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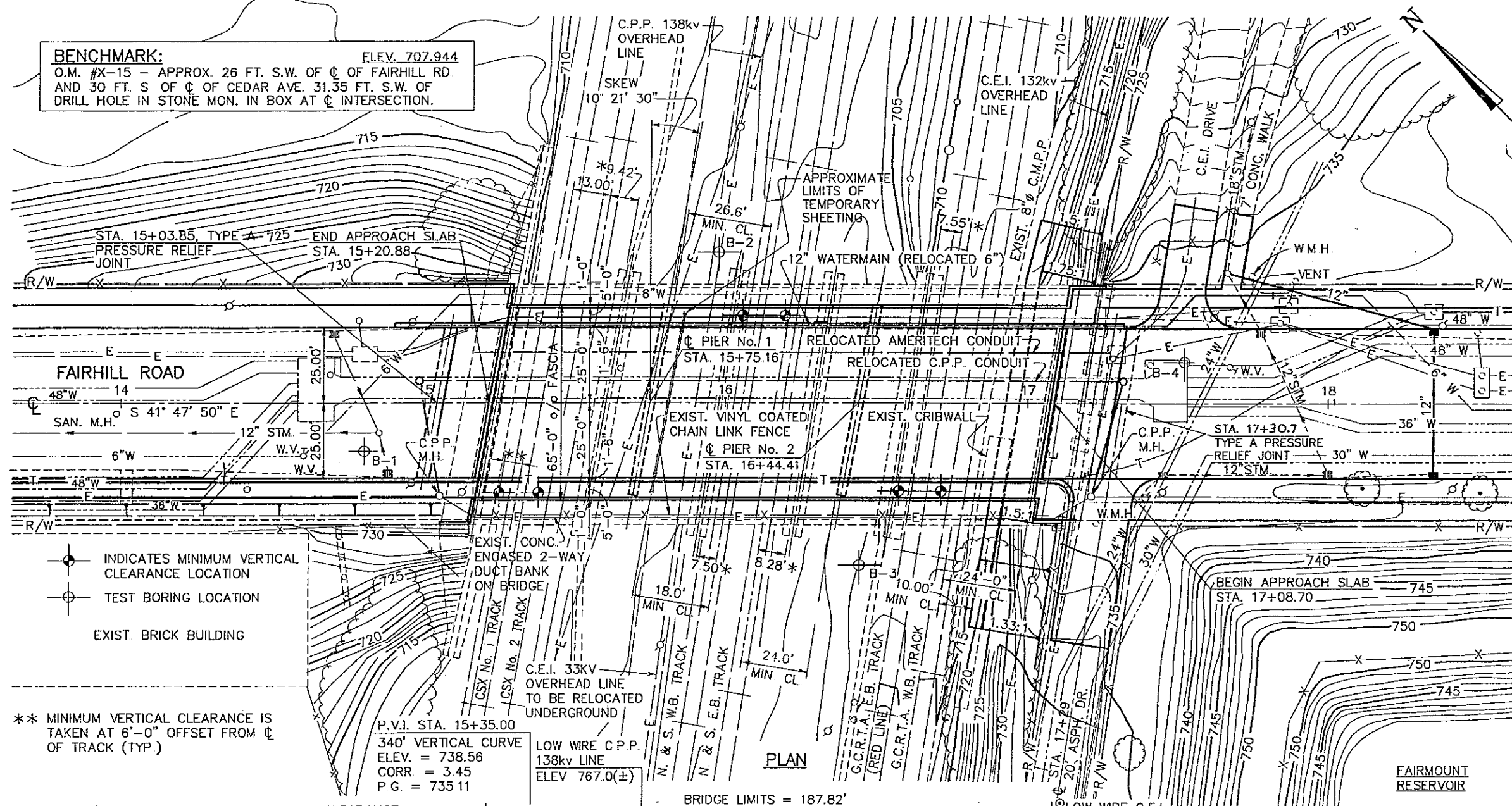
SLM 0031

DATE _____

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS									
BP-2.1	7/28/00	DM-1.1M	10/21/97	HL-20.11	5/1/87	AS-1-81	9/15/94	MT-35.10M	1/30/99
BP-2.2	7/28/00	DM-4.3	4/29/99	HL-20.14	5/1/87	GSD-1-96	2/12/97	MT-35.11M	1/30/99
BP-2.3	7/28/00	DM-4.4	4/29/99	HL-30.11	5/1/87	PCB-91	7/6/99	MT-99.10M	1/30/99
BP-2.5	7/28/00	RM-4.2M	10/21/97	HL-30.22	5/1/87	EXJ-4-87	2/14/97	MT-101.60M	4/25/99
BP-3.1	7/28/00	RM-4.3M	10/21/97	HL-30.31	5/1/87	BS-1-93	12/19/94	MT-105.10M	4/25/99
BP-4.1	7/28/00			HL-50.21	5/1/87	BR-2-98	12/29/98	MT-105.11M	4/25/99
BP-5.1	7/28/00			HL-60.11	5/1/87	VPF-1-90M	3/20/95	MT-110.20M	3/1/99
F-1.1	7/28/00								
MH-1.1M	10/21/97								
MH-1.2M	9/6/95								

Project: CUY-STOKES BLVD. P.I.D.: 8800
Date of Letting: . Contract No:

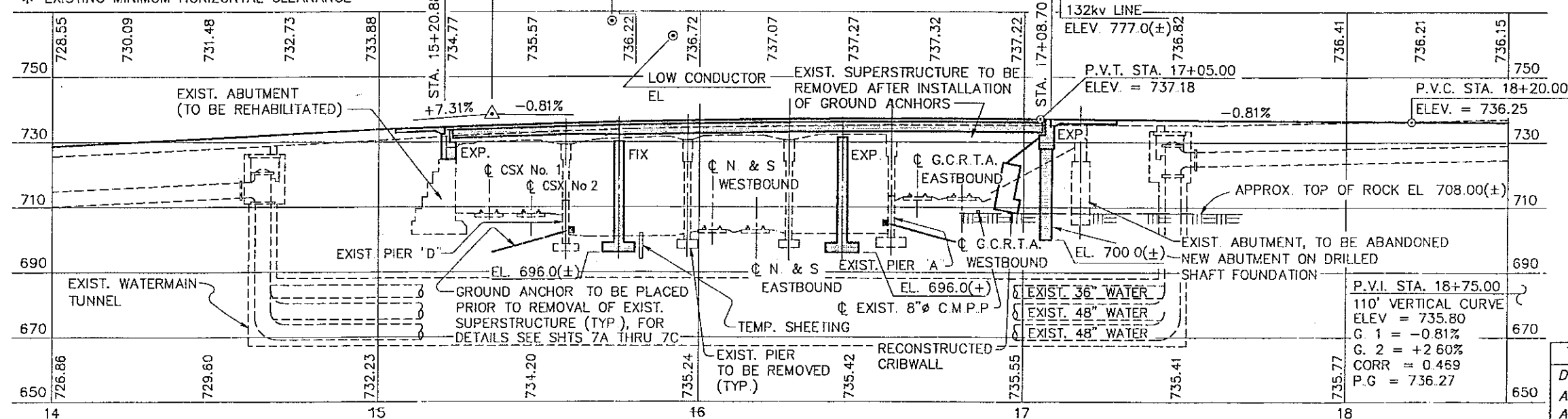
BENCHMARK: ELEV. 707.944
O.M. #X-15 - APPROX. 26 FT. S.W. OF C OF FAIRHILL RD.
AND 30 FT. S OF C OF CEDAR AVE. 31.35 FT. S.W. OF
DRILL HOLE IN STONE MON. IN BOX AT C INTERSECTION.



INDICATES MINIMUM VERTICAL CLEARANCE LOCATION
TEST BORING LOCATION
EXIST. BRICK BUILDING

** MINIMUM VERTICAL CLEARANCE IS TAKEN AT 6'-0" OFFSET FROM C OF TRACK (TYP.)

* EXISTING MINIMUM HORIZONTAL CLEARANCE



EXISTING UTILITY DISPOSITION

- EXISTING 6" Ø WATERMAIN TO BE REMOVED AND REPLACED WITH RELOCATED 12" Ø WATERMAIN.
- EXISTING C.P.P. CONDUITS TO BE RELOCATED.
- EXISTING AMERITECH CONDUIT BANK TO BE RELOCATED.
- EXISTING C.E.I. CONDUIT BANK TO BE RELOCATED OFF THE STRUCTURE.

VERTICAL CLEARANCE

	EXISTING	PROPOSED
CSX No. 1	21.56' ±	22.02' ±
CSX No. 2	21.07' ±	22.46' ±
N & S WESTBOUND	27.14'	28.57'
N & S EASTBOUND	27.06'	28.72'
GCRTA EASTBOUND	16.64'	19.90'
GCRTA WESTBOUND	16.60'	20.00'

† VERTICAL CLEARANCES ARE BASED ON TOP OF RAIL ELEVATIONS OBTAINED BY FIELD SURVEY, JUNE 19, 2000

EXISTING STRUCTURE

TYPE: One span of concrete encased rolled steel beams; 3 reinforced concrete slab spans; concrete gravity abutment at north; concrete beam on caissons at south; one concrete and brick encased steel pier, three reinforced concrete piers

SPANS: 60.25', 31.389', 31.389', 36.655' & 35.008'

ROADWAY: 50'-0" f/f curbs; 14'-0" (±) sidewalks with reinforced concrete panel railing

LOADING: Three 20-ton trucks

SKEW: 10° 21' 30" and 9° 01' 50" lt. fwd.

DATE BUILT: c.1930

STRUCTURE FILE No: 1831003

PROPOSED STRUCTURE

TYPE: Continuous A588 rolled steel beams composite with reinforced concrete deck; reinforced concrete substructure

SPANS: 52'-0", 69'-3", 62'-0"

ROADWAY: 50'-0" f/f curbs W/5'-0" sidewalks protected by safety shape barriers and vandal protection fence on concrete parapet

LOADING: HS-20-44, case II and the alternate military loading

SKEW: 10° 21' 30" lt. fwd.

ALIGNMENT: Tangent

APPROACH SLABS: AS-1-81, 15'-0" long rear, 20'-0" long forward

CROWN: 3/16"/FT.

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

STILSON & ASSOCIATES, INC.
CONSULTING ENGINEERING AND ARCHITECTURE
COLUMBUS AND CLEVELAND

SITE PLAN

CITY OF CLEVELAND BRIDGE No. 4:021C

FAIRHILL ROAD OVER NORFOLK &
WESTERN R.R. CONRAIL, & G.C.R.T.A
CUYAHOGA COUNTY

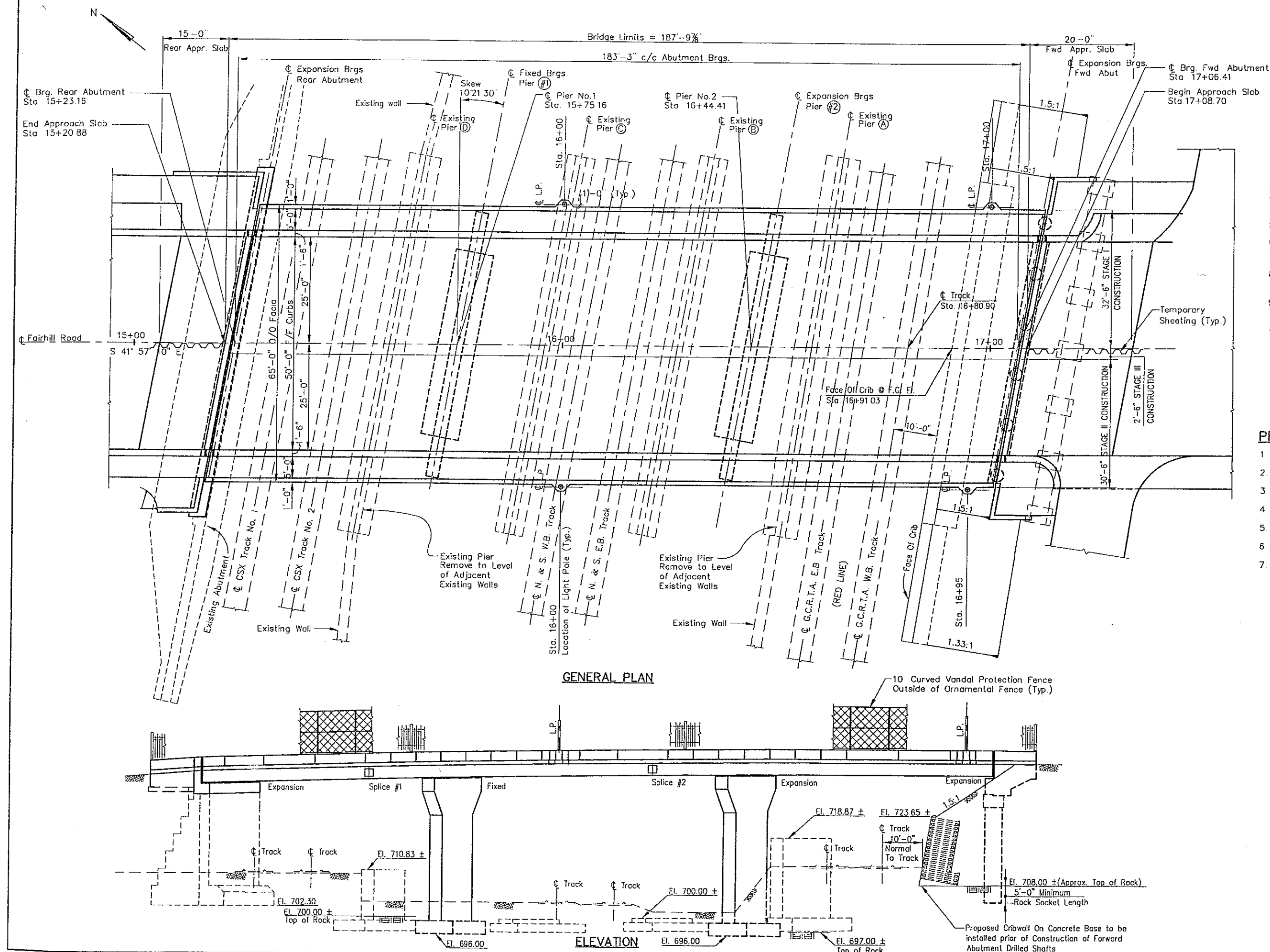
STA 15+20.88
STA. 17+08.70

TRAFFIC DATA

Design Year: 2009
A.D.T. = 28,000
A.D.T.T. = 280

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.M.	C.A.G.		G.R.E.	G.W.M.	1/25/91	

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REMOVED
DN	VM	---	DJC	CKP	12/94	



CUYAHOGA COUNTY CUY-FAIRHILL ROAD

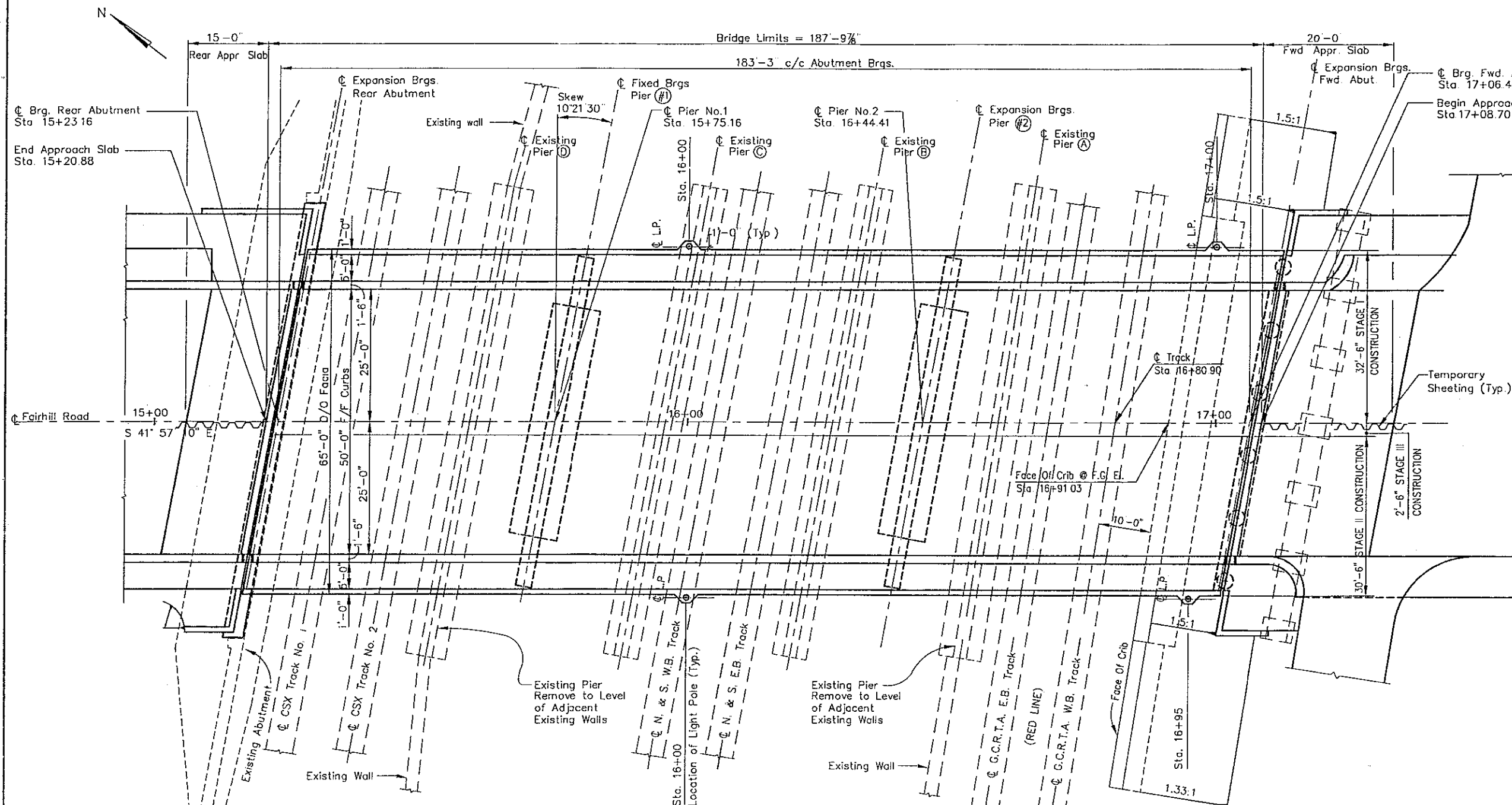
REFERENCES:

1. For site plan see sht. 1/23
2. For general notes see shts 3/23, 4/23 & 5/23
3. For estimated quantities see sht. 7/23
4. For maintenance of traffic & stage constructions see shts 8/23, 9/23
5. For substructure details see sht. 10/23 thr. 13/23
6. For superstructure details see sht. 15/23 thr. 23/23
7. For reinforcing schedule see sht. 21/23, 22/23 & 23/23
8. For approach slab details see ODOT Std Dwg. AS-1-81
9. For fence details see sht. 20/23

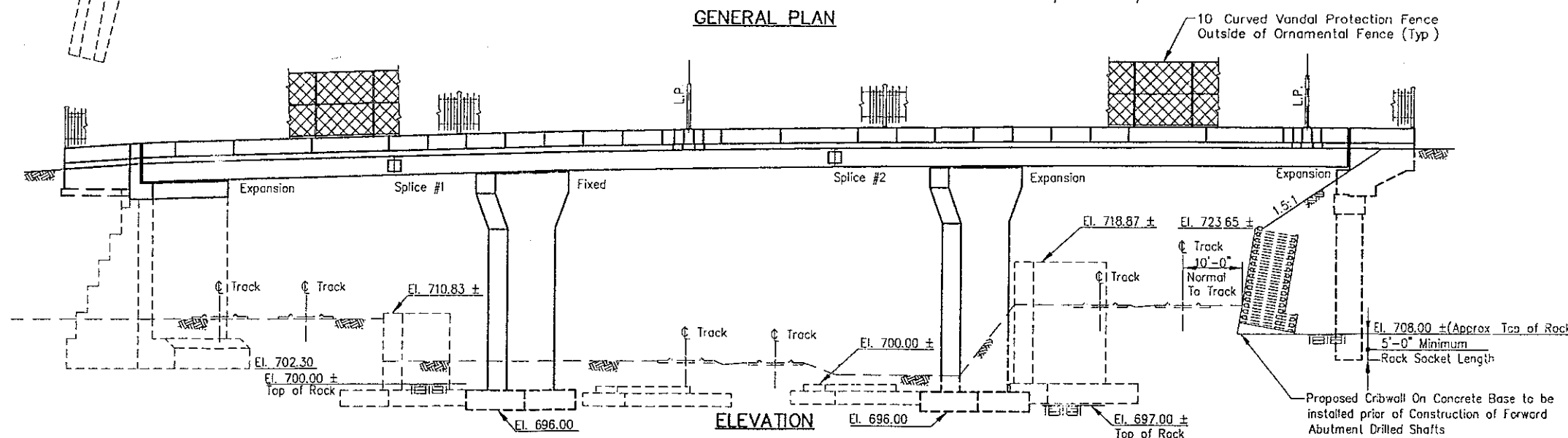
* F.G. El. indicates Finish Grade Elevation

PROPOSED WORK:

1. Installation of temporary sheeting for staged construction
2. Staged removal of existing bridge.
3. Modification of existing rear concrete gravity abutment.
4. New forward abutment on drilled shafts.
5. New piers on spread footings
6. New superstructure
7. Installation of crib wall next to GCRTA tracks.



GENERAL PLAN



ELEVATION

G & T ASSOCIATES INC.					Consulting Engineer
11925 Pearl Rd. Strongsville, Ohio 44136					(216) 572-1100
GENERAL PLAN AND ELEVATION					
CITY OF CLEVELAND BRIDGE NO. 4:021C					
FAIRHILL ROAD OVER NORFOLK & WESTERN R.P. CONRAIL & G.C.R.T.A.					
CUYAHOGA COUNTY					STA. 15+2 STA. 17+0
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
DN	VM	---	DJC	CKP	12/94

CUYAHOGA COUNTY CUY-FAIRHILL ROAD

NOTES:

1. Porous backfill with filter fabric 2 ft. thick shall extend up to the plane of the subgrade, to one foot below the embankment surface, and laterally to the ends of the wingwalls. Geotextile fabric shall conform with 712.09, Type A. The bottom of the porous backfill shall be sloped (1 inch per foot minimum) laterally to drain. Geotextile fabric included with porous backfill for payment.
2. Backwall Concrete: In addition to the provisions of 511.08, back wall concrete above the optional construction joint at the approach slab seat shall not be placed until after the deck concrete in the span adjacent to the abutment has been placed.
3. Installation of Seal: During installation of the support/armor for the superstructure side of the expansion joint seal the seating of beams on bearings shall be carefully observed to assure that positive bearing is maintained. Proper vertical fit of the support/armor on the beams shall be achieved by positioning of the bevel fill plates rather than by clamping force.
4. Refer to water plan sheets for steel pipe sleeve.
5. Provide 3/4" chamfer to all exposed corners of proposed concrete.

REFERENCES:

1. For reinforcing schedule see sheet 22/23
2. For superstructure framing plan see sheet 15/2
3. For bearing details see sheet 15/23
4. For expansion joint details see sheet 18/23
5. For approach slab detail see ODOT Std. Dwg. AS-1-81.
6. For Utilities locations and details, see utility plans

LEGEND:

El = Elevation
Typ = Typical
C.J. = Construction joint
C.P.P. = Corrugated plastic pipe as per plan
PEJF = Performed Expansion Joint Filler
opng = opening

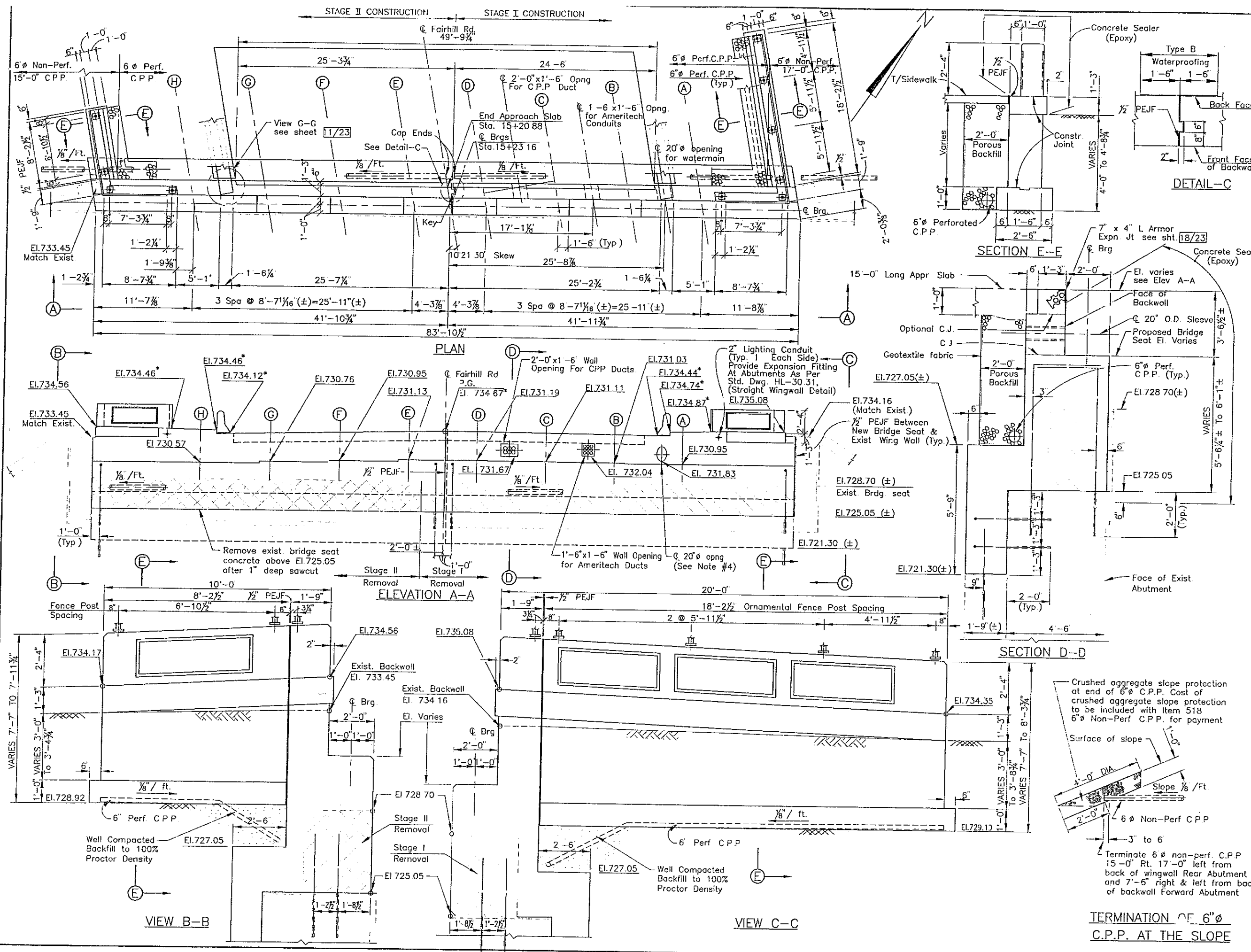
Indicates stage-I removal of existing abutment
Indicates stage-II removal of existing abutment

* Elevation set at front face of backwall

REQUIRED LAP LENGTHS

5 Bar = 2'-0"
6 Bar = 2'-4"

G & T ASSOCIATES INC.				Consulting Engineer		
11925 Pearl Rd. Strongsville, Ohio 44136				(216) 572-0571		
REAR ABUTMENT-1 (DIMENSIONS)						
CITY OF CLEVELAND BRIDGE NO 4:021C						
FAIRHILL ROAD OVER NORFOLK & WESTERN R.R.						
CONRAIL & G.C.R.T.A.						
CUYAHOGA COUNTY				STA. 15+20.6	STA. 17+08.7	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISER
DN	VM	---	DJC	CKP	12/94	



NOTES:

- For intermediate crossframe details and end crossframe details, see sheet 17.
- For beam splice details, see sheet 17/23.
- For beam elevation, see sheet 16/23.
- For deflection and camber diagram, see sheet 16/23.

LAMINATED ELASTOMERIC BEARING LOAD PLATE

Welding shall be controlled so that the plate temperature at the elastomer bonded surface does not exceed 300°F as determined by use of pyrometric stick or other temperature monitoring devices

ELASTOMERIC BEARINGS:

Elastomeric Bearings shall comply with Item 516 and, Articles 18.2.5 through 18.2.8 of Section 18, Bearing Devices, Division II Construction of the AASHTO Standard Specification for Highway Bridges. Bearings shall be Grade 3.50 Durometer Elastomer, and shall be subjected to the load testing requirements corresponding to Design Method A. Testing shall be included in the unit price bid for the bearings, each

FRAMING PLAN

NOTE:

Place intermediate crossframes, and utility supports normal to beam

SCREED ELEVATIONS **

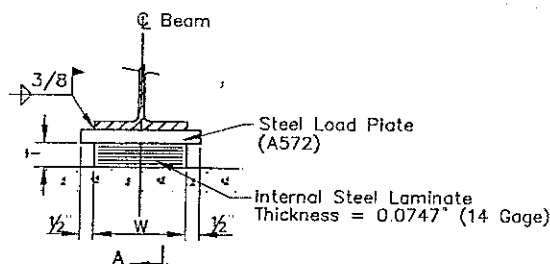
Location	Elevation Toe of Parapet 31.5' Lt.	Elevation Toe of Barrier 25' Lt.	Elevation Survey Bridge	Elevation Toe of Barrier 25' Rt.	Elevation Toe of Parapet 31.5' Rt.
R.Abut. C Brg.	734.90	734.48	734.71	734.15	734.49
1/4 Span	735.35	734.93	735.17	734.63	734.98
1/2 Span	735.74	735.32	735.58	735.05	735.39
3/4 Span	736.06	735.64	735.91	735.40	735.75
Pier 1 C Brg.	736.34	735.93	736.22	735.72	736.08
1/4 Span	736.71	736.30	736.60	736.12	736.48
1/2 Span	736.98	736.58	736.91	736.45	736.81
3/4 Span	737.16	736.76	737.10	736.66	737.03
Pier 2 C Brg.	737.26	736.87	737.24	736.81	737.18
1/4 Span	737.34	736.95	737.33	736.93	737.31
1/2 Span	737.35	736.97	737.37	736.98	737.33
3/4 Span	737.27	736.90	737.32	736.94	737.33
F.Abut. C Brg.	737.11	736.74	737.17	736.82	737.21

** SCREED ELEVATIONS shown are for the deck slab surface and sidewalk prior to concrete placement
Allowance has been made for anticipated calculated dead load deflections

LAMINATED ELASTOMERIC BEARING DATA

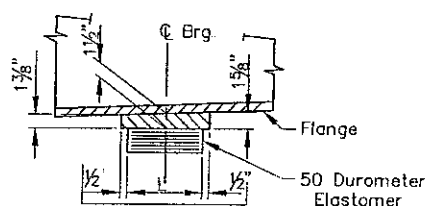
Position	Pad Size (W x L)	to No.-Thk (in.)	ti No.-Thk (in.)	Internal Steel Laminate (in.)	Total T (in.)	Load Plate (W x L) (in.)	DL	L.L. (No Impact)	Total (D.L.+L.L.)
Rear Abutment	11"x9"	2-.151	4-.212	5-.0747	1 1/2"	12"x10"	33.4 K	48.2 K	81.6 K
Pier #1 (Fixed)	19"x10"	2-.181	7-.254	8-.0747	2 3/4"	27"x11"	117.6 K	56.2 K	173.8 K
Pier #2	18"x11"	2-.213	4-.298	5-.0747	2"	19"x12"	130.2 K	57.6 K	187.8 K
Fwd. Abutment	11"x9"	2-.151	9-.212	10-.0747	2 1/2"	12"x10"	42.6 K	50.2 K	92.8 K

LAMINATED ELASTOMERIC BEARING DETAIL(EXP.)

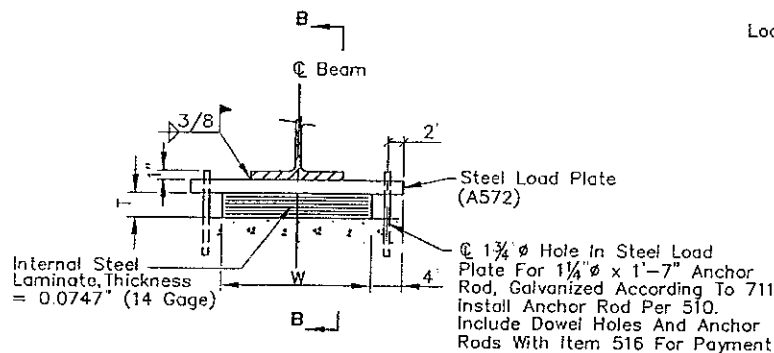


SECTION A-A

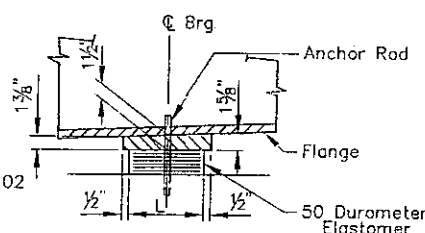
(Rear Abutment Shown)
Load Plate At Fwd. Abutment & Pier #2
Is 1 1/2" Thick (Level)



LAMINATED ELASTOMERIC BEARING DETAIL(FIXED)



SECTION B-B



CUYAHOGA COUNTY CUY-FAIRHILL ROAD

NOTES:

* Deck Slab Depth:

1. The distance shown from the top of the deck slab to the top of steel beam is the theoretical design dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.
2. A HAUNCH WIDTH of 9 inches shall be used for computing quantity of concrete. However the haunch width may vary between 6 and 12 inches

REFERENCES:

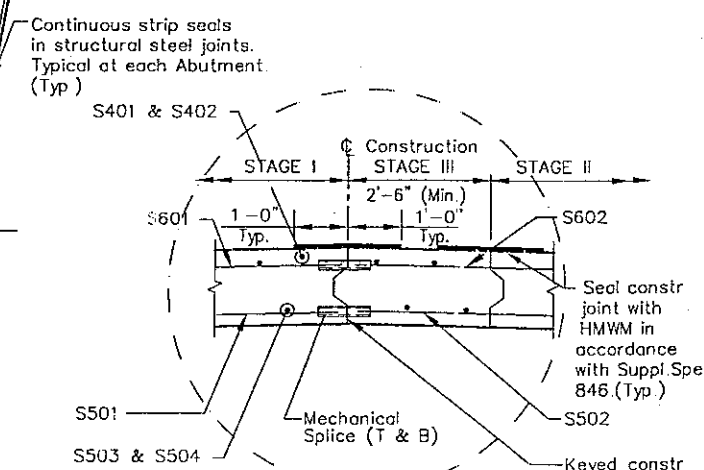
1. For deck screed elevations, see sheet 15/23
2. For framing plan, see sheet 15/23
3. For railing details, see sheet 20/23
4. For reinforcing schedule, see sheet 21/23
5. For Lightpole details see sheet 20/23
6. For Expansion joint details see sheet 18/23

LEGEND:

n.f. = near face	EI. = Elevation
f.f. = far face	B.W. = both way
e.f. = each face	Typ. = Typical
(T) = Top	C.J. = Construction joint
(B) = Bottom	M.W.S. = Monolithic Wearing Surface

REQUIRED LAP LENGTHS

# 4 Bar = 2'-3"	Unless Shown Otherwise
# 5 Bar = 2'-0"	
# 6 Bar = 2'-6"	



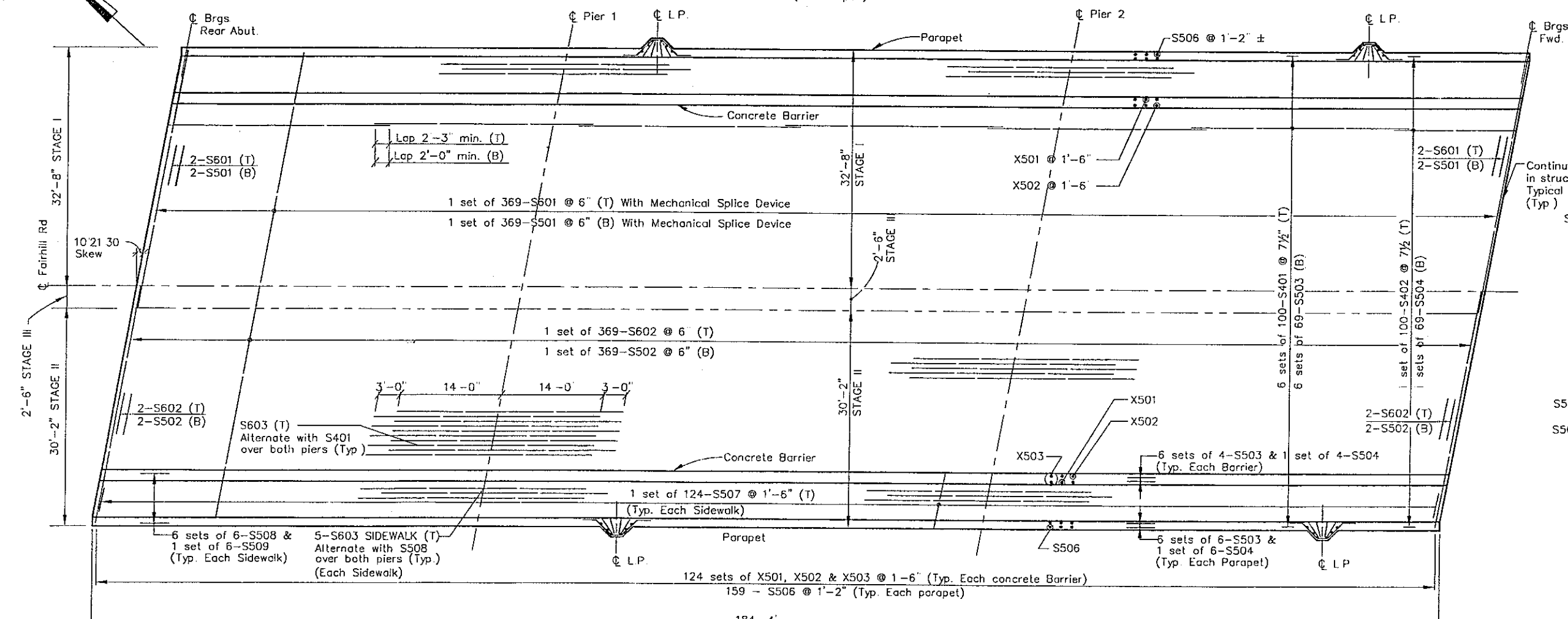
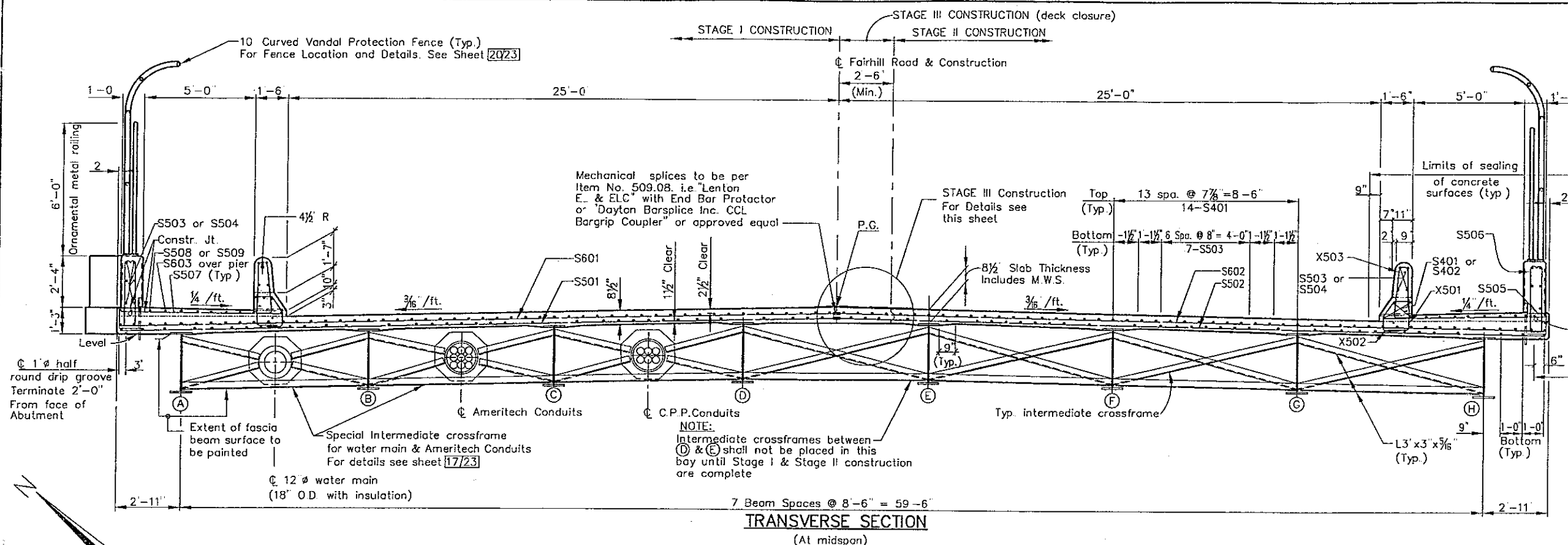
STAGE III CONSTRUCTION DETAIL

G & T ASSOCIATES INC. Consulting Engineer
11925 Pearl Rd. Strongsville, Ohio 44136 (216) 572-055

SUPERSTRUCTURE DETAILS-5 DECK SLAB DETAILS

CITY OF CLEVELAND BRIDGE NO. 4-021C
FAIRHILL ROAD OVER NORFOLK & WESTERN R.R.
CONRAIL & G.C.R.T.A.

CUYAHOGA COUNTY						STA. 15+20.8
						STA. 17+08.3
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DN	VM	---	DJC	CKP	12/94	



PLAN - SUPERSTRUCTURE SLAB REINFORCING

**CUYAHOGA COUNTY
CUY--FAIRHILL ROAD**

NOTES:

1. ITEM 517 - RAILING, MISC.: ORNAMENTAL METAL RAILING

This item shall conform to the requirements and specifications for Industrial Strength Aluminum Ornamental Fence as manufactured by Jerith Manufacturing Company, 3901 G Street, Philadelphia, PA 19124. The fence shall be Jerith Style #100 with a picket length of 6 feet. The materials, finishing and fence mounting details shall conform to the manufacturer's specifications and shall be approved by the Engineer.

PAYMENT

Payment for the fence shall be made at the unit price bid for Item 517 - Railing, Misc.: Ornamental Metal Railing. This price shall include all fence material, fence post anchor plates, and anchors and all labor, equipment, and incidentals necessary to complete the fencing. Payment length will be the overall length of the fence.

2. ITEM SPECIAL - VANDAL PROTECTION FENCE, 10' CURVED OR 6' STRAIGHT, COATED FABRIC

This item includes the furnishing of all materials, labor, equipment and incidentals necessary to complete the fencing. Tension bands shall be a minimum of 12 gauge steel by 7/8 inches wide assembled with 5/16 inch diameter by 1 1/4 inch galvanized or cadmium plated bolts. One tension band shall be required for each foot of fabric height. Fence end posts shall be 3" ϕ and line posts shall be 2 1/2" ϕ and Brace Rail size shall be 1 1/4" ϕ . Fence posts and anchor bolts shall be vertical. Rails shall be parallel to grade. The fabric and rails shall be free to expand or contract across bridge expansion joints. Materials and workmanship shall meet the requirements of Item 517 except that aluminum alloy posts and base plates shall not be used. Fabric ties shall be spaced 14 inch c/c maximum on line or end posts and 24 inch c/c maximum on all rails. All posts and pipe sizes are noted in terms of the nominal inside diameter of standard weight pipe, Schedule 40. Stretcher bars and miscellaneous hardware shall be that of the chain link fence industry standard. Base plates and miscellaneous brackets for steel posts may be of any commercially weldable steel having a yield strength of not less than 33,000 p.s.i.

Fence fabric for vandal protection fencing shall have a 1-inch mesh and be vinyl covered of a uniformly medium green color. Fabric shall be zinc-coated steel (AASHTO M-181 Type 1). Post steel shall have a minimum yield strength of 30 k.s.i.

PAYMENT

Payment for the fence shall be made at the unit price bid for Item SPECIAL - VANDAL PROTECTION FENCE, 10' CURVED OR 6' STRAIGHT, COATED FABRIC. This price shall include all fence material, fence post anchor plates and anchors and all labor, equipment and incidentals necessary to complete the fencing.

Fence shall conform to the requirements of 710.03 and ODOT standard drawing VPF-1-90M except as modified on this sheet.

Payment length will be the overall length of the fence.

3. Cost of parapet shall be included in the bid price for Item 842 Class S Concrete Superstructure or Item 842 Class C Concrete. Abutment Not Including Footings

4. Rustication panels shall be 5'-11 1/2" length of equal size along the entire length of the sidewalk parapet, on each side of the parapet.

REFERENCES:

- For Rear Abutment fence post spacings see sht. **10/23**
- For Forward Abutment fence post spacings see sht. **12/23**
- For Slab Details see sht. **19/23**
- For Expansion Joint Details see sht. **18/23**

G & T ASSOCIATES INC.
 Consulting Engineers
 11925 Pearl Rd. Strongsville, Ohio 44136
 (216) 572-0555

20 / 23

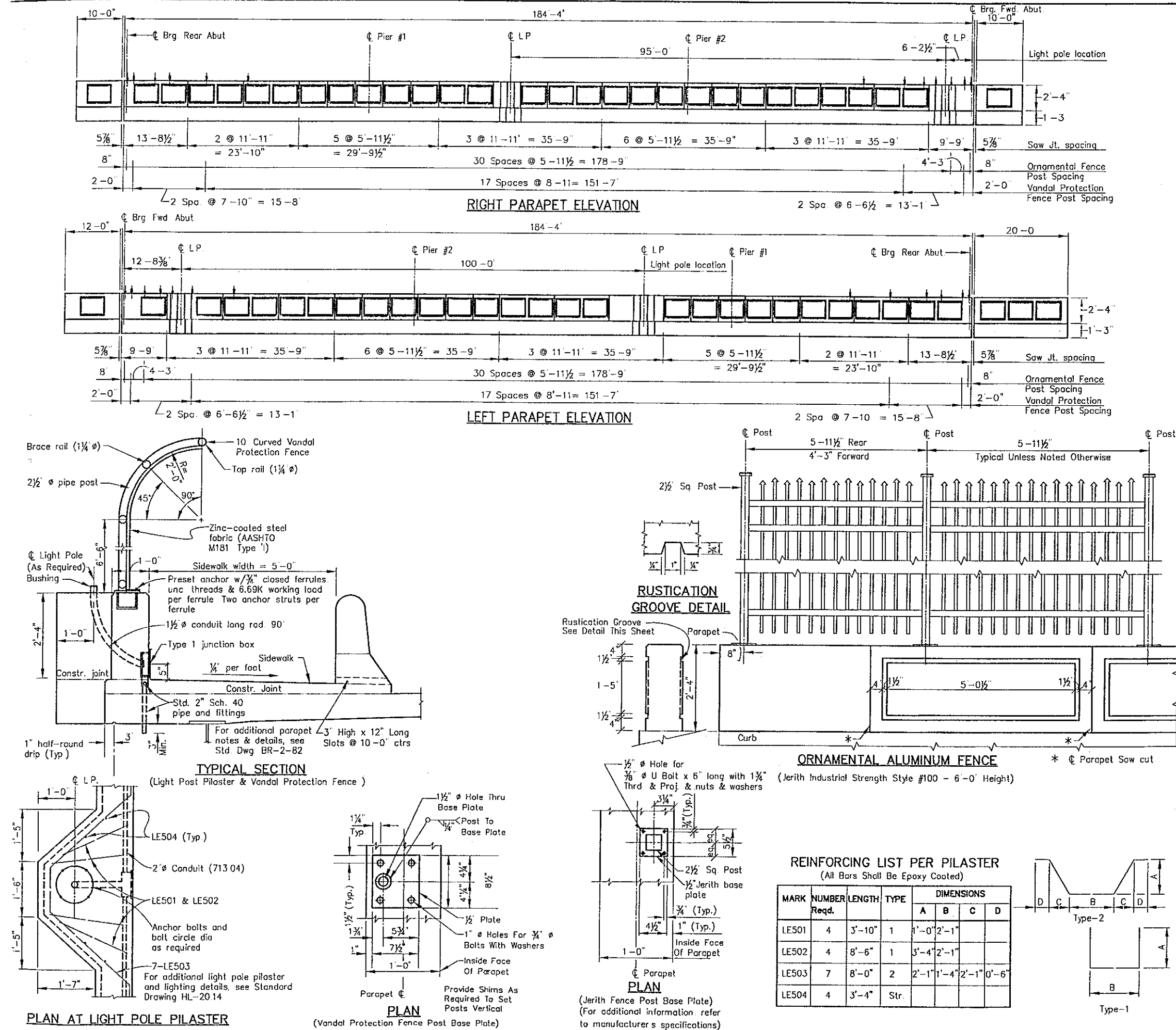
**SUPERSTRUCTURE DETAILS-6
RAILINGS DETAILS**

CITY OF CLEVELAND BRIDGE NO. 4:021C
FAIRHILL ROAD OVER NORFOLK & WESTERN R.R.
CONRAIL & G.C.R.T.A.

CUYAHOGA COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DN	VM	---	DJC	CKP	12/94	

STA. 15+20.88
 STA. 17+08.70



Stokes Blvd SLM 0031 SFN-1833936