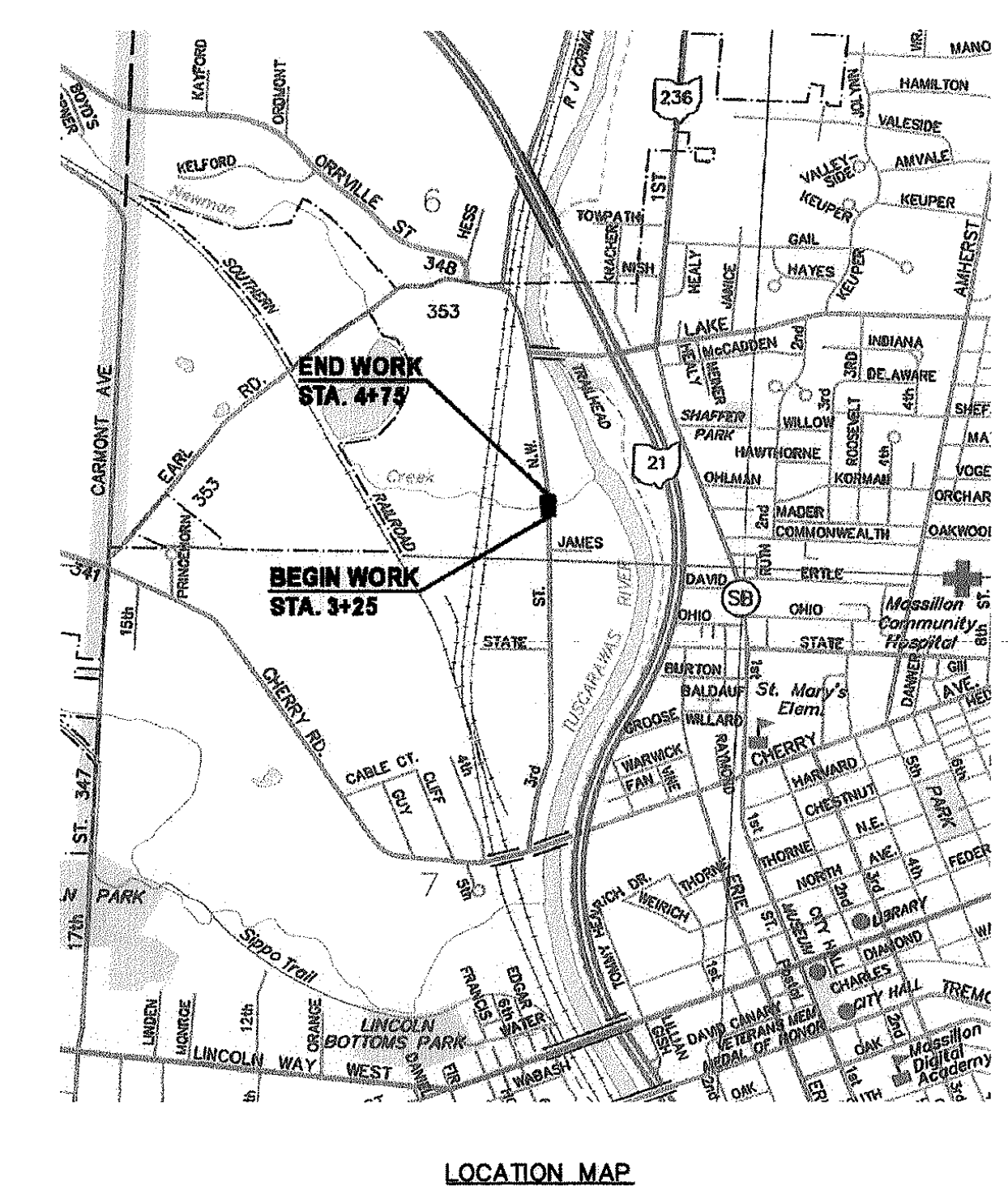
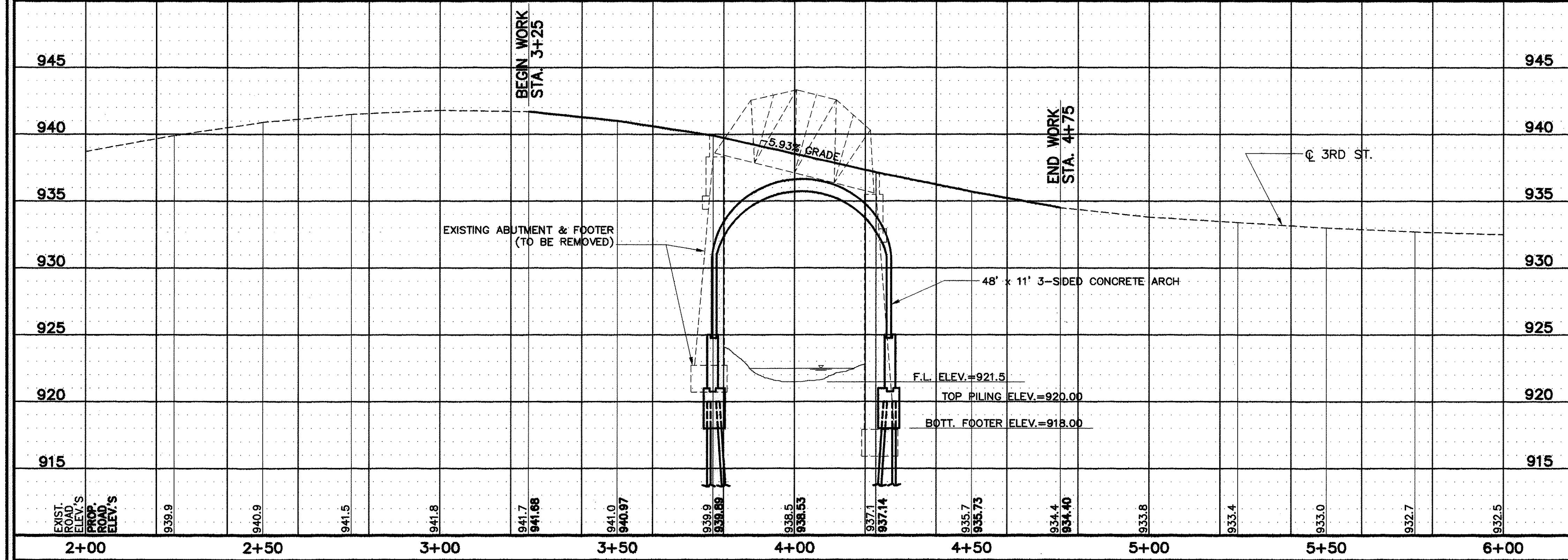


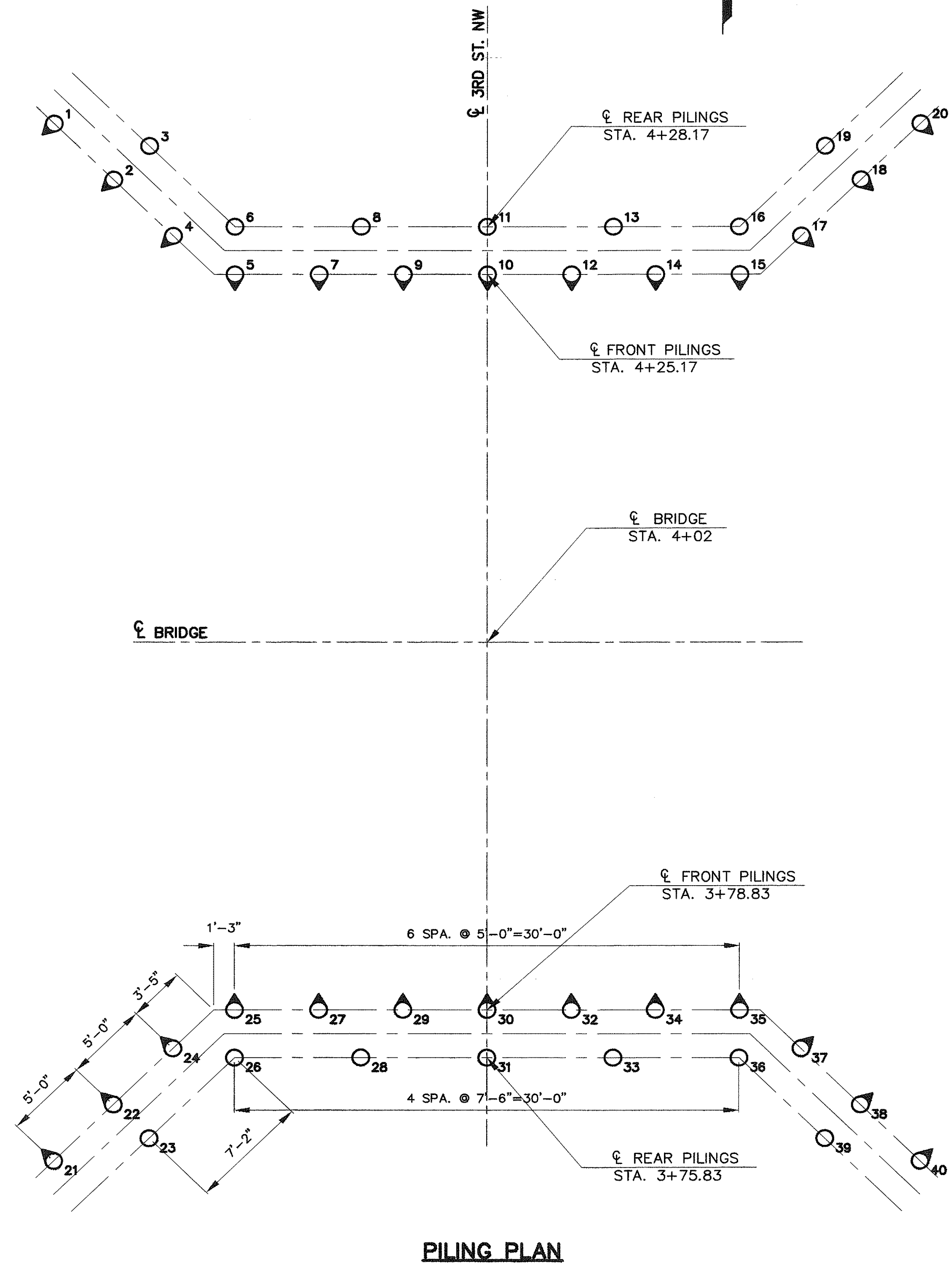
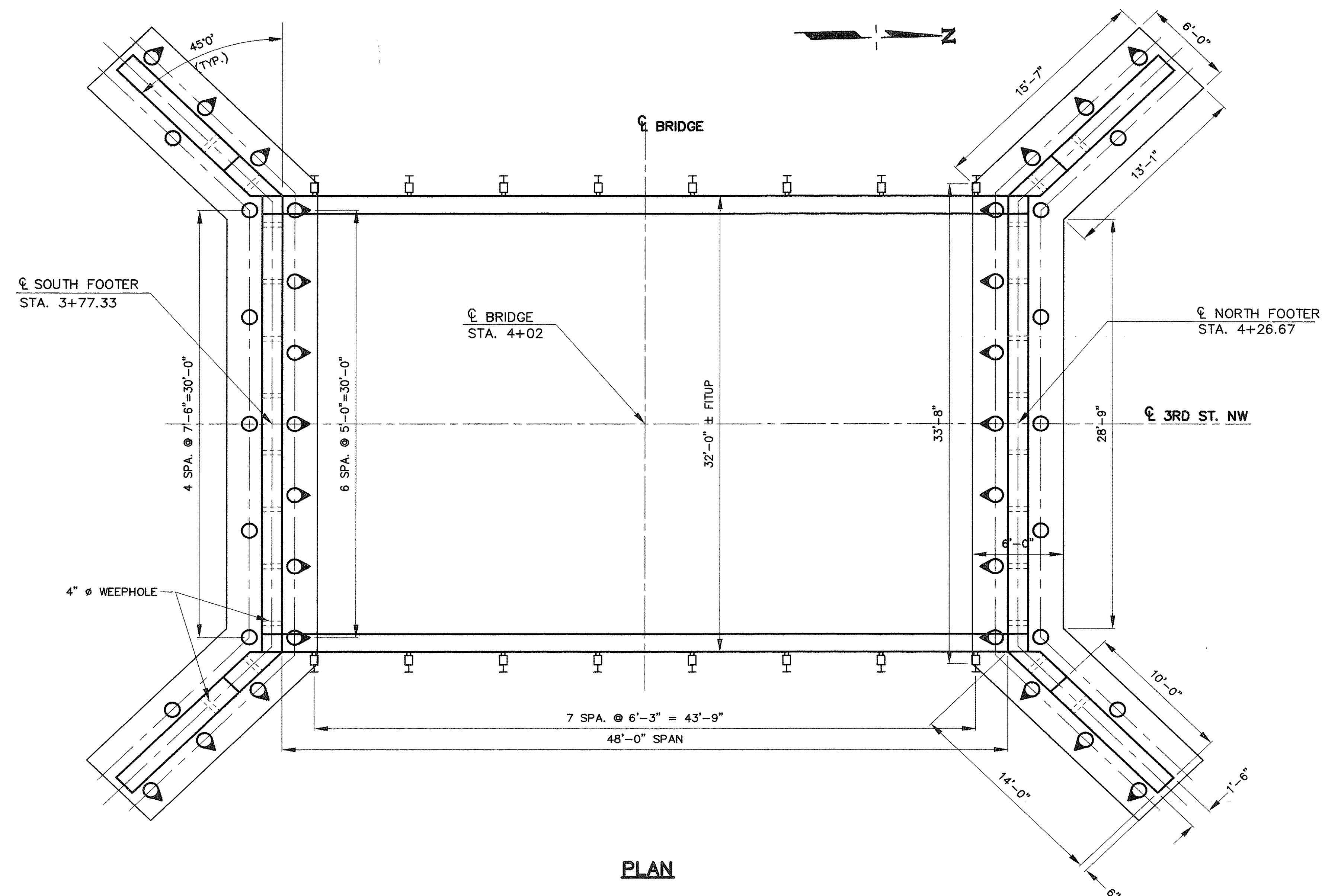
**BENCH MARK**  
 5/8" REBAR IN CONCRETE, STATION 2+32, 30' LEFT  
 ELEVATION = 934.94


**2008 SPECIFICATIONS**  
 THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS SHALL GOVERN THIS IMPROVEMENT. THE ENGINEER SHALL BE THE STARK COUNTY BRIDGE ENGINEER OR HIS REPRESENTATIVE.



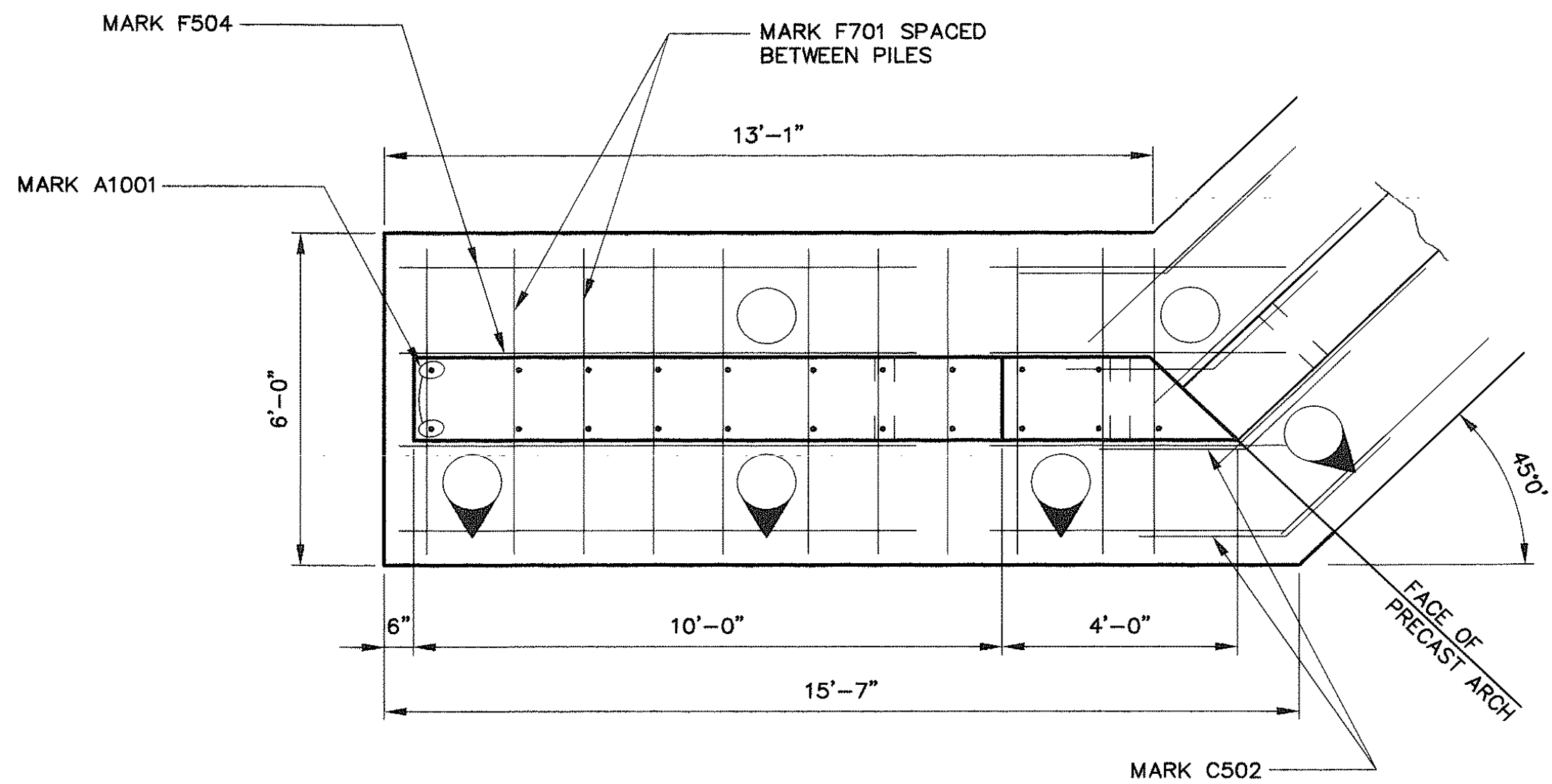
**2 WORKING DAYS  
 BEFORE YOU DIG  
 CALL TOLL FREE  
 1-800-362-2764  
 OHIO UTILITIES  
 PROTECTION SERVICE  
 NON-MEMBERS MUST BE  
 CALLED DIRECTLY**

EXISTING STRUCTURE	
TYPE:	STEEL TRUSSES ON CONCRETE ABUTMENTS
SPAN:	40'-0" CLEAR SPAN
ROADWAY:	24'-0" f/f GUARDRAIL
SKEW:	0°
ALIGNMENT:	TANGENT
DRAINAGE AREA:	23,682 ACRES
WATERWAY AREA:	540 SQ. FT.
PROPOSED STRUCTURE	
TYPE:	48' x 11' 3-SIDED CONCRETE ARCH CULVERT
SPAN:	48'-0" CLEAR
ROADWAY:	28'-6" f/f GUARDRAIL
SKEW:	0°
ALIGNMENT:	TANGENT
WATERWAY AREA:	552 SQ. FT.



1. PILES SHOULD BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 30 TONS PER PILE.
2. THE ESTIMATED PILE LENGTH IS 45 FEET.
3. ALL PILES ARE 12" DIAMETER CAST-IN-PLACE REINFORCED CONCRETE PILES.
4.  INDICATES PILES BATTERED AT 1:3.
5. NO PAYMENT WILL BE MADE FOR SPLICING PILES





NOTE: BEND CORNER BARS IN FIELD TO FIT WINGWALLS. ARCH SUPPLIER TO PROVIDE C503 BARS 5'-0" LONG, ANCHORED INTO END UNITS AND PRECAST HEADWALLS.

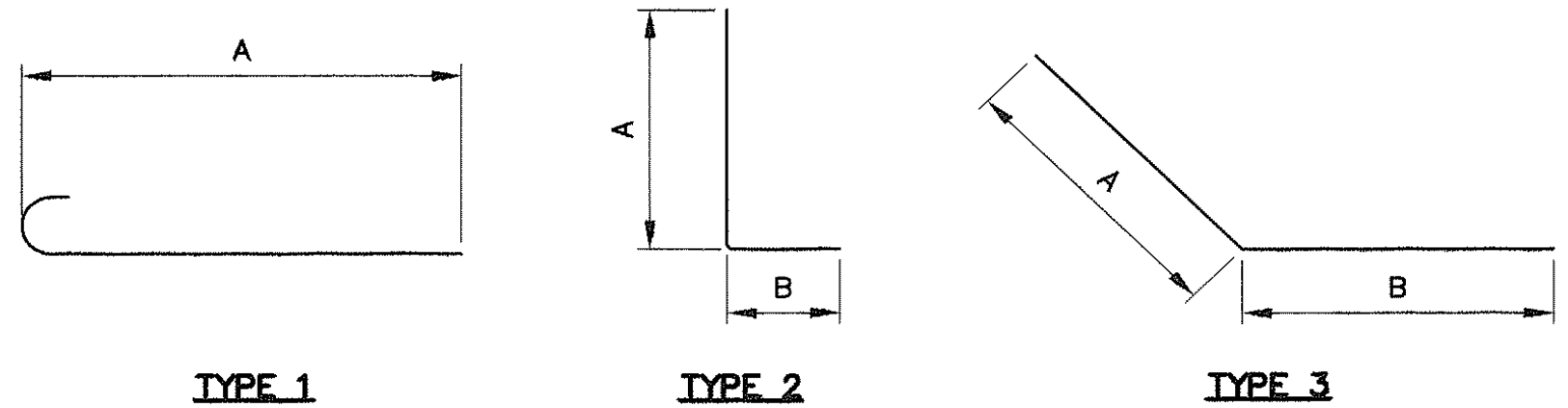
**WINGWALL PLAN**  
(SHOWING FOOTER REINFORCEMENT ONLY)

NOTE: PROVIDE 1" CHAMFER ON ALL EXPOSED EDGES OF NEW CONCRETE.

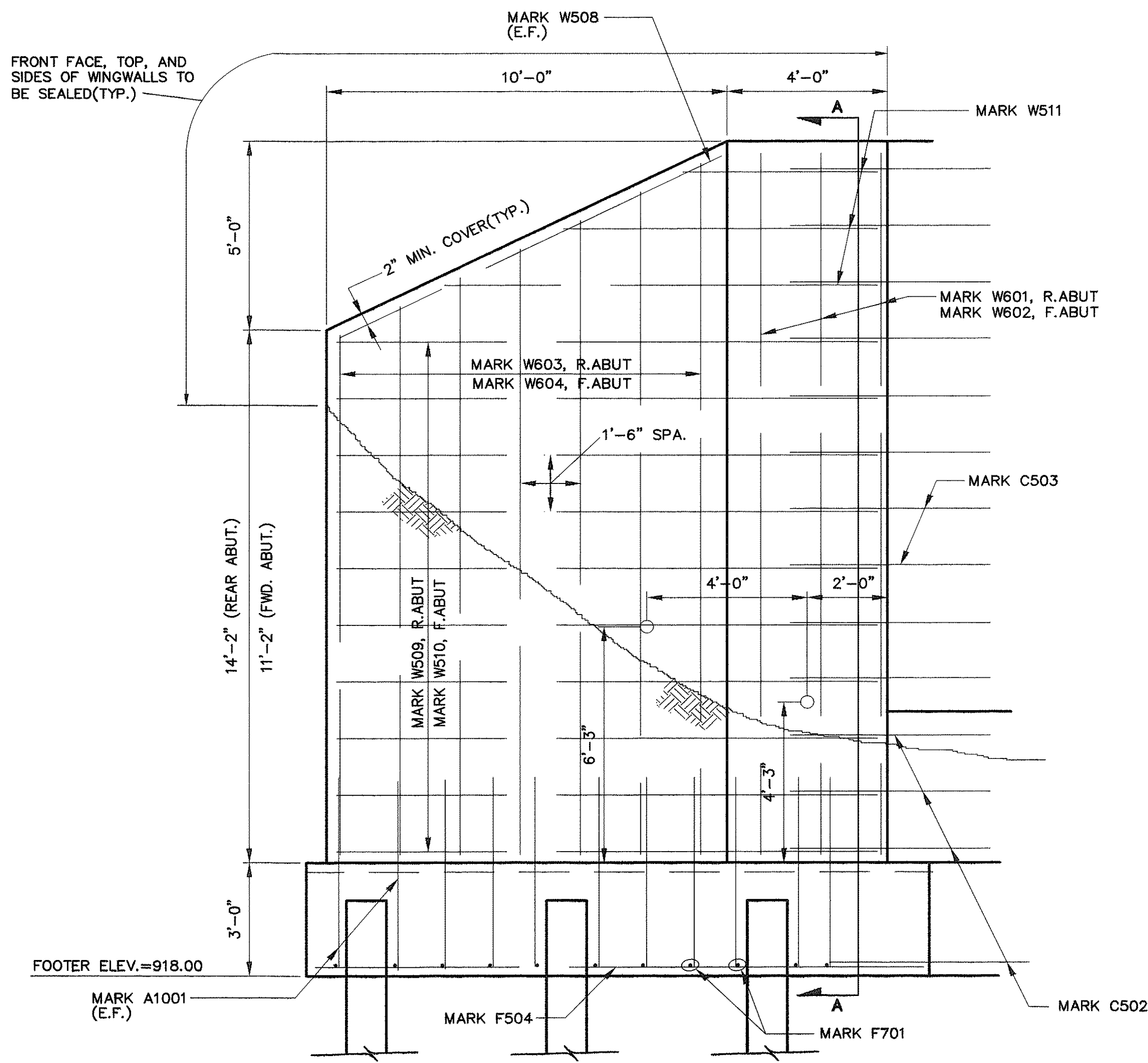
REINFORCING STEEL LIST							
MARK	QUAN.	LENGTH	WEIGHT	TYPE	A	B	MIN. LAP
A501	56	7'-3"	423	2	6'-6"	8"	
A1001	84	5'-10"	2108	2	5'-0"	8"	
C502	28	5'-0"	146	3	2'-6"	2'-6"	
C503	36	5'-0"	#	3	2'-6"	2'-6"	
F504	16	15'-0"	250	S			
F505	8	33'-6"	280	S			2'-0"
F701	100	6'-4"	1295	1	5'-6"		
S506	16	31'-9"	530	S			2'-0"
S507	56	5'-10"	341	2	3'-3"	2'-6"	
W508	8	10'-6"	88	S			
W509	40	13'-6"	563	S			
W510	32	13'-6"	451	S			
W511	24	4'-10" TO 10'-9"	195	S			
W601	12	18'-6"	333	S			
W602	12	15'-8"	282	S			
W603	28	13'-9" TO 18'-3"	673	S			
W604	28	10'-11" TO 15'-5"	554	S			
TOTAL =			8,512 LBS.				

ALL REINFORCING STEEL SHALL BE EPOXY COATED.

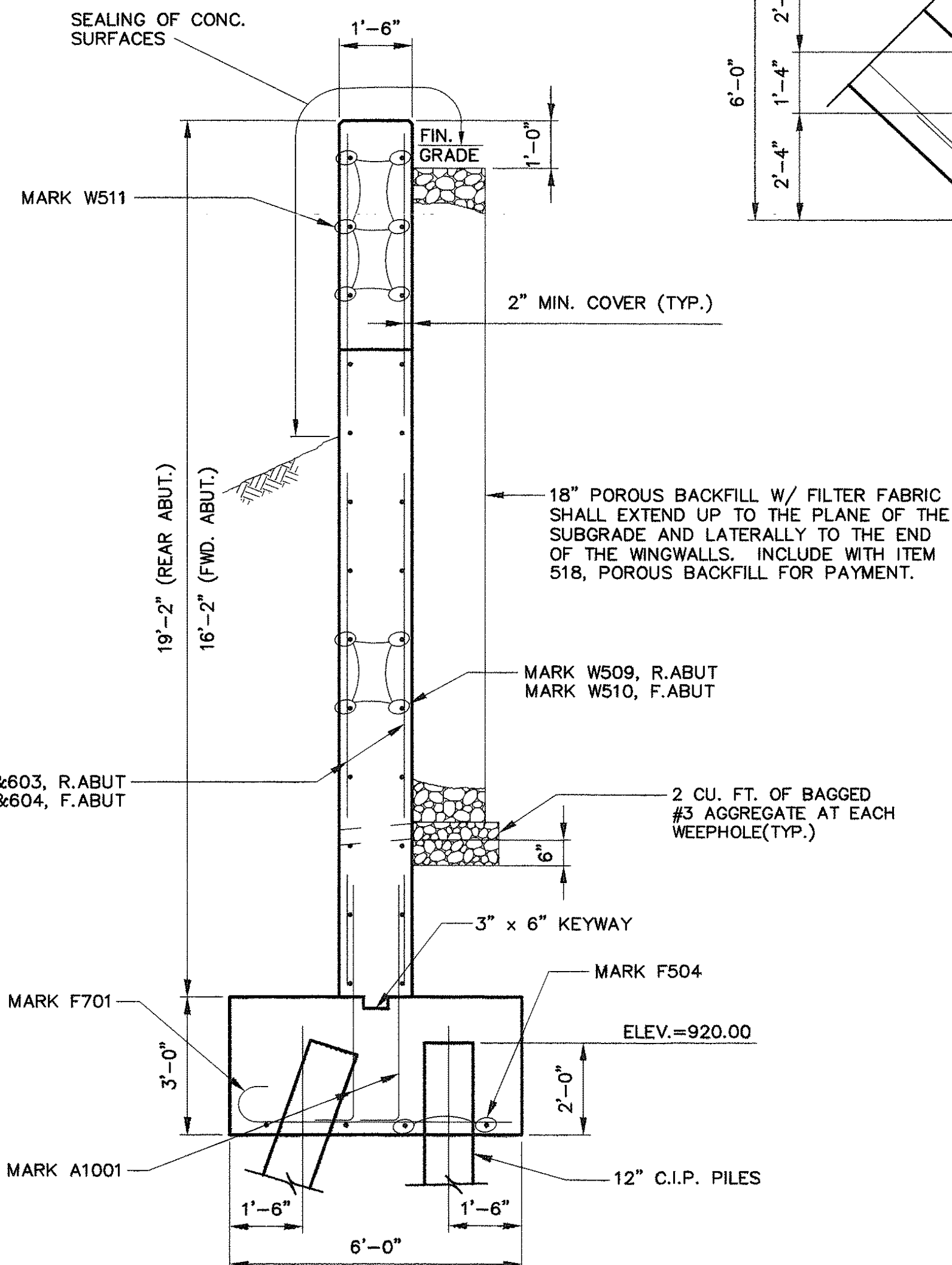
# - INDICATES BARS TO BE SUPPLIED BY PRECAST CONCRETE ARCH SUPPLIER



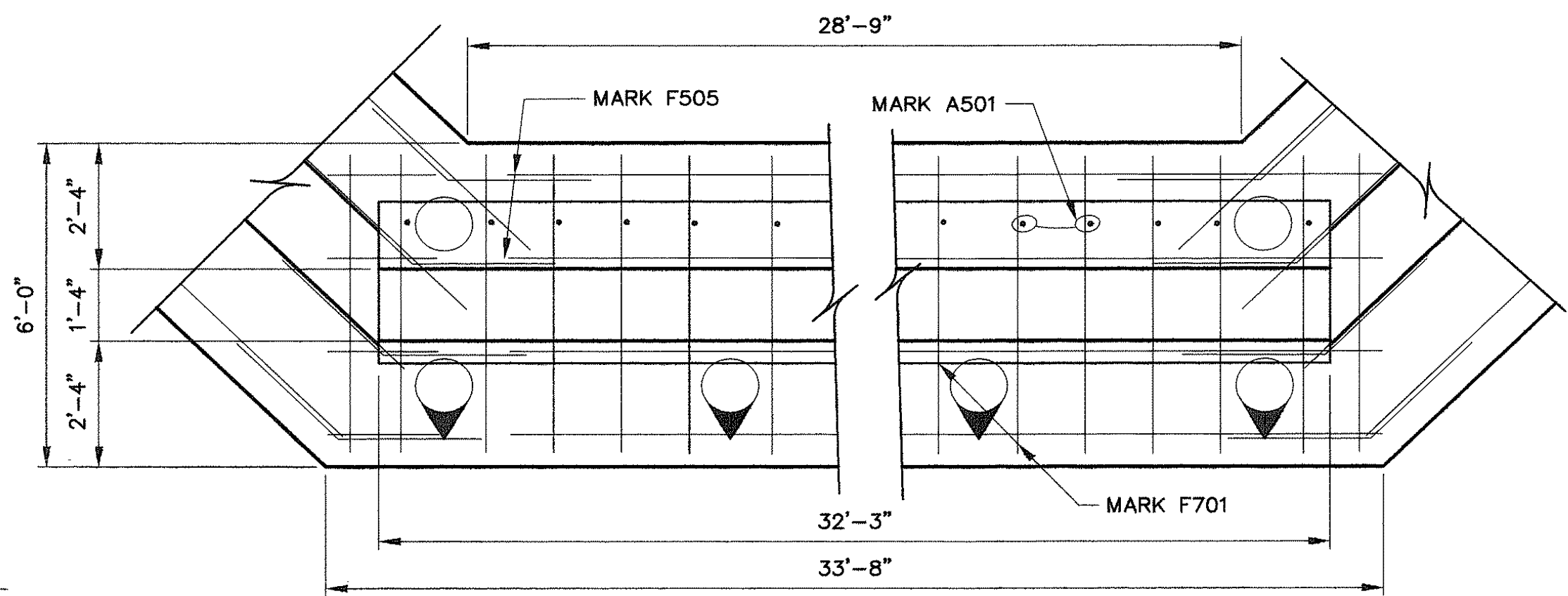
**BENDING DIAGRAMS**



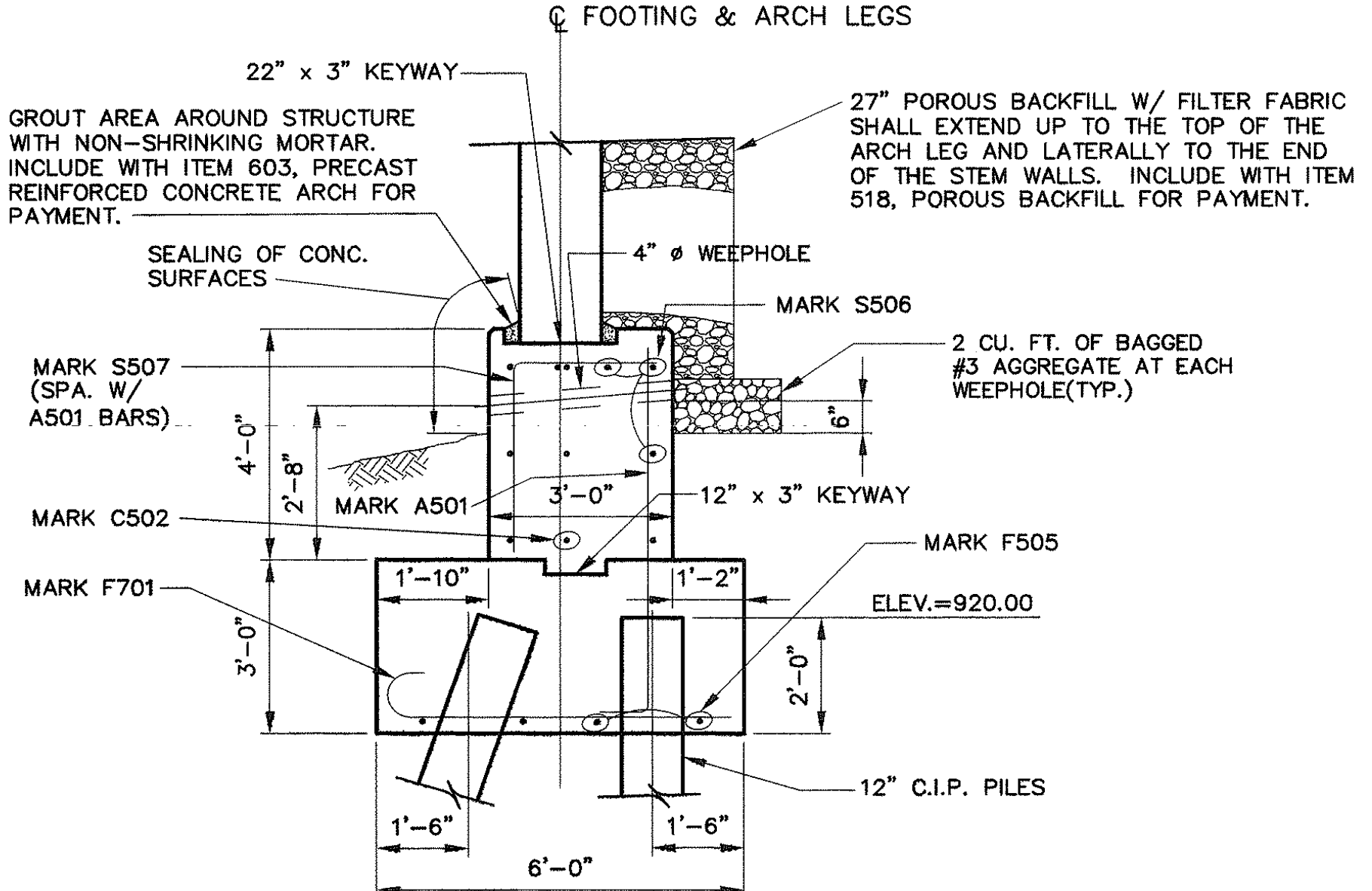
**WINGWALL ELEVATION**



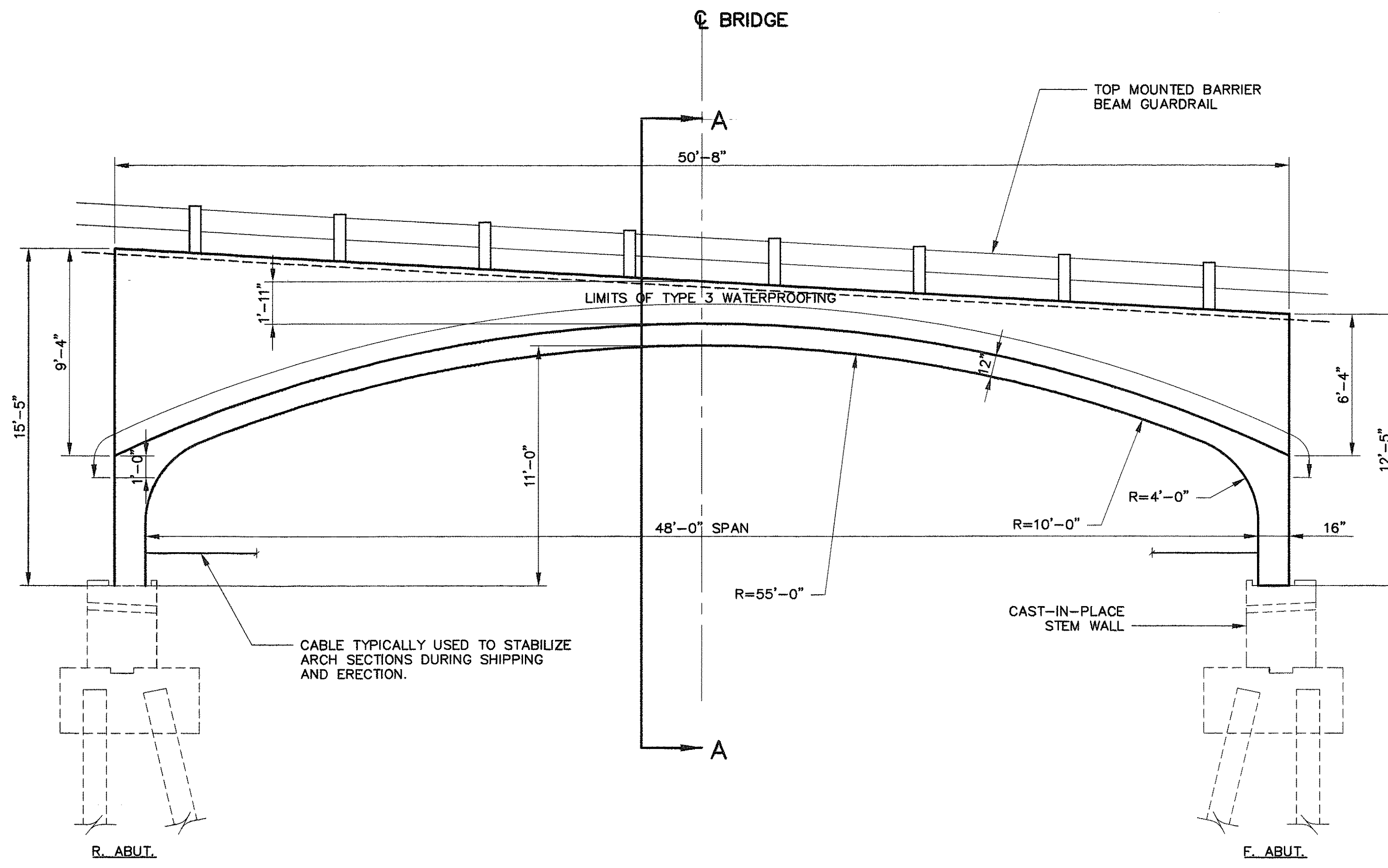
**SECTION A-A**



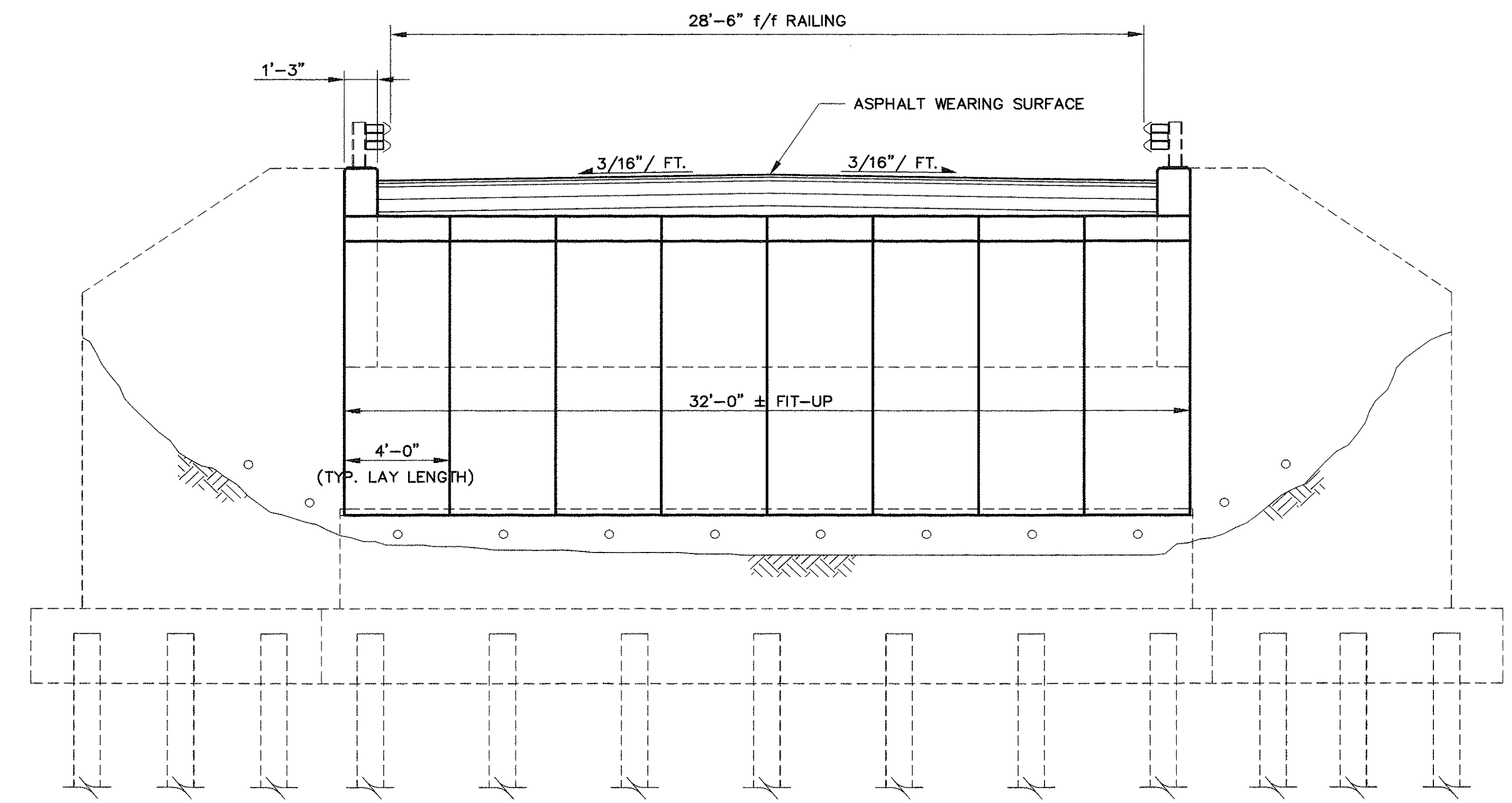
**ABUTMENT PLAN**  
(SHOWING FOOTER REINFORCEMENT ONLY)



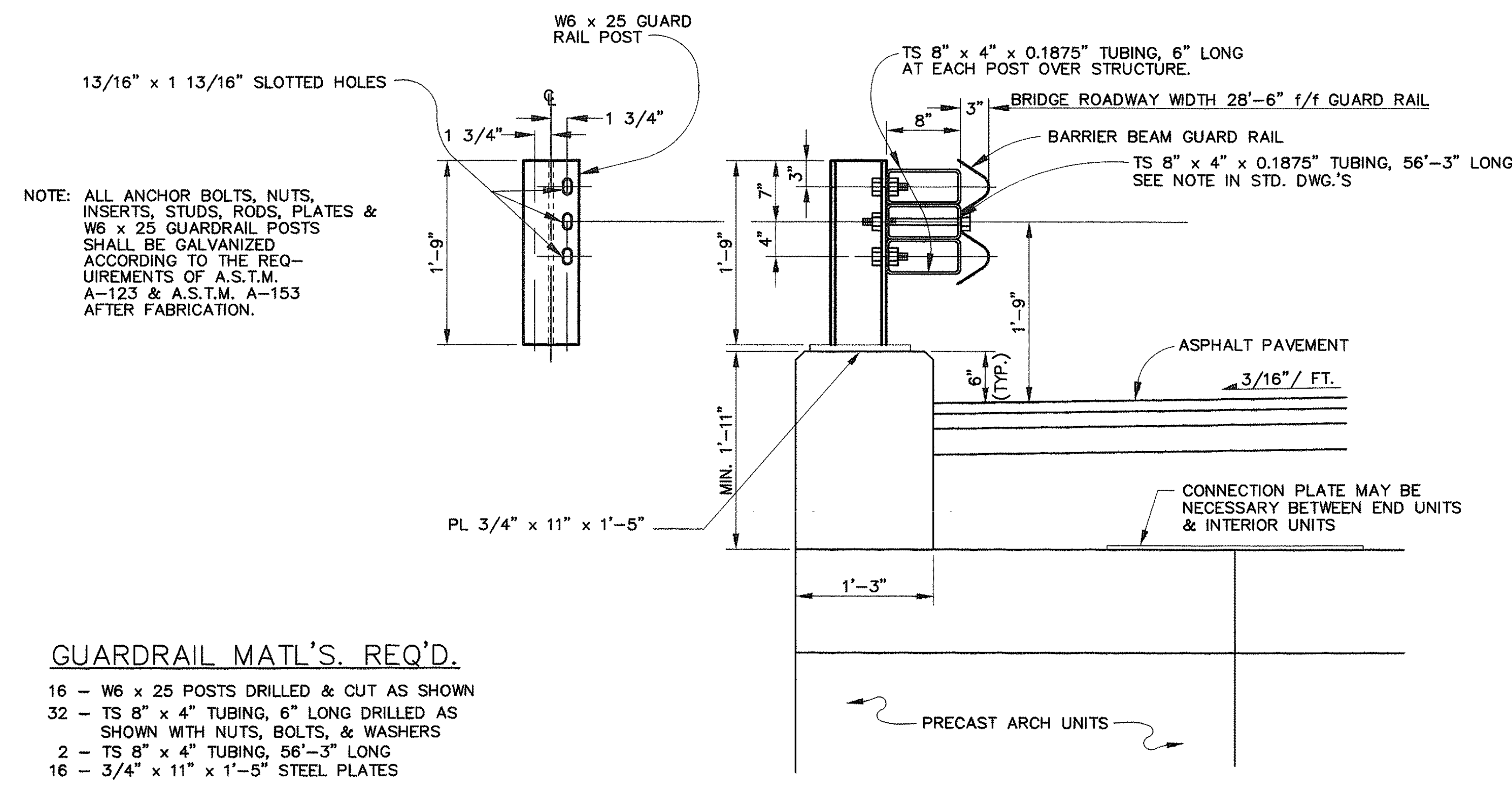
**ABUTMENT CROSS-SECTION**



ARCHED THREE-SIDED CULVERT SECTION



SECTION A-A



TYPICAL RAILING DETAIL

GUARDRAIL MATL'S. REQ'D.

- 16 - W6 x 25 POSTS DRILLED & CUT AS SHOWN
- 32 - TS 8" x 4" TUBING, 6" LONG DRILLED AS SHOWN WITH NUTS, BOLTS, & WASHERS
- 2 - TS 8" x 4" TUBING, 56'-3" LONG
- 16 - 3/4" x 11" x 1'-5" STEEL PLATES

ITEM 603, PRECAST REINFORCED CONCRETE ARCH

PRECAST HEADWALL AND ARCH CONNECTION DETAILS TO BE PROVIDED BY MANUFACTURER. HEADWALL & ANY OTHER INCIDENTALS TO BE PAID FOR UNDER ITEM 603, PRECAST REINFORCED CONCRETE ARCH.

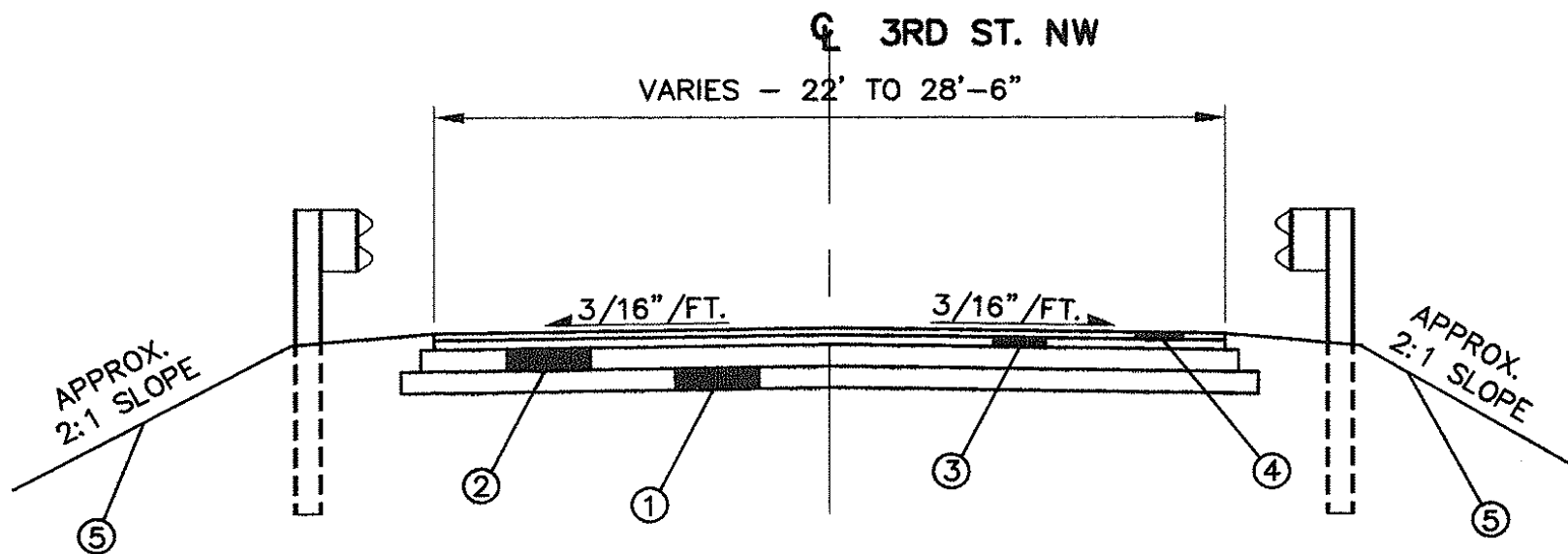
BRIDGE SUPERSTRUCTURE TO BE LOAD-RATED USING ODOT APPROVED COMPUTER ANALYSIS SOFTWARE. ANALYSIS SHALL BE SUBMITTED WITH SHOP DRAWINGS FOR APPROVAL. BRIDGE LOAD RATING TO BE PAID FOR UNDER ITEM 603, PRECAST REINFORCED CONCRETE ARCH.



ESTIMATED QUANTITIES

REF. NO.	ITEM	QUANTITY	UNIT	DESCRIPTION
1	201	LUMP	SUM	CLEARING AND GRUBBING, INCLUDING TREE REMOVALS
2	202	LUMP	SUM	STRUCTURE REMOVED
3	203	70	CU. YD.	EXCAVATION
4	203	1050	CU. YD.	EMBANKMENT
5	301	80	CU. YD.	ASPHALT CONCRETE BASE, PG 64-22
6	304	80	CU. YD.	AGGREGATE BASE
7	407	35	GALL.	TACK COAT
8	408	190	GALL.	PRIME COAT
9	448	25	CU. YD.	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG 64-22
10	448	18	CU. YD.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22
11	503	LUMP	SUM	COFFER DAMS, CRIBS, AND SHEETING
12	503	LUMP	SUM	UNCLASSIFIED EXCAVATION
13	505	LUMP	SUM	PILE DRIVING EQUIPMENT MOBILIZATION
14	507	1800	FOOT	12" CAST-IN-PLACE, REINFORCED CONCRETE PILES
15	509	8512	LBS.	EPOXY COATED REINFORCING STEEL
16	511	80	CU. YD.	CLASS C CONCRETE, FOOTERS
17	511	75	CU. YD.	CLASS C CONCRETE, STEM WALLS AND WINGWALLS
18	512	100	SQ. YD.	SEALING OF CONCRETE SURFACES
19	512	180	SQ. YD.	TYPE 3 WATERPROOFING
20	517	113	FOOT	BRIDGE RAILING
21	518	72	CU. YD.	POROUS BACKFILL W/ FILTER FABRIC
22	603	32	FOOT	TYPE A, 706.052, PRECAST REINFORCED CONCRETE ARCH, 48' SPAN x 11' RISE
23	606	175	FOOT	GUARDRAIL, TYPE 5 W/ WRAP-AROUND TERMINALS
24	614	LUMP	SUM	MAINTAINING TRAFFIC
25	619	3	MONTH	FIELD OFFICE, TYPE A
26	623	LUMP	SUM	CONSTRUCTION LAYOUT STAKES
27	624	LUMP	SUM	MOBILIZATION
28	644	0.06	MI.	EDGE LINE
29	644	0.03	MI.	CENTER LINE
30	659	330	SQ. YD.	SEEDING AND MULCHING
31	SPEC	LUMP	SUM	CONTINGENCY (SEE NOTE)

NOTE: BRIDGE IS CURRENTLY CLOSED TO TRAFFIC AND DETOUR SIGNAGE IS IN PLACE. CONTRACTOR WILL BE RESPONSIBLE FOR REPLACING ALL TYPE 3 BARRICADES & THEN MAINTAINING ALL TRAFFIC CONTROL DEVICES FOR THE DURATION OF THE PROJECT.



TYPICAL SECTION  
STA. 3+25 TO STA. 4+75

- ① 6" 304 AGGREGATE BASE
- ② 6" 301 ASPHALT CONCRETE BASE
- ③ 1 3/4" 448 ASPHALT CONCRETE INTERMEDIATE COURSE
- ④ 1 1/4" 448 ASPHALT CONCRETE SURFACE COURSE
- ⑤ SEEDING & MULCHING

GENERAL NOTES

REMOVAL OF EXISTING STRUCTURE

THE EXISTING STEEL TRUSSES, FLOOR BEAMS, DECKING, GUARDRAIL, ETC. SHALL BE REMOVED AND HAULED AWAY. PORTIONS OF THE EXISTING ABUTMENTS AND FOOTERS WHICH INTERFERE WITH CONSTRUCTION SHALL BE REMOVED COMPLETELY. REMAINING PORTIONS SHALL BE REMOVED TO ONE FOOT BELOW FINAL GRADE. ALL MATERIAL SHALL BE HAULED AWAY AND SHALL NOT BE USED FOR STREAM BANK PROTECTION. ALL WORK SHALL BE PAID FOR AT THE LUMP SUM PRICE BID FOR ITEM 202, STRUCTURE REMOVED.

LOCATION OF GUARDRAIL

THE LOCATIONS OF GUARDRAIL RUNS, AS SHOWN IN THESE PLANS, ARE SUBJECT TO ADJUSTMENT PRIOR TO ERECTION. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT STARK COUNTY DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS.

DOMINION EAST OHIO GAS LINE

A MINIMUM CLEARANCE, BOTH VERTICALLY AND HORIZONTALLY, OF ONE FOOT SHALL BE MAINTAINED BETWEEN DEO'S EXISTING PIPELINE AND ALL OTHER IMPROVEMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE LATERAL AND SUBJACENT SUPPORT OF DEO'S PIPELINE. EXTREME CARE SHOULD BE TAKEN TO NOT HARM ANY DEO FACILITY OR APPURTENANCE. NOTIFY DEO IMMEDIATELY IF ANY HARM HAS BEEN INFLICTED UPON DEO'S FACILITIES OR APPURTENANCES THERETO.

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/OR FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXSTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

BRIDGE RAILING

THIS ITEM SHALL INCLUDE FURNISHING OF ALL MATERIALS AND LABOR NECESSARY TO CONSTRUCT AND ERECT THE COMPLETED RAILING. STRUCTURAL POSTS, ANCHORS, PLATES, CONNECTIONS, AND GALVANIZING ARE A PART OF THIS ITEM AND SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 517, BRIDGE RAILING.

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 INCLUDING THE INTERIM SPECIFICATIONS AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN LOADING AND STRESSES

DESIGN LOADING - HL-93  
CONCRETE CLASS "C" - COMPRESSIVE STRENGTH 4,000 P.S.I.  
REINFORCING STEEL - ASTM A615, A616, A617 - GRADE 60  
MINIMUM YIELD STRENGTH 60,000 P.S.I.

WATERPROOFING

THE ENTIRE TOP OF THE PRECAST ARCH AS WELL AS ONE FOOT DOWN THE CULVERT LEGS SHALL BE SEALED WITH TYPE 3 MEMBRANE WATERPROOFING JUST PRIOR TO PLACEMENT OF EMBANKMENT AND SUBSEQUENT ASPHALT ROADWAY SURFACE.

SEALING OF CONCRETE SURFACES

A SEALER SHALL BE APPLIED TO THE EXPOSED CAST-IN-PLACE CONCRETE SURFACES OF THE BRIDGE AS SHOWN ON SHEET 3. THE SEALER SHALL BE HYDROZO ENVIROSEAL 40 MANUFACTURED BY HYDROZO, INC. OR APPROVED EQUAL. SEE MANUFACTURER'S RECOMMENDATIONS FOR SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, AND APPLICATION PROCEDURES.

PILE DESIGN LOADS

THE DESIGN LOAD FOR THE ABUTMENT PILES IS 30 TONS PER PILE.

POROUS BACKFILL

OF VARIOUS THICKNESS, THE POROUS BACKFILL SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE AND Laterally TO THE ENDS OF THE WINGWALLS.

SEEDING

QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS BETWEEN THE WORK LIMITS. ONLY SOIL AREAS DISTURBED BY CONSTRUCTION ARE TO BE SEEDED.

CONSTRUCTION AND DEMOLITION DEBRIS

THE CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID AND/OR LIMIT DEMOLITION DEBRIS FROM ENTERING THE STREAM. ANY MATERIAL THAT DOES FALL INTO THE STREAM SHALL BE REMOVED AS SOON AS POSSIBLE.

IN-STREAM WORK

IN-STREAM WORK WILL BE LIMITED WHERE PRACTICABLE AND ONLY CLEAN NON-ERODIBLE MATERIAL WILL BE USED FOR COFFERDAMS. THIS TEMPORARILY PLACED MATERIAL WILL BE REMOVED AND THE STREAM BOTTOM RESTORED TO NEAR NATURAL CONDITIONS WHEN THE WORK IS COMPLETE.

THE SPECIFICATIONS SET FORTH IN THE MOST CURRENT VERSION OF ODOT'S CONSTRUCTION AND MATERIALS SPECIFICATIONS, LOCATION AND DESIGN MANUAL, SUPPLEMENTAL SPECIFICATIONS, AND STANDARD DRAWINGS WILL BE USED TO ENSURE ADEQUATE EROSION AND SEDIMENT CONTROL DURING CONSTRUCTION.

MAINTAINING TRAFFIC

THE CONTRACTOR SHALL MAINTAIN TRAFFIC AT ALL TIMES ON THE PROJECT IN ACCORDANCE WITH ITEM 614, THE TRAFFIC CONTROL PLAN CURRENTLY IN PLACE, AND AS DESCRIBED BELOW.

ALL TRAFFIC CONTROL DEVICES NECESSARY TO MAINTAIN AND PROTECT TRAFFIC ARE CURRENTLY IN PLACE. THE CONTRACTOR SHALL REPLACE EXISTING TYPE 3 BARRICADES AT BRIDGE SITE AND DELIVER EXISTING BARRICADES TO THE STARK COUNTY ENGINEERS, LOCATED AT 5165 SOUTHWAY ST. THE CONTRACTOR SHALL MAINTAIN ALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

THE CONTRACTOR SHALL NOT USE ANY EXISTING SIGN POST TO MOUNT A TRAFFIC CONTROL SIGN.

THE CONTRACTOR SHALL MAKE THE NECESSARY ARRANGEMENTS TO REMOVE, AND RETURN THE STREET NAME AND TRAILBLAZING SIGNS TO THE ENGINEER'S FACILITY UPON PROJECT COMPLETION.

THE CONTRACTOR SHALL TAKE NOTICE OF THE REQUIREMENT OF THE SECOND PARAGRAPH OF 614.03. DEVICES USING OTHER THAN TYPE G SHEETING ARE NOT ACCEPTABLE.

THE CONTRACTOR SHALL PROVIDE AT LEAST TWO WEEKS NOTICE TO THE COUNTY ENGINEER PRIOR TO STARTING THE PROJECT. THE COUNTY ENGINEER WILL PREPARE A NEWS RELEASE TO INFORM THE GENERAL PUBLIC OF THE BEGINNING OF CONSTRUCTION. THE CONTRACTOR SHALL ALSO SUPPLY THE COUNTY ENGINEER WITH A 24 HOUR TELEPHONE NUMBER, OR AT LEAST TWO TELEPHONE NUMBERS FOR TWO DIFFERENT INDIVIDUALS AUTHORIZED BY THE CONTRACTOR TO RESTORE DAMAGED, REPLACE MISSING, REPAIR INCOPERABLE, OR MAKE ANY OTHER NEEDED MAINTENANCE OF THE REQUIRED TRAFFIC CONTROL DEVICES DURING NON-SCHEDULED WORK HOURS. THESE TELEPHONE NUMBERS SHALL BE PROVIDED PRIOR TO ANY WORK BEING STARTED.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC.

UTILITIES NOTIFICATION

AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN AN AREA WHICH MAY INVOLVE UNDERGROUND UTILITY FACILITIES, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, THE REGISTERED UTILITY PROTECTION SERVICE, AND THE OWNERS OF EACH UNDERGROUND UTILITY FACILITY SHOWN IN THE PLANS.

THE OWNER OF THE UNDERGROUND UTILITY FACILITY SHALL, WITHIN FORTY-EIGHT HOURS, EXCLUDING SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS, AFTER NOTICE IS RECEIVED, STAKE, MARK, OR OTHERWISE DESIGNATE THE LOCATION OF THE UNDERGROUND UTILITY FACILITIES IN THE CONSTRUCTION AREA IN SUCH A MANNER AS TO INDICATE THEIR COURSE TOGETHER WITH THE APPROXIMATE DEPTH AT WHICH THEY WERE INSTALLED. THE MARKING OR LOCATING SHALL BE COORDINATED TO STAY APPROXIMATELY TWO DAYS AHEAD OF THE PLANNED CONSTRUCTION.

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THE PROJECT:

AQUA OHIO  
ATTN: DON SNYDER  
123 3RD ST. S.E.  
MASSILLON, OH 44646  
330-832-5764 ext. 205

AT&T  
ATTN: PAUL THOMPSON  
50 W. BOWERY ST., FLOOR 4  
AKRON, OH 44308  
330-384-9988

OHIO EDISON CO.  
ATTN: KEVIN McCLUSKY  
2800 ERIE ST. SOUTH  
MASSILLON, OHIO 44646  
330-830-7085

DOMINION EAST OHIO GAS CO.  
ATTN: GEORGE TURNER  
320 SPRINGSIDE DR., SUITE 320  
AKRON, OH 44333  
330-664-2495

MASSILLON CABLE  
ATTN: JEFF CAMPBELL  
614 CABLE COURT N.W.  
MASSILLON, OH 44648  
330-833-0202

FIELD OFFICE

THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 150 SQ. FT. OF OFFICE FLOOR SPACE IN ADDITION TO THE REQUIREMENTS OF ITEM 619. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SANITARY PROVISIONS AS PER 107.06. PAYMENT SHALL BE AT THE LUMP SUM PRICE BID FOR ITEM 619, FIELD OFFICE, TYPE A.

CONTINGENCY

A CONTINGENCY ITEM IN THE AMOUNT OF \$20,000 IS INCLUDED IN THE CONTRACT. THE CONTINGENCY OR ANY PART THEREOF MAY ONLY BE USED UPON THE WRITTEN AUTHORIZATION OF THE COUNTY. THE PURPOSE OF THE CONTINGENCY IS TO ENSURE THE COMPLETION OF THE PROJECT. AT THE TIME OF THE PROJECT CLOSE-OUT, ANY UNUSED AMOUNTS REMAINING IN THE CONTINGENCY FUND SHALL BE CREDITED TO THE COUNTY. THE CONTINGENCY ITEM IS SOLELY FOR THE BENEFIT OF THE COUNTY.

DESIGN AGENCY  
STARK COUNTY ENGINEERS  
5165 SOUTHWAY ST. S.W.  
CANTON, OH. 44706

DATE  
DESIGNED  
REVIEWED  
DATE  
FILE NAME  
DATE  
DRAWN  
DATE

ESTIMATED QUANTITIES AND GENERAL NOTES  
BRIDGE NO. PE-6-15  
3RD ST. NW (MASSILLON), OVER THE NEWMAN CREEK