

EXHIBIT 2



ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

LAKE APOPKA MARSH FLOWWAY CONSTRUCTION PHASE 1

DISCHARGE PUMP STATION CONSTRUCTION

CONTRACT NO.
99W312

JUNE, 1999

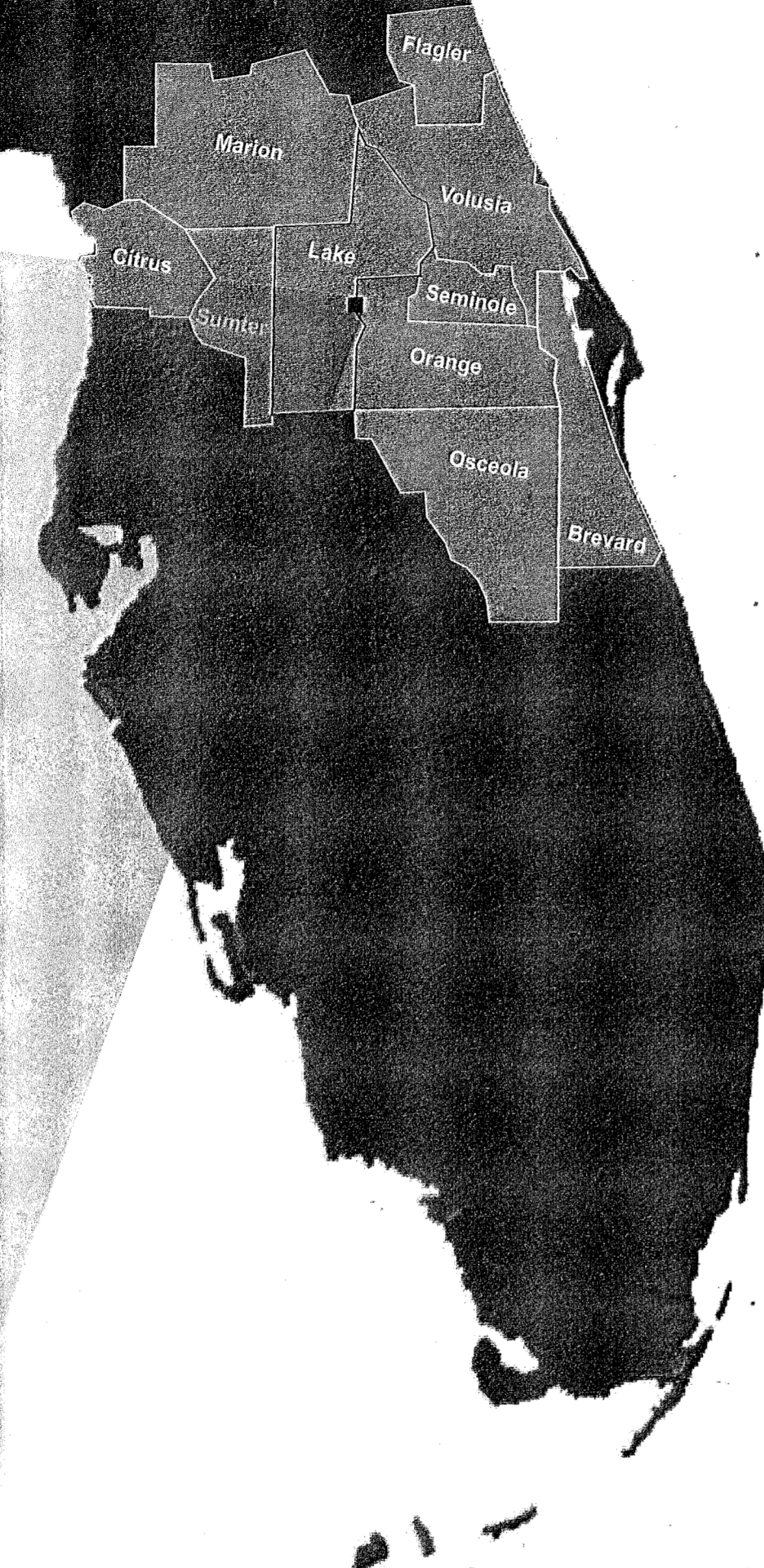
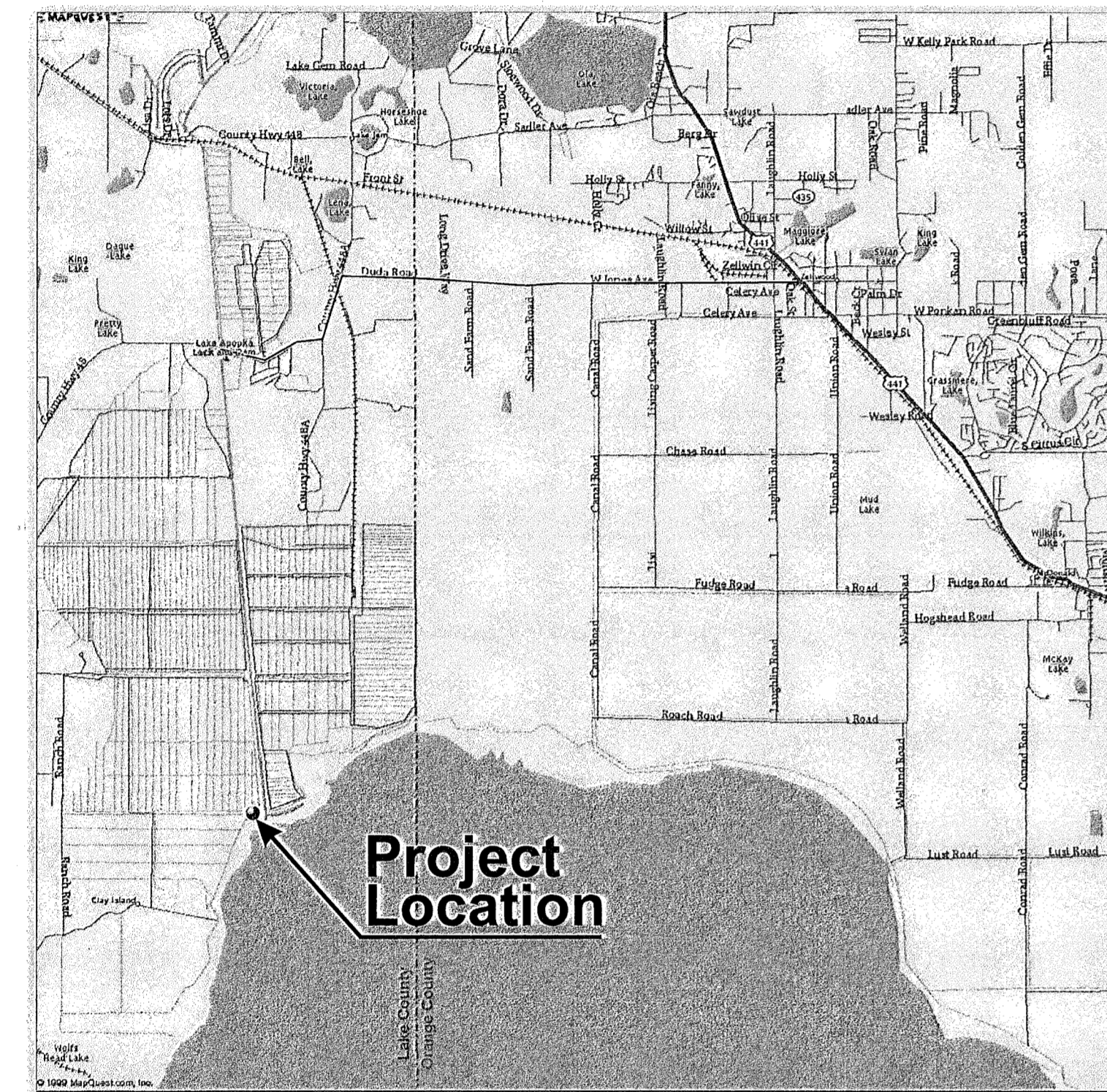


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Prepared By:

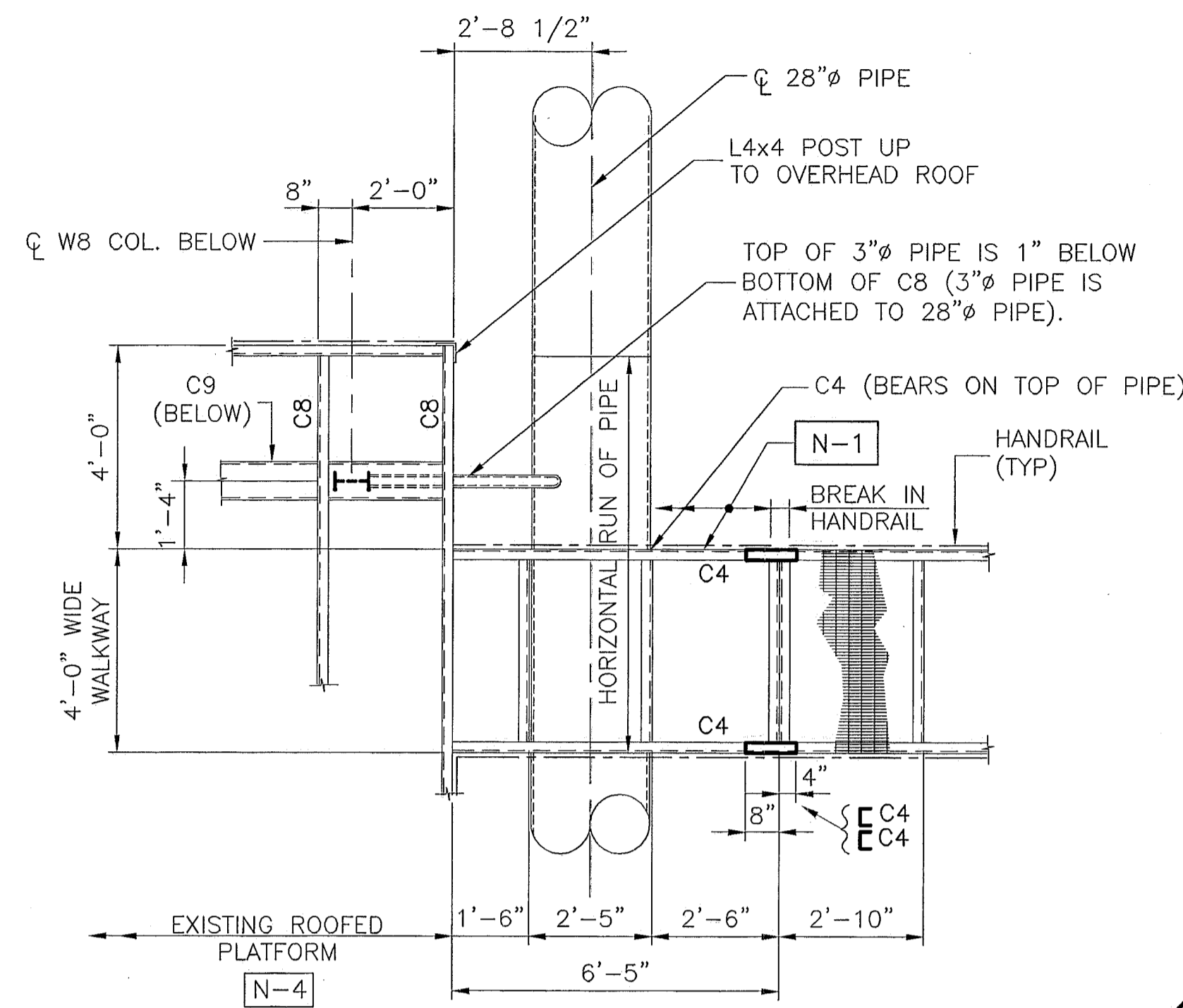
URS Greiner Woodward Clyde

STRUCTURAL GENERAL NOTES:

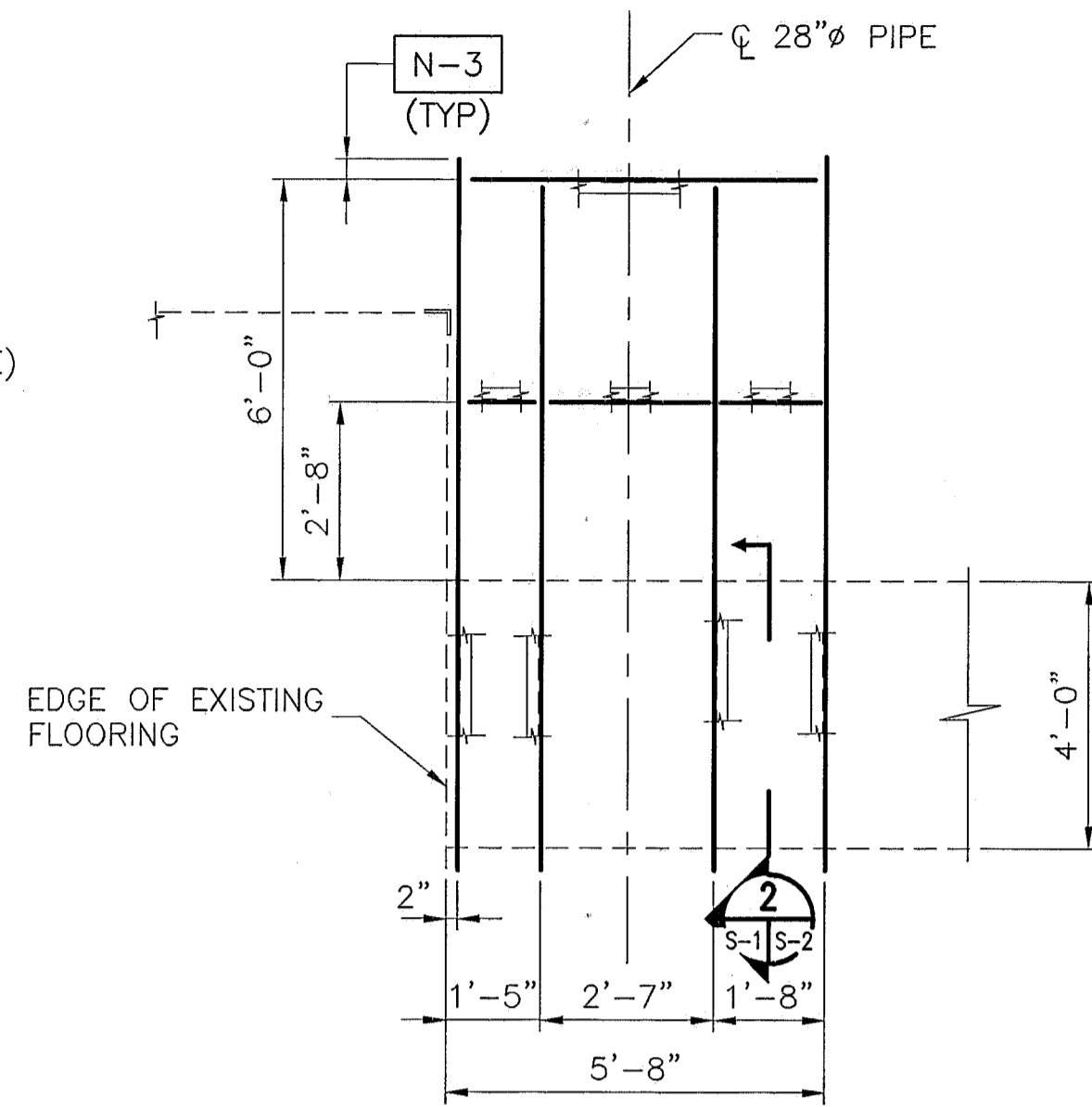
- BUILDING CODE - STANDARD BUILDING CODE 1997 EDITION.
- STEEL CODE - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS, NINTH EDITION.
- STRUCTURAL MATERIAL SHALL BE AS FOLLOWS:
 WELD METAL - E70XX
 STEEL BOLTS - A325N
 STEEL HANDRAIL PIPE - (1 1/2"Ø; 1.9" O.D.; SCHEDULE 40) ASTM A53 TYPE E OR S, GRADE B
 STEEL STRUCTURAL SHAPES AND PLATES - ASTM A36.
 GALVANIZED STEEL "DIAMOND" CATWALK GRATING (McNICHOLS CO. OR EQUAL) 1 1/16" DEEP WITH STRANDS 5/16" WIDE x 1/4" DEEP (69% OPEN AREA) APPROX. WEIGHT OF 3.1 POUNDS PER SQUARE FOOT.
- ALL STEEL ITEMS SHALL BE GALVANIZED AS FOLLOWS:
 STRUCTURAL SHAPES AND PLATES - ASTM A123
 ALL NUTS, BOLTS AND WASHERS - ASTM A153 CLASS C OR D DEPENDING ON SIZE
 ALL BOLT HOLE DIAMETERS SHALL BE EQUAL TO THE BOLT DIAMETER PLUS 1/16", PRIOR TO GALVANIZING.
- ALL WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE (STEEL) ANSI/AWS D1.1 (CURRENT EDITION). ALL WELDS ARE TO BE TREATED WITH TWO COATS OF ZINC RICH PAINT.
- SHOP DRAWINGS FOR THESE STRUCTURES ARE REQUIRED AND FABRICATION SHALL NOT BEGIN UNTIL THESE SHOP DRAWINGS ARE REVIEWED AND APPROVED. SHOP DRAWINGS SHALL INCLUDE THE CONTRACTORS FIELD VERIFICATION OF ALL DIMENSIONS.

STRUCTURAL ITEM NOTES:

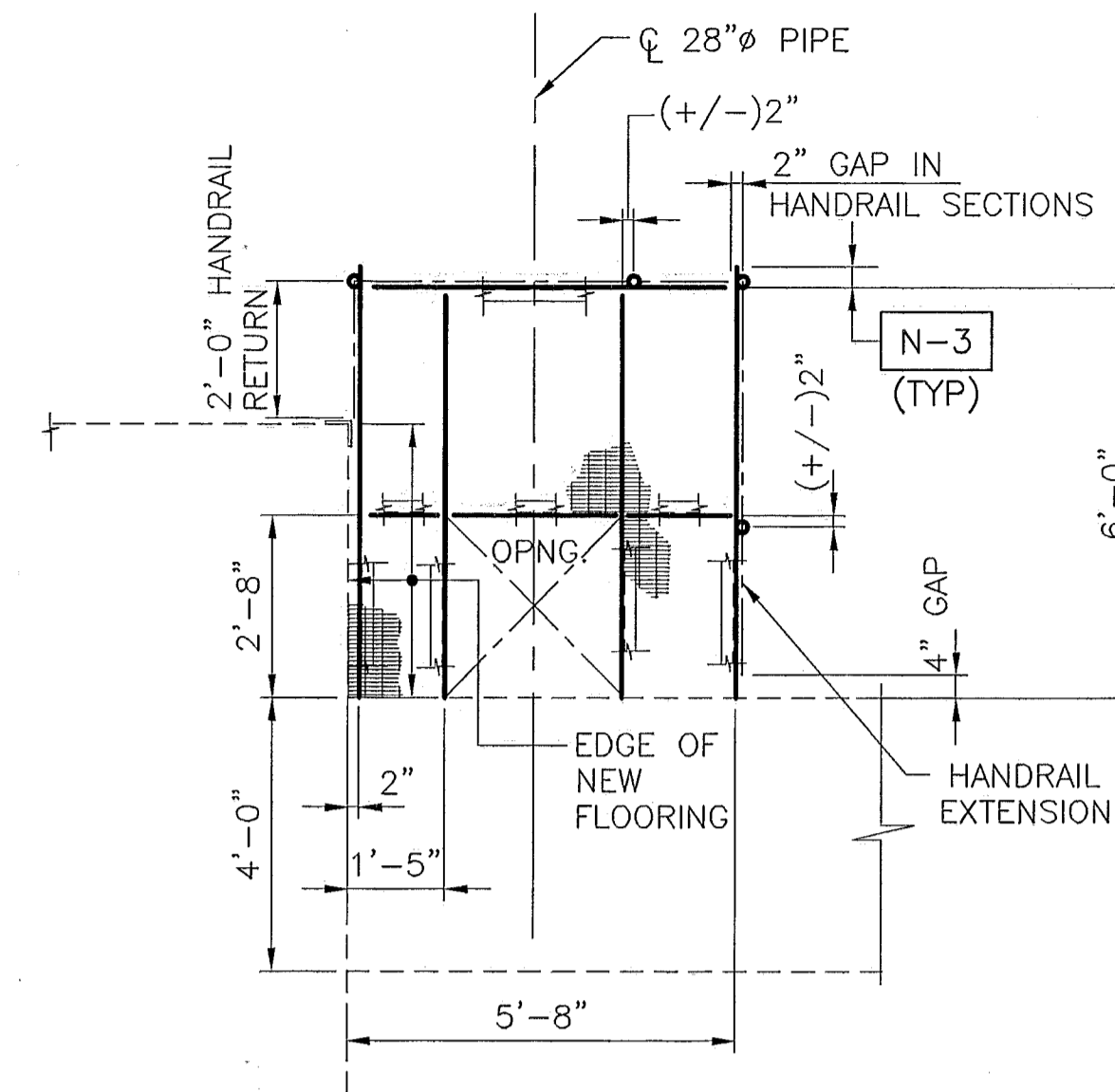
- N-1 REMOVE (+/-) 6'-0" LENGTH OF EXISTING HANDRAIL AND ITS ATTACHMENTS TO THE PLATFORM.
- N-2 REMOVE EXISTING HANDRAIL AND ITS ATTACHMENTS TO THE PLATFORM.
- N-3 CONNECT HANDRAIL POST TO THIS END OF THE EXTENDED FRAMING MEMBER.
- N-4 FILL FLOOR HOLES IN EXISTING "ROOFED" PLATFORM AREA. USE LEFTOVER PIECES FROM CUT-OUTS OF STOCK PIECES OF NEW FLOORING.



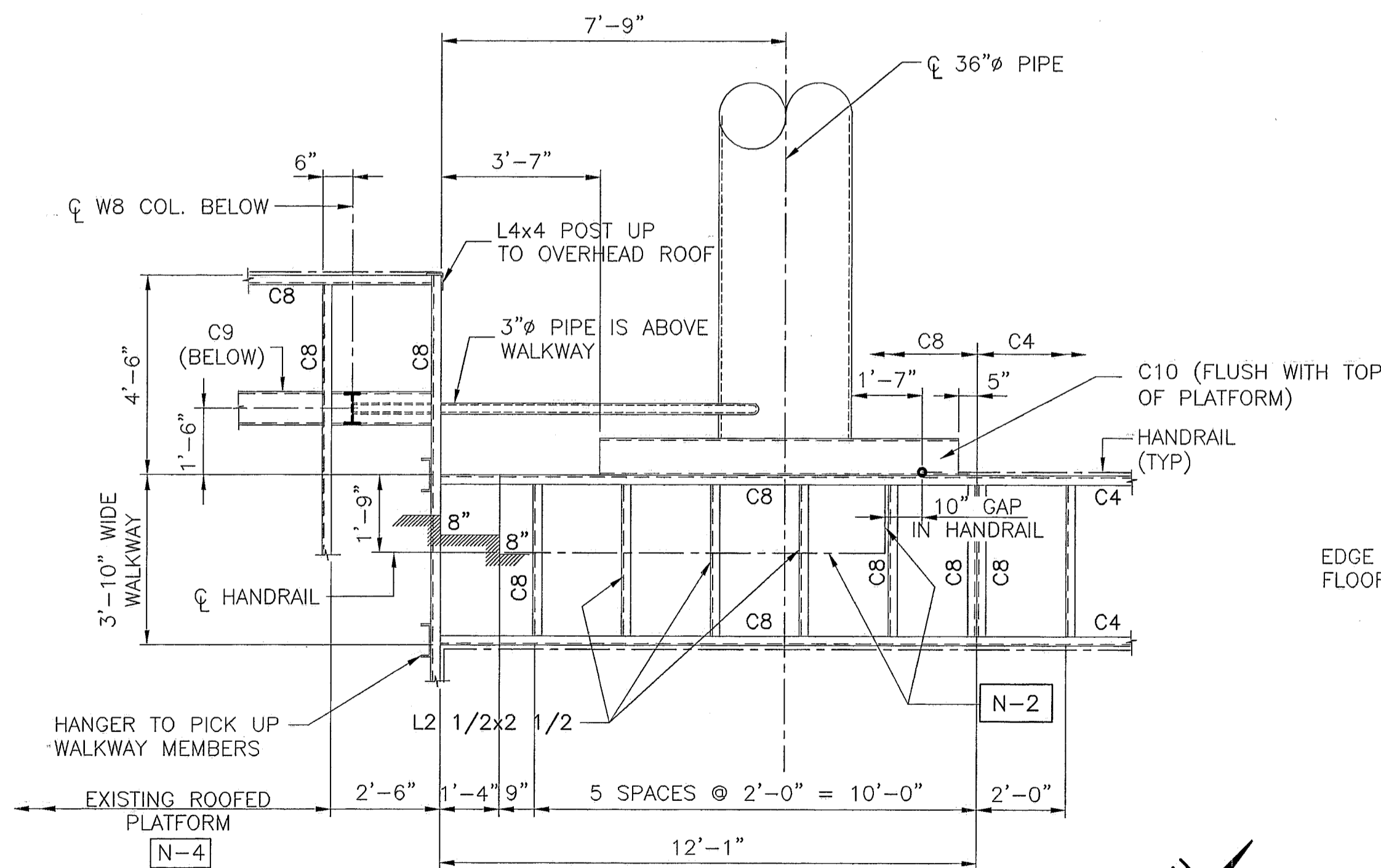
PLATFORM NO. 1 - EXISTING FRAMING/DEMOLITION PLAN
SCALE: 3/8" = 1'-0"



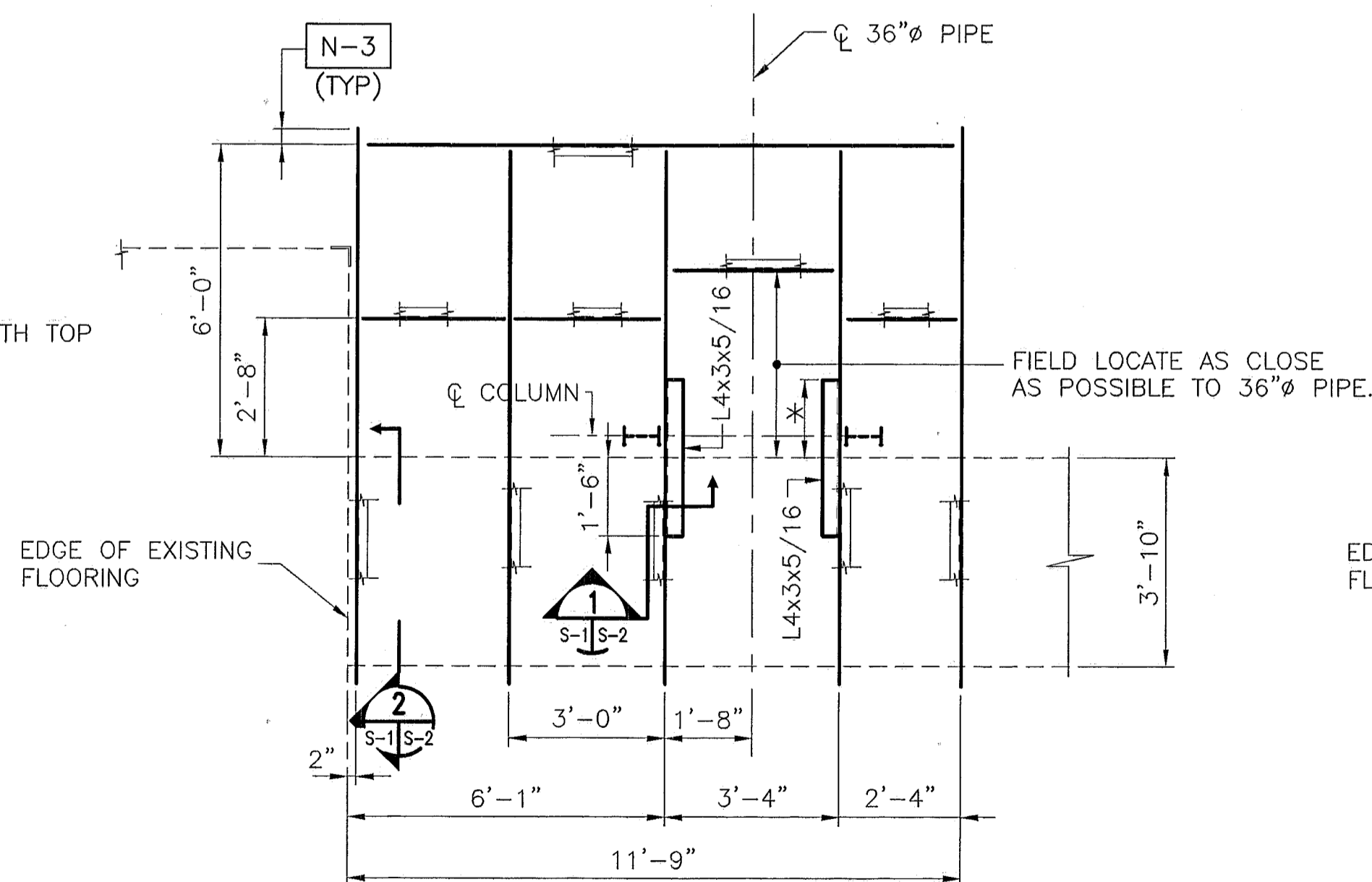
ALL NEW FRAMING MEMBERS ARE C4x7.25
PLATFORM NO. 1 - LOWER FRAMING PLAN
SCALE: 3/8" = 1'-0"



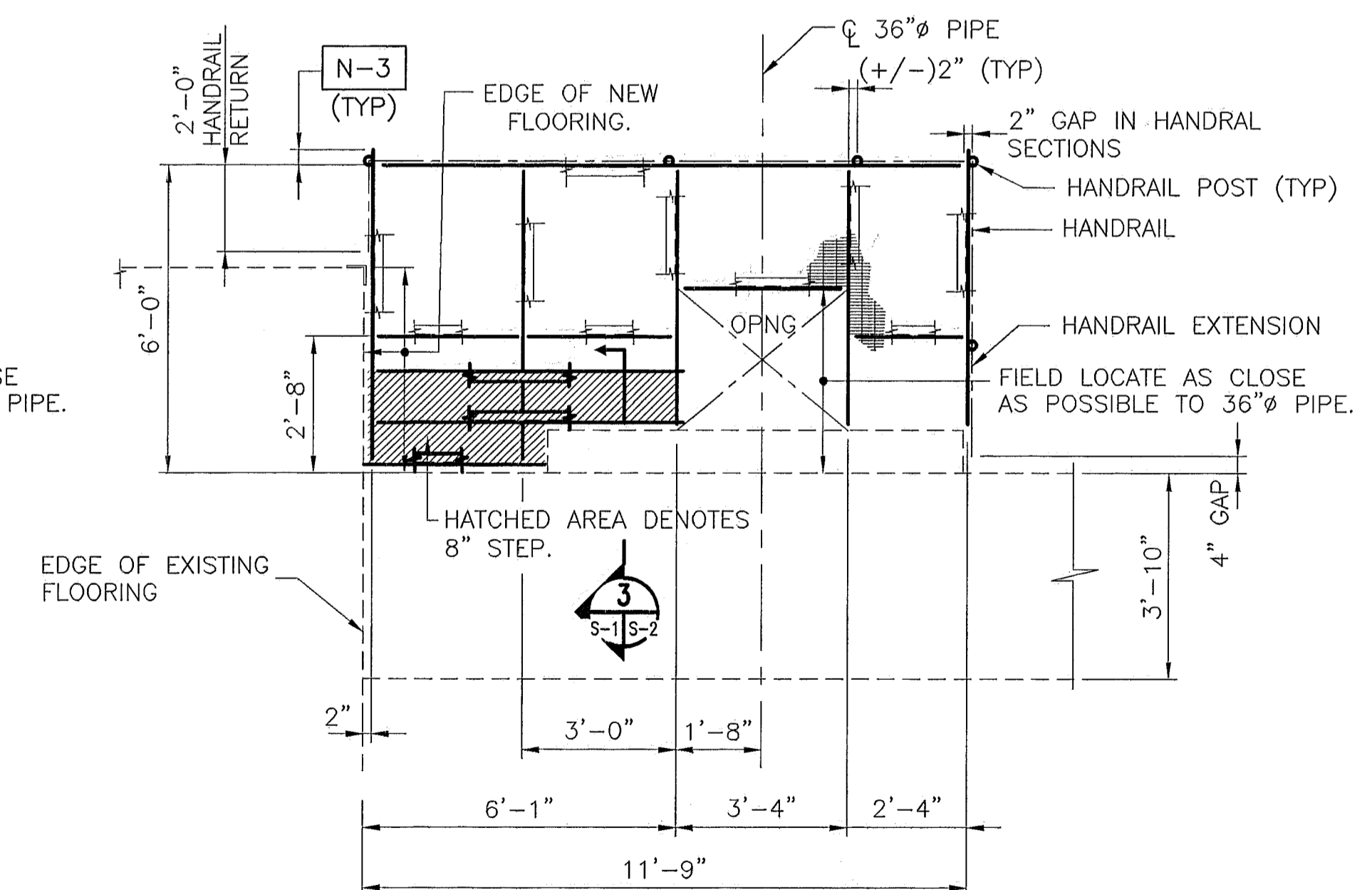
ALL NEW FRAMING MEMBERS ARE C4x7.25
PLATFORM NO. 1 - UPPER FRAMING PLAN
SCALE: 3/8" = 1'-0"



PLATFORM NO. 2 - EXISTING FRAMING/DEMOLITION PLAN
SCALE: 3/8" = 1'-0"



ALL NEW FRAMING MEMBERS ARE C4x7.25
* KEEP L4x3 CLEAR OF EXISTING PIPE. FIELD DETERMINE LENGTH.
PLATFORM NO. 2 - LOWER FRAMING PLAN
SCALE: 3/8" = 1'-0"



ALL NEW FRAMING MEMBERS ARE C8x11.5
PLATFORM NO. 2 - UPPER FRAMING PLAN
SCALE: 3/8" = 1'-0"

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DATE	BY	AUTH.	DESCRIPTION	DATE	BY	AUTH.	DESCRIPTION	DATE	BY	AUTH.	DESCRIPTION	DATE	BY	AUTH.	DESCRIPTION

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

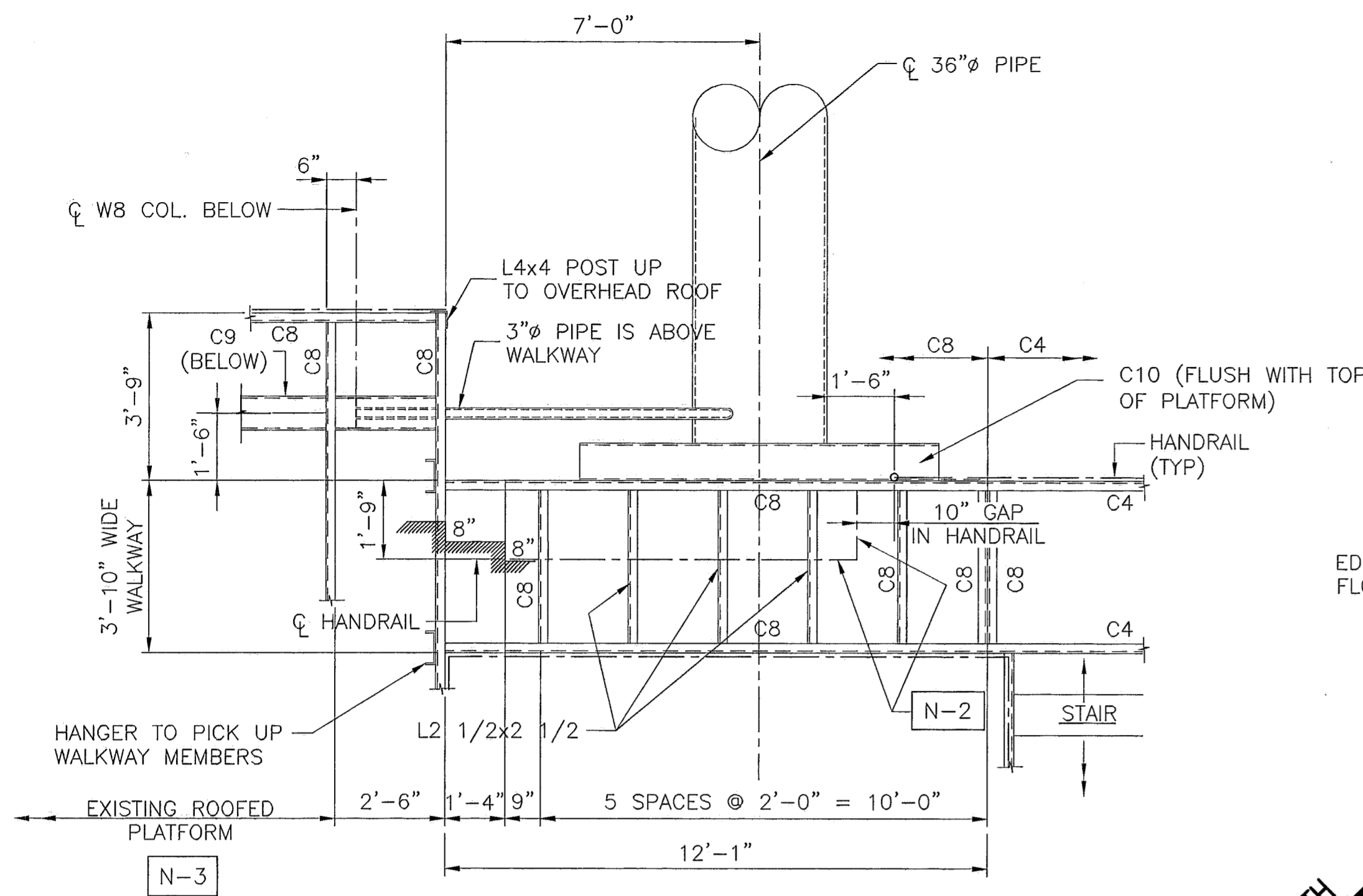
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

PUMP PLATFORMS
PLANS AND NOTES

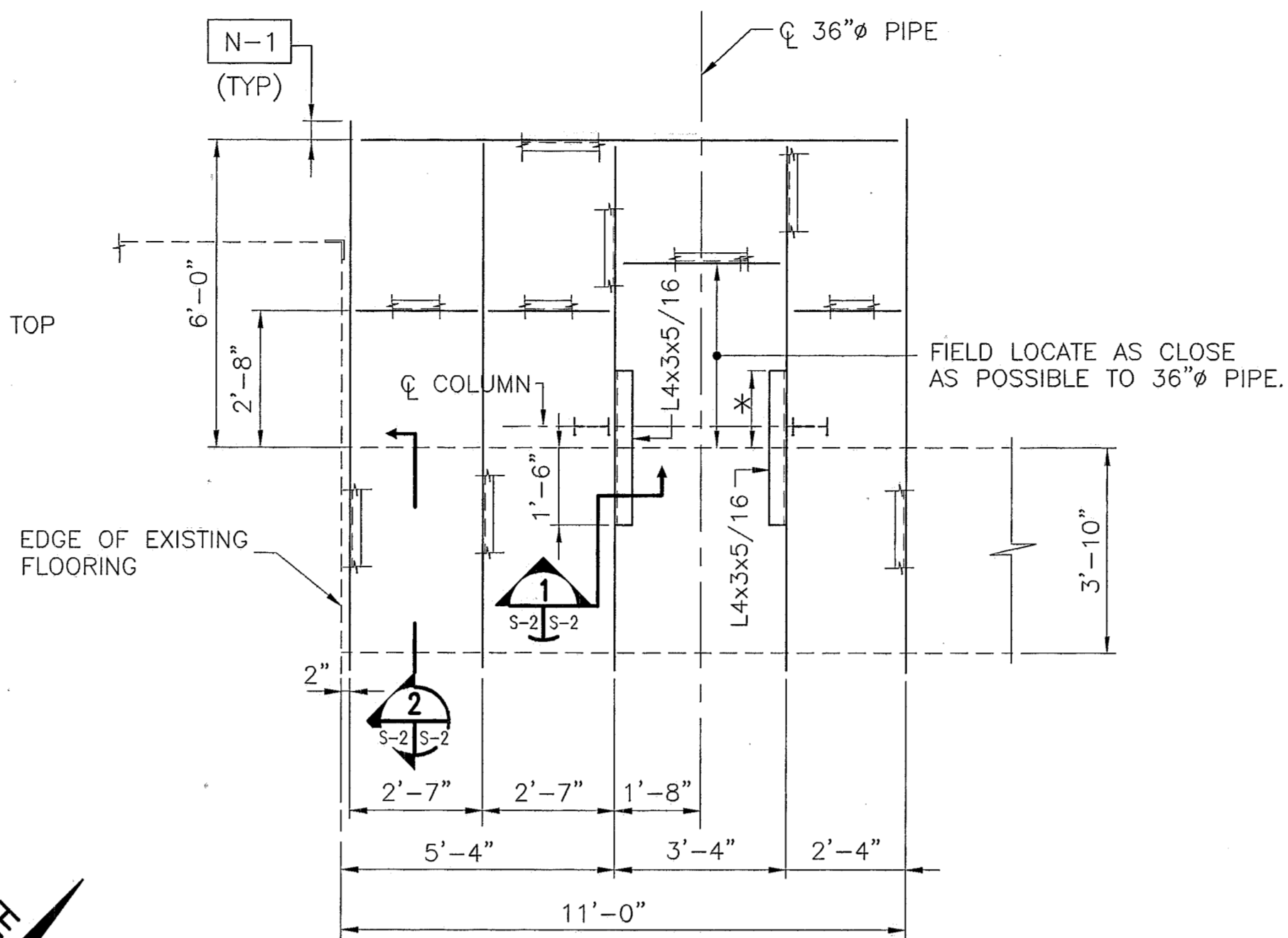
URS Greiner
ORLANDO, FLORIDA

SHEET NO.
S-1

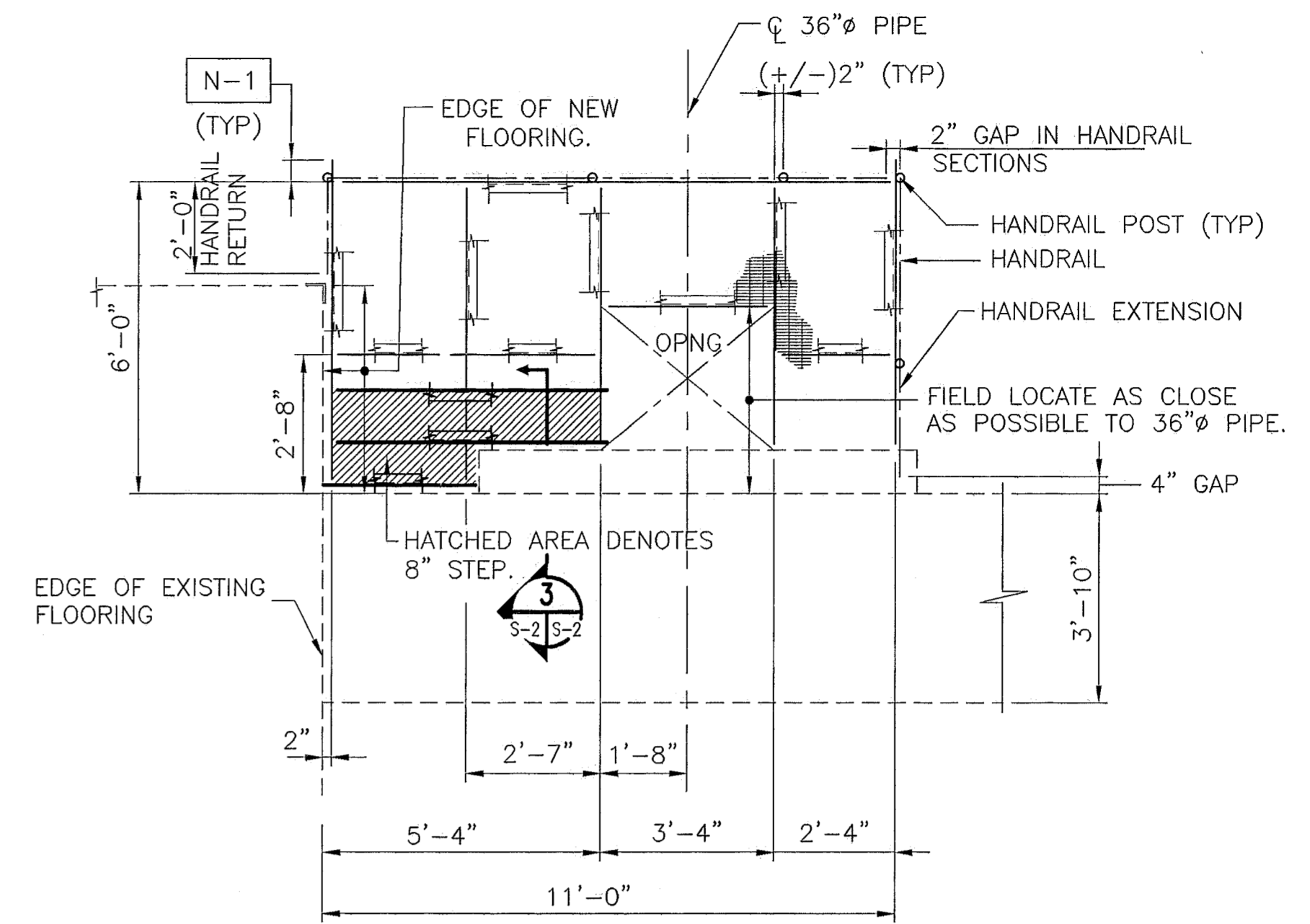
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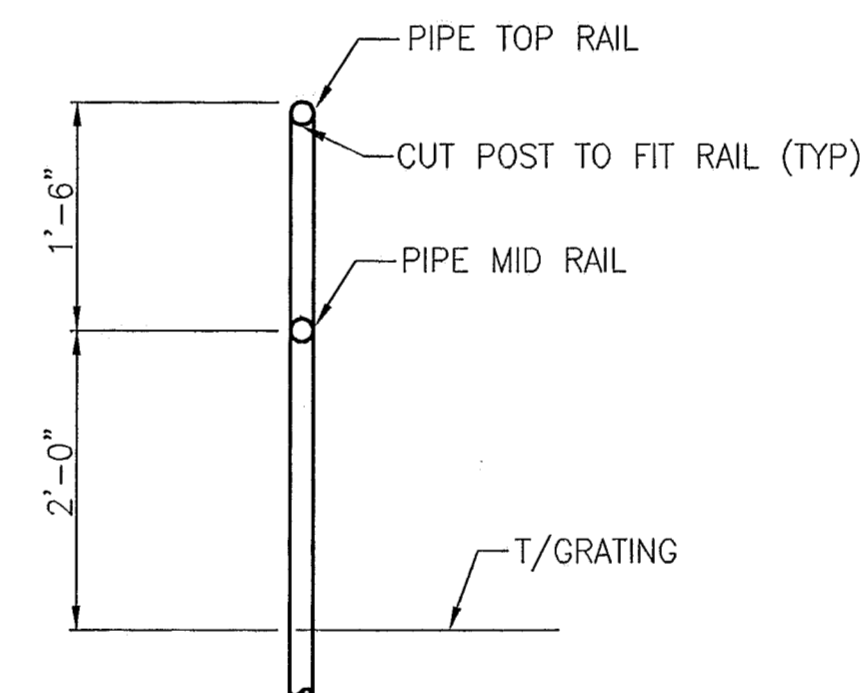
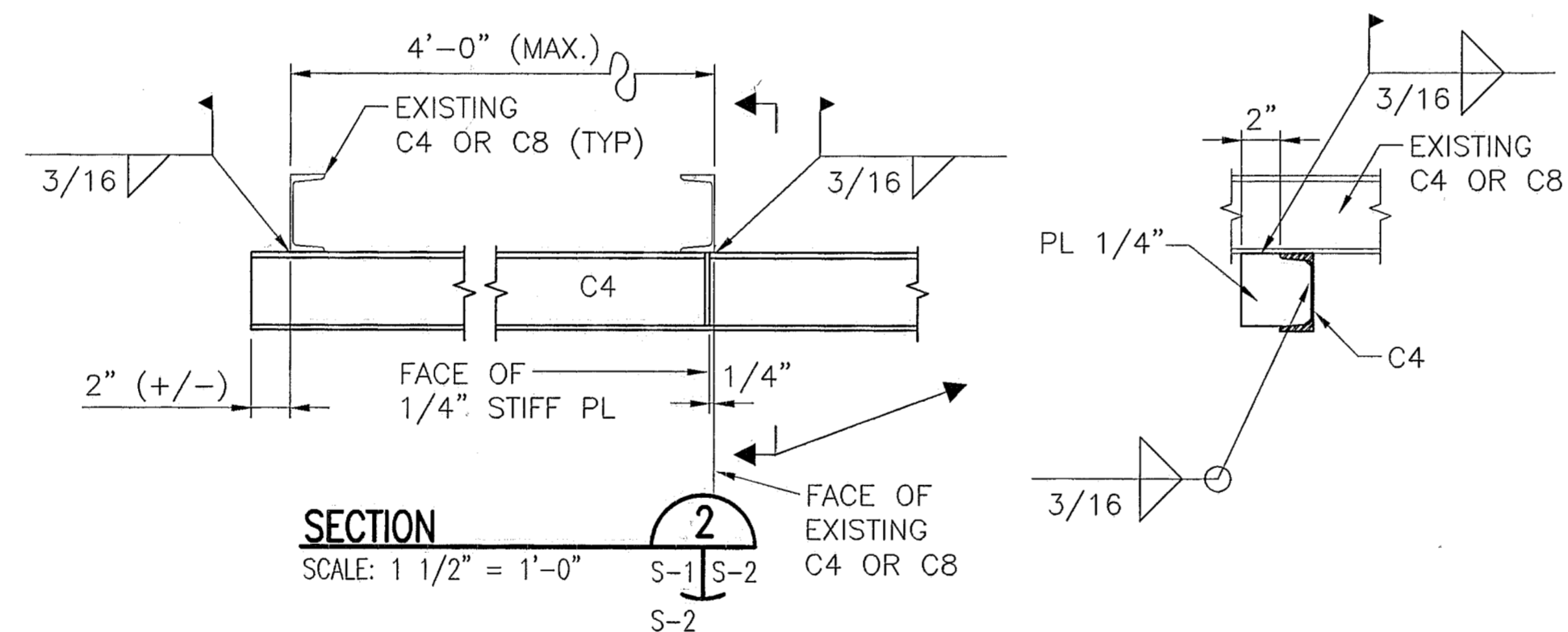
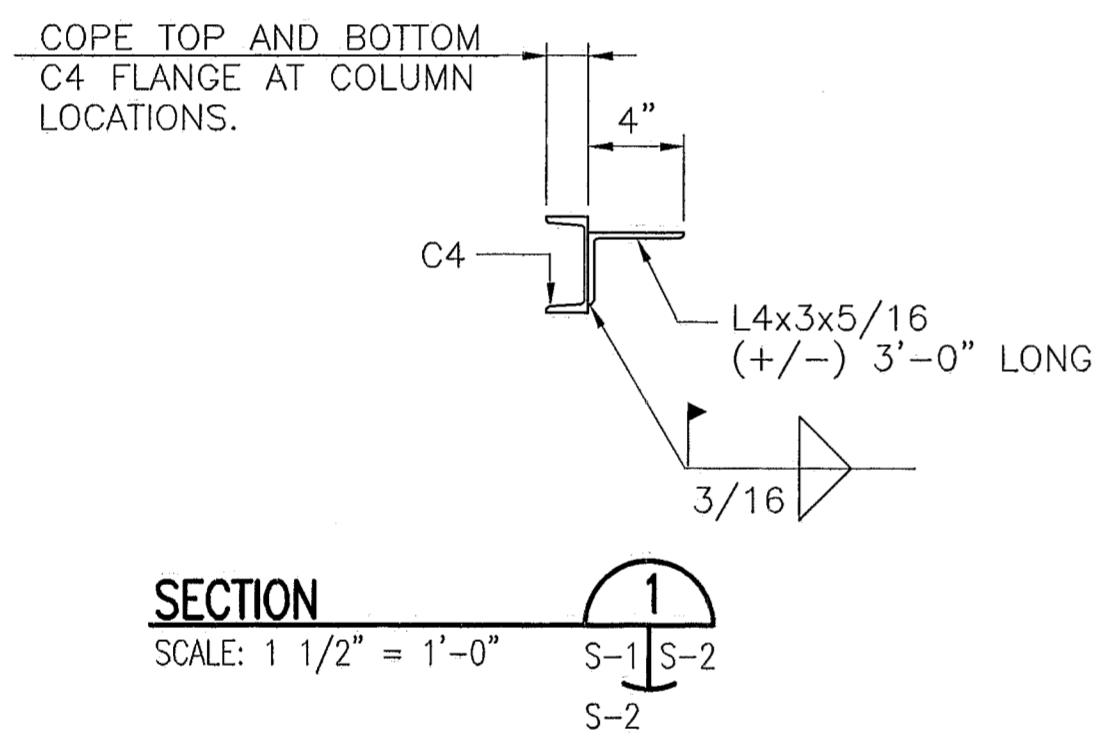
PLATFORM NO. 3 - EXISTING FRAMING/DEMOLITION PLAN
SCALE: 3/8" = 1'-0"



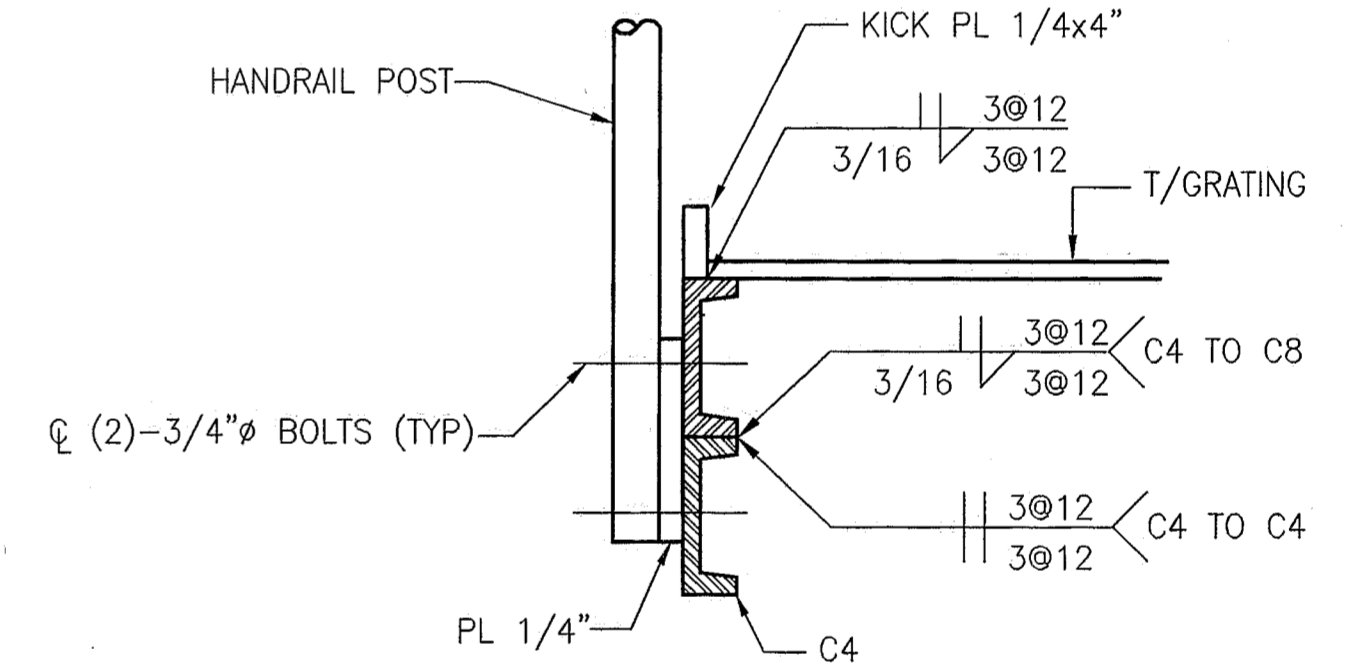
* KEEP L4x3 CLEAR OF EXISTING PIPE. FIELD DETERMINE LENGTH.
ALL NEW FRAMING MEMBERS ARE C4x7.25 U.N.
PLATFORM NO.3 - LOWER FRAMING PLAN
SCALE: 3/8" = 1'-0"



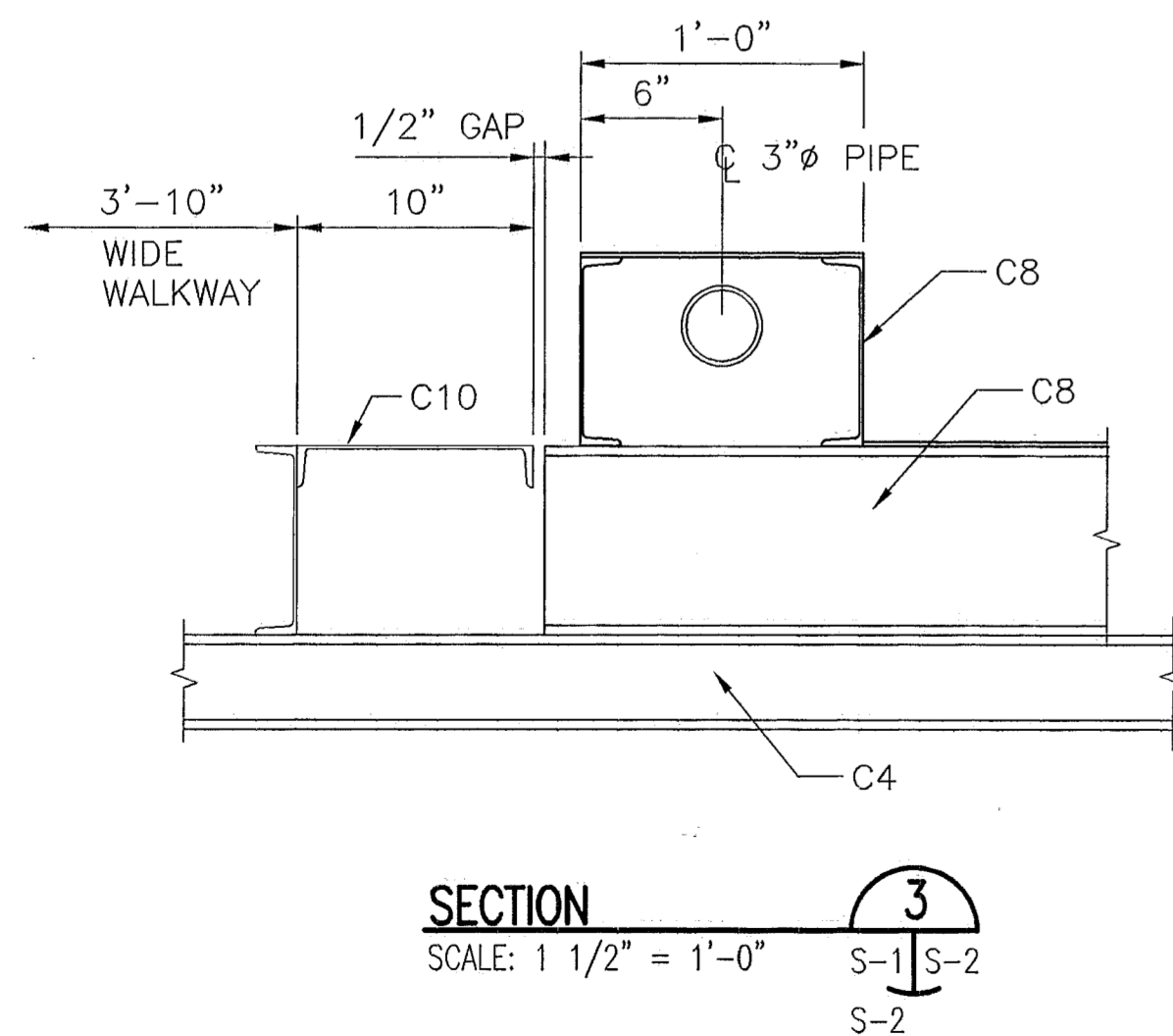
ALL NEW FRAMING MEMBERS ARE C8x11.5
PLATFORM NO.3 - UPPER FRAMING PLAN
SCALE: 3/8" = 1'-0"



TYPICAL HANDRAIL DETAIL
N.T.S.



TYPICAL CONNECTION TO CHANNEL DETAIL
N.T.S.



SECTION 3
SCALE: 1 1/2" = 1'-0"

STRUCTURAL ITEM NOTES:

- N-1** CONNECT HANDRAIL POST TO THIS END OF THE EXTENDED FRAMING MEMBER.
- N-2** REMOVE EXISTING HANDRAIL AND ITS ATTACHMENTS TO THE PLATFORM.
- N-3** FILL FLOOR HOLES IN EXISTING "ROOFED" PLATFORM AREA. USE LEFTOVER PIECES FROM CUT-OUTS OF STOCK PIECES OF NEW FLOORING.

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				DATE	BY	AUTH.	DESCRIPTION	WNH	WNH	EJC	WNH	COPYRIGHT 1999 BY URS GREINER	
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								SUPERVISED BY:					

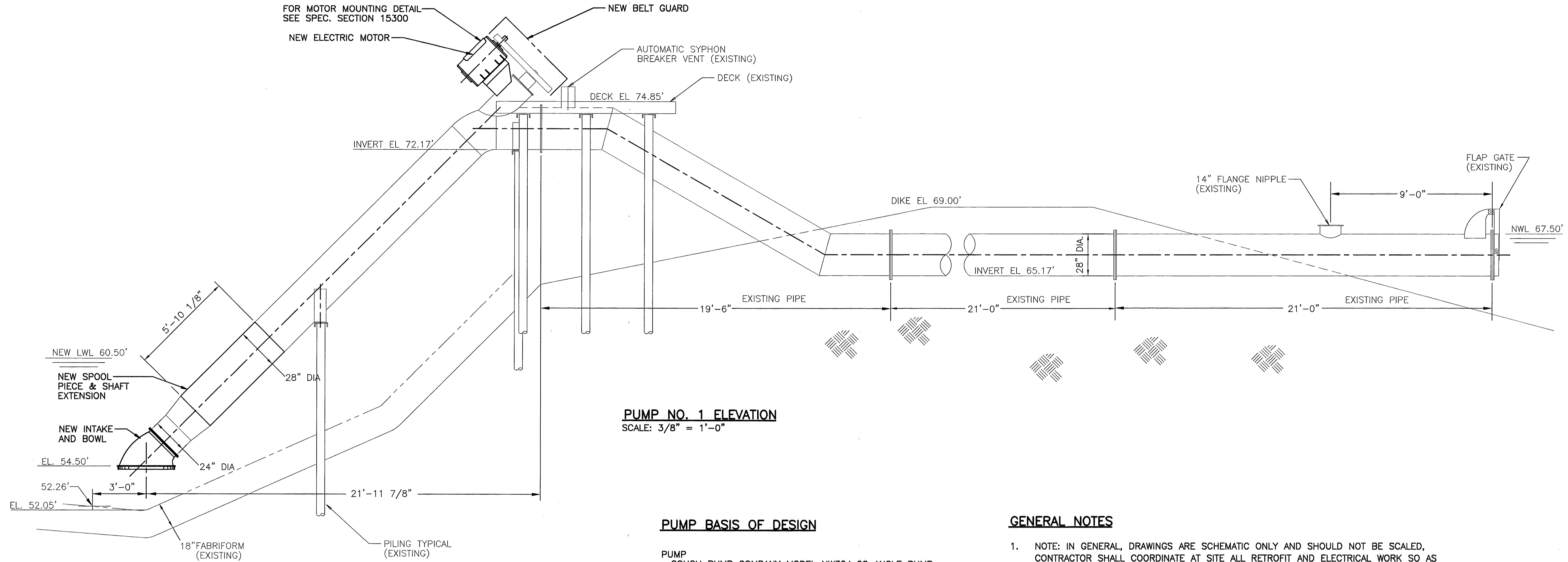
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

PUMP PLATFORMS
PLANS, NOTES, SECTIONS & DETAILS

URS Greiner
ORLANDO, FLORIDA

SHEET NO.
S-2
DATE: 6/99

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PUMP NO. 1 ELEVATION
SCALE: 3/8" = 1'-0"

PUMP BASIS OF DESIGN

PUMP
COUCH PUMP COMPANY MODEL NW324x28 ANGLE PUMP
RATED 19,250 GPM AT 10.8' TDH, 665 RPM,
WEIGHT 3300 LBS.

ELECTRIC MOTOR
HORIZONTAL MOTOR, 100 HP @ 1800 RPM,
FRAME 405T, TEFC, 3/60/460, WEIGHT 1260 LBS

BELT DRIVE
PUMP: 4/5V/31.5 QDF BUSHING, 2 7/16 BORE, 5/8 KEY
MOTOR: 4/5V/11.8 QDE BUSHING, 2 7/8 BORE, 3/4 KEY
POWERBAND: 4/5VX/1320 30.4" C.D.
WITH BELT GUARD

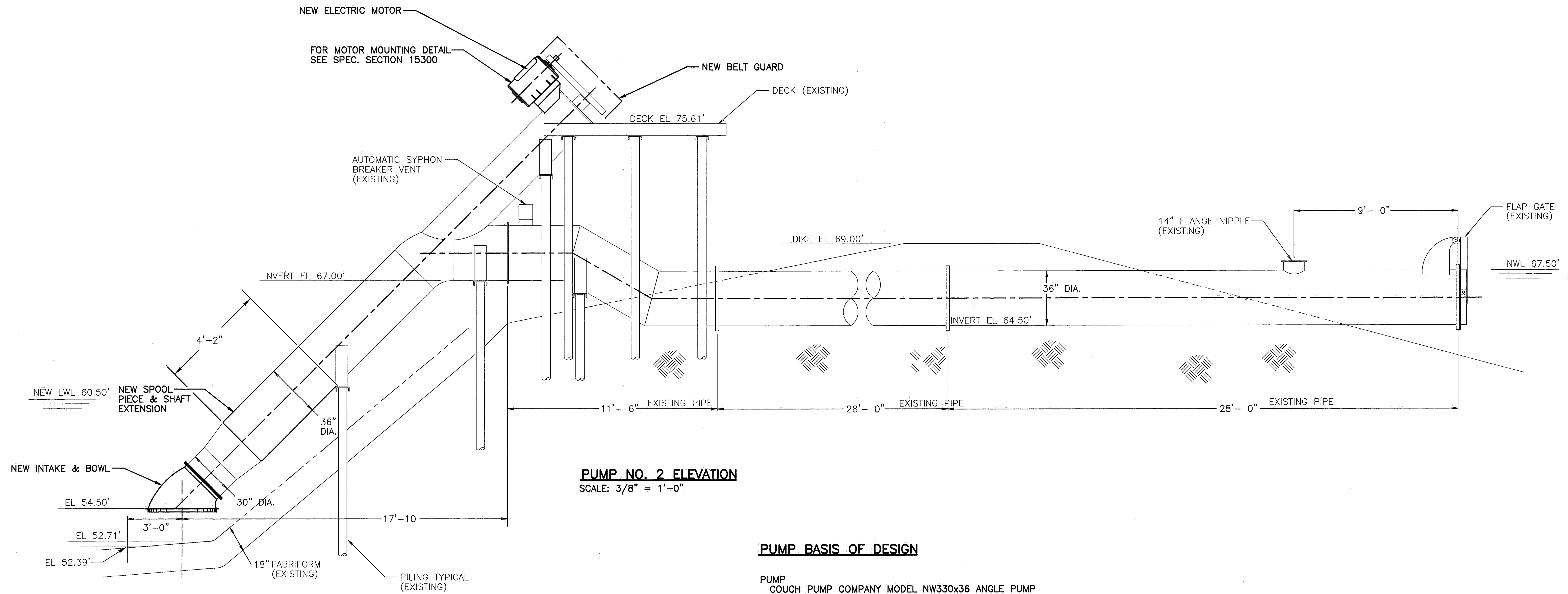
PAINT
PUMP AND PUMP DISCHARGE NIPPLE: CLEAN THOROUGHLY BY
STANDARD FACTORY METHODS BEFORE APPLYING 2
COATS OF MOBILE PAINTS MO-TAR 47 COAL TAR
COATING PER MANUFACTURER'S RECOMMENDATIONS.
MOTOR, ETC.: TO RETAIN FACTORY FINISH

GENERAL NOTES

- NOTE: IN GENERAL, DRAWINGS ARE SCHEMATIC ONLY AND SHOULD NOT BE SCALED, CONTRACTOR SHALL COORDINATE AT SITE ALL RETROFIT AND ELECTRICAL WORK SO AS NOT TO CONFLICT IN LOCATION WITH OTHER WORK UNDER THE CONTRACT.
- THE CONTRACTOR IS INSTRUCTED TO READ AND COMPLY WITH DIVISION 15 AND 16 OF THE CONTRACT SPECIFICATIONS FOR ALL WORK SHOWN ON THESE DRAWINGS.
- WHERE THE CONTRACTOR PROPOSES TO USE AN APPROVED SUBSTITUTION ITEM OTHER THAN THAT SPECIFIED OR DETAILED ON THE DRAWING, WHICH REQUIRES ANY REDESIGN OF THE STRUCTURE, FOUNDATIONS, WIRING OR ANY OTHER PART OF THE MECHANICAL, ELECTRICAL OR STRUCTURAL LAYOUT, ALL SUCH REDESIGN AND CONSTRUCTION COSTS, AND ALL NEW DRAWINGS AND DETAILING REQUIRED THEREFORE, SHALL BE PREPARED AND INSTALLED BY THE CONTRACTOR AT HIS OWN EXPENSE. PRIOR APPROVAL FOR THIS WORK MUST BE SUBMITTED TO THE ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF HIS STORED MATERIALS AND EQUIPMENT FOR THE DURATION OF THE PROJECT. PROVIDE PROTECTIVE COVER OVER EQUIPMENT TO INSURE AGAINST WATER AND DUST DAMAGE AND PROVIDE SUITABLE PALLETS BETWEEN EQUIPMENT AND MATERIALS STORED ON GROUND.
- THE EXISTING PUMPS SHALL BE REMOVED BY THE CONTRACTOR. THE EXISTING PUMPS SHALL BE REPLACED WITH NEW PUMPS AT THE FACTORY. PRIOR TO OWNER ACCEPTANCE, THE CONTRACTOR AND OWNER'S REPRESENTATIVE SHALL INSPECT ALL NEW WORK FOR DEFECTS. THE CONTRACTOR SHALL REPAIR ALL DEFECTS AT HIS OWN EXPENSE.

REVISIONS			REVISIONS			DESIGNED BY	NAME	DRAWN BY	NAME	COPYRIGHT	SCALE: 3/8" = 1'-0"	ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT	PUMP ELEVATION	URS Greiner ORLANDO, FLORIDA	SHEET NO.
DATE	BY	ALTH.	DESCRIPTION	DATE	BY	ALTH.	DESCRIPTION	WHF	PMC	1999	M-1				
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SUPERVISED BY: WHF															

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PUMP NO. 2 ELEVATION
SCALE: 3/8" = 1'-0"

PUMP BASIS OF DESIGN

PUMP
COUCH PUMP COMPANY MODEL NW330x36 ANGLE PUMP
RATED 25,500 GPM AT 9.2' TDH, 520 RPM,
WEIGHT 5000 LBS.

ELECTRIC MOTOR
HORIZONTAL MOTOR, 100 HP @ 1800 RPM,
FRAME 405T, TEFC, 3/60/460, WEIGHT 1260 LBS

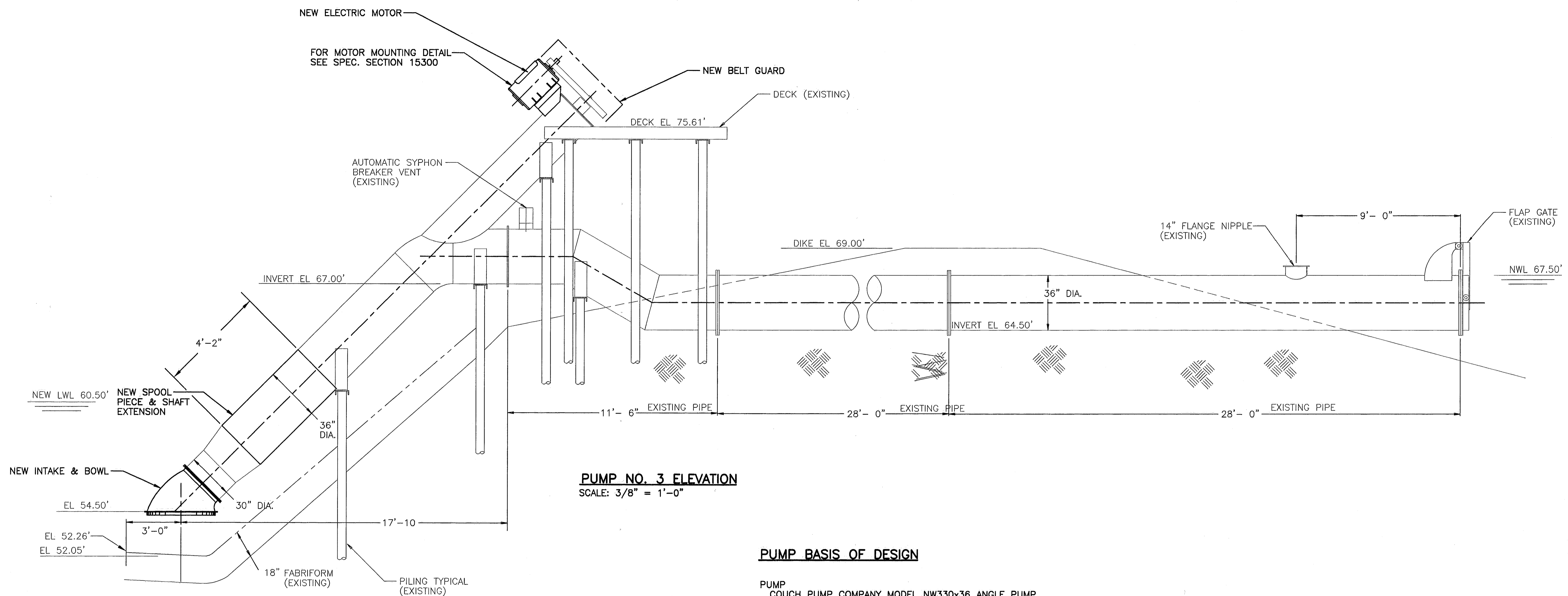
BELT DRIVE
PUMP: 4/5V/31.5 QDF BUSHING, 2 7/16 BORE, 5/8 KEY
MOTOR: 4/5V/9.25 QDE BUSHING, 2 7/8 BORE, 3/4 KEY
POWERBAND: 4/5Vx/1320 32.1" C.D.
WITH BELT GUARD

PAINT
PUMP, DISCHARGE NIPPLE: CLEAN THOROUGHLY BY
STANDARD FACTORY METHODS BEFORE APPLYING 2
COATS OF MOBILE PAINTS MO-TAR 47 COAL TAR
COATING PER MANUFACTURER'S RECOMMENDATIONS.
MOTOR, ETC.: TO RETAIN FACTORY FINISH

REVISIONS				DESIGNED BY	NAME	DRAWN BY	NAME	COPYRIGHT	SCALE	PROJECT	SHEET NO.
DATE	BY	AUTH.	DESCRIPTION	WHF	WHF	PNC	1999	3/8" = 1'-0"	ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT	PUMP ELEVATION	M-2
				CHECKED BY	WHF	CHECKED BY	WHF	URS GREINER			
				SUPERVISED BY:	WHF						DATE: 6/99



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PUMP NO. 3 ELEVATION
SCALE: 3/8" = 1'-0"

PUMP BASIS OF DESIGN

PUMP
COUCH PUMP COMPANY MODEL NW330x36 ANGLE PUMP
RATED 25,500 GPM AT 9.2' TDH, 520 RPM,
WEIGHT 5000 LBS.

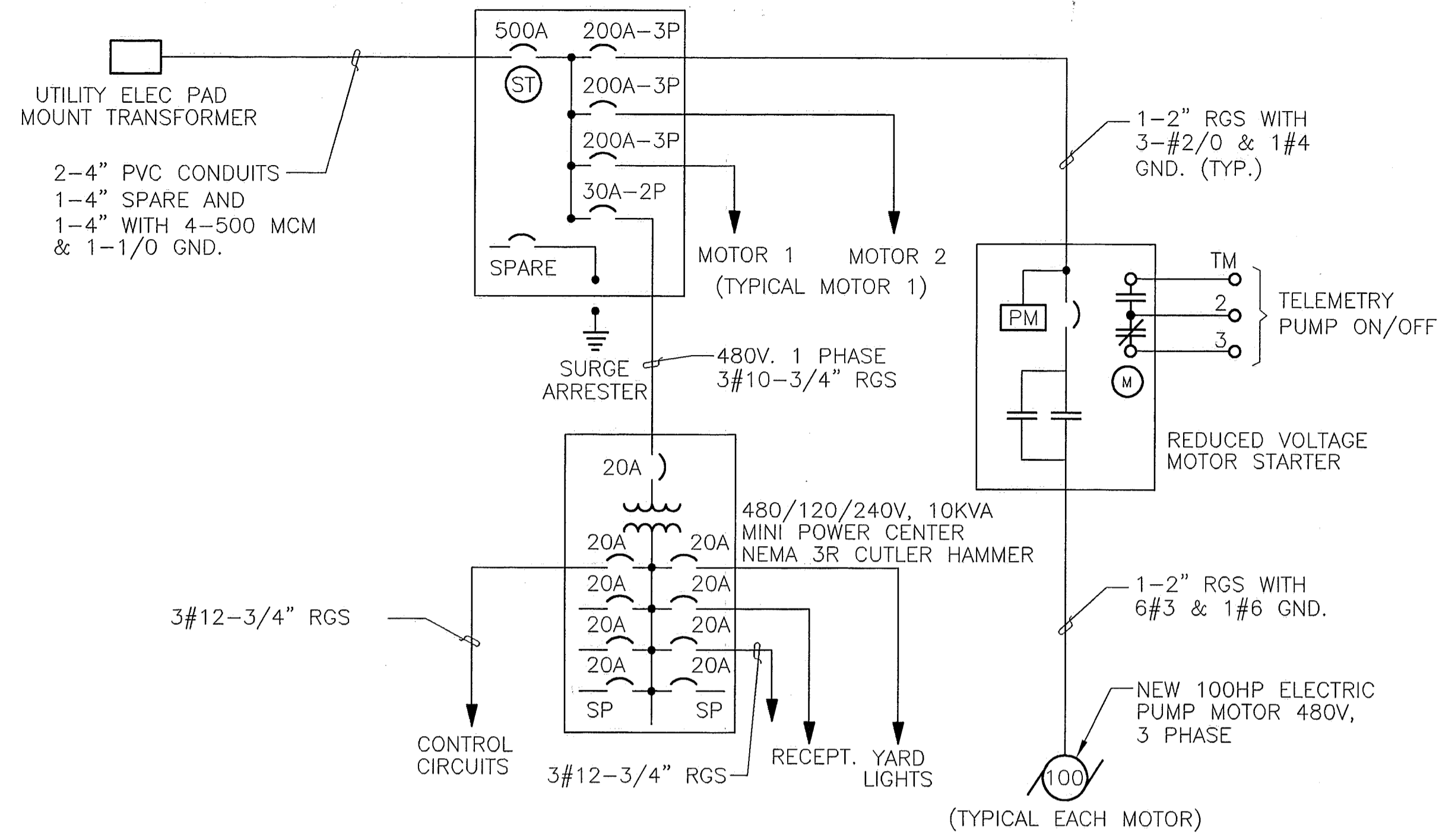
ELECTRIC MOTOR
HORIZONTAL MOTOR, 100 HP @ 1800 RPM,
FRAME 405T, TEFC, 3/60/460, WEIGHT 1260 LBS

BELT DRIVE
PUMP: 4/5V/31.5 QDF BUSHING, 2 7/16 BORE, 5/8 KEY
MOTOR: 4/5V/9.25 QDE BUSHING, 2 7/8 BORE, 3/4 KEY
POWERBAND: 4/5VX/1320 32.1" C.D.
WITH BELT GUARD

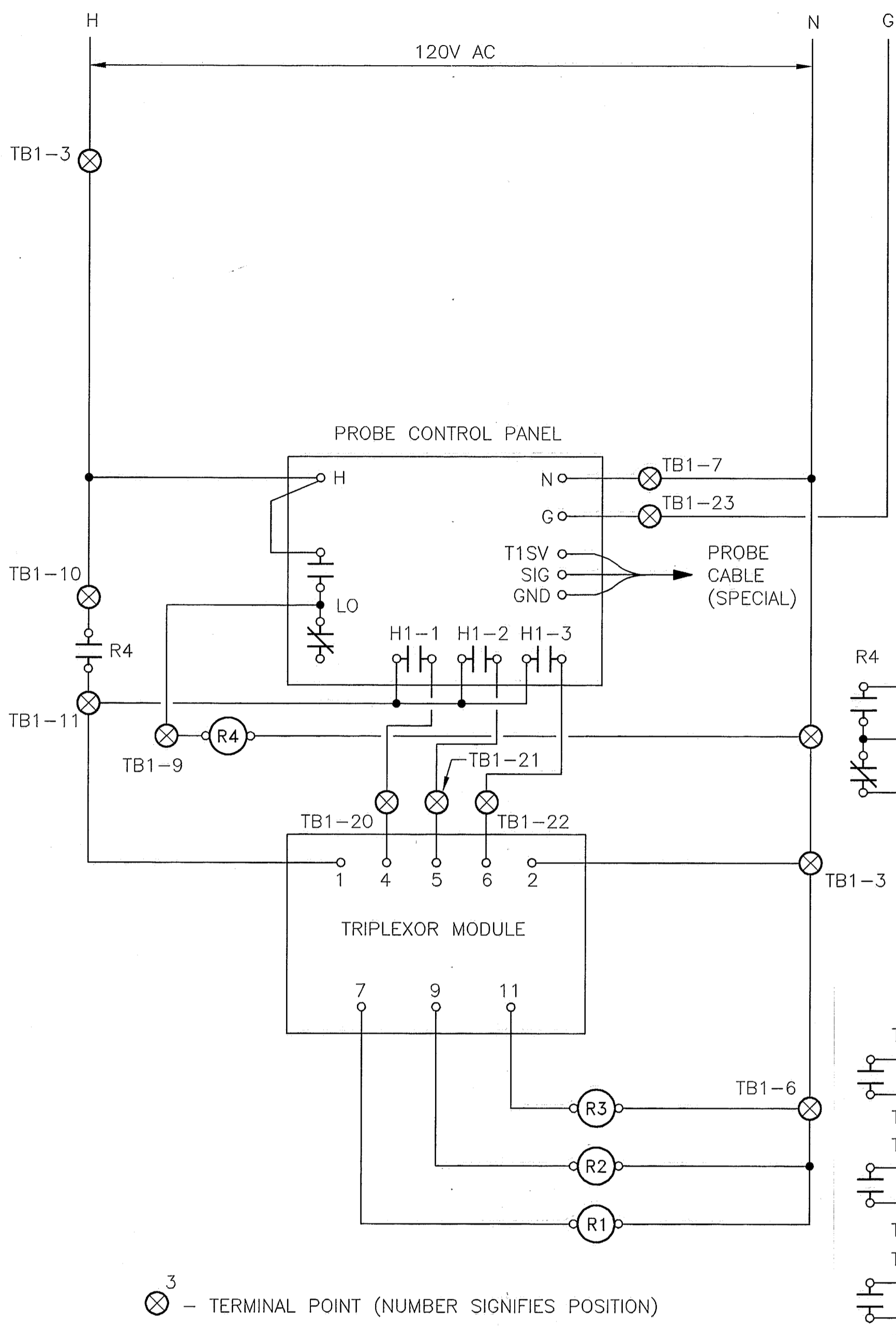
PAINT
PUMP, DISCHARGE NIPPLE: CLEAN THOROUGHLY BY
STANDARD FACTORY METHODS BEFORE APPLYING 2
COATS OF MOBILE PAINTS MO-TAR 47 COAL TAR
COATING PER MANUFACTURER'S RECOMMENDATIONS.
MOTOR, ETC.: TO RETAIN FACTORY FINISH

REVISIONS			REVISIONS			DESIGNED BY	NAME	DRAWN BY	NAME	COPYRIGHT	SCALE	PROJECT	SHEET	DATE
DATE	BY	AUTH.	DATE	BY	AUTH.	DESCRIPTION	WHF	PNC	WHF	1999	3/8" = 1'-0"	ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT	M-3	6/99

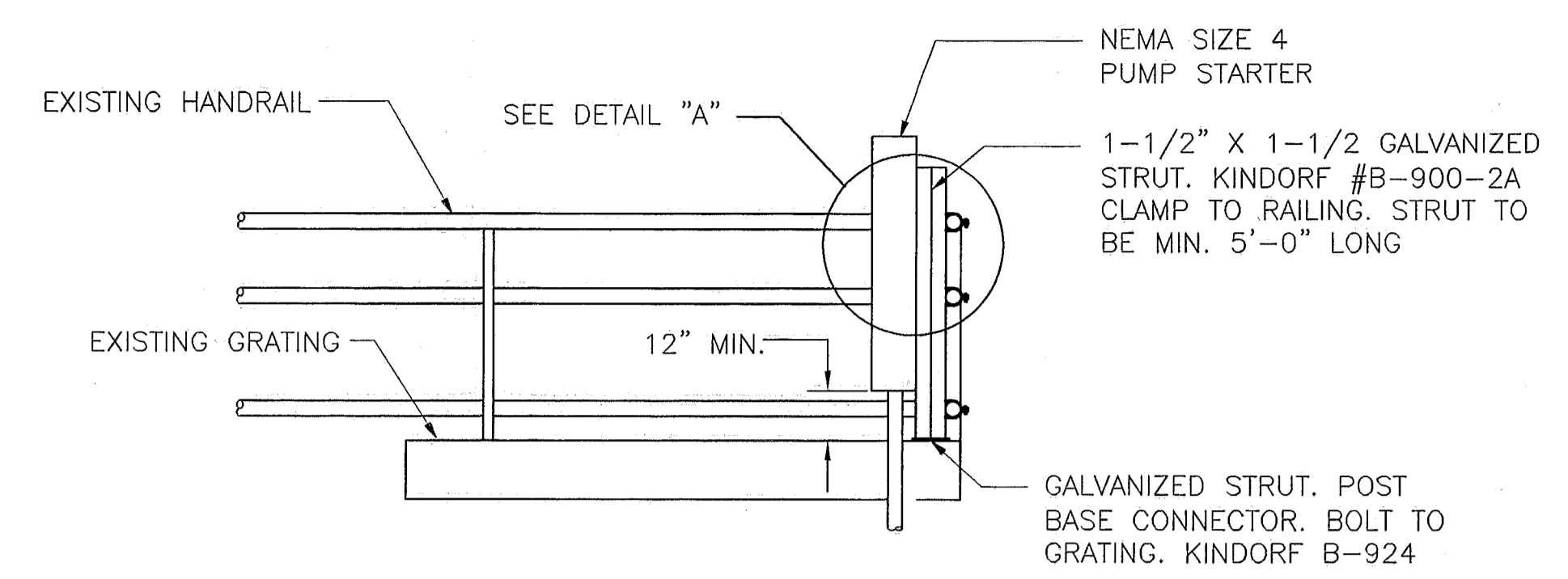
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ORLANDO, FLORIDA



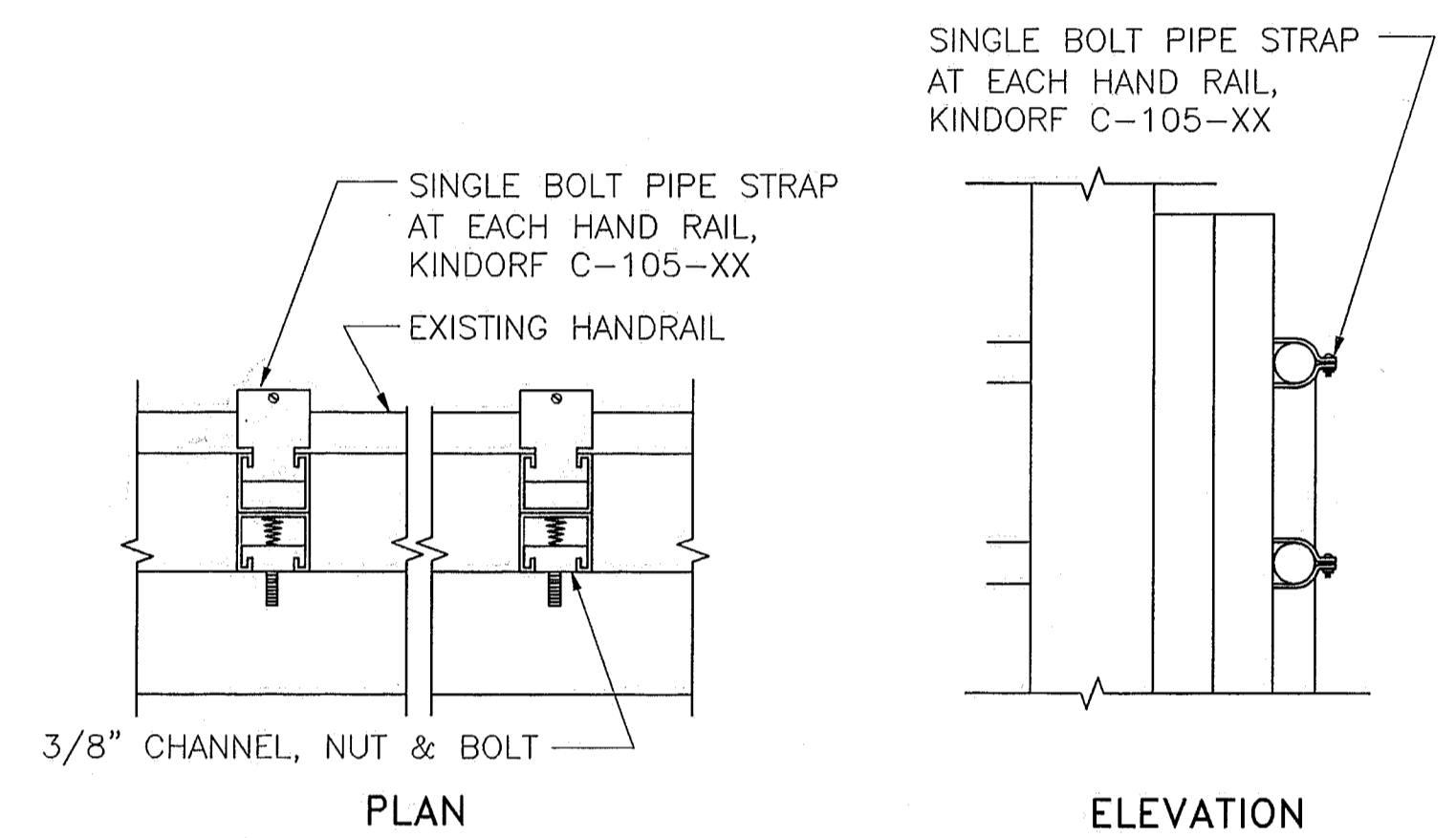
POWER DISTRIBUTION ONE LINE DIAGRAM
(MOTOR - TYPICAL EACH PLATFORM)
N.T.S.



CONTROL SCHEMATIC
N.T.S.

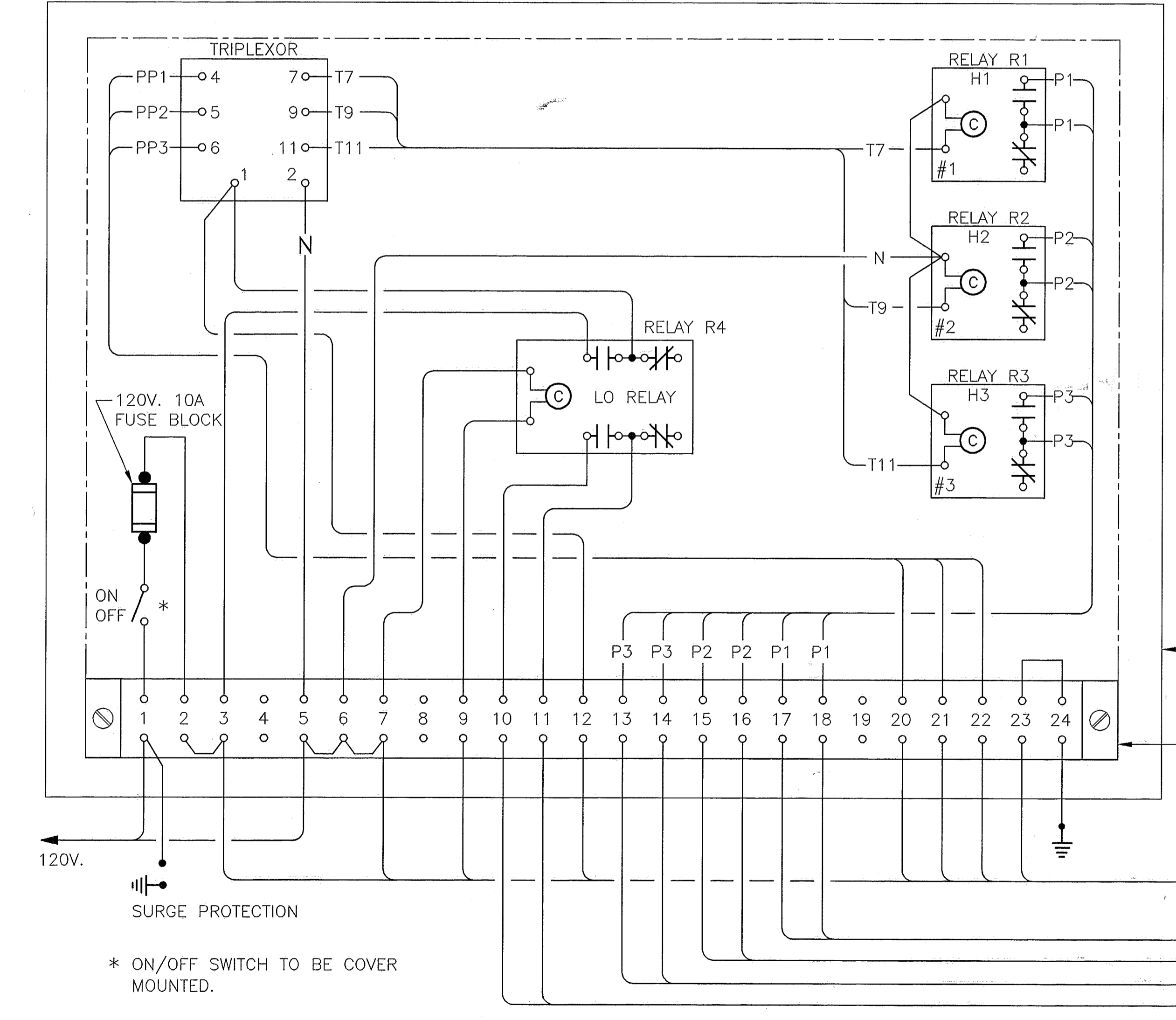


TYPICAL STARTER AND PANEL MOUNTING ELEVATION
N.T.S.

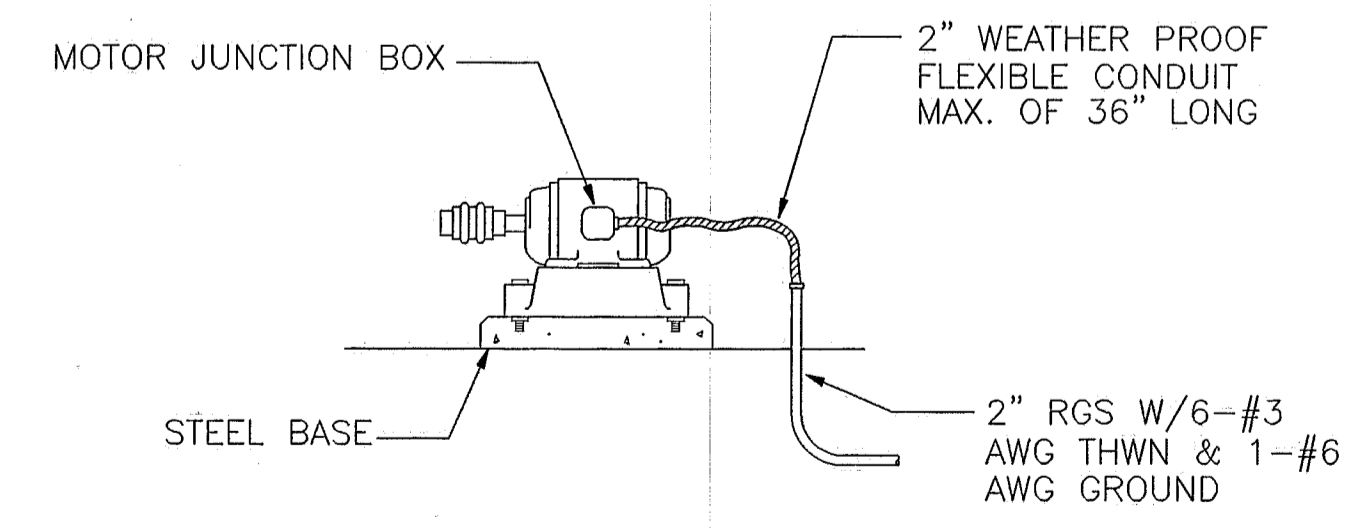


DETAIL "A"
N.T.S.

NOTE: ALL BOLT SIZES TO BE 3/8" (LENGTH AS REQUIRED)

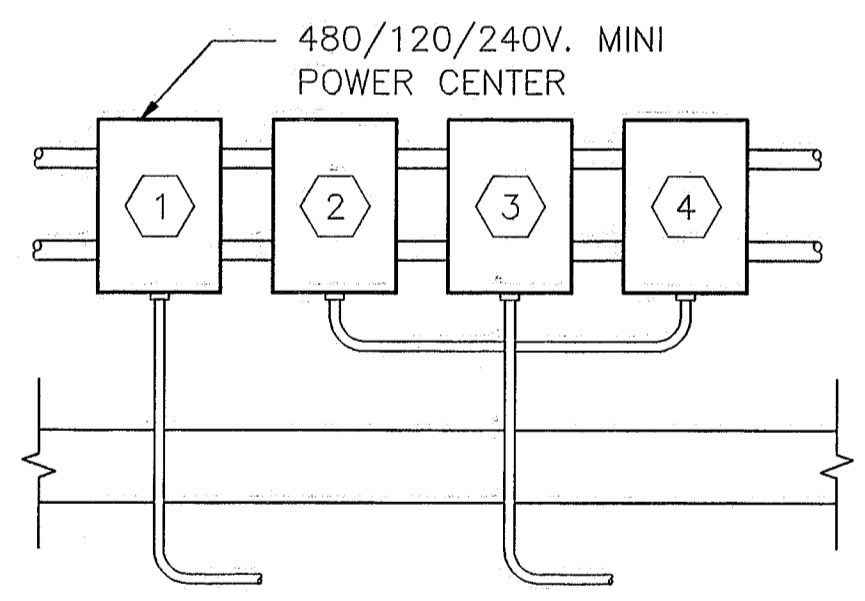


PUMP PANEL LAYOUT (TYPICAL)
N.T.S.



TYPICAL MOTOR CONNECTION
N.T.S.

DETAIL B
N.T.S.



TYPICAL CONTROL PANEL LAYOUT
N.T.S.

DETAIL C
N.T.S.

- ① MINI - POWER CENTER
- ② PUMP PANEL
- ③ PROBE CONTROL PANEL
- ④ TELEMETRY PANEL

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