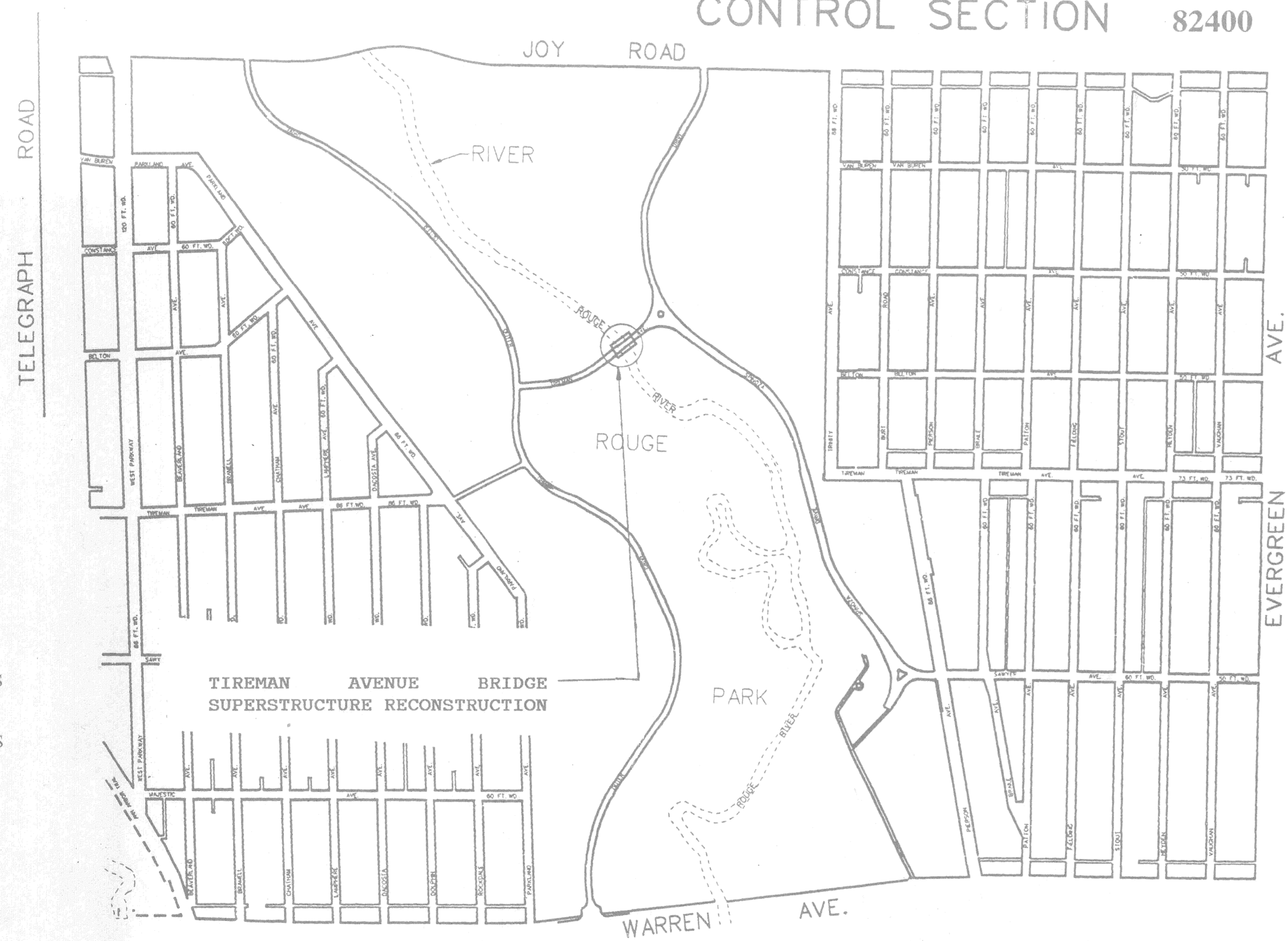


CITY OF DETROIT
 CITY ENGINEERING DIVISION
 DEPARTMENT OF PUBLIC WORKS
 IN CO-OPERATION WITH
 MICHIGAN DEPARTMENT OF TRANSPORTATION
 AND
 FEDERAL HIGHWAY ADMINISTRATION

FEDERAL AID URBAN PROJECT NO. MICHIGAN DSTP 9582(020)

CONTROL SECTION 82400 JOB NO. 36917A - B01 82-18-84

CITY OF DETROIT
 BRIDGE NO. BW 265
 FEDERAL STRUCTURE
 NO. 0153100 B01



COUNTY: WAYNE TOWN: 02S
 RANGE : 10E SECTION: 3

MDOT STANDARD PLANS

WHERE THE FOLLOWING ITEMS ARE CALLED FOR ON THE PLANS THEY ARE TO BE CONSTRUCTED ACCORDING TO THE STANDARD PLAN GIVEN BELOW OPPOSITE EACH ITEM UNLESS OTHERWISE NOTED.

- * II-30E CONCRETE CURB & CONCRETE CURB & GUTTER
- * II-39L TRANSVERSE PAVEMENT JOINTS
- * II-43E LOCATION OF TRANSVERSE JOINTS IN CONCRETE PAVEMENT
- * II-44J CONCRETE PAVEMENT REPAIR
- * II-45H CONVENTIONAL PAVEMENT REINFORCEMENT
- III-60H BEAM GUARDRAIL
- III-67D GUARDRAIL ANCHORAGE - BRIDGE, DETAILS
- IV-83H UTILITY TRENCHES
- V-100C SODDING & SEEDING
- VI-125H LIGHTED ARROWS & BARRICADES
- X-18D BRIDGE RAILLING SOLID PARAPET TYPE
- XI-103D MOLDING, BEVEL, LIGHT STANDARD ANCHOR BOLT ASSEMBLY AND NAME PLATE DETAILS

* Special Detail in Proposal

GENERAL NOTES

1. THE DESIGN OF THIS STRUCTURE REHABILITATION IS BASED ON CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES HS20 LOADING. LIVE LOAD PLUS IMPACT DEFLECTION DOES NOT EXCEED 1/1000 OF SPAN LENGTH. THE WORKING STRESS METHOD OF DESIGN WAS USED FOR THIS STRUCTURE.
2. EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS, OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED HEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION 1990 EDITION.
3. PUBLIC LIGHTING DEPARTMENT WORK TO BE DONE IN ACCORDANCE WITH P.L.D. SPECIFICATIONS AND CITY OF DETROIT DIVISION 15 STANDARDS.
4. THE STATIONING AS SHOWN ON THESE PLANS IS BELIEVED TO BE CORRECT. IT SHALL, HOWEVER, BE CHECKED AT THE TIME OF STARTING CONSTRUCTION, AND IF THE STATIONING SHOWN ON THE PLANS IS INCORRECT, IT SHALL BE REPORTED TO THE ENGINEERING OFFICE IN DETROIT AND THE STRUCTURE SHALL BE STAKED OUT USING THE ACTUAL CENTERLINE AS THE CONTROL POINT.
5. THE DESIGN OF THE STRUCTURAL MEMBERS IS BASED ON MATERIAL OF THE FOLLOWING GRADES AND STRESSES:
 CONCRETE (SUPERSTRUCTURE) GRADE 45D: $f_c = 4,000$ PSI
 CONCRETE (RAILING AND BACKWALL) GRADE 45D: $f_c = 4,000$ PSI
 PRESTRESSED CONCRETE: $f_c = 5,000$ PSI
 STEEL REINFORCEMENT: $f_y = 60,000$ PSI
 STEEL REINFORCEMENT (PRESTRESSED BEAM STIRRUPS):
 $f_y = 40,000$ PSI
 STRUCTURAL STEEL A36: $F_y = 36,000$ PSI
 PRESTRESSING STRANDS: $f_{py} = 270,000$ PSI

6. ALL EXPOSED CONCRETE CORNERS SHOWN SQUARE ON THE PLANS SHALL BE 1/2" BEVELED EXCEPT AS OTHERWISE NOTED.
7. WATER LEVEL IS SUBJECT TO CHANGE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION OF WATER LEVELS THAT WILL EXIST DURING CONSTRUCTION.
8. THE CONTRACTOR SHALL LOCATE ALL UTILITIES PRIOR TO STARTING WORK AND SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER AS TO ENSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.
9. FOR PROTECTION OF UNDER GROUND UTILITIES, THE CONTRACTOR SHALL DIAL 1-800-482-7171 A MINIMUM OF 3 WORKING DAYS PRIOR TO EXCAVATION IN THE VICINITY OF UTILITY LINES. ALL "MISS DIG" PARTICIPATING MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.
 DETROIT EDISON 1-800-477-4747
 MICHIGAN CONSOLIDATED GAS CO. 313-965-8080
 AMERITECH 313-221-8100
 DETROIT WATER & SEWERAGE DEPARTMENT 313-267-7401
 CITY OF DETROIT PUBLIC LIGHTING DEPARTMENT 313-267-7340
 COMCAST CABLE COMPANY 313-934-2600

CONTRACT FOR SUPERSTRUCTURE RECONSTRUCTION, APPROACH WORK AND MISCELLANEOUS CONSTRUCTION

CITY OF DETROIT
 CITY ENGINEERING DIVISION
 DEPARTMENT OF PUBLIC WORKS

TIREMAN AVENUE BRIDGE OVER ROUGE RIVER (BW-265)
 SUPERSTRUCTURE RECONSTRUCTION

BRIDGE TITLE SHEET

SHEET S20 OF SHEETS

B01 82-18-84

JUN 1 0 1997

DESIGN SPEED 25 MPH
 DESIGN SPEED 45 MPH
 YEAR OF CONSTRUCTION (1994) 1956
 YEAR OF REVISION (2014) 3533
 DESIGN LOADING HS20

INDEX OF SHEETS

- S-20 BRIDGE TITLE SHEET
- S-21 SITE PLAN
- S-22 GENERAL PLAN OF STRUCTURE
- S-23 REMOVAL PLAN
- S-24 REPAIRING STRUCTURAL CRACKS, PATCHING ABUTMENTS AND PIER
- S-25 PLAN OF DECK AND CROSS SECTION
- S-26 SUPERSTRUCTURE DETAILS
- S-27 PRESTRESSED BEAM DETAILS
- S-28 EXPANSION JOINT DETAILS
- S-29 STEEL REINFORCEMENT DETAILS
- S-30 EXISTING DECK AND SIDEWALK ELEVATIONS
- S-31 PROPOSED DECK AND SIDEWALK ELEVATIONS
- S-32 APPROACH REMOVAL PLAN, PROPOSED SECTIONS AND DETAILS
- S-33 APPROACH PAVING PLAN AND DETAILED GRADES
- S-34 DRAINAGE STRUCTURE DETAILS
- TRAFFIC CONTROL AND DETOUR PLAN . . . (S-17)
- S-35 DETAILS OF CONDUIT RECONSTRUCTION
- S-36 QUANTITY SHEET

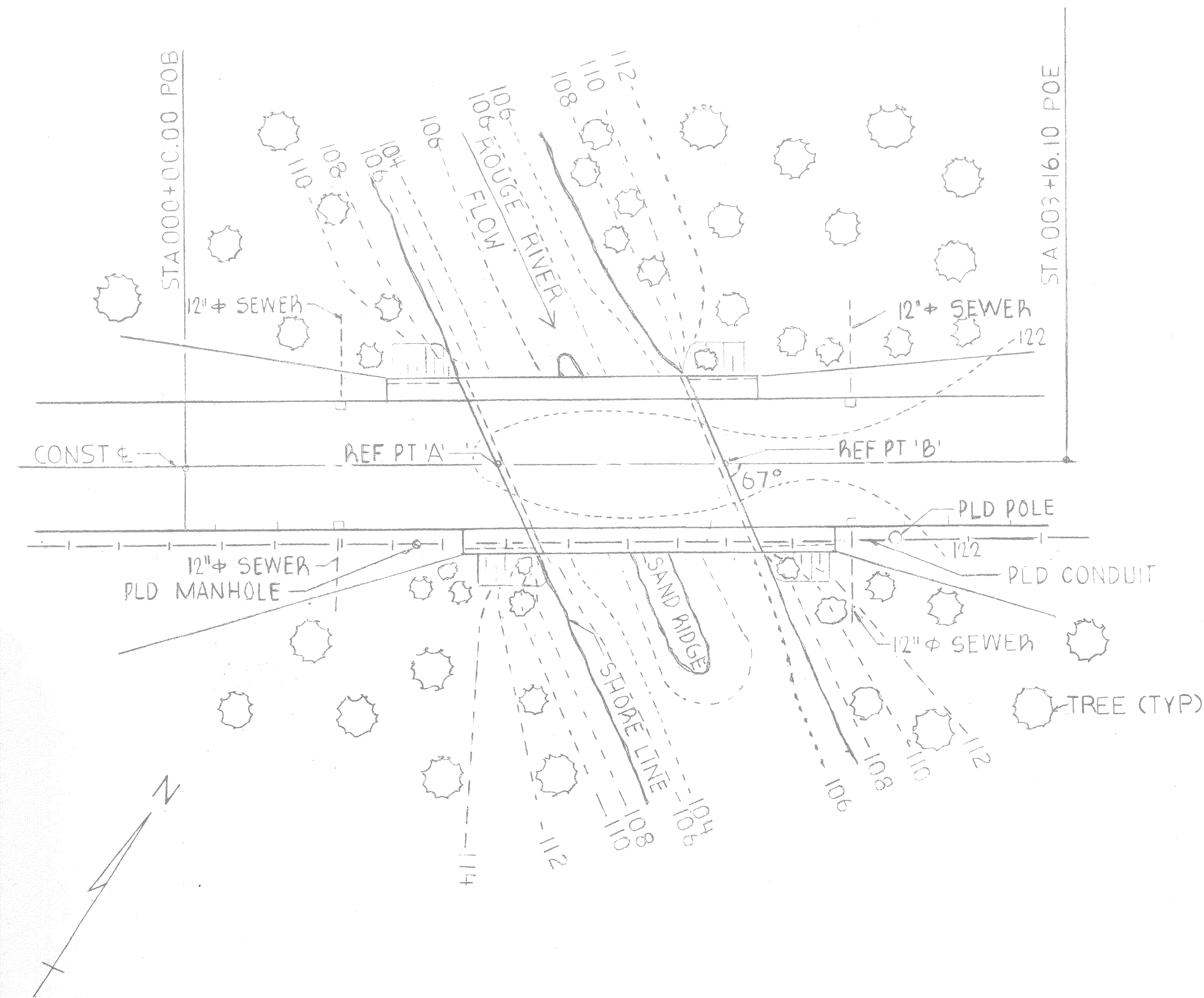
CITY OF DETROIT STANDARD PLANS

- S-37 MISCELLANEOUS ENCASED CONDUIT SECTION DETAILS 101-PLD
- S-38 DETAIL FOR JOINING CONDUIT ENCASEMENTS 101A-PLD
- S-39 TWO WAY MANHOLE 104-PLD
- S-40 MULT. ST. LTG. CABLE CONNECTIONS, CLAMP-ON ARM & MISCELLANEOUS DETAILS 114-PLD
- S-41 CODE 009-OC ST. LTG. STD. DETAILS 115-PLD

FEDERAL AID URBAN PROJECT NO. DSTP 9582(020) BRIDGE NO. B01 82-18-84 SECTIONS 0001 & 0002 JOB NO. 36917A

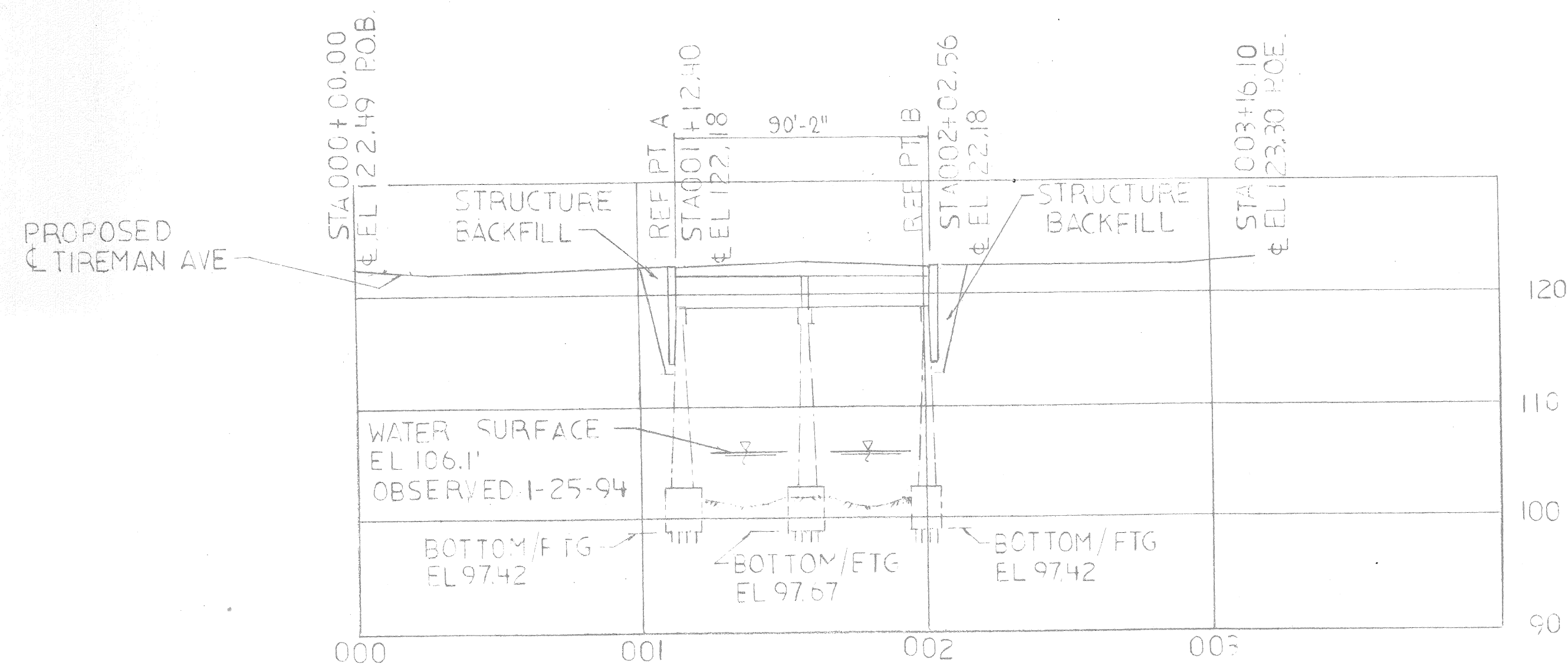
BENCH	MARKS	ELEV
PBM 109-252	NE CORNER TIREMAN & BERT ROAD	128.09
PBM 103-252A	NE CORNER TIREMAN & PATTON	136.68
PBM 110-250A	NE CORNER SPINOZA & JOY ROAD	136.26
CBM # 1	SPIKE IN POLE, S. SIDE OF TIREMAN, E. OF BRIDGE	123.04
CBM # 2	SPIKE IN POLE, S. SIDE OF TIREMAN, W. OF BRIDGE	124.55

EXISTING STRUCTURE
TWO 45 FT. SPANS, 36" STEEL I-BEAM BUILT IN 1930.



SITUATION PLAN
SCALE 1"=40'-0"

DO NO WORK FROM THIS SHEET. THE INFORMATION SHOWN HERE IS FOR REFERENCE ONLY. NO PAY ITEMS ARE SHOWN.



PROFILE ALONG CONSTRUCTION OF TIREMAN AVE
VERT SCALE 1"=10'
HOR SCALE 1"=40'

TRAFFIC DATA

POSTED SPEED	25 MPH
DESIGN SPEED	45 MPH
PRESENT ADT (1994)	1956
FUTURE ADT (2014)	3533
DESIGN LOADING	HS20

NOTES

- THE CONTRACTOR SHALL LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK AND SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER AS TO INSURE THAT THOSE UTILITIES WILL NOT BE DAMAGED.
- TRAFFIC IS TO BE MAINTAINED PER TRAFFIC CONTROL AND DETOUR PLAN. WATER LEVEL IS SUBJECT TO CHANGE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION OF WATER LEVELS THAT WILL EXIST DURING CONSTRUCTION.
- MEASURES SHALL BE TAKEN TO PREVENT DEBRIS FROM FALLING FROM THE EXISTING OR PROPOSED STRUCTURE. IF DEBRIS FALLS INTO THE WATERWAY, IT SHALL BE REMOVED WITHIN 24 HOURS. SINCE DISTURBANCE OF THE WATERWAY BOTTOM MAY BE AS HARMFUL AS THE DEBRIS ITSELF, THE PREVENTIVE MEASURES MUST BE MADE AS EFFECTIVE AS POSSIBLE.

JOB NO. : 36917A

no.	description	date

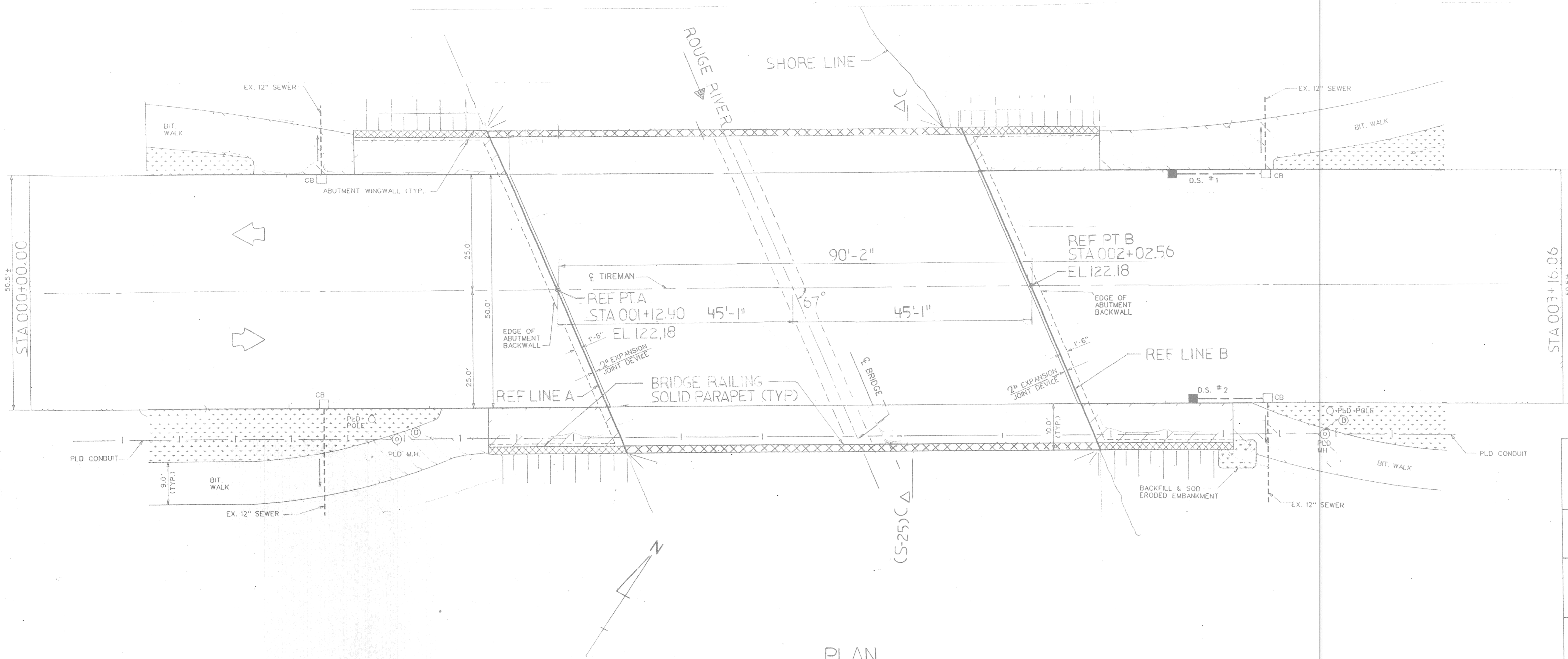
designed by RP
drawn by JN
checked by RP
approved: E.C. Howard

CITY OF DETROIT

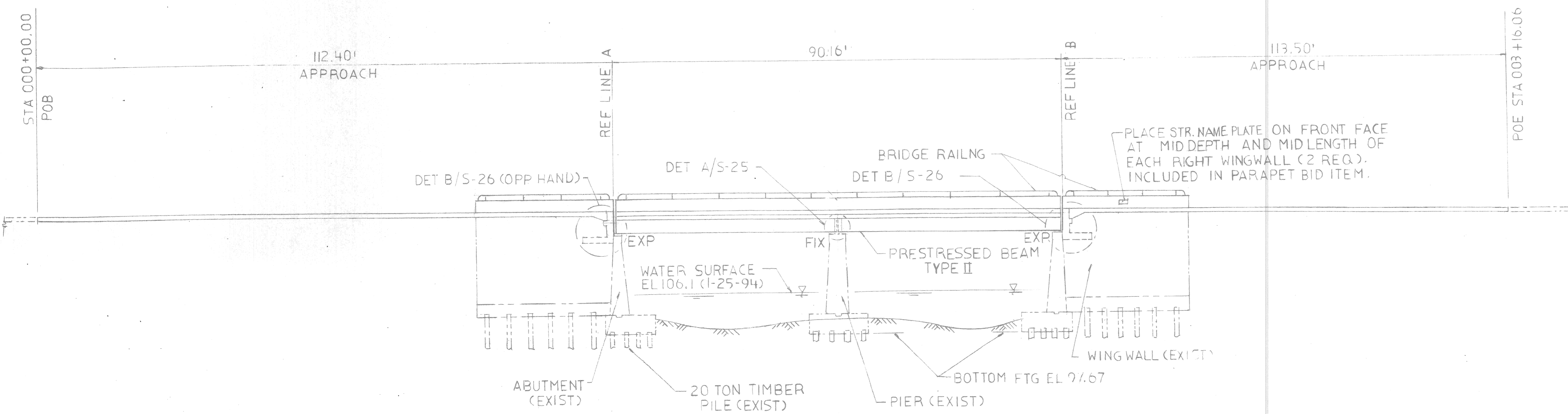
CITY ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS

TIREMAN AVENUE BRIDGE OVER ROUGE RIVER (BW-265)
SUPERSTRUCTURE RECONSTRUCTION
SITE PLAN

a.o. 93-22-17
contract no.
sheet s-21
of
drawing no.
date APRIL, 1997
JUN 10 1997



PLAN
1" = 12'-0"



ELEVATION
1" = 12'-0"

Flood Data Frequency (Yrs)	Waterway Discharge Cfs	Water Surface El. Ft.	Velocity in Channel with or without Str. Ft./Sec.	Waterway Area Below W.S. El. Sqft.	Backwater above W.S. El. Ft.	Final W.S. El. Ft.
Existing Structure Q Design (100 Yr.)	4116	107.13	5.1	807	0.10	107.03
*Existing Structure Q Overtopping (500 Yr.)	NA	NA	NA	NA	NA	NA
Proposed Structure Q Design (100 Yr.)	4116	107.13	5.1	807	0.10	107.03
*Proposed Structure Q Overtopping (500 Yr.)	NA	NA	NA	NA	NA	NA
Natural Channel Q Design (50 Yr.)	3950	106.13	4.7	713	0.10	106.03
1968 Witnessed Flood of Record	—	107.23	—	—	—	—

VERIFY ALL ELEVATIONS BEFORE CONSTRUCTION.

JOB NO. : 36917A

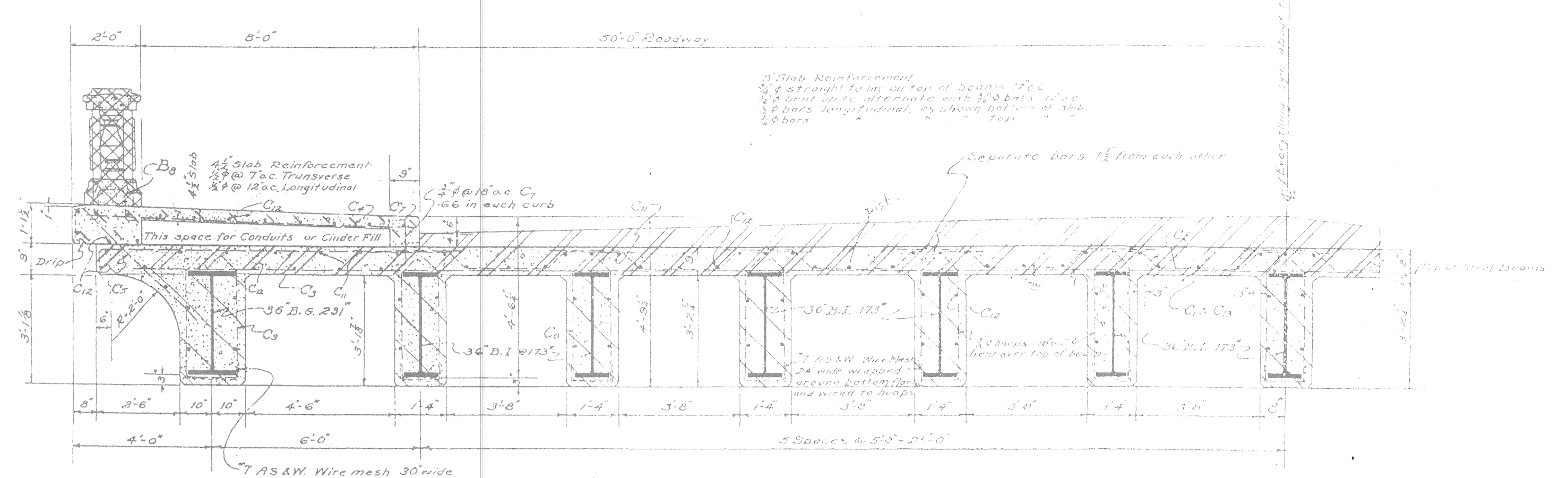
NO.	DATE	BY	REVISIONS

designed by RF
 drawn by JN
 checked by RF
 approved: *EC Howard*

CITY OF DETROIT
 CITY ENGINEERING DIVISION
 DEPARTMENT OF PUBLIC WORKS


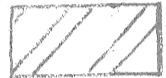
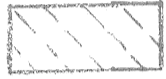
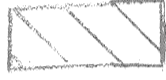
TIREMAN AVENUE BRIDGE OVER ROUGE RIVER (BW-265)
 SUPERSTRUCTURE RECONSTRUCTION
GENERAL PLAN OF STRUCTURE

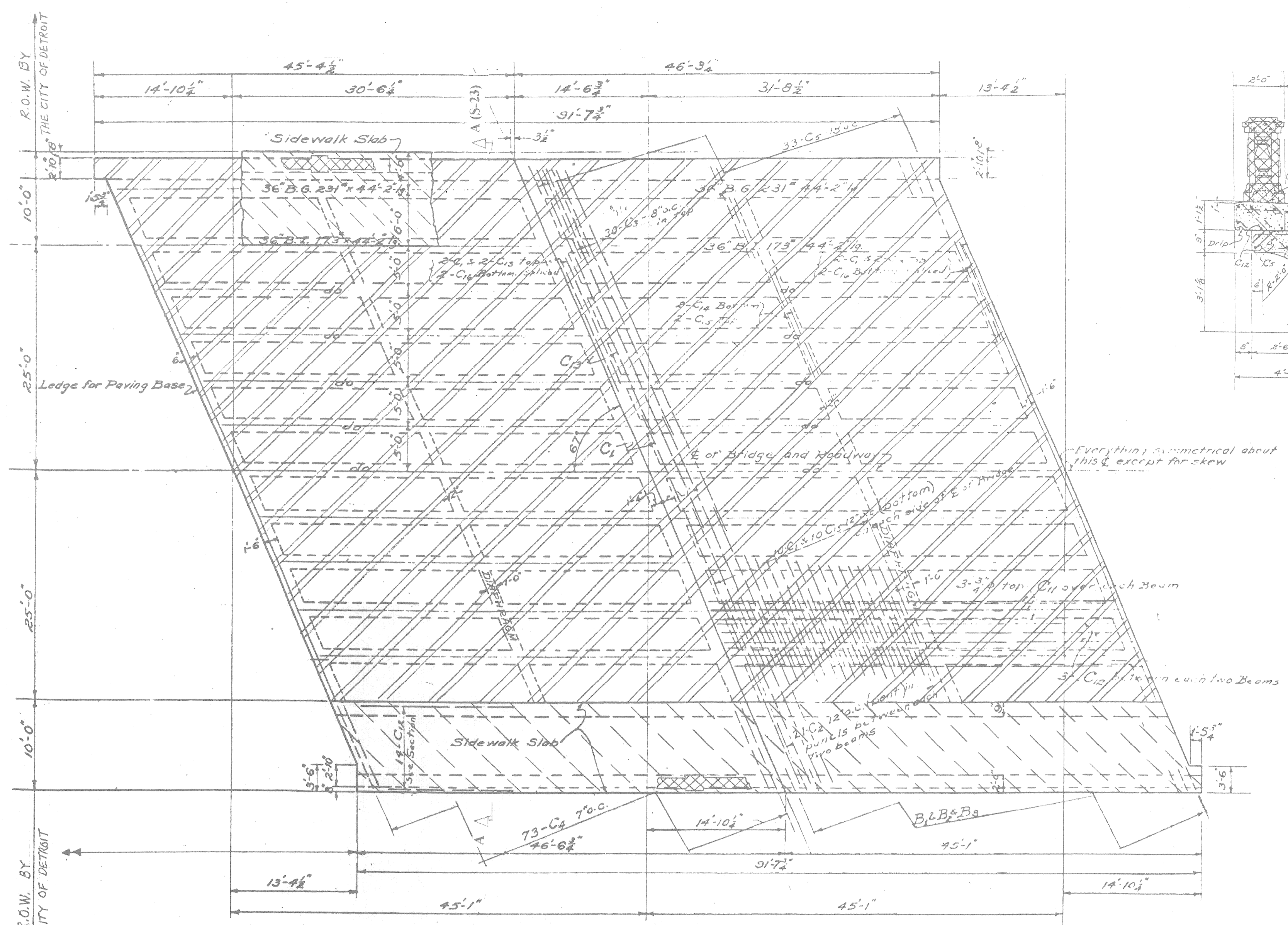
a.o. 93-22-17
 contract no.
 sheet S-22 of
 drawing no.
 date JUN 10 1997
 APRIL 1997



SECTION A-A (HALF SECTION OF DECK)
SCALE N.T.S.

LEGEND*

-  REMOVE PARAPET
-  REMOVE DECK
-  REMOVE SIDEWALK ON THE DECK
-  REMOVE BEAMS, BEARINGS, ANCHOR BOLTS AND GROUTS
- * REFER TO THIS SHEET ONLY



REMOVAL - PLAN (EXIST)
SCALE 1/8" = 1'-0"

PAY QUANTITY		
ITEM	QUANTITY	PAY UNIT
Misc. Removal Of Portions Of Structures	1	LSUM
Field Office	3	MOS
Misc. Mobilization, Max	0.5	LSUM

NOTES:

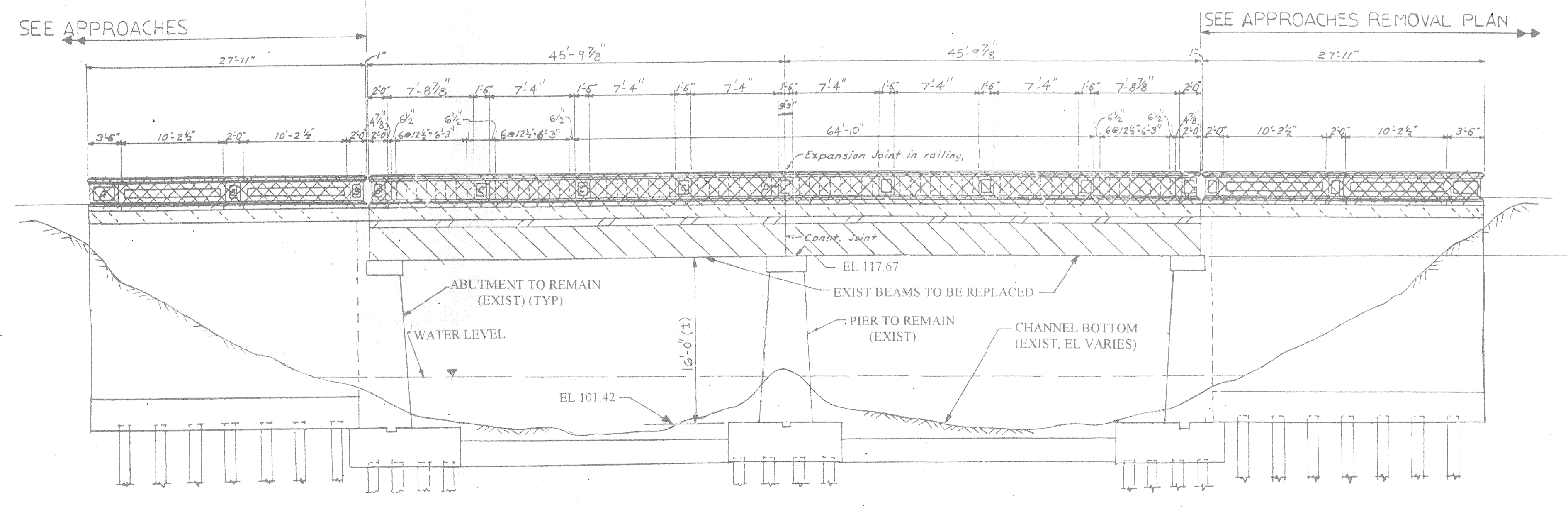
- THE WORKS COVERED BY THESE PLANS INCLUDES THE FOLLOWING
- A REMOVAL AND RECONSTRUCTION OF BRIDGE SUPERSTRUCTURE AND APPROACHES.
- B REPAIR OF SUBSTRUCTURES.

REMOVAL OF STRUCTURE NOTES:

1. REMOVAL OF PARAPET, DECK, SIDEWALK ON THE DECK, BEAMS, BEARINGS, ANCHOR BOLTS, GROUT AND ANY OTHER ITEMS ON THE BRIDGE DECK WILL BE PAID FOR AS "REMOVAL OF PORTIONS OF STRUCTURES", LUMP SUM.
2. REMOVAL AND DISPOSAL OF THE MATERIALS SHALL BE IN ACCORDANCE WITH SECTION 2.06 OF 1990 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

SUBSTRUCTURE NOTES: (REFER TO SHEET S-24 FOR SUBSTRUCTURE REPAIR DETAILS)

1. THE ENTIRE TOP, EXISTING AND REPAIRED, THE FRONT FACE OF INDEPENDENT BACKWALL, ALL OTHER SURFACES OF EXISTING ABUTMENTS AND PIER, SHALL BE GIVEN AN APPLICATION OF PENETRATING WATER REPELLENT TREATMENT AFTER THE NEW ELASTOMERIC BEARINGS HAVE BEEN PLACED IN FINAL POSITION ON THE STRUCTURE.
2. FORMS FOR LARGE PATCHES SHALL BE INSTALLED IN 2' TO 4' HIGH SECTIONS WITH THE TOP FORM NO MORE THAN 4' ABOVE THE LEVEL OF CONCRETE AS THE POUR PROGRESSES.
3. LATEX MODIFIED HIGH-EARLY STRENGTH PATCHING MIXTURE IN ACCORDANCE WITH SUBSECTION 7.03.03 OF THE STANDARD SPECIFICATIONS SHALL BE USED FOR SUBSTRUCTURE REPAIRS.



REMOVAL - ELEVATION (EXIST)
SCALE N.T.S.

revisions	
no.	description

designed by	PP
drawn by	PP
checked by	RF
approved:	
EARL C. HOWARD	

CITY OF DETROIT

CITY ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS

TIREMAN AVENUE BRIDGE OVER ROUGE RIVER (BW-265)
BRIDGE DECK RECONSTRUCTION
REMOVAL PLAN

a.o. 93-22-17
contract no.
sheet S-23
of
drawing no.

date JUN 10 1997
APRIL 1997

Job No. : 36917A

NO.	DATE	REVISIONS

designed by MH
 drawn by RF
 checked by MH, RF
 approved: *E. J. Howell*

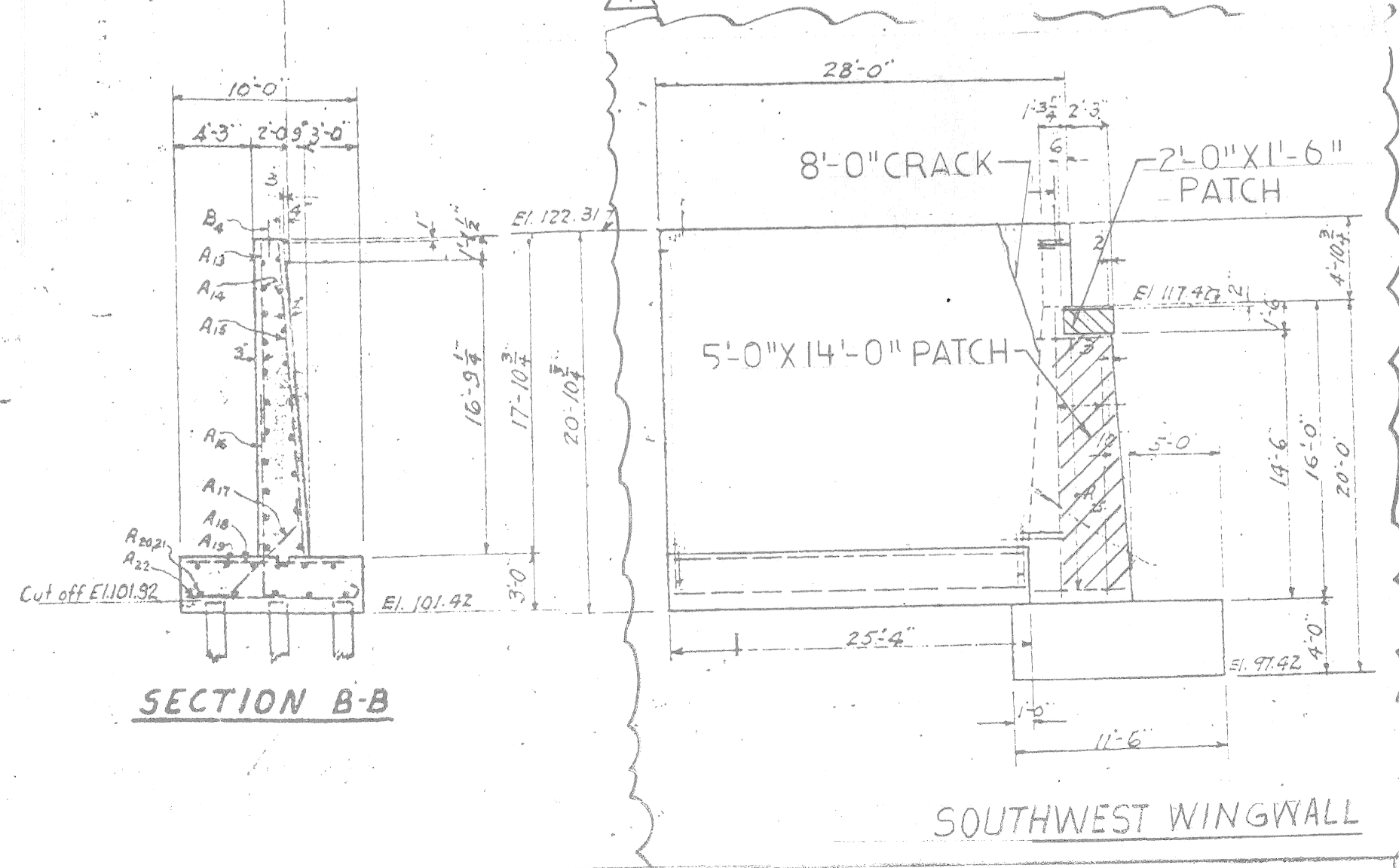
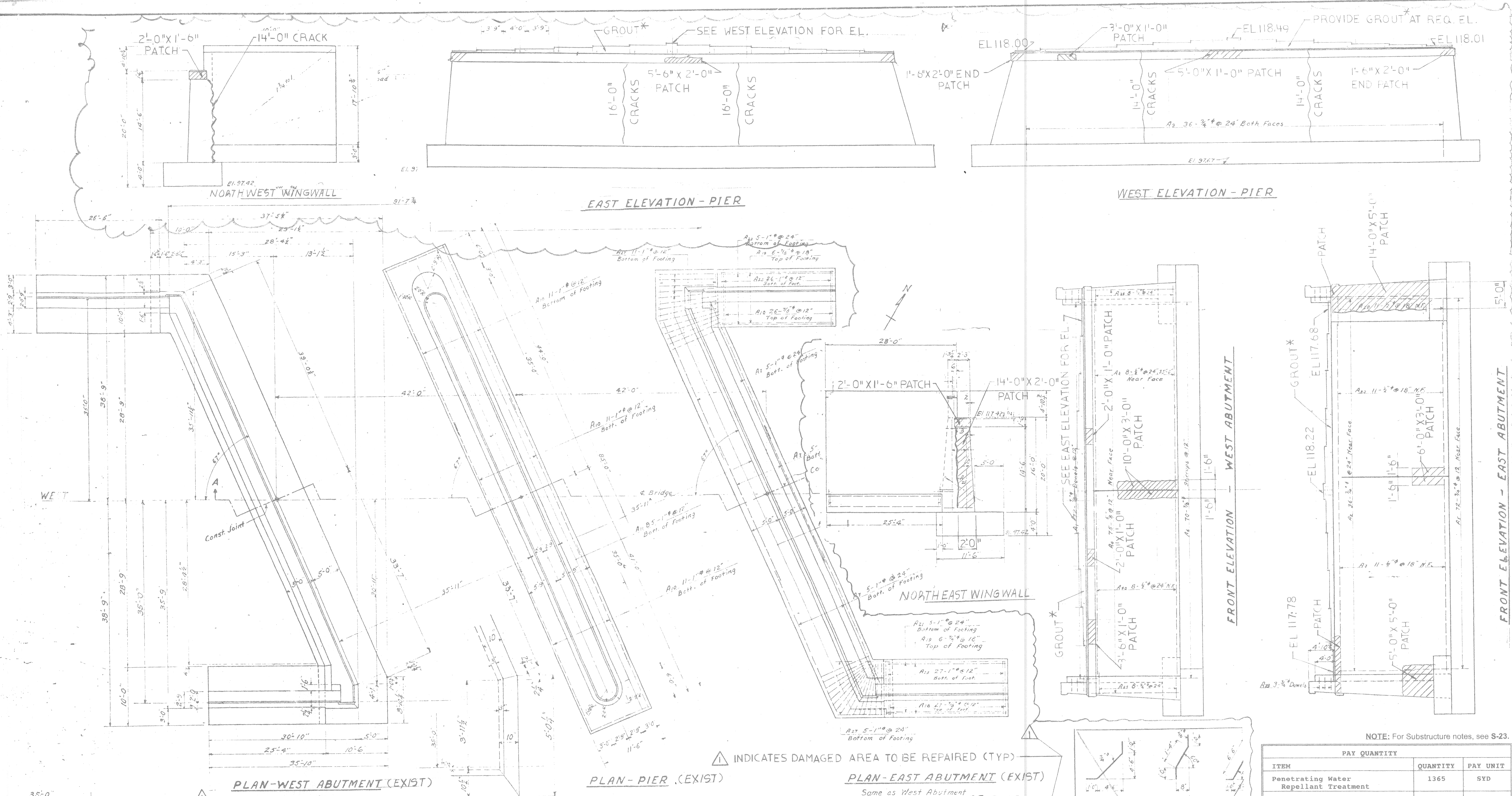
CITY OF DETROIT

CITY ENGINEERING DIVISION
 DEPARTMENT OF PUBLIC WORKS

TIREMAN AVENUE BRIDGE OVER ROUGE RIVER (BW-265)
 SUPERSTRUCTURE RECONSTRUCTION
REPAIRING STRUCTURAL CRACKS, PATCHING ABUTMENTS AND PIER

a.o.
 contract no.
 sheet S-24 of
 drawing no.

date JUN 10 1997
 APRIL 1997

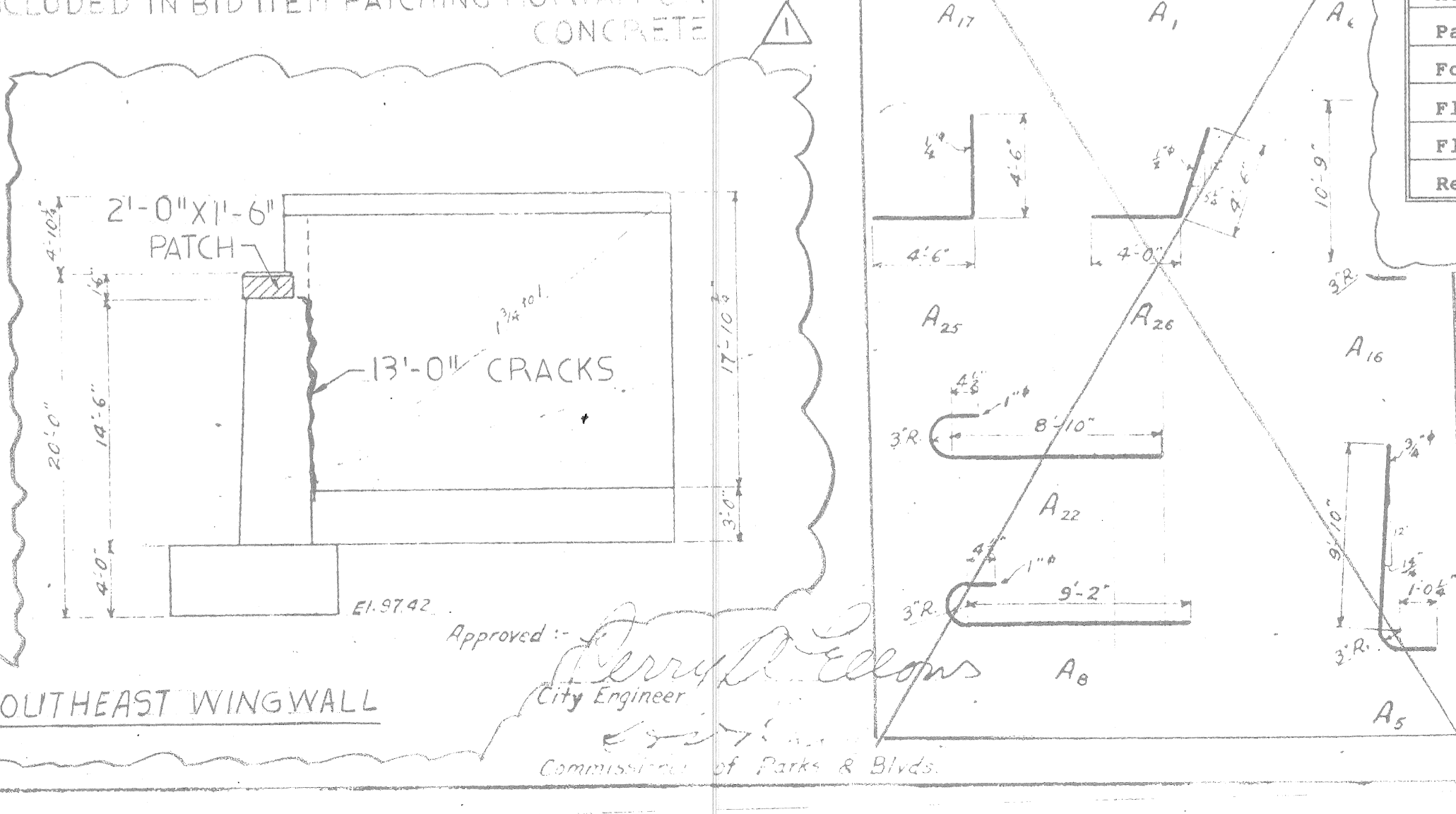


BILL OF REINFORCING STEEL

Mark	Number	Size	Remarks	Length	Mark	Number	Size	Remarks	Length
A5	124	3/8"	Hooked	11'-3"	A1	144	3/8"	Bent	3'-4"
A6	140	3/8"	Bent	8'-6"	A2	172	3/8"	Straight	10'-6"
A7	30	1"	Straight	27'-0"	A3	38	1/2"	"	35'-0"
A8	220	1"	"	10'-4"	A20	22	1/2"	"	23'-0"
A27	32	1"	"	6'-6"	A40	16	1/2"	"	33'-0"
A9	72	3/8"	"	6'-0"	A4	166	3/8"	"	15'-9"
A10	33	1"	"	30'-6"	A13	200	3/8"	"	11'-6"
A11	85	1"	"	11'-0"	A14	80	1/2"	"	27'-0"
A16	200	3/8"	Hooked	12'-0"	A15	52	1/2"	"	17'-6"
A17	100	3/8"	Bent	8'-4"	A25	16	1/2"	Bent	9'-0"
A18	106	3/8"	Straight	8'-0"	A26	16	1/2"	"	8'-6"
A19	24	3/8"	"	25'-0"	A28	22	1/2"	Straight	6'-0"
A20	10	1"	"	25'-0"	A29	12	3/4"	"	3'-0"
A21	10	1"	"	26'-0"					
A22	106	1"	Hooked	10'-0"					

QUANTITIES

Concrete	Footings	Above Footings
W. Abutment	185 cu.yds.	223 cu.yds.
E. Abutment	185 "	223 "
Pier	145 "	199 "
Total	515 "	645 "
Reinforcing Steel	1150 cu.yds.	47,800#



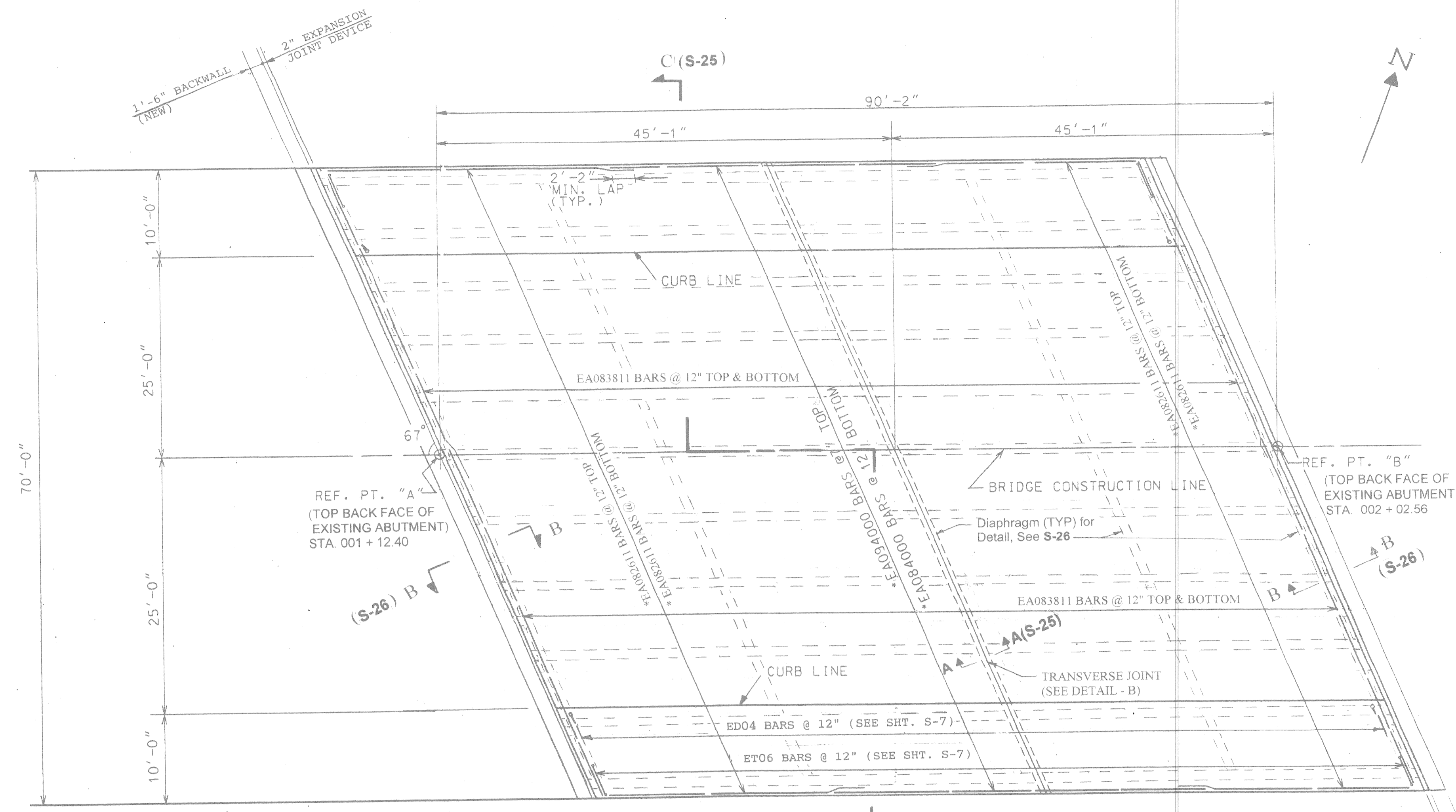
NOTE: For Substructure notes, see S-23.

ITEM	PAY QUANTITY	QUANTITY	PAY UNIT
Penetrating Water Repellant Treatment		1365	SYD
Hand Chipping-Other Than Deck		100	CFT
Patching Mortar or Concrete		100	CFT
Forming For Patches		300	SFT
Flushing Cracks With Acid		100	LFT
Flushing Cracks With Water		100	LFT
Repairing Structural Cracks		100	LFT

Job No. : 36917A

CITY OF DETROIT
 OFFICE OF CITY ENGINEER
 BRIDGE OVER RIVER ROUGE
 (SOUTH OF BONAPARTE AVE.)
 RIVER ROUGE PARK
SUBSTRUCTURE DETAILS
 SCALE: 1/8" = 1'-0"
 AUG. 10, 1929
 DESIGNED BY: J.T.H.
 DRAWN BY: J.T.H.
 CHECKED BY: R.P.
 Sheet No 3

Approved: *Derryll Ellons*
 City Engineer
 Commissioner of Parks & Blvd.

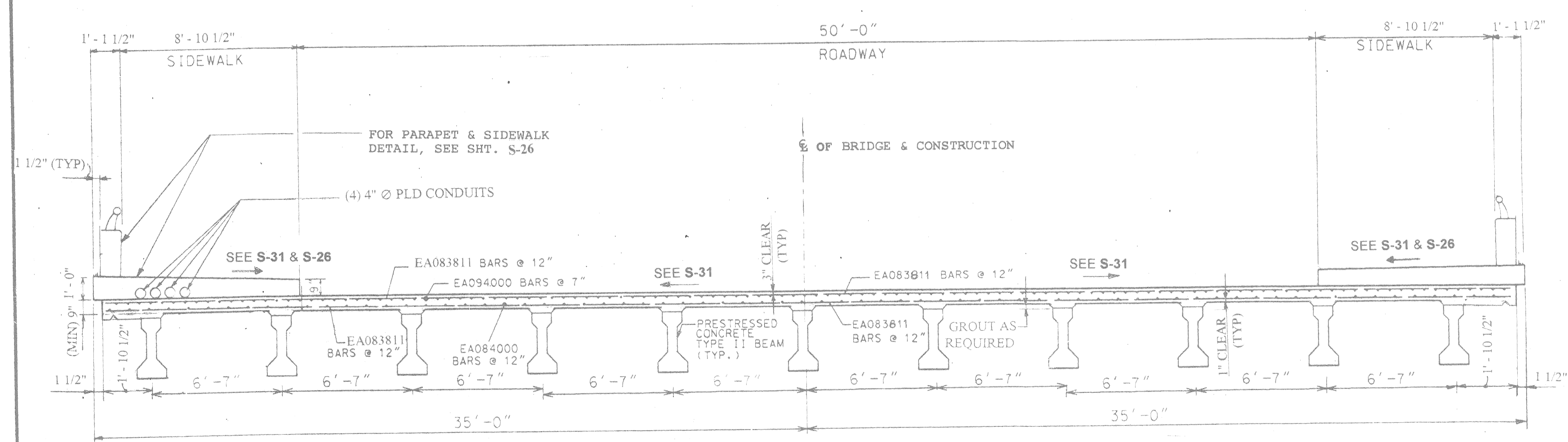


- SUPERSTRUCTURE MISCELLANEOUS NOTES:**
- FOR BRIDGE RAILING, MOLDING AND BEVEL DETAILS, SEE STANDARD X-18D AND XI-103D.
 - A RUBBED SURFACE FINISH ON THE VERTICAL AND TOP CONCRETE SURFACES OF THE PARAPET RAILING IS REQUIRED ON THIS STRUCTURE.
 - WHERE CAST-IN-ANCHORAGE IS USED FOR EXPANSION JOINT DEVICES, IT IS RECOMMENDED THAT THE PLACING OF DECK CONCRETE PROGRESS TOWARD THE JOINT SO THAT THE EFFECTS OF DEAD LOAD DEFLECTION WILL OCCUR BEFORE CONCRETE IS PLACED AT THE ANCHORAGE.
 - DO NOT POUR DECK CONCRETE UNTIL DIAPHRAGM CONCRETE ATTAINS A COMPRESSIVE STRENGTH OF 3,000 PSI.
 - CONCRETE QUANTITIES FOR DECK, BEAM ON PIER, DIAPHRAGMS, SIDEWALKS AND BACKWALL WITH FOOTING ARE INCLUDED IN THE PAY ITEM-SUPERSTRUCTURE CONCRETE.
 - SIDEWALK AND PARAPET CONCRETE POURS SHALL NOT BE CAST UNTIL SLAB CONCRETE ATTAINS AT LEAST 75% OF ITS DESIGN STRENGTH.

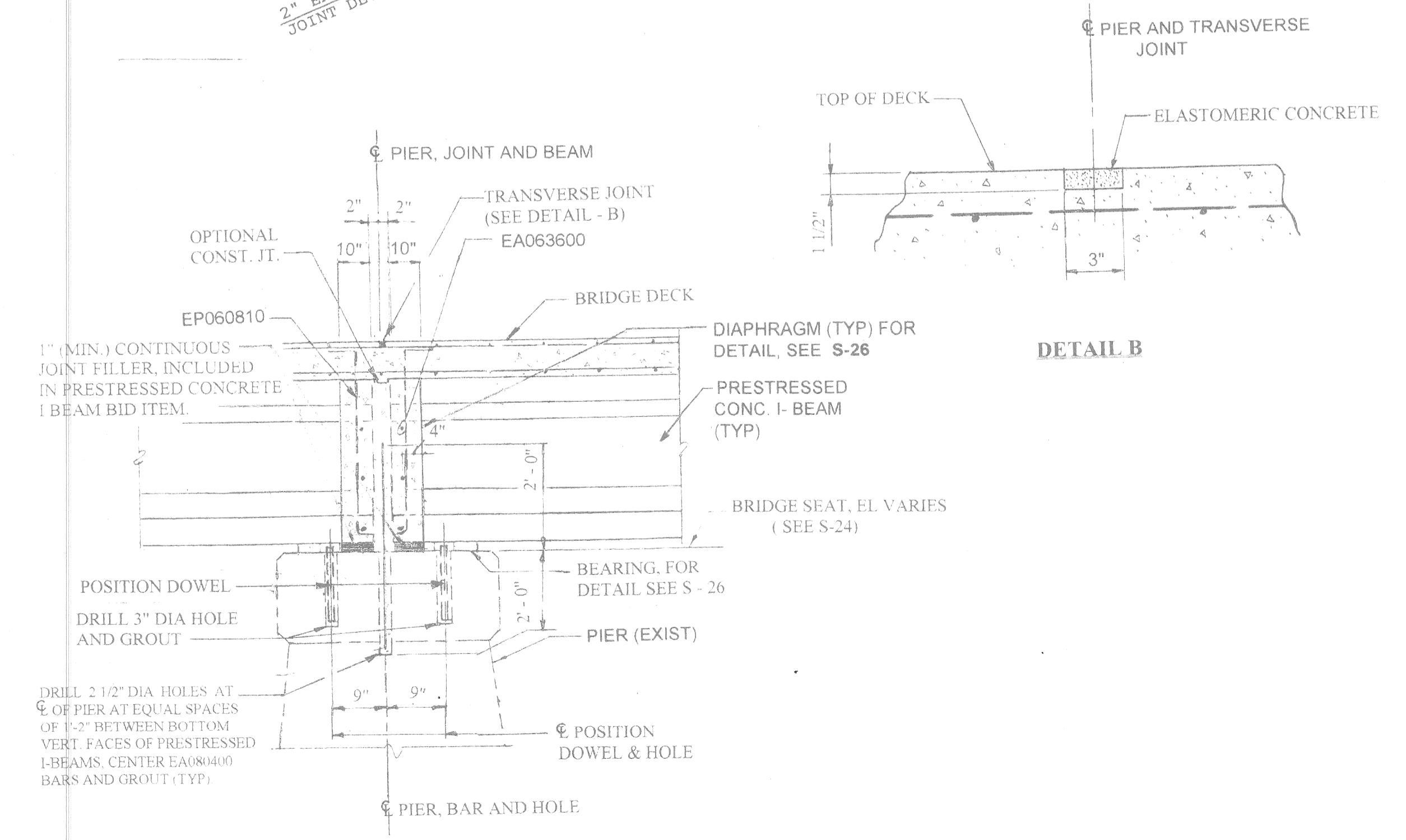
ITEM	PAY QUANTITY	QUANTITY	PAY UNIT
Superstructure Concrete		357	CYD
Misc. Form, Finish, Cure Superstructure Concrete		1	LSUM
36" Prestressed Concrete I-Beam, Furnished		985	LFT
36" Prestressed Concrete I-Beam, Erected		985	LFT
Miscellaneous Elastomeric Concrete		2.50	CFT

* INDICATES SPACINGS OF BARS ARE PERPENDICULAR TO THE CENTER LINE OF BRIDGE.

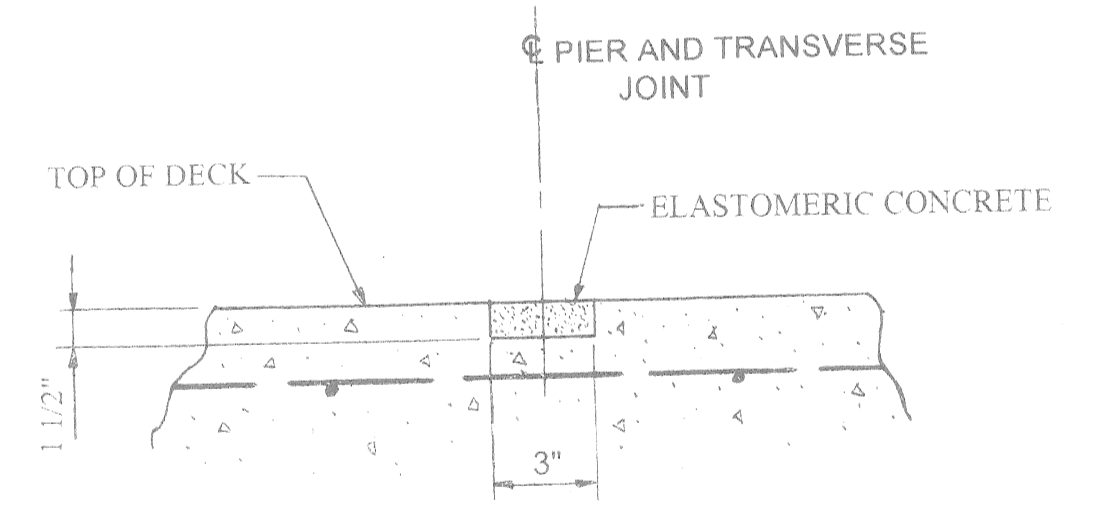
DECK PLAN
SCALE: 1/8" = 1' - 0"



CROSS SECTION OF DECK (SECTION C-C)
SCALE: 1/4" = 1' - 0"



SECTION A-A & DETAIL A
(S-25) (S-26) (S-27)
SCALE: 1/2" = 1'-0"



DETAIL B

NO.	DESCRIPTION	DATE	BY	CHECKED BY	APPROVED

CITY OF DETROIT
CITY ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS

BY: PS, PP CHECKED BY: PP, EH APPROVED: *[Signature]*

TIREMAN AVENUE BRIDGE OVER ROUGE RIVER (BW-265)
BRIDGE DECK RECONSTRUCTION

PLAN OF DECK AND CROSS SECTION

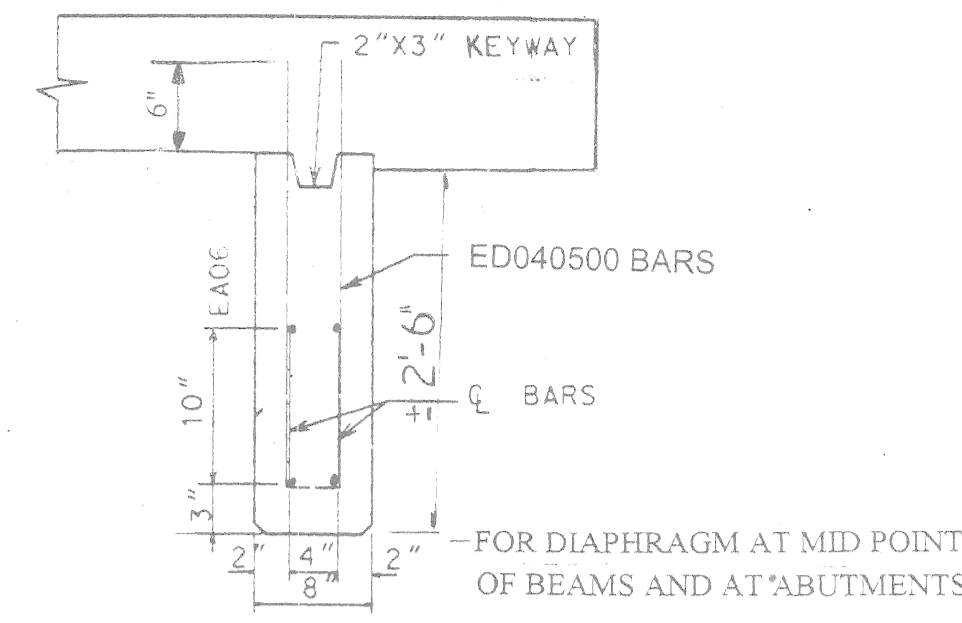
Job No. : 36917A

SHEET **S-25** SHEETS

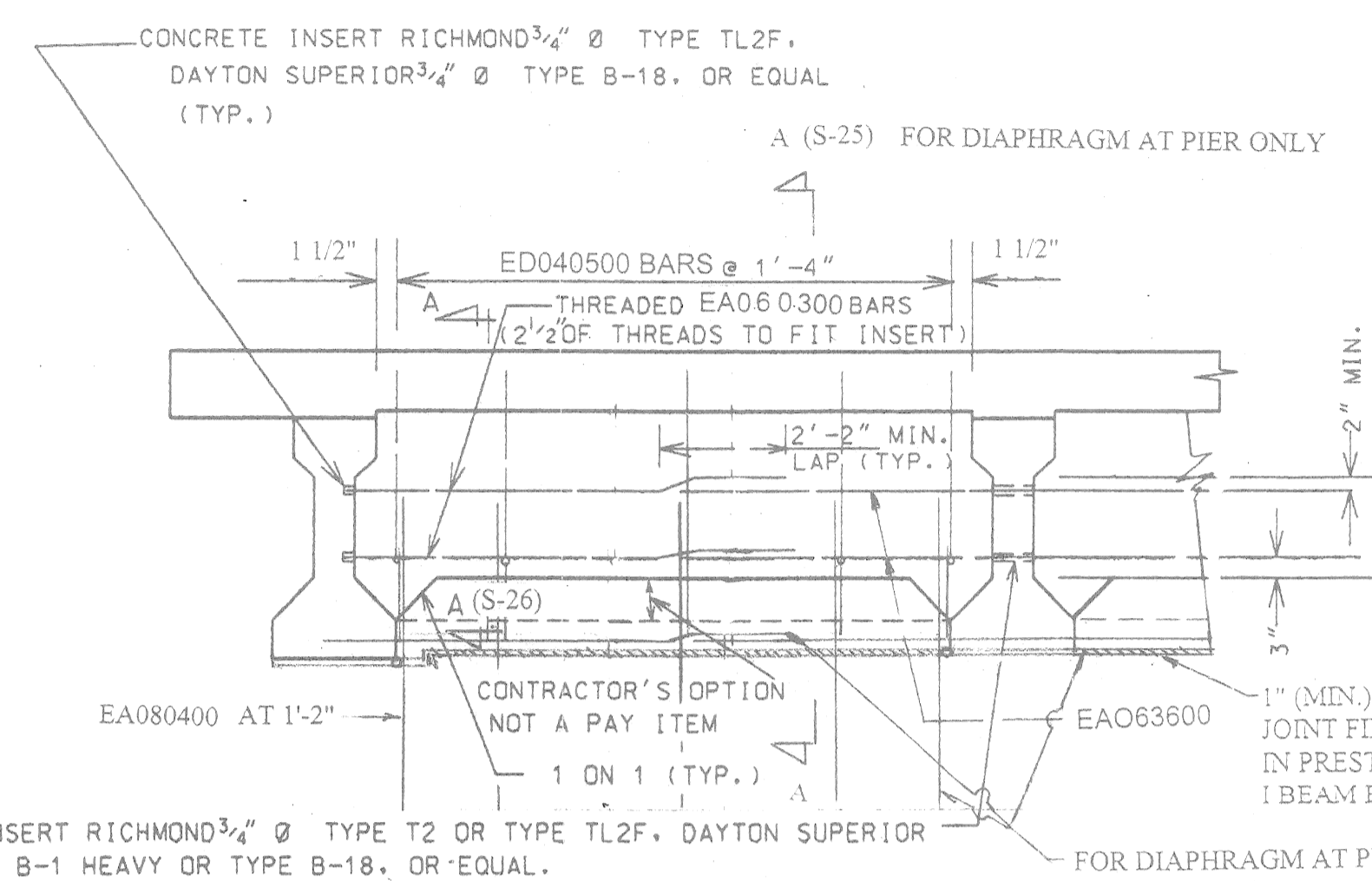
CONTRACT NO. _____

ASSIGNMENT NO. 93-22-17

DATE APRIL, 1997

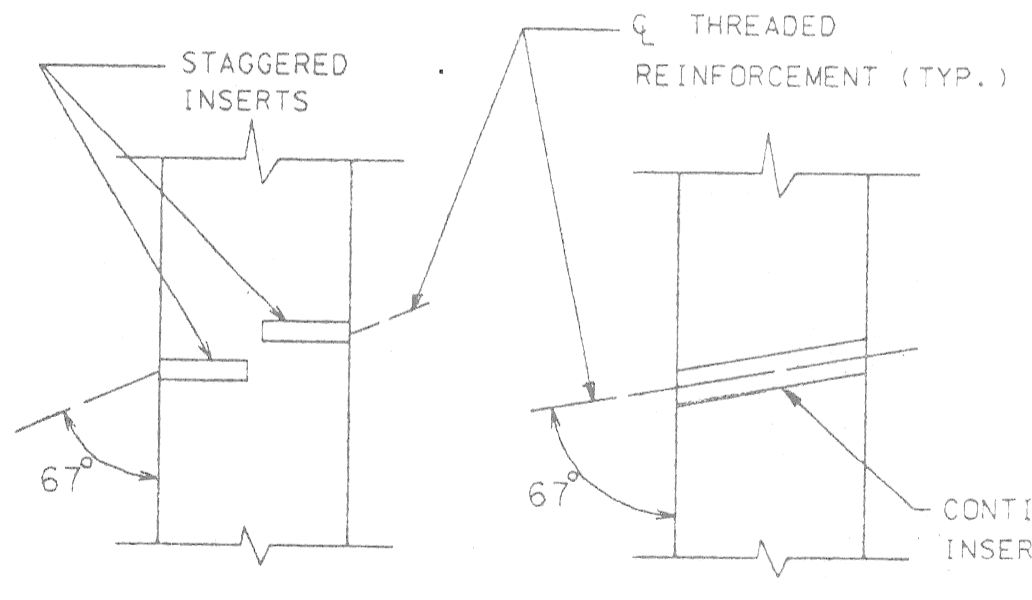


SECTION A - A
SCALE: 1" = 1'-0"



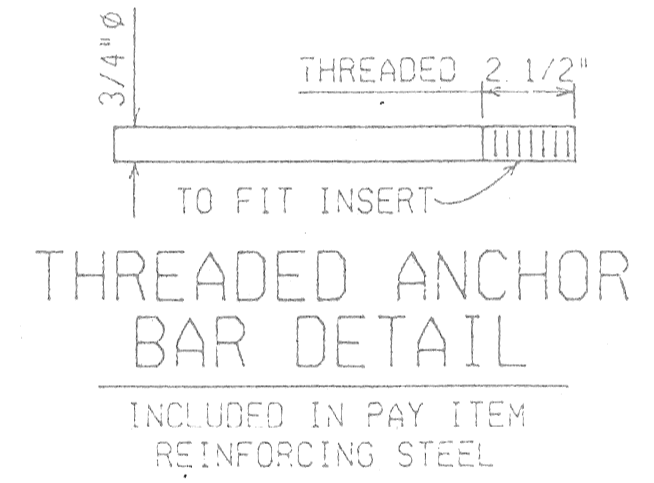
DIAPHRAGM ELEVATION
SCALE: 1/2" = 1'-0"

USE DIAPHRAGM AT MID-POINT AND AT EACH END OF BEAMS. DIAPHRAGM CONCRETE QUANTITIES ARE INCLUDED IN SUPERSTRUCTURE QUANTITIES.

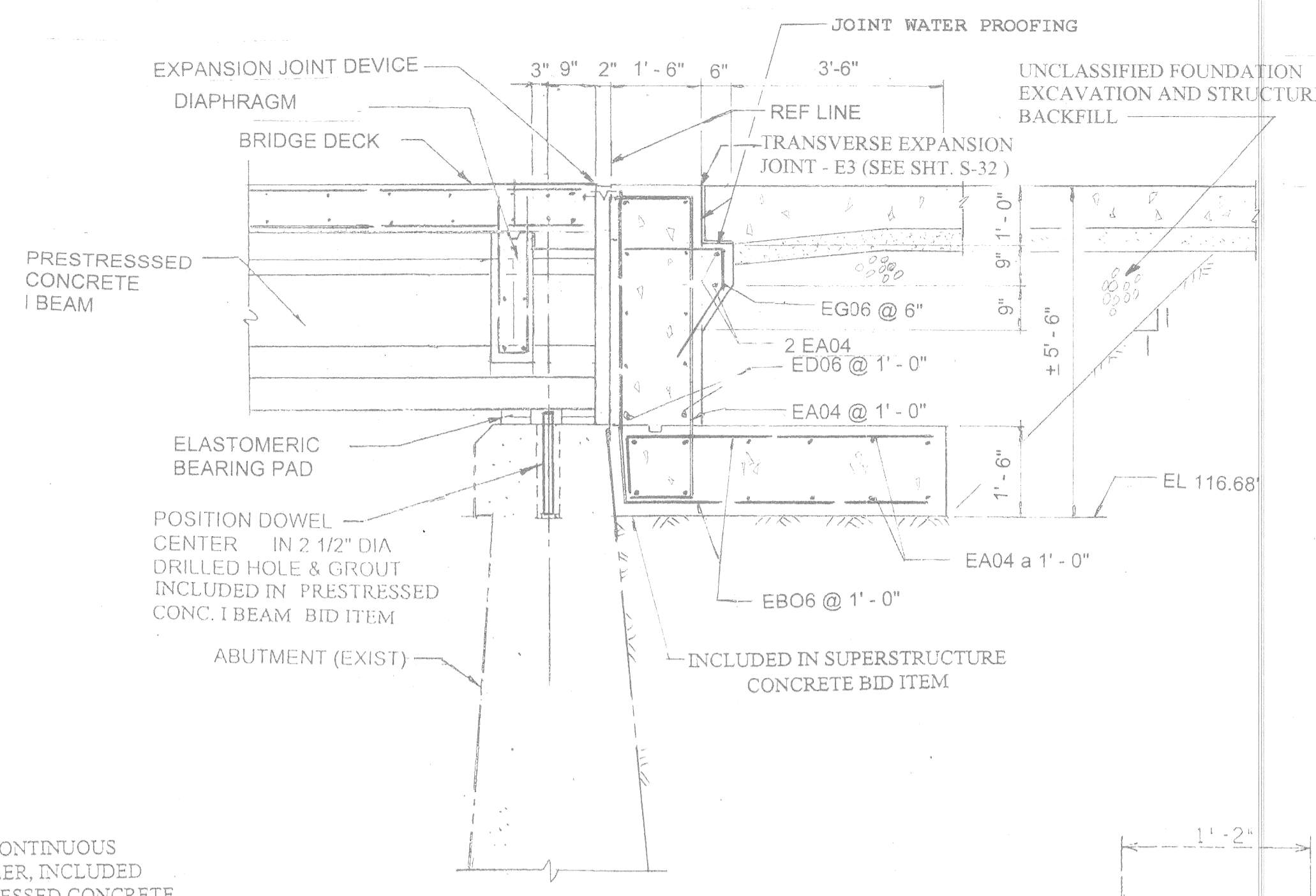


CONCRETE INSERT DETAILS

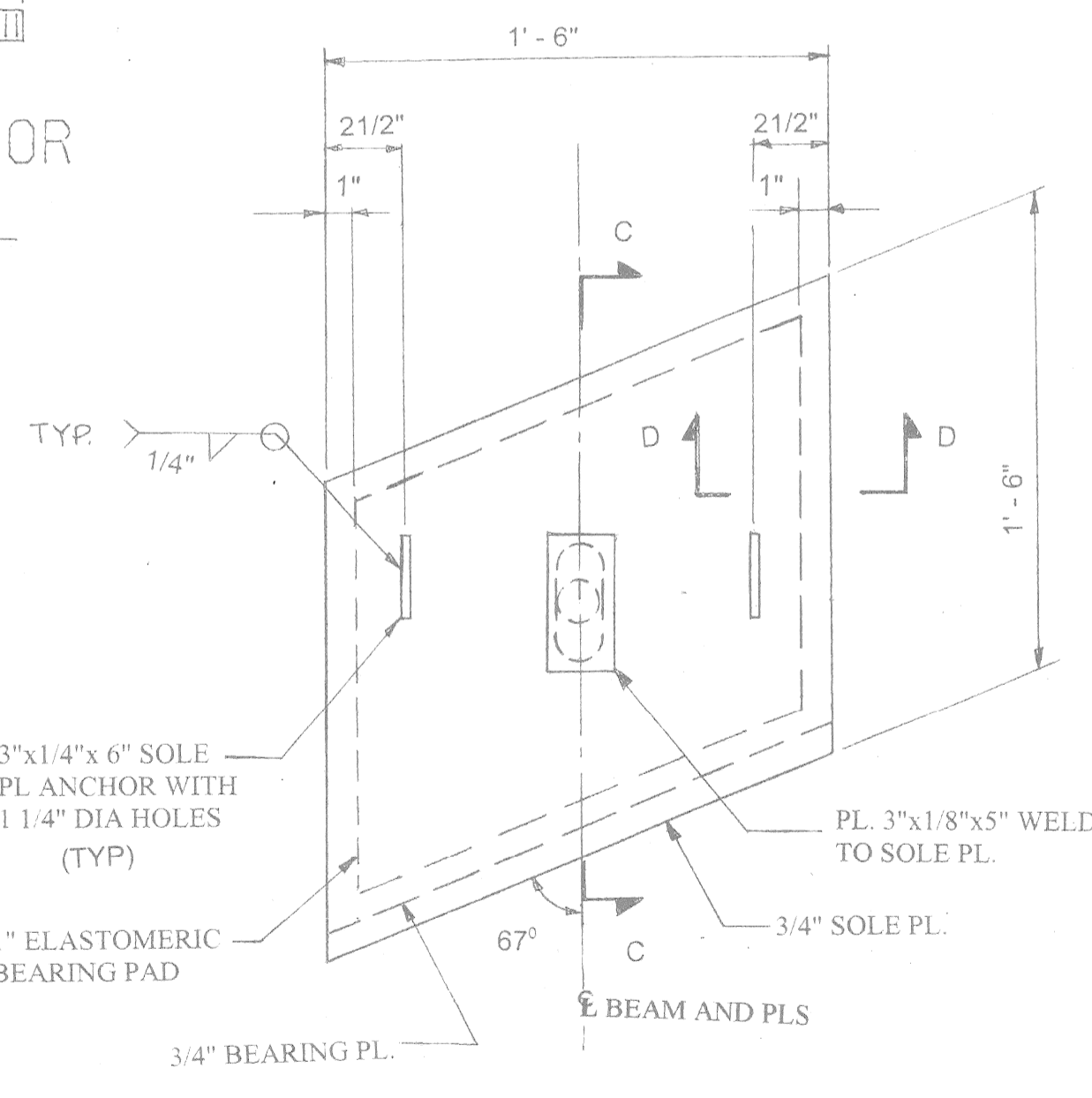
CONCRETE INSERTS AT ENDS OF BEAM SHALL BE STAGGERED AND AT MIDSPAN MAY BE CONTINUOUS OR STAGGERED. THREADED REINFORCEMENT FOR STAGGERED INSERTS SHALL BE BENT TO THE REQUIRED θ ANGLE PRIOR TO INSTALLATION. BENT REINFORCEMENT MAY REQUIRE INSTALLATION BEFORE BEAM IS ERECTED.



THREADED ANCHOR BAR DETAIL
INCLUDED IN PAY ITEM REINFORCING STEEL



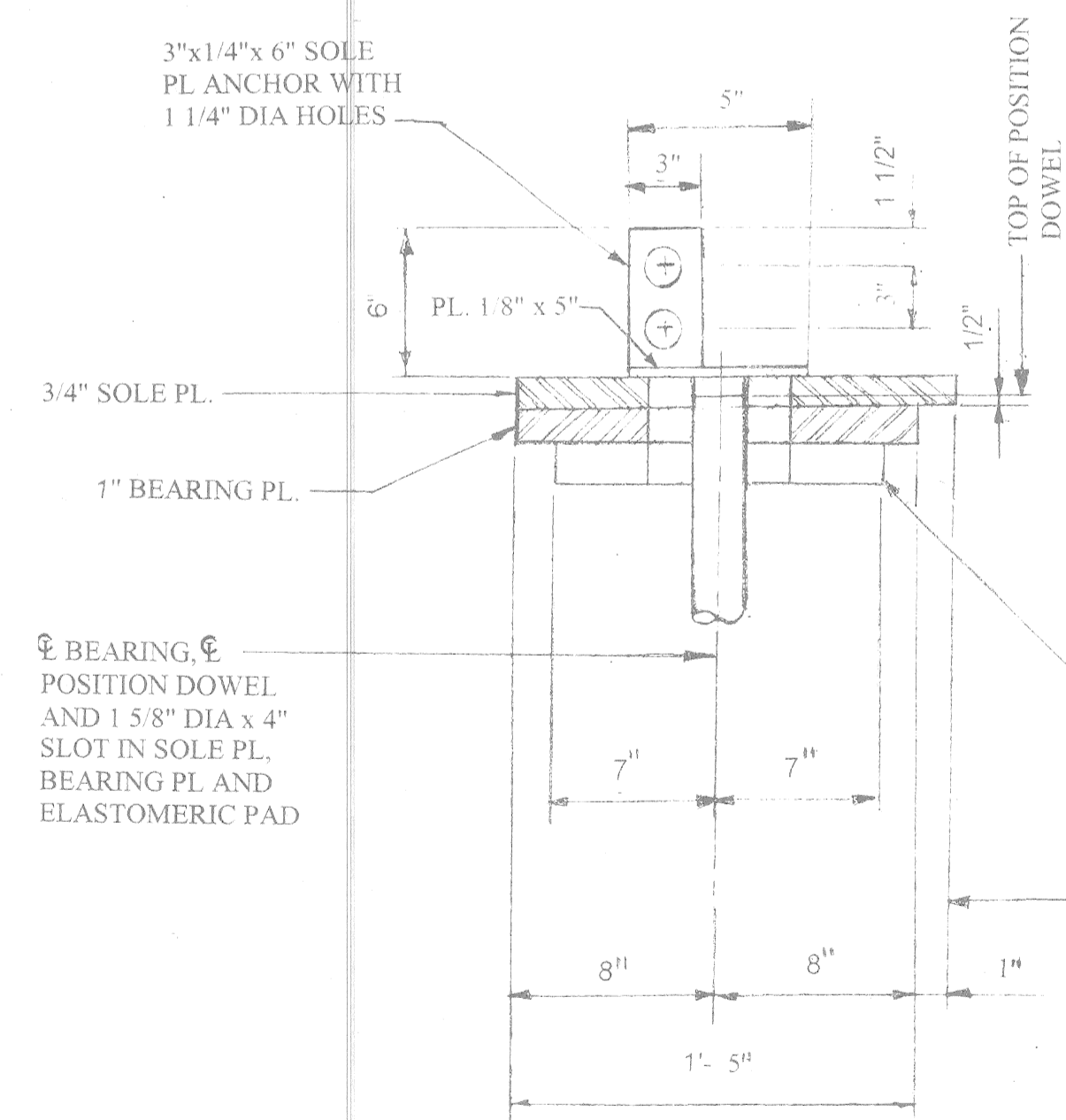
SECTION B-B & DETAIL B
(S-25 & S-33) (S-27)
SCALE: 1/2" = 1'-0"



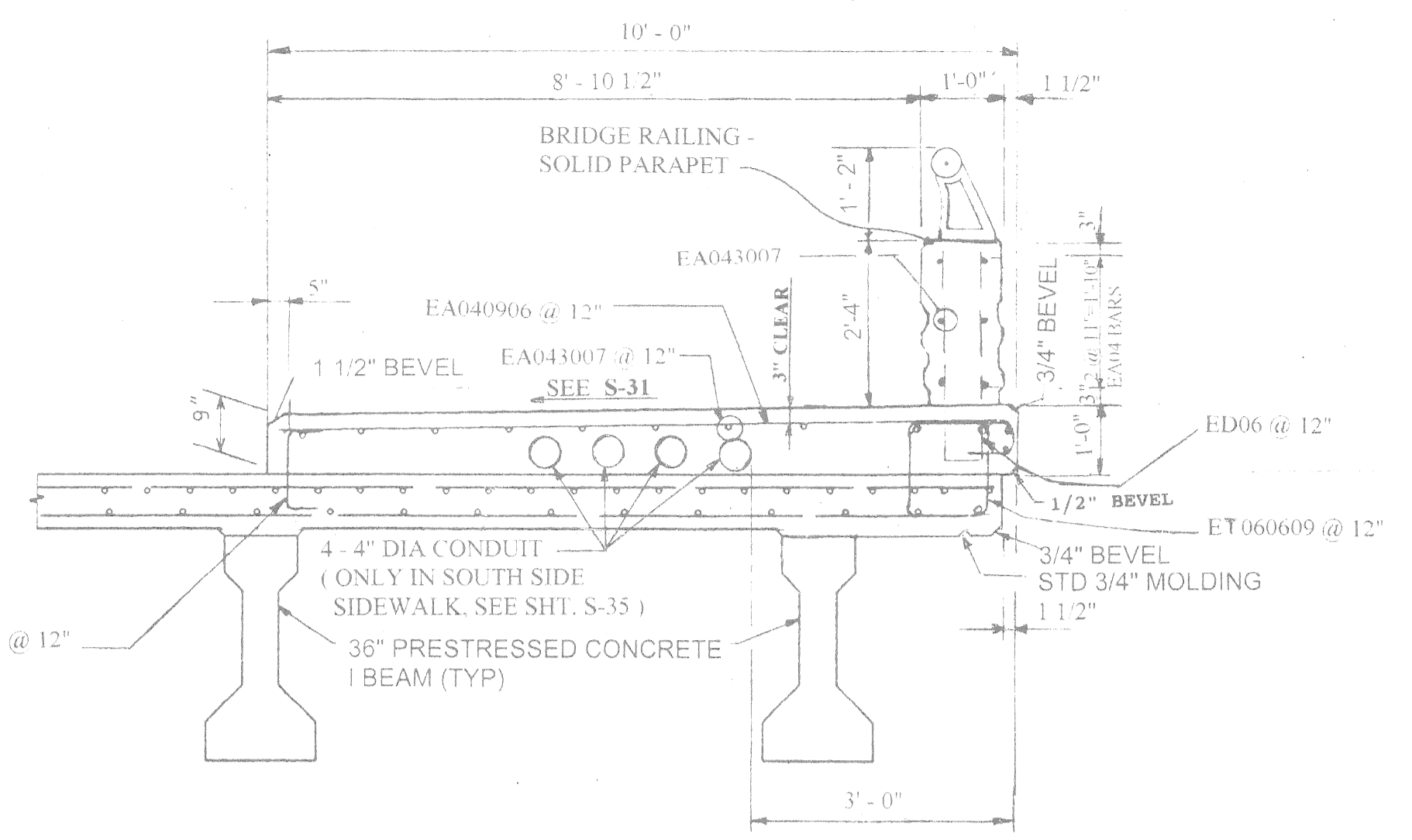
PLAN



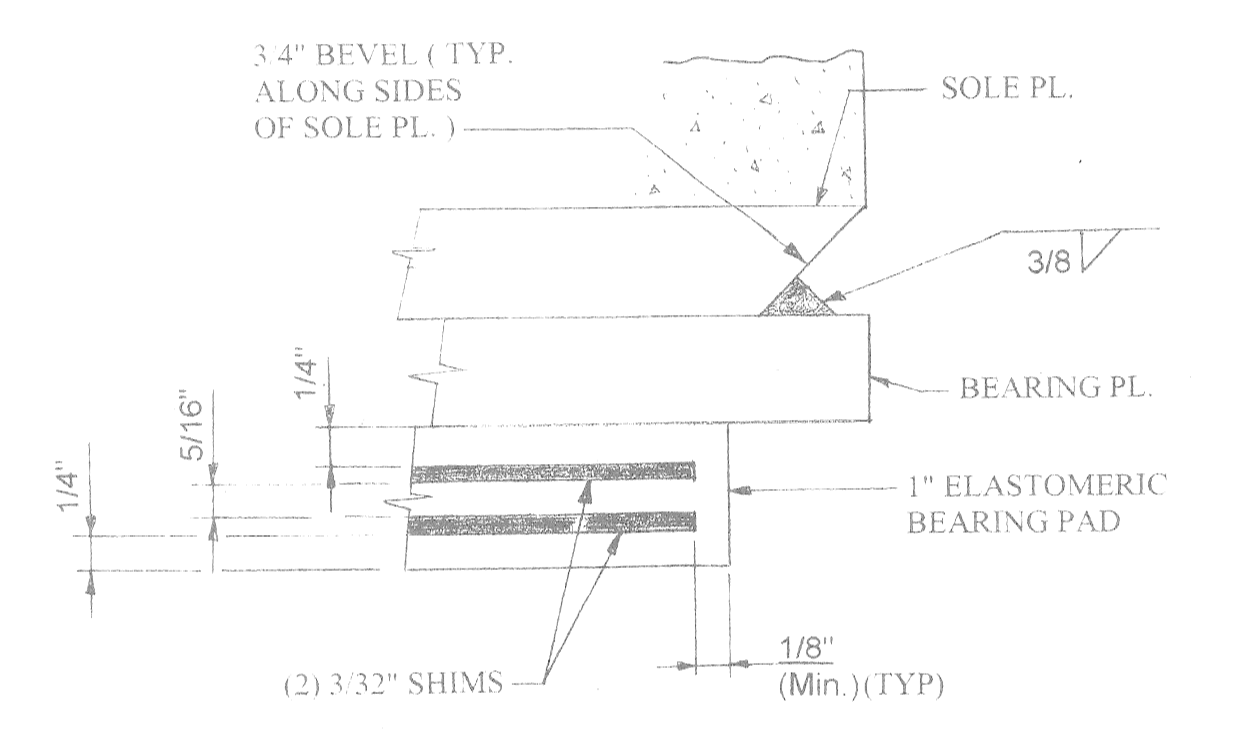
POSITION DOWEL DETAIL



SECTION C-C



TYPICAL SIDEWALK SECTION
SCALE: 1/2" = 1'-0"



SECTION D-D

- NOTES:**
- IF THE POSITION DOWELS AND SOLE PLATE DOWELS AT ABUTMENTS AND PIER ARE MISALIGNED DUE TO TEMPERATURE EFFECTS ON THE BEAMS, HOLES IN THE ELASTOMERIC BEARINGS SHALL BE CENTERED ON THE DOWELS.

PAY QUANTITY		
ITEM	QUANTITY	PAY UNIT
Unclassified Foundation Excavation	255	CYD
Structural Backfill (CIP)	125	CYD
Elastomeric Bearing, 1"	70	SFT
Bridge Railing, Solid Parapet Type	185	LFT

DESCRIPTION	OR MODIFY DATE	FINAL	DATE	REVISIONS
PLAN	PP, RF	EH		
GRADE				
ESTIMATE				

CITY OF DETROIT
CITY ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS

TIREMAN AVENUE BRIDGE OVER ROUGE RIVER (BW-265)
SUPERSTRUCTURE RECONSTRUCTION

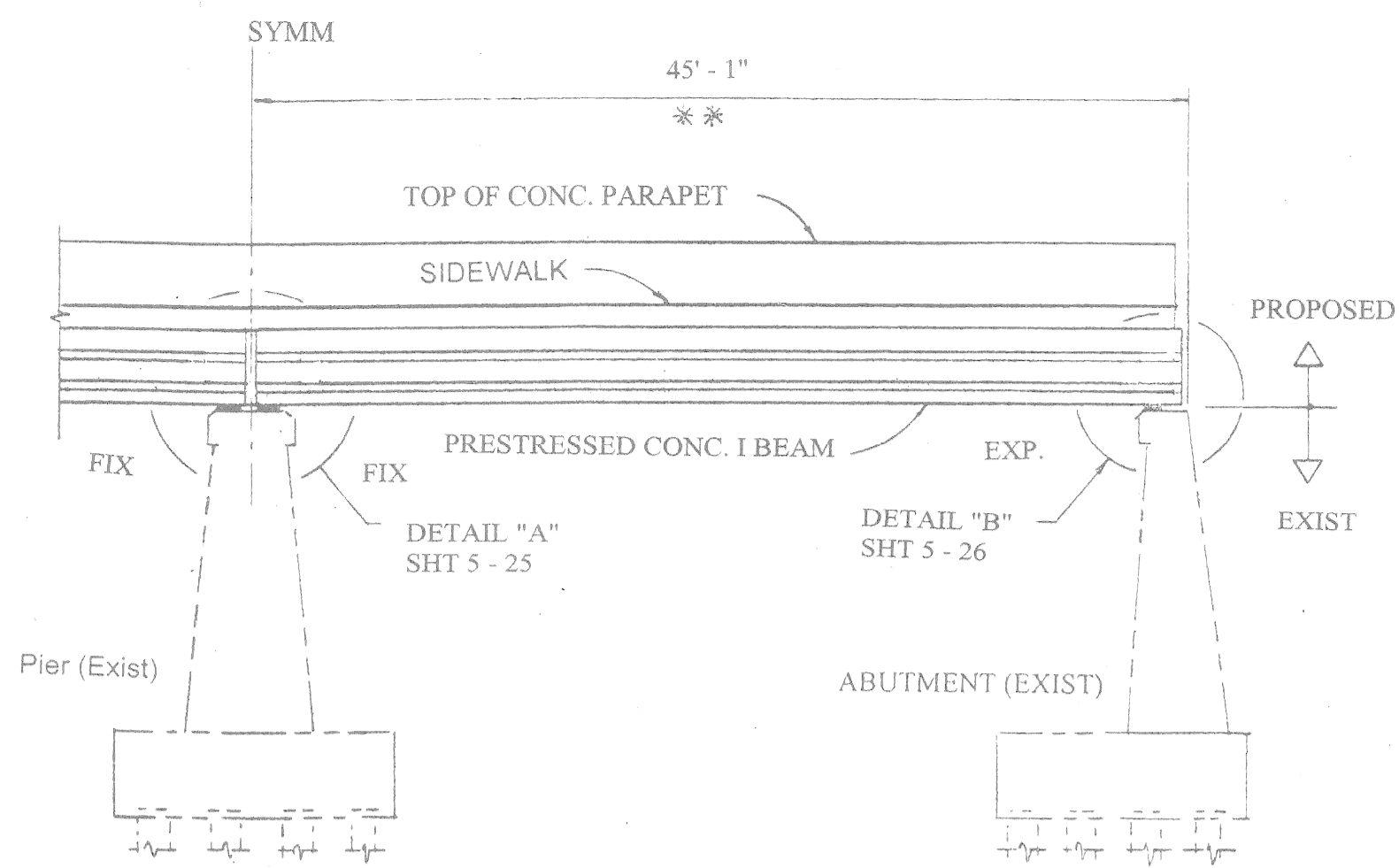
SHEET S-26 SHEETS

CONTRACT NO. 93-22-17

ASSIGNMENT NO. 93-22-17

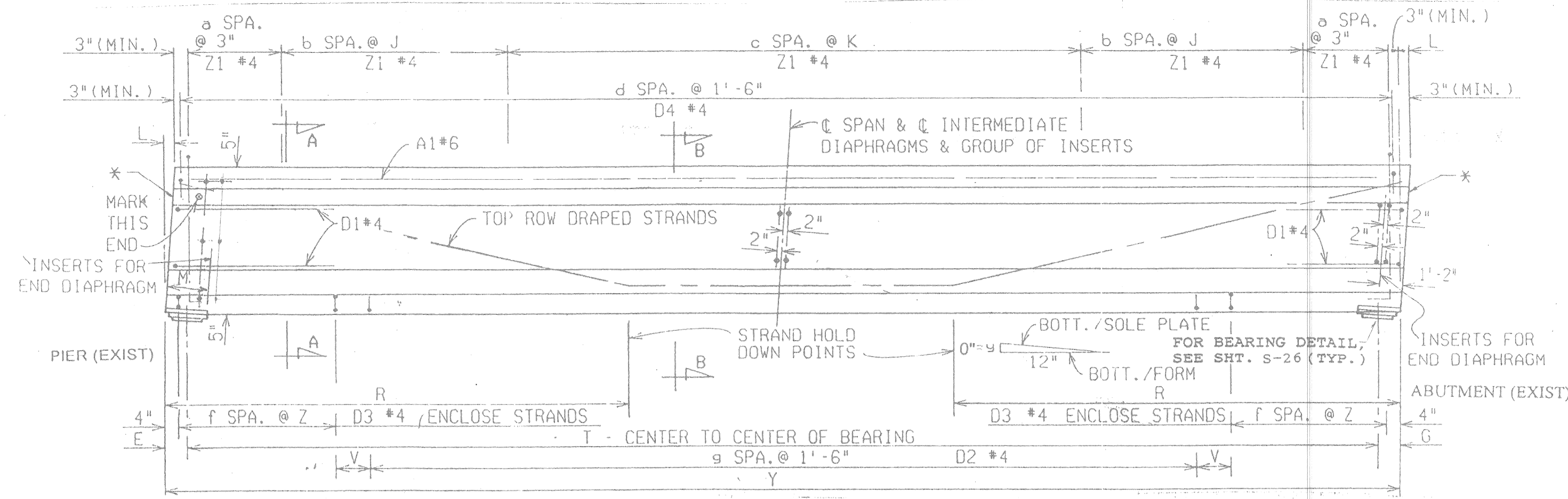
DATE APRIL, 1997

Job No. : 36917A



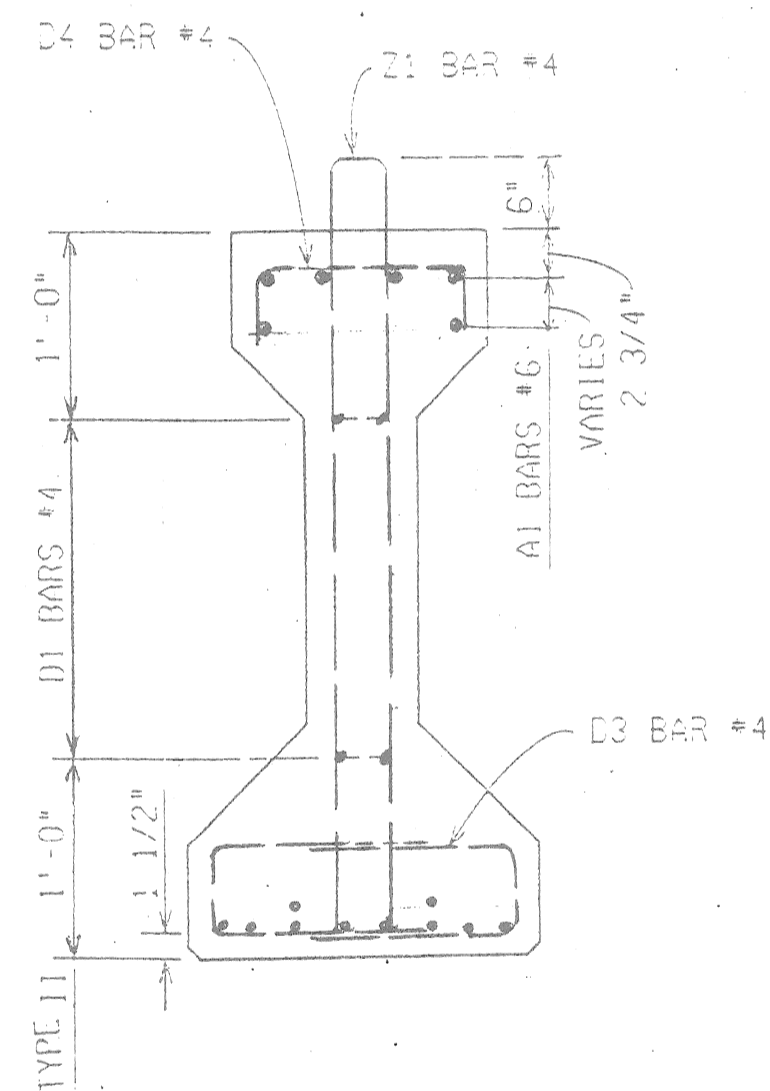
ELEVATION

1/8" = 1'-0"
(FOR CLARITY, ALL DETAILS ARE NOT SHOWN ABOVE)

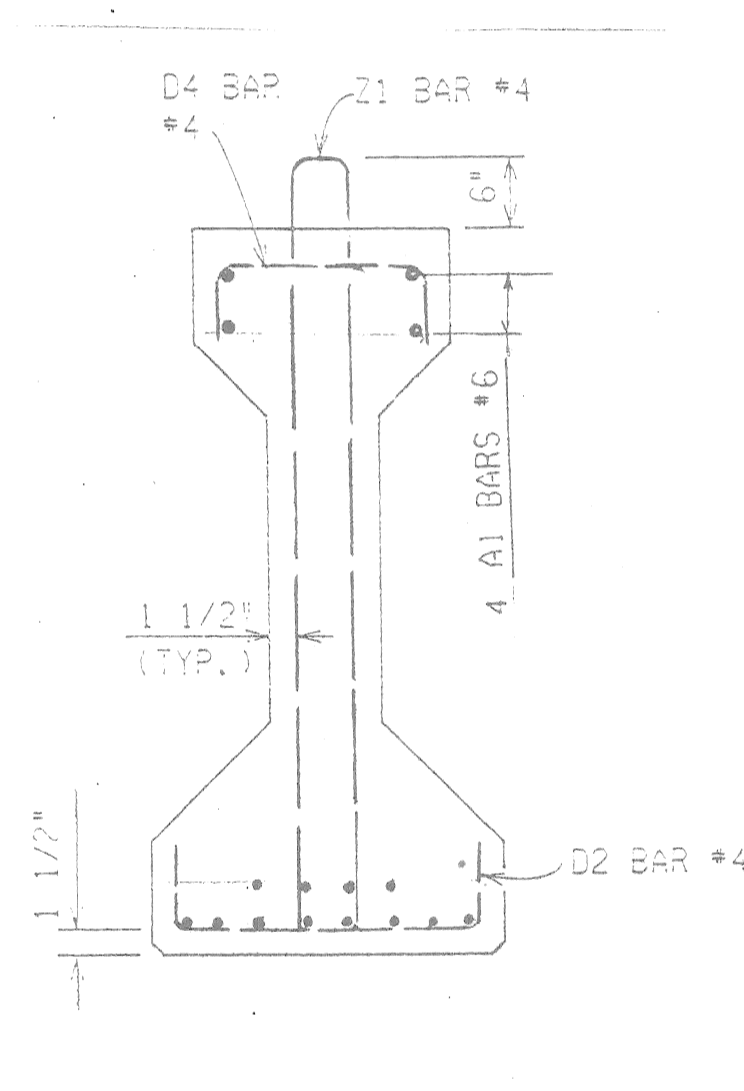


ELEVATION

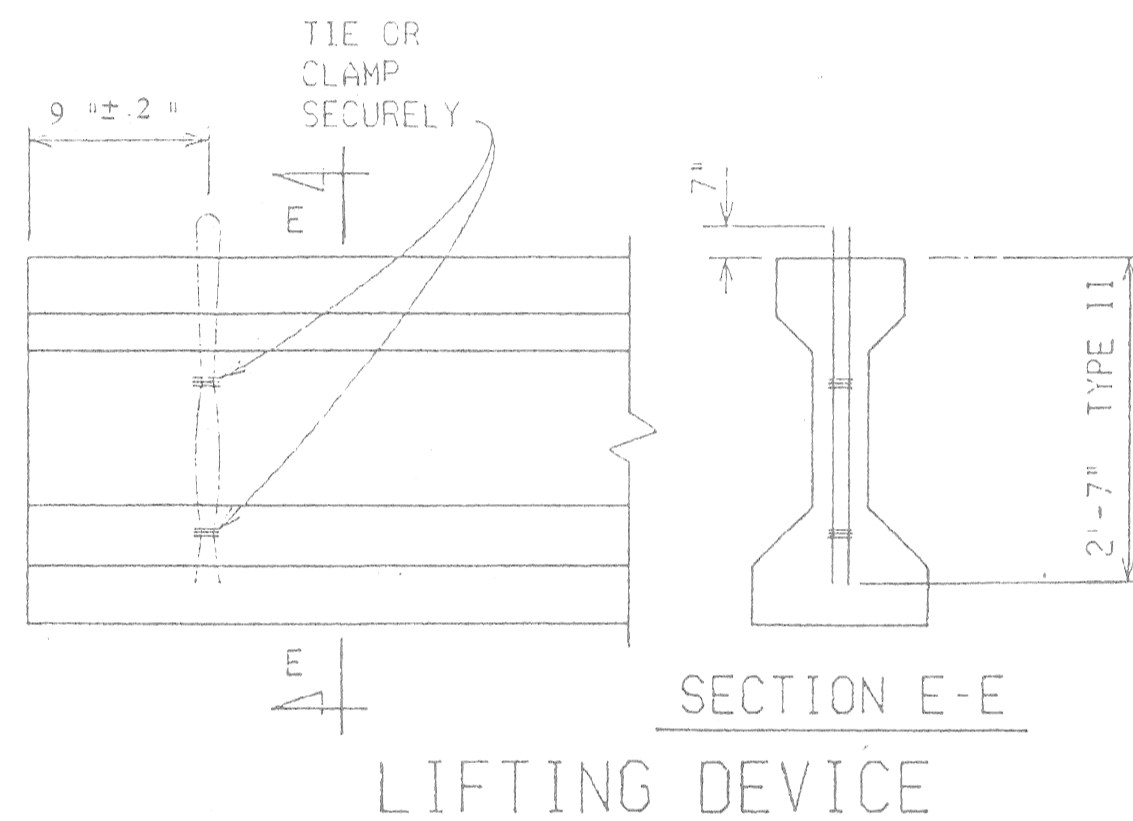
* THE ENDS OF BEAM SHALL BE SKEW PARALLEL TO THE ENDS OF DECK SLAB. PROVIDE BARS D₁, D₂, D₃, D₄, AND Z₁ PARALLEL TO THE ENDS (SKEW) IN A MAXIMUM OF 5'-0" LENGTH FROM THE ENDS AT SPACINGS INDICATED ON BEAM ELEVATION. 'B' DIMENSION FOR BARS SHALL BE PROVIDED ACCORDING TO THE SKEWNESS. ADD ADDITIONAL BAR/BARS AS NECESSARY TO ADJUST FOR REQUIRED SPACING BETWEEN BARS. BARS IN THE REMAINING PORTION OF THE BEAM MAY NOT BE SKEW.



SECTION A-A



SECTION B-B



**SECTION E-E
LIFTING DEVICE**

PRESTRESSING STRAND LIFT DEVICE CAPACITY

STRAND SIZE	NO. OF STRANDS	ALLOWABLE WT. OF BEAM
3/8"	2	20 TONS
7/16"	2	27 TONS
1/2"	2	36 TONS
3/8"	3	30 TONS
7/16"	3	40.5 TONS
1/2"	3	54 TONS

FOR INFORMATION ONLY

BEAM DIMENSIONS

MARK	TYPICAL
TYPE	II
NOS. REQ.	22
a	15
b	12
c	25
d	30
e	7"
f	19
g	23
h	9"
i	1'-6"
j	6"
k	1'-0"
l	0
m	1'-8"
p	
q	
r	17'-3"
t	43'-2 5/8"
u	
v	0
x	
** y	44'-8 5/8"
z	3"

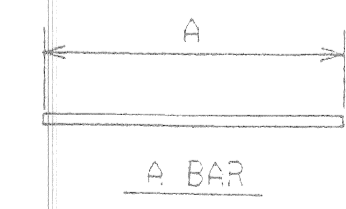
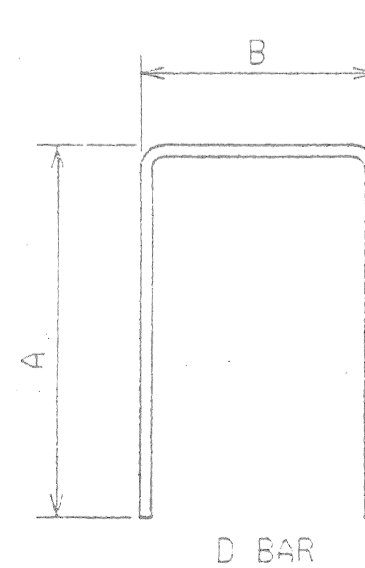
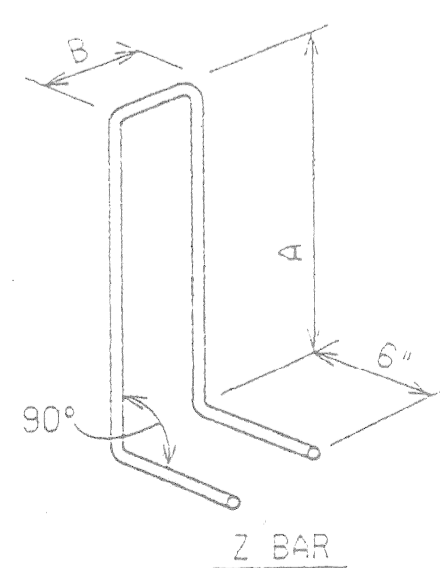
APPROX. WEIGHT = 8.6 TONS

TABLE 1
NUMBER OF 1/2" Ø · 270 KSI · 7 WIRE STRANDS IN INDICATED ROW

MARK	TYPE	MIDSPAN (SECTION B-B)				END FACE (SECTION A-A)			TOTAL NUMBER	INITIAL PRESTRESS FORCE/STRAND (LBS.)	REQUIRED CONCRETE RELEASE STRENGTH (PSI)
		①	②	③	④	BOTTOM	TOP	②			
		8	4	3	2	2	2	12	31,000	4,000	

BAR DIMENSIONS

BAR DIM.	BEAM TYPE
A1#6	A
D1#4	A
D2#4	A
D3#4	A
D4#4	A
Z1#4	A



NOTES:

- ALL STEEL IN THE BEARING SHALL MEET THE REQUIREMENTS OF ASTM A36.
 - ALL STEEL IN THE BEARING IS INCLUDED IN THE PAY ITEM "PRESTRESSED CONCRETE I-BEAM, FURNISHED".
 - TACK WELDING OF STEEL REINFORCEMENT IS PROHIBITED.
 - ELASTOMER FOR ELASTOMERIC BEARING PAD SHALL BE NOMINAL 50 DUROMETER HARDNESS FOR LAMINATED BEARINGS.
 - PRESTRESSING STRAND SHALL BE 1/2" DIAMETER WITH AN AREA OF 0.153 SQUARE INCHES AND SHALL BE GRADE 270 IN ACCORDANCE WITH ASTM A416 AND SUPPLEMENT. LOW RELAXATION STRANDS SHALL BE USED.
 - END BLOCKS ARE REQUIRED.
 - TOTAL ESTIMATED CHANGE OF LENGTH OF BOTTOM FLANGE AT TRANSFER OF PRESTRESS FORCE IS 3/4".
 - WHEN BOND BREAKERS ARE REQUIRED, THEY SHALL BE PLACED SYMMETRICALLY ABOUT THE C OF THE BEAM. THE NUMBER AND LENGTH OF BOND BREAKER SHALL BE AS SHOWN IN THE ELEVATION OF THE BEAM. LENGTH SHOWN IS FROM END OF BEAM TO END OF BREAKER. THEY SHALL CONSIST OF TWO TUBES (ONE INSIDE THE OTHER) WITH OVERLAP TURNED IN OPPOSITE DIRECTION.
 - LIFTING OF BEAM SHALL BE BY EQUAL LOADS TO EACH PAIR OF LIFTING DEVICES.
 - THE TOP FLANGE TOP SURFACE SHALL BE INTENTIONALLY ROUGHENED.
 - ALL EXPOSED SURFACES OF CONCRETE TO BE RUBBED AS SOON AS FORMS ARE REMOVED. NO CEMENT GROUT TO BE USED ON EXPOSED SURFACES.
 - ALL REINFORCING BARS SHOULD BE SECURELY TIED AT ALL INTERSECTIONS.
- TREATMENT OF EPOXY-COATED BARS**
- REINFORCEMENT IS TO BE SHOP CUT AS SHOWN. THE EPOXY COATING SHALL BE REPAIRED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- PRESTRESSED CONCRETE I-BEAM**
- PRESTRESSING STRANDS SHALL BE GIVEN AN INITIAL PRESTRESS OF 31,000 LBS. EACH.
 - CONCRETE INSERTS SHALL BE RICHMOND, 3/4" DIAMETER, TYPE T2 OR TYPE TL2F; DAYTON SUPERIOR, 3/4" DIAMETER TYPE B-1 HEAVY OR TYPE B-18; OR EQUAL.
 - THREADING OF REINFORCEMENT AND INSTALLATION INTO CONCRETE INSERTS IS INCLUDED IN THE BID ITEM "PRESTRESSED CONCRETE I-BEAM, FURNISHED".
 - LIFTING DEVICES SHALL BE REMOVED. REMOVAL IS INCLUDED IN THE BID ITEM "PRESTRESSED CONCRETE I-BEAM, FURNISHED".
 - CONTRACTOR SHALL DESIGN, DETAIL, MANUFACTURE, AND ERECT THE PRESTRESSED CONCRETE BEAMS IN ACCORDANCE WITH SECTION 5.05 OF MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, 1990 EDITION. CAPACITY SHALL NOT BE LESS THAN WHAT IS SHOWN AND DETAILED ON THE DRAWING.

revisions

NO.	DATE	BY	REVISION

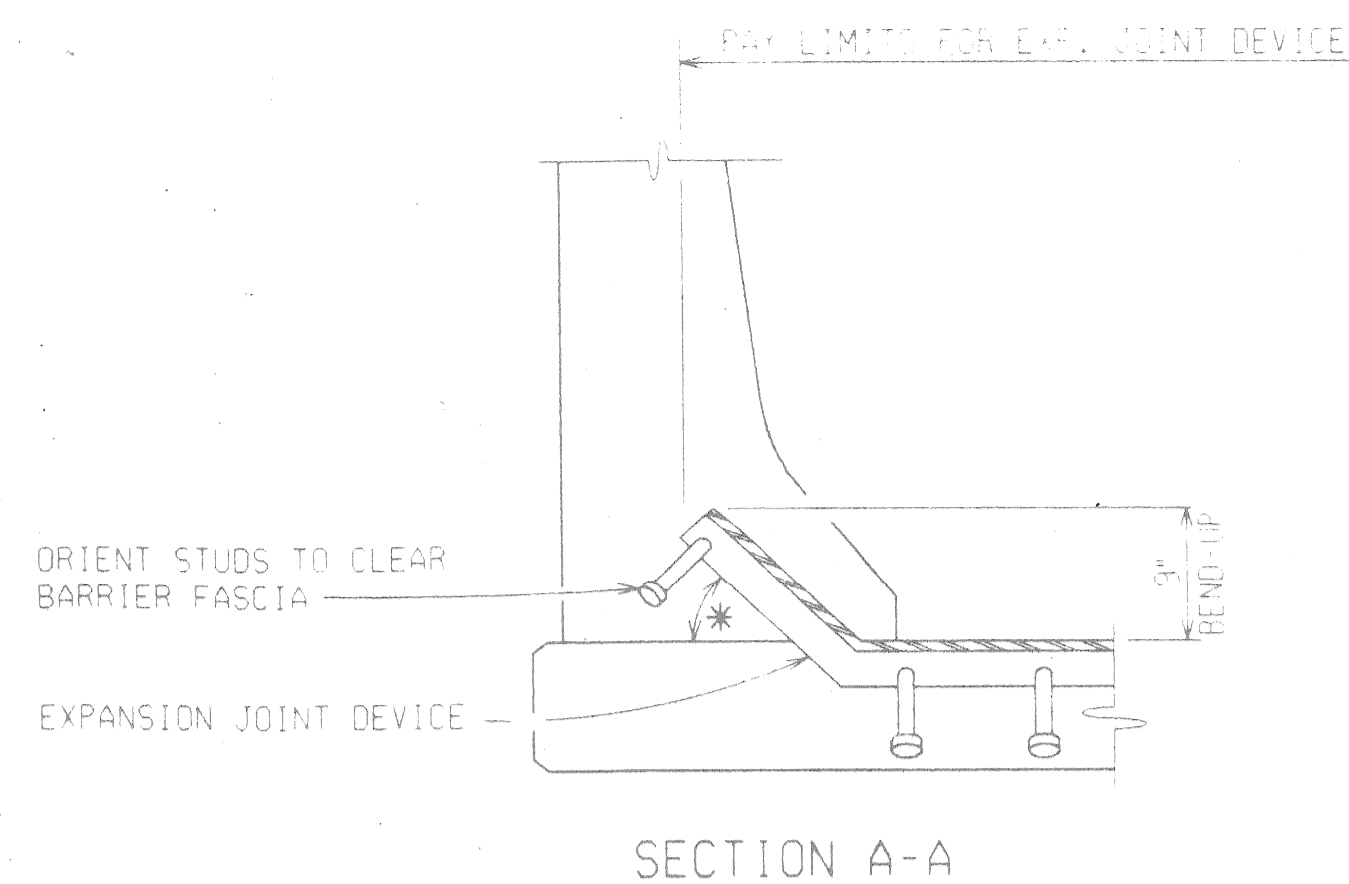
designed by RF
drawn by RF, PP
checked by EH
approved: *Earl C. Howard*

CITY OF DETROIT

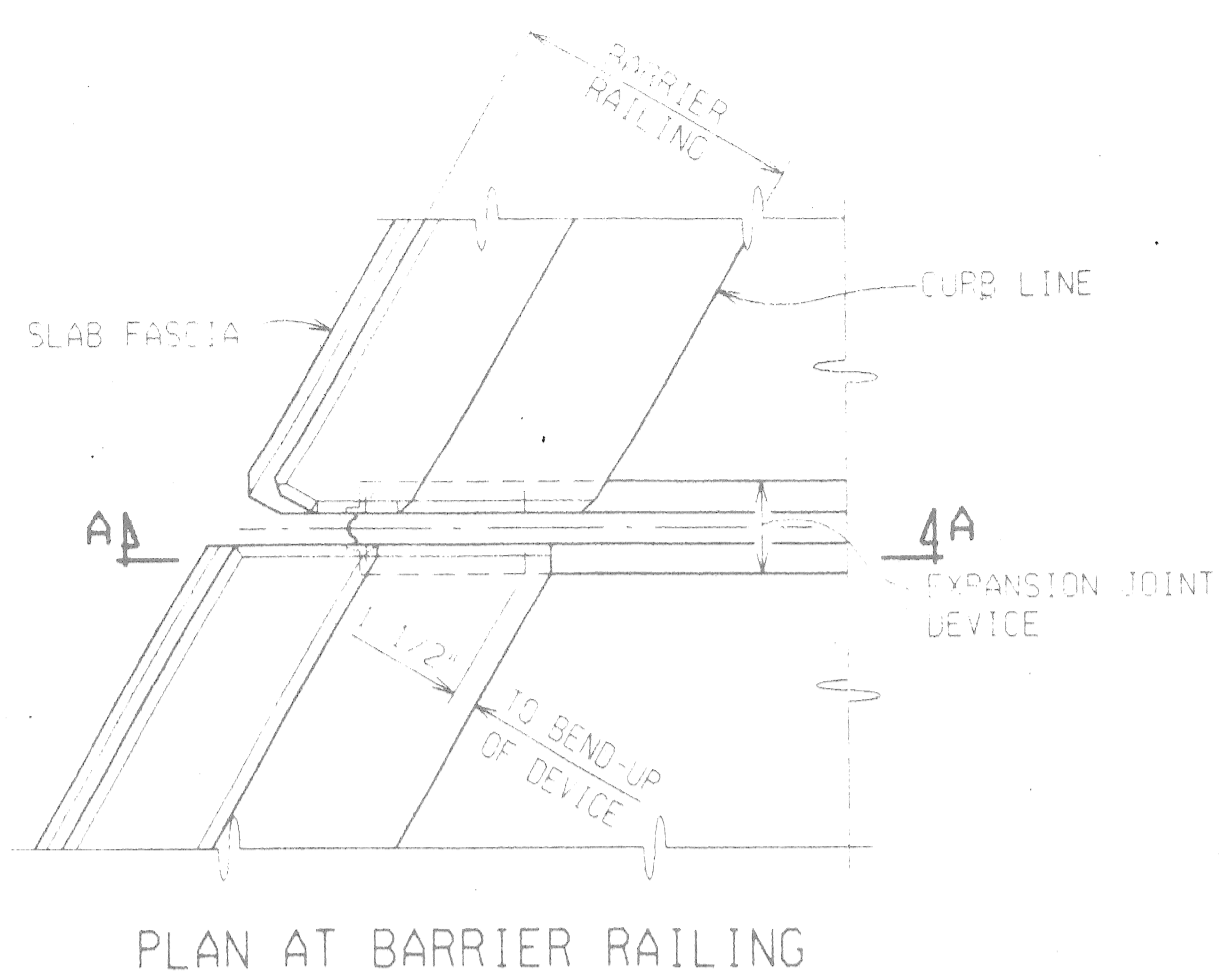
CITY ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS

TIREMAN AVENUE BRIDGE OVER ROUGE RIVER (BW-265)
SUPERSTRUCTURE RECONSTRUCTION
PRESTRESSED BEAM DETAILS

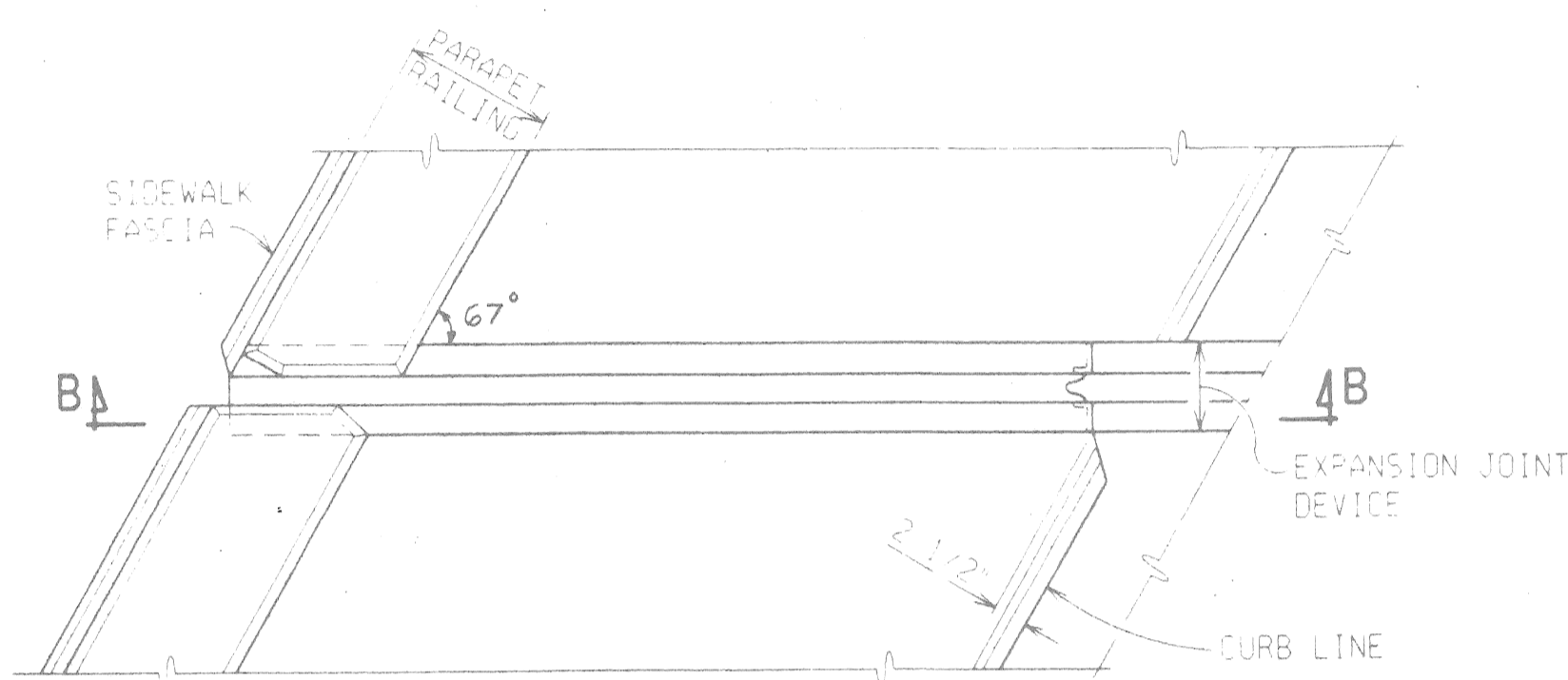
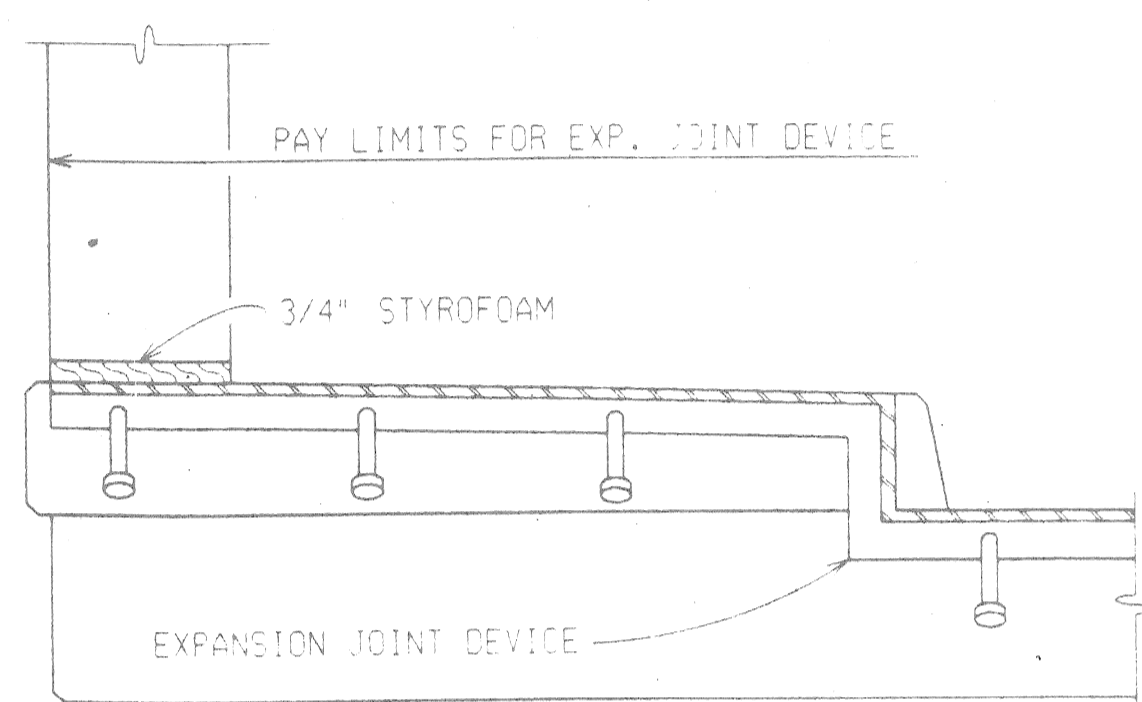
a.o. 93-22-17
contract no.
sheet S-27 of
drawing no.
date JUN 10 1997
APRIL 1997



*—FOR ANGLES OF CROSSING FROM 90° TO 45° INCLUSIVE, BEND ANCHORAGE UP 45° ALONG EXPANSION JT. FOR ANGLES OF CROSSING LESS THAN 45°, A SPECIAL ENDING MAY BE REQUIRED.

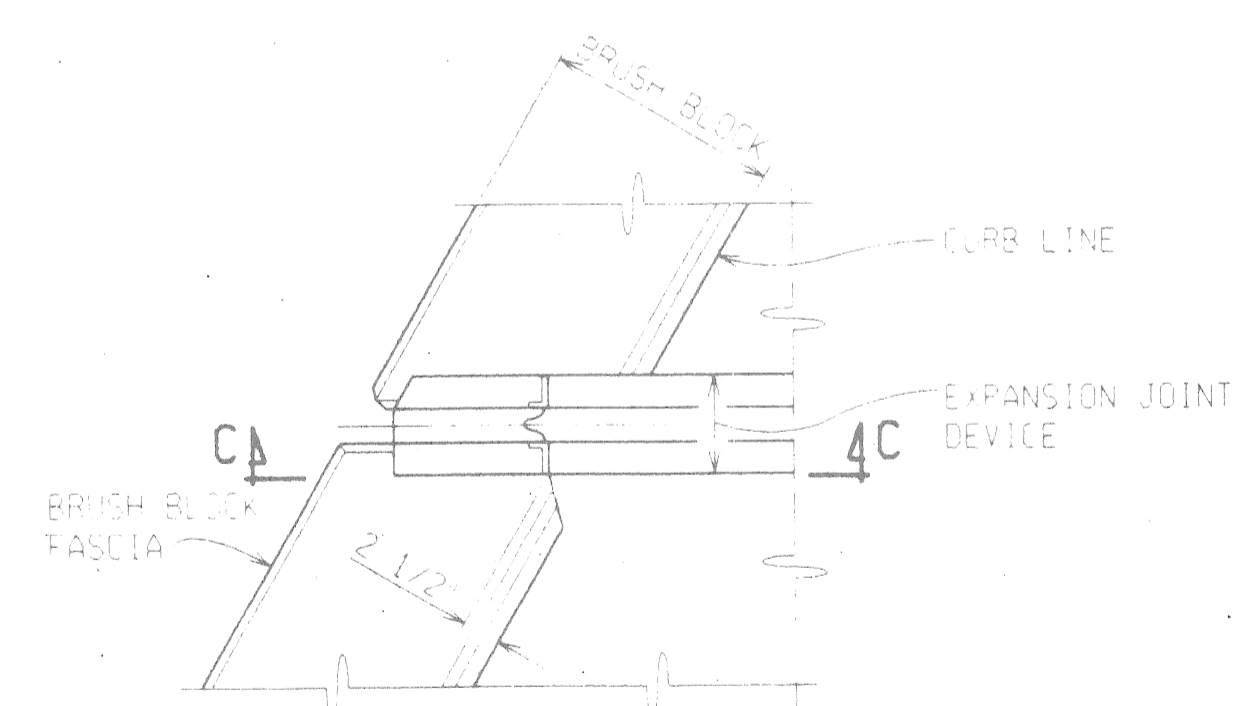
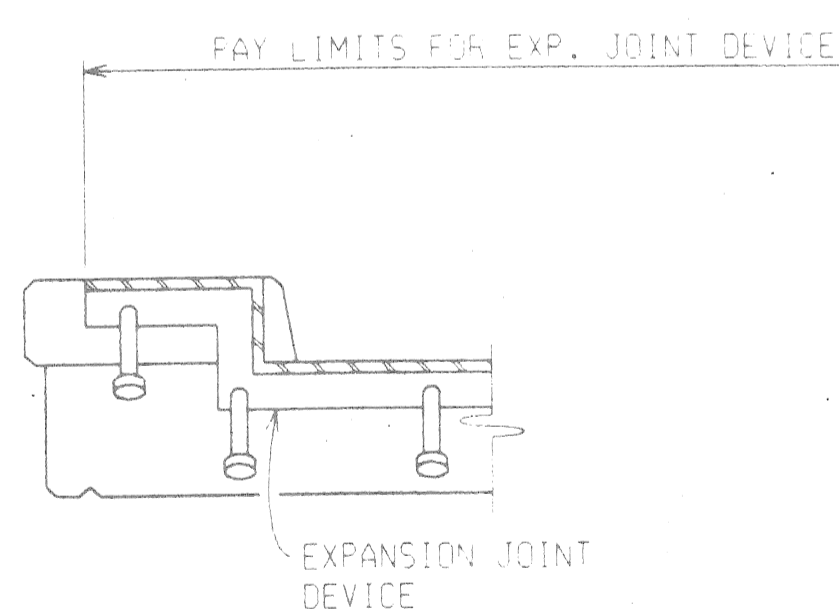


BARRIER TREATMENT



SIDEWALK TREATMENT

(FOR EXPANSION JOINTS LOCATION, SEE SHT. S-25)



BRUSH BLOCK TREATMENT

STRUCTURE NUMBER	ANGLE OF CROSSING TO NEAREST 10°	LOCATION OF JOINT (REF. PLOT)**	MIN. TOT. TRAVEL ALONG CENTERLINE OF BRIDGE	REQUIRED LENGTH OF EXPANSION JOINT DEVICE
-	70°	A	0.64"	77'-6"
-	70°	B	0.64"	77'-6"

** SEE S-25

NOTES:

JOINT TYPES

THE EXPANSION JOINT DEVICE SHALL BE OF A TYPE THAT INCLUDES A CONTINUOUS SEAL ACROSS THE DECK. UNLESS OTHERWISE NOTED ON THE PLANS, THE CONTRACTOR HAS THE OPTION OF USING ANY OF THE DEVICES LISTED BELOW.

DEVICE	MANUFACTURER
STEELFLEX-SSA2	D.S. BROWN
STEELFLEX-SSCM	D.S. BROWN
STEELFLEX-RS	D.S. BROWN
ONFLEX 40 SS	STRUCTURAL RUBBER PRODUCTS CO.
STRUPCO 400L	STRUCTURAL RUBBER PRODUCTS CO.

THE MODEL OF THE JOINT TYPE SELECTED SHALL BE SUITABLE TO ACCOMMODATE THE TOTAL MOVEMENT NOTED ON THE PLANS.

COMPLETE WORKING DRAWINGS OF ALL DETAILS OF FABRICATION OF THE EXPANSION JOINT DEVICE SHALL BE SUBMITTED FOR REVIEW IN ACCORDANCE WITH STANDARD SPECIFICATION 1.05.02. THIS REQUIREMENT IS WAIVED FOR EXPANSION JOINT DEVICES FOR WHICH A SET OF STANDARD INSTALLATION DETAILS HAS BEEN APPROVED. STANDARD INSTALLATION DETAILS CAN BE OBTAINED FROM THE DESIGN DIVISION.

FABRICATION AND INSTALLATION

THE EXPANSION JOINT SHALL BE SHOP FABRICATED TO CONFORM TO THE CONTOUR OF THE BRIDGE DECK, BARRIERS, ETC. IT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS SUBJECT TO NOTES HEREIN AND THE APPROVAL OF THE ENGINEER.

THE STEEL ANCHORAGE FOR STRIP SEAL GLANDS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH SUBSECTION 5.04.02 OF THE STANDARD SPECIFICATIONS.

THE PRO-SPAN DEVICE MUST INCORPORATE A CAST-IN-PLACE STEEL SEAT.

THE AREA OF THE STEEL ANCHORAGE AND SEALING GLAND WHICH WILL BE IN CONTACT WITH A SEALANT, OR LUBRICANT-ADHESIVE SHALL BE CLEANED WITH TOLUENE OR OTHER APPROVED SOLVENT.

WHERE THE SEALING GLAND IS LOCKED INTO A STEEL ANCHORAGE, A LUBRICANT-ADHESIVE CONFORMING TO STANDARD SPECIFICATION 8.16.04-e SHALL BE REQUIRED BETWEEN THE SEAL AND STEEL ANCHORAGE.

ALL BOLT WELL CAVITIES SHALL BE FILLED WITH AN APPROVED FLEXIBLE EPOXY OR A SEALANT CONFORMING TO FEDERAL SPECIFICATION TT-S-002300.

IN THE EVENT THAT THE CONSTRUCTION SEQUENCE REQUIRES SPLICING THE SEALING GLAND, IT SHALL BE SPLICED BY AN APPROVED METHOD (SUCH AS COLD VULCANIZATION) BY A TRAINED REPRESENTATIVE OF THE MANUFACTURER.

DETAILS AT CURBS OR BARRIERS

THE DETAILS ON THIS SHEET SHOW AN APPROVED MEANS OF TERMINATING THE EXPANSION JOINT DEVICE AT CURBS OR BARRIERS. VARIATIONS OR ALTERNATIVE SCHEMES WILL BE CONSIDERED AND MAY BE USED IF APPROVED BY THE ENGINEER.

MATERIALS

THE COST OF ALL MATERIALS AND LABOR REQUIRED FOR PROPER INSTALLATION OF THE EXPANSION JOINT AND THE TERMINAL ASSEMBLIES AT THE CURBS, SIDEWALKS, OR BARRIERS IS INCLUDED IN THE PAYMENT FOR THE EXPANSION JOINT DEVICE.

ITEM	QUANTITY	
	UNIT	AMOUNT
EXPANSION JOINT DEVICE	LINEAR FEET	155

Job No. : 36917A

MICHIGAN DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT DETAILS

DRAWN BY	L.R.B.	09-06-88
CORRECTED BY	JHS-1	07-26-93
CHECKED BY	JSPB/CHC	
SHEET	OF	

dr.	n.	ck.	d.	ap.	vd.	date

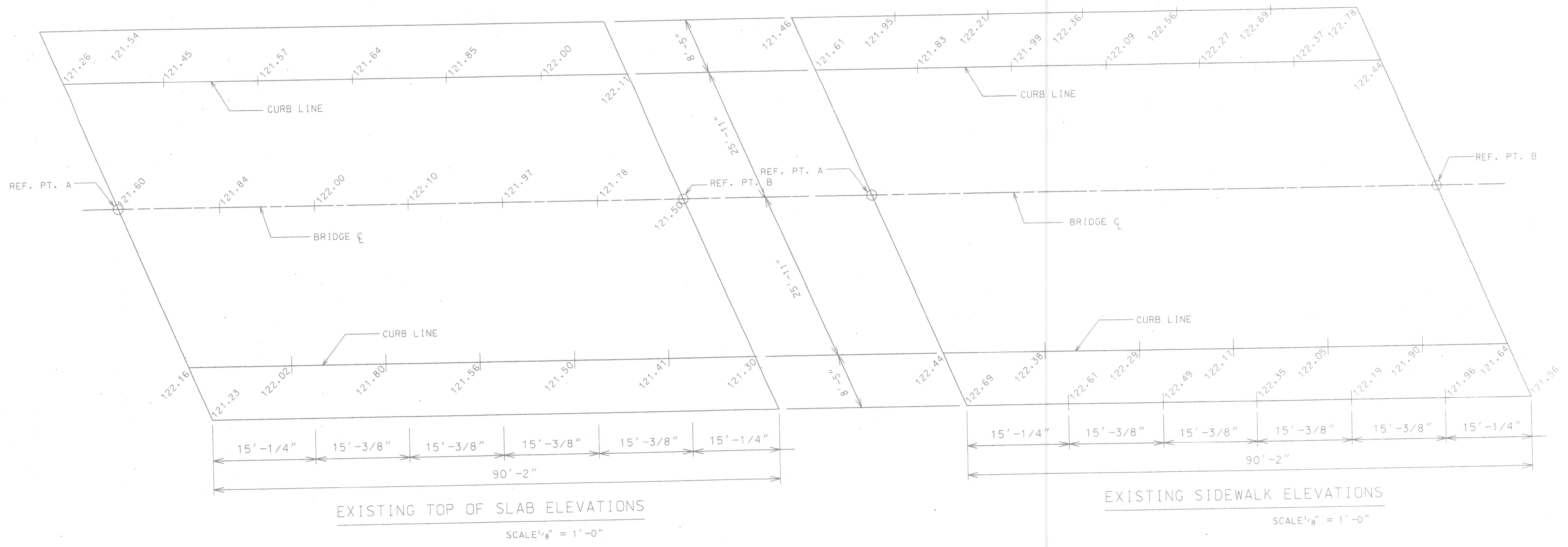
designed by	PP
drawn by	PP
checked by	EH
approved by	<i>E. Howard</i>

CITY OF DETROIT
CITY ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS

TIREMAN AVENUE BRIDGE OVER ROUGE RIVER (BW-265)
SUPERSTRUCTURE RECONSTRUCTION
EXPANSION JOINT DETAILS

a.o. 93-22-17
contract no.
sheet S-28
of
drawing no.
date JUN 10 1997
APRIL 1997

BENCH	MARKS	ELEV
PBM 109-252	NE CORNER TIREMAN & BERT ROAD	128.09
PBM 103-252A	NE CORNER TIREMAN & PATTON	136.68
PBM 110-250A	NE CORNER SPINOZA & JOY ROAD	136.26
CBM # 1	SPIKE IN POLE, S. SIDE OF TIREMAN, E. OF BRIDGE	123.04
CBM # 2	SPIKE IN POLE, S. SIDE OF TIREMAN, W. OF BRIDGE	124.55



Job No. : 36917A

DESCRIPTION	DR	CHK	DATE	BY	CHECKED BY	APPROVED
PLAN	RP	RP		RS	RS	<i>Carl J. Hammond</i>
ESTIMATE						
FINAL						

CITY OF DETROIT
 CITY ENGINEERING DIVISION
 DEPARTMENT OF PUBLIC WORKS

TIREMAN AVENUE BRIDGE OVER ROUGE RIVER (BW-265)
 SUPERSTRUCTURE RECONSTRUCTION
EXISTING DECK AND SIDEWALK ELEVATIONS

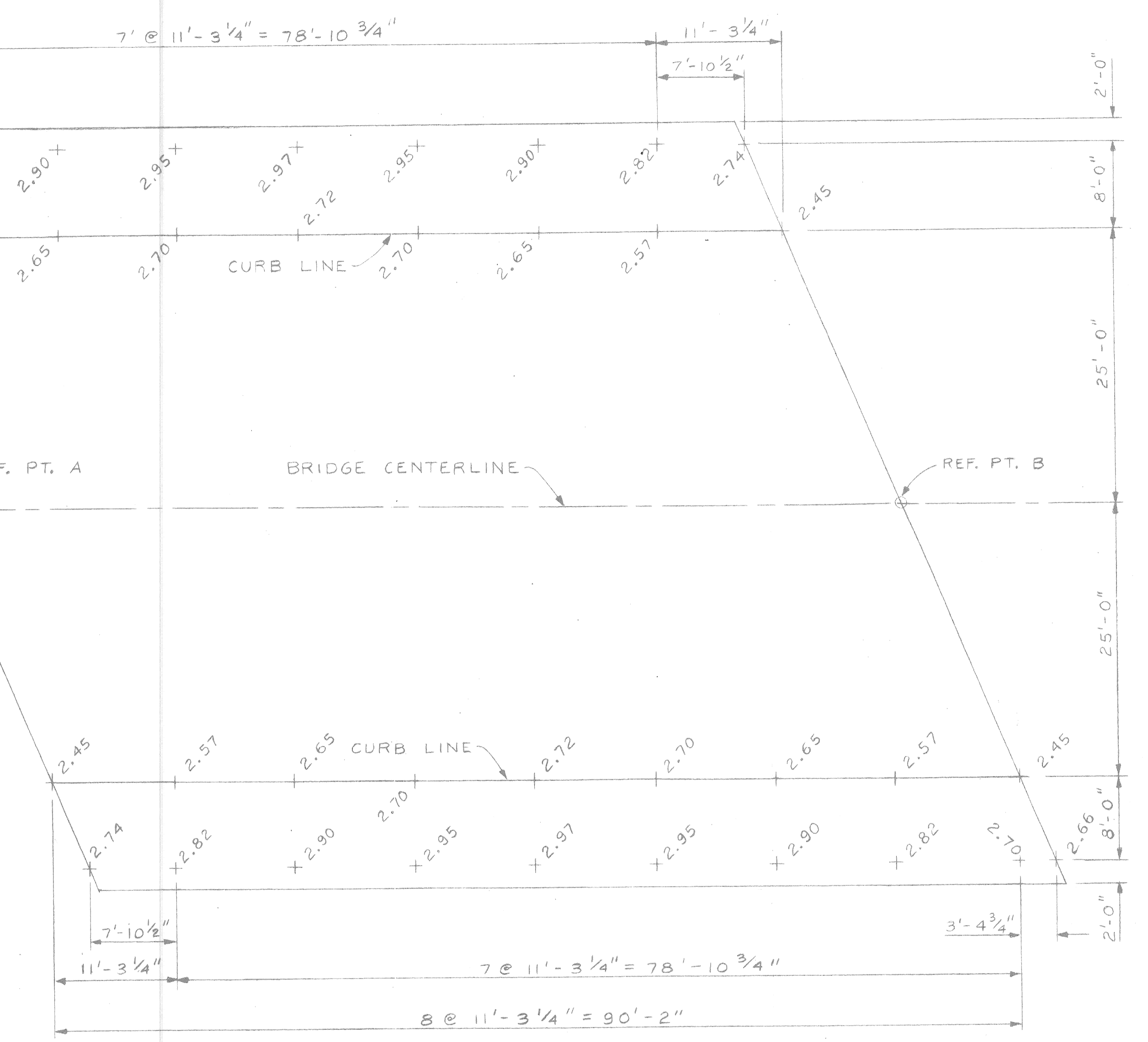
SHEET S-30	SHEETS
CONTRACT NO.	
ASSIGNMENT NO. 93-22-17	
DATE APR. 1997	

JUN 10 1997

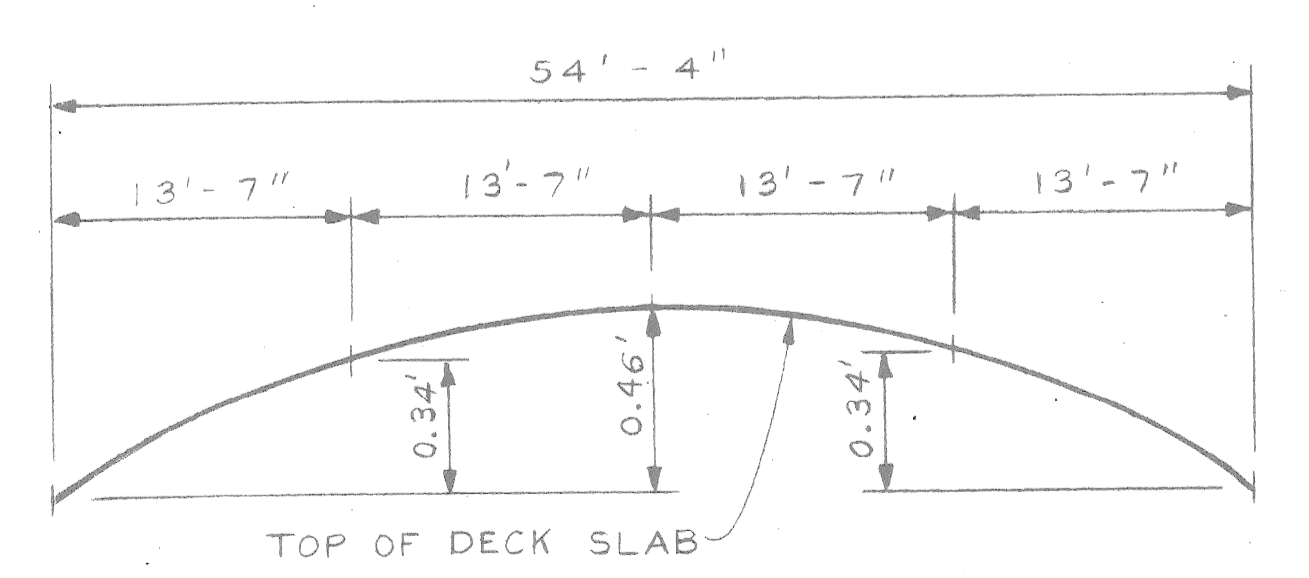
ADD 120.00 FT. TO ELEVATIONS SHOWN.



PROPOSED TOP OF DECK SLAB ELEVATIONS
SCALE: 1/8" = 1'-0"



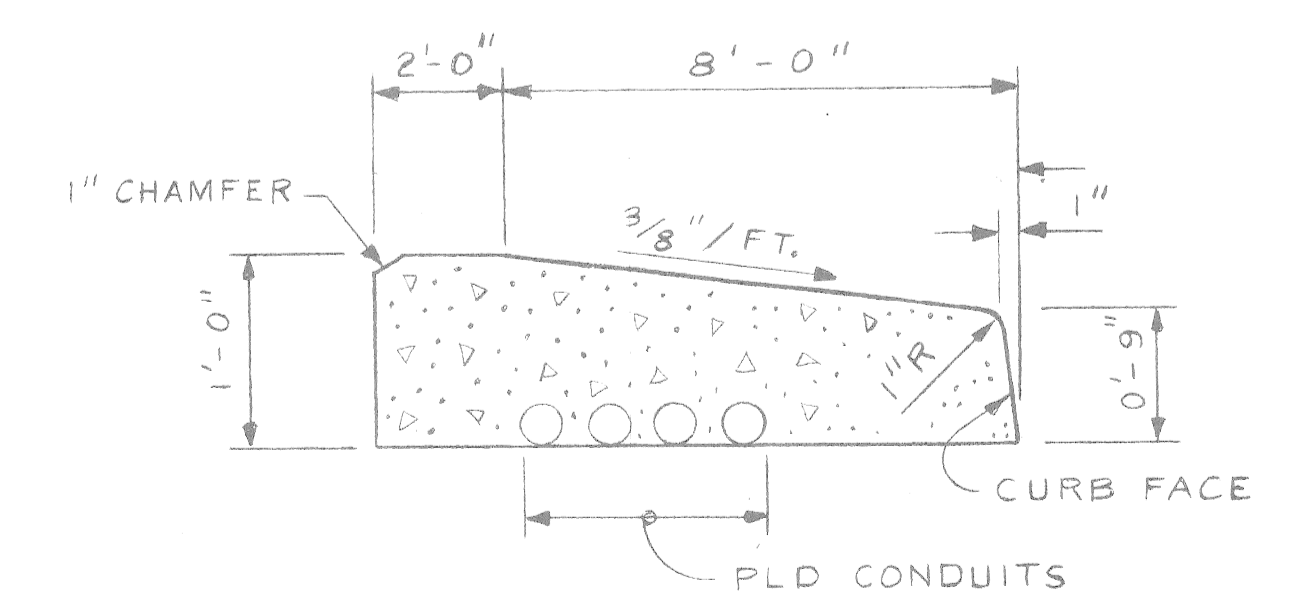
PROPOSED SIDEWALK ELEVATIONS
SCALE: 1/8" = 1'-0"



TYPICAL SECTION FOR TOP OF DECK SLAB
BETWEEN CURB LINES AT 67° DIAGONAL
NO SCALE

NOTES

1. ALL ELEVATIONS ARE BASED ON CITY OF DETROIT DATUM.
2. FOR SURVEY BENCH MARK LOCATIONS & ELEVATIONS SEE SHEET NO. S-21.
3. SIDEWALK POUR SHALL NOT BE CAST UNTIL SLAB CONCRETE HAS ATTAINED AT LEAST 75% OF ITS DESIGN STRENGTH.
4. SLAB & SIDEWALK ELEVATIONS ARE BASED ON THE CONDITION THAT ALL CONCRETE BEAMS HAVE ERECTED, BUT NO OTHER LOADS ARE APPLIED. THESE ELEVATIONS INCLUDE ALLOWANCES FOR DEFLECTION DUE TO FORMS, STEEL REINFORCEMENT, DECK CONCRETE AND BARRIERS.
5. SCREED RAILS FOR FINISHING CONCRETE SHALL BE LOCATED OVER FASCIA BEAMS.
6. SCREED ELEVATIONS ARE SHOWN IN PARENTHESIS ().
7. TRANSVERSE SIDEWALK CONTRACTION JOINTS ARE TO BE AT 8-FT. INTERVALS OR AS DIRECTED BY THE ENGINEER.



TYPICAL SIDEWALK SECTION
NO SCALE

Job No. : 36917A

DESCRIPTION	DRN	CK'D	AP	VD	DATE	FINAL	CHECK	REVIEW
REVISIONS								

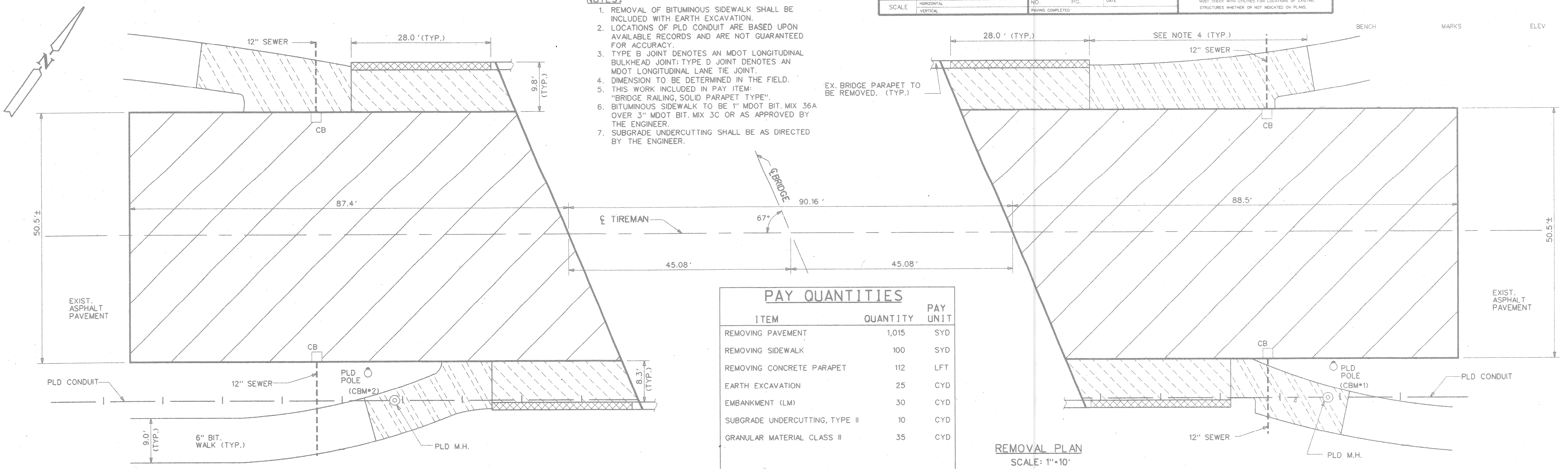
BY	CHECKED BY	APPROVED:
PLAN	N.W.	<i>Charles J. Howard</i>
GRADE	N.W.	ENGINEER OF STREETS
ESTIMATE		
FINAL	CHECK	REVIEW

CITY OF DETROIT
CITY ENGINEERING DIVISION D.P.W.
BUREAU OF STREETS AND HIGHWAYS

TIREMAN AVE. BRIDGE OVER ROUGE RIVER (BW-265)
PROPOSED DECK SLAB AND SIDEWALK ELEVATIONS

SHEET S-31 OF SHEETS
CONTRACT NO.
ASSIGNMENT NO. 93-22-17
DATE MAR., 1997

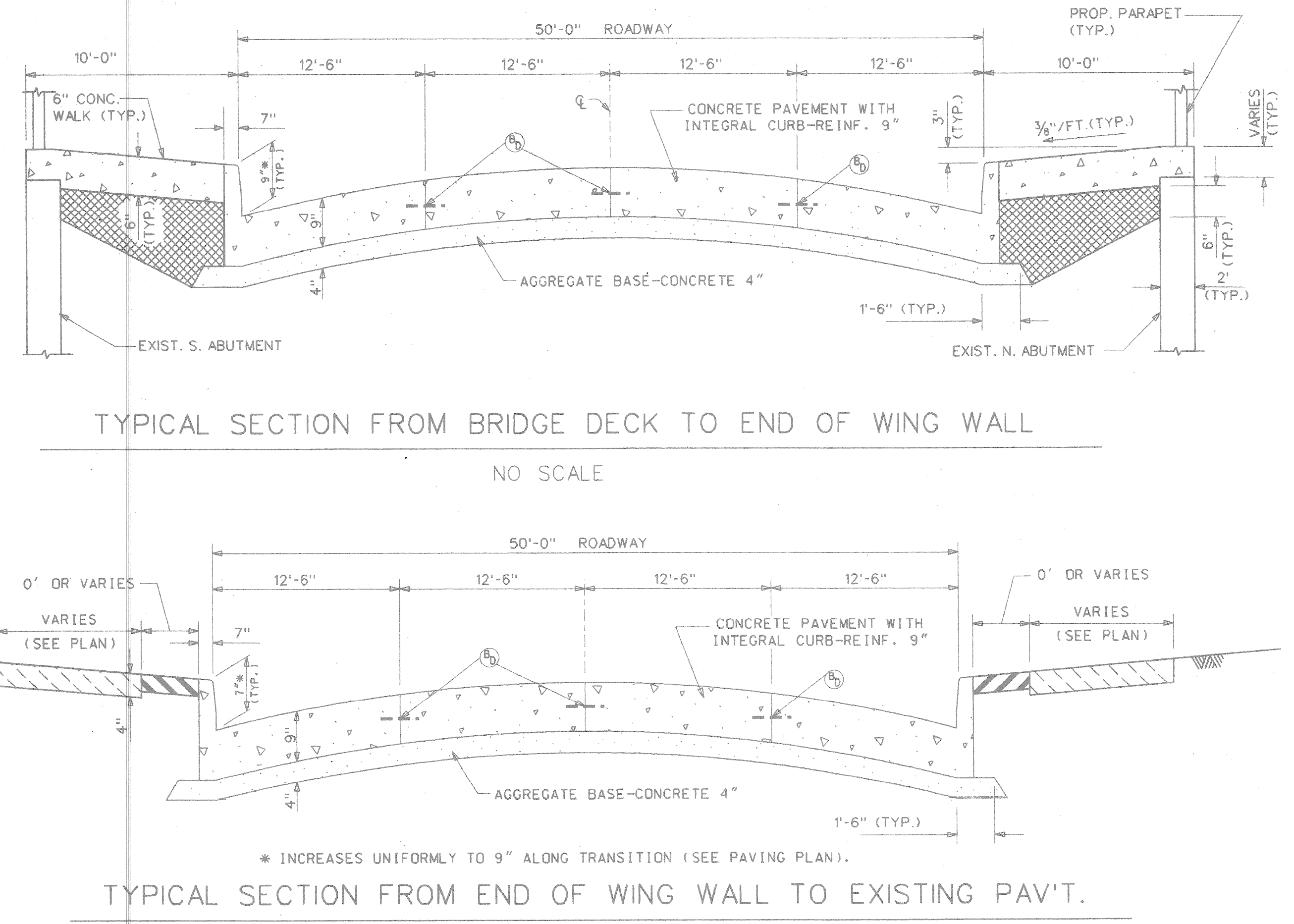
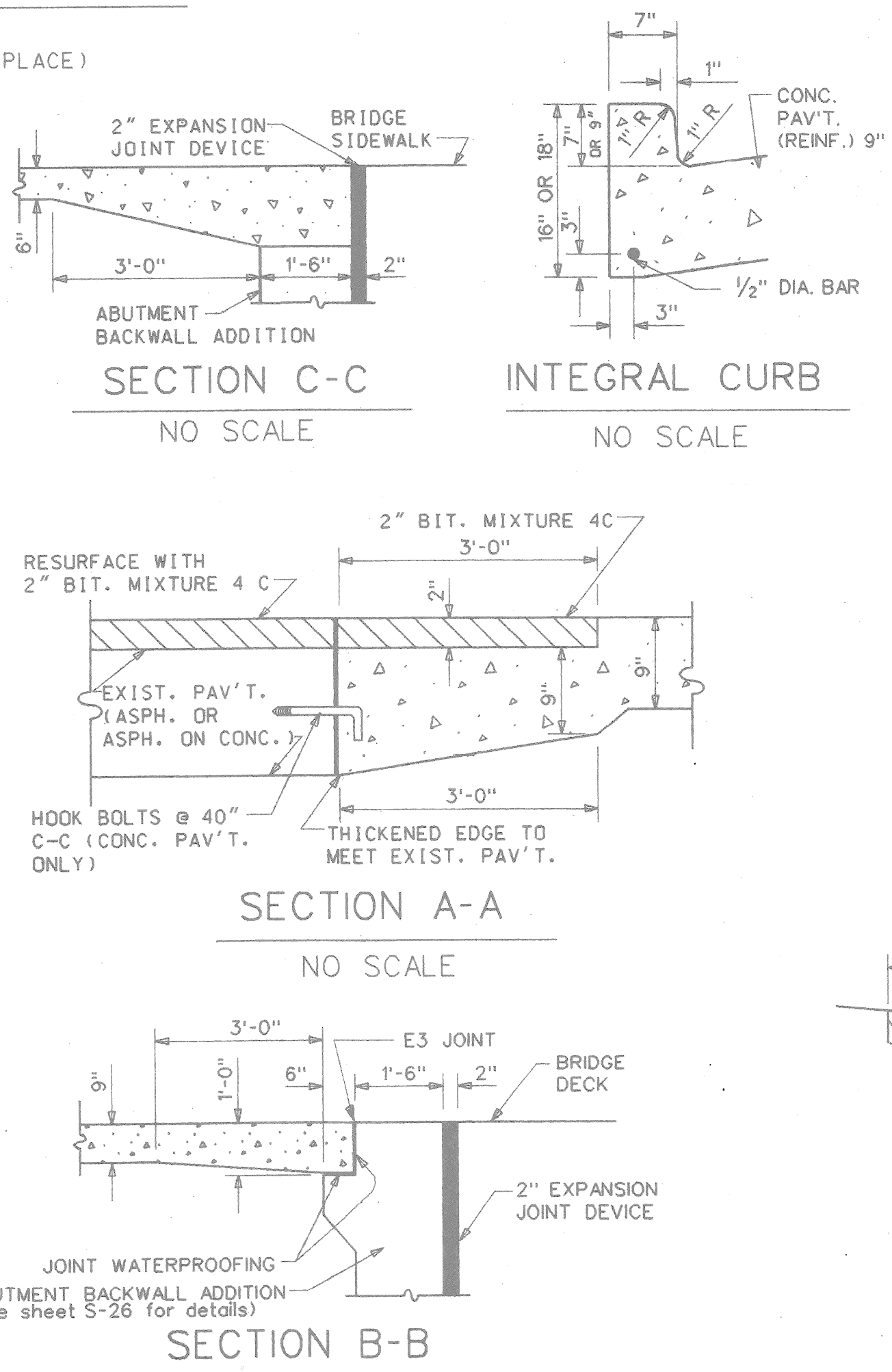
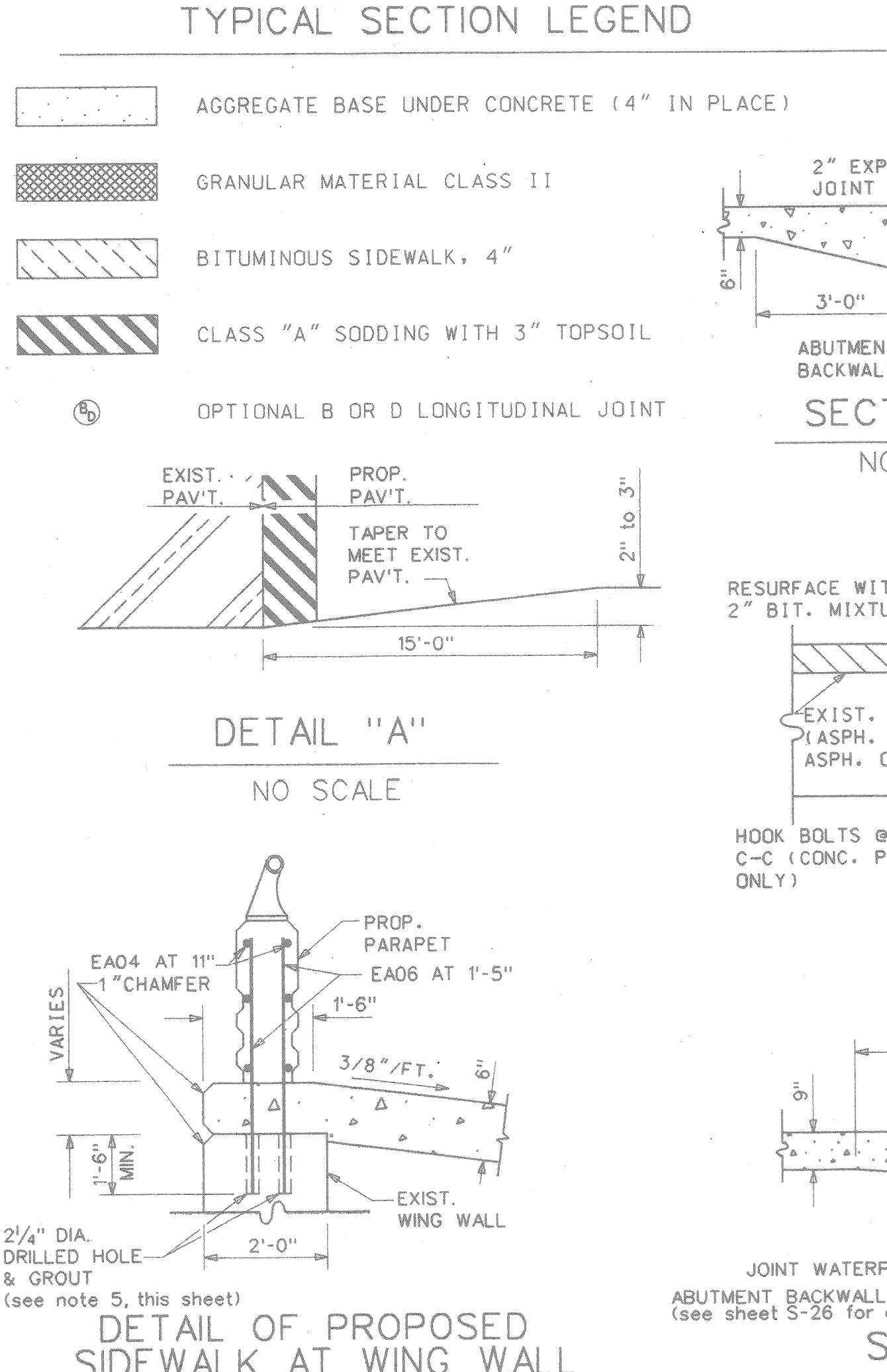
- NOTES:**
- REMOVAL OF BITUMINOUS SIDEWALK SHALL BE INCLUDED WITH EARTH EXCAVATION.
 - LOCATIONS OF PLD CONDUIT ARE BASED UPON AVAILABLE RECORDS AND ARE NOT GUARANTEED FOR ACCURACY.
 - TYPE B JOINT DENOTES AN MDOT LONGITUDINAL BULKHEAD JOINT; TYPE D JOINT DENOTES AN MDOT LONGITUDINAL LANE TIE JOINT.
 - DIMENSION TO BE DETERMINED IN THE FIELD.
 - THIS WORK INCLUDED IN PAY ITEM: "BRIDGE RAILING, SOLID PARAPET TYPE".
 - BITUMINOUS SIDEWALK TO BE 1" MDOT BIT. MIX 36A OVER 3" MDOT BIT. MIX 3C OR AS APPROVED BY THE ENGINEER.
 - SUBGRADE UNDERCUTTING SHALL BE AS DIRECTED BY THE ENGINEER.



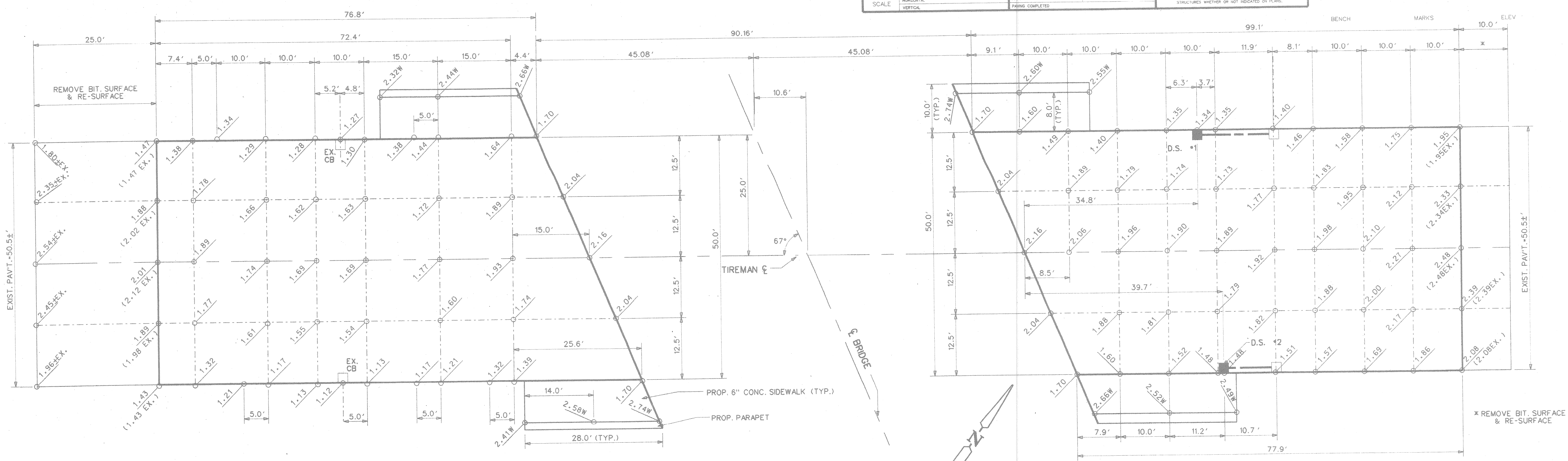
PAY QUANTITIES

ITEM	QUANTITY	PAY UNIT
REMOVING PAVEMENT	1,015	SYD
REMOVING SIDEWALK	100	SYD
REMOVING CONCRETE PARAPET	112	LFT
EARTH EXCAVATION	25	CYD
EMBANKMENT (LM)	30	CYD
SUBGRADE UNDERCUTTING, TYPE II	10	CYD
GRANULAR MATERIAL CLASS II	35	CYD
REMOVING BITUMINOUS SURFACE (see sheet no. S-33)	196	SYD

- REMOVAL LEGEND**
- REMOVING PAVEMENT
 - REMOVING SIDEWALK
 - REMOVING BITUMINOUS SIDEWALK
 - REMOVING CONCRETE BRIDGE PARAPET
- PAVING PLAN LEGEND**
- CONC. PAV'T. WITH INTEGRAL CURB-REINF. 9"
 - CONC. BASE COURSE WITH INT. CURB-REINF. 9" AND 2" BITUMINOUS SURFACE
 - REMOVING BITUMINOUS SURFACE & RESURFACE
 - CONCRETE SIDEWALK, 6"
 - BITUMINOUS SIDEWALK, 4" (see note 6, this sheet)
 - BRIDGE PARAPET ON CONC. WALK
 - CLASS "A" SODDING WITH 3" TOPSOIL
 - BACKFILL AND CLASS "A" SODDING
 - CLASS C-76-III 12" SEWER IN TRENCH DETAIL B
 - CATCH BASIN "A"
 - ADJUSTING DRAINAGE STRUCTURE COVER, CASE 2
 - TRANSVERSE EXPANSION JOINT
 - TRANSVERSE CONTRACTION JOINT

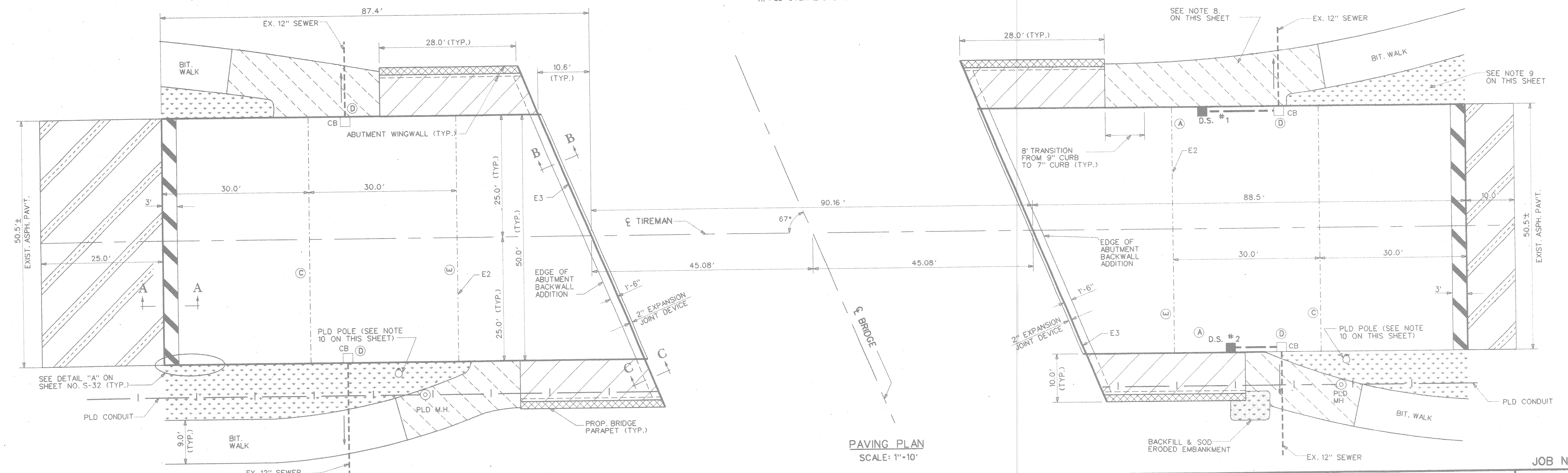


BEFORE STARTING CONSTRUCTION CONTRACTOR MUST CHECK WITH UTILITIES FOR LOCATIONS OF EXISTING STRUCTURES WHETHER OR NOT INDICATED ON PLANS.



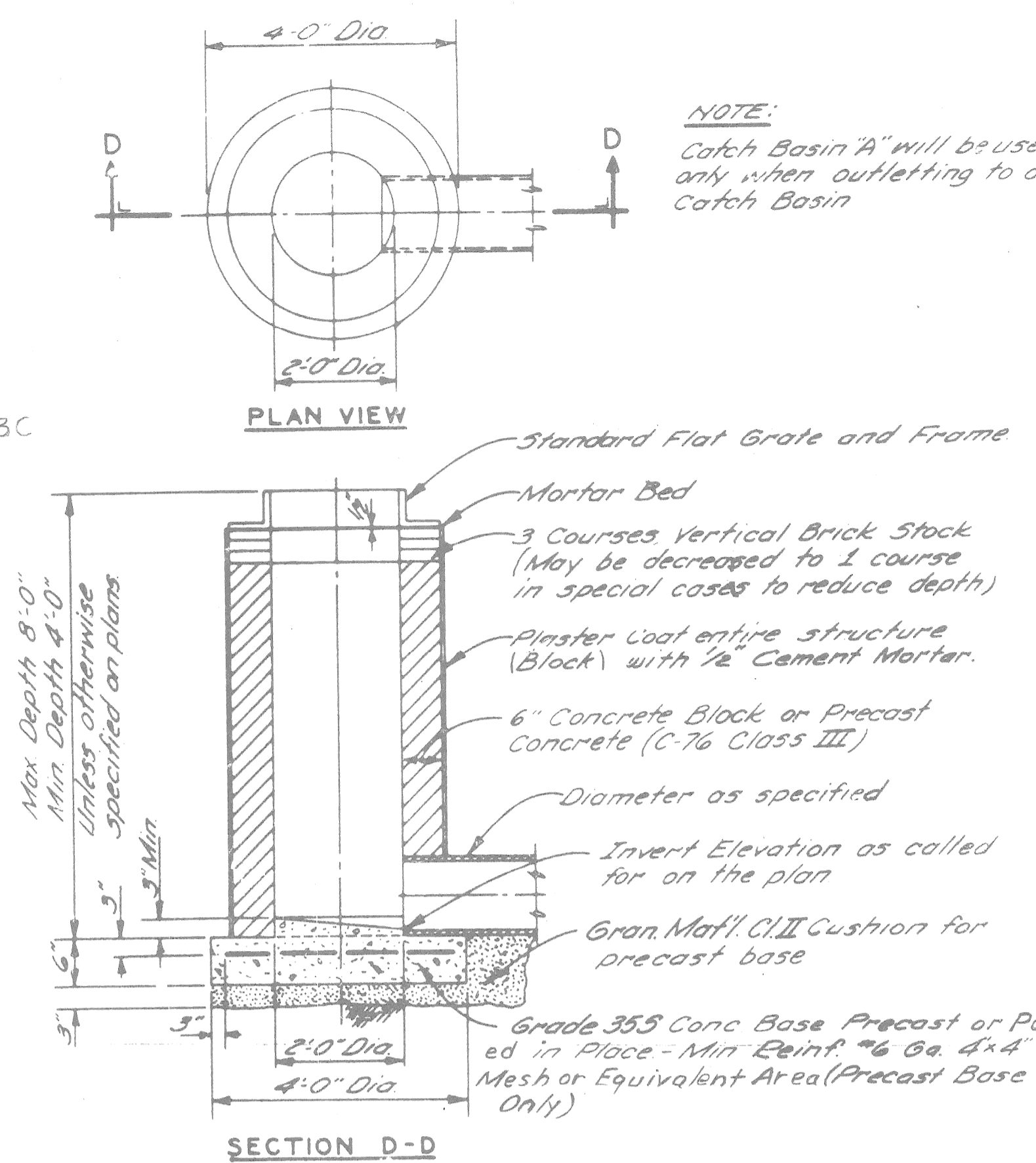
NOTES:

1. FOR SURVEY BENCH MARK LOCATIONS AND ELEVATIONS SEE SHEET NO. S-21.
2. ADD 120.00 TO ELEVATIONS SHOWN.
3. FOR ELEVATIONS SHOWN, "W" DENOTES TOP OF WALK ELEVATIONS, ALL OTHER ELEVATIONS SHOWN ARE PAVEMENT SURFACE ELEVATIONS.
4. FOR PAVING PLAN LEGEND, CROSS SECTIONS AND DETAILS SEE SHEET NO. S-32.
5. FOR DRAINAGE, STRUCTURE DETAILS SEE SHEET NO. S-34.
6. SEE ALSO NOTES ON SHEET NO. S-32 AND ON SHEET NO. S-34.
7. FOR PAY QUANTITIES APPLICABLE TO THIS SHEET, SEE SHEET NO. S-34.
8. REPLACE DISTURBED BITUMINOUS WALK WITH 1" BIT. MIX 36-A OVER 3" BIT. MIX 3C AS DIRECTED BY THE ENGINEER.
9. RESTORE DISTURBED GROUND AREAS WITH CLASS "A" SODDING ON 3" TOPSOIL AS DIRECTED BY THE ENGINEER.
10. PLD POLE TO BE RELOCATED BY PLD.
11. PLD OVERHEAD LINE TO BE DEACTIVATED BY PLD DURING CONSTRUCTION.



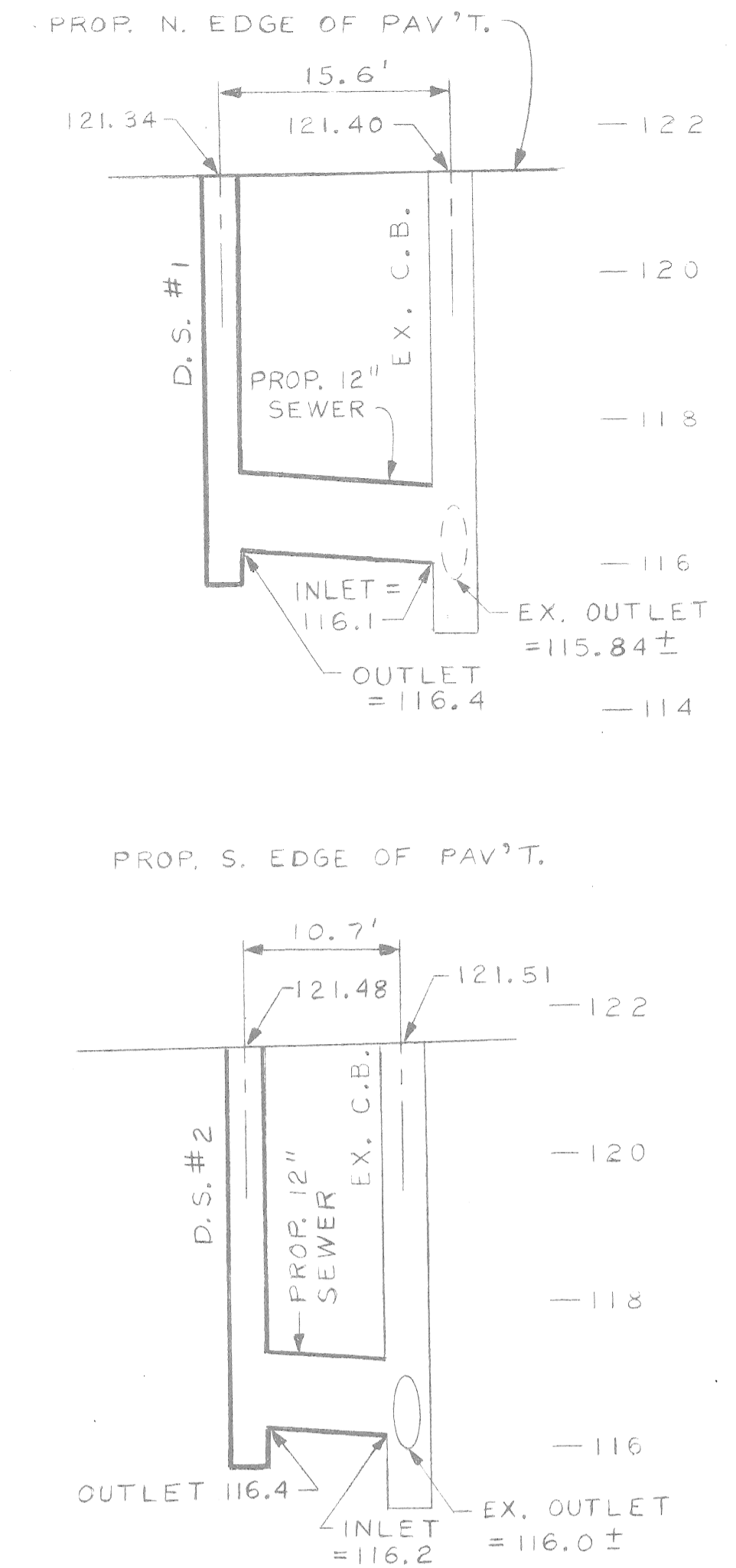
<p>REVISIONS</p>		<p>BY: N.W.,K.M.</p> <p>CHECKED BY:</p> <p>APPROVED: <i>Earl C. Howard</i></p>	<p>CITY OF DETROIT</p> <p>CITY ENGINEERING DIVISION - D.P.W.</p> <p>BUREAU OF STREETS AND HIGHWAYS</p>	<p>TIREMAN AVENUE BRIDGE OVER ROUGE RIVER (BW-265)</p> <p>APPROACH PAVING PLAN AND DETAILED GRADES</p>	<p>JOB NO. 36917A</p> <p>SHEET S-33 OF SHEETS</p> <p>CONTRACT NO.</p> <p>ASSIGNMENT NO. 93-22-17</p> <p>DATE MAR., 1997</p>
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- NOTES
1. Install 12-inch dia. C-76-III sewers in trench detail B.
 2. Verify diameters and invert elevations of existing sewers in the field.
 3. For a profile view of the existing bridge parapet see sheet no. S-23.
 4. For details of the proposed parapet see sheet no. S-26. See also MDOT Standard Plan X-18D, "Bridge Railing, Solid Parapet Type".
 5. Transverse contraction joints on approach sidewalks shall be spaced at 6 ft. intervals.
 6. Replace disturbed bituminous walk with 1" MDOT Bit. Mix 36A over 3" MDOT Bit. Mix 3C or other approved mixture as directed by the Engineer.
 7. Restore disturbed ground areas with Class A sodding on 3" topsoil as directed by the engineer.
 8. Backfill eroded embankment with selected excavated material (included with construction).
 9. For PLD manhole reconstruction see sheet no. S-35.
 10. For PLD conduit reconstruction see sheet no. S-35.
 11. Provide double-yellow L pavement markings conforming to Detroit DOT Field Pavement Marking Standards No. SG-50. Markings are to be of polyester material.

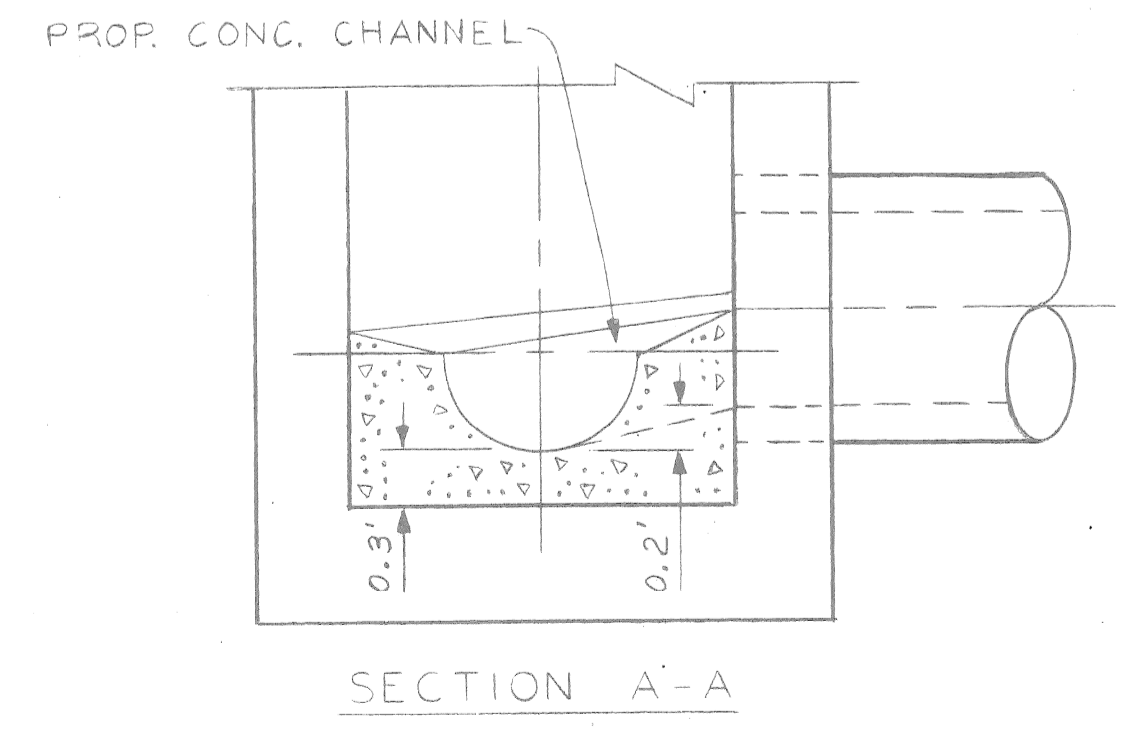
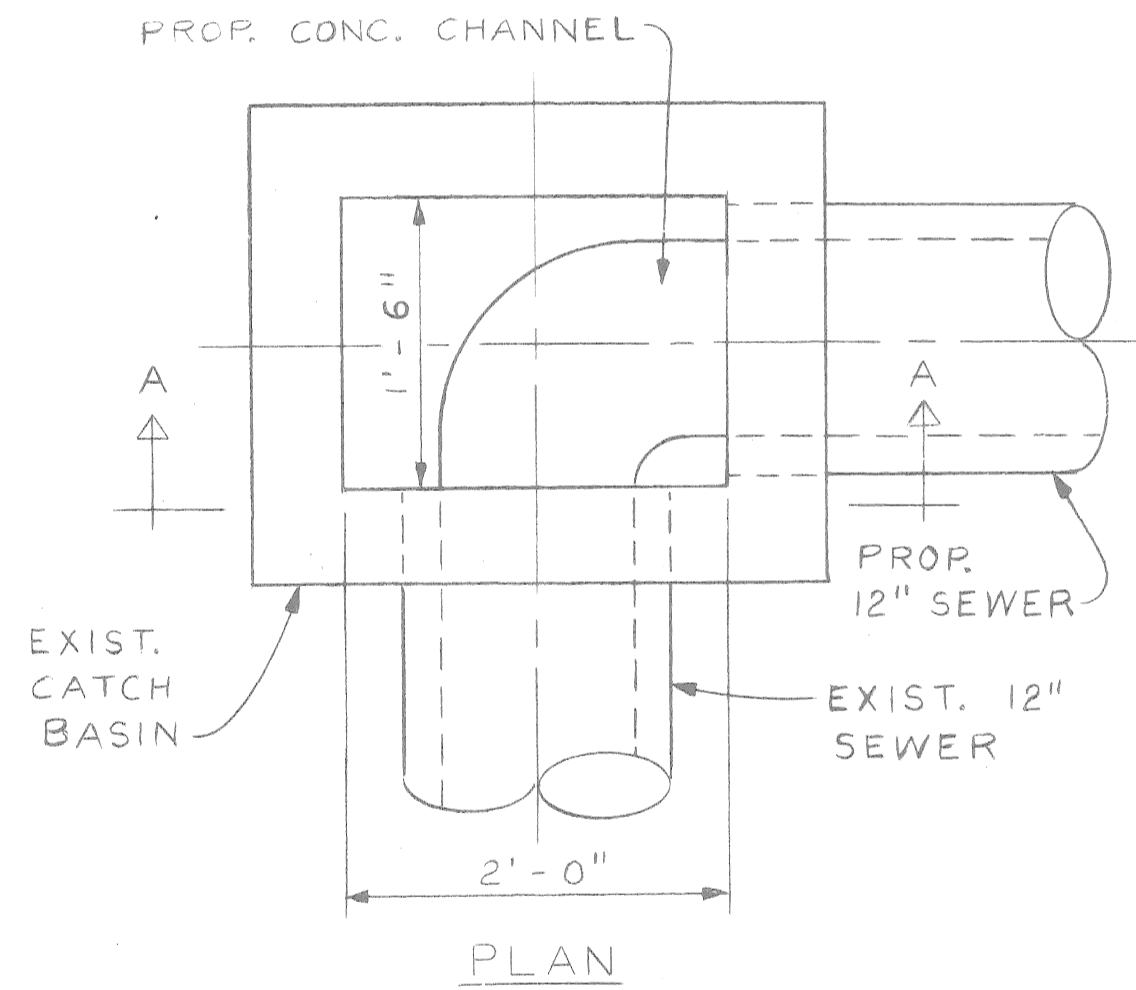


NOTE:
Catch Basin 'A' will be used only when outletting to a Catch Basin

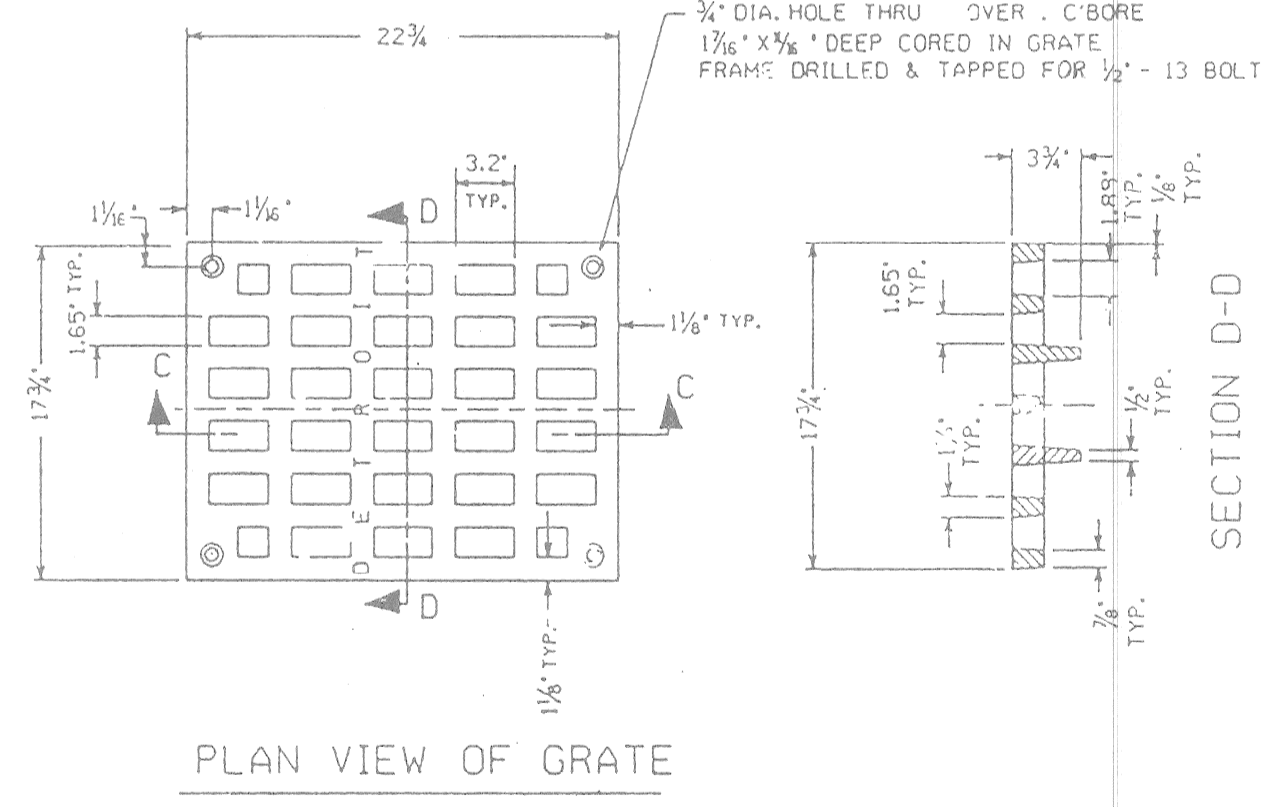
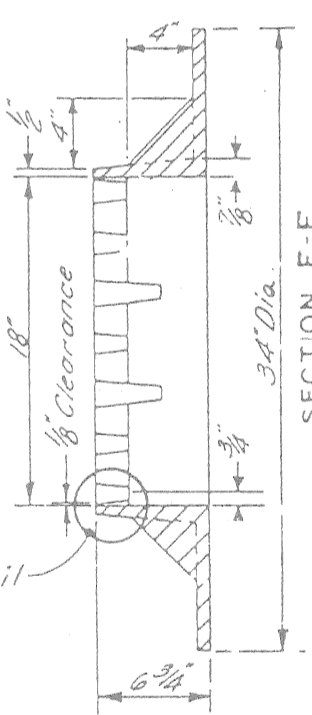
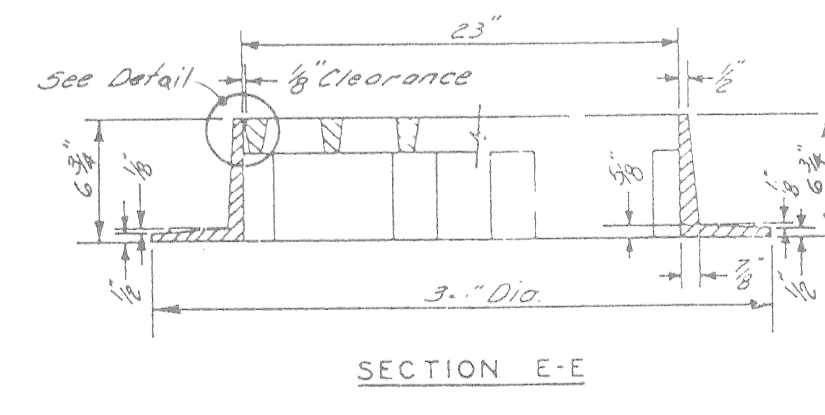
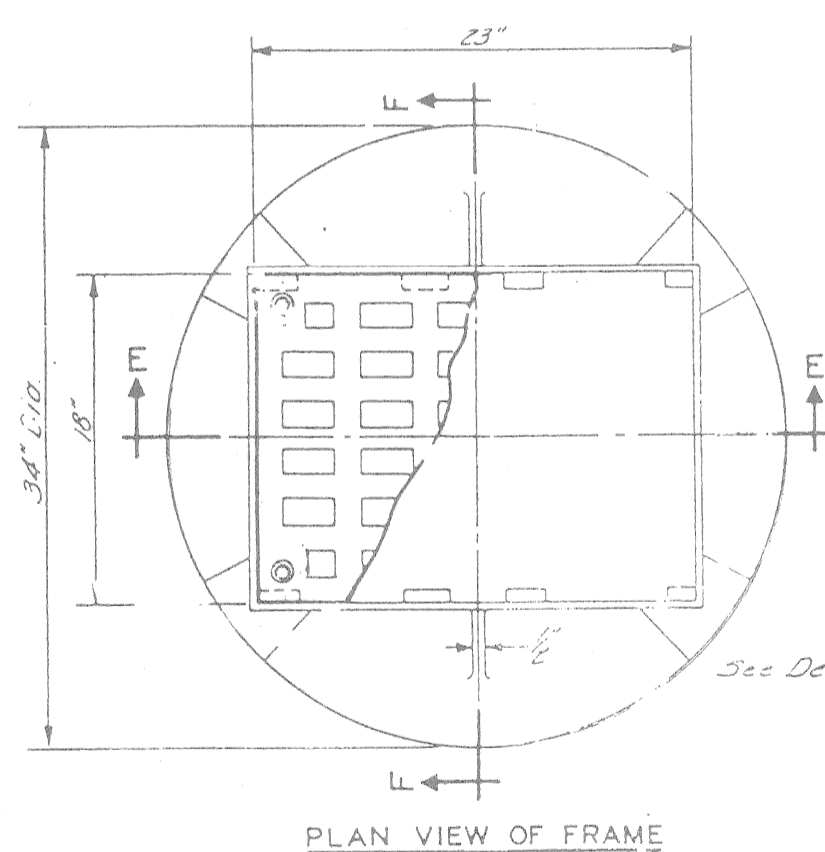
PAY QUANTITIES		
ITEM	QUANTITY	PAY UNIT
AGGREGATE BASE UNDER CONCRETE (4" IN PLACE)	1,043	SYD
JOINT WATERPROOFING	230	SFT
CONCRETE SIDEWALK, 6"	1,120	SFT
CONCRETE PAVEMENT WITH INTEGRAL CURB-REINF. 9"	1,005	SYD
BRIDGE RAILING, SOLID PARAPET TYPE	112	LFT
CLASS C-76-III SEWER, 12" TRENCH DETAIL B	27	LFT
SEWER TAP, 12"	2	EACH
SEWER CLEANOUT	300	LFT
ADJUSTING DRAINAGE STRUCTURE COVER, CASE 2	6	EACH
MISC. CATCH BASIN TYPE A	2	EACH
BITUMINOUS MIXTURE, 3C	23	TON
BITUMINOUS MIXTURE, 4C	25	TON
BITUMINOUS MIXTURE, 36A	7	TON
OVERLAY COLD PLASTIC PAVEMENT MARKING, 4" YELLOW	440	LFT
CLASS A SODDING	124	SYD
WATER	2	UNIT
TOPSOIL SURFACE, 3"	124	SYD
CLEANING DRAINAGE STRUCTURE	4	EACH
CONTRACTION JOINT C	100	LFT
EXPANSION JOINT E2	100	LFT
EXPANSION JOINT E3	152	LFT



DRAINAGE STRUCTURE DETAILS
SCALE: 1" = 10' HORIZ.
1" = 2' VERT.

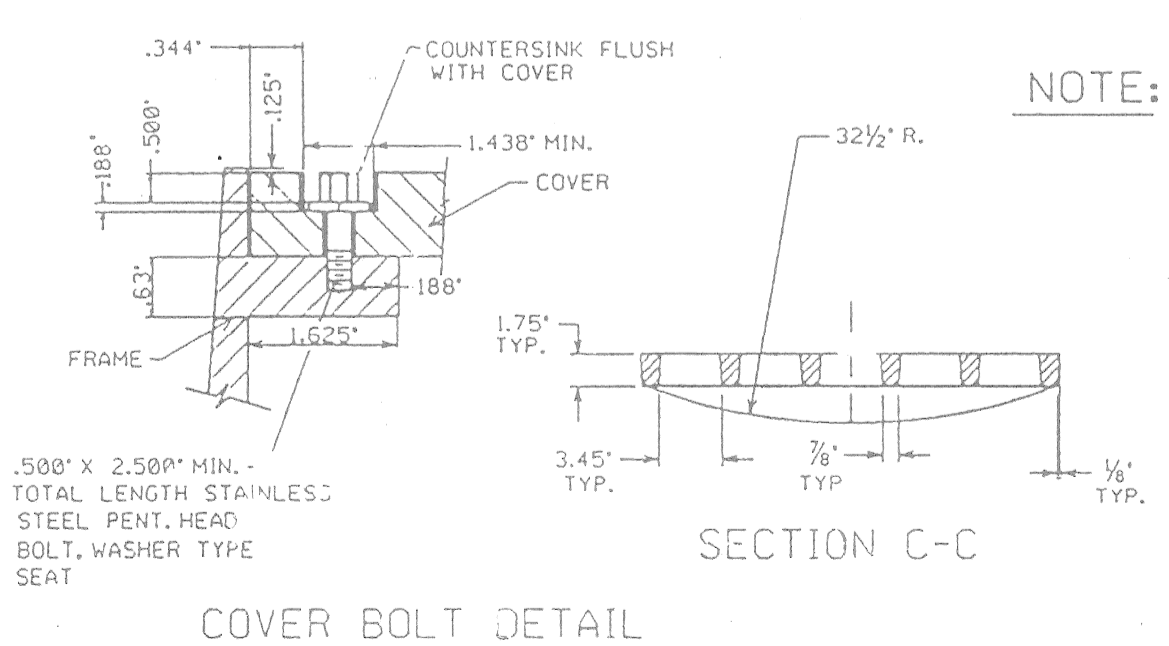


DETAIL OF EXISTING CATCH BASIN
SCALE 1" = 1'-0"



MATERIAL: GRAY IRON A.S.T.M. STD. SPEC. A-48, CL. 30. BEARING SURFACES OF COVER AND FRAME SHALL BE GRIND TO PREVENT ROUGHING. CASTING SHALL NOT BE COATED.

NOTE: F= FINISH SURFACE



COVER BOLT DETAIL
STANDARD FLAT GRATE AND FRAME
NO SCALE

CATCH BASIN NOTES

1. The materials & workmanship shall be in accordance with the current standard specifications.
2. Center of Catch Basin shall be 20 inches from back of curb.
3. All sizes & flow lines of pipe, and elevations for top & bottom of structures shall be determined from the plans or construction requirements. The bell shall be removed from the first length of outlet pipe projecting through the wall of the structures. When any structure is constructed of precast concrete or concrete block, the top of the masonry shall be left sufficiently low to permit proper adjustment of cover to grade by the use of mortar or bricks as directed by the Engineer.
4. A plaster coat of mortar 1/2 inch in thickness shall be applied to the outer surface of the structure as shown. A 1/2 inch cement plaster coat shall be placed on the inside of all sumps.
5. Contractor shall verify elevations of existing utilities to enable construction to indicated elevations shown on drawings. If necessary, invert elevations shown on the drawings may be altered in the field to clear existing utilities. Such alterations, upward or downward, shall be at no change in contract price.
6. When precast concrete pipe sections are used for catch basins, either a section of the inlet and outlet pipes or an opening c-eye for the inlet & outlet pipes shall be cast into the wall of the catch basin pipe when it is being manufactured. Eyes in precast pipe sections shall be furnished to accommodate a flexible joint connection such as Press-Wedge by Press Seal Gasket Corp or Res-Seal by Seales, Mfg. Corp.

Job No. : 36917A

BY	CHECKED BY	APPROVED:
PLAN	N.W.	<i>Evel C. Haw...</i> ENGINEER OF STREETS
GRADE		
ESTIMATE		
DESCRIPTION	DRN	CK D
REVISIONS	AP	VOI
	DATE	
FINAL	CHECK	REVIEW

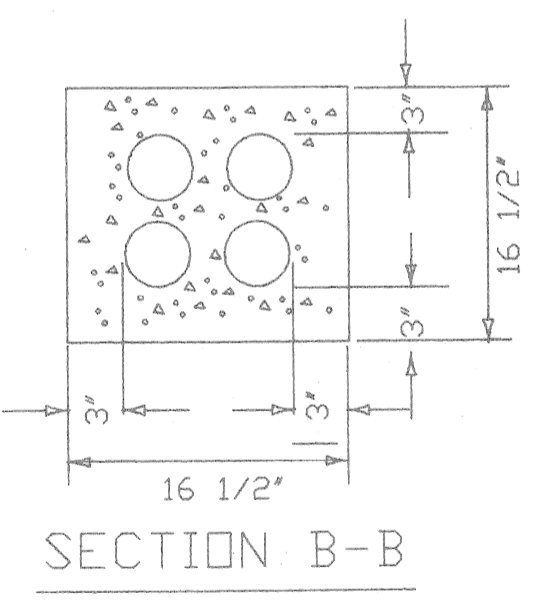
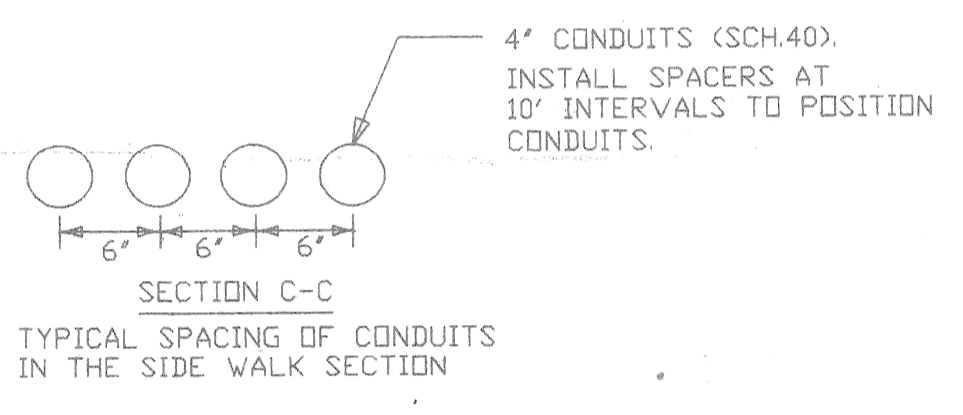
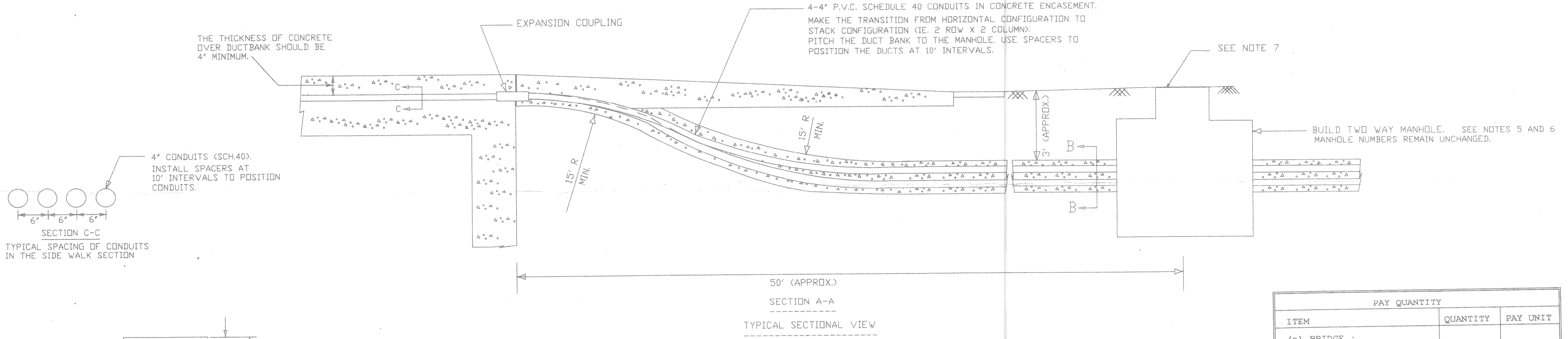
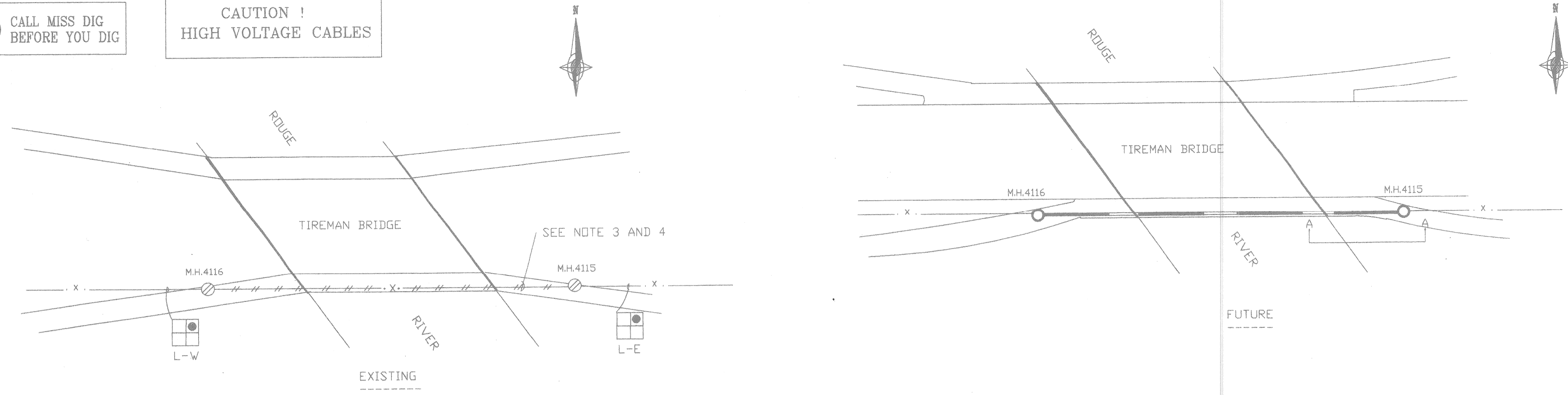
CITY OF DETROIT
CITY ENGINEERING DIVISION, D.P.W.
BUFEAU OF STREETS AND HIGHWAYS

TIREMAN AVENUE BRIDGE OVER ROUGE RIVER (BW-265)
DRAINAGE STRUCTURE DETAILS

SHEET S-34 OF SHEETS
CONTRACT NO.
ASSIGNMENT NO. 93-22-17
DATE MAR., 1997

CALL MISS DIG BEFORE YOU DIG

CAUTION ! HIGH VOLTAGE CABLES



LEGEND

- X --- EXISTING DUCT BANK
- X --- DISMANTLE THE EXISTING DUCT BANK
- ⊗ DISMANTLE THE MANHOLE
- ⊙ EXISTING DUCT WITH CABLE
- NEW DUCT BANK
- BUILD NEW MANHOLE

NOTE

1. REFER TO P.L.D. DRAWING NO. 101 FOR ENCASED CONDUIT BANK. (S-37)
2. REFER TO P.L.D. DRAWING NO. 104 FOR MANHOLE CONSTRUCTION. (S-40)
3. THE CONTRACTOR SHOULD DO ANY WORK ONLY AFTER THE HIGH VOLTAGE CABLES AND COMMUNICATION CABLES ARE CUT AND REMOVED. THE CABLES WILL BE REMOVED AND REINSTALLED AS A FORCE ACCOUNT WORK BY P.L.D. CONTACT P.L.D. ENGINEERING DIVISION (313) 267-7801 THREE WEEKS IN ADVANCE FOR ARRANGING CABLE WORK.
4. ALL THE DEBRIS OF THE DISMANTLED MANHOLES SHOULD BE REMOVED BEFORE NEW MANHOLES AND DUCTS ARE INSTALLED.
5. THE NEW MANHOLE SHOULD BE BUILT TO ACCOMMODATE THE EXISTING DUCT BANK ON ONE SIDE AND THE NEW DUCT BANK ON THE OTHER SIDE. THE MANHOLE SHOULD BE GROUNDED AND CABLE RACKS SHOULD BE INSTALLED PER P.L.D. SPECS. PRECAST MANHOLE MAY BE INSTALLED PER APPROVAL BY P.L.D.
6. THE DUCT BANKS SHOULD BE TERMINATED IN THE DUCT POCKETS OF THE MANHOLES PER P.L.D. SPECIFICATIONS.
7. P.L.D. APPROVED MANHOLE FRAME AND COVER SHOULD BE INSTALLED.
8. PLEASE CONTACT P.L.D. INSPECTORS BEFORE STARTING ANY WORK.
MR. SIDNEY BASS (313)267- 7340
MR. KEN HARDWAY (313)267- 6043
9. THE CONTRACTOR SHOULD NOTIFY P.L.D. SYSTEM OPERATOR (313) 224- 0500 48 HRS. PRIOR TO PERFORMING ANY WORK.
10. REFER TO THE FOLLOWING SPECIFICATIONS:
CITY ENGINEERING DEPARTMENT STANDARD SPECIFICATIONS FOR PAVING AND RELATED CONSTRUCTION (DIVISION 15 WITH SPECIAL PROVISIONS FOR ELECTRICAL WORK).
11. REFER TO SHT S-37 TO S-41 FOR CITY OF DETROIT STANDARD PLANS FOR PUBLIC LIGHTING DEPARTMENT.

PAY QUANTITY		
ITEM	QUANTITY	PAY UNIT
(a) BRIDGE :		
Misc. Conduit Bank	90	LFT
(b) APPROACH WORK :		
Misc. Manhole	2	EACH
Misc. Encased Conduit Bank	100	LFT
Manhole-Remove	2	EACH
Misc. Duct Bank-Remove	1	LSUM

NOT TO SCALE

JOB NO. : 36917A

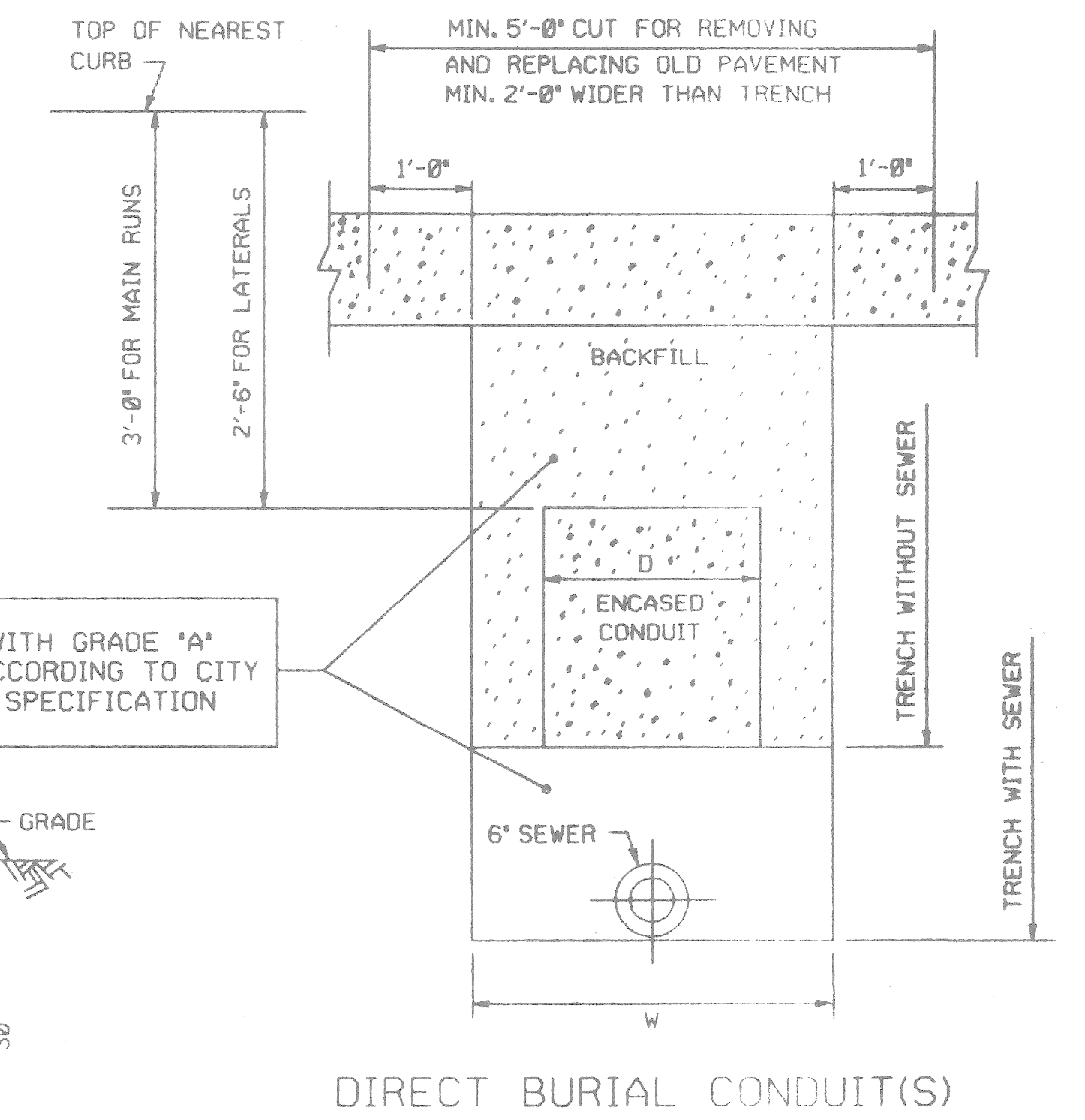
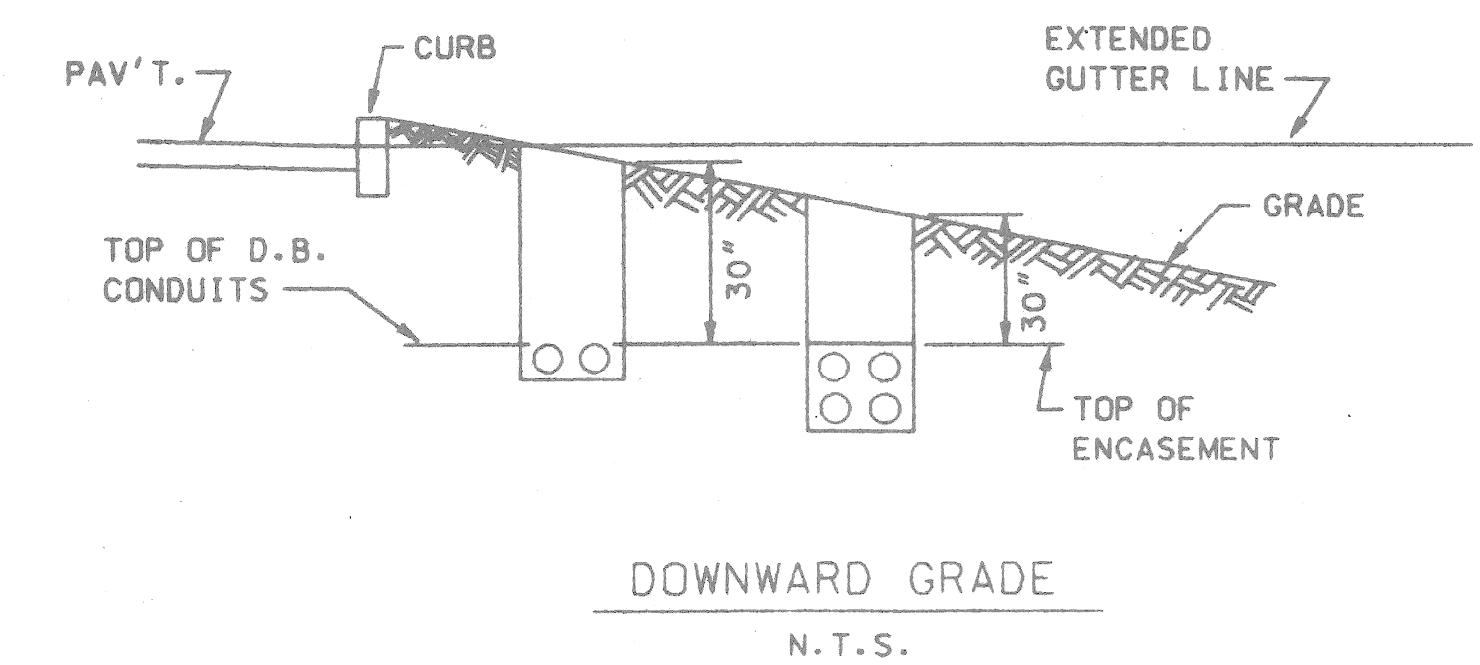
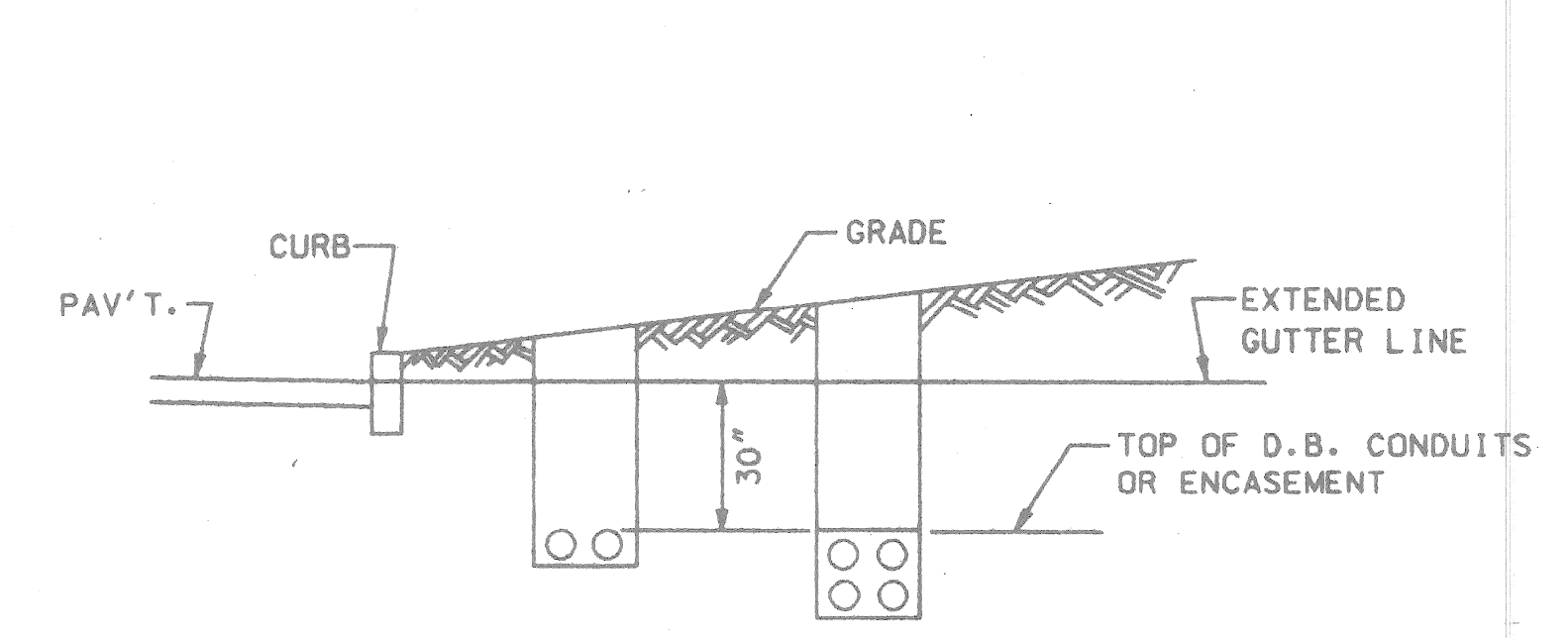
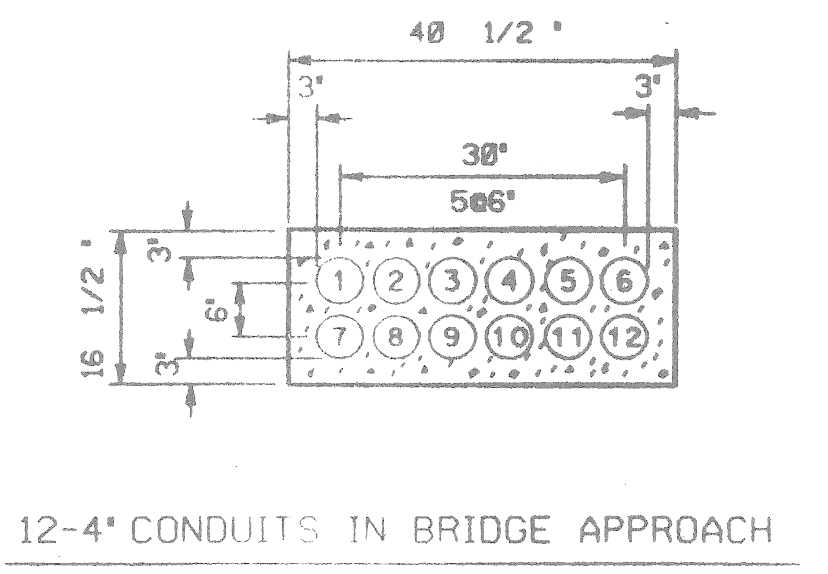
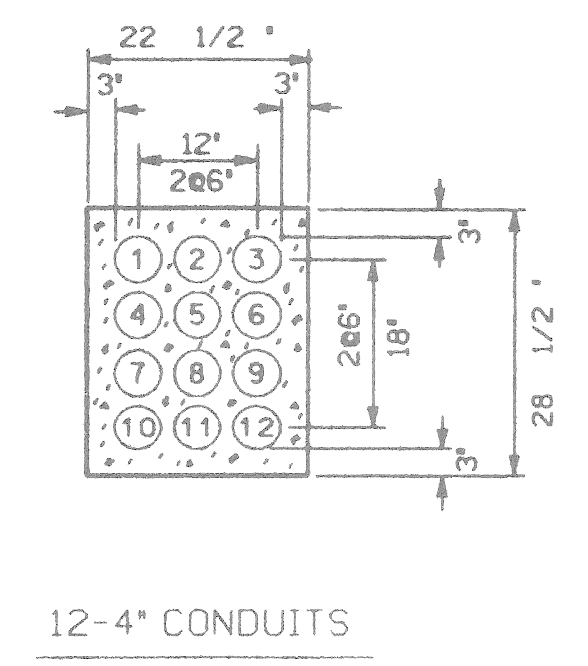
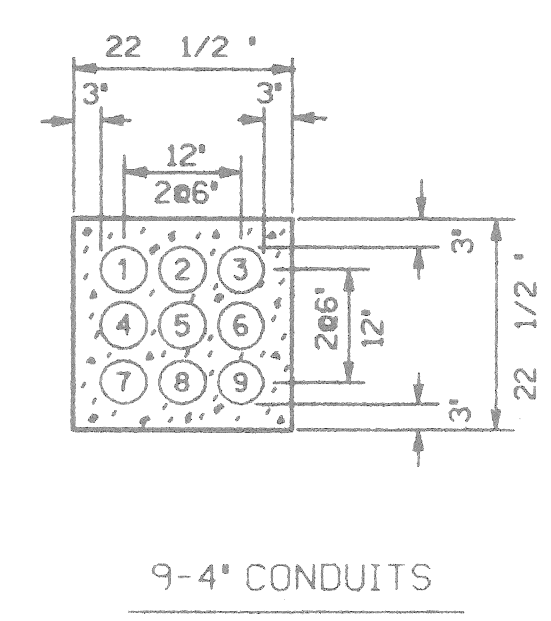
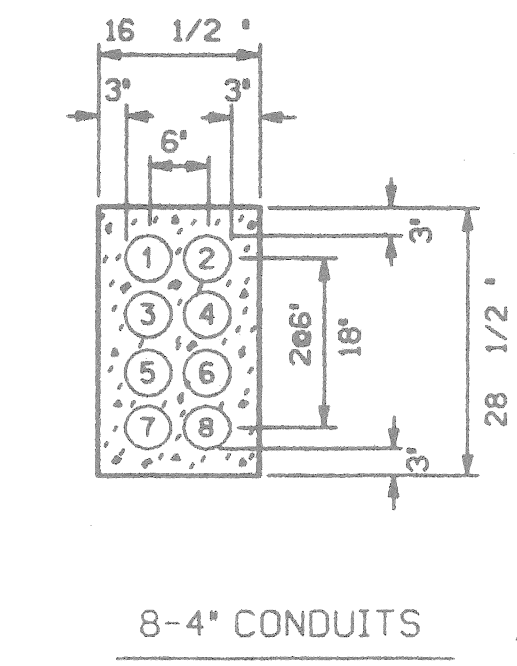
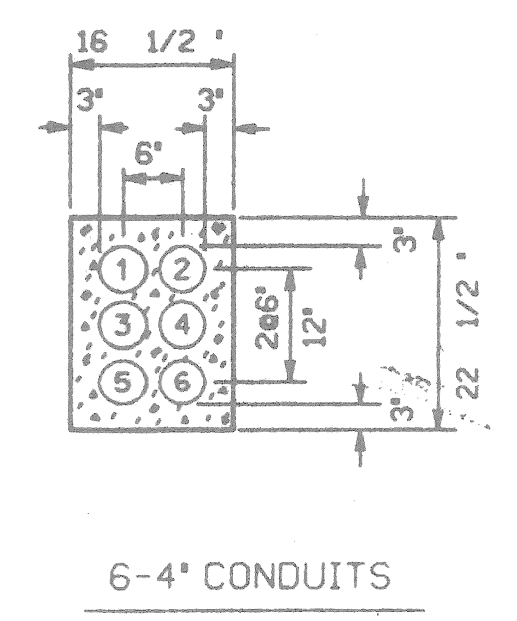
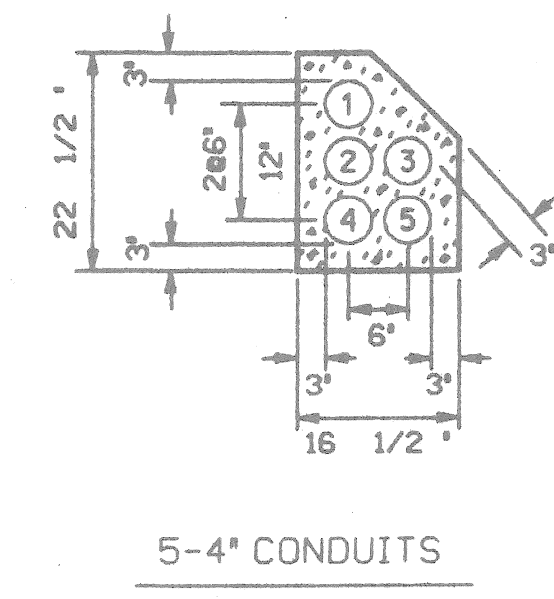
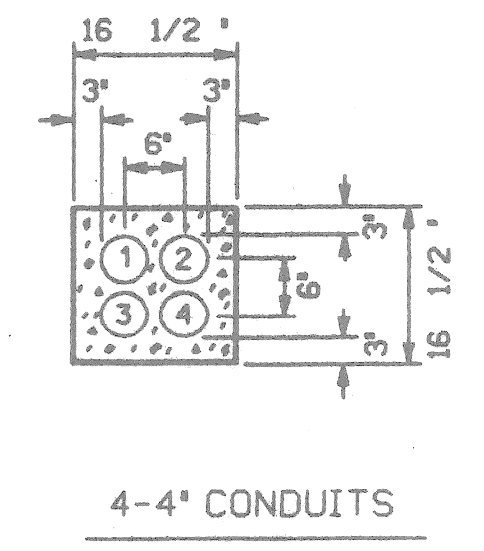
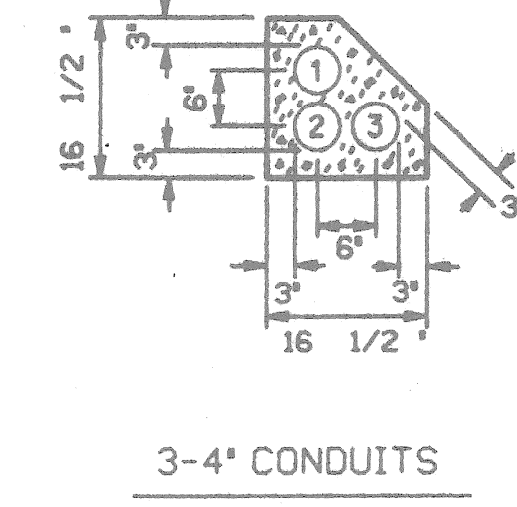
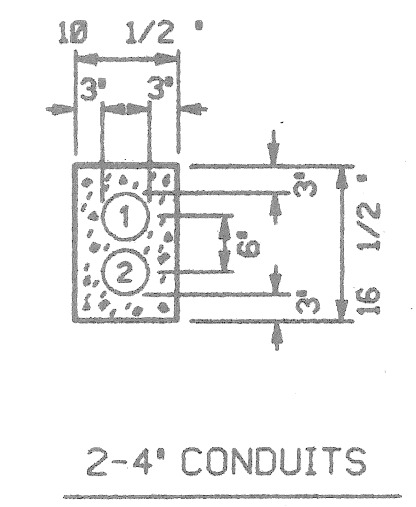
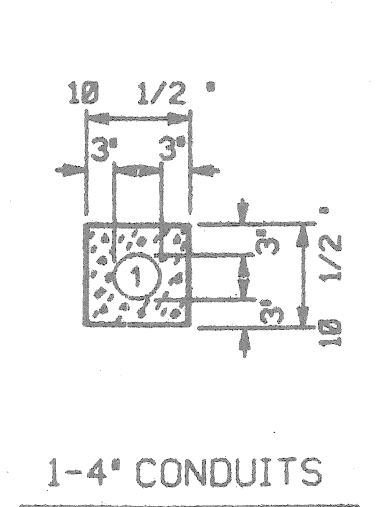
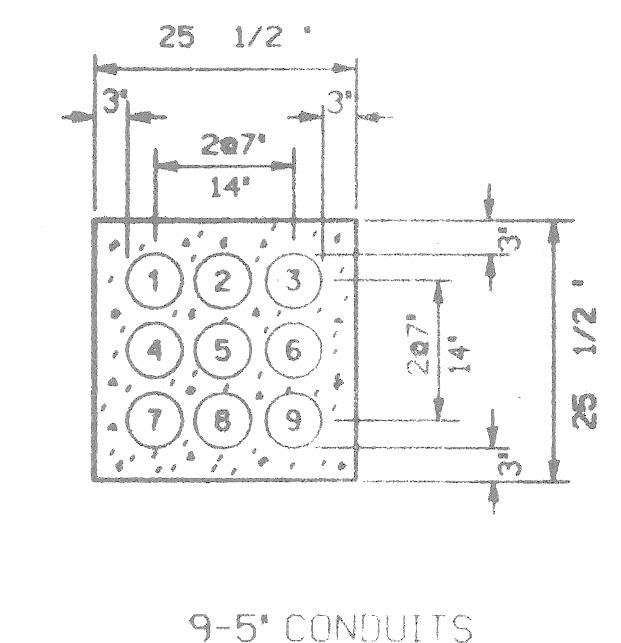
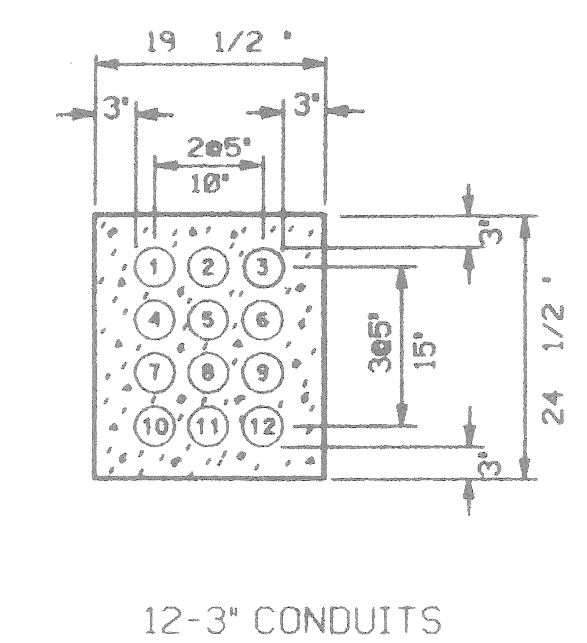
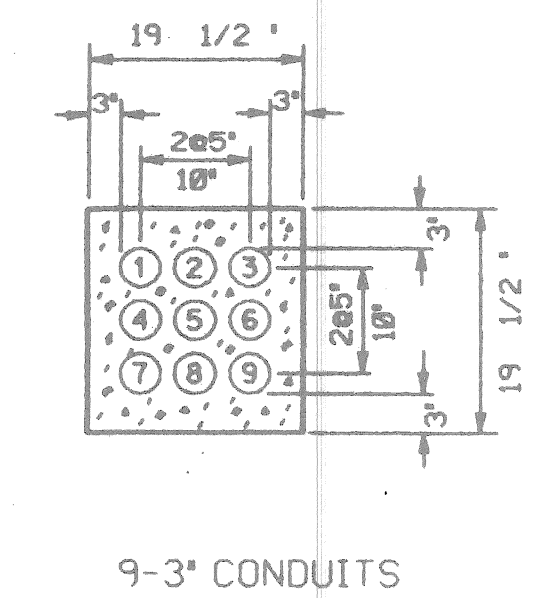
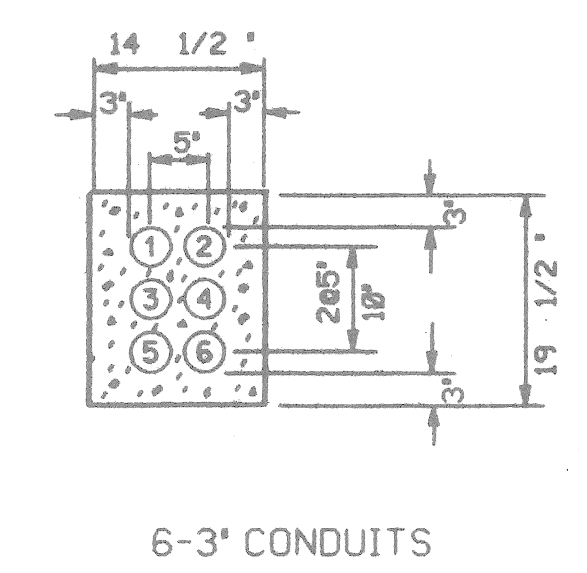
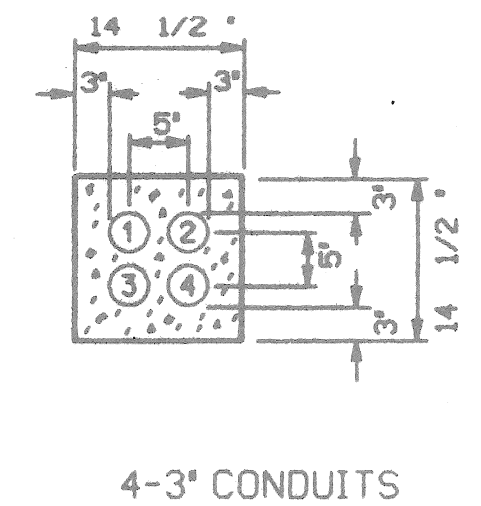
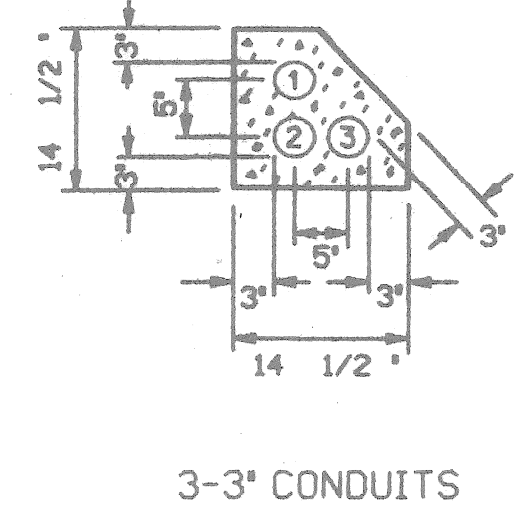
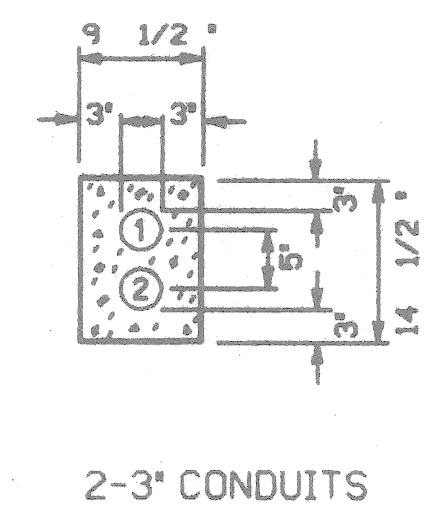
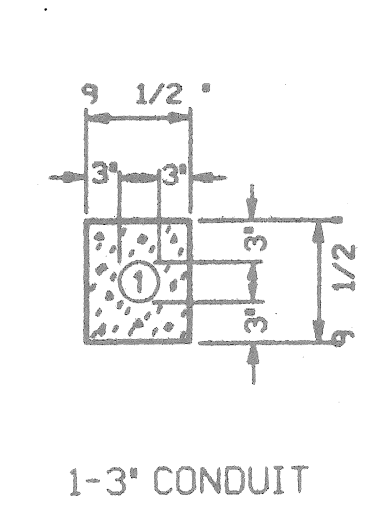
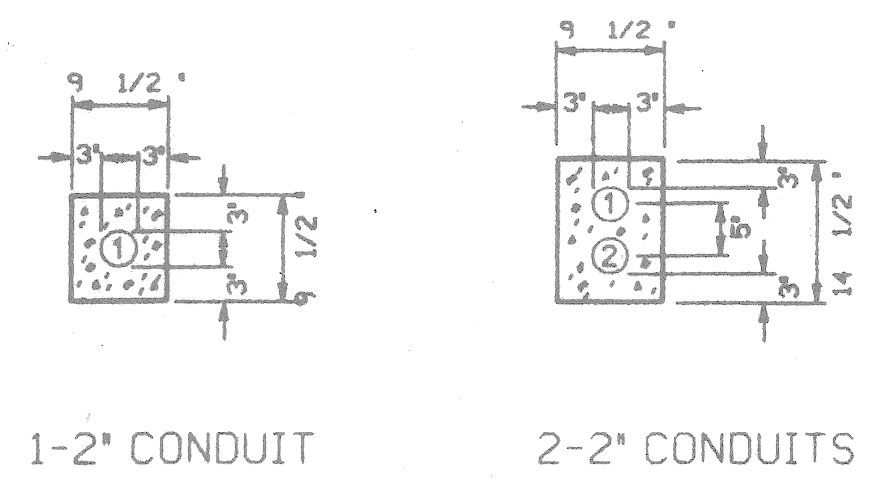
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	CONDUIT CHANGED FROM SCHEDULE 80 TO SCHEDULE 40	3/25/1996
	NEW MANHOLE PROPOSED	4/2/1996

TIREMAN BRIDGE IN ROUGE PARK
DETAILS OF CONDUIT RECONSTRUCTION
TIREMAN AND ROUGE RIVER

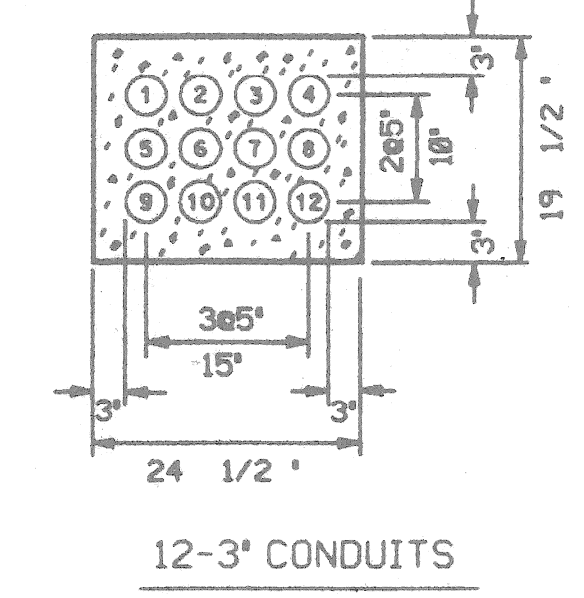
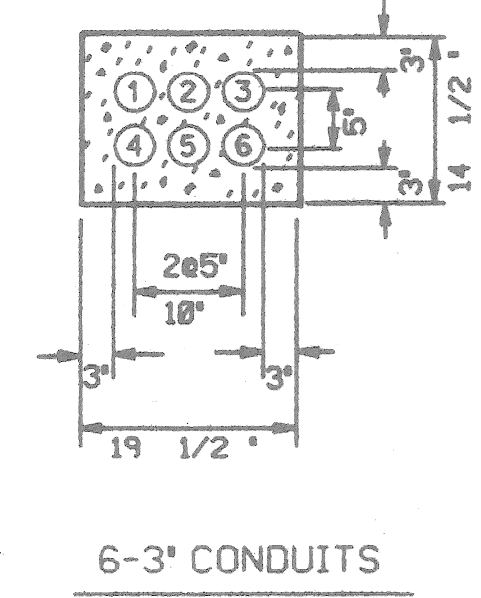
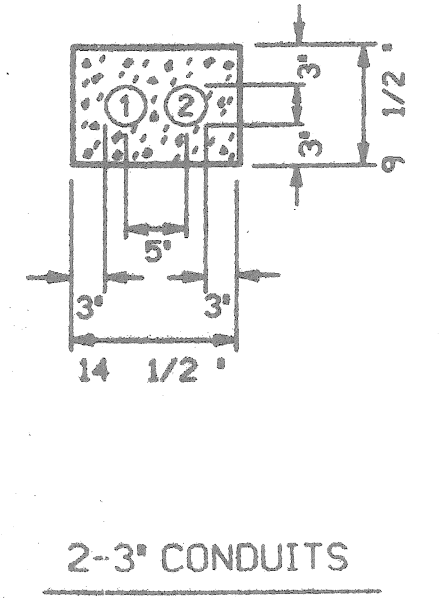
DRAWN BY
CHECKED BY *SS*
APPROVED BY *EC Howard*

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

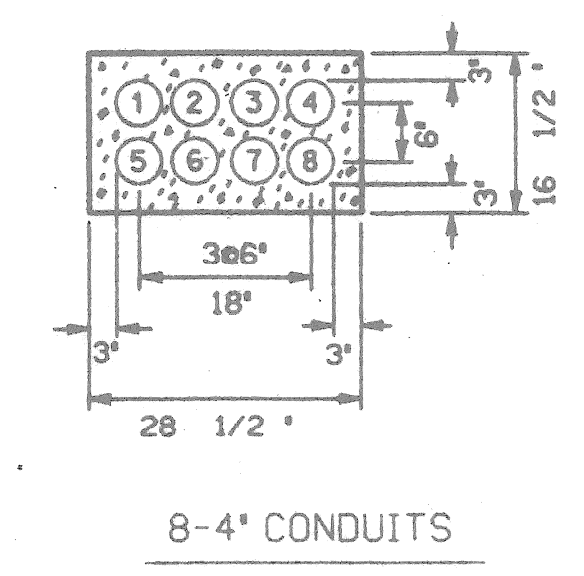
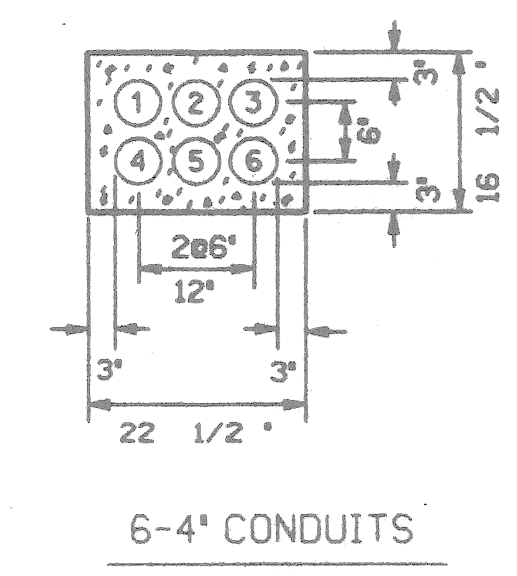
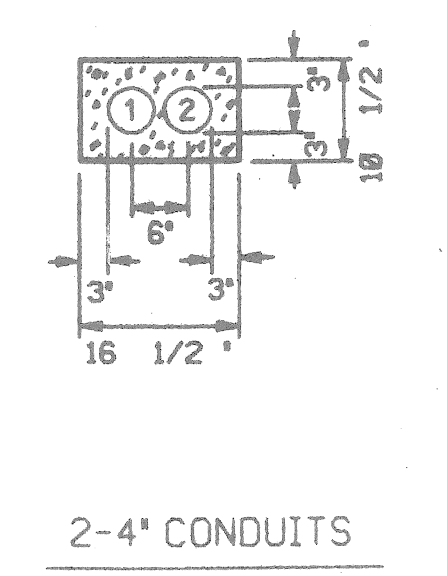
FILE NO. 44-0413
SHEET NO : S-35
ASSIGNMENT NO. 93-22-17
7/28/95



ALTERNATE ARRANGEMENT OF 3" CONDUIT
(TO SUIT FIELD CONDITIONS)
(TO BE APPROVED BY THE ENGINEER)



ALTERNATE ARRANGEMENT OF 4" CONDUIT
(TO SUIT FIELD CONDITIONS)
(TO BE APPROVED BY THE ENGINEER)



NOTE:
THE PREFERRED TRENCH WIDTH "W"
IS THE WIDTH OF "D" OF CONDUIT
ENCASEMENT.

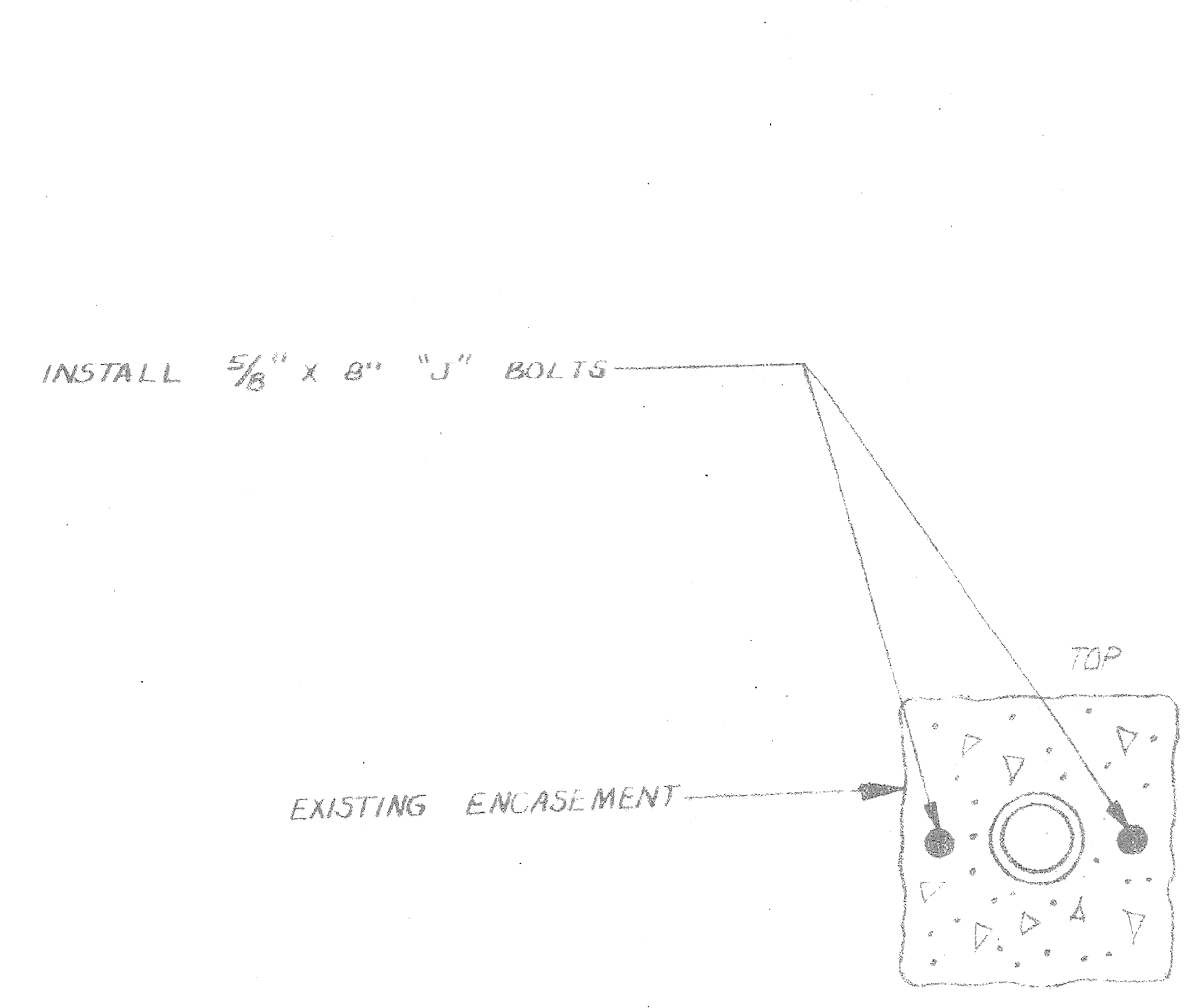
JOB NO. : 36917A

101

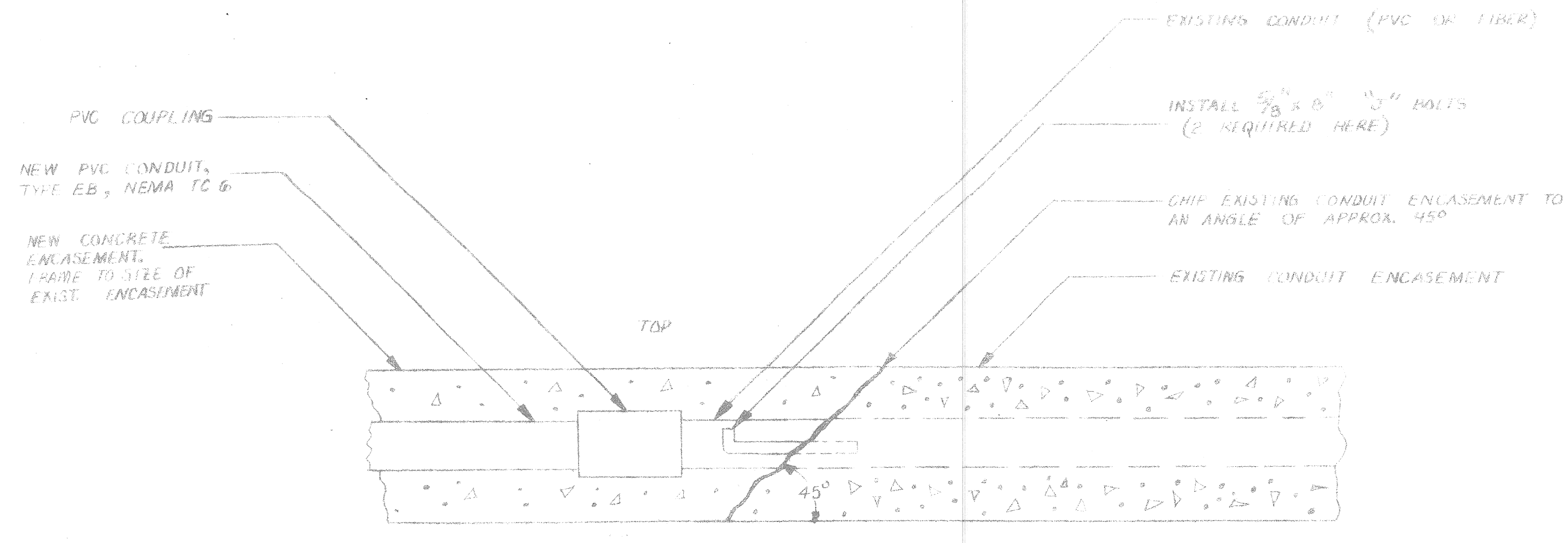
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MISC. ENCASED CONDUIT SECTIONS DETAILS

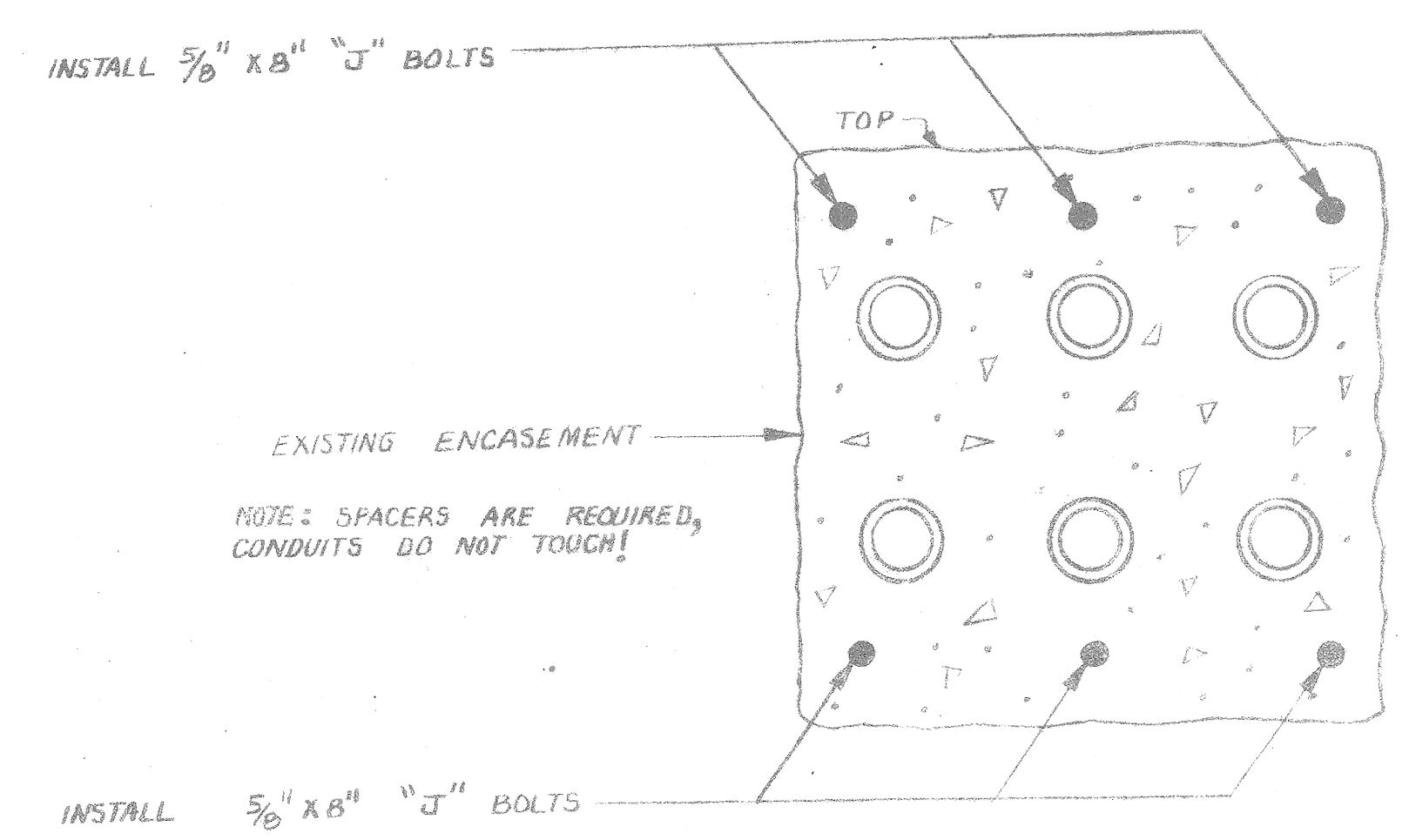
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Checked		ENGINEERING CONSULTANTS					Sheet No.	S-37
Approved		16580 Wyoming Detroit, Mich. 48221					Date	
Date		of	CEA					



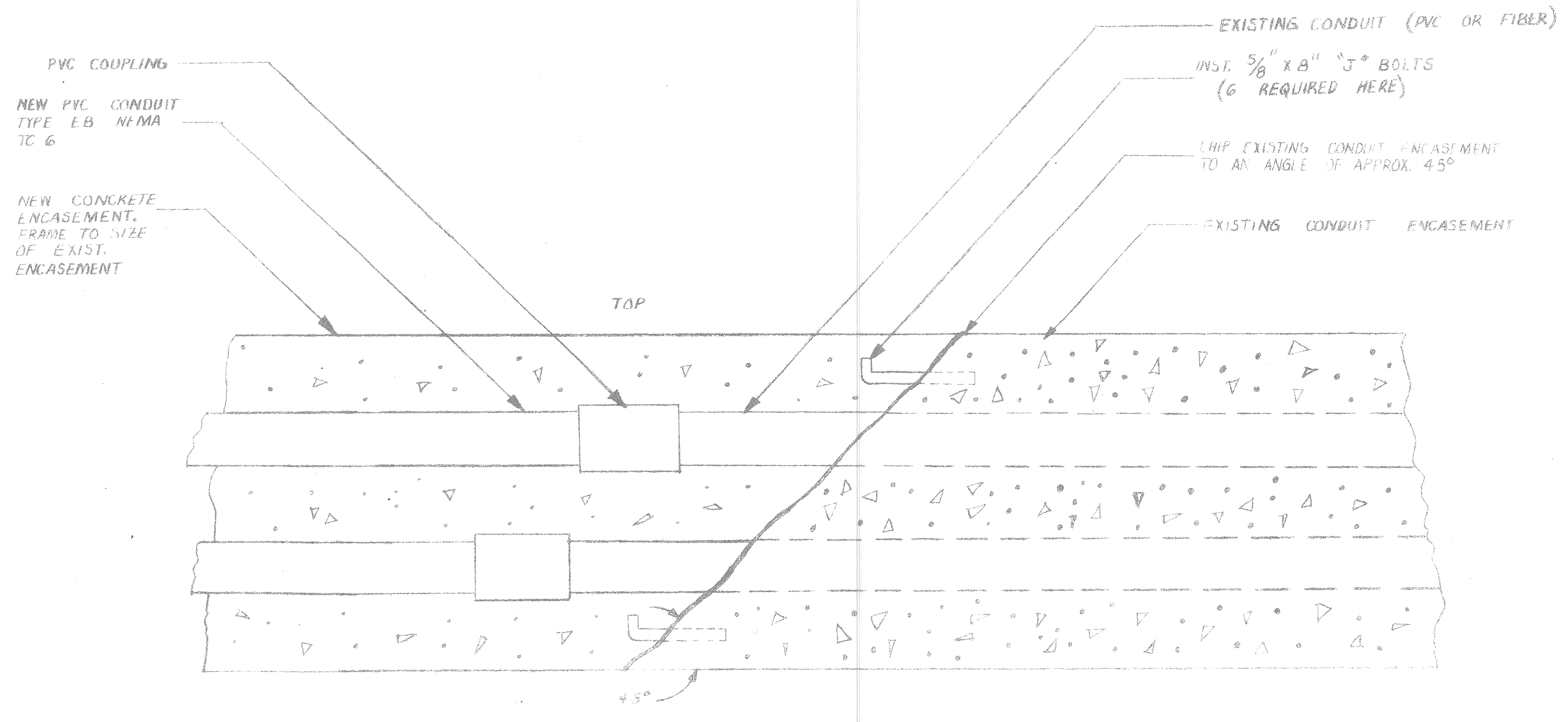
DETAIL A
(N.T.S.)
END VIEW OF CONDUIT ENCASEMENT
SHOWING APPROX. LOCATION OF "J" BOLTS



DETAIL A
(N.T.S.)
SIDE VIEW OF A SINGLE CONDUIT
ENCASEMENT



DETAIL B
(N.T.S.)
END VIEW OF CONDUIT ENCASEMENT
SHOWING APPROX. LOCATION OF "J" BOLTS
(6 REQUIRED)



DETAIL B
(N.T.S.)
SIDE VIEW OF A MULTIPLE
CONDUIT ENCASEMENT

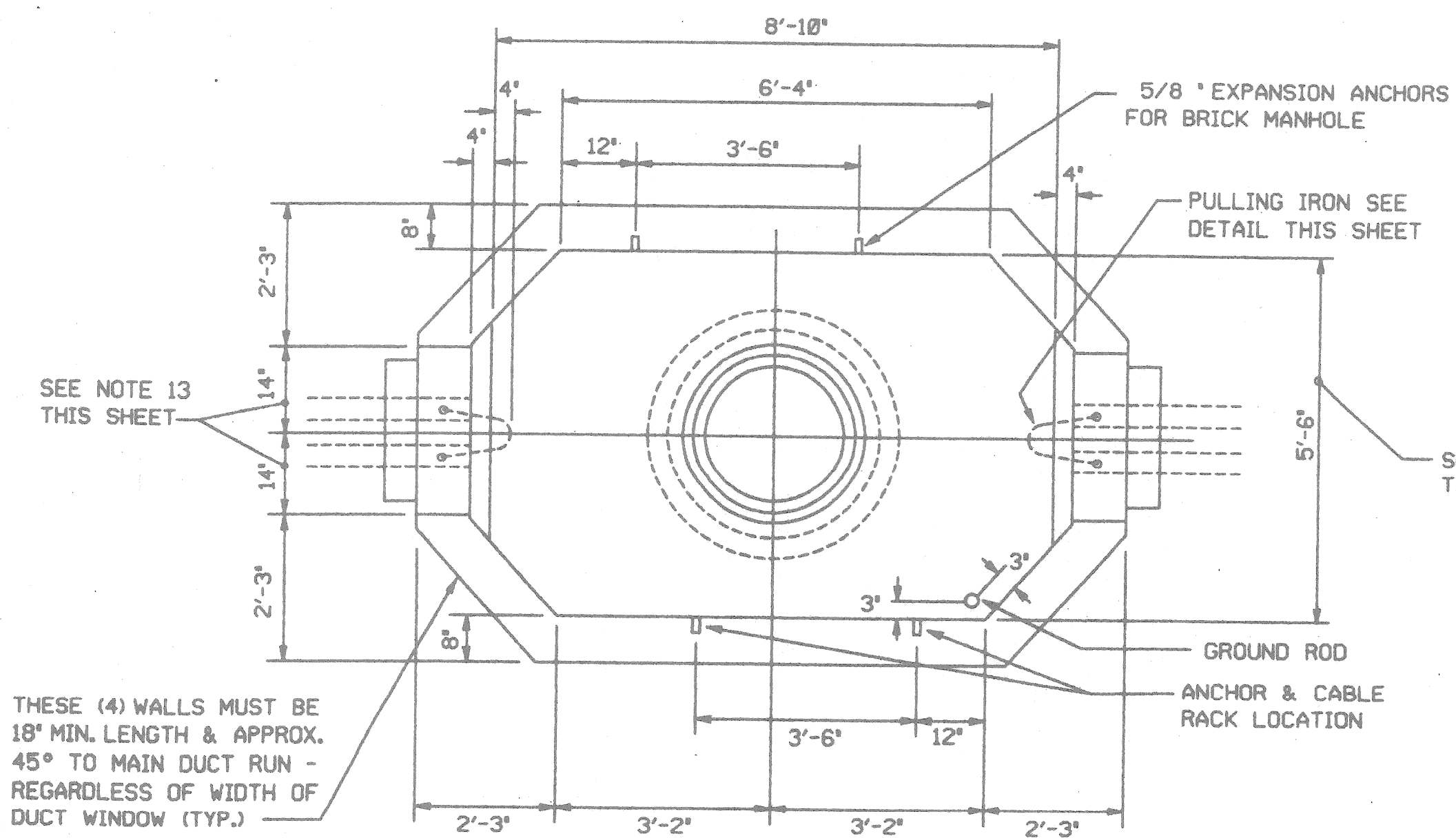
NOTE: TO TERMINATE A NEW CONDUIT SHIP FOR FUTURE EXPANSIONS, REFER TO ALL DRAWINGS R-17 0308

JOB NO. : 36917A

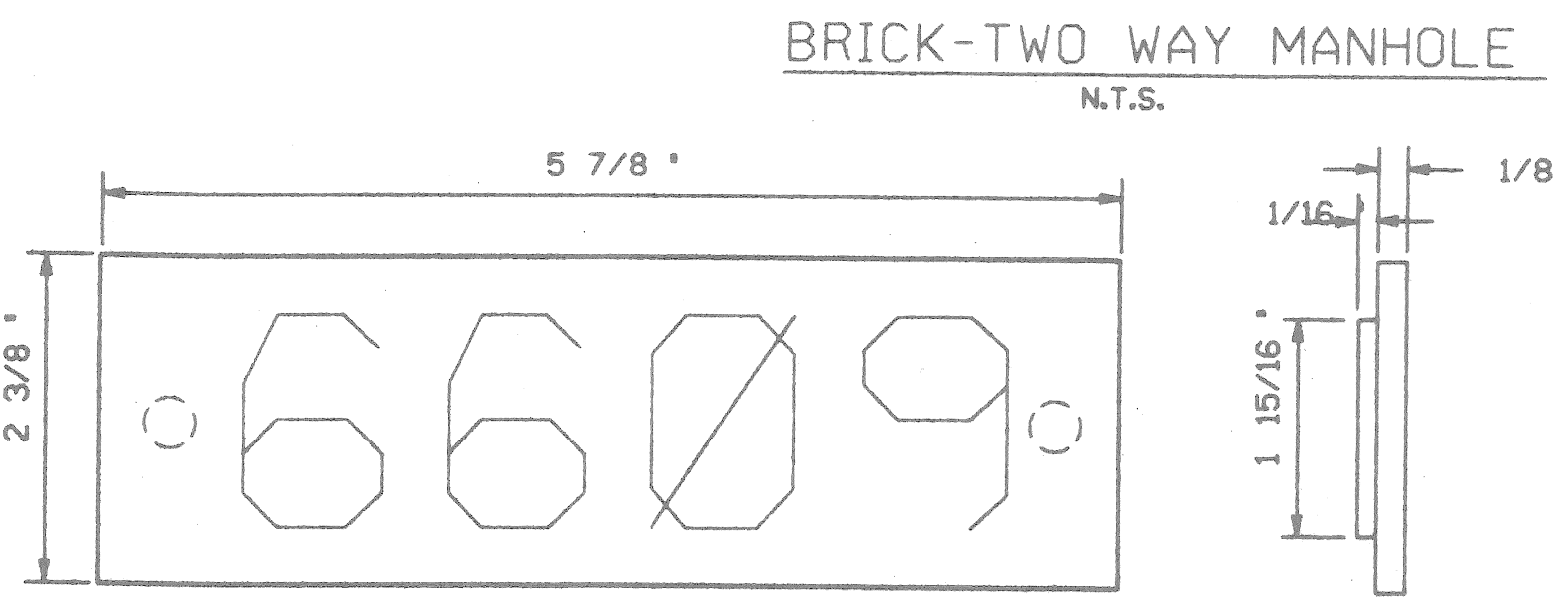
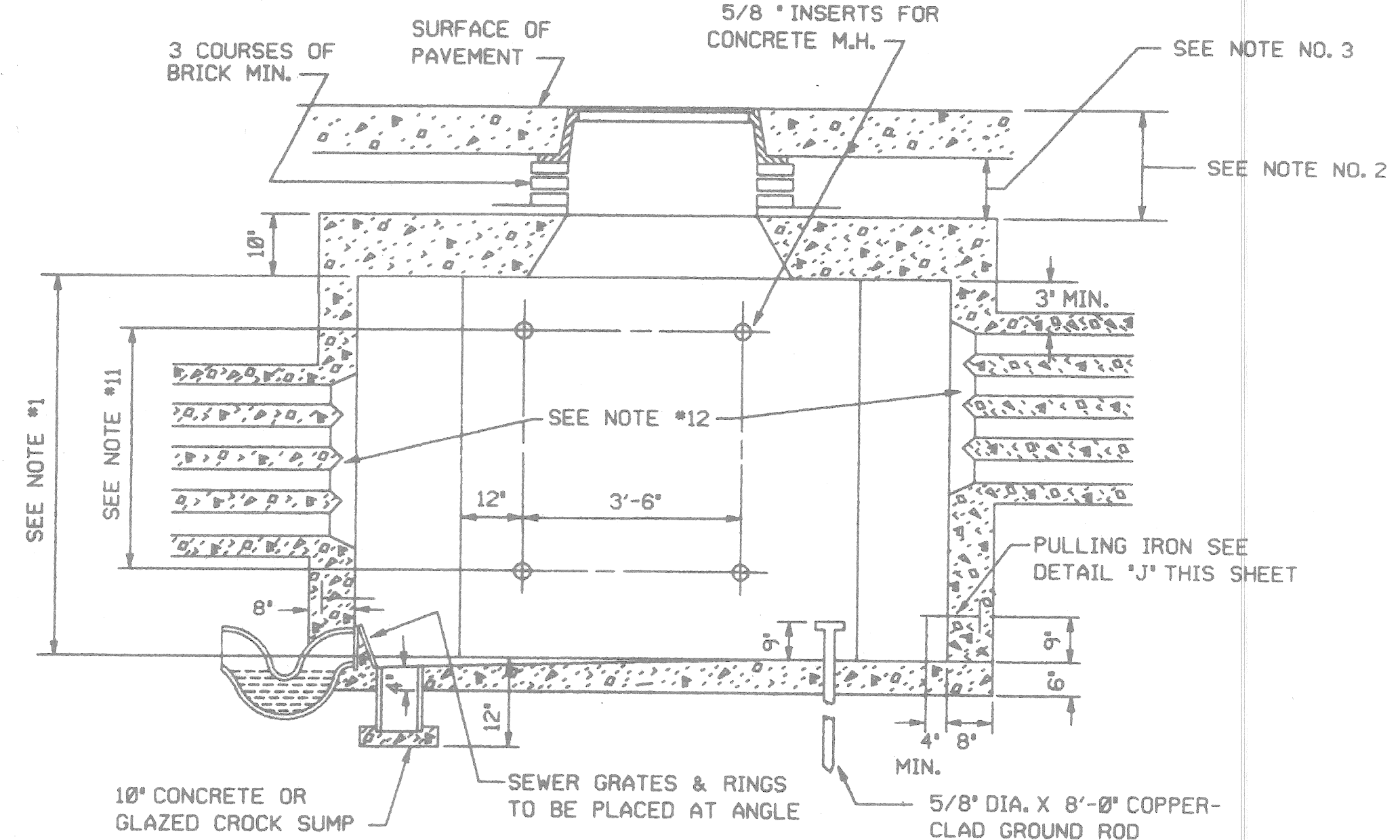
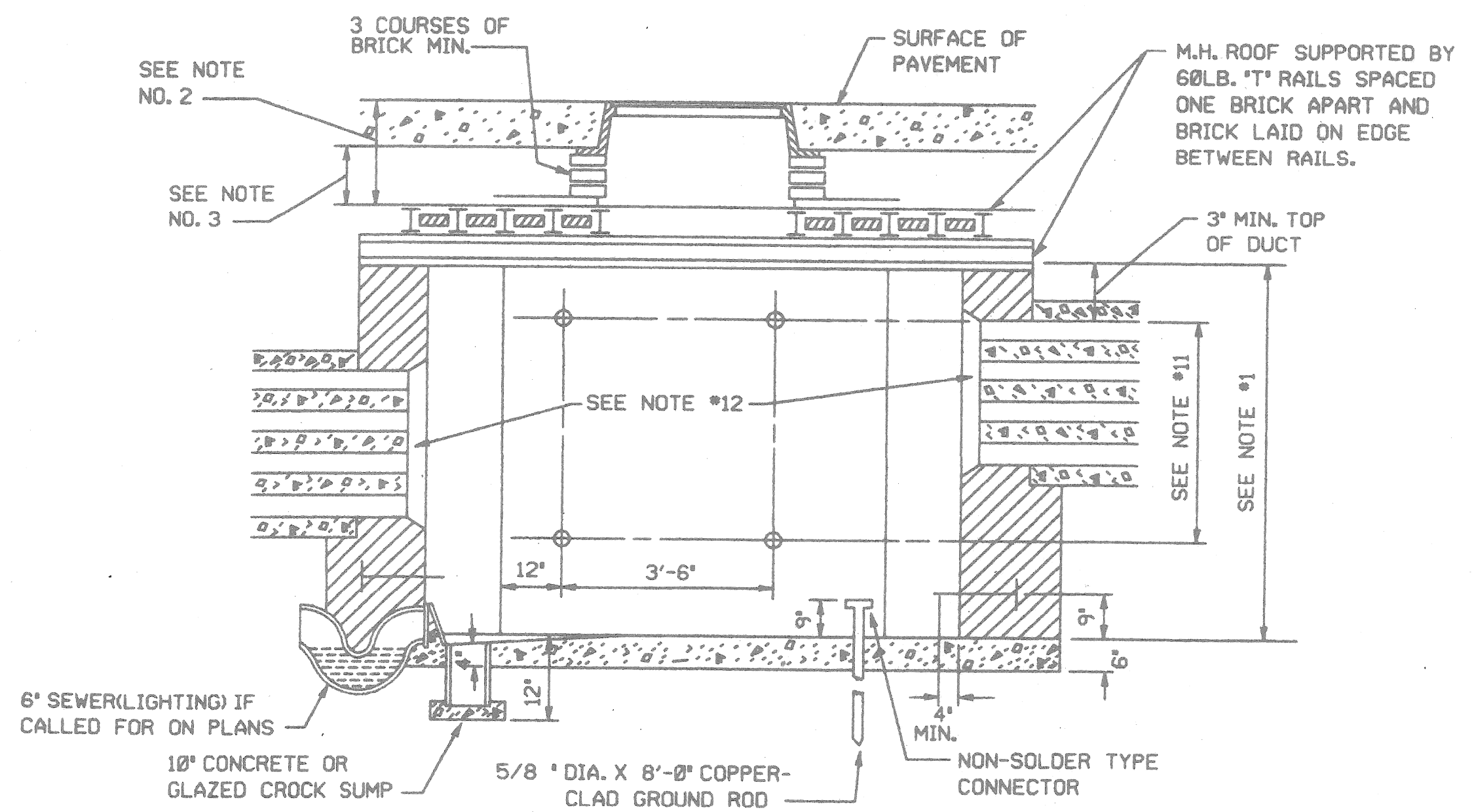
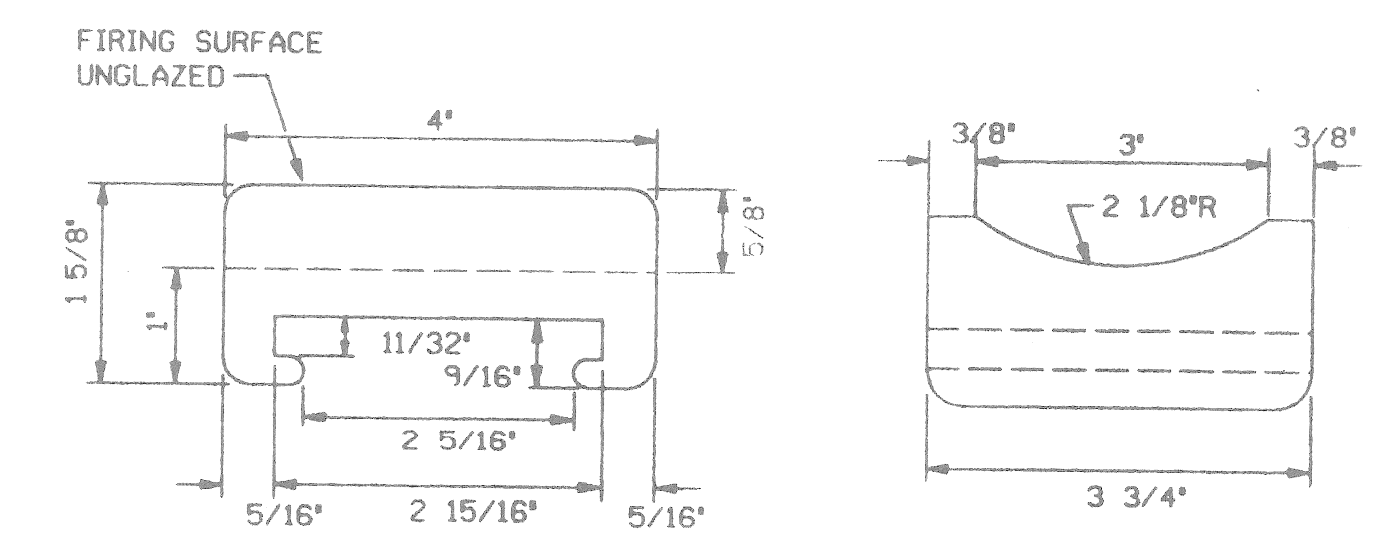
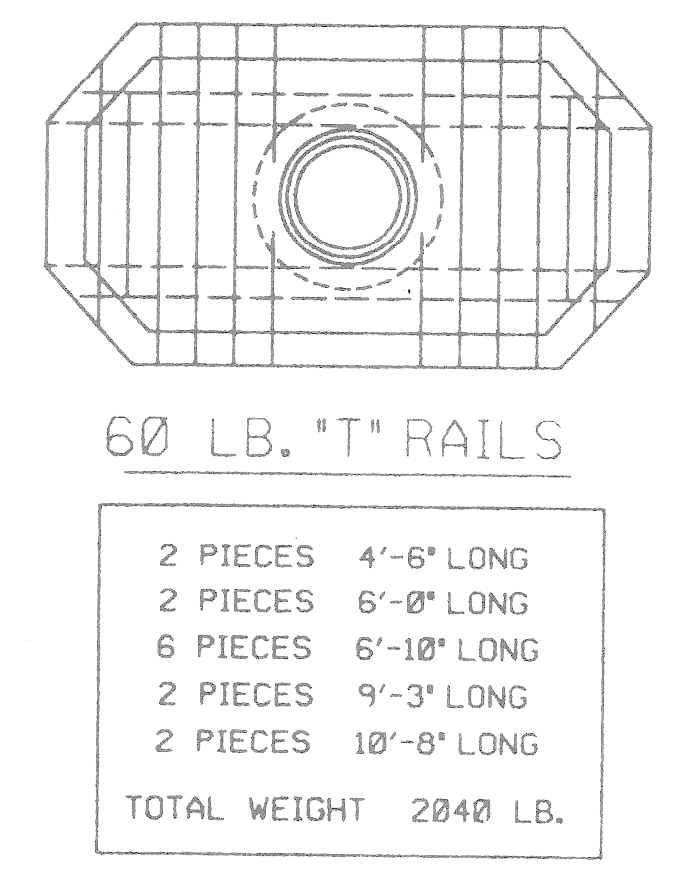
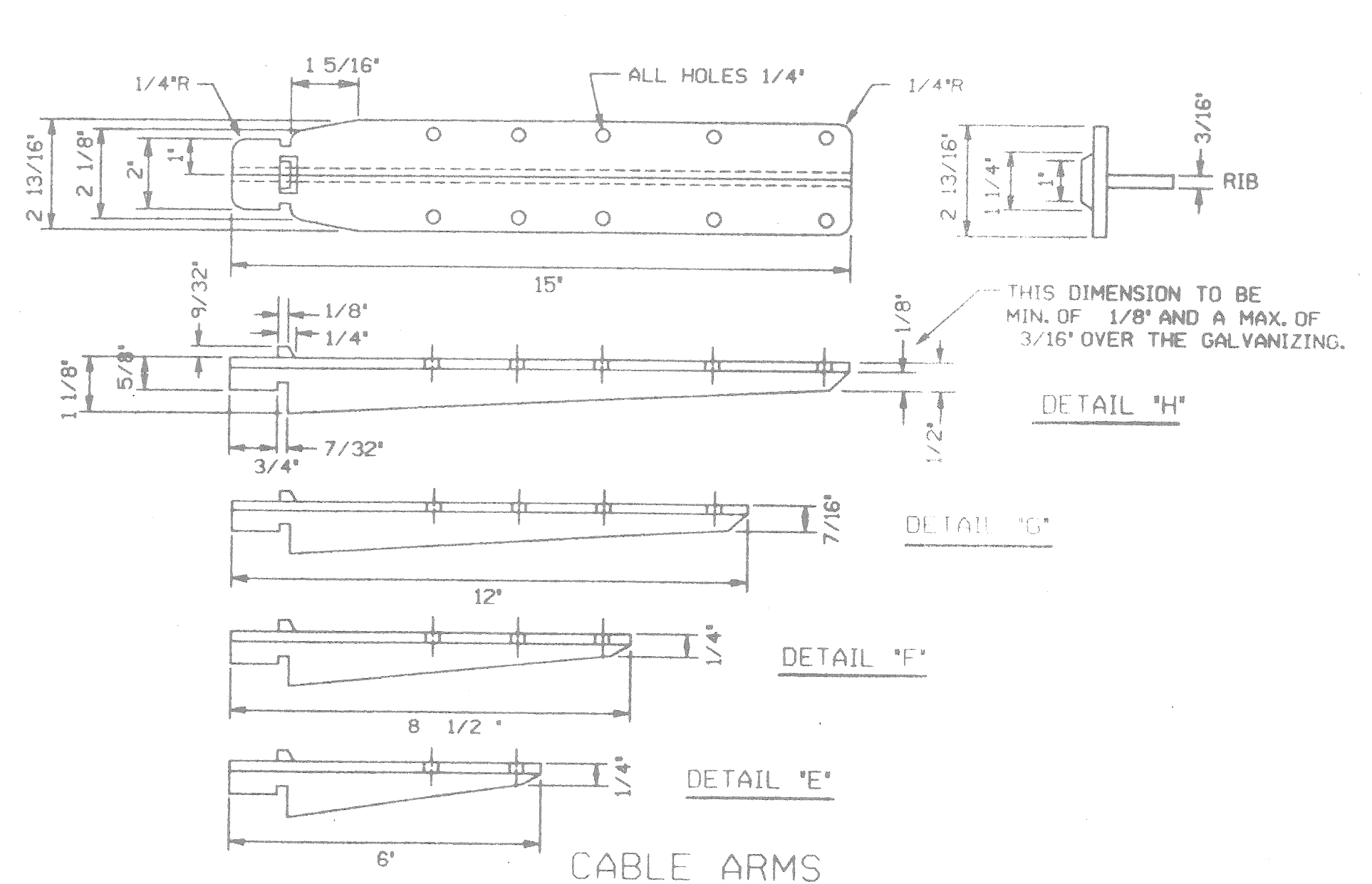
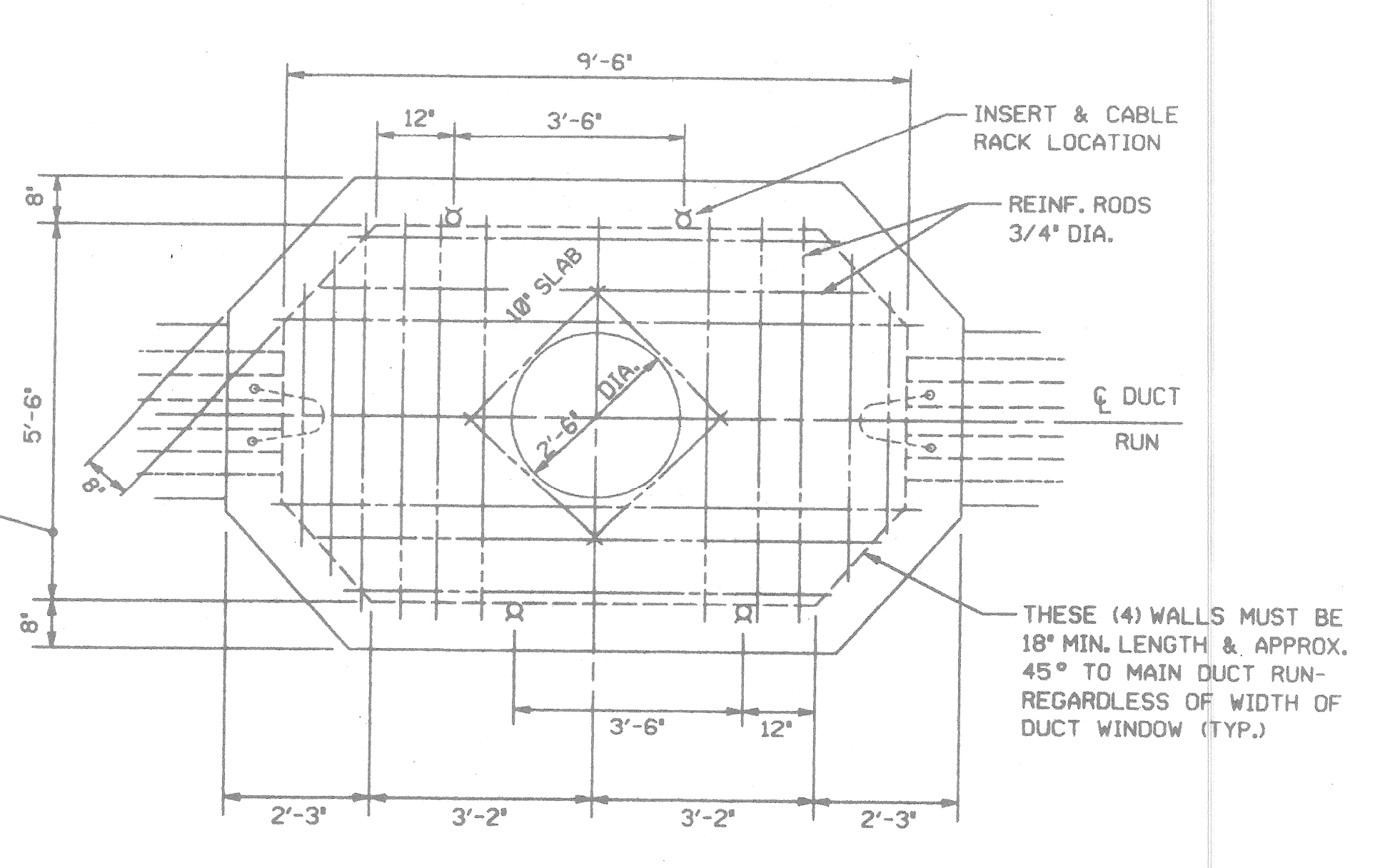
DATE	DESCRIPTION	CHKD. BY

DETAIL FOR JOINING CONDUIT ENCASEMENTS

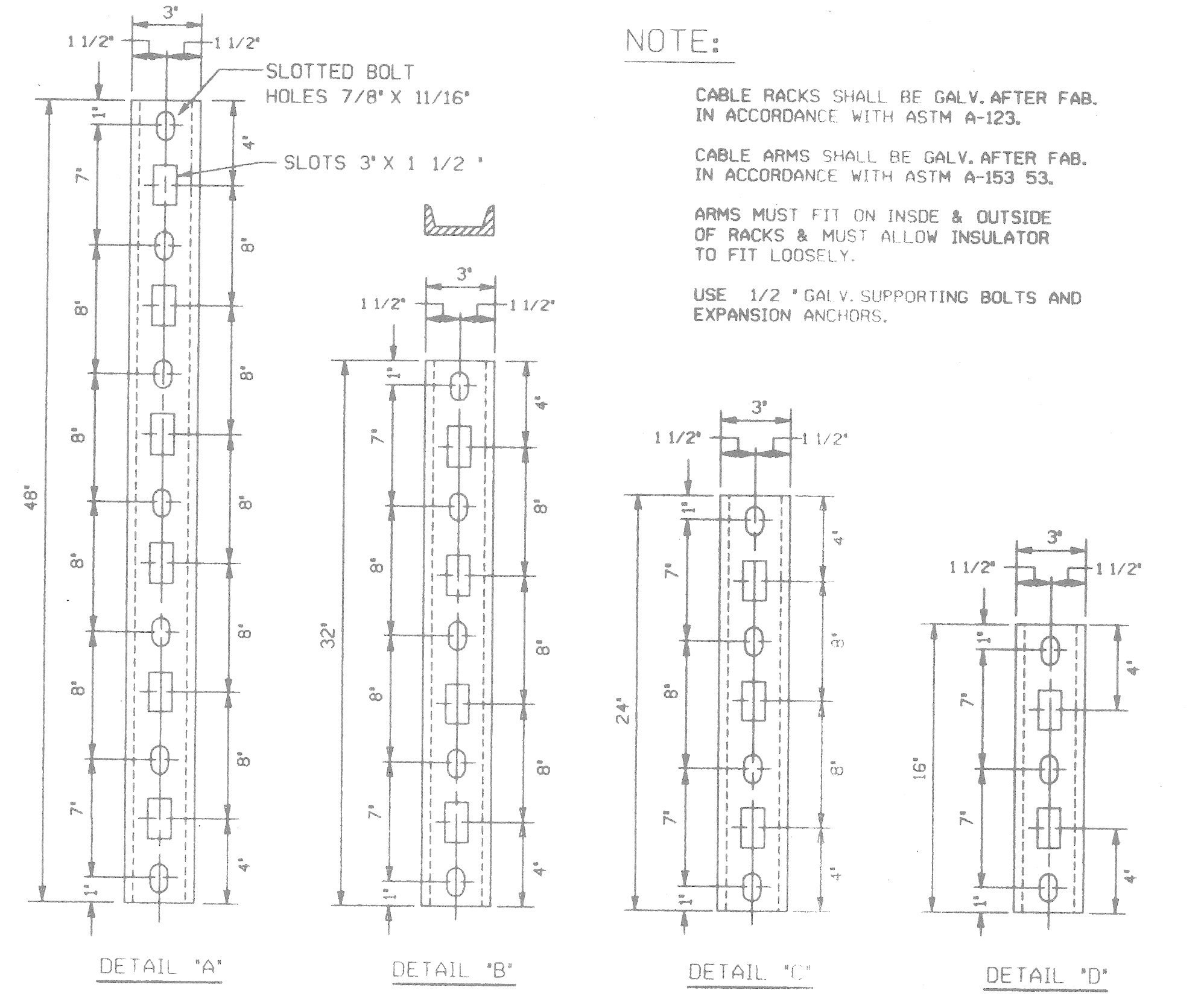
PUBLIC LIGHTING COMMISSION CITY OF DETROIT	JOB NO. S-38 JUN 10 1997
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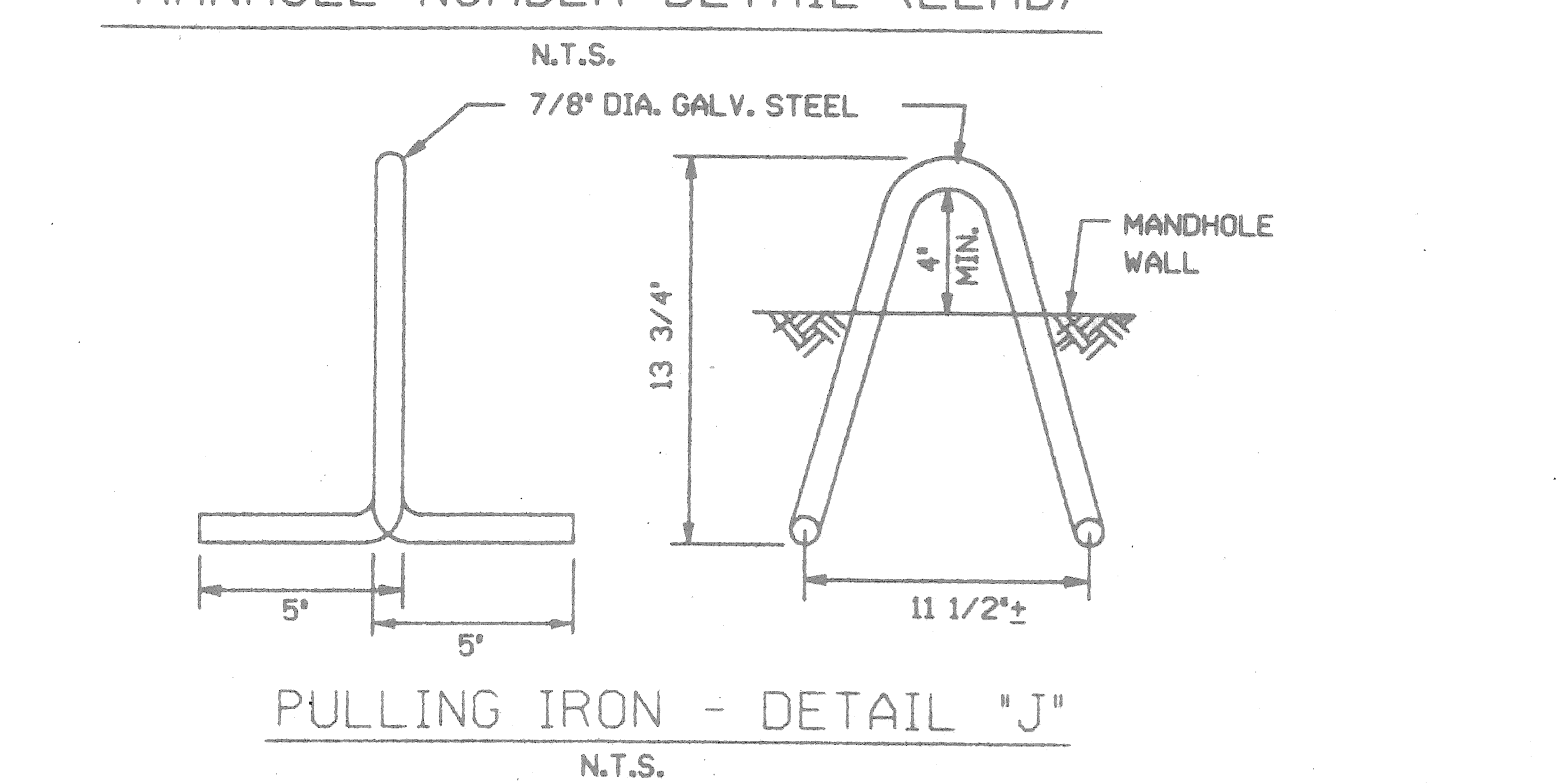
THESE (4) WALLS MUST BE 18" MIN. LENGTH & APPROX. 45° TO MAIN DUCT RUN - REGARDLESS OF WIDTH OF DUCT WINDOW (TYP.)



- NOTE :
1. THIS DIMENSION NORMALLY 6'-6". SEE SPECIFICATIONS FOR UNUSUAL CONDITIONS.
 2. WHERE M.H.'S ARE LOCATED BACK OF CURBS, TOP OF M.H. ROOF MUST BE BUILT 26" BELOW CURB GRADE TO PROVIDE FOR FUTURE PAVEMENT.
 3. IN EXISTING PAVEMENT, PROVIDE AT LEAST 8" BETWEEN TOP OF ROOF AND BASE OF PAVEMENT
 4. BOLTS, RACKS & PULLING IRONS TO BE HOT-DIP GALV.
 5. C/O F RAILS UNDER M.H. FRAME FLANGE TO BE APPROX. 18" FROM C'S OF FRAMES.
 6. M.H. NUMBER TO BE INSTALLED ON MANHOLE WALL IN CONSPICUOUS PLACE.
 7. MOUNTING HEIGHT FOR LOWER BOLTS OF CABLE RACK SHALL BE THE AVERAGE HEIGHT OF THE BOTTOM OF THE LOWEST DUCTS IN MAIN CONDUITS. INSTALL MIN. (2) 48" LONG RACKS ON WALLS.
 8. 8" THICK CHIMNEYS WHERE SPECIFIED SHALL BE INCIDENTAL TO APPLICABLE M.H. ITEM.
 9. EXCAVATION LIMITS FOR PUBLIC LIGHTING DEPARTMENT MANHOLES SHALL BE ON VERTICAL PLANES ON THE FOOTING OUTLINE.
 10. 1/2" PLASTER OUTSIDE WALLS OF BRICK MANHOLES.
 11. SPACING OF INSERTS AS REQUIRED TO ACCOMMODATE CABLE RACK
 12. BELL ENDS ARE REQUIRED ON EACH CONDUIT ENTERING MANHOLE. (TYPE AND SIZE SHALL BE IDENTICAL TO CONDUIT TYPE AND SIZE)
 13. THIS IS A MINIMUM DIMENSION & IS EXPANDABLE TO ACCOMMODATE MAIN DUCT WINDOW.
 14. (4) HEAVY 48" CABLE RACKS, (8) 15" CABLE ARMS & INSULATORS REQUIRED PER MANHOLE, UNLESS SPECIFIED OTHERWISE.
 15. CONTRACTOR IS TO INSTALL MANHOLE NO. TAG FURNISHED BY P.L.D. MANHOLE SHALL NOT BE CONSIDERED COMPLETE WITHOUT MANHOLE NO. TAG INSTALLED.



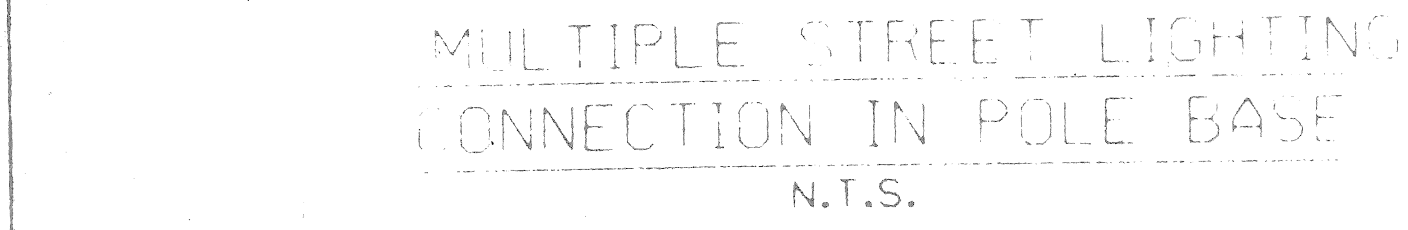
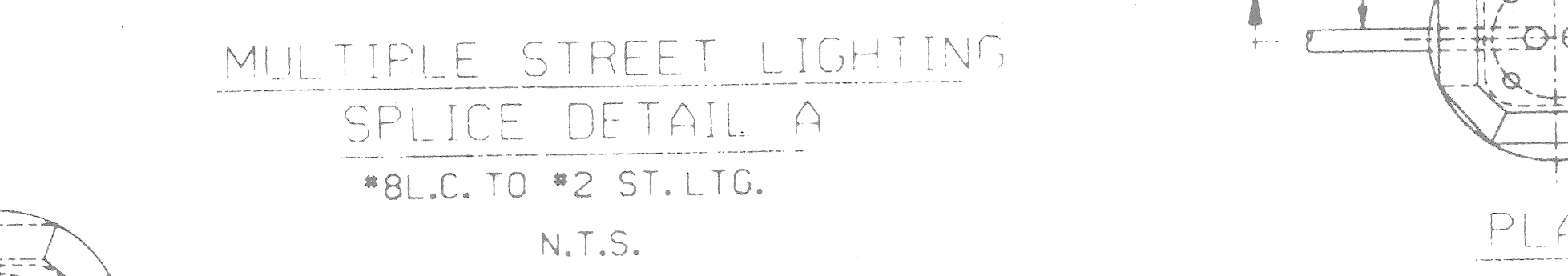
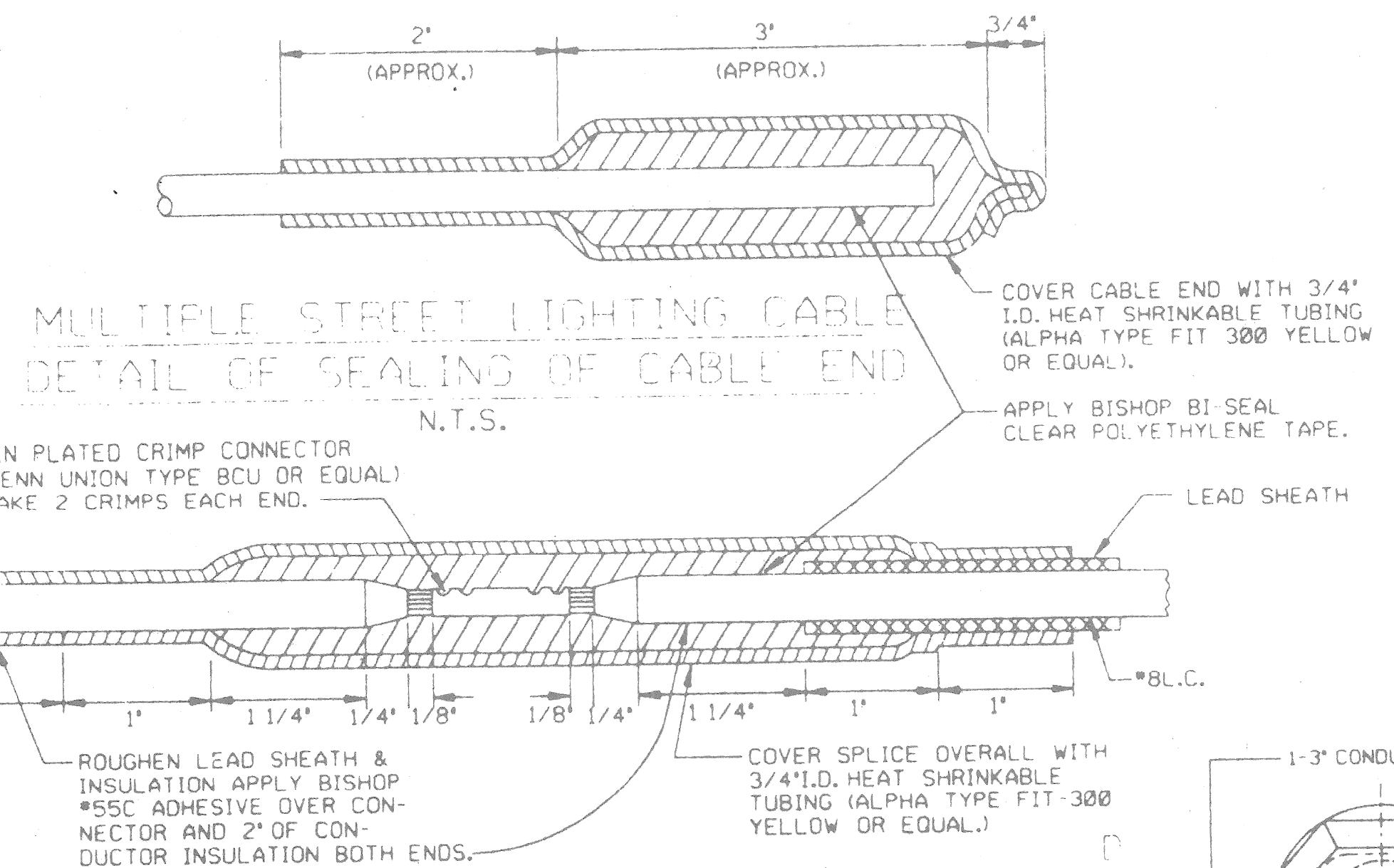
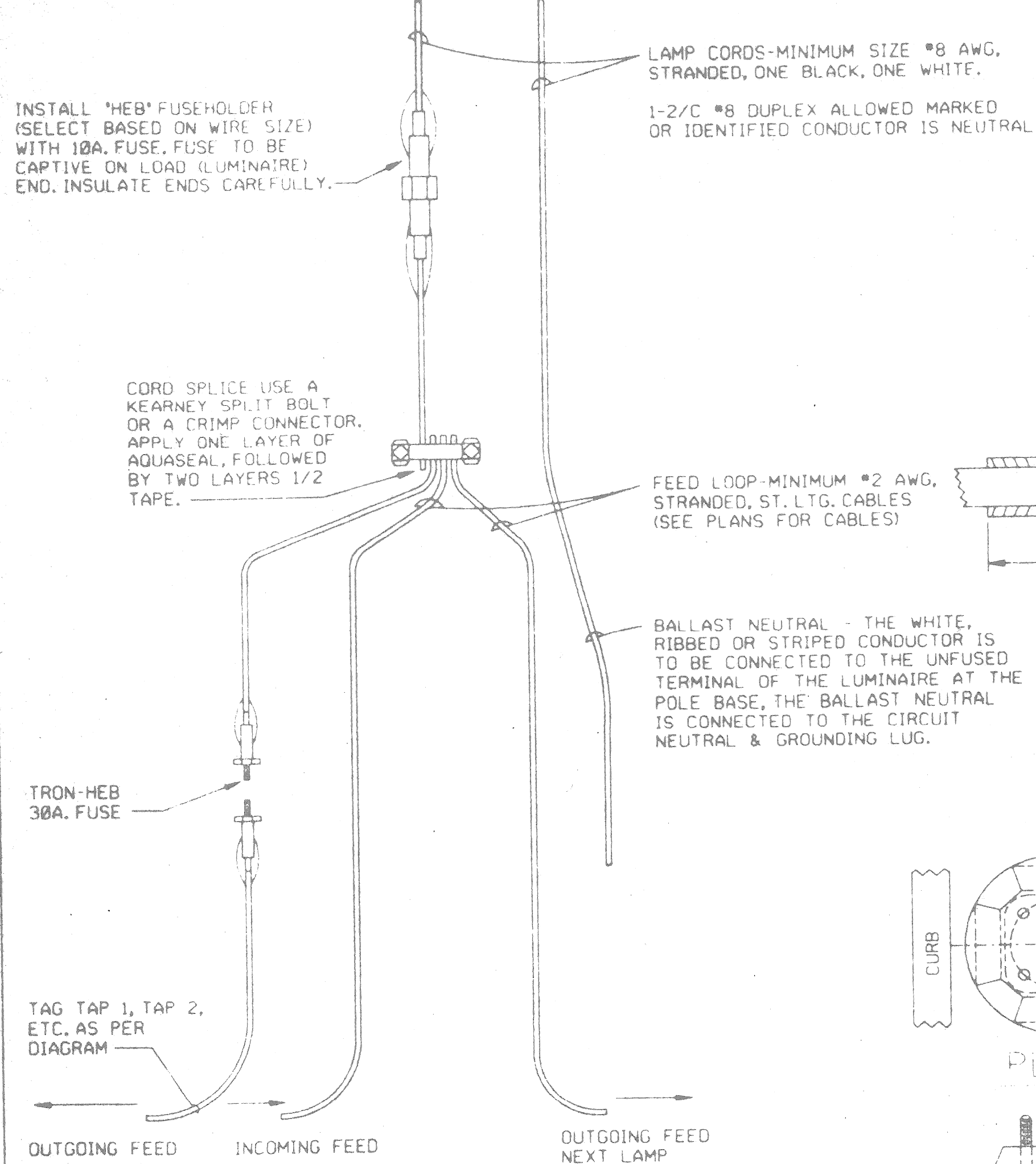
NOTE:
 CABLE RACKS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM A-123.
 CABLE ARMS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM A-153 53.
 ARMS MUST FIT ON INSIDE & OUTSIDE OF RACKS & MUST ALLOW INSULATOR TO FIT LOOSELY.
 USE 1/2" GALV. SUPPORTING BOLTS AND EXPANSION ANCHORS.



REV	Date	Description	Chkd. by

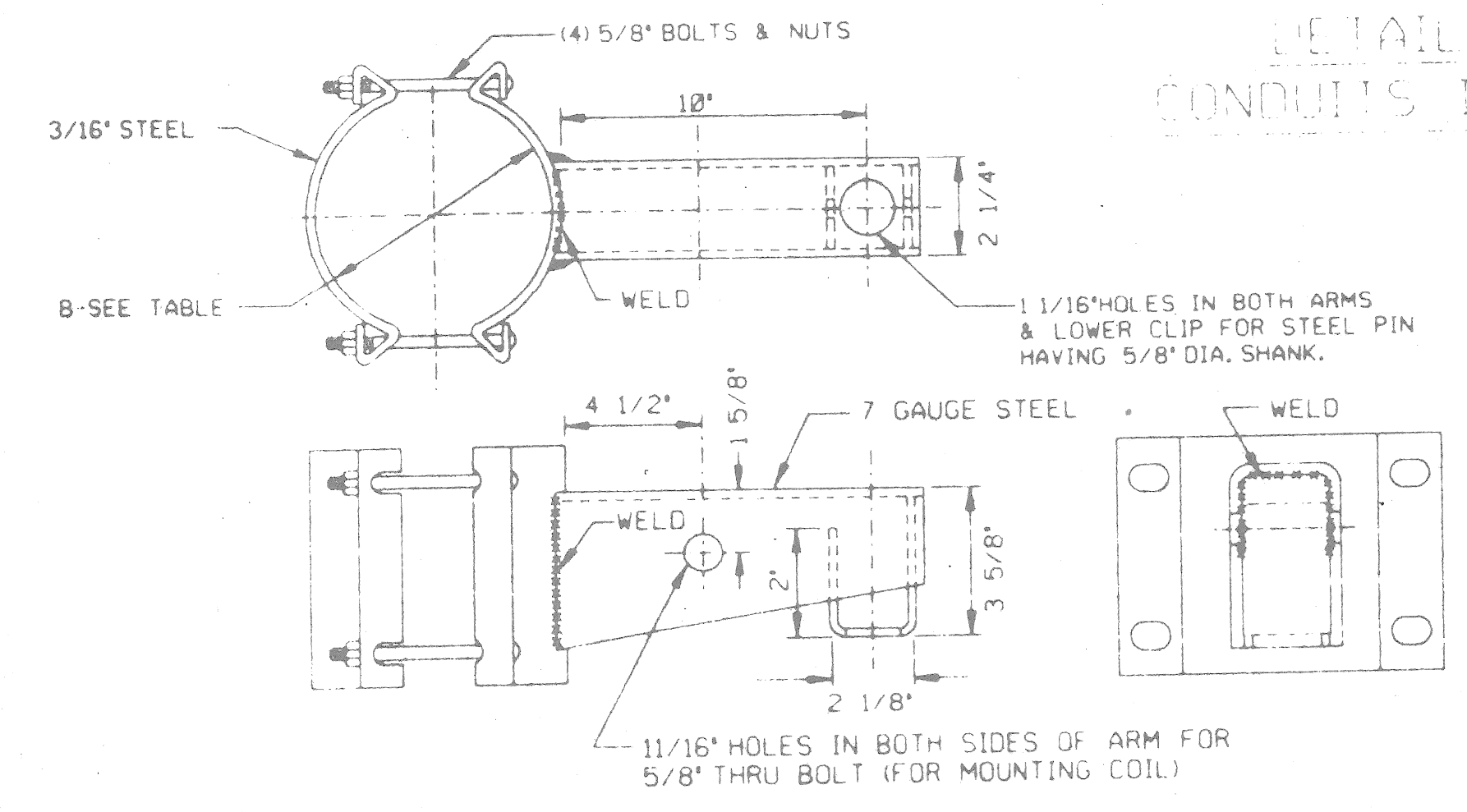
TWO-WAY MANHOLE

Drawn CEA	Checked 	Approved 	Date 	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 Wyoming Detroit, Mich. 48221	Checked by 	Approved by 	JOB NO. : 36917A	104
				of CEA			PUBLIC LIGHTING DEPARTMENT CITY OF DETROIT	File No. S-39 Date

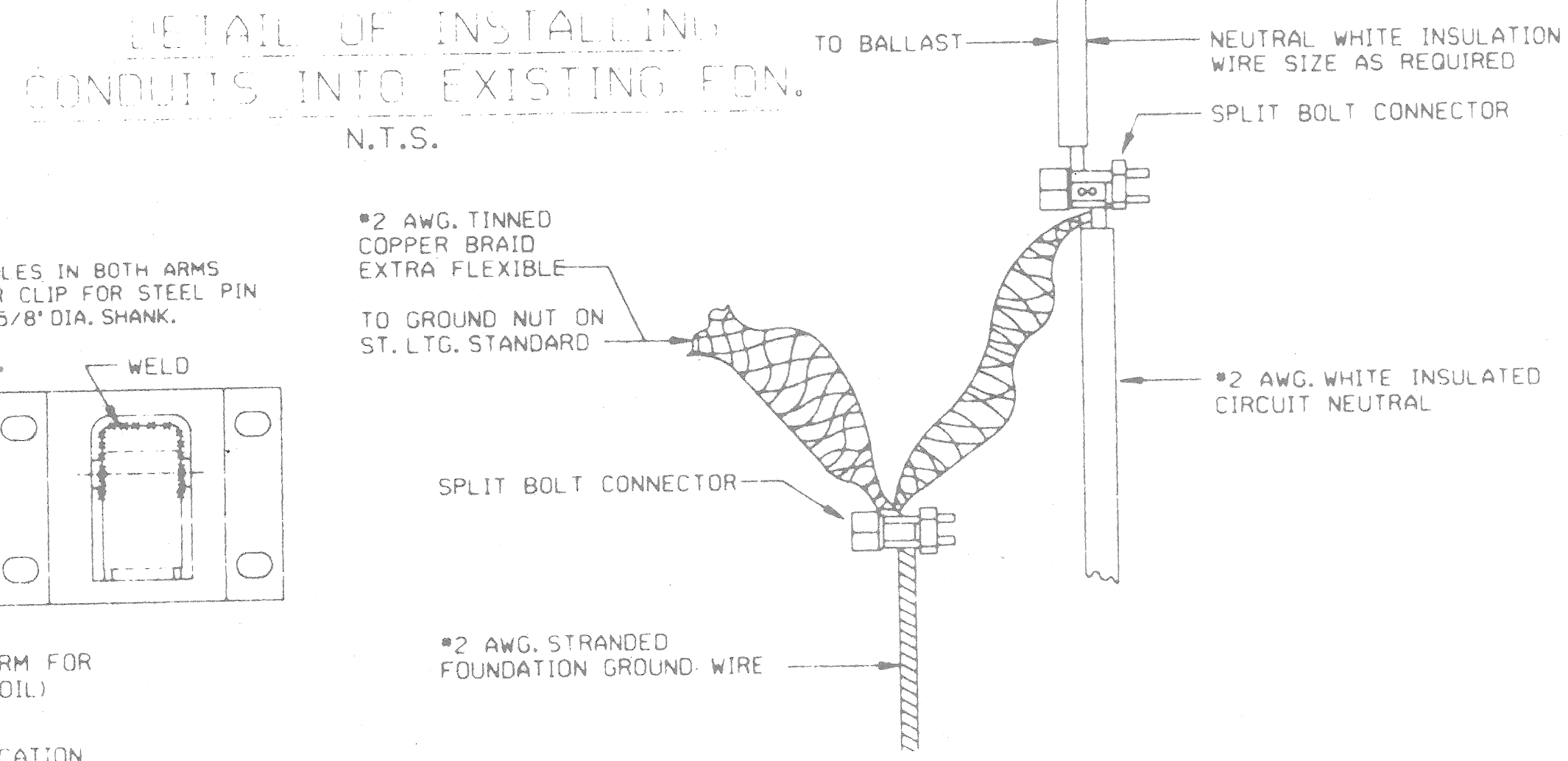


TYPE	POLE DIAMETER
A	3.6"-4-5"
B	6.1"-6.9"
C	7.5"-8.5"

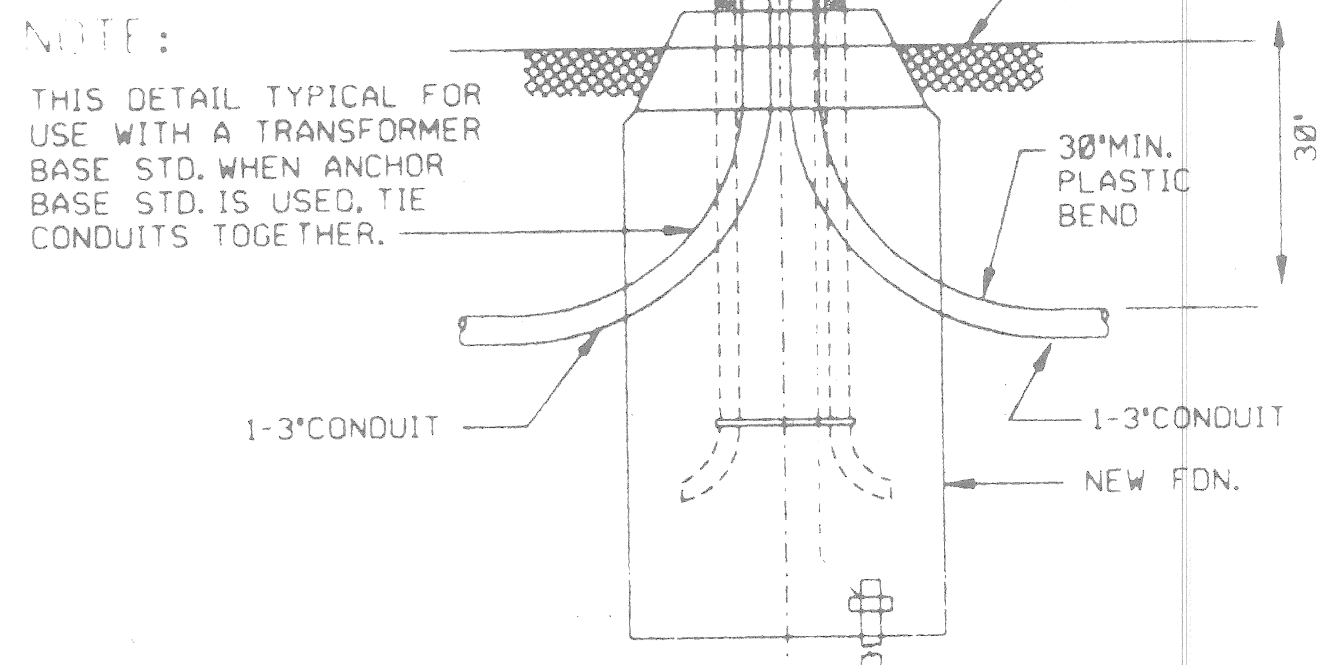
CLAMP SIZE TABLE



CLAMP FEEDER ARM N.T.S.



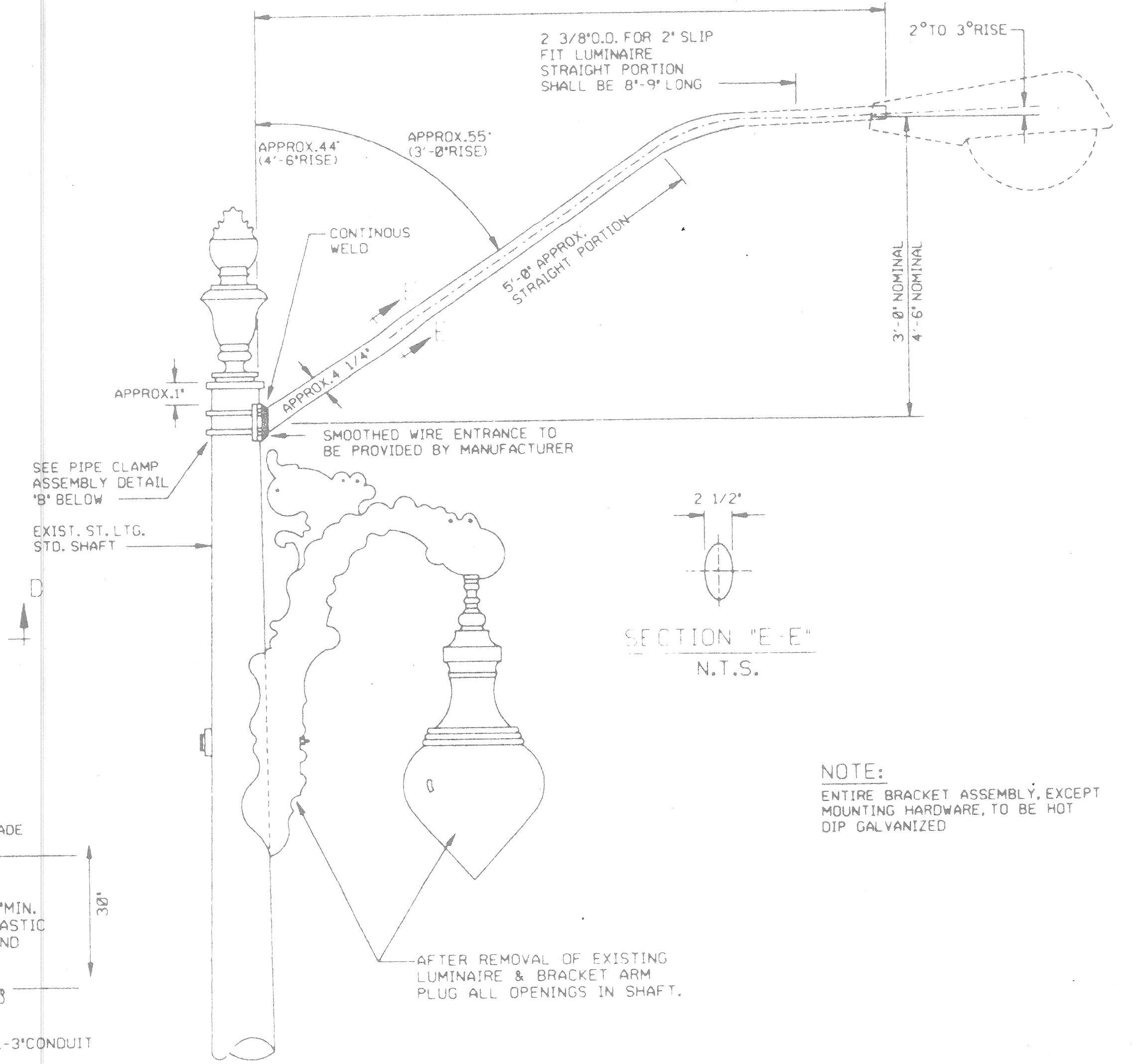
DETAIL OF INSTALLING CONDUITS INTO EXISTING FDN. N.T.S.



DETAIL OF INSTALLING CONDUITS IN & OUT OF NEW FDN. N.T.S.

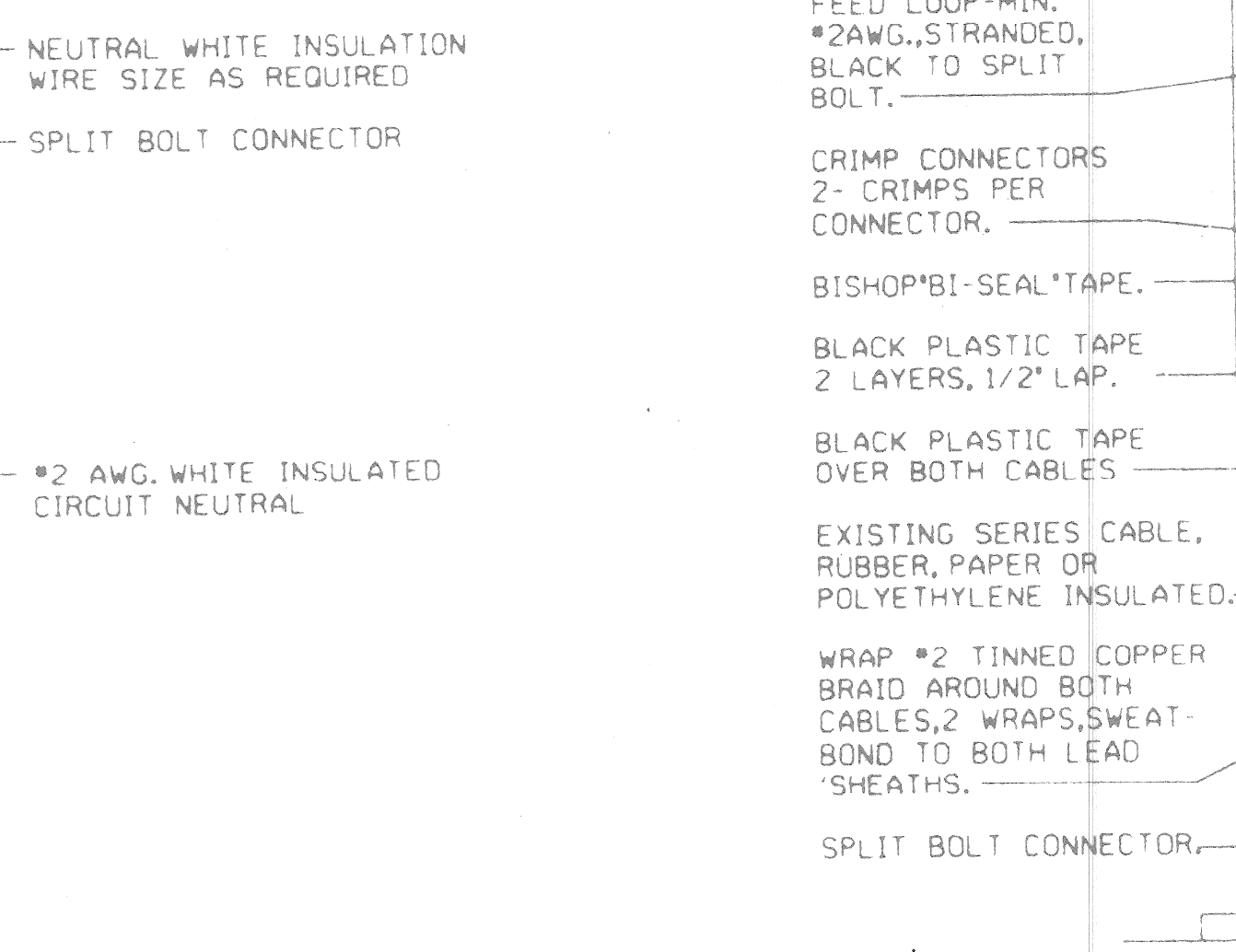
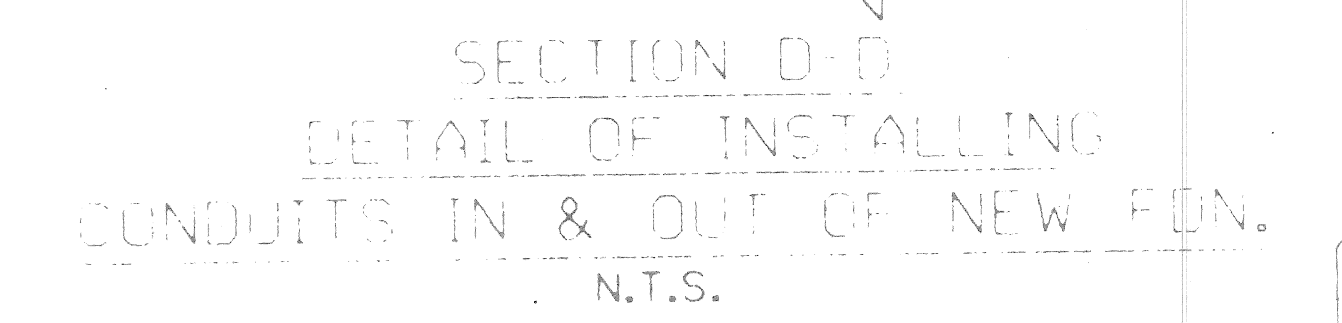


GROUND CONNECTION N.T.S.

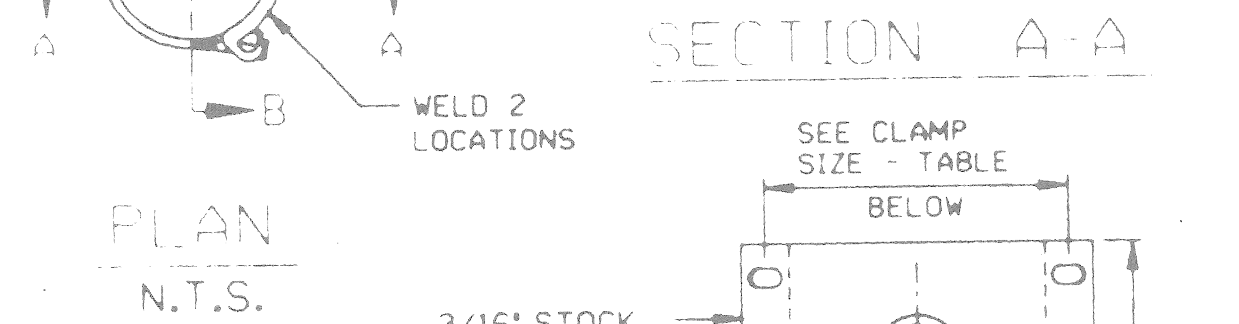
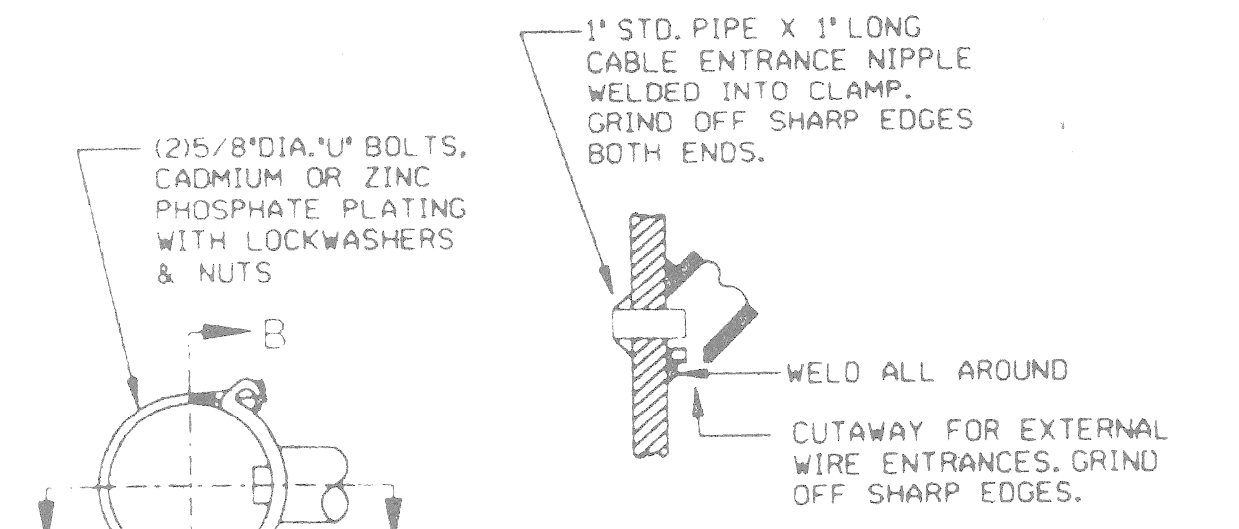


CLAMP ON BRACKET ARM ELEVATION N.T.S.

NOTE: ENTIRE BRACKET ASSEMBLY, EXCEPT MOUNTING HARDWARE, TO BE HOT DIP GALVANIZED



SERIES TO MULTIPLE LIGHTING CONVERSION POLE BASE CONNECTION N.T.S.



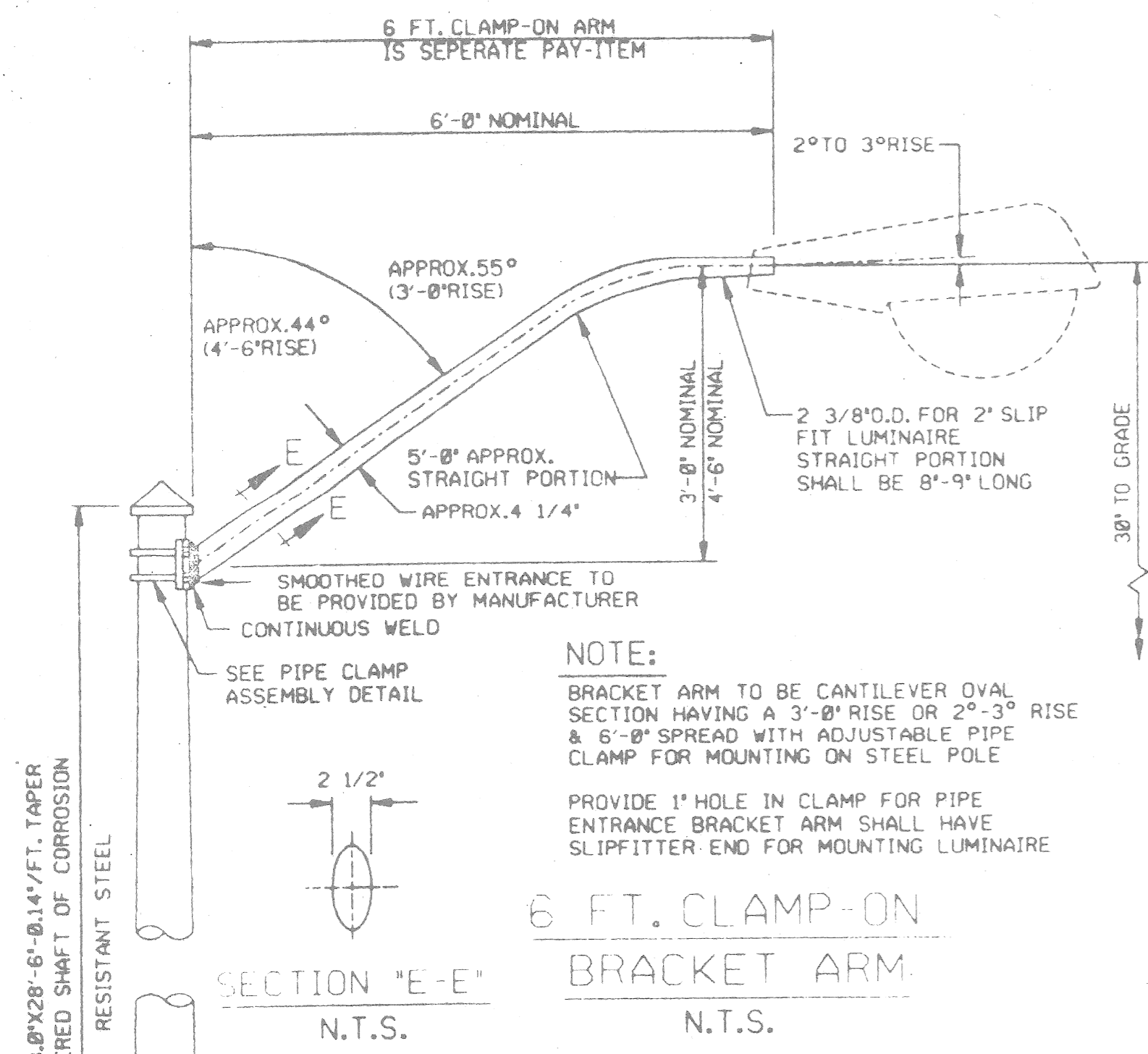
TYPE	POLE DIAMETER
A	3.6"-4-5"
B	6.1"-6.9"
C	7.5"-8.5"

CLAMP SIZE TABLE N.T.S.

Drawn	CEA	PLAN PREPARED BY	CONSULTING ENGINEERING ASSOCIATES INC	Checked by		File No.	114
Checked		ENGINEERING CONSULTANTS		Approved		PUBLIC LIGHTING DEPARTMENT	Sheet No. S-40
Date		16588 Wyoming	Detroit, Mich. 48221	Date		CITY OF DETROIT	Date
		Drwg. No.	File No.				

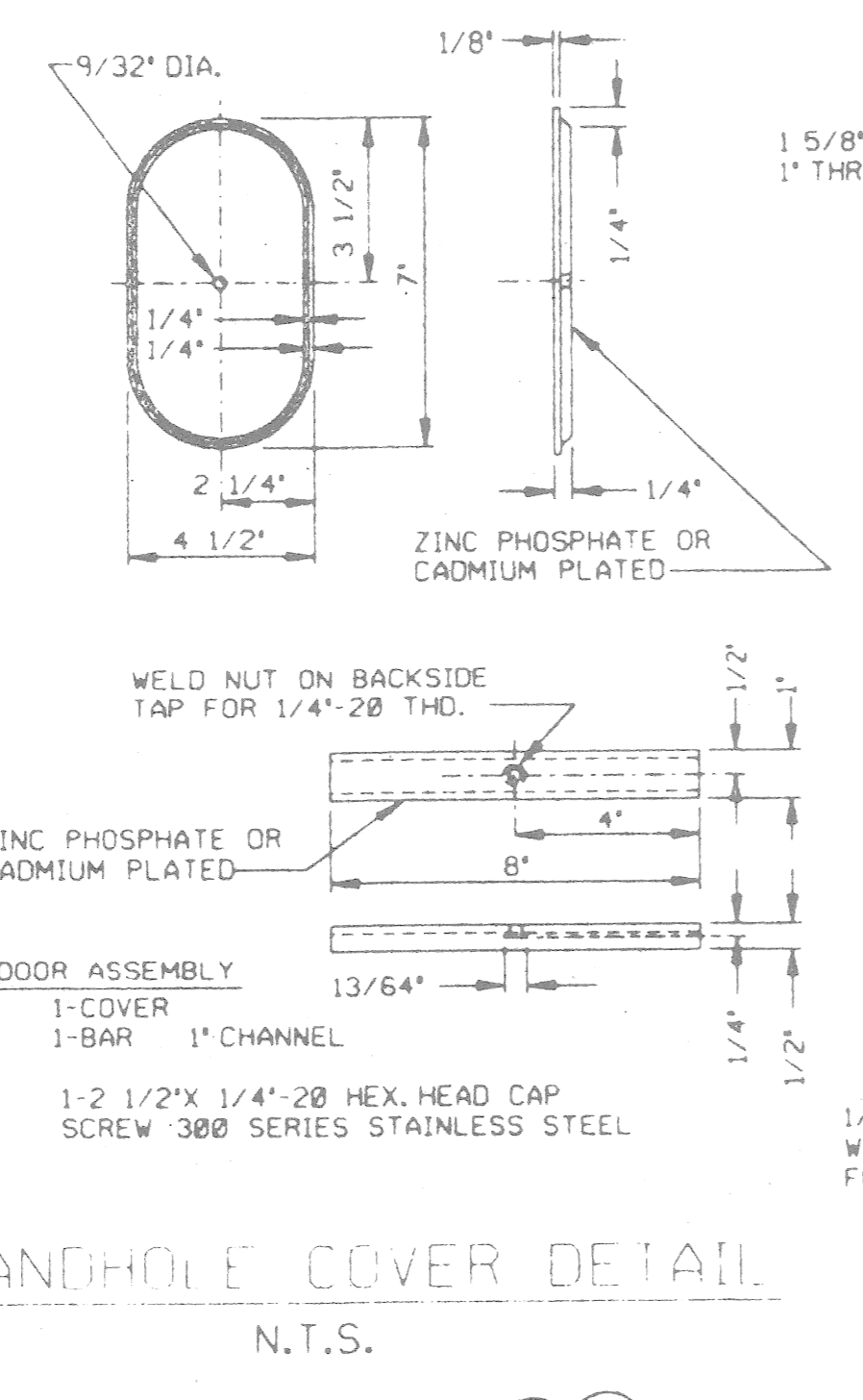
Date	Description	Chkd. by

THE CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
MOUNT ELLIOTT-MOUND ROAD GRADE SEPARATION
MULT. ST. LTG. CABLE CONNECTIONS, CLAMP ON ARM & MISC. DETAILS

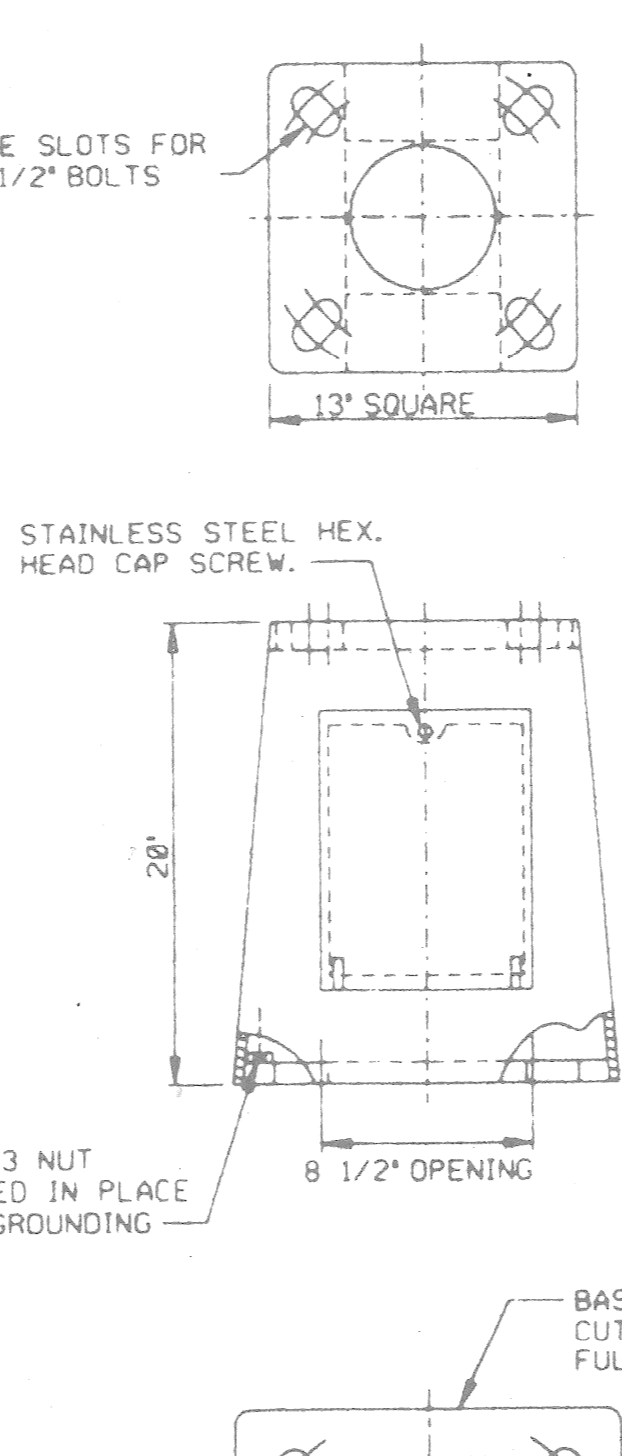


NOTE:
BRACKET ARM TO BE CANTILEVER OVAL SECTION HAVING A 3'-0" RISE OR 2'-3" RISE & 6'-0" SPREAD WITH ADJUSTABLE PIPE CLAMP FOR MOUNTING ON STEEL POLE
PROVIDE 1" HOLE IN CLAMP FOR PIPE ENTRANCE BRACKET ARM SHALL HAVE SLIPFITTER END FOR MOUNTING LUMINAIRE

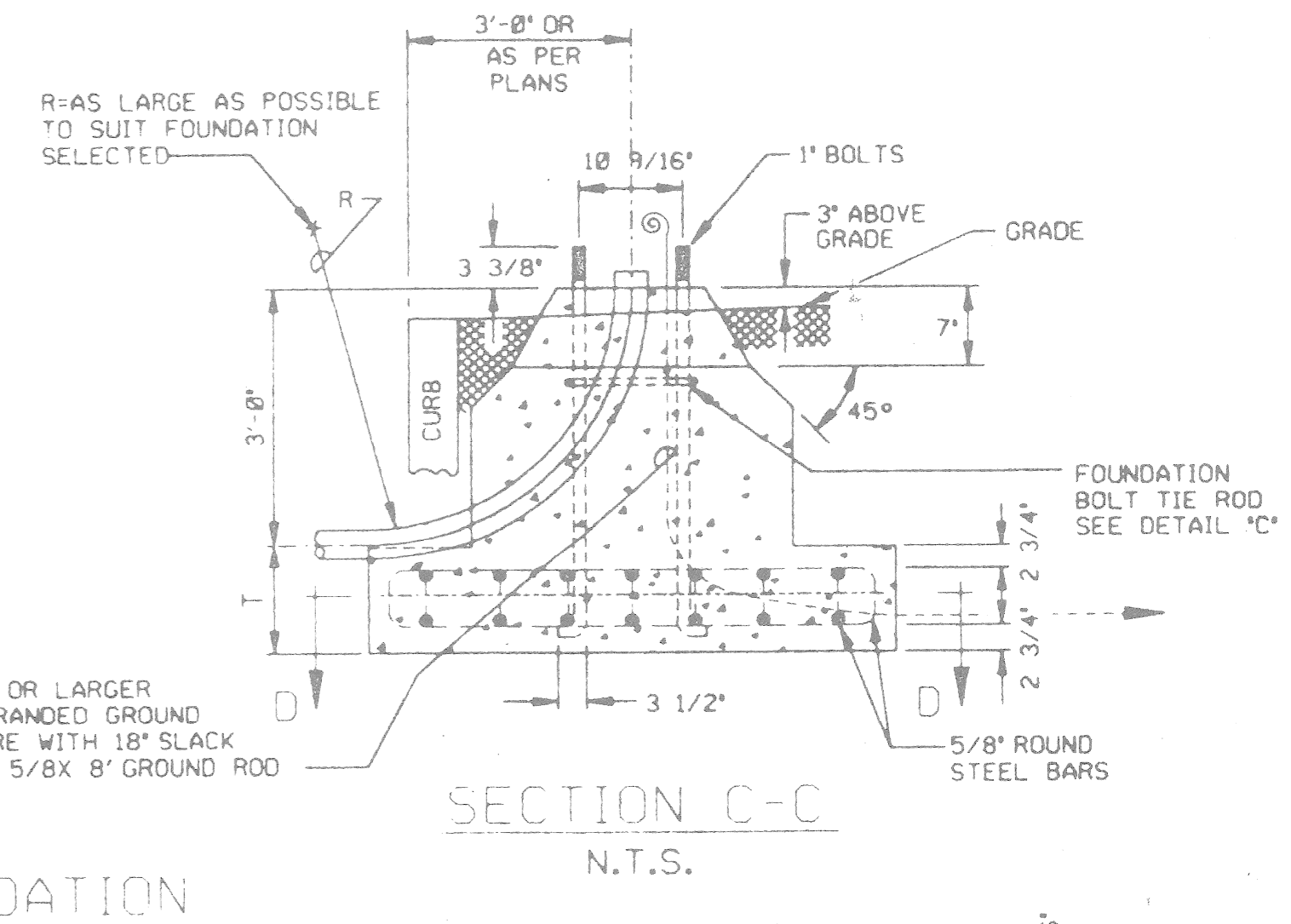
6 FT. CLAMP-ON BRACKET ARM
N.T.S.



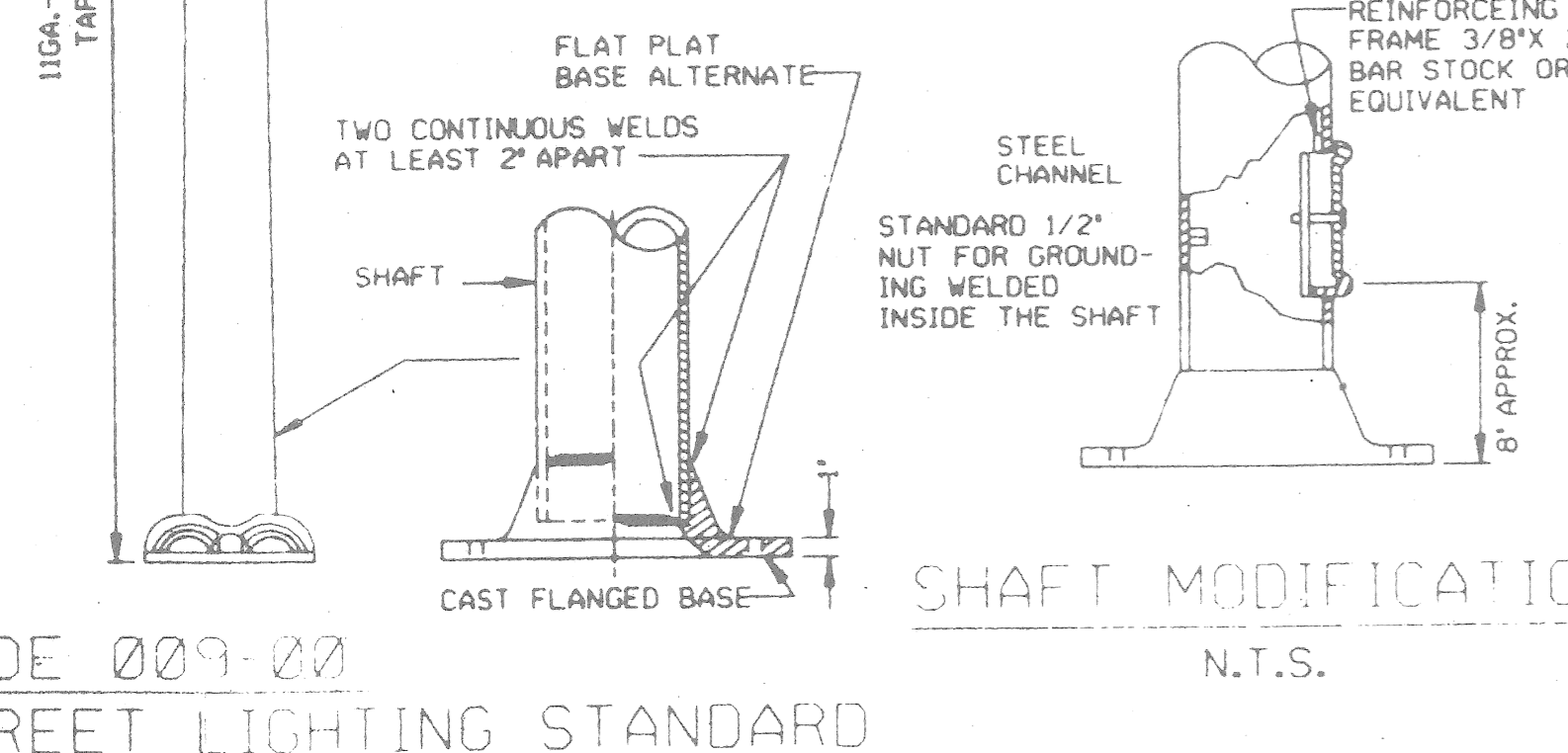
HANDHOLE COVER DETAIL
N.T.S.



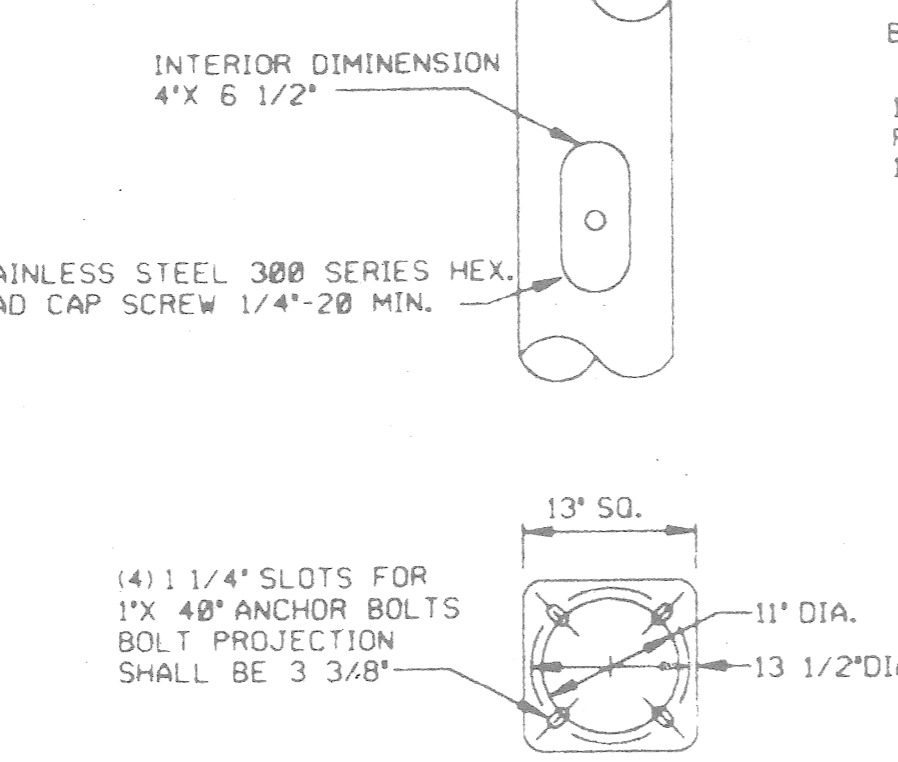
SPECIAL FDN. PLAN
N.T.S.



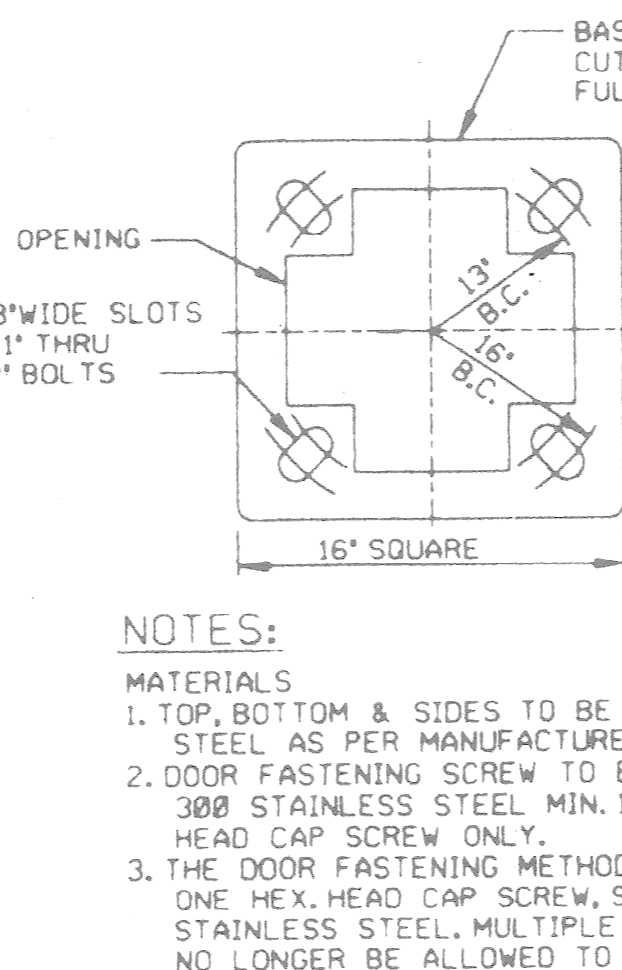
SPECIAL FOUNDATION
N.T.S.



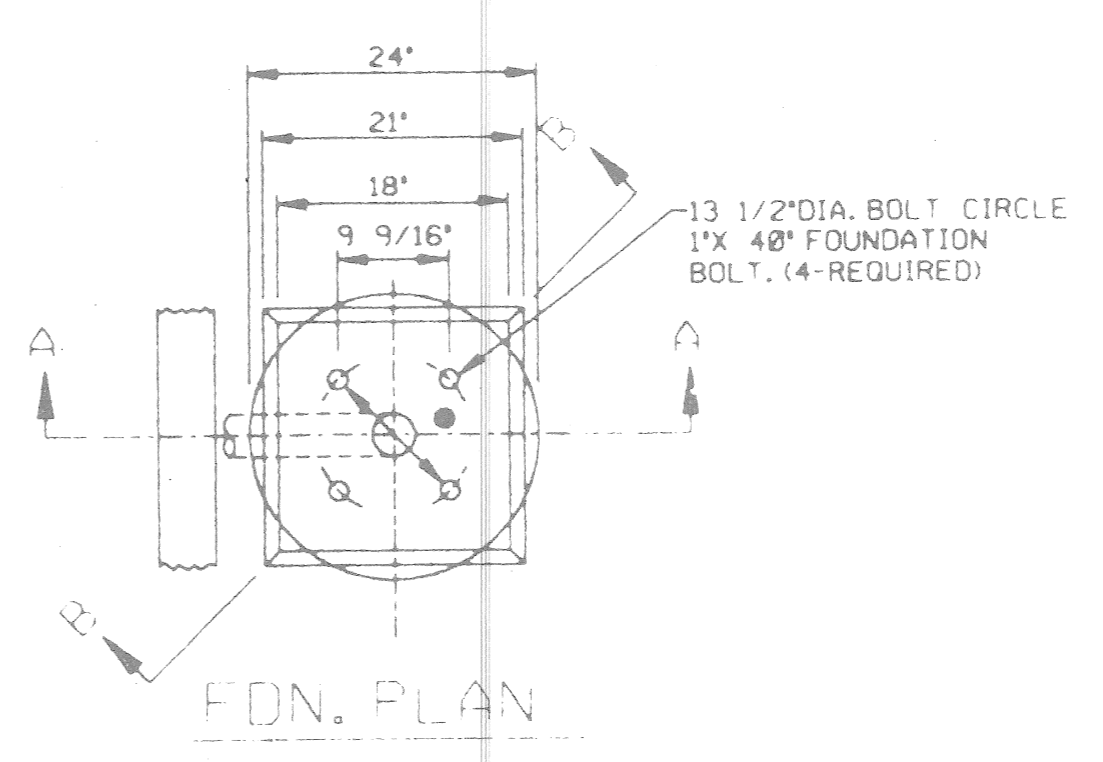
SHAFT MODIFICATION
N.T.S.



BASE PLATE PLAN
N.T.S.

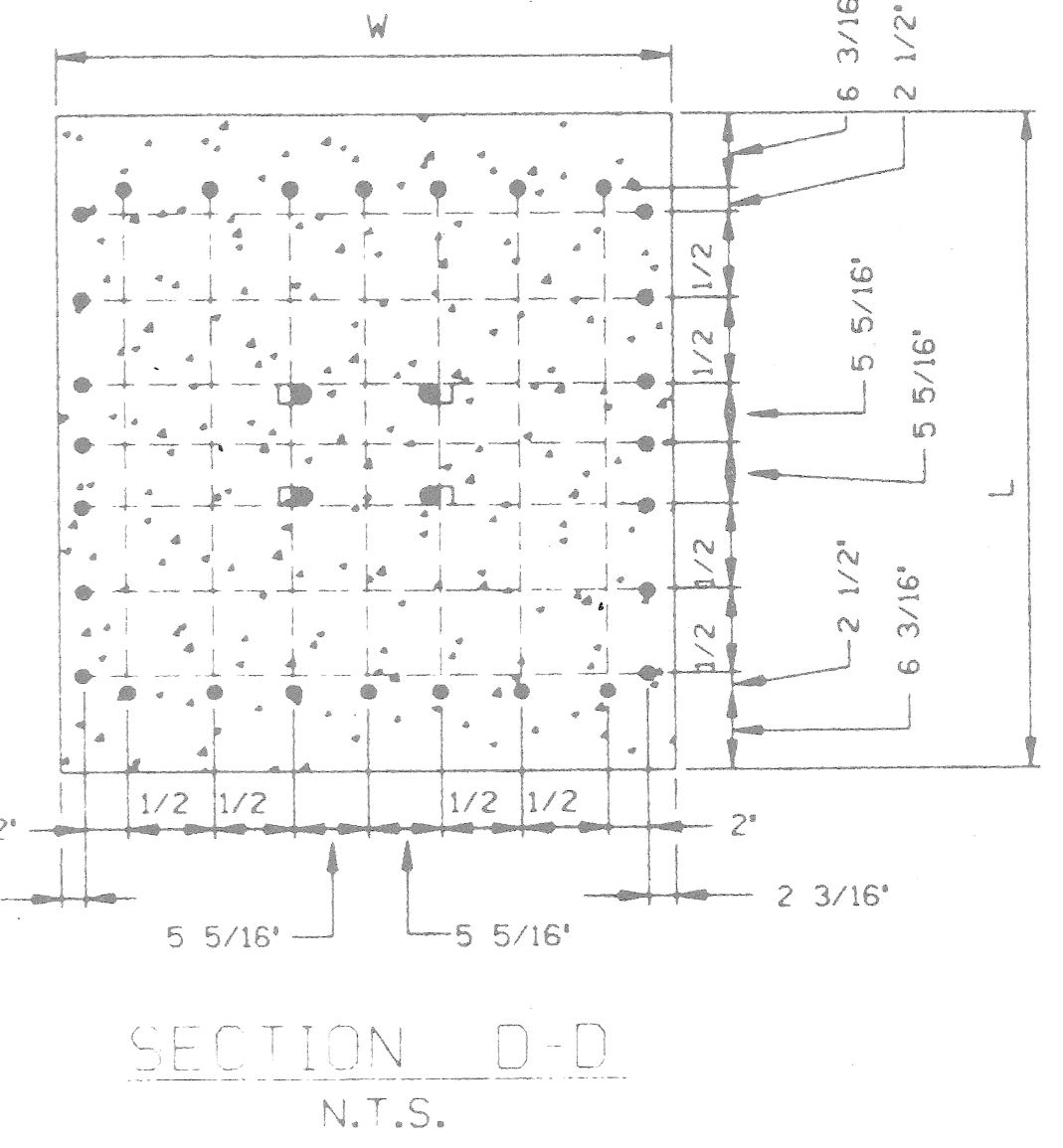


F.D. UNIVERSAL STEEL TRANSFORMER BASE
N.T.S.



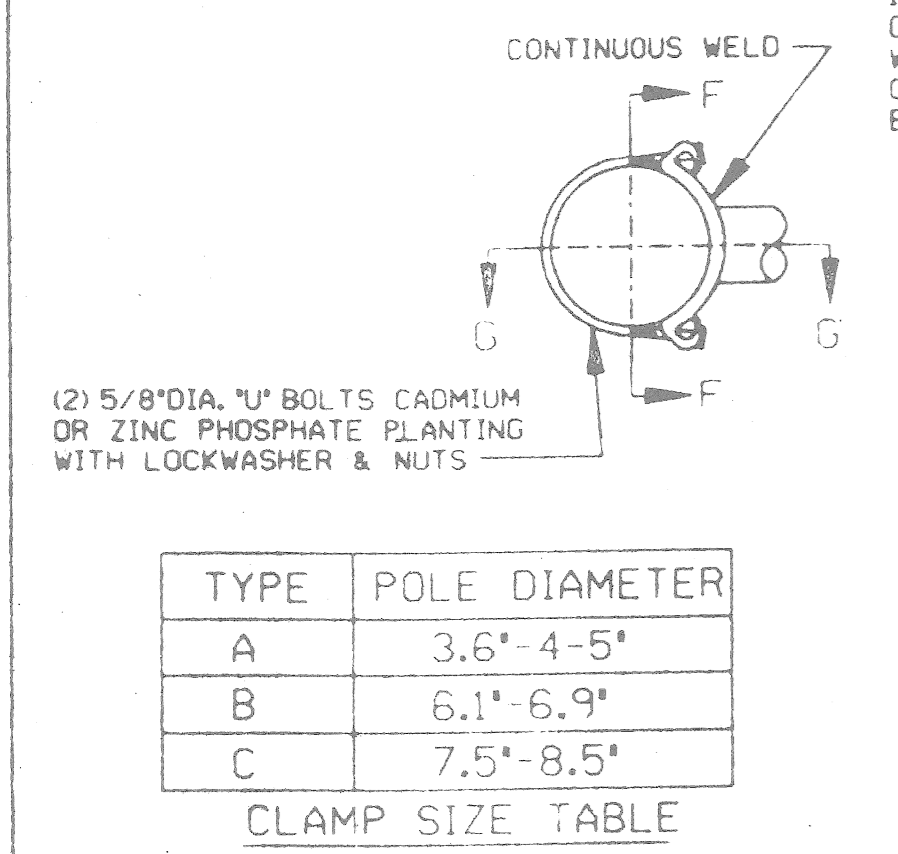
FDN. PLAN
N.T.S.

L	W	T
5'-0"	4'-3"	1'-0"
4'-6"	3'-6"	1'-6"



SECTION D-D
N.T.S.

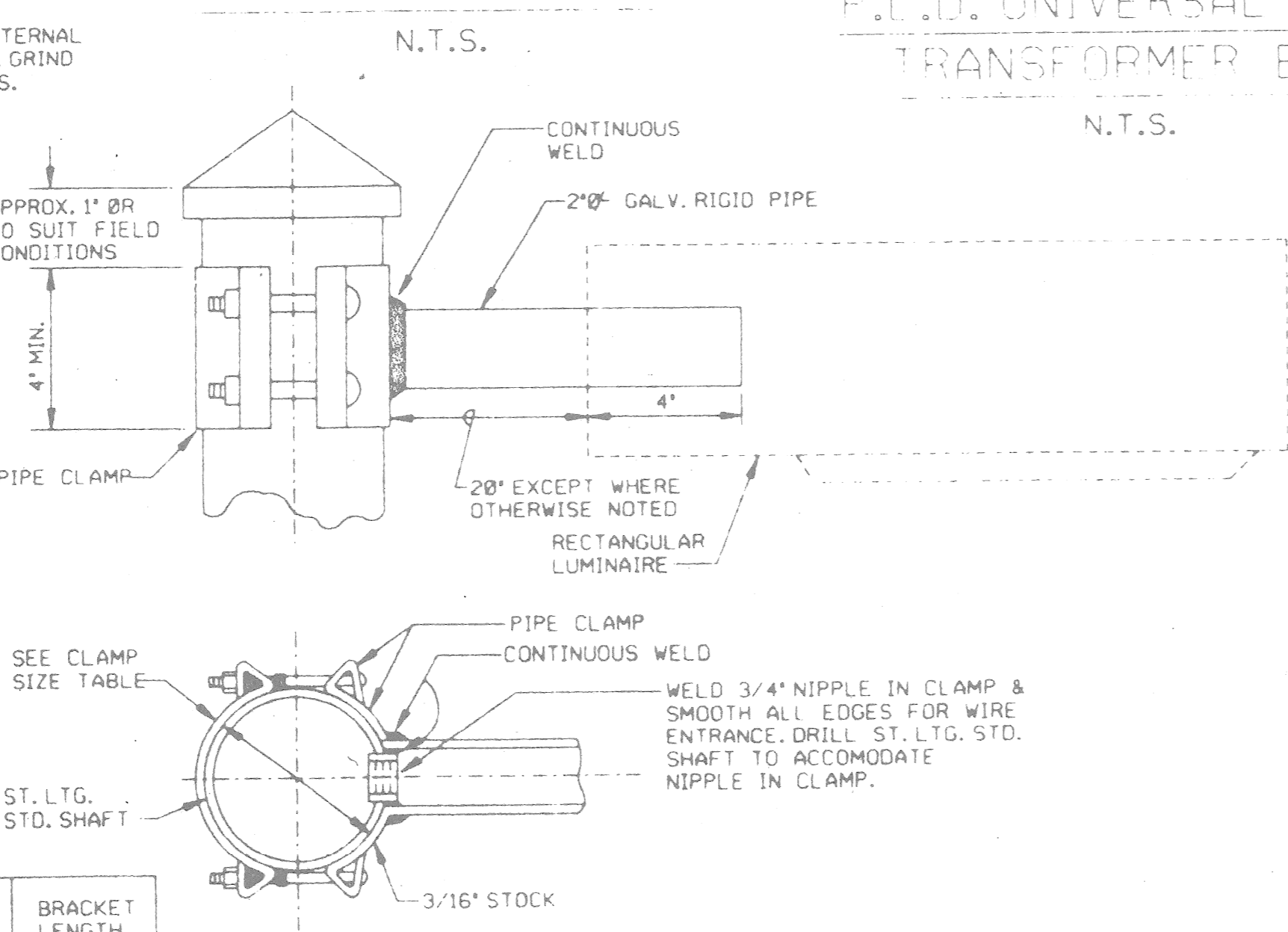
CODE 009-00
STREET LIGHTING STANDARD
N.T.S.



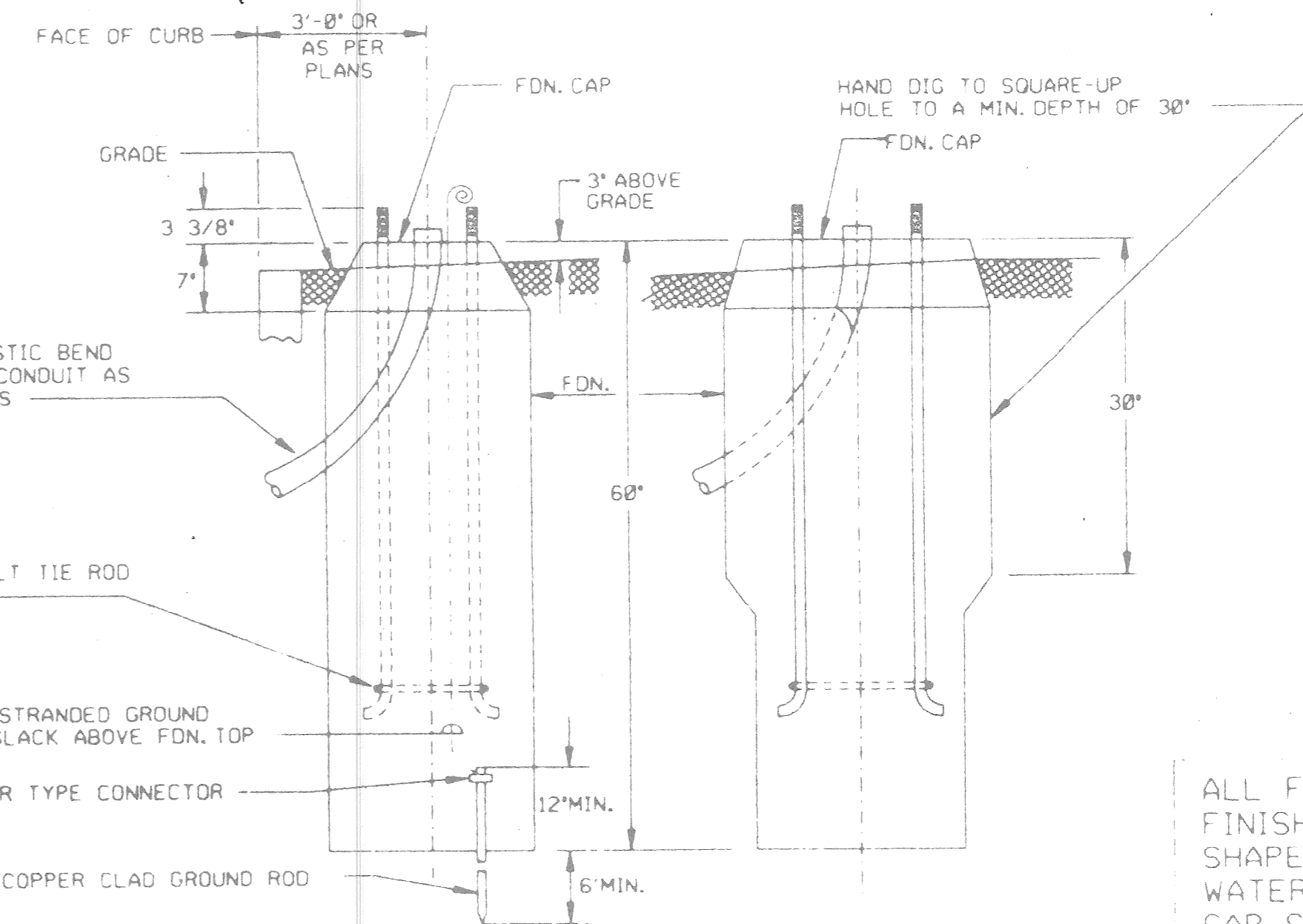
SECTION G-G
N.T.S.

PIPE CLAMP DETAILS
N.T.S.

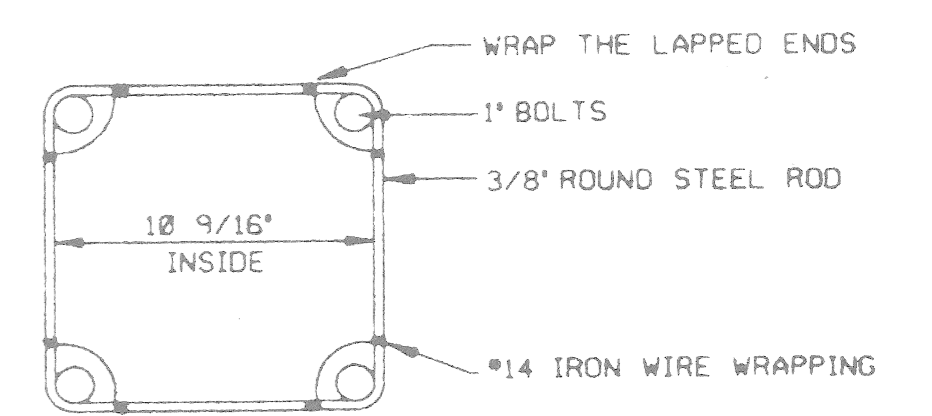
NOTE:
ENTIRE BRACKET ASSEMBLY, EXCEPT MOUNTING HARDWARE, TO BE HOT DIP GALVANIZED



CLAMP ON BRACKET & RECTANGULAR LUMINAIRE
N.T.S.



SECTION A-A SECTION B-B
N.T.S.



FOUND. BOLT TIE ROD
N.T.S.

ALL FOUNDATION CAPS SHALL HAVE A SMOOTH FINISH WITH BEVELED EDGES & SHALL BE SHAPED TO ALLOW COMPLETE DRAINAGE OF WATER. ANCHOR BOLT PROJECTIONS ABOVE CAP SHALL BE CLEANED OF ALL CONCRETE & FULLY USABLE THEIR FULL LENGTH.

STD. CODE NO.	SHAFT LENGTH	SHAFT DEFLECTION	MINIMUM LOAD	ANCHOR BOLT CIRCLE D	ANCHOR BOLT Ø & O.A.	HANDHOLE	LUMINAIRE MOUNTING HEIGHT	BRACKET FITTERS REQ'D	BRACKET LENGTH
009-00	28'-6"	2.9"	880#	13 1/2"	1" X 40"	4" X 6 1/2"	30"	-	6'

• SHAFT DEFLECTION: SHAFT DEFLECTION MEASURED IN INCHES AT TOP, SHALL NOT BE GREATER THAN THAT SHOWN, FOR A HORIZONTAL LOAD OF 100 LBS. APPLIED 18 INCHES BELOW TOP OF SHAFT.

• SHAFT LOADING: SHAFTS SHALL WITHSTAND, AT THE GUARANTEED MINIMUM YIELD STRENGTH OF THE SHAFT MATERIAL, THE LOADS SHOWN IN THIS TABLE. THE LOAD SHALL BE APPLIED IN A SINGLE HORIZONTAL DIRECTION ANYWHERE AROUND THE CIRCUMFERENCE OF SHAFT 18 INCHES FROM THE TOP.

REV.	Date	Description	Chkd. by

THE CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
MOUNT ELLIOTT-MOUND ROAD GRADE SEPARATION
CODE 009-00 ST. LTG. STD. DETAILS

PLAN PREPARED BY
CONSULTING ENGINEERING ASSOCIATES INC.
ENGINEERING CONSULTANTS
16588 Wyoming - Detroit, Mich. 48221
Date: _____
Drwg. No. _____
File No. _____

PUBLIC LIGHTING DEPARTMENT
Checked by: _____
Approved by: _____
File No. _____
Sheet No. S-41
Date: _____