

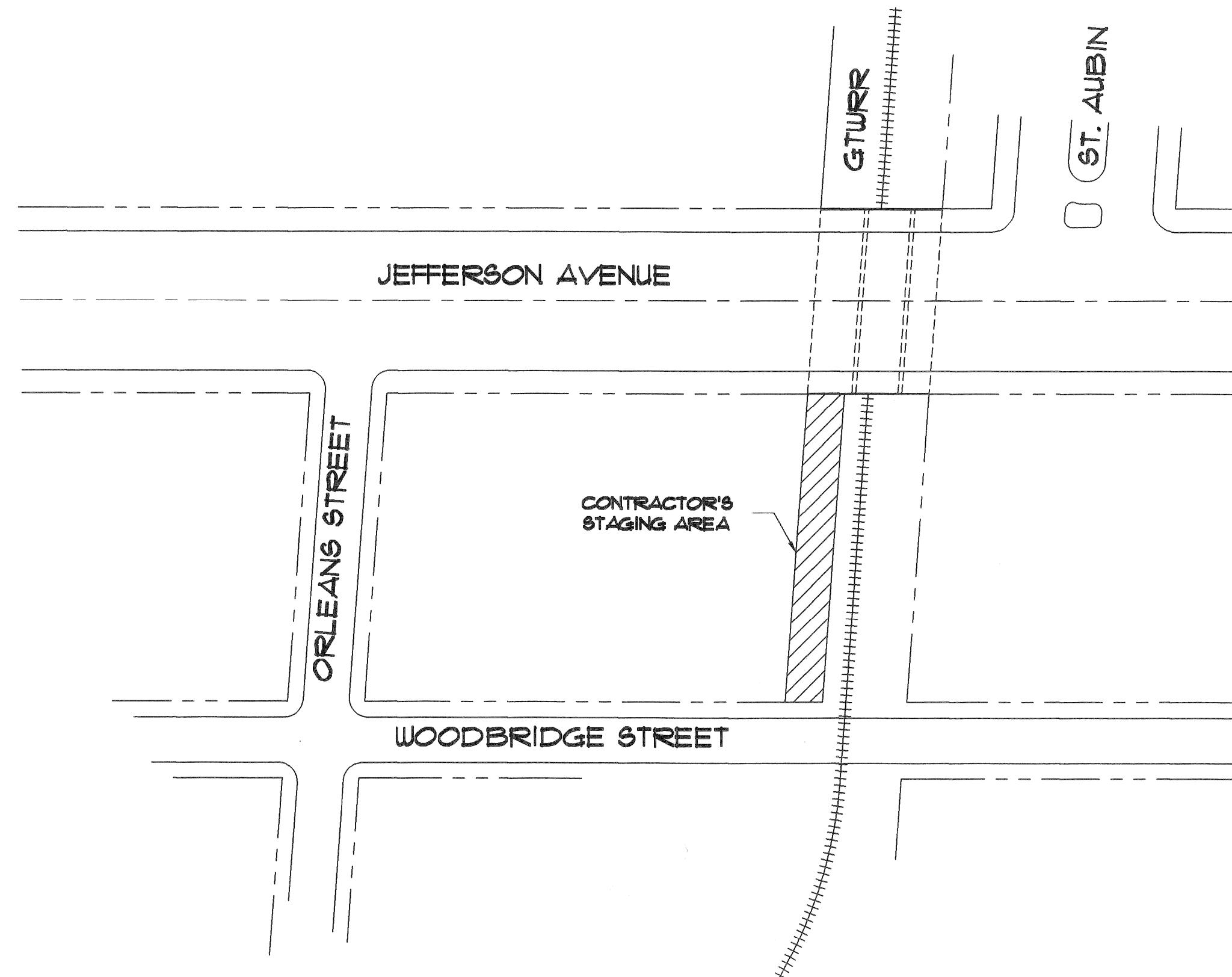
CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 CITY ENGINEERING DIVISION

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 1982 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND CONTRACT SUPPLEMENTAL SPECIFICATIONS.

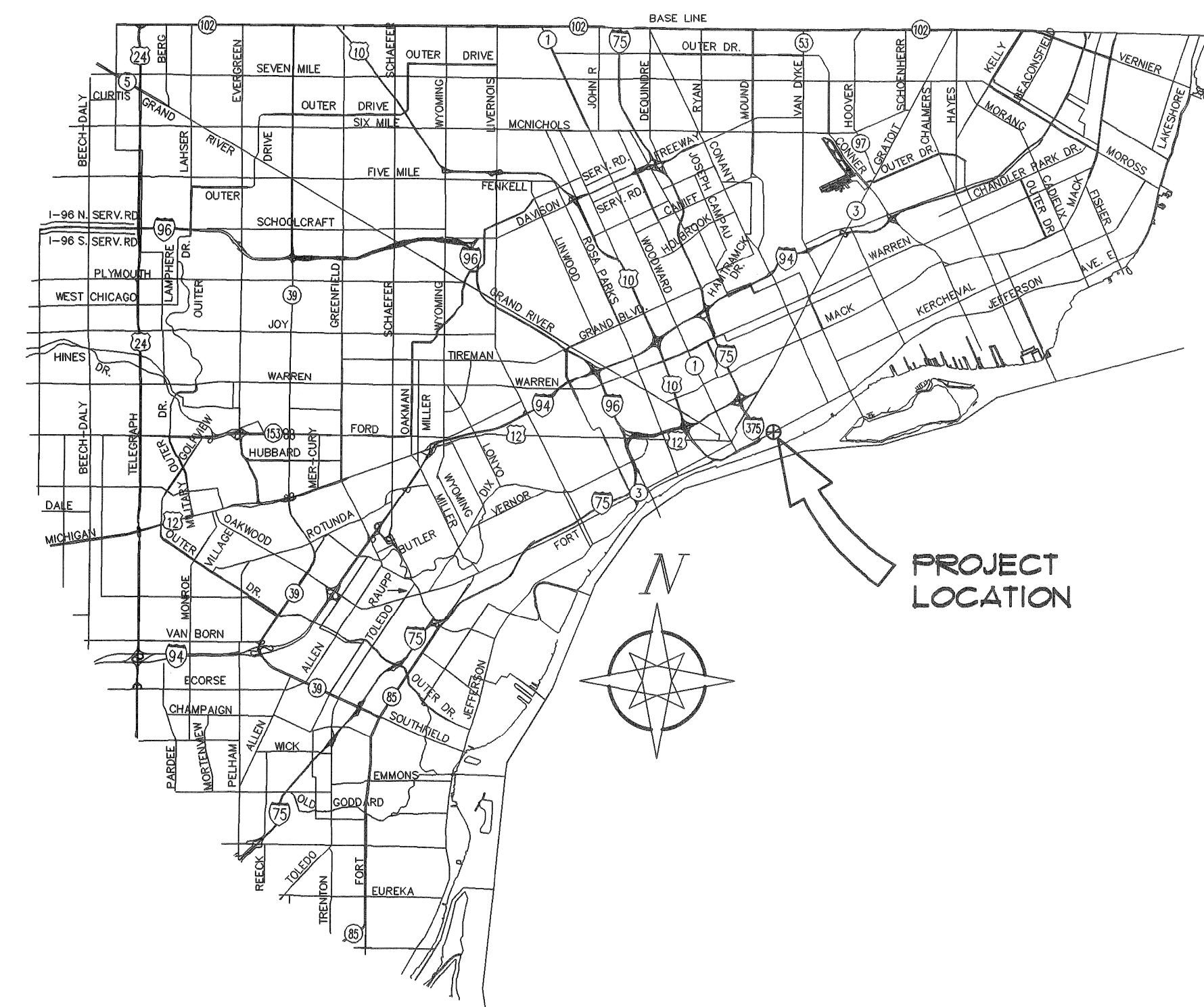
INDEX OF SHEETS

- 1 TITLE SHEET AND SITE PLAN
- 2 TEMPORARY SUPPORT DETAILS
- 3 REFERENCE DRAWING-EXISTING PIER DETAILS

SHORING
 TEMPORARY SUPPORT AND REPAIRS
 TO THE
 JEFFERSON AVE. BRIDGE OVER GTWRR (XO-68)



GENERAL PLAN
 SCALE: NTS



PRELIMINARY PLAN A
 MARCH 23, 1998

CEP

CONTRACT FOR BRIDGE REPAIR	
CITY OF DETROIT APPROVAL	
STRUCTURAL ENGINEER	DATE
CITY ENGINEER	DATE

3 WORKING DAYS,
 EXCLUDING SATURDAY,
 SUNDAY & HOLIDAYS
 BEFORE YOU DIG
 CALL MISS DIG
 800-482-7171
 (TOLL FREE)

PREPARED BY

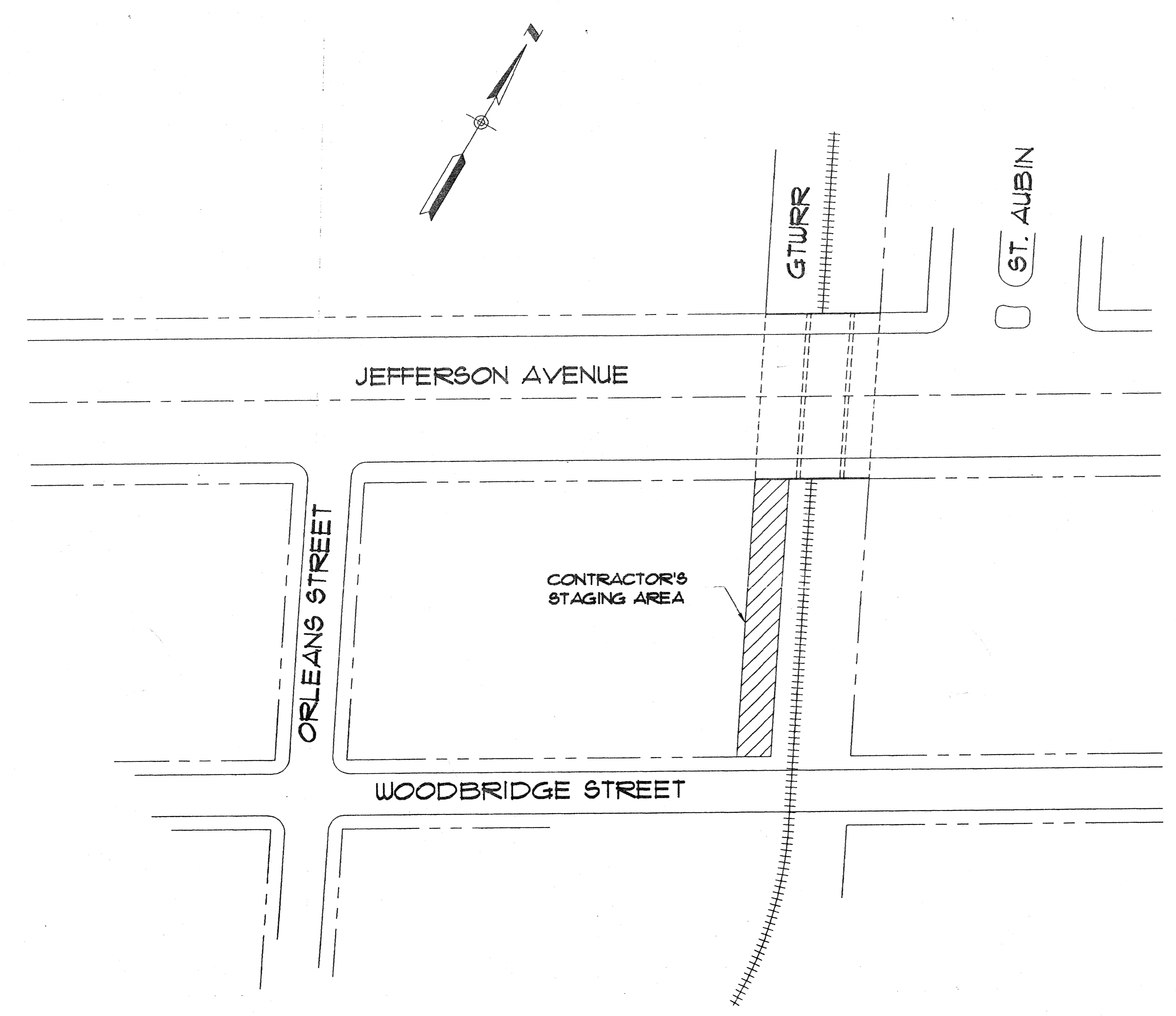
 TUCKER, YOUNG
 JACKSON, TULL INC.
 CONSULTING ENGINEERS PLANNERS
 585 E. LARNED SUITE 300 DETROIT, MICHIGAN
 (313) 963-0612 48226

CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 CITY ENGINEERING DIVISION

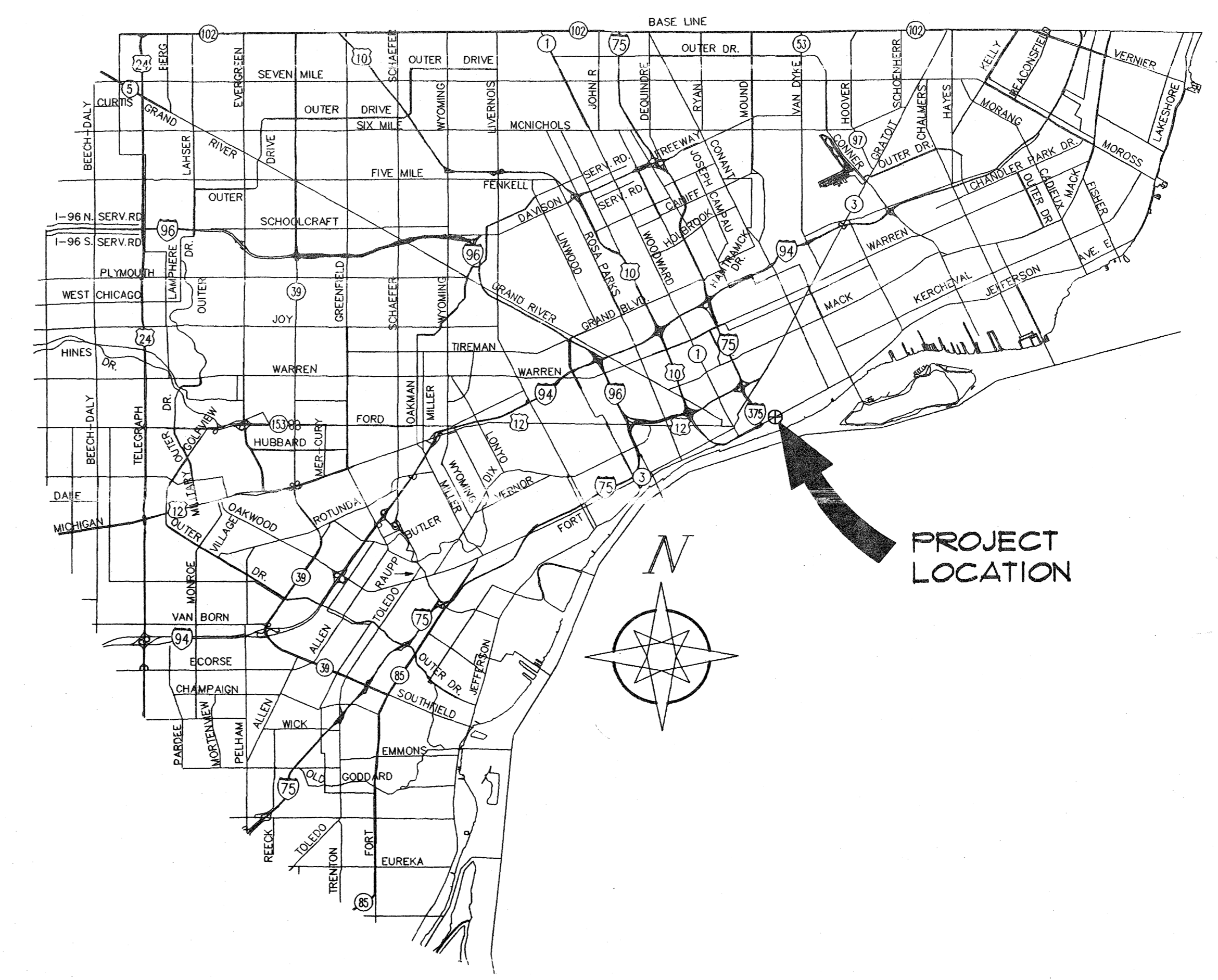
THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 1982 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

- INDEX OF SHEETS
 1 TITLE SHEET AND SITE PLAN
 2 TEMPORARY ~~SHORING~~ DETAILS
 SUPPORT

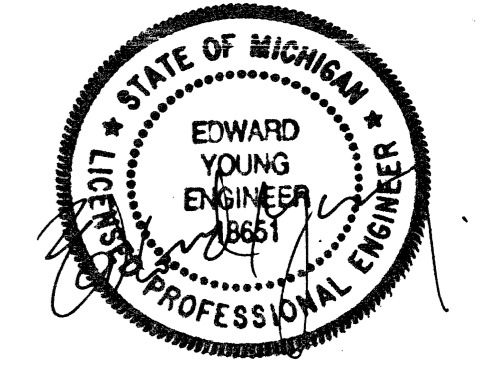
SUPPORT
 TEMPORARY ~~SHORING~~ OF THE
 JEFFERSON AVE. BRIDGE OVER GTWRR (XO-68)



GENERAL PLAN
 SCALE: NTS



1-5-99



CONTRACT FOR BRIDGE SHORING	
CITY OF DETROIT APPROVAL	
STRUCTURAL ENGINEER	DATE
CITY ENGINEER	DATE
PREPARED BY	
TUCKER, YOUNG JACKSON, TULL INC.	
CONSULTING ENGINEERS PLANNERS 565 E. LARNED SUITE 300 DETROIT, MICHIGAN (313) 963-0612 48226	
SHEET 1 OF 2	

3 WORKING DAYS,
 EXCLUDING SATURDAY,
 SUNDAY & HOLIDAYS
 BEFORE YOU DIG
 CALL MISS DIG
 800-482-7171
 (TOLL FREE)

PROJECT
JEFFERSON AVENUE BRIDGE OVER GTWRR (XO-68)

CLIENT
CITY OF DETROIT
 CITY ENGINEERING DIVISION
 DEPARTMENT OF PUBLIC WORKS
 900 CADILLAC TOWER
 DETROIT, MI 48226

PRIME CONSULTANT
TUCKER, YOUNG JACKSON, TULL INC.
 CONSULTING ENGINEERS PLANNERS
 305 E. LARNED AVE. SUITE 305 DETROIT, MI 48201

REGISTERED PROFESSIONAL ENGINEER
 STATE OF MICHIGAN
 EDWARD YOUNG
 ENGINEER
 18851
 PROFESSIONAL ENGINEER

ISSUED FOR
 PRELIMINARY DESIGN
 FINAL DESIGN
 PROGRESS
 FINAL-CONSTRUCTION
 BIDS
 AS BUILT

REVISED FOR DATE

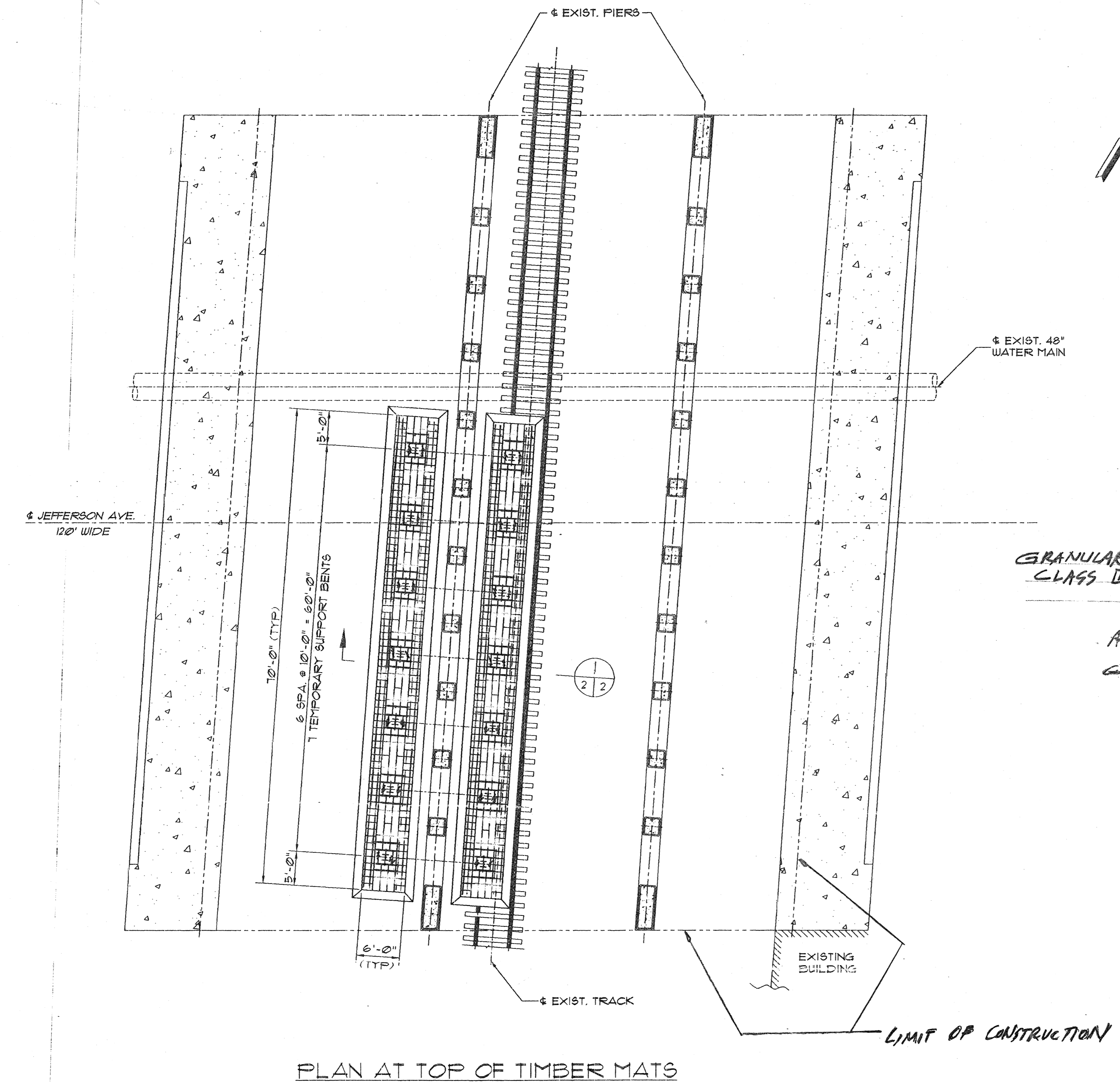
SHEET TITLE
TEMPORARY SHORING SUPPORT DETAILS

SCALE: AS NOTED

R. KARBUR
 PROJECT MANAGER
 T. WHITE 12/18/98
 DESIGNED BY DATE
 T. WHITE 12/18/98
 DRAWN BY DATE
 R. KARBUR 12/18/98
 CHECKED BY DATE
 A. SCHNEIDER 12/18/98
 APPROVED BY DATE
 9601
 TIT PROJECT NO.
 CLIENT PROJECT NO.

2 OF 2

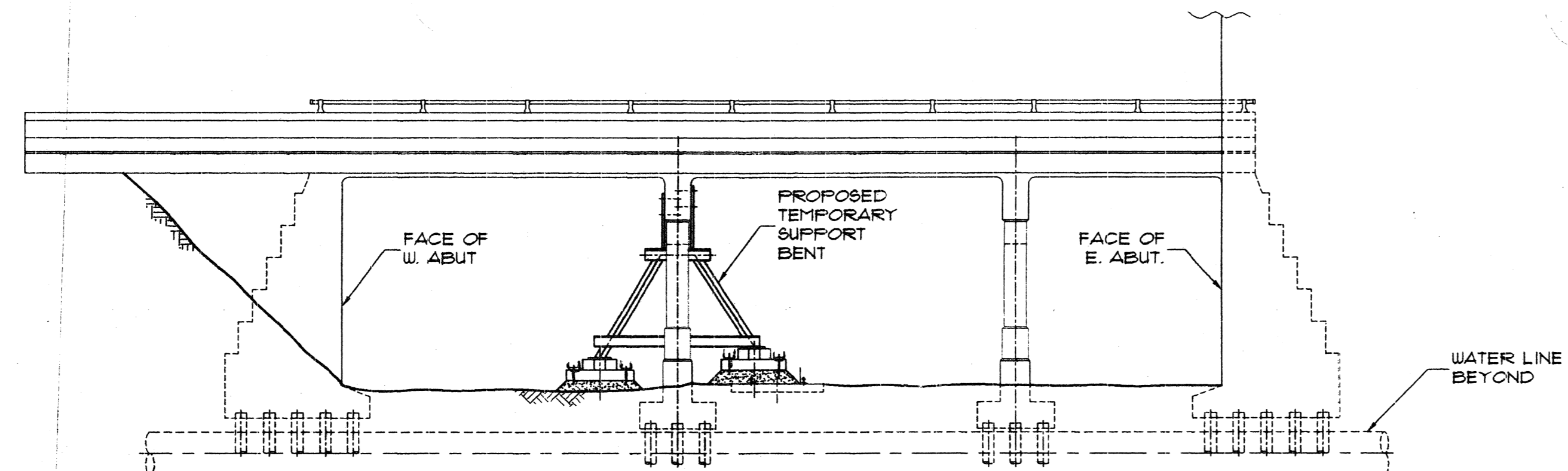
F:\PROJETS\9607\2\9607-002.DWG 12/18/98 DTD



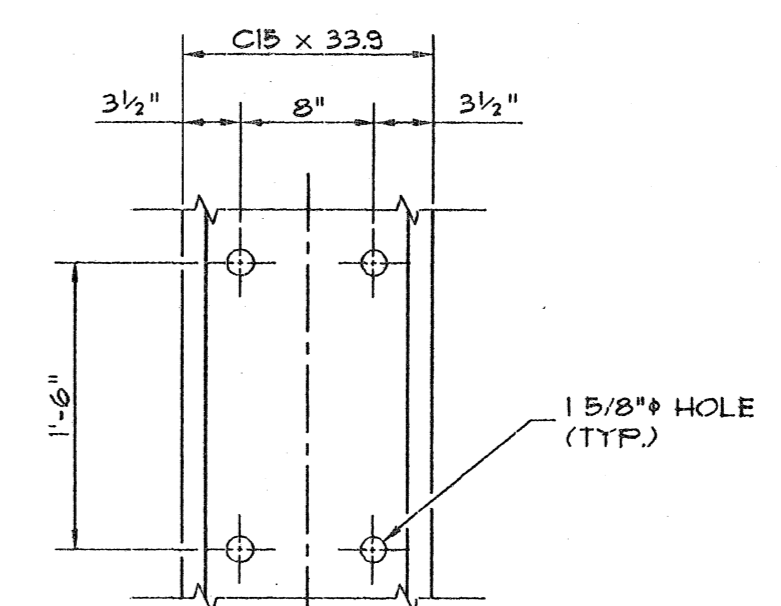
PLAN AT TOP OF TIMBER MATS
 SCALE: 3/32" = 1'-0"

GENERAL NOTES

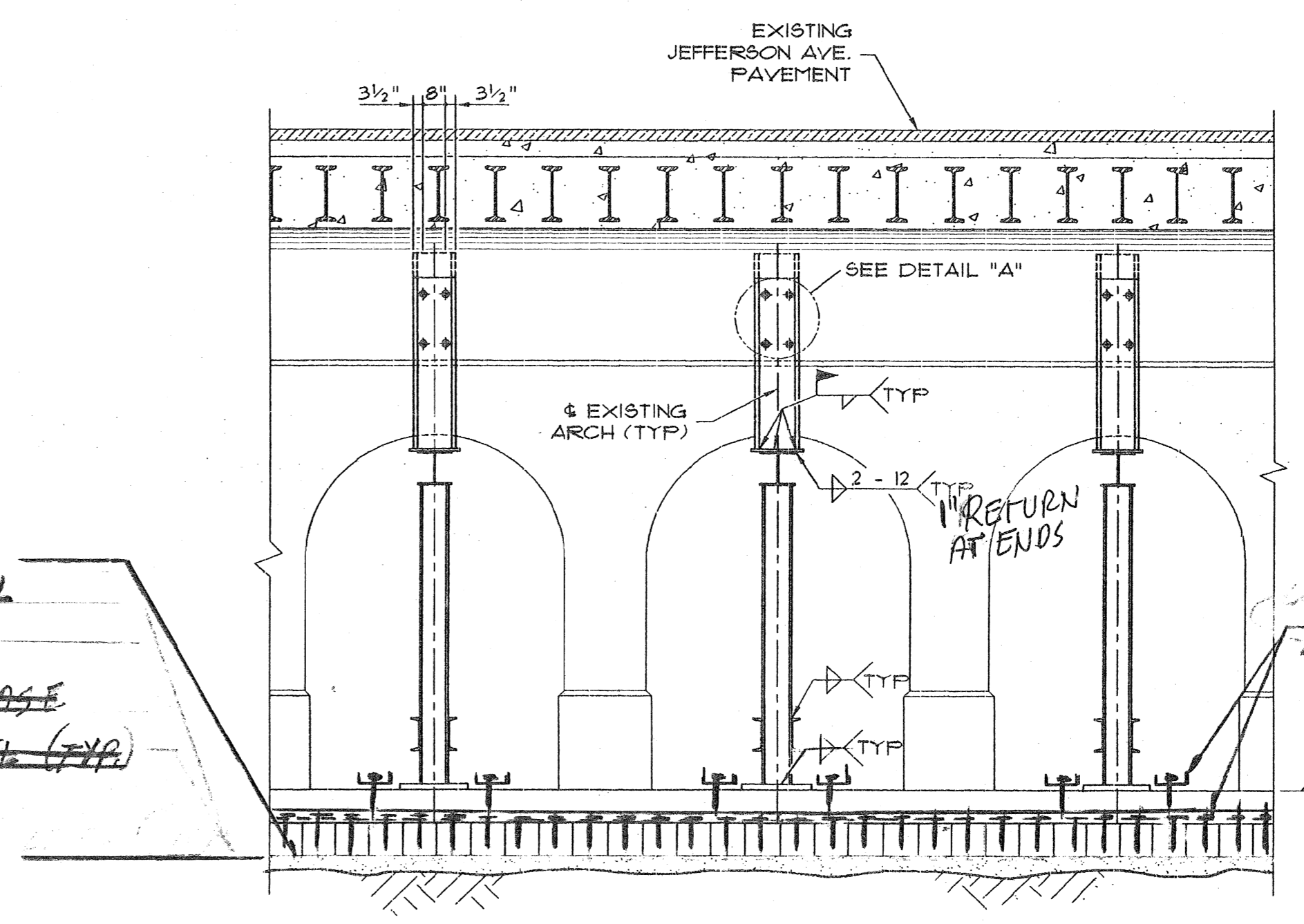
1. WORK INCLUDES ERECTION OF 1 TEMPORARY SUPPORTS AS SHOWN.
2. ALSO INCLUDED IS THE SCALING AND REMOVAL FROM THE SITE OF ALL LOOSE CONCRETE FROM THE SUBSTRUCTURE AND THE UNDERSIDE OF THE SUPERSTRUCTURE, AS DIRECTED BY THE ENGINEER.
3. THIS STRUCTURE IS CURRENTLY POSTED FOR MAXIMUM LOADS OF 72 TONS GROSS AND 3 TONS PER AXLE. AFTER ERECTION OF THOSE SUPPORTS, THE BRIDGE WILL SAFELY CARRY ALL OF MICHIGAN'S LEGAL LOADS.
4. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE MDOT 1990 STANDARD SPECIFICATIONS FOR CONSTRUCTION, UNO.
5. STRUCTURAL STEEL SHALL BE GALVANIZED A8TH A-36.
6. ALL WELDS SHALL BE 5/16" FILLET WELDS, UNO.
7. ALL DAMAGE TO GALVANIZED SURFACES, INCLUDING FIELD WELDED AREAS, ARE TO BE REPAIRED IN ACCORDANCE WITH THE SPECIFICATIONS.
8. 24" x 12" STEEL SHIM PLATES (1/8" MIN. THICKNESS) MAY BE USED UNDER THE BASE PLATES TO ADJUST GRADE AS NECESSARY.
9. STAGGER JOINTS IN LONGITUDINAL TIMBERS BY AT LEAST 12' WITH NO JOINT WITHIN 4' OF A SUPPORT BENT.
10. TIMBER FOR FOOTINGS SHALL BE TREATED AND BE STRUCTURAL GRADE HAVING A MINIMUM FLEXURAL STRENGTH OF 1200 psi AND A MINIMUM HORIZONTAL SHEAR STRENGTH OF 100 psi.
11. ALLOWABLE SOIL PRESSURE FOR D.L.L.L IS ASSUMED TO BE 2500 psi.
12. REPAIR SURFACE SPALLS AROUND CORE DRILLED HOLES WITH EPOXY MORTAR.
13. ROCK ANCHORS SHALL BE WILLIAMS ALL-THREAD-BARS, GALVANIZED, GRADE 150 ksi STEEL, WITH GALVANIZED NUTS AND WASHERS, OR ENGINEER APPROVED EQUAL.
14. CONTRACTOR SHALL PROVIDE A TEMPLATE TO BE USED DURING THE PLACEMENT OF ROCK ANCHORS INTO EPOXY-FILLED HOLES IN ORDER TO ENSURE ACCURATE ALIGNMENT OF ROCK ANCHORS.



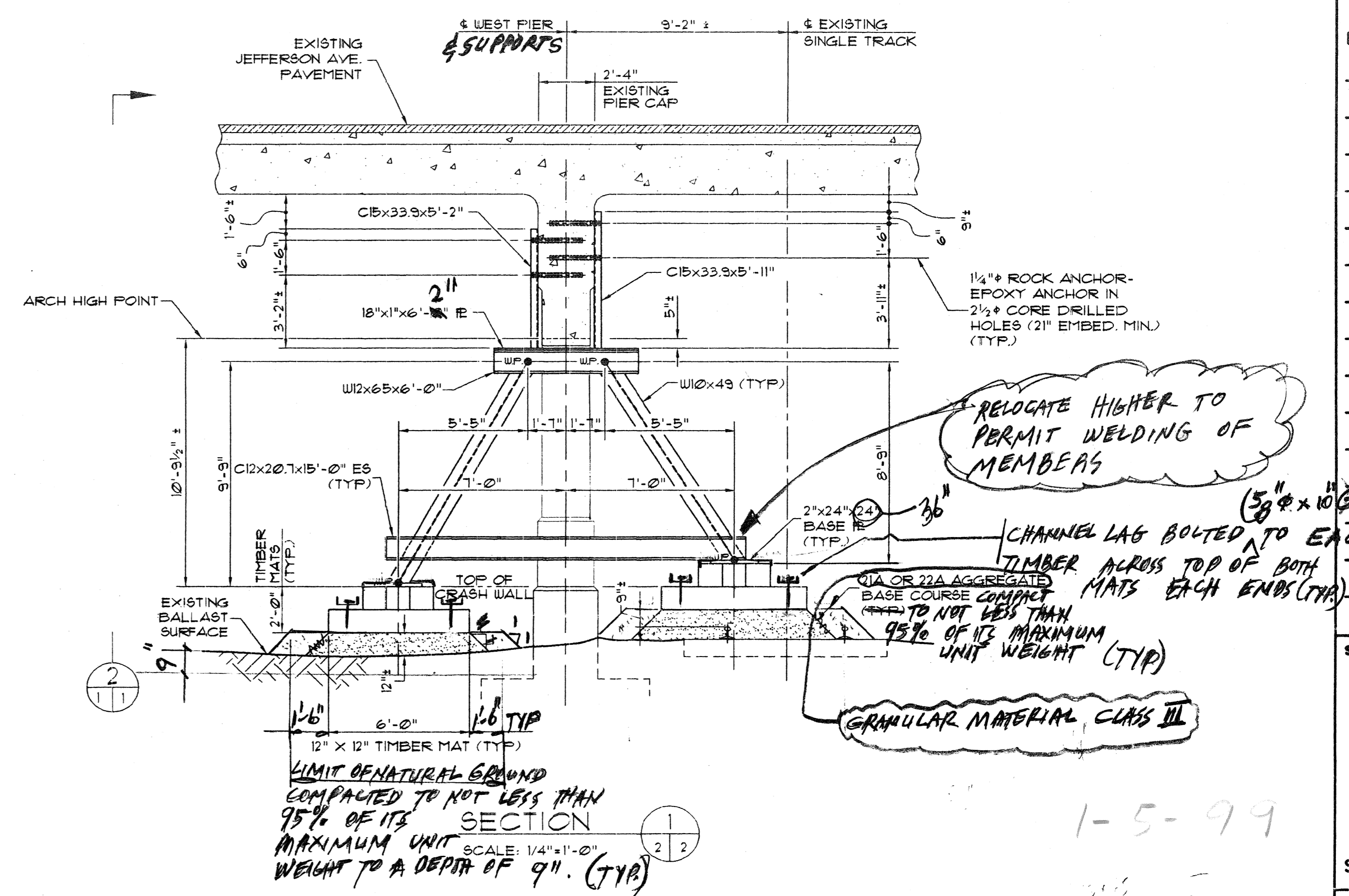
END ELEVATION
 SCALE: 3/32" = 1'-0"



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



SECTION 2/2
 SCALE: 1/4" = 1'-0"



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

RELOCATE HIGHER TO PERMIT WELDING OF MEMBERS

5/8" x 10" GALVANIZED

CHANNEL LAG BOLTED TO TIMBER ACROSS TOP OF BOTH MATS EACH ENDS (TYP.)

GRANULAR MATERIAL CLASS III

LIMIT OF NATURAL GROUND COMPACTED TO NOT LESS THAN 95% OF ITS MAXIMUM UNIT WEIGHT TO A DEPTH OF 9" (TYP.)

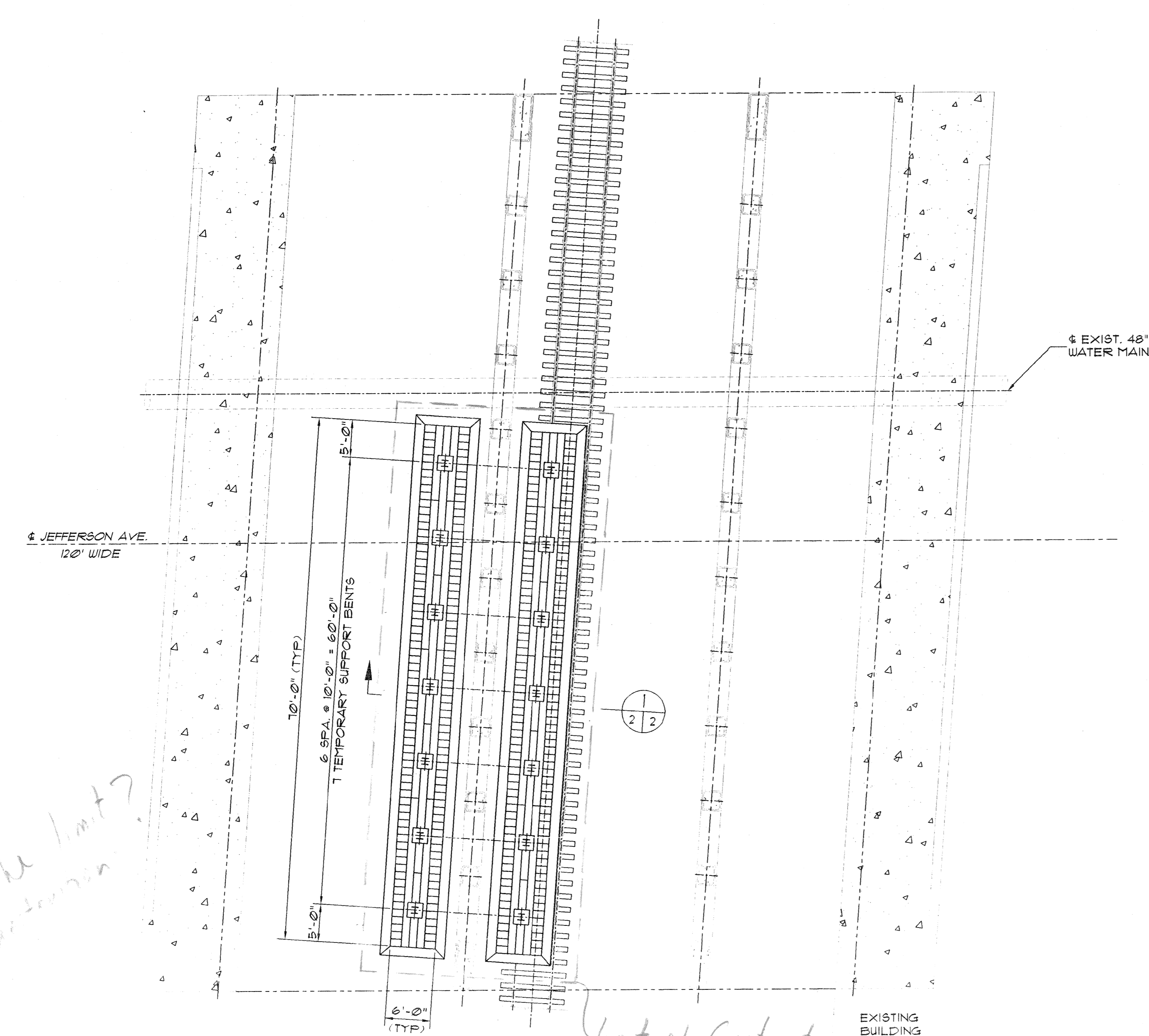
1-5-99

Submit Structural Calculations-

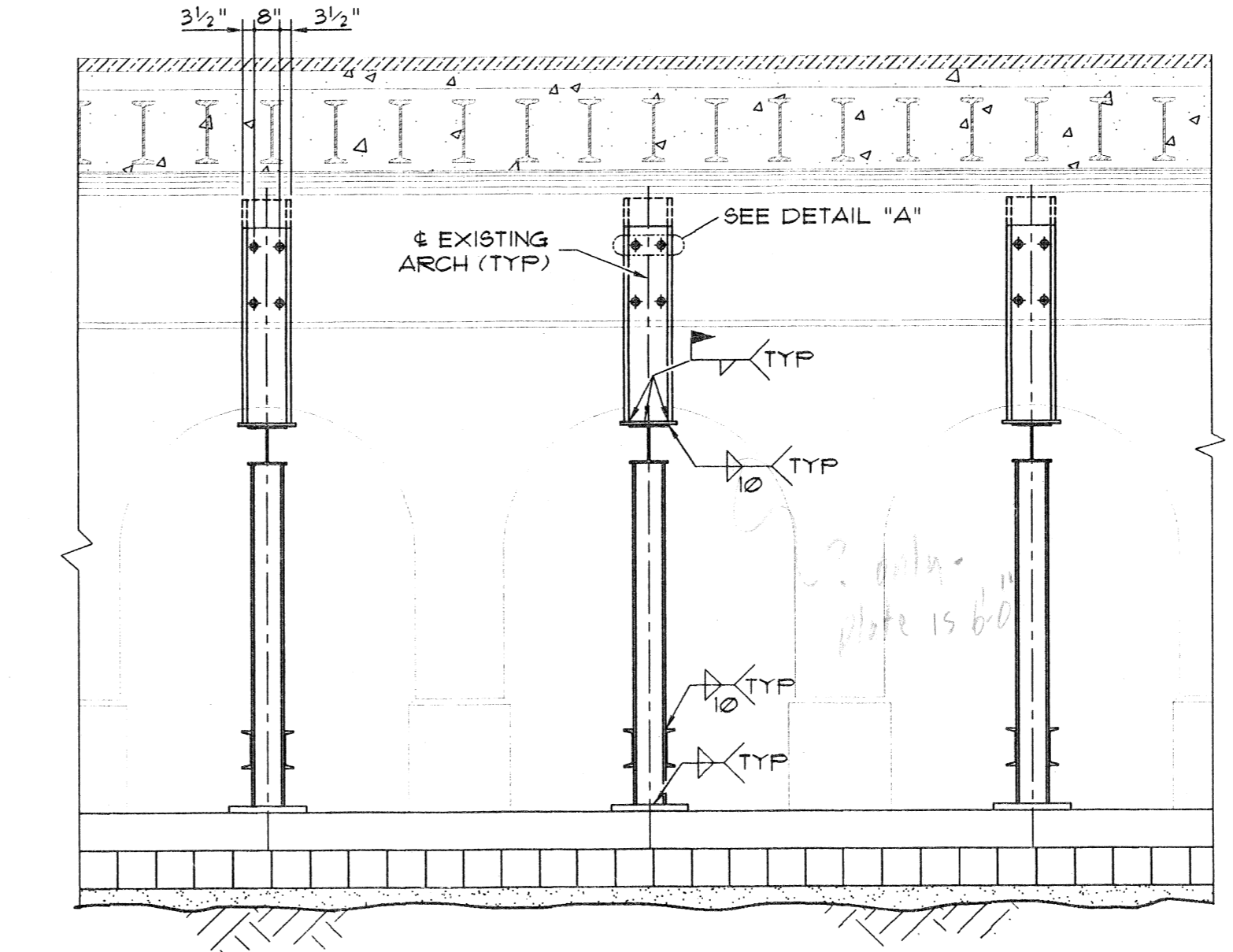
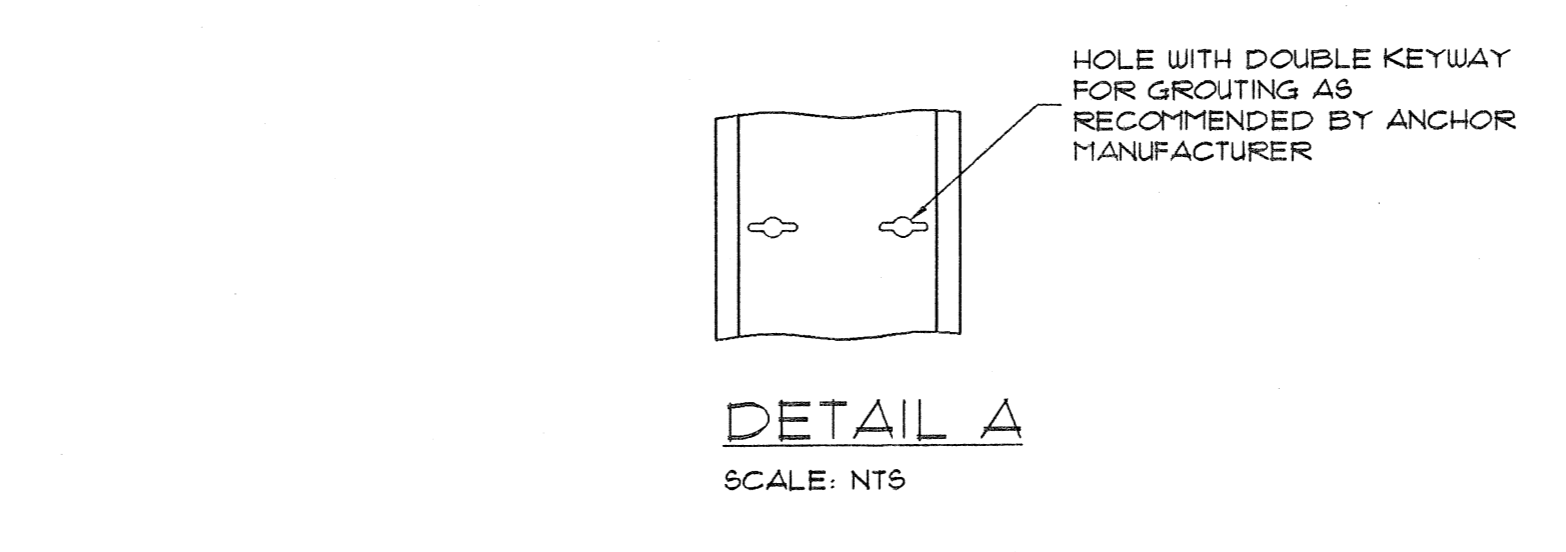
① Request Michigan Public Service Commission for clearance site visit by MPSC
 ② Address CN RR at same time

GENERAL NOTES

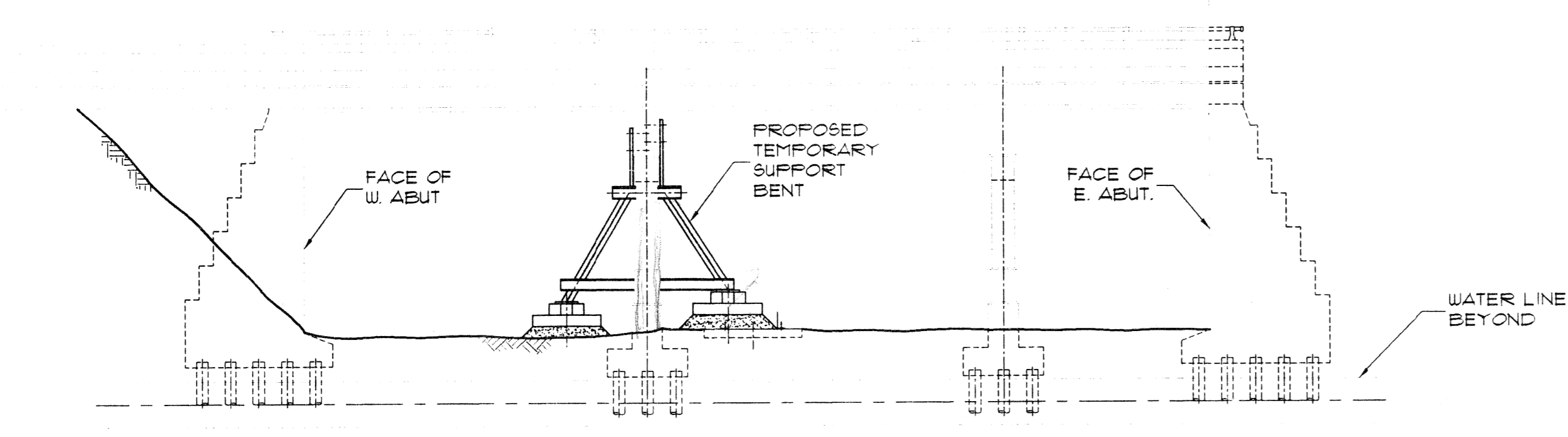
- WORK INCLUDES ERECTION OF 7 TEMPORARY SUPPORTS AS SHOWN. ALSO INCLUDED IS THE SCALING AND REMOVAL OF ALL LOOSE CONCRETE FROM THE SUBSTRUCTURE AND THE UNDERSIDE OF THE SUPERSTRUCTURE, AS DIRECTED BY THE ENGINEER.
- THIS STRUCTURE IS CURRENTLY FOSTED FOR MAXIMUM LOADS OF 22 TONS GROSS AND 9 TONS PER AXLE. AFTER ERECTION OF THESE SUPPORTS, THE BRIDGE WILL SAFELY CARRY ALL OF MICHIGAN'S LEGAL LOADS.
- ALL WORK SHALL BE IN ACCORDANCE WITH THE MOST 1950 STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- STRUCTURAL STEEL SHALL BE ASTM A-36.
- ALL WELDS SHALL BE 5/16" FILLET WELDS UNO.
- 24"x24" SHIM PLATES MAY BE USED UNDER THE BASE PLATES TO ADJUST GRADE AS NECESSARY.
- GRICUT ANCHORS IN PLACE AFTER ERECTION OF TEMPORARY SUPPORT BENTS - SEE SPECIFICATIONS.
- STAGGER JOINTS IN LONGITUDINAL TIMBERS BY AT LEAST 12" WITH NO JOINT WITHIN 4' OF A SUPPORT BENT.
- TIMBER FOR FOOTINGS SHALL BE TREATED AND BE STRUCTURAL GRADE HAVING A MINIMUM FLEXURAL STRENGTH OF 1200 PSI AND A MINIMUM HORIZONTAL SHEAR STRENGTH OF 100 PSI.
- ALLOWABLE SOIL PRESSURE FOR DL-LL IS ASSUMED TO BE 7500 PSI.



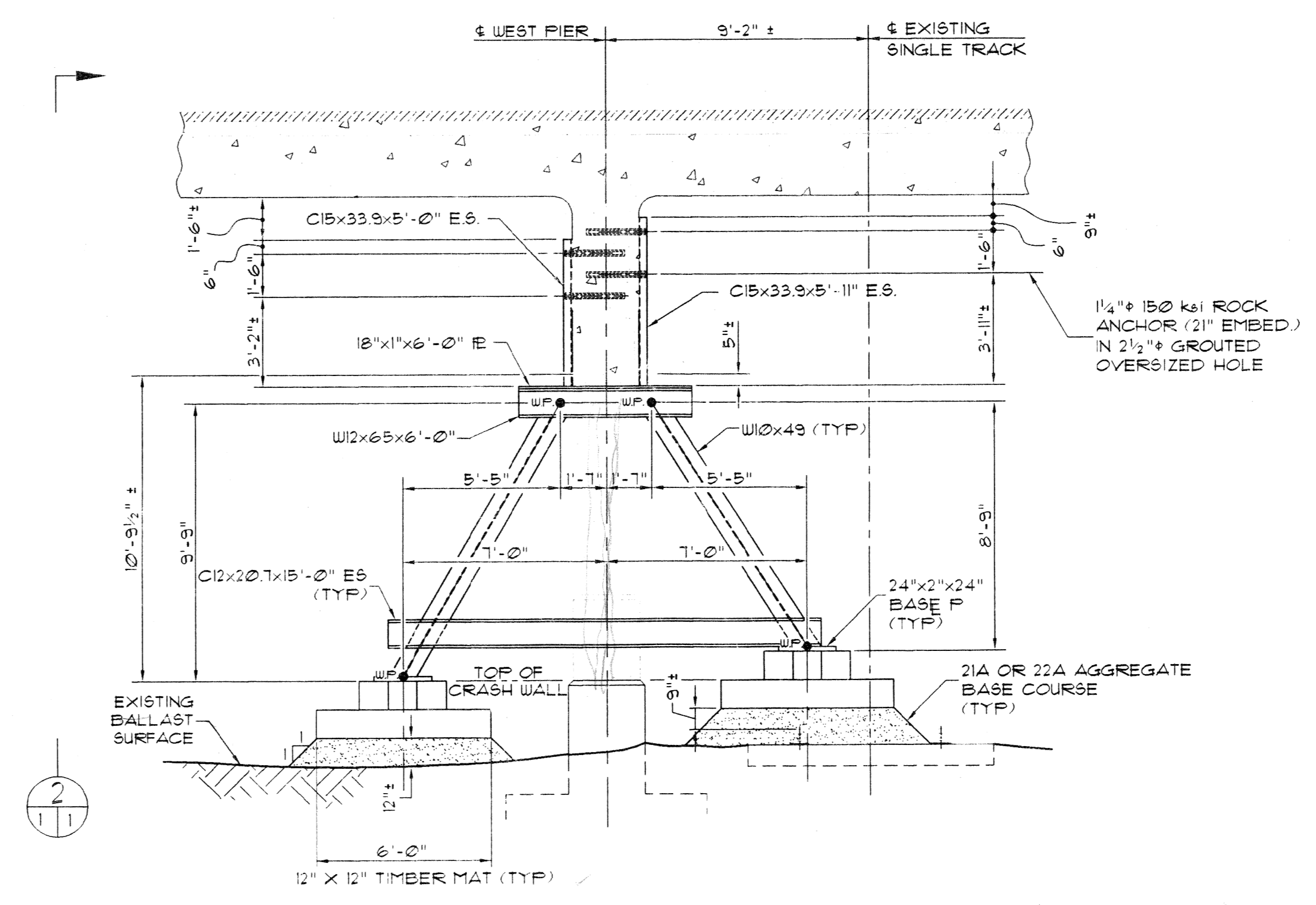
PLAN AT TOP OF TIMBER MATS
 SCALE: 3/32"=1'-0"



SECTION 2
 SCALE: 1/4"=1'-0"



END ELEVATION
 SCALE: 3/32"=1'-0"



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

PRELIMINARY PLAN A
 MARCH 23, 1938

① What about Uni-Support?
 ② estimate closure
 ③ spindles

PROJECT	
JEFFERSON AVENUE BRIDGE OVER GTWRR (XO-68)	
CLIENT	
CITY OF DETROIT CITY ENGINEERING DIVISION DEPARTMENT OF PUBLIC WORKS 900 CADILLAC TOWER DETROIT, MI 48226	
PRIME CONSULTANT	
 TUCKER, YOUNG JACKSON, TULL, INC. CONSULTING ENGINEERS PLANNERS 800 E. LAMAR AVE. 300 DETROIT, MI 48226 (313) 463-5611	
SHEET TITLE	
TEMPORARY SUPPORT DETAILS AND EXPOSED DETAILS	
SCALE: AS NOTED	
PROJECT MANAGER	T. WHITE
DESIGNED BY	T. WHITE
DRAWN BY	T. WHITE
CHECKED BY	G.S.G.T.
APPROVED BY	G.S.G.T.
CLIENT PROJECT NO.	2
SHEET NO.	2

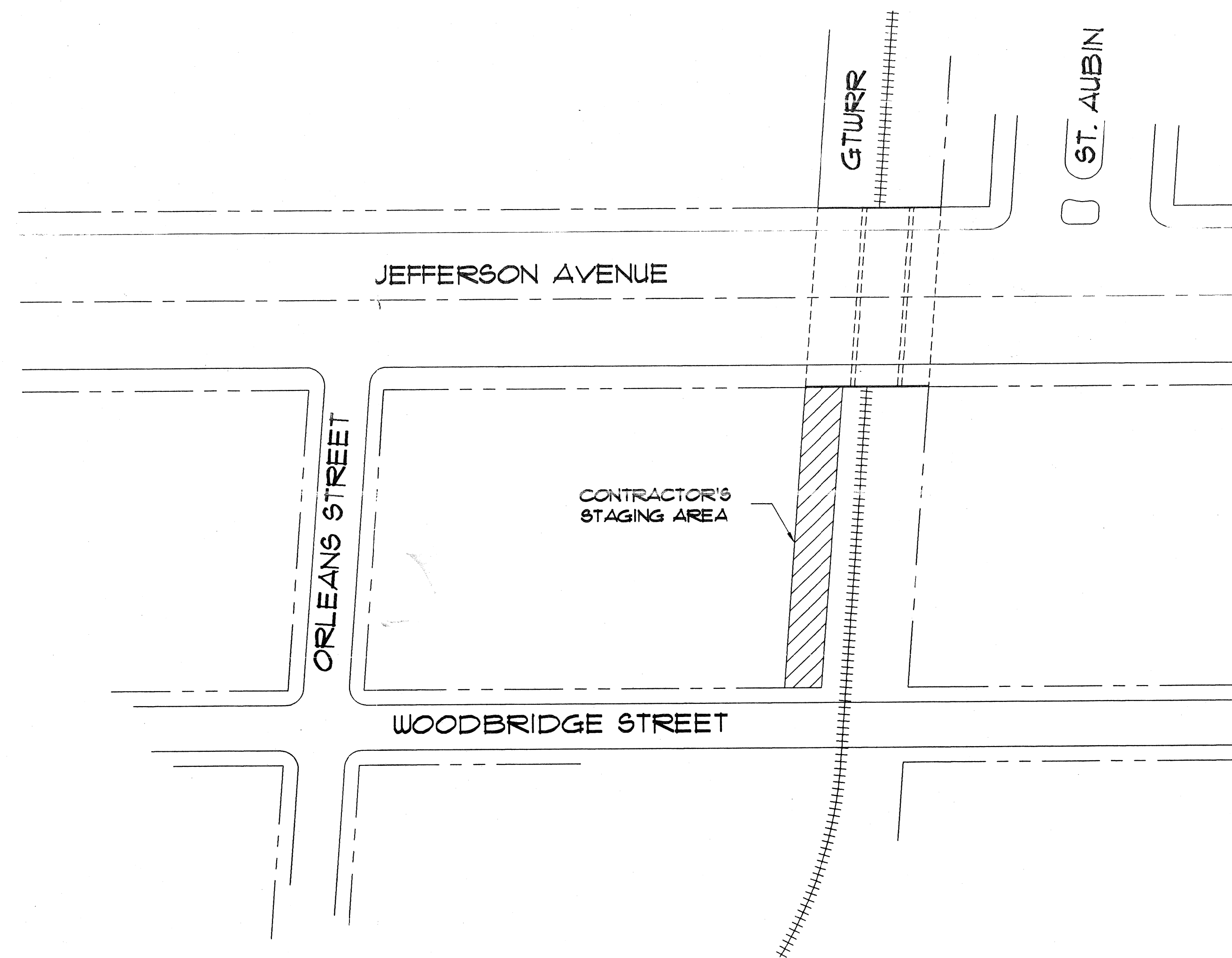
CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 CITY ENGINEERING DIVISION

TEMPORARY ^{SHORING} SUPPORT AND REPAIRS
 TO THE
 JEFFERSON AVE. BRIDGE OVER GTWRR (XO-68)

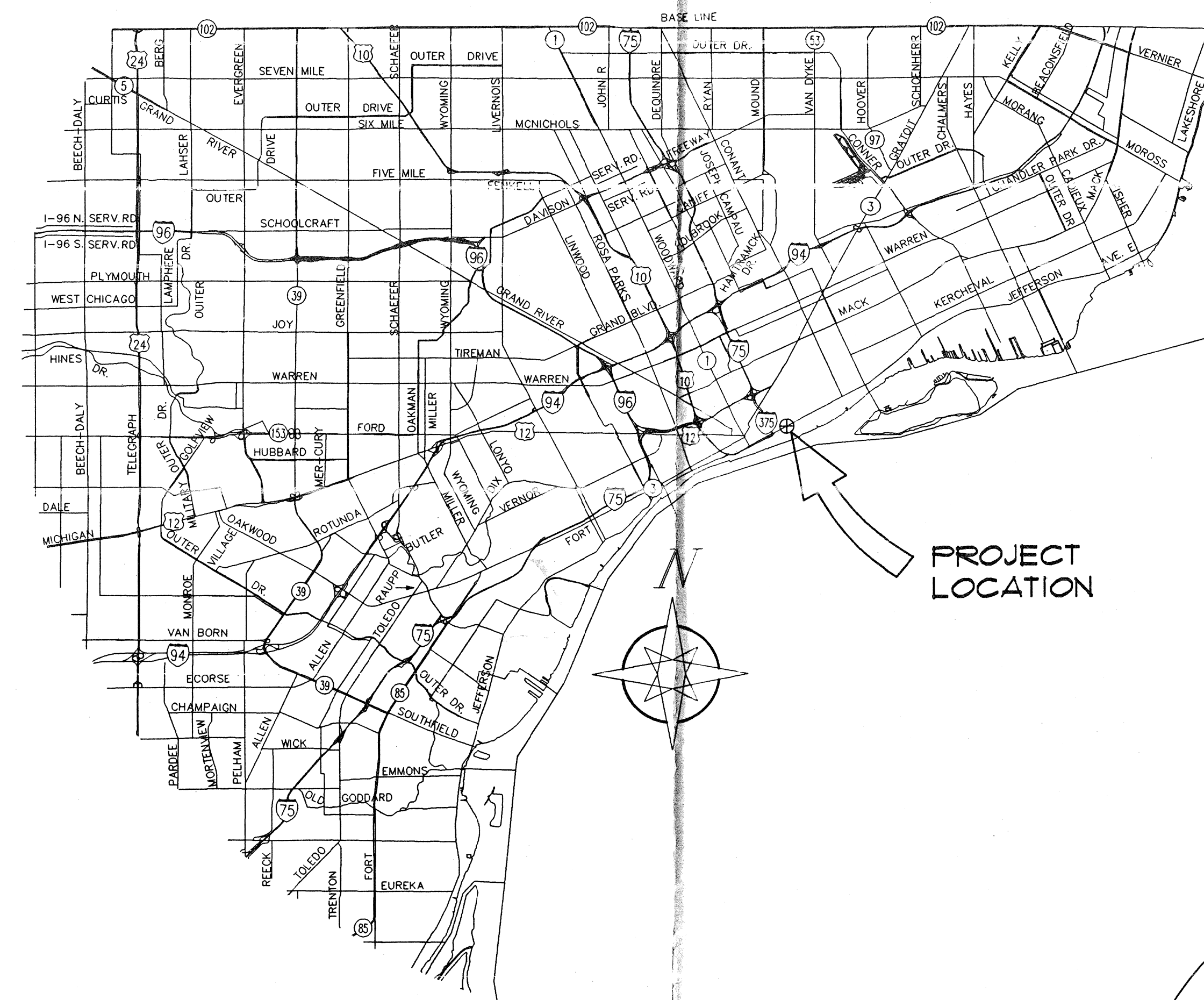
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GENERAL PLAN
 SCALE: NTS



PROJECT LOCATION

TAKE OUT

PRELIMINARY PLAN A
 MARCH 23, 1998

CONTRACT FOR BRIDGE REPAIR

CITY OF DETROIT APPROVAL

STRUCTURAL ENGINEER DATE

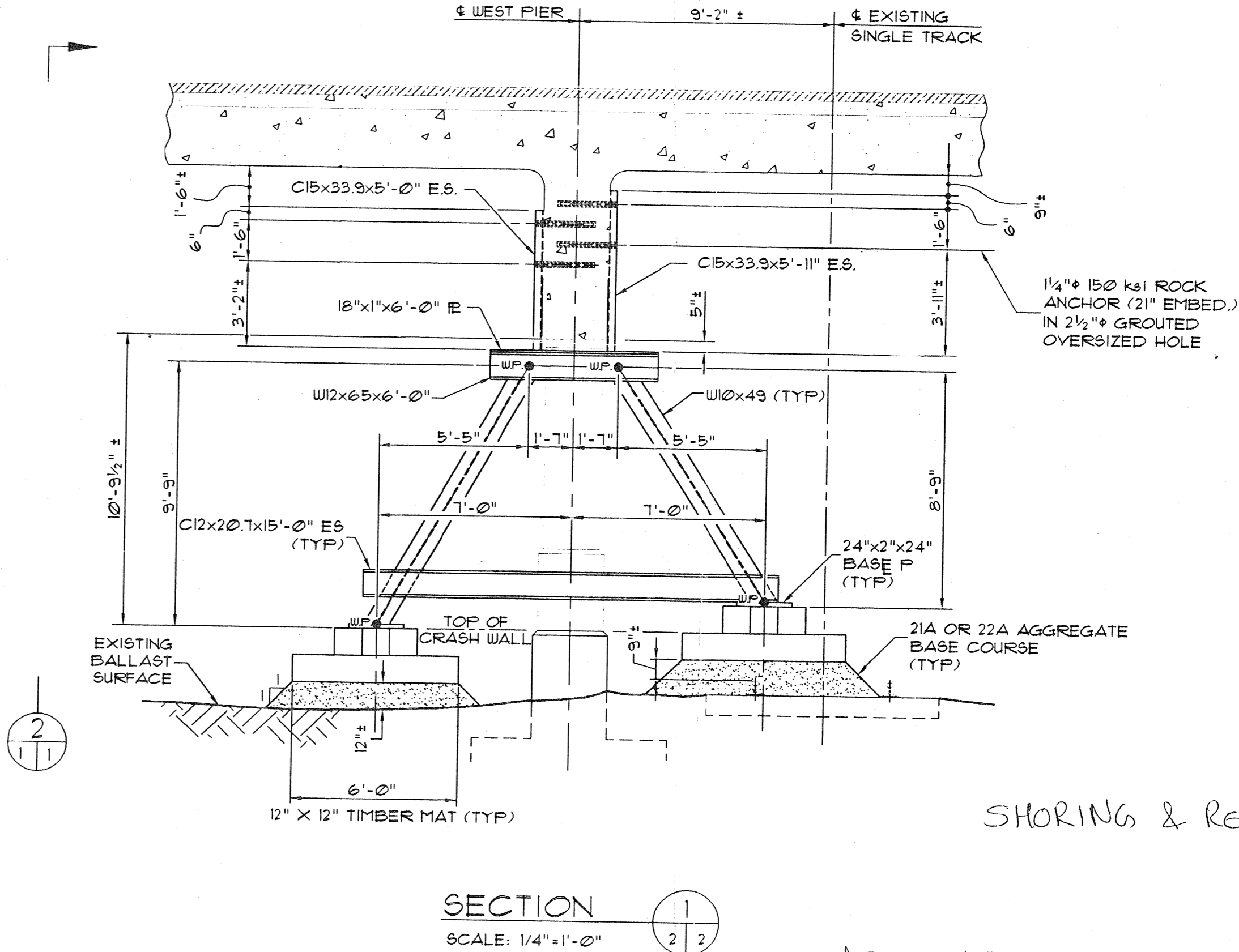
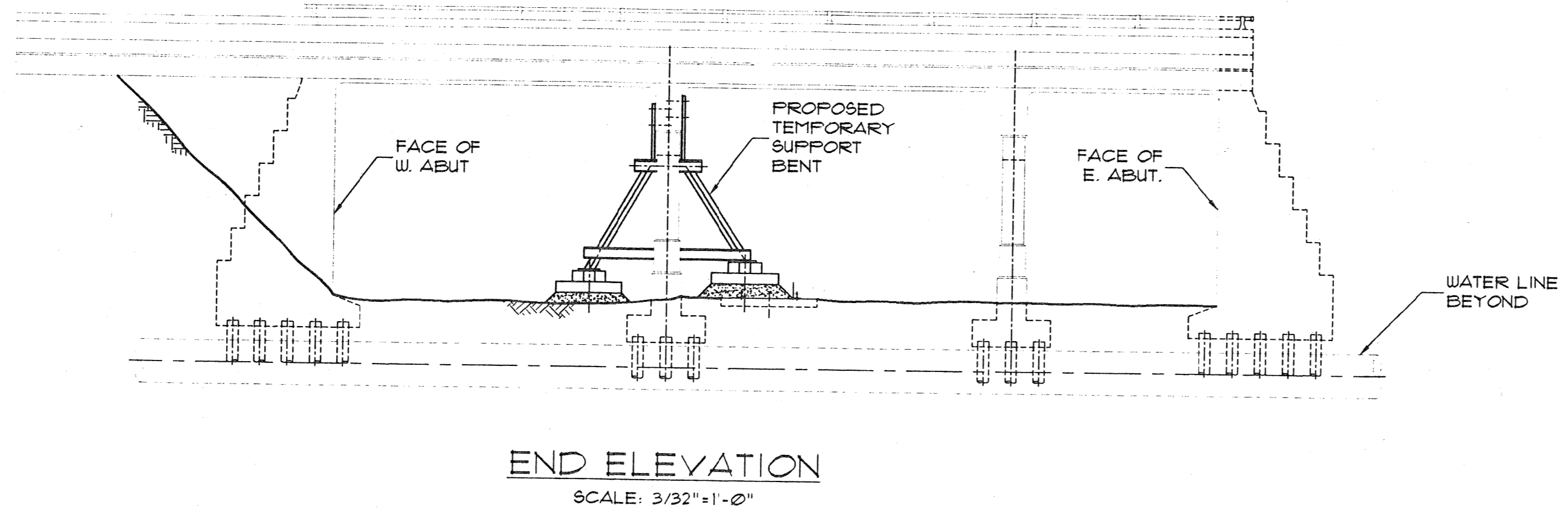
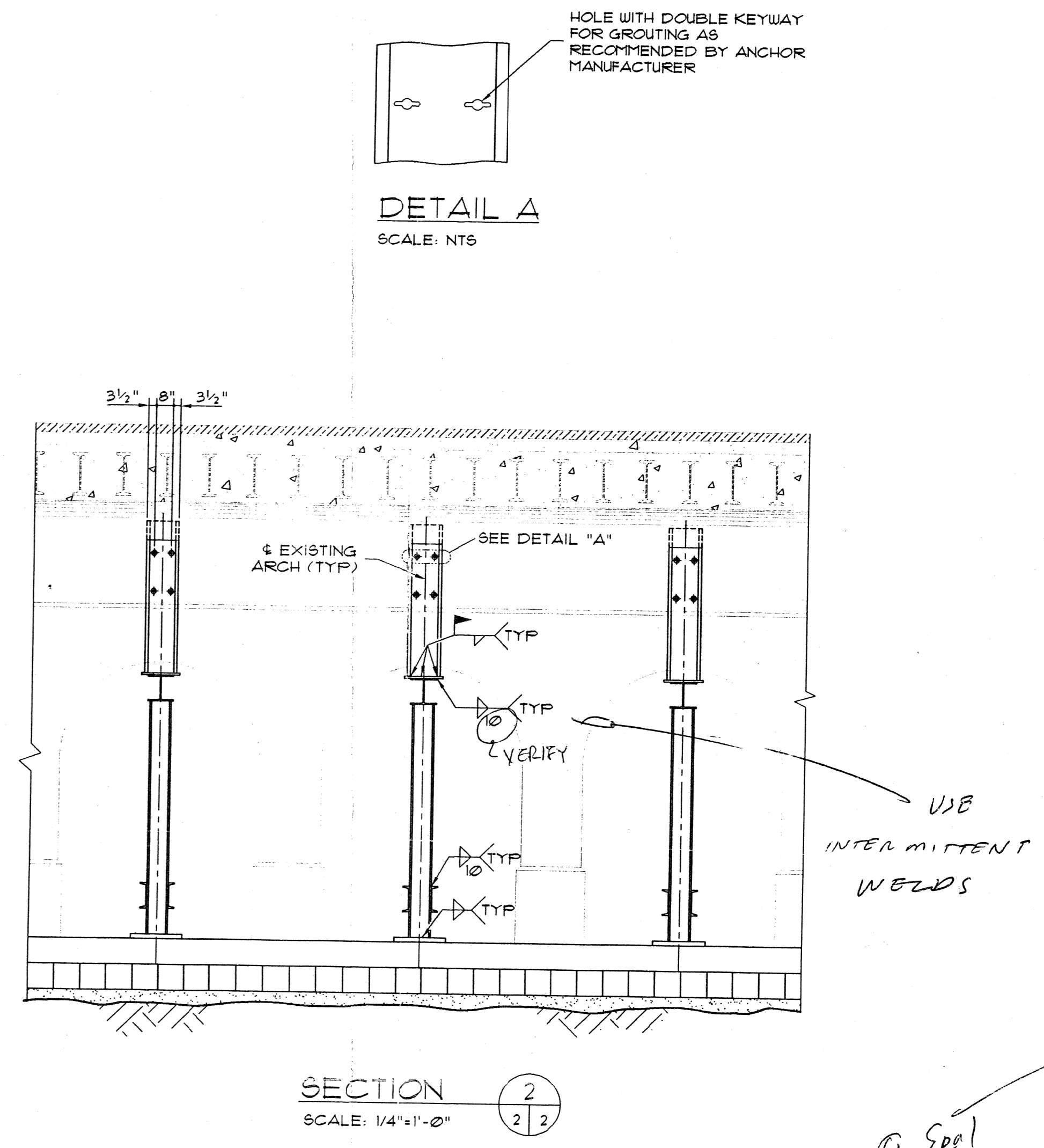
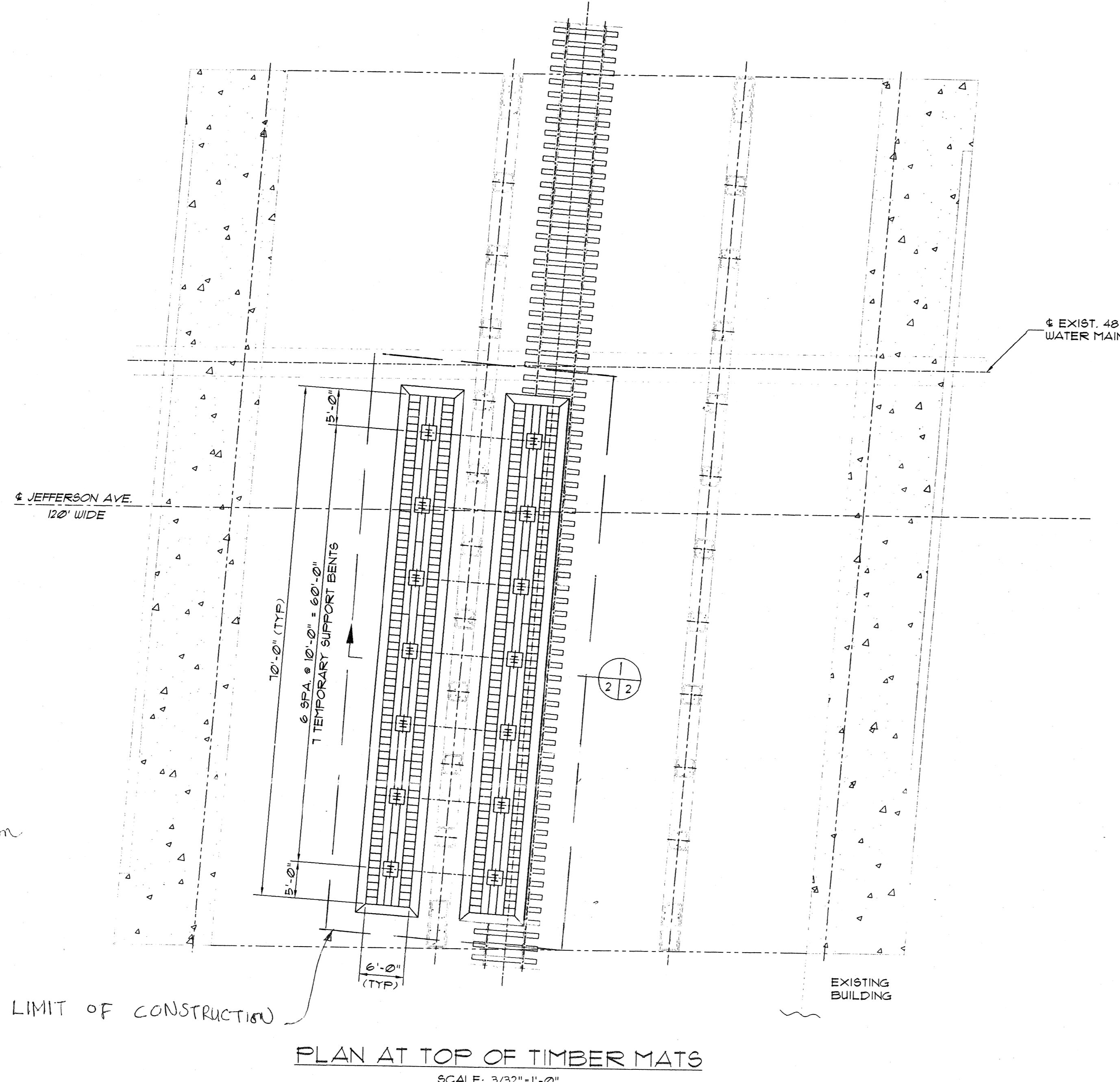
CITY ENGINEER DATE

PREPARED BY

TUCKER, YOUNG
 JACKSON, TULL INC.

CONSULTING ENGINEERS PLANNERS
 565 E. LARNED SUITE 300 DETROIT, MICHIGAN 48206

3 WORKING DAYS,
 EXCLUDING SATURDAY,
 SUNDAY & HOLIDAYS
 BEFORE YOU DIG
 CALL MISS DIG
 800-482-7171
 (TOLL FREE)



GENERAL NOTES

1. WORK INCLUDES ERECTION OF 7 TEMPORARY SUPPORTS AS SHOWN. ALSO INCLUDED IS THE SCALING AND REMOVAL OF ALL LOOSE CONCRETE FROM THE SUBSTRUCTURE AND THE UNDERSIDE OF THE SUPERSTRUCTURE, AS DIRECTED BY THE ENGINEER.
2. THIS STRUCTURE IS CURRENTLY POSTED FOR MAXIMUM LOADS OF 22 TONS GROSS AND 3 TONS PER AXLE. AFTER ERECTION OF THOSE SUPPORTS, THE BRIDGE WILL SAFELY CARRY ALL OF MICHIGAN'S LEGAL LOADS.
3. ALL WORK SHALL BE IN ACCORDANCE WITH THE MDOT 1990 STANDARD SPECIFICATIONS FOR CONSTRUCTION.
4. STRUCTURAL STEEL SHALL BE ASTM A-36.
5. ALL WELDS SHALL BE 3/16" FILLET WELDS UNO.
6. 24"x24" SHIM PLATES MAY BE USED UNDER THE BASE PLATES TO ADJUST GRADE AS NECESSARY.
7. GROUT ANCHORS IN PLACE AFTER ERECTION OF TEMPORARY SUPPORT BENTS - SEE SPECIFICATIONS.
8. STAGGER JOINTS IN LONGITUDINAL TIMBERS BY AT LEAST 10' WITH NO JOINT WITHIN 4' OF A SUPPORT BENT.
9. TIMBER FOR FOOTINGS SHALL BE TREATED AND BE STRUCTURAL GRADE HAVING A MINIMUM FLEXURAL STRENGTH OF 1200 psi AND A MINIMUM HORIZONTAL SHEAR STRENGTH OF 100 psi.
10. ALLOWABLE SOIL PRESSURE FOR DL-LL IS ASSUMED TO BE 2500 psi.

within limit of construction

Shoring

SHOW LIMIT OF CONSTRUCTION

USE INTERMITTENT WELDS

To Seal

SECTION 1-1
 SCALE: 1/4"=1'-0"
 ADD MISSING WELDS

PRELIMINARY PLAN A
 MARCH 23, 1998

Out

MAP 10
CIRC. ATW. 63
SET 50KW
LOAD 47.6

DETAIL "A"

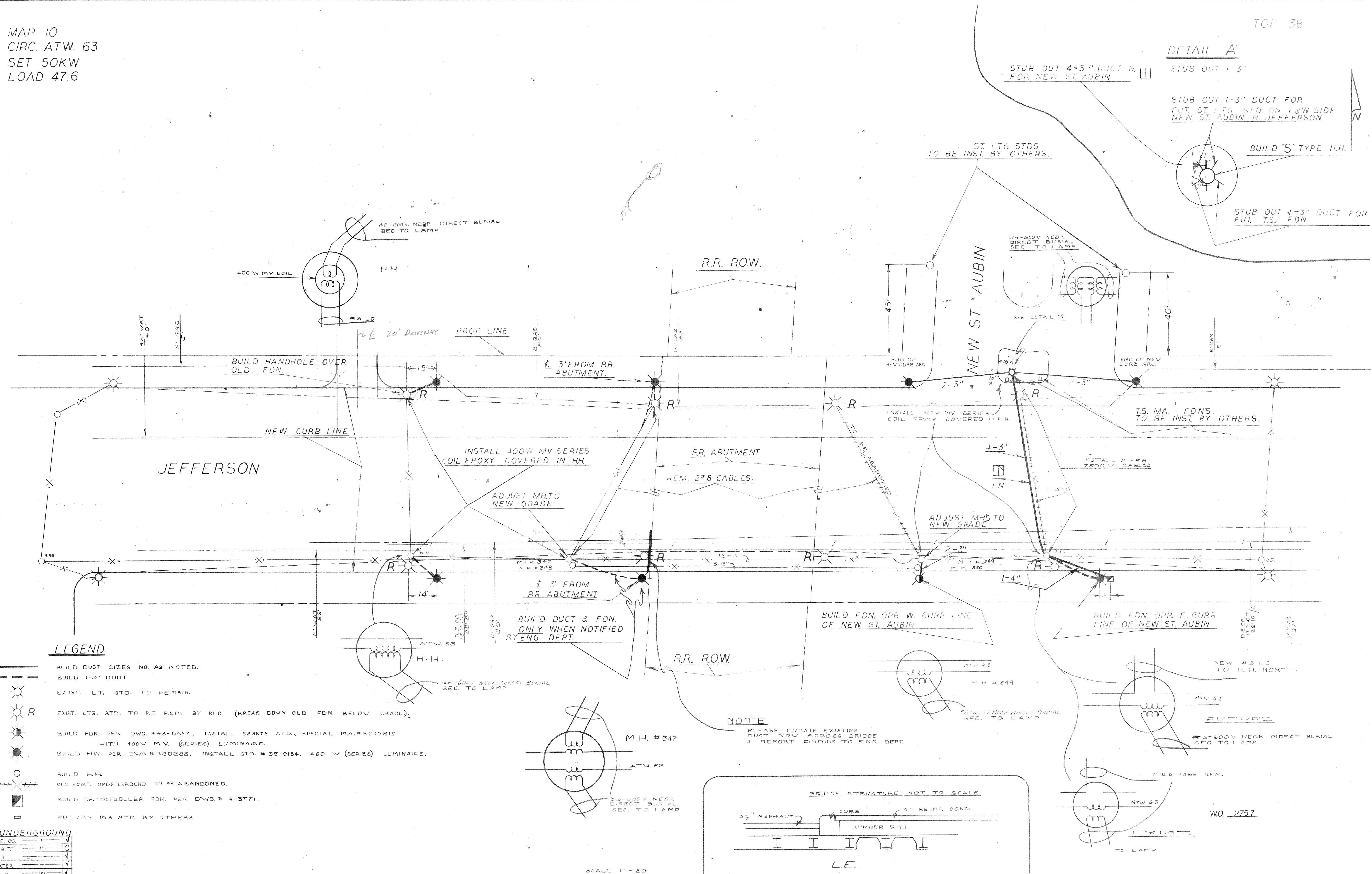
STUB OUT 4-3" DUCT N. FOR NEW ST. AUBIN

STUB OUT 1-3" DUCT FOR FUT. ST. LG. STD. ON E.W. SIDE NEW ST. AUBIN N. JEFFERSON

BUILD "S" TYPE H.H.

STUB OUT 1-3" DUCT FOR FUT. T.S. FDN.

ST. LG. STDS. TO BE INST. BY OTHERS.



LEGEND

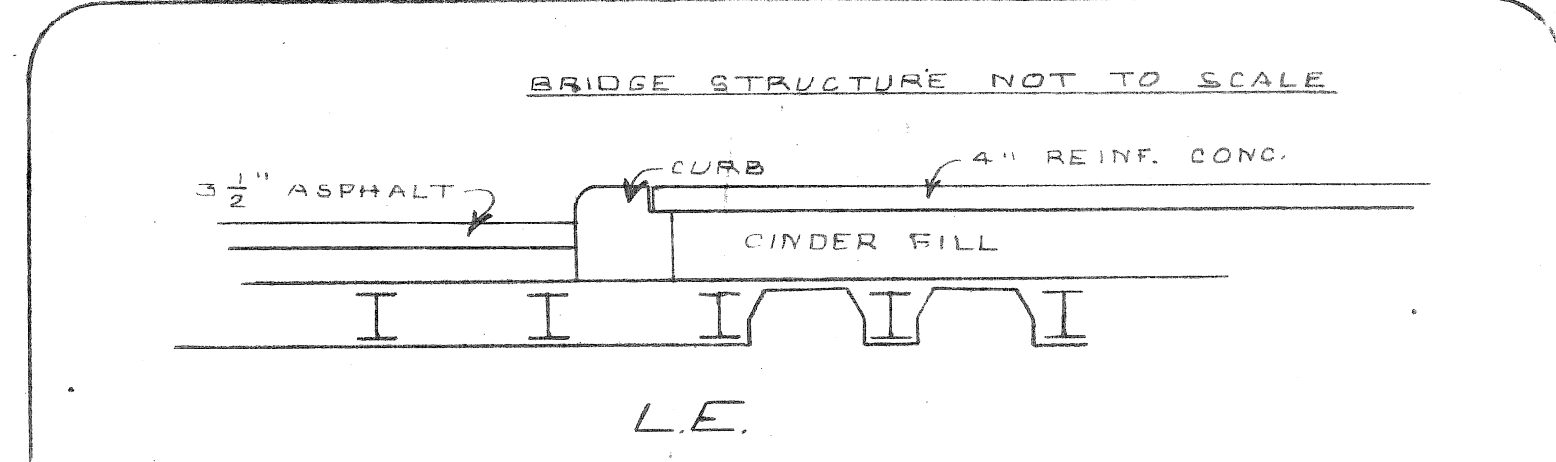
- BUILD DUCT SIZES NO. AS NOTED.
- BUILD 1-3" DUCT
- EXIST. LT. STD. TO REMAIN.
- EXIST. LTS. STD. TO BE REM. BY P.L.C. (BREAK DOWN OLD FDN. BELOW GRADE).
- BUILD FDN. PER DWG. #43-0522. INSTALL 583872 STD., SPECIAL M.A.#B200B15 WITH 400W M.V. (SERIES) LUMINAIRE.
- BUILD FDN. PER DWG.#430353. INSTALL STD.#35-0184. 400 W.(SERIES) LUMINAIRE.
- BUILD H.H.
- P.L.C. EXIST. UNDERGROUND TO BE ABANDONED.
- BUILD T.S. CONTROLLER FDN. PER DWG.#4-3771.
- FUTURE MA STD. BY OTHERS

UNDERGROUND

D.E. CO.	I	✓
M.S.T.	II	✓
GAS	III	✓
WATER	IV	✓
P.L.C.	V	✓

DATE	DESCRIPTION	CHKD. BY

NOTE
PLEASE LOCATE EXISTING DUCT NOW ACROSS BRIDGE & REPORT FINDINGS TO ENG. DEPT.

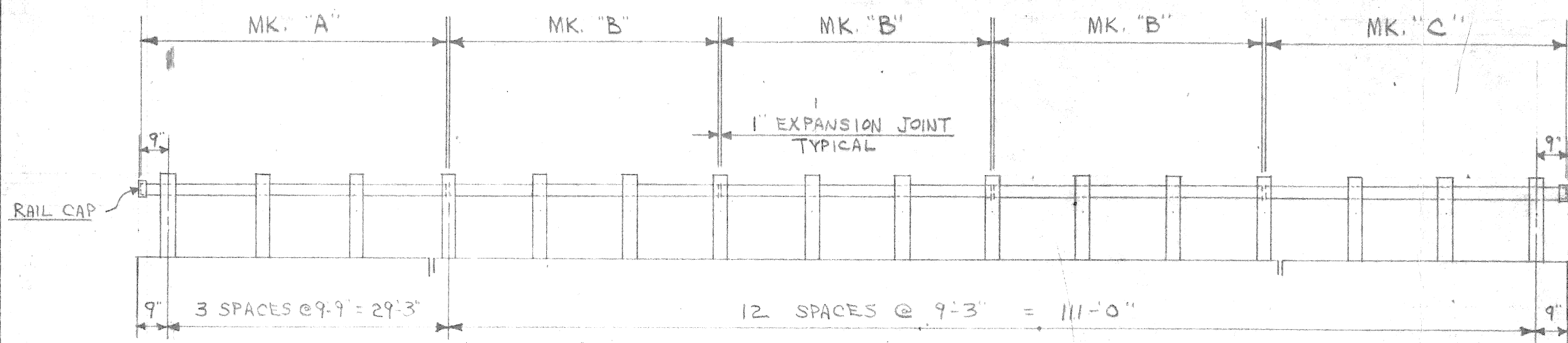


SCALE 1" = 20'

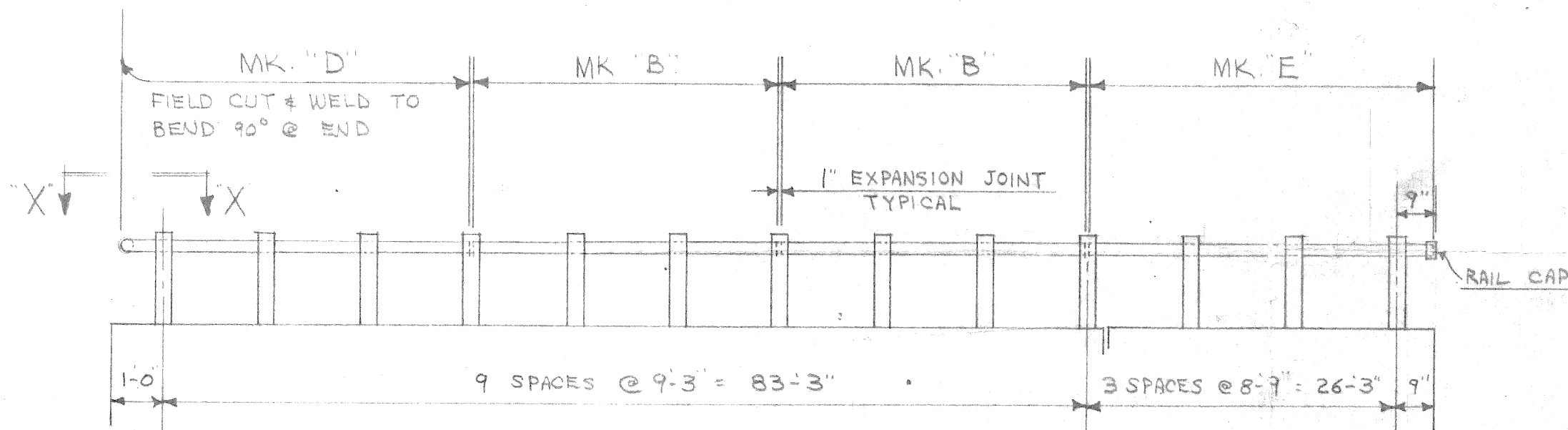
PROPOSED RELOCATION OF PLC DUCT & LIGHTING STANDARDS ON JEFFERSON & G.T.W. R.R.

DRAWN BY		FILE NO.	51-0416
CHECKED BY		SHEET NO.	10F1
APPROVED BY		DATE	2-15-67

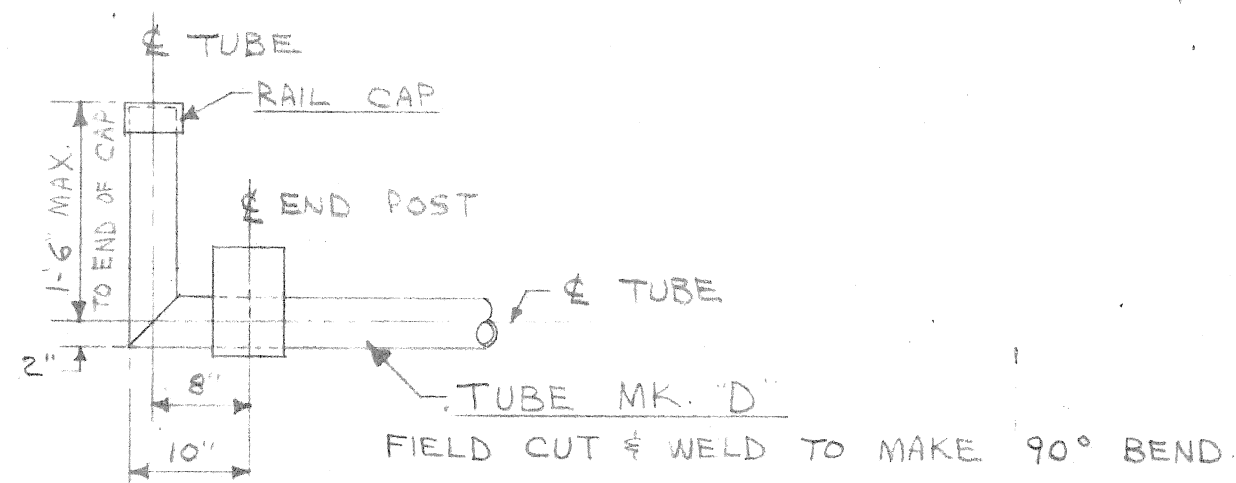
PUBLIC LIGHTING COMMISSION
CITY OF DETROIT



NORTH RAILING ELEVATION - LOOKING NORTH



SOUTH RAILING ELEVATION - LOOKING SOUTH



PLAN VIEW "X"- "X"

BILL OF MATERIAL

QUAN.	DESCRIPTION
29 EA.	ALCOA #1003 ALUMINUM CASTINGS WITH SET SCREWS.
29 EA.	FABCO SA-47 BEARING PADS x 1/8"
116 EA.	3/4" x 12" SQ. HD. MACH. BOLTS, FIN. HEX NUT (ASTM-A-307 GRADE A REG.)
	1/2" SAE WASHER x 1 1/2" O.D.
4 EA.	ALCOA #7172-4 RAILING END CAPS - 4"
	<u>ALUMINUM TUBE 4" OD. x 1/8" WALL</u>
1 EA.	MK. A x 29'-11 1/4"
5 EA.	MK. B x 27'-8"
1 EA.	MK. C x 28'-5 1/4"
1 EA.	MK. D x 29'-10 1/4"
1 EA.	MK. E x 26'-11 1/4"
	CASTING ALLOY - A-356-T6 (ASTM-B-108)
	TUBE ALLOY - 6061-T6 (ASTM-B-221)
	<u>PAY LENGTH 253 L.F.</u>

*Top oversize
see Specs. 7.11.1*

*Office Copy
Checked 7-19-67*

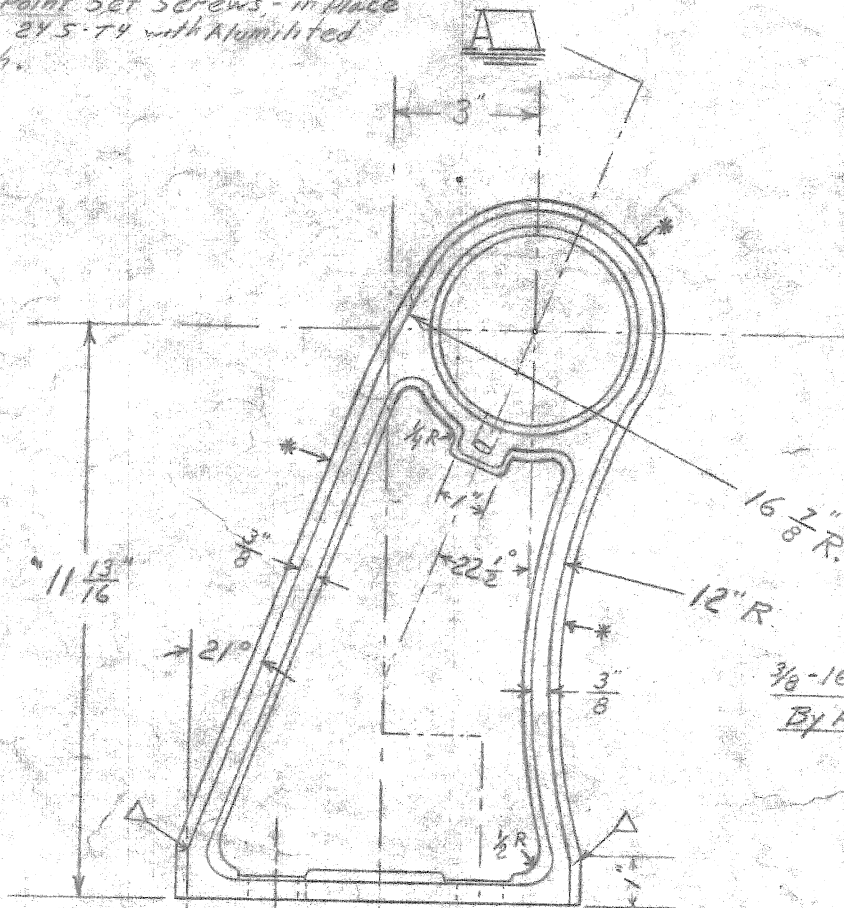
*WAL
276*

CONTRACTOR: ALVA L. GREER & SONS
LOCATION: BRIDGE CARRYING JEFFERSON AVE.
OVER GRAND TRUNK WESTERN R.R.
EAST OF ORLEANS AVE.
DETROIT, MICHIGAN

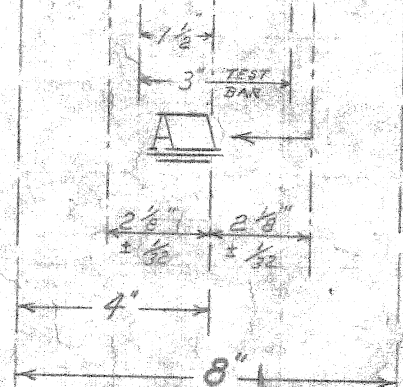
THE HAUSMAN CORPORATION			
2411 VINEWOOD AVE., DETROIT, MICHIGAN 48216			
DRAWN E.G.	SCALE NONE	REVISIONS	DATE
CHECKED			
APPROVED			
DATE 7-12-67			
TITLE BRIDGE RAILING - PARAPET TYPE			NO. 4533-1
JEFFERSON AVE. BRIDGE X068			

X068

Note: Alcoa to furnish Regd No of 3/8-16
 3/8-16 N.C. x 1" Long Slotted Head,
 Oval Point Set Screws - in Place
 Mat'l. 245-T4 with Anodized
 Finish.

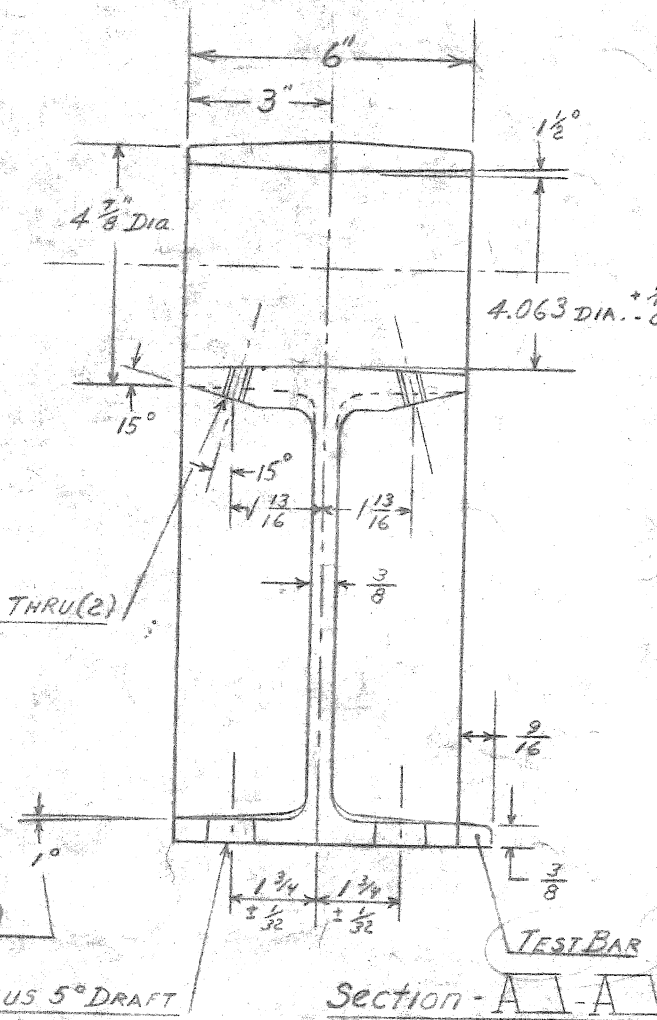


3/8-16 NC. TAP THRU (2)
 By ALCOA



Castings to be supplied with standard Alcoa
 finish on surfaces indicated by *.
 Edges Marked Δ permissible to
 radius off in grinding.

Unless Otherwise Specified: Draft Angles = 3°
 Casting Tol. ± 1/16, Wall Thickness ± 1/32



1° AT BOLT
 HOLES (4)
 1" DIA PLUS 5° DRAFT
 CORE (4) HOLES

Section - A-A

HAUSMAN STEEL COMPANY	
TITLE: Aluminum Rail Post-Parapet Type	
MFG: Aluminum Co. of America (ALCOA)	
CSTG ALLOY: A-356-T6 ASTM B108	
DRAWN BY: J. F. Schultz	DWG No 1003
SCALE: 1/4" = 1"	

- b. Use $0.1 \times$ flange width rounded up to nearest $1/8"$ for assumed eccentricity.
- c. Weld to jack base plate.

7. Jack Bearing Plate Design

- a. Size for bending about centerline existing girder or beam web.
- b. Use load on channel shims for bending calculations.
- c. Use $F_b = 0.75 F_y$.

8. Hydraulic Jack Capacity

- a. Specify minimum jack capacity required (based on axial load only).

9. Timber Footing Design

- a. Use double mat (minimum) with square or rectangular timbers.
- b. Size for axial load plus bending. Use eccentricity assumed in column design. Use allowable soil pressure from Soils Section, Materials and Technology Division.
- c. Check flexure and horizontal shear. Allow 25 percent overstress to account for short duration of loading.
- d. Column base plate full width across top mat.
- e. Top mat full width across bottom mat.
- f. Specify channels lag-bolted to timbers across top of both mats, each end (lag-bolt to each timber).

10. Concrete Footing Design

- a. Use bottom mat steel reinforcement only, both directions.

7.06.04

- b. Size for axial load plus bending. Use eccentricity assumed in column design. Use allowable soil pressure from Soils Section, Materials and Technology Division.
- c. Check flexure, beam (one way) shear and slab (punching) shear.
- d. Specify concrete to be stenciled with "top" on side opposite steel reinforcement.

11. Footing Placed on Soil

- a. Specify compaction of original ground to not less than 95 percent of its maximum unit weight to a depth of 9" and to 1'-6" outside footing outline.
- b. Specify Structure Embankment (CIP), if required, to 1'-6" outside footing outline.
- c. Specify level under footing.
- d. Specify Granular Material Class III, compacted to not less than 95 percent of its maximum unit weight, to 1'-6" outside footing outline for leveling.
- e. Specify 1-on-1 slope down to natural ground for all required fill material.

12. Footing Placed on Pavement or Paved Shoulder

- a. Specify level under footing.
- b. Specify 21AA aggregate, asphaltic cold patch material, or approved equal to 1'-6" outside footing outline for leveling.
- c. Specify 1-on-1 slope down to pavement for required fill material.

13. Placement of Temporary Support

- a. Centerline temporary support under area where pin plate exists.
- b. Centerline temporary support under stiffener, if possible.
- c. Show location on plans.

DRAWN BY: GL
 CHECKED BY: CHC
 APPROVED BY:

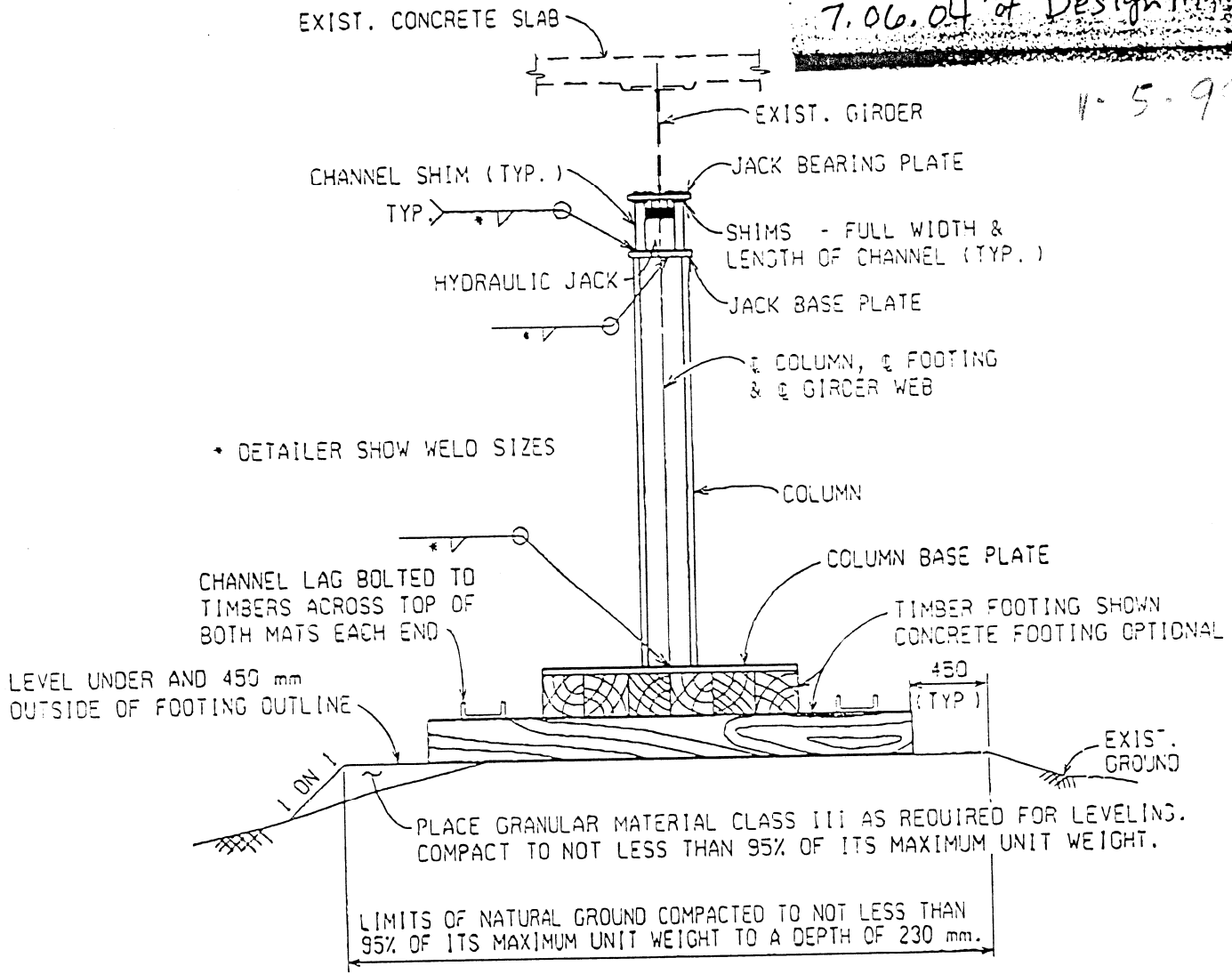
MICHIGAN DEPARTMENT OF TRANSPORTATION-BUREAU
 DETAIL OF TEMPORARY
 SUPPORT FROM BELOW

Standard Pay Item:
 7130015 "Support, Column, Temp."

Post-It® Fax Note	7671	Date	2/28	# of pages	1
To	Rudy Floro	From	Linda Reed		
Co./Dep.	City of Detroit	Co.	MDOT		
Phone #		Phone #	517/373-2245		
Fax #	313/224-3471	Fax #			

→ No Special Provision Needed
 Refer to Section 713 of
 1996 Spec Book
 For Design, see section
 7.06.04 of Design Manual

1-5-97



ELEVATION
 (FOOTING PLACED ON SOIL SHOWN)

PREPARED BY DESIGN DIV. APPENDIX 7.06.04