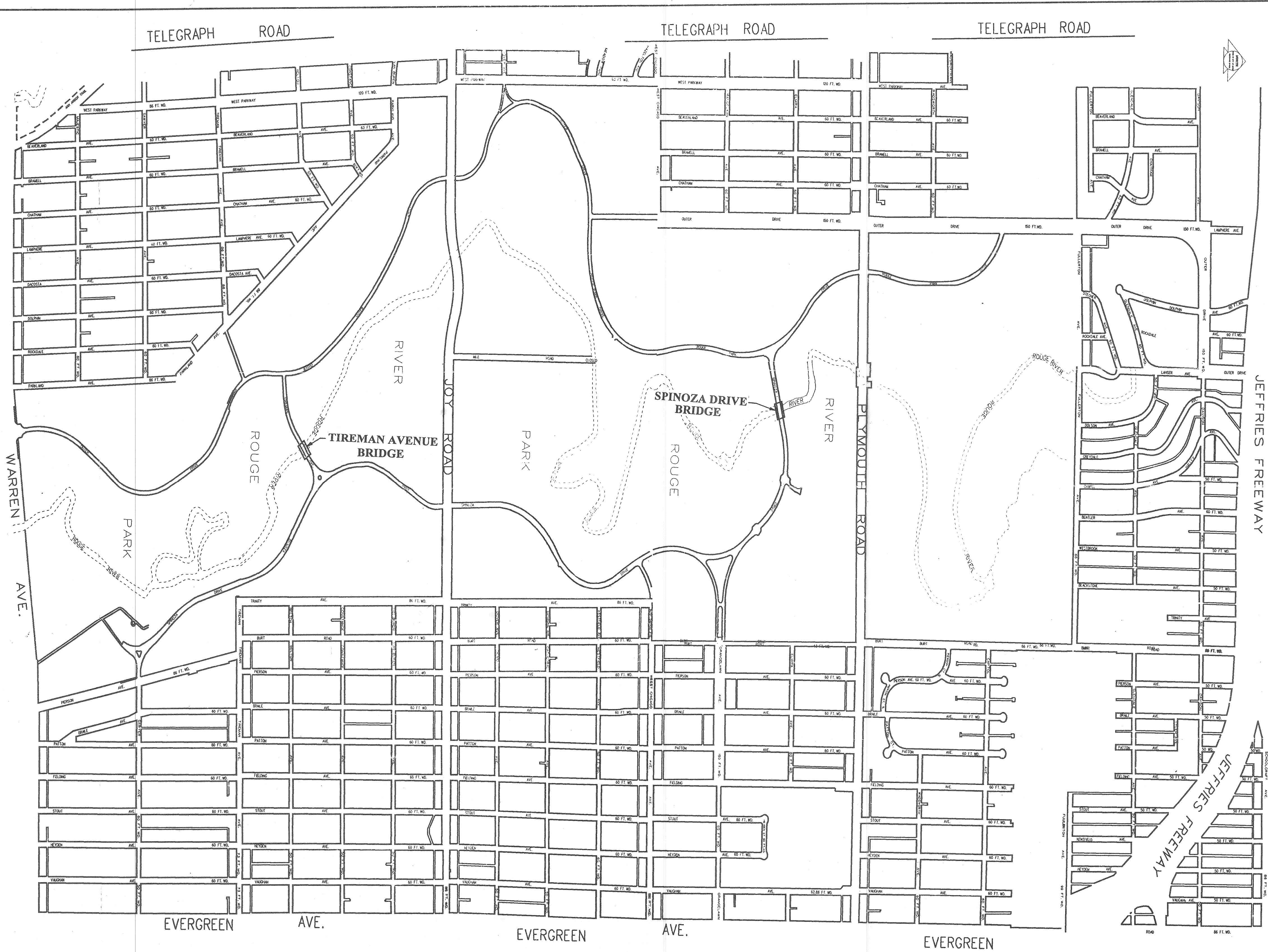


CITY OF DETROIT
 CITY ENGINEERING DIVISION
 DEPARTMENT OF PUBLIC WORKS
 IN CO-OPERATION WITH
 MICHIGAN DEPARTMENT OF TRANSPORTATION
 AND
 FEDERAL HIGHWAY ADMINISTRATION

NAME OF BRIDGE	(I) SPINOZA DRIVE BRIDGE Over Rouge River	(II) TIREMAN AVENUE BRIDGE Over Rouge River
FEDERAL AID URBAN PROJECT NO.	DSTP 9582 (019)	DSTP 9582 (020)
CONTROL SECTION NO.	DSTU 82400 FED ITEM HH 0390	DSTU 82400 FED Item HH 391
JOB NO.	36916A - B01 82-18-85	36917A - B01 82-18-84
CITY OF DETROIT BRIDGE NO.	BW - 270	BW - 265
FEDERAL STRUCTURE NO.	021800 B01	0153100 B01



INDEX OF SHEETS

SHEET	ITEM
S-1	COVER SHEET & LOCATION PLAN
S-2 TO S-19	SPINOZA DRIVE BRIDGE DRAWINGS
S-20 TO S-36	TIREMAN AVENUE BRIDGE DRAWINGS
S-37 TO S-41	CITY OF DETROIT STANDARD PLANS

SHEET S-1 OF 41 SHEETS

CONTRACT FOR SUPERSTRUCTURE RECONSTRUCTION, APPROACH WORK AND MISCELLANEOUS CONSTRUCTION

LOCAL AUTHORITY APPROVAL
 CITY OF DETROIT
 CITY ENGINEERING DIVISION
 DEPARTMENT OF PUBLIC WORKS

APPROVED BY William P. Talley 6/10/97
HEAD ENGINEER DATE

APPROVED BY Spingarn 6/10/97
CITY ENGINEER DATE

PREPARED UNDER SUPERVISION OF
Earl C. Howard 28929
REGISTERED PROFESSIONAL ENGINEER REGISTRATION NO.

CITY OF DETROIT
ORGANIZATION

DETROIT, MICHIGAN
ADDRESS

(SEAL)

FEDERAL AID URBAN PROJECT NO. DSTP 9582(019) BRIDGE NO. B01 82-18-85 SECTIONS 0001 & 0002 JOB NO. 36916A
 FEDERAL AID URBAN PROJECT NO. DSTP 9582(020) BRIDGE NO. B01 82-18-84 SECTIONS 0001 & 0002 JOB NO. 36917A

TRAFFIC DATA

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

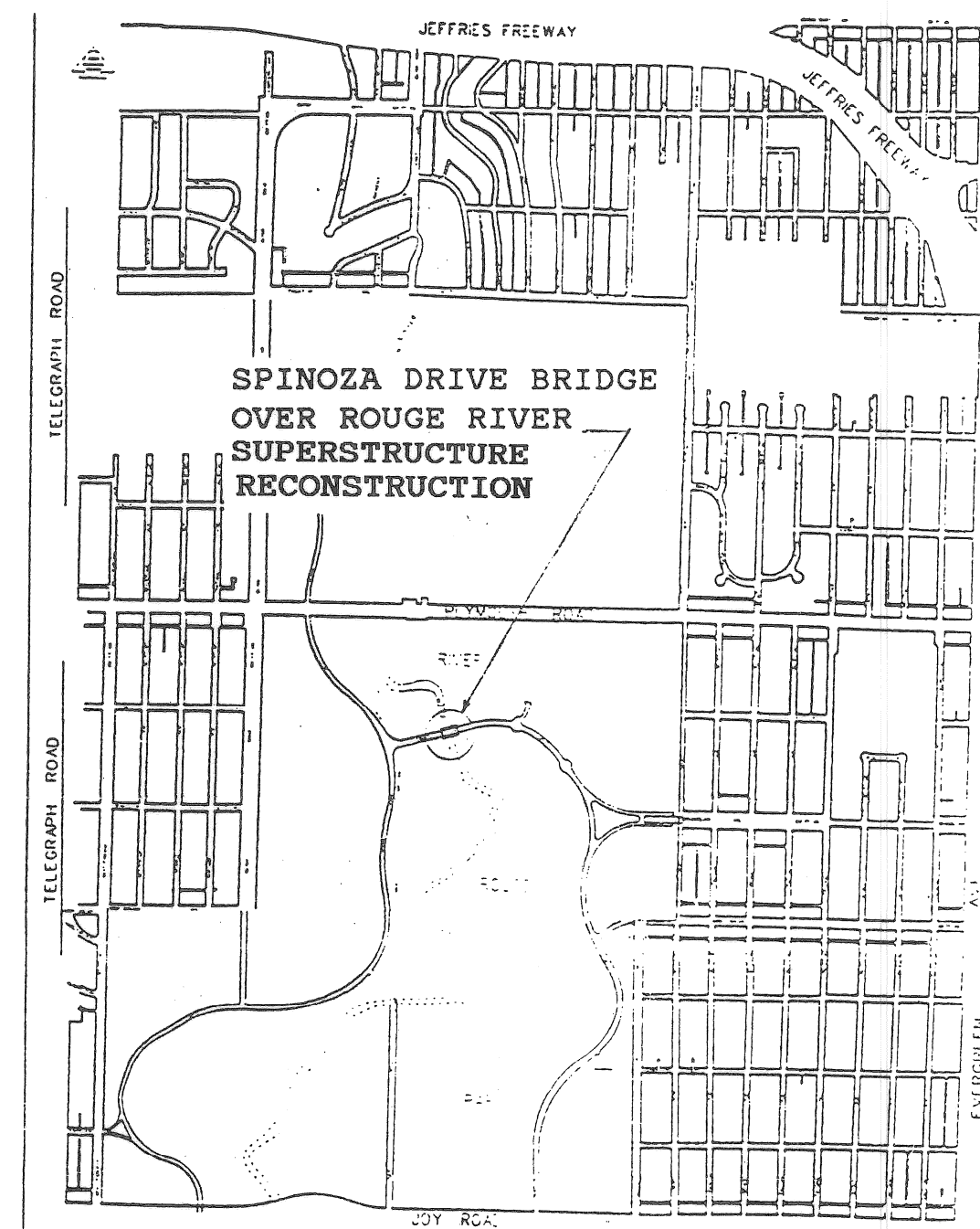
**CITY OF DETROIT
CITY ENGINEERING DIVISION**

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 9582(019)
CONTROL SECTION 82400 JOB NO. 36916A - B01 82 - 18 - 85**

INDEX OF SHEETS

- S-2 BRIDGE TITLE SHEET
- S-3 SITE PLAN
- S-4 GENERAL PLAN OF STRUCTURE
- S-5 REMOVAL PLAN
- S-6 REPAIRING STRUCTURAL CRACKS, PATCHING ABUTMENTS AND PIER
- S-7 PLAN OF DECK AND CROSS SECTION
- S-8 SUPERSTRUCTURE DETAILS
- S-9 SUPERSTRUCTURE DETAILS
- S-10 EXPANSION JOINT DETAILS
- S-11 STEEL REINFORCEMENT DETAILS
- S-12 EXISTING DECK AND SIDEWALK ELEVATIONS
- S-13 PROPOSED DECK AND SIDEWALK ELEVATIONS
- S-14 APPROACH REMOVAL PLAN, PROPOSED SECTIONS AND DETAILS
- S-15 APPROACH PAVING PLAN AND DETAILED GRADES
- S-16 DRAINAGE STRUCTURE DETAILS
- S-17 TRAFFIC CONTROL AND DETOUR PLAN
- S-18 DETAILS OF CONDUIT RECONSTRUCTION
- S-19 QUANTITY SHEET



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

CITY OF DETROIT STANDARD PLANS LISTED ON SHEET S - 20

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 RAILING SOLID PARAPET TYPE
- XI-103D MOLDING, BEVEL, LIGHT STANDARD ANCHOR BOLT ASSEMBLY AND NAME PLATE DETAILS

* Special Detail in Proposal.

CITY OF DETROIT

BRIDGE NO. BW 270

FEDERAL STRUCTURE

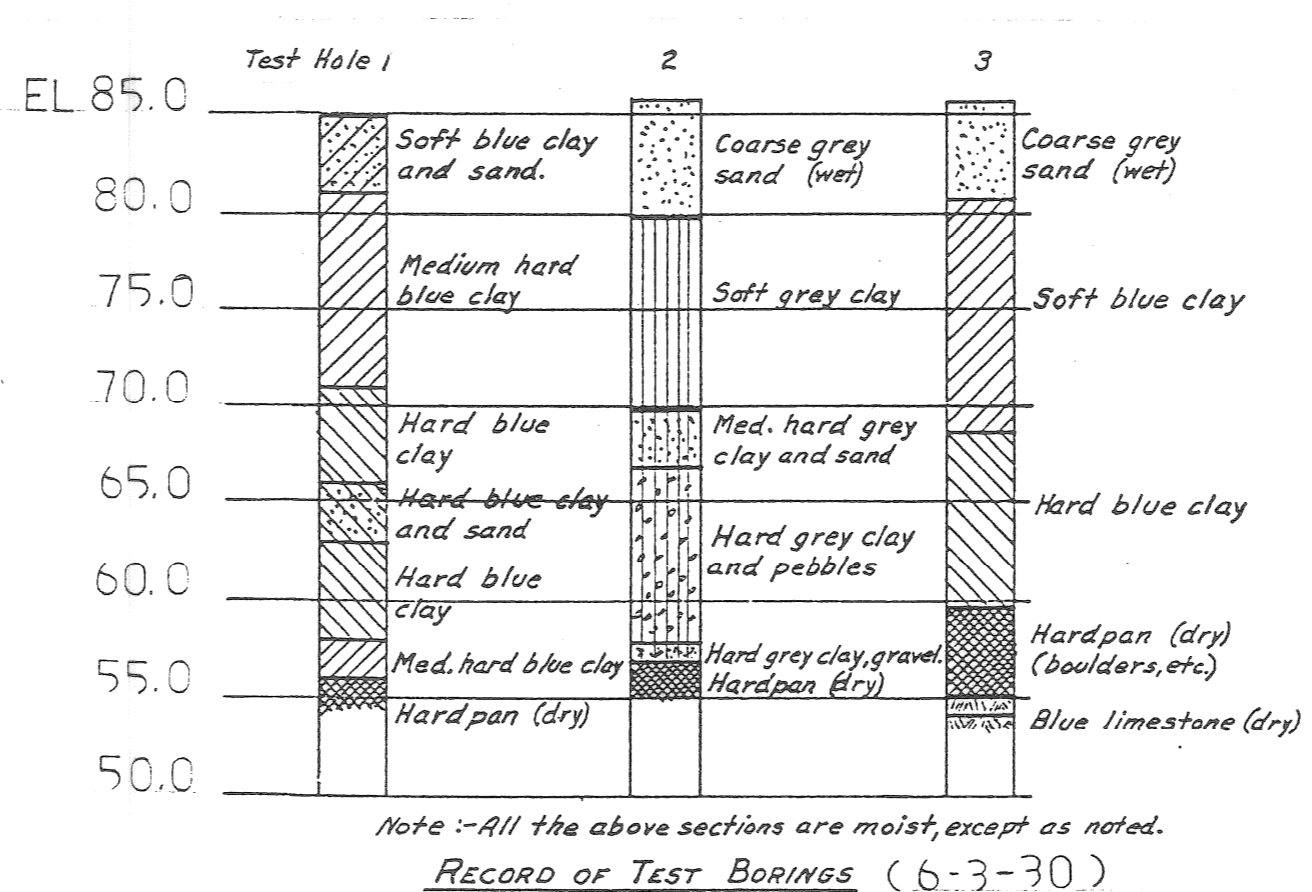
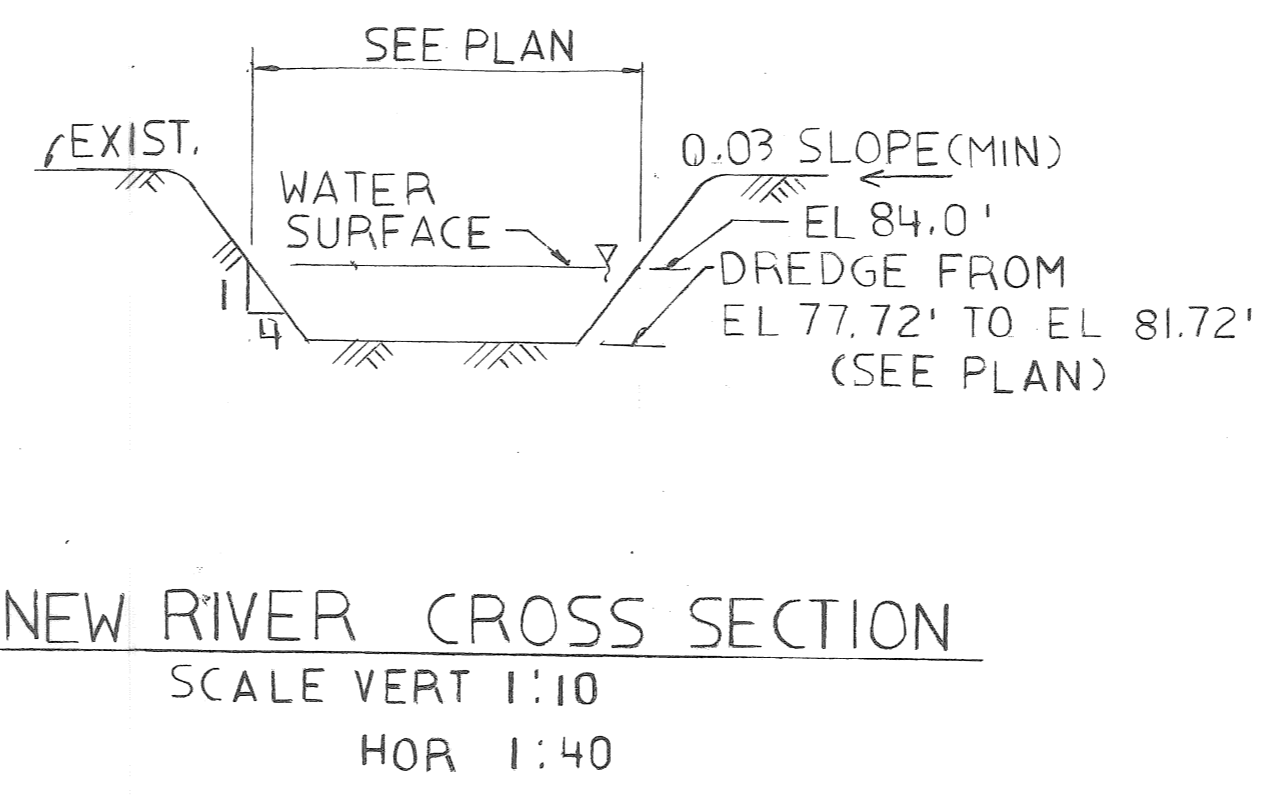
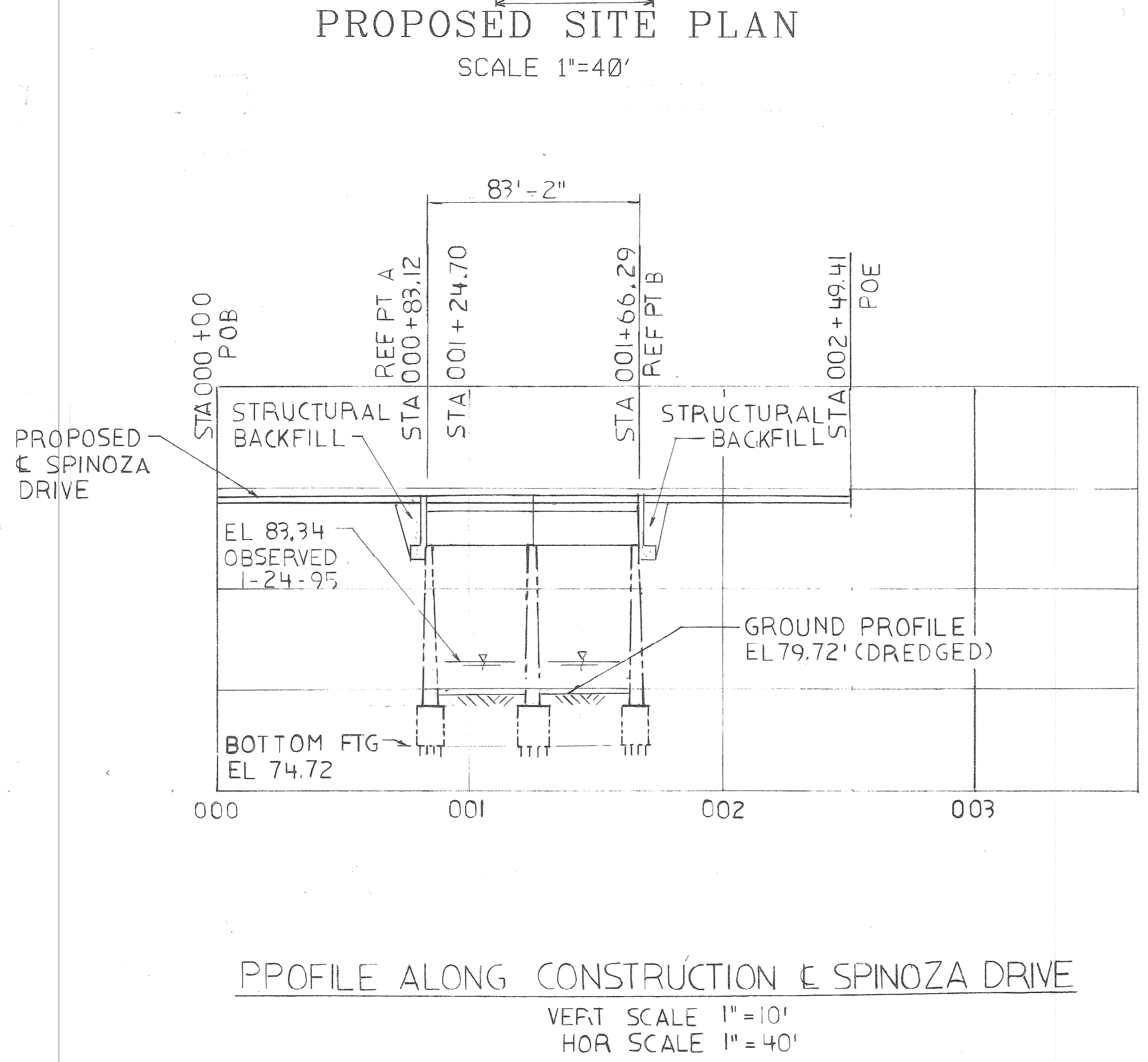
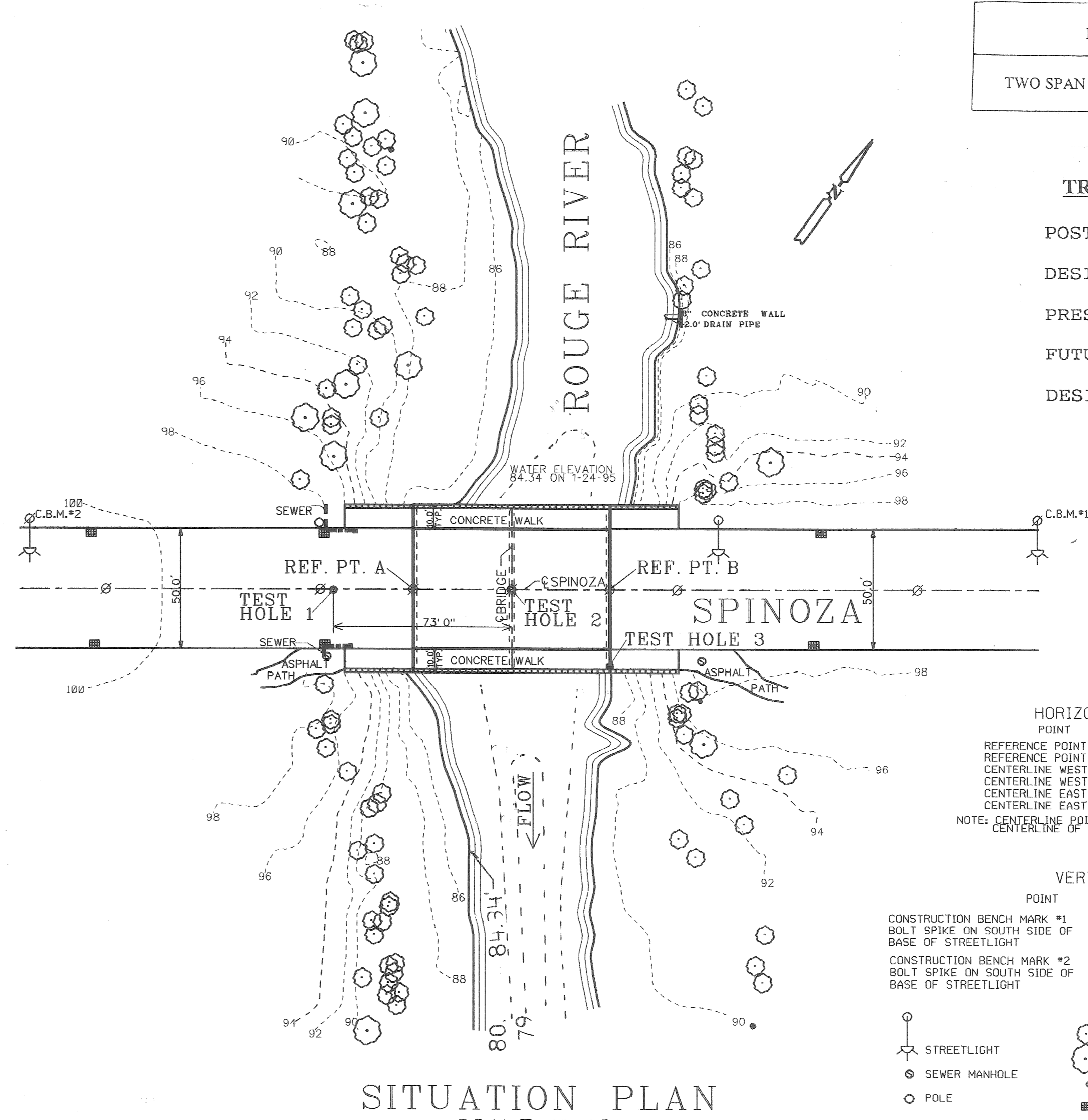
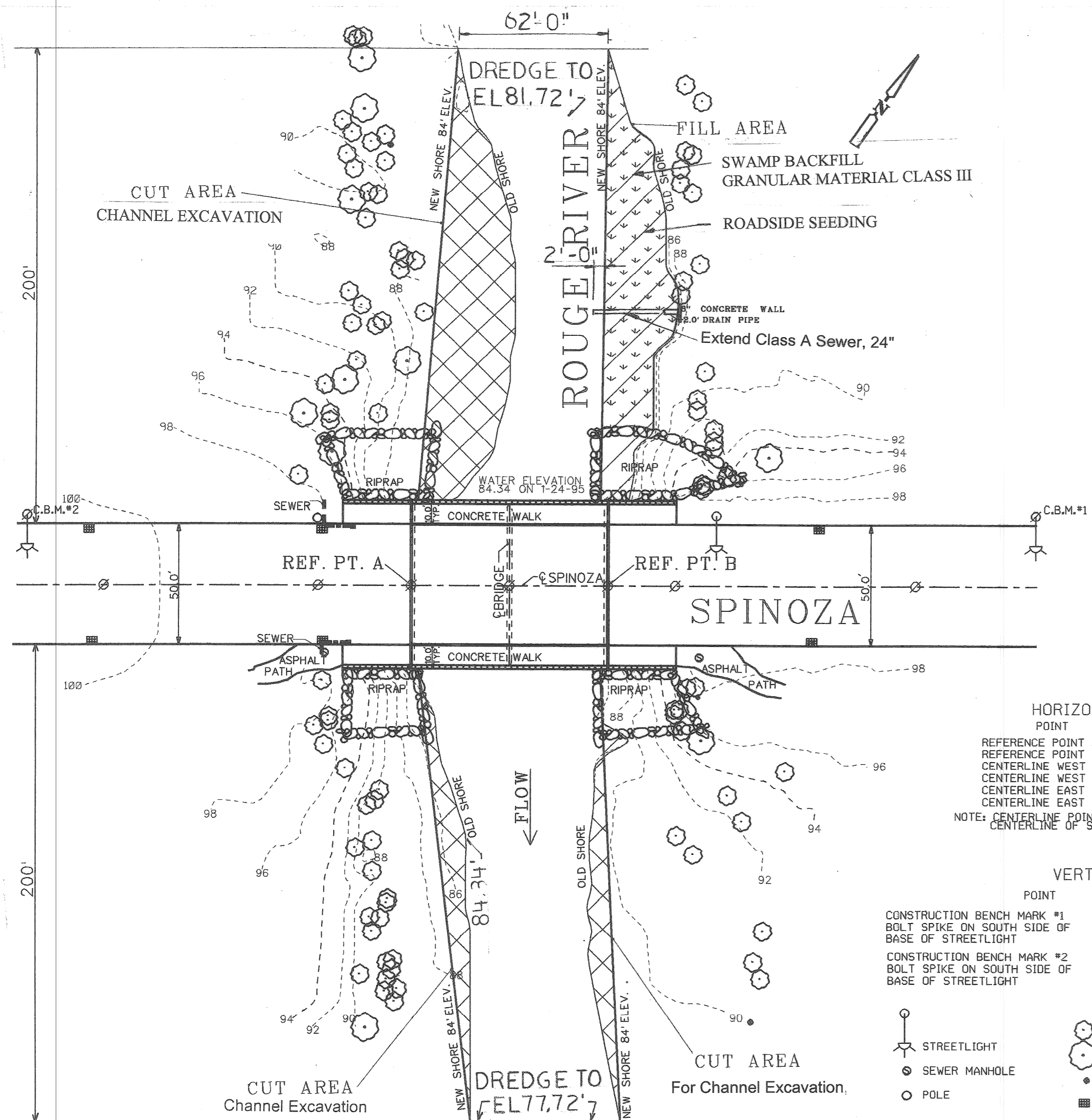
NO. 0121800 B01

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: $f_s = 60,000$ PSI
STEEL REINFORCEMENT (PRESTRESSED BEAM STIRRUPS):
 $f_s = 40,000$ PSI
STRUCTURAL STEEL A36: $F_y = 36,000$ PSI
PRESTRESSING STRANDS: $f_{ps} = 270,000$ 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 313-221-6100
DETROIT WATER & SEWERAGE DEPARTMENT 313-267-7401
CITY OF DETROIT PUBLIC LIGHTING DEPARTMENT 313-267-7340
COMCAST CABLE COMPANY 313-934-2600

FEDERAL AID URBAN PROJECT DSTP 9582(019) BRIDGE NO. B01 82 - 18 - 85 SECTIONS 0001 & 0002 JOB NO. 36916A



PAY QUANTITIES

ITEMS	QUANTITY	PAY UNIT
TOPSOIL SURFACE, 3"	968	SYD
FIELD OFFICE	6	MOS
MISC MOBILIZATION, MAX. \$66,000.00	0.5	LSUM
ROADSIDE SEEDING	20	LBS
CHEMICAL FERTILIZER NUTRIENT	48	LBS
MULCH	0.4	TON
ANCHORING MULCH	0.2	ACRE
MULCH BLANKETS	968	SYD
SWAMP BACKFILL	310	CYD
CHANNEL EXCAVATION	620	CYD
CLASS A SEWER 24"	30	LFT
TRENCH DETAIL A		

NOTES:

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.

Immediately after the repair of an abutment is complete, seeding and slope protection shall be placed on the adjacent embankment slopes.

Channel Excavation and Swamp Backfill Bid Items includes removal and disposal of all materials, of whatever nature encountered such as masonry, concrete, rock, tree and debris.

JOB NO. : 36916A

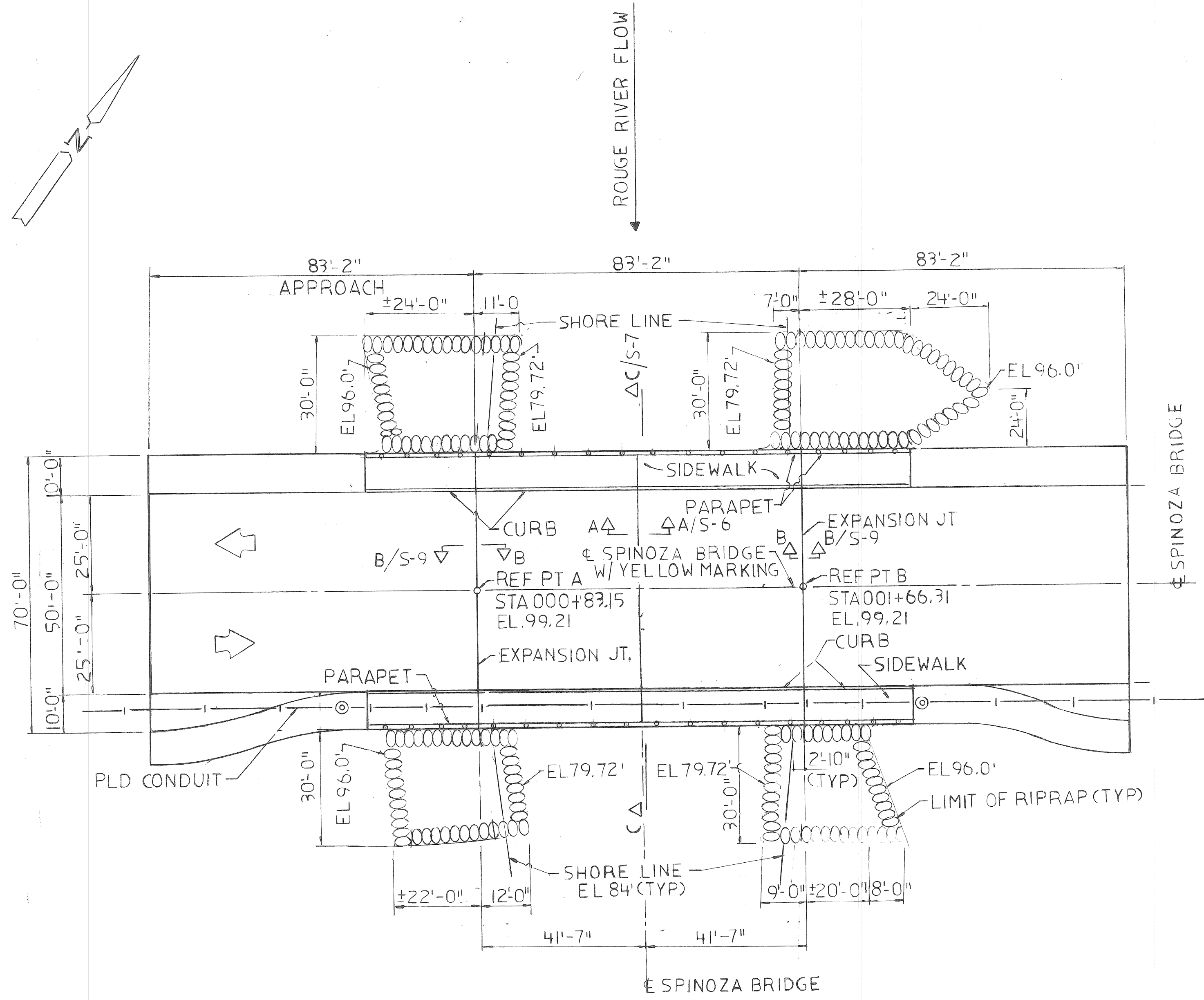
designed by RP/RF
 drawn by JN
 checked by EH
 approved [Signature]

CITY OF DETROIT
 CITY ENGINEERING DIVISION
 DEPARTMENT OF PUBLIC WORKS

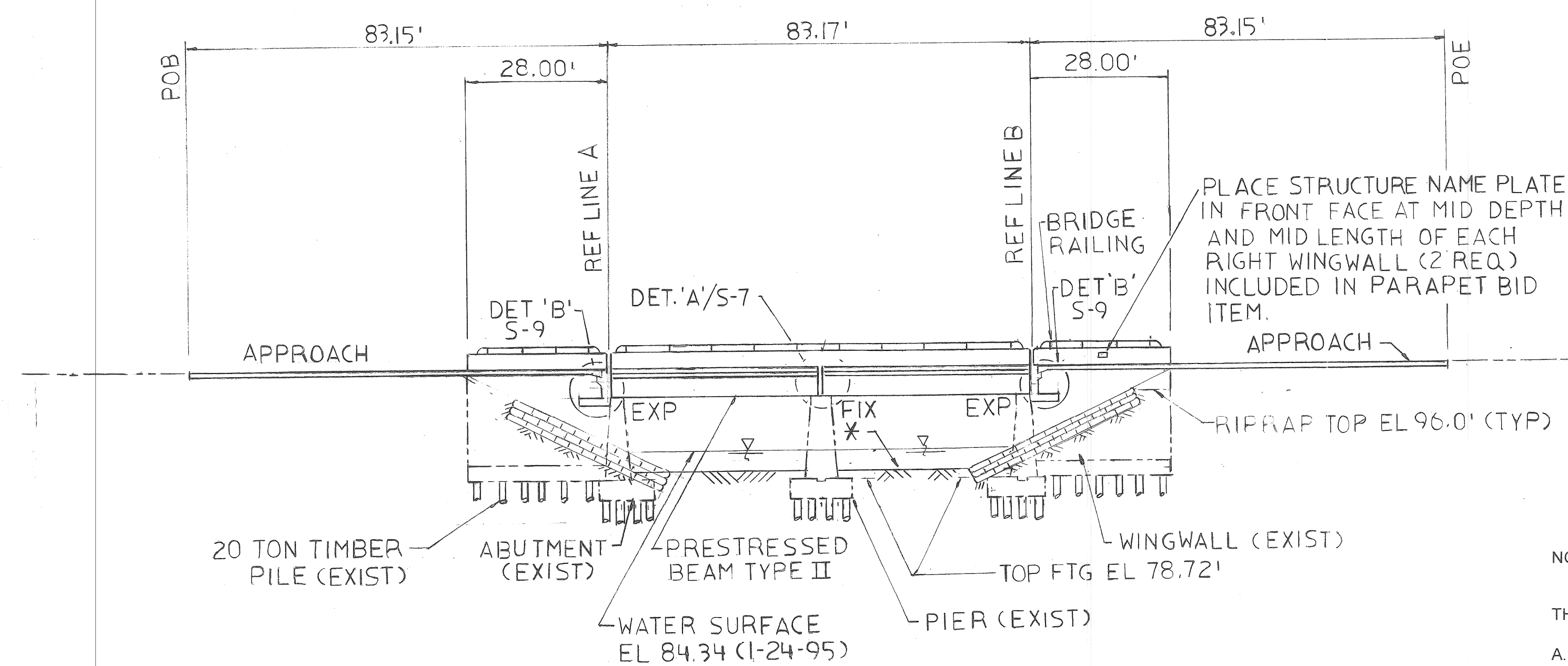
SPINOZA DRIVE BRIDGE OVER ROUGE RIVER (BW-270) SUPERSTRUCTURE RECONSTRUCTION

SITE PLAN

a.o. 93-22-16
 contract no.
 sheet S-3 of S-41
 drawing no.
 date MAR. ,1997



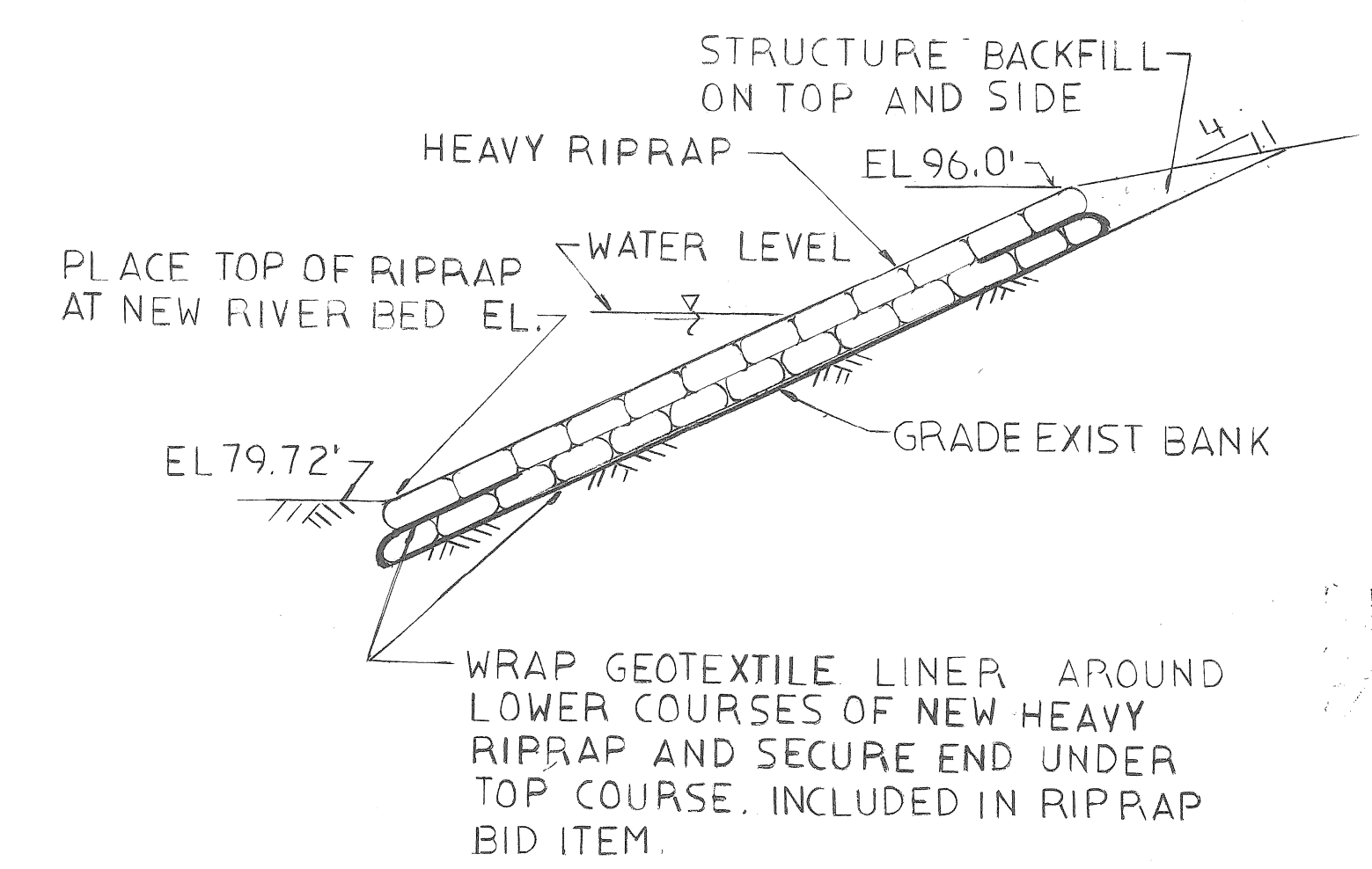
PLAN
1" = 20'-0"



ELEVATION
1" = 20'-0"
PARALLEL TO SPINOZA DRIVE

PAY QUANTITIES		
ITEMS	QUANTITY	PAY UNIT
RIPRAP, HEAVY	539	SYD
BRIDGE RAILING SOLID PARAPET TYPE	168	LFT
STRUCTURE BACKFILL (CIP)	138	CYD

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.)	3292	85.56	4.5	732	0.10	85.46
*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	85.56	4.5	732	0.10	85.46
*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	84.50	4.4	680	0.10	84.40
Witnessed Flood of Record 1988	---	85.66	---	---	---	---



RIPRAP DETAILS
1/8" = 1'-0"

NOTES:

- GEOTEXTILE LINER SHALL BE PLACED ON ALL SLOPES PRIOR TO PLACING RIPRAP.
- THE RIPRAP QUANTITY IS BASED ON THE LATERAL DIMENSIONS OF THE AREA TO BE PROTECTED, REGARDLESS OF NUMBER OF LAYERS REQUIRED.
- VERIFY ALL ELEVATIONS BEFORE CONSTRUCTION.
- 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.
- UNSATISFACTORY 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.
- THIS BRIDGE IS PART OF A PARK AND ALL AREA SHOWN IS WITHIN CITY OF DETROIT RIGHT-OF-WAY.
- PLACE RIPRAP FROM EL 79.72 FT. TO EL 96.0 FT.
- TEMPORARILY STORED EXCAVATED MATERIAL SHALL NOT BE ALLOWED TO ERODE INTO THE WATERCOURSE.
- FOR STRUCTURE NAME PLATE LOCATION, SEE THIS SHEET

NOTES:

- THE WORKS COVERED BY THESE PLANS INCLUDES THE FOLLOWING:
- REMOVAL AND RECONSTRUCTION OF BRIDGE SUPERSTRUCTURE AND APPROACHES.
 - REPAIR OF SUBSTRUCTURES.
 - DREDGING, BACKFILLING AND PLACEMENT OF RIPRAP IN THE RIVERBED.

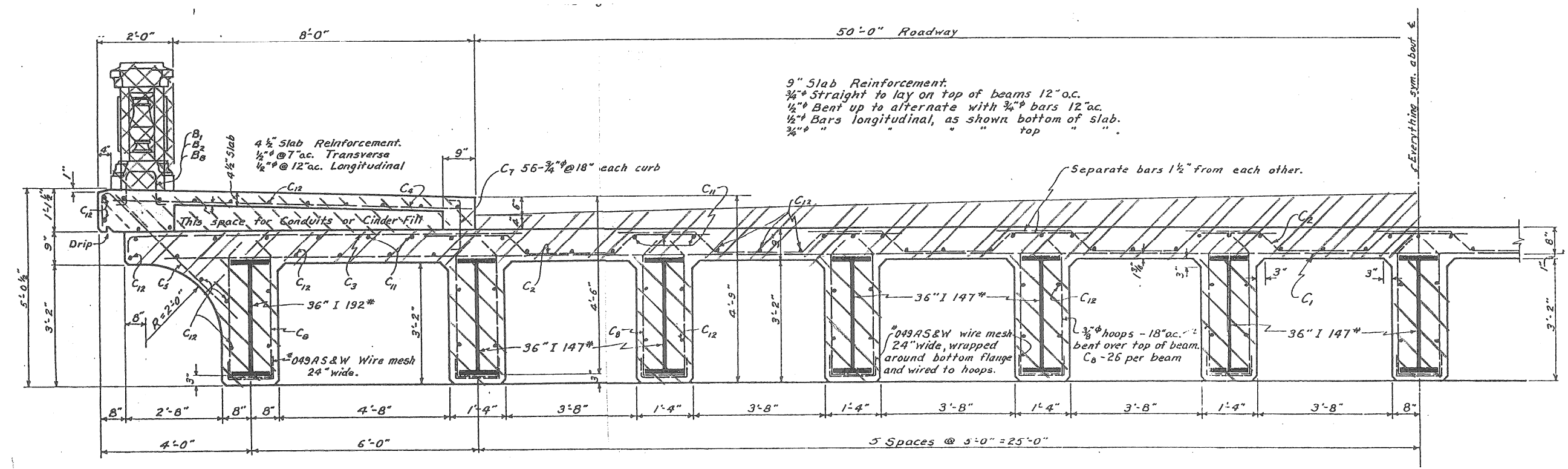
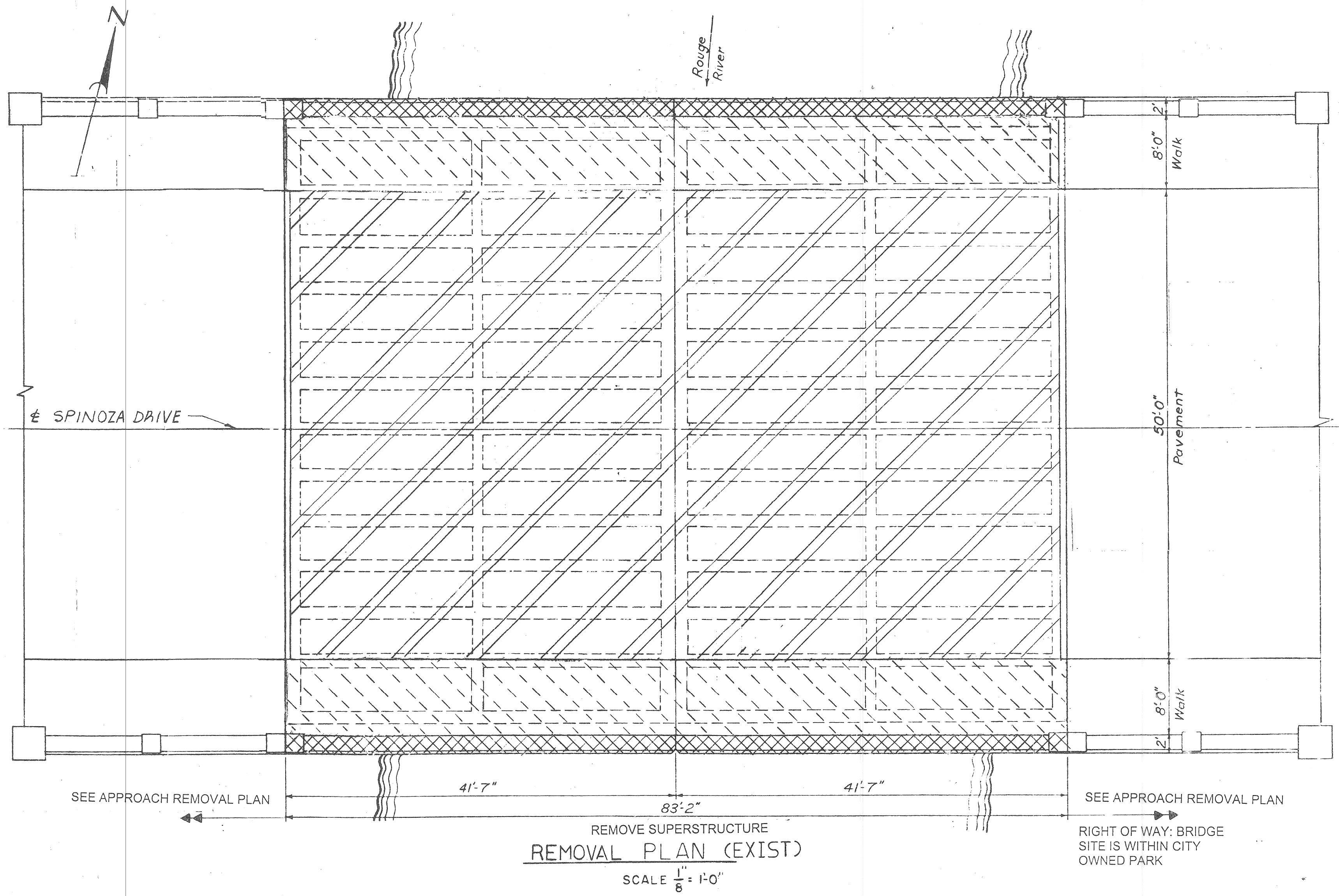
designed by RF
drawn by RF
checked by EH
approved: *[Signature]*

CITY OF DETROIT
CITY ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS

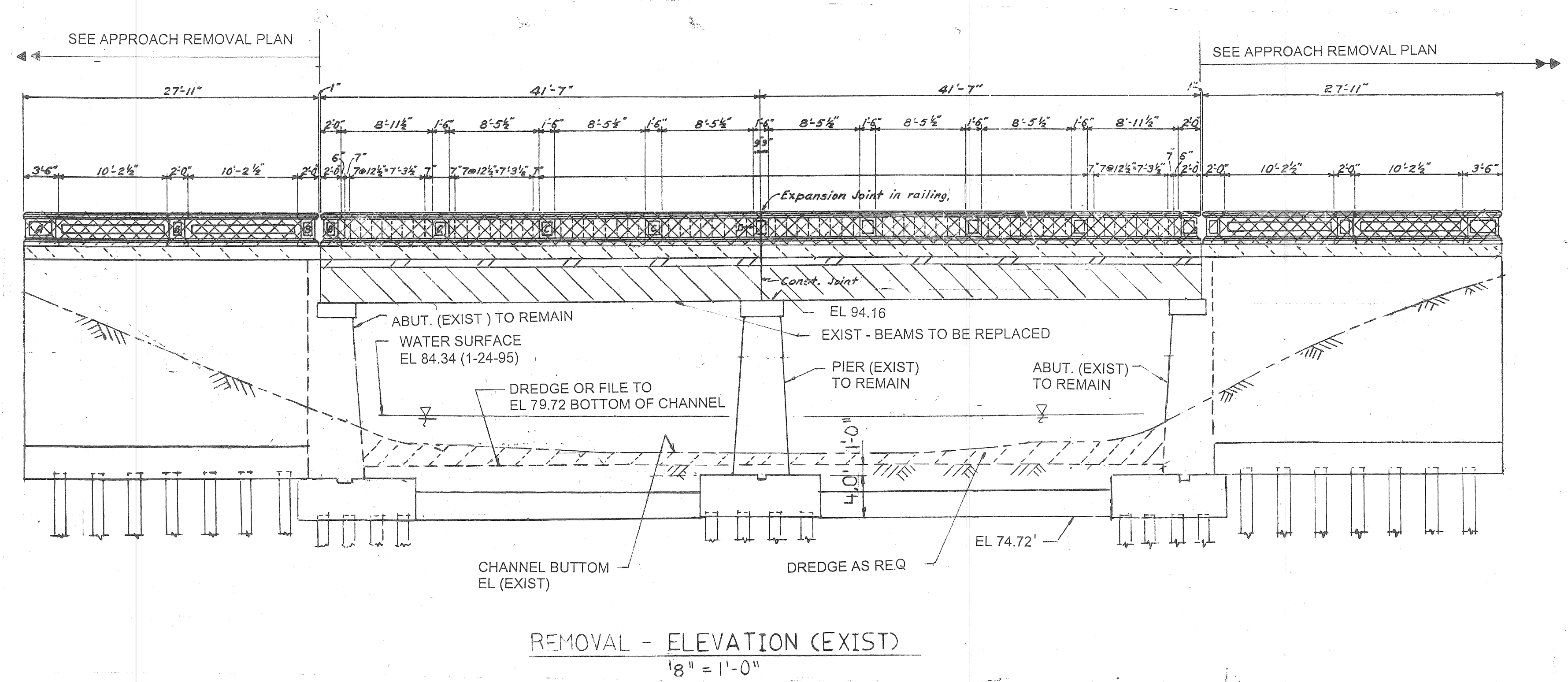
SPINOZA DRIVE BRIDGE OVER ROUGE RIVER (BW-270)
SUPERSTRUCTURE RECONSTRUCTION

a.o. 93-22-16
contract no.
sheet S-4 of S-41
drawing no.
date MAR. 19

JOB NO. : 36916A



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



PAY QUANTITIES		
ITEMS	QUANTITY	PAY UNIT
MISC. REMOVAL OF PORTIONS OF STRUCTURES, B01-82-18-85	1	LSUM

- NOTES:
- REMOVAL OF PARAPET, DECK, SIDEWALK ON DECK, BEAMS, BEARINGS, ANCHOR BOLTS; GROUT AND ANY OTHER ITEMS ON THE BRIDGE DECK WILL BE PAID FOR AS "MISC. REMOVAL OF PORTIONS OF STRUCTURES, B01-82-18-85" LSUM.
 - REMOVAL AND DISPOSAL OF THE MATERIALS SHALL BE IN ACCORDANCE WITH SECTION 2.06 OF 1990 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

NO.	DATE	BY	REVISIONS

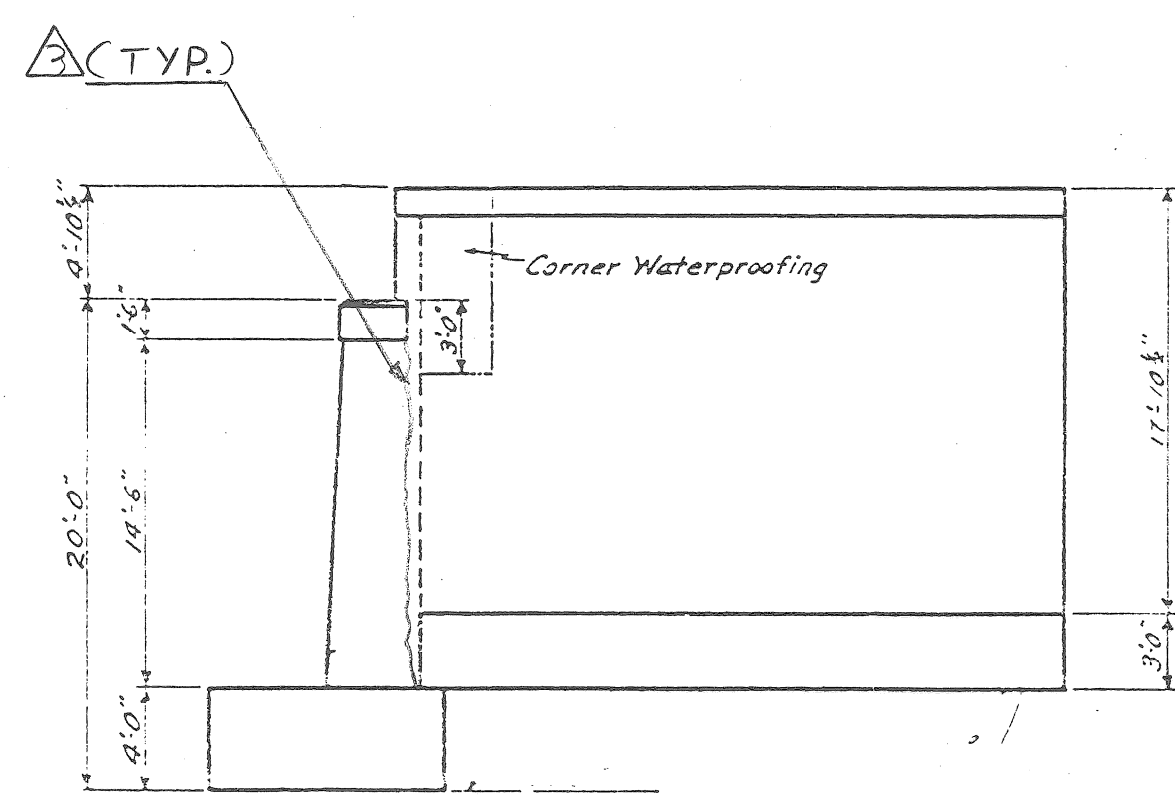
designed by RF
 drawn by RF
 checked by EH
 approved: *Earl Howell*

CITY OF DETROIT
 CITY ENGINEERING DIVISION
 DEPARTMENT OF PUBLIC WORKS

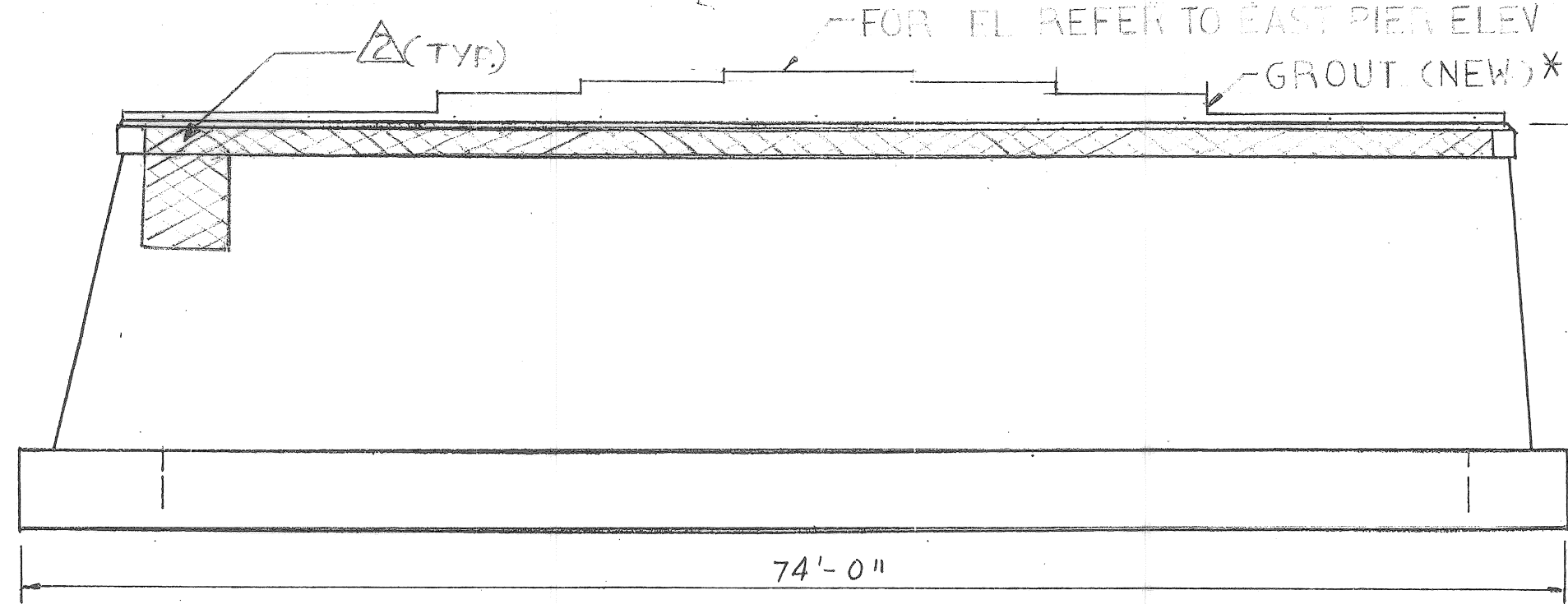
SPINOZA DRIVE BRIDGE OVER ROUGE RIVER (BW-270)
 SUPERSTRUCTURE RECONSTRUCTION
 REMOVAL PLAN

a.o. 93-22-16
 contract no.
 sheet S-5
 of S-41
 drawing no.
 date MAR. ,1997

JOB NO. : 36916A

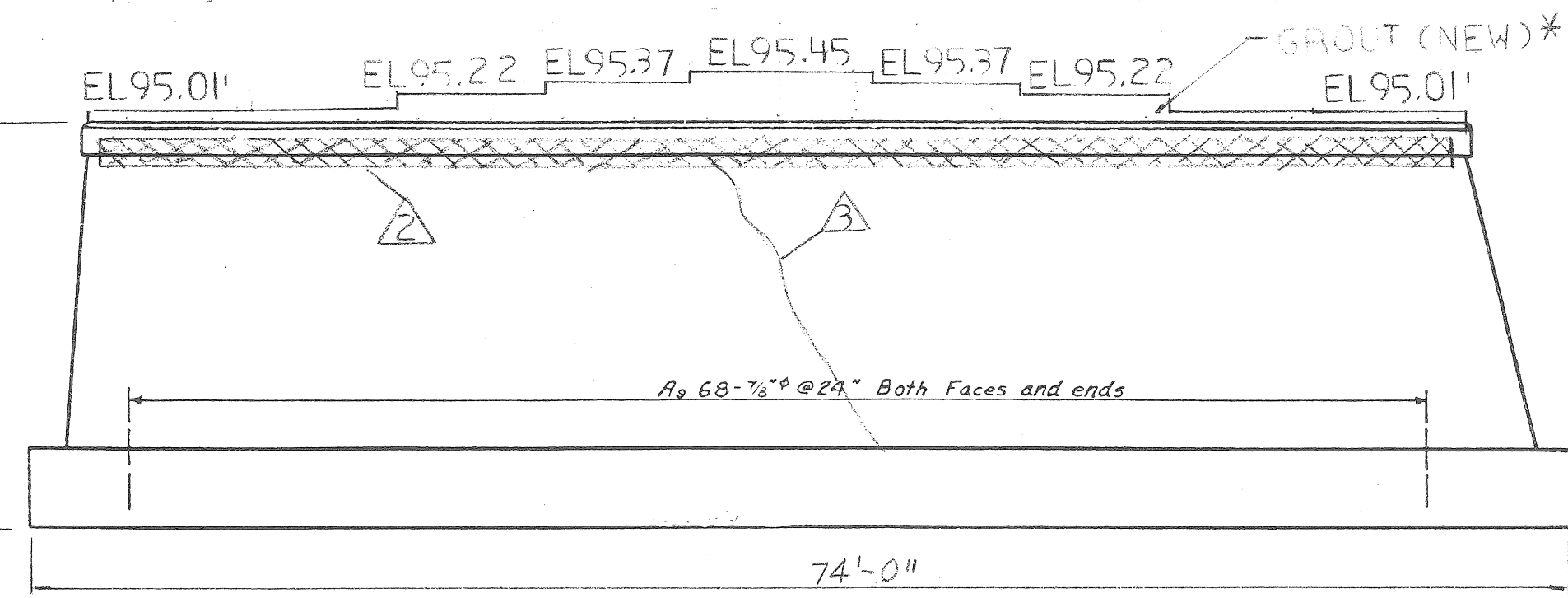


NORTHWEST WINGWALL (EXIST)

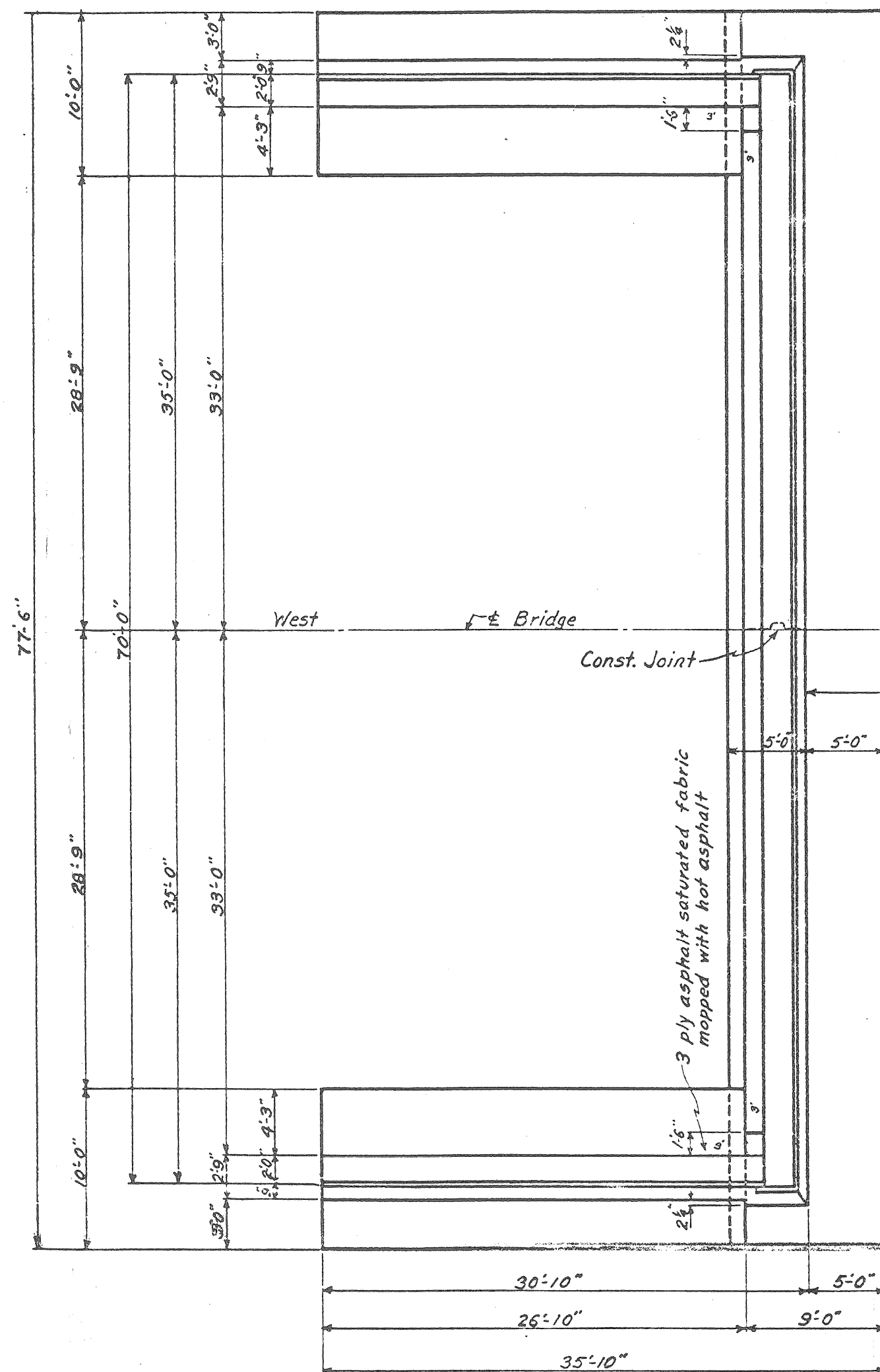


WEST - ELEVATION - PIER (EXIST)

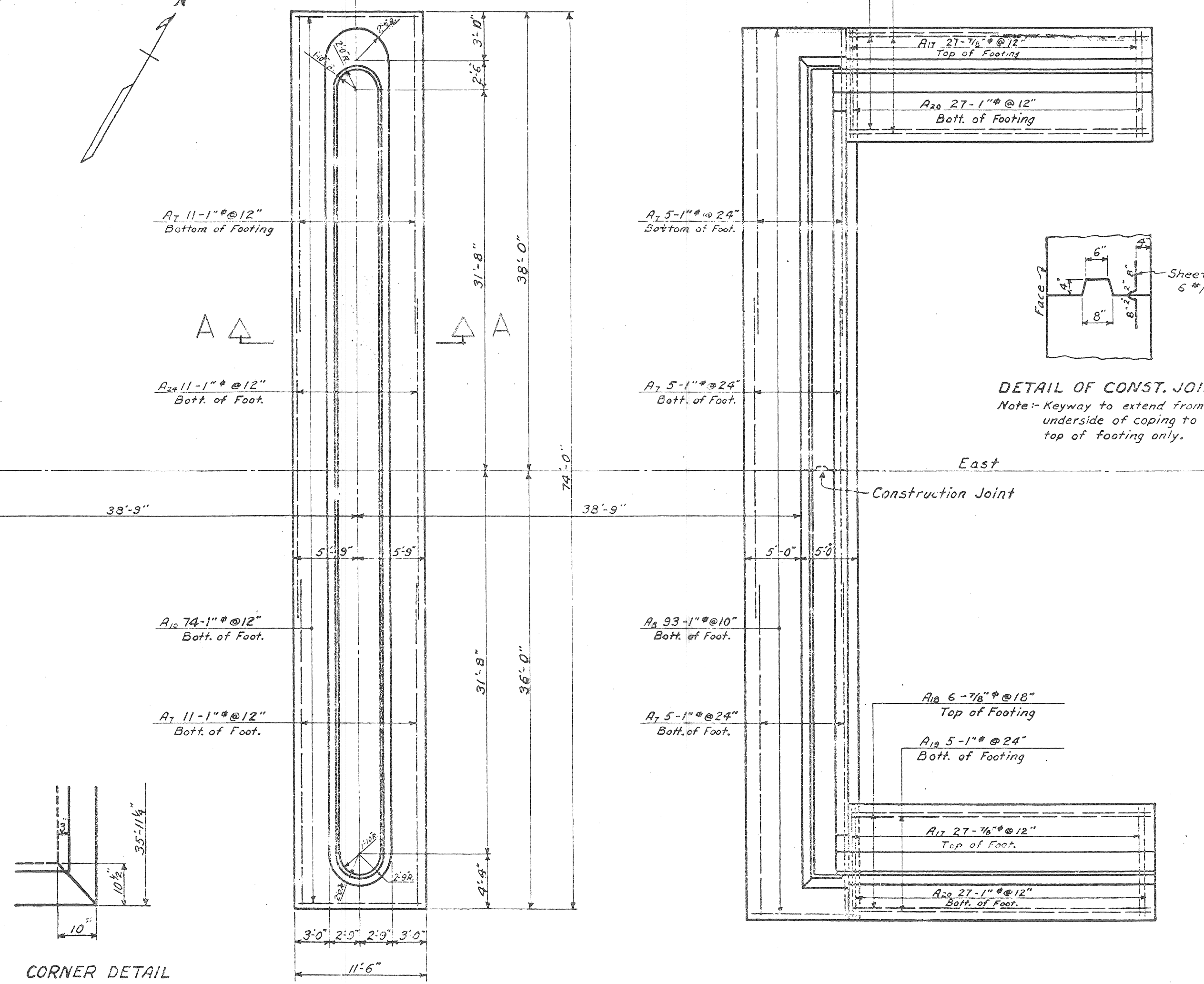
NEW GROUT TOP ELEVATIONS TO BE VERIFIED AND ADJUSTED AS REQUIRED TO THE PROPOSED TOP DECK SLAB ELEVATIONS. (TYP)



EAST ELEVATION - PIER (EXIST)



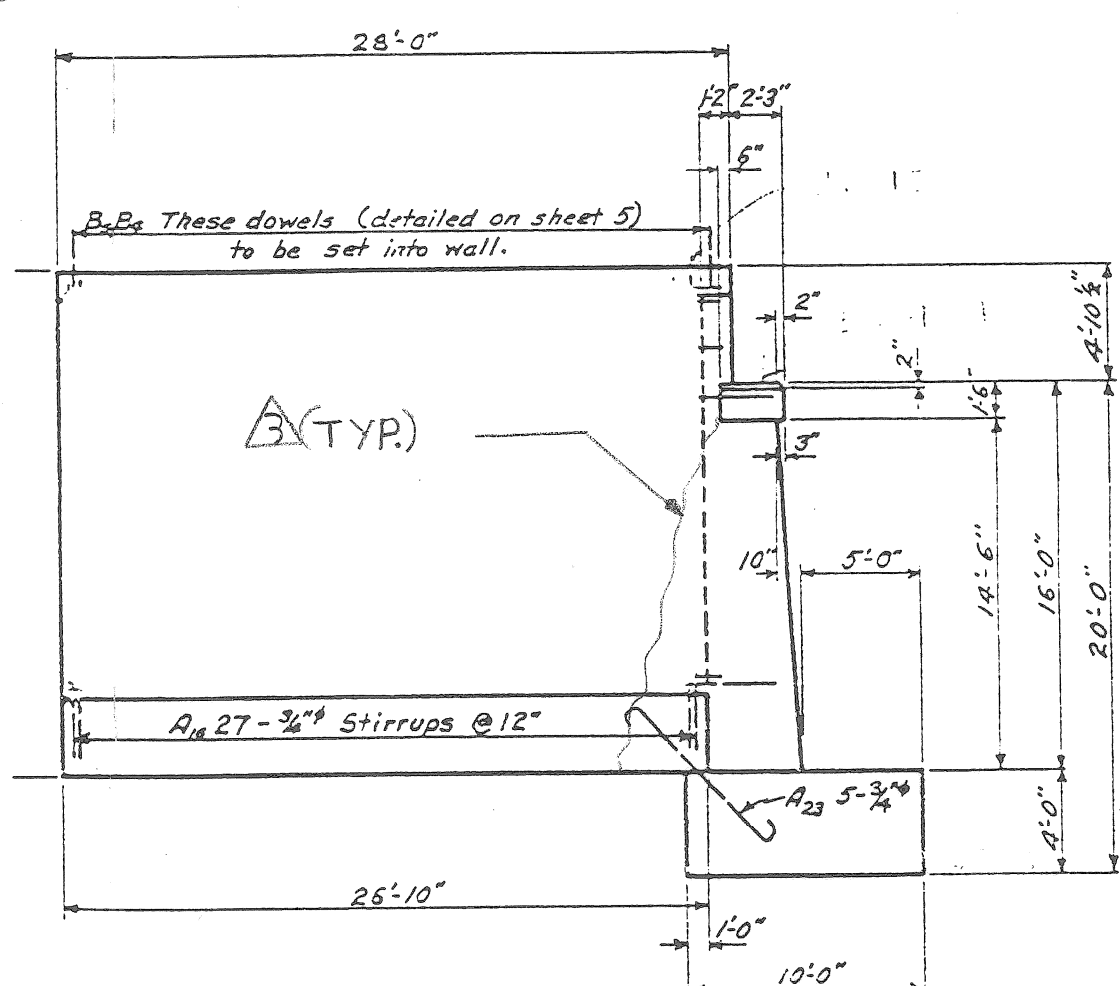
PLAN - WEST ABUTMENT (EXIST)



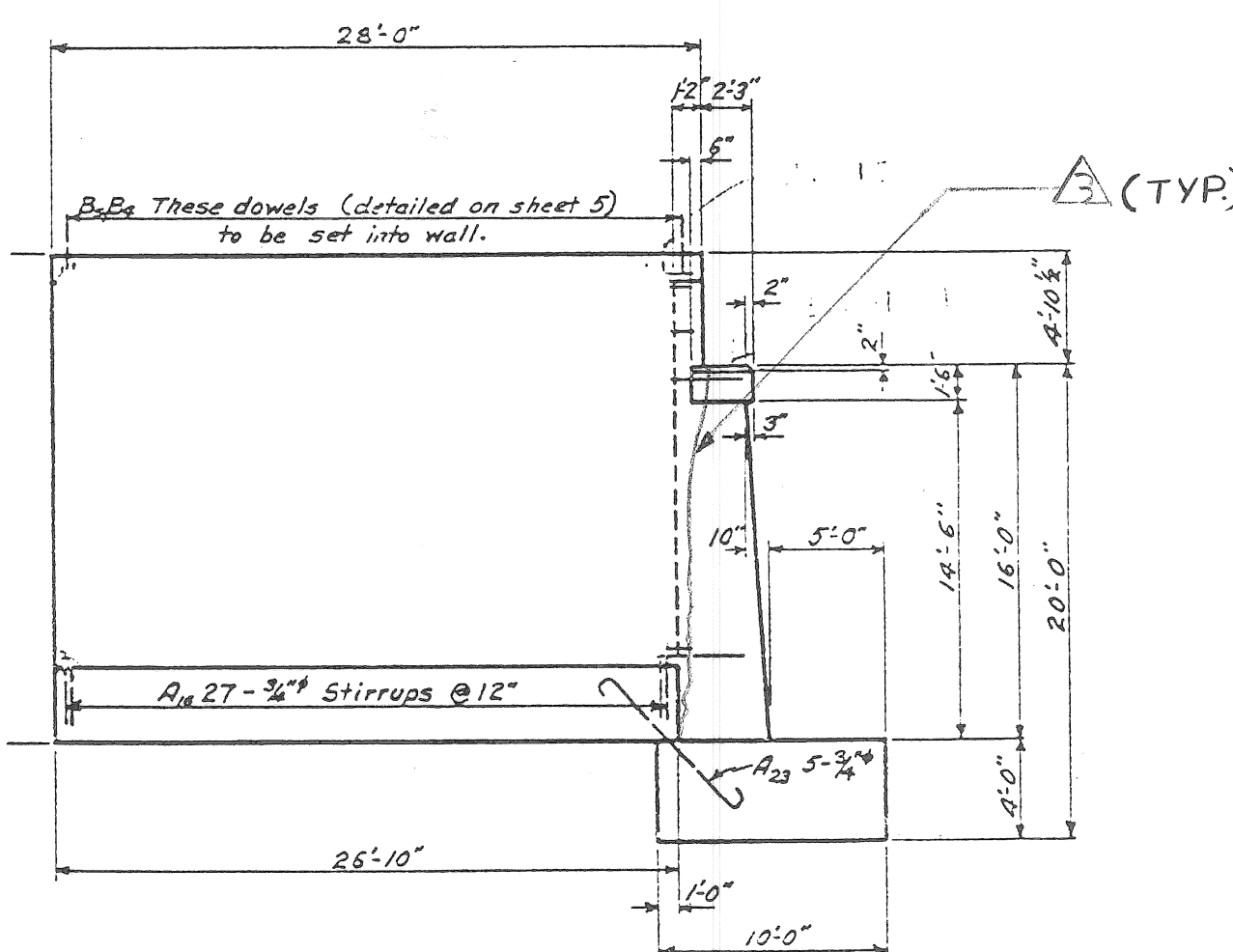
PLAN - PIER (EXIST)

PLAN - EAST ABUTMENT (EXIST)

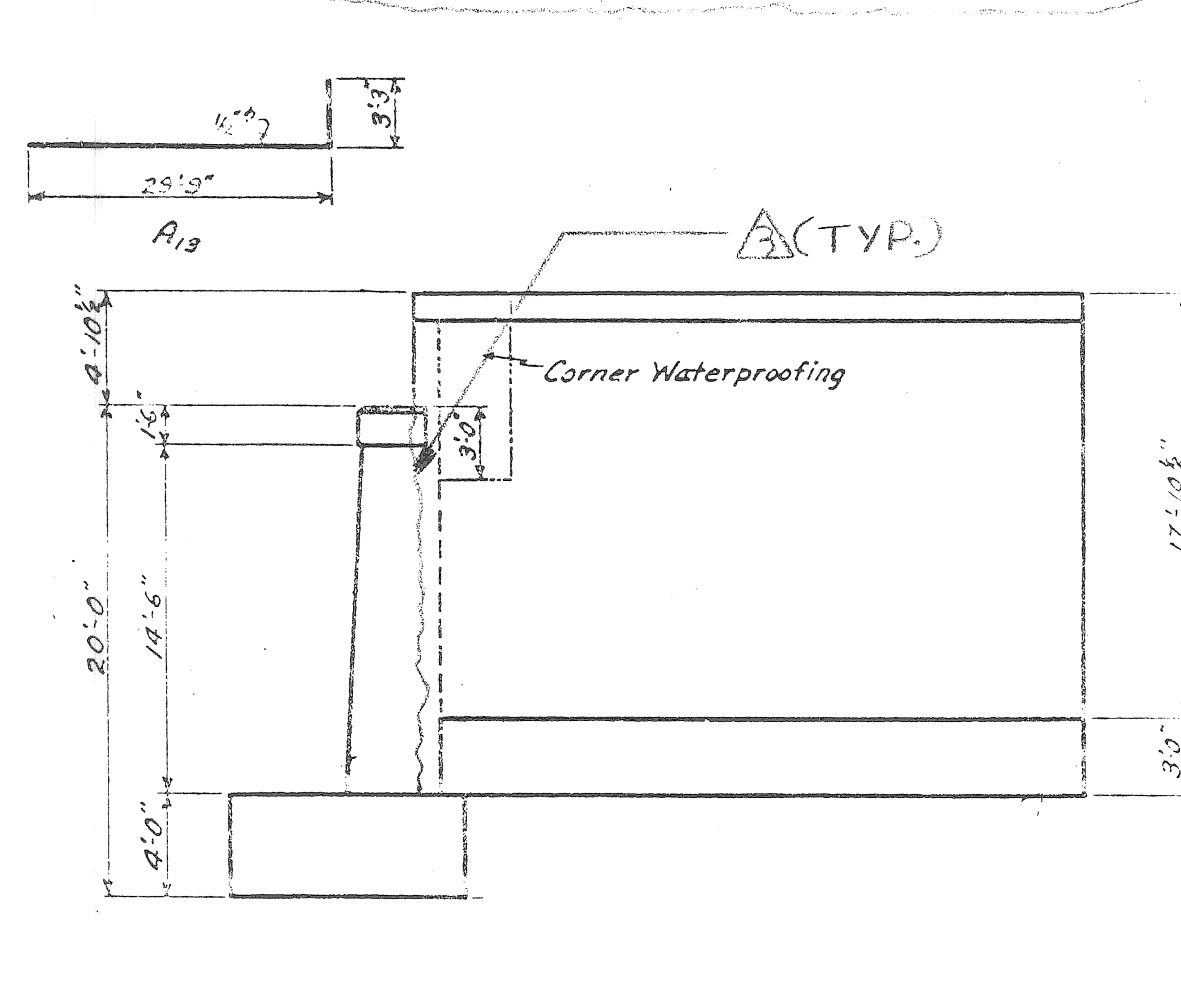
Same as West Abutment.



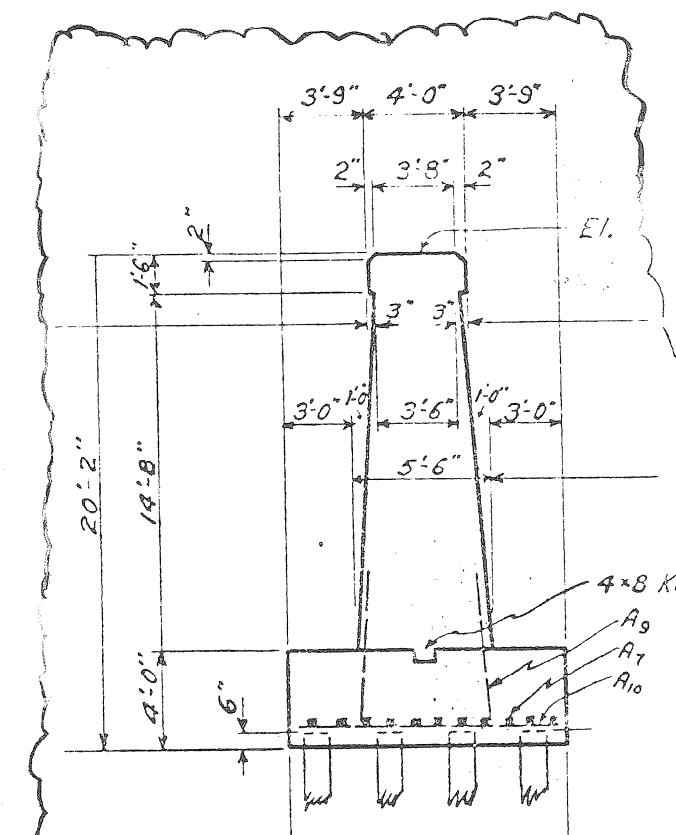
SOUTHWEST WINGWALL (EXIST)



NORTHEAST WINGWALL (EXIST)



SOUTHEAST WINGWALL (EXIST)

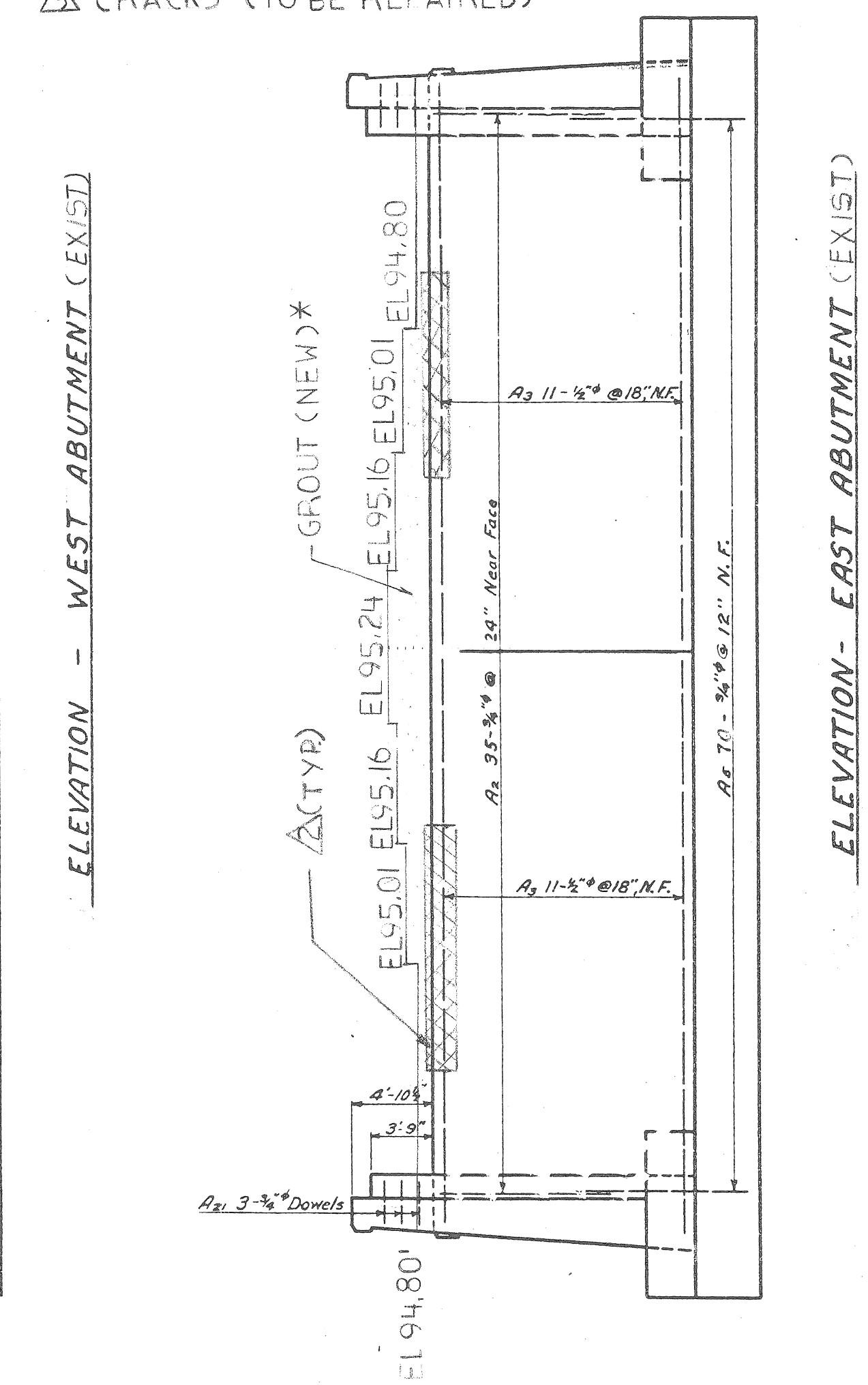


SECTION A-A (EXIST)

INDICATES DAMAGED AREA TO BE REPAIRED (TYP)

* GROUT INCLUDED IN BID ITEM PATCHING MORTAR OR CONCRETE SPALLS (TO BE PATCHED)

△ CRACKS (TO BE REPAIRED)



ITEMS	QUANTITY	PAY UNIT
PENETRATING WATER REPELLANT TREATMENT	1350	SYD
HAND CHIPPING - OTHER THAN DECK	220	CFT
PATCHING MORTAR OR CONCRETE	220	CFT
FORMING FOR PATCHES	600	SFT
FLUSHING CRACKS WITH ACID	150	LFT
FLUSHING CRACKS WITH WATER	150	LFT
REPAIRING STRUCTURAL CRACKS	150	LFT

JOB NO. : 36916A

CITY OF DETROIT
 DEPARTMENT OF PARKS & BOULEVARDS
 OFFICE OF CITY ENGINEER
 BRIDGE OVER RIVER ROUGE
 (SOUTH OF PLYMOUTH ROAD)
 RIVER ROUGE PARK
 SUBSTRUCTURE DETAILS
 SCALE 1/8" = 1'-0"
 May 7, 1930
 DESIGNED BY - J.T.H.
 DRAWN BY - J.T.H.
 CHECKED BY - R.S.G/3/30
 Sheet No. 3.

NO.	DATE	BY	REVISIONS

designed by MH
 drawn by RF
 checked by EH
 approved: *Carl J. Hawk*

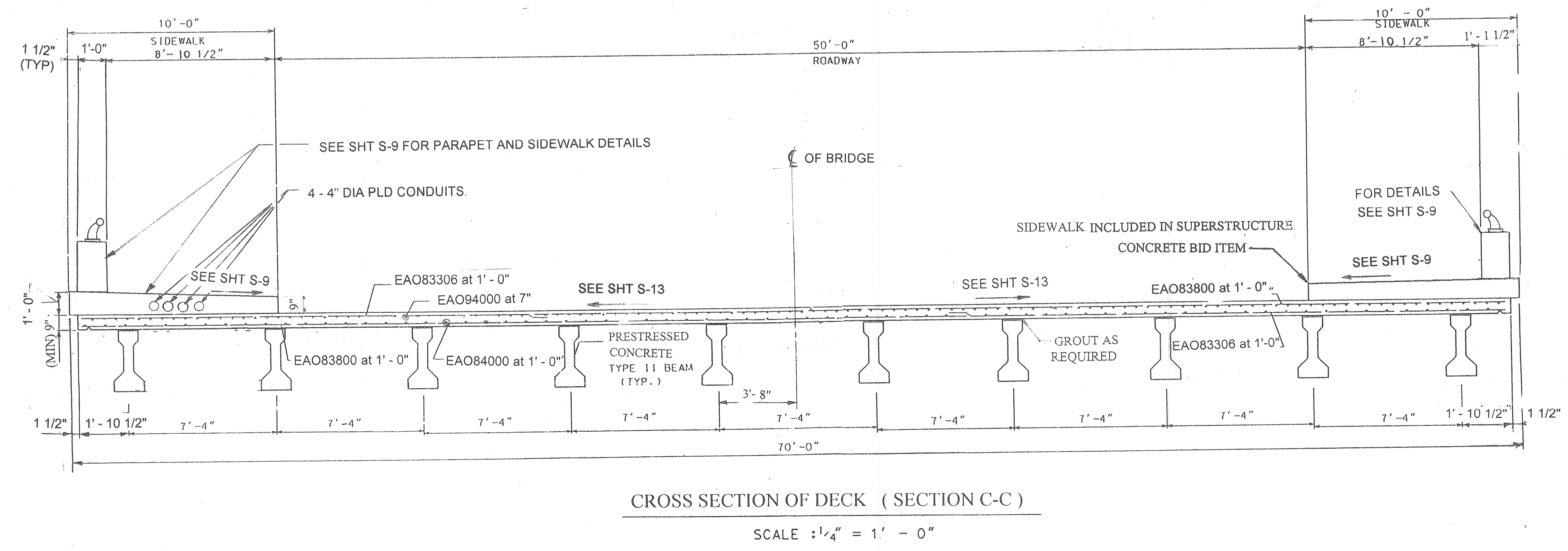
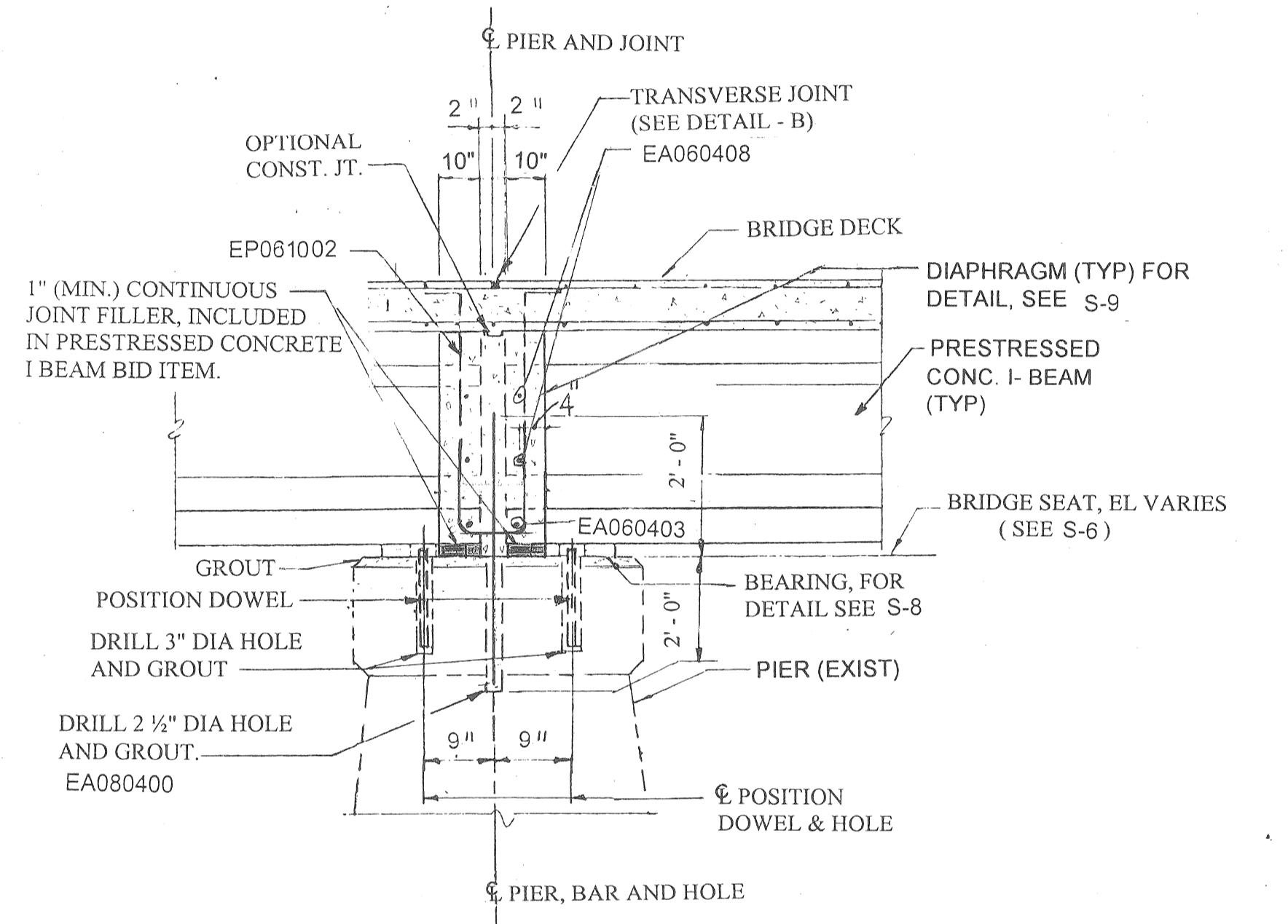
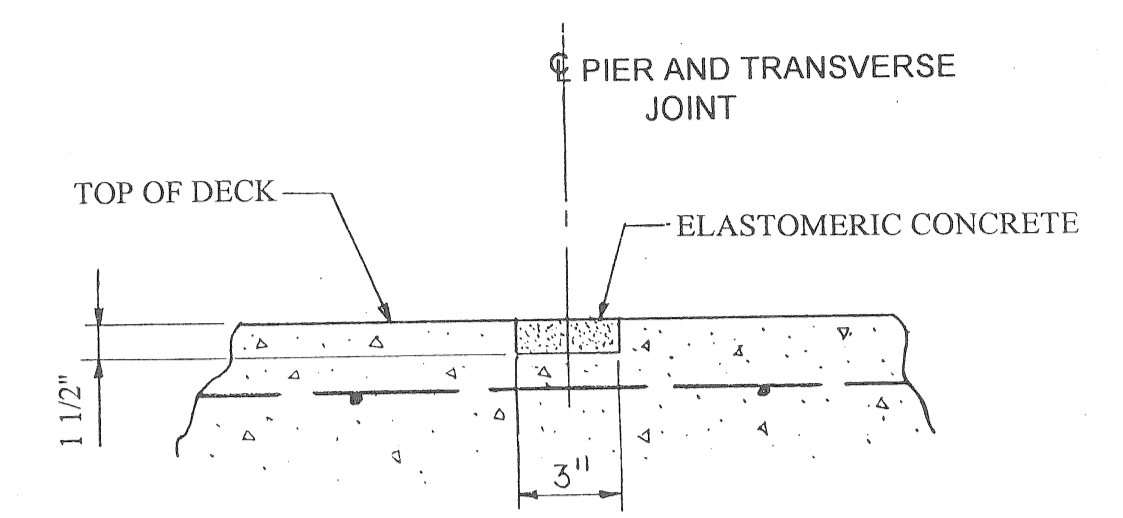
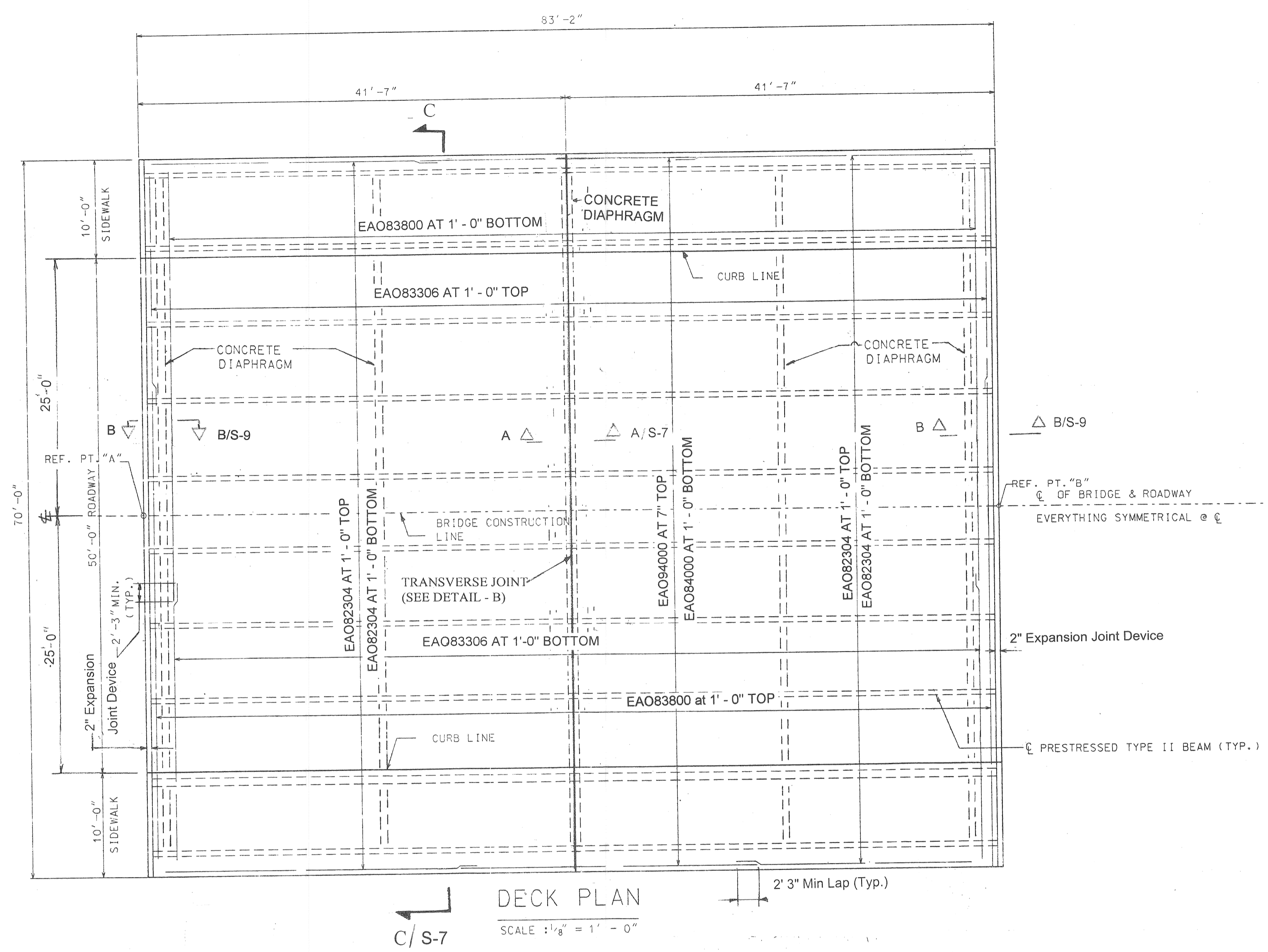
CITY OF DETROIT

CITY ENGINEERING DIVISION
 DEPARTMENT OF PUBLIC WORKS

SPINOZA DRIVE BRIDGE OVER ROUGE RIVER (BW-270)
 SUPERSTRUCTURE RECONSTRUCTION
 REPAIRING STRUCTURAL CRACKS,
 PATCHING ABUTMENTS AND PIER

a.o. 93-22-16
 contract no.
 sheet S-6
 of S-41
 drawing no.
 date
 MAR. ,1937

PAY QUANTITIES		
ITEMS	QUANTITY	PAY UNIT
MISC. ELASTOMERIC CONCRETE	3	CFT
SUPERSTRUCTURE CONCRETE	337	CYD
MISC. FORM, FINISH, AND CURE SUPERSTRUCTURE CONCRETE, B01-82-18-85	1	LSUM
JOINT WATERPROOFING	210	SFT



- SUPERSTRUCTURE MISCELLANEOUS NOTES**
- FOR BRIDGE RAILING, MOLDING AND BEVEL DETAILS, SEE STANDARD X-18D AND X1-103D.
 - 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.
 - SIDEWALK AND PARAPET POURS SHALL NOT BE CAST UNTIL SLAB CONCRETE ATTAINED AT LEAST 75% OF ITS DESIGN STRENGTH.

CITY OF DETROIT CITY ENGINEERING DIVISION DEPARTMENT OF PUBLIC WORKS		SPINOZA DRIVE BRIDGE OVER ROUGE RIVER (BW-270) SUPERSTRUCTURE RECONSTRUCTION PLAN OF DECK AND CROSS SECTION		SHEET S-7 OF S-41 SHEETS CONTRACT NO. _____ ASSIGNMENT NO. 93-22-16 DATE MAR. 1997
PLAN: RF GRADE: _____ ESTIMATE: _____ FINAL: _____	CHECKED BY: FH APPROVED: <i>Earl C. Howard</i> ENGINEER OF PUBLIC WORKS	REVISIONS: _____		

