

CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS IN CO-OPERATION WITH MICHIGAN DEPARTMENT OF TRANSPORTATION

F H W A REGION	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MICH				
STREET	CITY	COUNTY	TWP	SHEET NO.	TOTAL SHEETS

GENERAL NOTES

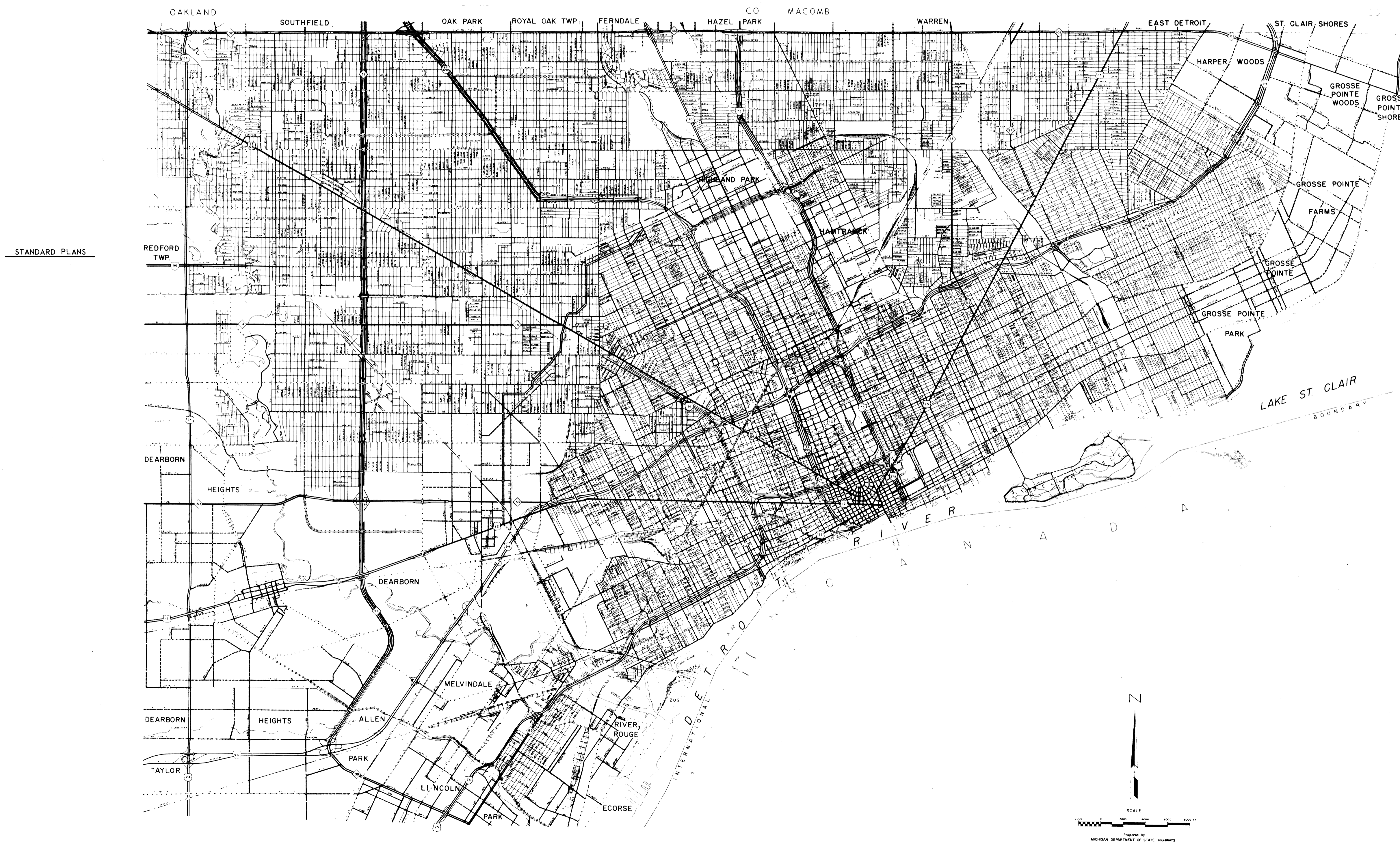
EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED THEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, 1984 EDITION.

THE DESIGN OF THESE STRUCTURES IS BASED ON THE MICHIGAN DEPARTMENT OF HIGHWAYS SPECIFICATIONS FOR THE DESIGN OF HIGHWAY BRIDGES 1958 EDITION AND CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

THE EXISTING STRUCTURES SHALL BE CHECKED AT THE TIME OF STARTING CONSTRUCTION TO SEE THAT ITS RELATIONSHIP TO THE PROPOSED WORK IS AS SHOWN ON THESE PLANS AND ANY DIFFERENCES REQUIRING CHANGES IN THE NEW WORK SHALL BE REPORTED TO THE DESIGN OFFICE.

CONTROL SECTION

JOB NO.



CONTRACT FOR **BRIDGE PROTECTIVE SCREENING**

LOCAL AUTHORITY APPROVAL
CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

APPROVED BY _____ DEPUTY DIRECTOR _____ DATE _____

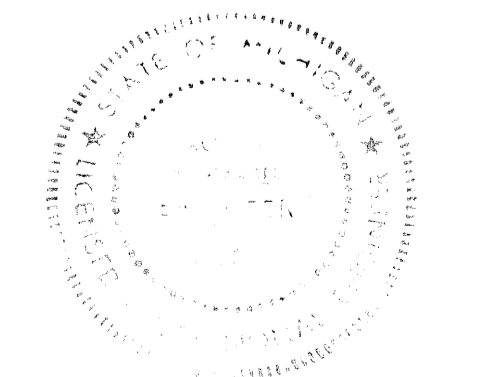
APPROVED BY _____ DIRECTOR _____ DATE _____

PREPARED UNDER SUPERVISION OF _____

REGISTERED PROFESSIONAL ENGINEER _____ REGISTRATION NO. _____

CITY OF DETROIT
ORGANIZATION

DETROIT, MICHIGAN
ADDRESS



FILE NO. NO. 330 ST. 201	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
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PLAN 11DFY	
SHEET NO.	DESCR. PT. ON
1	TITLE SHEET
1a	INDEX & LOCATION SHEET
1b	QUANTITY SHEET

S18 of 82195	
2	BRIDGE PROTECTIVE SCREENING DETAILS
3	GENERAL PLAN OF STRUCTURE

S19 of 82195	
2	BRIDGE PROTECTIVE SCREENING DETAILS
3	GENERAL PLAN OF STRUCTURE

S24 of 82195	
2	BRIDGE PROTECTIVE SCREENING DETAILS
3	GENERAL PLAN OF STRUCTURE

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2	BRIDGE PROTECTIVE SCREENING DETAILS
3	GENERAL PLAN OF STRUCTURE

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2	BRIDGE PROTECTIVE SCREENING DETAILS
3	GENERAL PLAN OF STRUCTURE

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2	BRIDGE PROTECTIVE SCREENING DETAILS
3	GENERAL PLAN OF STRUCTURE

S01 of 82251	
2	BRIDGE PROTECTIVE SCREENING DETAILS
3	GENERAL PLAN OF STRUCTURE

S04 of 82111	
2	BRIDGE PROTECTIVE SCREENING DETAILS
3	GENERAL PLAN OF STRUCTURE
4	GENERAL PLAN OF STRUCTURE

S05 of 82111	
2	BRIDGE PROTECTIVE SCREENING DETAILS
3	GENERAL PLAN OF STRUCTURE
4	GENERAL PLAN OF STRUCTURE

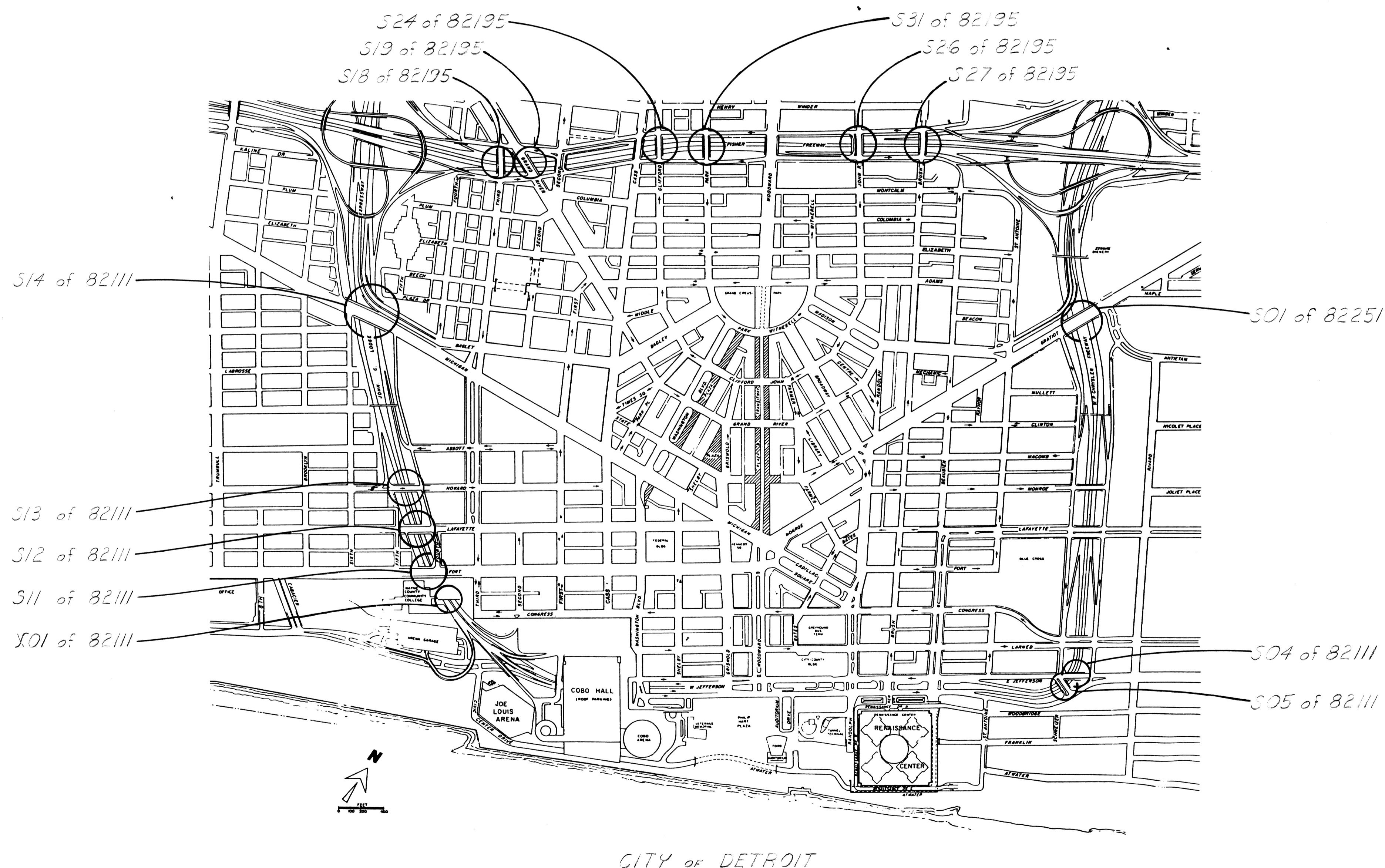
S11 of 82111	
2	BRIDGE PROTECTIVE SCREENING DETAILS
3	GENERAL PLAN OF STRUCTURE
4	GENERAL PLAN OF STRUCTURE

S12 of 82111	
2	BRIDGE PROTECTIVE SCREENING DETAILS
3	GENERAL PLAN OF STRUCTURE

S13 of 82111	
2	BRIDGE PROTECTIVE SCREENING DETAILS
3	GENERAL PLAN OF STRUCTURE

S14 of 82111	
2	BRIDGE PROTECTIVE SCREENING DETAILS
3	GENERAL PLAN OF STRUCTURE
4	GENERAL PLAN OF STRUCTURE
5	GENERAL PLAN OF STRUCTURE

X01 of 82111	
2	BRIDGE PROTECTIVE SCREENING DETAILS
3	GENERAL PLAN OF STRUCTURE



revisions	
no.	date

designed
by H. DICKOW
drawn
by D. NAGLE
checked
by
approved:

STRUCTURAL ENGINEER

CITY of DETROIT

city
engineering
department

for
MICHIGAN
DEPARTMENT OF
TRANSPORTATION

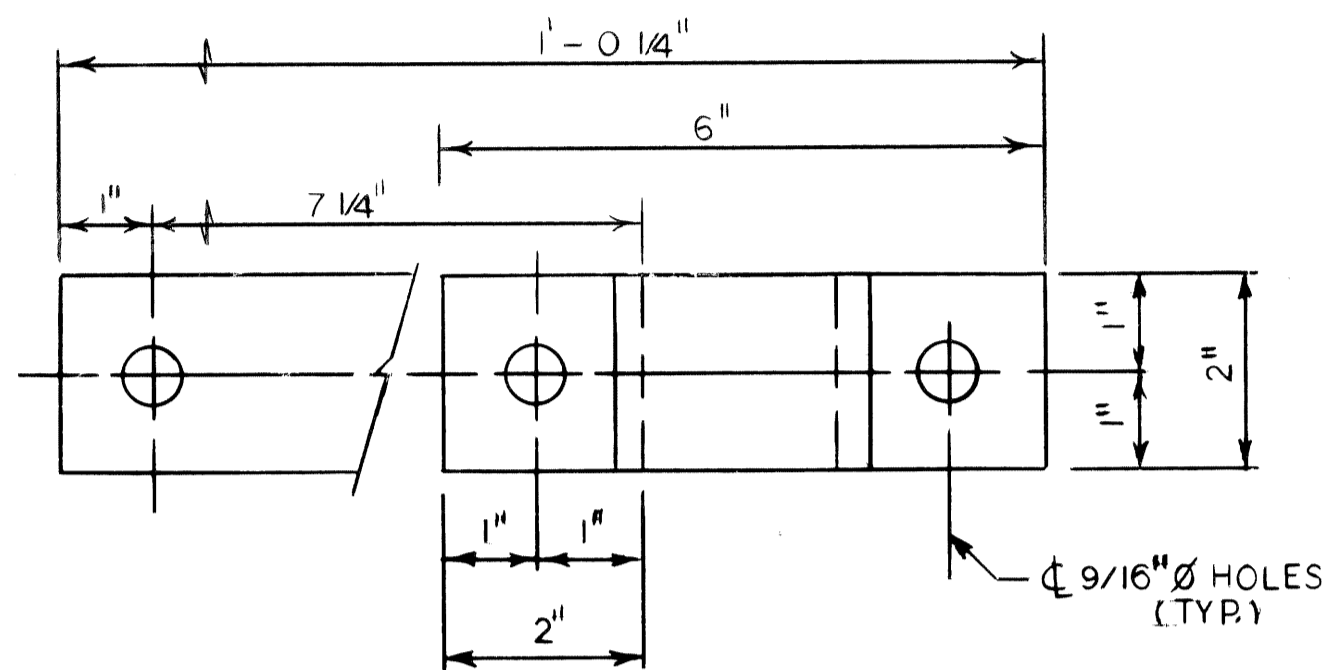
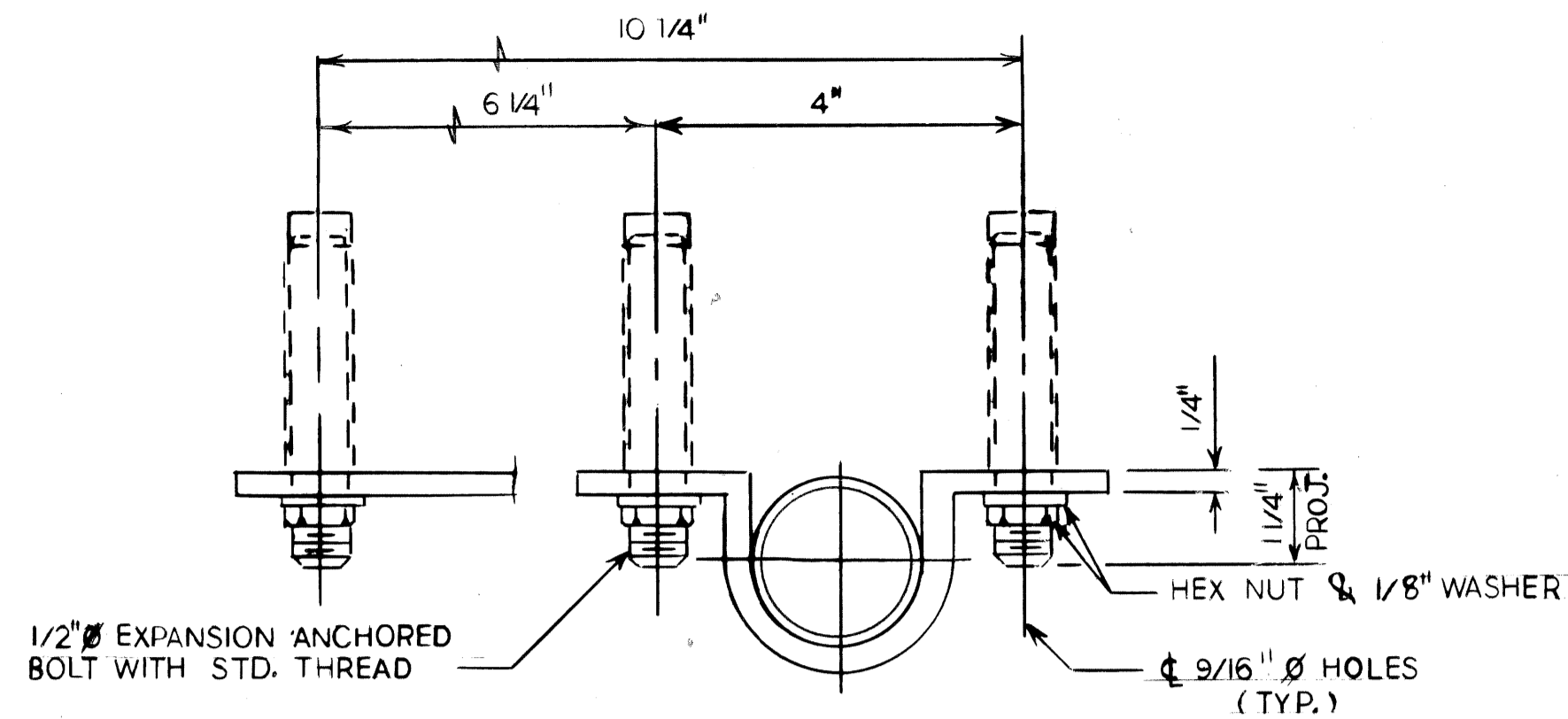
BRIDGE
PROTECTIVE
SCREENING
DETAILS

INDEX
AND
LOCATION
SHEET

a.o.87-22-21
contract no.

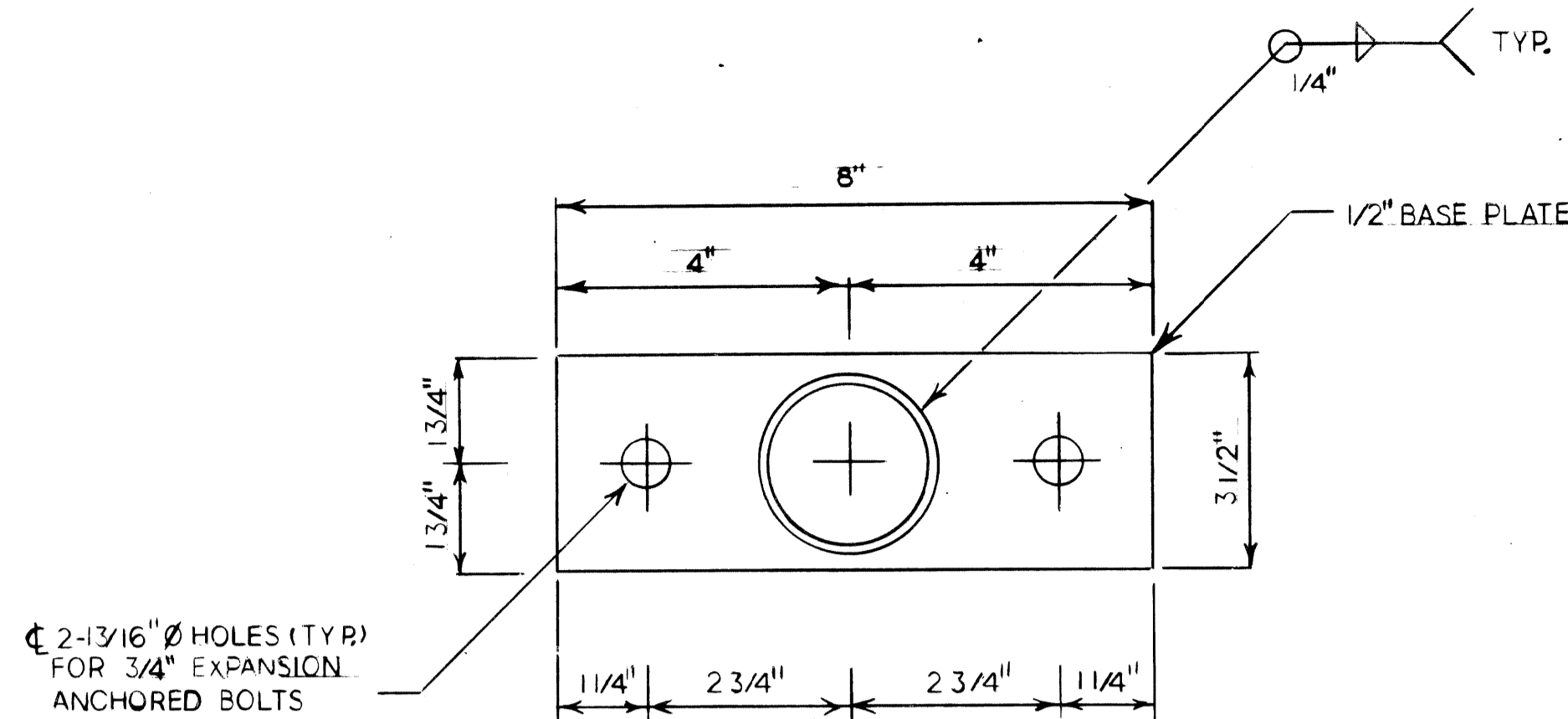
sheet 1a
of

date
10-1-87

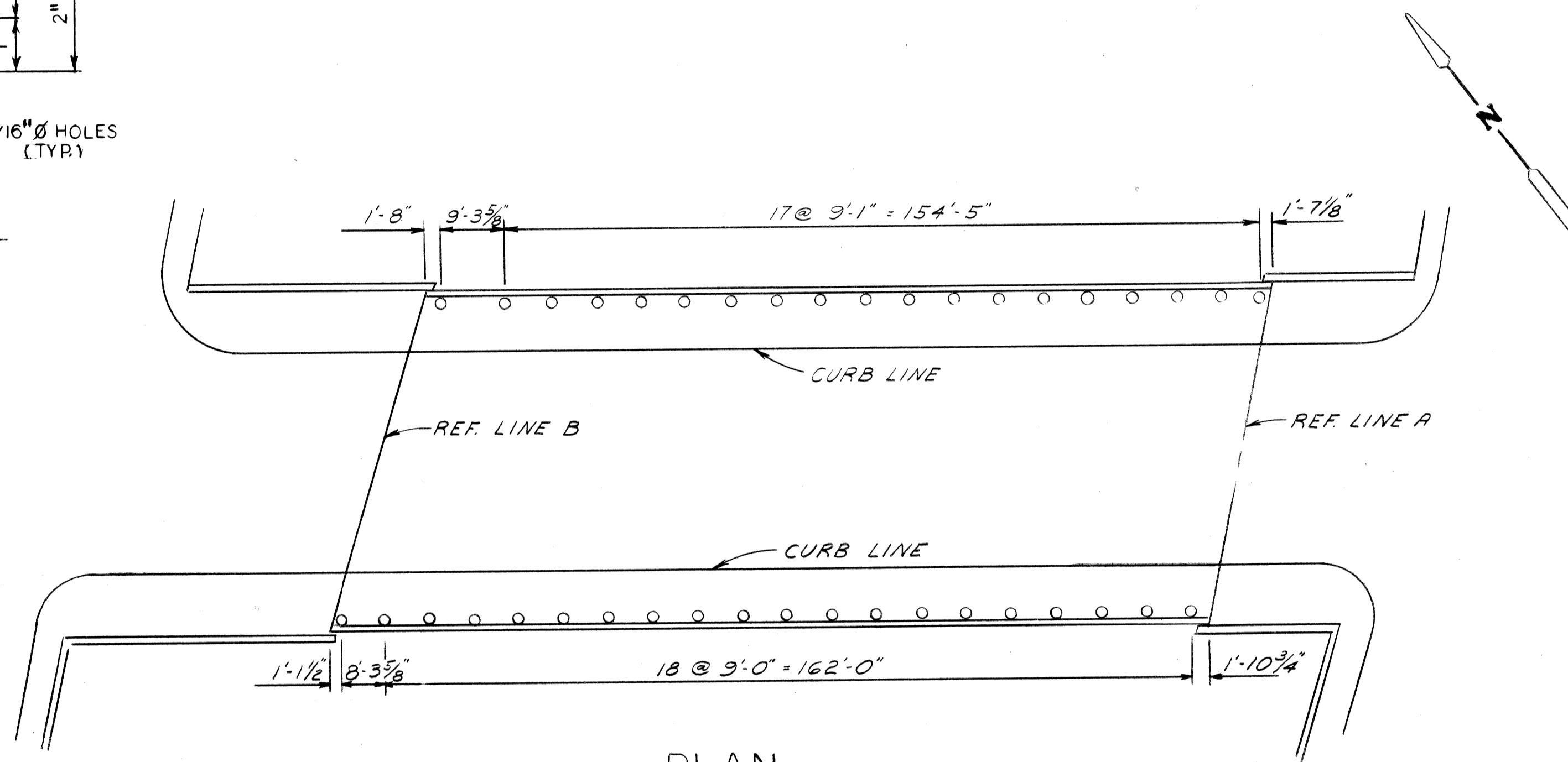


FOR END POSTS ONLY FOR INTERIOR POSTS

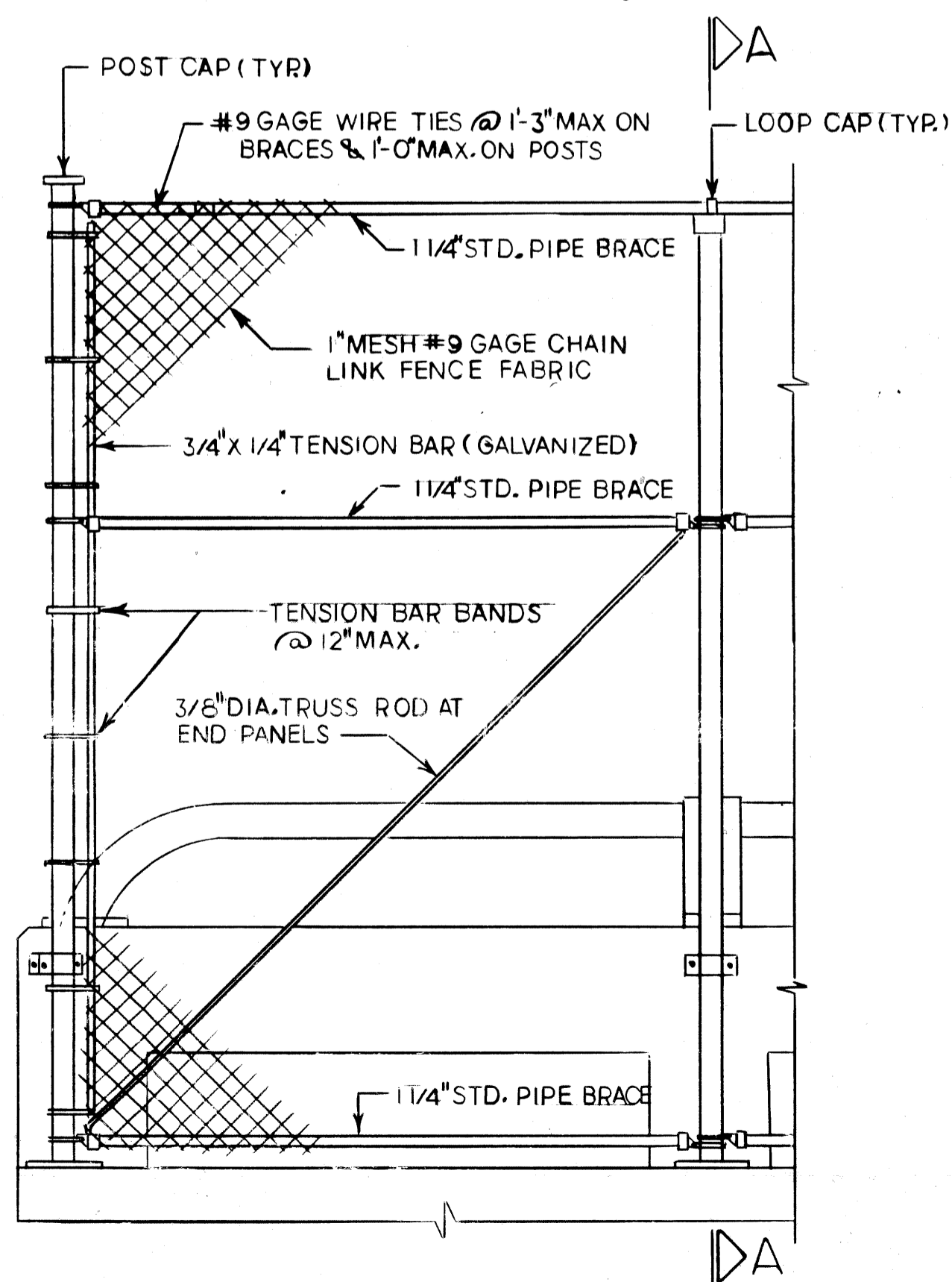
BRACKET DETAIL



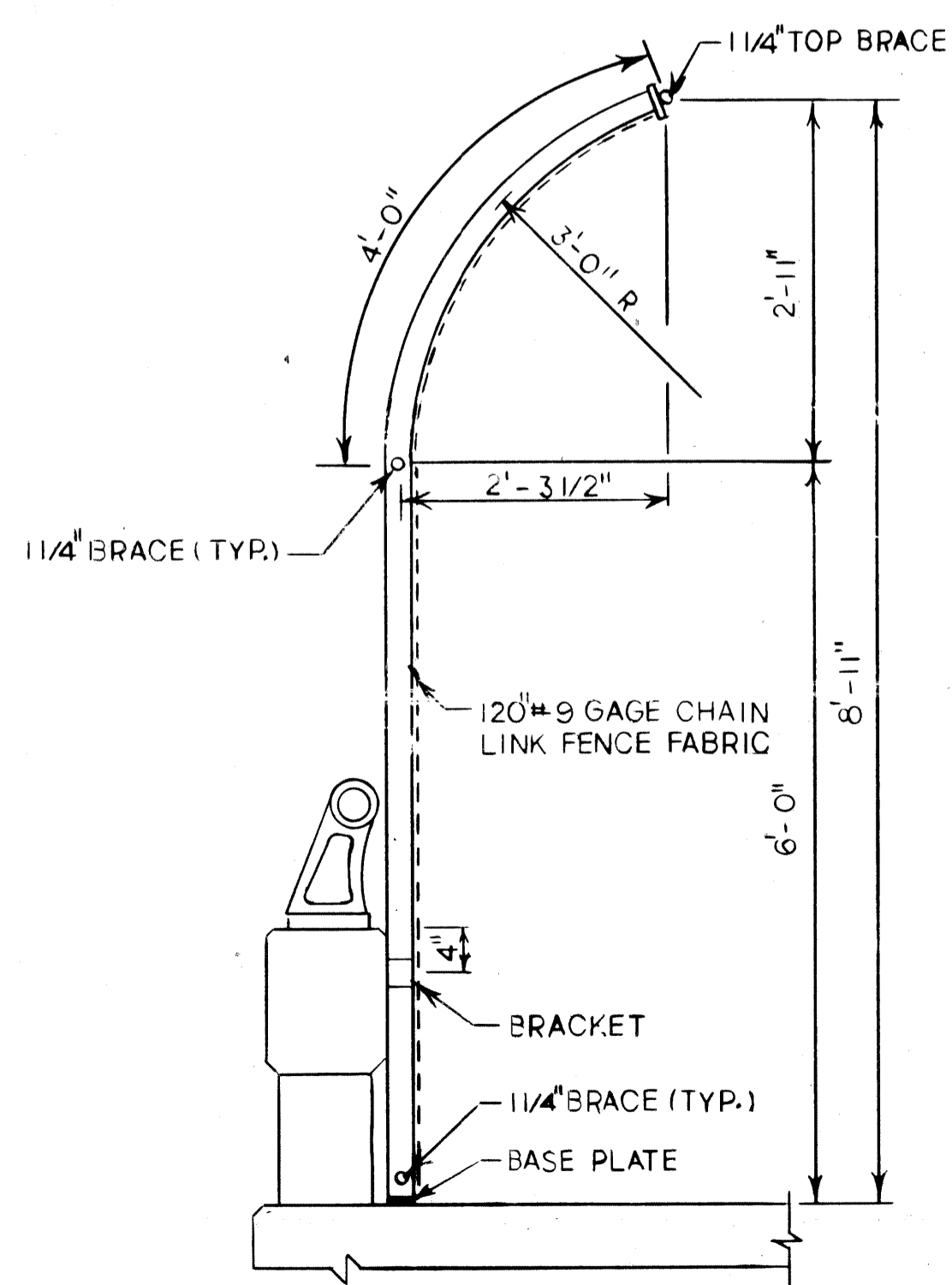
FENCE POST BASE DETAIL



PLAN



TYPICAL ELEVATION



SECTION A-A

FENCING NOTES

EXPANSION ANCHORED BOLTS OF THE SIZE INDICATED SHALL BE BETHLEHEM MINE ROOF EXPANSION TYPE WITH K-1 SHELL, PHILLIPS RED HEAD SELF DRILLING CONCRETE ANCHORS, CHICAGO EXPANSION BOLT CO.-SPECIAL SELF DRILLING ANCHOR OR APPROVED EQUAL.

ALL WORK SHALL CONFORM TO THE M.D.O.T SPECIFICATIONS FOR HIGHWAY CONSTRUCTION-1984 EDITION EXCEPT AS SHOWN OR NOTED ON THE PLAN.

THE POSTS SHALL BE ROUND POST HAVING AN OUTSIDE DIAMETER OF 2.875" AND WEIGHT OF 5.79 LBS. PER FT. GALVANIZED. NOMINAL 1 1/4" Ø PIPE SHALL BE 1 5/8" OUTSIDE DIAMETER STEEL PIPE OR TUBING WEIGHING 2.27 LBS. PER FT. GALVANIZED.

ALL POSTS AND TUBING SHALL BE FURNISHED WITH MANUFACTURERS STANDARD CONNECTIONS AND ITS MINIMUM WEIGHT SHALL BE WITHIN 5% OF THAT SPECIFIED. POSTS SHALL BE BENT IN THE SHOP AS SHOWN ON THE PLANS.

ALL COMPONENTS ARE TO BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A-153 AFTER FABRICATION.

FABRIC FASTENERS SHALL BE DOUBLE TWISTED #9 GUAGE GALVANIZED STEEL.

ALL FABRIC OR CHAIN LINK FENCE SHALL BE FURNISHED WITH KNUCKLING AT BOTH SELVAGES.

TENSION BARS SHALL BE 3/4" X 1/4" GALVANIZED STEEL.

FENCE FABRIC SHALL BE GALVANIZED, #9 GAGE WITH A 1" MESH.

THE BID ITEM "PEDESTRIAN FENCING-STRUCTURES" SHALL INCLUDE THE FABRIC, POSTS, BRACES, ANCHORED BOLTS, PIPE, BRACKETS, BASE PLATES AND ALL SUITABLE CONNECTIONS AND FITTINGS.

THE CONTRACTOR WILL BE FURNISHED WITH PLANS OF THE EXISTING STRUCTURE IF REQUESTED. HE SHALL ALSO VERIFY FIELD CONDITIONS BEFORE FABRICATION.

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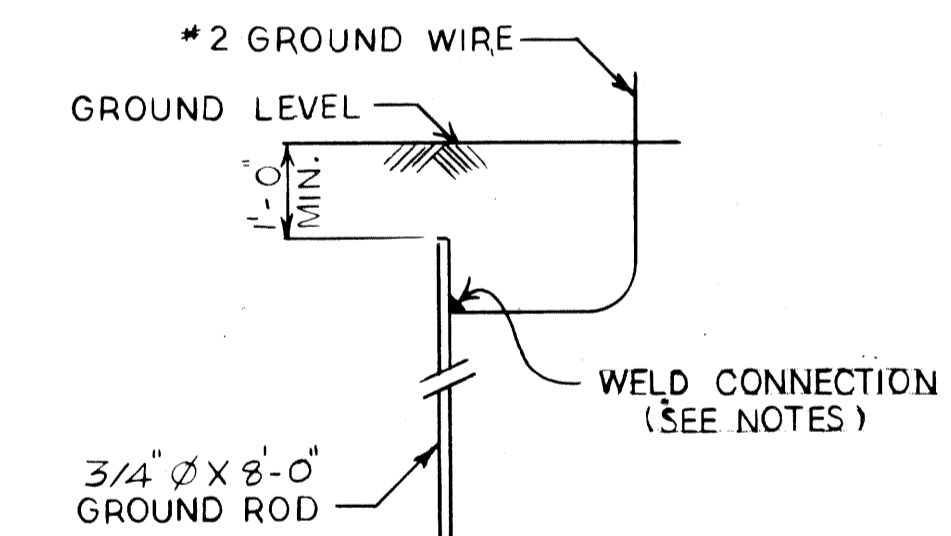
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WHERE SIGNS MOUNTED ON BRIDGE FASCIAS INTERFERE WITH CONSTRUCTION, THEY SHALL BE REMOVED AND RESET AT THE CONTRACTORS EXPENSE.

CARE IS TO BE TAKEN IN PLACING ANCHORED BOLTS AND BRACKETS SO AS TO INSURE THAT THE BRACKETS HOLD THE POSTS FIRMLY AGAINST CONCRETE; SHIM IF NECESSARY.

2" X 2 1/4" H POST WEIGHING 4.1 LBS PER FT. GALVANIZED MAY BE USED AS AN OPTION FOR THE ROUND POST.

GROUNDING NOTES AND DETAIL



MAINTAIN ONE FOOT MINIMUM COVER OVER GROUND WIRE AND GROUND ROD.

ALL UNDERGROUND CONNECTIONS SHALL BE MADE BY CADWELD, THERMITE, GAS OR ARC WELD.

EXPOSED CONNECTIONS MAY BE SPLIT BOLT OR CLAMP TYPE.

GROUND WIRE SHALL BE BARE #2 AWG AND SHALL CONFORM TO THE LATEST REVISION OF THE APPLICABLE CURRENT ASTM SPECIFICATION ASTM B 33 FOR TINNED SOFT OR ANNEALED COPPER WIRE FOR ELECTRICAL PURPOSES.

GROUND ROD SHALL BE STEEL, COPPER CLAD ROD 3/4 MIN. DIA. AND 8'-0" LONG.

MISCELLANEOUS QUANTITIES

ITEM	UNIT	AMOUNT
PEDESTRIAN FENCING - STRUCTURES	S.F.T.	3340
ELECTRICAL GROUNDING SYSTEM	EACH	1

NO.	DATE	BY	REVISIONS

designed by H. DICKOW
drawn by H. DICKOW
checked by
approved:
STRUCTURAL ENGINEER

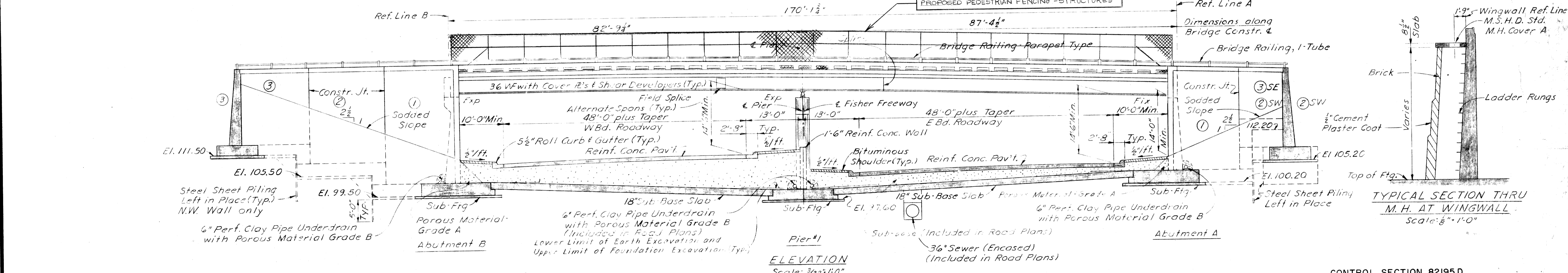
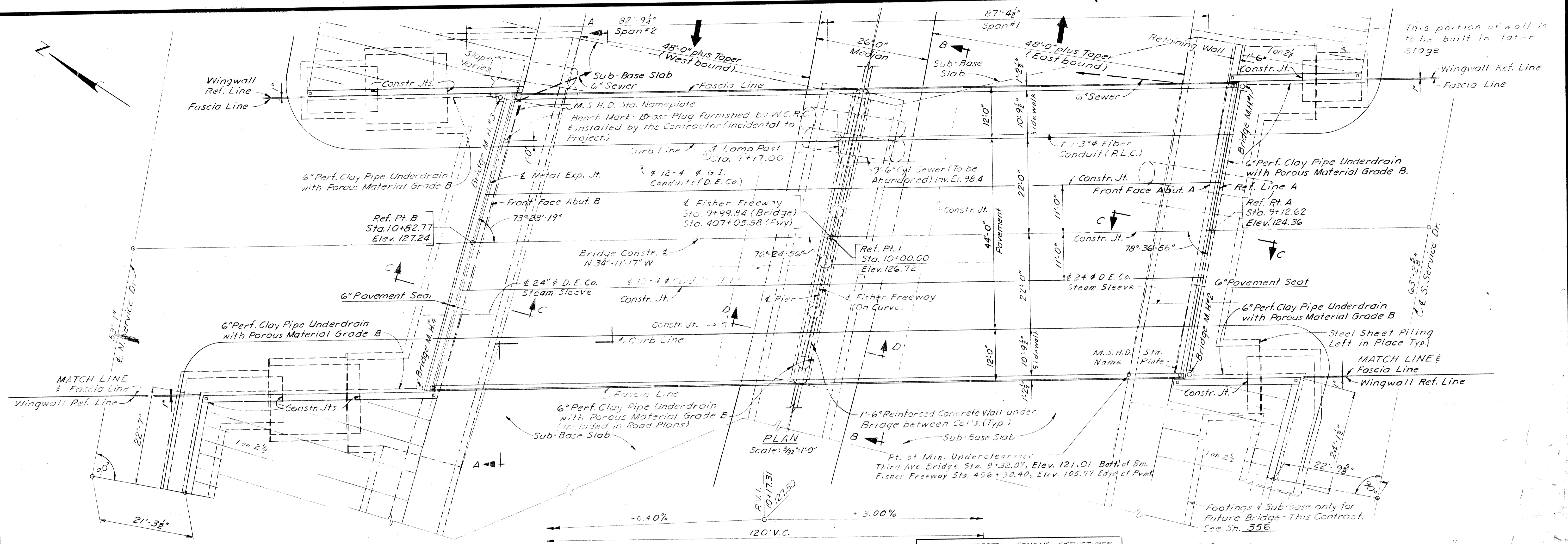
CITY OF DETROIT
city engineering department
for MICHIGAN DEPARTMENT OF TRANSPORTATION

BRIDGE PROTECTIVE SCREENING DETAILS

THIRD AVE CROSSING FISHER FWY (1-75) IN DETROIT

S18 OF 82195

a.o. 87-22-21
contract no.
sheet 2 of 3
date 10-1-87



MISCELLANEOUS QUANTITIES

ITEM	UNIT	AMT.
2" Sewer Glass A	Lm. Ft.	69
6" Sewer Glass B	Lm. Ft.	79
Temporary Steel Sheet Piling	Sq. Ft.	4149

COPY
EXISTING BRIDGE DETAILS
(NOT FOR CONSTRUCTION)

GENERAL NOTES:
 The top of the roadway slab and the tops of the curbs are parallel to the vertical curve and its tangents.
 The design of this structure is based on the M.S.H.D. Standard Specifications for the Design of Highway Bridges - 1958 Edition (H20-S16-44 Loading).
 Live load plus impact deflection = 1/1000 of span length.
 For excavation and backfill of abandoned Third Ave. Sewer, see Road Plans.

DESIGNED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS SECTION
BUREAU OF HIGHWAYS AND EXPRESSWAYS

DATE: 7.7.65 G.H.

REVISIONS

NO.	DESCRIPTION	DATE	BY
A	Reloc. Lamp Post	7.7.65	G.H.

MICHIGAN STATE HIGHWAY DEPARTMENT

THIRD AVE. CROSSING
THE FISHER FREEWAY IN DETROIT

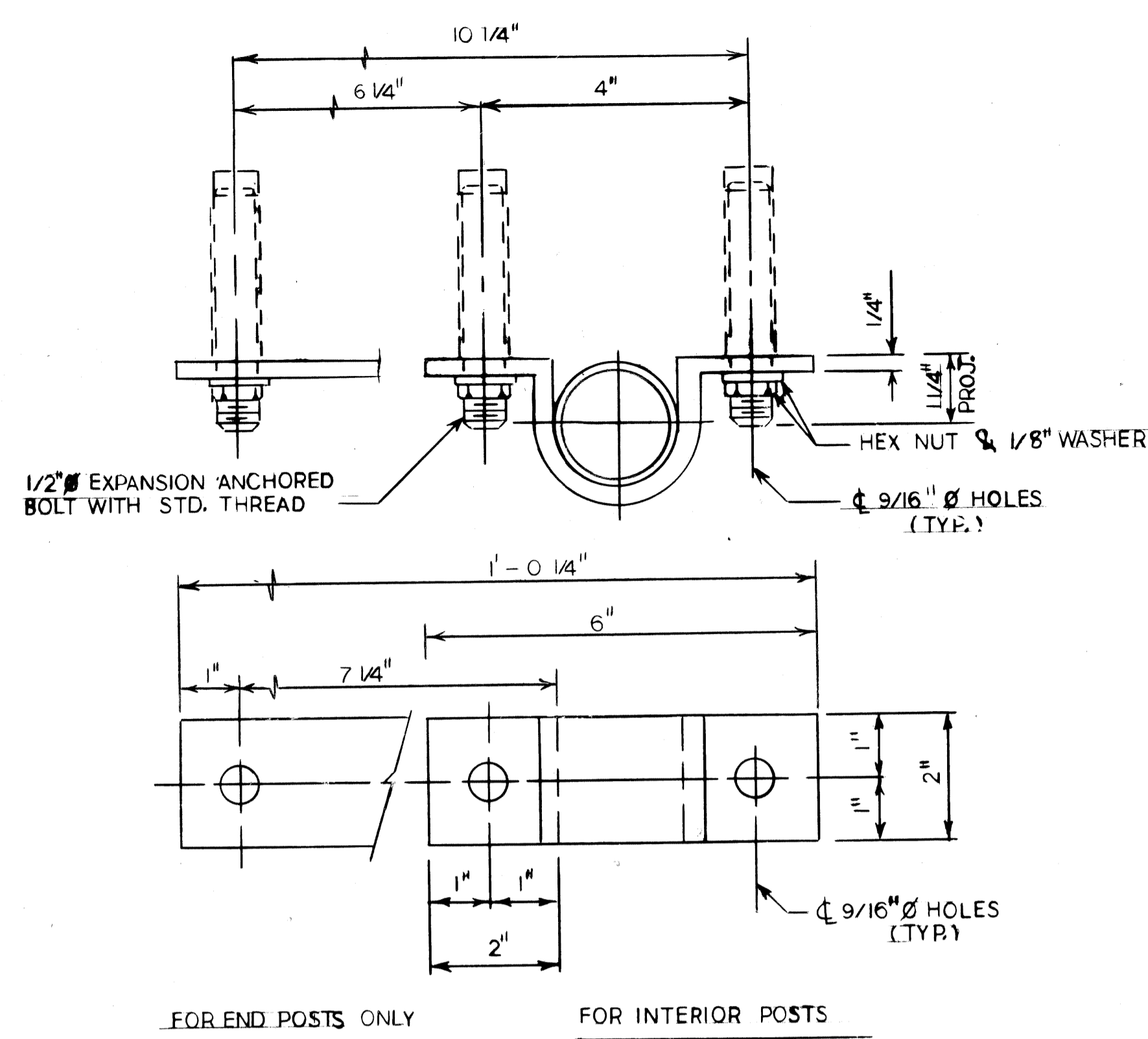
GENERAL PLAN OF STRUCTURE

CITY OF DETROIT
SQUAD BOSS: L.S.C. R.D.M. 11-6-65
DRAWN BY: J.M.R.B. 11-6-65
TRACED BY: J.M.R.B. 11-6-65
CHECKED BY: J.L.S. 2-6-67
SHEET 3 OF 3

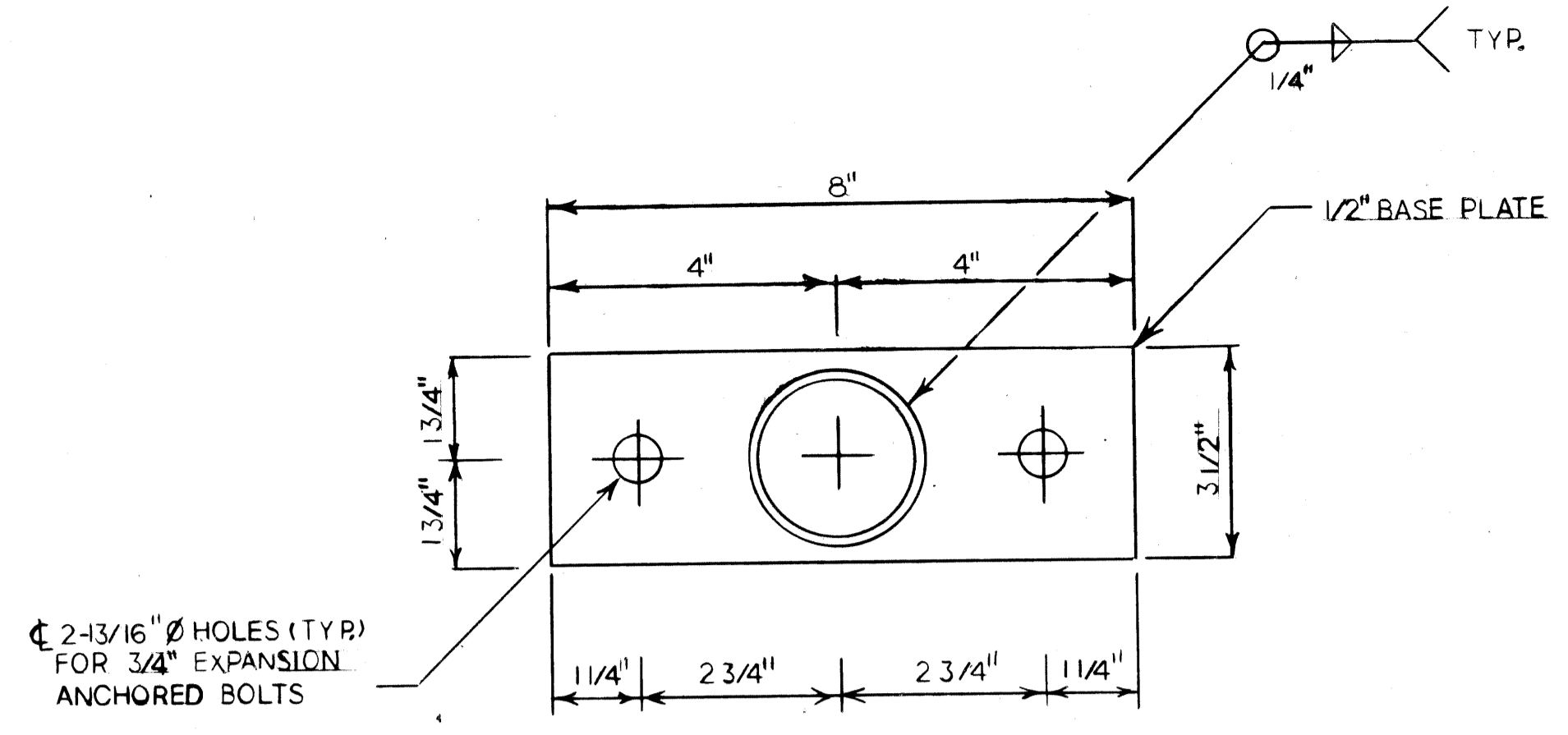
APPROVED: _____
DESIGN SUPERVISING ENGINEER

APPROVED: _____
ENGINEER OF DESIGN - CONSULTANTS

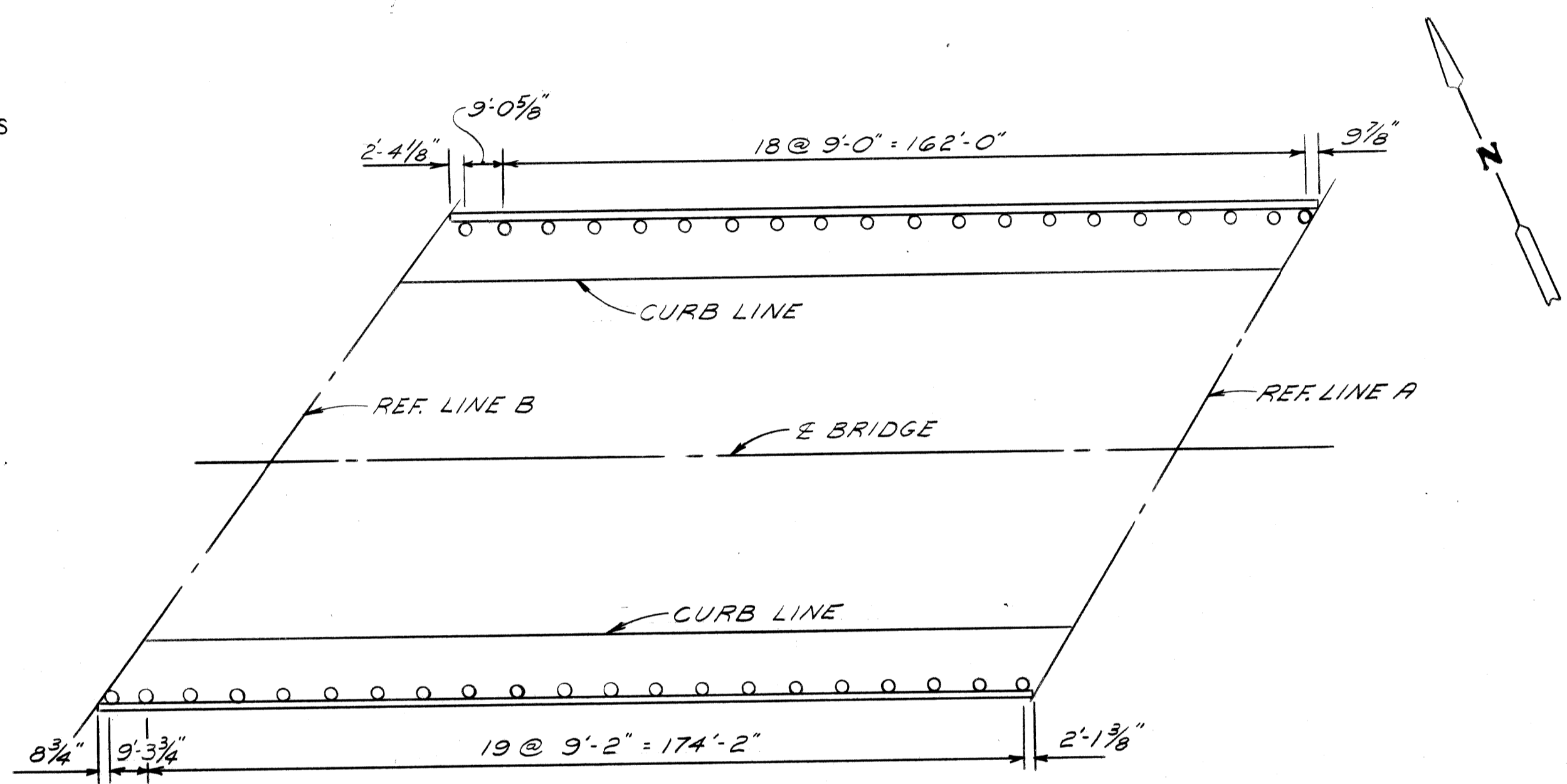
S18 of 82195 D



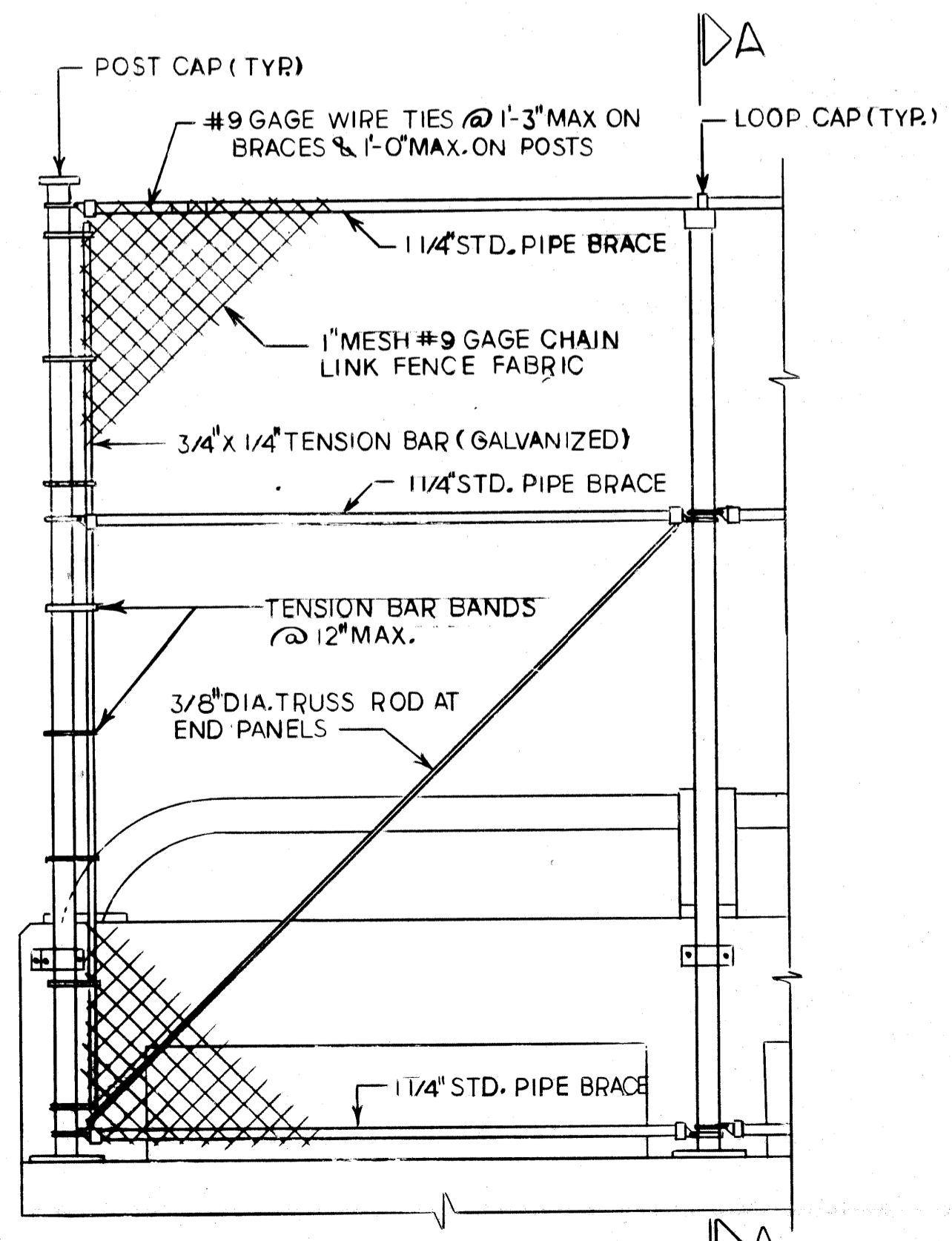
BRACKET DETAIL



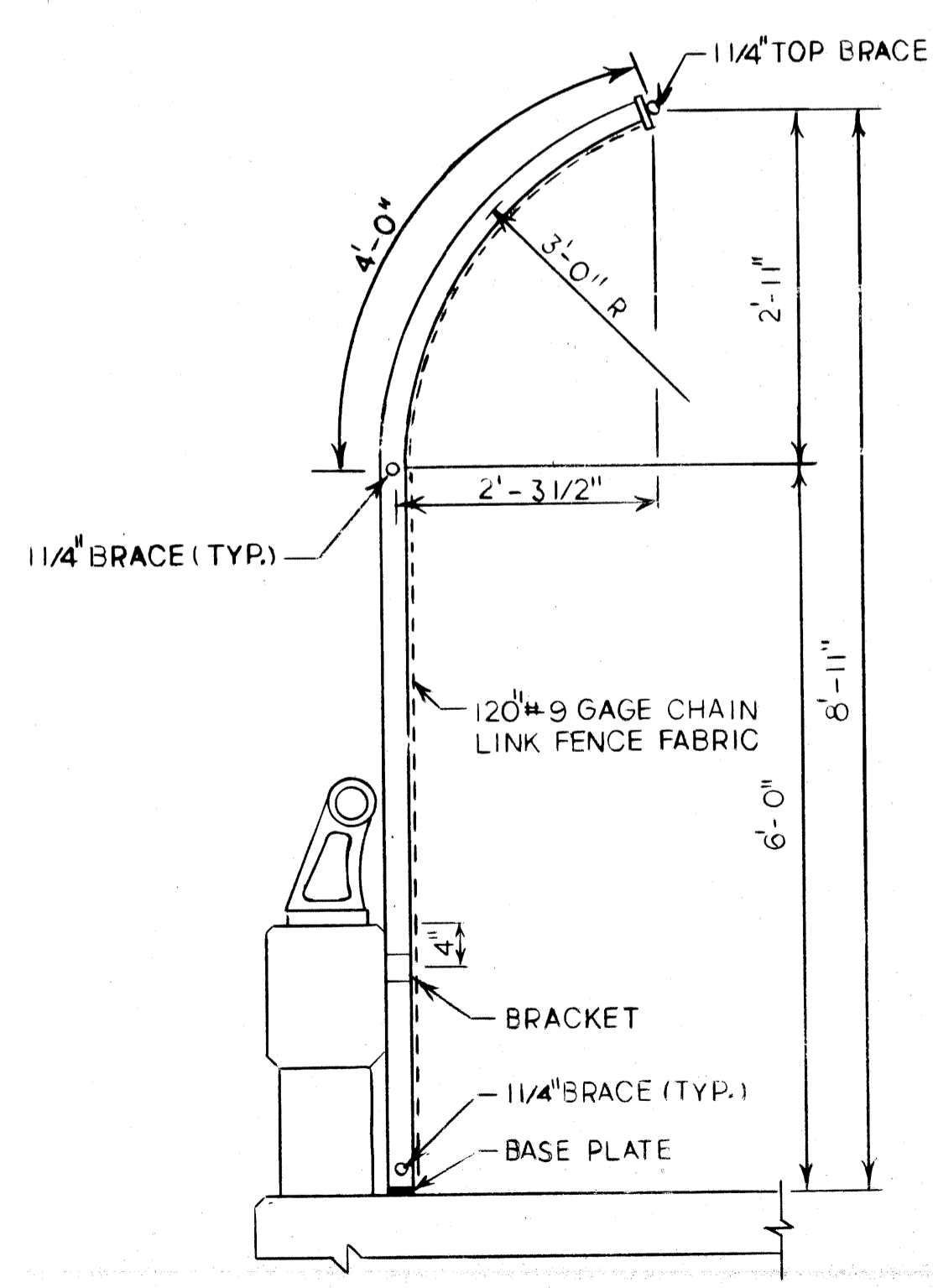
FENCE POST BASE DETAIL



PLAN



TYPICAL ELEVATION



SECTION A-A

FENCING NOTES

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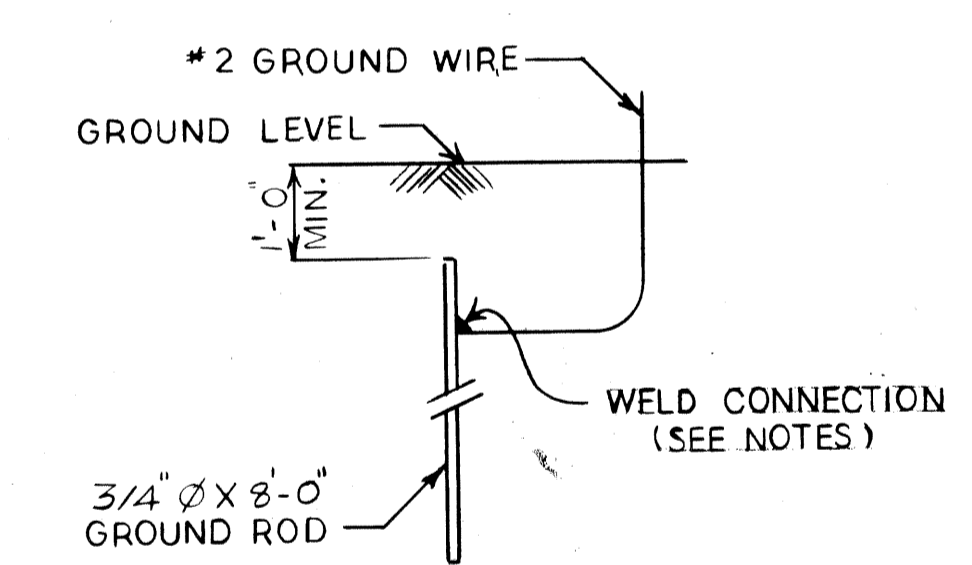
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GROUND ROD SHALL BE STEEL, COPPER CLAD ROD 3/4" MIN. DIA. AND 8'-0" LONG.

MISCELLANEOUS QUANTITIES

ITEM	UNIT	AMOUNT
PEDESTRIAN FENCING - STRUCTURES	S.F.T.	3546
ELECTRICAL GROUNDING SYSTEM	EACH	1

NO.	DATE	BY	REVISIONS

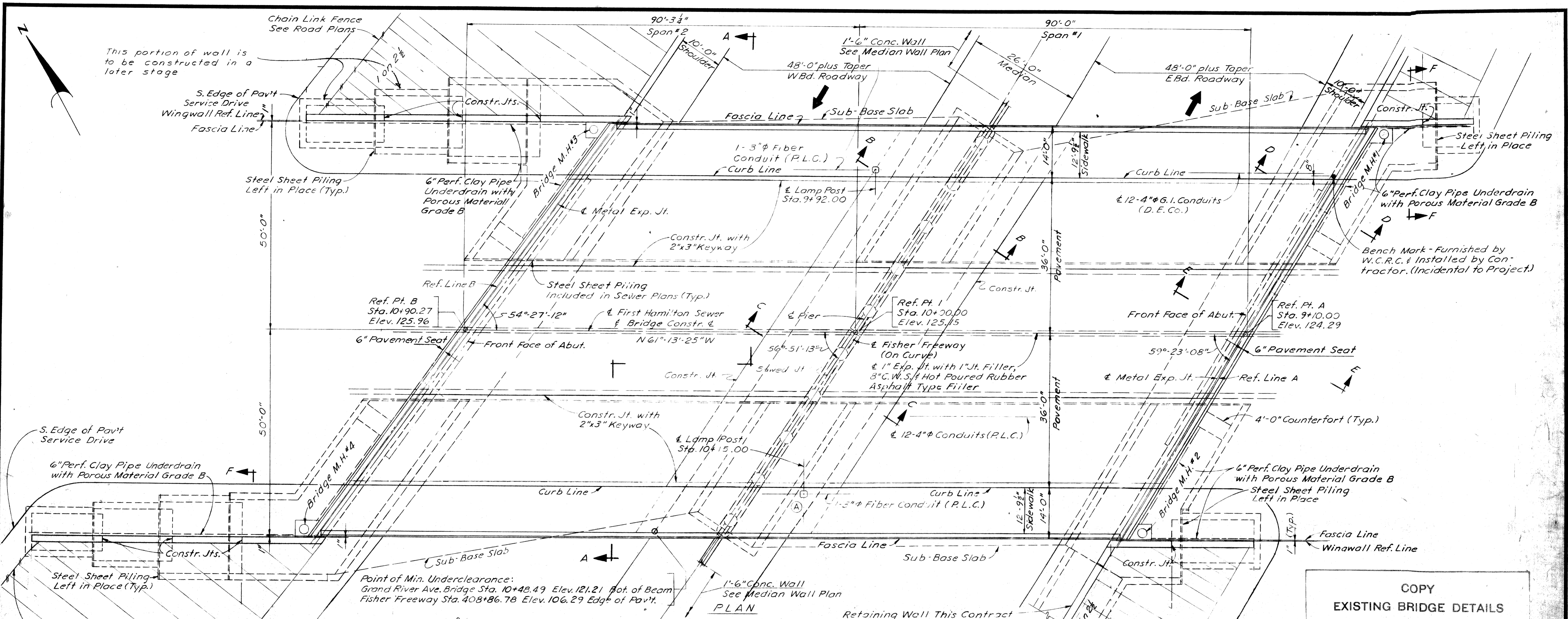
designed by H. DICKOW
 drawn by H. DICKOW
 checked by [Signature]
 approved: [Signature]
 STRUCTURAL ENGINEER

CITY OF DETROIT
 city engineering department
 for MICHIGAN DEPARTMENT OF TRANSPORTATION

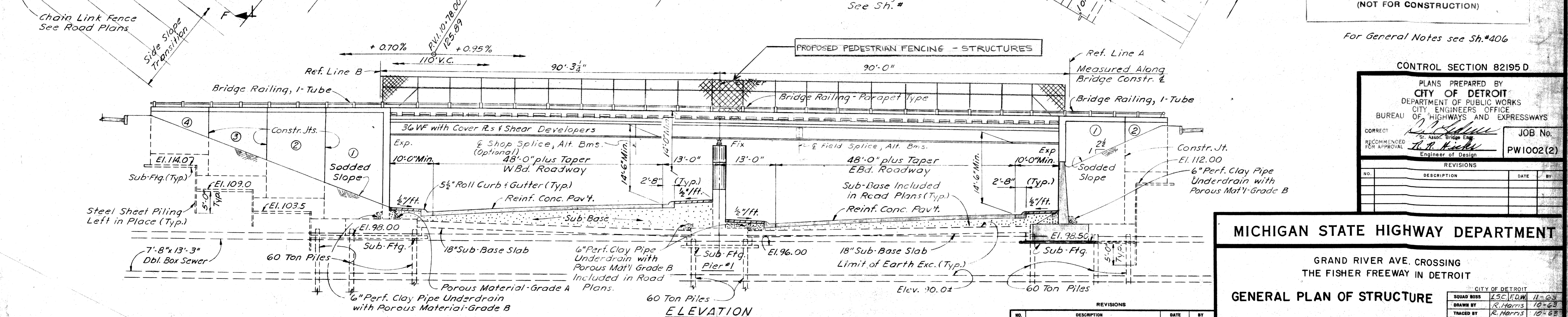
BRIDGE PROTECTIVE SCREENING DETAILS

GRAND RIVER CROSSING FISHER FWY (1-75) IN DETROIT
 S19 OF 82195

a.o. 87-22-21
 contract no.
 sheet 2 of 3
 date 10-1-87



Point of Min. Underclearance:
Grand River Ave. Bridge Sta. 10+48.49 Elev. 121.21 Bot. of Beam
Fisher Freeway Sta. 40+86.78 Elev. 106.29 Edge of Pav't.



ELEVATION
(Normal to & Fisher Freeway)
Scale: 3/32" = 1'-0"

**COPY
EXISTING BRIDGE DETAILS
(NOT FOR CONSTRUCTION)**

For General Notes see Sh.#406

CONTROL SECTION 82195 D

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

DESIGNED BY: *[Signature]*
CORRECTED BY: *[Signature]*
RECOMMENDED FOR APPROVAL BY: *[Signature]*
Engineer of Design

JOB NO.
PW1002(2)

NO.	DESCRIPTION	DATE	BY

MICHIGAN STATE HIGHWAY DEPARTMENT

GRAND RIVER AVE. CROSSING
THE FISHER FREEWAY IN DETROIT

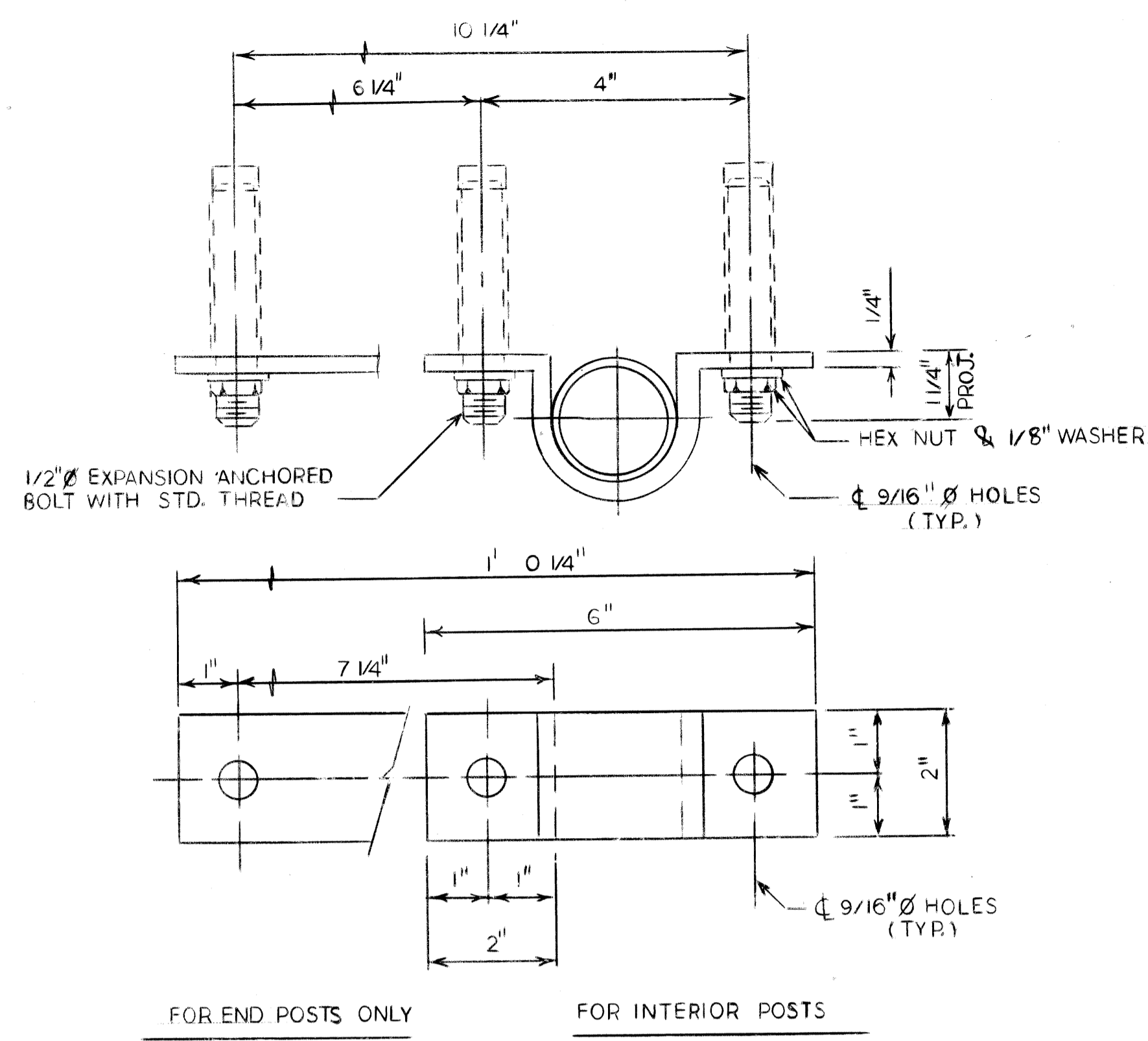
GENERAL PLAN OF STRUCTURE

APPROVED: _____ DESIGN SUPERVISING ENGINEER
APPROVED: _____ ENGINEER OF DESIGN - CONSULTANTS

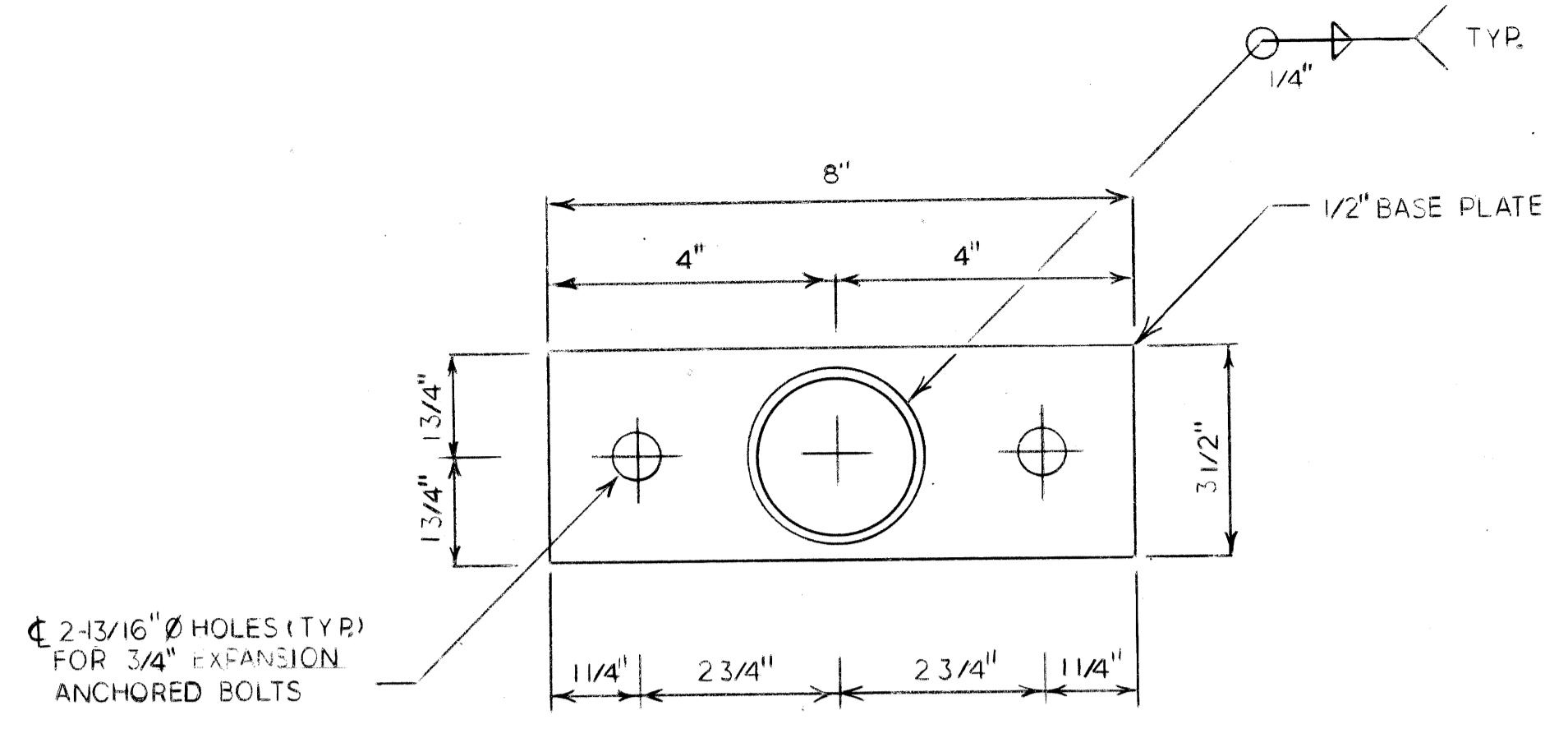
NO.	DESCRIPTION	DATE	BY
A	Reloc. Lamp Post	7-8-65	G.H.

CITY OF DETROIT
SQUAD BOSS: LSC/EDW 11-63
DRAWN BY: R. Harris 10-63
TRACED BY: R. Harris 10-63
CHECKED BY: LSC/EDW 11-63
SHEET 3 OF 3

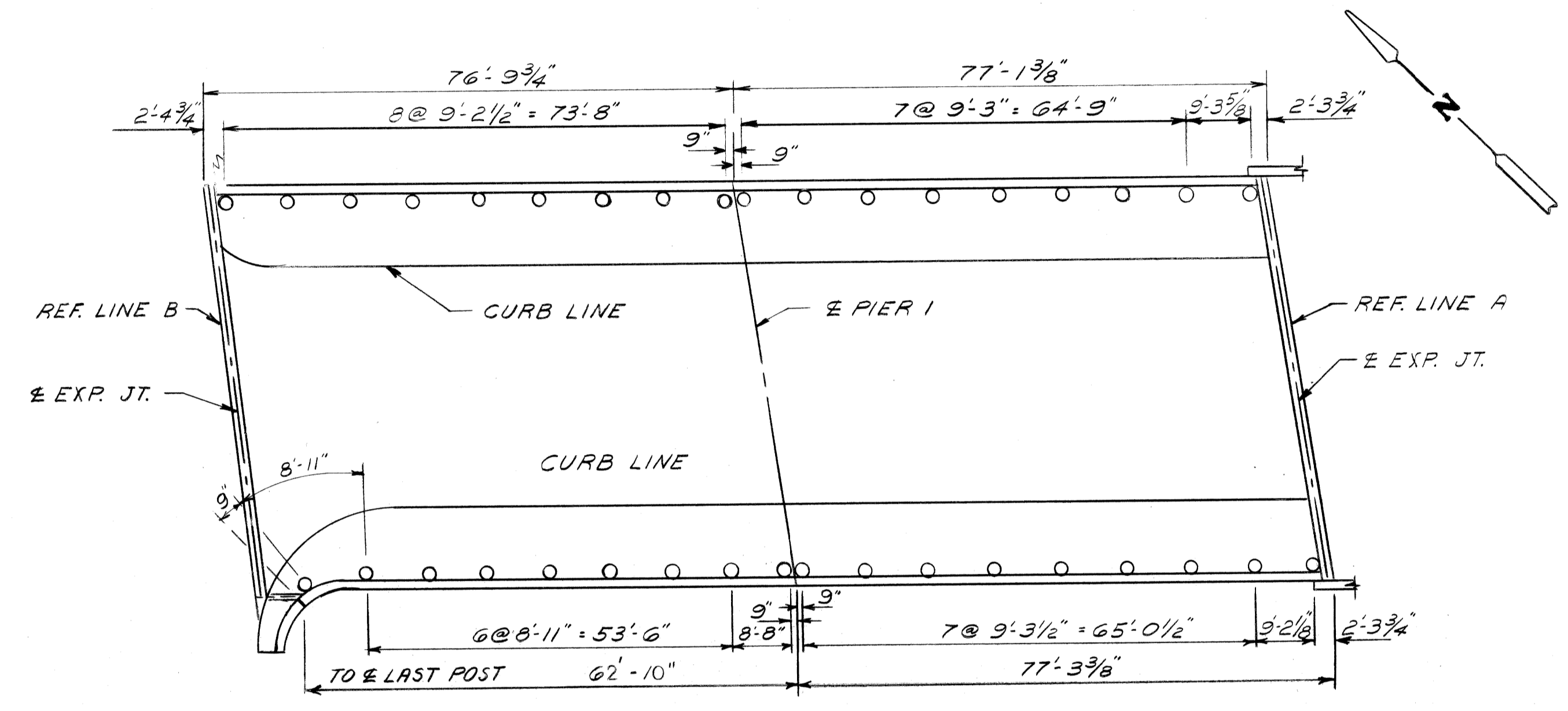
S 19 of 82195 D



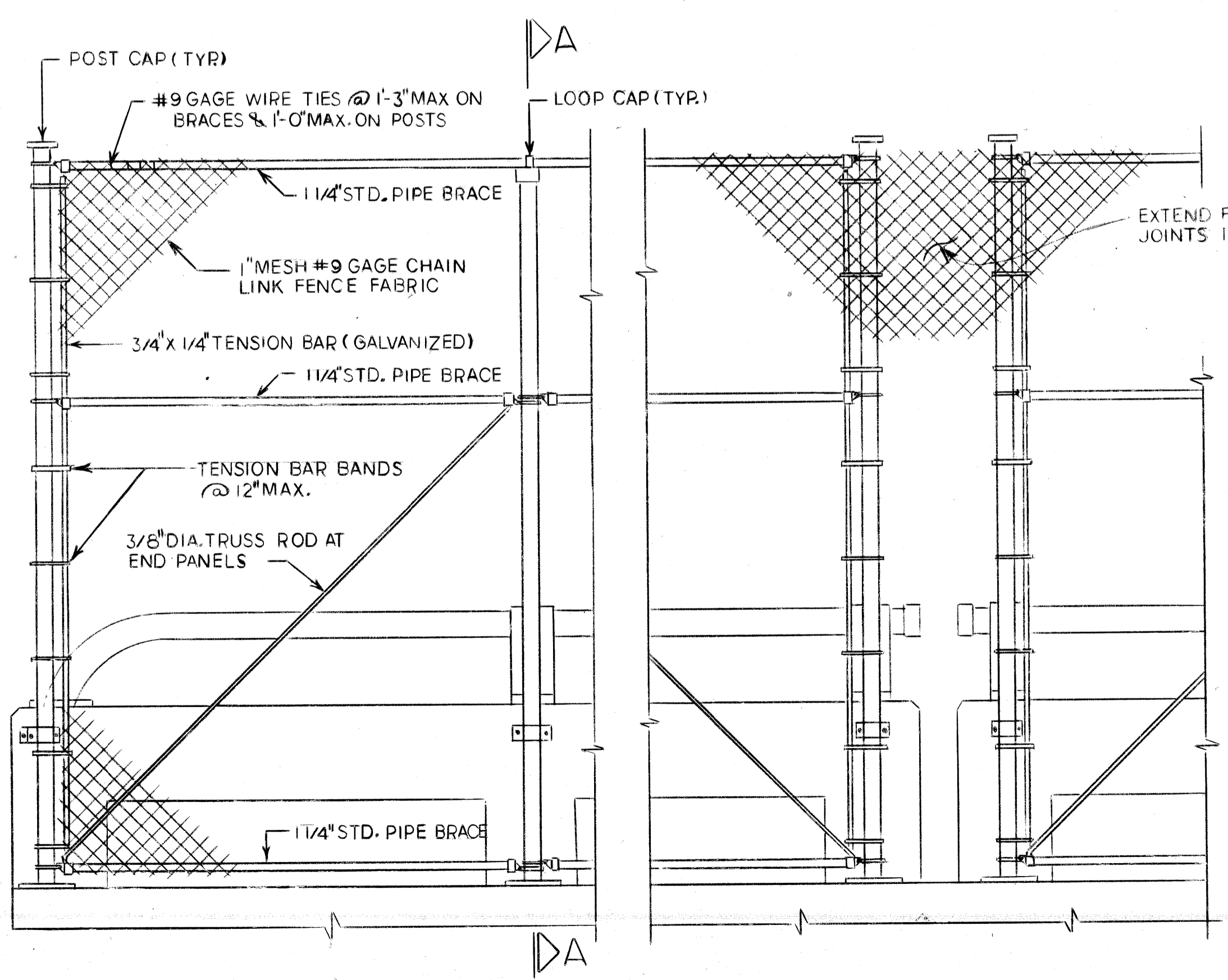
BRACKET DETAIL



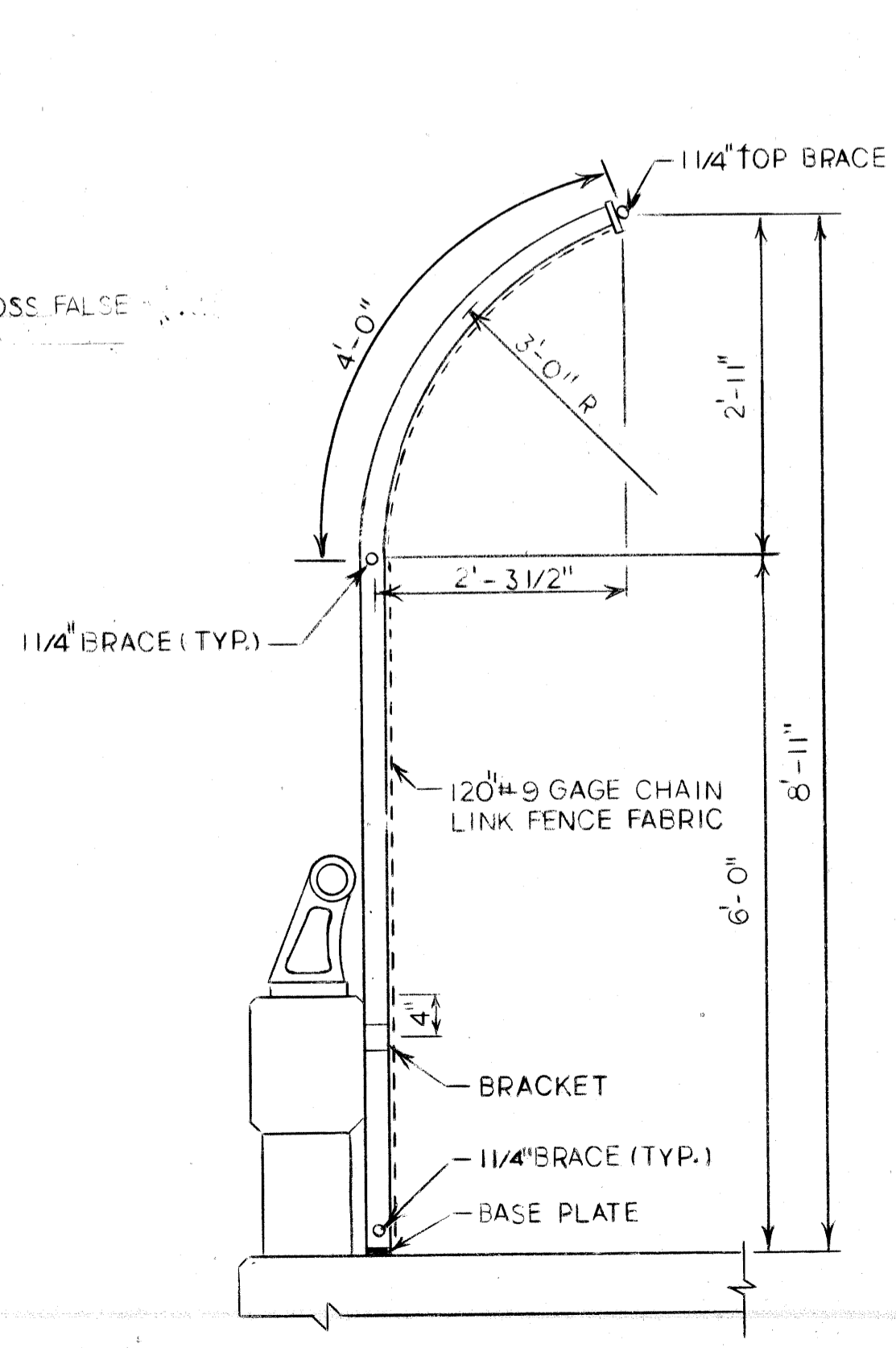
FENCE POST BASE DETAIL



PLAN



TYPICAL ELEVATION



SECTION A-A

FENCING NOTES

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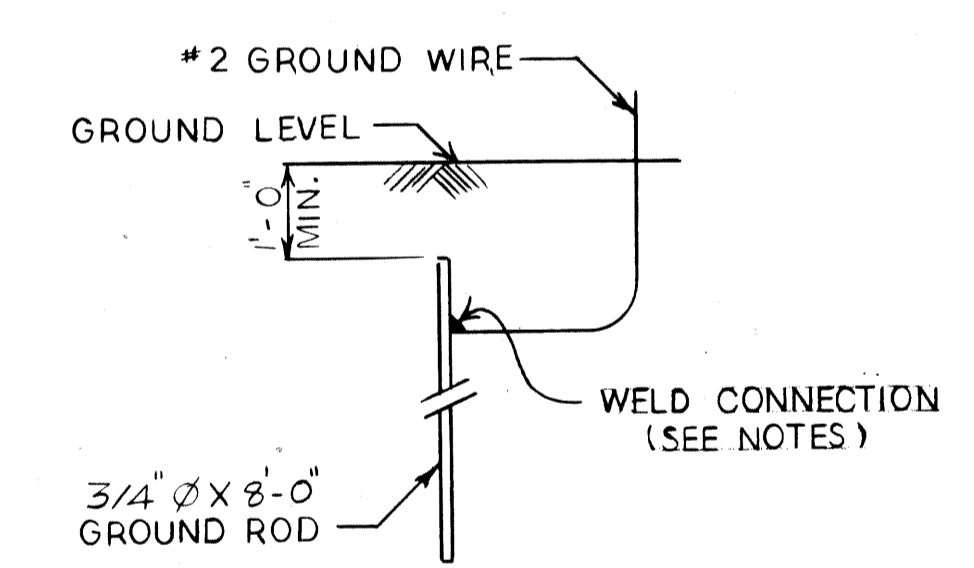
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MISCELLANEOUS QUANTITIES

ITEM	UNIT	AMOUNT
PEDESTRIAN FENCING - STRUCTURES	S.F.T.	2870
ELECTRICAL GROUNDING SYSTEM	EACH	1

NO.	DATE	BY	REVISIONS

designed by H. DICKOW
 drawn by H. DICKOW
 checked by
 approved:
 STRUCTURAL ENGINEER

CITY OF DETROIT
 city engineering department
 for MICHIGAN DEPARTMENT OF TRANSPORTATION

BRIDGE PROTECTIVE SCREENING DETAILS

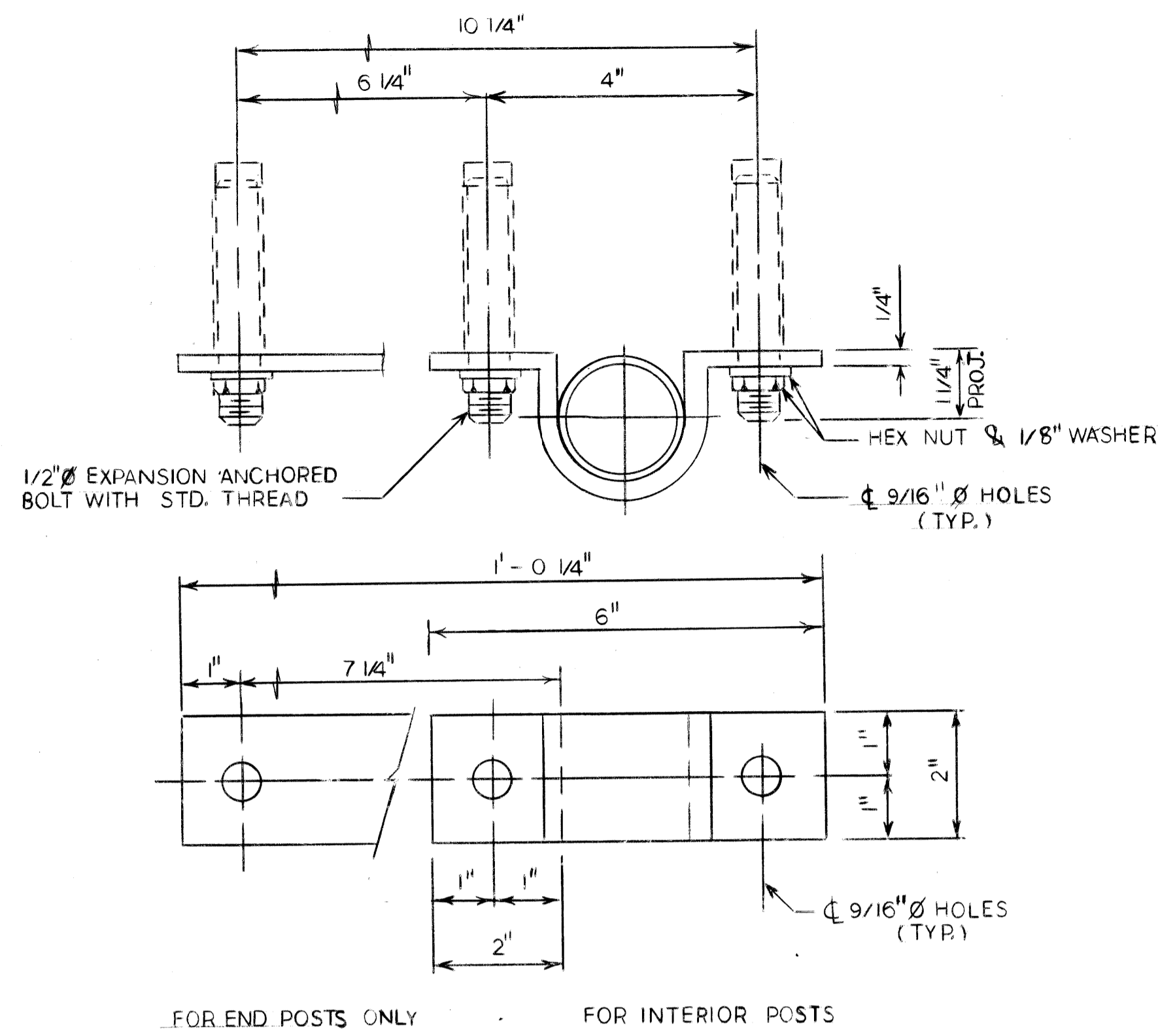
CLIFFORD ST. CROSSING FISHER FWY (1-75) IN DETROIT

S24 OF 82195

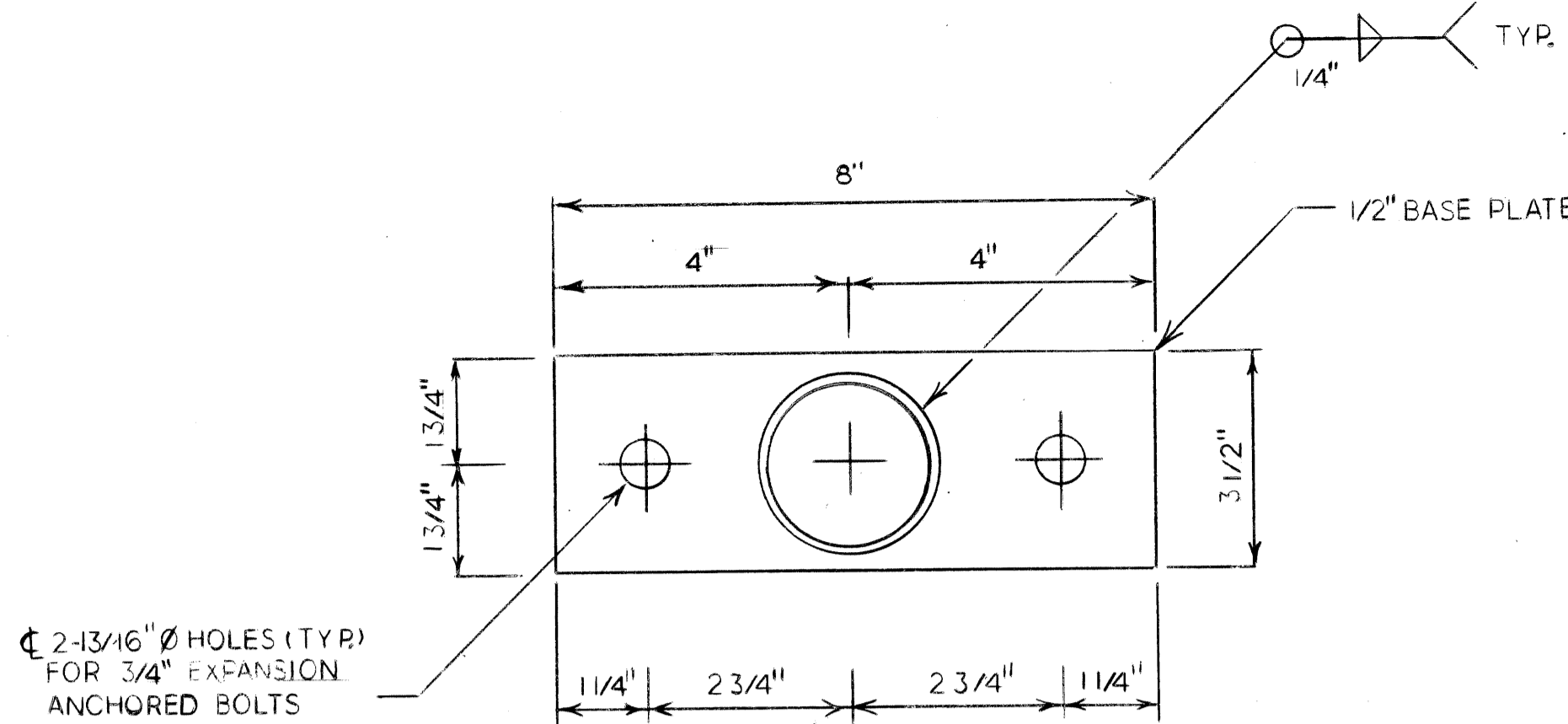
a.o.-87-22-21 contract no.

sheet 2 of 3

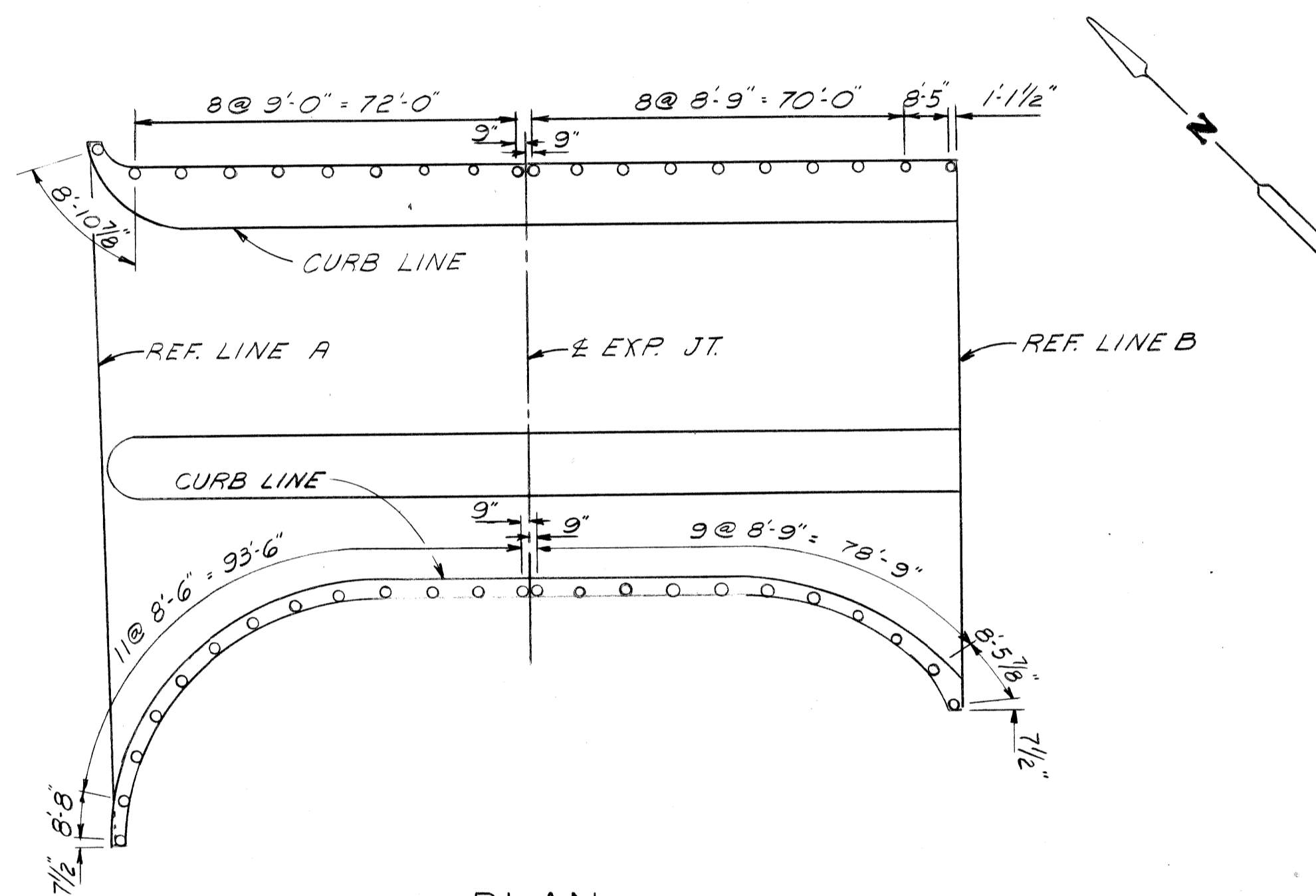
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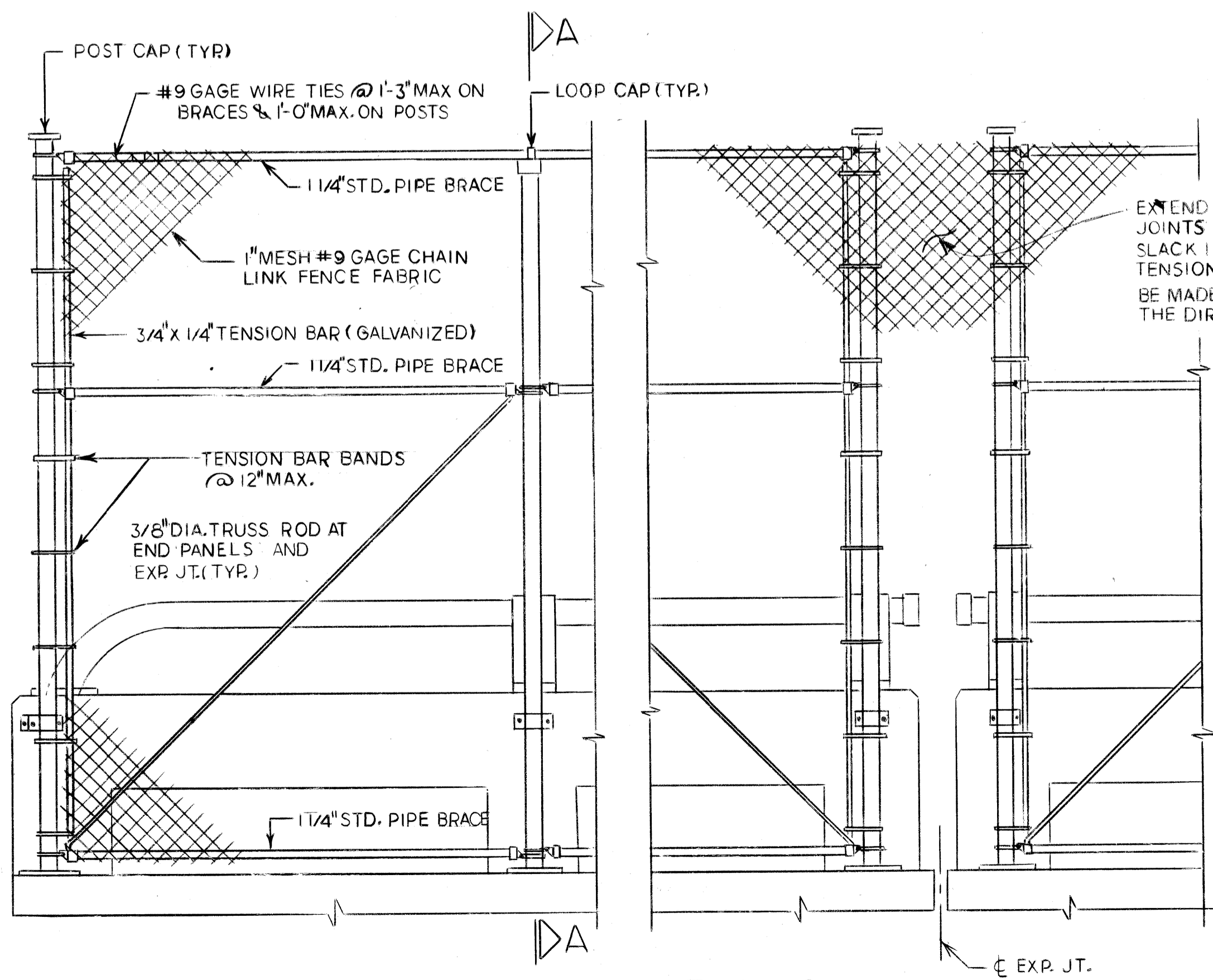
BRACKET DETAIL



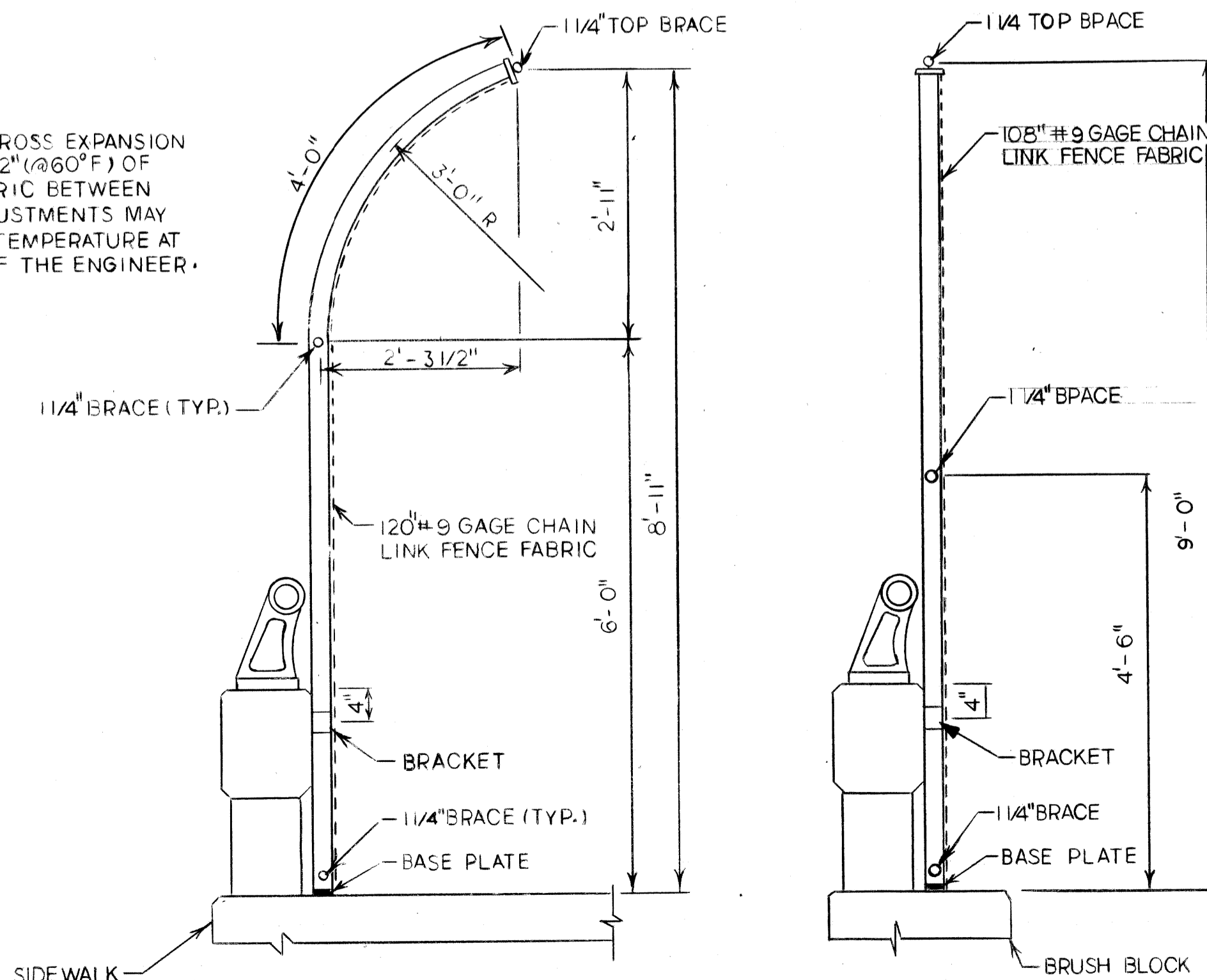
FENCE POST BASE DETAIL



PLAN



TYPICAL ELEVATION



SECTION A-A

FENCING NOTES

EXPANSION ANCHORED BOLTS OF THE SIZE INDICATED SHALL BE BETHLEHEM MINE ROOF EXPANSION TYPE WITH K-1 SHELL, PHILLIPS RED HEAD SELF DRILLING CONCRETE ANCHORS, CHICAGO EXPANSION BOLT CO. SPECIAL SELF DRILLING ANCHOR OR APPROVED EQUAL.

ALL WORK SHALL CONFORM TO THE M.D.O.T SPECIFICATIONS FOR HIGHWAY CONSTRUCTION 1984 EDITION EXCEPT AS SHOWN OR NOTED ON THE PLAN.

THE POSTS SHALL BE ROUND POST HAVING AN OUTSIDE DIAMETER OF 2.375" AND WEIGHT OF 5.74 LBS. PER FT. GALVANIZED. NOMINAL 1 1/4" Ø PIPE SHALL BE 1 5/8" OUTSIDE DIAMETER STEEL PIPE OR TUBING WEIGHING 2.27 LBS. PER FT. GALVANIZED.

ALL POSTS AND TUBING SHALL BE FURNISHED WITH MANUFACTURERS STANDARD CONNECTIONS AND ITS MINIMUM WEIGHT SHALL BE WITHIN 5% OF THAT SPECIFIED. POSTS SHALL BE BENT IN THE SHOP AS SHOWN ON THE PLANS.

ALL COMPONENTS ARE TO BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A-153 AFTER FABRICATION.

FABRIC FASTENERS SHALL BE DOUBLE TWISTED #9 GAUGE GALVANIZED STEEL.

ALL FABRIC OR CHAIN LINK FENCE SHALL BE FURNISHED WITH KNUCKLING AT BOTH SELVAGES.

TENSION BARS SHALL BE 3/4" X 1/4" GALVANIZED STEEL.

FENCE FABRIC SHALL BE GALVANIZED, #9 GAGE WITH A 1" MESH.

THE BID ITEM "PEDESTRIAN FENCING - STRUCTURES" SHALL INCLUDE THE FABRIC, POSTS, BRACES, ANCHORED BOLTS, PIPE, BRACKETS, BASE PLATES AND ALL SUITABLE CONNECTIONS AND FITTINGS.

THE CONTRACTOR WILL BE FURNISHED WITH PLANS OF THE EXISTING STRUCTURE IF REQUESTED, HE SHALL ALSO VERIFY FIELD CONDITIONS BEFORE FABRICATION.

THE PAY LIMITS FOR "PEDESTRIAN FENCING - STRUCTURES" IS MEASURED FROM THE TOP OF SIDEWALK TO TOP RAIL OF FENCE.

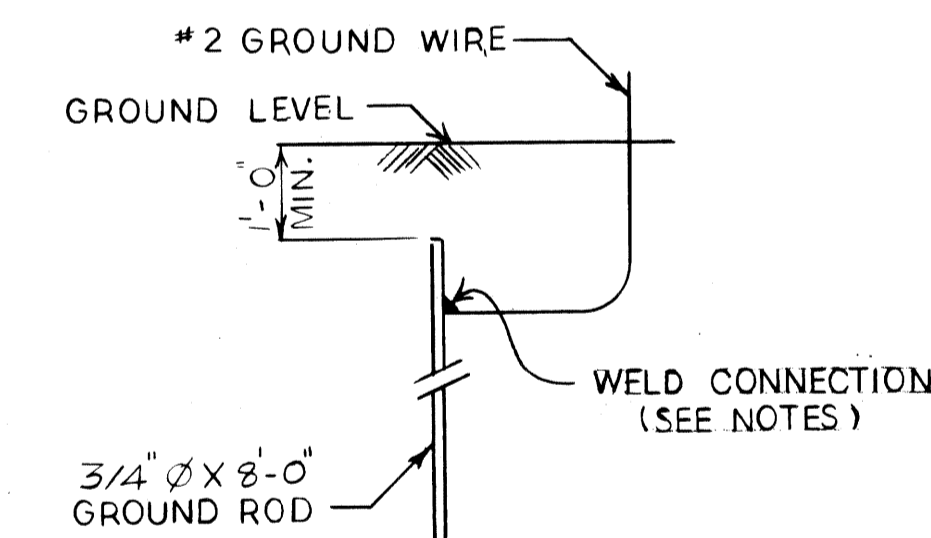
CARE SHALL BE TAKEN SO THAT DEBRIS DOES NOT FALL FROM STRUCTURE.

WHERE SIGNS MOUNTED ON BRIDGE FASCIAS INTERFERE WITH CONSTRUCTION, THEY SHALL BE REMOVED AND RESET AT THE CONTRACTORS EXPENSE.

CARE IS TO BE TAKEN IN PLACING ANCHORED BOLTS AND BRACKETS SO AS TO INSURE THAT THE BRACKETS HOLD THE POSTS FIRMLY AGAINST CONCRETE; SHIM IF NECESSARY.

2 X 2 1/4" H POST WEIGHING 4.1 LBS PER FT. GALVANIZED MAY BE USED AS AN OPTION FOR THE ROUND POST.

GROUNDING NOTES AND DETAIL



MAINTAIN ONE FOOT MINIMUM COVER OVER GROUND WIRE AND GROUND ROD.

ALL UNDERGROUND CONNECTIONS SHALL BE MADE BY CADWELD, THERMITE, GAS OR ARC WELD.

EXPOSED CONNECTIONS MAY BE SPLIT BOLT OR CLAMP TYPE.

GROUND WIRE SHALL BE BARE #2 AWG AND SHALL CONFORM TO THE LATEST REVISION OF THE APPLICABLE CURRENT ASTM SPECIFICATION ASTM B 33 FOR TINNED SOFT OR ANNEALED COPPER WIRE FOR ELECTRICAL PURPOSES.

GROUND ROD SHALL BE STEEL, COPPER CLAD ROD 3/4" MIN. DIA. AND 8'-0" LONG.

MISCELLANEOUS QUANTITIES

ITEM	UNIT	AMOUNT
PEDESTRIAN FENCING - STRUCTURES	S.F.T.	332.6
ELECTRICAL GROUNDING SYSTEM	EACH	1

NO.	DATE	BY	REVISIONS

designed by H. DICKOW
 drawn by H. DICKOW
 checked by
 approved:
 STRUCTURAL ENGINEER

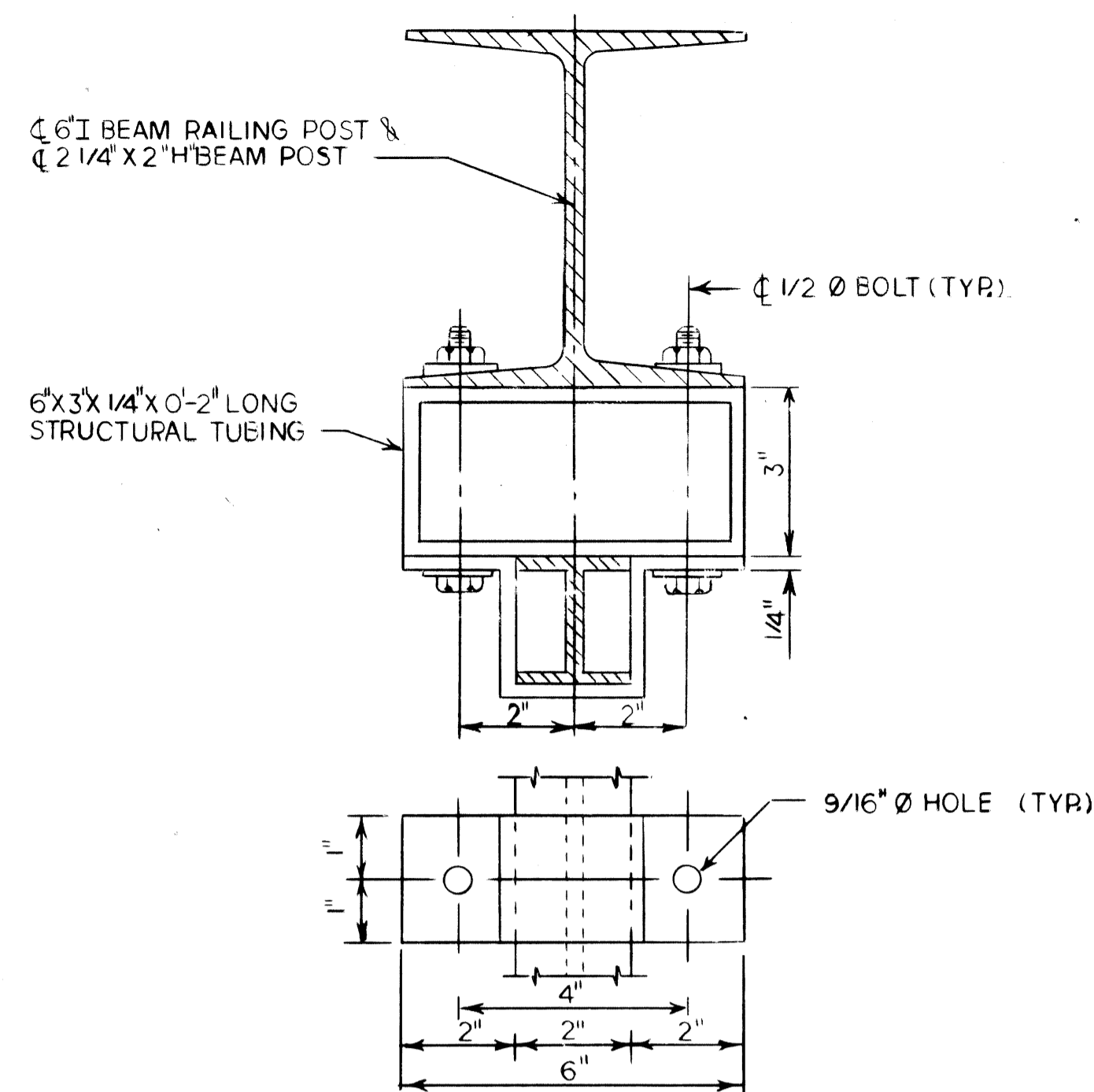
CITY OF DETROIT
 city engineering department
 for MICHIGAN DEPARTMENT OF TRANSPORTATION

BRIDGE PROTECTIVE SCREENING DETAILS

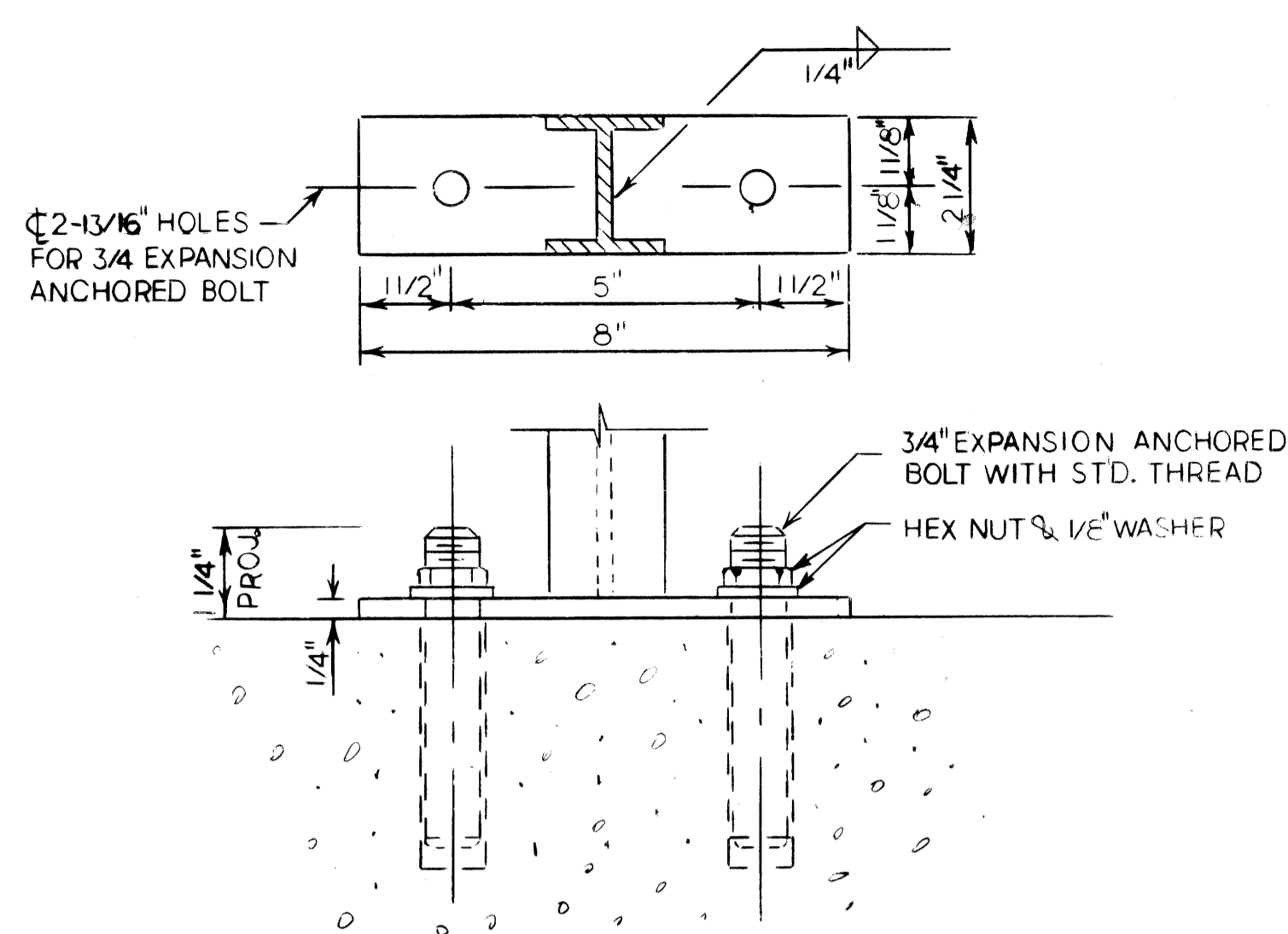
JOHN R. CROSSING FISHER FWY (1-75) IN DETROIT

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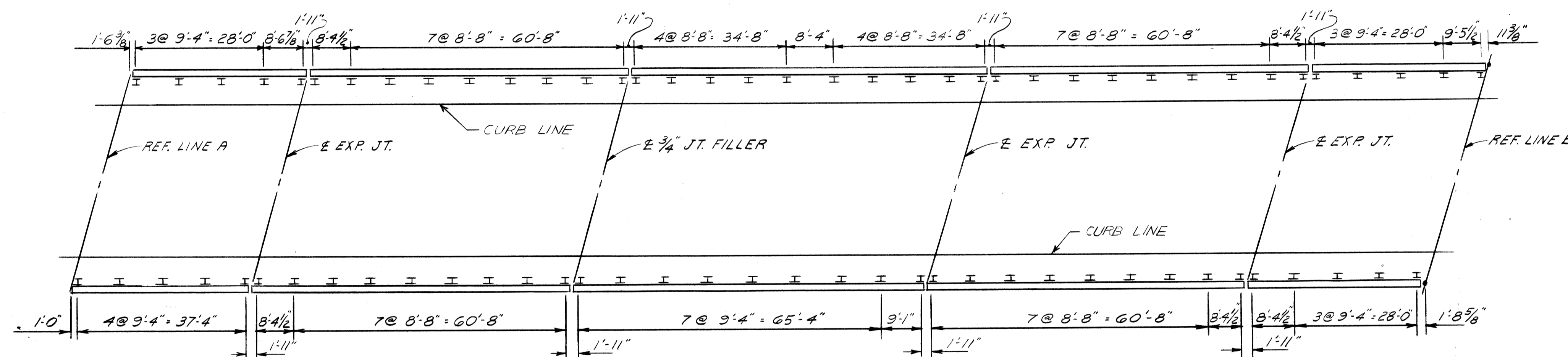
a.o.-87-22-21 contract no.
 sheet 2 of 3
 date 10-1-87



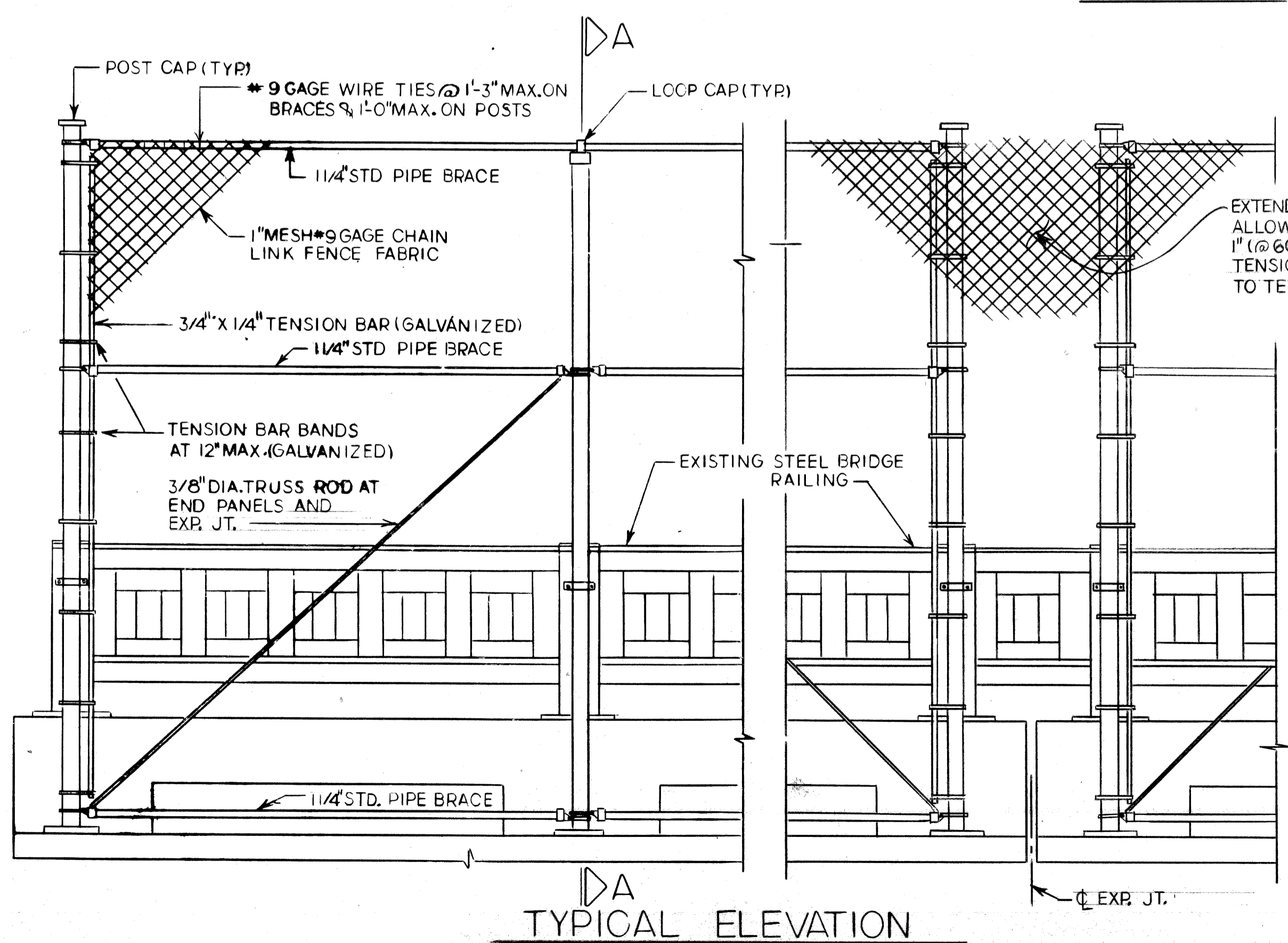
BRACKET DETAIL



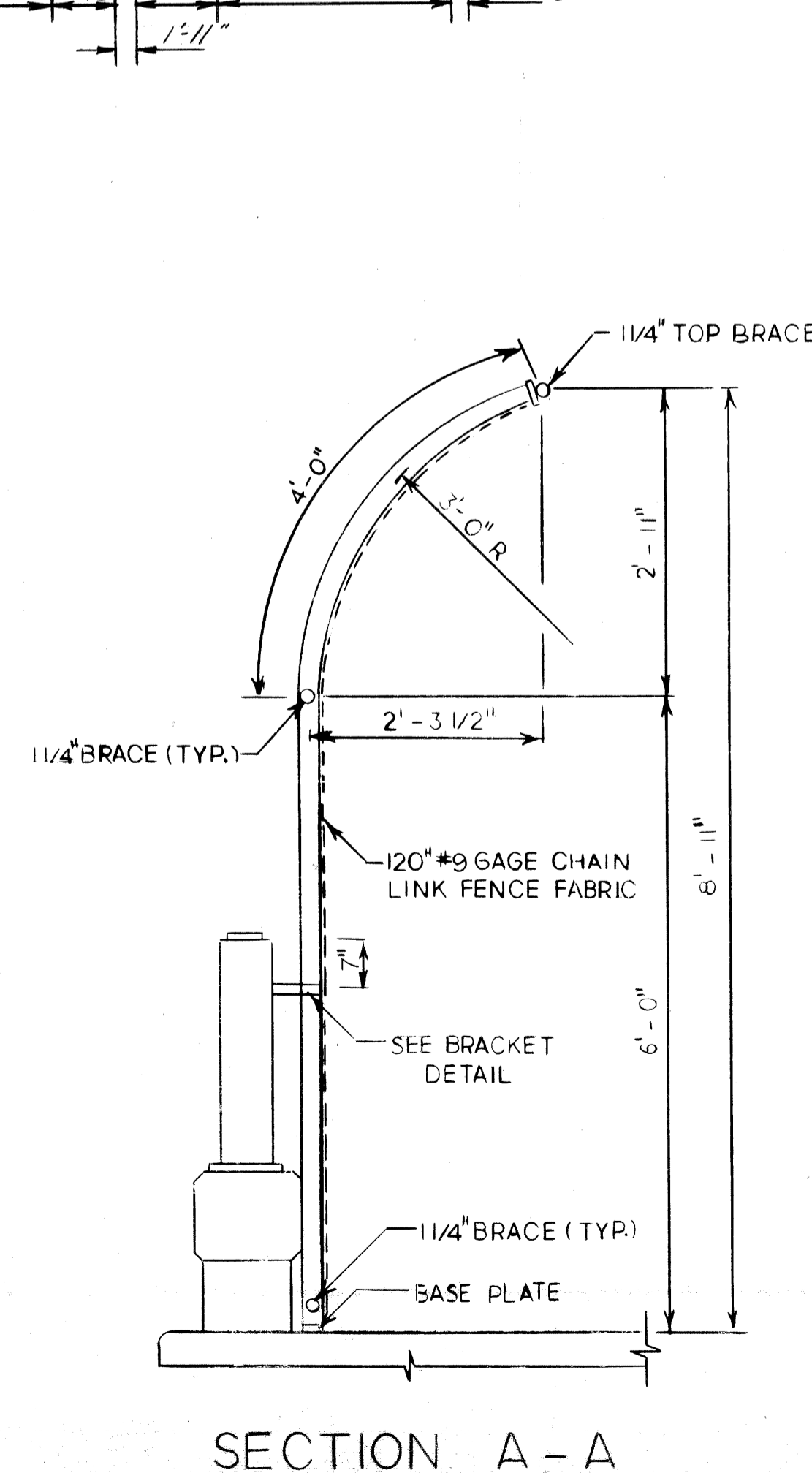
BASE DETAIL



PLAN



TYPICAL ELEVATION



SECTION A - A

FENCING NOTES

EXPANSION ANCHORED BOLTS OF THE SIZE INDICATED SHALL BE BETHLEHEM MINE ROOF EXPANSION TYPE WITH K-1 SHELL, PHILLIPS RED HEAD SELF DRILLING CONCRETE ANCHORS, CHICAGO EXPANSION BOLT CO., SPECIAL SELF DRILLING ANCHOR OR APPROVED EQUAL.

ALL WORK SHALL CONFORM TO THE M.D.O.T SPECIFICATIONS FOR HIGHWAY CONSTRUCTION-1984 EDITION EXCEPT AS SHOWN OR NOTED ON THE PLAN.

THE POSTS SHALL BE 2" X 2 1/4" H POSTS AND WEIGHING 4.1 LBS. PER FT. GALVANIZED. NOMINAL 1 1/4" Ø PIPE SHALL BE 1 5/8" OUTSIDE DIAMETER STEEL PIPE OR TUBING WEIGHING 2.27 LBS. PER FT. GALVANIZED.

ALL POSTS AND TUBING SHALL BE FURNISHED WITH MANUFACTURERS STANDARD CONNECTIONS AND ITS MINIMUM WEIGHT SHALL BE WITHIN 5% OF THAT SPECIFIED. POSTS SHALL BE BENT IN THE SHOP AS SHOWN ON THE PLANS.

ALL COMPONENTS ARE TO BE GALVANIZED IN ACCORDANCE WITH A.S.T.M A-153 AFTER FABRICATION.

FABRIC FASTENERS SHALL BE DOUBLE TWISTED, #9 GAUGE GALVANIZED STEEL.

ALL FABRIC OR CHAIN LINK FENCE SHALL BE FURNISHED WITH KNUCKLING AT BOTH SELVAGES.

TENSION BARS SHALL BE 3/4" X 1/4" GALVANIZED STEEL.

FENCE FABRIC SHALL BE GALVANIZED, #9 GAGE WITH A 1" MESH.

THE BID ITEM "PEDESTRIAN FENCING - STRUCTURES" SHALL INCLUDE THE FABRIC, POSTS, BRACES, ANCHORED BOLTS, PIPE, BRACKETS, BASE PLATES AND ALL SUITABLE CONNECTIONS AND FITTINGS.

THE CONTRACTOR WILL BE FURNISHED WITH PLANS OF THE EXISTING STRUCTURE IF REQUESTED. HE SHALL ALSO VERIFY FIELD CONDITIONS BEFORE FABRICATION.

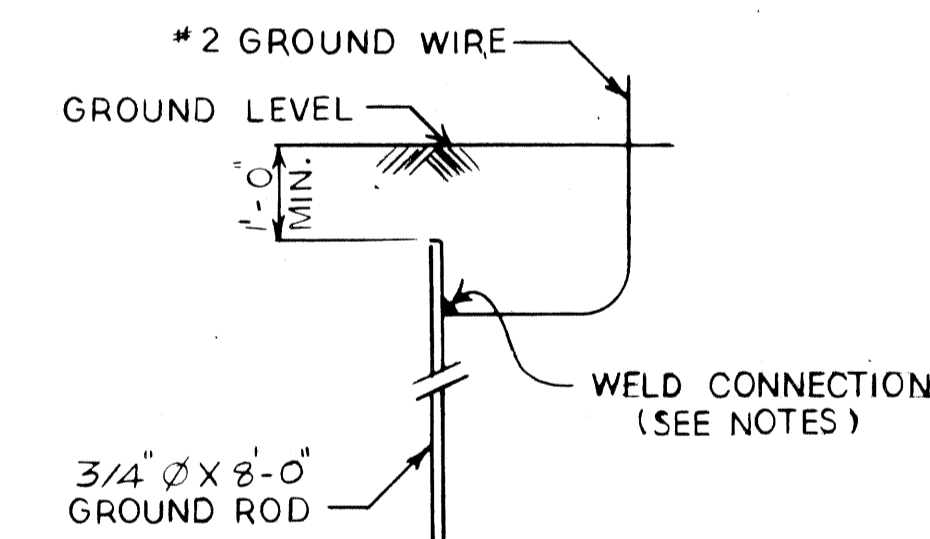
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CARE SHALL BE TAKEN SO THAT DEBRIS DOES NOT FALL FROM STRUCTURE.

WHERE SIGNS MOUNTED ON BRIDGE FASCIAS INTERFERE WITH CONSTRUCTION, THEY SHALL BE REMOVED AND RESET AT THE CONTRACTORS EXPENSE.

CARE IS TO BE TAKEN IN PLACING ANCHORED BOLTS AND BRACKETS SO AS TO INSURE THAT THE BRACKETS HOLD THE POSTS FIRMLY AGAINST STEEL POST; SHIM IF NECESSARY.

GROUNDING NOTES AND DETAIL



MAINTAIN ONE FOOT MINIMUM COVER OVER GROUND WIRE AND GROUND ROD.

ALL UNDERGROUND CONNECTIONS SHALL BE MADE BY CADWELD, THERMITE, GAS OR ARC WELD.

EXPOSED CONNECTIONS MAY BE SPLIT BOLT OR CLAMP TYPE.

GROUND WIRE SHALL BE BARE #2 AWG AND SHALL CONFORM TO THE LATEST REVISION OF THE APPLICABLE CURRENT ASTM SPECIFICATION ASTM B 33 FOR TINNED SOFT OR ANNEALED COPPER WIRE FOR ELECTRICAL PURPOSES.

GROUND ROD SHALL BE STEEL, COPPER CLAD ROD 3/4 MIN. DIA. AND 6'-0" LONG.

MISCELLANEOUS QUANTITIES

ITEM	UNIT	AMOUNT
PEDESTRIAN FENCING - STRUCTURES	S.F.T.	5915
ELECTRICAL GROUNDING SYSTEM	EACH	1

dr.	chk'd	ap'd	date

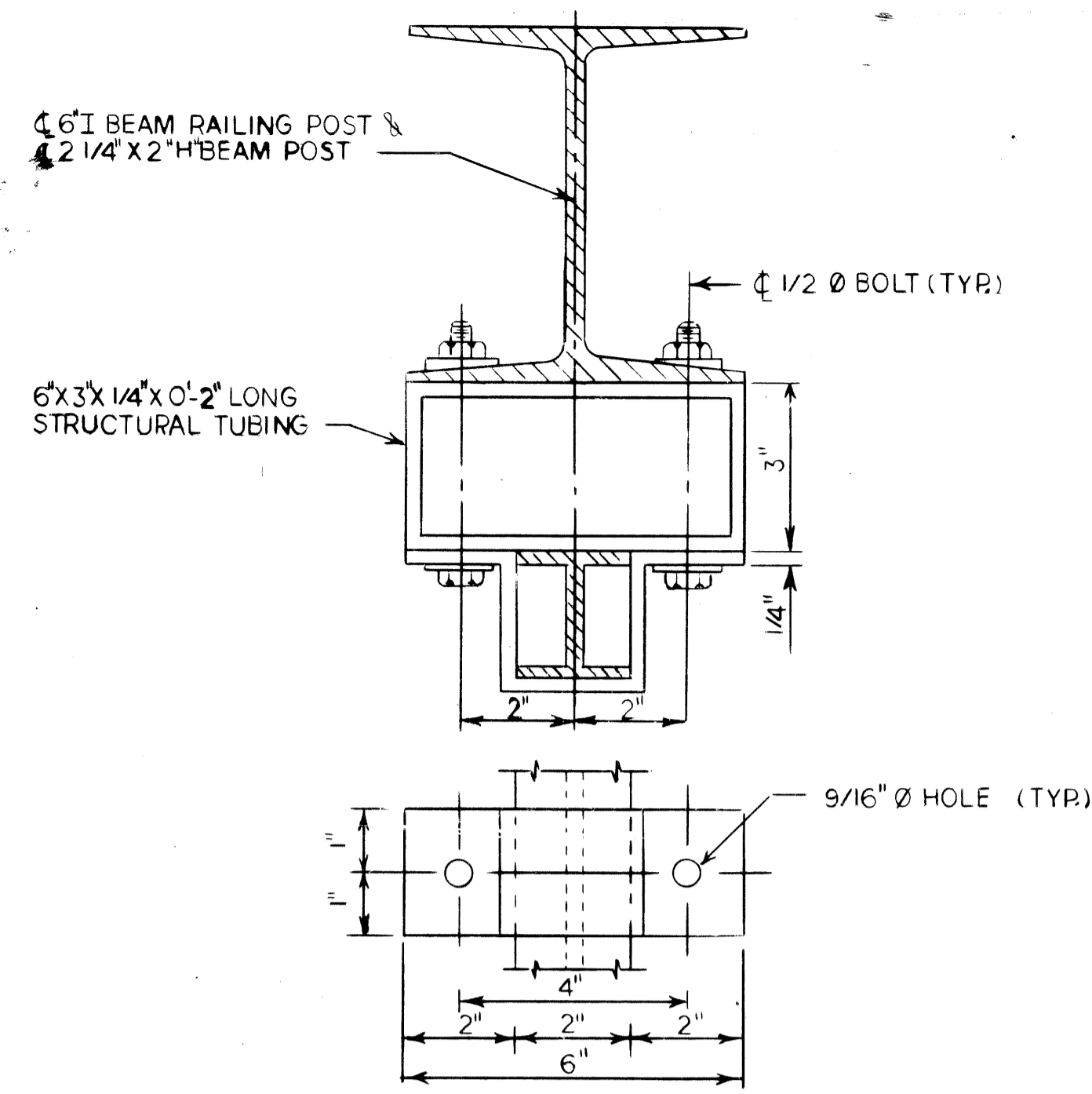
designed by H. DICKOW
 drawn by H. DICKOW
 checked by [signature]
 approved: [signature]
 STRUCTURAL ENGINEER

CITY OF DETROIT
 city engineering department
 for MICHIGAN DEPARTMENT OF TRANSPORTATION

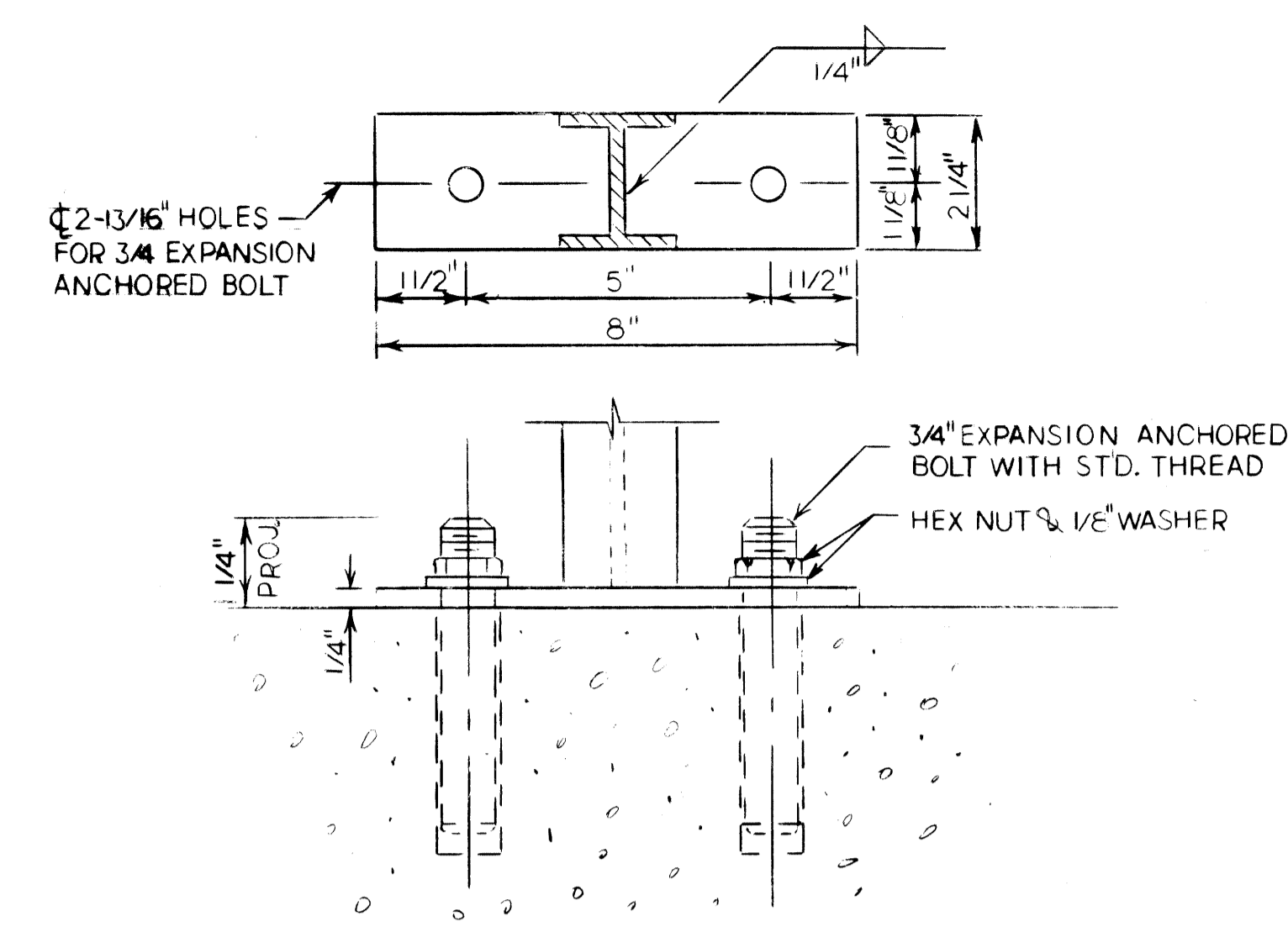
BRIDGE PROTECTIVE SCREENING DETAILS

GRATIOT AVE CROSSING W.P. CHRYSLER EXPRESSWAY (1-375) IN DETROIT
 SOI OF 82251

a.o. 87-22-21
 contract no.
 sheet 2 of 3
 date 10-1-87



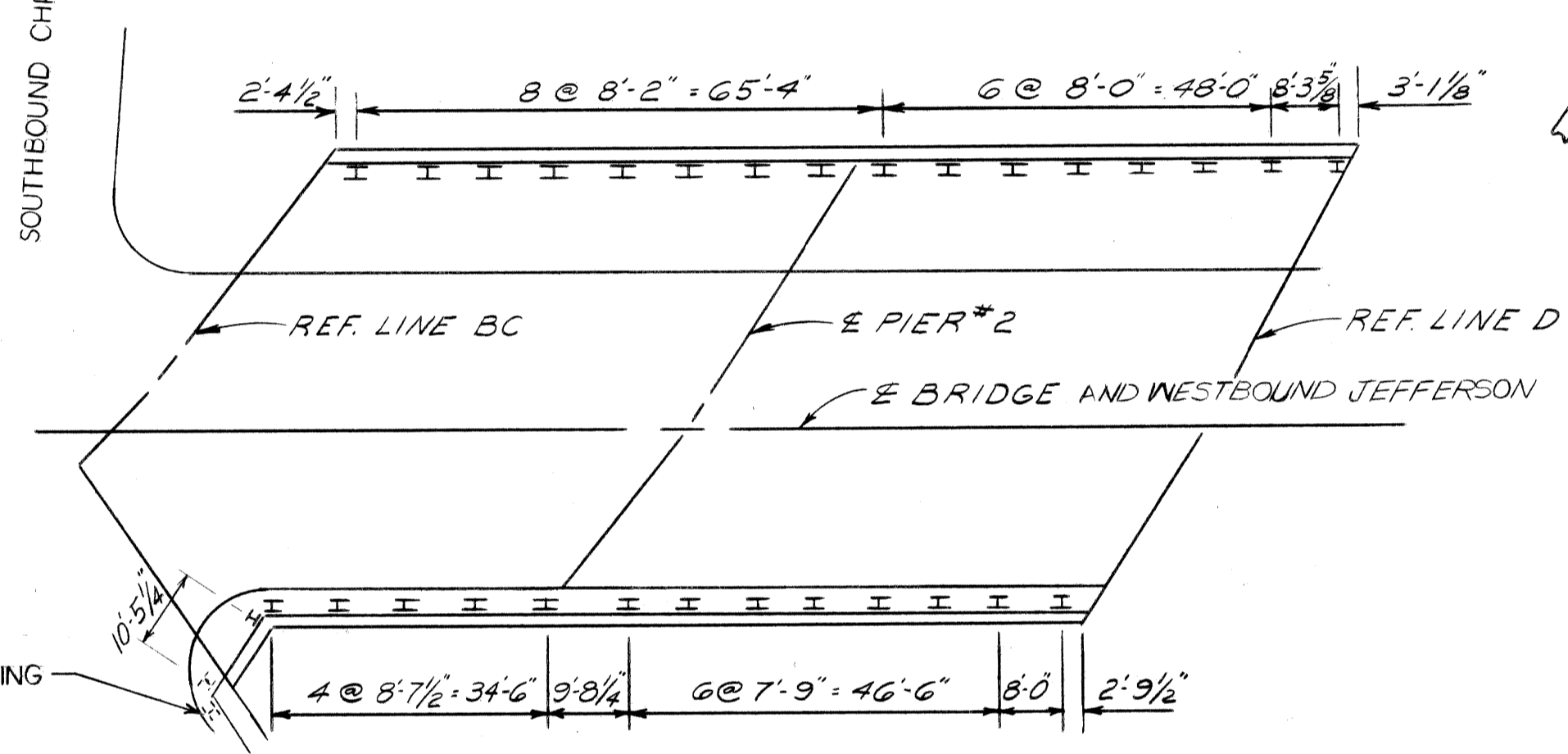
BRACKET DETAIL



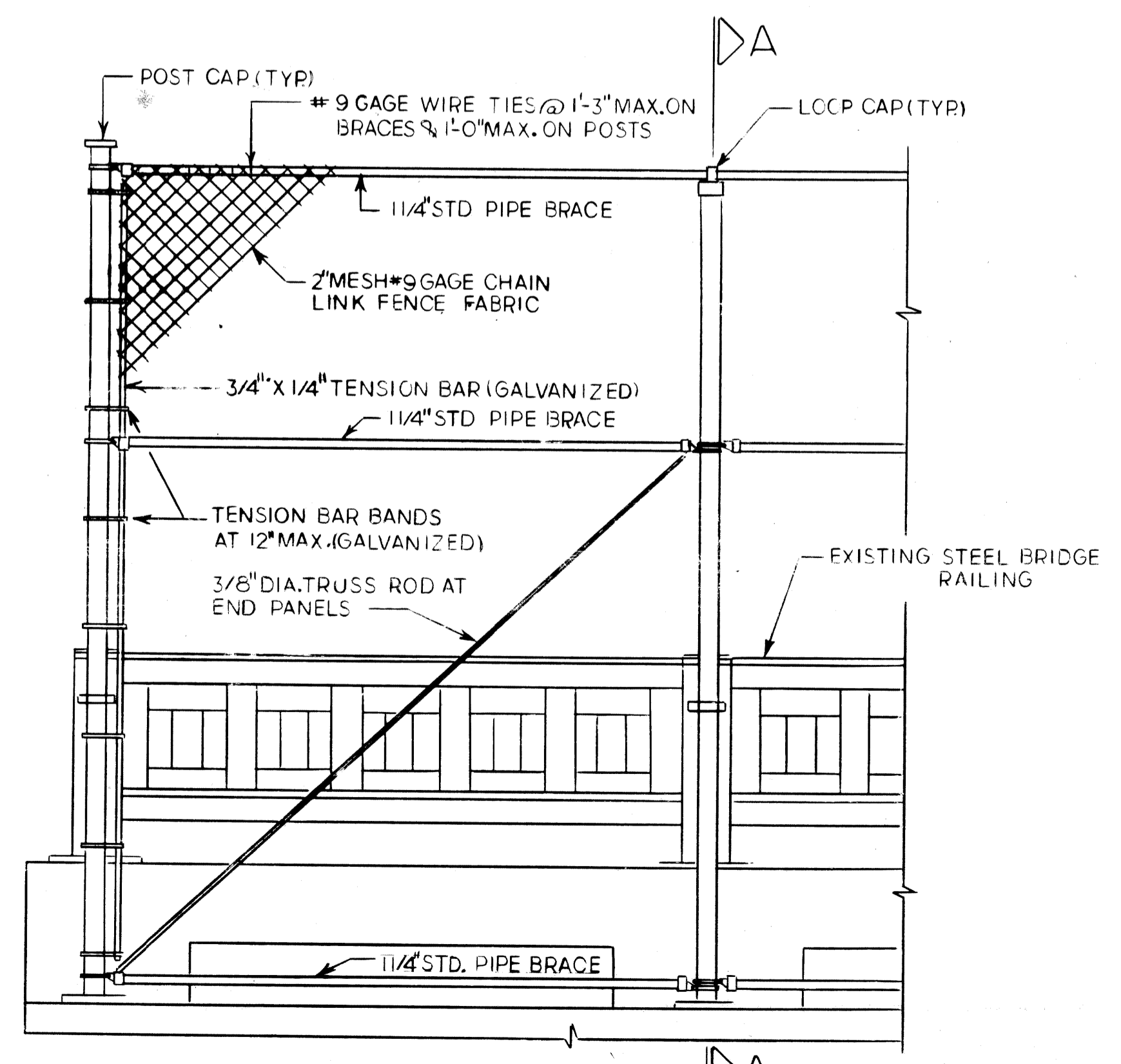
BASE DETAIL

SOUTHBOUND CHRYSLER SERVICE DR

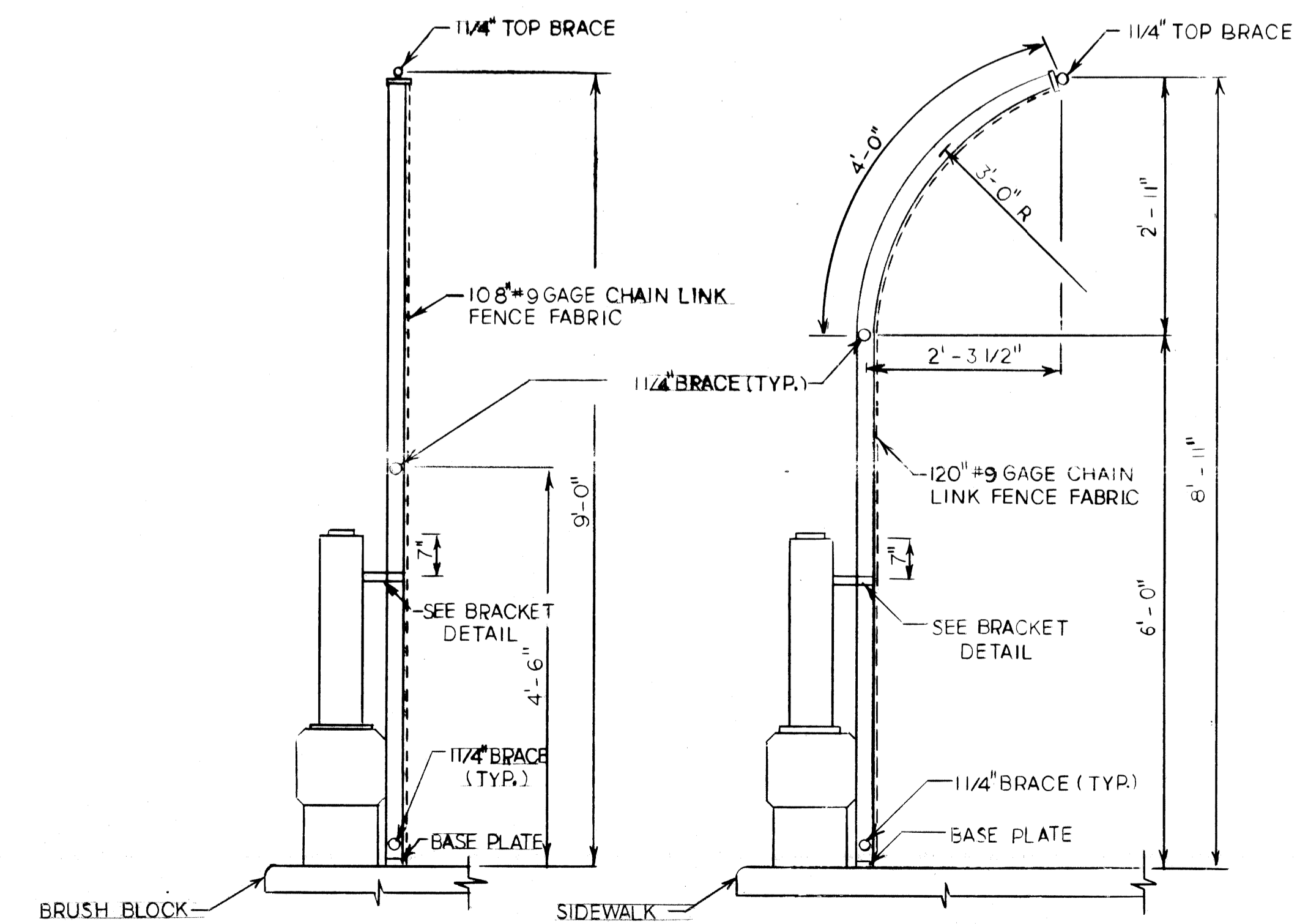
SEE PROTECTIVE SCREENING DETAILS FOR S-05 OF 82111 FOR CONTINUATION OF FENCING



PLAN



TYPICAL ELEVATION



SECTION A-A

FENCING NOTES

EXPANSION ANCHORED BOLTS OF THE SIZE INDICATED SHALL BE BETHLEHEM MINE ROOF EXPANSION TYPE WITH K-1 SHELL, PHILLIPS RED HEAD SELF DRILLING CONCRETE ANCHORS, CHICAGO EXPANSION BOLT CO. SPECIAL SELF DRILLING ANCHOR OR APPROVED EQUAL.

ALL WORK SHALL CONFORM TO THE M.D.O.T SPECIFICATIONS FOR HIGHWAY CONSTRUCTION-1984 EDITION EXCEPT AS SHOWN OR NOTED ON THE PLAN.

THE POSTS SHALL BE 2" X 2 1/4" H POSTS AND WEIGHING 4.1 LBS. PER FT. GALVANIZED, NOMINAL 1 1/4" Ø PIPE SHALL BE 1 5/8" OUTSIDE DIAMETER STEEL PIPE OR TUBING WEIGHING 2.27 LBS. PER FT. GALVANIZED.

ALL POSTS AND TUBING SHALL BE FURNISHED WITH MANUFACTURERS STANDARD CONNECTIONS AND ITS MINIMUM WEIGHT SHALL BE WITHIN 5% OF THAT SPECIFIED. POSTS SHALL BE BENT IN THE SHOP AS SHOWN ON THE PLANS.

ALL COMPONENTS ARE TO BE GALVANIZED IN ACCORDANCE WITH A.S.T.M A-153 AFTER FABRICATION.

FABRIC FASTENERS SHALL BE DOUBLE TWISTED, #9 GAUGE GALVANIZED STEEL.

ALL FABRIC OR CHAIN LINK FENCE SHALL BE FURNISHED WITH KNUCKLING AT BOTH SELVAGES.

TENSION BARS SHALL BE 3/4" X 1/4" GALVANIZED STEEL.

FENCE FABRIC SHALL BE GALVANIZED, #9 GAGE WITH A 1" MESH.

THE BID ITEM "PEDESTRIAN FENCING-STRUCTURES" SHALL INCLUDE THE FABRIC, POSTS BRACES, ANCHORED BOLTS, PIPE, BRACKETS, BASE PLATES AND ALL SUITABLE CONNECTIONS AND FITTINGS.

THE CONTRACTOR WILL BE FURNISHED WITH PLANS OF THE EXISTING STRUCTURE IF REQUESTED, HE SHALL ALSO VERIFY FIELD CONDITIONS BEFORE FABRICATION.

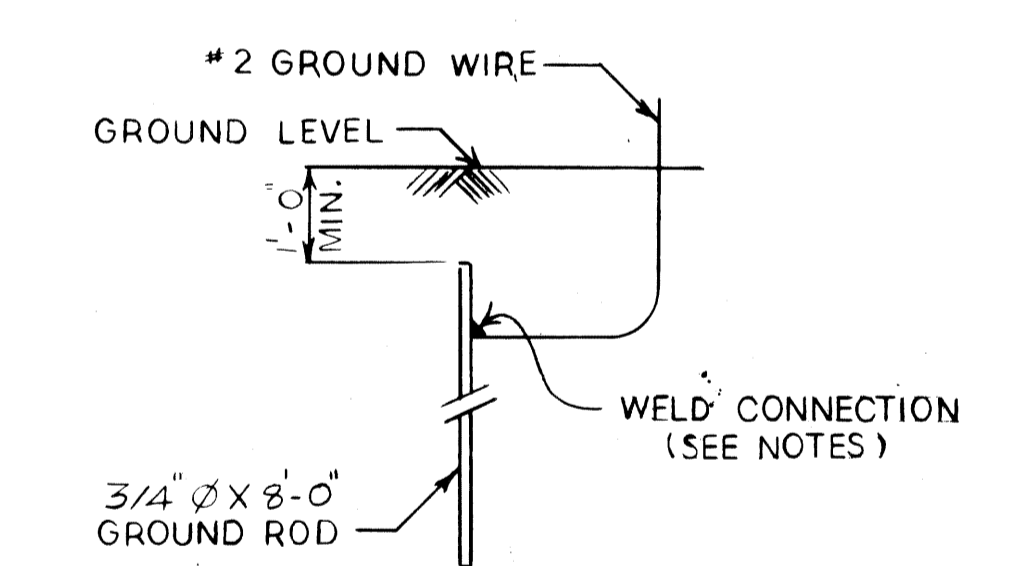
THE PAY LIMITS FOR "PEDESTRIAN FENCING-STRUCTURES" IS MEASURED FROM THE TOP OF SIDEWALK TO TOP RAIL OF FENCE.

CARE SHALL BE TAKEN SO THAT DEBRIS DOES NOT FALL FROM STRUCTURE.

WHERE SIGNS MOUNTED ON BRIDGE FASCIA'S INTERFERE WITH CONSTRUCTION, THEY SHALL BE REMOVED AND RESET AT THE CONTRACTORS EXPENSE.

CARE IS TO BE TAKEN IN PLACING ANCHORED BOLTS AND BRACKETS SO AS TO INSURE THAT THE BRACKETS HOLD THE POSTS FIRMLY AGAINST STEEL POST; SHIM IF NECESSARY.

GROUNDING NOTES AND DETAIL



MAINTAIN ONE FOOT MINIMUM COVER OVER GROUND WIRE AND GROUND ROD.

ALL UNDERGROUND CONNECTIONS SHALL BE MADE BY CADWELD, THERMITE, GAS OR ARC WELD.

EXPOSED CONNECTIONS MAY BE SPLIT BOLT OR CLAMP TYPE.

GROUND WIRE SHALL BE BARE #2 AWG AND SHALL CONFORM TO THE LATEST REVISION OF THE APPLICABLE CURRENT ASTM SPECIFICATION ASTM B 33 FOR TINNED SOFT OR ANNEALED COPPER WIRE FOR ELECTRICAL PURPOSES.

GROUND ROD SHALL BE STEEL, COPPER CLAD ROD 3/4 MIN. DIA. AND 8'-0" LONG.

MISCELLANEOUS QUANTITIES		
ITEM	UNIT	AMOUNT
PEDESTRIAN FENCING - STRUCTURES	S.F.T.	2216
ELECTRICAL GROUNDING SYSTEM	EACH	1

no.	date	by	checked by	approved

designed by H. DICKOW
 drawn by H. DICKOW
 checked by
 approved:
 STRUCTURAL ENGINEER

CITY OF DETROIT
 city engineering department
 for MICHIGAN DEPARTMENT OF TRANSPORTATION

BRIDGE PROTECTIVE SCREENING DETAILS

JEFFERSON CROSSING W.P. CHRYSLER EXPRESSWAY (1-375) IN DETROIT

SO4 OF 82111
 a.o.-87-22-21
 contract no.
 sheet 2 of 4
 date 10-1-87

FENCING NOTES

EXPANSION ANCHORED BOLTS OF THE SIZE INDICATED SHALL BE BETHLEHEM MINE ROOF EXPANSION TYPE WITH K-1 SHELL, PHILLIPS RED HEAD SELF DRILLING CONCRETE ANCHORS, CHICAGO EXPANSION BOLT CO. SPECIAL SELF DRILLING ANCHOR OR APPROVED EQUAL.

ALL WORK SHALL CONFORM TO THE M.D.O.T SPECIFICATIONS FOR HIGHWAY CONSTRUCTION-1984 EDITION EXCEPT AS SHOWN OR NOTED ON THE PLAN.

THE POSTS SHALL BE 2" X 2 1/4" H POSTS AND WEIGHING 4.1 LBS. PER FT. GALVANIZED NOMINAL 1 1/4" Ø PIPE SHALL BE 1.5/8" OUTSIDE DIAMETER. STEEL PIPE OR TUBING WEIGHING 2.27 LBS. PER FT. GALVANIZED.

ALL POSTS AND TUBING SHALL BE FURNISHED WITH MANUFACTURERS STANDARD CONNECTIONS AND ITS MINIMUM WEIGHT SHALL BE WITHIN 5% OF THAT SPECIFIED. POSTS SHALL BE BENT IN THE SHOP AS SHOWN ON THE PLANS.

ALL COMPONENTS ARE TO BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A-153 AFTER FABRICATION.

FABRIC FASTENERS SHALL BE DOUBLE TWISTED #9 GAUGE GALVANIZED STEEL.

ALL FABRIC OR CHAIN LINK FENCE SHALL BE FURNISHED WITH KNUCKLING AT BOTH SELVAGES.

TENSION BARS SHALL BE 3/4" X 1/4" GALVANIZED STEEL.

FENCE FABRIC SHALL BE GALVANIZED, #9 GAGE WITH A 1" MESH.

THE BID ITEM "PEDESTRIAN FENCING - STRUCTURES" SHALL INCLUDE THE FABRIC, POSTS BRACES, ANCHORED BOLTS, PIPE, BRACKETS, BASE PLATES AND ALL SUITABLE CONNECTIONS AND FITTINGS.

THE CONTRACTOR WILL BE FURNISHED WITH PLANS OF THE EXISTING STRUCTURE IF REQUESTED, HE SHALL ALSO VERIFY FIELD CONDITIONS BEFORE FABRICATION.

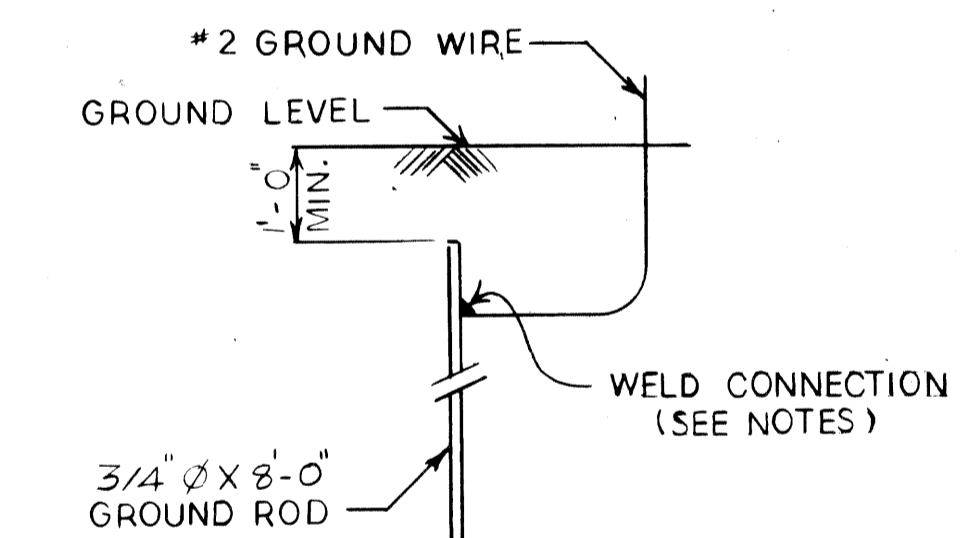
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WHERE SIGNS MOUNTED ON BRIDGE FASCIAS INTERFERE WITH CONSTRUCTION, THEY SHALL BE REMOVED AND RESET AT THE CONTRACTORS EXPENSE.

CARE IS TO BE TAKEN IN PLACING ANCHORED BOLTS AND BRACKETS SO AS TO INSURE THAT THE BRACKETS HOLD THE POSTS FIRMLY AGAINST STEEL POST; SHIM IF NECESSARY.

GROUNDING NOTES AND DETAIL



MAINTAIN ONE FOOT MINIMUM COVER OVER GROUND WIRE AND GROUND ROD.

ALL UNDERGROUND CONNECTIONS SHALL BE MADE BY CADWELD, THERMITE, GAS OR ARC WELD.

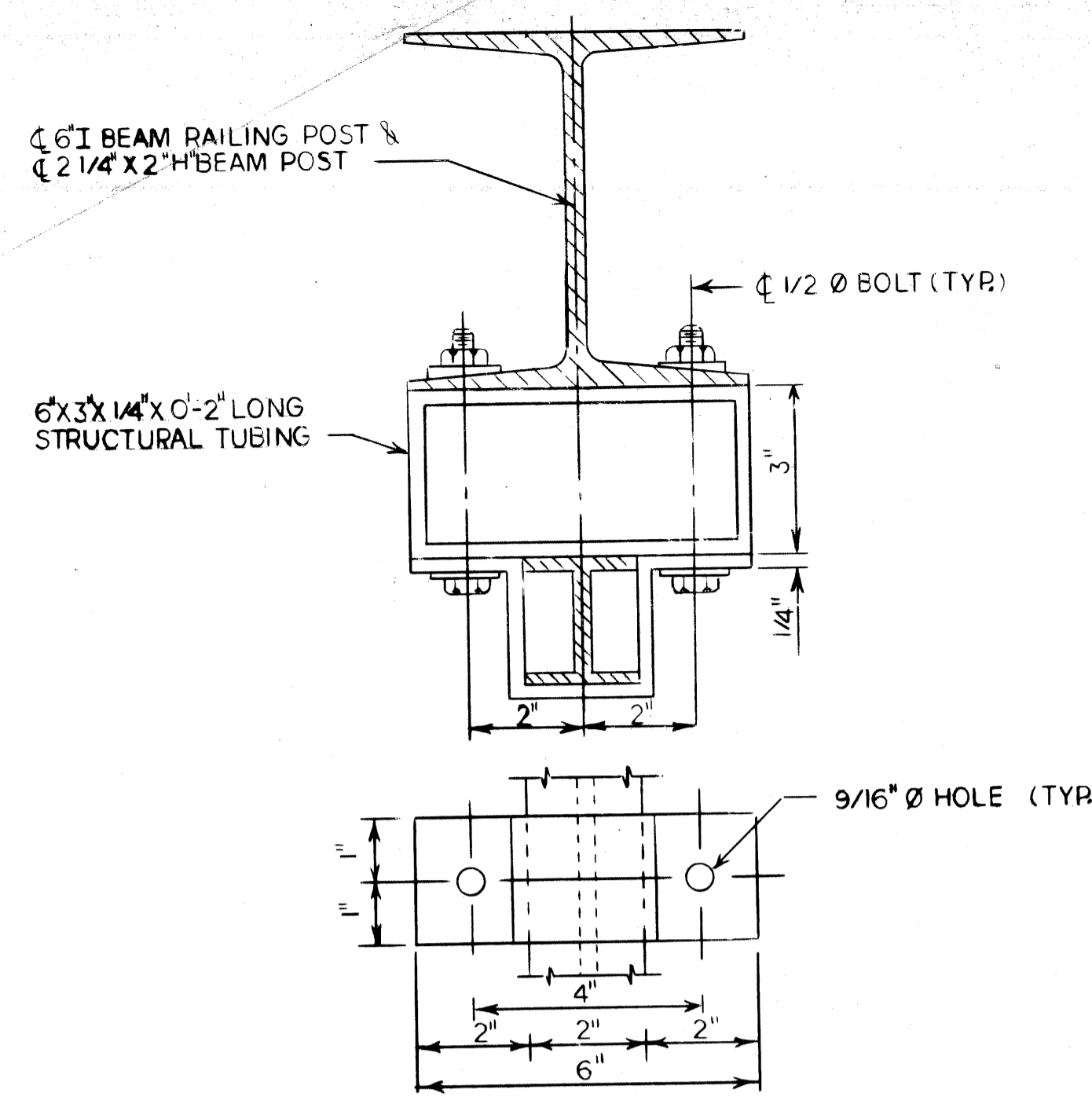
EXPOSED CONNECTIONS MAY BE SPLIT BOLT OR CLAMP TYPE.

GROUND WIRE SHALL BE BARE #2 AWG AND SHALL CONFORM TO THE LATEST REVISION OF THE APPLICABLE CURRENT ASTM SPECIFICATION ASTM B33 FOR TINNED SOFT OR ANNEALED COPPER WIRE FOR ELECTRICAL PURPOSES.

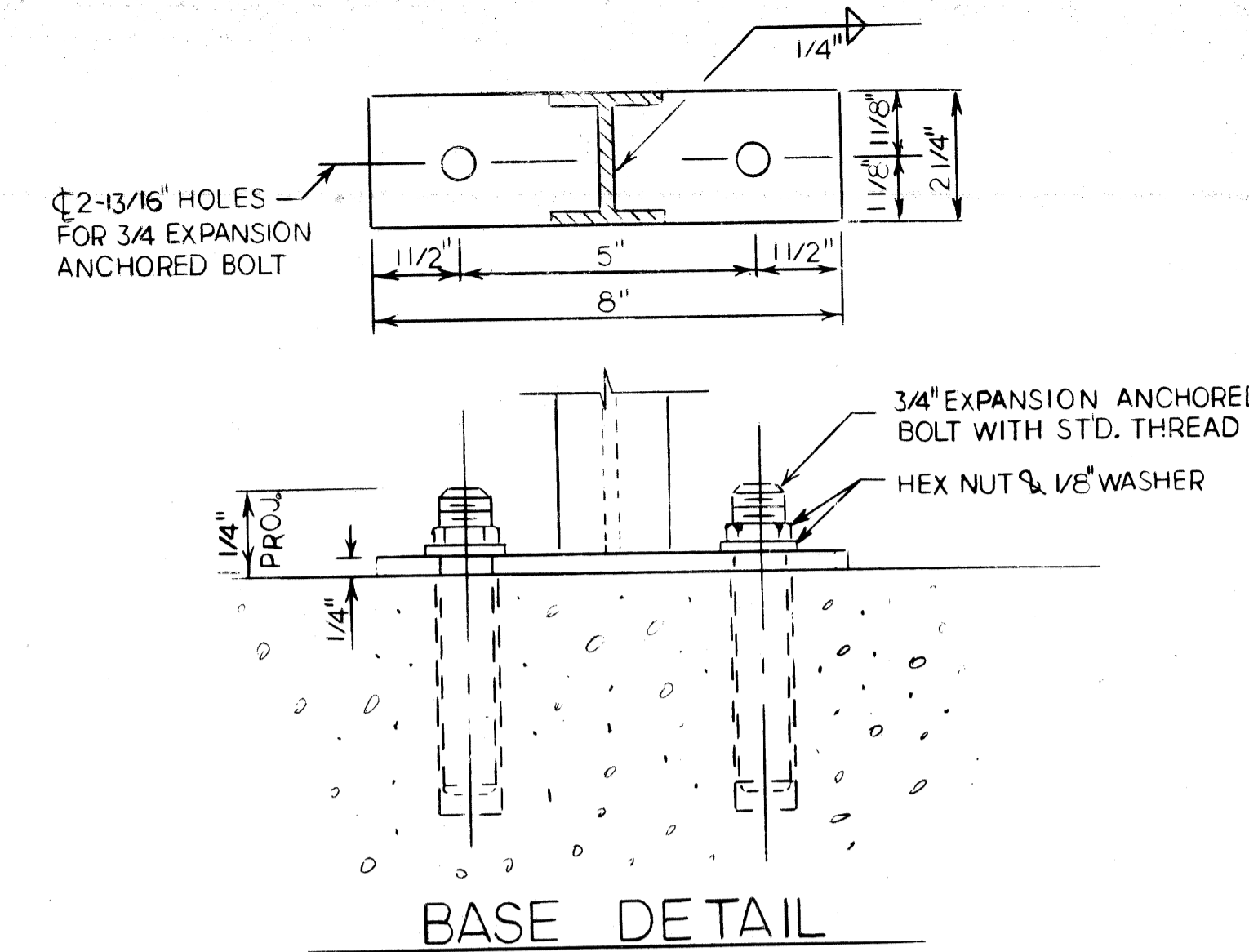
GROUND ROD SHALL BE STEEL, COPPER CLAD ROD 3/4 MIN. DIA. AND 8'-0" LONG.

MISCELLANEOUS QUANTITIES

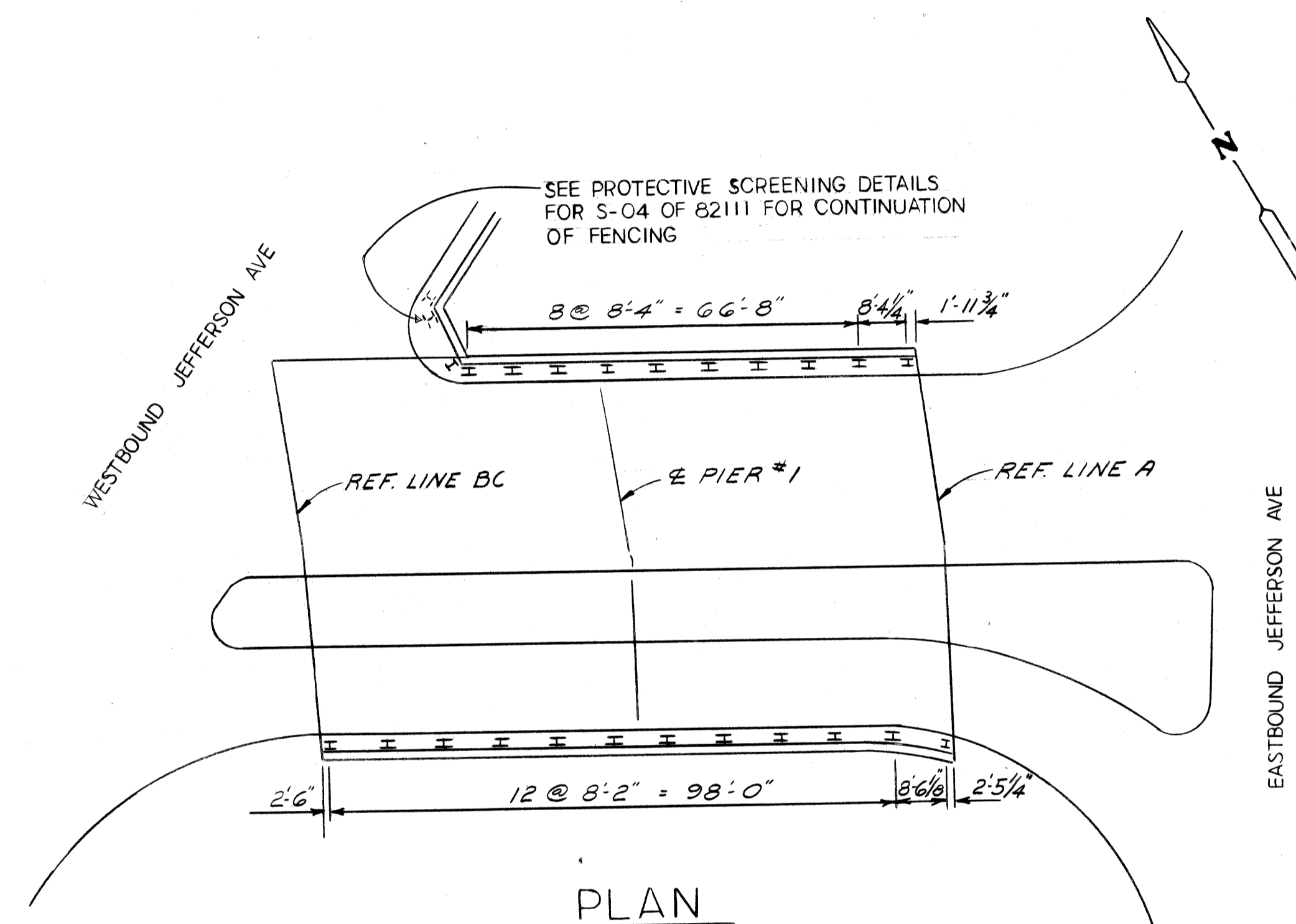
ITEM	UNIT	AMOUNT
PEDESTRIAN FENCING - STRUCTURES	S.F.T.	1652
ELECTRICAL GROUNDING SYSTEM	EACH	1



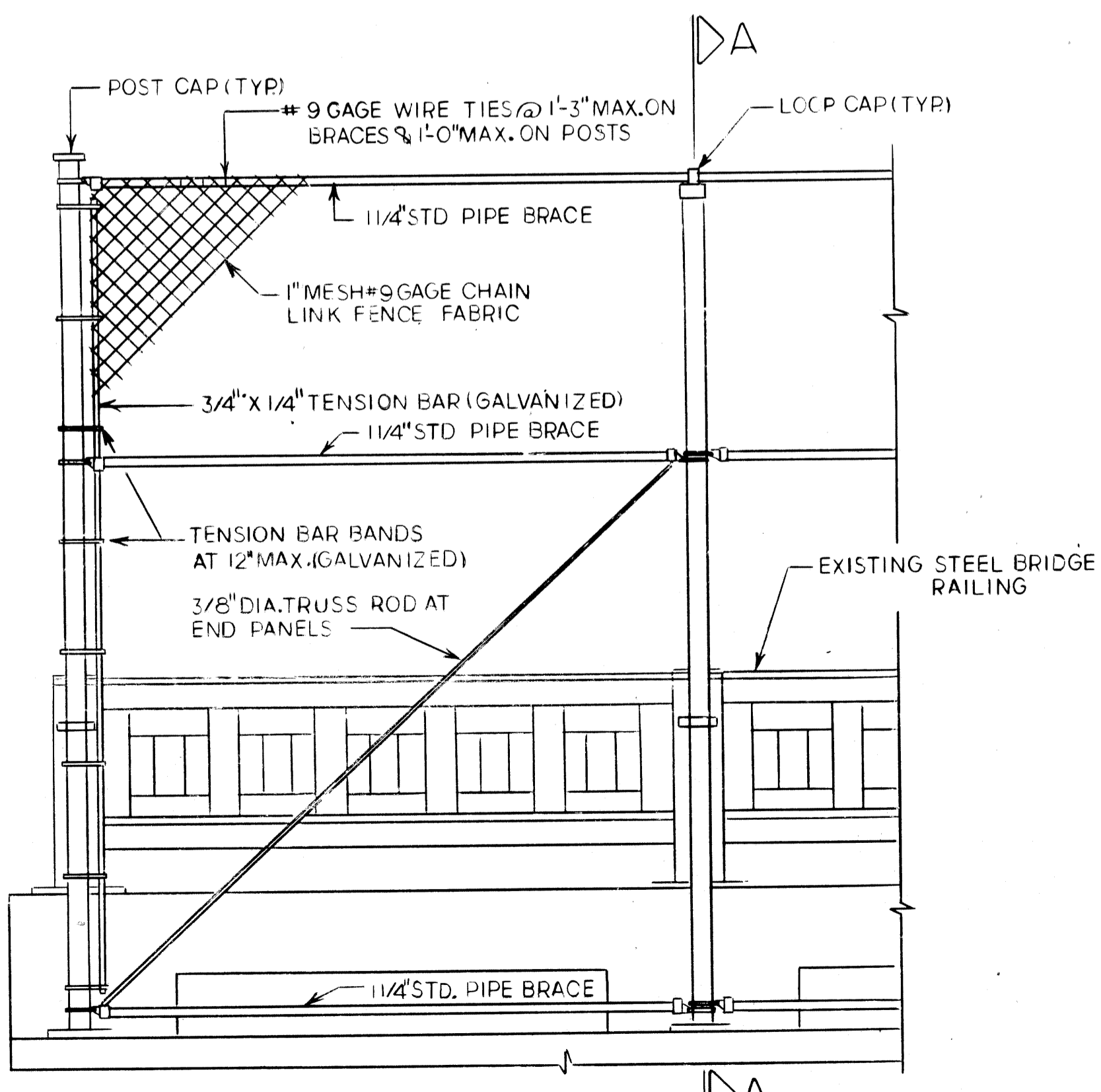
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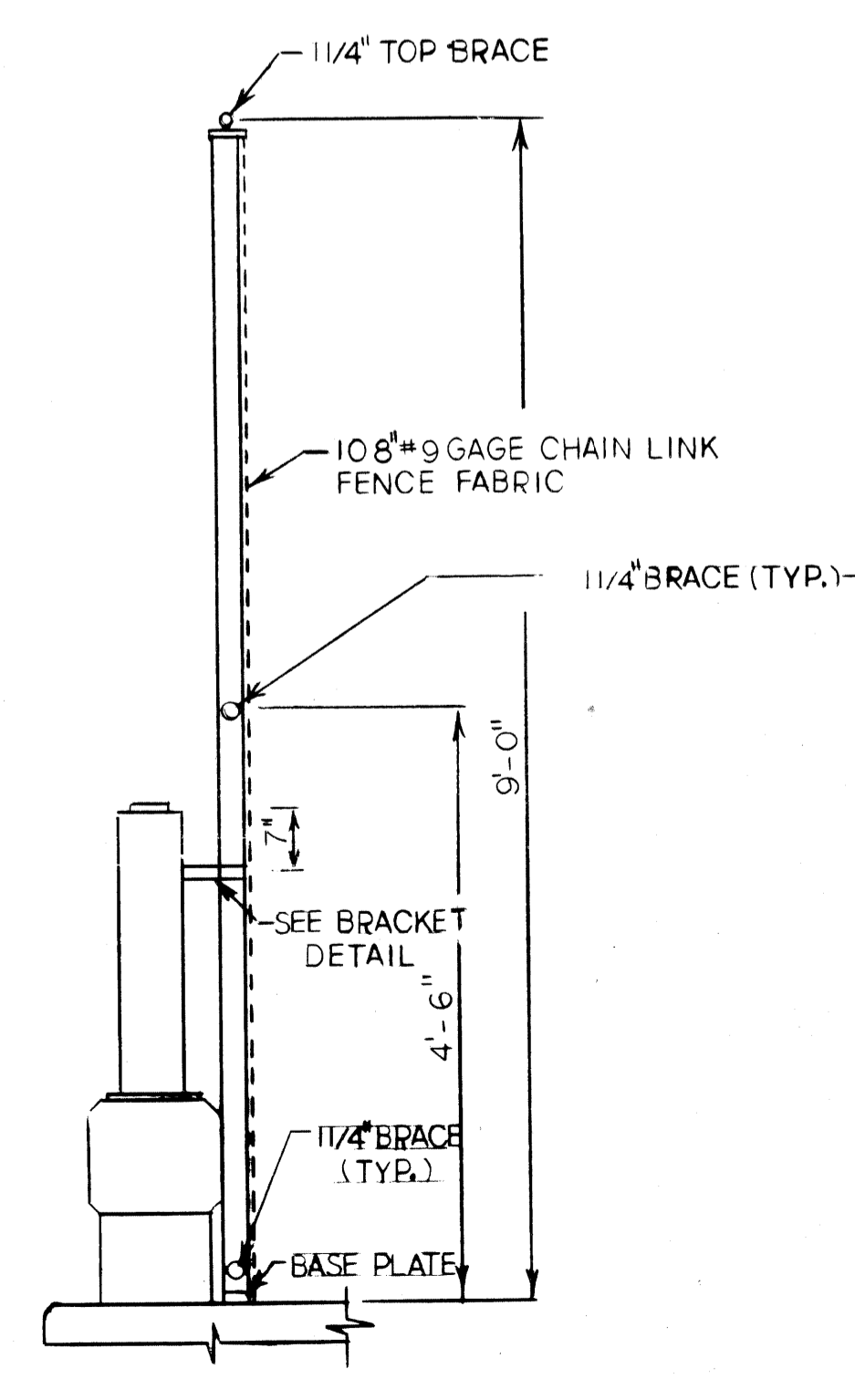
BASE DETAIL



PLAN



TYPICAL ELEVATION



SECTION A-A

BRUNING 44-131-68960

NO.	DATE	BY	REVISIONS

designed by H. DICKOW
 drawn by H. DICKOW
 checked by [Signature]
 approved: [Signature]
 STRUCTURAL ENGINEER

CITY OF DETROIT
 city engineering department
 for MICHIGAN DEPARTMENT OF TRANSPORTATION

BRIDGE PROTECTIVE SCREENING DETAILS

JEFFERSON CROSS OVER W. P. CHRYSLER EXPRESSWAY (1-375) IN DETROIT

SO5 OF 82111
 a.o. 87-22-21
 contract no.
 sheet 2 of 4
 date 10-1-87

FENCING NOTES

EXPANSION ANCHORED BOLTS OF THE SIZE INDICATED SHALL BE BETHLEHEM MINE ROOF EXPANSION TYPE WITH K-1 SHELL, PHILLIPS RED HEAD SELF DRILLING CONCRETE ANCHORS, CHICAGO EXPANSION BOLT CO. SPECIAL SELF DRILLING ANCHOR OR APPROVED EQUAL.

ALL WORK SHALL CONFORM TO THE M.D.O.T SPECIFICATIONS FOR HIGHWAY CONSTRUCTION-1984 EDITION EXCEPT AS SHOWN OR NOTED ON THE PLAN.

THE POSTS SHALL BE AND WEIGHT OF LBS. PER FT. GALVANIZED. NOMINAL 1 1/4" Ø PIPE SHALL BE 1 5/8" OUTSIDE DIAMETER STEEL PIPE OR TUBING WEIGHING 2.27 LBS. PER FT. GALVANIZED.

ALL POSTS AND TUBING SHALL BE FURNISHED WITH MANUFACTURES STANDARD CONNECTIONS AND ITS MINIMUM WEIGHING SHALL BE WITHIN 5% OF THAT SPECIFIED. POSTS SHALL BE BENT IN THE SHOP AS SHOWN ON THE PLANS.

ALL COMPONENTS ARE TO BE GALVANIZED IN ACCORDANCE WITH A.S.T.M A-153 AFTER FABRICATION.

FABRIC FASTENERS SHALL BE DOUBLE TWISTED, 9 GAUGE GALVANIZED STEEL.

ALL FABRIC OR CHAIN LINK FENCE SHALL BE FURNISHED WITH KNUCKLING AT BOTH SELVAGES.

TENSION BARS SHALL BE 3/4" X 1/4" GALVANIZED STEEL.

FENCE FABRIC SHALL BE GALVANIZED, #9 GAGE WITH A 2" MESH.

THE BID ITEM "PEDESTRIAN FENCING-STRUCTURES" SHALL INCLUDE THE FABRIC, POSTS BRACES, ANCHORED BOLTS, PIPE, BRACKETS, BASE PLATES AND ALL SUITABLE CONNECTIONS AND FITTINGS.

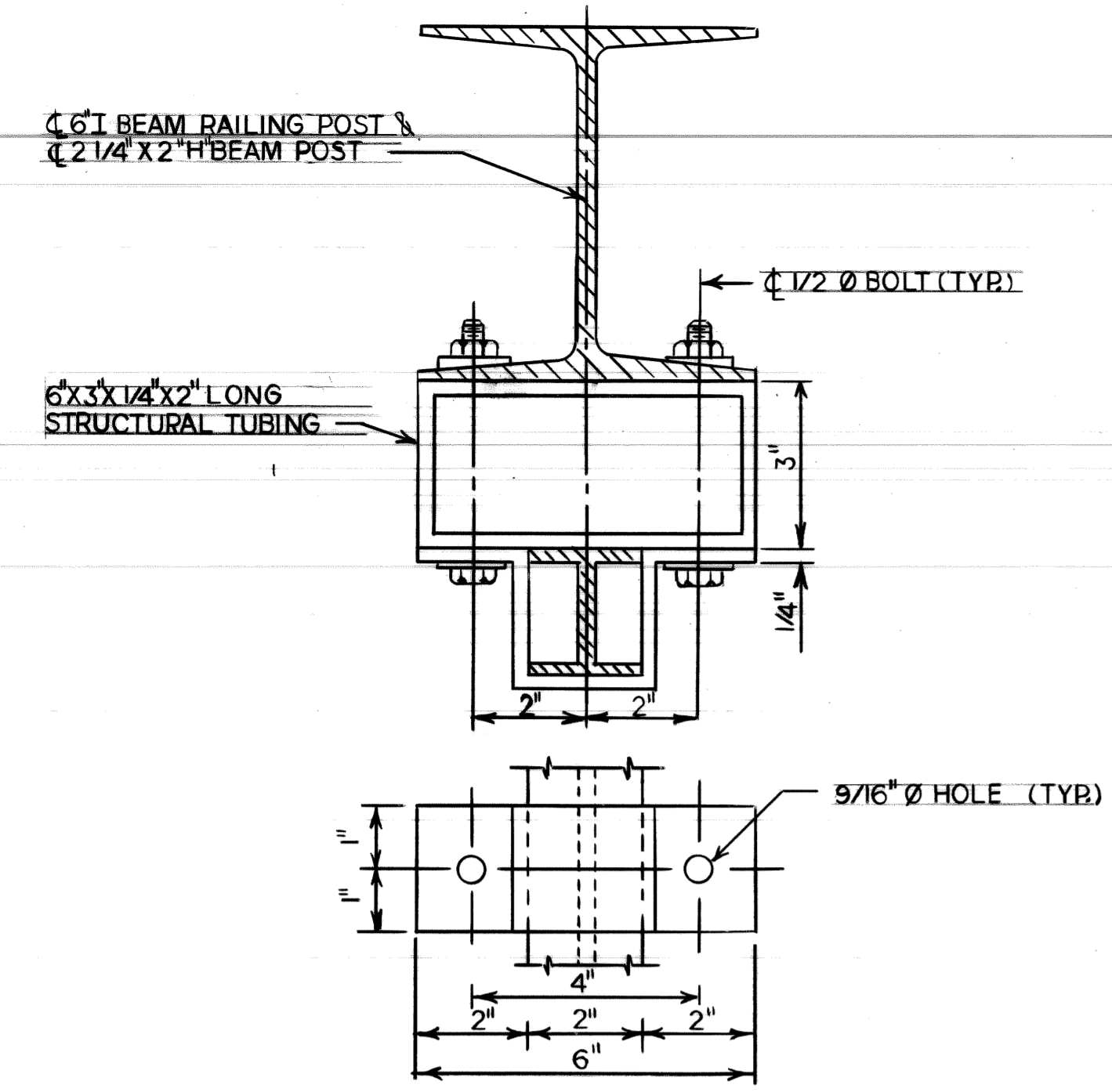
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THE PAY LIMITS FOR "PEDESTRIAN FENCING-STRUCTURES" IS MEASURED FROM THE TOP OF SIDEWALK TO TOP RAIL OF FENCE.

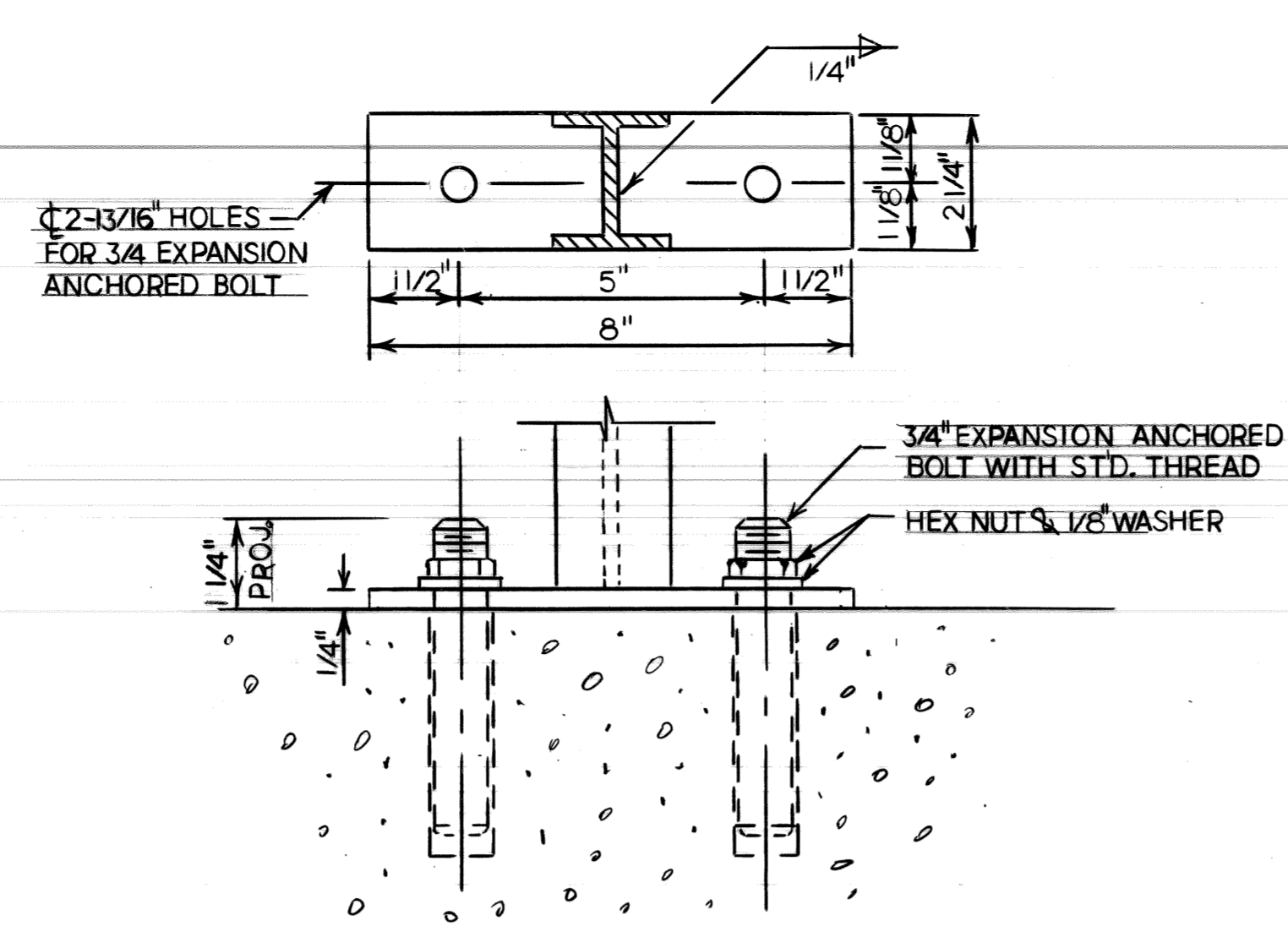
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WHERE SIGNS MOUNTED ON BRIDGE FASCIAS INTERFERE WITH CONSTRUCTION, THEY SHALL REMOVED AND RESET AT THE CONTRACTORS EXPENSE.

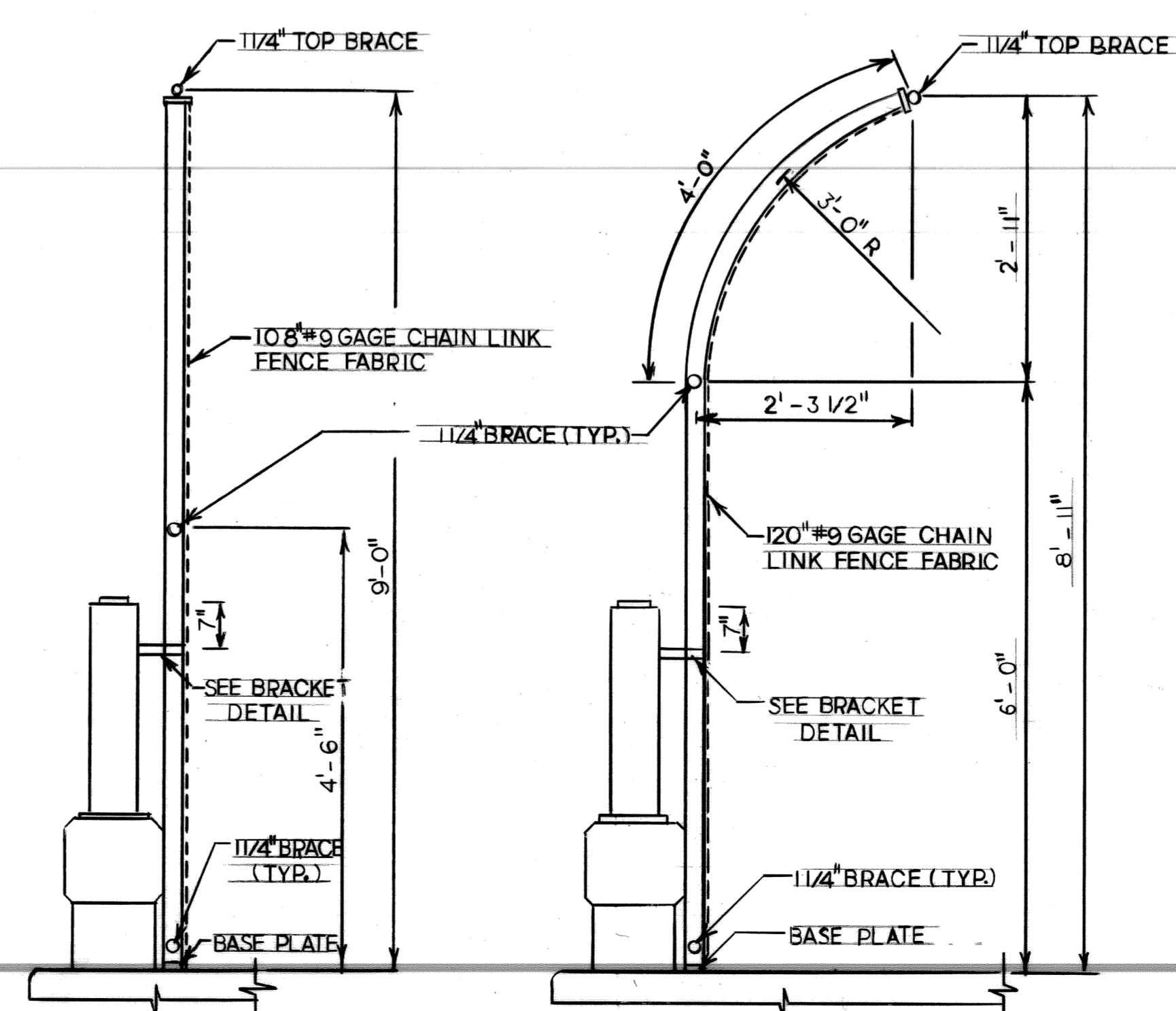
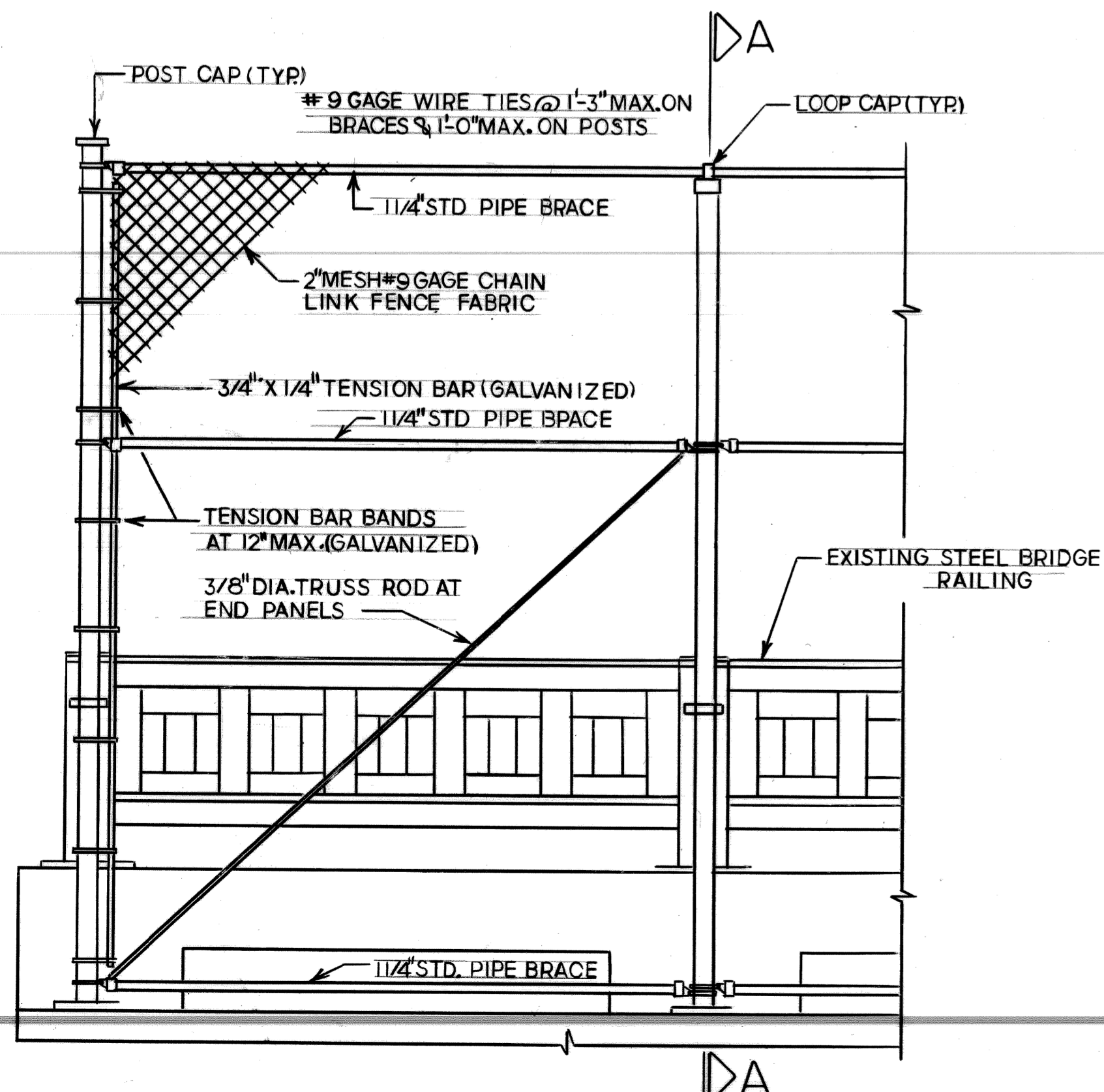
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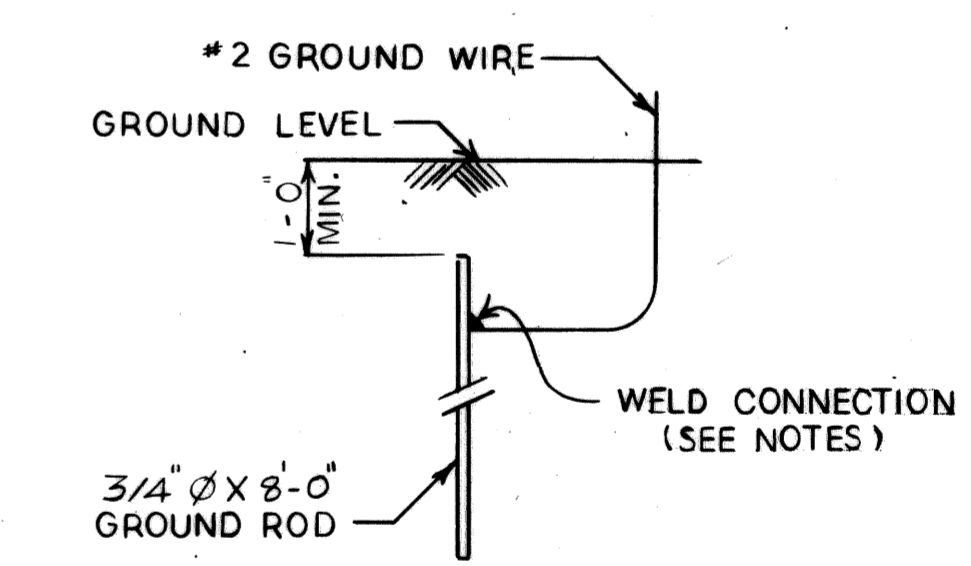
BRACKET DETAIL



BASE DETAIL



GROUNDING NOTES AND DETAIL



MAINTAIN ONE FOOT MINIMUM COVER OVER GROUND WIRE AND GROUND ROD.

ALL UNDERGROUND CONNECTIONS SHALL BE MADE BY CADWELD, THERMITE GAS OR ARC WELD.

EXPOSED CONNECTIONS MAY BE SPLIT BOLT OR CLAMP TYPE.

GROUND WIRE SHALL BE BARE #2 AWG AND SHALL CONFORM TO THE LATEST REVISION OF THE APPLICABLE CURRENT ASTM SPECIFICATION ASTM 633 FOR TINNED SOFT OR ANNEALED COPPER WIRE FOR ELECTRICAL PURPOSES.

GROUND ROD SHALL BE STEEL, COPPER CLAD ROD 3/4 MIN. DIA. AND 8'-0" LONG.

MISCELLANEOUS QUANTITIES

ITEM	UNIT	AMOUNT
PEDESTRIAN FENCING - STRUCTURES	S.F.T	
ELECTRICAL GROUNDING SYSTEM	EACH	
1/2" Ø EXPANSION ANCHORED BOLTS	EACH	
3/4" Ø EXPANSION ANCHORED BOLTS	EACH	

no.	date	revisions

designed by H. DICKOW
 drawn by H. DICKOW
 checked by
 approved:
 STRUCTURAL ENGINEER
 ASSOCIATE CITY ENGINEER

CITY OF DETROIT
 city engineering department
 for MICHIGAN DEPARTMENT OF TRANSPORTATION

BRIDGE PROTECTIVE SCREENING DETAILS

CROSSING W.P. CHRYSLER EXPRESSWAY (I-375) IN DETROIT

a.o. 87-22-21
 contract no.
 sheet of
 drawing no.
 date 10- -87

FENCING NOTES

EXPANSION ANCHORED BOLTS OF THE SIZE INDICATED SHALL BE BETHLEHEM MINE ROOF EXPANSION TYPE WITH K-1 SHELL, PHILLIPS RED HEAD SELF DRILLING CONCRETE ANCHORS, CHICAGO EXPANSION BOLT CO. SPECIAL SELF DRILLING ANCHOR OR APPROVED EQUAL.

ALL WORK SHALL CONFORM TO THE M.D.O.T. SPECIFICATIONS FOR HIGHWAY CONSTRUCTION-1984 EDITION EXCEPT AS SHOWN OR NOTED ON THE PLAN.

THE POSTS SHALL BE ROUND POST HAVING AN OUTSIDE DIAMETER OF 2.375" AND WEIGHT OF 5.79 LBS. PER FT. GALVANIZED. NOMINAL 1 1/4" Ø PIPE SHALL BE 1 5/8" OUTSIDE DIAMETER STEEL PIPE OR TUBING WEIGHING 2.27 LBS. PER FT. GALVANIZED.

ALL POSTS AND TUBING SHALL BE FURNISHED WITH MANUFACTURES STANDARD CONNECTIONS AND ITS MINIMUM WEIGHING SHALL BE WITHIN 5% OF THAT SPECIFIED. POSTS SHALL BE BENT IN THE SHOP AS SHOWN ON THE PLANS.

ALL COMPONENTS ARE TO BE GALVANIZED IN ACCORDANCE WITH A.S.T.M A-153 AFTER FABRICATION.

FABRIC FASTENERS SHALL BE DOUBLE TWISTED, #9 GAUGE GALVANIZED STEEL.

ALL FABRIC OR CHAIN LINK FENCE SHALL BE FURNISHED WITH KNUCKLING AT BOTH SELVAGES.

TENSION BARS SHALL BE 3/4" X 1/4" GALVANIZED STEEL.

FENCE FABRIC SHALL BE GALVANIZED, #9 GAGE WITH A 2 MESH.

THE BID ITEM "PEDESTRIAN FENCING-STRUCTURES" SHALL INCLUDE THE FABRIC, POSTS BRACES ANCHORED BOLTS, PIPE, BRACKETS, BASE PLATES AND ALL SUITABLE CONNECTIONS AND FITTINGS.

THE CONTRACTOR WILL BE FURNISHED WITH PLANS OF THE EXISTING STRUCTURE IF REQUESTED, HE SHALL ALSO VERIFY FIELD CONDITIONS BEFORE FABRICATION.

THE PAY LIMITS FOR "PEDESTRIAN FENCING-STRUCTURES" IS MEASURED FROM THE TOP OF OF SIDEWALK TO TOP RAIL OF FENCE.

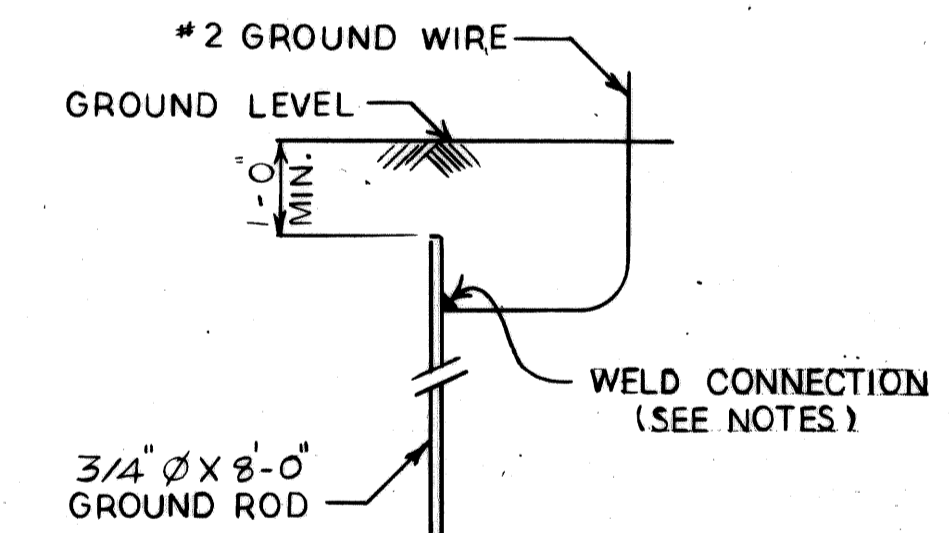
CARE SHALL BE TAKEN SO THAT DEBRIS DOES NOT FALL FROM STRUCTURS.

WHERE SIGNS MOUNTED ON BRIDGE FASCIAS INTERFERE WITH CONSTRUCTION, THEY SHALL REMOVED AND RESET AT THE CONTRACTORS EXPENSE.

CARE IS TO BE TAKEN IN PLACING ANCHORED BOLTS AND BRACKETS SO AS TO INSUR THAT THE BRACKETS HOLD THE POSTS FIRMLY AGAINST CONCRETE; SHIM IF NECESSARY.

2" X 2 1/4" H POST WEIGHING 4.1 LBS PER FT. GALVANIZED MAY BE USED AS AN OPTION FOR THE ROUND POST.

GROUNDING NOTES AND DETAIL



MAINTAIN ONE FOOT MINIMUM COVER OVER GROUND WIRE AND GROUND ROD.

ALL UNDERGROUND CONNECTIONS SHALL BE MADE BY CADWELD, THERMITE GAS OR ARC WELD.

EXPOSED CONNECTIONS MAY BE SPLIT BOLT OR CLAMP TYPE.

GROUND WIRE SHALL BE BARE #2 AWG AND SHALL CONFORM TO THE LATEST REVISION OF THE APPLICABLE CURRENT ASTM SPECIFICATION ASTM B33 FOR TINNED SOFT OR ANNEALED COPPER WIRE FOR ELECTRICAL PURPOSES.

GROUND ROD SHALL BE STEEL, COPPER CLAD ROD 3/4 MIN. DIA. AND 8'-0" LONG.

MISCELLANEOUS QUANTITIES

ITEM	UNIT	AMOUNT
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