

INDEX OF SHEETS

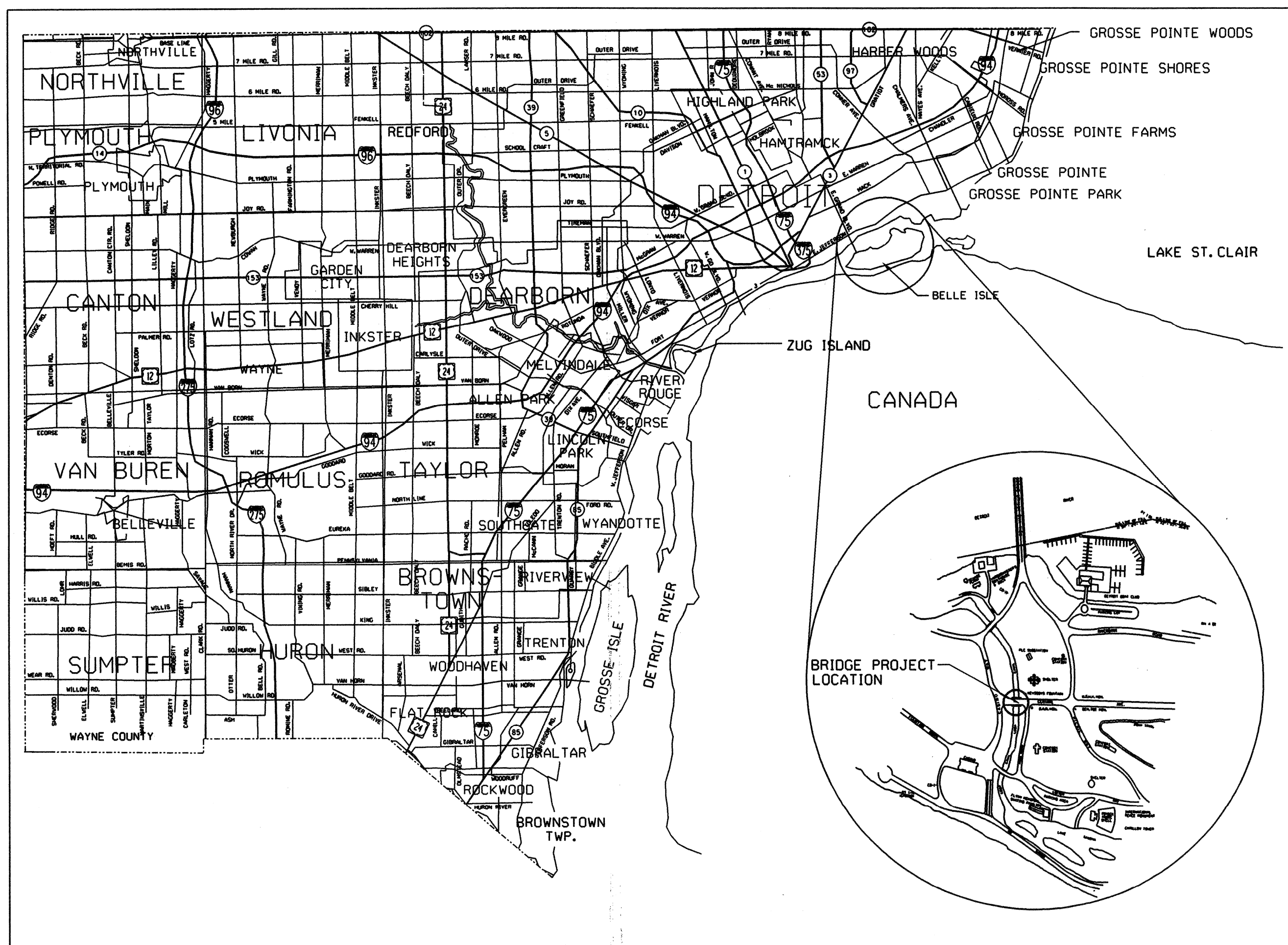
PLANS	SHEET No.
TITLE SHEET	1
GENERAL PLAN OF SITE	2
LOG OF BORINGS	3
GENERAL PLAN OF STRUCTURE 1	4
GENERAL PLAN OF STRUCTURE 2	5
ABUTMENT DETAILS	6
SUPERSTRUCTURE DETAILS	7
SUPERSTRUCTURE DETAILS	8
SUMMARY OF STEEL REINFORCEMENT AND QUANTITIES	9
DETOUR PLAN	10
MDOT STANDARDS	
LIGHTED ARROWS AND BARRICADES	VI-125 H
SOIL EROSION AND SEDIMENTATION CONTROL MEASURES	R-96 D*
APPROACH CURB AND GUTTER, DOWNSPOUTS (FOR BRIDGE APPROACH CURB AND GUTTER)	R-32-E
MOLDING, BEVEL, LIGHT STANDARD ANCHOR BOLT ASSEMBLY AND NAME PLATE DETAILS	B-103-D
BRIDGE BARRIER RAILING, TYPE 4	B-17-C
CONCRETE CURB & CONCRETE CURB GUTTER	R-30-E
CONVENTIONAL PAVEMENT REINFORCEMENT	R-45-E
TEMPORARY CONCRETE BARRIER	R-52-E
GUARDRAIL APPROACH TERMINAL TYPES 1B & 1T	R-61-F
SODDING & SEEDING	R-100-D
LONGITUDINAL PAVEMENT JOINTS	R-41-E
COFFER DAM	E&S-34-A

* = SPECIAL DETAIL WILL BE INCLUDED IN THE CONSTRUCTION PLAN

CITY OF DETROIT SPECIAL PROVISIONS

- CITY OF DETROIT-SPECIAL PROVISIONS
- PUBLIC UTILITIES
- SHOP DRAWINGS
- WORKING AREA AND PROJECT CLEANUP
- CHECKING EXISTING STRUCTURE DIMENSIONS
- FIELD OFFICE
- ANTI NOISE CONTROL
- SWEEPING
- OBTAINING REQUIRED NPDES PERMITS FOR STORAGE AREAS, DISPOSAL AREAS AND BORROW AREAS
- NPDES REQUIREMENTS FOR PORTABLE PLAN OPERATIONS
- QUALITY STANDARDS FOR WORK ZONE DEVICES
- PROTECTION OF ENVIRONMENTAL AND CONTROL OF HAZARDOUS MATERIALS AND POLLUTING MATERIALS
- REMOVING MISCELLANEOUS STRUCTURES AND MATERIALS
- MAINTAINING TRAFFIC
- HMA APPLICATION ESTIMATE
- CURB, CONC, DETAIL CD, MODIFIED
- SPECIAL NOTES
- ABUTMENT STONE VENEER
- END FACIA AND ARCHES

CITY OF DETROIT
MICHIGAN
DEPARTMENT OF PUBLIC SERVICE
PLAN AND PROFILE OF PROPOSED
BRIDGE REPLACEMENT PROJECT
CITY OF DETROIT BRIDGE NO. BW 206,
MDOT STRUCTURE NO. 12453
JOB NO. PARTS 1 & 2
REPLACEMENT OF THE CENTRAL AVENUE
BRIDGE OVER LOOP CANAL



THE DESIGN OF THIS STRUCTURE IS BASED ON CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES HS-20 LOADING. LIVE LOAD PLUS IMPACT DEFLECTION DOES NOT EXCEED 1/1000 OF THE SPAN LENGTH. THE LOAD FACTOR METHOD OF DESIGN WAS USED FOR THIS STRUCTURE.

EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED HEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH RECENT THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION 2003 EDITION.

THE STATIONING AS SHOWN ON THESE PLANS FOR THE INTERSECTION OF THE CENTERLINE OF BRIDGE AND ROADWAY CENTERLINE 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 DESIGN OFFICE, AND THE STRUCTURE SHALL BE STAKED OUT USING THE ACTUAL INTERSECTION OF THE CENTERLINE AS THE CONTROL POINT. VERIFY ALL MEASUREMENTS/DIMENSIONS BEFORE START OF CONSTRUCTION.

ALL EXPOSED CONCRETE CORNERS SHOWN SQUARE ON THE PLANS SHALL BE BEVELED WITH 1/2" TRIANGULAR MOLDINGS EXCEPT AS OTHERWISE NOTED.

THE DESIGN OF THE STRUCTURAL MEMBERS IS BASED ON MATERIAL OF THE FOLLOWING GRADES AND STRESSES:

LIVE LOAD -METHOD OF DESIGN-B.02 A

CONCRETE: GRADE 35S, f'c = 3,000 PSI PRESTRESSED CONCRETE f'c = 5,000 PSI
CONCRETE: GRADE 45D f'c = 4,000 PSI PRESTRESSED STRANDS f's = 270,000 PSI (SUPERSTRUCTURE)

STEEL REINFORCEMENT: f'y = 60,000 PSI PRESTRESSED BEAM STIRRUPS f'y = 40,000 PSI

ORIGINAL DESIGN IS PERFORMED BY SEG (SNELL ENVIRONMENTAL GROUP, INC IN 1999) IN THE METRIC SYSTEM. CITY OF DETROIT (CITY ENGINEERING DIVISION) CONVERTED THESE DESIGN DRAWINGS INTO THE ENGLISH SYSTEM. NO CHANGE WAS MADE IN THE DESIGN OF THIS PROJECT

ALL ELEVATIONS ARE BASED ON CITY OF DETROIT DATUM

TO CONVERT INTO THE INTERNATIONAL GREAT LAKE DATUM (I.G.L.D.) USE THE FOLLOWING FORMULA:

IGLD 1985 ELEV. = CITY OF DETROIT ELEV. + 479.07
(ARMY CORP OF ENGINEERS)

TRAFFIC COUNT
DESIGN SPEED-25 MPH
POSTED SPEED-25 MPH
ADT ()
ADT
DESIGN LOADING-HS 20



CONTRACT FOR	G.. DS.. P. & UTILITIES
LOCAL AUTHORITY APPROVAL CITY OF DETROIT CITY ENGINEERING DIVISION DEPARTMENT OF PUBLIC WORKS	
APPROVED BY	_____ HEAD ENGINEER
APPROVED BY	<i>James Jacob</i> 10/2/07 CITY ENGINEER
PREPARED UNDER SUPERVISION OF <i>Rodolfo Floro</i> 19128 REGISTERED PROFESSIONAL ENGINEER	
CITY OF DETROIT ORGANIZATION	
DETROIT, MICHIGAN ADDRESS	

REVISIONS	100% COMPLETED 08-21-07	DSGN BY S. RAVAL 07/23/07		CITY OF DETROIT MICHIGAN	CENTRAL AVE.	TITLE SHEET	SCALE NOT TO SCALE
		DR'N BY R. FLORO 07/23/07					PROJECT NO. PW-6947
		CK'D BY R. FLORO 07/23/07					SHEET NO. 1 OF 10
		APP'D BY R. FLORO 07/23/07					

ITEM NO. CONTROL SECTION NO. JOB NO.

UTILITIES	
AMERITECH ROOM 101 4000 ALLEN RD. ALLEN PARK, MI. 48101 DAVE BUCIENSKI PHONE No.: (313) 389-9819	TELEPHONE
CITY OF DETROIT WATER & SEWER DEPT. 735 RANDOLPH ST. DETROIT, MI. 48226 PHONE No.: (313) 224-4800	WATER & SEWAGE
DETROIT EDISON ROOM 607 G.O. 2000 SECOND AVE. DETROIT, MI. 48226 JOHN SOUIRES PHONE No.: (313) 235-6597	ELECTRIC
MICHIGAN CONSOLIDATED GAS CO. DRAFTING CLERK MAIN REPLACEMENT TEAM NOBLE SECOND FLOOR 3200 HOBSON DETROIT, MI. 48201 PHONE No.: (313) 577-7236	GAS
CITY OF DETROIT PUBLIC LIGHTING DEPT. 9449 GRIENELL DETROIT, MI 48213 PHONE NO (313) 267-7306	ELECTRIC

EXISTING STRUCTURE

ONE SPAN STEEL STRUCTURE BUILT IN 1940. 48 FT CLEAR ROADWAY BRIDGE NO. 206

STA. 327+59.3 TO 328+09.3 1/2" TOPSOIL SURFACE FURN. 1,076 FT² SODDING CL. A @ 1,076 FT² (BOTH SIDES)

STA. 327+59.3 TO 328+09.3 CURB. REM. 50 FT MISC. CURB CONC. DETAIL CD. 50.0 FT

EXIST LIGHT STD. REMOVE AND REPLACE (INCLUDED IN PAY ITEM STRUCTURES, REM.)

BENCH MARKS

B.M. #1 - ARROW ON TOP OF FIRE HYDRANT 375' + EAST OF THE C OF FOUNTAIN DRIVE AND 10' SOUTH CURB OF GRAND PRIX PIT. ROAD ELEV. 102.31'

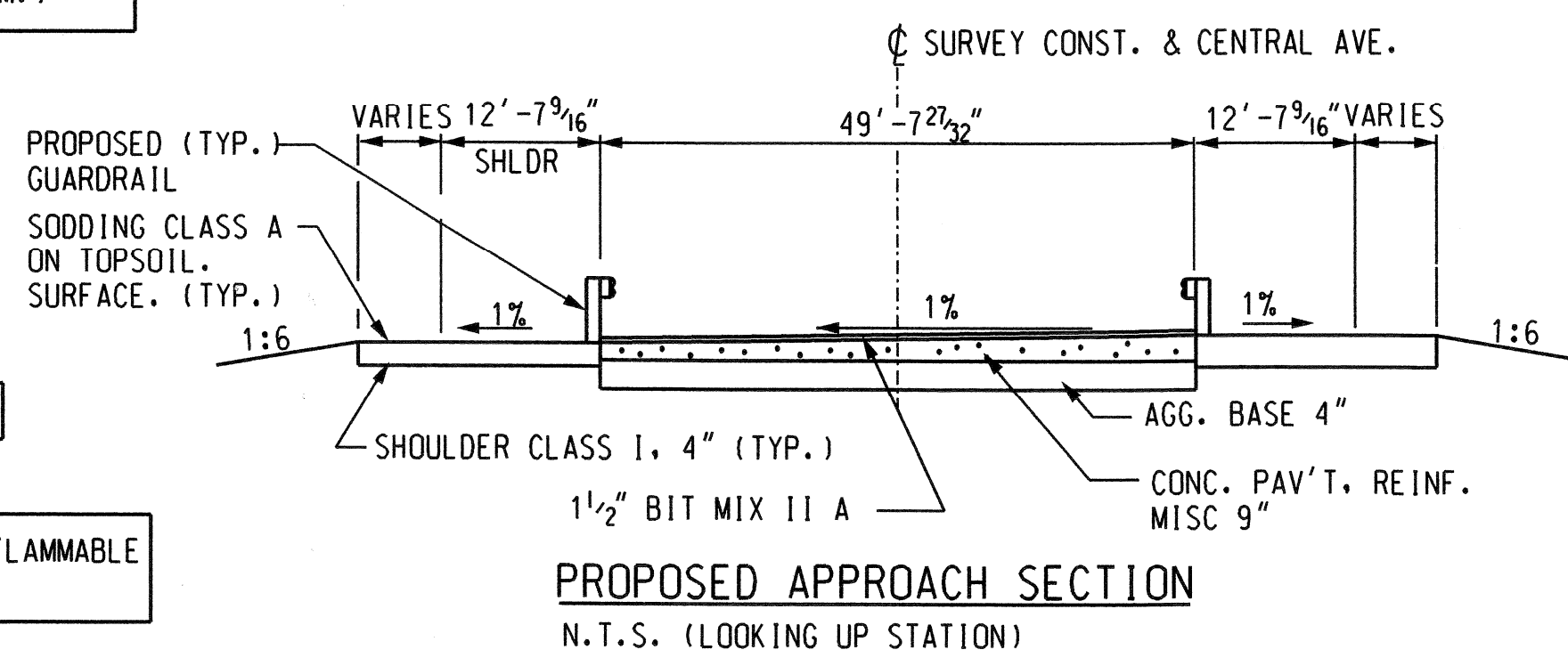
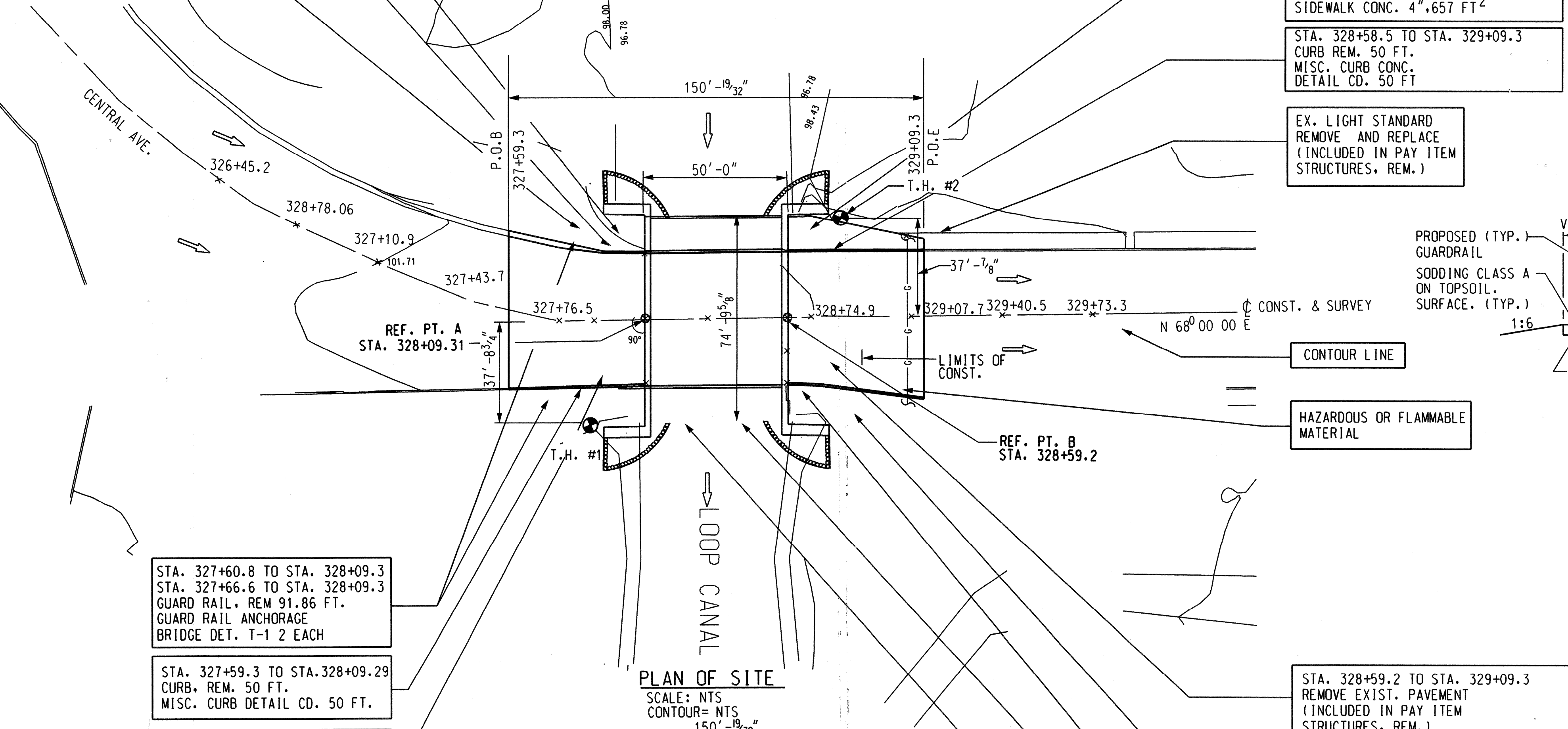
B.M. #2 - TOP OF EAST BOLT OF LIGHT POLE AT SOUTHWEST CORNER OF THE INTERSECTION OF GRAND PRIX ROAD & CASINO WAY ELEV. 99.95'

B.M. #252 - 5' NORTH OF NORTH CURB OF CENTRAL AVE. AND 44' EAST OF BRIDGE OVER LOOP CANAL IT IS A STANDARD CITY OF DETROIT MONUMENT ELEV. 101.62'

WITNESSES

REFERENCE PT. A STA. 328+09.3		(P.K. NAIL)
N 36 32' 25" E	1,312.33 FT. MAPLE	145.39'
S 55 21' 00" E	LIGHT POLE	223.70'
S 36 27' 10" W	LIGHT POLE	107.57'
N 68 59' 20" W	1,230.31 FT. POLE	128.75'

REFERENCE PT. B STA. 328+59.2		(P.K. NAIL)
N 22 24' 20" E	1,312.33 FT. MAPLE	104.98'
S 43 19' 20" E	LIGHT POLE	200.63'
S 46 20' 40" W	LIGHT POLE	152.47'
N 80 37' 15" W	1,230 FT. PINE	168.86'

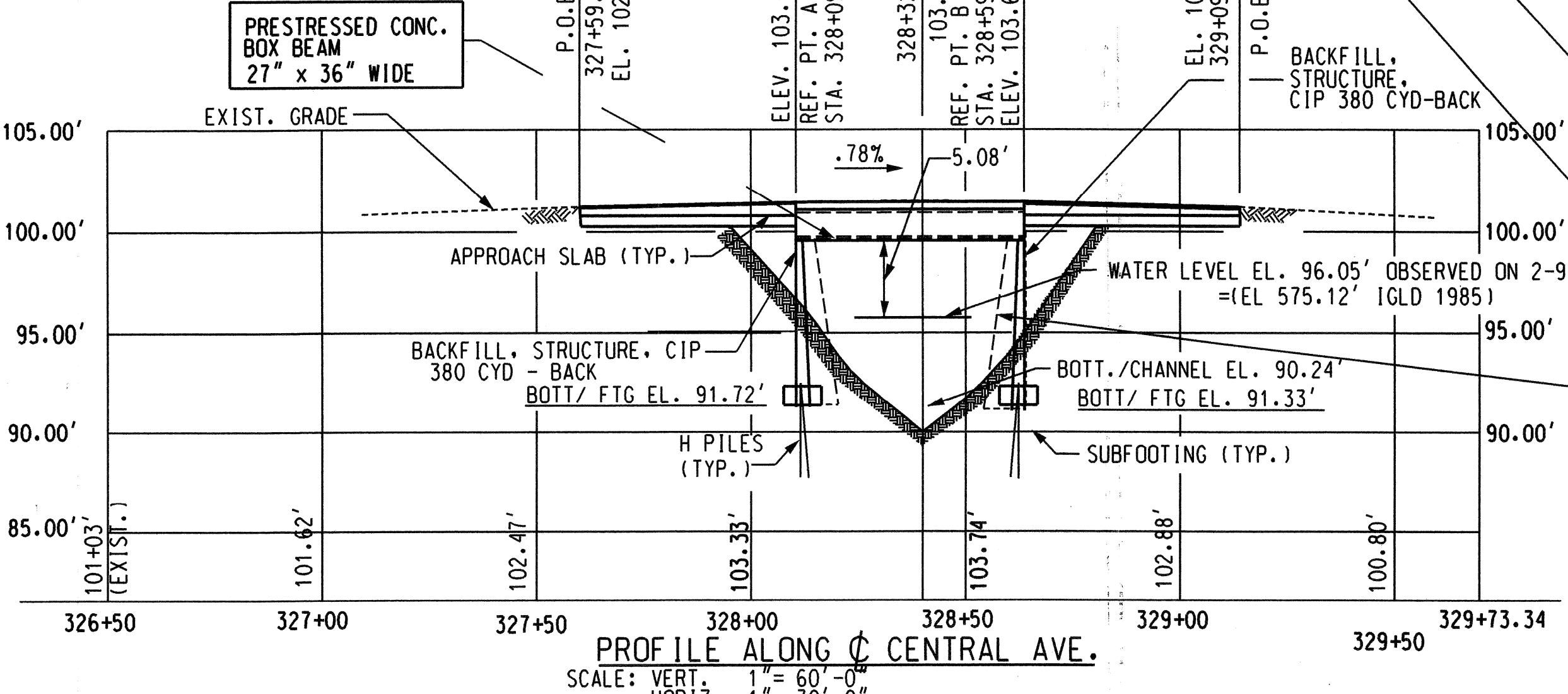
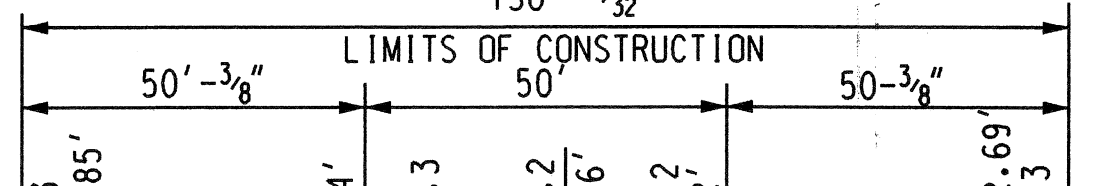


STA. 327+60.8 TO STA. 328+09.3
STA. 327+66.6 TO STA. 328+09.3
GUARD RAIL, REM 91.86 FT.
GUARD RAIL ANCHORAGE
BRIDGE DET. T-1 2 EACH

STA. 327+59.3 TO STA. 328+09.29
CURB. REM. 50 FT.
MISC. CURB DETAIL CD. 50 FT.

STA. 327+59.26 TO STA. 328+09.3
REMOVE EXIST. PAVEMENT
(INCLUDED IN PAY ITEM STRUCTURES, REM.)

PLAN OF SITE



STA. 328+59.2 TO STA. 329+09.3
REMOVE EXIST. PAVEMENT
(INCLUDED IN PAY ITEM STRUCTURES, REM.)

STA. 328+58.5 TO STA. 329+09.3
TOPSOIL SURFACE FURN. 3" 1,292 FT²
SODDING, CL A 1,292 FT² (BOTH SIDES)

STA. 328+59.2 TO STA. 329+09.3
CURB. REM. 50 FT.
MISC. CURB CONC. DETAIL CD. 50 FT.

EXIST. STRUCTURE TO BE REMOVED

PROPOSED REPLACEMENT CENTRAL AVE. BRIDGE CITY BW 206

EXIST. STRUCTURE

NOTES:

THE WORK COVERED BY THESE PLANS INCLUDES CONSTRUCTION OF THE PROPOSED BRIDGE, PLACING RIP-RAP TO THE LIMITS SHOWN AND APPROACH WORK.

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.

CENTRAL AVE. TRAFFIC IS TO BE DETOURED OVER OTHER EXISTING ROADS.

PLAN ELEVATIONS REFERS TO CITY OF DETROIT DATUM.

WATER LEVEL IS SUBJECT TO CHANGE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING A DETERMINATION OF WATER LEVELS THAT MAY EXIST DURING CONSTRUCTION.

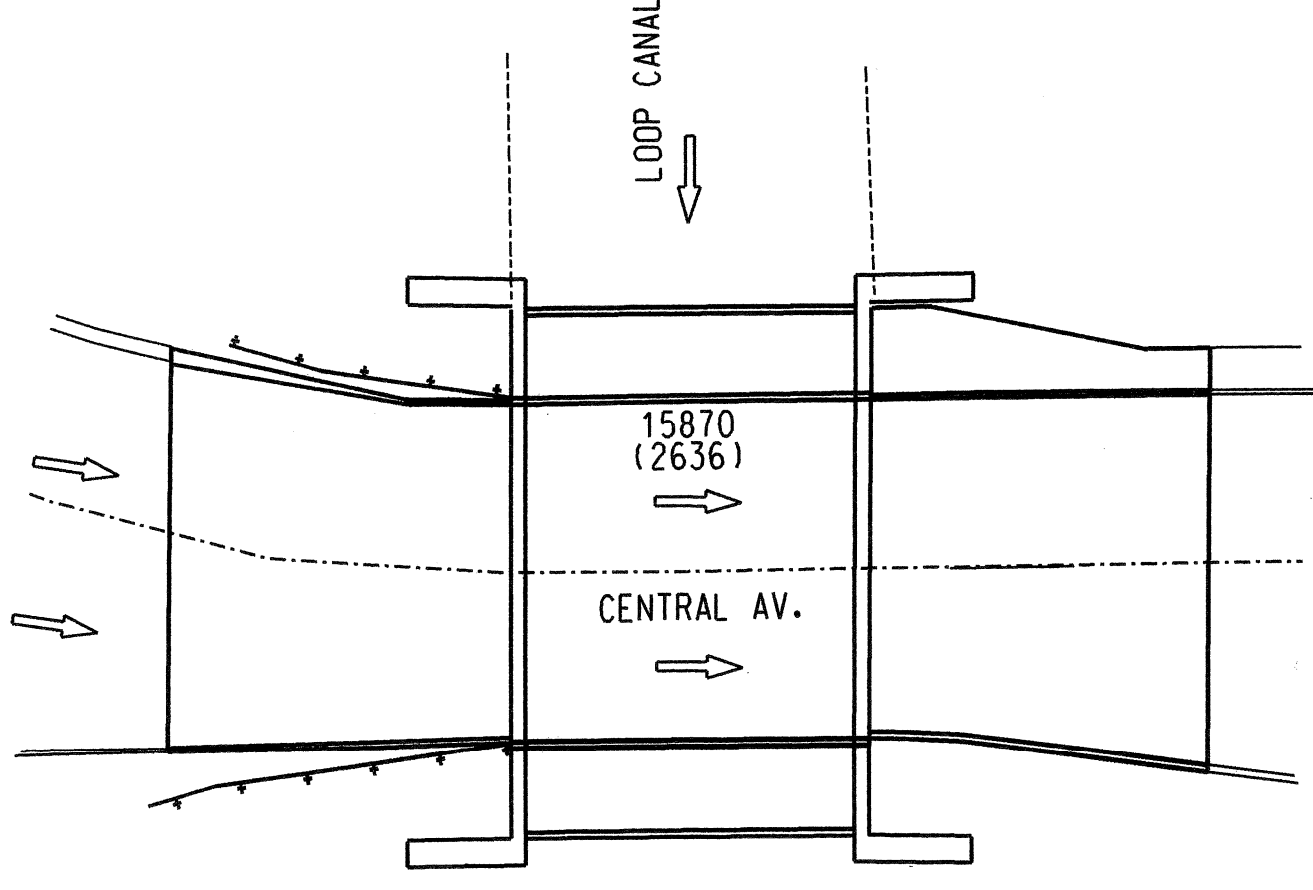
MEASURES SHALL BE TAKEN TO PREVENT DEBRIS FROM FALLING FROM THE STRUCTURE. IF DEBRIS FALLS INTO THE WATERWAY, IT SHALL BE REMOVED WITHIN 24 HOURS. SINCE DISTURBANCE OF THE WATERWAY BOTTOM MAY BE AS HARMFUL AS THE DEBRIS ITSELF, THE PREVENTIVE MEASURES MUST BE EFFECTIVE.

IMMEDIATELY AFTER THE CONSTRUCTION OF AN ABUTMENT IS COMPLETED, SODDING AND SLOPE PROTECTION SHALL BE PLACED ON THE ADJACENT EMBANKMENT SLOPES.

CONTRACTOR SHALL COORDINATE WITH CITY OF DETROIT PUBLIC LIGHTING DEPARTMENT (PLD) FOR THE REMOVAL AND REPLACEMENT OF EXISTING LIGHT STANDARD. PLD WILL PROVIDE THE NEW LIGHT STANDARDS AND ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH PLD STANDARDS.

THE CONTRACTOR SHALL REMOVE AND REPLACE THE APPROACH PAVEMENT ON EACH SIDE UP TO THE FIRST TRANSVERSE JOINT IN THE EXISTING PAVEMENT. PAVEMENT REMOVAL LIMITS SHALL BE A MINIMUM OF 50 FT. AND A MAXIMUM OF 70 FT..

THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS BEFORE START OF CONSTRUCTION



2020 ESTIMATED TRAFFIC DISTRIBUTION

LEGEND

(000) DESIGN HOURLY VOLUME
0000 AVERAGE DAILY TRAFFIC
→ DIRECTIONAL TRAFFIC.

REVISIONS	DSGN BY	S.R.	
	DR'N BY	R.F.	
	CK'D BY	R.F.	
	APP'D BY	R.F.	

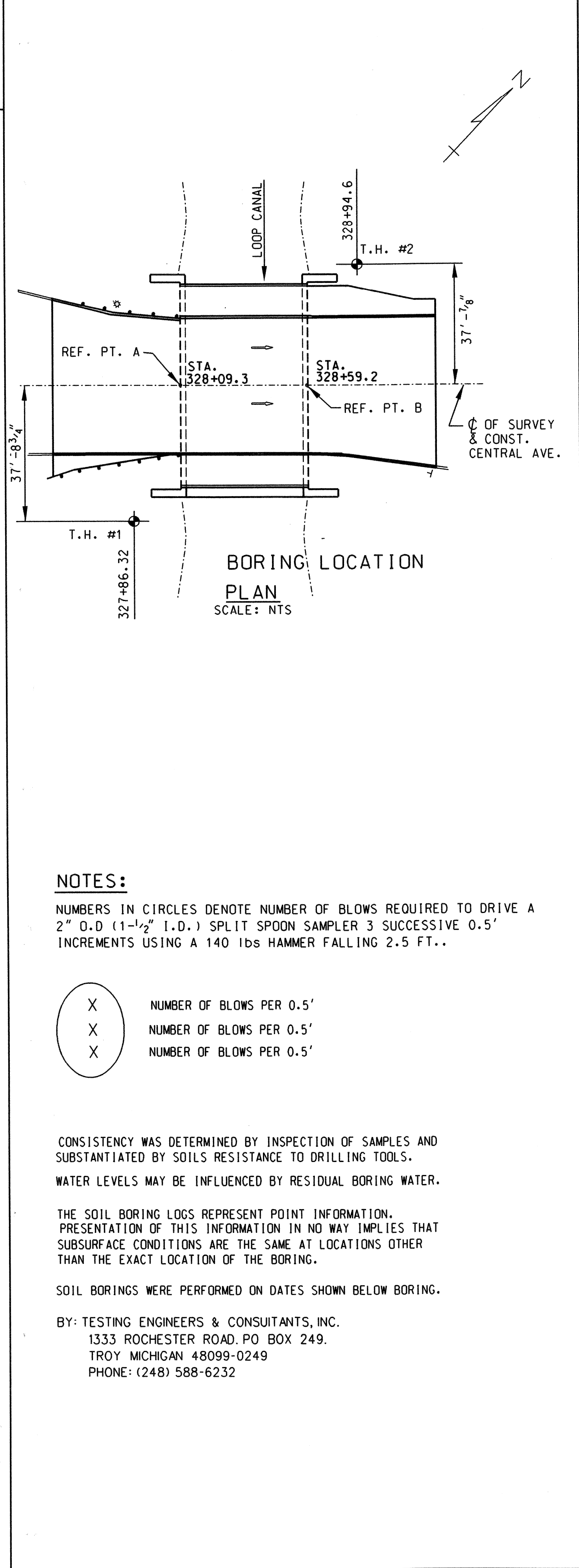
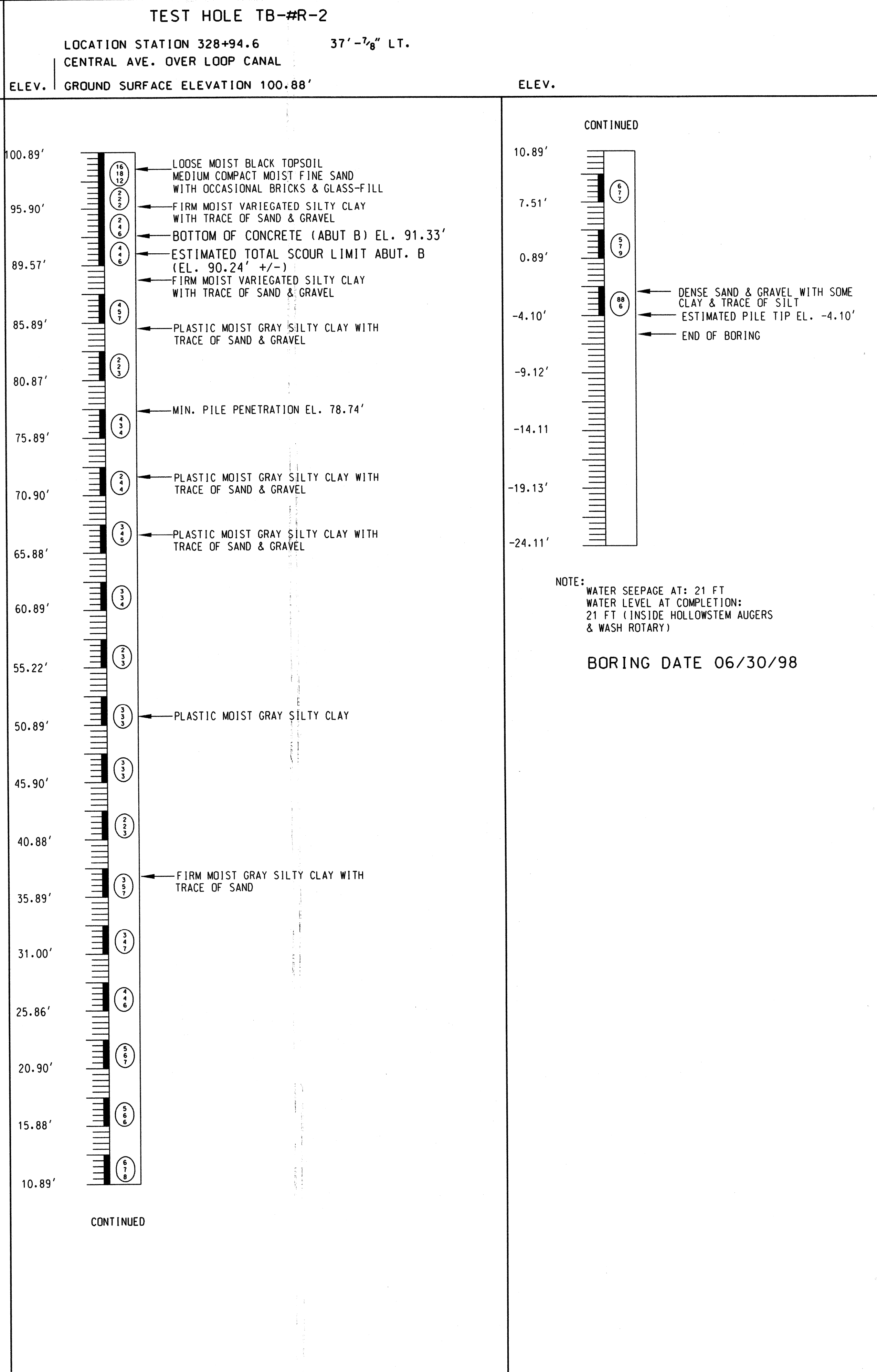
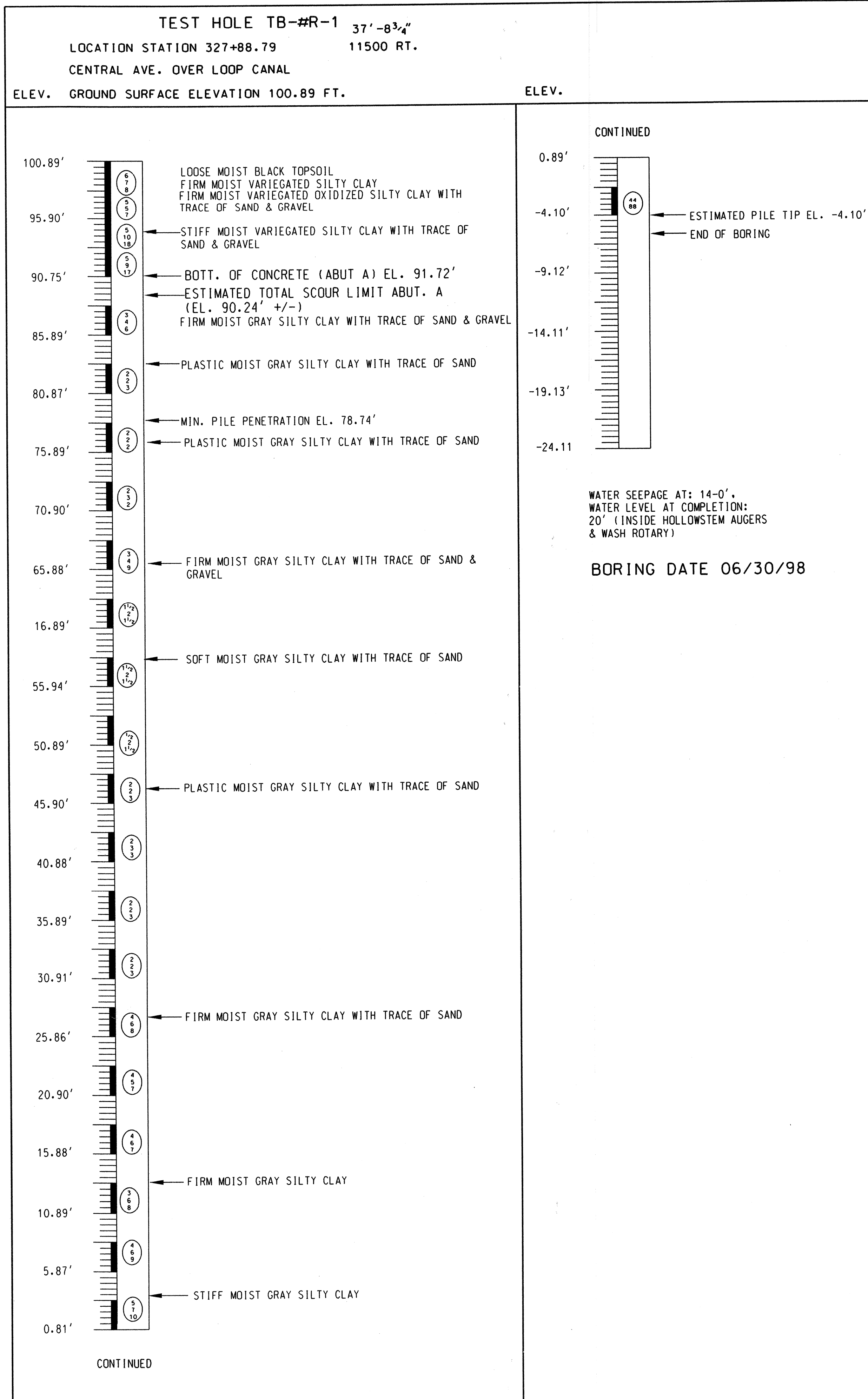


CITY OF DETROIT MICHIGAN

CENTRAL AVE.

GENERAL PLAN OF SITE

SCALE NOT TO SCALE
PROJECT NO. PW-6947
SHEET NO. 2 OF 10



REVISIONS	DSGN BY	S. RAVAL	7/19/07
	DR'N BY		
	CK'D BY	R. FLORO	7/19/07
	APP'D BY	R. FLORO	7/19/07



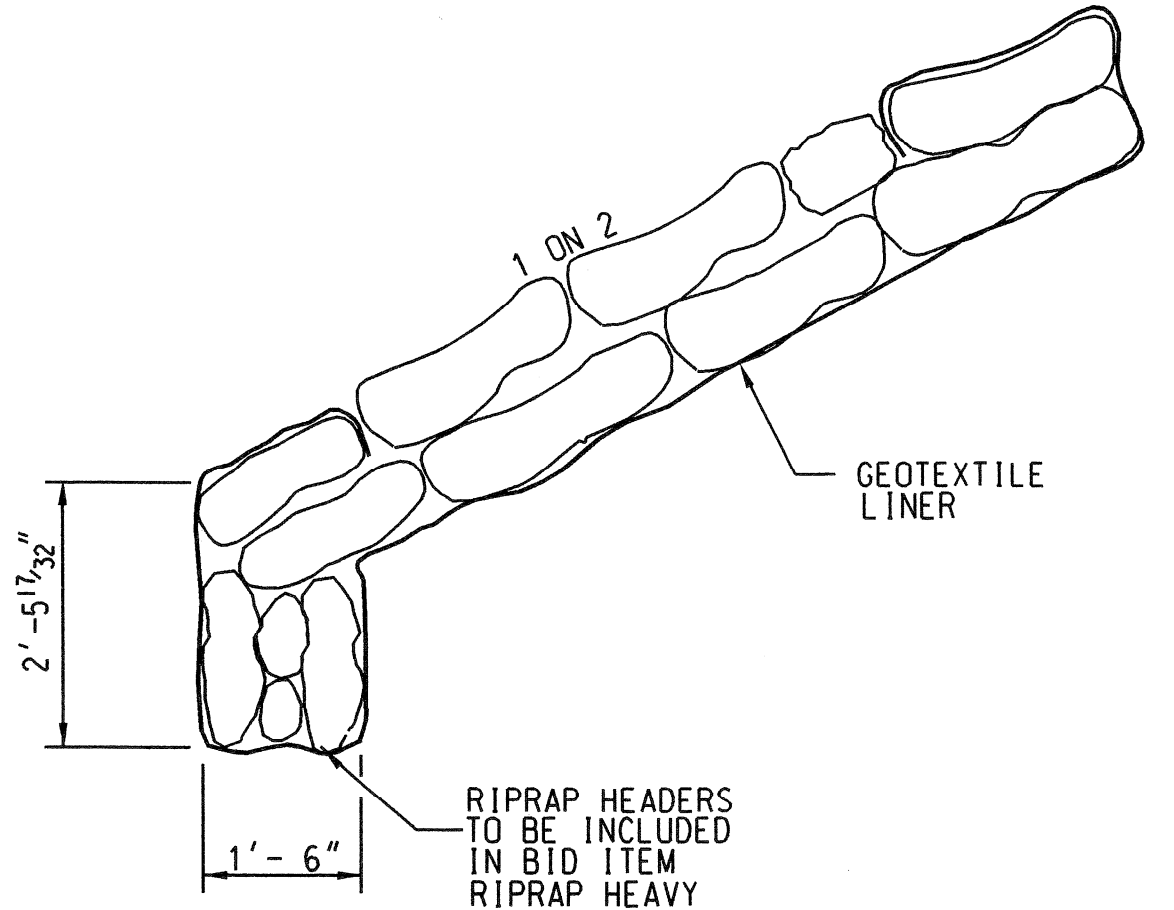
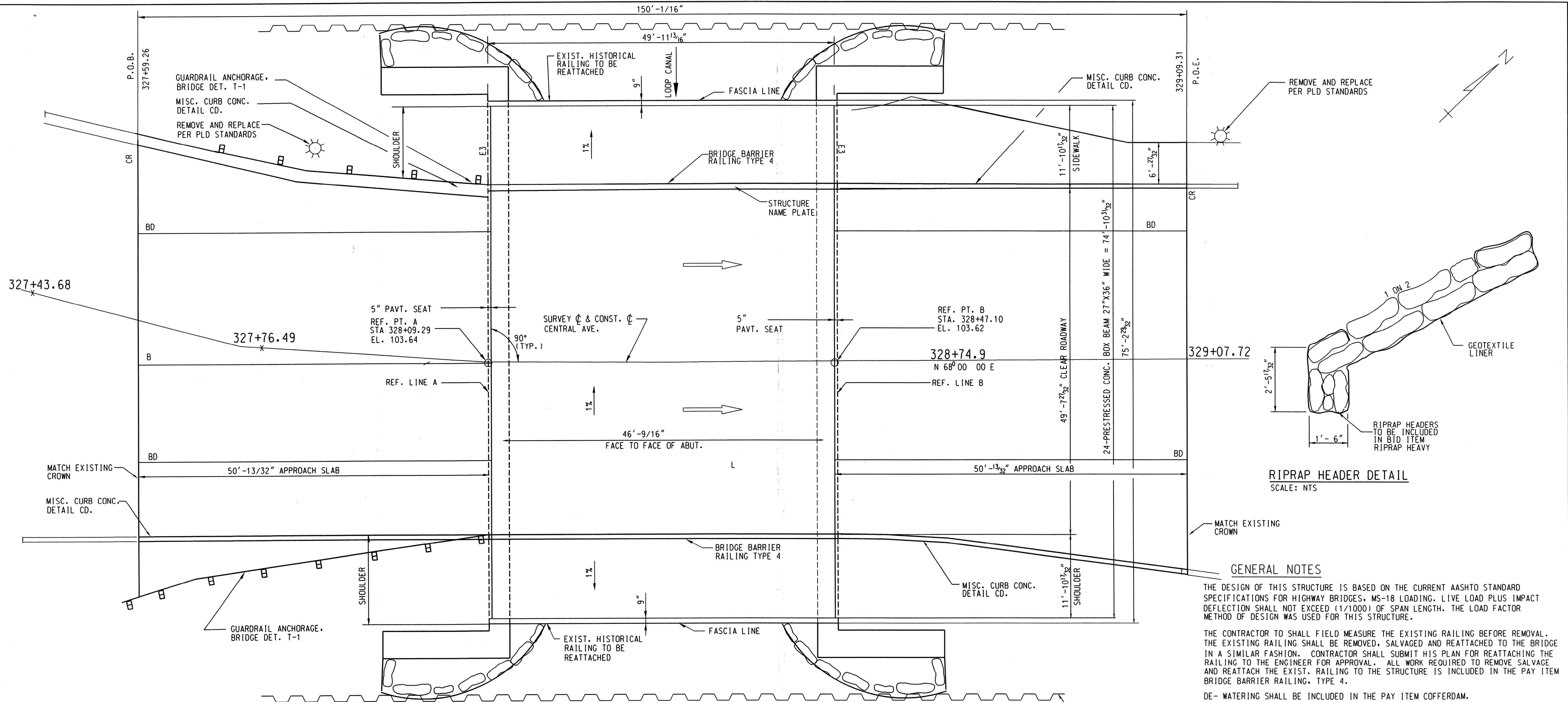
CITY OF DETROIT
 MICHIGAN

CENTRAL AVE.

LOG OF BORING

SCALE	NOT TO SCALE
PROJECT NO.	PW-6947
SHEET NO.	3 OF 10

FILE NAME: 02SITE .DGN



GENERAL NOTES

THE DESIGN OF THIS STRUCTURE IS BASED ON THE CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, MS-18 LOADING. LIVE LOAD PLUS IMPACT DEFLECTION SHALL NOT EXCEED (1/1000) OF SPAN LENGTH. THE LOAD FACTOR METHOD OF DESIGN WAS USED FOR THIS STRUCTURE.

THE CONTRACTOR SHALL FIELD MEASURE THE EXISTING RAILING BEFORE REMOVAL. THE EXISTING RAILING SHALL BE REMOVED, SALVAGED AND REATTACHED TO THE BRIDGE IN A SIMILAR FASHION. CONTRACTOR SHALL SUBMIT HIS PLAN FOR REATTACHING THE RAILING TO THE ENGINEER FOR APPROVAL. ALL WORK REQUIRED TO REMOVE SALVAGE AND REATTACH THE EXIST. RAILING TO THE STRUCTURE IS INCLUDED IN THE PAY ITEM BRIDGE BARRIER RAILING, TYPE 4.

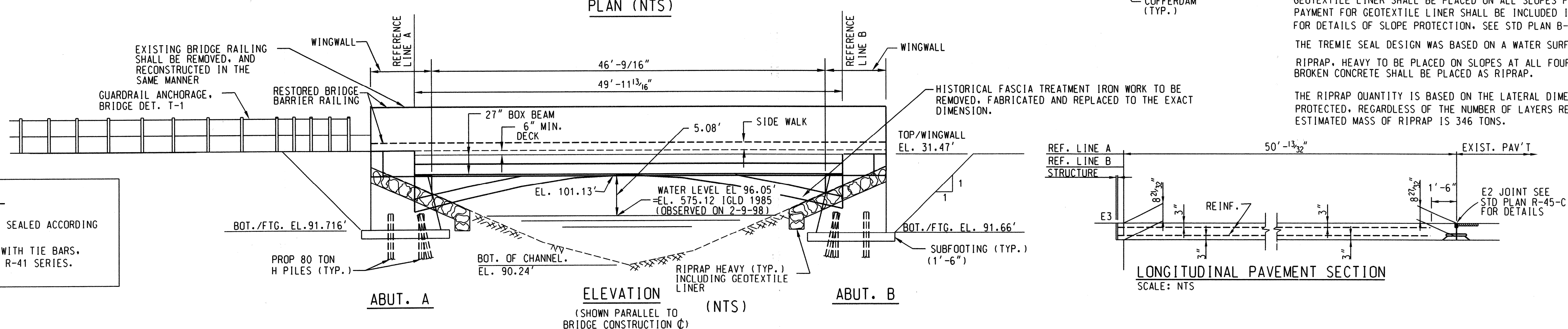
DE- WATERING SHALL BE INCLUDED IN THE PAY ITEM COFFERDAM.

GEOTEXTILE LINER SHALL BE PLACED ON ALL SLOPES PRIOR TO PLACING RIPRAP. PAYMENT FOR GEOTEXTILE LINER SHALL BE INCLUDED IN PAYMENT FOR RIPRAP. FOR DETAILS OF SLOPE PROTECTION, SEE STD PLAN B-102 SERIES.

THE TREMIE SEAL DESIGN WAS BASED ON A WATER SURFACE ELEVATION 96.05'

RIPRAP, HEAVY TO BE PLACED ON SLOPES AT ALL FOUR QUADRANTS. NO BROKEN CONCRETE SHALL BE PLACED AS RIPRAP.

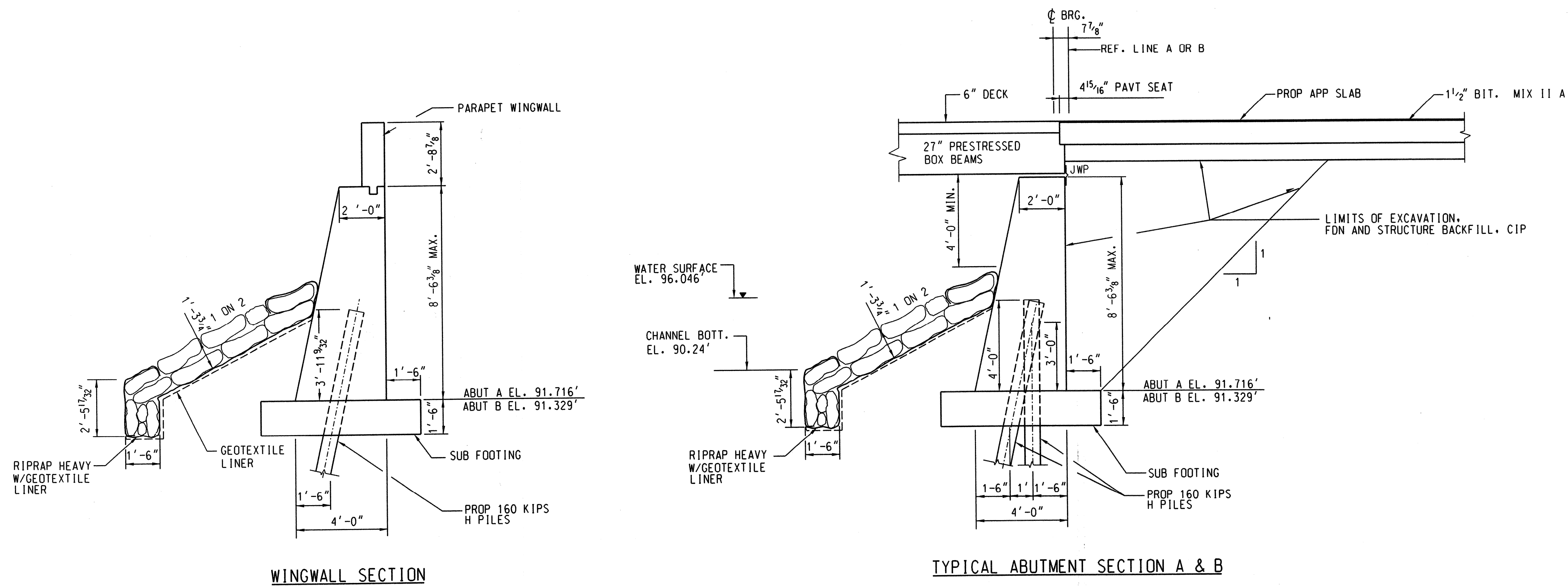
THE RIPRAP QUANTITY IS BASED ON THE LATERAL DIMENSION OF THE AREA TO BE PROTECTED, REGARDLESS OF THE NUMBER OF LAYERS REQUIRED. THE ESTIMATED MASS OF RIPRAP IS 346 TONS.



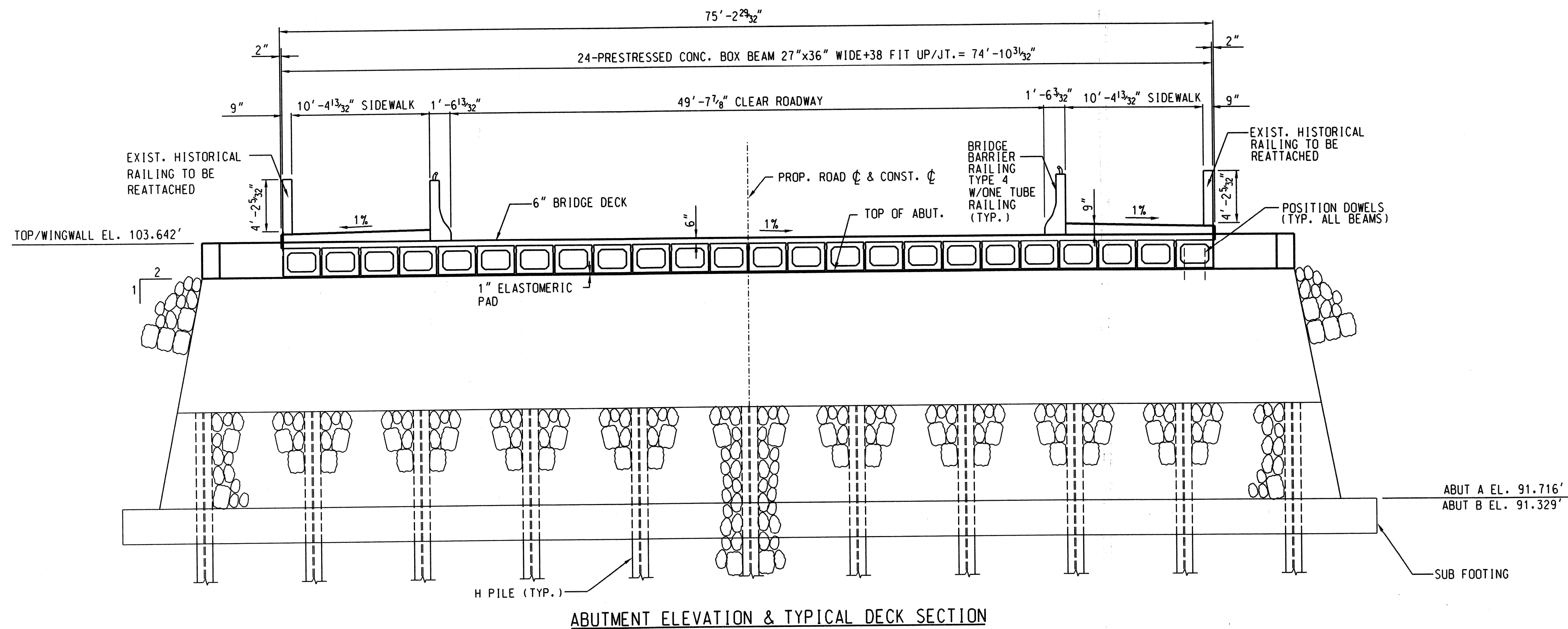
JOINT LEGEND

- (B) LONGITUDINAL BULKHEAD JOINT. SEALED ACCORDING TO STD PLAN R-41 SERIES.
- (D) LONGITUDINAL LANE TIE JOINT WITH TIE BARS. SEALED ACCORDING TO STD PLAN R-41 SERIES.
- (BD) OPTIONAL B OR D JOINT.

REVISIONS	DSGN BY	S. RAVAL	6/15/07	CITY OF DETROIT MICHIGAN	CENTRAL AVE.	GENERAL PLAN OF STRUCTURE	SCALE	NOT TO SCALE
	DR'N BY	S. RAVAL	6/15/07				PROJECT NO.	PW-6947
	CK'D BY	R. FLORO	6/15/07				SHEET NO.	4 OF 10
	APP'D BY	R. FLORO	6/15/07					



NOTE:
 1-TUBE RAIL SHALL BE INSTALLED ON TOP OF BRIDGE BARRIER RAILING, TYPE 4 FOR DETAILS OF TUBE RAIL SEE STANDARD PLAN B-24 SERIES. THE COST OF INSTALLING TUBE RAIL IS INCLUDED IN THE COST OF BRIDGE BARRIER RAILING, TYPE 4.



MISCELLANEOUS QUANTITIES		
ITEM	UNIT	TOTAL
STRUCTURES, REM	LSUM	1
STRUCTURE BACKFILL (CIP)	CYD	760
BIT MIX. IIA	K TON	91.5
EXCAVATION, FDN.	CYD	760
CONC. PAVT. MISC 9"	SQ. YD.	553
COFFERDAM	LSUM	1
AGGREGATE BASE, 4"	SQ. YD.	553
RIPRAP HEAVY	SQ. YD.	383
SHOULDER CL1, 4"	SQ. YD.	292

REVISIONS	DSGN BY	S. RAVAL	06/05/07
	DR'N BY		06/05/07
	CK'D BY	R. FLORO	06/05/07
	APP'D BY	R. FLORO	06/05/07



CITY OF DETROIT
MICHIGAN

CENTRAL AVE.

GENERAL PLAN
OF STRUCTURE

SCALE NOT TO SCALE
 PROJECT NO. PW-6947
 SHEET NO. 5 OF 10

FILE NAME: 02SITE.DGN

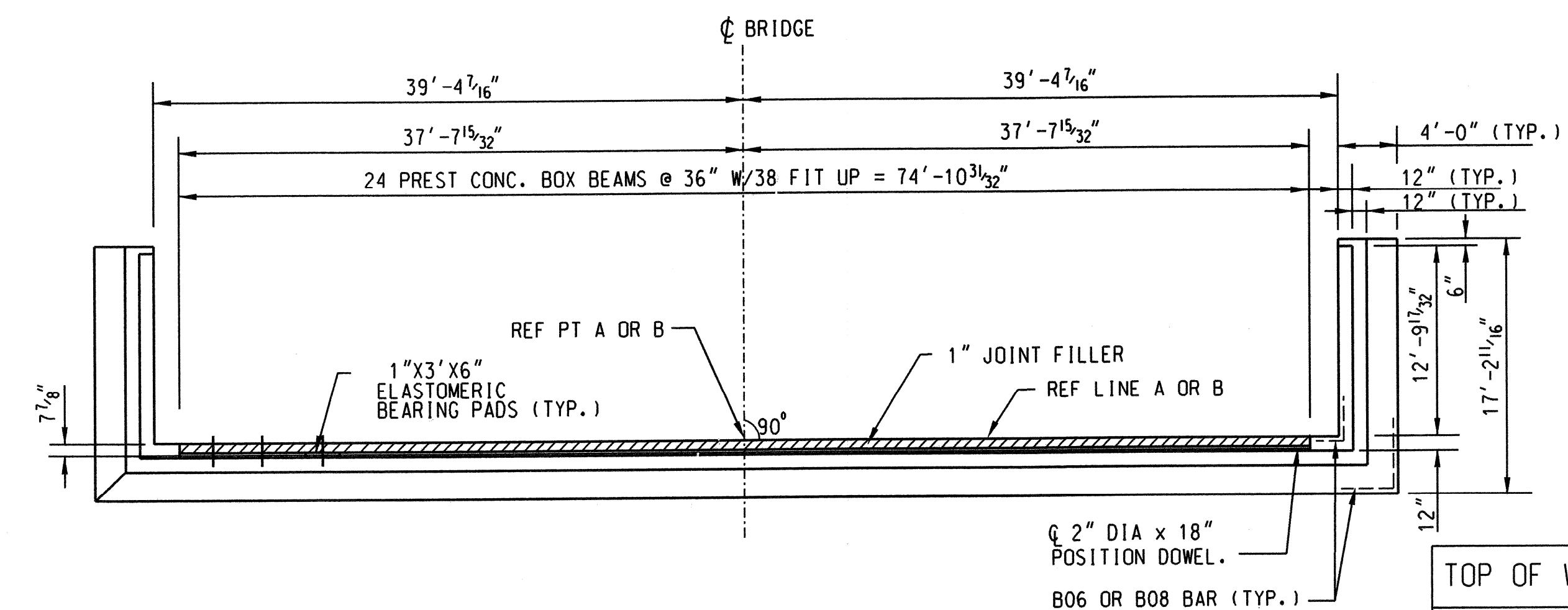
SUBSTRUCTURE POUR QUANTITIES				
ITEM	UNIT	ABUT. A	ABUT. B	
POUR A	CYD	51	51	
POUR B	CYD	51	51	
POUR C	CYD	1.64	1.64	
POUR D	CYD	1.64	1.64	
TOTAL	CYD	105.28	105.28	

MISCELLANEOUS QUANTITIES				
ITEM	UNIT	ABUT. A	ABUT. B	TOTAL
JOINT WATER PROOFING	FT ²	12.92	12.92	25.84
WATER REPELLENT TREATMENT	SYD	28	28	56
STEEL PILE, FURNISHED AND DRIVEN	FT	1,748.69	1,742.12	3,489.51
FURNISHING EQUIPMENT FOR DRIVING PILES	LSUM	-	-	1
TEST PILE, STEEL	EACH	1	1	2
CONCRETE, GRADE T	CYD	44	44	88

STEEL PILE-FURNISHED AND DRIVEN (HP14X72)					
LOCATION	PILE TYPE	NUMBER OF PILES	ESTIMATED LENGTH FURNISHED AND DRIVEN EACH M	SPLICES (EACH)	CUT-OFF ELEVATIONS
ABUT. A	TEST	1	108.27'	1	95.652'
	VERTICAL	8	100.07'	1	95.652'
	BATTERED	8	105'	1	95.652'
ABUT. B	TEST	1	108.27'	1	95.265'
	VERTICAL	8	99.41'	1	95.265'
	BATTERED	8	104.66'	1	95.265'
TOTAL		34	3,489.51'		

NOTES:
 F.S. DENOTES FAR SIDE
 N.S. DENOTES NEAR SIDE
 E.S. DENOTES EACH SIDE
 J.W.P. DENOTES JOINT WATERPROOFING
 FOR BEVEL, MOLDING AND NAME PLATE DETAILS, SEE STANDARD PLAN B-103-D.
 ALL ABUTMENT PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 80 TON. STEEL PILES SHALL BE HP 14 X 72.
 POSITION DOWELS SHALL BE INCLUDED IN PAY ITEM PRESTRESSED CONCRETE DECK, 2'-3".
 THE TOP OF ABUTMENTS SHALL BE GIVEN AN APPLICATION OF PENETRATING WATER REPELLENT TREATMENT BEFORE THE ELASTOMERIC BEARING PADS HAVE BEEN PLACED IN FINAL POSITION ON THE STRUCTURE.
 MINIMUM BAR LAPS ARE AS FOLLOWS:
 #06 BARS = 2'-2"
 #08 BARS = 4'-0"
 POURS B AND C ARE TO BE FORMED AND PLACED AFTER DECK IS SET.
 ADJUST REINFORCEMENT AS REQUIRED TO CLEAR POSITION DOWELS.
 PILE SPLICES ARE AT CONTRACTOR'S OPTION AND WILL NOT BE PAID FOR SEPARATELY.

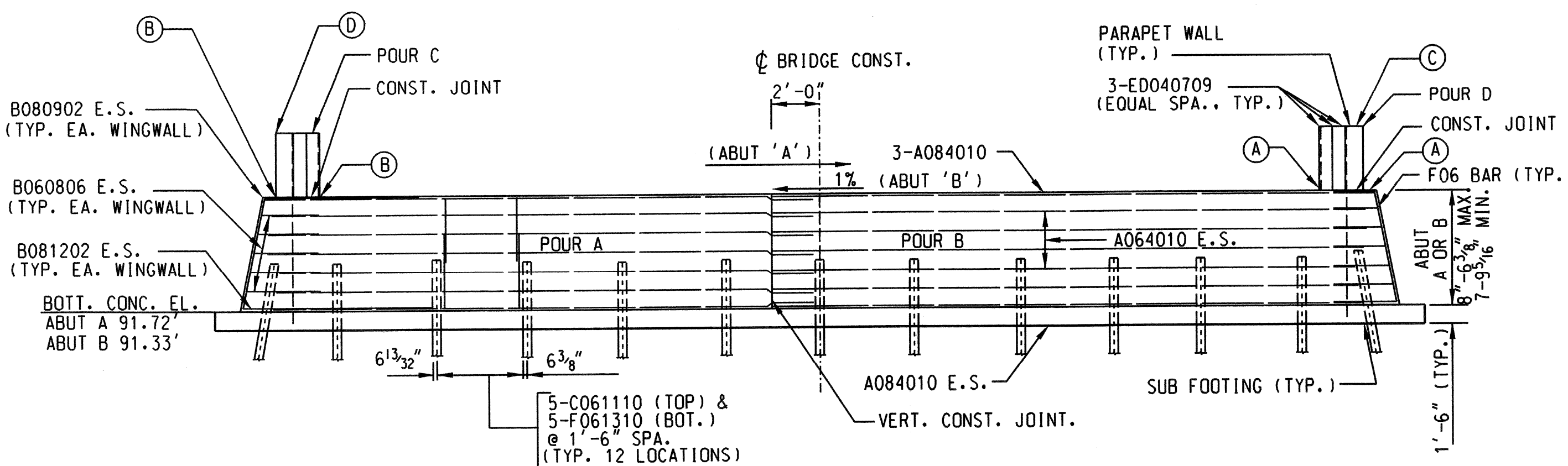
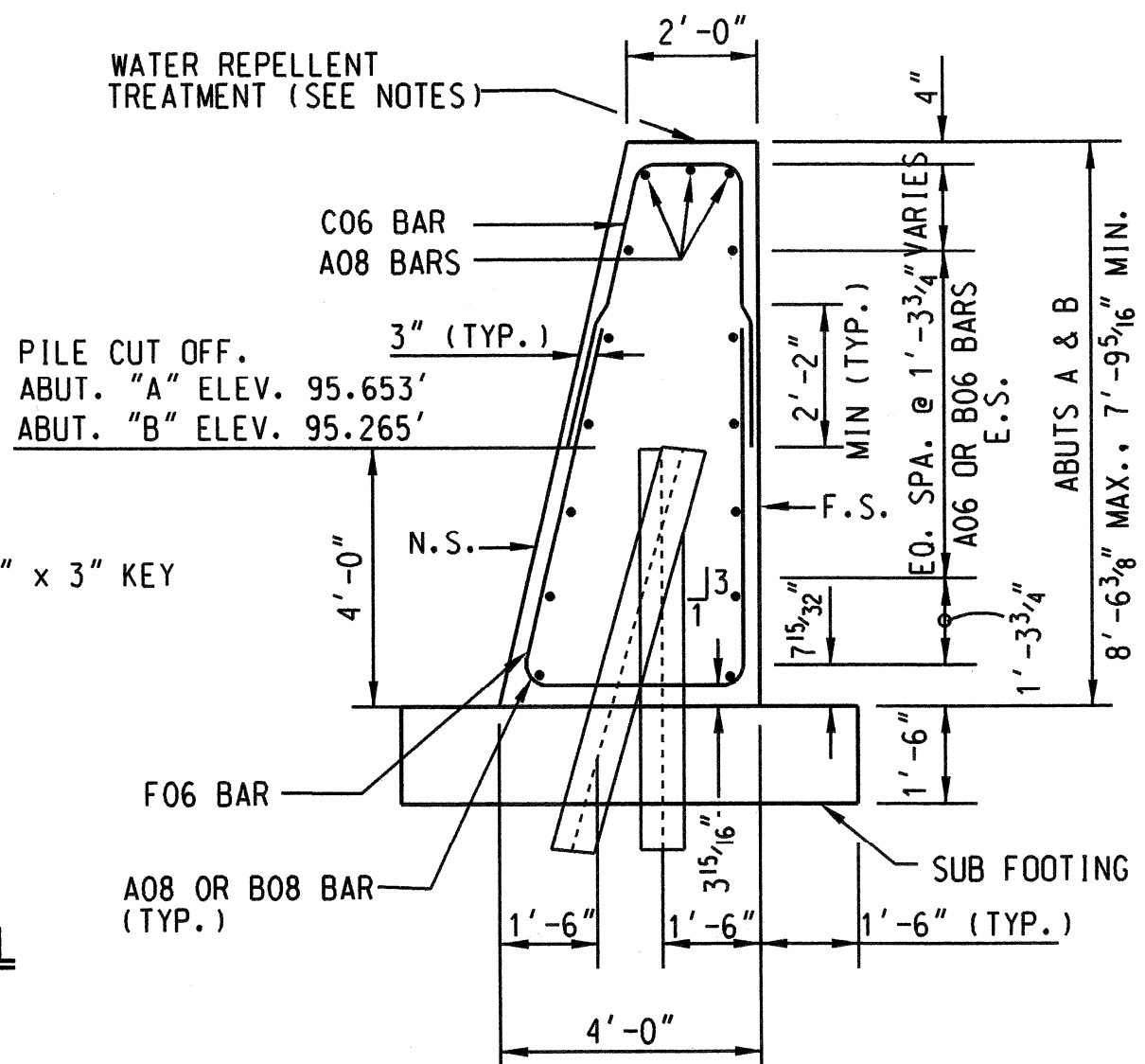
SPLICE DETAILS
 SET UPPER SPLICE SECTION IN PLACE WITH SPLICE PLATES ATTACHED. TAP SEVERAL TIMES WITH THE HAMMER TO IMPROVE BEARING CONTACT. THEN COMPLETE WELDING OF PLATES TO THE LOWER SECTION.



ABUT PLAN A OR B

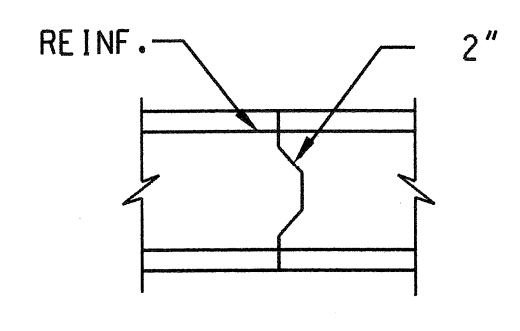
TOP OF WALL ELEVATIONS				
LOCATION	A	B	C	D
ABUT A	103.25	104.04	109.03	106.86
ABUT B	103.64	102.85	106.46	105.68

RETURN-WALL ELEVATION



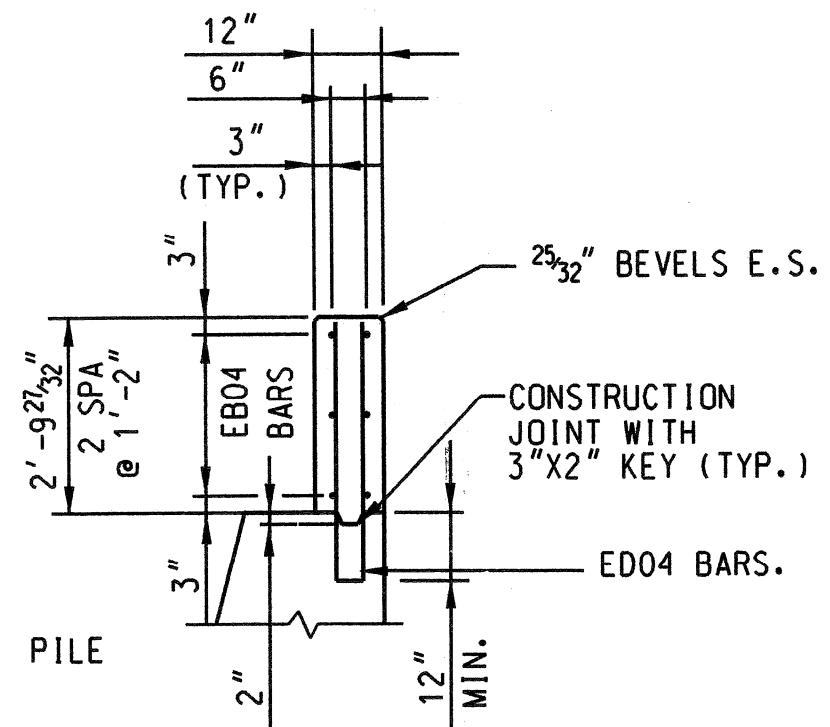
ABUT ELEVATION A OR B

CONST. JT. DETAIL

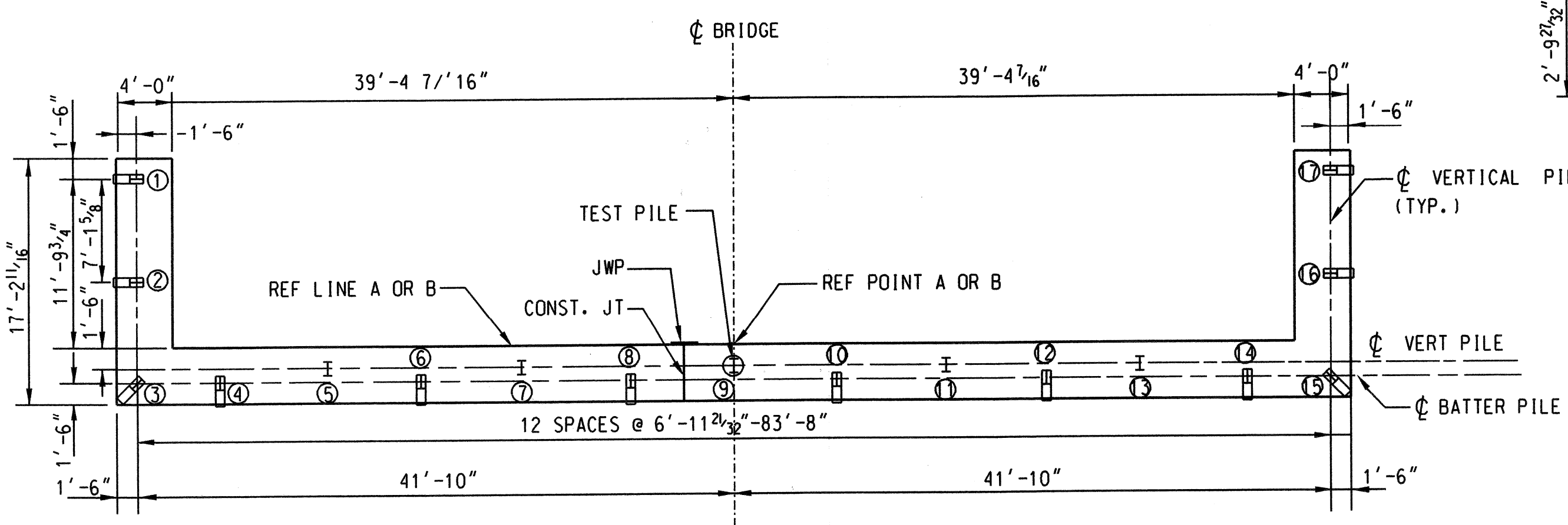
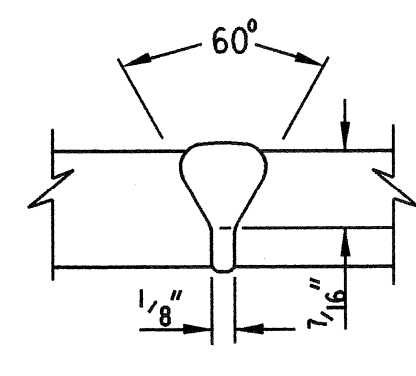


TYPICAL WALL SECTION

PARAPET SECTION



DETAIL B



PILE PLAN

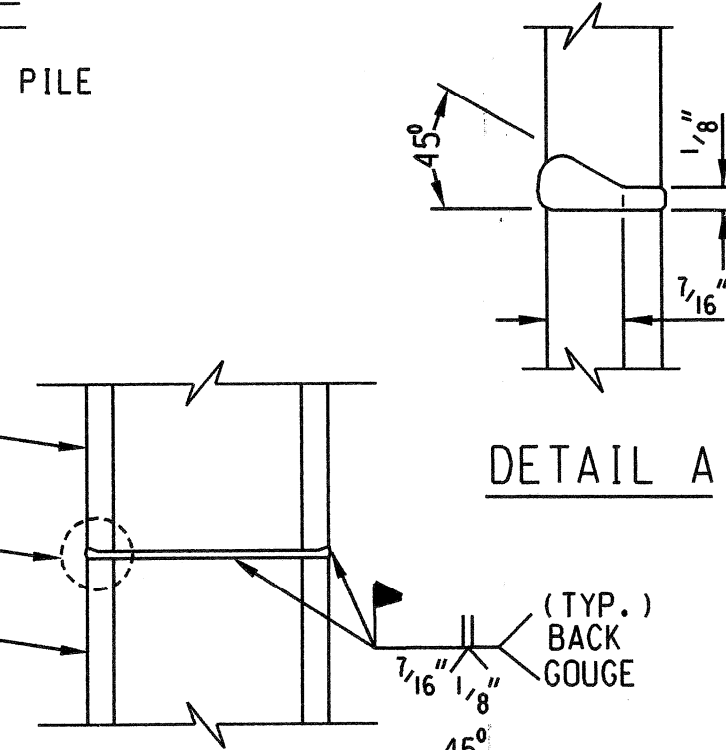
LEGEND

- ⊙ - TEST PILE
- I - VERTICAL PILE
- ⊞ - BATTER PILE

PILE EXTENSION

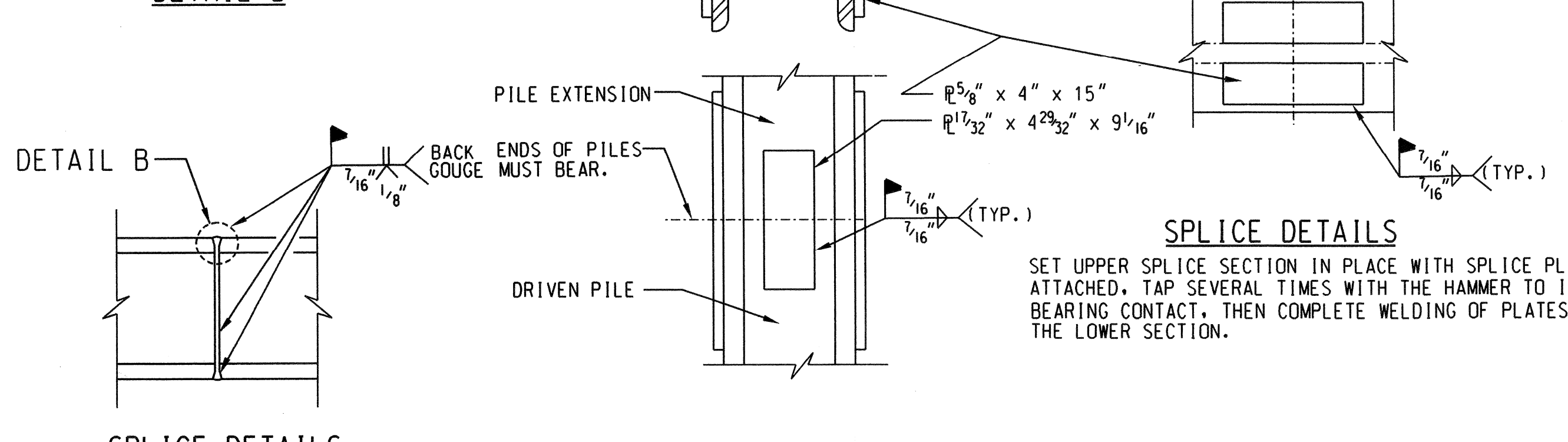
DETAIL A

DRIVEN PILE



SPLICE DETAILS

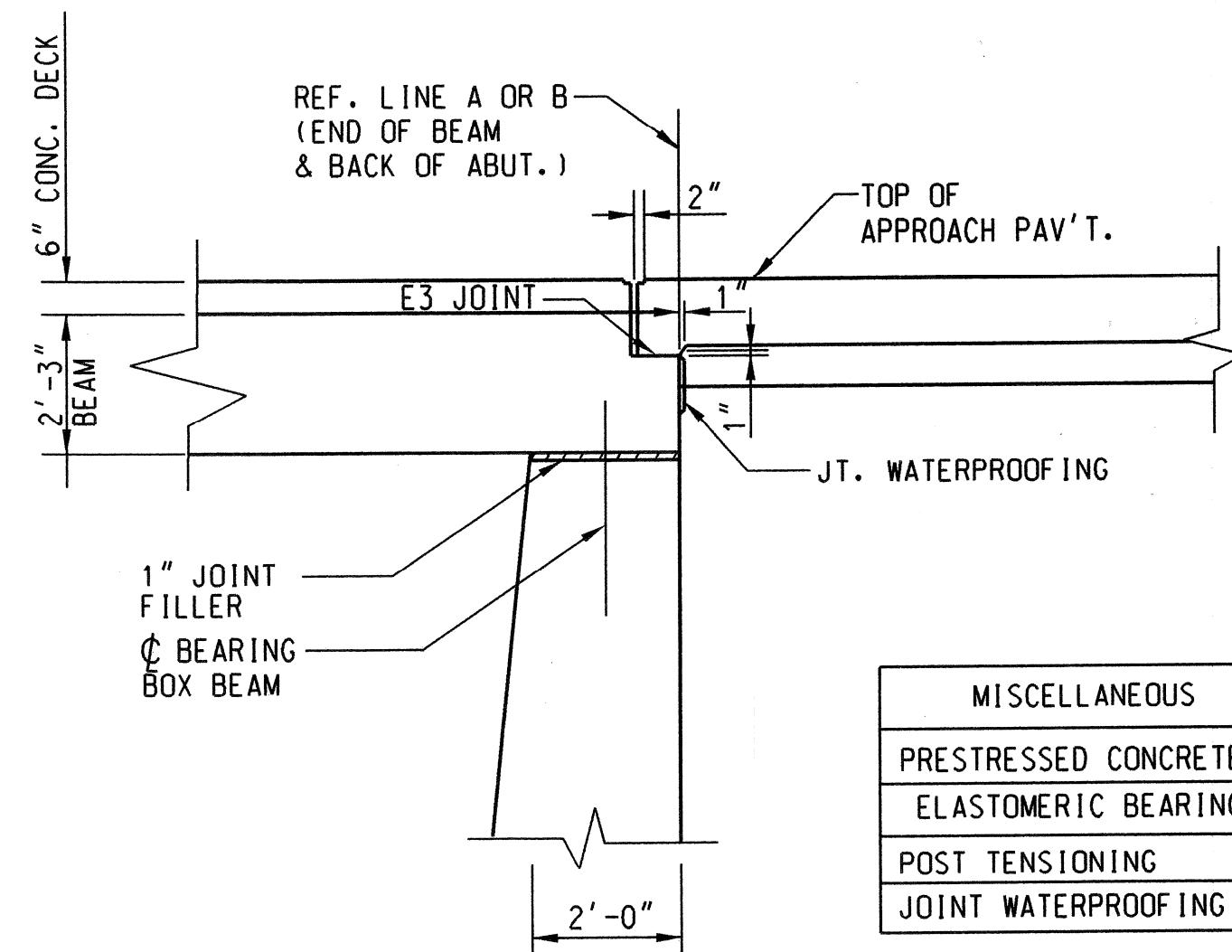
FOR PILES IN HORIZONTAL POSITION



GENERAL NOTES:
 ALL EXPOSED SURFACES OF ABUTMENT AND WINGWALLS SHALL BE FORMED USING A PLASTIC FORM LINER TO GIVE A STONE FINISH APPEARANCE. THE CONTRACTOR SHALL SUBMIT THE SPECIFICATIONS TO THE ENGINEER BEFORE START OF CONSTRUCTION.

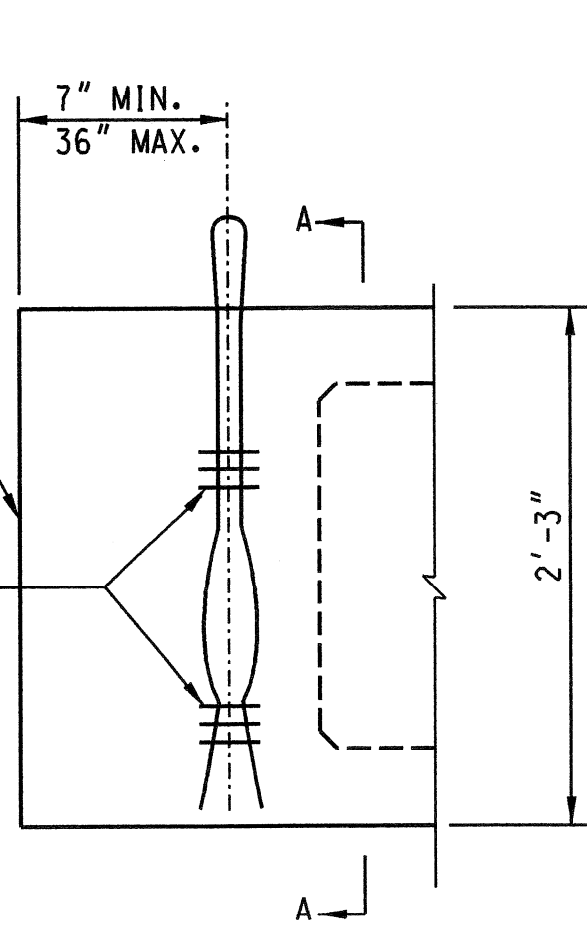
REVISIONS	DSGN BY	S. RAVAL	07/07/07		CITY OF DETROIT MICHIGAN	CENTRAL AVE.	ABUTMENT DETAILS	SCALE	NOT TO SCALE
	DR'N BY							PROJECT	PW-6947
	CK'D BY	R. FLORD	07/07/07					SHEET	
	APP'D BY	R. FLORD	07/07/07					NO.	6 OF 10

FILE NAME: 0331E...000

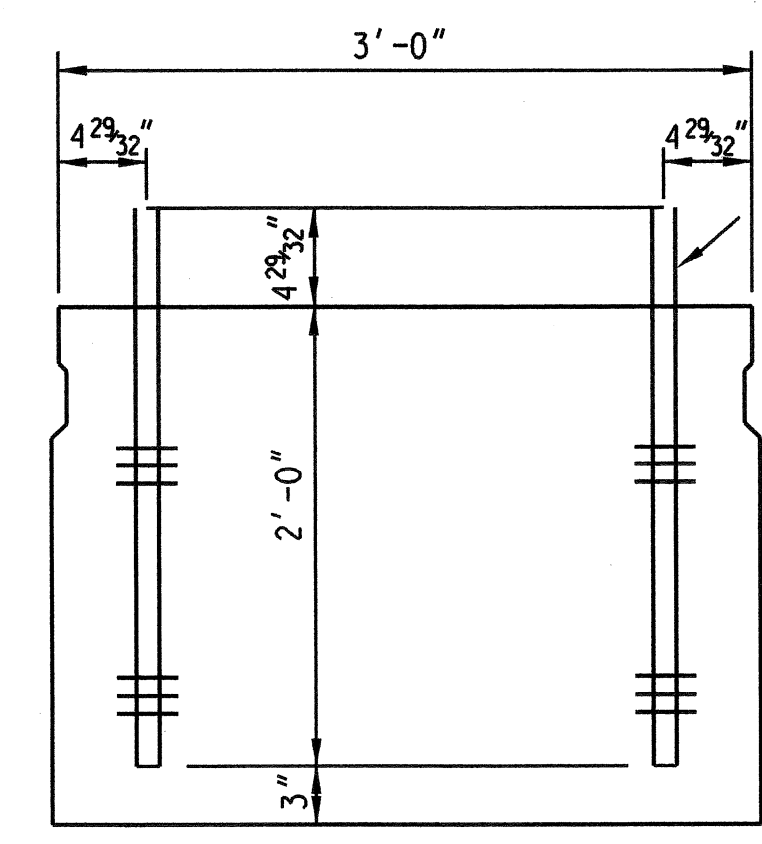


MISCELLANEOUS	UNITS	QUANTITIES
PRESTRESSED CONCRETE DECK 2'-3"	SYD	416.22
ELASTOMERIC BEARING, 1"	SYD	8.0
POST TENSIONING	Lsum	1
JOINT WATERPROOFING	SYD	84

APPROACH SECTION
SCALE: NONE



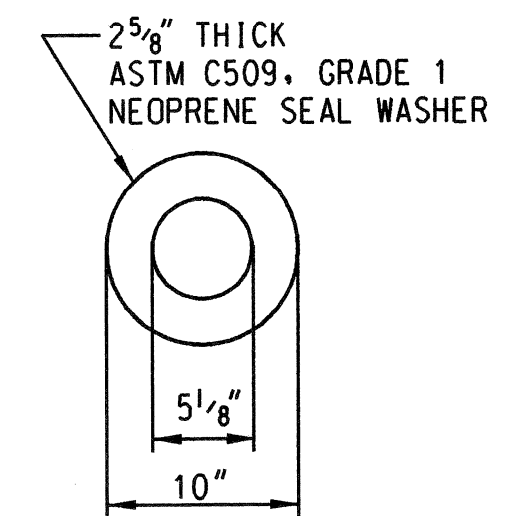
ELEVATION
SCALE: NONE



SECTION A-A
SCALE: 1"=100'

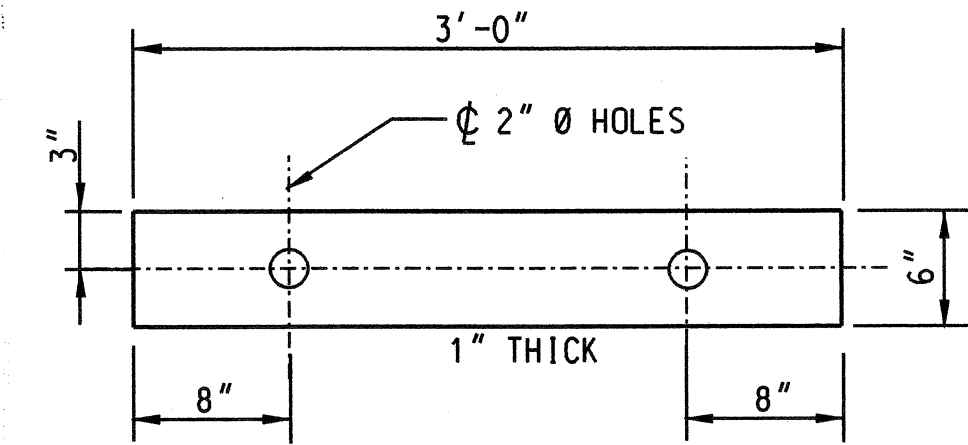
LIFTING DEVICE DETAIL

PLAN NOTE:
LIFTING DEVICES SHALL BE REMOVED.
REMOVAL IS INCLUDED IN THE BID ITEM
PRESTRESSED CONCRETE DECK, 685mm



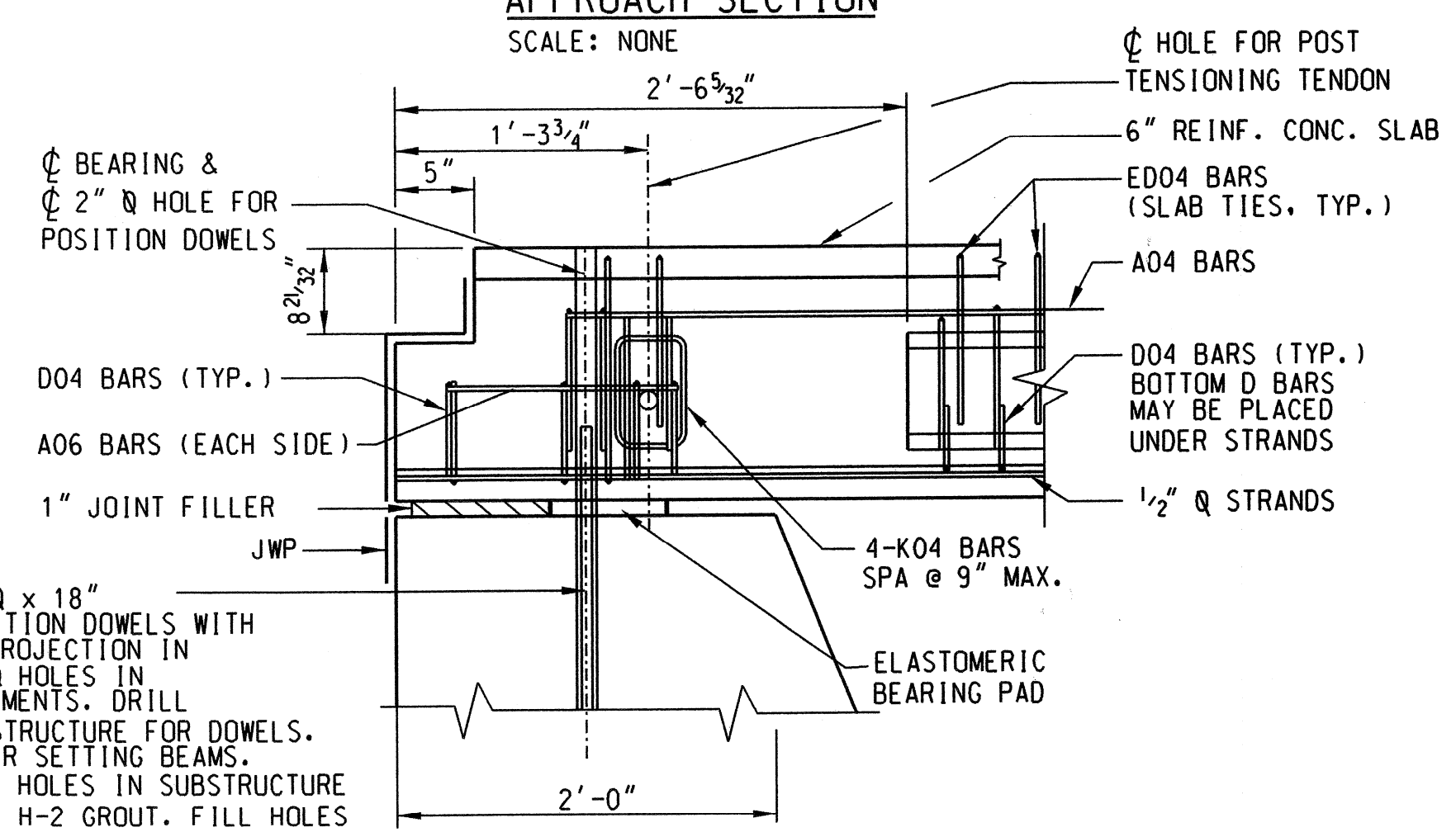
SEAL WASHER DETAIL

SCALE: 1"=100'
NOTE:
SEAL WASHER MAY BE 10" x 10" SQUARE
OPTIONAL. THE ENGINEER MAY APPROVE
OTHER MEANS OF SEALING.

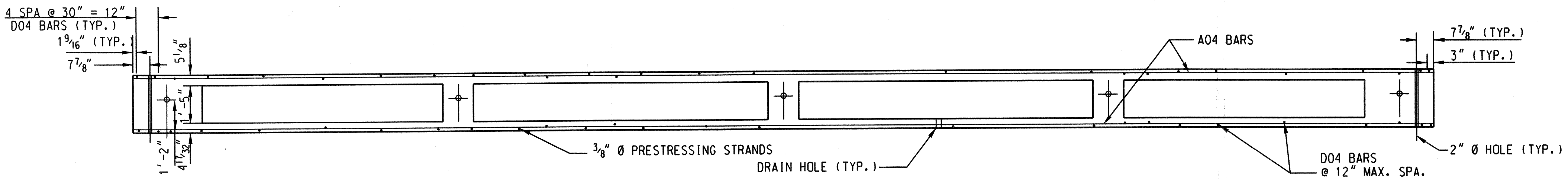


ELASTOMERIC BEARING PAD @ ABUTMENT

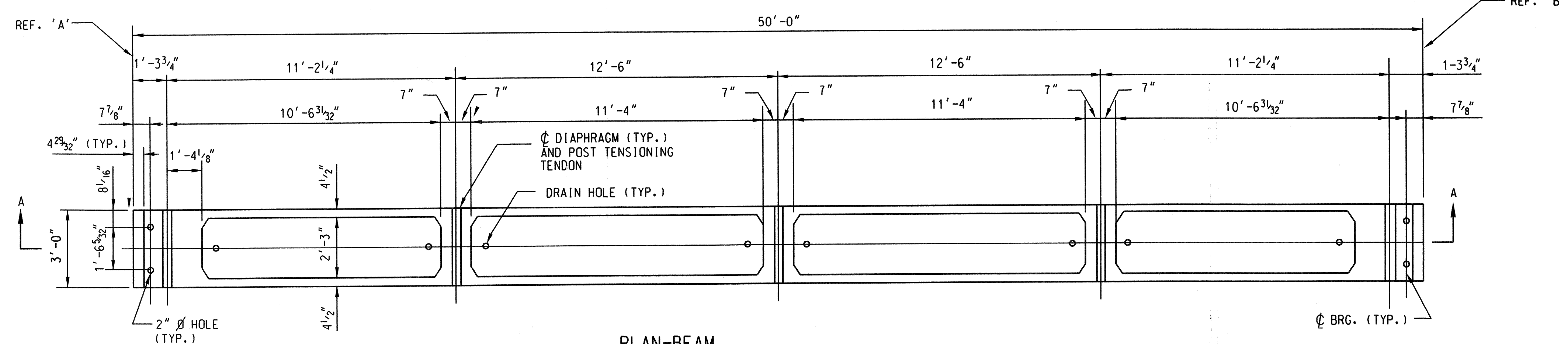
70 DUROMETER (48 REO' D)



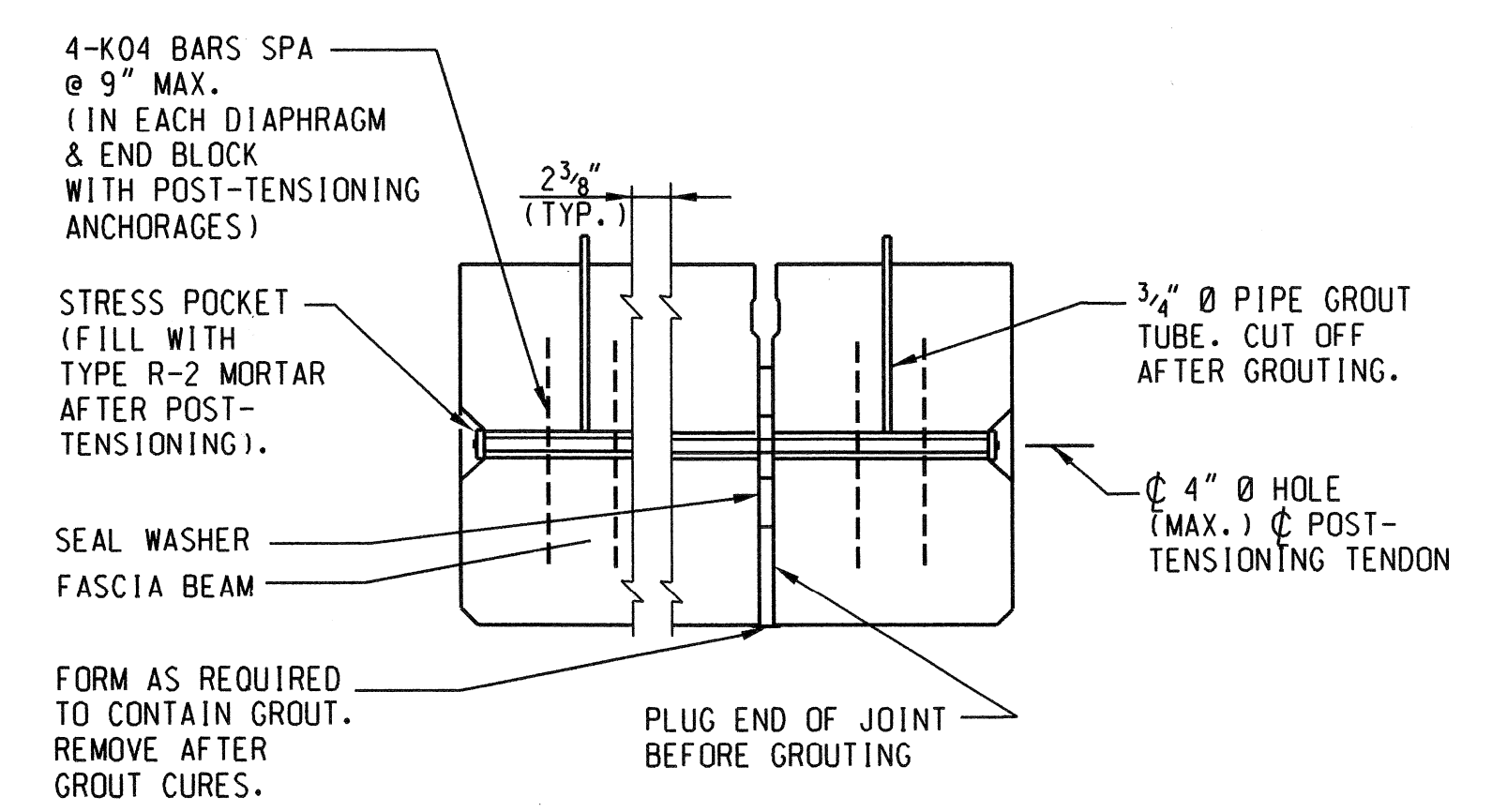
SECTION THRU END BLOCK AT ABUTMENT
SCALE: 1"=100'



SECTION A-A

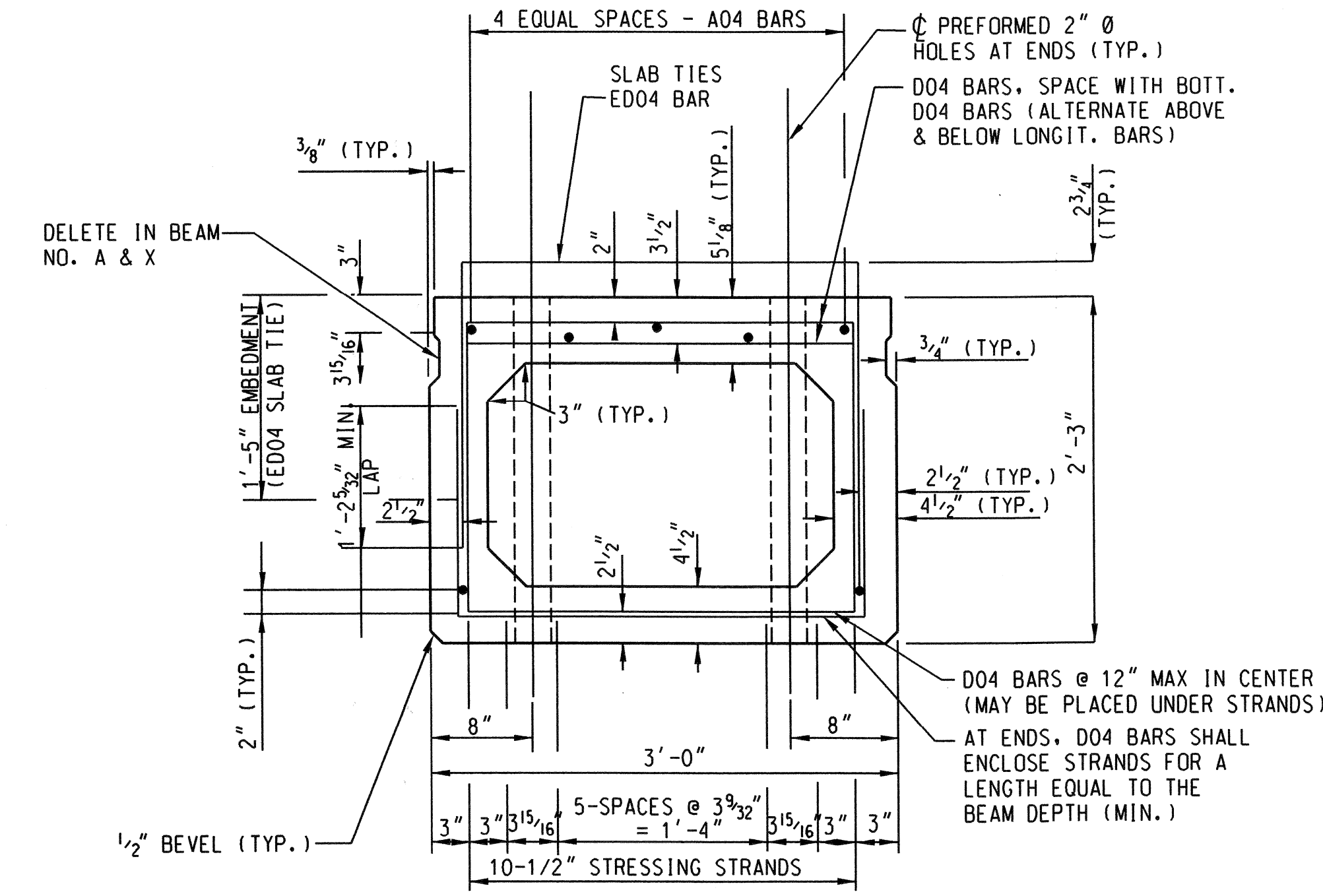


PLAN-BEAM
SCALE: NONE



POST-TENSIONING DETAIL

SCALE: NONE
PLAN NOTE:
STRESS POCKET, ANCHOR PLATES AND TENDON COUPLERS SHALL
BE AS REQUIRED FOR THE POST-TENSIONING SYSTEM PROVIDED.



TYPICAL SECTION-BEAM
SCALE: 1"=100'

NOTES:
THE COMPRESSIVE STRENGTH OF THE CONCRETE SHALL NOT BE LESS THAN 5,000 PSI AT 28 DAYS.
PRESTRESSING STRANDS SHALL BE GIVEN AN INITIAL PRESTRESS OF 15.5 TON.
THE COMPRESSIVE STRENGTH OF THE CONCRETE AT THE TIME PRESTRESSING FORCE RELEASE SHALL NOT BE LESS THAN 3,000 PSI.
TOTAL ESTIMATED CHANGE IN LENGTH OF BOTTOM FLANGE AT TRANSFER OF PRESTRESS FORCE IS 0.12 INCH.
THE ESTIMATED BEAM CAMBER AT RELEASE IS 3/4". THIS CAMBER IS DUE TO PRESTRESS AND DEAD LOAD OF THE BEAM ONLY AND IS MEASURED IN ERECTED POSITION.
THE INITIAL FORCE IN THE TRANSVERSE POST TENSIONING TENDONS SHALL BE 41 TON.
LIFTING DEVICES SHALL BE REMOVED. REMOVAL IS INCLUDED IN THE BID ITEM "PRESTRESSED CONCRETE DECK, 2'-0\"/>

REVISIONS	DSGN BY	S. RAVAL	7/22/07
	DR'N BY		
	CK'D BY	R. FLORD	7/22/07
	APP'D BY	R. FLORD	7/22/07



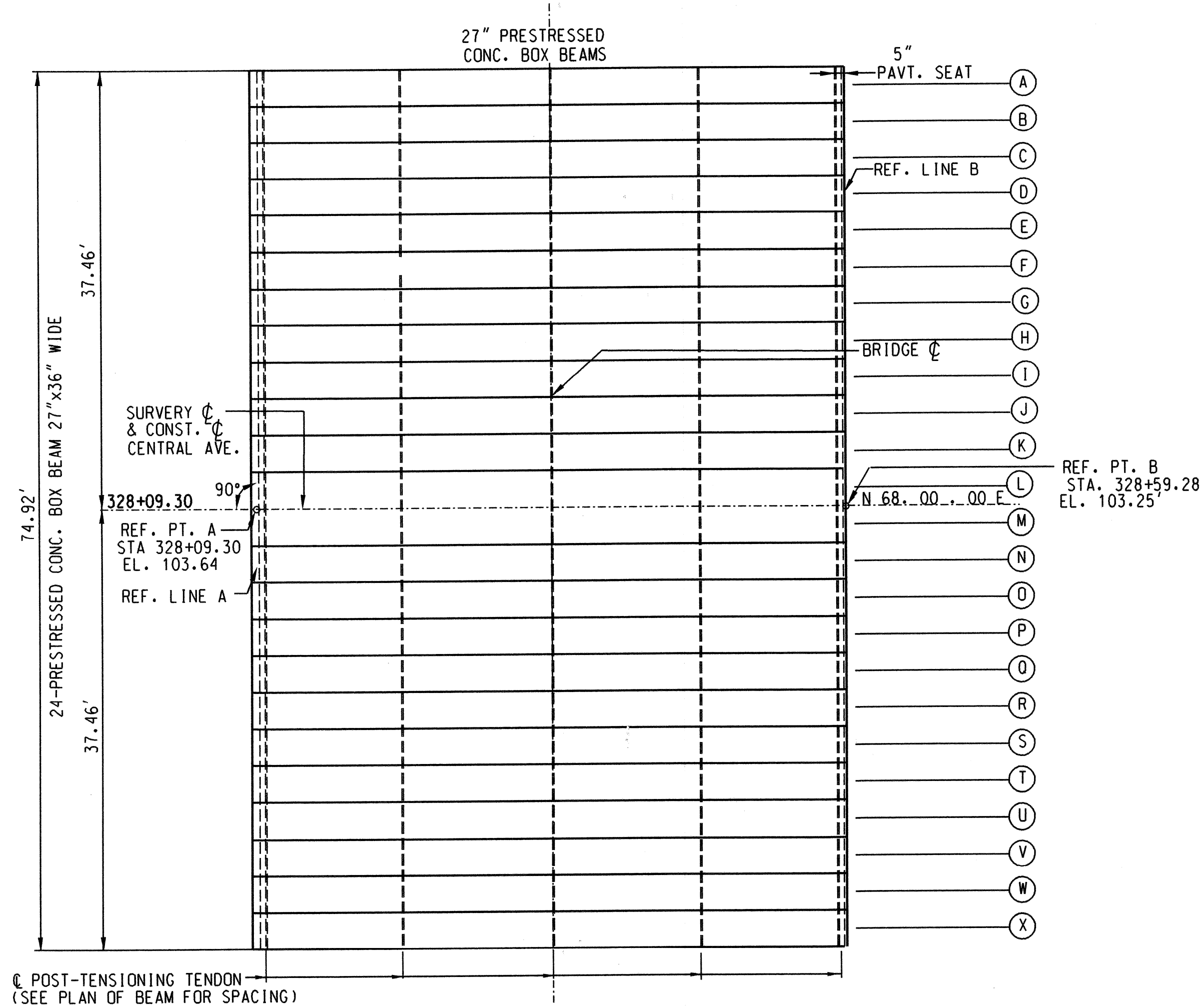
CITY OF DETROIT
MICHIGAN

CENTRAL AVE.

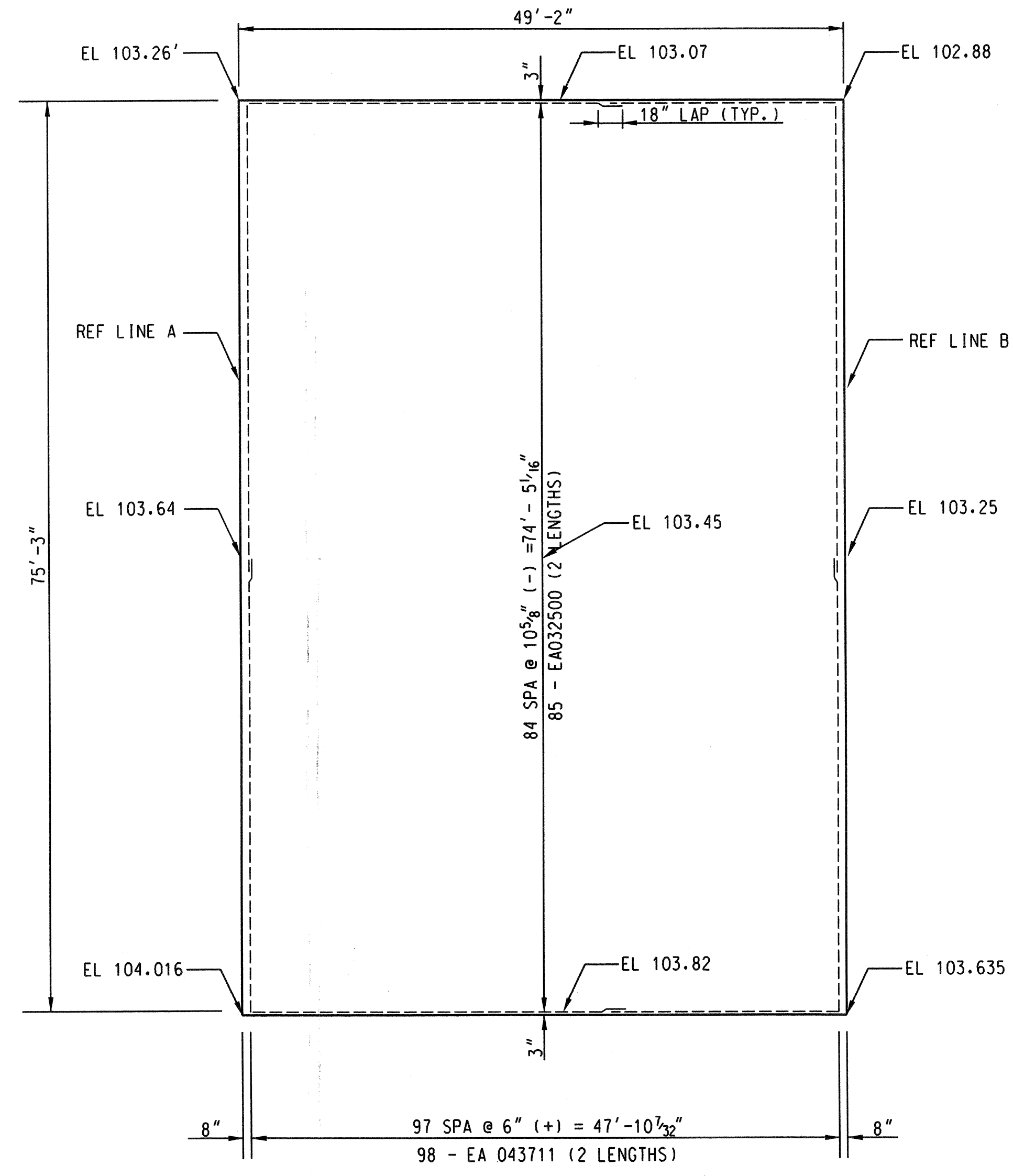
SUPER
STRUCTURE
DETAILS

SCALE	NOT TO SCALE
PROJECT NO.	PW-6947
SHEET NO.	7 OF 10

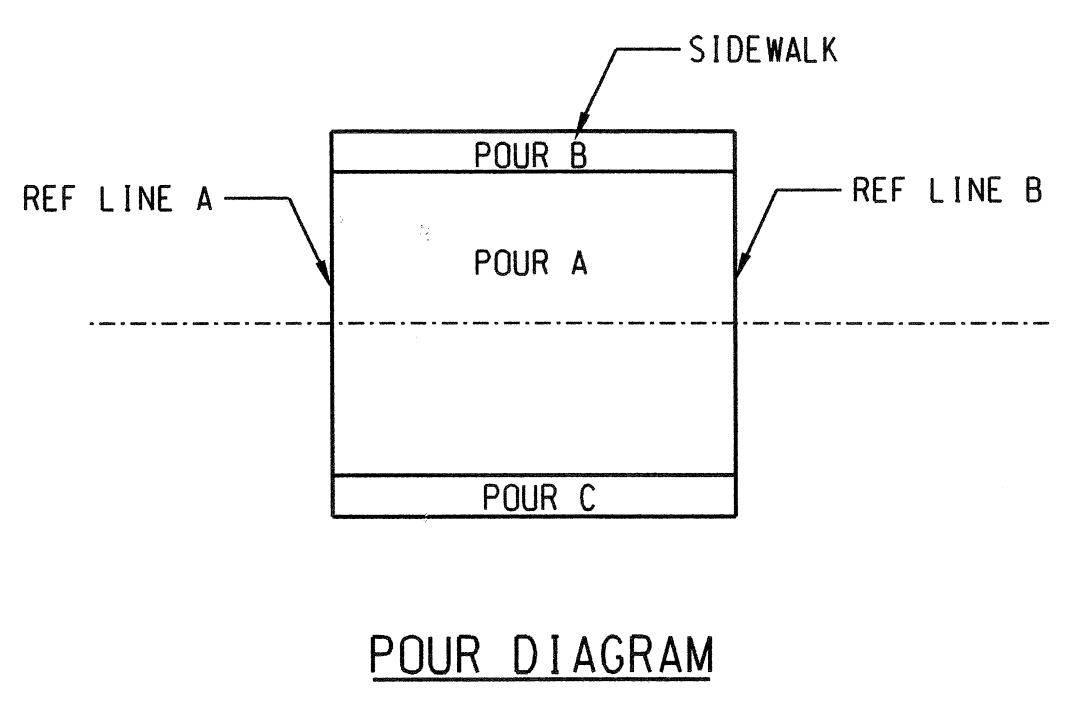
FILE NAME: 02511C...DGN



ERECTION DIAGRAM



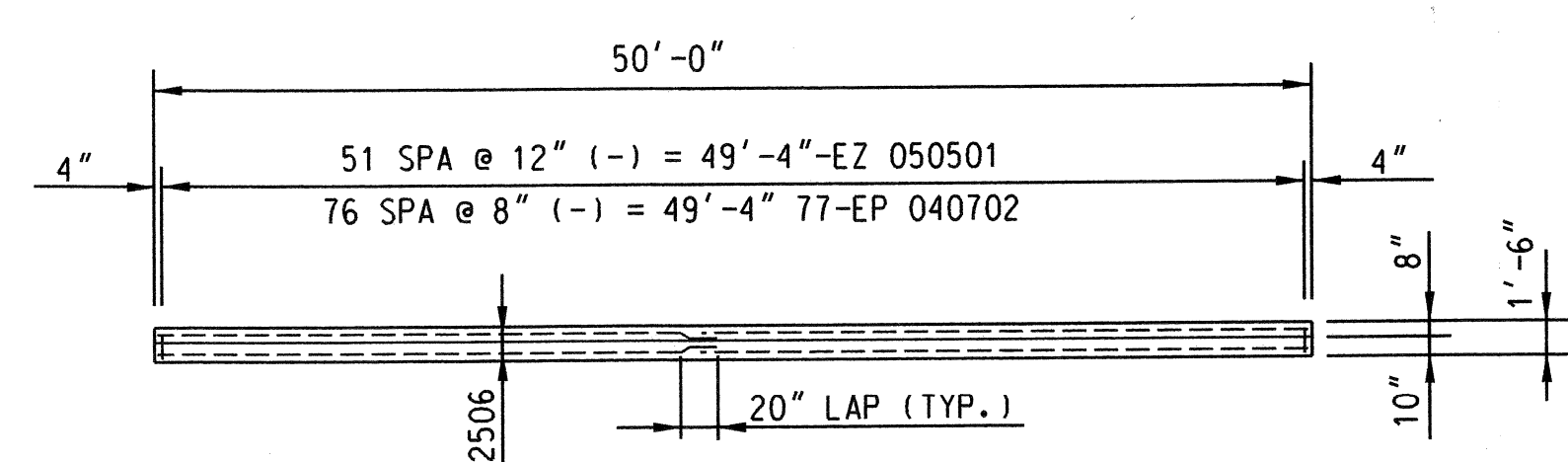
PLAN OF DECK SLAB



SUPERSTRUCTURE CONCRETE	
POUR	QUANTITY
A	67.2 CYD
B	16.7 CYD
C	16.7 CYD
TOTAL	100.6 CYD

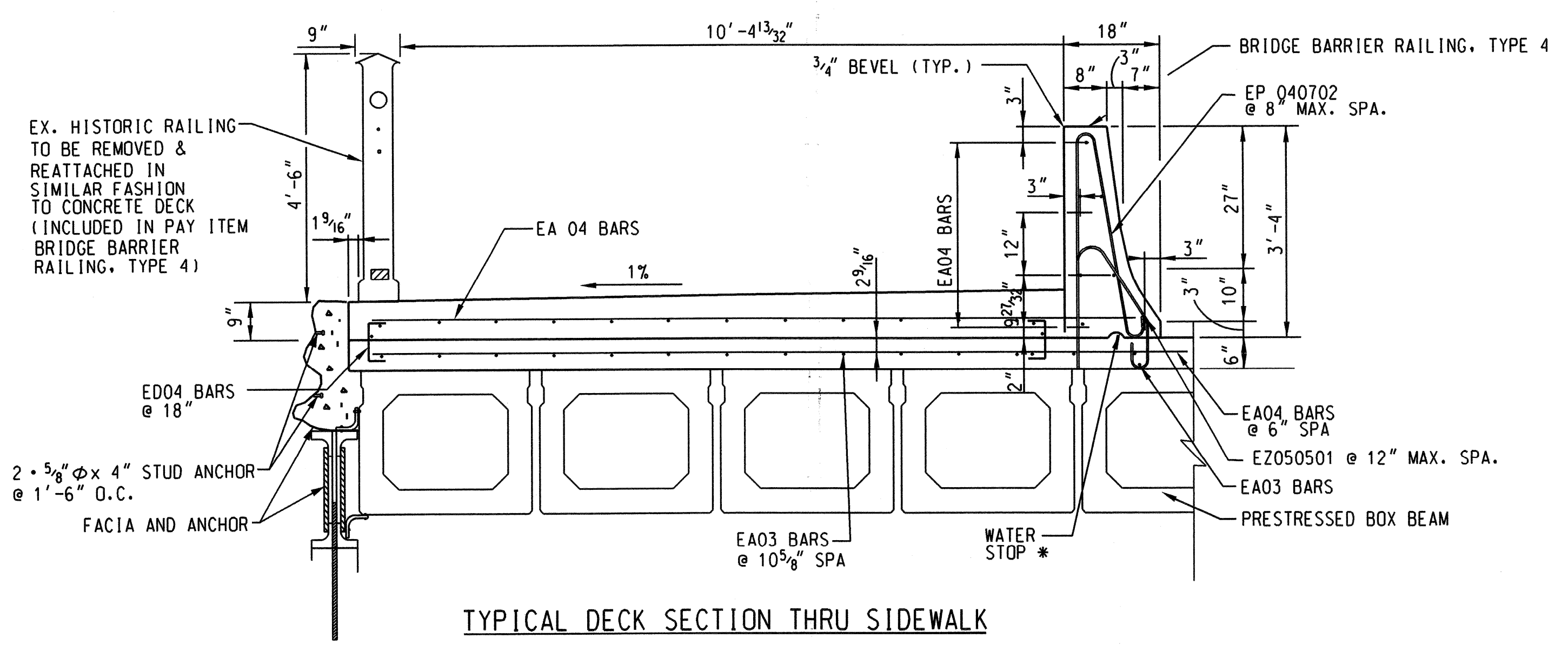
NOTES:

- FOR DETAIL OF NAME PLATES, MOLDING AND LEVELS, SEE STANDARD PLAN B-103 SERIES.
- FOR NAME PLATE LOCATION SEE GENERAL PLAN OF OF STRUCTURE SHEET.
- ALPHABETICAL DESIGNATION OF DECK POURS IS NOT TO BE CONSTRUED AS A POUR SEQUENCE
- BRIDGE BARRIER RAILING, TYPE 4 SHALL BE PROVIDED WITH A RUBBED SURFACE FINISH ON THE PEDESTRIAN SIDE AT NO ADDITIONAL COST.



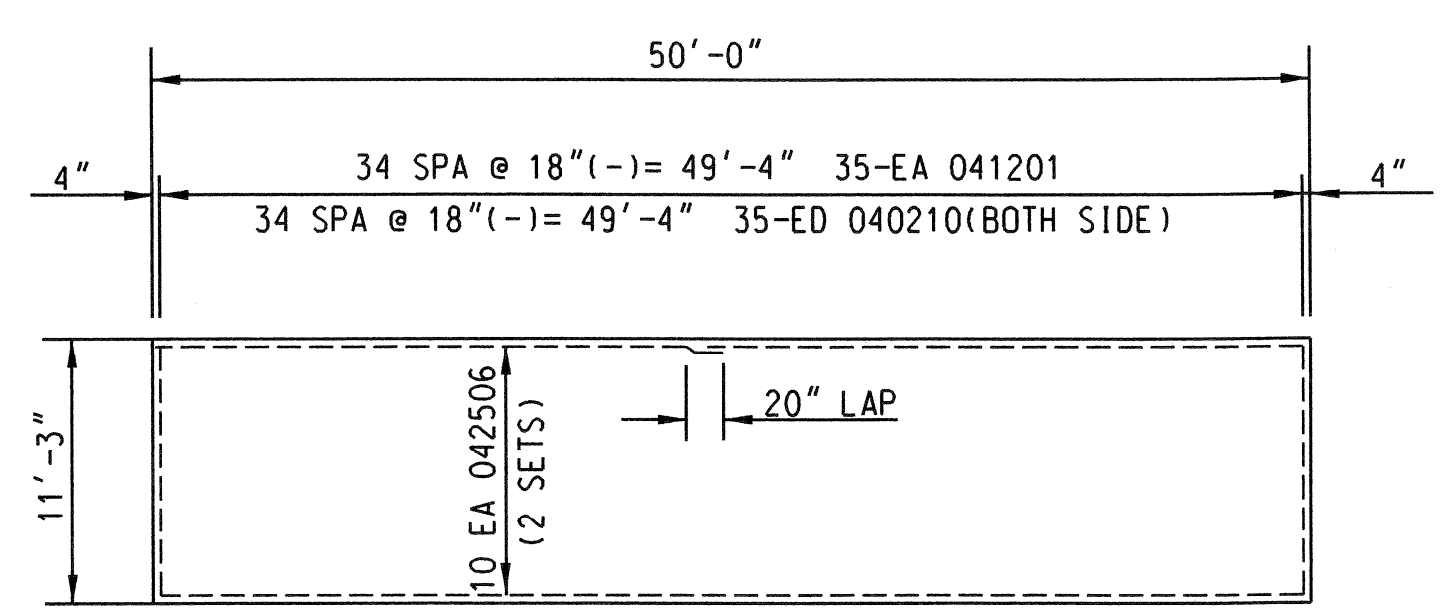
PLAN OF BRIDGE BARRIER RAILING (TYP. BOTH SIDES)

MISCELLANEOUS	UNITS	QUANTITIES
BRIDGE BARRIER OR RAILING, TYPE 4	FT	101.71
STRUCTURE NAME PLATE	Ea	1
SUPERSTRUCTURE CONCRETE	CYD	101
FORMING, FINISHING & CURING SUPERSTRUC. CONC.	LSUM	1
CONCRETE QUALITY ASSURANCE	CYD	292
CONCRETE QUALITY INITIATIVE	dir	1400



TYPICAL DECK SECTION THRU SIDEWALK

NOTE
* 2" HIGH X 4" LONG (FORMING NOT REQ'D)



PLAN OF SIDEWALK (NTS)

REVISIONS	DSGN BY	S. RAVAL	07/23/07
	DR'N BY		
	CK'D BY	R. FLORO	07/23/07
	APP'D BY	R. FLORO	07/23/07



CITY OF DETROIT MICHIGAN

CENTRAL AVE.

SUPER STRUCTURE DETAILS

SCALE	NOT TO SCALE
PROJECT NO.	PW-6947
SHEET NO.	8 OF 10

APPROACHES

ITEM CODE	ITEM	UNIT	AMOUNT
1000001	MOBILIZATION, MAX	Lsum	1
2040005	CURB, REM	FT	200
2040008	GUARDRAIL, REM	FT	92
2040013	SIDEWALK, REM	SYD	73
3020010	AGGREGATE BASE 4 INCH	SYD	553
3020010	SHOULDER C1 1, 4 INCH	SYD	292
5020033	HMA, 11A	T	92
6020076	CONC. PAVT MISC REINF. 9 INCH	SYD	553
	CONC. CURB, DETAIL CD, MODIFIED	FT	200
8030002	SIDEWALK CONC. 4"	SFT	657
8070022	GUARDRAIL ANCH, BRIDGE DET T 1	ea	2
8120102	PLASTIC DRUM, HIGH INTENSITY, LIGHTED, FURN.	ea	30
8120103	PLASTIC DRUM, HIGH INTENSITY, LIGHTED, OPER.	ea	30
8120005	BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED, FURN.	ea	6
8120006	BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED, OPER.	ea	6
8120120	SIGN, TYPE B, TEMP. FURN	SFT	323
8160055	SODDING	SYD	263
8160060	TOP SOIL SURFACE, FURN 2 INCH	SYD	263
3040020	WATER	UNIT	7

BRIDGE

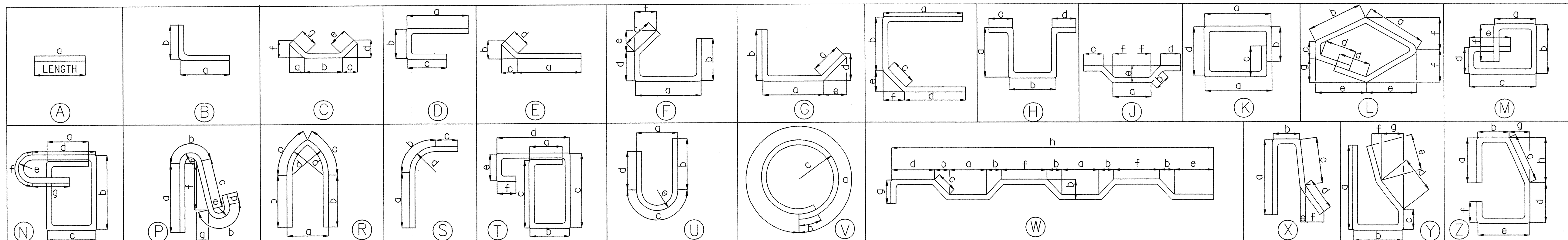
ITEM CODE	ITEM	UNIT	AMOUNT
2040020	STRUCTURES, REM.	Lsum	1
2060002	BACKFILL, STRUCTURE, CIP	CYD	759
2060011	EXCAVATION, ROCK FON	CYD	759
6050100	CONCRETE QUALITY ASSURANCE	CYD	305
6050101	CONCRETE QUALITY INITIATIVE	dir	1400
7040007	COFFERDAMS	Lsum	1
7050034	PILE, STEEL, FURN AND DRIVEN, 14 INCH	FT	3491
7050035	TEST PILE, STEEL, 14 INCH	ea	2
7050002	PILE DRIVING EQUIPMENT, FURN.	Lsum	1
7060004	CONC. GRADE I	CYD	88
7060010	SUBSTRUCTURE CONC	CYD	209
7060020	SUPERSTRUCTURE CONC	CYD	101
7060022	SUPERSTRUCTURE CONC FORM, FINISH & CURE	Lsum	1
7060034	REINFORCEMENT, STEEL	LBS	17054
7060035	REINFORCEMENT, STEEL, EPOXY COATED	LBS	8232
	STRUCTURE NAME PLATE	ea	1
7060040	WATER REPELLENT TREATMENT, PENETRATING	SYD	56
7070065	BEARING, ELASTOMERIC, 1 INCH	SFT	71
7080004	PRESTRESSED CONC. DECK, 27"	SFT	3744
7080015	POST TENSIONING	Lsum	1
7100001	JOINT WATERPROOFING	SFT	783
7110001	BRIDGE BARRIER RAILING, TYPE 4	FT	102
8130005	RIPRAP, HEAVY	SYD	383
8190301	LIGHT STD SHAFT, INSTALL SALV	ea	2
8190306	LIGHT STD SHAFT, REM AND SALV	ea	2

STEEL REINFORCEMENT

BAR	DIMENSIONS IN FT.								LENGTH IN FT.	NO. REQ'D	TOTAL WT. (lbs)
	a	b	c	d	e	f	g	h			
EB041403	11'-3 ¹ / ₂ "	3'-0"							14'-3 ³ / ₂ "	12	114.64
EB041509	12'-9 ¹ / ₂ "	3'-0"							15'-9 ³ / ₂ "	12	125.66
ED040709	3'-7 ⁵ / ₁₆ "	0'-6"	1'-7 ⁵ / ₁₆ "						7'-8 ¹ / ₂ "	60	308.64
A061503	15'-3 ¹ / ₂ "								15'-3 ¹ / ₂ "	56	1,283.07
A064010	40'-10 ³ / ₃₂ "								40'-10 ³ / ₃₂ "	20	1,227.95
B060806	4'-1 ⁵ / ₁₆ "	4'-5 ⁵ / ₃₂ "							8'-6 ³ / ₈ "	40	511.46
C061110	1'-2 ⁵ / ₁₆ "	1'-6"	0	5'-1 ¹ / ₂ "	5'-1 ¹ / ₂ "	5'-1 ¹ / ₂ "	5'-3"		11'-10 ¹ / ₈ "	280	4,980.16
F061310	3'-5 ¹ / ₂ "	5'-1 ⁵ / ₁₆ "	5'-3"	0	5'-1 ¹ / ₂ "	1'-2 ¹ / ₁₆ "			13'-9 ³ / ₄ "	280	5,809.08
F061208	4'-10 ³ / ₃₂ "	0	7'-9 ¹ / ₁₆ "	0	7'-3 ³ / ₃₂ "	2'-9 ⁵ / ₃₂ "			40'-10 ³ / ₃₂ "	4	77.16
A084010	40'-10 ³ / ₃₂ "								408'-5 ¹ / ₂ "	20	2,180.34
B080800	4'-1 ¹ / ₂ "	4'-0 ⁵ / ₁₆ "							8'-2 ¹ / ₁₆ "	8	176.37
B081202	4'-3 ¹ / ₁₆ "	7'-10 ¹ / ₂ "							12'-1 ⁵ / ₃₂ "	8	260.14
TOTAL STEEL REINFORCEMENT										17,054.67 lbs = 8.5 TON	

STEEL REINFORCEMENT, EPOXY

BAR	DIMENSIONS IN FT.								LENGTH IN FT.	NO. REQ'D	TOTAL WT. (lbs)
	a	b	c	d	e	f	g	h			
EA 032501	25'-2 ³ / ₈ "								25'-23 ³ / ₃₂ "	172	1,622.57
EA 043711	37'-11 ³ / ₁₆ "								37'-11 ³ / ₁₆ "	196	4,966.93
EA 042506	25'-5 ⁵ / ₈ "								25'-5 ⁵ / ₈ "	34	577.60
EA 041201	12'-1 ¹ / ₈ "								12'-1 ¹ / ₈ "	35	282.19
ED 040211	0'-10 ⁵ / ₈ "	11'-2"							2'-10 ⁵ / ₈ "	70	134.48
EP 040702	2'-11 ¹ / ₁₆ "	0'-6 ¹ / ₁₆ "	2'-10 ¹ / ₁₆ "	0'-3"	0'-1 ³ / ₁₆ "	2'-9 ⁷ / ₈ "	0'-3 ³ / ₄ "		7'-2 ¹ / ₂ "	77	370.37
EZ 050501	1'-10 ¹ / ₄ "	0-3 ³ / ₄ "	1'-5 ⁵ / ₁₆ "	0'-8 ¹ / ₄ "	0'-5 ¹ / ₈ "	0'-4 ¹ / ₁₆ "	0'-10 ¹ / ₄ "	1'-2"	5'-1 ³ / ₈ "	52	277.78
TOTAL STEEL REINFORCEMENT										8,232 lbs = 4.1 TON	



NOTES:

TOLERANCE IN CUTTING AND BENDING BARS ARE AS ESTABLISHED IN THE MANUAL OF STANDARD PRACTICE OF THE CONCRETE REINFORCING INSTITUTE AND DETAILING MANUAL OF THE AMERICAN CONCRETE INSTITUTE. STEEL FOR REINFORCING SHALL BE INTERMEDIATE OR HARD GRADE ONLY.

ALL RIGHT ANGLE BENDS IN REINFORCING STEEL TO BE MADE ABOUT A PIN OF MINIMUM DIAMETER ALLOWED BY THE STANDARD SPECIFICATIONS.

REVISIONS	Revised for PW-6947	08/2007	DSGN BY	R. RAVAL	07/23/07
			DR'N BY		
			CK'D BY	R. FLORO	07/23/07
			APP'D BY	R. FLORO	07/23/07



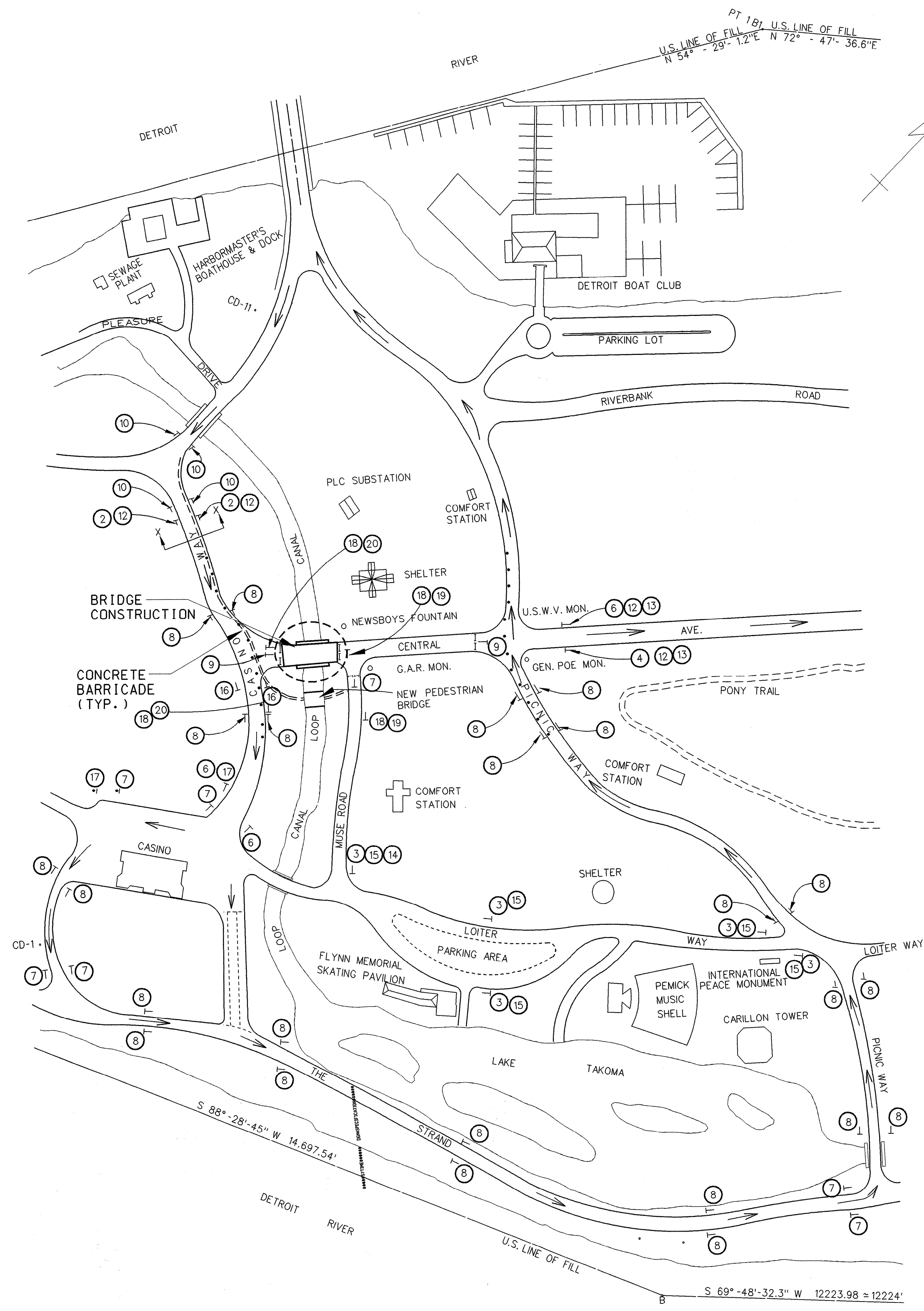
CITY OF DETROIT MICHIGAN

CENTRAL AVE.

SUMMARY OF STEEL REINFORCEMENT

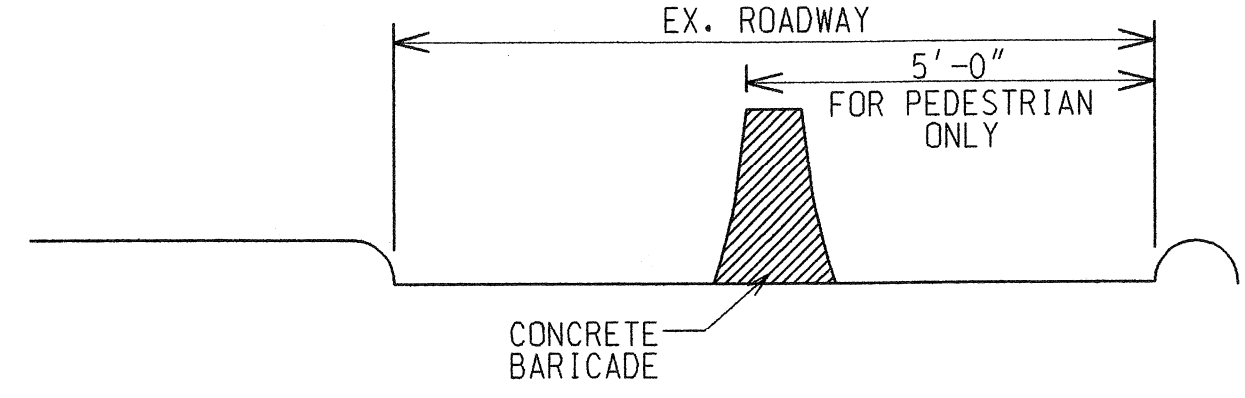
SCALE	NOT TO SCALE
PROJECT NO.	PW-6947
SHEET NO.	9 OF 10

SIGN CHART				
I.D. NUMBER	SIGN	SIGN DESIGNATION	SIZE	NUMBER REQUIRED
1		W20-3	48" X 48"	0
2		W20-2	48" X 48"	2
3		W20-2	48" X 48"	5
4		D3-1 M6-1b	36" X 12" 21" X 15"	1
5		R11-2	48" X 30"	0
6		D3-1	36" X 12"	3
7		M4-9	30" X 24"	7
8		D3-1 M4-9	36" X 12" 30" X 24"	24
9		R11-2	48" X 30"	2
10		W20-3	48" X 48"	4
11		R5-3	24" X 24"	8
12				4
13				2
14				1
15				5
16				2
17				2
18				4
19				2
20				2



MISCELLANEOUS QUANTITIES		
ITEM	UNIT	AMOUNT
BARRICADE, TYPE 111, LIGHTED, OPER	ea	6
BARRICADE, TYPE 111, LIGHTED, FURN	ea	6
PLASTIC DRUM, LIGHTED, FURN	ea	30
PLASTIC DRUM, LIGHTED, OPER	ea	30
SIGN, TYPE B, TEMPORARY, RETROREFLECTIVE SHEETING	ea	29

SIGN TYPE LEGEND	
	SIGN, TYPE B
	TYPE 111 BARRICADE



THE CONTRACTOR WILL FURNISH AND ERECT THE SIGNS LISTED ON THE SIGN CHART AT LOCATIONS SHOWN.

AS DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ANY ADDITIONAL SIGNS, BARRICADES AND LIGHTS WITHIN THE PROJECT TO PROTECT THE TRAFFIC AND WORK AREA.

THE CONTRACTOR SHALL PLACE SANDBAGS ON BARRICADES TO PREVENT MOVEMENT OF THE BARRICADES. THE CONTRACTOR SHALL ATTACH AND MAINTAIN THREE (3) STEADY BURN AMBER LIGHTS (TYPE "C") ON EACH OF THE BARRICADES.

THE CONTRACTOR SHALL ATTACH AND MAINTAIN ONE (1) BATTERY OPERATED AMBER FLASHER LIGHTS (TYPE "A") AND ONE (1) ORANGE FLUORESCENT DAY-GLO FLAG ON EACH ADVANCE CONSTRUCTION SIGN (SIGNS 1, 2 & 3).

TRAFFIC CONTROL SIGNS WHICH ARE REMOVED FROM THE VICINITY OF THE PROJECT DUE TO INTERFERENCE SHALL BE TURNED OVER TO THE CITY. UPON COMPLETION OF THE PROJECT, TRAFFIC CONTROL SIGNS AND STREET NAME SIGNS WILL BE RESET IN THEIR PROPER POSITION BY THE CONTRACTOR.

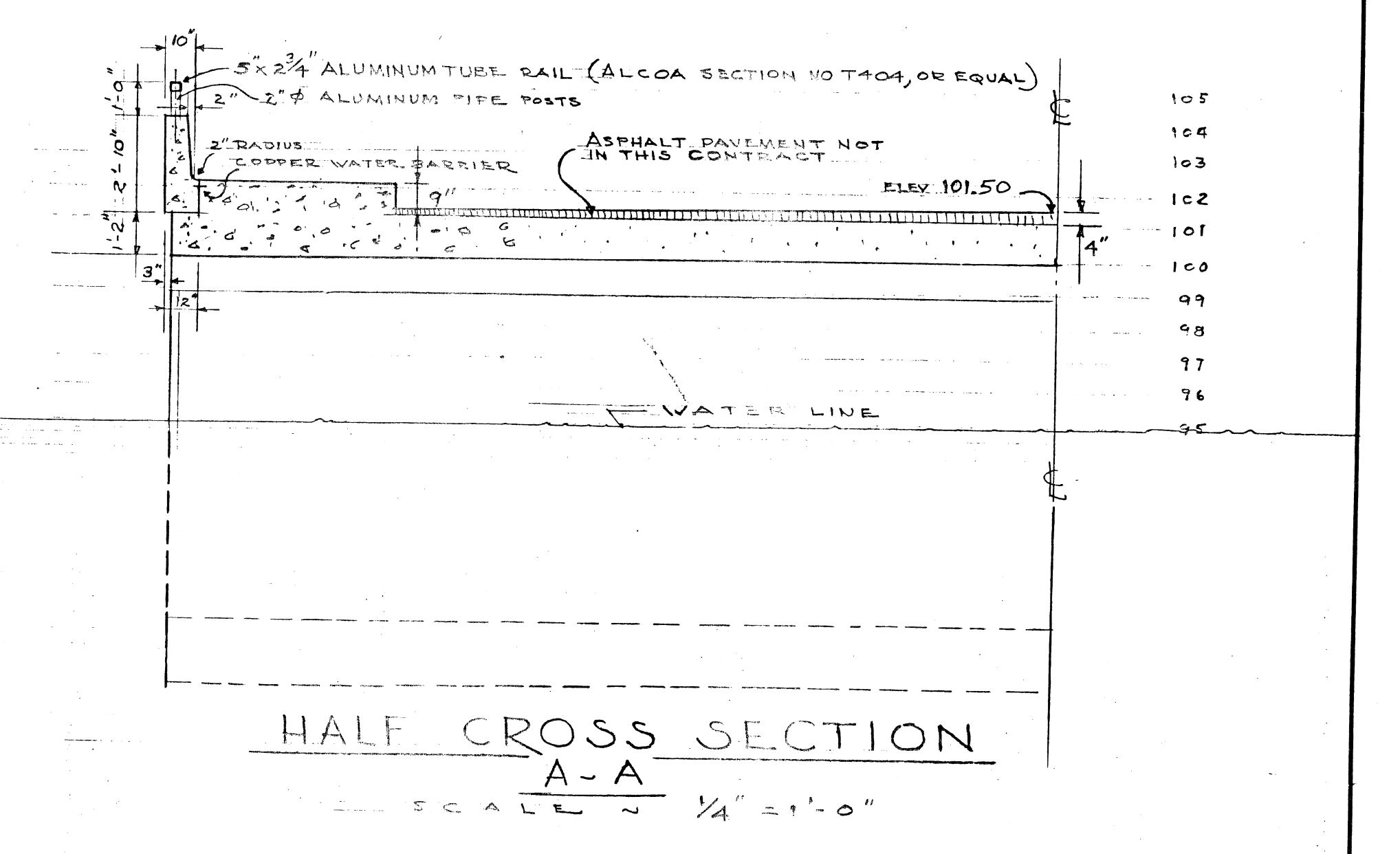
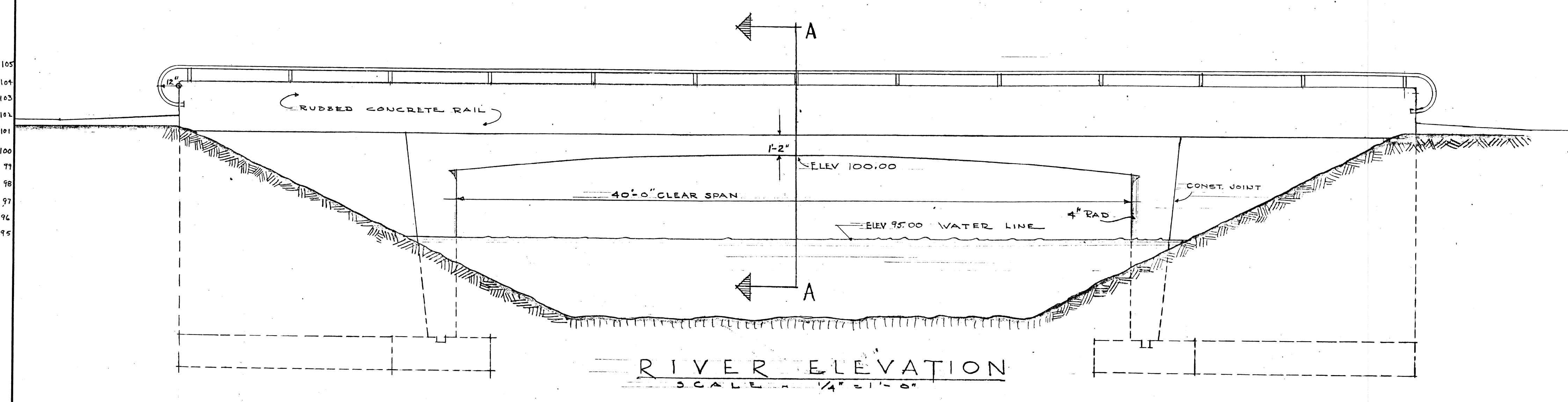
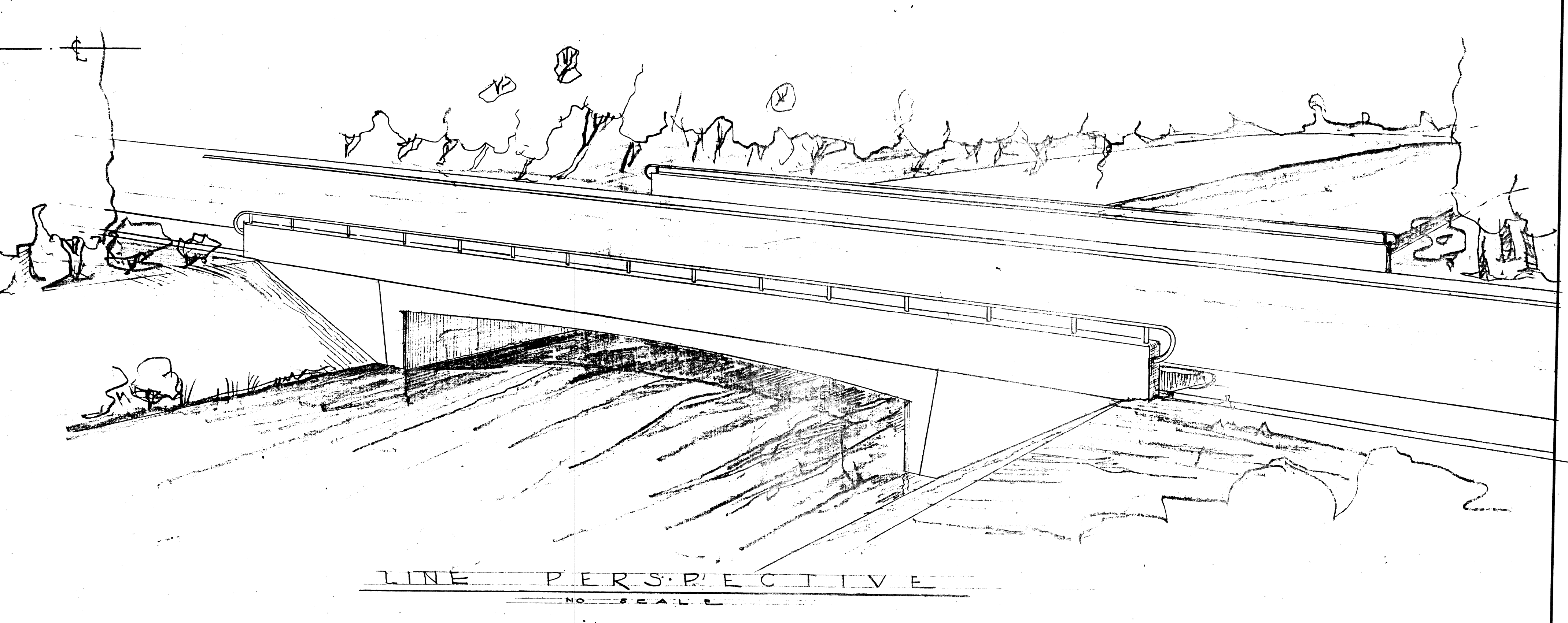
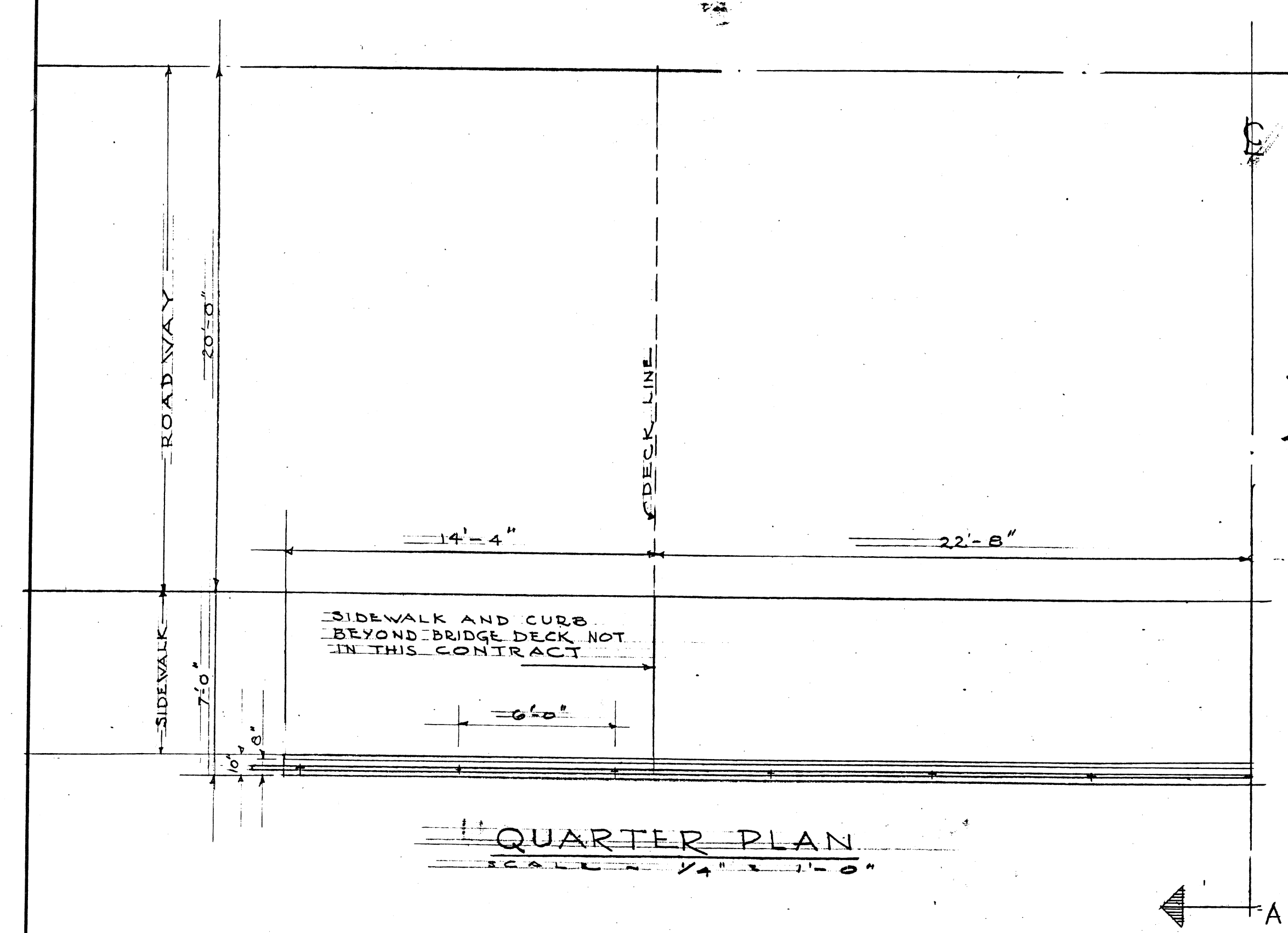
THE CONTRACTOR SHALL NOT BEGIN ANY OPERATIONS ON THE PROJECT UNTIL ALL OF THE SIGNS HAVE BEEN POSITIONED AND FLASHER LIGHTS AND FLAGS ARE ATTACHED TO ALL REQUIRED SIGNS AND BARRICADES.

ANY OTHER SIGNS WHICH THE CONTRACTOR MAY BE REQUIRED TO FURNISH SHALL CONFORM TO MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

ALL CONSTRUCTION SIGNS SHALL CONFORM TO MDT 1996 STANDARD SPECIFICATIONS FOR CONSTRUCTION 812.02.B.1.

THE "DETOUR PLAN" WHICH INCLUDES THE VEHICULAR AND PEDESTRIAN ROUTES MAY BE CHANGED AT THE DISCRETION OF THE ENGINEER/PARK RECREATION AUTHORITY.

2 BP 4/11/46
 18 P 4/11/46
 8 P.P. 4-2-46
 0 P.P. 7-11-47



DESIGNED BY	Oakie & Johnson	APPROVED:	R. G. Johnson
DRAWN BY	Oakie & Johnson	SR. ASSOC. ENGR. ENGINEER	M. H. Stewart
TRACED BY	Oakie & Johnson	ENGINEER OF PUBLIC STRUCTURES	G. J. Thompson
CHECKED BY	R. G. J.	CITY ENGINEER	
NOTED BY			
DESCRIPTION			
REVISIONS			

CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 CITY ENGINEERS OFFICE
 BY
 ADVANCE PLAN DIVISION

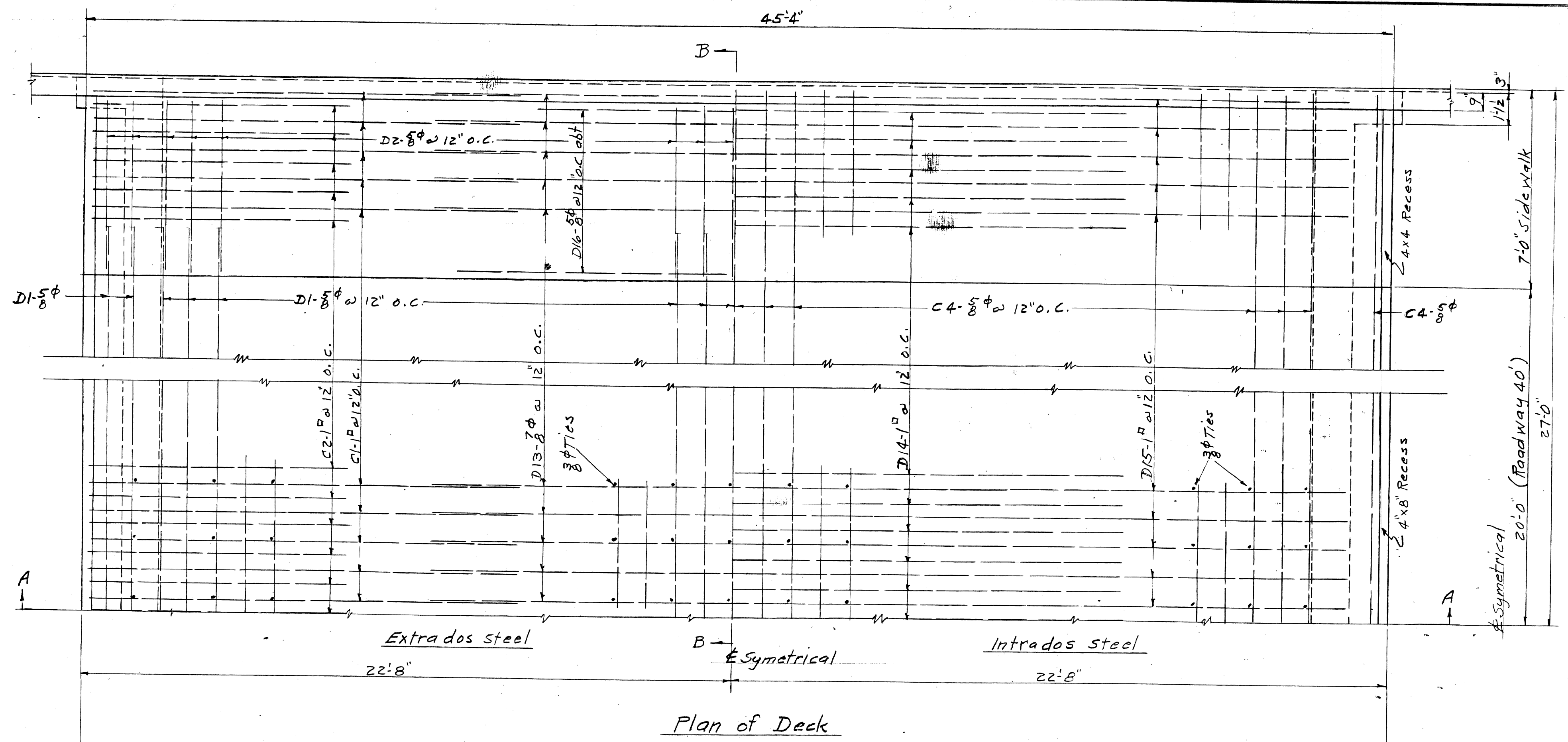
BW-202 - Casino Way Over Canal BW-202
 BELLE ISLE BRIDGES
 BRIDGE NO. 2.
 ARCHITECT LAYOUT

SHEET 1 OF 4 SHEETS
 JOB No. FW-75
 DRWG No. A-1
 DATE MAY 1946

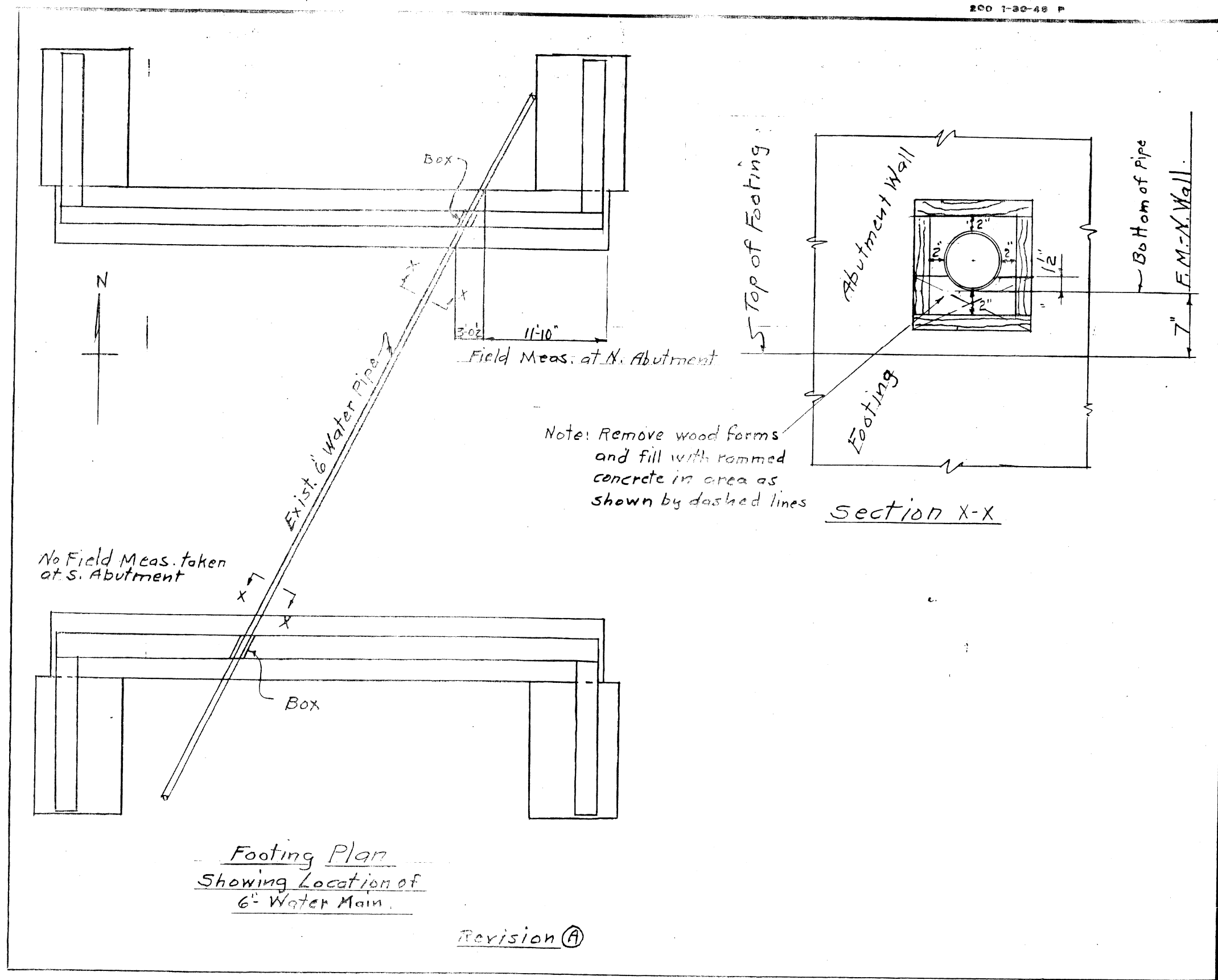
Draw 4 201-1 AP-60

38P 4/1/41
 18P 4/1/41
 8 P. 8-2-41
 10 P. 7-11-42
 4-2 P. 10-8-47

800 1-30-48 P

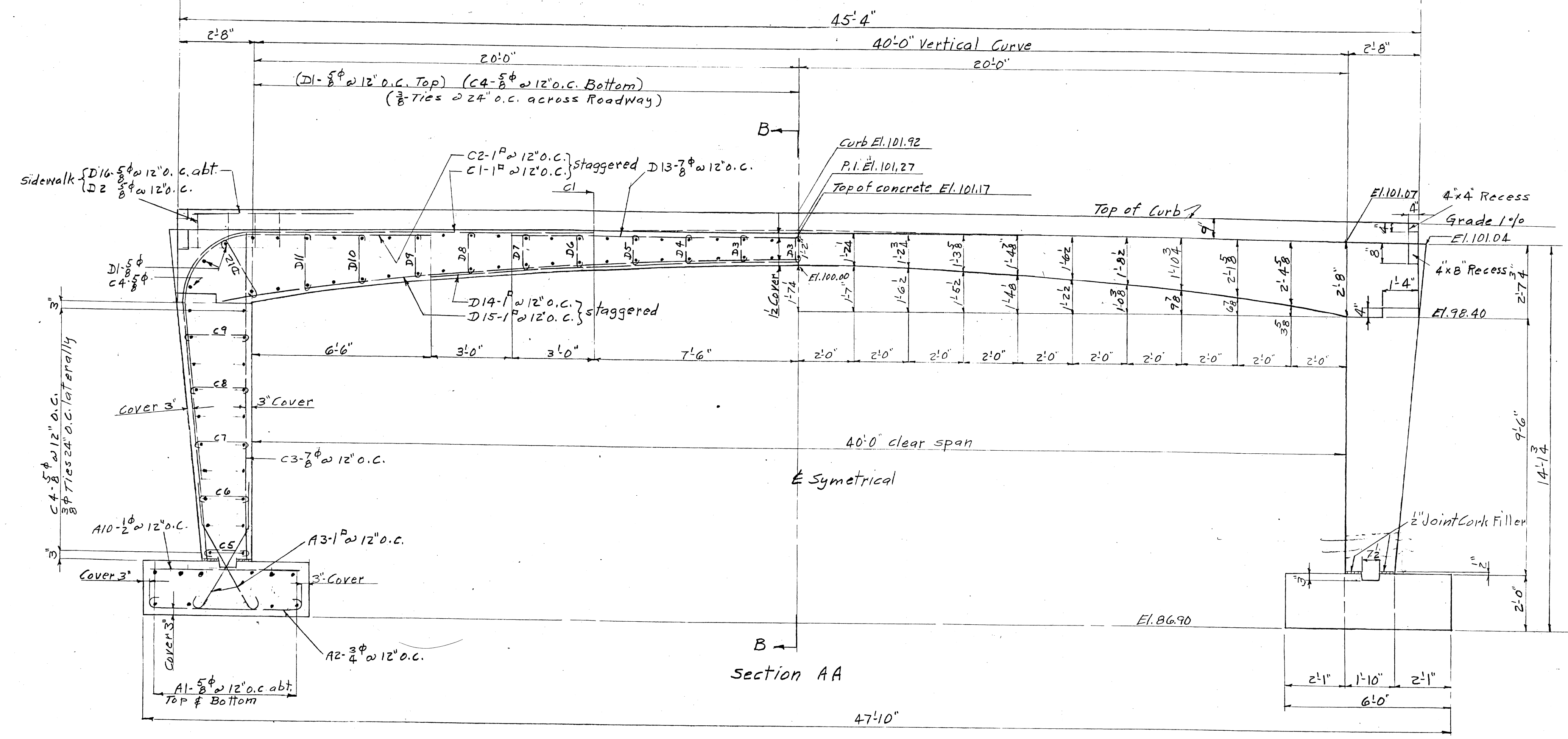


Plan of Deck

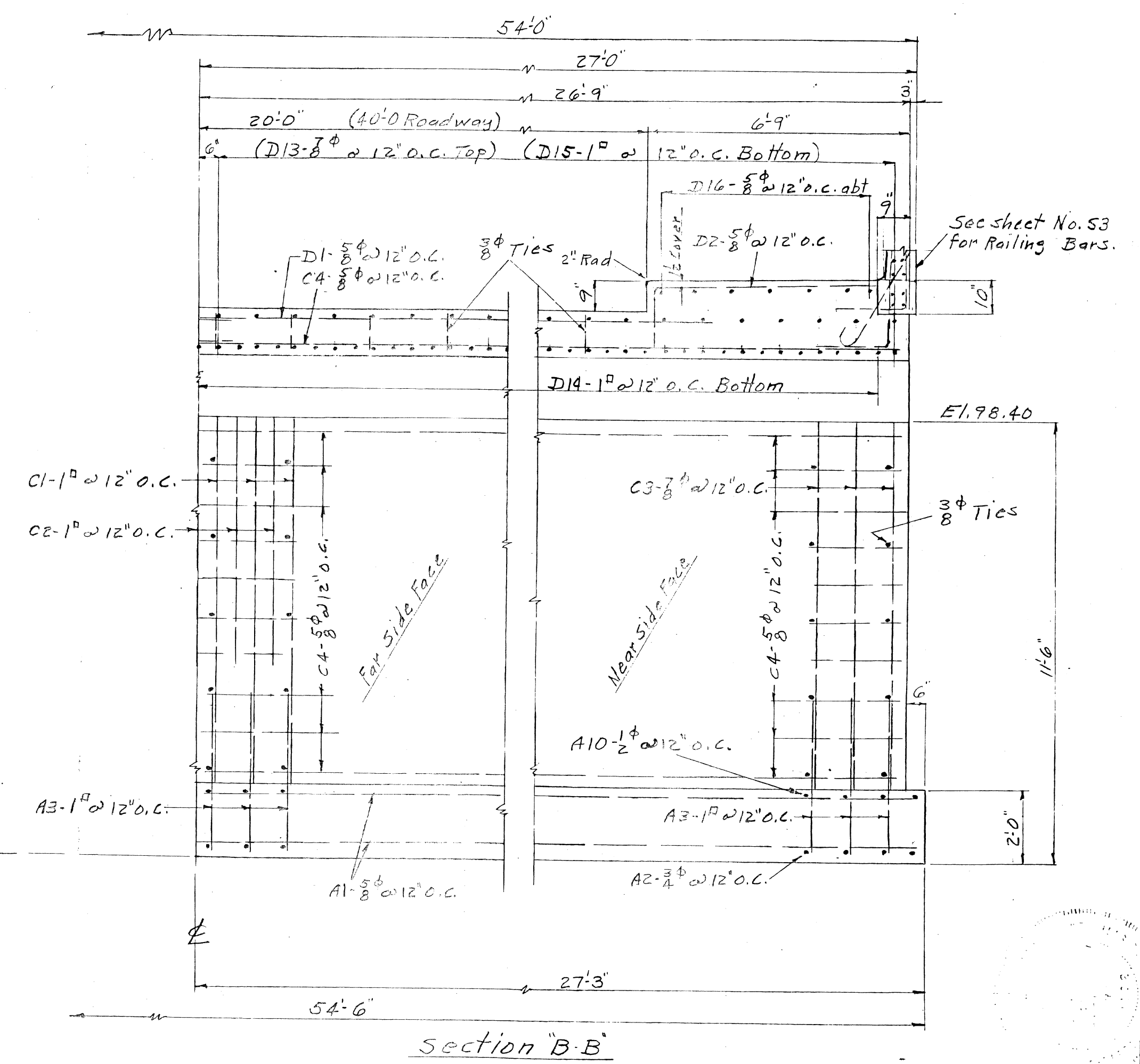


Footing Plan
 Showing Location of
 6" Water Main

Revision (B)



Section AA



Section BB

NOTED BY	DESCRIPTION	DRN	CHK'D	AP'D	DATE
	Box Opening for 6" Water Main	PPAS			1/25/47

REVISIONS	DESIGNED BY	APPROVED
	RH Speck	J. L. Barton
	RH Speck	SR. ASSOC. STRUCT. ENGINEER
	RH Speck	W. Wallace
	RH Speck	ENGINEER OF DESIGN
	A. C. ...	Martin R. Fisher
		ASS. CITY ENGINEER

CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 CITY ENGINEERS OFFICE
 BUREAU OF DESIGN

BW 202 - Casino Way Over Canal
 BELLE ISLE BRIDGES
 BRIDGE NO. 2
 ARCH. DETAILS

SHEET 2 OF 4 SHEETS
 JOB NO. PW-75
 DRWG NO. S-1 B-I
 DATE MAY 1946

BOOK NO. 1574-5566

SCALE 3/8" = 1'-0"

AP-60 2/2