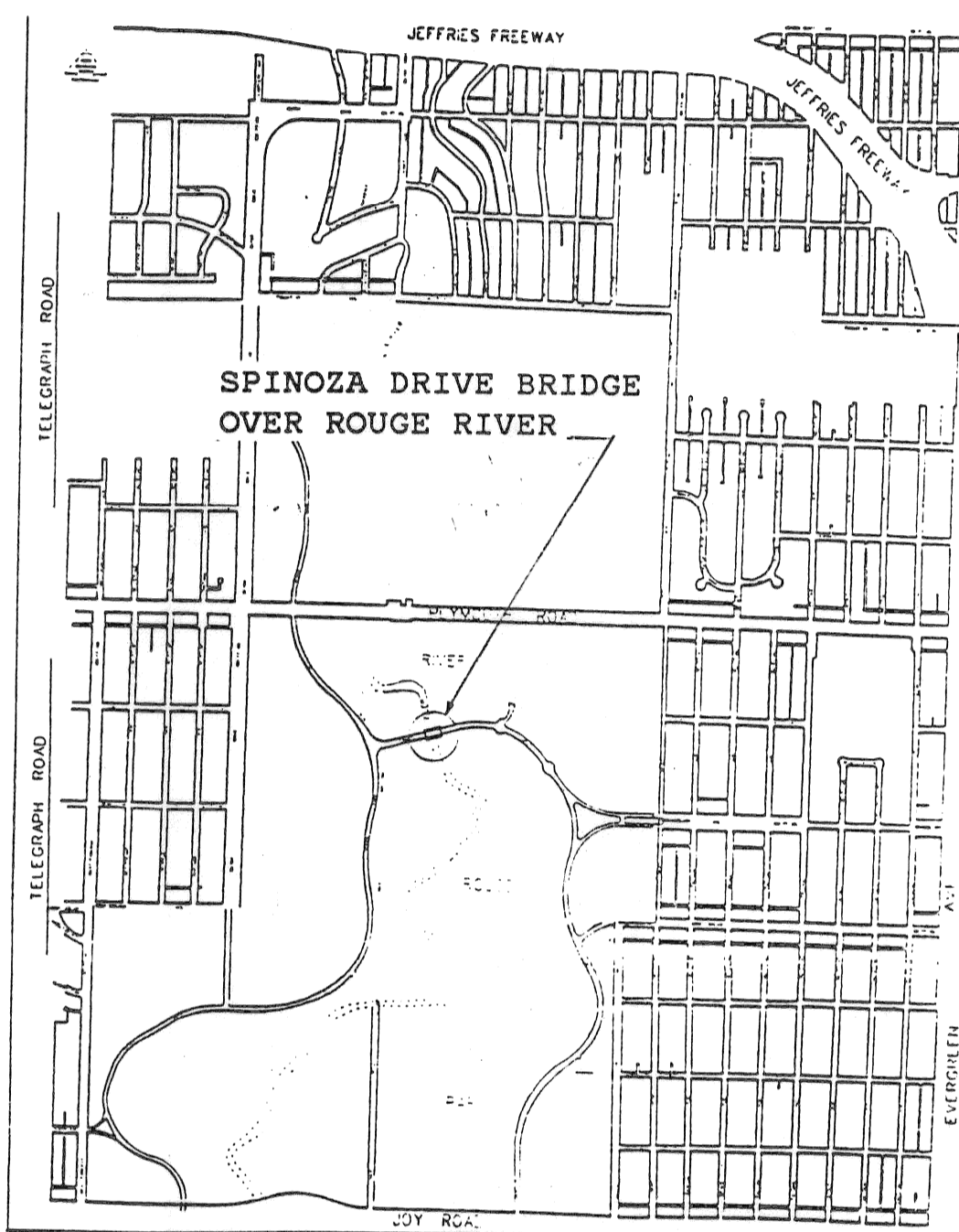


TRAFFIC DATA

POSTED SPEED 25 MPH
 DESIGN SPEED 45 MPH
 PRESENT ADT (1994) 2218
 FUTURE ADT (2014) 4003
 DESIGN LOADING HS20 (LIVE LOAD)

**CITY OF DETROIT
 CITY ENGINEERING DIVISION
 DEPARTMENT OF PUBLIC WORKS**

PLANS FOR PROPOSED BRIDGE RECONSTRUCTION IN COOPERATION WITH
 MICHIGAN DEPARTMENT OF TRANSPORTATION
 AND
 FEDERAL HIGHWAY ADMINISTRATION
 FEDERAL AID URBAN PROJECT NO. DSTP 9582019
 CONTROL SECTION 82400 JOB NO. 36916A - B01 82 - 18 - 85



COUNTY : WAYNE TOWN : 01S
 RANGE : 10E SECTION : 34

INDEX OF SHEETS

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CITY OF DETROIT

BRIDGE NO. BW 270

MDOT STRUCTURE

NO. 0121800 B01

GENERAL NOTES:

1. THE DESIGN OF THIS STRUCTURE REHABILITATION IS BASED ON CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. HS20 LIVE LOAD PLUS IMPACT DEFLECTION DOES NOT EXCEED 1/1000 OF SPAN LENGTH AND 1/375 OF CANTILEVER ARM. THE WORKING STRESS METHOD OF DESIGN WAS USED FOR THIS STRUCTURE.
2. EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS, OR IN THE PROPOSAL AND SPECIAL PROVISIONS 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, ELEVATIONS, AND DIMENSIONS SHOWN ON THESE PLANS ARE BELIEVED TO BE CORRECT AND SHALL, HOWEVER, BE CHECKED AT THE TIME OF STARTING CONSTRUCTION, AND IF IT IS SHOWN INCORRECT ON THE PLAN, IT SHALL BE REPORTED TO THE ENGINEERING OFFICE IN DETROIT AND THE STRUCTURE SHALL BE STAKED OUT USING THE ACTUAL CENTERLINES AS THE CONTROL POINT.
5. THE DESIGN OF THE STRUCTURAL MEMBERS IS BASED ON MATERIAL OF THE FOLLOWING GRADES AND STRESSES:
 REINFORCED CONCRETE (SUPERSTRUCTURE) GRADE 40S : $f'_c = 4,000$ PSI
 REINFORCED CONCRETE (RAILING) GRADE 45D : $f'_c = 4,500$ 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 : $f'_c = 270,000$ 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. PROTECTIVE TREATMENT FOR BRIDGE DECK IS TO BE APPLIED TO ALL SUPERSTRUCTURE CONCRETE SURFACES BETWEEN INSIDE FACES OF

9. PARAPET. SIDEWALK AND PARAPET POURS SHALL NOT BE CAST UNTIL SLAB CONCRETE HAS ATTAINED AT LEAST 75% OF ITS DESIGN STRENGTH.
10. 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.
11. FOR PROTECTION OF UNDERGROUND UTILITIES, THE CONTRACTOR SHALL DIAL 1-800-482-7171 A MINIMUM OF 72 HOURS 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 313-221-6100
 DETROIT WATER & SEWER DEPARTMENT 313-267-7401
 CITY OF DETROIT, PUBLIC LIGHTING DEPARTMENT 313-267-7306
 BARDEN CABLE COMPANY 313-934-2600

MDOT STANDARD PLANS

CITY OF DETROIT 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.

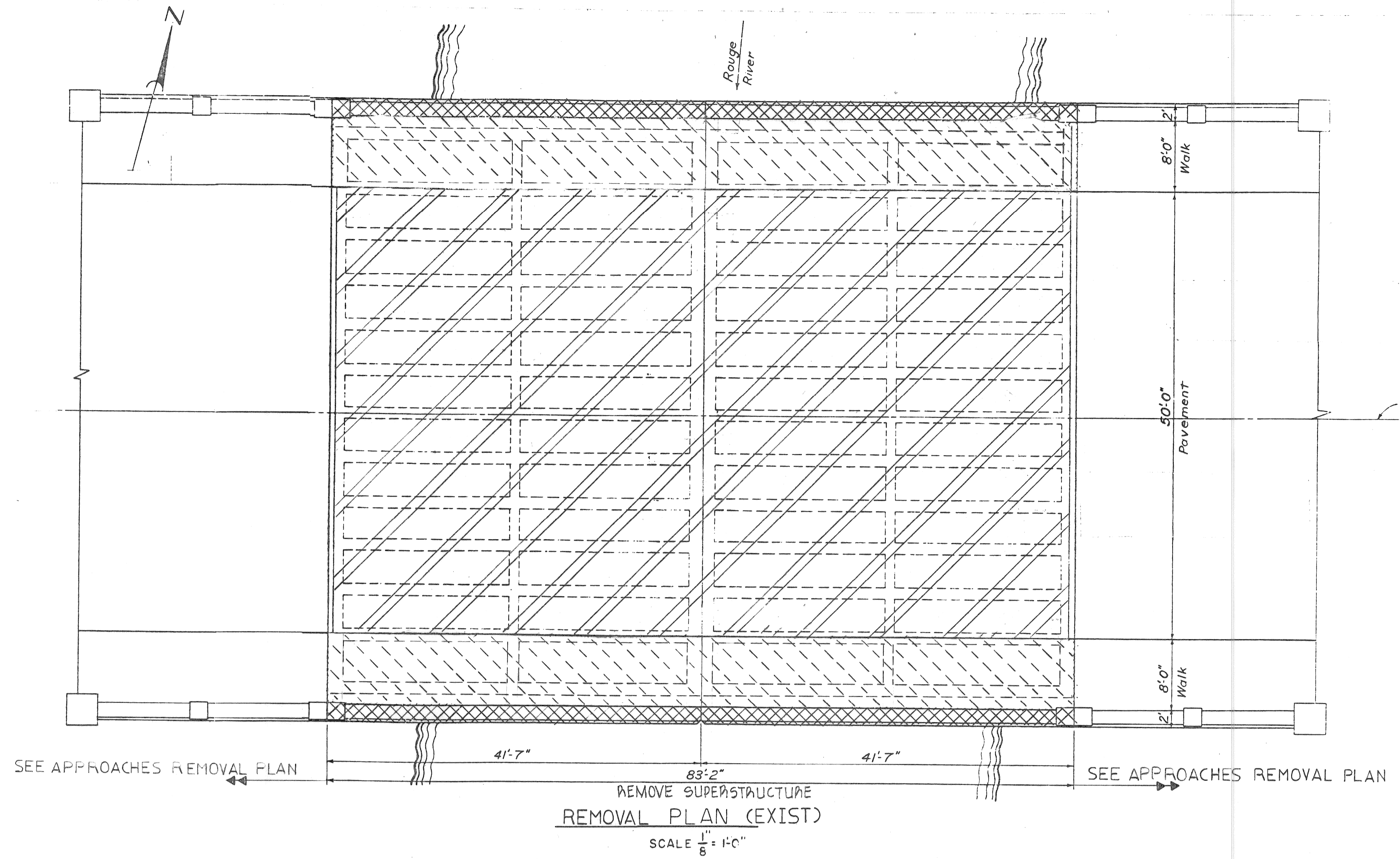
WHERE THE FOLLOWING ITEMS ARE CALLED FOR ON THE PLANS THEY ARE TO BE CONSTRUCTED ACCORDING TO THE STANDARD PLAN GIVEN BELOW OPPOSITE EACH ITEM UNLESS OTHERWISE INDICATED.

- II-30D CONCRETE CURB & CONCRETE CURB & GUTTER
- II-39K TRANSVERSE PAVEMENT JOINTS
- II-44H CONCRETE PAVEMENT REPAIR
- II-45G CONVENTIONAL PAVEMENT REINFORCEMENT
- III-60H BEAM GUARDRAIL
- III-57D GUARDRAIL ANCHORAGE - BRIDGE, DETAILS
- V-100C SODDING & SEEDING
- VI-125H LIGHTED ARROWS & BARRICADES
- X-18D BRIDGE RAILING SOLID PARAPET TYPE

- 101-PLD MISCELLANEOUS ENCASED CONDUIT SECTION DETAILS
- 101A-PLD DETAIL FOR JOINING CONDUIT ENCASEMENTS
- 104-PLD TWO WAY MANHOLE
- 114-PLD MULT. ST. LTG. CABLE CONNECTIONS, CLAMP-ON ARM & MISCELLANEOUS DETAILS
- 115-PLD CODE 009-00 ST. LTG. STD. DETAILS

CONTRACT FOR SUPERSTRUCTURE RECONSTRUCTION, APPROACH WORK AND MISCELLANEOUS CONSTRUCTION	
LOCAL AUTHORITY APPROVAL CITY OF DETROIT CITY ENGINEERING DIVISION DEPARTMENT OF PUBLIC WORKS	
APPROVED BY _____	DATE _____
APPROVED BY _____	DATE _____
PREPARED UNDER SUPERVISION OF	
REGISTERED PROFESSIONAL ENGINEER _____	REGISTRATION NO. _____
CITY OF DETROIT ORGANIZATION	
DETROIT, MICHIGAN ADDRESS	
(SEAL)	

FEDERAL AID URBAN PROJECT DSTP 9582019 BRIDGE NO. B01 82 - 18 - 85 PARTS 1 & 2 JOB NO. 36916A



- LEGEND***
- REMOVE & REPLACE RAILINGS & PARAPETS
 - REMOVE & REPLACE DECK
 - REMOVE & REPLACE SIDEWALK & DECK
 - REMOVE & REPLACE BEAMS, BEARINGS, ANCHOR BOLTS & GROUTS.
 - DREDGE & BACKFILL MATERIAL
- * REFER TO THIS SHIT ONLY

NOTES:

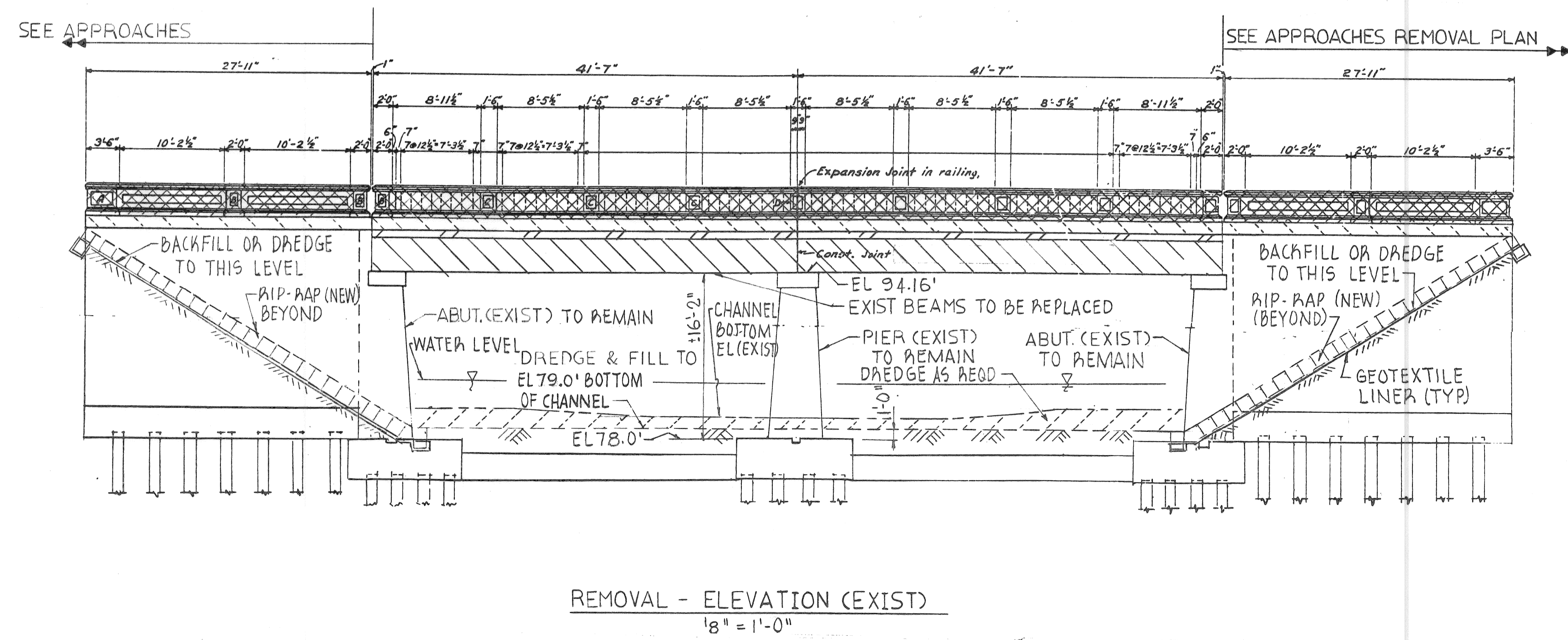
- REFER TO SI FOR GENERAL NOTES.
- REHABILITATE SUBSTRUCTURES (PIER AND ABUTMENTS) BY REMOVING LOOSE CONCRETE AND PATCHING CRACKS AND SPALLS.

ITEMS	QUANTITY	PAY UNIT
REMOVAL OF SUPERSTRUCTURE	1	LSUM
EARTH EXCAVATION	220	CYD
GRANULAR MATERIAL CLASS II	140	CYD
EXPANSION JOINT E2	70	LFT
SUPERSTRUCTURE CONCRETE	320	CYD
STEEL REINFORCEMENT, EPOXY COATED	97000	LBS
EXPANSION JOINT DEVICE	140	LFT
2 - 4" DIA CONDUIT	1	LSUM
TEMPORARY SUPPORT	1	LSUM
PENETRATING WATER REPELLANT TREATMENT	1,350	SYD
SUBSTRUCTURE CONCRETE- BACK WALL	1	LSUM
REMOVE DUCT ETC	1	LSUM

Flood Data Frequency (Yrs)	Waterway Discharge Cfs.	Water Surface 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.)	3292	598.6	4.5	732	598.6	598.5
*Existing Structure Q Overtopping (500 Yr.)	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Proposed Structure Q Design (100 Yr.)	3292	598.6	4.5	732	598.6	598.5
*Proposed Structure Q Overtopping (500 Yr.)	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Natural Channel Q Design (50 Yr.)	2992	597.6	4.4	680	597.6	597.5
Witnessed Flood of Record	----	598.5	----	----	----	---

* Complete if Q Overtopping is less than Q100 and not equal to Q Design.
 Drainage Area 89 sq. mi.
 All elevations are from National Geodetic Vertical Datum of 1929 (NGVD).

- RAILING REPLACEMENT NOTES**
- THE WORK COVERED BY THESE PLANS INCLUDES REPLACING THE EXISTING CURB AND SIDEWALK WITH BRIDGE BARRIER RAILING, SOLID PARAPET TYPE 4, AND MAINTAINING TRAFFIC.
 - FOR MOLDING, BEVEL, AND NAME PLATE DETAILS SEE STANDARD PLAN XI-103D.
 - FOR GUARDRAIL ANCHORAGE AND BRIDGE RAILING, TYPE DETAILS NOT SHOWN ON THIS SHEET, SEE STANDARD PLAN III-67D AND X-18D.
 - REMOVAL OF EXISTING GUARDRAIL IS INCLUDED IN THE BID.
 - ALL STEEL FOR EXPANSION JOINT SHALL BE A-36.
 - THE CONTRACTOR WILL BE FURNISHED WITH PLANS OF THE EXISTING STRUCTURE IF REQUESTED.
- JOB NO 36916 A



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

dr'n	ct'd	ap'vd	date

revisions

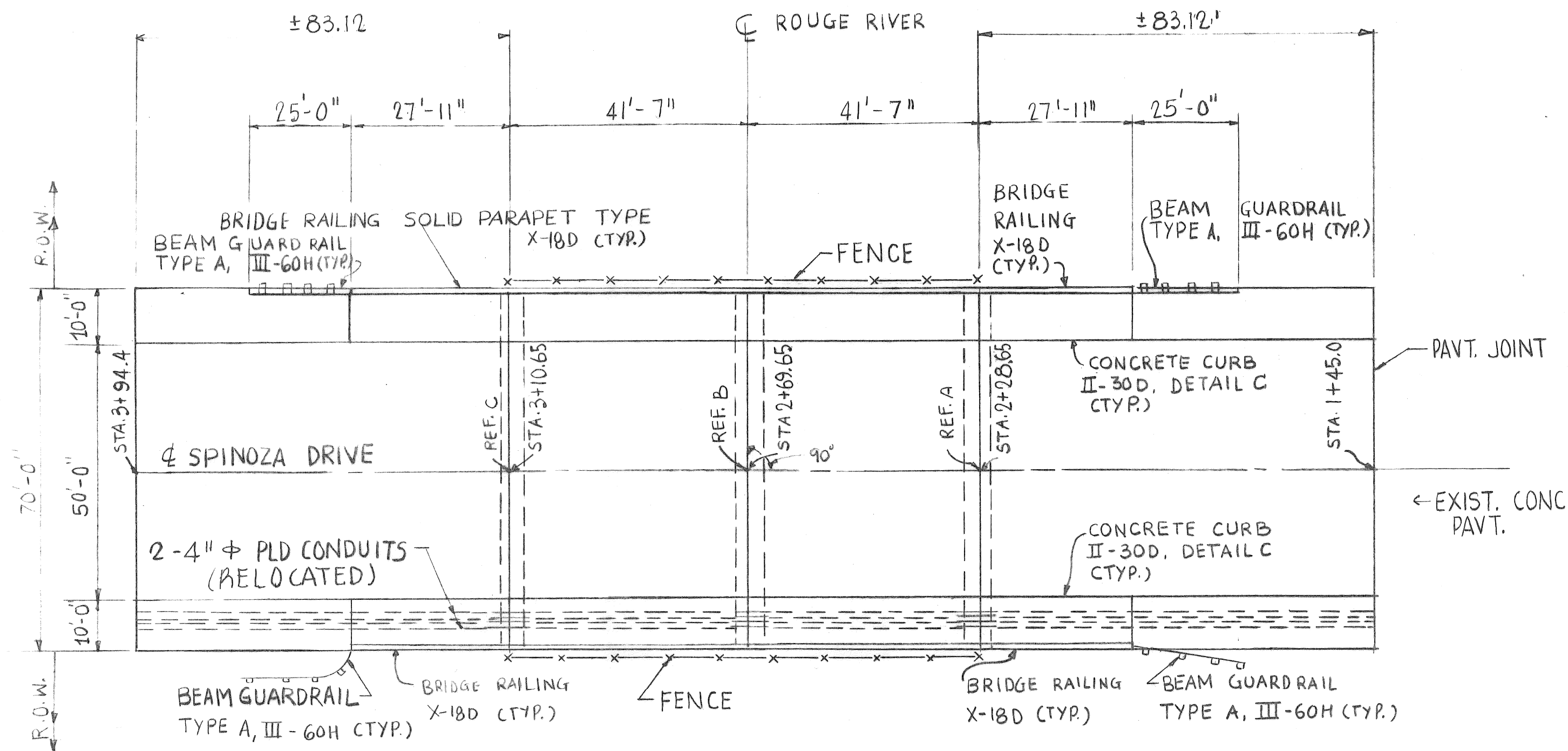
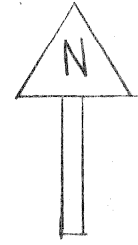
designed by RLF
 drawn by RLF
 checked by R. ELORO
 approved: [Signature]

EARL HOWARD

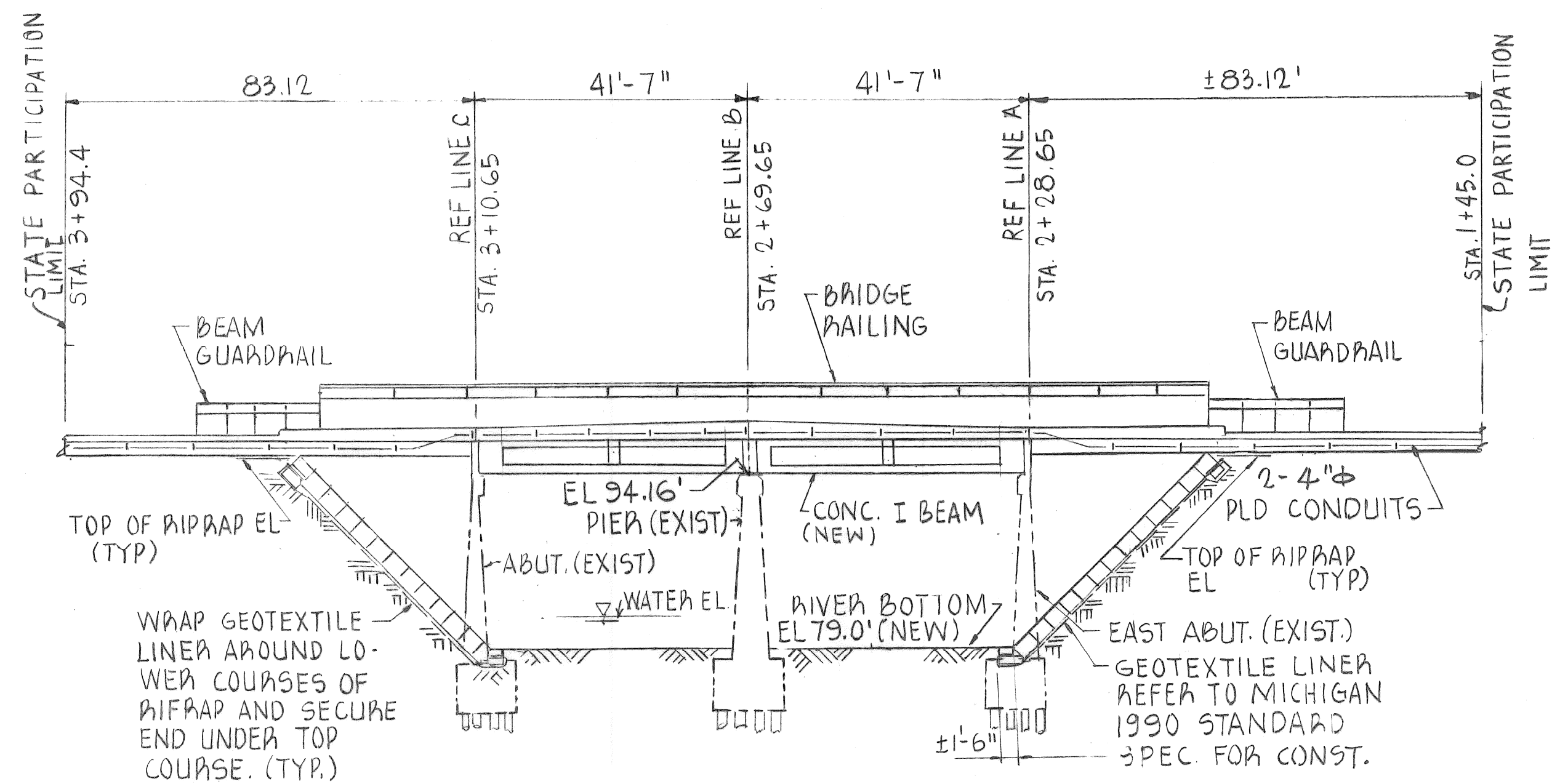
CITY OF DETROIT
 city engineering department

SPINOZA DR BRIDGE BW270
 DEMOLITION PLAN

a.o.
 contract no.
 sheet 5-2
 of
 drawing no.
 date



SITUATION PLAN
SCALE: 1" = 20'-0"



ELEVATION (PROPOSED)
HOR SCALE 1" = 20'-0"
VERT SCALE 1" = 10'-0"

BENCHMARK

C.B.M. BOLT SPK.: S. SIDE OF POLE & N. SIDE OF SPINOZA DRIVE. STA. 0+50 EL. 100.00 (ASSUMED) EL. 125.80

III - 250A PLYMOUTH/ROUGE PARK POOL EL. 129.84

III - 353 PLYMOUTH & BURT RD. (SE CORNER) EL. 141.93

ITEMS	QUANTITY	PAY UNIT
CONCRETE SIDEWALK, 9"	1,680	SFT
CHAIN LINK FENCE, 120"	168	LFT

NO.	DATE	BY	REVISIONS

designed by RLF
drawn by P. SHAH
checked by R. FLORO
approved: *[Signature]*
EARL HOWARD

CITY OF DETROIT
city engineering department
for

SPINOZA DRIVE BRIDGE BW-270
PLAN OF SITE

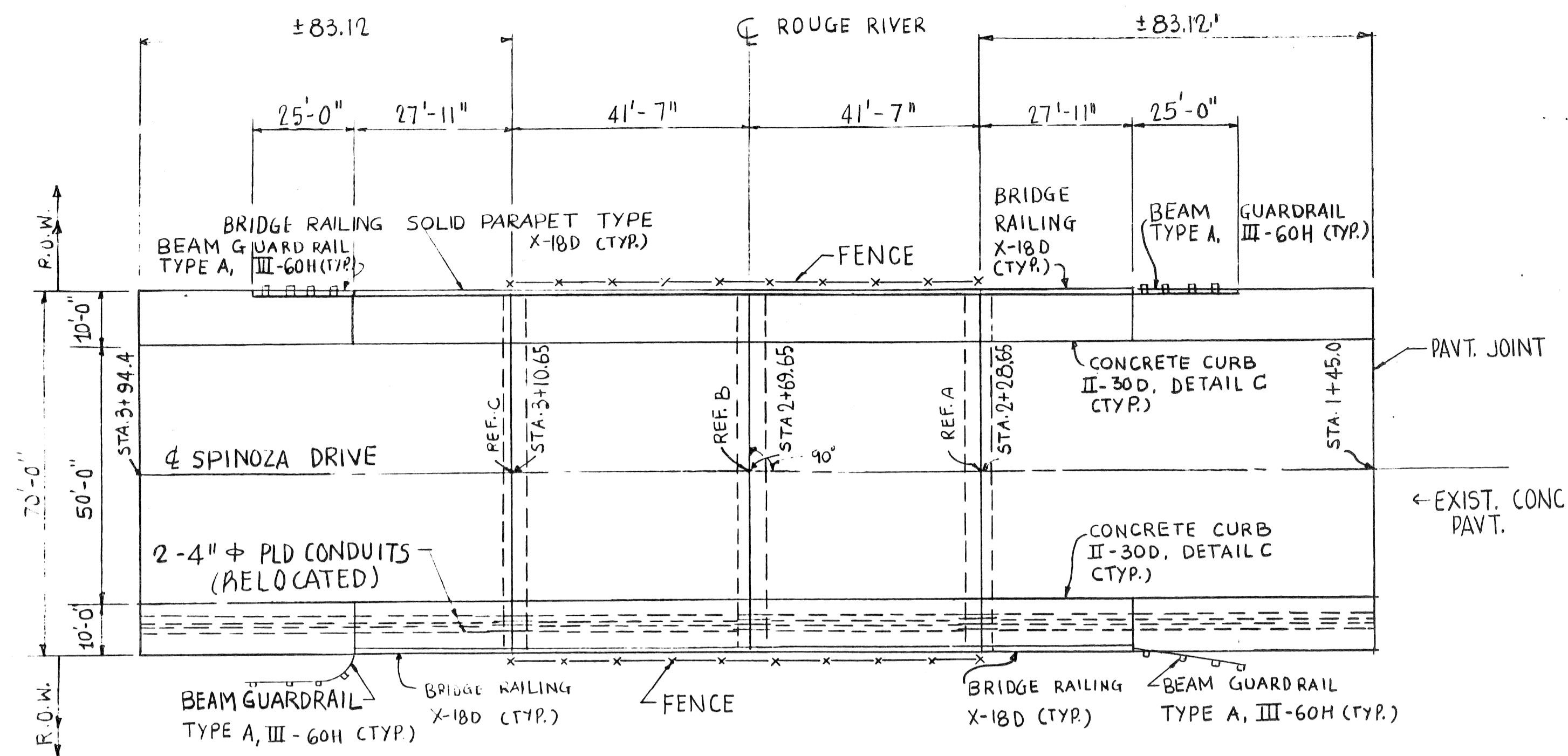
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SUPERSTRUCTURE MISCELLANEOUS NOTES

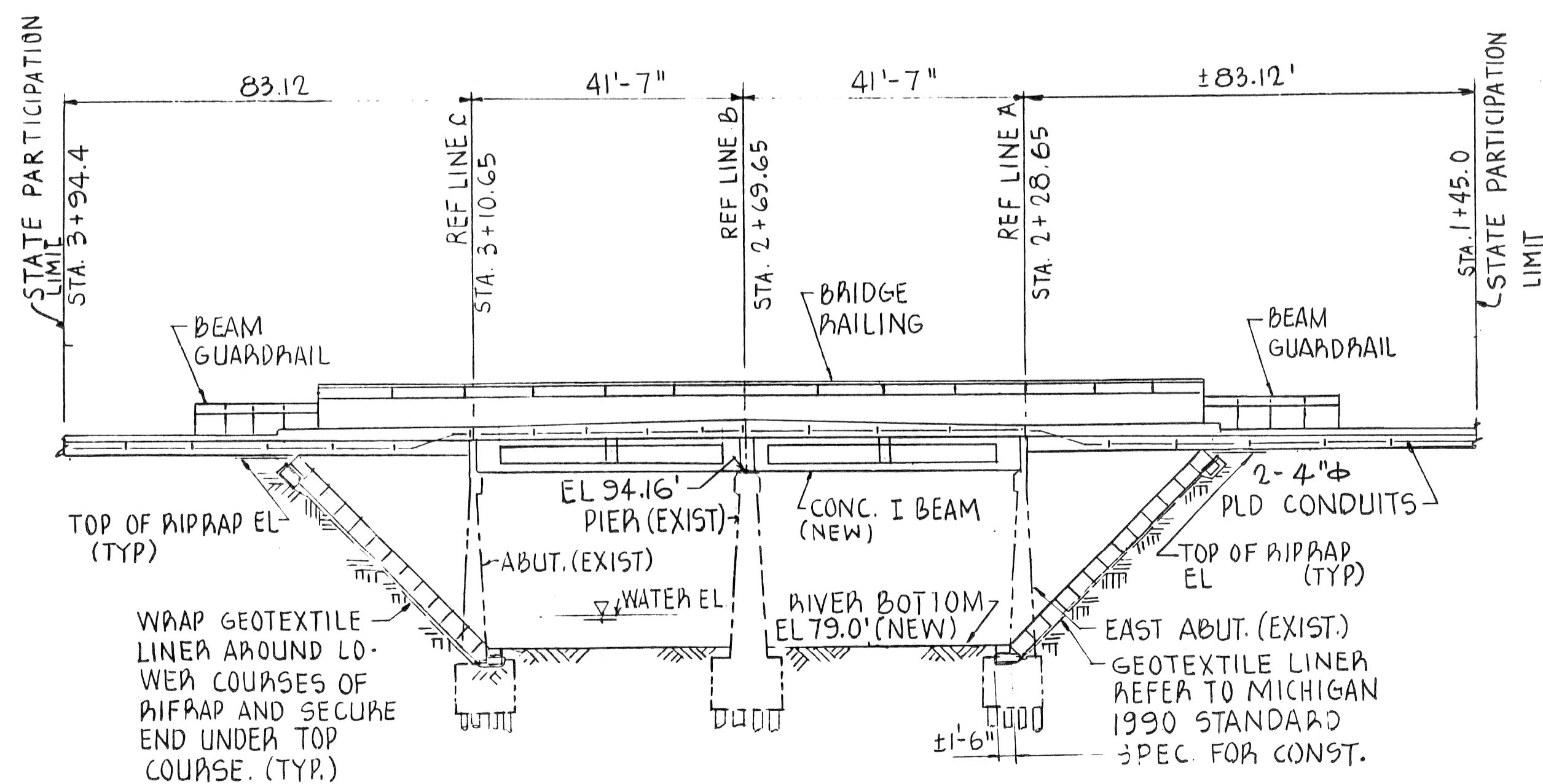
- FOR BRIDGE RAILING, MOLDING AND BEVEL DETAILS, SEE STANDARD X-18D AND III-67D TYPE T.
- A RUBBED SURFACE FINISH ON THE VERTICAL AND TOP CONCRETE SURFACES OF THE PARAPET RAILING IS REQUIRED ON THIS STRUCTURE.
- THE CONTRACTOR IS TO PROVIDE A SAWED JOINT 1/2" DEEP BY 1/8" WIDE (MINIMUM) IN THE TOP OF SLAB OVER AND PARALLEL TO THE CENTERLINE OF PIER. THE JOINT IS TO BE SAWED BEFORE CASTING OF SIDEWALKS AND IS TO BE FILLED WITH HOT-POURED JOINT SEALANT.
- 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.

GENERAL PLAN OF SITE SHEET

- THE WORK COVERED BY THESE PLANS INCLUDE CLEARING, GRUBBING, CHANNEL EXCAVATION, BACKFILLING, EARTH EXCAVATION, MAINTAINING TRAFFIC, BRIDGE RECONSTRUCTION, PLACING GRANULAR MATERIAL, SODDING, SLOPE PROTECTION (RIPRAP) TO THE LIMITS SHOWN, AND APPROACH ROAD.
- REMOVAL OF TEMPORARY STRUCTURE AND APPROACHES IS A PART OF THIS CONTRACT.
- THE CONTRACTOR SHALL LOCATE ALL ACTIVE UNDERGROUND 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.
- UNSUITABLE MATERIAL UNDER THE APPROACH SHALL BE REMOVED AND BACKFILLED WITH GRANULAR MATERIAL CLASS II.
- THE GROUND ADJACENT TO THE APPROACH AND STRUCTURE SHALL BE GRADED BY THE CONTRACTOR TO PROVIDE DRAINAGE.
- TRAFFIC IS TO BE DETOURED.
- THIS BRIDGE IS PART OF A PARK AND ALL AREA SHOWN IS WITHIN CITY OF DETROIT RIGHT-OF-WAY.
- TOPOGRAPHY SHOWN HERE REPRESENTS CONDITIONS EXISTING AT THE TIME THE FIELD SURVEY WAS MADE. HOWEVER, THESE CONDITIONS (MAY) HAVE BEEN MATERIALLY ALTERED.
- WATER LEVEL IS SUBJECT TO CHANGE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION OF WATER LEVELS THAT WILL EXIST DURING CONSTRUCTION.
- TRUNKLINE TRAFFIC WILL BE REROUTED BY THE CONTRACTOR DURING CONSTRUCTION.
- MEASURES SHALL BE TAKEN TO PREVENT DEBRIS FROM FALLING FROM THE 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.
- PLACE RIPRAP FROM EL 79.0 FT. TO EL 99.0 FT.
- EXCAVATE OR BACKFILL CROSSHATCHED AREA TO EL 79.0 FT. SEE SHT S-2 AND S-5.
- TEMPORARILY STORED EXCAVATED MATERIAL SHALL NOT BE ALLOWED TO ERODE INTO THE WATERCOURSE.
- IMMEDIATELY AFTER THE RECONSTRUCTION OF AN ABUTMENT IS COMPLETED, SODDING AND SLOPE PROTECTION SHALL BE PLACED ON THE ADJACENT EMBANKMENT SLOPES.
- GEOTEXTILE LINER SHALL BE PLACED ON ALL SLOPES PRIOR TO PLACING RIPRAP.
- THE TOP OF ROADWAY SLAB AND TOPS OF SIDEWALKS ARE PARALLEL TO THE VERTICAL CURVE.



SITUATION PLAN
SCALE: 1" = 20'-0"



ELEVATION (PROPOSED)
HOR SCALE 1" = 20'-0"
VERT SCALE 1" = 10'-0"

BENCH MARK

C.B.M. BOLT SPK.: S. SIDE OF
POLE & N. SIDE OF SPINOZA DRIVE.
STA. 0+50 EL. 100.00 (ASSUMED)
EL. 125.80

III - 250A
PLYMOUTH/ROUGE PARK POOL
EL. 129.84

III - 353
PLYMOUTH & BURT RD. (SE CORNER)
EL. 141.93

ITEMS	QUANTITY	PAY UNIT
CONCRETE SIDEWALK, 9"	1,680	SFT
CHAIN LINK FENCE, 120"	168	LFT

SUPERSTRUCTURE MISCELLANEOUS NOTES

- FOR BRIDGE RAILING, MOLDING AND BEVEL DETAILS, SEE STANDARD X-18D AND III-67D TYPE T.
- A RUBBED SURFACE FINISH ON THE VERTICAL AND TOP CONCRETE SURFACES OF THE PARAPET RAILING IS REQUIRED ON THIS STRUCTURE.
- THE CONTRACTOR IS TO PROVIDE A SAWS JOINT 1/2" DEEP BY 1/8" WIDE (MINIMUM) IN THE TOP OF SLAB OVER AND PARALLEL TO THE CENTERLINE OF PIER. THE JOINT IS TO BE SAWS BEFORE CASTING OF SIDEWALKS AND IS TO BE FILLED WITH HOT-POURED JOINT SEALANT.
- 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.

GENERAL PLAN OF SITE SHEET

- THE WORK COVERED BY THESE PLANS INCLUDE CLEARING, GRUBBING CHANNEL EXCAVATION, BACKFILLING, EARTH EXCAVATION, MAINTAINING TRAFFIC, BRIDGE RECONSTRUCTION, PLACING GRANULAR MATERIAL, SODDING, SLOPE PROTECTION (RIPRAP) TO THE LIMITS SHOWN, AND APPROACH ROAD.
- REMOVAL OF TEMPORARY STRUCTURE AND APPROACHES IS A PART OF THIS CONTRACT.
- THE CONTRACTOR SHALL LOCATE ALL ACTIVE UNDERGROUND 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.
- UNSUITABLE MATERIAL UNDER THE APPROACH SHALL BE REMOVED AND BACKFILLED WITH GRANULAR MATERIAL CLASS II.
- THE GROUND ADJACENT TO THE APPROACH AND STRUCTURE SHALL BE GRADED BY THE CONTRACTOR TO PROVIDE DRAINAGE.
- TRAFFIC IS TO BE DETOURED.
- THIS BRIDGE IS PART OF A PARK AND ALL AREA SHOWN IS WITHIN CITY OF DETROIT RIGHT-OF-WAY.
- TOPOGRAPHY SHOWN HERE REPRESENTS CONDITIONS EXISTING AT THE TIME THE FIELD SURVEY WAS MADE. HOWEVER, THESE CONDITIONS (MAY) HAVE BEEN MATERIALLY ALTERED.
- WATER LEVEL IS SUBJECT TO CHANGE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION OF WATER LEVELS THAT WILL EXIST DURING CONSTRUCTION.
- TRUNKLINE TRAFFIC WILL BE REROUTED BY THE CONTRACTOR DURING CONSTRUCTION.
- MEASURES SHALL BE TAKEN TO PREVENT DEBRIS FROM FALLING FROM THE 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.
- PLACE RIPRAP FROM E1 79.0 FT. TO E1 99.0 FT.
- EXCAVATE OR BACKFILL CROSSHATCHED AREA TO E1 79.0 FT. SEE SHT S-2 AND S-5.
- TEMPORARILY STORED EXCAVATED MATERIAL SHALL NOT BE ALLOWED TO ERODE INTO THE WATERCOURSE.
- IMMEDIATELY AFTER THE RECONSTRUCTION OF AN ABUTMENT IS COMPLETED, SODDING AND SLOPE PROTECTION SHALL BE PLACED ON THE ADJACENT EMBANKMENT SLOPES.
- GEOTEXTILE LINER SHALL BE PLACED ON ALL SLOPES PRIOR TO PLACING RIPRAP.
- THE TOP OF ROADWAY SLAB AND TOPS OF SIDEWALKS ARE PARALLEL TO THE VERTICAL CURVE.

NO.	DATE	BY	REVISIONS

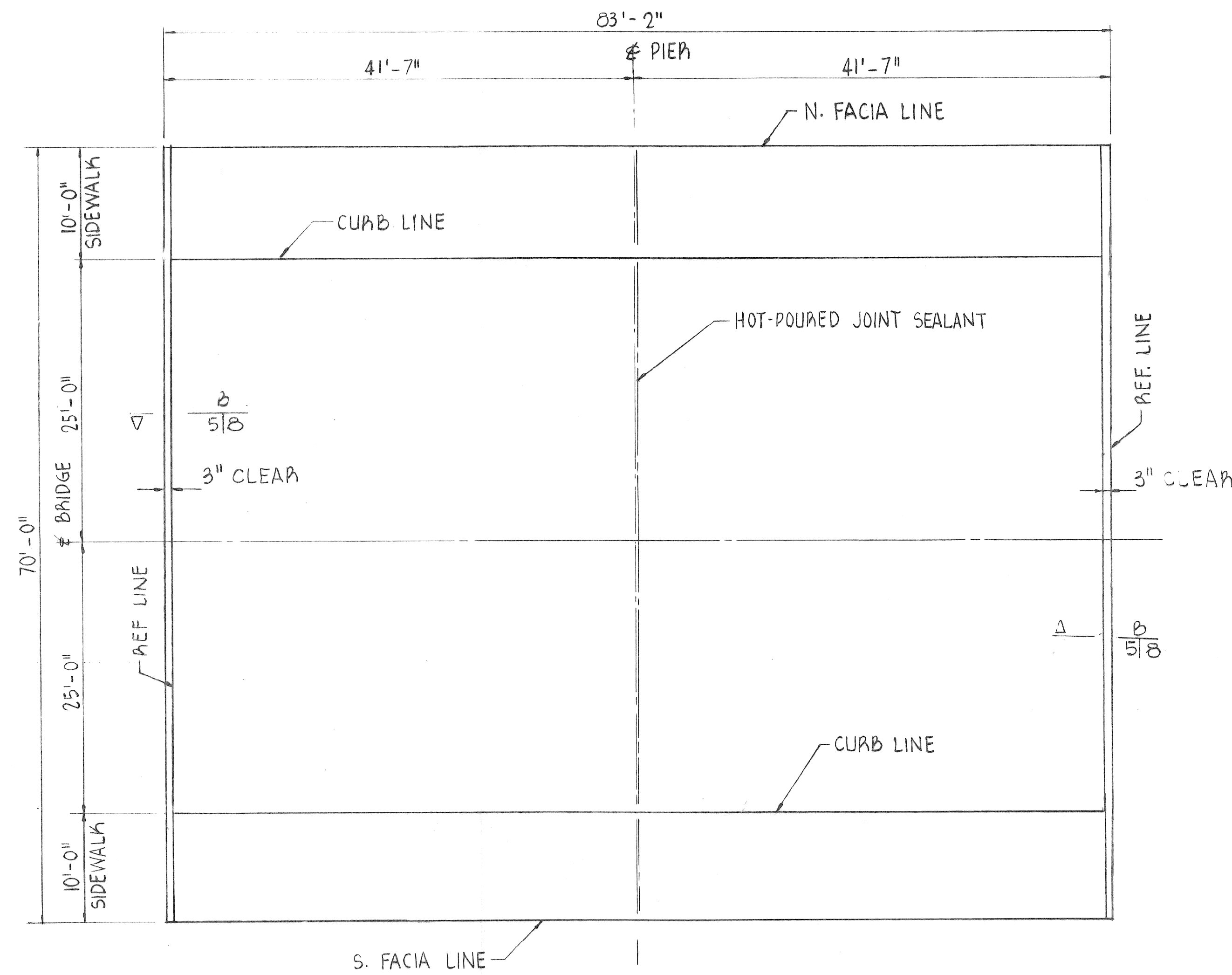
designed by RLF
drawn by P. SHAH
checked by R. FLORO
approved by Earl Howard

EARL HOWARD

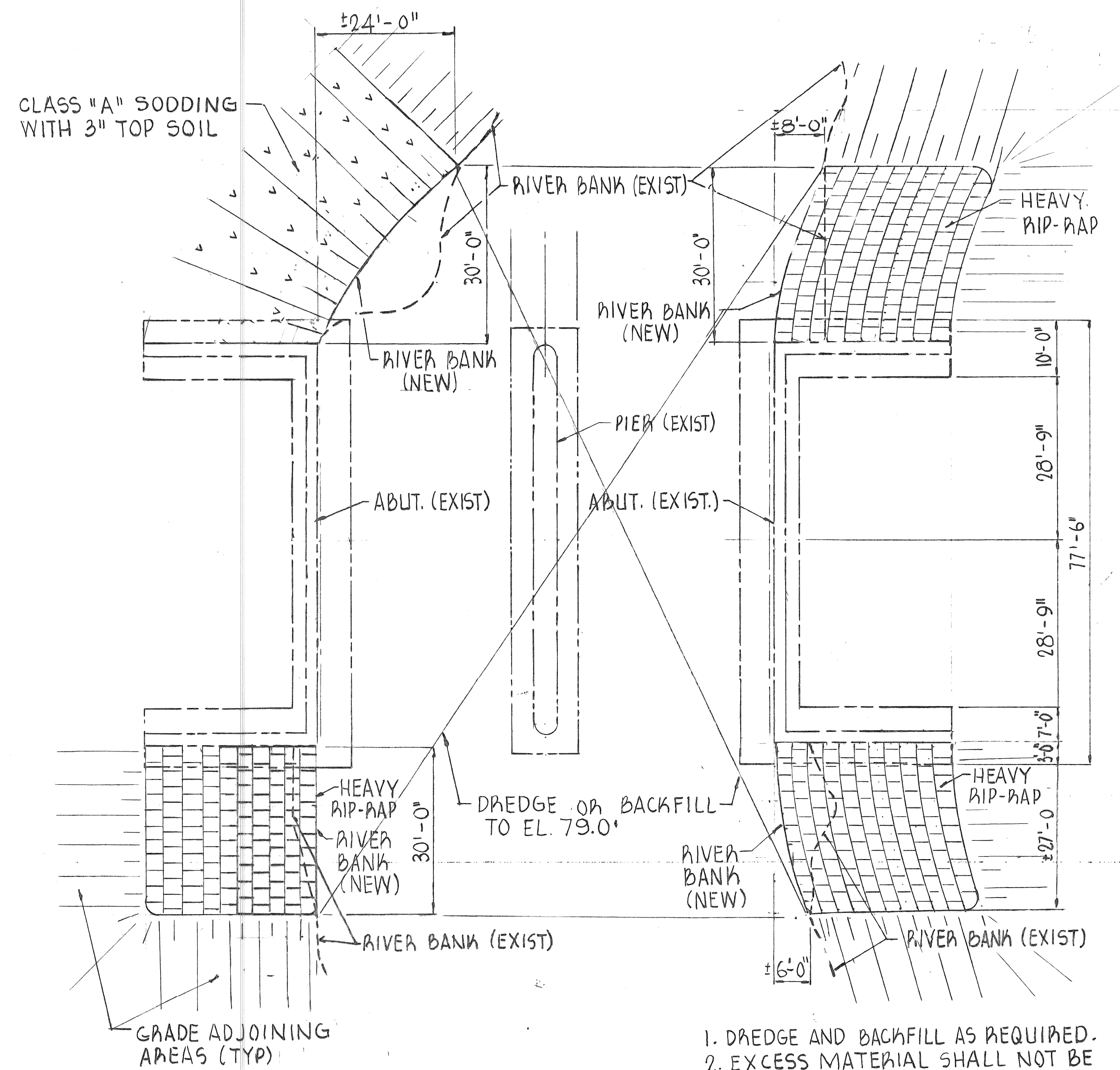
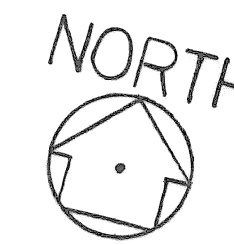
CITY OF DETROIT
city engineering department

SPINOZA DRIVE BRIDGE BW-270
PLAN OF SITE

a.o.
contract no.
sheet S-3
of
drawing no.
date



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



RIP-RAP & EXIST. FOUNDATION PLAN
1/16" = 1'-0"

1. DREDGE AND BACKFILL AS REQUIRED.
2. EXCESS MATERIAL SHALL NOT BE DEPOSITED IN THE RIVER.

PIER NOTES

- A. THE ENTIRE TOP, EXISTING AND REPAIRED, AND ALL OTHER SURFACES OF EXISTING 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.

SUBSTRUCTURE REPAIR

- A. "EXPANSION ANCHORED BOLTS" SHALL BE CHOSEN FROM THE QUALIFIED PRODUCTS LIST IN THE CURRENT MDOT MATERIALS SAMPLING GUIDE.
- B. THE TOP AND FRONT OF ABUTMENTS AND THE FRONT FACE OF THE INDEPENDENT BACKWALLS SHALL BE GIVEN AN APPLICATION OF PENETRATING WATER REPELLENT TREATMENT.
- C. ALL SURFACES OF PIER SHALL BE GIVEN AN APPLICATION OF PENETRATING WATER REPELLENT TREATMENT.
- D. FORMS FOR LARGE PATCHES SHALL BE INSTALLED IN 2' TO 4' HIGH SECTIONS WITH THE TOP OF FORM NO MORE THAN 4' ABOVE THE LEVEL OF CONCRETE AS THE POUR PROGRESSES.
- E. A LATEX MODIFIED HIGH-EARLY STRENGTH PATCHING MIXTURE IN ACCORDANCE WITH SUBSECTION 7.03.03 OF THE STANDARD SPECIFICATIONS SHALL BE USED FOR SUBSTRUCTURE REPAIRS.

SUBSTRUCTURE

- A. FOR BEVEL AND MOLDING DETAILS, SEE STANDARD XI-103.
- B. THE ENTIRE TOP, EXISTING AND NEW, THE FRONT FACE OF INDEPENDENT BACKWALL, AND ALL OTHER SURFACES OF EXISTING ABUTMENTS SHALL BE GIVEN AN APPLICATION OF PENETRATING WATER REPELLENT TREATMENT AFTER THE NEW ELASTOMERIC BEARINGS HAVE BEEN PLACED IN FINAL POSITION ON THE STRUCTURE.

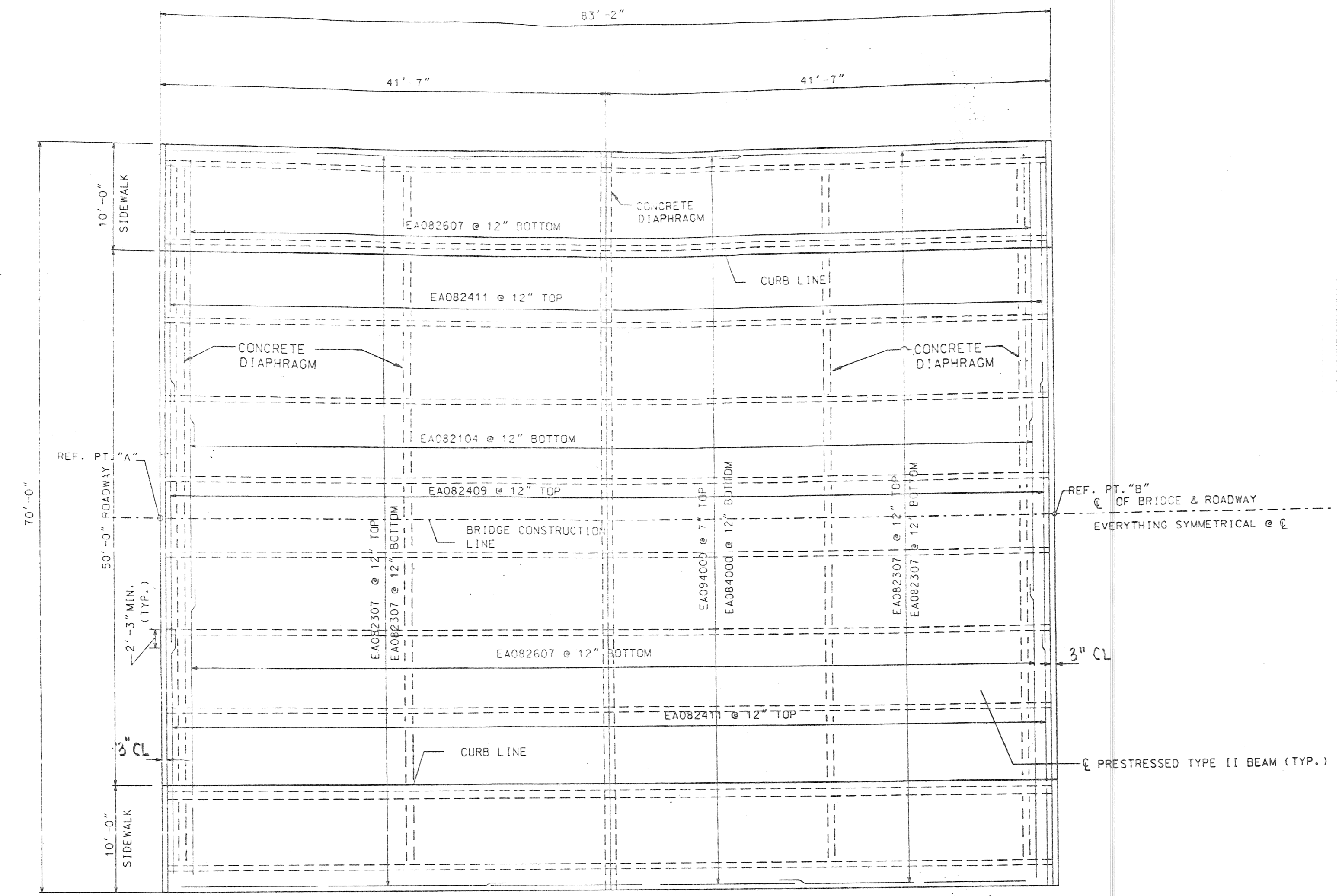
no.	description	date

designed by P. SHAH
 drawn by P. F.
 checked by P. F.
 approved by EARL C. HOWARD

CITY OF DETROIT
 city engineering department
 for

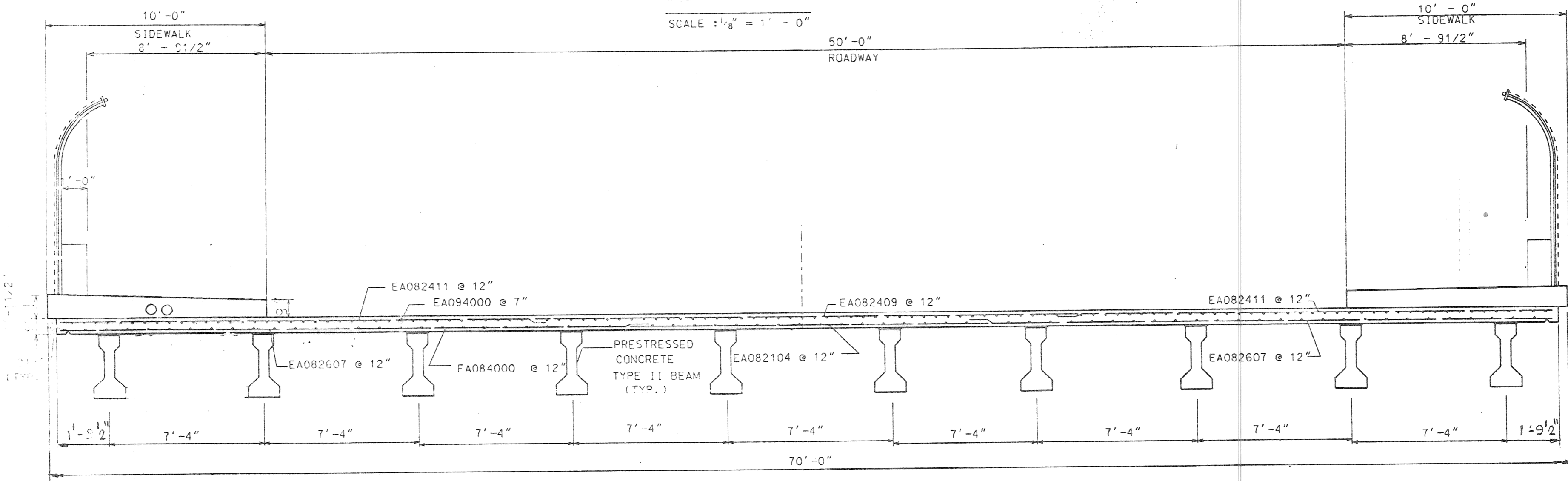
SPINOZA DR BRIDGE
 Bw 270
 DECK & FOUNDATION (EXIST) PLAN

a.o. 93-22-16
 contract no.
 sheet 5- 5
 of
 drawing no.
 date 10-94



DECK PLAN

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



CROSS SECTION OF DECK AT MIDSPAN

SCALE: 1/4" = 1' - 0"

TREATMENT OF EPOXY-COATED BARS

- A. REINFORCEMENT IS TO BE SHOP CUT AS SHOWN. THE EPOXY COATING SHALL BE REPAIRED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

PRESTRESSED CONCRETE I-BEAM

- A. PRESTRESSING STRANDS SHALL BE GIVEN AN INITIAL PRESTRESS OR 31,000 LBS. EACH.
- B. 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-1B; OR EQUAL.
- C. STEEL FOR BEARINGS SHALL MEET THE REQUIREMENTS OF ASIM A 36.
- D. END BLOCKS ARE REQUIRED.
- E. THREADING OF REINFORCEMENT AND INSTALLATION INTO CONCRETE INSERTS IS INCLUDED IN THE BID ITEM "PRESTRESSED CONCRETE I-BEAM."
- F. LIFTING DEVICES SHALL BE REMOVED. REMOVAL IS INCLUDED IN THE BID ITEM.
- G. CONTRACTOR SHALL DESIGN, DETAIL, MANUFACTURE, AND ERECT THE PRESTRESSED CONCRETE BEAMS IN ACCORDANCE WITH SECTION 5.05 OF MDOT STANDARD SPECIFICATION FOR CONSTRUCTION 1990 EDITION.

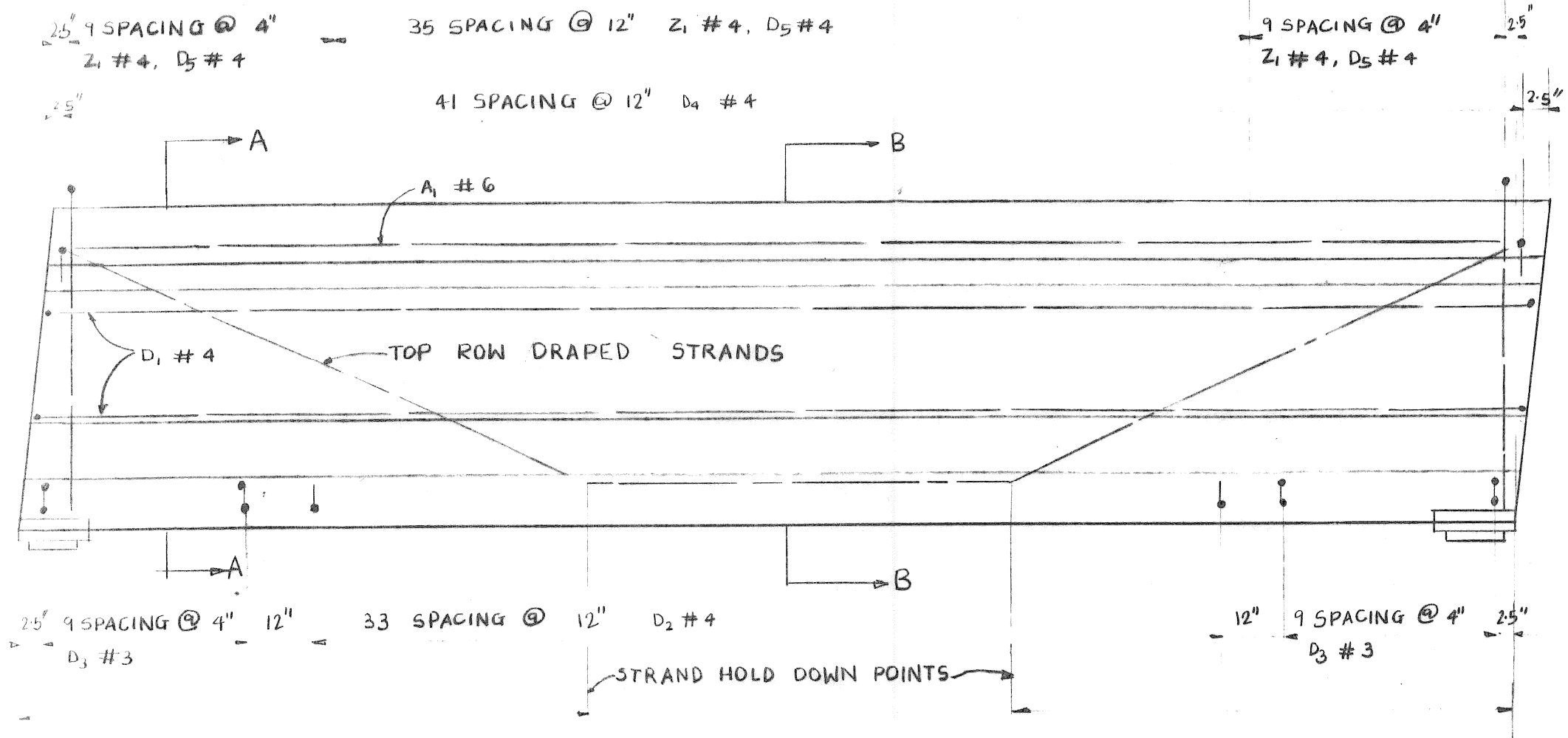
ITEMS	QUANTITY	PAY UNIT
ELASTOMERIC BEARING, 1"	60	SFT
PRESTRESSED CONCRETE I-BEAM, 36" FURNISHED	840	LFT
PRESTRESSED CONCRETE I-BEAM, 36" ERECTED	840	LFT
BRIDGE RAILING, SOLID PARAPET TYPE	168	LFT
PATCHING MORTAR OR CONCRETE	1	LSUM
REPAIRING STRUCTURAL CRACKS	1	LSUM
CLEANING DRAINAGE STRUCTURE	4	EACH
ADJUSTING DRAINAGE STRUCTURE COVER, CASE 2	4	EACH
MANHOLE	2	EACH
RIPRAP, HEAVY	300	SYD

REVISIONS	DESCRIPTION	DATE	BY	CHECKED BY	APPROVED BY

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT
BUREAUS OF STREETS AND HIGHWAYS
FOR

SPINOZA DRIVE BRIDGE OVER ROUGE RIVER
(BW - 270)
DECK REINFORCEMENT DETAILS AND
TYPICAL CROSS SECTION AT MIDSPAN

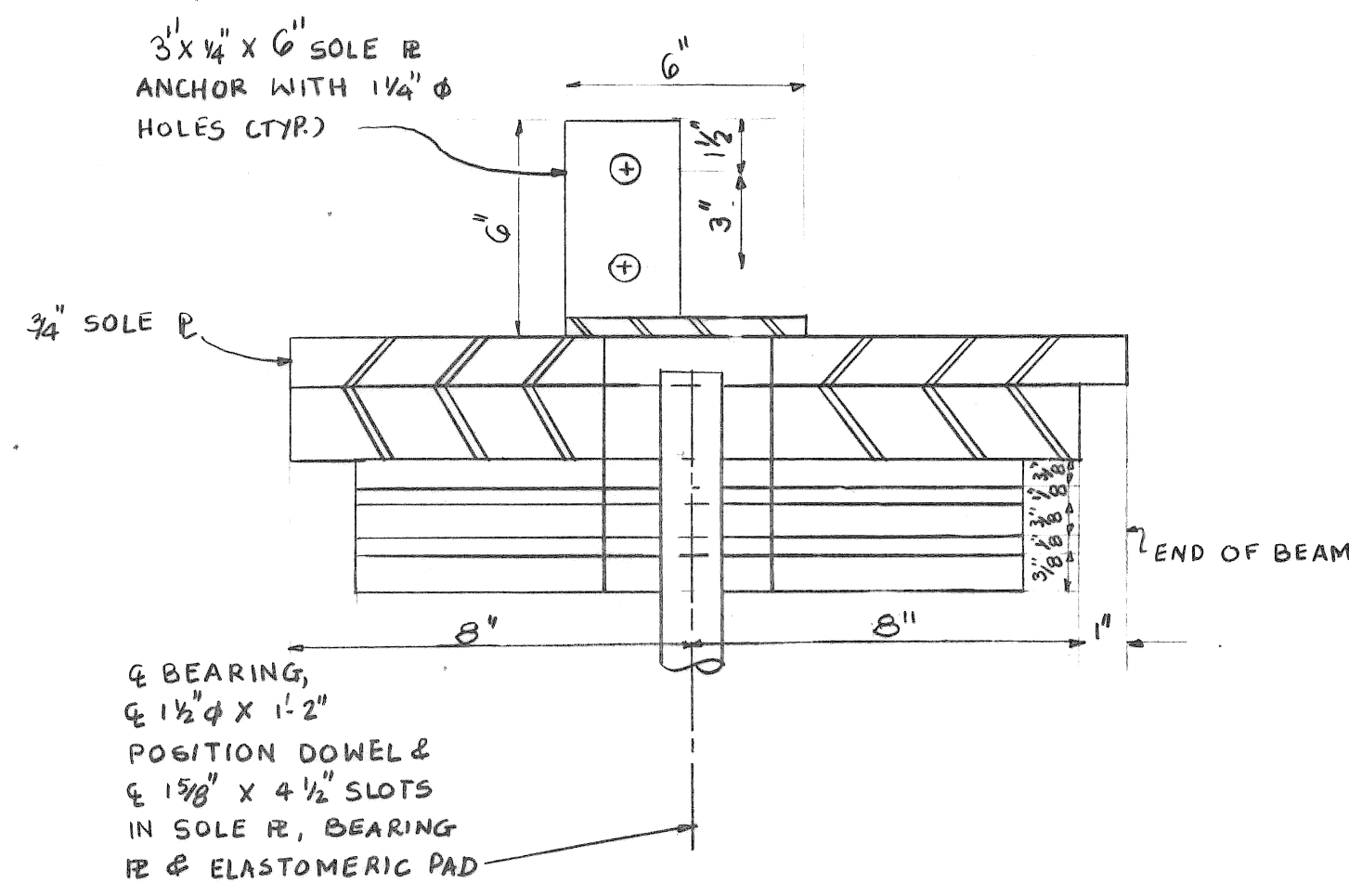
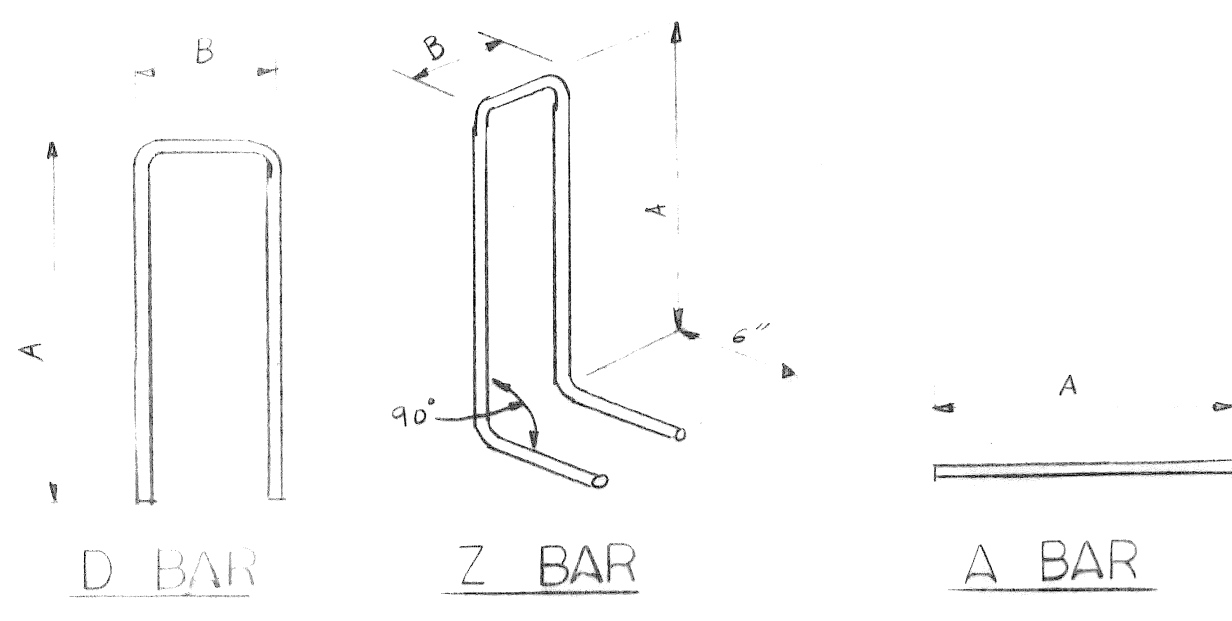
SHEET 5 - 6 OF SHEETS
CONTRACT NO.
ASSIGNMENT NO.
DATE



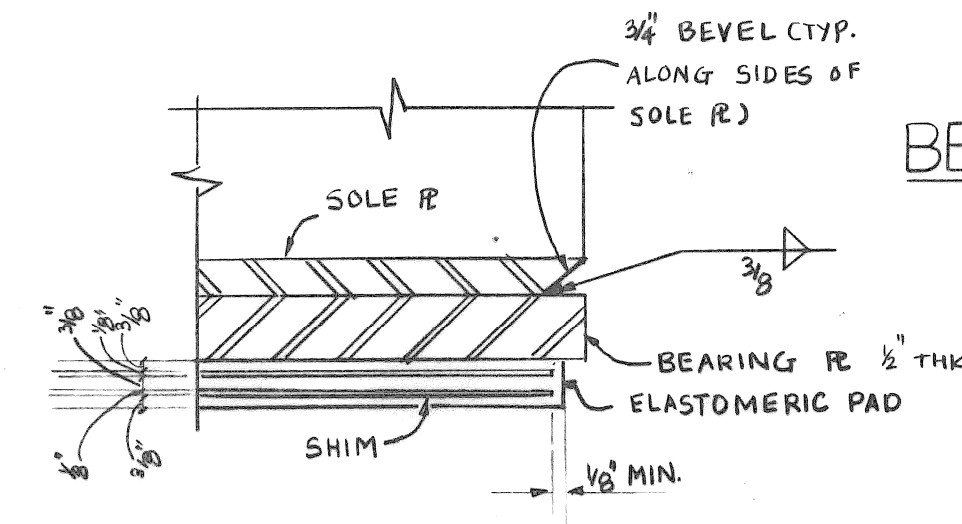
ELEVATION
SCALE: 1/4" = 1'-0"

BAR DIMENSIONS		
BAR	DIM.	TYPE II BEAM
A #6	A	4'-3"
D1 #4	A	4'-0"
	B	2 1/2"
D2 #4	A	3"
	B	1'-3 1/2"
D3 #3	A	1'-2"
	B	3 1/2"
D4 #4	A	4"
	B	8"
*D5 #4	A	1'-10"
	B	3 1/2"
Z1 #4	A	2'-8 1/2"
	B	3 1/2"

* INDICATES EPOXY COATED BARS

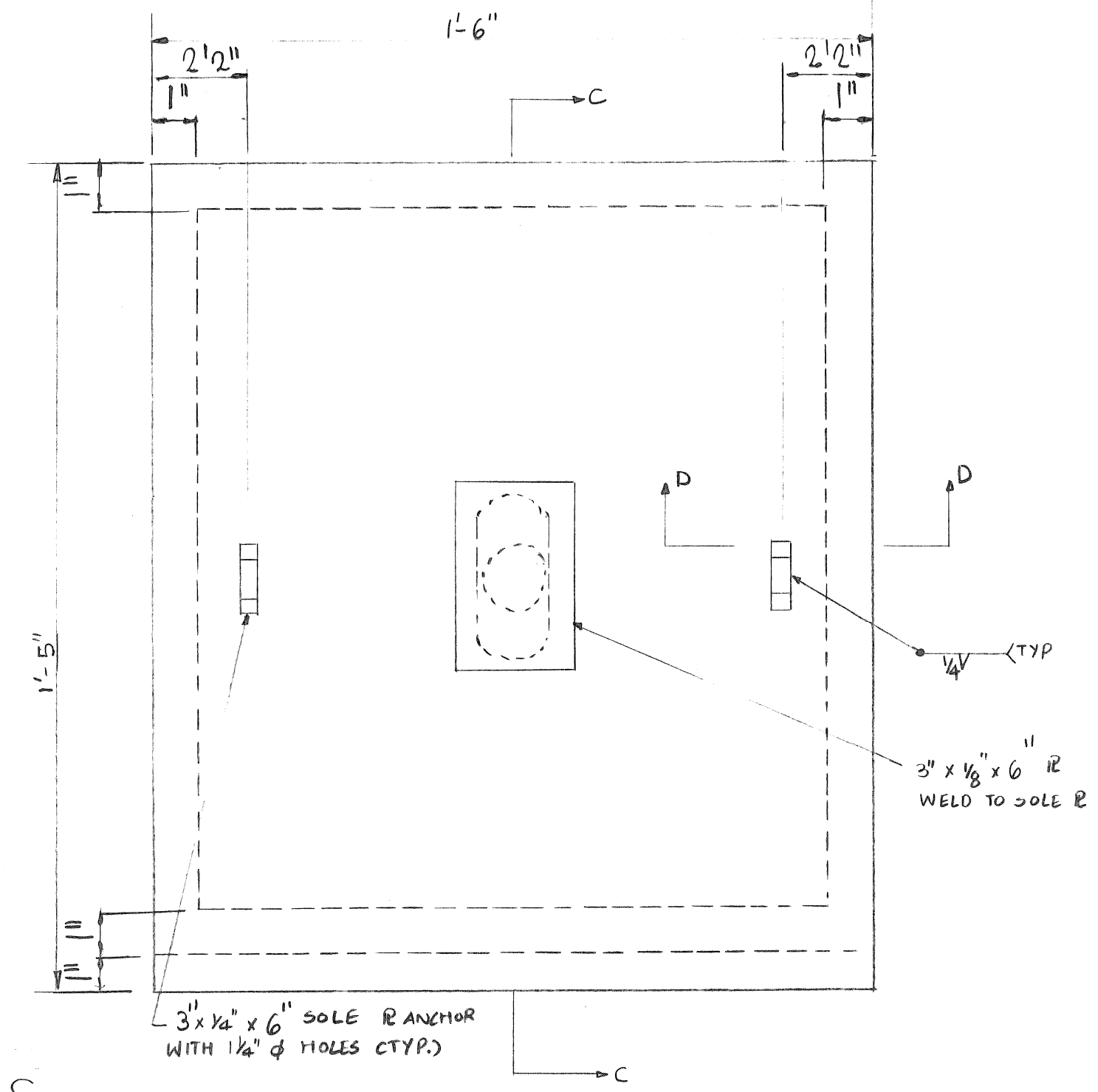


SECTION C-C
SCALE: 1/4" = 0'-1"

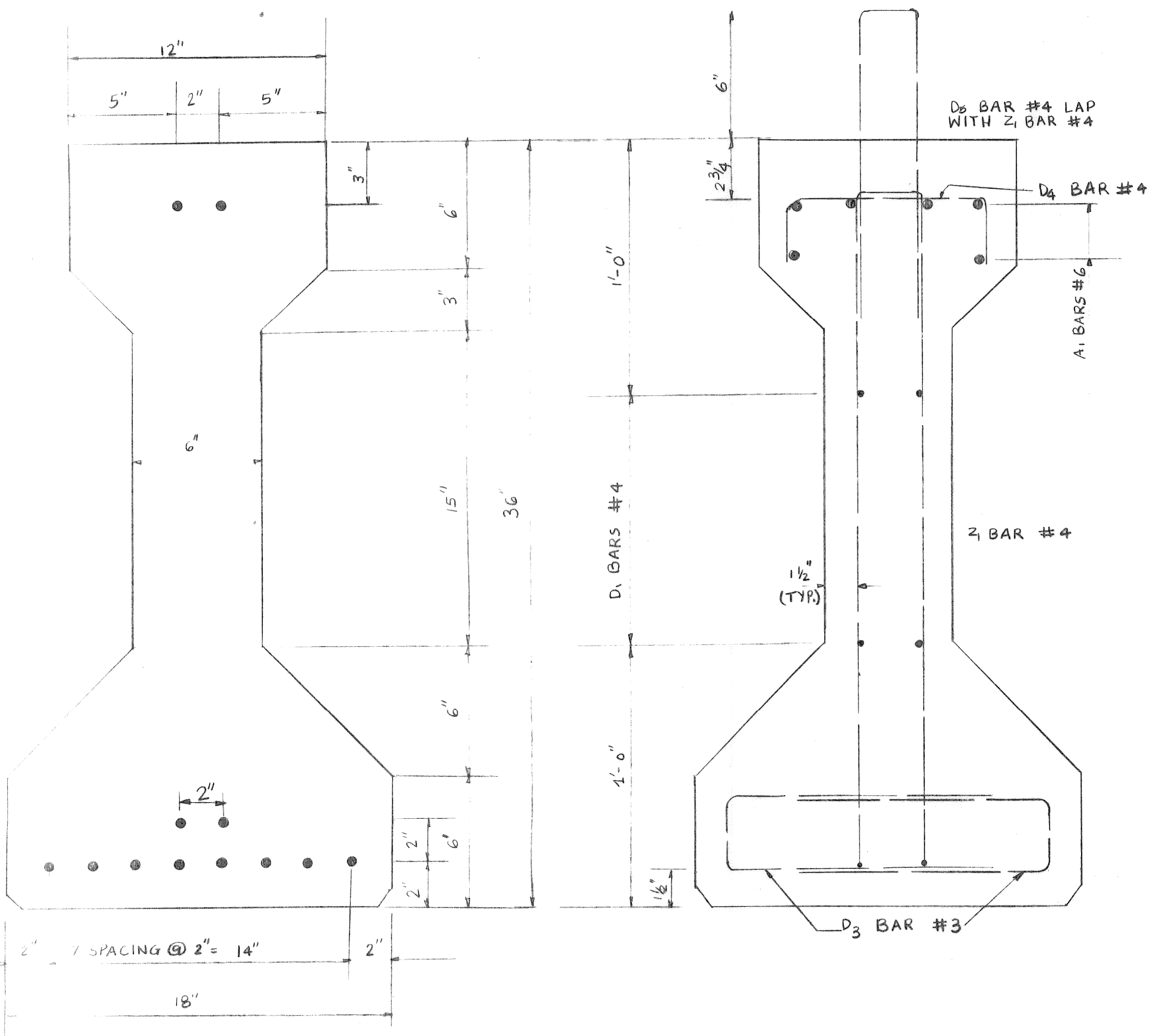


BEARING DETAILS

SECTION D-D

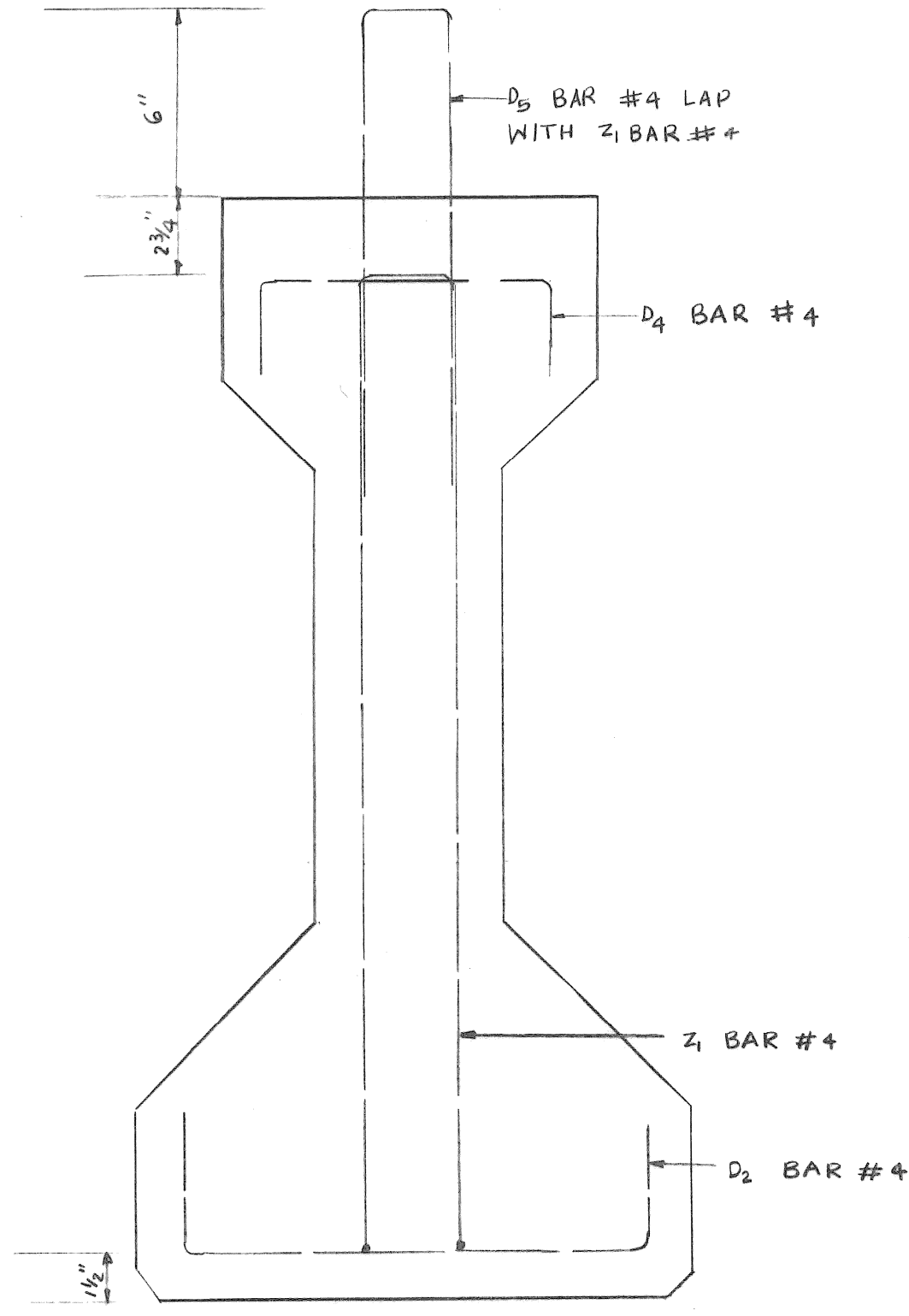


PLAN
SCALE: 3/8" = 1'-0"



PRESTRESSED TYPE II BEAM

SECTION A-A



SECTION B-B

ELASTOMERIC BEARINGS

A. 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.

NO.	DATE	BY	REVISIONS

designed by P. SHAH
drawn by P. SHAH
checked by
approved: *Earl Howard*

EARL HOWARD

CITY OF DETROIT

city engineering department

for

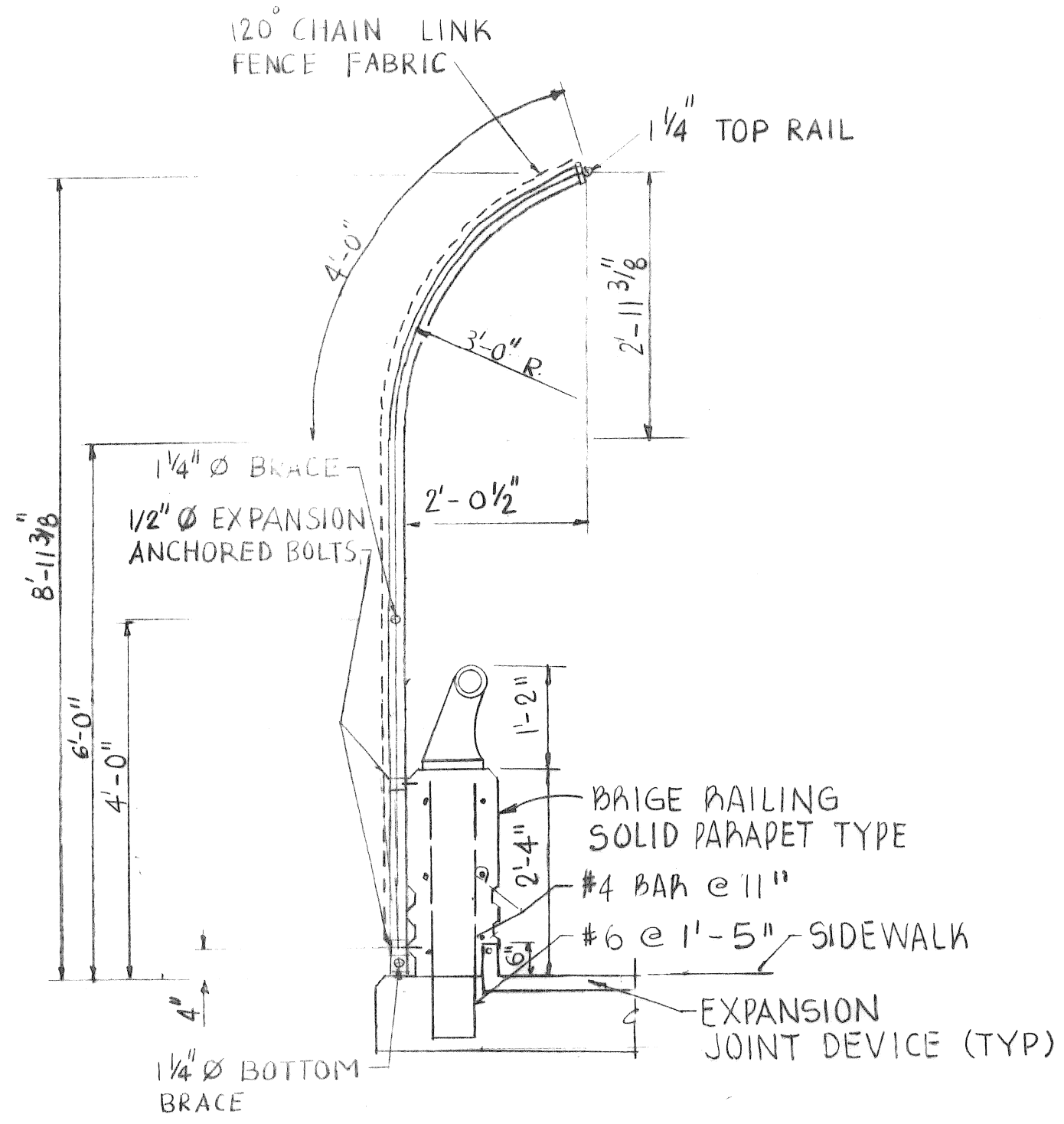
BW 270

SPINOZA DR BRIDGE
SUPERSTRUCTURE DETAILS

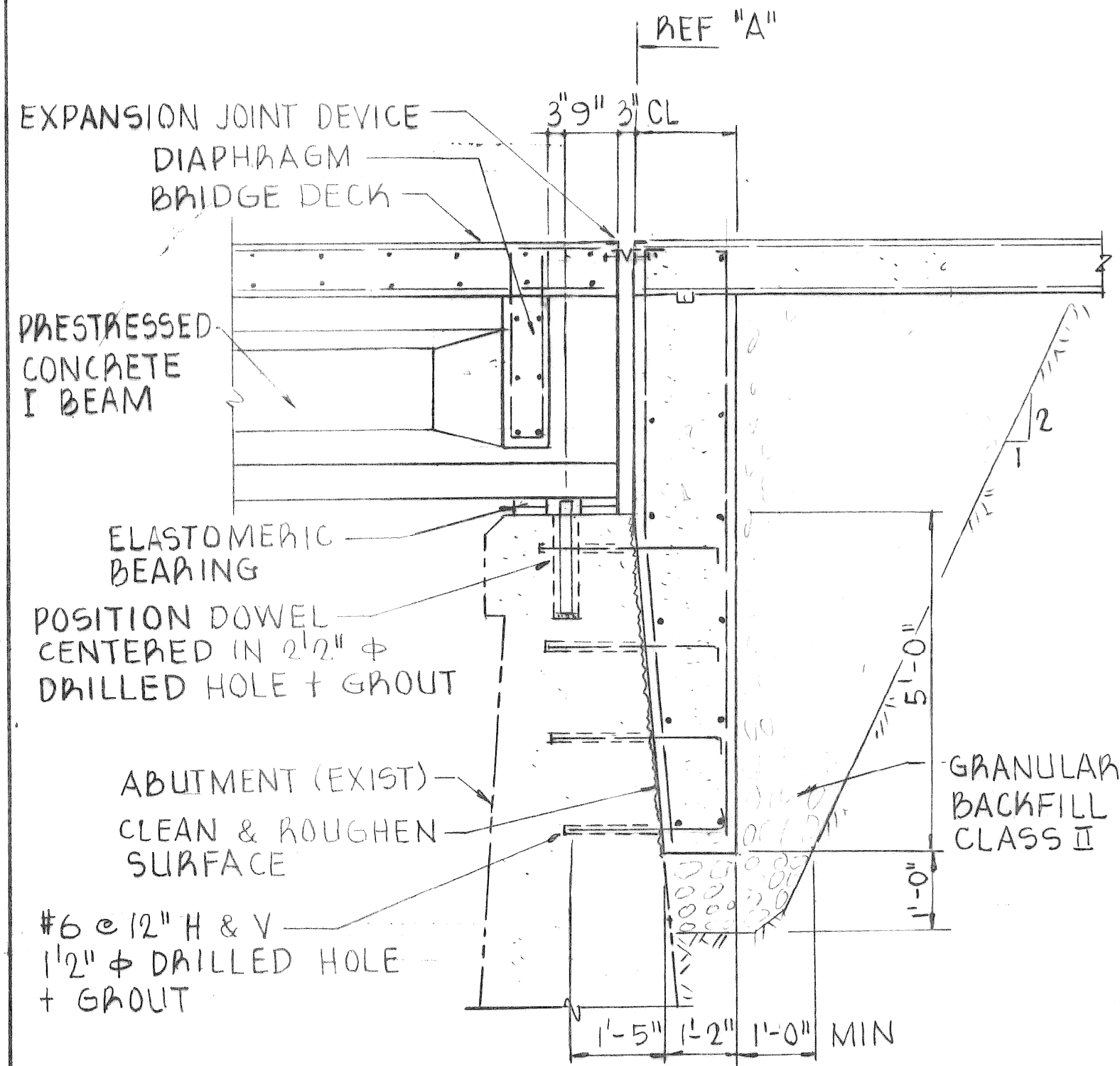
a.o. contract no.

sheet 5-7 of drawing no.

date 03/94



FENCING DETAILS
NTS



DETAIL 'A'
1/2" = 1'-0"

ANCHORING BOLTS

- A. "EXPANSION ANCHORED BOLTS" SHALL BE CHOSEN FROM THE QUALIFIED PRODUCTS LIST IN THE CURRENT MDOT MATERIALS SAMPLING GUIDE.

CHAIN LINK FENCE NOTES

- A. FENCE SHALL BE GROUNDED AS SPECIFIED IN THE STANDARD SPECIFICATIONS.
- B. GROUNDING CABLES AND TOPS OF GROUNDING RODS SHALL BE PLACED 1'-0" MINIMUM BELOW FINISHED GROUND.
- C. FENCE POSTS SHALL BE GALVANIZED, 2 1/2" (2.875" O.D.) STEEL PIPE IN CONFORMANCE WITH ASTM (F669, GROUP IC) (F1083, SCHEDULE 40) WITH A MAXIMUM SPACING OF 10'-0" ON CENTER.
- D. CHAIN LINK FENCE FABRIC SHALL BE 1" MESH.

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 EXCEPT NEOPRENE.

DEVICE	MANUFACTURER
WABO STRIP SEAL	WATSON-BOWMAN & ACME, INC.
PRO-SPAN	FEL-PRO, INC.
STEELEX-SSA2	D.S. BROWN
STEELEX-SSCM	D.S. BROWN
STEELEX-RS	D.S. BROWN
ONFLEX 40 22	STRUCTURAL RUBBER PRODUCTS CO.
STRUPCO 400L	STRUCTURAL RUBBER PRODUCTS CO.
JEENE-W PROFILE	HYDROZO/JEENE

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 5.04.22 OF THE STANDARD SPECIFICATIONS.

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

THE JEENE DEVICE MUST INCORPORATE A POLYMERIC NOSING.

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-00230C.

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.

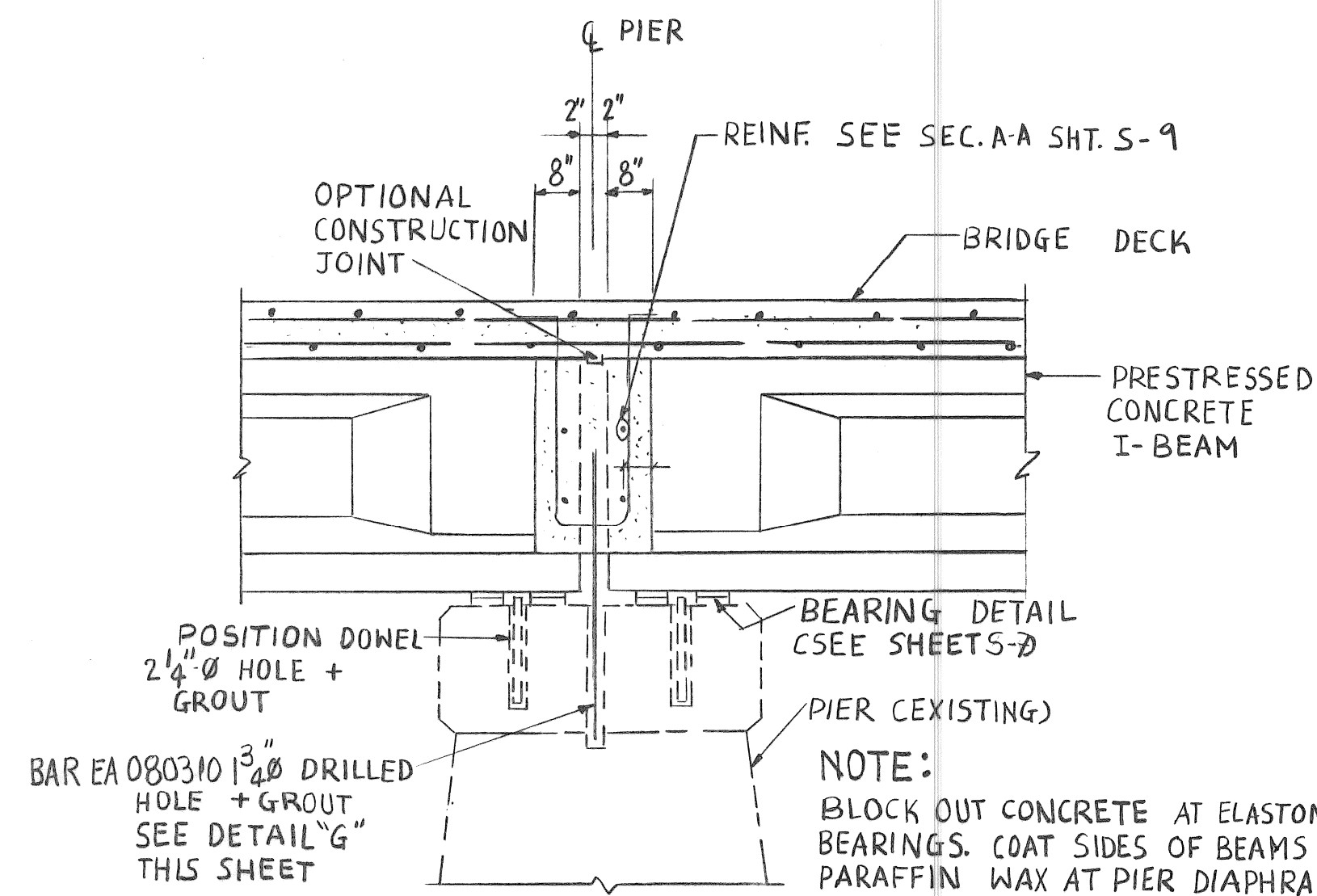
WHERE INFLATABLE SEALS ARE USED, THE MANUFACTURER'S INSTALLATION PROCEDURE MUST BE STRICTLY ADHERED TO AND PERFORMED BY AN AUTHORIZED CONTRACTOR.

DETAILS AT CURBS OR BARRIERS

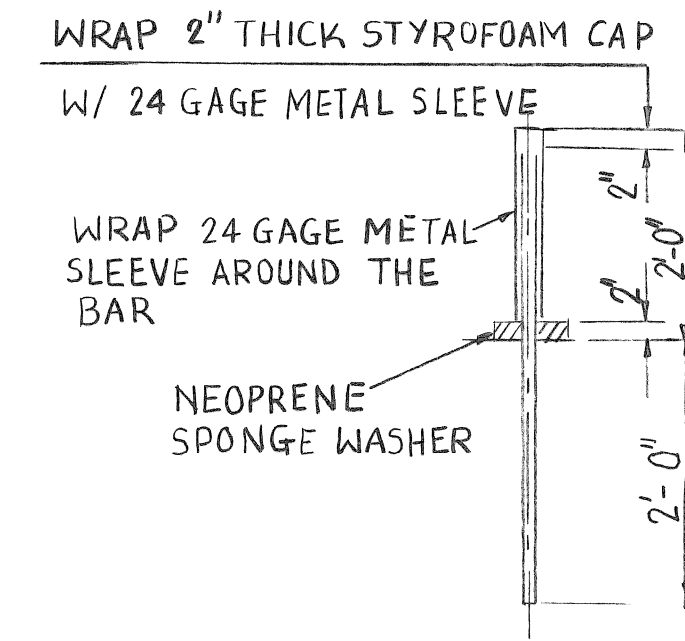
THE DETAILS ON THIS SHEET SHOW AN APPROVED MEANS OF TERMINATING THE EXPANSION JOINT DEVICE AT CURBS OR BARRIERS. VARIATIONS OR ALTERNATIVE SCHEMES WILL BE CONSIDERED AND MAY BE USED IF APPROVED BY THE ENGINEER.

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.

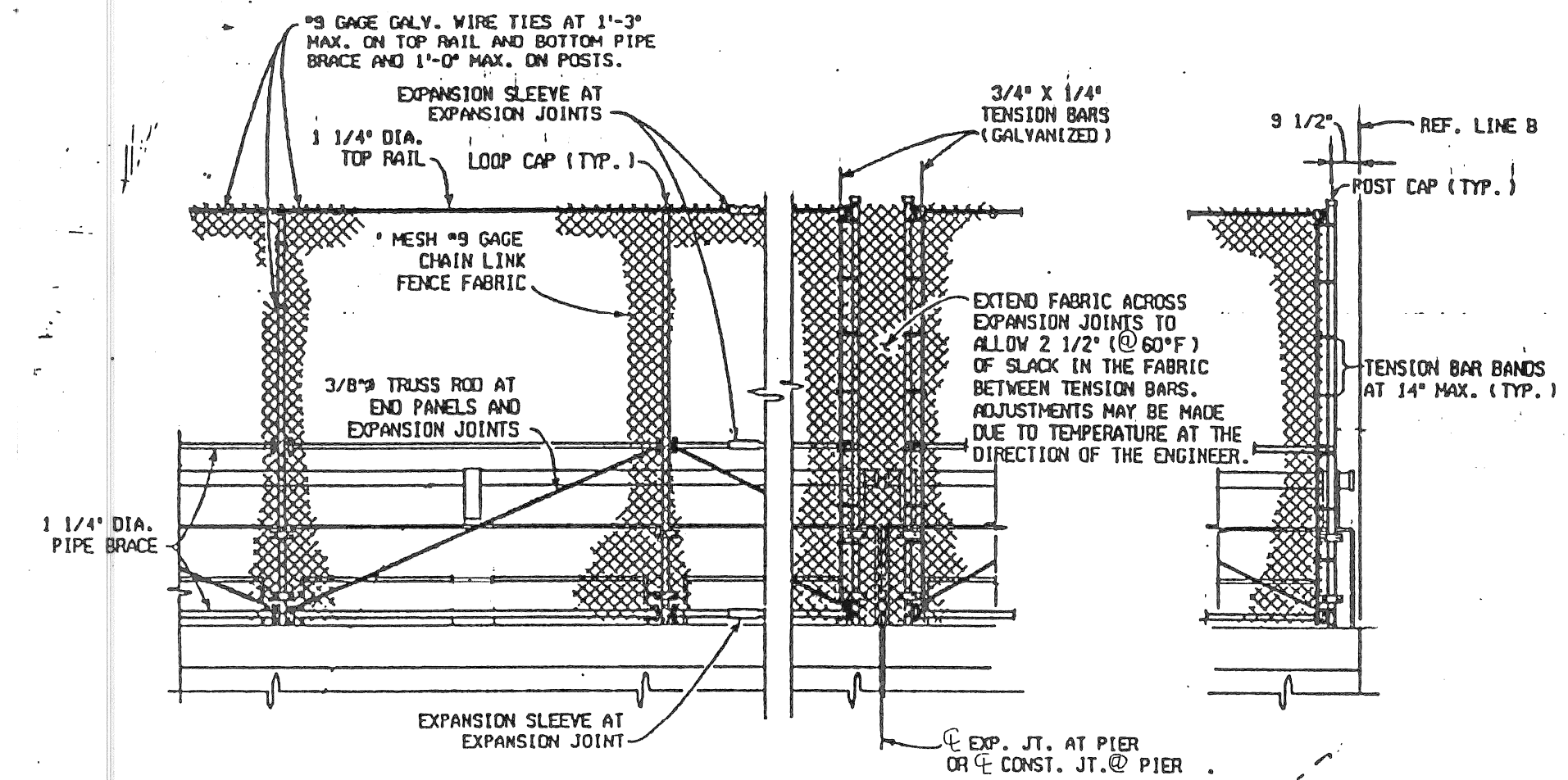


DETAIL 'A'
1/2" = 1'-0"



DETAIL 'G'

NOTE:
ALL WORK AND MATERIAL FOR THE STYROFOAM 24-GAGE METAL SLEEVE AND NEOPRENE SPONGE WASHER SHALL BE INCLUDED IN THE BID ITEM "SUPERSTRUCTURE CONCRETE".



TYPICAL ELEVATION-CHAIN LINK FENCE

NOTES:

1. STEEL IN THE BEARING SHALL MEET THE REQUIREMENTS OF ASTM A36.
2. STEEL IN THE BEARING IS INCLUDED IN THE PAY ITEM "PRESTRESSED CONCRETE I-BEAM".
3. TACK WELDING OF STEEL REINFORCEMENT IS PROHIBITED.
4. ELASTOMER FOR ELASTOMERIC BEARING PAD SHALL BE NOMINAL 50 DUROMETER HARDNESS FOR LAMINATED BEARINGS.
5. FABRICATOR SHOULD DESIGN THE PRESTRESS BEAM FOR THE DESIGN LOADING AND IT SHOULD BE APPROVED BY THE ENGINEER BEFORE FABRICATION.
6. 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.
7. END BLOCKS ARE REQUIRED.
8. TOTAL ESTIMATED CHANGE OF LENGTH OF BOTTOM FLANGE AT TRANSFER OF PRESTRESS FORCE IS 3/4".
9. WHEN BOND BREAKERS ARE REQUIRED, THEY SHALL BE PLACED SYMMETRICALLY ABOUT THE CENTERLINE OF THE BEAM. THEY SHALL CONSIST OF TWO TUBES (ONE INSIDE THE OTHER) WITH OVERLAP TURNED IN OPPOSITE DIRECTION.
10. LIFTING OF BEAM SHALL BE BY EQUAL LOADS TO EACH PAIR OF LIFTING DEVICES.
11. THE TOP FLANGE TOP SURFACE SHALL BE INTENTIONALLY ROUGHENED.
12. EXPOSED SURFACES OF CONCRETE TO BE RUBBED AS SOON AS FORMS ARE REMOVED. NO CEMENT GROUT TO BE USED ON EXPOSED SURFACES.
13. REINFORCING BARS SHOULD BE SECURELY TIED AT INTERSECTIONS.
14. POSITION DOWELS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A153.

NO.	DATE	BY	REVISIONS

designed by P. SHAH
drawn by P. SHAH
checked by R. FLORO
approved: Earl Howard

EARL HOWARD

CITY OF DETROIT

city engineering department

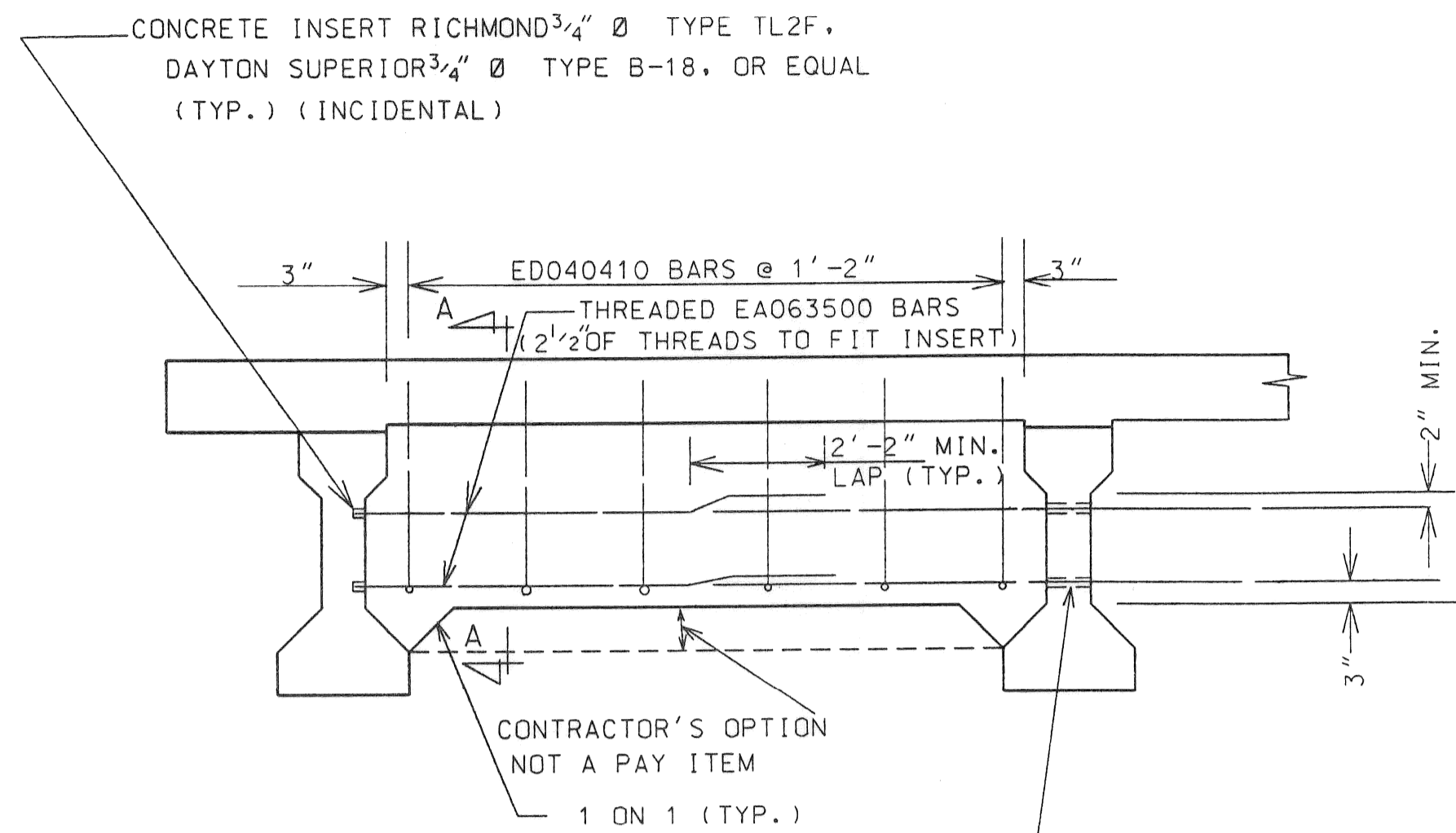
for

SPINOZA DRIVE BRIDGE
BW-270
SUPERSTRUCTURE DETAILS

a.o. contract no.

sheet S-8
of
drawing no.

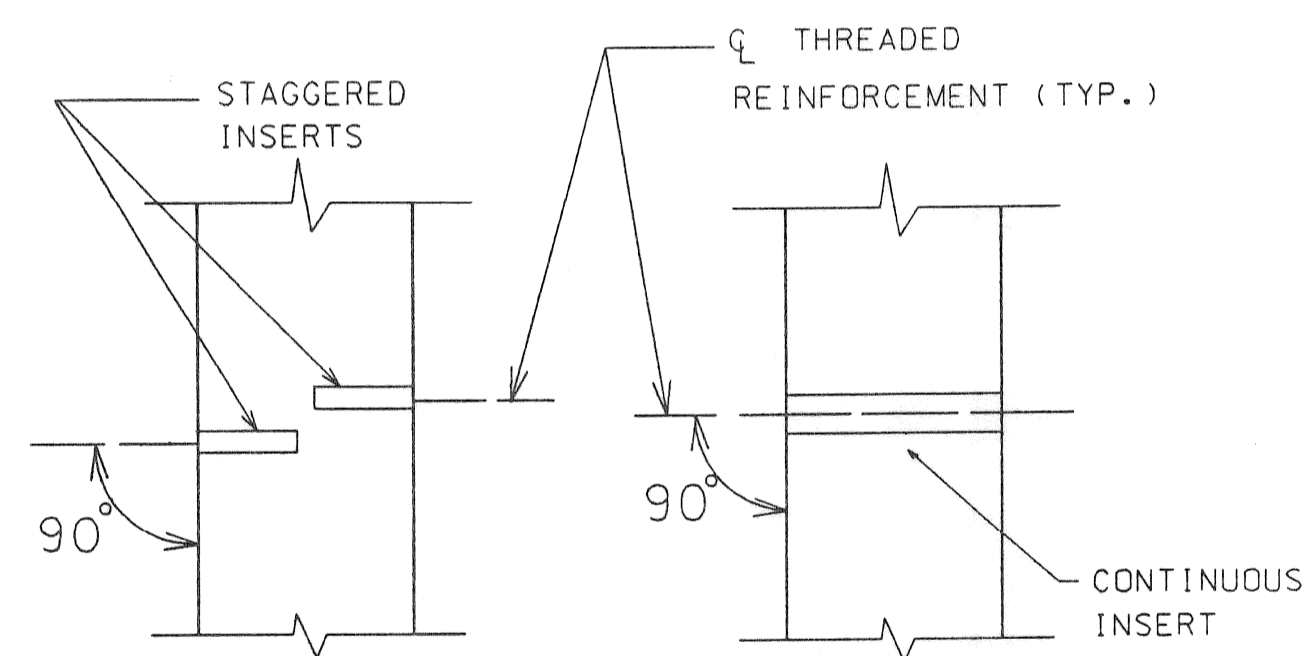
date



CONCRETE INSERT RICHMOND $\frac{3}{4}$ " \emptyset TYPE T2 OR TYPE TL2F, DAYTON SUPERIOR $\frac{3}{4}$ " \emptyset TYPE B-1 HEAVY OR TYPE B-18, OR EQUAL. INSERTS AT ENDS OF BEAM SHALL BE STAGGERED AND AT MIDSPAN MAY BE CONTINUOUS OR STAGGERED. THREADED REINFORCEMENT SHALL BE BENT TO THE REQUIRED ANGLE PRIOR TO INSTALLATION. BENT REINFORCEMENT MAY REQUIRE INSTALLATION BEFORE BEAM IS ERECTED. (TYP.) (INCIDENTAL)

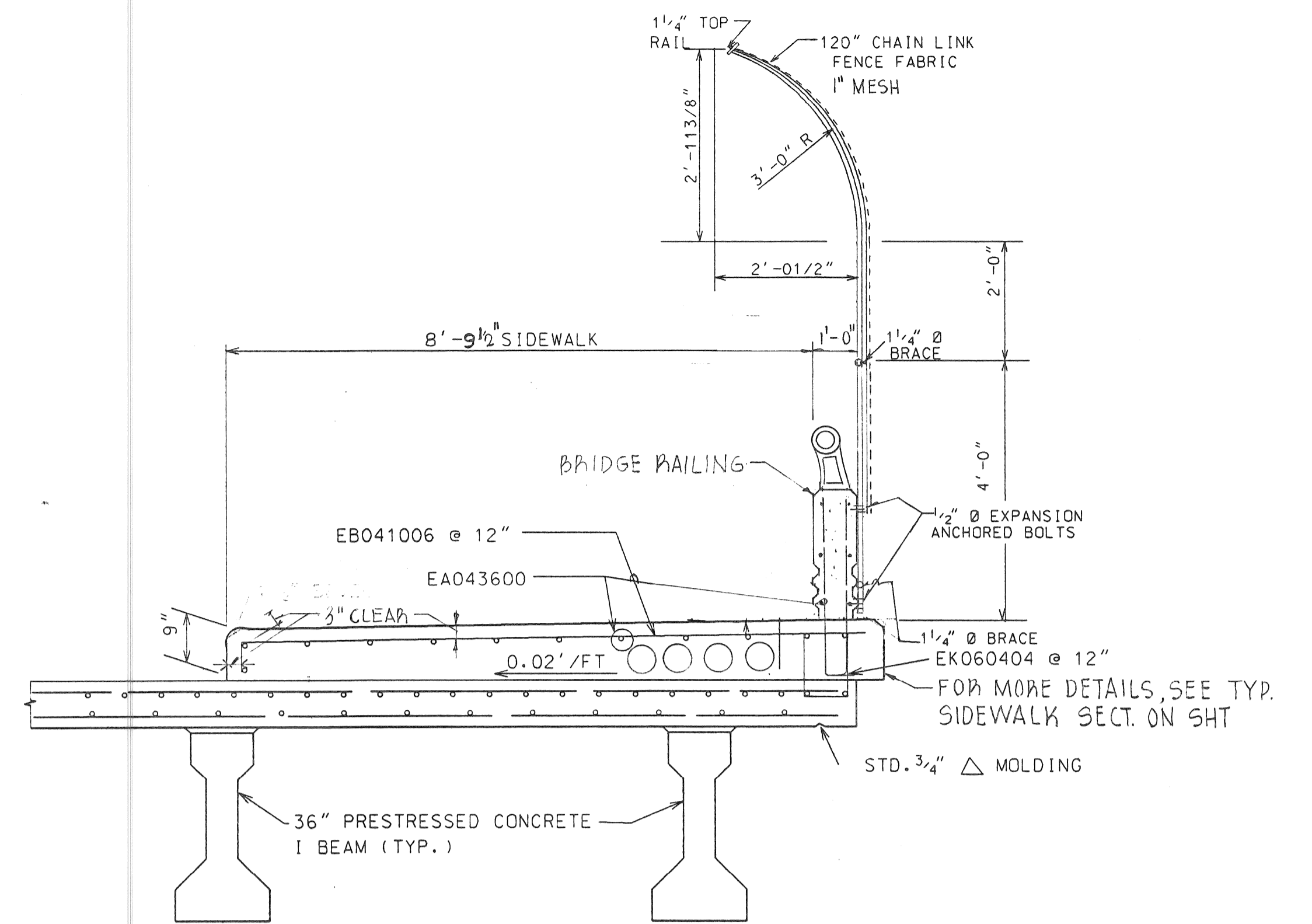
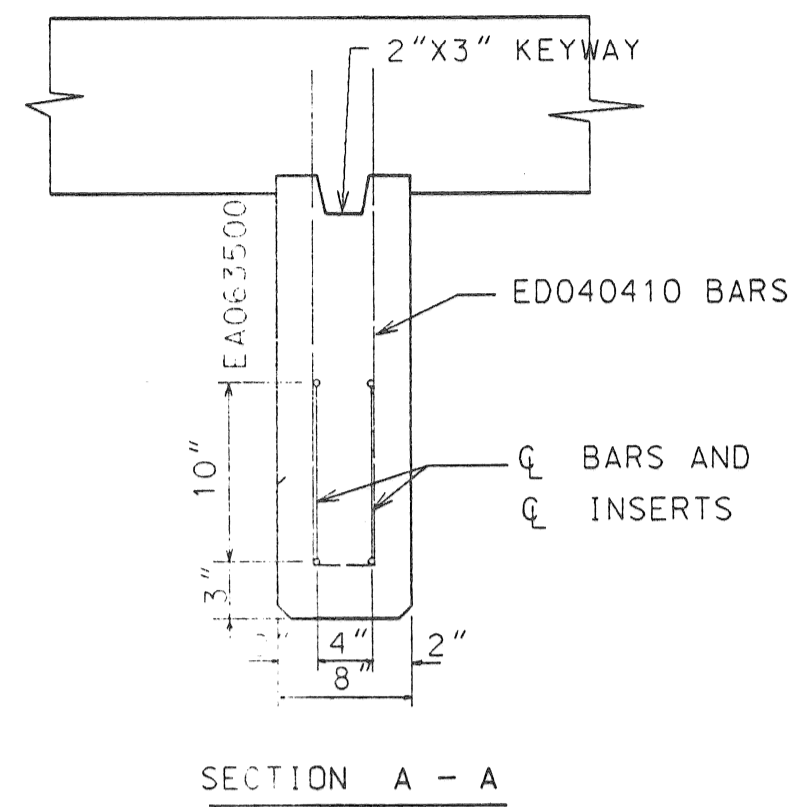
DIAPHRAGM ELEVATION

USE ONE DIAPHRAGM AT MID POINT. DIAPHRAGM CONCRETE QUANTITIES ARE INCLUDED WITH 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 \emptyset ANGLE PRIOR TO INSTALLATION. BENT REINFORCEMENT MAY REQUIRE INSTALLATION BEFORE BEAM IS ERECTED.



TYPICAL SIDEWALK SECTION

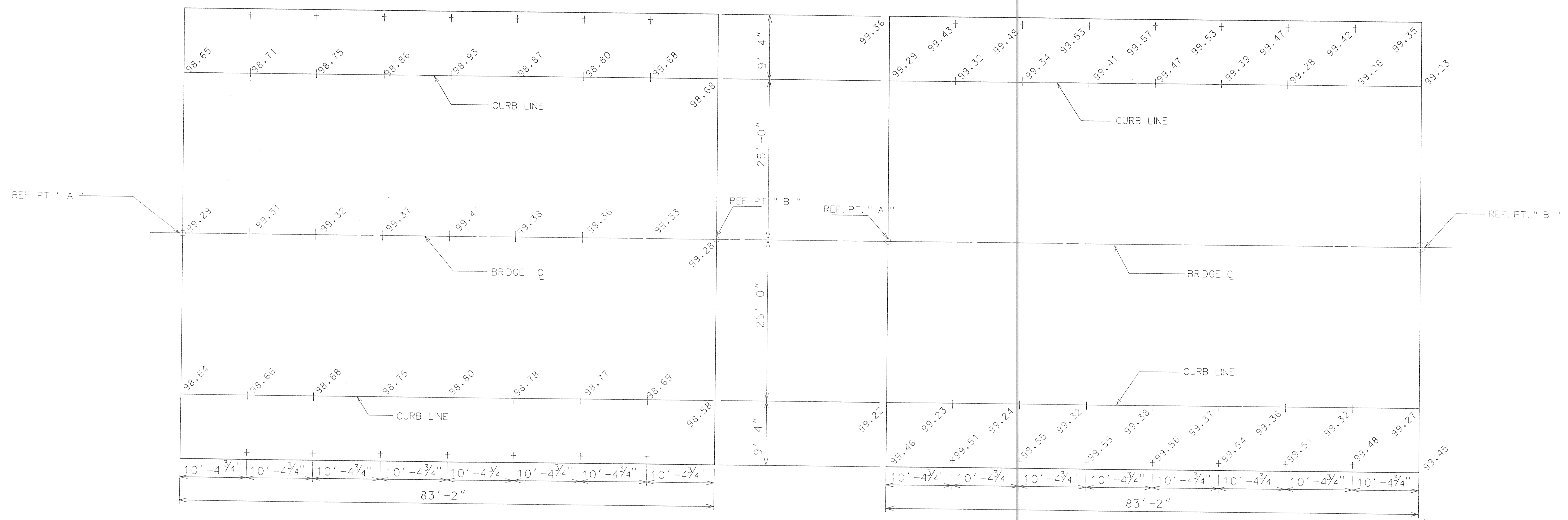
CITYEN08/USR/1P32/MSF ILES/SPINOZA3.DGN

DESIGNER	DATE	BY	CHECKED BY	APPROVED
				<i>Paul J. Howard</i>
DESCRIPTION	DATE	BY	CHECKED BY	APPROVED
REVISIONS				

CITY OF DETROIT
 CITY ENGINEERING DEPARTMENT
 STRUCTURAL BUREAU
 FOR
 MICHIGAN DEPARTMENT OF TRANSPORTATION

SPINOZA DRIVE BRIDGE
 BW - 270
 SUPERSTRUCTURE DETAILS

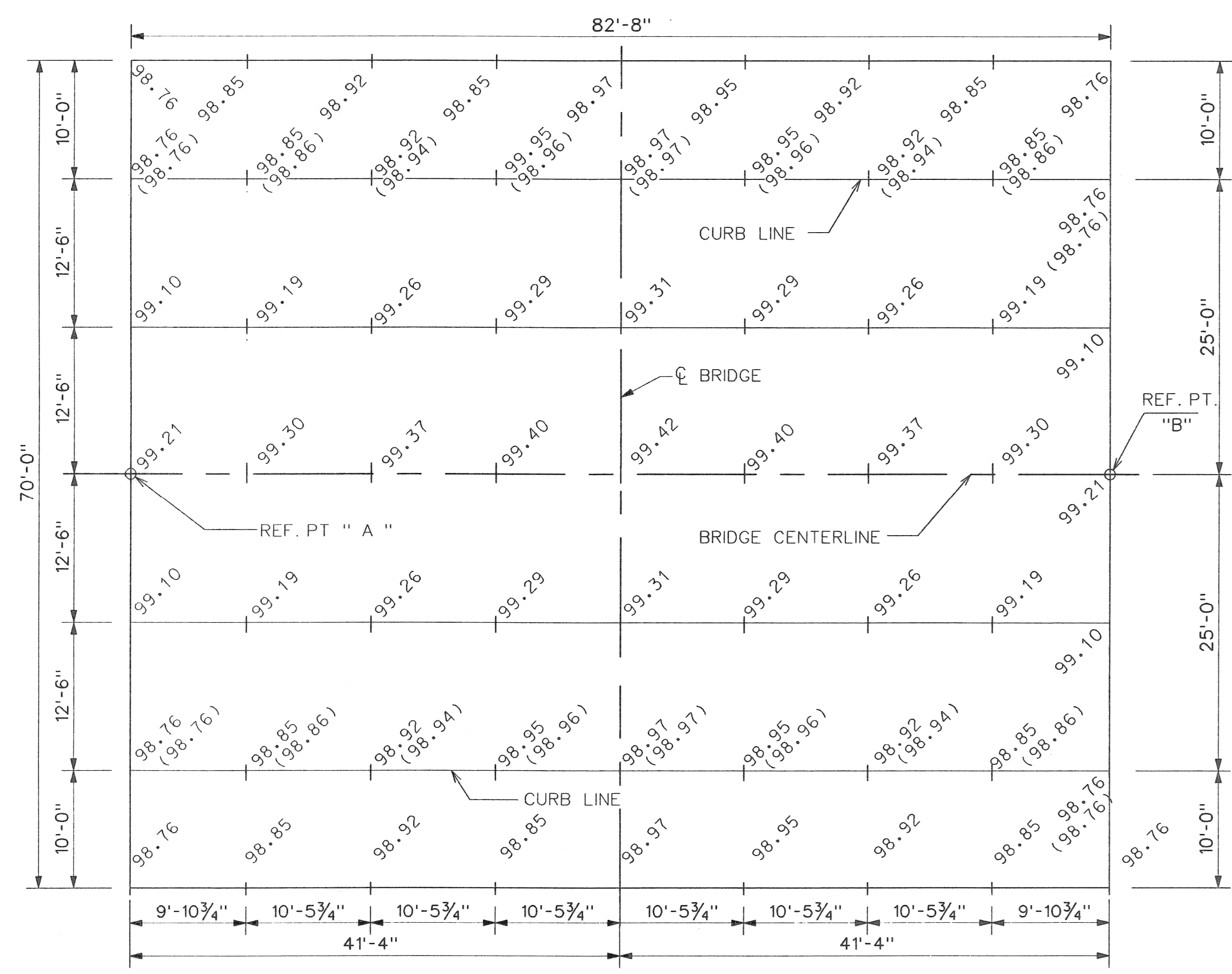
SHEETS	9	OF	SHEETS
CONTRACT NO.		ASSIGNMENT NO.	
DATE		JOB NO	36916A



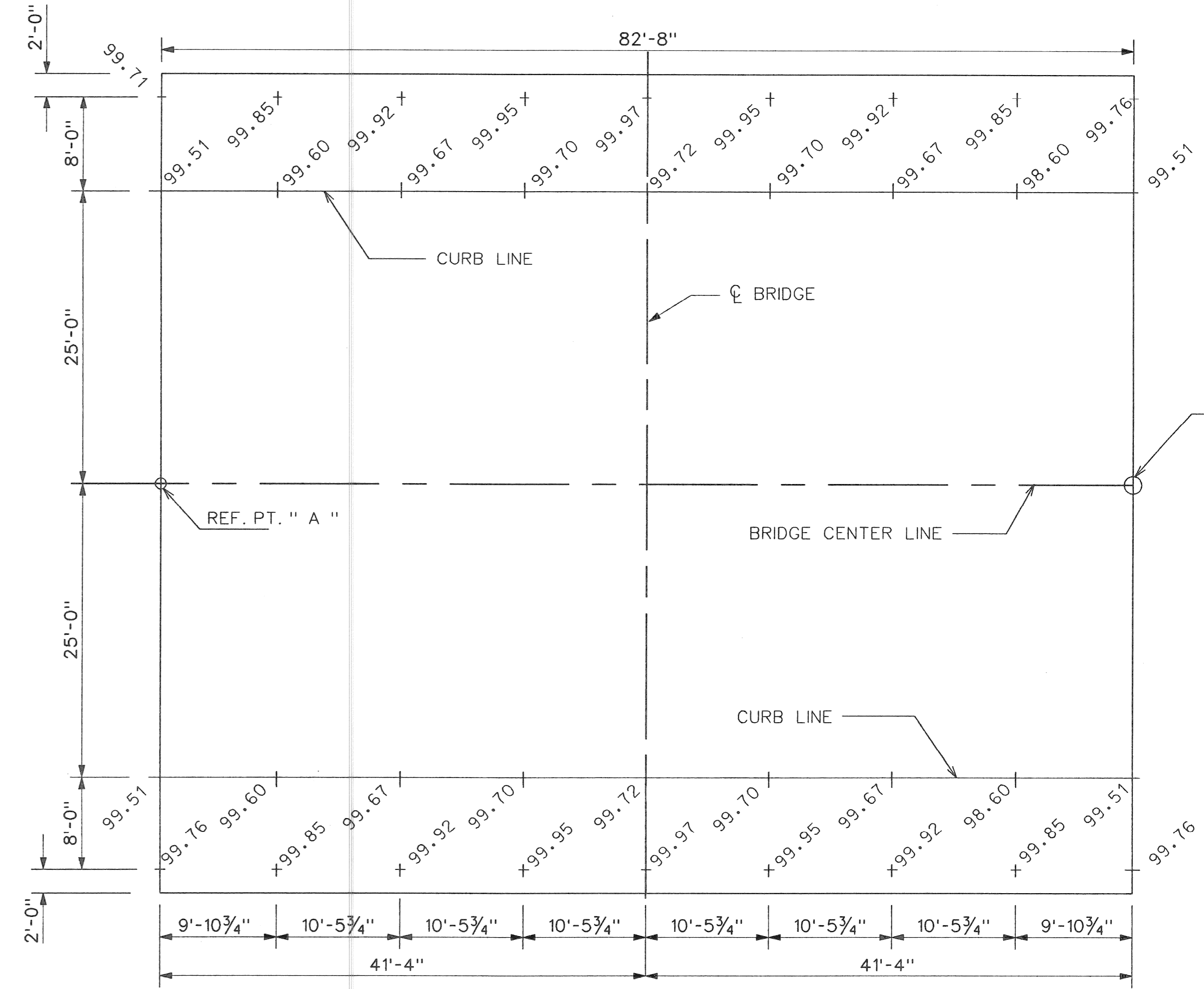
EXISTING TOP OF SLAB ELEVATIONS
1/8" = 1'-0"

EXISTING SIDEWALK ELEVATIONS
1/8" = 1'-0"

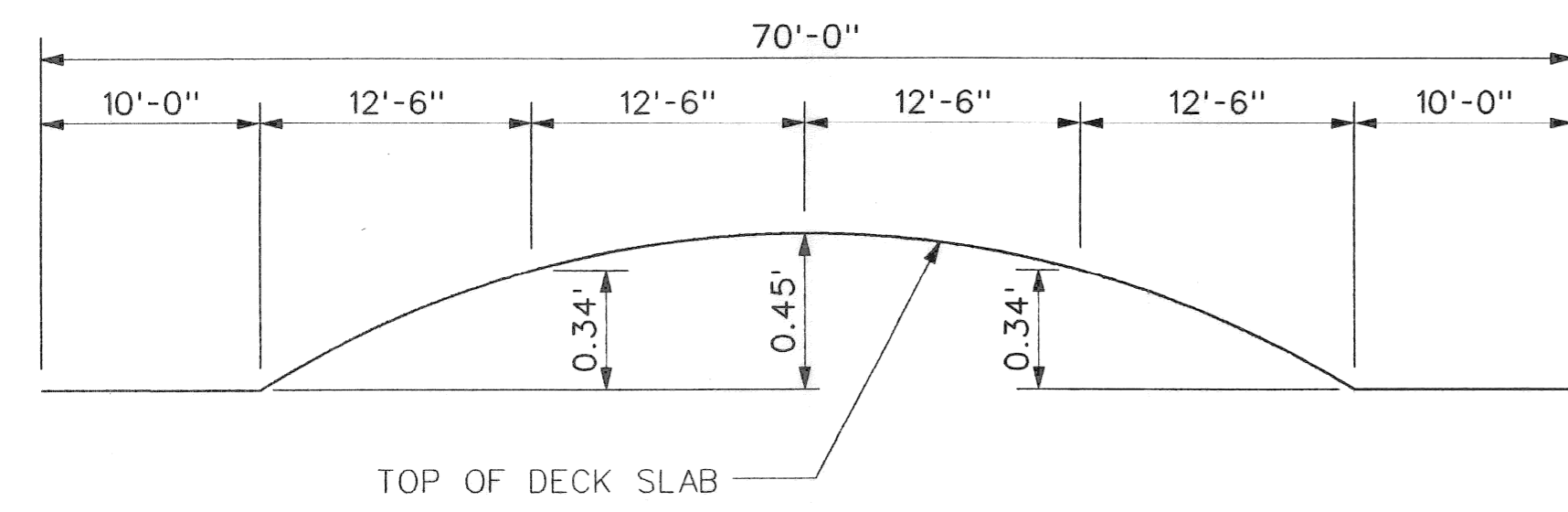
DESCRIPTION REVISIONS	P. SHAN	BY PS	CHECKED BY RF	APPROVED <i>Carl C. Howard</i> STRUCTURAL ENGINEER	CITY OF DETROIT CITY ENGINEERING DEPARTMENT STRUCTURAL BUREAU FOR MICHIGAN DEPARTMENT OF TRANSPORTATION	SPINOZA DRIVE BRIDGE BW-270 EXISTING SLAB AND SIDEWALK ELEVATIONS	SHEET 5 OF 10 SHEETS
	GRADE PS	ESTIMATE PS	FINAL	CONTRACT NO.			
	DATE	ASSIGNMENT NO.	DATE 03/94				
	REVISIONS	DATE	DATE				



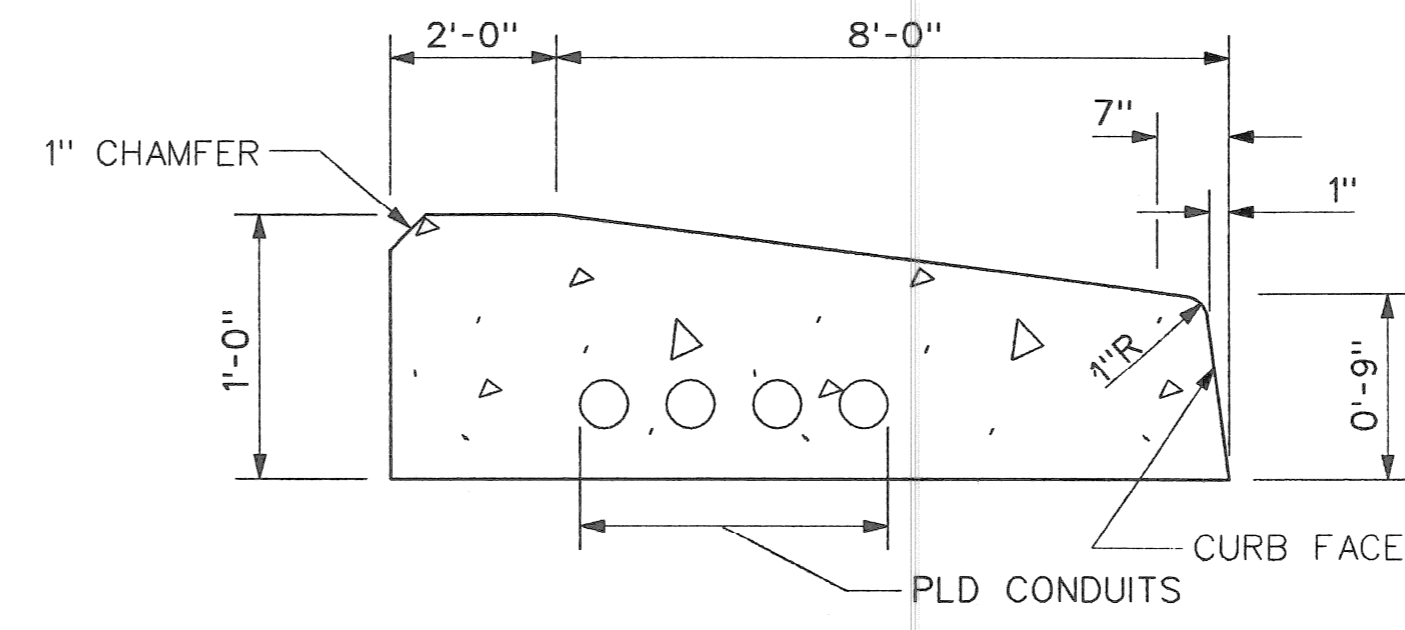
PROPOSED TOP OF DECK SLAB ELEVATIONS
1/8" = 1'-0"



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



TYPICAL SECTION FOR TOP OF DECK SLAB
NO SCALE



TYPICAL SIDEWALK SECTION
NO SCALE

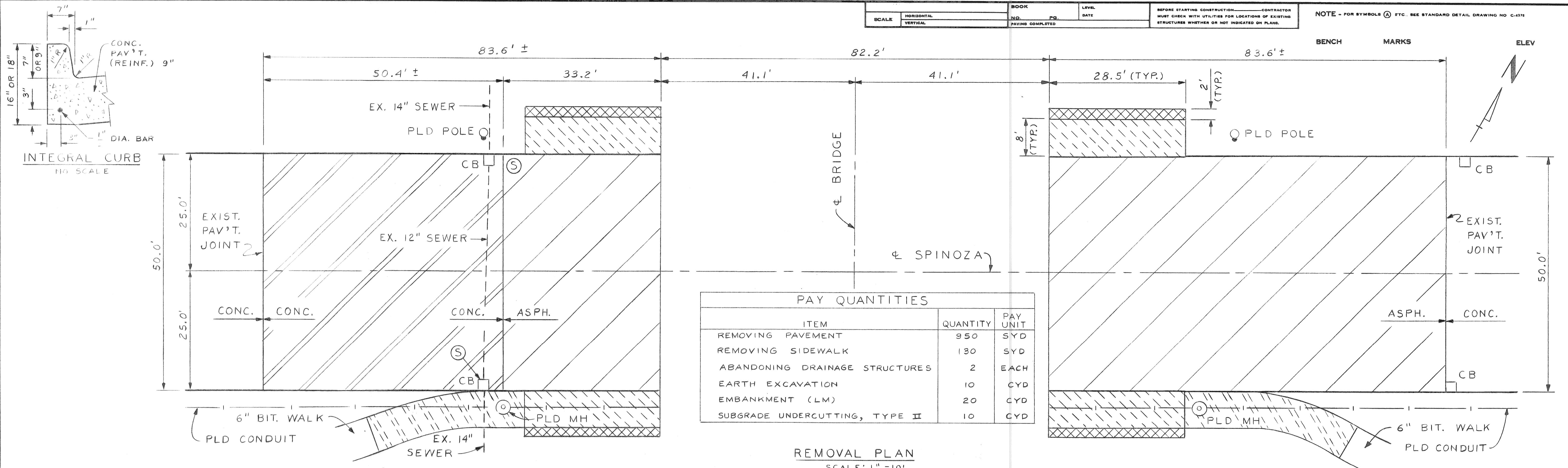
- NOTES :
1. ALL ELEVATIONS ARE BASED ON CITY OF DETROIT DATUM.
 2. SIDEWALK POUR SHALL NOT BE CAST UNTIL SLAB CONCRETE HAS ATTAINED AT LEAST 75% OF ITS DESIGN STRENGTH.
 3. FOR SURVEY BENCH MARK LOCATIONS & ELEVATIONS, SEE SHEET NO. S-3 .
 4. SLAB & SIDEWALK ELAVATIONS ARE BASED ON THE CONDITIONS THAT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

DESCRIPTION	DATE	BY	CHECKED BY	APPROVED
PLAN		N.W., K.M.		<i>Carl J. Howard</i>
GRADE		P.S., N.W.		
ESTIMATE				
REVISIONS				

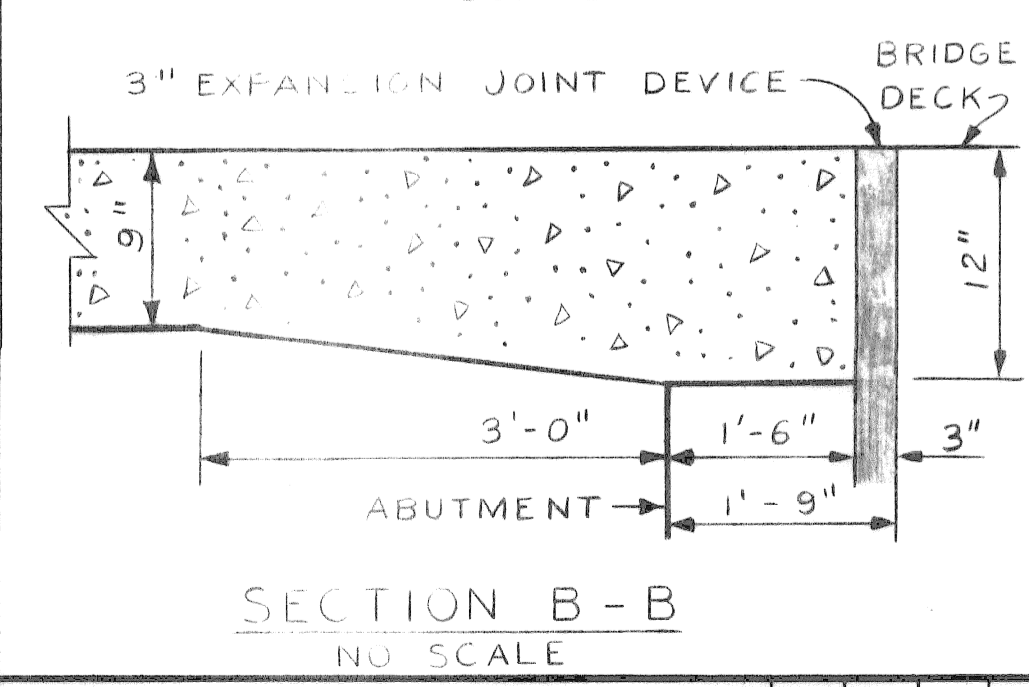
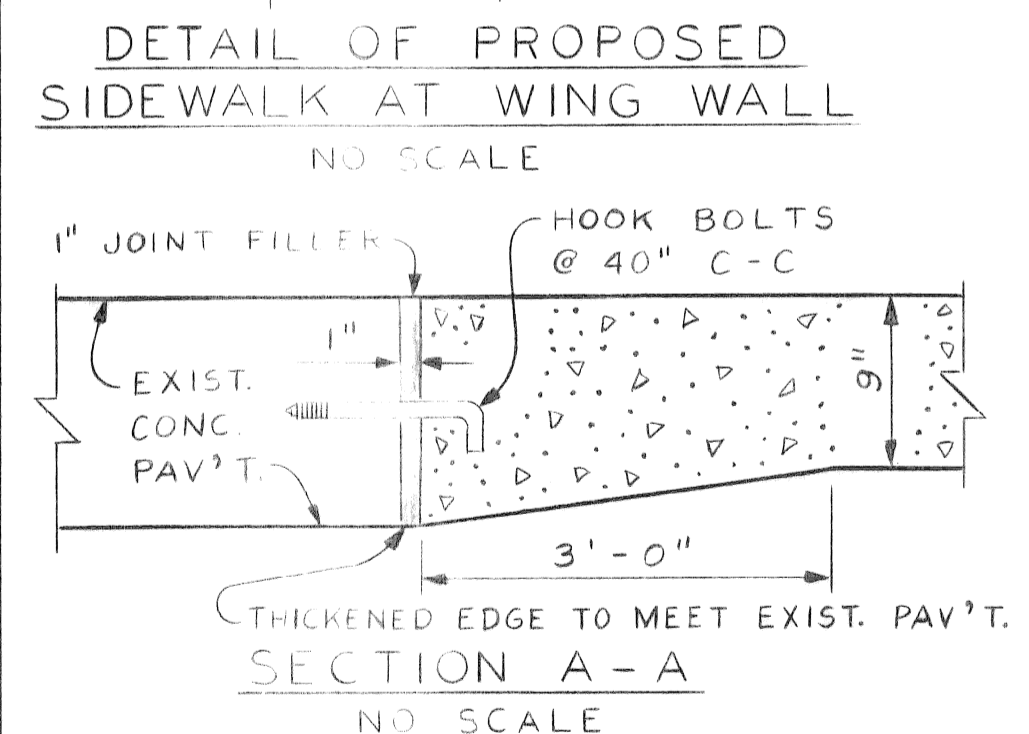
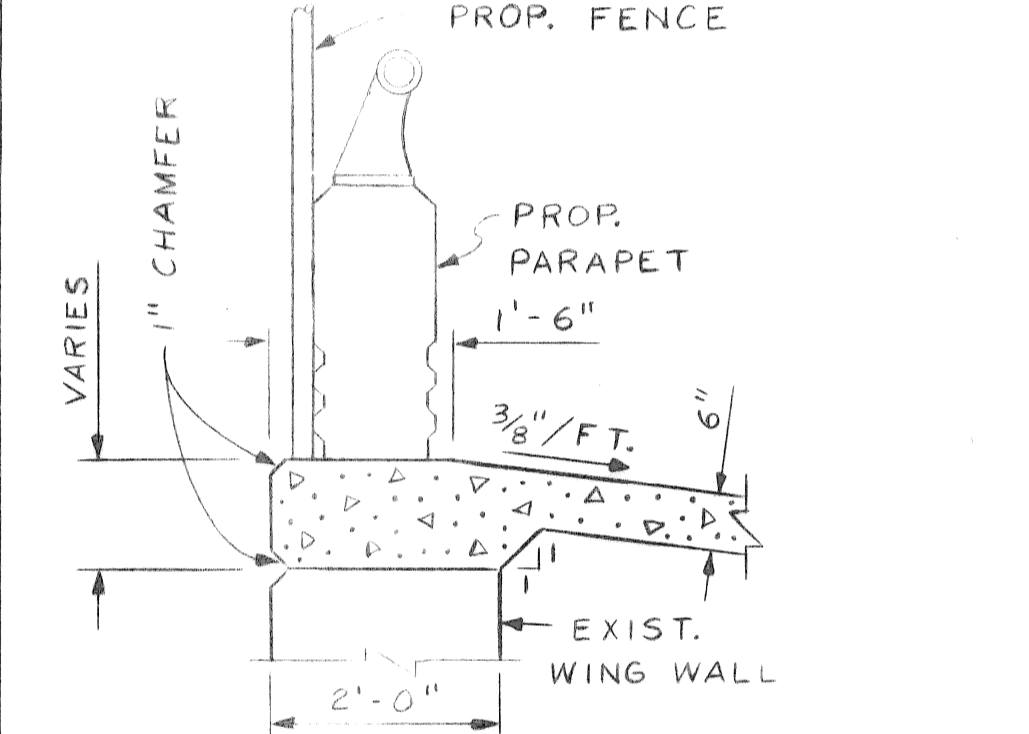
CITY OF DETROIT
CITY ENGINEERING DIVISION - D.P.W.
BUREAU OF STREETS AND HIGHWAYS

SPINOZA DRIVE BRIDGE OVER ROUGE RIVER (BW-270)
PROPOSED DECK SLAB AND SIDEWALK ELEVATIONS

SHEET S-10 OF SHEETS
CONTRACT NO.
ASSIGNMENT NO. 93-22-16
DATE AUG. 1995



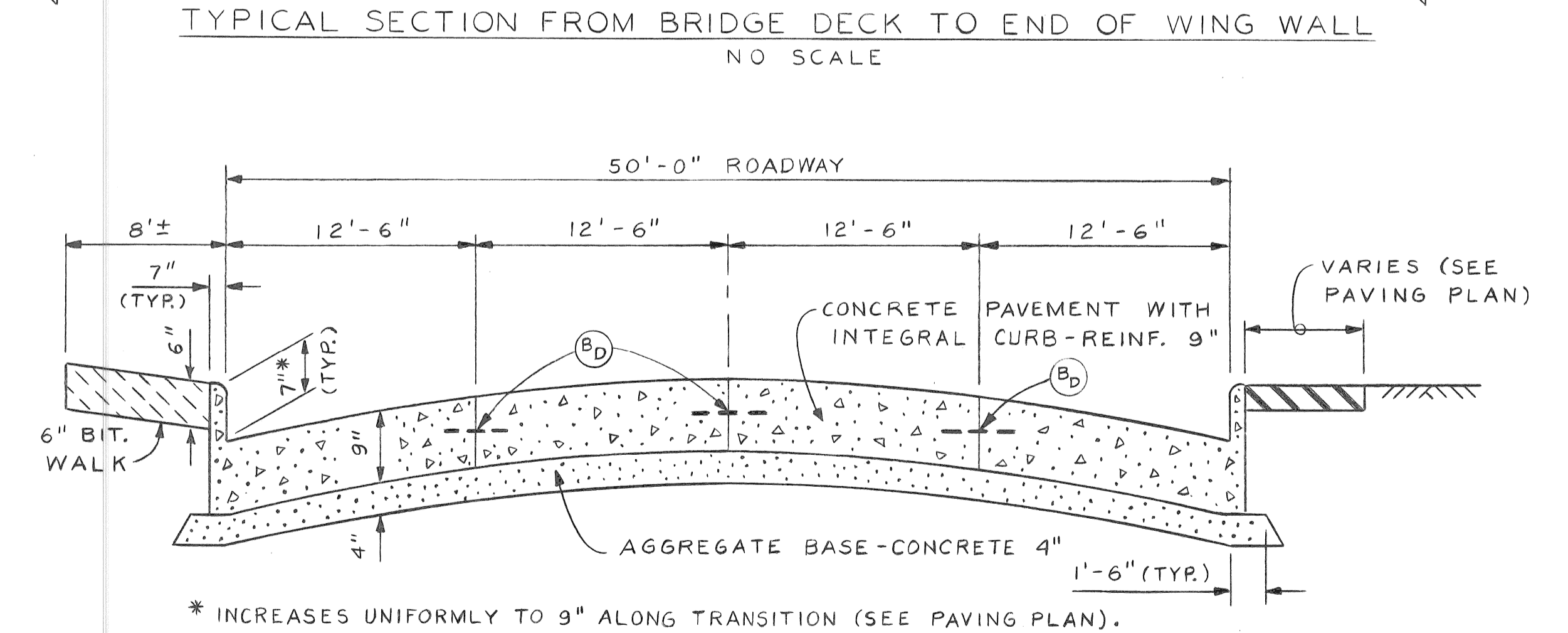
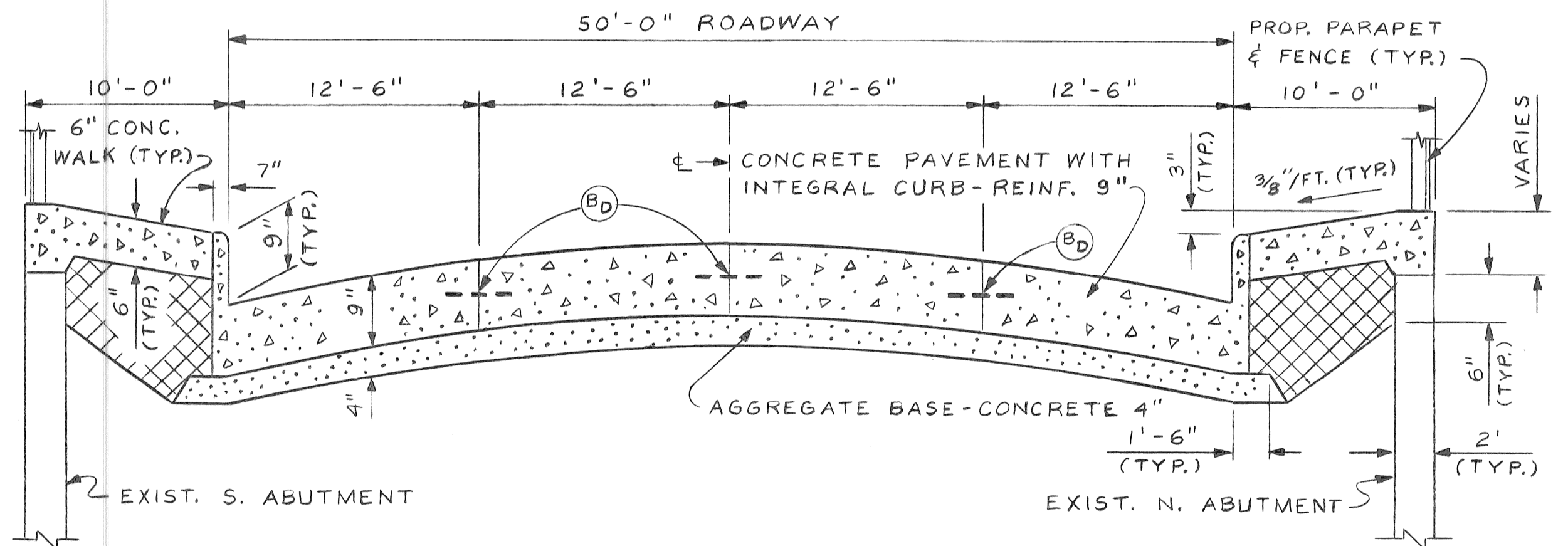
PAY QUANTITIES		
ITEM	QUANTITY	PAY UNIT
REMOVING PAVEMENT	950	SYD
REMOVING SIDEWALK	130	SYD
ABANDONING DRAINAGE STRUCTURES	2	EACH
EARTH EXCAVATION	10	CYD
EMBANKMENT (LM)	20	CYD
SUBGRADE UNDERCUTTING, TYPE II	10	CYD



- REMOVAL LEGEND**
- (S) ABANDONING DRAINAGE STRUCTURE
 - [Hatched] REMOVING PAVEMENT (ASPHALT)
 - [Hatched] REMOVING PAVEMENT (CONCRETE)
 - [Hatched] REMOVING SIDEWALK
 - [Hatched] REMOVING BITUMINOUS SIDEWALK
 - [Hatched] REMOVING CONCRETE BRIDGE PARAPET
- PAVING PLAN LEGEND**
- (C) TRANSVERSE CONTRACTION JOINT
 - [Hatched] CONC. PAV'T. WITH INTEGRAL CURB-REINF. 9"
 - [Hatched] CONCRETE SIDEWALK, 6"
 - [Hatched] BITUMINOUS SIDEWALK, 6"
 - [Hatched] BRIDGE PARAPET & CHAIN-LINK FENCE ON CONC. WALK
 - [Hatched] CLASS "A" SODDING WITH 3" TOPSOIL
 - [Hatched] BACKFILL AND CLASS "A" SODDING
 - [Hatched] CLASS C-76-III 12" SEWER IN TRENCH DETAIL B
 - [Hatched] BEAM GUARDRAIL, TYPE A
 - (A) CATCH BASIN "A"
 - (B) CATCH BASIN "B" W/O TRAP
 - (D) ADJUSTING DRAINAGE STRUCTURE COVER, CASE 2

- TYPICAL SECTION LEGEND**
- [Hatched] AGGREGATE BASE UNDER CONCRETE (4" IN PLACE)
 - [Hatched] GRANULAR MATERIAL CLASS II
 - [Hatched] BITUMINOUS SIDEWALK, 6"
 - [Hatched] CLASS "A" SODDING WITH 3" TOPSOIL
 - (B_D) OPTIONAL B OR D LONGITUDINAL JOINT

- NOTES**
- REMOVAL OF BITUMINOUS SIDEWALK SHALL BE INCIDENTAL TO EARTH EXCAVATION.
 - REMOVING PAVEMENT (ASPHALT) AND REMOVING PAVEMENT (CONCRETE) SHALL BE PAID FOR AS REMOVING PAVEMENT.
 - TYPE B JOINT DENOTES AN MDOT LONGITUDINAL BULKHEAD JOINT; TYPE D JOINT DENOTES AN MDOT LONGITUDINAL LANE TIE JOINT.
 - FOR A PROFILE VIEW OF THE EXISTING BRIDGE PARAPET SEE SHEET NO. S-2.
 - FOR DETAILS OF THE PROPOSED FENCE SEE SHEET NO. S-8.
 - FOR DETAILS OF THE PROPOSED PARAPET SEE SHEET NO. S-8. SEE ALSO MDOT STANDARD PLAN X-18D, "BRIDGE RAILING, SOLID PARAPET TYPE".
 - TRANSVERSE CONTRACTION JOINTS ON APPROACH SIDEWALKS SHALL BE SPACED AT 6' INTERVALS.
 - BEAM GUARDRAIL, TYPE A SHALL CONFORM TO MDOT STANDARD PLAN NO. III-60H
 - PROVIDE DOUBLE-YELLOW & PAV'T. MARKINGS CONFORMING TO DETROIT DOT FIELD MARKING STANDARDS NO. 56-50. MARKINGS ARE TO BE OF POLYESTER MATERIAL.



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

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

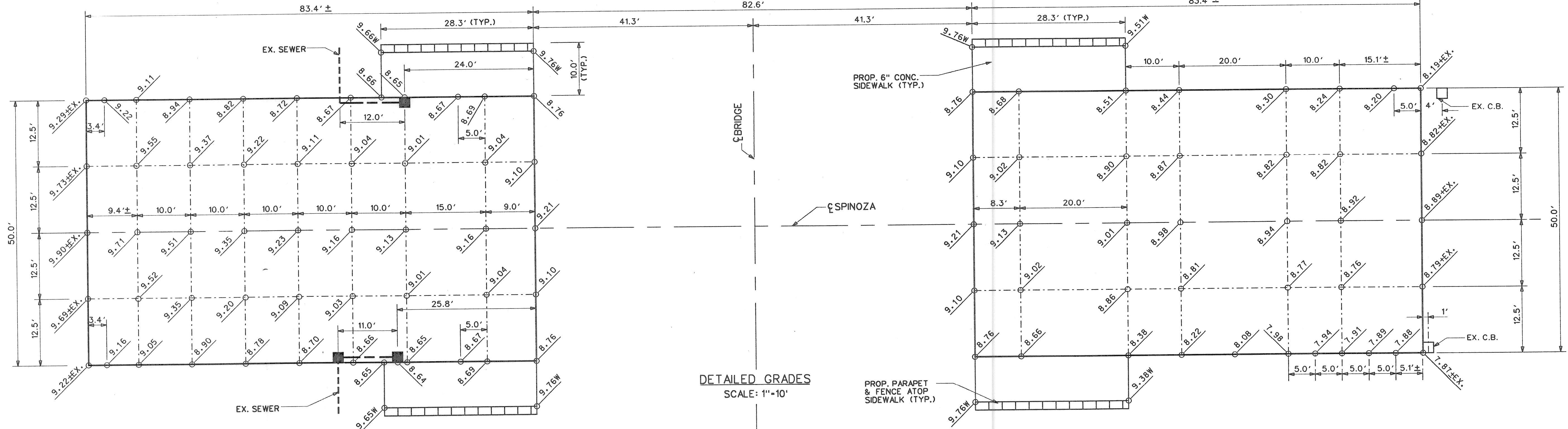
SHEET S-11 OF SHEETS
CONTRACT NO. 93-22-16
ASSIGNMENT NO. 93-22-16
DATE AUG., 1995

SPINOZA DR. BRIDGE OVER ROUGE RIVER (BW-270)
APPROACH REMOVAL PLAN, TYPICAL SECTIONS & DETAILS

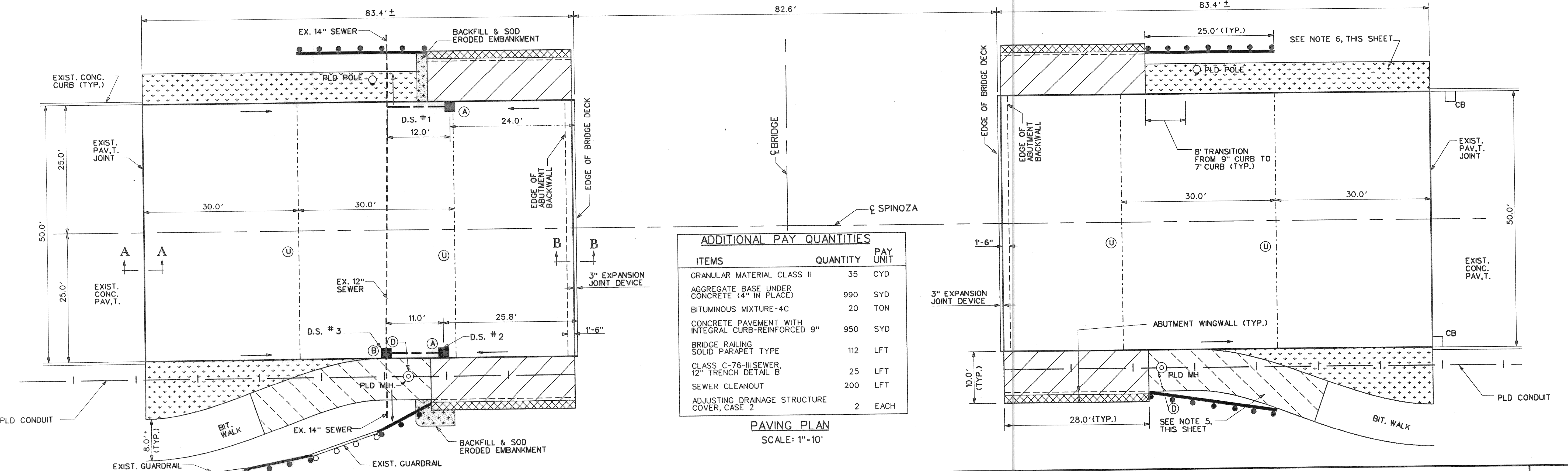
PAY QUANTITIES		
ITEMS	QUANTITY	PAY UNIT
CATCH BASIN, TYPE A	2	EACH
CATCH BASIN, TYPE B WITHOUT TRAP	1	EACH
CONCRETE SIDEWALK, 6"	1,070	SFT
GALVANIZED BEAM GUARDRAIL, TYPE A	100	LFT
POLYESTER PAVEMENT MARKING, 4" YELLOW	336	LFT
CHAIN LINK FENCE, 120"	112	LFT
CLASS A SODDING	135	SYD
WATER	1	UNIT
TOPSOIL SURFACE, 3"	135	SYD

- NOTES:**
- FOR SURVEY BENCH MARK LOCATIONS AND ELEVATIONS SEE SHEET NO. S-3.
 - ADD 90.00 TO ELEVATIONS SHOWN.
 - FOR ELEVATIONS SHOWN, "W" DENOTES TOP OF WALK ELEVATIONS. ALL OTHER ELEVATIONS SHOWN ARE PAVEMENT SURFACE ELEVATIONS.
 - FOR PAVING PLAN LEGEND, CROSS SECTIONS AND DETAILS, SEE SHEET NO. S-12.
 - REPLACE DISTURBED 6" BITUMINOUS MIXTURE WITH BITUMINOUS MIXTURE 4C OR OTHER APPROVED MIXTURE AS DIRECTED BY THE ENGINEER.
 - RESTORE DISTURBED GROUND AREAS WITH CLASS "A" SODDING ON 3" TOPSOIL AS DIRECTED BY THE ENGINEER.
 - LOCATIONS OF PLD CONDUIT ARE BASED UPON AVAILABLE RECORDS & ARE NOT GUARANTEED FOR ACCURACY.
 - FOR PLD CONDUIT RELOCATIONS, SEE SHEET NO. S-3.
 - BACKFILL ERODED EMBANKMENT WITH SELECTED EXCAVATED MATERIAL (INCIDENTAL TO CONSTRUCTION)
 - SEE ALSO NOTES ON SHEET NO. S-11.

- DRAINAGE STRUCTURE NOTES**
- INSTALL 12" DIA. C-76 III SEWERS IN TRENCH DETAIL B.
 - VERIFY DIAMETERS, INV. ELEVATIONS & DIRECTION OF FLOW OF EXISTING SEWERS IN THE FIELD.
 - ENCASE CONNECTIONS OF PROPOSED & EXISTING SEWERS IN CONCRETE.
 - FOR DRAINAGE STRUCTURE DETAILS SEE SHEET NO. S-13.



DETAILED GRADES
SCALE: 1"=10'



ADDITIONAL PAY QUANTITIES

ITEMS	QUANTITY	PAY UNIT
GRANULAR MATERIAL CLASS II	35	CYD
AGGREGATE BASE UNDER CONCRETE (4" IN PLACE)	990	SYD
BITUMINOUS MIXTURE-4C	20	TON
CONCRETE PAVEMENT WITH INTEGRAL CURB-REINFORCED 9"	950	SYD
BRIDGE RAILING SOLID PARAPET TYPE	112	LFT
CLASS C-76 III SEWER, 12" TRENCH DETAIL B'	25	LFT
SEWER CLEANOUT	200	LFT
ADJUSTING DRAINAGE STRUCTURE COVER, CASE 2	2	EACH

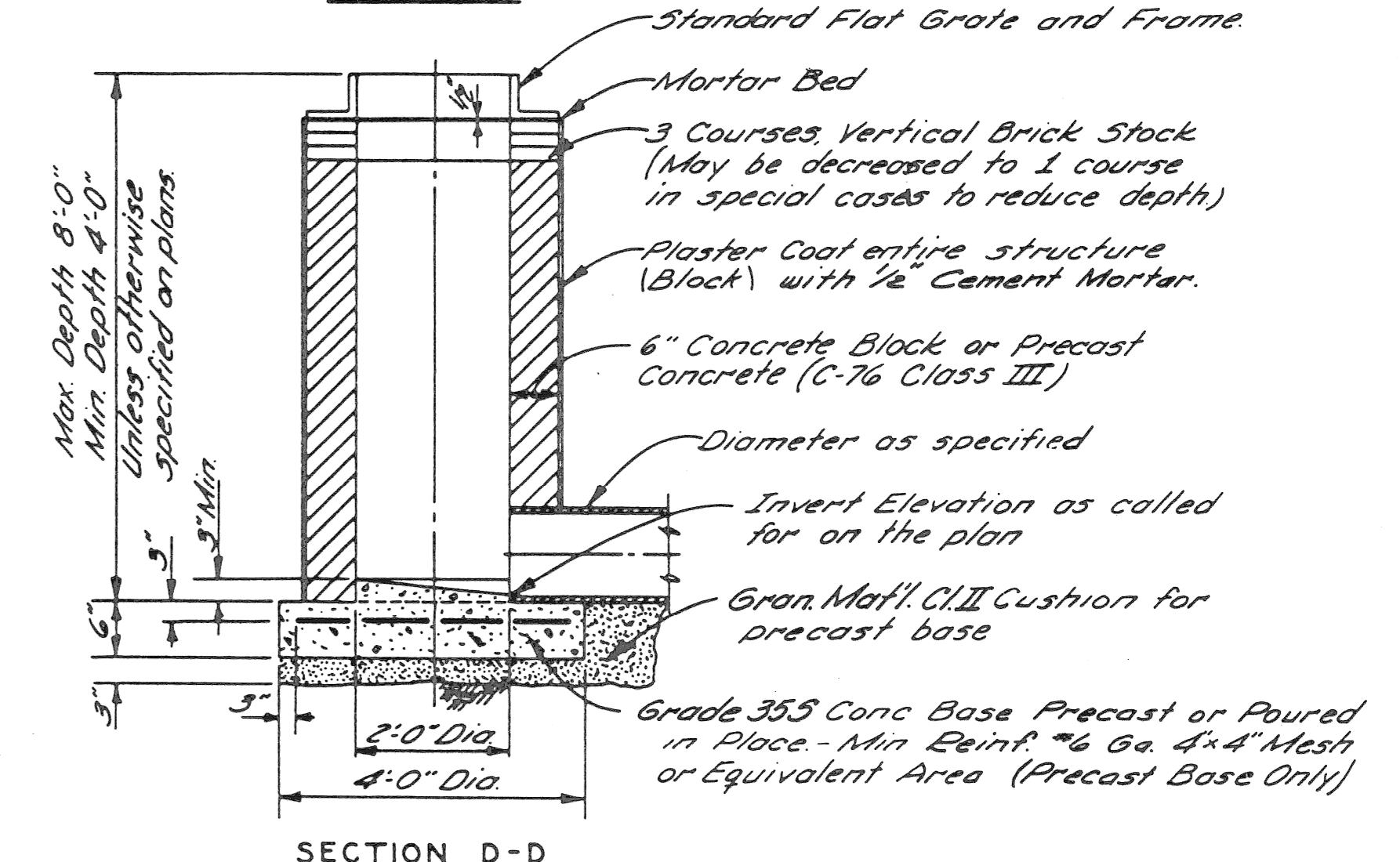
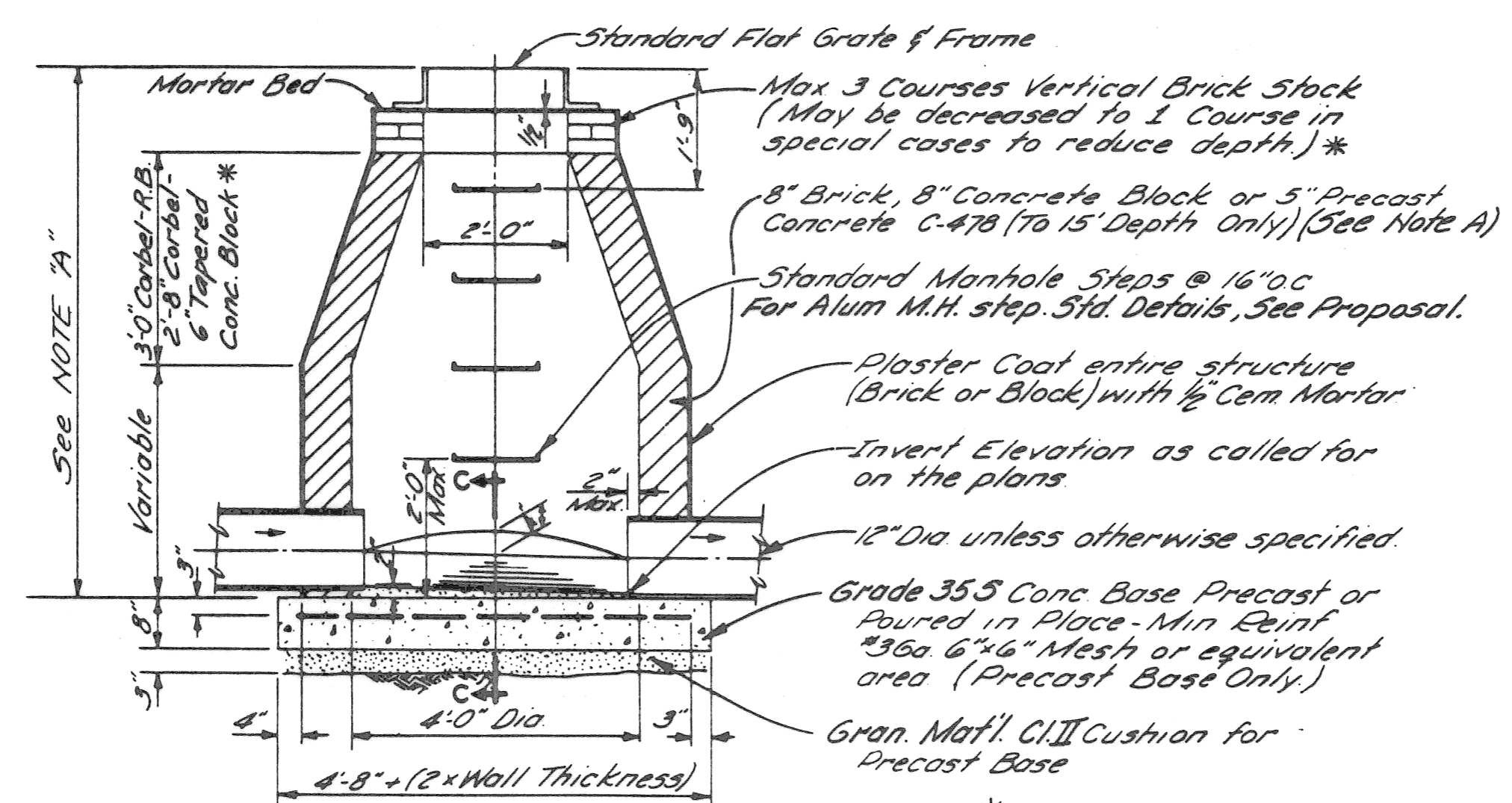
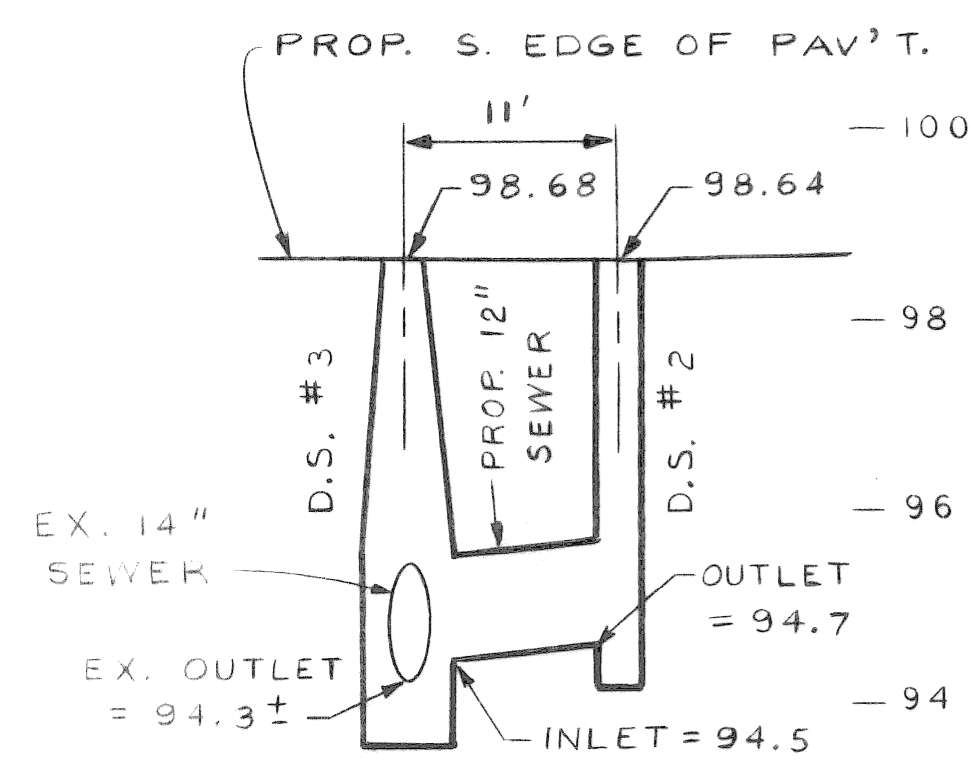
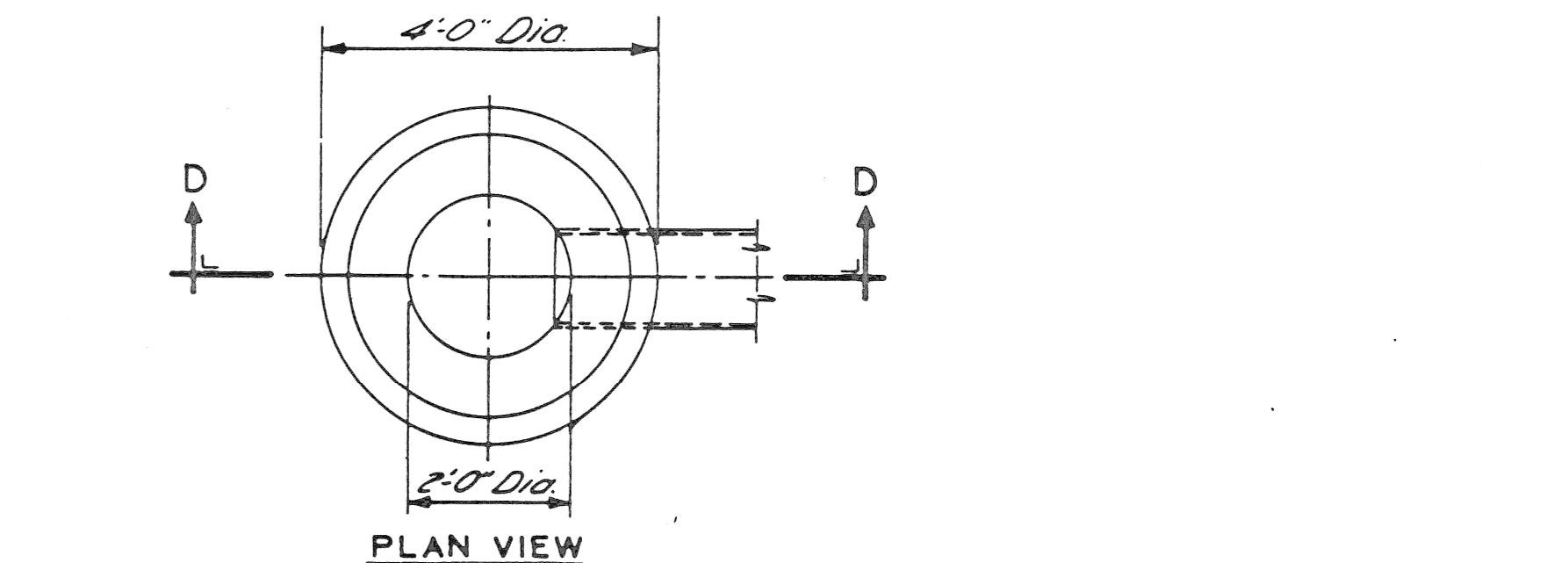
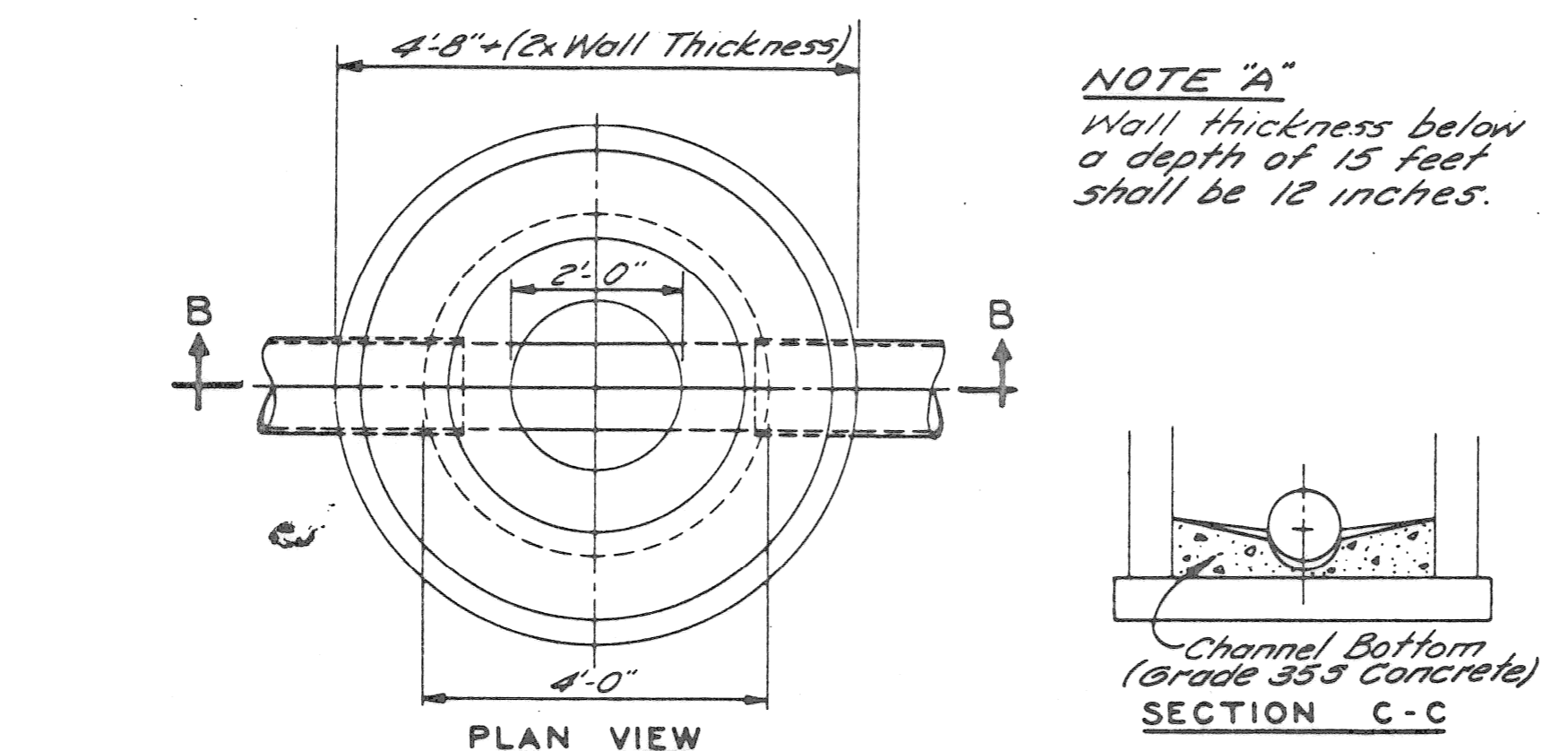
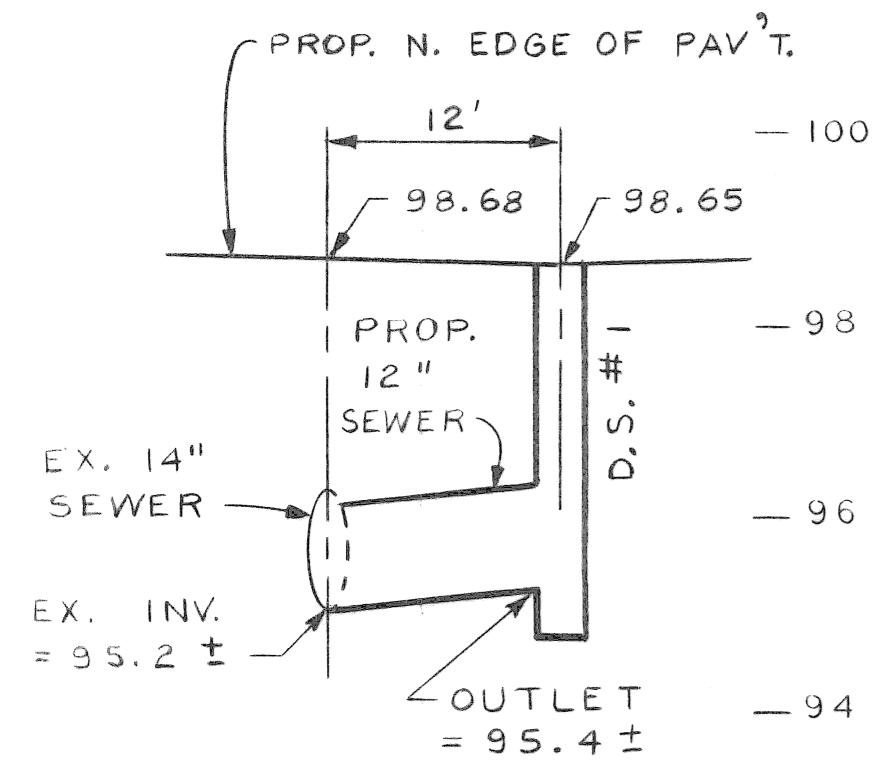
PAVING PLAN
SCALE: 1"=10'

DESCRIPTION	DR	CHK	APP	DATE
REVISIONS				
PLAN	N.W.,K.M.	CHECKED BY	APPROVED:	
GRADE	N.W.,K.M.			
ESTIMATE				
FINAL	****	****		

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

SPINOZA DRIVE BRIDGE OVER ROUGE RIVER (BW-270)
APPROACH PAVING PLAN AND DETAILED GRADES

SHEET S-12 OF SHEETS
CONTRACT NO.
ASSIGNMENT NO. 93-22-16
DATE AUG. ,1995



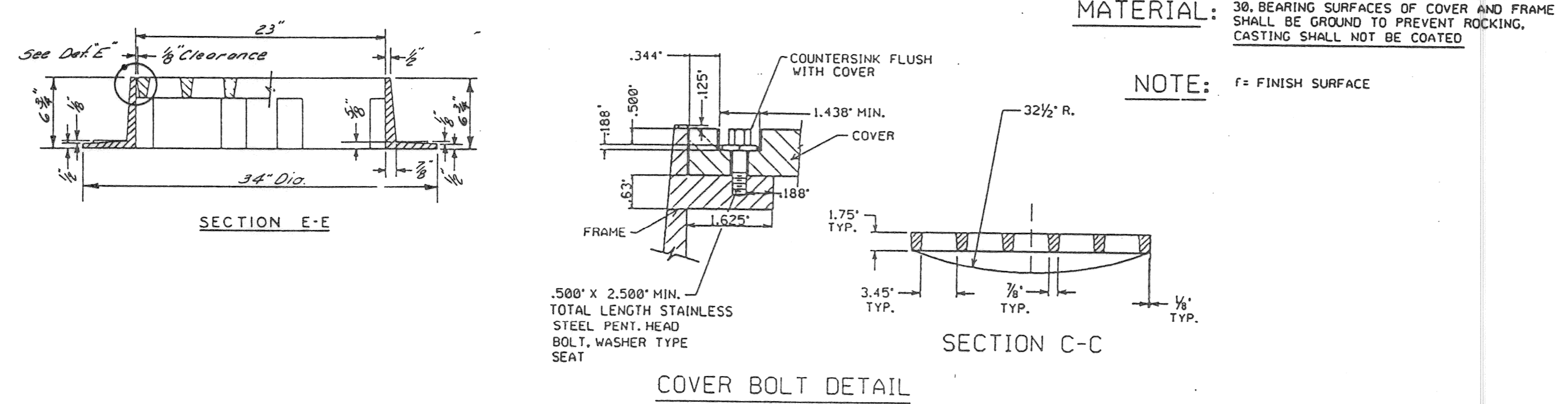
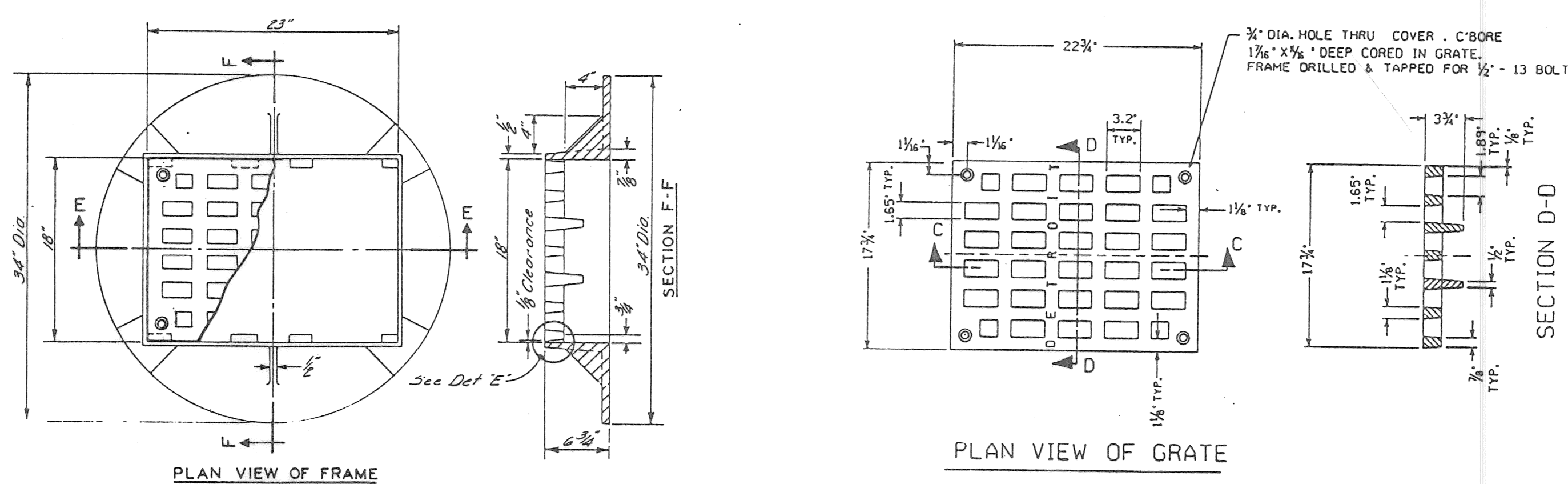
DRAINAGE STRUCTURE PROFILES
SCALE: 1" = 10' HORIZ.
1" = 2' VERT.

CATCH BASIN "B"
NO SCALE
* Reduce depth to a minimum to keep sewers out of corbel.

CATCH BASIN "A"
NO SCALE

GENERAL NOTES

- The materials & workmanship shall be in accordance with the current Standard Specifications.
- Center of Catch Basin shall be 20 inches from back of curb.
- All sizes of 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.
- 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.
- 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.
- When precast concrete pipe sections are used for catch basins, either a section of the inlet and outlet pipes or an opening or 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.



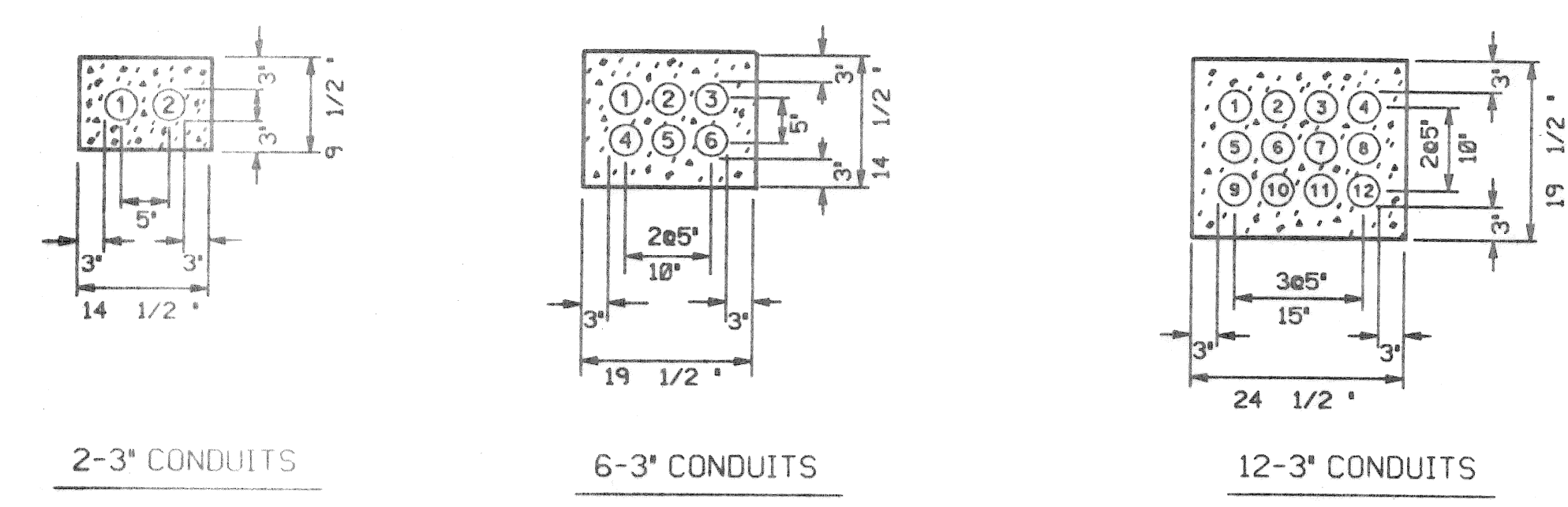
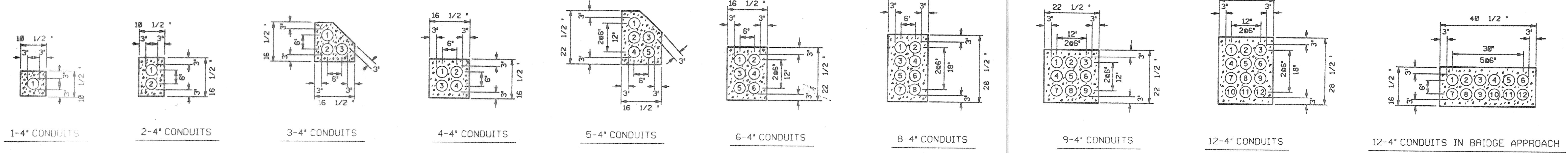
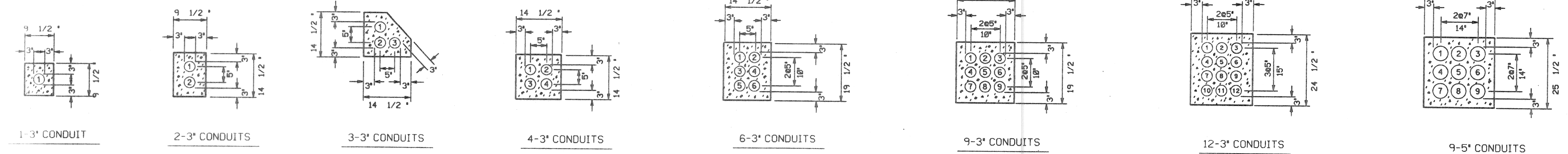
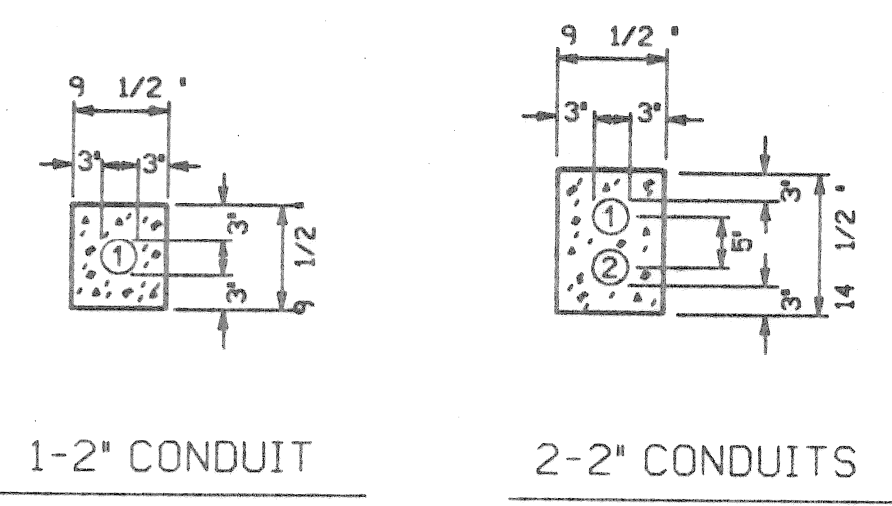
STANDARD FLAT GRATE AND FRAME
NO SCALE

PLAN	N.W.	CHECKED BY	APPROVED
GRADE			ENGINEER OF STREETS
ESTIMATE			
DESCRIPTION	DR N	CK D	AP VD DATE
REVISIONS	FINAL	CHECK	REVIEW

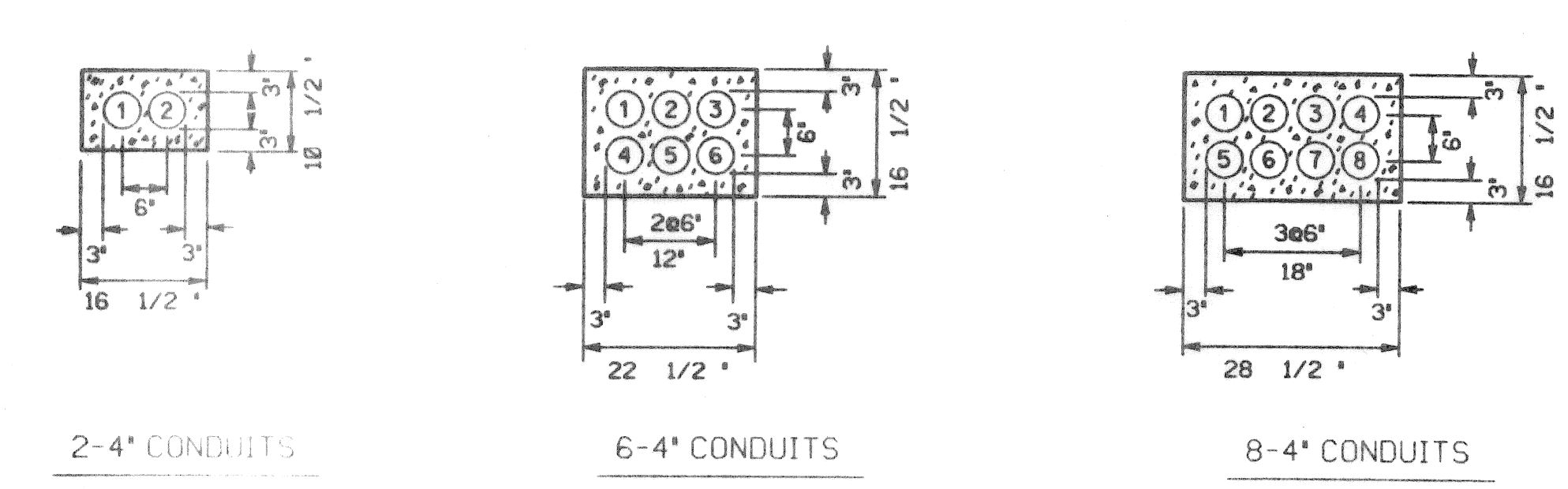
CITY OF DETROIT
CITY ENGINEERING DIVISION, D.P.W.
BUREAU OF STREETS AND HIGHWAYS

SPINOZA BRIDGE OVER ROUGE RIVER (BW-270)
DRAINAGE STRUCTURE DETAILS

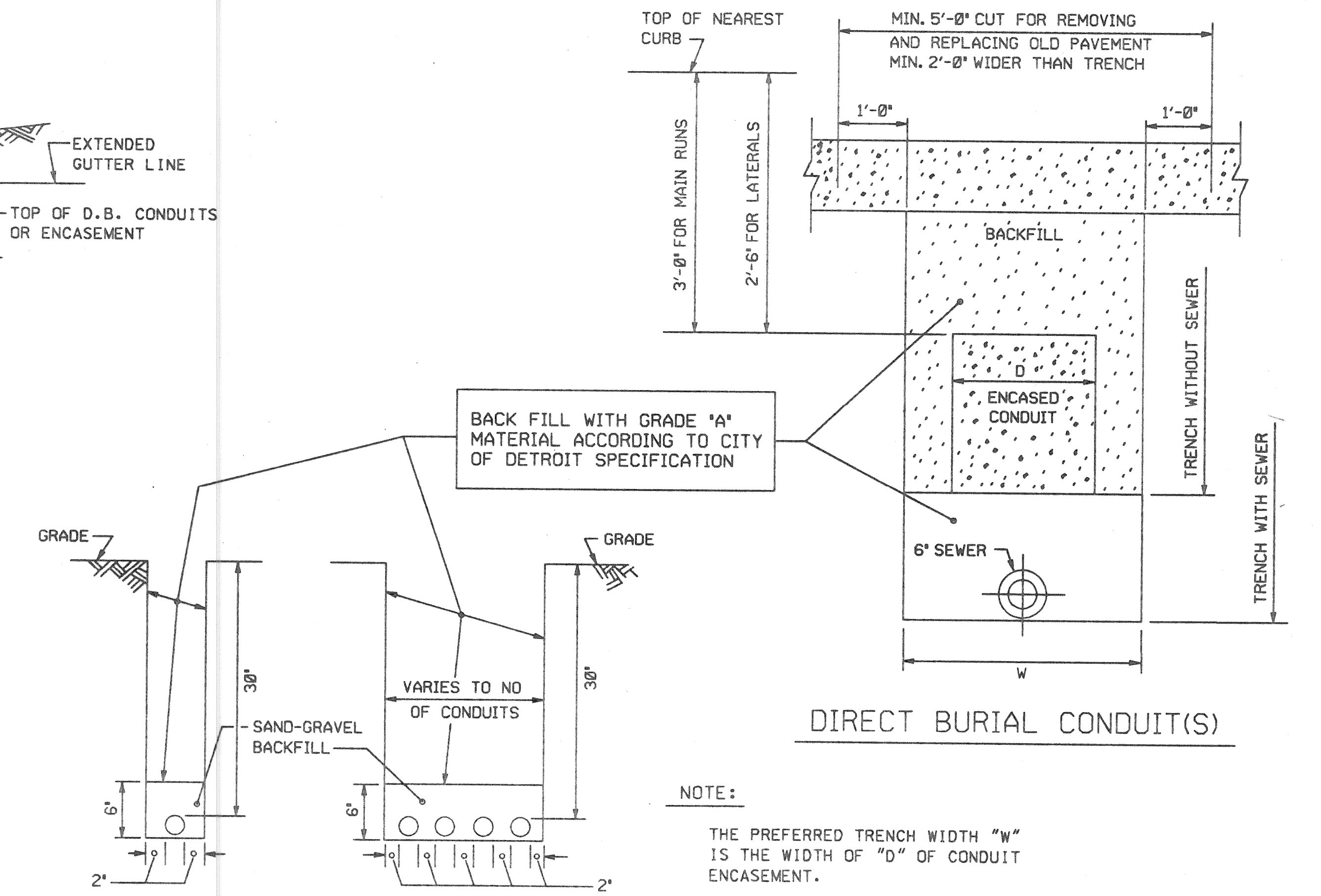
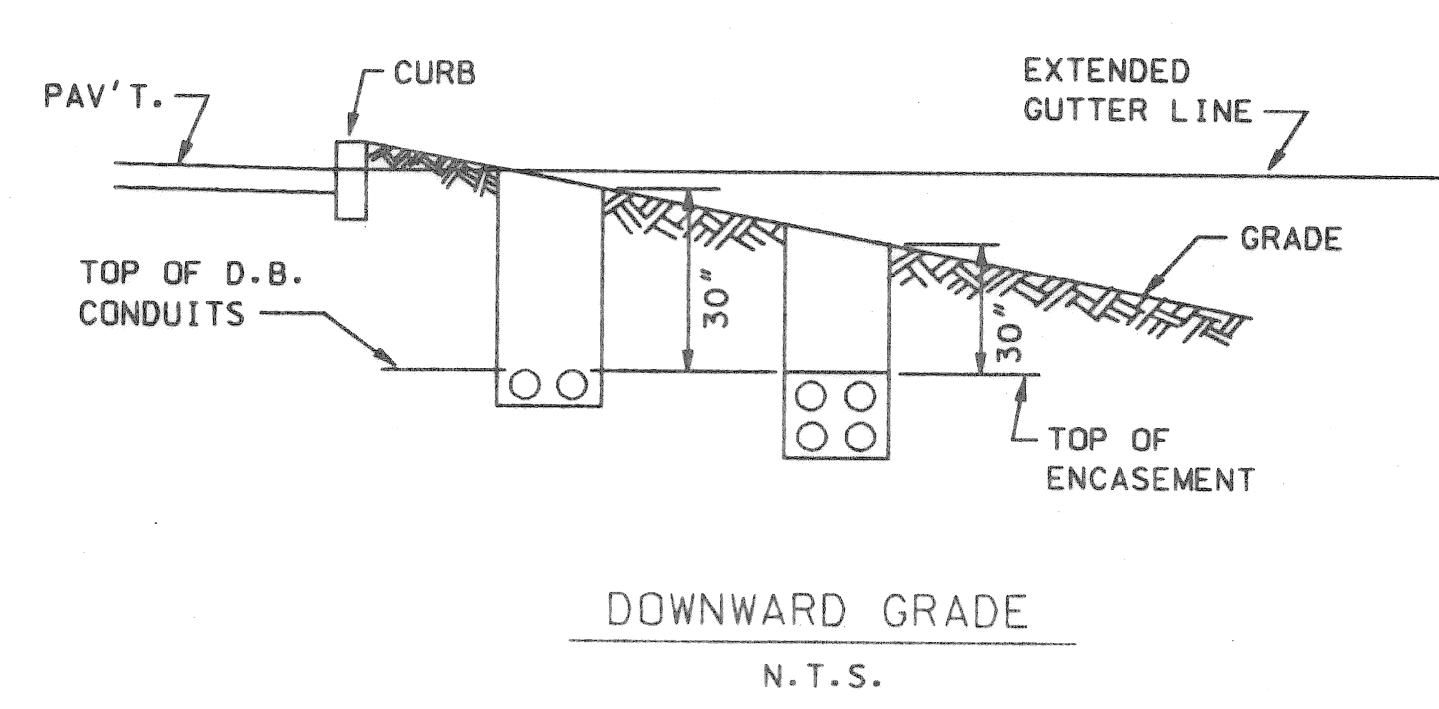
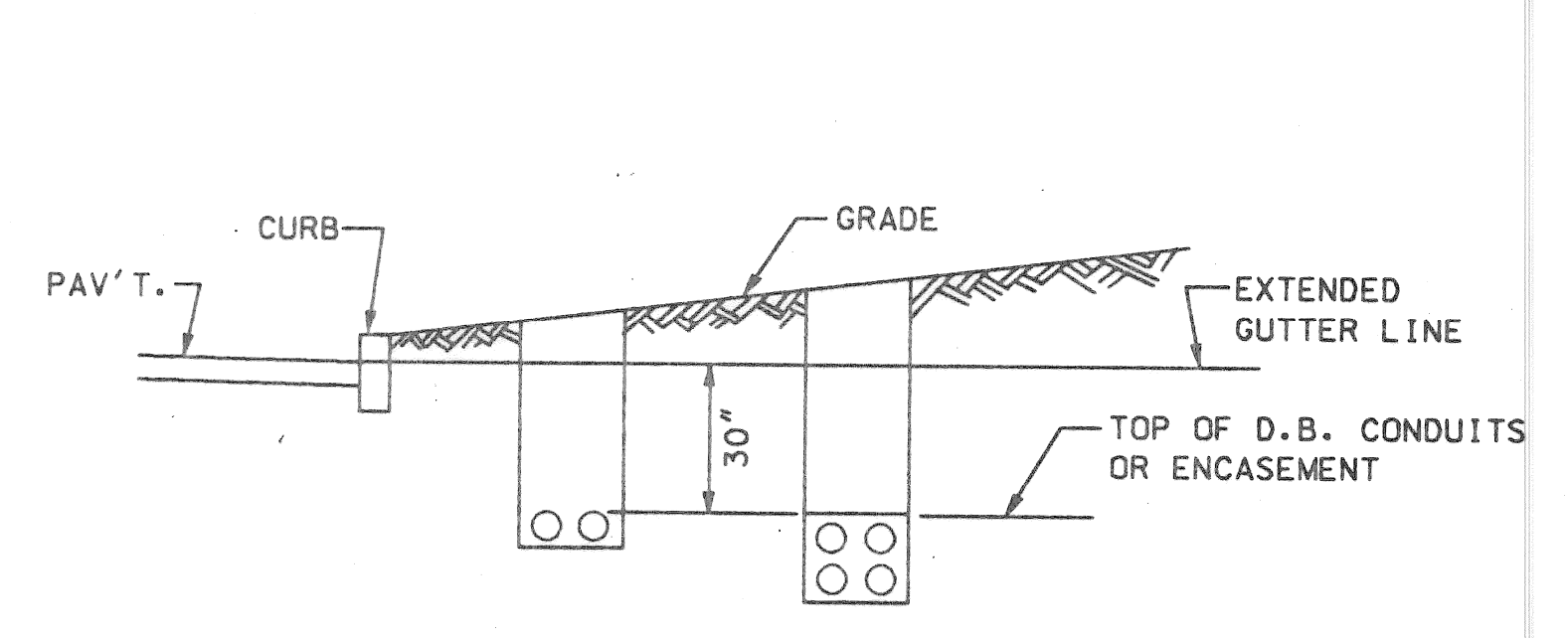
SHEET 5-13 OF SHEETS
CONTRACT NO.
ASSIGNMENT NO. 93-22-16
DATE AUG., 1995



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)

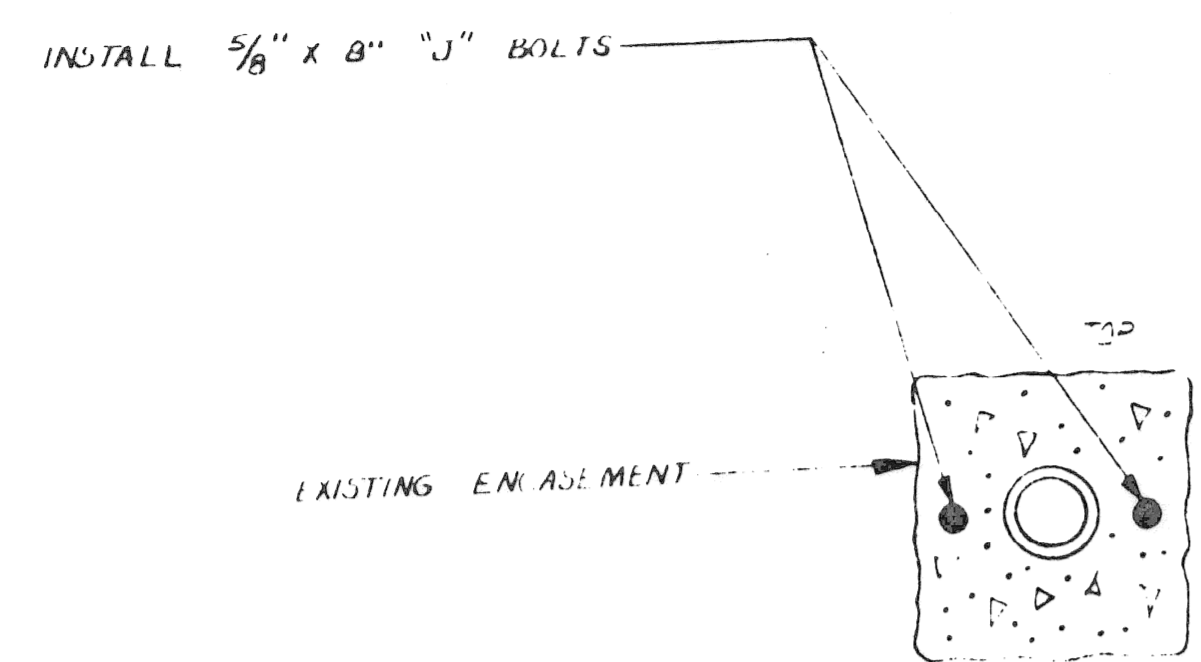


DIRECT BURIAL CONDUIT(S)

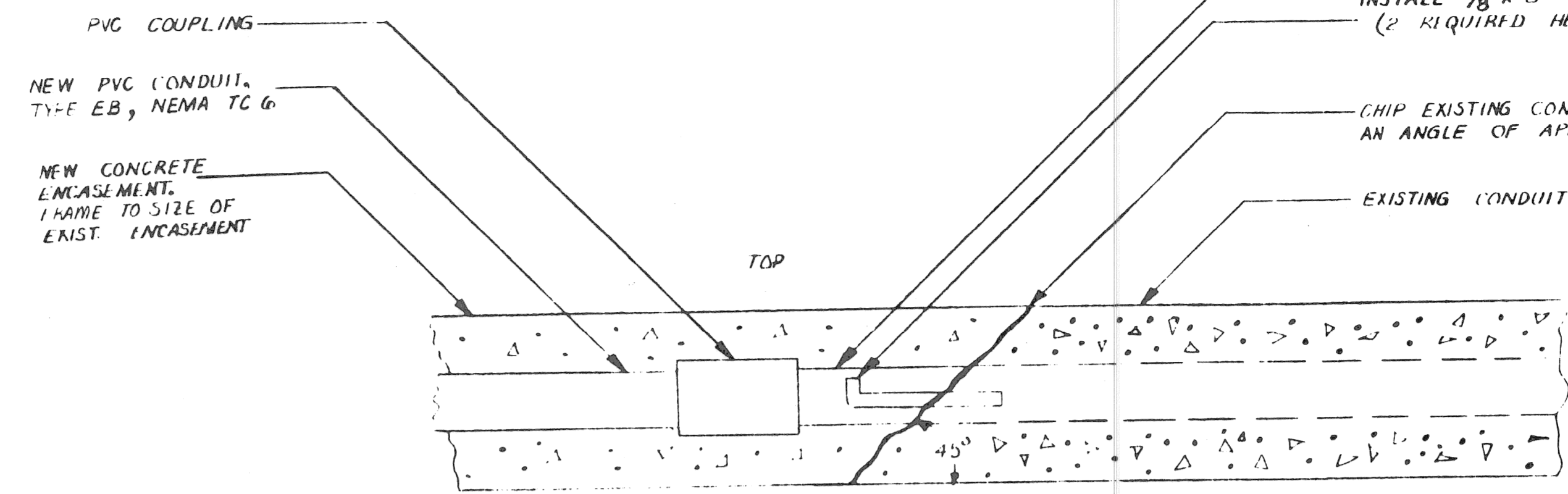
REV.	Date	Description	Chkd. by

MISC. ENCASED CONDUIT SECTIONS DETAILS

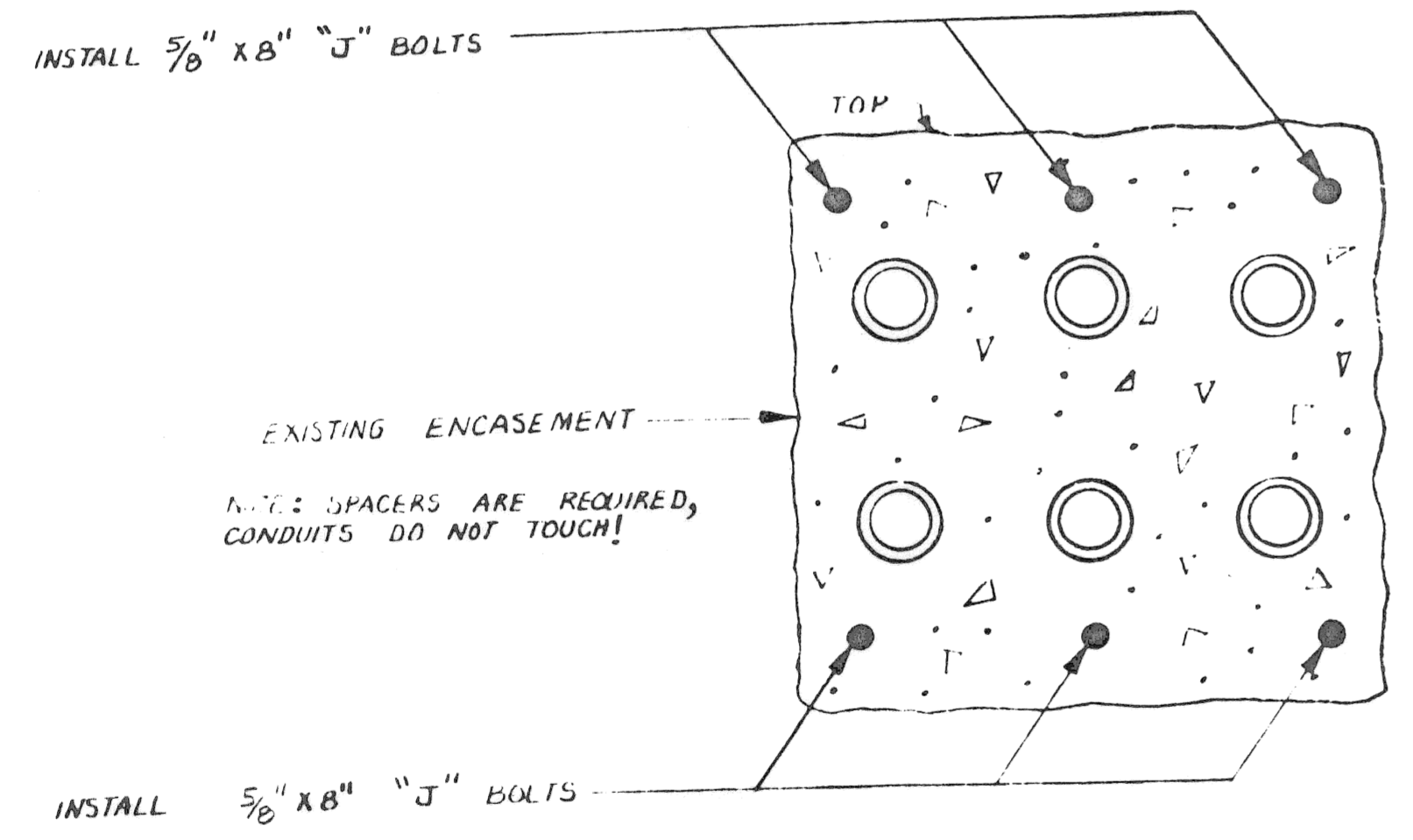
Drawn	CEA	CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 Wyoming Detroit, Mich. 48221	Checked by	PUBLIC LIGHTING DEPARTMENT CITY OF DETROIT	File No.
Checked					Sheet No.
Approved					Date
Date					



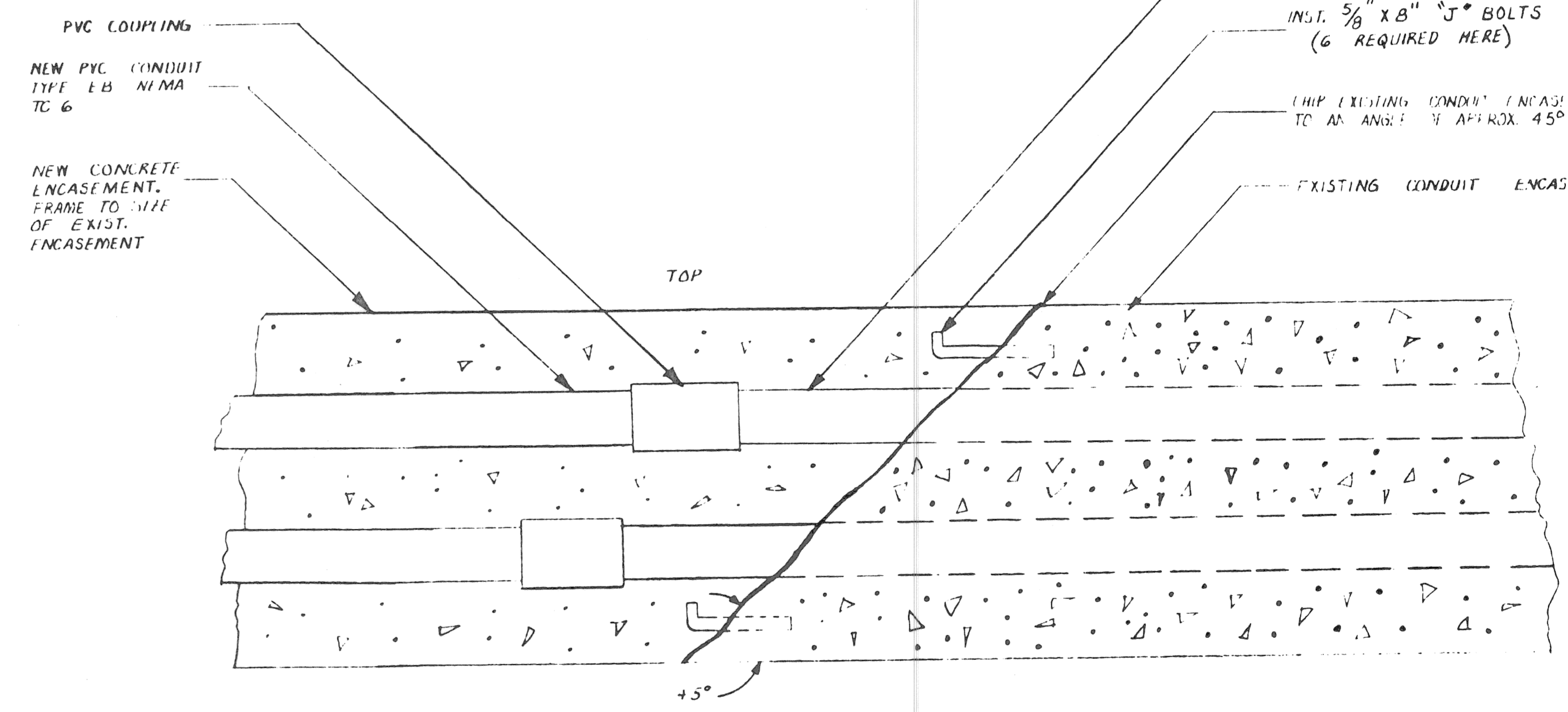
DETAIL A
(N.T.S.)
END VIEW OF CONDUIT ENCASEMENT
SHOWING APPROX. LOCATION OF "J" BOLTS



DETAIL A
(N.T.S.)
SIDE VIEW OF 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 BANK FOR FUTURE EXTENSION, REFER TO P.L.D. DRAWING # 44 0308

DATE	DESCRIPTION	CHANGED BY

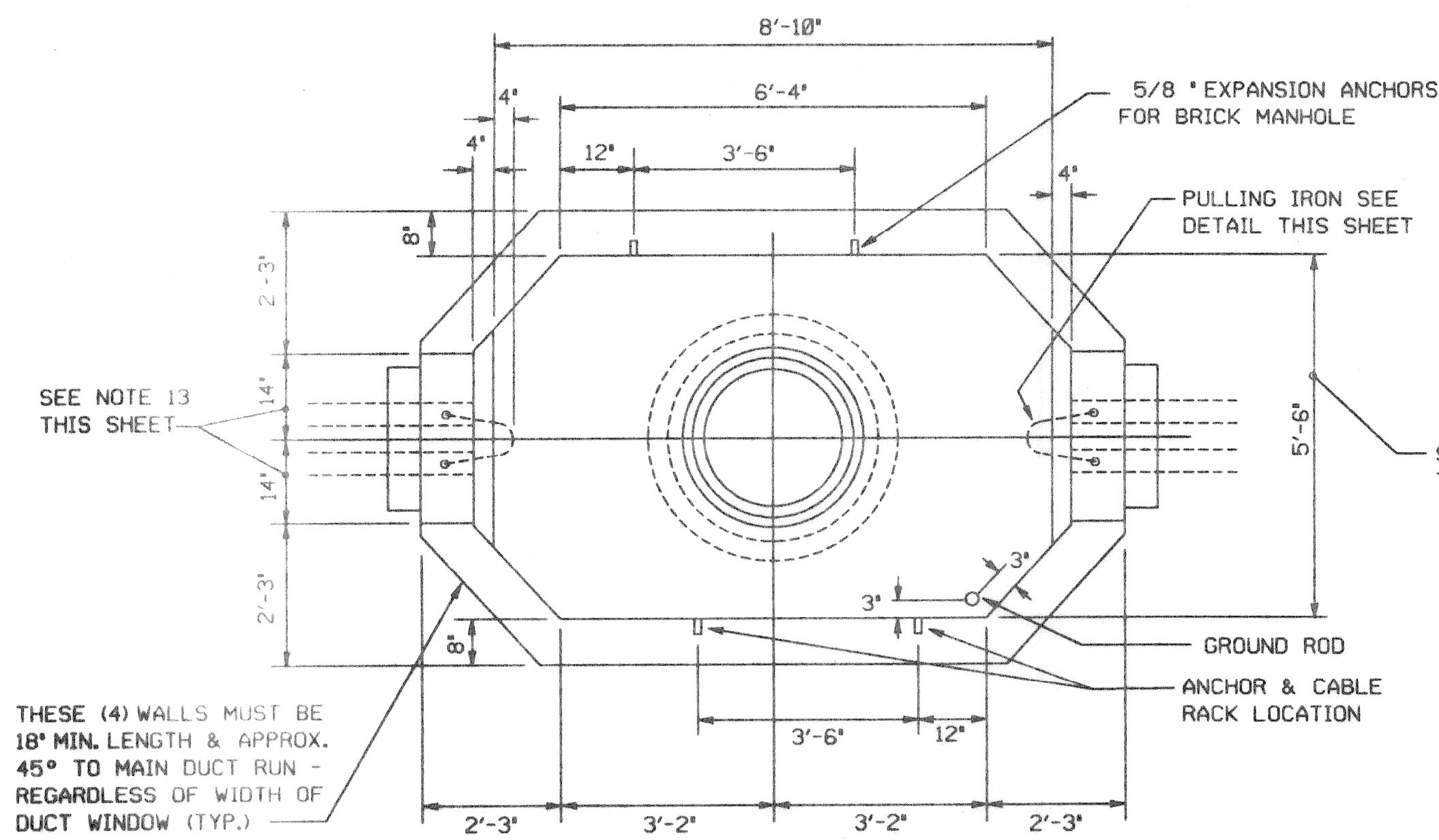
DETAIL FOR JOINING CONDUIT ENCASEMENTS

THE CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS

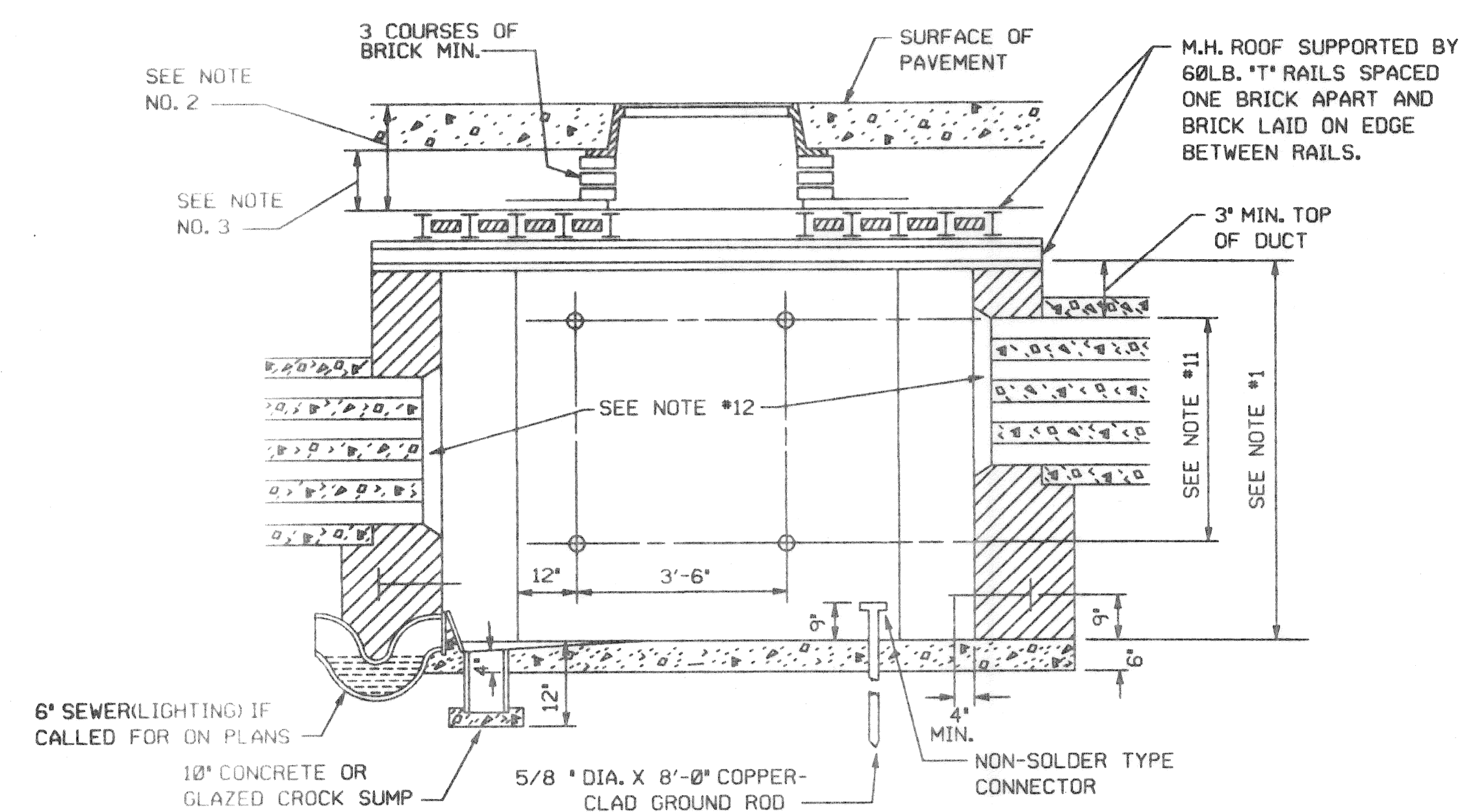
DESIGNED BY
M. IASKOWSKI
CHECKED BY
M.L.
APPROVED BY
M.L.

PUBLIC LIGHTING COMMISSION
CITY OF DETROIT

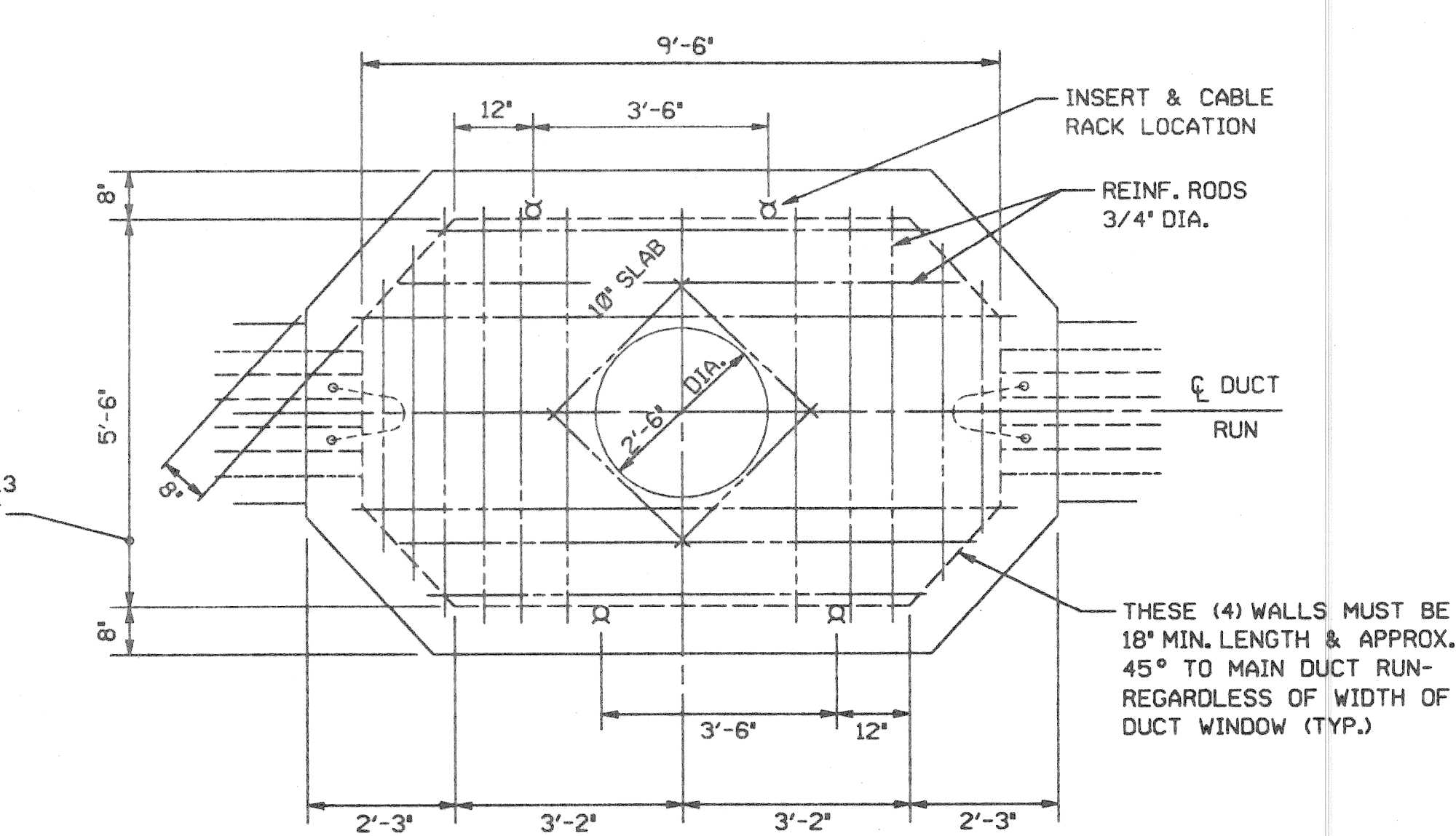
FILE NO
101 A
SHEET NO
1 OF 1
DATE
JAN. 27, '92



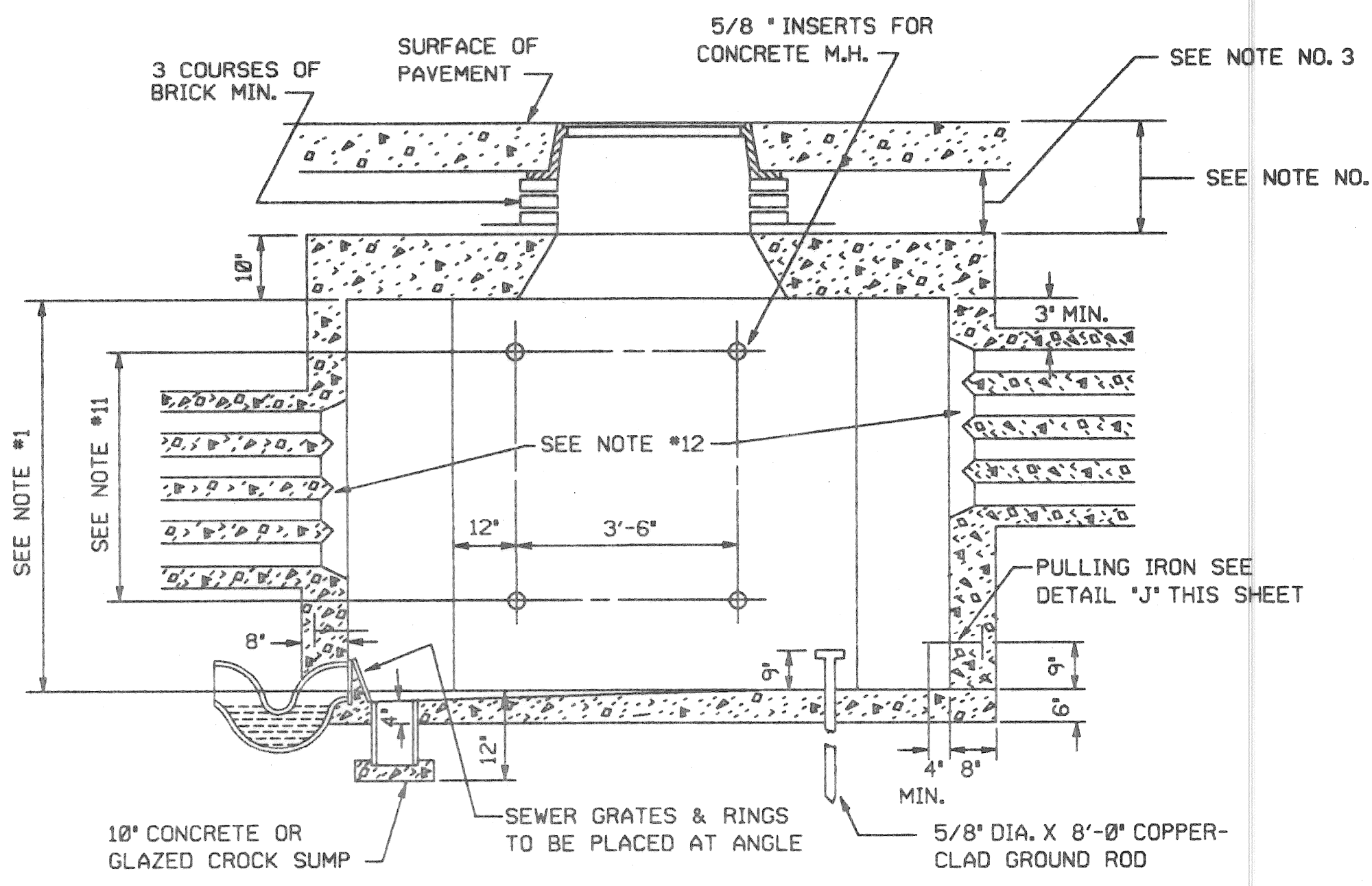
THESE (4) WALLS MUST BE 18" MIN. LENGTH & APPROX. 45° TO MAIN DUCT RUN - REGARDLESS OF WIDTH OF DUCT WINDOW (TYP.)



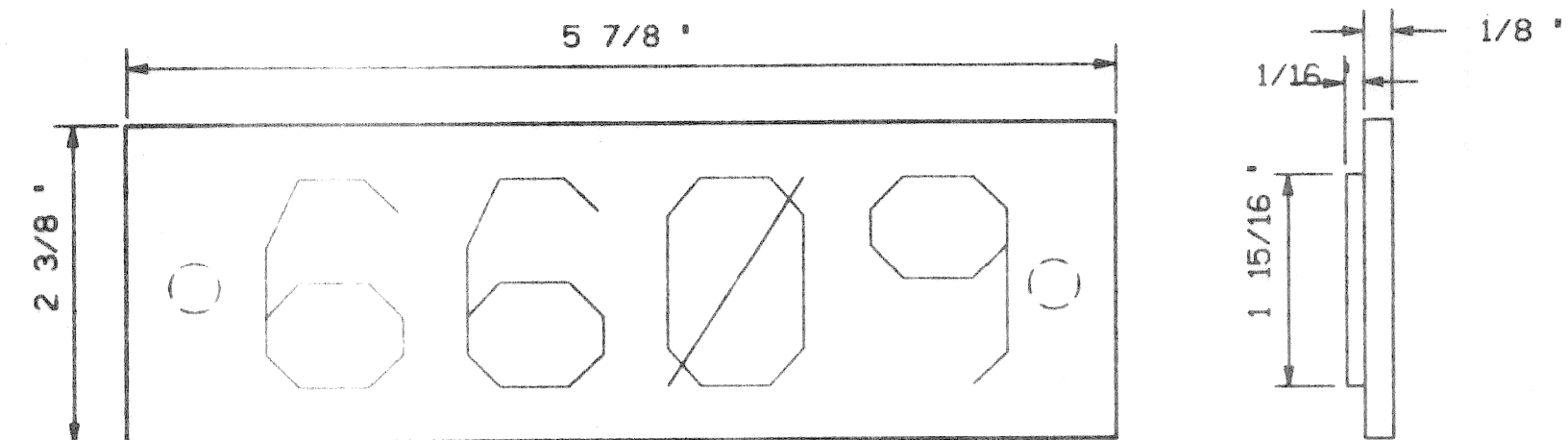
BRICK-TWO WAY MANHOLE
N.T.S.



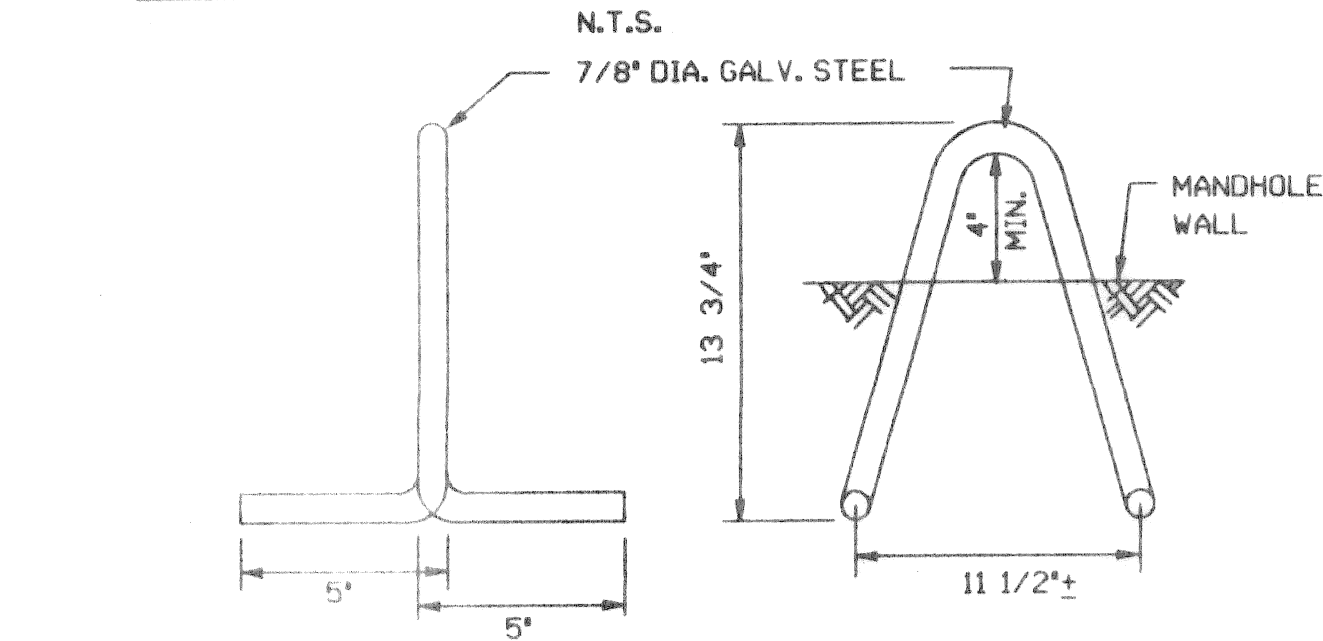
THESE (4) WALLS MUST BE 18" MIN. LENGTH & APPROX. 45° TO MAIN DUCT RUN - REGARDLESS OF WIDTH OF DUCT WINDOW (TYP.)



CONCRETE-TWO WAY MANHOLE
N.T.S.



MANHOLE NUMBER DETAIL (LEAD)
N.T.S.

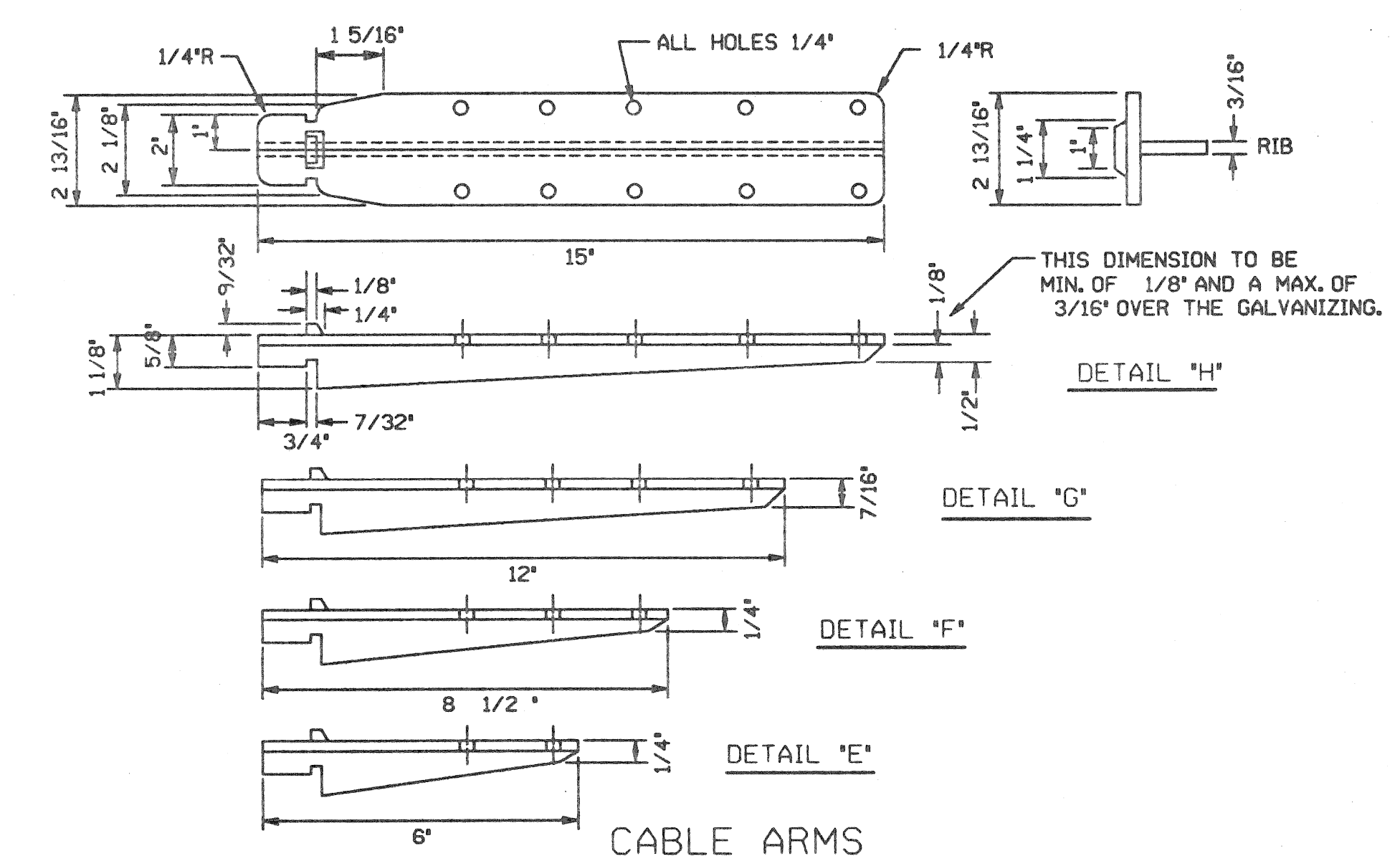


PULLING IRON - DETAIL "J"
N.T.S.

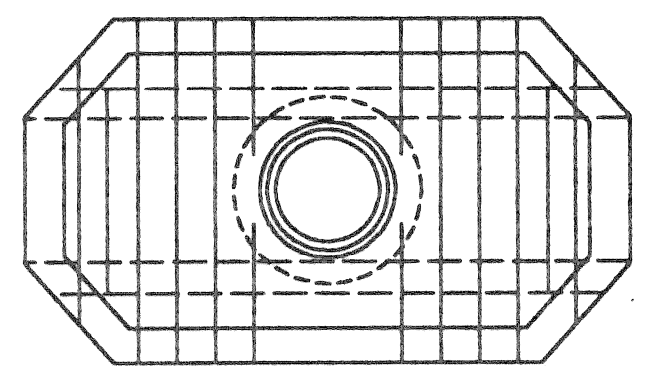
NOTE :

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. C₁ OF 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.

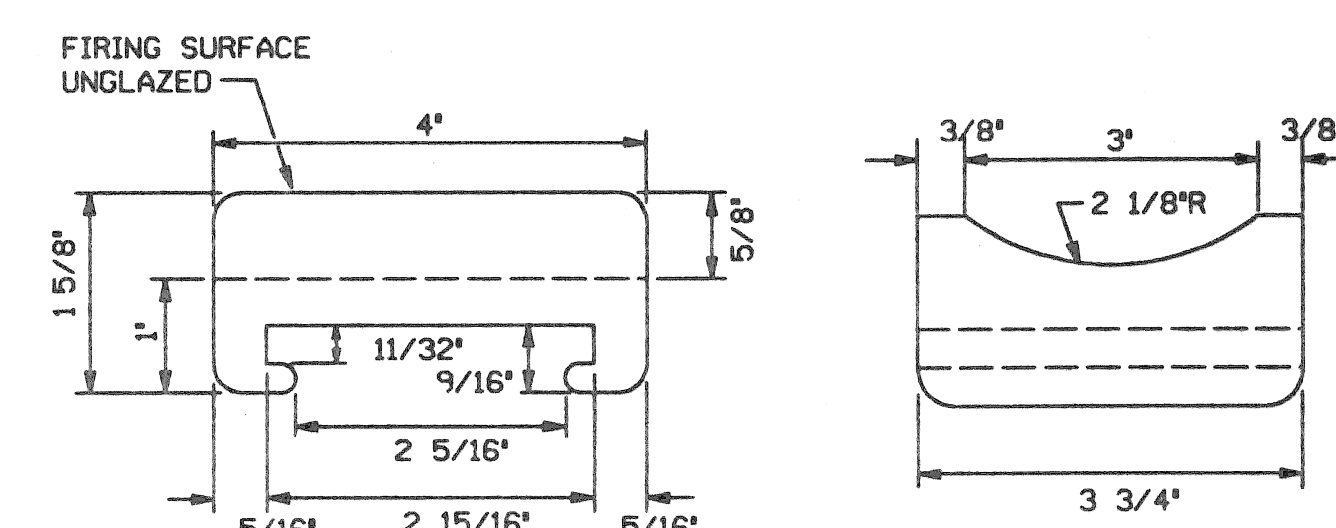
- 10 PIECES 3'-6" LONG
- 2 PIECES 5'-0" LONG
- 8 PIECES 6'-6" LONG
- 2 PIECES 8'-0" LONG
- 4 PIECES 10'-0" LONG



CABLE ARMS
MALLEABLE CAST IRON
N.T.S.

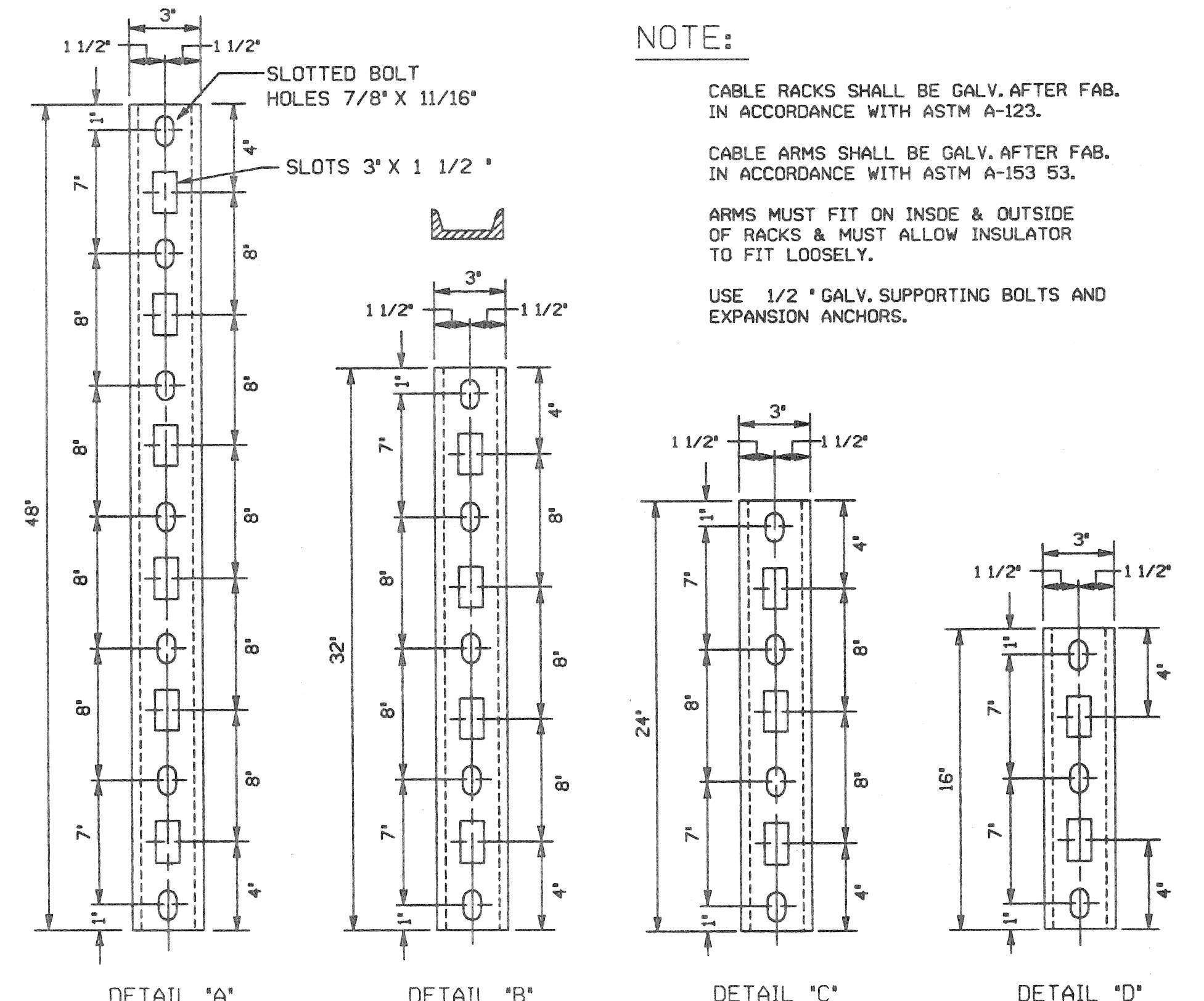


- 2 PIECES 4'-6" LONG
- 2 PIECES 6'-0" LONG
- 6 PIECES 6'-10" LONG
- 2 PIECES 9'-3" LONG
- 2 PIECES 10'-8" LONG
- TOTAL WEIGHT 2040 LB.



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.

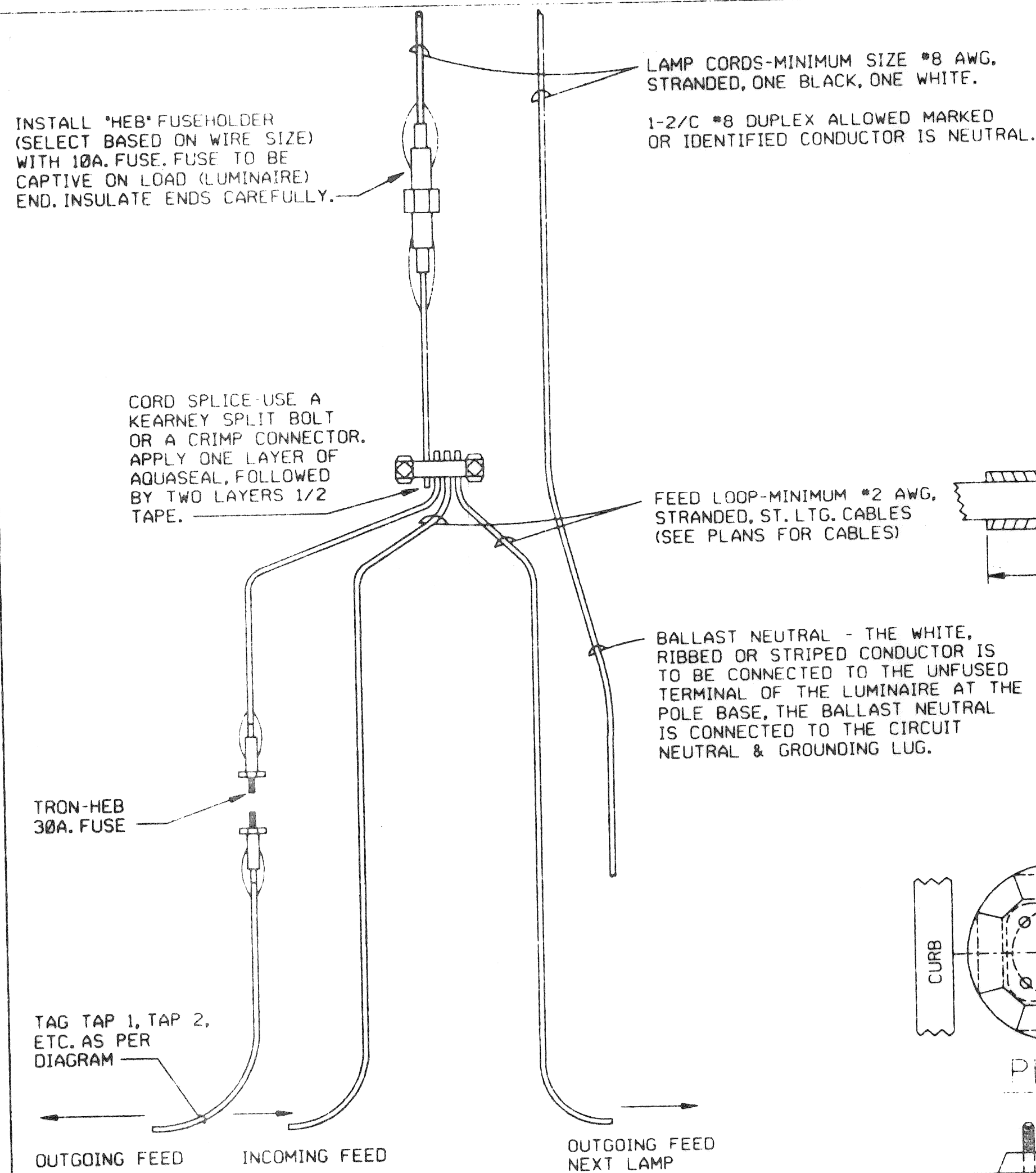


CABLE RACKS
3" STD. 4.1" CHANNEL
N.T.S.

REV	DATE	DESCRIPTION	CHKD. BY

TWO-WAY MANHOLE

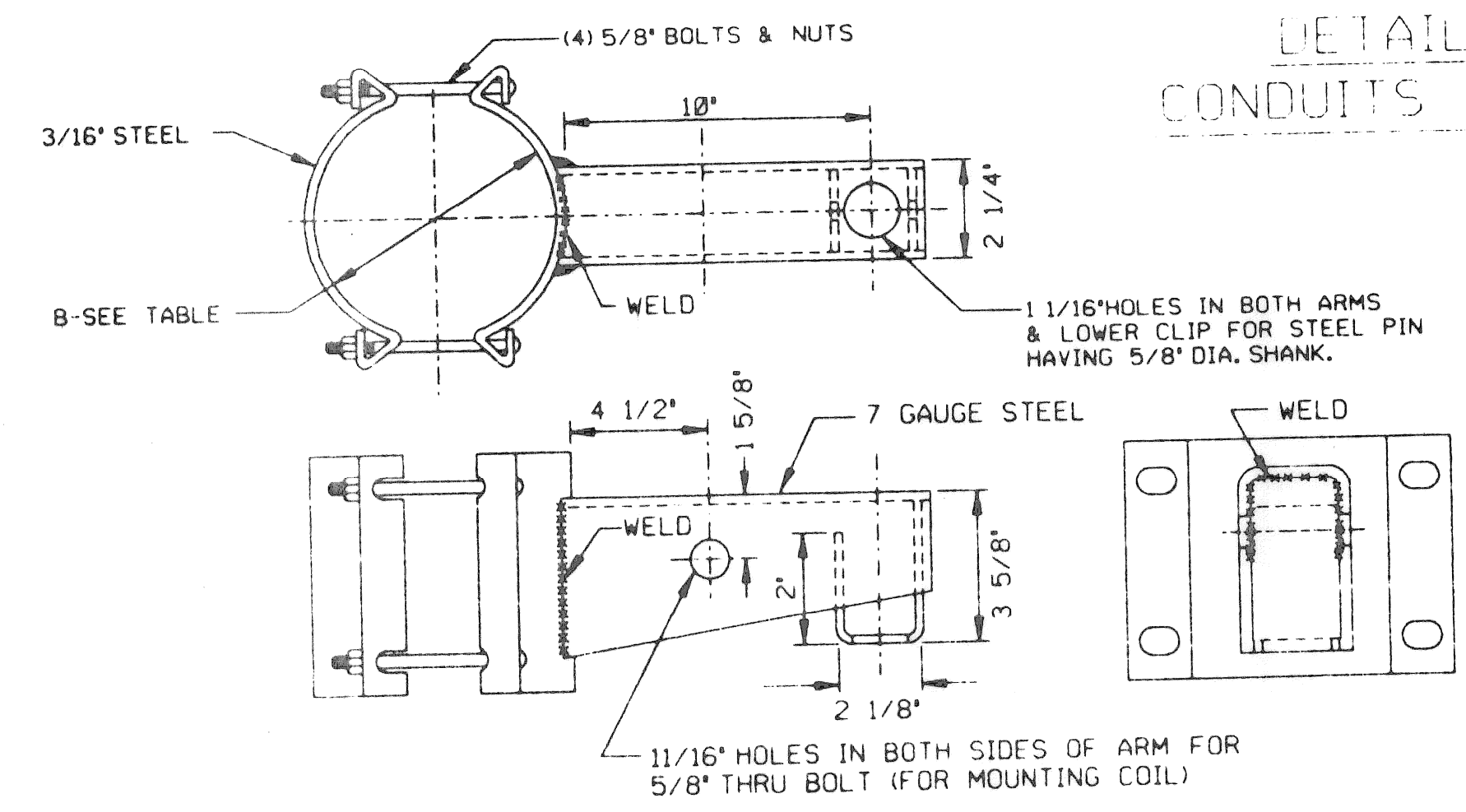
Drawn CEA	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 Wyoming Detroit, Mich. 48221	Checked by	PUBLIC LIGHTING DEPARTMENT	File No.
Checked		Approved by	CITY OF DETROIT	Sheet No.
Approved		Date		Date
Date	Drwg. No. of	File No. CEA		



MULTIPLE STREET LIGHTING CONNECTION IN POLE BASE
N.T.S.

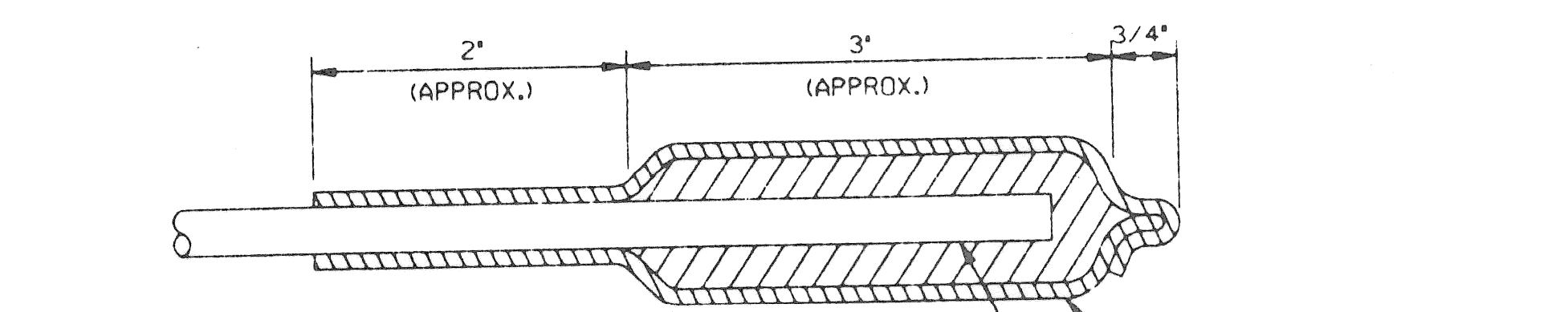
TYPE	POLE DIAMETER
A	3.6"-4-5"
B	6.1"-6.9"
C	7.5"-8.5"

CLAMP SIZE TABLE

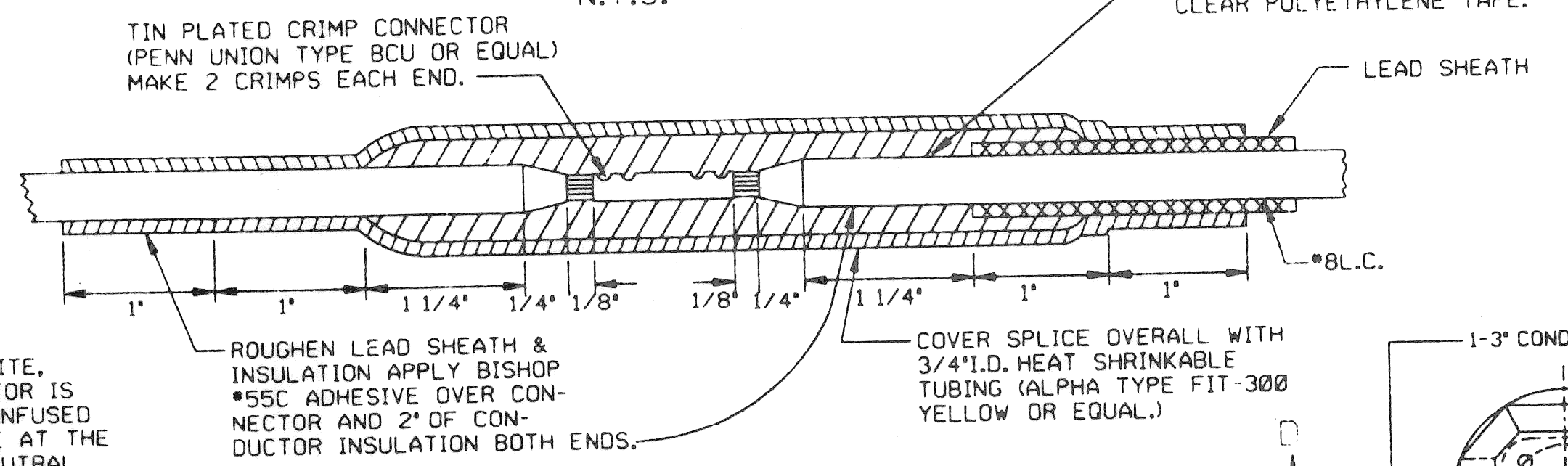


CLAMP FEEDER ARM
N.T.S.

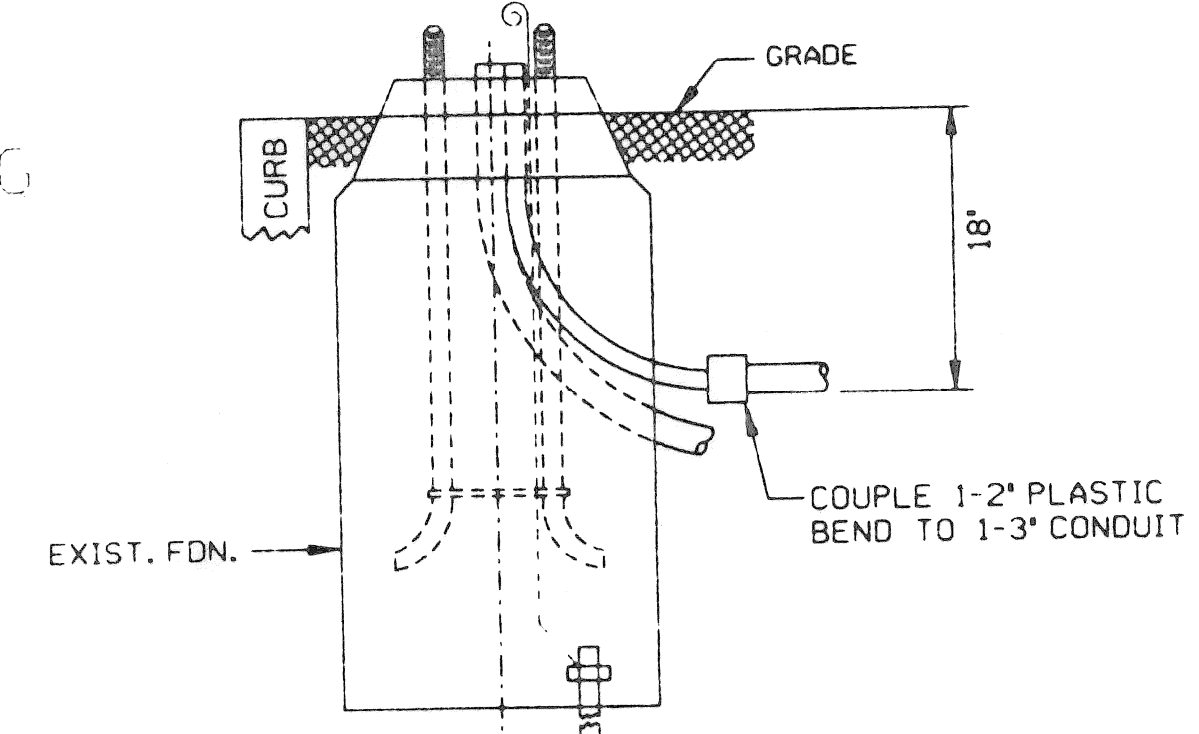
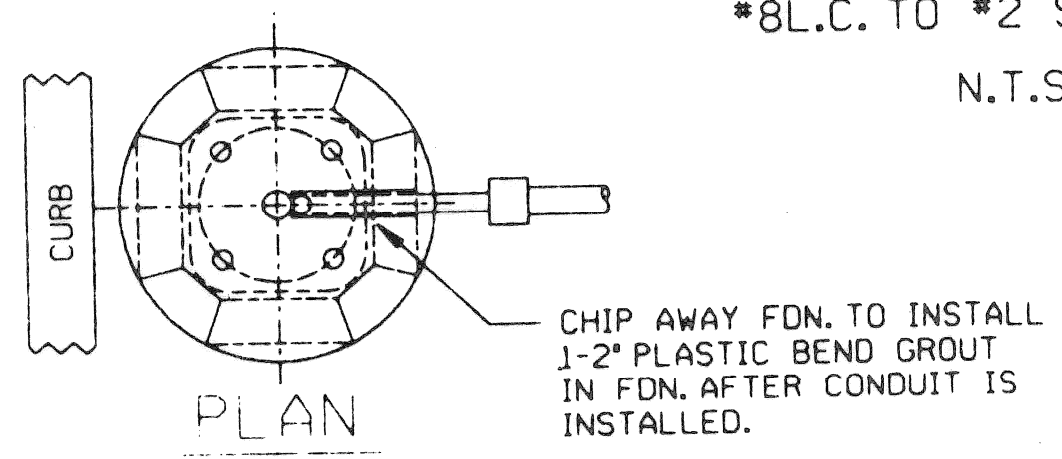
* FINISH SHALL BE HOT DIP GALVANIZED AFTER FABRICATION



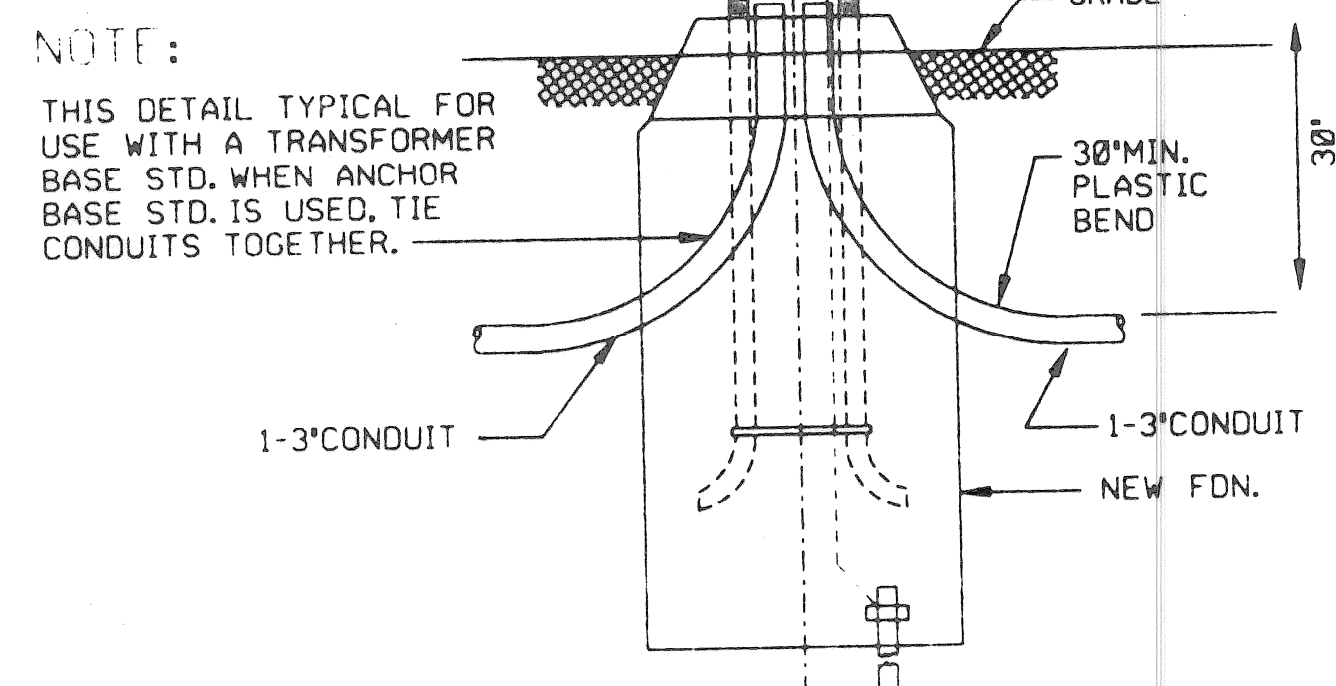
MULTIPLE STREET LIGHTING CABLE
DETAIL OF SEALING OF CABLE END
N.T.S.



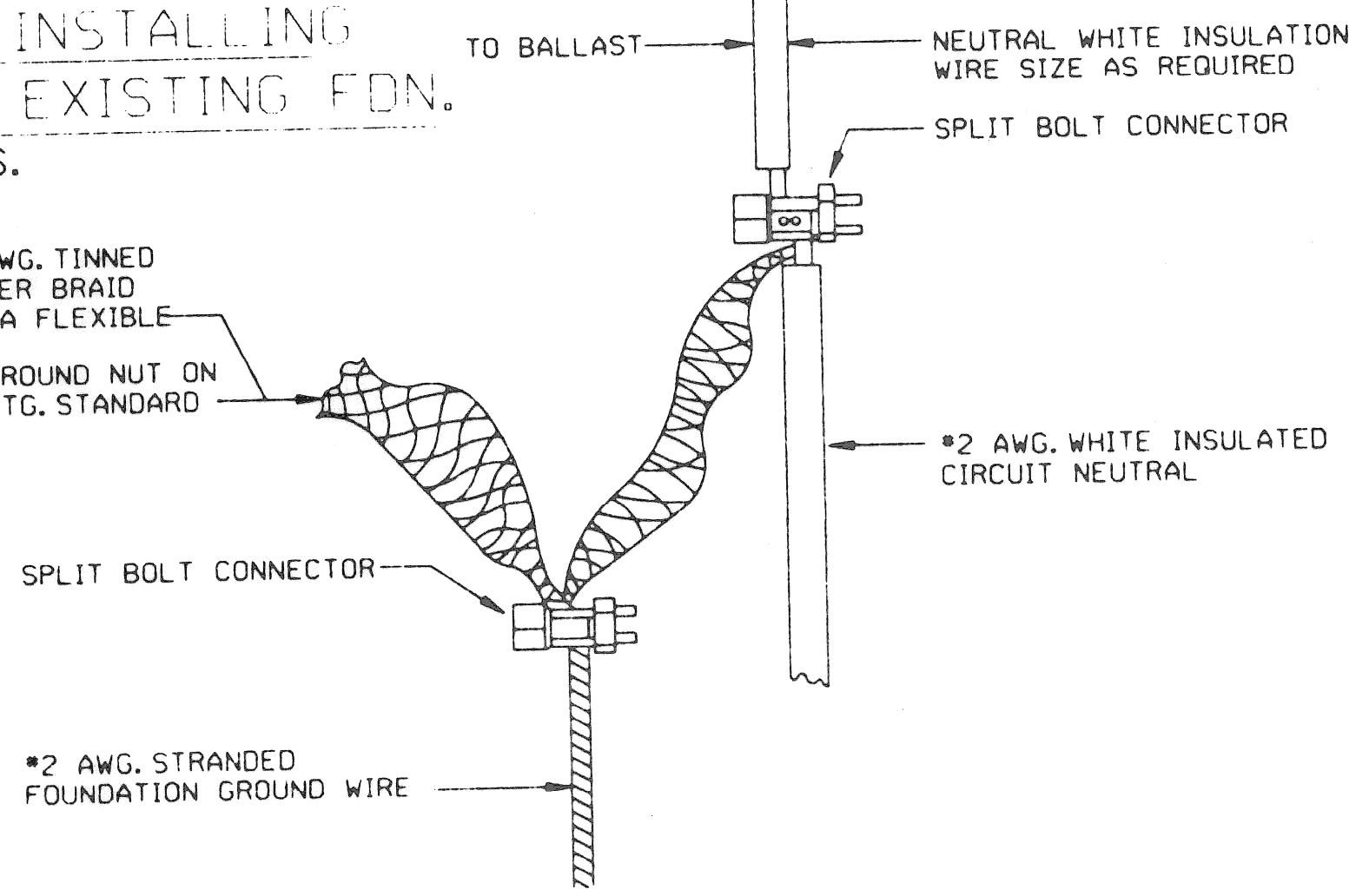
MULTIPLE STREET LIGHTING
SPLICE DETAIL A
#8 L.C. TO #2 ST. LG.
N.T.S.



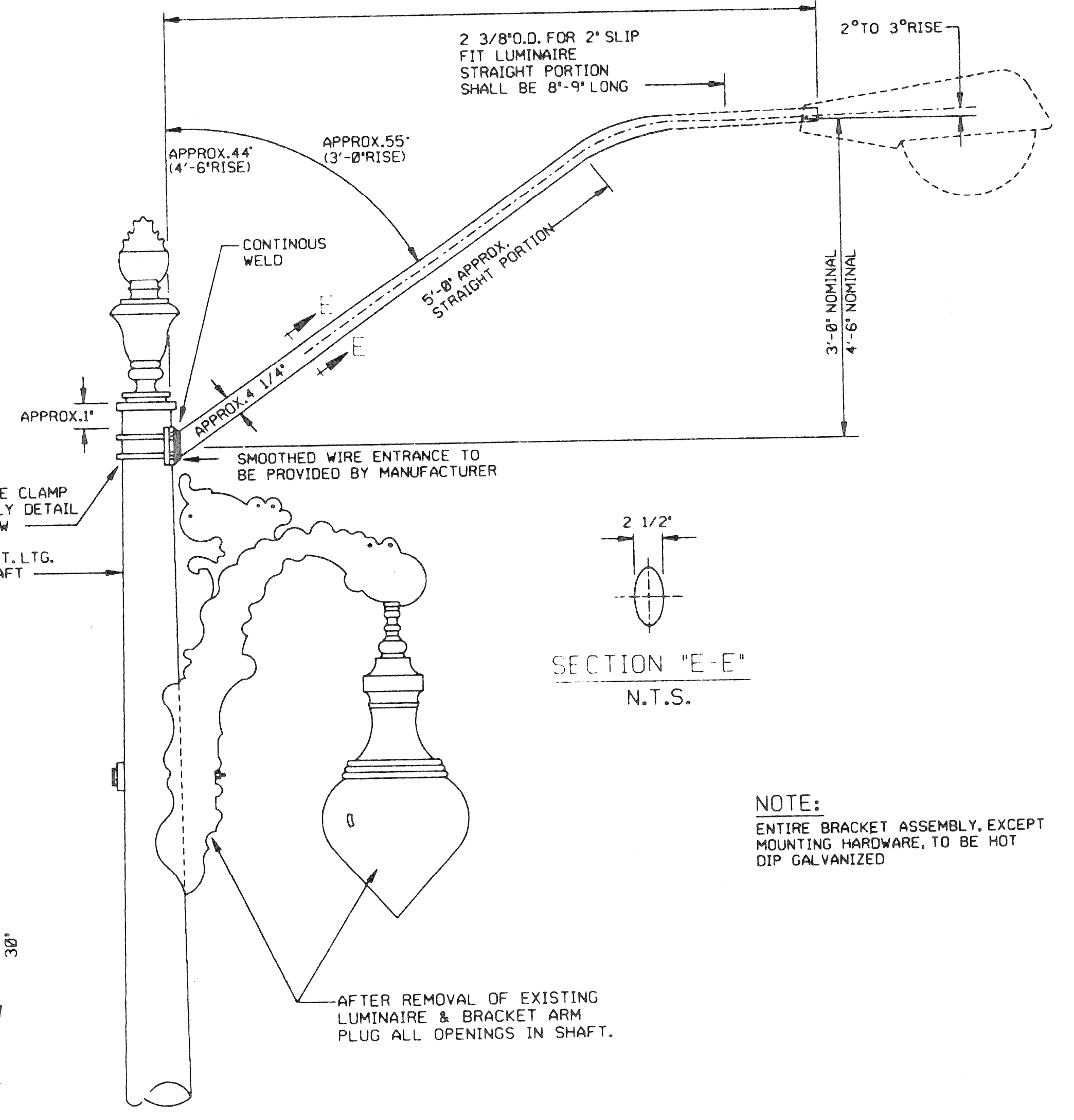
DETAIL OF INSTALLING
CONDUITS INTO EXISTING FDN.
N.T.S.



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

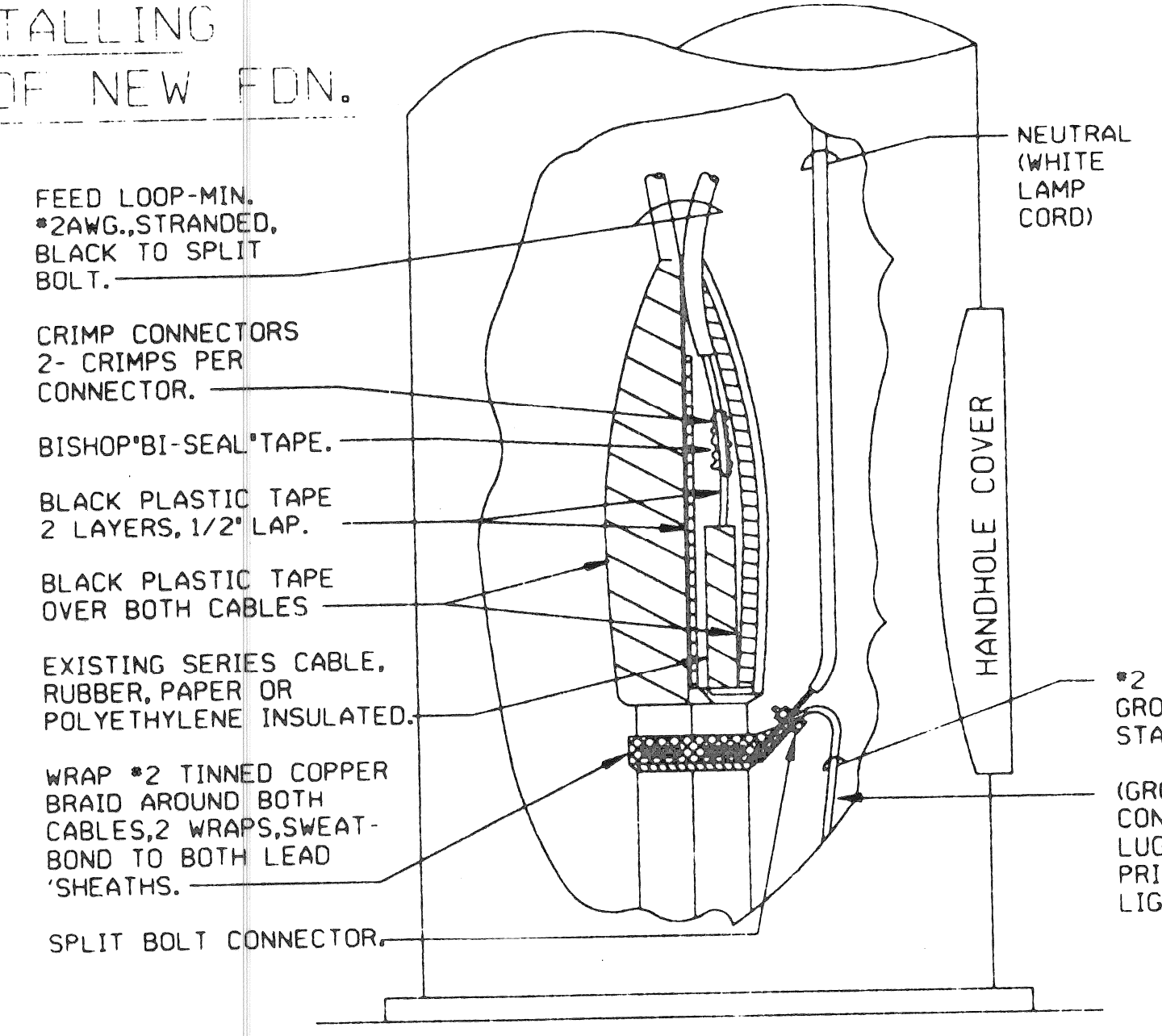


GROUND CONNECTION
N.T.S.

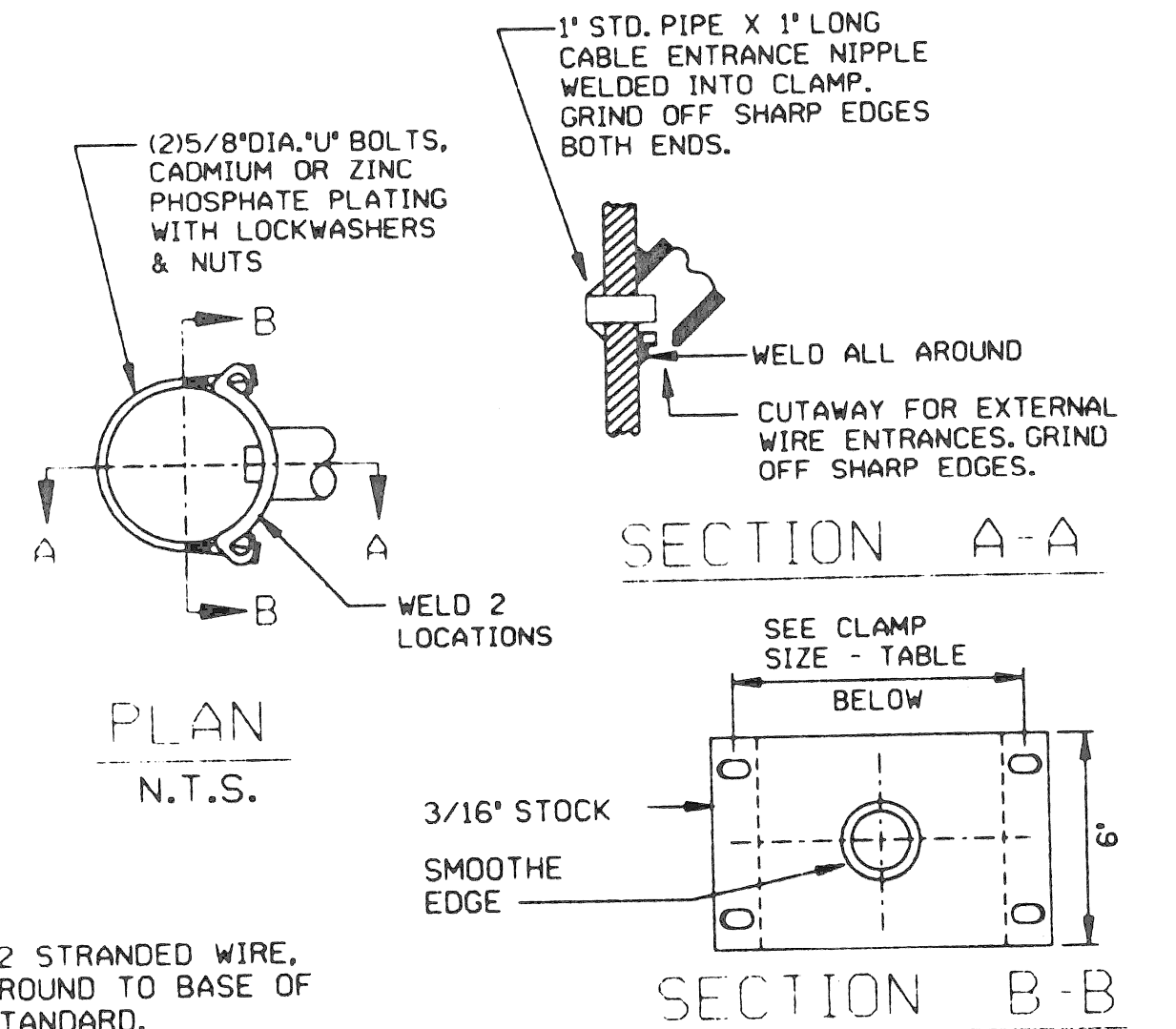


CLAMP ON BRACKET ARM ELEVATION
N.T.S.

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



SERIES-TO-MULTIPLE LIGHTING CONVERSION
POLE BASE CONNECTIONS
N.T.S.



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

CLAMP SIZE TABLE

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

PIPE CLAMP DETAILS
N.T.S.

Date	Description	Chkd. by

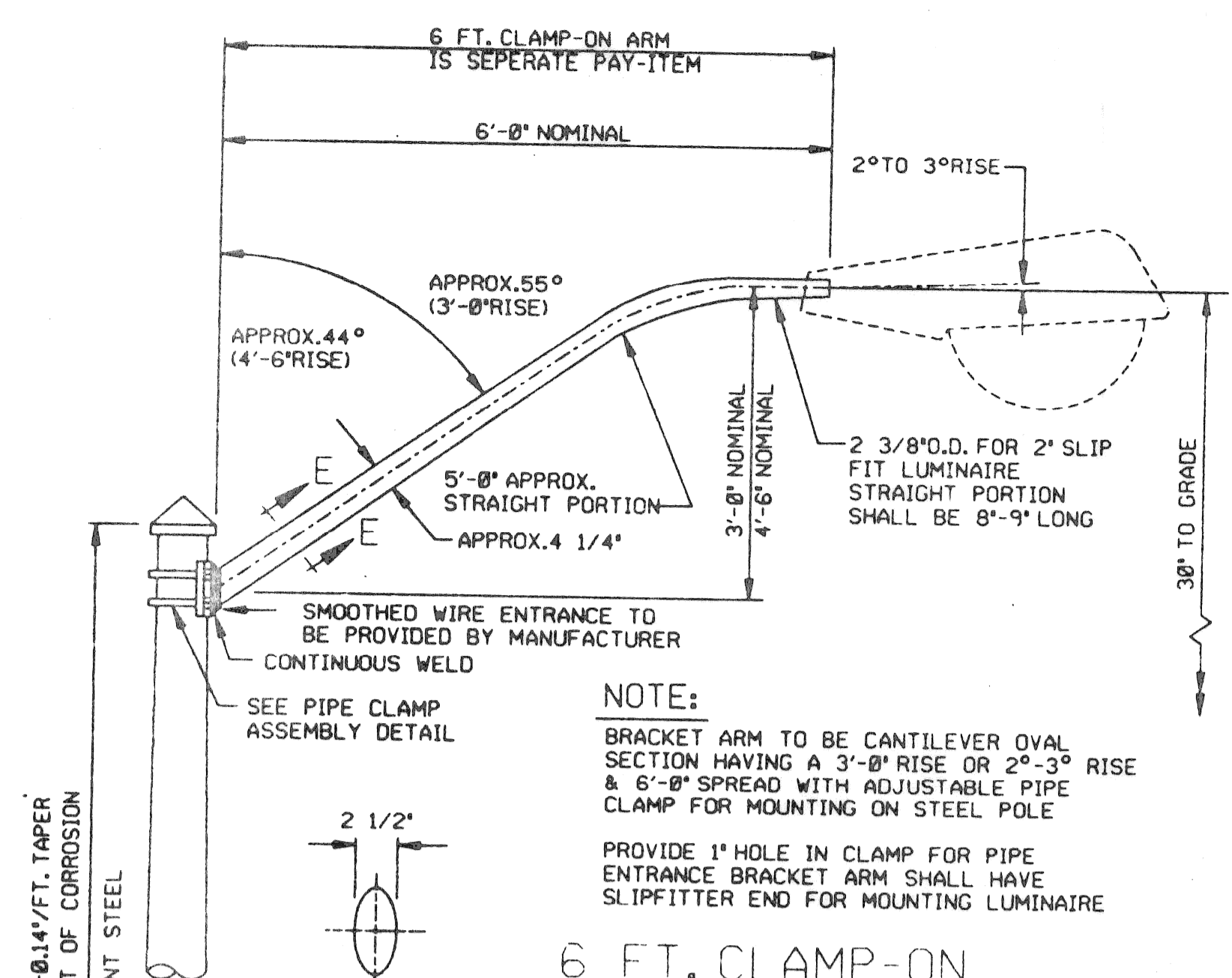
THE CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
MOUNT ELLIOTT-MOUND ROAD GRADE SEPARATION
MULT. ST. LG. CABLE CONNECTIONS, CLAMP-ON ARM & MISC. DETAILS

Drawn: CEA
Checked: CEA
Approved: CEA
Date: Drwg. No. File No.

PLAN PREPARED BY
CONSULTING ENGINEERING ASSOCIATES INC.
ENGINEERING CONSULTANTS
16580 Wyoming Detroit, Mich. 48221

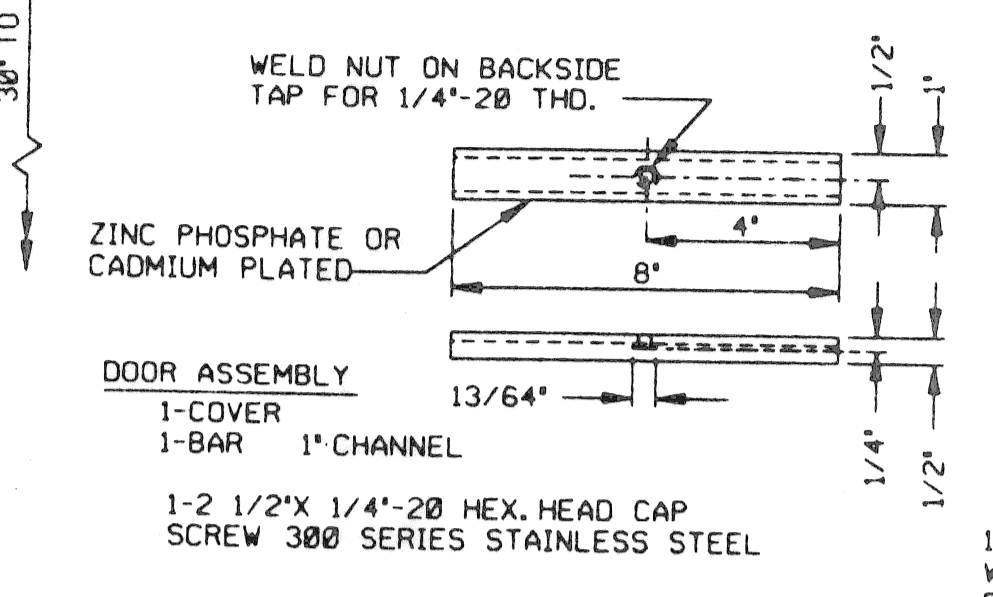
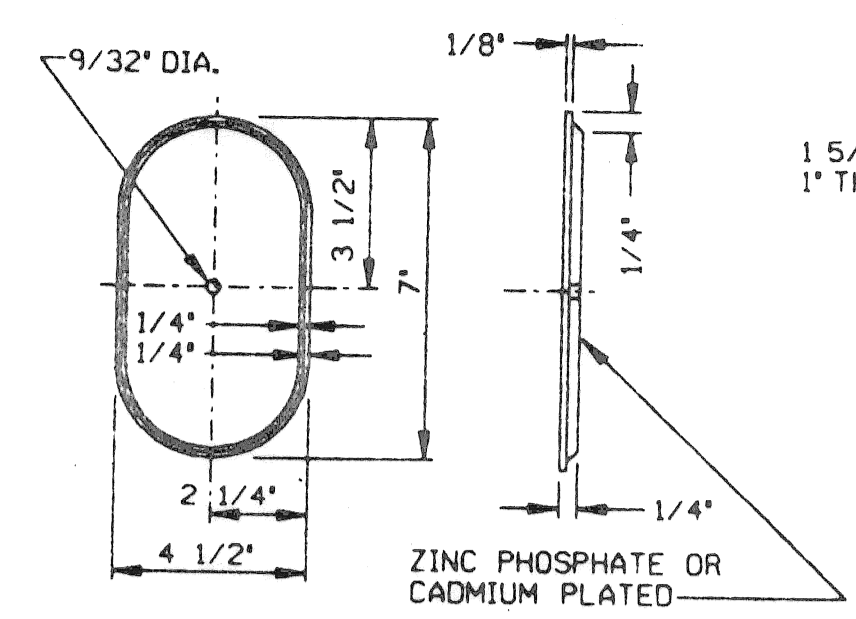
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Approved by: CITY OF DETROIT

File No. Sheet No. Date

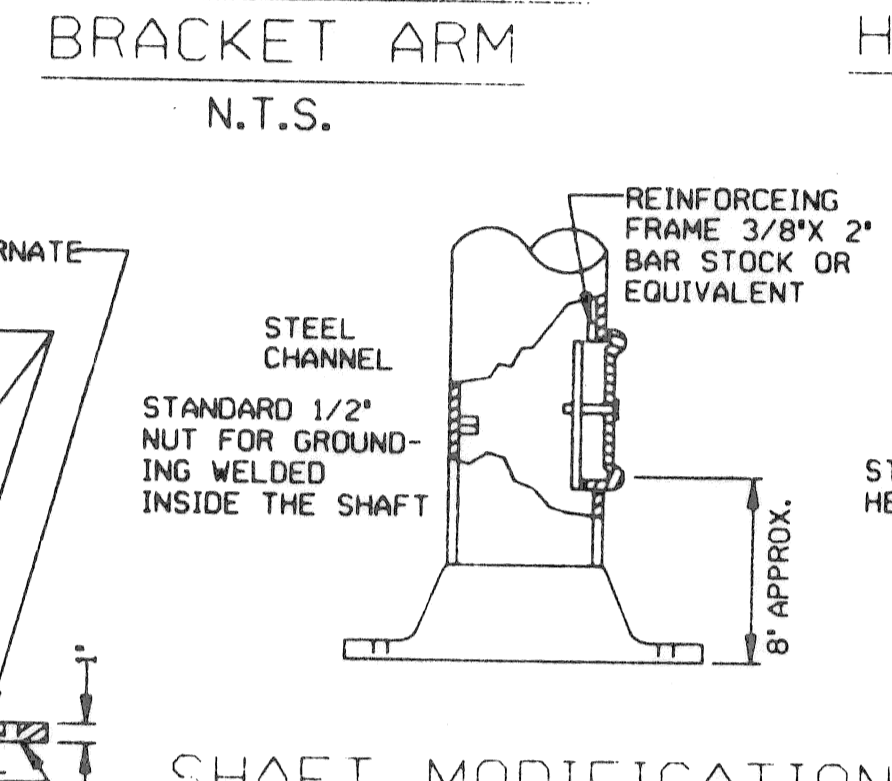
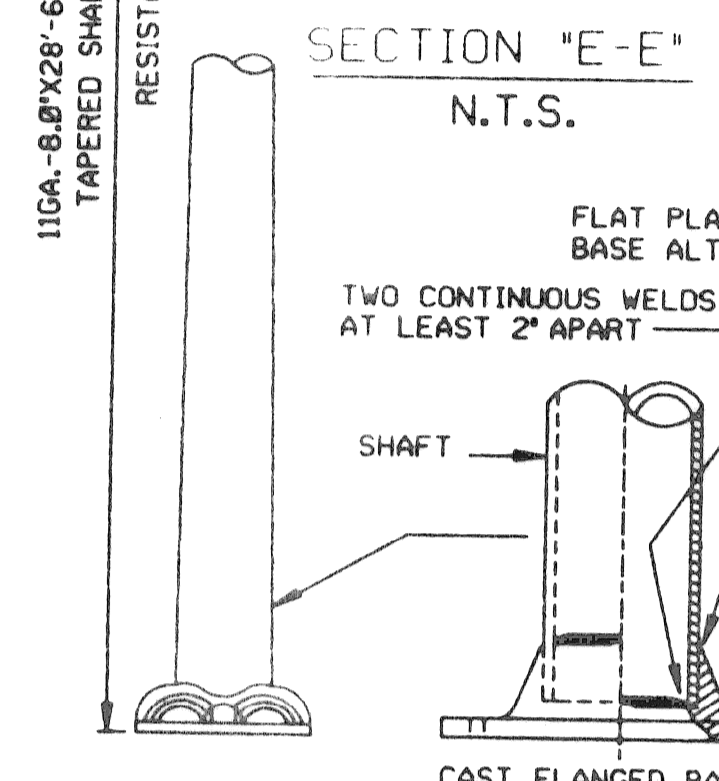


NOTE:
BRACKET ARM TO BE CANTILEVER OVAL SECTION HAVING A 3'-0" RISE OR 2°-3° RISE & 6'-0" SPREAD WITH ADJUSTABLE PIPE CLAMP FOR MOUNTING ON STEEL POLE
PROVIDE 1" HOLE IN CLAMP FOR PIPE ENTRANCE BRACKET ARM SHALL HAVE SLIPFITTER END FOR MOUNTING LUMINAIRE

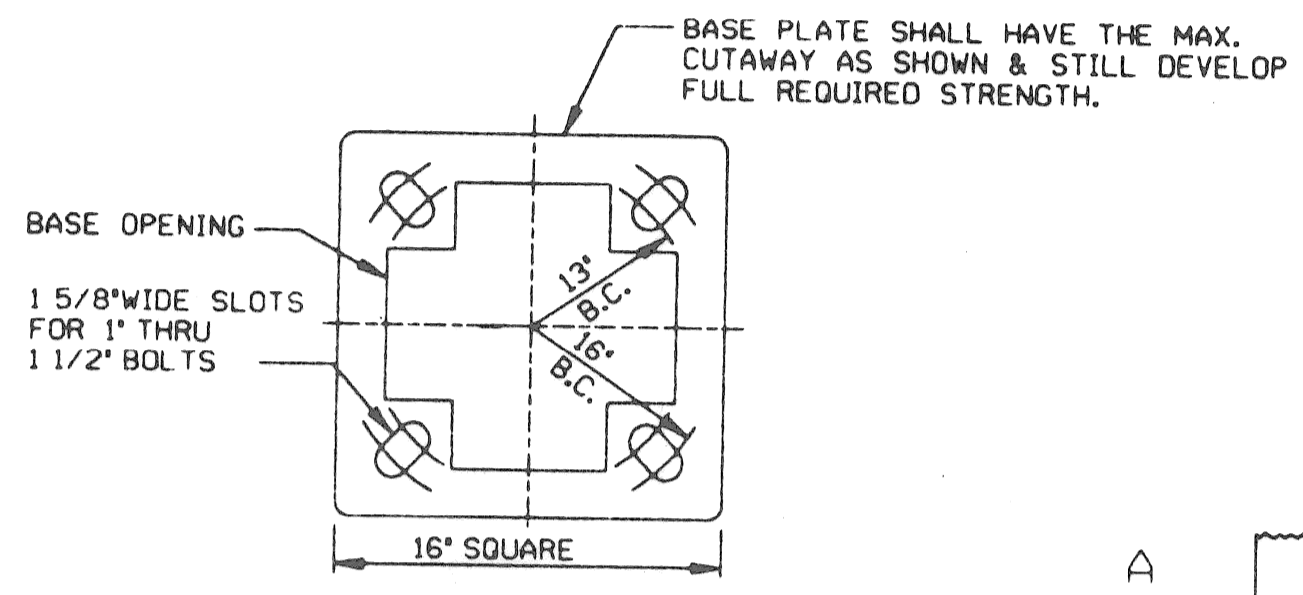
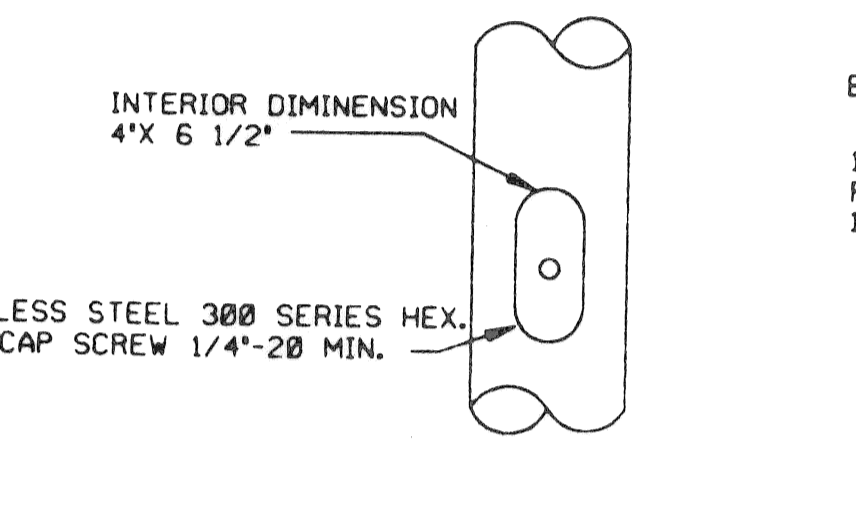
6 FT. CLAMP-ON BRACKET ARM
N.T.S.



HANDHOLE COVER DETAIL
N.T.S.

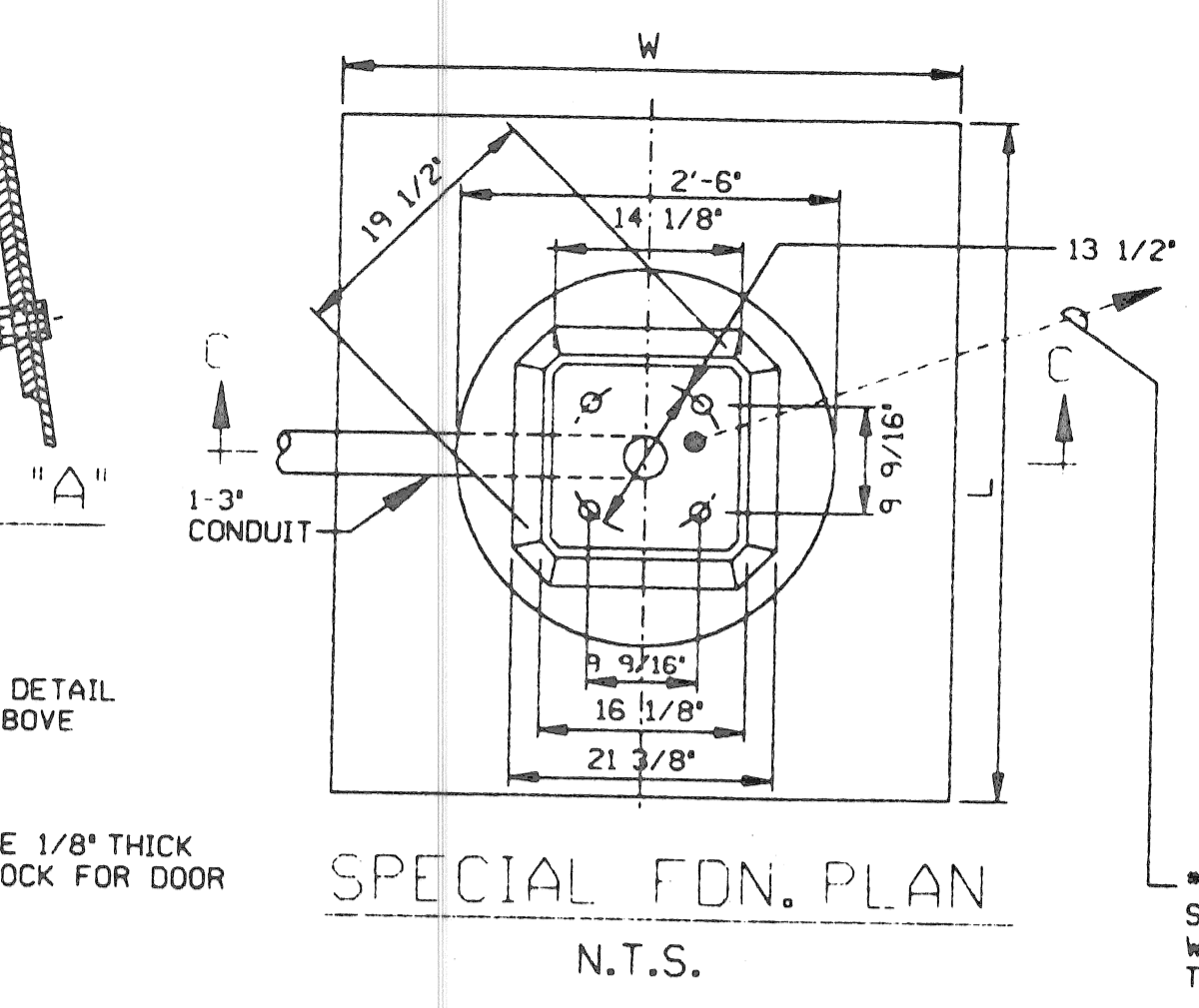


SHAFT MODIFICATION
N.T.S.

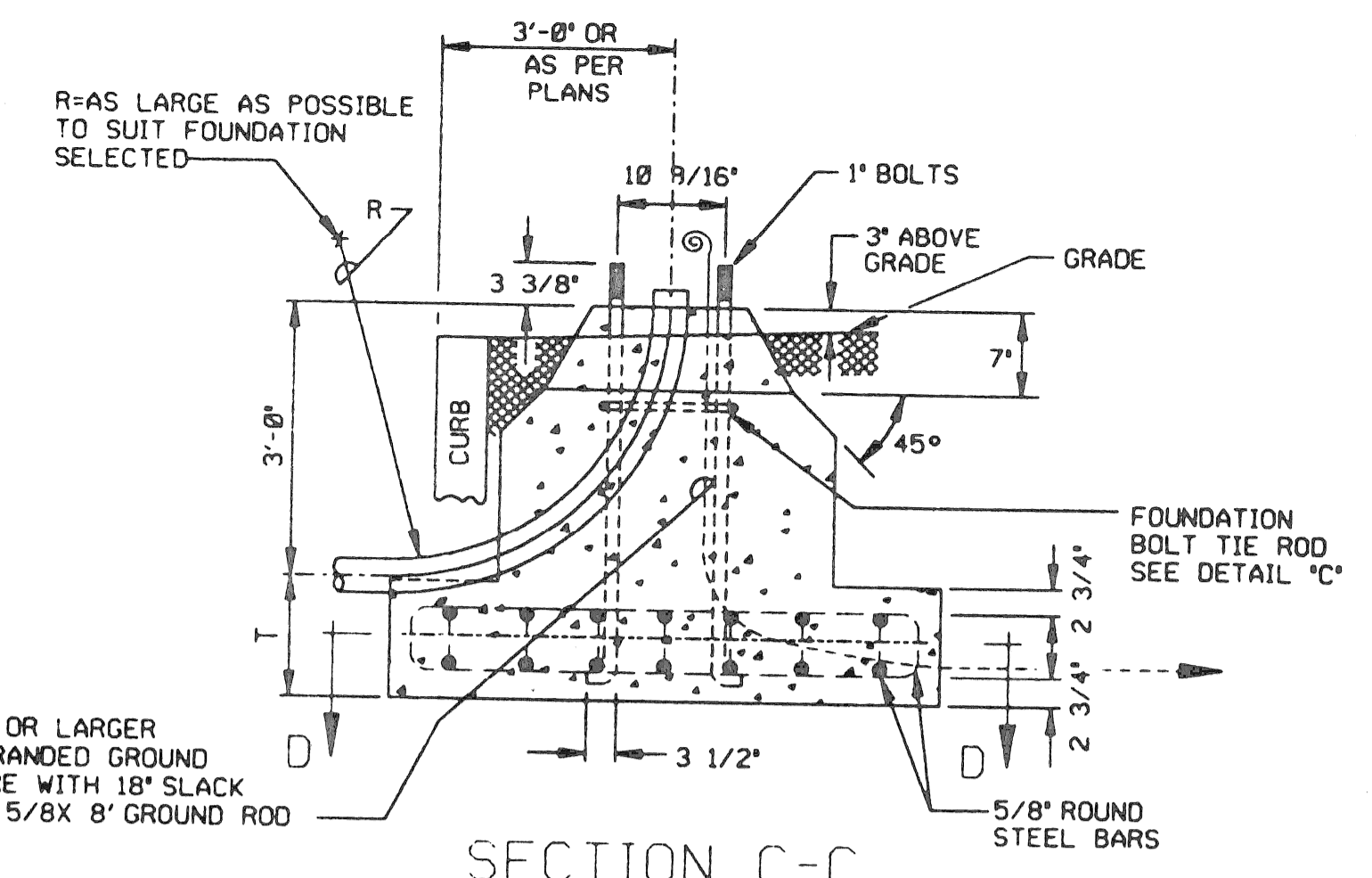


NOTES:
MATERIALS
1. TOP, BOTTOM & SIDES TO BE GALVANIZED STEEL AS PER MANUFACTURER.
2. DOOR FASTENING SCREW TO BE ASTM SERIES 300 STAINLESS STEEL MIN. 1/4"-20 NC. HEX HEAD CAP SCREW ONLY.
3. THE DOOR FASTENING METHOD SHALL USE ONLY ONE HEX. HEAD CAP SCREW, SERIES 300 STAINLESS STEEL. MULTIPLE SCREWS WILL NO LONGER BE ALLOWED TO INSURE PROPER FIELD INSTALLATION AND OPERATION.

P.L.D. UNIVERSAL STEEL TRANSFORMER BASE
N.T.S.



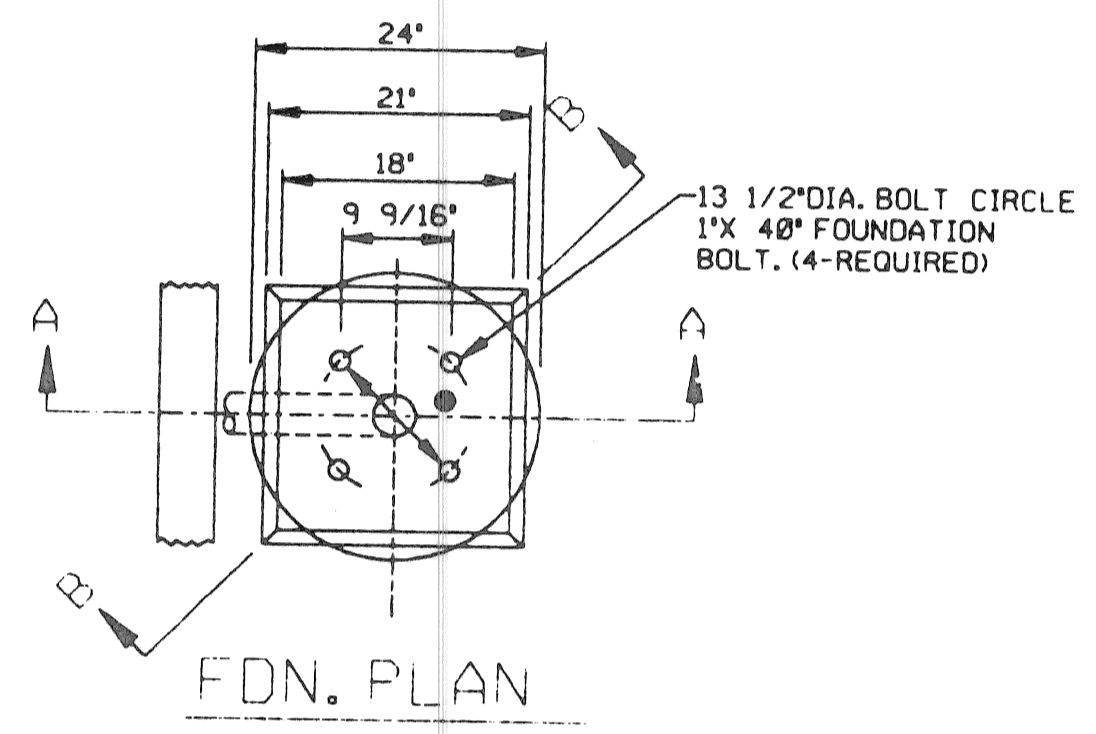
SPECIAL FDN. PLAN
N.T.S.



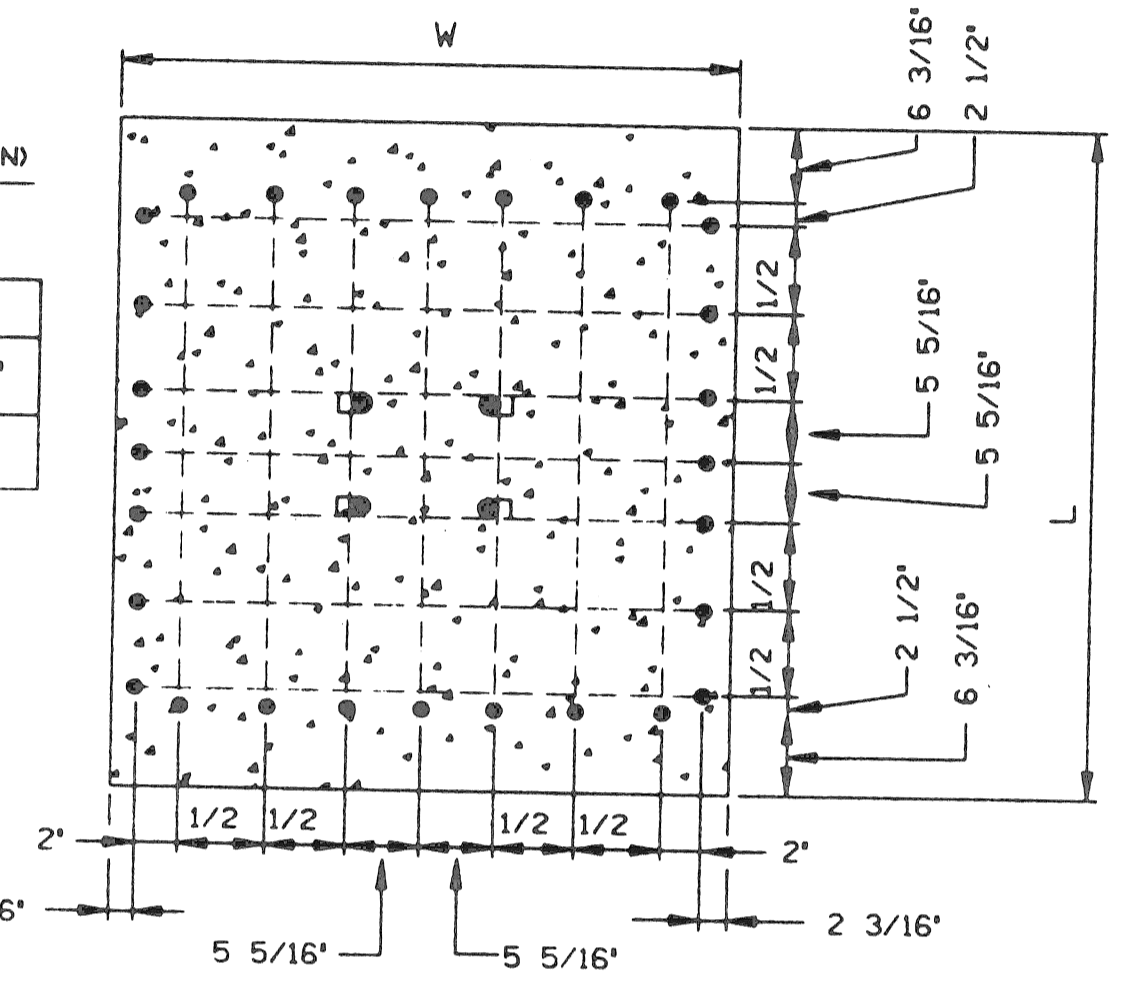
SECTION C-C
N.T.S.

THERE SHALL BE NO EXTRA PAYMENT FOR SPECIAL FDN. (TO BE PAID FOR AS A NORMAL ST. LTG. STD. FDN. INSTALLATION)

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

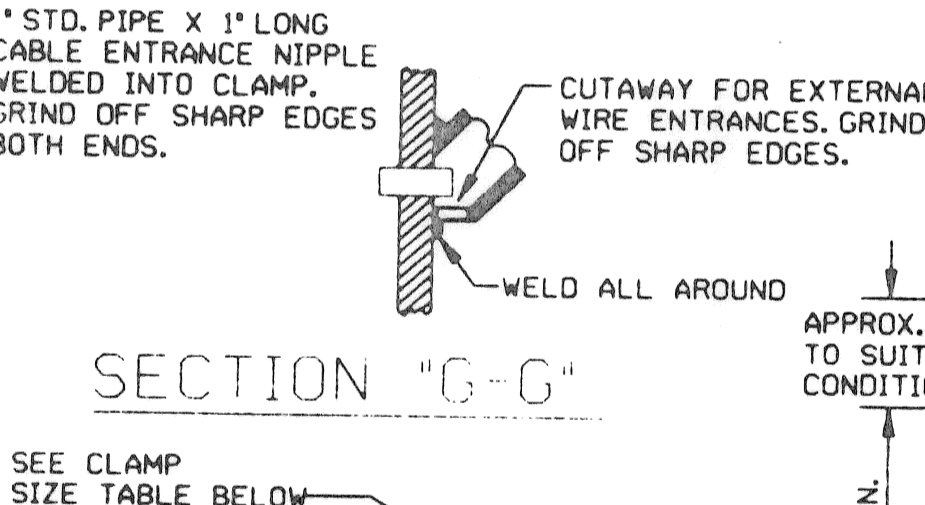
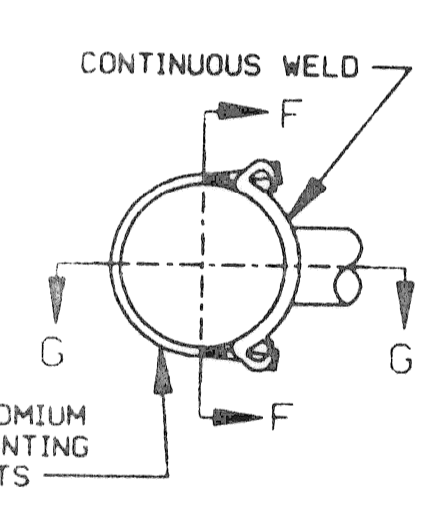


FDN. PLAN



SECTION D-D
N.T.S.

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



SECTION G-G

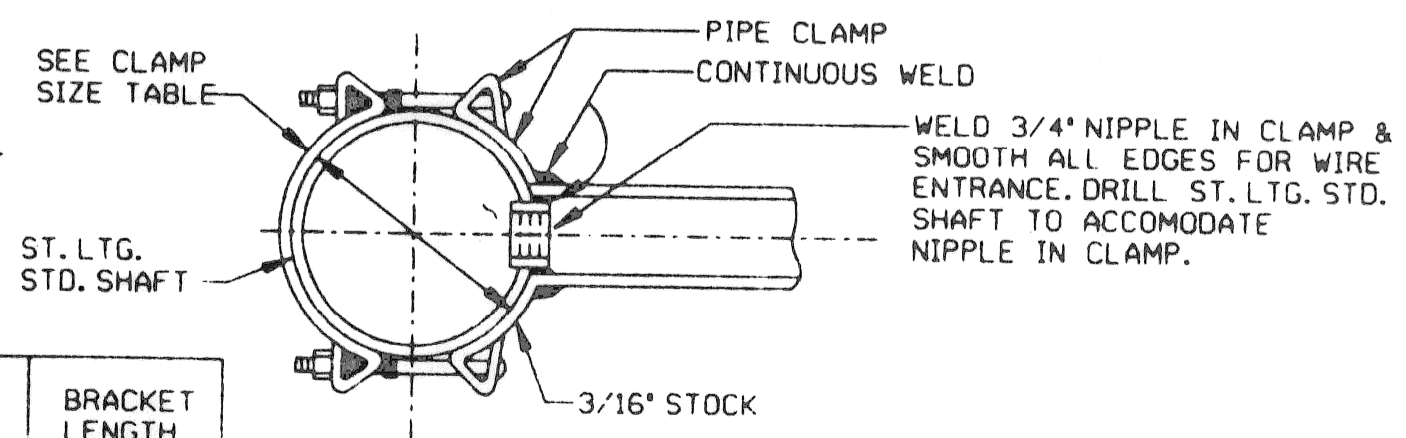
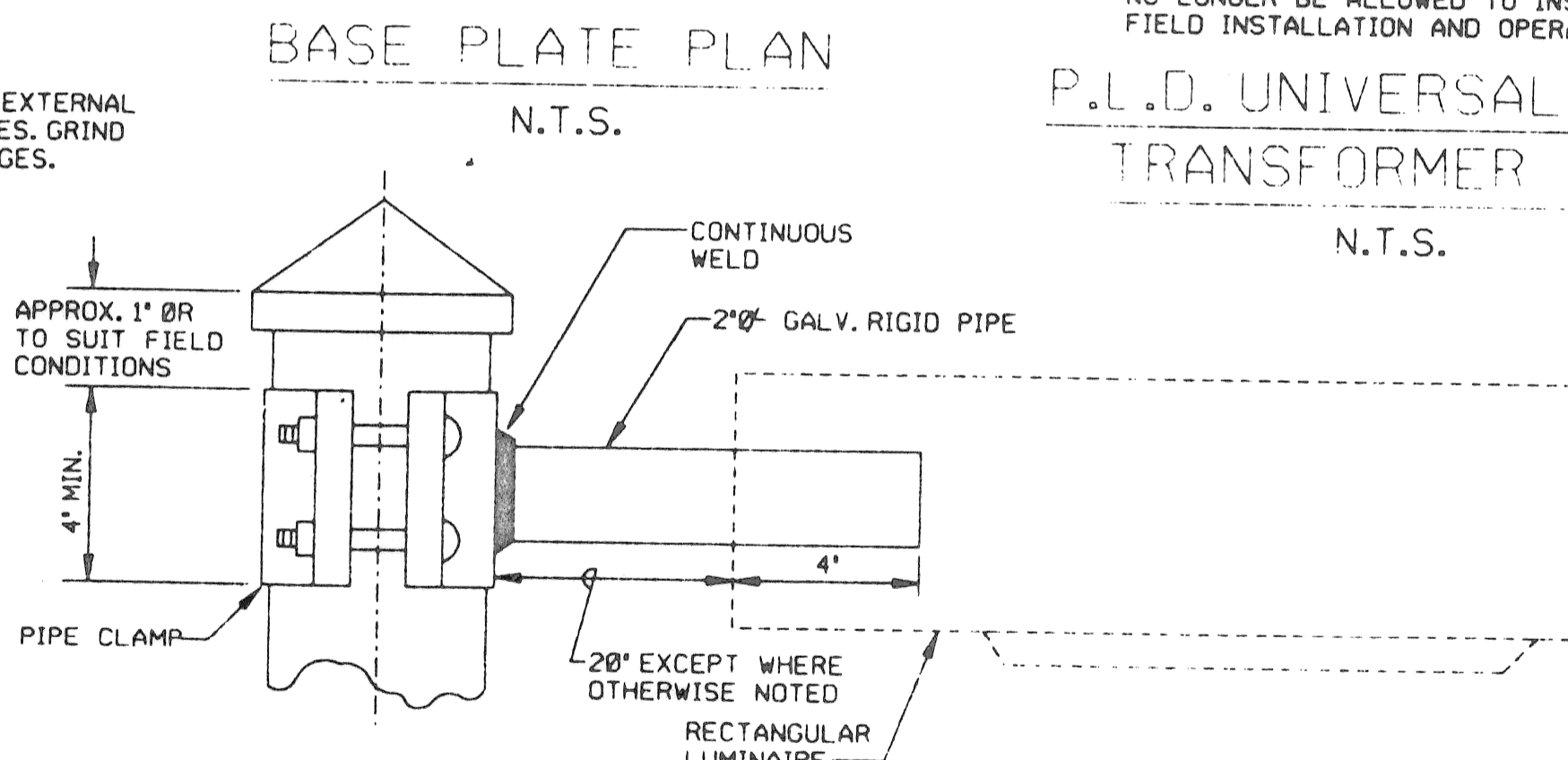
SECTION F-F

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

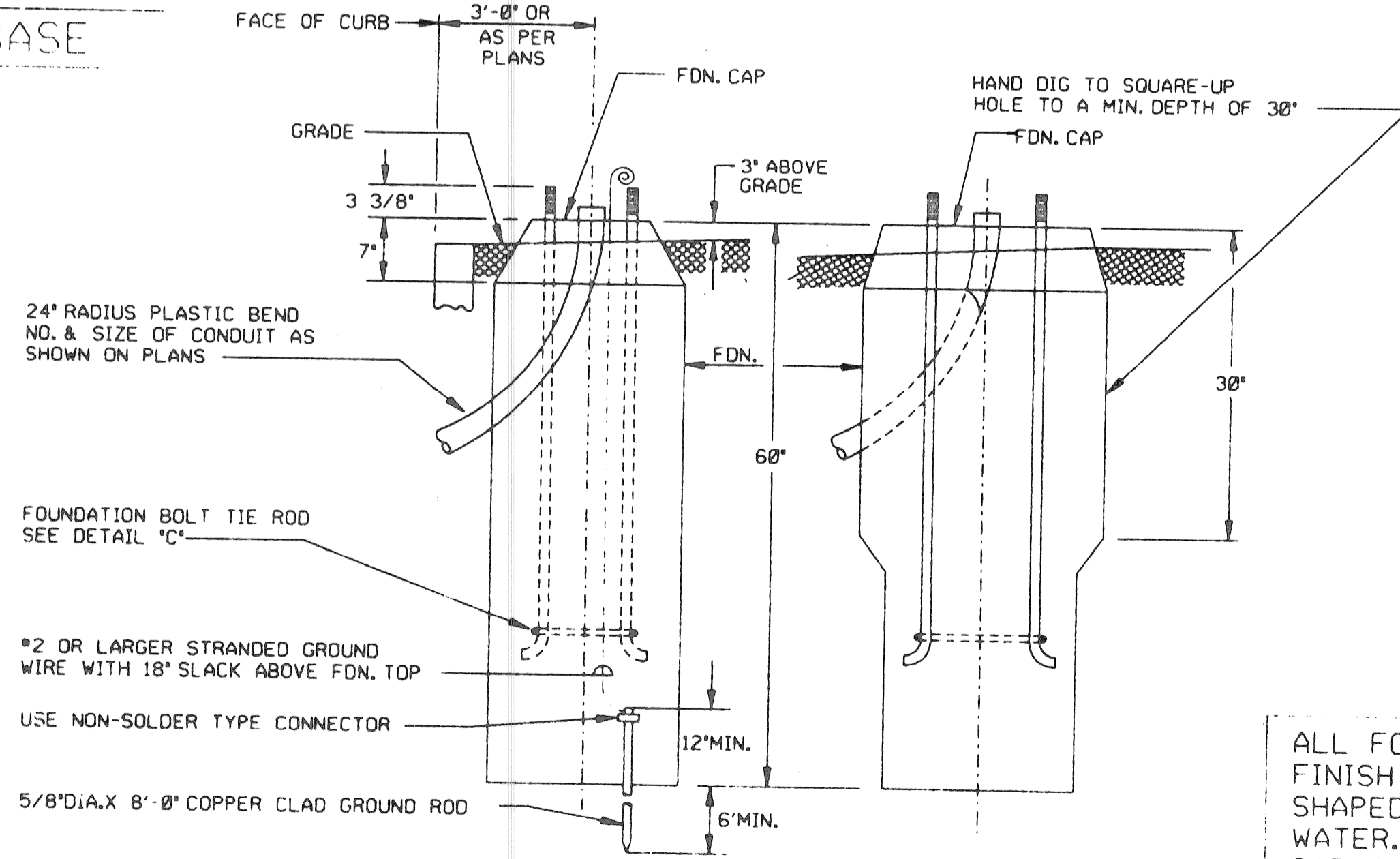
CLAMP SIZE TABLE

PIPE CLAMP DETAILS
N.T.S.

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



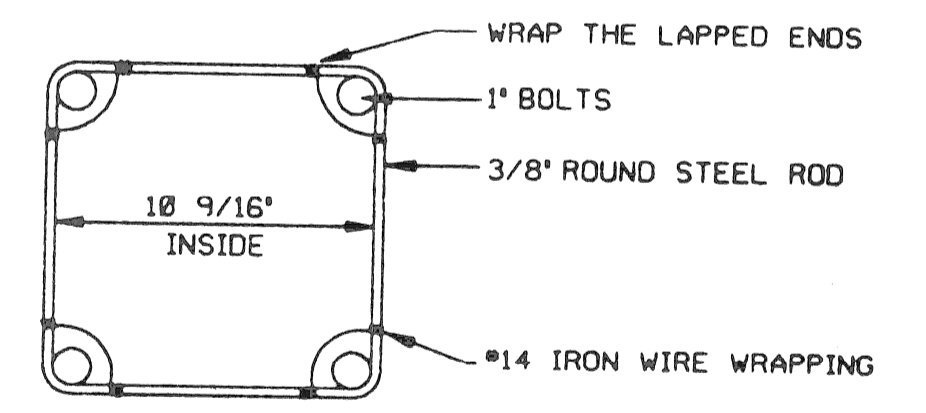
CLAMP ON BRACKET & RECTANGULAR LUMINAIRE
N.T.S.



SECTION A-A
N.T.S.

SECTION B-B
N.T.S.

ANCHOR BASE STD. FOUNDATION



DETAIL "C"

FDN. 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.

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

Drawn by LEA
Checked by
Approved by
Date
15580 Wyoming
Detroit, Mich. 48221
File No.
of CEA

PLAN PREPARED BY
CONSULTING ENGINEERING ASSOCIATES INC
ENGINEERING CONSULTANTS
Checked by
Approved by
PUBLIC LIGHTING DEPARTMENT
File No.
Sheet No.
Date