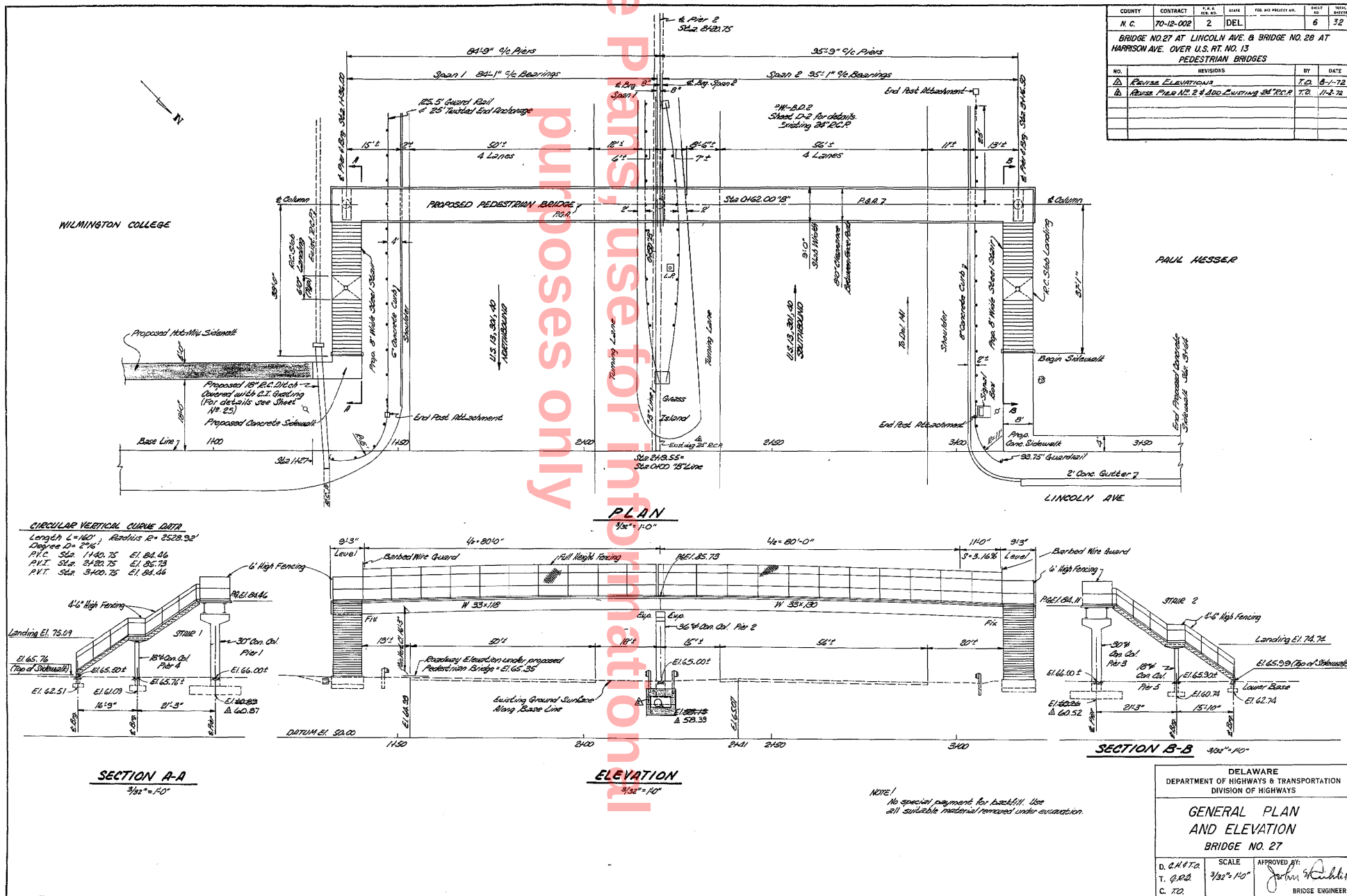


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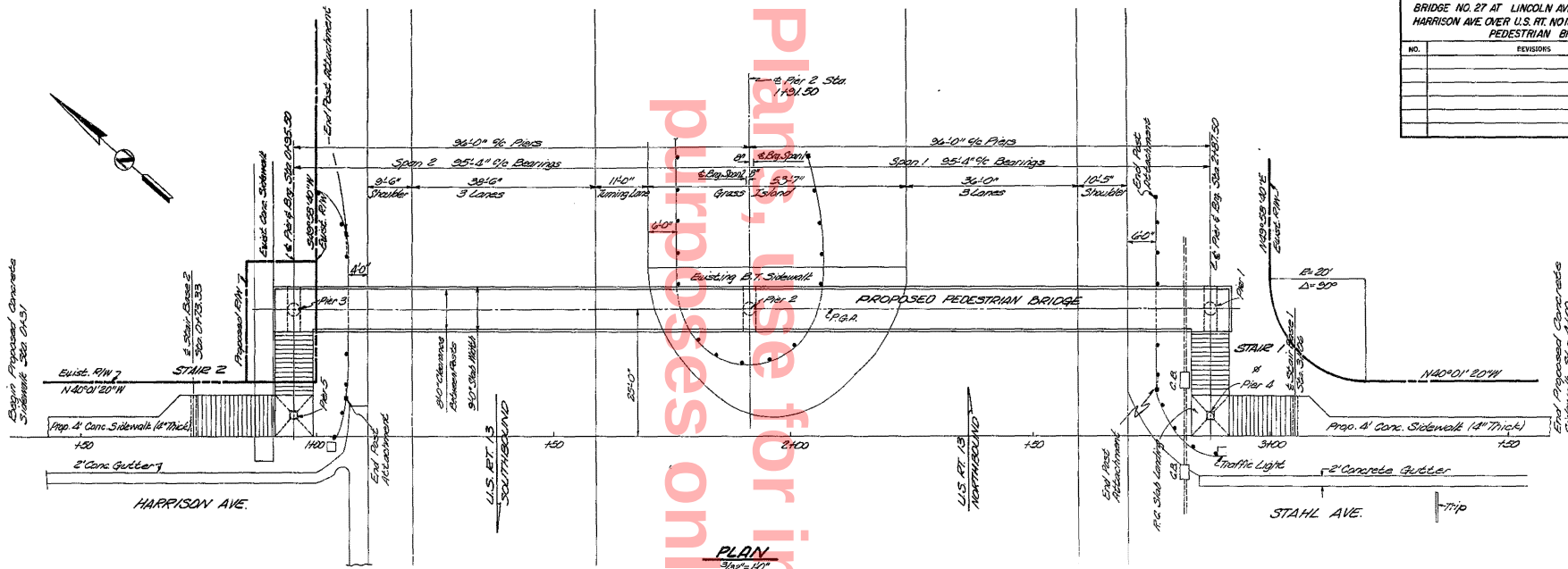
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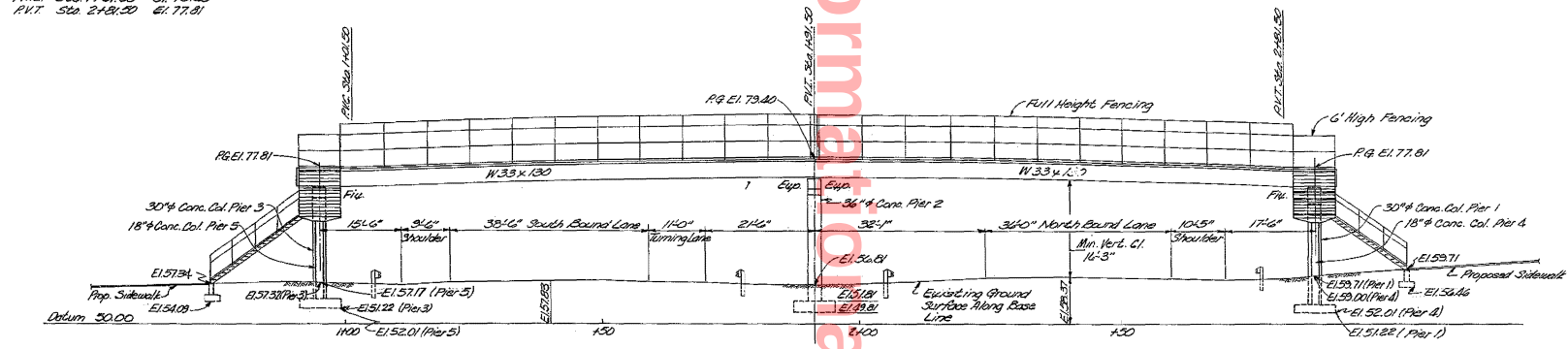


Archive Plan, Use for informational purposes only

COUNTY	CONTRACT	P. A. A. SHEET NO.	STATUS	NO. AND PROJECT NO.	SHEET NO.	TOTAL SHEETS
N. C.	70-12-002	2	DEL.		7	32
BRIDGE NO. 27 AT LINCOLN AVE. & BRIDGE NO. 28 AT HARRISON AVE OVER U.S. RT. NO. 13 PEDESTRIAN BRIDGES						
NO.	REVISIONS	BY	DATE			



CIRCULAR VERTICAL CURVE DATA
Length $L=180'$ Radius $R=2528.32'$
Degree $D=2'16''$, $e=1.39'$
P.V.C. Sta. 1401.50 El. 77.81
P.V.T. Sta. 1491.50 El. 79.40
P.V.T. Sta. 2481.50 El. 77.81



ELEVATION
3/32"=40'

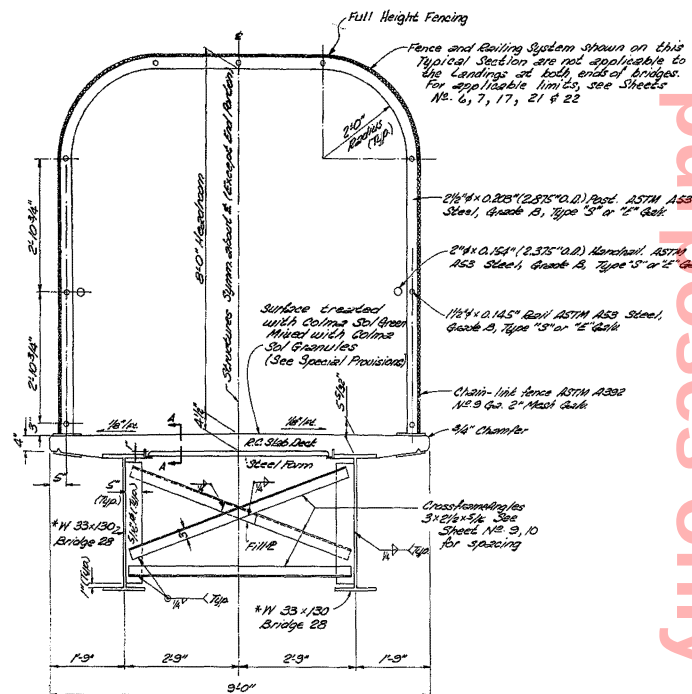
NOTE:
No special payments for backfill.
Use all suitable material removed
under excavation.

DELAWARE
DEPARTMENT OF HIGHWAYS & TRANSPORTATION
DIVISION OF HIGHWAYS

**GENERAL PLAN
AND ELEVATION**
BRIDGE NO. 28

D. T.O. T. G.R.O. C. C.H.	SCALE 3/32"=40'	APPROVED BY: BRIDGE ENGINEER
---------------------------------	--------------------	-------------------------------------

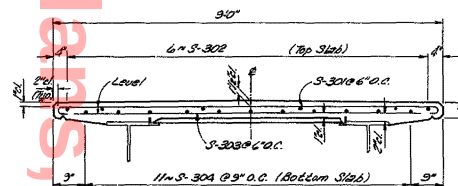
COUNTY	CONTRACT	P. & S. SHEET NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
N. C.	70-12-002	2	DEL		8	32
BRIDGE NO. 27 AT LINCOLN AVE. & BRIDGE NO. 28 AT HARRISON AVE. OVER U.S. RT. NO. 13 PEDESTRIAN BRIDGES						
NO.	REVISIONS			BY	DATE	



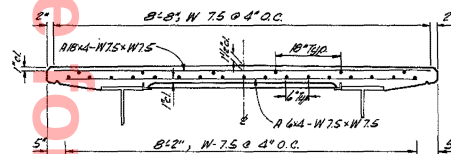
TYPICAL SECTION
3/4" = 1'-0"

* Use W 33 x 118 for Span 1 & W 33 x 130 for Span 2 of Bridge No. 27

SLAB BAR REINFORCEMENT									
MARK	SIZE	BRIDGE NO. 27				BRIDGE NO. 28			
		SPAN 1		SPAN 2		SPAN 1		SPAN 2	
		Length	Number	Length	Number	Length	Number	Length	Number
STRAIGHT BARS	S-302	30' 3"	18	33' 10"	18	34' 0"	18	34' 0"	18
	S-303	8' 0"	179	8' 0"	201	8' 0"	201	8' 0"	201
	S-304	30' 3"	33	33' 10"	33	34' 0"	33	34' 0"	33
BENT BARS	S-301	9' 4"	178	9' 4"	200	9' 4"	201	9' 4"	201
BENDING DIAGRAM									



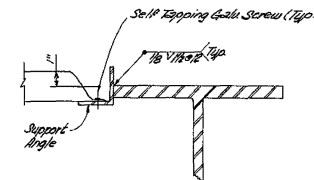
SLAB REINFORCEMENT
3/4" = 1'-0"



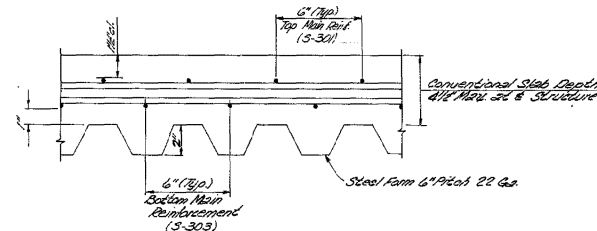
**ALTERNATE SLAB REINFORCEMENT
WELDED WIRE FABRIC**
3/4" = 1'-0"

Top Slab S-302
Bottom Slab S-304
For Length, see Table

DETAIL OF BARS S-302 AND S-304
Not To Scale



FLANGE DETAIL
Not To Scale



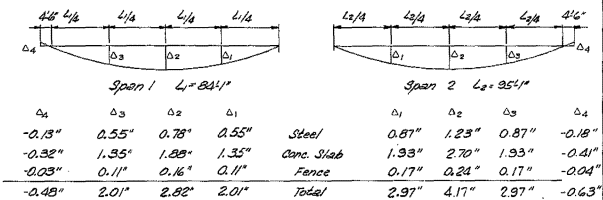
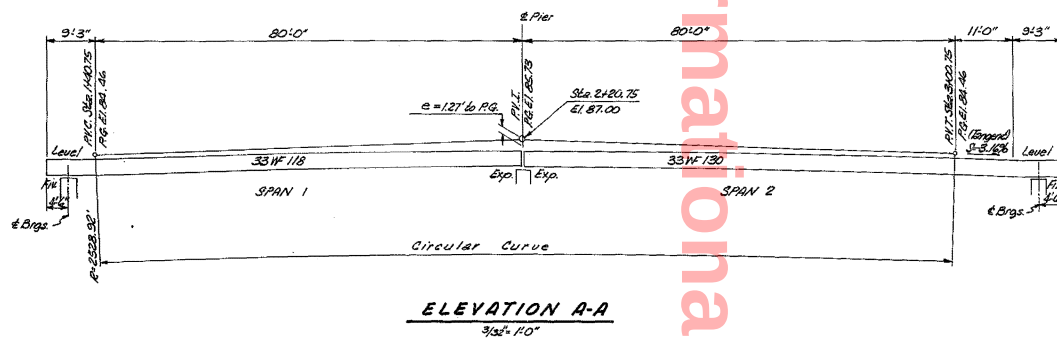
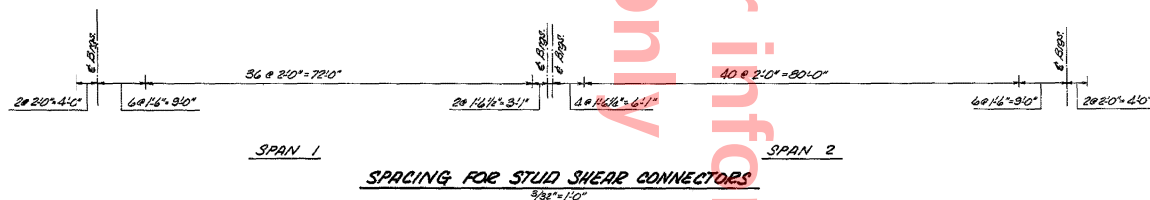
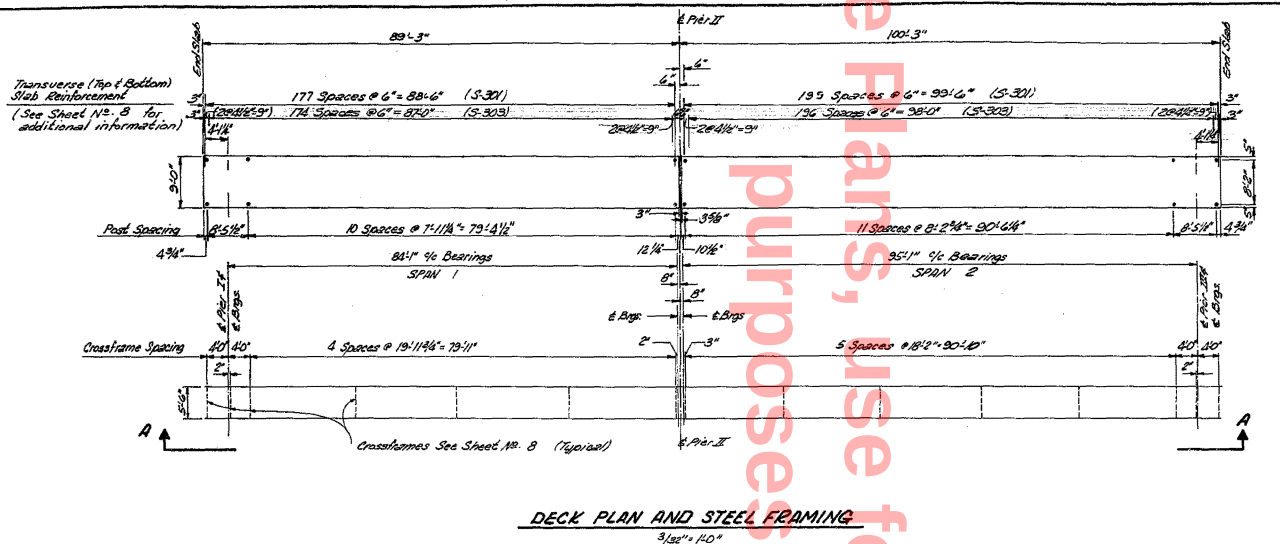
SECTION A-A
Not To Scale

NOTE:
1. Studs are not shown on drawings.
2. Colma Sol Green surface treatment shall be paid for under Section 602 R.C. Masonry - Superstructure.

DELAWARE
DEPARTMENT OF HIGHWAYS & TRANSPORTATION
DIVISION OF HIGHWAYS

TYPICAL SECTION ~ SLAB
REINFORCEMENT AND
STEEL FORMS BRIDGES 27-28

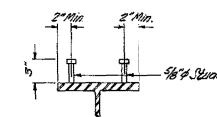
D. CH. & T. T. G.R.D. C. T.O.
SCALE AS SHOWN
APPROVED BY: [Signature]
BRIDGE ENGINEER



DEAD LOAD DEFLECTION DIAGRAM
Not To Scale

NOTES

1. Steel Beams shall be cambered for dead load deflection and vertical curve.



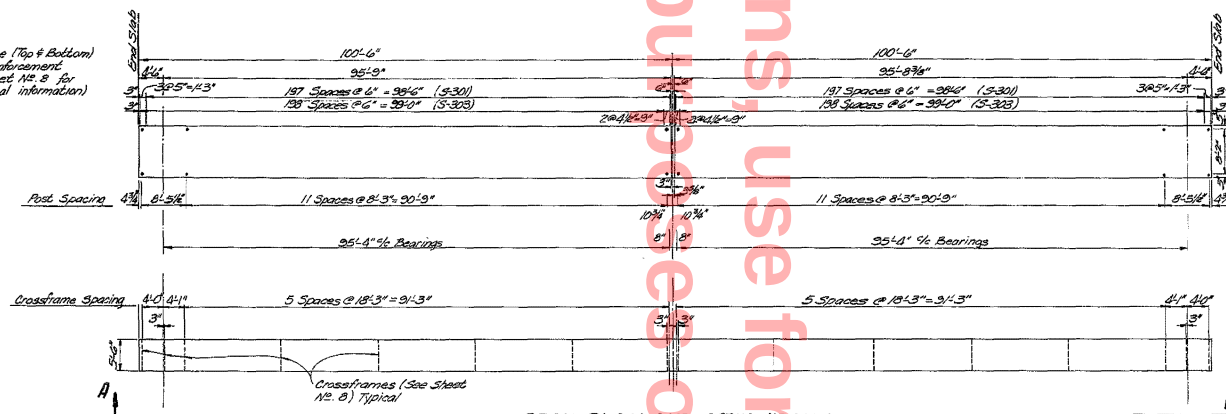
SHEAR CONNECTOR DETAIL
1/8" = 1/0"

COUNTY	CONTRACT	P. & S. FILE NO.	DATE	REV. NO.	SHEET NO.	TOTAL SHEETS
N. C.	70-12-002	2	DEL		9	32
BRIDGE NO. 27 AT LINCOLN AVE. & BRIDGE NO. 28 AT HARRISON AVE. OVER U.S. RT. NO. 13 PEDESTRIAN BRIDGES						
NO.	REVISIONS				BY	DATE

DELAWARE DEPARTMENT OF HIGHWAYS & TRANSPORTATION DIVISION OF HIGHWAYS	
DECK PLAN AND STEEL FRAMING BRIDGE NO. 27	
D. C. E. T. O. T. G. R. D. C. T. O.	SCALE AS SHOWN APPROVED BY: John A. Schen BRIDGE ENGINEER

COUNTY	CONTRACT	F. E. & A. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
N. C.	70-12-002	2	DEL.		10	32
BRIDGE NO. 27 AT LINCOLN AVE. & BRIDGE NO. 28 AT HARRISON AVE. OVER U.S. RT. NO. 13						
PEDESTRIAN BRIDGES						
NO.	REVISIONS	BY	DATE			

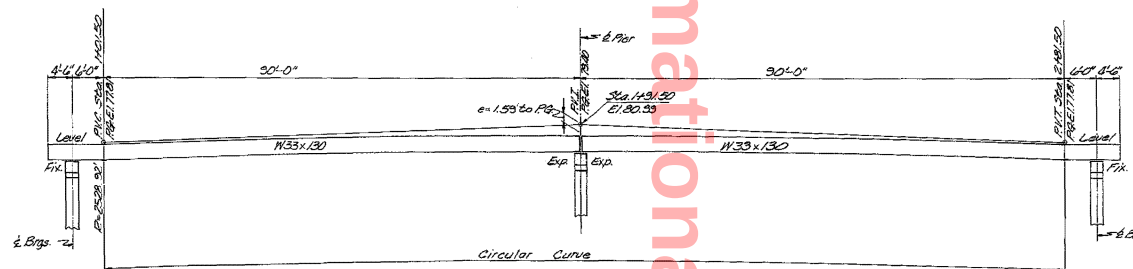
Transverse (Top & Bottom)
Slab Reinforcement
(See Sheet No. 8 for
additional information)



DECK PLAN AND STEEL FRAMING



SPACING FOR STUD SHEAR CONNECTORS



ELEVATION A-A

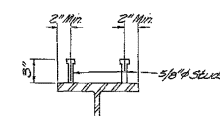
Span 2	L ₁	L ₂	L ₃	L ₄	Span 1	L ₁	L ₂	L ₃	L ₄
0.18"	0.87"	1.23"	0.87"	0.18"	0.17"	0.87"	1.23"	0.87"	0.17"
-0.41"	1.33"	2.70"	1.33"	-0.41"	1.93"	2.70"	1.93"	1.93"	-0.41"
-0.01"	0.17"	0.24"	0.17"	-0.01"	0.17"	0.24"	0.17"	0.17"	-0.01"
-0.63"	2.97"	4.17"	2.97"	-0.63"	2.97"	4.17"	2.97"	2.97"	-0.63"

DEAD LOAD DEFLECTION DIAGRAM

Not To Scale

NOTE:

Steel Beams shall be combined for dead load deflection and vertical curve.

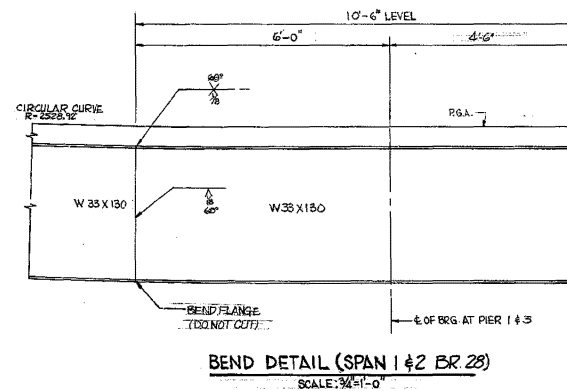
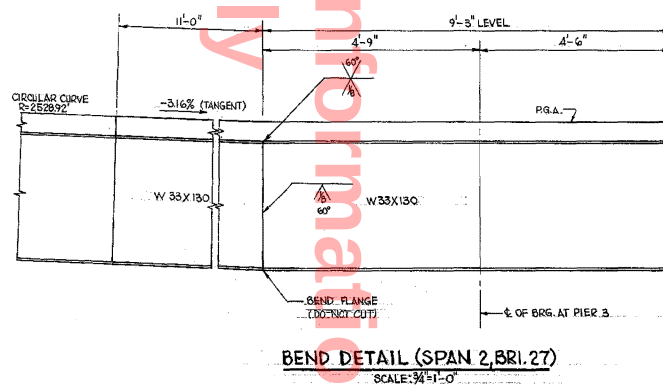
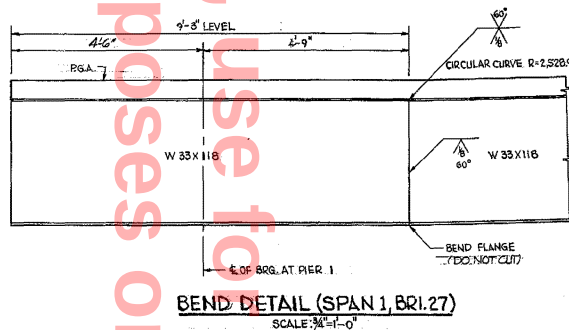
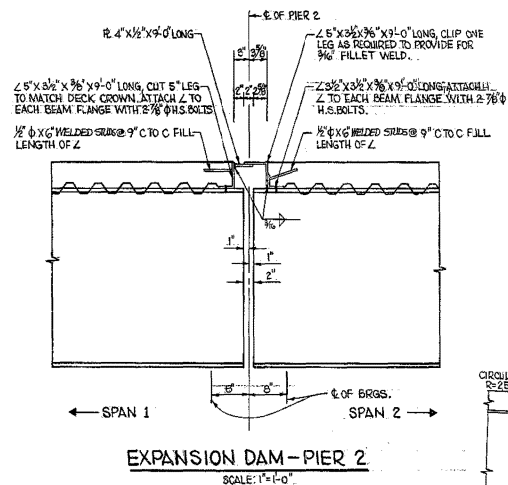


SHEAR CONNECTOR DETAIL

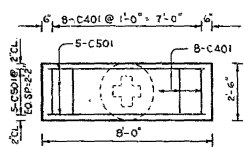
1/2" x 10"

DELAWARE DEPARTMENT OF HIGHWAYS & TRANSPORTATION DIVISION OF HIGHWAYS		
DECK PLAN AND STEEL FRAMING BRIDGE NO. 28		
D.T.O. T.G.R.D. C.H.	SCALE AS SHOWN	APPROVED BY: <i>John H. Diller</i> BRIDGE ENGINEER

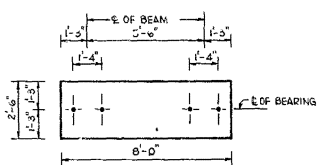
COUNTY	CONTRACT	P. & S. FED. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
N. C.	70-12-002	2	DEL		11	32
BRIDGE NO. 27 AT LINCOLN AVE. & BRIDGE NO. 28 AT HARRISON AVE. OVER U.S. RT. NO. 13 PEDESTRIAN BRIDGES						
NO.	REVISIONS			BY	DATE	



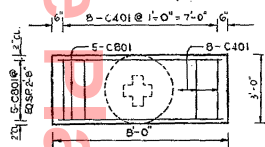
DELAWARE DEPARTMENT OF HIGHWAYS & TRANSPORTATION DIVISION OF HIGHWAYS		
EXPANSION DAM & BEND DETAILS BRIDGES NO. 27 & 28		
D.C.H. & T.O. T. R. F. C. T. O.	SCALE AS SHOWN	APPROVED BY: <i>John W. Miller</i> BRIDGE ENGINEER



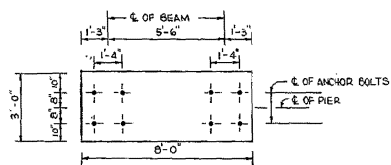
CAP PLAN
SCALE: 3/8"=1'-0"



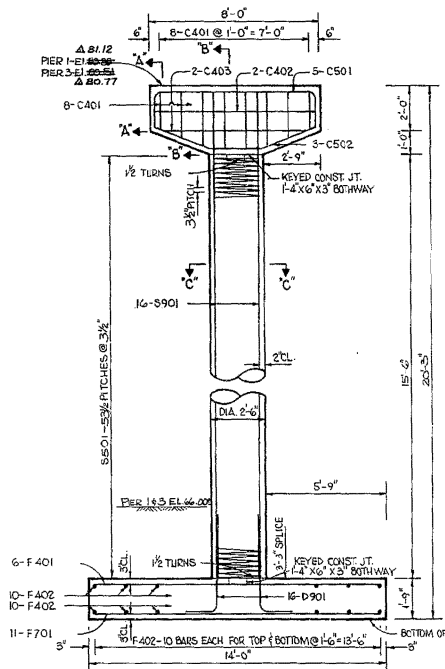
ANCHOR BOLTS LAYOUT FOR PIER 1 & 3
SCALE: 3/8"=1'-0"



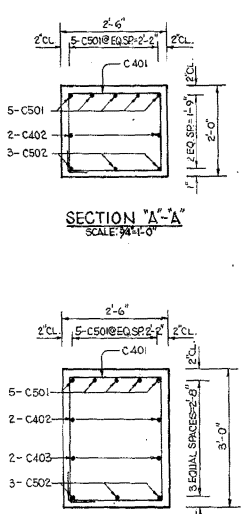
CAP PLAN
SCALE: 3/8"=1'-0"



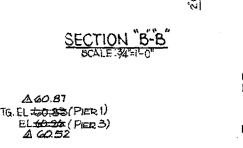
ANCHOR BOLTS LAYOUT FOR PIER 2
SCALE: 3/8"=1'-0"



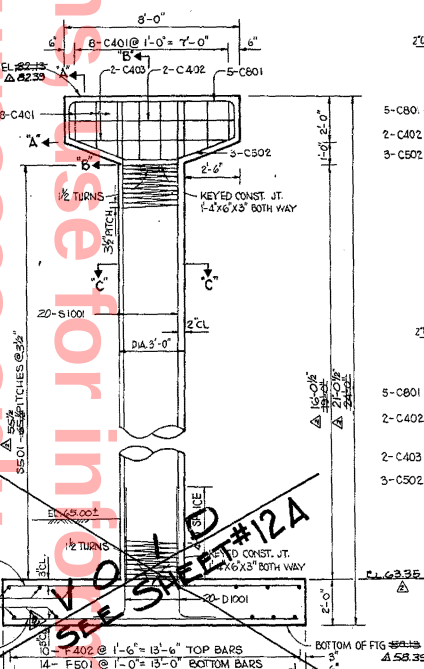
ELEVATION OF PIER 1 & 3
SCALE: 3/8"=1'-0"



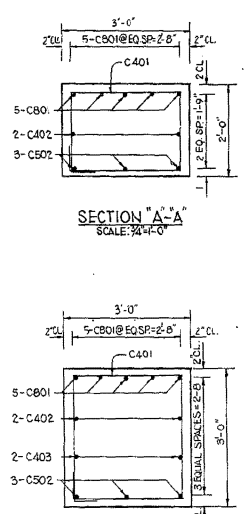
SECTION "A-A"
SCALE: 3/8"=1'-0"



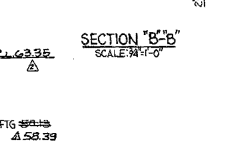
SECTION "B-B"
SCALE: 3/8"=1'-0"



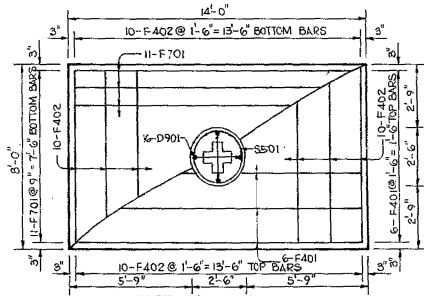
ELEVATION OF PIER 2
SCALE: 3/8"=1'-0"



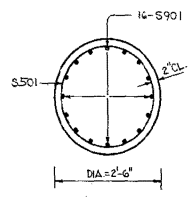
SECTION "A-A"
SCALE: 3/8"=1'-0"



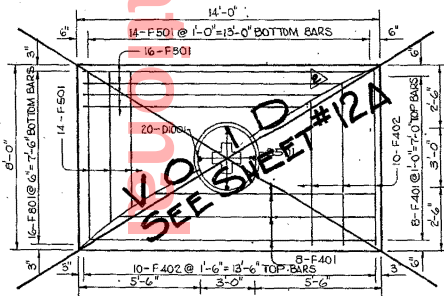
SECTION "B-B"
SCALE: 3/8"=1'-0"



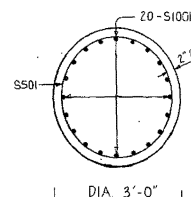
FOOTING PLAN
SCALE: 3/8"=1'-0"



SECTION "C-C"
SCALE: 3/8"=1'-0"



FOOTING PLAN
SCALE: 3/8"=1'-0"



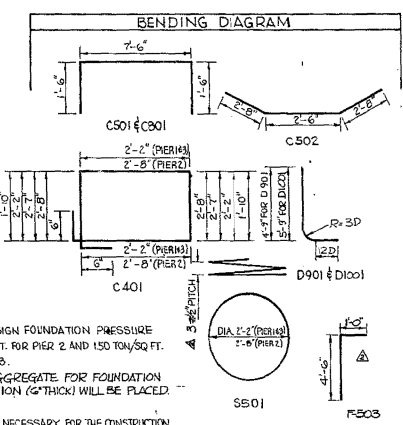
SECTION "C-C"
SCALE: 3/8"=1'-0"

COUNTY	CONTRACT	SHEET NO.	DATE	REVISED BY	DATE
N. C.	70-2-002	2	DEL		12-32

BRIDGE NO. 27 AT LINCOLN AVE. & BRIDGE NO. 28 AT HARRISON AVE. OVER U.S. RT. NO. 13 PEDESTRIAN BRIDGES

NO.	REVISIONS	BY	DATE
1	Revise Elevation	TO	8-1-72
2	Revise Pier No. 2	TO	11-2-72

REINFORCING BAR LIST									
STRAIGHT BARS					BENT BARS				
MARK	SIZE	LENGTH	NUMBER	MARK	SIZE	LENGTH	NUMBER		
FOR PIER 1 & 3 PER PIER									
C402	4	7'-6"	2	C501	5	10'-6"	5		
C403	4	6'-9"	2	C502	5	7'-10"	3		
S901	9	18'-4"	16	C401	4	10'-6"	2		
F701	7	13'-6"	11			10'-6"	2		
F401	4	12'-6"	6			9'-0"	2		
F402	4	7'-6"	20			9'-0"	1		
				S501	5	364.7"	1		
				D901	9	6'-2"	16		
FOR PIER 2									
C402	4	7'-6"	2	C801	8	10'-6"	5		
C403	4	6'-9"	2	C502	5	7'-10"	3		
S1001	10	18'-4"	16	C401	4	11'-6"	2		
F801	8	13'-6"	16			11'-6"	2		
F501	5	7'-6"	14			10'-6"	2		
F401	4	13'-6"	12			10'-0"	2		
F402	4	7'-6"	10	S501	5	364.7"	1		
F502	5	7'-6"	28	D1001	10	7'-4"	20		
F802	8	7'-6"	7	F803	8	5'-6"	20		
F803	8	7'-6"	14						



NOTE:
MAXIMUM DESIGN FOUNDATION PRESSURE
2.1 TON/SQ. FT. FOR PIER 2 AND 150 TON/SQ. FT.
FOR PIER 1 & 3.
COARSE AGGREGATE FOR FOUNDATION
STABILIZATION (6" THICK) WILL BE PLACED.

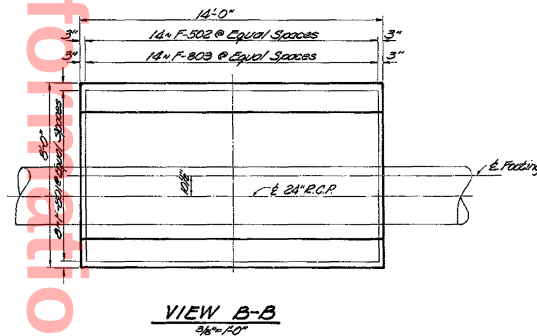
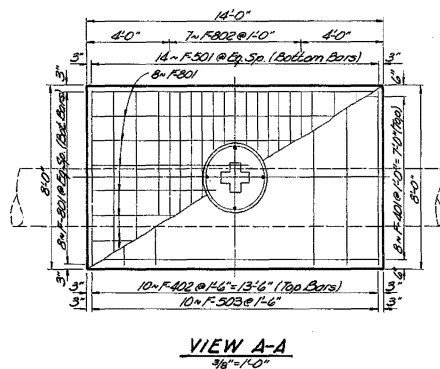
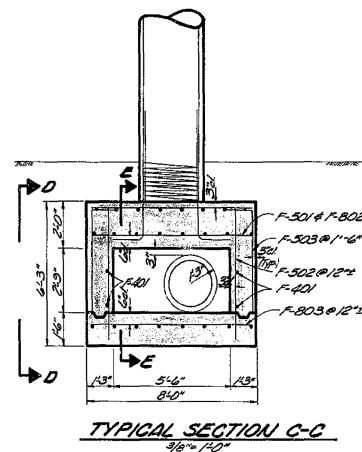
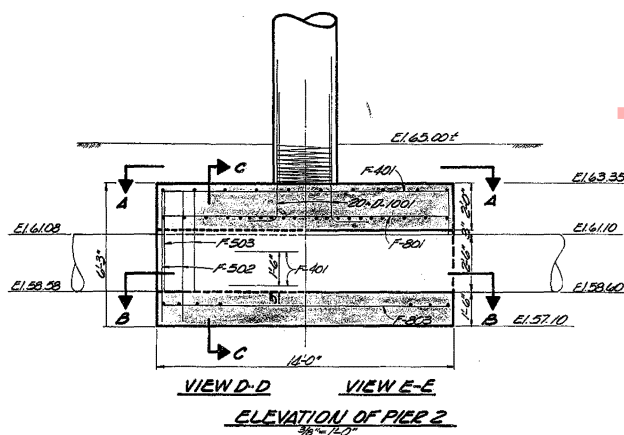
THE BACKFILL NECESSARY FOR THE CONSTRUCTION
SHALL BE PLACED AS EARLY AS PRACTICABLE
SO AS TO ALLOW THE MAXIMUM AMOUNT OF
TIME FOR THE STABILIZATION OF THE BACKFILL.
USE ORIGINAL SOIL FOR THE BACKFILL. AFTER
REMOVING ORGANIC MATERIAL UNLESS
ORDERED BY ENGINEER.

DELAWARE
DEPARTMENT OF HIGHWAYS & TRANSPORTATION
DIVISION OF HIGHWAYS
PIERS 1, 2 & 3
BRIDGE NO. 27

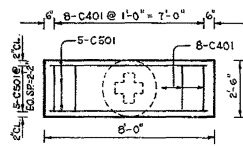
D.C.B.T.O. SCALE AS SHOWN
T.R.F. APPROVED BY: *John H. Diller*
C.T.O. BRIDGE ENGINEER

chive Plans, use for informational purposes only

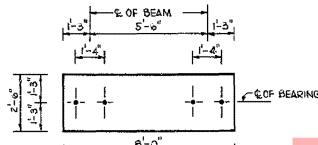
COUNTY	CONTRACT	F.P.D. SEE NO.	STATE	FILED PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	70-12-002	2	DEL		12A	32
BRIDGE NO. 27 AT LINCOLN AVE. & BRIDGE NO. 28 AT HARRISON AVE. OVER U.S. RT. NO. 13 PEDESTRIAN BRIDGES						
NO.	REVISIONS	BY	DATE			
1	Add Sheet - Revise Pier No. 2, B.C.H. 7/2		11-2-72			



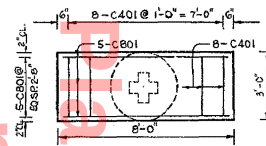
DELAWARE DEPARTMENT OF HIGHWAYS & TRANSPORTATION DIVISION OF HIGHWAYS		
PIER NO. 2 BRIDGE No. 27		
D.T.D. T.F.R.D. C.C.H.	SCALE 3/8"=1'-0"	APPROVED BY: Robert C. McDaniel BRIDGE ENGINEER



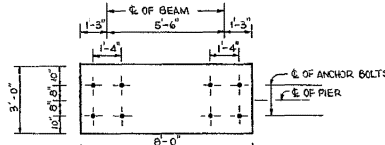
CAP PLAN
SCALE: 3/8"=1'-0"



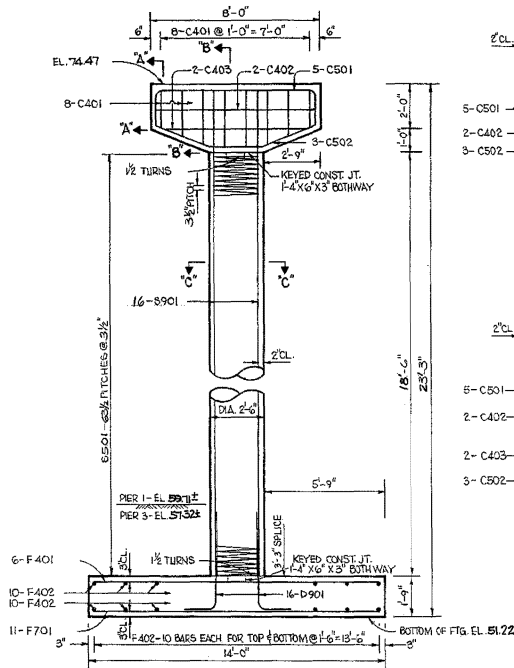
ANCHOR BOLTS LAYOUT FOR PIER 1 & 3
SCALE: 3/8"=1'-0"



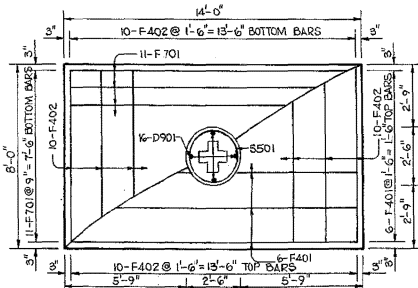
CAP PLAN
SCALE: 3/8"=1'-0"



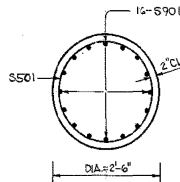
ANCHOR BOLTS LAYOUT FOR PIER 2
SCALE: 3/8"=1'-0"



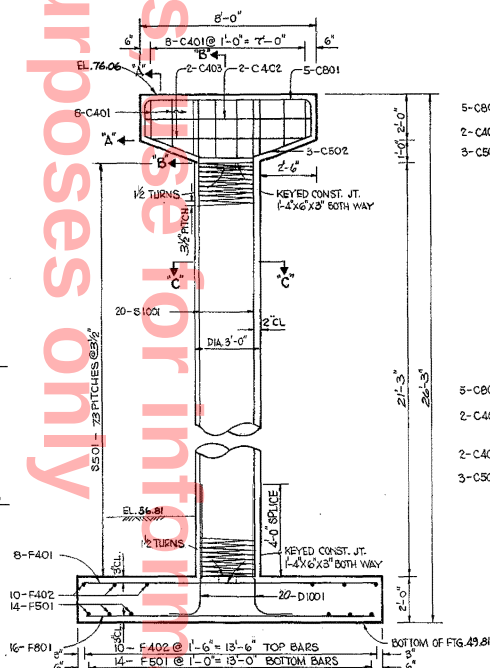
ELEVATION OF PIER 1 & 3
SCALE: 3/8"=1'-0"



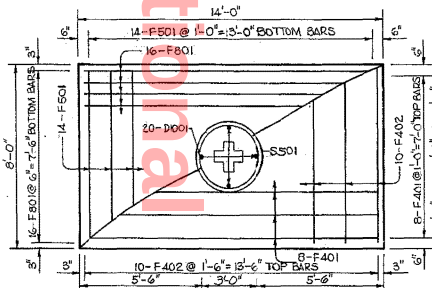
FOOTING PLAN
SCALE: 3/8"=1'-0"



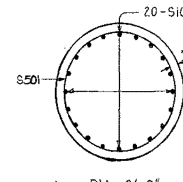
SECTION "C-C"
SCALE: 3/8"=1'-0"



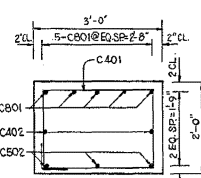
ELEVATION OF PIER 2
SCALE: 3/8"=1'-0"



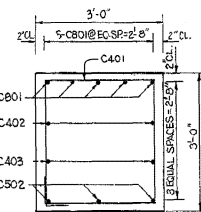
FOOTING PLAN
SCALE: 3/8"=1'-0"



SECTION "C-C"
SCALE: 3/8"=1'-0"



SECTION "A-A"
SCALE: 3/8"=1'-0"



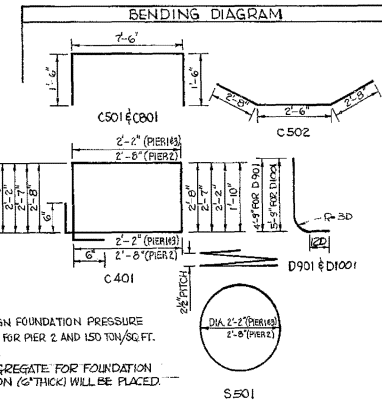
SECTION "B-B"
SCALE: 3/8"=1'-0"

COUNTY	CONTRACT	S.D.A. REV. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
N. C.	70-B-002	2	DEL.		13	32

BRIDGE NO. 27 AT LINCOLN AVE. & BRIDGE NO. 28 AT HARRISON AVE. OVER U.S. RT. NO. 13 PEDESTRIAN BRIDGES

NO.	REVISIONS	BY	DATE

REINFORCING BAR LIST									
STRAIGHT BARS					BENT BARS				
MARK	SIZE	LENGTH	NUMBER	MARK	SIZE	LENGTH	NUMBER		
FOR PIER 1 & 3 PER PIER									
C402	4	7'-6"	2	C501	5	10'-6"	5		
C403	4	6'-9"	2	C502	5	7'-10"	3		
S901	9	2'-4"	16	C401	4	10'-8"	2		
F701	7	13'-6"	11			10'-6"	2		
F401	4	13'-6"	6			9'-8"	2		
F402	4	7'-6"	20			9'-0"	2		
				S501	5	45'-8"	1		
				D901	9	6'-2"	16		
FOR PIER 2									
C402	4	7'-6"	2	C801	5	10'-6"	5		
C403	4	6'-9"	2	C502	5	7'-10"	3		
S1001	10	2'-4"	20	C401	4	11'-8"	2		
F801	8	13'-6"	16			11'-6"	2		
F501	5	7'-6"	14			10'-8"	2		
F401	4	13'-6"	8			10'-0"	2		
F402	4	7'-6"	10	S501	5	43'-5"	1		
				D1001	10	7'-4"	20		



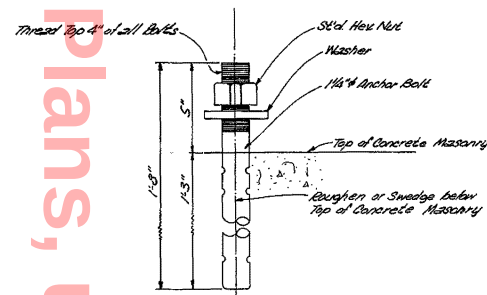
NOTE:
MINIMUM DESIGN FOUNDATION PRESSURE
21 TON/SQ. FT. FOR PIER 2 AND 150 TON/SQ. FT.
FOR PIER 1 & 3.
COARSE AGGREGATE FOR FOUNDATION
STABILIZATION (6" THICK) WILL BE PLACED.
THE BACKFILL NECESSARY FOR THE CONSTRUCTION
SHALL BE PLACED AS EARLY AS PRACTICABLE
SO AS TO ALLOW THE MAXIMUM AMOUNT OF
TIME FOR THE STABILIZATION OF THE BACKFILL.
USE ORIGINAL SOIL FOR THE BACKFILL AFTER
REMOVING ORGANIC MATERIAL UNLESS
ORDERED BY ENGINEER.

DELAWARE
DEPARTMENT OF HIGHWAYS & TRANSPORTATION
DIVISION OF HIGHWAYS

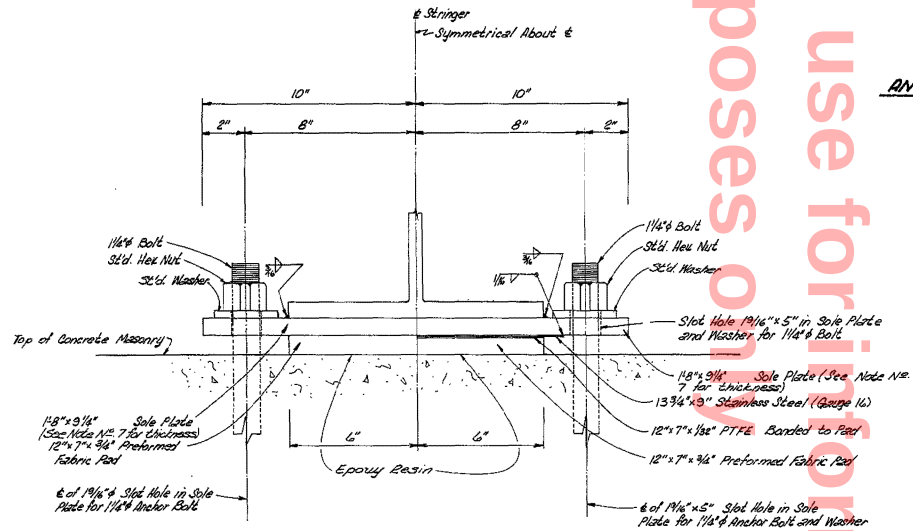
PIERS 1, 2 & 3
BRIDGE NO. 28

D.C.H.B.D. SCALE AS SHOWN
T.R.F. APPROVED BY: *John R. Liddle*
C.T.O. BRIDGE ENGINEER

COUNTY	CONTRACT	F.S.A. REF. NO.	DATE	REVISED BY	SHEET NO.	TOTAL SHEETS
N. C.	70-12-002	2	DEL		14	32
BRIDGE NO. 27 AT LINCOLN AVE. & BRIDGE NO. 28 AT HARRISON AVE. OVER U.S. RT. NO. 13 PEDESTRIAN BRIDGES						
NO.	REVISIONS				BY	DATE

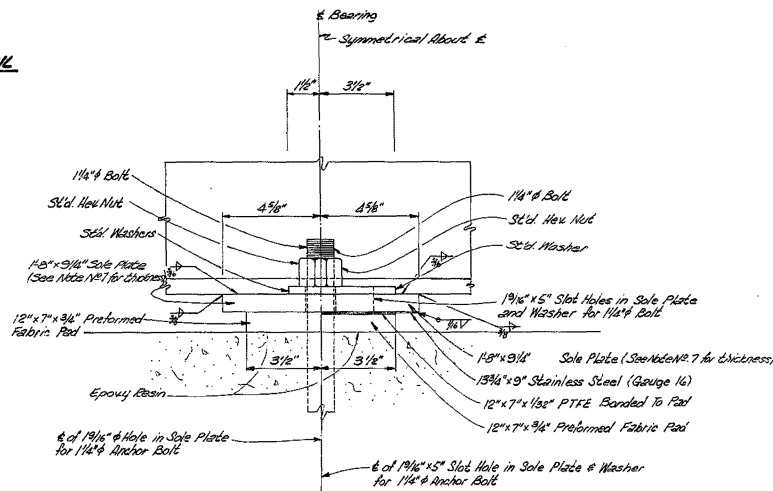


ANCHOR BOLT DETAIL
Not to Scale



HALF END ELEVATION
FIXED BEARING SHOE
 $3/8" \times 10"$

HALF END ELEVATION
EXPANSION BEARING SHOE



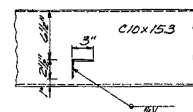
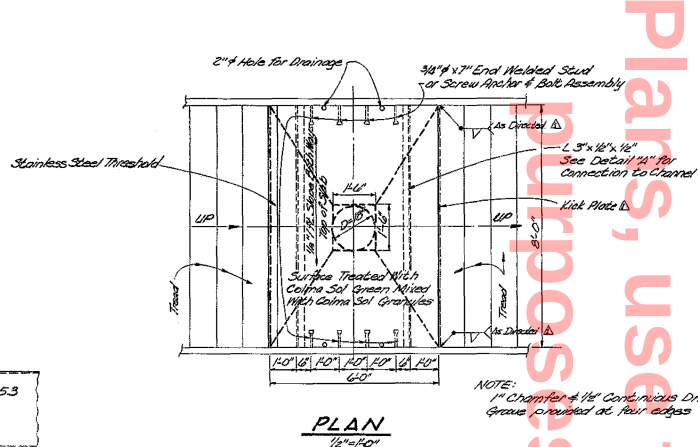
HALF SIDE ELEVATION
FIXED BEARING SHOE
 $3/8" \times 140"$

HALF SIDE ELEVATION
EXPANSION BEARING SHOE

- NOTES:
1. Sole Plates are to be AASHTO M183 Steel and shall be painted.
 2. Stainless Steel Plates shall have a 2B Finish on the side in contact with PTFE. Stainless Steel Plates shall not be painted.
 3. PTFE is defined as Polytetrafluoroethylene.
 4. Preformed Fabric Pad shall conform with the A.A.S.H.O. Specification 2.10.3 (M).
 5. Burr Threads on Anchor Bolts above and below nut anchor.
 6. Bolts shall be set by use of templates.
 7. Use Sole Plates with $3/8"$ thickness for Span 2 of Bridge No. 27, Span 1 & 2 of Bridge No. 28, and Sole Plates with $1"$ thickness for Span 1 of Bridge No. 27.
 8. Tighten Nuts by hand.
 9. Nuts, Plate Washers, Sole Plates shall be galvanized.

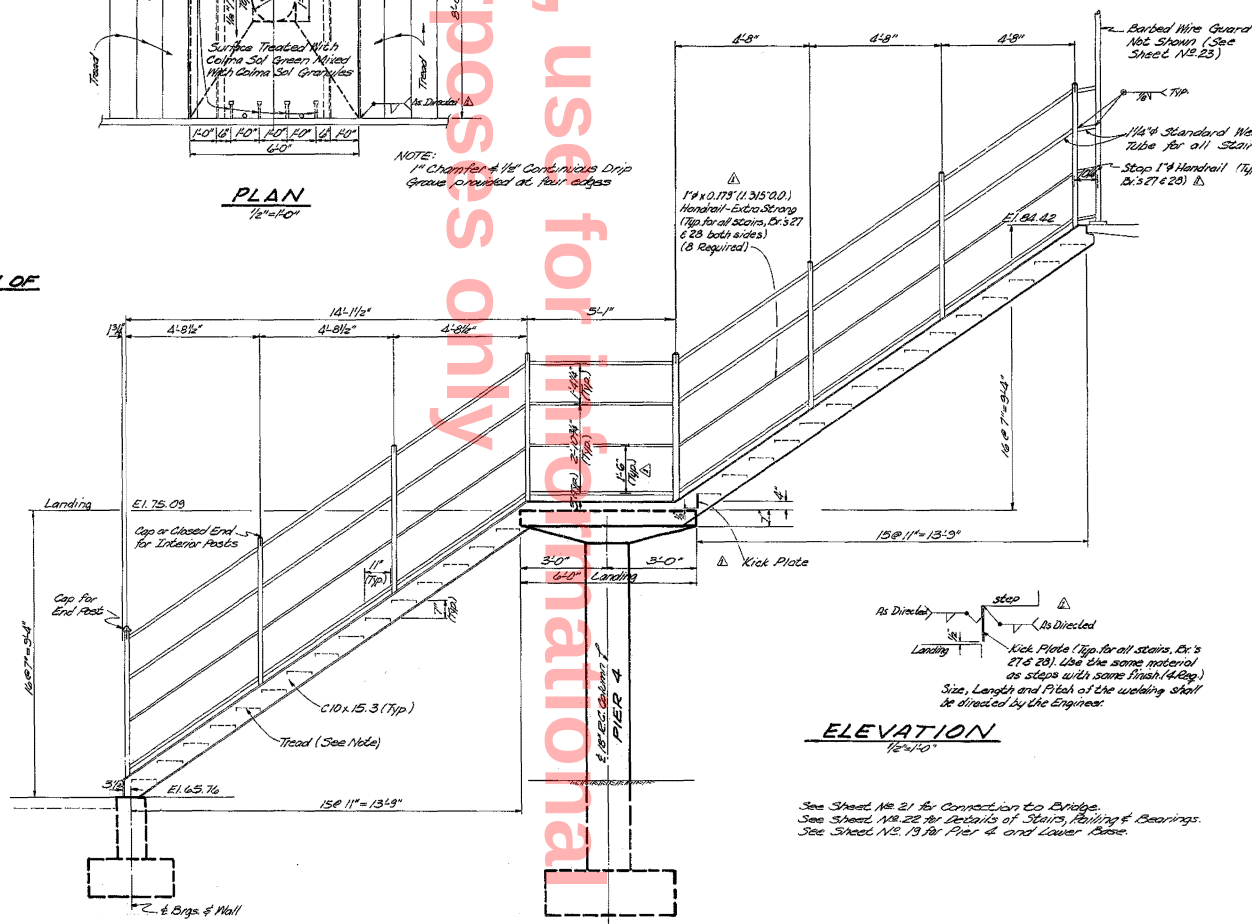
DELAWARE DEPARTMENT OF HIGHWAYS & TRANSPORTATION DIVISION OF HIGHWAYS	
BEARING SHOE DETAILS PIERS 1, 2 & 3 BRIDGES NO. 27 & 28	
D. C. H. T. G. R. D. C. T. O.	APPROVED BY: <i>John S. Schuler</i> BRIDGE ENGINEER

COUNTY	CONTRACT	SHEET NO.	SHEET	REV. NO.	DATE	TOTAL SHEETS
N. C.	70-12-002	2	DEL.		15	32
BRIDGE NO. 27 AT LINCOLN AVE. & BRIDGE NO. 28 AT HARRISON AVE. OVER U.S. RT. NO. 13						
PEDESTRIAN BRIDGES						
NO.	REVISIONS	BY	DATE			
1	Handrail & Kick Plate Addition	GRD	7-20-75			



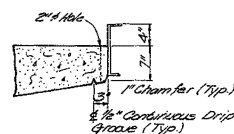
DETAIL 'B' CONNECTION OF ANGLE TO CHANNEL
1/2" x 1/2"

NOTE: For Br. 28, The Angle will be Welded in the Field.

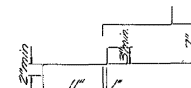
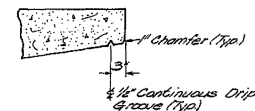


ELEVATION
1/2" x 1/2"

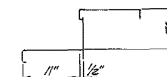
See Sheet No. 21 for Connection to Bridge.
See Sheet No. 22 for Details of Stairs, Railing & Bearings.
See Sheet No. 19 for Pier & and Lower Base.



DETAILS: CHAMFER & GROOVE
1/2" x 1/2"



OPEN RISER TYPE



CLOSED RISER TYPE

NOTE!
Treads on all Stairs shall be steel resistant raised pattern plates with rising and skid ribs (Open Riser Type) or closed riser (Closed Riser Type). They shall satisfy the following requirements:
Live Load: 80-90% of area highway
Span: 21'
Width: 11' on Stairs
Treads on all stairs shall have small holes such that water can be effectively drained.

DELAWARE
DEPARTMENT OF HIGHWAYS & TRANSPORTATION
DIVISION OF HIGHWAYS

STAIR 1
BRIDGE NO. 27

D.T.O.
T.G.R.D.
C.E.H.

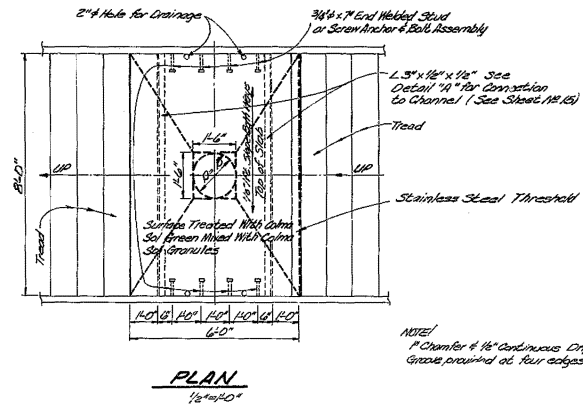
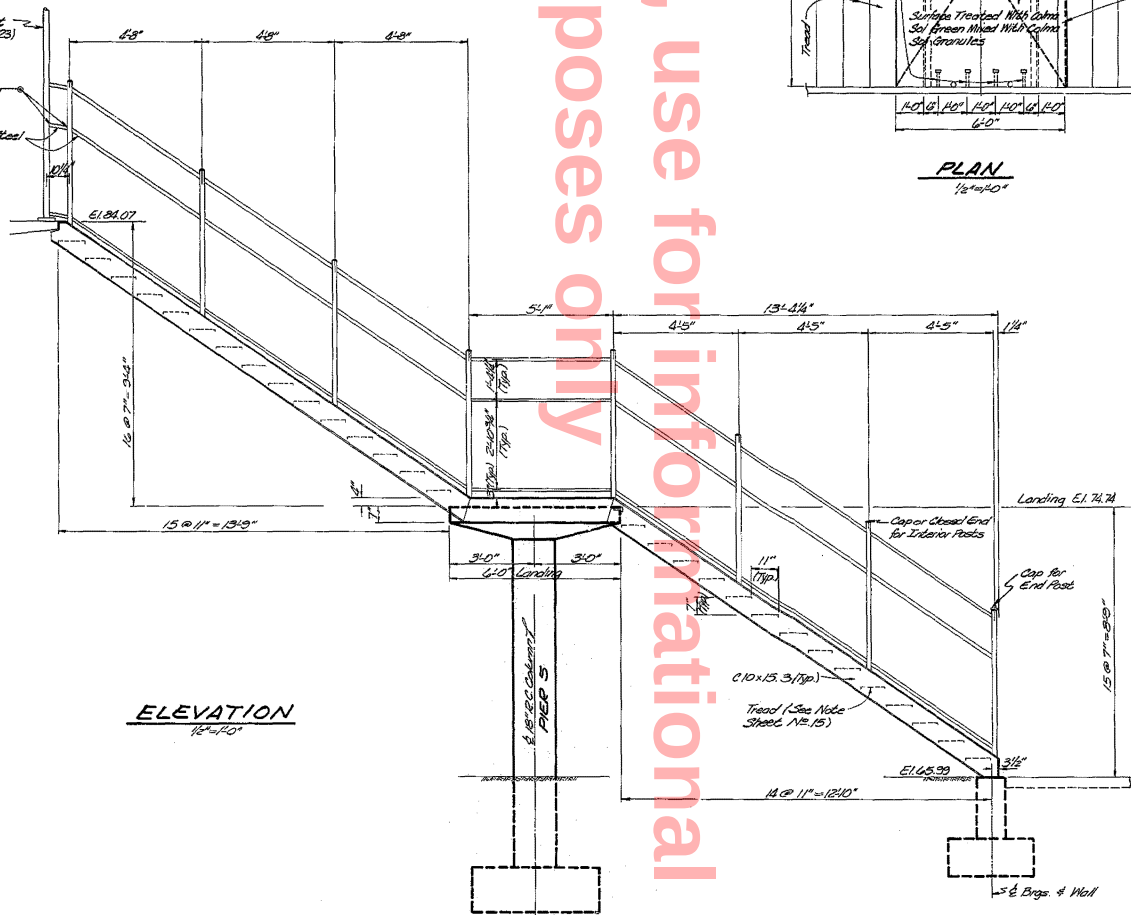
SCALE
AS SHOWN

APPROVED BY:
John W. Kelly
BRIDGE ENGINEER

Barbed Wire Guard Not
Shown (See Sheet No. 23)

Tip 18V

1/4" Standard Weight Steel
Tube For All Stair Rails

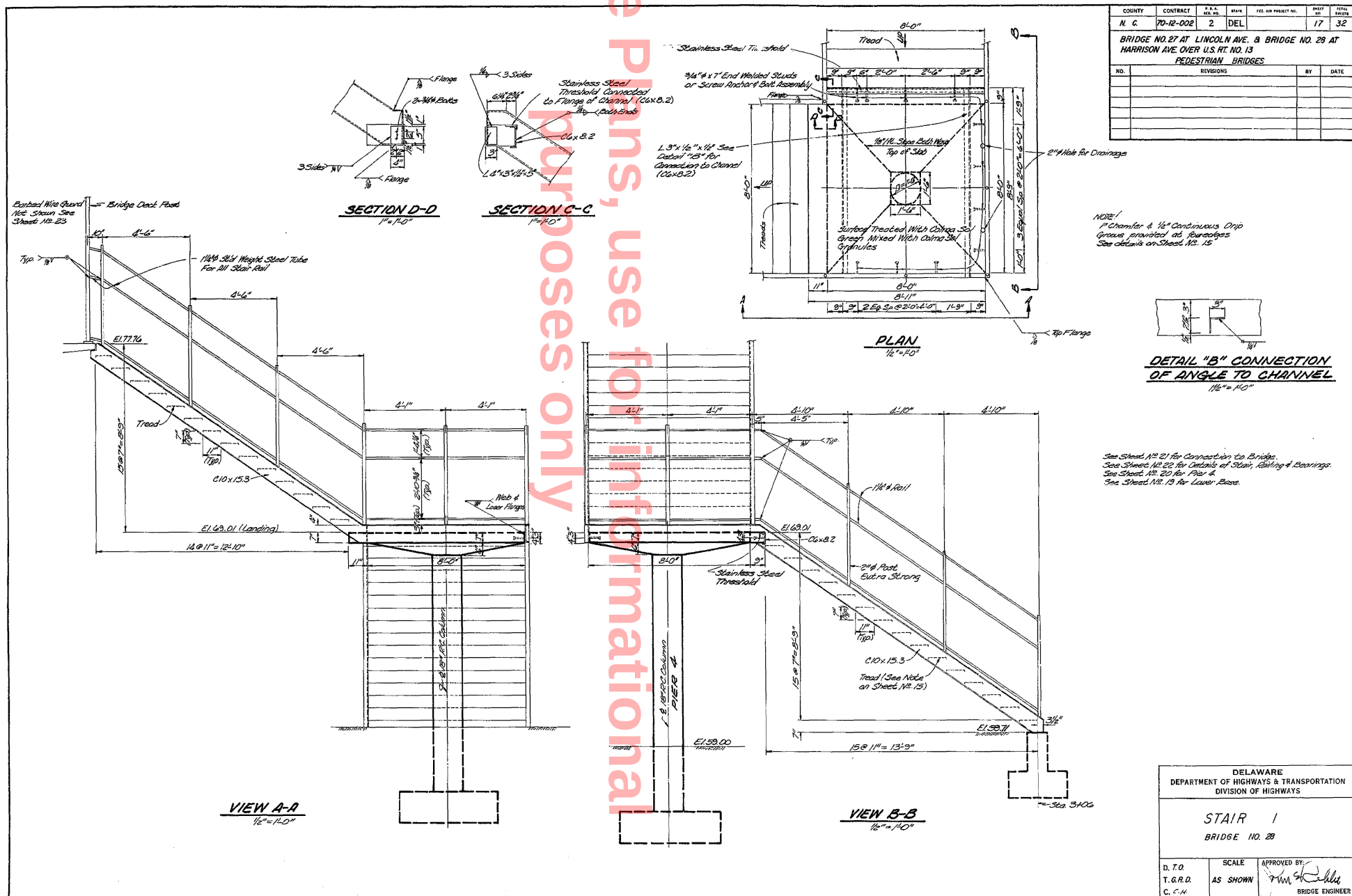


NOTE!
1" Chamfer & 1/8" Continuous Drip
Groove provided at four edges

See Sheet No. 21 for Connection to Bridge.
See Sheet No. 22 for Details of Stairs, Railing & Bearing.
See Sheet No. 19 for Pier 5 and Lower Base.

[illegible]

DELAWARE DEPARTMENT OF HIGHWAYS & TRANSPORTATION DIVISION OF HIGHWAYS		
<i>STAIR 2</i> <i>BRIDGE NO. 27</i>		
D. T.O. T. G.R.D. C. C. H.	SCALE <i>1/2" = 1'-0"</i>	APPROVED BY: <i>[Signature]</i> BRIDGE ENGINEER



COUNTY	CONTRACT	SHEET NO.	DATE	FEEL AIR PRODUCT NO.	SHEET NO.	TOTAL SHEETS
N. C.	70-12-002	2	DEL		17	32

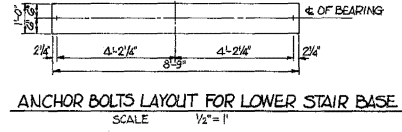
BRIDGE NO. 27 AT LINCOLN AVE. & BRIDGE NO. 28 AT HARRISON AVE. OVER U.S. RT. NO. 13

PEDESTRIAN BRIDGES

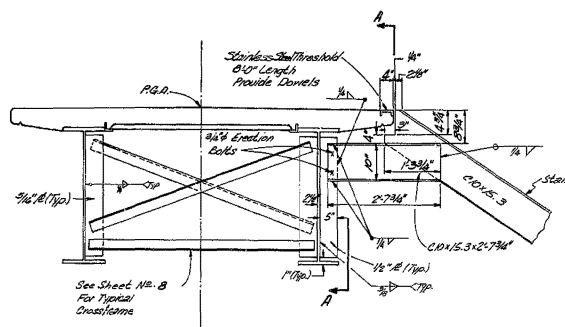
NO.	REVISIONS	BY	DATE

NOTE:
1" Chamfer & 1/4" Continuous Drip Grooves provided at four angles. See details on Sheet No. 15.

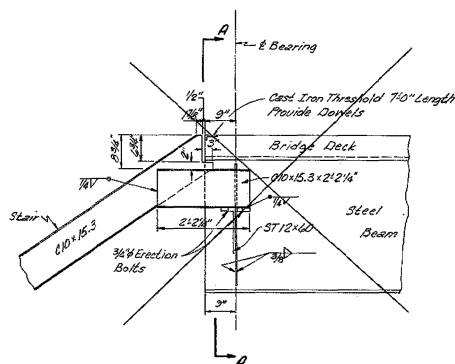
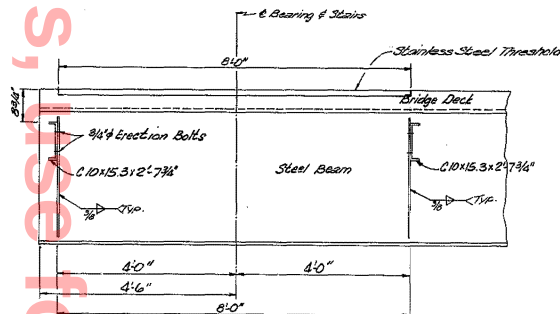
See Sheet No. 21 for Connection to Bridge.
See Sheet No. 22 for Details of Stair, Railing & Bearings.
See Sheet No. 20 for Pier &.
See Sheet No. 19 for Lower Base.



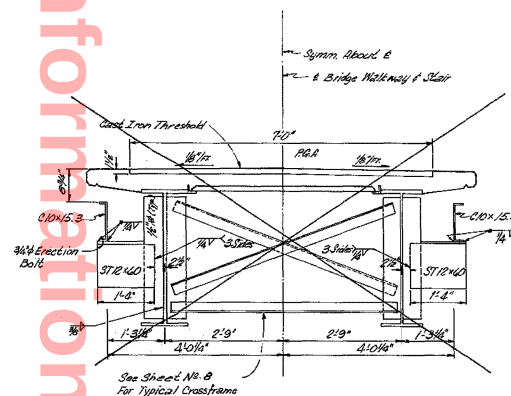
COUNTY	CONTRACT	P. & L. SHEET NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
N. C.	70-12-002	2	DEL.		21	32
BRIDGE NO. 27 AT LINCOLN AVE. & BRIDGE NO. 28 AT HARRISON AVE. OVER U.S. RT. NO. 13 PEDESTRIAN BRIDGES						
NO.	REVISIONS			BY	DATE	
				</		



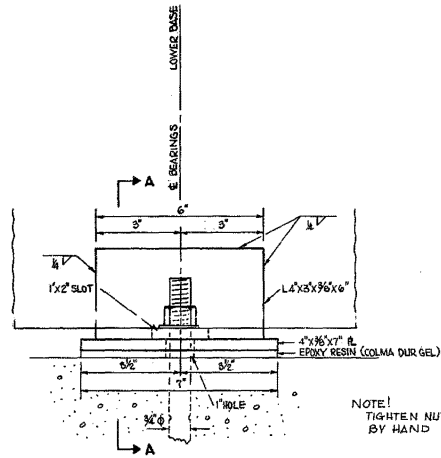
STAIR CONNECTION TO BRIDGE
STAIR NO. 1#2 BR. NO. 28 & STAIR NO. 1#2 BR. NO. 27
 3/4" = 1'-0"



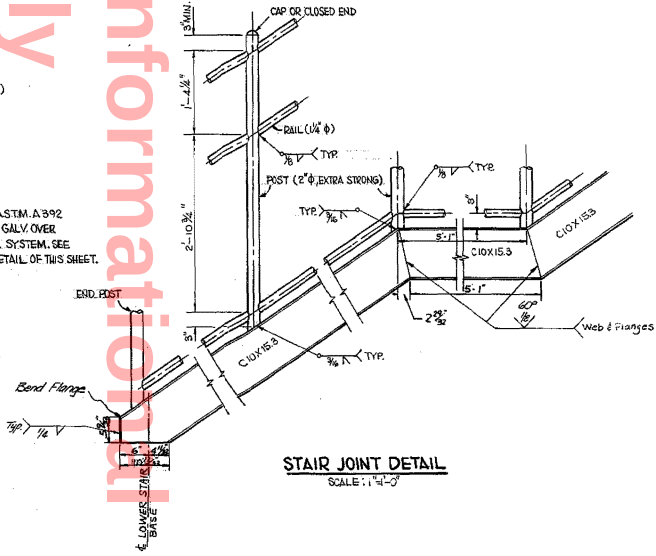
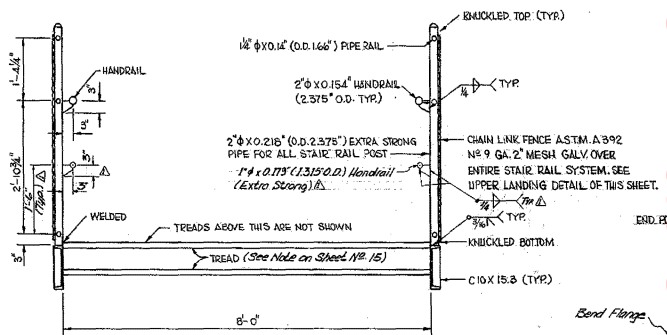
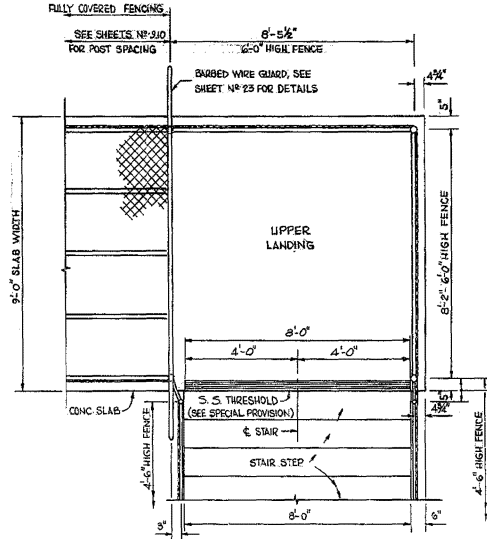
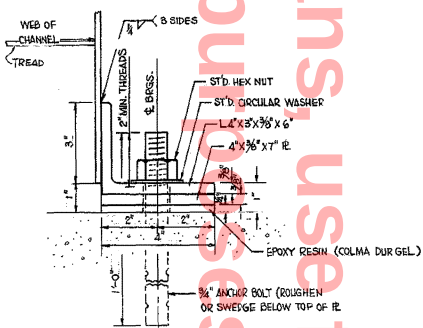
STAIR CONNECTION TO BRIDGE
STAIR NO. 1 BR. NO. 28
 3/4" = 1'-0"



DELAWARE DEPARTMENT OF HIGHWAYS & TRANSPORTATION DIVISION OF HIGHWAYS	
STAIR CONNECTION TO BRIDGE BRIDGES NO. 27 & 28	
D. C. H. & T. T. G. E. D. C. T. A.	SCALE 3/4" = 1'-0" APPROVED BY: BRIDGE ENGINEER



NOTE!
TIGHTEN NUTS
BY HAND

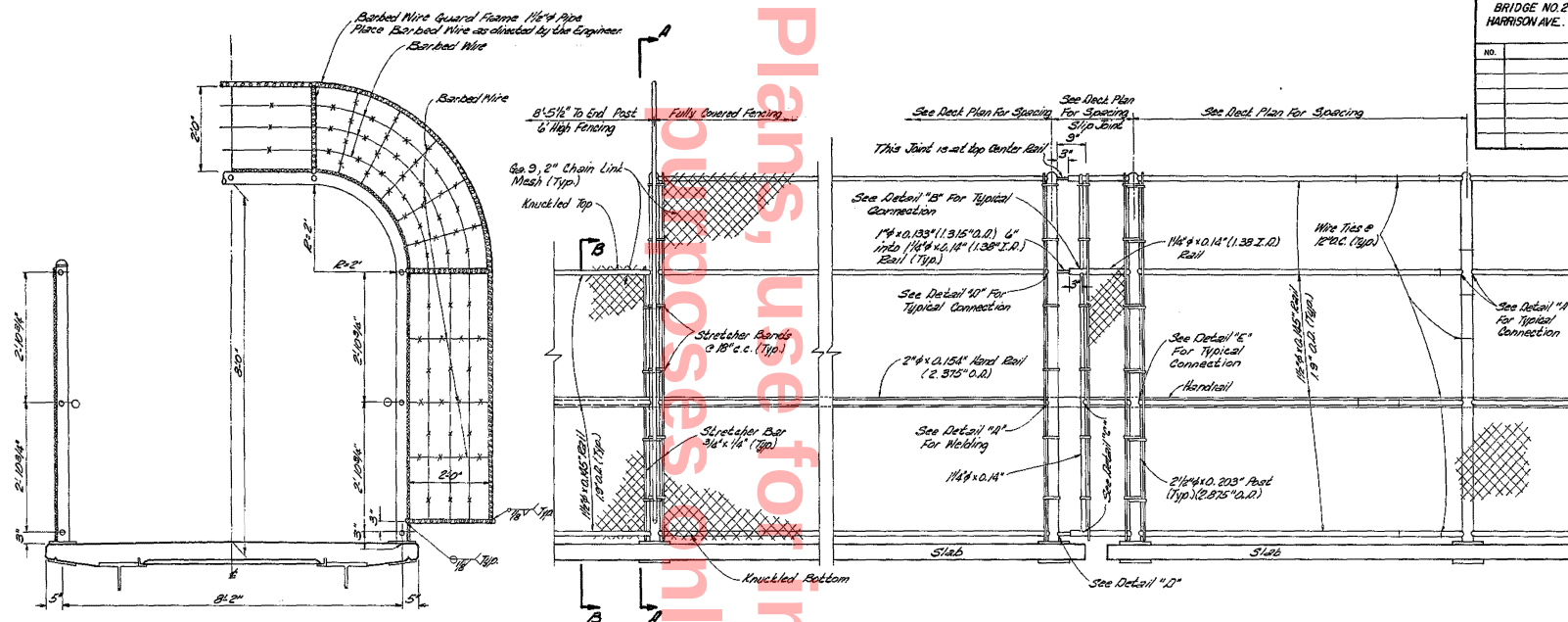


- NOTES:
- HANDRAIL SHALL BE PROVIDED AT BOTH SIDES FOR FULL LENGTH OF STAIR, AND THEY SHALL BE CONNECTED TO BRIDGE HANDRAILS.
 - HANDRAIL SHALL BE WELDED TO EVERY POST AND SHALL HAVE A CLOSED END AT LOWER END POST.
 - HANDRAIL SPLICES SHALL BE THE FLUSH SLIP-JOINT TYPE.
 - ALL RAILS SHALL BE PARALLEL TO STAIR CHANNEL. POST SHALL BE TRULY VERTICAL.
 - ALL POSTS AND RAILS SHALL BE AS PER A.S.T.M. A53 GRADE B, TYPE S OR E.
 - ALL RAILS POSTS FENCE AND THEIR CONNECTIONS SHALL BE GALVANIZED IN ACCORDANCE WITH THE NOTES GIVEN ON SHEET NO. 2.
 - THE MATERIAL AND INSTALLATION OF THE STAIR RAIL SYSTEM (INCLUDING HANDRAILS, 2" EXTRA STRONG PIPES AND 1/4" PIPES) AND OF THE CONNECTIONS OF STAIRS TO BRIDGE SHALL BE PAID FOR UNDER SECTION 606 STEEL STRUCTURES - FOUR (4) STAIRS.
 - STRETCHER BARS AND BAR BAND SHALL BE PROVIDED AT END POSTS AND OTHER POSTS AS DIRECTED BY THE ENGINEER. THE SPACING OF BAR BAND SHALL BE 12" OVER CENTERS. SEE SHEET NO. 23 FOR MORE DETAILS.
 - ANCHOR BOLT, NUT AND WASHER SHALL BE GALVANIZED.

COUNTY	CONTRACT	D.P. NO.	STATE	FILE NO. PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	70-12-002	2	DEL.		22	32
BRIDGE NO. 27 AT LINCOLN AVE. & BRIDGE NO. 28 AT HARRISON AVE. OVER U.S. RT. NO. 13 PEDESTRIAN BRIDGES						
NO.	REVISIONS			BY	DATE	
15	Handrail & Kick Plate Addition			GRD	7-20-73	

DELAWARE DEPARTMENT OF HIGHWAYS & TRANSPORTATION DIVISION OF HIGHWAYS		
DETAILS OF STAIRS & BEARINGS		
D.C.H. 870 T. R.B.F. C. 70.	SCALE AS SHOWN	APPROVED BY: <i>John W. Smith</i> BRIDGE ENGINEER

COUNTY	CONTRACT	S.A.S. FILE NO.	DATE	REV. AND PROJECT NO.	SHEET NO.	TOTAL SHEETS
N. C.	70-12-002	2	DEL		23	32
BRIDGE NO. 27 AT LINCOLN AVE. & BRIDGE NO. 28 AT HARRISON AVE. OVER U.S. RT. NO. 13						
PEDESTRIAN BRIDGES						
NO.	REVISIONS			BY	DATE	



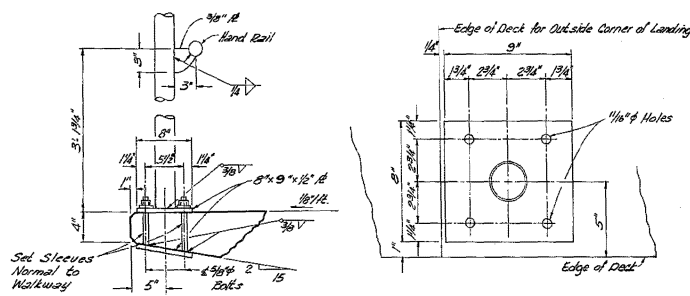
HALF SECTION "B-B"
(6' High Fencing Extends Only At One Side)

HALF SECTION "A-A"
(Structure is Symm. about C.)

TYPICAL PANEL OF
6' HIGH FENCING
3'0" x 1'0"

SLIP JOINT DETAIL
AT PIER II
3'0" x 1'0"

TYPICAL PANEL OF FULLY COVERED FENCING
3'0" x 1'0"



SECTION
1 1/2" x 10"

POST BASE ASSEMBLY

PLAN
3'0" x 10"

NOTES:

1. All rails shall be parallel to grade. Posts shall be truly vertical.
2. All post and rails shall be as per A.S.T.M. A53 Grade B, Type "S" or "E".
3. All material used in railing system (posts, rails, fences, base plates, anchor bolts, nut plates, washers and other connectors) shall be galvanized in accordance with the Notes given on Sheet No. 2.

4. Hand Rails shall be provided at both sides for full length of railing system, and shall be welded to every post with bracket fitting. Handrail splices shall be flush slip-joint type.

5. Chain Link Fence complete shall be paid for a linear foot basis and shall include all rails, posts, fence, anchor bolts, base plates, barbed wire guard and other connections necessary for completion of the job.

DELAWARE
DEPARTMENT OF HIGHWAYS & TRANSPORTATION
DIVISION OF HIGHWAYS

BRIDGE FENCING
BRIDGES NO. 27 & 28

D.C.H.B.T. SCALE APPROVED BY:
T.B.R.D. AS SHOWN John R. Ellis
C. F.O. BRIDGE ENGINEER