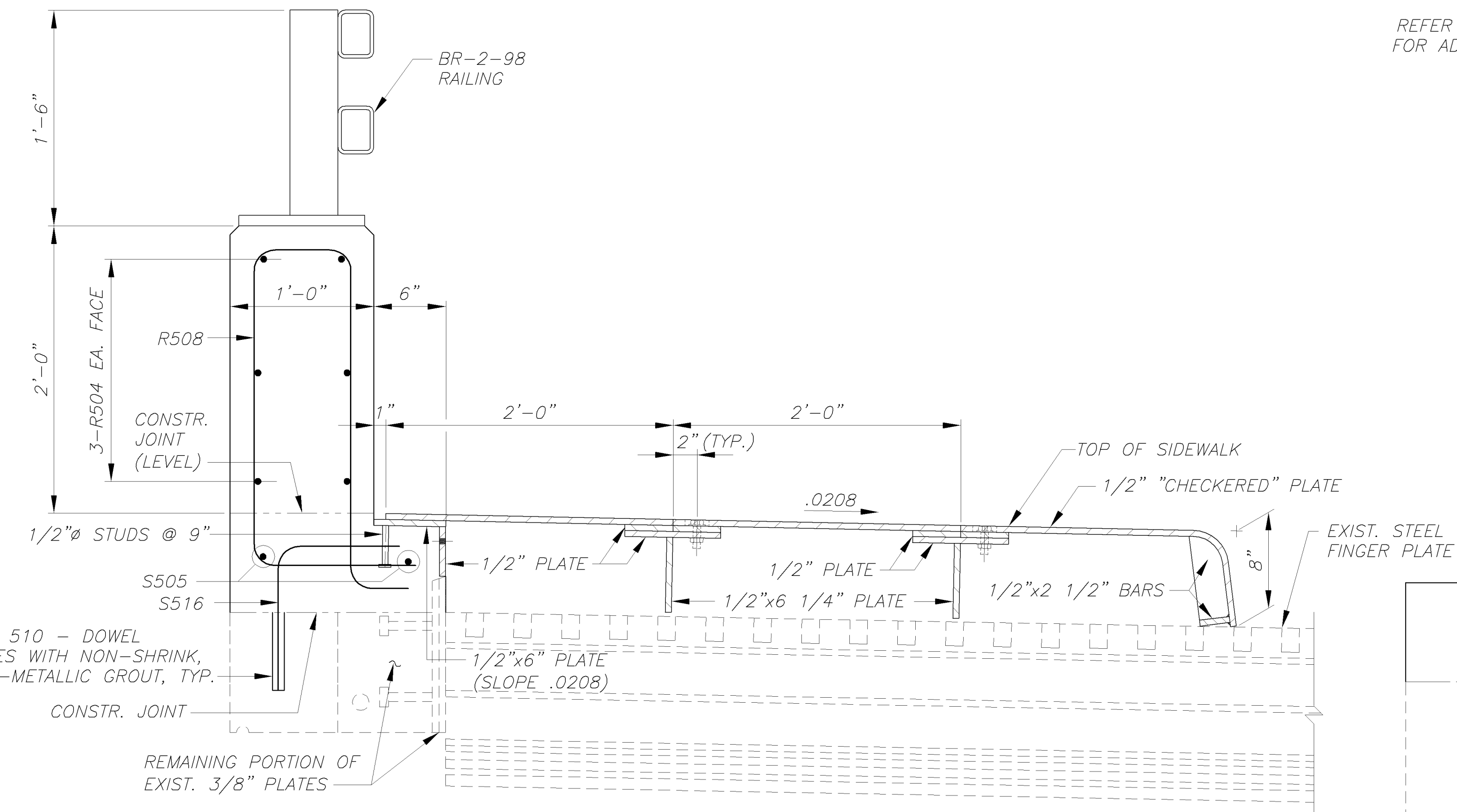


**PLAN DETAIL - NORTH ABUTMENT**  
EXISTING STEEL PLATES AND WELDMENTS  
NOT SHOWN FOR CLARITY



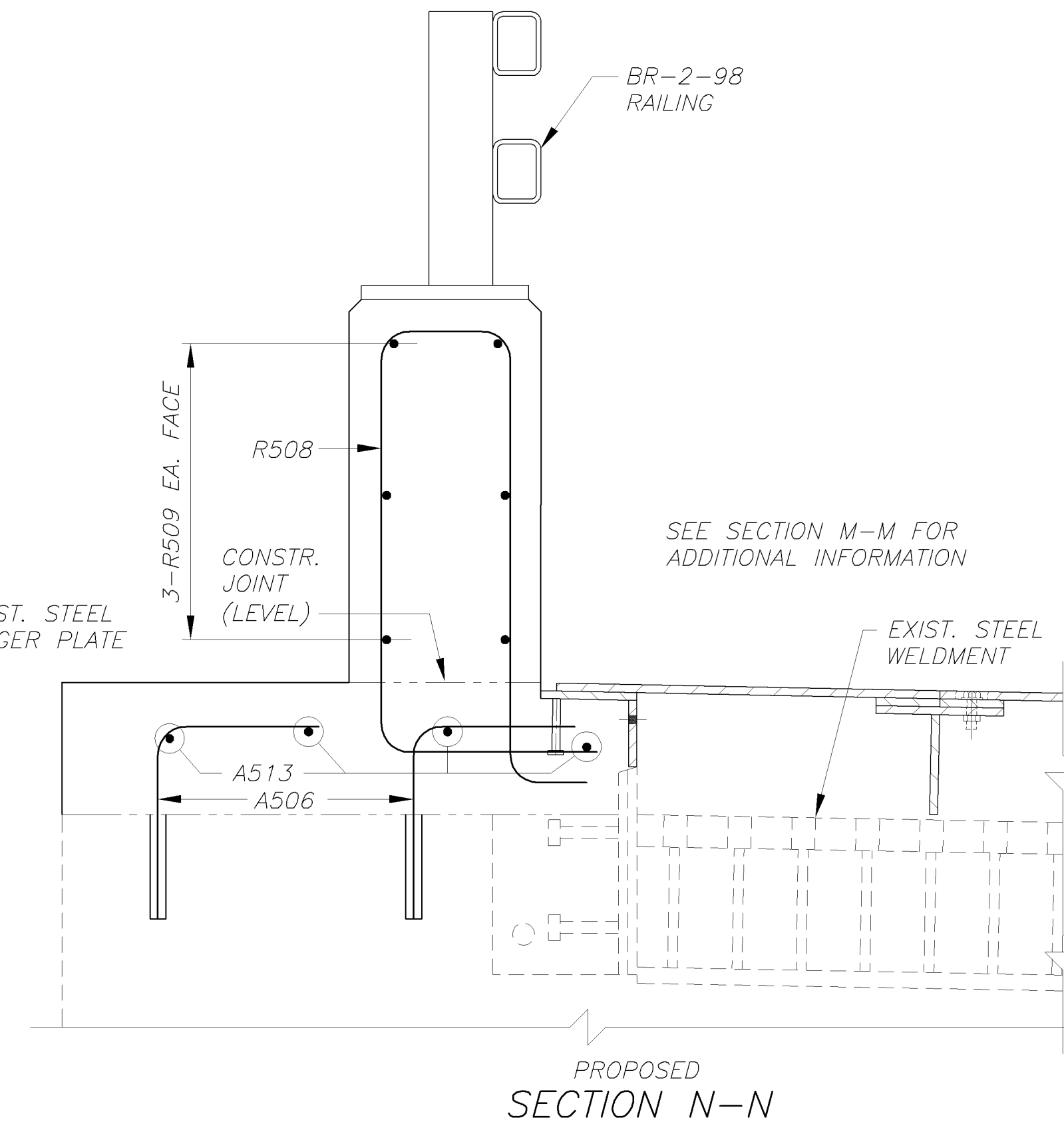
**SECTION K-K**

REFER TO STANDARD DRAWING EXJ-4-87  
FOR ADDITIONAL EXPANSION JOINT DETAILS.



**SECTION M-M**

REFER TO STANDARD DRAWING EXJ-4-87  
FOR ADDITIONAL EXPANSION JOINT DETAILS.



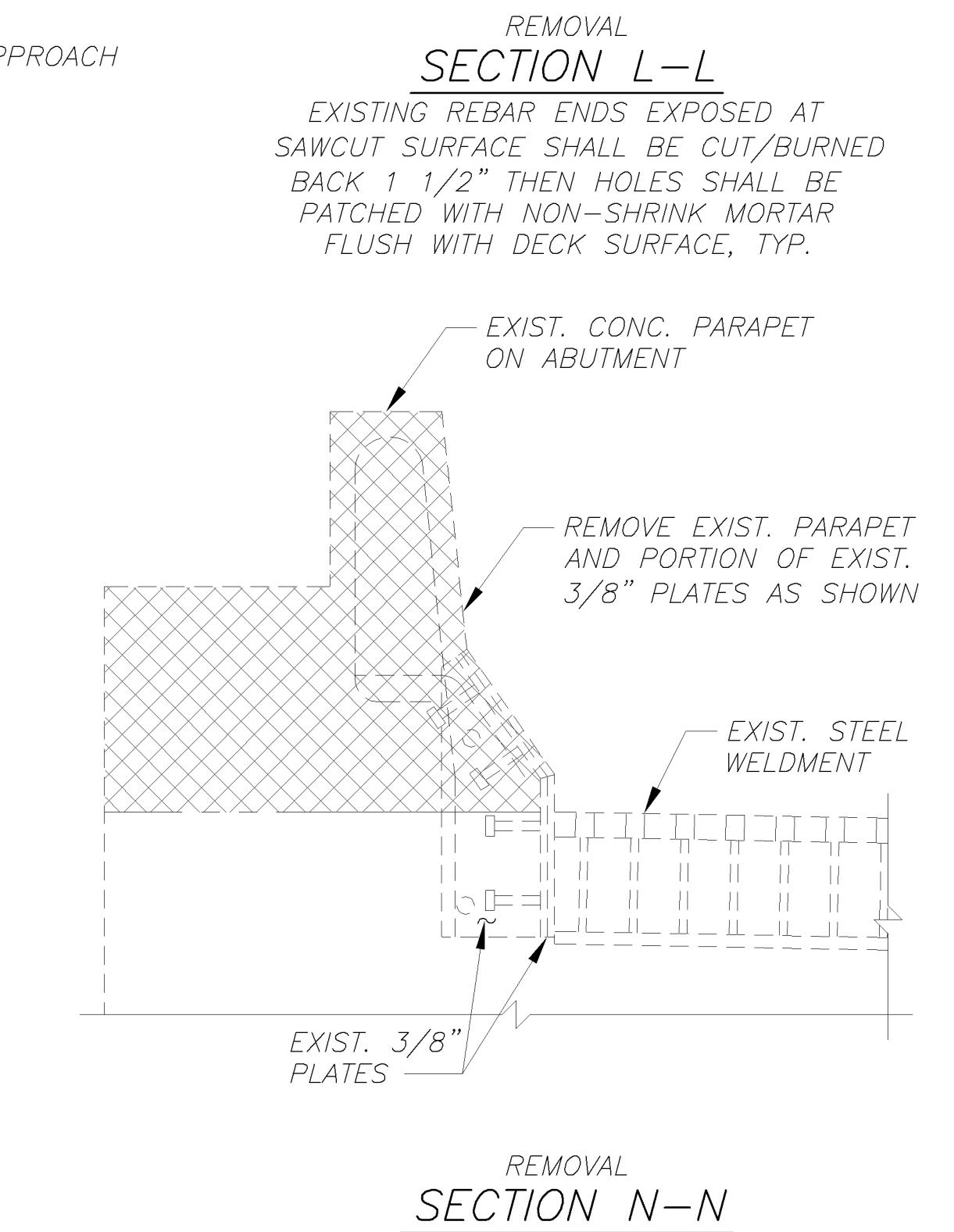
**PROPOSED SECTION N-N**

**LEGEND**

PORTIONS OF STRUCTURE REMOVED

**NOTES**

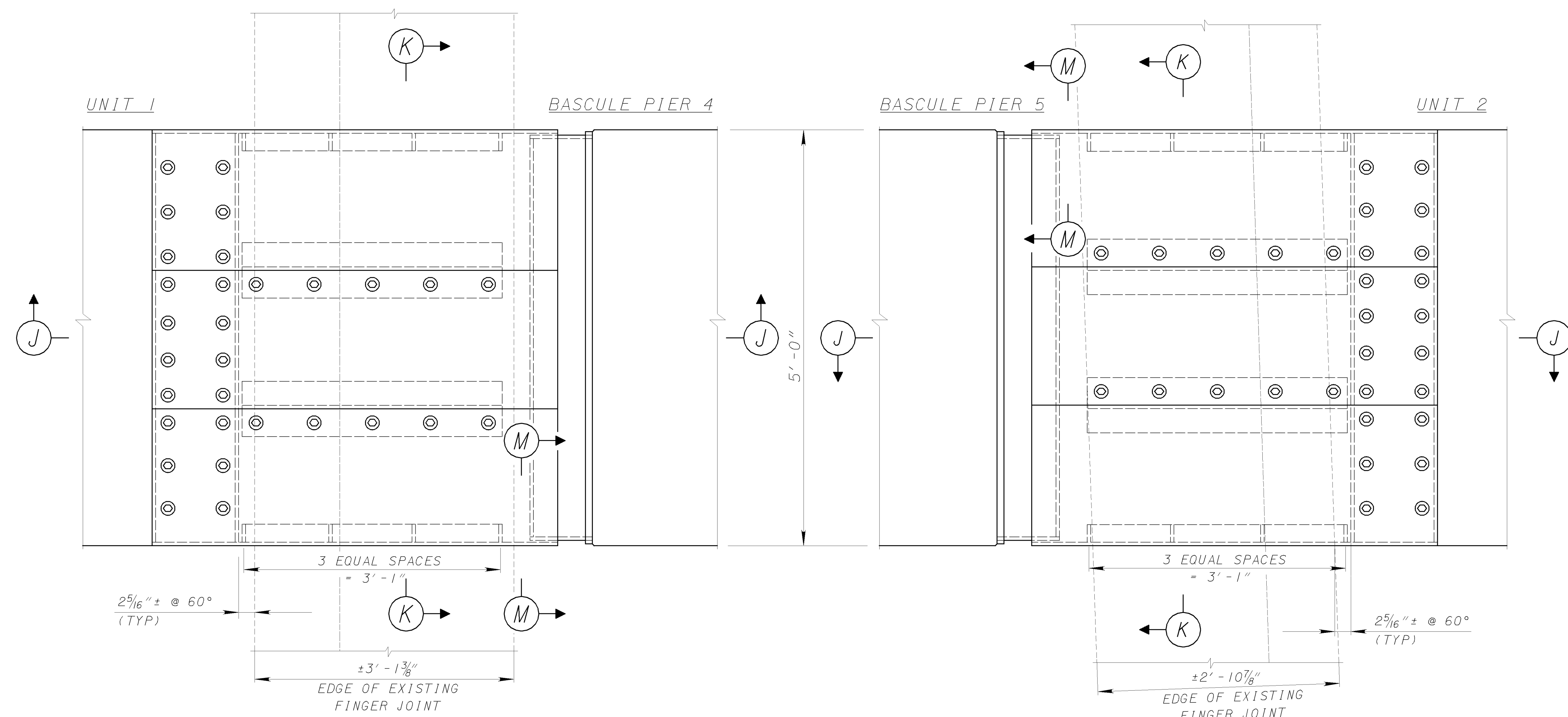
FOR STRUCTURAL GENERAL NOTES, SEE SHEETS  
3 / 63 TO 8 / 63  
FOR ESTIMATED QUANTITIES, SEE SHEET 9 / 63



**REMOVAL SECTION L-L**  
EXISTING REBAR ENDS EXPOSED AT  
SAWCUT SURFACE SHALL BE CUT/BURNED  
BACK 1 1/2" THEN HOLES SHALL BE  
PATCHED WITH NON-SHRINK MORTAR  
FLUSH WITH DECK SURFACE, TYP.

**REMOVAL SECTION N-N**

 <small>acclaciviltyneassociatesinc. cleveland, ohio 44126</small>	DATE 3/21/06
	STRUCTURE FILE NUMBER 4805917
REVIEWED EAF	DESIGNED DP
DRAWN DMT	CHECKED TJW
<b>EXPANSION JOINT DETAILS - NORTH ABUTMENT SIDEWALK</b> <small>CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  OVER THE MAUMEE RIVER</small>	
LUC-280-2.34 TRENCH RECLAMATION	
38 / 63	



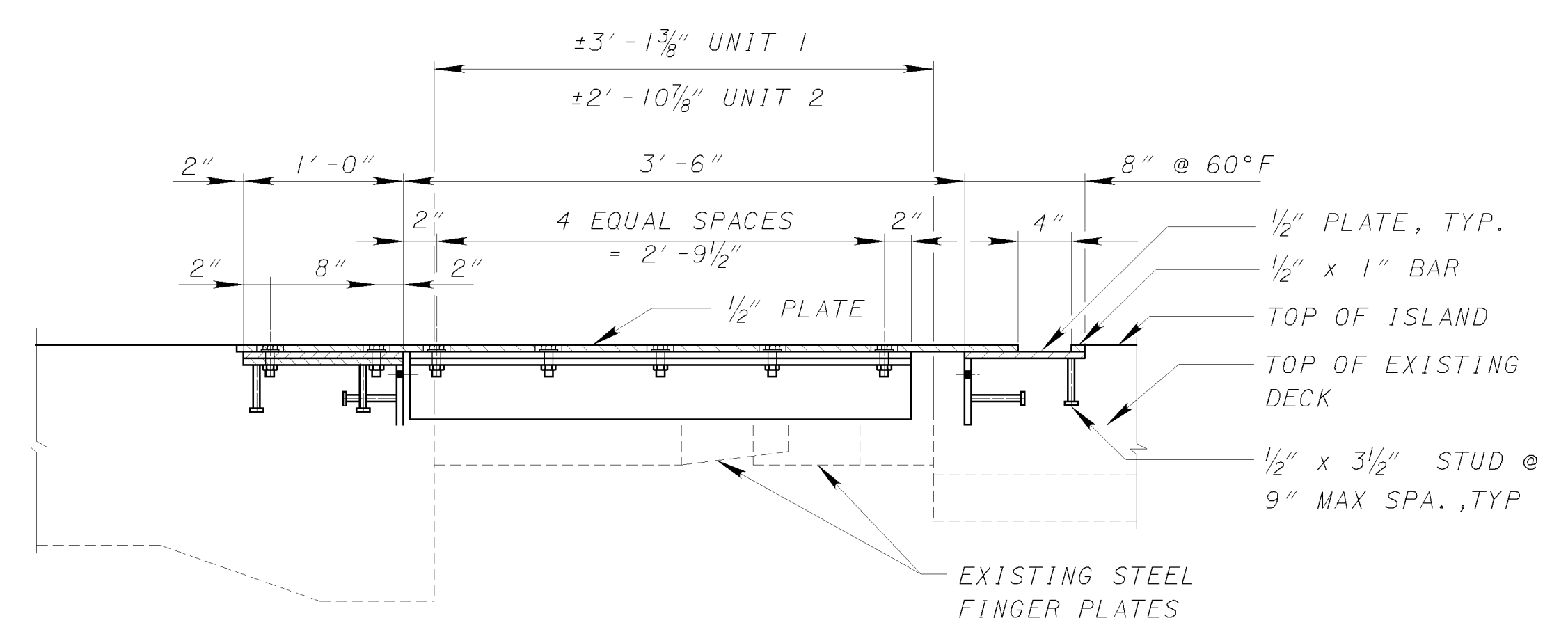
NOTES:  
 FOR STRUCTURAL GENERAL NOTES  
 SEE SHEETS 3/63 TO 8/63  
 FOR ESTIMATED QUANTITIES  
 SEE SHEET 9/63

PLAN DETAIL - UNIT 1

EXISTING STEEL FINGER PLATES  
 NOT SHOWN FOR CLARITY

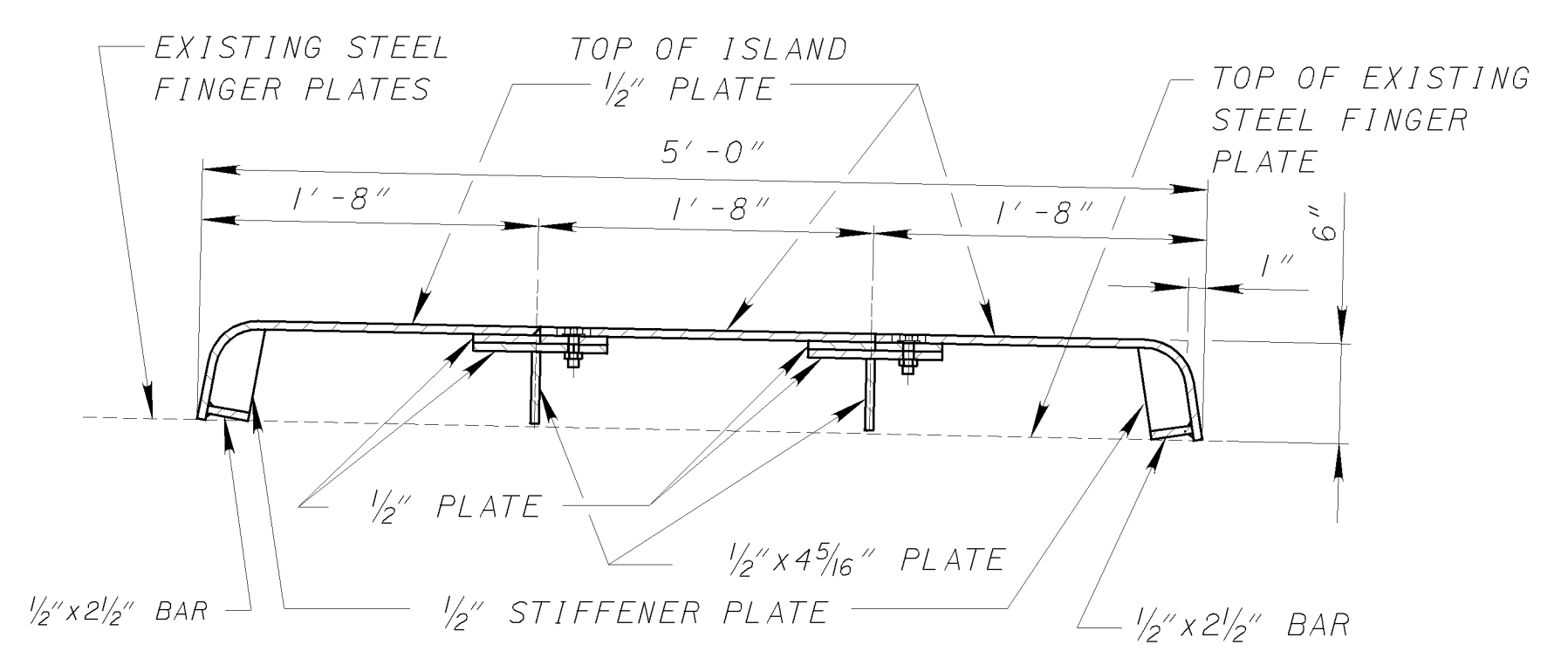
PLAN DETAIL - UNIT 2

EXISTING STEEL FINGER PLATES  
 NOT SHOWN FOR CLARITY



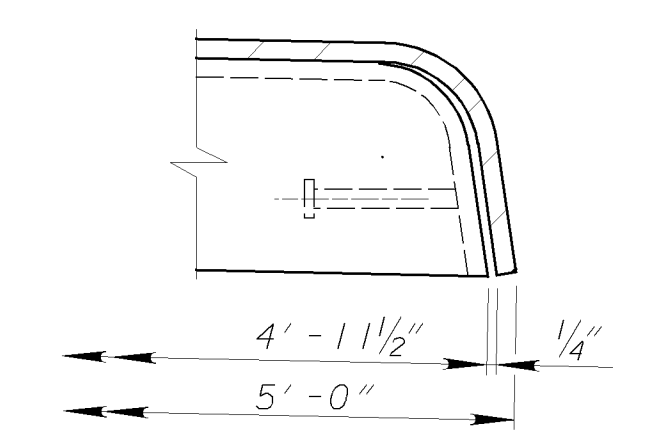
SECTION J-J

REFER TO STANDARD DRAWING EXJ-4-87  
 FOR ADDITIONAL EXPANSION JOINT DETAILS  
 OR CALL-OUTS NOT SHOWN.



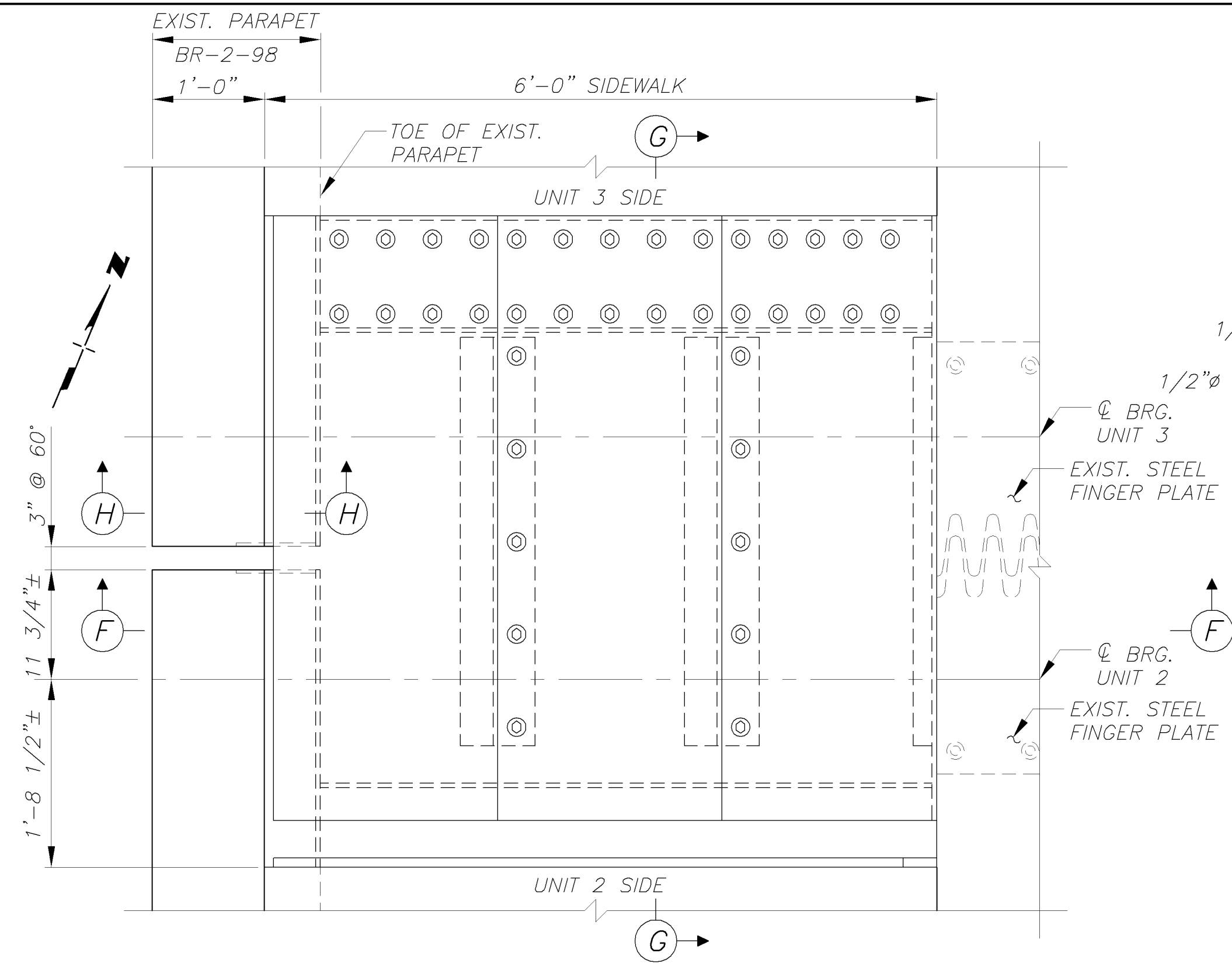
SECTION K-K

REFER TO STANDARD DRAWING EXJ-4-87  
 FOR ADDITIONAL EXPANSION JOINT DETAILS  
 OR CALL-OUTS NOT SHOWN



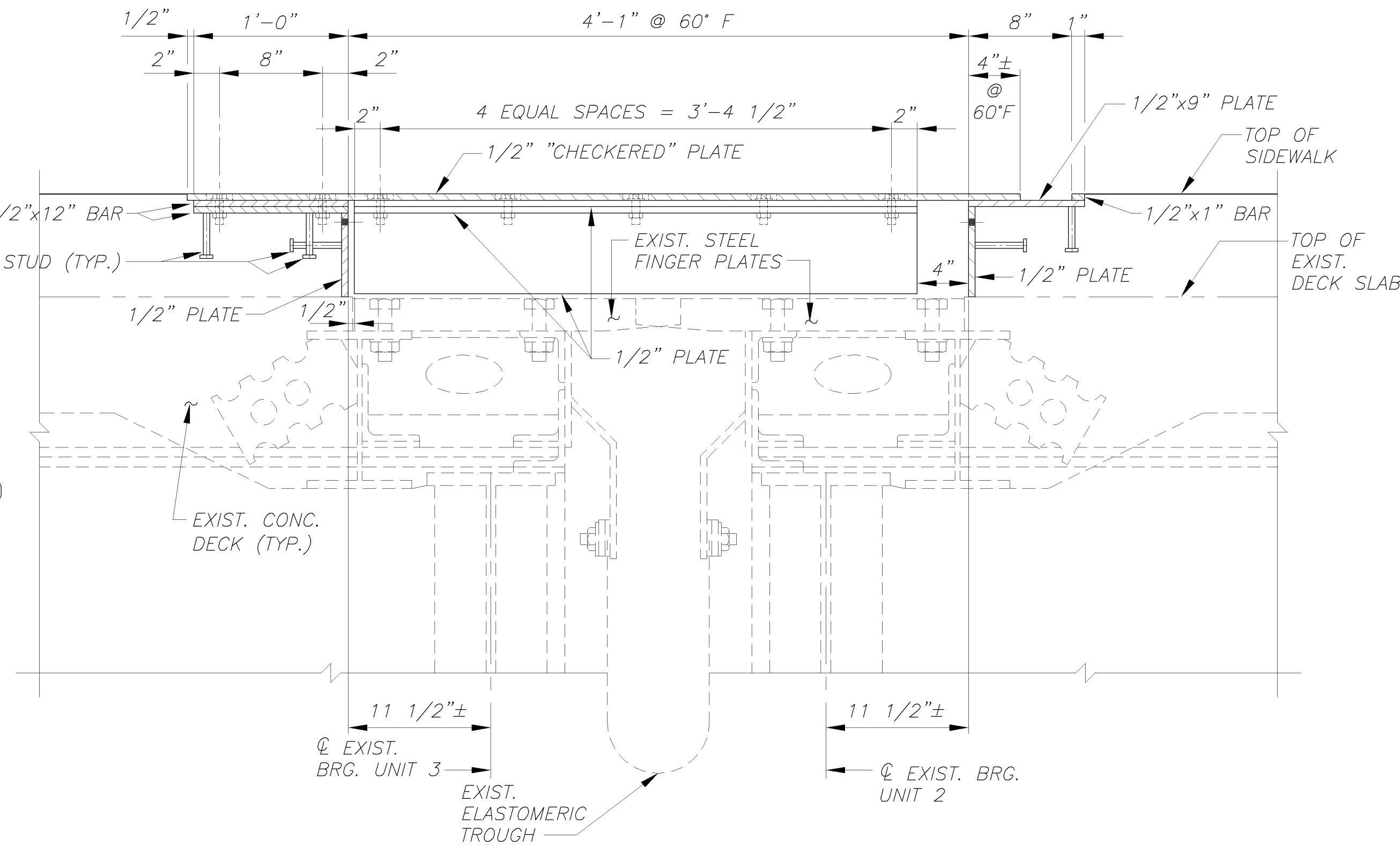
SECTION M-M

G:\02002\202016\Craig\_Bridge\bent 8 joint details.dwg 9/21/2005 11:53:50 AM EDT  
drawing scale : 1" = 1'-0"  
plot scale : 1" = 1'



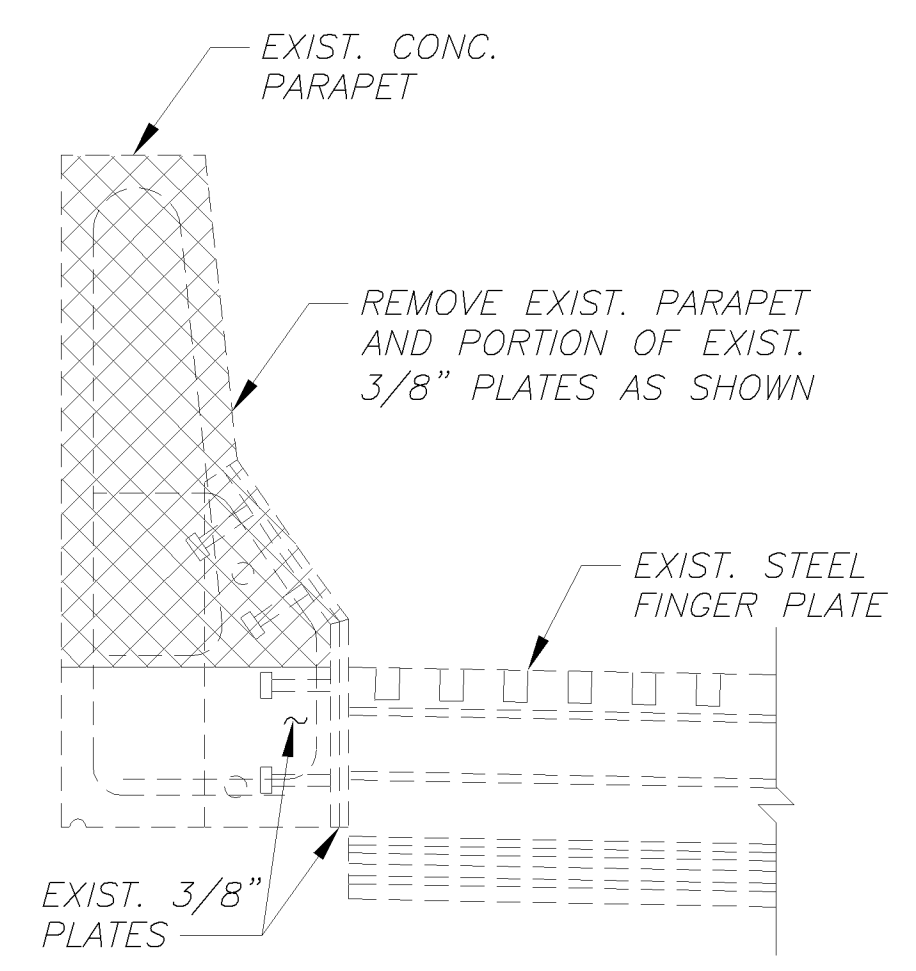
**PLAN DETAIL - BENT 8**

EXISTING STEEL FINGER PLATES  
NOT SHOWN FOR CLARITY



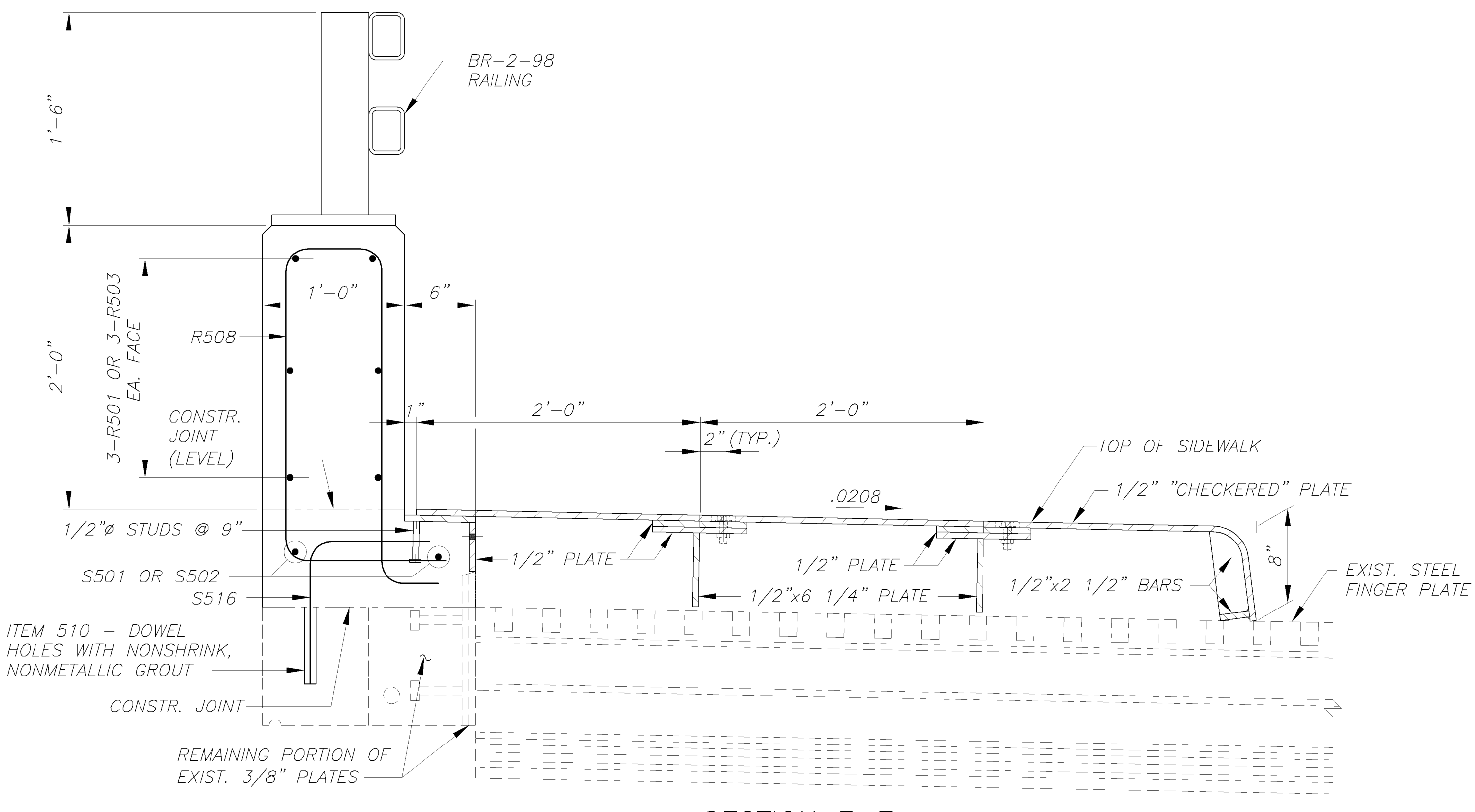
**SECTION G-G**

REFER TO STANDARD DRAWING EXJ-4-87  
FOR ADDITIONAL EXPANSION JOINT DETAILS.



**REMOVAL SECTION H-H**

EXISTING REBAR ENDS EXPOSED AT SAWCUT SURFACE SHALL BE CUT/BURNED BACK 1 1/2" THEN HOLES SHALL BE PATCHED WITH NON-SHRINK MORTAR FLUSH WITH DECK SURFACE.



**SECTION F-F**

REFER TO STANDARD DRAWING EXJ-4-87  
FOR ADDITIONAL EXPANSION JOINT DETAILS.

**LEGEND**

PORTIONS OF STRUCTURE REMOVED

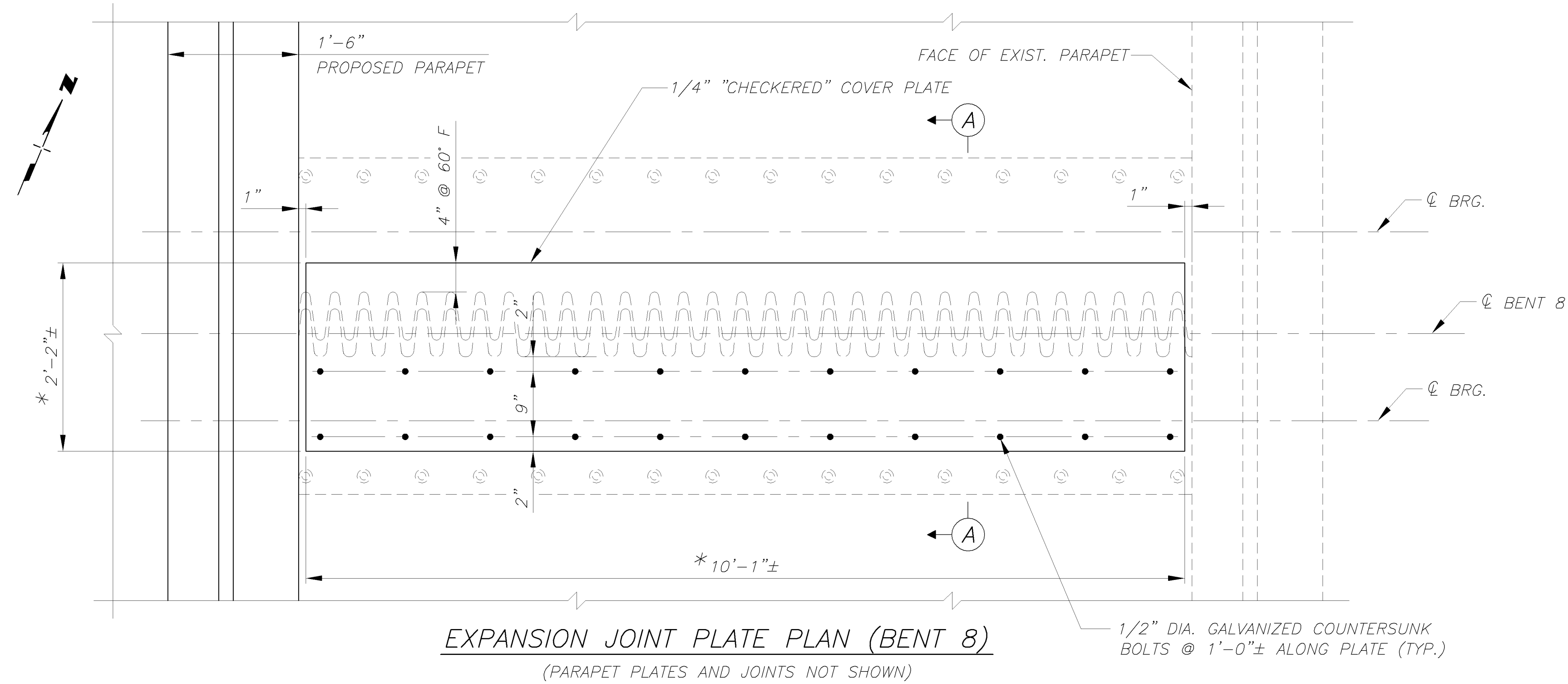
**NOTES**

FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 3/63 TO 8/63

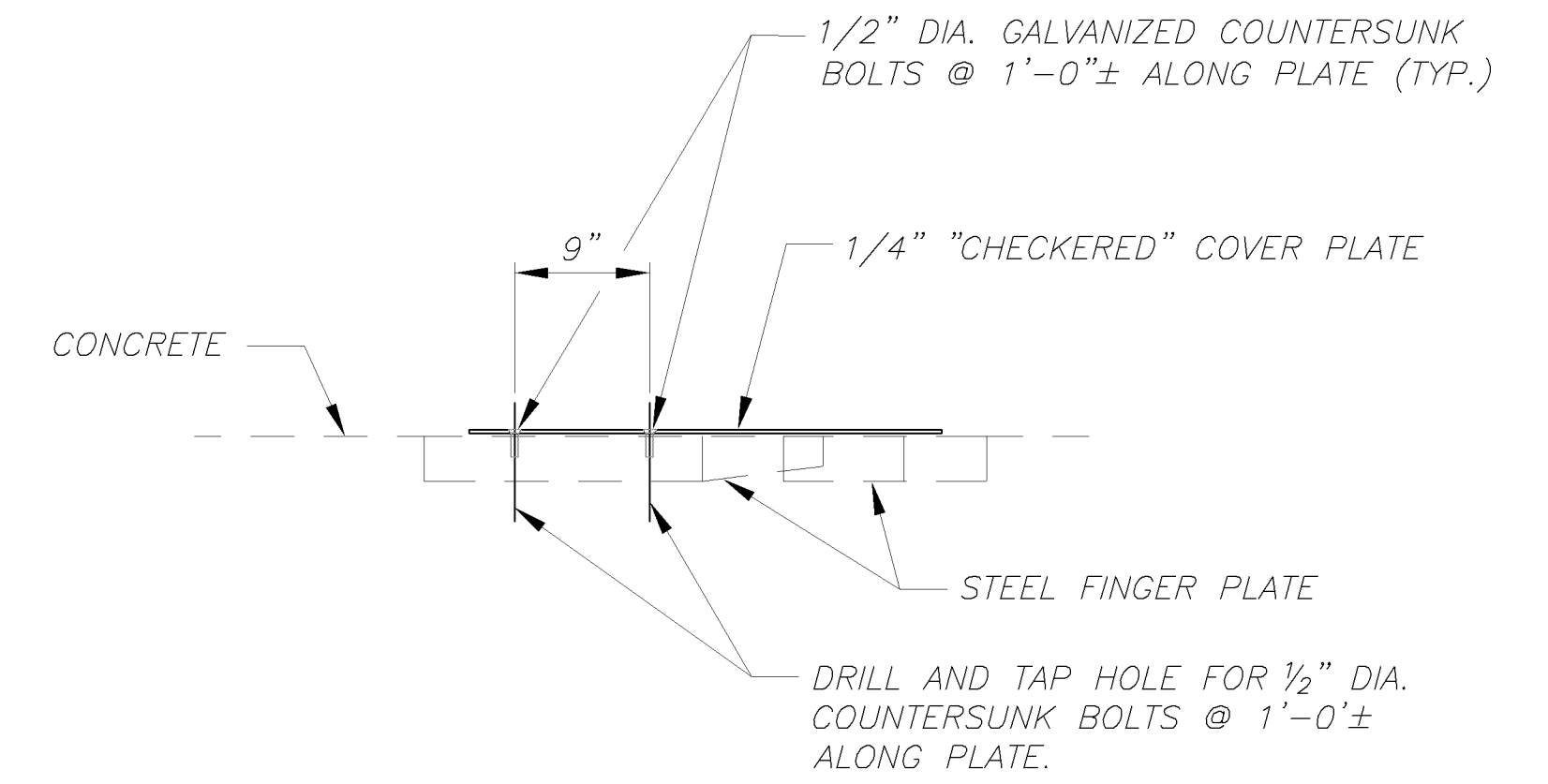
FOR ESTIMATED QUANTITIES, SEE SHEET 9/63

		CONSULTING ENGINEERS cleveland, ohio 44125	
DATE 3/21/06	REVIEWED EAF	STRUCTURE FILE NUMBER 4805917	DRAWN DMT
DESIGNED DP	CHECKED TJW	EXPANSION JOINT DETAILS - BENT 8 SIDEWALK CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER THE MAUMEE RIVER	
LUC-280-2.34 TRENCH RECLAMATION		40/63	
499 555			

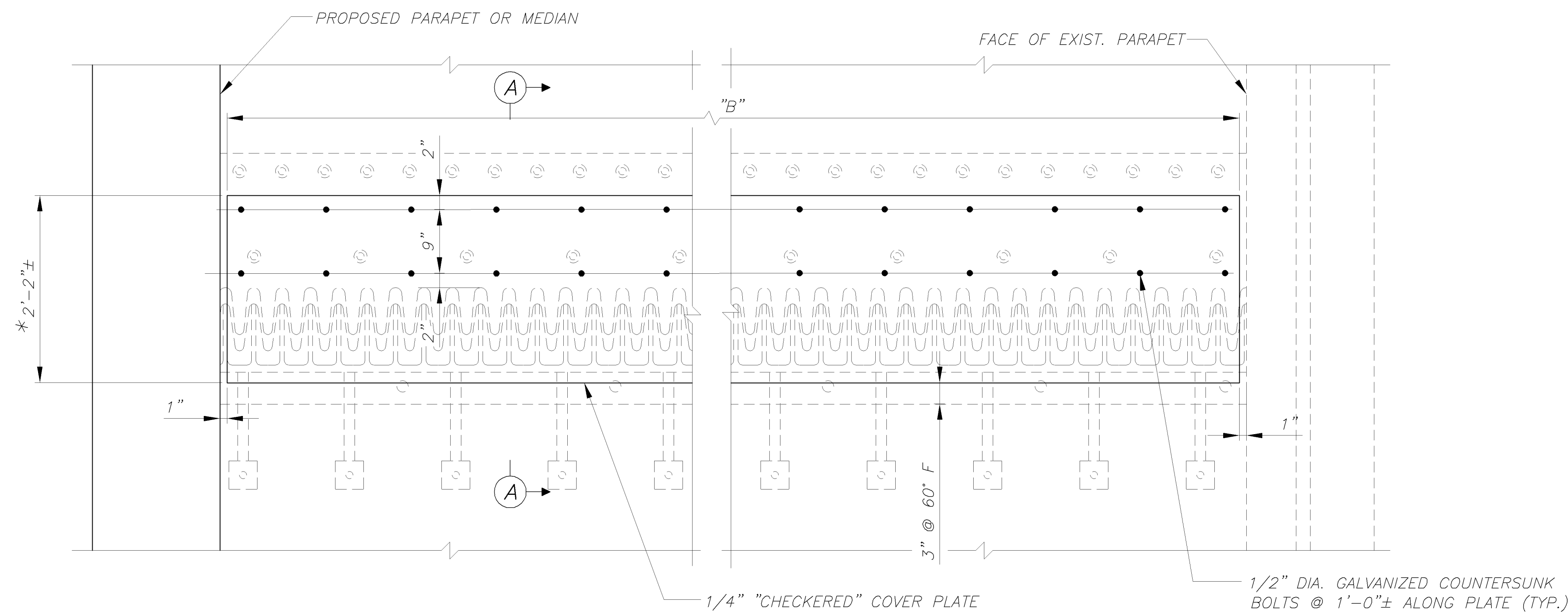
G:\02002\202016\Craig\_Bridge\Bent 8 joint details.dwg 9/21/2005 11:53:50 AM EDT  
drawing scale : 1" = 1'-0"  
plot scale : 1 = 1



**EXPANSION JOINT PLATE PLAN (BENT 8)**  
(PARAPET PLATES AND JOINTS NOT SHOWN)



**SECTION A-A**



**EXPANSION JOINT PLATE PLAN**  
SOUTH ABUT. SHOWN, BASCULE PIERS 4 & 5 & NORTH ABUT. SIMILAR  
(PARAPET PLATES AND JOINTS NOT SHOWN)

* PLATE DIMENSIONS	
LOCATION	A
SOUTH ABUT.	16'-4"±
BASCULE PIER 4	12'-10"±
BASCULE PIER 5	11'-6"±
NORTH ABUT.	10'-1"±

① DIMENSION TAKEN AT APPROXIMATE CENTER OF PLATE. PLATE WIDTH VARIES DUE TRAIL WIDTH TAPER.

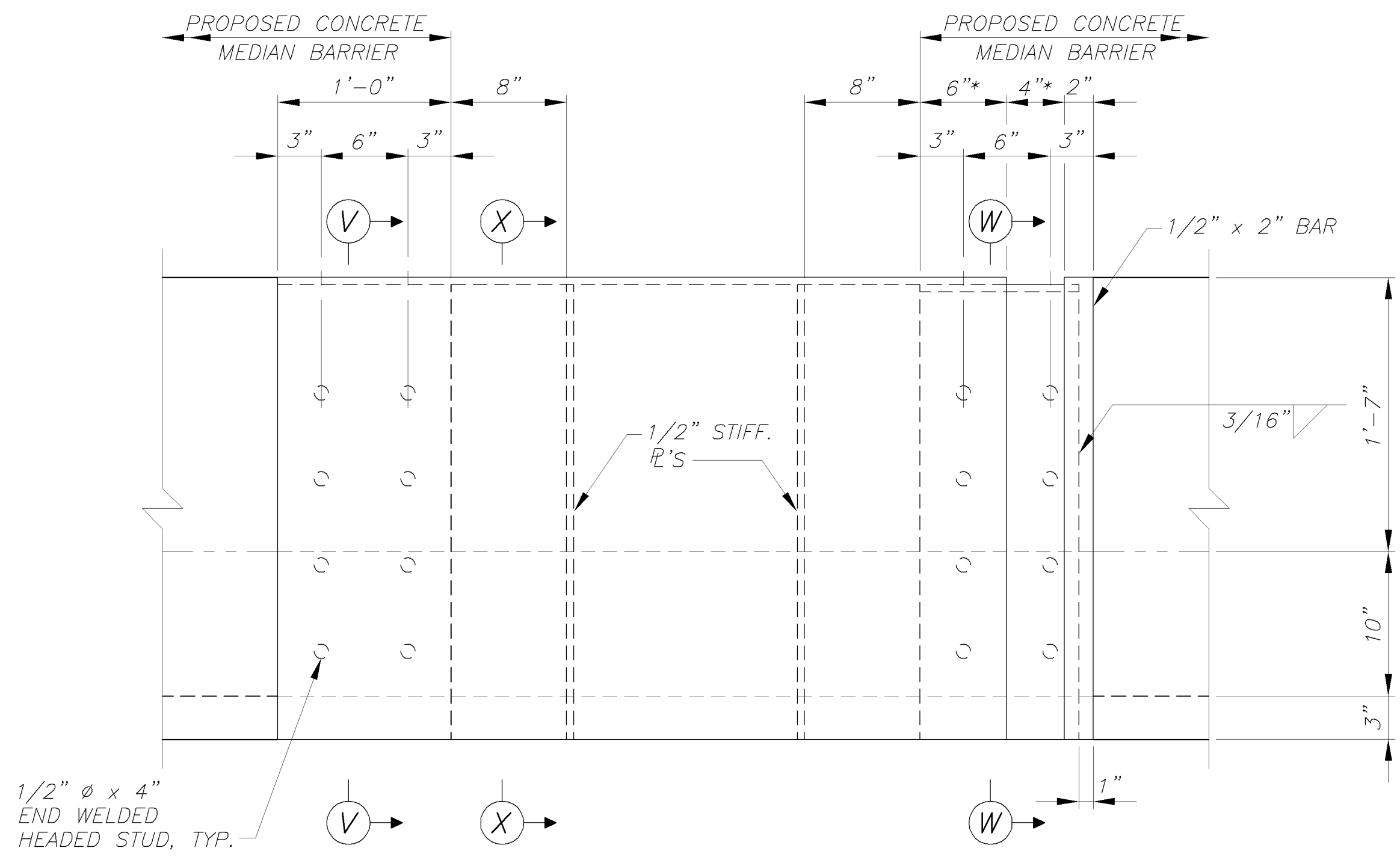
\* CONTRACTOR SHALL FIELD VERIFY ALL PLATE DIMENSIONS AND BOLT HOLE LOCATIONS PRIOR TO FABRICATION.

**NOTES**

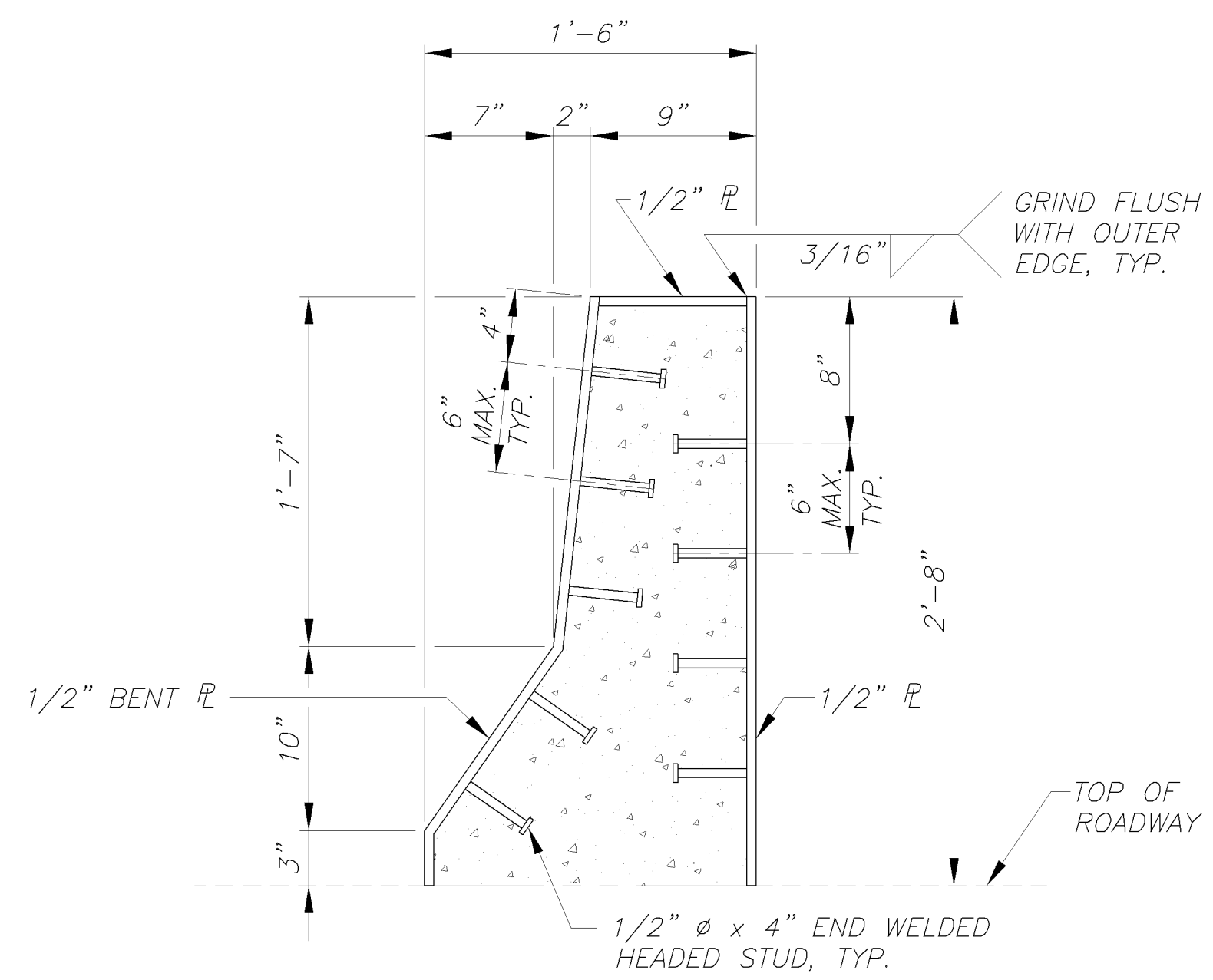
FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 3/63 TO 8/63

FOR ESTIMATED QUANTITIES, SEE SHEET 9/63

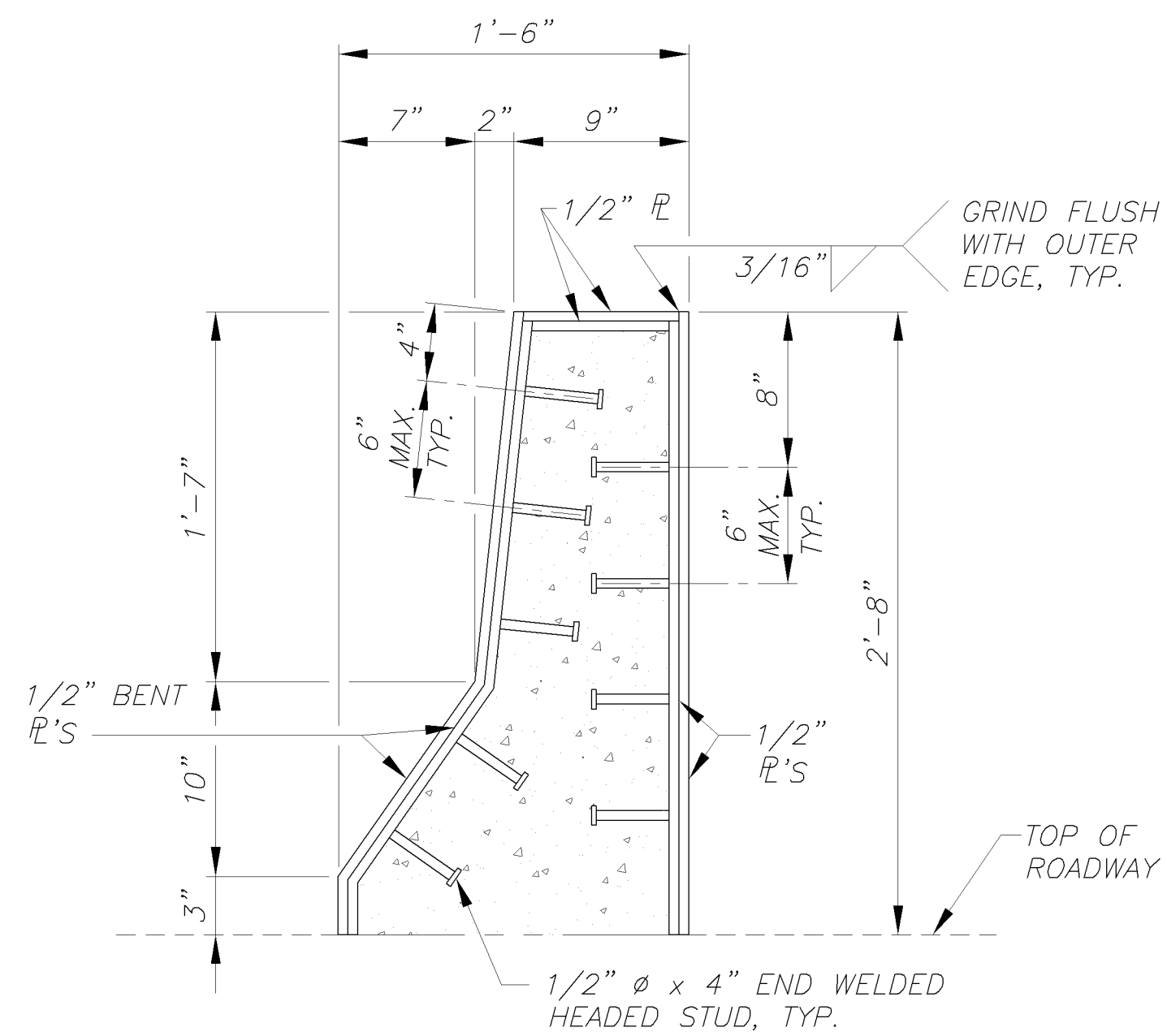
G:\02002\202016\Craig\_Bridge\parapet\_exp\_jnt\_details.dwg 9/21/2005 1:19:39 PM EDT  
drawing scale: 1' = 1/2" = 1'-0"  
plot scale: 1" = 1'



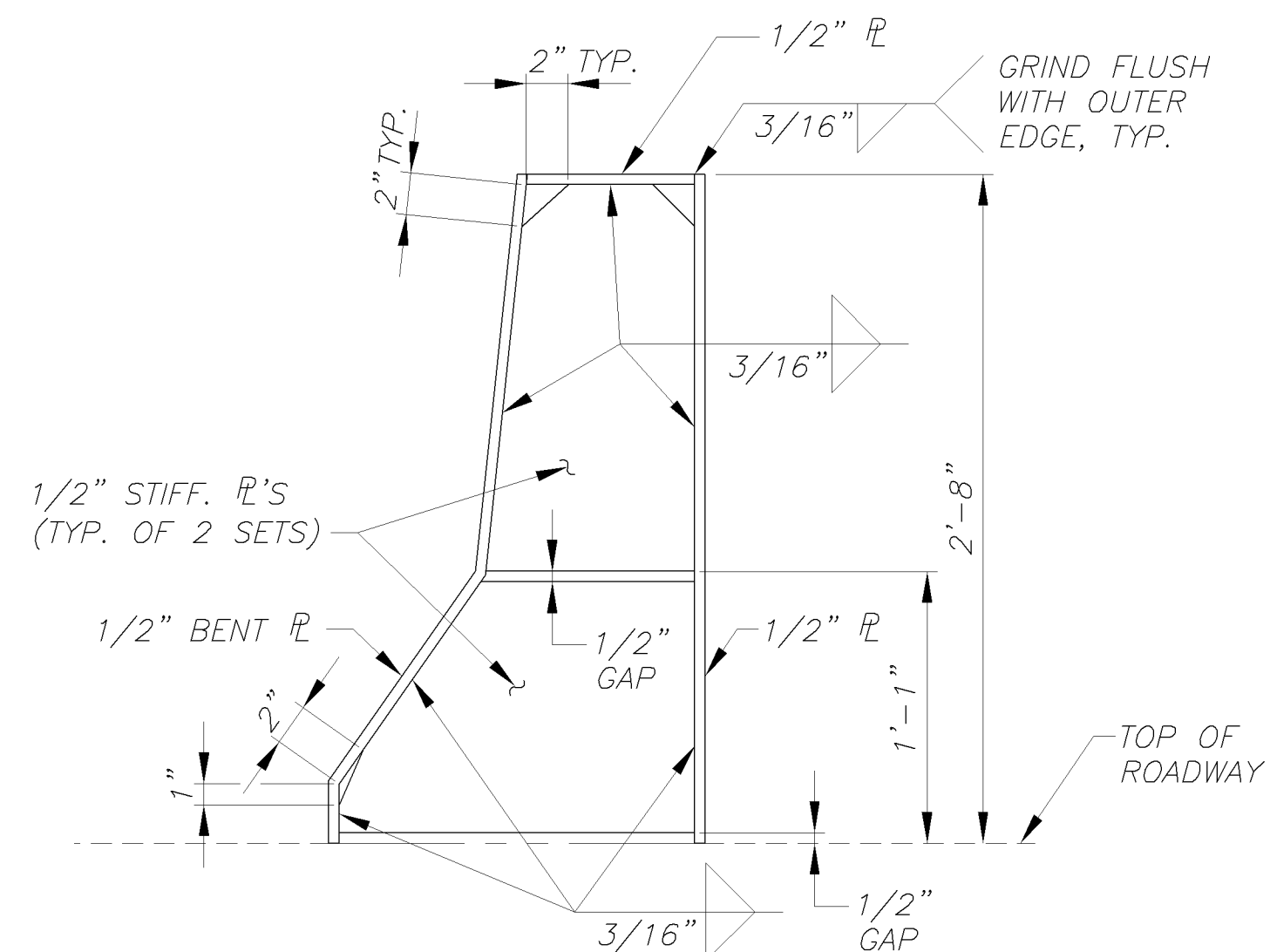
**ELEVATION**  
\* @ 68° F



**SECTION V-V**



**SECTION W-W**



**SECTION X-X**

FOR ADDITIONAL DIMENSIONS, SEE SECTION V-V & SECTION W-W

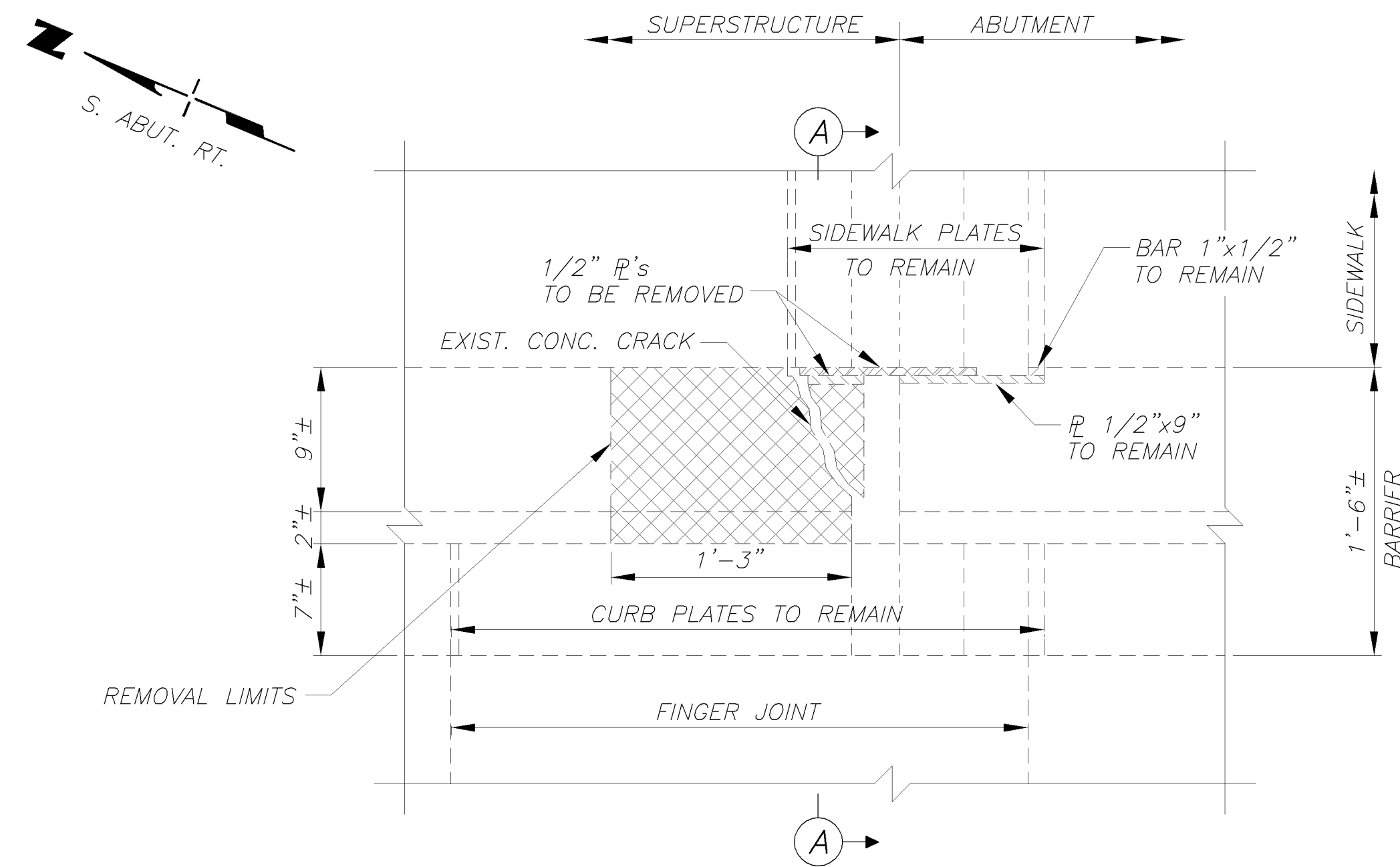
**NOTES**

FOR STRUCTURAL GENERAL NOTES, SEE SHEET

3 / 63 TO 8 / 63

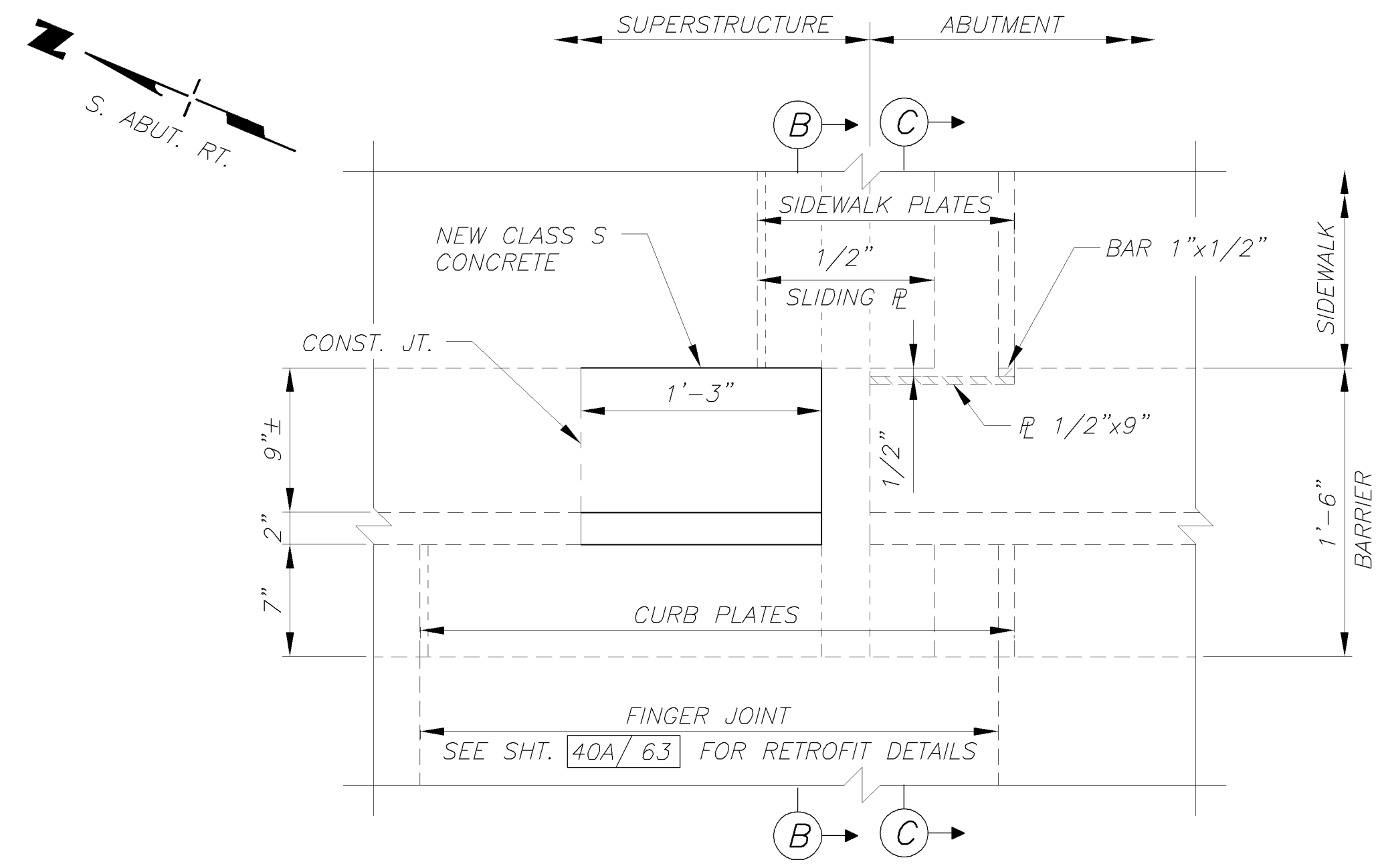
FOR ESTIMATED QUANTITIES, SEE SHEET 9 / 63

DESIGNED	DMT	CHECKED	TJW
DRAWN	DMT	REVISED	---
REVIEWED	EAF	STRUCTURE FILE NUMBER	4805917
DATE	3/21/06		



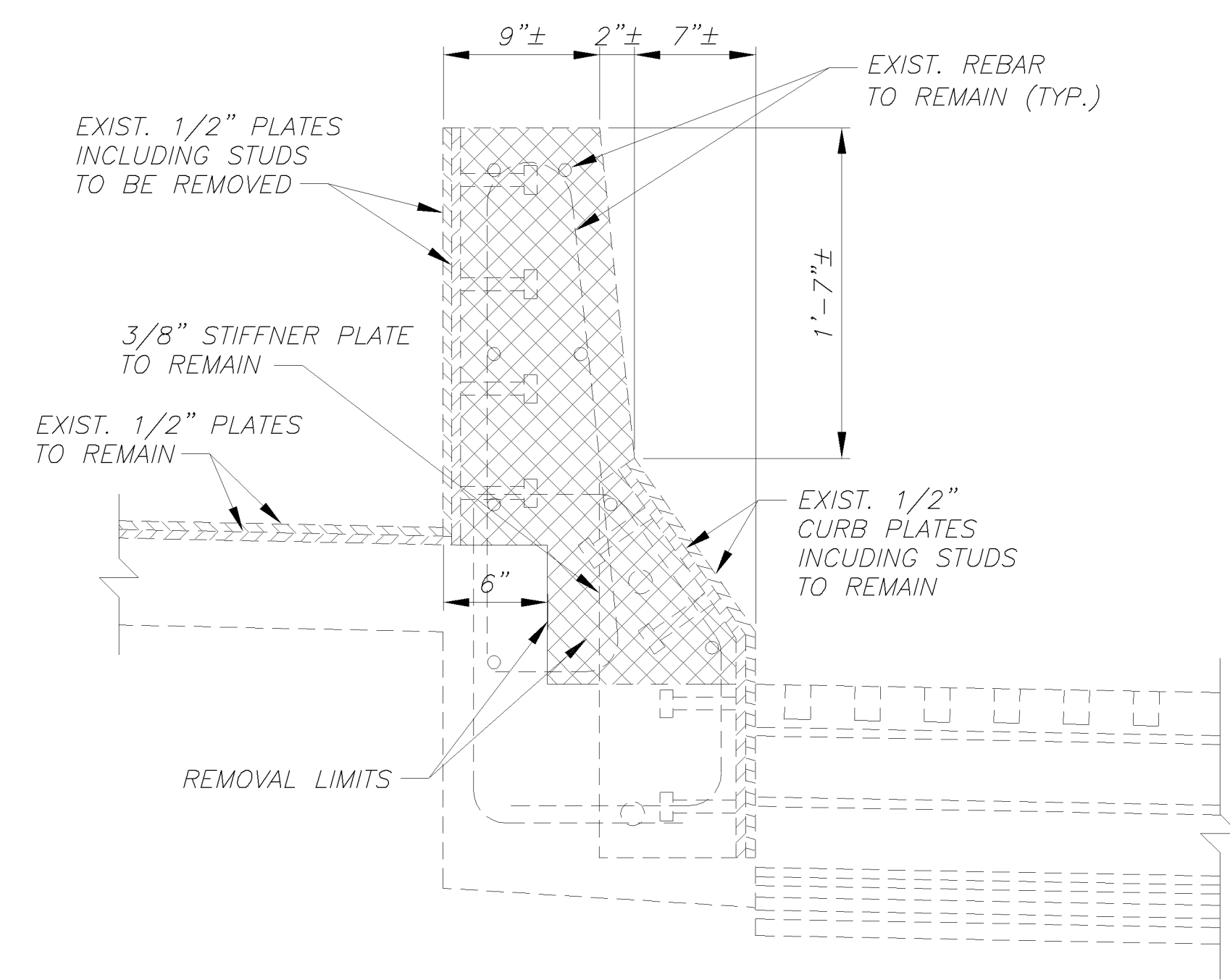
PARAPET REMOVAL PLAN - SOUTH ABUTMENT RT.

SOUTH ABUTMENT LT. SIMILAR



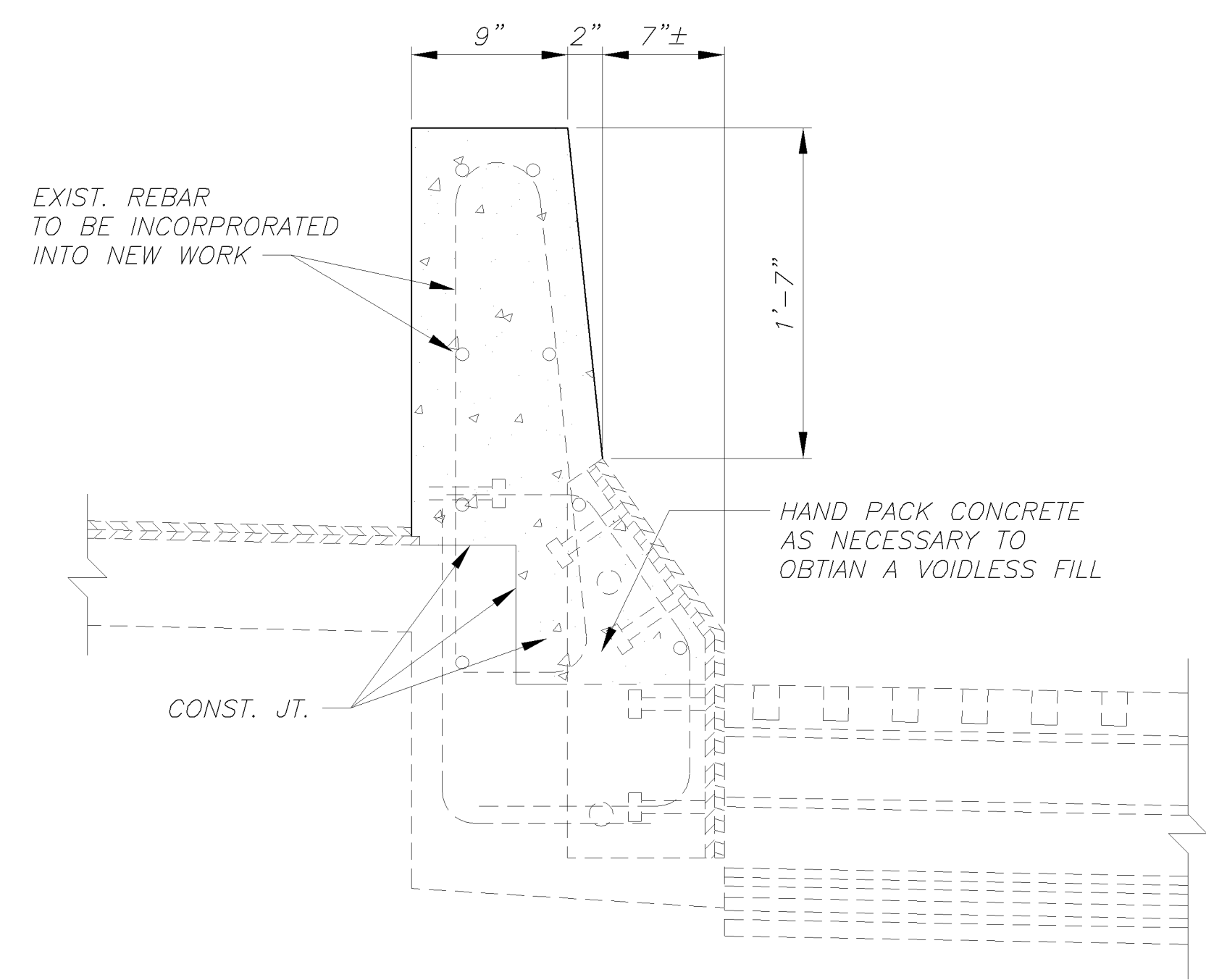
PARAPET MODIFICATION PLAN - SOUTH ABUTMENT RT.

SOUTH ABUTMENT LT. SIMILAR

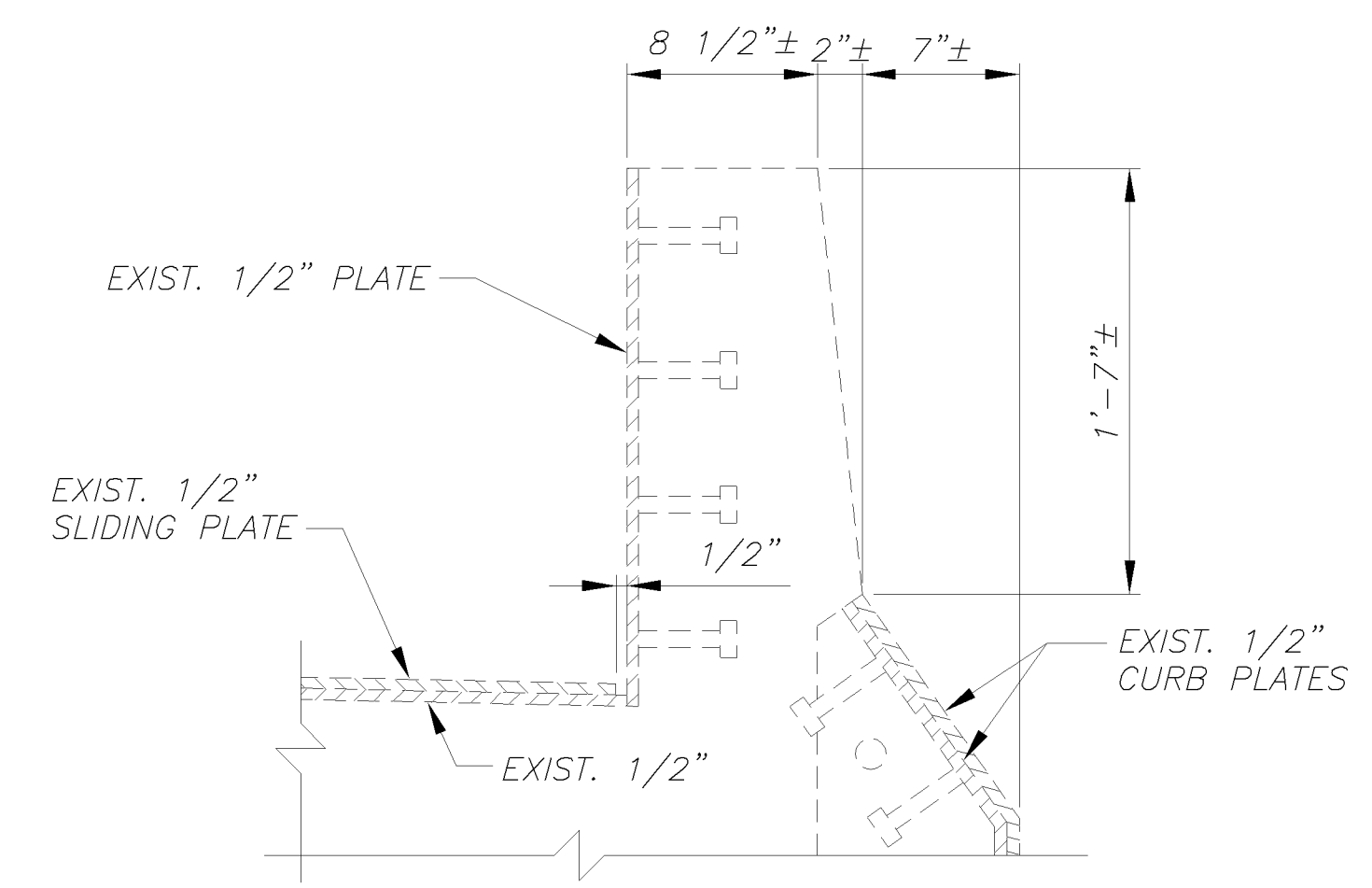


SECTION A-A

CRACK NOT SHOWN



SECTION B-B



SECTION C-C

LEGEND

PORTIONS OF STRUCTURE REMOVED

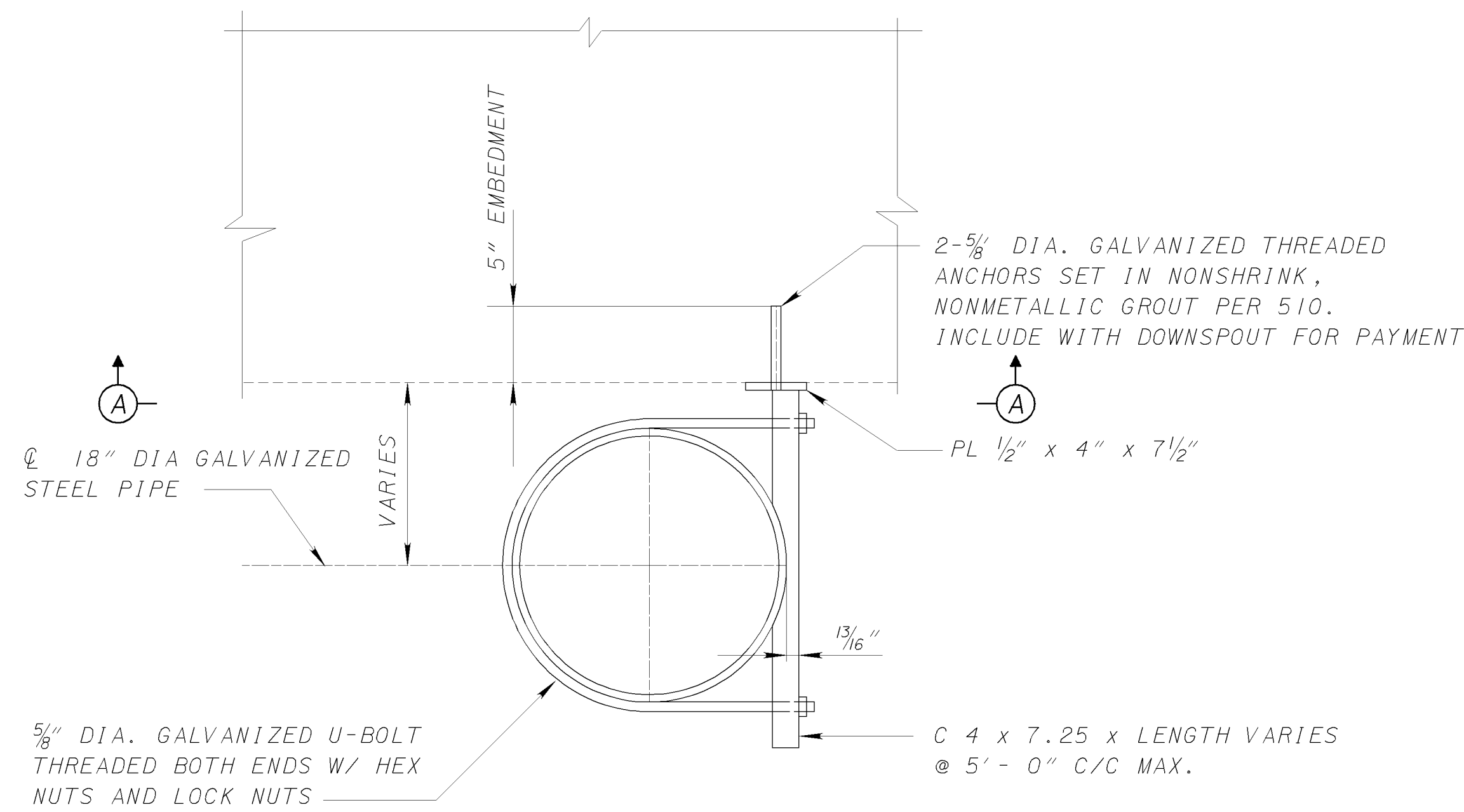
NOTES

FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 3/63 TO 8/63

FOR ESTIMATED QUANTITIES, SEE SHEET 9/63

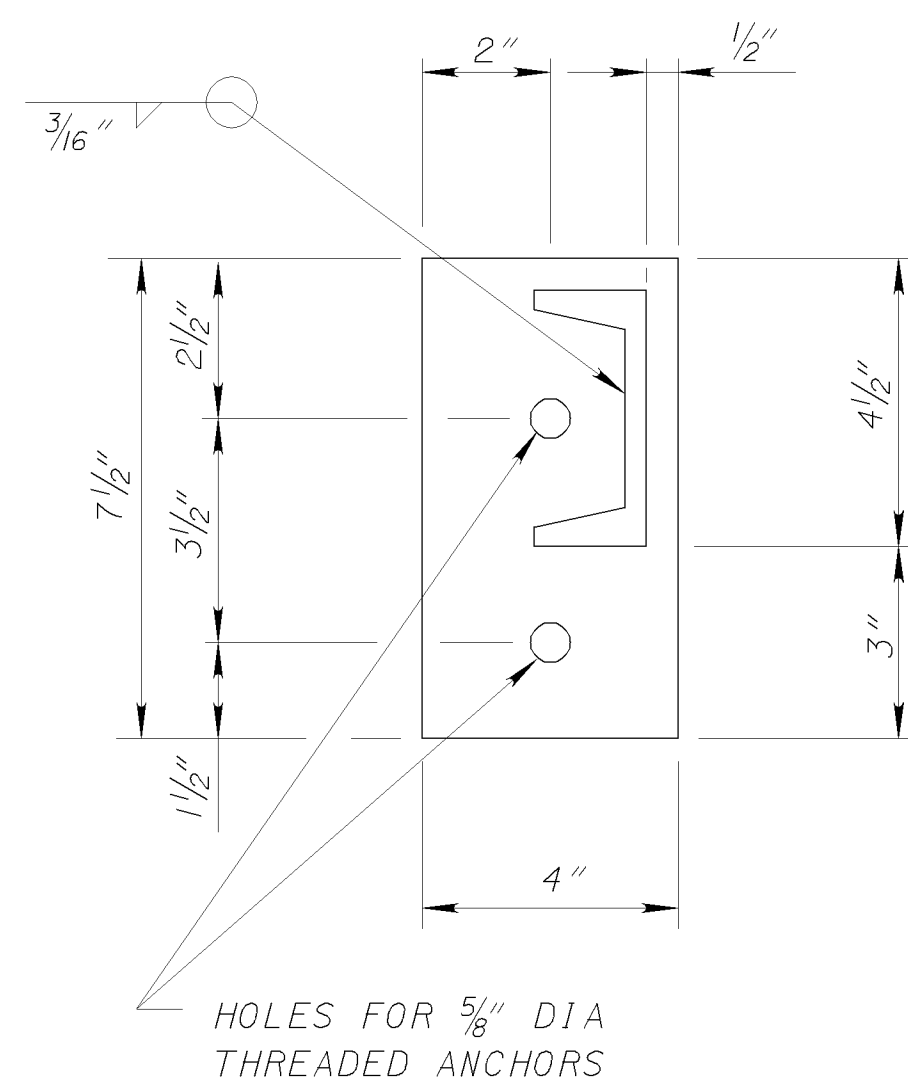
G:\02002\202016\Craig\_Bridge\about joint details.dwg 10/4/2005 3:01:15 PM EDT  
drawing scale : 1" = 1'-0"  
plot scale : 1" = 1'

<b>acila</b> columbus engineering columbus engineering associates, inc. 5895 transportation boulevard, cleveland, ohio 44128	
DESIGNED DP	CHECKED TJW
DRAWN RPR	REVISED
REVIEWED EAF	DATE 3/21/06
STRUCTURE FILE NUMBER 4805917	
SOUTH ABUTMENT PARAPET EXPANSION JOINT REPAIR CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER THE MAUMEE RIVER	
LUC-280-2.34 TRENCH RECLAMATION	
41A/63	
500A 555	

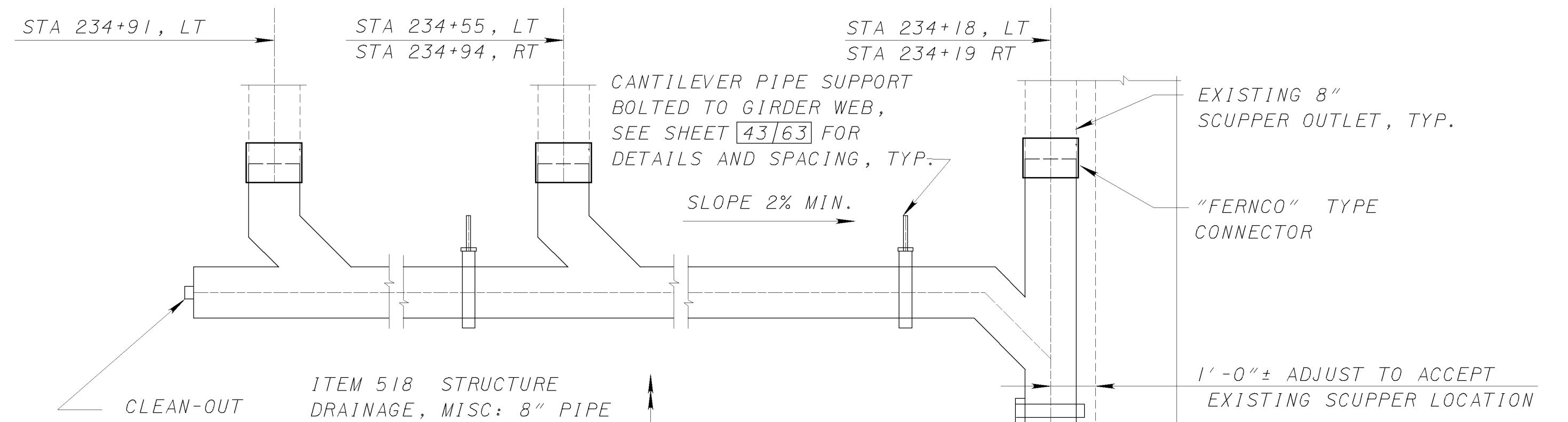


**DOWNSPOUT SUPPORT DETAIL**

18" TROUGH DOWNSPOUT SHOWN, SCUPPER DOWNSPOUT SUPPORT SIMILAR.



**SECTION A-A**



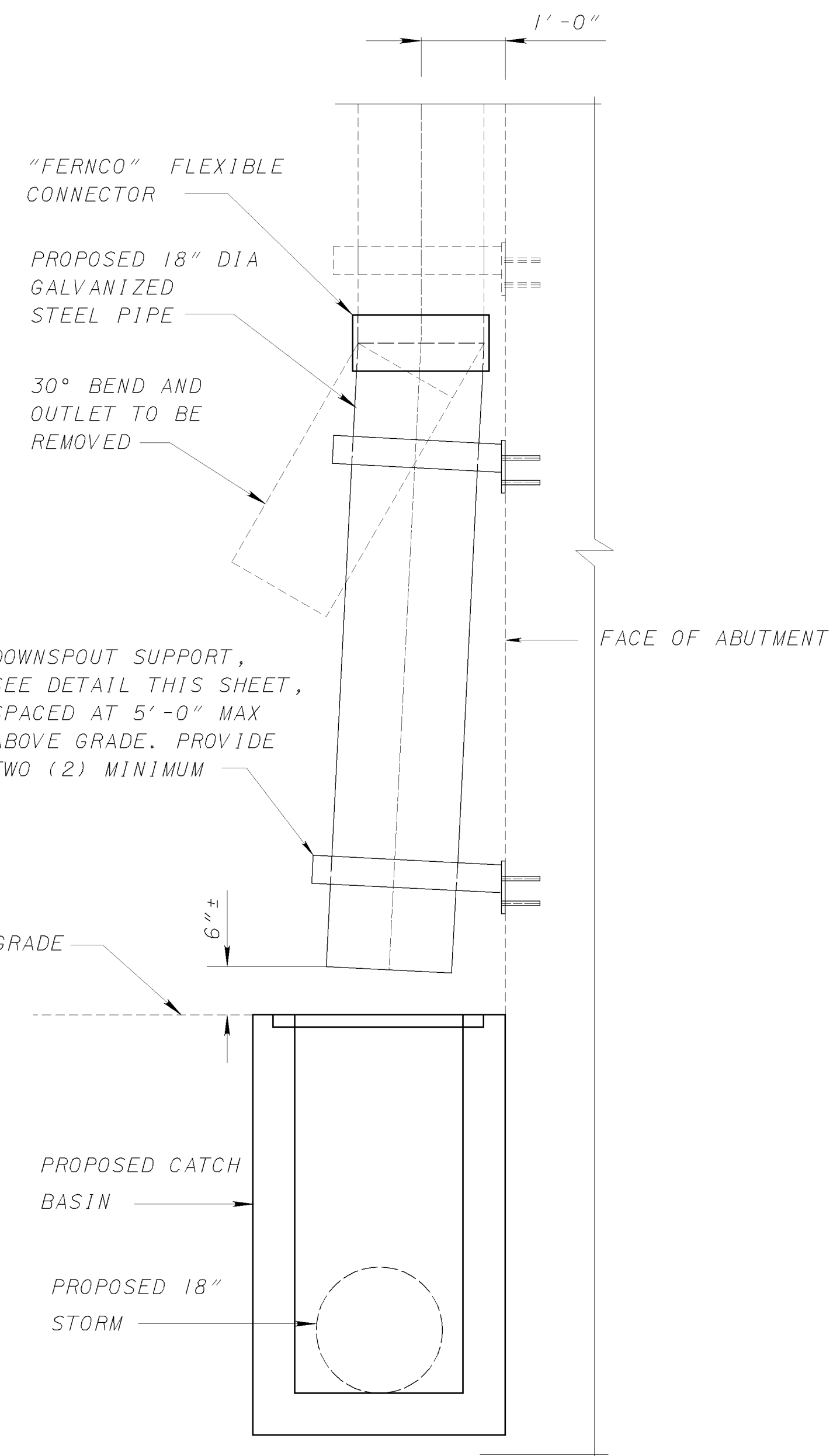
ITEM 518 8" PIPE DOWNSPOUT, INCLUDING SPECIALS.

**NOTES**

FOR STRUCTURAL GENERAL NOTES, SEE SHEET 3/63 TO. 8/63

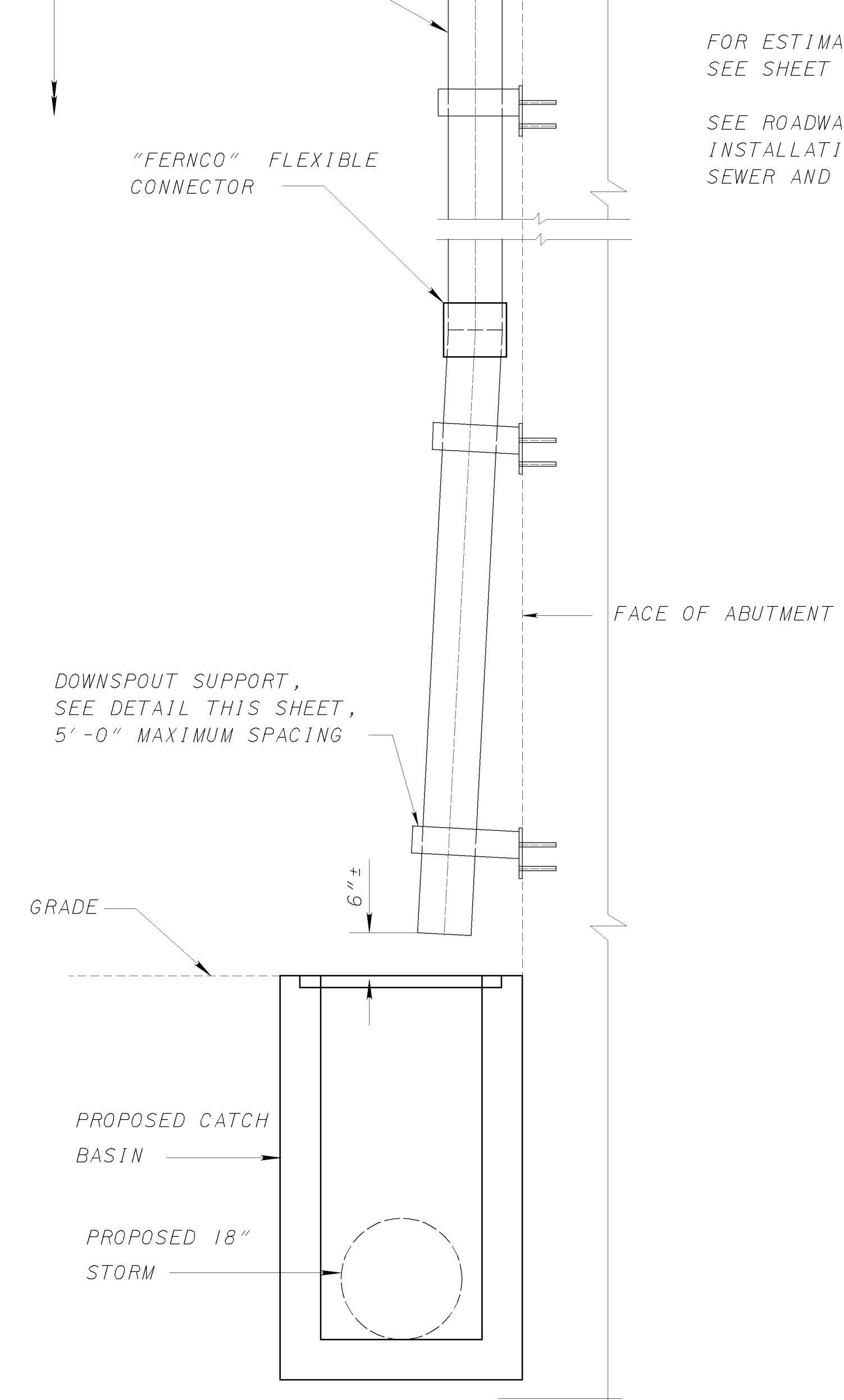
FOR ESTIMATED QUANTITIES, SEE SHEET 9/63

SEE ROADWAY PLANS FOR INSTALLATION OF STORM SEWER AND CATCH BASIN.



**TYPICAL TROUGH DOWNSPOUT MODIFICATION DETAIL**

ITEM 518 DOWNSPOUT MODIFICATION, 18" (3 LOCATIONS)



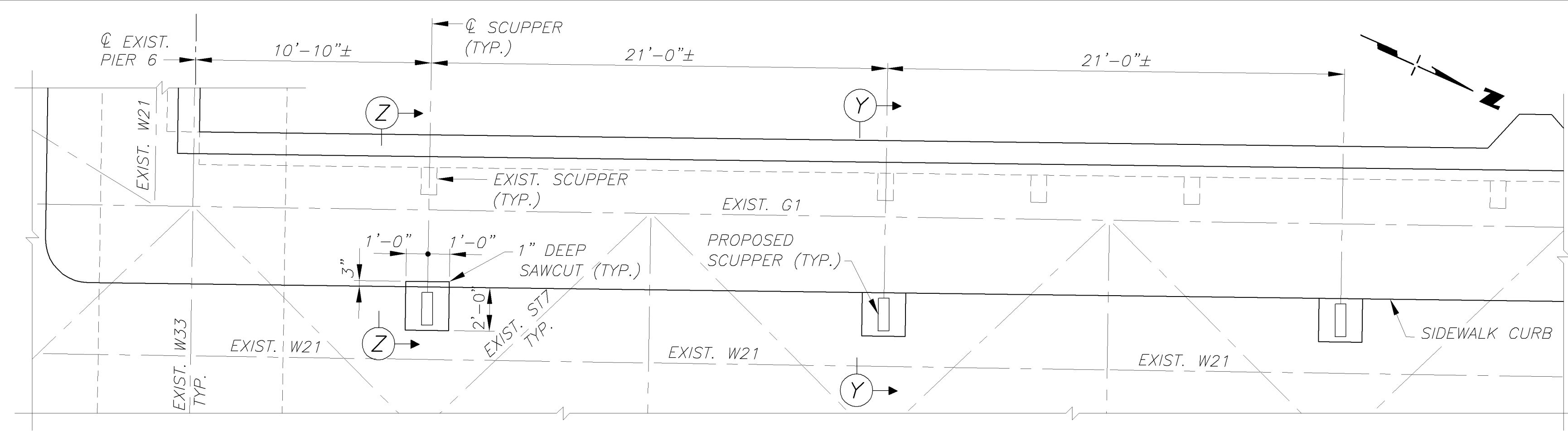
**TYPICAL DOWNSPOUT OUTLET DETAIL**

SOUTH ABUTMENT (2 LOCATIONS)

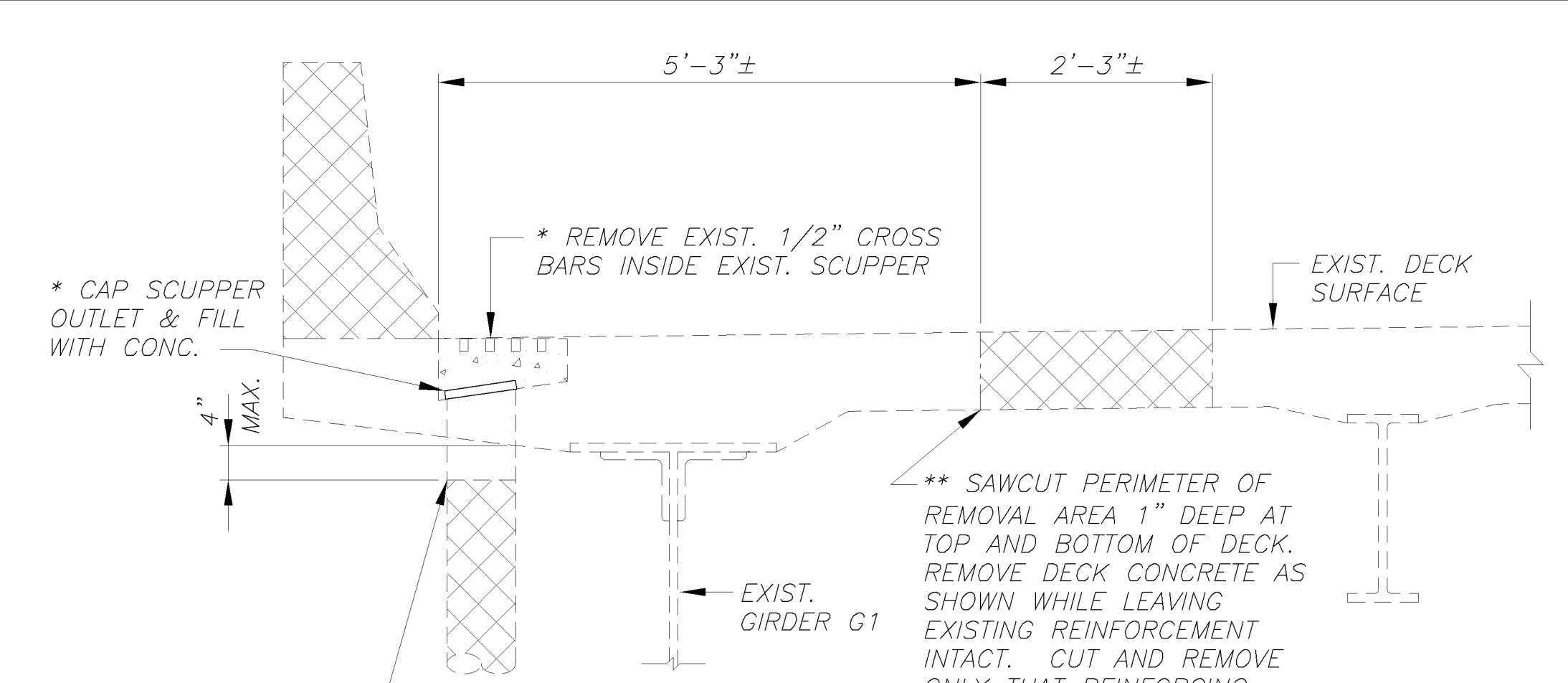
DATE	3/21/06
REVIEWED	EAF
STRUCTURE FILE NUMBER	4605917
DRAWN	DP
DESIGNED	DP
CHECKED	TJW
REVISED	



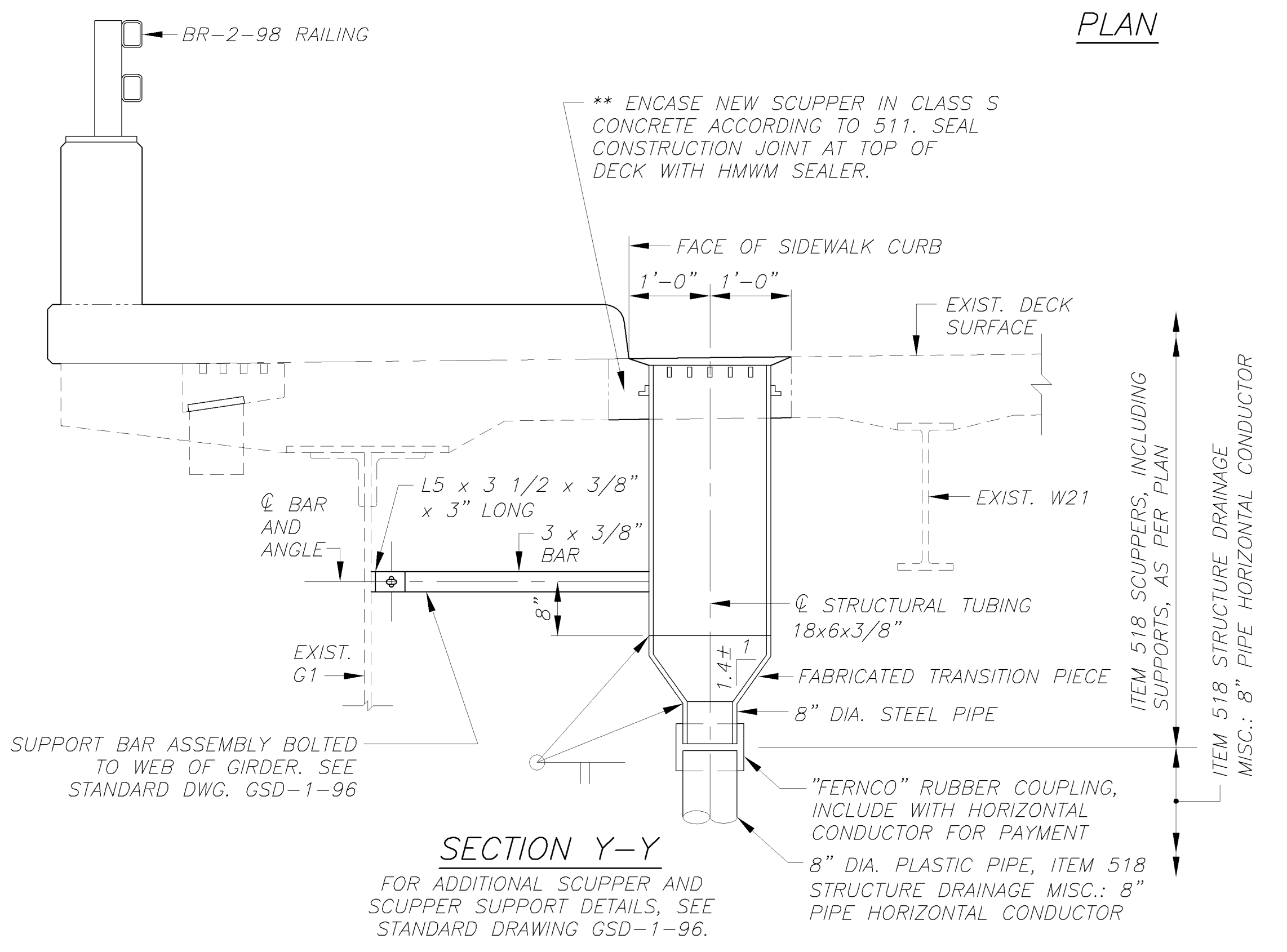
G:\02002\202016\Craig\_Bridge\43 drainage dets.dwg 10/24/2005 6:06:25 AM EST  
drawing scale: 1" = 1'-0"  
plot scale: 1" = 1'



**PLAN**

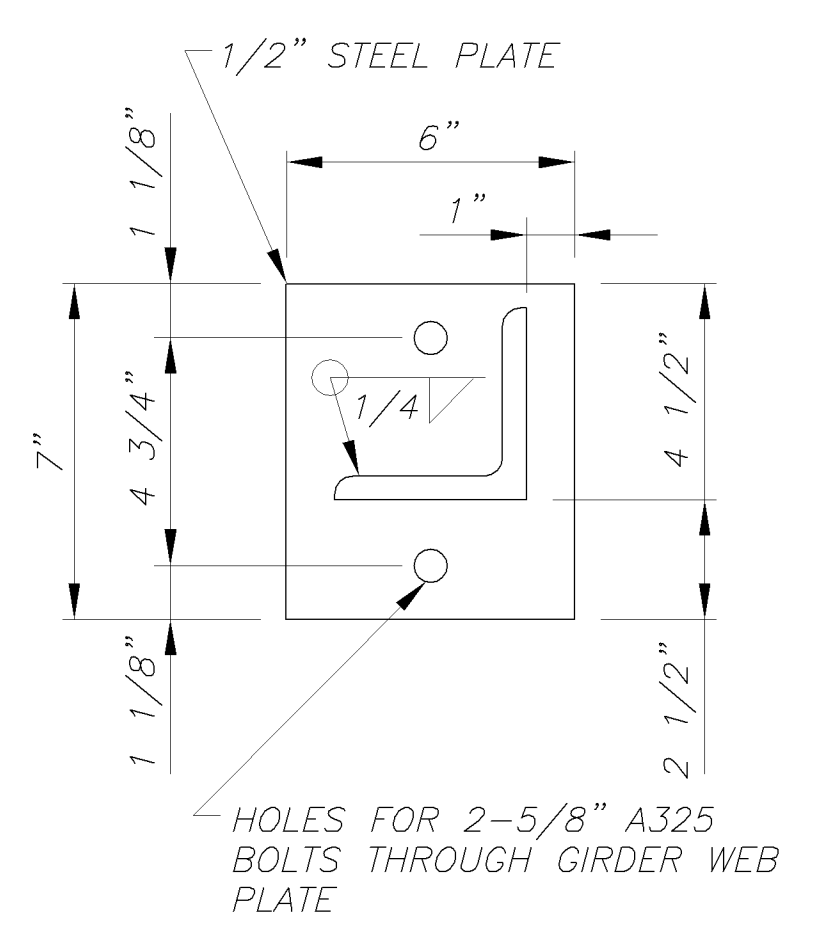


**SECTION Z-Z**  
REMOVAL



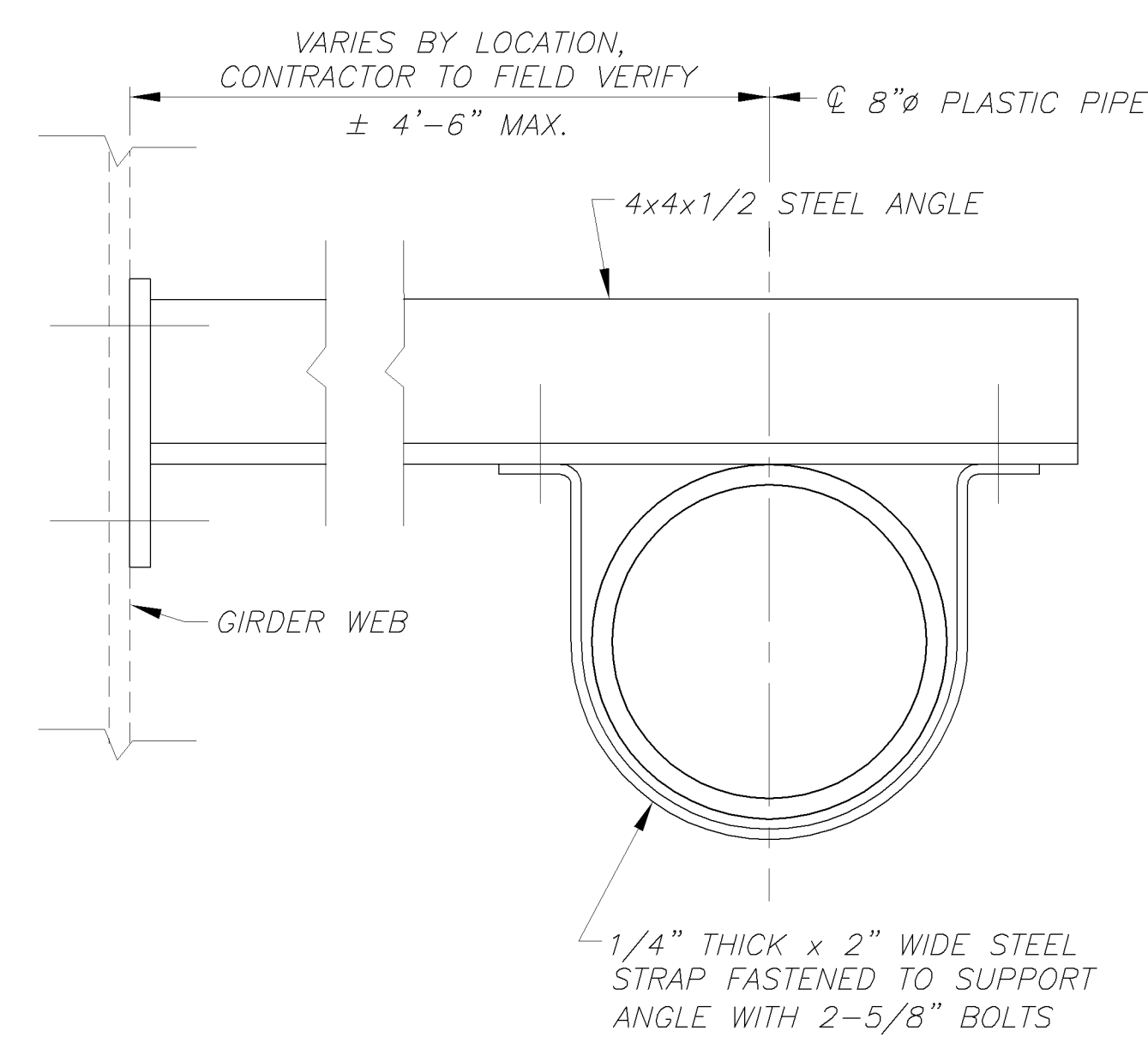
**SECTION Y-Y**

FOR ADDITIONAL SCUPPER AND SCUPPER SUPPORT DETAILS, SEE STANDARD DRAWING GSD-1-96.



**CANTILEVER PIPE SUPPORT DETAIL**

PIPE STRAP SHOWN FOR SUPPORT OF HORIZONTAL PIPING. CONNECT PIPE STRAP TO VERTICAL LEG OF ANGLE FOR SUPPORT OF VERTICAL PIPING.



**ELEVATION**

**LEGEND**

PORTIONS OF STRUCTURE REMOVED

**NOTES**

FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 3 / 63 TO 8 / 63

FOR ESTIMATED QUANTITIES, SEE SHEET 9 / 63

ALL PIPING SUPPORT BRACKETS AND HARDWARE TO BE HOT-DIP GALVANIZED PER 711.02.

\* INCLUDE FOR PAYMENT WITH ITEM 202 REMOVAL MISC.: SCUPPER ABANDONED

**acila**  
 caddie client lynn associates inc. cleveland, ohio 44126  
 5935 transportation boulevard.

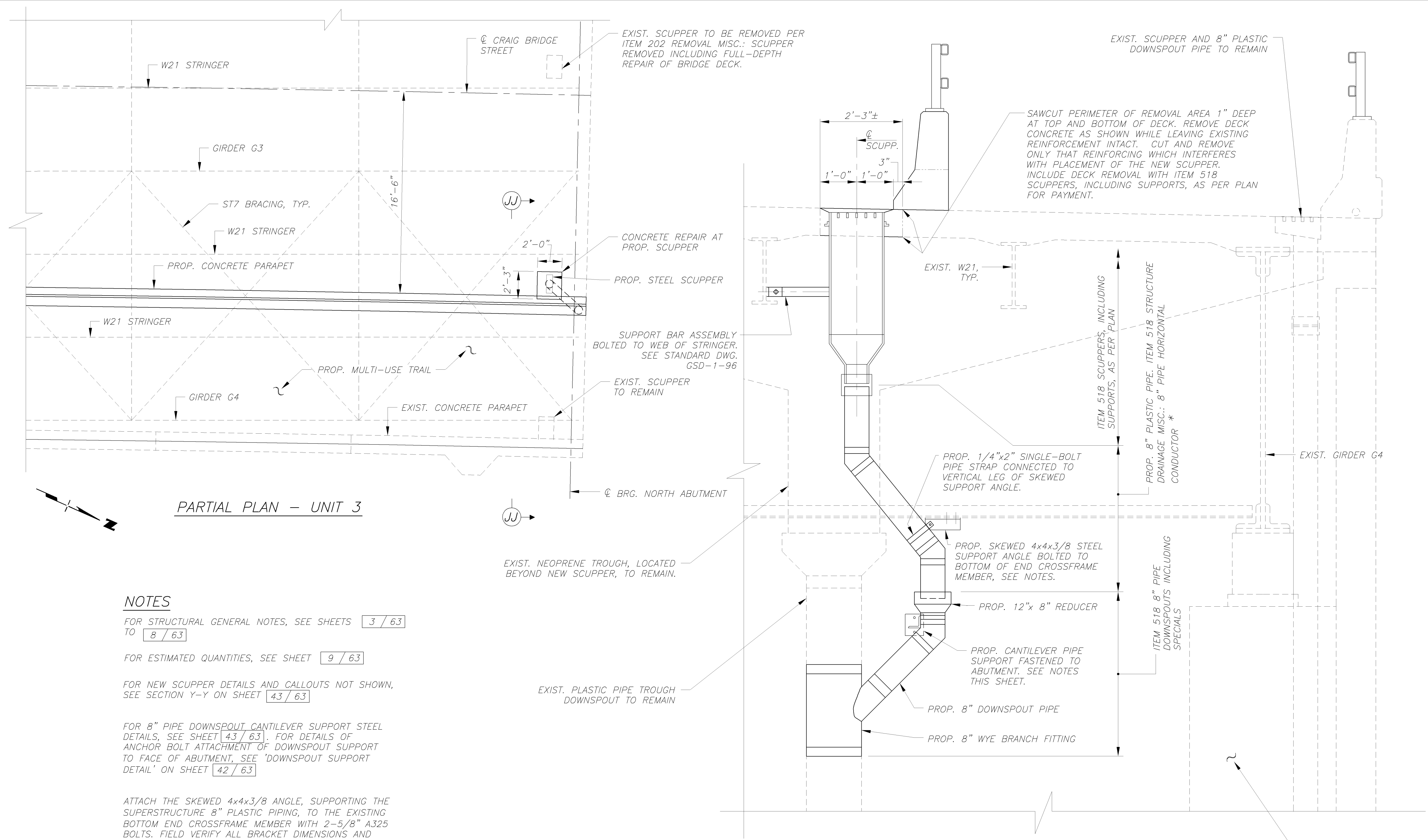
DESIGNED	TJW	CHECKED	DP
DRAWN	DMT	REMOVED	
REVIEWED	EAF	STRUCTURE FILE NUMBER	4805917
DATE	3/21/06		

DRAINAGE DETAILS - UNIT 2  
 CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  
 OVER THE MAUMEE RIVER

LUC-280-2.34  
 TRENCH  
 RECLAMATION

43 / 63  
 502  
 555

G:\02002\202016\Craig\_Bridge\43\_drainage\_dets.dwg 10/24/2005 6:06:25 AM EST  
drawing scale: 1" = 1'-0"  
plot scale: 1" = 1'



**PARTIAL PLAN - UNIT 3**

**NOTES**

FOR STRUCTURAL GENERAL NOTES, SEE SHEETS **3 / 63** TO **8 / 63**

FOR ESTIMATED QUANTITIES, SEE SHEET **9 / 63**

FOR NEW SCUPPER DETAILS AND CALLOUTS NOT SHOWN, SEE SECTION Y-Y ON SHEET **43 / 63**

FOR 8" PIPE DOWNSPOUT CANTILEVER SUPPORT STEEL DETAILS, SEE SHEET **43 / 63**. FOR DETAILS OF ANCHOR BOLT ATTACHMENT OF DOWNSPOUT SUPPORT TO FACE OF ABUTMENT, SEE 'DOWNSPOUT SUPPORT DETAIL' ON SHEET **42 / 63**

ATTACH THE SKEWED 4x4x3/8 ANGLE, SUPPORTING THE SUPERSTRUCTURE 8" PLASTIC PIPING, TO THE EXISTING BOTTOM END CROSSFRAME MEMBER WITH 2-5/8" A325 BOLTS. FIELD VERIFY ALL BRACKET DIMENSIONS AND LOCATIONS AS REQUIRED FOR PROPER FIT.

ALL PIPING SUPPORT BRACKETS AND HARDWARE TO BE HOT-DIP GALVANIZED PER 711.02.

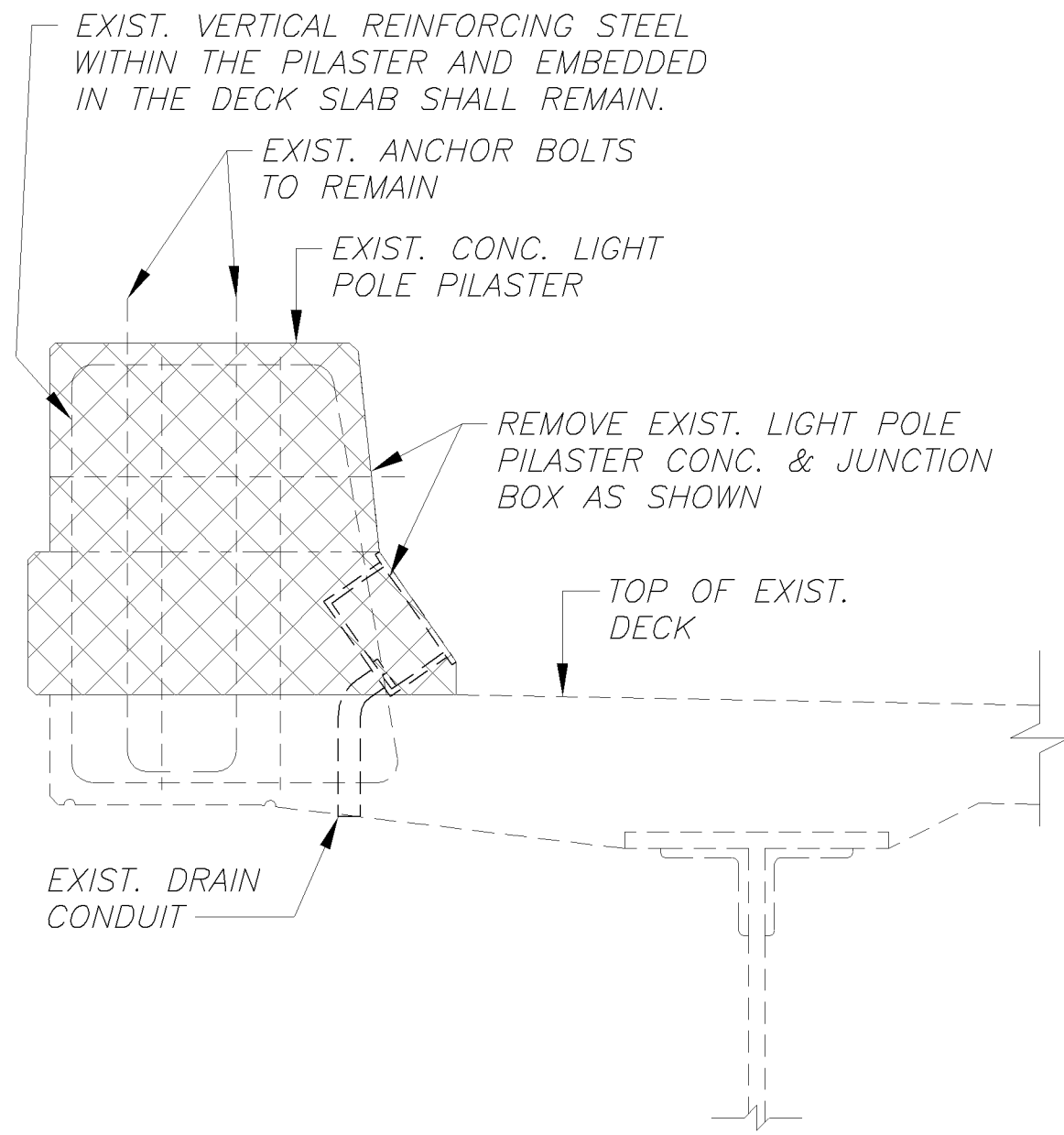
**SECTION JJ-JJ**

\* ROTATE VERTICAL BENDS WITHIN 8" HORIZONTAL CONDUCTOR PIPE AS REQUIRED TO ACCOMMODATE SCUPPER AND DOWNSPOUT PIPE BEING OUT OF PLANE.

END FLOOR BEAM AND END CROSSFRAME DIAGONALS NOT SHOWN.

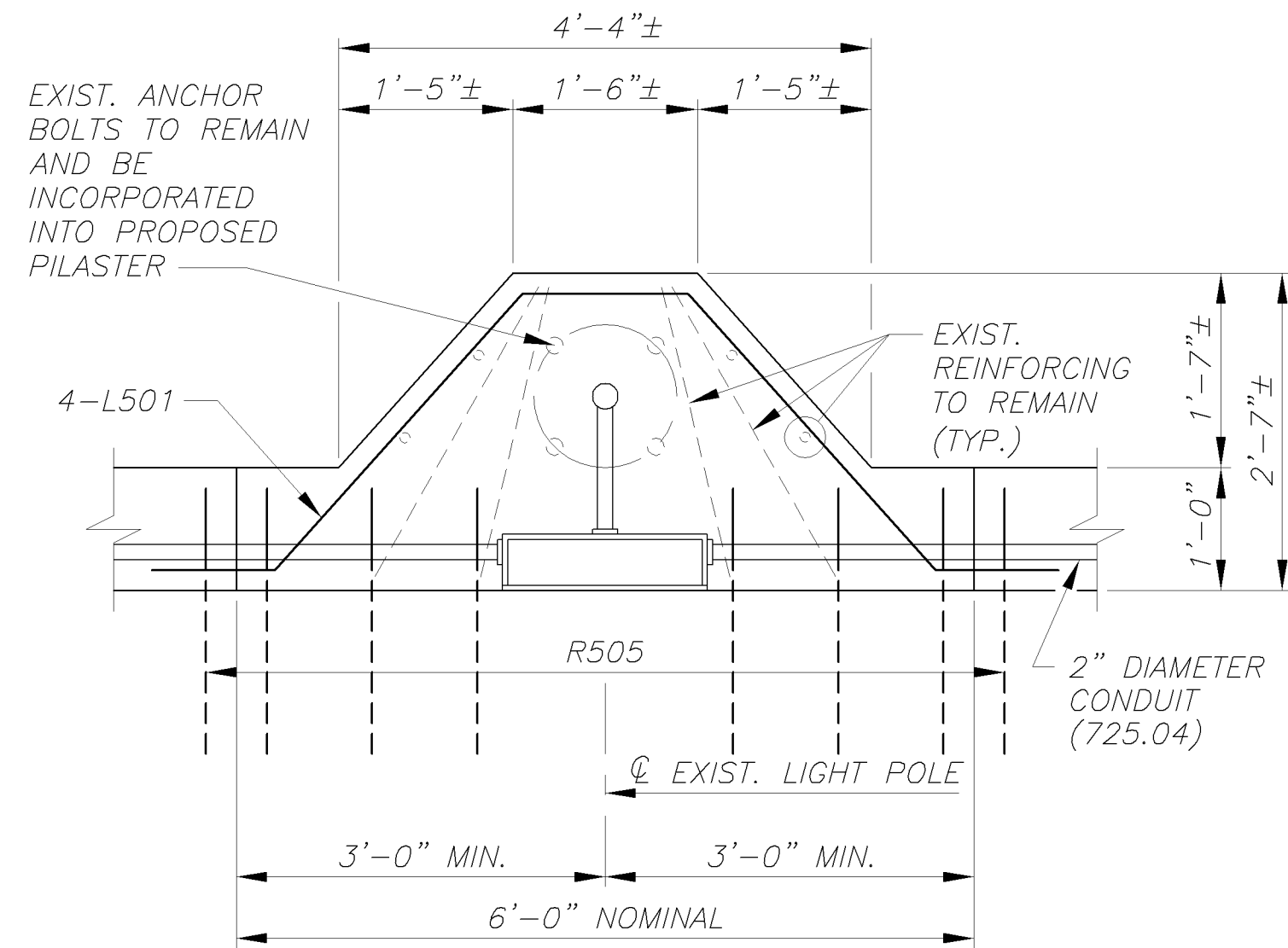
 <small>acila engineering inc.  595 transportation boulevard,  cleveland, ohio 44125</small>	<small>DATE</small> 3/21/06
	<small>REVIEWED</small> <small>EAF</small>
<small>DESIGNED</small> TJW	<small>STRUCTURE FILE NUMBER</small> 4805917
<small>CHECKED</small> DP	<small>REVISED</small>
<b>DRAINAGE DETAILS - UNIT 3 &amp; NORTH ABUTMENT</b> <small>CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  OVER THE MAUMEE RIVER</small>	
LUC-280-2.34 TRENCH RECLAMATION	43A/63

G:\02002\202016\Craig\_Bridge\44 superstructure details 01.dwg 3/21/2006 11:00:49 AM EST  
drawing scale : 1/2" = 1'-0"  
plot scale : 1" = 24"



**DEMOLITION SECTION  
AT LIGHT POLE PILASTER**

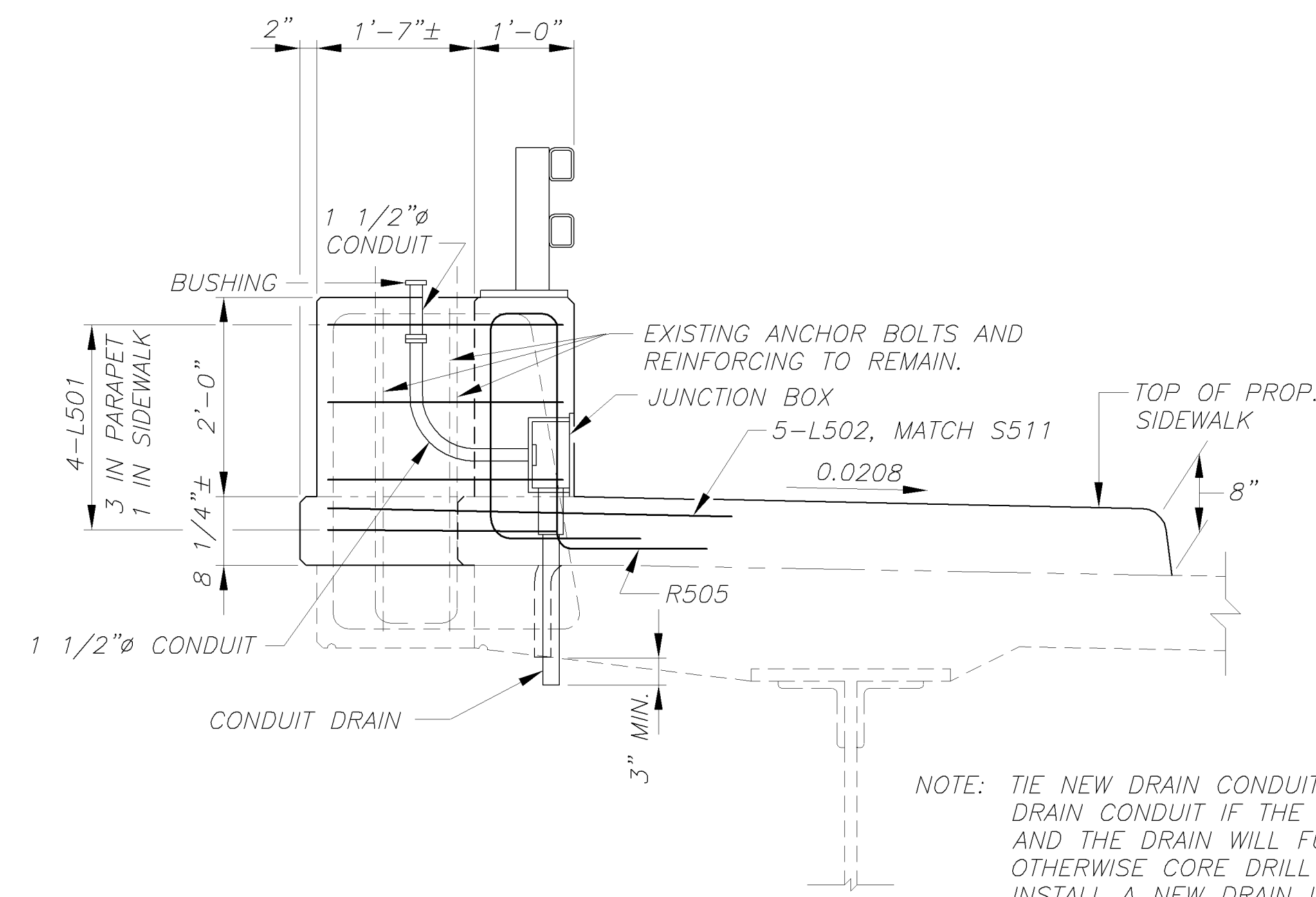
THE CONTRACTOR SHALL PERFORM ALL CONCRETE REMOVAL WORK WITHIN EXISTING LIGHT POLE PILASTERS IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL AND ANCHOR BOLTS TO REMAIN. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NORMAL 35 POUND CLASS FOR REMOVAL WITHIN 18" OF PORTIONS TO BE PRESERVED.



**PROPOSED PLAN AT LIGHT POLE PILASTER**

FOR ADDITIONAL LIGHT POLE PILASTER AND LIGHTING DETAILS, SEE STANDARD CONSTRUCTION DRAWING HL-20.14 AND LIGHTING PLANS.

HORIZONTAL PARAPET AND L502 REINFORCING NOT SHOWN.



**PROPOSED SECTION AT LIGHT POLE PILASTER**

FOR ADDITIONAL LIGHT POLE PILASTER AND LIGHTING DETAILS, SEE STANDARD CONSTRUCTION DRAWING HL-20.14 AND LIGHTING PLANS.

HORIZONTAL PARAPET REINFORCING NOT SHOWN.

**NOTES:**

FOR STRUCTURAL GENERAL NOTES, SEE SHEETS

3 / 63 TO 8 / 63

MINIMUM BAR LAP SPLICES

NO. 5 BAR = 29"

FOR REINFORCING SCHEDULE AND BAR BENDING DIAGRAMS, SEE SHEET 47 / 63

**LEGEND**

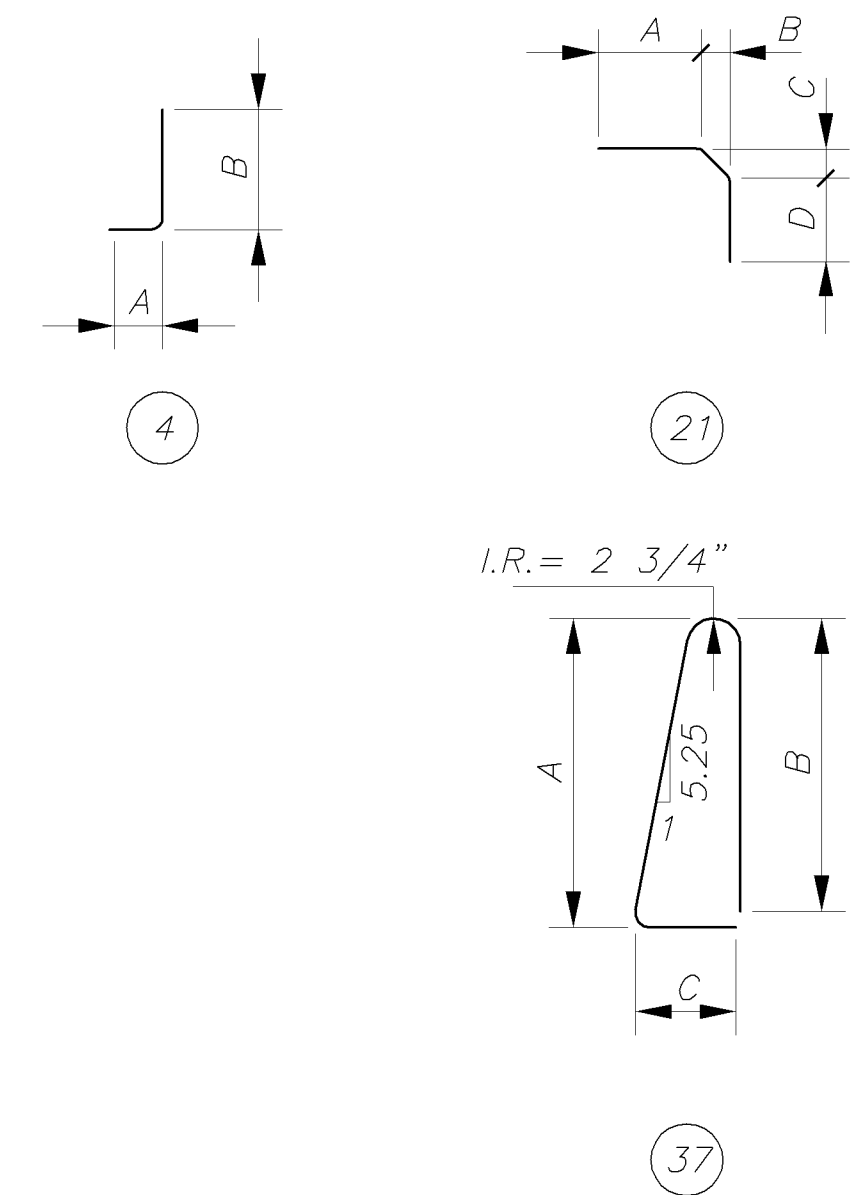
PORTIONS OF STRUCTURE REMOVED

G:\02002\202016\Craig\_Bridge\45\_reinforcing\_01.dwg 03/16/2006 03:40:49 PM EST  
drawing scale : none  
plot scale : 1 = 1

ABUTMENTS													
MARK	NUMBER			LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS						INC.
	SOUTH	NORTH	TOTAL				A	B	C	D	E	R	
A501	12	-	12	30'-0"	376	STR							
A502	6	-	6	18'-10"	118	STR							
A503	-	1 SER OF 16	1 SER OF 16	5'-1" TO 5'-6"	88	STR							1/4"(+)
A504	104	18	122	5'-10"	742	37	2'-9"	2'-6"	0'-8"				
A505	-	12	12	1'-6"	19	4	0'-7"	1'-1"					
A506	192	4	196	1'-8"	341	4	0'-10"	1'-0"					
A507	-	8	8	21'-4"	178	STR							
A508	-	15	15	1'-10"	29	4	0'-10"	1'-2"					
A509	-	50	50	2'-4"	122	4	0'-10"	1'-8"					
A510	-	62	62	2'-8"	172	STR							
A511	-	15	15	1'-9"	27	4	0'-10"	1'-1"					
A512	12	7	19	14'-7"	289	STR							
A513	-	4	4	4'-8"	20	STR							
A514	-	6	6	16'-2"	101	STR							
A515	6	-	6	5'-9"	36	STR							
A516	12	-	12	24'-6"	307	STR							
A517	1 SER OF 6	-	1 SER OF 6	10'-10" TO 33'-1"	137	STR							4'-5 38" (+)
A518	1	-	1	22'-10"	24	STR							
A519	76	-	76	5'-4"	422	STR							
A520	1 SER OF 15	-	1 SER OF 15	2'-1" TO 5'-5"	59	STR							2 7/8" (-)
A521	-	3	3	8'-2"	26	STR							
A601	2	-	2	30'-0"	90	STR							
A602	1	-	1	14'-7"	22	STR							
A603	1	-	1	19'-4"	29	STR							
A604	104	18	122	2'-7"	473	21	0'-7"	0'-7"	0'-9"	1'-1"			
A605	104	18	122	2'-8"	489	STR							
A606	-	1	1	16'-2"	24	STR							
A607	1	-	1	6'-3"	9	STR							
				TOTAL WEIGHT	4769								

**NOTES:**  
BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST LETTER IDENTIFIES THE BAR LOCATION. THE FIRST DIGIT INDICATES THE BAR SIZE DESIGNATION. THE REMAINING DIGITS INDICATE THE SEQUENCE NUMBER.  
EXAMPLE: A501  
S = LOCATION OF THE BAR IN THE STRUCTURE (SUPERSTRUCTURE)  
5 = BAR SIZE DESIGNATION (#5, 5/8"Ø)  
01 = SEQUENCE NUMBER  
BAR DIMENSIONS SHOWN ARE OUT-TO-OUT UNLESS NOTED. ALL REINFORCING STEEL TO BE EPOXY COATED. STRAIGHT BARS ARE INDICATED BY "STR". "INC." INDICATES INCREMENTAL CHANGE FOR SERIES-TYPE REINFORCING STEEL.

**BAR BENDING DIAGRAMS**



**acila**  
 cleveland, ohio 44125  
 5955 transportation boulevard, cleveland, ohio 44125  
 3/21/06  
 DATE  
 4805917  
 STRUCTURE FILE NUMBER  
 EAF  
 REVIEWED  
 DMT  
 CHECKED  
 DMT  
 DESIGNED  
 DMT  
 DRAWN  
 DMT  
 REVISOR  
 DP  
**REINFORCING SCHEDULE**  
 CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  
 OVER THE MAUMEE RIVER  
 LUC-280-2.34  
 TRENCH  
 RECLAMATION  
 45/63  
 504  
 555

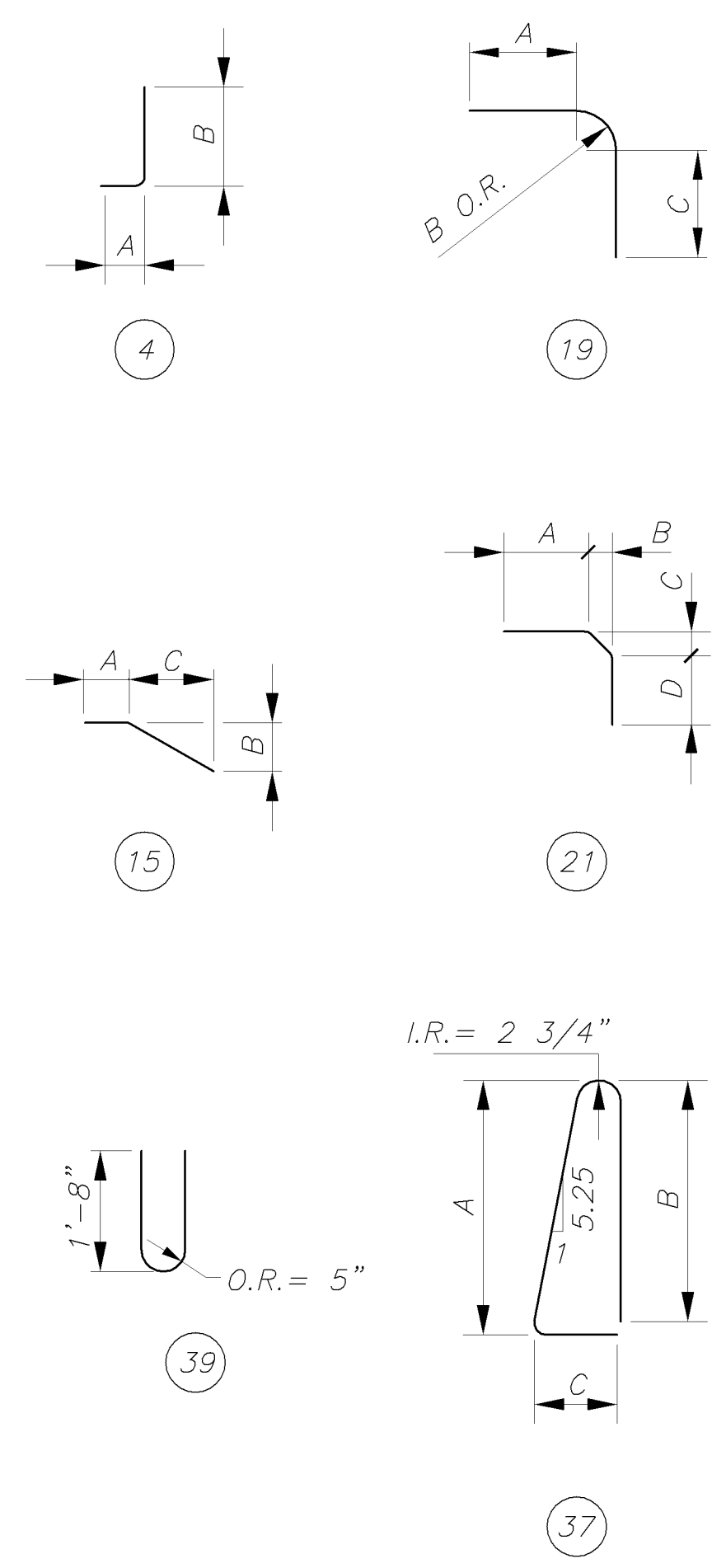
G:\02002\202016\Craig\_Bridge\46\_reinforcing\_02.dwg 03/16/2006 02:32:58 PM EST  
drawing scale : none  
plot scale : 1 = 1


SUPERSTRUCTURE											
MARK	NUMBER	LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS						INC.
					A	B	C	D	E	R	
S501	385	30'-0"	12,047	STR							
S502	2	21'-6"	45	STR							
S503	1 SER. OF 6	17'-7" TO 19'-3"	115	STR							4"
S504	1 SER. OF 6	28'-8" TO 30'-0"	184	STR							3 1/4"(-)
S505	2	15'-2"	32	STR							
S506	1 SER. OF 6	10'-7" TO 12'-2"	71	STR							3 3/4"(+)
S507	1 SER. OF 7	6'-4" TO 8'-2"	53	STR							3 5/8"(+)
S508	1 SER. OF 11	6'-9" TO 9'-11"	96	STR							3 3/4"(+)
S509	1 SER. OF 3	3'-5" TO 9'-7"	20	STR							3'-1"
S510	1	10'-6"	11	STR							
S510	1	7'-4"	8	15	0'-10"	2'-1"	6'-1"				
S511	425	6'-7"	2,918	STR							
S512	28	21'-4"	623	STR							
S513	4	14'-10"	62	STR							
S514	3	17'-10"	56	STR							
S515	1	9'-10"	10	19	4'-5"	1'-10"R	2'-6"				
S516	889	1'-8"	1545	4	0'-10"	1'-0"					
S517	32	1'-10"	61	4	0'-10"	1'-2"					
S518	4	19'-3"	80	STR							
S519	7	40'-0"	292	STR							
S520	11	17'-5"	200	STR							
S521	6	20'-9"	129	STR							
S522	6	9'-4"	58	STR							
S523	1300	5'-6"	7457	37	2'-5"	2'-2"	0'-8"				
S524	8	32'-2"	268	15	2'-5"	2'-9"	29'-4"				
S525	4	8'-9"	37	15	2'-7"	0'-11"	6'-10"				
S526	10	10'-10"	113	15	3'-0"	0'-6"	7'-10"				
S527	4	11'-1"	46	STR							
S528	2	19'-4"	40	STR							
S529	2	24'-4"	51	STR							
S530	7	13'-4"	97	STR							

SUPERSTRUCTURE											
MARK	NUMBER	LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS						INC.
					A	B	C	D	E	R	
S531	5	5'-9"	30	STR							
S532	8	30'-0"	250	15	2'-5"	2'-11"	27'-6"				
S533	166	1'-11"	332	4	0'-10"	1'-2"					
S534	284	1'-7"	469	4	0'-10"	0'-10"					
S535	196	4'-5"	903	STR							
S536	5	16'-1"	84	STR							
S537	5	14'-4"	99	STR							
S538	5	13'-0"	68	15	8'-3"	0'-2"	4'-9"				
S539	2 SER. OF 8	1'-11" TO 5'-1"	58	37	0'-9" TO 2'-3"	0'-6" TO 2'-0"	0'-6" TO 0'-8"				A = 2 5/8"(-) B = 2 5/8"(-) C = 1/4"(+)
S540	8	8'-2"	68	STR							
S541	70	3'-7"	262	4	0'-8"	3'-0"					
S542	7	3'-6"	26	STR							
S543	1 SER. OF 4	5'-9" TO 15'-6"	44	STR							3'-3"
S544	2	2'-2"	5	15	1'-0"	1'-2"	0'-9"				
S545	6	1'-4"	8	STR							
S546	2	3'-7"	7	8							
S601	47	30'-0"	2118	STR							
S602	1300	2'-3"	4393	STR							
S603	1	20'-3"	30	STR							
S604	1	25'-9"	39	STR							
S605	1	12'-10"	19	STR							
S606	1240	2'-3"	4191	21	0'-7"	0'-7"	0'-9"	0'-9"			
S607	2 SER. OF 30	2'-3" TO 4'-10"	319	21	0'-7" TO 3'-2"	0'-7"	0'-9"	0'-9"			1"(+)
S608	2	32'-10"	99	15	2'-11"	2'-9"	29'-4"				
S609	2	11'-1"	33	15	3'-3"	1'-8"	7'-8"				
S610	2 SER. OF 8	4'-9" TO 4'-11"	116	4	3'-6" TO 4'-2"	11" TO 1'-5"					A=1 1/8"(+) B=7/8"(-)
S611	2 SER. OF 8	1'-4" TO 2'-3"	43	STR							1 5/8"(-)
TOTAL	WEIGHT		40,938								

**NOTES:**  
BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST LETTER IDENTIFIES THE BAR LOCATION. THE FIRST DIGIT INDICATES THE BAR SIZE DESIGNATION. THE REMAINING DIGITS INDICATE THE SEQUENCE NUMBER.  
EXAMPLE: A501  
S = LOCATION OF THE BAR IN THE STRUCTURE (SUPERSTRUCTURE)  
5 = BAR SIZE DESIGNATION (#5, 5/8"Ø)  
01 = SEQUENCE NUMBER  
BAR DIMENSIONS SHOWN ARE OUT-TO-OUT UNLESS NOTED. ALL REINFORCING STEEL TO BE EPOXY COATED. STRAIGHT BARS ARE INDICATED BY "STR". "INC." INDICATES INCREMENTAL CHANGE FOR SERIES-TYPE REINFORCING STEEL.

**BAR BENDING DIAGRAMS**

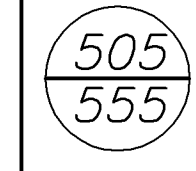


  
 cleveland, ohio 44125  
 5895 transportation boulevard

REVIEWED	DATE	3/21/06
DRAWN	FILE NUMBER	4805917
DESIGNED	STRUCTURE	
DMT	DMT	
CHECKED	REVIS	
DP	DP	

**REINFORCING SCHEDULE**  
 CRAIG BRIDGE NO. LUC-65-0538  
 OVER THE MAJUMEE RIVER

**LUC-280-2.34**  
**TRENCH**  
**RECLAMATION**

46 / 63  


G:\02002\202016\Craig\_Bridge\47\_reinforcing 03.dwg 3/21/2006 3:42:15 PM EST  
drawing scale : none  
plot scale : 1 = 1

**LIGHTING**

INCLUDE WITH ITEM 509 - "EPOXY COATED REINFORCING STEEL" FOR PAYMENT

MARK	NUMBER	LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS						INC.
					A	B	C	D	E	R	
L501	12	8'-1"	101	22	0'-6"	2'-3"	1'-11"	1'-4"			
L502	15	4'-0"	63	STR							
TOTAL	WEIGHT		164								

**RAILING**

INCLUDE WITH ITEM 517 - "RAILING" FOR PAYMENT

MARK	NUMBER	LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS						INC.
					A	B	C	D	E	R	
R501	90	30'-0"	2816	STR							
R502	3	4'-11"	16	4	2'-6"	2'-6"					
R503	6	15'-7"	98	STR							
R504	6	15'-2"	95	STR							
R505	436	7'-8"	3486	38	2'-4"	0'-8"	2'-2"	1'-6"	1'-6"		
R506	33	7'-10"	270	38	2'-6"	0'-8"	2'-2"	1'-6"	1'-6"		
R507	20	7'-8"	160	38	3'-0"	0'-8"	2'-10"	0'-6"	1'-2"		
R508	12	6'-3"	78	38	2'-4"	0'-8"	2'-2"	0'-6"	1'-1"		
R509	6	4'-8"	29	STR							
R510	6	19'-0"	119	STR							
R511	5	8'-3"	43	15	6'-10"	0'-4"	1'-4"				
R512	5	8'-3"	43	STR							
R513	2	6'-1"	13	15	4'-8"	0'-4"	1'-4"				
R514	2	6'-2"	13	STR							
R515	5	3'-7"	19	8							
R516	2	7'-6"	16	35							
R517	8	29'-6"	247	STR							
R518	-	-	-	-	NOT USED						
R601	10	8'-9"	131	38	3'-4"	0'-8"	3'-2"	0'-11"	0'-11"		
R602	4	4'-4"	26	4	1'-2"	3'-4"					
R603	4	4'-2"	25	4	1'-2"	3'-2"					
TOTAL	WEIGHT		7743								

**NOTES:**

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST LETTER IDENTIFIES THE BAR LOCATION. THE FIRST DIGIT INDICATES THE BAR SIZE DESIGNATION. THE REMAINING DIGITS INDICATE THE SEQUENCE NUMBER.

EXAMPLE: A501

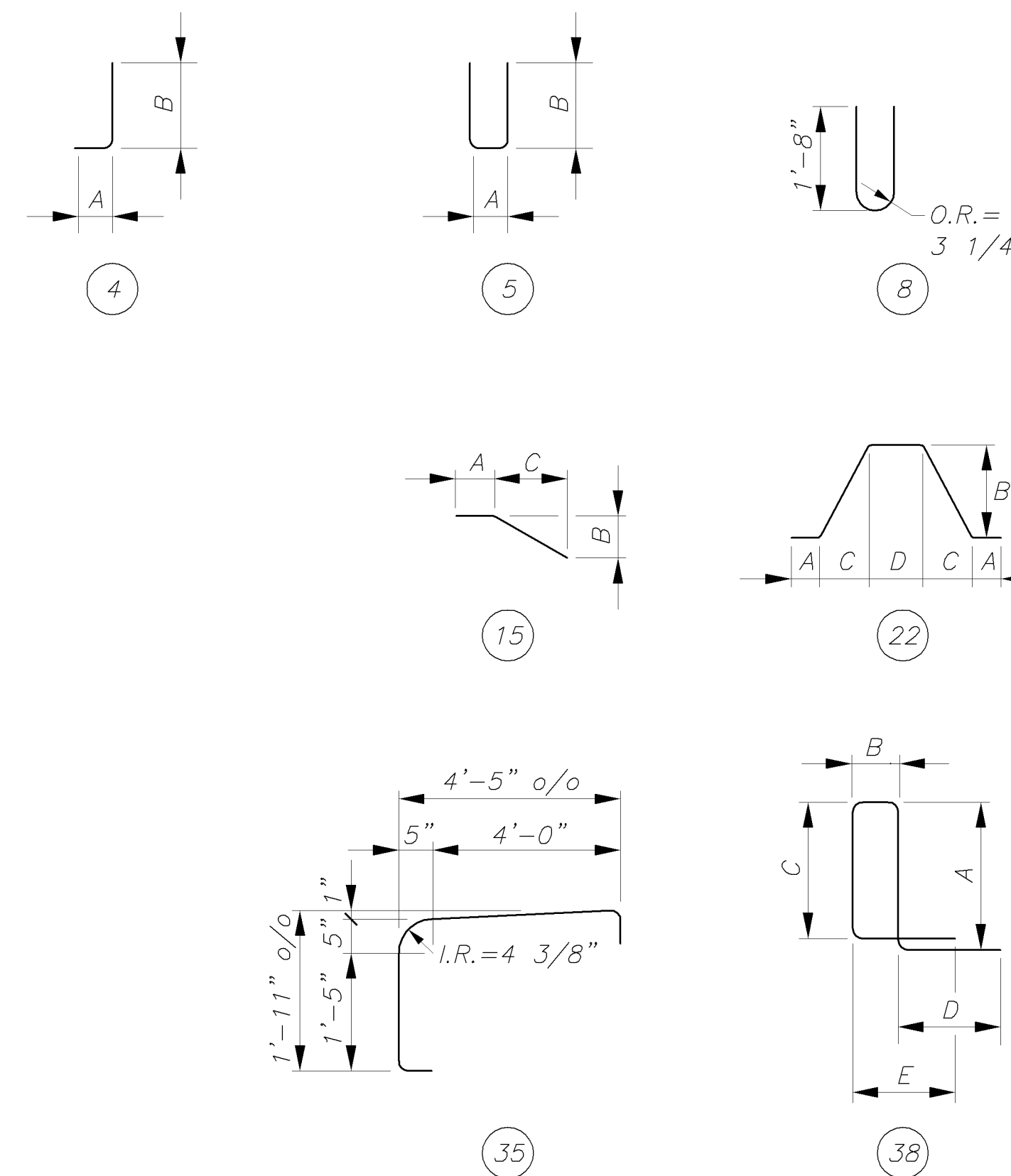
S = LOCATION OF THE BAR IN THE STRUCTURE (SUPERSTRUCTURE)

5 = BAR SIZE DESIGNATION (#5, 5/8"Ø)

01 = SEQUENCE NUMBER

BAR DIMENSIONS SHOWN ARE OUT-TO-OUT UNLESS NOTED. ALL REINFORCING STEEL TO BE EPOXY COATED. STRAIGHT BARS ARE INDICATED BY "STR". "INC." INDICATES INCREMENTAL CHANGE FOR SERIES-TYPE REINFORCING STEEL.

BAR BENDING DIAGRAMS



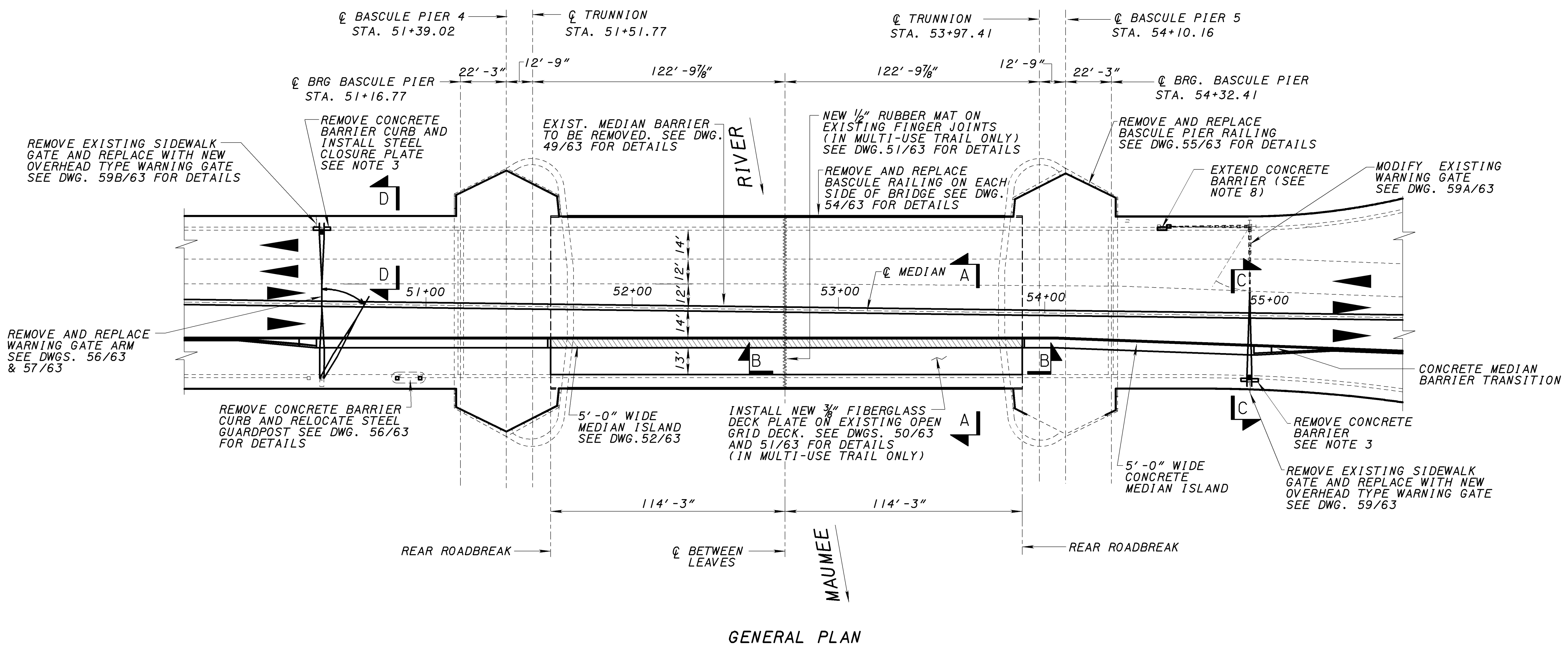
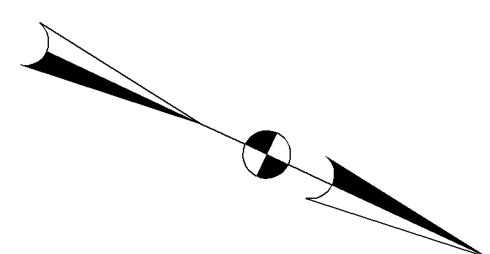
REINFORCING SCHEDULE  
CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  
OVER THE MAUMEE RIVER  
  
LUC-280-2.34  
TRENCH  
RECLAMATION

DESIGNED	DMT	CHECKED	DP
DRAWN	DMT	REVISED	
REVIEWED	EAF	STRUCTURE FILE NUMBER	4805917
DATE	3/21/06		

47/63

506  
555

**acila**  
catholic clint lynn associates inc. cleveland, ohio 44125  
5895 transportation boulevard.

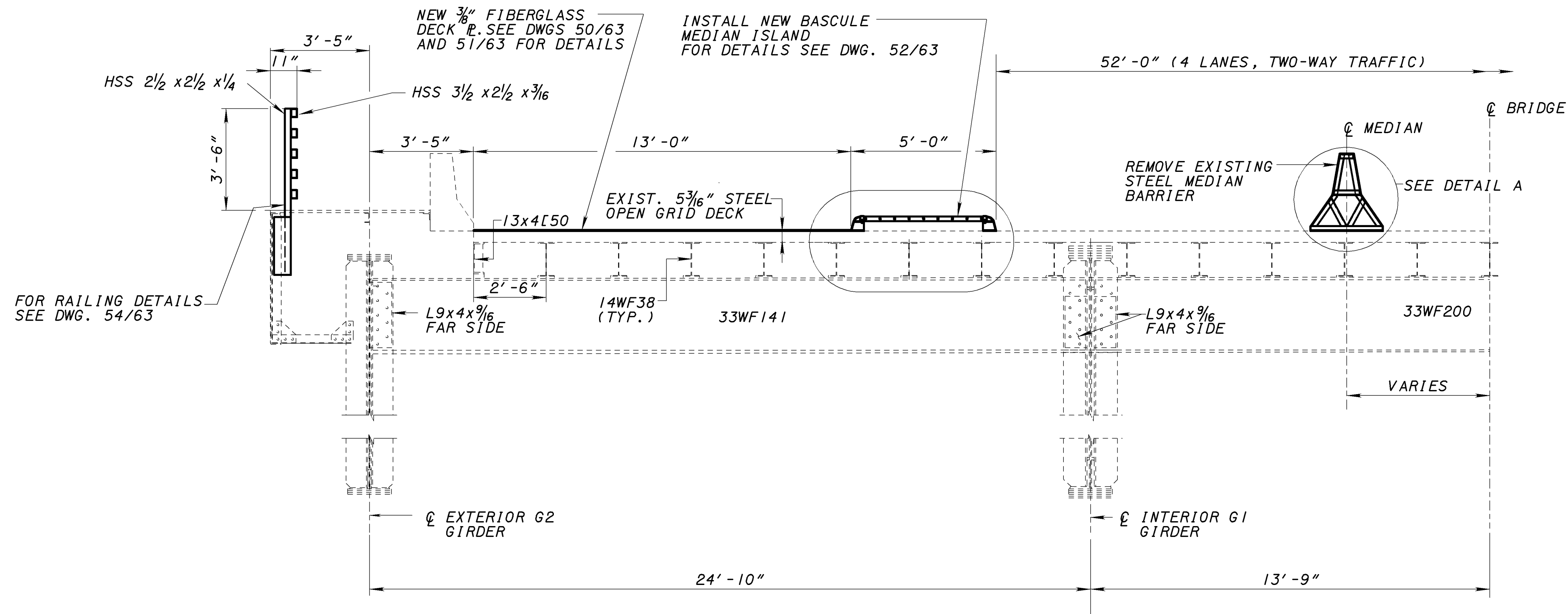


GENERAL PLAN

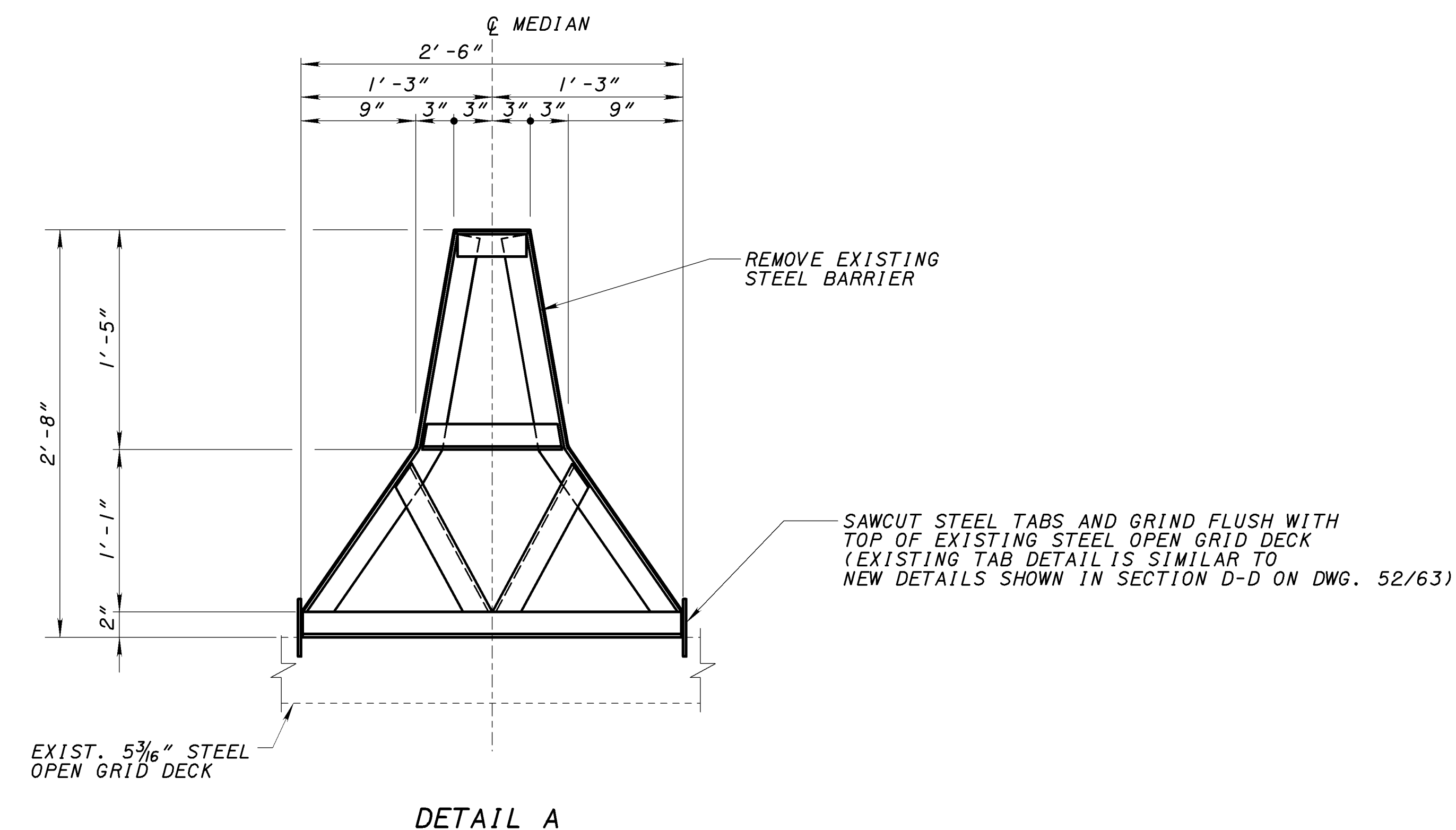
NOTES:

1. FOR SECTION A-A SEE DWG. NO. 49/63.
2. FOR SECTION B-B SEE DWG. NO. 50/63.
3. REMOVAL OF CONCRETE BARRIER CURB FOR NEW OVERHEAD TYPE TRAFFIC GATE AND INSTALLATION OF NEW CONCRETE AND STEEL CLOSURE PLATE SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 530 SPECIAL- STRUCTURE, MISC.: BRIDGE ELECTRICAL
4. REMOVAL OF CONCRETE BARRIER CURB AND STEEL STOP POST SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 530 SPECIAL-STRUCTURE, MISC.: WARNING GATE MODIFICATION SEE DRAWING 56/63 FOR DETAILS.
5. FOR SECTION C-C SEE DWG. NO. 59/63.
6. FOR SECTION D-D SEE DWG. NO. 59B/63.
7. FOR LOCATION OF ADVANCED WARNING SIGNALS SEE DWG. 61/63 AND 62/63.
8. THE COST OF FURNISHING AND INSTALLING NEW REINFORCED CONCRETE BARRIER SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 530 SPECIAL-STRUCTURE, MISC.: BRIDGE ELECTRICAL.

 BERGMANN associates 6711 Monroe St., Bldg. 2 Sylvania, OH 43560	DATE 3/16/06
	REVIEWED JAH STRUCTURE FILE NUMBER 4805917
DRAWN LK REVISED	DESIGNED HP CHECKED JA
BASCULE PLAN CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER MAUMEE RIVER	
LUC-280-2.34 TRENCH RECLAMATION	
48/63	
507 555	



SECTION A-A



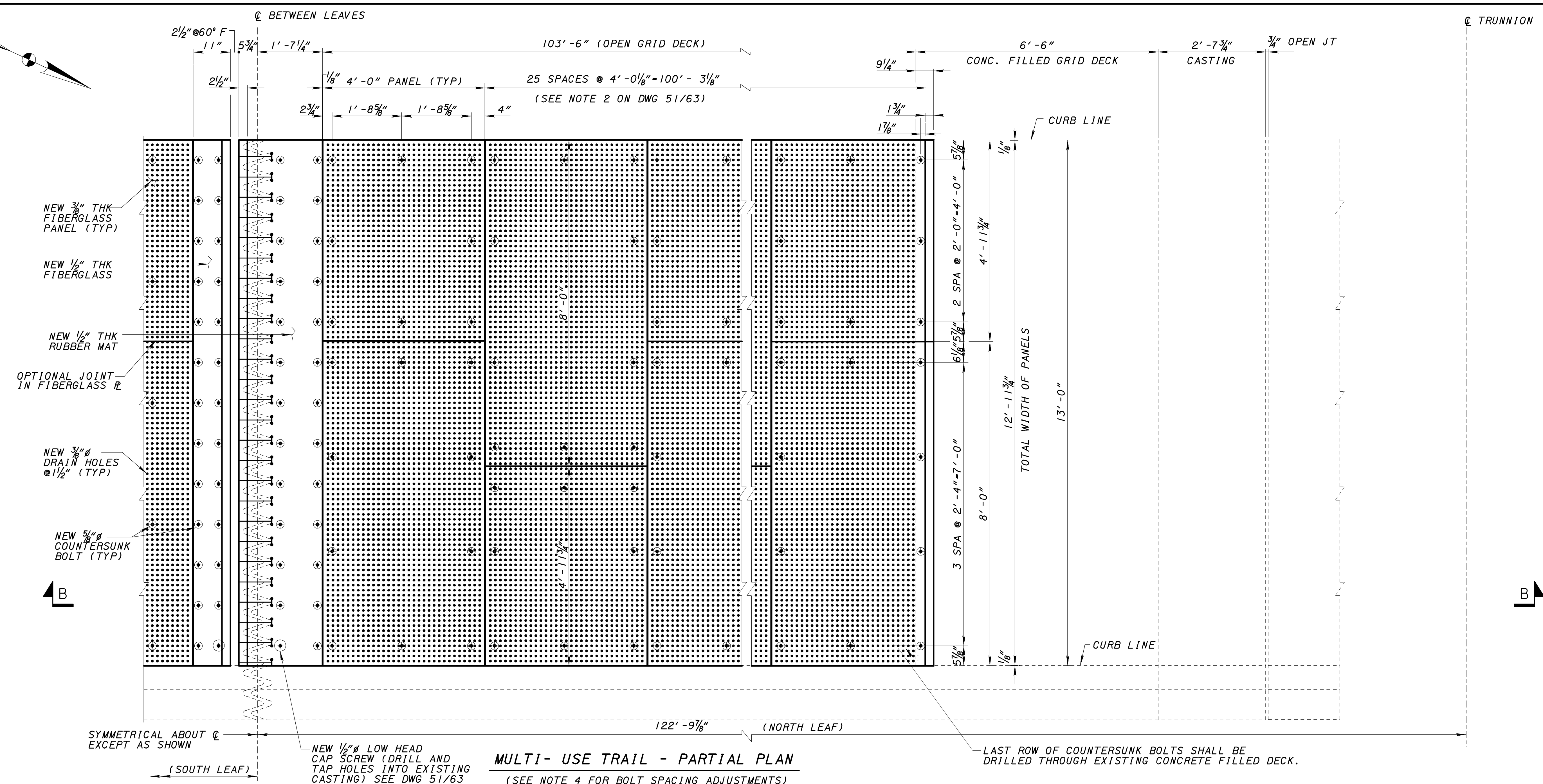
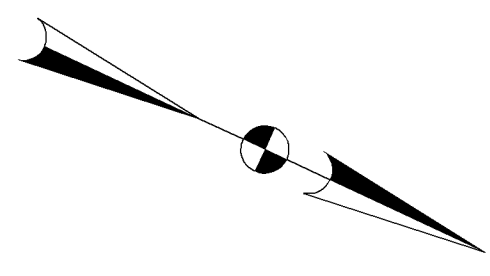
DETAIL A

NOTES:

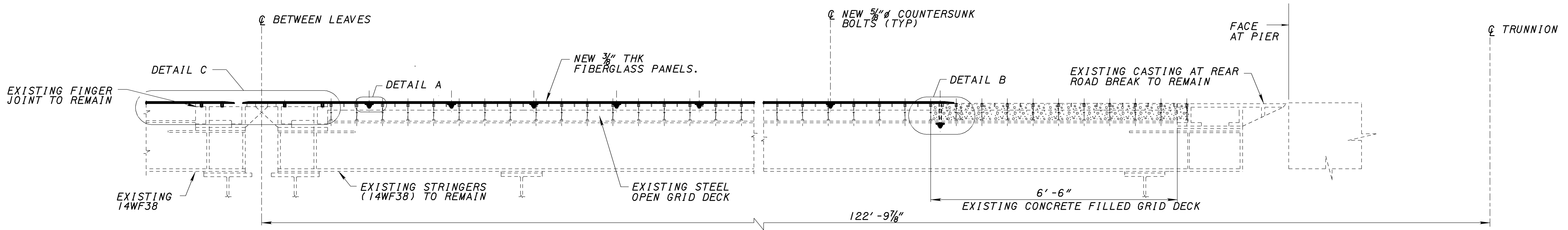
1. FOR LOCATION OF SECTION A-A SEE DWG. NO. 48/63.
2. THE COST OF REMOVING AND DISPOSING OF EXISTING STEEL BARRIER INCLUDING FLAME CUTTING STEEL TABS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 202 REMOVAL MISC.: STEEL MEDIAN BARRIER (BASCULE SPAN).

DATE	3/16/06
REVIEWED	JAH
STRUCTURE FILE NUMBER	4805917
DRAWN	LK
REVISER	JAH
DESIGNED	HP
CHECKED	JAH





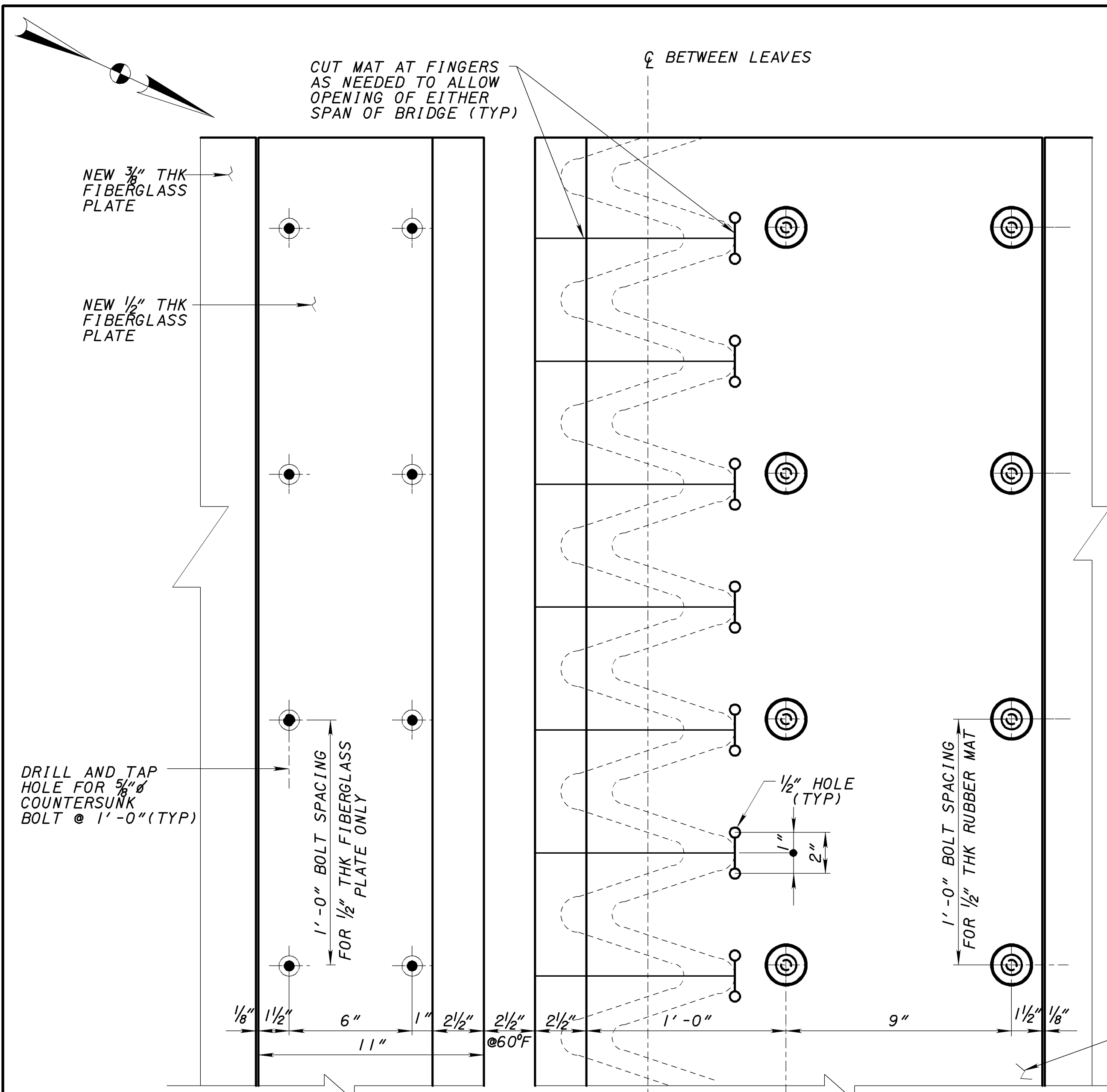
**MULTI- USE TRAIL - PARTIAL PLAN**  
(SEE NOTE 4 FOR BOLT SPACING ADJUSTMENTS)



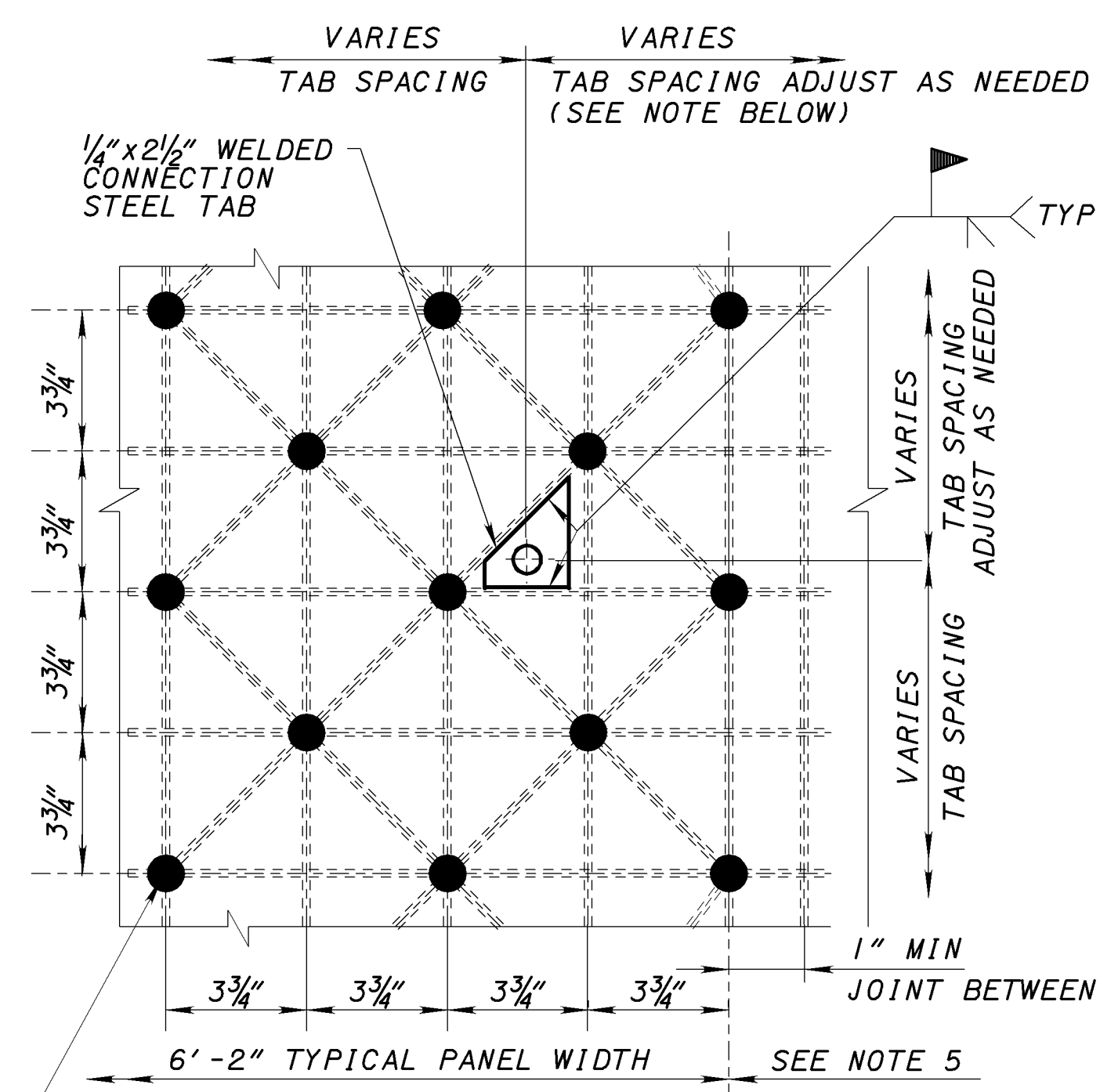
**SECTION B-B**

- NOTES:**
- FOR DETAILS A, B AND C SEE DWG. NO. 51/63
  - FOR FIBERGLASS PLATE CONNECTION DETAILS SEE DWG. NO. 51/63.
  - HOLES IN FIBERGLASS PLATE FOR 5/8" DIA. COUNTERSUNK BOLTS SHALL BE FIELD DRILLED AND ALIGNED WITH LOCATION OF TAB HOLES.
  - THE CONTRACTOR SHALL ADJUST HOLE SPACING BASED ON LOCATION OF WELDED TABS IN OPEN GRID DECK. SEE FIBERGLASS DECK PLATE CONNECTION.

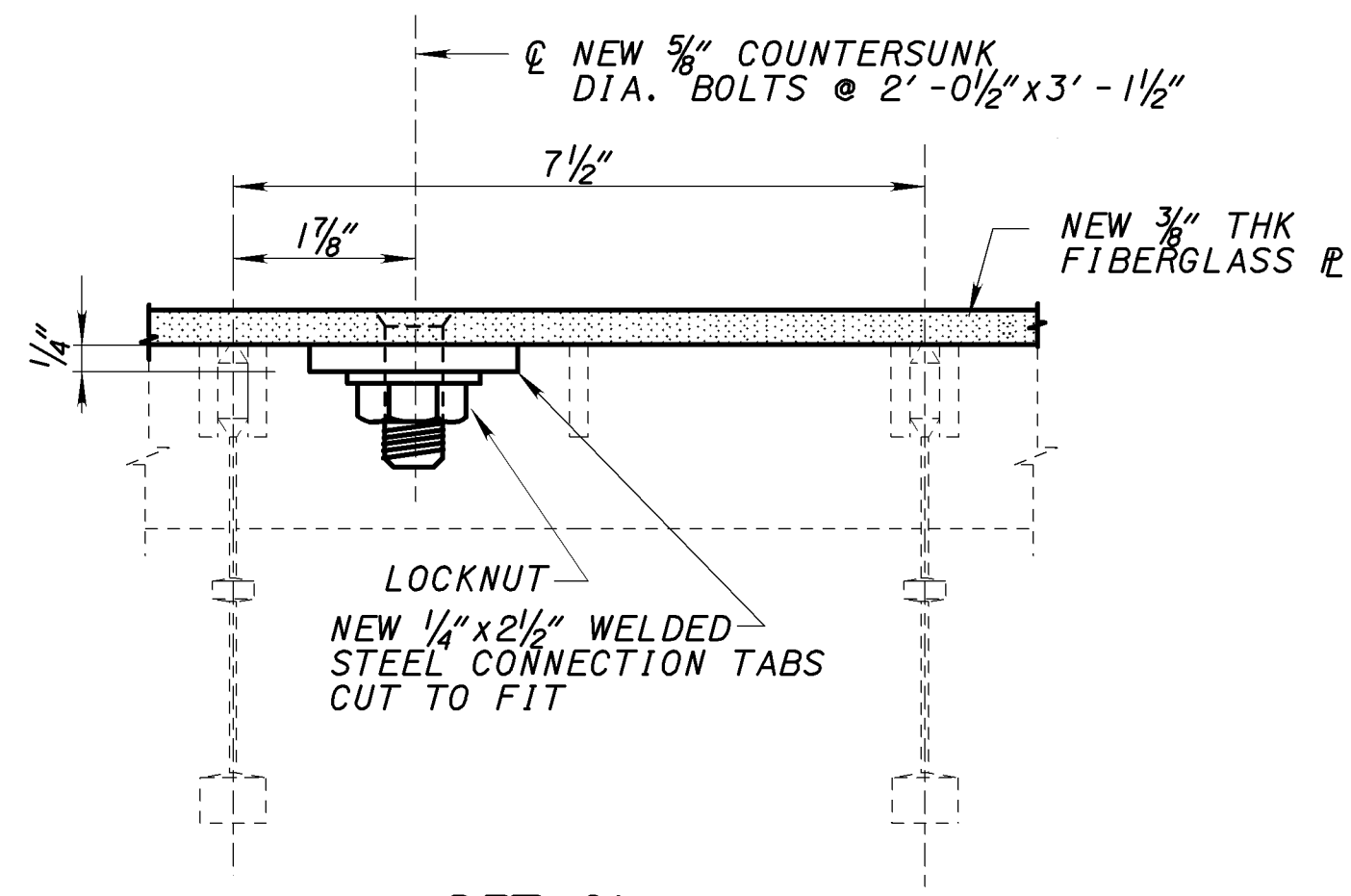
DESIGN AGENCY <b>B E R G M A N N</b> associates 6711 Monroe St., Bldg. 2 Sylvania, OH 43560	DATE 3/16/06
	REVISIONS JAH 3/16/06 STRUCTURE FILE NUMBER 4805917
DRAWN LK	REVISIONS REVISED
DESIGNED HP	CHECKED JA
<b>MULTI - USE TRAIL PLAN AND SECTION</b> CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER MAUMEE RIVER	
LUC-280-2.34 TRENCH RECLAMATION	
50/63	
509 555	



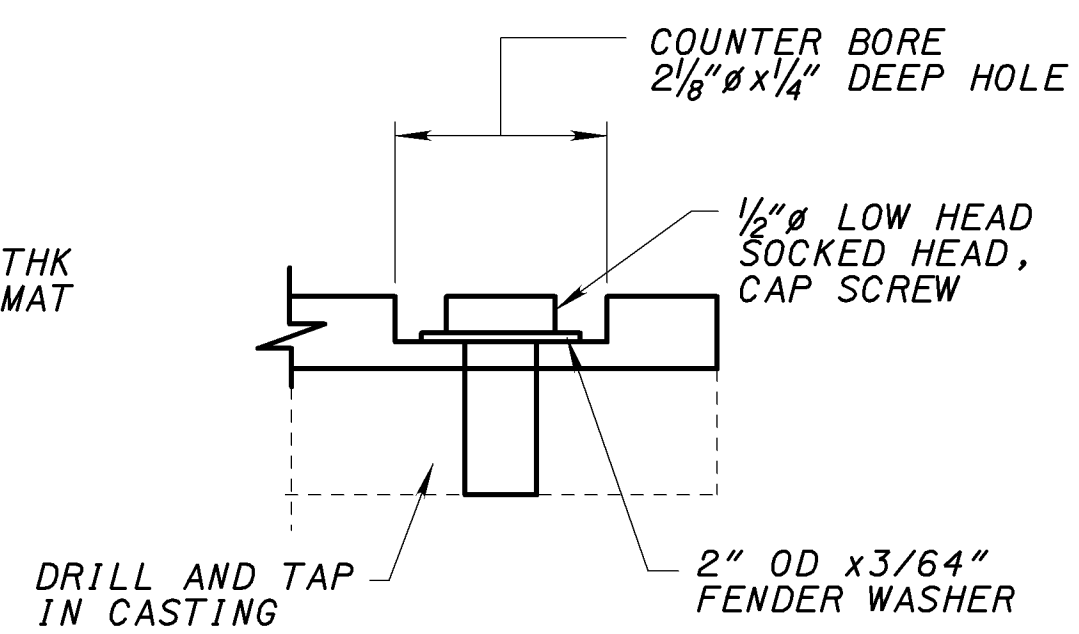
SECTION A-A



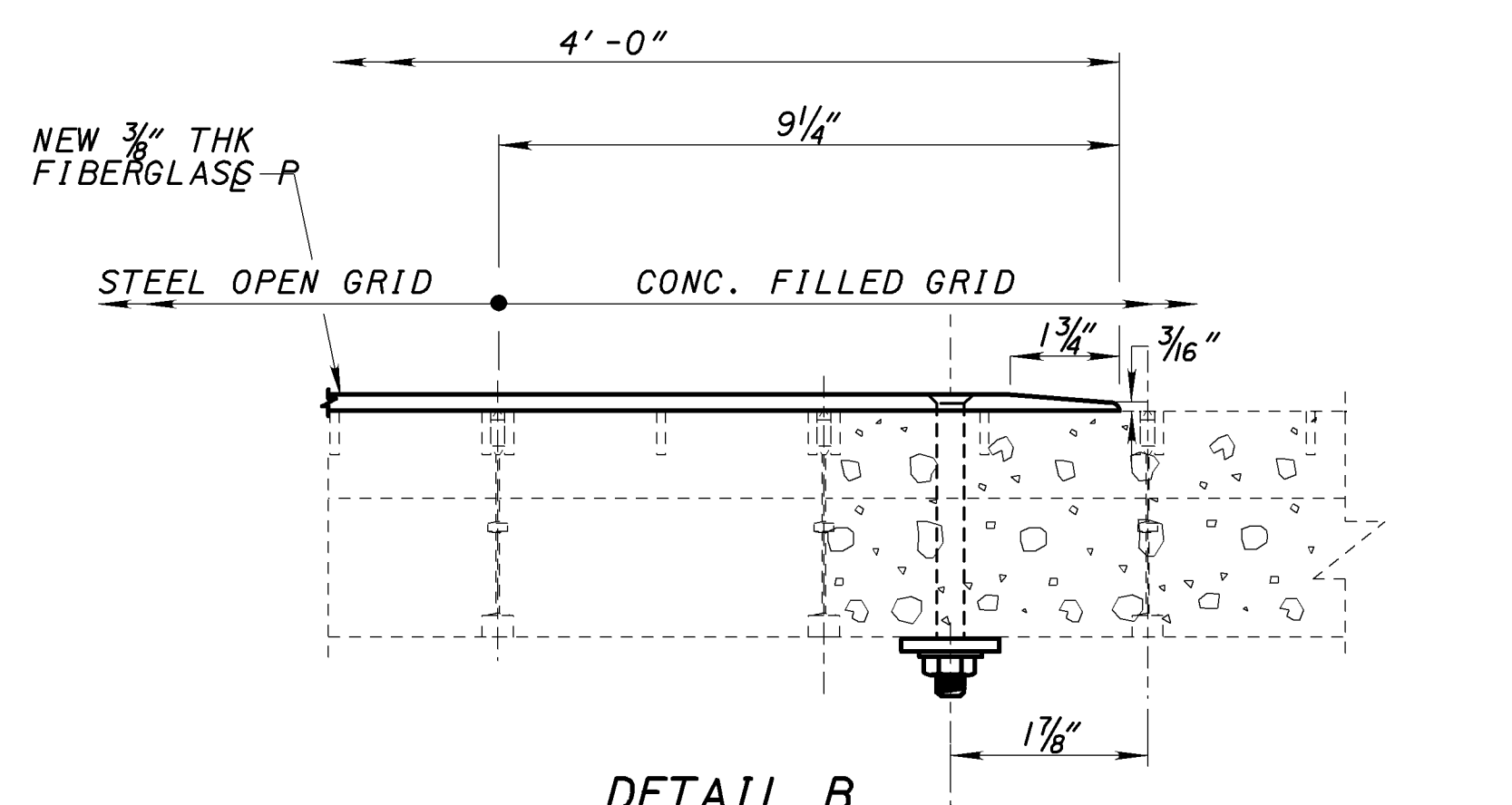
FIBERGLASS DECK PLATE CONNECTION DETAILS - PLAN



DETAIL A



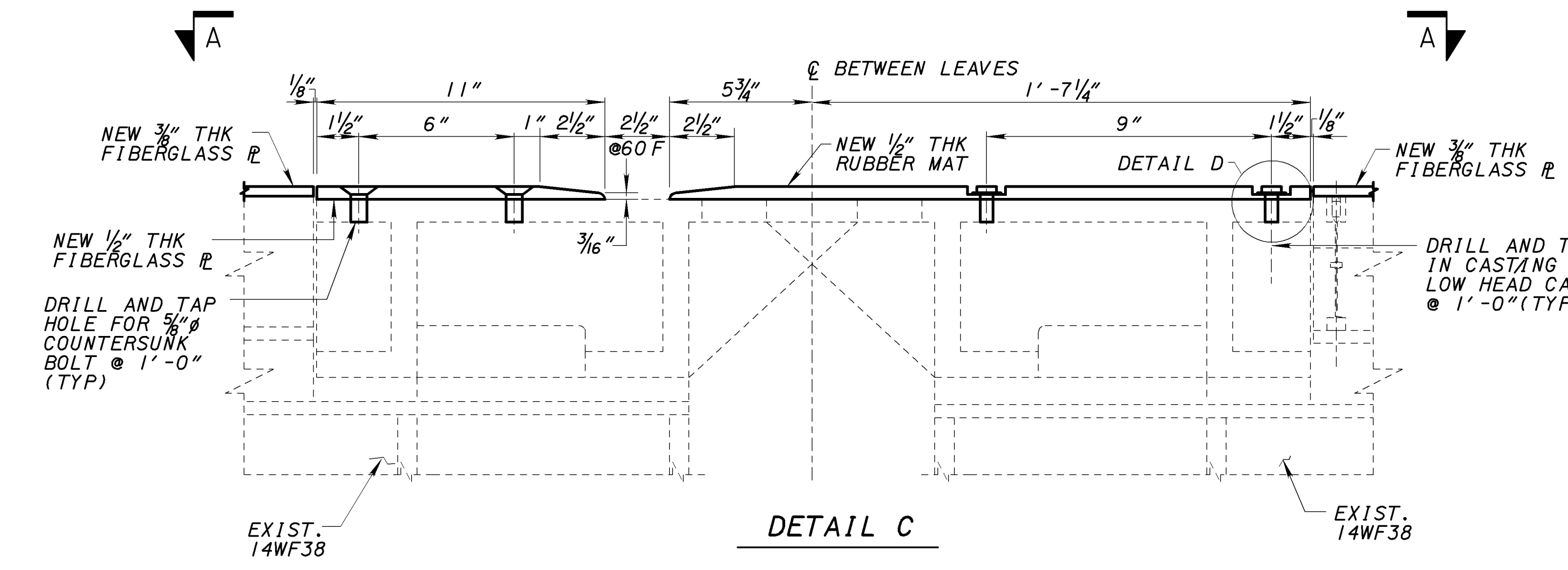
CONNECTION DETAIL D



DETAIL B

NOTES:

1. FOR LOCATION OF DETAILS A, B AND C SEE DWG. NO. 50/63.
2. ADJUST TABS ACCORDING TO GRID CONFIGURATION AND CONFIRM LOCATION PRIOR TO DRILLING HOLES IN FIBERGLASS PLATE. THE COST OF FURNISHING AND INSTALLING STEEL TAPS SHALL BE INCLUDED IN PRICE BID FOR ITEM 530 SPECIAL-STRUCTURE, MISC.: FIBERGLASS DECK PLATE.
3. THE COST OF DRILLING AND TAPPING HOLES IN JOINT CASTING FOR FIBERGLASS DECK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 530 SPECIAL-STRUCTURE, MISC.: FIBERGLASS DECK PLATE.
4. THE COST OF DRILLING AND TAPPING HOLES IN JOINT CASTING FOR 1/2 INCH THICK RUBBER MAT SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 530 SPECIAL-STRUCTURE, MISC.: FINGER JOINT MODIFICATION.
5. LAY WIDTH OF GRID DECK PANELS ARE ESTIMATED BASED ON AVAILABLE PLANS. ACTUAL LAY WIDTH MAY VARY AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR.



DETAIL C

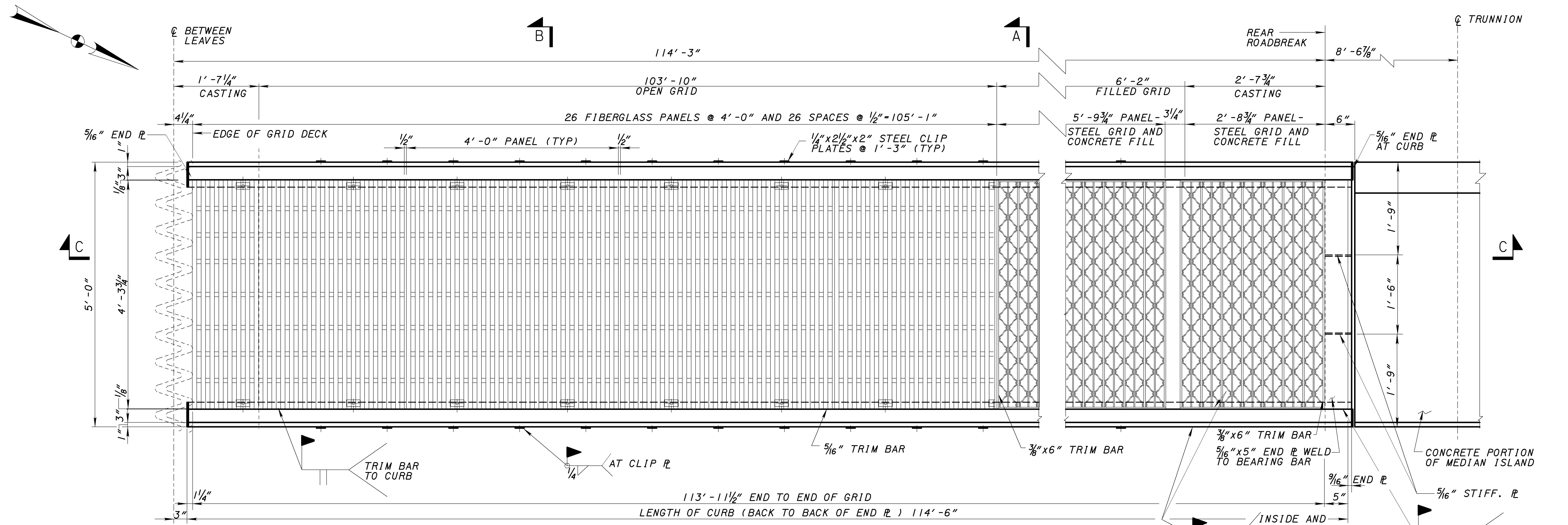
DESIGN AGENCY: **B E R G M A N N** associates  
 6711 Monroe St., Bldg. 2  
 Sylvania, OH 43560

DATE: 3/16/06  
 REVISIONS: JAH  
 DRAWN: LK  
 CHECKED: J/A  
 STRUCTURE FILE NUMBER: 4805917

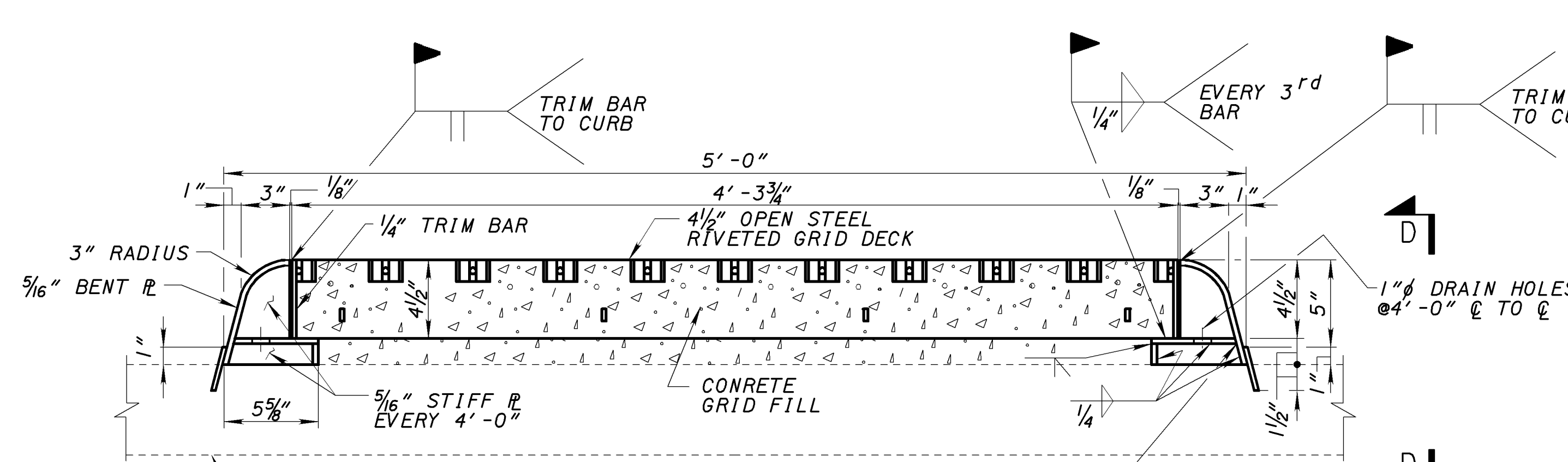
PROJECT: **MULTI-USE TRAIL MODIFICATION- DECK DETAILS**  
 CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  
 OVER MAUMEE RIVER

PROJECT NUMBER: **LUC-280-2.34**  
 TRENCH RECLAMATION

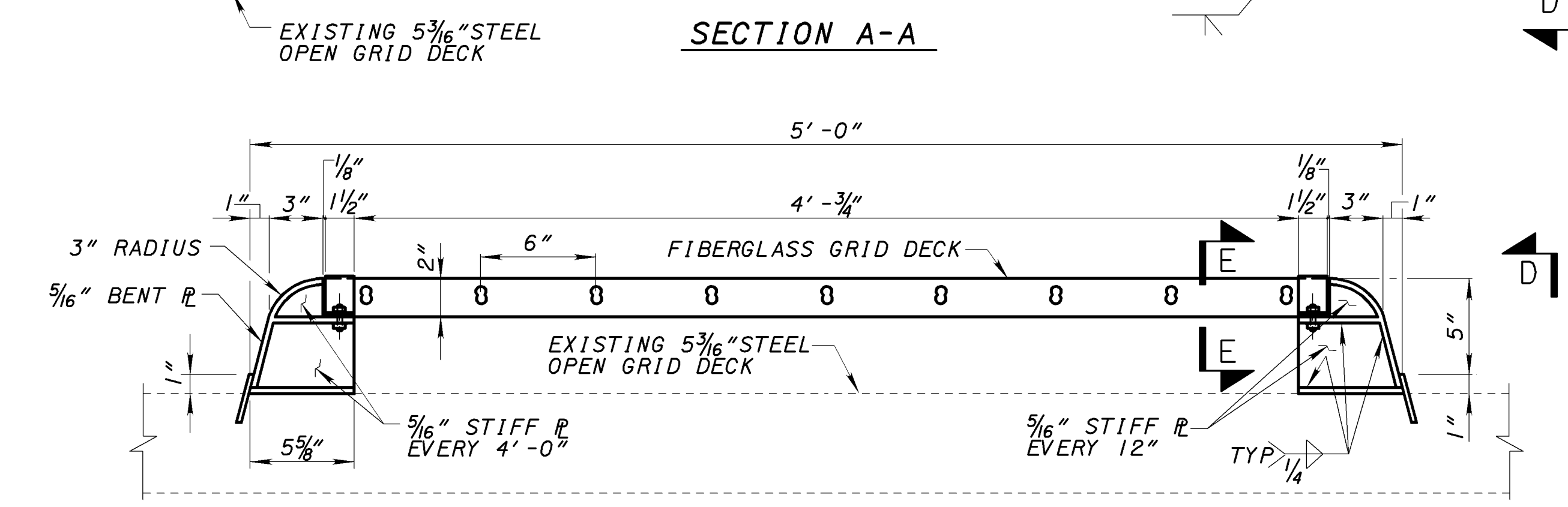
DATE: 5/1/63  
 NUMBER: 510/555



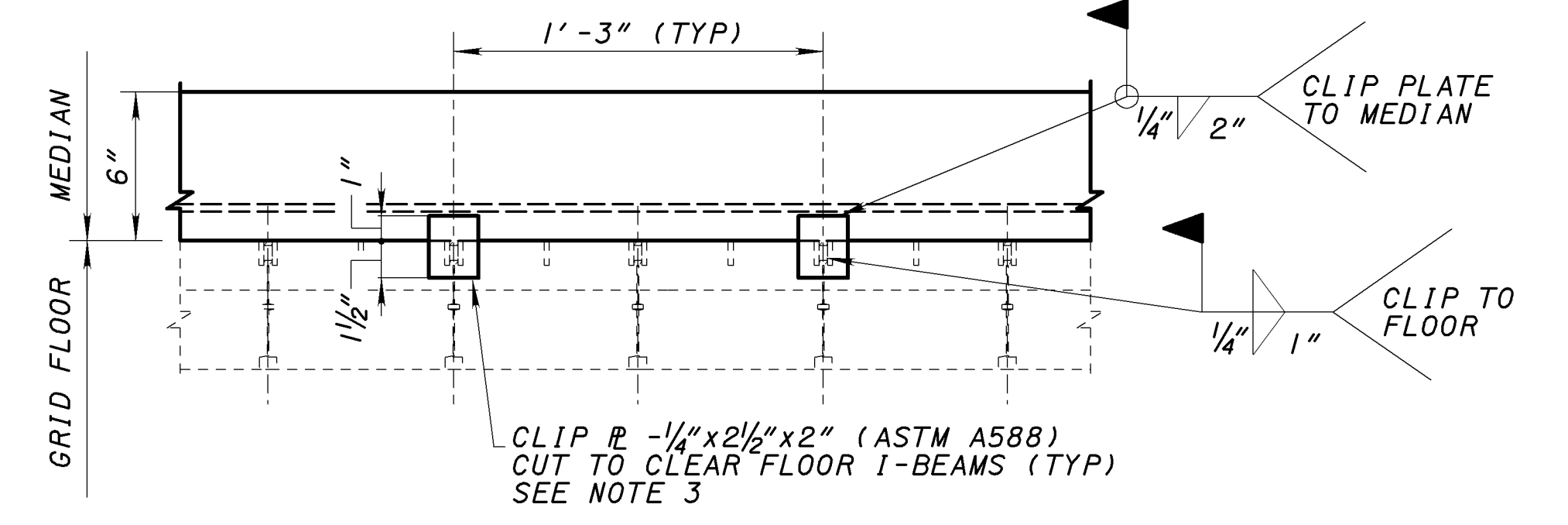
**MEDIAN ISLAND PLAN**  
 NORTH BASCULE LEAF SHOWN  
 SOUTH BASCULE LEAF OPPOSITE HAND



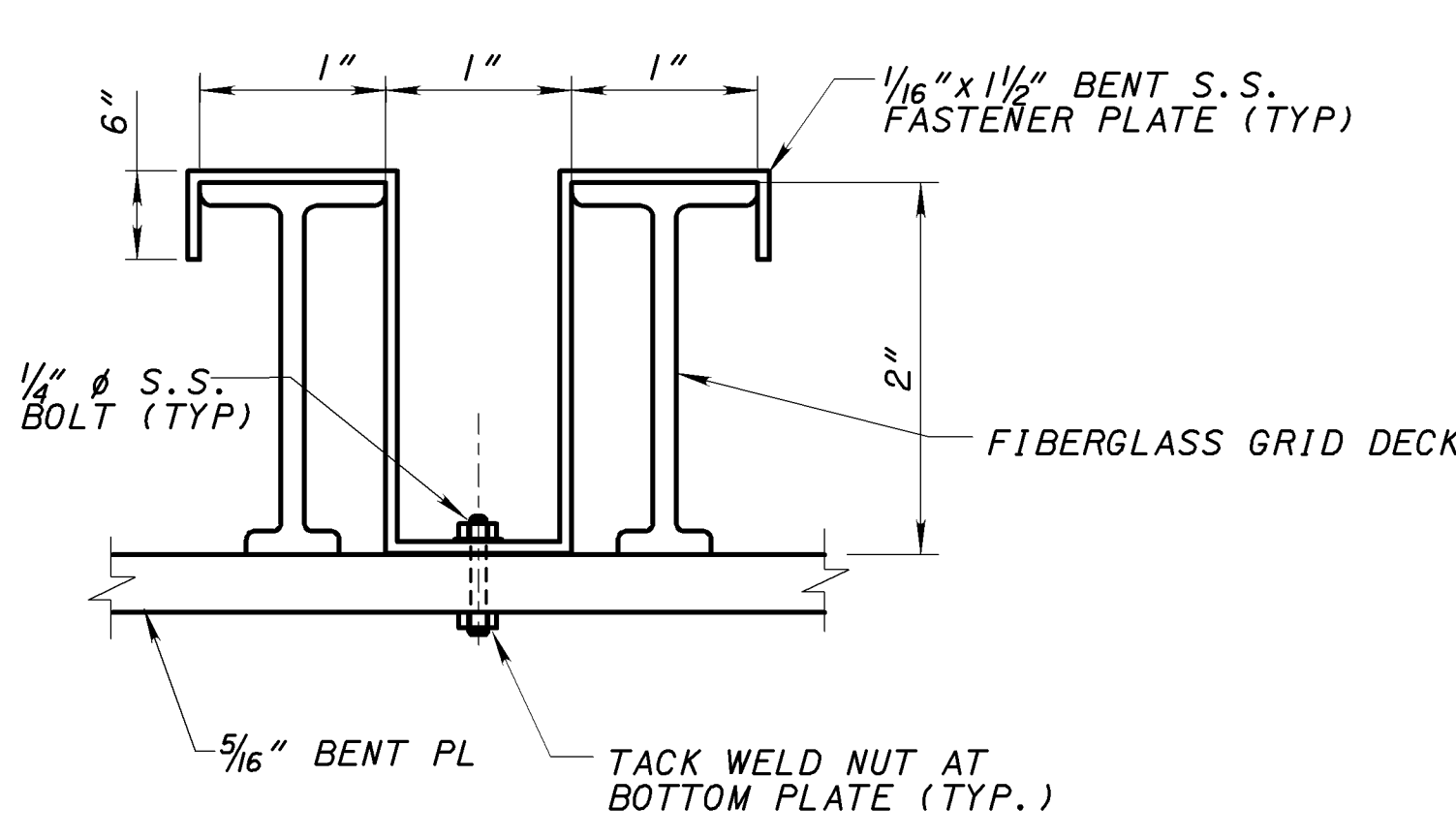
**SECTION A-A**



**SECTION B-B**



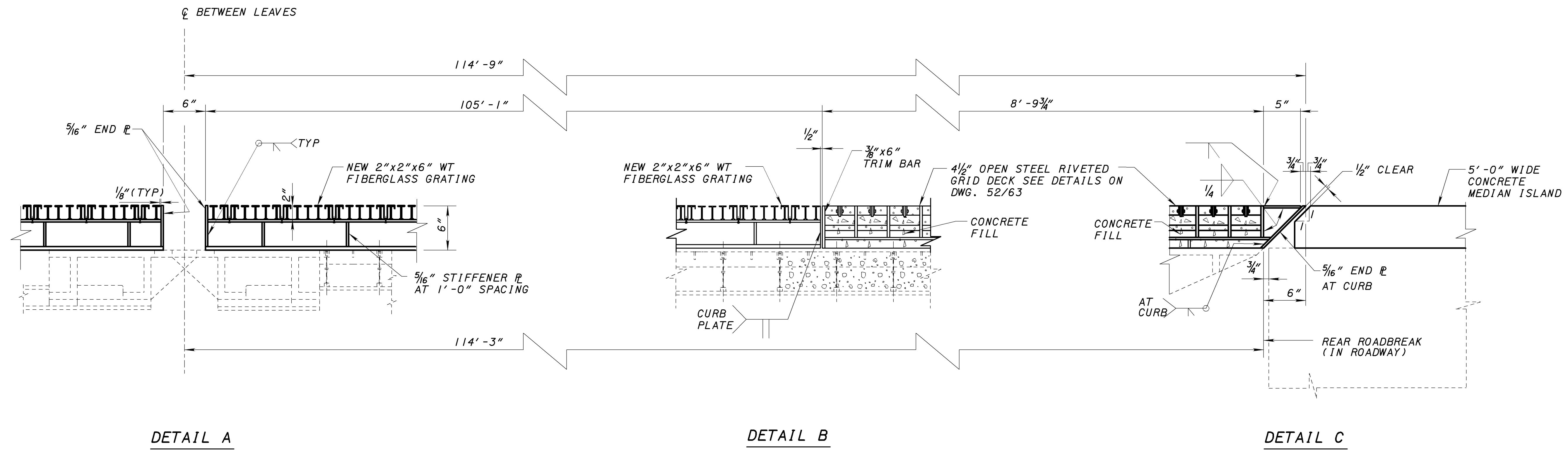
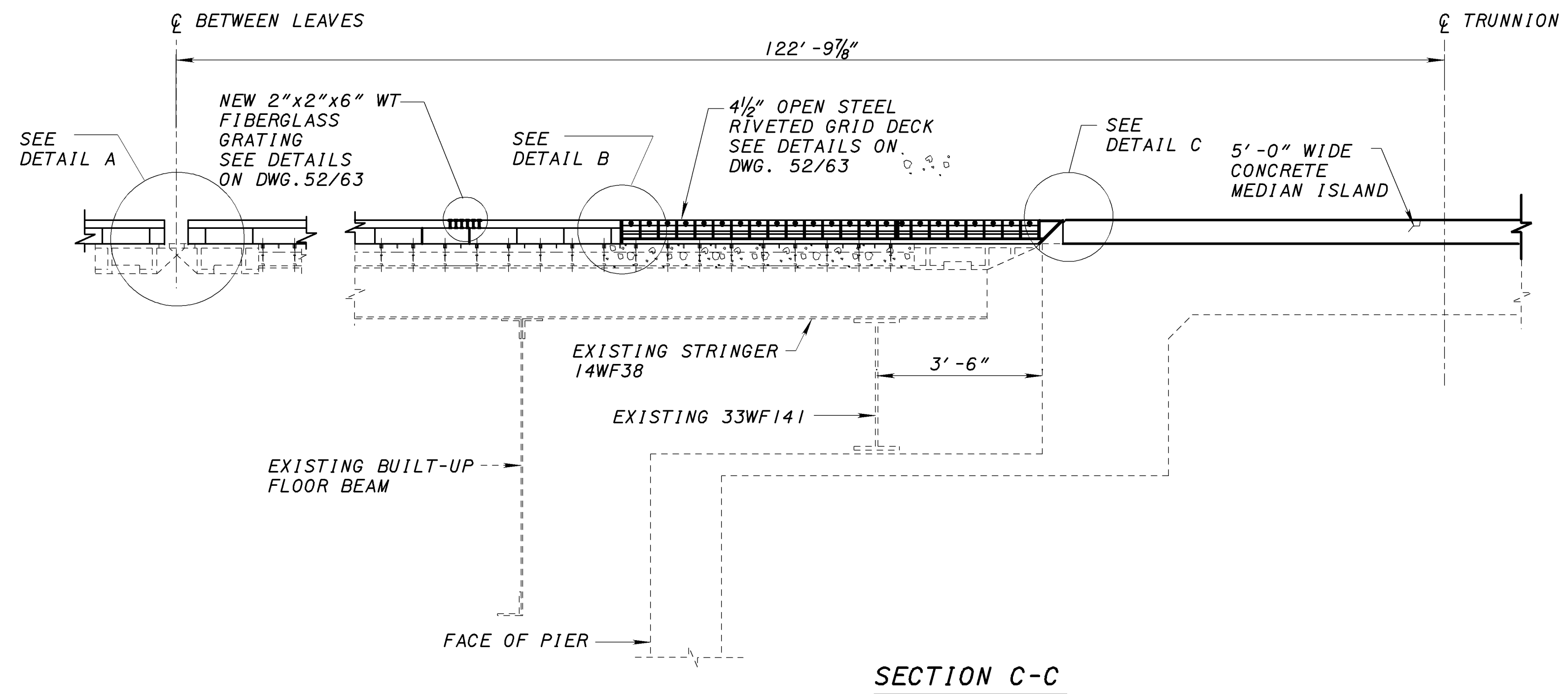
**SECTION D-D**



**SECTION E-E**

**NOTES:**

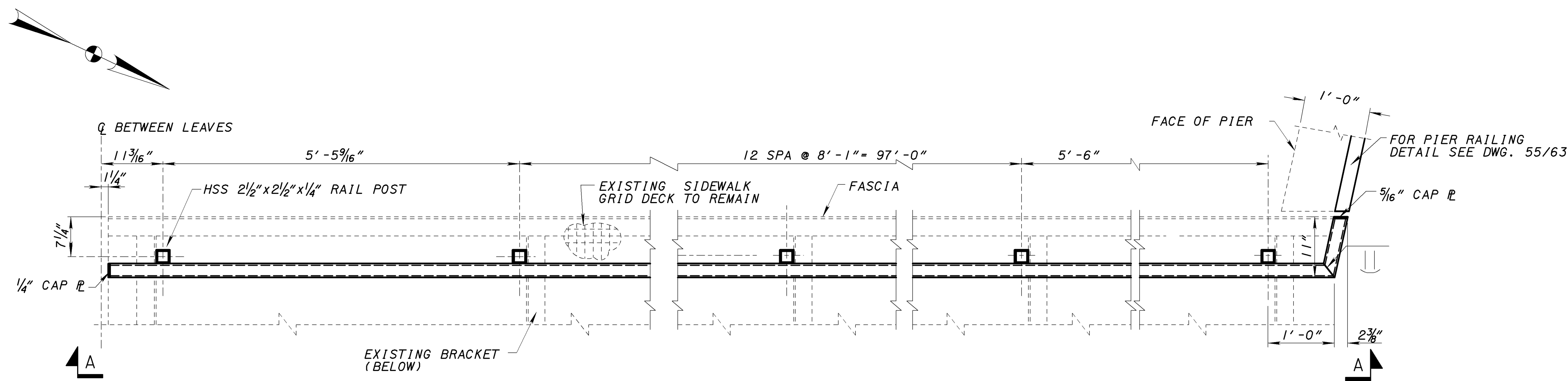
- FOR SECTION C-C SEE DWG. 53/63.
- STEEL GRID SHALL BE 4 1/2" OPEN STEEL GRID WEIGHING 23.09 LBS/SQ. FT. CONTRACTOR SHALL ADJUST BALANCE BASED ON WEIGHT OF ACTUAL GRID SELECTED.
- FIBERGLASS OPEN GRID SHALL BE 2"x2"x6" WT FIBERGLASS GRATING.
- REMOVE CONCRETE FILL WHERE NECESSARY IN ORDER TO PLACE MEDIAN CLIP PLATES AS REQUIRED. AFTER CLIPS ARE INSTALLED, ALL POCKETS AROUND CLIPS SHALL BE FILLED WITH GROUT.
- STRUCTURE STEEL CURBS, GRID DECK, AND TABS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123.
- THE COST OF ALL WORK ON THIS SHEET SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 530 SPECIAL STRUCTURE, MISC.: BASCULE SPAN MEDIAN ISLAND.
- CONTRACTOR SHALL VERIFY ALL DIMENSION IN THE FIELD PRIOR FABRICATION.



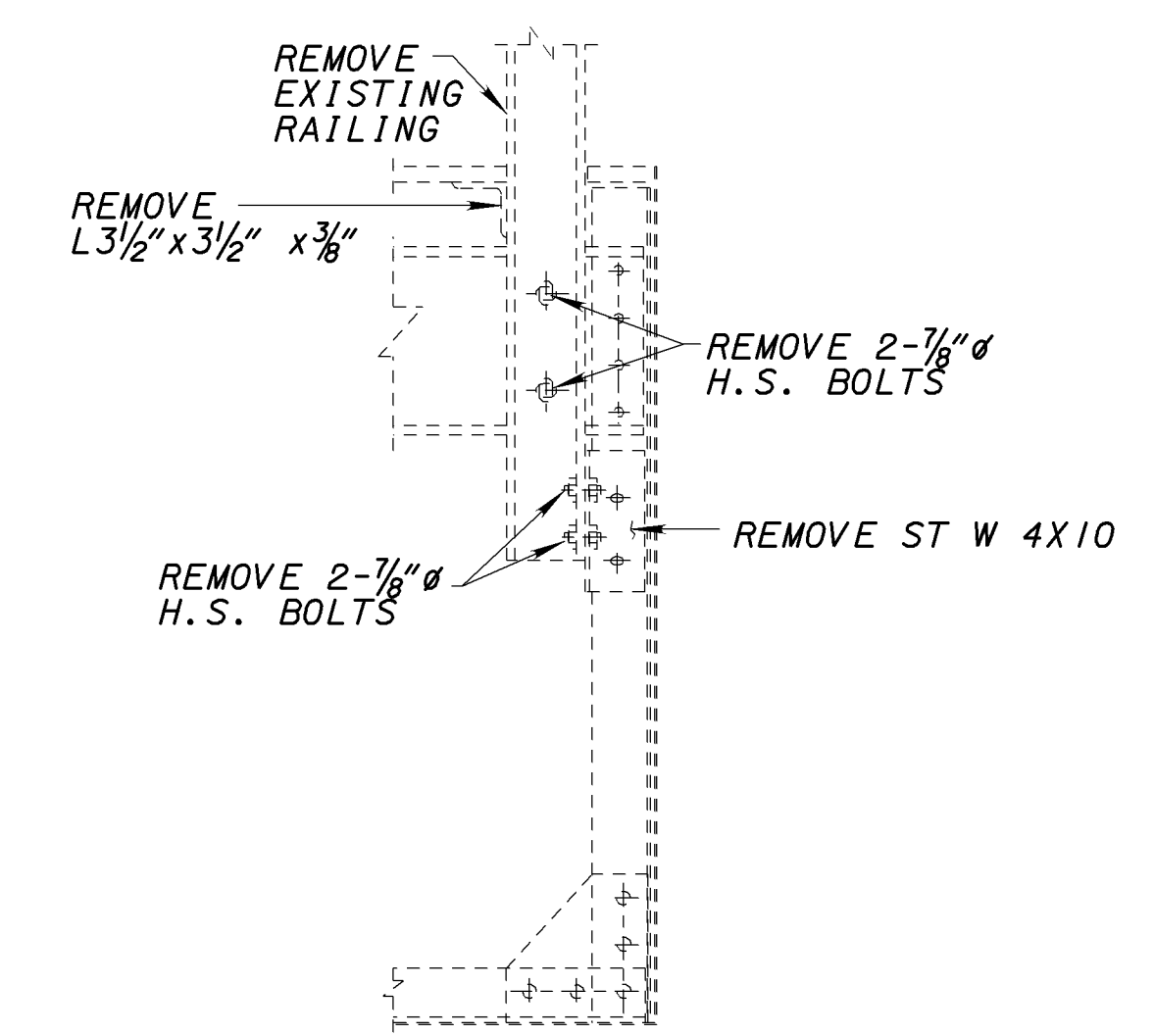
**NOTES:**

1. FOR LOCATION OF SECTION C-C, SEE DWG. 52/63
2. SEE DWG. 52/63 FOR ADDITIONAL NOTES.

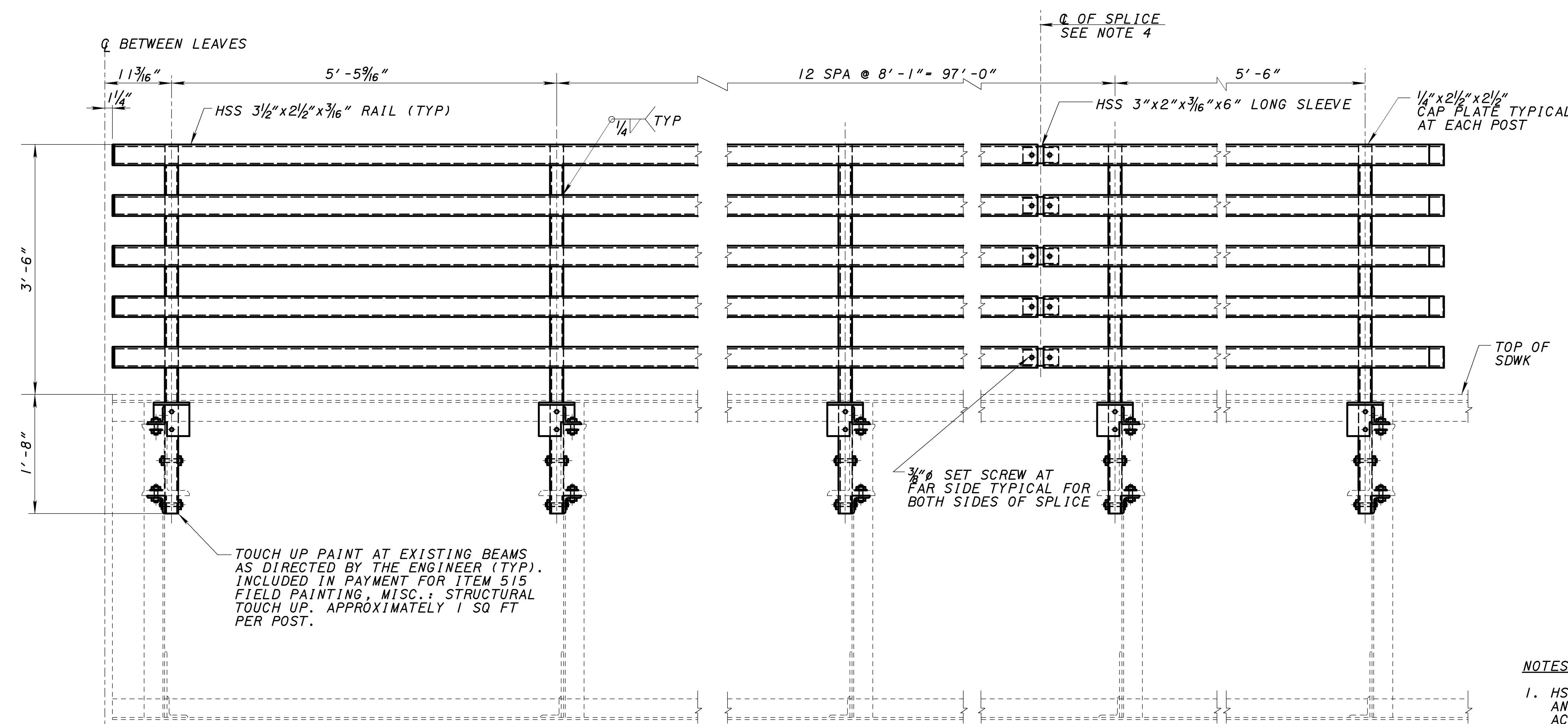
 <b>BERGMANN</b> associates 6711 Monroe St., Bldg. 2 Sylvania, OH 43560
DESIGN AGENCY <b>BERGMANN</b> associates 6711 Monroe St., Bldg. 2 Sylvania, OH 43560
DATE 3/16/06
REVIEWED JAH STRUCTURE FILE NUMBER 4805917
DRAWN LK REVISED
DESIGNED HP CHECKED JA
<b>MEDIAN ISLAND SECTION</b> CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER MAUMEE RIVER
LUC-280-2.34 TRENCH RECLAMATION
53/63
512 555



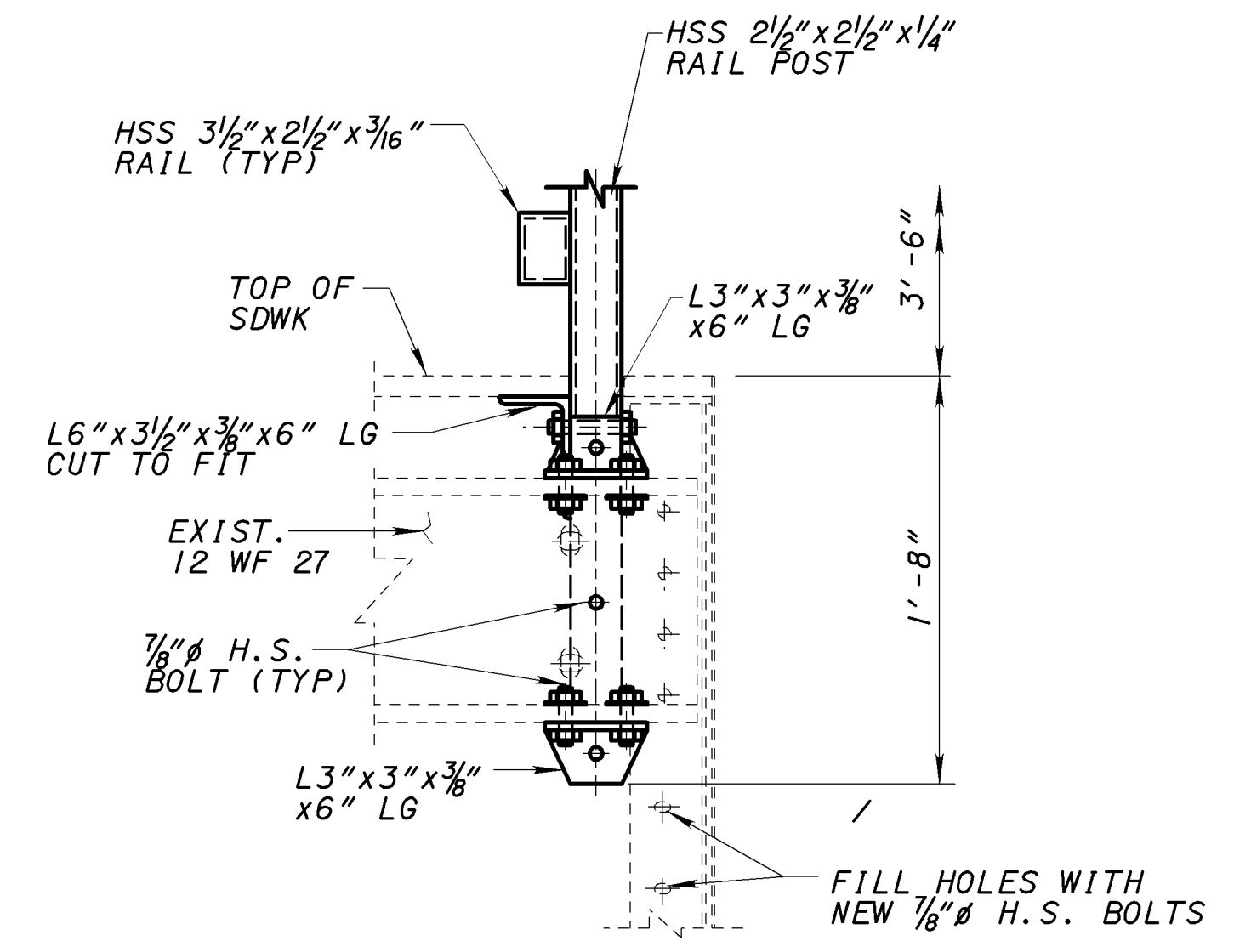
**BASCULE RAILING PLAN**  
WEST SIDE NORTH LEAF SHOWN  
OTHER LOCATIONS SIMILAR



**EXISTING**



**SECTION A-A**



**PROPOSED**

**BASCULE SPAN HANDRAIL  
POST CONNECTION DETAIL**

TOUCH UP PAINT AT EXISTING BEAMS AS DIRECTED BY THE ENGINEER (TYP). INCLUDED IN PAYMENT FOR ITEM 515 FIELD PAINTING, MISC.: STRUCTURAL TOUCH UP, APPROXIMATELY 1 SQ FT PER POST.

**NOTES:**

1. HSS 2 1/2" x 2 1/2" x 1/4" RAIL POSTS, HSS 3 1/2" x 2 1/2" x 3/16" RAILS AND CONNECTION ANGLES SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123.
2. THE COST OF REMOVAL OF EXISTING BASCULE RAILING AND CONNECTIONS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 202 REMOVAL MISC: STEEL HAND RAILING AT EXTERIOR SIDEWALK (BASCULE SPAN).
3. THE COST OF FURNISHING NEW BASCULE RAILING AND CONNECTIONS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 517 RAILING MISC.: STEEL HAND RAILING AT EXTERIOR SIDEWALK (BASCULE SPAN).
4. THE CONTRACTOR SHALL LOCATE SPLICES IN BASCULE RAILING AS REQUIRED FOR HANDLING.
5. SEE ODOT STANDARD DRAWINGS BR-2-98 FOR DETAILS OF DRAIN HOLES, ADDITIONAL HOLES FOR GALVANIZING, AND POST CAP PLATE ATTACHMENT DETAILS.

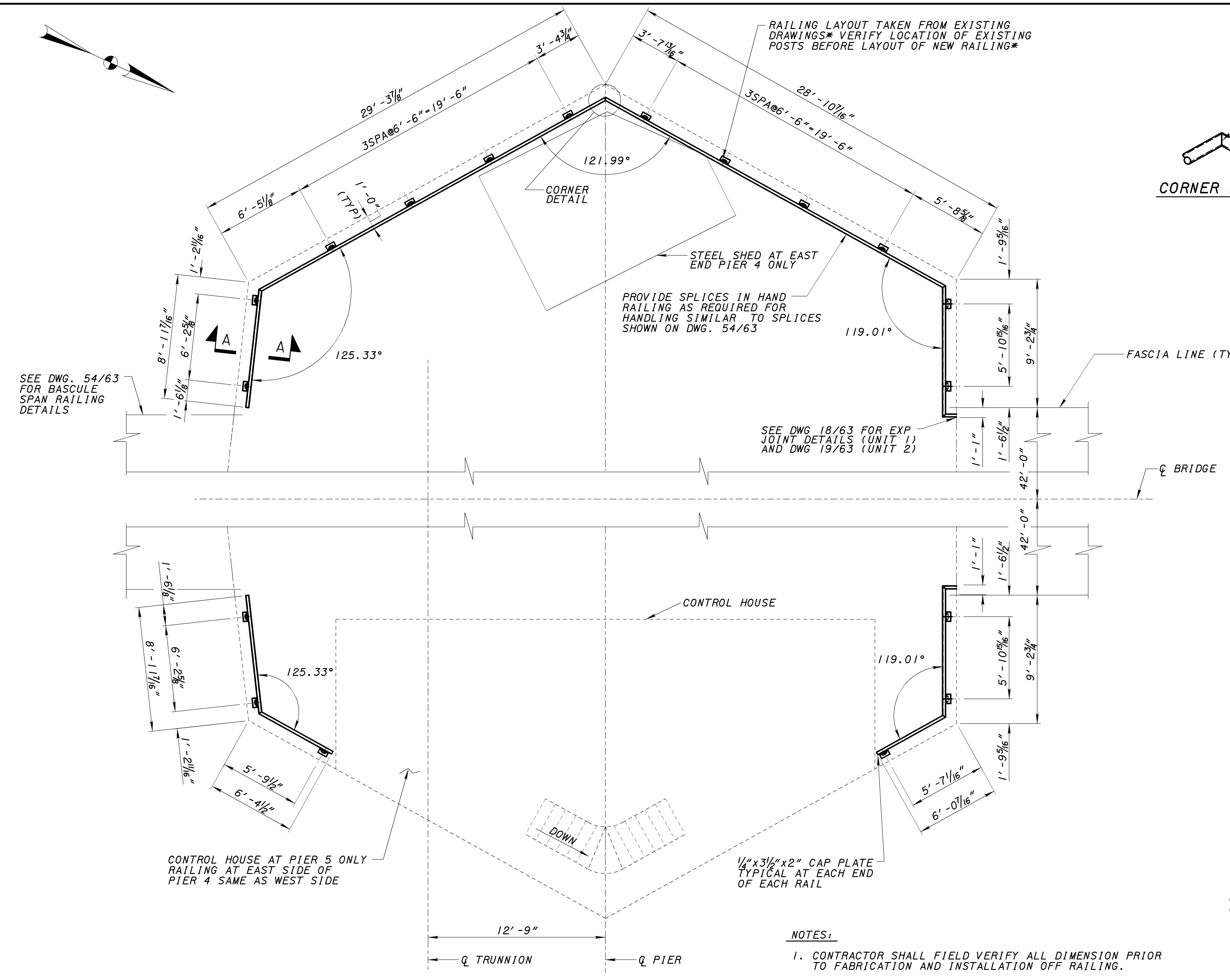
DESIGN AGENCY: **B E R G M A N N associates**  
 6711 Monroe St., Bldg. 2  
 Sylvania, OH 43560

DATE	3/16/06
REVIEWED	JAH
STRUCTURE FILE NUMBER	4805917
DESIGNED	HP
CHECKED	JA
DRAWN	LK
REVISED	

**BASCULE SPAN RAILING DETAILS**  
 CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  
 OVER MAUMEE RIVER

LUC-280-2.34  
 TRENCH  
 RECLAMATION

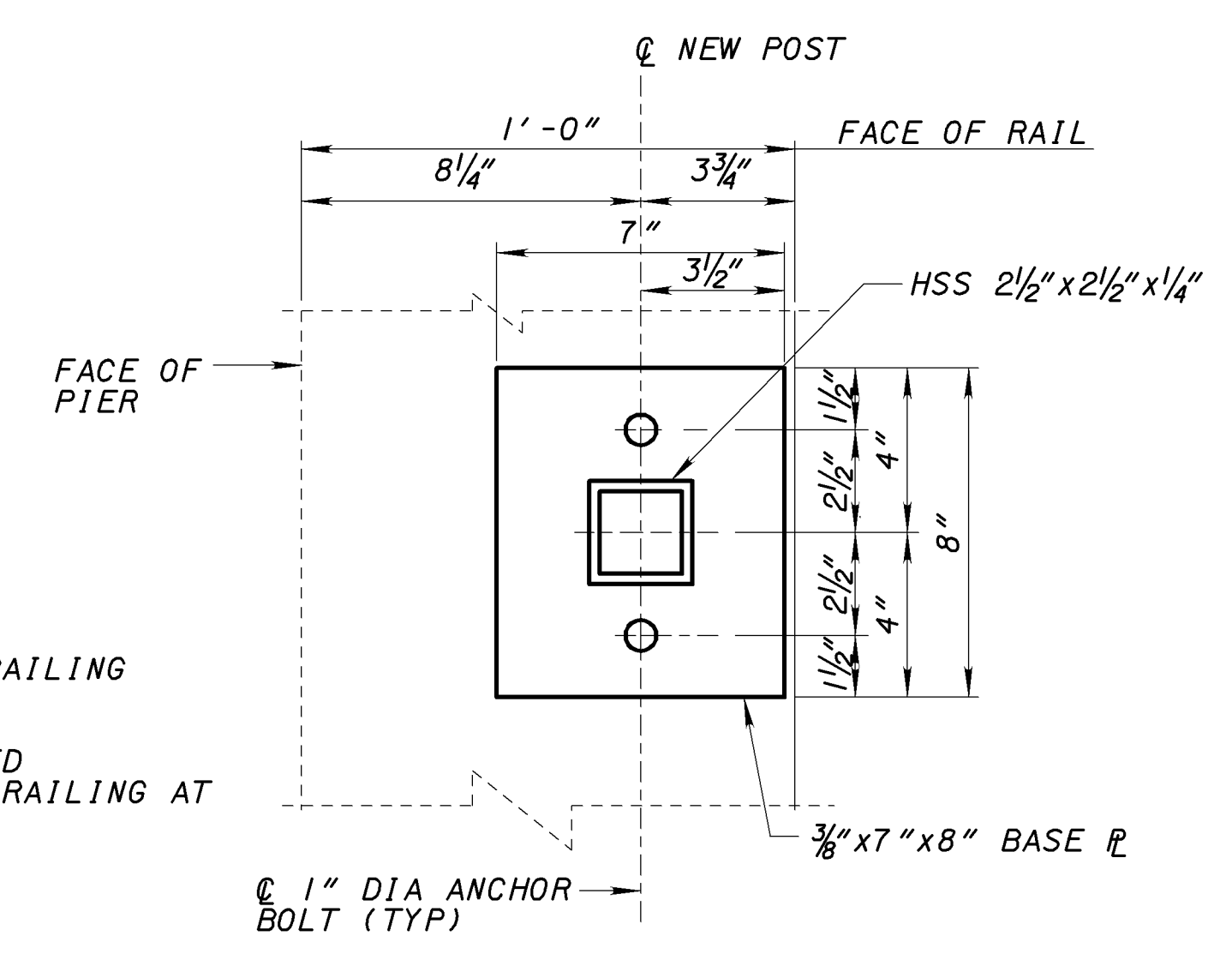
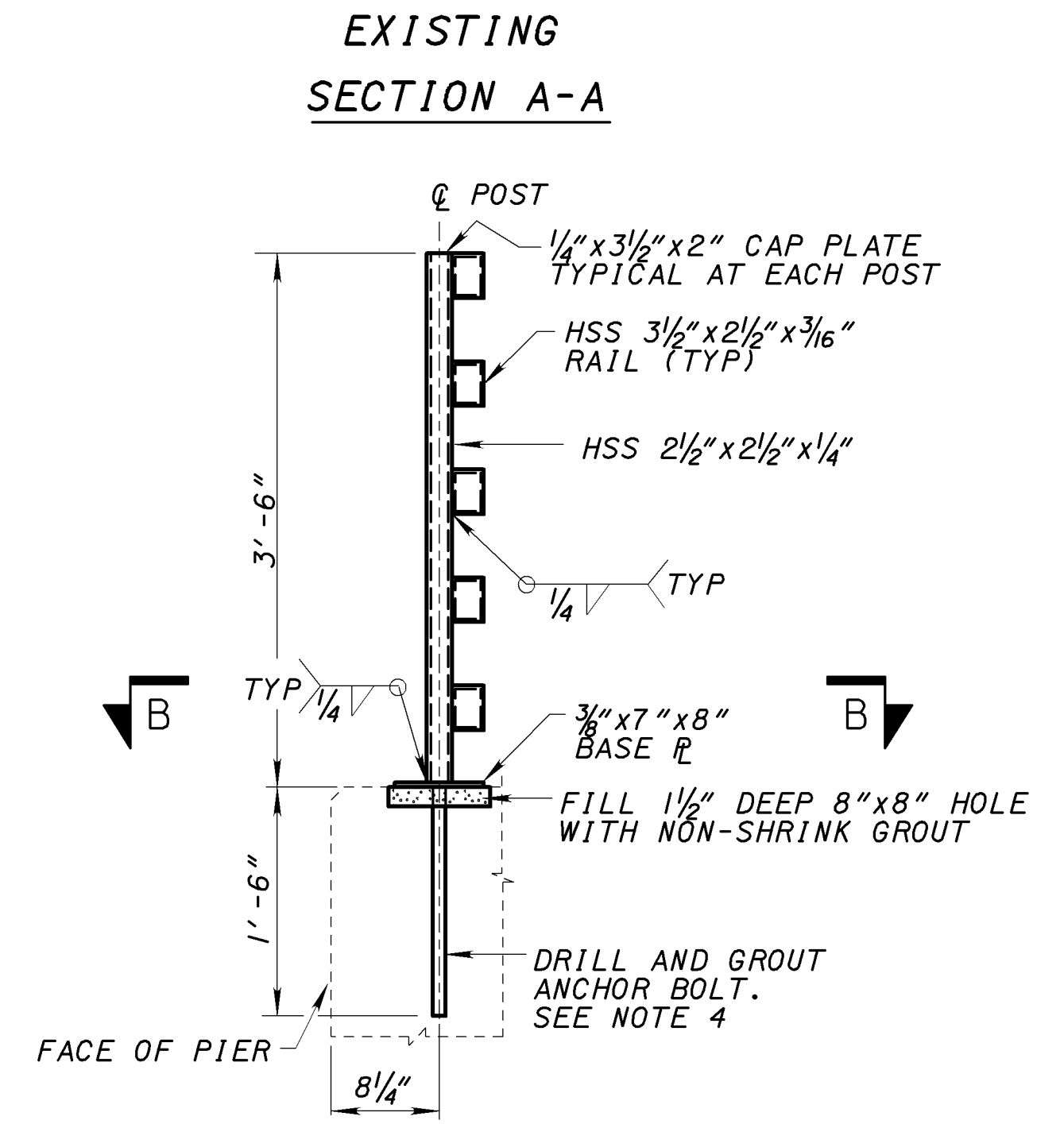
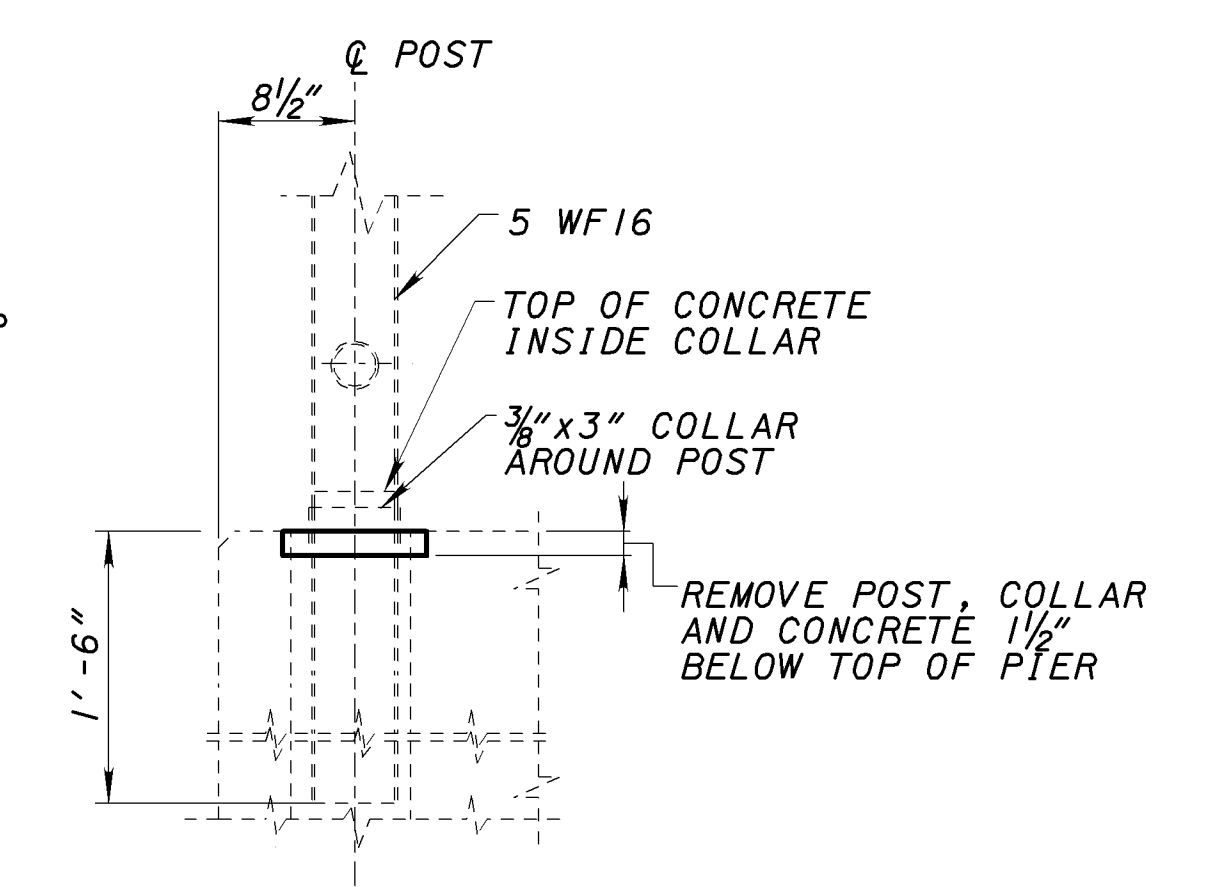
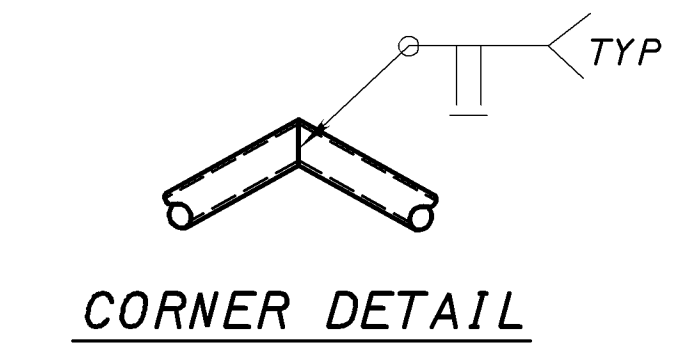
54/63  
 513  
 555

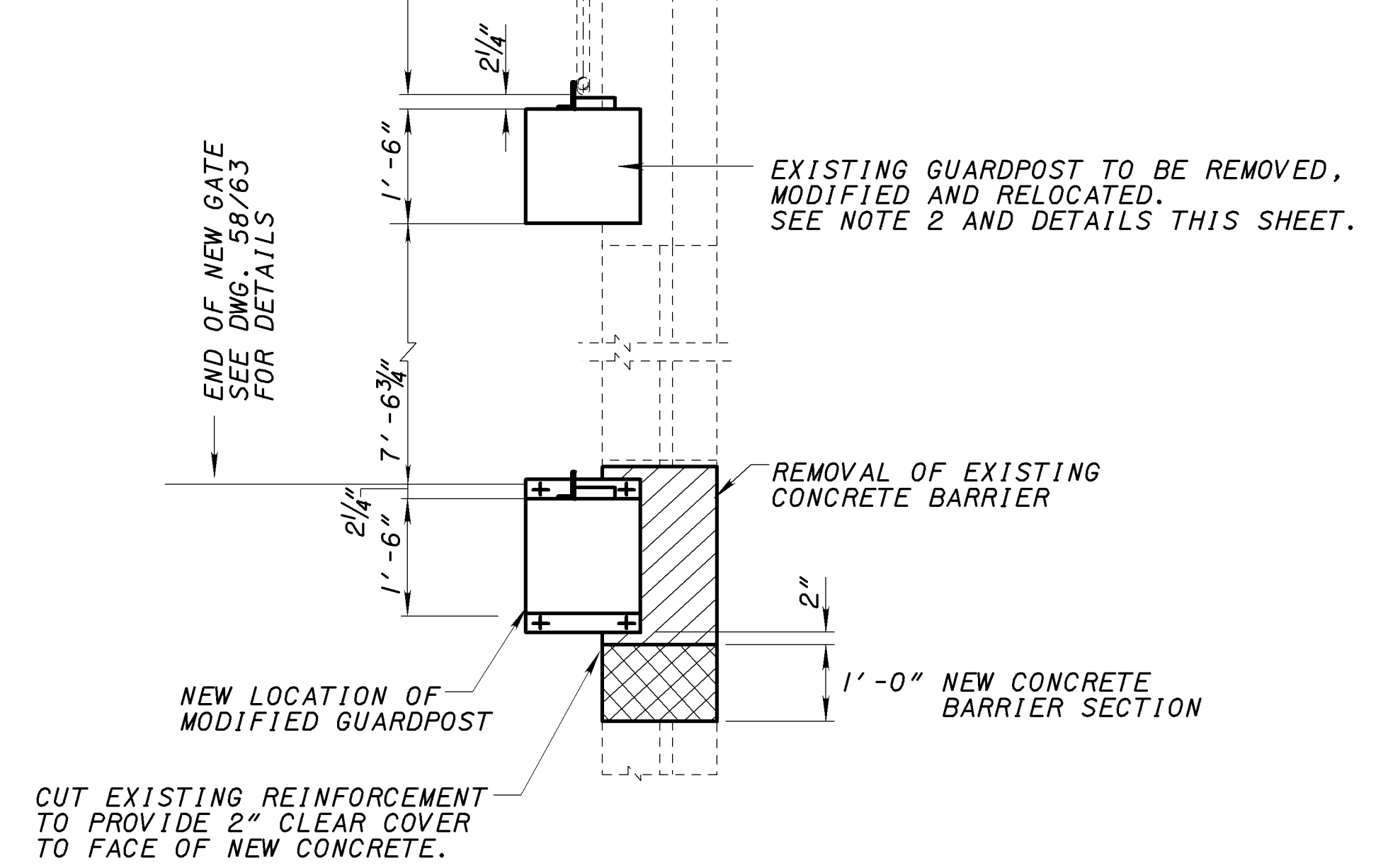
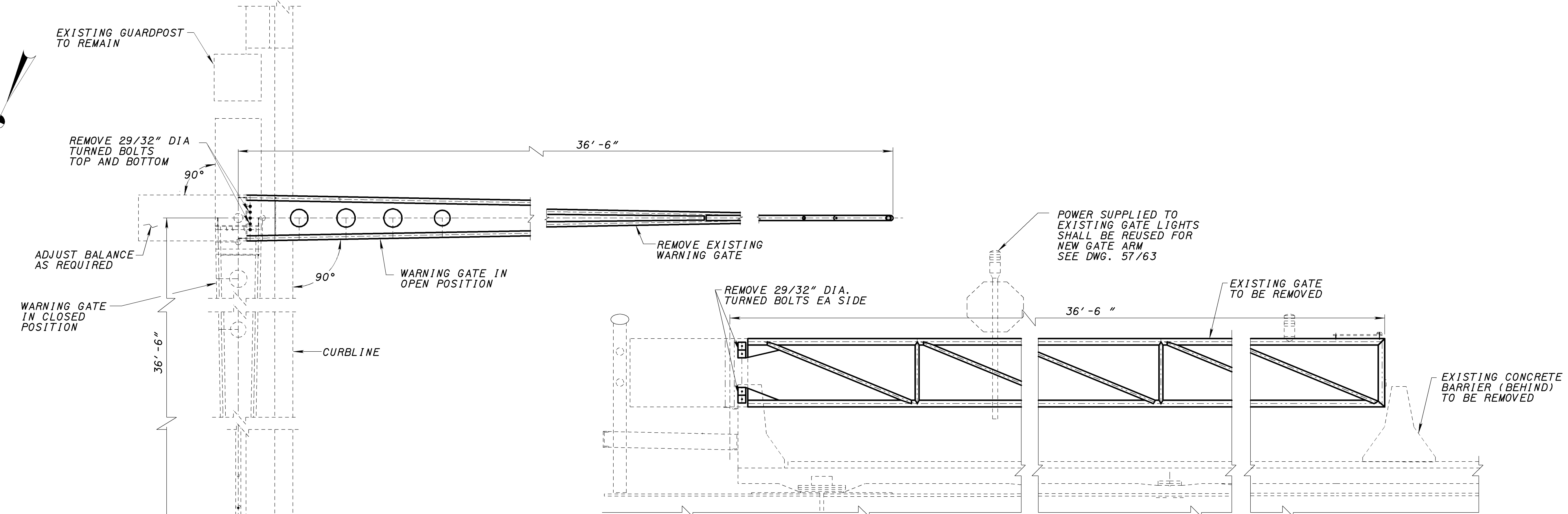


**BASCULE PIER RAILING PLAN**  
(PIER 5 SHOWN. PIER 4 AS NOTED)

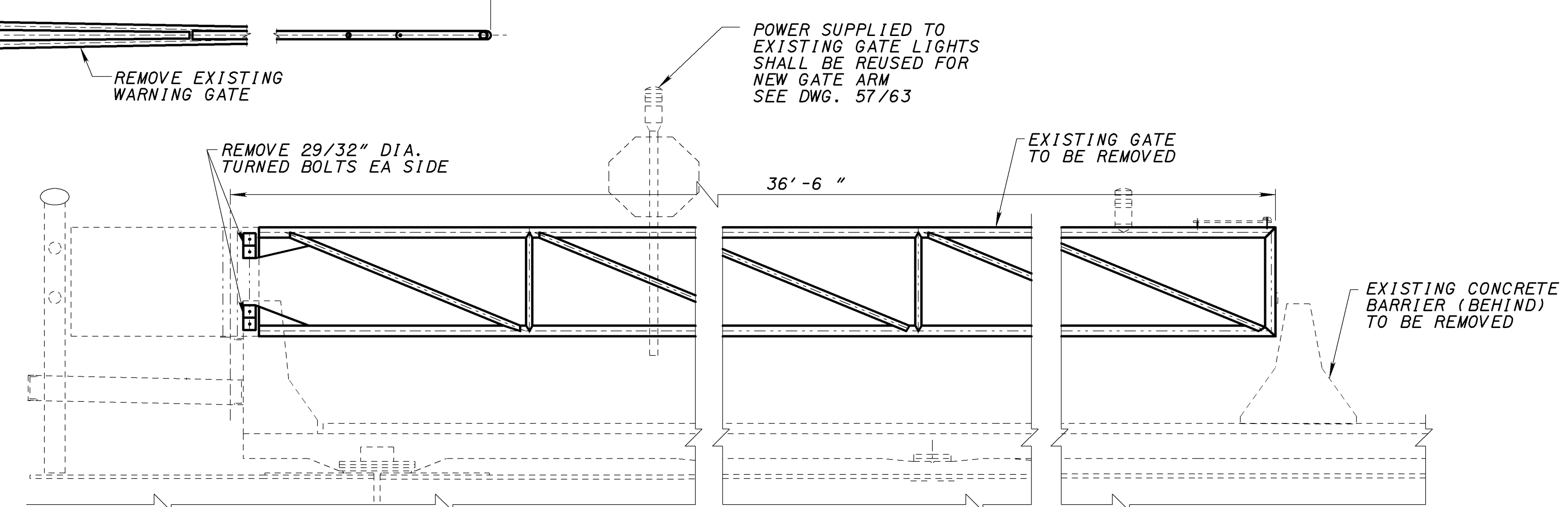
**NOTES:**

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSION PRIOR TO FABRICATION AND INSTALLATION OFF RAILING.
2. REMOVAL OF EXISTING RAILING AND POSTS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 202 REMOVAL MISC.: STEEL HAND RAILING AT EXTERIOR SIDEWALK (BASCULE PIER).
3. FABRICATION AND ERECTION OF NEW RAILING SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 517 RAILING MISC.: STEEL HAND RAILING AT EXTERIOR SIDEWALK (BASCULE PIERS).
4. ANCHOR BOLTS SHALL BE DRILLED AND GROUTED A MINIMUM OF 1'-6" INTO SOLID CONCRETE.
5. HAND RAILING, POSTS, BASE PLATES, AND HARDWARE SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123.
6. SEE ODOT STANDARD DRAWING BR-2-98 FOR DETAILS OF DRAIN HOLES, ADDITIONAL HOLES FOR GALVANIZING, AND POST CAP PLATE ATTACHMENT DETAILS.

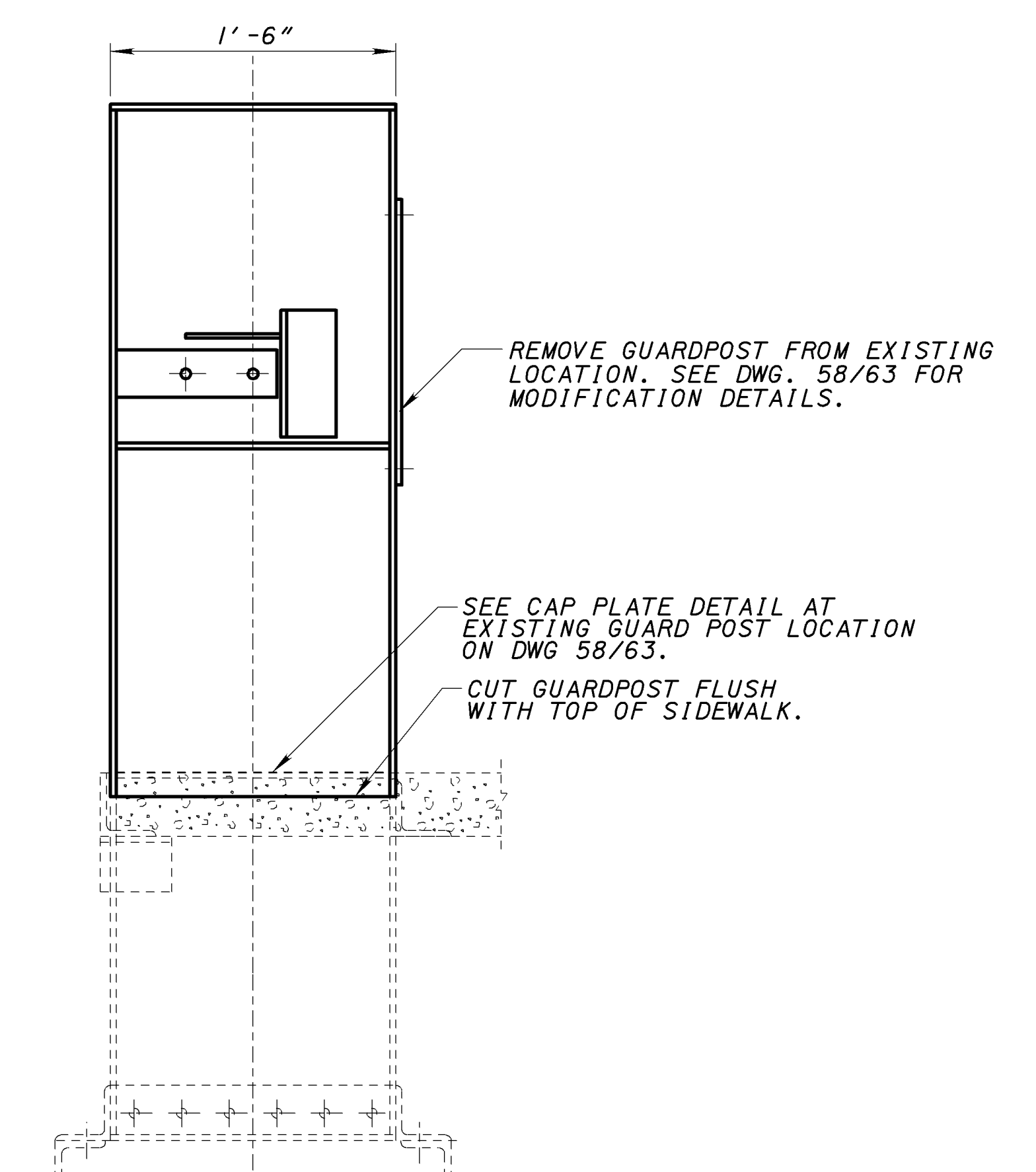




**EXISTING SOUTHEAST WARNING GATE-PLAN**



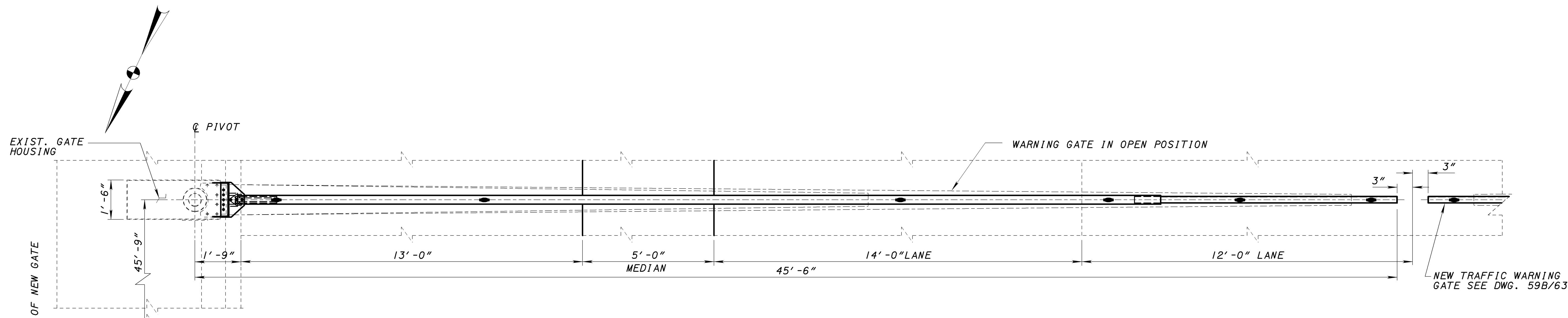
**EXISTING WARNING GATE ELEVATION**



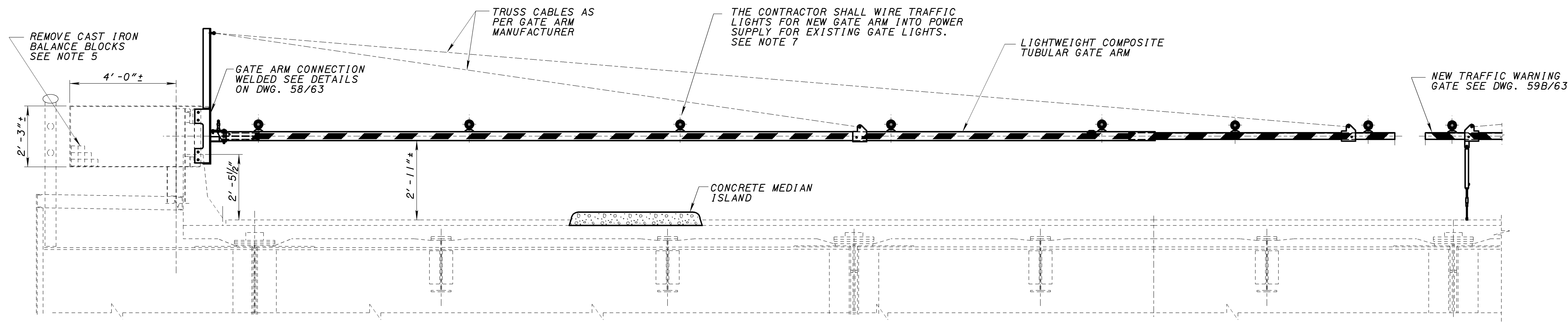
**GUARD POST ELEVATION**

- NOTES:**
1. FOR LOCATION OF EXISTING WARNING GATE TO BE MODIFIED SEE DWG. 48/63.
  2. STEEL GUARDPOST SHALL BE REMOVED FROM EXISTING LOCATION AND PLACED AT END OF NEW WARNING GATE. AFTER REMOVAL OF GUARDPOST, 1/2" R SHALL BE WELDED TO REMAINING PIECE OF GUARDPOST. MODIFICATION SHOWN ON DWG. 58/63.
  3. FOR DETAILS OF WARNING GATE MODIFICATION SEE DRAWINGS 57/63 AND 58/63.
  4. THE COST OF REMOVAL OF EXISTING GATE ARM, GUARD POST, REMOVAL OF EXISTING CONCRETE, AND REINFORCEMENT AND THE INSTALLATION OF THE NEW CONCRETE BARRIER SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 530 SPECIAL-STRUCTURE, MISC.: WARNING GATE MODIFICATION.

<b>DESIGN AGENCY</b> <b>B E R G M A N N</b> associates 6711 Monroe St., Bldg. 2 Sylvania, OH 43560	DATE 3/16/06
	REVIEWED JAH STRUCTURE FILE NUMBER 4805917
DRAWN LK REVISED	DESIGNED HP CHECKED JA
<b>REMOVAL OF EXISTING SOUTHEAST WARNING GATE</b> CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER MAUMEE RIVER	
LUC-280-2.34 TRENCH RECLAMATION	
56/63	
515 555	




**MODIFIED SOUTHEAST WARNING GATE-PLAN**  
(NTS)



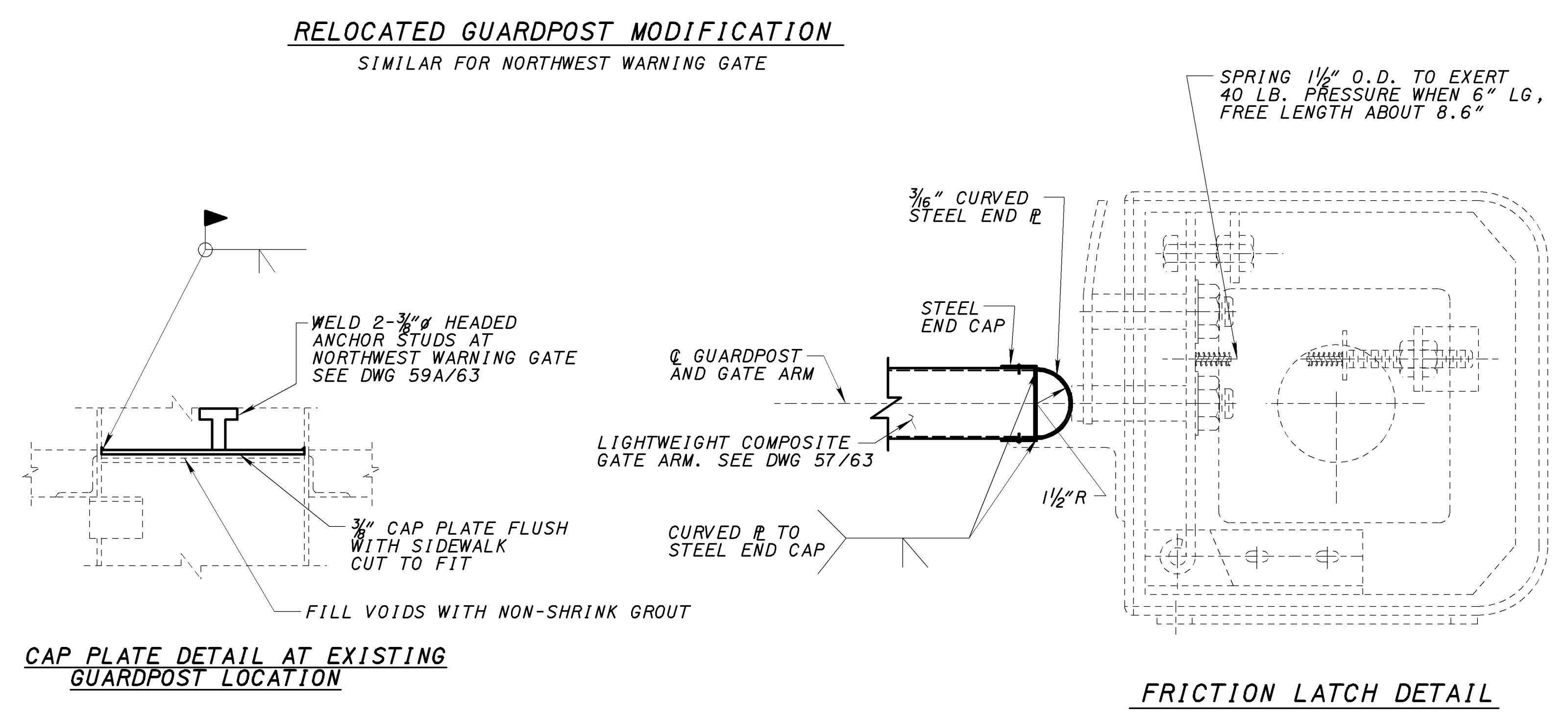
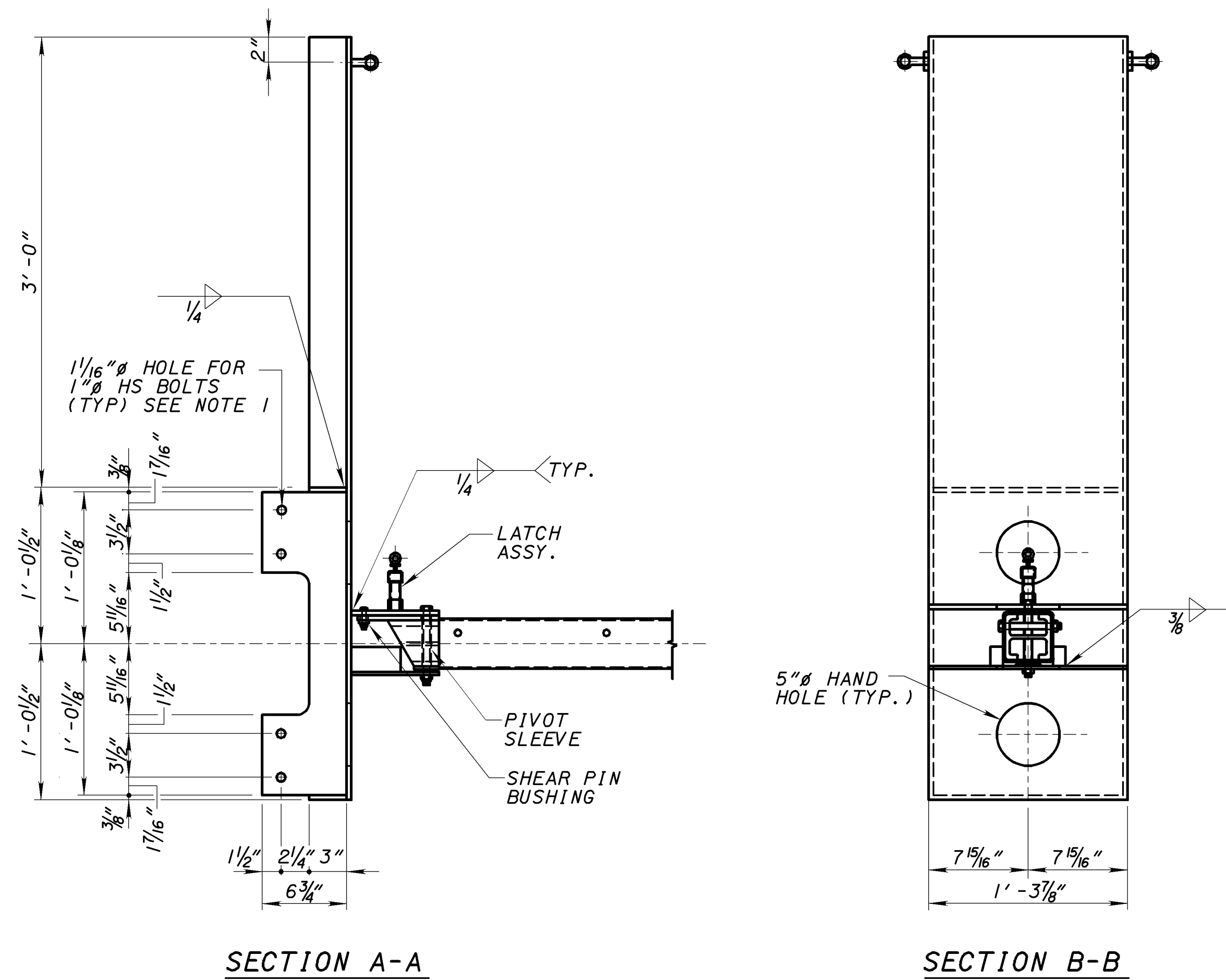
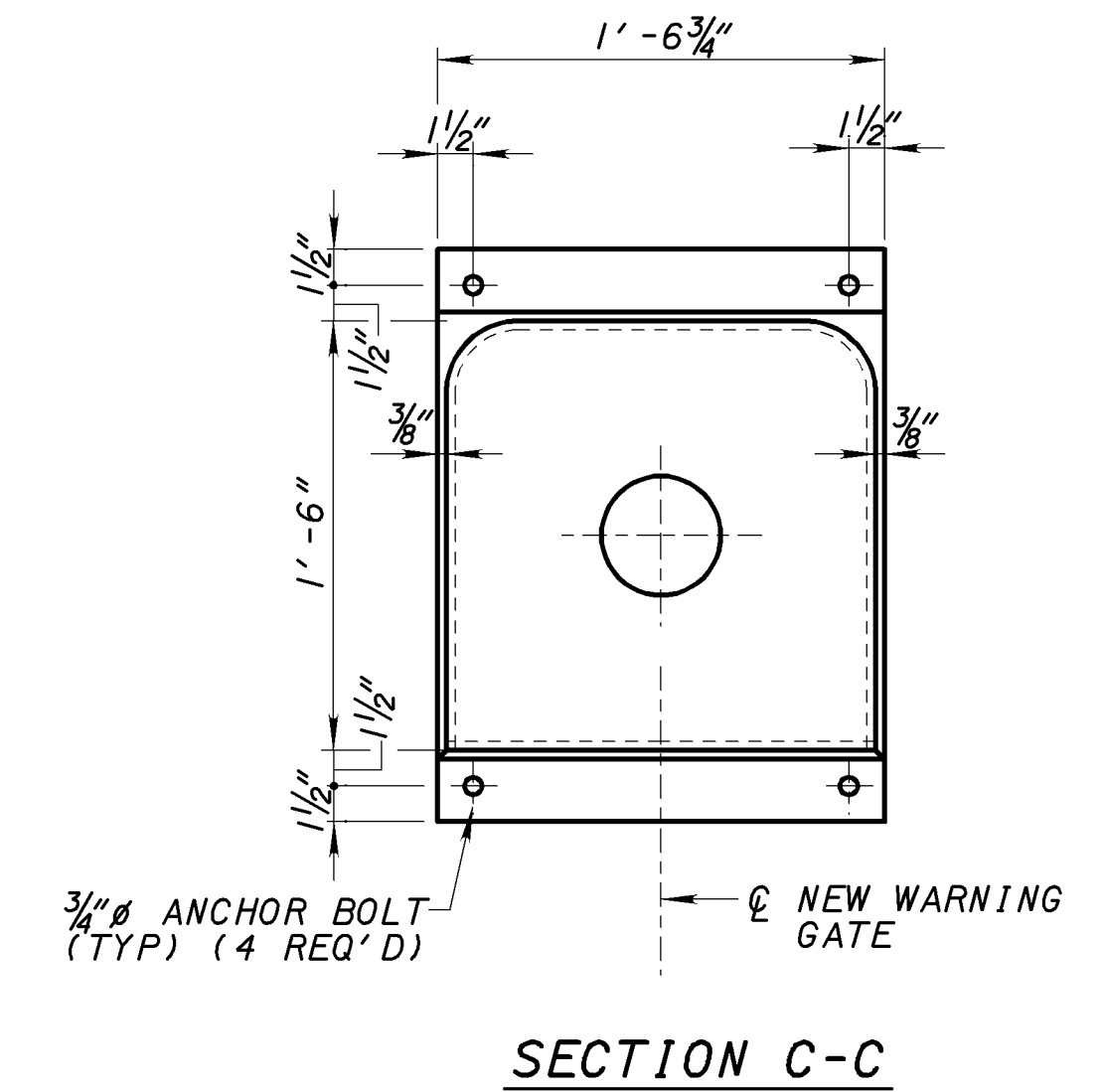
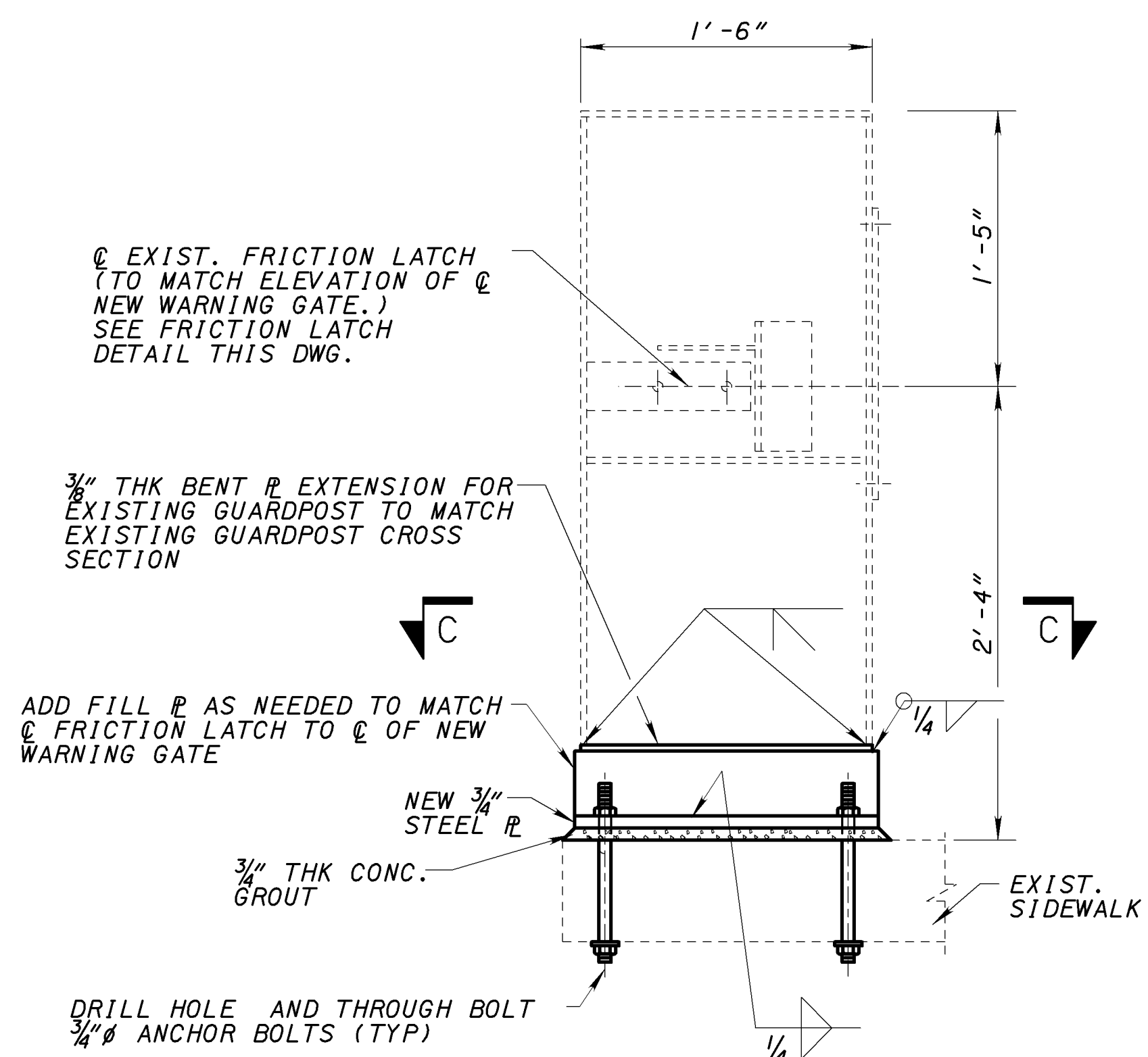
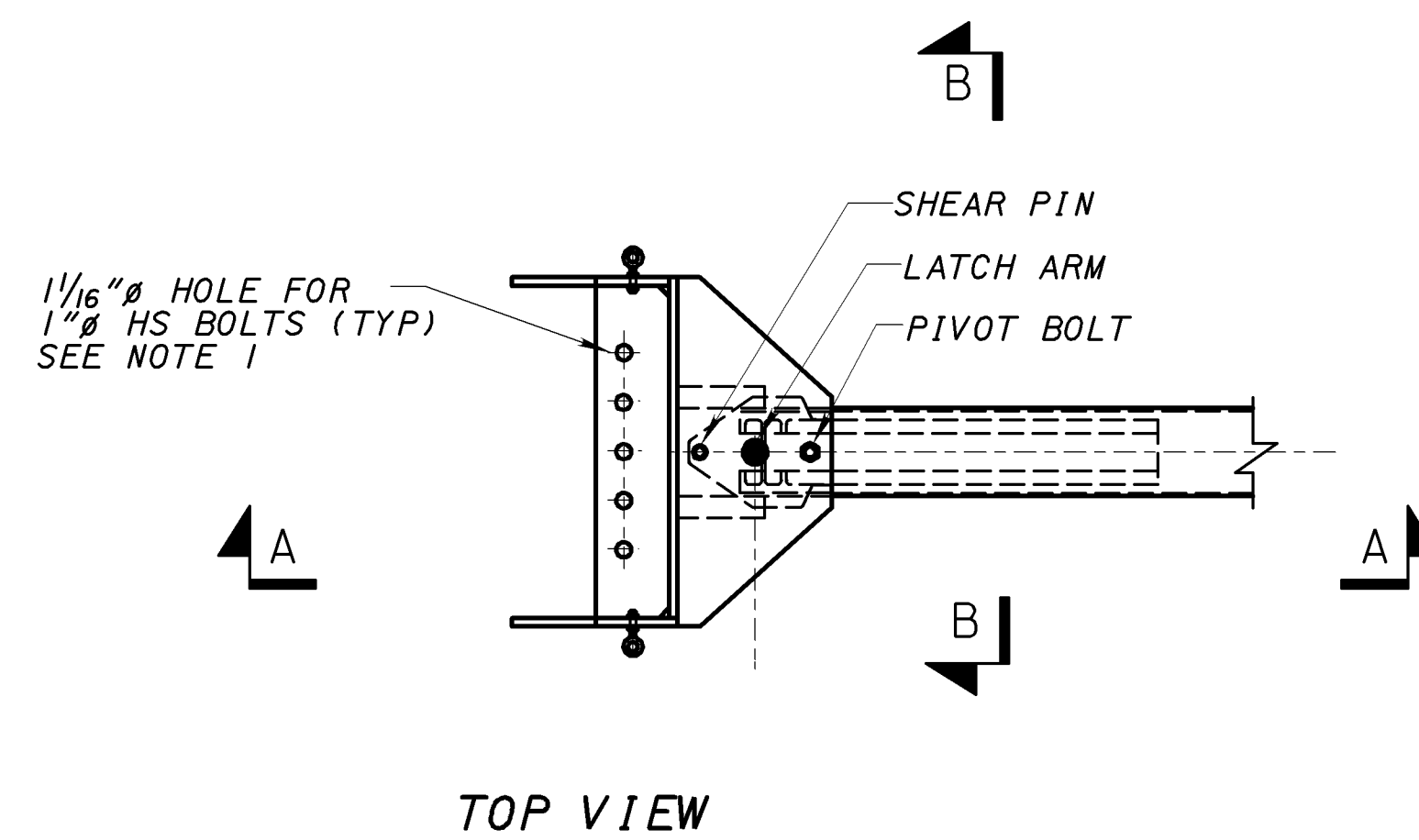
**WARNING GATE- ELEVATION**  
(NTS)

**NOTES:**

1. FOR DETAILS OF EXISTING WARNING GATE SEE DWG. 56/63.
2. GATE ARM CONNECTION WELDMENT SHALL BE HOT DIPPED GALVANIZED.
3. CONTRACTOR SHALL FIELD VERIFY DETAILS OF EXISTING GATE HOUSING PRIOR TO FABRICATION OF GATE ARM CONNECTION WELDMENT.
4. CONTRACTOR SHALL COORDINATE THE FABRICATION OF THE GATE ARM CONNECTION WELDMENT WITH THE LIGHTWEIGHT COMPOSITE TUBULAR GATE ARM SUPPLIED BY THE MANUFACTURER. THE CONTRACTOR SHALL REVISE THE DETAILS OF THE GATE ARM CONNECTION WELDMENT TO THE GATE ARM AS REQUIRED.
5. CONTRACTOR SHALL REMOVE APPROXIMATELY 4745 POUNDS OF CAST IRON BALANCE BLOCKS TO BALANCE GATE ARM.
6. THE COST OF FURNISHING AND INSTALLING GATE ARM CONNECTION WELDMENT AND LIGHTWEIGHT COMPOSITE TUBULAR GATE ARM AS WELL AS THE REMOVAL OF CAST IRON BALANCE BLOCK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 530 SPECIAL-STRUCTURE, MISC.:WARNING GATE MODIFICATION
7. THE COST OF WIRING NEW GATE ARM SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 530 SPECIAL-STRUCTURE, MISC.:BRIDGE ELECTRICAL.
8. THE EXISTING GATE ACTUATOR HAS A VARIABLE SPEED CONTROLLER. THE SPEED SHALL BE DECREASED TO ITS SLOWEST POSSIBLE SPEED TO AVOID SWINGING INTO PEDESTRIAN TRAFFIC.

 <b>BERGMANN</b> associates 6711 Monroe St., Bldg. 2 Sylvania, OH 43560	DATE 3/16/06	REVIEWED JAH	STRUCTURE FILE NUMBER 4805917
DRAWN LK	DESIGNED HP	CHECKED JAH	REVISED
<b>NEW SOUTHEAST WARNING GATE</b> CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER MAUMEE RIVER			
LUC-280-2.34 TRENCH RECLAMATION			
57 / 63			
516 555			





- NOTES:**
- HOLES FOR 1"  $\phi$  HS BOLTS SHALL BE SUBPUNCHED AND REAMED IN THE FIELD AT ASSEMBLY WITH EXISTING 5/16"  $\phi$  HOLES IN EXISTING GATE HOUSING AND CASTING.
  - GATE ARM CONNECTION WELDMENT SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
  - FOR ADDITIONAL GATE MODIFICATION DETAILS SEE DRAWINGS 56/63 AND 57/63.
  - THE CONTRACTOR SHALL COORDINATE GATE ARM CONNECTION DETAILS WITH DETAILS OF EXISTING GATE HOUSING AND DETAILS OF NEW GATE ARM. SOME MODIFICATION OF DETAIL MAY BE REQUIRED AT NO ADDITIONAL COST TO THE DEPARTMENT.
  - ALL WORK ON THIS SHEET SHALL BE IN THE PRICE BID FOR ITEM 530 SPECIAL-STRUCTURE, MISC.: WARNING GATE MODIFICATION.

DESIGN AGENCY  
**B E R G M A N N**  
associates  
6111 Monroe St., Bldg. 2  
Sylvania, OH 43560

DATE 3/16/06  
REVIEWED JAH  
DRAWN LK  
DESIGNED HP  
CHECKED JA

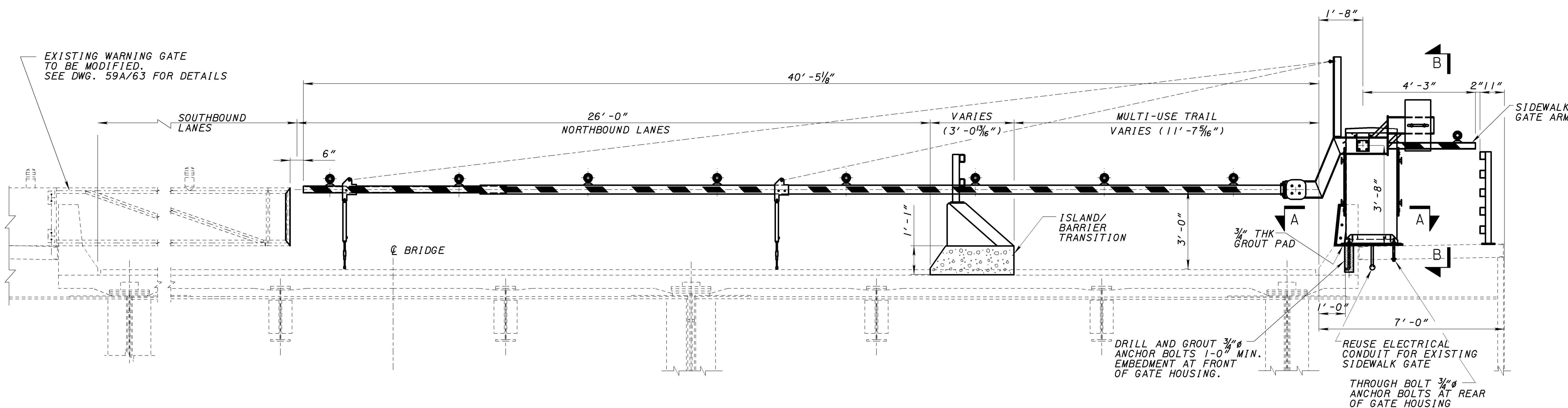
STRUCTURE FILE NUMBER 4805917

**WARNING GATE MODIFICATION DETAILS**  
CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  
OVER MAUMEE RIVER

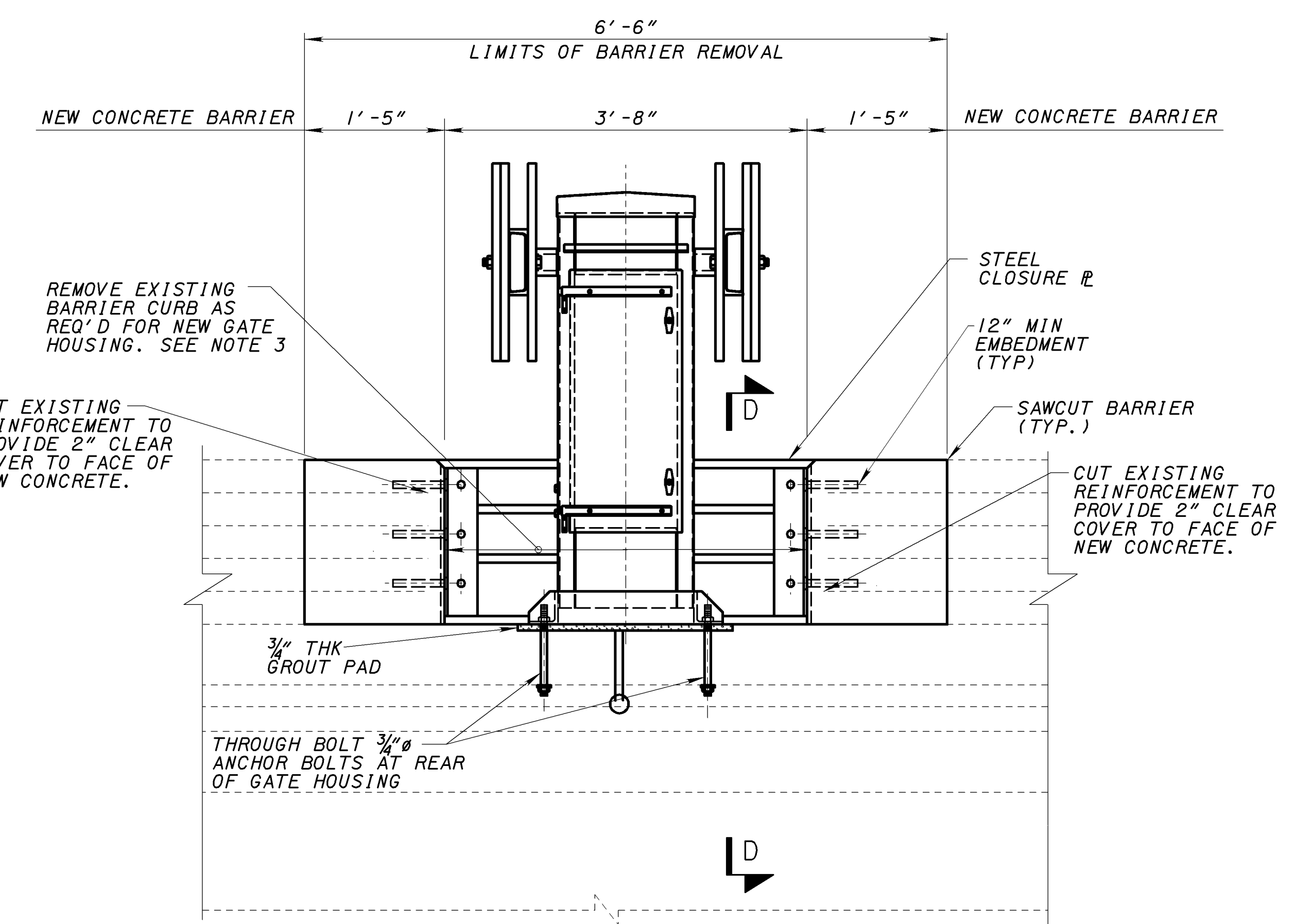
LUC-280-2.34  
TRENCH  
RECLAMATION

58/63

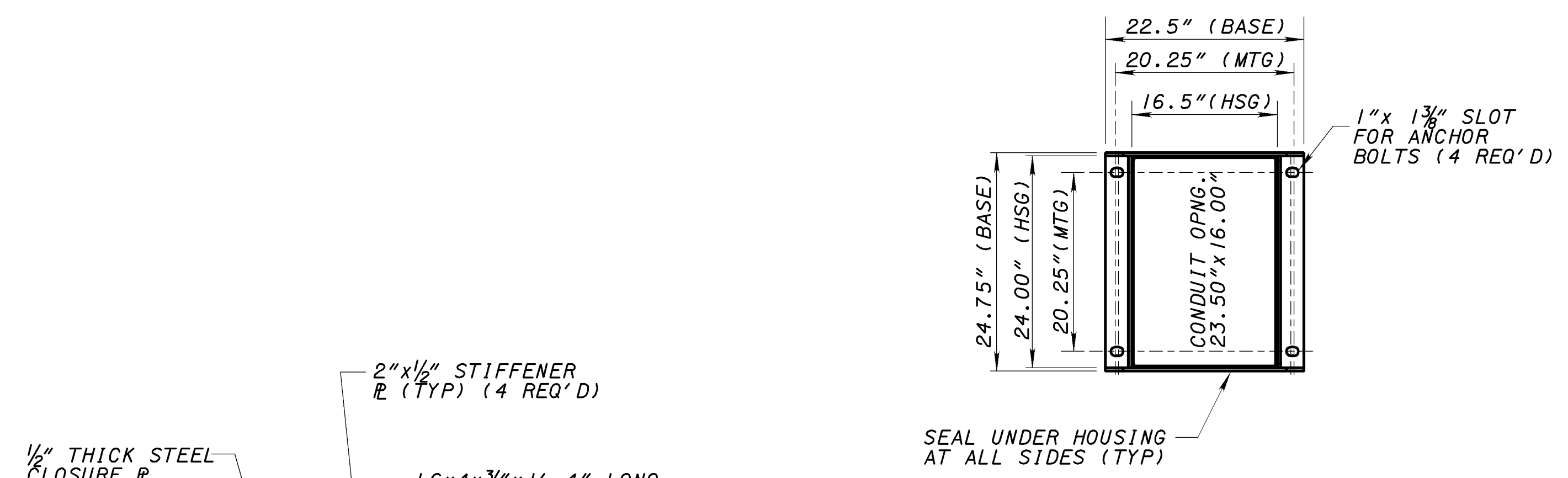
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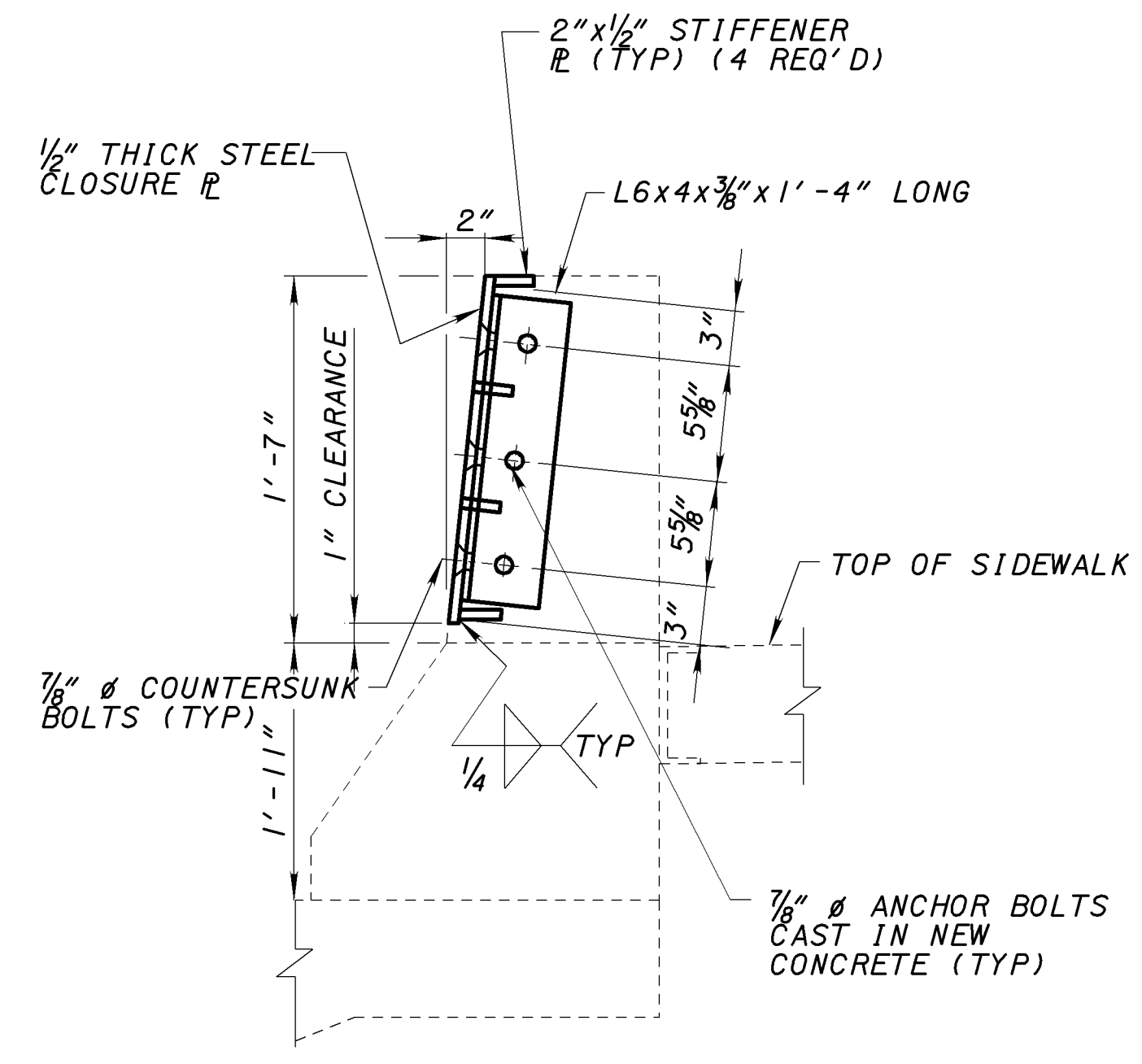
SECTION C-C



SECTION B-B



SECTION A-A



SECTION D-D

NOTES:

1. FOR LOCATION OF SECTION C-C SEE DWG. 48/63.
2. EXISTING SIDEWALK GATE TO BE REMOVED NOT SHOWN FOR CLARITY.
3. CONTRACTOR SHALL REMOVE EXISTING REINFORCING BARS TO 1" BELOW THE SURFACE OF CONCRETE. HOLES SHALL BE FILLED WITH NON-SHRINK GROUT.
4. THE COST OF REMOVING EXISTING SIDEWALK GATE AND CONCRETE BARRIER CURB AND THE COST OF FURNISHING AND INSTALLING NEW CONCRETE AND NEW OVERHEAD TYPE TRAFFIC GATE WITH SIDEWALK GATE ARM SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 530 SPECIAL-STRUCTURE, MISC.: BRIDGE ELECTRICAL.
5. CLOSURE PLATE AND CONNECTION ANGLES SHALL BE ASTM A709 GRADE A36 AND SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123. COST IS INCLUDED IN THE PRICE BID FOR ITEM 530 SPECIAL-STRUCTURE, MISC.: BRIDGE ELECTRICAL.

3/4" Ø HEADED ANCHOR STUD  
WELDED TO TOP OF GUARDPOST  
CLOSURE PLATE (SEE NOTE 2)

EXISTING GUARDPOST  
TO BE REMOVED  
SEE NOTE 2 AND DETAILS  
THIS SHEET

LIMIT OF NEW  
CONCRETE  
BARRIER CURB  
(SEE SECTION B-B)

NEW LOCATION OF  
MODIFIED GUARDPOST

5'-0" ±  
SEE NOTE 5

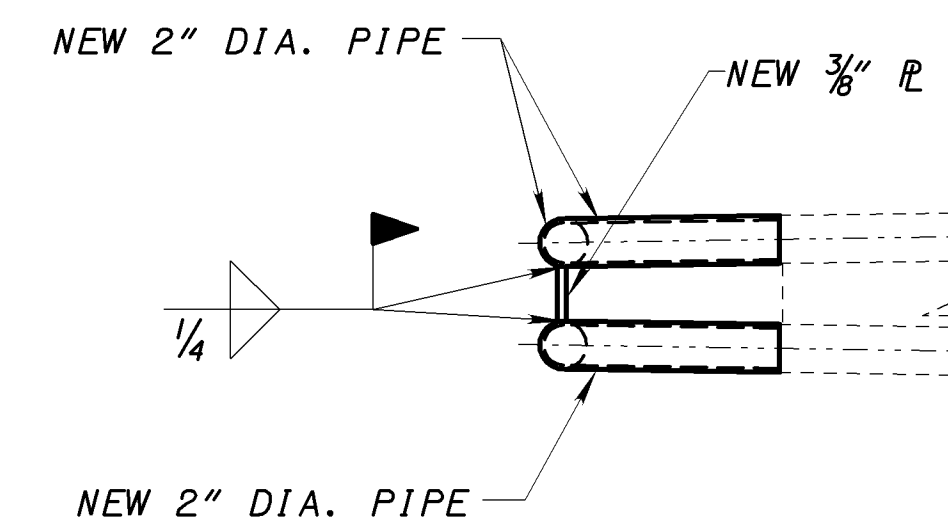
GATE IN CLOSED POSITION

GATE IN OPEN POSITION

PLAN OF MODIFIED NORTHWEST  
WARNING GATE

DETAIL A

CUT AND REMOVE END  
OF WARNING GATE 5'-0" ±



DETAIL A

ADJUST BALANCE BLOCKS  
AS REQUIRED SEE NOTE 4

SOUTH BOUND LANES

MITER CUT EXISTING  
PIPES TOP AND BOTTOM

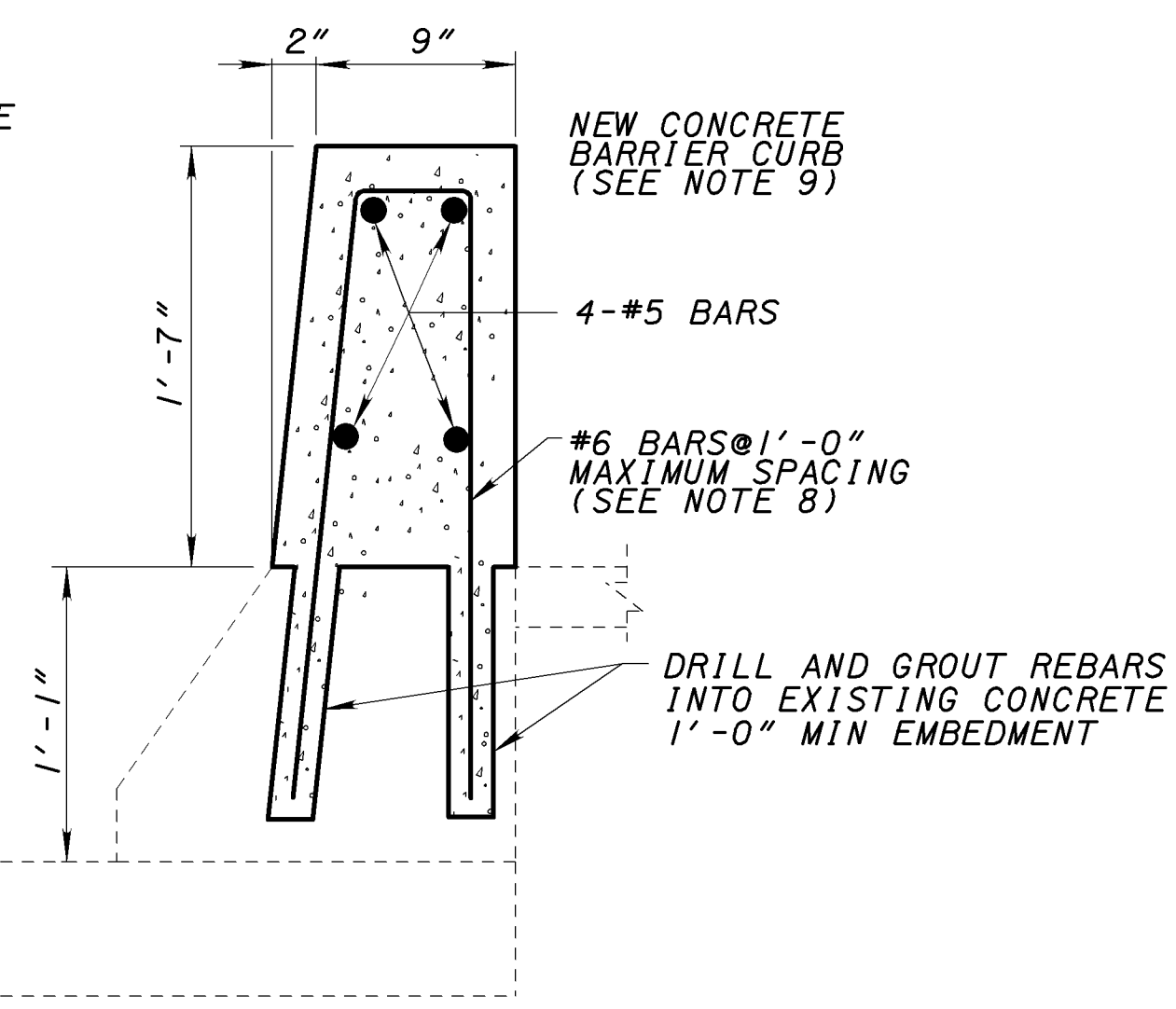
5'-0" ±  
SEE NOTE 5

REMOVE AND DISPOSE  
OF END  
OF GATE

SECTION A-A

GOUGE OUT WELD  
REMOVE AND DISPOSE  
OF DIAGONAL PIPE

SECTION A-A



SECTION B-B

NOTES:

- FOR LOCATION OF EXISTING WARNING GATE TO BE MODIFIED SEE DWG. 48/63.
- STEEL GUARDPOST SHALL BE REMOVED FROM EXISTING LOCATION AND MOVED TO END OF MODIFIED NW WARNING GATE IN CLOSED POSITION. 1/2" PLATE SHALL BE WELDED TO REMAINING PIECE OF EXISTING GUARDPOST AS SHOWN ON DWG. 58/63.
- GUARDPOST MODIFICATIONS ARE SIMILAR TO DETAILS ON DWG. 58/63.
- CONTRACTOR SHALL REMOVE BALANCE BLOCKS AS REQUIRED TO BALANCE GATE ARM.
- THE CONTRACTOR SHALL CUT EXISTING WARNING GATE SO THAT THE END OF THE MODIFIED GATE ARM WILL BE LOCATED AT THE EDGE OF SOUTH BOUND LANES. GUARDPOST SHALL BE LOCATED SO THAT IT MATES WITH THE MODIFIED GATE ARM.
- THE CONTRACTOR SHALL TERMINATE EXISTING CONDUCTORS FOR GATE LIGHTS TO BE REMOVED AT THE LAST REMAINING SIGNAL. THE COST TO BE INCLUDED IN THE PRICE BID FOR ITEM 530 SPECIAL-STRUCTURE, MISC.: BRIDGE ELECTRICAL.
- THE COST FOR ALL WORK ON THIS SHEET SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 530 SPECIAL-STRUCTURE, MISC.: WARNING GATE MODIFICATION UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL ADJUST THE LOCATION OF NEW REINFORCING BARS AS REQUIRED TO CLEAR EXISTING REINFORCING BARS. ALL NEW REINFORCING BARS SHALL HAVE A MINIMUM YIELD STRENGTH OF 60,000 PSI IN ACCORDANCE WITH ODOT STANDARD SPECIFICATIONS.
- CONCRETE FOR BARRIER CURB SHALL BE CLASS S WITH A STRENGTH OF 4,500 PSI IN ACCORDANCE WITH THE 2005 ODOT STANDARD SPECIFICATION.

**NORTHWEST WARNING GATE MODIFICATION DETAILS**  
CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  
OVER MAUMEE RIVER

LUC-280-2.34  
TRENCH  
RECLAMATION

59A 63

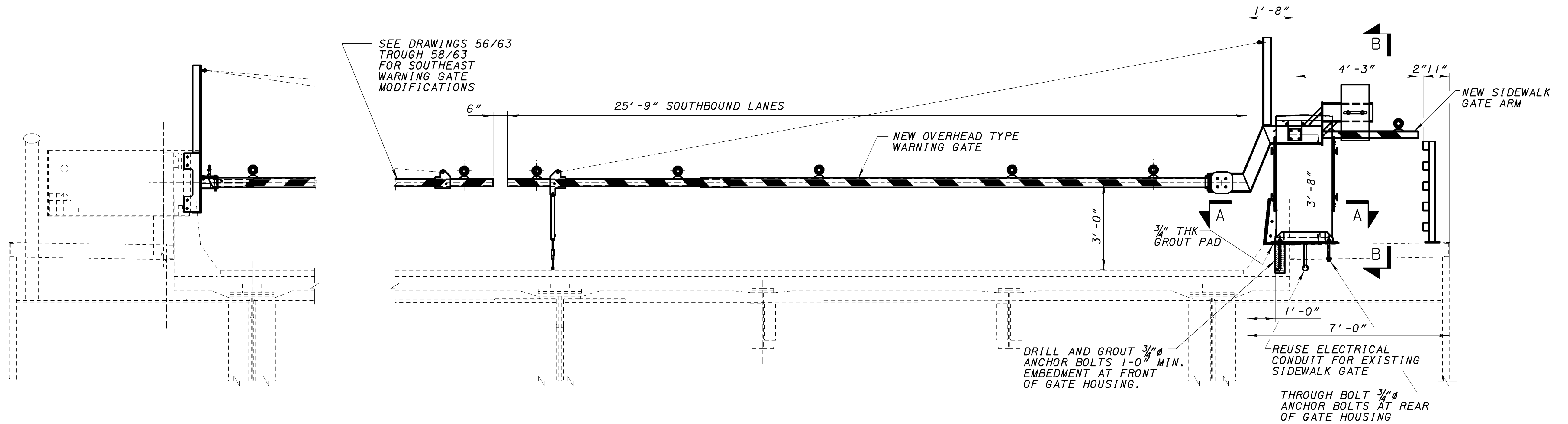
518A  
555

DESIGN AGENCY  
**B E R G M A N N**  
associates  
6111 Monroe St., Bldg. 2  
Sylvania, OH 43560

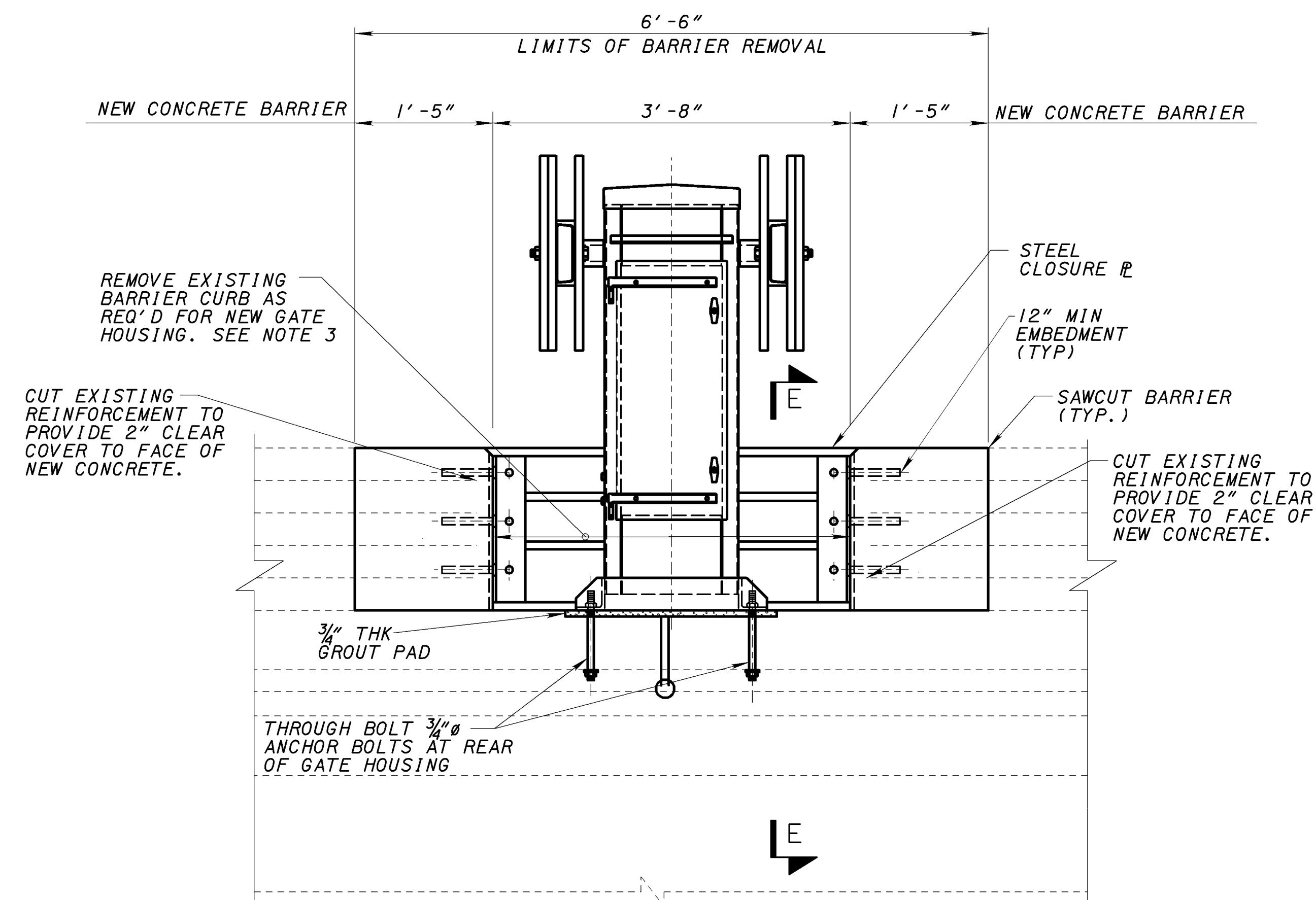
DATE 3/16/06  
REVIEWED JAH  
STRUCTURE FILE NUMBER 4805917

DRAWN LK  
REVISED

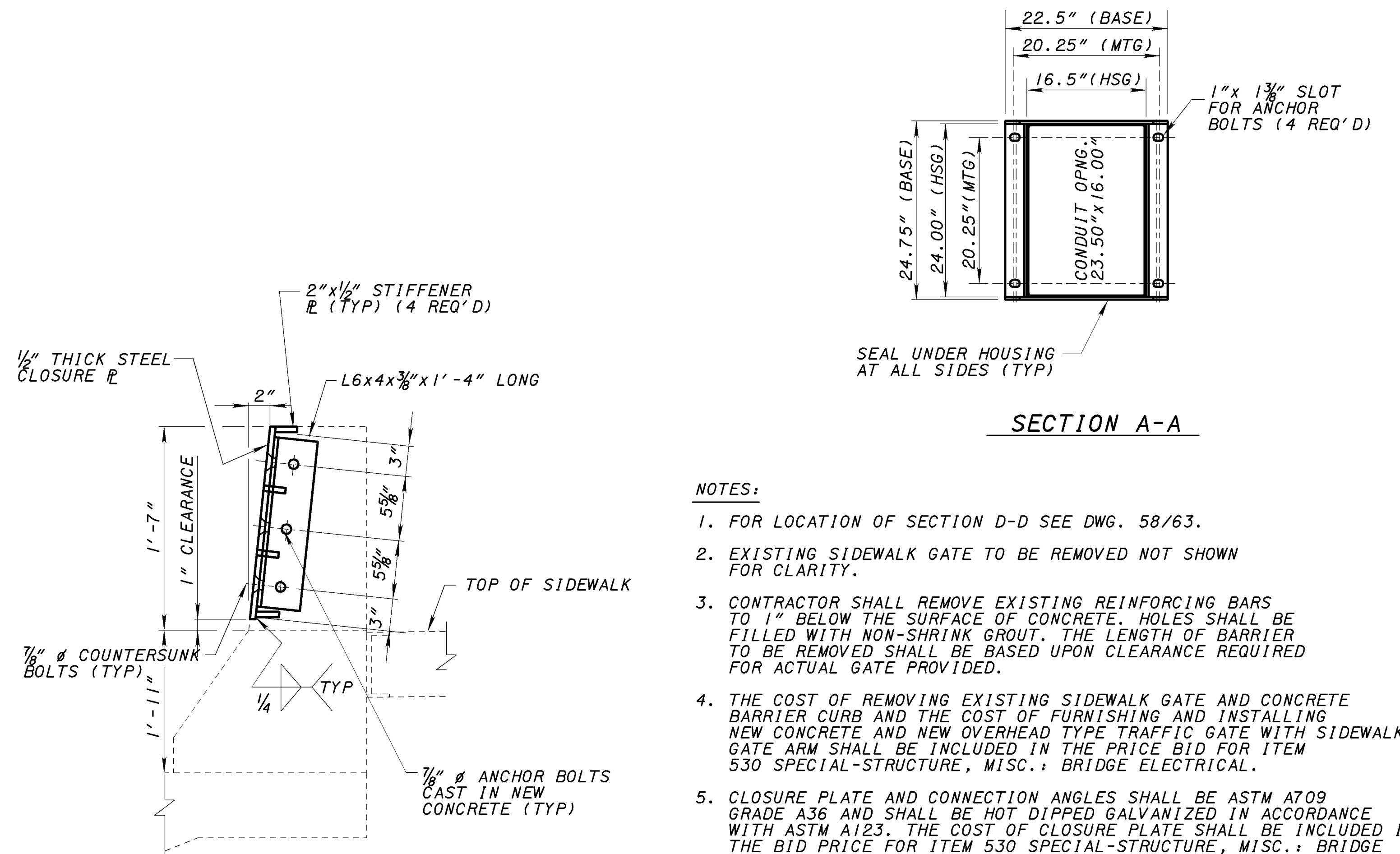
DESIGNED HP  
CHECKED JA



SECTION D-D



SECTION B-B



SECTION A-A

SECTION E-E

NOTES:

- FOR LOCATION OF SECTION D-D SEE DWG. 58/63.
- EXISTING SIDEWALK GATE TO BE REMOVED NOT SHOWN FOR CLARITY.
- CONTRACTOR SHALL REMOVE EXISTING REINFORCING BARS TO 1" BELOW THE SURFACE OF CONCRETE. HOLES SHALL BE FILLED WITH NON-SHRINK GROUT. THE LENGTH OF BARRIER TO BE REMOVED SHALL BE BASED UPON CLEARANCE REQUIRED FOR ACTUAL GATE PROVIDED.
- THE COST OF REMOVING EXISTING SIDEWALK GATE AND CONCRETE BARRIER CURB AND THE COST OF FURNISHING AND INSTALLING NEW CONCRETE AND NEW OVERHEAD TYPE TRAFFIC GATE WITH SIDEWALK GATE ARM SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 530 SPECIAL-STRUCTURE, MISC.: BRIDGE ELECTRICAL.
- CLOSURE PLATE AND CONNECTION ANGLES SHALL BE ASTM A709 GRADE A36 AND SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123. THE COST OF CLOSURE PLATE SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 530 SPECIAL-STRUCTURE, MISC.: BRIDGE ELECTRICAL.
- CONTRACTOR SHALL VERIFY THE LENGTH OF GATE ARM REQUIRED.

DESIGN AGENCY  
**B E R G M A N N**  
associates  
6111 Monroe St., Bldg. 2  
Sylvania, OH 43560

DATE 3/16/06  
REVIEWED JAH  
DRAWN LK  
DESIGNED HP  
CHECKED JA

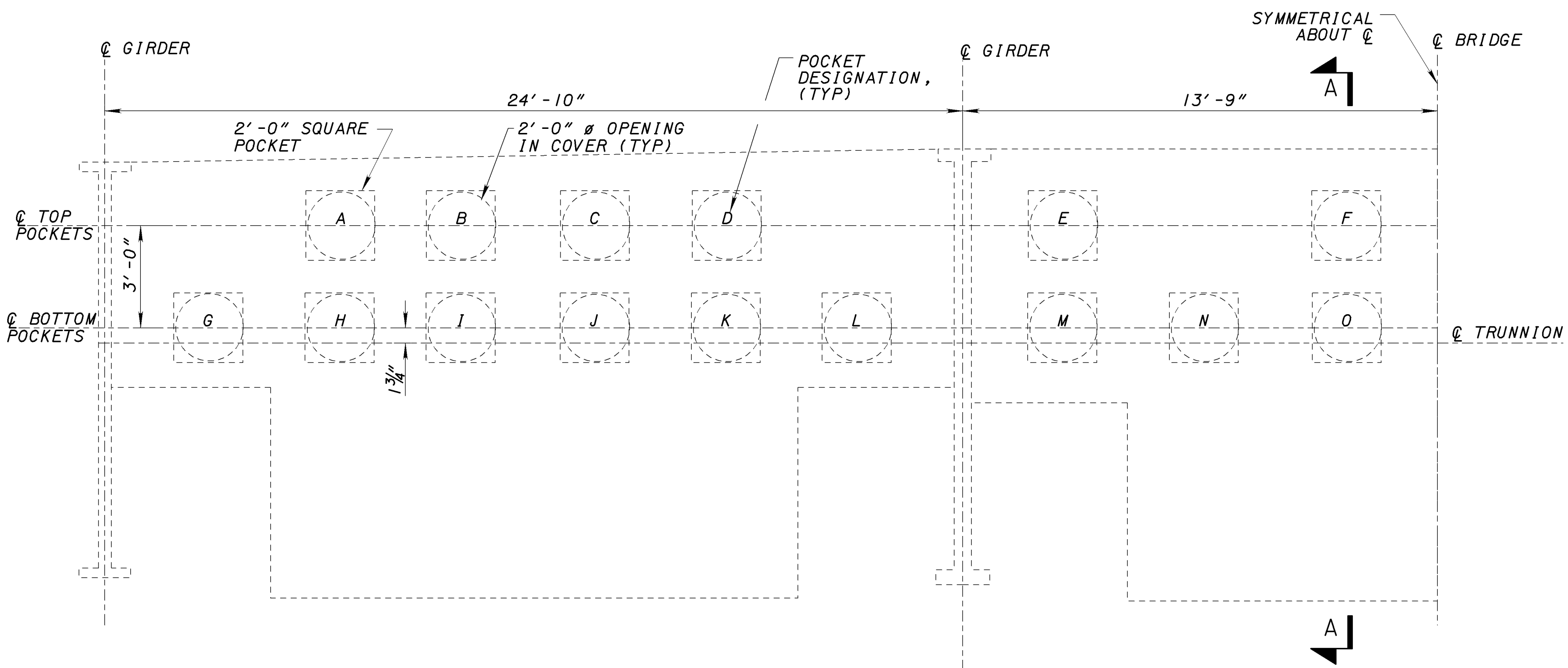
STRUCTURE FILE NUMBER 4805917

SOUTHWEST WARNING GATE DETAILS  
CRAIG MEMORIAL BRIDGE NO. LUC-65-0538  
OVER MAUMEE RIVER

LUC-280-2.34  
TRENCH RECLAMATION

59B/63

518B  
555

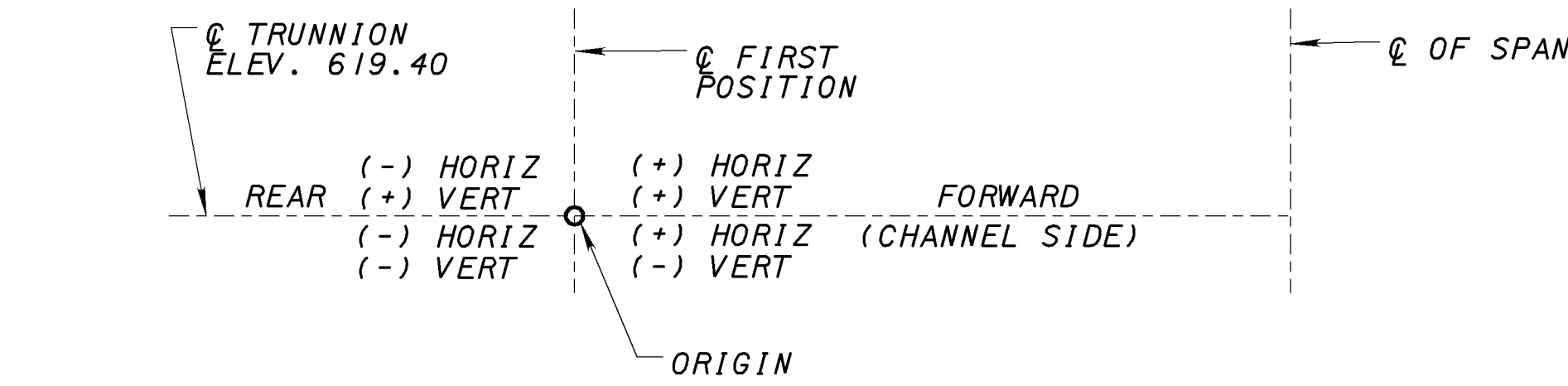
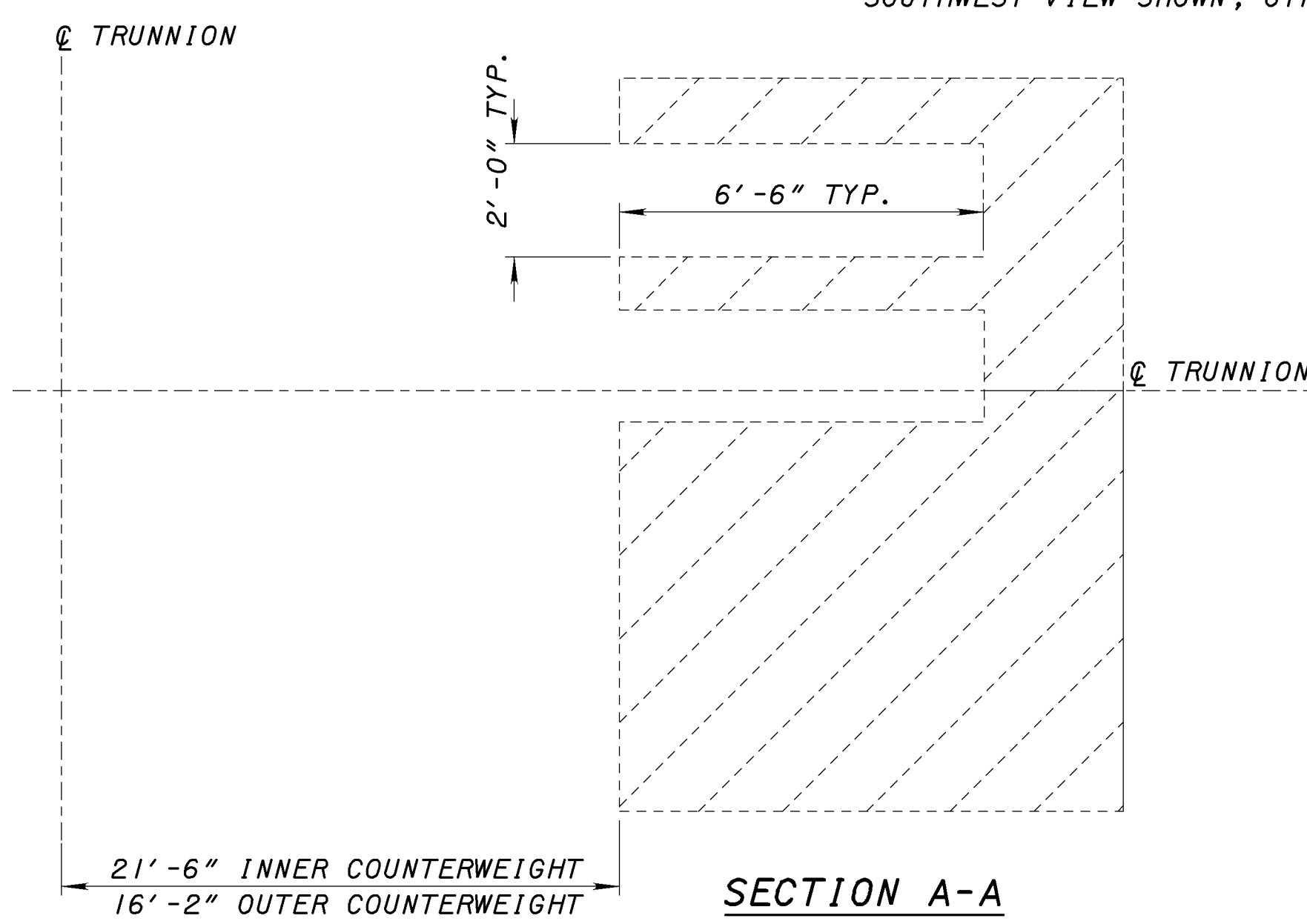


**OUTER COUNTERWEIGHT**

**INNER COUNTERWEIGHT**

**COUNTERWEIGHT HALF FRONT ELEVATION**

SOUTHWEST VIEW SHOWN, OTHER QUADRANTS SIMILAR.



**MOMENT SIGN AND CONVENTION**  
SOUTH LEAF SHOWN, NORTH LEAF IS OPPOSITE HAND.  
BRIDGE IN CLOSED POSITION

POCKET	BLOCKS REMOVED*			
	SOUTH LEAF		NORTH LEAF	
	EAST	WEST	EAST	WEST
A	2	1	2	1
B	1	2	1	2
C	2	1	2	1
D	1	2	1	2
E	0	0	0	0
F	0	0	0	0
G	0	0	0	0
H	0	0	0	0
I	0	0	0	0
J	0	0	0	0
K	1	1	1	1
L	1	1	1	1
M	9	9	9	9
N	9	9	9	9
O	9	9	9	9
TOTAL	35	35	35	35

\* ESTIMATED QUANTITIES ARE TO ESTABLISH A BID PRICE. THE NUMBER AND ARRANGEMENT OF THE LEAD BLOCKS WILL BE DETERMINED BY THE FINAL CONTRACTOR'S BALANCE CALCULATIONS AS APPROVED BY THE ENGINEER.

SPAN BALANCE TABLE - PROPOSED WORK			
ITEM	SOUTH LEAF		
	WEIGHT	MOMENT @ C FIRST POSITION	
	LBS	HORIZ FT-LBS	VERT FT-LBS
NEW BASCULE RAILING	+8,564	+581,675	+75,601
REMOVAL OF EXISTING BASCULE RAILING	-8,907	-605,456	-75,522
NEW FIBERGLASS DECK PLATE	+5,634	+389,240	+34,454
FINGER JOINT MODIFICATION, 1/2" RUBBER MAT	+116	+14,136	+708
NEW MEDIAN ISLAND	+12,388	+469,705	+78,805
REMOVAL OF EXISTING BASCULE MEDIAN BARRIER	-14,859	-965,061	-110,447
FORWARD TOTAL	+2,936	-115,761	+3,599
LEAD BALANCE BLOCKS REMOVED	-5,530	115,786	-3,650
REAR TOTAL			
TOTAL FORWARD & REAR	-2,594	+25	-51

**BALANCE TABLE NOTES:**

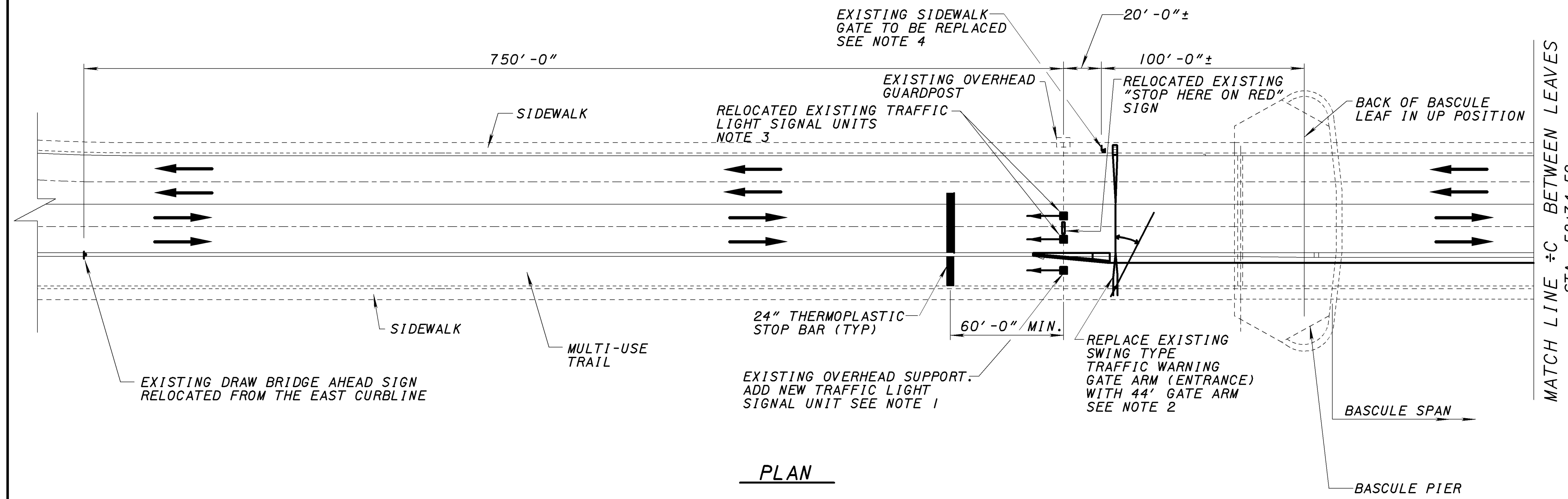
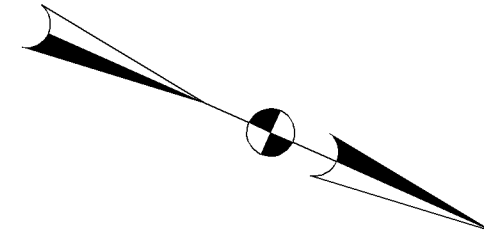
- BALANCE VALUES SHOWN IN THE BALANCE TABLE ARE FOR THE SOUTH LEAF. BALANCE FOR THE NORTH LEAF IS SIMILAR.
- ALL VALUES GIVEN IN TABLE ARE FOR ESTIMATES. THE CONTRACTOR SHALL COMPLETE A FINAL BALANCE TABLE IN ACCORDANCE WITH SPECIAL PROVISION FOR COUNTERWEIGHT BALANCING.
- MOMENT VALUES GIVEN IN TABLE ARE IN ACCORDANCE WITH THE SIGN CONVENTION AND SHOWN ON THIS DRAWING.
- VALUES GIVEN IN TABLE ARE FOR SPAN IN FULLY CLOSED POSITION.

**NOTES:**

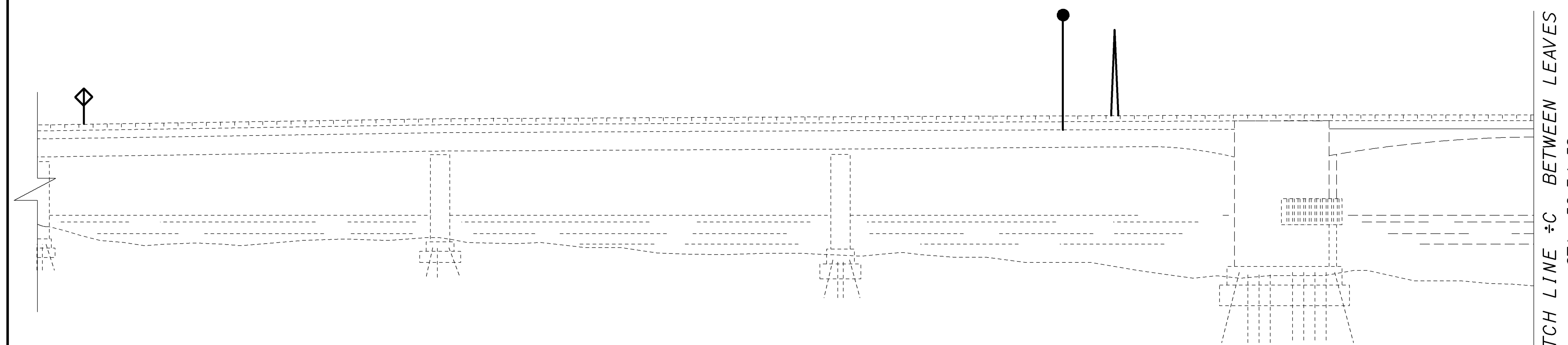
- ESTIMATED COUNTERWEIGHT BALANCE IS BASED ON ESTIMATES OF THE PROPOSED WORK AND DOES NOT REFLECT THE EXISTING BALANCE CONDITIONS OF THE BASCULE LEAVES.
- THE ESTIMATED COUNTERWEIGHT BALANCING IS BASED ON THE FOLLOWING UNIT WEIGHTS:

SHAPES, PLATES, FASTENERS	ASSUMED FOR DESIGN	AS BUILT
GALVANIZING	NOMINAL WEIGHT	
OTHER COATINGS	2.3 oz/Sft	_____oz/Sft
	2.3 oz/Sft	_____oz/Sft
- THE EXACT VALUES WILL BE DETERMINED BY THE CONTRACTOR'S COUNTERWEIGHT BALANCE CALCULATIONS IN ACCORDANCE WITH SPECIAL PROVISION FOR COUNTERWEIGHT BALANCING.
- THE CONTRACTOR SHALL DOCUMENT THE EXACT QUANTITY AND LOCATION OF EXISTING BALANCE BLOCKS IN ALL COUNTERWEIGHT POCKETS.
- THE CONTRACTOR SHALL KEEP AN INVENTORY OF THE WEIGHTS AND CENTER OF GRAVITY LOCATIONS OF ALL MATERIALS REMOVED AND ADDED TO THE BASCULE SPANS.
- IT IS ANTICIPATED THAT FINAL BALANCING WILL BE DONE BY REMOVING EXISTING BALANCE BLOCKS FROM THE COUNTERWEIGHT POCKETS.
- THE SPAN SHALL BE MAINTAINED IN A BALANCE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.
- ALL WORK ON THIS SHEET SHALL BE PAID FOR UNDER ITEM 530 SPECIAL - STRUCTURE, MISC.: SPAN BALANCING.

DESIGN AGENCY: BERGMANN associates 6711 Monroe St., Bldg. 2, Sylvania, OH 43560  
 DATE: 3/16/06  
 REVIEWED: JAH  
 DRAWN: MFM  
 DESIGNED: MFM  
 CHECKED: JA  
 STRUCTURE FILE NUMBER: 4805917  
**BASCULE SPAN BALANCE**  
 CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER MAUMEE RIVER  
 LUC-280-2.34 TRENCH RECLAMATION  
 60/63  
 519/555



PLAN

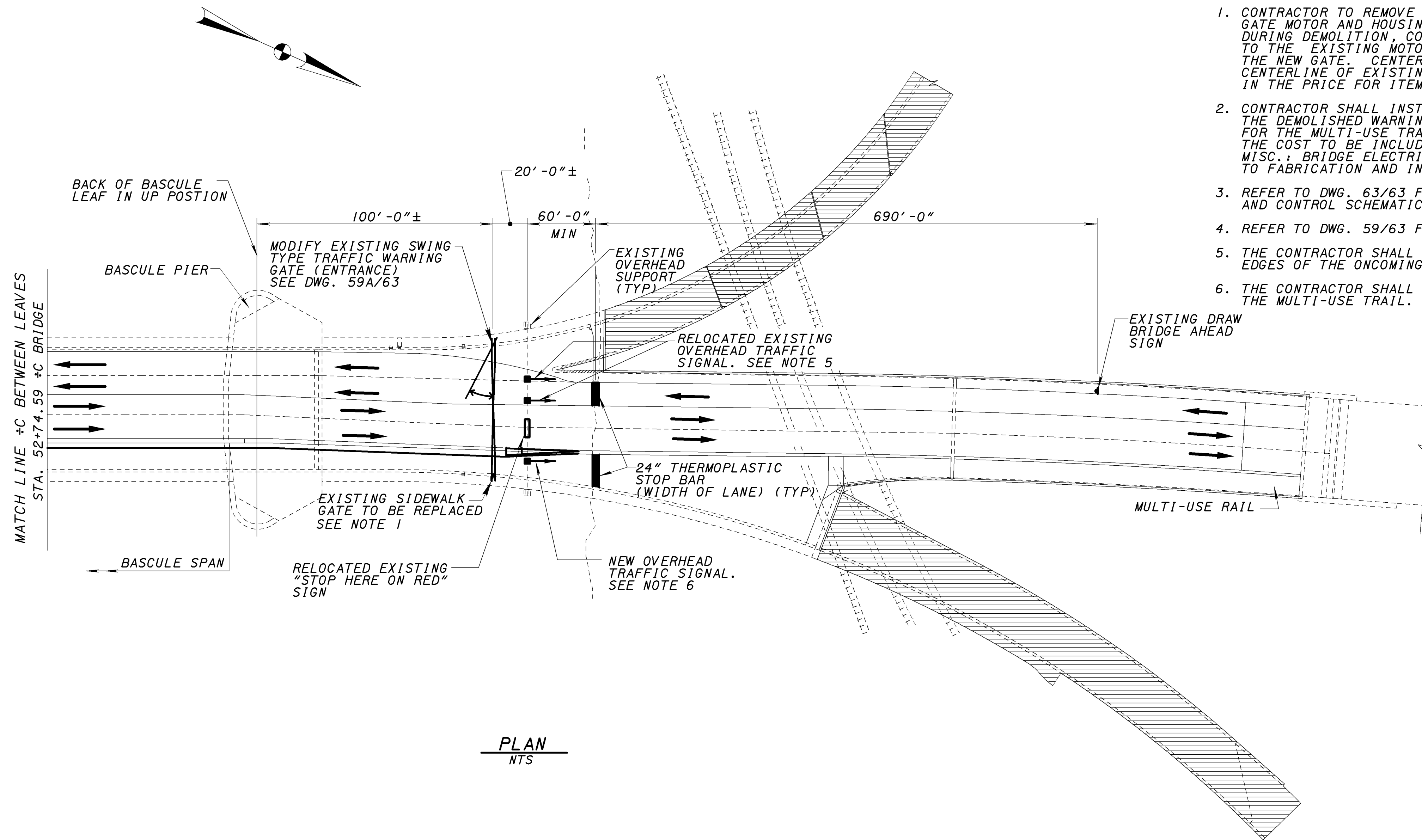


ELEVATION

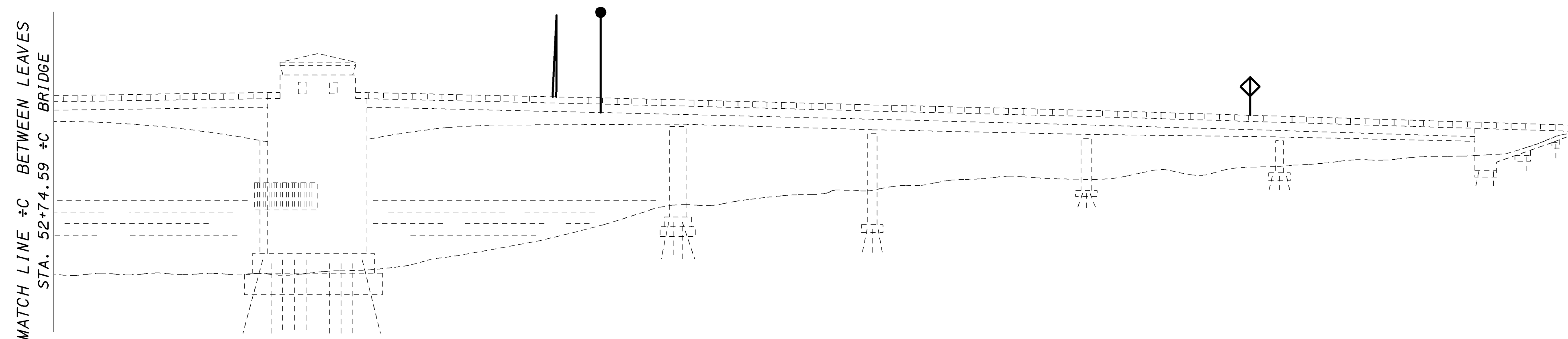
NOTES:

1. CONTRACTOR TO INSTALL A NEW TRAFFIC LIGHT SIGNAL OVER THE CENTER LINE OF THE MULTI-USE TRAIL. REFER TO DWG. 63/63 FOR SCHEMATICS AND MOUNTING DETAILS.
2. CONTRACTOR TO REPLACE EXISTING SWING TYPE WARNING GATE ARM WITH A 44' GATE ARM.
3. CONTRACTOR SHALL REALIGN EXISTING TRAFFIC LIGHTS TO MATCH THE CENTER LINE OF THE ONCOMING LANES.
4. CONTRACTOR SHALL REMOVE EXISTING WARNING GATE FOR THE PEDESTRIAN WALKWAY. GATE MOTOR AND HOUSING SHALL BE RETURNED TO THE OWNER. DURING DEMOLITION, THE CONTRACTOR SHALL ENSURE THE POWER AND CONTROL FEEDS TO THE EXISTING MOTOR REMAIN INTACT FOR USE IN THE INSTALLATION OF THE NEW GATE.
5. CONTRACTOR SHALL INSTALL A 3 PHASE, 480V, 1/2HP GATE MOTOR AND HOUSING IN PLACE OF THE DEMOLISHED WARNING GATE. THIS GATE SHALL HAVE BOTH A 27'-9" ARM FOR SOUTHBOUND TRAFFIC AND A 4'-3" ARM FOR PEDESTRIAN WALKWAY. CONTRACTOR SHALL VERIFY DIMENSIONS IN THE FIELD PRIOR TO FABRICATION AND INSTALLATION.
6. REFER TO DWG. 63/63 FOR GATE LIMIT SWITCH DEVELOPMENT, GATE POWER AND CONTROL SCHEMATICS.
7. SEE DWG. 56/63 THROUGH 58/63 FOR SOUTHEAST GATE MODIFICATION DETAILS.
8. SEE DWG. 59B/63 FOR NEW SOUTHWEST WARNING GATE DETAILS.
9. CONTRACTOR SHALL FIELD VERIFY THE LENGTH OF GATE ARMS REQUIRED.

DATE	3/16/06
REVIEWED	JAH
STRUCTURE FILE NUMBER	4805917
DRAWN	RM
CHECKED	BA



PLAN  
NTS

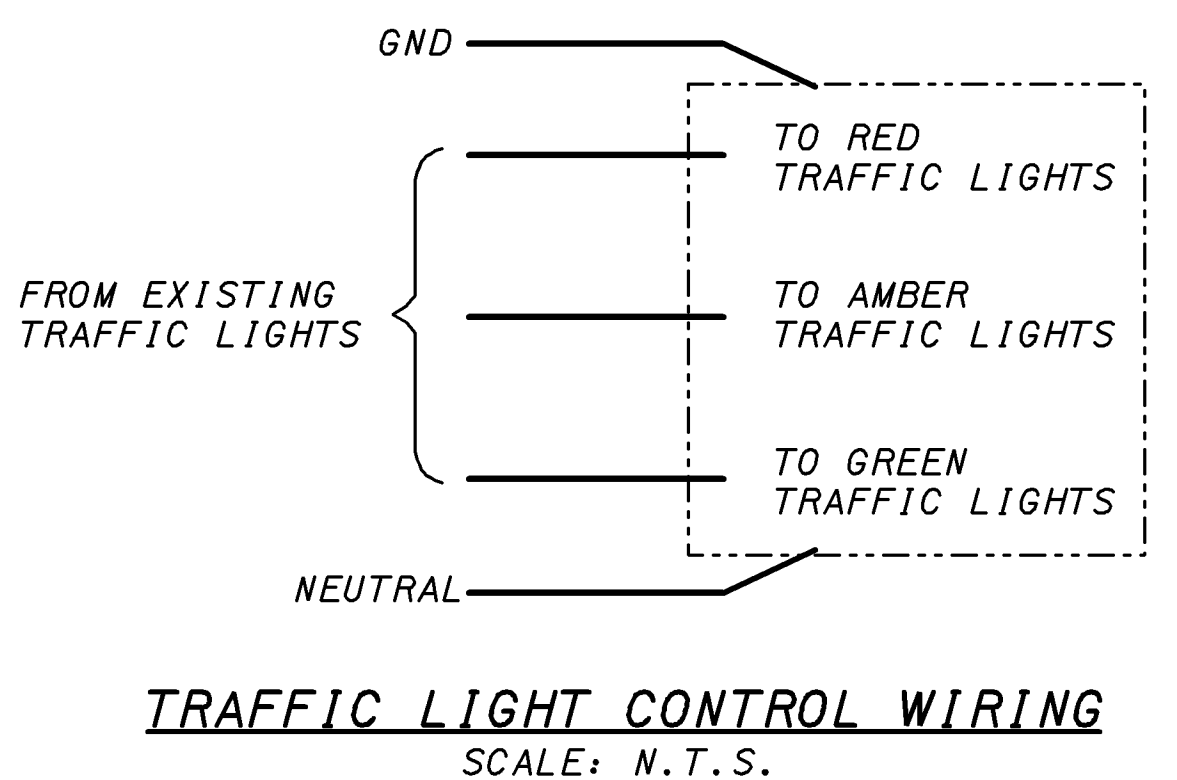
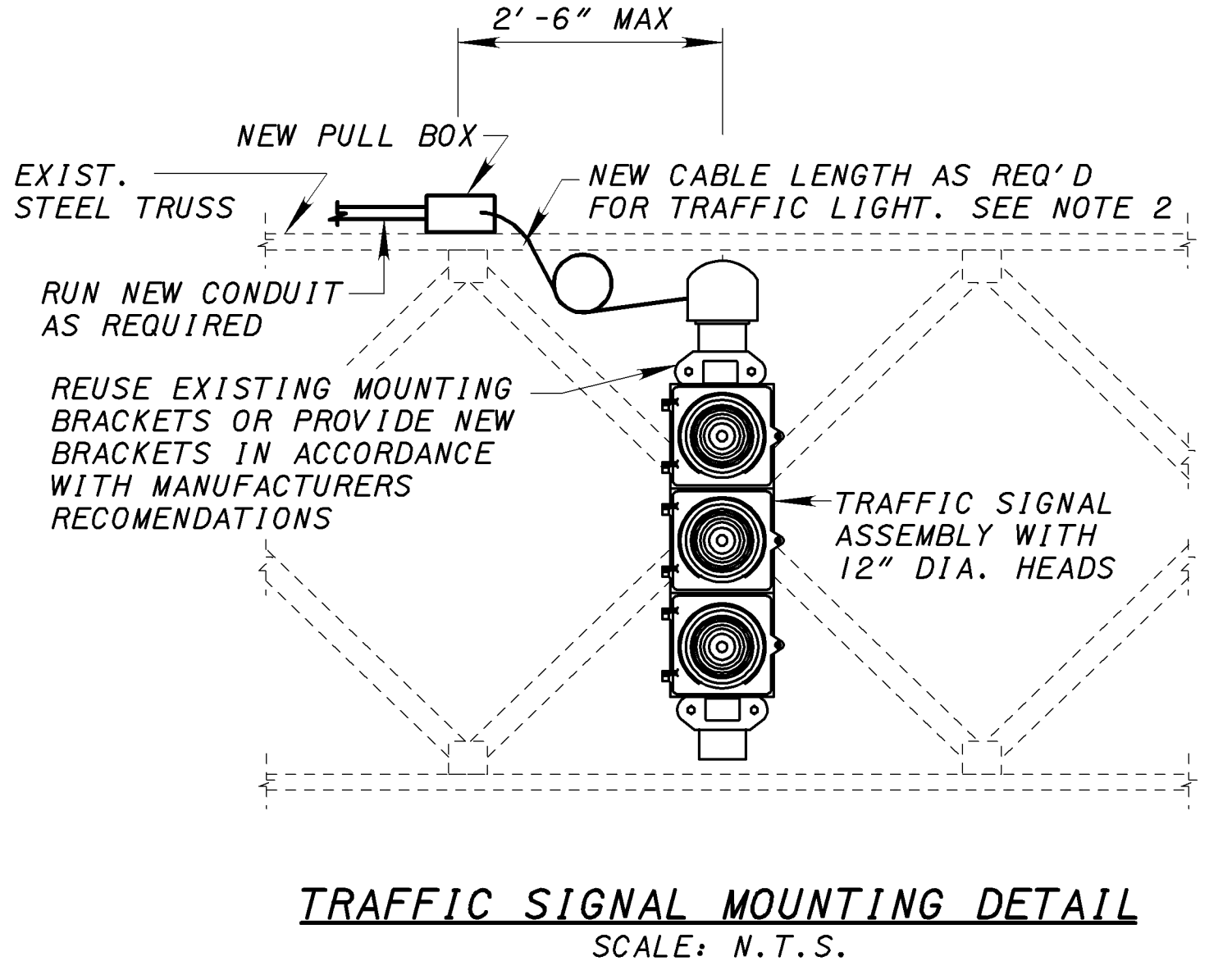
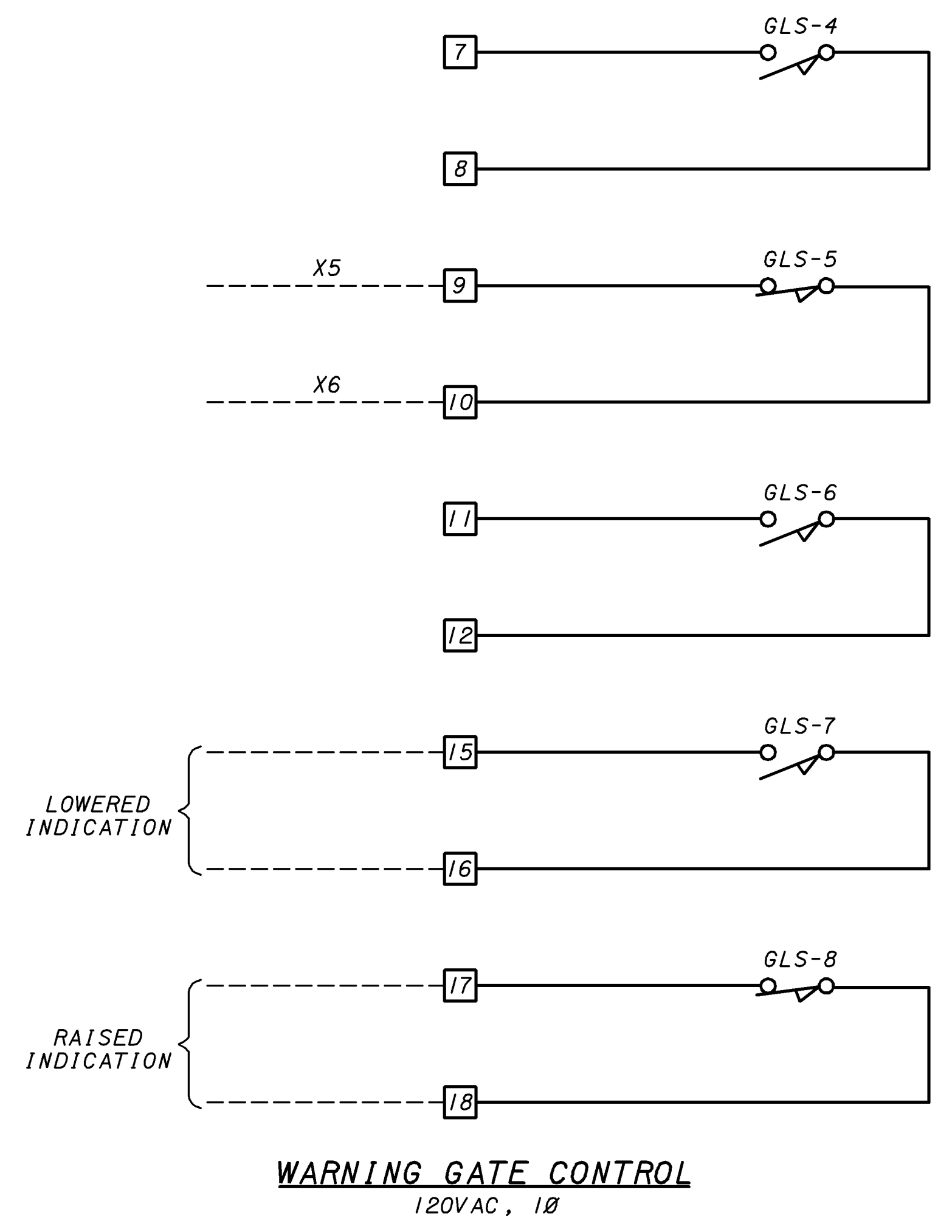
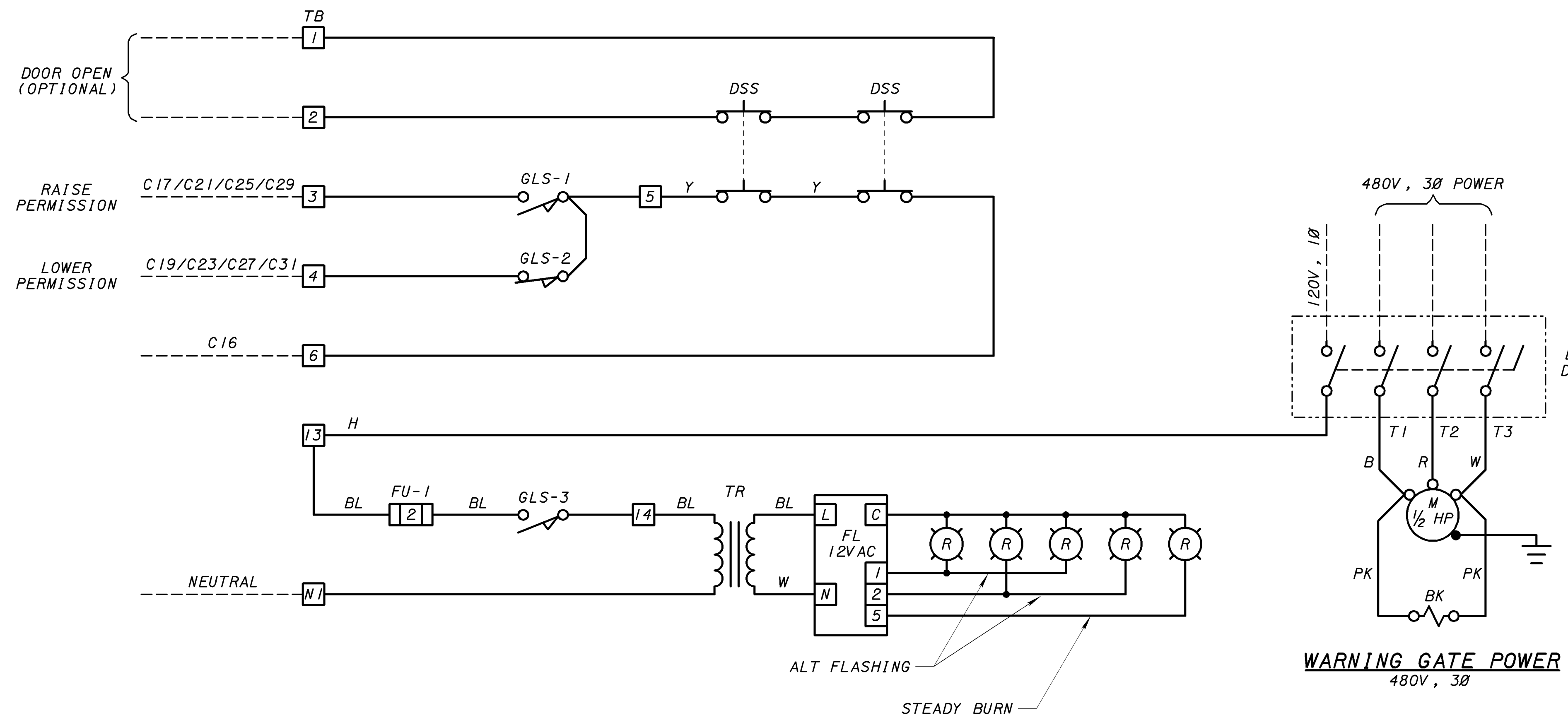


ELEVATION  
NTS

**NOTES:**

1. CONTRACTOR TO REMOVE EXISTING WARNING GATE FOR THE PEDESTRIAN WALKWAY. GATE MOTOR AND HOUSING SHALL BE DEMOLISHED AND RETURNED TO THE OWNER. DURING DEMOLITION, CONTRACTOR SHALL ENSURE THAT POWER AND CONTROL FEEDS TO THE EXISTING MOTOR REMAIN UNDEMOLISHED FOR THE INSTALLATION OF THE NEW GATE. CENTERLINE OF NEW OVERHEAD TYPE TRAFFIC GATE TO MATCH CENTERLINE OF EXISTING SIDEWALK GATE TO BE REPLACED. THE COST TO INCLUDED IN THE PRICE FOR ITEM 530 SPECIAL-STRUCTURE, MISC.: BRIDGE ELECTRICAL.
2. CONTRACTOR SHALL INSTALL A 3 PHASE, 480V, 1/2 HP MOTOR GATE IN PLACE OF THE DEMOLISHED WARNING GATE. THIS GATE SHALL HAVE BOTH A 44'-0" ARM FOR THE MULTI-USE TRAIL AND A 4'-3" ARM FOR THE PEDESTRIAN WALKWAY. THE COST TO BE INCLUDED IN THE PRICE FOR ITEM 530 SPECIAL-STRUCTURE, MISC.: BRIDGE ELECTRICAL. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS PRIOR TO FABRICATION AND INSTALLATION.
3. REFER TO DWG. 63/63 FOR THE GATE LIMIT SWITCH DEVELOPMENT, GATE POWER AND CONTROL SCHEMATICS.
4. REFER TO DWG. 59/63 FOR NORTHEAST GATE MODIFICATION DETAILS.
5. THE CONTRACTOR SHALL REALIGN EXISTING TRAFFIC LIGHT TO LINE UP WITH THE EDGES OF THE ONCOMING LANE. SEE DRAWING 63/63 FOR ADDITIONAL DETAILS.
6. THE CONTRACTOR SHALL INSTALL NEW TRAFFIC SIGNAL OVER THE CENTER LINE OF THE MULTI-USE TRAIL. SEE DRAWING 63/63 FOR ADDITIONAL DETAILS.

<b>DESIGN AGENCY</b> <b>B E R G M A N N</b> associates 6111 Monroe St., Bldg. 2 Sylvania, OH 43560	DATE 3/16/06
	REVIEWED JAH STRUCTURE FILE NUMBER 4805917
DRAWN RM REVISED	DESIGNED TA CHECKED BA
<b>ELECTRICAL PLAN AND ELEVATION II</b> CRAIG MEMORIAL BRIDGE NO. LUC-65-0538 OVER MAUMEE RIVER	
LUC-280-2.34 TRENCH RECLAMATION	
62/63	
521 555	



- NOTE:**
1. THE CONTRACTOR SHALL USE #12 RHW WIRE UNLESS OTHERWISE NOTED.
  2. THE CONTRACTOR SHALL FURNISH AND INSTALL NEW CABLE AS REQUIRED TO RELOCATE EXISTING TRAFFIC SIGNALS AND TO INSTALL NEW SIGNAL AT THE LOCATIONS SHOWN ON DRAWINGS 61/63 AND 62/63. UL LISTED CONDUIT FITTING, SHALL BE USED TO MAINTAIN WEATHER TIGHTNESS OF ELECTRICAL SYSTEM
  3. THE CONTRACTOR SHALL INSTALL NEW PULL BOX AS REQUIRED TO CONNECT TO EXISTING TRAFFIC SIGNAL WIRING. PULL BOXES SHALL BE MOUNTED TO EXISTING STEEL TRUSS WITH A MINIMUM OF 2-3/4" DIA. U-BOLTS. PROVIDE WIRE ROPE OR CHAIN CONNECTION TO TRUSS AS BACKUP.
  4. ALL WORK ON THIS SHEET SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 530 SPECIAL-STRUCTURE, MISC.: BRIDGE ELECTRICAL.

