

ONLY APPLICABLE SHEETS ARE INCLUDED IN THE ATTACHEMENT

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STANDBY POWER FACILITIES

DRAWING NO.	TITLE
STRUCTURAL	
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STANDBY POWER FACILITIES

DRAWING NO.	TITLE
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TH 1	PLAN - FL EL 12'-0"
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TH 3	SECTIONS AND CONTROL DIAGRAMS
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SLUDGE STORAGE TANKS, CONTROL BUILDING AND VEHICLE MAINTENANCE FACILITY

DRAWING NO.	TITLE
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US 1	PILE PLAN AND SECTIONS
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US 4	SECTION
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VEHICLE MAINTENANCE FACILITY	
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SLUDGE STORAGE TANKS, CONTROL BUILDING AND VEHICLE MAINTENANCE FACILITY

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ELECTRICAL	
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RECORD DRAWING
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FILE: H3B-A001 SCALE: 1: 09/04, 1996 at 15:27 - "13_sch (Workarea Use)"

GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED DCH	APPROVED _____ DATE _____	SCALE		CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	GENERAL INDEX	PROJ NO. 202G
	DRAWN ROO	_____ DATE _____	NO SCALE				DWG AG1
	CHECKED DCH	GREELEY AND HANSEN, ENGINEERS	3 30/7/96	RECORD DWG REVISIONS			SHEET
		NO. DATE APPD REVISION					DATE DECEMBER 1991 REV 3

LIST OF ABBREVIATIONS

A	PLANT AIR	INFL	INFLUENT
AL	ALUMINUM	INV	INVERT
ATS	AIR TOOL STATION	IRR	IRRIGATION
BAB	BACKWASH AIR BLOWER	LP	LOW POINT
BAV	BACKWASH AIR VALVE	MH	MANHOLE
B/C	BACK OF CURB	MJ	MECHANICAL JOINT
BDV	BACKWASH DRAIN VALVE	NP	NATIONAL PIPE THREAD
BF	BLIND FLANGE	PA	PIPE ANCHOR
BV	BUTTERFLY VALVE	PAC	PLANT AIR COMPRESSOR
BWCV	BACKWASH WATER CONTROL VALVE	PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
BWIV	BACKWASH WATER ISOLATION VALVE	PE	PLAIN END
BWP	BACKWASH WATER PUMP	PH	PIPE HANGER
BWV	BACKWASH WATER VALVE	PS	PIPE SUPPORT
B/W	BACKWASH	PSC	PRIMARY SCUM
CC	CONTROL CENTER	PSL	PRIMARY SLUDGE
CA	COMPRESSED AIR	PSP	PRIMARY SLUDGE PUMP
CI	CAST IRON	PVC	POLYVINYL CHLORIDE PIPE
CL	CHLORINE SOLUTION	PW	PLANT WATER
CONC	CONCRETE	PSP	PLANT WATER PUMP
CW	CITY WATER	RAS	RETURN ACTIVATED SLUDGE
D	DRAIN	RCP	REINFORCED CONCRETE PIPE
DD	DECK DRAIN	S	SEWER
DI	DUCTILE IRON PIPE	SCWR	SPENT COOLING WATER RETURN
DWG	DRAWING	SE	SECONDARY EFFLUENT
DWP	DEWATERING PUMP	SG	SLUICE GATE
E	ELECTRIC CONDUIT, DUCT OR MANHOLE	SLG	SLIDE GATE
ED	EQUIPMENT DRAIN	SP	SUMP PUMP
EFL	EFFLUENT	SPD	SUMP PUMP DISCHARGE
EL	ELEVATION	SS	SERVICE SINK
EOP	EDGE OF PAVEMENT	SST	STAINLESS STEEL
EP	EQUIPMENT PAD	STL	STEEL
EW	EFFLUENT WATER	ST	STORM WATER
F	FLANGE	S/W	SIDEWALK
FD	FLOOR DRAIN	TC	TOP OF CURB
FEV	FILTER EFFLUENT VALVE	TP	TOP OF PAVEMENT
FH	FIRE HYDRANT	TS	THICKENED SLUDGE
FIV	FILTER INFLUENT VALVE	TYP	TYPICAL
FL	FLOOR	TWAS	THICKENED WASTE ACTIVATED SLUDGE
FM	FORCE MAIN	V	VENT
FRP	FIBER REINFORCED PLASTIC	VPI	VERTICAL POINT OF INTERSECTION
HP	HIGH POINT	W	WATER
HPI	HORIZONTAL POINT OF INTERSECTION	WAS	WASTE ACTIVATED SLUDGE

LEGEND

EXISTING	NEW	
◇	◇	CB CATCH BASIN
○	○	MH MANHOLE
□	□	METER
—|—	—|—	DIRECT BURIAL VALVE
⊕	⊕	FIRE HYDRANT
⊙	⊙	LIGHT POLE
⊙	⊙	SIGN
⊙	⊙	FLAG POLE
⊙	⊙	GUY POLE
⊙	⊙	POLE
⊙	⊙	POWER POLE
▭	▭	STRUCTURE
⊙	⊙	LAWN HYDRANT
▬	▬	SIDEWALK
▬	▬	SMALL PIPING
▬	▬	LARGE PIPES AND CONDUITS
▬	▬	ELECTRICAL DUCT
▬	▬	IRRIGATION PIPING
—x—x—	—x—x—	FENCE
x 9.5	x 9.5	SPOT ELEVATION
? 5+32Y	? 5+32Y	? ELEVATION
6+24Y	6+24Y	PLANT COORDINATES
5+85X	5+85X	
50	50	GRADE CONTOURS
---	N/A	PROPERTY LINE

BUILDING DATA

- STANDBY POWER FACILITY AND VEHICLE MAINTENANCE FACILITY ARE CLASSIFIED AS FOLLOWS:
 - STANDBY POWER FACILITY IS CLASSIFIED AS TYPE IV, UNSPRINKLERED, UNSPRINKLERED, FACTORY-INDUSTRIAL OCCUPANCY, GROUP F AS DEFINED BY THE SOUTHERN STANDARD BUILDING CODE, CHAPTER 4, TABLE 400 AND IS NON-HAZARDOUS.
 - VEHICLE MAINTENANCE FACILITY IS AN ADDITION CLASSIFIED AS TYPE V, UNSPRINKLERED, UNSPRINKLERED, FACTORY-INDUSTRIAL OCCUPANCY, GROUP F AS DEFINED BY THE SOUTHERN STANDARD BUILDING CODE, CHAPTER 4, TABLE 400 AND IS NON-HAZARDOUS. IT IS SEPARATED FROM THE EXISTING TYPE IV STRUCTURE BY A 12-INCH THICK CONCRETE WALL HAVING A FIRE RESISTANCE RATING EXCEEDING 4 HOURS AS DEFINED BY THE SOUTHERN BUILDING CODE, CHAPTER 31, TABLE 3102.1A.
- BUILDING AREAS AND HEIGHTS ARE SUMMARIZED AS FOLLOWS:
 - STANDBY POWER FACILITY:

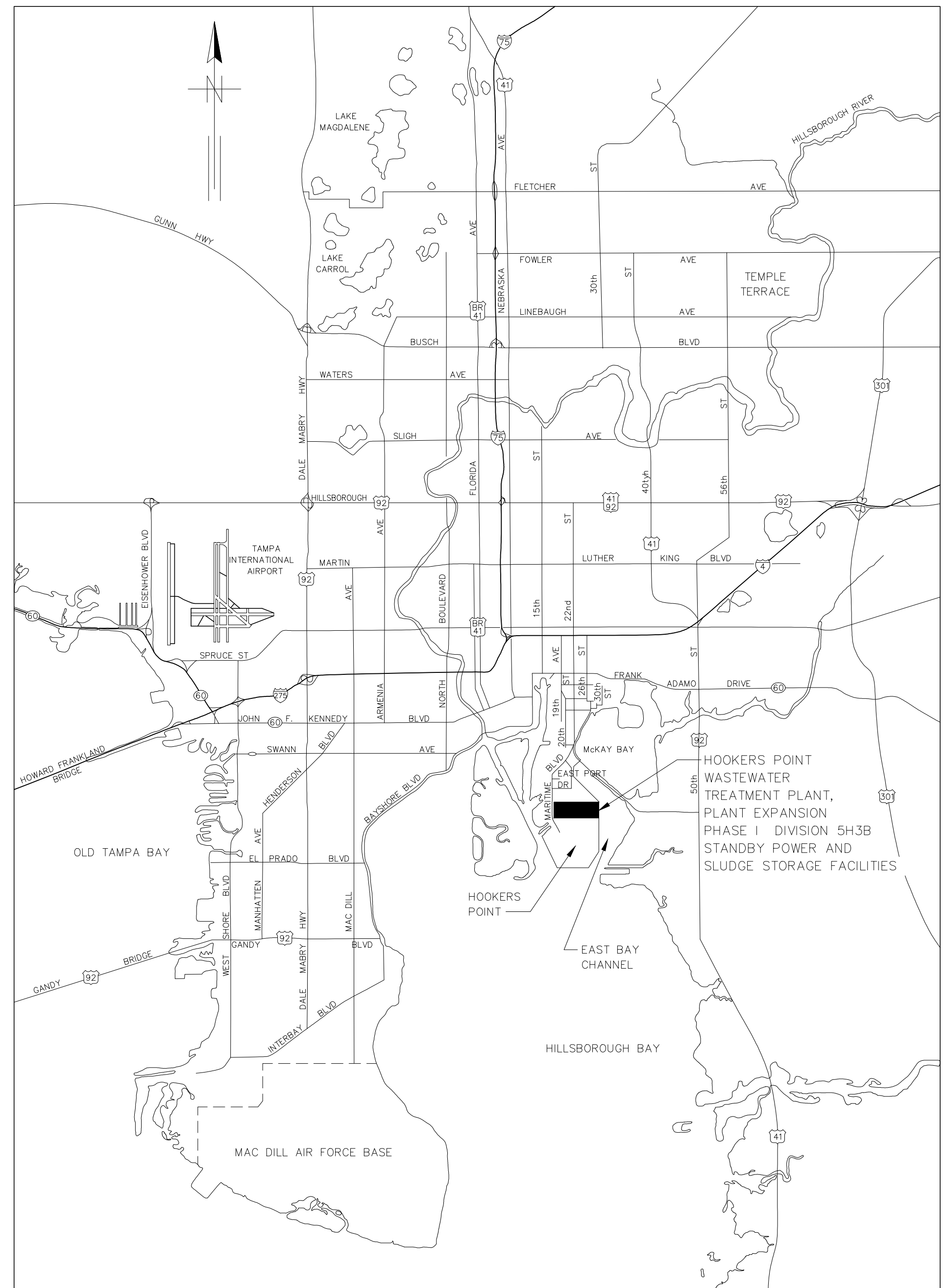
GRADE FLOOR (FOOTPRINT AREA)	6622 SF
PLENUM ACCESS MEZZANINE	831 SF
TOTAL BUILDING AREA	7453 SF

SINGLE STORY BUILDING WITH MEZZANINE 27'-6" HIGH
 - VEHICLE MAINTENANCE FACILITY

GRADE FLOOR (FOOTPRINT AREA)	2120 SF
EXISTING ENCLOSED BUILDING	1176 SF
OPEN COVERED MAINTENANCE AREA	972 SF

SINGLE STORY BUILDING 12'-0" HIGH (EXIST. ENCL.)
22'-0" HIGH (OPEN COVERED MAINTENANCE)
12'-0" HIGH (OPEN COVERED STORAGE)
- BUILDING SETBACKS COMPLY WITH SOUTHERN STANDARD BUILDING CODE TABLE 600.
- ALL CONSTRUCTION SHALL COMPLY WITH THE FOLLOWING CURRENTLY ADOPTED CODES:
 - CHAPTER 11, TAMPA CITY CODE, WHICH INCLUDES NATIONAL FIRE PROTECTION ASSOCIATION CODES, STANDARD FIRE PREVENTION CODE, N.F.P.A. 101, LIFE SAFETY CODE.
 - CHAPTER 5, TAMPA CITY CODE, WHICH INCLUDES STANDARD BUILDING CODE, STANDARD MECHANICAL CODE, AND N.F.P.A. 70, NATIONAL ELECTRICAL CODE.
 - FLORIDA STATUTE 633, WHICH INCLUDES STATE FIRE MARSHALL'S RULES AND REGULATIONS.

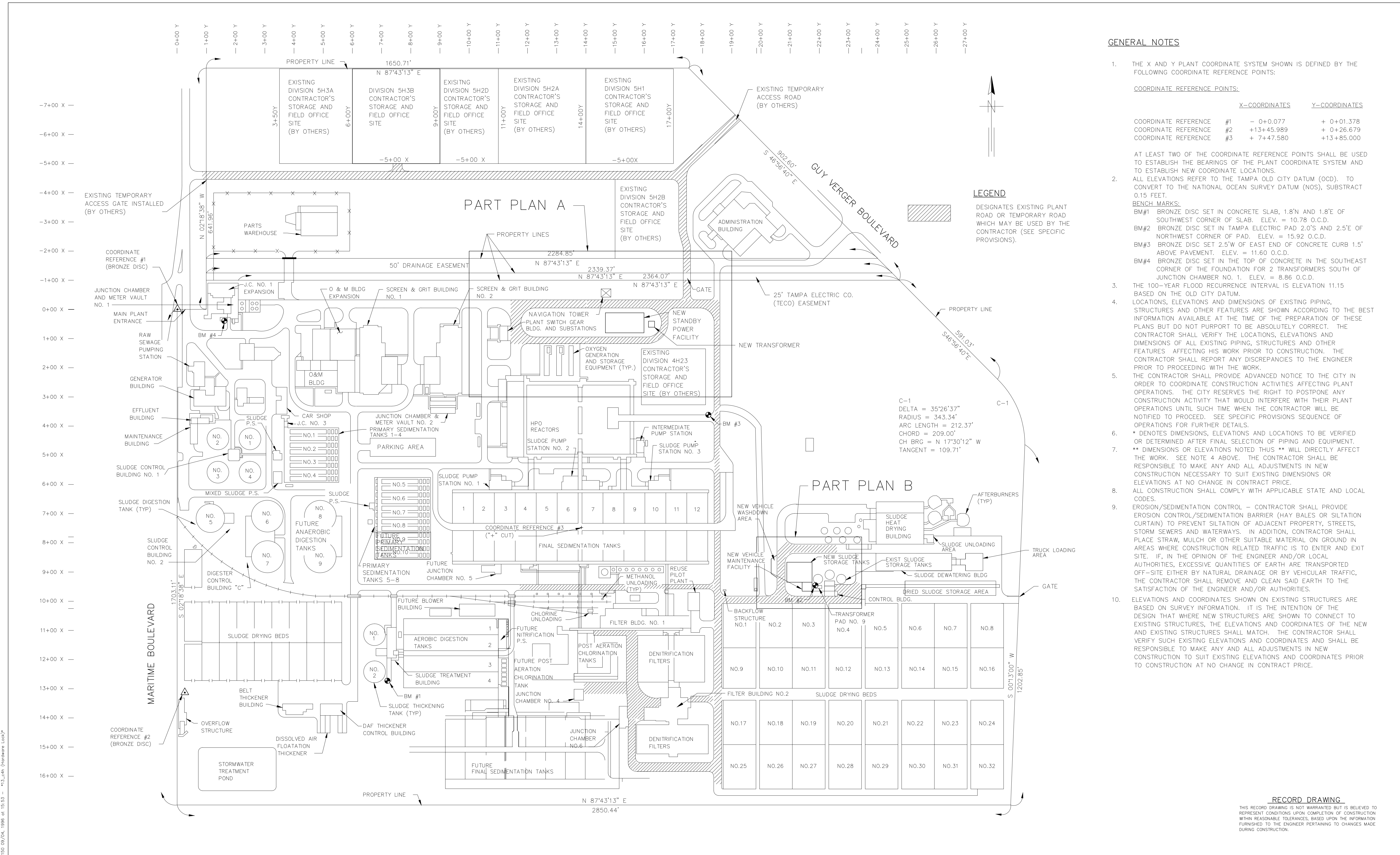
RECORD DRAWING
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LOCATION MAP
NOT TO SCALE

FILE: H3B-A02 SCALE: 1:1 05/04/1996 at 15:43 - *13-40 (hardware lock)*

GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED ROD	APPROVED _____ DATE _____	SCALE NOT TO SCLAE	CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	GENERAL LOCATION MAP, ABBREVIATIONS, LEGEND AND BUILDING DATA	PROJ NO. 202G
	DRAWN RAM	_____ DATE _____				DWG AG2
	CHECKED DCH	GREELEY AND HANSEN, ENGINEERS				SHEET
		NO. DATE APPD REVISION			DATE DECEMBER 1991 REV 4	



GENERAL NOTES

- THE X AND Y PLANT COORDINATE SYSTEM SHOWN IS DEFINED BY THE FOLLOWING COORDINATE REFERENCE POINTS:
COORDINATE REFERENCE POINTS:

	X-COORDINATES	Y-COORDINATES
COORDINATE REFERENCE #1	- 0+0.077	+ 0+01.378
COORDINATE REFERENCE #2	+13+45.989	+ 0+26.679
COORDINATE REFERENCE #3	+ 7+47.580	+13+85.000
- AT LEAST TWO OF THE COORDINATE REFERENCE POINTS SHALL BE USED TO ESTABLISH THE BEARINGS OF THE PLANT COORDINATE SYSTEM AND TO ESTABLISH NEW COORDINATE LOCATIONS.
 ALL ELEVATIONS REFER TO THE TAMPA OLD CITY DATUM (OCD). TO CONVERT TO THE NATIONAL OCEAN SURVEY DATUM (NOS), SUBSTRACT 0.15 FEET.
BENCH MARKS:
 BM#1 BRONZE DISC SET IN CONCRETE SLAB, 1.8'N AND 1.8'E OF SOUTHWEST CORNER OF SLAB. ELEV. = 10.78 O.C.D.
 BM#2 BRONZE DISC SET IN TAMPA ELECTRIC PAD 2.0'S AND 2.5'E OF NORTHWEST CORNER OF PAD. ELEV. = 15.92 O.C.D.
 BM#3 BRONZE DISC SET 2.5'W OF EAST END OF CONCRETE CURB 1.5' ABOVE PAVEMENT. ELEV. = 11.60 O.C.D.
 BM#4 BRONZE DISC SET IN THE TOP OF CONCRETE IN THE SOUTHEAST CORNER OF THE FOUNDATION FOR 2 TRANSFORMERS SOUTH OF JUNCTION CHAMBER NO. 1. ELEV. = 8.86 O.C.D.
- THE 100-YEAR FLOOD RECURRENCE INTERVAL IS ELEVATION 11.15 BASED ON THE OLD CITY DATUM.
- LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING PIPING, STRUCTURES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF THE PREPARATION OF THESE PLANS BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING PIPING, STRUCTURES AND OTHER FEATURES AFFECTING HIS WORK PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
- THE CONTRACTOR SHALL PROVIDE ADVANCED NOTICE TO THE CITY IN ORDER TO COORDINATE CONSTRUCTION ACTIVITIES AFFECTING PLANT OPERATIONS. THE CITY RESERVES THE RIGHT TO POSTPONE ANY CONSTRUCTION ACTIVITY THAT WOULD INTERFERE WITH THEIR PLANT OPERATIONS UNTIL SUCH TIME WHEN THE CONTRACTOR WILL BE NOTIFIED TO PROCEED. SEE SPECIFIC PROVISIONS SEQUENCE OF OPERATIONS FOR FURTHER DETAILS.
- * DENOTES DIMENSIONS, ELEVATIONS AND LOCATIONS TO BE VERIFIED OR DETERMINED AFTER FINAL SELECTION OF PIPING AND EQUIPMENT.
- ** DIMENSIONS OR ELEVATIONS NOTED THUS ** WILL DIRECTLY AFFECT THE WORK. SEE NOTE 4 ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ANY AND ALL ADJUSTMENTS IN NEW CONSTRUCTION NECESSARY TO SUIT EXISTING DIMENSIONS OR ELEVATIONS AT NO CHANGE IN CONTRACT PRICE.
- ALL CONSTRUCTION SHALL COMPLY WITH APPLICABLE STATE AND LOCAL CODES.
- EROSION/SEDIMENTATION CONTROL - CONTRACTOR SHALL PROVIDE EROSION CONTROL/SEDIMENTATION BARRIER (HAY BALES OR SILTATION CURTAIN) TO PREVENT SILTATION OF ADJACENT PROPERTY, STREETS, STORM SEWERS AND WATERWAYS. IN ADDITION, CONTRACTOR SHALL PLACE STRAW, MULCH OR OTHER SUITABLE MATERIAL ON GROUND IN AREAS WHERE CONSTRUCTION RELATED TRAFFIC IS TO ENTER AND EXIT SITE. IF, IN THE OPINION OF THE ENGINEER AND/OR LOCAL AUTHORITIES, EXCESSIVE QUANTITIES OF EARTH ARE TRANSPORTED OFF-SITE EITHER BY NATURAL DRAINAGE OR BY VEHICULAR TRAFFIC, THE CONTRACTOR SHALL REMOVE AND CLEAN SAID EARTH TO THE SATISFACTION OF THE ENGINEER AND/OR AUTHORITIES.
- ELEVATIONS AND COORDINATES SHOWN ON EXISTING STRUCTURES ARE BASED ON SURVEY INFORMATION. IT IS THE INTENTION OF THE DESIGN THAT WHERE NEW STRUCTURES ARE SHOWN TO CONNECT TO EXISTING STRUCTURES, THE ELEVATIONS AND COORDINATES OF THE NEW AND EXISTING STRUCTURES SHALL MATCH. THE CONTRACTOR SHALL VERIFY SUCH EXISTING ELEVATIONS AND COORDINATES AND SHALL BE RESPONSIBLE TO MAKE ANY AND ALL ADJUSTMENTS IN NEW CONSTRUCTION TO SUIT EXISTING ELEVATIONS AND COORDINATES PRIOR TO CONSTRUCTION AT NO CHANGE IN CONTRACT PRICE.

LEGEND

DESIGNATES EXISTING PLANT ROAD OR TEMPORARY ROAD WHICH MAY BE USED BY THE CONTRACTOR (SEE SPECIFIC PROVISIONS).

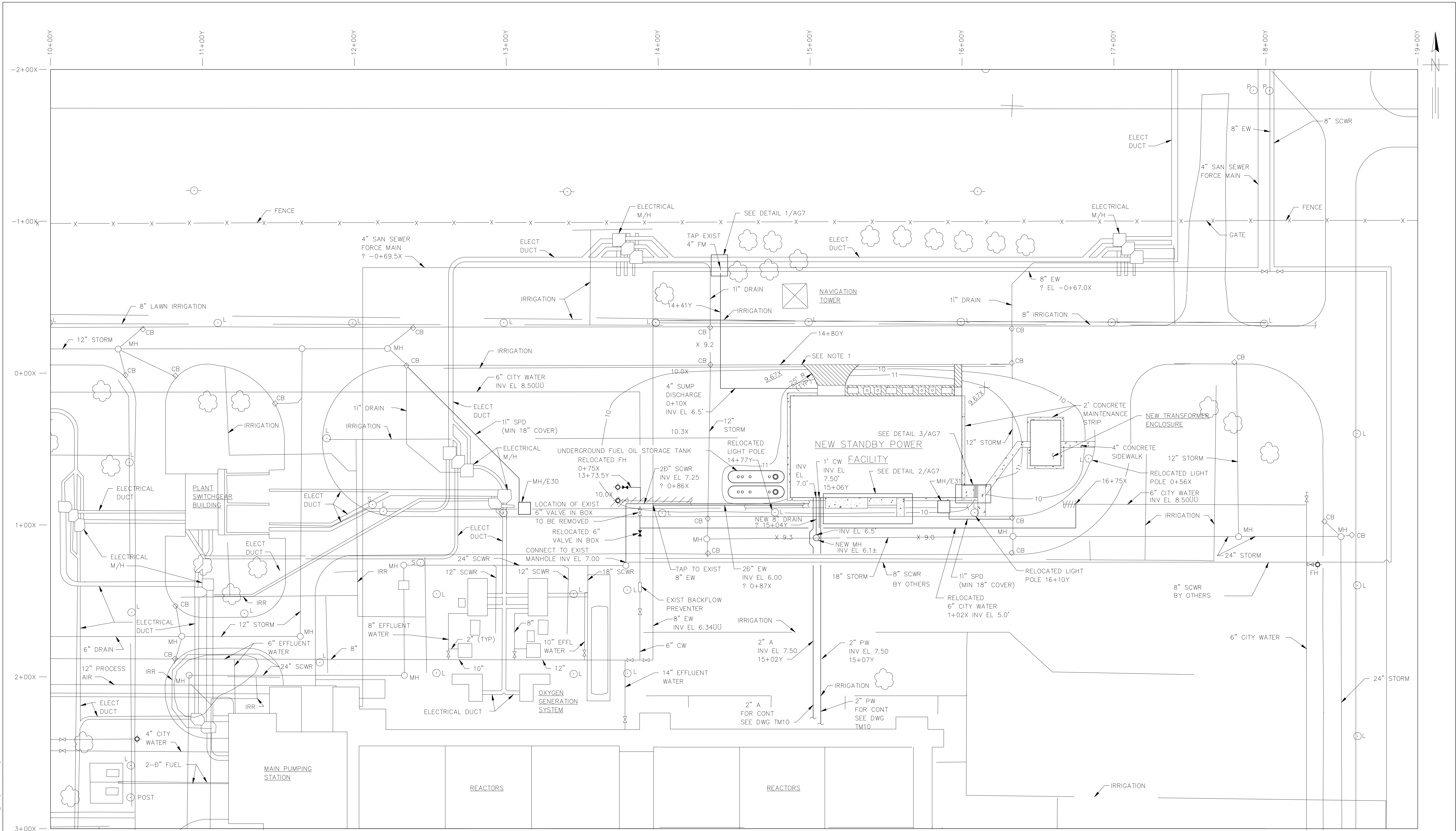
C-1
 DELTA = 35°26'37"
 RADIUS = 343.34'
 ARC LENGTH = 212.37'
 CH BRG = N 17°30'12" W
 TANGENT = 109.71'

FILE: H3B-A03 SCALE: 1:150 09/04, 1996 at 15:53 - "13.dwg (Hardware Lock)"

GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED LCC	APPROVED _____ DATE _____	SCALE 1"=150' 	CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	GENERAL SITE PLAN, CONSTRUCTION STAGING AREA, LEGEND PLAN, AND GENERAL NOTES	PROJ. NO. 202G
	DRAWN ROO	2 7/30/96				DWG AG3
	CHECKED DCH	RECORD DWG REVISIONS				SHEET 3
		GREELEY AND HANSEN, ENGINEERS	NO. DATE APPD REVISION			DATE DECEMBER 1991 REV 2

RECORD DRAWING
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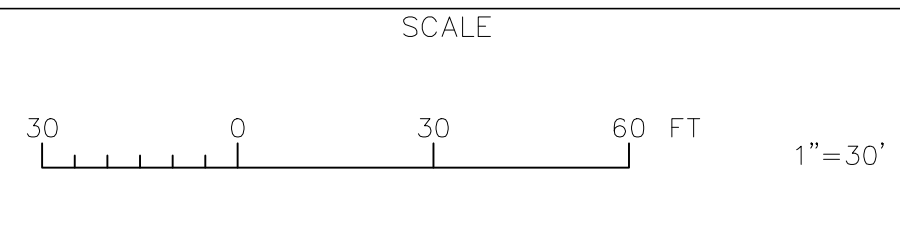
LEGEND

	PAVEMENT
	SIDEWALK

PART PLAN A

RECORD DRAWING
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- NOTES:**
1. NEW PAVEMENT ELEVATIONS SHALL MATCH EXISTING PAVEMENT ELEVATIONS.
 2. SEE STRUCTURAL DRAWINGS FOR BUILDING COORDINATES.
 3. SEE SPECIFICATIONS FOR SODDING AND RESTORATION OF DISTURBED AREAS.
 4. INVERT OF MIAMI CURB TO MATCH GUTTER ELEVATION OF EXISTING CURB.
 5. REFER TO LIGHTING POLE BASE DETAIL, DRAWING AE2, FOR LIGHTING POLE RELOCATION.
 6. RELOCATION OF CITY WATER LINES SHALL BE CONSTRUCTED BY FIRE PROTECTION CONTRACTOR WITH 1,2 AND 5 CLASS LICENSE.



GREELEY AND HANSEN
 ENGINEERS
 1715 NORTH WESTSHORE BOULEVARD
 TAMPA, FLORIDA 33607-4135

DESIGNED LCC,DCH
 DRAWN ROO
 CHECKED DCH

APPROVED _____ DATE _____
 _____ DATE _____
 GREELEY AND HANSEN, ENGINEERS

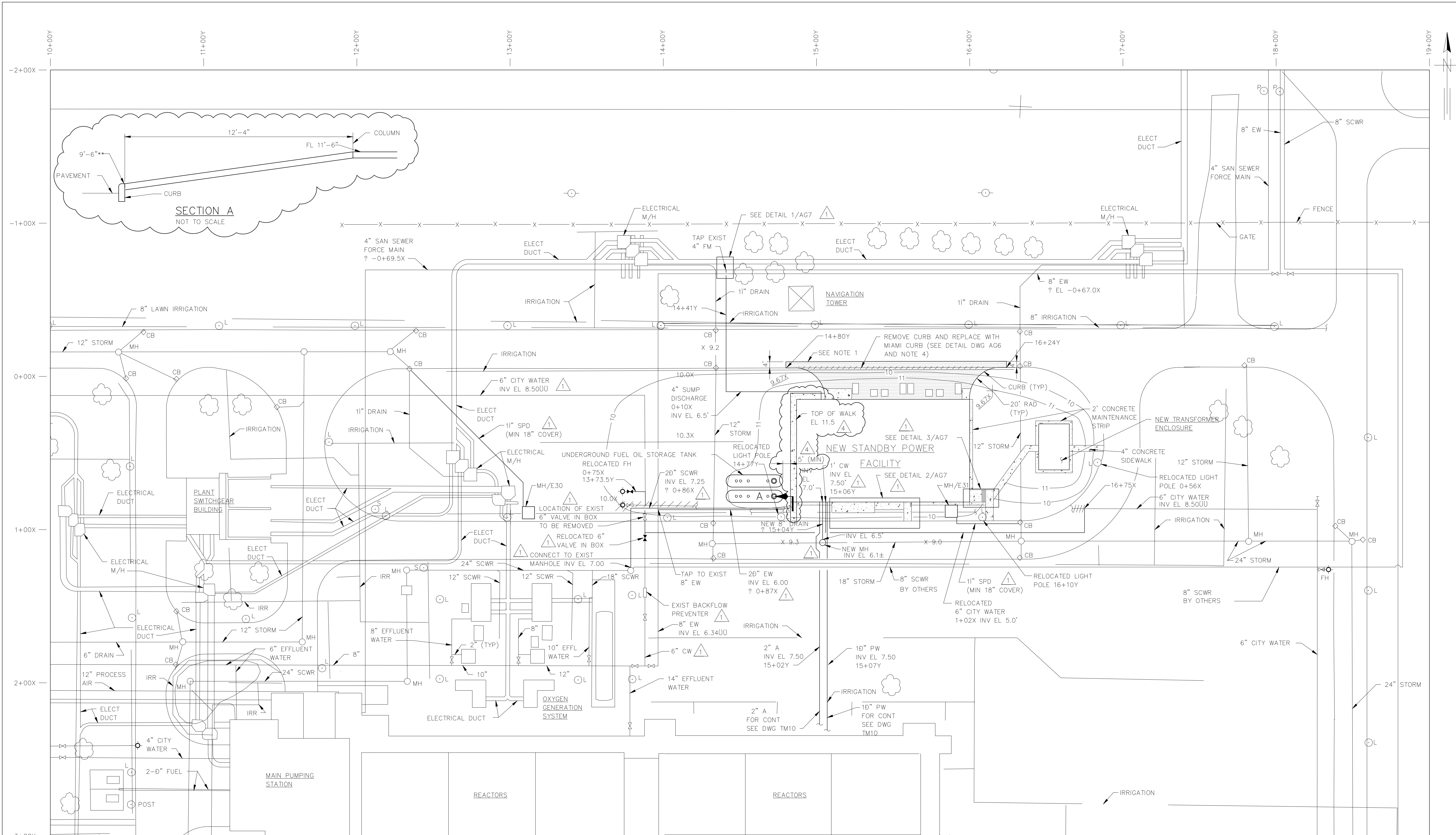
NO.	DATE	APPD	REVISION
4	8/1/96		RECORD DWG REVISIONS

CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PLANT EXPANSION
 PHASE I DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

GENERAL **See Supplemental Drawing SD-1**
 OUTSIDE PIPING, PAVING AND GRADING
 PART PLAN A

PROJ NO.	202G
DWG SHEET	AG4
DATE	DECEMBER 1991
REV	4

FILE: H3B-AG04 SCALE: 1:30 09/04/1996 at 16:03 - *13_4th (Hirawan Lock)*

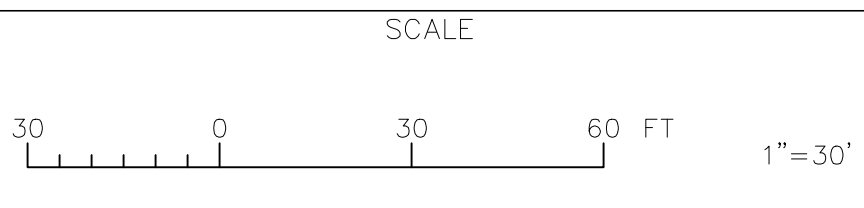


GREELEY AND HANSEN
ENGINEERS
4350 WEST CYPRESS STREET
TAMPA, FLORIDA 33607-4135

DESIGNED LCC,DCH
DRAWN ROO
CHECKED DCH

APPROVED _____
DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
4	4/7/93	DCH	FIRE MARSHAL'S COMMENTS
3	7/21/92	DCH	FIRE MARSHAL'S COMMENTS
2	7/21/92	DCH	ADDED NOTE NO. 5
1	2/11/92	DCH	MISC. REVISIONS



CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

GENERAL
OUTSIDE PIPING, PAVING AND GRADING
PART PLAN A

REVISES DWG AG4

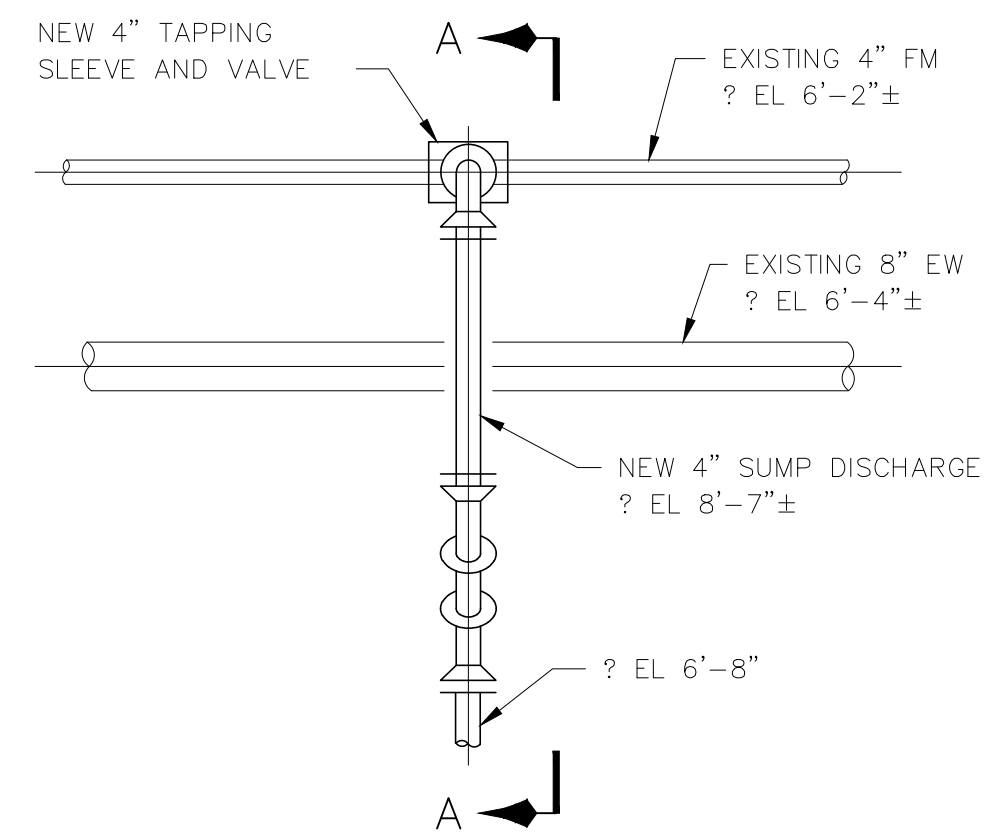
PROJ. NO. 202G

DWG SD-1

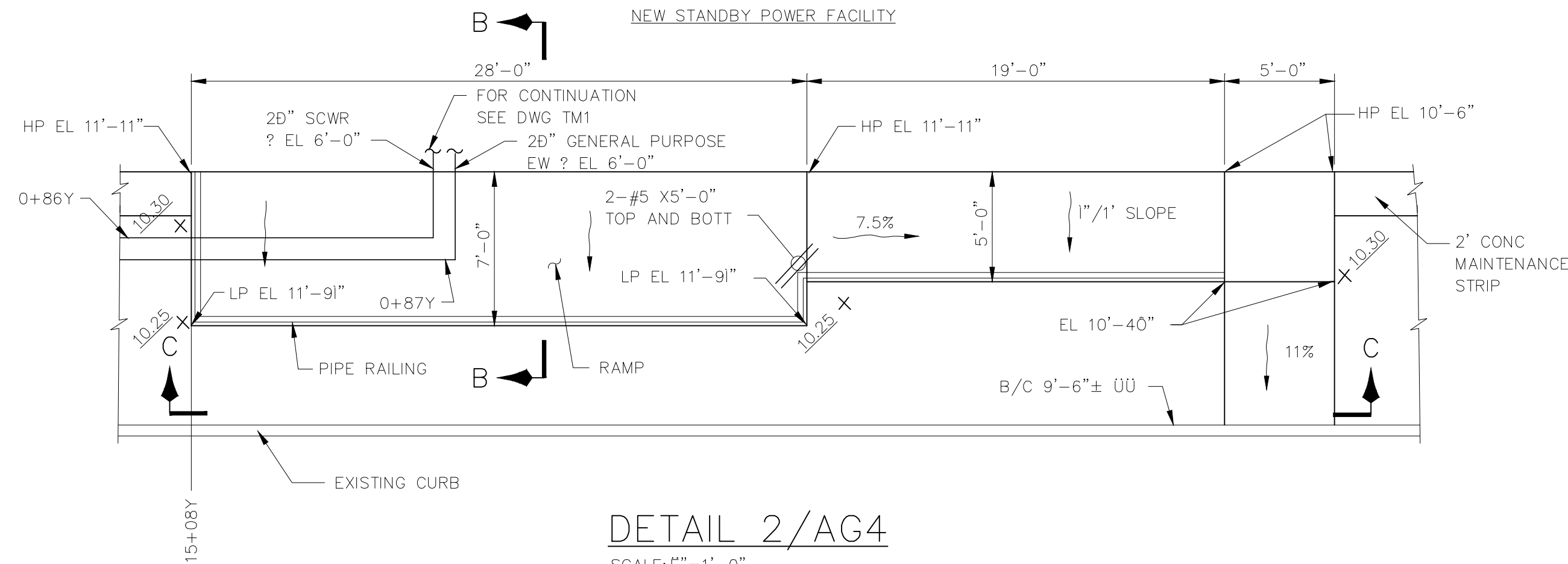
SHEET _____

DATE DECEMBER 1991 REV 4

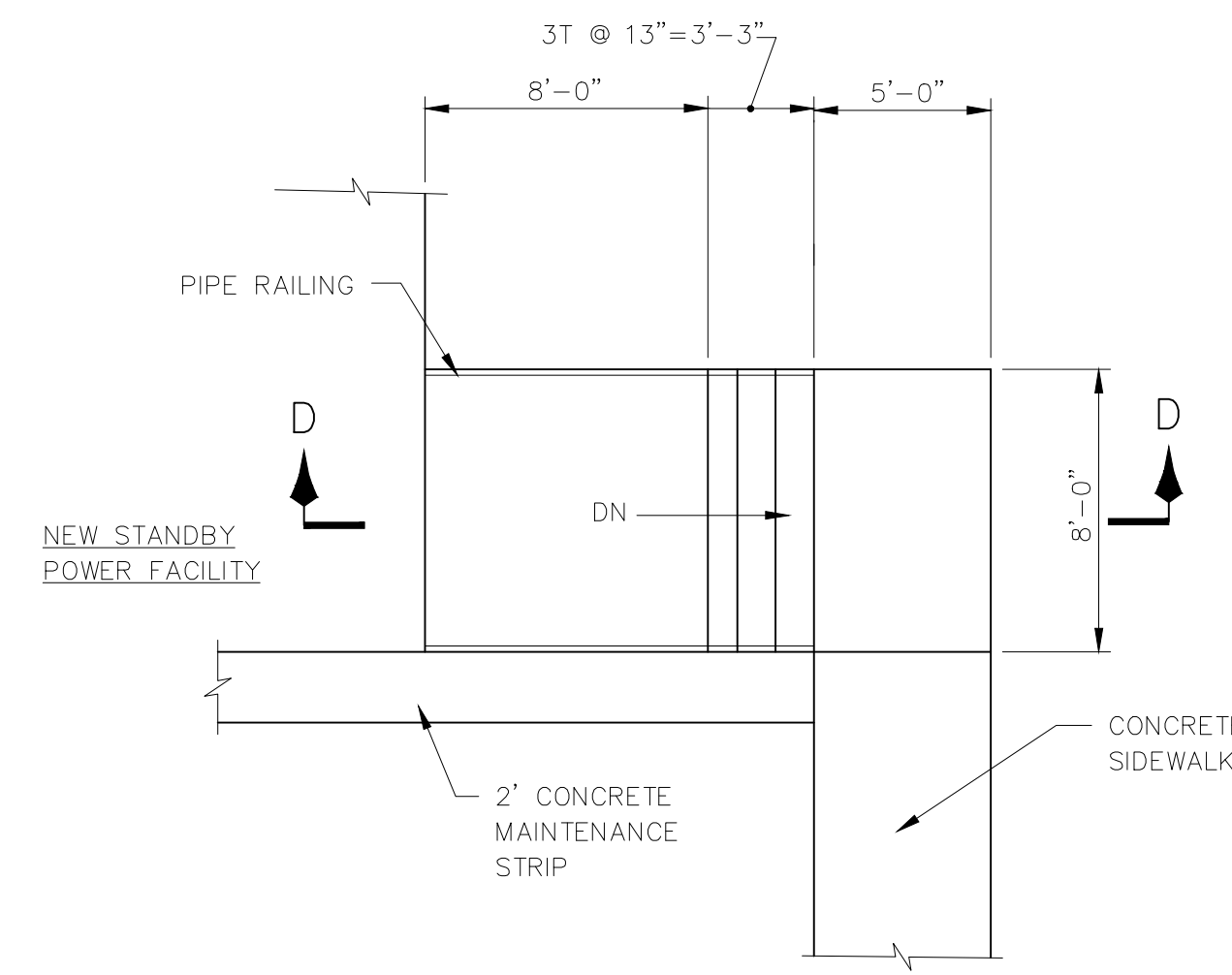
5H3B_OAE-004A



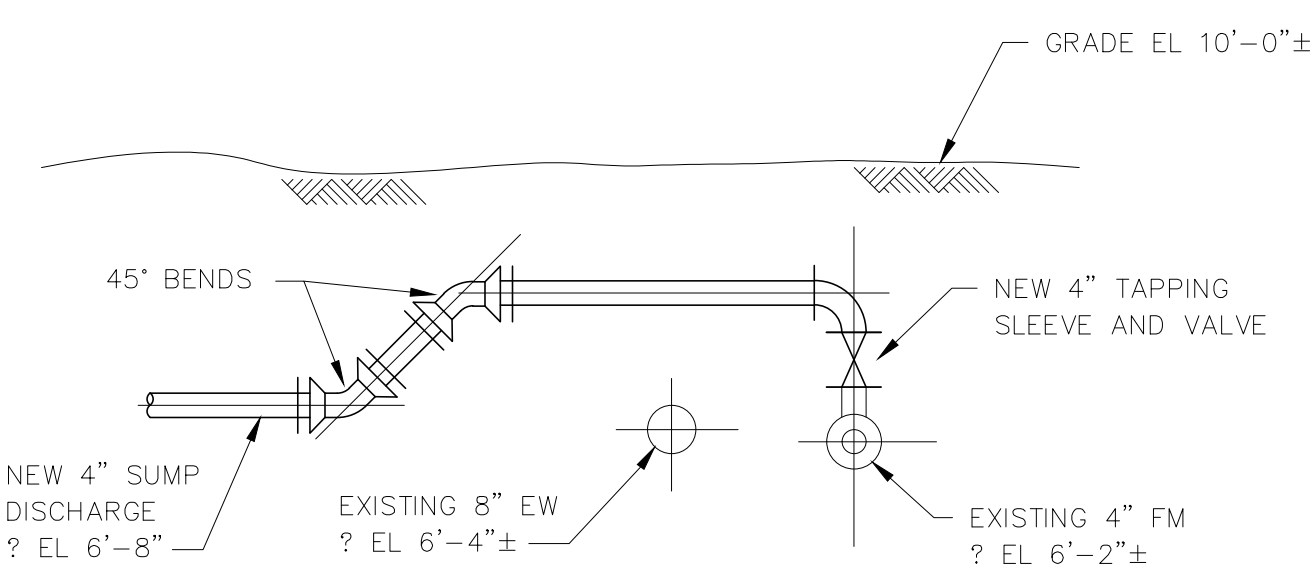
DETAIL 1/AG4
SCALE: 1"=1'-0"



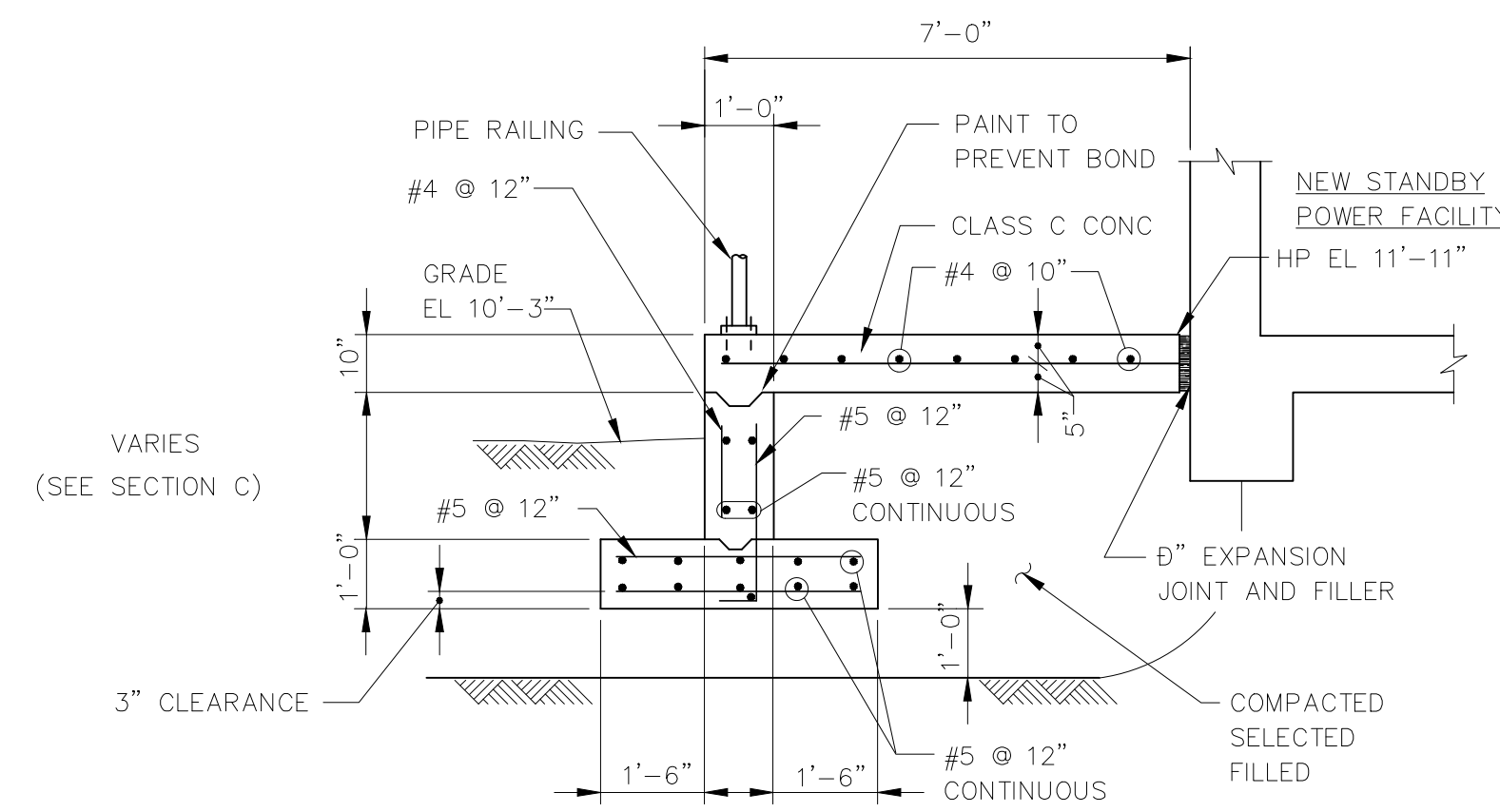
DETAIL 2/AG4
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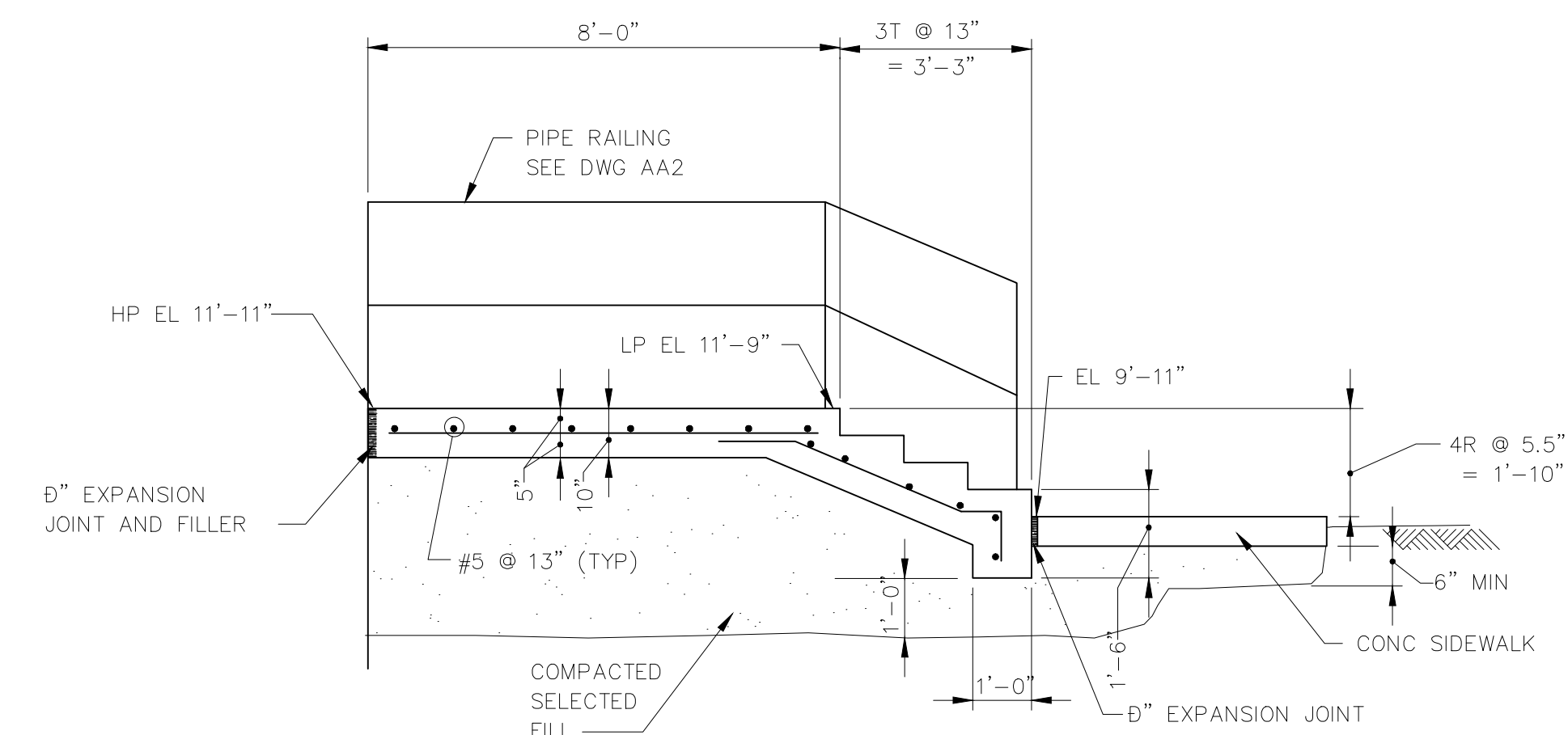
DETAIL 3/AG4
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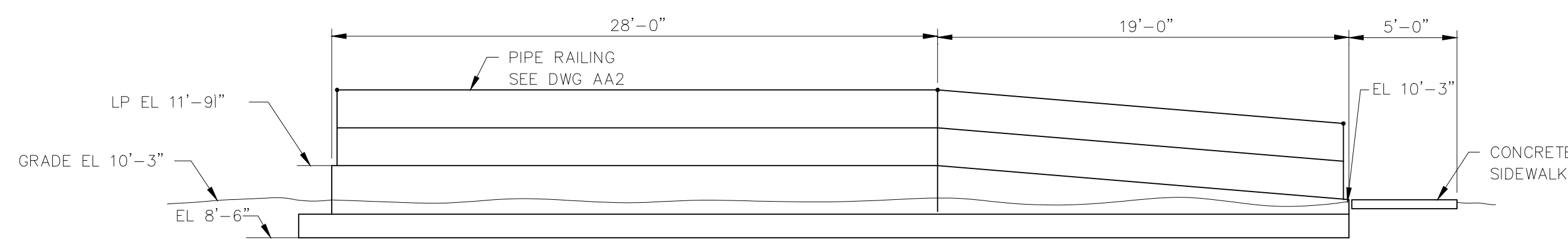
SECTION A
SCALE: 1"=1'-0"



SECTION B
SCALE: 1"=1'-0"



SECTION D
SCALE: 1"=1'-0"



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

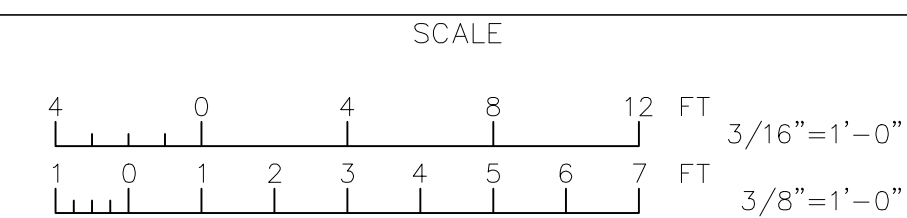
RECORD DRAWING

THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

FILE: H3B-AG07 SCALE: 1/32 09/05, 1996 at 08:08 - "13_c4h (hardwire lock)"

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED	LCC	APPROVED	DATE
DRAWN	MSB		
CHECKED	DCH		
GREELEY AND HANSEN, ENGINEERS			
NO.	DATE	APPD	REVISION
3	8/2/96		RECORD DWG REVISIONS



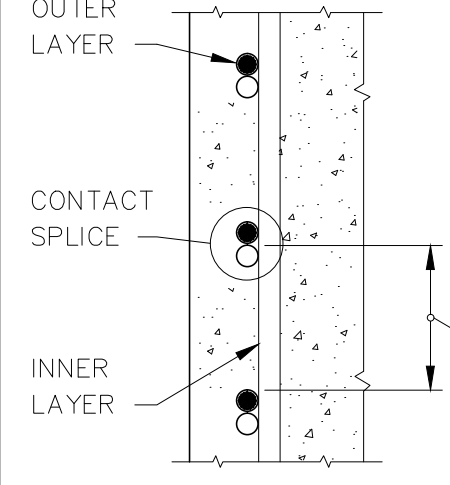
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

GENERAL
SECTIONS AND DETAILS

PROJ. NO.	202G
DWG	AG7
SHEET	
DATE	DECEMBER 1991
REV	3

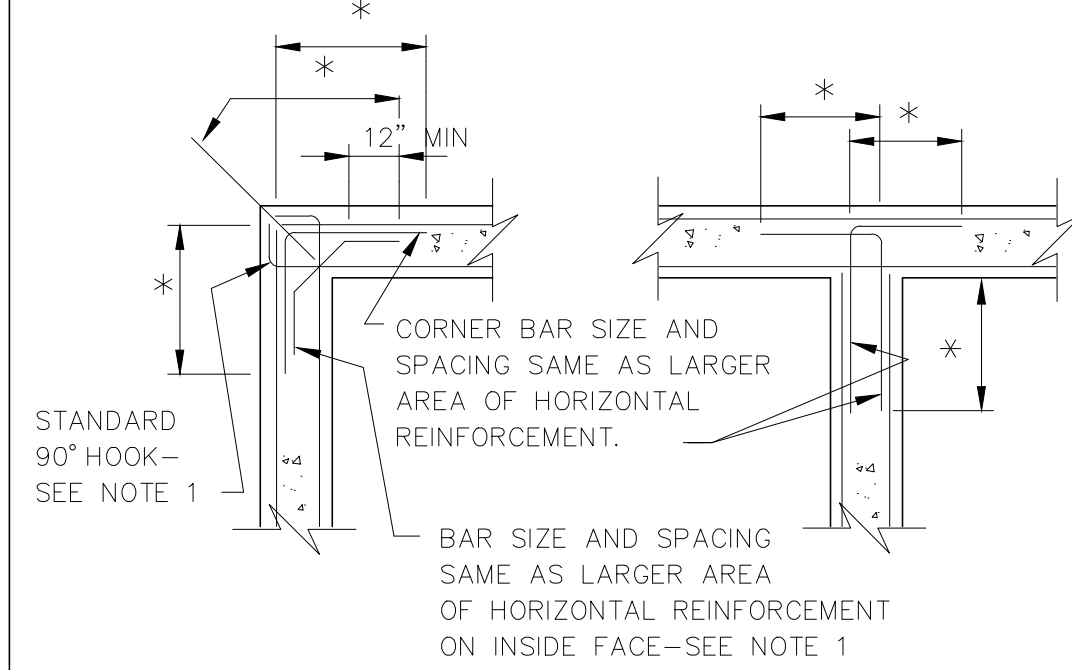
5H3B_OAG-007

REINFORCING-LAP SPLICE TABLE		GRADE 60 REINF 4000 PSI CONC									
BAR SIZE		3	4	5	6	7	8	9	10	11	
OUTER LAYER	TOP BARS	1'-6"	2'-0"	2'-6"	3'-0"	3'-6"	4'-3"	5'-0"	5'-6"	6'-0"	11'-8"
	OTHER BARS	1'-2"	1'-7"	1'-11"	2'-4"	2'-9"	3'-3"	3'-9"	4'-4"	5'-0"	9'-0"
INNER LAYER	TOP BARS	1'-6"	2'-0"	2'-6"	3'-0"	3'-6"	4'-3"	5'-0"	5'-6"	6'-0"	8'-4"
	OTHER BARS	1'-2"	1'-7"	1'-11"	2'-4"	2'-9"	3'-3"	3'-9"	4'-4"	5'-0"	6'-5"



- TOP BARS ARE ALL HORIZONTAL BARS SO PLACED THAT MORE THAN 12" OF CONCRETE IS PLACED IN THE MEMBER BELOW THE BAR. THIS INCLUDES HORIZONTAL WALL REINFORCEMENT.
- WHERE BARS OF DIFFERENT SIZES ARE LAP SPICED USE LAP LENGTH FOR SMALLER BAR.
- FOR EPOXY COATED BARS INCREASE LAP LENGTHS 20% FOR #3, #4 & #5 BARS & 50% FOR #6 THRU #11 BARS.
- THIS TABLE IS FOR CLEAR DISTANCE EQUAL TO OR GREATER THAN 3 BAR DIAMETERS.
- FOR CLEAR DISTANCE LESS THAN 3 BAR DIAMETERS SPLICE LENGTHS SHOWN MUST BE DOUBLED.

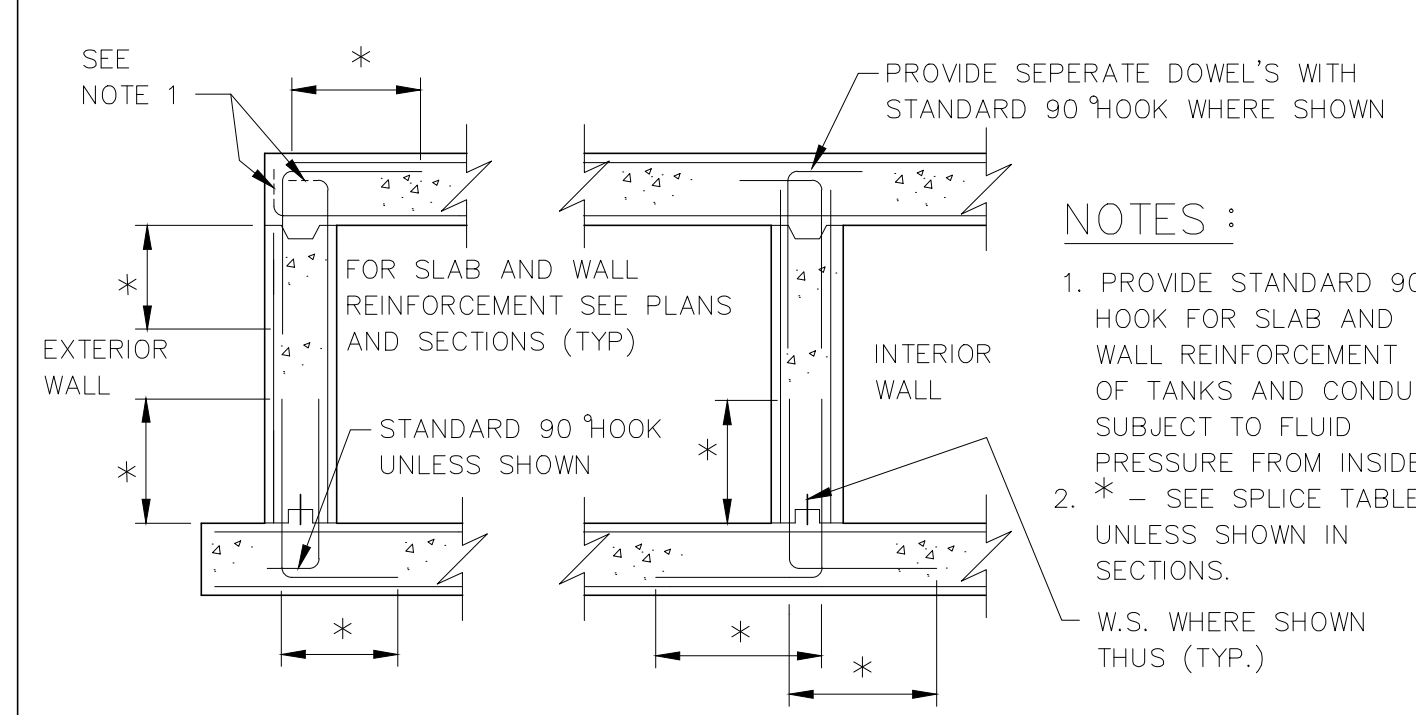
1



- NOTES:
- REQUIRED ONLY WHERE WALLS ARE SUBJECT TO FLUID PRESSURE FROM INSIDE.
 - SEE SPLICE TABLE.

HORIZONTAL CORNER BAR DETAIL

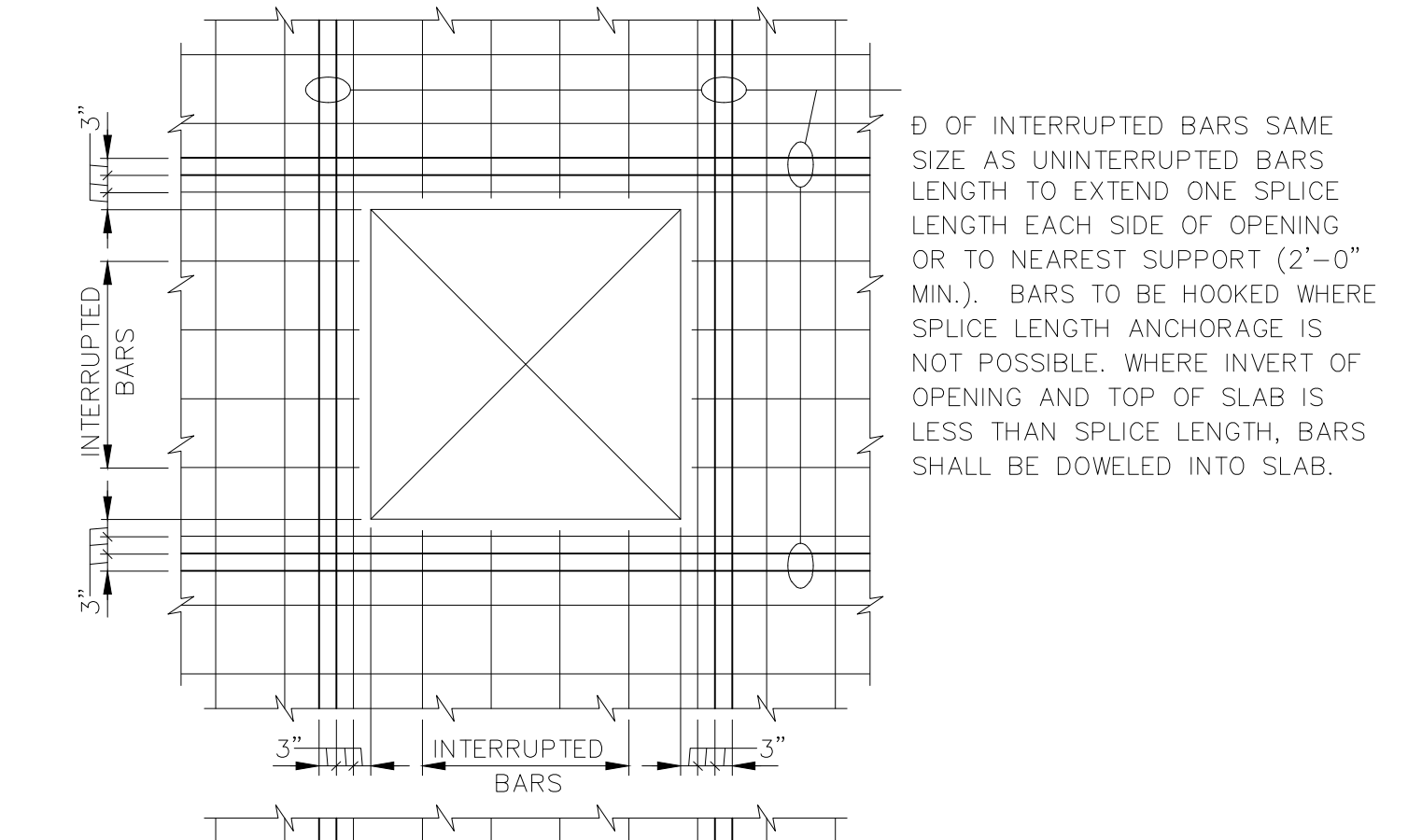
2



- NOTES:
- PROVIDE STANDARD 90° HOOK FOR SLAB AND WALL REINFORCEMENT OF TANKS AND CONDUITS SUBJECT TO FLUID PRESSURE FROM INSIDE.
 - SEE SPLICE TABLE, UNLESS SHOWN IN SECTIONS.
- W.S. WHERE SHOWN THUS (TYP.)

WALL REINFORCEMENT PLACING DIAGRAM

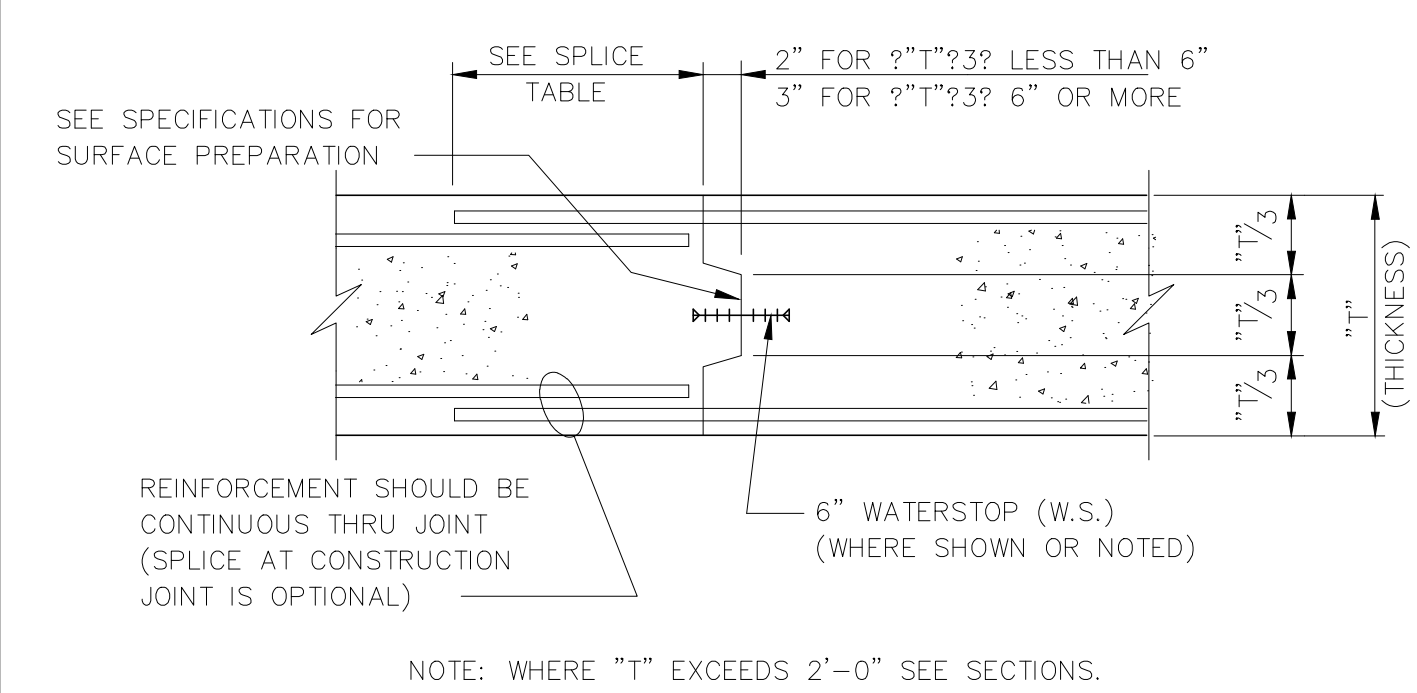
3



- Ø OF INTERRUPTED BARS SAME SIZE AS UNINTERRUPTED BARS LENGTH TO EXTEND ONE SPLICE LENGTH EACH SIDE OF OPENING OR TO NEAREST SUPPORT (2'-0" MIN.). BARS TO BE HOOKED WHERE SPLICE LENGTH ANCHORAGE IS NOT POSSIBLE. WHERE INVERT OF OPENING AND TOP OF SLAB IS LESS THAN SPLICE LENGTH, BARS SHALL BE DOWELED INTO SLAB.

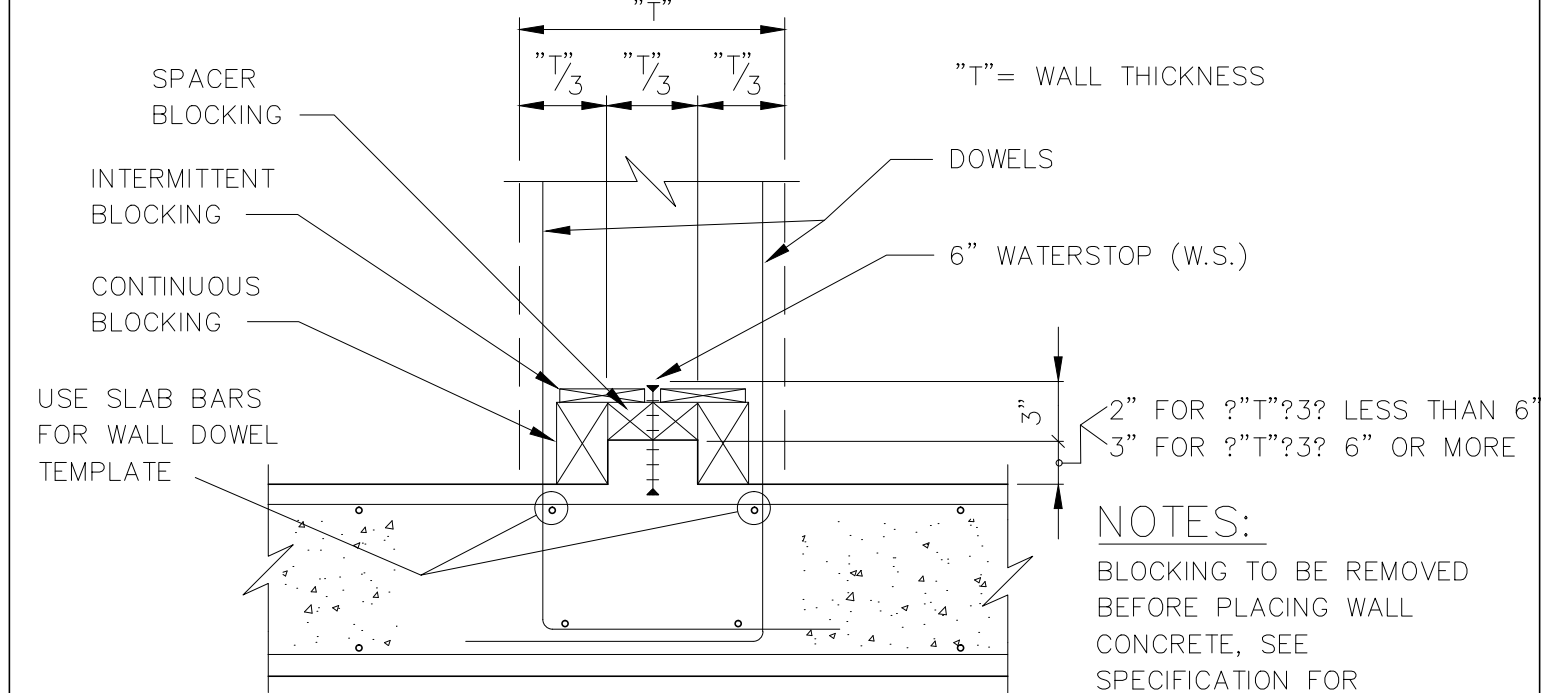
ADDITIONAL REINFORCING AT OPENINGS * IN WALLS AND SLABS

7



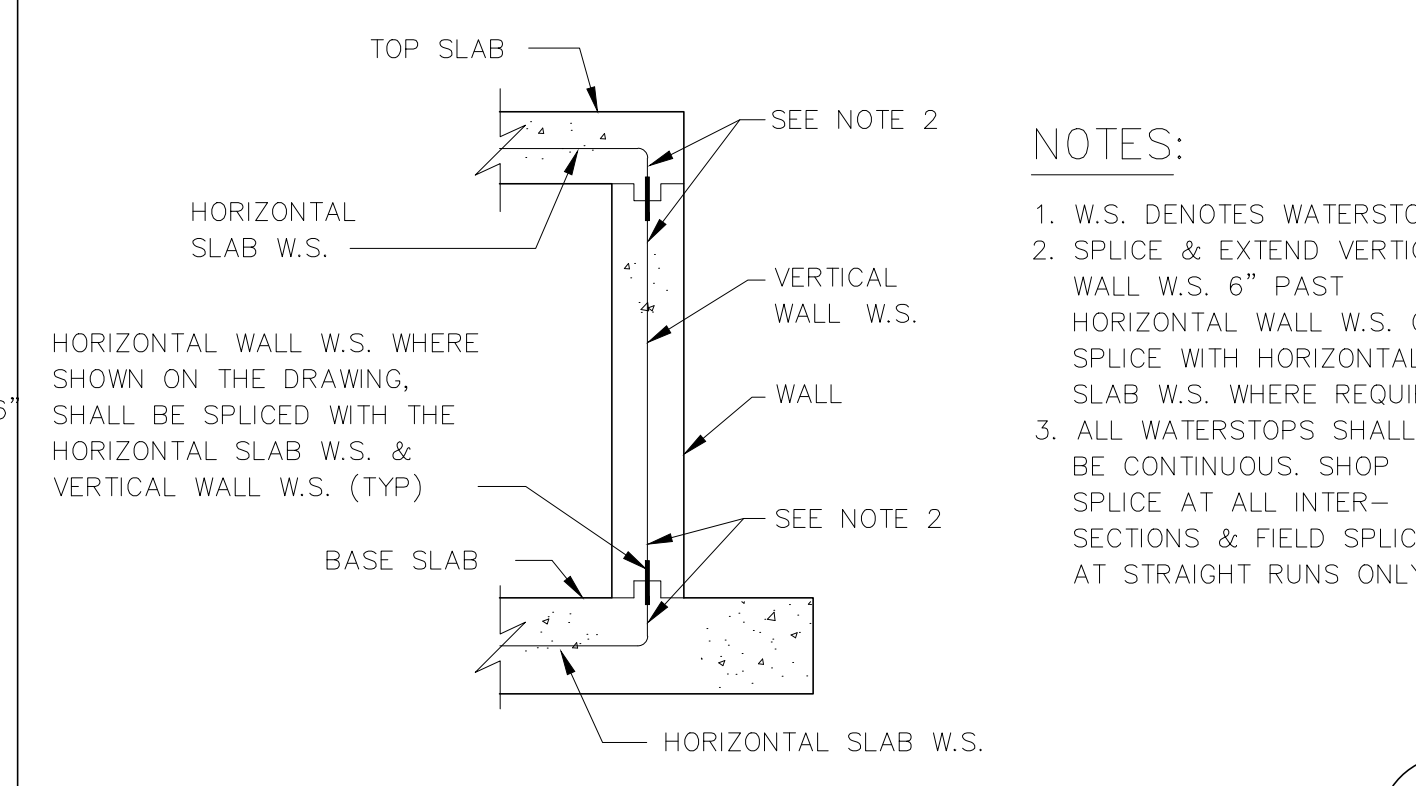
CONSTRUCTION JOINT DETAIL FOR WALLS AND SLABS

4



CONSTRUCTION JOINT WITH WATERSTOP IN WALL AT SLAB

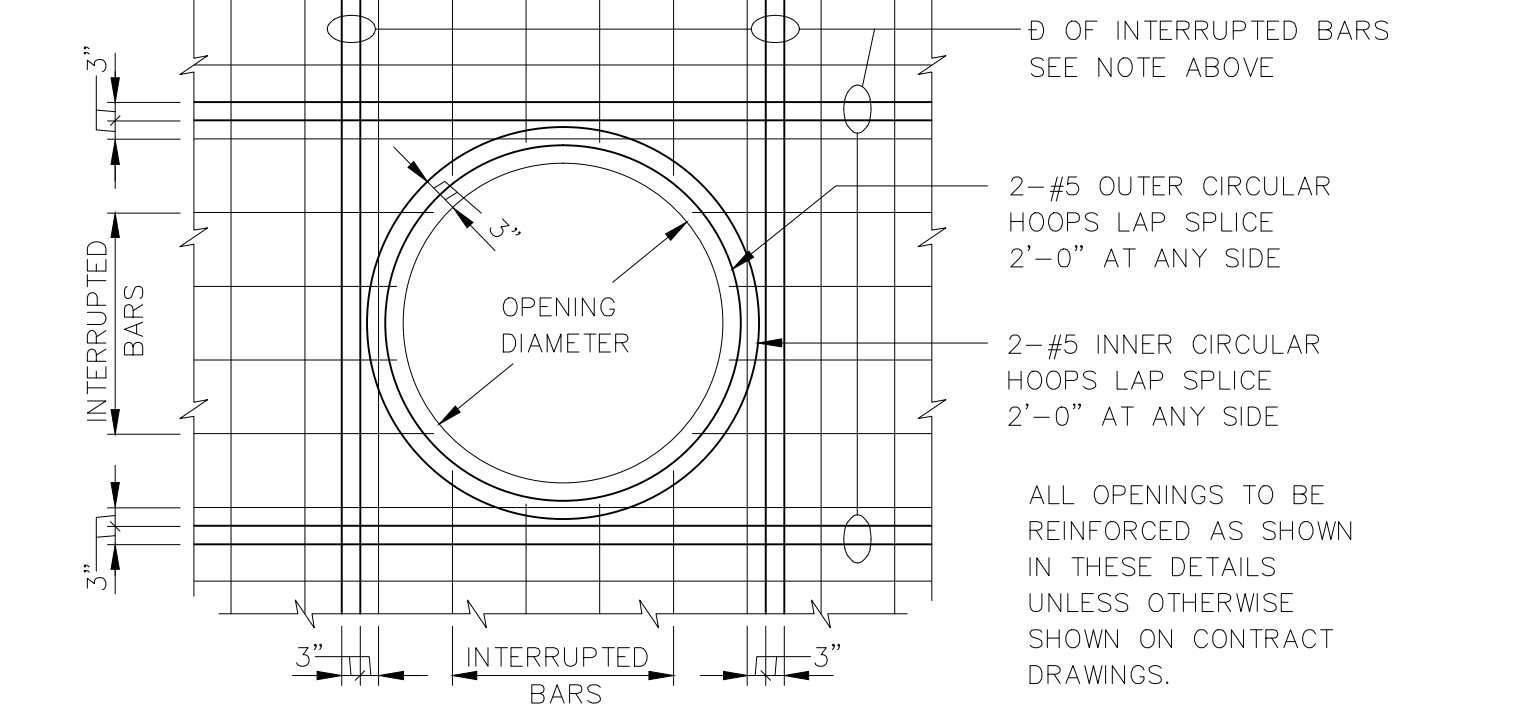
5



- NOTES:
- W.S. DENOTES WATERSTOP
 - SPLICE & EXTEND VERTICAL WALL W.S. 6" PAST HORIZONTAL WALL W.S. OR SPLICE WITH HORIZONTAL SLAB W.S. WHERE REQUIRED.
 - ALL WATERSTOPS SHALL BE CONTINUOUS. SHOP SPLICE AT ALL INTERSECTIONS & FIELD SPLICE AT STRAIGHT RUNS ONLY.

WATERSTOP PLACING DETAIL

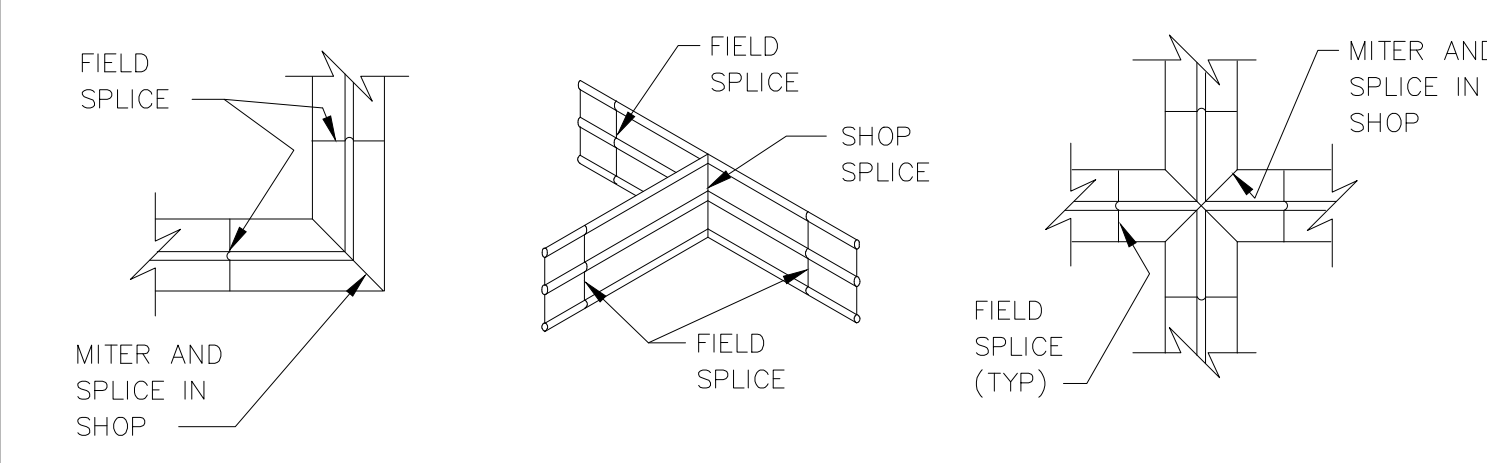
6



- Ø OF INTERRUPTED BARS SEE NOTE ABOVE
- 2-#5 OUTER CIRCULAR HOOPS LAP SPLICE 2'-0" AT ANY SIDE
- 2-#5 INNER CIRCULAR HOOPS LAP SPLICE 2'-0" AT ANY SIDE
- ALL OPENINGS TO BE REINFORCED AS SHOWN IN THESE DETAILS UNLESS OTHERWISE SHOWN ON CONTRACT DRAWINGS.

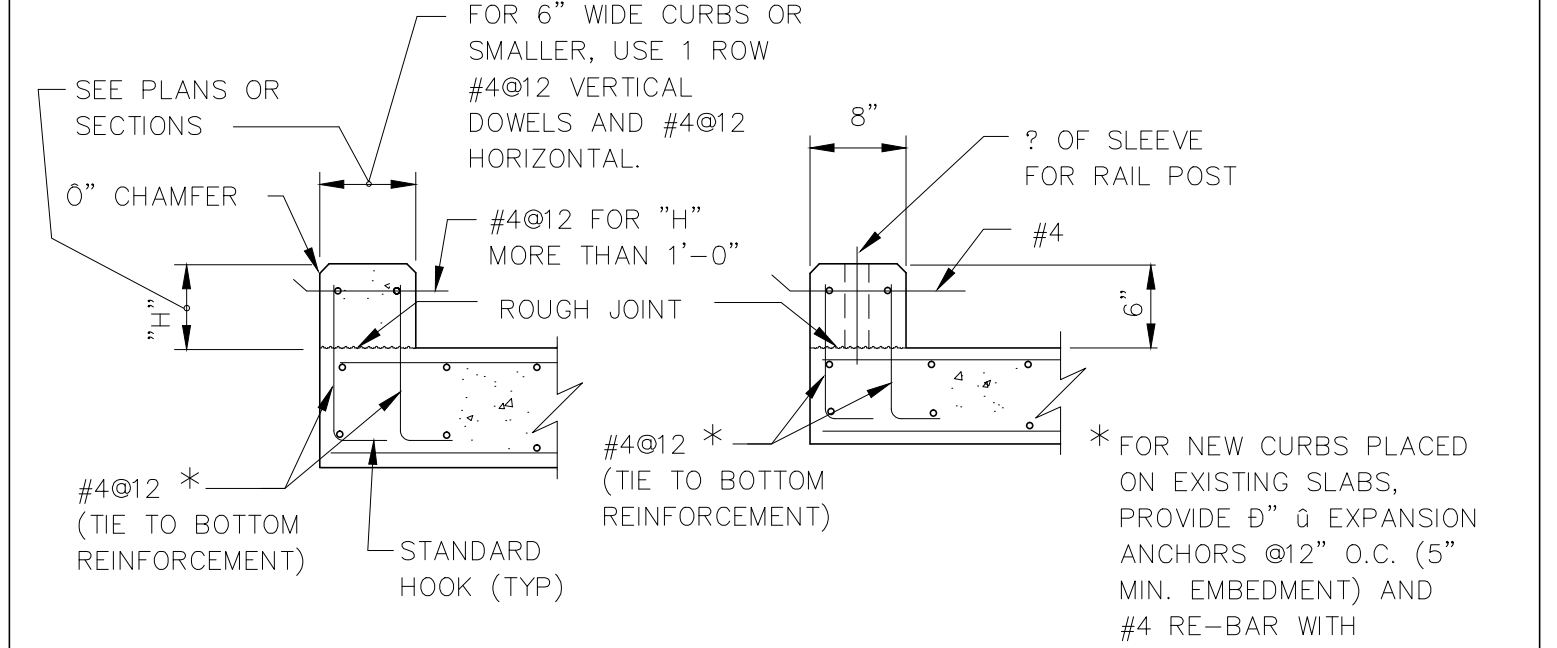
ADDITIONAL REINFORCING AT OPENINGS * IN WALLS AND SLABS

7



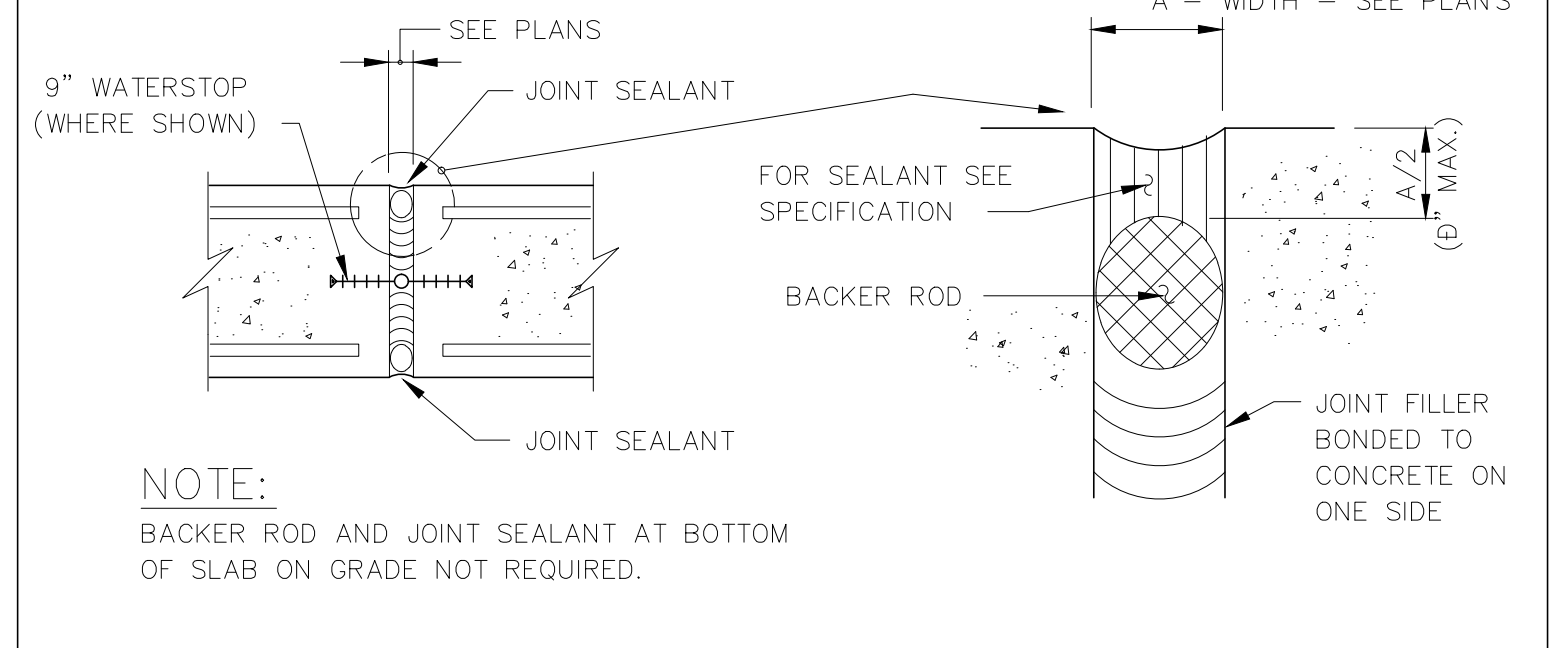
WATERSTOP SPLICE DETAILS AT INTERSECTIONS

8



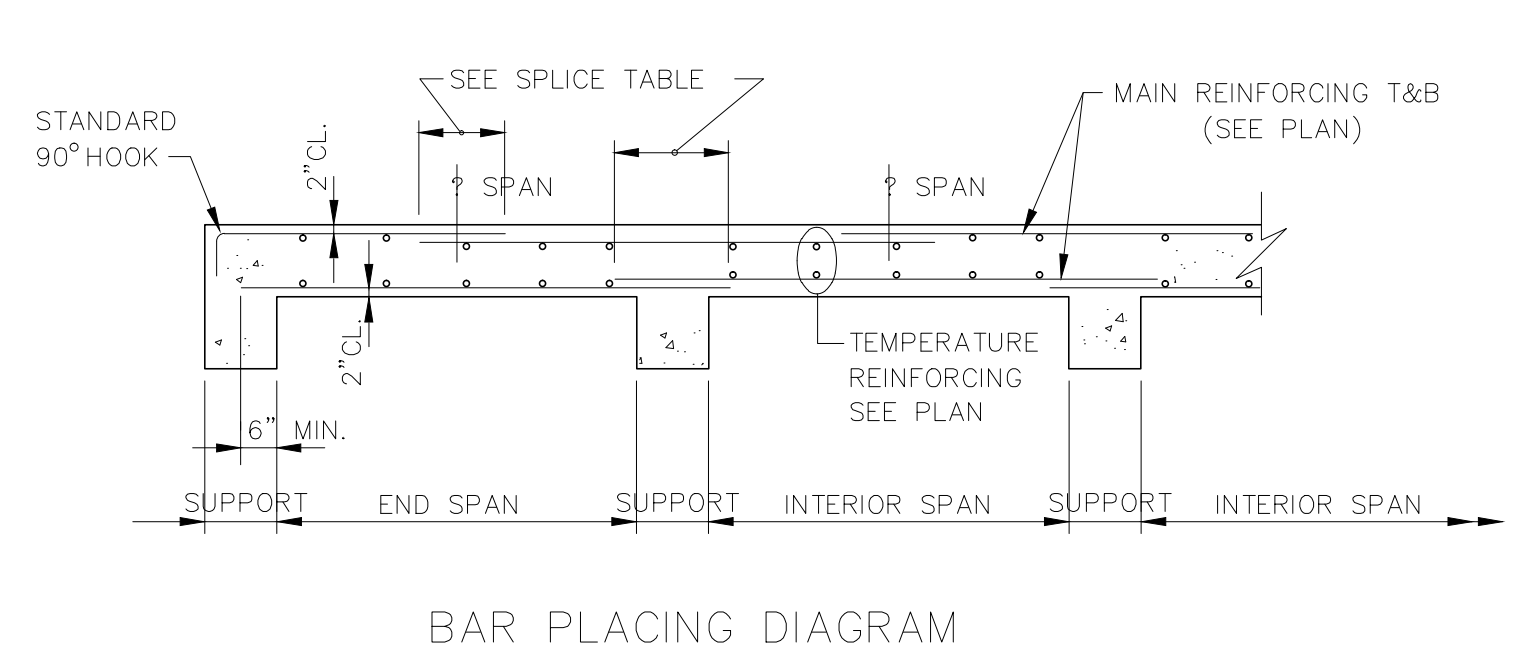
CURB WITHOUT HANDRAILS CURB WITH HANDRAILS

9



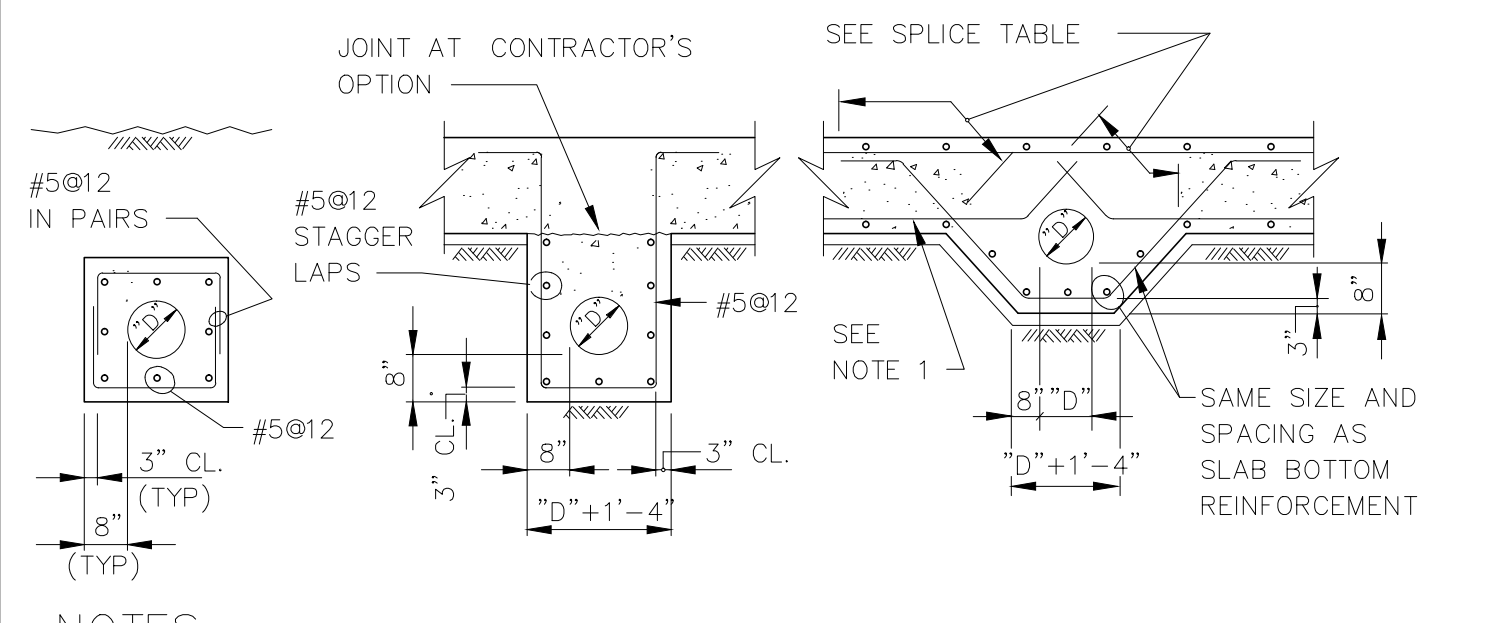
EXPANSION JOINT DETAIL AT WALLS AND SLABS

10



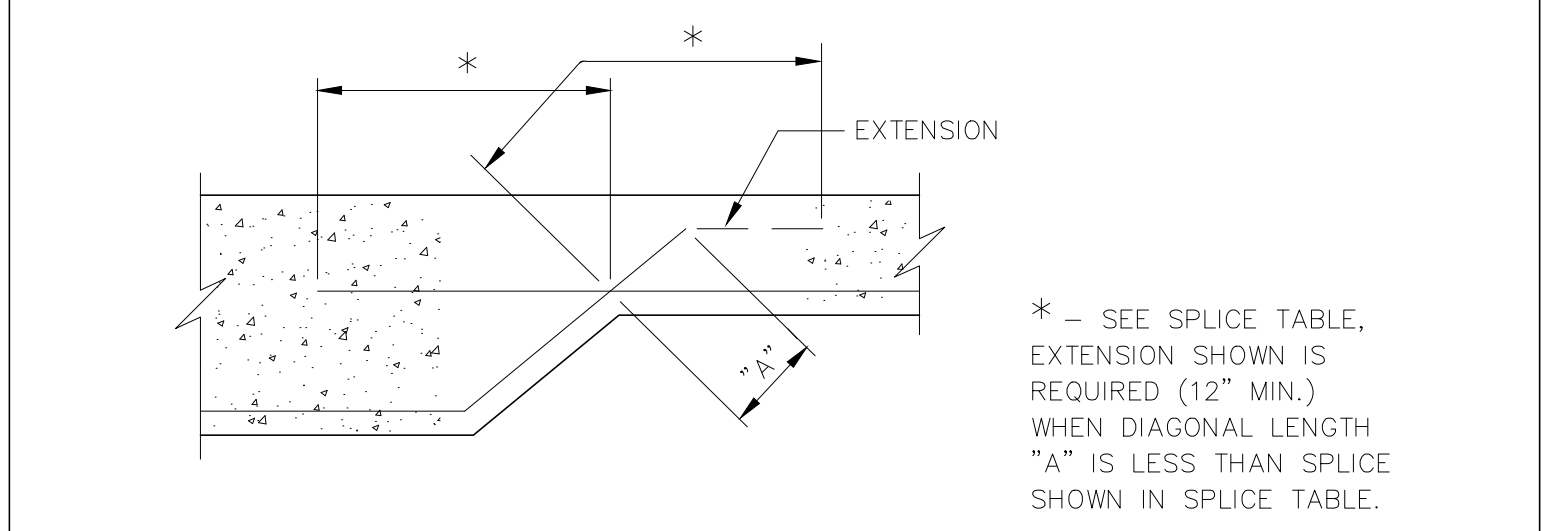
ONE-WAY FLOOR SLAB DETAILS (FOR SLABS OVER 8" THICK)

11



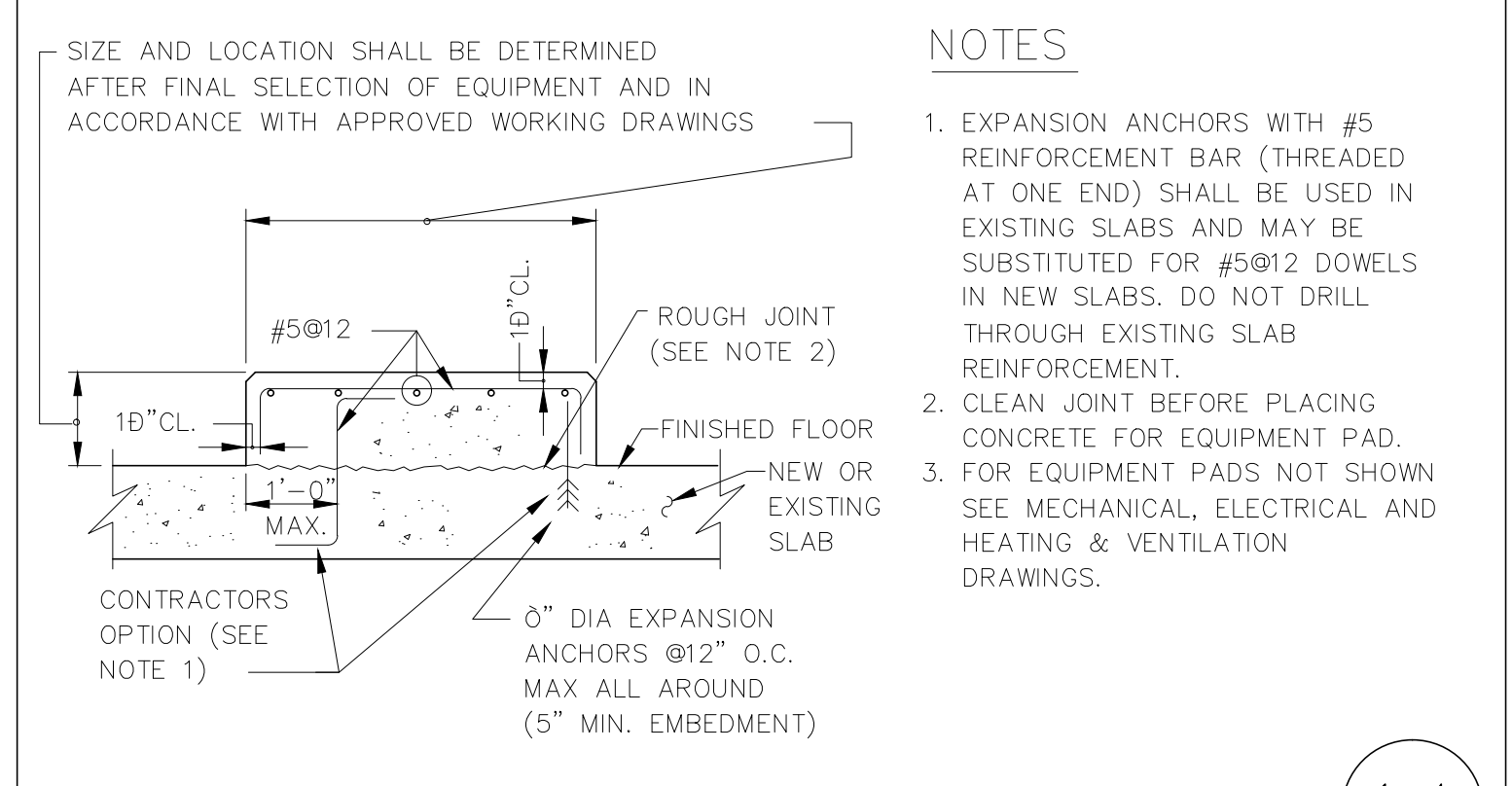
PIPE ENCASEMENT DETAILS

12



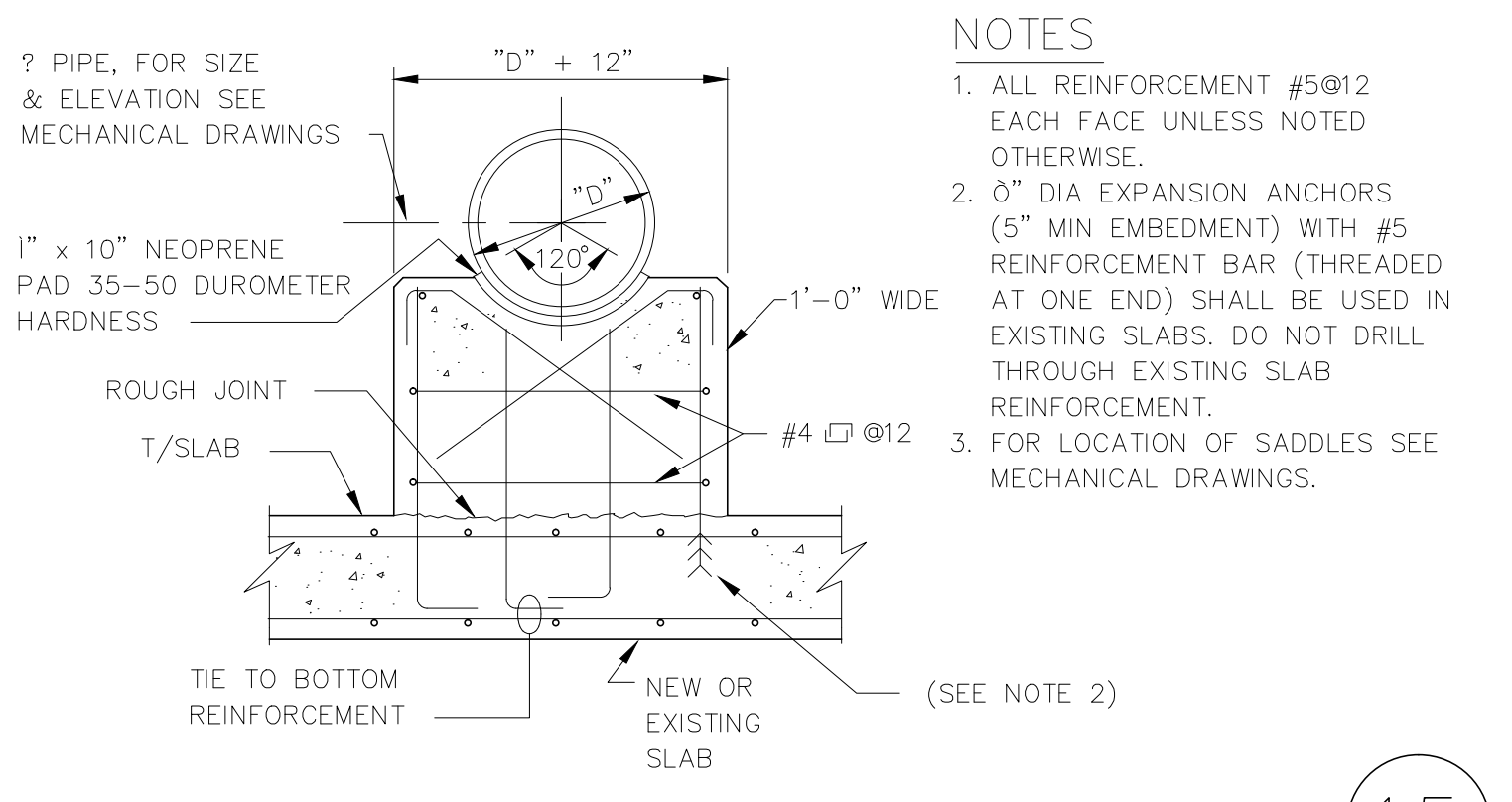
SPLICE LENGTH OF REINFORCEMENT INTERSECTING DIAGONALLY

13



EQUIPMENT PAD DETAIL

14



CONCRETE SADDLE DETAIL

15

GREELEY AND HANSEN ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED JEB
DRAWN JVT
CHECKED HT

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
2	8/1/96		RECORD DWG REVISIONS

SCALE
NOT TO SCALE

CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

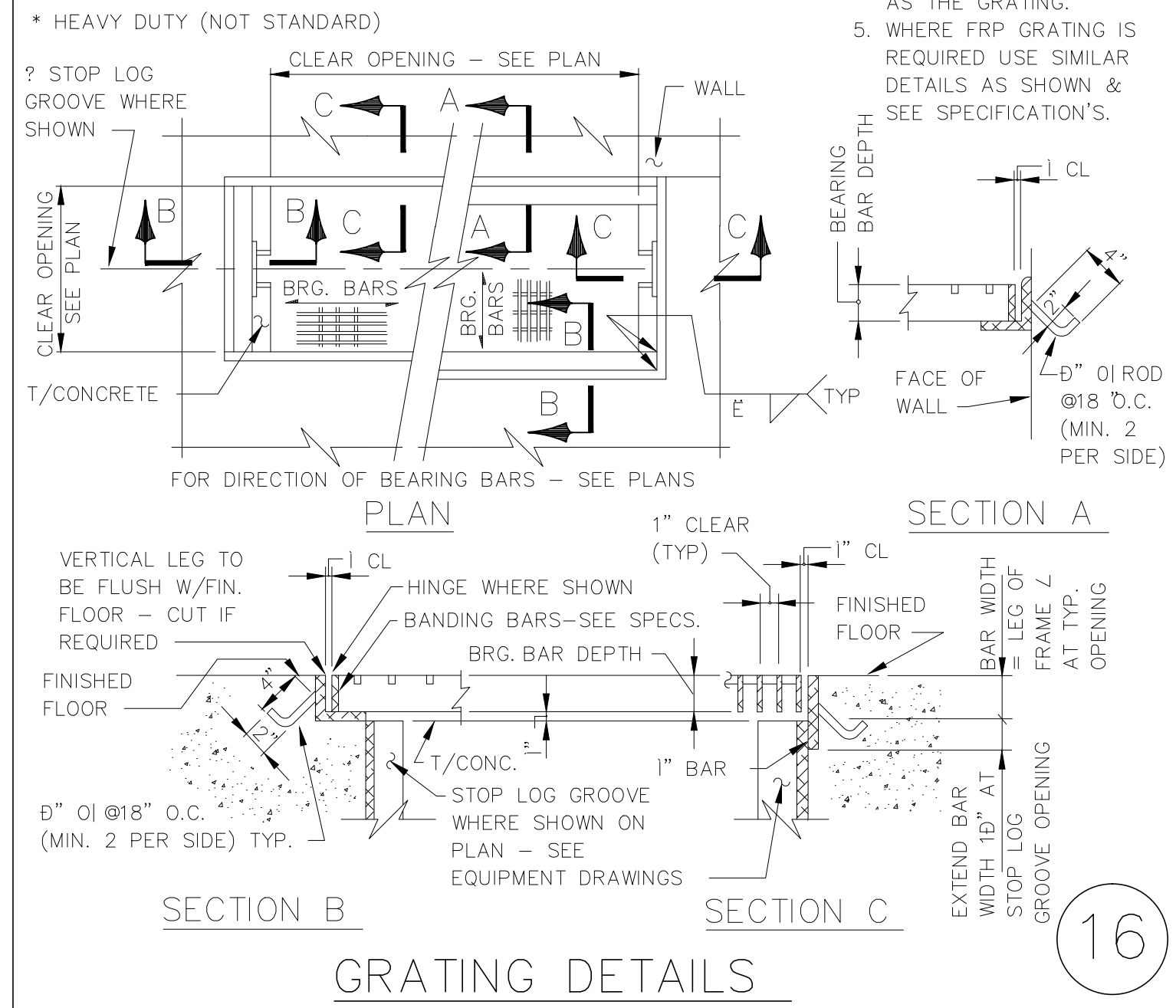
STRUCTURAL GENERAL TYPICAL DETAILS

PROJ. NO. 202G
DWG AS1
SHEET
DATE DECEMBER 1991 REV 2

GRATING SCHEDULE				LL = 150 PSF MAX. DEFL. = SPAN/360	
SPAN	ALUMINUM (SERRATED)		STAINLESS STEEL OR GALVANIZED(SERRATED)		FRAME
	BRG. BARS 1" CLEAR	FRAME	BRG. BARS 1" CLEAR	FRAME	
4'-0" OR LESS	10 X E	∠ 2X2XI	10 X E	∠ 2X2XI	
4'-1" TO 5'-0"	2I X E	∠ 2DX2XI	10 X E	∠ 2X2XI	
5'-1" TO 6'-0"	2D X E	∠ 3X2XI	2 X E	∠ 2DX2XI	
6'-1" TO 7'-0"	3 X E	∠ 3DX2DXI	2I X E	∠ 2DX2XI	
7'-1" TO 8'-0"	3I X I	∠ 3DX2DXI	2D X I	∠ 3X2DXI	

NOTES:

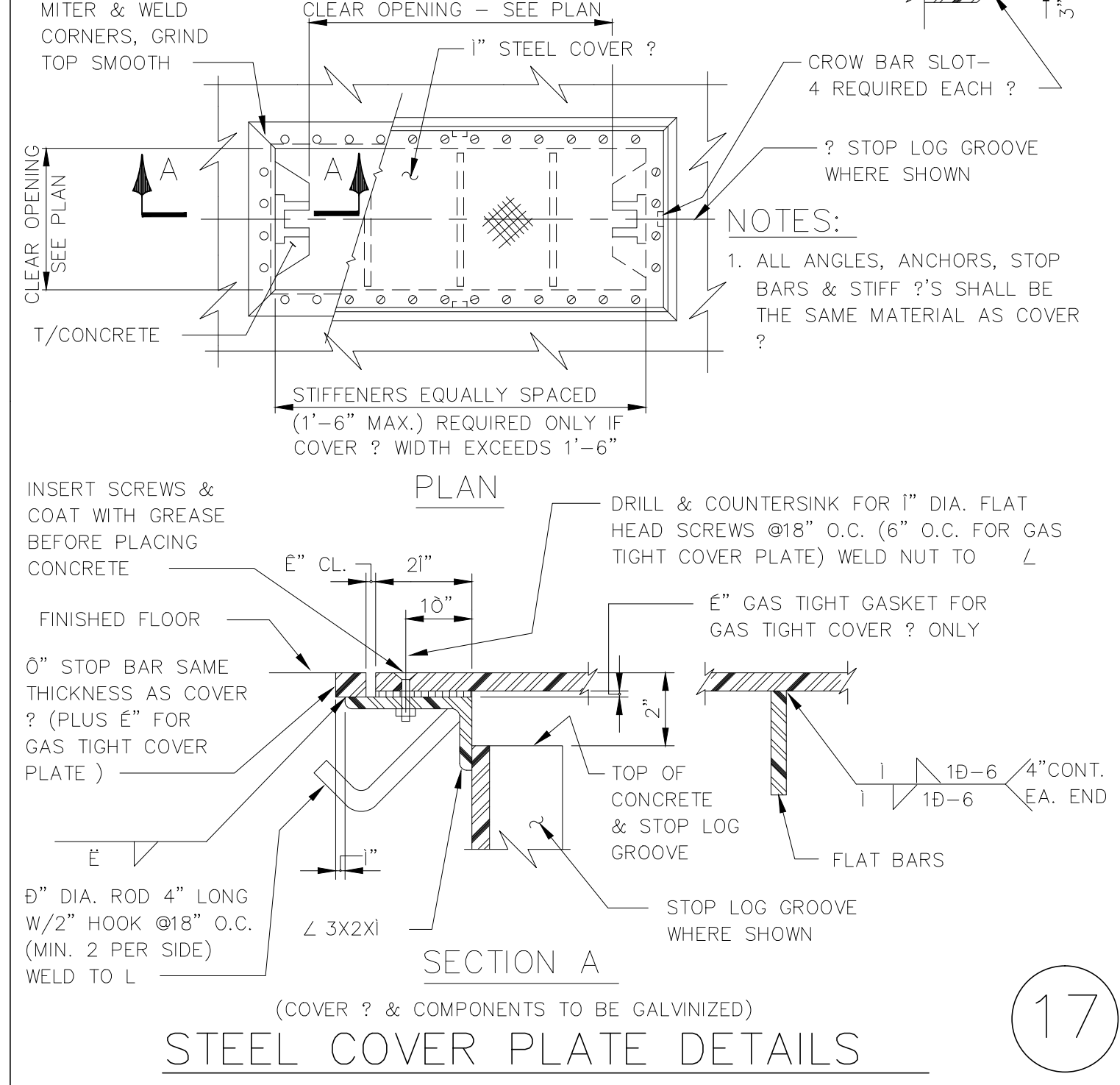
- FOR GRATING MATERIAL SEE PLAN OR SECTIONS.
- SIZE OF GRATING AS SHOWN IN SCHEDULE UNLESS NOTED OTHERWISE ON PLAN.
- ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE TO BE PAINTED, SEE SPECIFICATIONS.
- ALL ANGLES, BARS & ANCHOR BOLTS TO BE OF THE SAME MATERIAL AS THE GRATING.
- WHERE FRP GRATING IS REQUIRED USE SIMILAR DETAILS AS SHOWN & SEE SPECIFICATIONS.



GRATING DETAILS

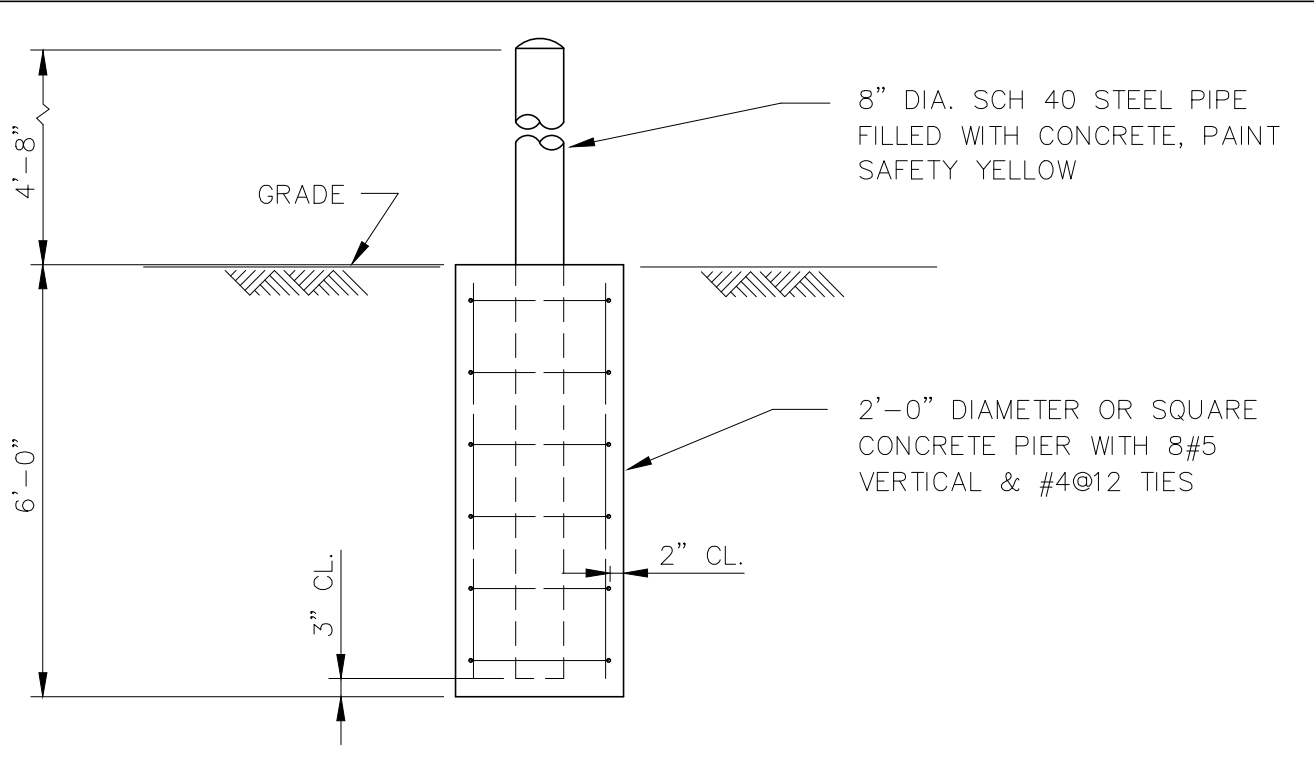
16

STIFFENER SCHEDULE		LL = 150 PSF MAX. DEFL. = SPAN/360	
SPAN	FLAT BAR	SPAN	FLAT BAR
1'-7" TO 4'-0"	1" X 2"	4'-1" TO 5'-0"	1" X 2D"
4'-1" TO 5'-0"	1" X 2D"	5'-1" TO 5'-8"	1" X 3"
5'-1" TO 5'-8"	1" X 3"	5'-9" TO 7'-4"	1" X 3D"
5'-9" TO 7'-4"	1" X 3D"	7'-5" TO 8'-3"	1" X 3D"



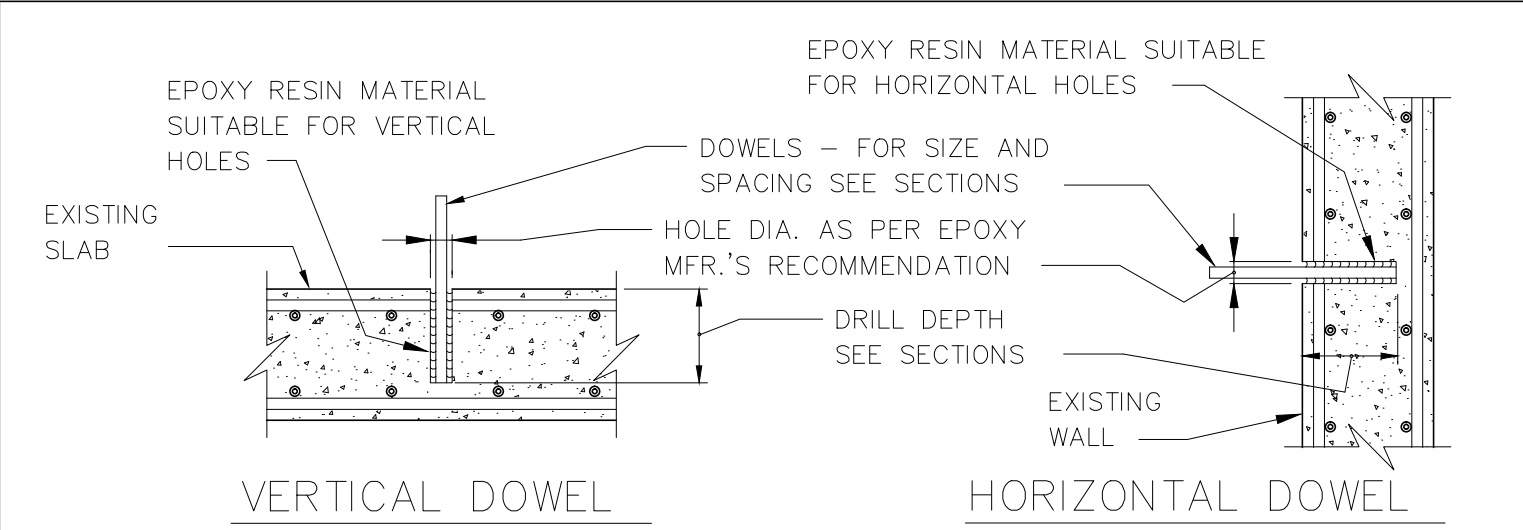
STEEL COVER PLATE DETAILS

17



TRUCK BUMPER DETAIL

18



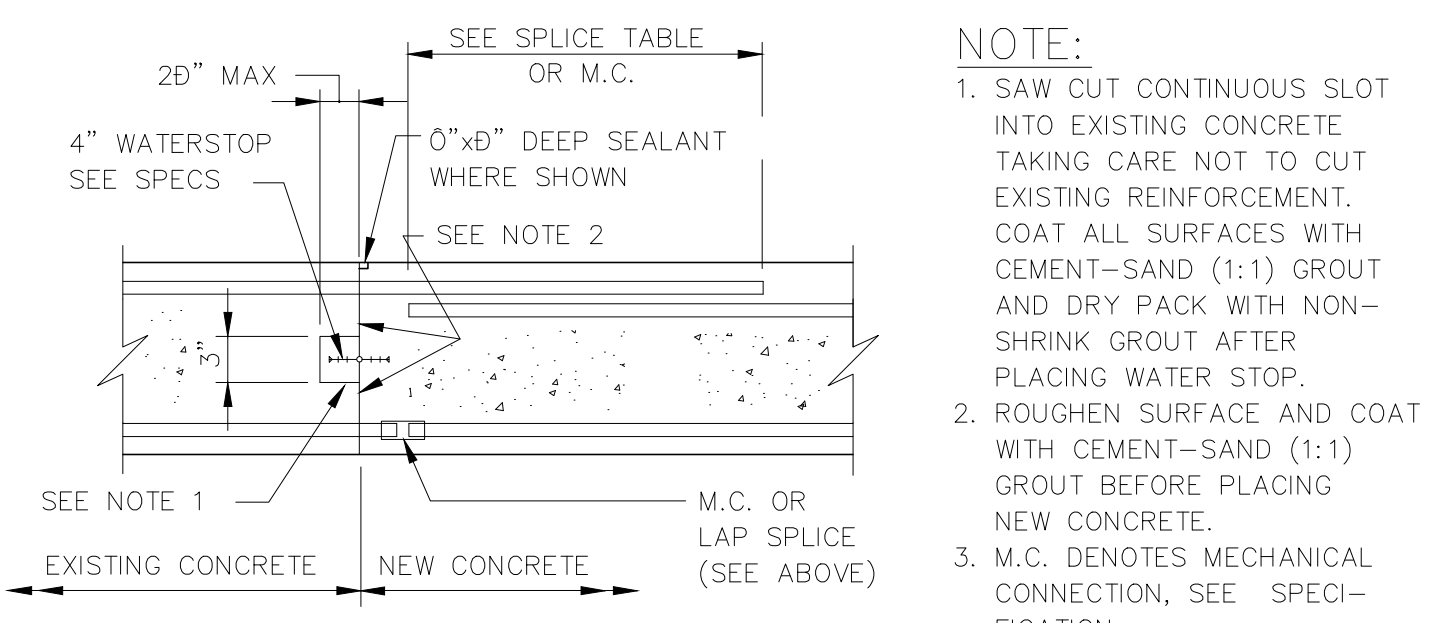
VERTICAL DOWEL

HORIZONTAL DOWEL

- NOTES:**
- LOCATE EXISTING REINFORCING & DRILL INTO EXISTING CONCRETE USING DRILLING EQUIPMENT TO PRODUCE CLEAN, DRY, ROUGHENED HOLES. CLEAN HOLE USING BRUSH AND COMPRESSED AIR. DO NOT DRILL THRU EXISTING REINFORCING. PLACE EPOXY RESIN MATERIAL AND DOWELS IN STRICT ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

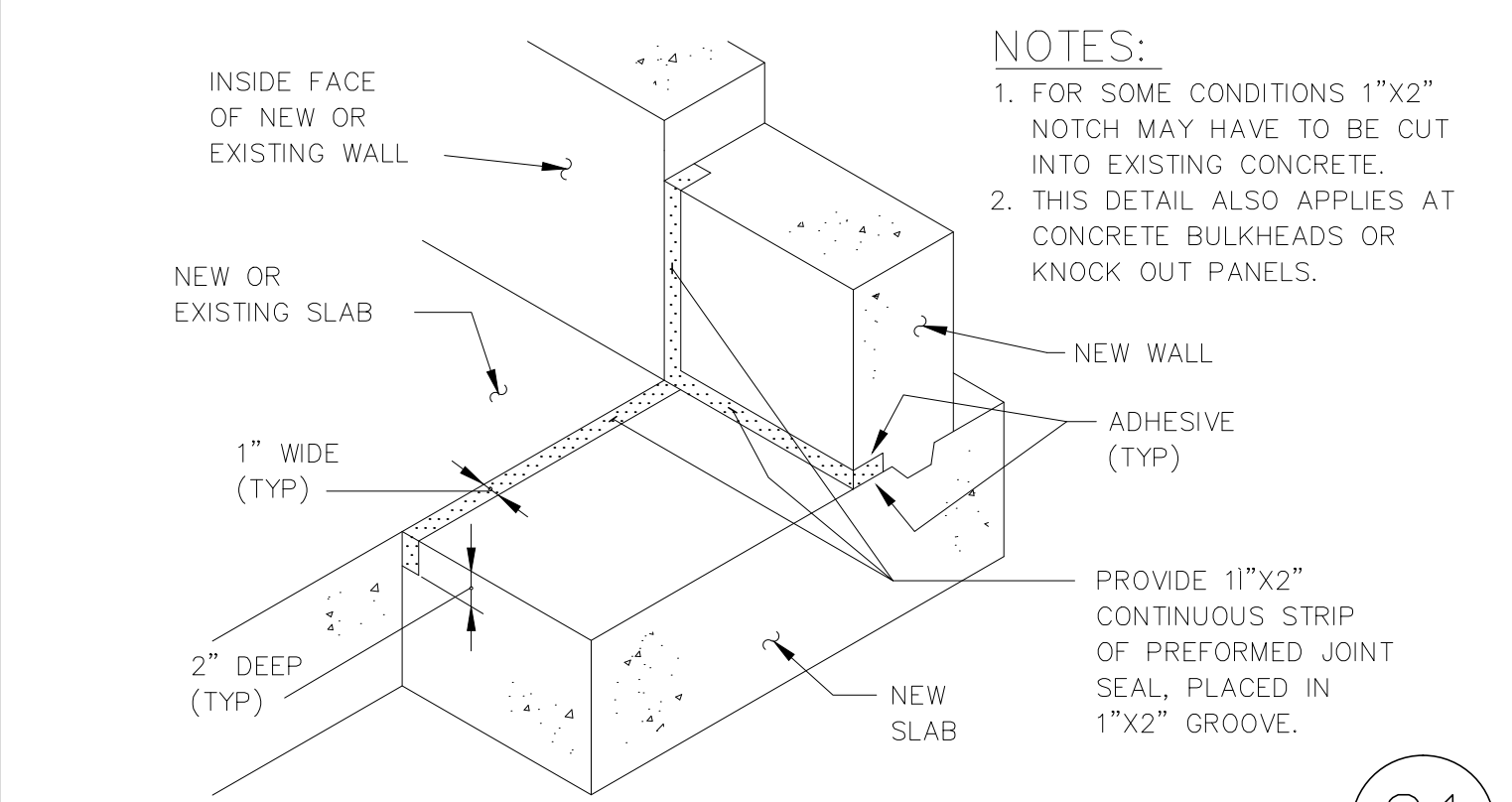
DOWEL GROUTING DETAIL

19



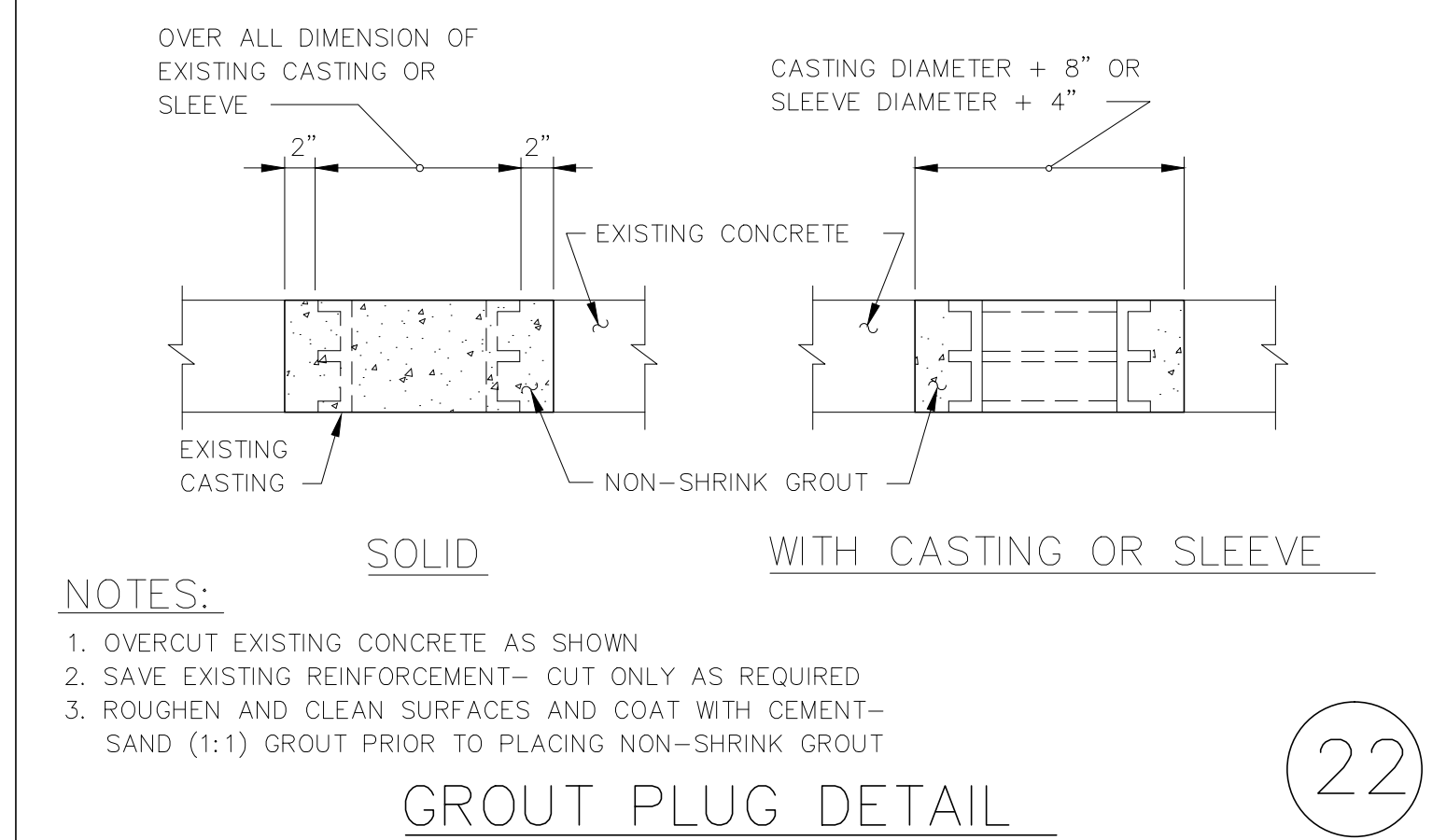
CONSTRUCTION JOINT WITH WATERSTOP BETWEEN NEW AND EXISTING CONCRETE

20



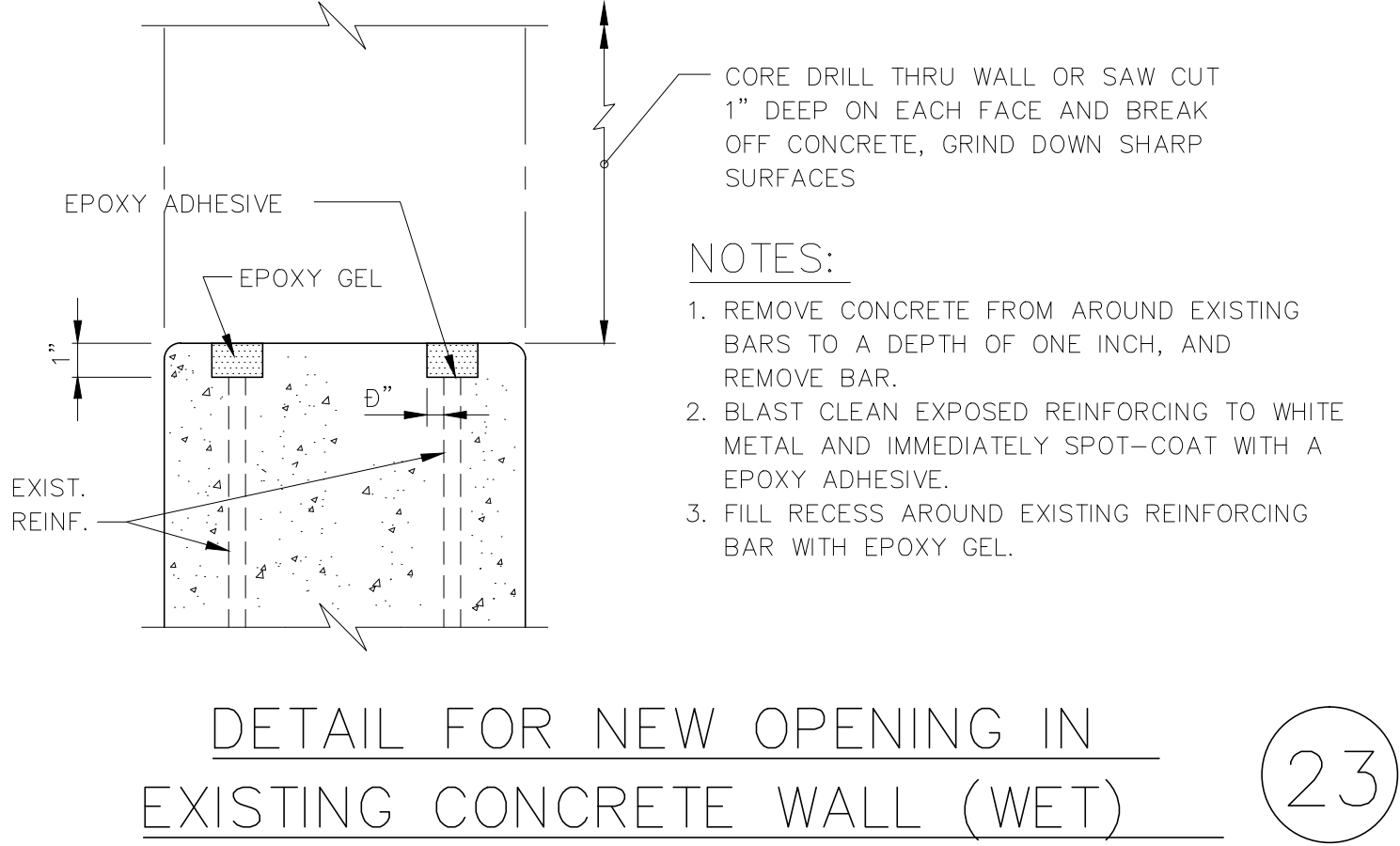
PREFORMED JOINT SEALANT DETAIL

21



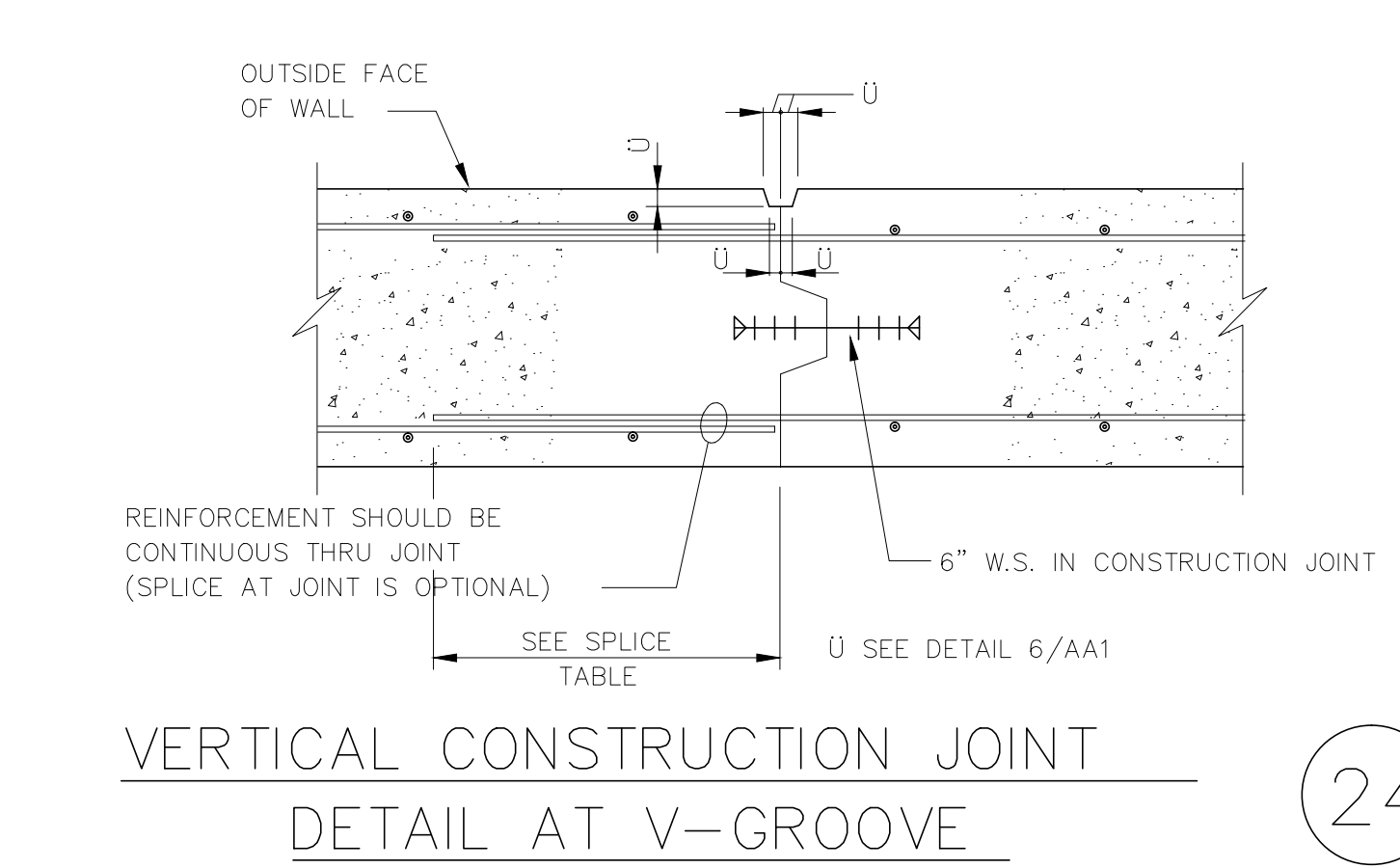
GROUT PLUG DETAIL

22



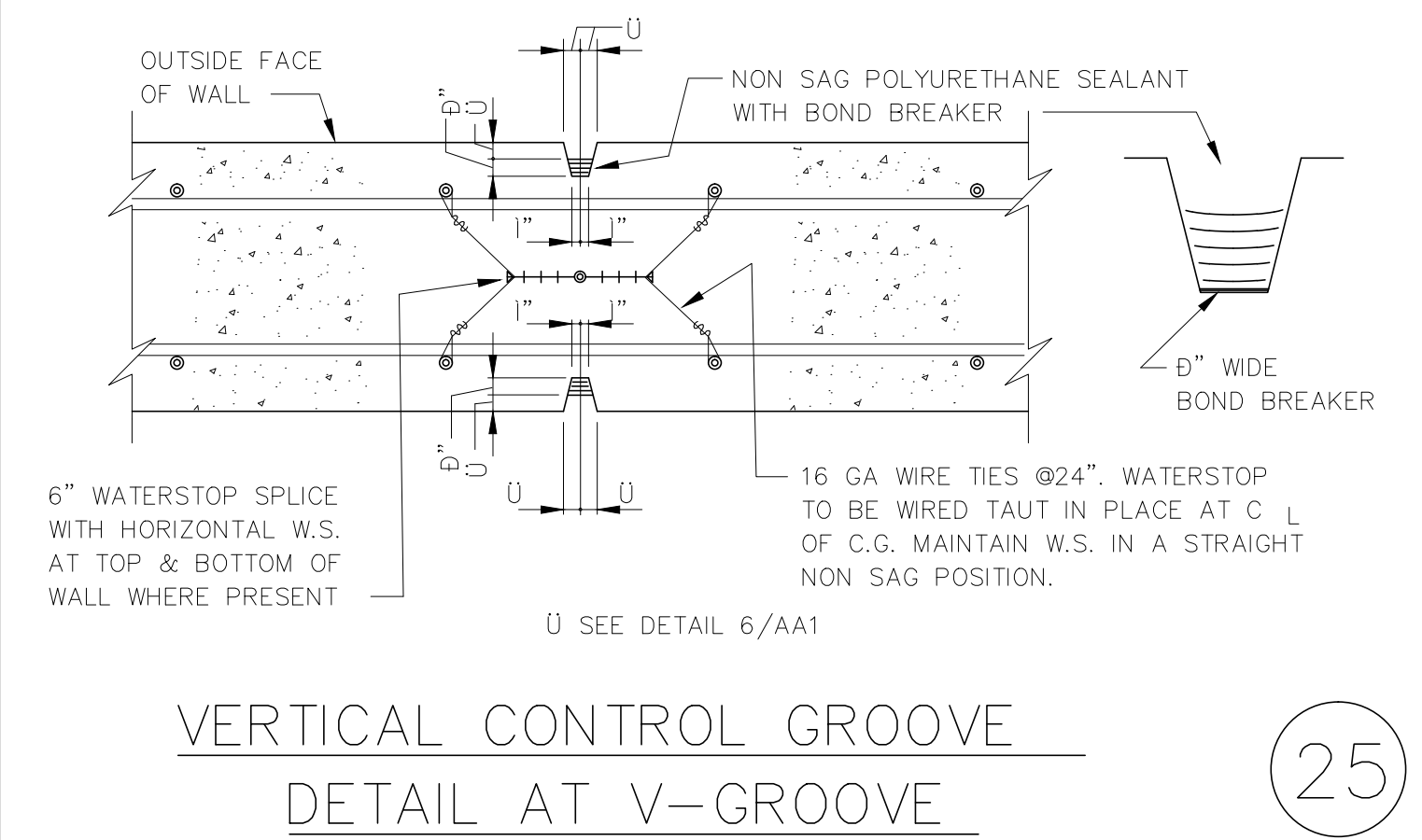
DETAIL FOR NEW OPENING IN EXISTING CONCRETE WALL (WET)

23



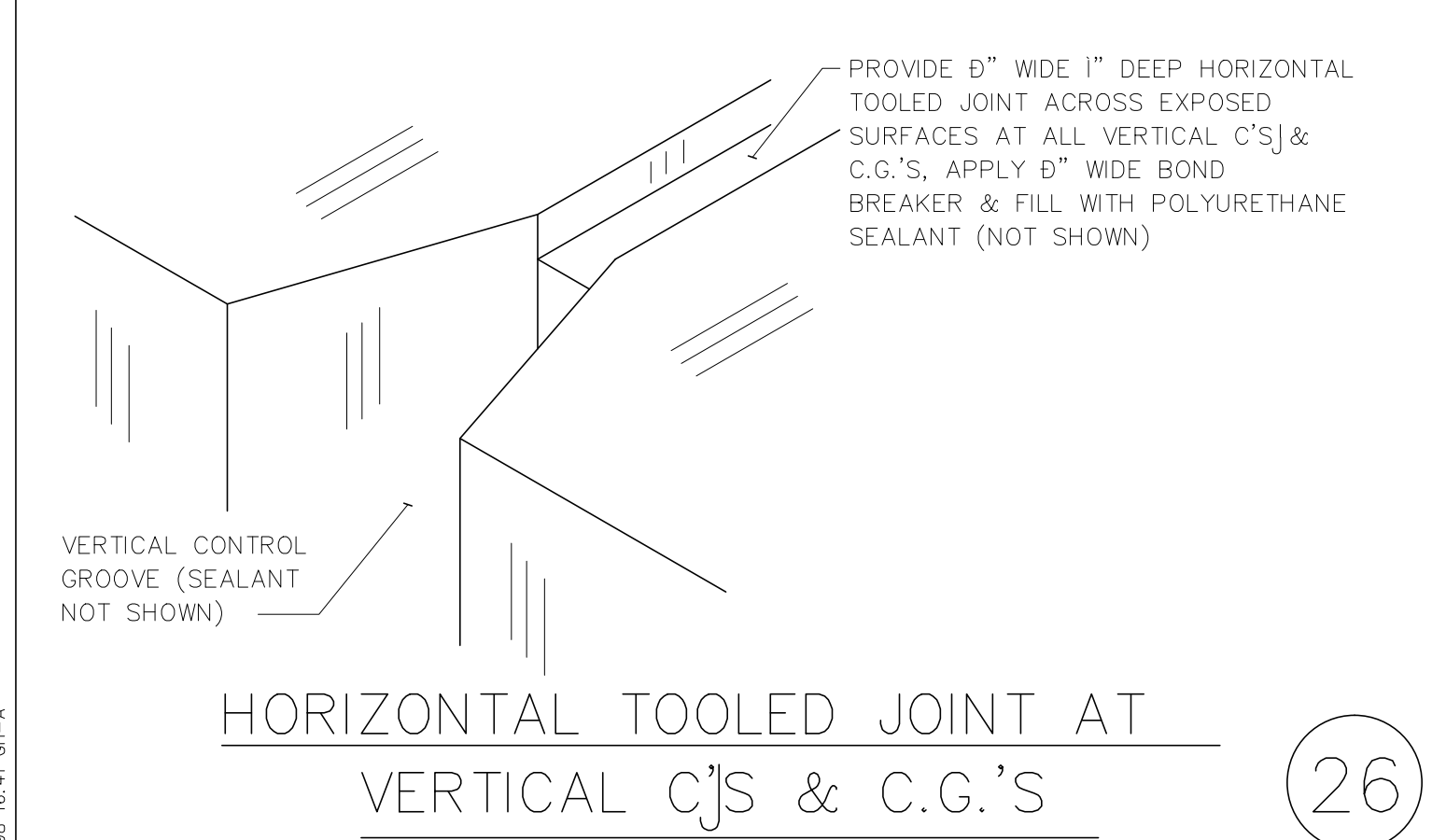
VERTICAL CONSTRUCTION JOINT DETAIL AT V-GROOVE

24



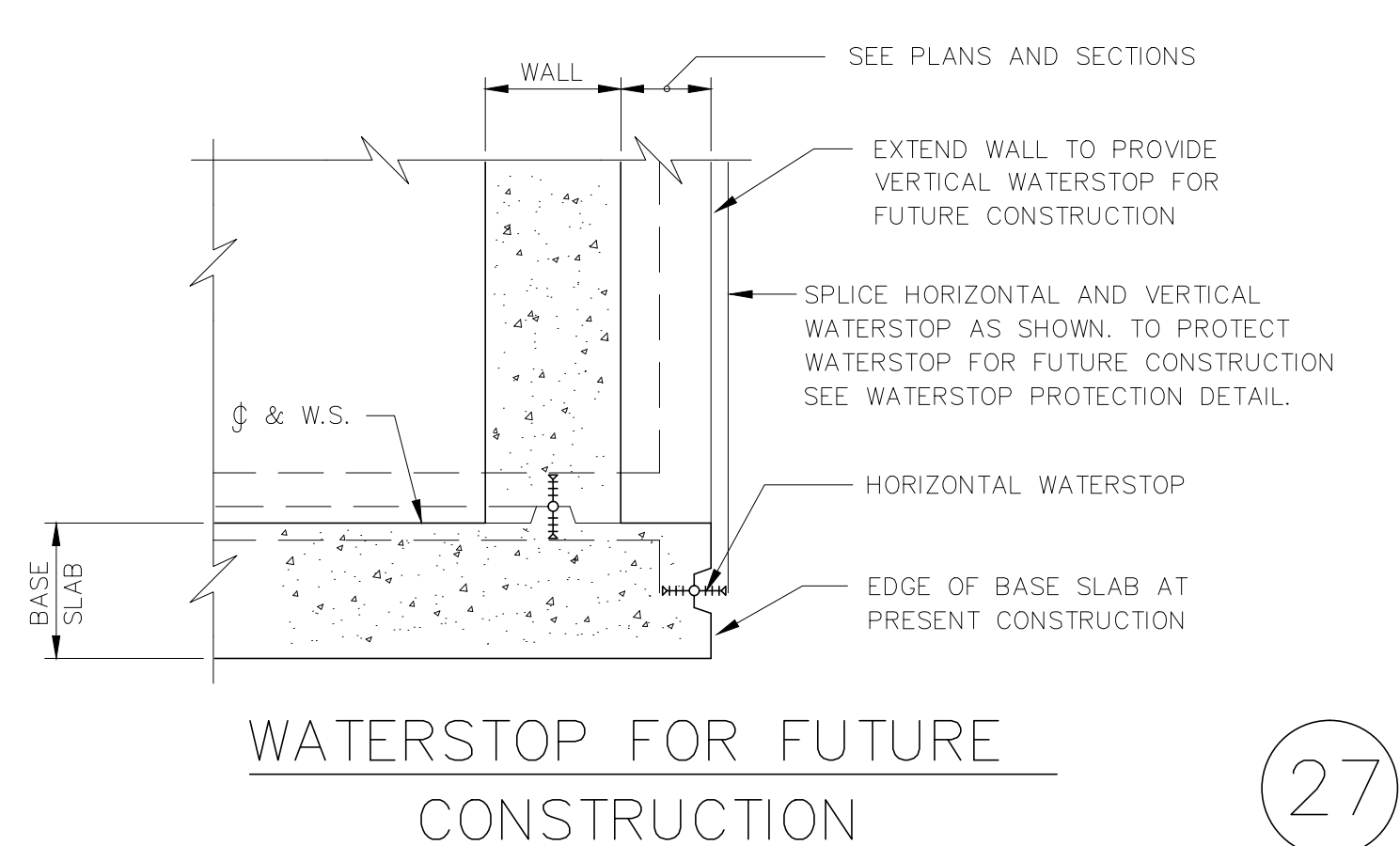
VERTICAL CONTROL GROOVE DETAIL AT V-GROOVE

25



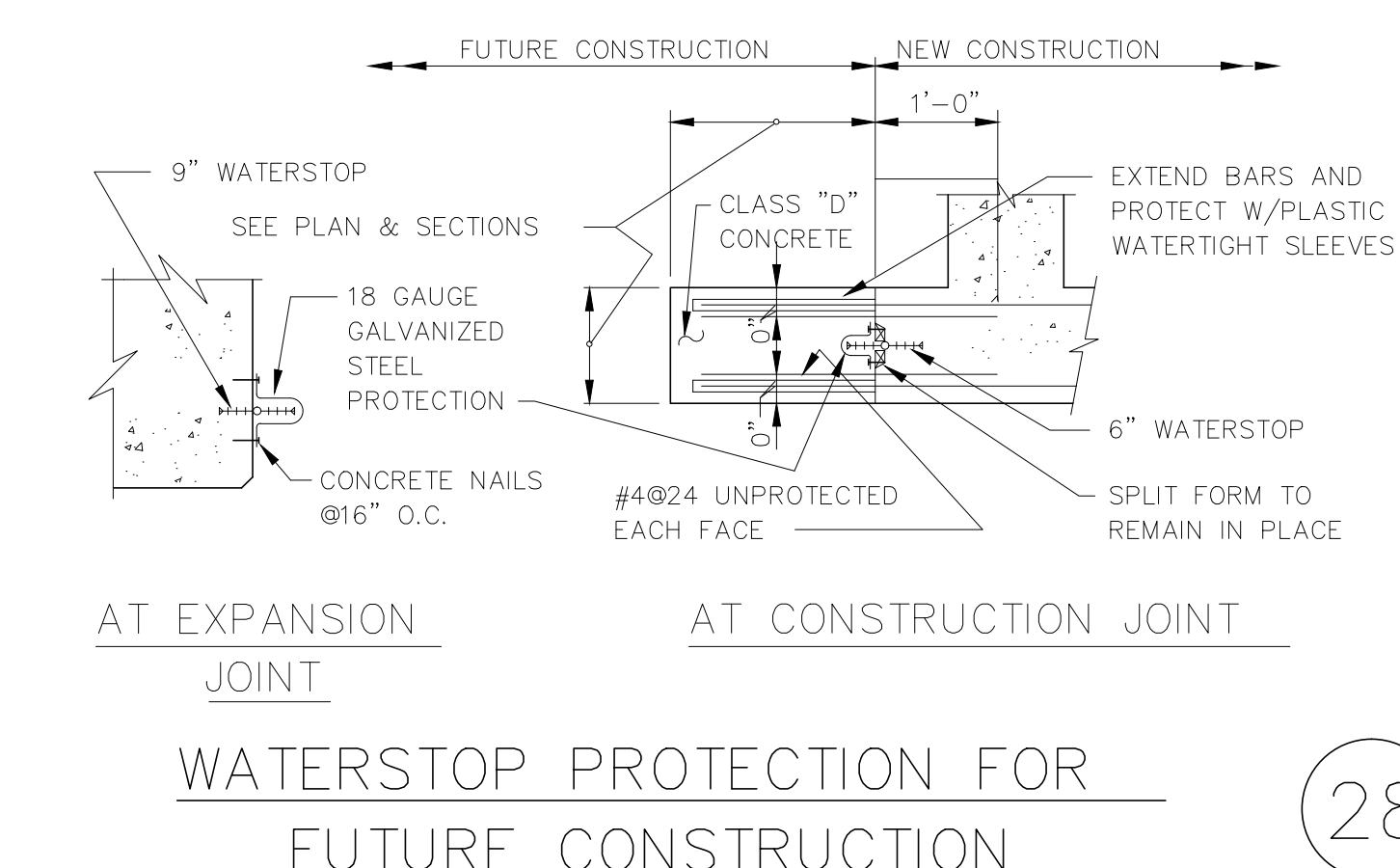
HORIZONTAL TOOLED JOINT AT VERTICAL CJS & C.G.'S

26



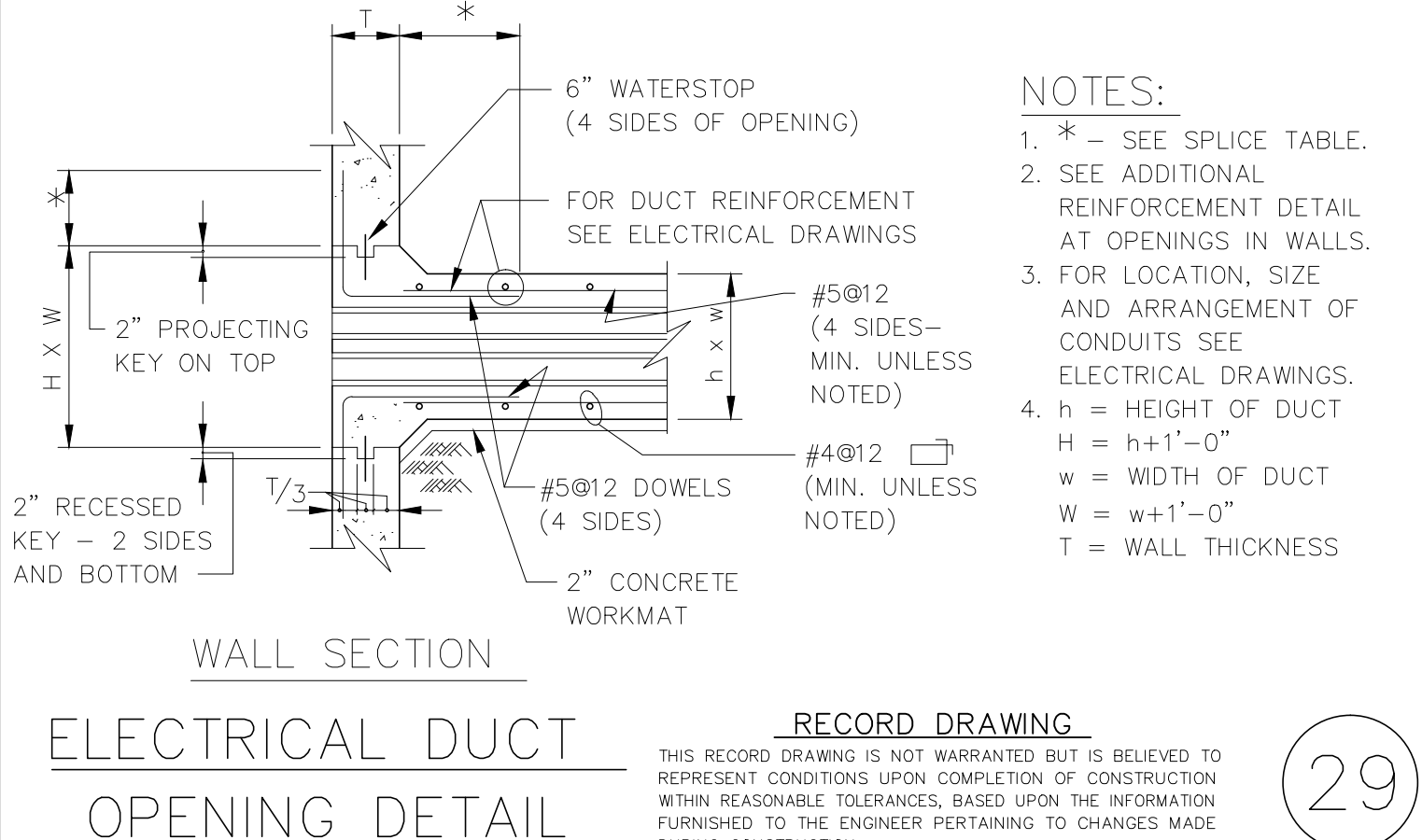
WATERSTOP FOR FUTURE CONSTRUCTION

27



WATERSTOP PROTECTION FOR FUTURE CONSTRUCTION

28



ELECTRICAL DUCT OPENING DETAIL

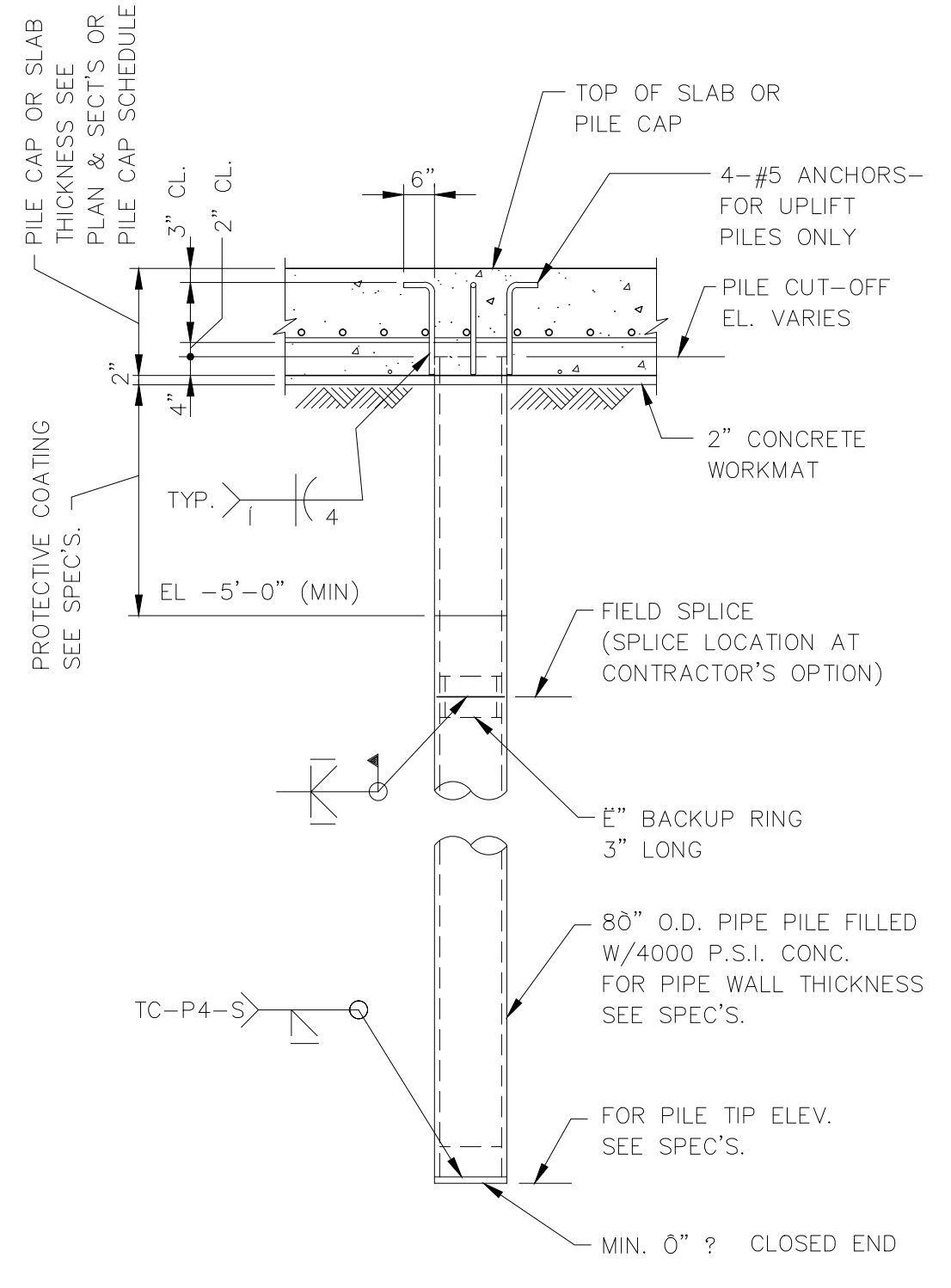
29

GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED JEB DRAWN JVT CHECKED HT	APPROVED _____ DATE _____ GREELEY AND HANSEN, ENGINEERS
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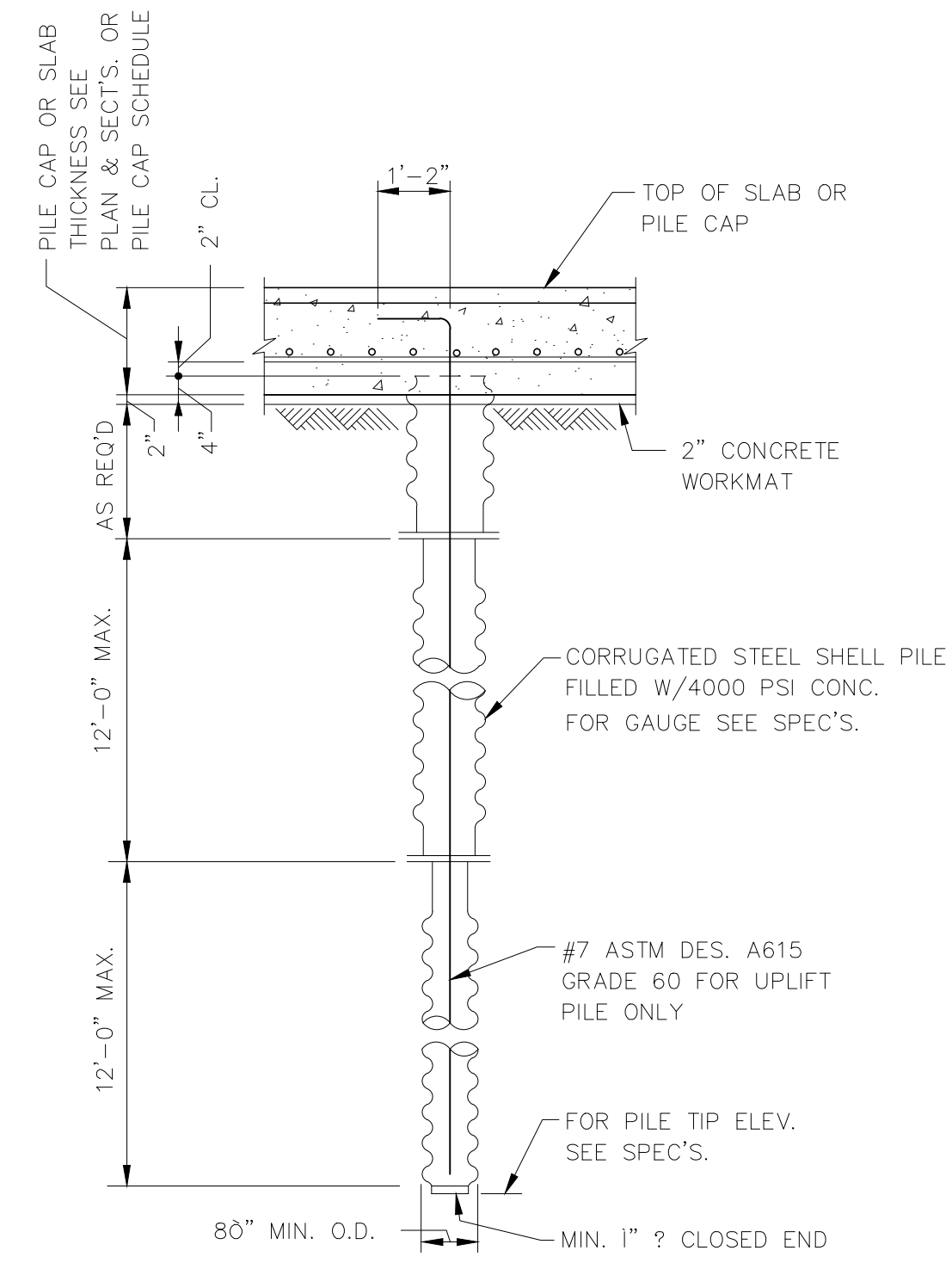
NO.	DATE	APPD	REVISION
3	8/1/96		RECORD DWG REVISIONS

CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE 1 DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

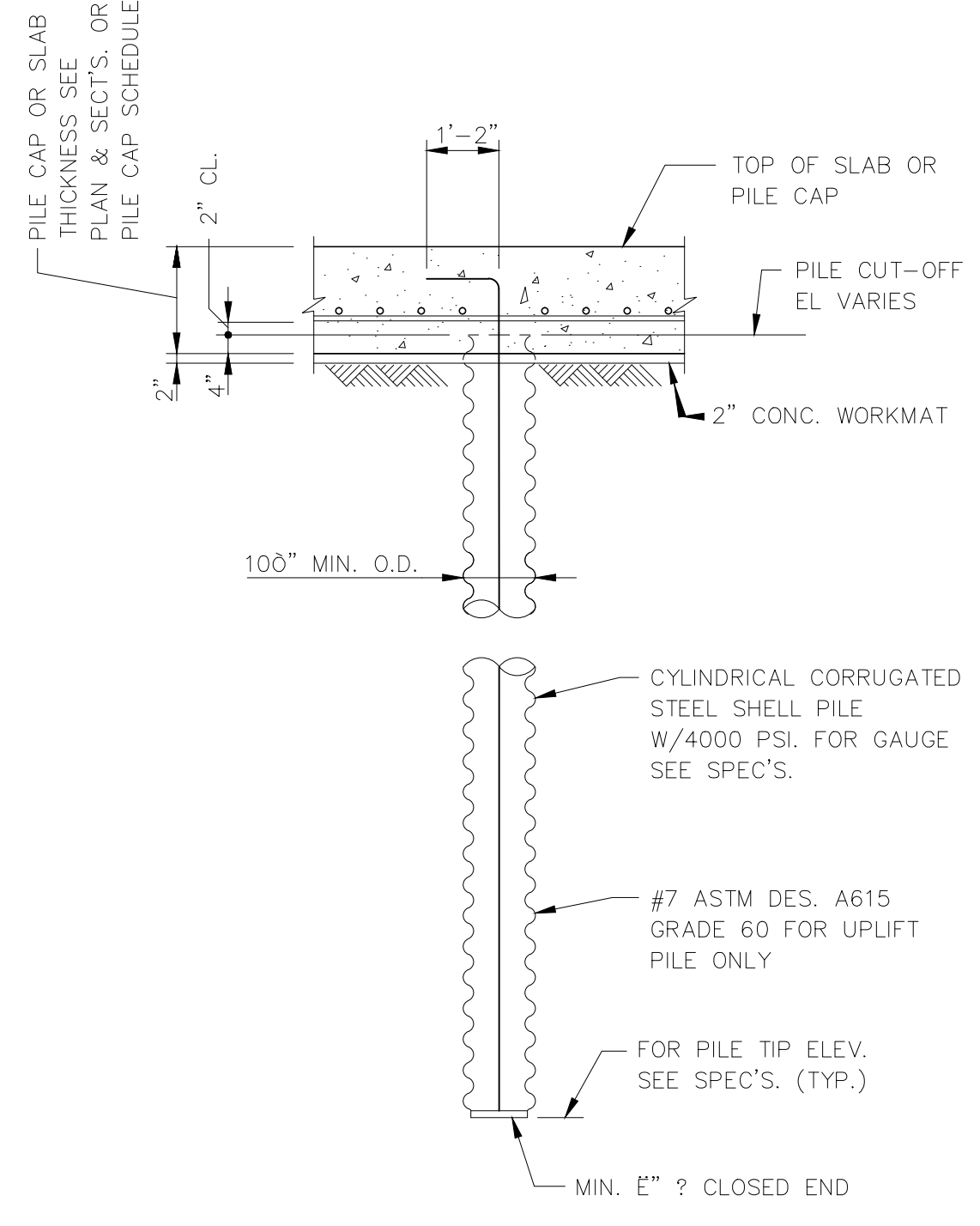
GENERAL STRUCTURAL TYPICAL DETAILS AND GENERAL NOTES	PROJ. NO. 202G DWG AS2 SHEET DATE DECEMBER 1991 REV 3
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STEEL PIPE PILE



STEP TAPERED SHELL PILE

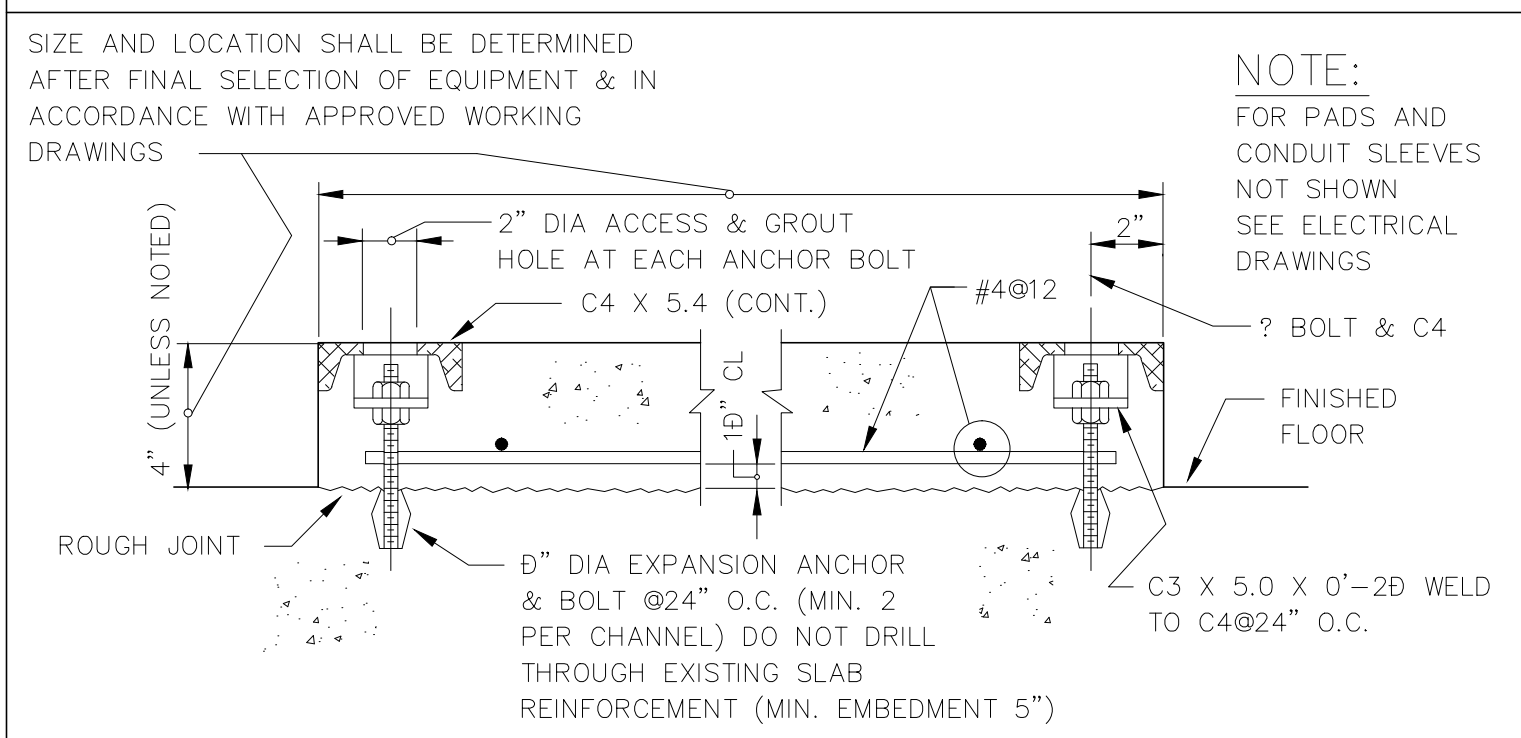


HEL-COR PILE

PILE DETAIL

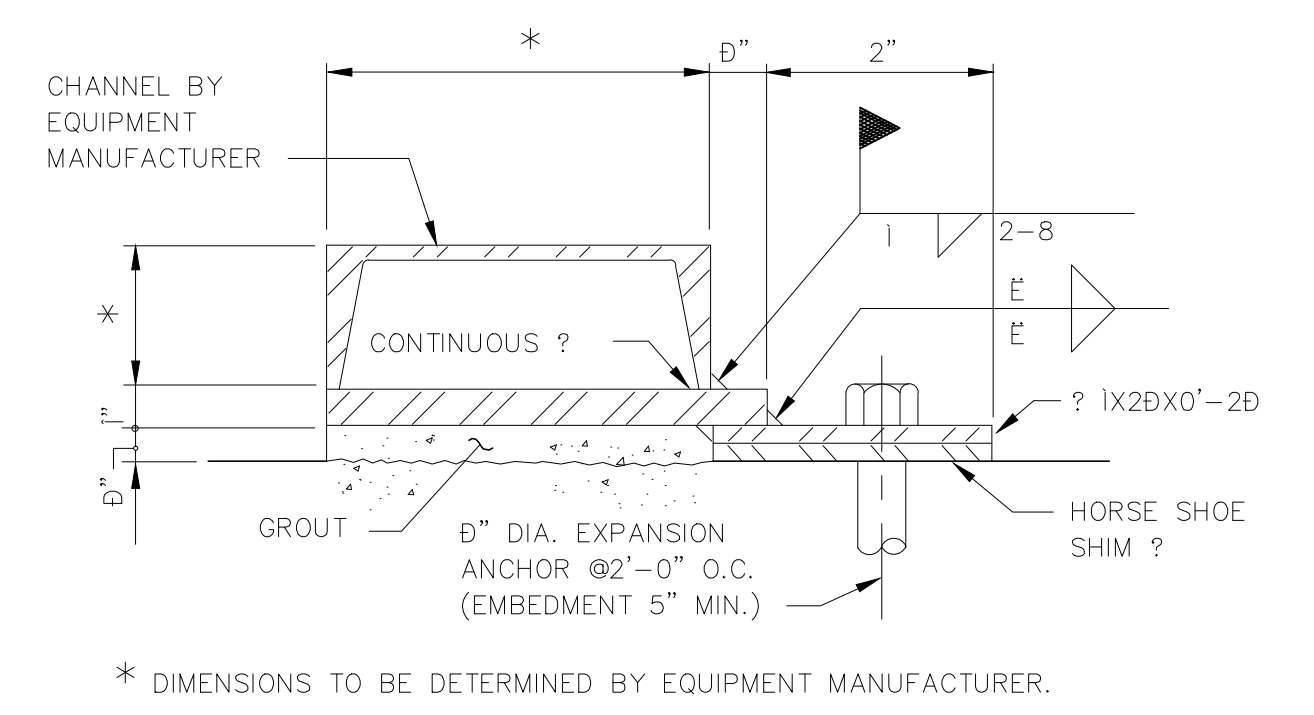
- PILE NOTES:**
- PILE CAPACITIES:
BEARING CAPACITY = 40 TONS
UPLIFT CAPACITY = 5 TONS
DOWNDRAG FROM SOIL = 10 TONS
NET DESIGN DOWNWARD CAPACITY = 30 TONS
 - FOR TEST PILE LOCATIONS, SEE PLANS.
 - COMPLETE PILE DRIVING RECORDS SHALL BE MADE BY THE PILE DRIVING CONTRACTOR AND SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. NO CONCRETE SHALL BE PLACED UNTIL SUCH APPROVAL HAS BEEN OBTAINED.

30



ELECTRICAL EQUIPMENT PAD DETAIL

31



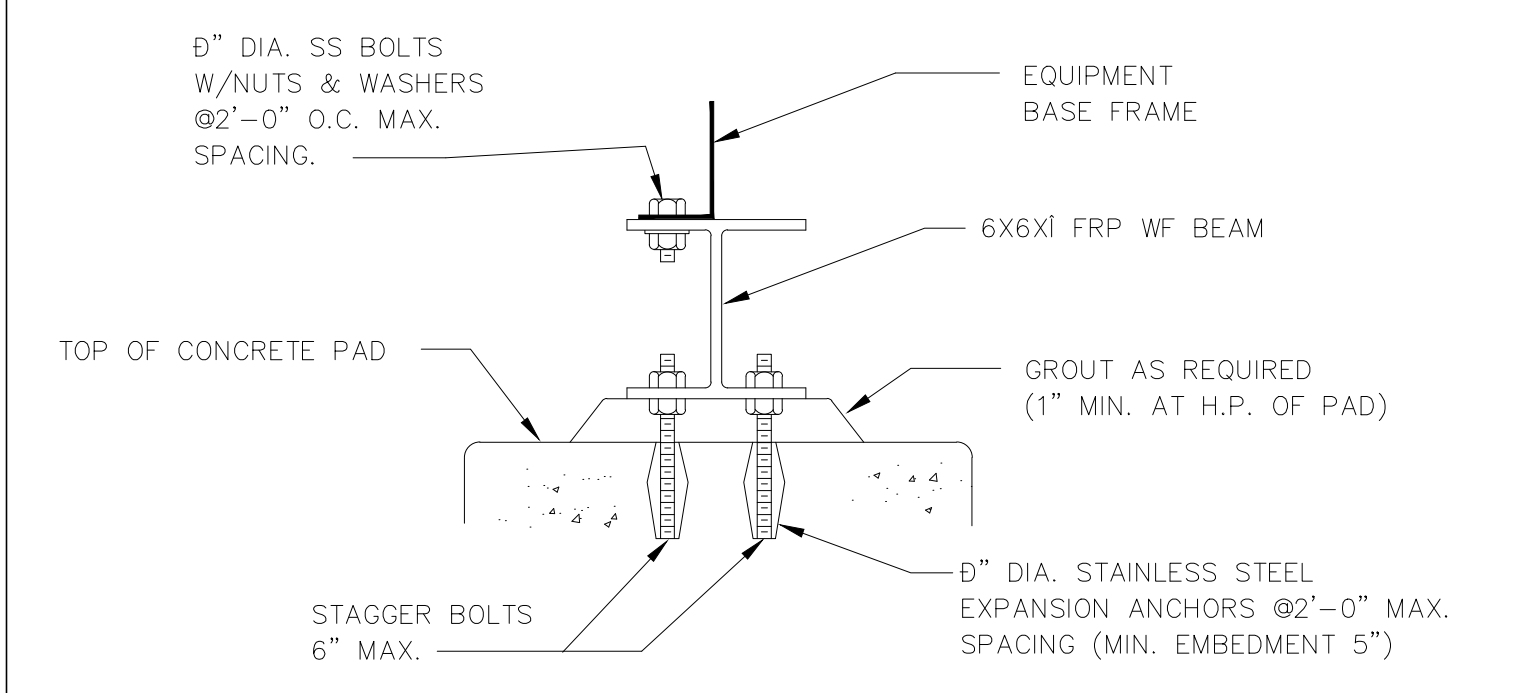
FLOOR MOUNTING FOR ELECTRICAL EQUIPMENT

32

GENERAL STRUCTURAL NOTES

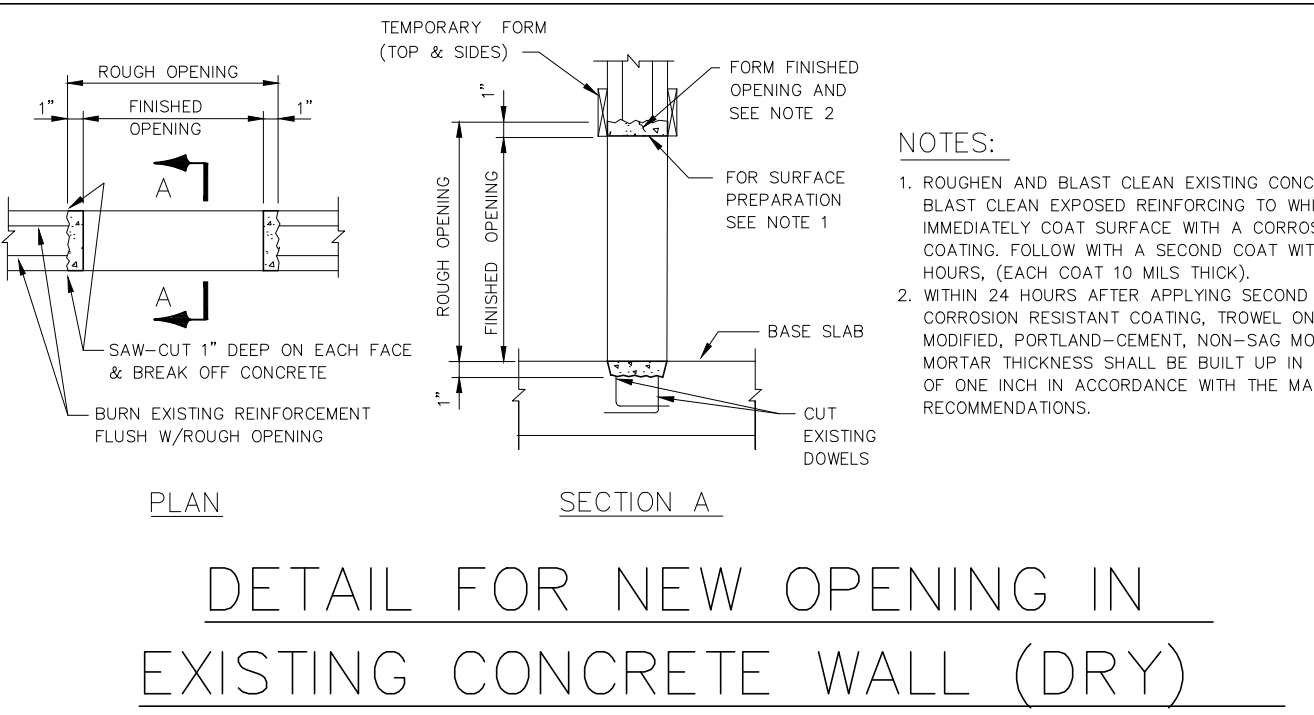
- THE FOLLOWING GENERAL NOTES ARE SHOWN FOR CONVENIENCE AND ARE SUPPLEMENTAL TO THE SPECIFICATIONS:
- ALL SECTIONS, DETAILS AND NOTES ARE INTENDED TO BE TYPICAL UNLESS OTHERWISE INDICATED. WORKING DRAWINGS PREPARED BY THE CONTRACTOR SHALL SHOW THE APPLICATION OF TYPICAL SECTIONS AND DETAILS FOR SIMILAR SITUATIONS.
 - EXPOSED CORNERS SHALL HAVE A 0" CHAMFER AND RE-ENTRANT CORNERS SHALL HAVE A 0" FLAT FILLET UNLESS OTHERWISE NOTED.
 - THE USE OF CONSTRUCTION JOINTS AT LOCATIONS NOT SHOWN ON DRAWINGS SHALL REQUIRE APPROVAL BY THE ENGINEER.
 - VERIFY LOCATIONS OF ALL OPENING'S, EMBEDDED ITEMS AND CONCRETE CONFIGURATIONS WITH DRAWING'S AND SPECIFICATION'S FROM ALL OTHER DISCIPLINES. ALL THESE ITEMS SHALL BE SHOWN AND LOCATED ON APPROVED WORKING (SHOP) DRAWING'S.
 - BACKFILL SHALL NOT BE PLACED AGAINST SUBSTRUCTURE WALLS UNTIL FLOOR SLABS SUPPORTING TOP AND BOTTOM OF THE WALLS HAVE ATTAINED A COMPRESSIVE STRENGTH OF 3,000 PSI AS INDICATED BY CYLINDER TESTING. BACKFILL SHALL BE PLACED EVENLY AGAINST EACH SIDE OF SUBSTRUCTURES TO PRODUCE EQUAL AND OPPOSITE LATERAL PRESSURES. THE DIFFERENCE IN ELEVATION SHALL NOT EXCEED 1-FOOT.
 - COMPRESSIVE STRENGTH OF CONCRETE: ALL CAST-IN-PLACE CONCRETE (EXCEPT CONCRETE WORKMATS) F'c = 4,000 PSI AT 28 DAYS. CONCRETE WORKMATS F'c = 2,000 PSI AT 28 DAYS.
 - ALL REINFORCING STEEL SHALL BE ASTM A615, GRADE 60 AND SHALL BE DETAILED ACCORDING TO THE ACI DETAILING MANUAL 1988 PUBLICATION SP-66.
 - CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE AS FOLLOWS, UNLESS OTHERWISE INDICATED ON THE PLANS OR ORDERED BY THE ENGINEER.
- SLABS
- FOR DRY CONDITIONS:
a) SLABS 8" THICK OR LESS 1"
b) SLABS OVER 8" THICK 2"
 - EXPOSED TO EARTH, WATER OR WEATHER AND FOR BOTTOMS BEARING ON WORKMATS 2"

BEAMS AND COLUMNS		WALLS		FOOTINGS AND BASE SLABS		LEGEND:	
A) FOR DRY CONDITIONS:	a) STIRRUPS AND TIES 19"	A) FOR DRY CONDITIONS:	a) WALLS 8" THICK OR LESS 1"	A) TOP OF FOOTING OR BASE SLAB	..... 2"	⊕	CONSTRUCTION JOINT
b) PRINCIPAL REINFORCEMENT	..... 2"	b) WALLS OVER 8" THICK	..... 2"	B) ALL FORMED SIDES AND ENDS, AND BOTTOMS BEARING ON CONCRETE WORKMAT	..... 2"	?	WATERSTOP
B) EXPOSED TO EARTH, WATER OR WEATHER:	a) STIRRUPS AND TIES 2"	B) EXPOSED TO EARTH, WATER OR WEATHER:	a) CIRCULAR TANKS WITH RING TENSION	C) AT UNFORMED SIDES AND ENDS, AND BOTTOMS IN CONTACT WITH EARTH	..... 3"	EXP. JT.	EXPANSION JOINT
b) PRINCIPAL REINFORCEMENT	..... 2B"	b) ALL OTHERS	..... 2"	D) OVER TOP OF PILES	..... 2"	C.G.	CONTROL GROOVE
						H.P.	HIGH POINT
						L.P.	LOW POINT
						W.P.	WORK POINT
						E.P.	EQUIPMENT PAD
						E.E.P.	ELECTRICAL EQUIPMENT PAD
						P.S.	PIPE SUPPORT
						?	CENTER LINE
						C/C	CENTER TO CENTER
						O.C.	ON CENTER
						L	ANGLE PLATE
						?	ANCHOR BOLT
						A.B.	ANCHOR BOLT
						S.S.	STAINLESS STEEL
						F.R.P.	FIBERGLASS REINFORCED PLASTIC
						M.C.	MECHANICAL CONNECTIONS
						N.T.S.	NOT TO SCALE
						U.N.O.	UNLESS NOTED OTHERWISE DIMENSIONS OR ELEVATION TO BE DETERMINED OR VERIFIED AFTER FINAL SELECTION OF EQUIPMENT



BASE FRAME SUPPORT FOR OUTDOOR SUBSTATION TRANSFORMERS

33



DETAIL FOR NEW OPENING IN EXISTING CONCRETE WALL (DRY)

34

RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED JEB DRAWN JVT CHECKED HT	APPROVED _____ DATE _____ GREELEY AND HANSEN, ENGINEERS
---	---	---

SCALE		
NOT TO SCALE		
NO.	DATE	APPD
4	8/1/96	RECORD DWG REVISIONS
		REVISION

CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE 1 DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

GENERAL STRUCTURAL
TYPICAL DETAILS AND GENERAL NOTES

PROJ. NO.	202G
DWG	AS3
SHEET	
DATE	DECEMBER 1991
REV	4

VALVE SYMBOLS			
DESCRIPTION	SCHEMATIC	THREE LINE	SINGLE LINE
GATE			
BUTTERFLY			
PLUG			
CHECK (SWING)			
CONE			
BALL			
DIAPHRAGM			
GLOBE			
ANGLE			
THREE WAY			
FOUR WAY			
FLAP			
PRESSURE RELIEF			
AUTO AIR AND VACUUM RELEASE			
AUTO AIR RELEASE			
AUTO VACUUM RELEASE			
PRESSURE REDUCING			
HOSE			
STOP AND DRAIN			

PIPE FITTINGS			
DESCRIPTION	SCHEMATIC	THREE LINE	SINGLE LINE
CROSS	NA		
CROSS	NA		
TEE	NA		
TEE	NA		
TEE	NA		
SIDE OUTLET TEE	NA		
SIDE OUTLET TEE	NA		
LATERAL	NA		
90° ELBOW	NA		
90° ELBOW	NA		
90° ELBOW	NA		
90° ELBOW (LONG RADIUS)	NA		
45° ELBOW	NA		
45° ELBOW	NA		
45° ELBOW	NA		
45° ELBOW (LONG RADIUS)	NA		
SIDE OUTLET ELBOW	NA		
SIDE OUTLET ELBOW	NA		
BASE ELBOW	NA		

PIPE FITTINGS			
DESCRIPTION	SCHEMATIC	THREE LINE	SINGLE LINE
UNION (SCREWED)			
REDUCER			
REDUCER - ECCENTRIC (OFFSET VIEW)	NA		
BLIND FLANGE			
SLEEVE TYPE COUPLING			
SLEEVE TYPE COUPLING (HARNESSED)			
GROOVED TYPE COUPLING			
EXPANSION JOINT RUBBER BELLOWS TYPE			
EXPANSION JOINT METAL BELLOWS TYPE			
VENTURI METER			
METER			
STRAINER			
DUPLEX STRAINER			
LUBE OIL FILTER		NA	
MOISTURE SEPARATOR		NA	
SCALE TRAP		NA	
FLAME TRAP			
VENT			
THERMOSTAT (TEMPERATURE REGULATOR)			
PRESSURE GAUGE			
THERMOMETER			
WATER LEVEL ALARM			
DIFFERENTIAL PRESSURE GAUGE			

PIPE JOINTS			
DESCRIPTION	SCHEMATIC	THREE LINE	SINGLE LINE
FLANGE	NA		
MECHANICAL JOINT	NA		
MECHANICAL JOINT (RESTRAINED)	NA		
PUSH ON OR BELL AND SPIGOT	NA		
WELDED	NA		NA
SCREWED	NA		
JOINT IN CONCRETE PIPE	NA		NA

WALL FITTINGS			
DESCRIPTION	SCHEMATIC	THREE LINE	SINGLE LINE
WALL SLEEVE (CAULKED)	NA		
WALL SLEEVE (ANNULAR TYPE SEAL)	NA		
WALL SLEEVE (MECHANICAL JOINT)	NA		
FLANGE AND FLANGE WALL PIPE WITH INTERMEDIATE COLLAR (F x F x F)	NA		
BELL AND BELL WALL PIPE WITH INTERMEDIATE COLLAR (B x F x B)	NA		
MECHANICAL JOINT AND MECHANICAL JOINT WALL PIPE WITH INTERMEDIATE COLLAR (MJ x F x MJ)	NA		
BELL AND FLANGE WALL PIPE WITH INTERMEDIATE COLLAR (B x F x F)	NA		
MECHANICAL JOINT AND FLANGE WALL PIPE WITH INTERMEDIATE COLLAR (MJ x F x F)	NA		
STEEL WALL RING FOR MECHANICAL JOINT AND CONCRETE PIPE (RUBBER AND STEEL)	NA		NA

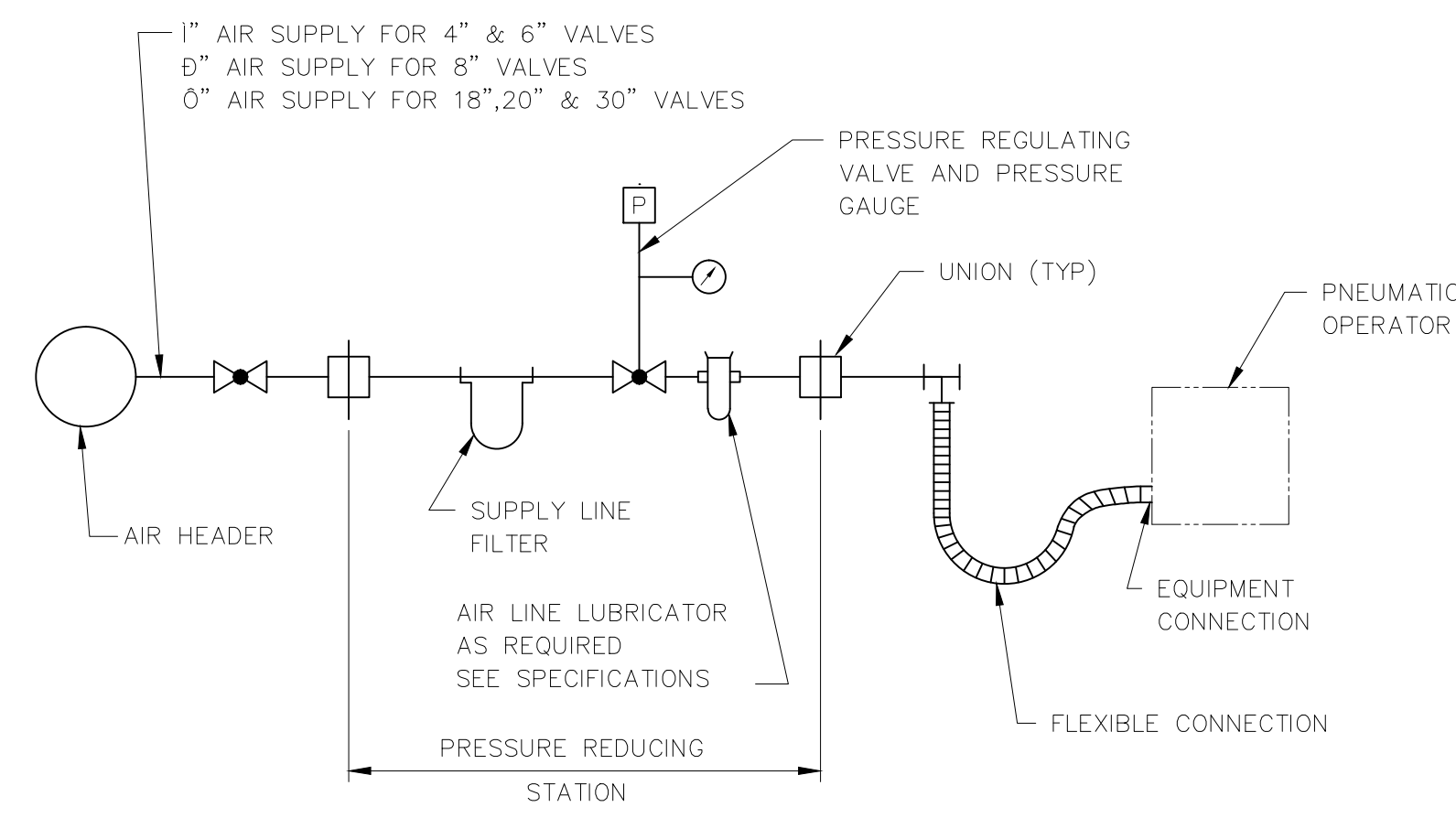
OPERATOR			
DESCRIPTION	SCHEMATIC	DESCRIPTION	SINGLE LINE
HYDRAULIC CYLINDER	H	MANUAL CHAINWHEEL	C
PNEUMATIC CYLINDER	P	NUT	N
DIAPHRAGM	D	SOLENOID	S
FLOAT	F	AIR MOTOR	A
MOTOR (ELECTRIC)	M		
GEAR	G		

NOTES: 1. THIS IS A GENERAL LEGEND PROVIDED TO FACILITATE USE OF THE PLANS. REFER TO THE PLANS AND SPECIFICATIONS FOR ITEMS REQUIRED.
 2. VALVES AND PIPE FITTINGS ARE SHOWN WITH FLANGED JOINTS. ITEMS ARE AVAILABLE WITH VARIOUS JOINTS AND ARE SHOWN AS REQUIRED.
 3. NA MEANS NOT APPLICABLE.

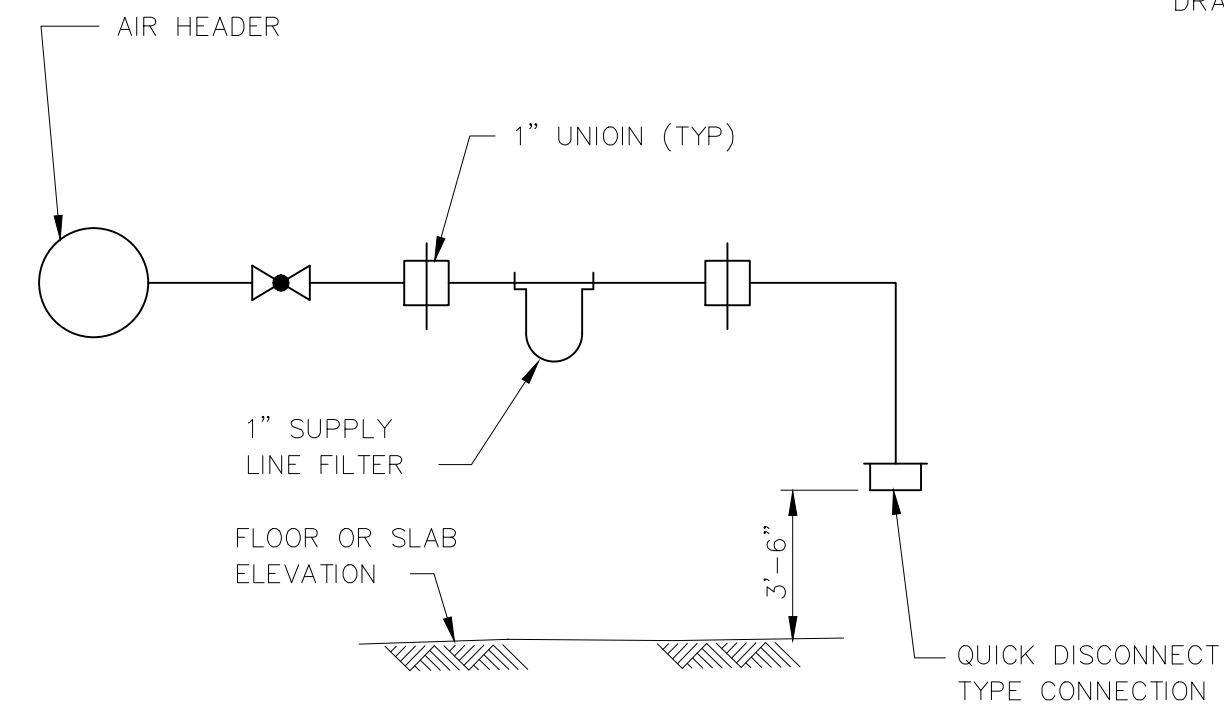
RECORD DRAWING
 THIS RECORD DRAWING IS NOT WARRANTED BUT IS INTENDED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

D.E. HUBBARD, SCALE: 1:1 09/10, 1996, at 07:50 - "13_c46 (Hardware List)"

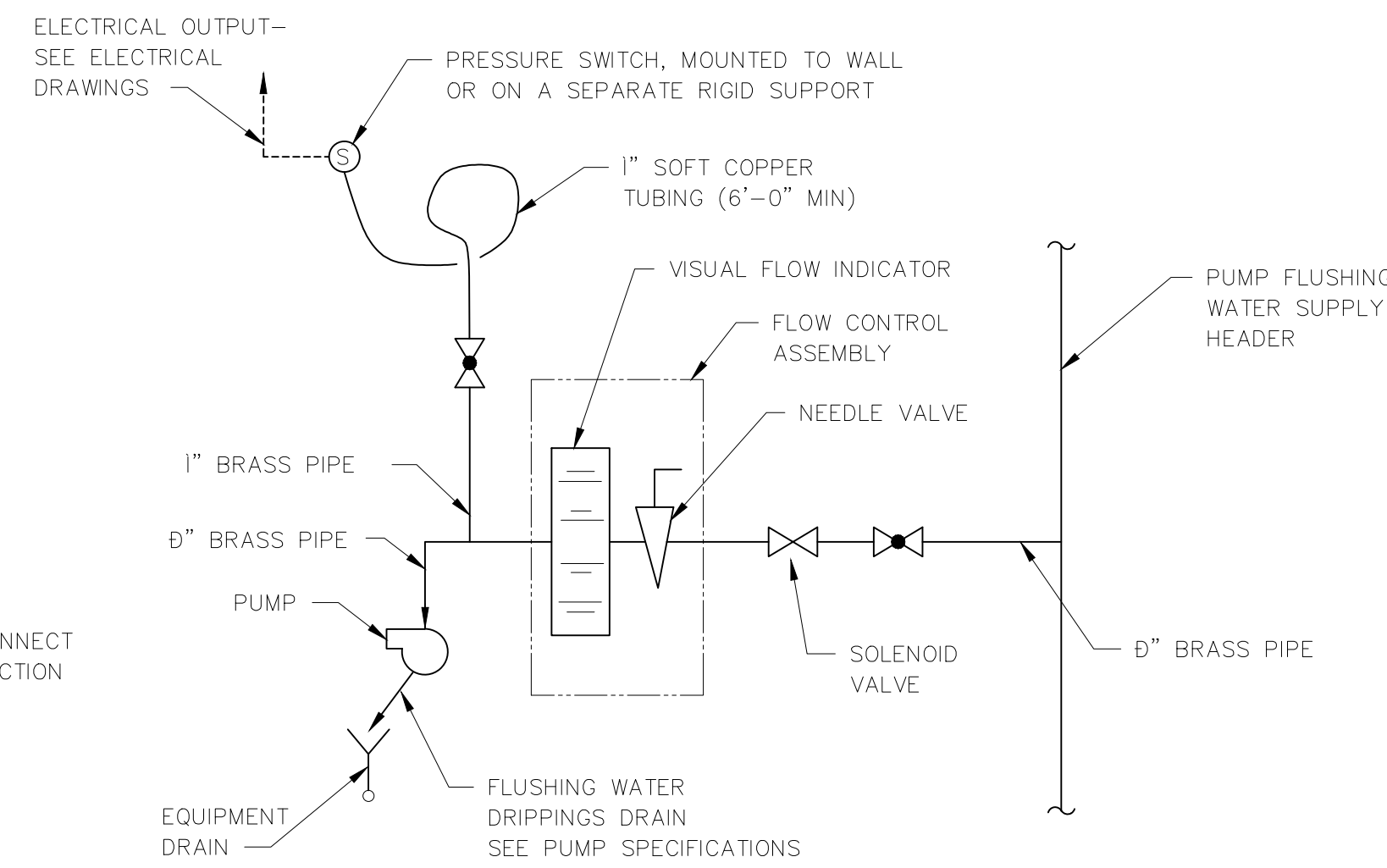
GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED LCC DRAWN ROO CHECKED DCH	APPROVED _____ DATE _____ _____ DATE _____ GREELEY AND HANSEN, ENGINEERS	<table border="1"> <tr><td>NO.</td><td>DATE</td><td>APPD</td><td>REVISION</td></tr> <tr><td></td><td>7/31/96</td><td></td><td>RECORD DWG REVISIONS</td></tr> </table>	NO.	DATE	APPD	REVISION		7/31/96		RECORD DWG REVISIONS	SCALE NO SCALE	CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	MECHANICAL PIPING SYMBOLS AND NOTES	PROJ. NO. 202G DWG. AM1 SHEET DATE DECEMBER 1991 REV 0
NO.	DATE	APPD	REVISION												
	7/31/96		RECORD DWG REVISIONS												



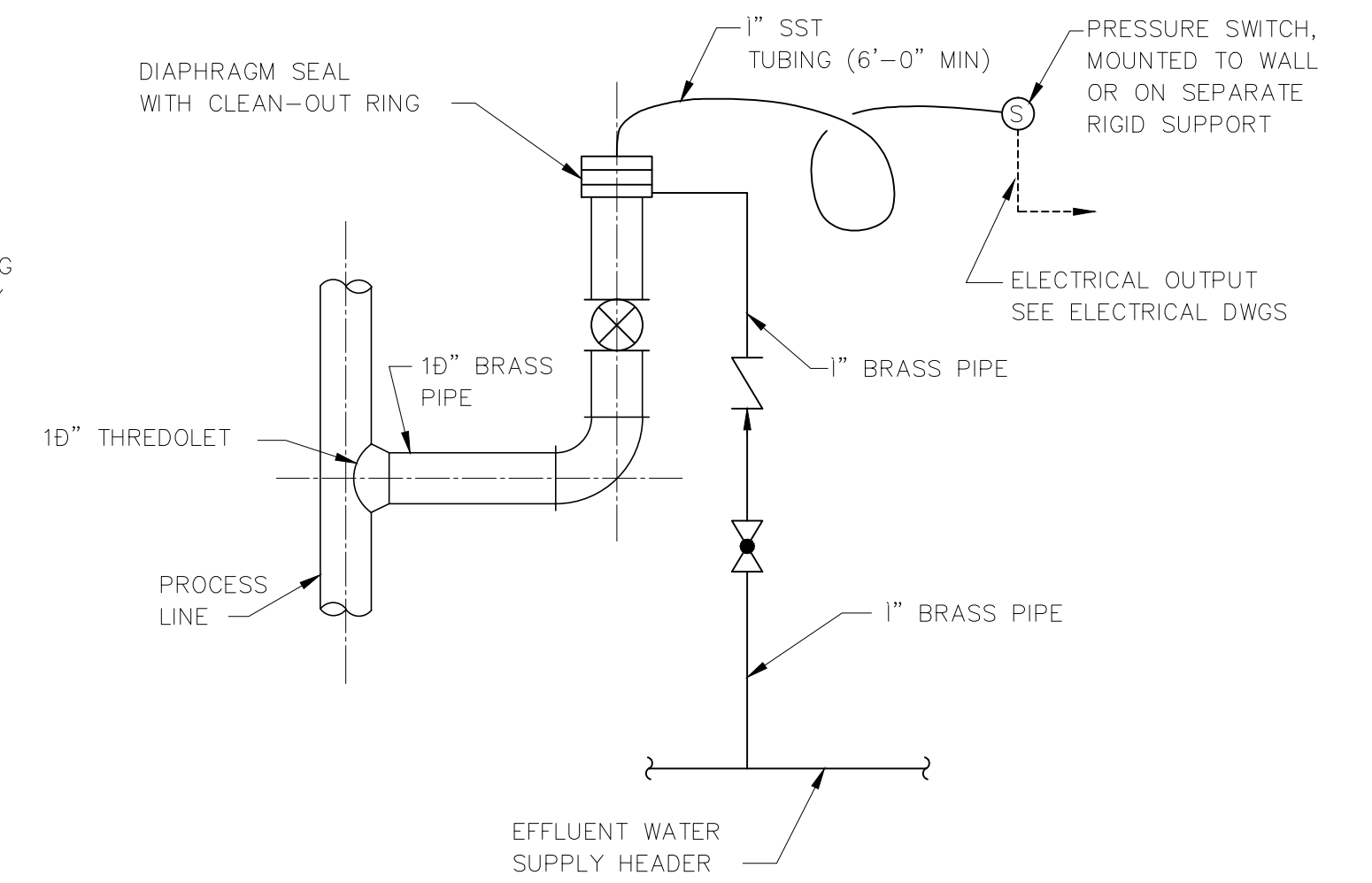
AIR SUPPLY PIPING TO PNEUMATIC OPERATOR DIAGRAM
NOT TO SCALE



TYPICAL PLANT AIR HOSE VALVE CONNECTION DIAGRAM
NOT TO SCALE

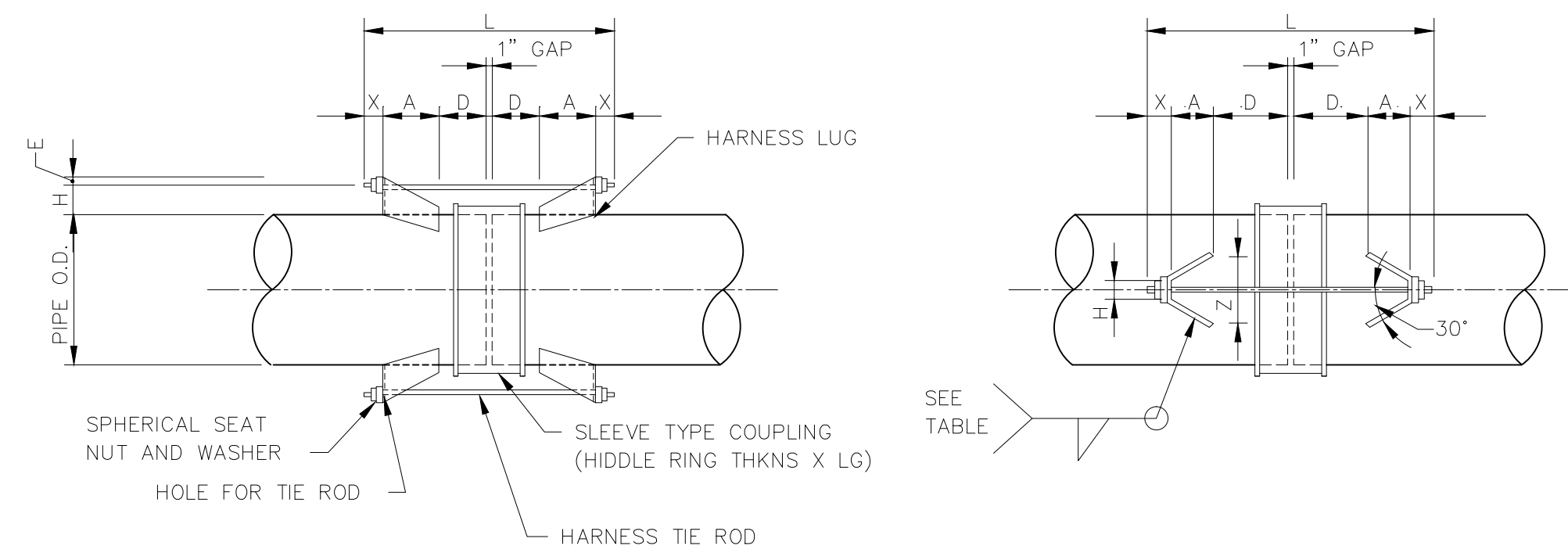


PUMP FLUSHING WATER DIAGRAM
NOT TO SCALE



TYPICAL PUMP DISCHARGE PRESSURE SWITCH AND PURGE WATER DETAIL
NOT TO SCALE

HARNES SLEEVE TYPE COUPLING JOINT FOR STEEL PIPE - SCHEDULE																		
NOM. PIPE SIZE	MAX. PRESS. (1)	MIDDLE RING		TIE RODS			HARNES LUG											SERVICE
		LG	THKNS	NO.	DIA.	X	L	D	A	W	Z	T	E	H	H1	HOLE DIA.	WELD SIZE	
4	100	5	1	2	Ø	1-E	22-1	6-D	3	1-D	2-Ø	1	3	3-Ø	2	Ø	1	ROOF DRAINS Δ
6	100	5	1	2	Ø	1-E	22-1	6-D	3	1-D	2-Ø	1	3	3-Ø	2	Ø	1	THICKENED WASTE ACTIVATED SLUDGE
8	125	7	1	2	Ø	1-E	26-1	8-D	3	1-D	2-Ø	1	3	3-Ø	2	Ø	1	SLUDGE FEED, CHLORINE SOLUTION
12	25	7	1	2	Ø	1-E	26-1	8-D	3	1-D	2-Ø	1	3	3-Ø	2	Ø	1	SLUDGE FEED SUCTION



HARNESSED SLEEVE TYPE COUPLING DETAIL
NOT TO SCALE

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FILE: HNS-AM2 SCALE: 1:1 09/01/1996 at 08:18 - 133.csh (Hardware Lock)

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED LCC
DRAWN MSB
CHECKED DCH

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
2	7/31/96		RECORD DWG REVISIONS

SCALE
NO SCALE

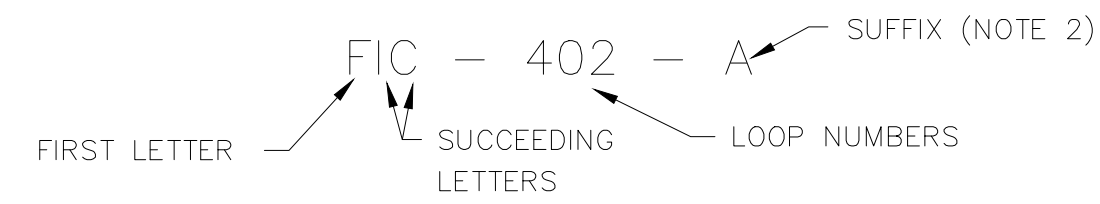
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE 1 DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

GENERAL
MECHANICAL
PIPING DETAILS

PROJ. NO.	202G
DWG	AM2
SHEET	
DATE	DECEMBER 1991
REV	2

5H3B_OAM-002

INSTRUMENT TAG

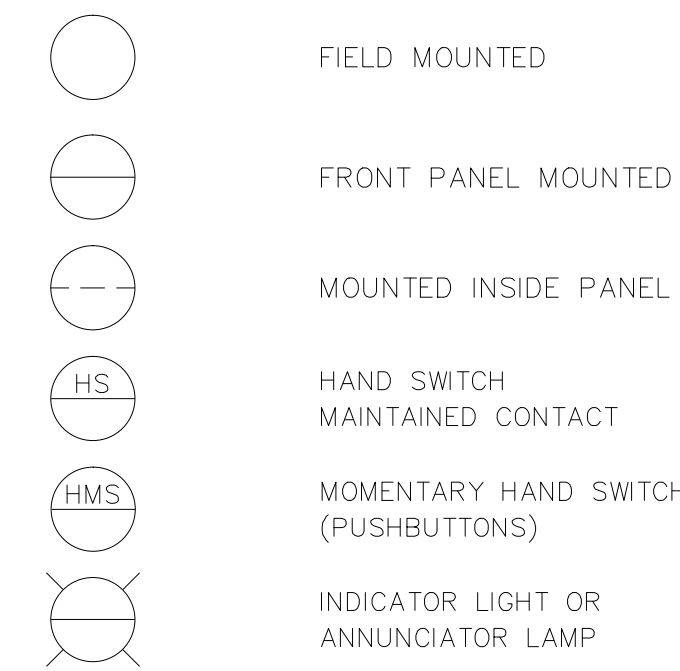


	FIRST LETTER		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS (NOTE 1)		ALARM		
B	BURNER FLAME				
C	CONDUCTIVITY			CONTROL	
D	DENSITY OR SP. GRAV.	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT		
F	FLOW	RATIO			
G			GLASS OR GAUGE		
H	HAND (MANUAL)				HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME OR SCHEDULE			CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M		MOMENTARY			MIDDLE
N					
O					
P	PRESSURE OR VACUUM				
Q	QUANTITY OR EVENT	TOTALIZE			
R	RADIO ACTIVITY		RECORD OR PRINT		
S	SPEED			SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION		
V				VALVE	
W	WEIGHT OR FORCE				
X	UNCLASSIFIED	(NOTE 3)	UNCLASSIFIED		
Y				RELAY OR COMPUTE	(NOTE 4)
Z	POSITION				

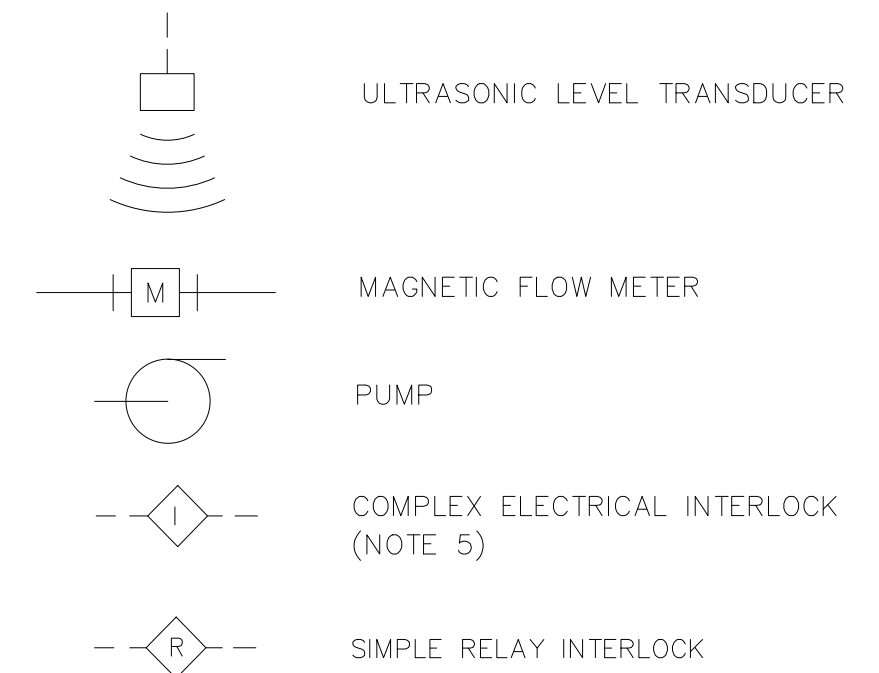
NOTES:

- COVERS ALL ANALYSIS NOT LISTED IN TABLE. TYPE OF ANALYSIS WILL BE DEFINED OUTSIDE TAGGING BALLOON ON DIAGRAM.
- SUFFIX USUALLY NOT NEEDED. USED ONLY FOR MORE THAN ONE INSTRUMENT WITH THE SAME LETTER IDENTIFICATION AND LOOP NUMBER.
- INTENDED TO COVER UNLISTED MEANINGS THAT WILL BE USED TO A LIMITED EXTENT. MEANINGS WILL BE DEFINED OUTSIDE TAGGING BALLOON ON DIAGRAM.
- FUNCTION OF COMPUTING DEVICE WILL BE DEFINED OUTSIDE TAGGING BALLOON. SEE ABBREVIATION FOR DESIGNATION.
- INTERLOCK DESCRIBED EITHER ON DRAWING OR IN SPECIFICATIONS.

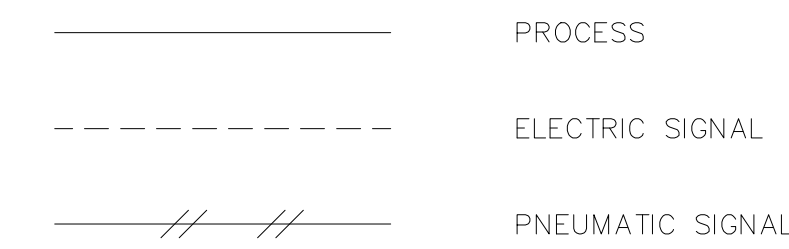
INSTRUMENT SYMBOLS



MISC. SYMBOLS



LINE SYMBOLS



COMPUTER I/O



ABBREVIATIONS

- I/I CURRENT TO CURRENT ISOLATOR
- RTU REMOTE TERMINAL UNIT FOR COMPUTER SYSTEM
- Σ SUMMATOR (+) ADDITIVE (-) SUBTRACTIVE
- > HIGH SIGNAL SELECTOR
- POT/I POTENTIOMETER TO CURRENT CONVERTER
- CBCP CONTROL BUILDING CONTROL PANEL
- PSP POLYMER SYSTEM PANEL
- PFPCP POLYMER FEED PUMP CONTROL PANEL
- STPCP SLUDGE TRANSFER PUMP CONTROL PANEL

FILE: H3B-001 SCALE: 1:1 09/11/1996 at 10:09 - *13.cdw (overwrite lock)*

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED TRG
DRAWN TK
CHECKED JRP

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
2	7/31/96		RECORD DWG REVISIONS

SCALE
NO SCALE

CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

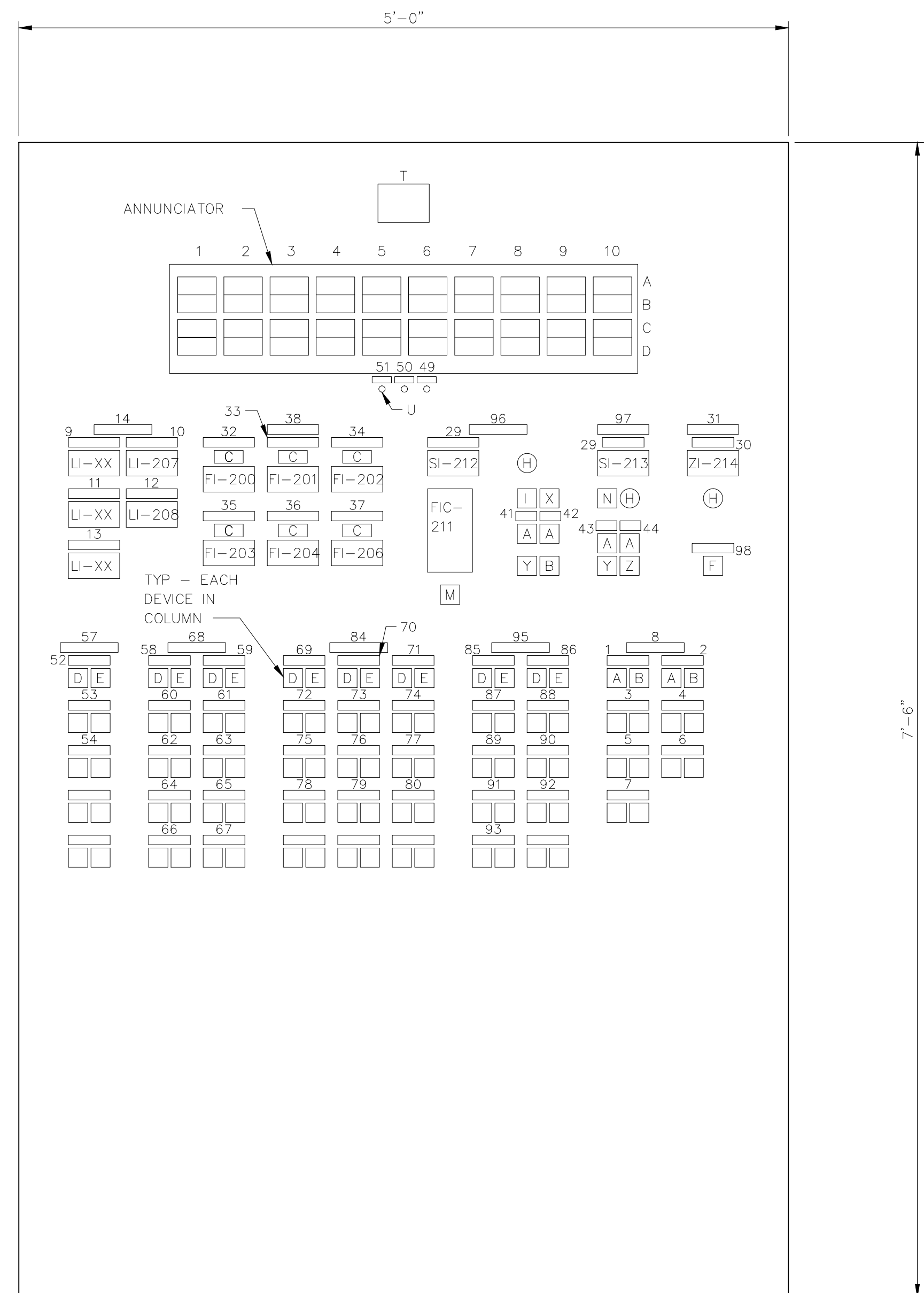
GENERAL
INSTRUMENTATION
LEGENDS AND ABBREVIATIONS

RECORD DRAWING

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PROJ. NO.	202G
DWG SHEET	A11
DATE	DECEMBER 1991
REV	2

5H3B_OAI-001



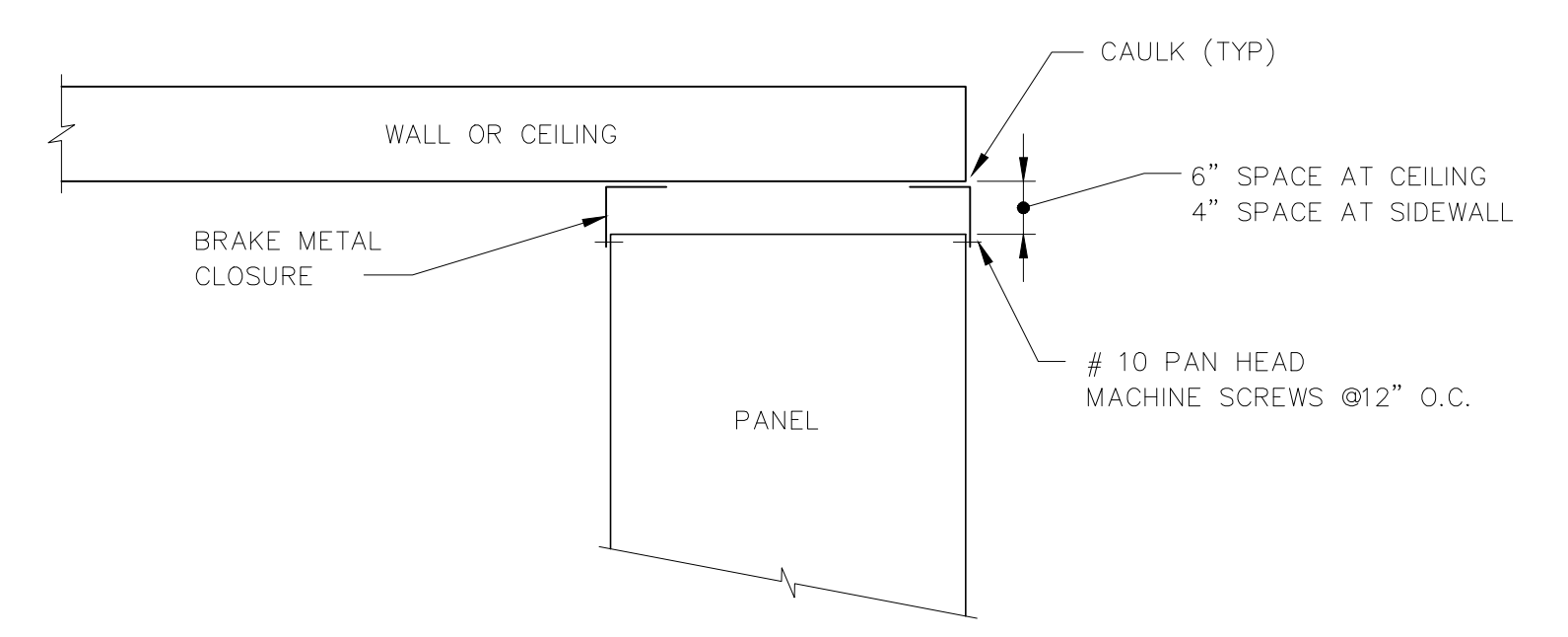
CONTROL BUILDING CONTROL PANEL (CBCP)
SCALE: 1/8"=1'-0"

NAMEPLATE LEGEND

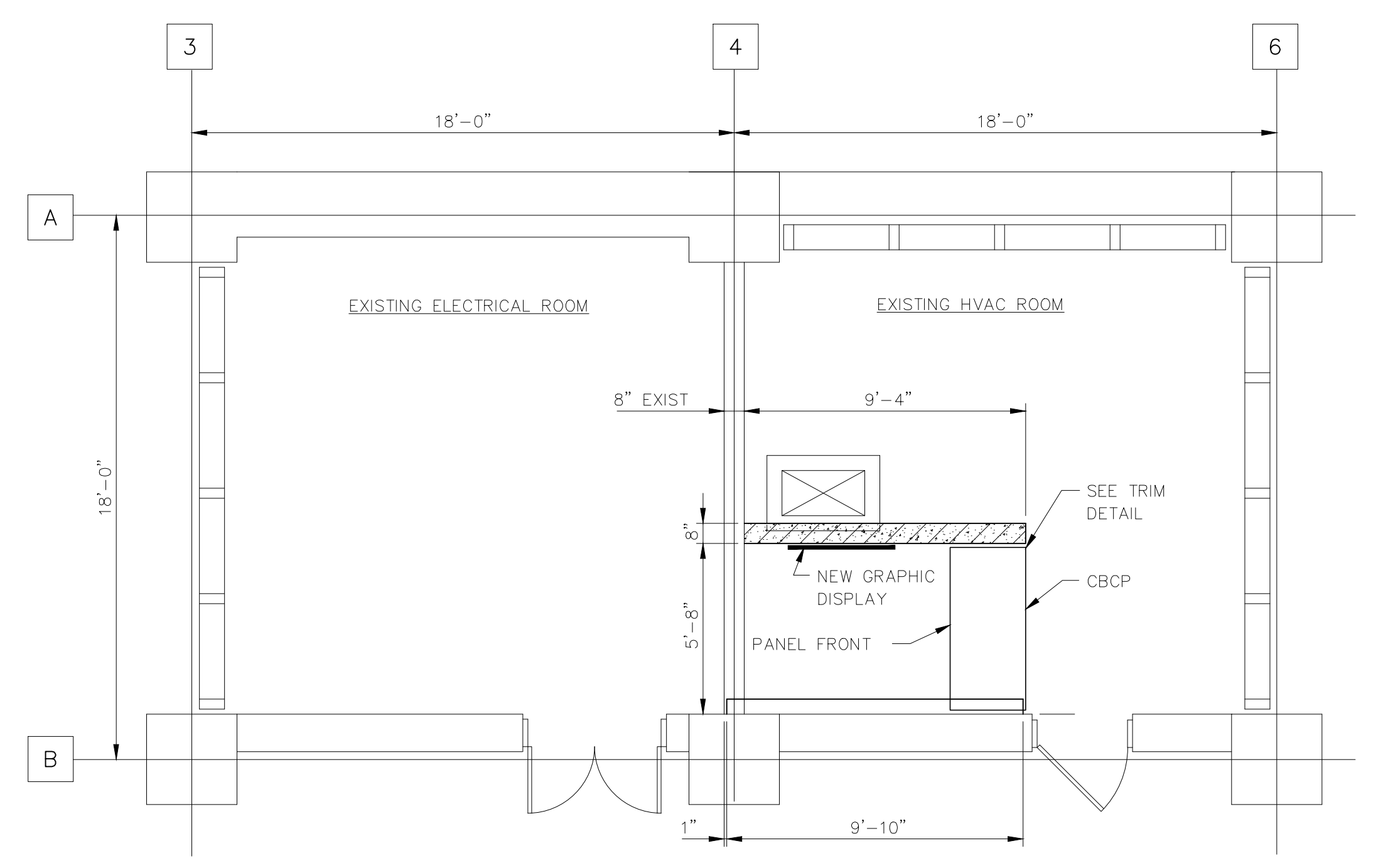
- | | |
|------|---|
| ITEM | DEVICE DESCRIPTION |
| 1 | CB-SM-1 |
| 2 | CB-SM-2 |
| 3 | CB-SM-3 |
| 4 | CB-SM-4A |
| 5 | CB-SM-4B |
| 6 | CB-SM-5A |
| 7 | CB-SM-5B |
| 8 | SLUDGE MIXERS |
| 9 | CB-SST-1 |
| 10 | CB-SST-2 |
| 11 | CB-SST-3 |
| 12 | CB-SST-4 |
| 13 | CB-SST-5 |
| 14 | SLUDGE STORAGE TANK LEVEL - FEET |
| 15 | (SPARE) |
| 16 | (SPARE) |
| 17 | (SPARE) |
| 18 | (SPARE) |
| 19 | (SPARE) |
| 20 | (SPARE) |
| 21 | (SPARE) |
| 22 | (SPARE) |
| 23 | (SPARE) |
| 24 | (SPARE) |
| 25 | (SPARE) |
| 26 | (SPARE) |
| 27 | (SPARE) |
| 29 | RPM |
| 30 | % OPENING |
| 31 | GRAVITY FLOW RATE CONTROL - THROTTLING VALVE CB-S-040 |
| 32 | FE-200 : CB-STP-1/2 CONTROL : TO SLUDGE DRYING BEDS |
| 33 | FE-201 : CB-STP-1/2 CONTROL : TO STORAGE TANKS-1/2/3 |
| 34 | FE-202 : CB-STP-1/2 CONTROL : TO STORAGE TANKS-1/2/3 |
| 35 | FE-203 : CB-STP-1/2 CONTROL : TO STORAGE TANKS-4/5 |
| 36 | FE-204 : INCOMING SLUDGE TO STORAGE TANKS-4/5 |
| 37 | FE-206 : POLYMER FEED PUMP DISCHARGE |
| 38 | FLOWMETERS |
| 39 | (SPARE) |
| 40 | (SPARE) |
| 41 | SLUDGE TRANSFER PUMP CB-STP-1 |
| 42 | SLUDGE TRANSFER PUMP CB-STP-2 |
| 43 | POLYMER FEED PUMP CB-PFP-1 |
| 44 | POLYMER FEED PUMP CB-PFP-2 |
| 45 | (SPARE) |
| 46 | (SPARE) |
| 48 | (SPARE) |
| 49 | RESET |
| 50 | ACKNOWLEDGE |
| 51 | ANNUNCIATOR TEST |
| 52 | CB-S-001 |
| 53 | CB-S-002 |
| 54 | CB-S-003 |
| 55 | CB-S-026 |
| 56 | SPARE |
| 57 | INCOMING SLUDGE VALVES |
| 58 | CB-S-004 |
| 59 | CB-S-005 |
| 60 | CB-S-006 |
| 61 | CB-S-007 |
| 62 | CB-S-008 |
| 63 | CB-S-009 |
| 64 | CB-S-010 |
| 65 | CB-S-011 |
| 66 | CB-S-012 |
| 67 | CB-S-013 |
| 68 | SLUDGE STORAGE TANK INLET VALVES |
| 69 | CB-S-014 |
| 70 | CB-S-015 |
| 71 | CB-S-016 |
| 72 | CB-S-017 |
| 73 | CB-S-018 |
| 74 | CB-S-019 |
| 75 | CB-S-020 |
| 76 | CB-S-021 |
| 77 | CB-S-022 |
| 78 | CB-S-023 |
| 79 | CB-S-024 |
| 80 | CB-S-025 |
| 81 | SPARE |
| 82 | SPARE |
| 83 | SPARE |
| 84 | SLUDGE STORAGE TANK OUTLET VALVES |
| 85 | CB-S-027 |
| 86 | CB-S-028 |
| 87 | CB-S-029 |
| 88 | CB-S-030 |
| 89 | CB-S-031 |
| 90 | CB-S-032 |
| 91 | CB-S-033 |
| 92 | CB-S-034 |
| 93 | CB-S-035 |
| 94 | CB-S-036 |
| 95 | SLUDGE TRANSFER VALVES |
| 96 | SLUDGE TRANSFER PUMPS |
| 97 | POLYMER FEED PUMPS |
| 98 | FACILITY MASTER OPERATING MODE |

PANEL LEGEND

- | | |
|------|---|
| ITEM | DEVICE DESCRIPTION |
| A | DUAL INDICATING LIGHT - RUN (RED) / OFF (GREEN) |
| B | DUAL PUSHBUTTON - START / STOP |
| C | FLOW TOTALIZER |
| D | DUAL INDICATING LIGHT - OPEN (RED) / CLOSED (GREEN) |
| E | DUAL PUSHBUTTON - OPEN / CLOSE |
| F | SELECTOR SWITCH - LOCAL/COMPUTER |
| H | RATIO POTENTIOMETER |
| I | SELECTOR SWITCH - MANUAL / AUTO |
| M | SELECTOR SWITCH - FE-200 / FE-201 / FE-202 / FE-203 |
| N | DUAL INDICATING LIGHT - PFPCP / CBCP |
| T | HORN |
| U | PUSHBUTTON |
| X | DUAL INDICATING LIGHT - STPCP / CBCP |
| Y | DUTY TRANSFER SWITCH - PUMP 1 / PUMP 2 |
| Z | SELECTOR SWITCH - ON / OFF |



TRIM DETAIL
NO SCALE



PARTIAL PLAN - FL EL 15'-10"
EXISTING CONTROL ROOM
SCALE: 1"=1'-0"

RECORD DRAWING
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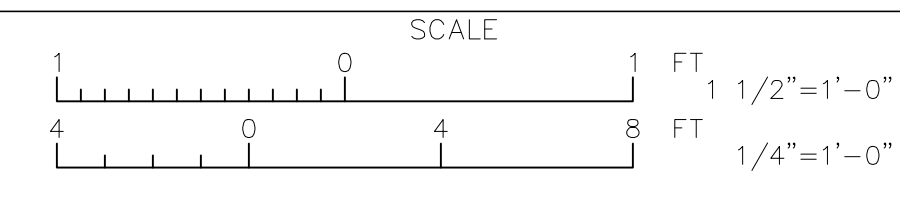
FILE: H:\3P-A04 SCALE: 1/8 09/71, 1996 of 11:59 - *13_44 (Hardware Lock)

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED TRG
DRAWN TK
CHECKED JRP

APPROVED _____
DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
4	7/31/96		RECORD DWG REVISIONS

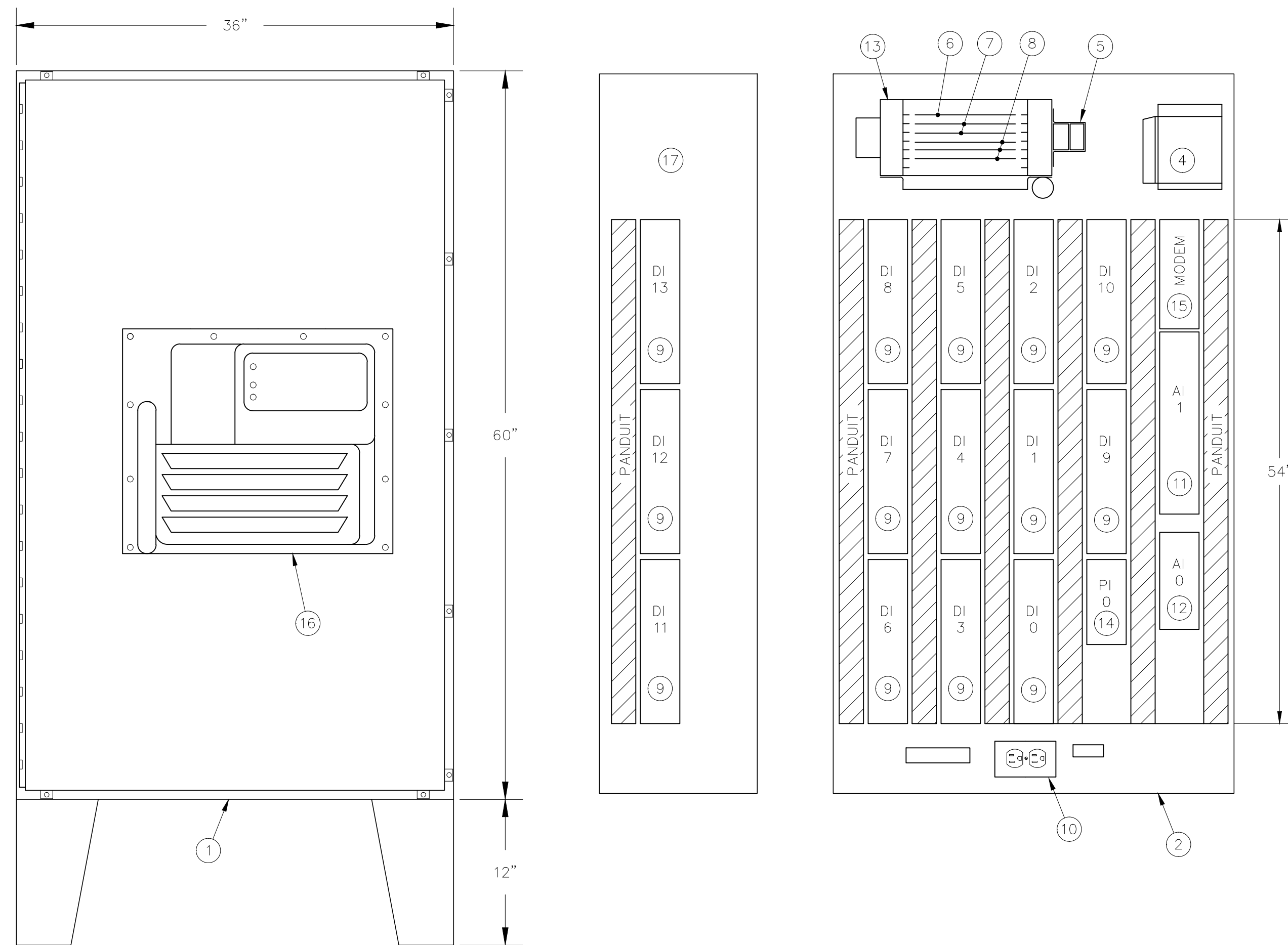


CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE 1 DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

INSTRUMENTATION
GENERAL
PANEL DETAILS

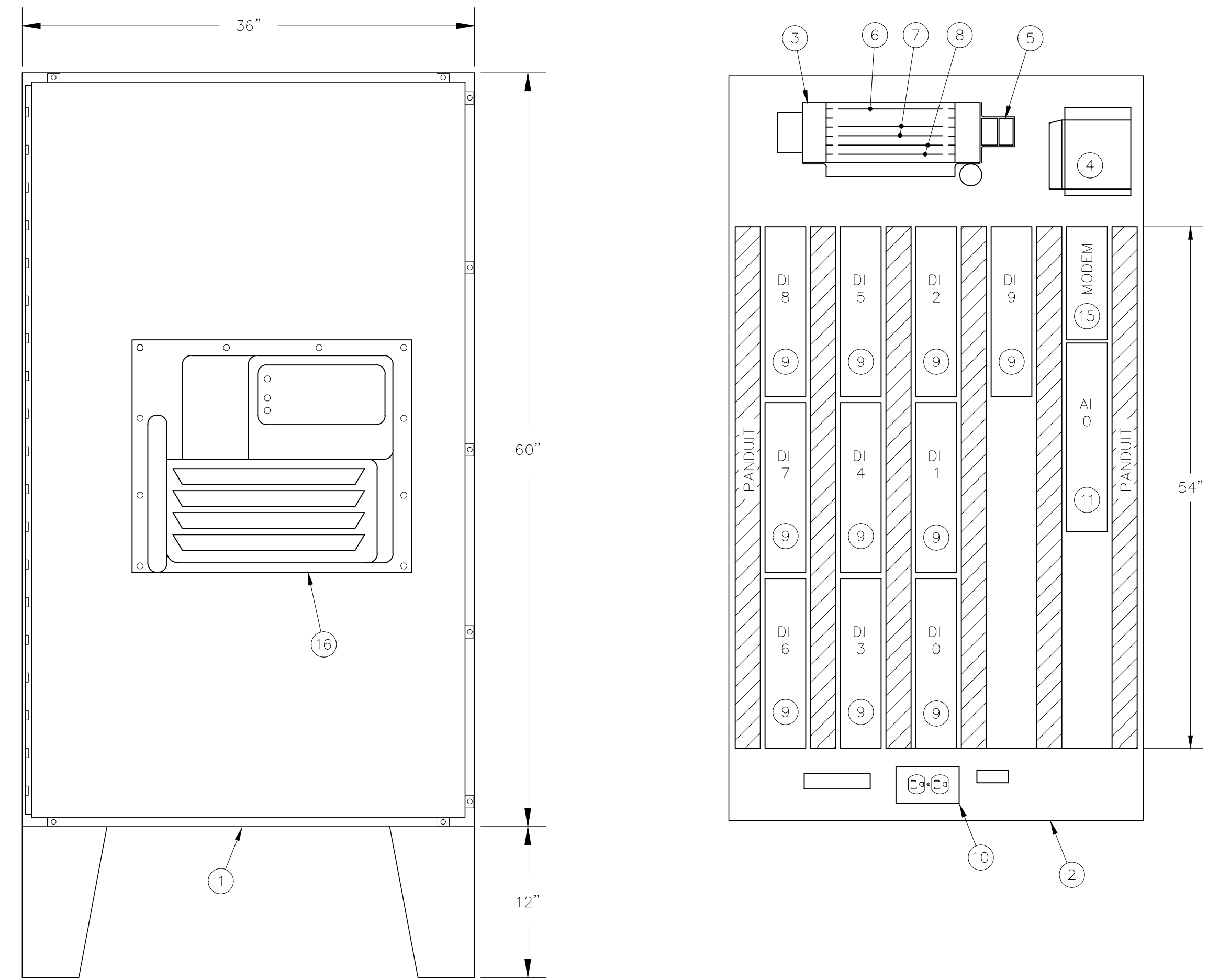
PROJ. NO.	202G
DWG	A14
SHEET	
DATE	DECEMBER 1991
REV	4

5H3B_OAI-004



RTU PANEL LAYOUT – SCB
SCALE: 1/8"=1'-0"

(SLUDGE CONTROL BLDG)



(STANDBY POWER FACILITY)

RTU PANEL LAYOUT – SPE
SCALE: 1/8"=1'-0"

17	SIDE PANEL
16	PURGE UNIT
15	MODEM TERMINATOR
14	8 CHANNEL PULSE COUNT TERMINATOR
13	9 SLOT CARD CAGE
12	8 CHANNEL ANALOG INPUT TERMINATOR
11	16 CHANNEL ANALOG INPUT TERMINATOR
10	AC RECEPTACLE
9	16 CHANNEL DIGITAL INPUT TERMINATOR
8	DIGITAL I/O CARD
7	HYBRID I/O CARD
6	CPU CARD
5	BATTERIES
4	24V POWER SUPPLY
3	6 SLOT CARD CAGE
2	PANEL ASSEMBLY
1	NEMA 4 FLOOR MOUNTING CABINET
ITEM	DESCRIPTION

NOTE(S):

1. MINIMUM DIMENSIONS SHOWN. CONTRACTOR SHALL INCREASE SIZE OF CABINETS IF REQUIRED AT NO COST TO CITY. DEPTH IS 13.5 INCHES.
2. CONTRACTOR MAY RELOCATE I/O AND TERMINAL CARDS IF NECESSARY FOR FABRICATION AND IF APPROVED IN ADVANCE BY CITY.

RECORD DRAWING

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FILE: 5H3B-ANDS SCALE: 1:1 09/11/1996 at 12:09 - *13.dwg (Hardware Lock)*

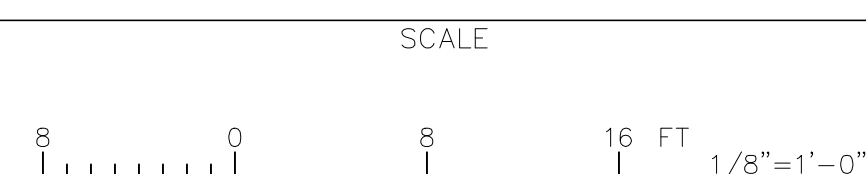


GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED M.H.M.
DRAWN M.H.M.
CHECKED M.G.W.

APPROVED _____
DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
2	8/16/96		RECORD DWG REVISIONS



CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

INSTRUMENTATION
GENERAL
RTU CONFIGURATIONS

PROJ. NO. 202G
DWG A15
SHEET
DATE DECEMBER 1991 REV 2

5H3B_OAI-005

DUCTWORK SYMBOLS

DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL
DUCT WIDTH X DEPTH (FIRST DIMENSION IS DIMENSION SEEN)		TURNING VANES	
INCLINED RISE (WITH RESPECT TO FLOW)		DEFLECTING (SPLITTER) DAMPER WITH ROD & LOCK	
INCLINED DROP (WITH RESPECT TO FLOW)		AIR EXTRACTOR WITH ROD & LOCK	
VOLUME DAMPER (SHAFT PARALLEL TO PAPER)		SUPPLY DUCT DOWN	
REGISTER OR GRILLE (FACE PERPENDICULAR TO PAPER)		EXHAUST OR RETURN DUCT UP	
REGISTER OR GRILLE (FACE PARALLEL TO PAPER)		FLEXIBLE DUCT CONNECTION	
(U) EQUIPMENT DESIGNATIONS		FLEXIBLE DUCT	
DIFFUSER	D	ACCESS DOORS IN DUCT	
REGISTER	R	OUTLET AIR DIRECTION	
CEILING DIFFUSER	CD	INLET AIR DIRECTION	
SUPPLY DIFFUSER	SD	DIRECTION OF AIR FLOW IN DUCT	
CEILING REGISTER	CR	DUCT SOUND ATTENUATOR	
GRILLE	G	FIRE DAMPER (RATING NOTED IF OTHER THAN 1D HOUR)	
WALL GRILLE	WG	SPLITTER DAMPER (WITH ROD & LOCK)	
CEILING GRILLE	CG		
TRANSFER GRILLE	TG		
DRUM LOUVER	DL		
WALL DIFFUSER	WD		
WALL REGISTER	WR		
RECTANGULAR DIFFUSER (SIZE GIVEN REFERS TO NECK SIZE)			
ROUND DIFFUSER (SIZE GIVEN REFERS TO NECK SIZE)			
LINEAR DIFFUSER			
DUCT SECTION (SUPPLY)			
DUCT SECTION (EXHAUST OR RETURN)			
ROUND DUCT WITH TRANSITION TO RECTANGULAR DUCT			

PIPING SYMBOLS

DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL
HEATING WATER SUPPLY	HWS	INLINE PUMP	
HEATING WATER RETURN	HWR	BASE MOUNTED PUMP	
COOLING WATER SUPPLY	CWS	PIPE GUIDE	
COOLING WATER RETURN	CWR	PIPE ANCHOR	
CHILLED WATER SUPPLY	CHWS	FLOAT & THERMOSTATIC TRAP	
CHILLED WATER RETURN	CHWR	THERMOSTATIC TRAP	
LOW PRESSURE STEAM	LPS	EXPANSION JOINT	
LOW PRESSURE CONDENSATE	LPC	PIPE FLOW DIRECTION	
MEDIUM PRESSURE STEAM	MPS	PIPE PITCH DOWN (WITH RESPECT TO FLOW)	
MEDIUM PRESSURE CONDENSATE	MPC	PIPE PITCH UP (WITH RESPECT TO FLOW)	
HIGH PRESSURE STEAM	HPS	PIPE CAPPED	
HIGH PRESSURE CONDENSATE	HPC	MANUAL AIR VENT	
FUEL OIL SUPPLY	FOR	AUTOMATIC AIR VENT	
FUEL OIL RETURN	FOF		
FUEL OIL FILL	FOV		
FUEL OIL VENT	BF		
BOILER FEED	NG		
NATURAL GAS	LPG		
LIQUIFIED PETROLEUM GAS	RL		
REFRIGERANT LIQUID	RS		
REFRIGERANT SUCTION	RD		
REFRIGERANT DISCHARGE	CPD		
CONDENSATE PUMP DISCHARGE	A		
COMPRESSED AIR	GLS		
GLYCOL SUPPLY	GLR		
GLYCOL RETURN			
PRESSURE & TEMPERATURE TEST PLUG			
BALANCING VALVE			
MANUAL BALANCING & FLOW MEASURING VALVE			
AUTOMATIC BALANCING & FLOW MEASURING VALVE			
TRIPLE DUTY VALVE			

MISCELLANEOUS DESIGNATIONS

DESCRIPTION	DESIGNATION
BOTTOM OF DUCT ELEVATION	B/D EL
TOP OF DUCT ELEVATION	T/D EL
INVERT ELEVATION	INV EL
CENTERLINE ELEVATION	? EL
CUBIC FEET PER MINUTE	CFM
THOUSAND BTU PER HOUR	MBH
GRAVITY DAMPER	GD
SPLITTER DAMPER	SD
BACKDRAFT DAMPER	BDD
BALL JOINT	BJ
NOT TO SCALE	NTS
OUTSIDE AIR INTAKE	OAI
NORMALLY OPEN	N.O.
NORMALLY CLOSED	N.C.
TYPICAL	TYP
FLAT ON TOP	FOT
FLAT ON BOTTOM	FOB
STAINLESS STEEL	SST
EQUIPMENT IDENTIFICATION	<p> </p> <p> </p> <p> </p>

TEMPERATURE CONTROL SYMBOLS

DESCRIPTION	SYMBOL
MOTOR ACTUATOR	
SOLENOID ACTUATOR	
PNEUMATIC ACTUATOR	
2-WAY CONTROL VALVE (WITH SOLENOID ACTUATOR)	
3-WAY CONTROL VALVE (WITH PNEUMATIC ACTUATOR)	
BUTTERFLY CONTROL VALVE (WITH MOTOR ACTUATOR)	
OPPOSED BLADE CONTROL DAMPER (WITH MOTOR ACTUATOR)	
PARALLEL BLADE CONTROL DAMPER (WITH MOTOR ACTUATOR)	
SPACE TEMPERATURE SENSOR/THERMOSTAT	
SPACE HUMIDITY SENSOR/HUMIDISTAT	
TEMPERATURE SENSOR WITH RIGID ELEMENT	
TEMPERATURE SENSOR WITH AVERAGING ELEMENT	
PRESSURE SENSOR	
DIFFERENTIAL PRESSURE SENSOR	
HUMIDITY SENSOR	
DEW POINT TEMPERATURE SENSOR	
CFM AIR MEASURING STATION	
HIGH TEMPERATURE THERMOSTAT	
LOW TEMPERATURE THERMOSTAT	
SPACE SMOKE DETECTOR	
DUCT SMOKE DETECTOR	
PADDLE FLOW SWITCH	
DIFFERENTIAL PRESSURE SWITCH	
HAZARDOUS GAS DETECTOR (U INDICATES GAS)	
TEMPERATURE CONTROL PANEL	

NOTES:

- THIS IS A GENERAL LEGEND PROVIDED TO FACILITATE USE OF THE PLANS. REFER TO THE PLANS AND SPECIFICATIONS FOR REQUIRED ITEMS.
- FOR OTHER VALVE, EQUIPMENT AND PIPING SYMBOLS SEE GENERAL PIPING SYMBOLS AND PLUMBING LEGEND.
- "TYPICAL" DENOTES EQUIPMENT OR INFORMATION SERVING AS AN EXAMPLE FOR A GROUP OF ITEMS SIMILAR IN TYPE AND ARRANGEMENTS NOT OTHERWISE NOTED.

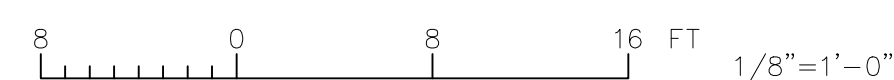
EMTEC Corporation
CONSULTING ENGINEERS
1723 W. KENNEDY BOULEVARD
SUITE 210
TAMPA, FLORIDA 33606

RECORD DRAWING

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DESIGNED	BP	APPROVED	
DRAWN	BP	DATE	
CHECKED	JRP	DATE	9/5/96
		GREELEY AND HANSEN, ENGINEERS	RECORD DWG REVISIONS
		NO.	DATE
		APPD	REVISION

SCALE



CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

BUILDING
GENERAL
HVAC
HVAC LEGEND

PROJ. NO.	202G
DWG	AH1
SHEET	
DATE	JANUARY 1992
REV	0

5H3B_OAH-001

FAN SCHEDULE													
FAN NO.	AREAS SERVICED	LOCATION	TYPE	CFM	S.P. (IN.)	RPM	BHP	ELECTRICAL DATA			DRIVE	BASIS OF DESIGN	OPTIONS
								MHP	VOLTS	PHASE			
SPF-REF-1	ENGINE GENERATOR ROOM	ENGINE GENERATOR ROOM ROOF	UPBLAST ROOF EXHAUST	56000	0.25	830	-	15.0	480	3	TEFC BELT	HARTZELL SERIES 69 TYPE L03	REFER TO SPECIFICATIONS
SPF-REF-2	ENGINE GENERATOR ROOM	ENGINE GENERATOR ROOM ROOF	UPBLAST ROOF EXHAUST	56000	0.25	830	-	15.0	480	3	TEFC BELT	HARTZELL SERIES 69 TYPE L03	REFER TO SPECIFICATIONS
SPF-REF-3	ENGINE GENERATOR ROOM	ENGINE GENERATOR ROOM ROOF	UPBLAST ROOF EXHAUST	56000	0.25	830	-	15.0	480	3	TEFC BELT	HARTZELL SERIES 69 TYPE L03	REFER TO SPECIFICATIONS
SPF-REF-4	ENGINE GENERATOR ROOM	ENGINE GENERATOR ROOM ROOF	UPBLAST ROOF EXHAUST	56000	0.25	830	-	15.0	480	3	TEFC BELT	HARTZELL SERIES 69 TYPE L03	REFER TO SPECIFICATIONS
SPF-REF-5	ENGINE GENERATOR ROOM	ENGINE GENERATOR ROOM ROOF	UPBLAST ROOF EXHAUST	56000	0.25	830	-	15.0	480	3	TEFC BELT	HARTZELL SERIES 69 TYPE L03	REFER TO SPECIFICATIONS
SPF-REF-6	COMPRESSOR ROOM	ROOF	CENTRIFUGAL EXHAUST	3080	0.25	800	-	1/2	480	3	TEFC BELT	HARTZELL SIZE 20 HBD 200 FA	REFER TO SPECIFICATIONS

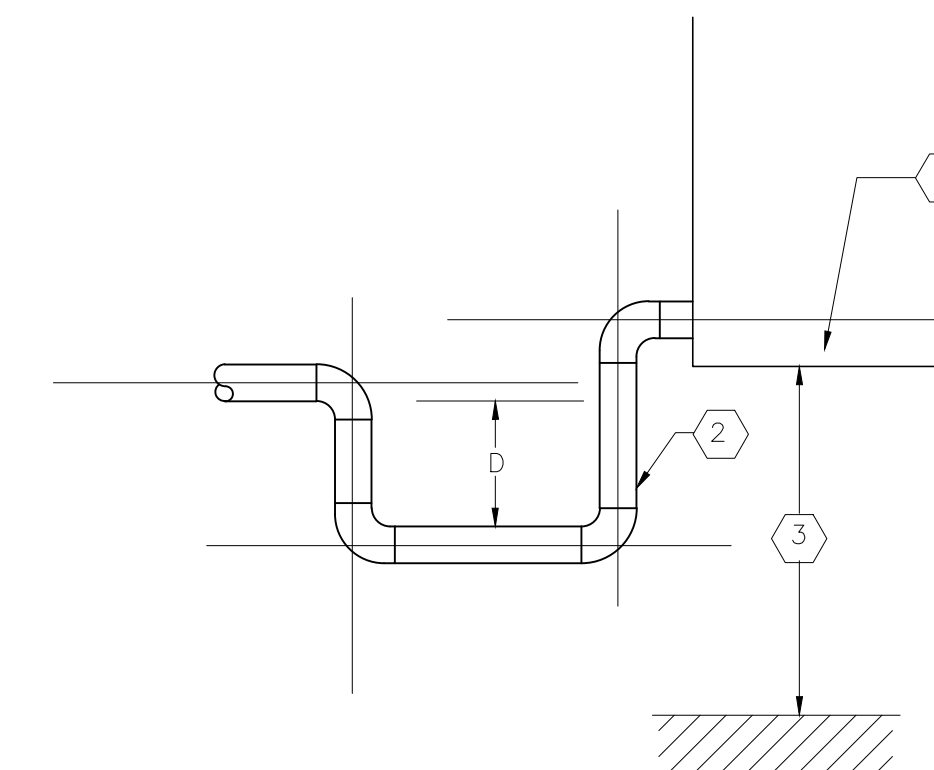
NOTES:

- REFER TO SPECIFICATIONS FOR SEQUENCE OF OPERATION AND ACCESSORIES.
- SPF = STANDBY POWER FACILITY.

SINGLE PACKAGE WATER-TO-AIR ROOFTOP HEAT PUMP																			
SYST. NO.	AREAS SERVED	FAN DATA						COOLING COIL					COMPRESSOR			CONDENSER			BASIS OF DESIGN
		CFM	VENT CFM	ESP"	MHP	VOLTS/Ø	EDB	EWB	TOTAL	SENS.	NO.	FLA. EA.	KW EA.	EWT	WTR	GPM	WPD		
SPF-AC-1	SPF ELEC. ROOM	4800	480	1.00	3.0	460/3	85.7	73.0	178,000	111,000	3	9.6	-	95	10	45.0	28.0	TRANE WPTD 150	

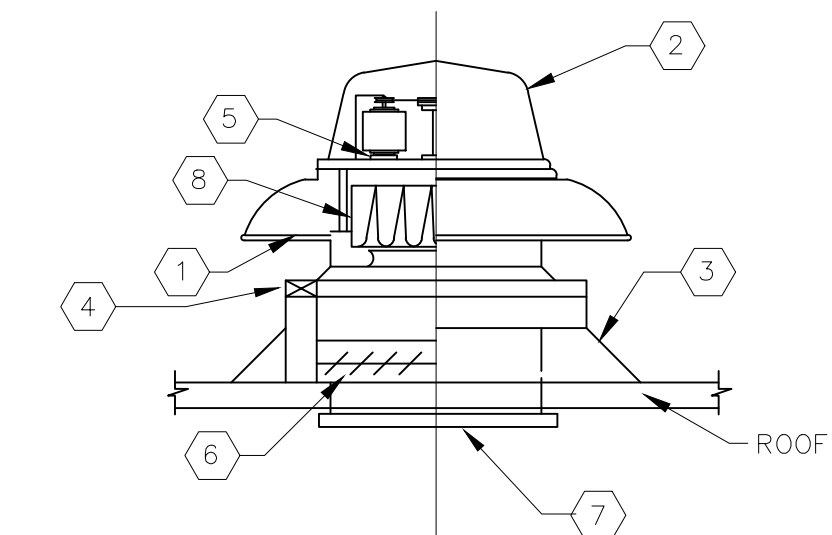
NOTES:

- MAXIMUM ELECTRICAL ROOM CONDITIONS: 85°F, 60% RH.
- REFER TO SPECIFICATIONS FOR SEQUENCE OF OPERATION AND ACCESSORIES.
- SPF = STANDBY POWER FACILITY.



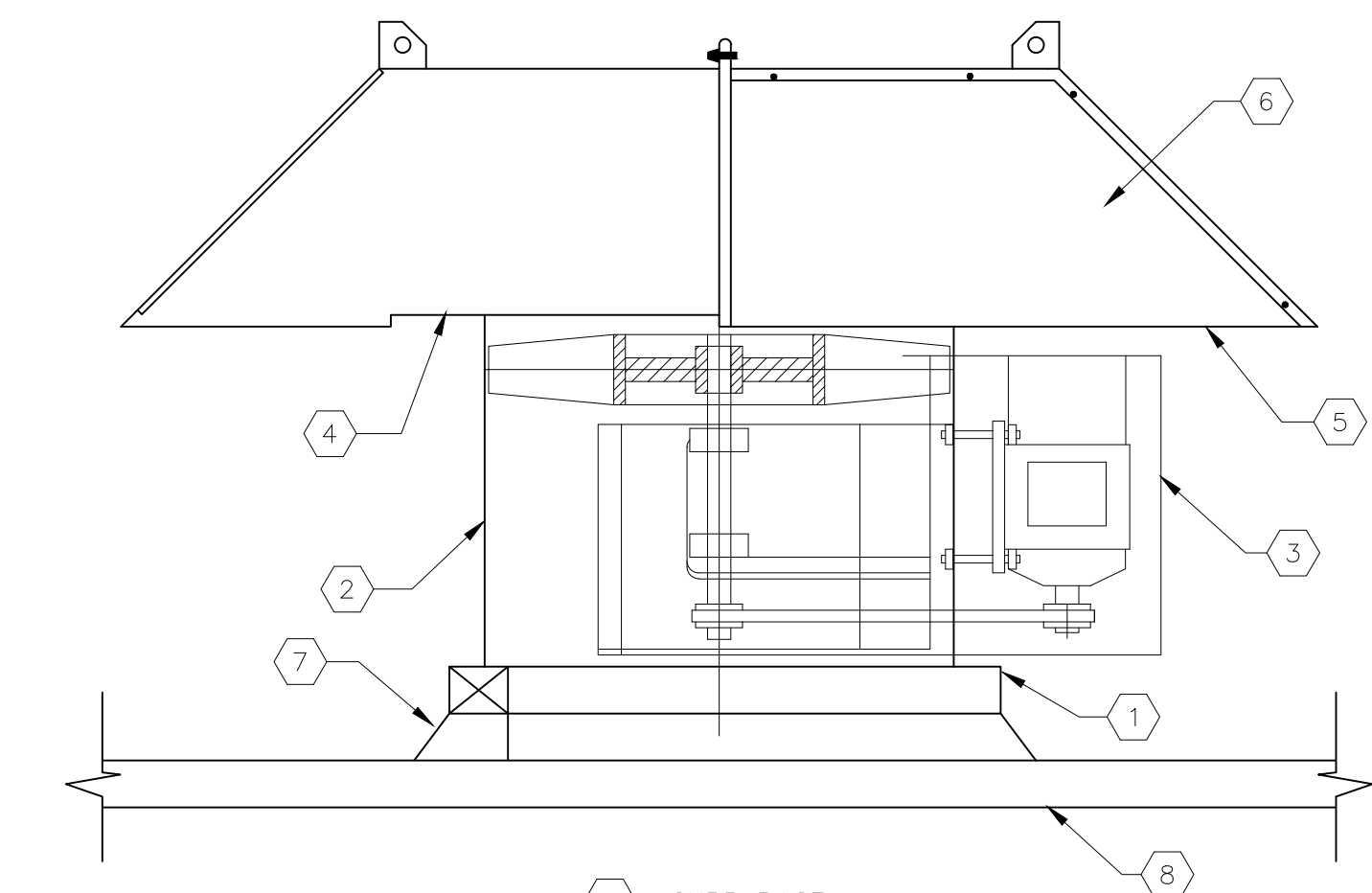
- HEAT PUMP CONDENSATE DRAIN PAN.
- EXTEND CONDENSATE LINE FULL SIZE FROM HEAT PUMP CONDENSATE DRAIN PAN WHERE INDICATED ON DRAWINGS.
- UNIT SHALL BE SUPPORTED HIGH ENOUGH TO ACCOMMODATE PIPING ARRANGEMENT.
- D = MINIMUM 2x EXTERNAL STATIC PRESSURE IN INCHES WATER COLUMN.

CONDENSATE DRAIN TRAP DETAIL
SCALE: NONE



- BIRDSCREEN
- SPUN ALUMINUM HOUSING
- CONCRETE POURED FAN CURB REFER TO ARCHITECTURAL DRAWINGS
- WOOD NAILER
- VIBRATION ISOLATED MOTOR
- BACKDRAFT DAMPER
- EXHAUST GRILLE WHERE APPLICABLE
- CENTRIFUGAL BLOWER

ROOF EXHAUST FAN DETAIL
SCALE: NONE



- CURB BASE
- BELT DRIVE ASSEMBLY
- WEATHER COVER
- FLAT HOUSING PANEL
- BIRD SCREEN
- WELDED HOOD
- POURED CONCRETE CURB. REFER TO ARCHITECTURAL DRAWINGS FOR DETAIL.
- ROOF

ROOF VENTILATER
SCALE: NONE

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SUITE 210
TAMPA, FLORIDA 33606

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED BP
DRAWN DJM
CHECKED JRP

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
2	8/16/96		RECORD DWG REVISIONS

SCALE

CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

HVAC
SCHEDULES AND DETAILS

PROJ NO.	202G
DWG	AH2
SHEET	
DATE	JANUARY 1992
REV	2

NO. 1
PLAN ON DWG AE19

ANT
LITCHGEAR
BUILDING

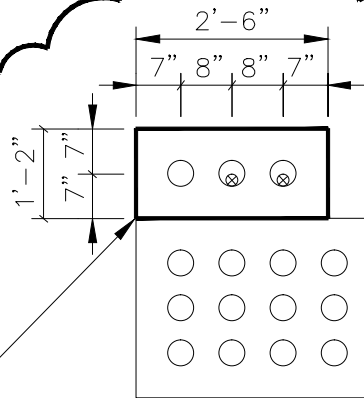
2/AE3

3/AE3

4/AE3

6/AE3

18



SP, 92C100 &
92C101, 92N100

NOTE:
ROUTE CABLES OF CONDUIT
92C100, 92C101 AND 92N100
IN NEW DUCT BANK (SEC 18)
INSTEAD OF DUCT BANK
(SEC 6) AS SHOWN ON AE3

SECTION 18

ALL 4" C (PVC)

REVISES DWG AE1

DES BBK

CKD GJ

H.P.W.W.T.P.

DR GR

APPD

DIVISION 5H3B

GREELEY AND HANSEN
ENGINEERS

SD-55

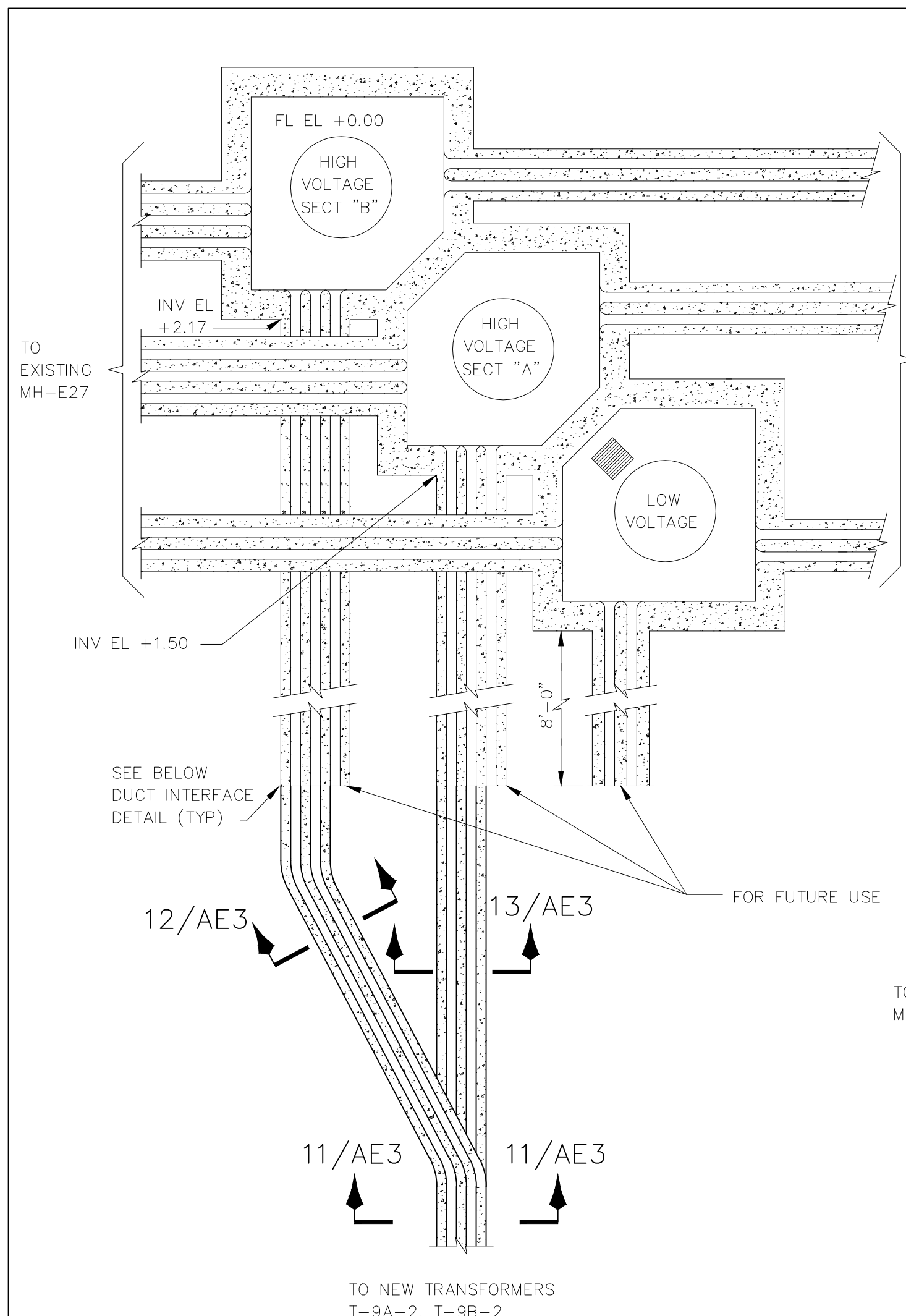
TAMPA, FLORIDA 34607

NO. DATE APPD REVISION

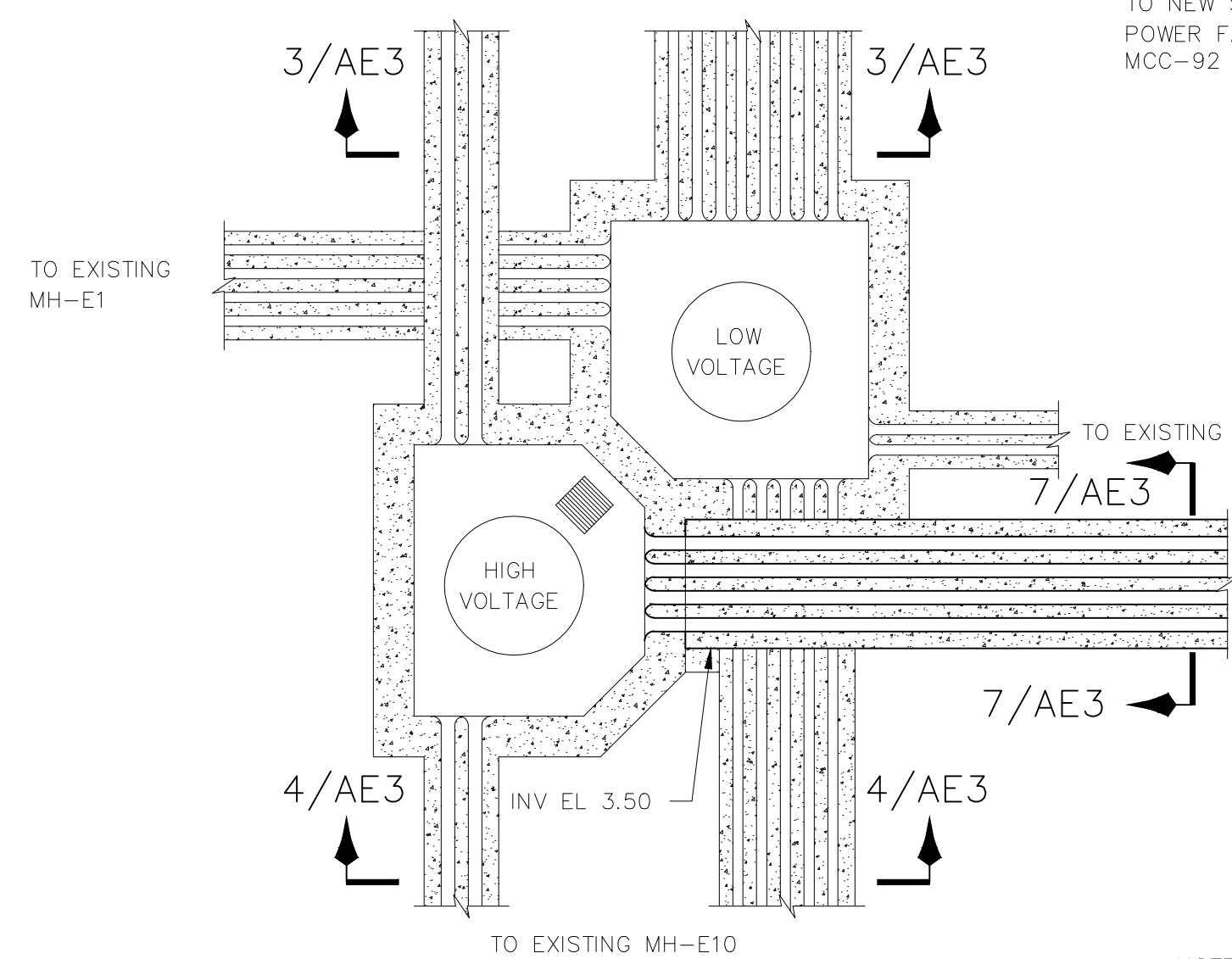
DATE JAN 95 NO. 0

5H3B_0AE-001A

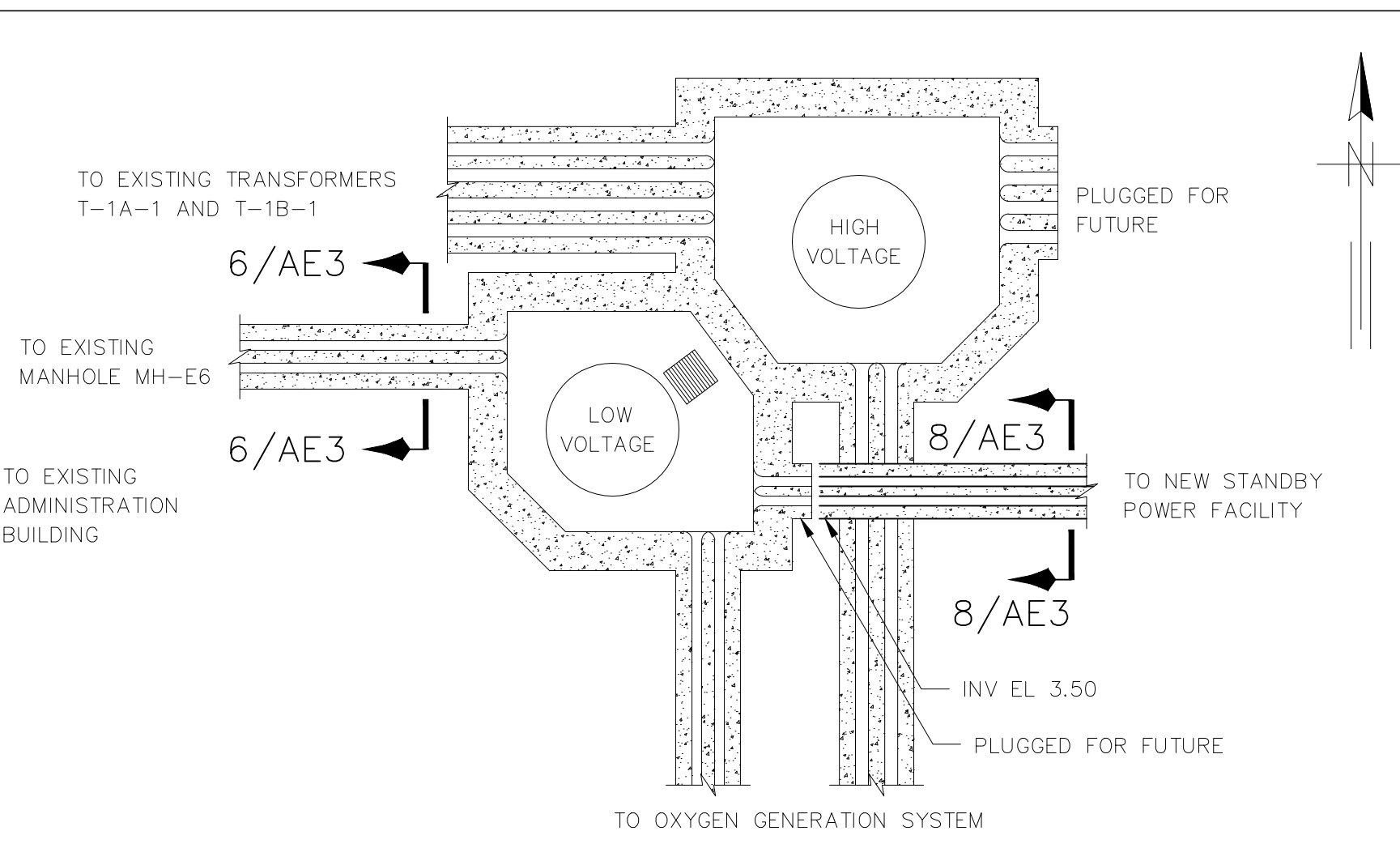
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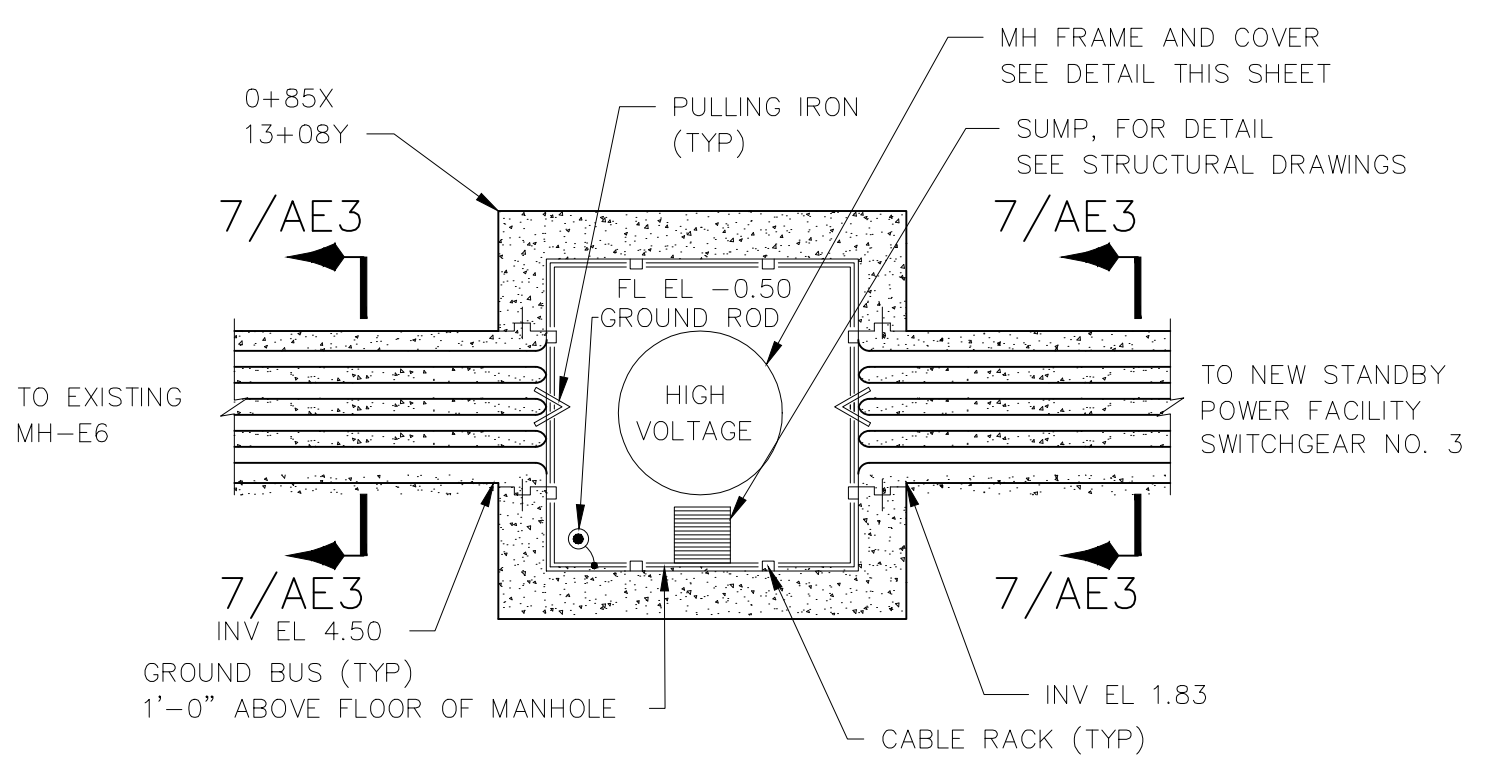
EXISTING MANHOLE MH-E28
SCALE: 1"=1'-0"



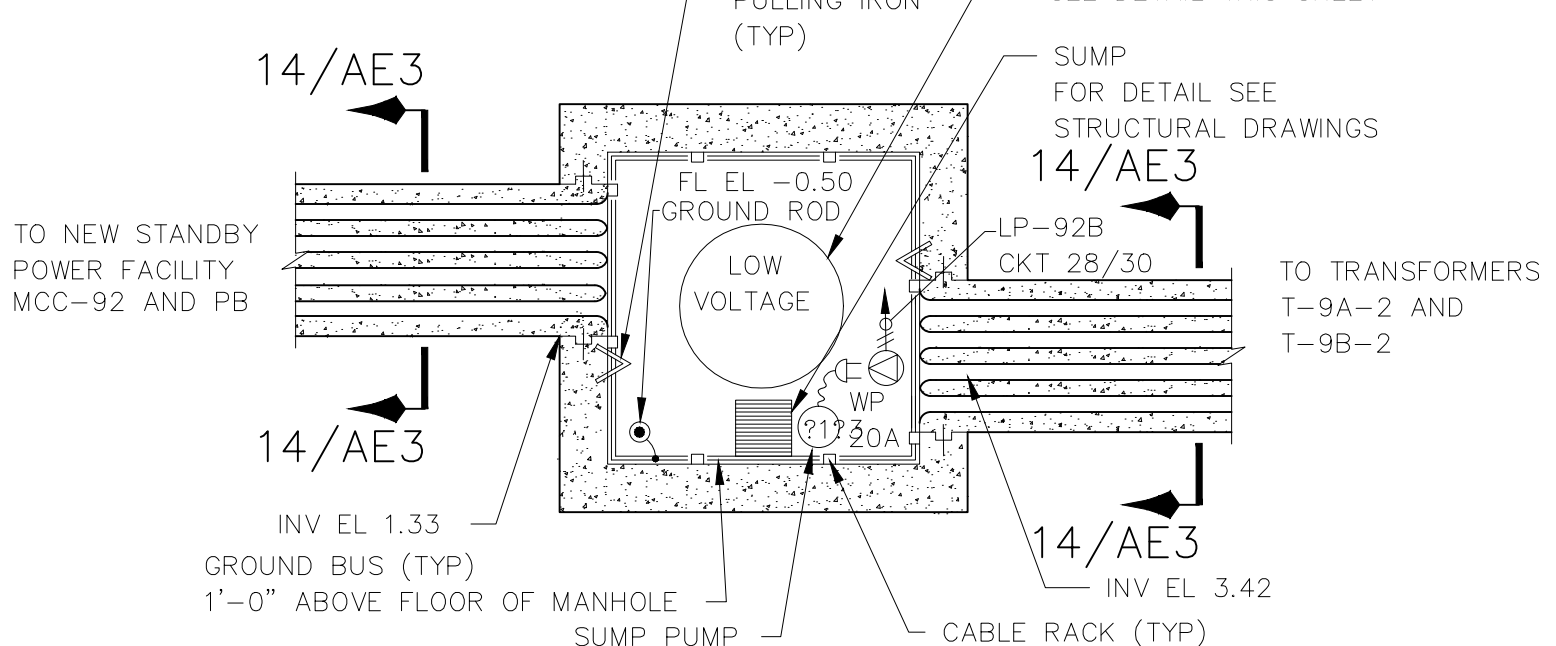
EXISTING MANHOLE MH-E6
SCALE: 1"=1'-0"



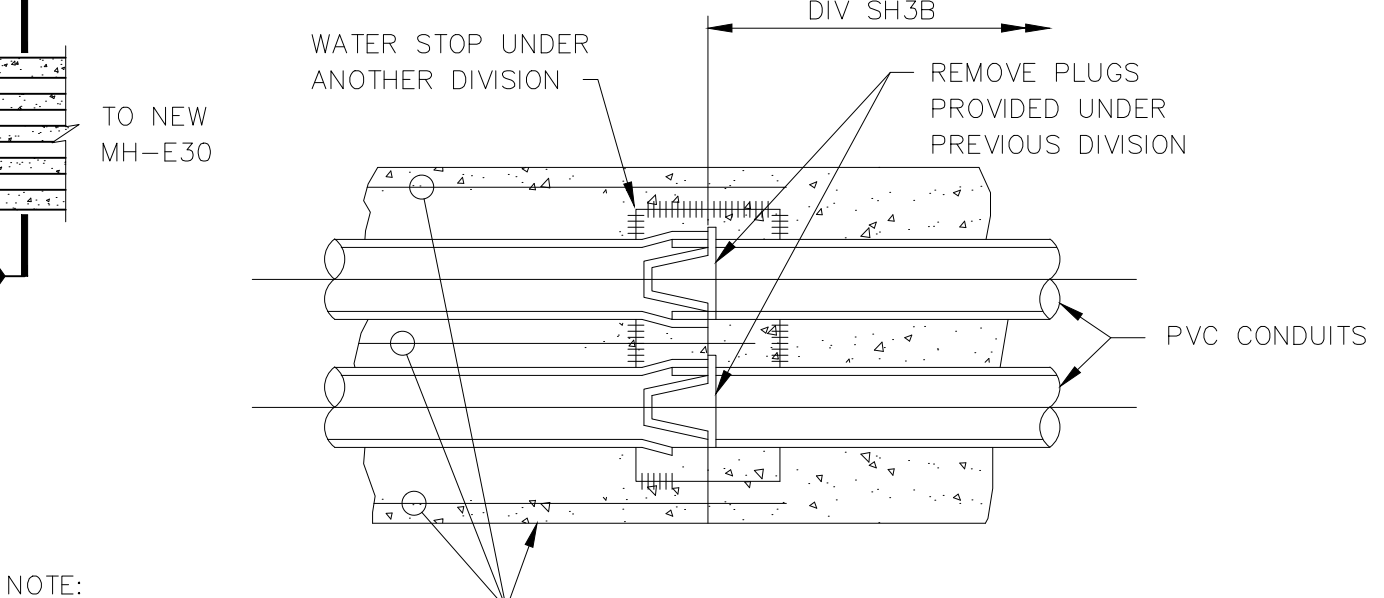
EXISTING MANHOLE MH-E9
SCALE: 1"=1'-0"



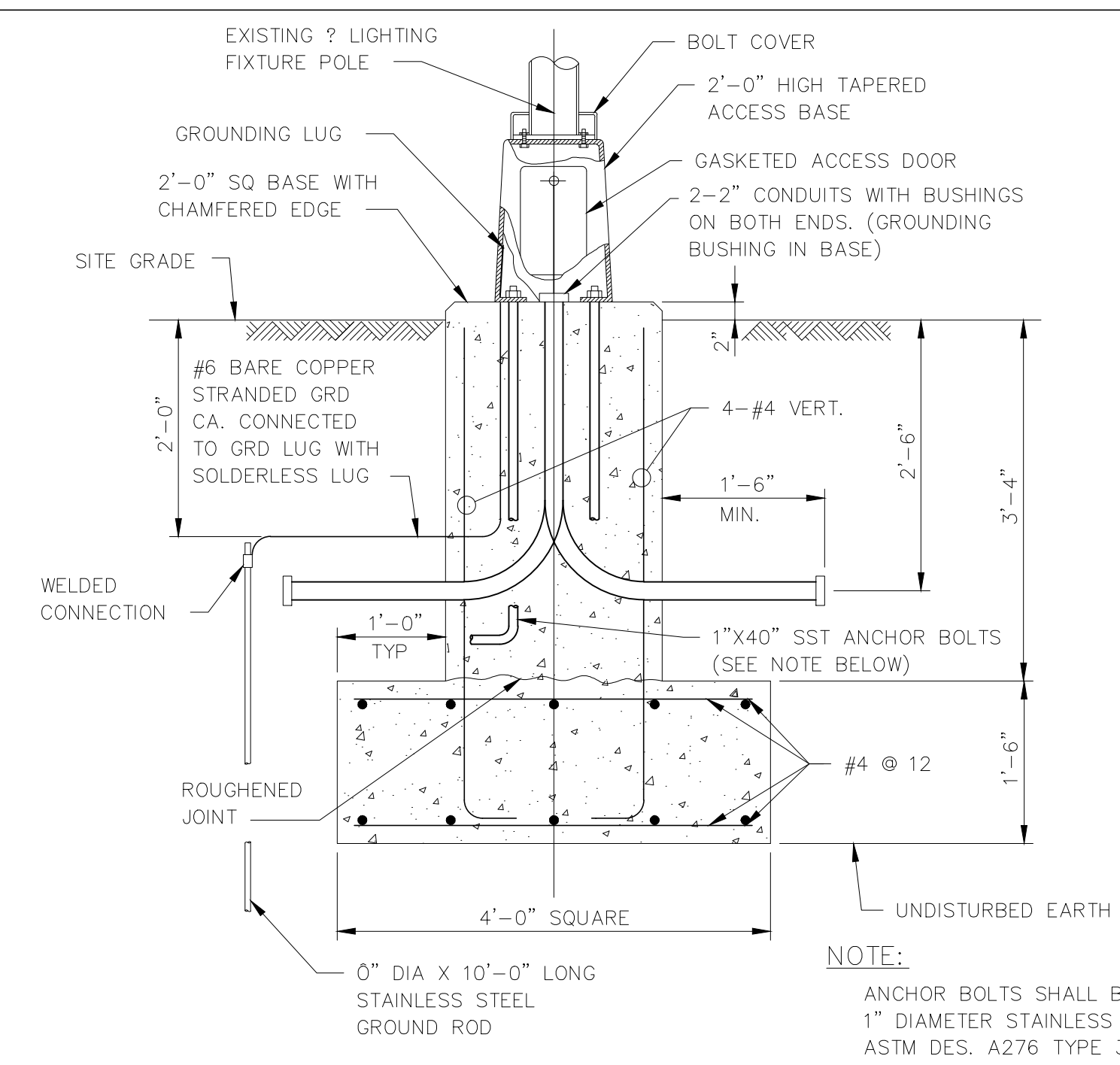
NEW MANHOLE MH-E30
SCALE: 1"=1'-0"



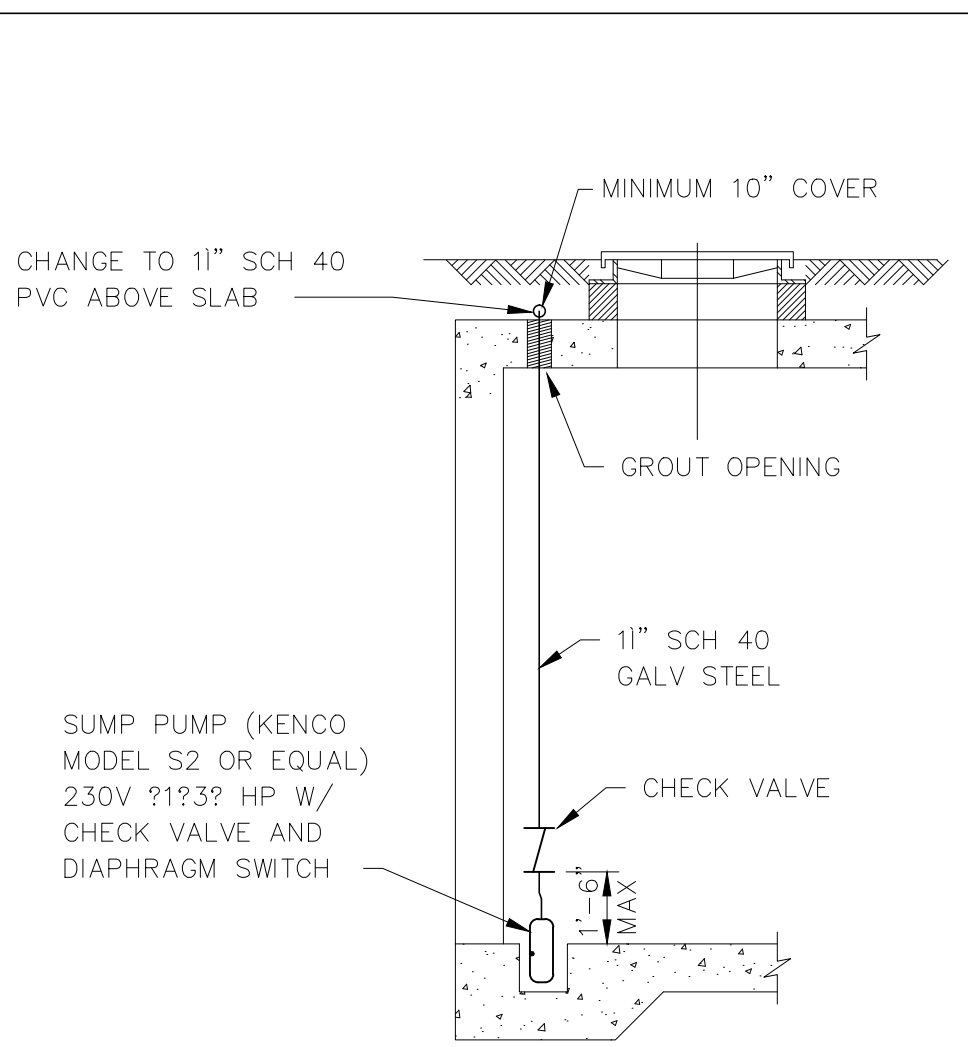
NEW MANHOLE MH-E31
SCALE: 1"=1'-0"



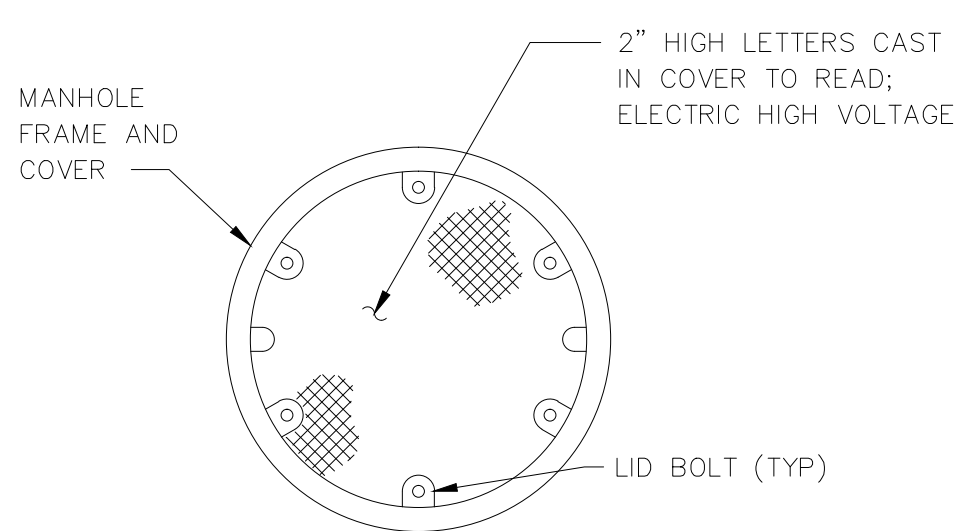
DUCT INTERFACE DETAIL
N.T.S.



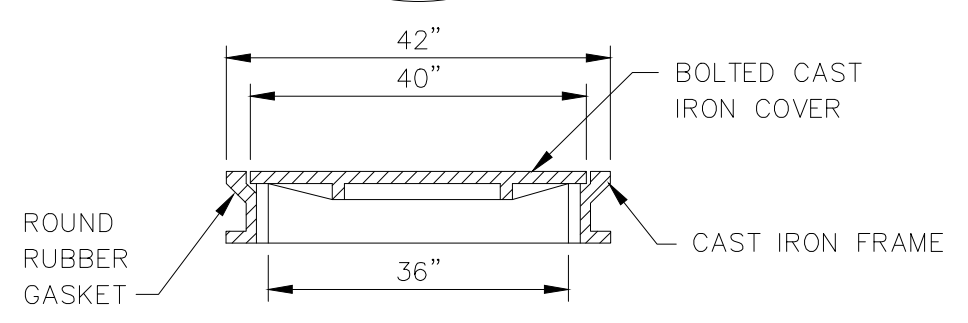
LIGHTING POLE BASE DETAIL
NOT TO SCALE



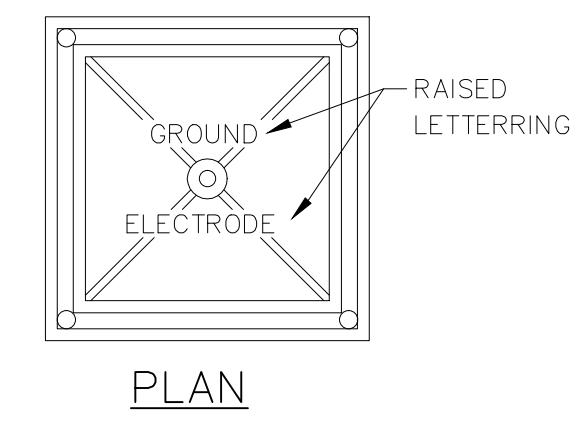
TYPICAL SUMP PUMP DETAIL
N.T.S.



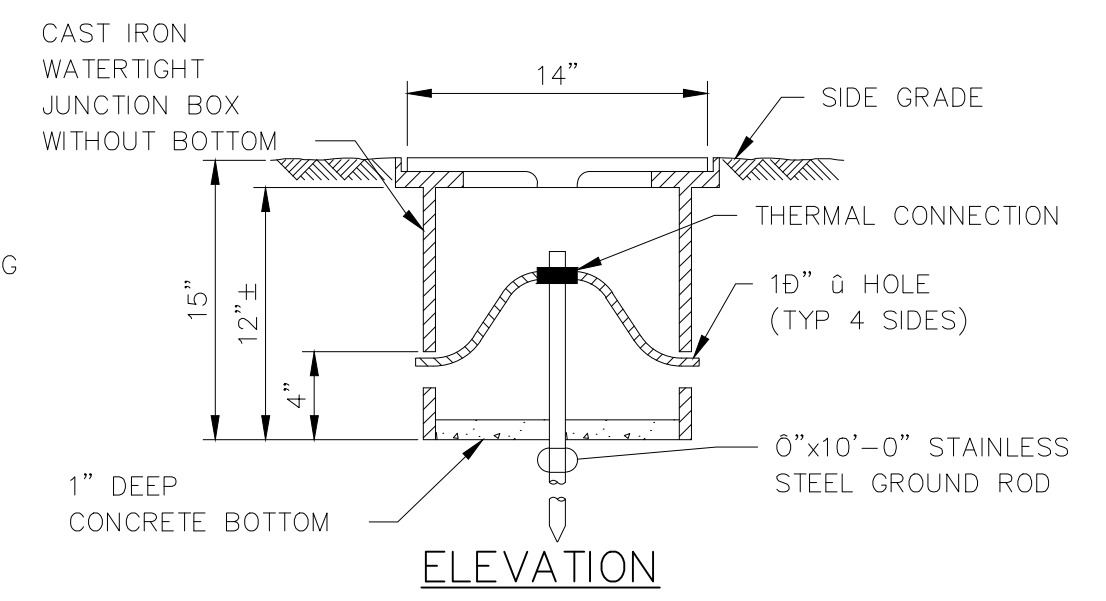
ELECTRICAL MANHOLE FRAME AND COVER DETAIL
N.T.S.



CONDUIT ENTRANCE AT MANHOLE DETAIL
N.T.S.



GROUND ROD AND ACCESS BOX DETAIL
N.T.S.



- MANHOLE AND SITE WORK NOTES:**
- FOR CONSTRUCTION OF ELECTRICAL MANHOLES, DUCT ENCASEMENT AND TRANSFORMER PADS, SEE STRUCTURAL DRAWINGS.
 - PROVIDE IN EACH MANHOLE MCGRAW EDISON OR EQUAL TYPE DU10B, TYPE "A" SERIES CABLE RACKS, DU9S SERIES CABLE SUPPORTS, DE12U SERIES UNDERGROUND INSULATORS AND DU1T SERIES PULLING IRONS AS INDICATED ON ELECTRICAL MANHOLE PLANS.
 - PROVIDE IN EACH MANHOLE A 1"x10" COPPER GROUND BUS SPACED 6" FROM THE MANHOLE WALL AND MOUNTED APPROXIMATELY 1'-0" ABOVE THE MANHOLE FLOOR.
 - PROVIDE IN EACH MANHOLE A 0"x10'-0" STAINLESS STEEL GROUND ROD WITH TOP OF ROD EXTENDING 6" ABOVE THE MANHOLE FLOOR. ALL GROUND RODS SHALL BE INSTALLED PRIOR TO THE POURING OF THE MANHOLE FLOOR. SLEEVES THROUGH THE FLOOR ARE NOT ACCEPTABLE.
 - 4" DUCT SHALL BE SPACED 8" O.C. THROUGHOUT.
 - 3" DUCT SHALL BE SPACED 7" O.C. THROUGHOUT.
 - ALL ELECTRICAL DUCTS TERMINATING IN MANHOLES SHALL BE FITTED WITH END BELL INSTALLED FLUSH WITH THE INSIDE WALL OF THE MANHOLE. SEE DETAIL ON THIS DRAWING.
 - ALL GROUND WIRES IN DUCT TERMINATING IN MANHOLES SHALL BE CONNECTED TO THE GROUND BUS USING CADWELL CONNECTIONS.
 - BACKFILL FOR ALL ELECTRICAL DUCTS AND MANHOLES SHALL BE TYPE "A".
 - ALL UNDERGROUND ELECTRICAL DUCT BANKS ENTERING BUILDINGS SHALL MAKE A TRANSITION TO GALVANIZED RIGID STEEL CONDUIT WITHIN 5'-0" OF THE BUILDING OUTSIDE WALL.
 - ALL TRANSFORMER SECONDARY CONDUITS SHALL BE GALVANIZED RIGID STEEL THE ENTIRE LENGTH.
 - ALL UNDERGROUND ELECTRICAL DUCT BANKS SHALL SLOPE TO THE MANHOLES AND SHALL HAVE A MINIMUM COVER OF 36" TO THE TOP OF THE CONCRETE ENCASEMENT UNLESS OTHERWISE NOTED.
 - ALL TRANSFORMER PRIMARY CONDUITS SHALL MAKE A TRANSITION TO GALVANIZED RIGID STEEL CONDUIT WITHIN 5'-0" OF THE OUTSIDE WALL OF TRANSFORMER YARD ENCLOSURE.

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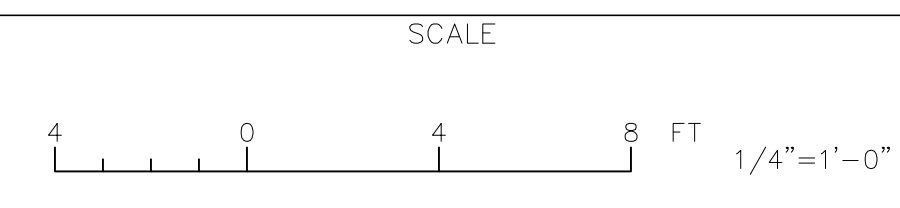
FILE: HUB-E02 SCALE: 1/4"=1'-0" 1996 at 11:28 - 113.dwg (User: gch07)

GREELEY AND HANSEN ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED GJ
DRAWN EPB
CHECKED BBK

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
3	8/1/96		RECORD DWG REVISIONS

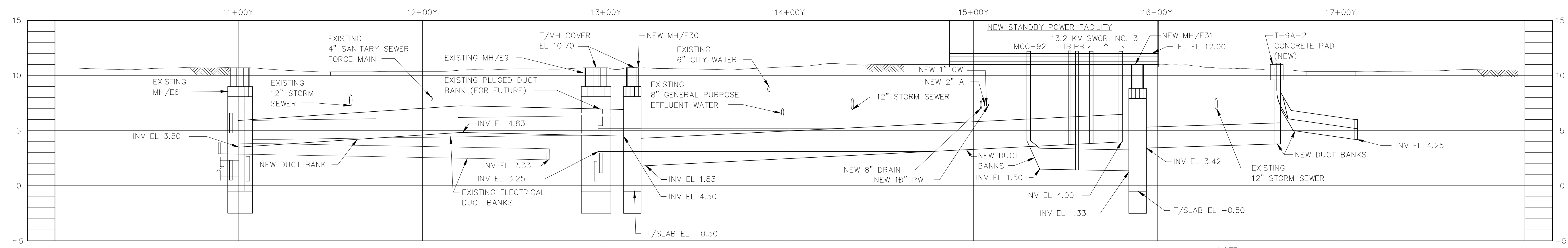


CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
ELECTRICAL
MANHOLES, DETAILS AND SECTIONS

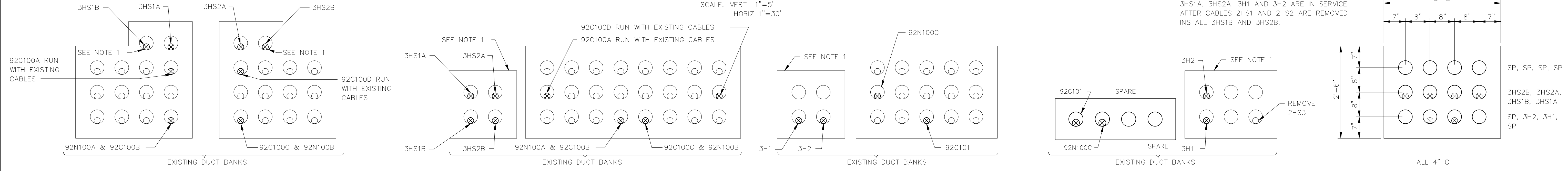
PROJ. NO.	202G
DWG	AE2
SHEET	
DATE	DECEMBER 1991
REV	3

5H3B_OAE-002



NOTE:
 1. THE EXISTING 13.2 KV CABLES 2HS1 AND 2HS2 SHALL BE REMOVED FROM 13.2 KV SWITCHGEAR NO. 1 TO 13.2 KV SWITCHGEAR NO. 2 AFTER 3HS1A, 3HS2A, 3H1 AND 3H2 ARE IN SERVICE. AFTER CABLES 2HS1 AND 2HS2 ARE REMOVED INSTALL 3HS1B AND 3HS2B.

SECTION 1/AE1
 SCALE: VERT 1"=5'
 HORIZ 1"=30'



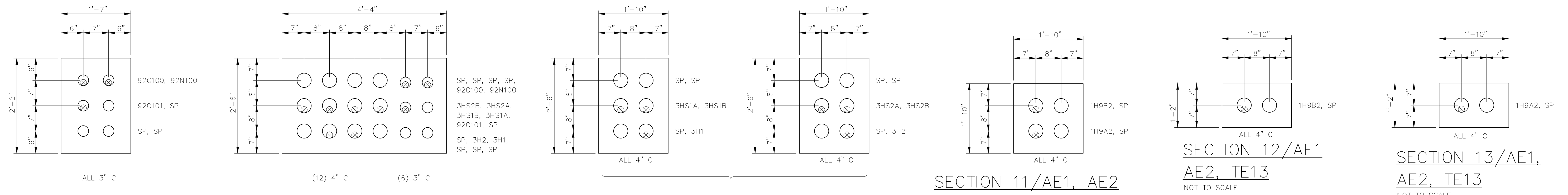
SECTION 2/AE1
 NOT TO SCALE

SECTION 3/AE1, AE2
 NOT TO SCALE

SECTION 4/AE1, AE2
 NOT TO SCALE

SECTION 5/AE1
 NOT TO SCALE

SECTION 7/AE1, AE2
 NOT TO SCALE



SECTION 8/AE1, AE2
 NOT TO SCALE

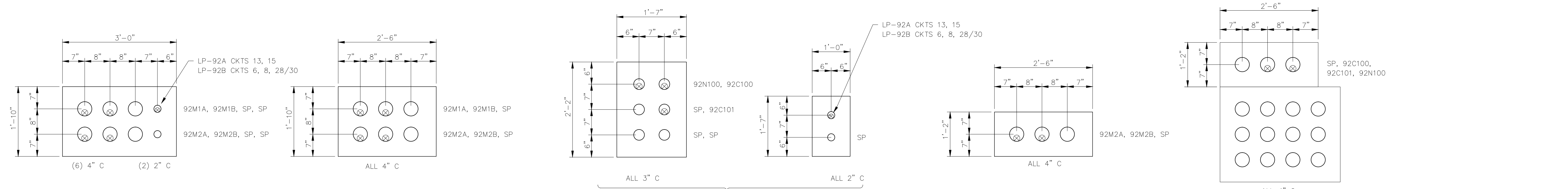
SECTION 9/AE1
 NOT TO SCALE

SECTION 10/AE1, TE13
 NOT TO SCALE

SECTION 11/AE1, AE2
 NOT TO SCALE

SECTION 12/AE1, AE2, TE13
 NOT TO SCALE

SECTION 13/AE1, AE2, TE13
 NOT TO SCALE



SECTION 14/AE1, AE2
 NOT TO SCALE

SECTION 15/AE1, TE13
 NOT TO SCALE

SECTION 16/AE1, TE13
 NOT TO SCALE

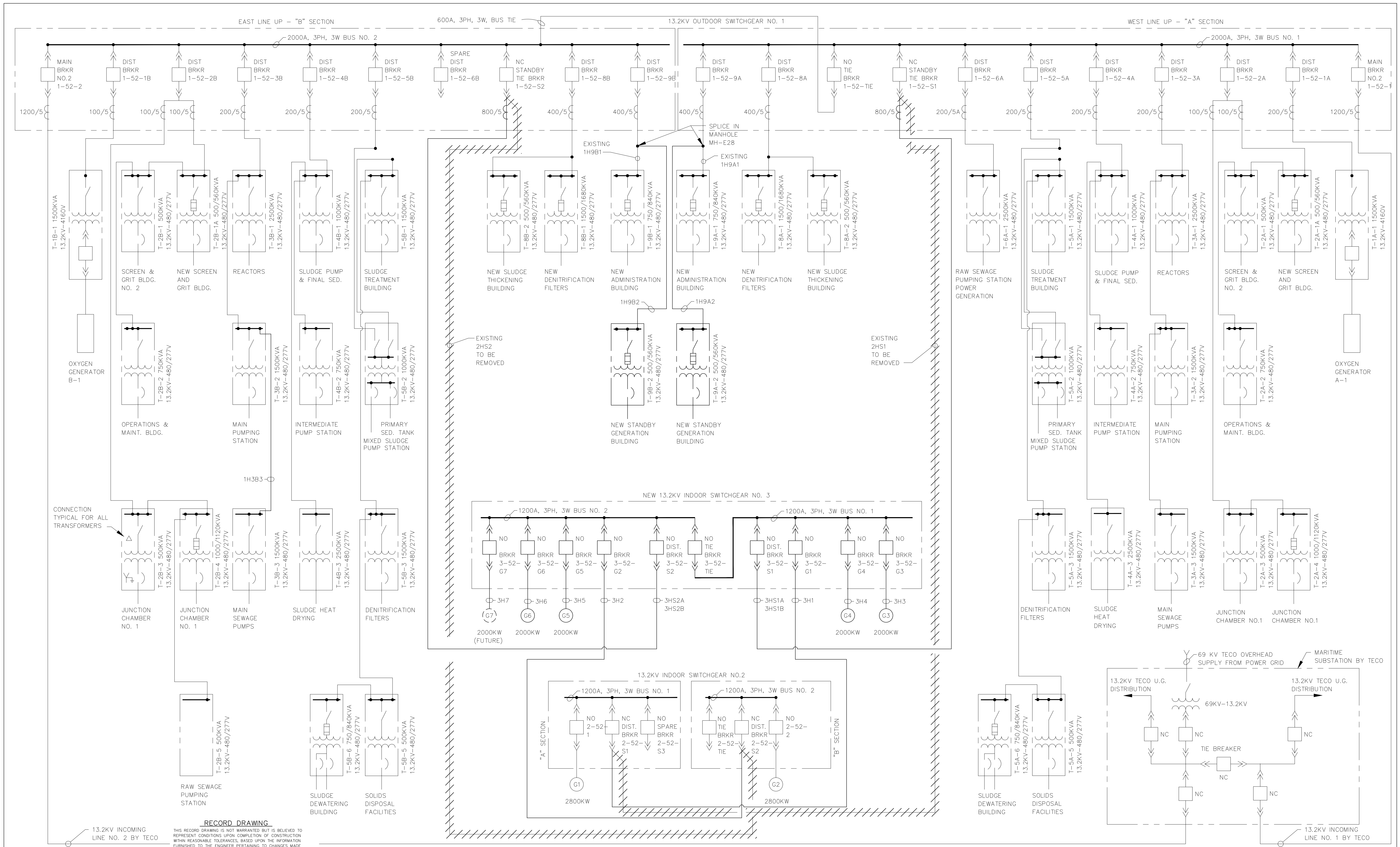
SECTION 17/AE1, AE2
 NOT TO SCALE

SECTION 18/AE1
 NOT TO SCALE

RECORD DRAWING.
 THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

FILE: H3B-AE03.DWG 1:60 04/13/98 11:40L CH-A

GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED GJ	APPROVED _____	SCALE AS SHOWN	CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	GENERAL ELECTRICAL DUCT SECTIONS	PROJ. NO. 202G
	DRAWN SK	DATE _____	RECORD DWG REVISIONS			DWG AE3
	CHECKED BBK	DATE _____	REVISION			SHEET _____
		3 8/1/96				DATE DECEMBER 1991 REV 3



RECORD DRAWING
 THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

GREELEY AND HANSEN
 ENGINEERS
 1715 NORTH WESTSHORE BOULEVARD
 TAMPA, FLORIDA 33607-4135

DESIGNED BBK
 DRAWN LCC
 CHECKED BBK

APPROVED	DATE		
	DATE	2 4/15/98	RECORD DRAWING REVISION
GREELEY AND HANSEN, ENGINEERS	NO.	DATE	APPD
			REVISION

SCALE
 NO SCALE

CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 EXPANSION
 PHASE I DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

GENERAL ELECTRICAL OVERALL

PROJ. NO.	202G
DWG	AE4
SHEET	
DATE	DECEMBER 1991
REV	3

POWER AND LIGHTING SYMBOLS

	EXPOSED CONDUIT RUN
	CONDUIT RUN CONCEALED IN FLOOR OR UNDERGROUND
	CONDUIT RUN CONCEALED IN WALLS, ABOVE SUSPENDED CEILING, OR IN ROOF SLAB
	CONDUIT WITH HOT, NEUTRAL AND GROUND WIRES (LONG LINE IS NEUTRAL; LONG LINE WITH DOT DENOTES GROUND)
	HOME RUN TO LIGHTING PANELBOARD (LP-6 INDICATES PANELBOARD AND 1, 3, 5 INDICATES 20A-1P CKTS. 1, 3 AND 5)
	FLEXIBLE LIQUIDTIGHT CONDUIT
	GROUNDING CONDUCTOR
	UNDERGROUND DUCT ENCASED IN CONCRETE
	DIRECT BURIAL CABLE
	CONDUIT-UP
	CONDUIT-DOWN
	LIGHTING PANELBOARD 120/208V,3Ø,4W,SN
	LIGHTING PANELBOARD 277/480V,3Ø,4W,SN
	TELEPHONE CABINET
	EQUIPMENT ENCLOSURE AS INDICATED ON PLAN
	MANUALLY OPERATED STARTER OR CIRCUIT BREAKER
	DISCONNECT SWITCH
	FULL VOLTAGE MAGNETIC STARTER
	COMBINATION FULL VOLTAGE MAGNETIC STARTER WITH CIRCUIT BREAKER
	MAGNETIC CONTACTOR
	MOTOR-THREE PHASE (5HP)
	MOTOR-SINGLE PHASE (XXX)
	ELECTRIC WATER HEATER
	GROUND ROD
	LIGHTNING ROD
	PREWIRED THREE PHASE MOTOR AND CONTROLLER

	CEILING MOUNTED INCANDESCENT OR MERCURY VAPOR LIGHTING FIXTURE. "A" INDICATES FIXTURE TYPE LISTED IN SCHEDULE
	WALL MOUNTED LIGHTING FIXTURE
	EXIT SIGN
	EMERGENCY INCANDESCENT OR MERCURY VAPOR LIGHTING FIXTURE
	FLUORESCENT FIXTURE
	EMERGENCY FLUORESCENT FIXTURE
	FLUORESCENT STRIP LIGHT
	POLE MOUNTED LIGHTING FIXTURE
	BATTERY PACK FOR EMERGENCY FIXTURE
	SINGLE RECEPTACLE - 20A, 2 POLE, 3 WIRE
	DUPLEX RECEPTACLE - 20A, 2 POLE, 2 WIRE
	DUPLEX RECEPTACLE - 20A, 2 POLE, 3 WIRE, 208V
	SINGLE RECEPTACLE - 2 POLE, 3 WIRE, 208V, RATING NOTED
	3 POLE, 3 WIRE, 480V, WELDING OUTLET (60A)
	CLOCK OUTLET
	SINGLE POLE SWITCH
	TWO POLE SWITCH
	THREE WAY SWITCH
	FOUR WAY SWITCH
	SWITCH WITH THERMAL OVERLOAD PROTECTION
	MOMENTARY CONTACT SWITCH
	DOOR SWITCH
	SWITCH WITH PILOT LIGHT
	COMBUSTIBLE GAS DETECTION SENSOR
	PHOTO ELECTRIC CELL
	OUTLET BOX WITH BLANK COVER
	JUNCTION BOX
	PULL BOX
	TERMINAL BOX
	WATERTIGHT FLOOR OUTLET BOX
	FLOOR OUTLET BOX WITH DUPLEX RECEPTACLE - 20A, 2 POLE, 3 WIRE

	INTERCOMMUNICATION SPEAKER OUTLET (GENERAL TEL. CO.)
	INTERCOMMUNICATION SPEAKER VOLUME CONTROL OUTLET (GENERAL TEL. CO.)
	INTERCOMMUNICATION TELEPHONE OUTLET (GENERAL TEL. CO.)
	HORN
	INTERCOMMUNICATION TELEPHONE FLOOR OUTLET (GENERAL TEL. CO.)

GENERAL SYMBOLS

	START-STOP PUSHBUTTON
	ON-OFF MAINTAINED CONTACT PUSHBUTTON WITH LOCK ATTACHMENT
	INDICATING LIGHT AND START-STOP PUSHBUTTON WITH LOCK ATTACHMENT ON STOP
	FORWARD-STOP-REVERSE OR SLOW-FAST-STOP PUSHBUTTON
	SINGLE PUSHBUTTON
	SELECTOR SWITCH ("HOA" INDICATES HAND OFF AUTO; "MOR" INDICATES MANUAL OFF REMOTE; ETC)
	ON-OFF SWITCH WITH LOCK ATTACHMENT ON OFF POSITION
	ELECTRIC-PNEUMATIC SWITCH
	FLOAT SWITCH
	FLOW SWITCH
	FREEZE STAT
	LIMIT SWITCH
	MOTOR OPERATED VALVE OR SLUICE GATE WITH INTEGRAL CONTROLLER PROVIDE A TOGGLE TYPE DISCONNECT SWITCH AT EACH VALVE
	PRESSURE SWITCH
	PNEUMATIC-ELECTRIC SWITCH
	SOLENOID OPERATED VALVE
	TEMPERATURE SWITCH
	TACHOMETER GENERATOR
	TORQUE SWITCH
	DAMPER MOTOR

NOTE:

THE SYMBOLS SHOWN COMPRISE A GENERAL LEGEND TO FACILITATE USE OF PLANS. REFER TO THE PLANS AND SPECIFICATIONS FOR ITEMS REQUIRED.

RECORD DRAWING

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FILE: H3B-AE05 SCALE: 1:1 09/05, 1996 at 13:30 - *13_e4h (Hardware Load)*

GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED	BBK	APPROVED					SCALE NO SCALE	CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	SYMBOL LIST ELECTRICAL GENERAL	PROJ. NO.	202G
	DRAWN	AK	DATE								DWG	AE5
	CHECKED	BBK	DATE								SHEET	
	GREELEY AND HANSEN, ENGINEERS			NO.	DATE	APPD.	REVISION				DATE	DECEMBER 1991	REV	0

5H3B_OAE-005

GENERAL SYMBOLS

- LEVEL TRANSMITTER (PRESSURE ANALOG TYPE)
- LEVEL TRANSMITTER (FLOAT TYPE)
- TEMPERATURE TRANSMITTER
- FLOW TRANSMITTER

- MH DESIGNATES MOUNTING HEIGHT
- WP DESIGNATES WEATHERPROOF EQUIPMENT
- XP DESIGNATES EXPLOSIONPROOF EQUIPMENT
- EWC DESIGNATES ELECTRICAL WATER COOLER
- MOV DESIGNATES MOTOR OPERATED VALVE
- EX DESIGNATES EXISTING EQUIPMENT
- △ DENOTES DEVICE LOCATED NEAR MOTOR

CONDUIT AND CABLE SCHEDULE LEGEND

- TYPICAL CONDUIT AND CABLE RUN NUMBER
 - INDICATES SPECIFIC CONDUIT AND CABLE RUN FROM SOURCE DISTRIBUTION CENTER
 - CODE LETTER INDICATING SOURCE DISTRIBUTION CENTER TYPE AND OR WIRING SYSTEM
 - INDICATES SOURCE DISTRIBUTION CENTER NUMBER
- EXAMPLE: 19M123A—INDICATES CONDUIT AND CABLE RUN NUMBER 123A OF A WIRING SYSTEM FROM MOTOR CONTROL CENTER NO. 19.

CODE LETTER WIRING SYSTEM AND/OR SOURCE

- | CODE LETTER | WIRING SYSTEM AND/OR SOURCE |
|-------------|--|
| M | CONTROL POWER AND INSTRUMENTATION WIRING FROM AND TO MOTOR CONTROL CENTERS, PUMP CONTROL PANELS AND 480V SWITCHGEAR (SEE NOTE BELOW) |
| H | 13.2KV FEEDERS |
| MG | GENERATOR SYSTEM WIRING |
| EG | EGCP NO. 1 AND NO. 2 WIRES |
| EM | EGMP WIRING |
| LP | 208/120V LIGHTING PANEL WIRING |
| B | 48V AND 24V D.C. BATTERY WIRING |

ONE LINE DIAGRAM SYMBOLS

- 600A BUS-RATING AS SHOWN
- INCOMING LINE
- OUTGOING LINE
- 13.8KV CABLE TERMINATION
- DISCONNECTING DEVICE
- CONDUCTORS CONNECTED
- 100A FUSE-RATING AS SHOWN
- 100A SINGLE THROW DISCONNECT SWITCH—RATING AS SHOWN
- 100A/70A FUSED DISCONNECT SWITCH—100A SWITCH, 70A FUSE
- INTERRUPTER SWITCH
- FUSED INTERRUPTER SWITCH
- 100A LOW VOLTAGE AIR CIRCUIT BREAKER WITHOUT TRIP DEVICE 100A FRAME
- 225A/125A LOW VOLTAGE AIR CIRCUIT BREAKER WITH 225A FRAME AND 125A TRIP
- 600A/400A LOW VOLTAGE DRAWOUT TYPE AIR CIRCUIT BREAKER WITH 600A FRAME AND 400A THERMAL MAGNETIC (SOLID STATE SENSOR SIMILAR) TRIP
- 52 MEDIUM VOLTAGE DRAWOUT TYPE AIR CIRCUIT BREAKER
- CIRCUIT BREAKER WITH SOLID STATE GROUND FAULT SENSOR PROTECTIVE RELAY
- DBX—DEAD BUS AUXILIARY RELAY
- 86—LOCKOUT
- 87—DIFFERENTIAL CURRENT
- G—DEVICE IN GROUND CIRCUIT
- N—DEVICE IN NEUTRAL CIRCUIT
- X—AUXILIARY RELAY
- IR—INTERPOSING RELAY
- GSR—GROUND SENSING RELAY
- 25/27—SYNCHRONIZING CHECK RELAY
- 62—TIME DELAY RELAY
- 27—UNDERVOLTAGE
- 32—REVERSE POWER
- 50—INSTANTANEOUS OVERCURRENT
- 51—A.C. TIME OVERCURRENT
- 52—A.C. CIRCUIT BREAKER
- 60—VOLTAGE BALANCE
- 43—MANUAL—AUTOMATIC MASTER TRANSFER FUNCTION SELECTOR SWITCH
- 225A/150A LOW VOLTAGE AIR CIRCUIT BREAKER WITH COORDINATED CL FUSES 225A FRAME AND 150A TRIP
- LOW VOLTAGE AIR CIRCUIT BREAKER WITH SHUNT TRIP DEVICE
- KEY INTERLOCK—DOTTED LINE WITH ARROWS INDICATES MOVEMENT OF KEY DURING INTERLOCK PROCEDURE
- A—METER, INSTRUMENT OR INSTRUMENT SWITCH
- SI—SPEED INDICATOR
- V—VOLTMETER
- TM—ELAPSED TIME METER
- W—WATTMETER
- VAR—VARMETER
- WHD—WATTHOUR DEMAND METER
- CS—"52" BREAKER CONTROL SWITCH
- W/VAR—COMBINATION WATTMETER/VARMETER
- WT—WATTS TRANSDUCER
- AS—AMMETER SWITCH
- VART—VARS TRANSDUCER
- VS—VOLTMETER SWITCH
- VT—VOLTS TRANSDUCER
- W/VSW—WATTMETER/VARMETER SWITCH
- AT—AMPERES TRANSDUCER
- MMS—MICROPROCESSOR BASED METERING SYSTEM
- PS—PHASE SHIFT TRANSFORMER
- GROUND CONNECTION
- LIGHTNING OR SURGE ARRESTOR
- SURGE CAPACITOR
- POWER TRANSFORMER WITH WINDING CONNECTIONS INDICATED
- CPT CONTROL POWER TRANSFORMER
- PT POTENTIAL TRANSFORMER

- CT CURRENT TRANSFORMER
- CURRENT TRANSFORMER - 3PHASE WINDOW TYPE
- THERMAL OVERLOAD ELEMENT (OL)
- 5 SQUIRREL CAGE MOTOR (INDICATE HORSEPOWER)
- G GENERATOR
- R INDICATING LIGHT (R—RED, G—GREEN, A—AMBER, B—BLUE, W—WHITE)
- COMBINATION STARTER WITH CONTROL TRANSFORMERS AND OVERLOAD RELAYS AND MOTOR CIRCUIT PROTECTOR
- FULL VOLTAGE NON REVERSING
- FULL VOLTAGE REVERSING
- FULL VOLTAGE TWO SPEED

SCHEMATIC AND WIRING DIAGRAM SYMBOLS

- OPERATING COIL
- M—MOTOR STARTER
- C—CONTACTOR
- F—FORWARD
- R—REVERSE
- AR—AUXILIARY RELAY
- CR—CONTROL RELAY
- TR—TIME DELAY RELAY
- NORMALLY OPEN CONTACT (NO.)
- NORMALLY CLOSED CONTACT (N.C.)
- NORMALLY OPEN CONTACT WITH TIME DELAY CLOSING (ON—DELAY)
- NORMALLY CLOSED CONTACT WITH TIME DELAY CLOSING (OFF—DELAY)
- NORMALLY CLOSED CONTACT WITH TIME DELAY OPENING (ON—DELAY)
- NORMALLY OPEN CONTACT WITH TIME DELAY OPENING (OFF—DELAY)
- R INDICATING LIGHT (R—RED, G—GREEN, A—AMBER, B—BLUE, W—WHITE)
- 3-POSITION SELECTOR SWITCH
- NORMALLY OPEN PUSHBUTTON—MOMENTARY CONTACT
- NORMALLY CLOSED PUSHBUTTON—MOMENTARY CONTACT
- DOUBLE CIRCUIT PUSHBUTTON WITH SPRING RETURN TO NORMAL
- TRANSFORMER
- OL OVERLOAD RELAY CONTACT
- THERMAL OVERLOAD ELEMENT (OL)
- ON-OFF SWITCH
- R RESISTOR
- S SOLENOID VALVE
- NORMALLY OPEN N.O.
- NORMALLY CLOSED N.C.
- LIMIT SWITCH
- FLOAT SWITCH
- PRESSURE SWITCH
- FLOW SWITCH
- TEMPERATURE
- TORQUE
- SEMICONDUCTOR BLOCKING DIODE

RECORD DRAWING

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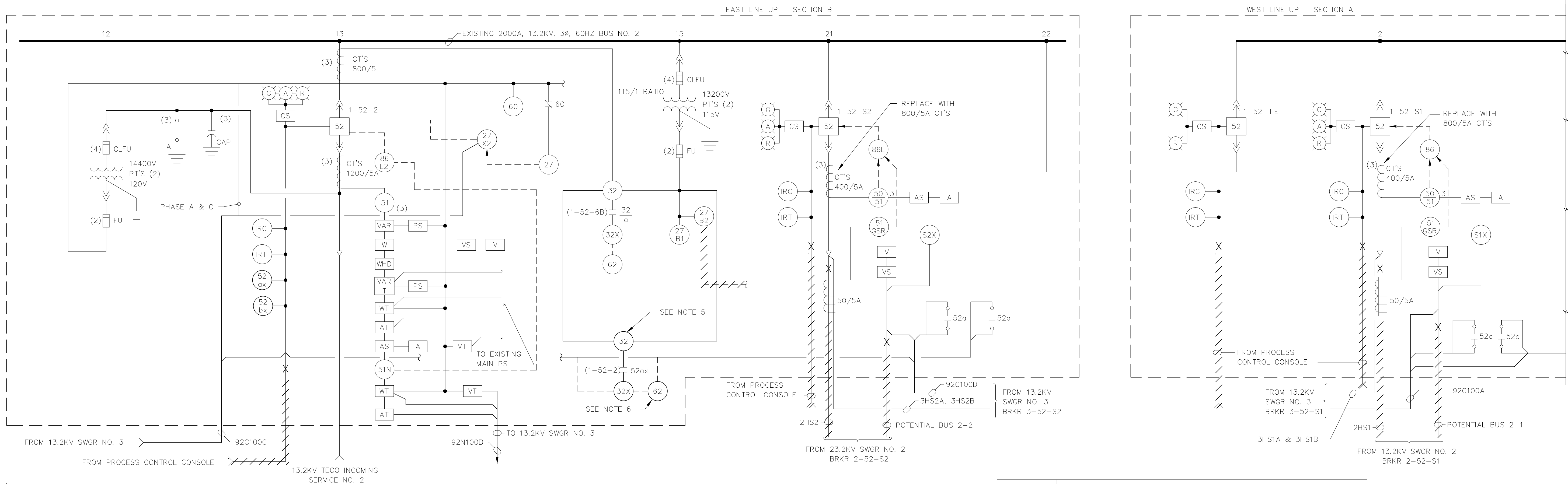
NOTE:

THE SYMBOLS SHOWN COMPRISE A GENERAL LEGEND TO FACILITATE USE OF PLANS. REFER TO THE PLANS AND SPECIFICATIONS FOR ITEMS REQUIRED.

FILE: H:BASE6 SCALE: 1:1 06/12/1996 at 09:11 - "13.dwg"

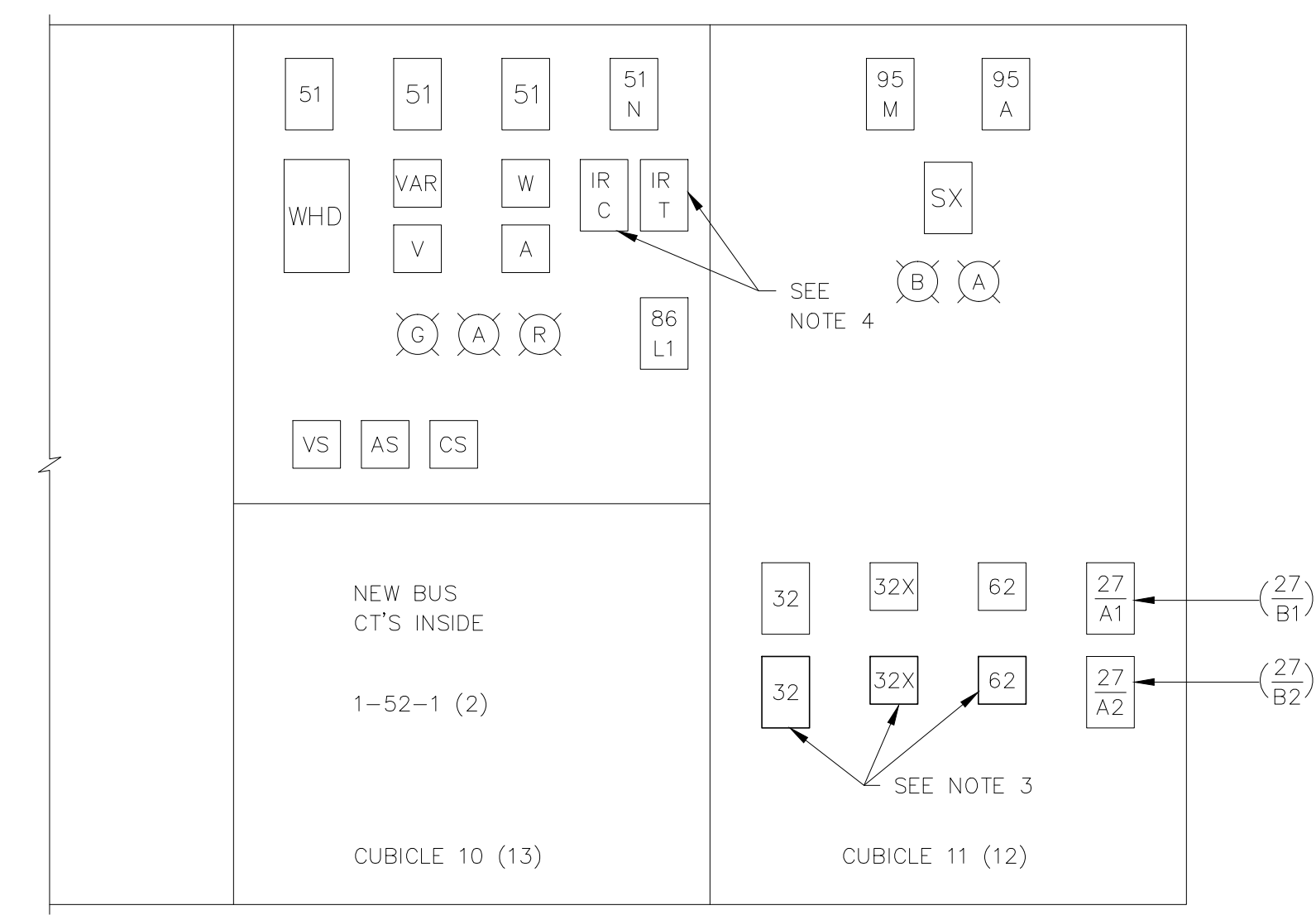
GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED BBK	APPROVED _____ DATE _____	SCALE		CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	GENERAL ELECTRICAL SYMBOL LIST	PROJ. NO. 202G
	DRAWN AK	_____ DATE _____	NO SCALE				DWG AE6
	CHECKED BBK	_____ DATE _____	2 7/31/96	RECORD DWG REVISIONS			SHEET
	GREELEY AND HANSEN, ENGINEERS	NO. DATE APPD	REVISION	DATE DECEMBER 1991			REV 2

5H3B_OAE-006



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13.2KV SWITCHGEAR NO. 1 - MODIFICATIONS TO FRONT ELEVATIONS OF CUBICLES 10, 11

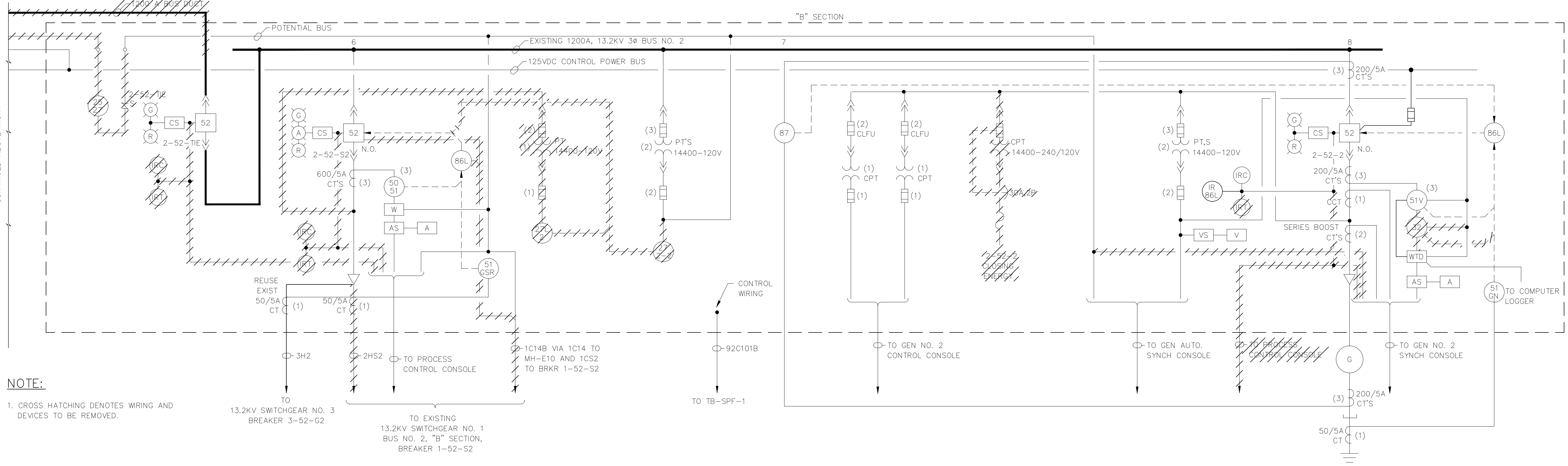
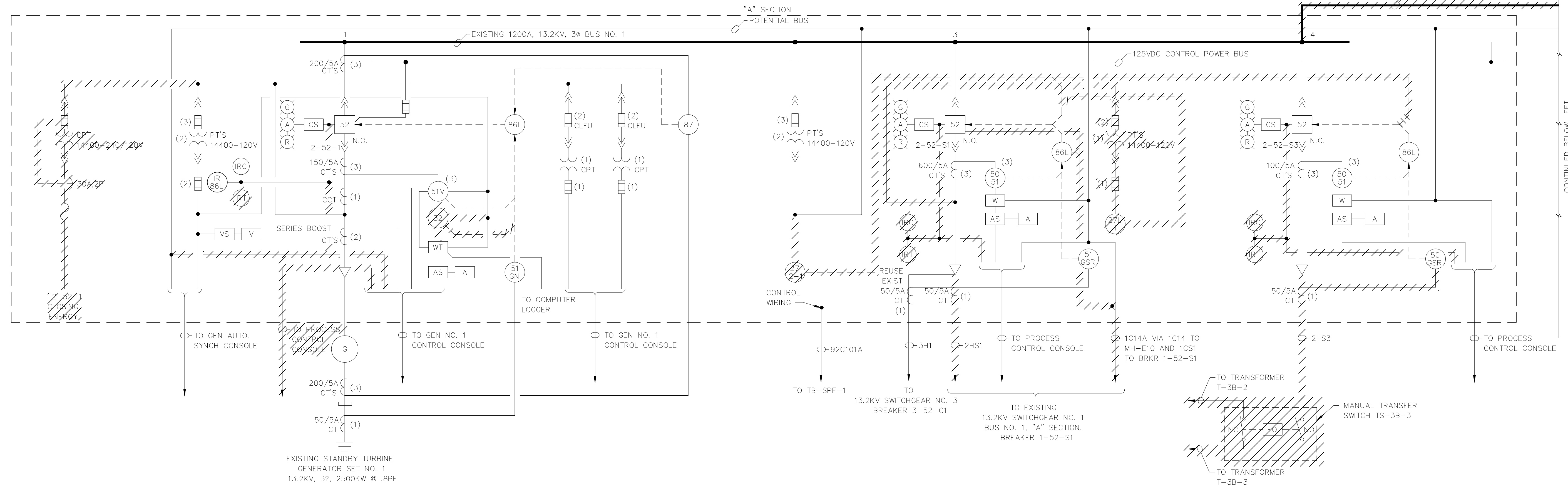
- NOTES:**
- ALL EXISTING EQUIPMENT AND WIRING IS SHOWN IN LIGHT LINE WORK. NEW EQUIPMENT AND WIRING IS SHOWN HEAVY. CERTAIN EXISTING DEVICES NOT AFFECTED BY THIS WORK ARE NOT SHOWN.
 - DRILL AND CUT SWITCHGEAR DOORS FOR INSTALLATION OF NEW RELAYS AS REQUIRED.
 - REMOVE EXISTING INTERPOSING RELAYS AND REPLACE WITH AUXILIARY RELAYS 52ax AND 52bx.
 - WIRE NEW 32 RELAY TO SENSE MINIMUM POWER FLOW FROM TECO. 32 RELAY SHALL BE GE TYPE 12CCP13E1A WITH PICKUP SET AT 0.016A. 62 RELAY SHALL BE GE TYPE 12SAM17A22A WITH 0.05-3 SEC TIMING RANGE, SET AT 0.7 SEC.

RECORD DRAWING
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13.2KV SWITCHGEAR NO. 1 - MODIFICATIONS TO THE EXISTING ONE LINE DIAGRAM

FILE: H3B-AE07 SCALE: 1:1 09/10, 1996 of 15:29 - 413.dwg

GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED: RZ	APPROVED: _____	SCALE		CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	ELECTRICAL See Supplemental Drawing SD-47 GENERAL ONE LINE DIAGRAM 13.2KV OUTDOOR SWITCHGEAR NO. 1 - MODIFICATIONS	PROJ. NO. 202G	
	DRAWN: AF	DATE: _____	NO SCALE				DWG. AE7	
	CHECKED: BBK	DATE: 7/31/96	NO. 4	DATE 7/31/96			REVISION RECORD DWG REVISIONS	SHEET _____
		GREELEY AND HANSEN, ENGINEERS	NO.	DATE			APPD	REVISION	DATE DECEMBER 1991	REV 4



NOTE:

- 1. CROSS HATCHING DENOTES WIRING AND DEVICES TO BE REMOVED.

MODIFICATIONS TO EXISTING 13.2KV SWITCHGEAR NO. 2

GREELEY AND HANSEN ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED RZ
DRAWN SK, AF
CHECKED BBK

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
3	7/31/96		RECORD DWG REVISIONS

SCALE
NO SCALE

CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

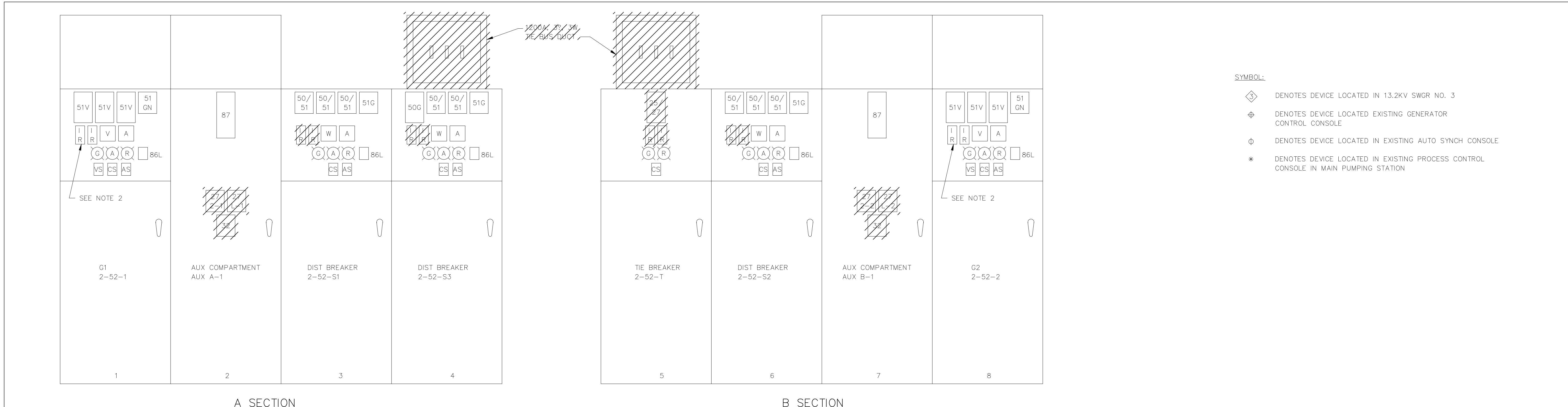
GENERAL ELECTRICAL
ONE LINE DIAGRAM
13.2KV INDOR SWITCHGEAR NO. 2 - MODIFICATIONS

PROJ NO.	202G
DWG SHEET	AE10
DATE	DECEMBER 1991
REV	3

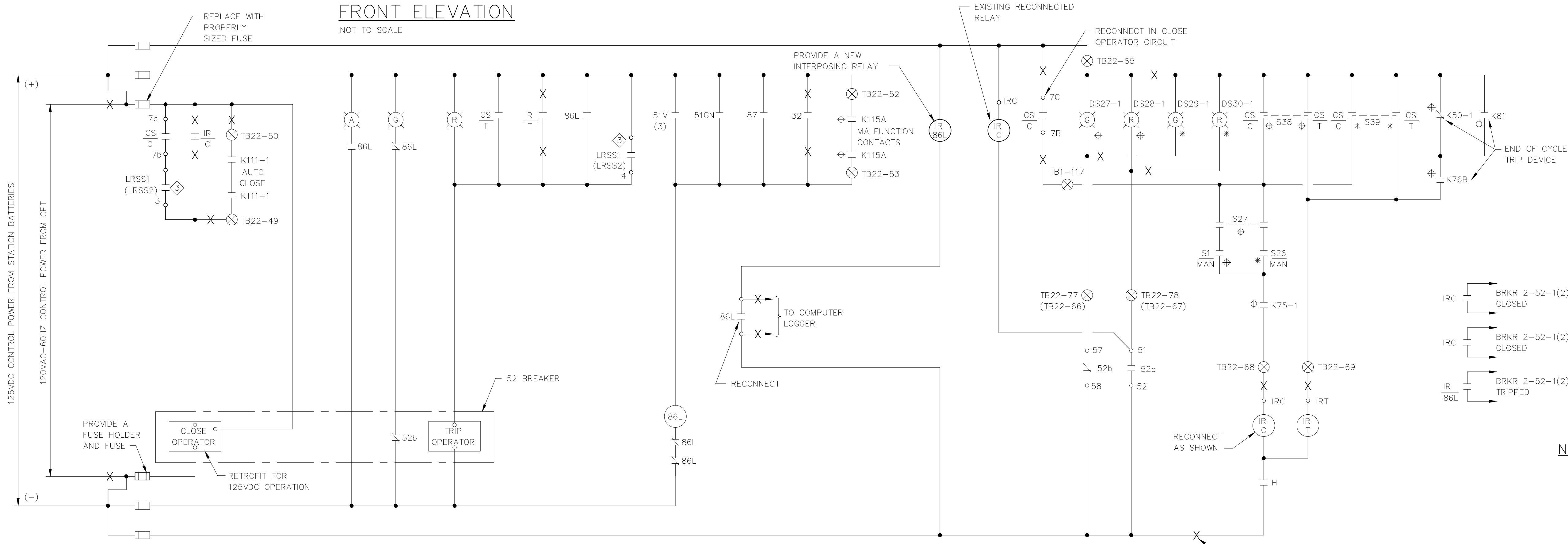
5H3B_0AE-010

FILE: H3B-AE10 SCALE: 1:1 09/05, 1996 at 14:11 - "13.2kv (hereinafter Loozy")

RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.



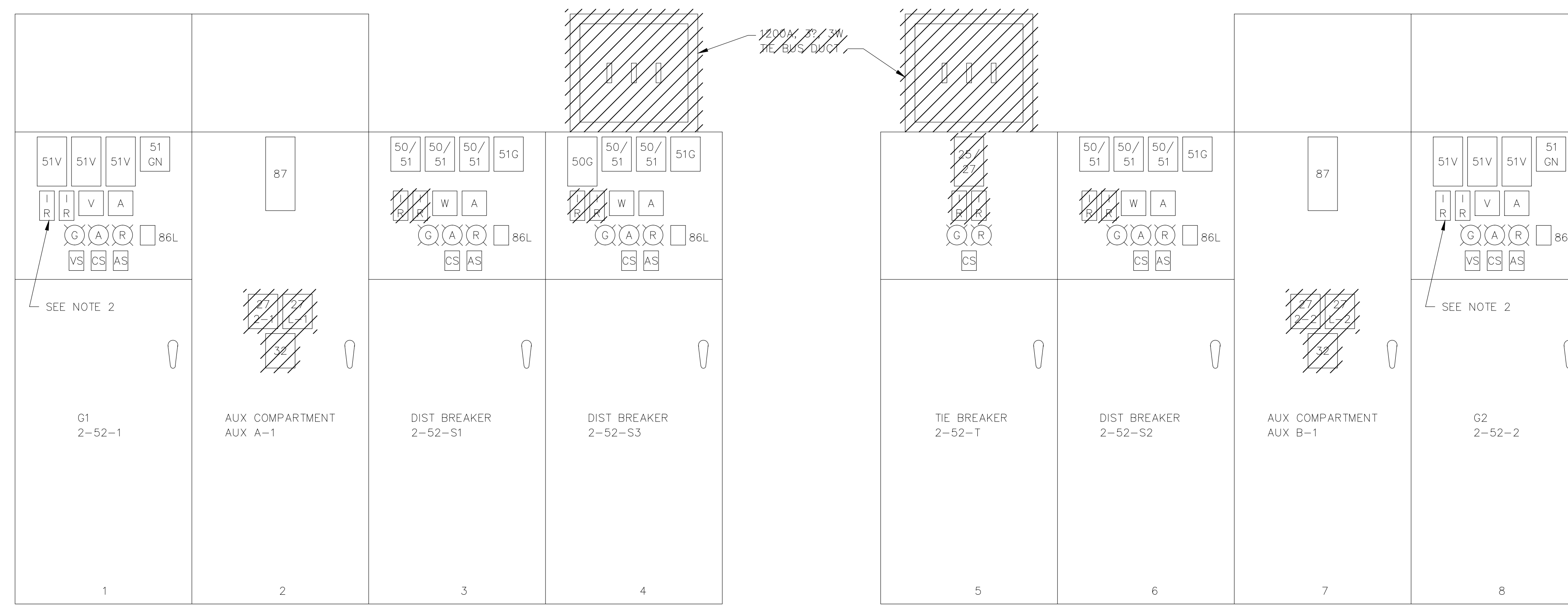
MODIFICATIONS TO EXISTING 13.2KV SWITCHGEAR NO. 2 FRONT ELEVATION



MODIFICATIONS TO EXISTING CONTROLS FOR GENERATOR NO. 1 MAIN BREAKER 2-52-1
(SIMILAR FOR GEN NO. 2 MAIN BREAKER 2-52-2)

FILE: H3B-AE11 SCALE: 1:1 09/05/1996 at 14:19 - *13_2kv (Hardware Load)*

GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED RZ	APPROVED _____ DATE _____	SCALE NOT TO SCALE	CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	GENERAL ELECTRICAL SCHEMATIC DIAGRAMS 13.2KV INDOOR SWITCHGEAR NO. 2 - MODIFICATIONS	<div style="border: 1px solid red; padding: 2px; color: red; font-weight: bold;">See Supplemental Drawing SD-50</div>	PROJ. NO. 202G
	DRAWN AF	DATE 8/1/96					DWG AE11
	CHECKED BBK	RECORD DWG REVISIONS					SHEET
	DATE DECEMBER 1991	REVISION 3					DATE DECEMBER 1991 REV 3

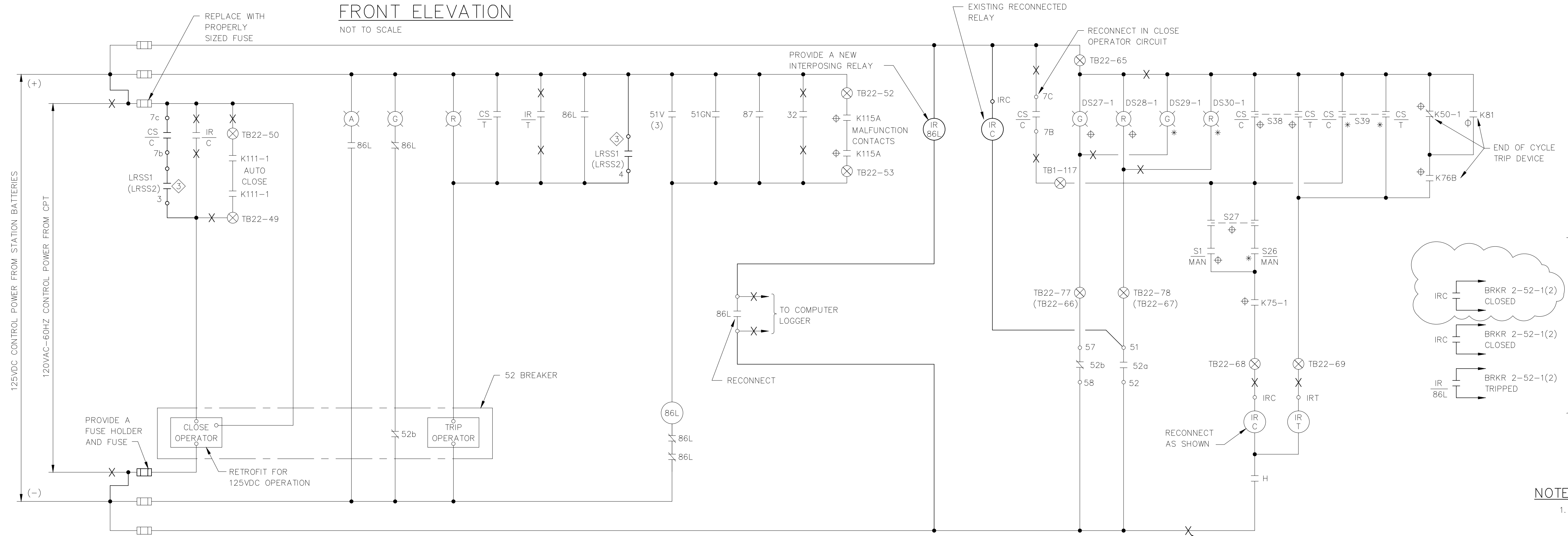


- SYMBOL:
- ◊ DENOTES DEVICE LOCATED IN 13.2KV SWGR NO. 3
 - ⊕ DENOTES DEVICE LOCATED EXISTING GENERATOR CONTROL CONSOLE
 - ⊖ DENOTES DEVICE LOCATED IN EXISTING AUTO SYNCH CONSOLE
 - * DENOTES DEVICE LOCATED IN EXISTING PROCESS CONTROL CONSOLE IN MAIN PUMPING STATION

A SECTION B SECTION

MODIFICATIONS TO EXISTING 13.2KV SWITCHGEAR NO. 2 FRONT ELEVATION

NOT TO SCALE



MODIFICATIONS TO EXISTING CONTROLS FOR GENERATOR NO. 1 MAIN BREAKER 2-52-1

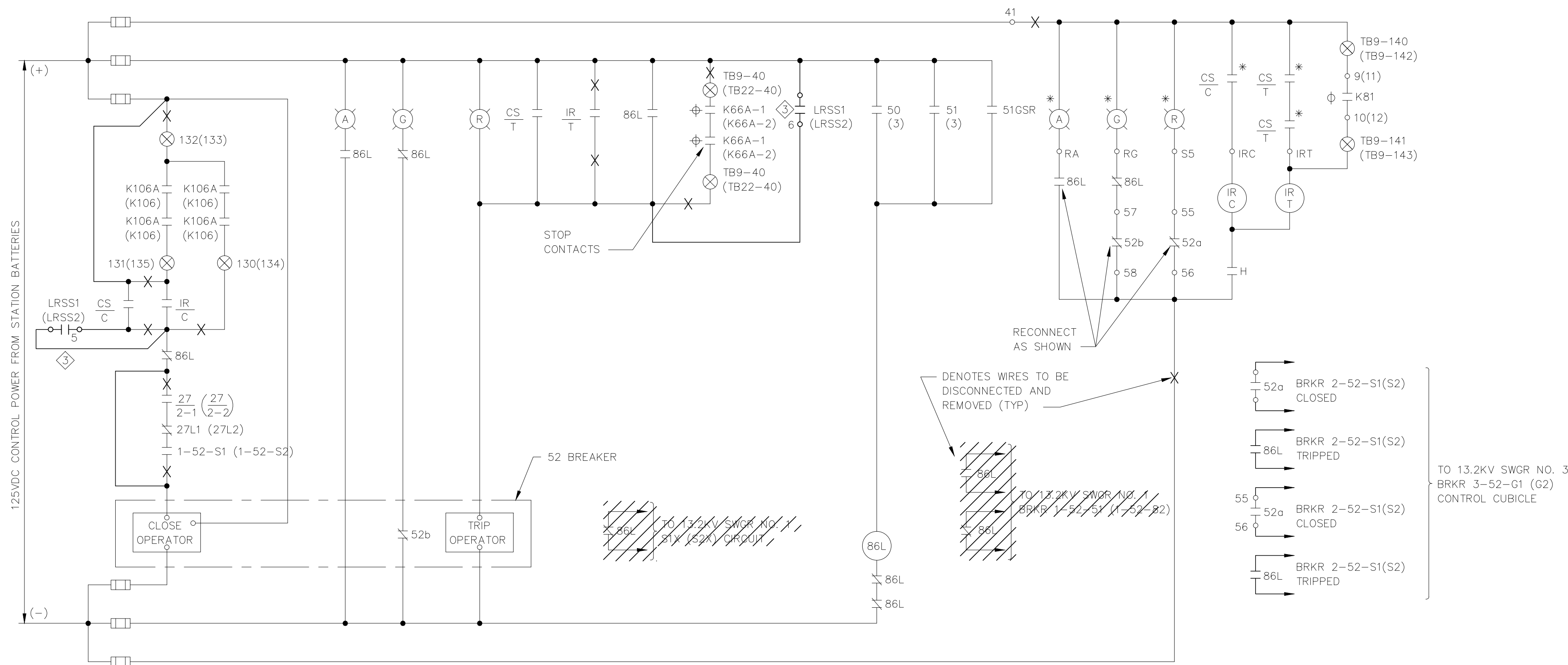
(SIMILAR FOR GEN NO. 2 MAIN BREAKER 2-52-2)

- NOTES:
1. REMOVE CROSS HATCHED DEVICES AND PROVIDE BLANK PLATES TO COVER OPENINGS. PLATES SHALL BE THE SAME GAUGE STEEL AS THE SWITCHGEAR EXTERIOR AND PAINTED TO MATCH EXISTING FINISH.
 2. REPLACE RELAY IR/T WITH RELAY IR/86L.

REVISES DWG AE11

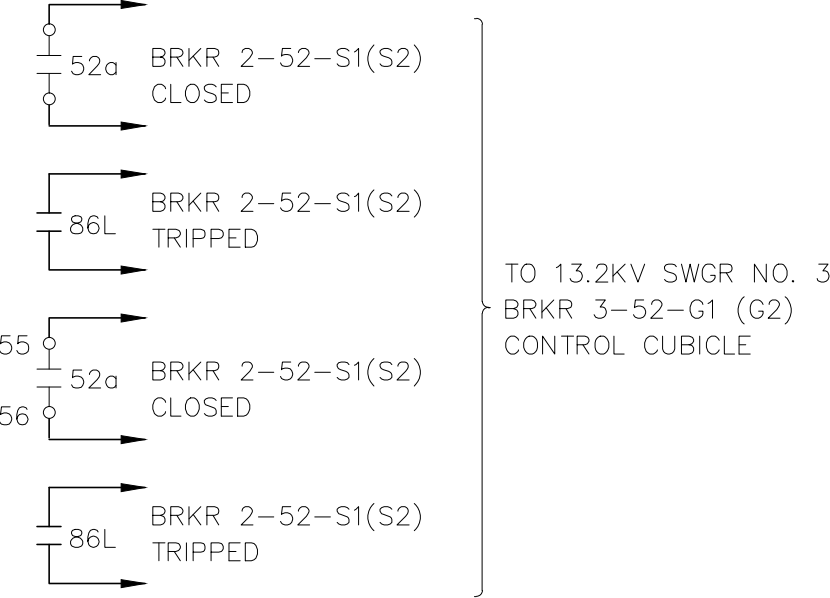
Greeley and Hansen ENGINEERS 4350 WEST CYPRESS STREET TAMPA, FLORIDA 33607-4135	DESIGNED: RZ	APPROVED: _____	SCALE		CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	GENERAL ELECTRICAL SCHEMATIC DIAGRAMS 13.2KV INDOOR SWITCHGEAR NO. 2 - MODIFICATIONS	PROJ. NO. 202G	
	DRAWN: AF	DATE: _____	NOT TO SCALE				DWG SD-50	
CHECKED: BBK	Greeley and Hansen, Engineers	NO. _____	DATE _____	APPD _____	REVISION _____	SHEET _____	DATE DECEMBER 1991	REV 0

5H3B_OAE-011A



**MODIFICATIONS TO EXISTING CONTROLS FOR
DISTRIBUTIONS BREAKER 2-52-S1**
(SIMILAR FOR DISTRIBUTION BREAKER 2-52-S2)

- SYMBOL:**
- ◇ DENOTES DEVICE LOCATED IN 13.2KV SWITCHGEAR NO. 3
 - ⊕ DENOTES DEVICE LOCATED EXISTING GENERATOR CONTROL CONSOLE
 - ⊙ DENOTES DEVICE LOCATED IN EXISTING AUTO SYNCH CONSOLE
 - * DENOTES DEVICE LOCATED IN EXISTING PROCESS CONTROL CONSOLE IN MAIN PUMPING STATION



RECORD DRAWING
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FILE: H3B-AE12 SCALE: 1:1 09/05/1996 at 14:26 - *13_ech (Howard Lusk)

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED RZ
DRAWN AF
CHECKED BBK

APPROVED _____
DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
3	8/1/96		RECORD DWG REVISIONS

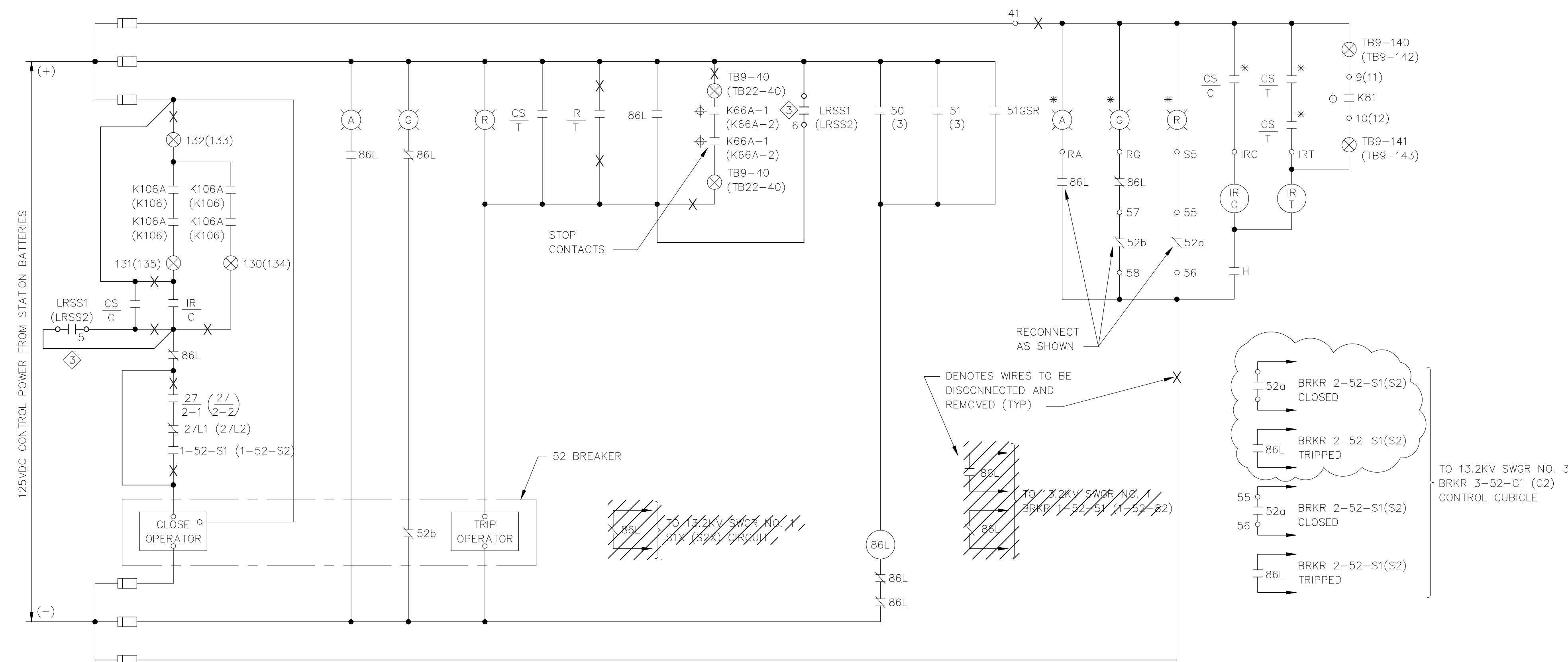
SCALE
NOT TO SCALE

CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

GENERAL
ELECTRICAL
SCHEMATIC DIAGRAMS
13.2KV INDOOR SWITCHGEAR NO. 2 - MODIFICATIONS

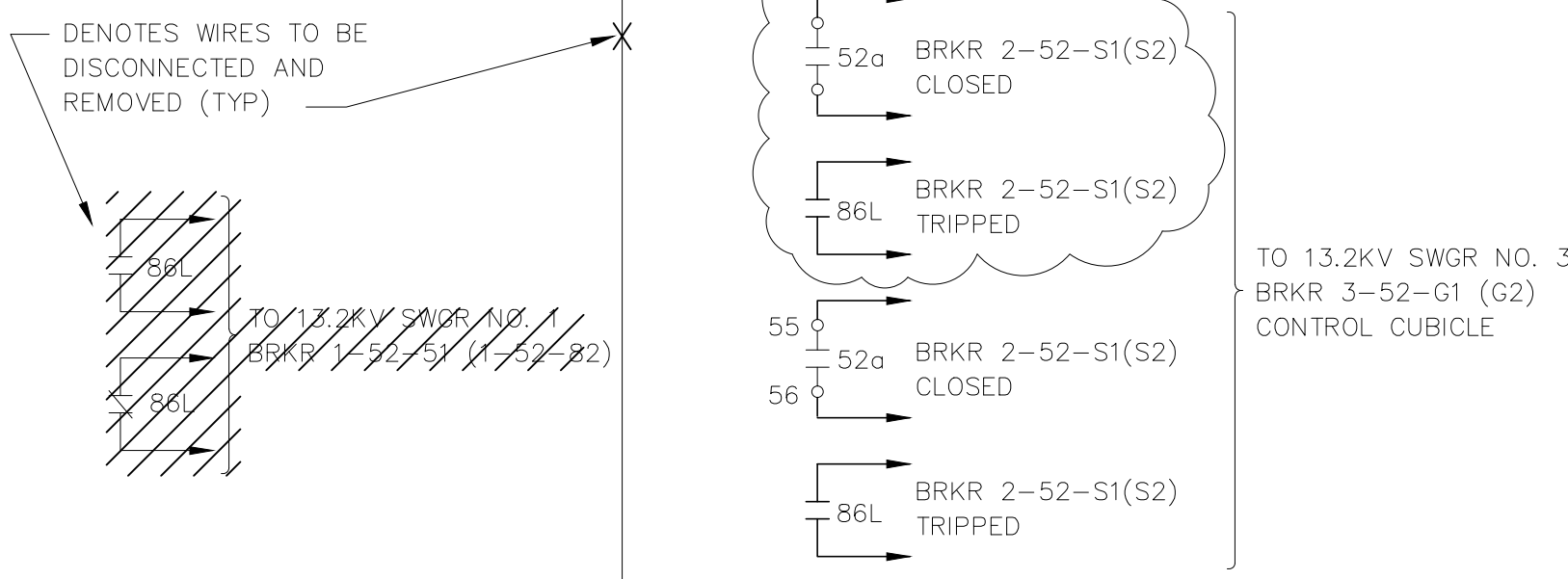
See Supplemental
Drawing SD-51

PROJ. NO.	202G
DWG	AE12
SHEET	
DATE	DECEMBER 1991
REV	3



- SYMBOL:
- ◇ DENOTES DEVICE LOCATED IN 13.2KV SWITCHGEAR NO. 3
 - ⊕ DENOTES DEVICE LOCATED EXISTING GENERATOR CONTROL CONSOLE
 - ⊖ DENOTES DEVICE LOCATED IN EXISTING AUTO SYNCH CONSOLE
 - * DENOTES DEVICE LOCATED IN EXISTING PROCESS CONTROL CONSOLE IN MAIN PUMPING STATION

MODIFICATIONS TO EXISTING CONTROLS FOR DISTRIBUTIONS BREAKER 2-52-S1
 (SIMILAR FOR DISTRIBUTION BREAKER 2-52-S2)



REVISES DWG AE12

GREELEY AND HANSEN ENGINEERS
 4350 WEST CYPRESS STREET
 TAMPA, FLORIDA 33607-4135

DESIGNED RZ
 DRAWN AF
 CHECKED BBK

APPROVED _____
 DATE _____
 GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION

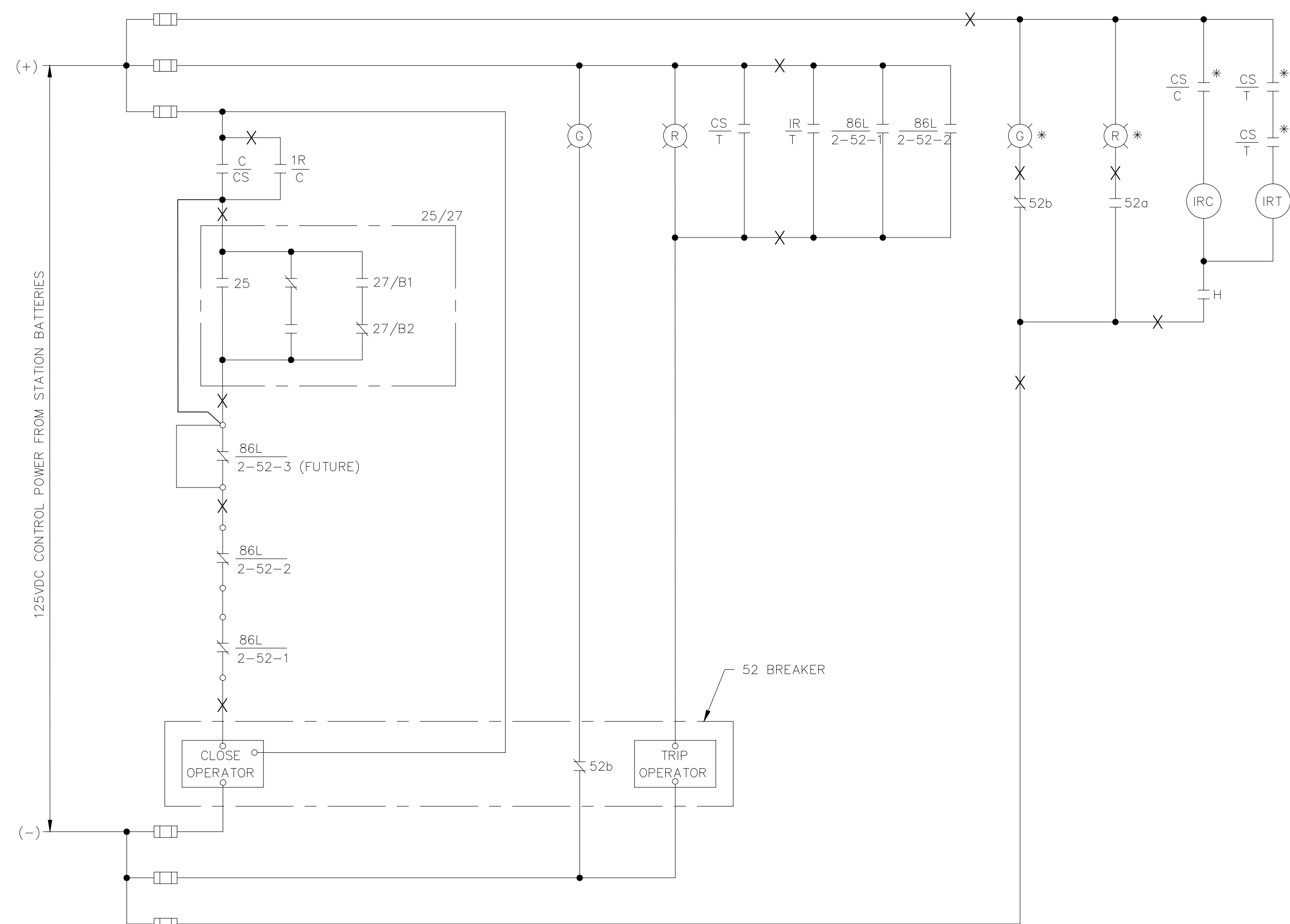
SCALE
 NOT TO SCALE

CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT EXPANSION
 PHASE I DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

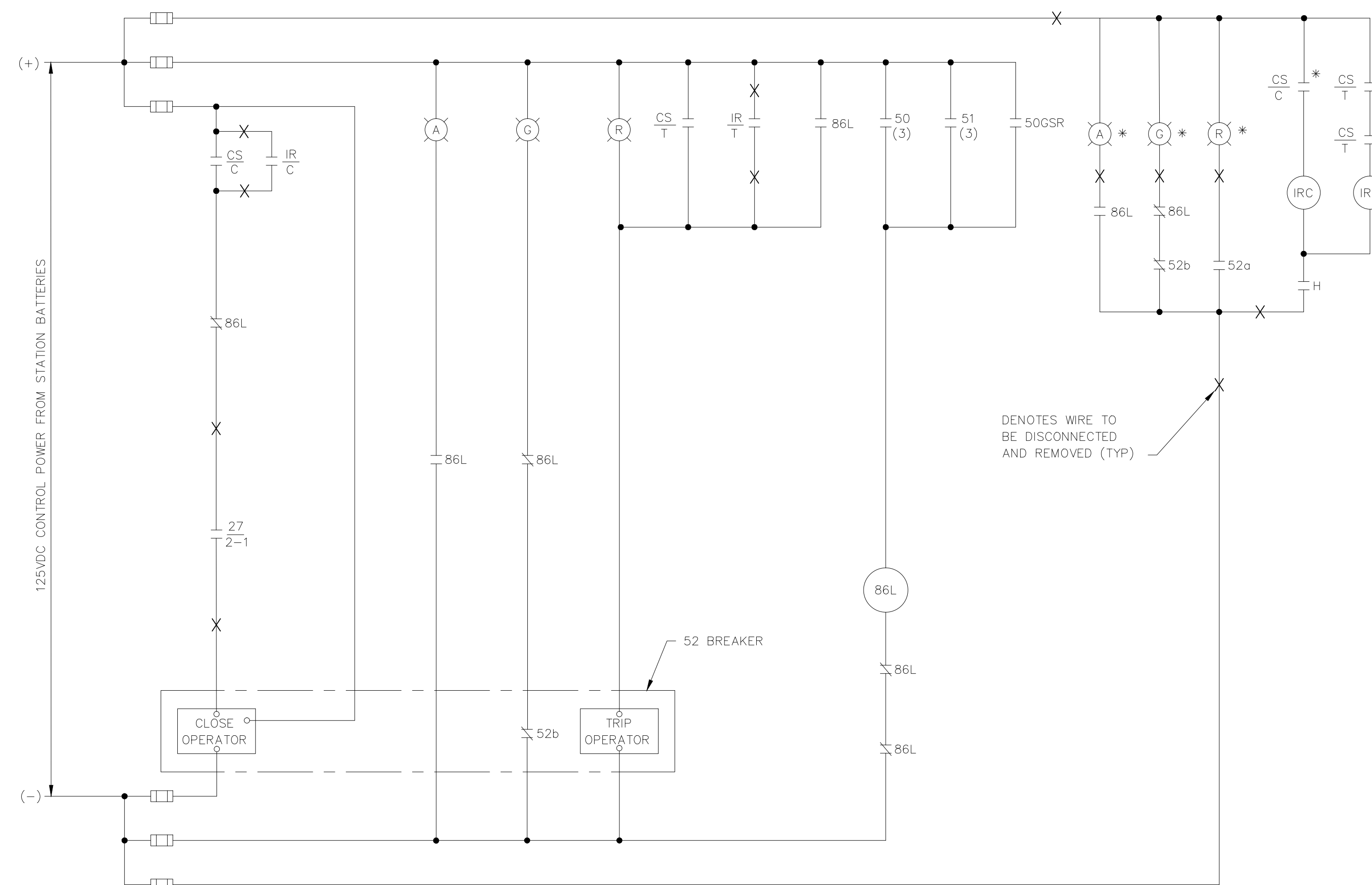
GENERAL
 ELECTRICAL
 SCHEMATIC DIAGRAMS
 13.2KV INDOOR SWITCHGEAR NO. 2 - MODIFICATIONS

PROJ. NO.	202G
DWG	SD-51
SHEET	
DATE	DECEMBER 1991
REV	0

5H3B_OAE-012A



**MODIFICATIONS TO EXISTING CONTROLS FOR
TIE BREAKER 2-52-TIE**
(BREAKER TO REMAIN AS SPARE)



**MODIFICATIONS TO EXISTING CONTROLS FOR
DISTRIBUTION BREAKER 2-52-S3**
(BREAKER TO REMAIN AS SPARE)

SYMBOL:

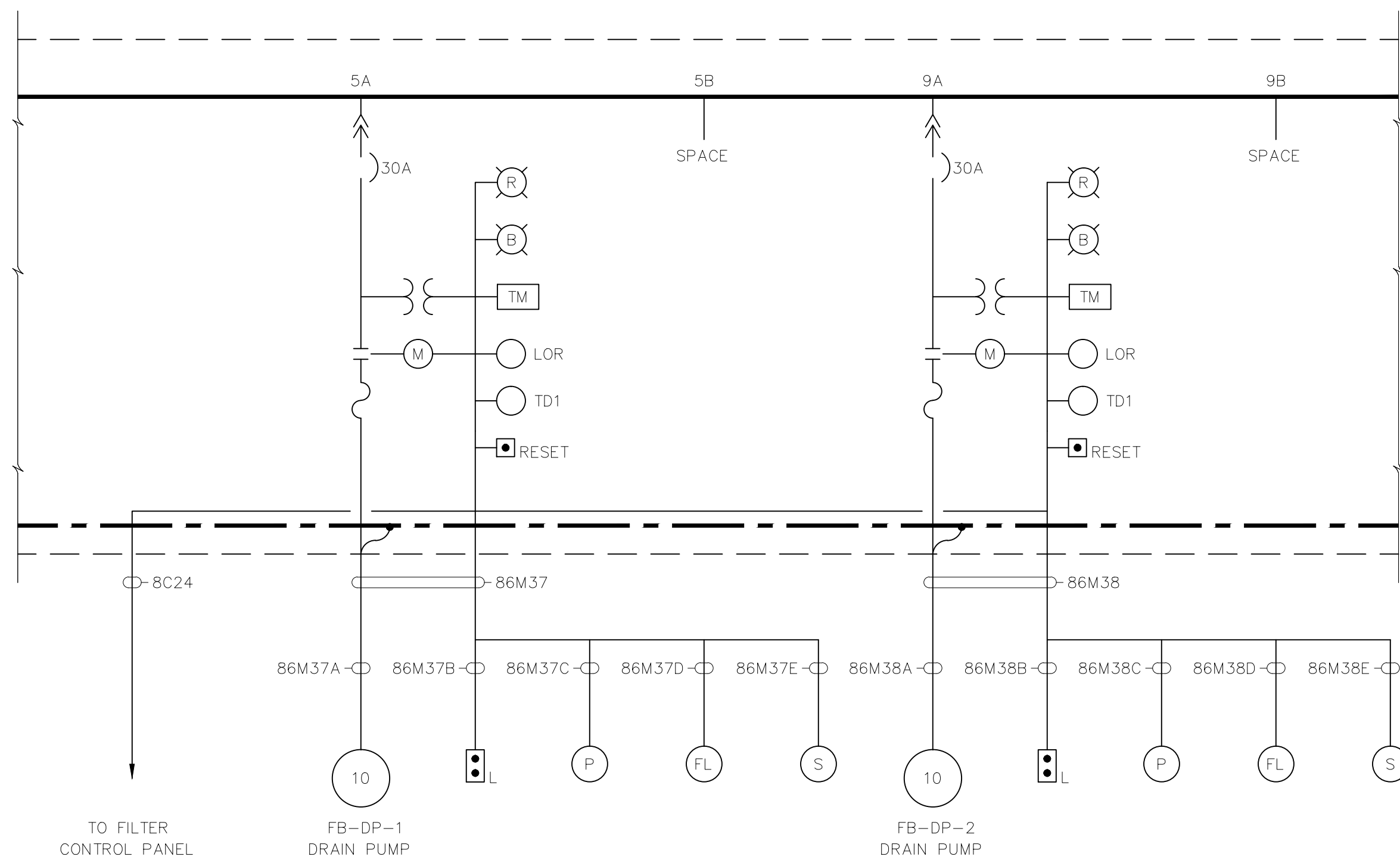
- * DENOTES DEVICE LOCATED IN EXISTING PROCESS CONTROL CONSOLE IN MAIN PUMPING STATION

RECORD DRAWING

THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

FILE: H3B-AE13 SCALE: 1:1 08/05, 1996 at 14:31 - *13.dwg (Hardware Load)*

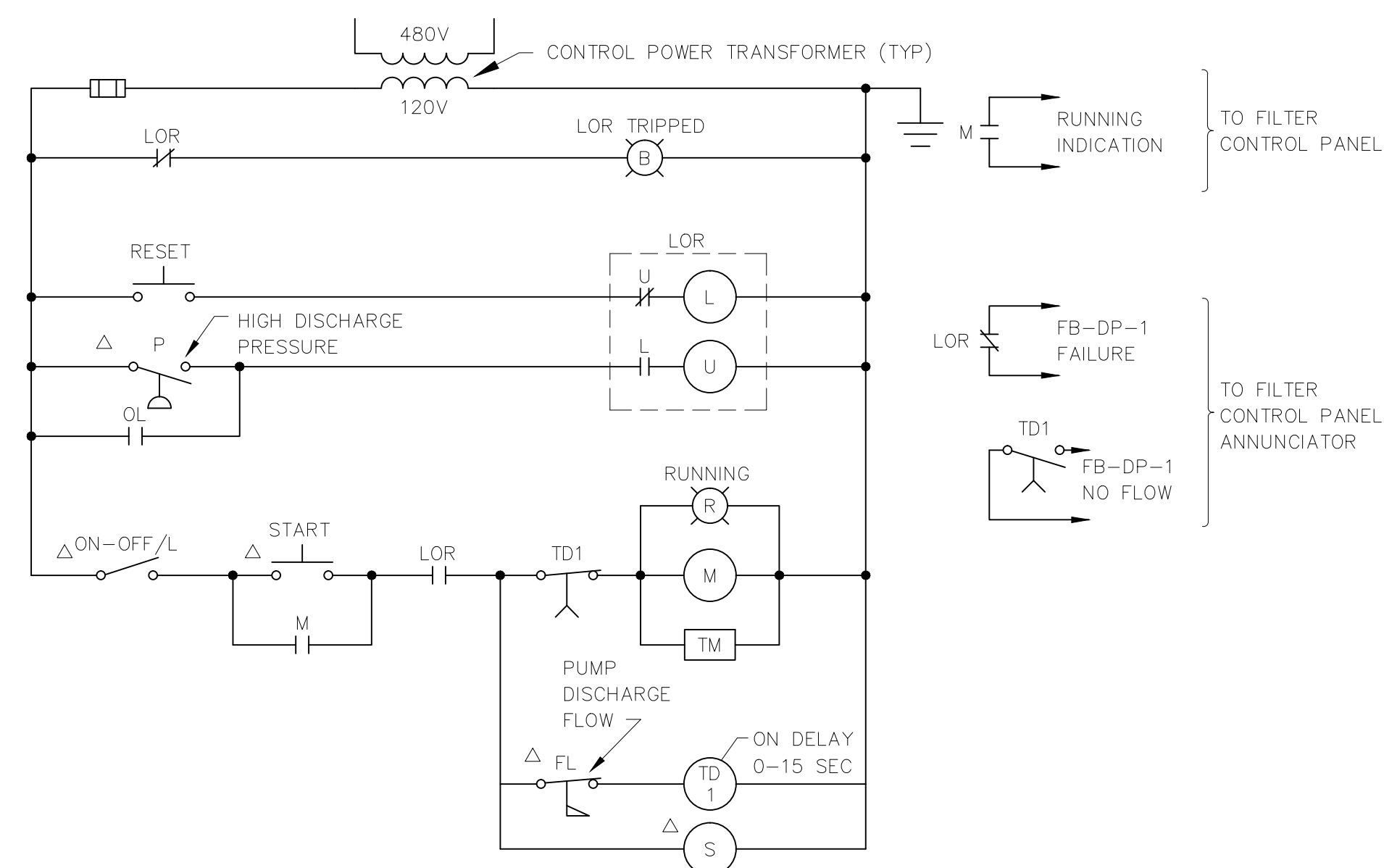
GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED RZ	APPROVED _____	SCALE	CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	GENERAL ELECTRICAL SCHEMATIC DIAGRAMS 13.2KV INDOOR SWITCHGEAR NO.2 - MODIFICATIONS	PROJ. NO. 202G
	DRAWN ATK	DATE _____	NOT TO SCALE			DWG AE13
	CHECKED BBK	DATE _____	RECORD DWG REVISIONS			SHEET
GREELEY AND HANSEN, ENGINEERS		NO. 3	DATE 8/1/96	APPD.	REVISION	DATE DECEMBER 1991 REV 3



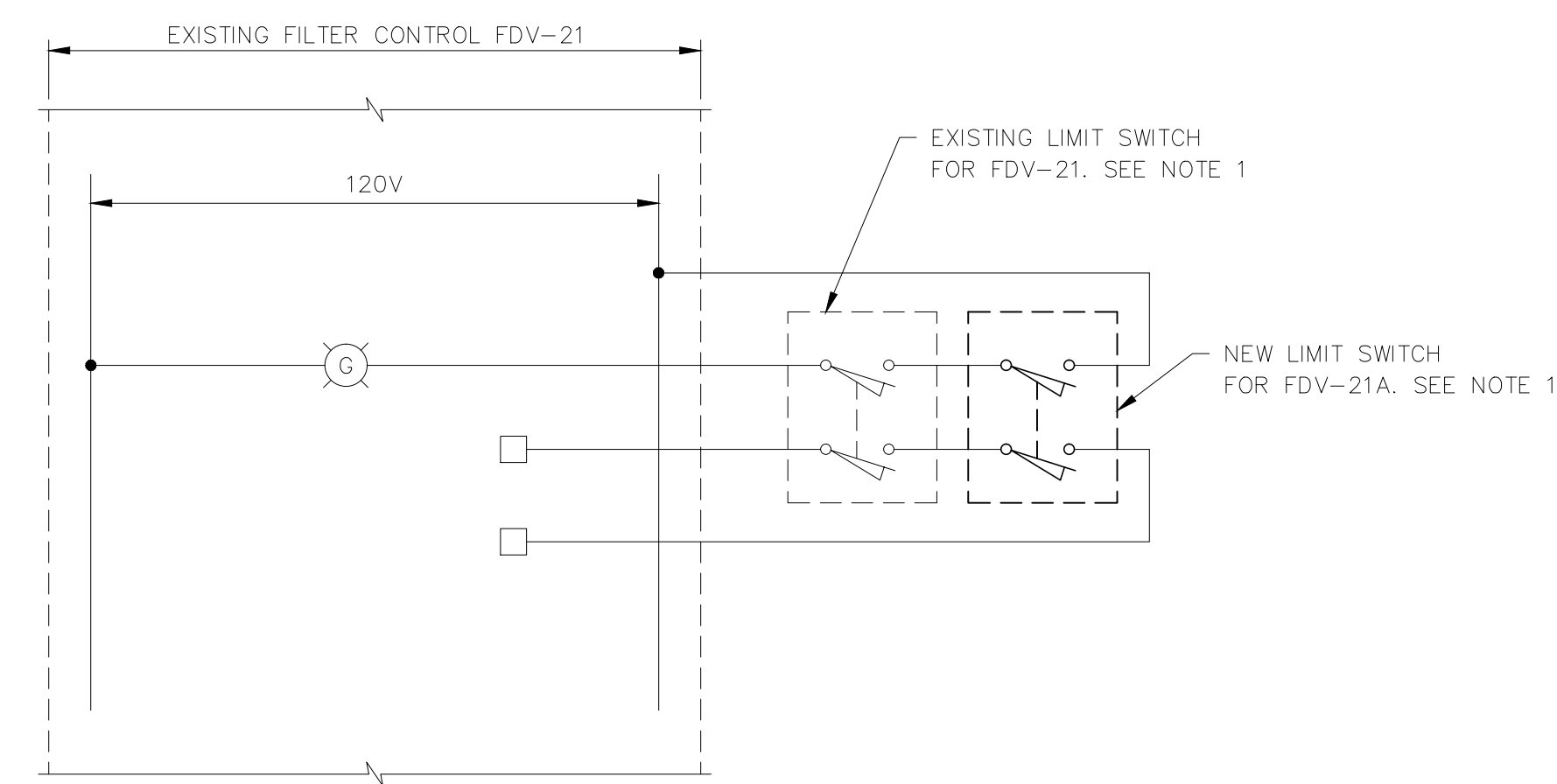
MCC-86 PARTIAL ONE LINE DIAGRAM

1	2	3	4	5	6	7	8	9	10	11	12	13	
A	B	A	B	A	B	A	B	A	B	A	B	A	B
C	C	C		B				B	C	D	C	C	C
D	D	D	B	C				C	E	F	D	D	D
E	E	E			B	B	B		G		E	E	E
		F						H					

MCC-86 FRONT ELEVATION



DRAIN PUMP FB-DP-1
SIMILAR FOR FB-DP-2



EXISTING FILTER CONTROL FDV-21
IN FILTER BUILDING NO. 2
PARTIAL SCHEMATIC

TYPICAL FOR FDV 22 THRU 26 AND FDV-31 THRU 36
SEE NOTE 1

NOTE:

- FURNISH AND INSTALL A NEW LIMIT SWITCH WITH TWO NORMALLY OPEN CONTACTS ON THE NEW FILTER DRAIN VALVES. WIRE EACH CONTACT FROM THE NEW LIMIT SWITCH FDV-21A IN SERIES WITH THE NORMALLY OPEN CONTACTS FROM THE EXISTING FILTER DRAIN VALVE LIMIT SWITCH.

RECORD DRAWING

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FILE: H3B-AE14 SCALE: 1:1 09/17/1996 at 07:34 - *13_c4h (brdwre lock)*

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED CSC
DRAWN AF
CHECKED BBK

APPROVED _____ DATE _____
DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
2	8/1/96		RECORD DWG REVISIONS

SCALE

NOT TO SCALE

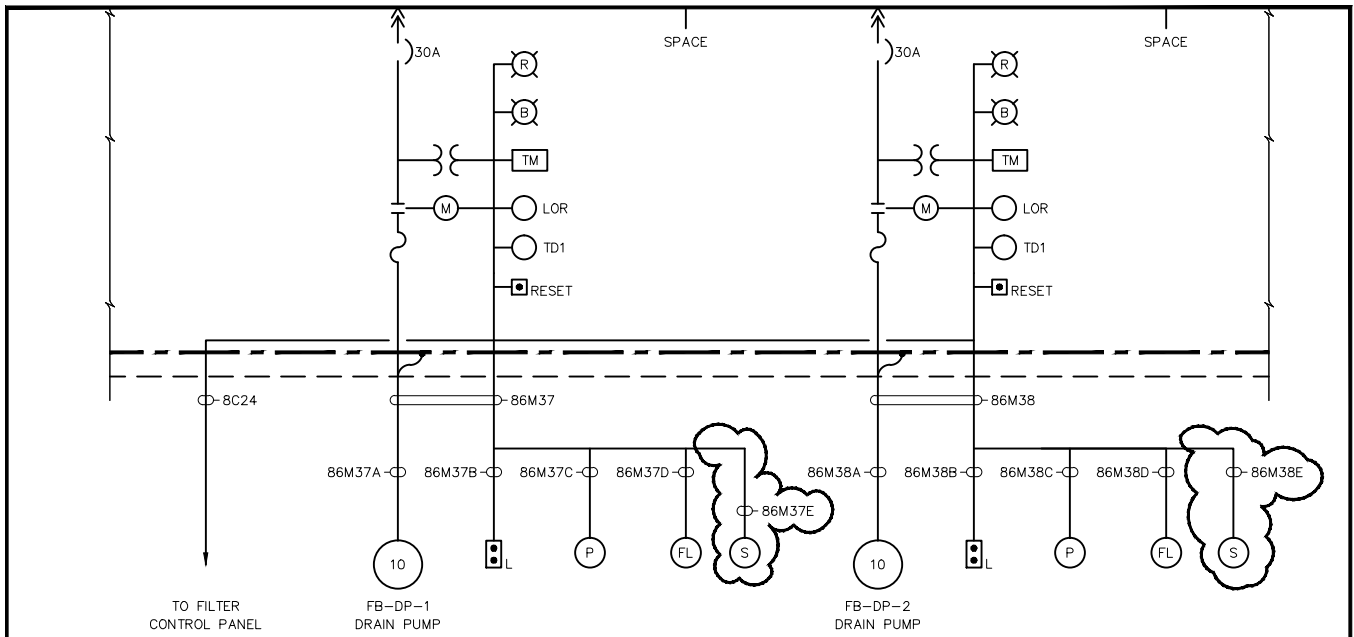
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

GENERAL
ELECTRICAL
MCC-86 ONE LINE DIAGRAM
SCHEMATIC DIAGRAMS

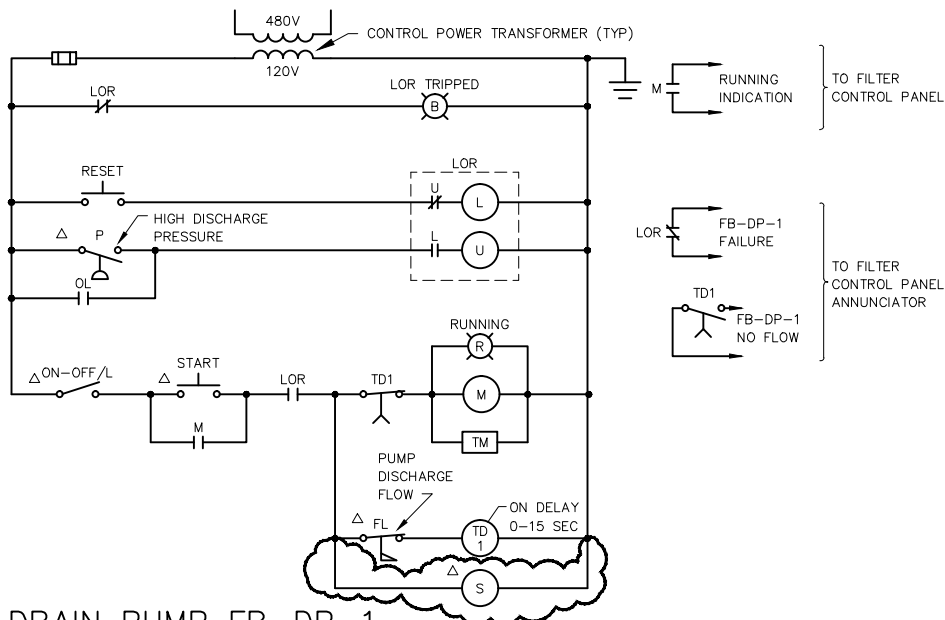
See Supplemental
Drawing SD-44

PROJ NO.	202G
DWG	AE14
SHEET	
DATE	DECEMBER 1991
REV	2

5H3B_OAE-014



MCC-86 PARTIAL ONE LINE DIAGRAM



DRAIN PUMP FB-DP-1
SIMILAR FOR FB-DP-2

REVISES DWG AE14

DES MMN	CKD BBK				H.P.W.W.T.P.
DR GR	APPD				DIVISION 5H3B
GREELEY AND HANSEN ENGINEERS TAMPA, FLORIDA 34607					SD-44
NO.	DATE	APPD	REVISION	DATE	NOV 94 NO. 0

5H3B_OAE-014A

EXIT SIGN FIXTURE SCHEDULE

MARK	MANUFACTURER OR EQUAL	CATALOG NUMBER	VOLTS	LAMPS			MOUNTING		DESCRIPTION
				NO.	WATTS.	TYPE.			
XM	SURE LITES	EP-UMB-EX-RWFP-P	120	2	6	FLUORESCENT	SURFACE	WALL	NEMA 4X, 90 MINUTE CAPACITY, SEALED NICKEL CADMIUM BATTERY WITH 10 YEAR LIFE EXPECTANCY
XF	ALKCO	EAX-12-FL-12	120	2	8	FLUORESCENT F8T5	PENDANT	CLG	SINGLE FACE WITH DOWNLIGHT, INTEGRAL EMERGENCY BATTERY PACKAGE, GLASS PANEL, 6" RED LETTERS ON WHITE BACKGROUND, DURONODIC 313 BRONZE FINISH

LIGHTING FIXTURE SCHEDULE

MARK	MANUFACTURER OR EQUAL	CATALOG NUMBER	VOLTS	LAMPS			MOUNTING		DESCRIPTION
				NO.	WATTS.	TYPE.			
EH	HOLOPHANE	EH-10-2C	277	2	35	12 VDC PAR 36	SURFACE	WALL	NEMA 4X, TWO ADJUSTABLE LAMP HEADS, 90 MINUTE CAPACITY SEALED BATTERY WET LOCATION
FB	METALUX	VT296DR-277-GL-WL-VR	277	2	60	FLUORESCENT F96T12/CW /WM	SURFACE	CLG	INDUSTRIAL VAPORTIGHT FLUORESCENT HIGH IMPACT LENS SUITABLE FOR WET LOCATIONS AND CHEMICAL RESISTANCE
FB1	METALUX	VT296DR-277-GL-EL4 -WL-VR	277	2	60	FLUORESCENT F96T12/CW /WM	SURFACE	CLG	INDUSTRIAL VAPORTIGHT FLUORESCENT HIGH IMPACT LENS SUITABLE FOR WET LOCATIONS AND CHEMICAL RESISTANCE WITH EMERGENCY BATTERY PACK
FH1	KENALL	7280-277-EL-9111(GLR)	277	2	34	FLUORESCENT F40T12/CW/WM	SURFACE	WALL	WALL BRACKET FLUORESCENT HIGH IMPACT LENS SUITABLE FOR WET LOCATIONS, WITH EMERGENCY BATTERY PACK
FG	METALUX	VT296DR-277-GL-WL-VR	277	2	60	FLUORESCENT F96T12/CW /WM	PENDANT	CLG	INDUSTRIAL VAPORTIGHT FLUORESCENT HIGH IMPACT LENS SUITABLE FOR WET LOCATIONS AND CHEMICAL RESISTANCE
FG1	METALUX	VT296DR-277-GL-EL4 -WL-VR	277	2	60	FLUORESCENT F96T12/CW /WM	PENDANT	CLG	INDUSTRIAL VAPORTIGHT FLUORESCENT HIGH IMPACT LENS SUITABLE FOR WET LOCATIONS AND CHEMICAL RESISTANCE WITH EMERGENCY BATTERY PACK
FK	LIGHTING FIXTURE: GENERAL ELECTRIC POLE: UNION METAL	PF4S-24-S-4-H-1-6X6-DB-F	277	1	250	HPS	POLE	20'	FLOOD TYPE LUMINAIRES MOUNTED ON 20' HIGH ALUMINUM POLE. AIM FIXTURES AT AN ANGLE OF 24° WITH HORIZONTAL PLANE. FIXTURE RATED FOR 110 MPH STEADY WINDS WITH 1.3 GUST
		171-156-0640-200-F-BRZ							
GA	GENERAL ELECTRIC	W1LR-05-S-4H1LS-N4DB-F	277	1	50	HPS	SURFACE	WALL	WALL MOUNTED AREA LIGHT, WEATHERPROOF, LEXAN LENS
GM	HOLOPHANE	PTB-400MH-27-L-P-635-F1	277	1	400	MH	PENDANT	CLG	INDUSTRIAL FIXTURE WITH ENCLOSED PRISMATIC GLASS REFLECTOR, INTEGRAL BALLAST
GM1	HOLOPHANE	PTB-400MH-27-L-P-635-F1-EM	277	1	400	MH	PENDANT	CLG	INDUSTRIAL FIXTURE WITH ENCLOSED PRISMATIC GLASS REFLECTOR, INTEGRAL BALLAST HALOGEN STANDBY LAMP
CG	HUBBELL	EDL042R-EPDR-E4	277	2	34	FLUORESCENT F40T12/LW/RS/WM11	SURFACE	CLG	48" LONG WRAPAROUND FIXTURE WITH MOLDED IMPACT RESISTANT ABS PLASTIC FULLY GASKETED HOUSING, ACRYLIC DIFFUSER
CH	HUBBELL	EDL042R-EPDR-E4	277	2	34	FLUORESCENT F40T12/LW/RS/WM11	SURFACE	CLG	SIMILAR TO FIXTURE CG EXCEPT WITH EMERGENCY BATTERY PACK
HA	APPLETON	EHL100N	120	1	100W A-19	INCANDESCENT	-	-	EXPLOSION-PROOF PORTABLE HANDLAMP WITH 50 FEET OF 3/8" #14 SO CORD
GL	HOLOPHANE	PTB-250MH-27-L-P-635-F1	277	1	400	MH	SURFACE	CLG	INDUSTRIAL FIXTURE WITH ENCLOSED PRISMATIC GLASS REFLECTOR, INTEGRAL BALLAST AND POWER HOOK

FILE: H3B-AE16 SCALE: 1/8"=1'-0" at 08:03 - "13_c4h (Hardware Lock)"

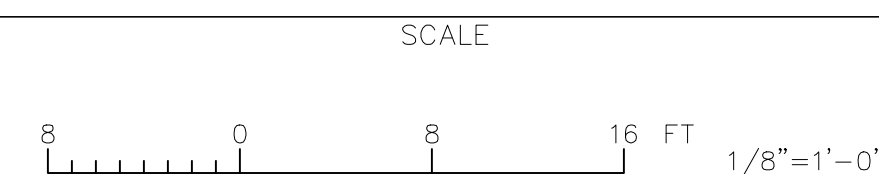
EMTEC Corporation
CONSULTING ENGINEERS
1723 W. KENNEDY BOULEVARD
SUITE 210
TAMPA, FLORIDA 33606

GREELY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED RG
DRAWN RG
CHECKED RJJ

APPROVED _____
DATE _____
GREELY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
3	8/1/96		RECORD DWG REVISIONS



CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

ELECTRICALS
GENERAL
LIGHTING AND FIXTURE
SCHEDULE

RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

PROJ NO.	202G
DWG	AE16
SHEET	
DATE	DECEMBER 1991
REV	3

5H3B_OAE-016

CONDUIT NUMBER & SIZE CONDUCTOR QUANTITY & SIZE FROM TO REMARKS

13.2 KV FEEDERS

1H3B3	4	3-350MCM, 15 KV & 1#2, 600V GND	TRANSFORMER T-3B-2	TRANSFORMER T-3B-3	
1H9A2	4	3-350MCM, 15 KV & 1#2, 600V GND	MANHOLE MH-28	TRANSFORMER T-9A-2	
1H9B2	4	3-350MCM, 15 KV & 1#2, 600V GND	MANHOLE MH-28	TRANSFORMER T-9B-2	
3HS1A	4	3-500MCM, 15 KV & 1#1/0, 600V GND	13.2 KV SWGR NO. 3	EX. 13.2 KV SWGR NO. 1	BUS NO. 1
3HS1B	4	3-500MCM, 15 KV & 1#1/0, 600V GND	13.2 KV SWGR NO. 3	EX. 13.2 KV SWGR NO. 1	BUS NO. 1
3HS2A	4	3-500MCM, 15 KV & 1#1/0, 600V GND	13.2 KV SWGR NO. 3	EX. 13.2 KV SWGR NO. 1	BUS NO. 2
3HS2B	4	3-500MCM, 15 KV & 1#1/0, 600V GND	13.2 KV SWGR NO. 3	EX. 13.2 KV SWGR NO. 1	BUS NO. 2

EXISTING 13.2 KV FEEDERS

1H3B3		3-350MCM, 15 KV, AL & 1#4/0, 600V, AL GND	EX. 13.2KV SWGR NO. 1	EX. MANUAL TRANSFER SWITCH TS-3B-3	EXISTING CABLES TO BE REMOVED
1H3B3-TS		3-350MCM, 15 KV, AL & 1#4/0, 600V, AL GND	EX. MANUAL TRANSFER SWITCH TS-3B-3	EX TRANSFORMER T-3B-3	EXISTING CABLES TO BE REMOVED
1H9A1		3-350MCM, 15 KV & 1#2, 600V GND	EX. 13.2KV SWGR NO. 1	EX TRANSFORMER T-9A-3	EXISTING CABLES FOR INFORMATION ONLY
1H9B1		3-350MCM, 15 KV & 1#2, 600V GND	EX. 13.2KV SWGR NO. 1	EX TRANSFORMER T-9B-3	EXISTING CABLES FOR INFORMATION ONLY
2HS1		3-350MCM, 15 KV, AL & 1#4/0, 600V, AL GND	EX. 13.2KV SWGR NO. 2	EX. 13.2KV SWGR NO. 1	EXISTING CABLES TO BE REMOVED
2HS2		3-350MCM, 15 KV, AL & 1#4/0, 600V, AL GND	EX. 13.2KV SWGR NO. 2	EX. 13.2KV SWGR NO. 1	EXISTING CABLES TO BE REMOVED
2HS3		3#1/0, 15 KV, AL & 1#1/0, 600V, AL GND	EX. 13.2KV SWGR NO. 2	EX. MANUAL TRANSFER SWITCH TS-3B-3	EXISTING CABLES TO BE REMOVED

CONDUIT NUMBER & SIZE CONDUCTOR QUANTITY & SIZE FROM TO REMARKS

MOTOR CONTROL CENTER MCC-86

86M37	1-1/4	3#12, 7#14 & 1#12 GND	MCC-86		JIB NEAR FB-DP-1
86M37A	3/4	3#12 & 1#12 GND		JIB NEAR FB-DP-1	FB-DP-1
86M37B	3/4	2#14 & 1#12 GND		JIB NEAR FB-DP-1	PUSHBUTTON STATION
86M37C	3/4	2#14 & 1#12 GND		JIB NEAR FB-DP-1	PRESSURE SWITCH
86M37D	3/4	2#14 & 1#12 GND		JIB NEAR FB-DP-1	FLOW SWITCH
86M37E	3/4	2#14 & 1#12 GND		JIB NEAR FB-DP-1	SOLENOID VALVE
86M38	1-1/4	3#12, 7#14 & 1#12 GND	MCC-86		JIB NEAR FB-DP-2
86M38A	3/4	3#12 & 1#12 GND		JIB NEAR FB-DP-2	FB-DP-2
86M38B	3/4	2#14 & 1#12 GND		JIB NEAR FB-DP-2	PUSHBUTTON STATION
86M38C	3/4	2#14 & 1#12 GND		JIB NEAR FB-DP-2	PRESSURE SWITCH
86M38D	3/4	2#14 & 1#12 GND		JIB NEAR FB-DP-2	FLOW SWITCH
86M38E	3/4	2#14 & 1#12 GND		JIB NEAR FB-DP-2	SOLENOID VALVE
8C24	1-1/4	1-12/C#14 & 1#14 GND	MCC-86		FILTER CONTROL PANEL
8C25	3/4	4#14 & 1#14 GND	EXIST FDV-21	LIMIT SW	FDV-21A LIMIT SWITCH
8C26	3/4	4#14 & 1#14 GND	EXIST FDV-22	LIMIT SW	FDV-22A LIMIT SWITCH
8C27	3/4	4#14 & 1#14 GND	EXIST FDV-23	LIMIT SW	FDV-23A LIMIT SWITCH
8C28	3/4	4#14 & 1#14 GND	EXIST FDV-24	LIMIT SW	FDV-24A LIMIT SWITCH
8C29	3/4	4#14 & 1#14 GND	EXIST FDV-25	LIMIT SW	FDV-25A LIMIT SWITCH
8C30	3/4	4#14 & 1#14 GND	EXIST FDV-26	LIMIT SW	FDV-26A LIMIT SWITCH
8C31	3/4	4#14 & 1#14 GND	EXIST FDV-31	LIMIT SW	FDV-31A LIMIT SWITCH
8C32	3/4	4#14 & 1#14 GND	EXIST FDV-32	LIMIT SW	FDV-32A LIMIT SWITCH
8C33	3/4	4#14 & 1#14 GND	EXIST FDV-33	LIMIT SW	FDV-33A LIMIT SWITCH
8C34	3/4	4#14 & 1#14 GND	EXIST FDV-34	LIMIT SW	FDV-34A LIMIT SWITCH
8C35	3/4	4#14 & 1#14 GND	EXIST FDV-35	LIMIT SW	FDV-35A LIMIT SWITCH
8C36	3/4	4#14 & 1#14 GND	EXIST FDV-36	LIMIT SW	FDV-36A LIMIT SWITCH

FILE: H3B-AE17 SCALE: 1:1 09/06, 1998 at 08:11 - *13.c44 (Hardware Lobby)

RECORD DRAWING
 THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

GREELEY AND HANSEN
 ENGINEERS
 1715 NORTH WESTSHORE BOULEVARD
 TAMPA, FLORIDA 33607-4135

DESIGNED CSC
 DRAWN BBK
 CHECKED BBK

APPROVED _____ DATE _____
 _____ DATE _____
 GREELEY AND HANSEN, ENGINEERS

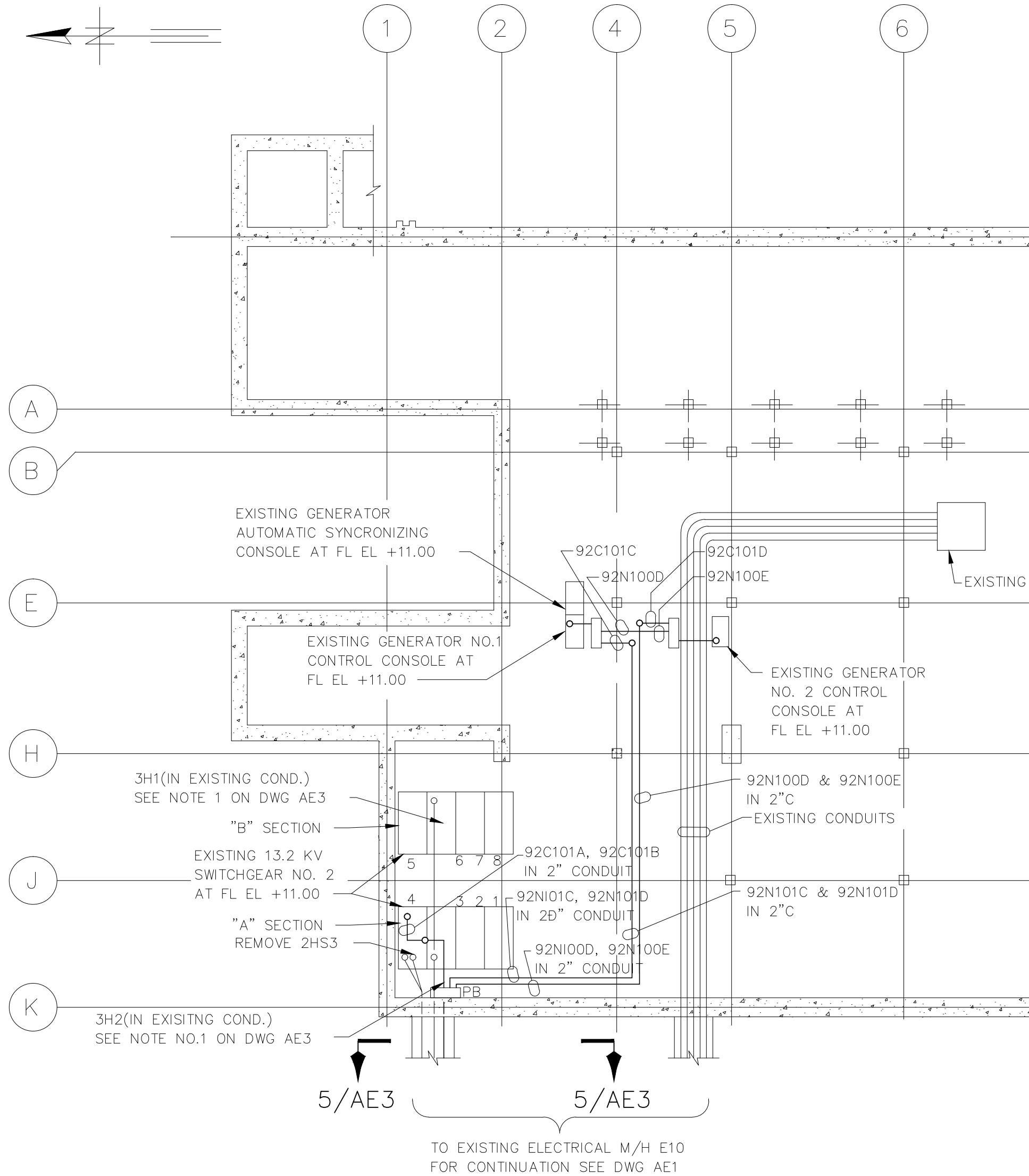
NO.	DATE	APPD.	REVISION
4	8/1/96		RECORD DWG REVISIONS

SCALE
 NOT TO SCALE

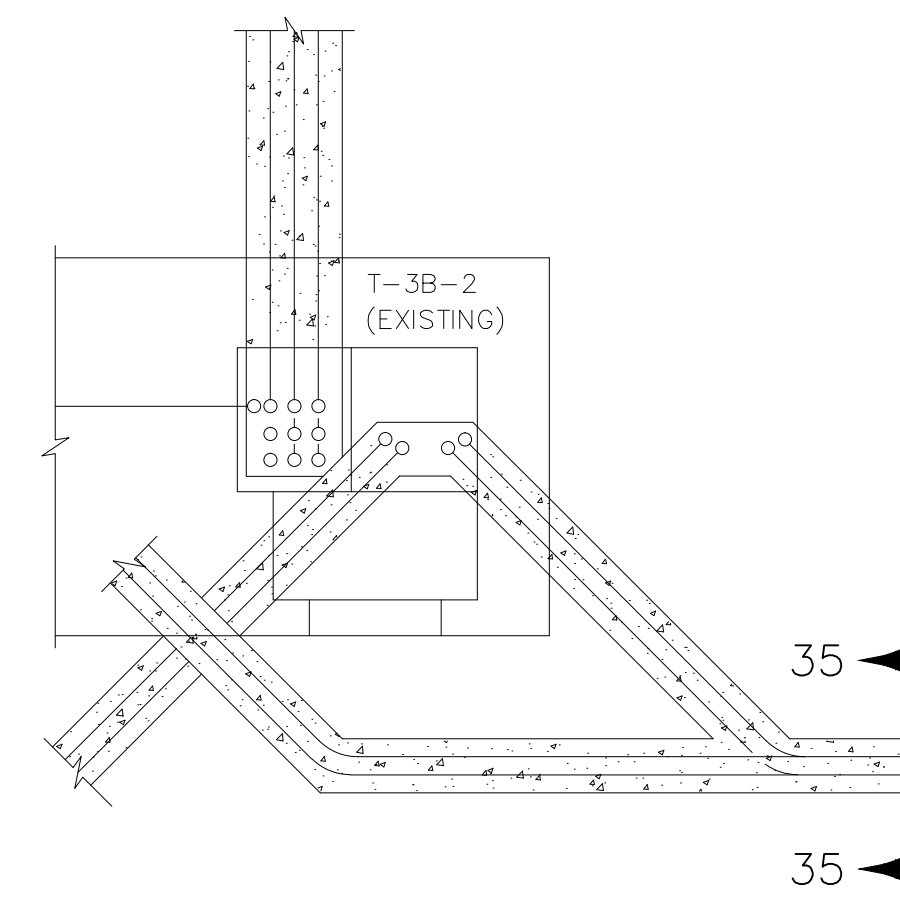
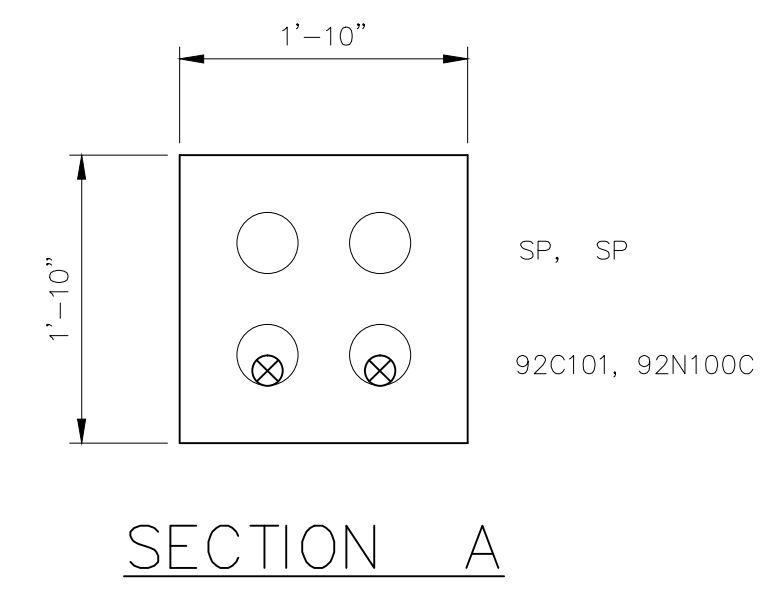
CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PLANT EXPANSION
 PHASE I DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

GENERAL
 ELECTRICAL
 CONDUIT AND CABLE SCHEDULE

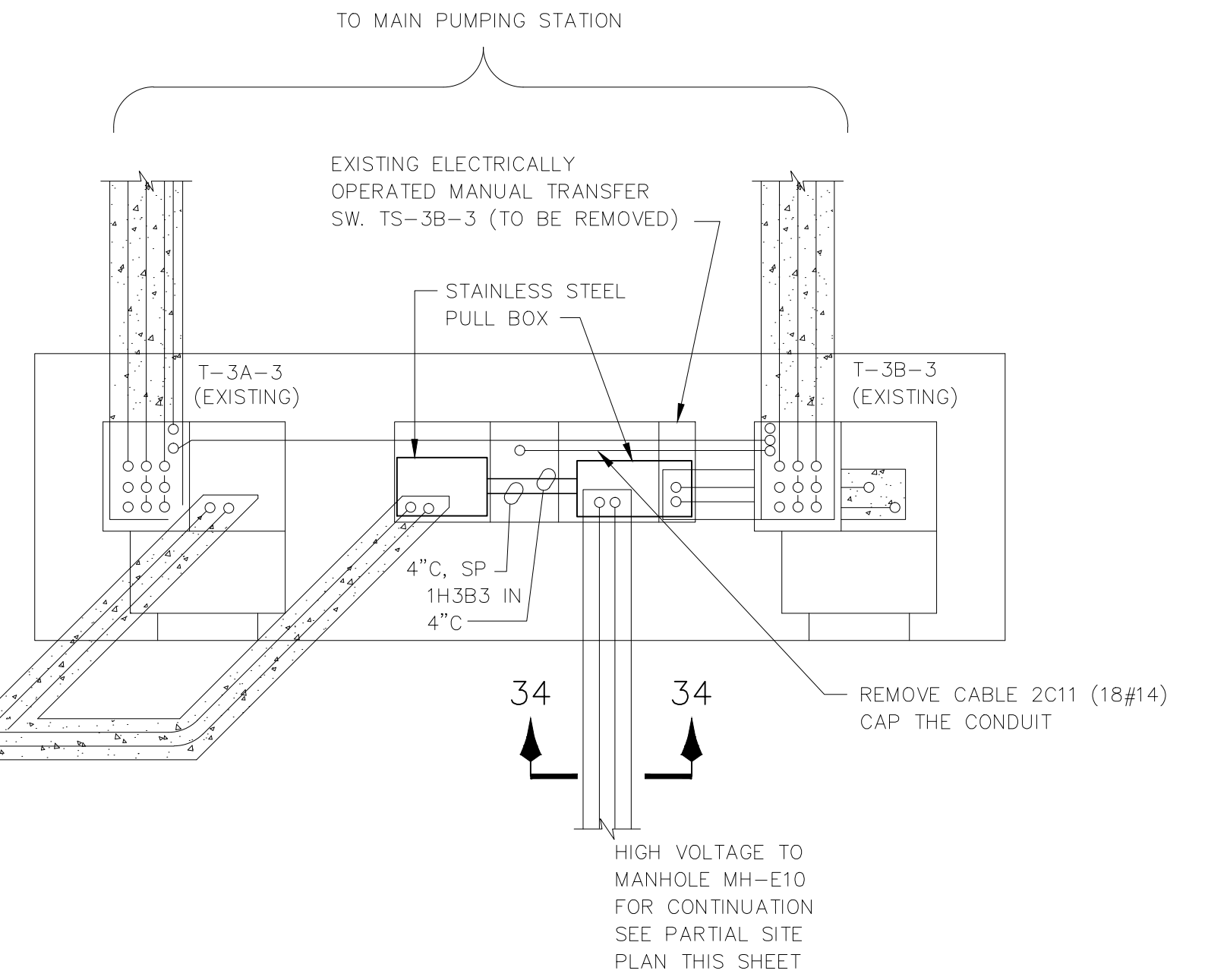
PROJ. NO.	202G
DWG	AE17
SHEET	
DATE	DECEMBER 1991
REV	4



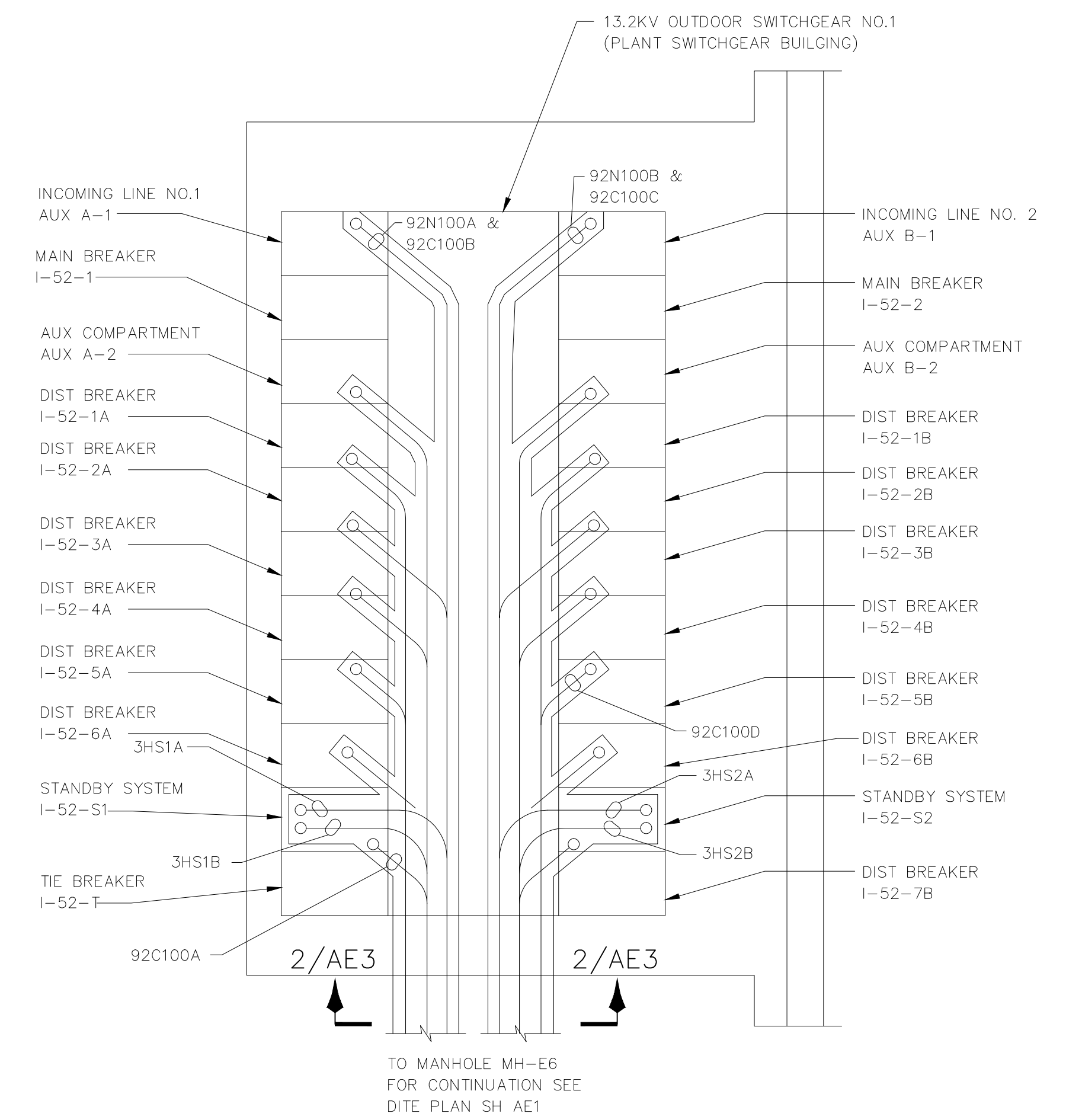
**MAIN PUMPING STATION
PARTIAL PLAN AT EL -2.00**
SCALE: 3/32"=1'-0"



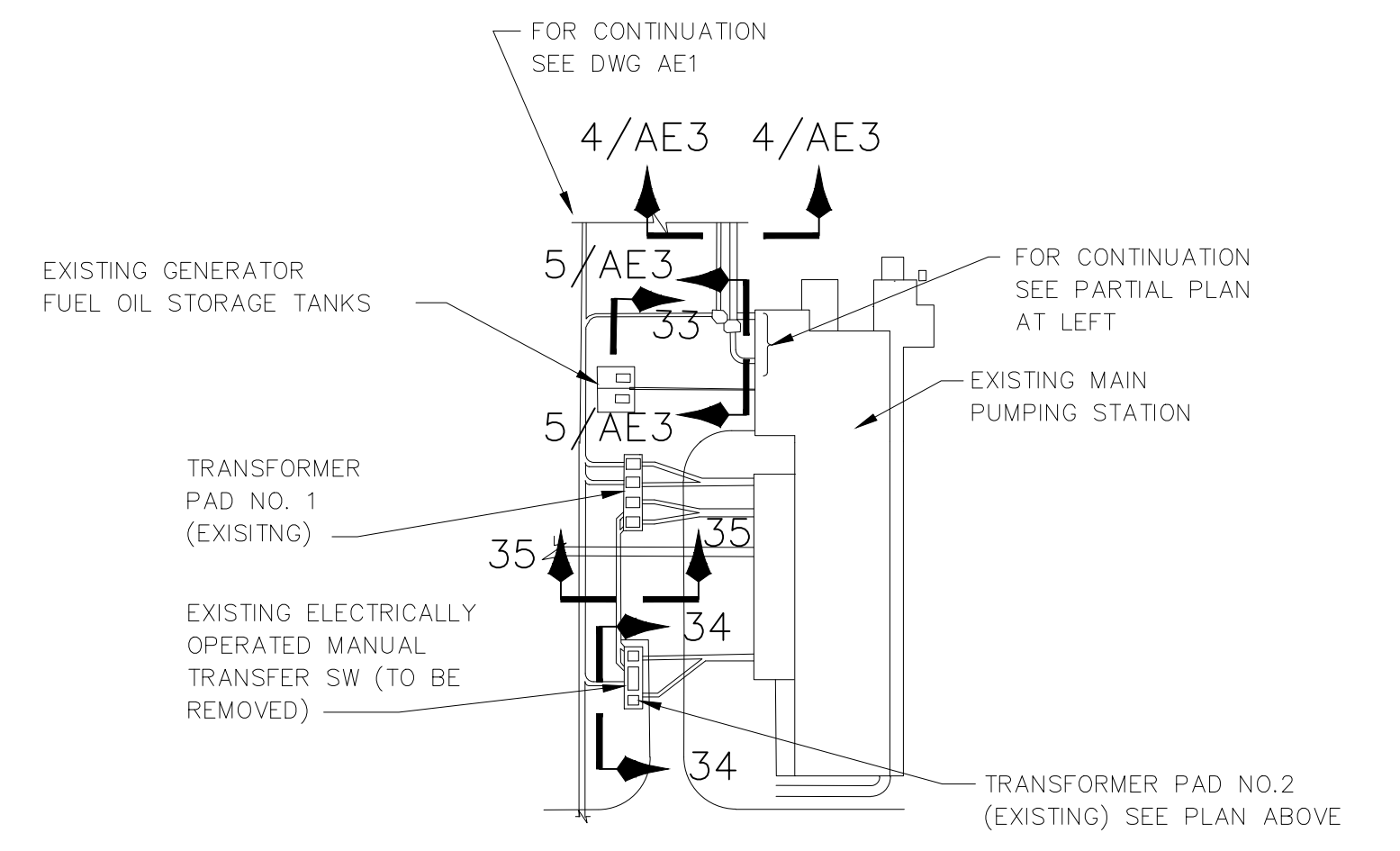
**PARTIAL EXISTING
TRANSFORMER PAD NO. 1**
SCALE: 1/8"=1'-0"



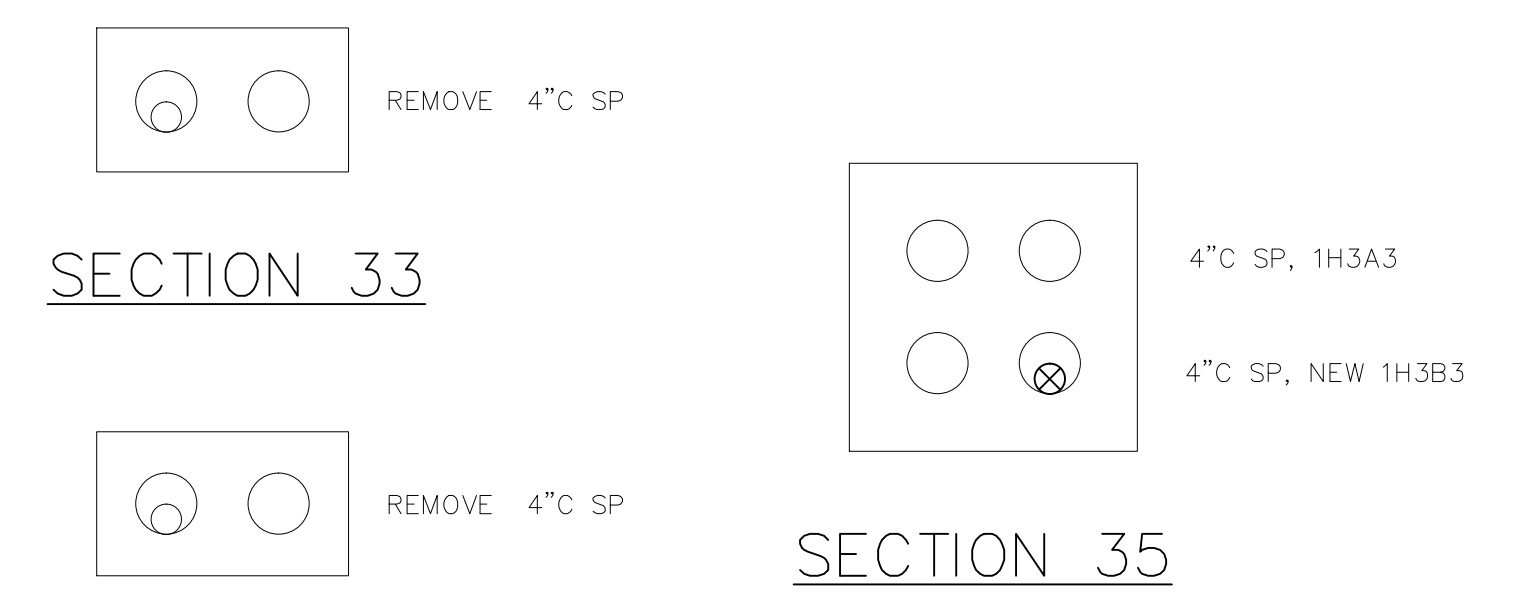
EXISTING TRANSFORMER PAD NO. 2
SCALE: 1/8"=1'-0"



**SECTIONAL PLAN-13.2KV
OUTDOOR SWITCHGEAR NO. 1**
NOT TO SCALE



PARTIAL SITE PLAN
SCALE: 1"=100'



SECTION 34

SECTION 33

SECTION 35

RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

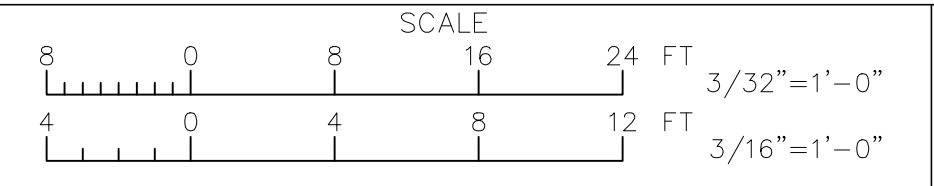
FILE: H3B-AE19.DWG 1:128 04/13/88 10:15 GH-A

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED GJ
DRAWN MSB
CHECKED BBK

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
2	8/1/96		RECORD DWG REVISIONS



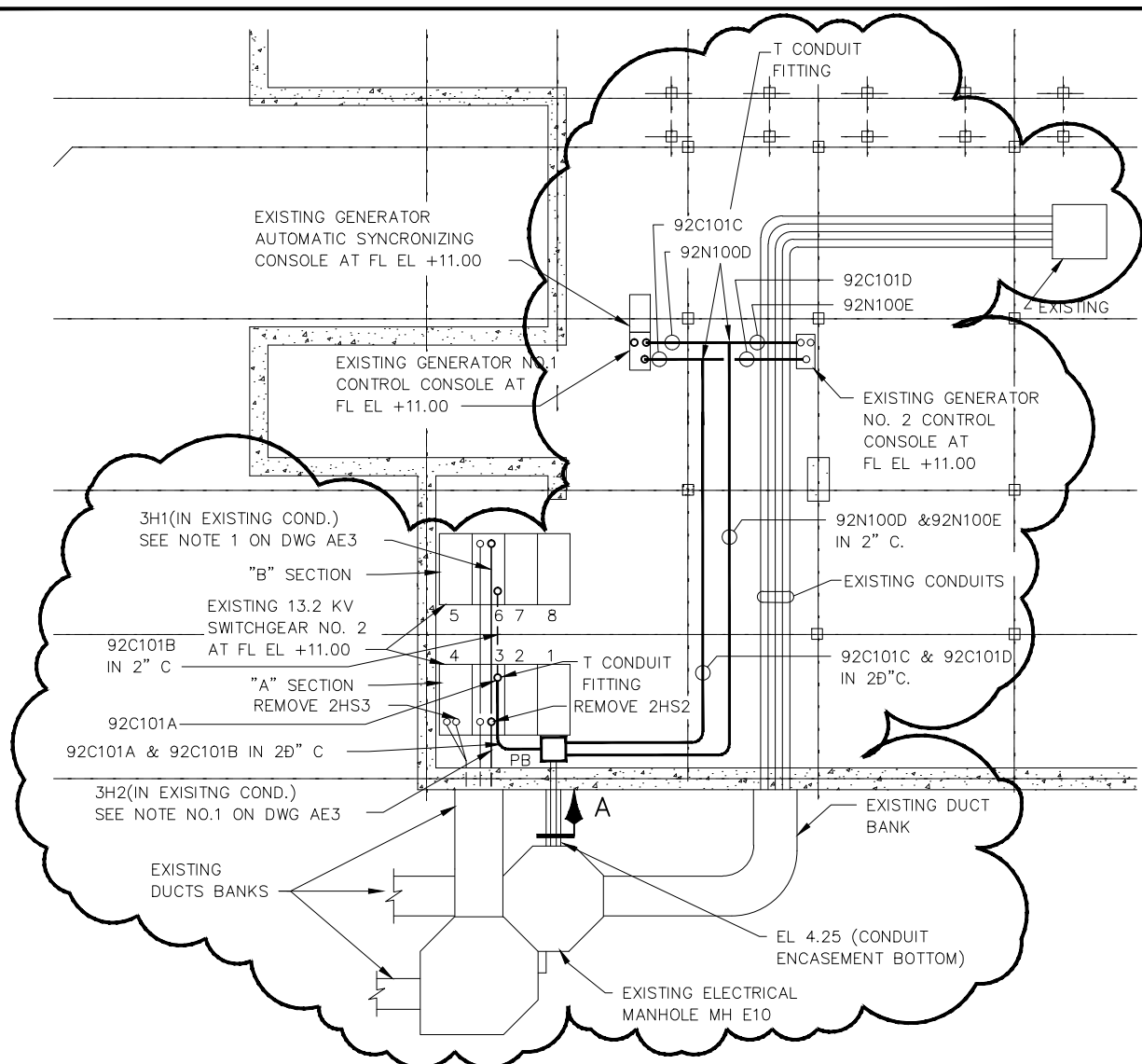
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

GENERAL
ELECTRICAL
MISCELLANEOUS PLANS AND DETAILS

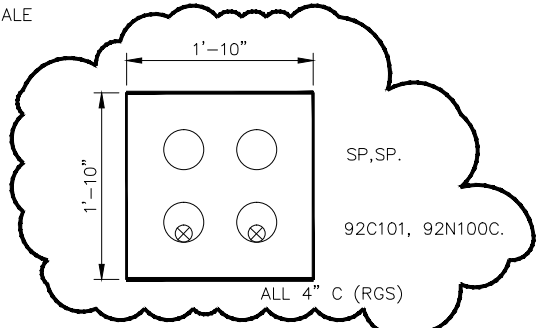
See Supplemental
Drawing SD-54

PROJ. NO.	202G
DWG	AE19
SHEET	
DATE	DECEMBER 1991
REV	2

5H3B_OAE-019



MAIN PUMPING STATION
PARTIAL PLAN AT EL -2.00
 NOT TO SCALE

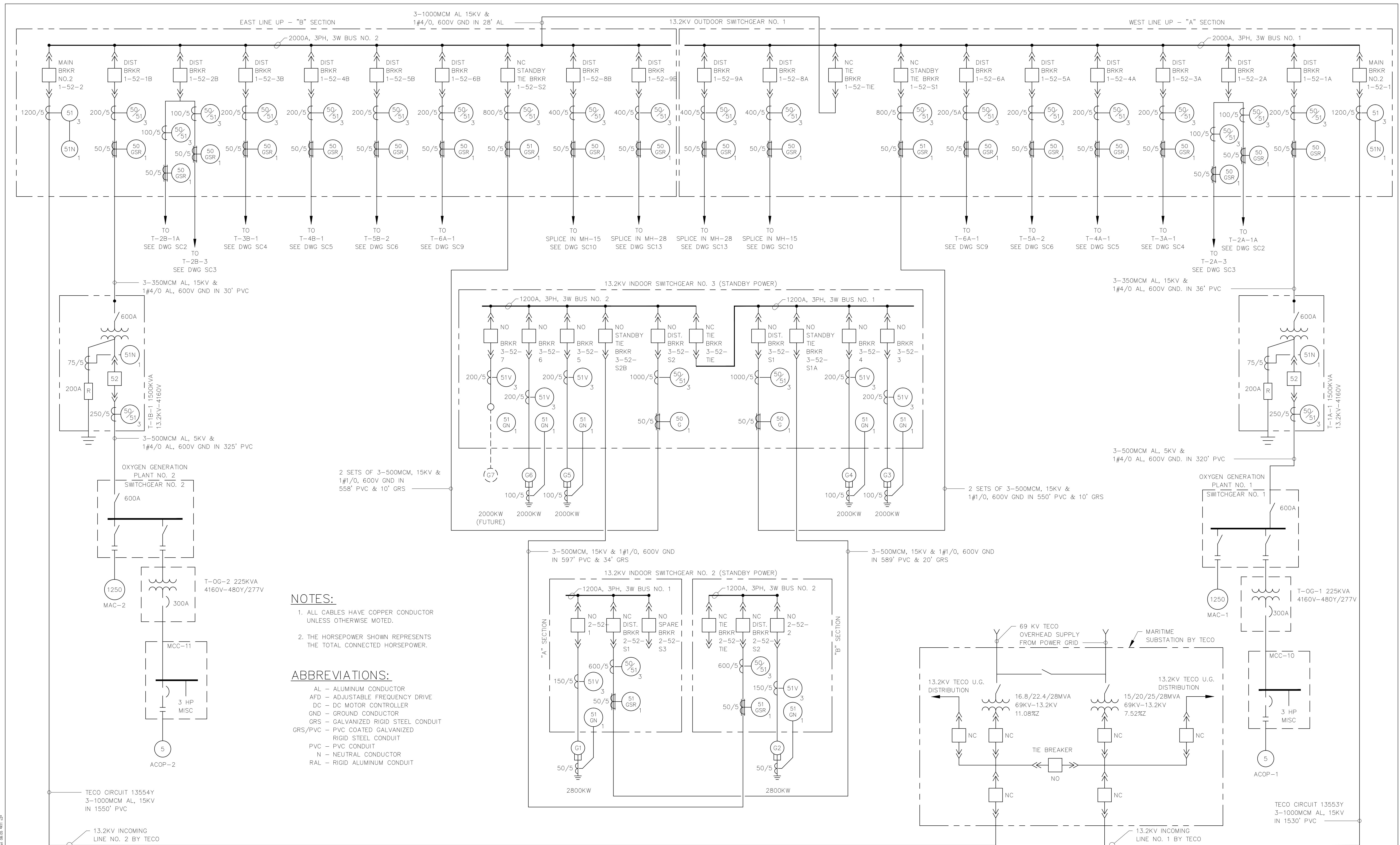


SECTION A
 NOT TO SCALE

REVISES DWG AE19

FILE: H:\ACAD\5H3B\SD\5H3BESD54 SCALE: 1:11 01/23/1995 at 09:21 #511 .c2*

DES	BBK	CKD	JG					H.P.W.W.T.P.
DR	GR	APPD						DIVISION 5H3B
GREELEY AND HANSEN ENGINEERS							SD-54	
TAMPA, FLORIDA 34607			NO.	DATE	APPD	REVISION	DATE	JAN 95 NO. 0



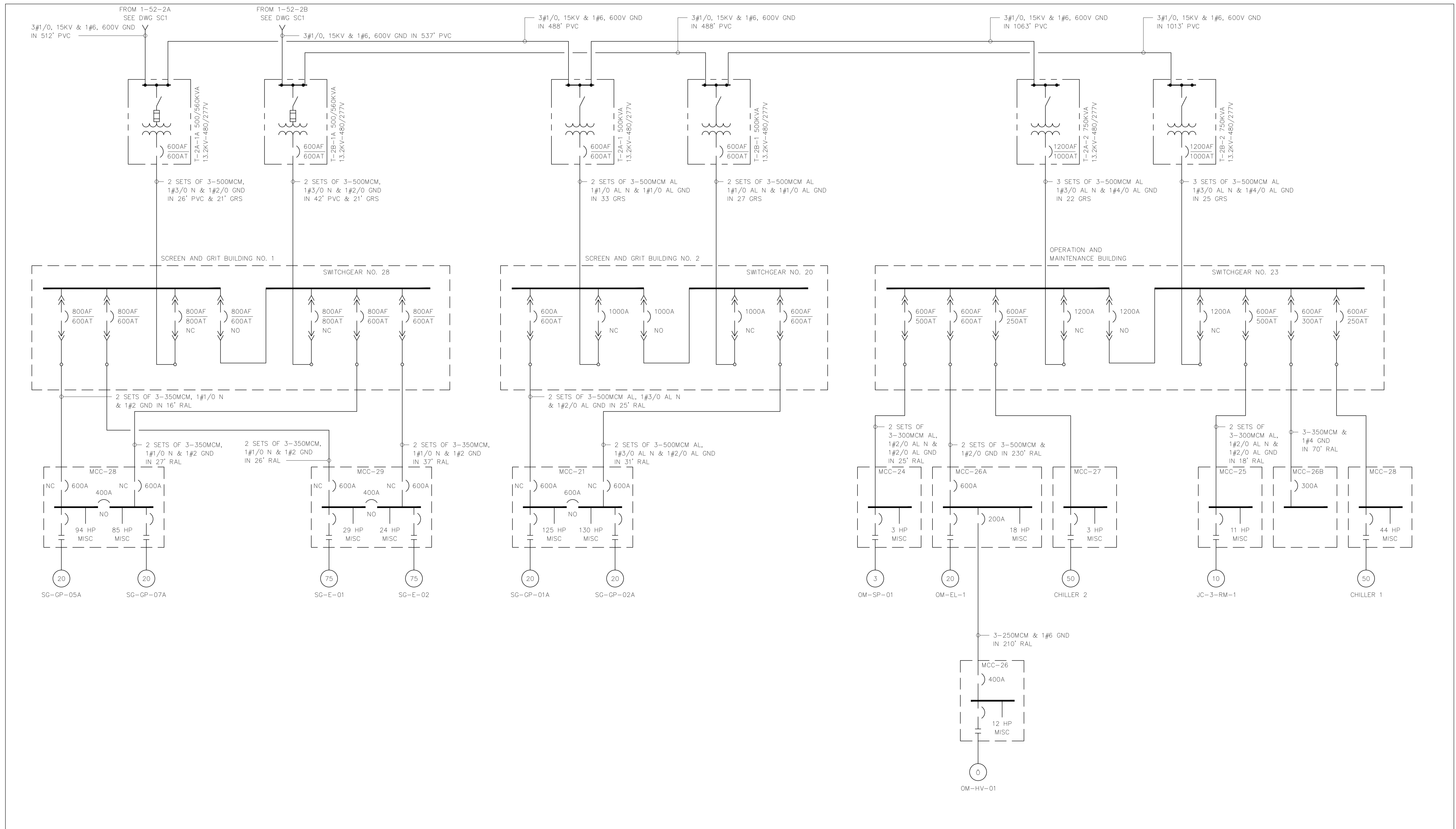
NOTES:

1. ALL CABLES HAVE COPPER CONDUCTOR UNLESS OTHERWISE NOTED.
2. THE HORSEPOWER SHOWN REPRESENTS THE TOTAL CONNECTED HORSEPOWER.

ABBREVIATIONS:

- AL - ALUMINUM CONDUCTOR
- AFD - ADJUSTABLE FREQUENCY DRIVE
- DC - DC MOTOR CONTROLLER
- GND - GROUND CONDUCTOR
- GRS - GALVANIZED RIGID STEEL CONDUIT
- GRS/PVC - PVC COATED GALVANIZED RIGID STEEL CONDUIT
- PVC - PVC CONDUIT
- N - NEUTRAL CONDUCTOR
- RAL - RIGID ALUMINUM CONDUIT

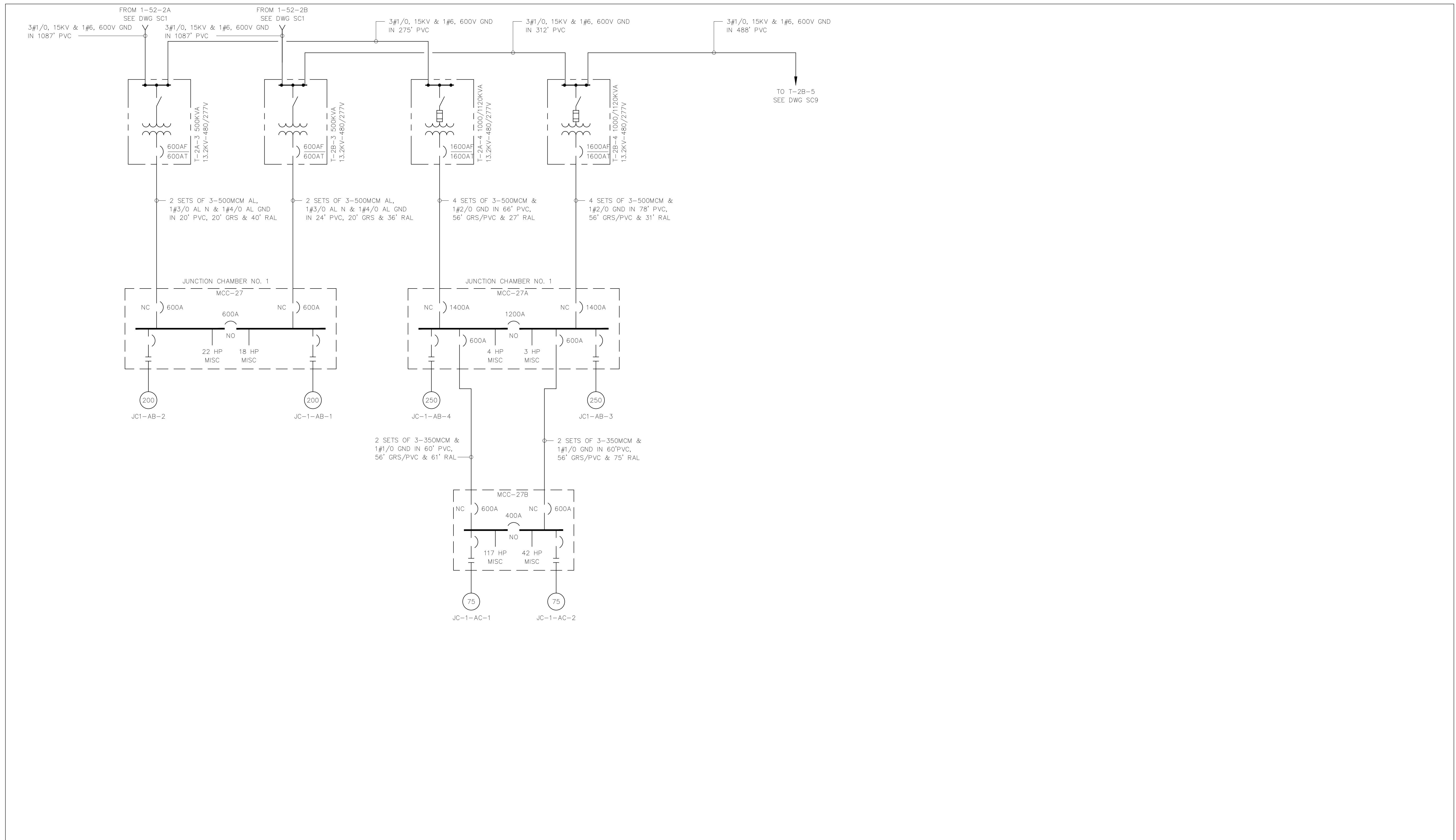
GREELEY AND HANSEN ENGINEERS 4350 WEST CYPRESS STREET TAMPA, FLORIDA 33607-4135	DESIGNED: BBK	APPROVED: _____	SCALE: NO SCALE				CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	ELECTRICAL GENERAL OVERALL ONE LINE DIAGRAM - PART A	PROJ. NO.: 202G
	DRAWN: BBK	DATE: _____	NO. DATE APPD REVISION						DWG: SD-20
	CHECKED: BBK	DATE: _____							SHEET: _____
		GREELEY AND HANSEN, ENGINEERS						DATE: JANUARY 1993	REV: 0



NOTE:
 1. SEE DWG SC1 FOR NOTES AND ABBREVIATIONS

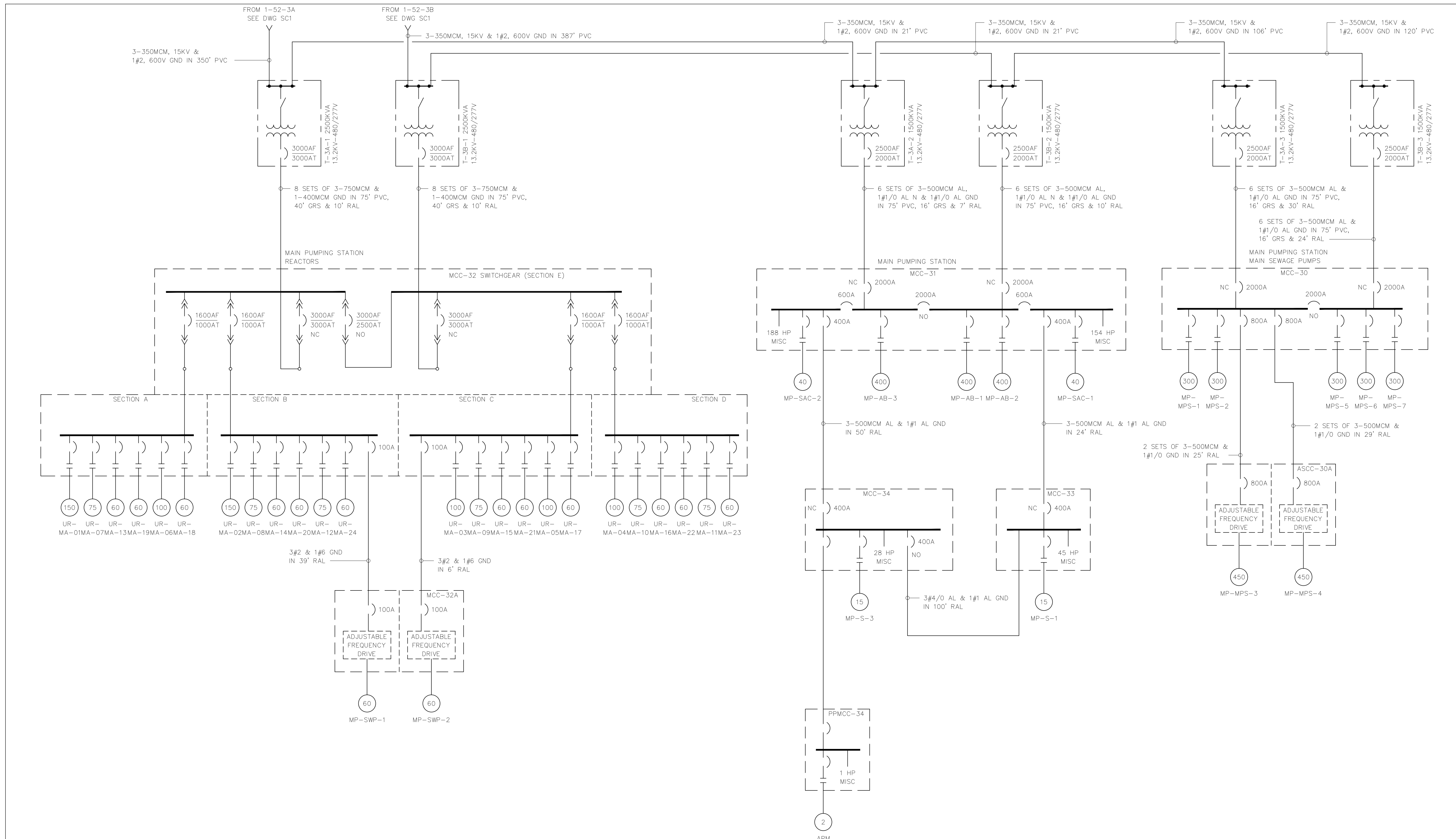
GREELEY AND HANSEN ENGINEERS 4350 WEST CYPRESS STREET TAMPA, FLORIDA 33607-4135	DESIGNED	BBK	APPROVED	SCALE				CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	ELECTRICAL GENERAL OVERALL ONE LINE DIAGRAM - PART B1	PROJ NO.	202G
	DRAWN	BBK	DATE	NO SCALE						DWG	SD-21
	CHECKED	BBK	DATE	REVISION						SHEET	JANUARY 1993	REV 0

5H3B_OSD-021



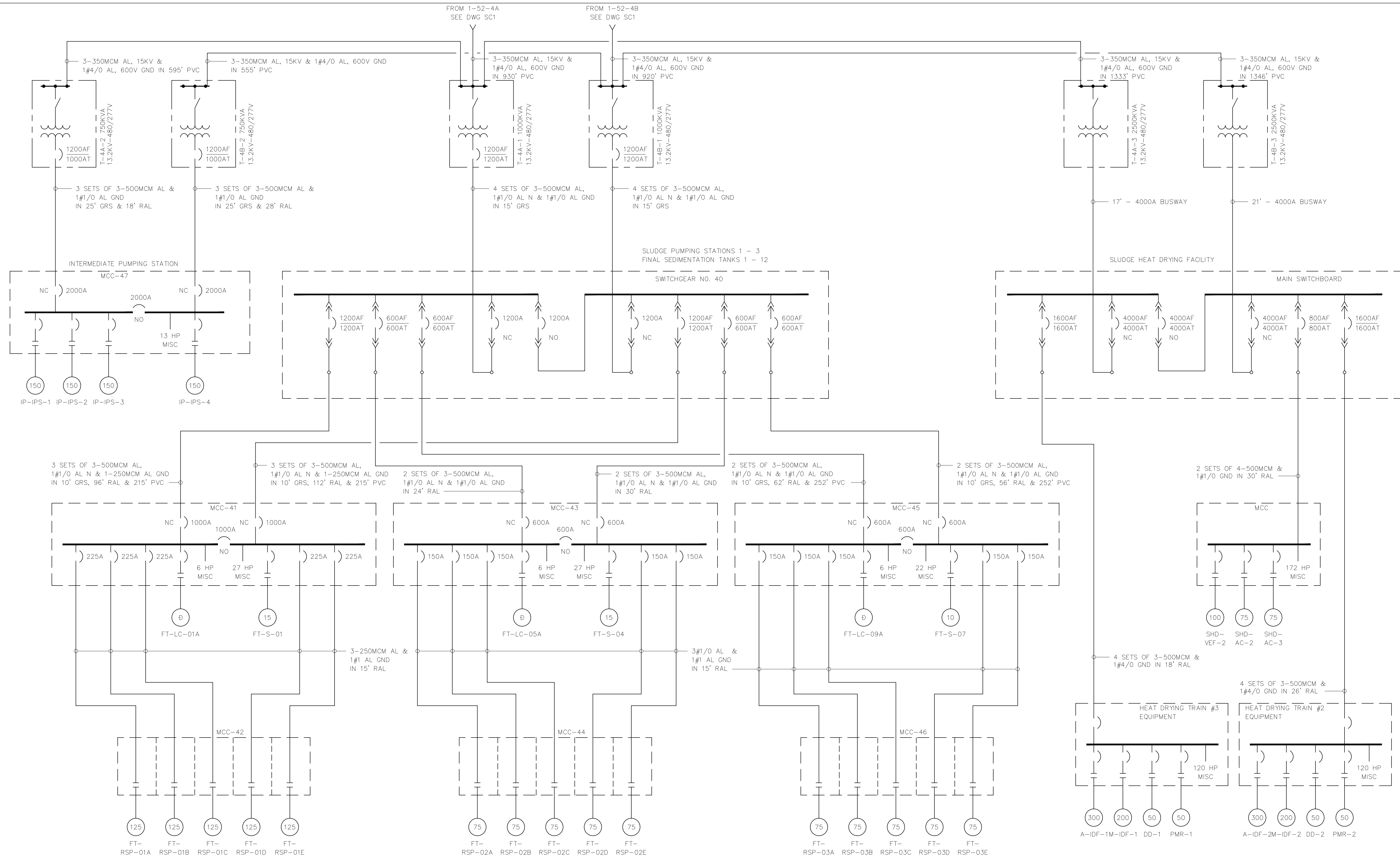
NOTE:
1. SEE DWG SC1 FOR NOTES AND ABBREVIATIONS

GREELEY AND HANSEN ENGINEERS 4350 WEST CYPRESS STREET TAMPA, FLORIDA 33607-4135	DESIGNED: BBK	APPROVED: _____ DATE _____	SCALE NO SCALE	CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	ELECTRICAL GENERAL OVERALL ONE LINE DIAGRAM - PATR B2	PROJ NO. 202G
	DRAWN: BBK	DATE _____				DWG SD-22
	CHECKED: BBK	DATE _____				SHEET
GREELEY AND HANSEN, ENGINEERS			NO. DATE APPD REVISION	STANDBY POWER AND SLUDGE STORAGE FACILITIES		DATE JANUARY 1993 REV 0



NOTE:
 1. SEE DWG SC1 FOR NOTES AND ABBREVIATIONS

GREELEY AND HANSEN ENGINEERS 4350 WEST CYPRESS STREET TAMPA, FLORIDA 33607-4135	DESIGNED BBK	APPROVED _____ DATE _____	SCALE		CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	ELECTRICAL GENERAL OVERALL ONE LINE DIAGRAM - PART C	PROJ NO. 202G
	DRAWN BBK	_____ DATE _____	NO SCALE				DWG SD-23
	CHECKED BBK	GREELEY AND HANSEN, ENGINEERS	NO. DATE APPD REVISION	SHEET			DATE JANUARY 1993 REV 0



NOTE:
 1. SEE DWG SC1 FOR NOTES AND ABBREVIATIONS

GREELEY AND HANSEN
 ENGINEERS
 4350 WEST CYPRESS STREET
 TAMPA, FLORIDA 33607-4135

DESIGNED BBK
 DRAWN BBK
 CHECKED BBK

APPROVED	DATE			
GREELEY AND HANSEN, ENGINEERS				
NO.	DATE	APPD	REVISION	

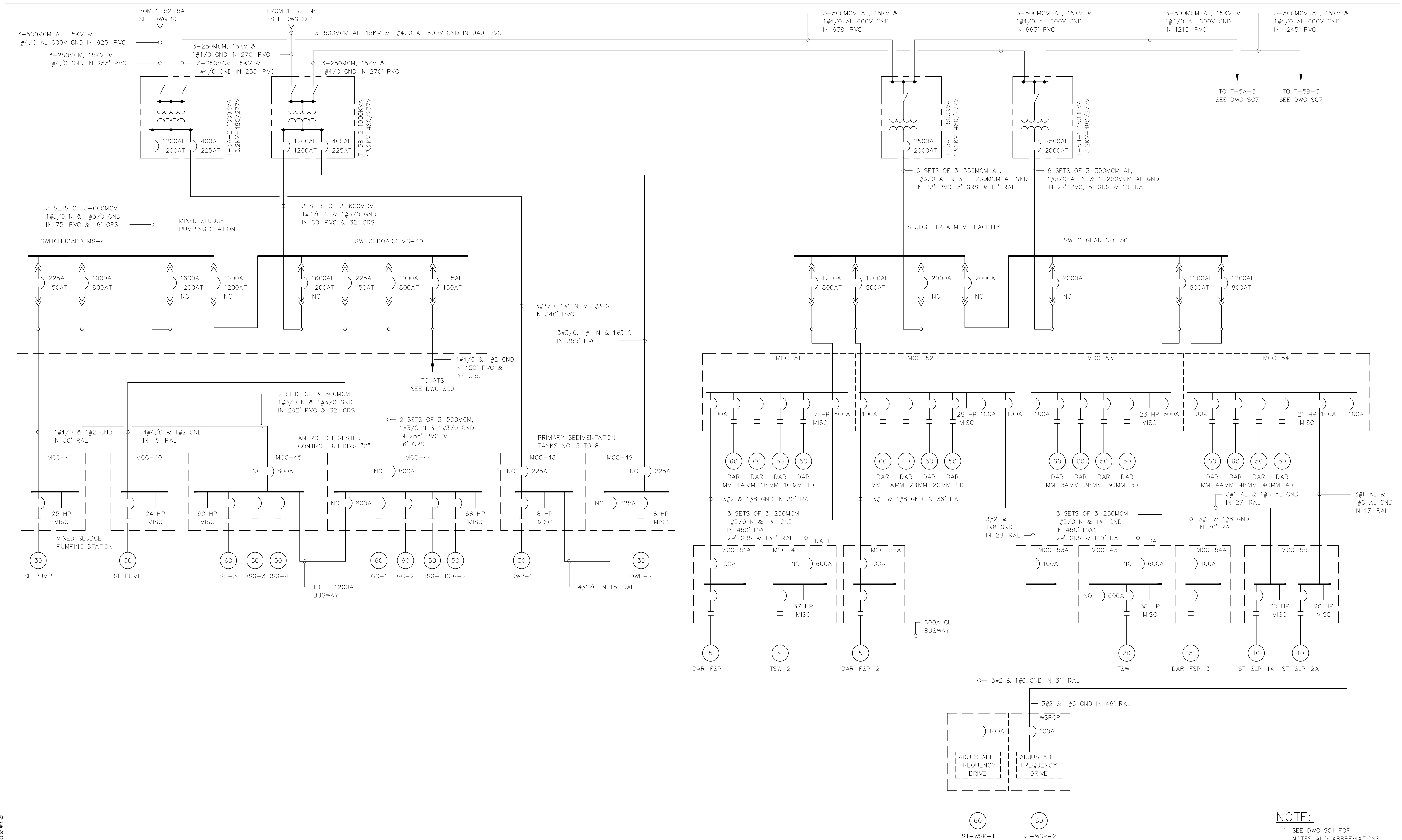
SCALE
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CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 EXPANSION
 PHASE I DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

ELECTRICAL
 GENERAL
 OVERALL ONE LINE DIAGRAM - PART D

PROJ NO.	202G
DWG	SD-24
SHEET	
DATE	JANUARY 1993
REV	0

5H3B_OSD-024



NOTE:
 1. SEE DWG SC1 FOR NOTES AND ABBREVIATIONS

GREELEY AND HANSEN
 ENGINEERS
 4350 WEST CYPRESS STREET
 TAMPA, FLORIDA 33607-4135

DESIGNED BBK
 DRAWN BBK
 CHECKED BBK

APPROVED _____	DATE _____		
APPROVED _____	DATE _____		
GREELEY AND HANSEN, ENGINEERS			
NO.	DATE	APPD	REVISION

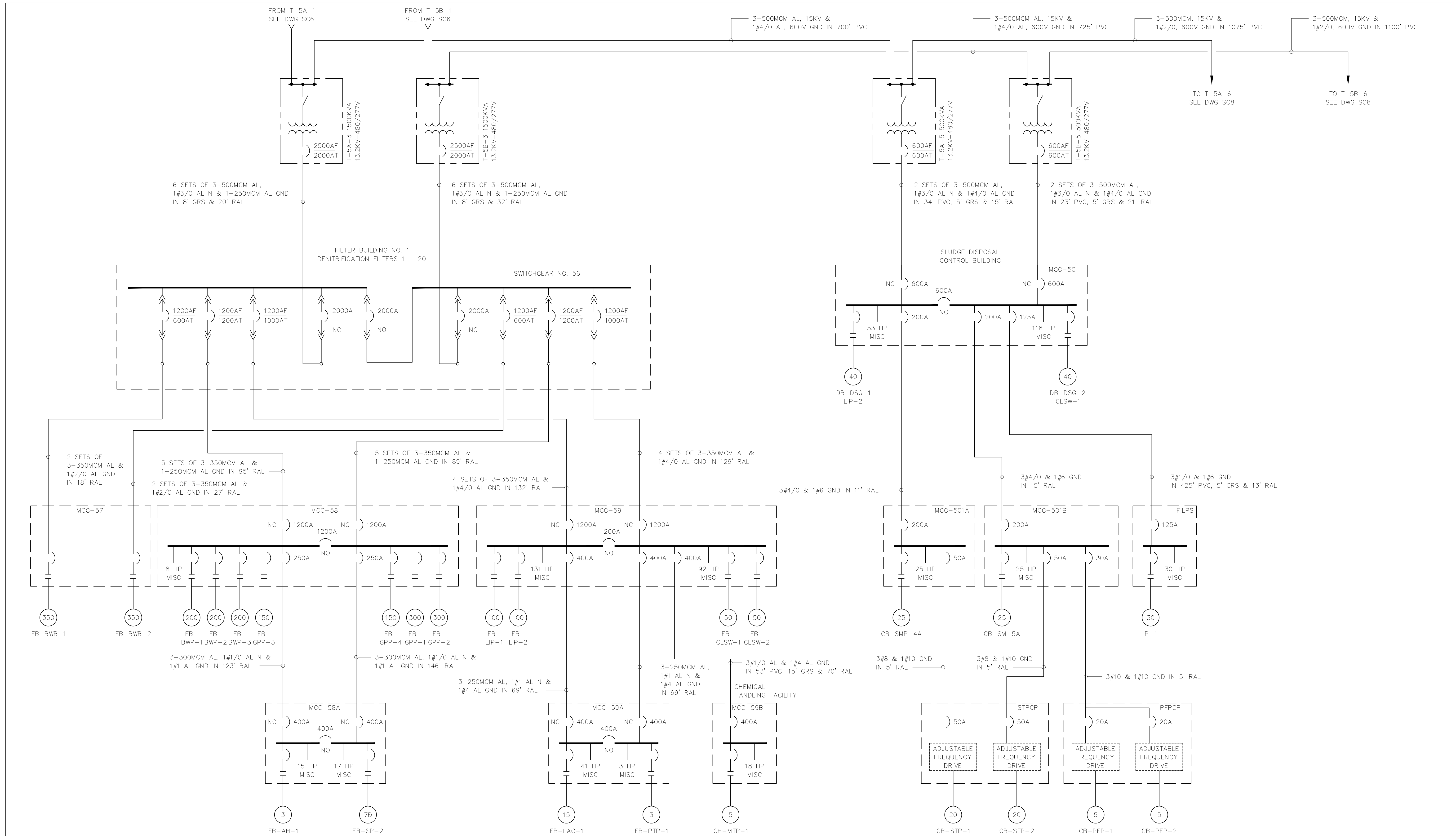
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CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 EXPANSION
 PHASE I DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

ELECTRICAL
 GENERAL
 OVERALL ONE LINE DIAGRAM - PART E1

PROJ NO.	202G
DWG	SD-25
SHEET	
DATE	JANUARY 1993
REV	0

5H3B_OSD-025



NOTE:
 1. SEE DWG SC1 FOR NOTES AND ABBREVIATIONS

GREELEY AND HANSEN
 ENGINEERS
 4350 WEST CYPRESS STREET
 TAMPA, FLORIDA 33607-4135

DESIGNED BBK
 DRAWN BBK
 CHECKED BBK

APPROVED _____ DATE _____
 _____ DATE _____
 GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION

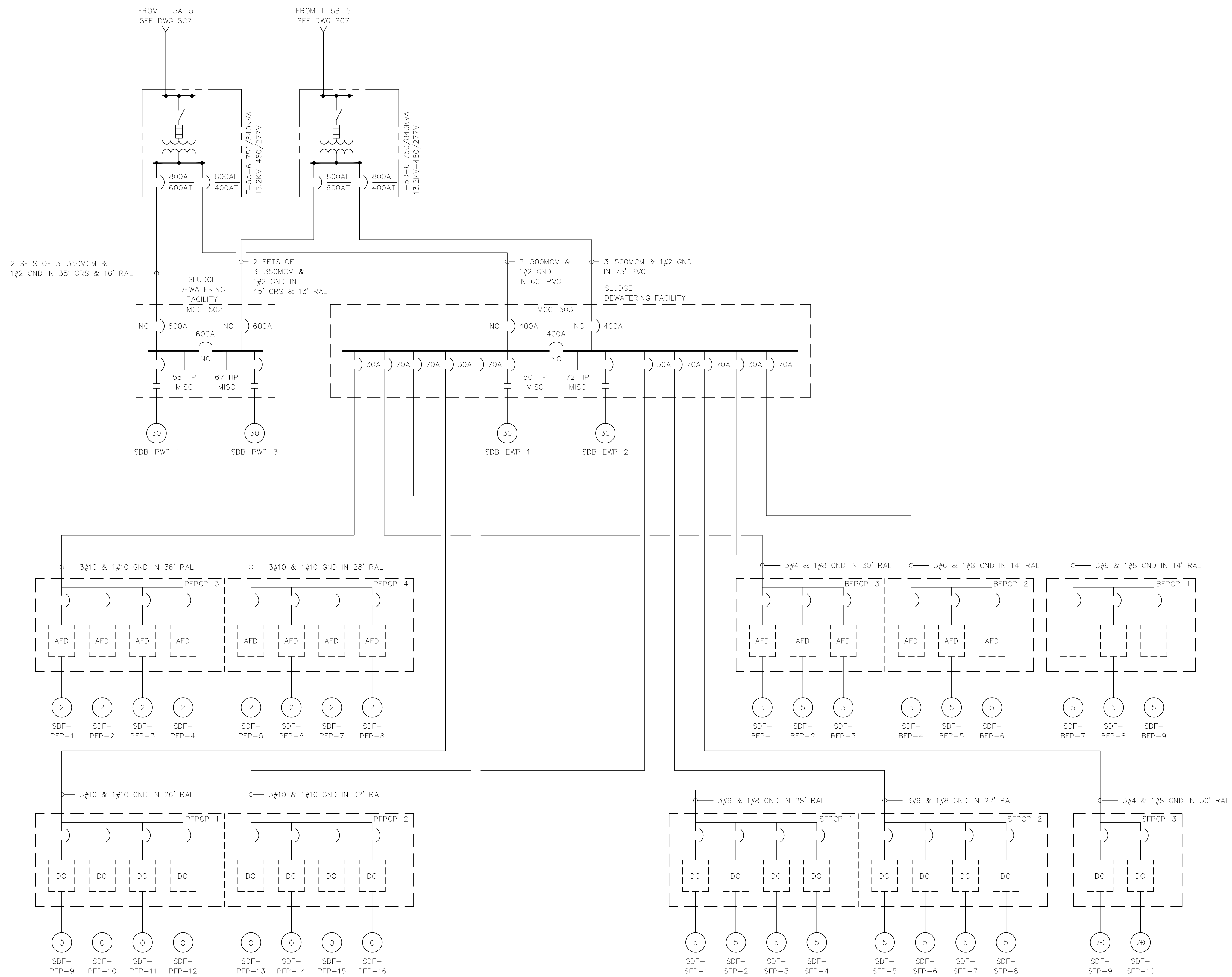
SCALE
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CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 EXPANSION
 PHASE I DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

ELECTRICAL
 GENERAL
 OVERALL ONE LINE DIAGRAM - PART E2

PROJ NO.	202G
DWG	SD-26
SHEET	
DATE	JANUARY 1993
REV	0

5H3B_OSD-026



NOTE:
 1. SEE DWG SC1 FOR NOTES AND ABBREVIATIONS

GREELEY AND HANSEN
 ENGINEERS
 4350 WEST CYPRESS STREET
 TAMPA, FLORIDA 33607-4135

DESIGNED BBK
 DRAWN BBK
 CHECKED BBK

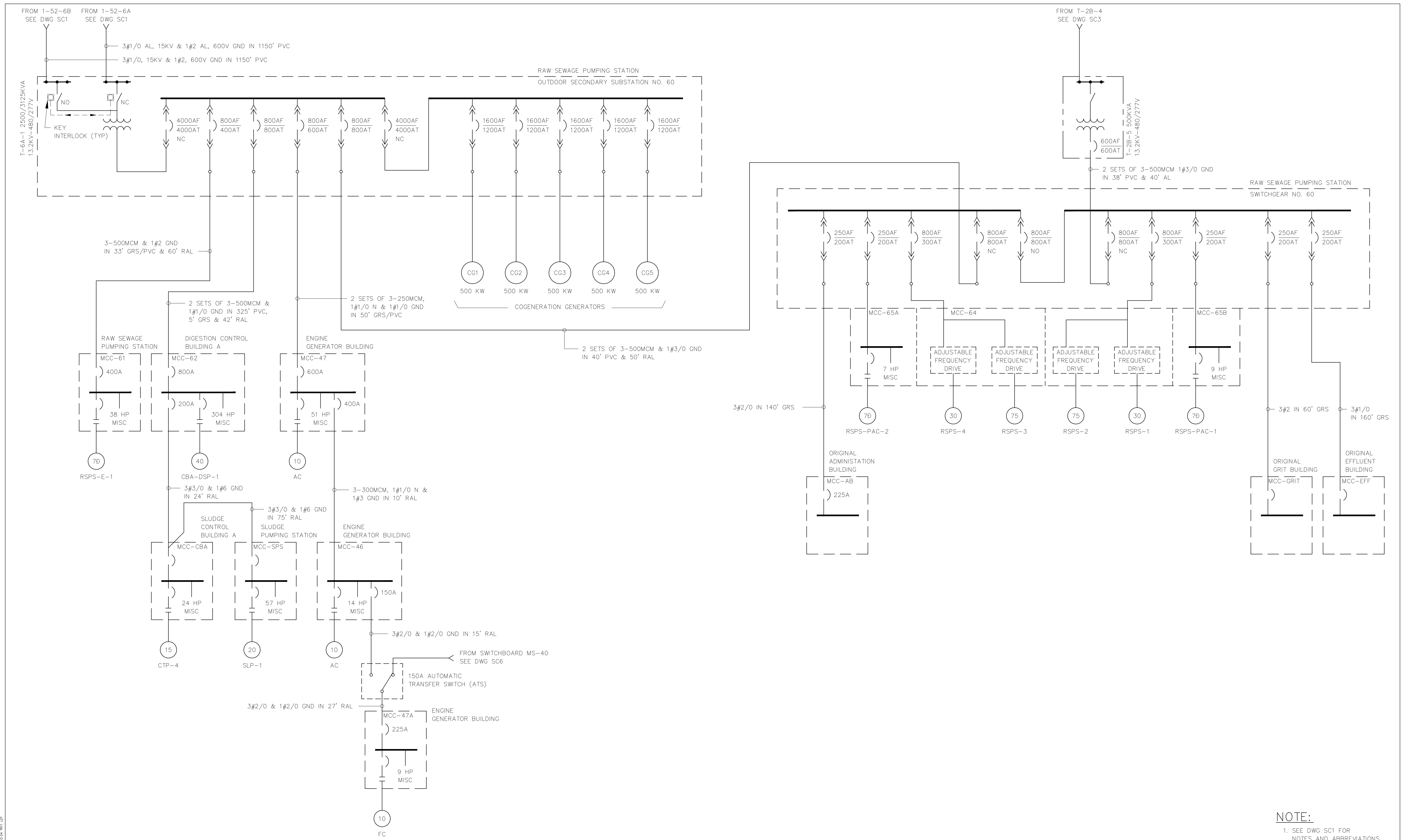
APPROVED	DATE			
GREELEY AND HANSEN, ENGINEERS		NO.	DATE	APPD
				REVISION

SCALE
 NO SCALE

CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PLANT EXPANSION
 PHASE I DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

ELECTRICAL
 GENERAL
 OVERALL ONE LINE DIAGRAM - PART E3

PROJ NO.	202G
DWG	SD-27
SHEET	
DATE	JANUARY 1993
REV	0



NOTE:
 1. SEE DWG SC1 FOR NOTES AND ABBREVIATIONS

GREELEY AND HANSEN
 ENGINEERS
 4350 WEST CYPRESS STREET
 TAMPA, FLORIDA 33607-4135

DESIGNED BBK
 DRAWN BBK
 CHECKED BBK

APPROVED _____ DATE _____
 _____ DATE _____
 GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION

SCALE
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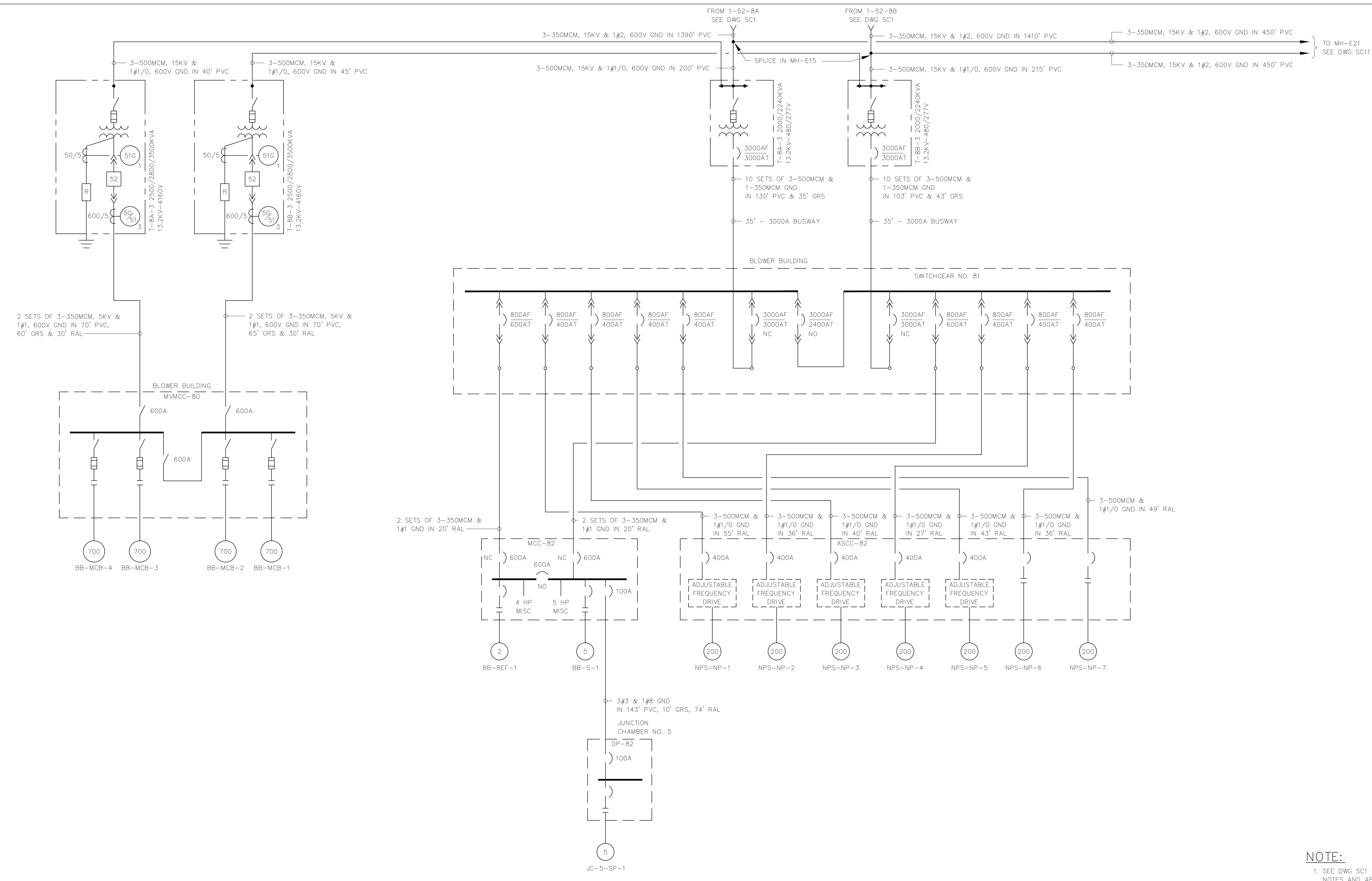
CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 EXPANSION
 PHASE I DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

ELECTRICAL
 GENERAL
 OVERALL ONE LINE DIAGRAM - PART F

PROJ NO.	202G
DWG	SD-28
SHEET	
DATE	JANUARY 1993
REV	0

5H3B_OSD-028

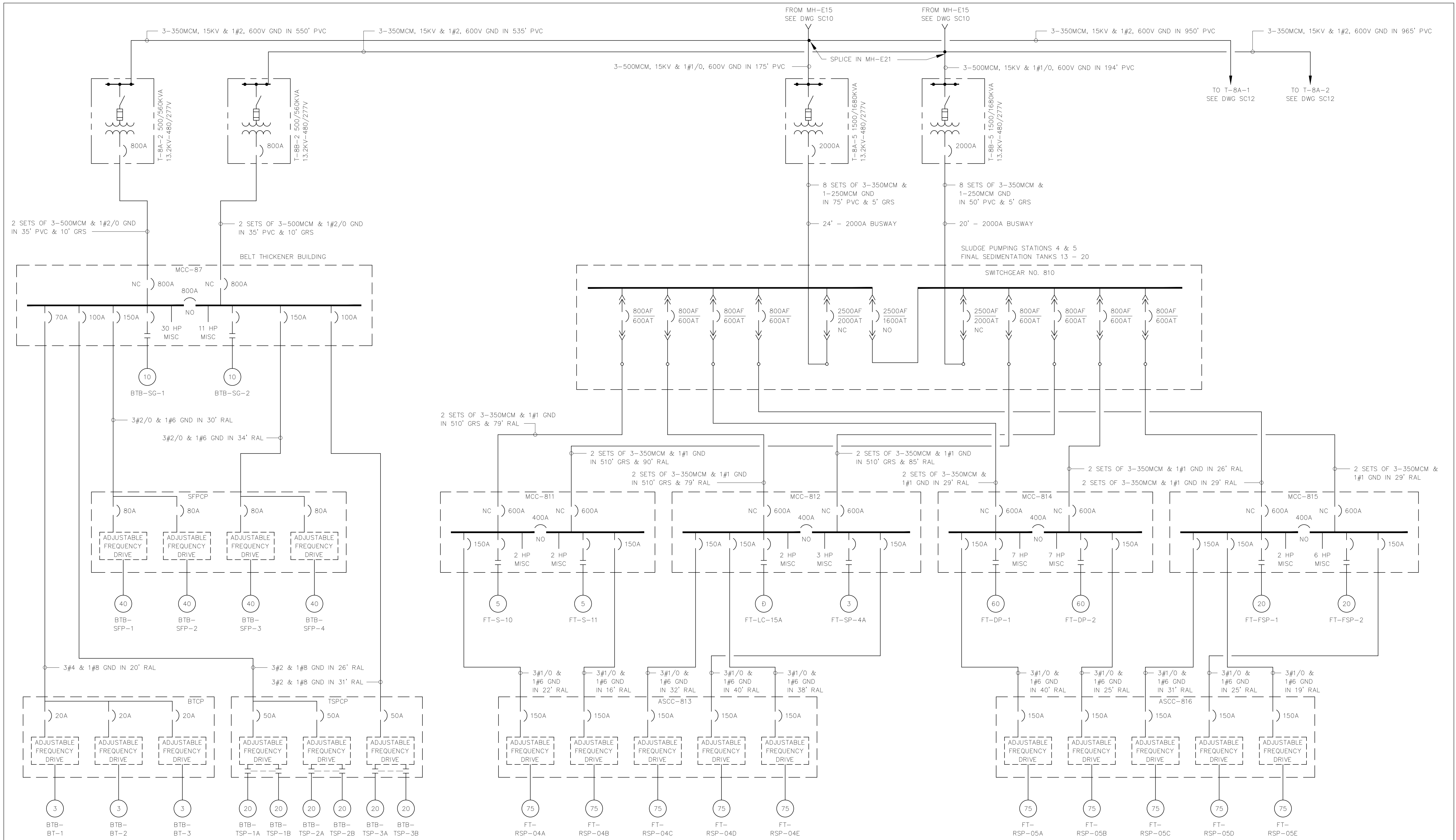
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NOTE:
 1. SEE DWG SC1 FOR NOTES AND ABBREVIATIONS

GREELEY AND HANSEN ENGINEERS 4350 WEST CYPRESS STREET TAMPA, FLORIDA 33607-4135	DESIGNED BBK	APPROVED _____ DATE _____	SCALE		CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	ELECTRICAL GENERAL OVERALL ONE LINE DIAGRAM - PART H1	PROJ NO. 202G	
	DRAWN BBK	_____ DATE _____	NO SCALE				DWG SD-29	
	CHECKED BBK	GREELEY AND HANSEN, ENGINEERS	NO.	DATE			APPD	REVISION	SHEET
							DATE JANUARY 1993	REV 0

5H3B_OSD-029



NOTE:
 1. SEE DWG SC1 FOR NOTES AND ABBREVIATIONS

GREELEY AND HANSEN
 ENGINEERS
 4350 WEST CYPRESS STREET
 TAMPA, FLORIDA 33607-4135

DESIGNED BBK
 DRAWN BBK
 CHECKED BBK

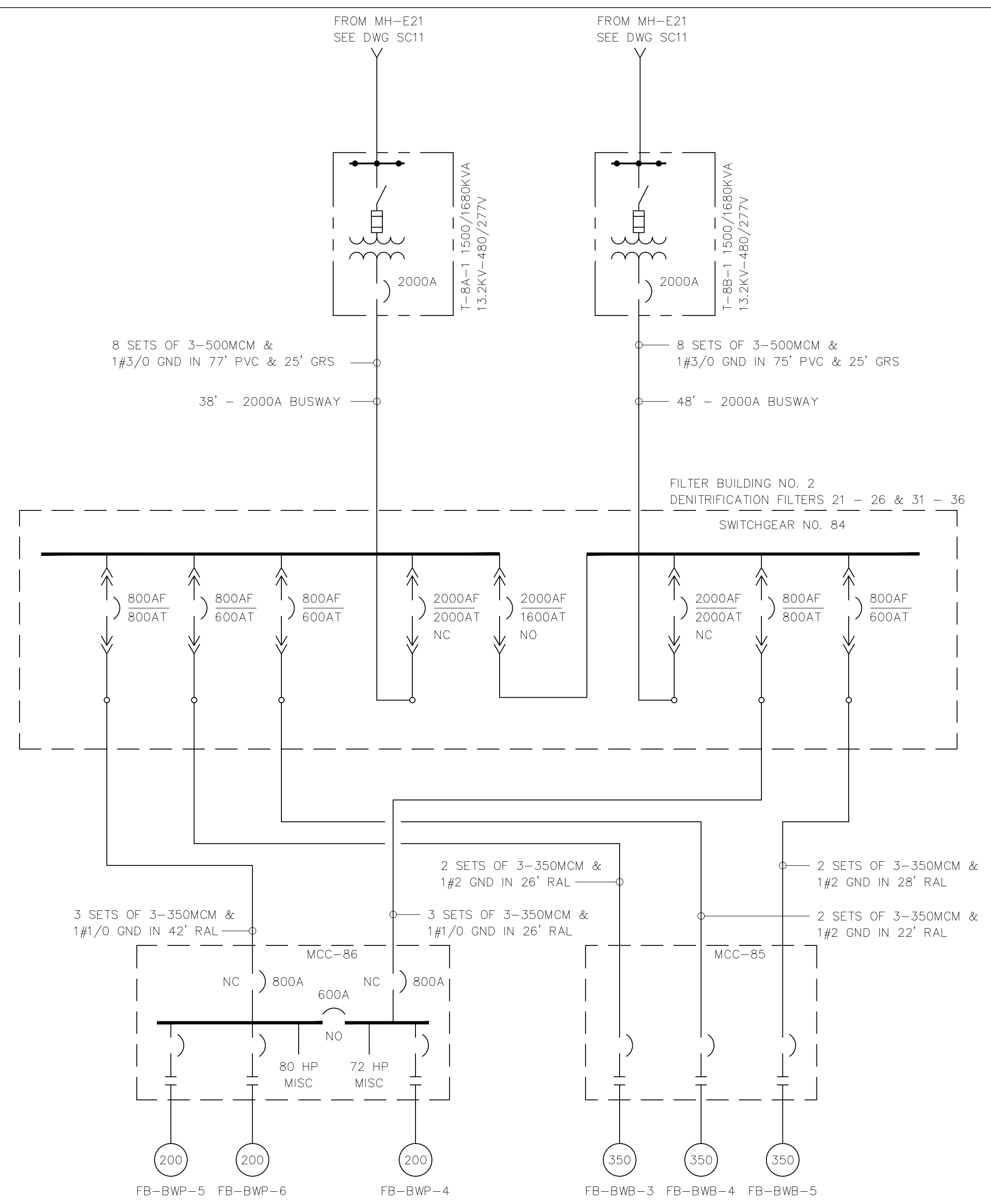
APPROVED	DATE			
GREELEY AND HANSEN, ENGINEERS	NO.	DATE	APPD	REVISION

SCALE
 NO SCALE

CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PLANT EXPANSION
 PHASE I DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

ELECTRICAL
 GENERAL
 OVERALL ONE LINE DIAGRAM - PART H2

PROJ NO.	202G
DWG	SD-30
SHEET	
DATE	JANUARY 1993
REV	0

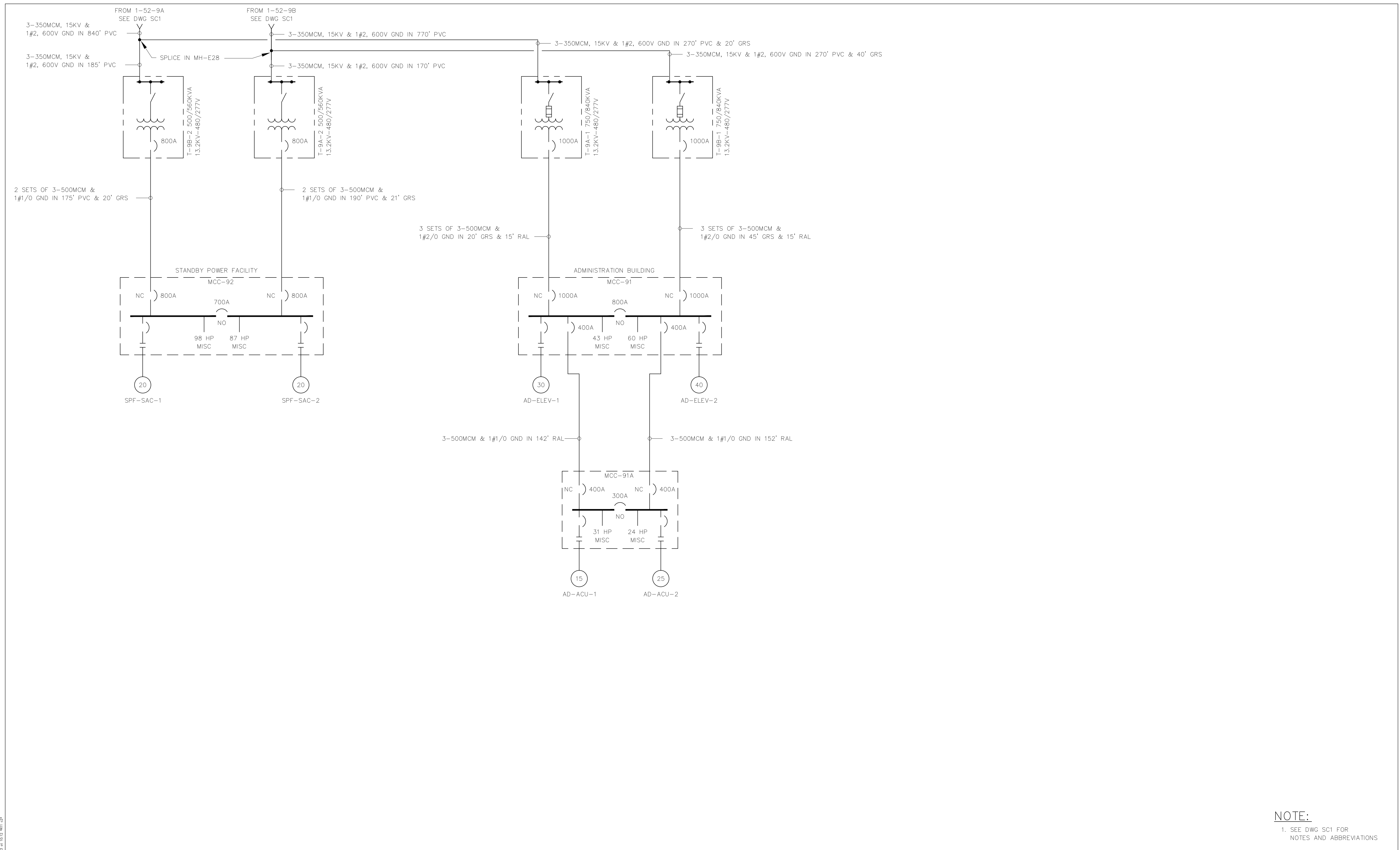


NOTE:
1. SEE DWG SC1 FOR NOTES AND ABBREVIATIONS

FILE: TAMPASD_5H3B_031.DWG

GREELEY AND HANSEN ENGINEERS 4350 WEST CYPRESS STREET TAMPA, FLORIDA 33607-4135	DESIGNED: BBK	APPROVED: _____	SCALE: NO SCALE		CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	ELECTRICAL GENERAL OVERALL ONE LINE DIAGRAM - PART H3	PROJ NO. 202G
	DRAWN: BBK	DATE: _____	NO. DATE APPD REVISION	DWG SD-31			
CHECKED: BBK	DATE: _____	GREELEY AND HANSEN, ENGINEERS					SHEET
							DATE JANUARY 1993 REV 0

5H3B_OSD-031



NOTE:
1. SEE DWG SC1 FOR NOTES AND ABBREVIATIONS

GREELEY AND HANSEN
ENGINEERS
4350 WEST CYPRESS STREET
TAMPA, FLORIDA 33607-4135

DESIGNED BBK
DRAWN BBK
CHECKED BBK

APPROVED _____
DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION

SCALE
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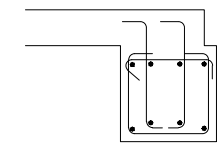
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

ELECTRICAL
GENERAL
OVERALL ONE LINE DIAGRAM - PART I

PROJ NO.	202G
DWG	SD-32
SHEET	
DATE	JANUARY 1993
REV	0

REVISED BEAM SCHEDULE										FOR REMAINDER OF BEAM SCHEDULE, SEE DRAWINGS TS7 & TS8		
AREA	MARK	SIZE W X D	BOTT BARS	TOP BARS			W OR S SUPPORT	E OR N SUPPORT	STIRRUPS			REMARKS
				A	B	C			SIZE	SPA	EA END		TYPE
	GB1	30x52	6-#7	6-#7 A1		6-#7 C1			#4	Ø12 THROUGHOUT	S2	BEAM DEPTH TAKEN FROM EL 11'-5"
	GB11	30x52	6-#7	4-#7 A1		4-#7 C1			#4	Ø12	S2	BEAM DEPTH TAKEN FROM EL 11'-5"
	GB15	36x55	7-#7	5-#7 A1		5-#7 C1	COL B.7,1		#4	Ø6	S2	BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SEC 13/TS5
	GB16	24x62	6-#8*	6-#8 A1		6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB17	24x62	6-#8*			6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB18	24x62	6-#9*			6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB19	24x62	6-#8*	6-#8 A1					#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB20	36x55	7-#7	5-#7 A1					#4	Ø6	S2	BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SECT 13/TS5
	GB1A	24x52	6-#7	12 # A1					#4	Ø6	S4	BEAM DEPTH TAKEN FROM EL 11'-5" 1/2 A1 EACH END
	2B8A	30x24	4-#8	6-#9 A1					#4	Ø8	S6	1/2 A1 EACH END

* LAP SPLICE 3 NOS BOTTOM BARS AT SUPPORTS

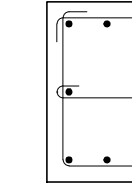


TYPE S4

NOTE:
PLAN, SECTIONS, BEAM SCHEDULE, COLUMN SCHEDULE AND OTHER DETAILS SHOWN HERE, SUPERSEDE THE RELEVANT DETAILS ON DRAWINGS TS1 THRU TS11.

COL. SCHEDULE	
COLUMN MARK	A1.9 A1 B.7-1.9 B.7-1 E1.9 E1
HIGH ROOF EL 39'-6"	
LOW ROOF EL 26'-6"	
GROUND FLOOR HP EL 12'-0"	3-#9 20x30 8-#9T4
T/PILE CAP EL VARIES	

FOR REMAINDER OF COLUMN SCHEDULE, SEE DRAWING TS9



T4

REVISED PILE SCHEDULE					
ITEM	MARK	NO. OF PILES	UPLIFT PILES	CUT-OFF ELEV.	REMARKS
	⊙	4	0	10'-8"	
	⊙	6	0	7'-2"	
	⊙	31	0	7'-3"	
	⊙	17	0	8'-10"	GENERATOR BASES (INCL. FUTURE BASE)
	⊙	8	0	7'-6"	GENERATOR BASES
	⊕	6	0	-0'-10"	
	⊙	21	0	10'-4"	
	⊙	3	0	7'-8"	
	⊙	24	0	(-) 3'-4"	
	⊙	24	0	5'-0"	
	⊙	93	0	4'-6"	
	⊕	10	0	4'-0"	
	⊙	23	0	6'-11"	

TOTAL NUMBER OF PILES THIS SCHEDULE = 270

KLEIN AND HOFFMAN, INC.

CONSULTING ENGINEERS
4350 W. CYPRESS STREET
TAMPA, FLORIDA 33607 - 4135

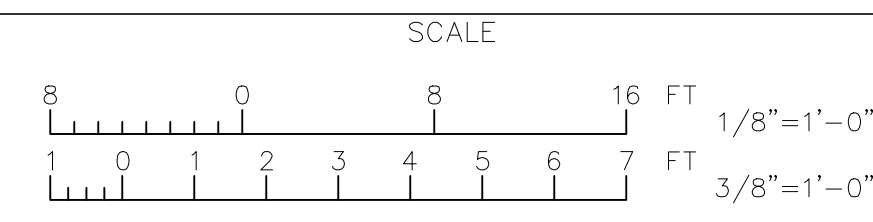
PROJECT NO. 4187

GREELEY AND HANSEN
ENGINEERS
4350 WEST CYPRESS STREET
TAMPA, FLORIDA 33607-4135

DESIGNED JVT
DRAWN SKC
CHECKED SKC

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
1	6/4/93	SKC	PILE SCHED. CUT-OFF ELEV.



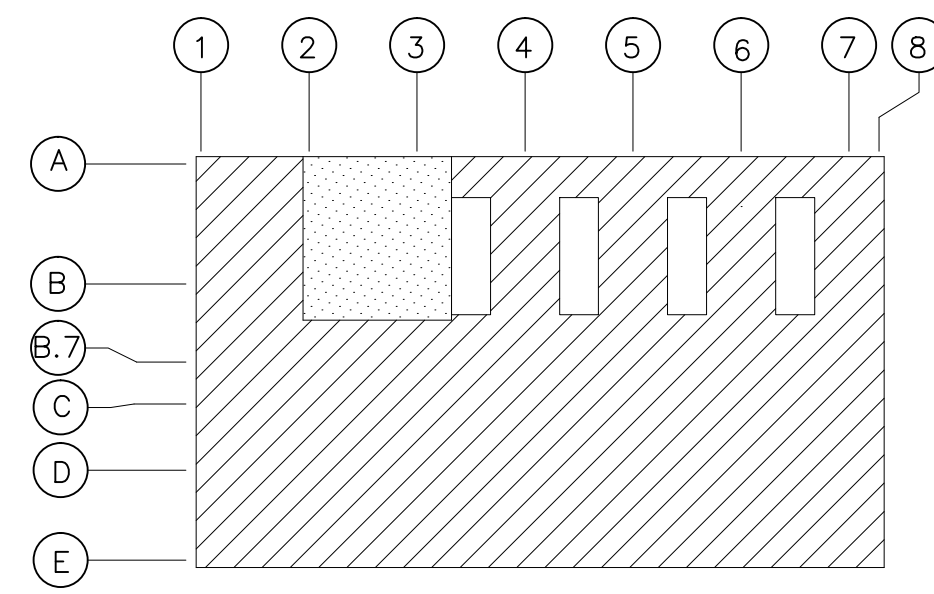
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
STRUCTURAL
REVISED PLANS, SECTIONS AND SCHEDULES

REVISES DRAWING NO. TS1-TS11

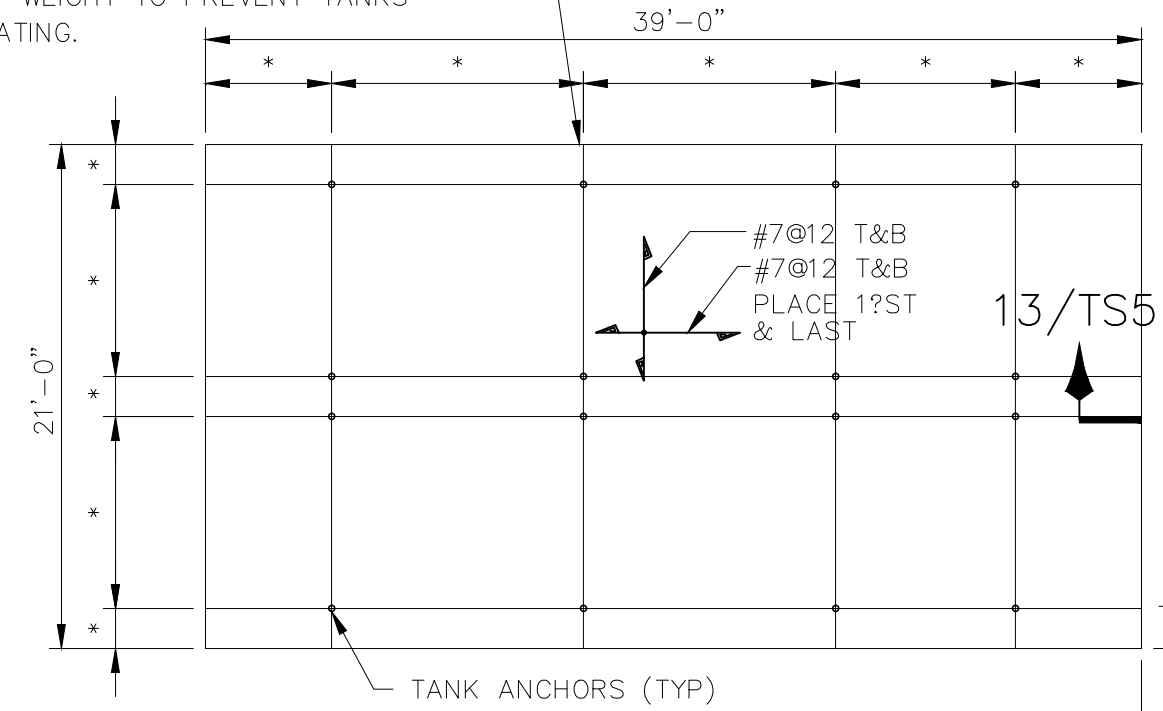
PROJ. NO. 202G
DWG SD-3
SHEET
DATE MAY 1993 REV 1

5H3B_OTS-001B

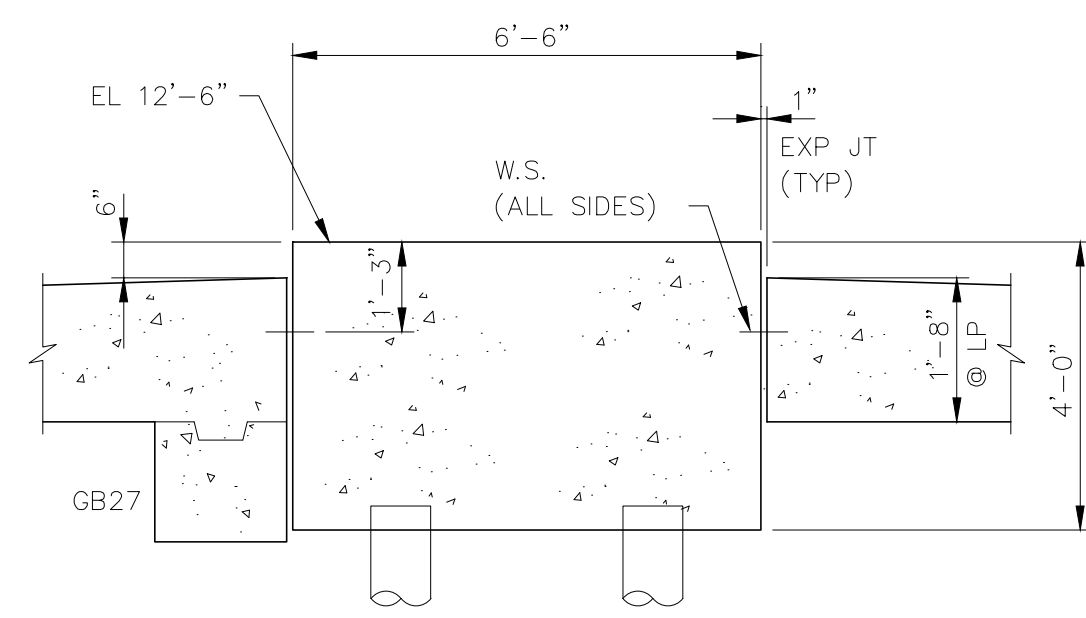
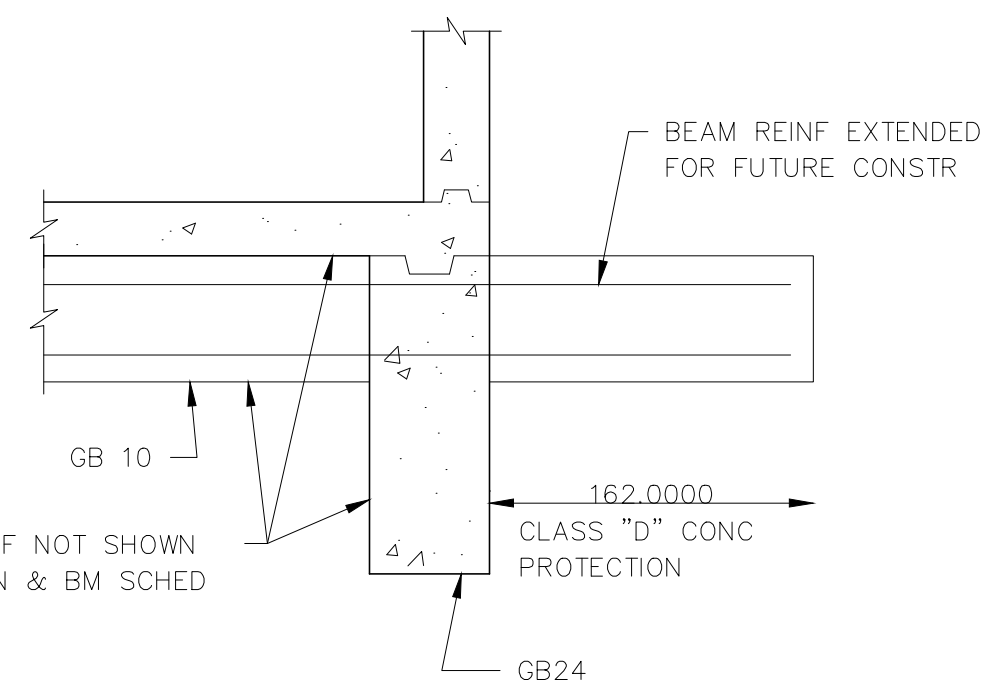


LOADING DIAGRAM

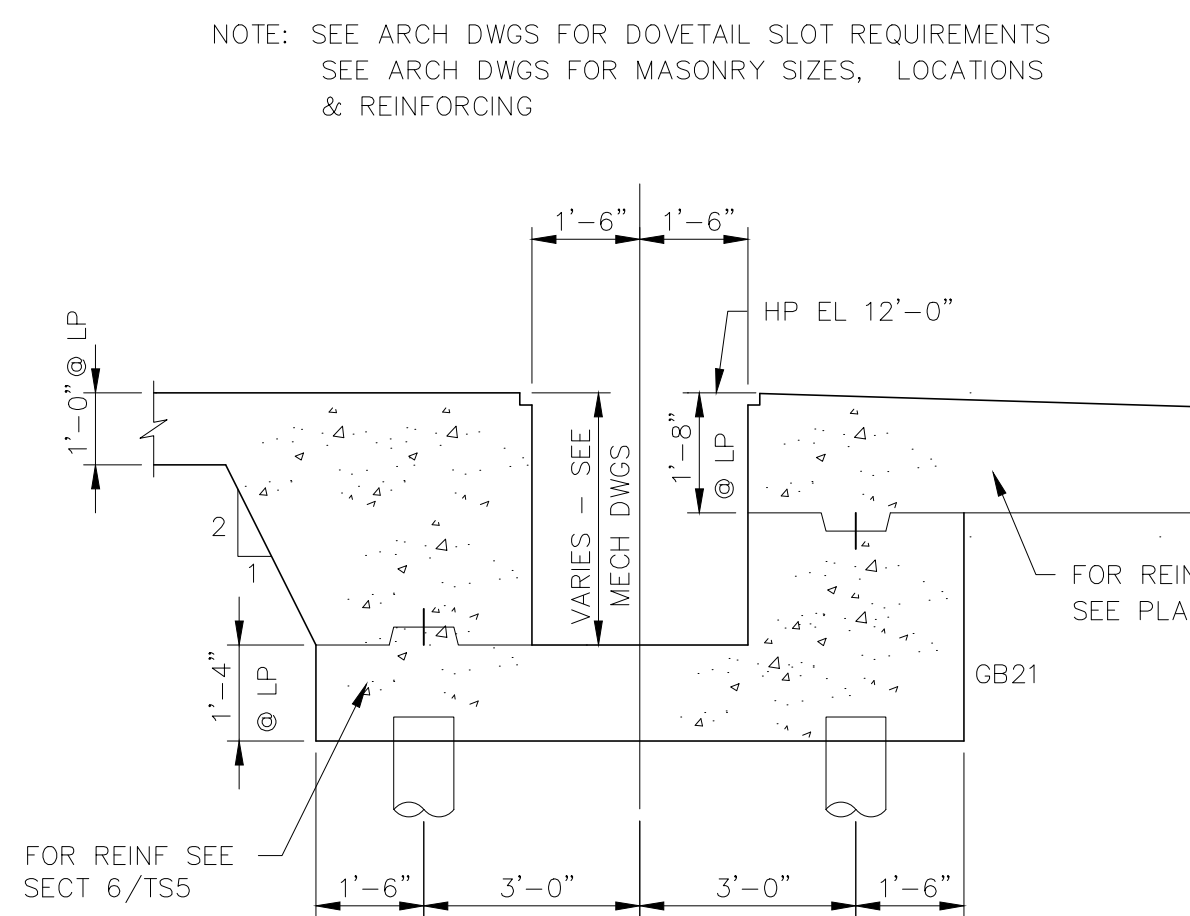
NOTE: WHEN CONSTRUCTING UNDERGROUND FUEL STORAGE TANKS, THE CONTRACTOR MUST ABSOLUTELY CONTROL GROUND WATER LEVEL AT ALL TIMES UNTIL ALL BACKFILL IS COMPLETELY IN PLACE. THE BASE SLAB ALONE WILL NOT PROVIDE SUFFICIENT WEIGHT TO PREVENT TANKS FROM FLOATING.



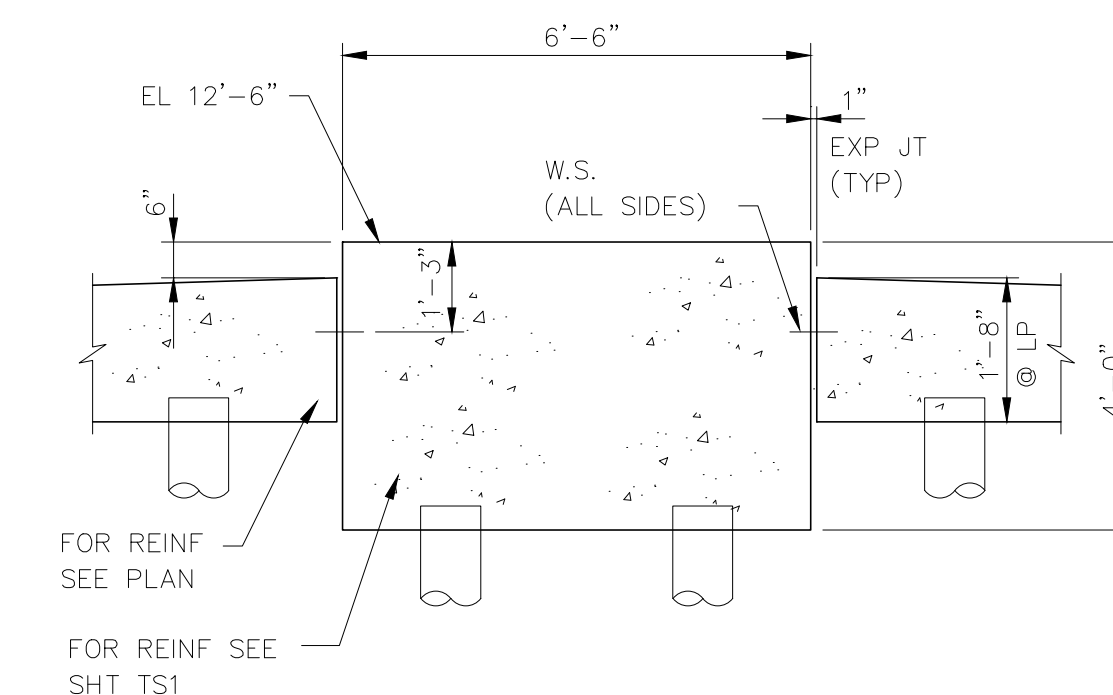
SECTION 2
SCALE 1"=1'-0"



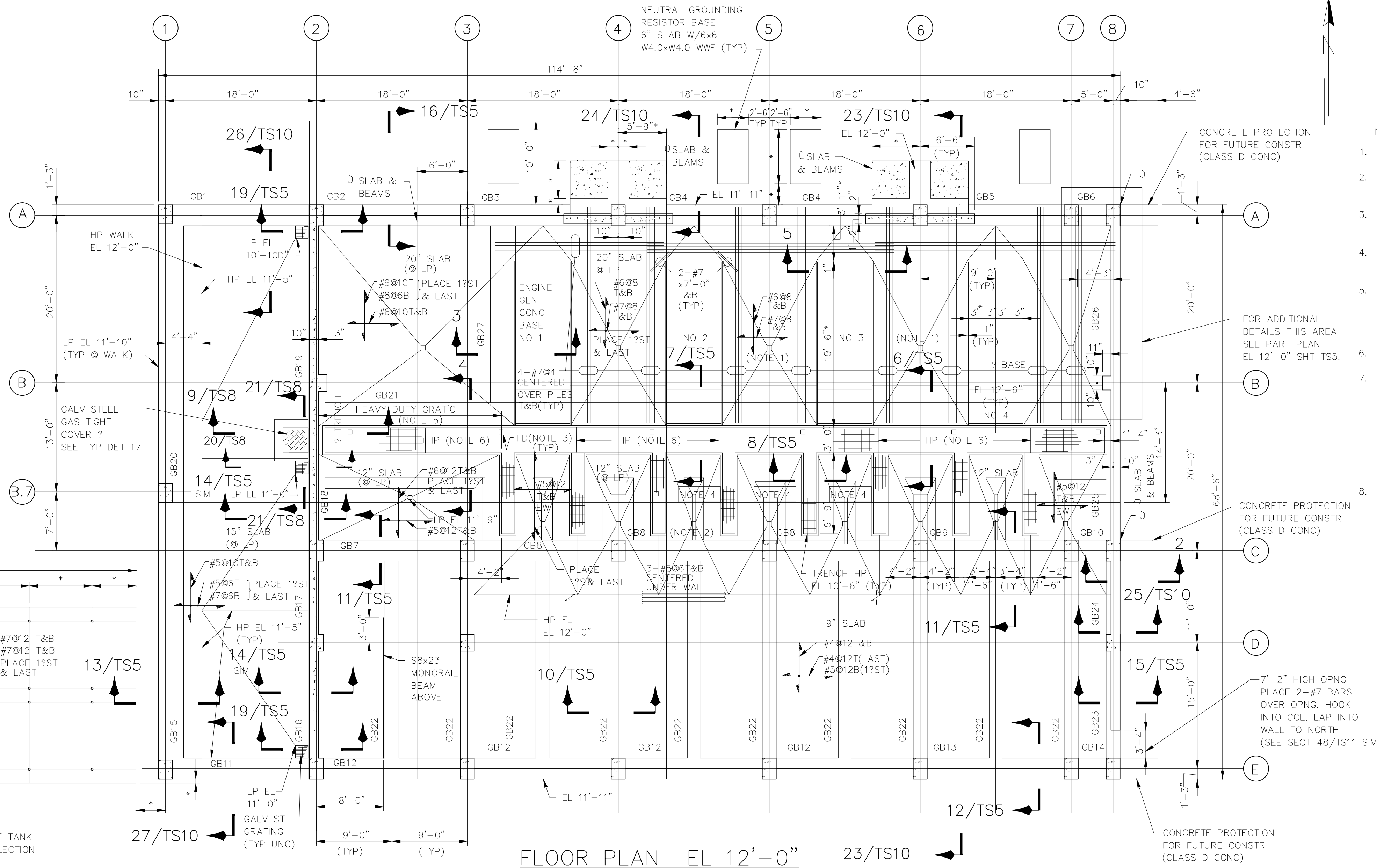
SECTION 3
SCALE 1"=1'-0"



SECTION 4
SCALE 1"=1'-0"



SECTION 5
SCALE 1"=1'-0"



FLOOR PLAN EL 12'-0"
SCALE: 1/8"=1'-0"

NOTE: SEE ARCH DWGS FOR DOVETAIL SLOT REQUIREMENTS
SEE ARCH DWGS FOR MASONRY SIZES, LOCATIONS & REINFORCING

- NOTES:
- LP FLOOR ELEVATION AT FLOOR DRAIN EL 11'-8" (TYP).
 - LP FLOOR ELEVATION AT FLOOR DRAIN EL 11'-9B" (TYP). FOR FLOOR DRAIN LOCATIONS SEE DWG TM8.
 - PIPE TRENCH BOTTOM ELEVATION AT DRAIN EL 8'-3" (TYP). FOR DRAIN LOCATIONS SEE DWG TM8.
 - CONCRETE PUMP BASE SIZE TO BE DETERMINED AFTER EQUIPMENT SELECTION.
 - ALL OPEN GRATING SHALL BE GALVANIZED STEEL. HEAVY DUTY GRATING SHALL BEAR H20 TRUCK TRAFFIC. ALL OTHER GRATING SHALL BE DESIGNED FOR NOT LESS THAN 150 LBS PER SQ FT LIVE LOAD
 - BOTTOM PIPE TRENCH HP EL 8'-6" (TYP).
 - EQUIPMENT PADS SHALL BE PROVIDED FOR THE WASTE LUBE OIL STORAGE TANK, FRESH LUBE OIL STORAGE TANKS, WASTE LUBE OIL PUMP, FRESH LUBE OIL PUMP, DAY TANK, FUEL OIL COOLER, AND FUEL OIL PUMPS SHOWN ON DRAWING TM1. THE TOP ELEVATION OF THE PADS SHALL BE ELEVATION 12'-0". THE EQUIPMENT PAD DETAIL SHALL BE AS SHOWN ON DRAWING ASI.
 - FOUR-INCH MINIMUM HEIGHT EQUIPMENT PADS SHALL BE PROVIDED FOR THE GENERATOR INSTRUMENT PANEL, AIR COMPRESSORS, AIR RECEIVER TANKS, AND JACKET WATER CIRCULATING PUMPS SHOWN ON DRAWING TM1 AND ALL FLOOR-MOUNTED ELECTRICAL GEAR SHOWN ON DRAWINGS TE13, TE14, AND TE15. THE EQUIPMENT PAD DETAIL SHALL BE AS SHOWN ON DRAWING ASI.

See Supplemental Drawing SD-2 and SD-3

RECORD DRAWING

THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

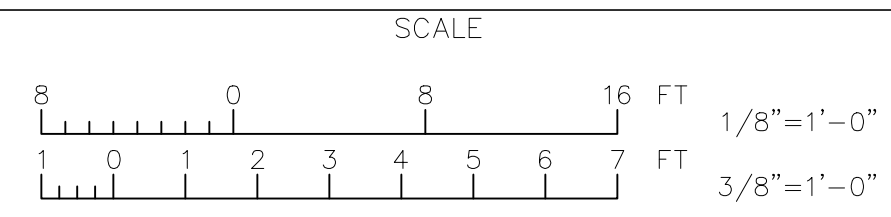
KLEIN AND HOFFMAN, INC.
CONSULTING ENGINEERS
4350 W. CYPRESS STREET
TAMPA, FLORIDA 33607 - 4135
PROJECT NO. 4187

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED WRC, JAH
DRAWN KCS
CHECKED WRC

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
3	8/1/96		RECORD DWG REVISIONS.

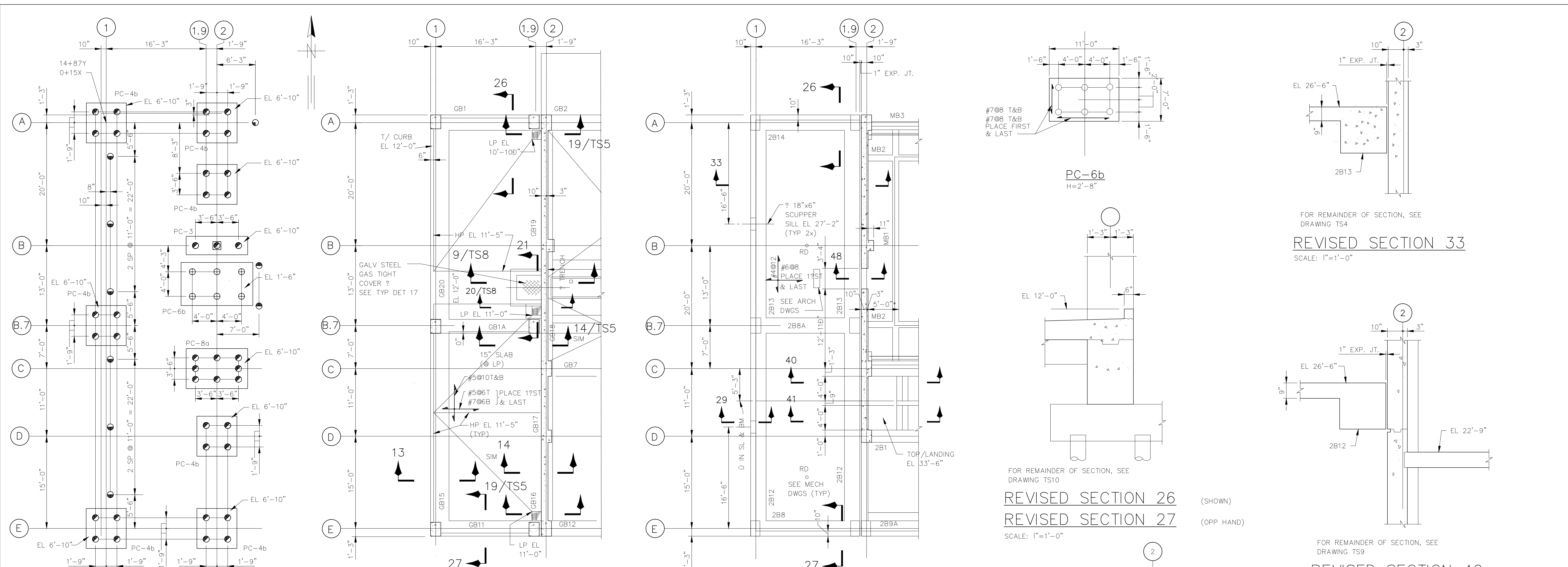


CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
STRUCTURAL
PLAN EL 12'-0" AND SECTIONS

PROJ NO.	202G
DWG	TS2
SHEET	
DATE	DECEMBER 1991
REV	3

5H3B_OTS-002



FOR REMAINDER OF PLAN, SEE DRAWING TS1
REVISED PILE PLAN
 SCALE: 1/8"=1'-0"

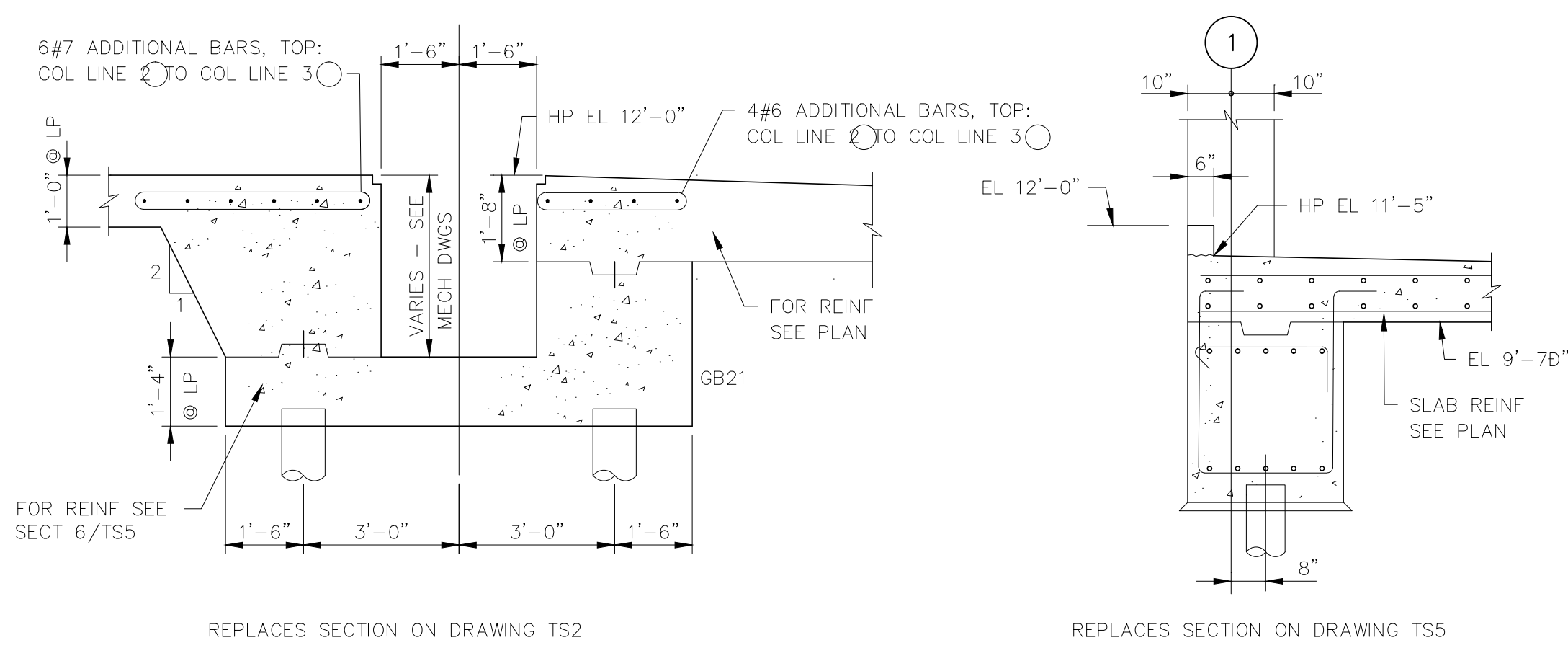
FOR REMAINDER OF PLAN, SEE DRAWING TS2
REVISED PLAN AT EL 12'-0"
 SCALE: 1/8"=1'-0"

FOR REMAINDER OF PLAN, SEE DRAWING TS3
REVISED PLAN AT EL 35'-0"
 SCALE: 1/8"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS10
REVISED SECTION 26 (SHOWN)
REVISED SECTION 27 (OPP HAND)
 SCALE: 1/8"=1'-0"

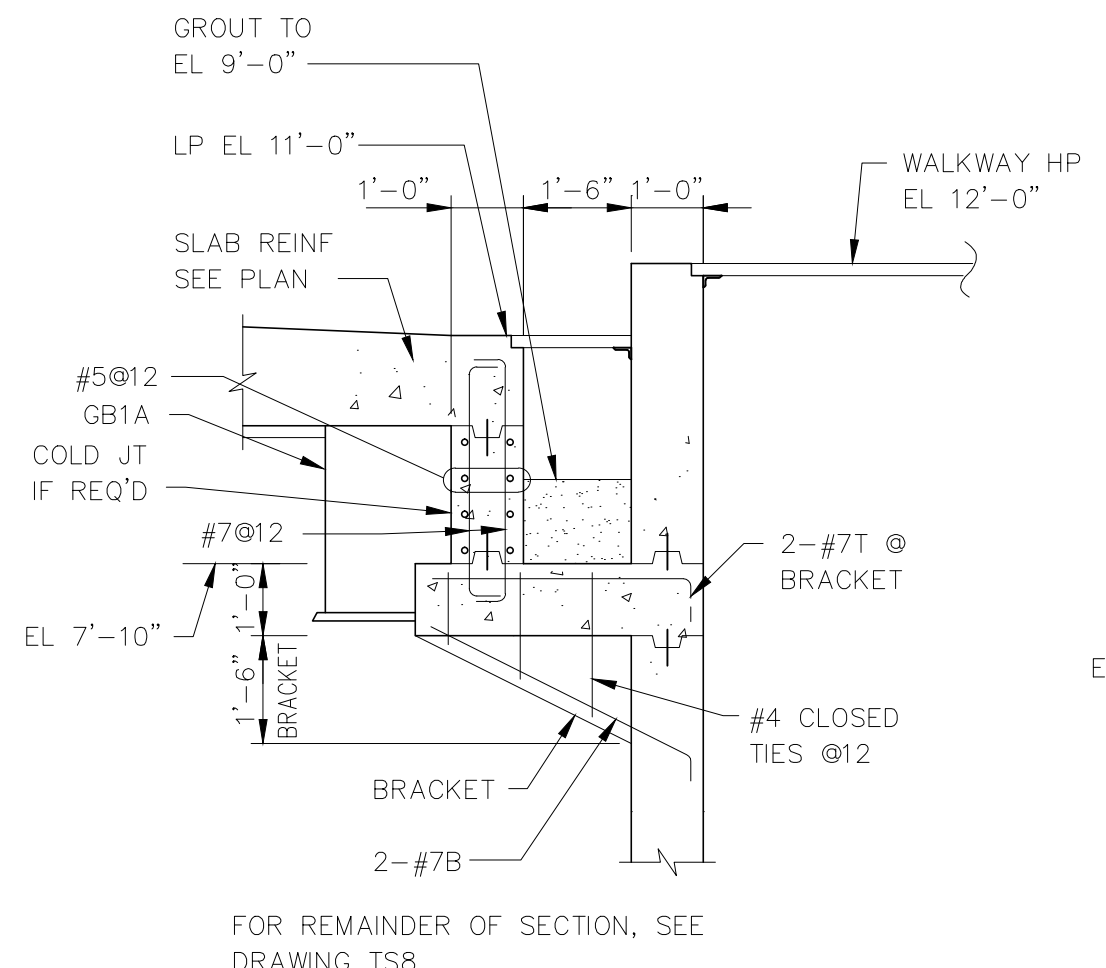
FOR REMAINDER OF SECTION, SEE DRAWING TS4
REVISED SECTION 33
 SCALE: 1/8"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS9
REVISED SECTION 40
REVISED SECTION 41
 SCALE: 1/8"=1'-0"

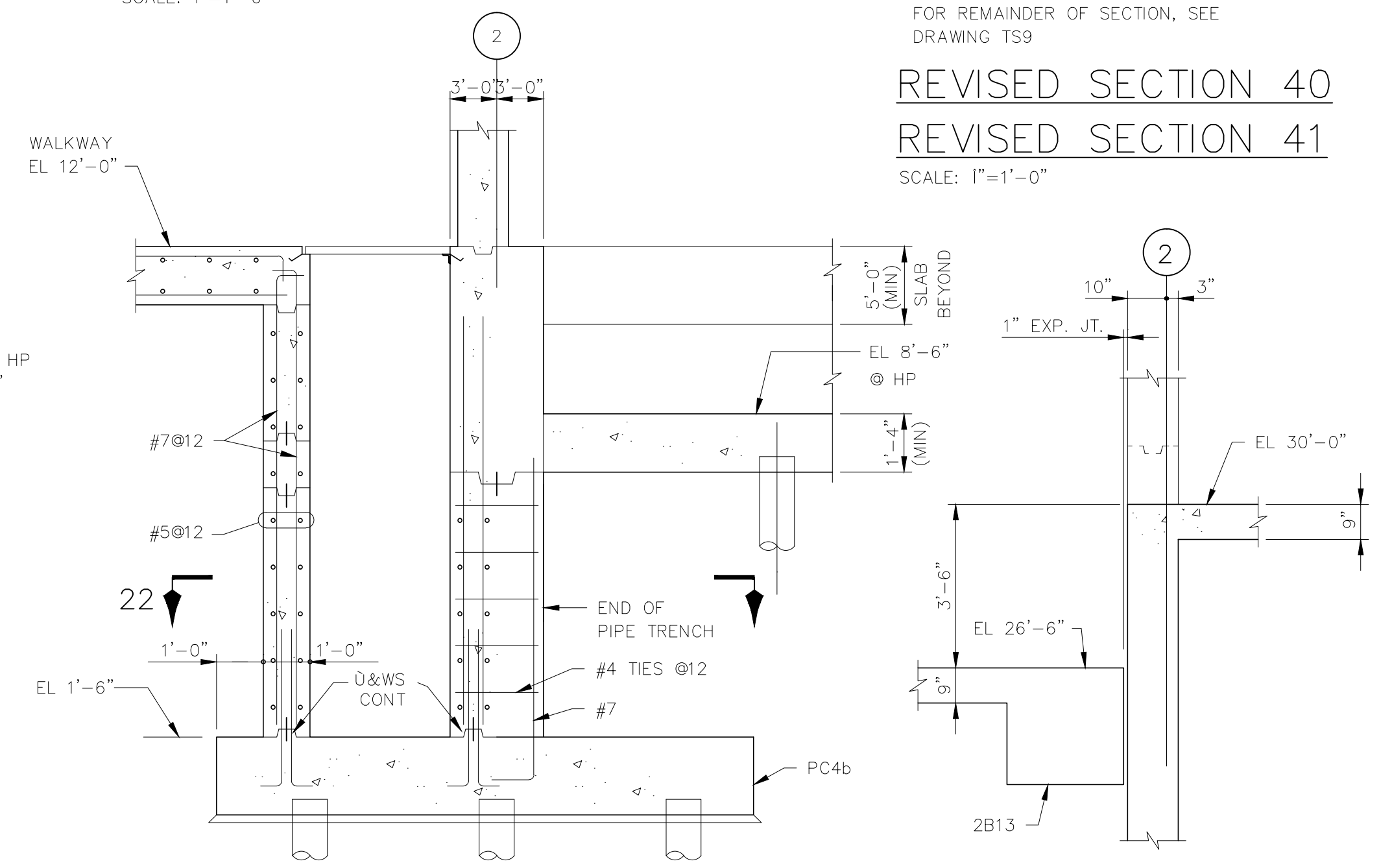


REPLACES SECTION ON DRAWING TS2
REVISED SECTION 4
 SCALE: 1/8"=1'-0"

REPLACES SECTION ON DRAWING TS5
REVISED SECTION 13
 SCALE: 1/8"=1'-0"



FOR REMAINDER OF SECTION, SEE DRAWING TS8
REVISED SECTION 21
 SCALE: 1/8"=1'-0"

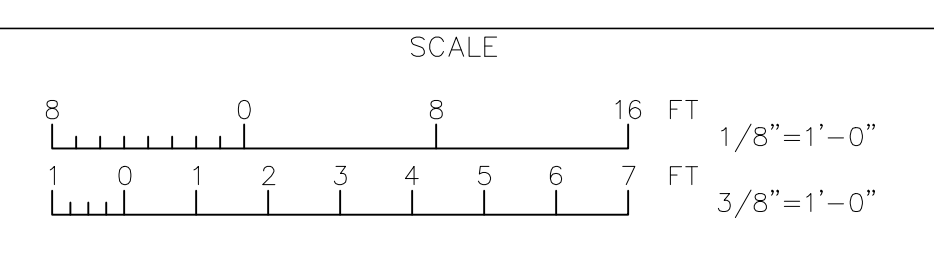


REPLACES SECTION ON DRAWING TS8
REVISED SECTION 9
 SCALE: 1/8"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS11
REVISED SECTION 48
 SCALE: 1/8"=1'-0"

KLEIN AND HOFFMAN, INC.
 CONSULTING ENGINEERS
 4350 W. CYPRESS STREET
 TAMPA, FLORIDA 33607 - 4135
 PROJECT NO. 4187

DESIGNED	JVT	APPROVED	
DRAWN	SKC	DATE	
CHECKED	SKC	DATE	
		GREELEY AND HANSEN, ENGINEERS	
		NO.	DATE
		APPD	REVISION



CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PLANT EXPANSION
 PHASE 1 DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
 STRUCTURAL
 REVISED PLANS, SECTIONS AND SCHEDULES

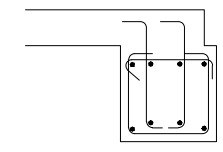
REVISES DRAWING NO. TS1-TS11

PROJ. NO.	202G
DWG	SD-2
SHEET	
DATE	MAY 1993
REV	0

5H3B_0TS-002A

REVISED BEAM SCHEDULE										FOR REMAINDER OF BEAM SCHEDULE, SEE DRAWINGS TS7 & TS8		
AREA	MARK	SIZE W X D	BOTT BARS	TOP BARS			W OR S SUPPORT	E OR N SUPPORT	STIRRUPS			REMARKS
				A	B	C			SIZE	SPA	EA END		TYPE
	GB1	30x52	6-#7	6-#7 A1		6-#7 C1			#4	Ø12 THROUGHOUT	S2	BEAM DEPTH TAKEN FROM EL 11'-5"
	GB11	30x52	6-#7	4-#7 A1		4-#7 C1			#4	Ø12	S2	BEAM DEPTH TAKEN FROM EL 11'-5"
	GB15	36x55	7-#7	5-#7 A1		5-#7 C1	COL B.7,1		#4	Ø6	S2	BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SEC 13/TSS
	GB16	24x62	6-#8*	6-#8 A1		6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB17	24x62	6-#8*			6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB18	24x62	6-#9*			6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB19	24x62	6-#8*	6-#8 A1					#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB20	36x55	7-#7	5-#7 A1					#4	Ø6	S2	BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SECT 13/TSS
	GB1A	24x52	6-#7	12 # A1					#4	Ø6	S4	BEAM DEPTH TAKEN FROM EL 11'-5" 1/2 A1 EACH END
	2B8A	30x24	4-#8	6-#9 A1					#4	Ø8	S6	1/2 A1 EACH END

* LAP SPLICE 3 NOS BOTTOM BARS AT SUPPORTS

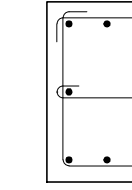


TYPE S4

NOTE:
PLAN, SECTIONS, BEAM SCHEDULE, COLUMN SCHEDULE AND OTHER DETAILS SHOWN HERE, SUPERSEDE THE RELEVANT DETAILS ON DRAWINGS TS1 THRU TS11.

COL. SCHEDULE	
COLUMN MARK	A1.9 A1 B.7-1.9 B.7-1 E1.9 E1
HIGH ROOF EL 39'-6"	
LOW ROOF EL 26'-6"	
GROUND FLOOR HP EL 12'-0"	3-#9 20x30 8-#9T4
T/PILE CAP EL VARIES	

FOR REMAINDER OF COLUMN SCHEDULE, SEE DRAWING TS9



T4

REVISED PILE SCHEDULE					
ITEM	MARK	NO. OF PILES	UPLIFT PILES	CUT-OFF ELEV.	REMARKS
	⊙	4	0	10'-8"	
	⊙	6	0	7'-2"	
	⊙	31	0	7'-3"	
	⊙	17	0	8'-10"	GENERATOR BASES (INCL. FUTURE BASE)
	⊙	8	0	7'-6"	GENERATOR BASES
	⊕	6	0	-0'-10"	
	⊙	21	0	10'-4"	
	⊙	3	0	7'-8"	
	⊙	24	0	(-) 3'-4"	
	⊙	24	0	5'-0"	
	⊙	93	0	4'-6"	
	⊕	10	0	4'-0"	
	⊕	23	0	6'-11"	

TOTAL NUMBER OF PILES THIS SCHEDULE = 270

KLEIN AND HOFFMAN, INC.

CONSULTING ENGINEERS
4350 W. CYPRESS STREET
TAMPA, FLORIDA 33607 - 4135

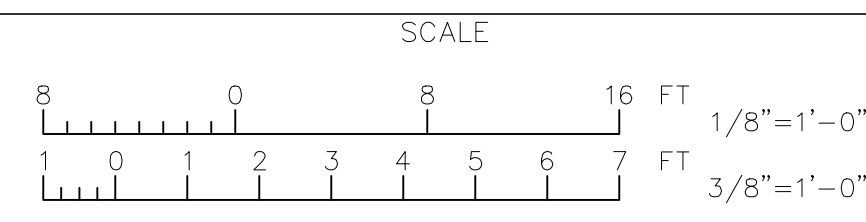
PROJECT NO. 4187

GREELEY AND HANSEN
ENGINEERS
4350 WEST CYPRESS STREET
TAMPA, FLORIDA 33607-4135

DESIGNED JVT
DRAWN SKC
CHECKED SKC

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
1	6/4/93	SKC	PILE SCHED. CUT-OFF ELEV.



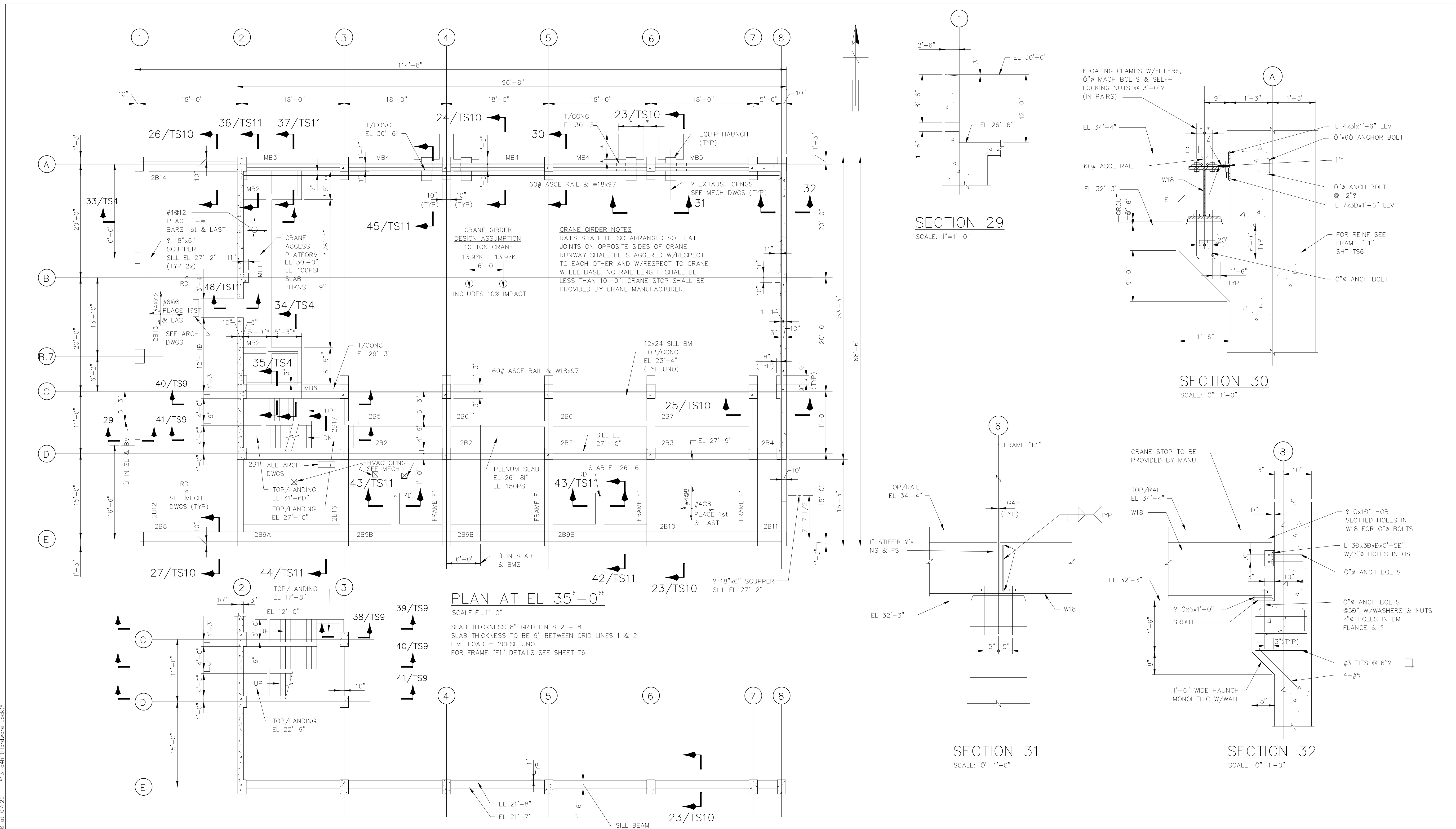
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
STRUCTURAL
REVISED PLANS, SECTIONS AND SCHEDULES

REVISES DRAWING NO. TS1-TS11

PROJ. NO. 202G
DWG SD-3
SHEET
DATE MAY 1993 REV 1

5H3B_OTS-002B



KLEIN AND HOFFMAN, INC.
 CONSULTING ENGINEERS
 4350 W. CYPRESS STREET
 TAMPA, FLORIDA 33607 - 4135
 PROJECT NO. 4187

PART PLAN AT EL 23'-6"
 SCALE: 1/8"=1'-0"

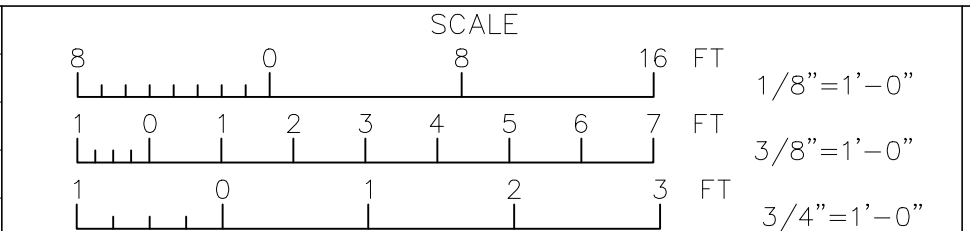
See Supplemental Drawing SD-2 and SD-3

RECORD DRAWING
 THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

GREELEY AND HANSEN
 ENGINEERS
 1715 NORTH WESTSHORE BOULEVARD
 TAMPA, FLORIDA 33607-4135

DESIGNED WRC, JAH
 DRAWN KCS
 CHECKED WRC

APPROVED	DATE	
	DATE	
GREELEY AND HANSEN, ENGINEERS	NO.	DATE
	8/13/96	RECORD DWG REVISIONS

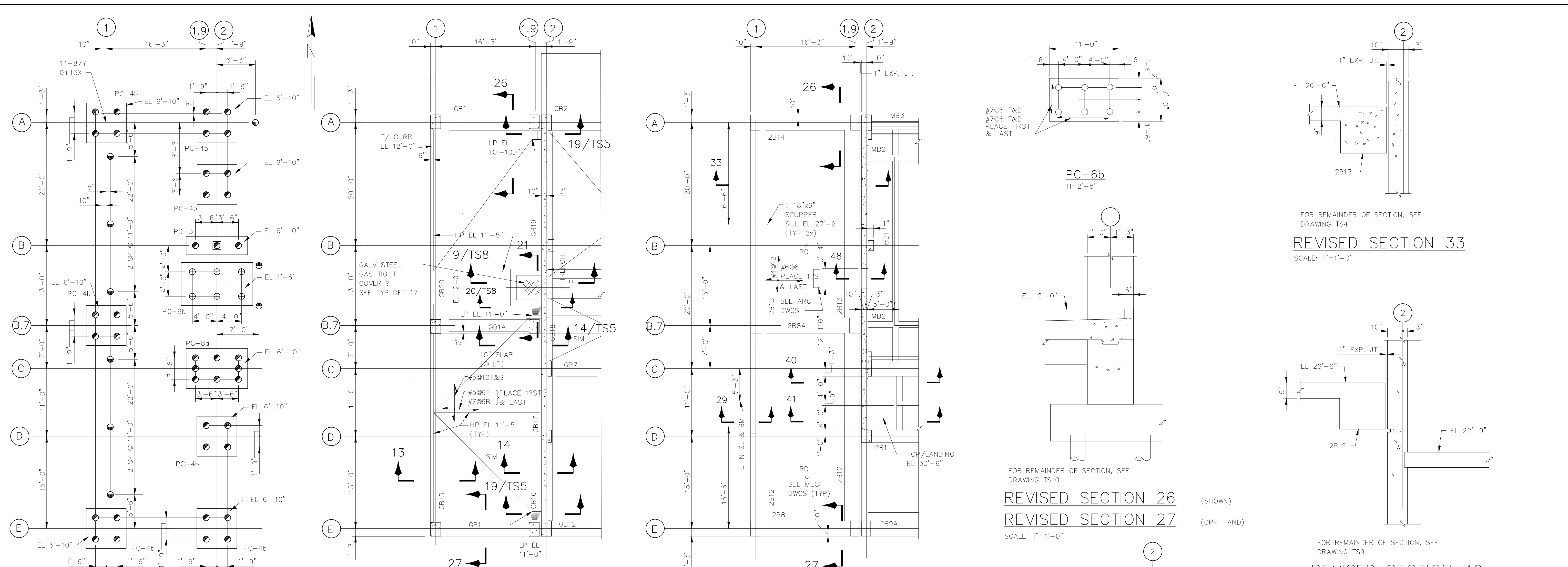


CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PLANT EXPANSION
 PHASE I DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
 STRUCTURAL
 PLAN AT EL 35'-0", EL 23'-6" AND SECTIONS

PROJ. NO.	202G
DWG	TS3
SHEET	
DATE	DECEMBER 1991
REV	2

FILE: H3B-TS03 SCALE: 1:1 09/17/1996 at 07:22 - *13_c4h (hardware Lock)*



FOR REMAINDER OF PLAN, SEE DRAWING TS1
REVISED PILE PLAN
 SCALE: 1"=1'-0"

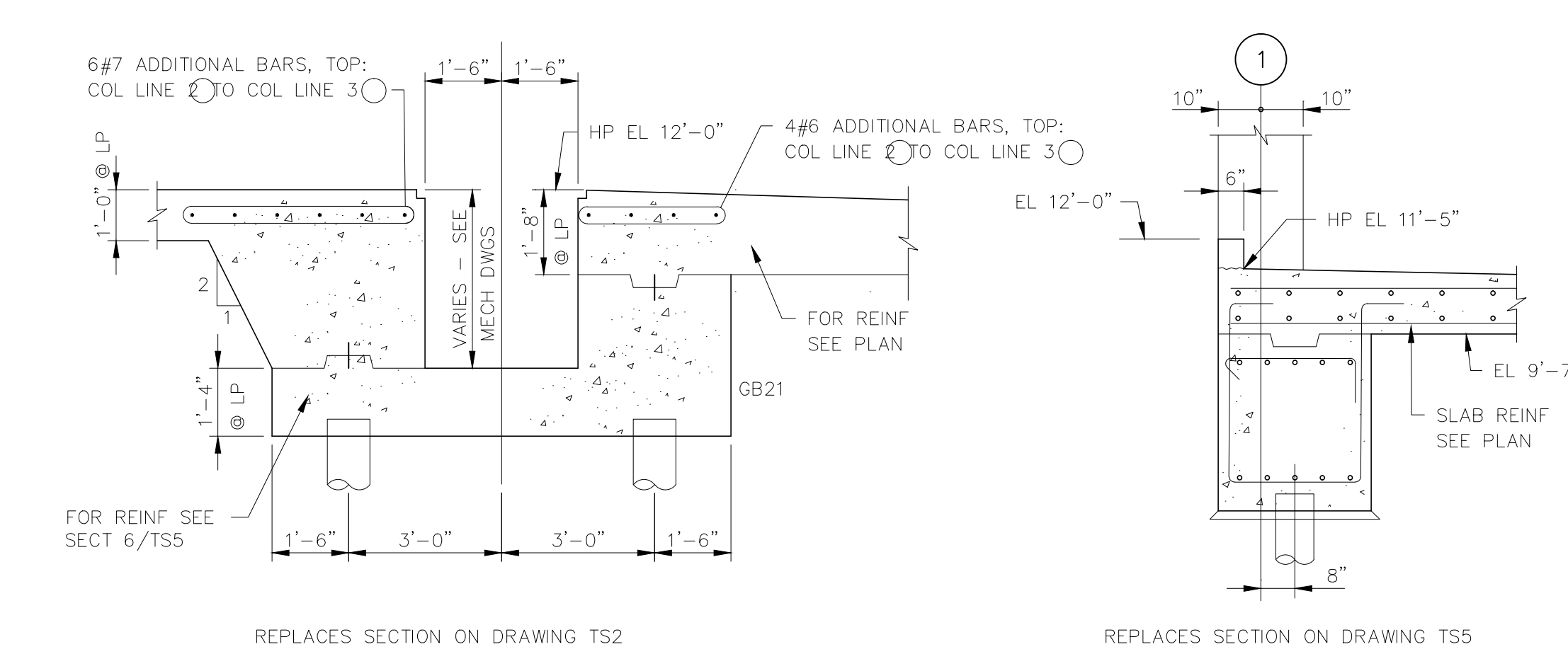
FOR REMAINDER OF PLAN, SEE DRAWING TS2
REVISED PLAN AT EL 12'-0"
 SCALE: 1"=1'-0"

FOR REMAINDER OF PLAN, SEE DRAWING TS3
REVISED PLAN AT EL 35'-0"
 SCALE: 1"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS10
REVISED SECTION 26 (SHOWN)
REVISED SECTION 27 (OPP HAND)
 SCALE: 1"=1'-0"

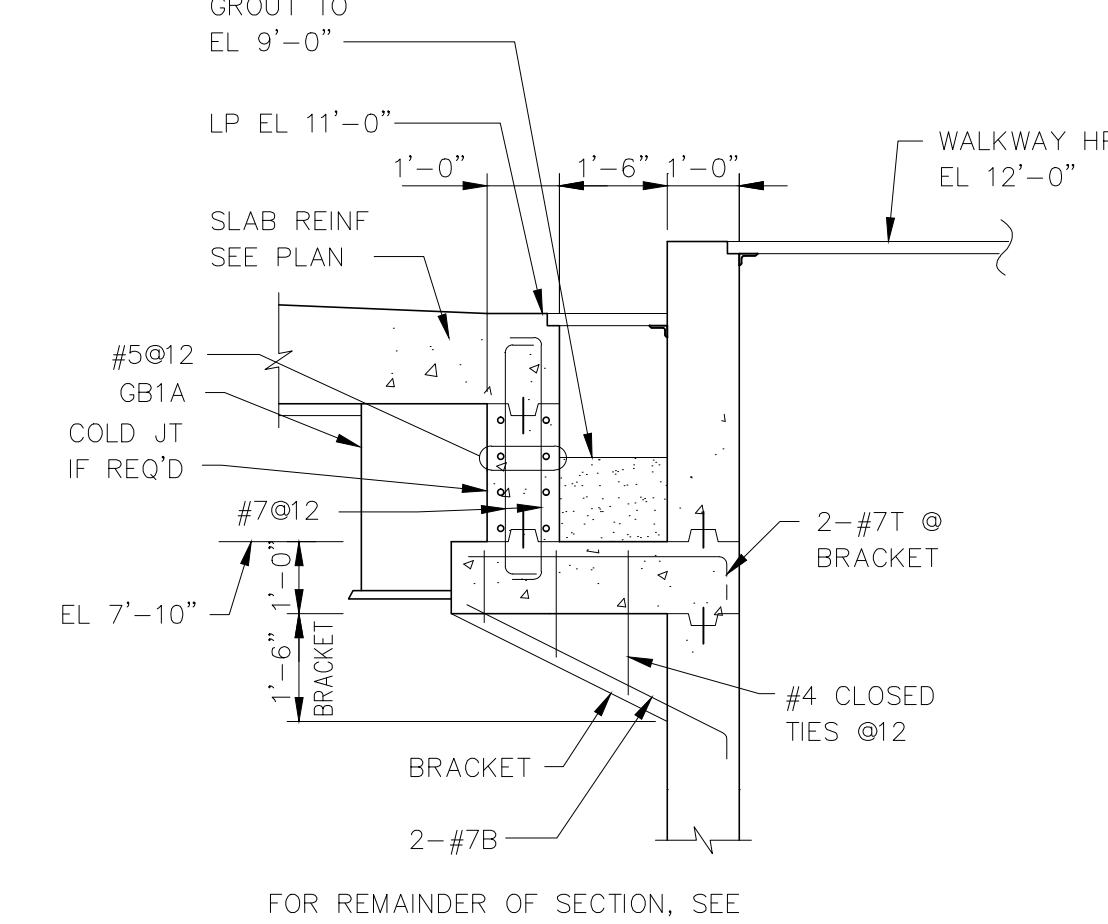
FOR REMAINDER OF SECTION, SEE DRAWING TS4
REVISED SECTION 33
 SCALE: 1"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS9
REVISED SECTION 40
REVISED SECTION 41
 SCALE: 1"=1'-0"

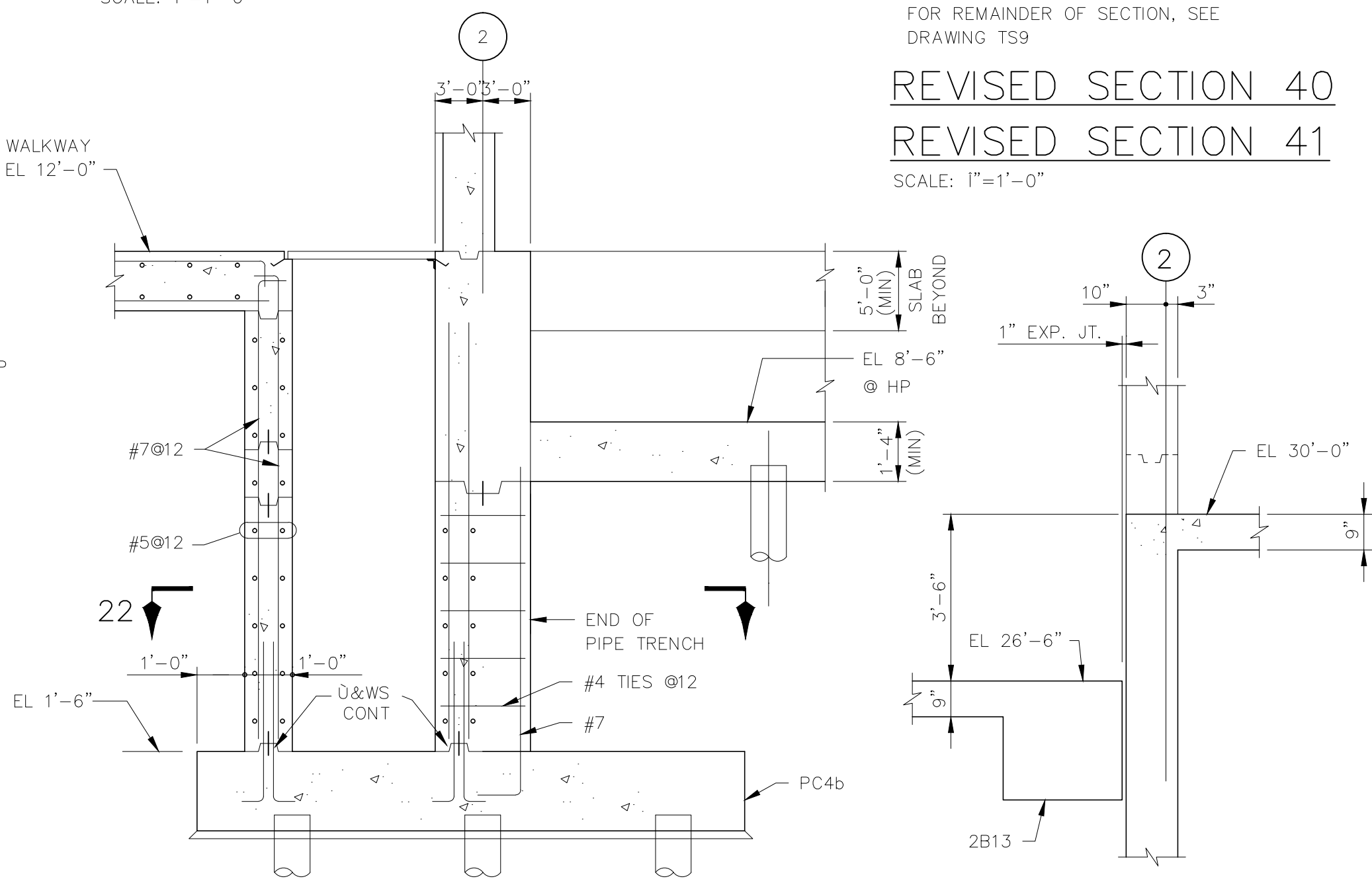


REPLACES SECTION ON DRAWING TS2
REVISED SECTION 4
 SCALE: 1"=1'-0"

REPLACES SECTION ON DRAWING TS5
REVISED SECTION 13
 SCALE: 1"=1'-0"



FOR REMAINDER OF SECTION, SEE DRAWING TS8
REVISED SECTION 21
 SCALE: 1"=1'-0"

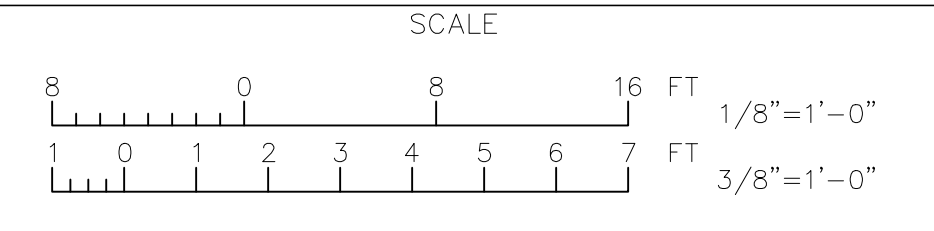


REPLACES SECTION ON DRAWING TS8
REVISED SECTION 9
 SCALE: 1"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS11
REVISED SECTION 48
 SCALE: 1"=1'-0"

KLEIN AND HOFFMAN, INC.
 CONSULTING ENGINEERS
 4350 W. CYPRESS STREET
 TAMPA, FLORIDA 33607 - 4135
 PROJECT NO. 4187

DESIGNED	JVT	APPROVED	
DRAWN	SKC	DATE	
CHECKED	SKC	DATE	
		GREELEY AND HANSEN, ENGINEERS	
		NO.	DATE
		APPD	REVISION



CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PLANT EXPANSION
 PHASE 1 DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
 STRUCTURAL
 REVISED PLANS, SECTIONS AND SCHEDULES

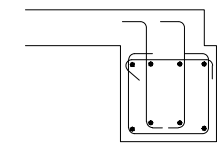
REVISES DRAWING NO. TS1-TS11

PROJ. NO.	202G
DWG	SD-2
SHEET	
DATE	MAY 1993
REV	0

5H3B_OTS-003A

REVISED BEAM SCHEDULE										FOR REMAINDER OF BEAM SCHEDULE, SEE DRAWINGS TS7 & TS8		
AREA	MARK	SIZE W X D	BOTT BARS	TOP BARS			W OR S SUPPORT	E OR N SUPPORT	STIRRUPS			REMARKS
				A	B	C			SIZE	SPA	EA END		TYPE
	GB1	30x52	6-#7	6-#7 A1		6-#7 C1			#4	Ø12 THROUGHOUT	S2	BEAM DEPTH TAKEN FROM EL 11'-5"
	GB11	30x52	6-#7	4-#7 A1		4-#7 C1			#4	Ø12	S2	BEAM DEPTH TAKEN FROM EL 11'-5"
	GB15	36x55	7-#7	5-#7 A1		5-#7 C1	COL B.7,1		#4	Ø6	S2	BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SEC 13/TSS
	GB16	24x62	6-#8*	6-#8 A1		6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB17	24x62	6-#8*			6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB18	24x62	6-#9*			6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB19	24x62	6-#8*	6-#8 A1					#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB20	36x55	7-#7	5-#7 A1					#4	Ø6	S2	BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SECT 13/TSS
	GB1A	24x52	6-#7	12 # A1					#4	Ø6	S4	BEAM DEPTH TAKEN FROM EL 11'-5" 1/2 A1 EACH END
	2B8A	30x24	4-#8	6-#9 A1					#4	Ø8	S6	1/2 A1 EACH END

* LAP SPLICE 3 NOS BOTTOM BARS AT SUPPORTS

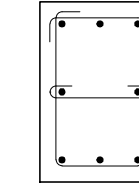


TYPE S4

NOTE:
PLAN, SECTIONS, BEAM SCHEDULE, COLUMN SCHEDULE AND OTHER DETAILS SHOWN HERE, SUPERSEDE THE RELEVANT DETAILS ON DRAWINGS TS1 THRU TS11.

COL. SCHEDULE	
COLUMN MARK	A1.9 A1 B.7-1.9 B.7-1 E1.9 E1
HIGH ROOF EL 39'-6"	
LOW ROOF EL 26'-6"	
GROUND FLOOR HP EL 12'-0"	3-#9 20x30 8-#9T4
T/PILE CAP EL VARIES	

FOR REMAINDER OF COLUMN SCHEDULE, SEE DRAWING TS9



T4

REVISED PILE SCHEDULE					
ITEM	MARK	NO. OF PILES	UPLIFT PILES	CUT-OFF ELEV.	REMARKS
	⊙	4	0	10'-8"	
	⊙	6	0	7'-2"	
	⊙	31	0	7'-3"	
	⊙	17	0	8'-10"	GENERATOR BASES (INCL. FUTURE BASE)
	⊙	8	0	7'-6"	GENERATOR BASES
	⊕	6	0	-0'-10"	
	⊙	21	0	10'-4"	
	⊙	3	0	7'-8"	
	⊙	24	0	(-) 3'-4"	
	⊙	24	0	5'-0"	
	⊙	93	0	4'-6"	
	⊕	10	0	4'-0"	
	⊙	23	0	6'-11"	

TOTAL NUMBER OF PILES THIS SCHEDULE = 270

KLEIN AND HOFFMAN, INC.

CONSULTING ENGINEERS
4350 W. CYPRESS STREET
TAMPA, FLORIDA 33607 - 4135

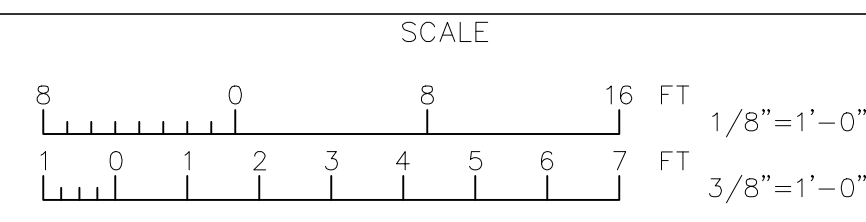
PROJECT NO. 4187

GREELEY AND HANSEN
ENGINEERS
4350 WEST CYPRESS STREET
TAMPA, FLORIDA 33607-4135

DESIGNED JVT
DRAWN SKC
CHECKED SKC

APPROVED _____
DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
1	6/4/93	SKC	PILE SCHED. CUT-OFF ELEV.



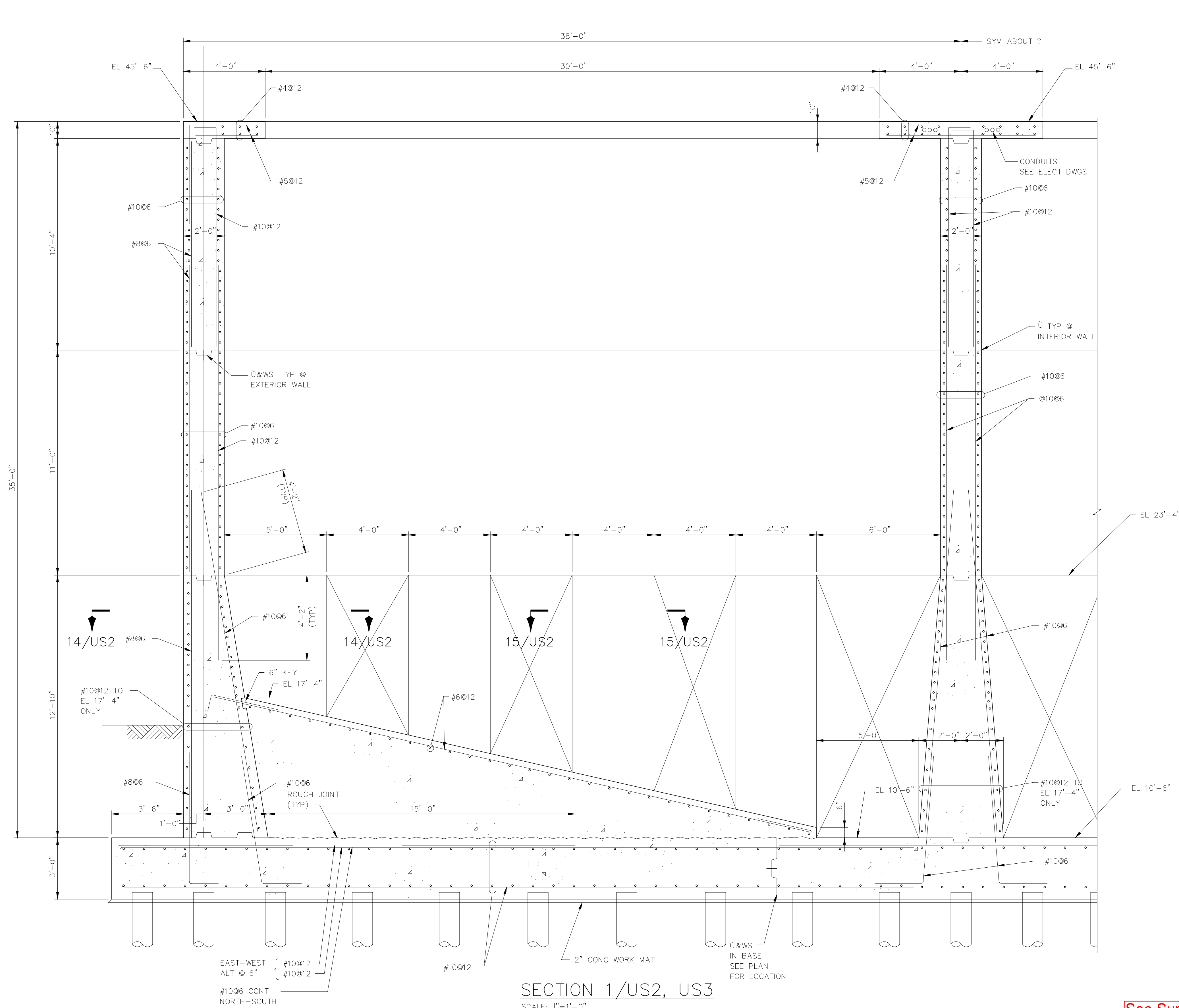
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
STRUCTURAL
REVISED PLANS, SECTIONS AND SCHEDULES

REVISES DRAWING NO. TS1-TS11

PROJ. NO. 202G
DWG SD-3
SHEET
DATE MAY 1993 REV 1

5H3B_OTS-003B



SECTION 1/US2, US3
SCALE: 1"=1'-0"

- NOTES:
1. NORTH-SOUTH INTERIOR WALL IS NOT DESIGNED FOR FUTURE IN-FILL OF OPENINGS.
 2. FOR PIPE PENETRATIONS SEE MECHANICAL DRAWINGS.

See Supplemental Drawing SD-2 and SD-3

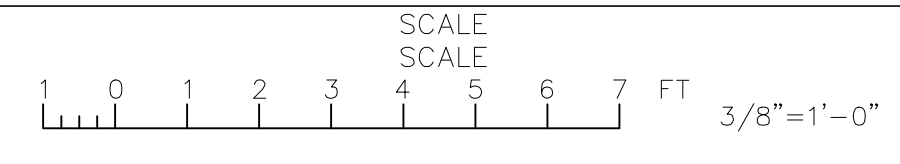
RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

FILE: 13B-TSM SCALE: 1/32 09/06, 1998 at 11:22 - *13_csh (browne Lock)*

KLEIN AND HOFFMAN, INC.
CONSULTING ENGINEERS
4350 W. CYPRESS STREET
TAMPA, FLORIDA 33607 - 4135
PROJECT NO. 4187

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED	WRC, JAH	APPROVED	DATE
DRAWN	KCS		
CHECKED	WRC		
		GREELEY AND HANSEN, ENGINEERS	
NO.	DATE	APPD	REVISION
2	8/15/96		RECORD DWG REVISIONS

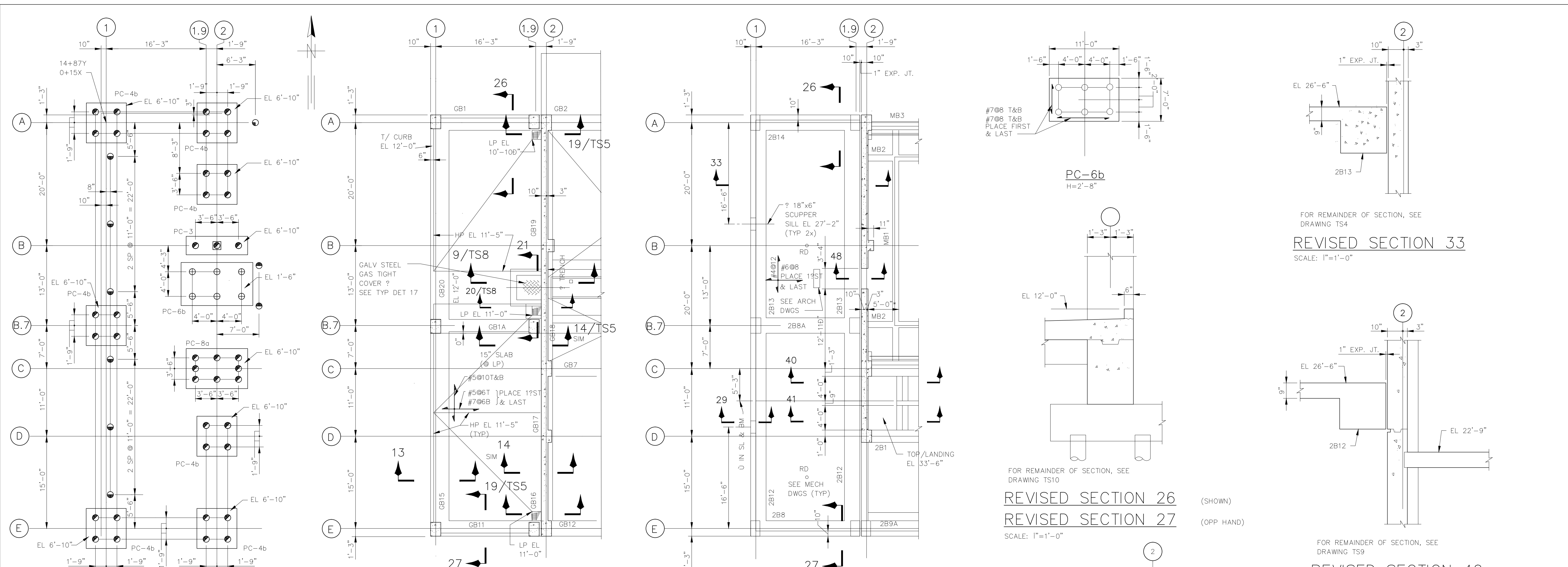


CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
STRUCTURAL
HIGH ROOF PLAN AND SECTIONS

PROJ NO.	202G
DWG	TS4
SHEET	
DATE	DECEMBER 1991
REV	2

5H3B_OTS-004



FOR REMAINDER OF PLAN, SEE DRAWING TS1
REVISED PILE PLAN
 SCALE: 1"=1'-0"

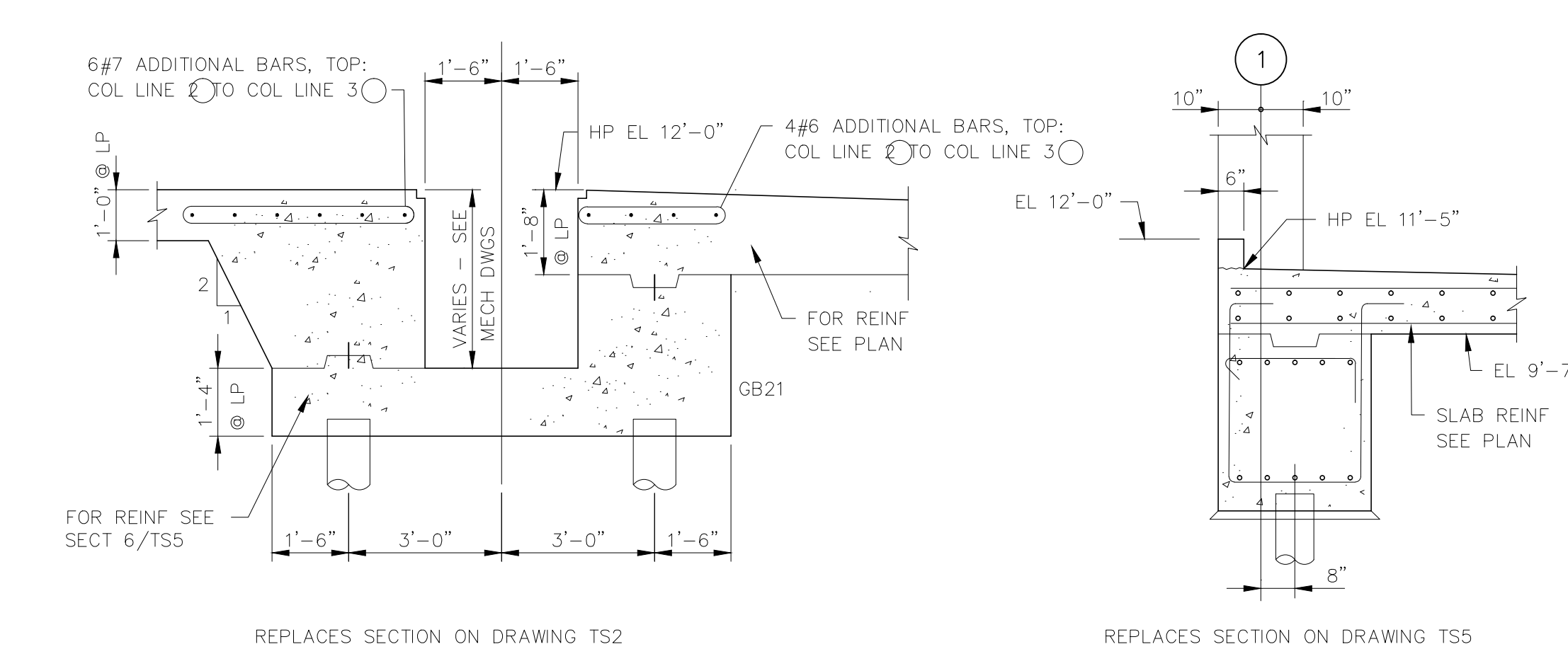
FOR REMAINDER OF PLAN, SEE DRAWING TS2
REVISED PLAN AT EL 12'-0"
 SCALE: 1"=1'-0"

FOR REMAINDER OF PLAN, SEE DRAWING TS3
REVISED PLAN AT EL 35'-0"
 SCALE: 1"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS10
REVISED SECTION 26 (SHOWN)
REVISED SECTION 27 (OPP HAND)
 SCALE: 1"=1'-0"

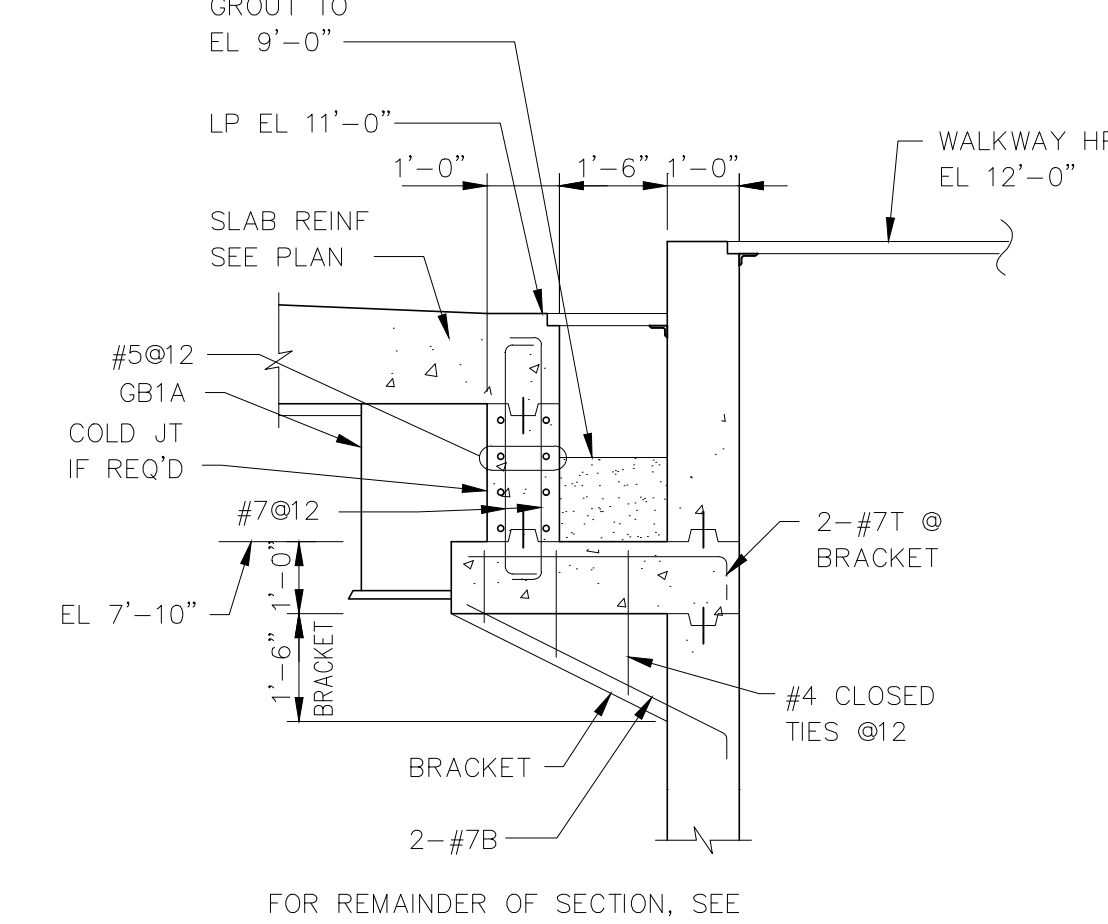
FOR REMAINDER OF SECTION, SEE DRAWING TS4
REVISED SECTION 33
 SCALE: 1"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS9
REVISED SECTION 40
REVISED SECTION 41
 SCALE: 1"=1'-0"

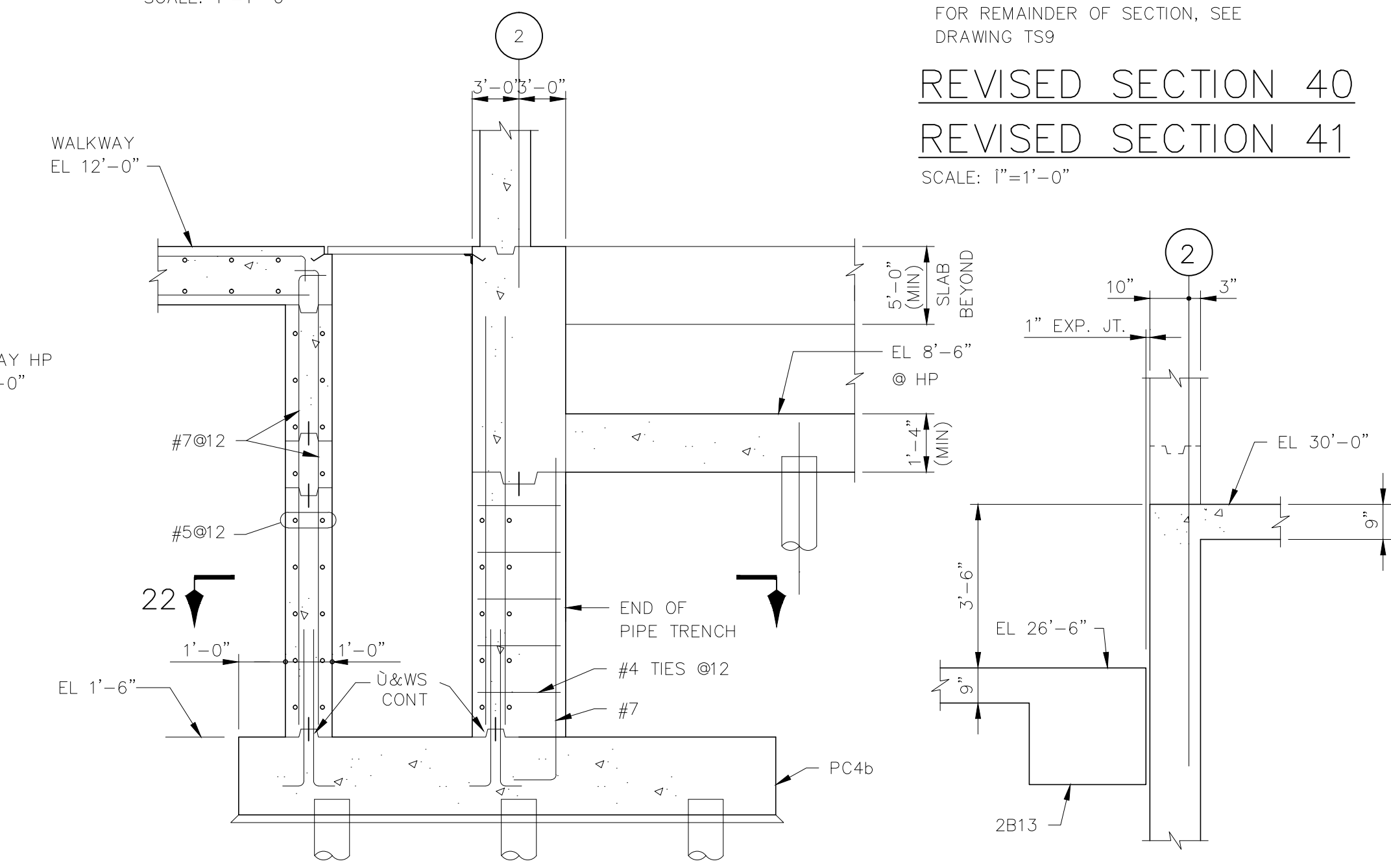


REPLACES SECTION ON DRAWING TS2
REVISED SECTION 4
 SCALE: 1"=1'-0"

REPLACES SECTION ON DRAWING TS5
REVISED SECTION 13
 SCALE: 1"=1'-0"



FOR REMAINDER OF SECTION, SEE DRAWING TS8
REVISED SECTION 21
 SCALE: 1"=1'-0"

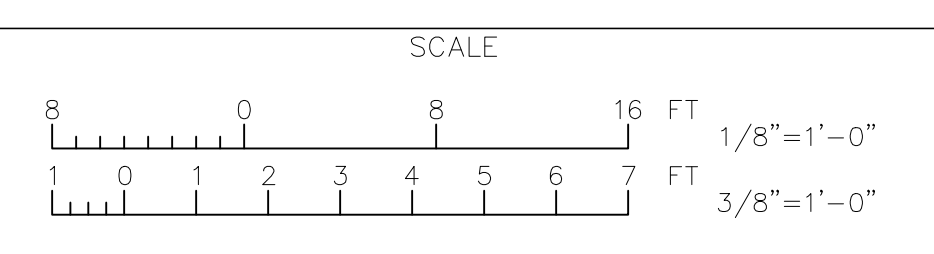


REPLACES SECTION ON DRAWING TS8
REVISED SECTION 9
 SCALE: 1"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS11
REVISED SECTION 48
 SCALE: 1"=1'-0"

KLEIN AND HOFFMAN, INC.
 CONSULTING ENGINEERS
 4350 W. CYPRESS STREET
 TAMPA, FLORIDA 33607 - 4135
 PROJECT NO. 4187

DESIGNED	JVT	APPROVED	
DRAWN	SKC	DATE	
CHECKED	SKC	DATE	
		GREELEY AND HANSEN, ENGINEERS	
		NO.	DATE
		APPD	REVISION



CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PLANT EXPANSION
 PHASE 1 DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
 STRUCTURAL
 REVISED PLANS, SECTIONS AND SCHEDULES

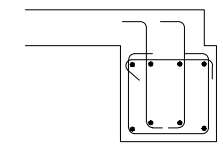
REVISES DRAWING NO. TS1-TS11

PROJ. NO.	202G
DWG	SD-2
SHEET	
DATE	MAY 1993
REV	0

5H3B_0TS-004A

REVISED BEAM SCHEDULE										FOR REMAINDER OF BEAM SCHEDULE, SEE DRAWINGS TS7 & TS8		
AREA	MARK	SIZE W X D	BOTT BARS	TOP BARS			W OR S SUPPORT	E OR N SUPPORT	STIRRUPS			REMARKS
				A	B	C			SIZE	SPA	EA END		TYPE
	GB1	30x52	6-#7	6-#7 A1		6-#7 C1			#4	Ø12 THROUGHOUT	S2	BEAM DEPTH TAKEN FROM EL 11'-5"
	GB11	30x52	6-#7	4-#7 A1		4-#7 C1			#4	Ø12	S2	BEAM DEPTH TAKEN FROM EL 11'-5"
	GB15	36x55	7-#7	5-#7 A1		5-#7 C1	COL B.7,1		#4	Ø6	S2	BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SEC 13/TSS
	GB16	24x62	6-#8*	6-#8 A1		6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB17	24x62	6-#8*			6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB18	24x62	6-#9*			6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB19	24x62	6-#8*	6-#8 A1					#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB20	36x55	7-#7	5-#7 A1					#4	Ø6	S2	BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SECT 13/TSS
	GB1A	24x52	6-#7	12 # A1					#4	Ø6	S4	BEAM DEPTH TAKEN FROM EL 11'-5" 1/2 A1 EACH END
	2B8A	30x24	4-#8	6-#9 A1					#4	Ø8	S6	1/2 A1 EACH END

* LAP SPLICE 3 NOS BOTTOM BARS AT SUPPORTS

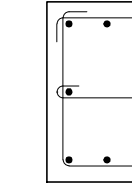


TYPE S4

NOTE:
PLAN, SECTIONS, BEAM SCHEDULE, COLUMN SCHEDULE AND OTHER DETAILS SHOWN HERE, SUPERSEDE THE RELEVANT DETAILS ON DRAWINGS TS1 THRU TS11.

COL. SCHEDULE	
COLUMN MARK	A1.9 A1 B.7-1.9 B.7-1 E1.9 E1
HIGH ROOF EL 39'-6"	
LOW ROOF EL 26'-6"	
GROUND FLOOR HP EL 12'-0"	3-#9 20x30 8-#9T4
T/PILE CAP EL VARIES	

FOR REMAINDER OF COLUMN SCHEDULE, SEE DRAWING TS9



T4

REVISED PILE SCHEDULE					
ITEM	MARK	NO. OF PILES	UPLIFT PILES	CUT-OFF ELEV.	REMARKS
	⊙	4	0	10'-8"	
	⊙	6	0	7'-2"	
	⊙	31	0	7'-3"	
	⊙	17	0	8'-10"	GENERATOR BASES (INCL. FUTURE BASE)
	⊙	8	0	7'-6"	GENERATOR BASES
	⊕	6	0	-0'-10"	
	⊙	21	0	10'-4"	
	⊙	3	0	7'-8"	
	⊙	24	0	(-) 3'-4"	
	⊙	24	0	5'-0"	
	⊙	93	0	4'-6"	
	⊙	10	0	4'-0"	
	⊙	23	0	6'-11"	

TOTAL NUMBER OF PILES THIS SCHEDULE = 270

KLEIN AND HOFFMAN, INC.

CONSULTING ENGINEERS
4350 W. CYPRESS STREET
TAMPA, FLORIDA 33607 - 4135

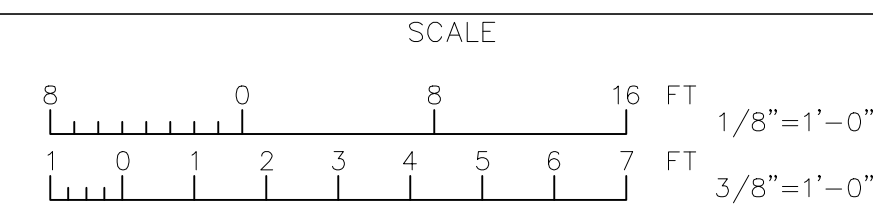
PROJECT NO. 4187

GREELEY AND HANSEN
ENGINEERS
4350 WEST CYPRESS STREET
TAMPA, FLORIDA 33607-4135

DESIGNED JVT
DRAWN SKC
CHECKED SKC

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
1	6/4/93	SKC	PILE SCHED. CUT-OFF ELEV.



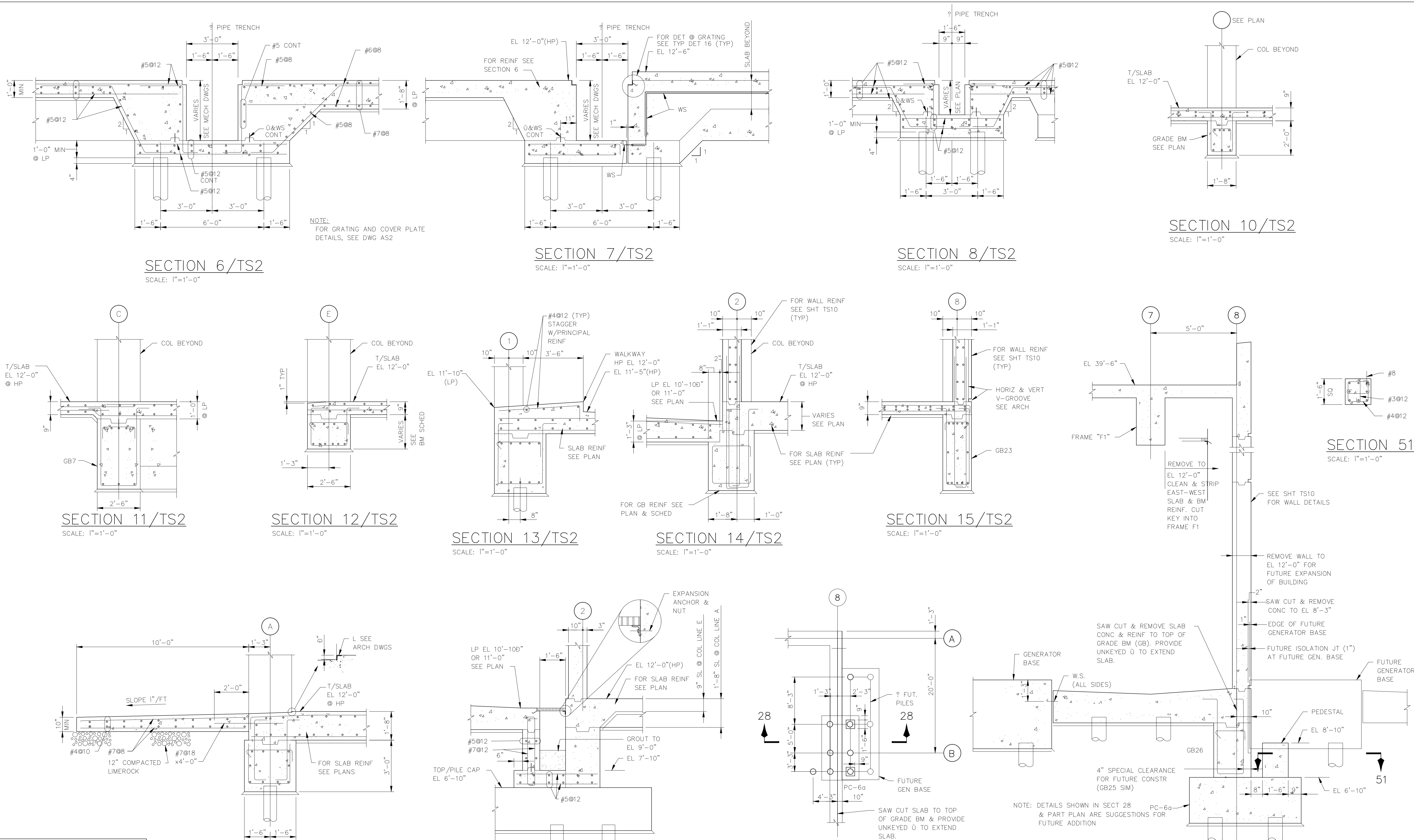
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
STRUCTURAL
REVISED PLANS, SECTIONS AND SCHEDULES

REVISES DRAWING NO. TS1-TS11

PROJ. NO.	202G
DWG	SD-3
SHEET	
DATE	MAY 1993
REV	1

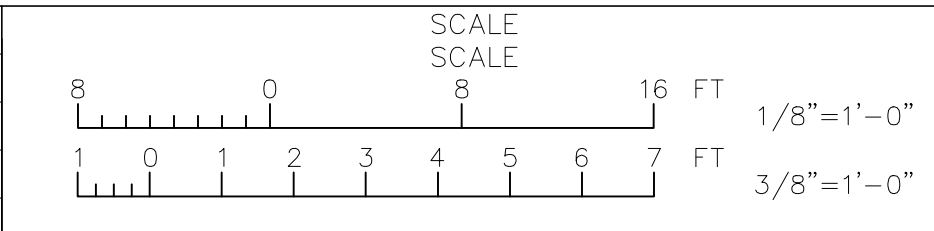
5H3B_OTS-004B



KLEIN AND HOFFMAN, INC.
 CONSULTING ENGINEERS
 4350 W. CYPRESS STREET
 TAMPA, FLORIDA 33607 - 4135
 PROJECT NO. 4187

GREELEY AND HANSEN
 ENGINEERS
 1715 NORTH WESTSHORE BOULEVARD
 TAMPA, FLORIDA 33607-4135

DESIGNED	WRC, JAH	APPROVED	DATE
DRAWN	KCS		
CHECKED	WRC		
GREELEY AND HANSEN, ENGINEERS			



CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PLANT EXPANSION
 PHASE I DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

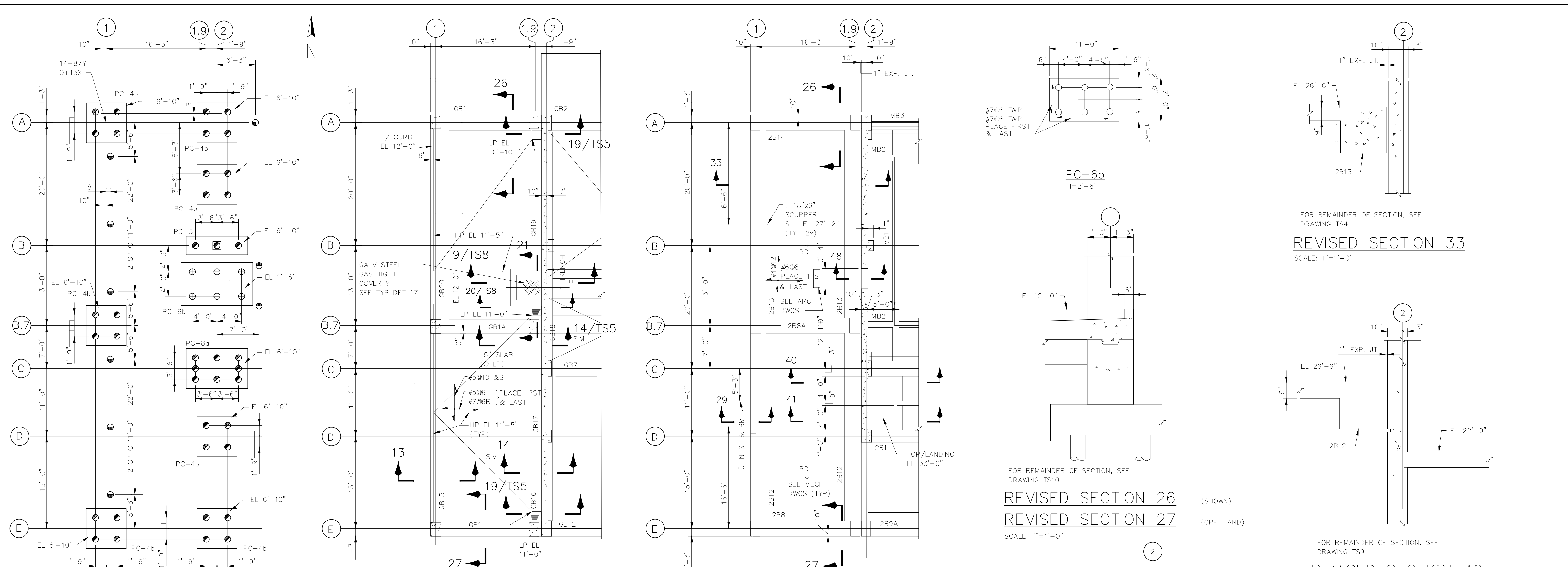
STANDBY POWER FACILITY
 STRUCTURAL
 SECTIONS

PROJ. NO.	202G
DWG	TS5
SHEET	
DATE	DECEMBER 1991
REV	3

See Supplemental Drawing SD-2 and SD-3

RECORD DRAWING
 THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

5H3B_OTS-005



FOR REMAINDER OF PLAN, SEE DRAWING TS1
REVISED PILE PLAN
 SCALE: 1"=1'-0"

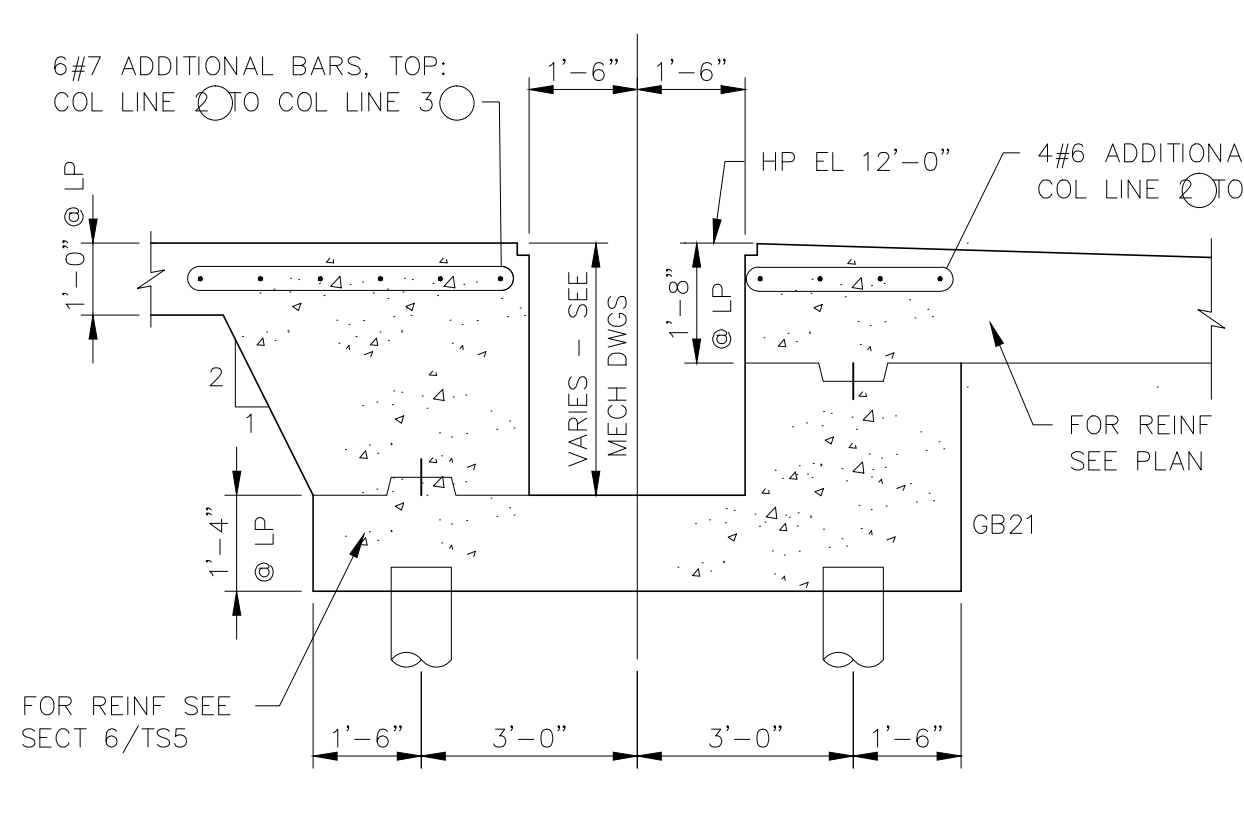
FOR REMAINDER OF PLAN, SEE DRAWING TS2
REVISED PLAN AT EL 12'-0"
 SCALE: 1"=1'-0"

FOR REMAINDER OF PLAN, SEE DRAWING TS3
REVISED PLAN AT EL 35'-0"
 SCALE: 1"=1'-0"

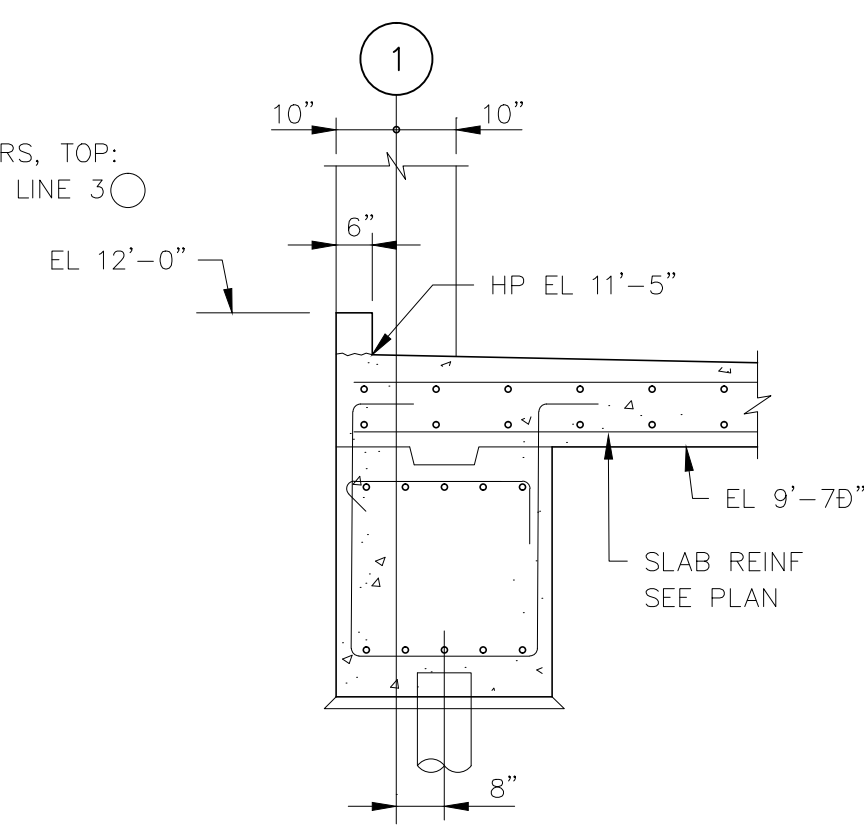
FOR REMAINDER OF SECTION, SEE DRAWING TS10
REVISED SECTION 26 (SHOWN)
REVISED SECTION 27 (OPP HAND)
 SCALE: 1"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS4
REVISED SECTION 33
 SCALE: 1"=1'-0"

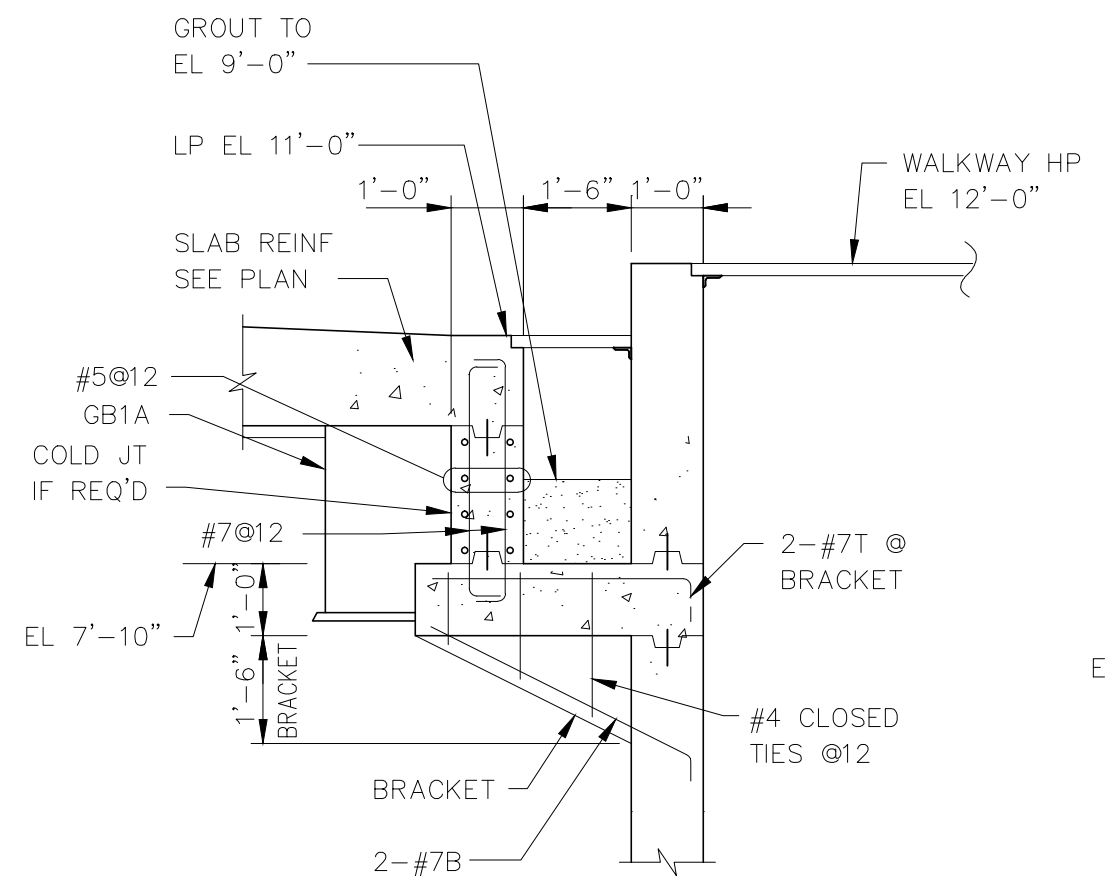
FOR REMAINDER OF SECTION, SEE DRAWING TS9
REVISED SECTION 40
REVISED SECTION 41
 SCALE: 1"=1'-0"



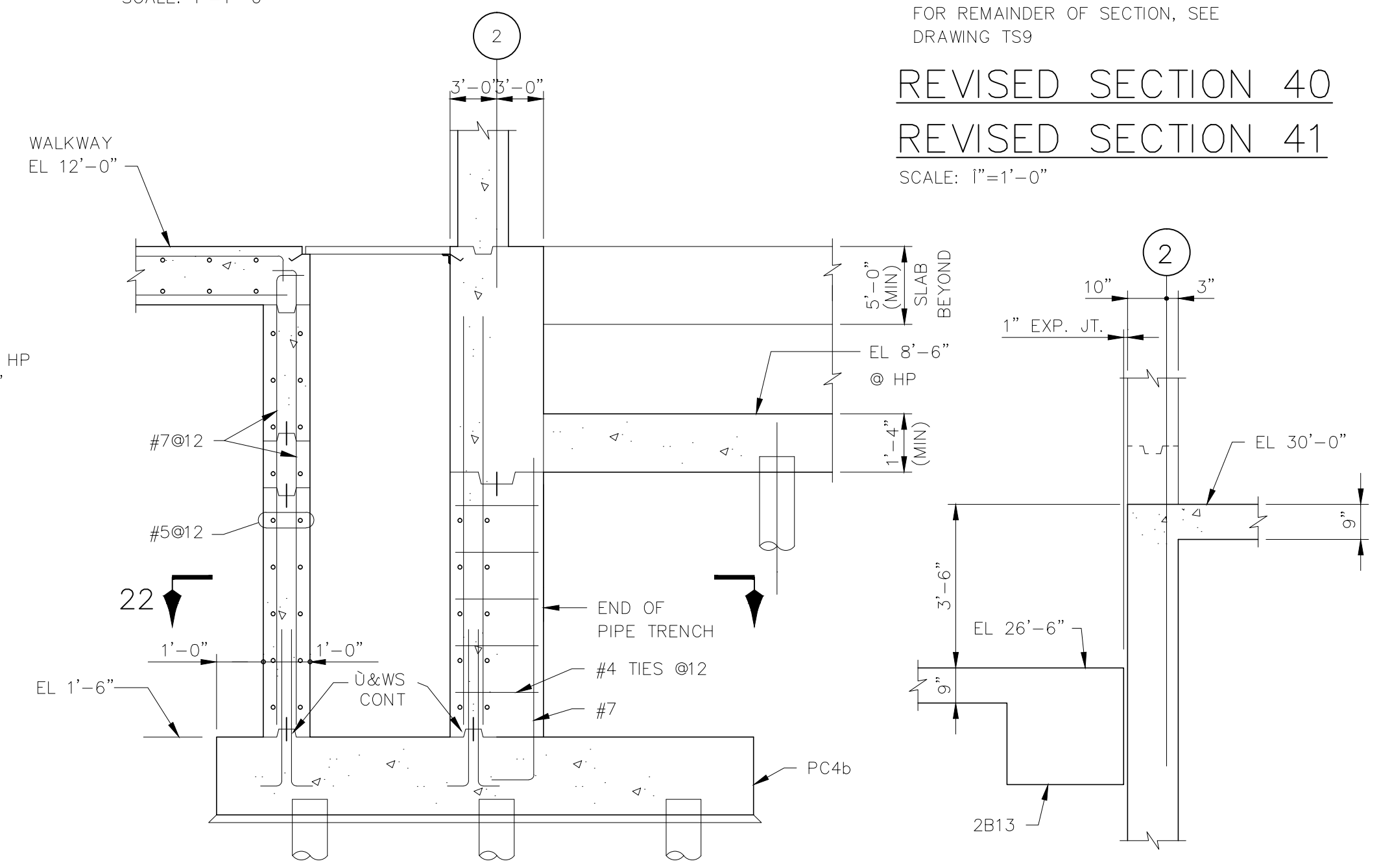
REPLACES SECTION ON DRAWING TS2
REVISED SECTION 4
 SCALE: 1"=1'-0"



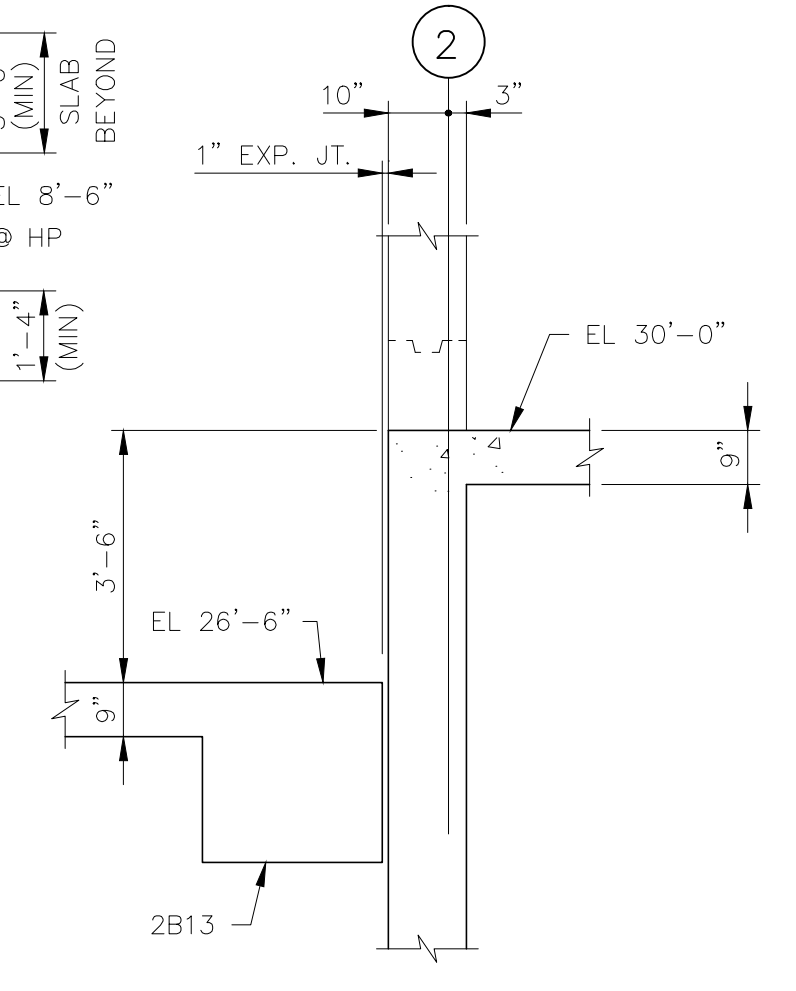
REPLACES SECTION ON DRAWING TS5
REVISED SECTION 13
 SCALE: 1"=1'-0"



FOR REMAINDER OF SECTION, SEE DRAWING TS8
REVISED SECTION 21
 SCALE: 1"=1'-0"



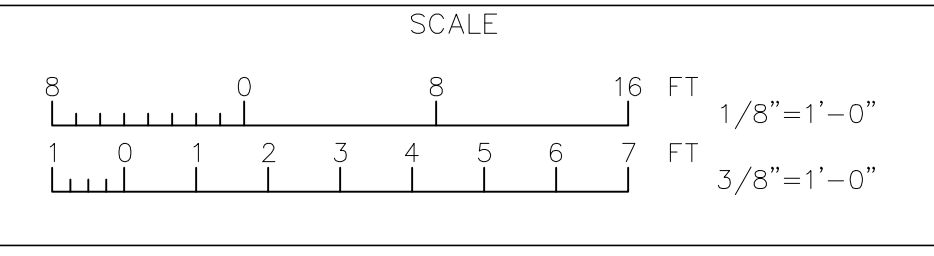
REPLACES SECTION ON DRAWING TS8
REVISED SECTION 9
 SCALE: 1"=1'-0"



FOR REMAINDER OF SECTION, SEE DRAWING TS11
REVISED SECTION 48
 SCALE: 1"=1'-0"

KLEIN AND HOFFMAN, INC.
 CONSULTING ENGINEERS
 4350 W. CYPRESS STREET
 TAMPA, FLORIDA 33607 - 4135
 PROJECT NO. 4187

DESIGNED	JVT	APPROVED	
DRAWN	SKC	DATE	
CHECKED	SKC	DATE	
		GREELEY AND HANSEN, ENGINEERS	
NO.	DATE	APPD	REVISION



CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PLANT EXPANSION
 PHASE 1 DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
 STRUCTURAL
 REVISED PLANS, SECTIONS AND SCHEDULES

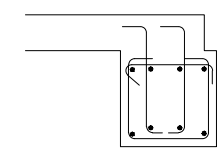
PROJ. NO.	202G
DWG	SD-2
SHEET	
DATE	MAY 1993
REV	0

REVISES DRAWING NO. TS1-TS11

5H3B_0TS-005A

REVISED BEAM SCHEDULE										FOR REMAINDER OF BEAM SCHEDULE, SEE DRAWINGS TS7 & TS8		
AREA	MARK	SIZE W X D	BOTT BARS	TOP BARS			W OR S SUPPORT	E OR N SUPPORT	STIRRUPS			REMARKS
				A	B	C			SIZE	SPA	EA END		TYPE
	GB1	30x52	6-#7	6-#7 A1		6-#7 C1			#4	Ø12 THROUGHOUT	S2	BEAM DEPTH TAKEN FROM EL 11'-5"
	GB11	30x52	6-#7	4-#7 A1		4-#7 C1			#4	Ø12	S2	BEAM DEPTH TAKEN FROM EL 11'-5"
	GB15	36x55	7-#7	5-#7 A1		5-#7 C1	COL B.7,1		#4	Ø6	S2	BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SEC 13/TS5
	GB16	24x62	6-#8*	6-#8 A1		6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB17	24x62	6-#8*			6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB18	24x62	6-#9*			6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB19	24x62	6-#8*	6-#8 A1					#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB20	36x55	7-#7	5-#7 A1					#4	Ø6	S2	BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SECT 13/TS5
	GB1A	24x52	6-#7	12 # A1					#4	Ø6	S4	BEAM DEPTH TAKEN FROM EL 11'-5" 1/2 A1 EACH END
	2B8A	30x24	4-#8	6-#9 A1					#4	Ø8	S6	1/2 A1 EACH END

* LAP SPLICE 3 NOS BOTTOM BARS AT SUPPORTS

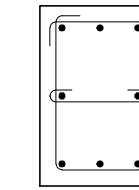


TYPE S4

NOTE:
PLAN, SECTIONS, BEAM SCHEDULE, COLUMN SCHEDULE AND OTHER DETAILS SHOWN HERE, SUPERSEDE THE RELEVANT DETAILS ON DRAWINGS TS1 THRU TS11.

COL. SCHEDULE	
COLUMN MARK	A1.9 A1 B.7-1.9 B.7-1 E1.9 E1
HIGH ROOF EL 39'-6"	
LOW ROOF EL 26'-6"	
GROUND FLOOR HP EL 12'-0"	3-#9 20x30 8-#9T4
T/PILE CAP EL VARIES	

FOR REMAINDER OF COLUMN SCHEDULE, SEE DRAWING TS9



T4

REVISED PILE SCHEDULE					
ITEM	MARK	NO. OF PILES	UPLIFT PILES	CUT-OFF ELEV.	REMARKS
	⊙	4	0	10'-8"	
	⊙	6	0	7'-2"	
	⊙	31	0	7'-3"	
	⊙	17	0	8'-10"	GENERATOR BASES (INCL. FUTURE BASE)
	⊙	8	0	7'-6"	GENERATOR BASES
	⊕	6	0	-0'-10"	
	⊙	21	0	10'-4"	
	⊙	3	0	7'-8"	
	⊙	24	0	(-) 3'-4"	
	⊙	24	0	5'-0"	
	⊙	93	0	4'-6"	
	⊕	10	0	4'-0"	
	⊕	23	0	6'-11"	

TOTAL NUMBER OF PILES THIS SCHEDULE = 270

KLEIN AND HOFFMAN, INC.

CONSULTING ENGINEERS
4350 W. CYPRESS STREET
TAMPA, FLORIDA 33607 - 4135

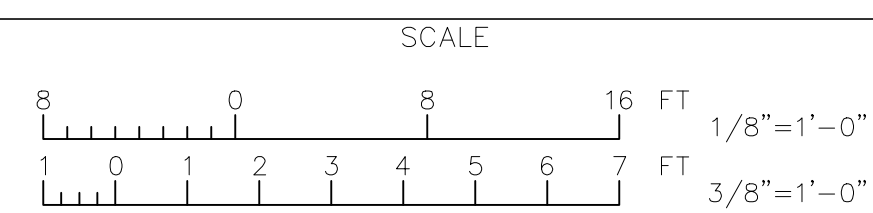
PROJECT NO. 4187

GREELEY AND HANSEN
ENGINEERS
4350 WEST CYPRESS STREET
TAMPA, FLORIDA 33607-4135

DESIGNED JVT
DRAWN SKC
CHECKED SKC

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
1	6/4/93	SKC	PILE SCHED. CUT-OFF ELEV.



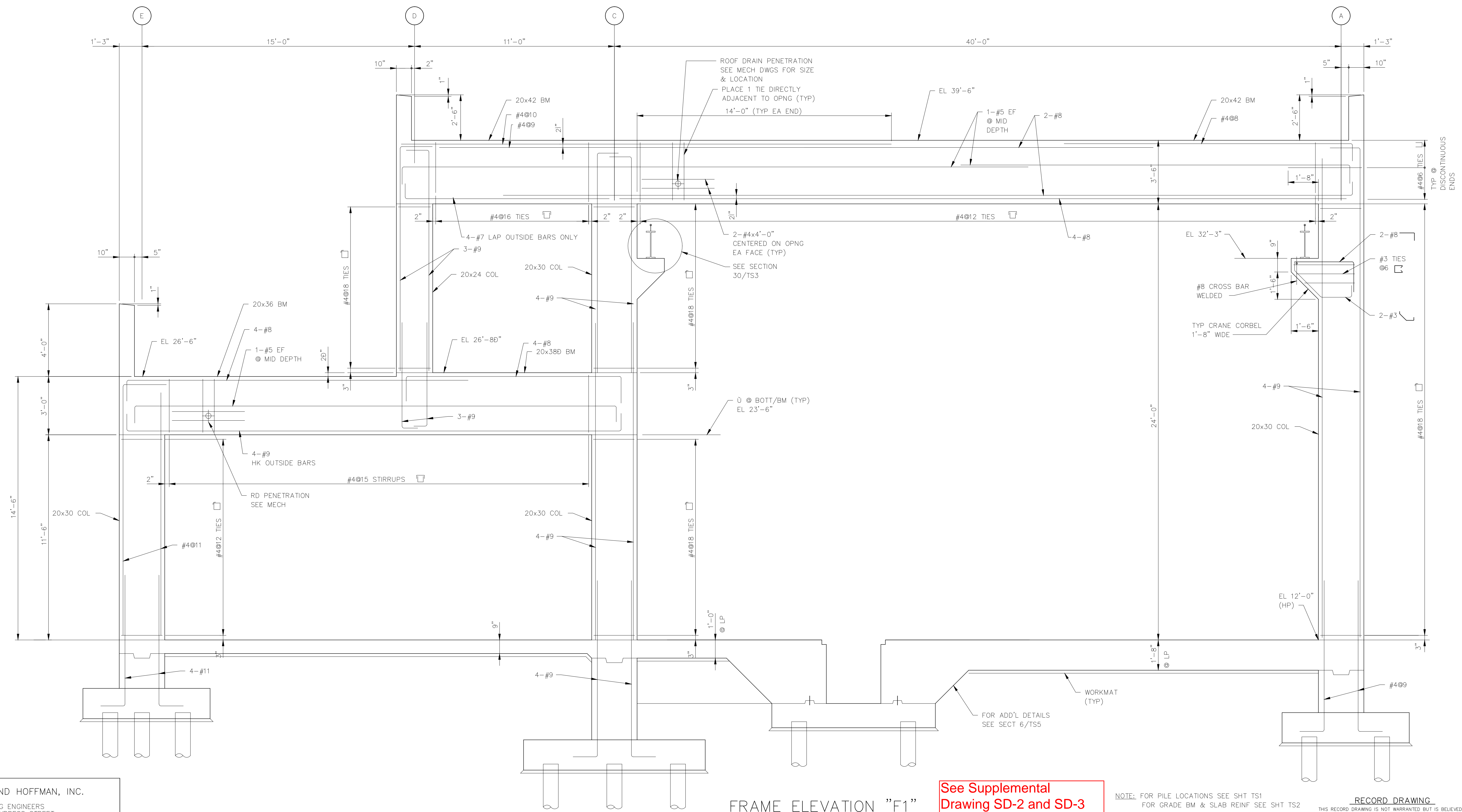
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
STRUCTURAL
REVISED PLANS, SECTIONS AND SCHEDULES

REVISES DRAWING NO. TS1-TS11

PROJ. NO.	202G
DWG	SD-3
SHEET	
DATE	MAY 1993
REV	1

5H3B_OTS-005B



FRAME ELEVATION "F1"
SCALE: 1"=1'-0"

See Supplemental Drawing SD-2 and SD-3

NOTE: FOR PILE LOCATIONS SEE SHT TS1
FOR GRADE BM & SLAB REINF SEE SHT TS2

RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

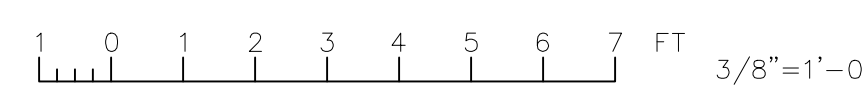
FILE: INB-TS06 SCALE: 1/32 09/06/1998 at 11:54 - "11_sch (Drawn) Lock"

KLEIN AND HOFFMAN, INC.
CONSULTING ENGINEERS
4350 W. CYPRESS STREET
TAMPA, FLORIDA 33607 - 4135
PROJECT NO. 4187

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED	WRC, JAH	APPROVED	DATE
DRAWN	KCS		
CHECKED	WRC		
GREELEY AND HANSEN, ENGINEERS			

NO.	DATE	APPD	REVISION
2	8/15/96		RECORD DWG REVISIONS

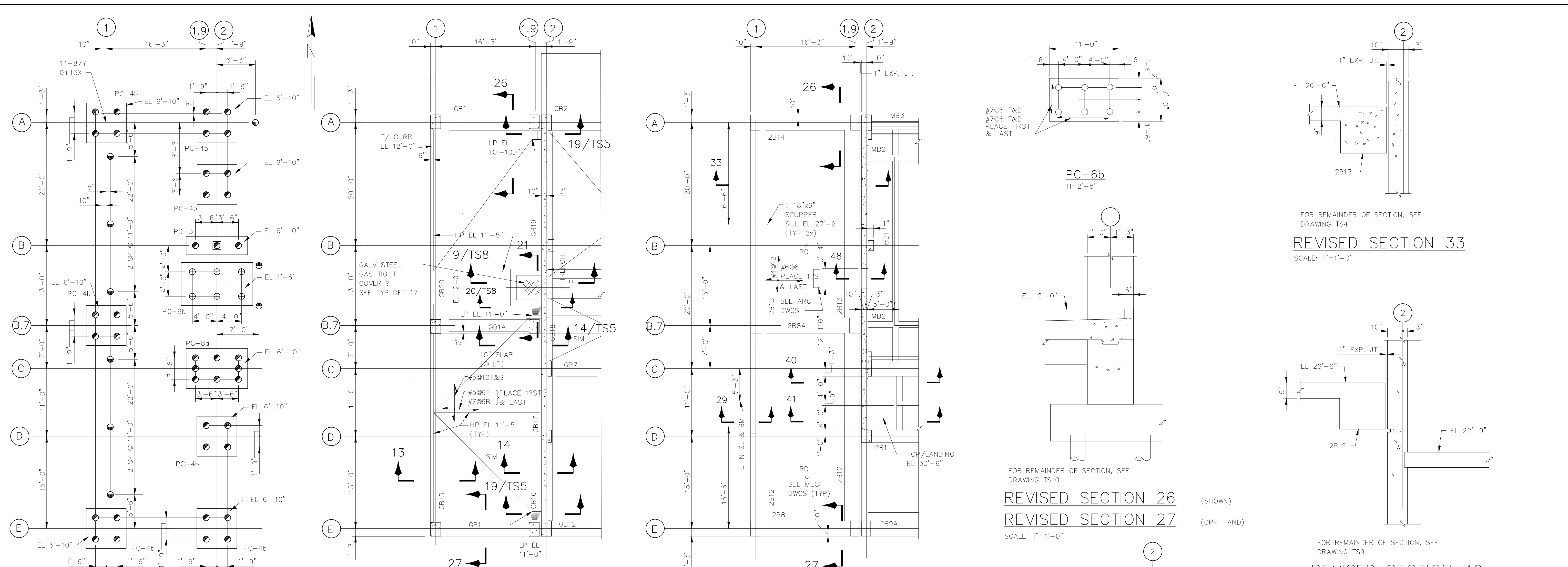


CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
STRUCTURAL
FRAME ELEVATION DETAILS

PROJ. NO.	202G
DWG	TS6
SHEET	
DATE	DECEMBER 1991
REV	2

5H3B_OTS-006



FOR REMAINDER OF PLAN, SEE DRAWING TS1
REVISED PILE PLAN
 SCALE: 1"=1'-0"

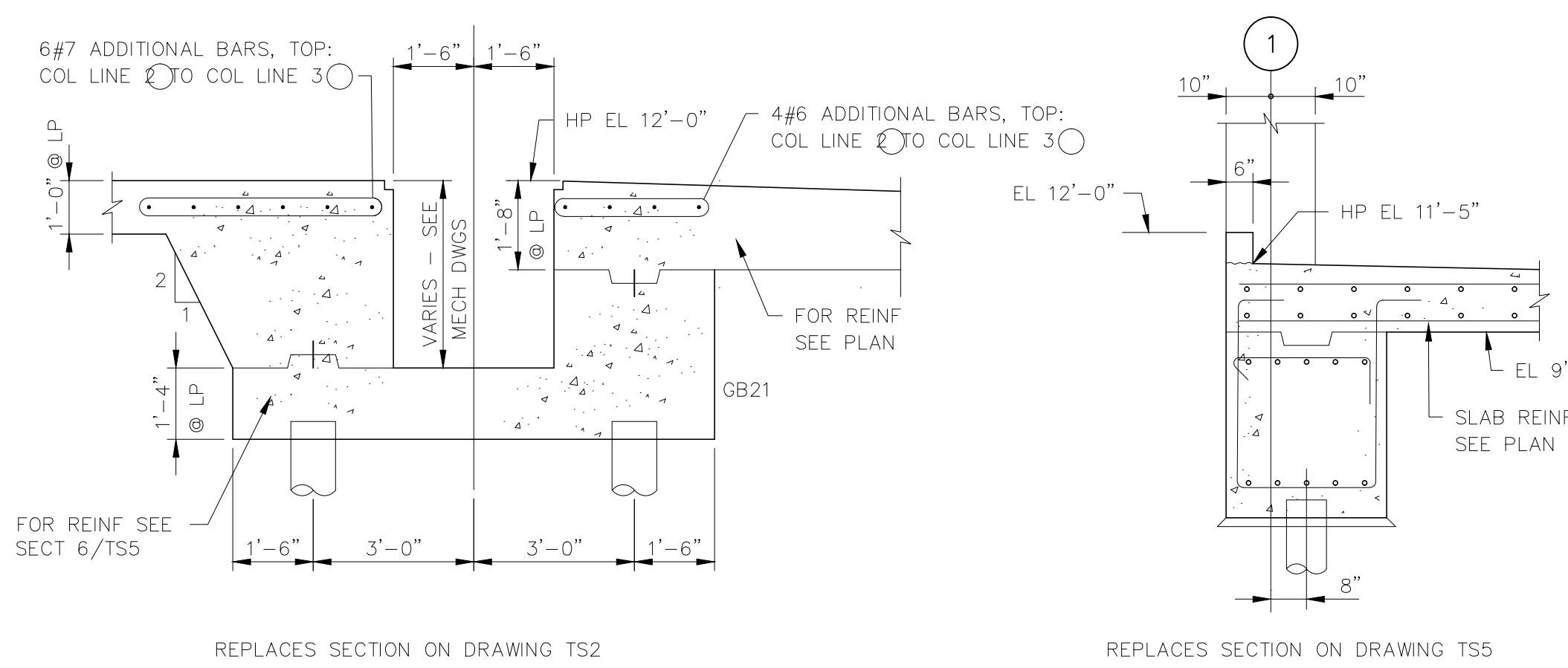
FOR REMAINDER OF PLAN, SEE DRAWING TS2
REVISED PLAN AT EL 12'-0"
 SCALE: 1"=1'-0"

FOR REMAINDER OF PLAN, SEE DRAWING TS3
REVISED PLAN AT EL 35'-0"
 SCALE: 1"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS10
REVISED SECTION 26 (SHOWN)
REVISED SECTION 27 (OPP HAND)
 SCALE: 1"=1'-0"

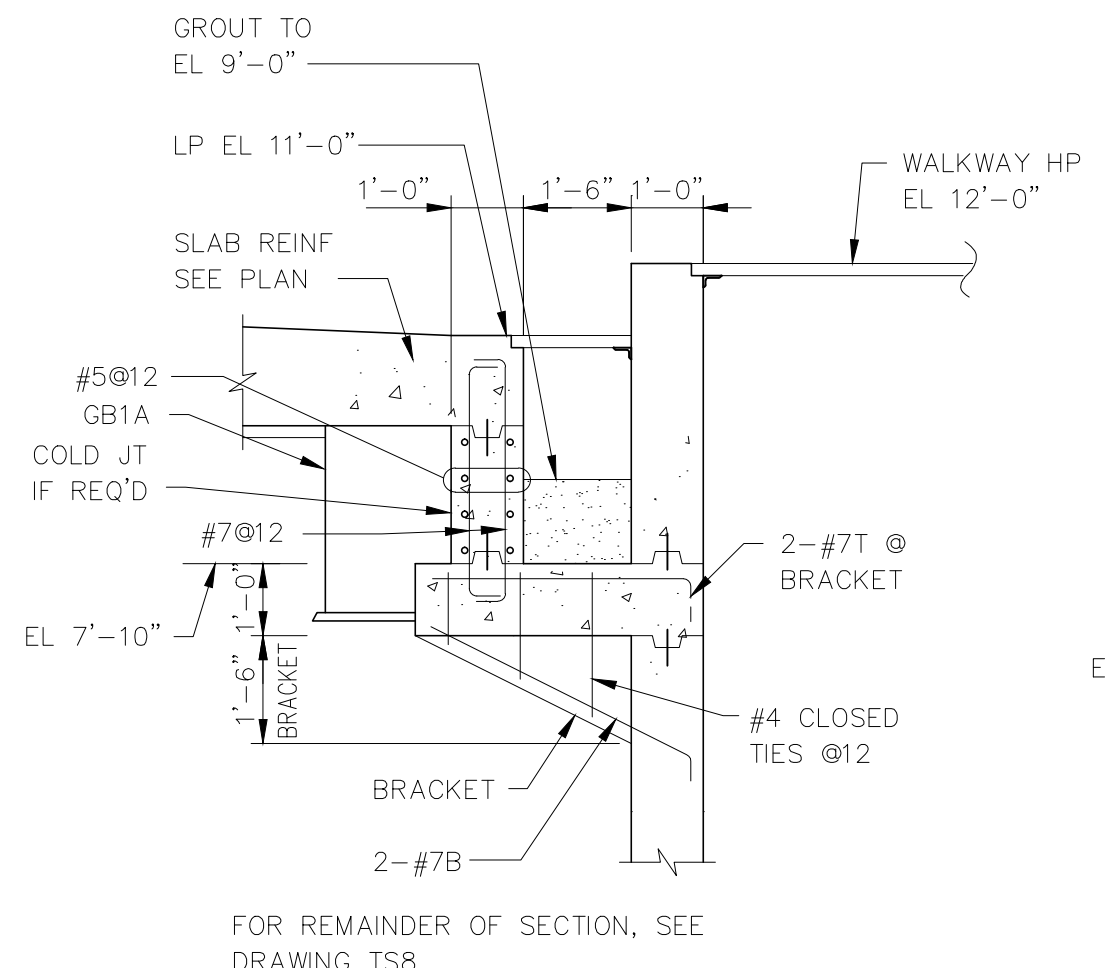
FOR REMAINDER OF SECTION, SEE DRAWING TS4
REVISED SECTION 33
 SCALE: 1"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS9
REVISED SECTION 40
REVISED SECTION 41
 SCALE: 1"=1'-0"

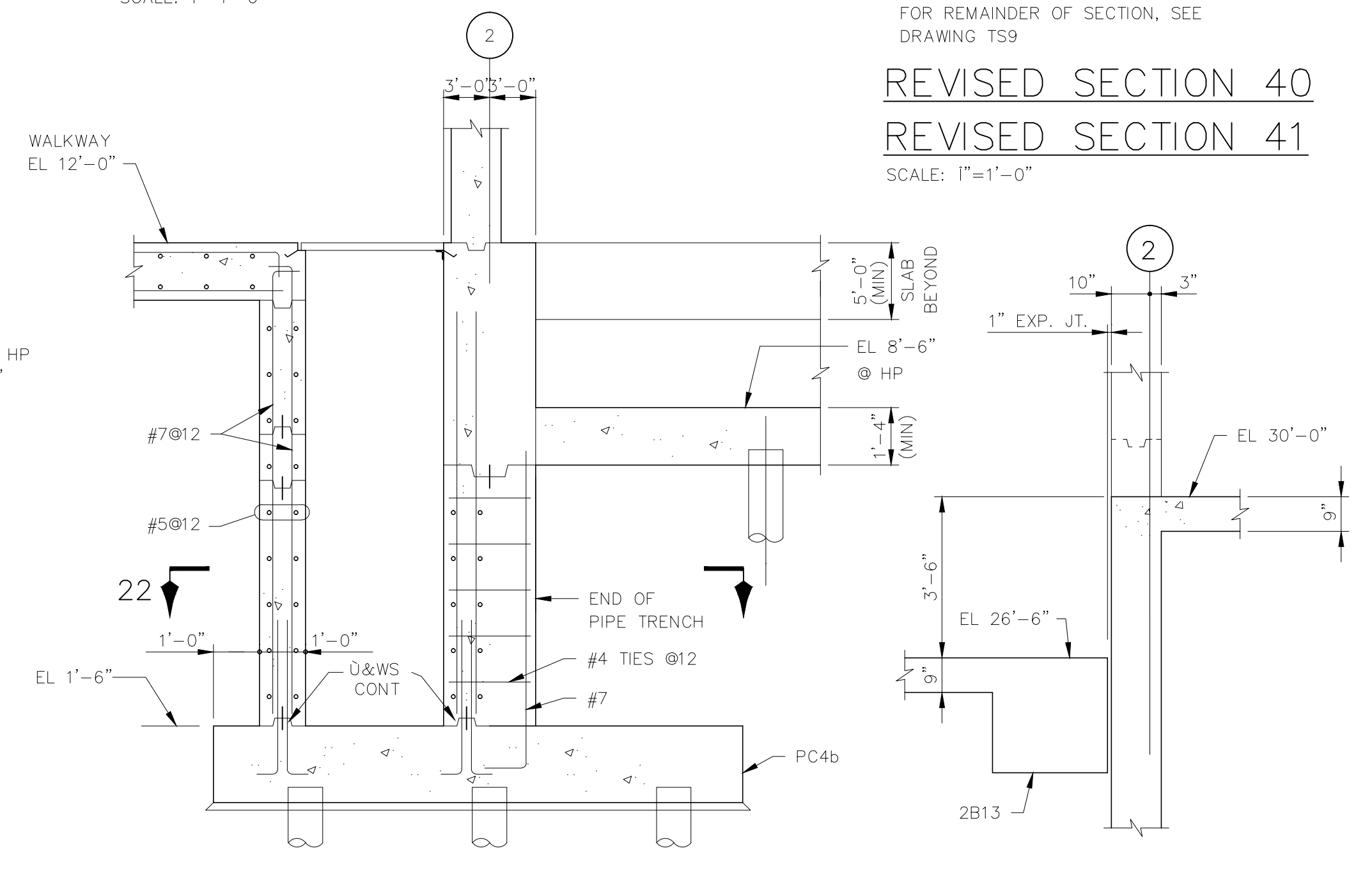


REPLACES SECTION ON DRAWING TS2
REVISED SECTION 4
 SCALE: 1"=1'-0"

REPLACES SECTION ON DRAWING TS5
REVISED SECTION 13
 SCALE: 1"=1'-0"



FOR REMAINDER OF SECTION, SEE DRAWING TS8
REVISED SECTION 21
 SCALE: 1"=1'-0"

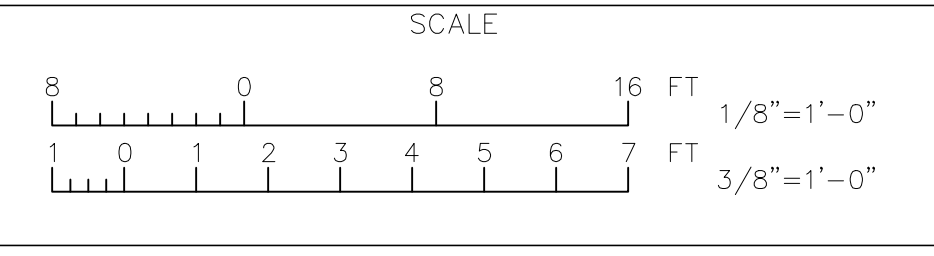


REPLACES SECTION ON DRAWING TS8
REVISED SECTION 9
 SCALE: 1"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS11
REVISED SECTION 48
 SCALE: 1"=1'-0"

KLEIN AND HOFFMAN, INC.
 CONSULTING ENGINEERS
 4350 W. CYPRESS STREET
 TAMPA, FLORIDA 33607 - 4135
 PROJECT NO. 4187

DESIGNED	JVT	APPROVED	
DRAWN	SKC	DATE	
CHECKED	SKC	DATE	
		GREELEY AND HANSEN, ENGINEERS	
		NO.	DATE
		APPD	REVISION



CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PLANT EXPANSION
 PHASE 1 DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
 STRUCTURAL
 REVISED PLANS, SECTIONS AND SCHEDULES

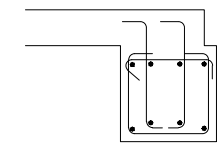
PROJ. NO.	202G
DWG	SD-2
SHEET	
DATE	MAY 1993
REV	0

REVISES DRAWING NO. TS1-TS11

5H3B_0TS-006A

REVISED BEAM SCHEDULE										FOR REMAINDER OF BEAM SCHEDULE, SEE DRAWINGS TS7 & TS8		
AREA	MARK	SIZE W X D	BOTT BARS	TOP BARS			W OR S SUPPORT	E OR N SUPPORT	STIRRUPS			REMARKS
				A	B	C			SIZE	SPA	EA END		TYPE
	GB1	30x52	6-#7	6-#7 A1		6-#7 C1			#4	Ø12 THROUGHOUT	S2	BEAM DEPTH TAKEN FROM EL 11'-5"
	GB11	30x52	6-#7	4-#7 A1		4-#7 C1			#4	Ø12	S2	BEAM DEPTH TAKEN FROM EL 11'-5"
	GB15	36x55	7-#7	5-#7 A1		5-#7 C1	COL B.7,1		#4	Ø6	S2	BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SEC 13/TS5
	GB16	24x62	6-#8*	6-#8 A1		6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB17	24x62	6-#8*			6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB18	24x62	6-#9*			6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB19	24x62	6-#8*	6-#8 A1					#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB20	36x55	7-#7	5-#7 A1					#4	Ø6	S2	BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SECT 13/TS5
	GB1A	24x52	6-#7	12 # A1					#4	Ø6	S4	BEAM DEPTH TAKEN FROM EL 11'-5" 1/2 A1 EACH END
	2B8A	30x24	4-#8	6-#9 A1					#4	Ø8	S6	1/2 A1 EACH END

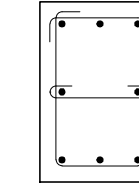
* LAP SPLICE 3 NOS BOTTOM BARS AT SUPPORTS



TYPE S4

NOTE:
PLAN, SECTIONS, BEAM SCHEDULE, COLUMN SCHEDULE AND OTHER DETAILS SHOWN HERE, SUPERSEDE THE RELEVANT DETAILS ON DRAWINGS TS1 THRU TS11.

COL. SCHEDULE		FOR REMAINDER OF COLUMN SCHEDULE, SEE DRAWING TS9	
COLUMN MARK		A1.9 B.7-1.9 E1.9	A1 B.7-1.9 E1
HIGH ROOF EL 39'-6"			
LOW ROOF EL 26'-6"			
GROUND FLOOR HP EL 12'-0"			
T/PILE CAP EL VARIES			



T4

REVISED PILE SCHEDULE					
ITEM	MARK	NO. OF PILES	UPLIFT PILES	CUT-OFF ELEV.	REMARKS
	⊙	4	0	10'-8"	
	⊙	6	0	7'-2"	
	⊙	31	0	7'-3"	
	⊙	17	0	8'-10"	GENERATOR BASES (INCL. FUTURE BASE)
	⊙	8	0	7'-6"	GENERATOR BASES
	⊕	6	0	-0'-10"	
	⊙	21	0	10'-4"	
	⊙	3	0	7'-8"	
	⊙	24	0	(-) 3'-4"	
	⊙	24	0	5'-0"	
	⊙	93	0	4'-6"	
	⊕	10	0	4'-0"	
	⊕	23	0	6'-11"	

TOTAL NUMBER OF PILES THIS SCHEDULE = 270

KLEIN AND HOFFMAN, INC.

CONSULTING ENGINEERS
4350 W. CYPRESS STREET
TAMPA, FLORIDA 33607 - 4135

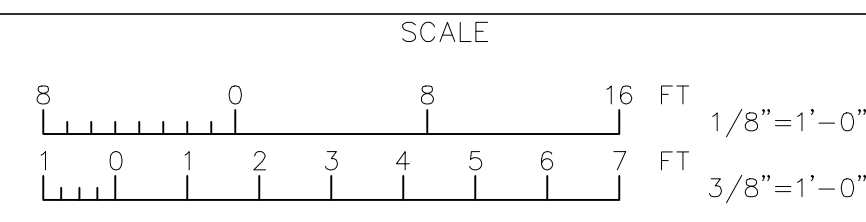
PROJECT NO. 4187

GREELEY AND HANSEN
ENGINEERS
4350 WEST CYPRESS STREET
TAMPA, FLORIDA 33607-4135

DESIGNED JVT
DRAWN SKC
CHECKED SKC

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
1	6/4/93	SKC	PILE SCHED. CUT-OFF ELEV.



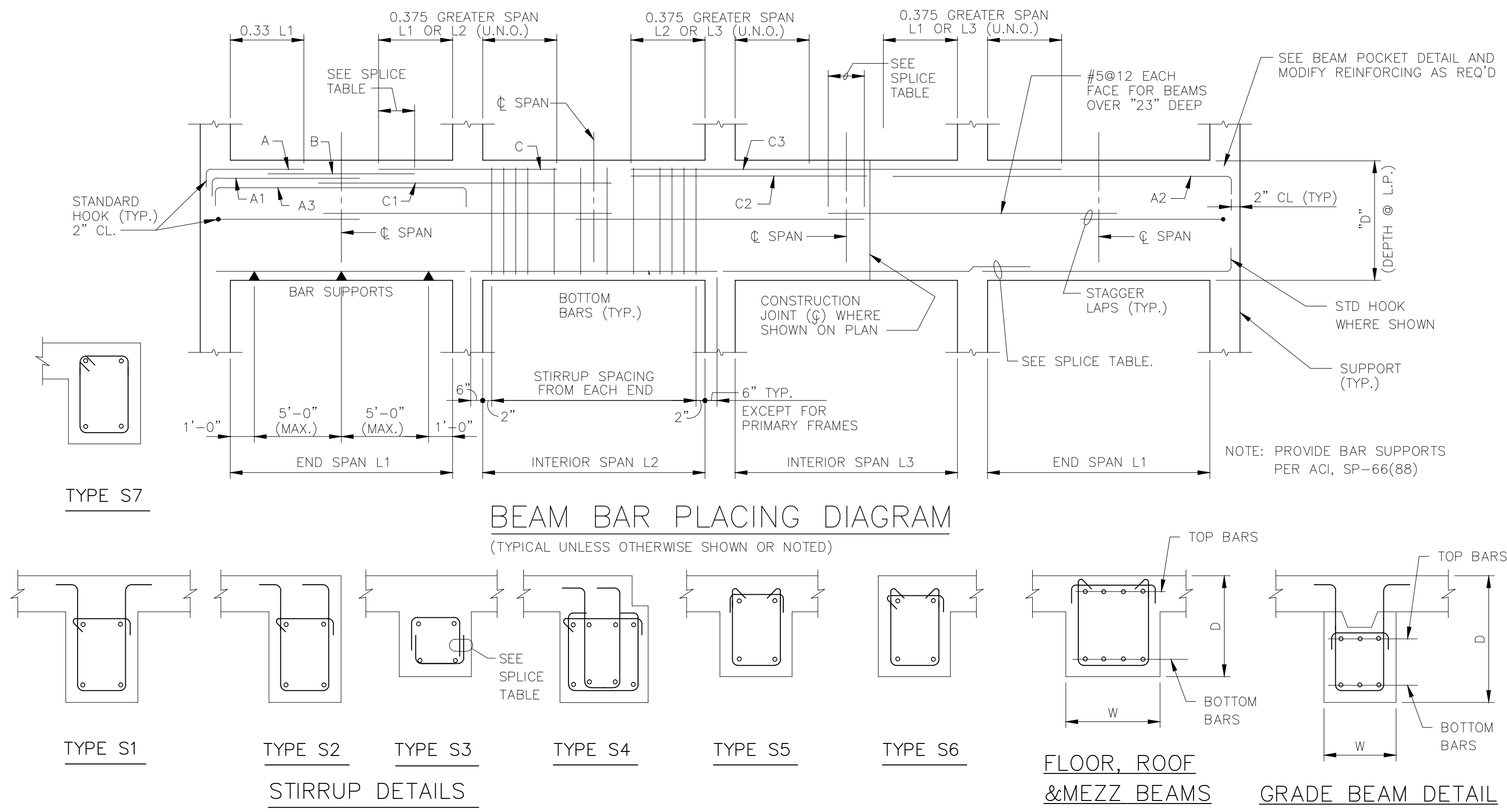
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
STRUCTURAL
REVISED PLANS, SECTIONS AND SCHEDULES

REVISES DRAWING NO. TS1-TS11

PROJ. NO. 202G
DWG SD-3
SHEET
DATE MAY 1993 REV 1

5H3B_OTS-006B



AREA	MARK	SIZE W X D	BOTT BARS	TOP BARS			W OR S SUPPORT	E OR N SUPPORT	STIRRUPS			REMARKS
				A	B	C			SIZE	SPA	EA END		TYPE
GRADE BEAMS	GB1	30x52	6-#7	6-#7 A1	6-#7 C1							BEAM DEPTH TAKEN FROM EL 11'-5"
	GB2	36x56	4-#8		4-#8 C1		COL A3					
	GB3	36x56	4-#8		4-#8 C1		COL A3					
	GB4	30x56	4-#8		6-#8 C1							
	GB5	30x56	4-#8	4-#8 A1	6-#8 C1			9'-3"				* EXTEND PAST GB6 FOR FUTURE CONSTRUCTION
	GB6	30x56	*	*								* EXTEND REINF FROM GB5
	GB7	30x36	8-#7	5-#7 A1	5-#7 C1							
	GB8	30x62	8-#7		5-#7 C1							
	GB9	30x62	8-#7	5-#7 A1	5-#7			9'-3"				* EXTEND PAST GB10 FOR FUTURE CONSTRUCTION
	GB10	30x62	*	*								* EXTEND REINF FROM GB9
	GB11	30x52	6-#7	4-#7 A1	4-#7 C1							BEAM DEPTH TAKEN FROM EL 11'-5"
	GB12	30x33	6-#7		4-#7 C1							
	GB13	30x33	6-#7		4-#7			9'-3"				* EXTEND PAST GB14 FOR FUTURE CONSTRUCTION
	GB14	30x33	*	*								* EXTEND REINF FROM GB13
	GB15	36x55	7-#7	5-#7 A1	5-#7 C1		COL B.7.1					BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SEC 13/TS5
	GB16	24x62	6-#8	6-#8 A1	6-#8 C1							SEE DWG TS8 FOR GRADE BM SECTION

AREA	MARK	SIZE W X D	BOTT BARS	TOP BARS			W OR S SUPPORT	E OR N SUPPORT	STIRRUPS			REMARKS
				A	B	C			SIZE	SPA	EA END		TYPE
GRADE BEAMS	GB17	24x62	6-#8			6-#8 C1						SEE DWG TS8 FOR GRADE BM SECTION
	GB18	24x62	6-#8			6-#8 C1						SEE DWG TS8 FOR GRADE BM SECTION
	GB19	24x62	6-#8	6-#8 A1								SEE DWG TS8 FOR GRADE BM SECTION
	GB20	36x55	7-#7	5-#7 A1								BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SECT 13/TS5
	GB21	36x61	4-#8	4-#8 A1								A1 BARS EACH END
	GB22	20x33	3-#7	4-#8 A1								A1 BARS EACH END
	GB23	20x62	5-#7	5-#8 A1			5-#8 C1					
	GB24	20x62	5-#7				5-#8 C1					
	GB25	26x62	5-#7				5-#8 C1					SEE SECT 28/TS11 FOR SPECIAL REINF CLEARANCE
	GB26	26x62	5-#7			6-#7 C1						SEE SECT 28/TS11 FOR SPECIAL REINF CLEARANCE
	GB27	24x44	4-#7	2-#7 A1								A1 BARS EA END
	ROOF BEAMS	GB1A	24x52	6-#7	12-#9 A1							
GB8A		30x24	4-#8	6-#9 A1								DA1 EACH END
RB1		24x14	4-#9	2-#8 A1		4-#10 C1						
RB2		24x14	3-#8			2-#9 2-#4 C1						
RB3		24x14	3-#8			4-#10 C1						
RB4		24x14	4-#9			2-#8 C2						
RB5		30x15	5-#6	6-#7 A1		6-#7 C1						HOOK & LAP 2 OUTSIDE BOTT BARS
RB6		30x15	5-#6			4-#7 2-#7 C1						LAP 2 OUTSIDE BOTT BARS
RB7		30x15	5-#6	6-#7 A1								HOOK & LAP 2 OUTSIDE BOTT BARS * CONTINUE BARS THROUGH RB8
RB8		30x15	*			*						* CONTINUE BARS FROM RB7
RB9		30x36	5-#8	5-#8 A1		5-#8 C1						HOOK & LAP 2 OUTSIDE BOTT BARS
RB10		30x36	5-#8			3-#8 2-#8 C1						LAP 2 OUTSIDE BOTT BARS
RB11		30x36	5-#8	5-#8 A1								HOOK & LAP 2 OUTSIDE BOTT BARS * CONTINUE BARS THROUGH RB12
RB12		30x36	*			*						* CONTINUE BARS FROM RB11
RB13	12x14	2-#6			2-#7 C2 2-#7 C1							
RB14	15x14	2-#6	2-#7 A1		3-#6 C1							
RB15	12x15	2-#8	2-#8 A1		2-#8 C2							
RB16	24x36	5-#8	5-#8 A1		5-#8 C1						HOOK & LAP 2 OUTSIDE BOTT BARS	
RB17	24x36	5-#8			3-#8 2-#8 C1						LAP 2 OUTSIDE BOTT BARS	
RB18	24x36	5-#8	5-#8 A1								HOOK & LAP 2 OUTSIDE BOTT BARS * CONTINUE BARS THROUGH RB19	
RB19	24x36	*			*						* CONTINUE BARS FROM RB18	
RB20	20x42	4-#7			*						* SEE ELEV FRAME "F1" SHT TS6	
RB21	20x42	2-#8 4-#8			*						* SEE ELEV FRAME "F1" SHT TS6	

LAP SPLICE 3 NOS BOTTOM BARS AT SUPPORTS

See Supplemental Drawing SD-2 and SD-3

RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

FILE: J:\B2\1907 SCALE: 1:1 09/20/98 01:12:28 - *13.cdw (chriswara_led) *

KLEIN AND HOFFMAN, INC.
CONSULTING ENGINEERS
4350 W. CYPRESS STREET
TAMPA, FLORIDA 33607 - 4135
PROJECT NO. P4187

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED WRC, JAH
DRAWN KCS
CHECKED WRC

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS
NO. 8/17/96 APPD RECORD DWG REVISIONS

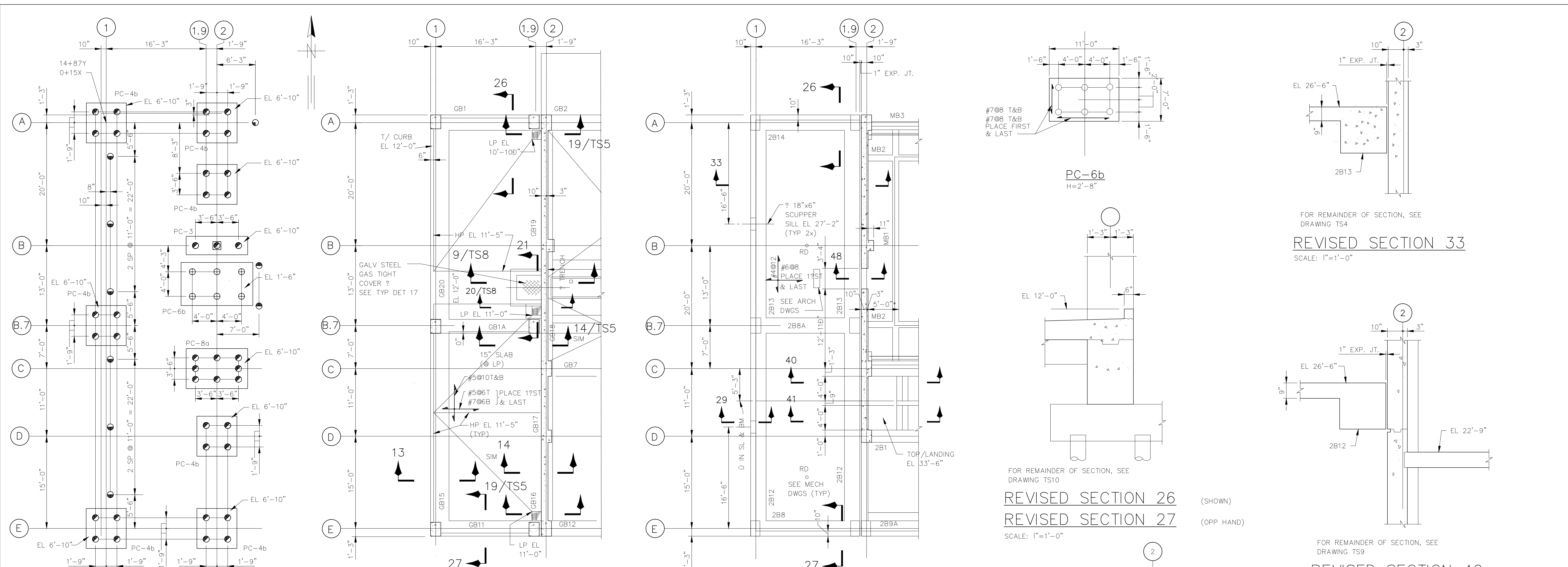
SCALE
NO SCALE

CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
STRUCTURAL
BEAM SCHEDULE

PROJ NO. 202G
DWG TS7
SHEET
DATE DECEMBER 1991 REV 2

5H3B_OTS-007



FOR REMAINDER OF PLAN, SEE DRAWING TS1
REVISED PILE PLAN
 SCALE: 1"=1'-0"

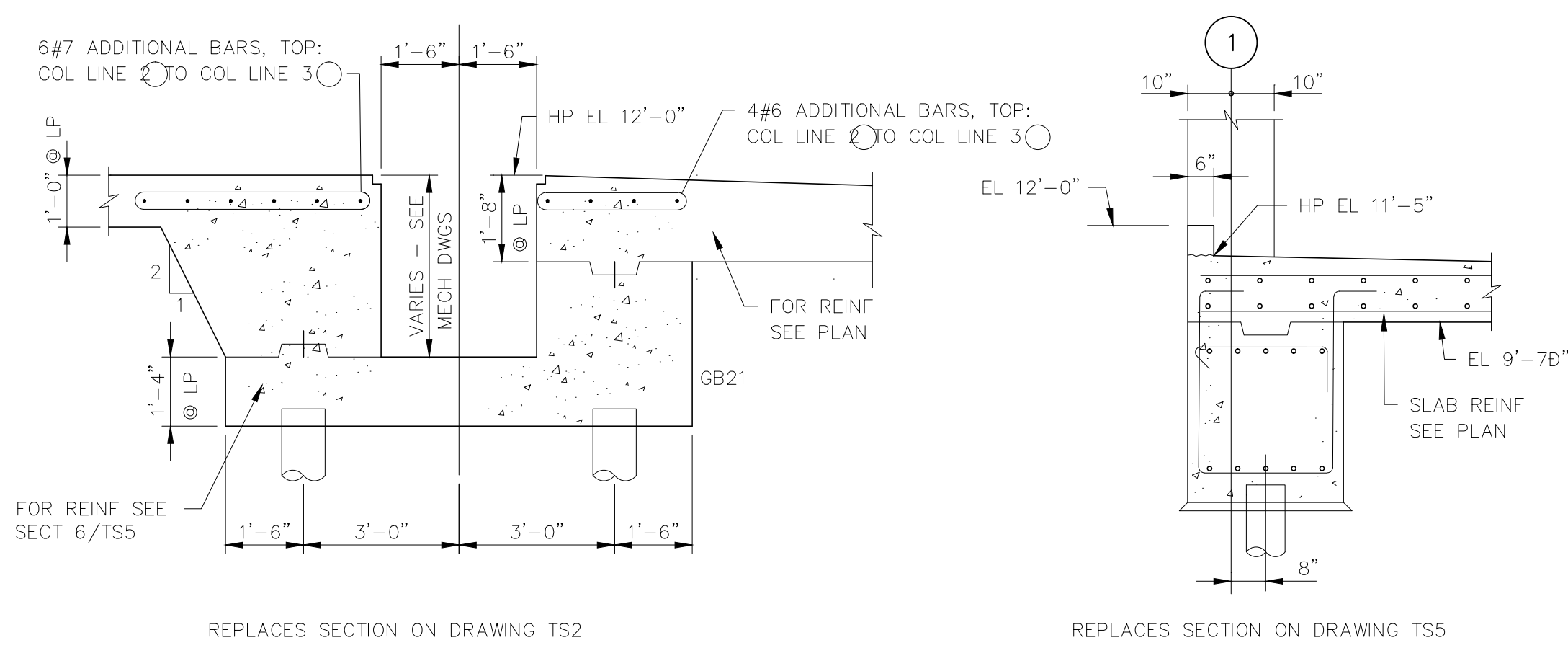
FOR REMAINDER OF PLAN, SEE DRAWING TS2
REVISED PLAN AT EL 12'-0"
 SCALE: 1"=1'-0"

FOR REMAINDER OF PLAN, SEE DRAWING TS3
REVISED PLAN AT EL 35'-0"
 SCALE: 1"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS10
REVISED SECTION 26 (SHOWN)
REVISED SECTION 27 (OPP HAND)
 SCALE: 1"=1'-0"

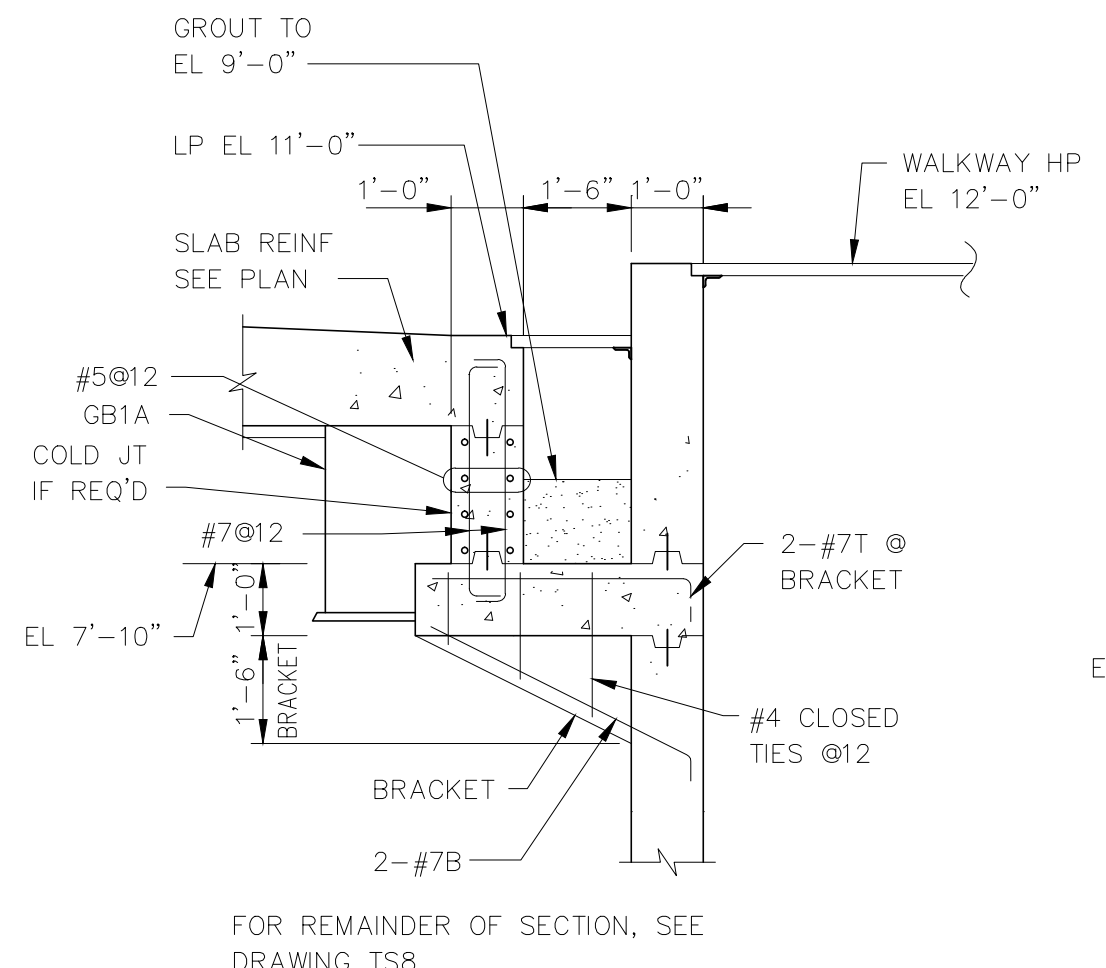
FOR REMAINDER OF SECTION, SEE DRAWING TS4
REVISED SECTION 33
 SCALE: 1"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS9
REVISED SECTION 40
REVISED SECTION 41
 SCALE: 1"=1'-0"

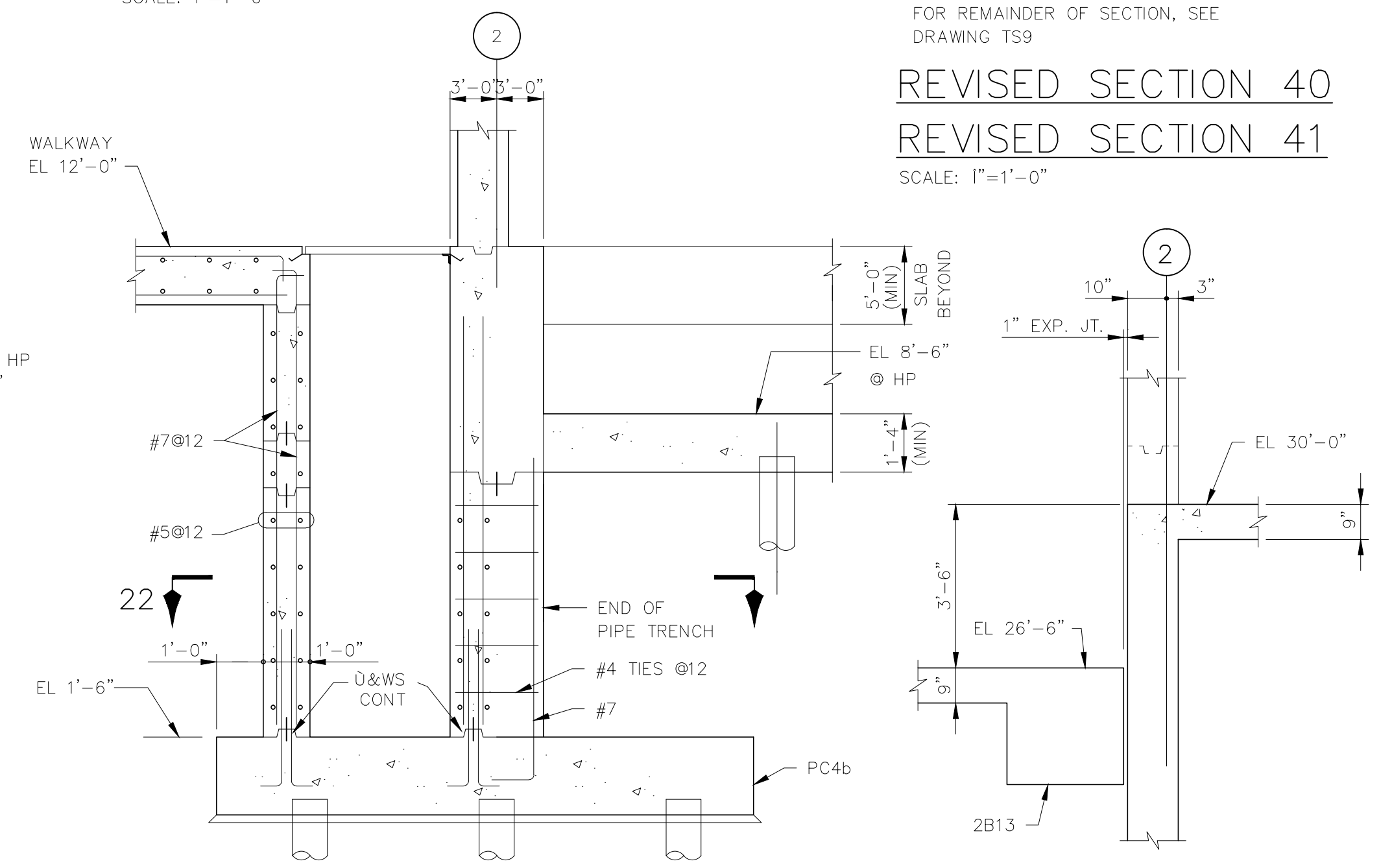


REPLACES SECTION ON DRAWING TS2
REVISED SECTION 4
 SCALE: 1"=1'-0"

REPLACES SECTION ON DRAWING TS5
REVISED SECTION 13
 SCALE: 1"=1'-0"



FOR REMAINDER OF SECTION, SEE DRAWING TS8
REVISED SECTION 21
 SCALE: 1"=1'-0"



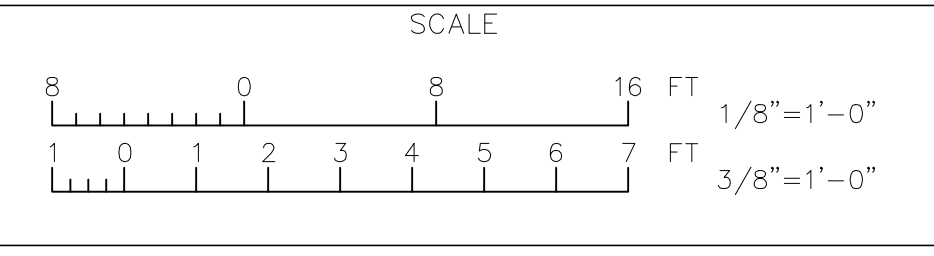
REPLACES SECTION ON DRAWING TS8
REVISED SECTION 9
 SCALE: 1"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS11
REVISED SECTION 48
 SCALE: 1"=1'-0"

KLEIN AND HOFFMAN, INC.
 CONSULTING ENGINEERS
 4350 W. CYPRESS STREET
 TAMPA, FLORIDA 33607 - 4135
 PROJECT NO. 4187

GREELEY AND HANSEN
 ENGINEERS
 4350 WEST CYPRESS STREET
 TAMPA, FLORIDA 33607-4135

DESIGNED	JVT	APPROVED	
DRAWN	SKC	DATE	
CHECKED	SKC	DATE	
		GREELEY AND HANSEN, ENGINEERS	
NO.	DATE	APPD	REVISION



CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PLANT EXPANSION
 PHASE 1 DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
 STRUCTURAL
 REVISED PLANS, SECTIONS AND SCHEDULES

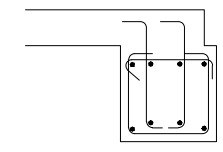
PROJ. NO.	202G
DWG	SD-2
SHEET	
DATE	MAY 1993
REV	0

5H3B_0TS-007A

REVISES DRAWING NO. TS1-TS11

REVISED BEAM SCHEDULE										FOR REMAINDER OF BEAM SCHEDULE, SEE DRAWINGS TS7 & TS8		
AREA	MARK	SIZE W X D	BOTT BARS	TOP BARS			W OR S SUPPORT	E OR N SUPPORT	STIRRUPS			REMARKS
				A	B	C			SIZE	SPA	EA END		TYPE
	GB1	30x52	6-#7	6-#7 A1		6-#7 C1			#4	Ø12 THROUGHOUT	S2	BEAM DEPTH TAKEN FROM EL 11'-5"
	GB11	30x52	6-#7	4-#7 A1		4-#7 C1			#4	Ø12	S2	BEAM DEPTH TAKEN FROM EL 11'-5"
	GB15	36x55	7-#7	5-#7 A1		5-#7 C1	COL B.7,1		#4	Ø6	S2	BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SEC 13/TSS
	GB16	24x62	6-#8*	6-#8 A1		6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB17	24x62	6-#8*			6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB18	24x62	6-#9*			6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB19	24x62	6-#8*	6-#8 A1					#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB20	36x55	7-#7	5-#7 A1					#4	Ø6	S2	BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SECT 13/TSS
	GB1A	24x52	6-#7	12 # A1					#4	Ø6	S4	BEAM DEPTH TAKEN FROM EL 11'-5" 1/2 A1 EACH END
	2B8A	30x24	4-#8	6-#9 A1					#4	Ø8	S6	1/2 A1 EACH END

* LAP SPLICE 3 NOS BOTTOM BARS AT SUPPORTS

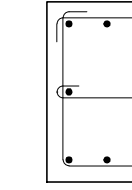


TYPE S4

NOTE:
PLAN, SECTIONS, BEAM SCHEDULE, COLUMN SCHEDULE AND OTHER DETAILS SHOWN HERE, SUPERSEDE THE RELEVANT DETAILS ON DRAWINGS TS1 THRU TS11.

COL. SCHEDULE	
COLUMN MARK	A1.9 A1 B.7-1.9 B.7-1 E1.9 E1
HIGH ROOF EL 39'-6"	
LOW ROOF EL 26'-6"	
GROUND FLOOR HP EL 12'-0"	3-#9 20x30 8-#9T4
T/PILE CAP EL VARIES	

FOR REMAINDER OF COLUMN SCHEDULE, SEE DRAWING TS9



T4

REVISED PILE SCHEDULE					
ITEM	MARK	NO. OF PILES	UPLIFT PILES	CUT-OFF ELEV.	REMARKS
	⊙	4	0	10'-8"	
	⊙	6	0	7'-2"	
	⊙	31	0	7'-3"	
	⊙	17	0	8'-10"	GENERATOR BASES (INCL. FUTURE BASE)
	⊙	8	0	7'-6"	GENERATOR BASES
	⊕	6	0	-0'-10"	
	⊙	21	0	10'-4"	
	⊙	3	0	7'-8"	
	⊙	24	0	(-) 3'-4"	
	⊙	24	0	5'-0"	
	⊙	93	0	4'-6"	
	⊕	10	0	4'-0"	
	⊙	23	0	6'-11"	

TOTAL NUMBER OF PILES THIS SCHEDULE = 270

KLEIN AND HOFFMAN, INC.

CONSULTING ENGINEERS
4350 W. CYPRESS STREET
TAMPA, FLORIDA 33607 - 4135

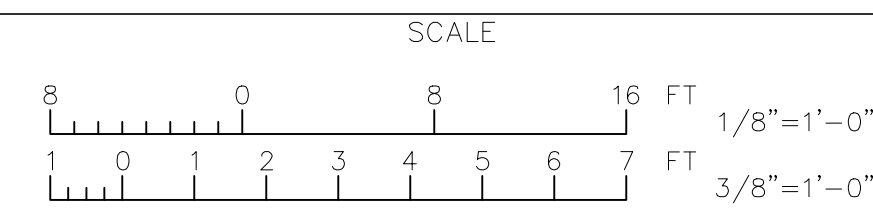
PROJECT NO. 4187

GREELEY AND HANSEN
ENGINEERS
4350 WEST CYPRESS STREET
TAMPA, FLORIDA 33607-4135

DESIGNED JVT
DRAWN SKC
CHECKED SKC

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
1	6/4/93	SKC	PILE SCHED. CUT-OFF ELEV.



CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
STRUCTURAL
REVISED PLANS, SECTIONS AND SCHEDULES

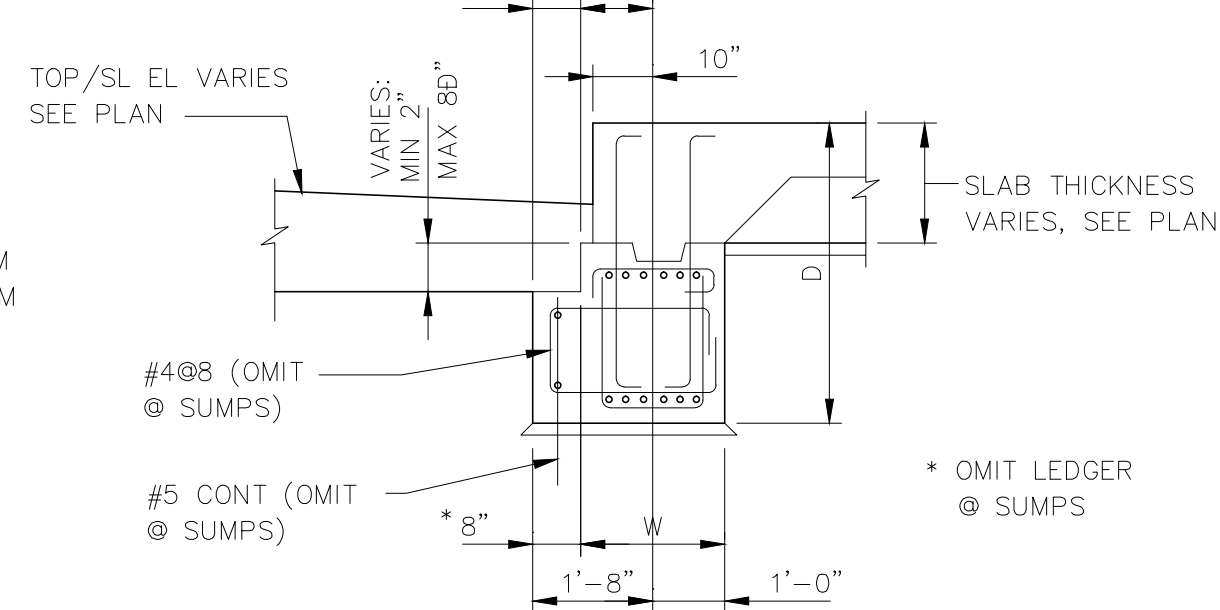
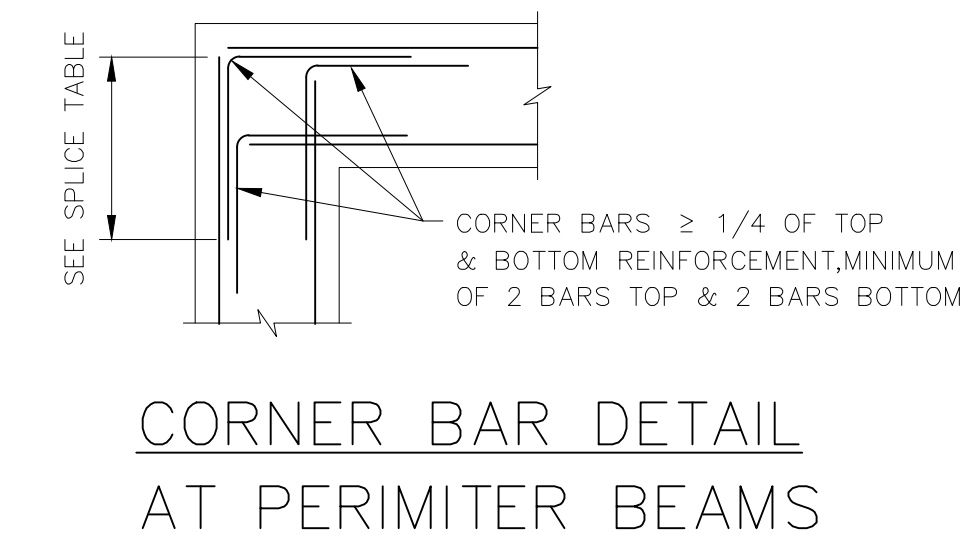
REVISES DRAWING NO. TS1-TS11

PROJ. NO. 202G
DWG SD-3
SHEET
DATE MAY 1993 REV 1

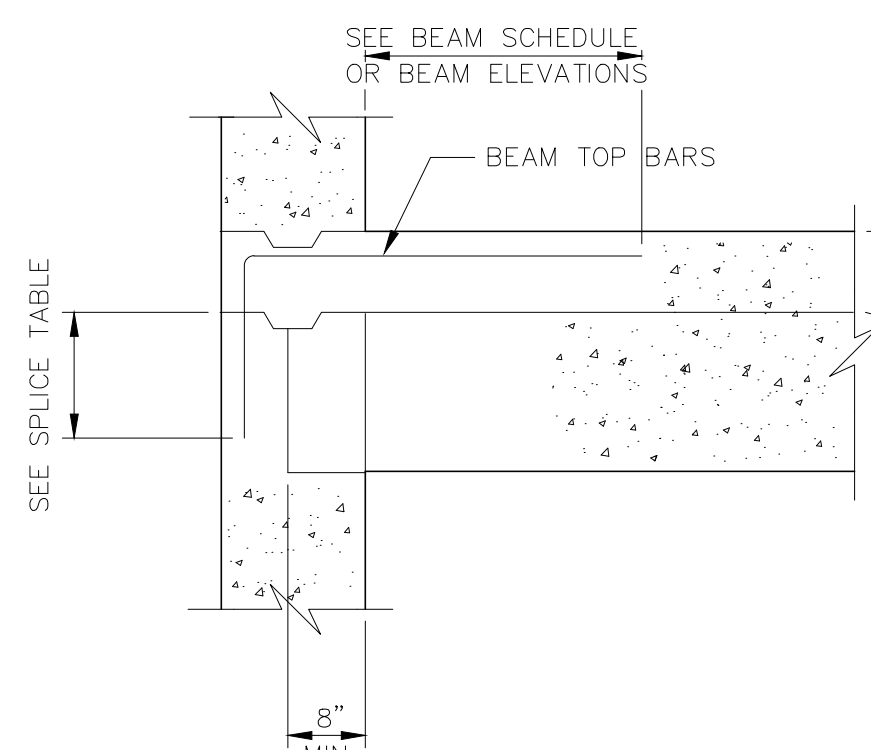
5H3B_OTS-007B

AREA	MARK	SIZE W X D	BOTT BARS	TOP BARS			W OR S SUPPORT	E OR N SUPPORT	STIRRUPS			REMARKS		
				A	B	C			SIZE	SPA	EA		END	TYPE
SECOND FLOOR BEAMS	2B1	* 24x30	4-#7	4-#7 A1		4-#7 C1			#4	@12	S5	* T/BM SLOPED. SEE SEC 23/TS10 HOOK & LAP 2 OUTSIDE BOTT BARS		
	2B2	* 24x30	4-#7			2-#7 2-#7 C1			#4	@12	S5	* T/BM SLOPED. SEE SEC 23/TS10 LAP 2 OUTSIDE BOTT BARS		
	2B3	* 24x30	4-#7	4-#7 A1				**	#4	@12	S5	* T/BM SLOPED. SEE SEC 23/TS10 HOOK & LAP 2 OUTSIDE BOTT BARS		
	2B4	* 24x30	**			**		**	#4	@12	S5	* T/BM SLOPED. SEE SEC 23/TS10 ** BARS FROM 2B4		
	2B5	12x16D	2-#6	2-#6 A1		2-#6 C1			#4	@7	S6			
	2B6	12x16D	2-#6			2-#6 C1			#4	@7	S6			
	2B7	12x16D	2-#6	2-#6 A1					#4	@7	S6			
	2B8	30x30	4-#8	4-#8 A1		4-#7 C1			#4	@12	S6	HOOK & LAP 2 OUTSIDE BOTT BARS		
	2B9A	*	4-#8			2-#8 2-#8 C1			#4	@12	S6	* SEE SECT 44/T*S11 LAP 2 OUTSIDE BOTT BARS		
	2B9B	*	4-#8			2-#8 2-#8 C1			#4	@12	S6	* SEE SECT 42/T*S11 LAP 2 OUTSIDE BOTT BARS		
	2B10	30x30	4-#8	4-#8 A1				*	#4	@12	S6	HOOK & LAP 2 OUTSIDE BOTT BARS		
	2B11	30x30	*				*		#4	@12	S6	* BARS FROM 2B10		
	2B12	30x30	4-#8	4-#8	2-#8	4-#9 4-#9			#5	@9	S7	HOOK & LAP 2 OUTSIDE BOTT BARS		
	2B13	30x30	4-#8	4-#8	2-#8				#5	@9	S7	HOOK & LAP 2 OUTSIDE BOTT BARS		
	2B14	30x30	4-#8	4-#8 A3					#4	@12	S6	HOOK 2 OUTSIDE BOTT BARS		
2B15	*										* NOT USED			
2B16	20x42	3-#7	3-#7 A2				3'-6"	#4	@12	S5	HOOK 2 OUTSIDE BOTT BARS			
2B17	20x36	3-#7	3-#7 A3					#4	@12	S6	HOOK BOTT BARS SEE SECT 40&41/TS9			
MEZZANINE BEAMS	MB1	12x30	2-#10 2-#10	2-#5 A1 EA END					#4	@12	S6			
	MB2	12x18	2-#6	2-#6 A3					#3	@7	S6			
	MB3	*	2-#8	2-#8 A1		2-#8 C1			#4	@12	S7	* SEE SECTS 36 & 37 /TS11		
	MB4	16x78	2-#8			2-#8 C1			#4	@12	S7	DISCONTINUE & HOOK BOTT BARS AT EXHAUST OPENING		
	MB5	16x78	2-#8	2-#8 A1					#4	@12	S7	DISCONTINUE & HOOK BOTT BARS AT EXHAUST OPENING		
	MB6	*	2-#8	2-#8 A3					#4	@12	S7	* SEE SECTS 34 & 35/TS4 A1 BARS EA END		

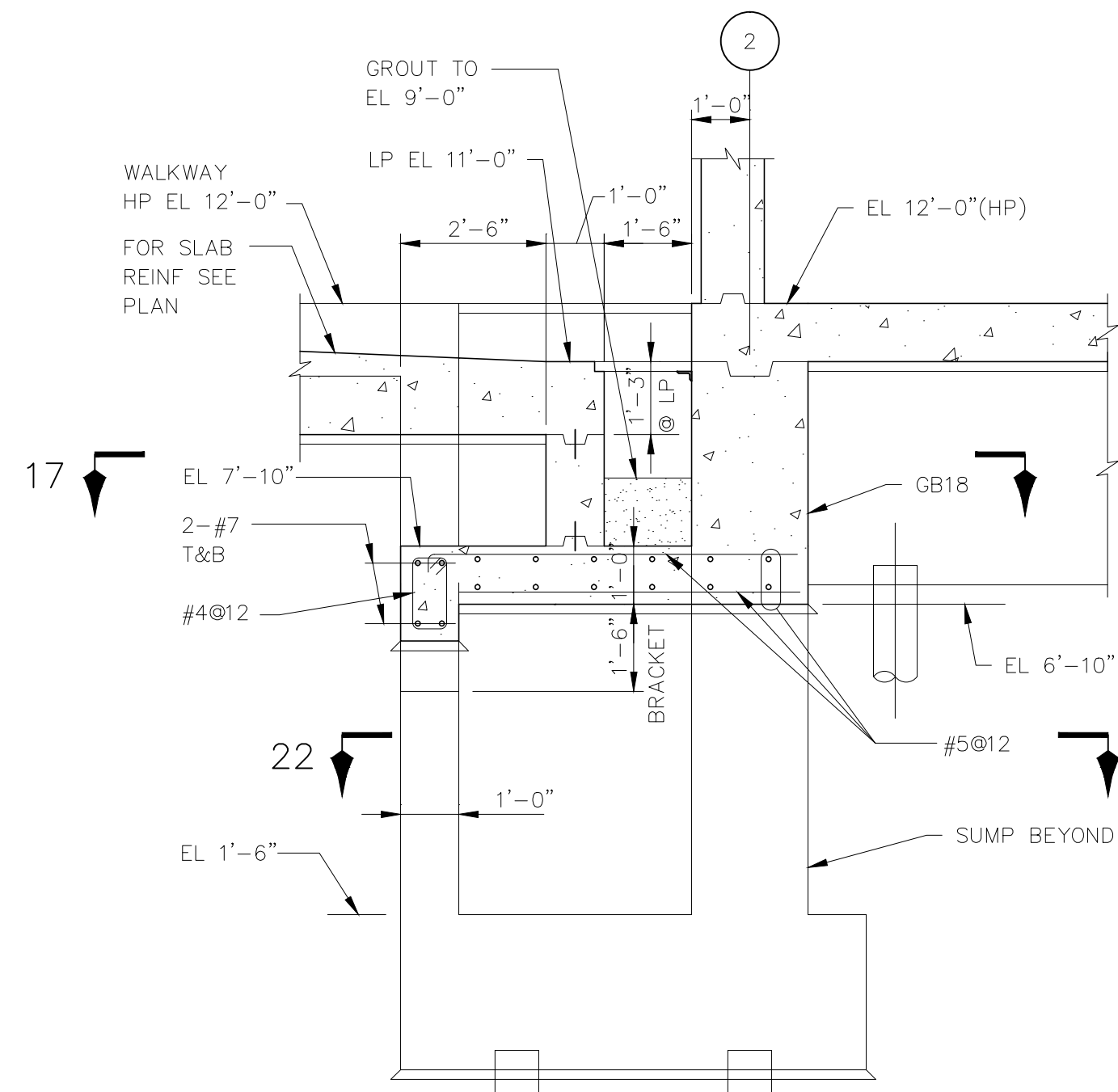
NOTE: FOR ADD'L BEAM DETAILS SEE SHT TS7



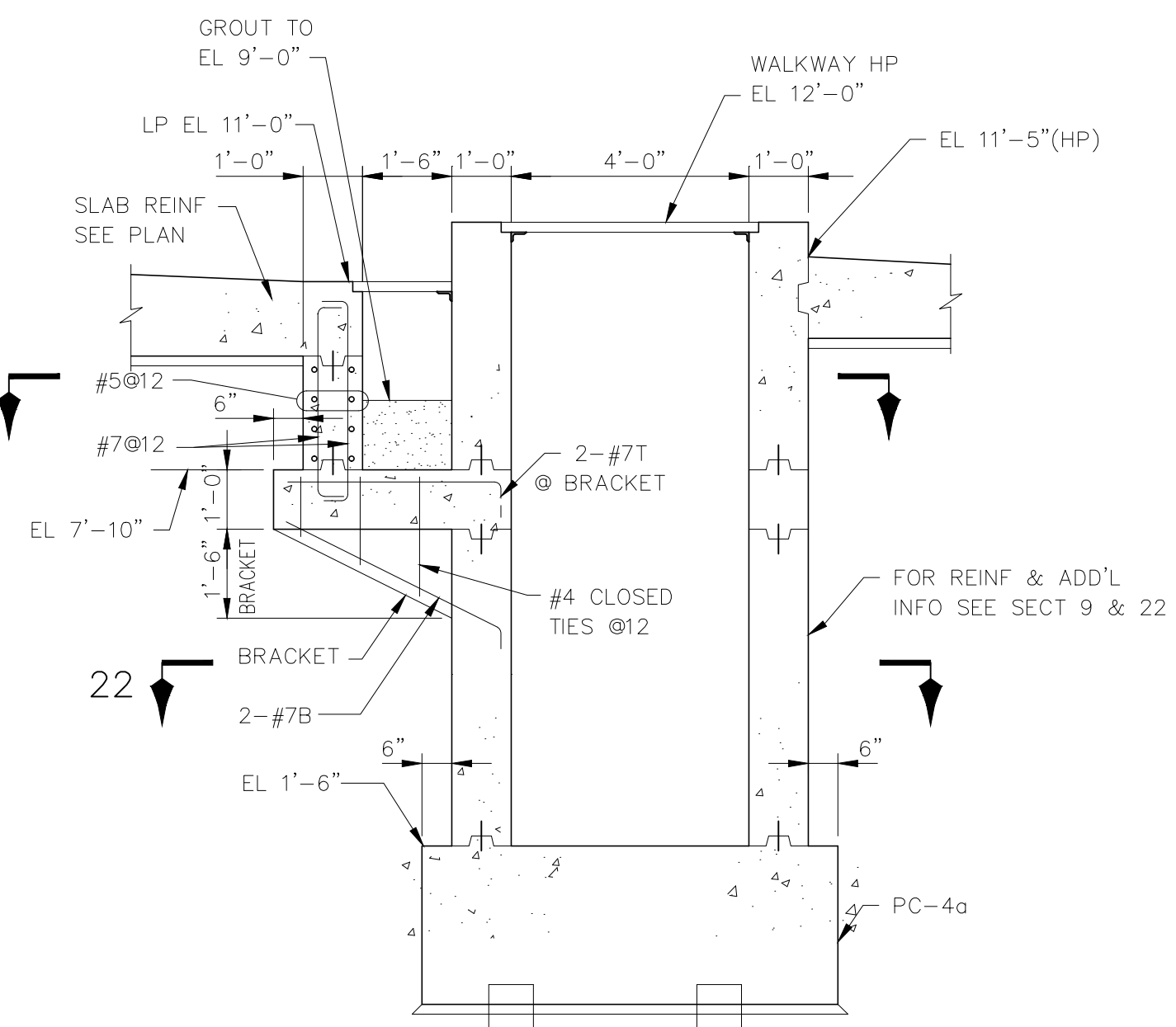
TYP FOR GRADE BEAMS GB16 - GB19
GRADE BEAM DETAIL
NO SCALE



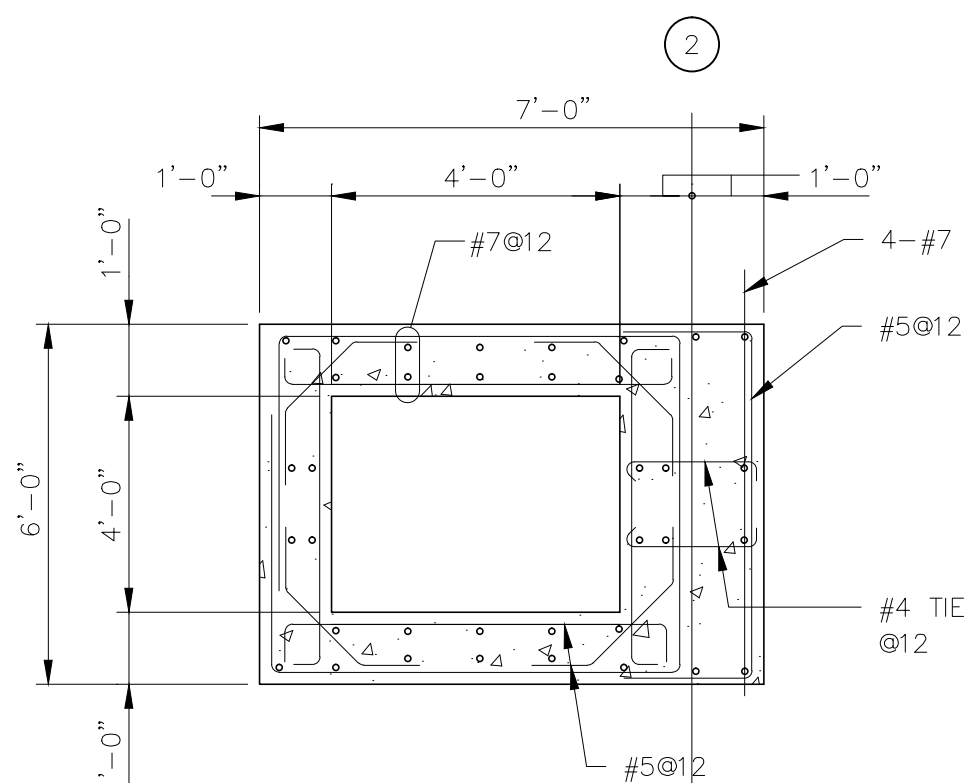
BEAM POCKET DETAIL



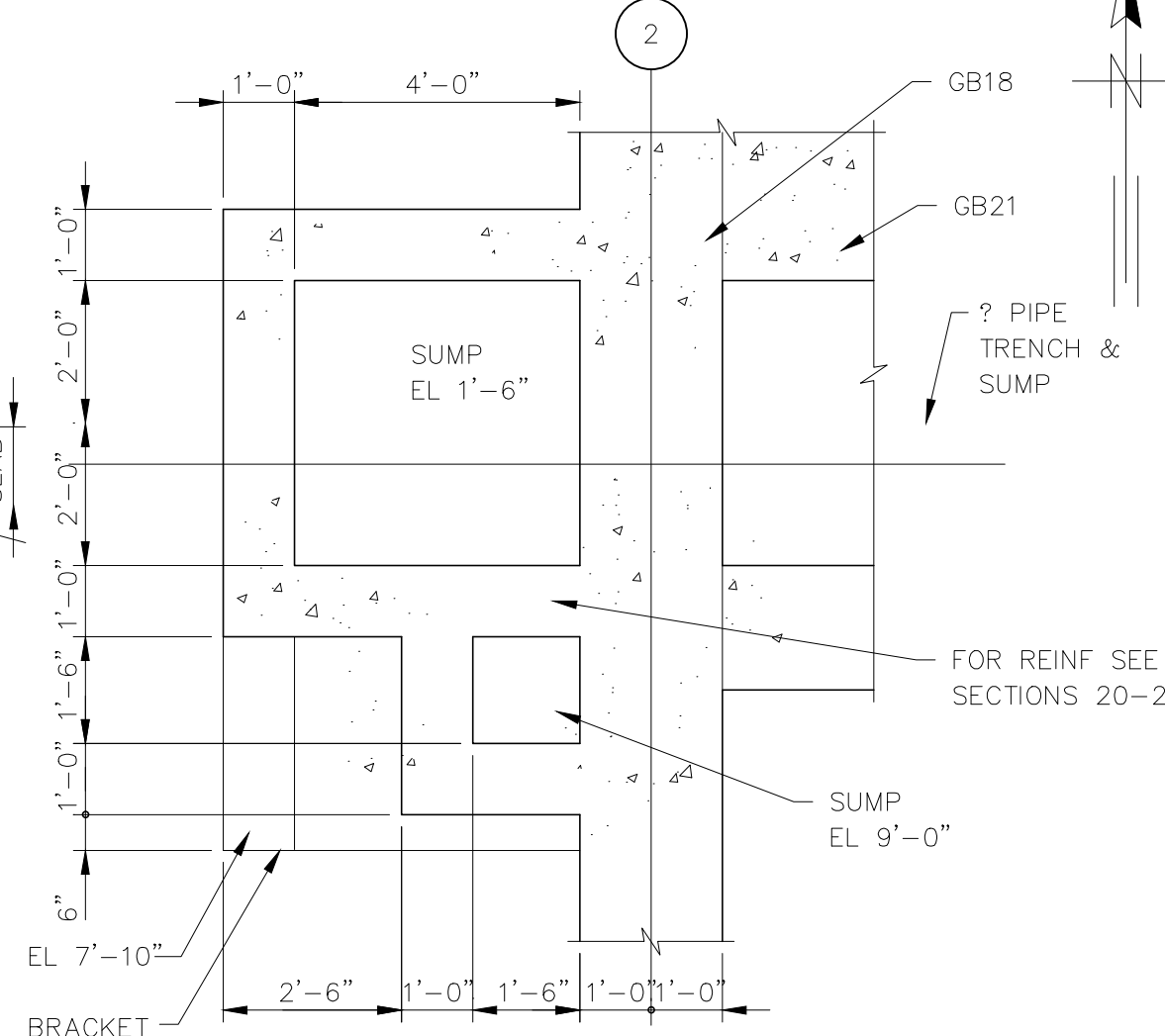
SECTION 20/TS2
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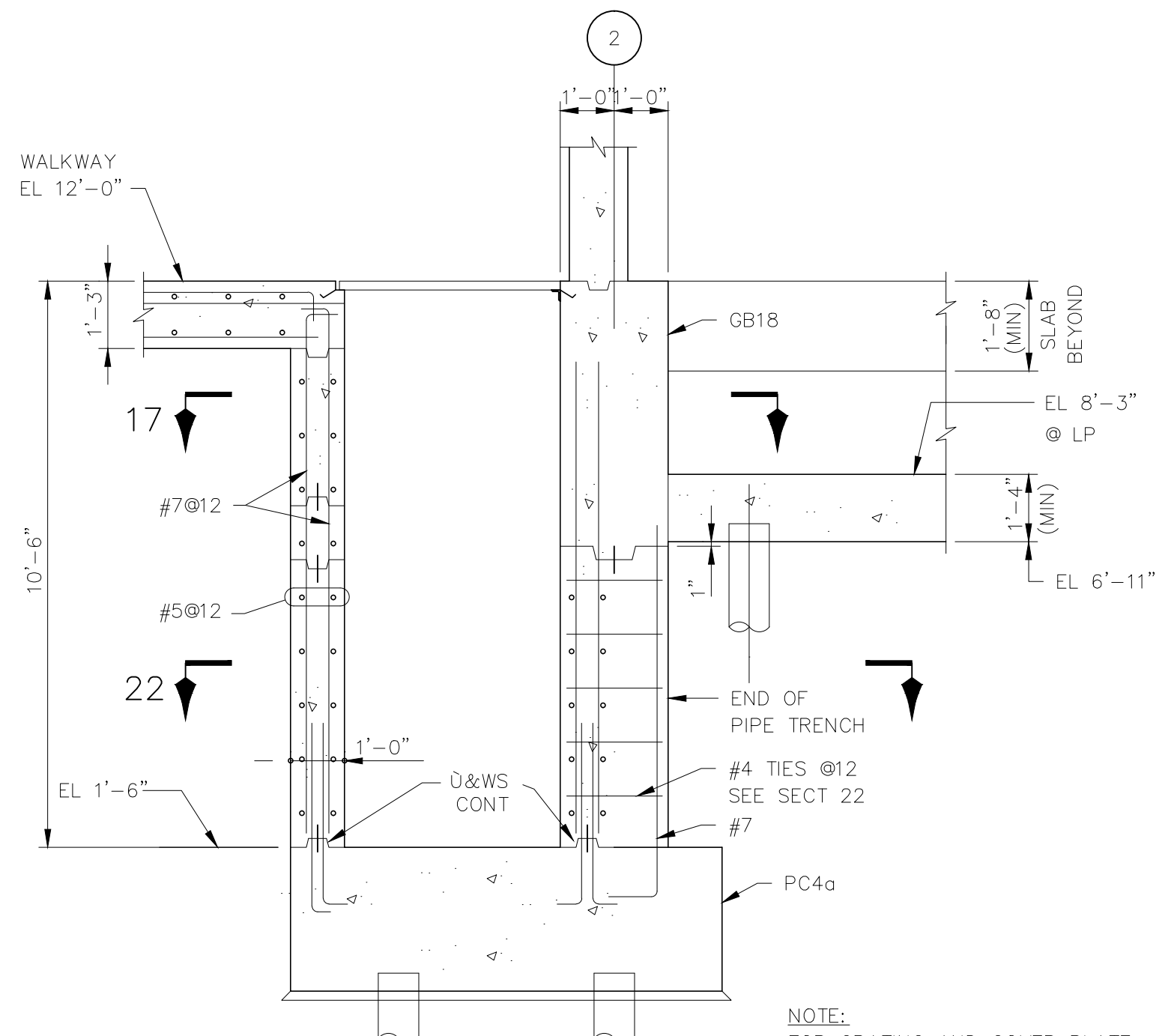
SECTION 21/TS2
SCALE: 1"=1'-0"



SECTION 22
SCALE: 1"=1'-0"



SECTION 17
SCALE: 1"=1'-0"



SECTION 9/TS2
SCALE: 1"=1'-0"

NOTE: FOR GRATING AND COVER PLATE DETAILS, SEE DWG AS2

See Supplemental Drawing SD-2 and SD-3

RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

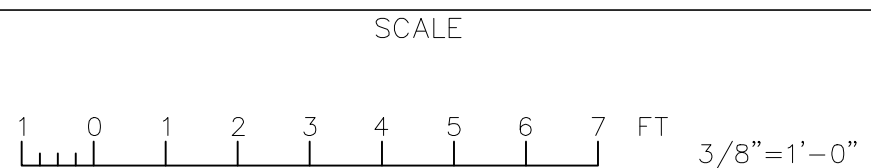
KLEIN AND HOFFMAN, INC.
CONSULTING ENGINEERS
4350 W. CYPRESS STREET
TAMPA, FLORIDA 33607 - 4135
PROJECT NO. 4187

GRELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED WRC, JAH
DRAWN KCS
CHECKED WRC

APPROVED _____ DATE _____
GRELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
3	8/2/96		RECORD DWG REVISIONS



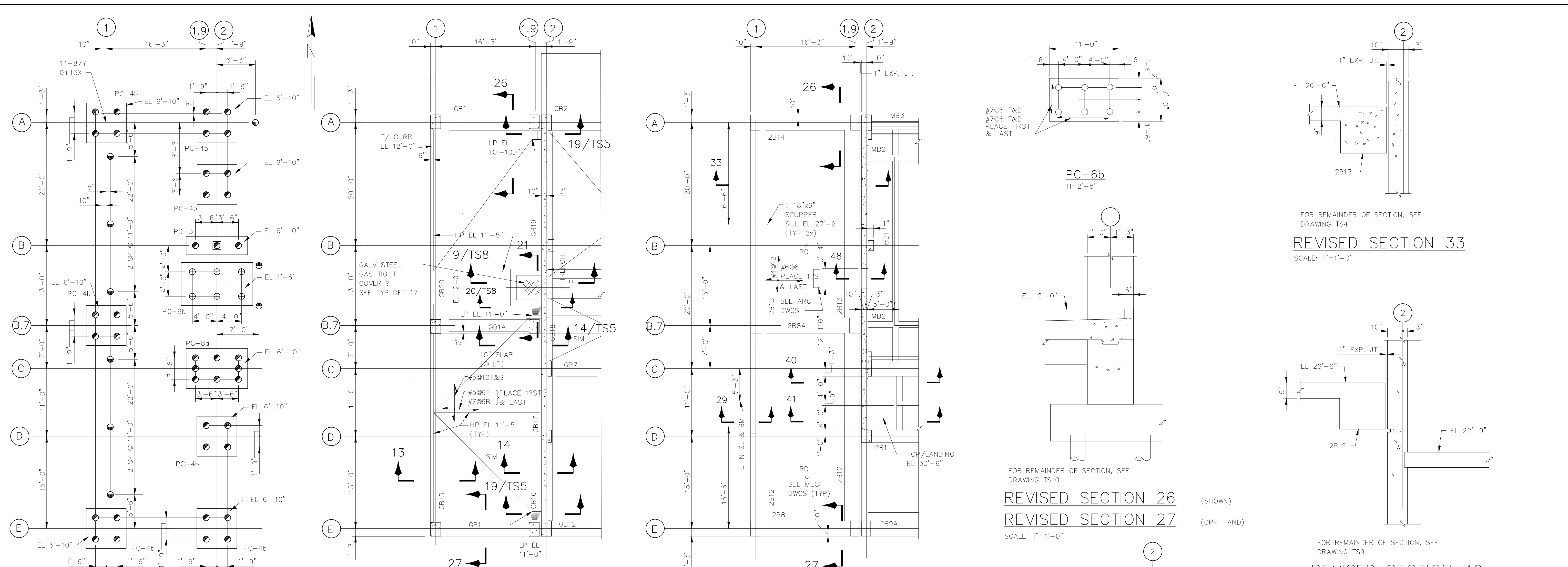
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
STRUCTURAL
SECTIONS AND PART BEAM SCHEDULE

PROJ NO.	202G
DWG	TS8
SHEET	
DATE	DECEMBER 1991
REV	3

5H3B_OTS-008

FILE: H3B-TS8 SCALE: 1/32 09/06 1996 at 14:03 - "12.dwg (Roverware Lock)"



FOR REMAINDER OF PLAN, SEE DRAWING TS1
REVISED PILE PLAN
 SCALE: 1"=1'-0"

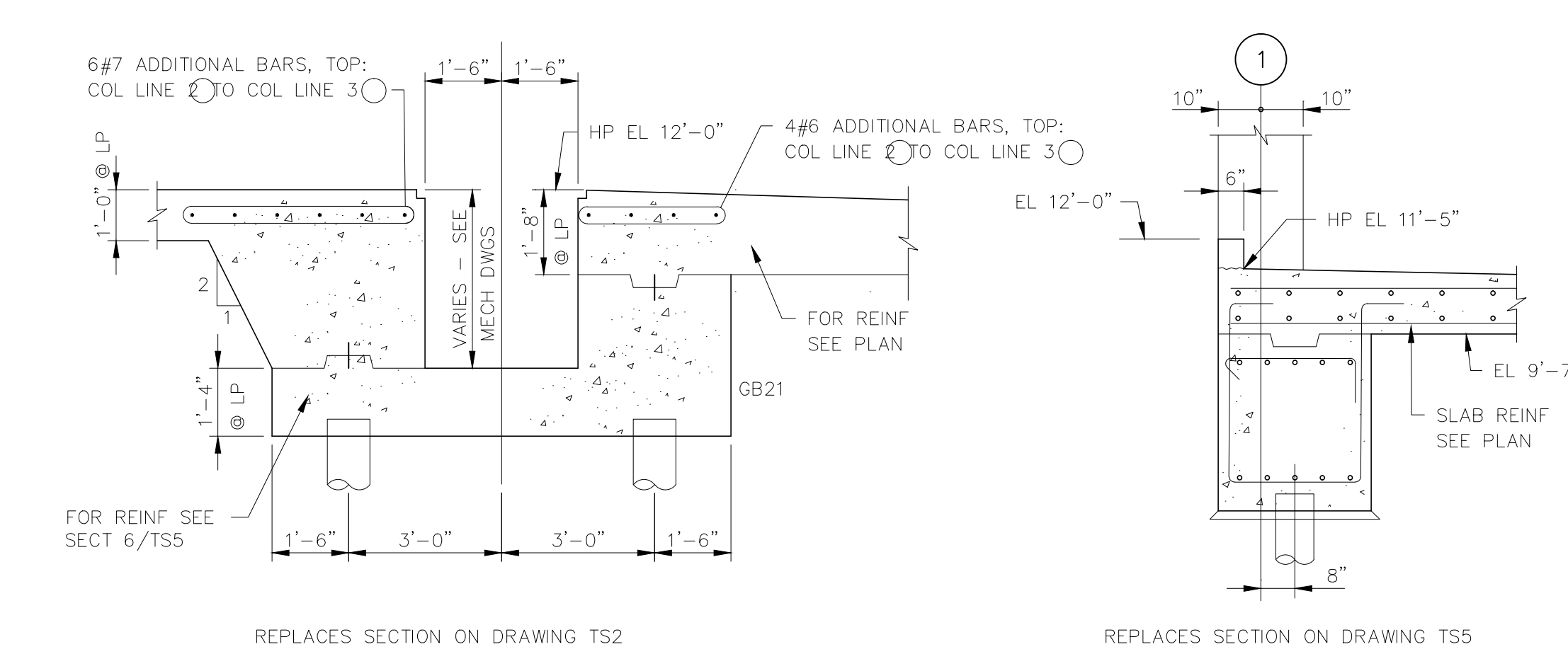
FOR REMAINDER OF PLAN, SEE DRAWING TS2
REVISED PLAN AT EL 12'-0"
 SCALE: 1"=1'-0"

FOR REMAINDER OF PLAN, SEE DRAWING TS3
REVISED PLAN AT EL 35'-0"
 SCALE: 1"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS10
REVISED SECTION 26 (SHOWN)
REVISED SECTION 27 (OPP HAND)
 SCALE: 1"=1'-0"

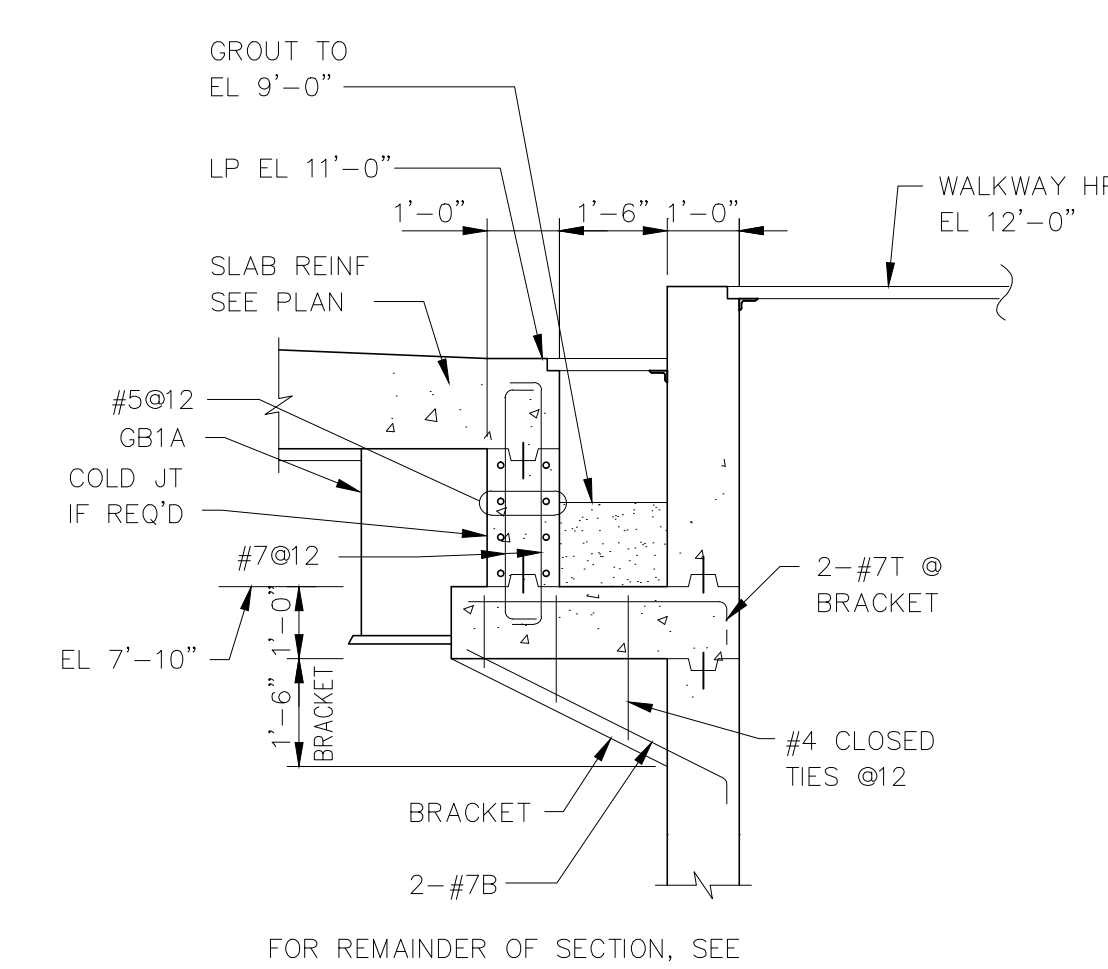
FOR REMAINDER OF SECTION, SEE DRAWING TS4
REVISED SECTION 33
 SCALE: 1"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS9
REVISED SECTION 40
REVISED SECTION 41
 SCALE: 1"=1'-0"

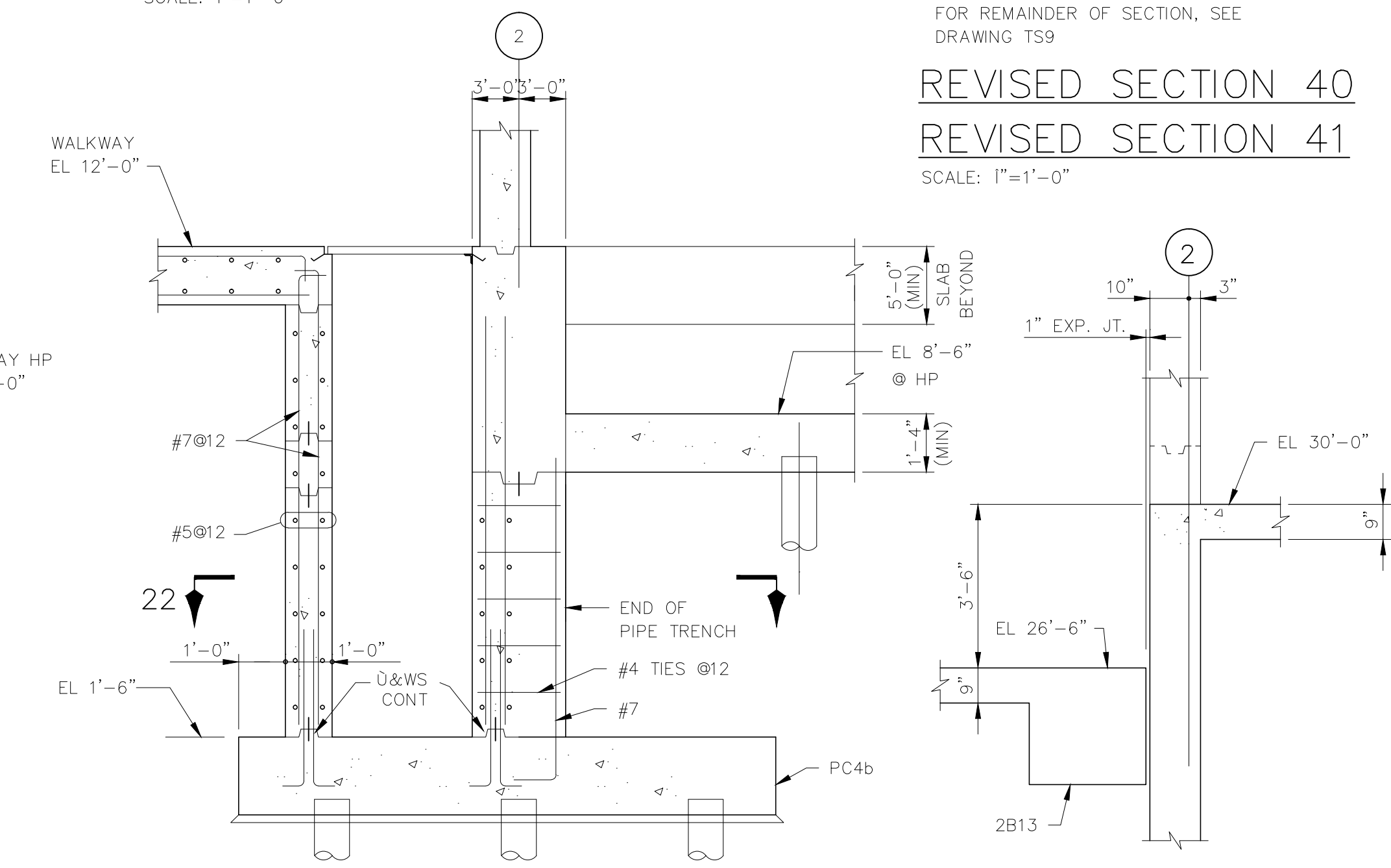


REPLACES SECTION ON DRAWING TS2
REVISED SECTION 4
 SCALE: 1"=1'-0"

REPLACES SECTION ON DRAWING TS5
REVISED SECTION 13
 SCALE: 1"=1'-0"



FOR REMAINDER OF SECTION, SEE DRAWING TS8
REVISED SECTION 21
 SCALE: 1"=1'-0"

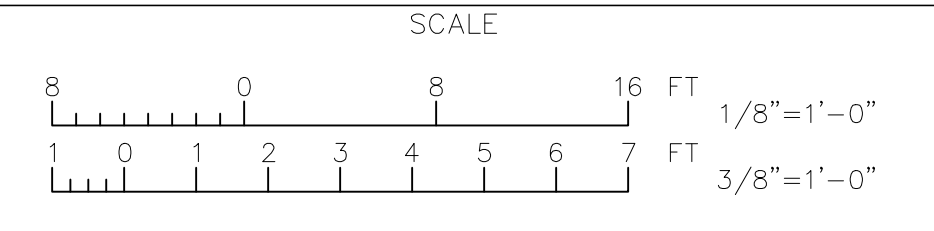


REPLACES SECTION ON DRAWING TS8
REVISED SECTION 9
 SCALE: 1"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS11
REVISED SECTION 48
 SCALE: 1"=1'-0"

KLEIN AND HOFFMAN, INC.
 CONSULTING ENGINEERS
 4350 W. CYPRESS STREET
 TAMPA, FLORIDA 33607 - 4135
 PROJECT NO. 4187

DESIGNED	JVT	APPROVED	
DRAWN	SKC	DATE	
CHECKED	SKC	DATE	
		GREELEY AND HANSEN, ENGINEERS	
NO.	DATE	APPD	REVISION



CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PLANT EXPANSION
 PHASE 1 DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
 STRUCTURAL
 REVISED PLANS, SECTIONS AND SCHEDULES

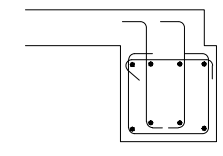
PROJ. NO.	202G
DWG	SD-2
SHEET	
DATE	MAY 1993
REV	0

REVISES DRAWING NO. TS1-TS11

5H3B_OTS-008A

REVISED BEAM SCHEDULE										FOR REMAINDER OF BEAM SCHEDULE, SEE DRAWINGS TS7 & TS8		
AREA	MARK	SIZE W X D	BOTT BARS	TOP BARS			W OR S SUPPORT	E OR N SUPPORT	STIRRUPS			REMARKS
				A	B	C			SIZE	SPA	EA END		TYPE
	GB1	30x52	6-#7	6-#7 A1		6-#7 C1			#4	Ø12 THROUGHOUT	S2	BEAM DEPTH TAKEN FROM EL 11'-5"
	GB11	30x52	6-#7	4-#7 A1		4-#7 C1			#4	Ø12	S2	BEAM DEPTH TAKEN FROM EL 11'-5"
	GB15	36x55	7-#7	5-#7 A1		5-#7 C1	COL B.7,1		#4	Ø6	S2	BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SEC 13/TSS
	GB16	24x62	6-#8*	6-#8 A1		6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB17	24x62	6-#8*			6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB18	24x62	6-#9*			6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB19	24x62	6-#8*	6-#8 A1					#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB20	36x55	7-#7	5-#7 A1					#4	Ø6	S2	BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SECT 13/TSS
	GB1A	24x52	6-#7	12 # A1					#4	Ø6	S4	BEAM DEPTH TAKEN FROM EL 11'-5" 1/2 A1 EACH END
	2B8A	30x24	4-#8	6-#9 A1					#4	Ø8	S6	1/2 A1 EACH END

* LAP SPLICE 3 NOS BOTTOM BARS AT SUPPORTS

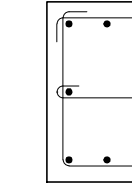


TYPE S4

NOTE:
PLAN, SECTIONS, BEAM SCHEDULE, COLUMN SCHEDULE AND OTHER DETAILS SHOWN HERE, SUPERSEDE THE RELEVANT DETAILS ON DRAWINGS TS1 THRU TS11.

COL. SCHEDULE	
COLUMN MARK	A1.9 A1 B.7-1.9 B.7-1 E1.9 E1
HIGH ROOF EL 39'-6"	
LOW ROOF EL 26'-6"	
GROUND FLOOR HP EL 12'-0"	3-#9 20x30 8-#9T4
T/PILE CAP EL VARIES	

FOR REMAINDER OF COLUMN SCHEDULE, SEE DRAWING TS9



T4

REVISED PILE SCHEDULE					
ITEM	MARK	NO. OF PILES	UPLIFT PILES	CUT-OFF ELEV.	REMARKS
	⊙	4	0	10'-8"	
	⊙	6	0	7'-2"	
	⊙	31	0	7'-3"	
	⊙	17	0	8'-10"	GENERATOR BASES (INCL. FUTURE BASE)
	⊙	8	0	7'-6"	GENERATOR BASES
	⊕	6	0	-0'-10"	
	⊙	21	0	10'-4"	
	⊙	3	0	7'-8"	
	⊙	24	0	(-) 3'-4"	
	⊙	24	0	5'-0"	
	⊙	93	0	4'-6"	
	⊕	10	0	4'-0"	
	⊕	23	0	6'-11"	

TOTAL NUMBER OF PILES THIS SCHEDULE = 270

KLEIN AND HOFFMAN, INC.

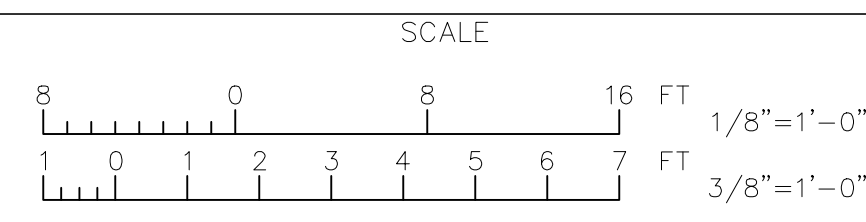
CONSULTING ENGINEERS
4350 W. CYPRESS STREET
TAMPA, FLORIDA 33607 - 4135
PROJECT NO. 4187

GREELEY AND HANSEN
ENGINEERS
4350 WEST CYPRESS STREET
TAMPA, FLORIDA 33607-4135

DESIGNED JVT
DRAWN SKC
CHECKED SKC

APPROVED _____
DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
1	6/4/93	SKC	PILE SCHED. CUT-OFF ELEV.



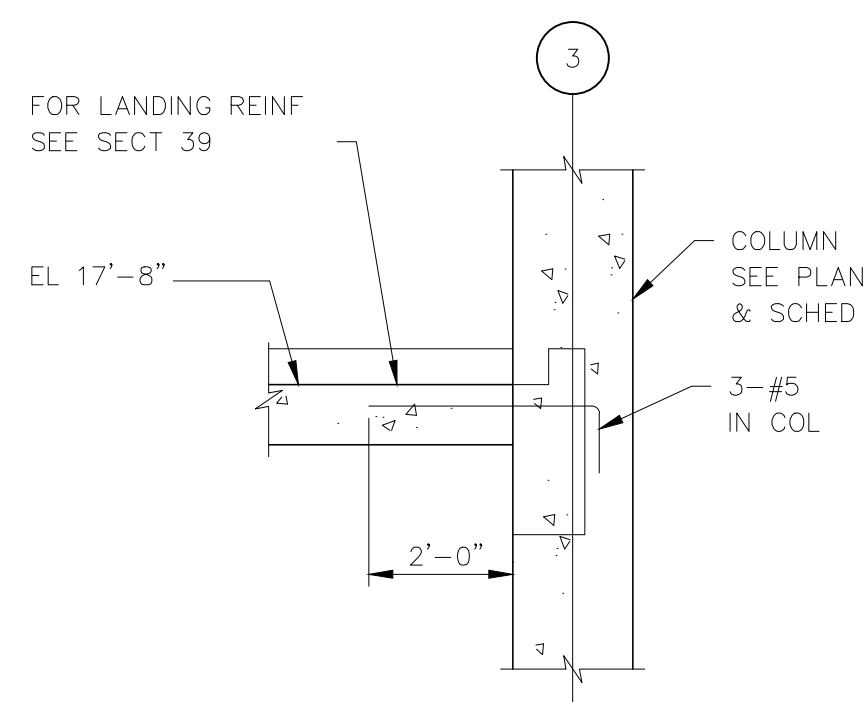
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
STRUCTURAL
REVISED PLANS, SECTIONS AND SCHEDULES

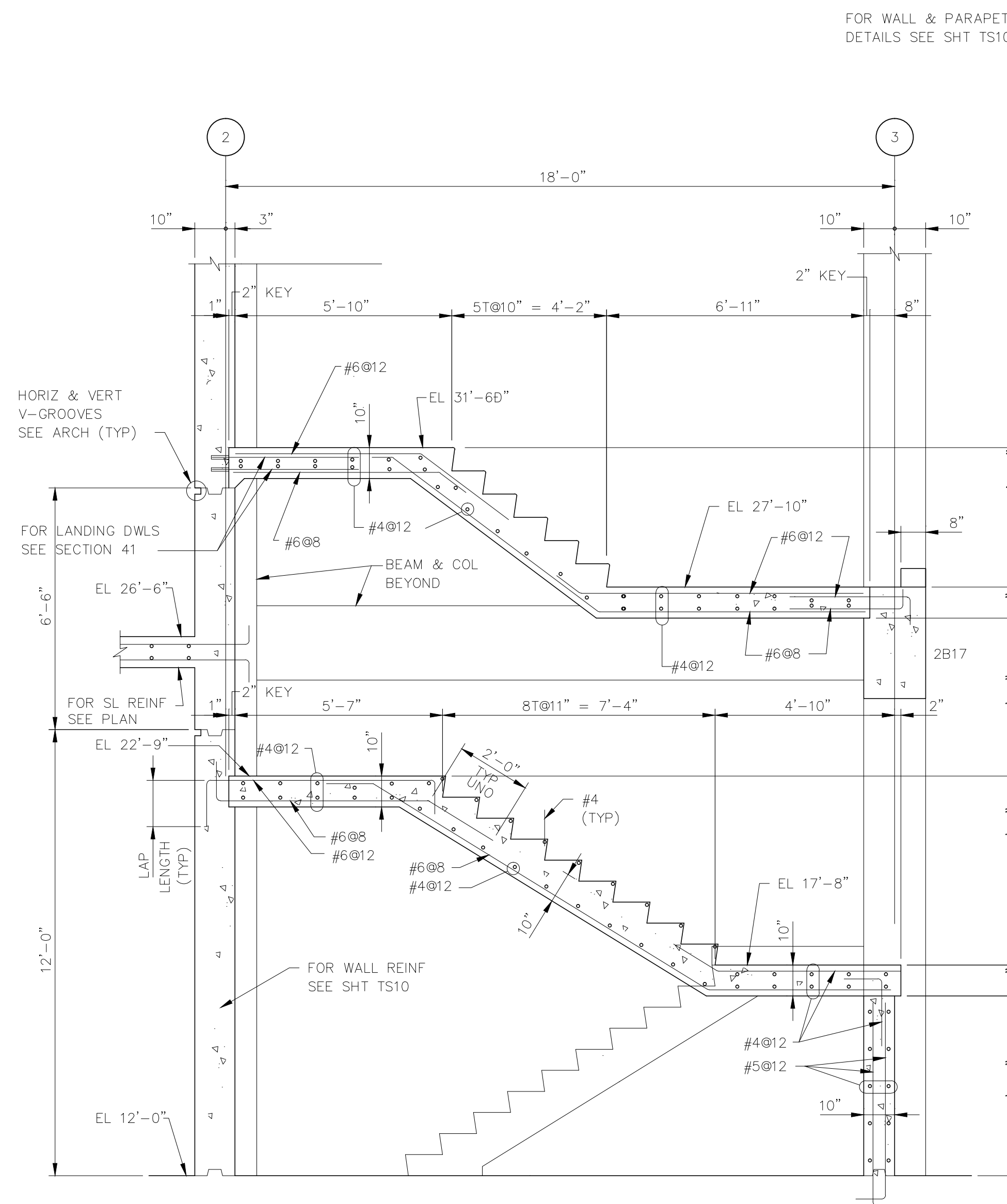
REVISES DRAWING NO. TS1-TS11

PROJ. NO. 202G
DWG SD-3
SHEET
DATE MAY 1993 REV 1

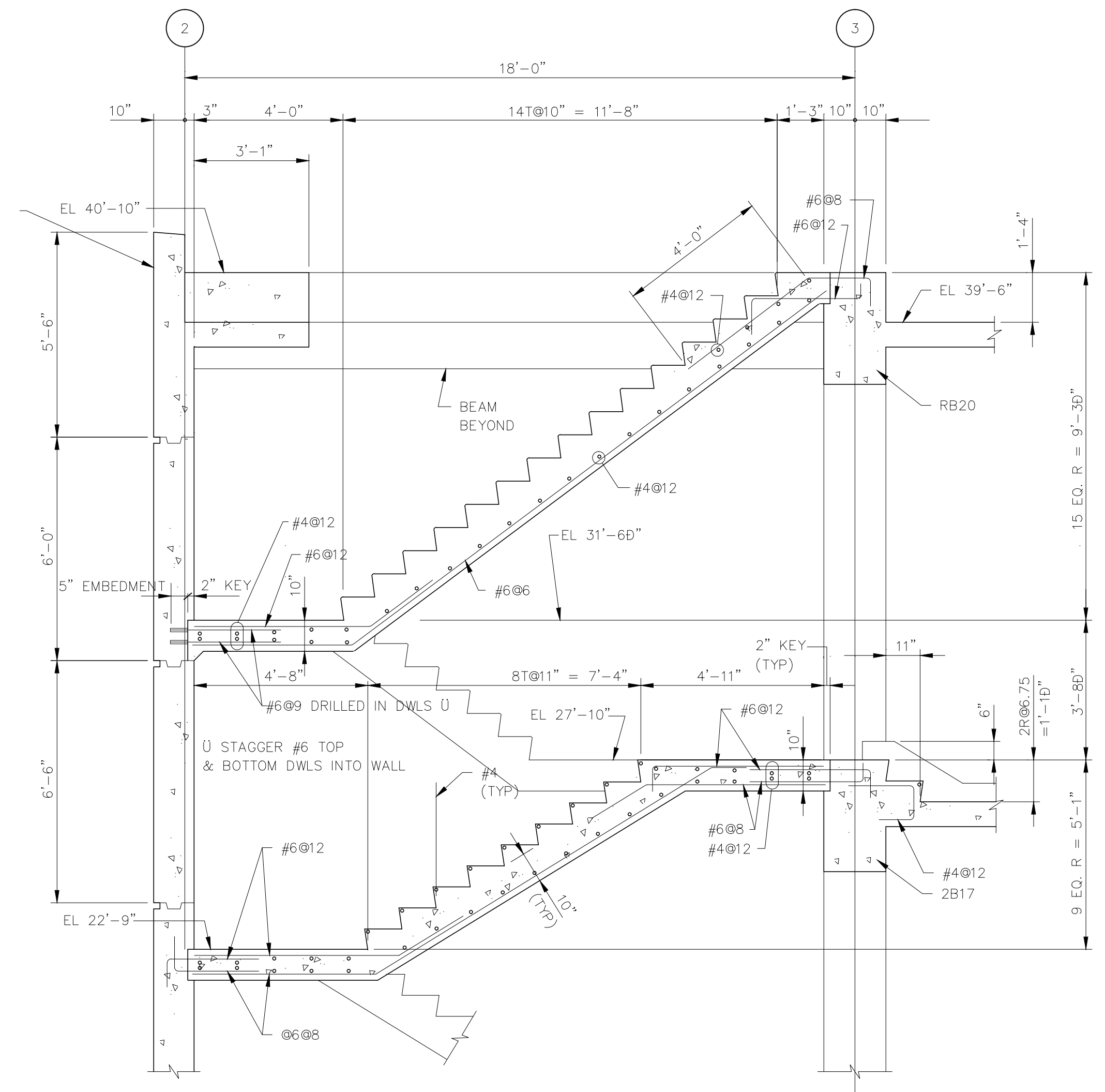
5H3B_OTS-008B



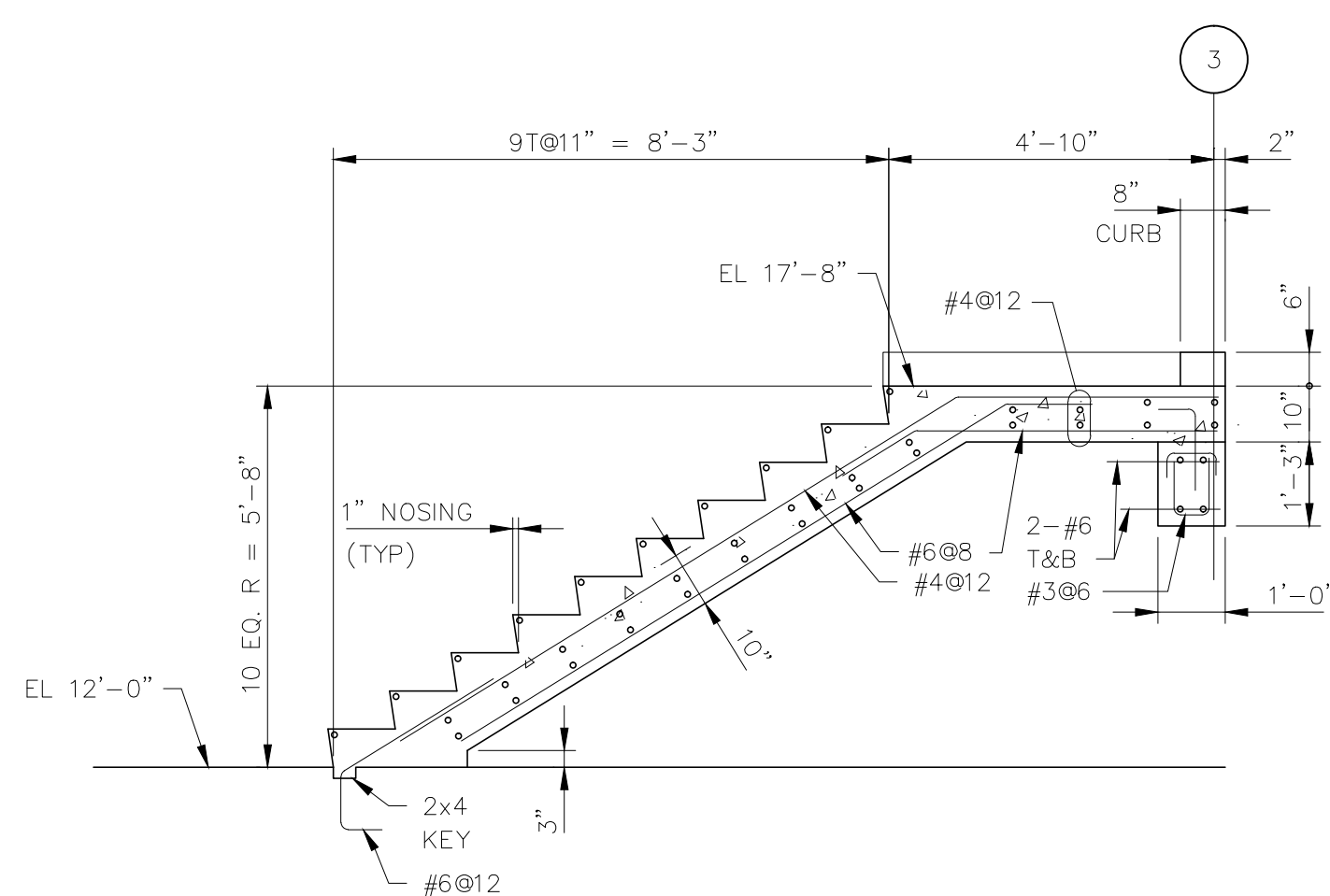
SECTION 38/TS3
SCALE: 1"=1'-0"



SECTION 40/TS3
SCALE: 1"=1'-0"



SECTION 41/TS3, 4
SCALE: 1"=1'-0"

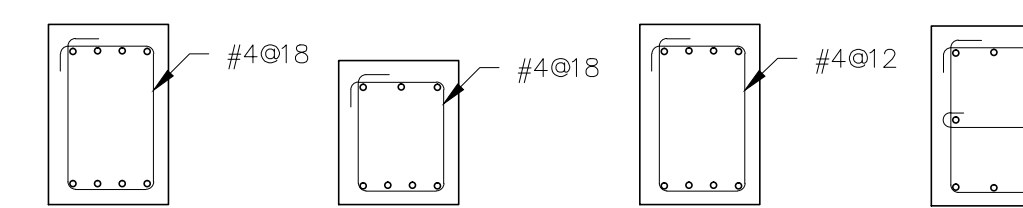


SECTION 33/TS3
SCALE: 1"=1'-0"

FLOOR SLAB AT EL 12'-0" & GRADE BMS NOT SHOWN

SECTION 40/TS3
SCALE: 1"=1'-0"

FLOOR SLAB AT EL 12'-0" & GRADE BMS NOT SHOWN



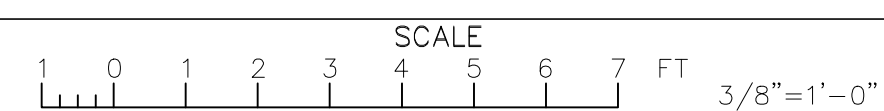
COLUMN TIES

NOTE: REFER TO FRAME F1 ELEVATION SHT TS6 FOR COLUMNS NOT INCLUDED

COLUMN SCHEDULE						
COLUMN MARK	A1.9 A1 B.7-1.9 B.7-1.9 E1	A2, A3 A8, C2, C3, C8	B2, B8 D2, D8	D3	E3	A1, B.7.1, E1, E2, E8
HIGH ROOF EL 39'-6"						
LOW ROOF EL 26'-6"			NO HK ON LINE B			
EL 24'-0"						
GROUND FLOOR HP EL 12'-0"	3-#9 20x30 8-#9T4	20x30 8-#9T1	20x24 6-#9T2	20x24 6-#9T2	20x30 8-#11T3	20x30 6-#9T2
T/PILE CAP EL VARIES						

See Supplemental Drawing SD-2 and SD-3

RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.



CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
STRUCTURAL
SECTIONS AND COLUMN SCHEDULE

PROJ NO. 202G
DWG TS9
SHEET
DATE DECEMBER 1991 REV 1

5H3B_OTS-009

KLEIN AND HOFFMAN, INC.
CONSULTING ENGINEERS
4350 W. CYPRESS STREET
TAMPA, FLORIDA 33607 - 4135
PROJECT NO. 4187

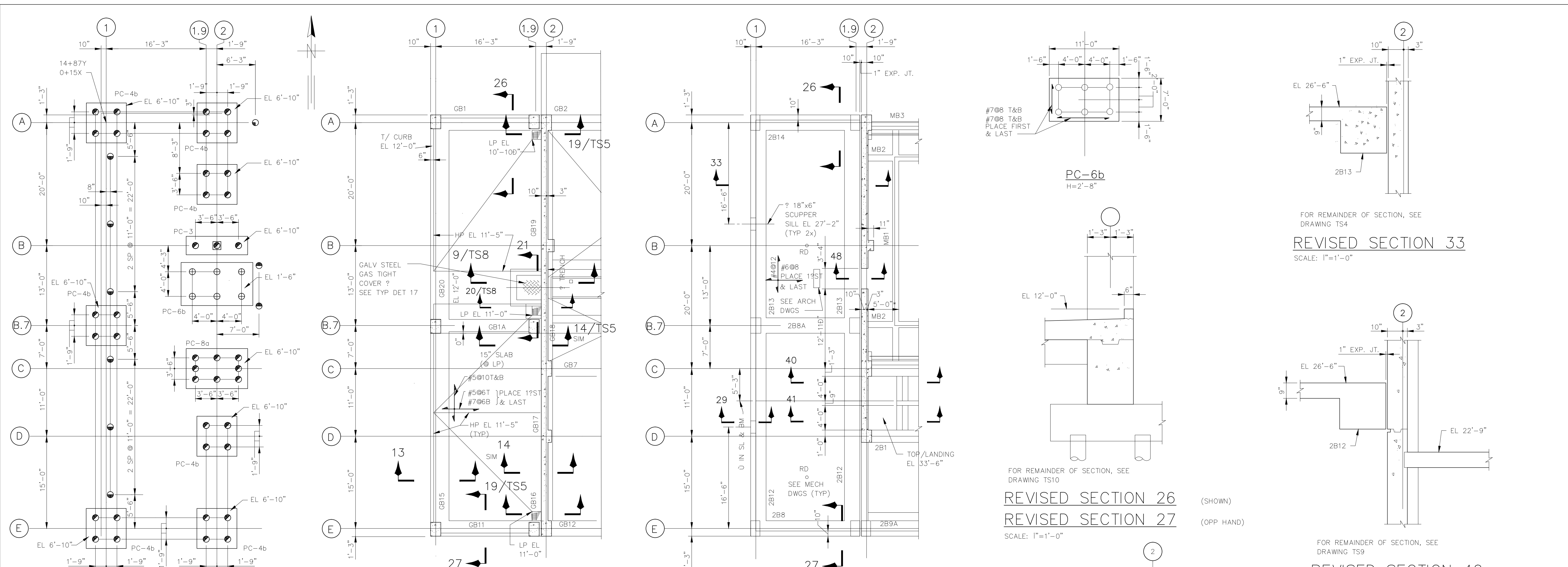
GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED WRC, JAH
DRAWN KCS
CHECKED WRC

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
1	8/7/96		RECORD DWG REVISIONS

FILE: H3B-TS09 SCALE: 1:1 09/09/1996 at 08:31 - *13.csh (hbrwre Lock)*



FOR REMAINDER OF PLAN, SEE DRAWING TS1
REVISED PILE PLAN
 SCALE: 1"=1'-0"

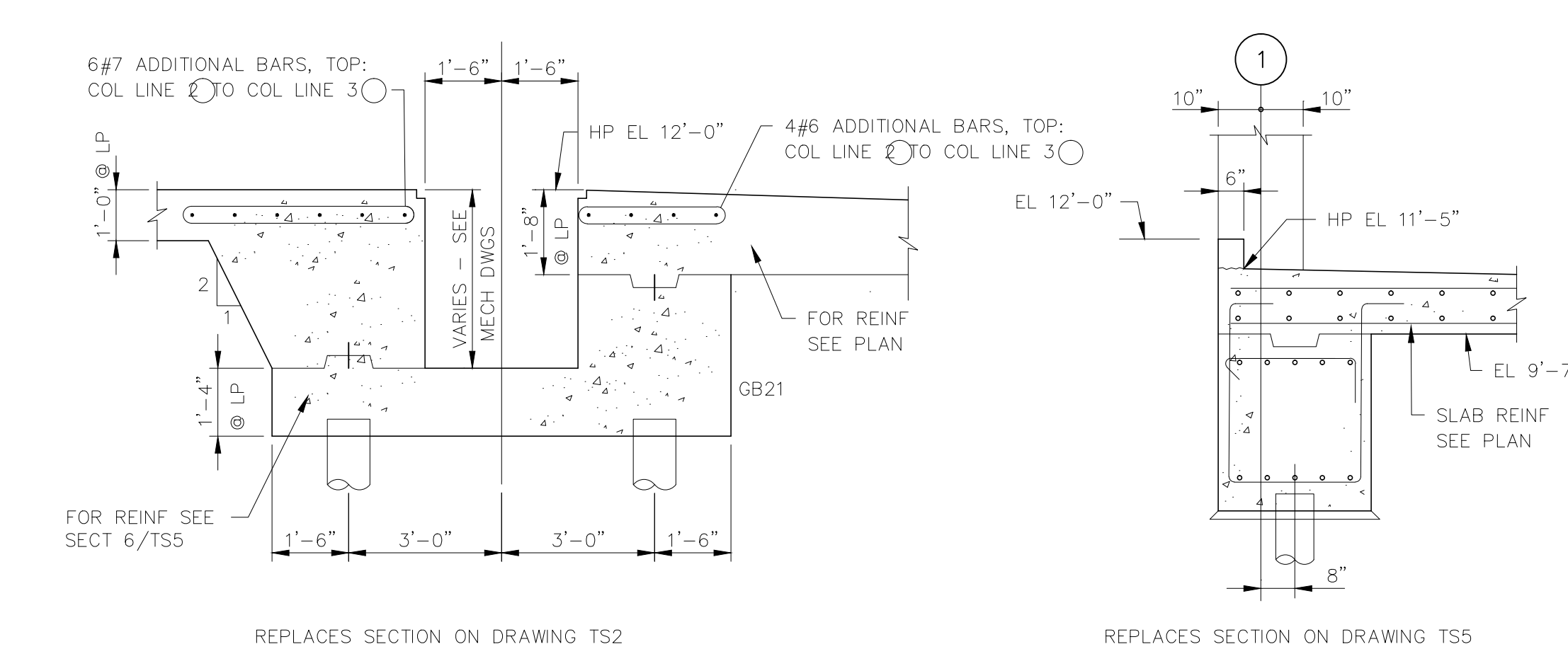
FOR REMAINDER OF PLAN, SEE DRAWING TS2
REVISED PLAN AT EL 12'-0"
 SCALE: 1"=1'-0"

FOR REMAINDER OF PLAN, SEE DRAWING TS3
REVISED PLAN AT EL 35'-0"
 SCALE: 1"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS10
REVISED SECTION 26 (SHOWN)
REVISED SECTION 27 (OPP HAND)
 SCALE: 1"=1'-0"

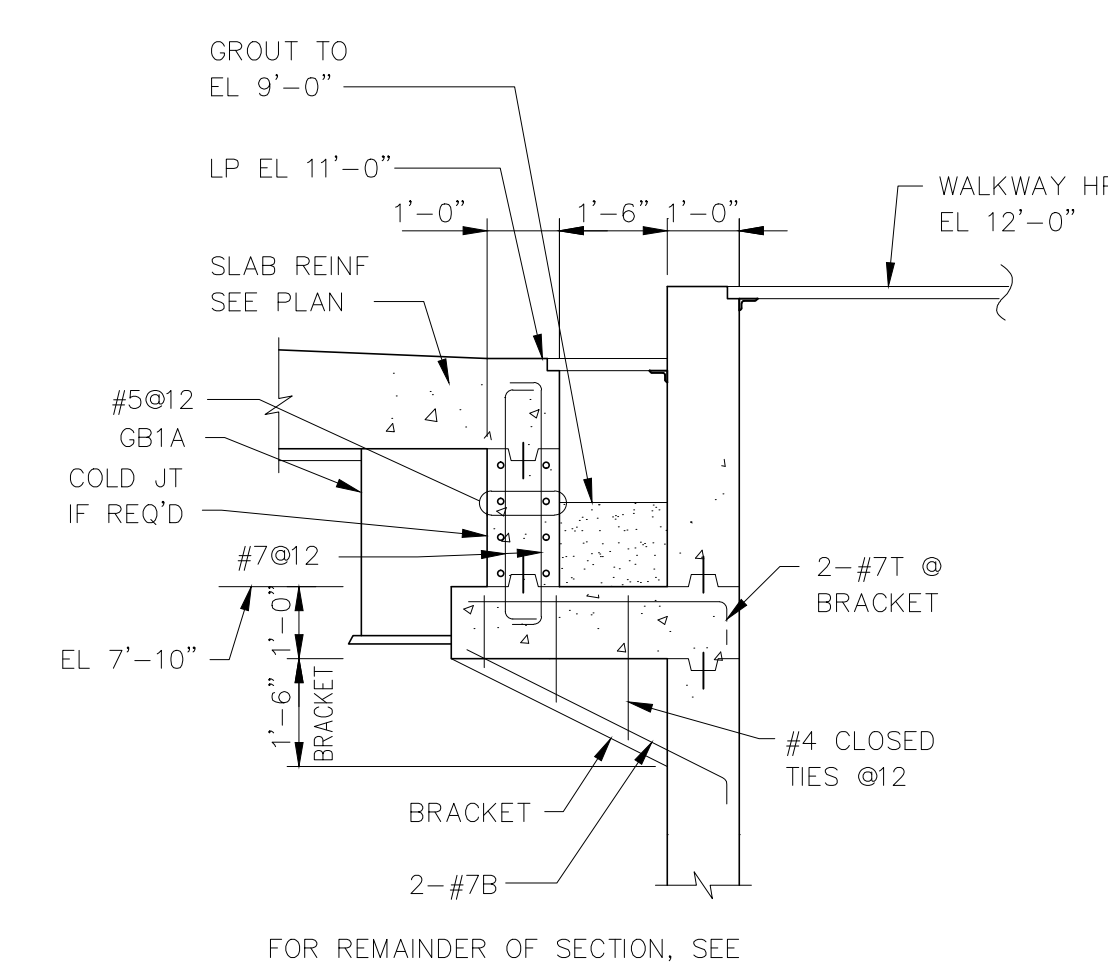
FOR REMAINDER OF SECTION, SEE DRAWING TS4
REVISED SECTION 33
 SCALE: 1"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS9
REVISED SECTION 40
REVISED SECTION 41
 SCALE: 1"=1'-0"

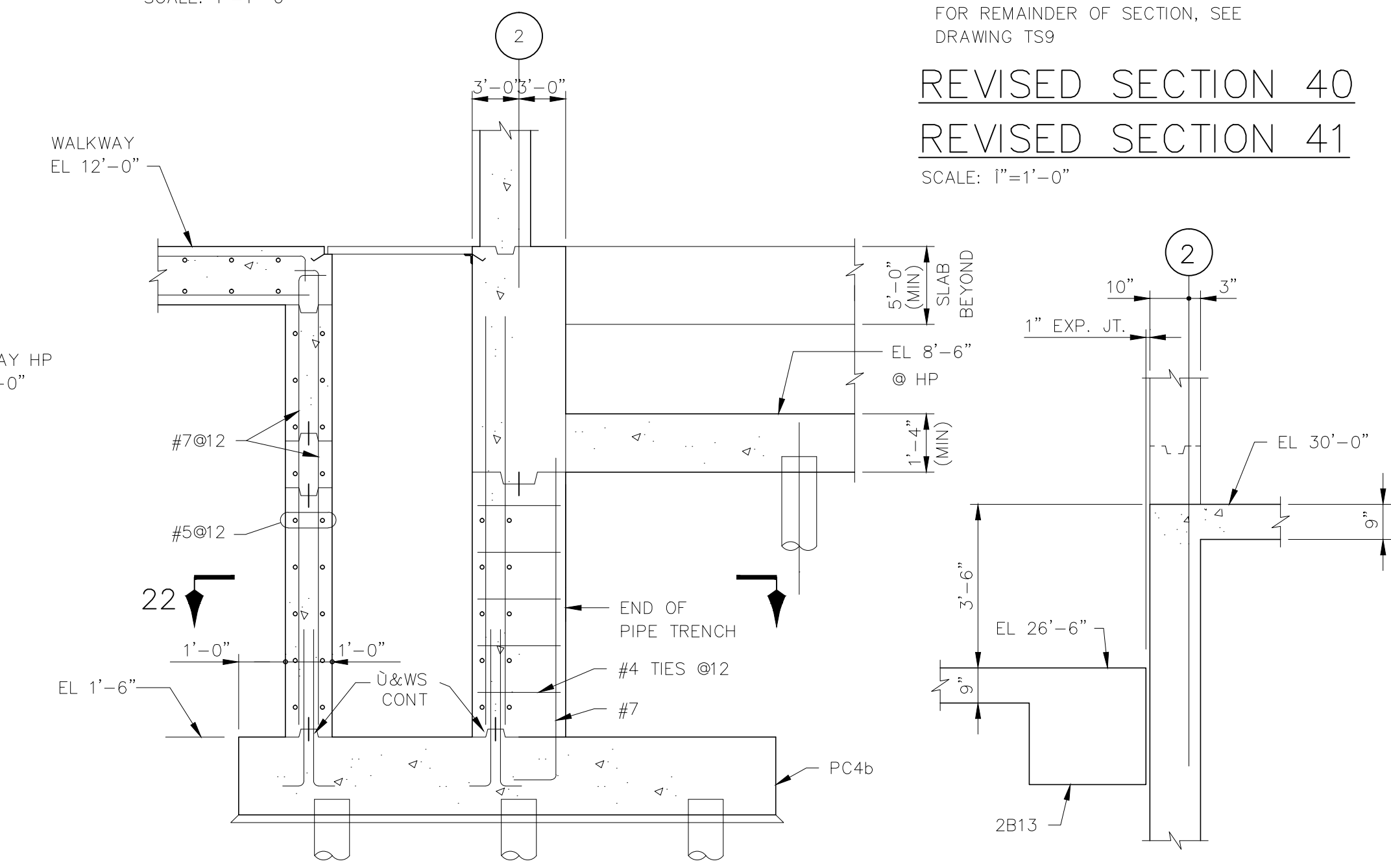


REPLACES SECTION ON DRAWING TS2
REVISED SECTION 4
 SCALE: 1"=1'-0"

REPLACES SECTION ON DRAWING TS5
REVISED SECTION 13
 SCALE: 1"=1'-0"



FOR REMAINDER OF SECTION, SEE DRAWING TS8
REVISED SECTION 21
 SCALE: 1"=1'-0"

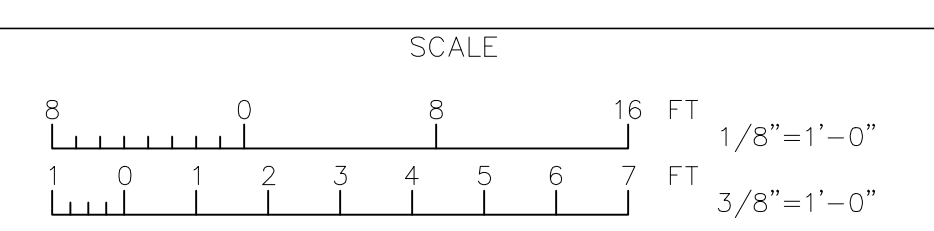


REPLACES SECTION ON DRAWING TS8
REVISED SECTION 9
 SCALE: 1"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS11
REVISED SECTION 48
 SCALE: 1"=1'-0"

KLEIN AND HOFFMAN, INC.
 CONSULTING ENGINEERS
 4350 W. CYPRESS STREET
 TAMPA, FLORIDA 33607 - 4135
 PROJECT NO. 4187

DESIGNED	JVT	APPROVED	
DRAWN	SKC	DATE	
CHECKED	SKC	DATE	
		GREELEY AND HANSEN, ENGINEERS	
		NO.	DATE
		APPD	REVISION



CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PLANT EXPANSION
 PHASE 1 DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
 STRUCTURAL
 REVISED PLANS, SECTIONS AND SCHEDULES

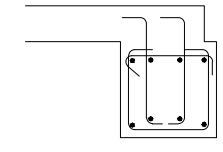
REVISES DRAWING NO. TS1-TS11

PROJ. NO.	202G
DWG	SD-2
SHEET	
DATE	MAY 1993
REV	0

5H3B_0TS-009A

REVISED BEAM SCHEDULE										FOR REMAINDER OF BEAM SCHEDULE, SEE DRAWINGS TS7 & TS8		
AREA	MARK	SIZE W X D	BOTT BARS	TOP BARS			W OR S SUPPORT	E OR N SUPPORT	STIRRUPS			REMARKS
				A	B	C			SIZE	SPA	EA END		TYPE
	GB1	30x52	6-#7	6-#7 A1		6-#7 C1			#4	Ø12 THROUGHOUT	S2	BEAM DEPTH TAKEN FROM EL 11'-5"
	GB11	30x52	6-#7	4-#7 A1		4-#7 C1			#4	Ø12	S2	BEAM DEPTH TAKEN FROM EL 11'-5"
	GB15	36x55	7-#7	5-#7 A1		5-#7 C1	COL B.7,1		#4	Ø6	S2	BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SEC 13/TS5
	GB16	24x62	6-#8*	6-#8 A1		6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB17	24x62	6-#8*			6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB18	24x62	6-#9*			6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB19	24x62	6-#8*	6-#8 A1					#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB20	36x55	7-#7	5-#7 A1					#4	Ø6	S2	BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SECT 13/TS5
	GB1A	24x52	6-#7	12 # A1					#4	Ø6	S4	BEAM DEPTH TAKEN FROM EL 11'-5" 1/2 A1 EACH END
	2B8A	30x24	4-#8	6-#9 A1					#4	Ø8	S6	1/2 A1 EACH END

* LAP SPLICE 3 NOS BOTTOM BARS AT SUPPORTS

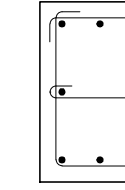


TYPE S4

NOTE:
PLAN, SECTIONS, BEAM SCHEDULE, COLUMN SCHEDULE AND OTHER DETAILS SHOWN HERE, SUPERSEDE THE RELEVANT DETAILS ON DRAWINGS TS1 THRU TS11.

COL. SCHEDULE	
COLUMN MARK	A1.9 A1 B.7-1.9 B.7-1 E1.9 E1
HIGH ROOF EL 39'-6"	
LOW ROOF EL 26'-6"	
GROUND FLOOR HP EL 12'-0"	3-#9 20x30 8-#9T4
T/PILE CAP EL VARIES	

FOR REMAINDER OF COLUMN SCHEDULE, SEE DRAWING TS9



T4

REVISED PILE SCHEDULE					
ITEM	MARK	NO. OF PILES	UPLIFT PILES	CUT-OFF ELEV.	REMARKS
	⊙	4	0	10'-8"	
	⊙	6	0	7'-2"	
	⊙	31	0	7'-3"	
	⊙	17	0	8'-10"	GENERATOR BASES (INCL. FUTURE BASE)
	⊙	8	0	7'-6"	GENERATOR BASES
	⊕	6	0	-0'-10"	
	⊙	21	0	10'-4"	
	⊙	3	0	7'-8"	
	⊙	24	0	(-) 3'-4"	
	⊙	24	0	5'-0"	
	⊙	93	0	4'-6"	
	⊕	10	0	4'-0"	
	⊕	23	0	6'-11"	

TOTAL NUMBER OF PILES THIS SCHEDULE = 270

REVISES DRAWING NO. TS1-TS11

KLEIN AND HOFFMAN, INC.

CONSULTING ENGINEERS
4350 W. CYPRESS STREET
TAMPA, FLORIDA 33607 - 4135

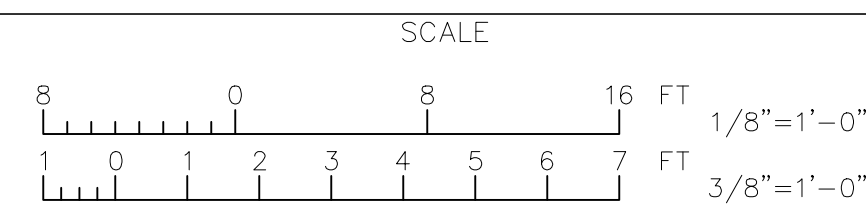
PROJECT NO. 4187

GREELEY AND HANSEN
ENGINEERS
4350 WEST CYPRESS STREET
TAMPA, FLORIDA 33607-4135

DESIGNED JVT
DRAWN SKC
CHECKED SKC

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
1	6/4/93	SKC	PILE SCHED. CUT-OFF ELEV.

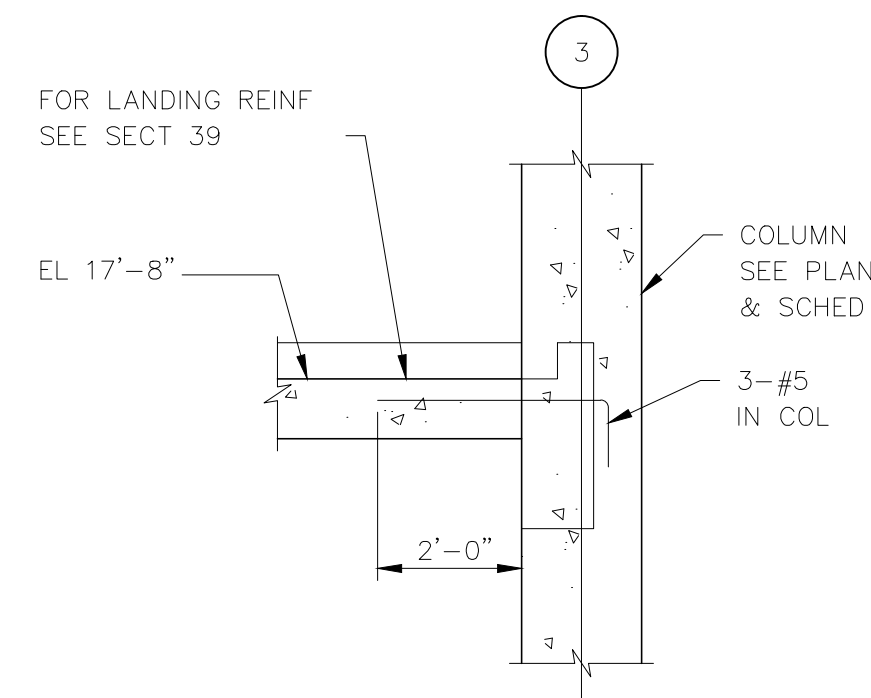


CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

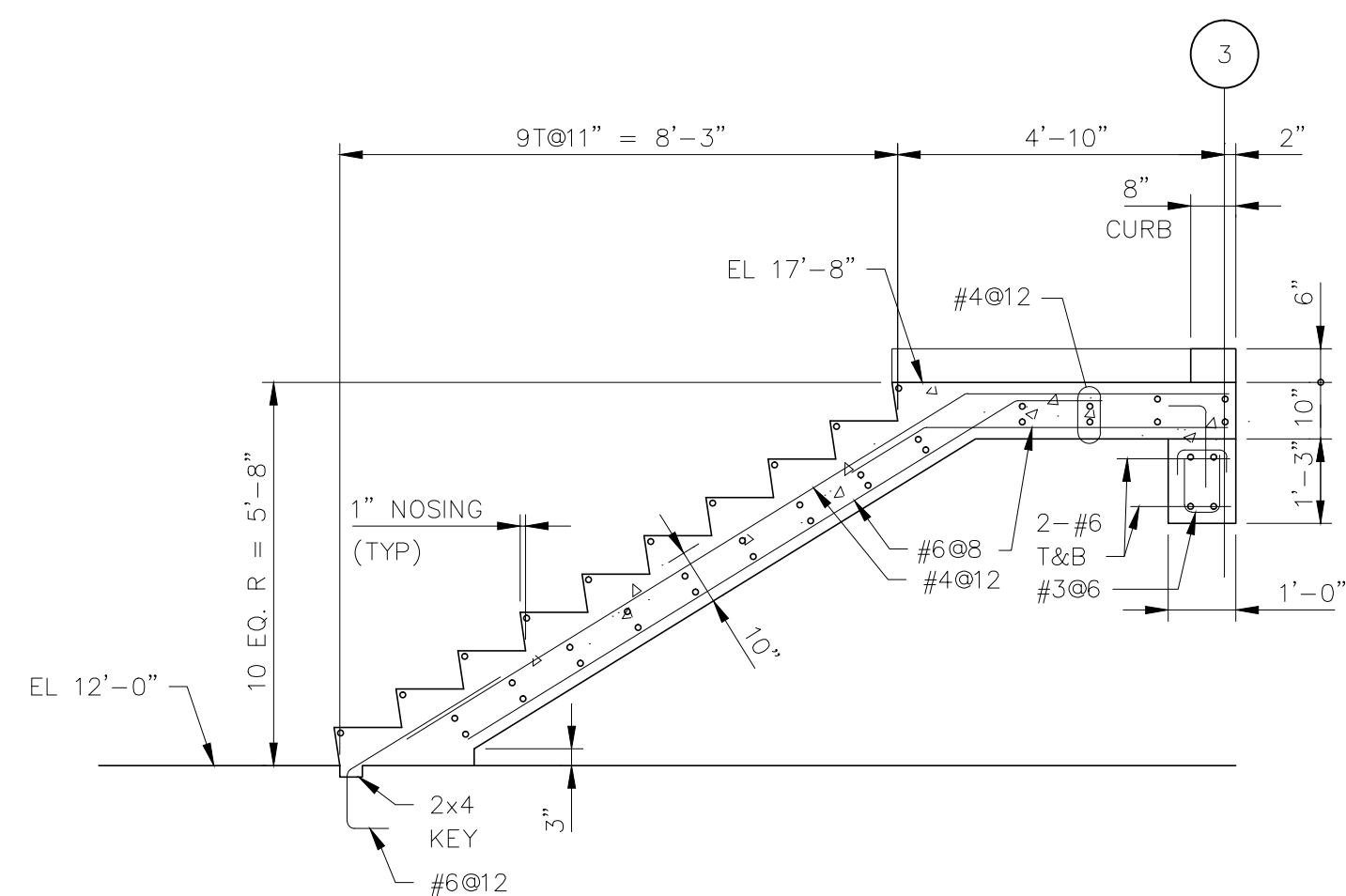
STANDBY POWER FACILITY
STRUCTURAL
REVISED PLANS, SECTIONS AND SCHEDULES

PROJ. NO.	202G
DWG	SD-3
SHEET	
DATE	MAY 1993
REV	1

5H3B_OTS-009B

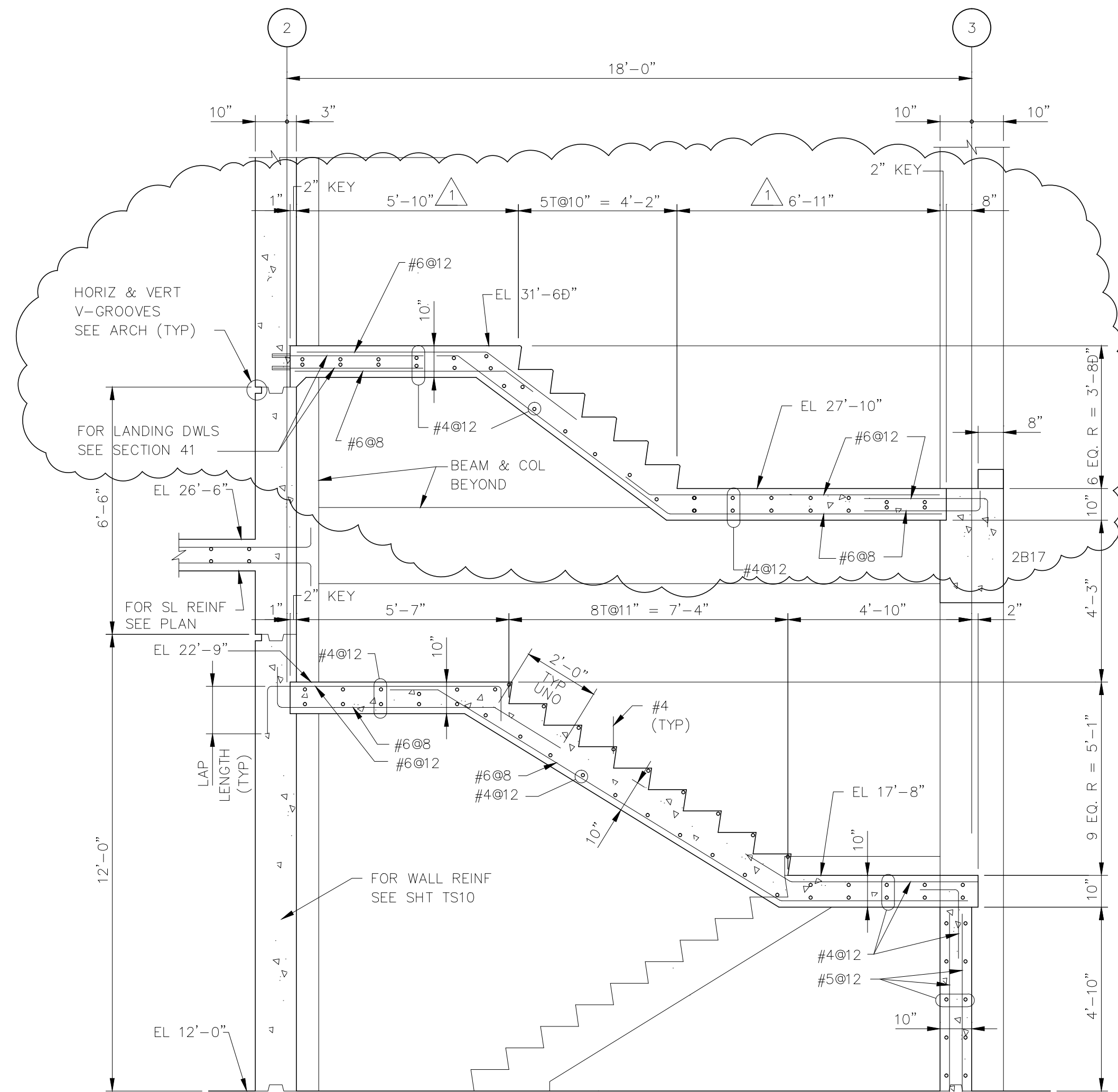


SECTION 38/TS3
SCALE: 1"=1'-0"



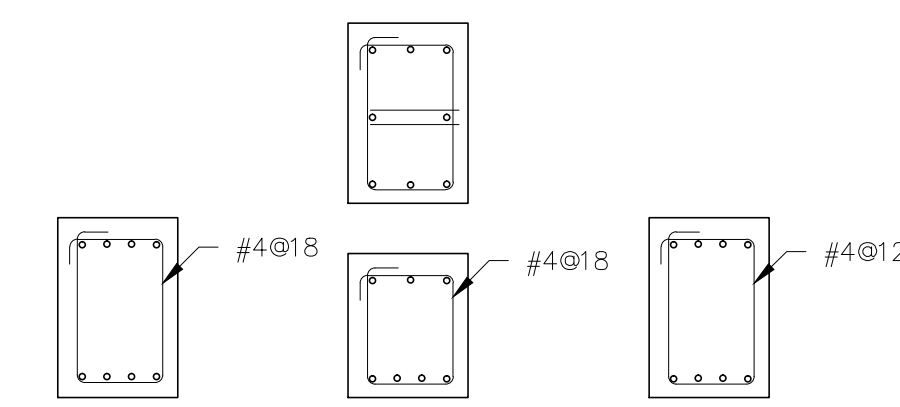
SECTION 33/TS3
SCALE: 1"=1'-0"

FLOOR SLAB AT EL 12'-0" & GRADE BMS NOT SHOWN



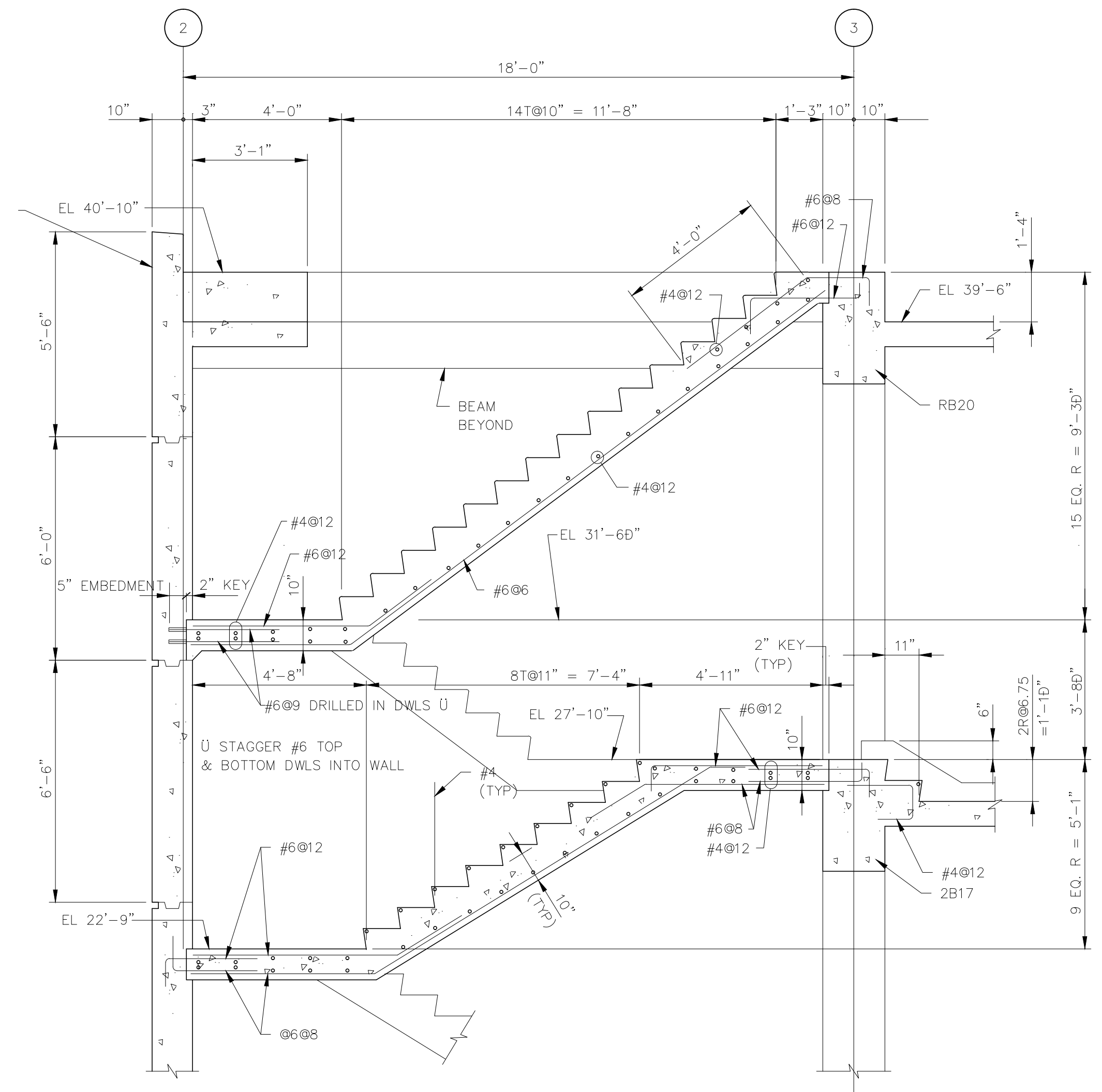
SECTION 40/TS3
SCALE: 1"=1'-0"

FLOOR SLAB AT EL 12'-0" & GRADE BMS NOT SHOWN



COLUMN TIES

NOTE: REFER TO FRAME F1 ELEVATION SHT T56 FOR COLUMNS NOT INCLUDED



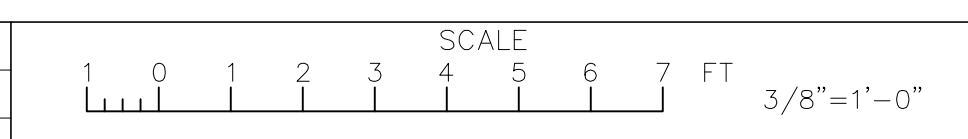
SECTION 41/TS3, 4
SCALE: 1"=1'-0"

COLUMN SCHEDULE						
COLUMN MARK	A1.9 A1 B.7-1.9 B.7-1.9 E1	A2, A3 A8, C2, C3, C8	B2, B8 D2, D8	D3	E3	A1, B.7.1, E1, E2, E8
HIGH ROOF EL 39'-6"						
LOW ROOF EL 26'-6"			NO HK ON LINE B			
EL 24'-0"						
GROUND FLOOR HP EL 12'-0"	3-#9 20x30 8-#9T4	20x30 8-#9T1	20x24 6-#9T2	20x24 6-#9T2	20x30 8-#11T3	20x30 6-#9T2
T/PILE CAP EL VARIES						

FILE: H352043 SCALE: 1:1 08/07, 1996 at 10:41 - *13_c4h (Hardware Lock)*

KLEIN AND HOFFMAN, INC.
CONSULTING ENGINEERS
4350 W. CYPRESS STREET
TAMPA, FLORIDA 33607 - 4135
PROJECT NO. 4187

DESIGNED	WRC, JAH	APPROVED	DATE		
DRAWN	KCS				
CHECKED	WRC				
		GREELEY AND HANSEN, ENGINEERS	NO.	DATE	APPD.

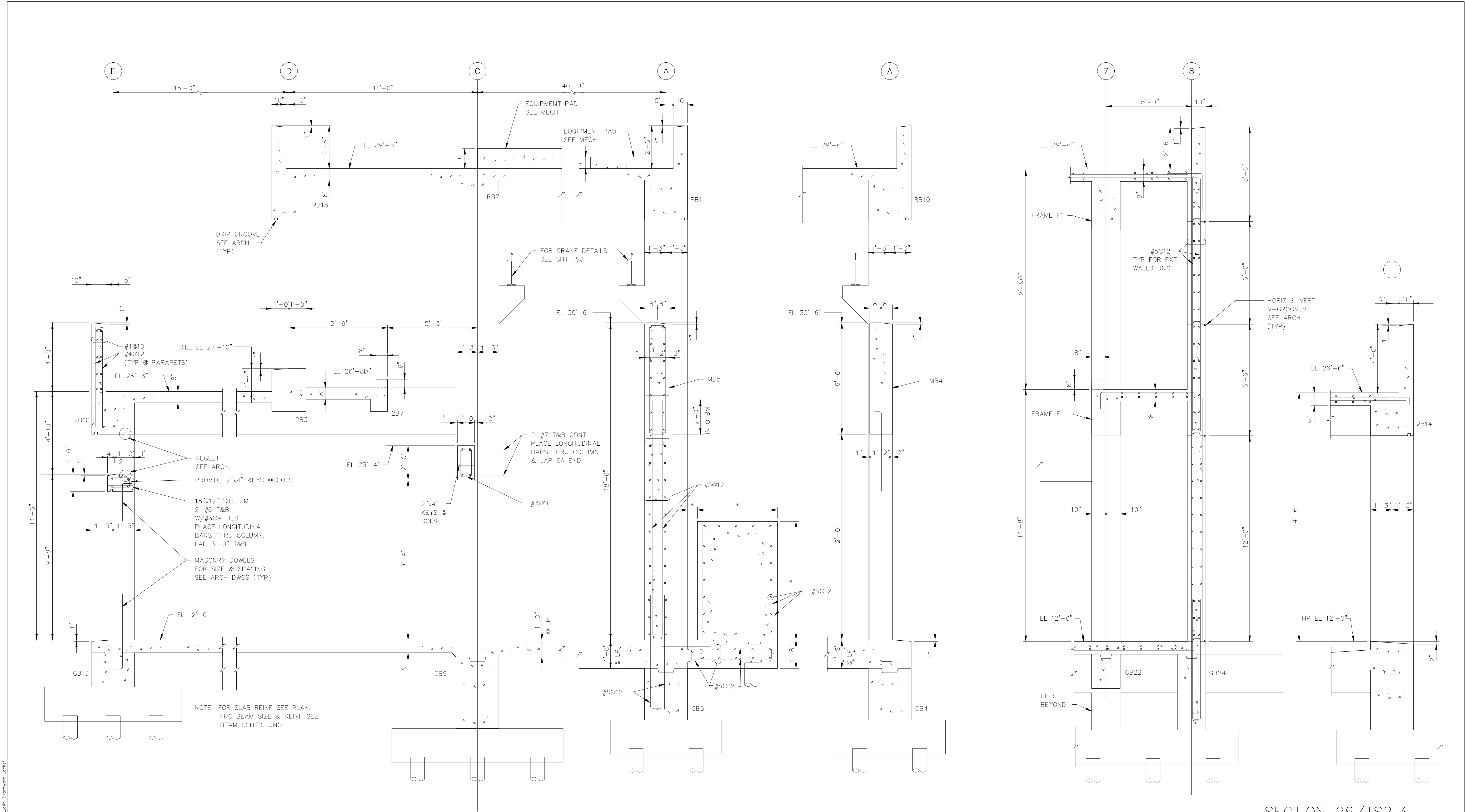


CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
STRUCTURAL
SECTIONS AND COLUMN SCHEDULE

PROJ. NO.	202G
DWG	TS9
SHEET	
DATE	DECEMBER 1991
REV	2

5H3B_0TS-009C



SECTION 23/TS2,3,4
SCALE: 1"=1'-0"

SECTION 24/TS2,3,4
SCALE: 1"=1'-0"

SECTION 25/TS2,3,4
SCALE: 1"=1'-0"

SECTION 26/TS2,3 (SHOWN)
SECTION 27/TS2,3 (OPP HAND)
SCALE: 1"=1'-0"

See Supplemental Drawing SD-2 and SD-3

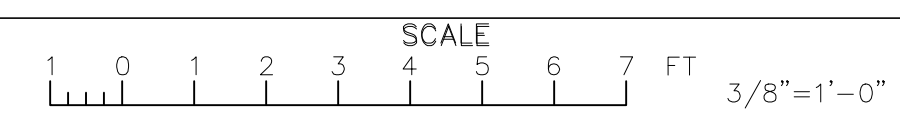
RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

FILE: HSB-TS10 SCALE: 1/8"=1'-0" DATE: 11/15/96 11:54:44 AM

KLEIN AND HOFFMAN, INC.
CONSULTING ENGINEERS
4350 W. CYPRESS STREET
TAMPA, FLORIDA 33607 - 4135
PROJECT NO. 4187

GREELEY AND HANSEN ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED	WRC, JAH	APPROVED	DATE
DRAWN	KCS		
CHECKED	WRC		
GREELEY AND HANSEN, ENGINEERS		NO.	DATE
		2	8/15/96
		APPD	REVISION
			RECORD DWG REVISIONS

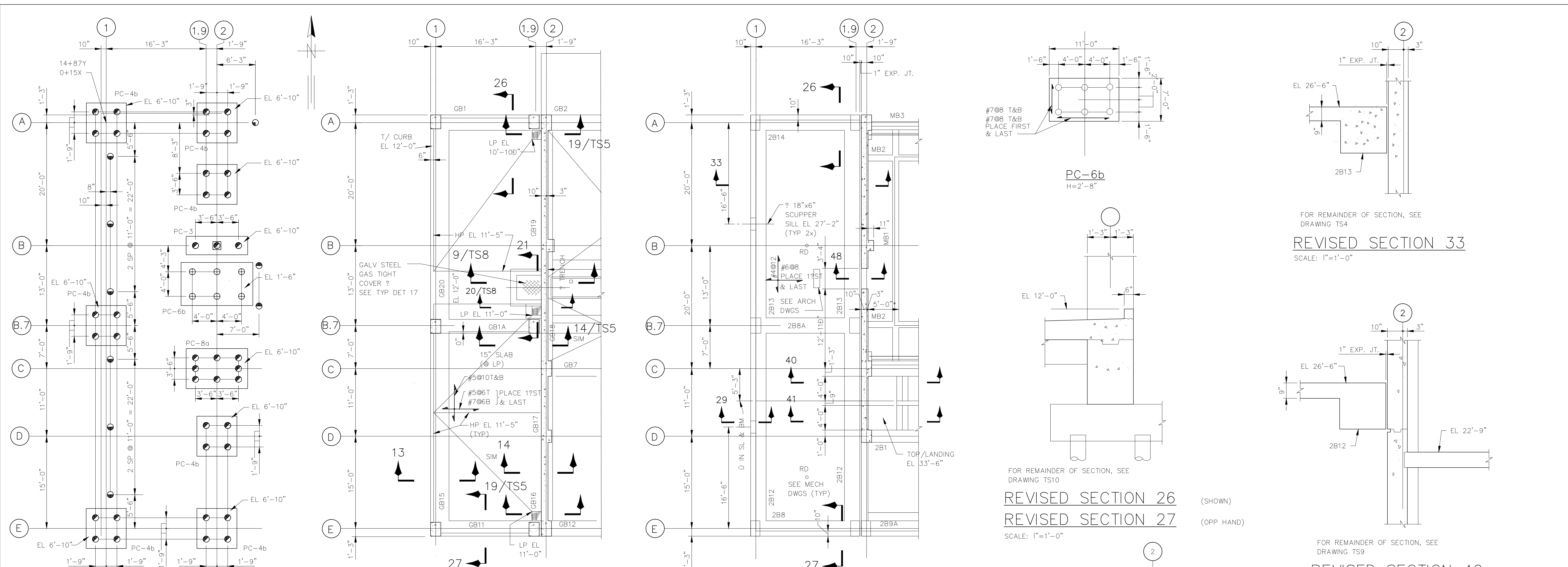


CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
STRUCTURAL
SECTIONS

PROJ NO.	202G
DWG	TS10
SHEET	
DATE	DECEMBER 1991
REV	2

5H3B-TS-010



FOR REMAINDER OF PLAN, SEE DRAWING TS1
REVISED PILE PLAN
 SCALE: 1/8"=1'-0"

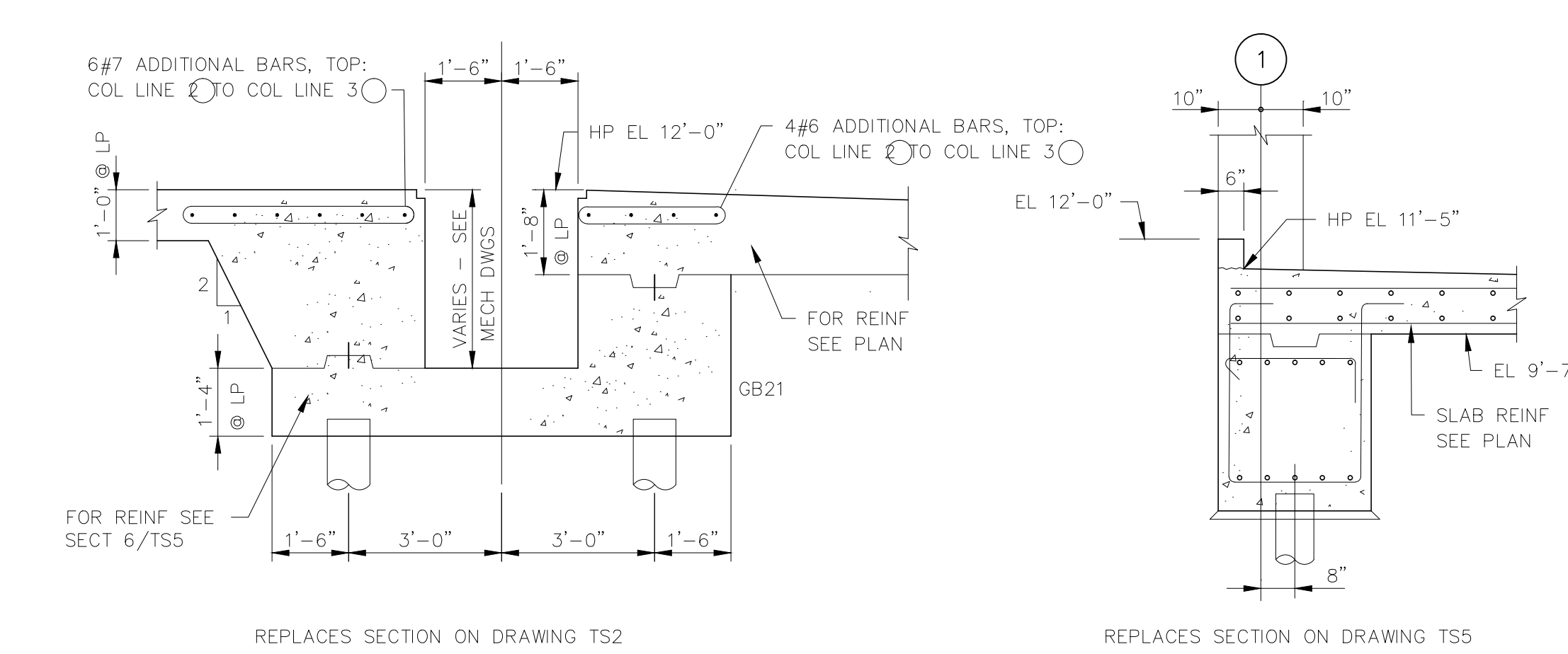
FOR REMAINDER OF PLAN, SEE DRAWING TS2
REVISED PLAN AT EL 12'-0"
 SCALE: 1/8"=1'-0"

FOR REMAINDER OF PLAN, SEE DRAWING TS3
REVISED PLAN AT EL 35'-0"
 SCALE: 1/8"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS10
REVISED SECTION 26 (SHOWN)
REVISED SECTION 27 (OPP HAND)
 SCALE: 1/8"=1'-0"

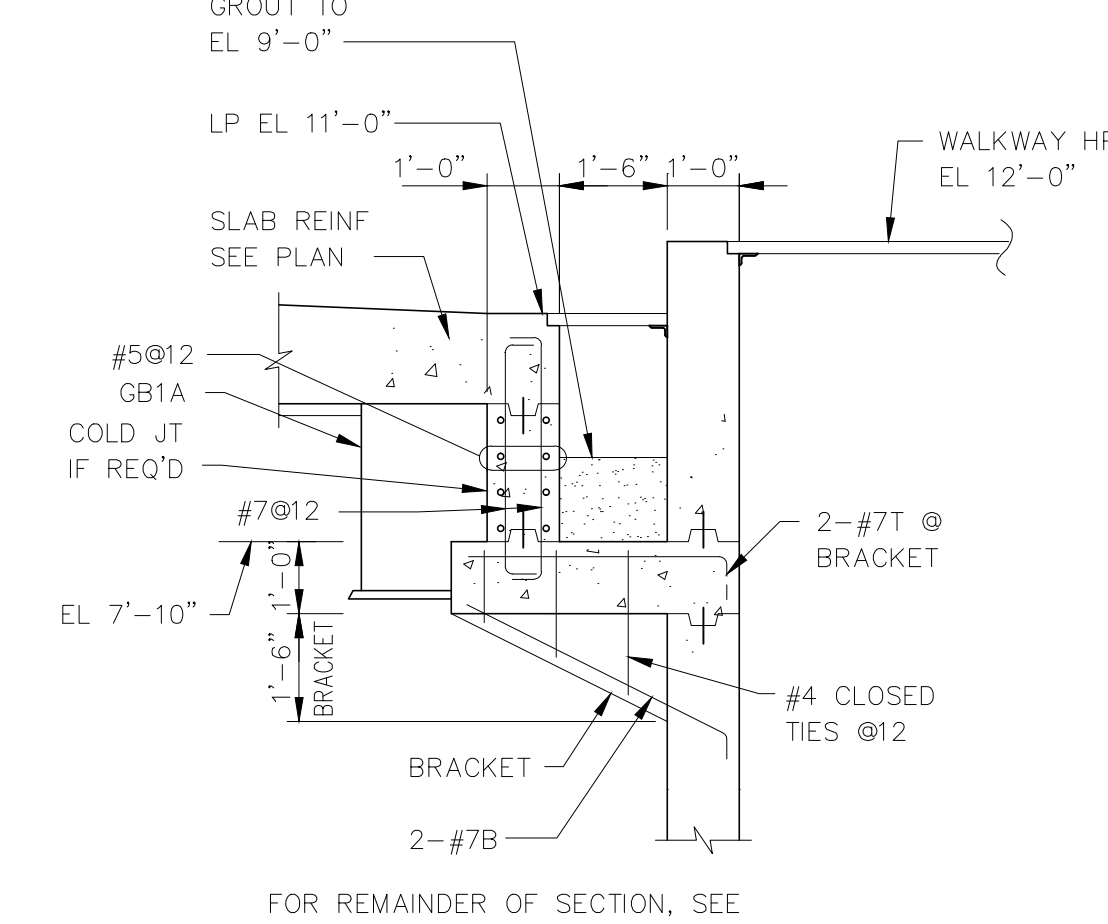
FOR REMAINDER OF SECTION, SEE DRAWING TS4
REVISED SECTION 33
 SCALE: 1/8"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS9
REVISED SECTION 40
REVISED SECTION 41
 SCALE: 1/8"=1'-0"

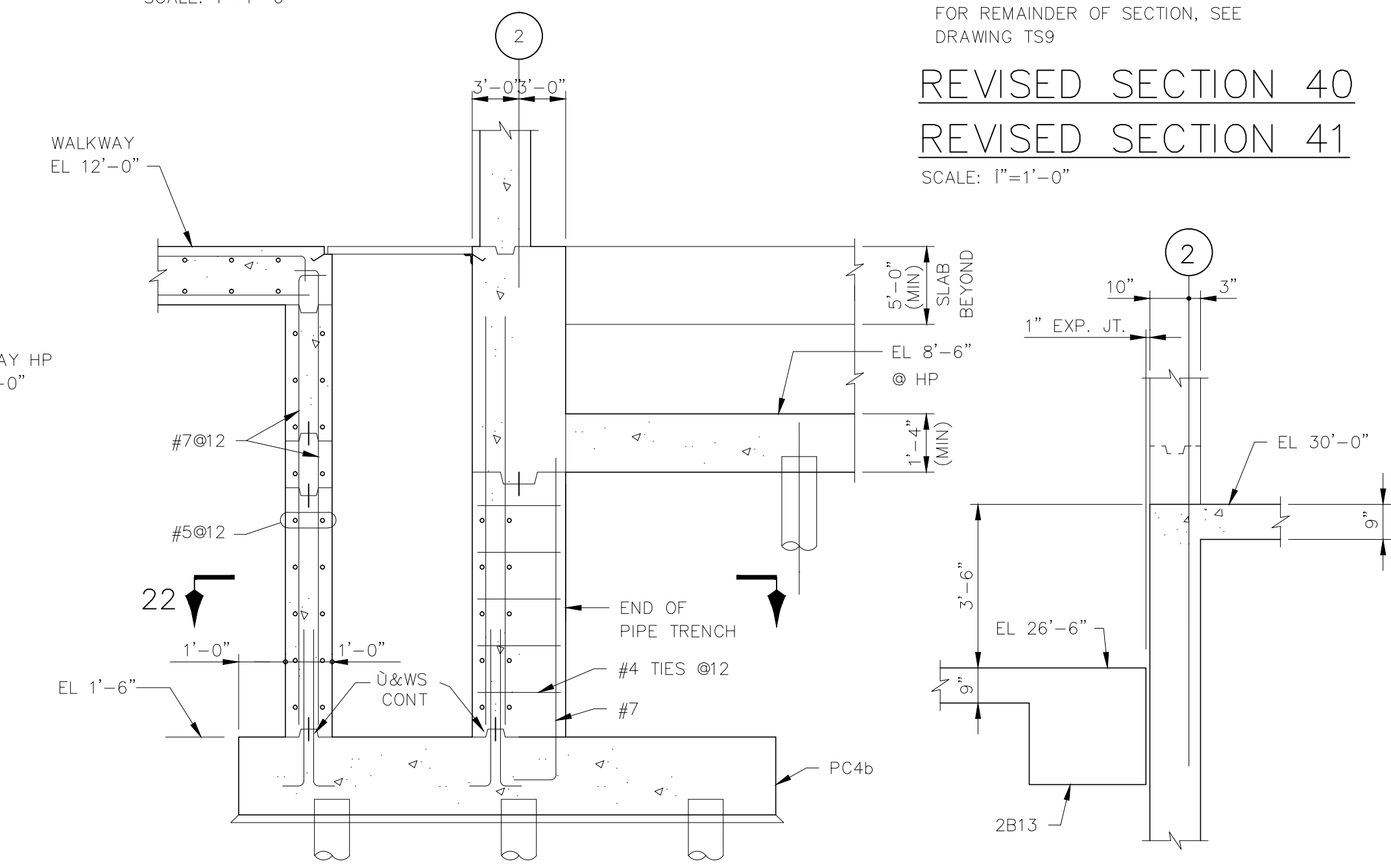


REPLACES SECTION ON DRAWING TS2
REVISED SECTION 4
 SCALE: 1/8"=1'-0"

REPLACES SECTION ON DRAWING TS5
REVISED SECTION 13
 SCALE: 1/8"=1'-0"



FOR REMAINDER OF SECTION, SEE DRAWING TS8
REVISED SECTION 21
 SCALE: 1/8"=1'-0"

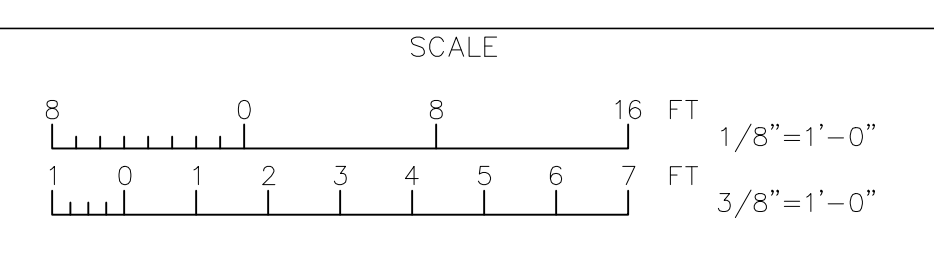


REPLACES SECTION ON DRAWING TS8
REVISED SECTION 9
 SCALE: 1/8"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS11
REVISED SECTION 48
 SCALE: 1/8"=1'-0"

KLEIN AND HOFFMAN, INC.
 CONSULTING ENGINEERS
 4350 W. CYPRESS STREET
 TAMPA, FLORIDA 33607 - 4135
 PROJECT NO. 4187

DESIGNED	JVT	APPROVED	
DRAWN	SKC	DATE	
CHECKED	SKC	DATE	
		GREELEY AND HANSEN, ENGINEERS	
		NO.	DATE
		APPD	REVISION



CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PLANT EXPANSION
 PHASE 1 DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
 STRUCTURAL
 REVISED PLANS, SECTIONS AND SCHEDULES

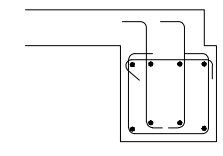
REVISES DRAWING NO. TS1-TS11

PROJ. NO.	202G
DWG	SD-2
SHEET	
DATE	MAY 1993
REV	0

5H3B_0TS-010A

REVISED BEAM SCHEDULE										FOR REMAINDER OF BEAM SCHEDULE, SEE DRAWINGS TS7 & TS8		
AREA	MARK	SIZE W X D	BOTT BARS	TOP BARS			W OR S SUPPORT	E OR N SUPPORT	STIRRUPS			REMARKS
				A	B	C			SIZE	SPA	EA END		TYPE
	GB1	30x52	6-#7	6-#7 A1		6-#7 C1			#4	Ø12 THROUGHOUT	S2	BEAM DEPTH TAKEN FROM EL 11'-5"
	GB11	30x52	6-#7	4-#7 A1		4-#7 C1			#4	Ø12	S2	BEAM DEPTH TAKEN FROM EL 11'-5"
	GB15	36x55	7-#7	5-#7 A1		5-#7 C1		COL B.7,1	#4	Ø6	S2	BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SEC 13/TSS
	GB16	24x62	6-#8*	6-#8 A1		6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB17	24x62	6-#8*			6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB18	24x62	6-#9*			6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB19	24x62	6-#8*	6-#8 A1					#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB20	36x55	7-#7	5-#7 A1					#4	Ø6	S2	BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SECT 13/TSS
	GB1A	24x52	6-#7	12 # A1					#4	Ø6	S4	BEAM DEPTH TAKEN FROM EL 11'-5" 1/2 A1 EACH END
	2B8A	30x24	4-#8	6-#9 A1					#4	Ø8	S6	1/2 A1 EACH END

* LAP SPLICE 3 NOS BOTTOM BARS AT SUPPORTS

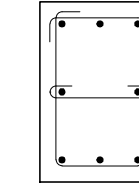


TYPE S4

NOTE:
PLAN, SECTIONS, BEAM SCHEDULE, COLUMN SCHEDULE AND OTHER DETAILS SHOWN HERE, SUPERSEDE THE RELEVANT DETAILS ON DRAWINGS TS1 THRU TS11.

COL. SCHEDULE	
COLUMN MARK	A1.9 A1 B.7-1.9 B.7-1 E1.9 E1
HIGH ROOF EL 39'-6"	
LOW ROOF EL 26'-6"	
GROUND FLOOR HP EL 12'-0"	3-#9 20x30 8-#9T4
T/PILE CAP EL VARIES	

FOR REMAINDER OF COLUMN SCHEDULE, SEE DRAWING TS9



T4

REVISED PILE SCHEDULE					
ITEM	MARK	NO. OF PILES	UPLIFT PILES	CUT-OFF ELEV.	REMARKS
	⊙	4	0	10'-8"	
	⊙	6	0	7'-2"	
	⊙	31	0	7'-3"	
	⊙	17	0	8'-10"	GENERATOR BASES (INCL. FUTURE BASE)
	⊙	8	0	7'-6"	GENERATOR BASES
	⊕	6	0	-0'-10"	
	⊙	21	0	10'-4"	
	⊙	3	0	7'-8"	
	⊙	24	0	(-) 3'-4"	
	⊙	24	0	5'-0"	
	⊙	93	0	4'-6"	
	⊕	10	0	4'-0"	
	⊕	23	0	6'-11"	

TOTAL NUMBER OF PILES THIS SCHEDULE = 270

REVISES DRAWING NO. TS1-TS11

KLEIN AND HOFFMAN, INC.

CONSULTING ENGINEERS
4350 W. CYPRESS STREET
TAMPA, FLORIDA 33607 - 4135

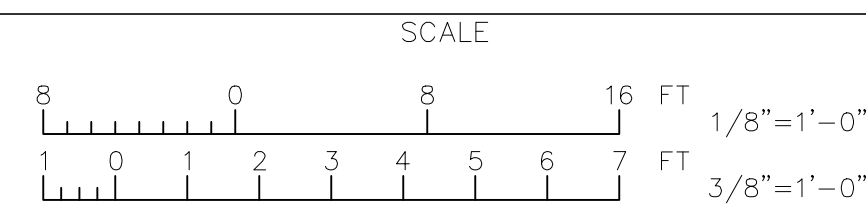
PROJECT NO. 4187

GREELEY AND HANSEN
ENGINEERS
4350 WEST CYPRESS STREET
TAMPA, FLORIDA 33607-4135

DESIGNED JVT
DRAWN SKC
CHECKED SKC

APPROVED _____
DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
1	6/4/93	SKC	PILE SCHED. CUT-OFF ELEV.

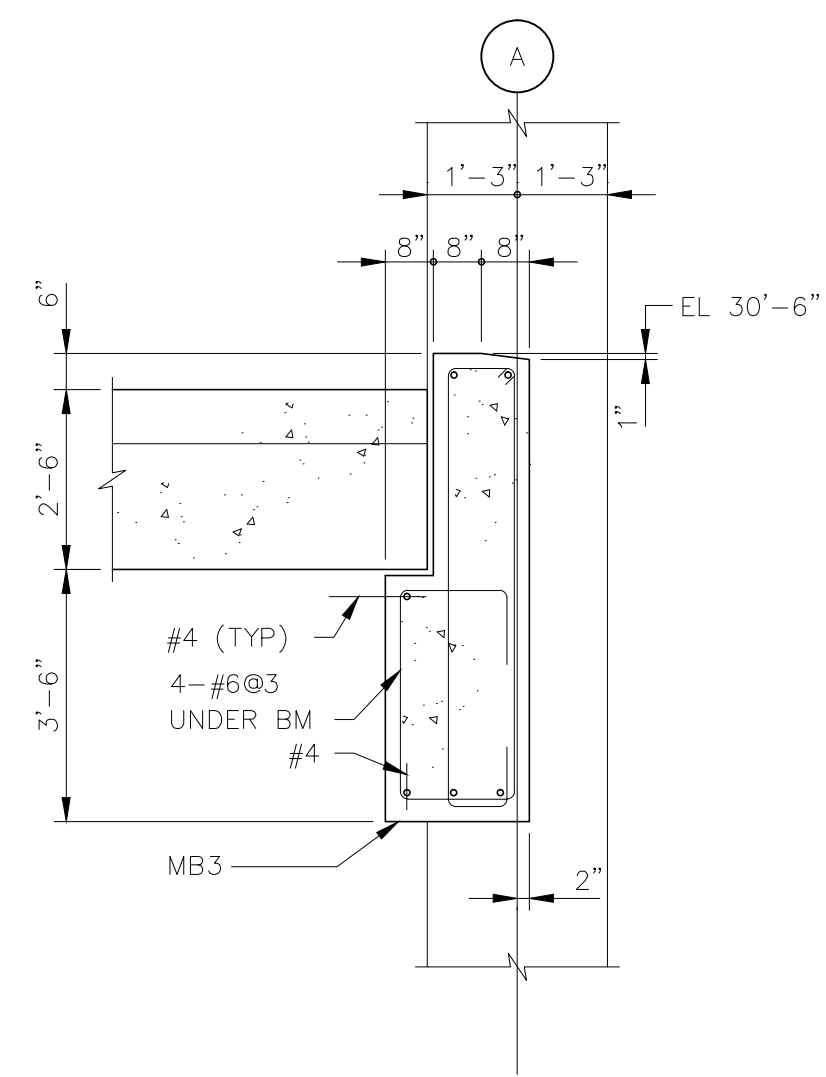


CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

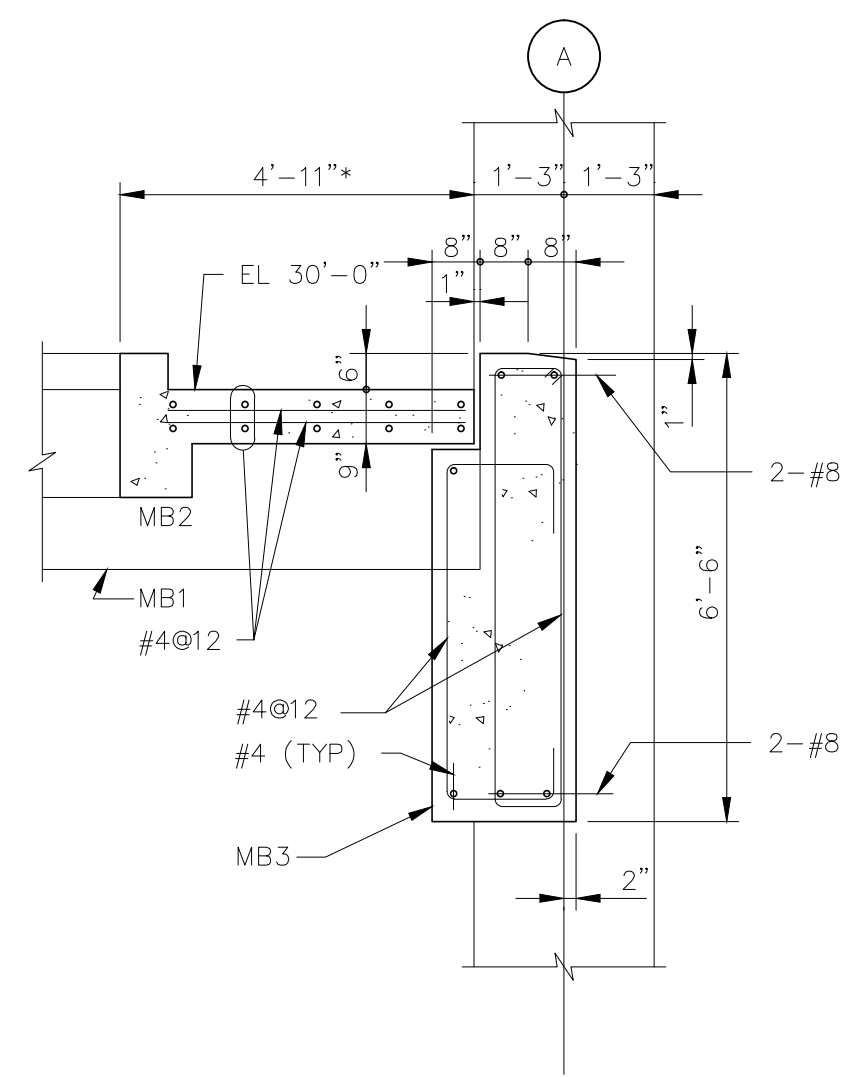
STANDBY POWER FACILITY
STRUCTURAL
REVISED PLANS, SECTIONS AND SCHEDULES

PROJ. NO. 202G
DWG SD-3
SHEET
DATE MAY 1993 REV 1

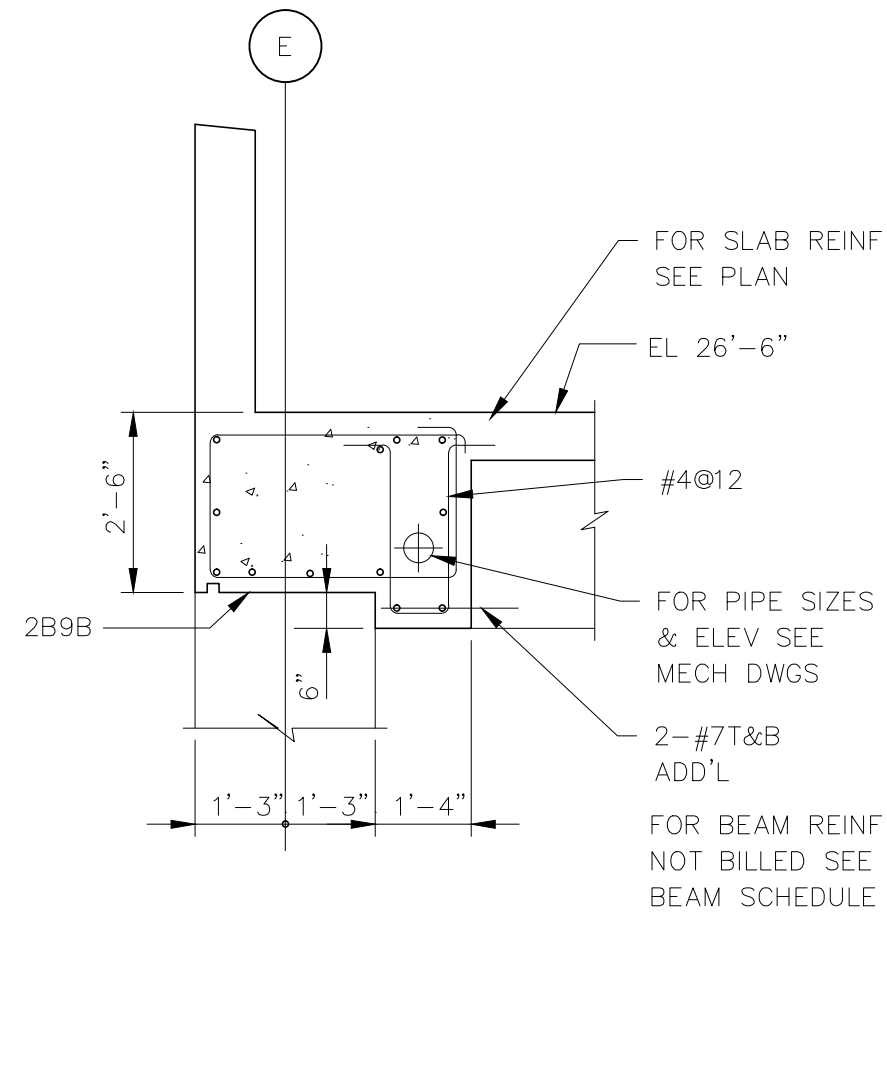
5H3B_OTS-010B



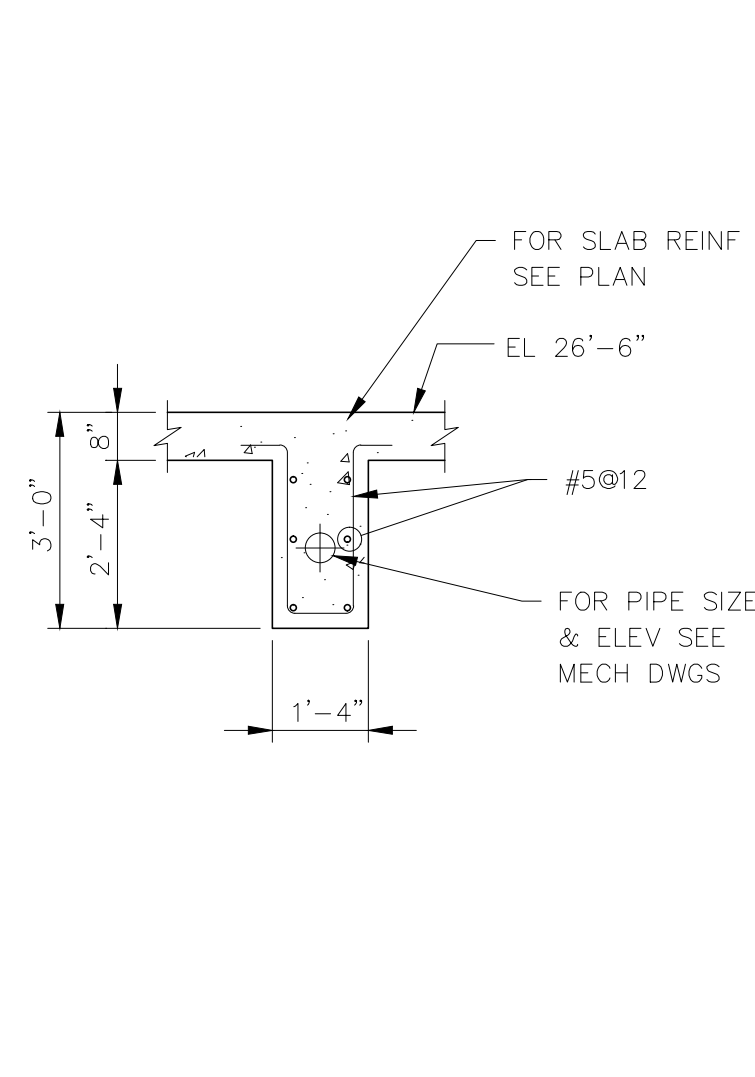
SECTION 36/TS3
SCALE: 1"=1'-0"



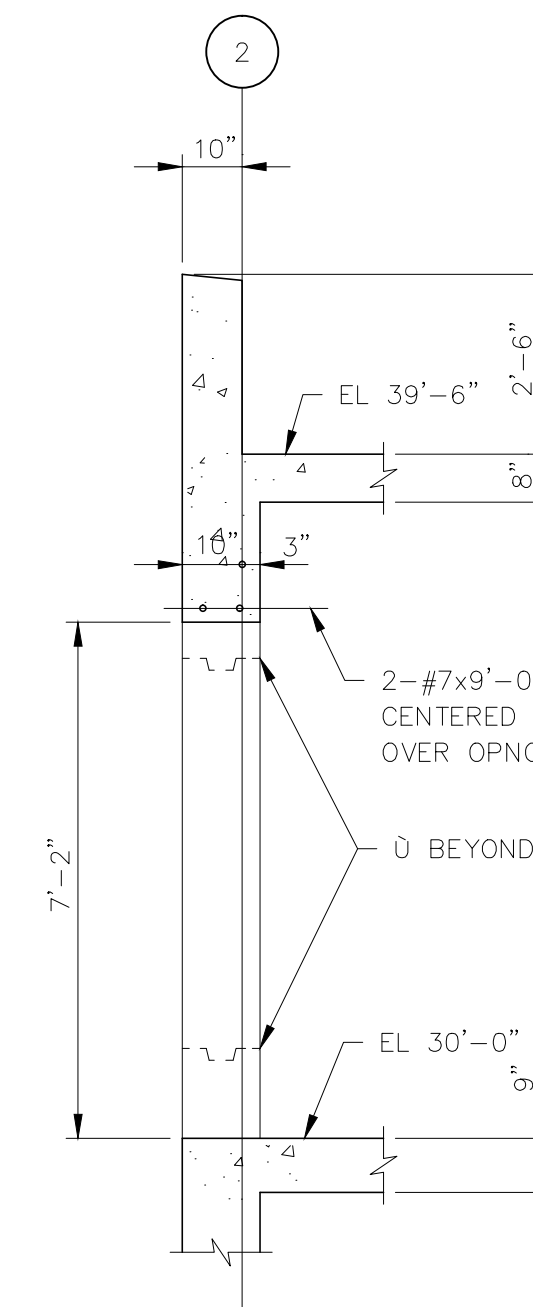
SECTION 37/TS3
SCALE: 1"=1'-0"



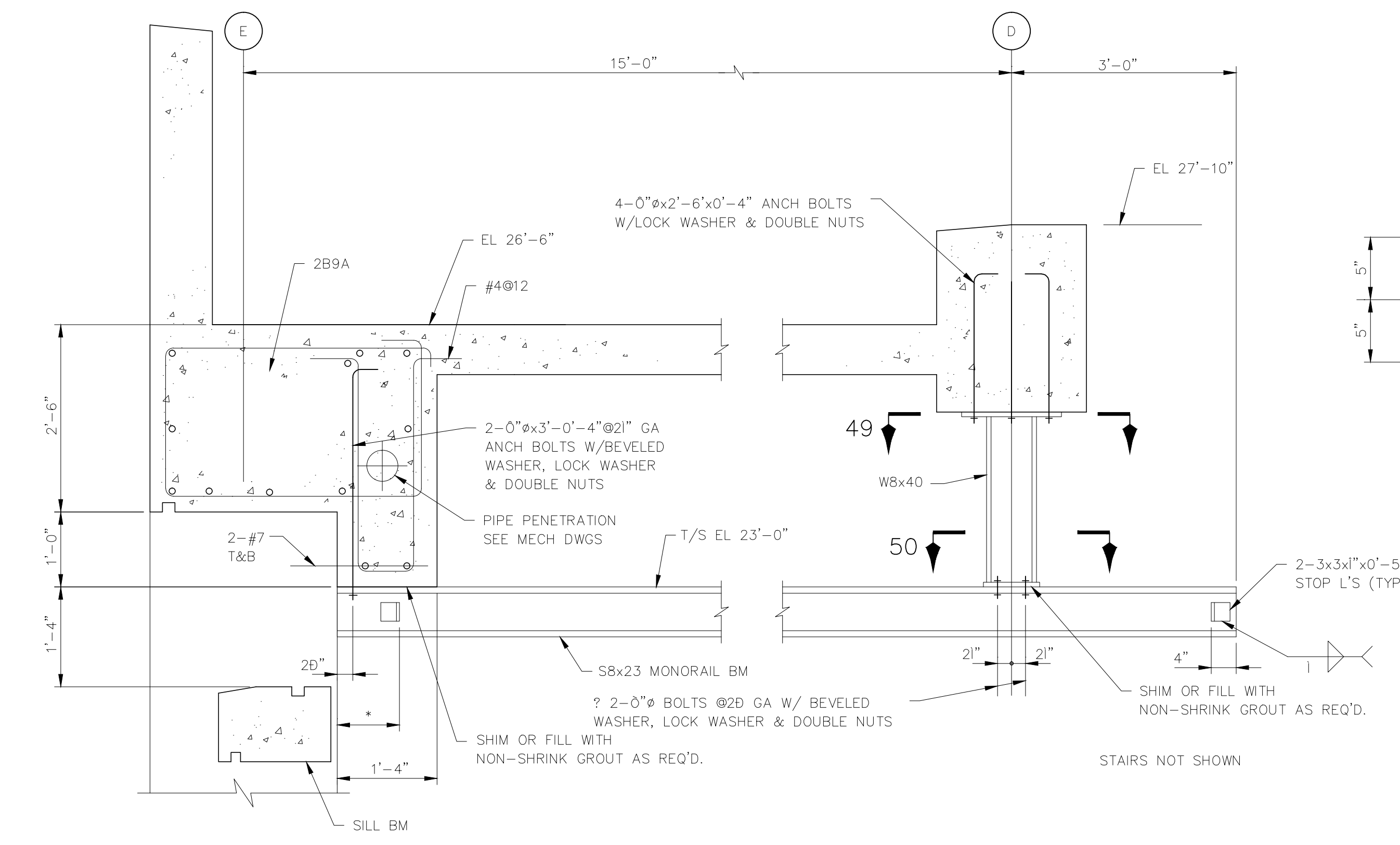
SECTION 42/TS3
SCALE: 1"=1'-0"



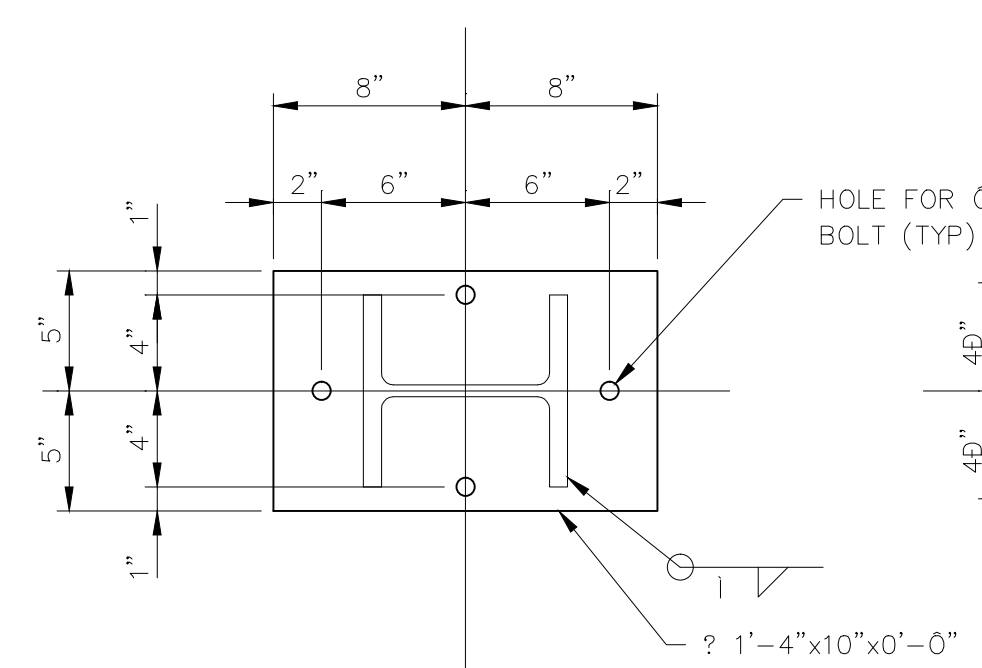
SECTION 43/TS3
SCALE: 1"=1'-0"



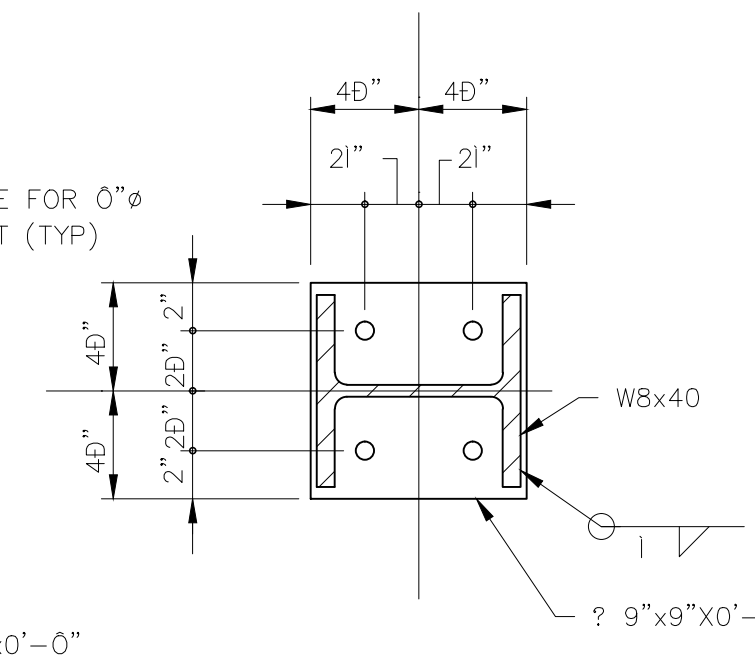
SECTION 48/TS3,4
SCALE: 1"=1'-0"



SECTION 44/TS3
SCALE: 0"=1'-0"



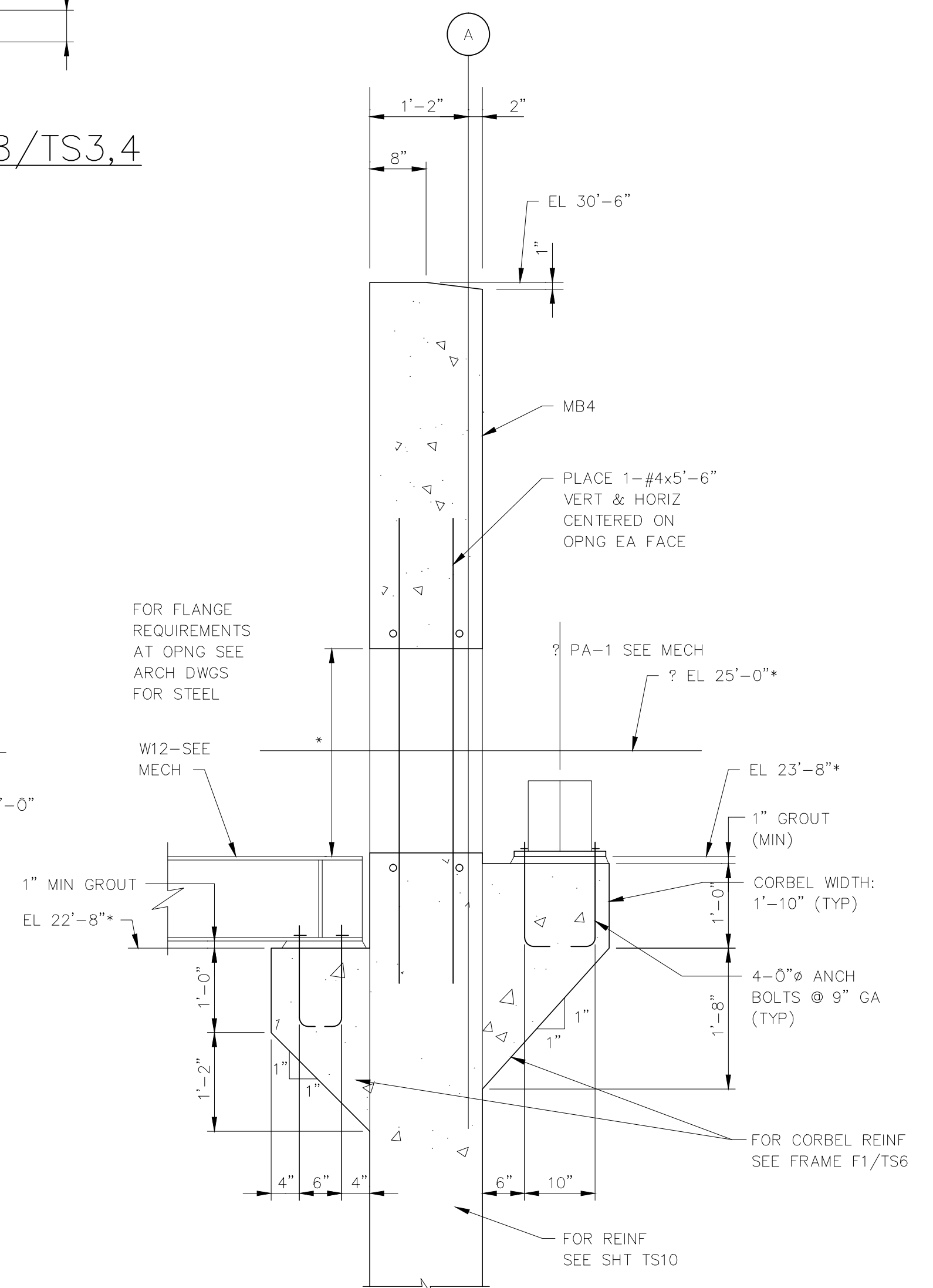
TOP PLATE



BASE PLATE

SECTION 49
SCALE: 1D"=1'-0"

SECTION 50
SCALE: 1D"=1'-0"



SECTION 45/TS3
SCALE: 0"=1'-0"

RECORD DRAWING.
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

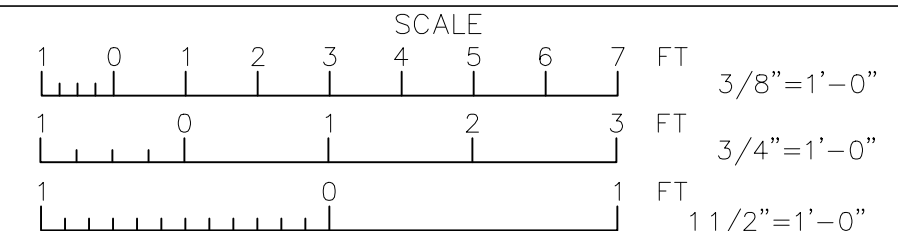
KLEIN AND HOFFMAN, INC.
CONSULTING ENGINEERS
4350 W. CYPRESS STREET
TAMPA, FLORIDA 33607 - 4135
PROJECT NO. 4187

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED WRC, JAH
DRAWN KCS
CHECKED WRC

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
3	8/1/96		RECORD DWG REVISIONS



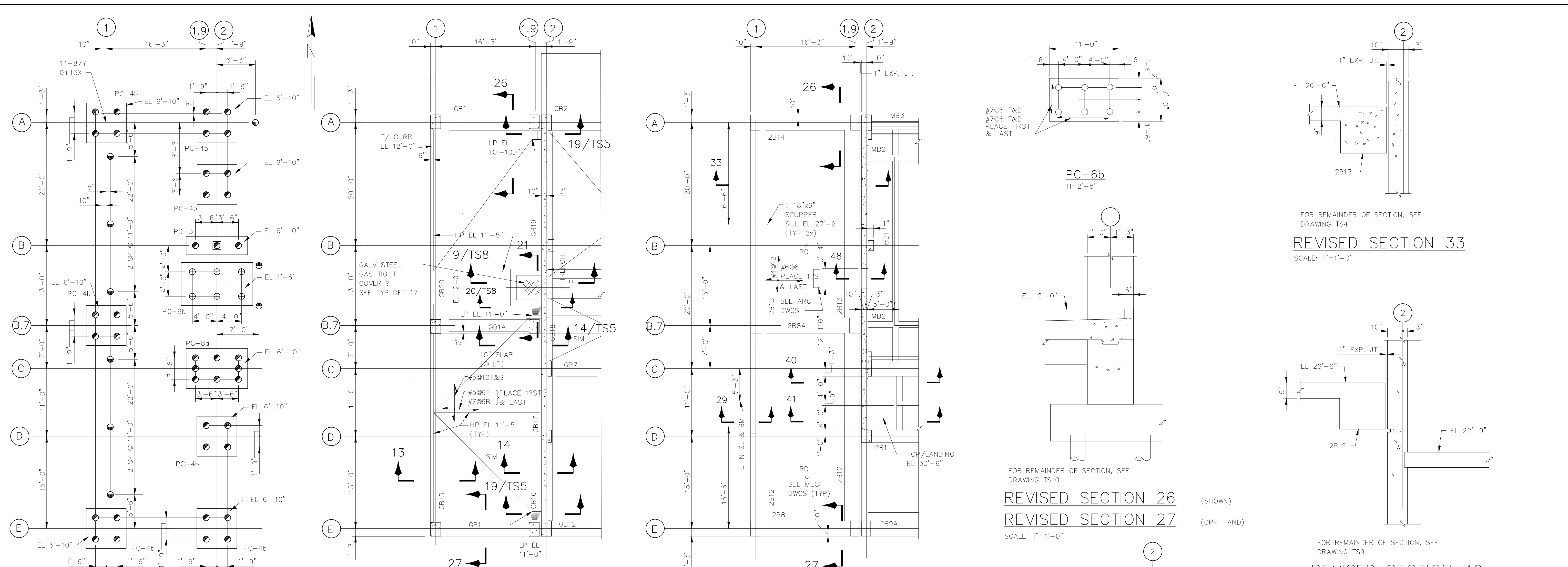
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
STRUCTURAL
SECTION AND DETAILS

See Supplemental
Drawing SD-2 and SD-3

PROJ. NO.	202G
DWG	TS11
SHEET	
DATE	DECEMBER 1991
REV	3

5H3B_TS-011



FOR REMAINDER OF PLAN, SEE DRAWING TS1
REVISED PILE PLAN
 SCALE: 1"=1'-0"

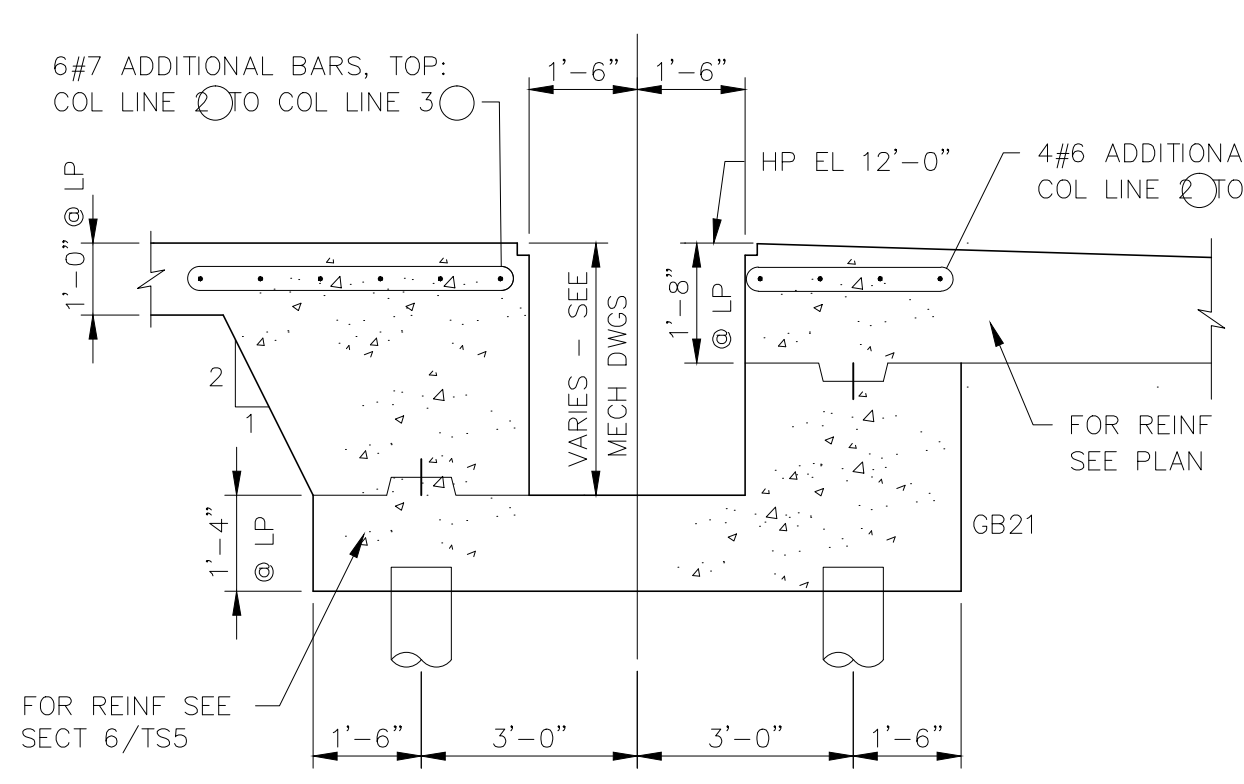
FOR REMAINDER OF PLAN, SEE DRAWING TS2
REVISED PLAN AT EL 12'-0"
 SCALE: 1"=1'-0"

FOR REMAINDER OF PLAN, SEE DRAWING TS3
REVISED PLAN AT EL 35'-0"
 SCALE: 1"=1'-0"

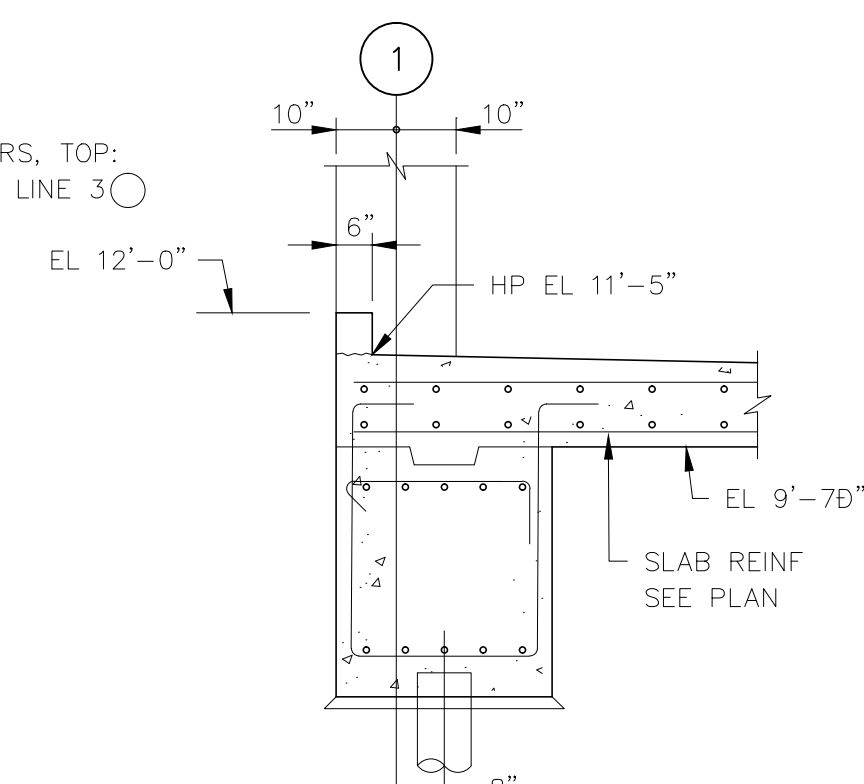
FOR REMAINDER OF SECTION, SEE DRAWING TS10
REVISED SECTION 26 (SHOWN)
REVISED SECTION 27 (OPP HAND)
 SCALE: 1"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS4
REVISED SECTION 33
 SCALE: 1"=1'-0"

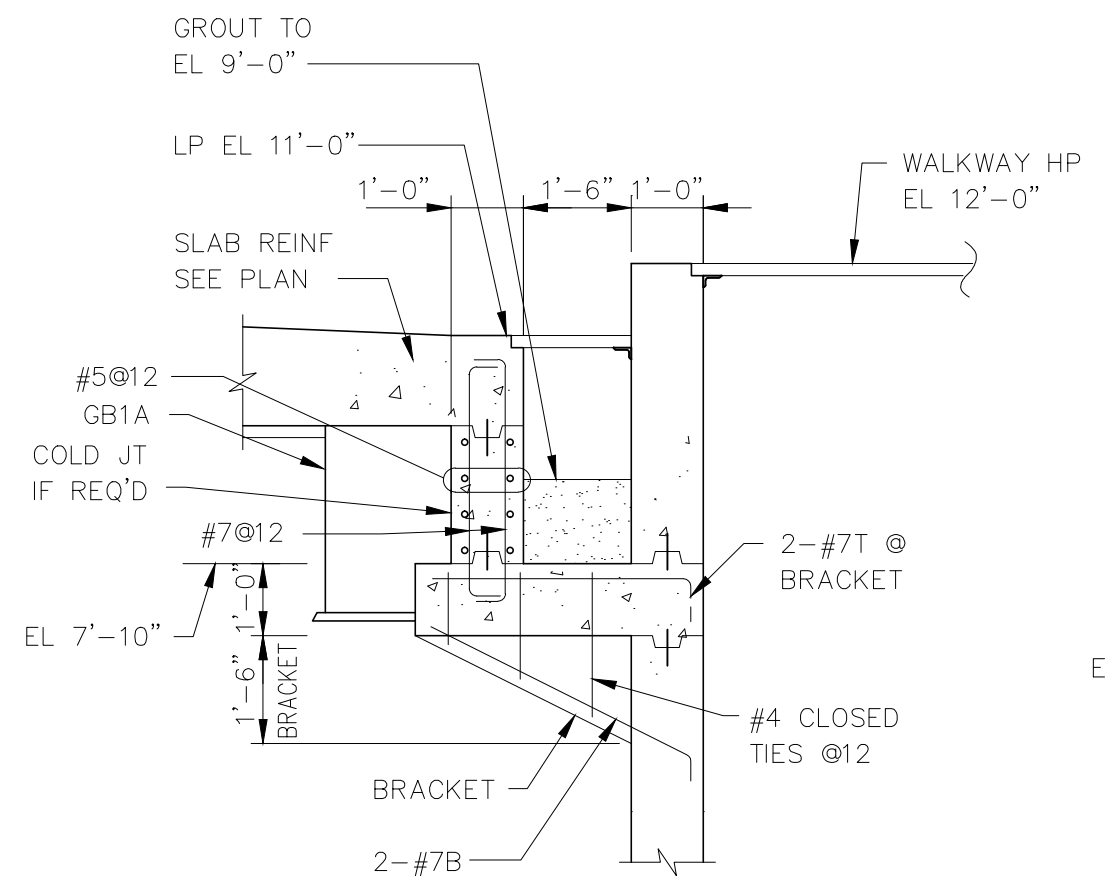
FOR REMAINDER OF SECTION, SEE DRAWING TS9
REVISED SECTION 40
REVISED SECTION 41
 SCALE: 1"=1'-0"



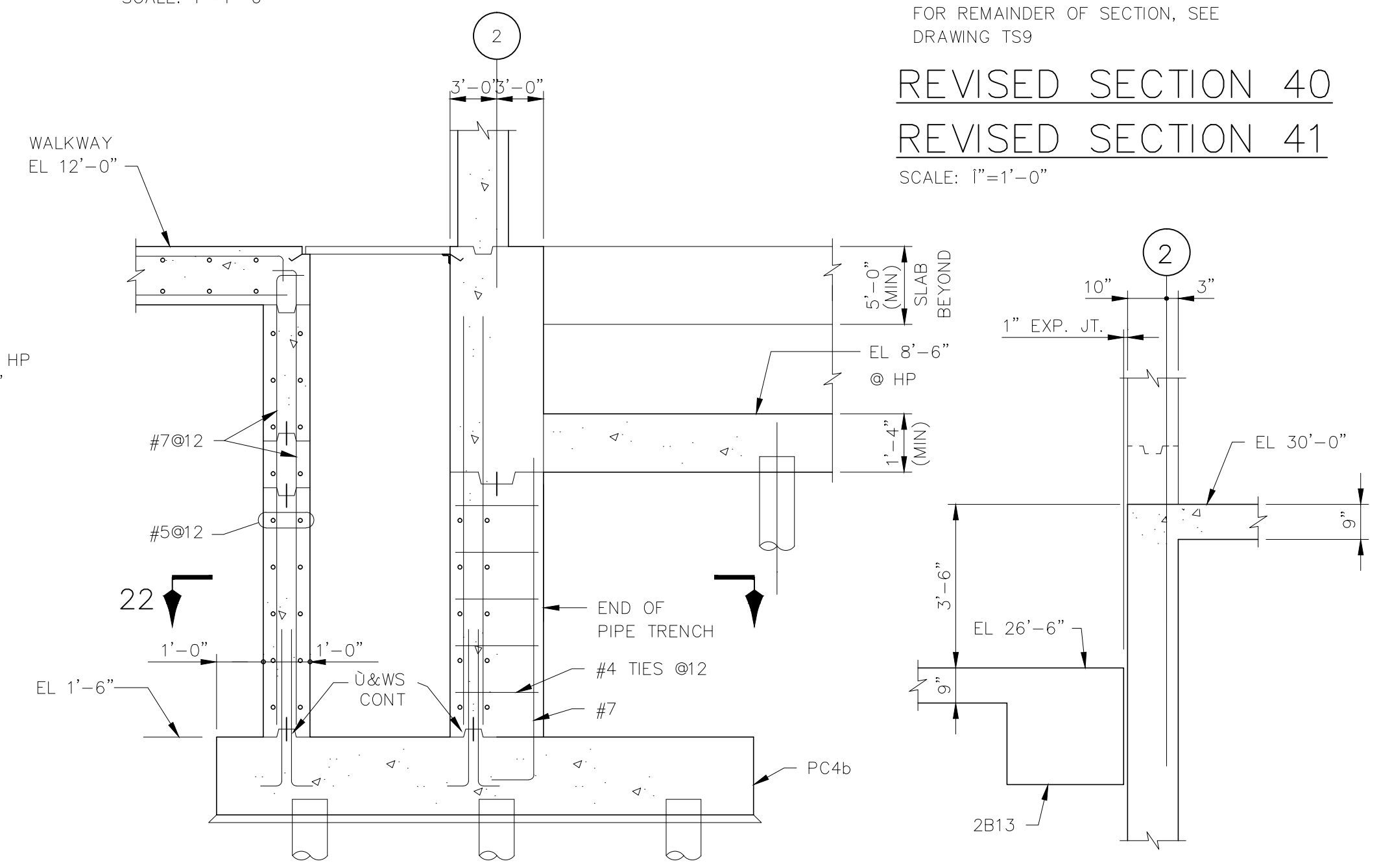
REPLACES SECTION ON DRAWING TS2
REVISED SECTION 4
 SCALE: 1"=1'-0"



REPLACES SECTION ON DRAWING TS5
REVISED SECTION 13
 SCALE: 1"=1'-0"



FOR REMAINDER OF SECTION, SEE DRAWING TS8
REVISED SECTION 21
 SCALE: 1"=1'-0"



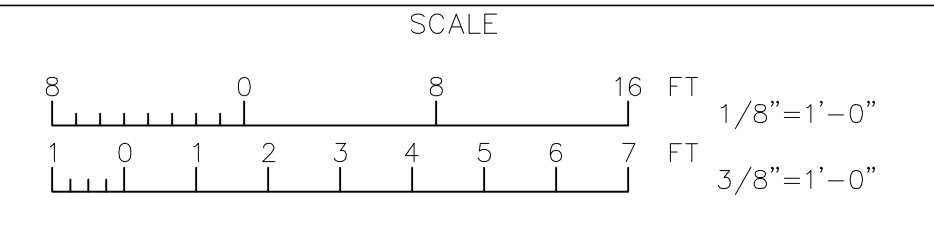
REPLACES SECTION ON DRAWING TS8
REVISED SECTION 9
 SCALE: 1"=1'-0"

FOR REMAINDER OF SECTION, SEE DRAWING TS11
REVISED SECTION 48
 SCALE: 1"=1'-0"

KLEIN AND HOFFMAN, INC.
 CONSULTING ENGINEERS
 4350 W. CYPRESS STREET
 TAMPA, FLORIDA 33607 - 4135
 PROJECT NO. 4187

GREELEY AND HANSEN
 ENGINEERS
 4350 WEST CYPRESS STREET
 TAMPA, FLORIDA 33607-4135

DESIGNED	JVT	APPROVED	
DRAWN	SKC	DATE	
CHECKED	SKC	DATE	
		GREELEY AND HANSEN, ENGINEERS	
NO.	DATE	APPD	REVISION



CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PLANT EXPANSION
 PHASE 1 DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
 STRUCTURAL
 REVISED PLANS, SECTIONS AND SCHEDULES

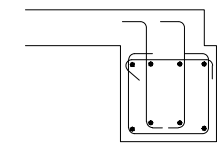
REVISES DRAWING NO. TS1-TS11

PROJ. NO.	202G
DWG	SD-2
SHEET	
DATE	MAY 1993
REV	0

5H3B_TS-011A

REVISED BEAM SCHEDULE										FOR REMAINDER OF BEAM SCHEDULE, SEE DRAWINGS TS7 & TS8		
AREA	MARK	SIZE W X D	BOTT BARS	TOP BARS			W OR S SUPPORT	E OR N SUPPORT	STIRRUPS			REMARKS
				A	B	C			SIZE	SPA	EA END		TYPE
	GB1	30x52	6-#7	6-#7 A1		6-#7 C1			#4	Ø12 THROUGHOUT	S2	BEAM DEPTH TAKEN FROM EL 11'-5"
	GB11	30x52	6-#7	4-#7 A1		4-#7 C1			#4	Ø12	S2	BEAM DEPTH TAKEN FROM EL 11'-5"
	GB15	36x55	7-#7	5-#7 A1		5-#7 C1		COL B.7,1	#4	Ø6	S2	BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SEC 13/TS5
	GB16	24x62	6-#8*	6-#8 A1		6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB17	24x62	6-#8*			6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB18	24x62	6-#9*			6-#8 C1			#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB19	24x62	6-#8*	6-#8 A1					#4	Ø6	S4	SEE DWG TS8 FOR GRADE BM SECTION
	GB20	36x55	7-#7	5-#7 A1					#4	Ø6	S2	BEAM DEPTH TAKEN FROM LP EL 11'-5". SEE SECT 13/TS5
	GB1A	24x52	6-#7	12 # A1					#4	Ø6	S4	BEAM DEPTH TAKEN FROM EL 11'-5" 1/2 A1 EACH END
	2B8A	30x24	4-#8	6-#9 A1					#4	Ø8	S6	1/2 A1 EACH END

* LAP SPLICE 3 NOS BOTTOM BARS AT SUPPORTS

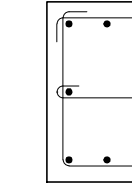


TYPE S4

NOTE:
PLAN, SECTIONS, BEAM SCHEDULE, COLUMN SCHEDULE AND OTHER DETAILS SHOWN HERE, SUPERSEDE THE RELEVANT DETAILS ON DRAWINGS TS1 THRU TS11.

COL. SCHEDULE	
COLUMN MARK	A1.9 A1 B.7-1.9 B.7-1 E1.9 E1
HIGH ROOF EL 39'-6"	
LOW ROOF EL 26'-6"	
GROUND FLOOR HP EL 12'-0"	3-#9 20x30 8-#9T4
T/PILE CAP EL VARIES	

FOR REMAINDER OF COLUMN SCHEDULE, SEE DRAWING TS9



T4

REVISED PILE SCHEDULE					
ITEM	MARK	NO. OF PILES	UPLIFT PILES	CUT-OFF ELEV.	REMARKS
	⊙	4	0	10'-8"	
	⊙	6	0	7'-2"	
	⊙	31	0	7'-3"	
	⊙	17	0	8'-10"	GENERATOR BASES (INCL. FUTURE BASE)
	⊙	8	0	7'-6"	GENERATOR BASES
	⊕	6	0	-0'-10"	
	⊙	21	0	10'-4"	
	⊙	3	0	7'-8"	
	⊙	24	0	(-) 3'-4"	
	⊙	24	0	5'-0"	
	⊙	93	0	4'-6"	
	⊕	10	0	4'-0"	
	⊕	23	0	6'-11"	

TOTAL NUMBER OF PILES THIS SCHEDULE = 270

KLEIN AND HOFFMAN, INC.

CONSULTING ENGINEERS
4350 W. CYPRESS STREET
TAMPA, FLORIDA 33607 - 4135

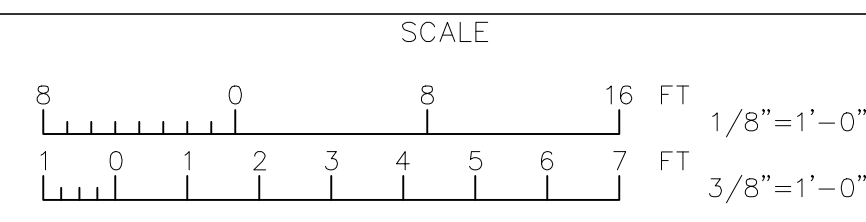
PROJECT NO. 4187

GREELEY AND HANSEN
ENGINEERS
4350 WEST CYPRESS STREET
TAMPA, FLORIDA 33607-4135

DESIGNED JVT
DRAWN SKC
CHECKED SKC

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
1	6/4/93	SKC	PILE SCHED. CUT-OFF ELEV.



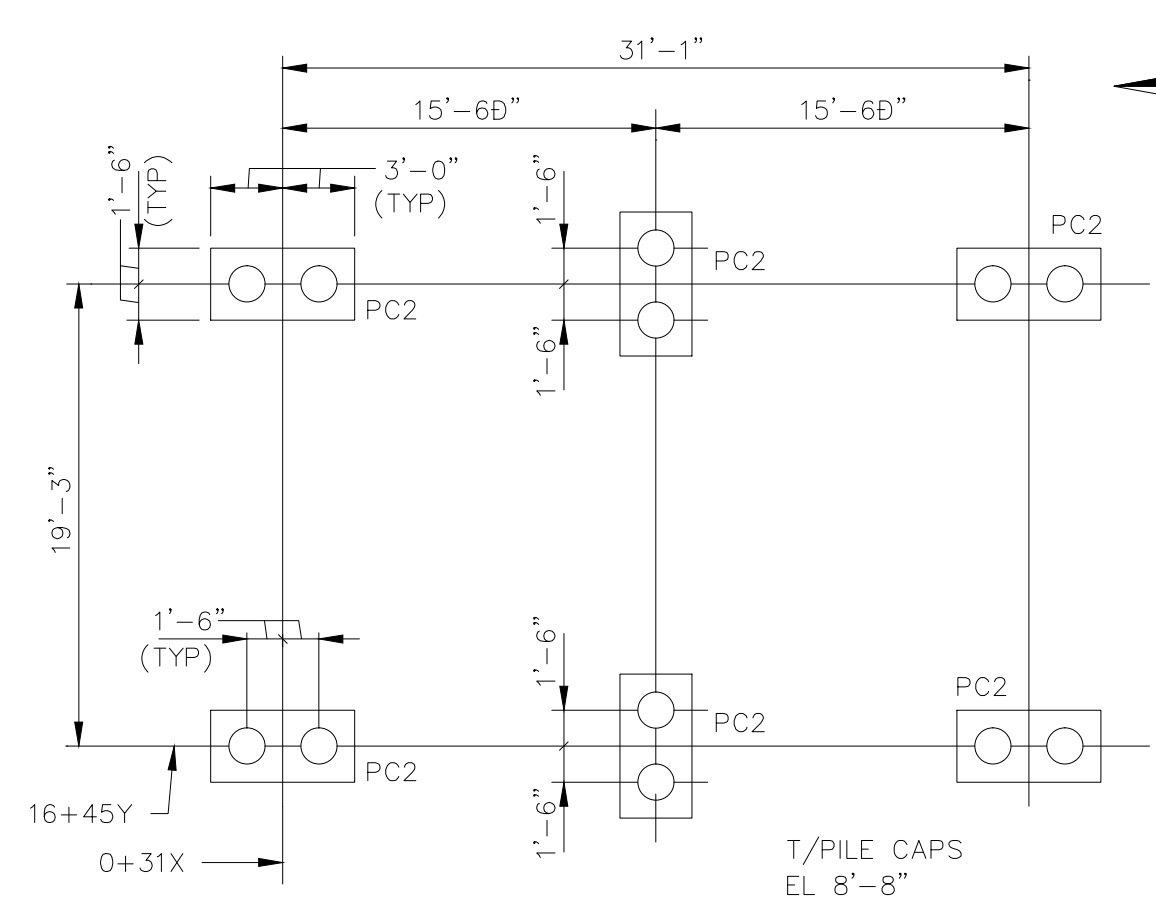
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
STRUCTURAL
REVISED PLANS, SECTIONS AND SCHEDULES

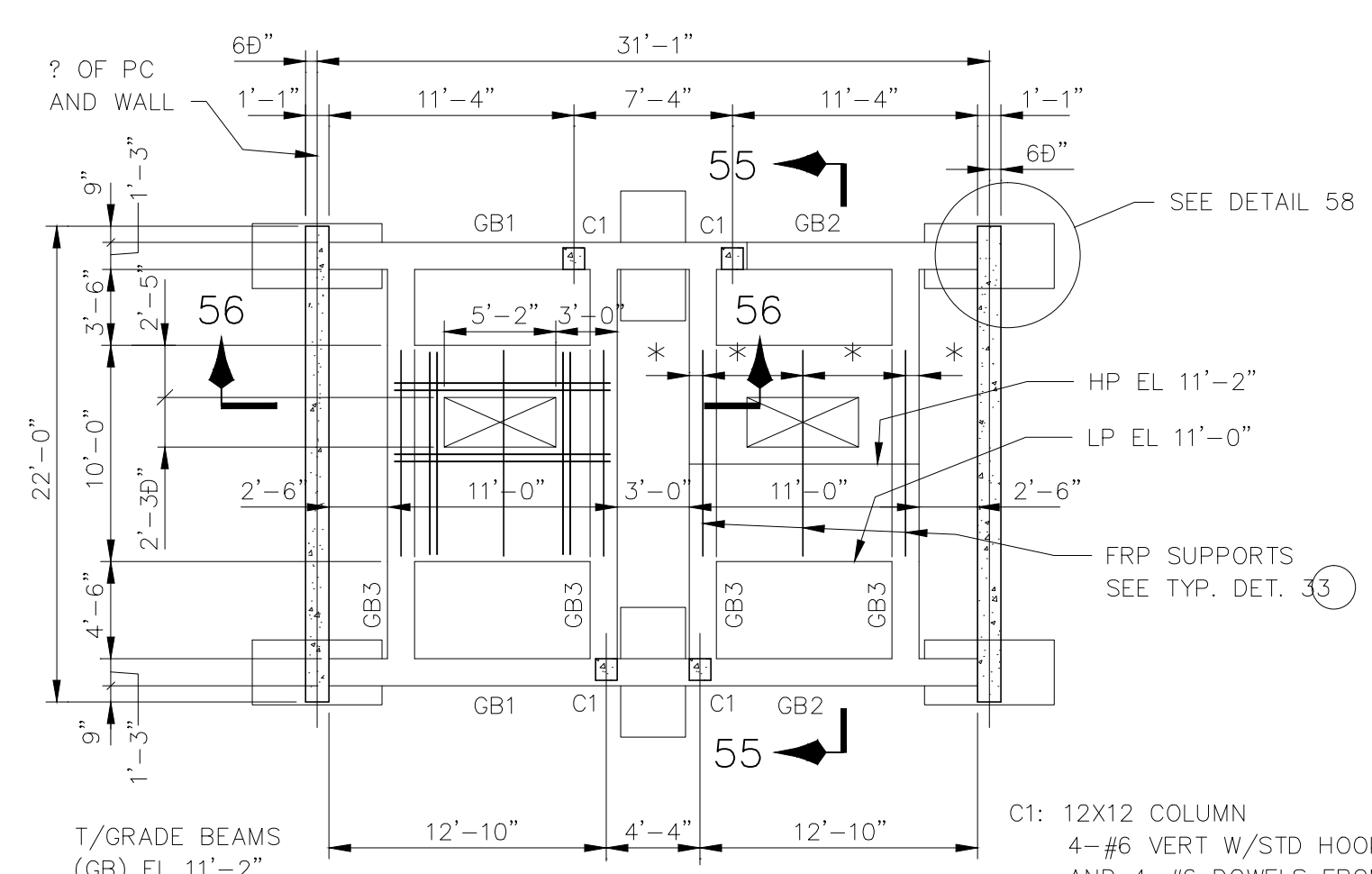
REVISES DRAWING NO. TS1-TS11

PROJ. NO. 202G
DWG SD-3
SHEET
DATE MAY 1993 REV 1

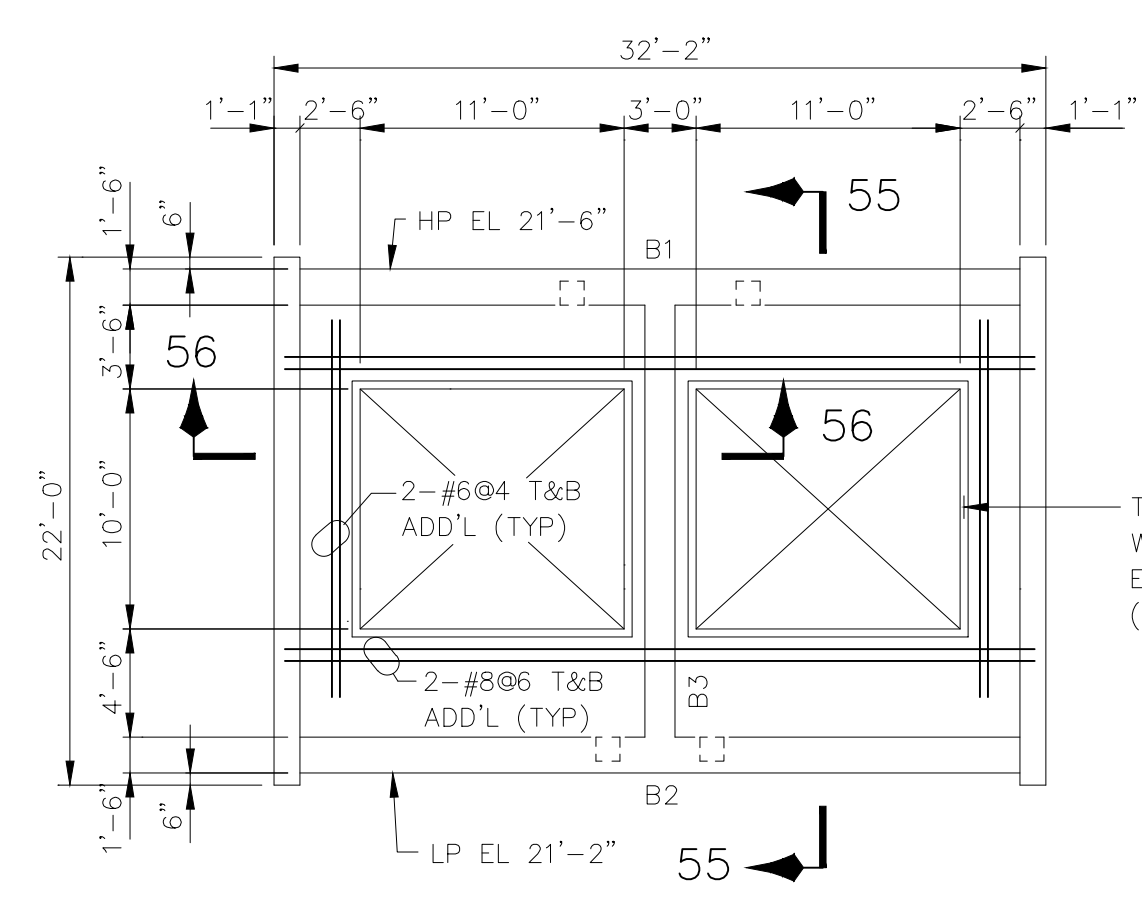
5H3B_TS-011B



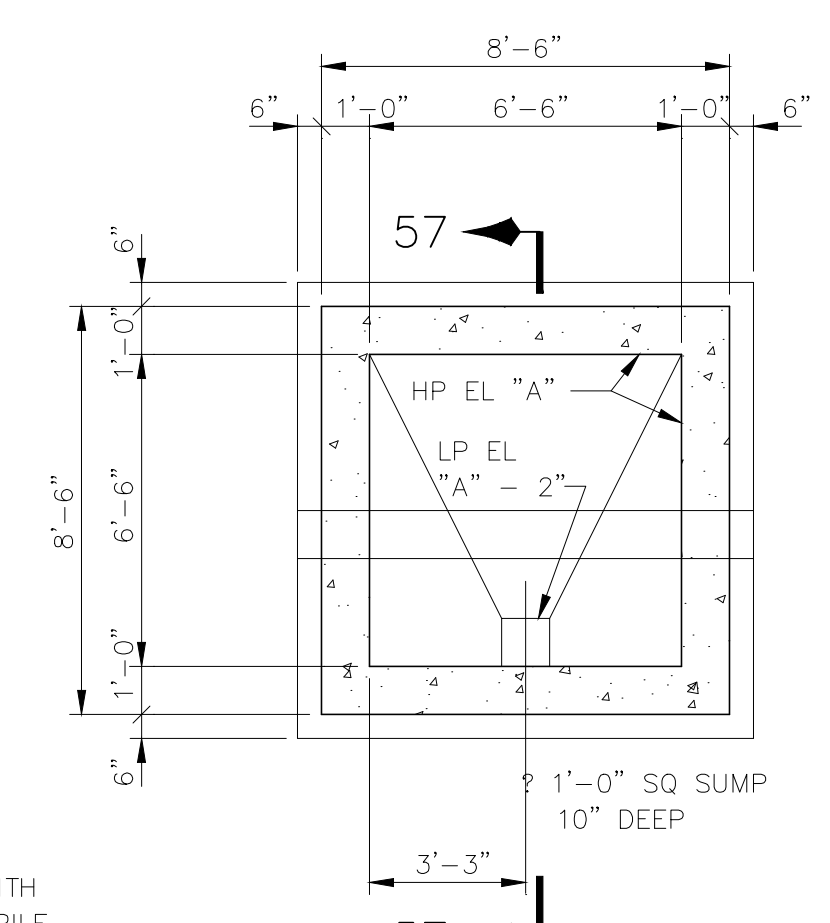
PILE PLAN
SCALE: E"=1'-0"



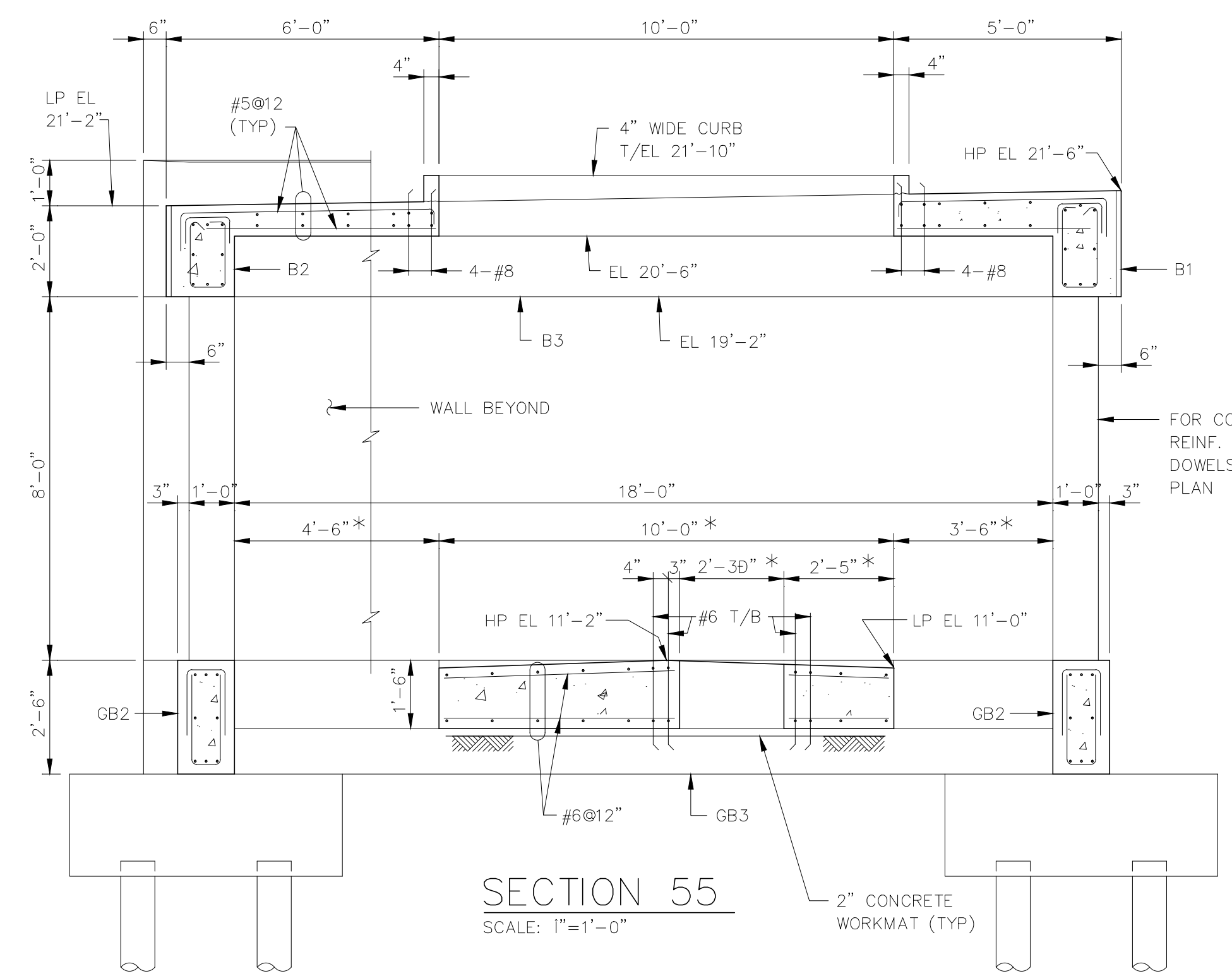
PLAN EL 11'-2"
SCALE: E"=1'-0"



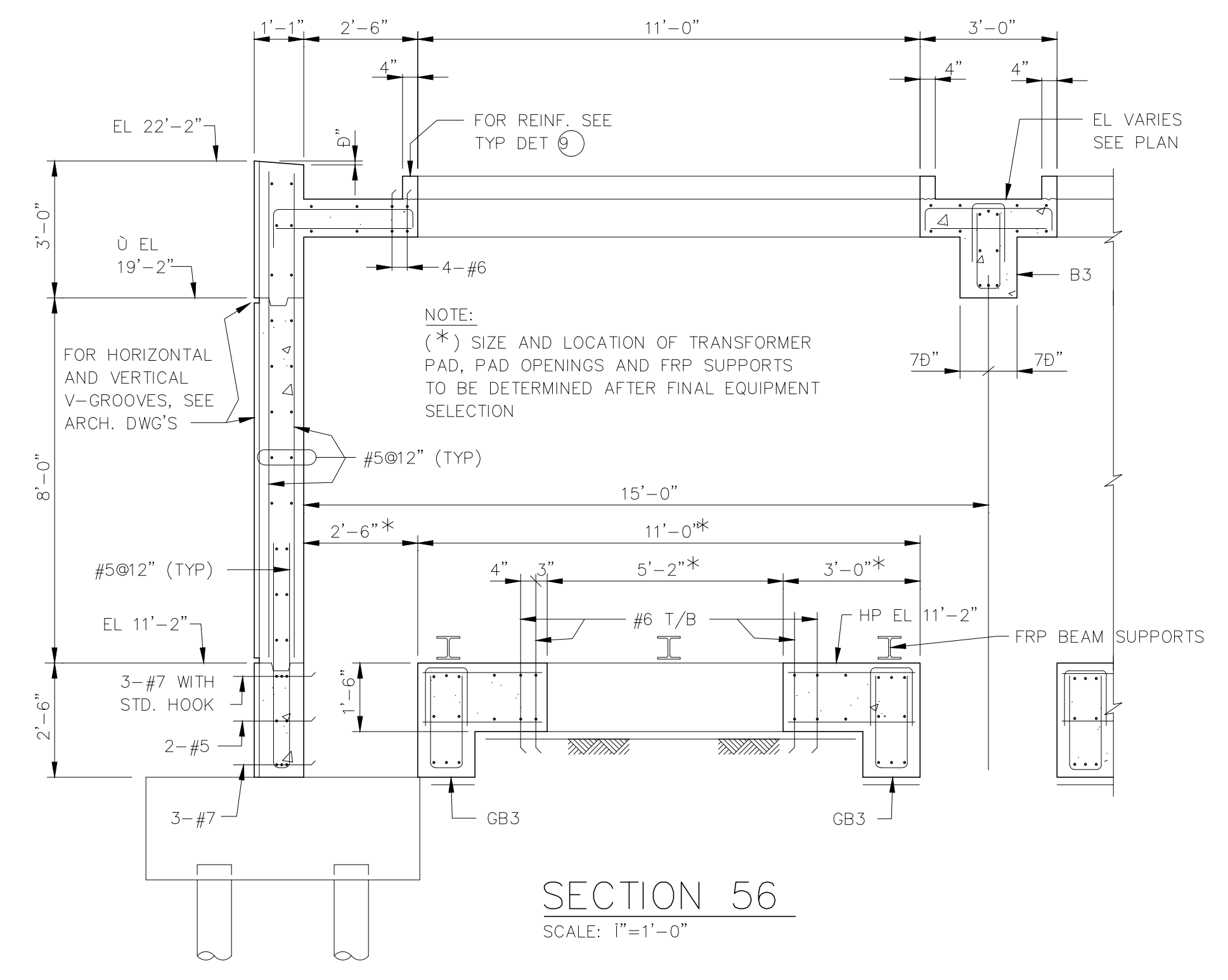
ROOF PLAN
SCALE: E"=1'-0"



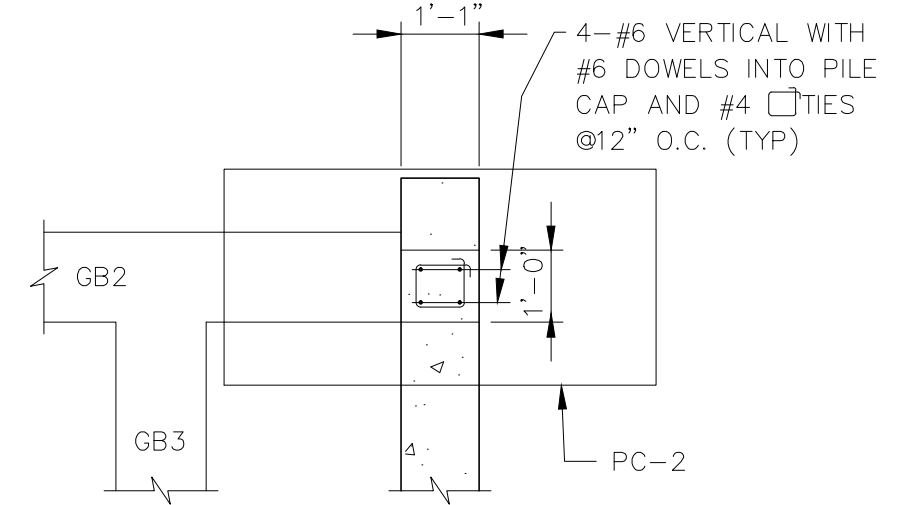
SECTIONAL PLAN
SCALE: 1"=1'-0"



SECTION 55
SCALE: 1"=1'-0"



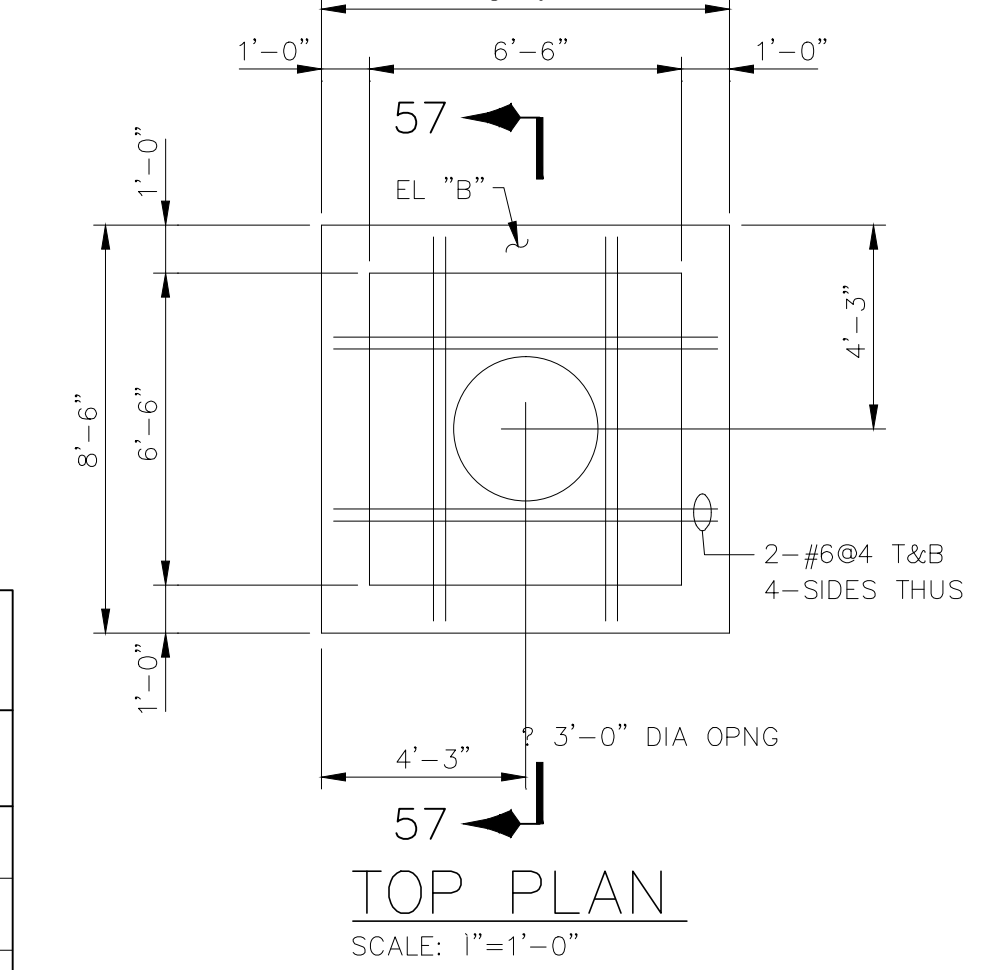
SECTION 56
SCALE: 1"=1'-0"



DETAIL 58
SCALE: 1"=1'-0"

ELECT. MH SCHEDULE OF ELEV'S & DIMENSIONS			
MANHOLE NUMBER	EL "A"	EL "B"	INS DIM "C"
E30	-0'-6"	9'-0"	8'-6"
E31	-0'-6"	9'-0"	8'-6"

- NOTES:
- FOR LOCATION AND ORIENTATION OF ELECT. MANHOLES, SEE DWG AE1.
 - FOR SIZE AND LOCATION OF ELECT. DUCT OPENINGS AND PULLING IRONS, SEE DWG AE2.
 - FOR ELECT. DUCT DETAIL AT MANHOLES, SEE TYP DET 26.

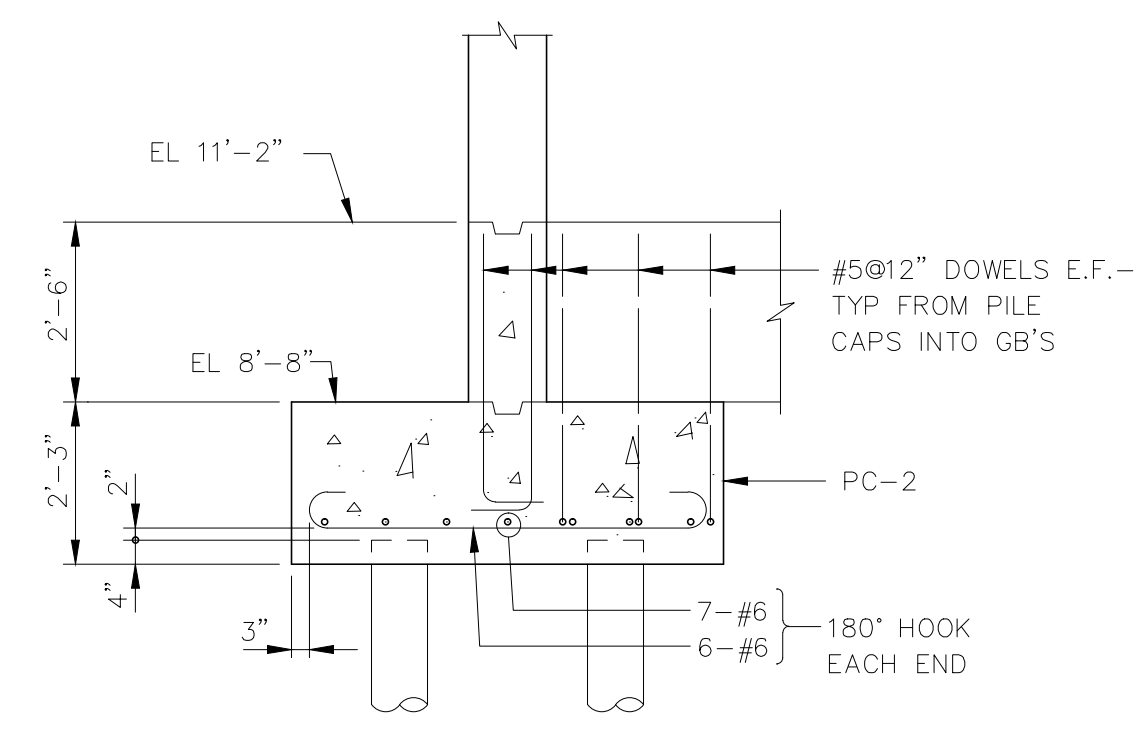


TOP PLAN
SCALE: 1"=1'-0"

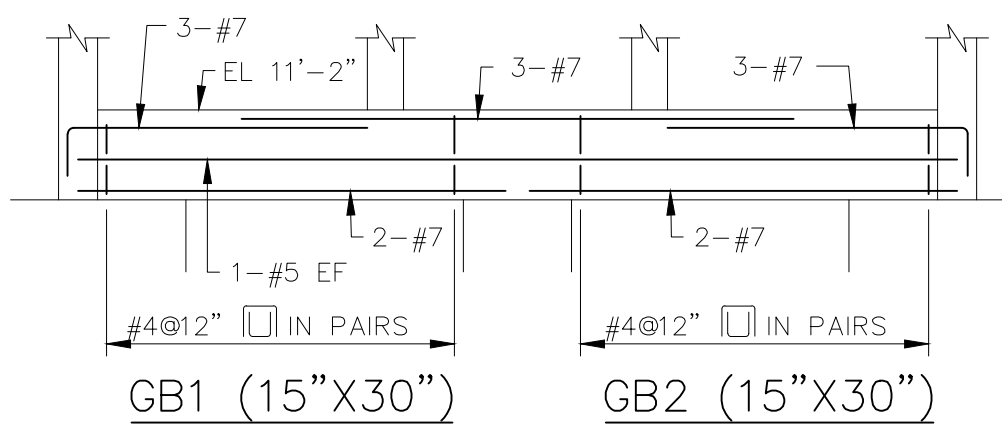
PILE SCHEDULE				
MARK	CUT-OFF ELEV	NO. OF PILES	UPLIFT PILES	REMARKS
○	6'-9"	12	NONE	

TOTAL NUMBER OF PILES ON THIS DWG = 12
THIS PILE SCHEDULE APPLIES TO THIS DWG ONLY.

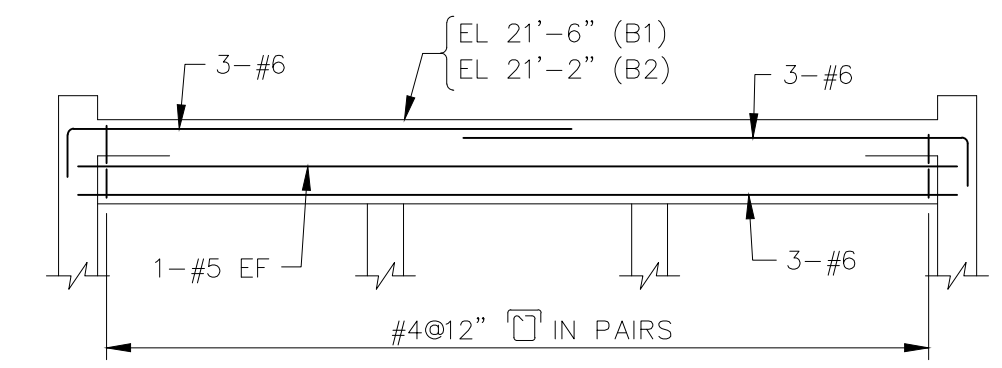
- PILE NOTES:
- FOR PILE CAPACITIES AND ALL PILE DETAILS, SEE TYPICAL DETAIL 50 ON DWG AS3.



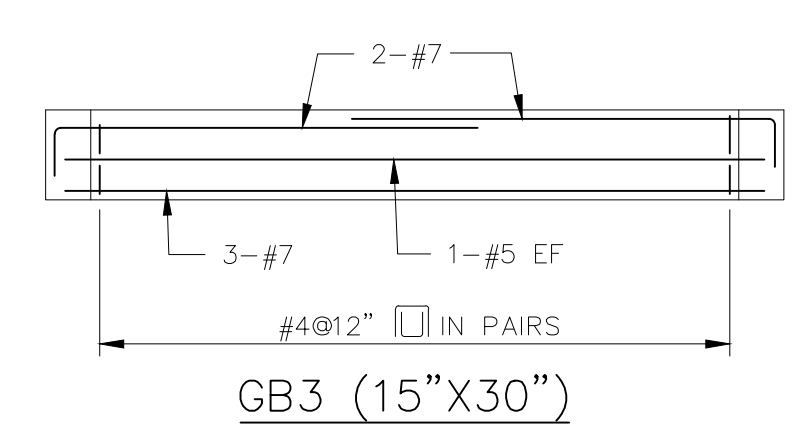
PILE CAP ELEVATION



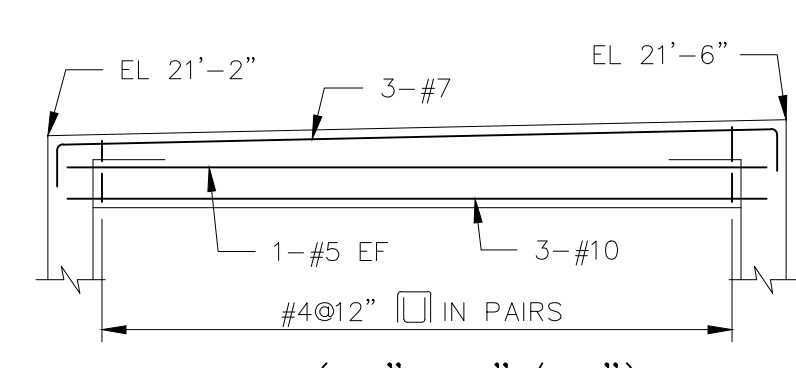
B1 (18"X28")



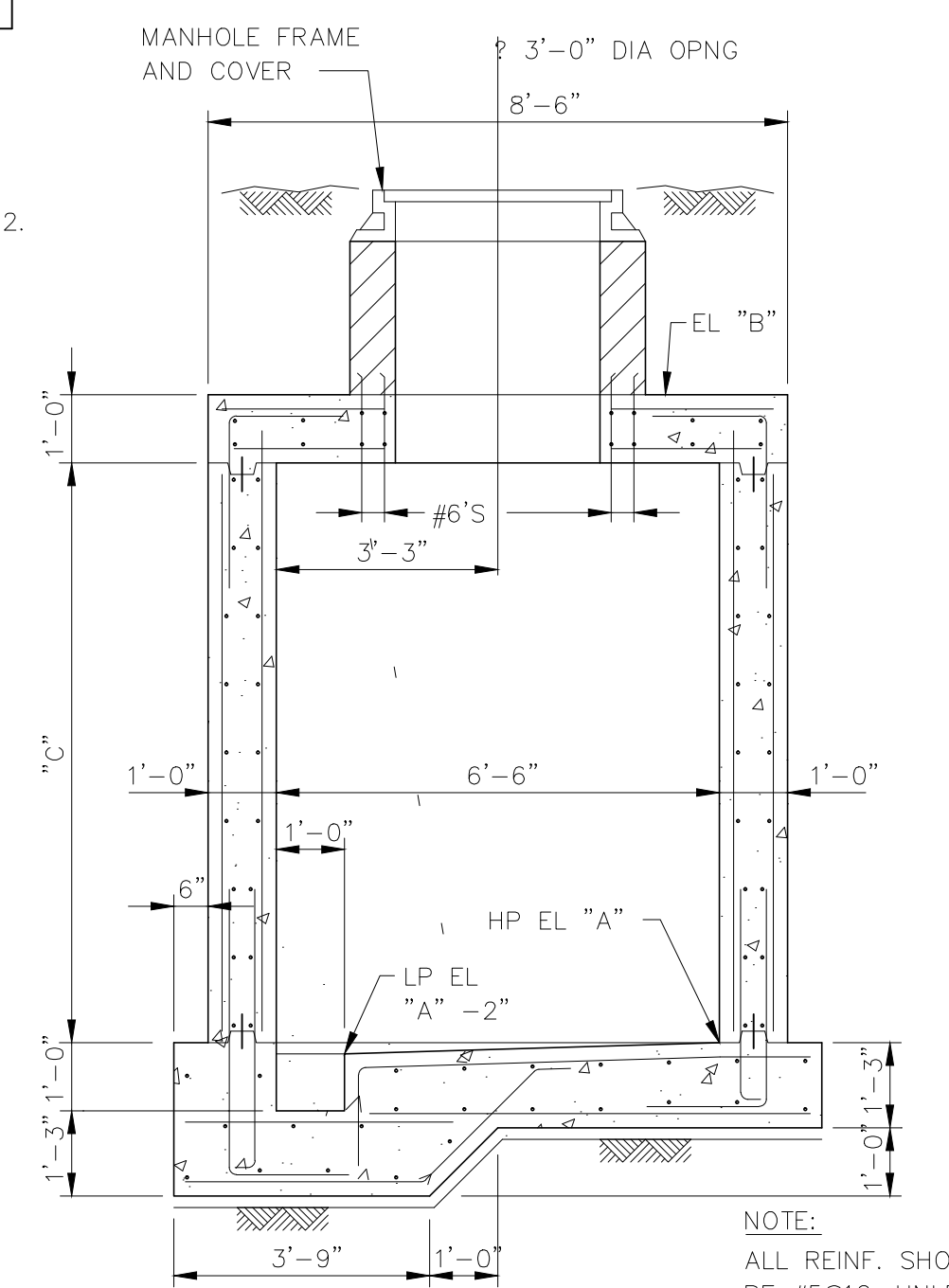
B2 (18"X24")



B3 (15"X24"/28")



B3 (15"X24"/28")



SECTION 57
SCALE: 1"=1'-0"

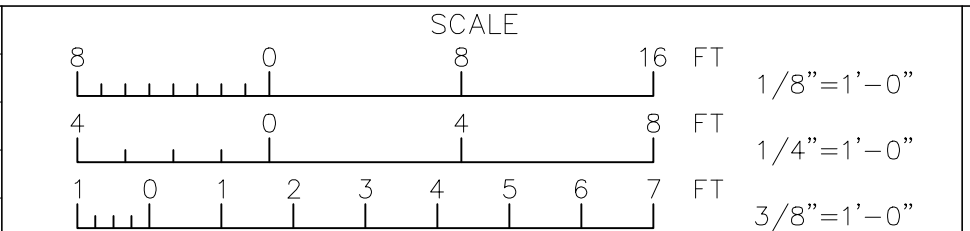
NOTE:
ALL REINF. SHOWN SHALL BE #5@12, UNLESS NOTED OTHERWISE.

THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

KLEIN AND HOFFMAN, INC.
CONSULTING ENGINEERS
100 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
PROJECT NO. 4187

GREELEY AND HANSEN ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

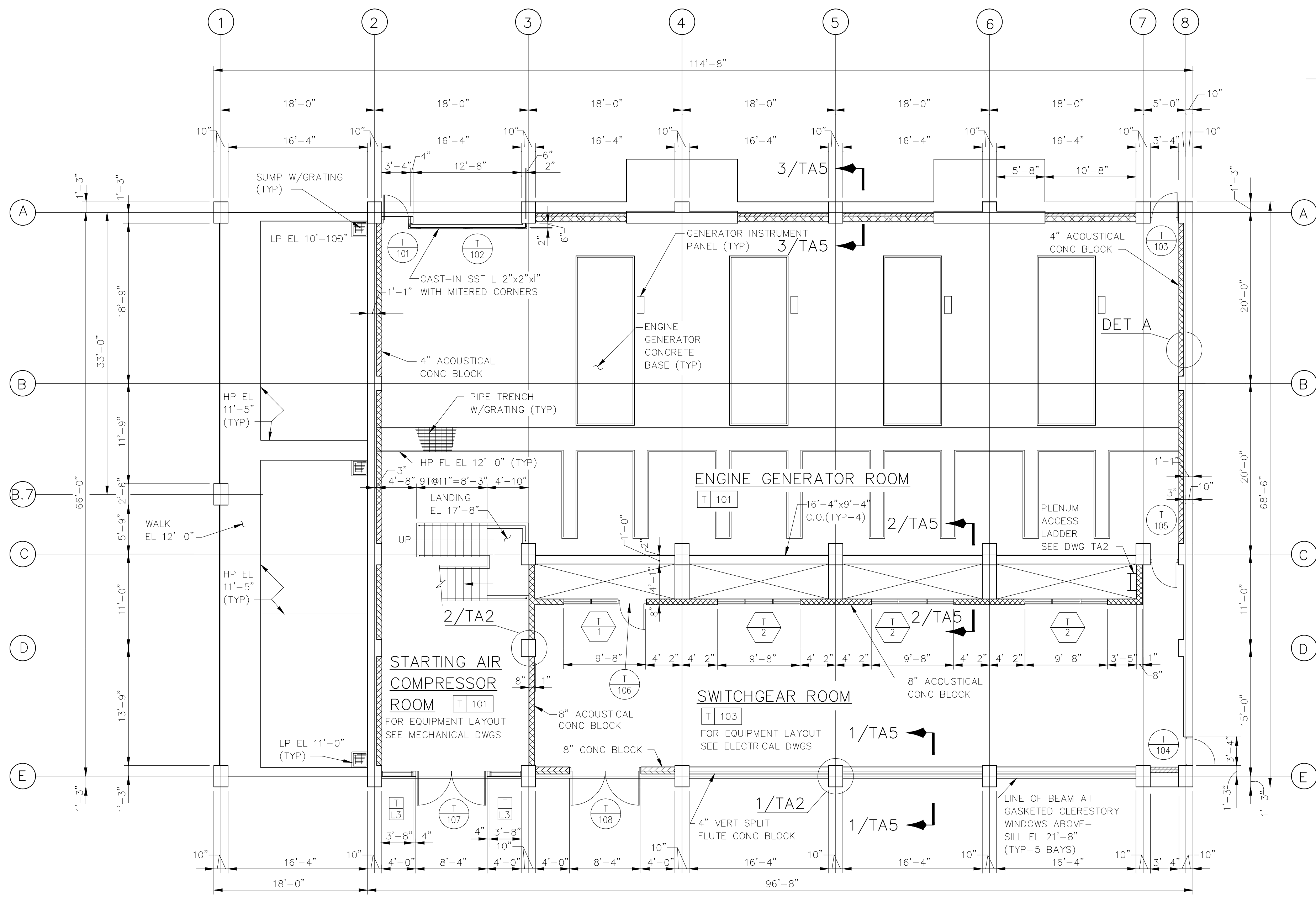
DESIGNED	EP	APPROVED	DATE	
DRAWN	JVT			
CHECKED	EP			



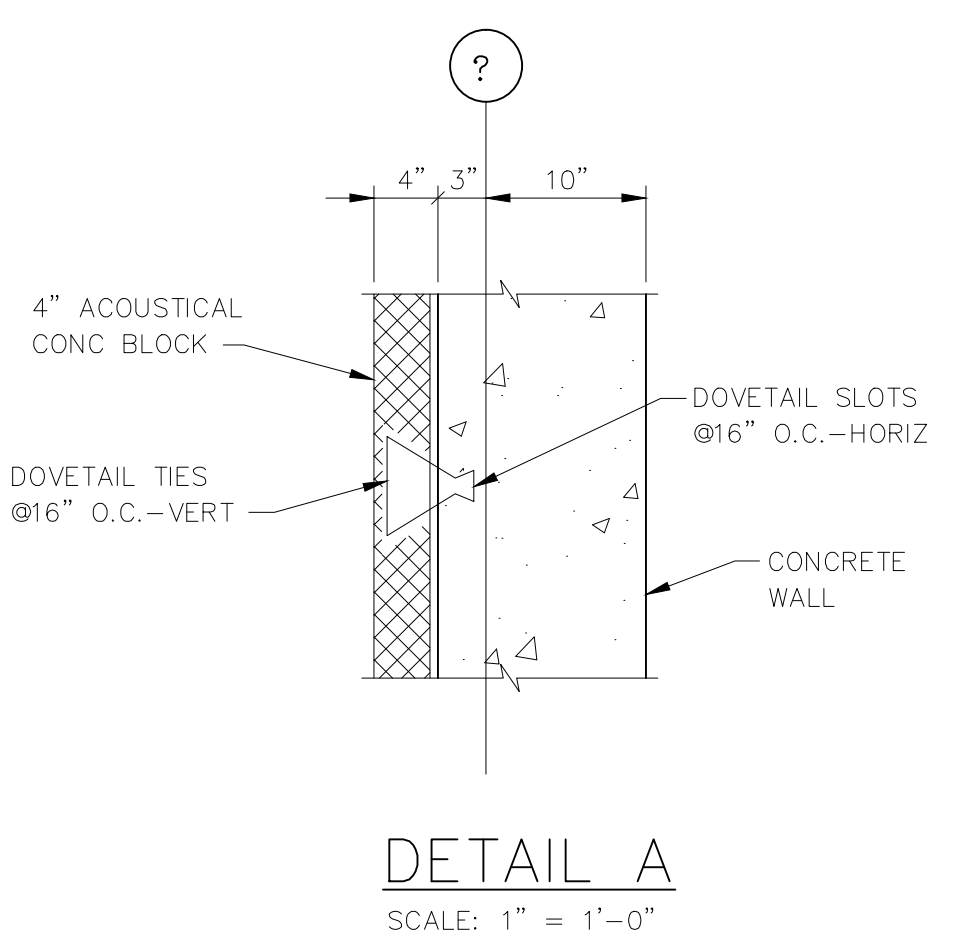
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
STRUCTURAL
TRANSFORMER YARD - PLANS AND SECTIONS

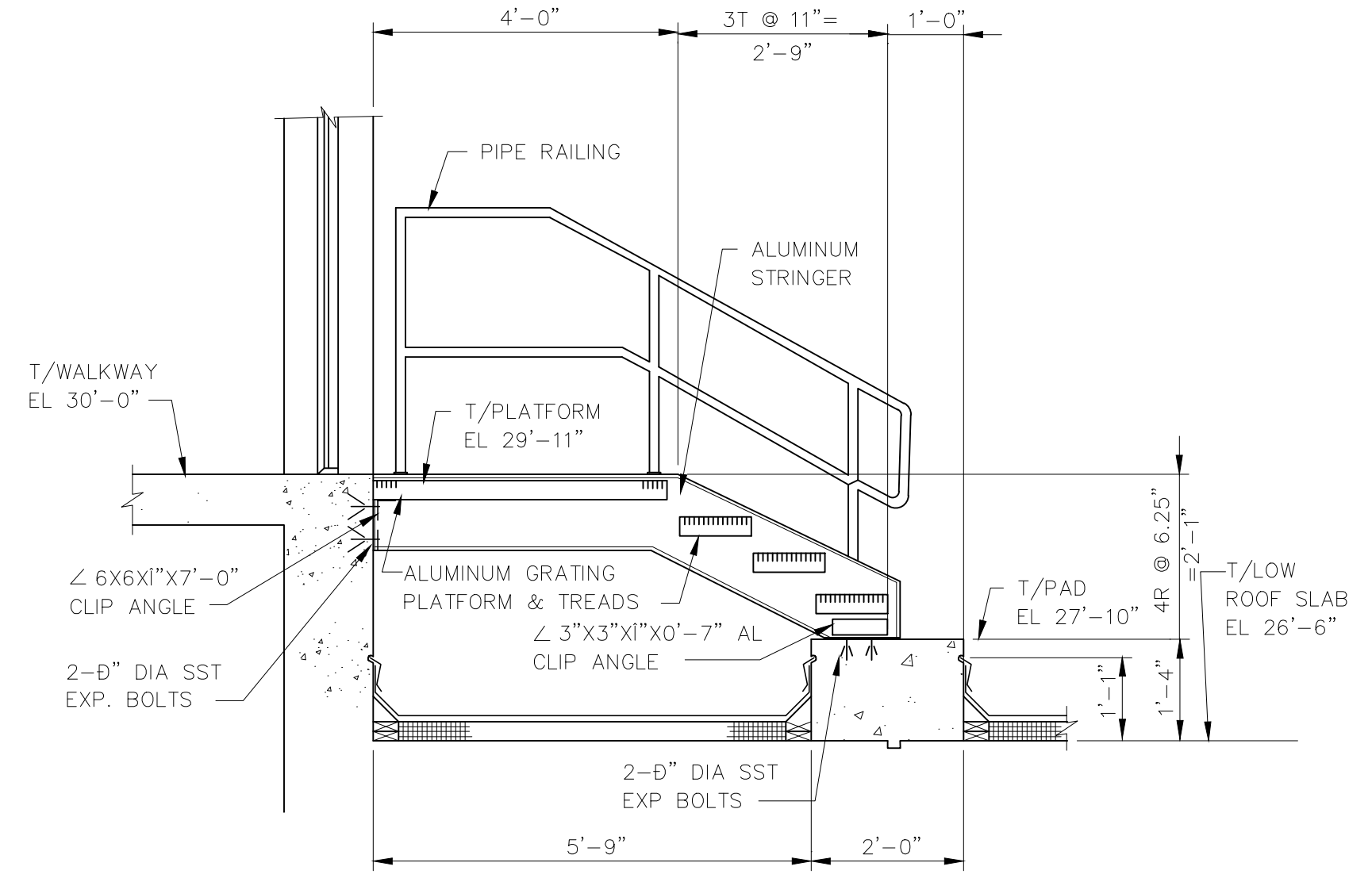
PROJ NO.	202G
DWG	TS12
SHEET	
DATE	DECEMBER 1991
REV	2



PLAN - FL EL 12'-0"
SCALE: 1/8" = 1'-0"

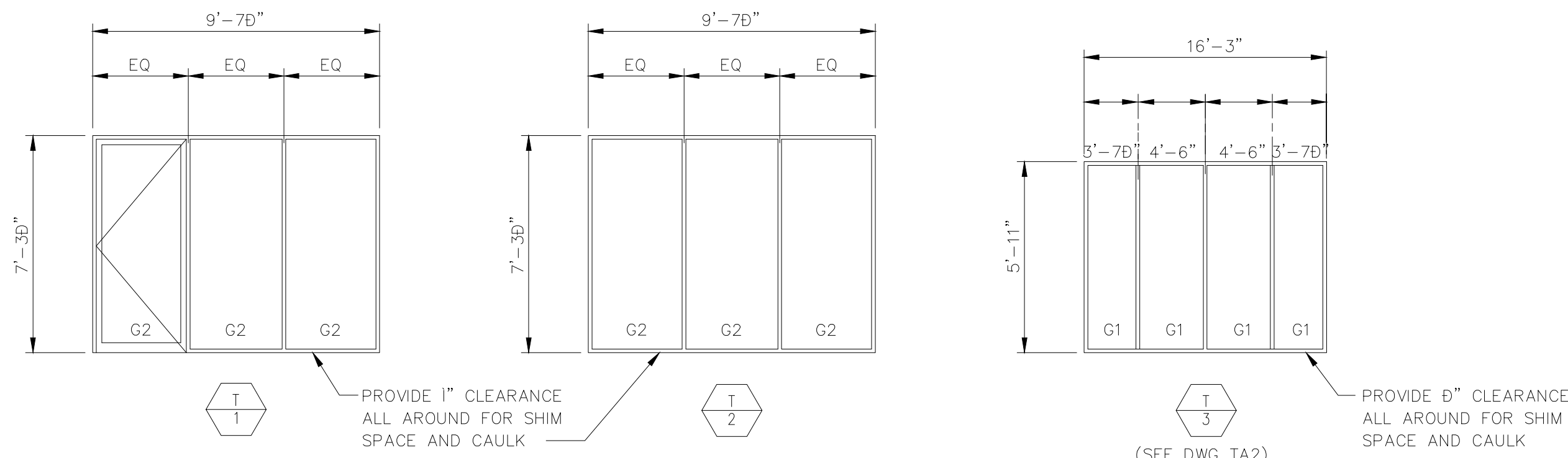


DETAIL A
SCALE: 1" = 1'-0"



SECTION 1/TA2
SCALE: 3/8" = 1'-0"

- GENERAL NOTES:**
- (*) - INDICATES DETERMINE DIMENSION AFTER FINAL SELECTION OF EQUIPMENT.
 - PROVIDE LINTELS SIMILAR TO DOOR OPENING LINTELS FOR ALL DUCT OPENINGS THROUGH MASONRY WALLS.
 - FOR LOCATION AND SIZE OF HVAC DUCTS AND ASSOCIATED FLOOR AND WALL OPENINGS SEE HVAC AND STRUCTURAL DRAWINGS.
 - FOR ROOM FINISH AND DOOR SCHEDULES AND DETAILS SEE DRAWING AA1.



CURTAIN WALL ELEVATIONS
SCALE: 1" = 1'-0"

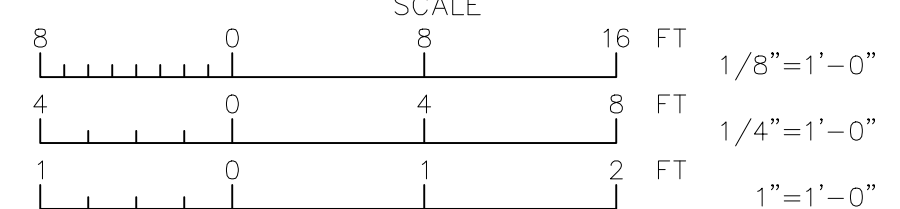
RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED TGT
DRAWN MSB, RAM
CHECKED CDS

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
1	8/7/96		RECORD DWG REVISIONS

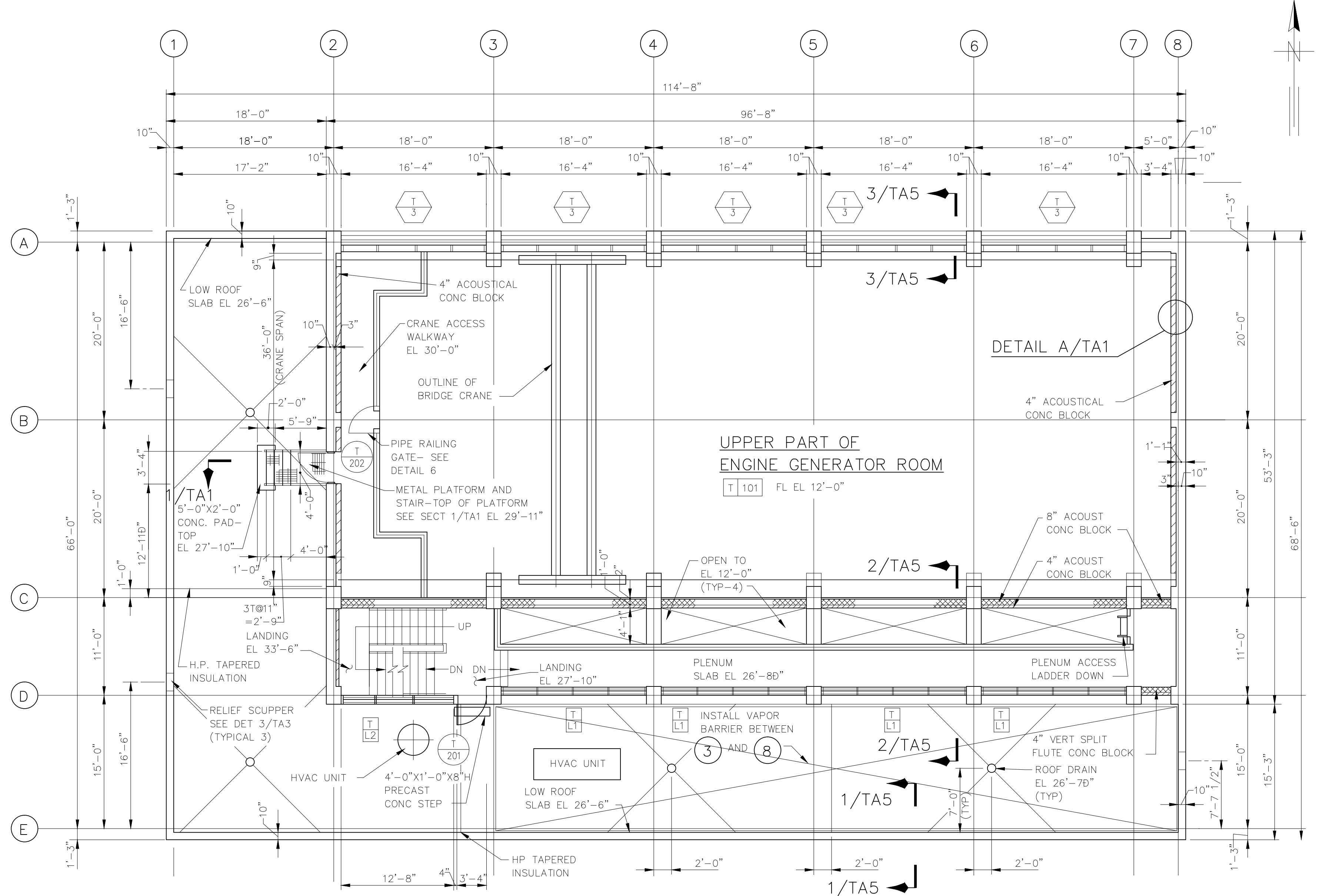


CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
EXPANSION PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

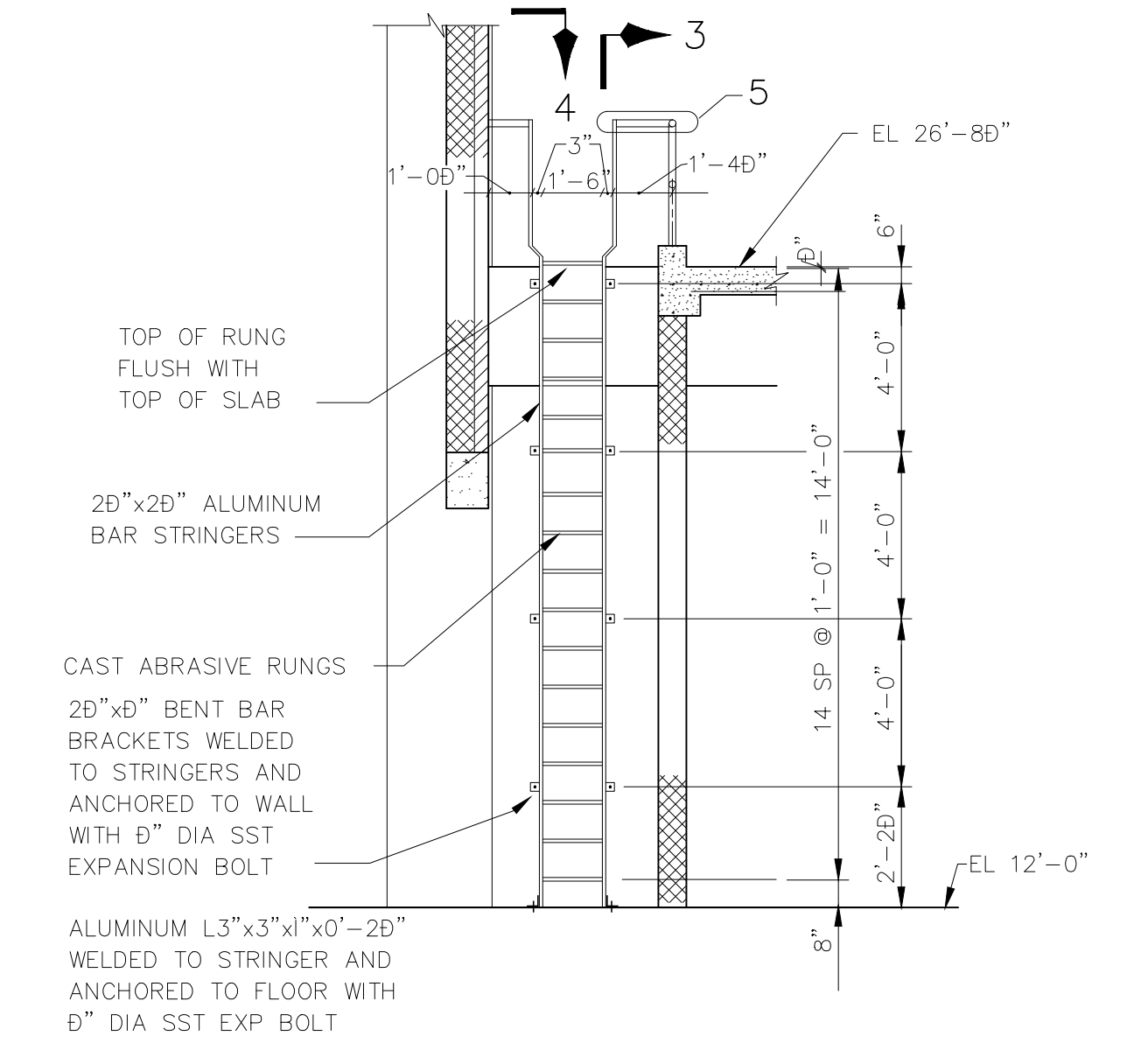
STANDBY POWER FACILITY
ARCHITECTURAL
PLAN AT EL 12'-0"

PROJ. NO.	202G
DWG	TA1
SHEET	
DATE	DECEMBER 1991
REV	2

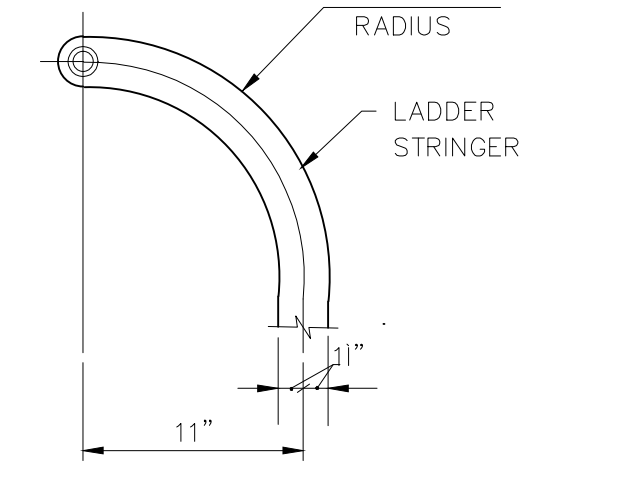
5H3B_OTA-001



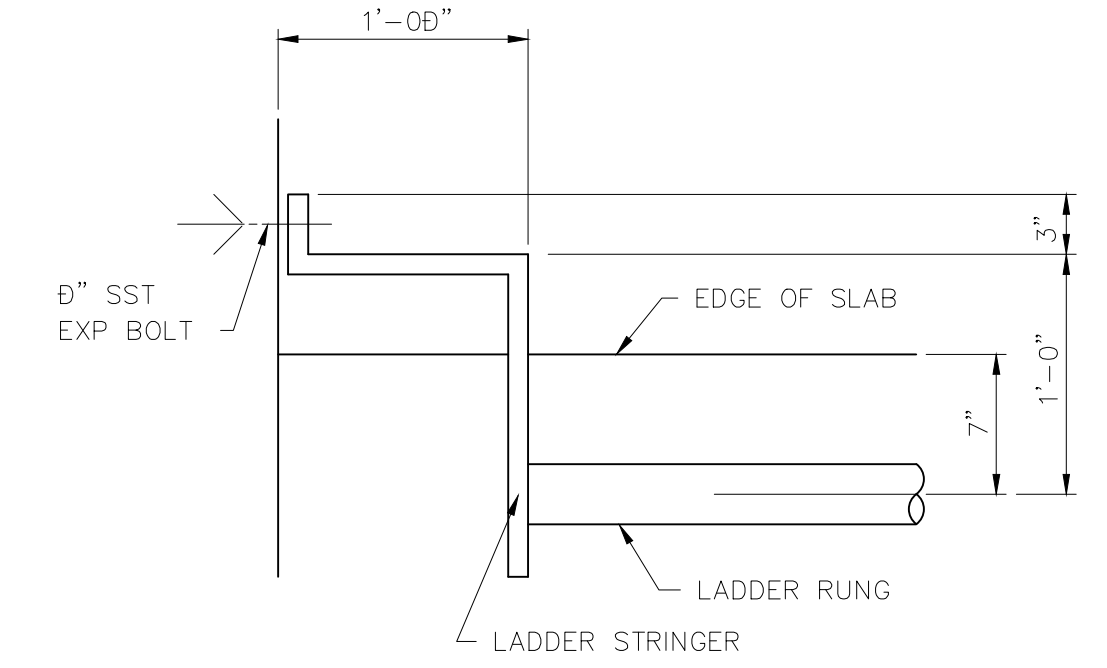
PLAN AT EL 27'-3"
SCALE: 1/8" = 1'-0"



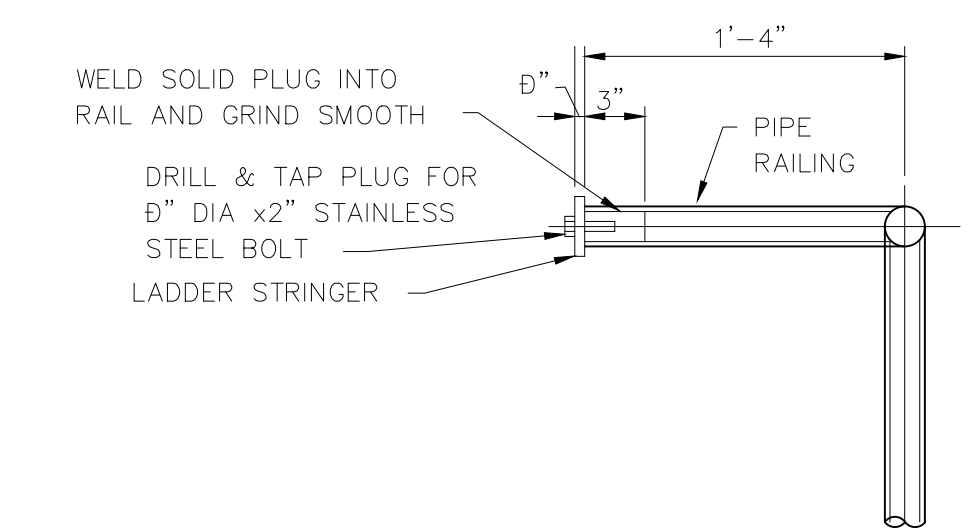
ELEVATION-PLENUM ACCESS LADDER
SCALE: 1/8" = 1'-0"



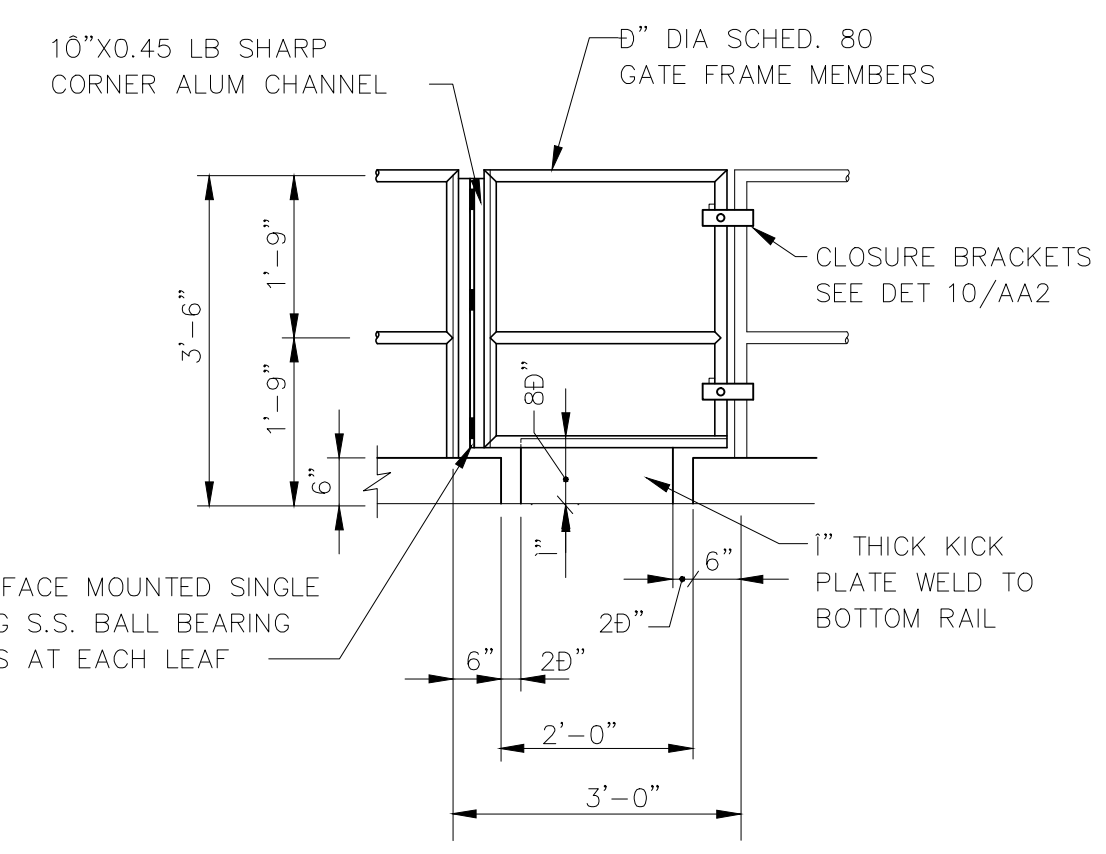
DETAIL 3
SCALE: 1/8" = 1'-0"



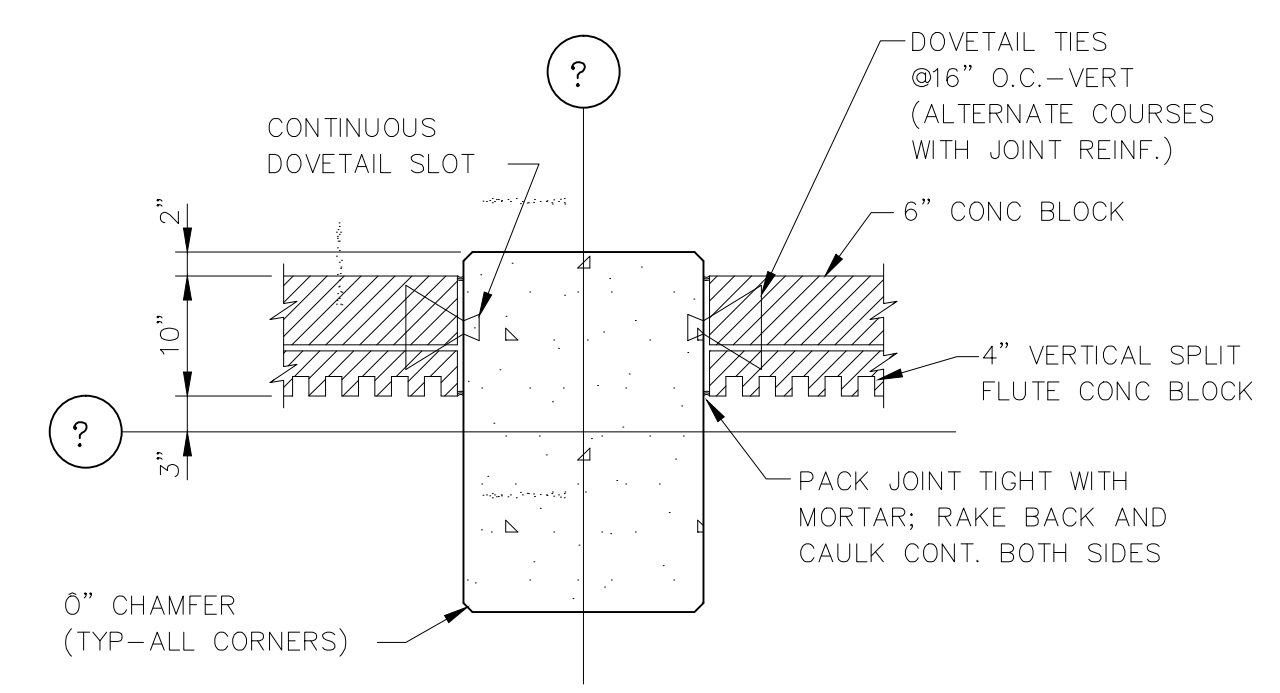
DETAIL 4 (PLAN VIEW)
SCALE: 1/8" = 1'-0"



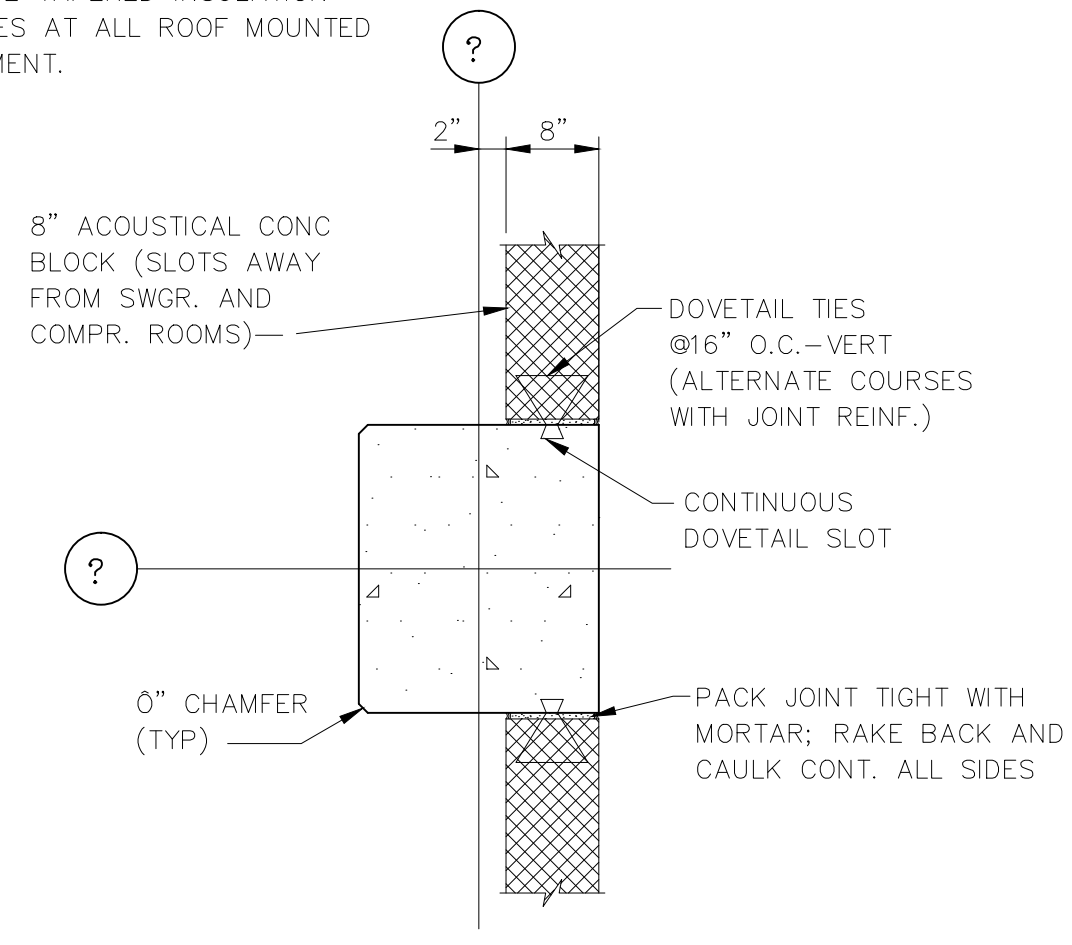
DETAIL 5
SCALE: 1/8" = 1'-0"



DETAIL 6/TA2
SCALE: 1/8" = 1'-0"



DETAIL 1/TA1
SCALE: 0" = 1'-0"



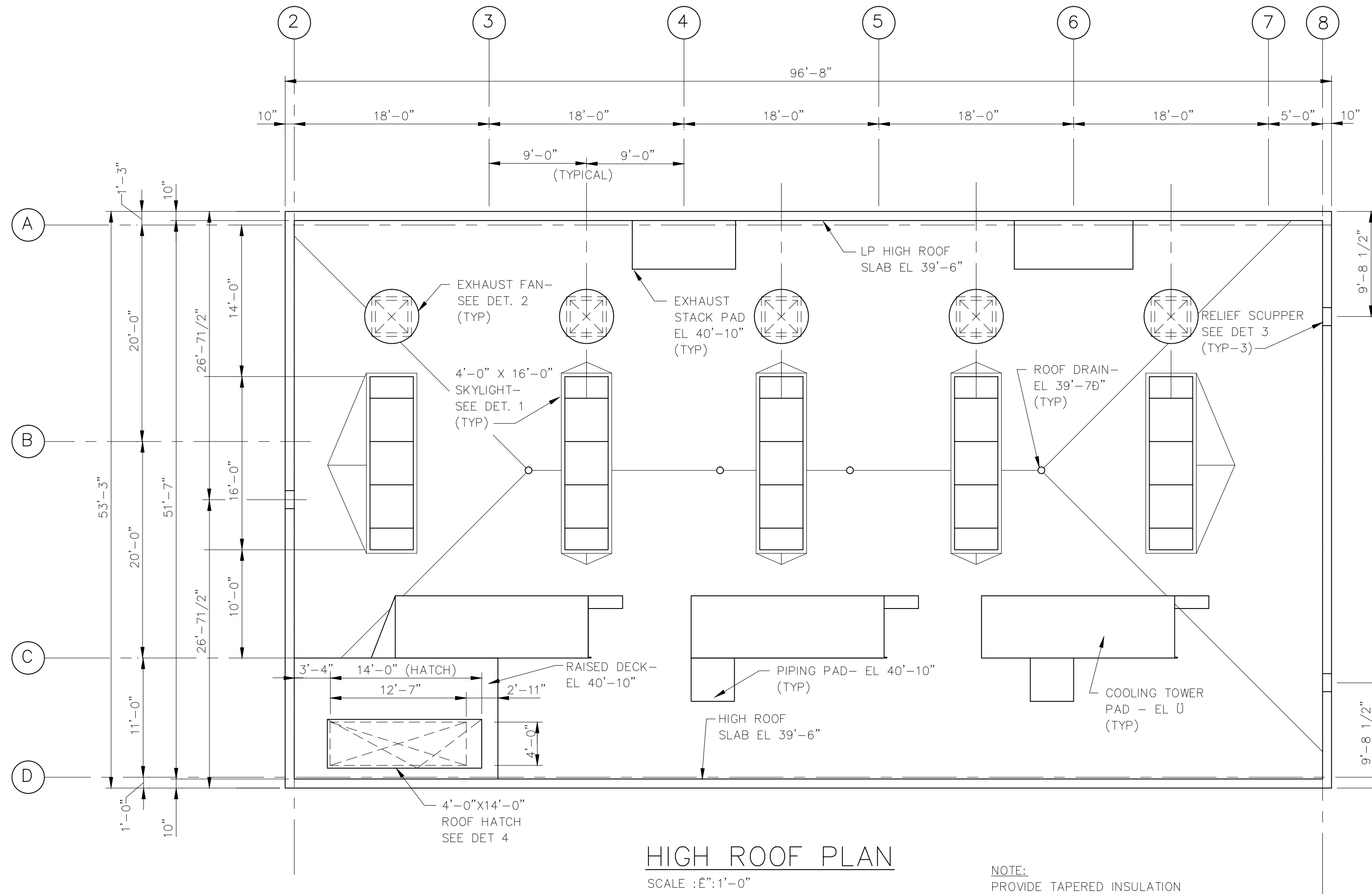
DETAIL 2/TA1
SCALE: 0" = 1'-0"

NOTE: PROVIDE TAPERED INSULATION SADDLES AT ALL ROOF MOUNTED EQUIPMENT.

FILE: HUB-TA02 SCALE: 1/8" = 1'-0" 09/09/1996 at 08:43 - *13_cah (hardware lock)*

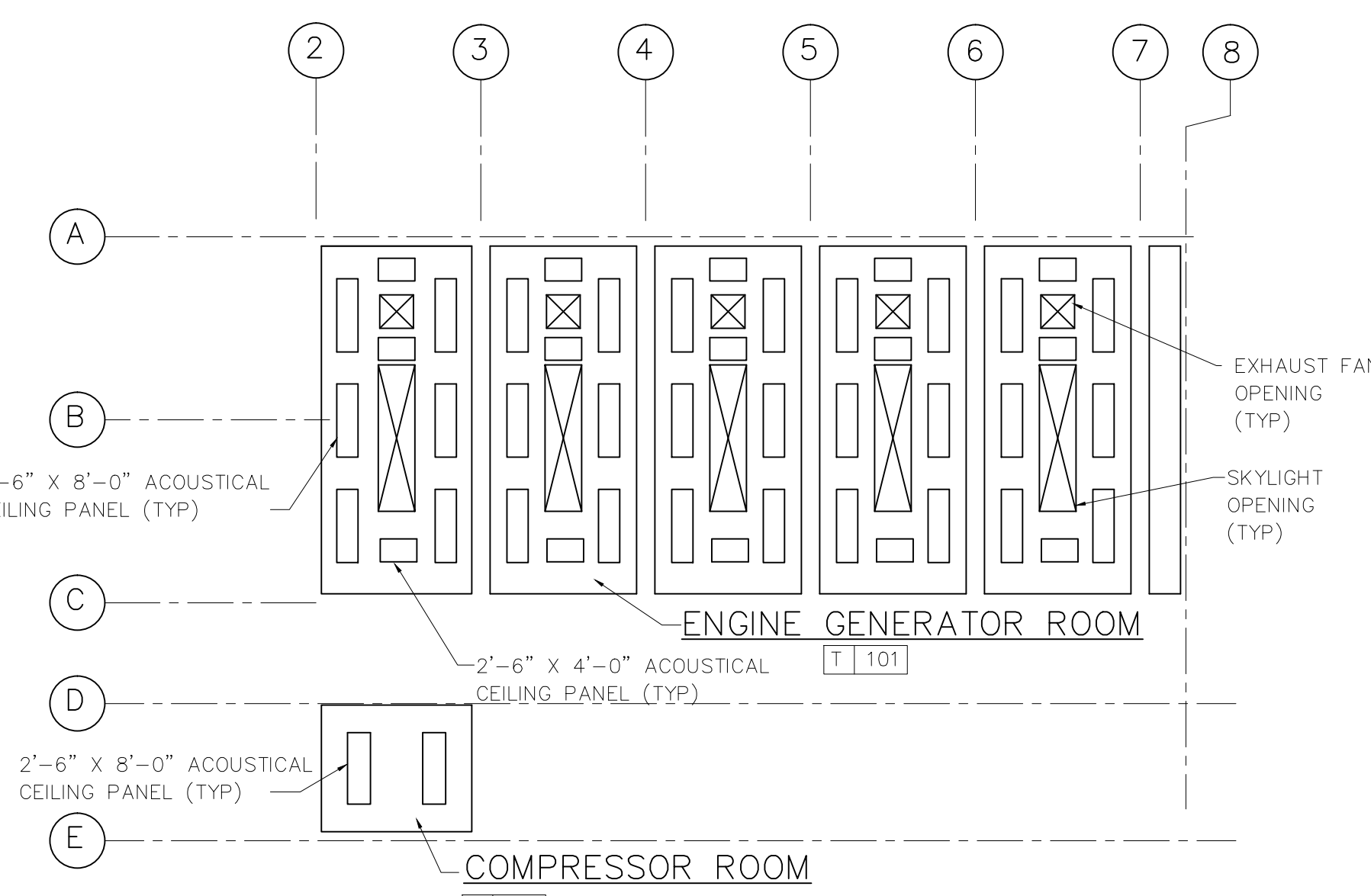
GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED TGT DRAWN MSB,PAE CHECKED CDS	APPROVED _____ DATE _____ _____ DATE _____ GREELEY AND HANSEN, ENGINEERS	NO. DATE APPD REVISION 4 8/7/96 RECORD DWG REVISIONS	SCALE 0 8 16 FT 1/8" = 1'-0" 0 1 2 3 FT 3/4" = 1'-0" 0 1 FT 1 1/2" = 1'-0"	CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	STANDBY POWER FACILITY ARCHITECTURAL PLAN AT EL 35'-0"	PROJ. NO. 202G DWG TA2 SHEET DATE DECEMBER 1991 REV 4
	THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.						

5H3B_OTA-002

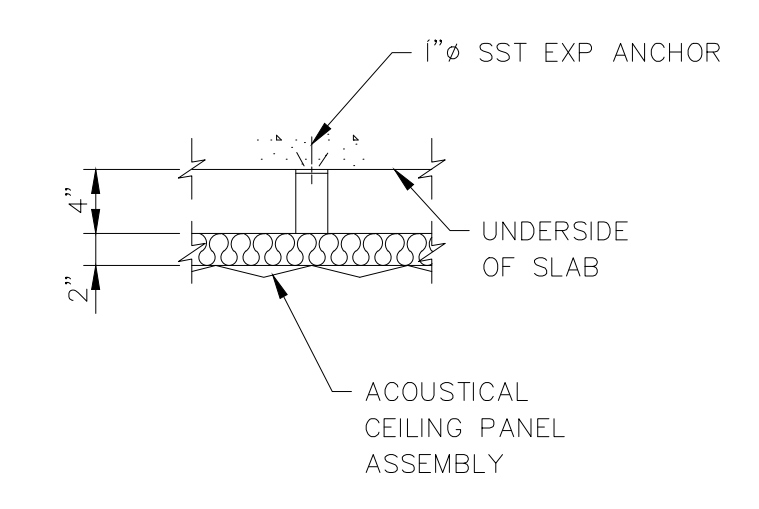
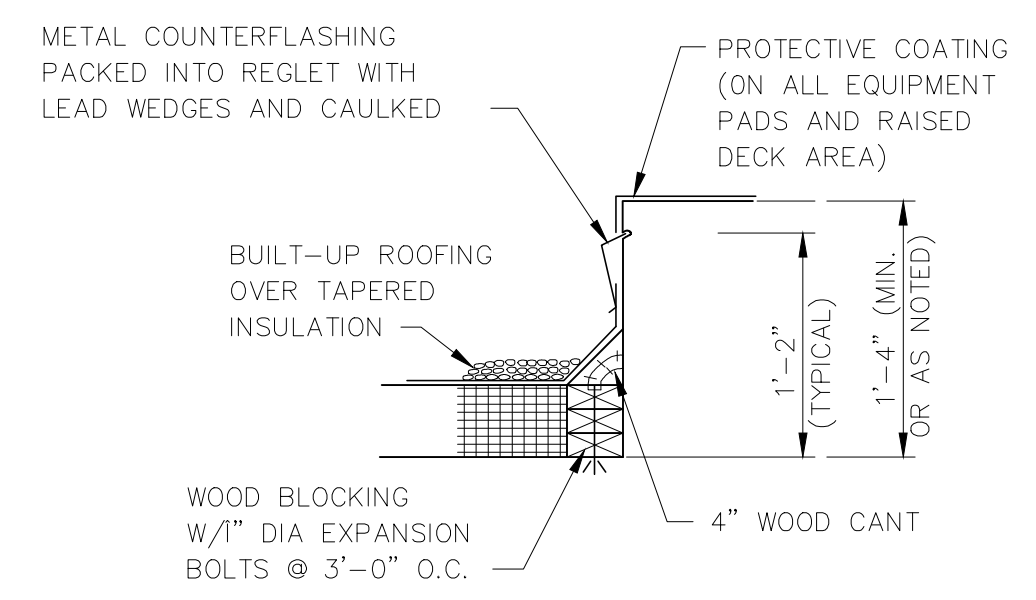
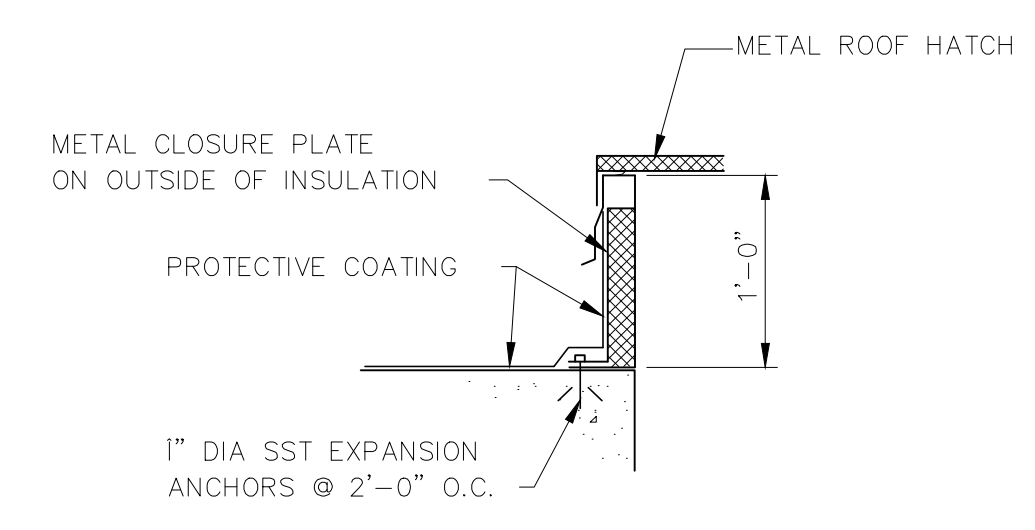
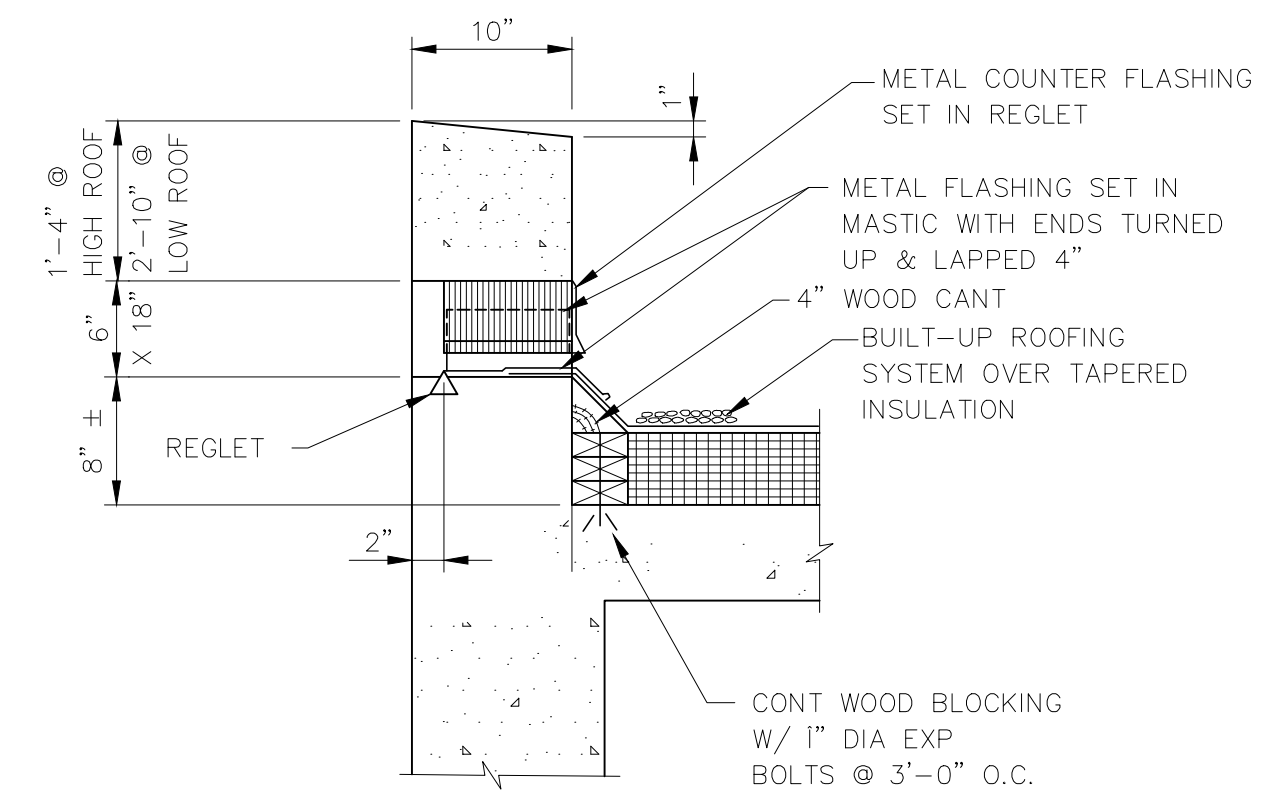
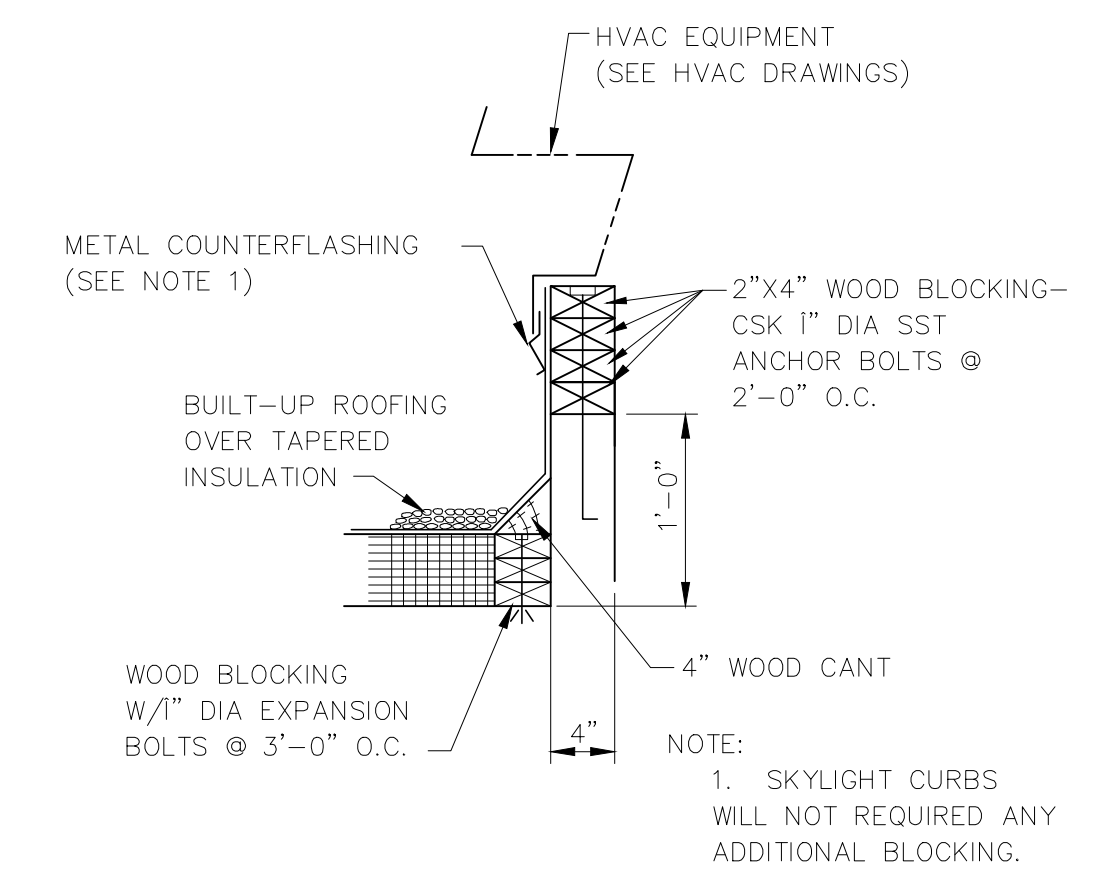
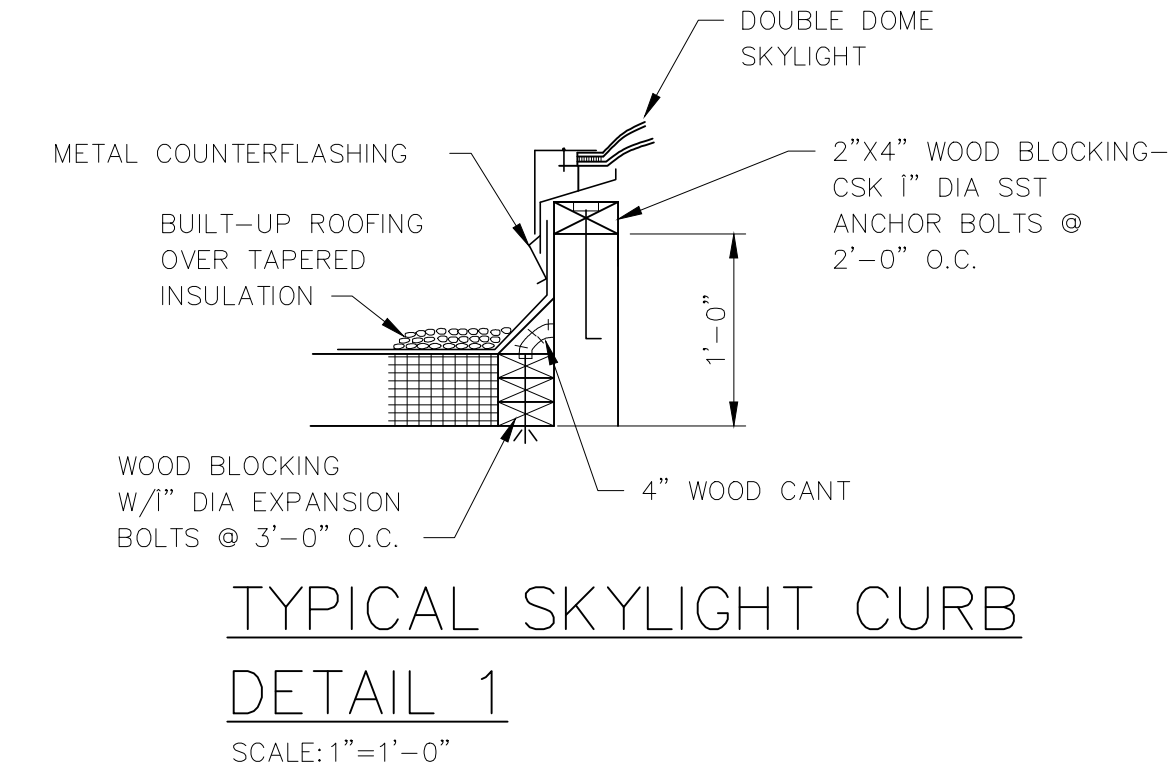


HIGH ROOF PLAN
SCALE: 1/8"=1'-0"

NOTE:
PROVIDE TAPERED INSULATION
SADDLES AT ALL ROOF MOUNTED
EQUIPMENT.



REFLECTED CEILING PLAN
SCALE: 1/8"=1'-0"



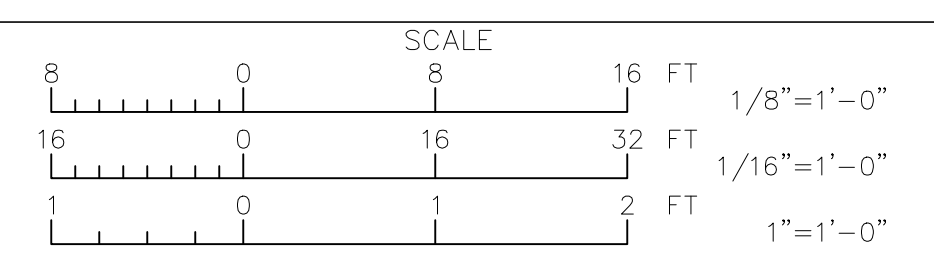
FILE: H3B-TA03 SCALE: 1:1 09/09/1996 at 08:52 - *13.dwg (hardware lock)*

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED TGT
DRAWN MSB
CHECKED CDS

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
3	8/7/96		RECORD DWG REVISIONS



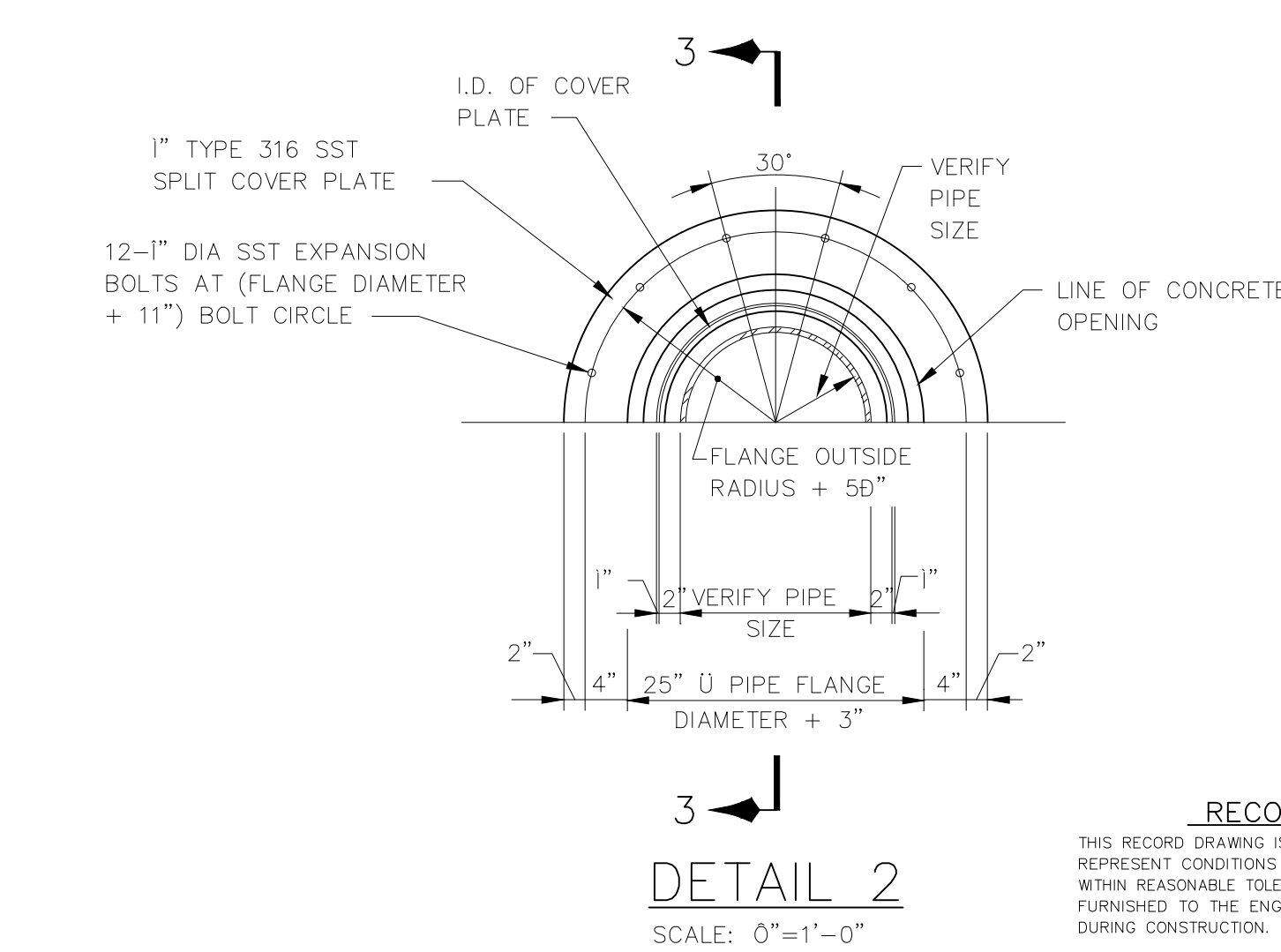
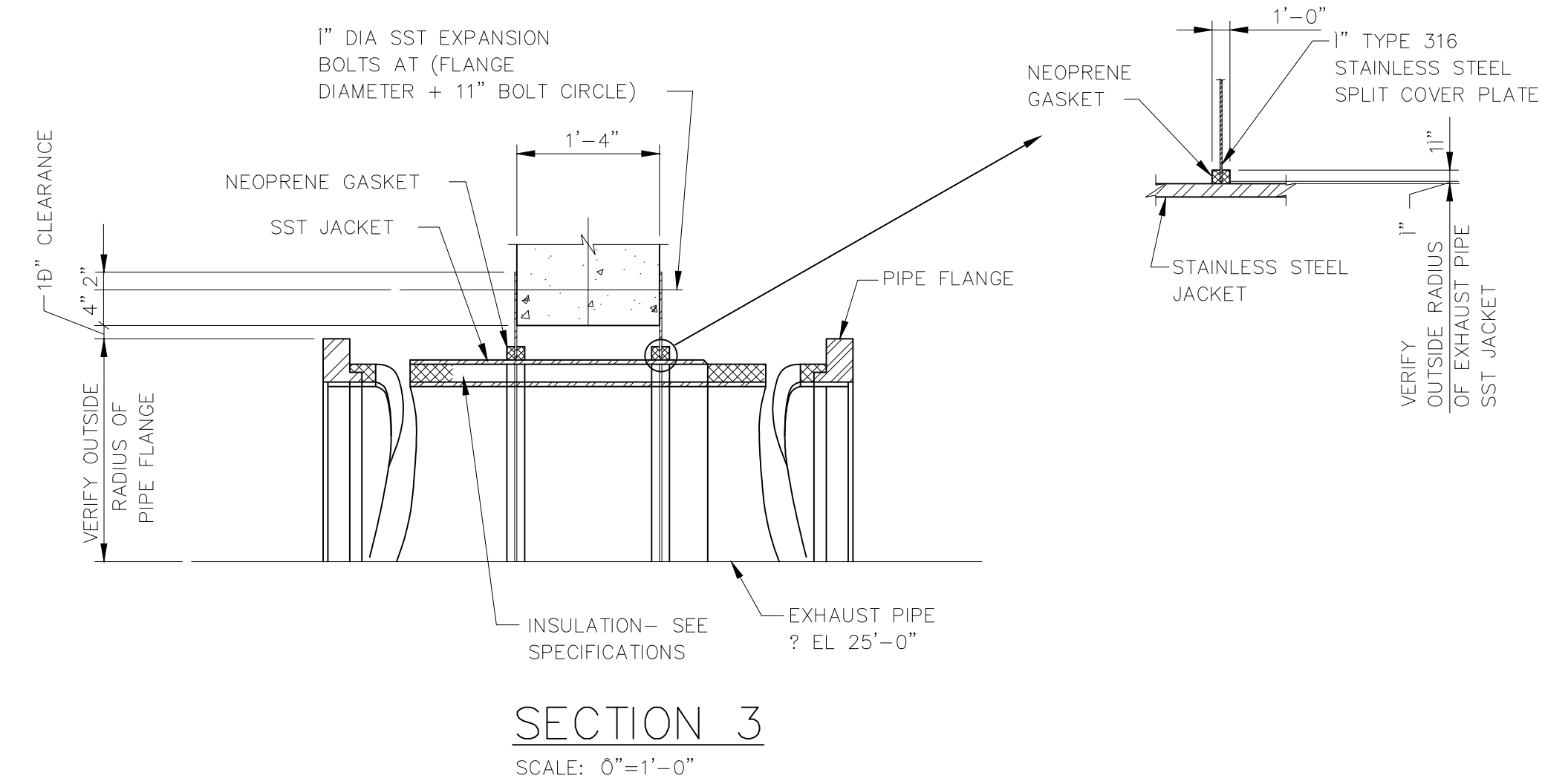
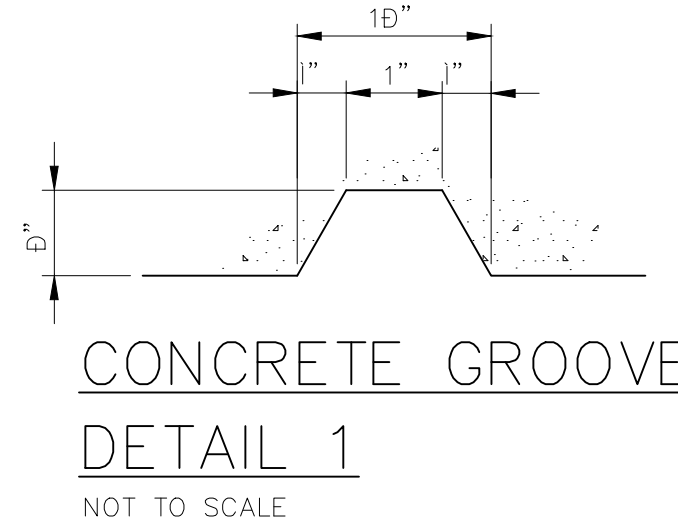
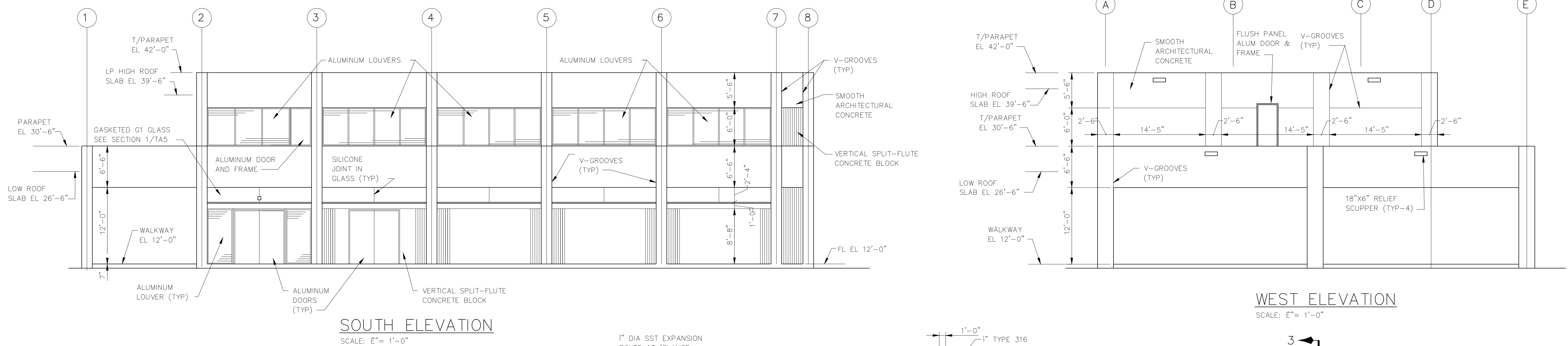
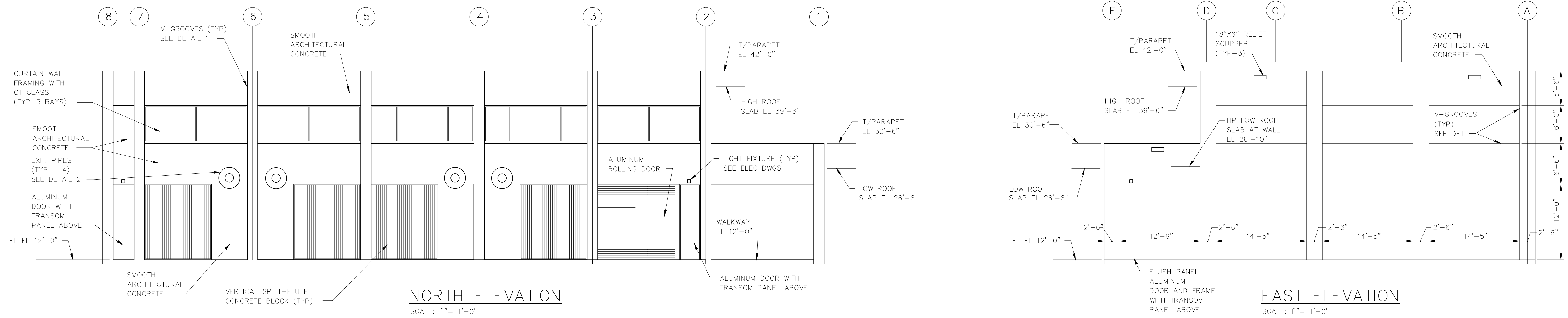
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
EXPANSION
PHASE 1 DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
ARCHITECTURAL
ROOF PLAN

RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

PROJ. NO. 202G
DWG TA3
SHEET
DATE DECEMBER 1991 REV 3

H3B_0TA-003



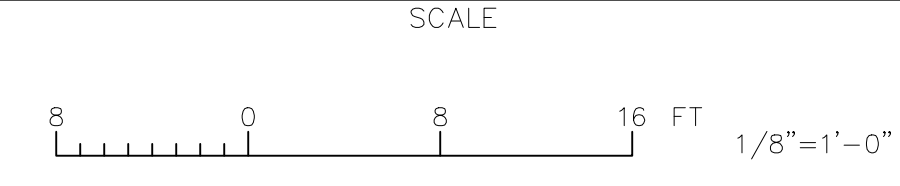
RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED TGT
DRAWN PAE
CHECKED CDS

APPROVED _____
DATE _____
GREGORY AND HANSEN, ENGINEERS

NO.	DATE	APPD.	REVISION
3	8/9/96		RECORD DWG REVISIONS

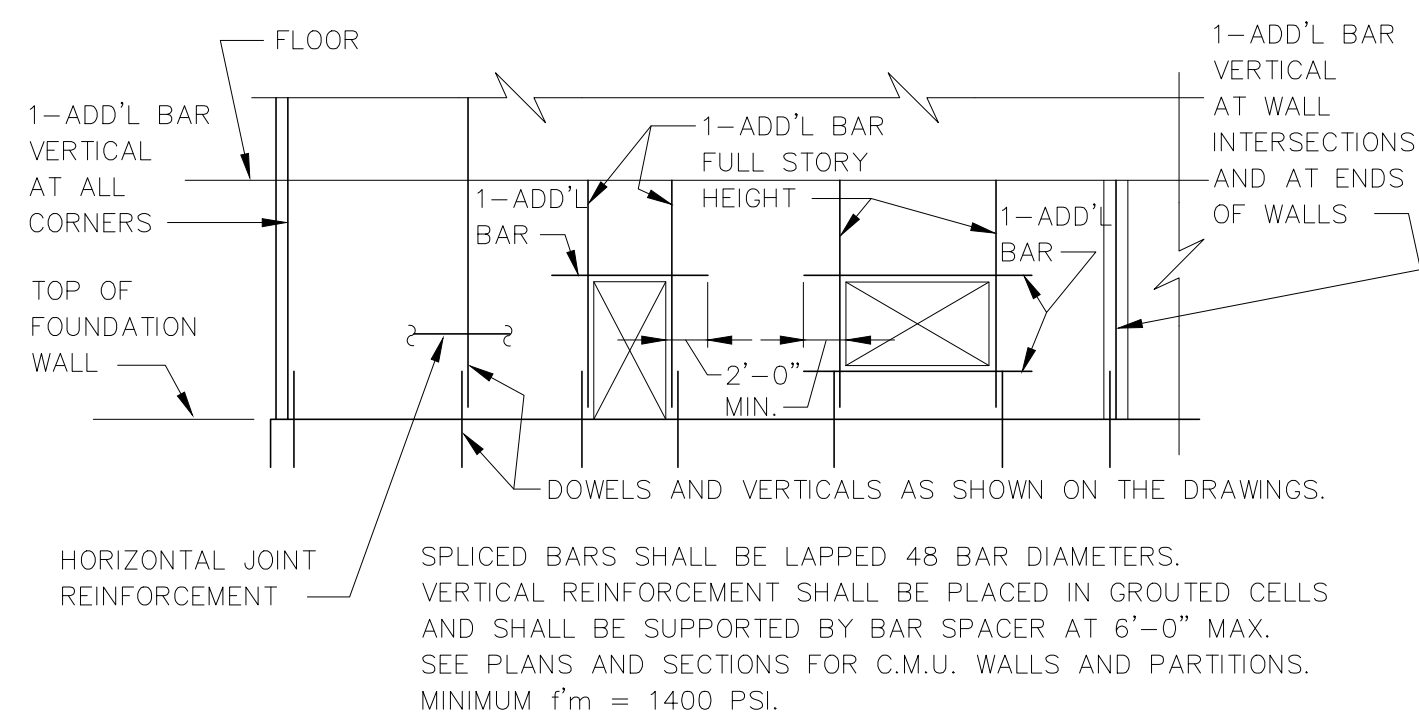


CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

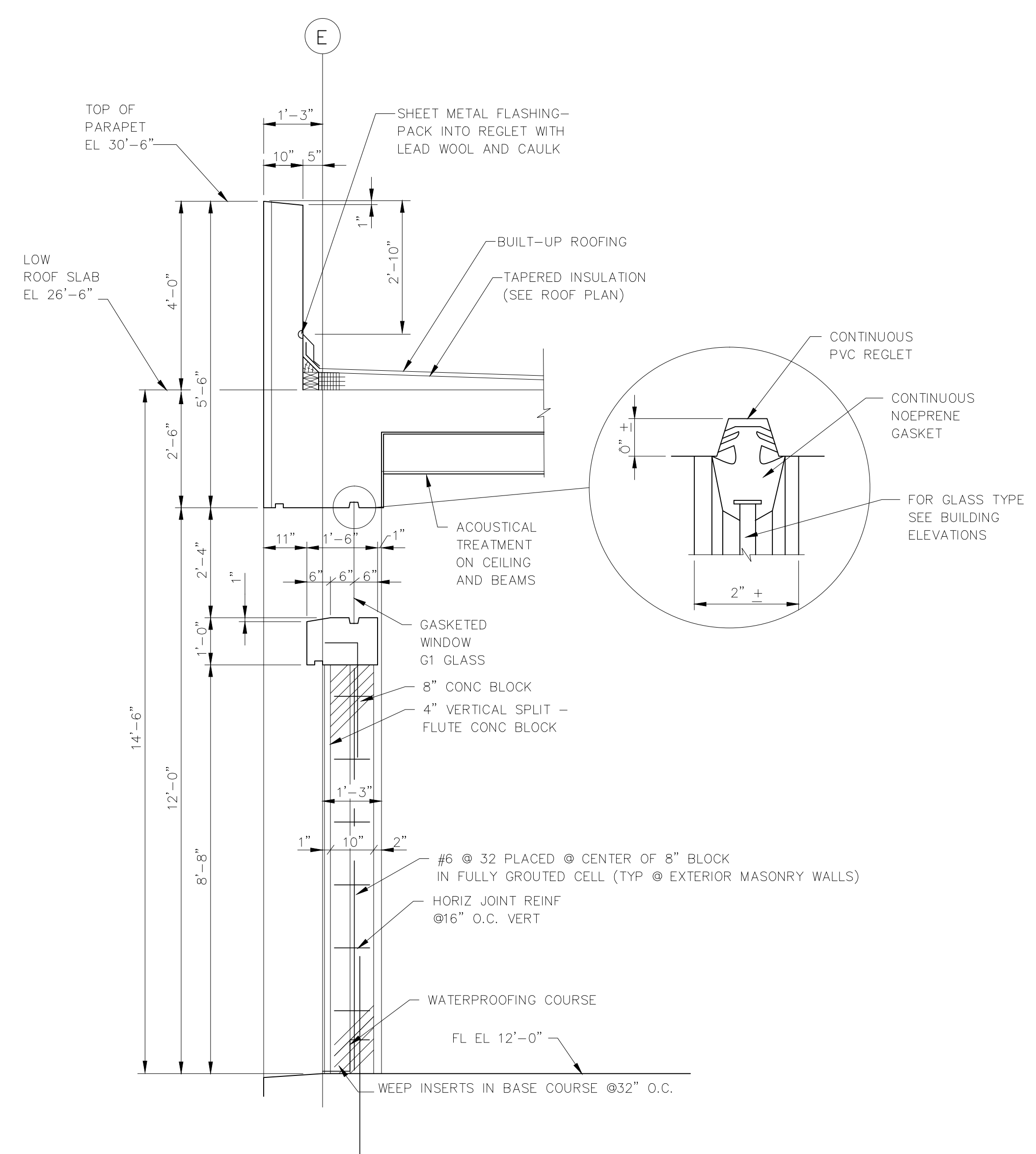
STANDBY POWER FACILITY
ARCHITECTURAL
ELEVATIONS

PROJ. NO.	202G
DWG	TA4
SHEET	
DATE	DECEMBER 1991
REV	3

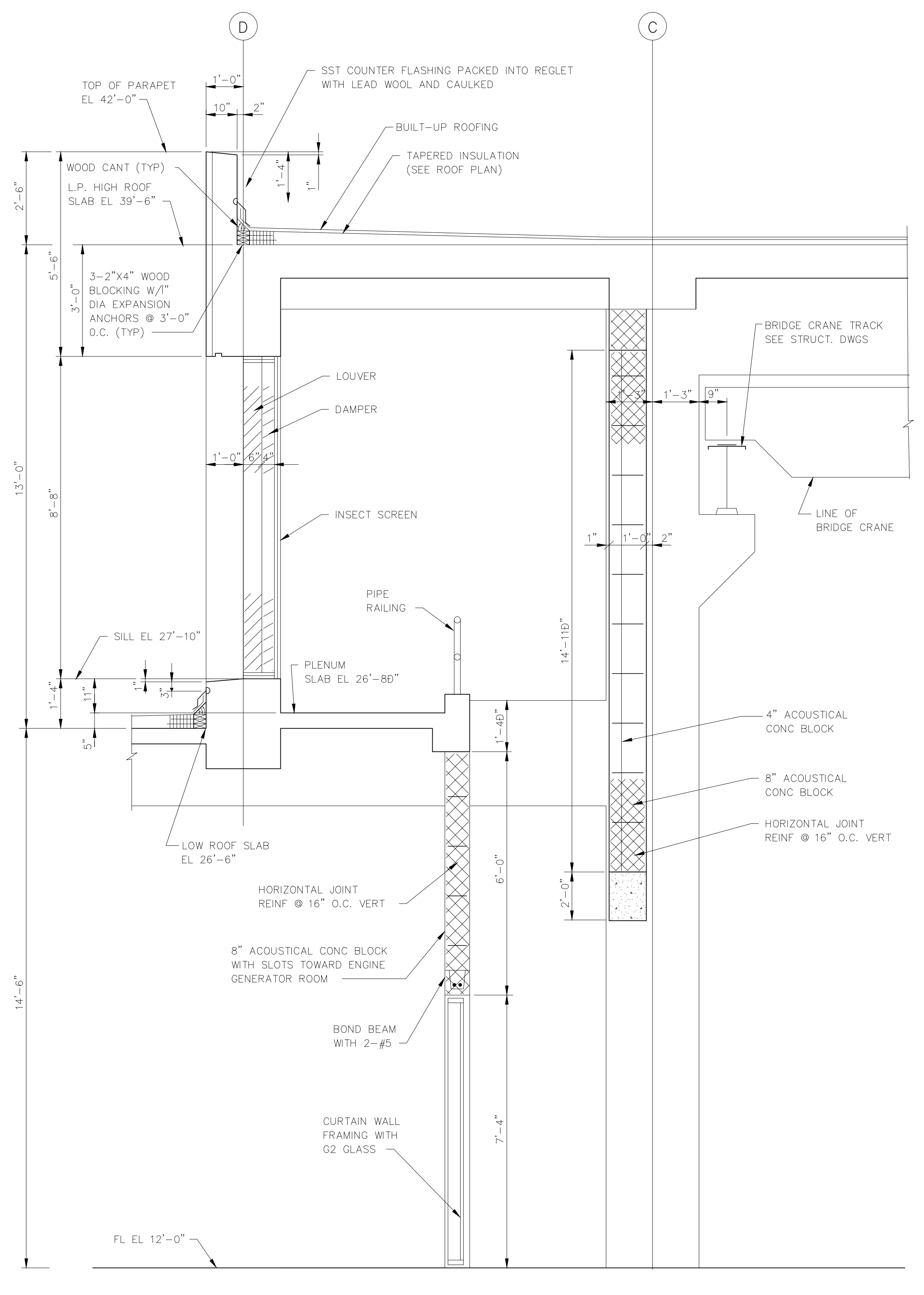
5H3B_OTA-004



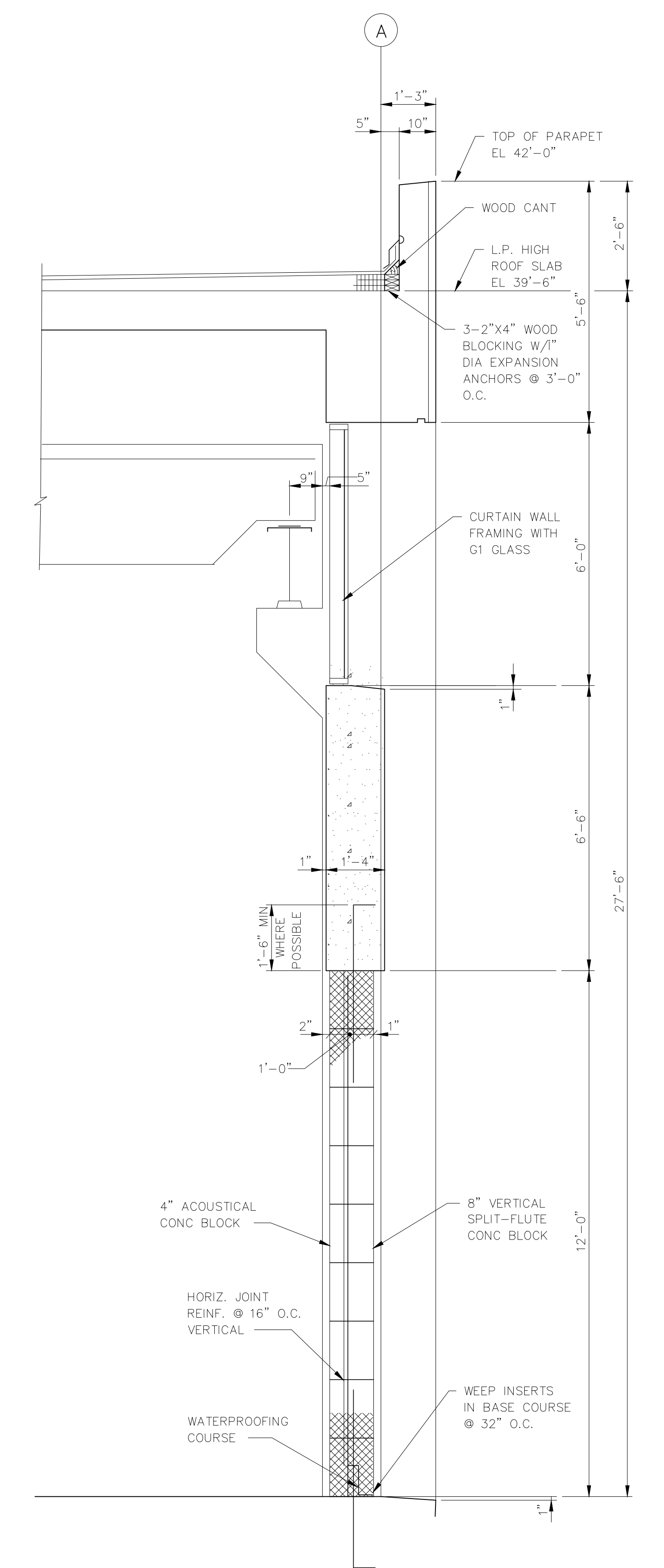
TYPICAL DETAILS OF REINFORCEMENT FOR C.M.U. WALLS



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



SECTION 2
SCALE: 3/8" = 1'-0"



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

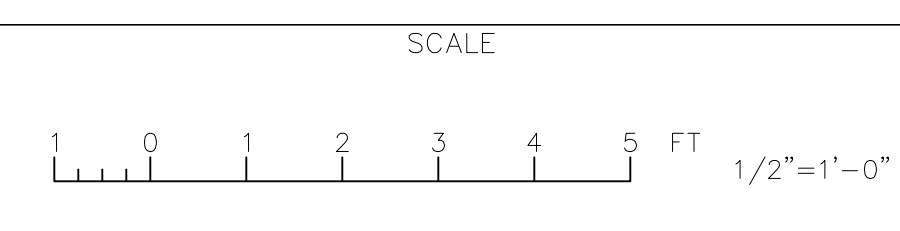
RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

FILE: H3B-TAGS SCALE: 1:24 09/17, 1996 at 08:20 - *13_44 (Hardware Lead)*

GREELEY AND HANSEN ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED TGT
DRAWN PAE
CHECKED CDS

APPROVED	DATE			
GREELEY AND HANSEN, ENGINEERS	NO.	DATE	APPD	REVISION
	2	8/28/96		RECORD DWG REVISIONS



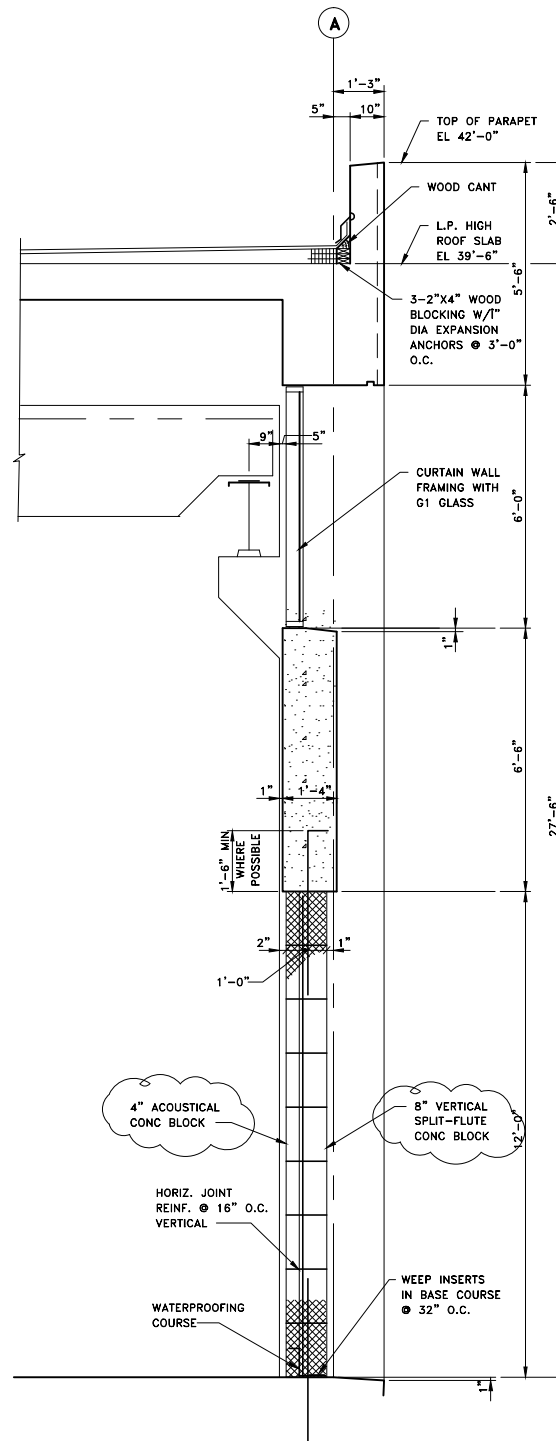
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
ARCHITECTURAL
SECTIONS

See Supplemental Drawing SD-34

PROJ. NO.	202G
DWG	TA5
SHEET	
DATE	DECEMBER 1991
REV	2

5H3B_0TA-005



SECTION 3

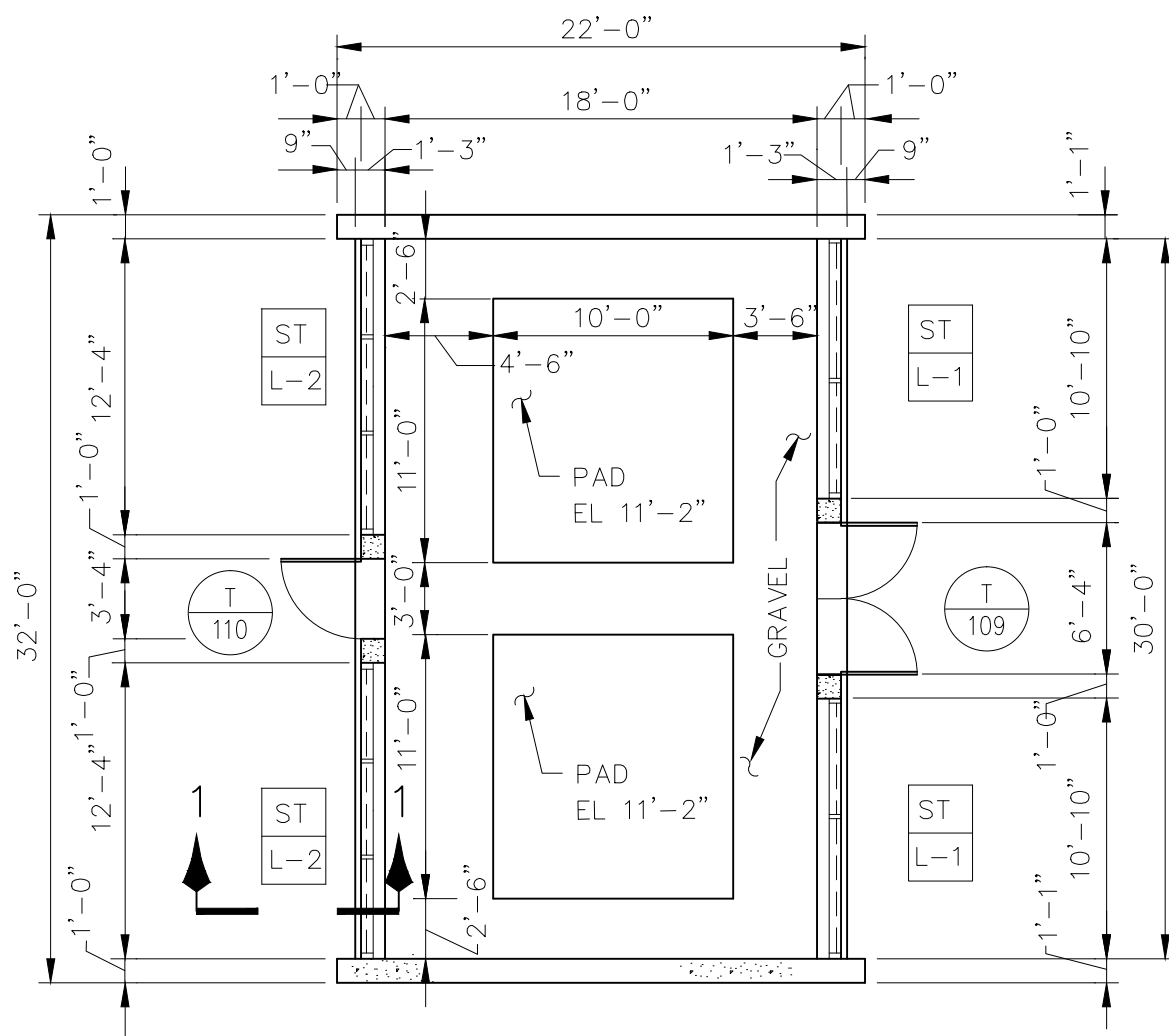
NOT TO SCALE

REVISES DRAWING TA5

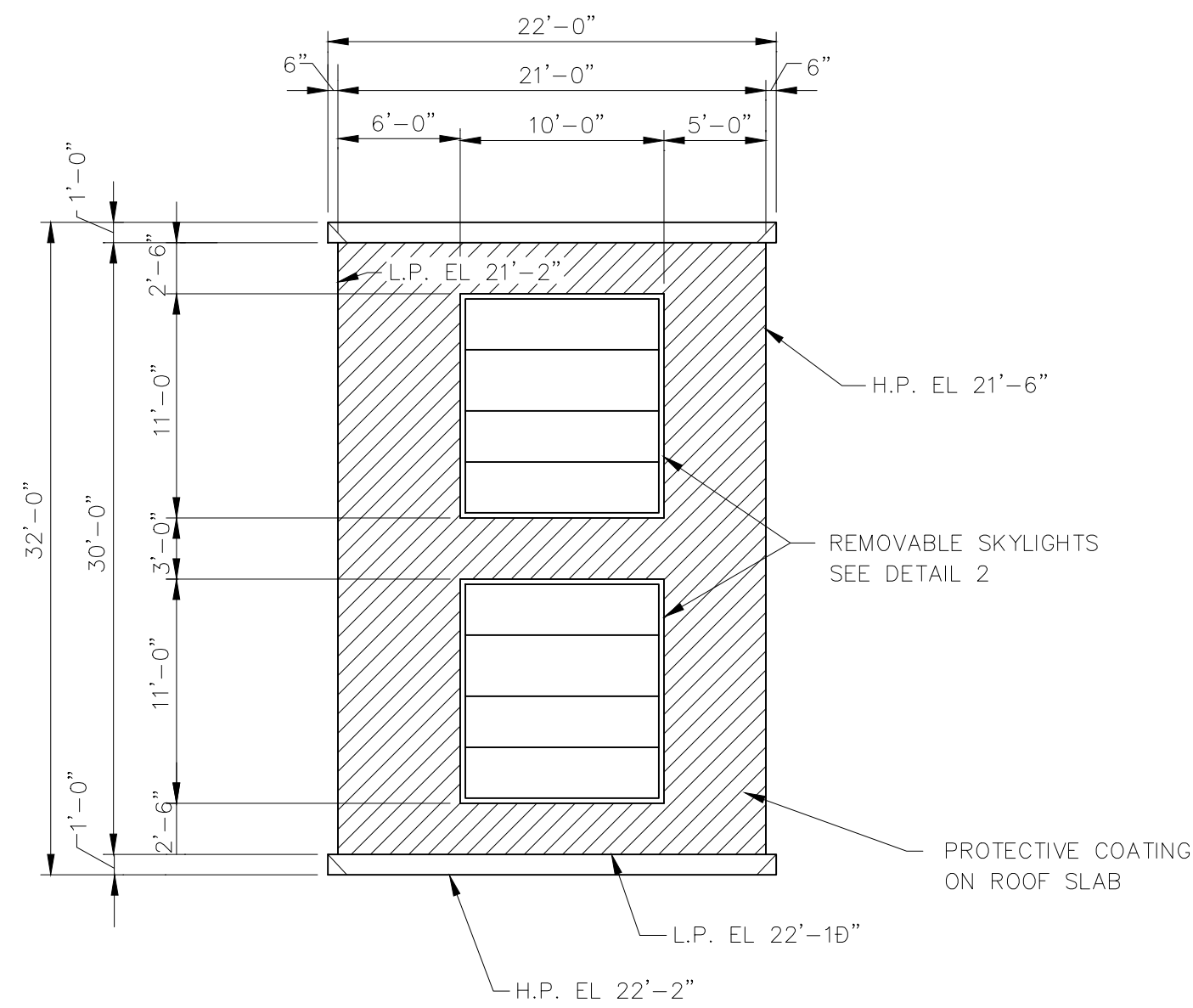
FILE: H:\AC\5H3B\SD\5H3BESD34 SCALE: 1:11 12/10, 1993 of 10:36 *R11.c2*

DES TGT	CKD CDS				H.P.W.W.T.P.
DR ROO	APPD				DIVISION 5H3B
GREELEY AND HANSEN ENGINEERS CHICAGO, ILLINOIS 60606					SD-34
NO.	DATE	APPD	REVISION	DATE	DEC 1993 NO. 0

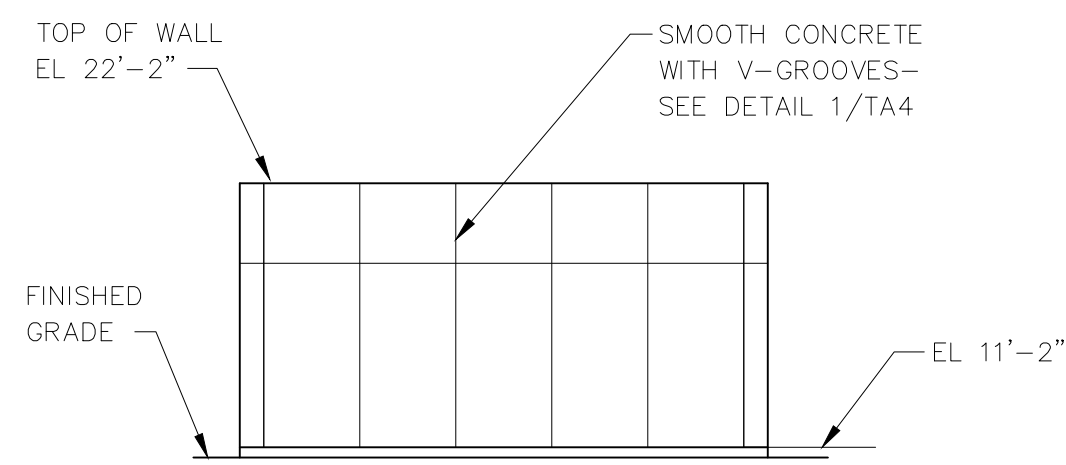
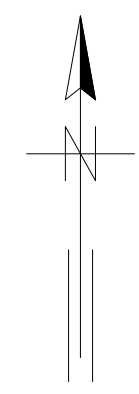
5H3B_0TA-005A



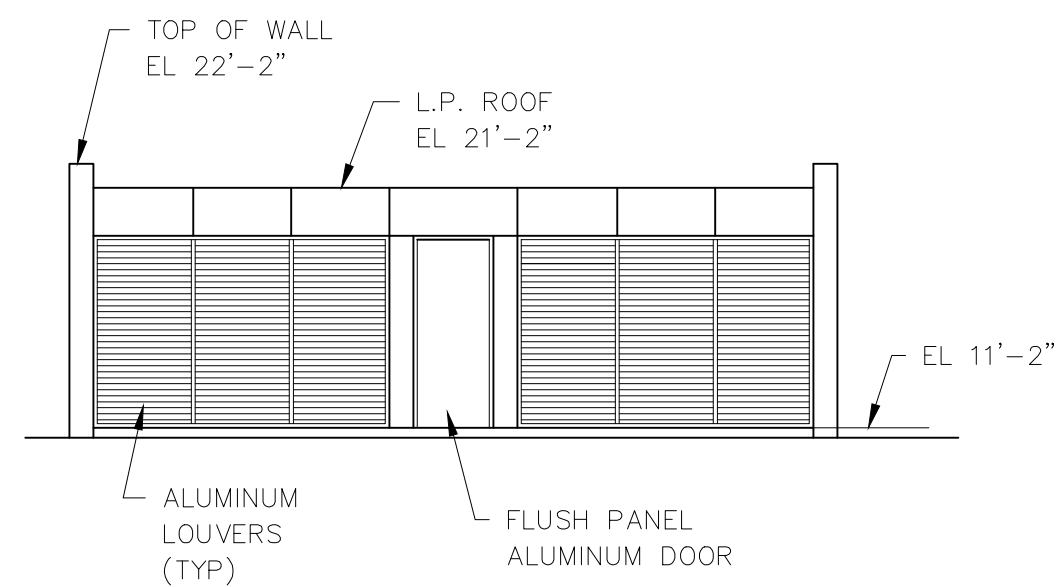
PLAN AT GRADE
SCALE: E": 1'-0"



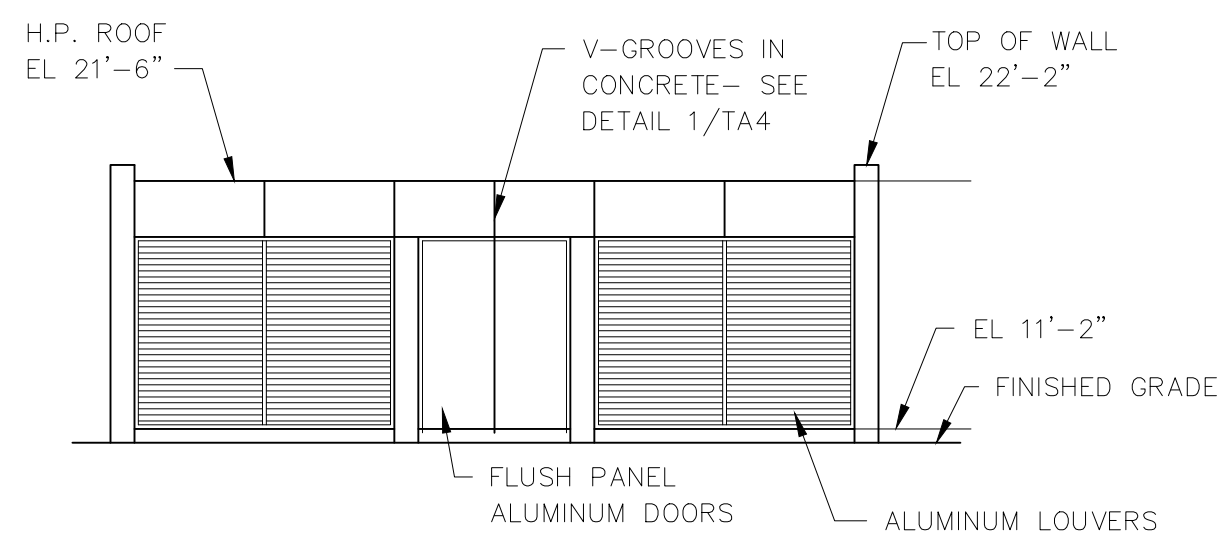
ROOF PLAN
SCALE: E": 1'-0"



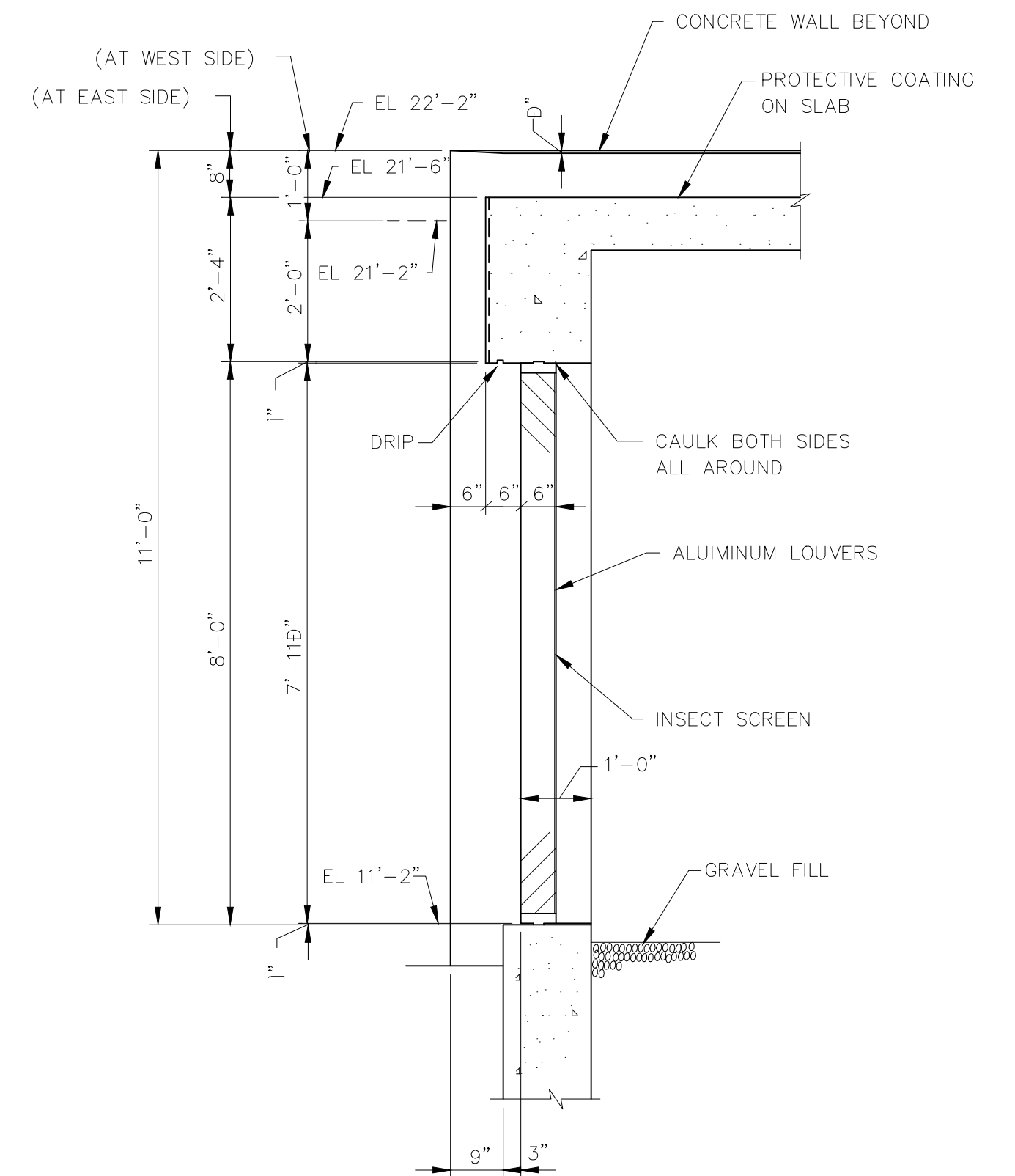
NORTH/SOUTH ELEVATION
SCALE: E": 1'-0"



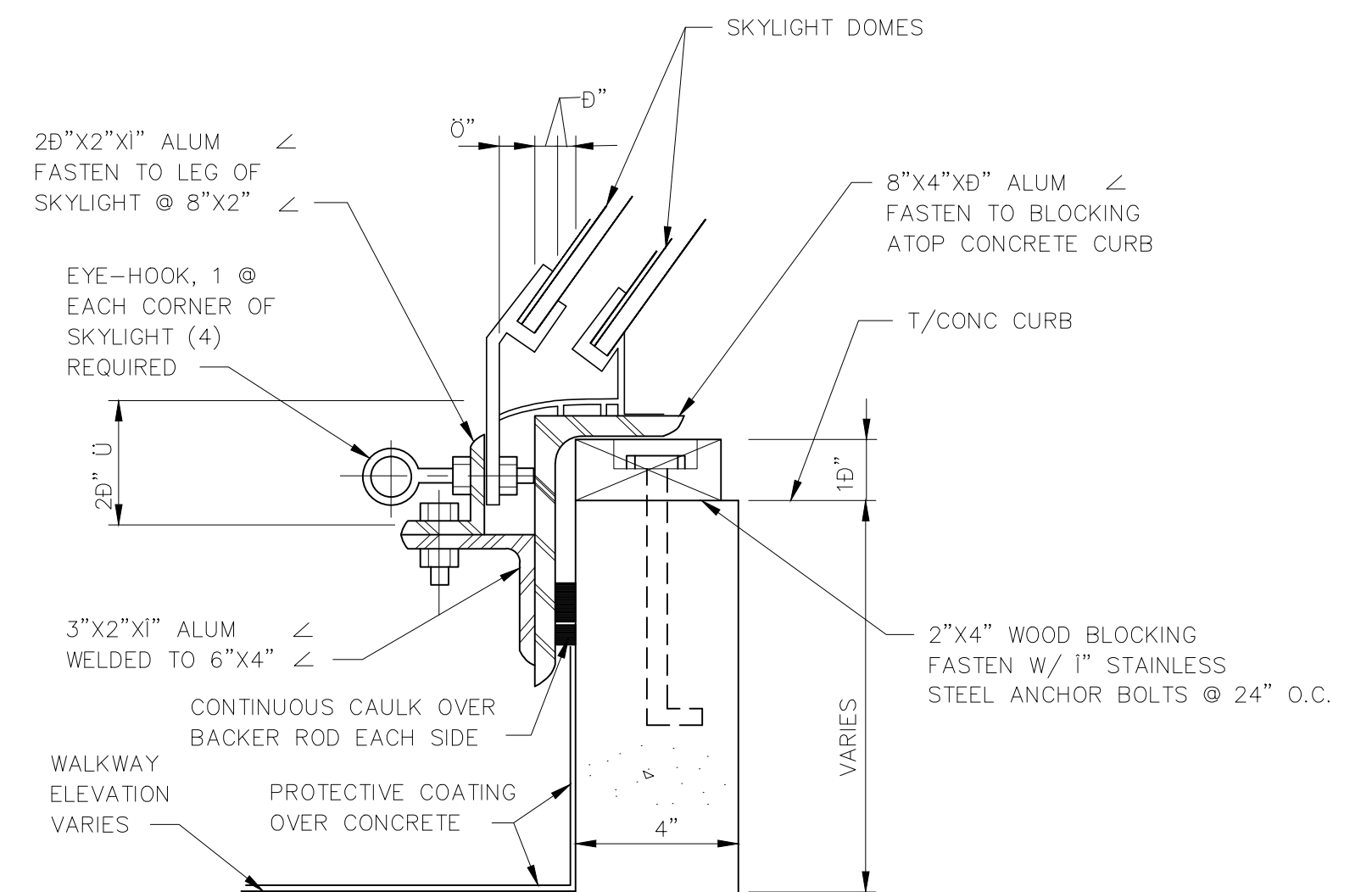
WEST ELEVATION
SCALE: E": 1'-0"



EAST ELEVATION
SCALE: E": 1'-0"



SECTION 1
SCALE: D": 1'-0"



DETAIL 2
SCALE: 3" = 1'-0"

RECORD DRAWING

THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

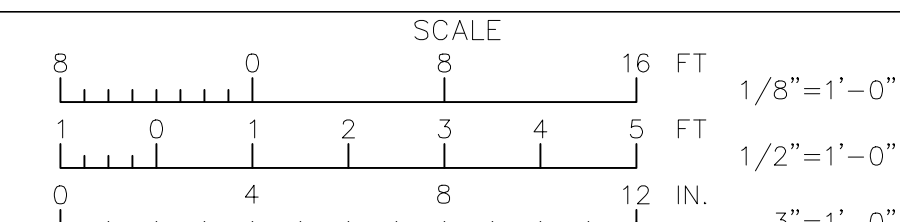
FILE: H3B-TA6B SCALE: 1/8" = 0'/0", 1/8" = 0'/0", 1/8" = 0'/0" - *13_4ch (drawn) Lock*

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED TGT
DRAWN ROO
CHECKED CDS

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
3	8/12/96		RECORD DWG REVISIONS



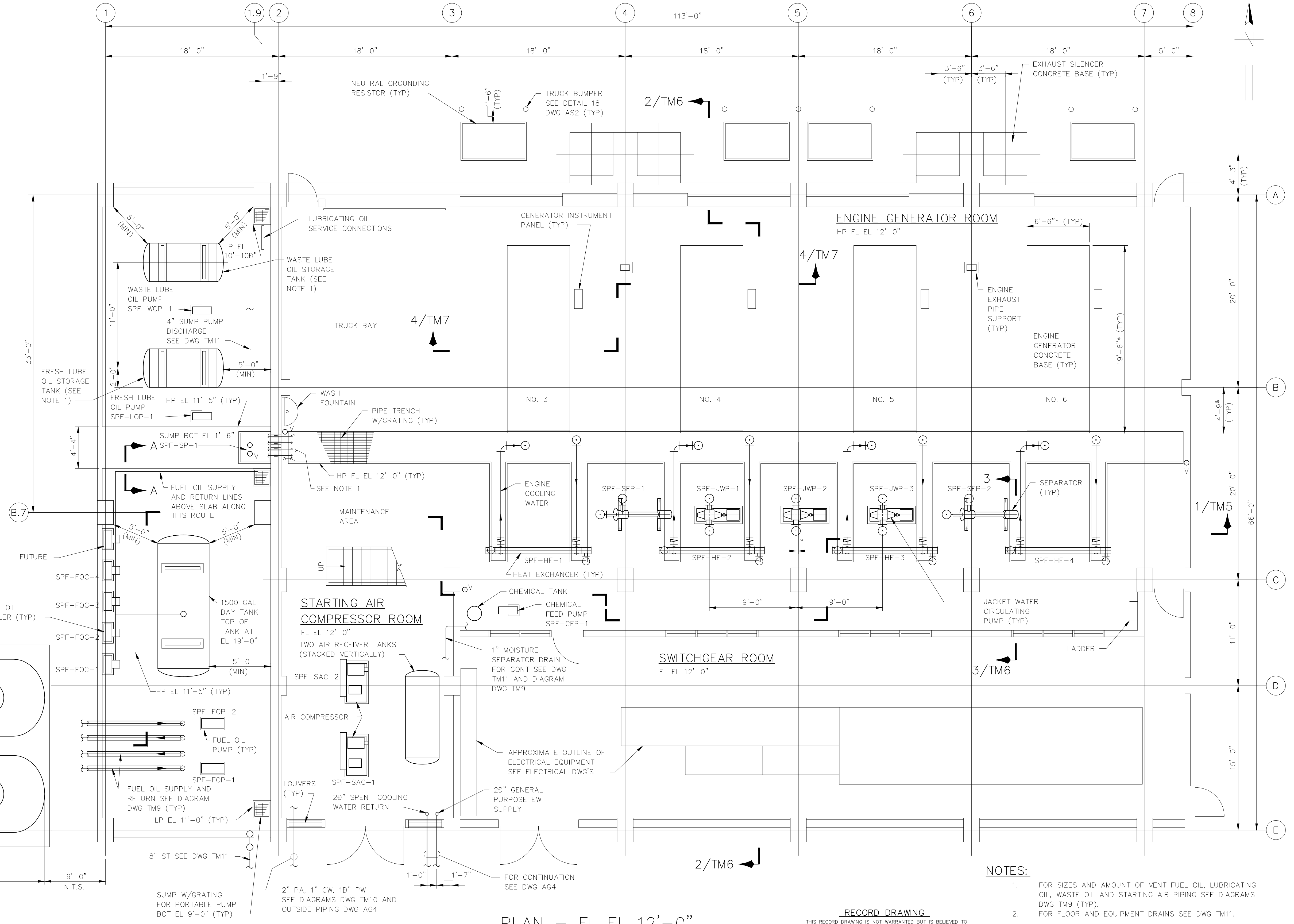
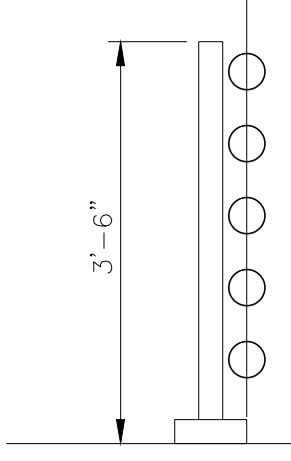
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

TRANSFORMER YARD
ARCHITECTURAL
PLANS, ELEVATIONS AND SECTIONS

PROJ. NO.	202G
DWG	TA6
SHEET	
DATE	DECEMBER 1991
REV	3

5H3B_OTA-006

SECTION A
NOT TO SCALE



PLAN - FL EL 12'-0"
SCALE: E"=1'-0"

- NOTES:
- FOR SIZES AND AMOUNT OF VENT FUEL OIL, LUBRICATING OIL, WASTE OIL AND STARTING AIR PIPING SEE DIAGRAMS DWG TM9 (TYP).
 - FOR FLOOR AND EQUIPMENT DRAINS SEE DWG TM11.

RECORD DRAWING
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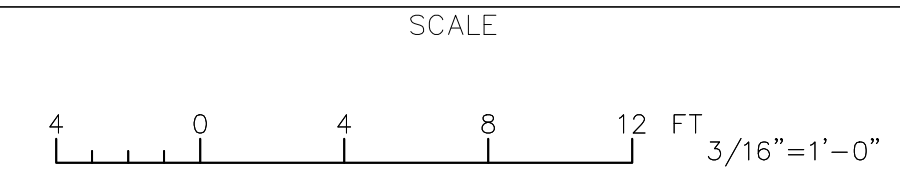
FILE: H3B-TM1 SCALE: 1:84 8/14/96 at 07:40 - "13.44 (Hardware Lock)"

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED SFS, RPN
DRAWN RPN
CHECKED JRP

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
4	8/14/96		RECORD DWG REVISIONS

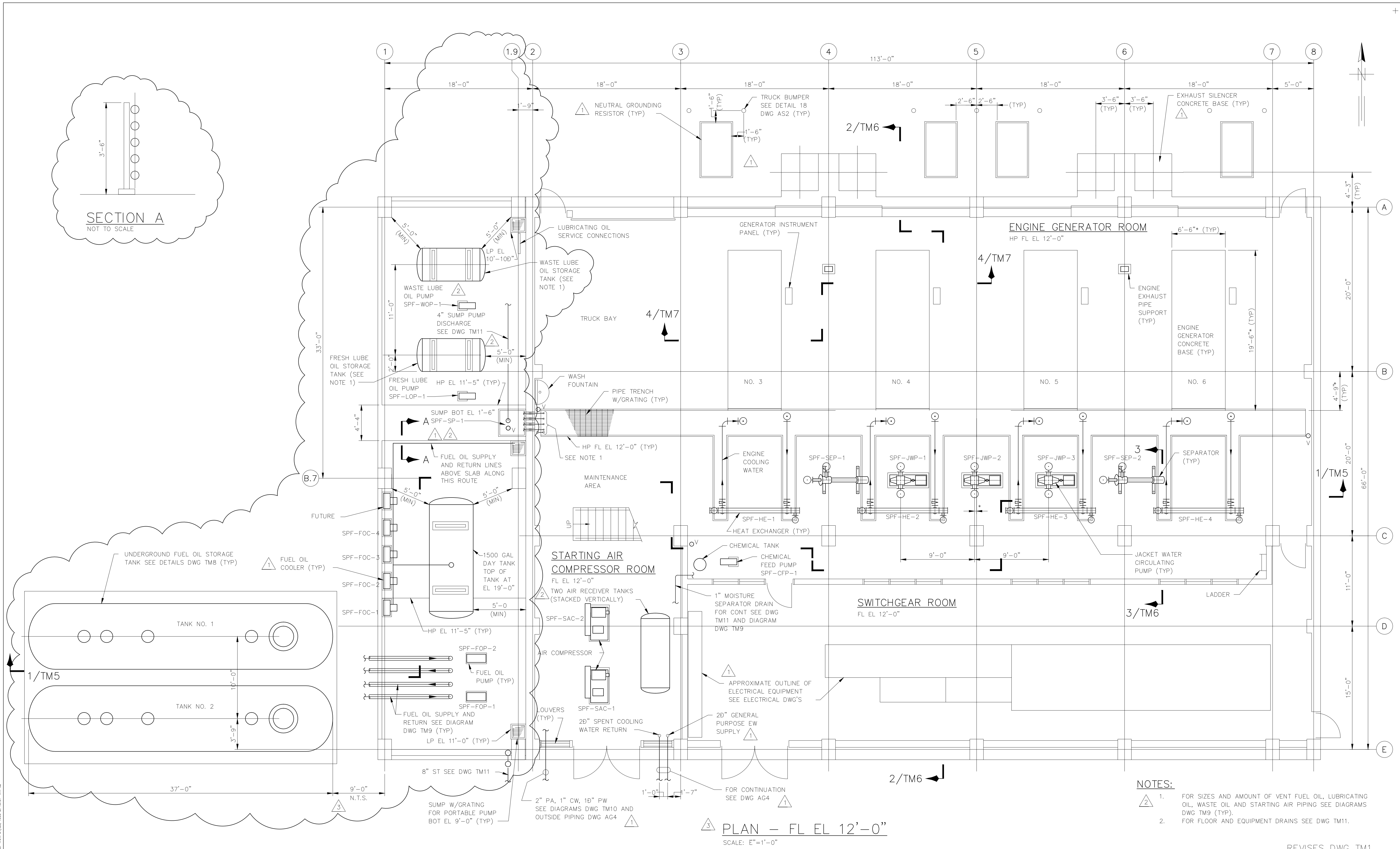
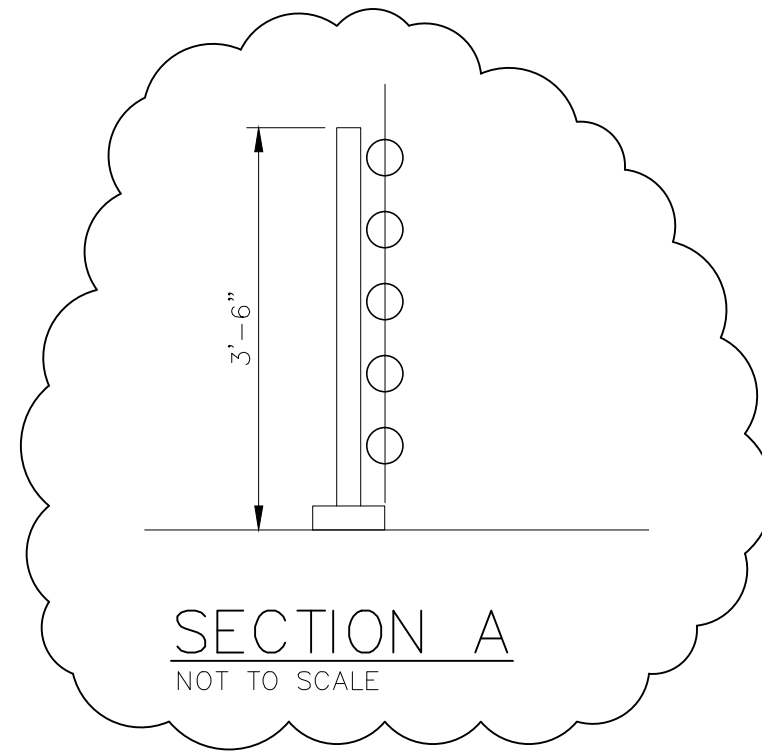


CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
MECHANICAL
PLAN - FL EL 12'-0"

See Supplemental
Drawing SD-5

PROJ. NO.	202G
DWG	TM1
SHEET	
DATE	DECEMBER 1991
REV	4



- NOTES:**
- FOR SIZES AND AMOUNT OF VENT FUEL OIL, LUBRICATING OIL, WASTE OIL AND STARTING AIR PIPING SEE DIAGRAMS DWG TM9 (TYP).
 - FOR FLOOR AND EQUIPMENT DRAINS SEE DWG TM11.

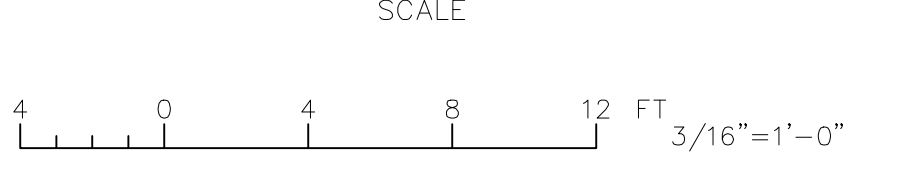
PLAN - FL EL 12'-0"
SCALE: 1/8"=1'-0"

GREELEY AND HANSEN
ENGINEERS
4350 WEST CYPRESS STREET
TAMPA, FLORIDA 33607-4135

DESIGNED SFS RPN
DRAWN RPN
CHECKED JRP

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
3	4/12/93	DCH	FIRE MARSHAL'S COMMENTS
2	8/04/92	DCH	REVISED PER ADD NO 2
1	2/28/92	JRP	REVISED N WALL & MISC



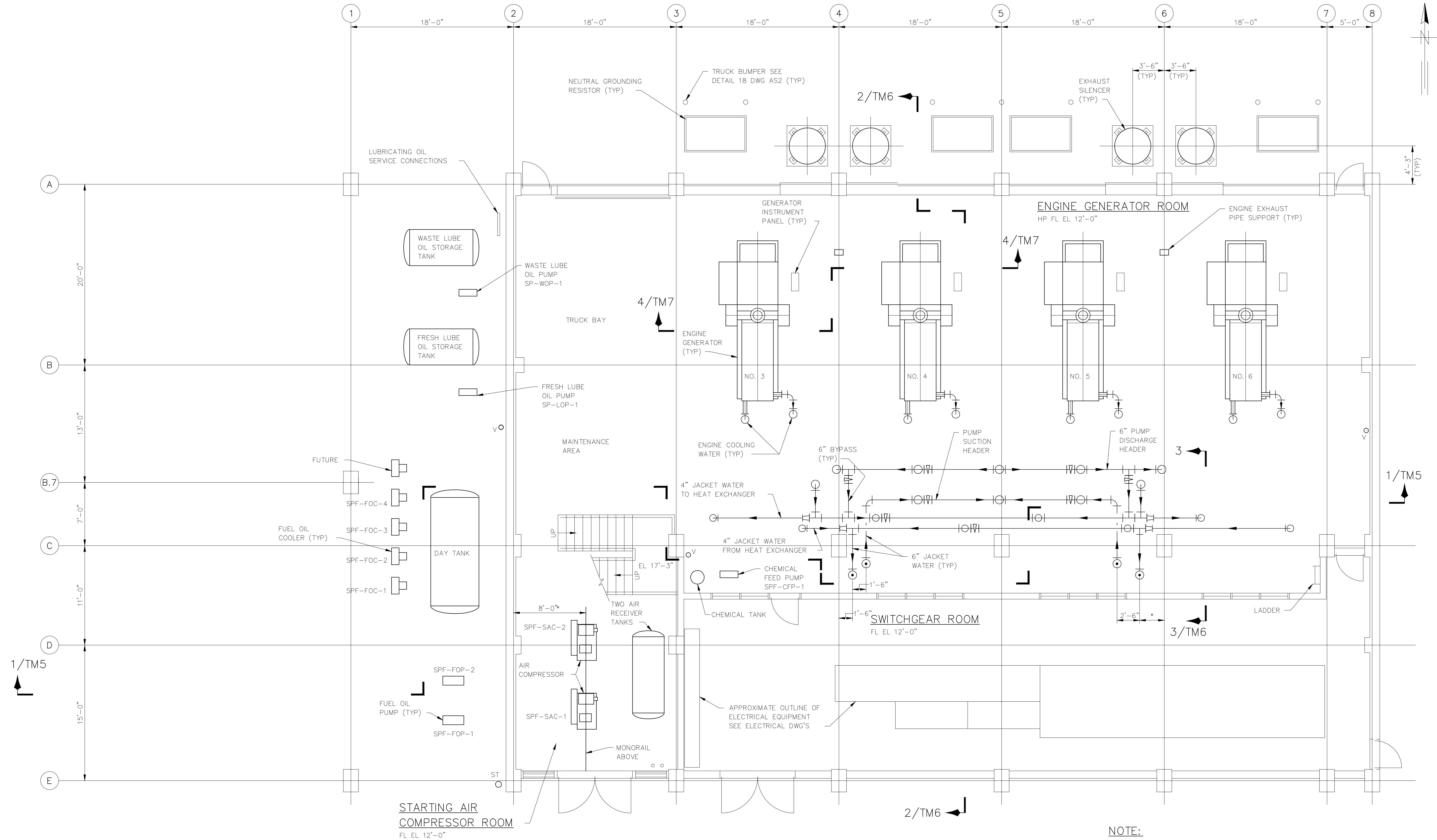
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
MECHANICAL
PLAN - FL EL 12'-0"

REVISES DWG TM1

PROJ. NO. 202G
DWG SD-5
SHEET
DATE DECEMBER 1991 REV 3

5H3B_OTM-001A



PLAN AT EL 21'-0"
SCALE: 1/8"=1'-0"

NOTE:
FOR ELEVATIONS OF PIPING SHOWN IN PLAN
REFER TO SECTIONAL VIEWS.

RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

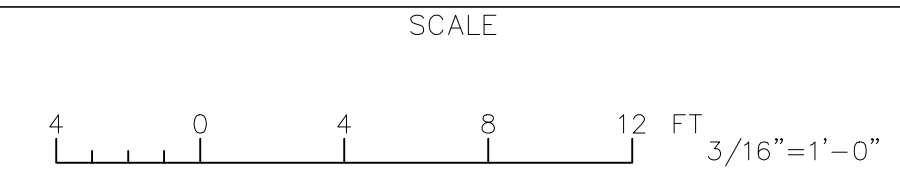
FILE: H3B-TM2 SCALE: 1:84 09/09, 1996 at 09:38 - +13.44 (Hardware LIBRARY) FILE: TM2PFD2 SCALE: 1:84 02/25, 1992 at 12:01 - W303.4 R111.2*

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED SFS, RPN
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CHECKED JRP

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
2	8/14/96		RECORD DWG REVISIONS



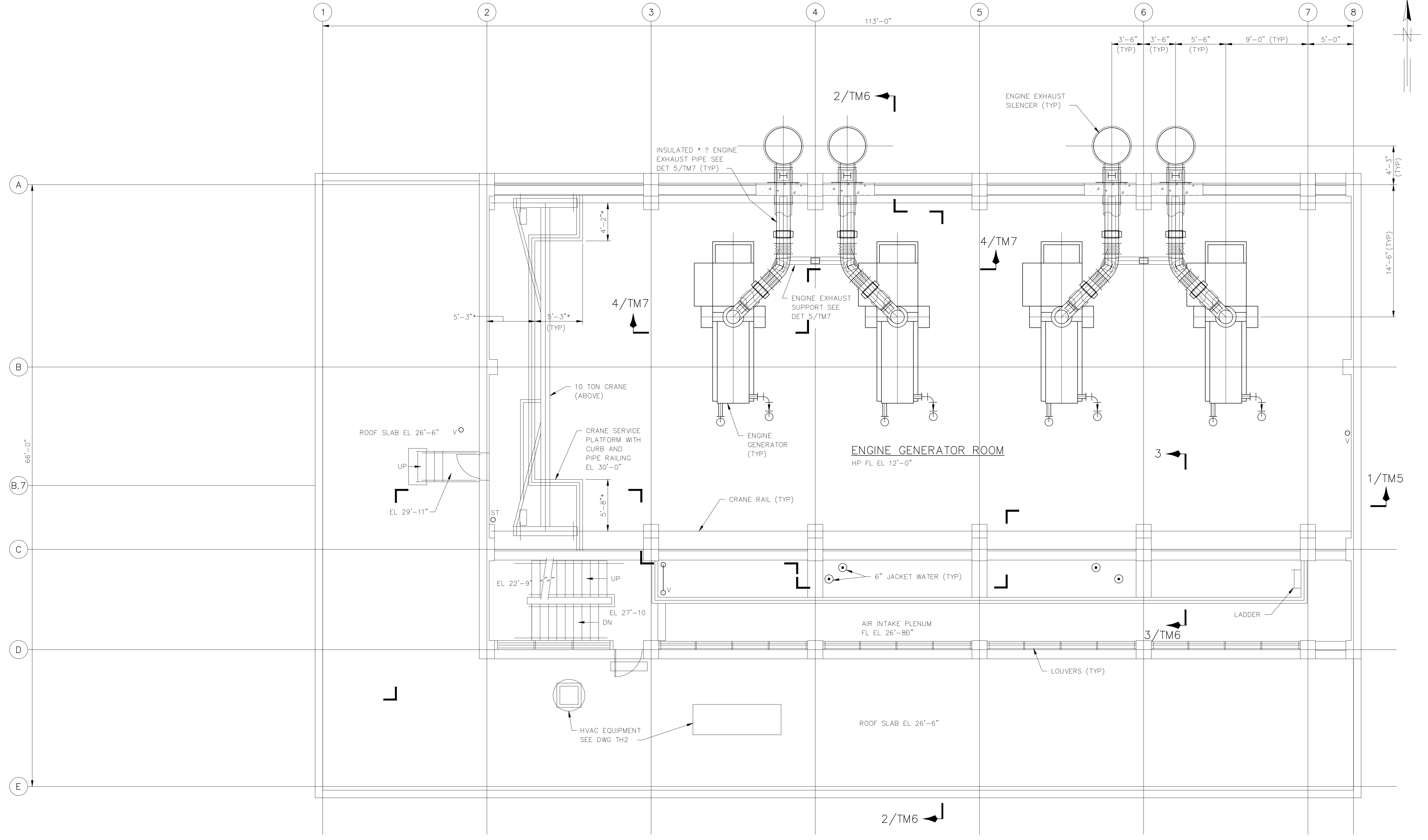
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
MECHANICAL
PLAN AT EL 21'-0"

PROJ. NO.	202G
DWG	TM2
SHEET	
DATE	DECEMBER 1991
REV	2

5H3B_OTM-002

FILE: HUB-TM3 SCALE: 1:64 09/09/1996 at 10:13 - "13.dwg" (Hardware LIBRARY) FILE: TMFFIB3 SCALE: 1:64 02/25/1992 at 12:08 - "Mch3 4 *R11.dwg"



PLAN AT EL 33'-0"
 SCALE: 1/8"=1'-0"

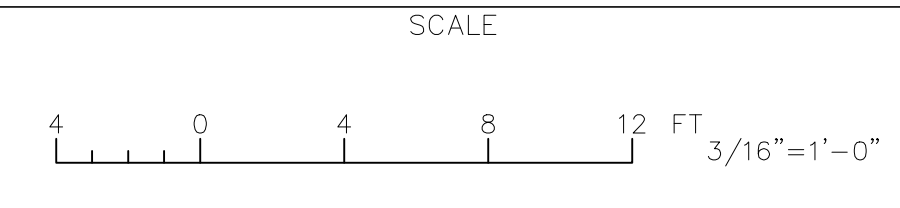
RECORD DRAWING
 THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

GREELEY AND HANSEN
 ENGINEERS
 1715 NORTH WESTSHORE BOULEVARD
 TAMPA, FLORIDA 33607-4135

DESIGNED SFS, RPN
 DRAWN RPN
 CHECKED JRP

APPROVED _____ DATE _____
 GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD.	REVISION
2	8/12/96		RECORD DWG REVISIONS



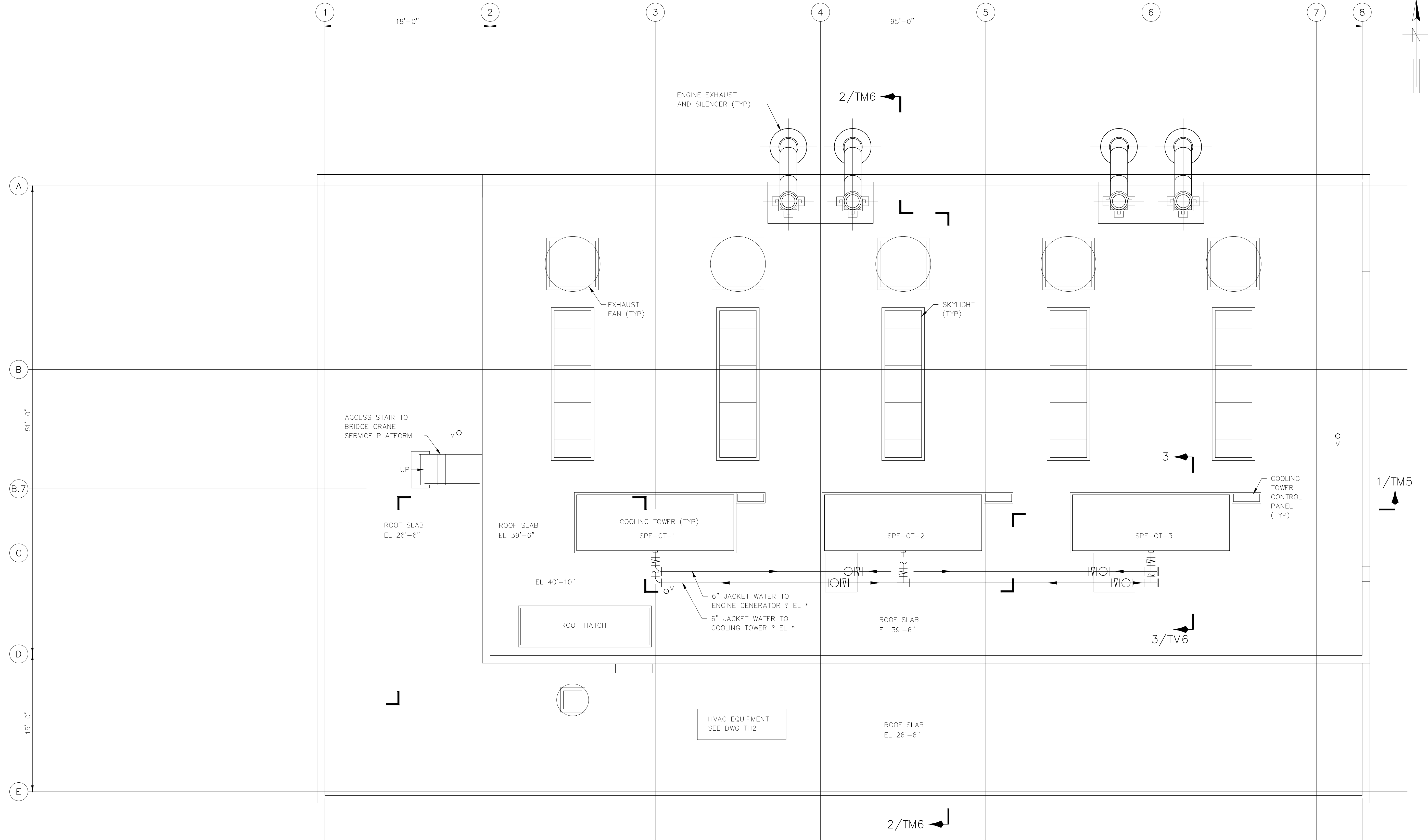
CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PLANT EXPANSION
 PHASE I DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
 MECHANICAL
 PLAN AT EL 33'-0"

PROJ. NO.	202G
DWG	TM3
SHEET	
DATE	DECEMBER 1991
REV	2

5H3B_0TM-003

FILE: HUB-TM04 SCALE: 1:64 09/09, 1998 at 14:47 - *13.dwg (Hardware LIBRARY) FILE: TMPTFB4 SCALE: 1:64 02/25, 1992 at 10:39 - *Mod 4 *R11.dwg*



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

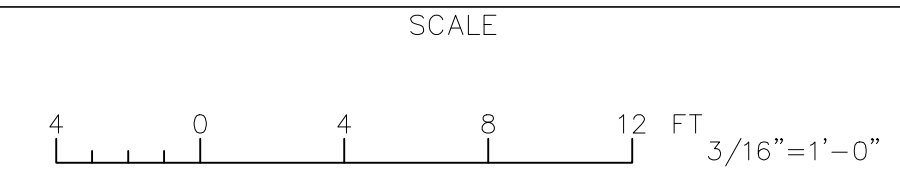
RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED SFS, RPN
DRAWN RPN
CHECKED JRP

APPROVED _____
DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD.	REVISION
2	8/9/96		RECORD DWG REVISIONS

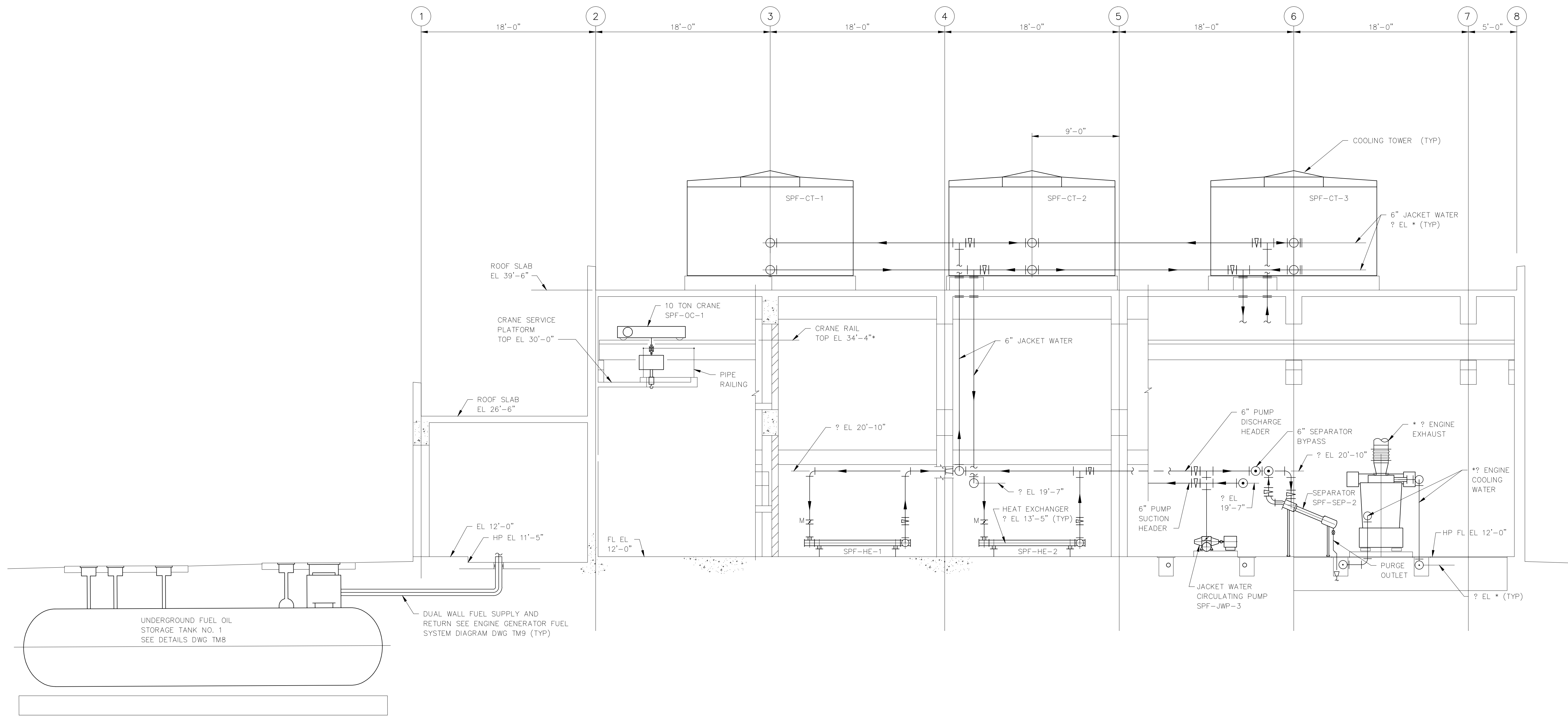


CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANBY POWER FACILITY
MECHANICAL
ROOF PLAN

PROJ. NO.	202G
DWG	TM4
SHEET	
DATE	DECEMBER 1991
REV	2

5H3B_OTM-004



SECTION 1/TM1, 2, 3, 4
SCALE: 1/4"=1'-0"

FILE: 5H3B-TM5 SCALE: 1/4"=1'-0" at 10:29 - 11/24/91 (Hardware Lock)

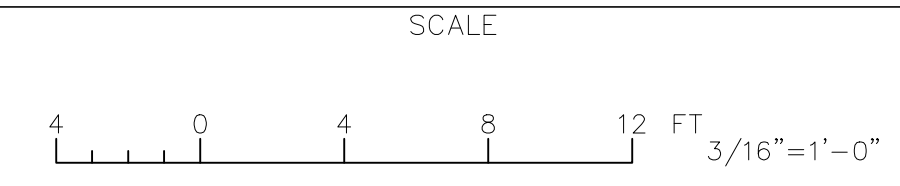
RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED SFS, RPN
DRAWN RPN
CHECKED JRP

APPROVED _____
DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD.	REVISION
2	8/12/96		RECORD DWG REVISIONS



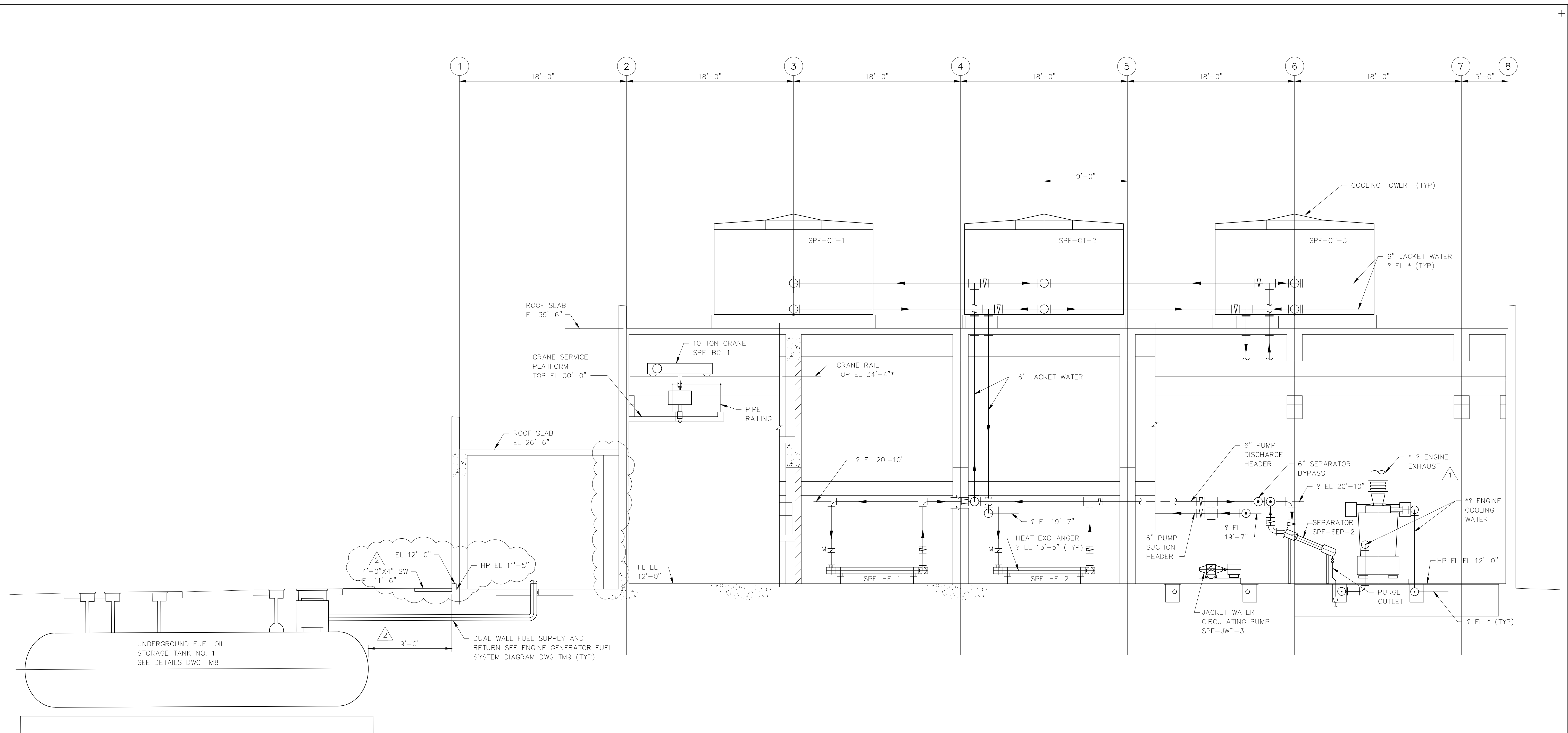
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
MECHANICAL
SECTION

See Supplemental
Drawing SD-6

PROJ. NO.	202G
DWG	TM5
SHEET	
DATE	DECEMBER 1991
REV	2

5H3B_OTM-005



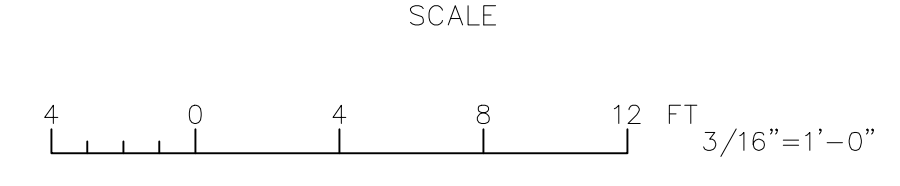
SECTION 1/TM1, 2, 3, 4
SCALE: 1/4"=1'-0"

GREELEY AND HANSEN
ENGINEERS
4350 WEST CYPRESS STREET
TAMPA, FLORIDA 33607-4135

DESIGNED: SFS RPN
DRAWN: RPN
CHECKED: JRP

APPROVED: _____
DATE: _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD.	REVISION
2	4/13/93	DCH	FIRE MARSHAL'S COMMENTS
1	2/28/92	JRP	ADDED EQUIP NO'S



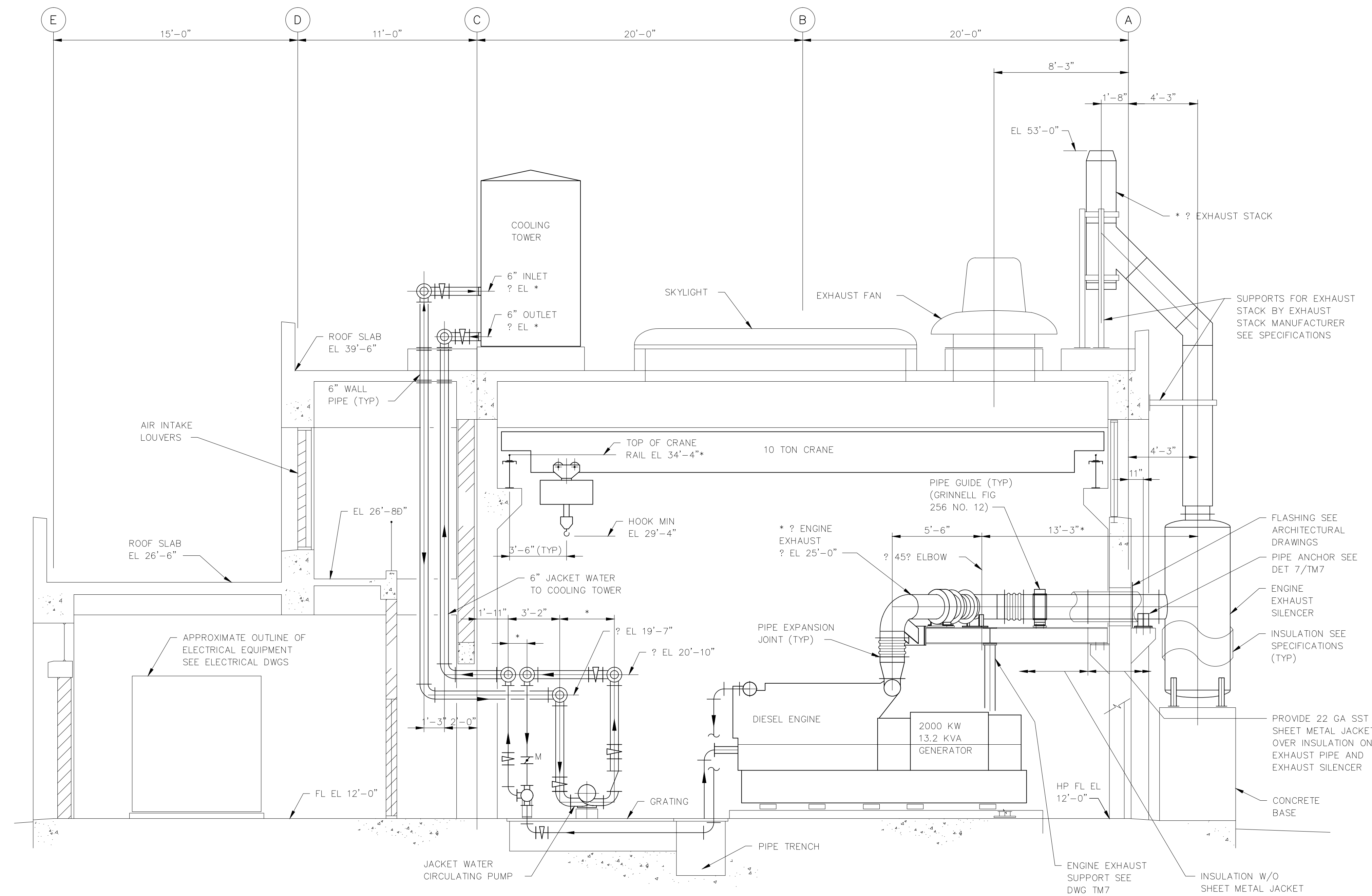
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
MECHANICAL
SECTION

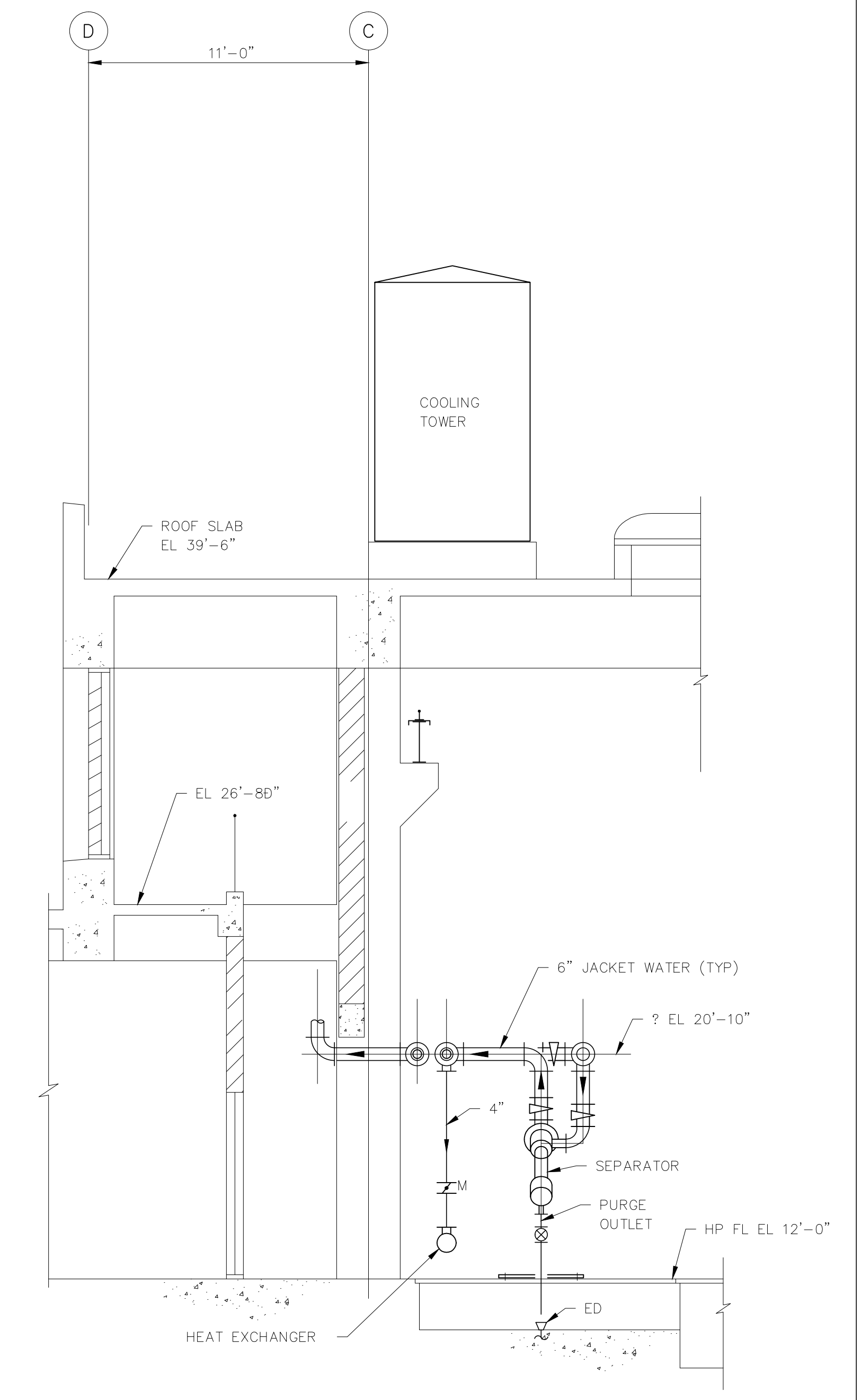
REVISES DWG TM5

PROJ NO.	202G
DWG	SD-6
SHEET	
DATE	DECEMBER 1991
REV	2

5H3B_OTM-005A



SECTION 2/TM1, 2, 3, 4
SCALE: 1"=1'-0"



SECTION 3/TM1, 2, 3, 4
SCALE: 1"=1'-0"

RECORD DRAWING
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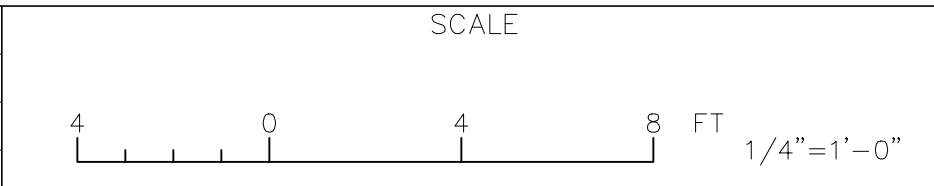
FILE: H3B-TM6 SCALE: 1/4"=0'-0" 1996 01 10 10:21 - *13_csh (Hardware Lock)*

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED SFS, RPN
DRAWN RPN
CHECKED JRP

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
2	8/12/96		RECORD DWG REVISIONS

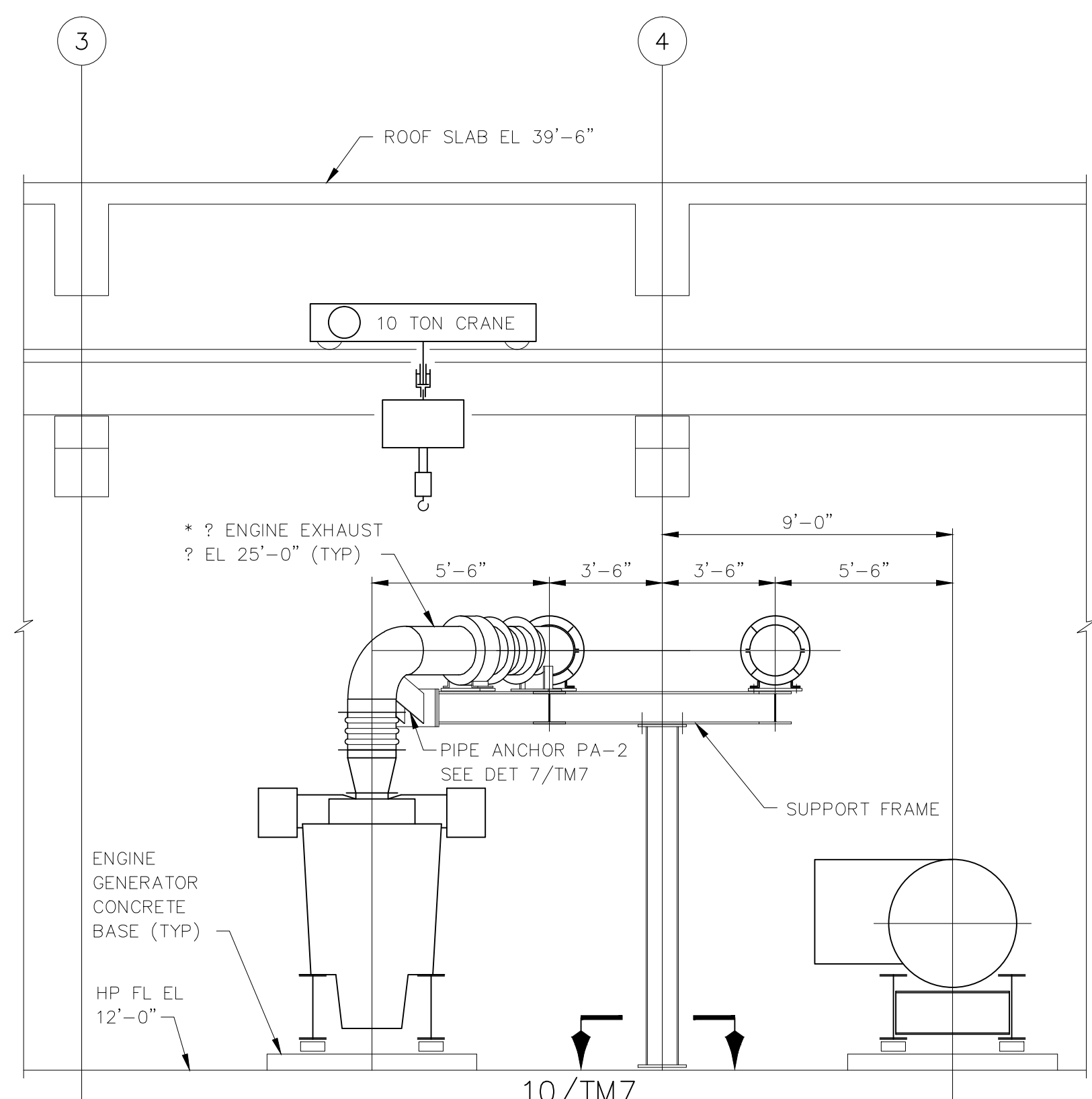


CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

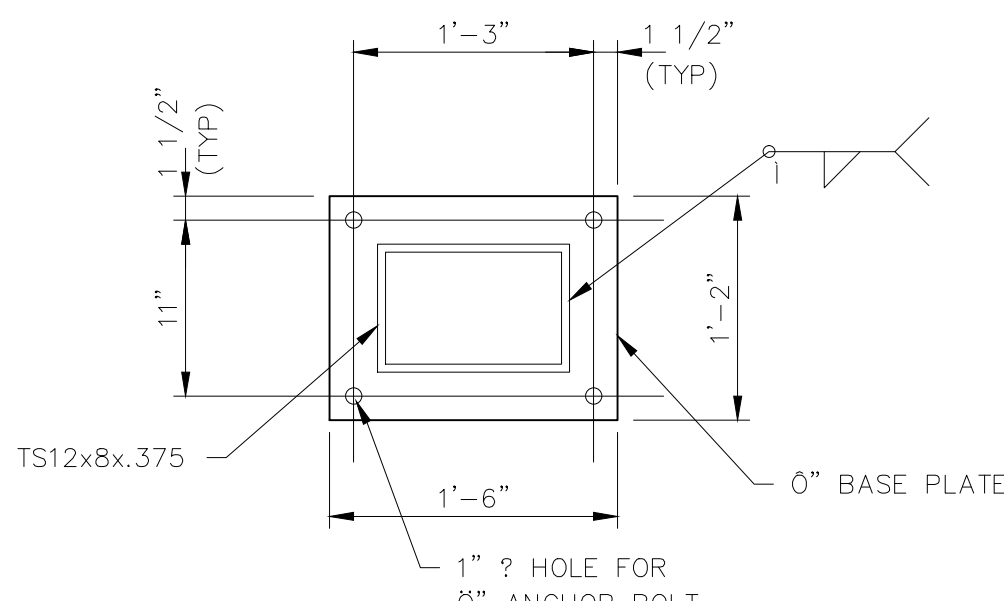
STANDBY POWER FACILITY
MECHANICAL
SECTIONS

PROJ NO.	202G
DWG	TM6
SHEET	
DATE	DECEMBER 1991
REV	2

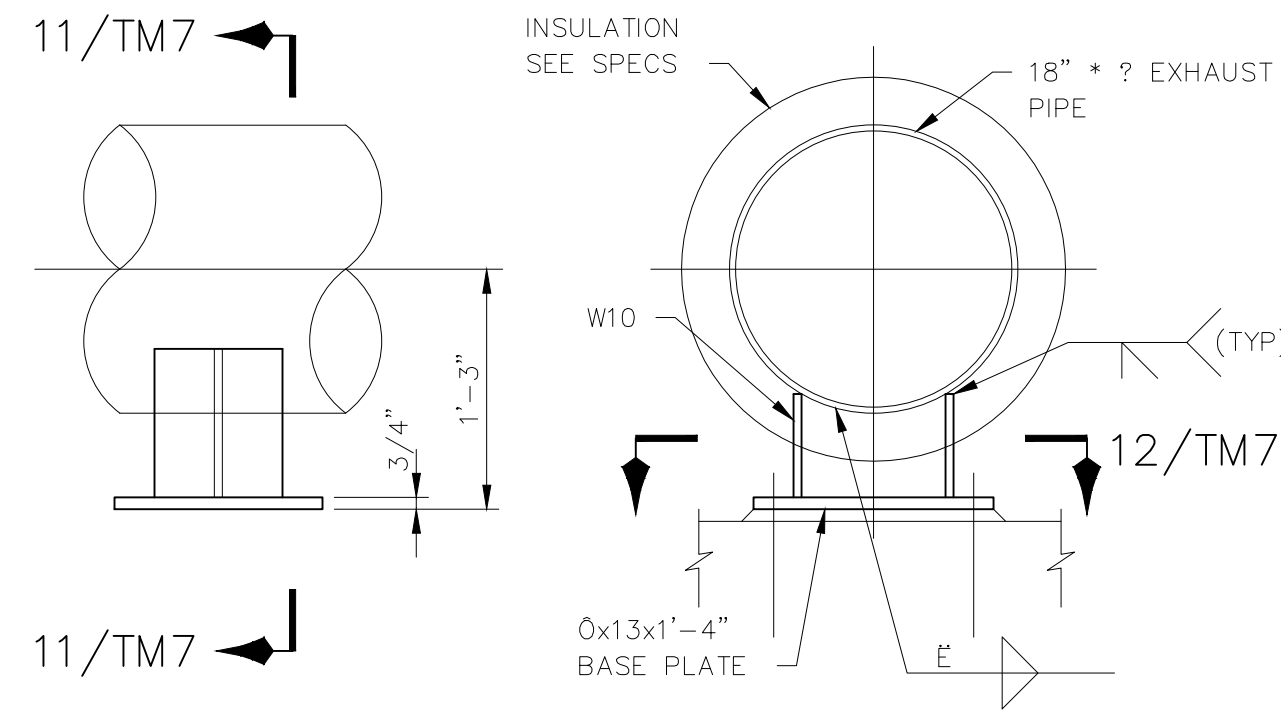
5H3B_0TM-006



SECTION 4/TM3
SCALE: 1"=1'-0"

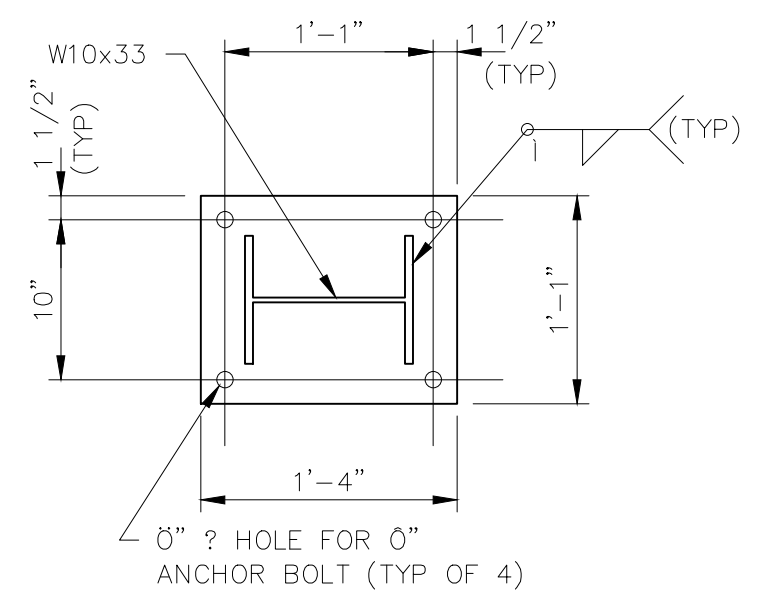


SECTION 10/TM7
SCALE: 1"=1'-0"

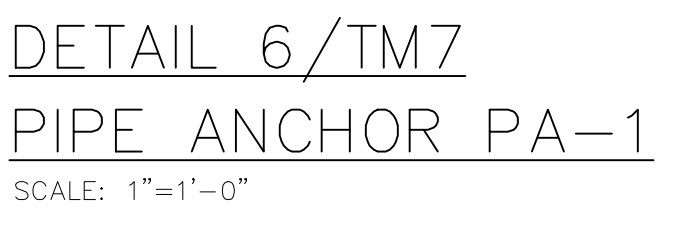


SECTION 11/TM7

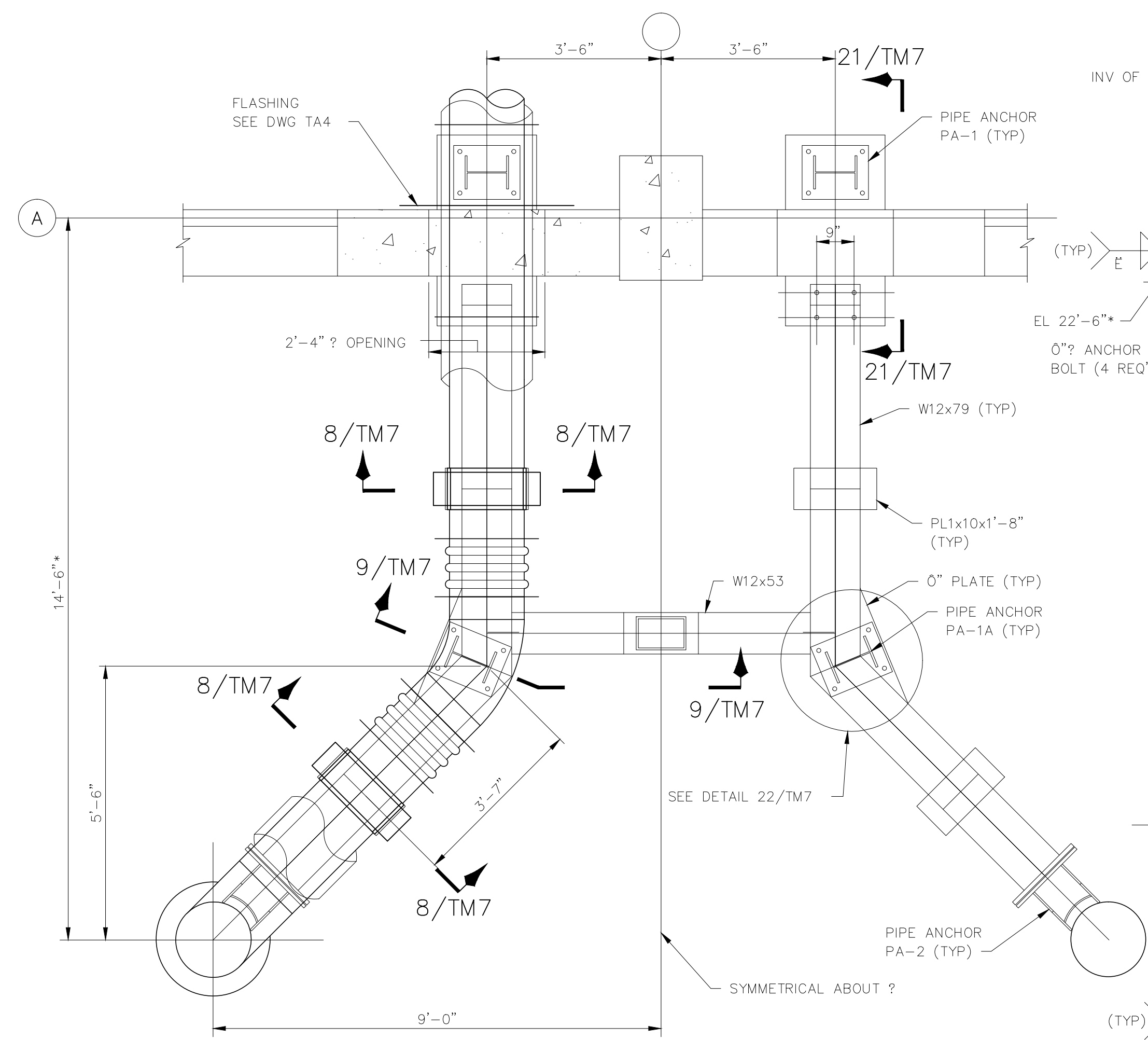
ELEVATION



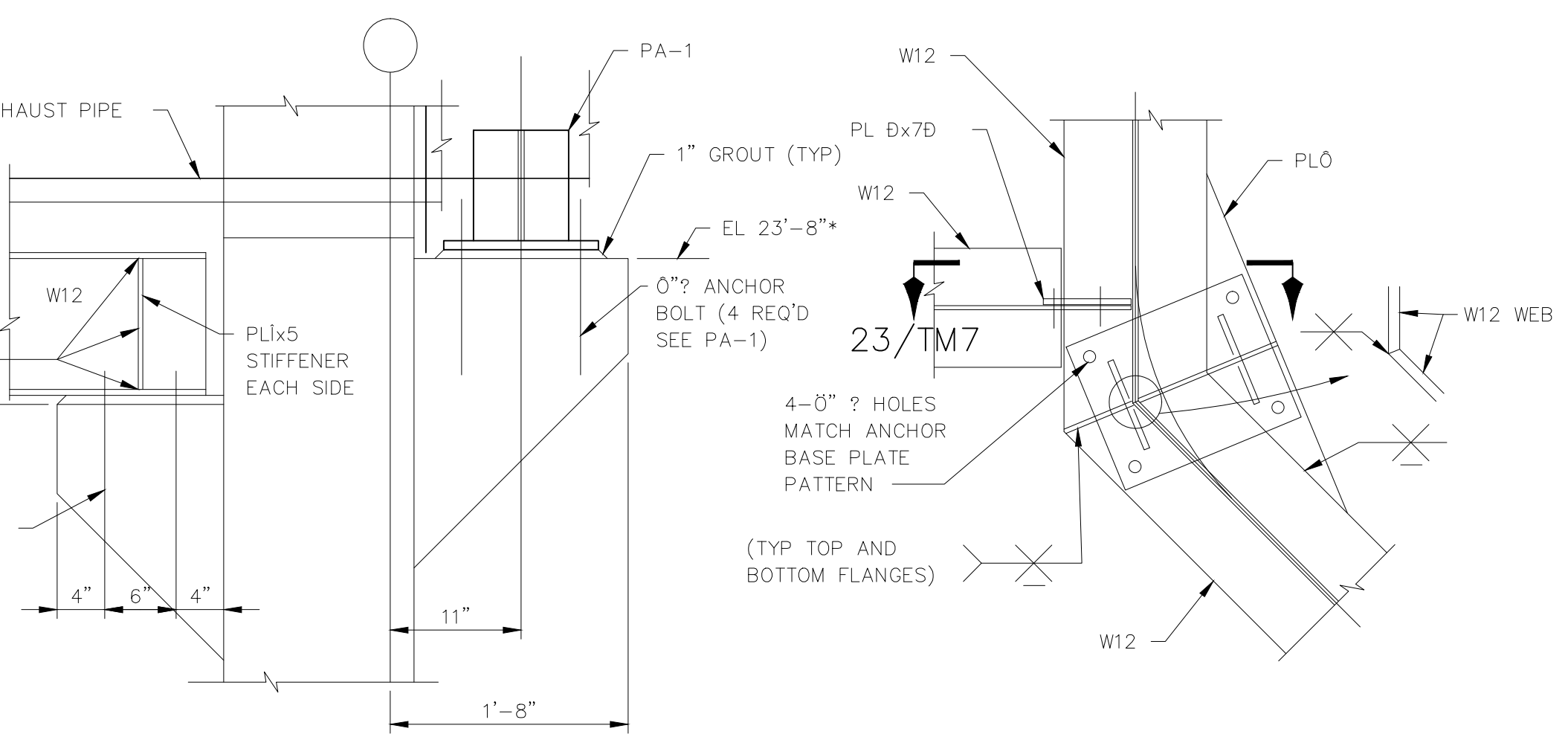
SECTION 12/TM7



DETAIL 6/TM7
PIPE ANCHOR PA-1
SCALE: 1"=1'-0"

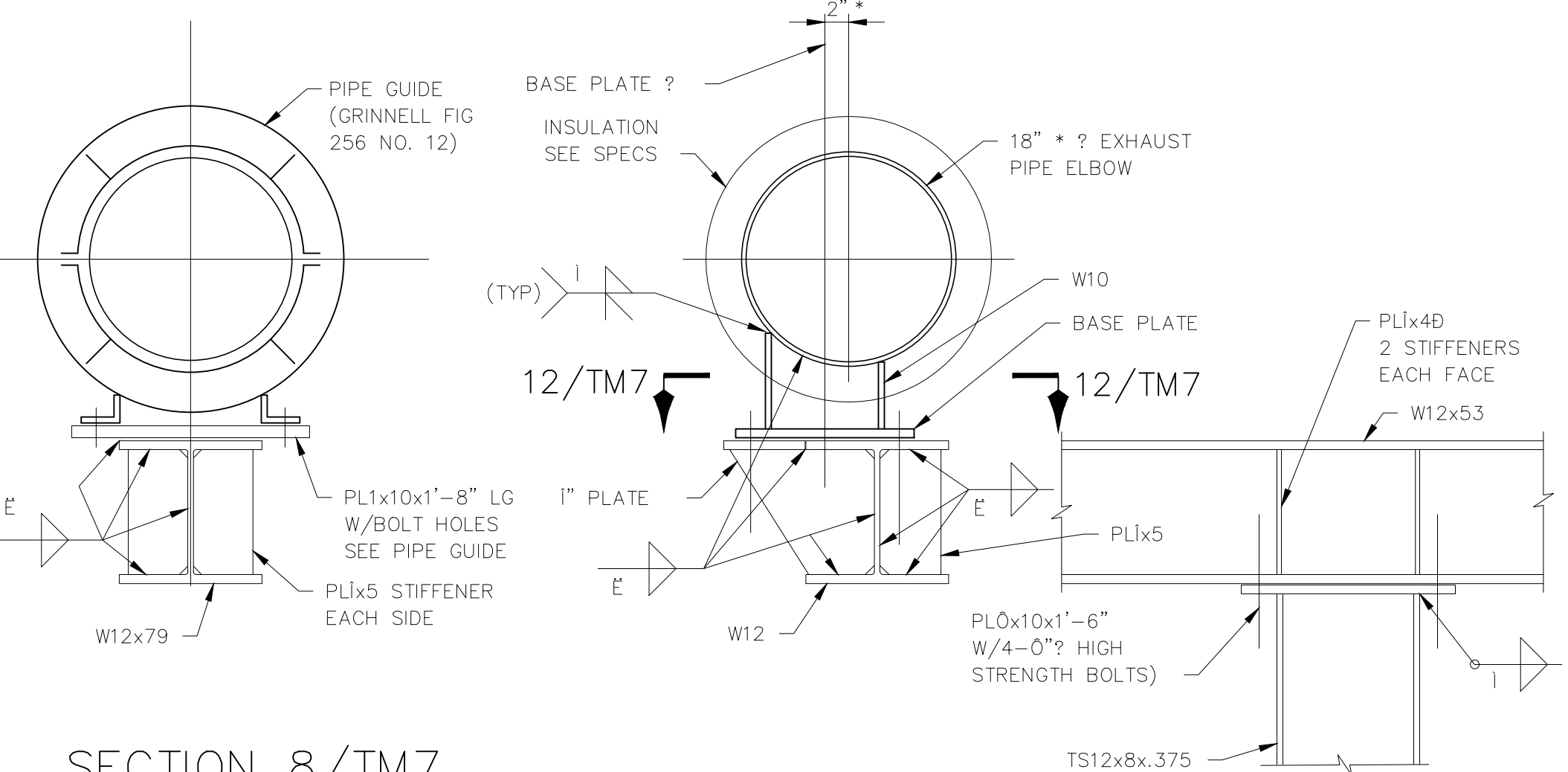


DETAIL 5/TM7
SCALE: 9"=1'-0"



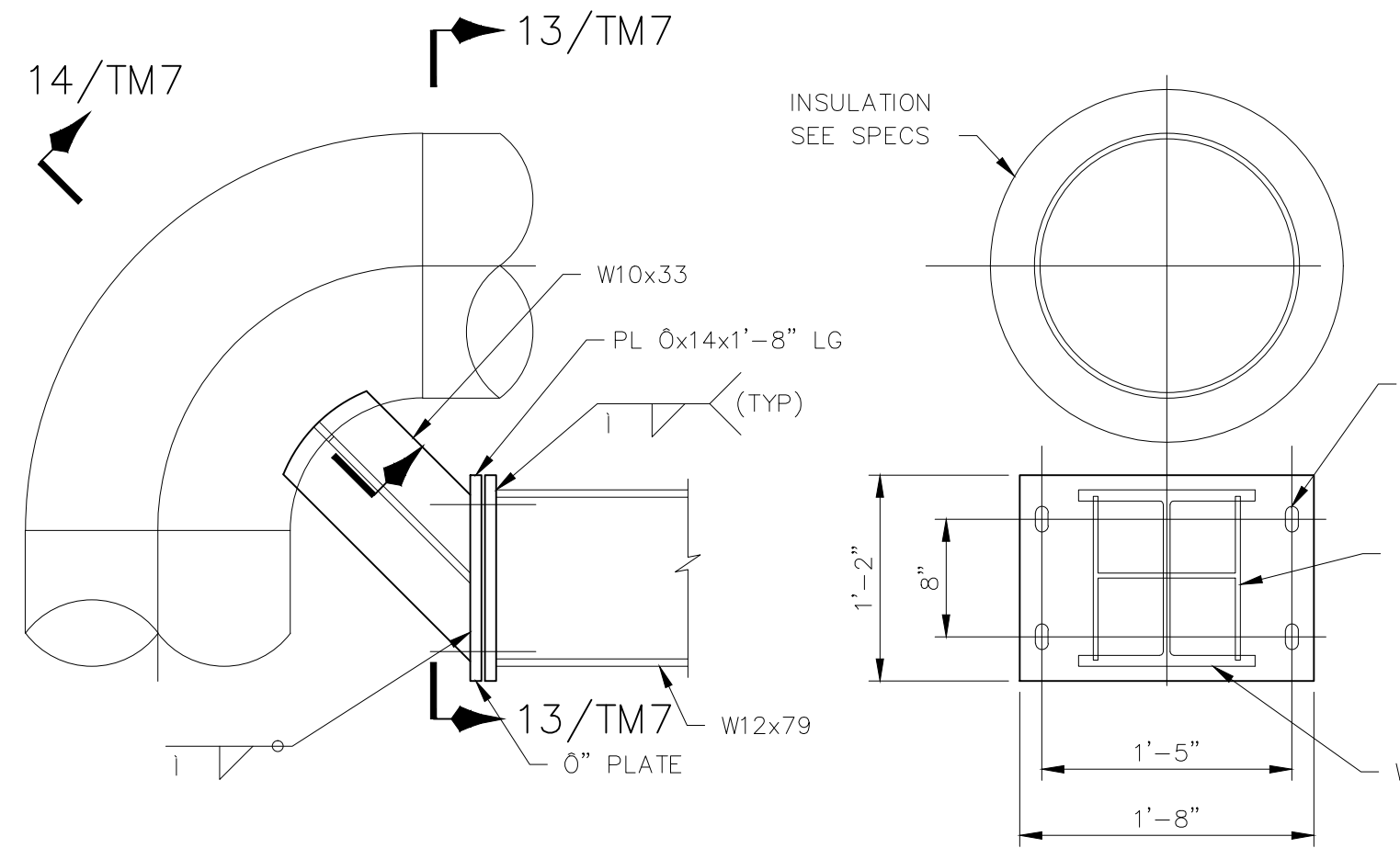
SECTION 21/TM7
SCALE: 1"=1'-0"
FOR CONCRETE BRACKET DETAIL SEE DWG TS1

DETAIL 22/TM7
SCALE: 1"=1'-0"

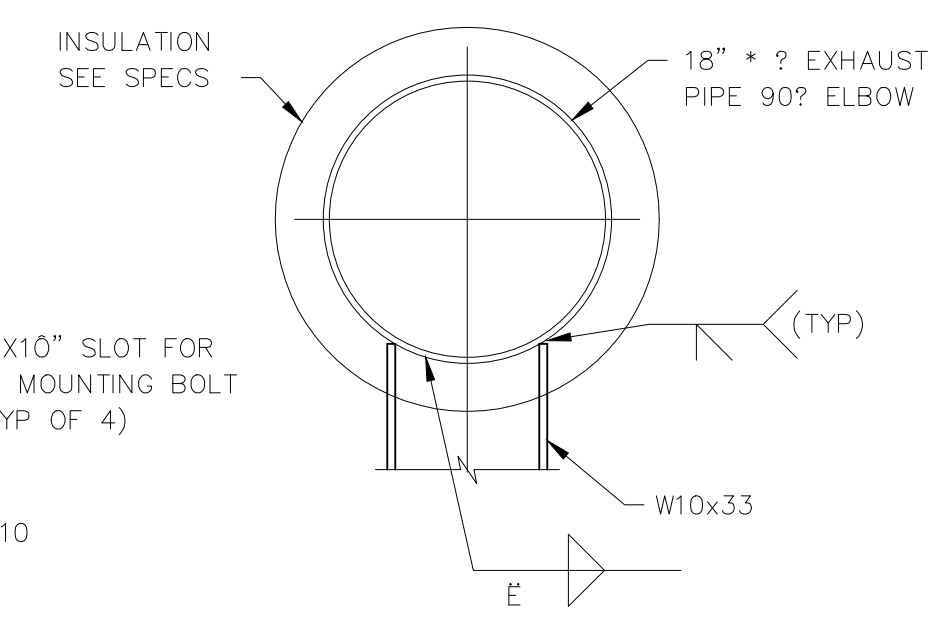


SECTION 8/TM7
SCALE: 1"=1'-0"

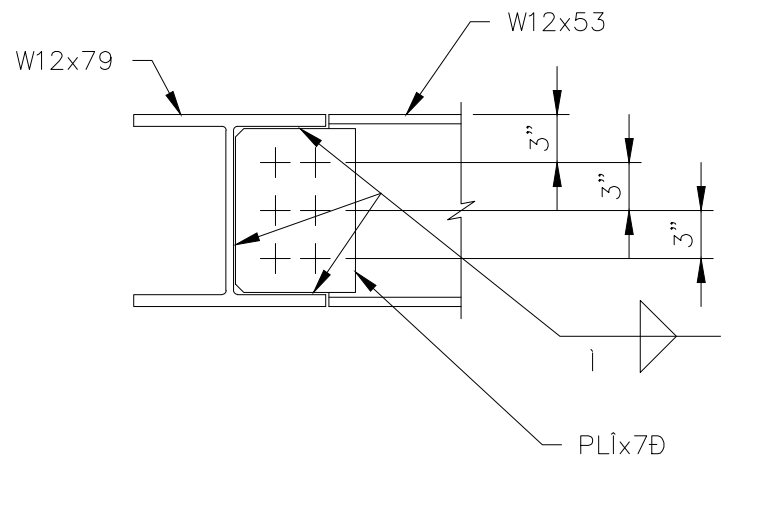
SECTION 9/TM7
SCALE: 1"=1'-0"



DETAIL 7/TM7
PIPE ANCHOR PA-2
SCALE: 1"=1'-0"



SECTION 14/TM7



SECTION 9/TM7
SCALE: 1"=1'-0"

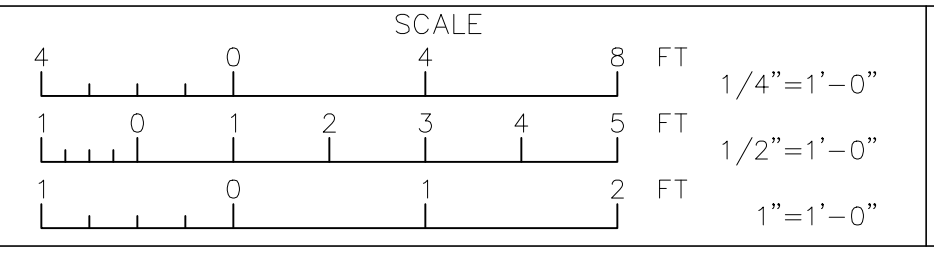
RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

NOTE:
THE DETAILS SHOWN ARE BASED ON 18" EXHAUST PIPE. DETAILS AND ELEVATIONS MAY CHANGE IF EXHAUST PIPE SIZE OTHER THAN 18" IS USED. THE CONTRACTOR SHALL THEN SUBMIT REVISED DETAILS FOR APPROVAL.

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED RPN
DRAWN RPN
CHECKED JRP

APPROVED _____ DATE _____			
DATE _____	2	8/12/96	RECORD DWG REVISIONS
GREELEY AND HANSEN, ENGINEERS	NO.	DATE	APPD
			REVISION

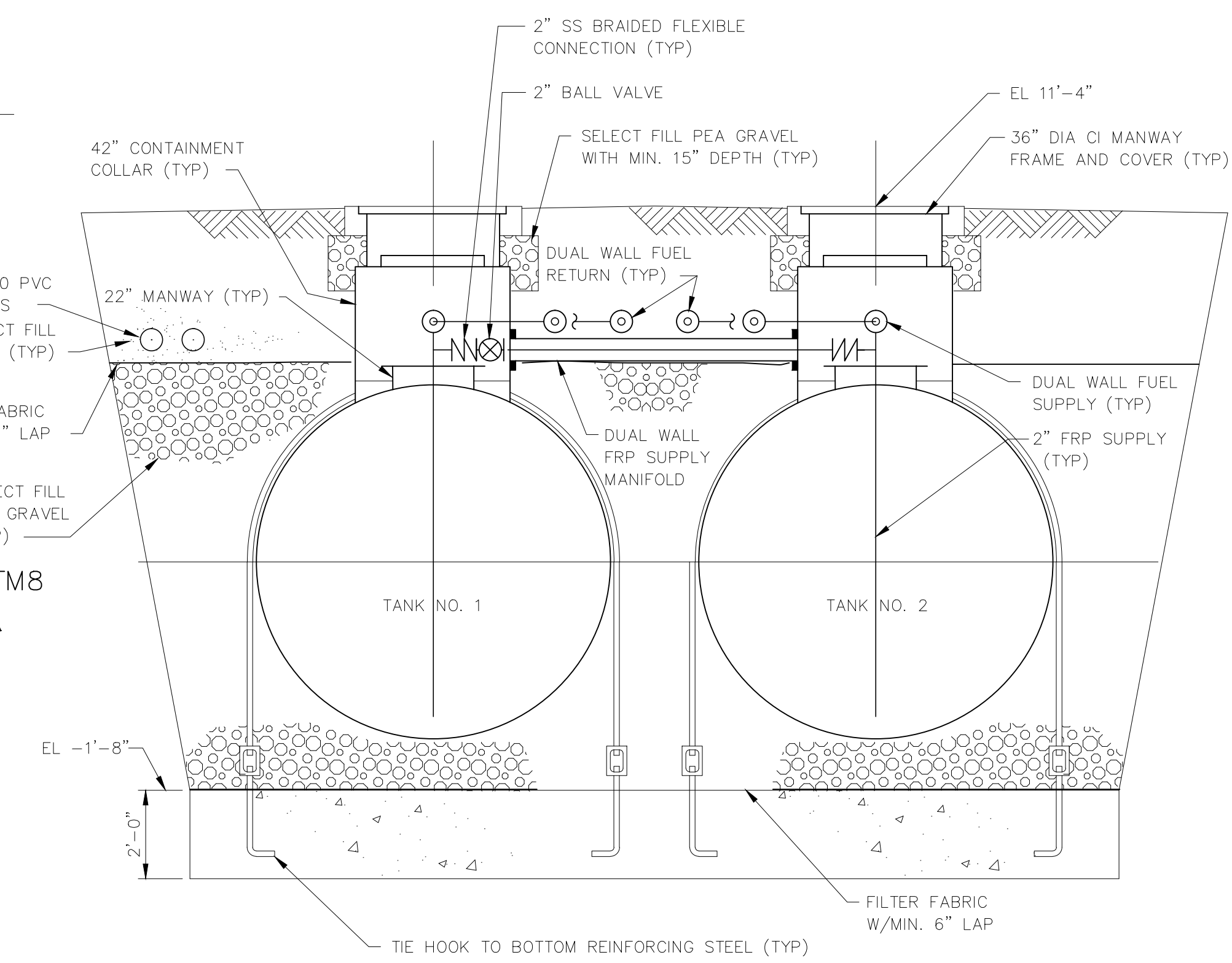
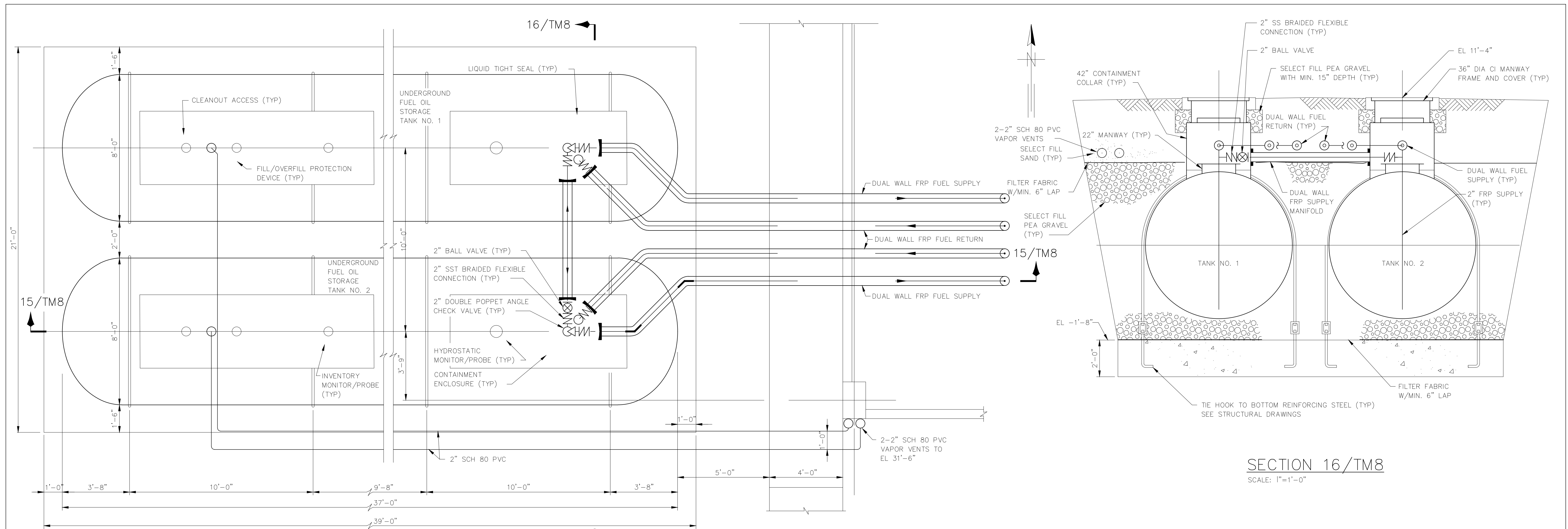


CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

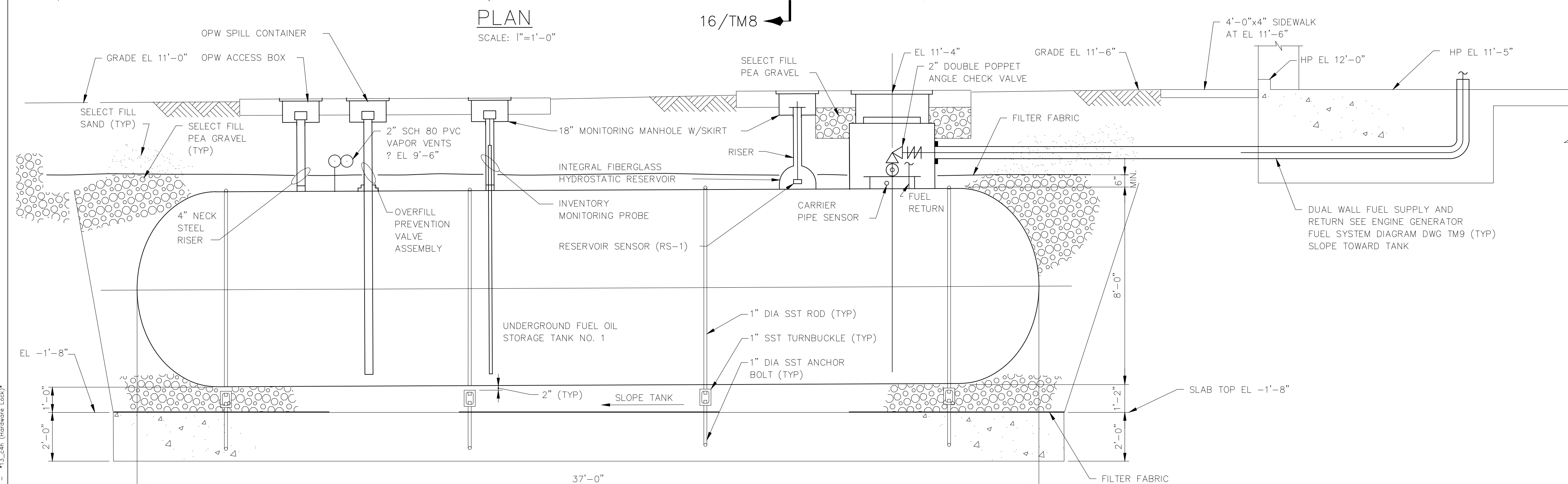
STANDBY POWER FACILITY
MECHANICAL
PLAN, SECTIONS AND DETAILS

PROJ NO.	202G
DWG	TM7
SHEET	
DATE	DECEMBER 1991
REV	2

5H3B_OTM-007



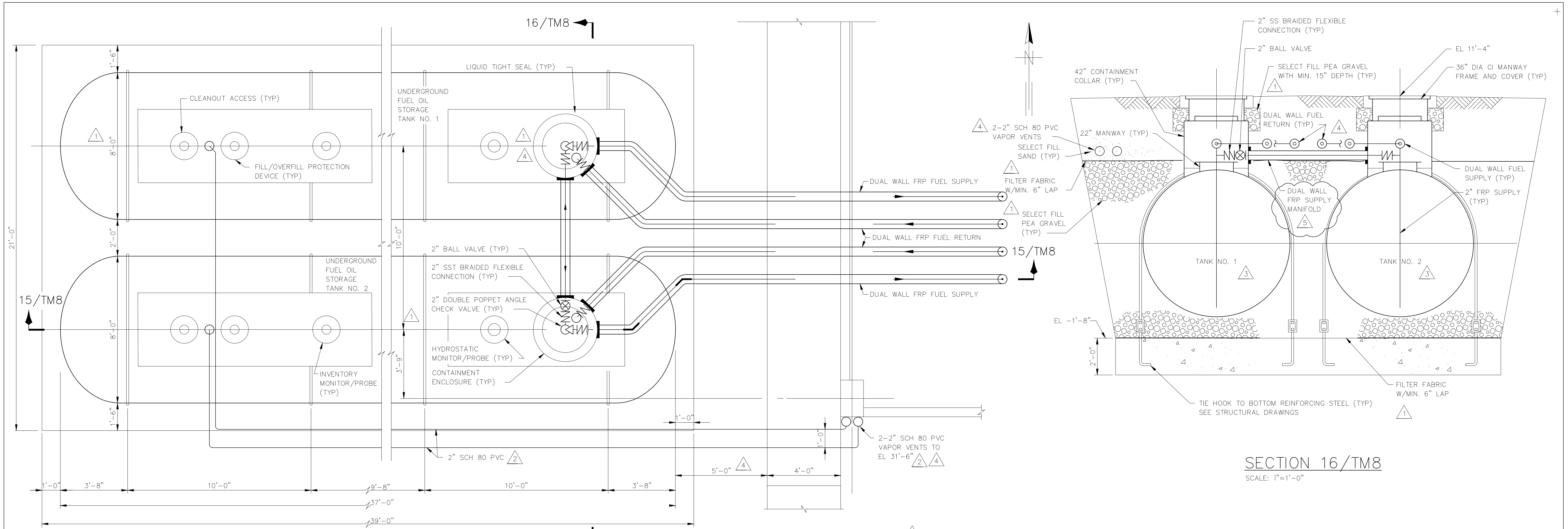
SECTION 16/TM8
SCALE: 1"=1'-0"



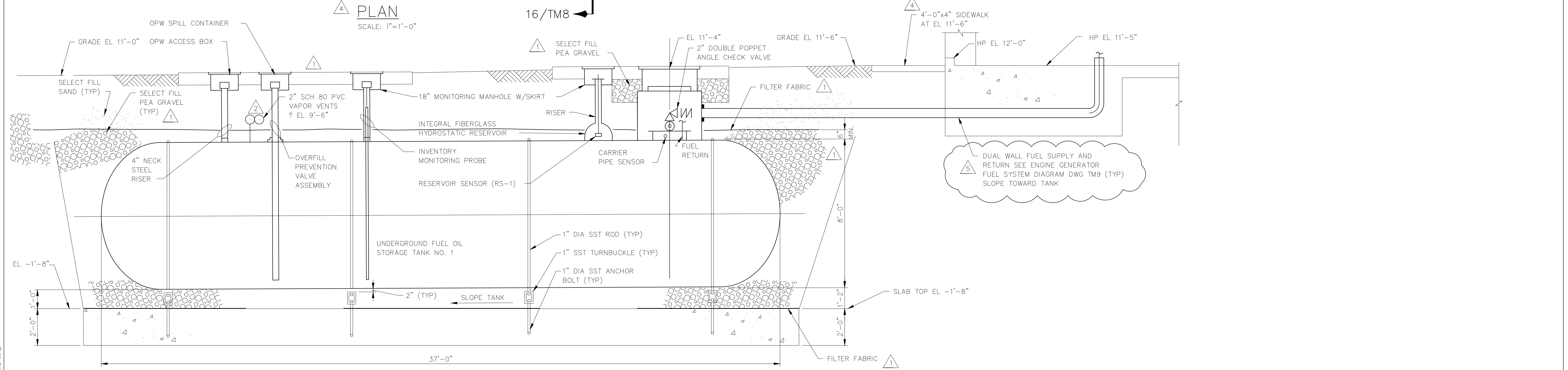
SECTION 15/TM8
SCALE: 1"=1'-0"

RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED SFS	APPROVED _____ DATE _____	SCALE 0 1 2 3 4 5 6 7 FT 3/8"=1'-0"	CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	STANDBY POWER FACILITY MECHANICAL FUEL OIL STORAGE TANKS - PLAN AND SECTIONS	See Supplemental Drawing SD-7	PROJ. NO. 202G
	DRAWN SK	DATE 5/8/12/96					DWG TM8
	CHECKED JRP	RECORD DWG REVISIONS					SHEET
		GREELEY AND HANSEN, ENGINEERS					DATE DECEMBER 1991 REV 5

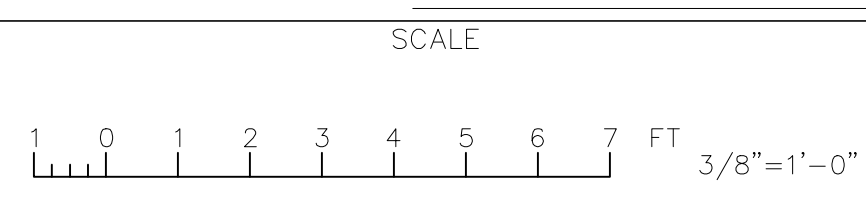


SECTION 16/TM8
SCALE: 1"=1'-0"



SECTION 15/TM8
SCALE: 1"=1'-0"

GREELEY AND HANSEN ENGINEERS 4350 WEST CYPRESS STREET TAMPA, FLORIDA 33607-4135	DESIGNED	SFS	APPROVED	DATE	5	9/30/93	DCH	EPC COMMENTS
	DRAWN	SK			4	4/13/93	DCH	FIRE MARSHAL'S COMMENTS
	CHECKED	JRP			3	11/3/92	DCH	REVISED PER ADD NO. 4
					2	8/04/92	DCH	REVISED PER ADD NO. 2
					1	2/27/92	JRP	MISCELLANEOUS REV
					NO.	DATE	APPD	REVISION

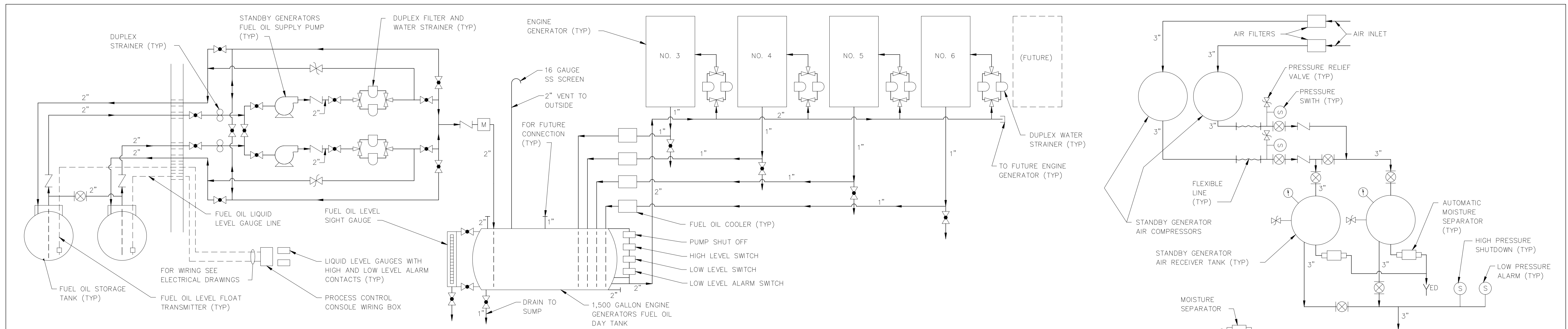


CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PLANT EXPANSION
 PHASE I DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

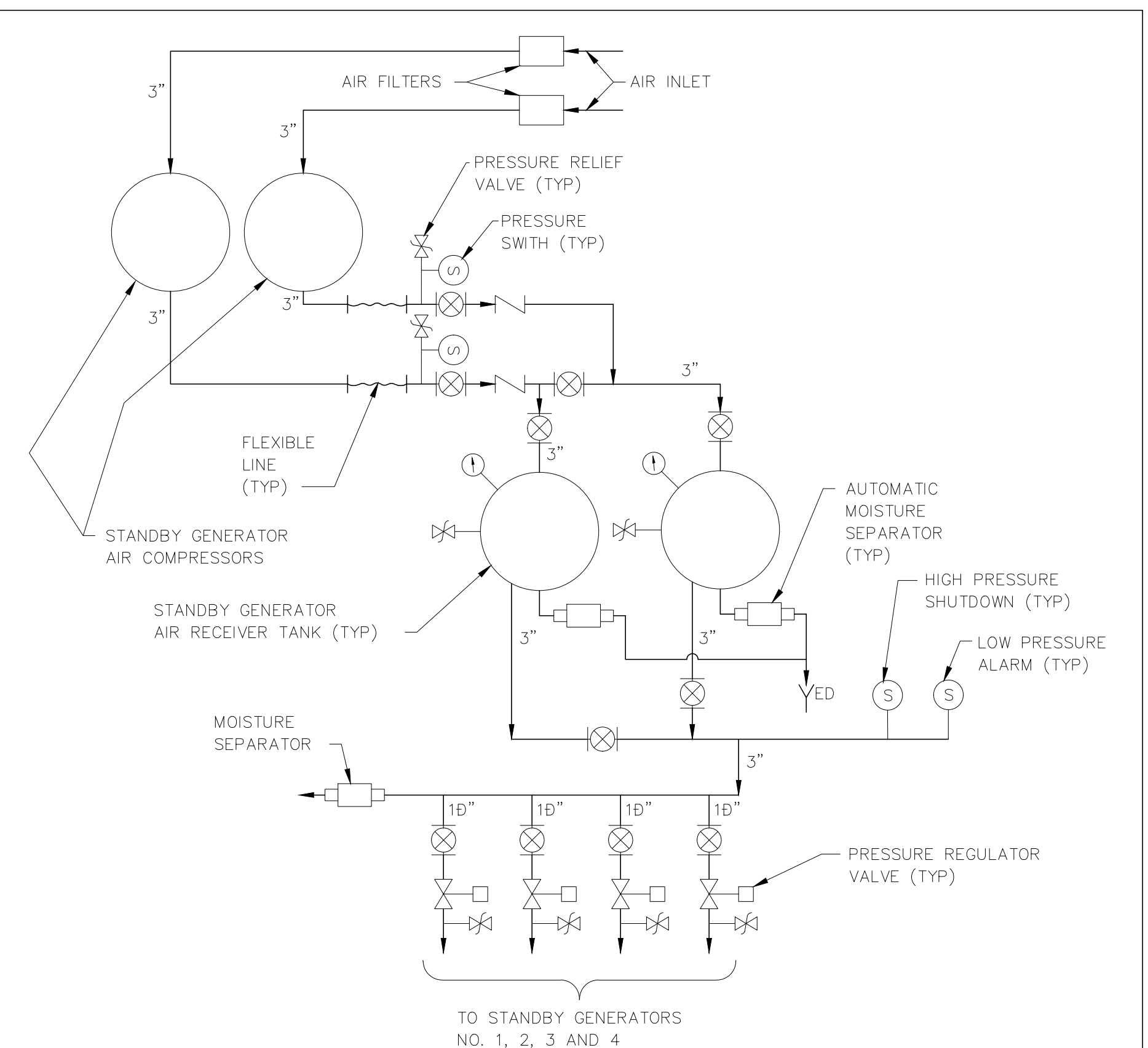
STANDBY POWER FACILITY
 MECHANICAL
 FUEL OIL STORAGE TANKS - PLAN AND SECTIONS

REVISES DWG	TM8
PROJ. NO.	202G
DWG	SD-7
SHEET	
DATE	DECEMBER 1991
REV	5

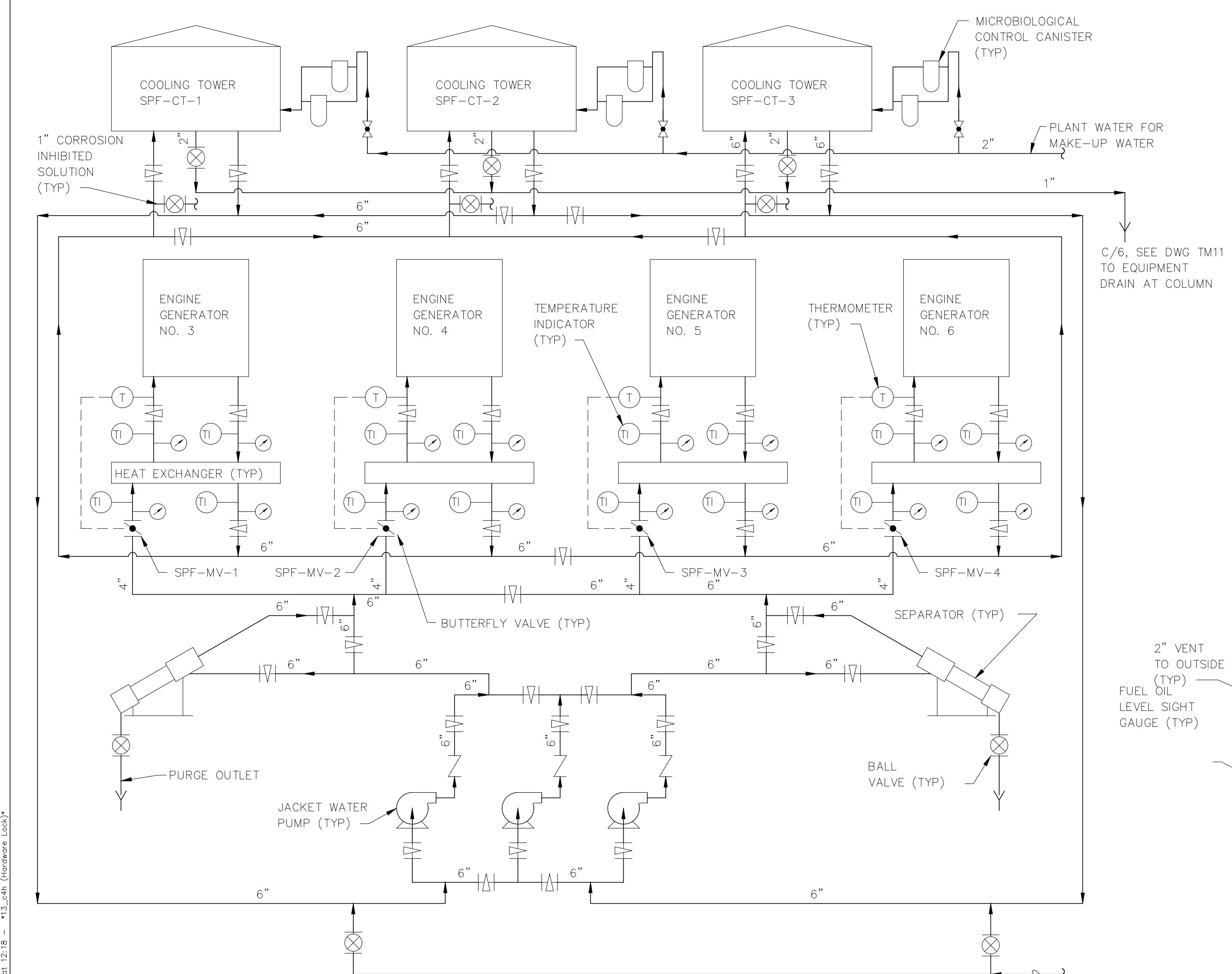
5H3B_OTM-008A



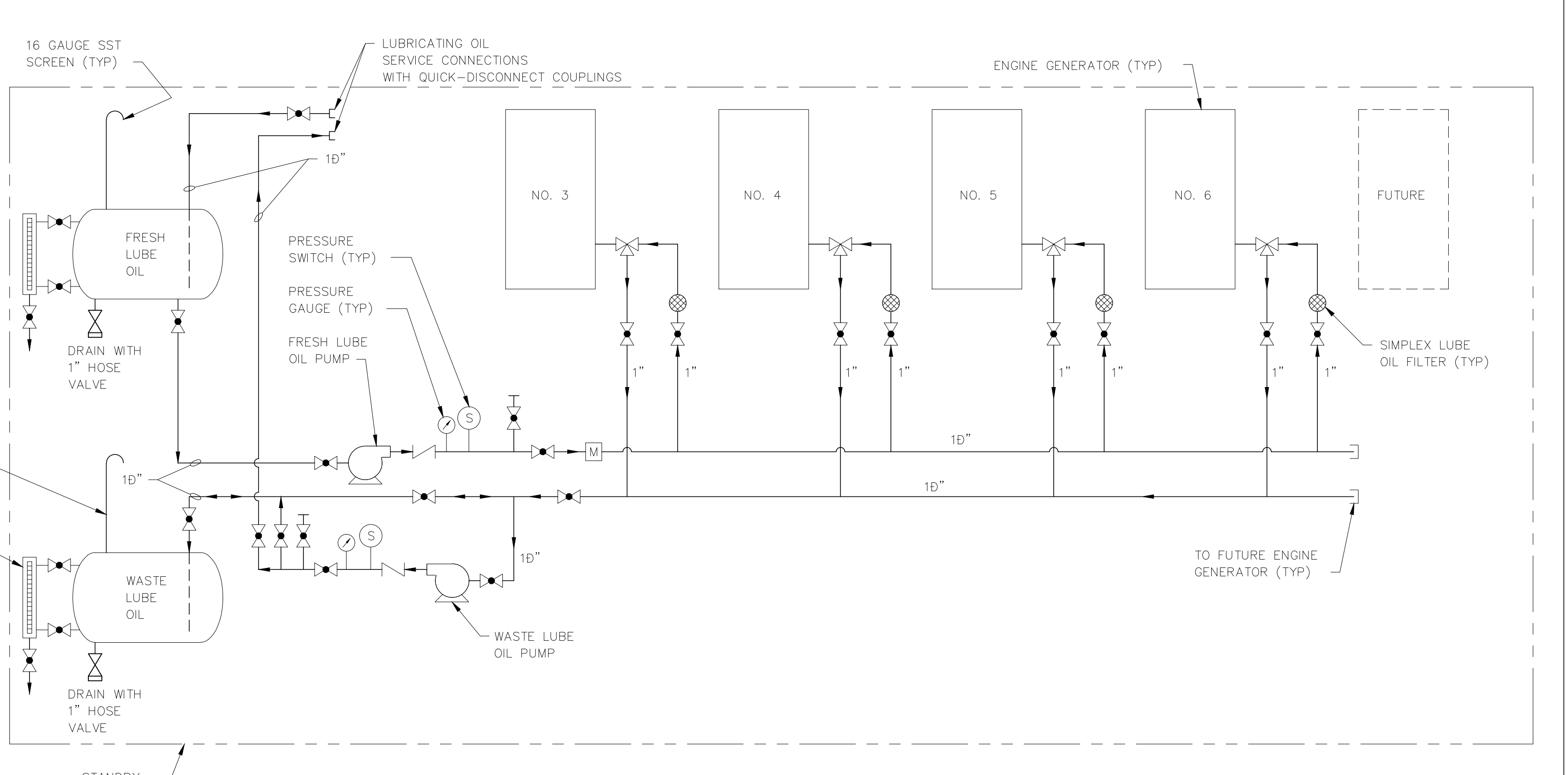
ENGINE GENERATOR FUEL SYSTEM DIAGRAM



STANDBY GENERATOR AIR STARTING SYSTEM DIAGRAM



ENGINE GENERATOR JACKET WATER DIAGRAM

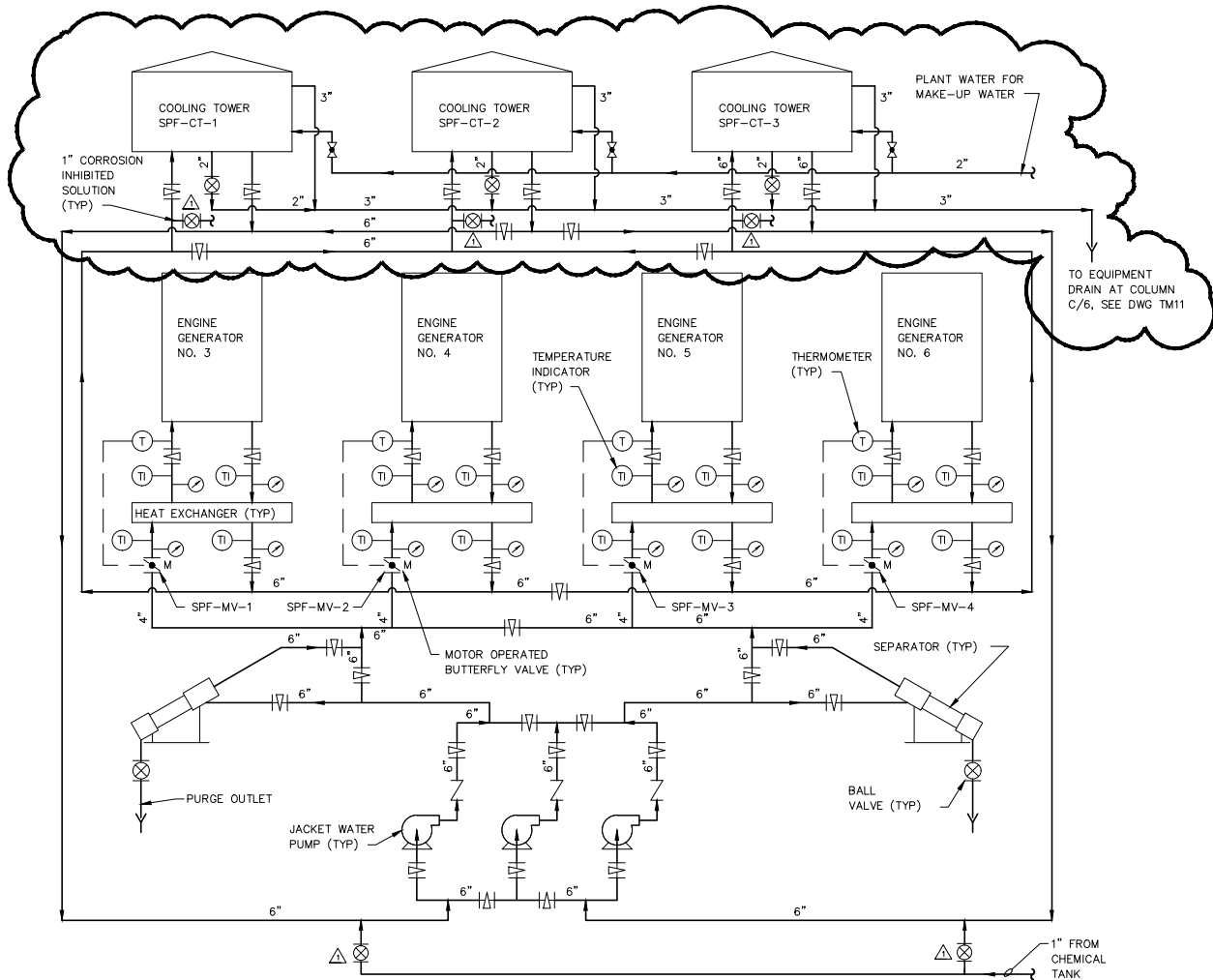


ENGINE GENERATOR LUBRICATION OIL SYSTEM DIAGRAM

RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED SFS	APPROVED _____ DATE _____	SCALE	CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	STANDBY POWER FACILITY MECHANICAL DIAGRAMS	PRJ NO. 202G		
	DRAWN SK	DATE _____	NO SCALE			DATE DECEMBER 1991	REV 4	
	CHECKED JRP	DATE _____	NO. 4			8/15/96	RECORD DWG REVISIONS	DWG TM9
	GREELEY AND HANSEN, ENGINEERS	DATE _____	NO.			DATE	APPD	REVISION

See Supplemental Drawings SD-33 and SD-58



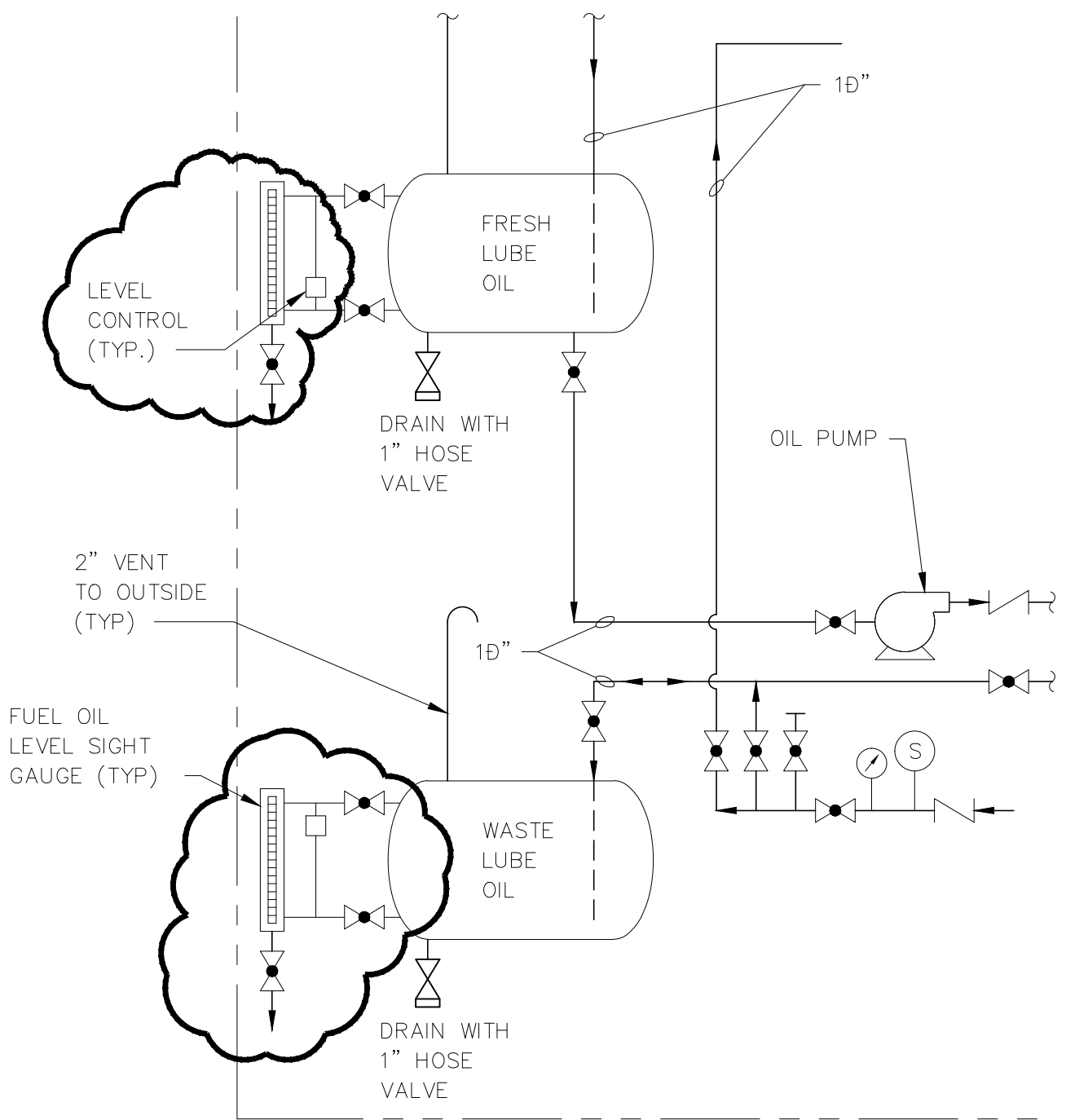
ENGINE GENERATOR JACKET WATER DIAGRAM

REVISES DWG TM9

FILE: H:\AC\5H3B\SD\HB5SD033 SCALE: 1:11 02/06, 1995 at 14:18 *R11 c2*

DES	JPG	CKD	DCH			H.P.W.W.T.P.		
DR	AA	APPD				DIVISION 5H3B		
GREELEY AND HANSEN ENGINEERS				2	02/2/95	JPG	ADD OVERFLOW PIPING	SD-33
TAMPA, FLORIDA 36607				1	12/6/93	JPG	CHANGE TO BALL VALVE	
				NO.	DATE	APPD	REVISION	DATE NOV. 1993 NO. 2

5H3B_0TM-009A

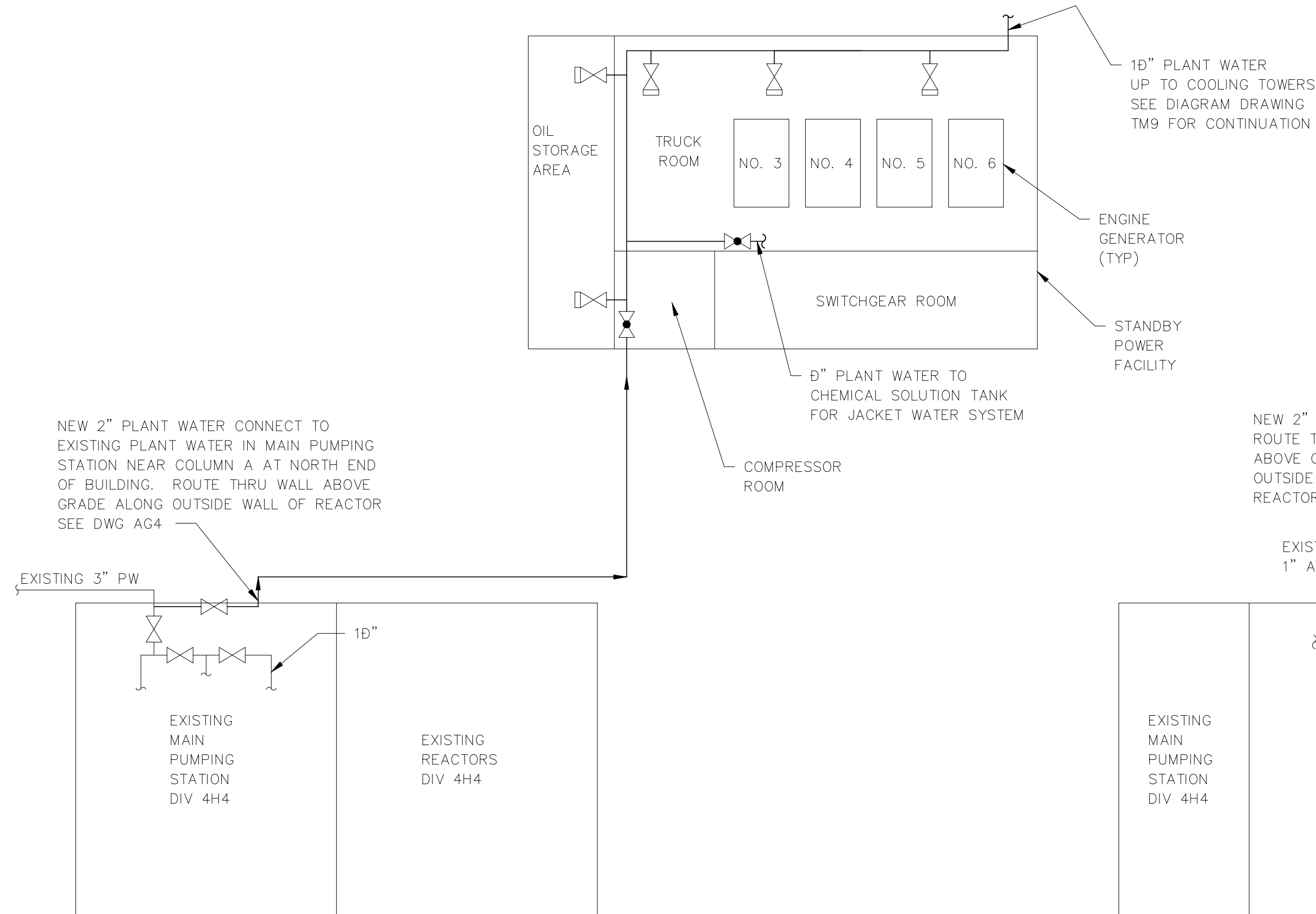


REVISES DWG TM9

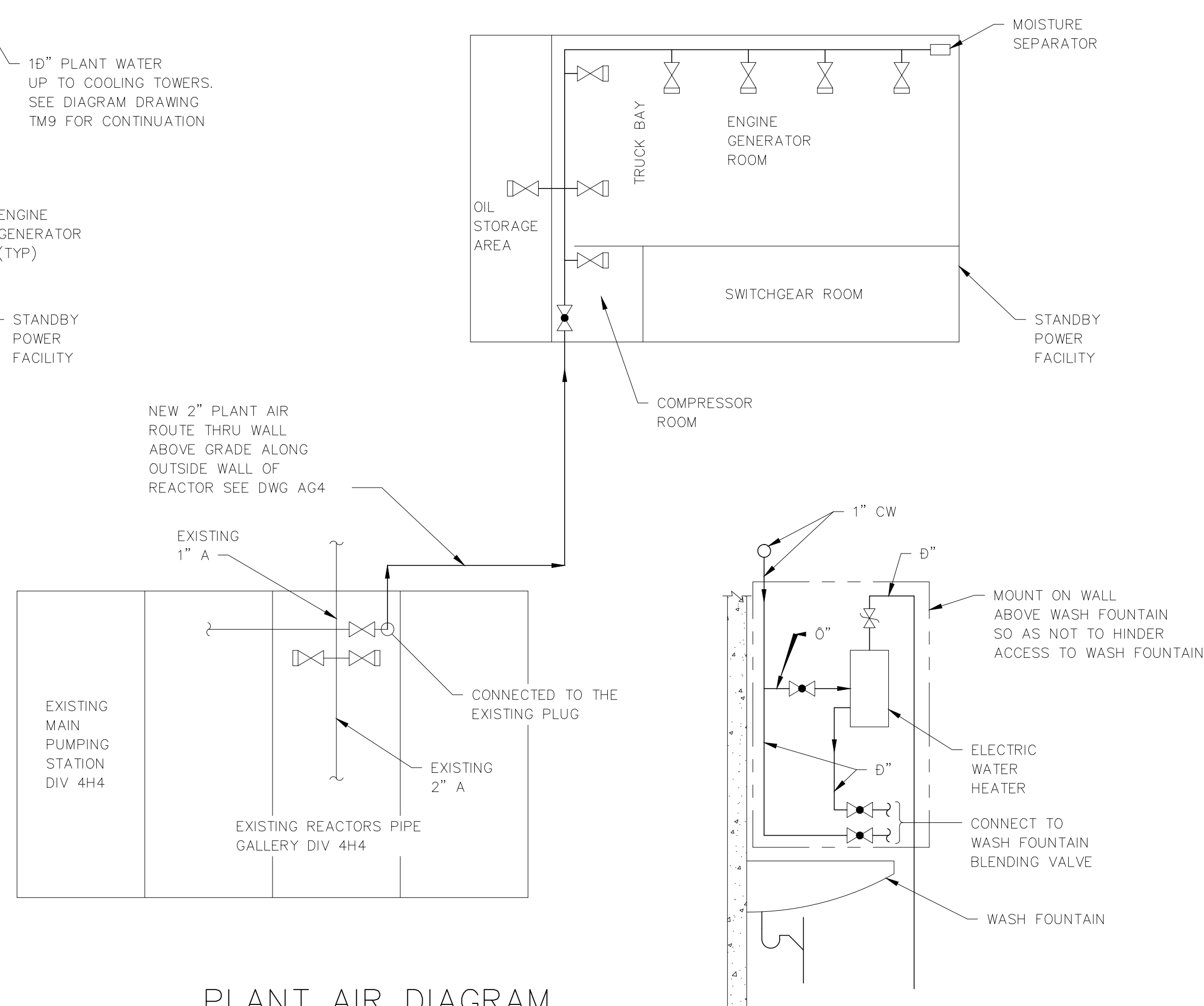
FILE: H:\AC\5H3B\SD\H3BESD58 SCALE: 1:11 04/17, 1995 at 15:50 *R11 c2*

DES EWW	CKD DCH					CITY OF TAMPA
DR ROO	APPD					H.P.W.W.T.P. DIV 5H3B
GREELEY AND HANSEN ENGINEERS TAMPA, FLORIDA 36607						SD-58
NO.	DATE	APPD	REVISION	DATE	APL 95	NO. 0

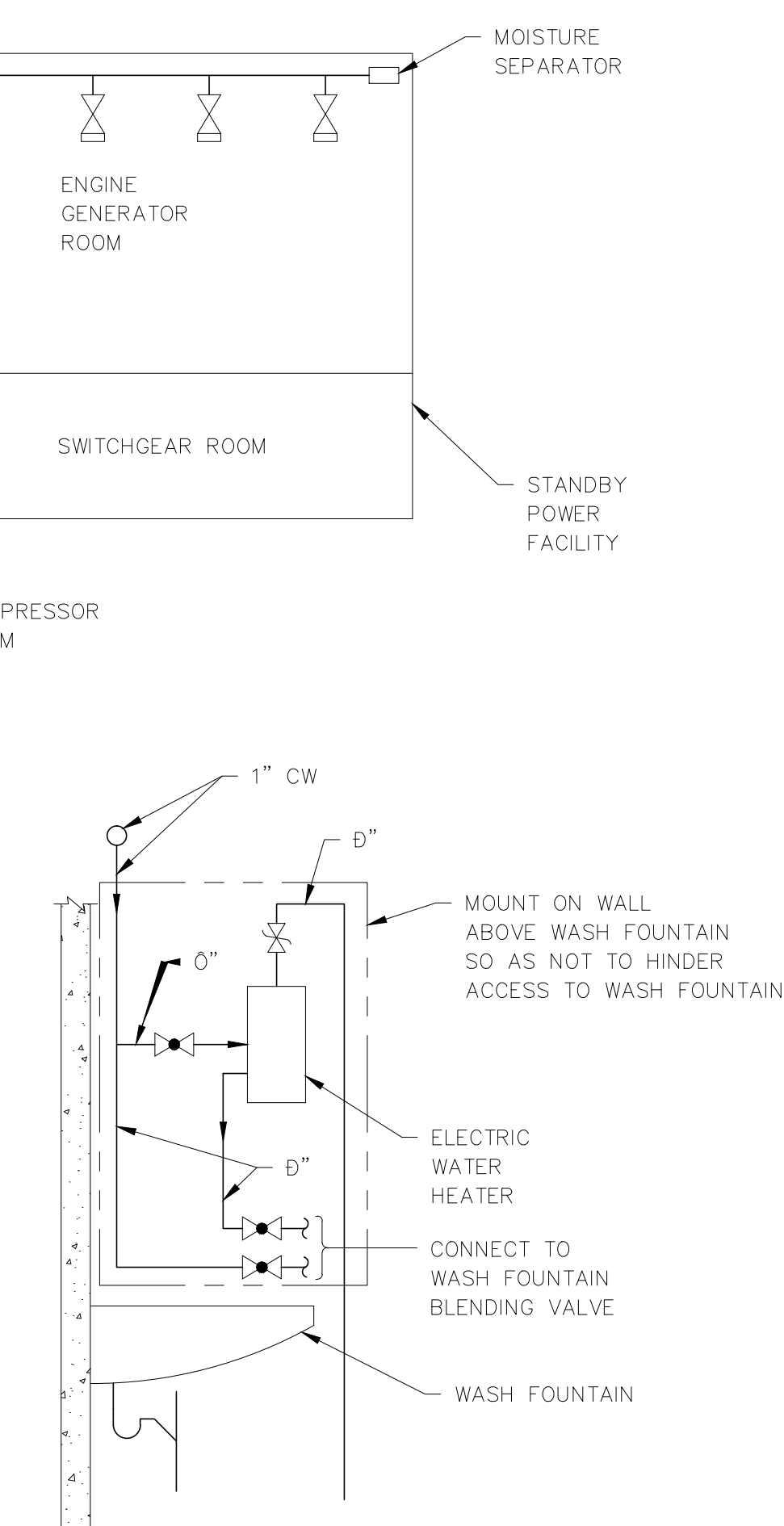
5H3B_0TM-009B



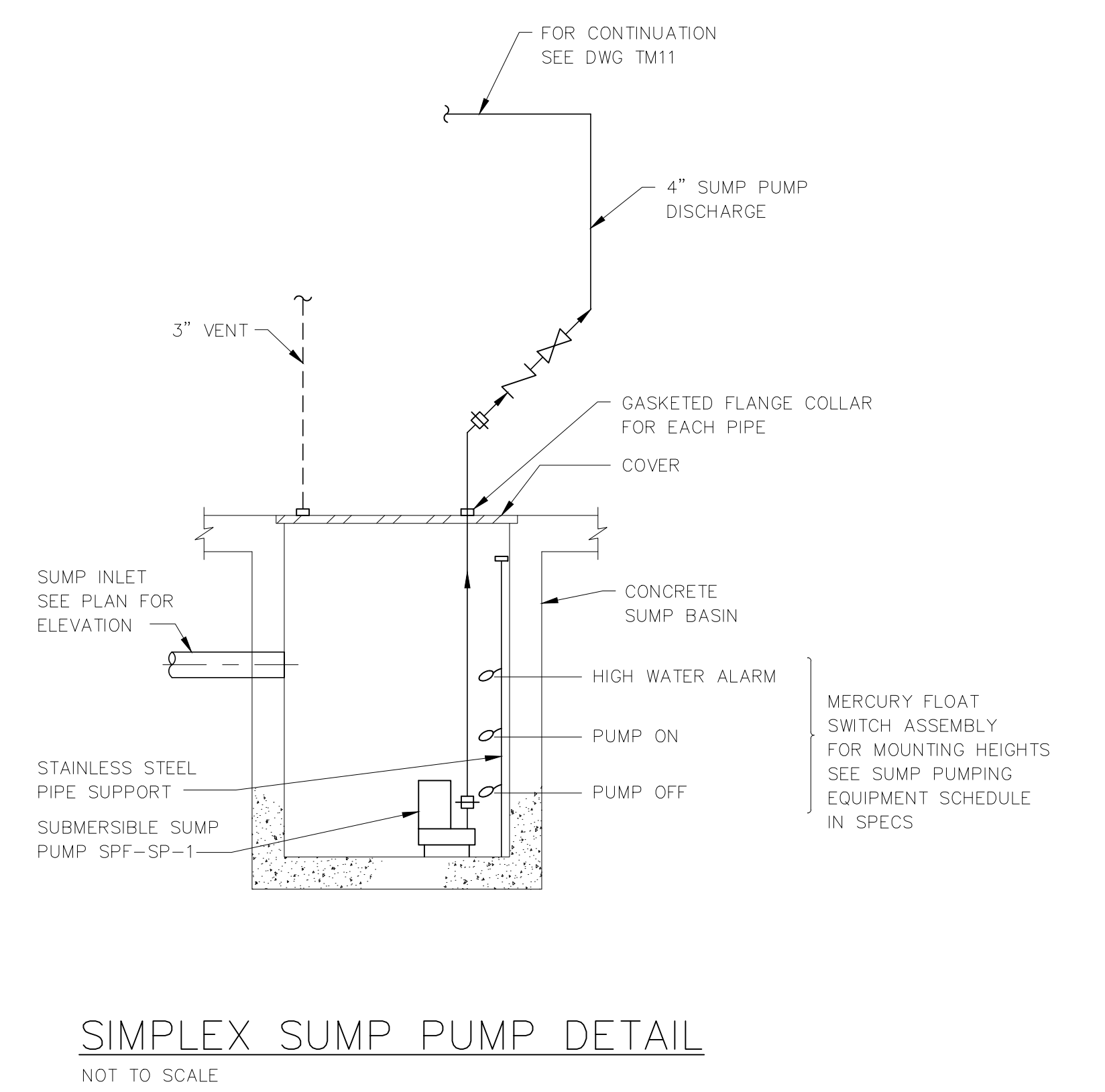
PLANT WATER DIAGRAM



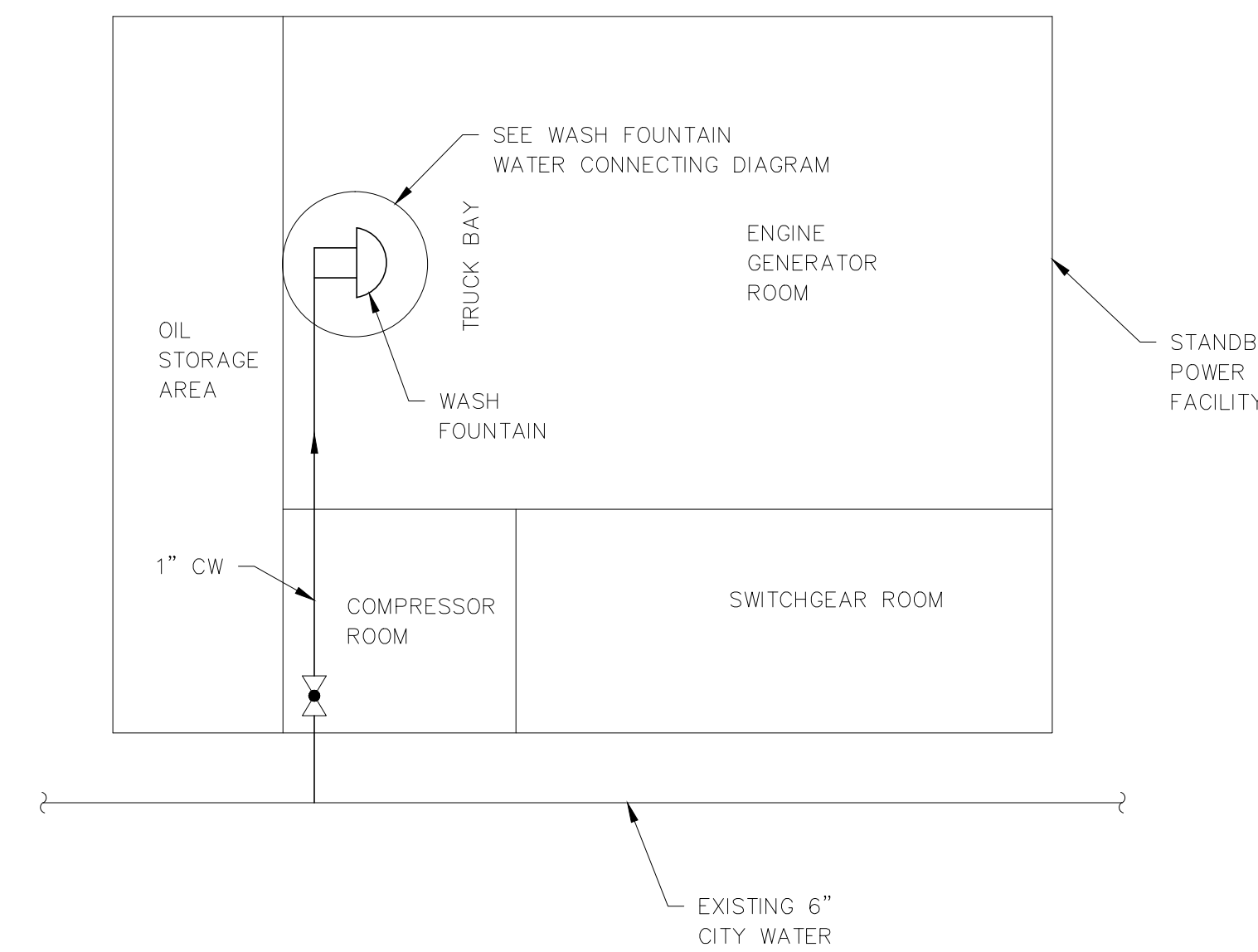
PLANT AIR DIAGRAM



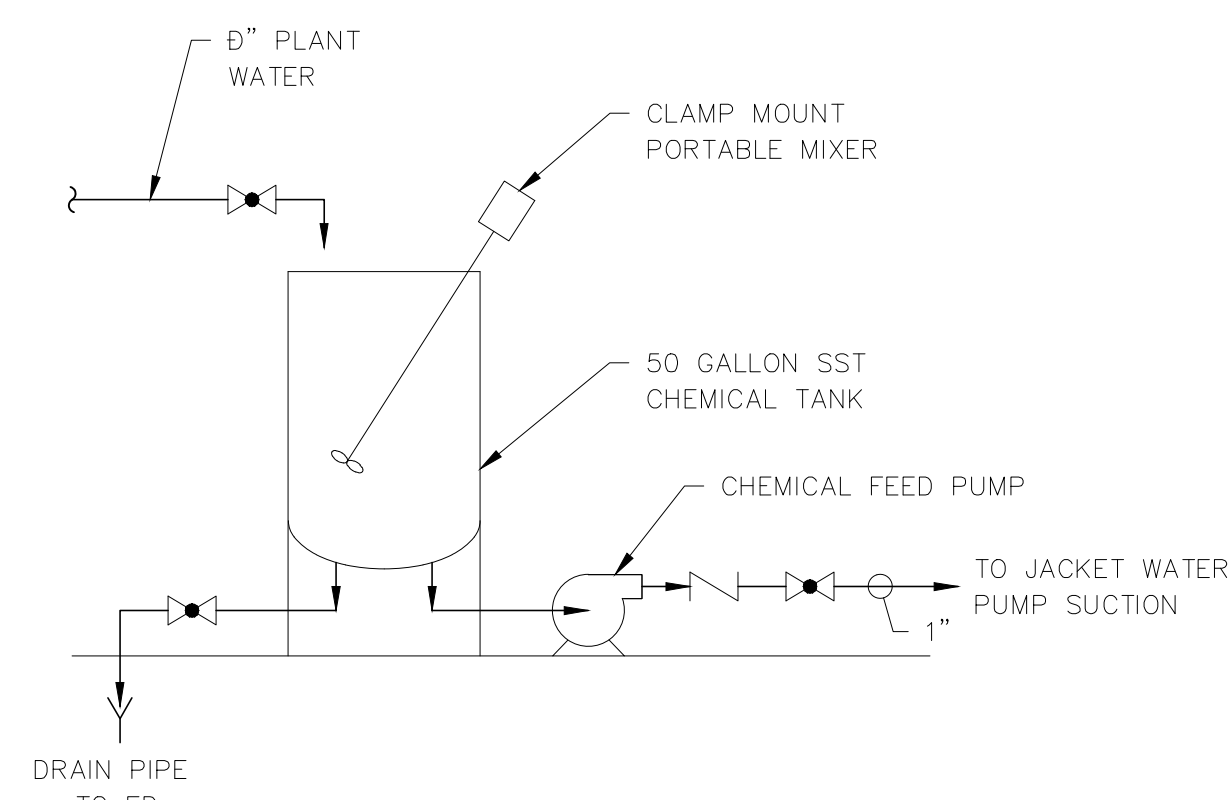
WASH FOUNTAIN WATER CONNECTING DIAGRAM



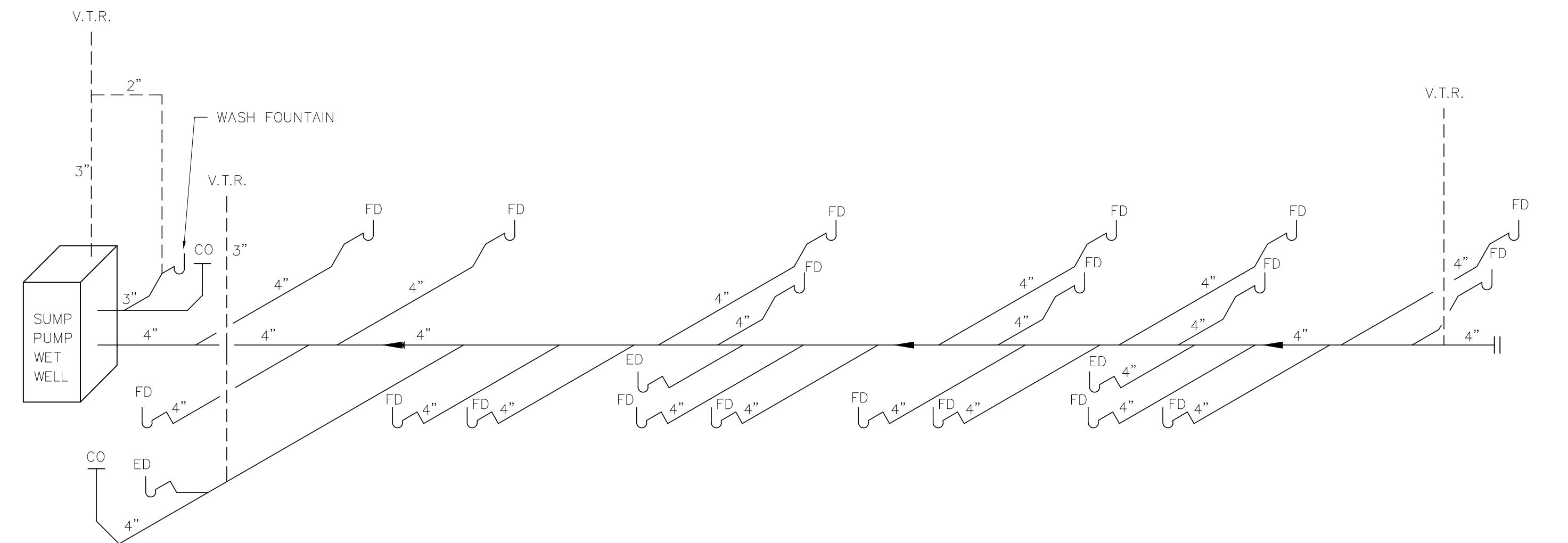
SIMPLEX SUMP PUMP DETAIL
NOT TO SCALE



CITY WATER DIAGRAM



JACKET WATER CHEMICAL SYSTEM DIAGRAM



FLOOR DRAIN RISER DIAGRAM
NOT TO SCALE

RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

FILE: H3B-TM10 SCALE: 1:1 09/10, 1996 at 08:11 -- "13_4h (Inventive Load)"

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED SFS
DRAWN DLT
CHECKED JRP

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
3	8/12/96		RECORD DWG REVISIONS

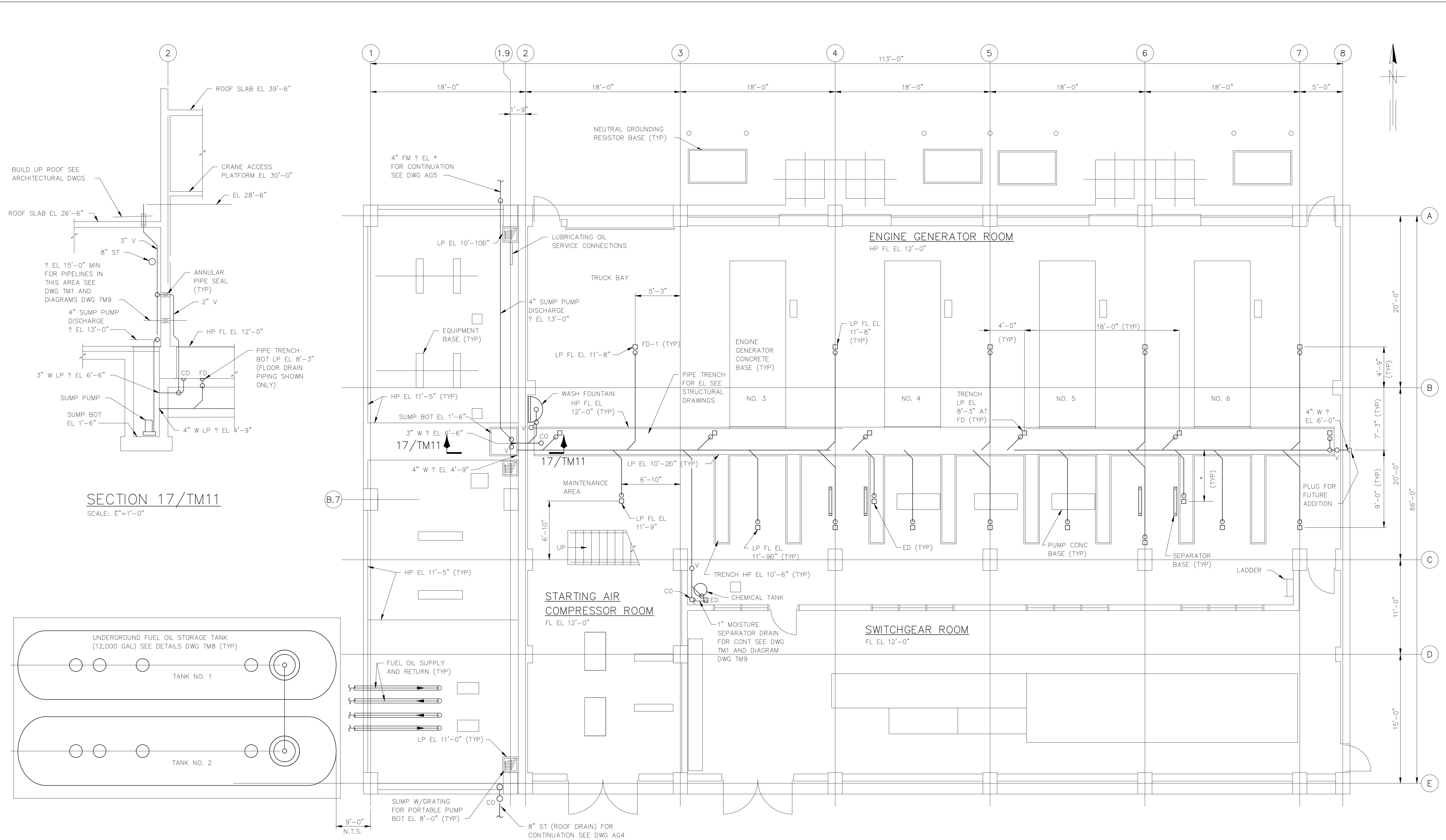
SCALE
NO SCALE

CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
MECHANICAL
DIAGRAMS AND DETAILS

PROJ NO.	202G
DWG	TM10
SHEET	
DATE	DECEMBER 1991
REV	3

5H3B_OTM-010



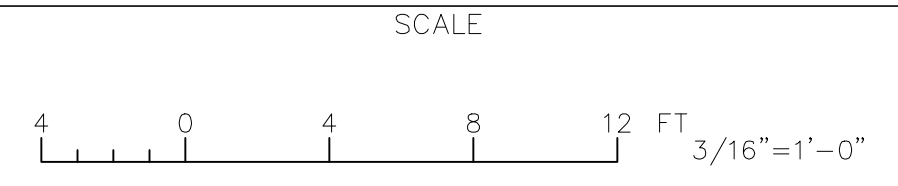
FILE: H3B-TM11 SCALE: 1/4"=1'-0" 1996 01 08:13 - "13_cad (Reference Lock)"

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED SFS, RPN
DRAWN RPN
CHECKED JRP

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
4	8/12/96		RECORD DWG REVISIONS



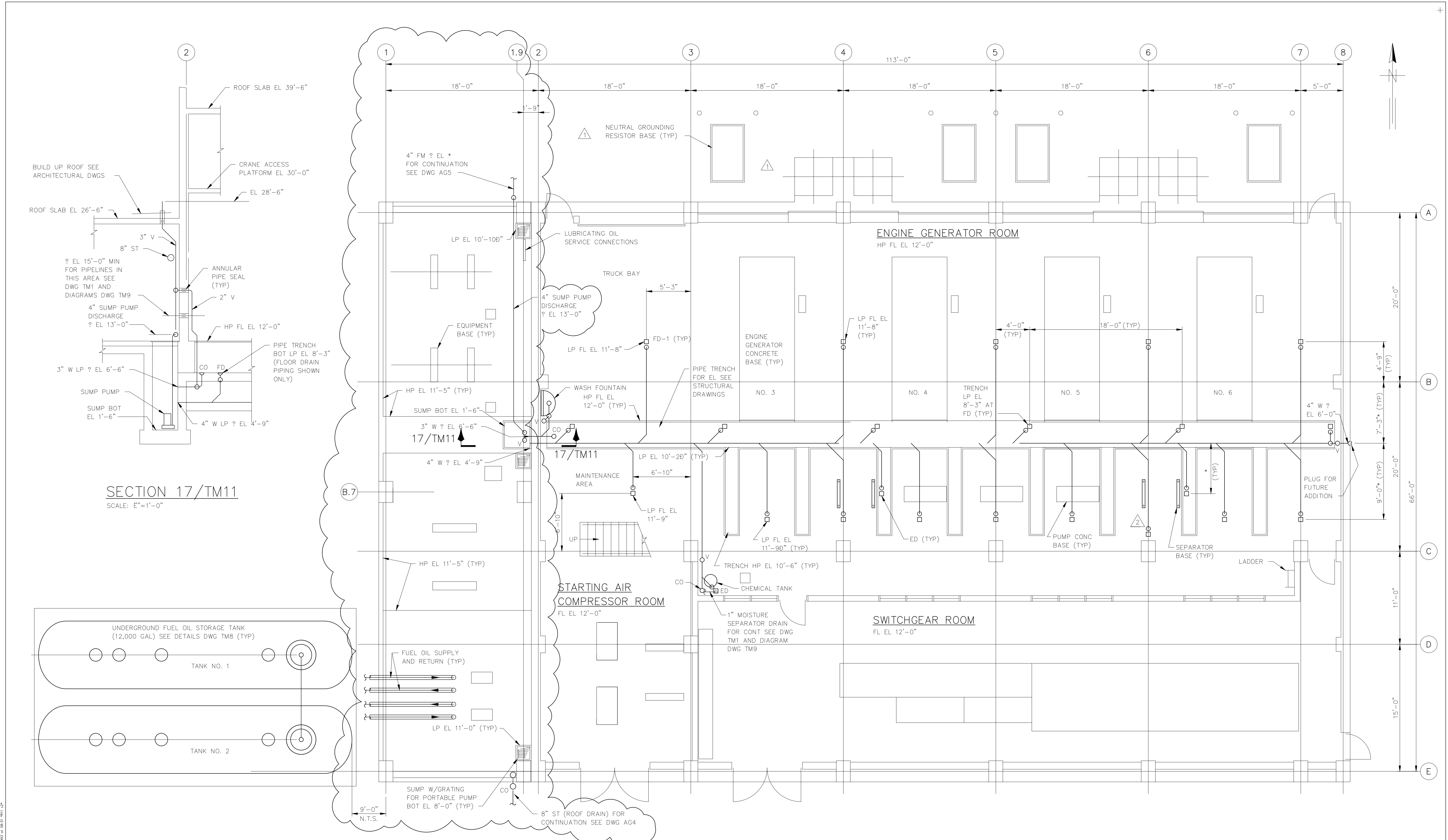
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
MECHANICAL
FLOOR DRAIN - PLAN AND SECTION

See Supplemental Drawing SD-8

PROJ NO.	202G
DWG	TM11
SHEET	
DATE	DECEMBER 1991
REV	4

5H3B_0TM-011



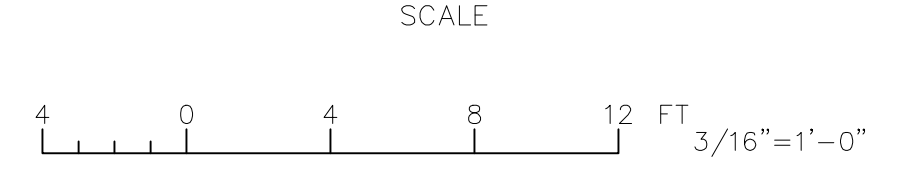
3 FLOOR DRAIN PLAN - FL EL 12'-0"
SCALE: 1/8"=1'-0"

GREELEY AND HANSEN
ENGINEERS
4350 WEST CYPRESS STREET
TAMPA, FLORIDA 33607-4135

DESIGNED SFS RPN
DRAWN RPN
CHECKED JRP

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
3	4/20/93	DCH	FIRE MARSHAL'S COMMENTS
2	8/04/92	DCH	REVISED PER ADD NO 2
1	2/20/92	JRP	REVISED NORTH WALL



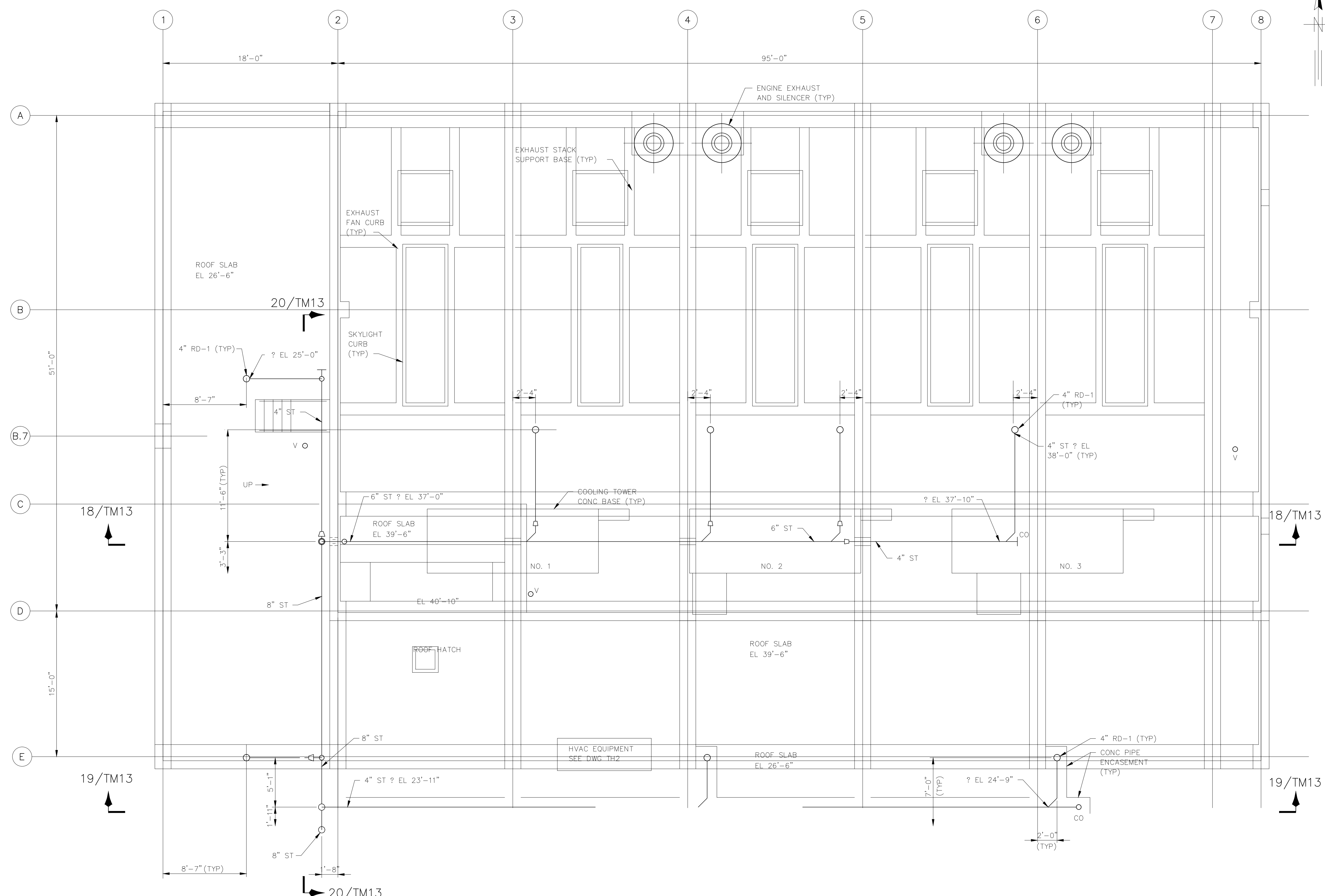
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
MECHANICAL
FLOOR DRAIN - PLAN AND SECTION

REVISES DWG TM11

PROJ NO.	202G
DWG	SD-8
SHEET	
DATE	DECEMBER 1991
REV	3

5H3B_OTM-011A



ROOF DRAIN - PLAN
SCALE: E"=1'-0"

RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

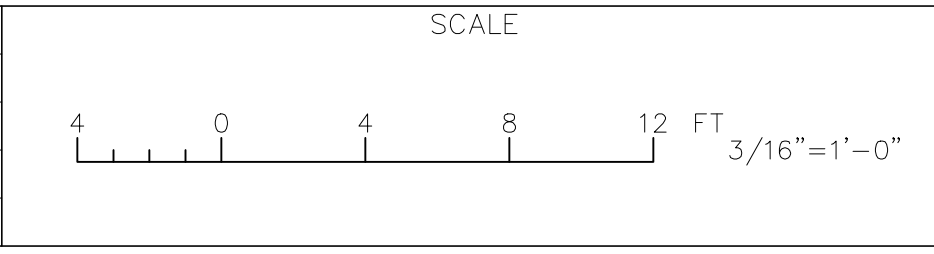
FILE: 5H3B-TM12 SCALE: 1/4"=0'-0" 1996 at 09:33 - "3_13_14.dwg [Hardware Lock]

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED SFS, RPN
DRAWN RPN
CHECKED JRP

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
3	8/2/96		RECORD DWG REVISIONS

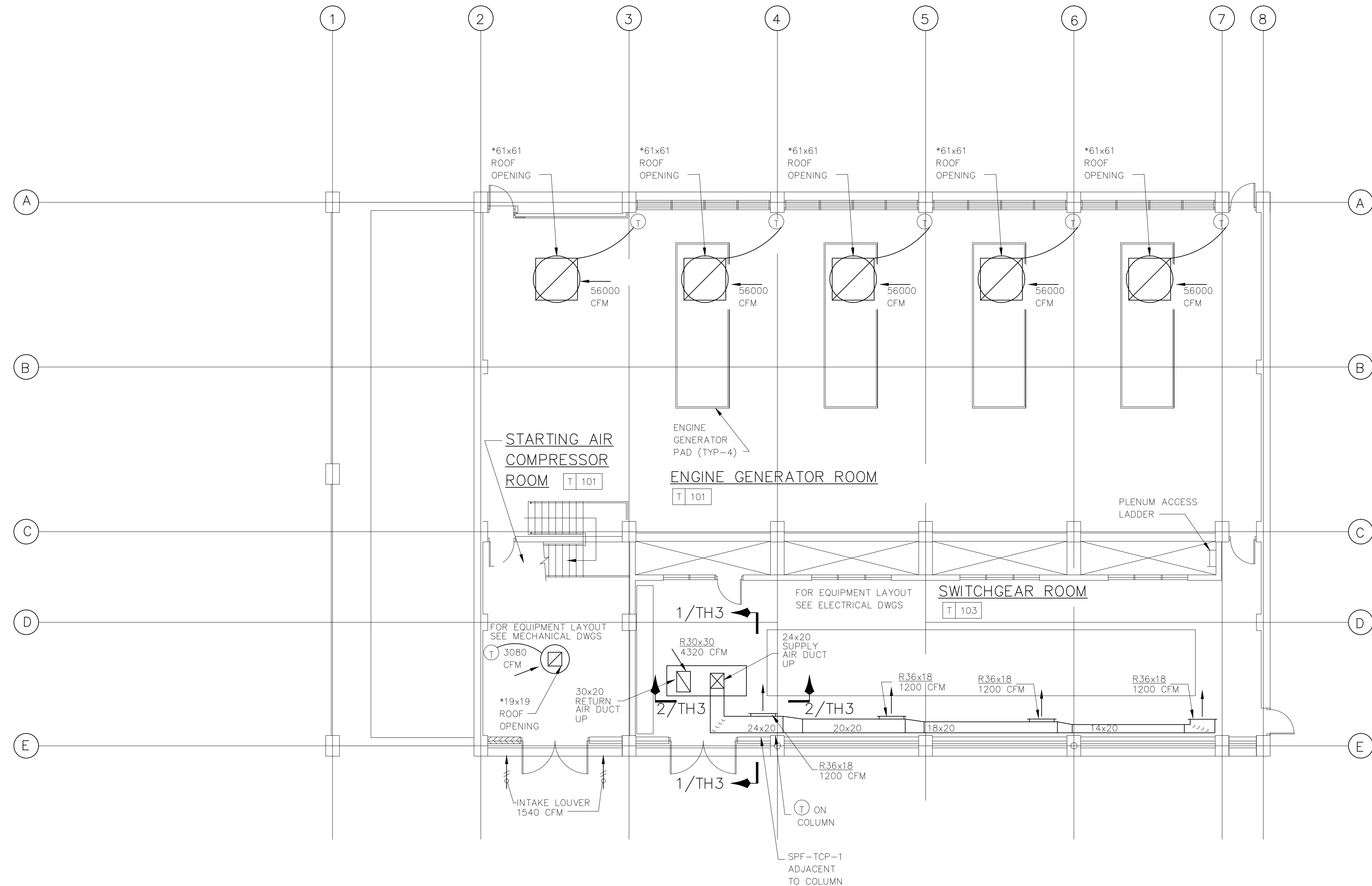


CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
MECHANICAL
ROOF DRAIN - PLAN

PROJ. NO.	202G
DWG	TM12
SHEET	
DATE	DECEMBER 1991
REV	3

5H3B_0TM-012



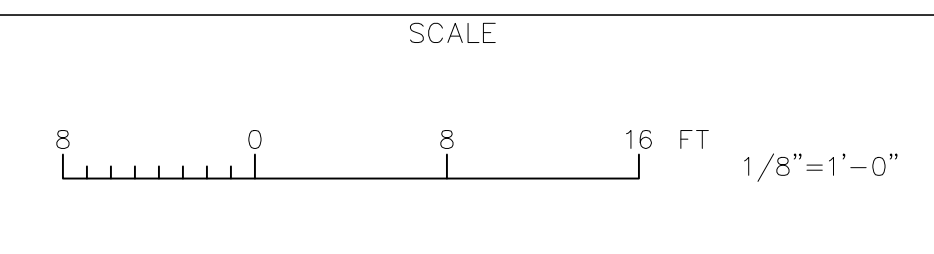
PLAN - FL EL 12'-0"
 SCALE: 1/8" = 1'-0"
 *NOTE: COORDINATION OF EXACT DIMENSIONS TO BE DETERMINED AFTER FINAL SELECTION OF EQUIPMENT

NOTE:
 1. APPROXIMATE OUTLINE OF ELECTRICAL EQUIPMENT. NO DUCTWORK SHALL BE ROUTED ABOVE ELECTRICAL EQUIPMENT. FINAL ROUTING OF DUCTWORK SHALL BE COORDINATED WITH APPROVED ELECTRICAL EQUIPMENT.

FILE: H3B-TH01 SCALE: 1/8" = 1'-0" DATE: 8/16/96 11:24 AM

EMTEC Corporation CONSULTING ENGINEERS 1723 W. KENNEDY BOULEVARD SUITE 210 TAMPA, FLORIDA 33606	
GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	
DESIGNED	BP
DRAWN	BP
CHECKED	

NO.	DATE	APPD	REVISION
2	8/16/96		RECORD DWG REVISIONS

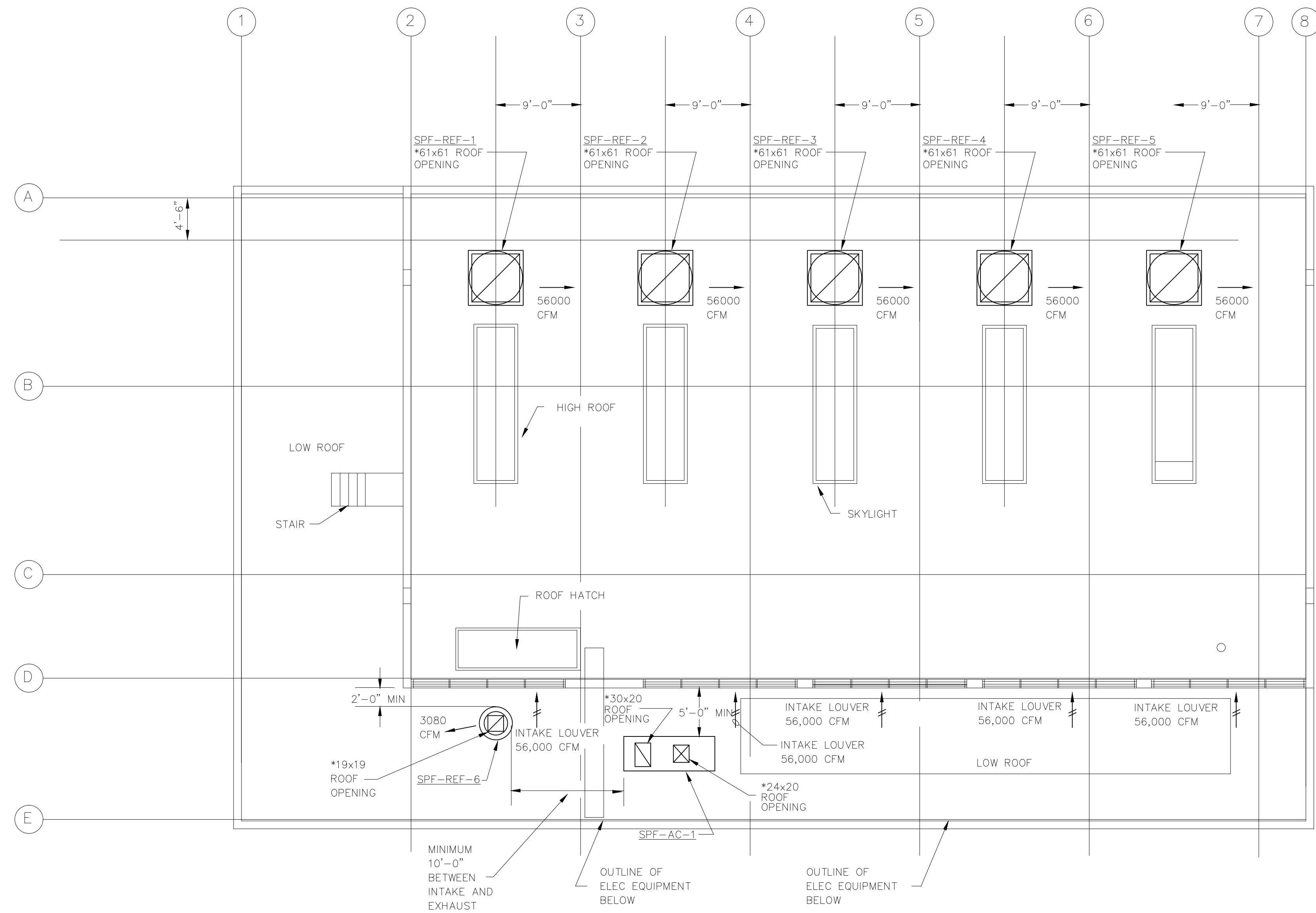


CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT EXPANSION
 PHASE I DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

HVAC
 STANDBY POWER FACILITY
 PLAN AT EL 12'-0"

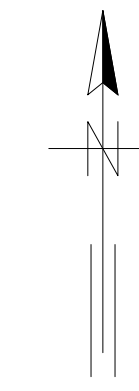
PROJ. NO.	202G
DWG	TH1
SHEET	
DATE	JANUARY 1992
REV	2

5H3B_0TH-001



PLAN AT EL 42'-0"

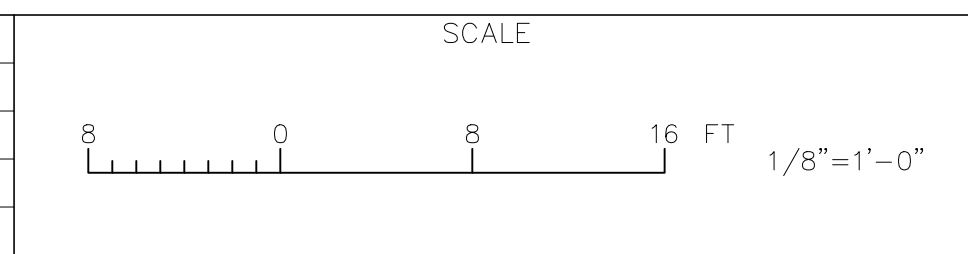
SCALE : 1/8"=1'-0"
 *NOTE: COORDINATION OF EXACT DIMENSIONS TO BE DETERMINED AFTER FINAL SELECTION OF EQUIPMENT



FILE: H3B-TH02 SCALE 1:96 9/10, 1996 AR 1:00 = *1.3_s4h (hardware lock)*

EMTEC Corporation CONSULTING ENGINEERS 1723 W. KENNEDY BOULEVARD SUITE 210 TAMPA, FLORIDA 33606	
DESIGNED BP DRAWN DJM CHECKED JRP	APPROVED _____ DATE _____ _____ DATE _____ GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
3	8/1/96		RECORD DWG REVISIONS

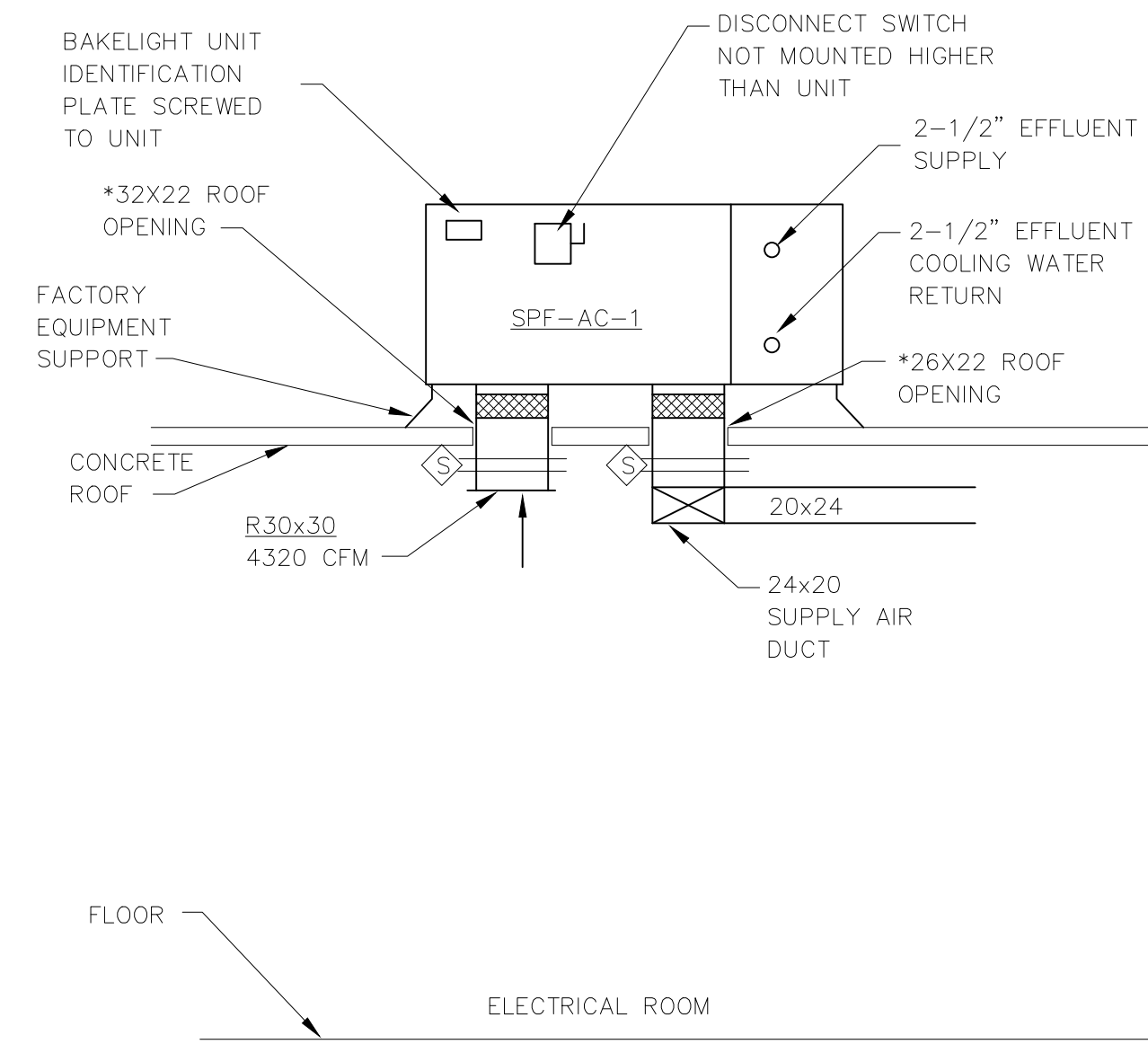


CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PLANT EXPANSION
 PHASE I DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

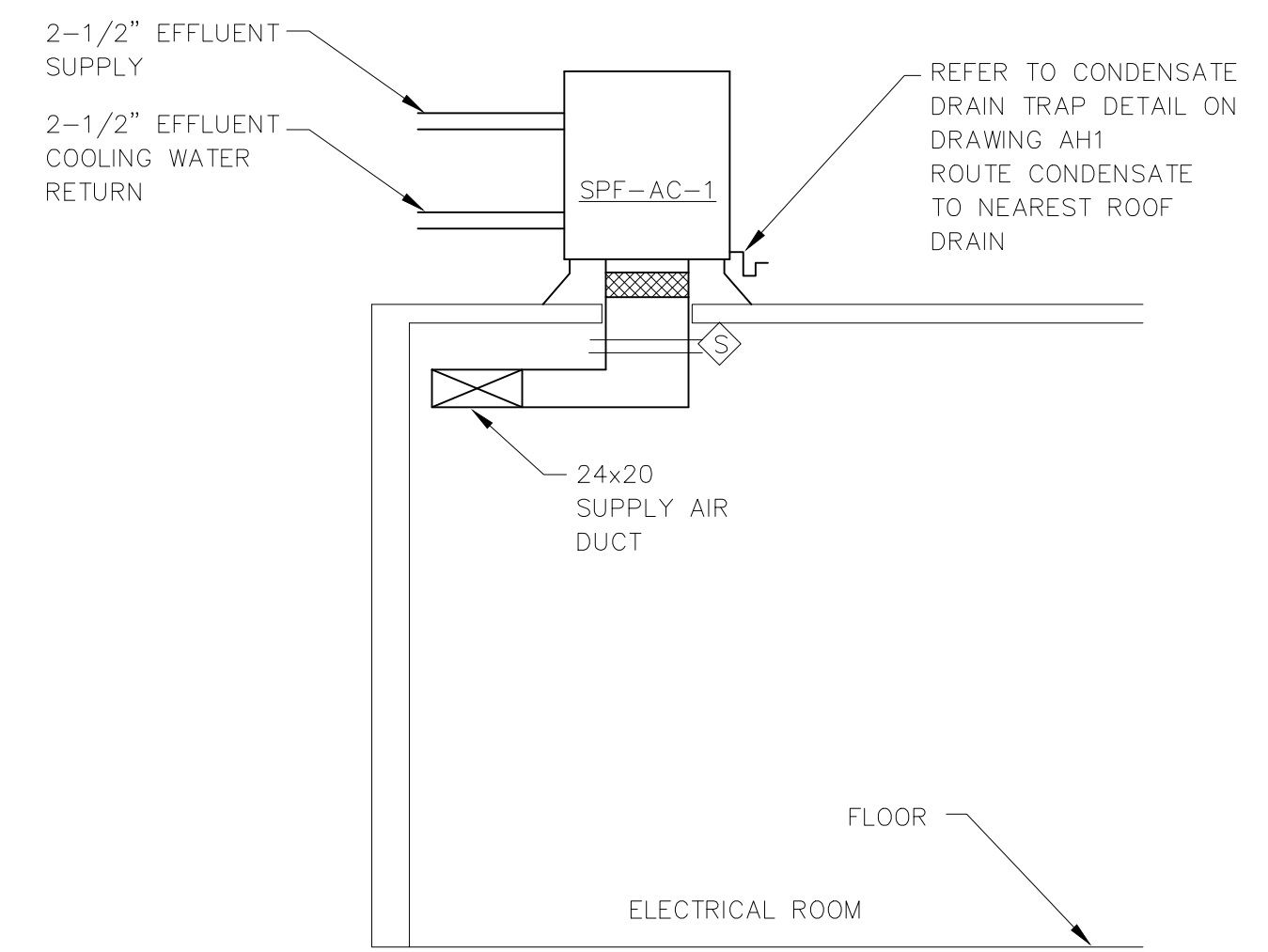
STANDBY POWER FACILITIES
 HVAC
 PLAN AT EL 42'-0"

RECORD DRAWING <small>THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.</small>	
PROJ. NO.	202G
DWG	TH2
SHEET	
DATE	DECEMBER 1991
REV	3

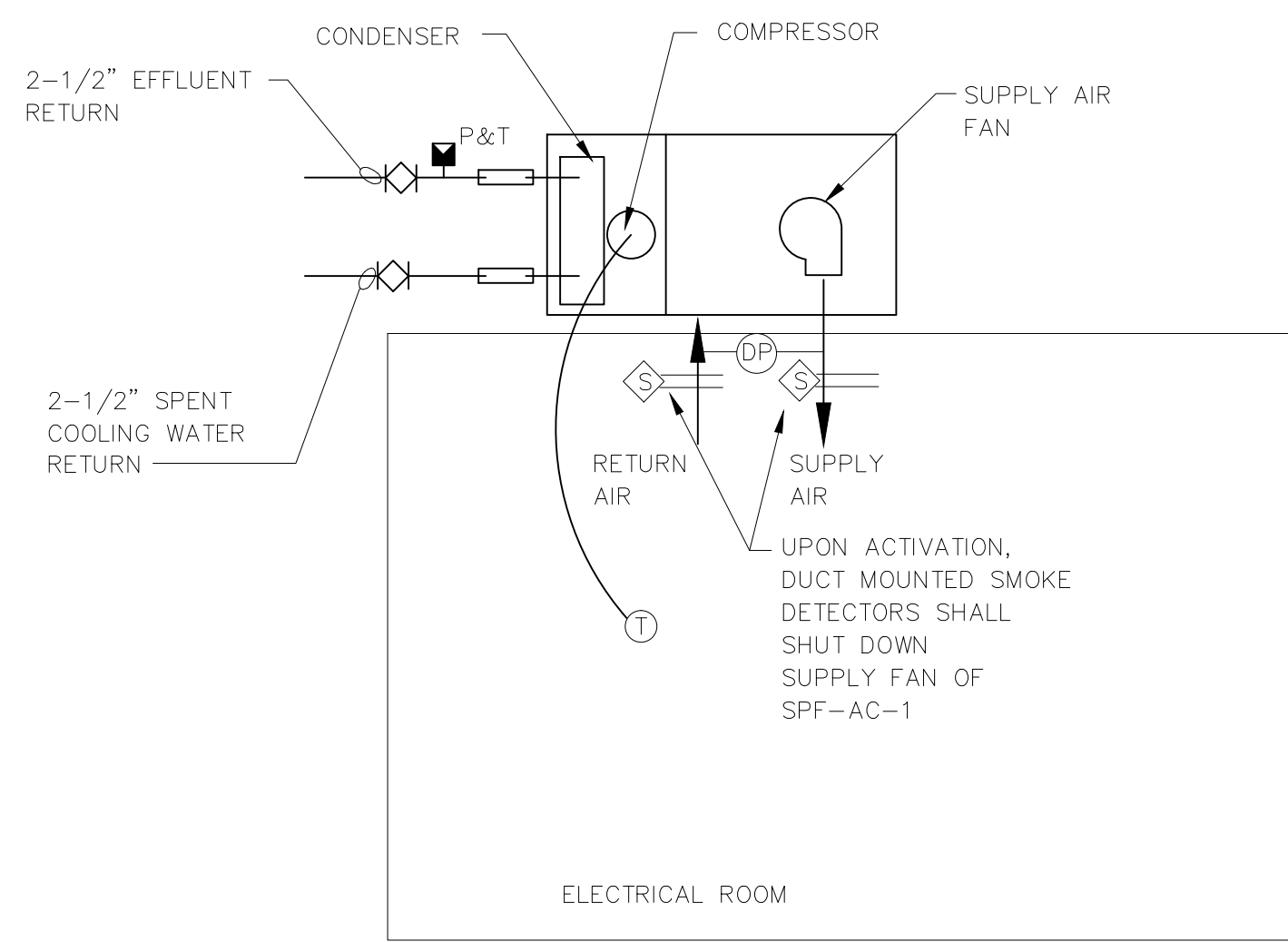
5H3B_0TH-002



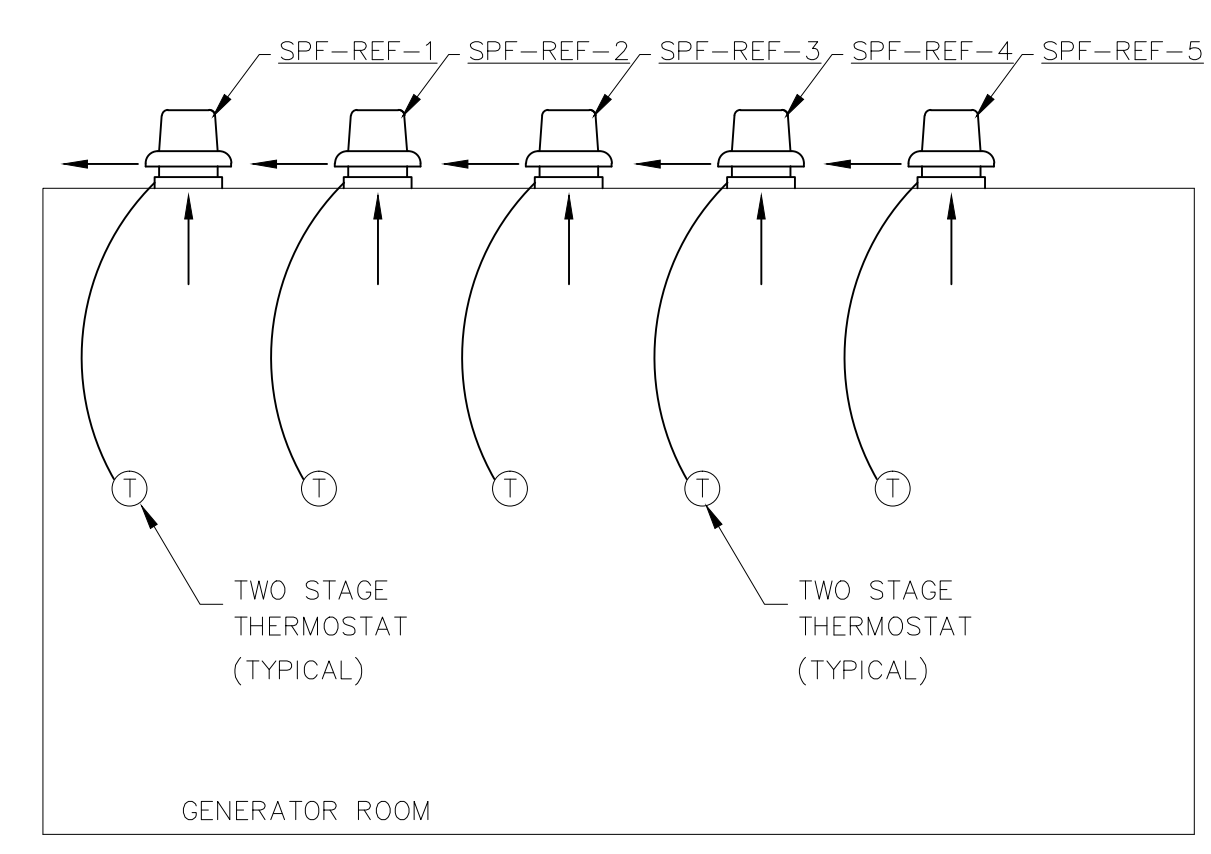
SECTION 2/TH1
SCALE: 1/4" = 1'-0"



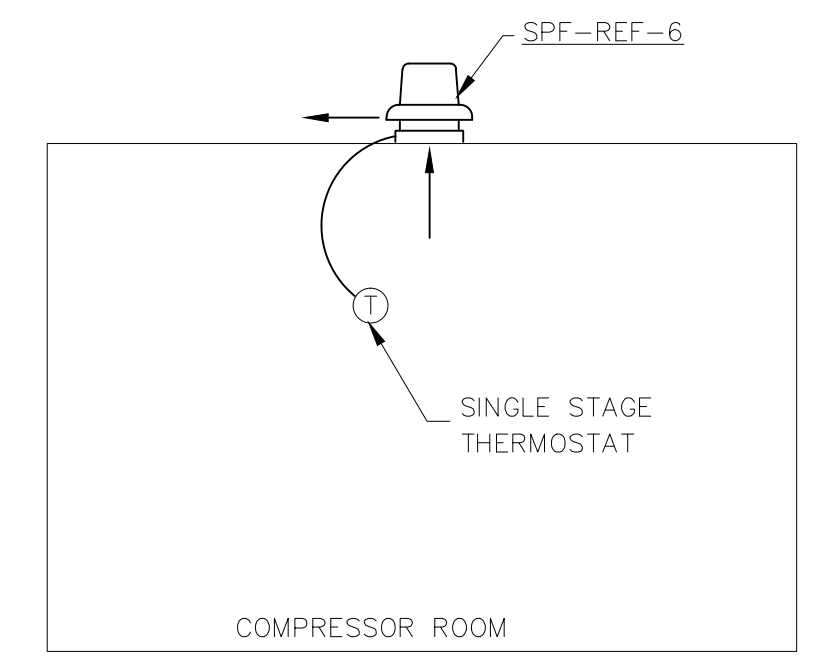
SECTION 1/TH1
SCALE: 1/4" = 1'-0"



AIR CONDITIONING HYDRONIC FLOW, AIRFLOW AND CONTROL DIAGRAM
NOT TO SCALE



EXHAUST AIRFLOW AND CONTROL DIAGRAM - GENERATOR ROOM
NOT TO SCALE

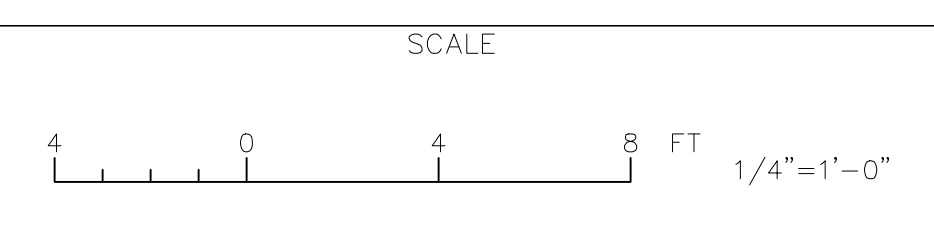


EXHAUST AIRFLOW AND CONTROL DIAGRAM - COMPRESSOR ROOM
NOT TO SCALE

FILE: H3B-TH03, SCALE: 1:48, 09/10, 1996, at 13:17 - *13:44 (User: jlp)

EMTEC Corporation
CONSULTING ENGINEERS
1723 W. KENNEDY BOULEVARD
SUITE 210
TAMPA, FLORIDA 33606

DESIGNED	BP	APPROVED	_____	DATE	_____
DRAWN	BP				
CHECKED	JRP				
				NO.	DATE
				2	8/16/96
					RECORD DWG REVISIONS
					REVISION



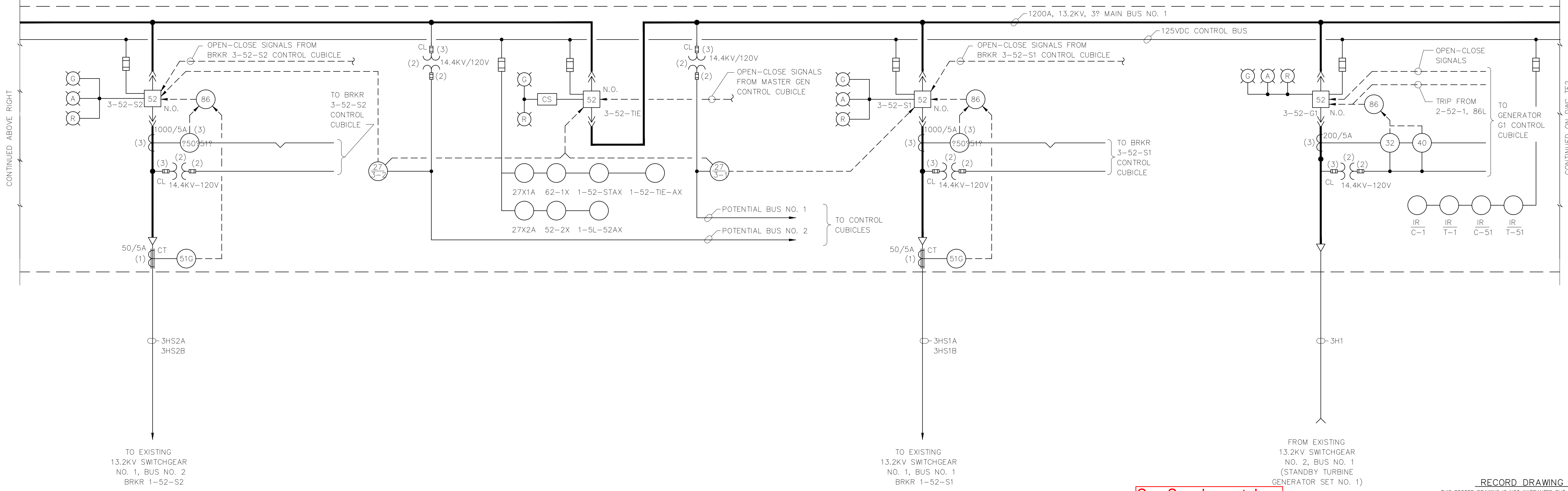
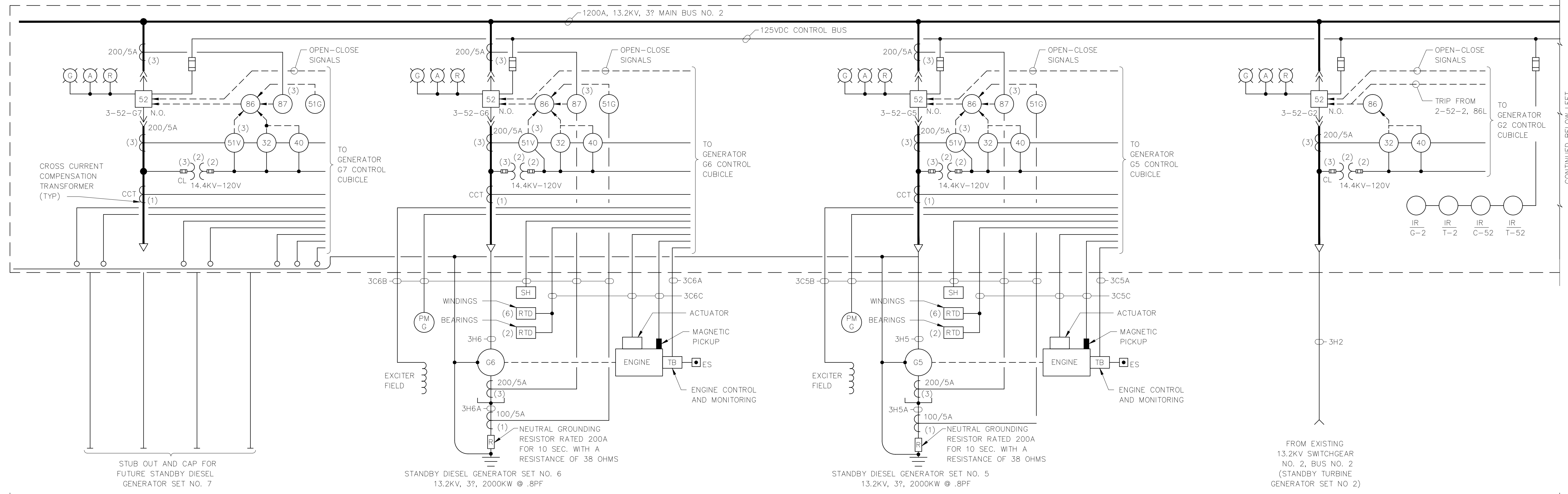
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
HVAC
SECTIONS AND CONTROL DIAGRAMS

PROJ. NO.	202G
DWG	TH3
SHEET	
DATE	JANUARY 1992
REV	2

RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

5H3B_0TH-003



See Supplemental Drawing SD-57

RECORD DRAWING.
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED RWZ
DRAWN SK, GFO
CHECKED BBK

APPROVED	DATE		
GREELEY AND HANSEN, ENGINEERS	3 8/19/96	RECORD DWG REVISIONS	
	NO.	DATE	APPD
			REVISION

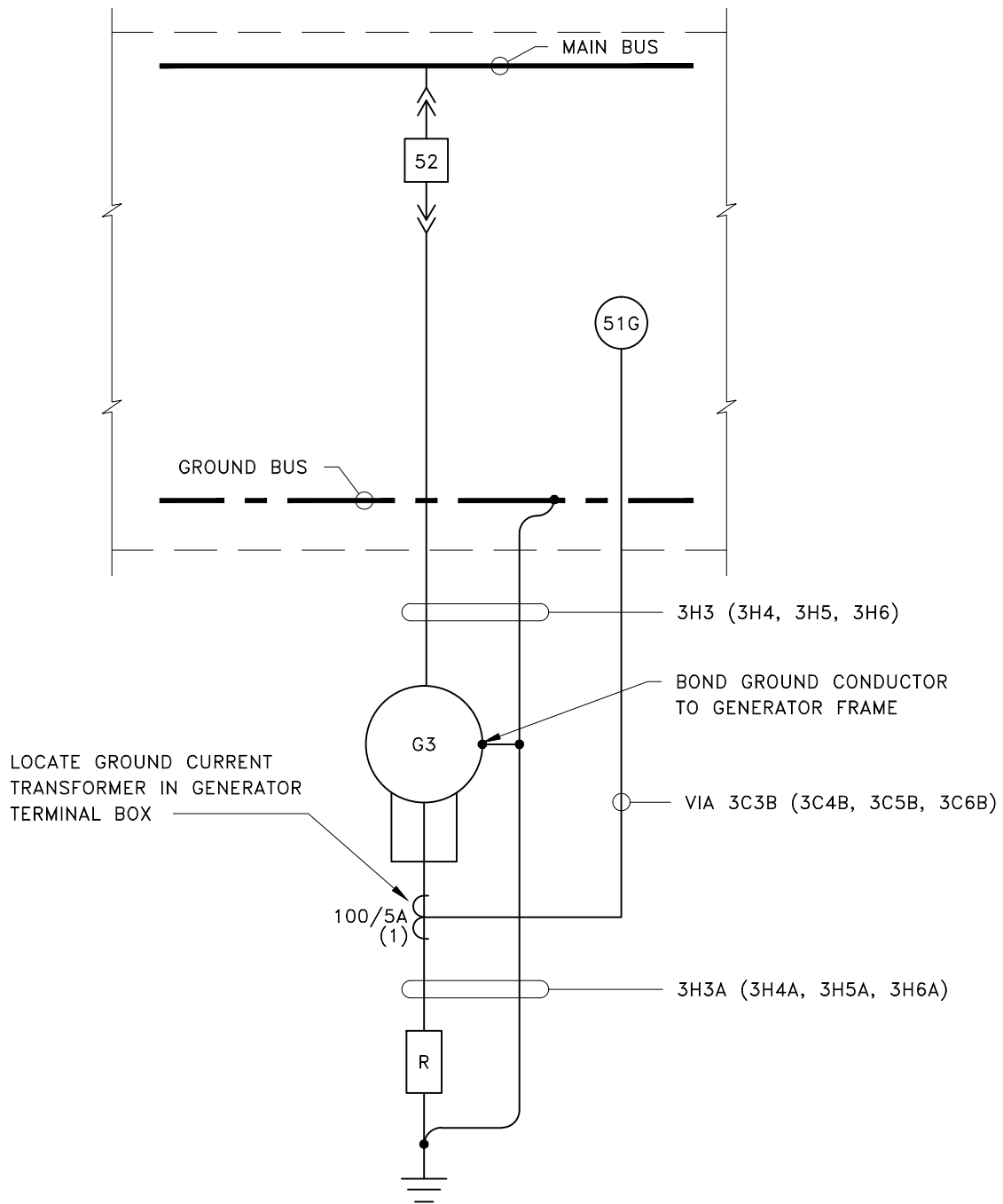
SCALE
NO SCALE

CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
ELECTRICAL
13.2KV INDOOR SWITCHGEAR NO. 3
ONE LINE DIAGRAM

PROJ. NO.	202G
DWG	TE1
SHEET	
DATE	DECEMBER 1991
REV	3

5H3B_OTE-001



GENERATOR G3 GROUNDING DIAGRAM

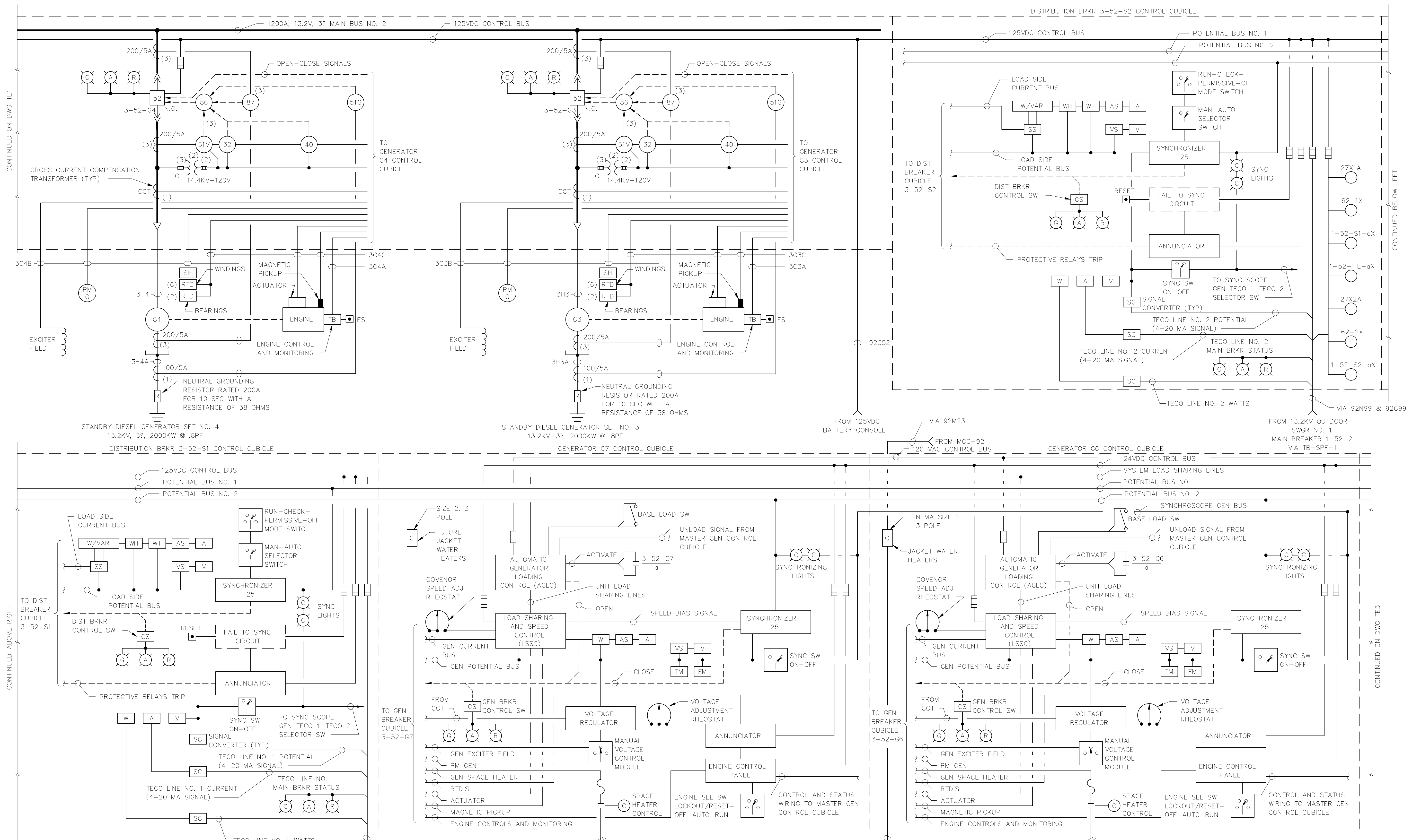
TYPICAL FOR GENERATORS G4, G5 & G6

REVISES DWG TE1, TE2

FILE: H:\AC\5H3B\SD\H3B5D057 SCALE: 1:11 02/20, 1995 at 08:47 *R11 c2*

DES	BBK	CKD	BBK				CITY OF TAMPA
DR	BBK	APPD					H.P.W.W.T.P. DIV. 5H3B
GREELEY AND HANSEN ENGINEERS							SD-57
TAMPA, FLORIDA 36607							
NO.	DATE	APPD	REVISION	DATE	FEB 95	NO.	0

5H3B_0TE-001A



RECORD DRAWING
 THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

See Supplemental Drawings SD-57 and SD-52

GREELEY AND HANSEN
 ENGINEERS
 4350 WEST CYPRESS STREET
 TAMPA, FLORIDA 33607-4135

DESIGNED RWZ
 DRAWN SK GFO
 CHECKED BBK

APPROVED	DATE		

SCALE			
NO SCALE			

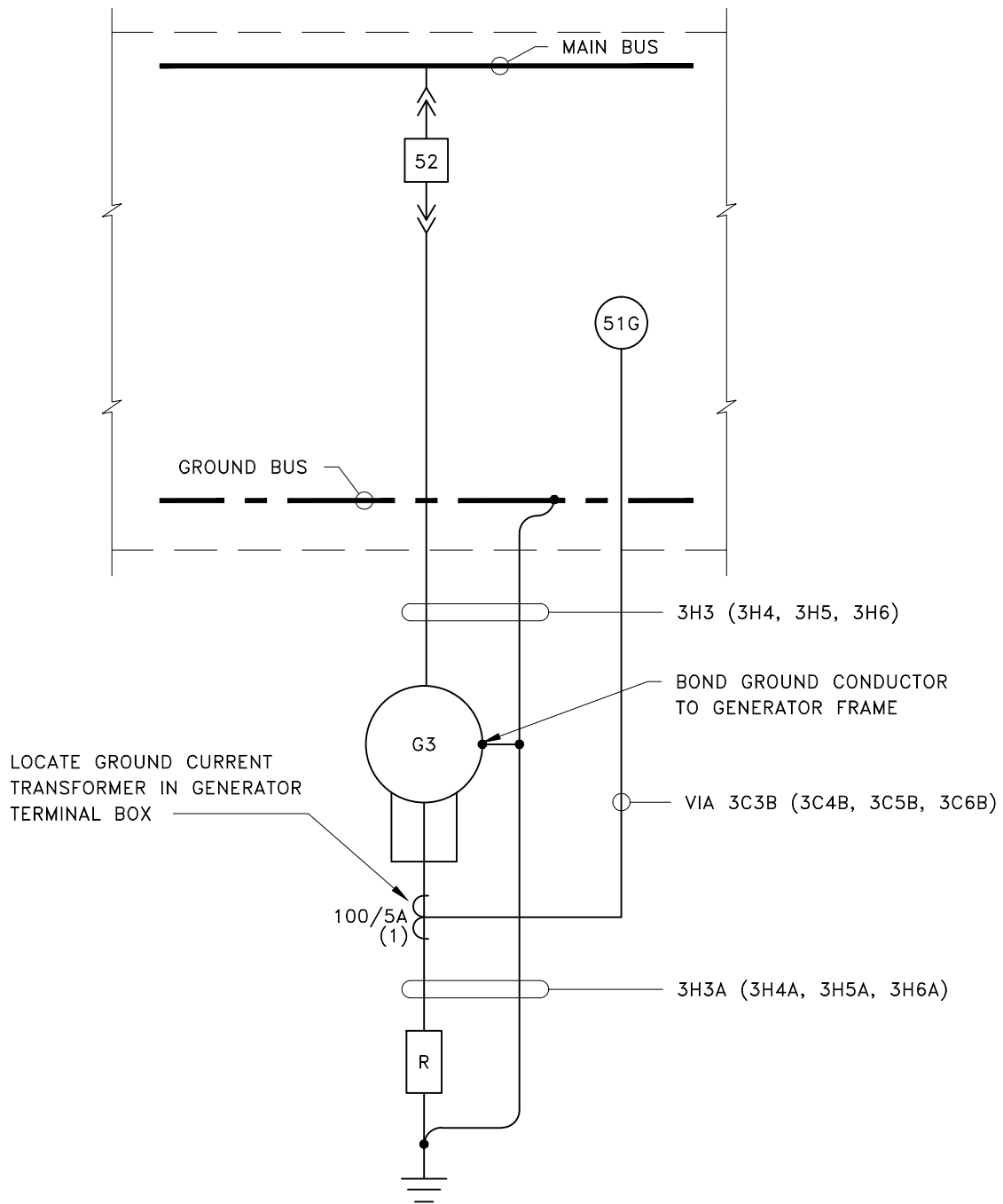
CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PLANT EXPANSION
 PHASE I DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
 ELECTRICAL
 13.2KV INDOOR SWITCHGEAR NO. 3
 ONE LINE DIAGRAM

PROJ NO.	202G
DWG	TE2
SHEET	
DATE	DECEMBER 1991
REV	1

5H3B_OTE-002

FILE: HSB-TE02 11.04.97/98 15:14 GH-A



GENERATOR G3 GROUNDING DIAGRAM

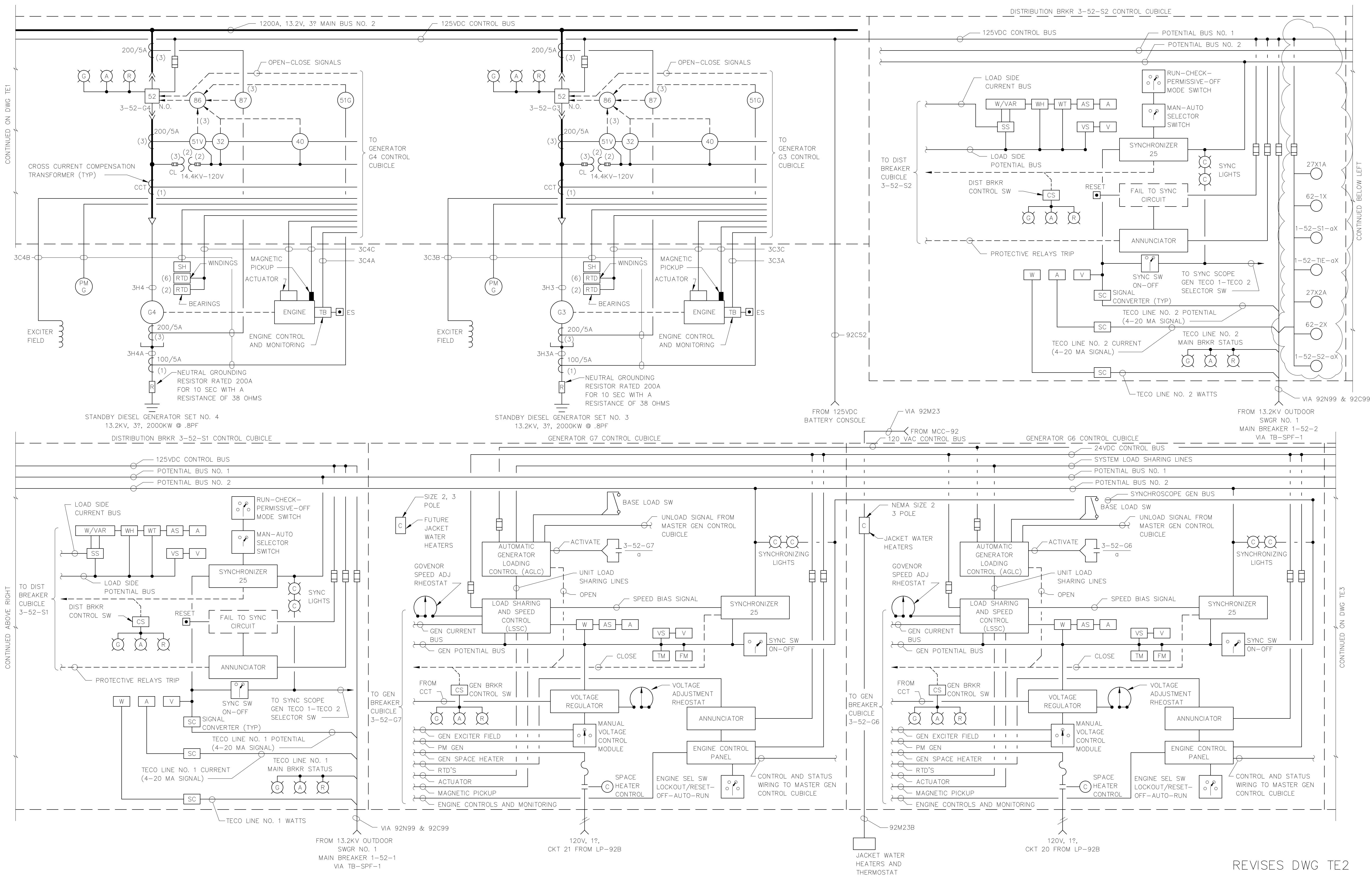
TYPICAL FOR GENERATORS G4, G5 & G6

REVISES DWG TE1, TE2

FILE: H:\AC\5H3B\SD\H3B5D057 SCALE: 1:11 02/20, 1995 at 08:47 *R11 c2*

DES	BBK	CKD	BBK				CITY OF TAMPA
DR	BBK	APPD					H.P.W.W.T.P. DIV. 5H3B
GREELEY AND HANSEN ENGINEERS							SD-57
TAMPA, FLORIDA 36607			NO.	DATE	APPD	REVISION	DATE FEB 95 NO. 0

5H3B_0TE-002A



CONTINUED ON DWG TE1

CONTINUED BELOW LEFT

CONTINUED ABOVE RIGHT

CONTINUED ON DWG TE3

REVISES DWG TE2

GREELEY AND HANSEN
ENGINEERS
4350 WEST CYPRESS STREET
TAMPA, FLORIDA 33607-4135

DESIGNED RWZ
DRAWN SK GFO
CHECKED BBK

APPROVED	DATE		
DATE	DATE		
GREELEY AND HANSEN, ENGINEERS			
NO.	DATE	APPD	REVISION

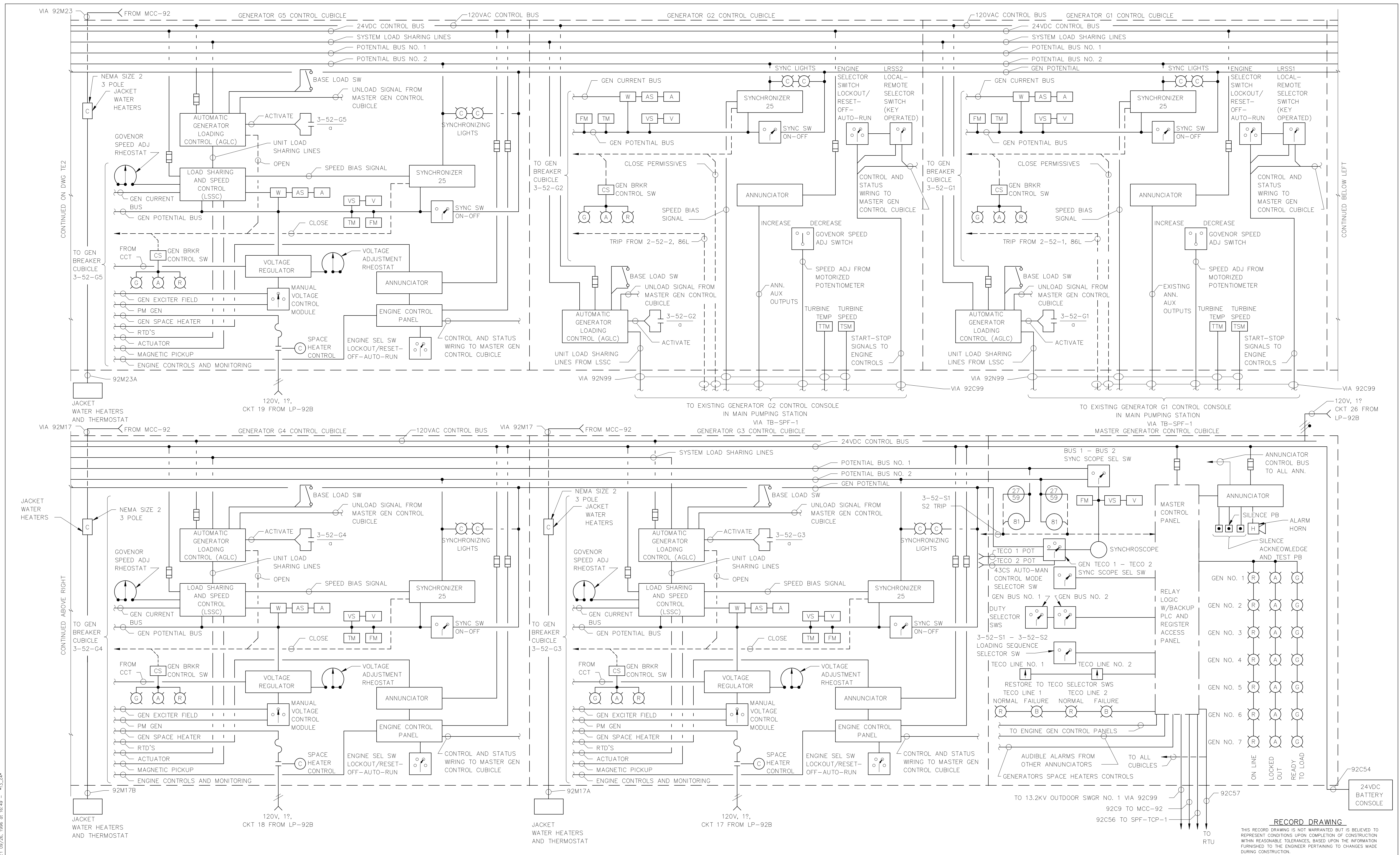
SCALE
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CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE 1 DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
ELECTRICAL
13.2KV INDOOR SWITCHGEAR NO. 3
ONE LINE DIAGRAM

PROJ. NO.	202G
DWG	SD-52
SHEET	
DATE	DECEMBER 1991
REV	0

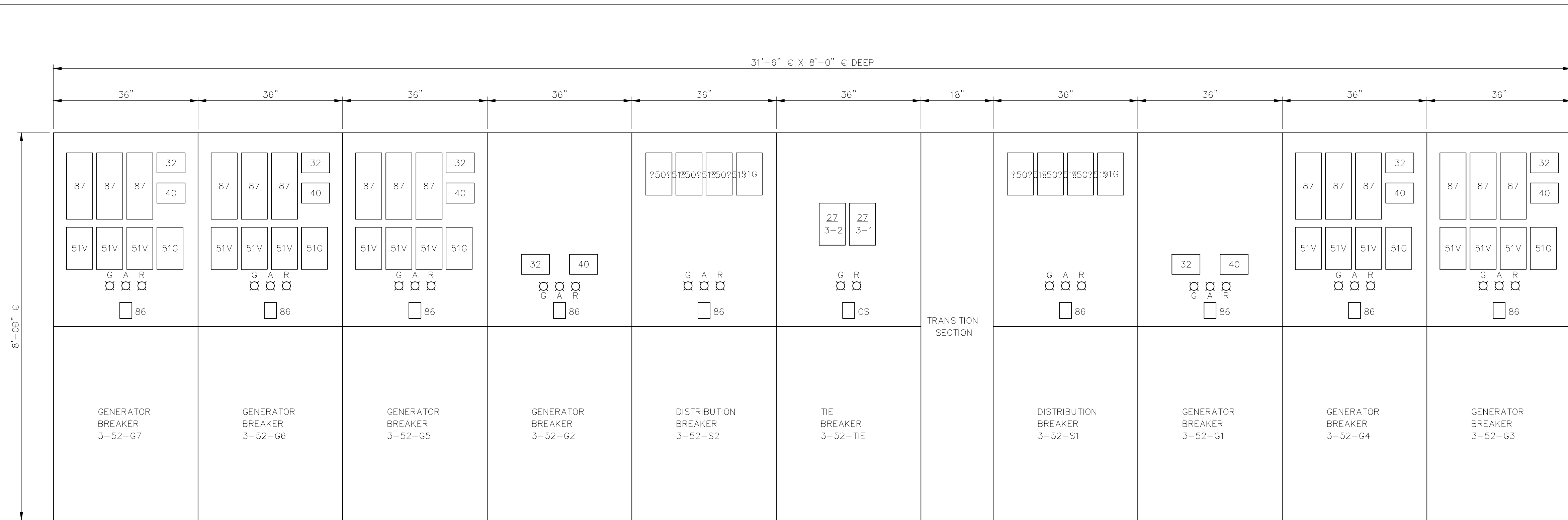
5H3B_0TE-002B



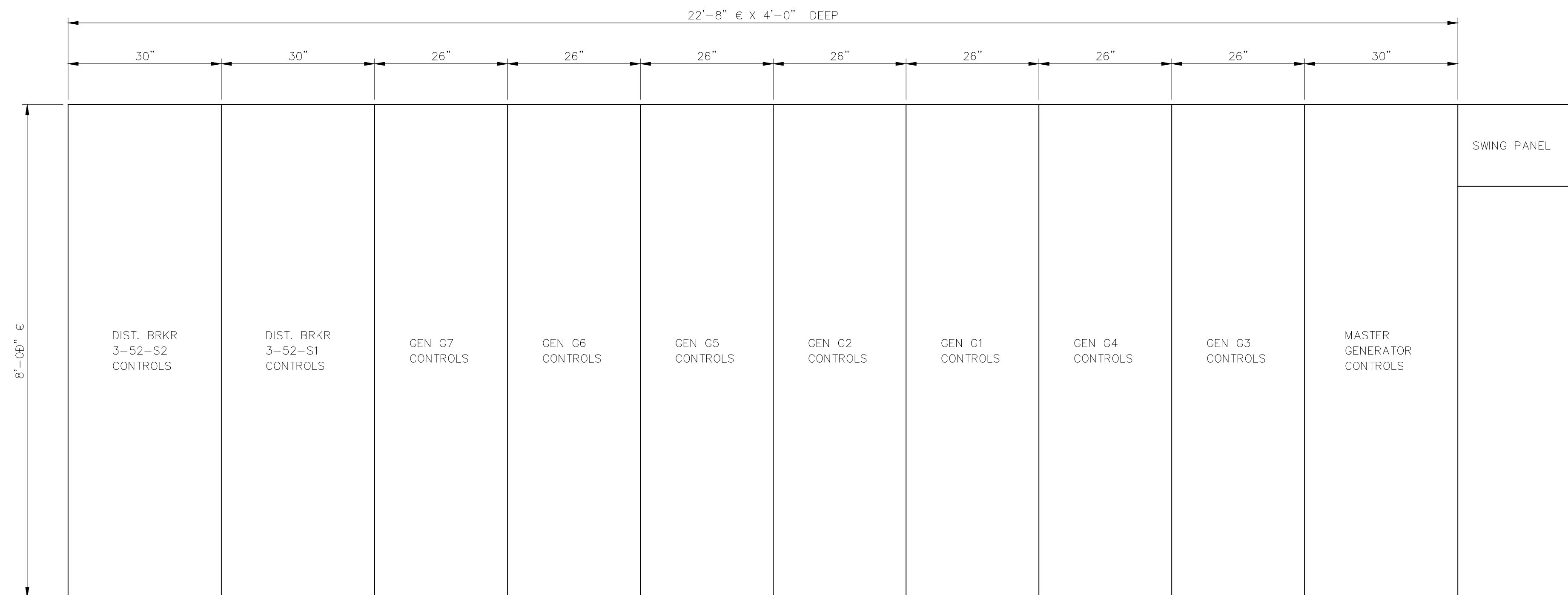
GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED RWZ	APPROVED _____ DATE _____	SCALE		CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	STANDBY POWER FACILITY ELECTRICAL 13.2KV INDOOR SWITCHGEAR NO. 3 ONE LINE DIAGRAM	PROJ NO. 202G
	DRAWN GFO	DATE 8/1/96	NO SCALE				DWG TE3
	CHECKED BBK	RECORD DWG REVISIONS	NO. DATE APPD REVISION				SHEET
GREELEY AND HANSEN, ENGINEERS					DATE DECEMBER 1991 REV 3		5H3B_OTE-003

FILE: HUB-TECH SCALE: 1:1 09/26, 1996 at 16:49 - +12.44*

RECORD DRAWING.
 THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.



13.2KV INDOOR SWITCHGEAR NO.3 (MEDIUM VOLTAGE SECTION) – FRONT ELEVATION
SCALE: 0" = 1'-0"



13.2KV INDOOR SWITCHGEAR NO.3 (CONTROL SECTION) – FRONT ELEVATION
SCALE: 0" = 1'-0"

NOTE:
1. FOR FRONT ELEVATIONS OF CONTROL SECTION CUBICLES, SEE DWG TE5.

RECORD DRAWING
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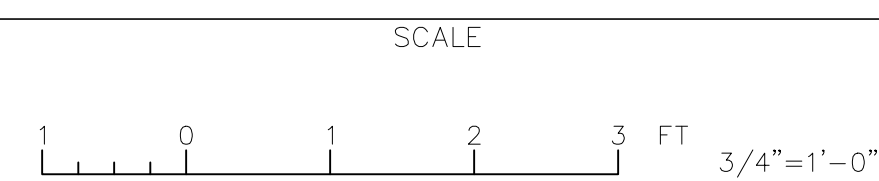
FILE: H3B-TE4 SCALE: 1:16 09/11, 1996 at 07:37 - *13.2kv (Hansen, Lucy)

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED RZ
DRAWN GFO
CHECKED BBK

APPROVED _____ DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
2	8/1/96		RECORD DWG REVISIONS

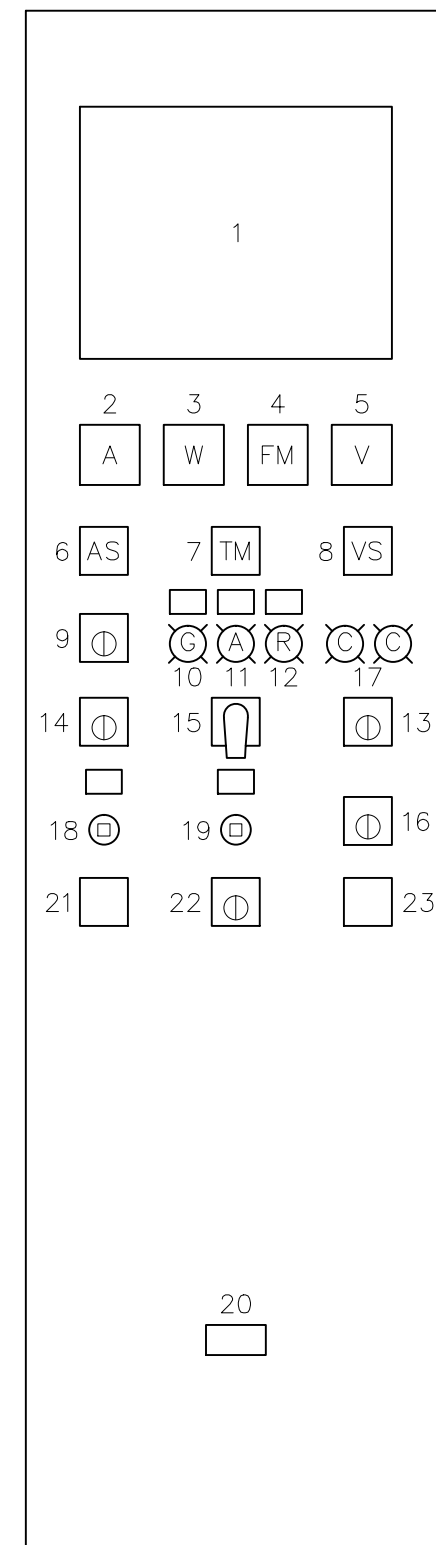


CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

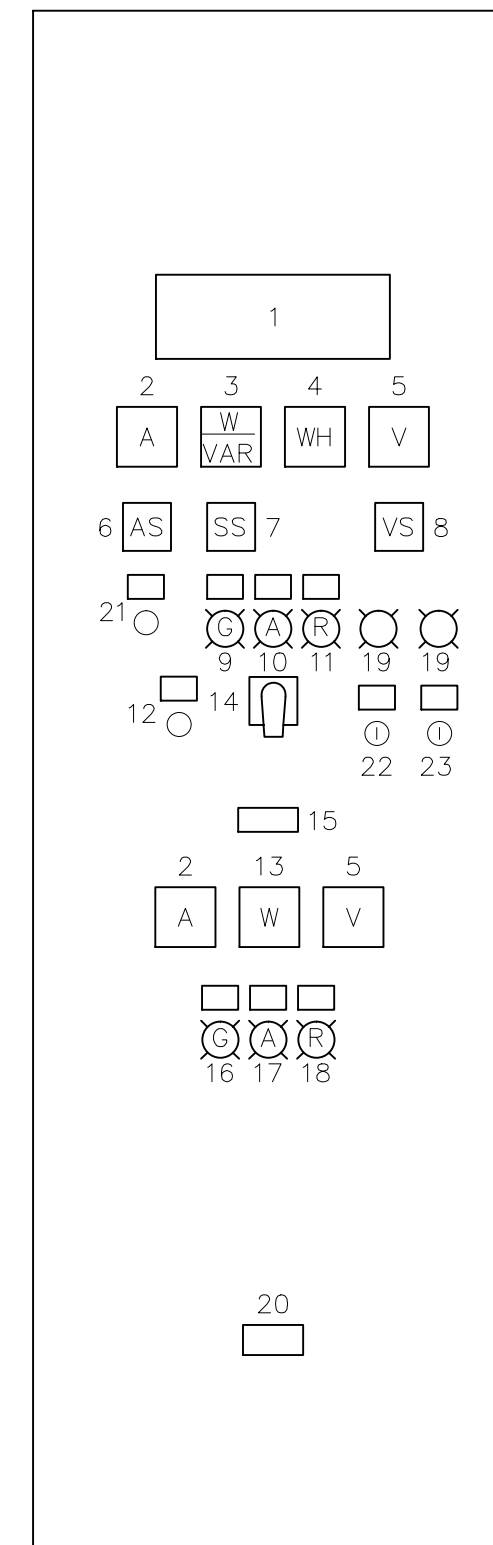
STANDBY POWER FACILITY
ELECTRICAL
13.2KV INDOOR SWITCHGEAR NO. 3
FRONT ELEVATION

PROJ NO.	202G
DWG	TE4
SHEET	
DATE	DECEMBER 1991
REV	2

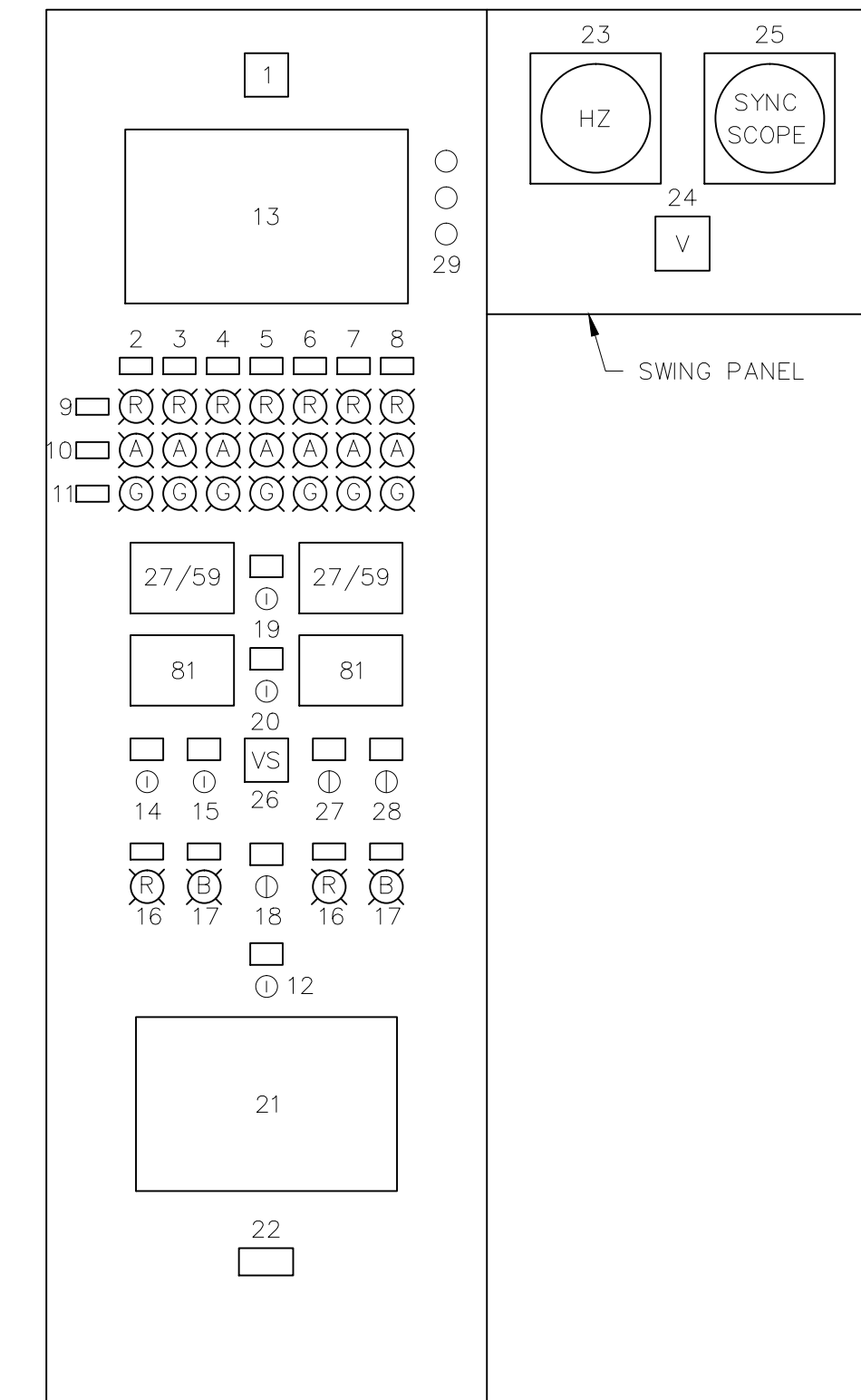
5H3B_OTE-004



TYPICAL GENERATOR CONTROL CUBICLE
FRONT ELEVATION



TYPICAL DISTRIBUTION BREAKER CONTROL
CUBICLE - FRONT ELEVATION



MASTER GENERATOR CONTROL CUBICLE
FRONT ELEVATION

GENERATOR CONTROL CUBICLE LEGEND		
TAG	DEVICE	NAMEPLATE
1	ANNUNCIATOR	-
2	AMMETER	-
3	KILOWATT METER	-
4	FREQUENCY METER	-
5	KILOVOLT METER	-
6	AMMETER SWITCH	-
7	RUNNING TIME METER	-
8	VOLTMETER SWITCH	-
9	ENGINE SELECTOR SWITCH	LOCKOUT/RESET-OFF-AUTO-RUN
10	GENERATOR BREAKER INDICATING LIGHT (GREEN)	OPEN
11	GENERATOR BREAKER INDICATING LIGHT (AMBER)	TRIPPED
12	GENERATOR BREAKER INDICATING LIGHT (RED)	CLOSED
13	MANUAL SYNCHRONIZING SELECTOR SWITCH	MAN. SYNC. ON-OFF
14	VOLTAGE CONTROL SELECTOR SWITCH	AUTO-MANUAL
15	GENERATOR BREAKER CONTROL SWITCH	TRIP-CLOSE
16	AGLC BASE LOAD SELECTOR SWITCH	OFF-ON
17	SYNCHRONIZING INDICATING LIGHTS	SYNC LIGHTS
18	VOLTAGE ADJUSTMENT RHEOSTAT	VOLTAGE, RAISE-LOWER
19	GOVERNOR SPEED ADJUSTMENT RHEOSTAT	GOV SPEED, INCREASE-DECREASE
20	GOVERNOR SPEED ADJUSTMENT SWITCH	GOV SPEED, INCREASE-DECREASE
21	NAMEPLATE	GENERATOR G (NO.) CONTROLS
22	LOCAL-REMOTE CONTROL SELECTOR SWITCH	LOCAL-REMOTE
23	TURBINE TEMPERATURE METER	-
23	TURBINE SPEED METER	-

∩ APPLIES TO EXISTING TURBINE GENERATORS G-1 AND G-2 ONLY.
∩ OMIT FOR EXISTING TURBINE GENERATORS G-1 AND G-2.

DISTRIBUTION BREAKER CONTROL CUBICLE LEGEND		
TAG	DEVICE	NAMEPLATE
1	ANNUNCIATOR	-
2	AMMETER	-
3	KILOWATT/VAR METER	-
4	KILOWATTHOUR METER	-
5	KILOVOLT METER	-
6	AMMETER SWITCH	-
7	KW/VAR SELECTOR SWITCH	-
8	VOLTMETER SWITCH	-
9	DISTRIBUTION BREAKER INDICATING LIGHT (GREEN)	OPEN
10	DISTRIBUTION BREAKER INDICATING LIGHT (AMBER)	TRIPPED
11	DISTRIBUTION BREAKER INDICATING LIGHT (RED)	CLOSED
12	SYNCHRONIZER OPERATING MODE SELECTOR SW	-
13	KILOWATT METER	-
14	DISTRIBUTION BREAKER CONTROL SWITCH	TRIP-CLOSE
15	NAMEPLATE	TECO LINE(NO.) MAIN BRKR 1-52(NO.)
16	MAIN BRKR INDICATING LIGHT (GREEN)	OPEN
17	MAIN BRKR INDICATING LIGHT (AMBER)	TRIPPED
18	MAIN BRKR INDICATING LIGHT (RED)	CLOSED
19	SYNCHRONIZING INDICATING LIGHTS	SYNC LIGHTS
20	NAMEPLATE	DIST BRKR 3-52-S(NO.) CONTROLS
21	PUSHBUTTON	FAIL TO SYNC RESET
22	MODE SELECTOR SWITCH	RUN-CHECK-PERMISSIVE-OFF
23	OPERATION SELECTOR SWITCH	CONTROL MODE AUTO-MANUAL

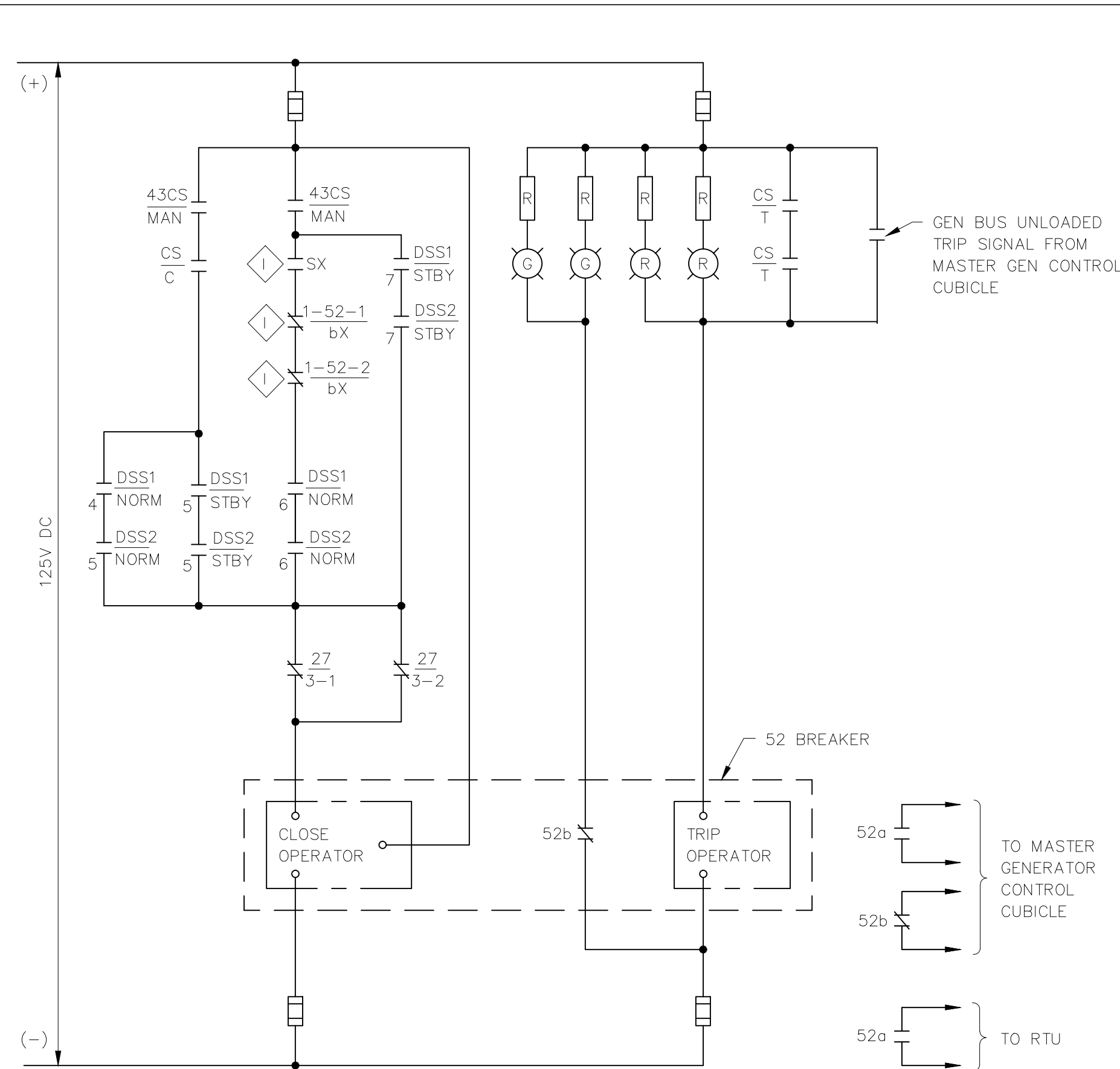
MASTER GENERATOR CONTROL CUBICLE LEGEND		
TAG	DEVICE	NAMEPLATE
1	ALARM HORN	-
2	NAMEPLATE	GENERATOR G7
3	NAMEPLATE	GENERATOR G6
4	NAMEPLATE	GENERATOR G5
5	NAMEPLATE	GENERATOR G4
6	NAMEPLATE	GENERATOR G3
7	NAMEPLATE	GENERATOR G2
8	NAMEPLATE	GENERATOR G1
9	INDICATING LIGHT (RED)	ON LINE
10	INDICATING LIGHT (AMBER)	LOCKED OUT
11	INDICATING (GREEN)	READY TO LOAD
12	LOADING SEQUENCE SELECTOR SWITCH	3-52-S1 - 3-52-S2
13	ANNUNCIATOR	-
14	DUTY SELECTOR SWITCH	GEN BUS 1, LOAD TEST-NORMAL-STANDBY SERVICE
15	DUTY SELECTOR SW	GEN BUS 1, LOAD TEST-NORMAL-STANDBY SERVICE
16	INDICATING LIGHT (RED)	TECO LINE 1 (2) AVAILABLE
17	INDICATING LIGHT (BLUE)	TECO LINE 1 (2) FAILURE
18	MASTER CONTROL MODE SELECTOR SW	CONTROL MODE, AUTO-MANUAL
19	TRANSFER TO TECO SELECTOR SW	TECO LINE NO. 1 - RESTORE
20	TRANSFER TO TECO SELECTOR SWITCH	TECO LINE NO. 2 - RESTORE
21	PLC REGISTER ACCESS PANEL	-
22	NAMEPLATE	MASTER GENERATOR CONTROLS
23	FREQUENCY METER	-
24	KILOVOLT METER	-
25	SYNCHROSCOPE	-
26	VOLTMETER SWITCH	-
27	SYNC SCOPE SELECTOR SW	GEN BUS 1 - GEN BUS 2
28	SYNC SCOPE SELECTOR SW	GENERATORS - TECO 1 - TECO 2
29	ANNUNCIATOR PUSHBUTTONS	SILENCE, ACKNOWLEDGE AND RESET

RECORD DRAWING

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FILE: H3B-TECO SCALE: 1:1 09/11, 1996 at 07:43 - "13_4h (Inventor Lock)"

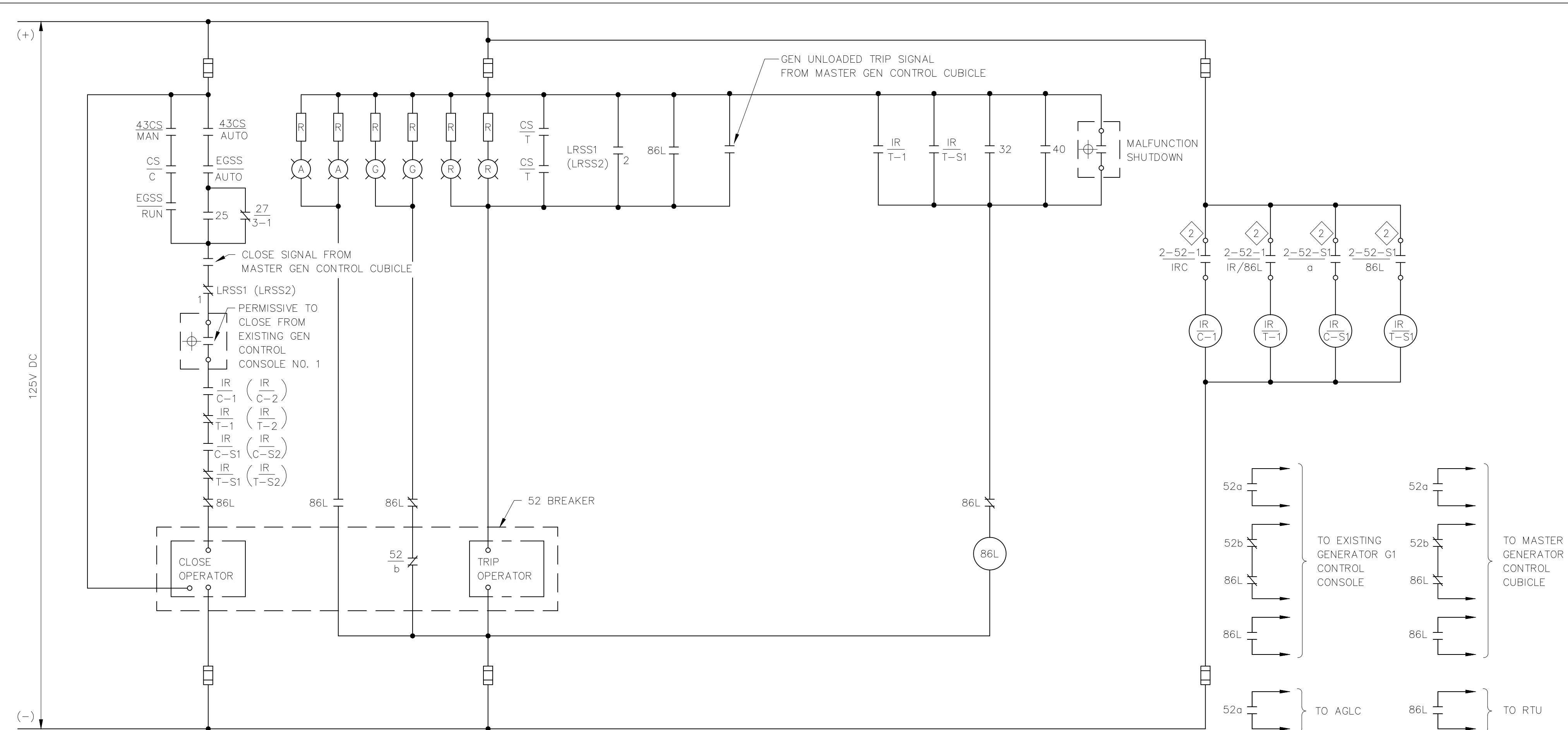
GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED RZ	APPROVED _____ DATE _____	SCALE NO SCALE	CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	STANDBY FACILITY ELECTRICAL 13.2KV INDOOR SWITCHGEAR NO.3 DETAILS	PROJ NO. 202G
	DRAWN GFO	_____ DATE _____				DWG TE5
	CHECKED BBK	GREELEY AND HANSEN, ENGINEERS				SHEET
		NO. DATE APPD REVISION			DATE DECEMBER 1991 REV 3	



13.2KV INDOOR SWITCHGEAR NO. 3
TIE BREAKER 3-52-TIE CONTROL CIRCUIT

BREAKER CONTROL SWITCH 'CS'				
CONTACTS HANDLE END		POSITION		FUNCTION
		CLOSE	NORMAL		TRIP
1	2	X		CLOSE CIRCUIT
1	2	X		SPARE
3	4		X	TRIP CIRCUIT
3	4		X	SPARE
5	6	X	X	SPARE
5	6	X	X	SPARE

X - INDICATES CONTACT CLOSED
(SPRING RETURN FROM CLOSE AND TRIP TO NORMAL)



13.2KV INDOOR SWITCHGEAR NO. 3 - GENERATOR NO. 1
MAIN BREAKER 3-52-G1 CONTROL CIRCUIT

(SIMILAR FOR GENERATOR NO. 2 MAIN BREAKER 3-52-G2)

13.2 KV SWITCHGEAR NO. 3 GENERATOR G1 (G2) CONTROL CUBICLE			
CONTACT NO.	POSITION		FUNCTION
	LOCAL	REMOTE	
1	X		3-52-G1 (G2) CLOSE CIRCUIT
2		X	3-52-G1 (G2) TRIP CIRCUIT
3	X		2-52-1 (2) CLOSE CIRCUIT
4		X	2-52-1 (2) TRIP CIRCUIT
5	X		2-52-S1 (S2) CLOSE CIRCUIT
6		X	2-52-S1 (S2) TRIP CIRCUIT
7	X		SPARE
8		X	SPARE
9	X		SPARE
10		X	SPARE

X - INDICATES CONTACT CLOSED

NOTE:
"LOCAL" - DENOTES CONTROL AT 13.2 SWITCHGEAR NO. 3
"REMOTE" - DENOTES CONTROL AT EXISTING GENERATOR NO. 1 (2) CONTROL CONSOLE

13.2 KV SWITCHGEAR NO. 3 MASTER GENERATOR CONTROL CUBICLE				
CONTACT NO.	POSITION			FUNCTION
	LOAD TEST	NORMAL	STANDBY SERVICE	
1	X			EXERCISING GENERATORS AUTO START CIRCUIT
2		X		LOSS OF UTILITY GENERATORS AUTO START CIRCUIT
3			X	TECO STANDBY POWER PROGRAM GENERATORS AUTO START CIRCUIT
4		X		TIE BREAKER 3-52-TIE MANUAL CLOSE CIRCUIT
5			X	TIE BREAKER 3-52-TIE MANUAL CLOSE CIRCUIT
6		X		TIE BREAKER 3-52-TIE AUTO CLOSE CIRCUIT
7			X	TIE BREAKER 3-52-TIE AUTO CLOSE CIRCUIT
8	X			DISTRIBUTION BREAKER 3-52-S1 (S2) TRIP CIRCUIT
9	X			SPARE
10		X		SPARE
11			X	SPARE

X - INDICATES CONTACT CLOSED

NOTE:
IN ADDITION TO THE CONTACTS SHOWN, PROVIDE ALL CONTACTS REQUIRED TO ACCOMPLISH THE OPERATIONAL SEQUENCES AND INTERLOCKS DESCRIBED IN THE SPECIFICATIONS

SYMBOLS

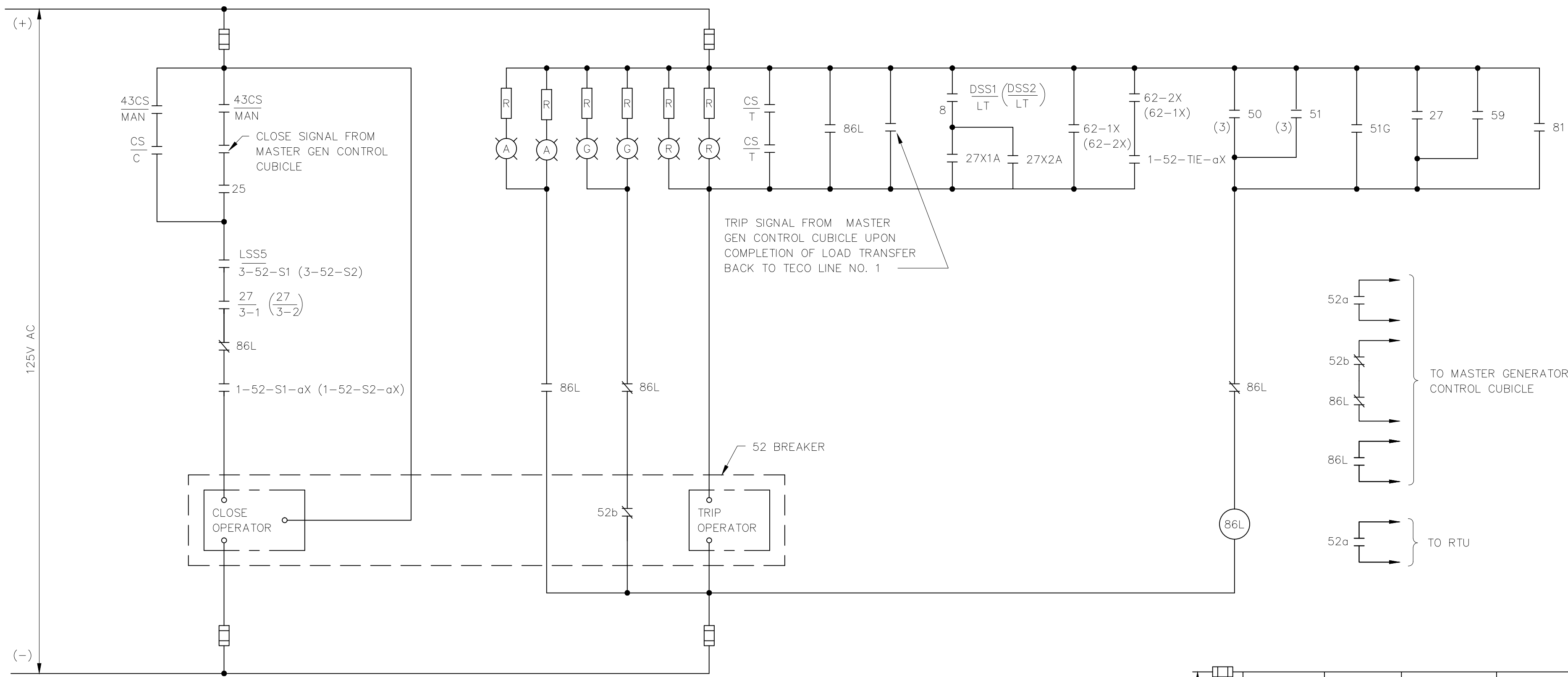
- ◇ - DENOTES DEVICE LOCATED IN EXISTING 13.2 KV SWGR NO. 1
- ◇ - DENOTES DEVICE LOCATED IN EXISTING 13.2 KV SWGR NO. 2
- ◇ - DENOTES DEVICE LOCATED IN 13.2 KV SWGR NO. 3
- ⊕ - DENOTES DEVICE LOCATED IN EXISTING GENERATOR CONTROL CONSOLE IN MAIN PUMPING STATION

RECORD DRAWING

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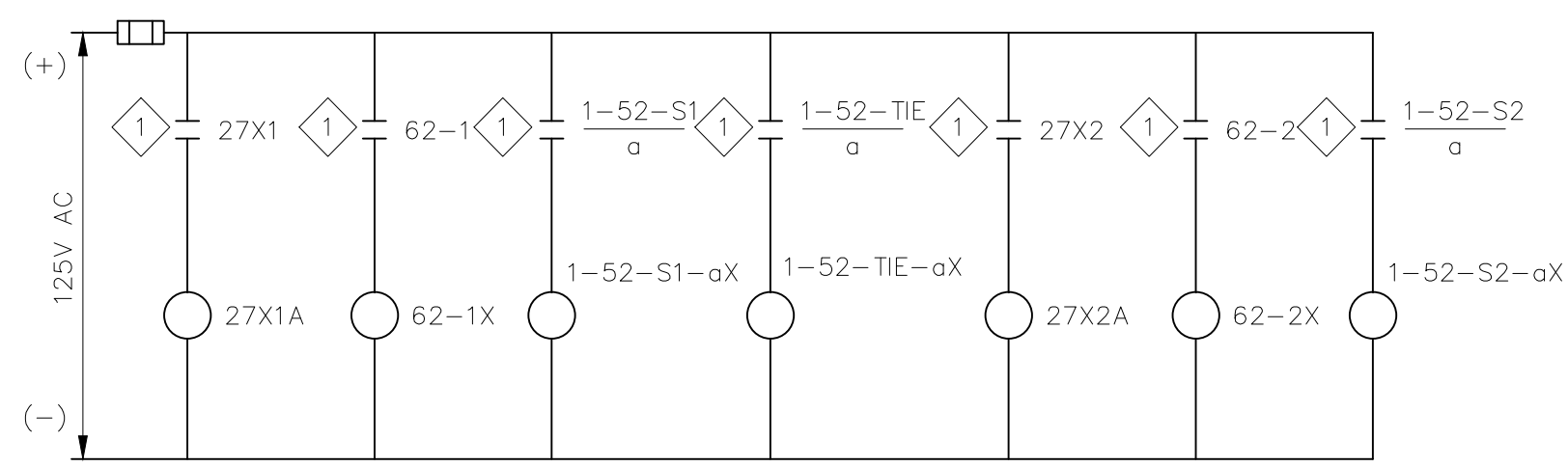
FILE: H3B-OTE6 SCALE: 1:1 09/11, 1996 at 07:53 - "13_4h (Hardware Loop)"

Greeley and Hansen ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED RZ	APPROVED _____ DATE _____	SCALE	CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	STANDBY FACILITY ELECTRICAL SCHEMATIC DIAGRAMS	PROJ NO. 202G
	DRAWN SK, LAL	RECORD DWG REVISIONS	NO SCALE			DWG TE6
	CHECKED BBK	NO. DATE APPD REVISION	NO. DATE APPD REVISION			SHEET
	Greeley and Hansen, Engineers	NO. DATE APPD REVISION	NO. DATE APPD REVISION			DATE DECEMBER 1991 REV 4

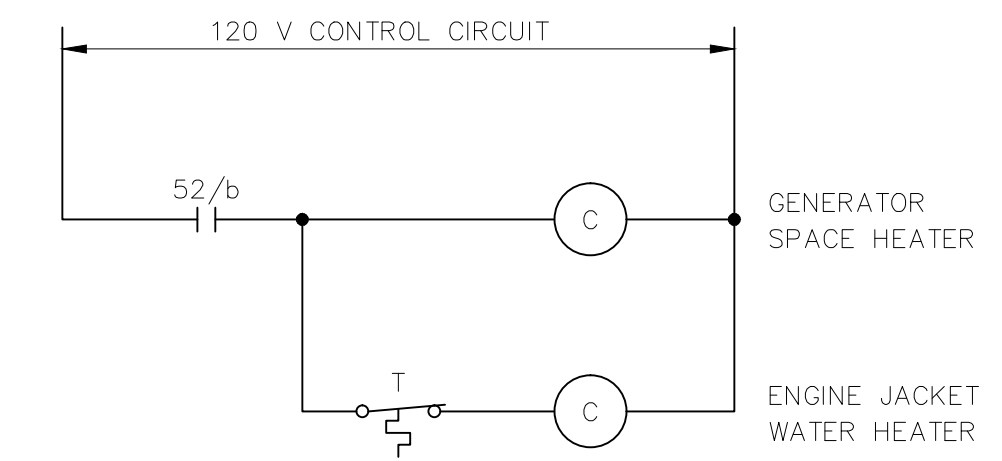


13.2KV SWITCHGEAR NO. 3 - DISTRIBUTION BREAKER 3-52-S1 CONTROL CIRCUIT
 (SIMILAR FOR DISTRIBUTION BREAKER 3-52-S2)

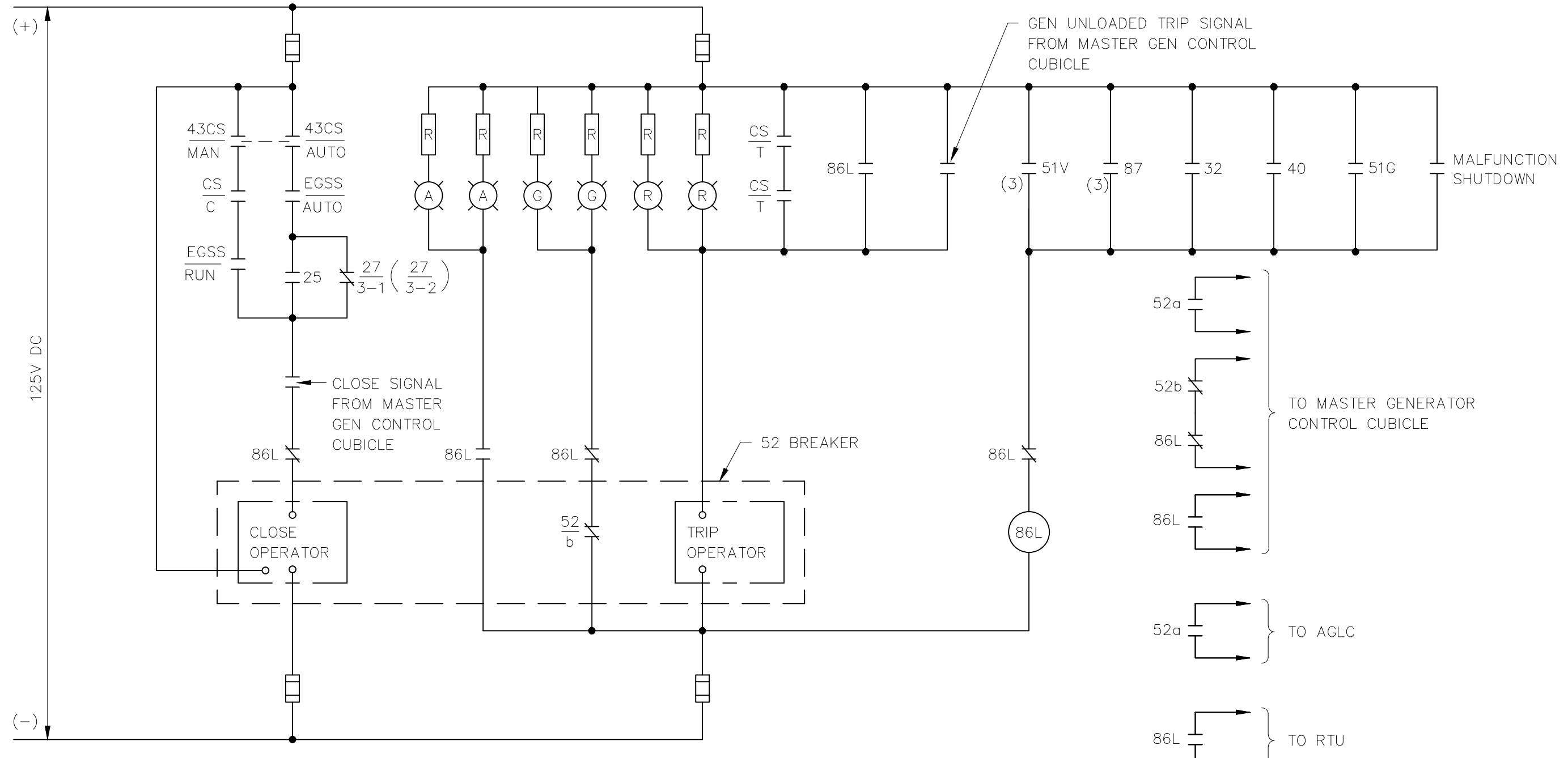
SYMBOLS
 ◊ - DENOTES DEVICE LOCATED IN EXISTING 13.2 KV SWGR NO. 1



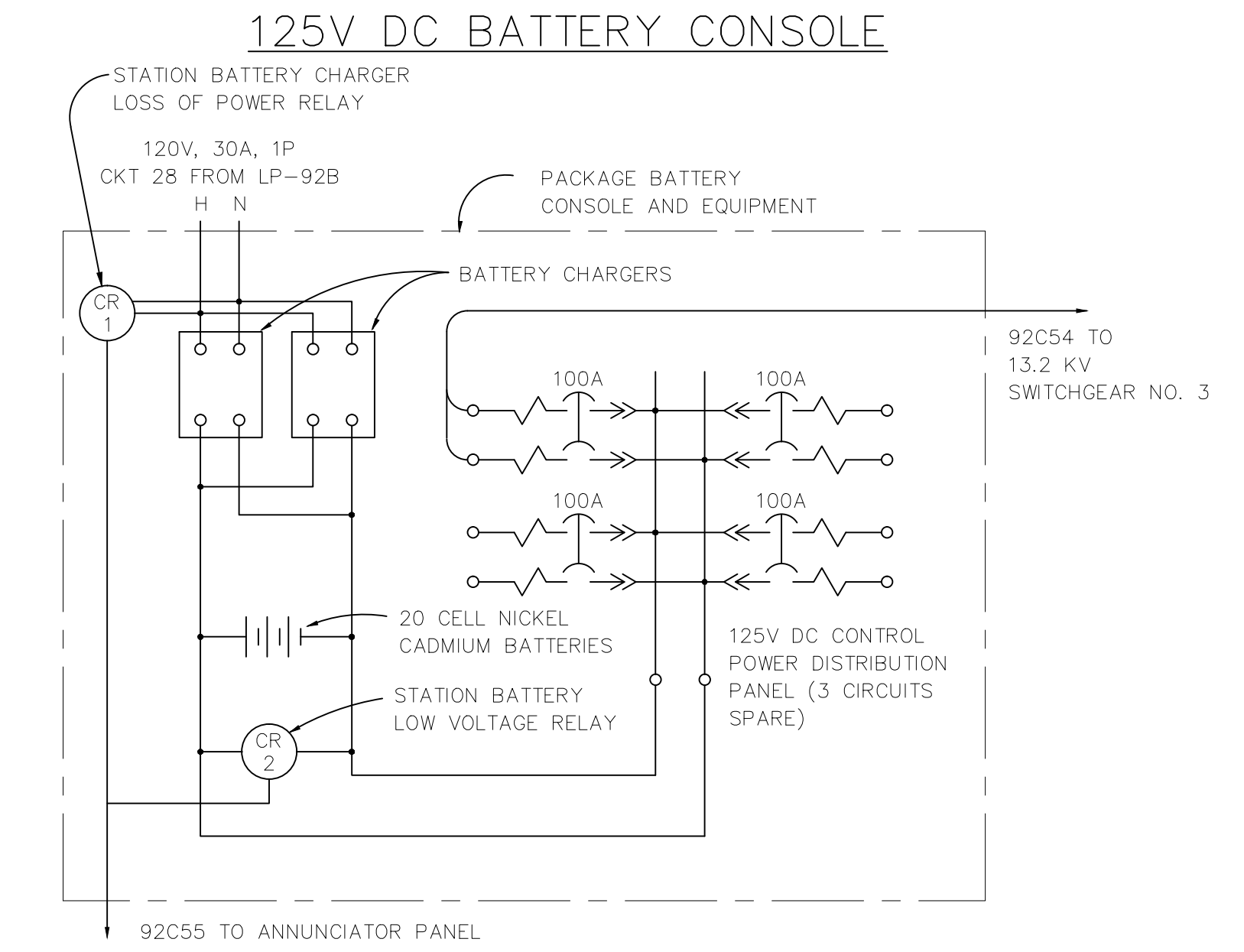
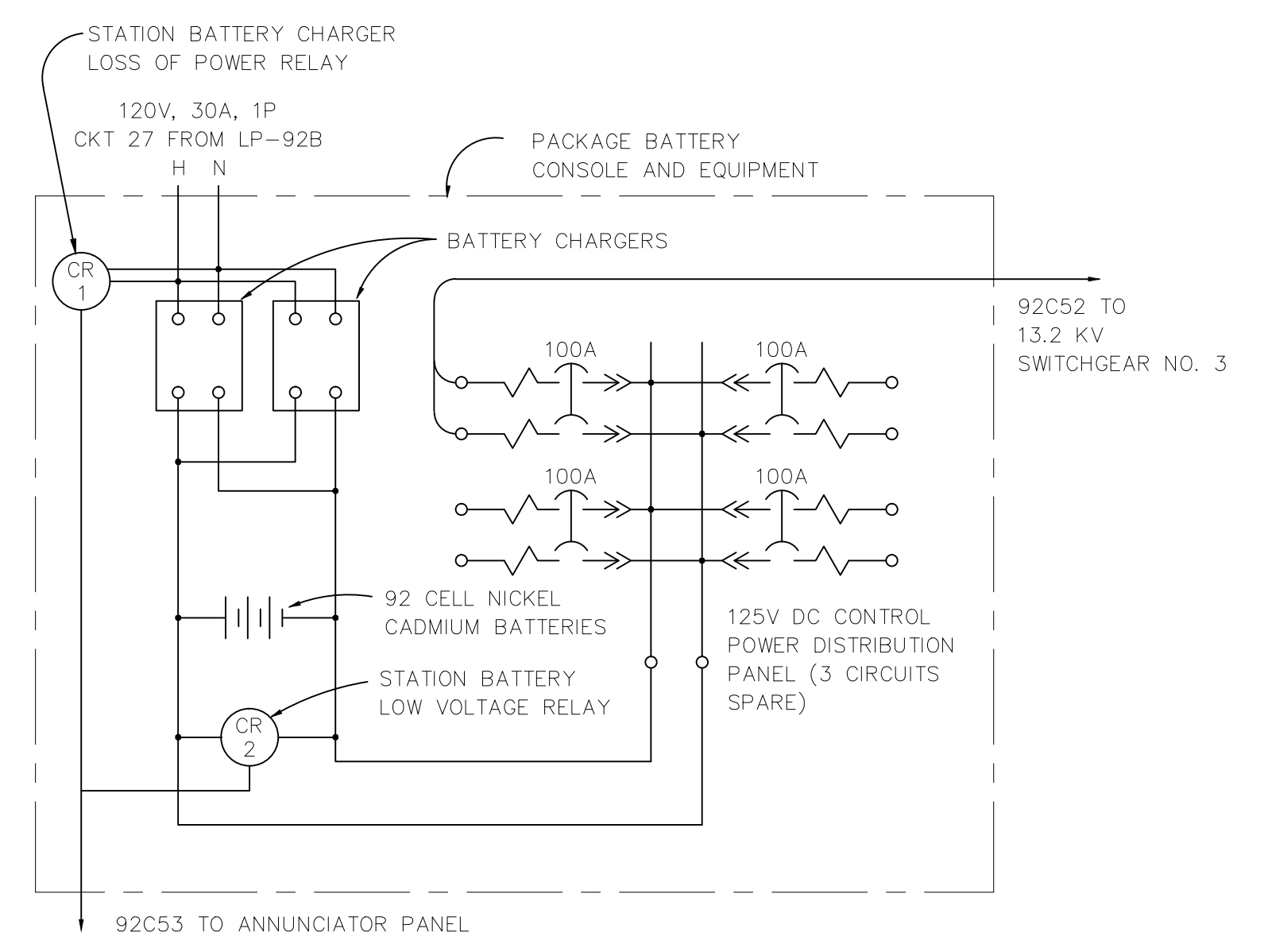
SWITCHGEAR NO. 3 INTERPOSING RELAYS



GENERATOR SPACE HEATER ENGINE JACKET WATER HEATER



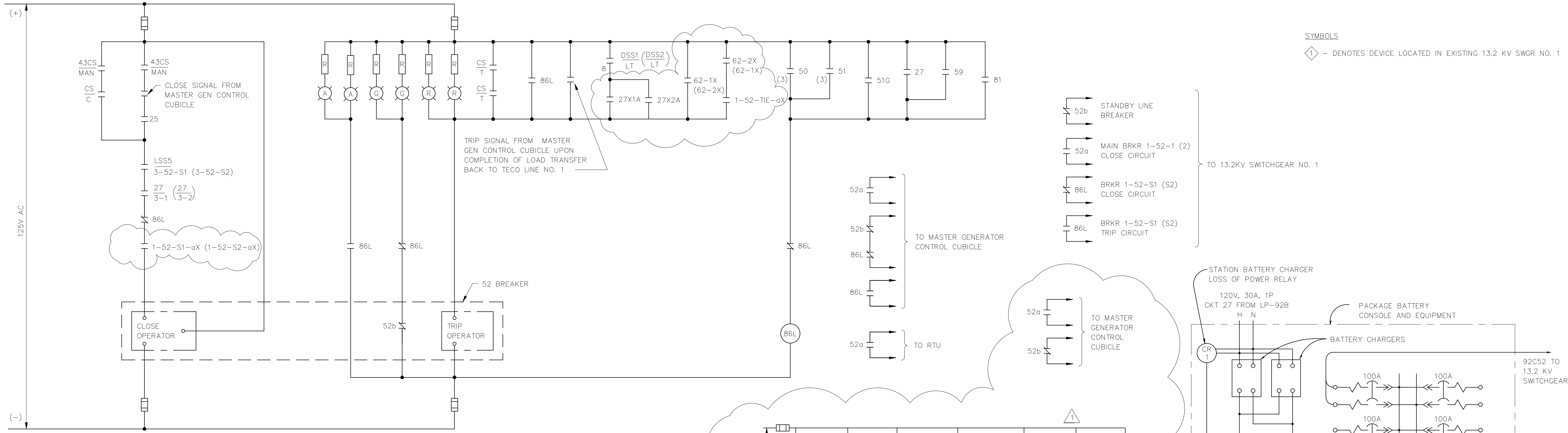
13.2KV INDOOR SWITCHGEAR NO. 3 - GENERATOR NO. 3 MAIN BREAKER 3-52-G3 CONTROL CIRCUIT
 SAME FOR GENERATOR NO. 4 MAIN BREAKER 3-52-G4
 (SIMILAR FOR GENERATORS NO. 5, 6 AND FUTURE 7 MAIN BREAKERS 3-52-G5, 3-52-G6 AND 3-52-G7)



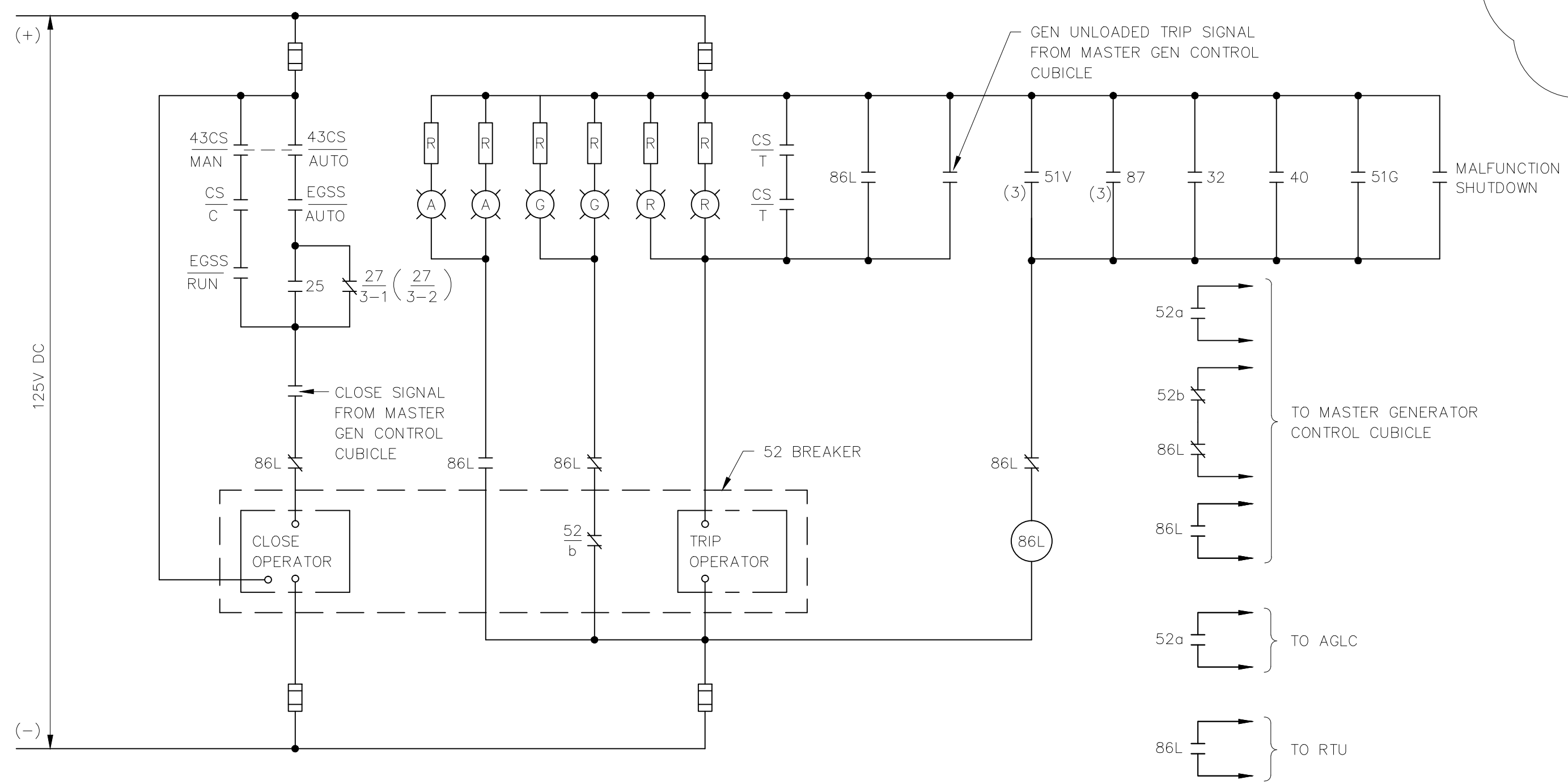
24V DC BATTERY CONSOLE

RECORD DRAWING
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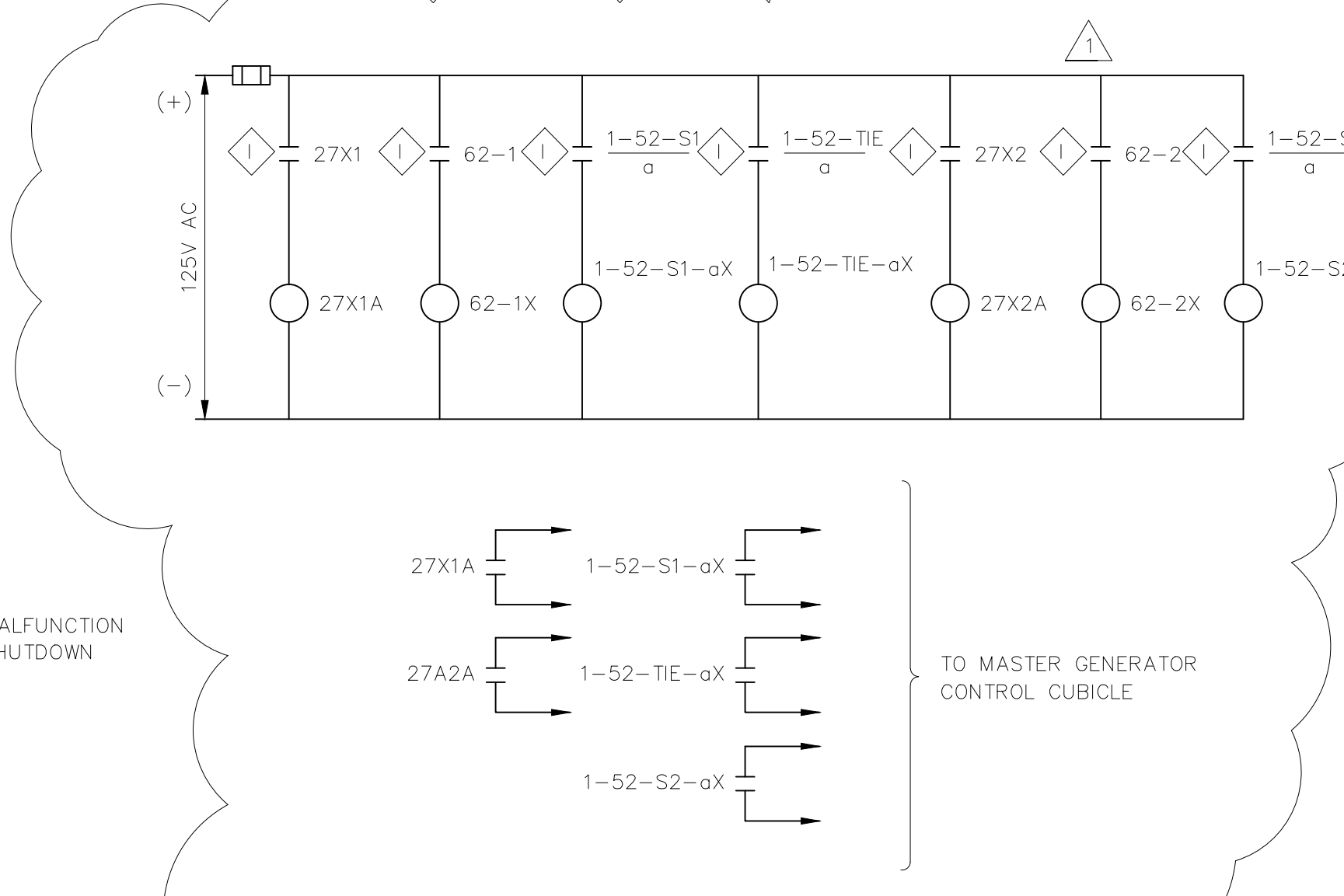
GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED RZ	APPROVED _____ DATE _____	SCALE	CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	STANDBY POWER FACILITY ELECTRICAL SCHEMATIC DIAGRAMS	PROJ NO. 202G	
	DRAWN LAL	_____ DATE _____	NO SCALE			DWG TE7 SHEET	DATE DECEMBER 1991 REV 4
	CHECKED BBK	GREELEY AND HANSEN, ENGINEERS	RECORD DWG REVISIONS			See Supplemental Drawing SD-53	



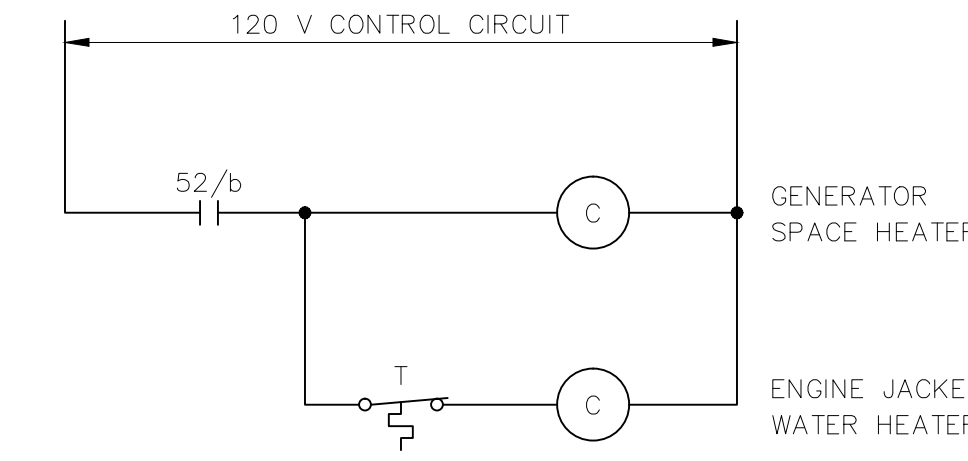
13.2KV SWITCHGEAR NO. 3 - DISTRIBUTION BREAKER 3-52-S1 CONTROL CIRCUIT
 (SIMILAR FOR DISTRIBUTION BREAKER 3-52-S2)



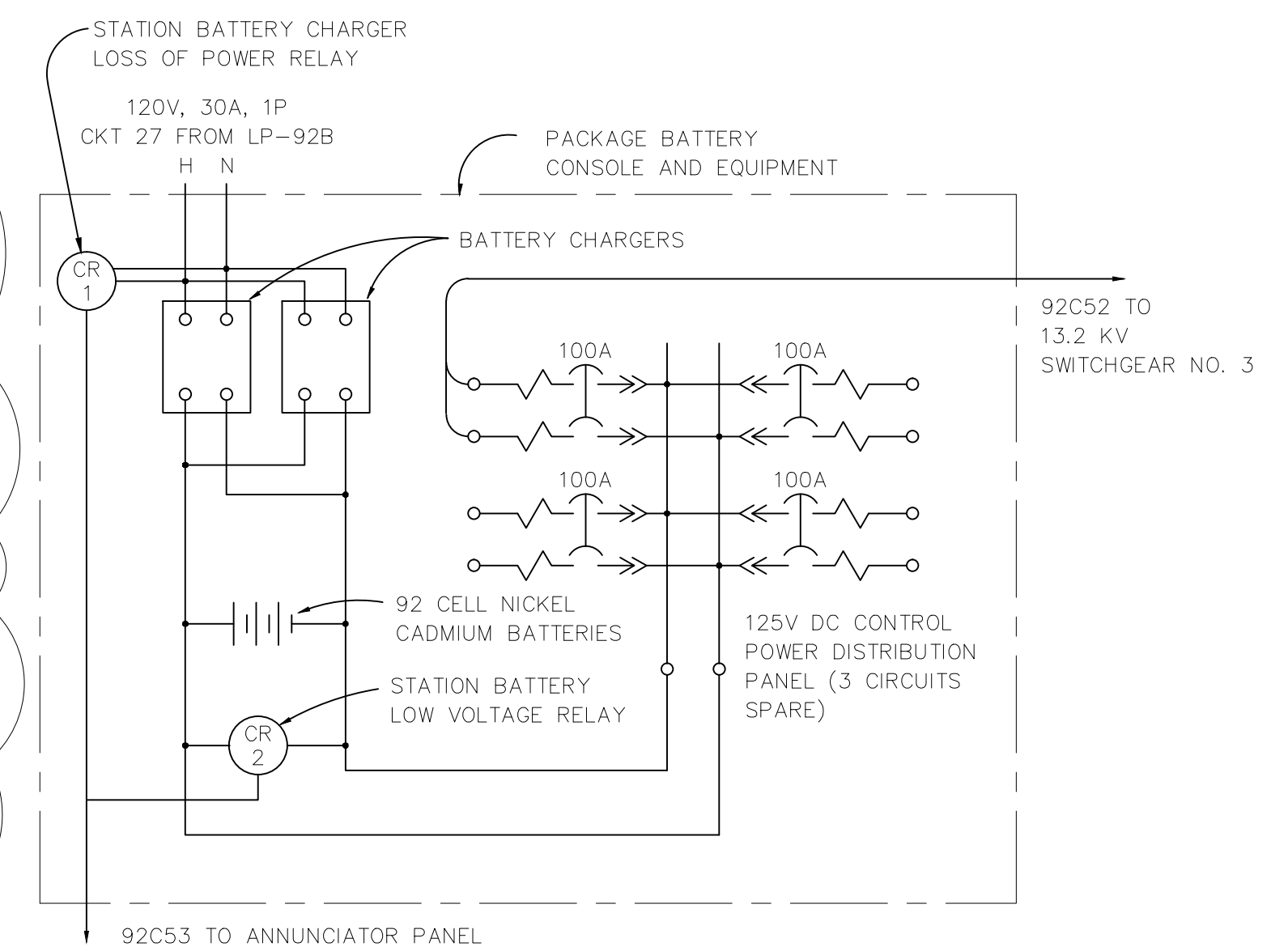
13.2KV INDOOR SWITCHGEAR NO. 3 - GENERATOR NO. 3 MAIN BREAKER 3-52-G3 CONTROL CIRCUIT
 SAME FOR GENERATOR NO. 4 MAIN BREAKER 3-52-G4
 (SIMILAR FOR GENERATORS NO. 5, 6 AND FUTURE 7 MAIN BREAKERS 3-52-G5, 3-52-G6 AND 3-52-G7)



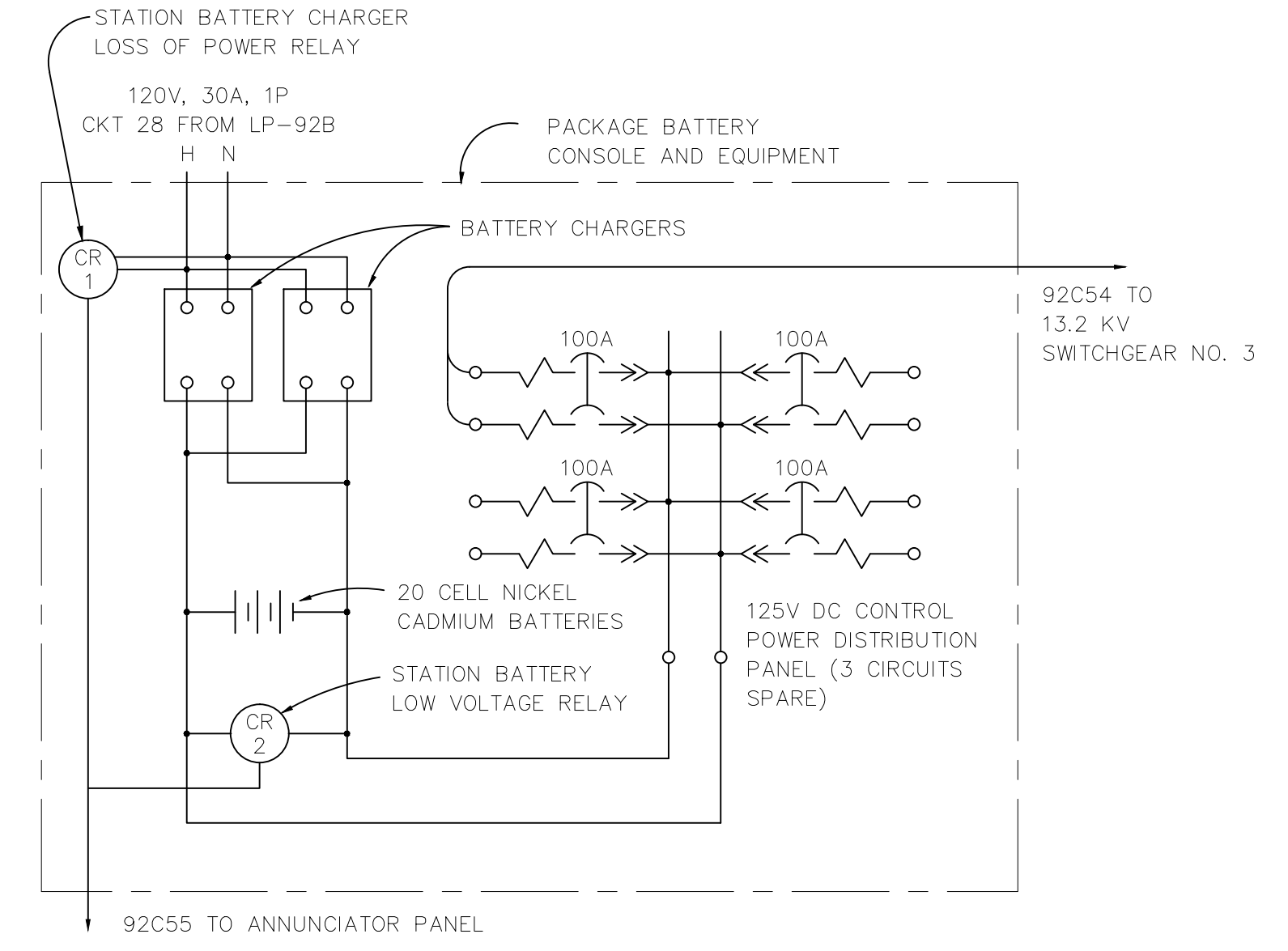
SWITCHGEAR NO. 3 INTERPOSING RELAYS



GENERATOR SPACE HEATER ENGINE JACKET WATER HEATER



125V DC BATTERY CONSOLE



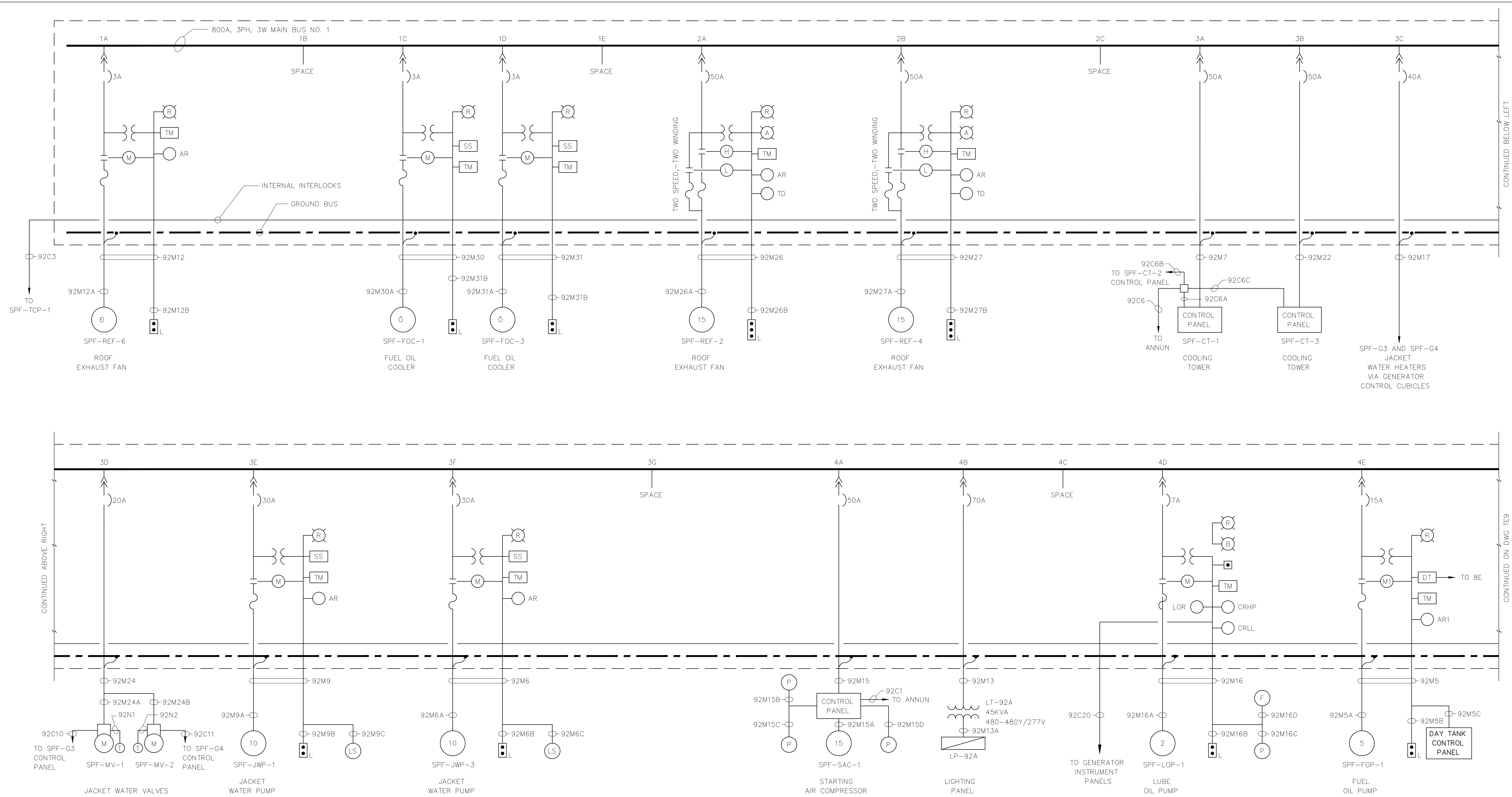
24V DC BATTERY CONSOLE

REVISES DWG TE7

FILE IN: \ACT\PROJECTS\1998\33607-4135\SCALE: 1:1\02/24/1998 08:10:37 WHT.GPJ

GREELEY AND HANSEN ENGINEERS 4350 WEST CYPRESS STREET TAMPA, FLORIDA 33607-4135	DESIGNED RZ	APPROVED _____	SCALE		CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	STANDBY POWER FACILITY ELECTRICAL SCHEMATIC DIAGRAMS	PROJ NO. 202G	
	DRAWN LAL	DATE _____	NO SCALE				DWG SD-53	
	CHECKED BBK	DATE _____	NO. 2/95	DATE			APPD BBK	REVISION

5H3B_OTE-007A



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CONTINUED ON DWG TEB

RECORD DRAWING

THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED CSC
DRAWN LCC
CHECKED BBK

APPROVED _____	DATE _____
APPROVED _____	DATE _____
GREELEY AND HANSEN, ENGINEERS	

SCALE			
NO SCALE			
NO.	DATE	APPD	REVISION
3	8/2/96		RECORD DWG REVISIONS

CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

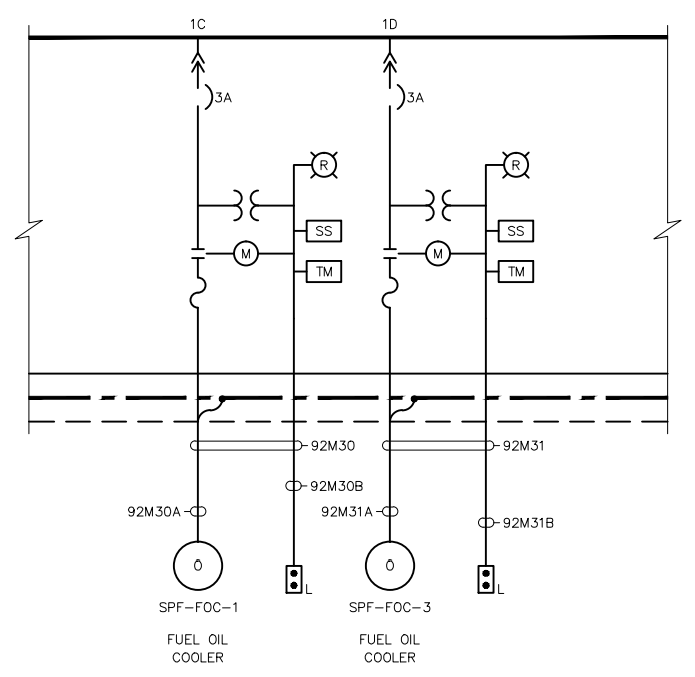
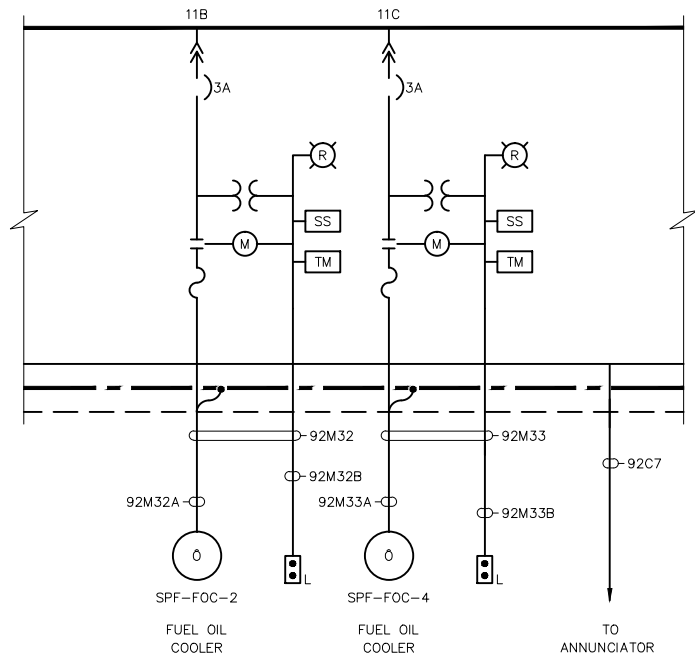
STANDBY POWER FACILITY
ELECTRICAL
480 VOLT MCC-92
ONE LINE DIAGRAM

See Supplemental Drawing SD-59

PROJ NO.	202G
DWG	TE8
SHEET	
DATE	DECEMBER 1991
REV	3

5H3B_OTE-008

PLP-TE8.DWG 03-20-98 11:29



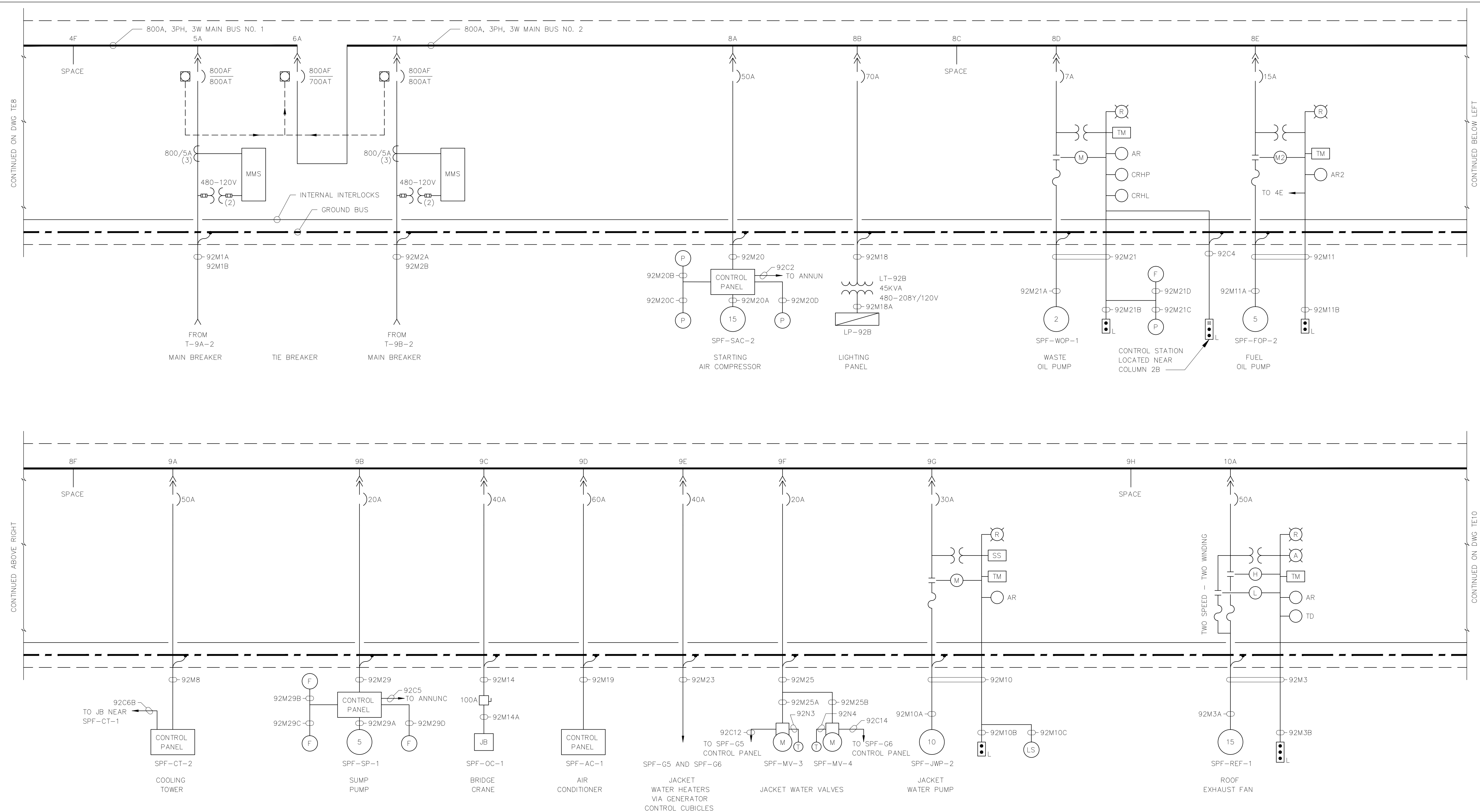
MOTOR CONTROL CENTER MCC-92
PARTIAL ONE LINE DIAGRAMS

REVISES DWG TE8 & TE10

FILE: H:\A\C\5H3B\SD\5H3B5D59 SCALE: 1:11 06/15/1995 at 14:18 *R11 c2*

DES	MMN	CKD	BBK				H.P.W.W.T.P.
DR	GR	APPD					DIVISION 5H3B
GREELEY AND HANSEN ENGINEERS							SD-59
TAMPA, FLORIDA 36607							
NO.	DATE	APPD	REVISION	DATE	JUN 1995	NO.	0

5H3B_OTE-008A



RECORD DRAWING
 THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

GREELEY AND HANSEN
 ENGINEERS
 1715 NORTH WESTSHORE BOULEVARD
 TAMPA, FLORIDA 33607-4135

DESIGNED CSC
 DRAWN LCC
 CHECKED BBK

APPROVED _____ DATE _____
 _____ DATE _____
 GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
3	8/2/96		RECORD DWG REVISIONS

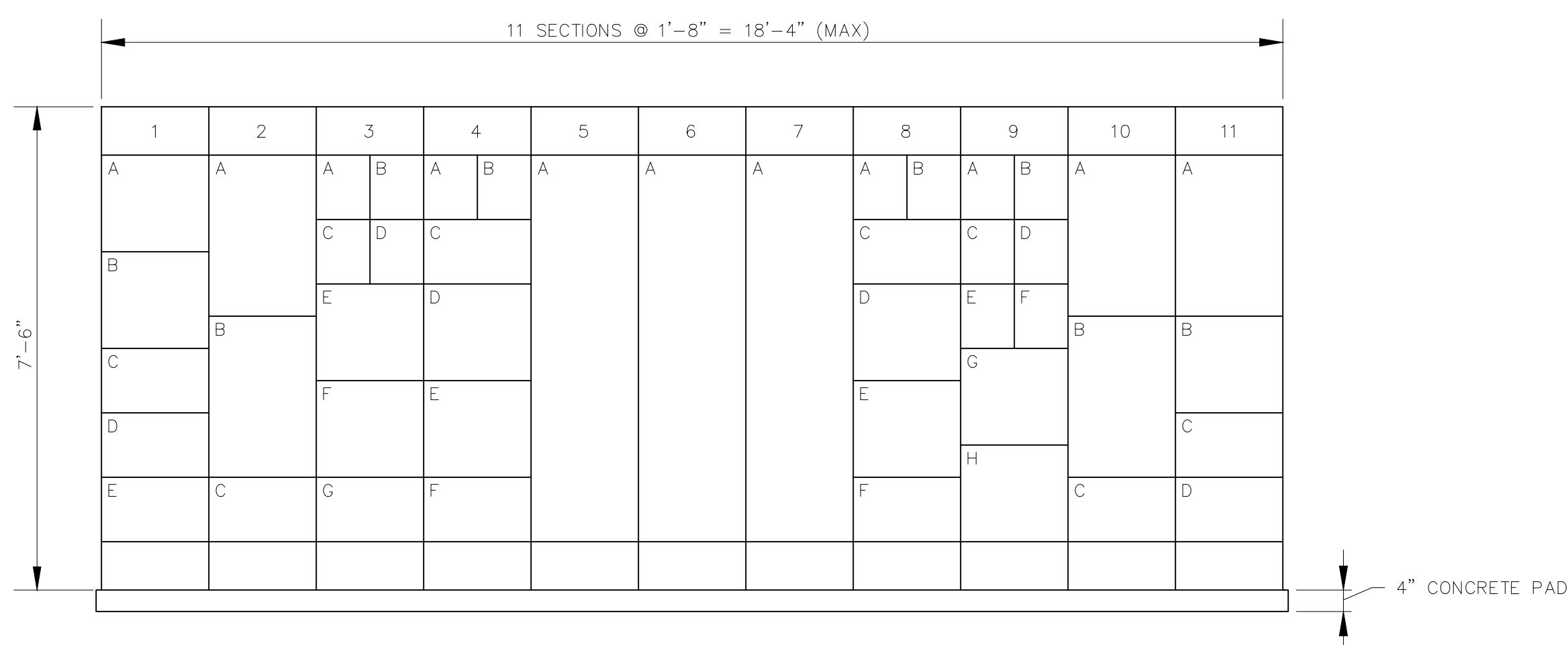
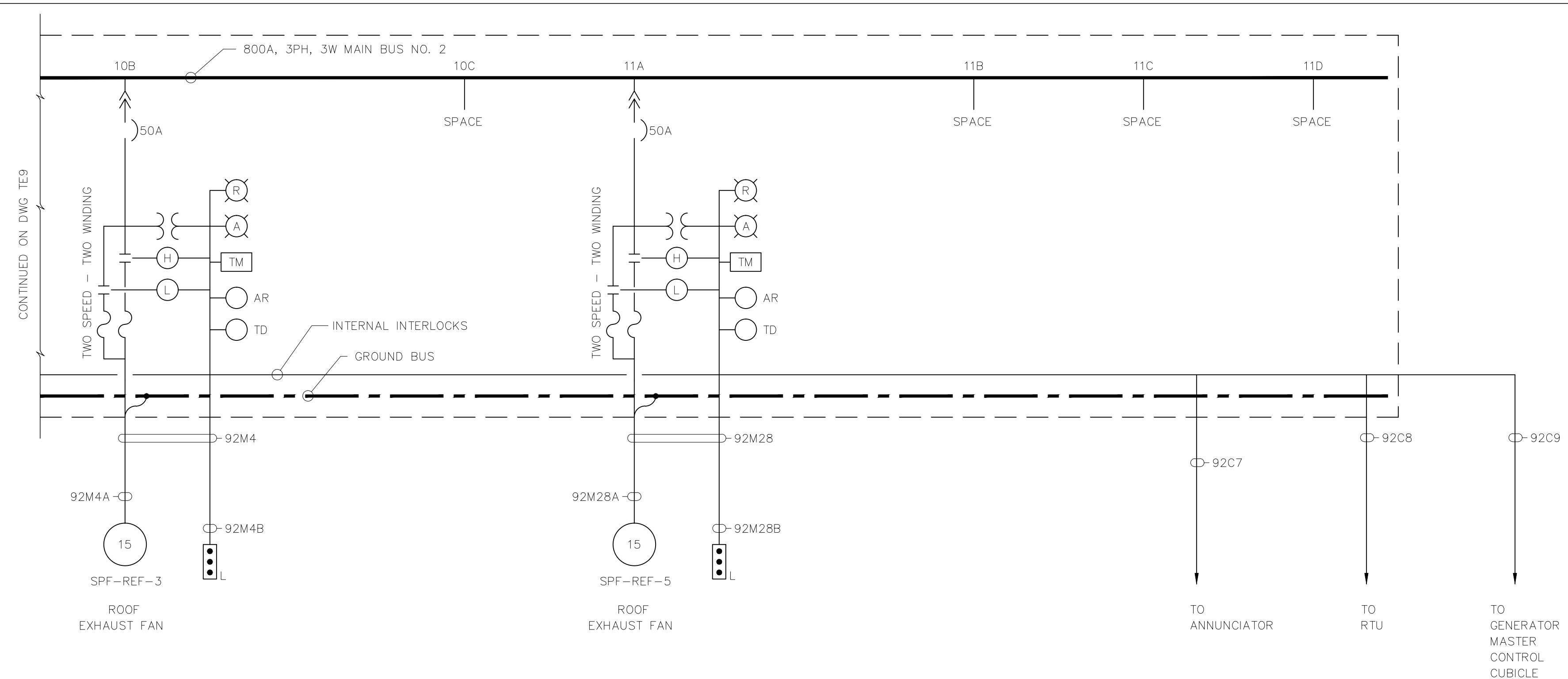
SCALE
 NO SCALE

CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PLANT EXPANSION
 PHASE I DIVISION 5H3B
 STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
 ELECTRICAL
 480 VOLT MCC-92
 ONE LINE DIAGRAM

PROJ. NO.	202G
DWG	TE9
SHEET	
DATE	DECEMBER 1991
REV	3

5H3B_OTE-009



MOTOR CONTROL CENTER MCC-92 FRONT ELEVATION

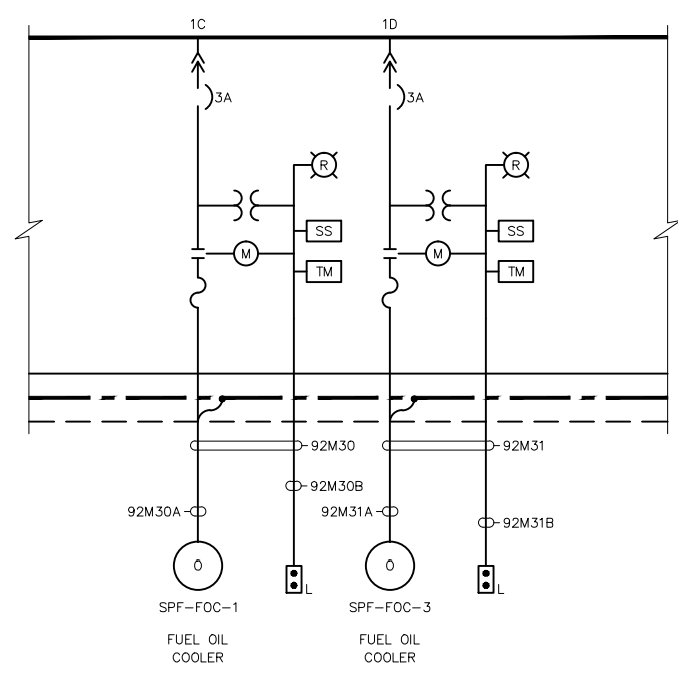
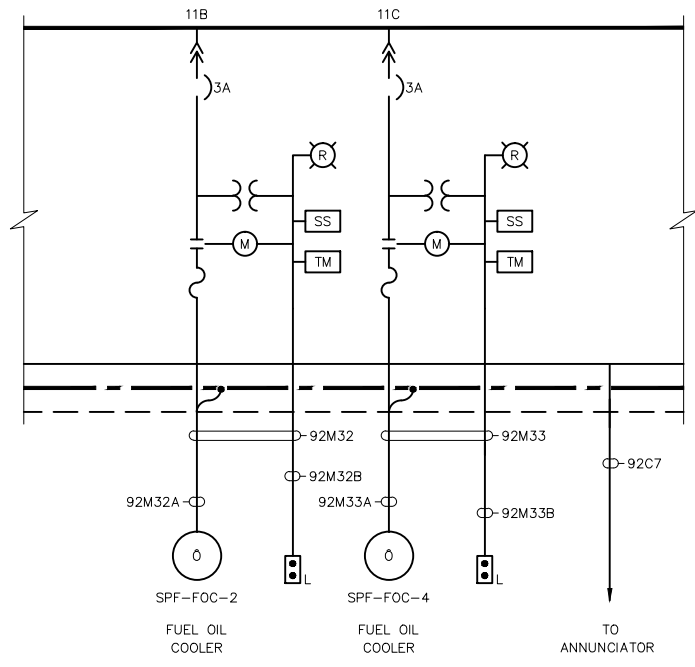
NOTE: MCC DIMENSIONS AND CUBICLE ARRANGEMENTS SHOWN SHALL BE ADHERED TO. MCC STRUCTURES WHICH VARY FROM THE DIMENSIONS SHOWN OR WHICH VARY THE CUBICLE ARRANGEMENT ARE NOT ACCEPTABLE AND WILL NOT BE APPROVED.

RECORD DRAWING
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FILE: H3B-TE10 SCALE: 1:1 09/11, 1996 at 09:17 - "13_4ch (Username Lock)"

GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED CSC	APPROVED _____ DATE _____	SCALE	CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	STANDBY POWER FACILITY ELECTRICAL SCHEMATIC DIAGRAMS	PROJ NO. 202G
	DRAWN GFO, LAL	DATE 8/2/96	NO SCALE			DWG TE10
	CHECKED BBK	GREELEY AND HANSEN, ENGINEERS	RECORD DWG REVISIONS			SHEET
						DATE DECEMBER 1991 REV 3

See Supplemental Drawing SD-59

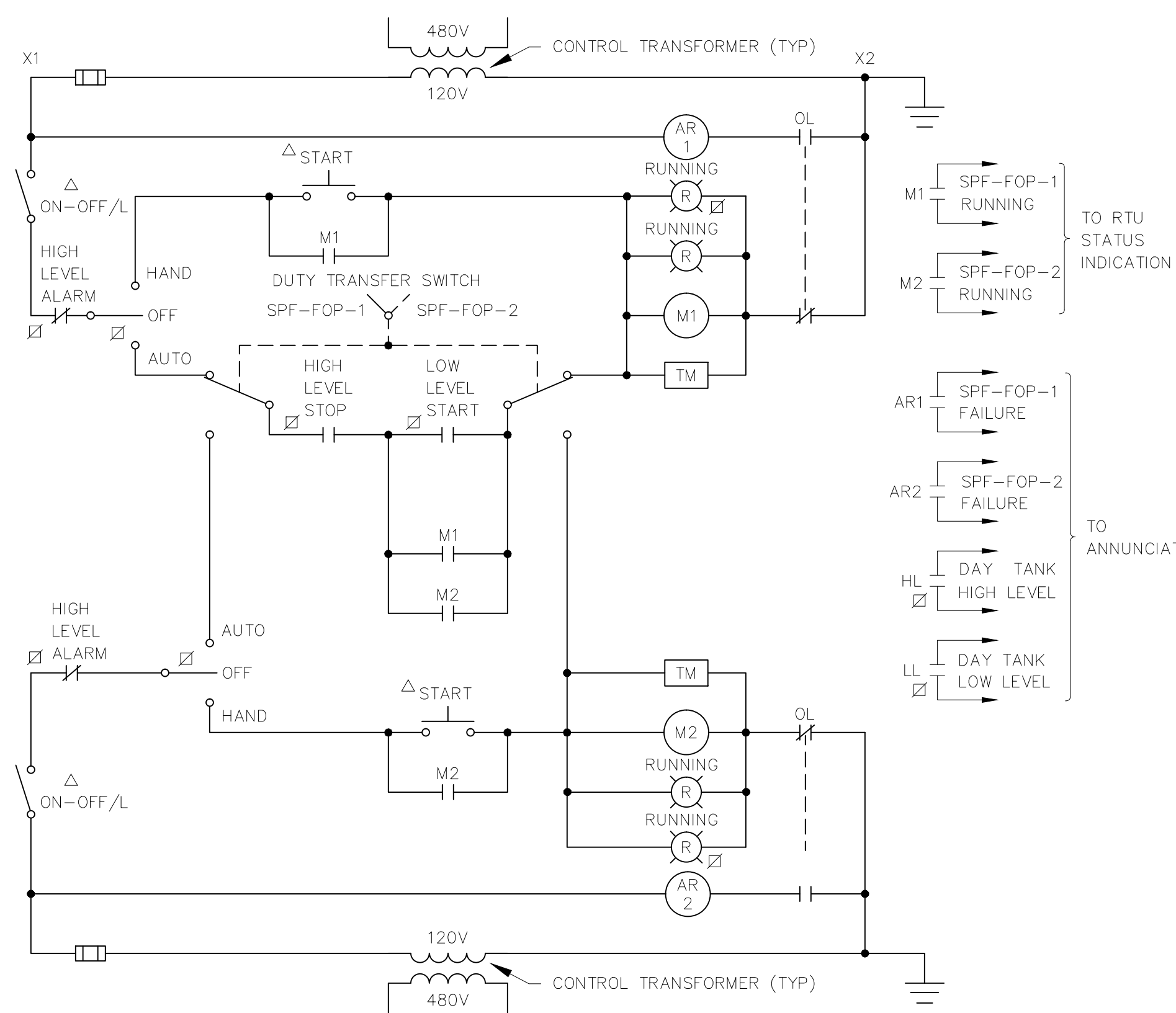


MOTOR CONTROL CENTER MCC-92
PARTIAL ONE LINE DIAGRAMS

REVISES DWG TE8 & TE10

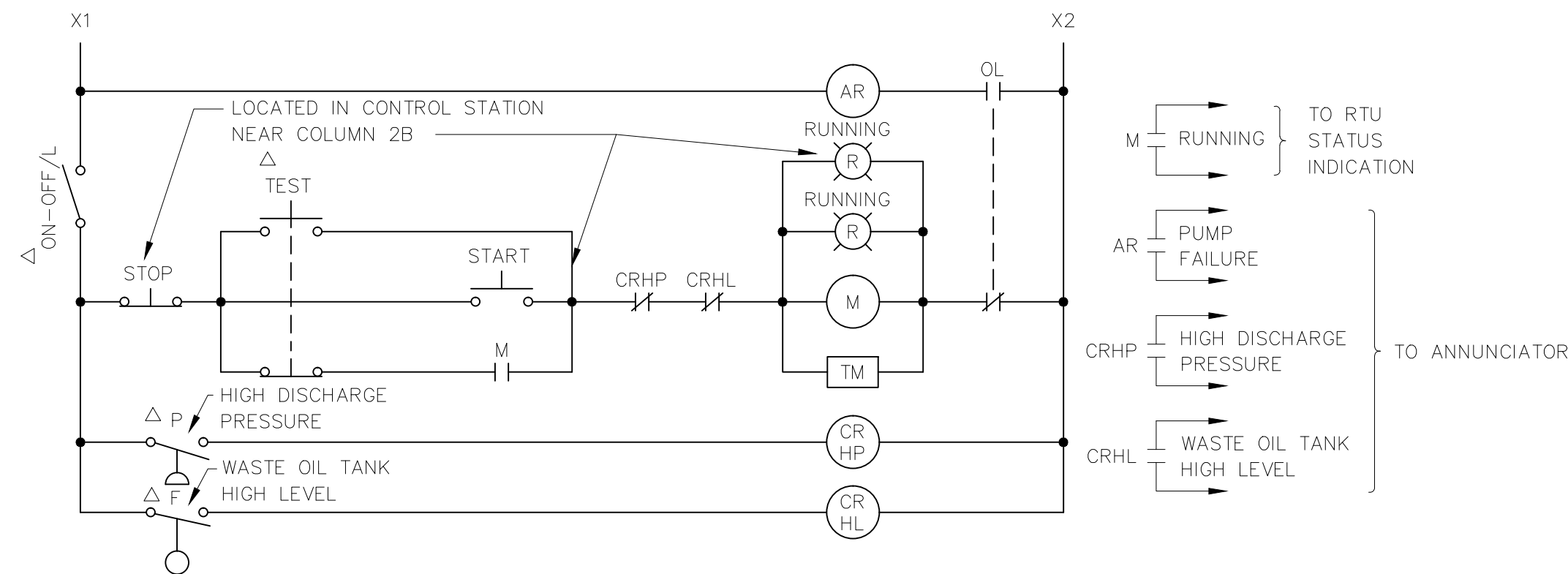
FILE: H:\A\C\5H3B\SD\5H3B5D59 SCALE: 1:11 06/15/1995 at 14:18 *R11 c2*

DES	MMN	CKD	BBK				H.P.W.W.T.P.
DR	GR	APPD					DIVISION 5H3B
GREELEY AND HANSEN ENGINEERS						SD-59	
TAMPA, FLORIDA 36607						DATE JUN 1995 NO. 0	
NO.	DATE	APPD	REVISION				

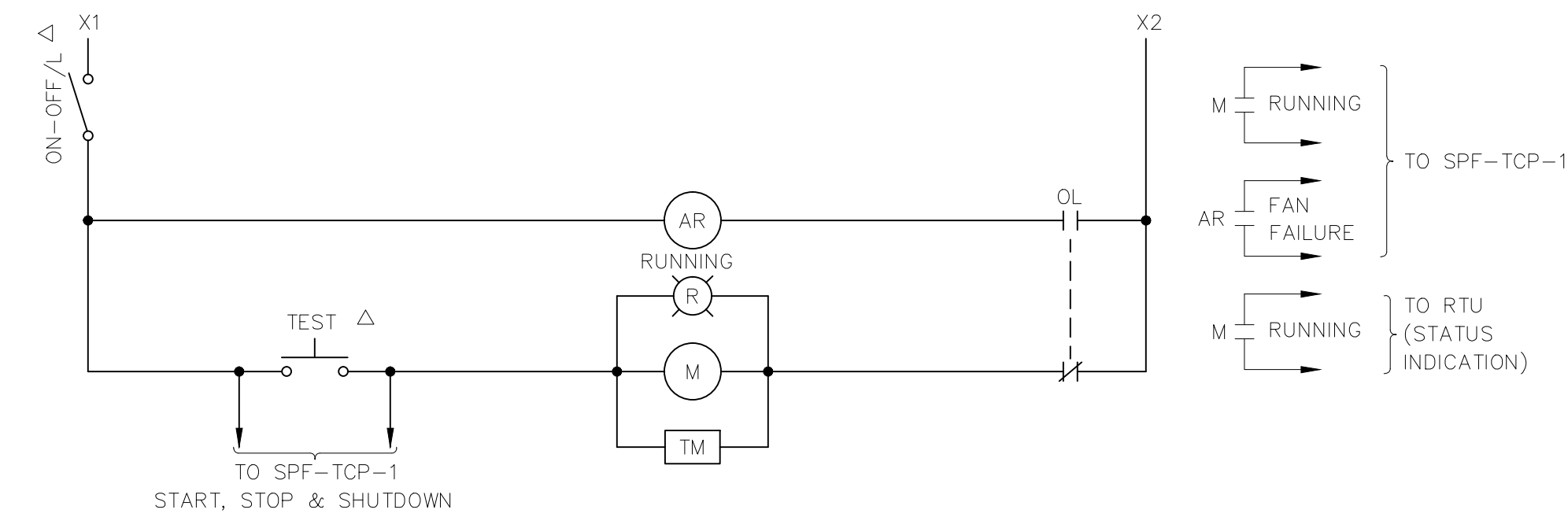


FUEL OIL PUMP SPF-FOP-1 & SFP-FOP-2

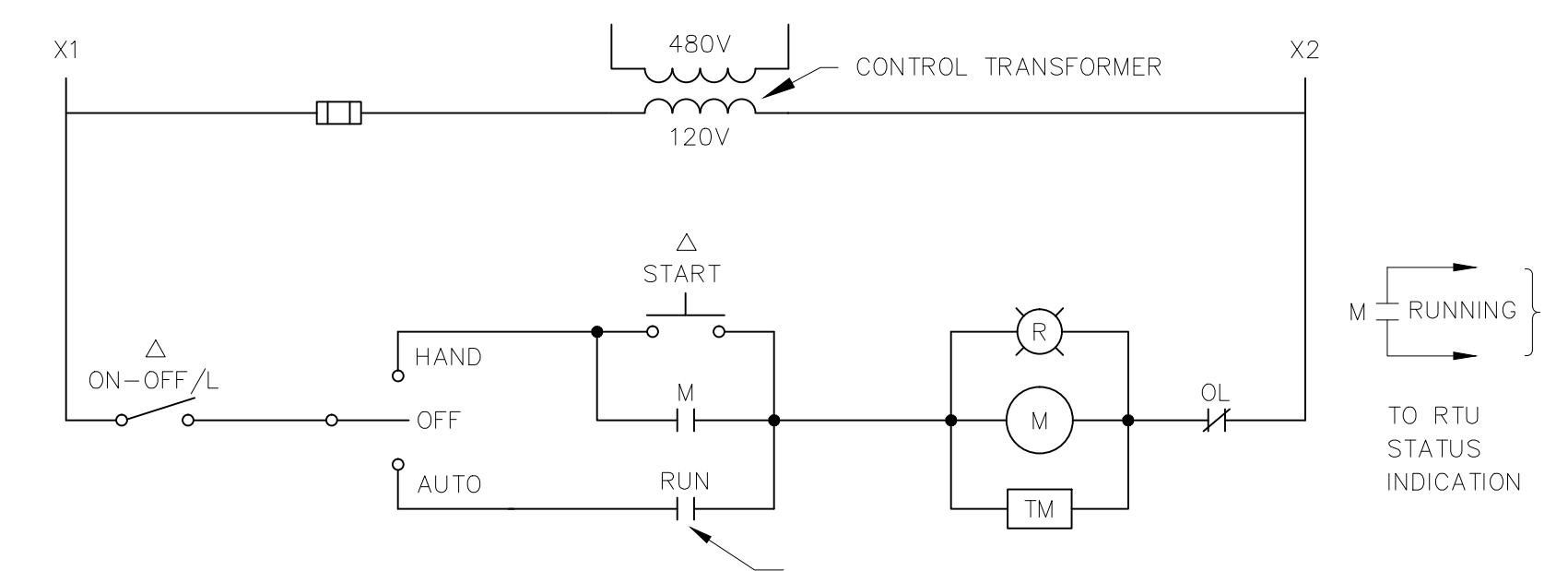
☒ DENOTES DEVICE LOCATED IN DAY TANK CONTROL PANEL



WASTE OIL PUMP SPF-WOP-1

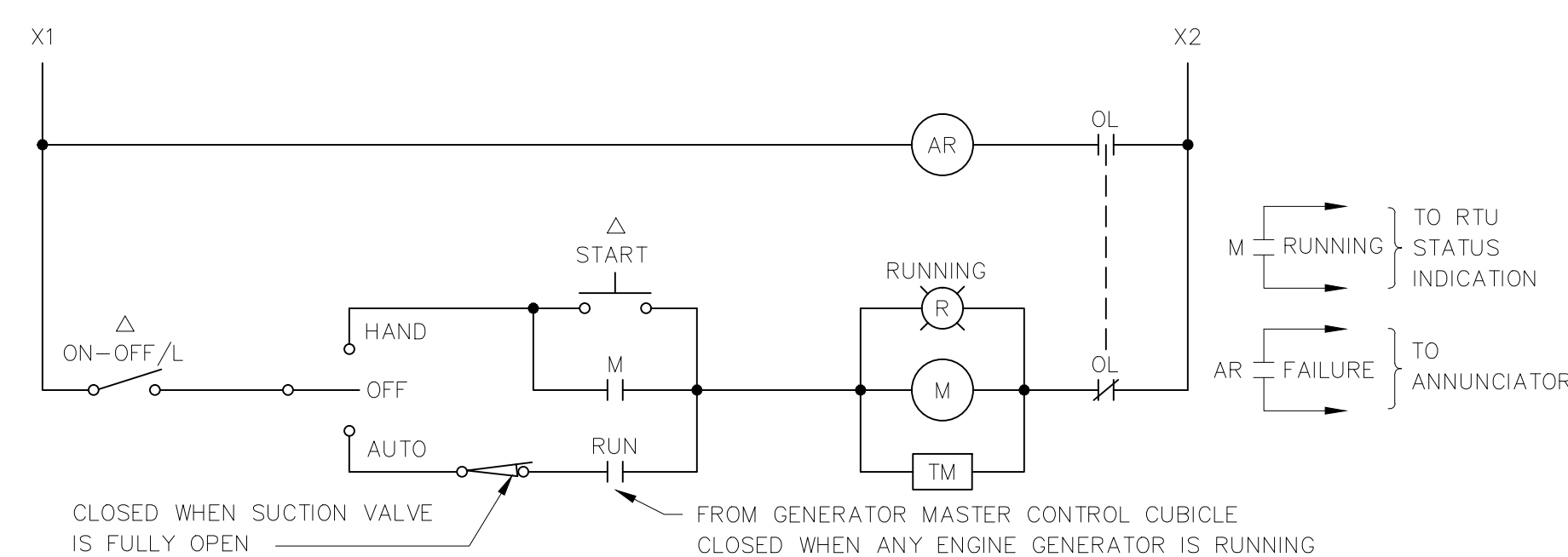


ROOF EXHAUST FAN SPF-REF-6



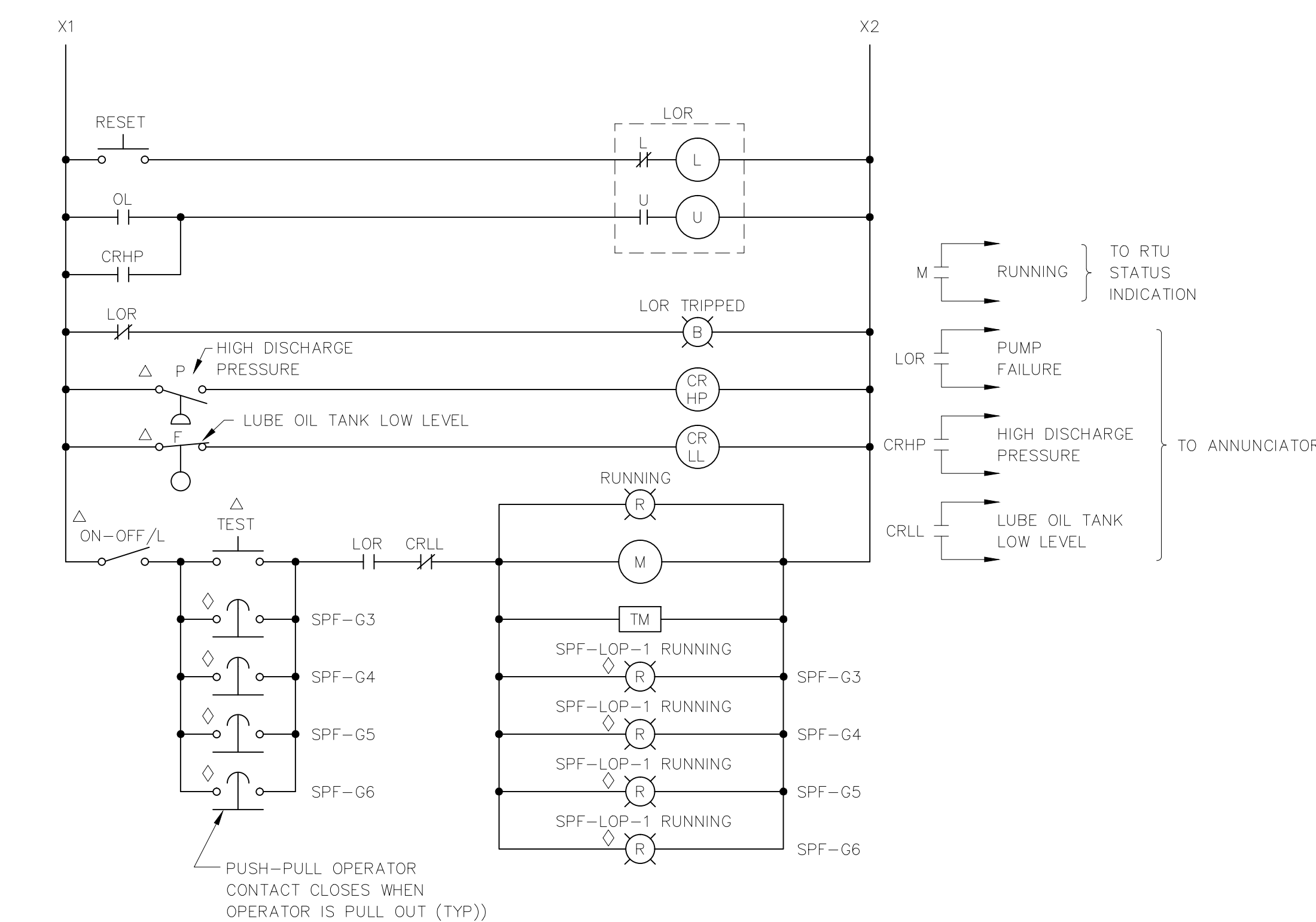
FUEL OIL COOLER SPF-FOC-1

TYPICAL FOR SPF-FOC-2, SPF-FOC-3, SPF-FOC-4 & SPF-FOC-5



JACKET WATER PUMP SPF-JWP-1

TYPICAL FOR SPF-JWP-2 AND SPF-JWP-3



LUBE OIL PUMP SPF-LOP-1

◇ DENOTES DEVICE LOCATED IN GENERATOR INSTRUMENT PANEL

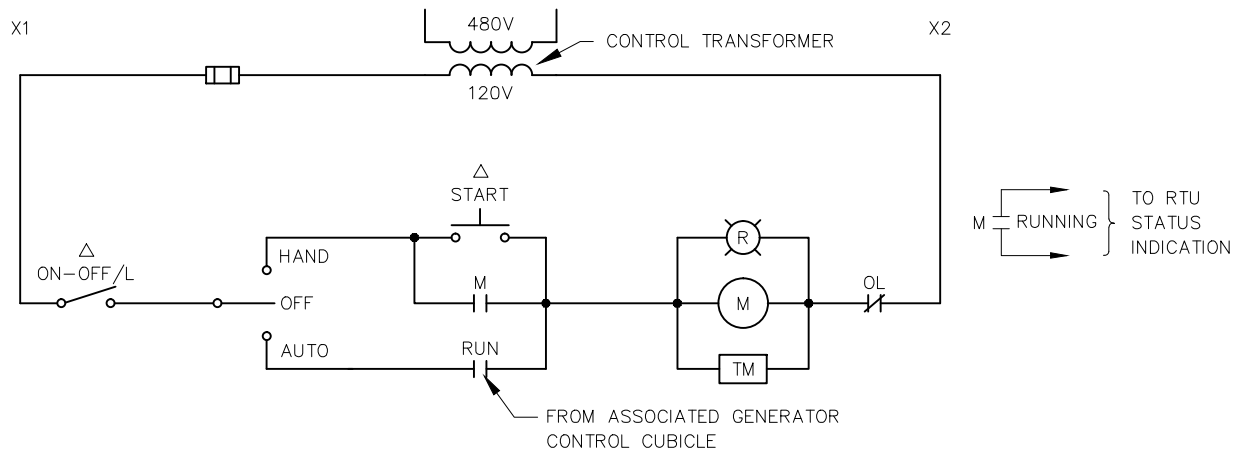
FILE: H3B-TE11 SCALE: 1:1 09/7/91 1996 at 09:21 - "13-4h (Greene Lock)"

RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED	CSC	APPROVED	SCALE	CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	STNADBY POWER FACILITY ELECTRICAL SCHEMATIC DIAGRAMS	PRJ NO.	202G
	DRAWN	GFO, LAL	DATE	NO SCALE			DWG	TE11
	CHECKED	BBK	DATE	RECORD DWG REVISIONS			SHEET	DATE	DECEMBER 1991	REV	3

See Supplemental Drawing SD-60

5H3B_OTE-011



FUEL OIL COOLER SPF-FOC-1

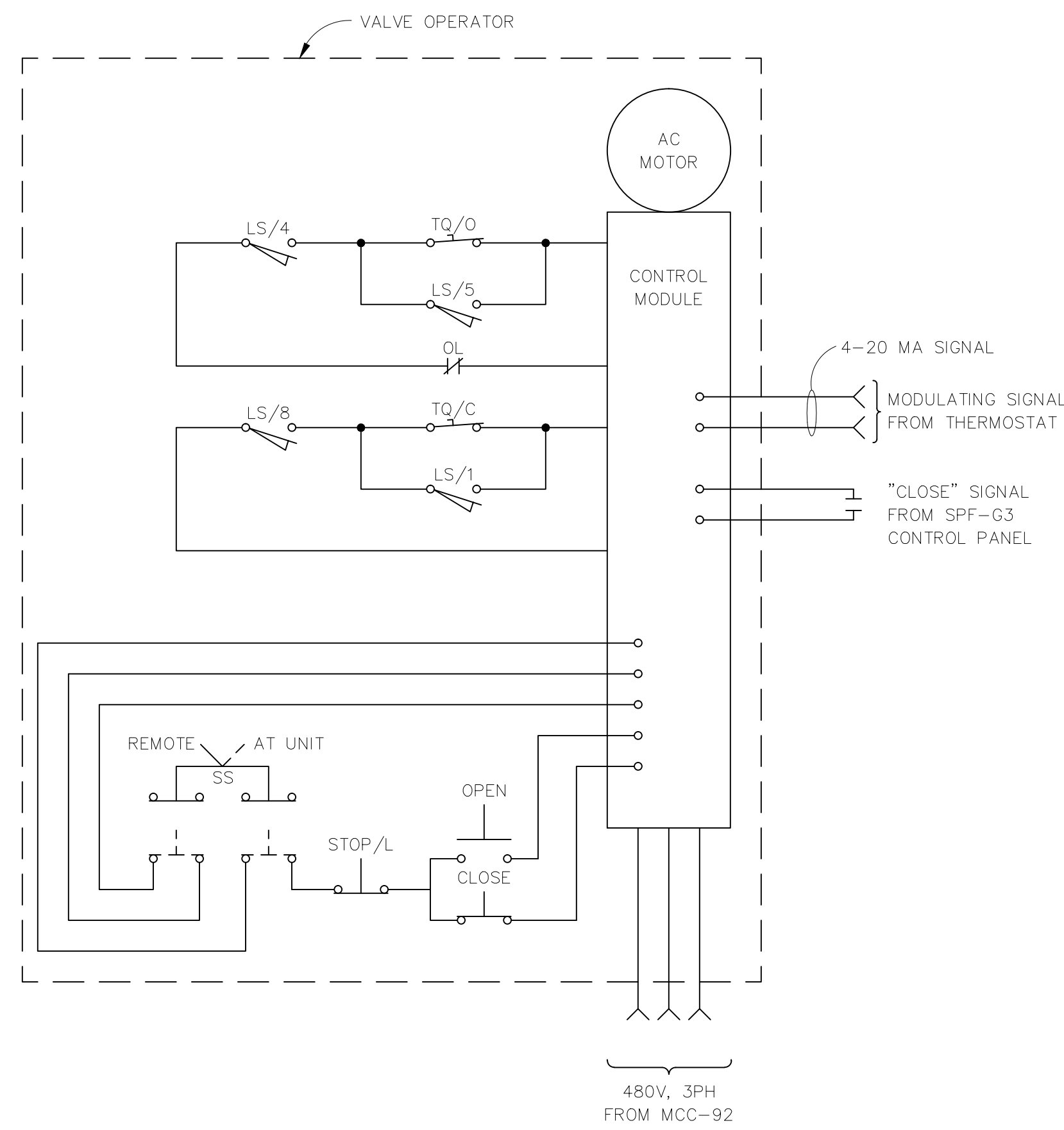
TYPICAL FOR SPF-FOC-2, SPF-FOC-3,
SPF-FOC-4 & SPF-FOC-5

FILE: 5H3B5D60 SCALE: 1:11 06/15, 1995 at 09:15 *R11 c2*

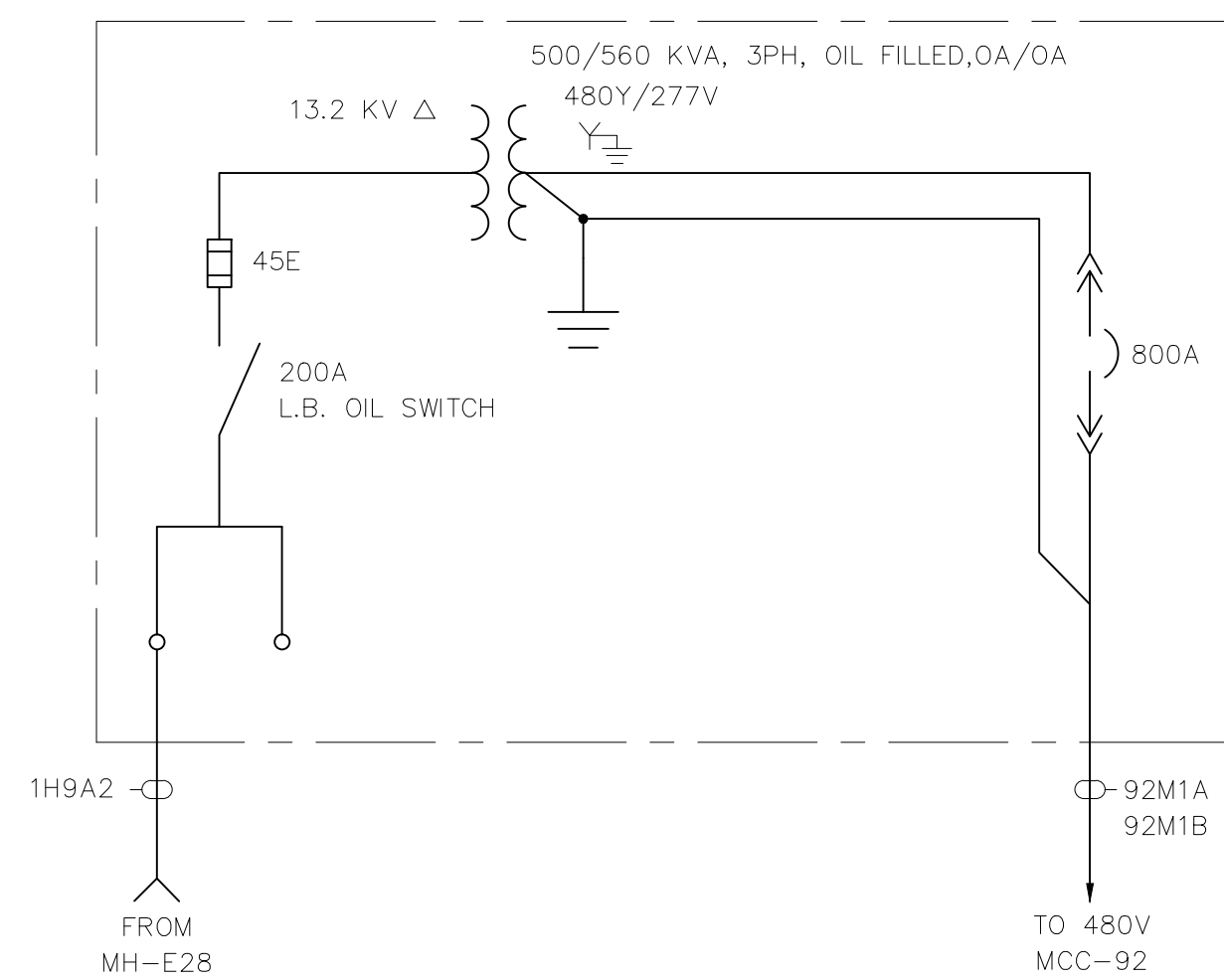
REVISES DWG TE11

DES MMN	CKD BBK				H.P.W.W.T.P.
DR GR	APPD				DIVISION 5H3B
GREELEY AND HANSEN ENGINEERS TAMPA, FLORIDA 36607					SD-60
NO.	DATE	APPD	REVISION	DATE	JUN 1995 NO. 0

5H3B_0TE-011A



JACKET WATER VALVE - SPF-MV-1
SIMILAR FOR SPF-MV-2, SPF-MV-3 AND SPF-MV-4

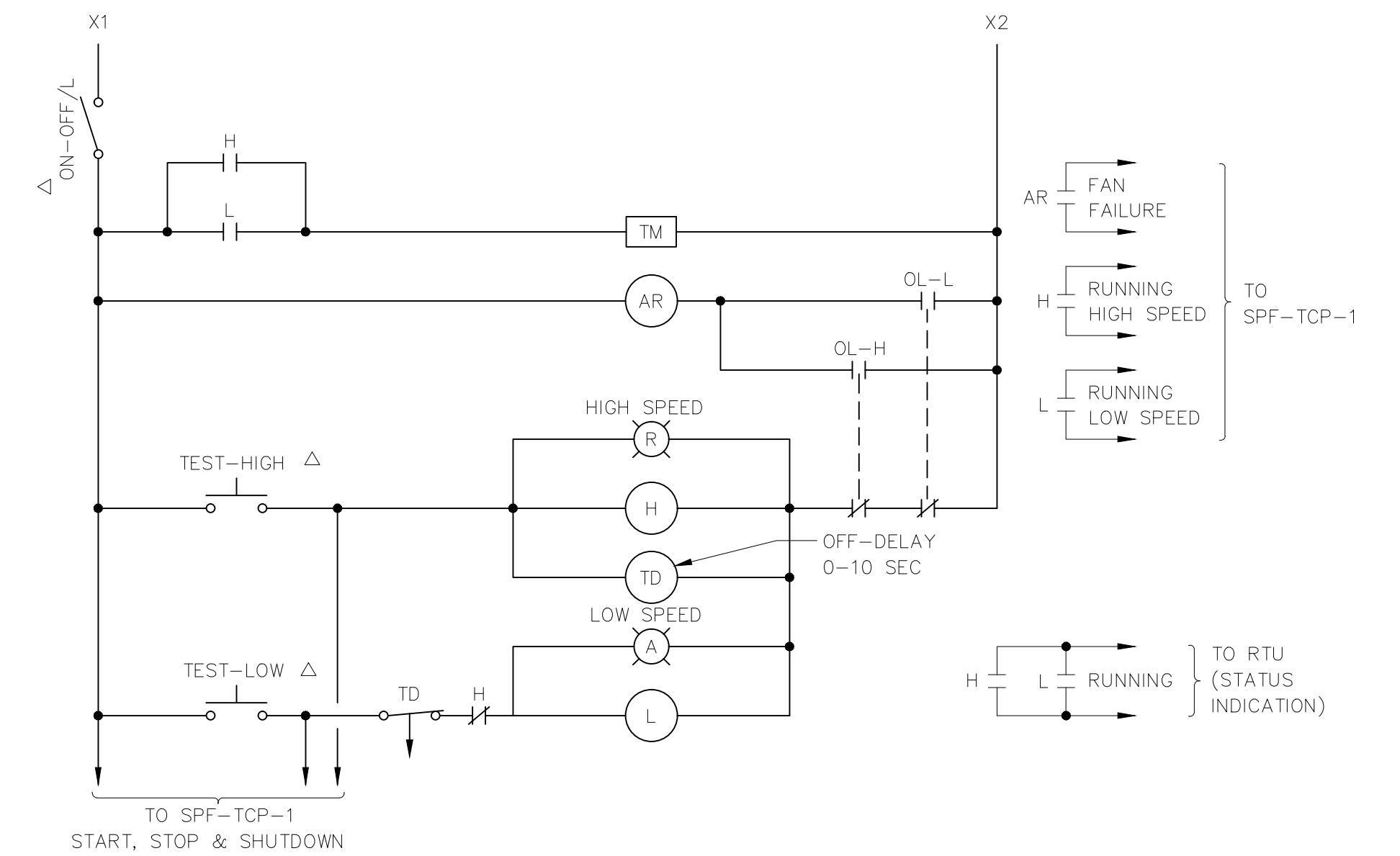


SUBSTATION TRANSFORMER T-9A-2
SIMILAR FOR T-9B-2

TYPICAL LIMIT SWITCH CONTACT DEVELOPMENT FOR MOTORIZED GATE AND VALVE OPERATORS

ROTOR NO.	CONTACT NO.	OPERATOR POSITION			CONTACT FUNCTION
		FULL OPEN	INTER-MEDIATE	FULL CLOSED	
1	1	█	---	---	BYPASS CKT
	2	---	---	---	AUXILIARY
	3	---	---	---	INDICATOR LIGHT
	4	---	---	---	FORWARD (OPEN) LIMIT
2	5	---	---	---	BYPASS CKT
	6	---	---	---	AUXILIARY
	7	---	---	---	INDICATOR LIGHT
	8	---	---	---	REVERSE (CLOSED) LIMIT
3	9	---	---	---	AUXILIARY
	10	---	---	---	AUXILIARY
	11	---	---	---	AUXILIARY
	12	---	---	---	AUXILIARY
4	13	---	---	---	AUXILIARY
	14	---	---	---	AUXILIARY
	15	---	---	---	AUXILIARY
	16	---	---	---	AUXILIARY

TQ/C - CLOSING TORQUE SWITCH
TQ/O - OPENING TORQUE SWITCH
█ INDICATES CONTACT CLOSED
--- INDICATES CONTACT OPEN
SEE SCHEMATIC DIAGRAMS FOR FUNCTION OF THE "AUXILIARY" LIMIT SWITCH CONTACTS



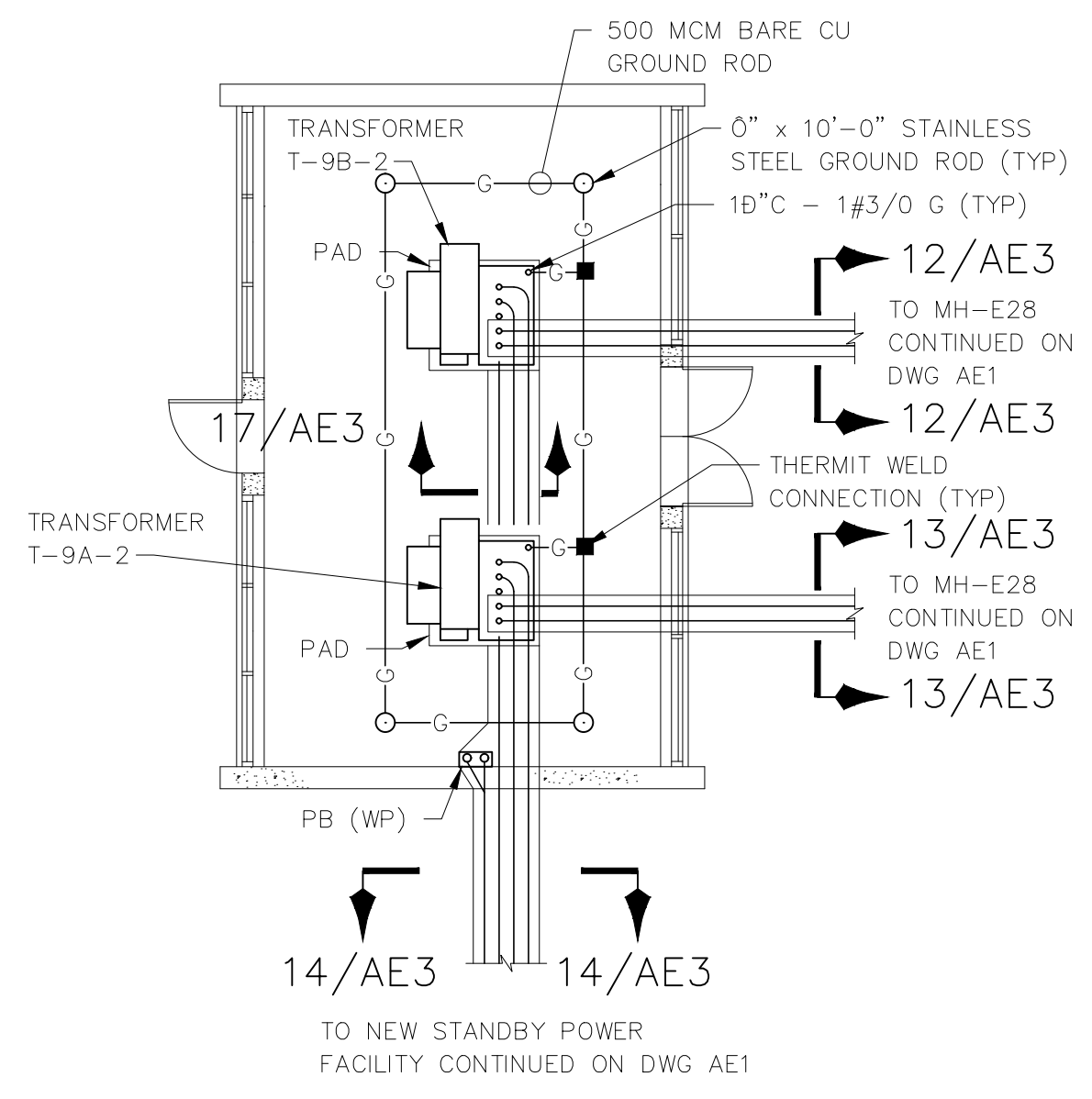
ROOF EXHAUST FAN SPF-REF-1
TYPICAL FOR SPF-REF-2 TO SPF-REF-5

FILE: H3B-TE12 SCALE: 1:1 09/11/1996 at 09:28 - "13_44 (Invention Logo)"

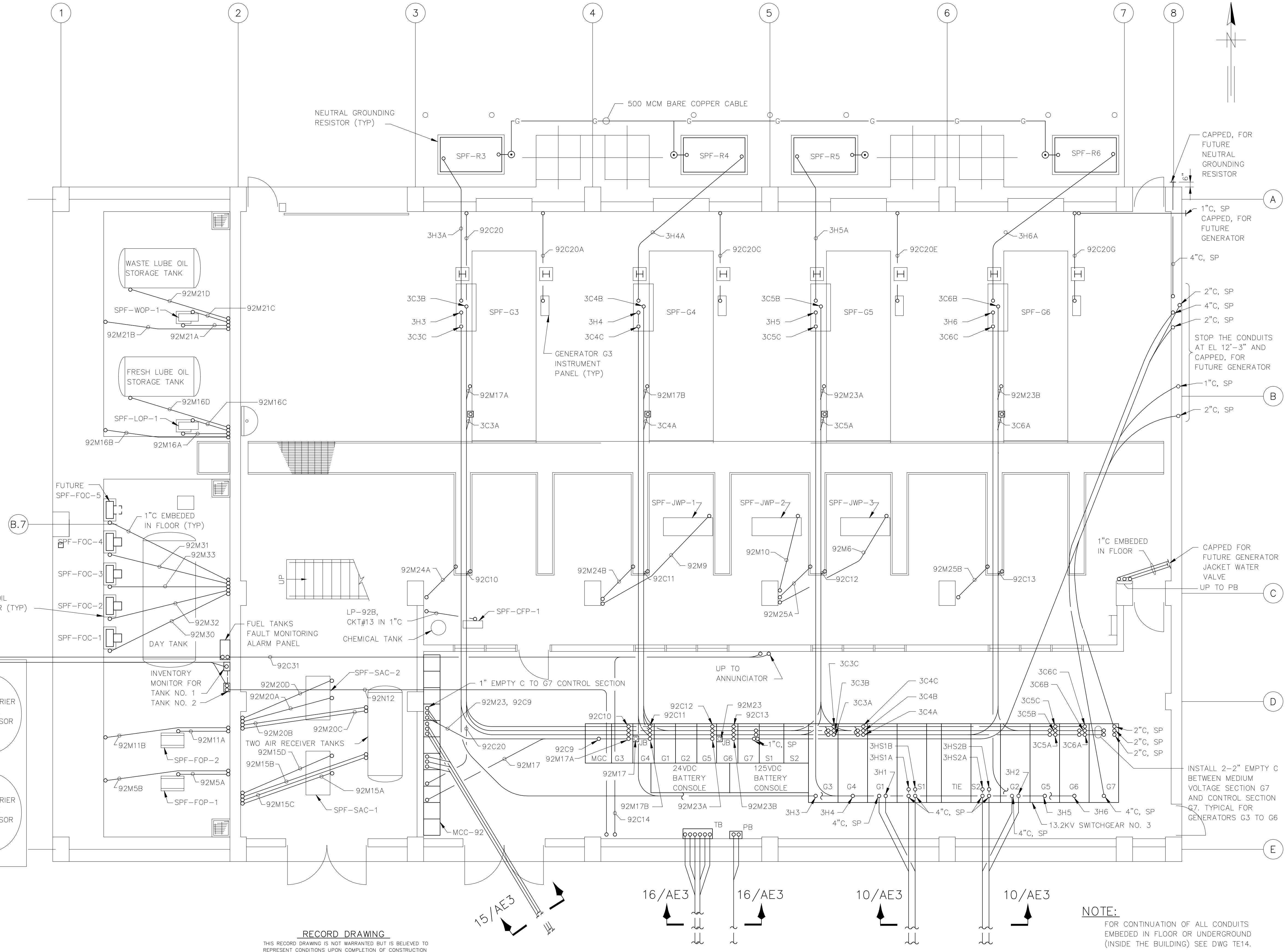
RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED CSC	APPROVED _____ DATE _____	SCALE	CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	STANDBY POWER FACILITY ELECTRICAL SCHEMATIC DIAGRAMS	PROJ. NO. 202G
	DRAWN LAL	DATE _____	NO SCALE			DWG TE12
	CHECKED BBK	DATE _____ GREELEY AND HANSEN, ENGINEERS	NO. DATE APPD REVISION			SHEET
						DATE DECEMBER 1991 REV 3

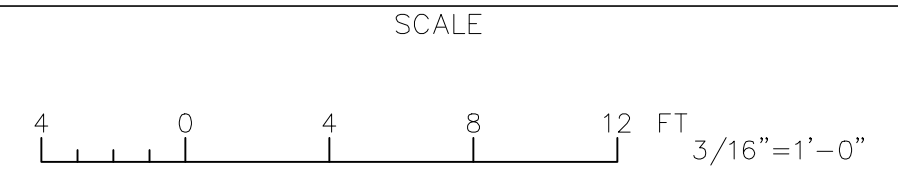
5H3B_0TE-012



**STANDBY POWER FACILITY
TRANSFORMER YARD - POWER**
SCALE: E"= 1'-0"



RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.



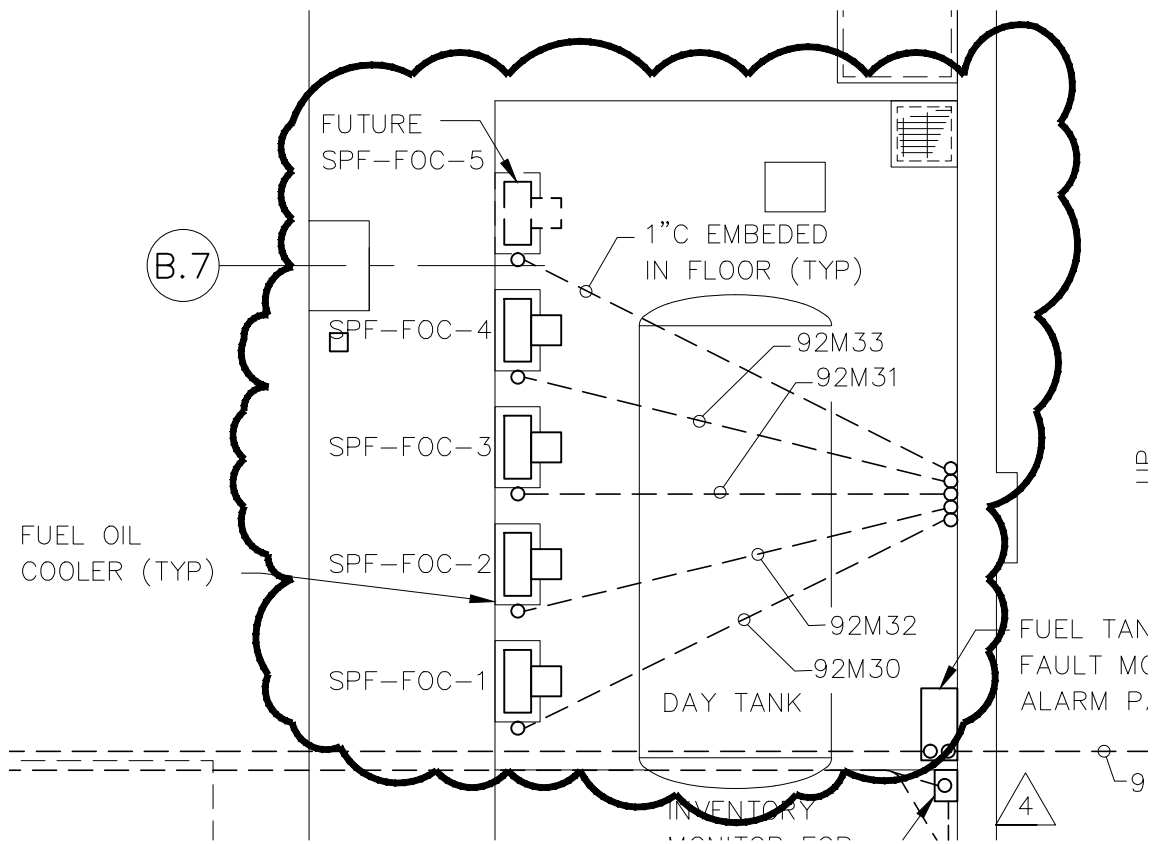
NOTE:
FOR CONTINUATION OF ALL CONDUITS EMBEDDED IN FLOOR OR UNDERGROUND (INSIDE THE BUILDING) SEE DWG TE14.

FOR CONTINUATION SEE DWG AE1

GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED GJ	APPROVED _____ DATE _____	NO. DATE APPD REVISION	CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	STANDBY POWER FACILITY ELECTRICAL POWER PLAN	PROJ. NO. 202G
	DRAWN BBK, AF	DATE 5/8/96				DWG TE13
	CHECKED BBK	RECORD DWG REVISIONS				SHEET
						DATE DECEMBER 1991 REV 5

FILE: HSB-TE13 SCALE: 1/8"=1'-0" 09/01/1996 at 09:34 - "13_60 (Overseas Lock)

5H3B_OTE-013



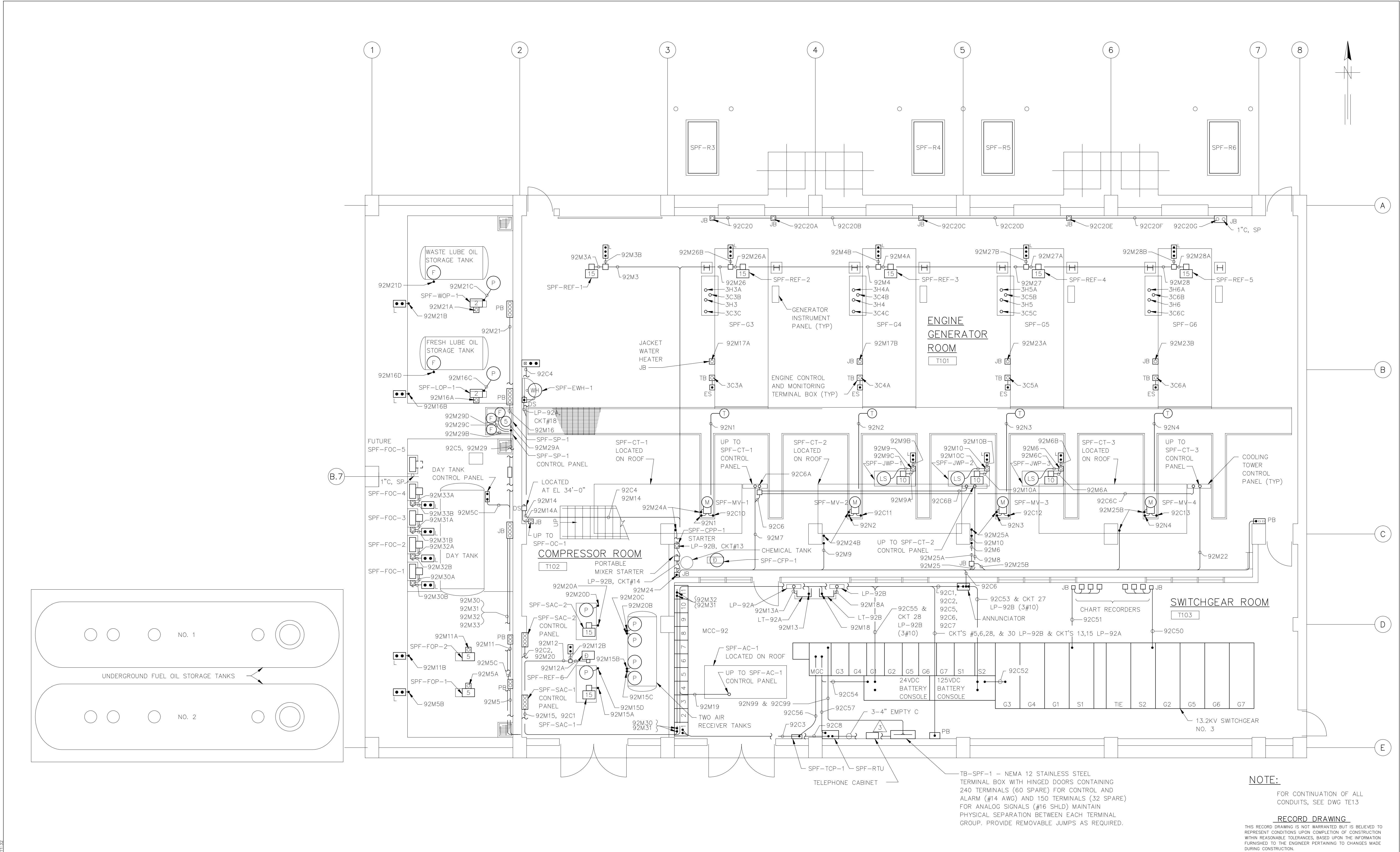
PARTIAL POWER PLAN

REVISES DWG TE13

FILE: H:\AC\5H3B\SD\5H3SD61 SCALE: 1:11.06/15, 1995 at 09:21 *R11 c2*

DES MMN	CKD BBK				H.P.W.W.T.P.
DR GR	APPD				DIVISION 5H3B
GREELEY AND HANSEN ENGINEERS TAMPA, FLORIDA 36607					SD-61
NO.	DATE	APPD	REVISION	DATE	JUN 1995 NO. 0

5H3B_0TE-013A



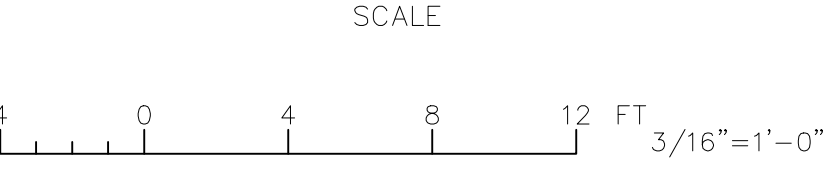
NOTE:
FOR CONTINUATION OF ALL CONDUITS, SEE DWG TE13

RECORD DRAWING.
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED GJ
DRAWN BBK, AF
CHECKED BBK

APPROVED	DATE		
4	8/2/96	RECORD DWG REVISIONS	
NO.	DATE	APPD	REVISION



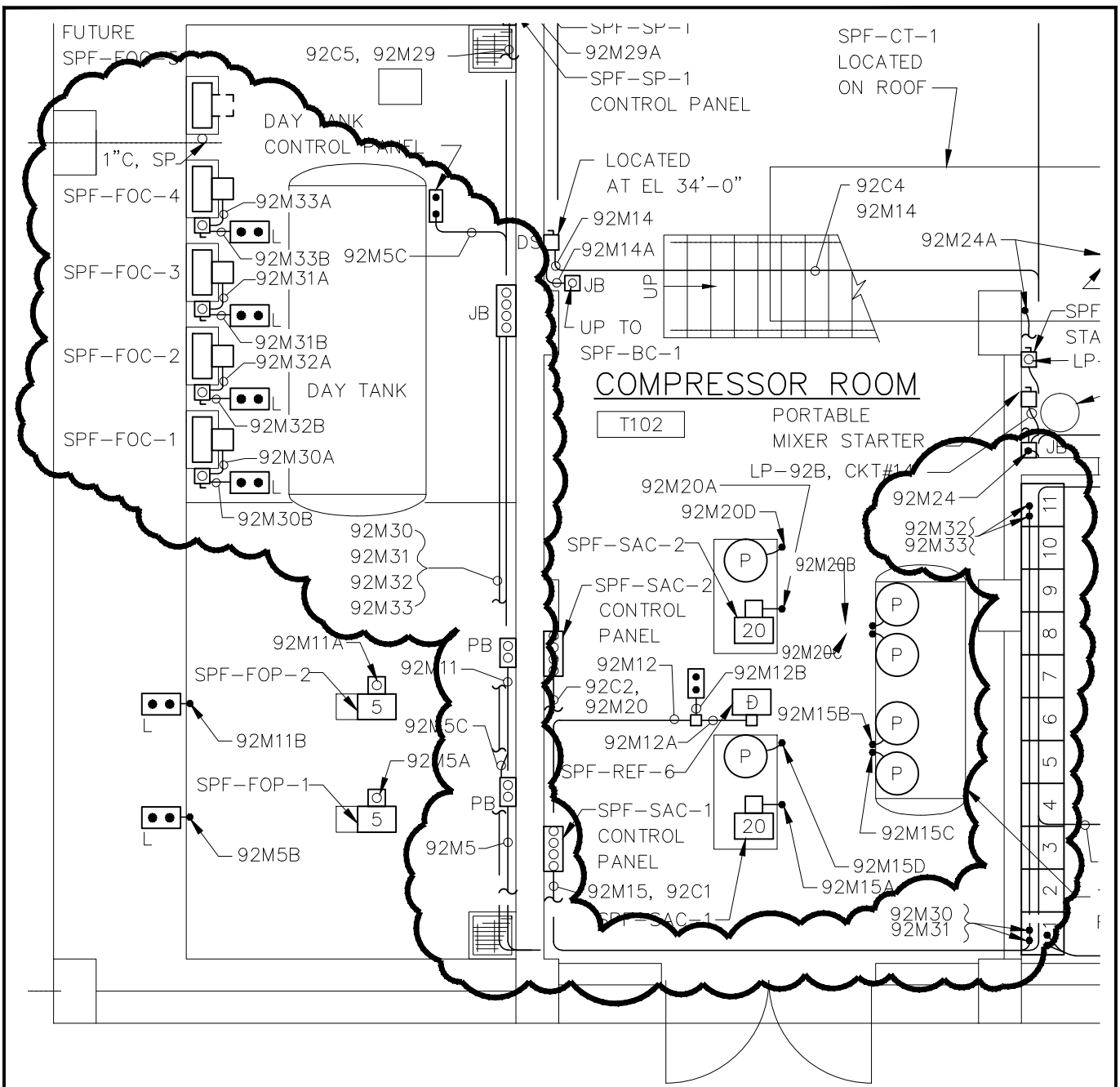
CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
ELECTRICAL
POWER PLAN

See Supplemental
Drawing SD-62

PROJ. NO.	202G
DWG	TE14
SHEET	
DATE	DECEMBER 1991
REV	4

5H3B_OTE-014



PARTIAL POWER PLAN

NOTE: DISCONNECT AND REMOVE
 EXISTING MANUAL STARTERS
 FOR SPF-FOC-1, SPF-FOC-2,
 SPF-FOC-3 & SPF-FOC-4

REVISES DWG TE14

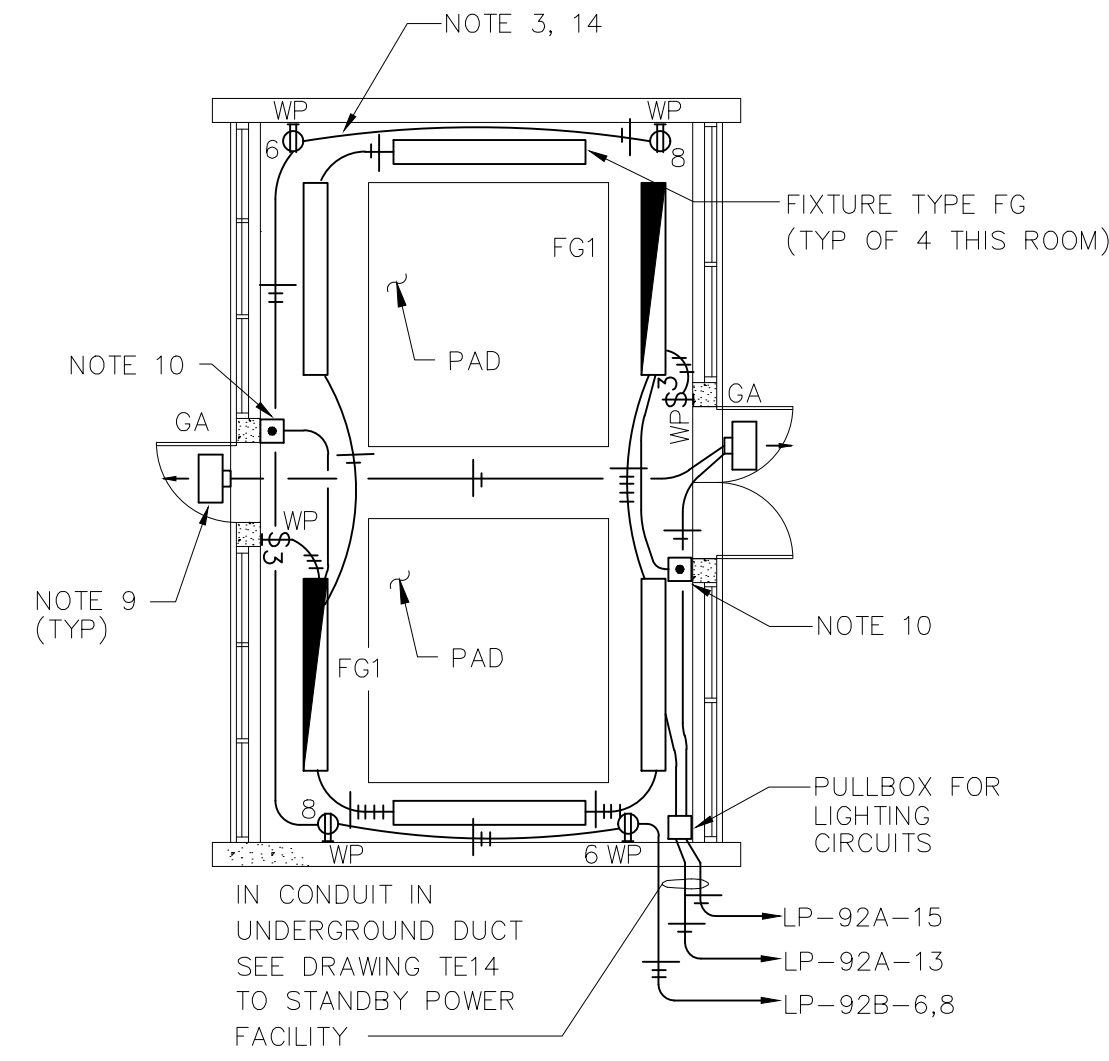
BASE: H:\AC\5H3B\SD\5H3B062 SCALE: 1:11 06/15, 1995 at 09:29 *R11 c2*

DES	MMN	CKD	BBK					H.P.W.W.T.P.
DR	GR	APPD						DIVISION 5H3B
GREELEY AND HANSEN ENGINEERS							SD-62	
TAMPA, FLORIDA 36607			NO.	DATE	APPD	REVISION	DATE	JUN 1995 NO. 0

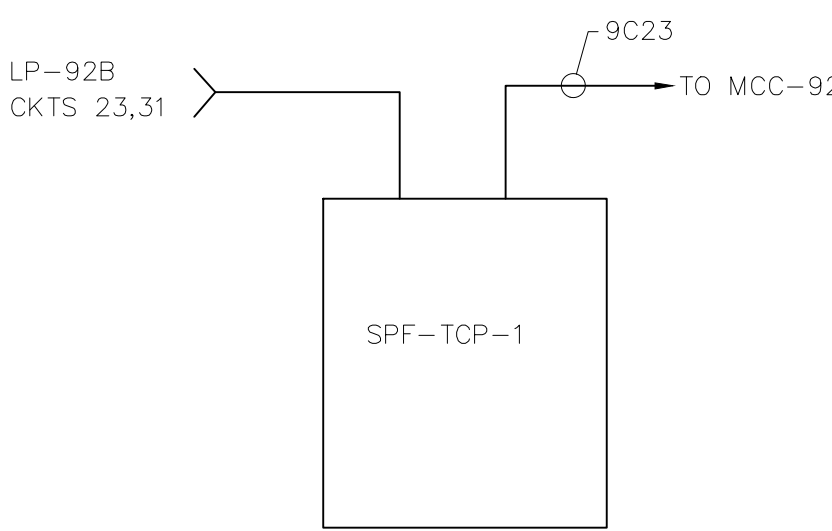
5H3B_0TE-014A

NOTES:

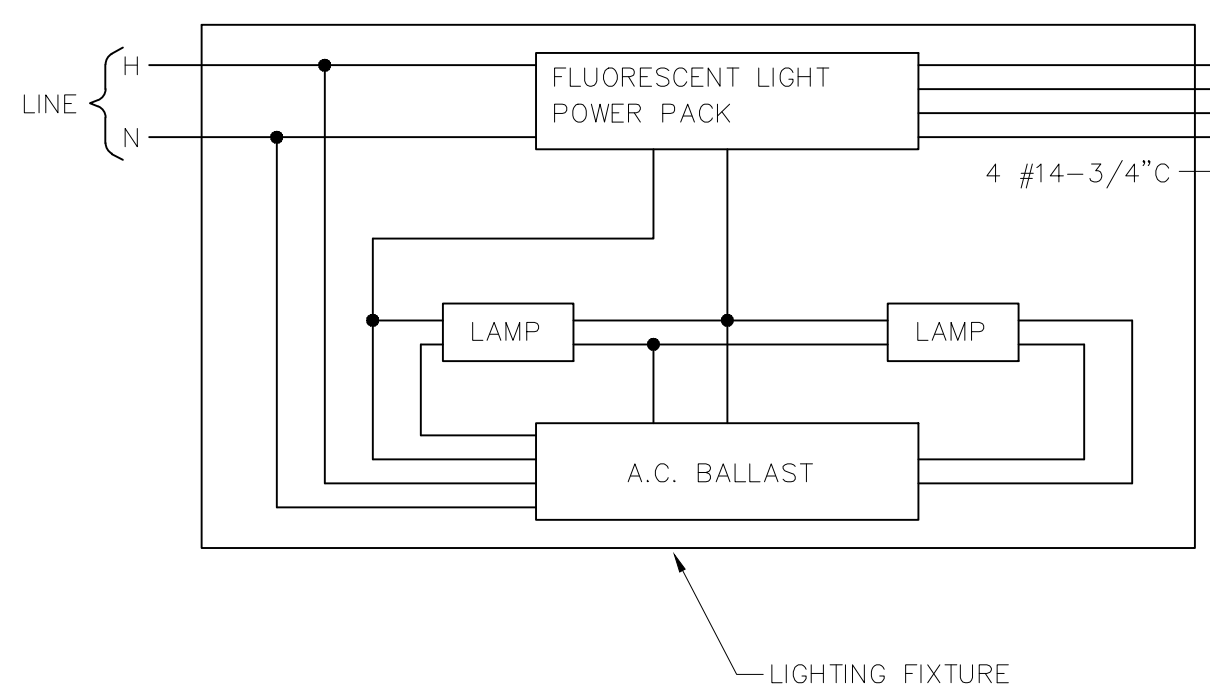
1. FIXTURE SHALL BE APPROVED FOR THROUGH WIRING.
2. CONNECT EMERGENCY BATTERY PACK TO UNSWITCHED LEG OF THE CIRCUIT.
3. LIGHTING FIXTURES IN THIS AREA SHALL BE MOUNTED ON CONTINUOUS CHANNEL SUPPORTS 10'-0" A.F.F. UNLESS OTHERWISE NOTED.
4. REFER TO EXTERIOR LIGHTING CONTROL DIAGRAM MOUNT PHOTOCELL ON 4'-0" POLE FACING NORTH.
5. TO SWITCH SHOWN ON EL 12'-0" FLOOR PLAN.
6. MOUNT EMERGENCY FIXTURE 8'-0" A.F.F. UNLESS OTHERWISE NOTED.
7. PENDANT MOUNT EXIT LIGHT 1'-0" ABOVE TOP OF DOOR.
8. PENDANT MOUNT EXIT LIGHT 8'-0" A.F.F.
9. MOUNT FIXTURE 1'-0" ABOVE DOOR TO CENTER OF FIXTURE.
10. REMOTE BATTERY PACK TEST PUSH BUTTON AND INDICATING LIGHT IN WEATHERPROOF ENCLOSURE MTD. 5'-0" A.F.F. (TYPICAL).
11. CONDUIT SHOWN ON EXTERIOR OF BUILDING FOR CLARITY ONLY, CONDUIT SHALL BE INSTALLED ON INTERIOR OF BUILDING.
12. TO RECEPTACLE ON CIRCUIT TL1-1
13. PENDANT MOUNT THE LIGHTING FIXTURES IN THIS AREA SO THAT THE BOTTOM OF THE FIXTURE LENS IS EVEN WITH THE BOTTOM OF THE CEILING JOIST. PROVIDE NO. 10 AWG COPPER CONDUCTORS.
14. ALL WALL SWITCHES FOR LIGHTING CIRCUITS IN THIS BUILDING SHALL HAVE WEATHERPROOF COVERPLATES.
15. CONDUIT DOWN TO TYPE FH1 LIGHT FIXTURE AT ELEVATION 22'(NOT SHOWN).
16. CONTRACTOR SHALL PROVIDE AUX. RELAYS AS REQUIRED FOR PROPER FUNCTIONING OF MECHANICALLY HELD CONTACTORS.
17. EXHAUST FAN SPF-REF-6 SHALL CIRCUIT LP-92B THROUGH SPF-TCP-1.



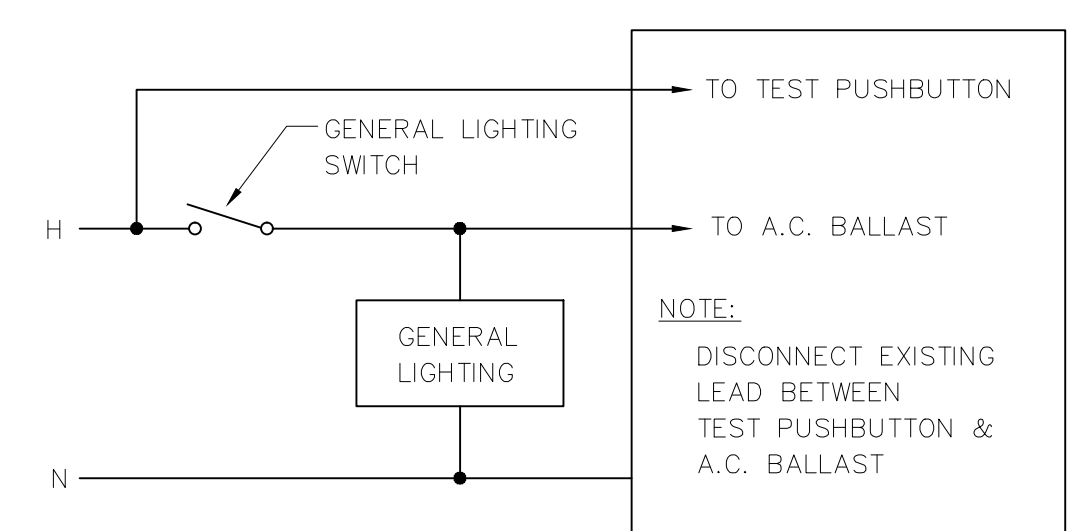
TRANSFORMER YARD PLAN AT GRADE
SCALE: E": 1'-0"



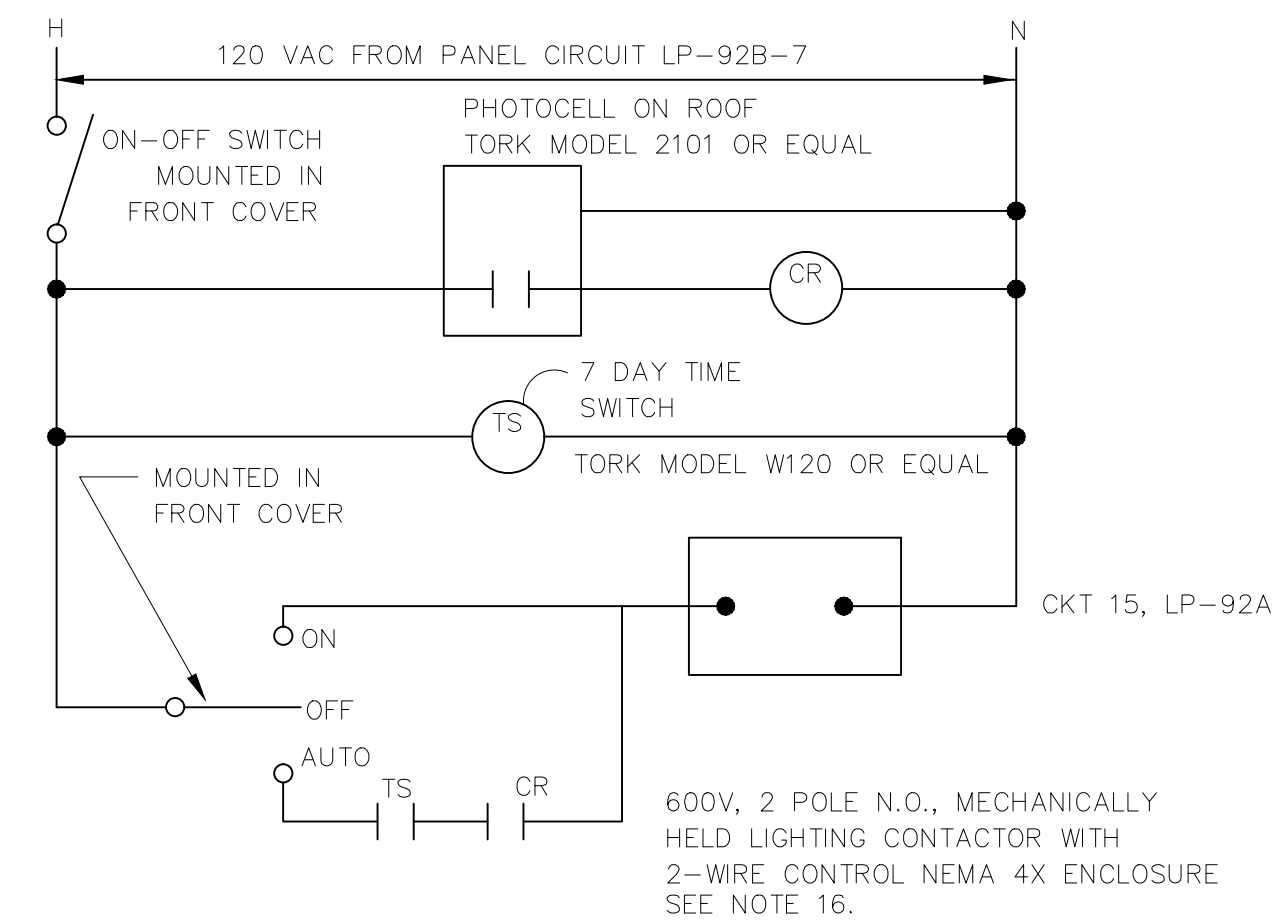
TEMPERATURE CONTROL PANEL SPF-TCP-1 BLOCK DIAGRAM



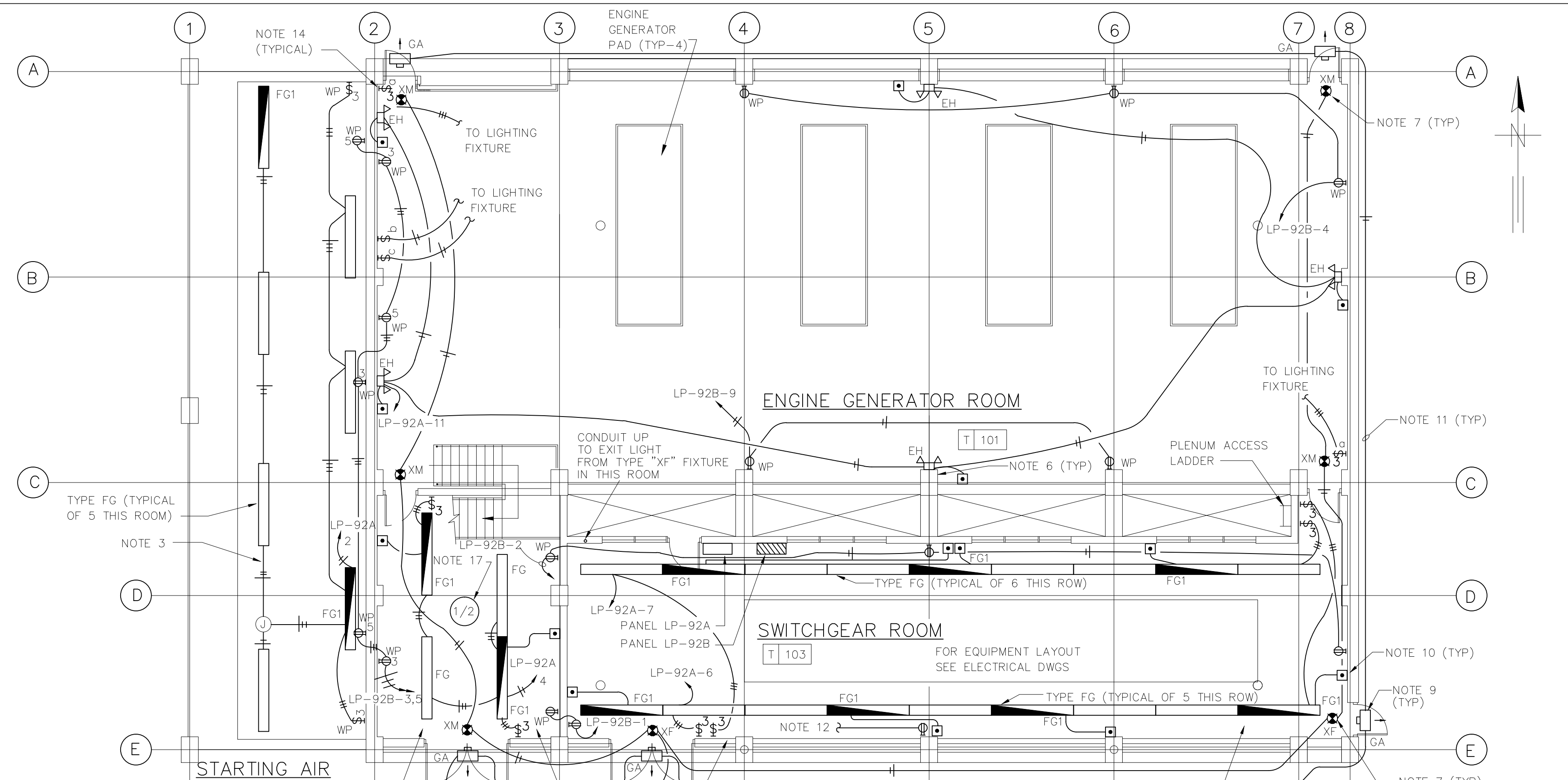
TYPICAL BATTERY POWERED FIXTURE



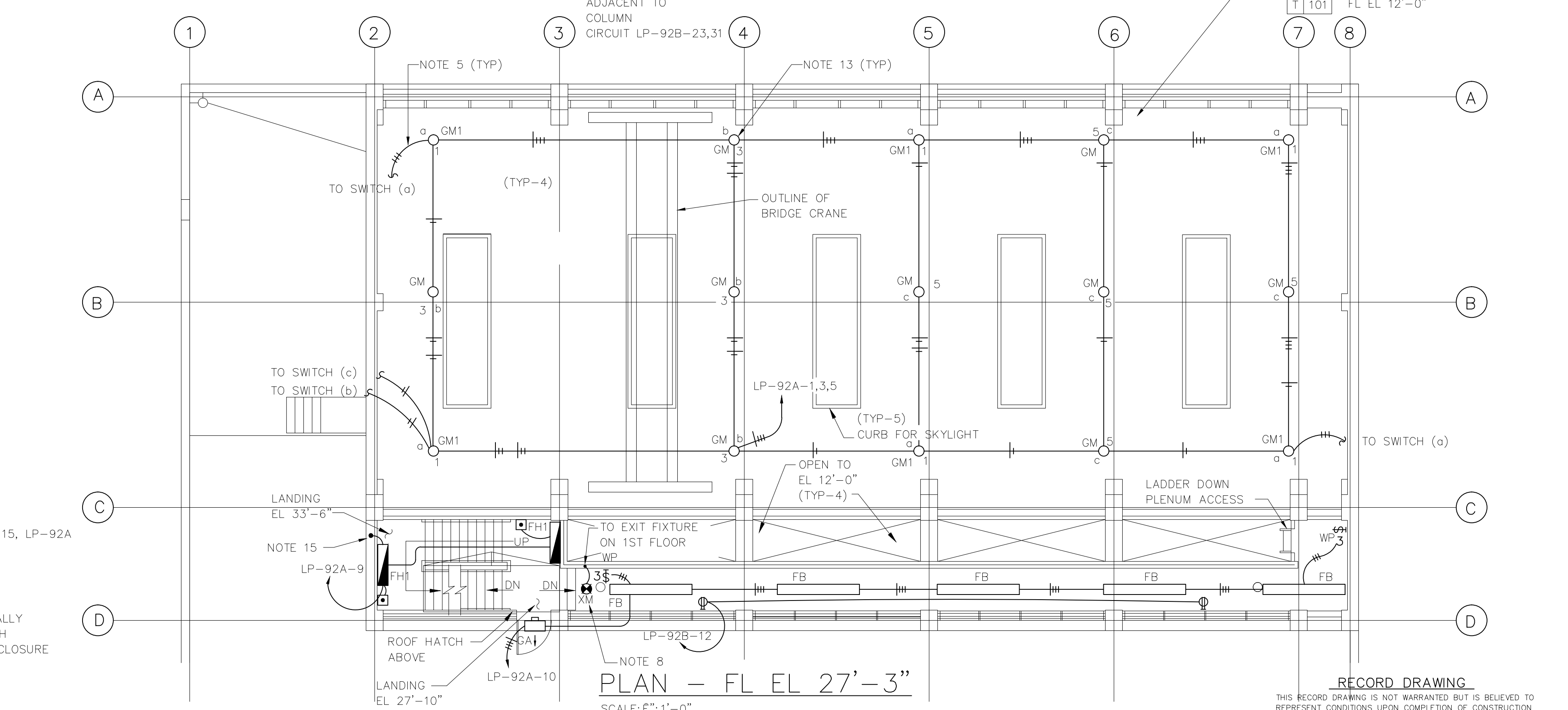
TYPICAL BATTERY POWERED FIXTURE



LIGHTING CONTACTOR PANEL DETAIL
SCALE: NONE



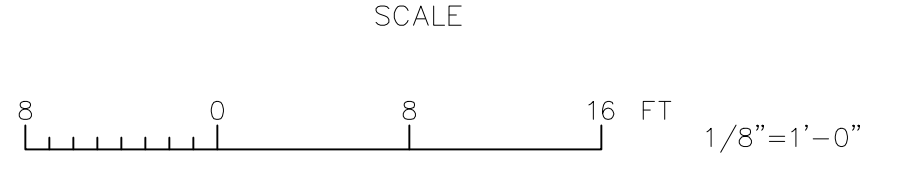
PLAN - FL EL 12'-0"
SCALE: E": 1'-0"



PLAN - FL EL 27'-3"
SCALE: E": 1'-0"

EMTEC Corporation
CONSULTING ENGINEERS
1723 W. KENNEDY BOULEVARD
SUITE 210
TAMPA, FLORIDA 33606

DESIGNED	RG	APPROVED	
DRAWN	RG	DATE	
CHECKED	RJJ	DATE	
		GREELEY AND HANSEN, ENGINEERS	



CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE 1 DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
ELECTRICAL
PLAN AT EL 12'-0"

RECORD DRAWING
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PROJ. NO.	202G
DWG	TE15
SHEET	
DATE	DECEMBER 1991
REV	4

5H3B_OTE-015

FILE: LWB-TE15 SCALE: 1/8" = 1'-0" 08/71 1996 at 09:49 - 113.cdw (Overseas Lock)

CONDUIT SCHEDULE - LIGHTING PANEL LP92A (208/120V, 3PH, 4W, W/GRD BUS)

CKT NO.	LOCATION	FL EL	MTG HGT	FIXT TYPE	LIGHTS MOTORS	RCPT	TOTAL WATTS	REMARKS
1	GENERATOR ROOM	27'-3"	---'-0"	GM	6@500W	--	3000	NOTE 1
2	TANK ROOM	12'-0"	10'-6"	FG	7@150W	--	1050	--
3	GENERATOR ROOM	27'-3"	---'-0"	GM	4@500W	--	2000	NOTE 1
4	COMPRESSOR ROOM	12'-0"	10'-6"	FG	4@150W	--	600	--
5	GENERATOR ROOM	27'-3"	---'-0"	GM	5@500W	--	2500	NOTE 1
6	SWITCHGEAR ROOM	12'-0"	10'-0"	FG	9@150W	--	1350	--
7	SWITCHGEAR ROOM	12'-0"	10'-0"	FG	9@150W	--	1350	--
8	SPARE	---'-0"	---'-0"	--	--	--	--	--
9	STAIRWELL	22'-0"	8'-0"	FH1	1@80W	--	240	--
	STAIRWELL	27'-10"	8'-0"	FH1	1@80W	--	--	--
	STAIRWELL	33'-6"	8'-0"	FH1	1@80W	--	--	--
10	PLENUM PLATFORM	27'-3"	12'-0"	FB	5@150W	--	750	--
11	EMERGENCY LIGHTS	12'-0"	8'-0"	EH	5@70W	--	350	--
12	SPARE	--	--	--	--	--	--	--
13	TRANSFORMER YARD	12'-0"	9'-6"	FG1	6@150W	--	900	NOTE 2
14	SPARE	--	--	--	--	--	--	--
15	TRANSFORMER YARD	12'-0"	9'-6"	GA	2@70W	--	140	NOTE 2,3
16	SPARE	--	--	--	--	--	--	--
17	EXTERIOR	12'-0"	---'-0"	GA	4@70W	--	350	NOTE 3
18	EWB-1	--	--	--	1@3000W	--	3000	--
19-42	SPARES	--	--	--	--	--	--	--

TOTAL WATTS: 17,580

SURFACE MOUNTED 225A BUS, 150 AMP MAIN BREAKER

CONDUIT SCHEDULE - LIGHTING PANEL LP92B (208/120V, 3PH, 4W, W/GRD BUS)

CKT NO.	LOCATION	FL EL	MTG HGT	FIXT TYPE	LIGHTS MOTORS	RCPT	TOTAL WATTS	REMARKS
1	COMPRESSOR & SWITCHGEAR ROOM	12'-0"	2'-0"	--	--	3	600	--
2	COMPRESSOR & SWITCHGEAR ROOM	12'-0"	2'-0"	--	--	3	600	--
3	COMPRESSOR & TANK ROOM	12'-0"	2'-0"	--	--	3	600	GFI BREAKER
4	GENERATOR ROOM	12'-0"	2'-0"	--	--	3	600	--
5	TANK & GENERATOR ROOM	12'-0"	2'-0"	--	--	3	600	GFI BREAKER
6	TRANSFORMER YARD	12'-0"	2'-0"	--	--	2	400	NOTE 2, GFI BREAKER
7	CONTACTOR CONTROL CKT	---'-0"	--	--	--	--	--	--
8	TRANSFORMER YARD	12'-0"	2'-0"	--	--	2	400	NOTE 2, GFI BREAKER
9	GENERATOR ROOM	12'-0"	2'-0"	--	--	2	400	--
10	SPARE	--	--	--	--	--	--	--
11	EXIT LIGHTS	12'-0"	--	XM	7@50W	--	350	NOTE 3
12	PLENUM PLATFORM & ROOF	12'-0"	2'-0"	--	--	4	800	--
13	CHEMICAL PUMP (SPF-CFP-1)	--	--	--	--	--	1130	--
14	CHEMICAL TANK - MIXER	--	--	--	--	--	670	--
15	FUEL OIL COOLER SPF-FOC-1	--	--	--	2@390W	--	780	--
	FUEL OIL COOLER SPF-FOC-2	--	--	--	--	--	--	--
16	FUEL OIL COOLER SPF-FOC-3	--	--	--	3@390W	--	1170	--
	FUEL OIL COOLER SPF-FOC-4	--	--	--	--	--	--	--
	FUEL OIL COOLER SPF-FOC-5 (FUTURE)	--	--	--	--	--	--	--
17	GENERATOR G3, SPACE HEATER	--	--	--	--	--	1000	--
18	GENERATOR G4, SPACE HEATER	--	--	--	--	--	1000	--
19	GENERATOR G5, SPACE HEATER	--	--	--	--	--	1000	--
20	GENERATOR G6, SPACE HEATER	--	--	--	--	--	1000	--
21	GENERATOR G7, SPACE HEATER (FUTURE)	--	--	--	--	--	1000	--
22	ANNUNCIATOR	--	--	--	--	--	500	--
23	SPF-TOP-1	--	--	--	--	--	500	TEMP CONTROL PANEL
24	RTU	--	--	--	--	--	1000	--
25	FUEL OIL TANK LEVEL MONITORS	--	--	--	--	--	100	--
26	MASTER GENERATOR CONTROLS	--	--	--	--	--	1500	--
27	125V DC BATTERY CONSOLE	--	--	--	--	--	2500	30 A 1P
28/30	MANHOLE MH1-E31	--	--	--	--	--	1000	20 A 2P, SUMP PUMP
29	24V DC BATTERY CONSOLE	--	--	--	--	--	2500	20 A 3P
31	SPF-REF-6	--	--	--	--	1@760W	760	--
32-42	SPARES	--	--	--	--	--	--	--

TOTAL WATTS: 24,450

SURFACE MOUNTED 225A BUS, 150 AMP MAIN BREAKER

NOTES:

- PENDANT MOUNT FIXTURE SO THAT BOTTOM OF LENS IS EVEN WITH THE BOTTOM OF THE CEILING JOIST.
- PROVIDE NO. 10 AWG COPPER CONDUCTORS.
- SEE LIGHTING PLAN FOR FIXTURE MOUNTING HEIGHT.

RECORD DRAWING

THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.

FILE: HNS-TE16 SCALE: 1/8"=1'-0" 09/01/1996 at 11:51 - 113.csh (brendanr_1003)

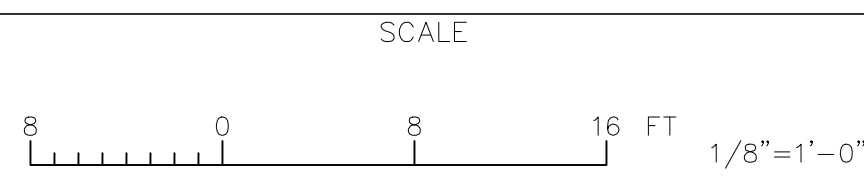
EMTEC Corporation
CONSULTING ENGINEERS
1723 W. KENNEDY BOULEVARD
SUITE 210
TAMPA, FLORIDA 33606

GREELEY AND HANSEN
ENGINEERS
1715 NORTH WESTSHORE BOULEVARD
TAMPA, FLORIDA 33607-4135

DESIGNED RC
DRAWN RC
CHECKED RJJ

APPROVED _____
DATE _____
GREELEY AND HANSEN, ENGINEERS

NO.	DATE	APPD	REVISION
4	8/2/96		RECORD DWG REVISIONS



CITY OF TAMPA, FLORIDA
HOOKERS POINT WASTEWATER TREATMENT PLANT
PLANT EXPANSION
PHASE I DIVISION 5H3B
STANDBY POWER AND SLUDGE STORAGE FACILITIES

STANDBY POWER FACILITY
ELECTRICAL
LIGHTING PANELBOARD SCHEDULE

PROJ. NO.	202G
DWG	TE16
SHEET	
DATE	DECEMBER 1991
REV	4

5H3B_OTE-016

CONDUIT NUMBER & SIZE	CONDUCTOR QUANTITY & SIZE	FROM	TO	REMARKS
13.2 KV INDOOR SWITCHGEAR NO. 3				
3H1	4 3-500MCM, 15 KV & 1#1/0, 600V GND	13.2 KV SWGR NO. 3	EX. 13.2 KV SWGR NO. 2	GENERATOR G1
3H2	4 3-500MCM, 15 KV & 1#1/0, 600V GND	13.2 KV SWGR NO. 3	EX. 13.2 KV SWGR NO. 2	GENERATOR G2
3H3	4 3-500MCM, 15 KV & 1#1/0, 600V GND	13.2 KV SWGR NO. 3		GENERATOR G3
3H3A	4 1-500MCM, 15 KV & 1#1/0, 600V GND	GENERATOR G3		NEUTRAL GRDG RESIST
3C3A	2 30#14 & 1#14 GND	13.2 KV SWGR NO. 3		GENERATOR G3 10 SPARE
3C3B	2 20#12 & 1#12 GND	13.2 KV SWGR NO. 3		GENERATOR G3 6 SPARE
3C3C	2 4-2/C#16 SHLD 10-3/C#16 SHLD	13.2 KV SWGR NO. 3		GENERATOR G3 2 SPARE 2/C#16 2 SPARE 3/C#16
3H4	4 3-500MCM, 15 KV & 1#1/0, 600V GND	13.2 KV SWGR NO. 3		GENERATOR G4
3H4A	4 1-500MCM, 15 KV & 1#1/0, 600V GND	GENERATOR G4		NEUTRAL GRDG RESIST
3C4A	2 30#14 & 1#14 GND	13.2 KV SWGR NO. 3		GENERATOR G4 10 SPARE
3C4B	2 20#12 & 1#12 GND	13.2 KV SWGR NO. 3		GENERATOR G4 6 SPARE
3C4C	2 4-2/C#16 SHLD 10-3/C#16 SHLD	13.2 KV SWGR NO. 3		GENERATOR G4 2 SPARE 2/C#16 2 SPARE 3/C#16
3H5	4 3-500MCM, 15 KV & 1#1/0, 600V GND	13.2 KV SWGR NO. 3		GENERATOR G5
3H5A	4 1-500MCM, 15 KV & 1#1/0, 600V GND	GENERATOR G5		NEUTRAL GRDG RESIST
3C5A	2 30#14 & 1#14 GND	13.2 KV SWGR NO. 3		GENERATOR G5 10 SPARE
3C5B	2 20#12 & 1#12 GND	13.2 KV SWGR NO. 3		GENERATOR G5 6 SPARE
3C5C	2 4-2/C#16 SHLD 10-3/C#16 SHLD	13.2 KV SWGR NO. 3		GENERATOR G5 2 SPARE 2/C#16 2 SPARE 3/C#16
3H6	4 3-500MCM, 15 KV & 1#1/0, 600V GND	13.2 KV SWGR NO. 3		GENERATOR G6
3H6A	4 1-500MCM, 15 KV & 1#1/0, 600V GND	GENERATOR G6		NEUTRAL GRDG RESIST
3C6A	2 30#14 & 1#14 GND	13.2 KV SWGR NO. 3		GENERATOR G6 10 SPARE
3C6B	2 20#12 & 1#12 GND	13.2 KV SWGR NO. 3		GENERATOR G6 6 SPARE
3C6C	2 4-2/C#16 SHLD 10-3/C#16 SHLD	13.2 KV SWGR NO. 3		GENERATOR G6 2 SPARE 2/C#16 2 SPARE 3/C#16

CONDUIT NUMBER & SIZE	CONDUCTOR QUANTITY & SIZE	FROM	TO	REMARKS
STANDBY POWER FACILITY - CONTROL CONDUITS				
92C1	3/4 4#14 & 1#14 GND	SPF-SAC-1 CONT PANEL		ANNUNCIATOR
92C2	3/4 2#14 & 1#14 GND	SPF-SAC-2 CONT PANEL		ANNUNCIATOR
92C3	2-1/2 5-12/C#14 & 1#14 GND	MCC-92		SPF-TCP-1 9 SPARE
92C4	1 6#14 & 1#12 GND	MCC-92		CONT STA AT COLUMN 2B
92C5	3/4 4#14 & 1#12 GND	SPF-SP-1 CONT PANEL		ANNUNCIATOR
92C6	1 6#14 & 1#12 GND	JB NEAR SPF-CT-1		ANNUNCIATOR
92C6A	3/4 2#14 & 1#12 GND	SPF-CT-1 CONT PANEL		JB NEAR SPF-CT-1
92C6B	3/4 2#14 & 1#12 GND	SPF-CT-2 CONT PANEL		JB NEAR SPF-CT-1
92C6C	3/4 2#14 & 1#12 GND	SPF-CT-3 CONT PANEL		JB NEAR SPF-CT-1
92C7	2 3-12/C#14 & 1#14 GND	MCC-92		ANNUNCIATOR 10 SPARE
92C8	2 3-12/C#14 & 1#14 GND	MCC-92		RTU 10 SPARE
92C9	2 2-12/C#14 & 1#14 GND	MCC-92		GEN. MASTER CONT CUB. 14 SPARE
92C10	3/4 2#14 & 1#14 GND	SPF-G3 CONTROL PANEL		SPF-MV-1
92C11	3/4 2#14 & 1#14 GND	SPF-G4 CONTROL PANEL		SPF-MV-2
92C12	3/4 2#14 & 1#14 GND	SPF-G5 CONTROL PANEL		SPF-MV-3
92C13	3/4 2#14 & 1#14 GND	SPF-G6 CONTROL PANEL		SPF-MV-4
92C14	3 7-12/C#14 & 1#14 GND	ANNUNCIATOR		RTU 20 SPARE
92C20	1 4#14 & 1#14 GND	MCC-92		JB NEAR COL 4A
92C20A	1 4#14 & 1#14 GND	JB NEAR COL 4A		GENERATOR INST. PANEL SPF-G3
92C20B	1 4#14 & 1#14 GND	JB NEAR COL 4A		JB NEAR COL 5A
92C20C	1 4#14 & 1#14 GND	JB NEAR COL 5A		GENERATOR INST. PANEL SPF-G4
92C20D	1 4#14 & 1#14 GND	JB NEAR COL 5A		JB NEAR COL 6A
92C20E	1 4#14 & 1#14 GND	JB NEAR COL 6A		GENERATOR INST. PANEL SPF-G5
92C20F	1 4#14 & 1#14 GND	JB NEAR COL 6A		JB NEAR COL 7A
92C20G	1 4#14 & 1#14 GND	JB NEAR COL 7A		GENERATOR INST. PANEL SPF-G6
92C30	1 8#14 & 1#14 GND	FAULT MON ALARM PANEL		JB NR TK#1 RESVR SEN
92C30A	3/4 2#14 & 1#14 GND	JB NR TK#1 RESVR SEN		TANK NO. 1 RESERVIOR SEN
92C30B	3/4 2#14 & 1#14 GND	JB NR TK#1 RESVR SEN		TANK NO. 1 CARR PIPE SEN
92C30C	1 4#14 & 1#14 GND	JB NR TK#1 RESVR SEN		JB NEAR TANK NO. 2 RESVR SEN
92C30D	3/4 2#14 & 1#14 GND	JB NR TK#2 RESVR SEN		TANK NO. 2 RESVR SEN
92C30E	3/4 2#14 & 1#14 GND	JB NR TK#2 RESVR SEN		TANK NO. 2 CARR PIPE SEN
92C31	1 8#14 & 1#14 GND	FAULT MONITORING ALARM PANEL		ANNUNCIATOR
92C52	1-1/4 2#2 & 1#8 GND	125 VDC BATTERY CONSOLE	13.2 KV SWGR NO. 3	
92C53	3/4 4#14 & 1#14 GND	125 VDC BATTERY CONSOLE		ANNUNCIATOR
92C54	1-1/4 2#2 & 1#8 GND	24 VDC BATTERY CONSOLE	13.2 KV SWGR NO.3	
92C55	3/4 4#14 & 1#14 GND	24 VDC BATTERY CONSOLE		ANNUNCIATOR
92C56	1-1/2 1-12/C#14 & 1#14 GND	13.2 KV SWGR NO. 3		SPF-TCP-1 2 SPARE
92C57	4 15-12/C#14 & 1#14 GND	13.2 KV SWGR NO. 3		RTU 36 SPARE
92C99	4 14-12/C#14 & 1#14 GND	TB-SPF-1	13.2 KV SWGR. NO. 3	52 SPARE
92C100	3 6-12/C#12 & 1#14 GND	TB-SPF-1		MANHOLE MH-E6 18 SPARE
92C100A	2 1-12/C#12 & 1#14 GND	MANHOLE MH-E6		13.2 KV SWGR NO. 1 CUB. 2 SEE NOTE 1
92C100B	2 2-12/C#12 & 1#14 GND	MANHOLE MH-E6		13.2 KV SWGR NO. 1 CUB. 11 4 SPARE,SEE NOTE 1
92C100C	2 2-12/C#12 & 1#14 GND	MANHOLE MH-E6		13.2 KV SWGR NO. 1 CUB. 12 10 SPARE,SEE NOTE 1
92C100D	2 1-12/C#12 & 1#14 GND	MANHOLE EH-E6		13.2 KV SWGR NO. 1 CUB. 21 4 SPARE,SEE NOTE 1
92C101	3 8-12/C#12 & 1#14 GND	TB-SPF-1		PULL BOX IN MAIN P.S. 34 SPARE
92C101A	2 2-12/C#12 & 1#14 GND	PULL BOX IN MAIN P.S.	13.2 KV SWGR NO. 2 SECT. A	4 SPARE
92C101B	2 2-12/C#12 & 1#14 GND	PULL BOX IN MAIN P.S.	13.2 KV SWGR NO. 2 SECT. B	4 SPARE
92C101C	2 2-12/C#12 & 1#14 GND	PULL BOX IN MAIN P.S.		GEN NO. 1 CONTROL CONSOLE 11 SPARE
92C101D	2 2-12/C#12 & 1#14 GND	PULL BOX IN MAIN P.S.		GEN NO. 2 CONTROL CONSOLE 11 SPARE

STANDBY POWER FACILITY - INSTRUMENTATION CONDUITS				
92N1	3/4 1-2/C#16 SHLD	THERMOSTAT		SPF-MV-1
92N2	3/4 1-2/C#16 SHLD	THERMOSTAT		SPF-MV-2
92N3	3/4 1-2/C#16 SHLD	THERMOSTAT		SPF-MV-3
92N4	3/4 1-2/C#16 SHLD	THERMOSTAT		SPF-MV-4
92N10	1 SEE NOTE 2	INVENTORY MONITOR	INVENTORY MONITOR PROBE	STORAGE TANK NO. 1
92N11	1 SEE NOTE 2	INVENTORY MONITOR	INVENTORY MONITOR PROBE	STORAGE TANK NO. 2
92N12	1-1/4 1-4 PR#16 SHLD	FUEL TKS 1 & 2 INVEN. MON.	RTU	1 SPARE
92N99	2 4-4 PR#16 SHLD	TB-SPF-1		13.2 KV SWGR NO. 3 2 PR#16 SPARE
92N100	3 4-4 PR#16 SHLD	TB-SPF-1		MANHOLE MH-E6 2 PAIR SPARE
92N100A	2 1-4 PR#16 SHLD	MANHOLE MH-E6		13.2 KV SWGR NO.1 CUB 11 1 PR SPARE,SEE NOTE 1
92N100B	2 1-4 PR#16 SHLD	MANHOLE MH-E6		13.2 KV SWGR NO.1 CUB 12 1 PR SPARE,SEE NOTE 1
92N100C	3 2-4 PR#16 SHLD	MANHOLE MH-E6		PULL BOX IN MAIN P.S.
92N100D	1-1/4 1-4 PR#16 SHLD	PULL BOX IN MAIN P.S.		GEN NO. 1 CONTROL CONSOLE
92N100E	1-1/4 1-4 PR#16 SHLD	PULL BOX IN MAIN P.S.		GEN NO. 2 CONTROL CONSOLE

NOTES:

- INSTALL CABLES IN EXISTING CONDUITS.
- INSTALL CABLES FURNISHED BY EQUIPMENT MANUFACTURER.

RECORD DRAWING

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DATE PLOTTED: 03-20-08 11:35

GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED	CSC	APPROVED		SCALE NOT TO SCALE	CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	STANDBY POWER FACILITY ELECTRICAL CONDUIT AND CABLE SCHEDULE	PROJ NO.	202G	
	DRAWN	BBK	DATE					DWG	TE17	
	CHECKED	BBK	DATE					SHEET		
	GREELEY AND HANSEN, ENGINEERS			NO.				DATE	APPD	REVISION	DATE	DECEMBER 1991	REV	4

5H3B_OTE-017

CONDUIT NUMBER & SIZE CONDUCTOR QUANTITY & SIZE FROM TO REMARKS

MOTOR CONTROL CENTER MCC-92

92M1A	4	3-500MCM,1#1/0 GND	TRANSFORMER T-9A-2	MCC-92	BUS NO. 1
92M1B	4	3-500MCM,1#1/0 GND	TRANSFORMER T-9A-2	MCC-92	BUS NO. 1
92M2A	4	3-500MCM,1#1/0 GND	TRANSFORMER T-9B-2	MCC-92	BUS NO. 2
92M2B	4	3-500MCM,1#1/0 GND	TRANSFORMER T-9B-2	MCC-92	BUS NO. 2
92M3	1-1/2	6#8,6#14&1#10 GND	MCC-92	JB NEAR SPF-REF-1	
92M3A	1-1/4	6#8&1#10 GND	JB NEAR SPF-REF-1	SPF-REF-1	
92M3B	1	6#14&1#10 GND	JB NEAR SPF-REF-1	PUSHBUTTON STATION	
92M4	1-1/2	6#8,6#14&1#10 GND	MCC-92	JB NEAR SPF-REF-3	
92M4A	1-1/4	6#8&1#10 GND	JB NEAR SPF-REF-3	SPF-REF-3	
92M4B	1	6#14&1#10 GND	JB NEAR SPF-REF-3	PUSHBUTTON STATION	
92M5	1-1/2	3#12,17#14&1#12 GND	MCC-92	JB NEAR SPF-FOP-1	
92M5A	1	3#12 & 1#12 GND	JB NEAR SPF-FOP-1	SPF-FOP-1	
92M5B	1	4#14 & 1#12 GND	JB NEAR SPF-FOP-1	PUSHBUTTON STATION	
92M5C	1-1/4	17#14 & 1#12 GND	JB NEAR SPF-FOP-1	DAY TANK CONTROL PANEL	
92M6	1-1/2	3#10,6#14&1#10 GND	MCC-92	JB NEAR SPF-JWP-3	
92M6A	3/4	3#10 & 1#10 GND	JB NEAR SPF-JWP-3	SPF-JWP-3	
92M6B	3/4	4#14 & 1#10 GND	JB NEAR SPF-JWP-3	PUSHBUTTON STATION	
92M6C	3/4	2#14 & 1#10 GND	JB NEAR SPF-JWP-3	LIMIT SWITCH	
92M7	1	3#8 & 1#10 GND	MCC-92	SPF-CT-1 CONTROL PANEL	
92M8	1	3#8 & 1#10 GND	MCC-92	SPF-CT-2 CONTROL PANEL	
92M9	1-1/2	3#10,6#14&1#10 GND	MCC-92	JB NEAR SPF-JWP-1	
92M9A	3/4	3#10 & 1#10 GND	JB NEAR SPF-JWP-1	SPF-JWP-1	
92M9B	3/4	4#14 & 1#12 GND	JB NEAR SPF-JWP-1	PUSHBUTTON STATION	
92M9C	3/4	2#14 & 1#12 GND	JB NEAR SPF-JWP-1	LIMIT SWITCH	
92M10	1-1/2	3#10,6#14&1#10 GND	MCC-92	JB NEAR SPF-JWP-2	
92M10A	3/4	3#10 & 1#10 GND	JB NEAR SPF-JWP-2	SPF-JWP-2	
92M10B	3/4	4#14 & 1#12 GND	JB NEAR SPF-JWP-2	PUSHBUTTON STATION	
92M10C	3/4	2#14 & 1#12 GND	JB NEAR SPF-JWP-2	LIMIT SWITCH	
92M11	1	3#12,4#14&1#12 GND	MCC-92	JB NEAR SPF-FOP-2	
92M11A	1	3#12 & 1#12 GND	JB NEAR SPF-FOP-2	SPF-FOP-2	
92M11B	1	4#14, & 1#12 GND	JB NEAR SPF-FOP-2	PUSHBUTTON STATION	
92M12	1	3#12,4#14&1#12 GND	MCC-92	PB NEAR SPF-REF-6	
92M12A	3/4	3#12 & 1#12 GND	PB NEAR SPF-REF-6	SPF-REF-6	
92M12B	3/4	4#14 & 1#12 GND	PB NEAR SPF-REF-6	PUSHBUTTON STATION	
92M13	1-1/2	3#4 & 1#8 GND	MCC-92	LT-92A	
92M13A	1-1/2	4#4 & 1#8 GND	LT-92A	LP-92A	
92M14	1	3#8 & 1#10 GND	MCC-92	CB FOR SPF-BC-1	
92M14A	1	3#8 & 1#10 GND	CB FOR SPF-BC-1	JB NEAR SPF-BC-1	
92M15	1-1/4	3#8 & 1#10 GND	MCC-92	SPF-SAC-1 CONTROL PANEL	
92M15A	1-1/4	3#8 & 1#10 GND	SPF-SAC-1 CONT PANEL	SPF-SAC-1	
92M15B	1	2#14 & 1#12 GND	SPF-SAC-1 CONT PANEL	PRESSURE SWITCH	
92M15C	1	2#14 & 1#12 GND	SPF-SAC-1 CONT PANEL	PRESSURE SWITCH	
92M15D	1	2#14 & 1#12 GND	SPF-SAC-1 CONT PANEL	PRESSURE SWITCH	
92M16	1-1/4	3#12, 5#14, 1#12 GND	MCC-92	JB NEAR SPF-LOP-1	
92M16A	1	3#12 & 1#12 GND	JB NEAR SPF-LOP-1	SPF-LOP-1	
92M16B	1	4#14 & 1#12 GND	JB NEAR SPF-LOP-1	PUSHBUTTON STATION	
92M16C	1	2#14 & 1#12 GND	JB NEAR SPF-LOP-1	PRESSURE SWITCH	
92M16D	1	2#14 & 1#12 GND	JB NEAR SPF-LOP-1	FLOAT SWITCH	
92M17	1	3#8 & 1#10 GND	MCC-92	GENERATOR CONTROL PANEL	
92M17A	1-1/4	3#8, 2#14 & 1#10 GND	GENERATOR CONT PANEL	JB ON GEN G3	JACKET WATER HEATER
92M17B	1-1/4	3#8, 2#14 & 1#10 GND	GENERATOR CONT PANEL	JB ON GEN G4	JACKET WATER HEATER
92M18	1-1/2	3#4 & 1#8 GND	MCC-92	LT-92B	
92M18A	2-1/2	4#1/0 & 1#6 GND	LT-92B	LC-92B	
92M19	1-1/4	3#6 & 1#10 GND	MCC-92	SPF-AC-1 CONTROL PANEL	
92M20	1-1/4	3#8 & 1#10 GND	MCC-92	SPF-SAC-2 CONTROL PANEL	
92M20A	1-1/4	3#8 & 1#10 GND	SPF-AC-2 CONT PANEL	SPF-SAC-2	
92M20B	1	2#14 & 1#12 GND	SPF-AC-2 CONT PANEL	PRESSURE SWITCH	
92M20C	1	2#14 & 1#12 GND	SPF-AC-2 CONT PANEL	PRESSURE SWITCH	
92M20D	1	2#14 & 1#12 GND	SPF-AC-2 CONT PANEL	PRESSURE SWITCH	
92M21	1-1/4	3#12,8#14&1#12 GND	MCC-92	JB NEAR SPF-WOP-1	
92M21A	1	3#12 & 1#12 GND	JB NEAR SPF-WOP-1	SPF-WOP-1	
92M21B	1	4#14 & 1#12 GND	JB NEAR SPF-WOP-1	PUSHBUTTON STATION	
92M21C	1	2#14 & 1#12 GND	JB NEAR SPF-WOP-1	PRESSURE SWITCH	
92M21D	1	2#14 & 1#12 GND	JB NEAR SPF-WOP-1	FLOAT SWITCH	

CONDUIT NUMBER & SIZE CONDUCTOR QUANTITY & SIZE FROM TO REMARKS

MOTOR CONTROL CENTER MCC-92 (CONTINUED)

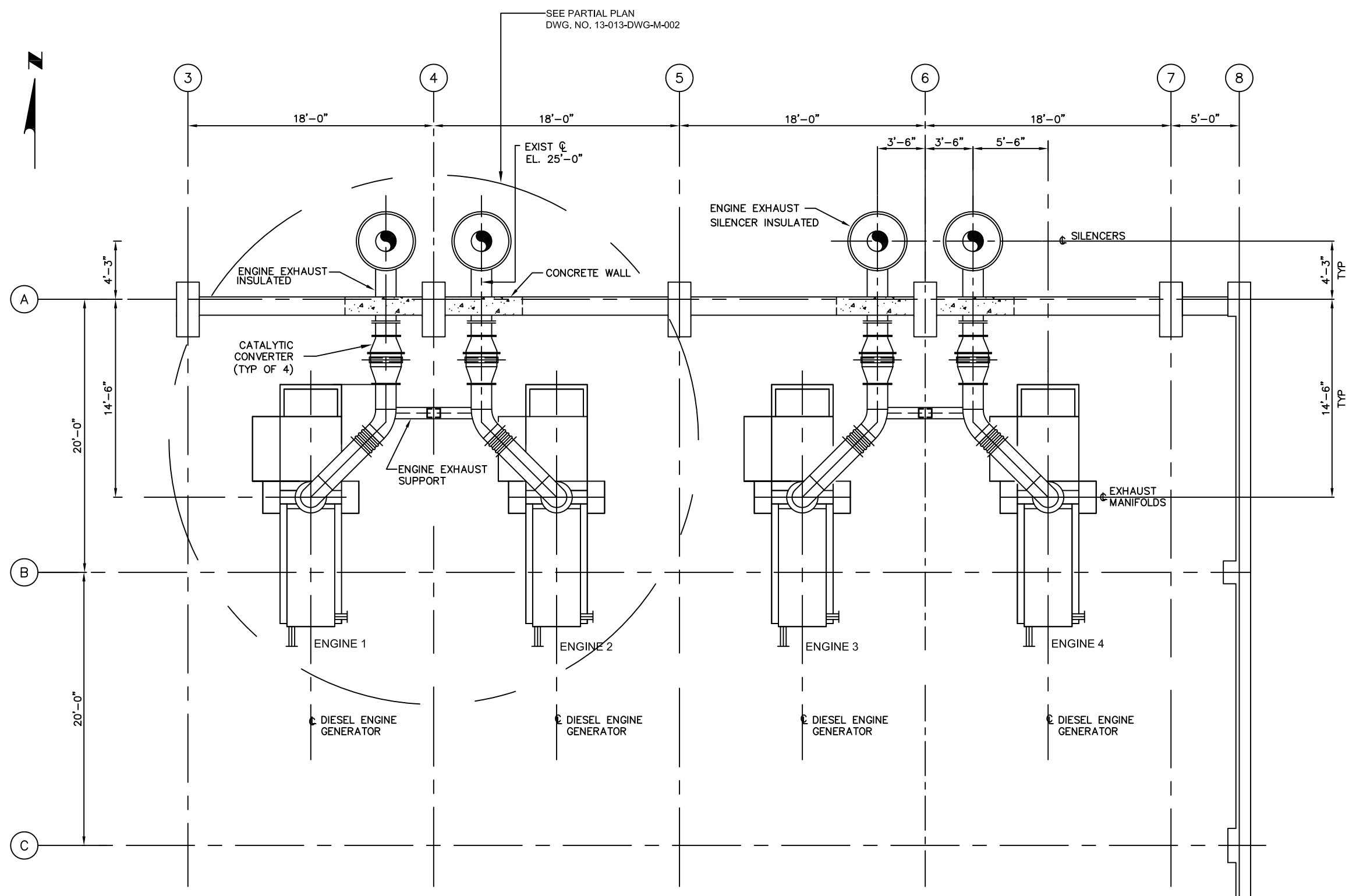
92M22	1	3#8 & 1#10 GND	MCC-92	SPF-CT-3 CONTROL PANEL	
92M23	1	3#8 & 1#10 GND	MCC-92	GENERATOR CONTROL PANEL	
92M23A	1-1/4	3#8, 2#14 & 1#10 GND	GENERATOR CONTROL PANEL	JB ON GEN G3	JACKET WATER HEATER
92M23B	1-1/4	3#8, 2#14 & 1#10 GND	GENERATOR CONTROL PANEL	JB ON GEN G3	JACKET WATER HEATER
92M24	3/4	3#12 & 1#12 GND	MCC-92	JB NEAR COLUMN 3C	
92M24A	1	3#12 & 1#12 GND	JB NEAR COLUMN 3C	SPF-MV-1	
92M24B	1	3#12 & 1#12 GND	JB NEAR COLUMN 3C	SPF-MV-2	
92M25	3/4	3#12 & 1#12 GND	MCC-92	JB NEAR COLUMN 5C	
92M25A	1	3#12 & 1#12 GND	JB NEAR COLUMN 5C	SPF-MV-3	
92M25B	1	3#12 & 1#12 GND	JB NEAR COLUMN 5C	SPF-MV-4	
92M26	1-1/2	6#8,6#14&1#10 GND	MCC-92	JB NEAR SPF-REF-2	
92M26A	1-1/4	6#8 & 1#10 GND	JB NEAR SPF-REF-2	SPF-REF-2	
92M26B	1	6#14 & 1#10 GND	JB NEAR SPF-REF-2	PUSHBUTTON STATION	
92M27	1-1/2	6#8,6#14&1#10 GND	MCC-92	JB NEAR SPF-REF-4	
92M27A	1-1/4	6#8 & 1#10 GND	JB NEAR SPF-REF-4	SPF-REF-4	
92M27B	1	6#14 & 1#10 GND	JB NEAR SPF-REF-4	PUSHBUTTON STATION	
92M28	1-1/2	6#8,6#14&1#10 GND	MCC-92	JB NEAR SPF-REF-5	
92M28A	1-1/4	6#8 & 1#10 GND	JB NEAR SPF-REF-5	SPF-REF-5	
92M28B	1	6#14 & 1#10 GND	JB NEAR SPF-REF-5	PUSHBUTTON STATION	
92M29	3/4	3#12 & 1#12 GND	MCC-92	SPF-SP-1	
92M29A		SEE NOTE 1			
92M29B		SEE NOTE 1			
92M29C		SEE NOTE 1			
92M29D		SEE NOTE 1			

NOTE:
1. INSTALL CABLES FURNISHED BY SUMP PUMP SUPPLIER.

FILE: H3B-TE18 SCALE: 1:1 09/10, 1996 at 14:29 -- "13_44 (Intercom List)"

GREELEY AND HANSEN ENGINEERS 1715 NORTH WESTSHORE BOULEVARD TAMPA, FLORIDA 33607-4135	DESIGNED	CSC	APPROVED	SCALE	CITY OF TAMPA, FLORIDA HOOKERS POINT WASTEWATER TREATMENT PLANT EXPANSION PHASE I DIVISION 5H3B STANDBY POWER AND SLUDGE STORAGE FACILITIES	STANDBY POWER FACILITY ELECTRICAL CONDUIT AND CABLE SCHEDULE	PROJ NO.	202G
	DRAWN	BBK	DATE	NOT TO SCALE			DWG	TE18
	CHECKED	BBK	DATE	RECORD DWG REVISIONS			SHEET	
			GREELEY AND HANSEN, ENGINEERS	NO. DATE APPD REVISION			DATE	DECEMBER 1991	REV	4

RECORD DRAWING
THIS RECORD DRAWING IS NOT WARRANTED BUT IS BELIEVED TO REPRESENT CONDITIONS UPON COMPLETION OF CONSTRUCTION WITHIN REASONABLE TOLERANCES, BASED UPON THE INFORMATION FURNISHED TO THE ENGINEER PERTAINING TO CHANGES MADE DURING CONSTRUCTION.




PLAN
(GENERAL ARRANGEMENT)

REFERENCES

DWG. 13-013-DWG-M-002 FOR PARTIAL PLAN
 DWG. 13-013-DWG-M-003 FOR DETAILS

Name:
 Professional Engineer's Registration Number:

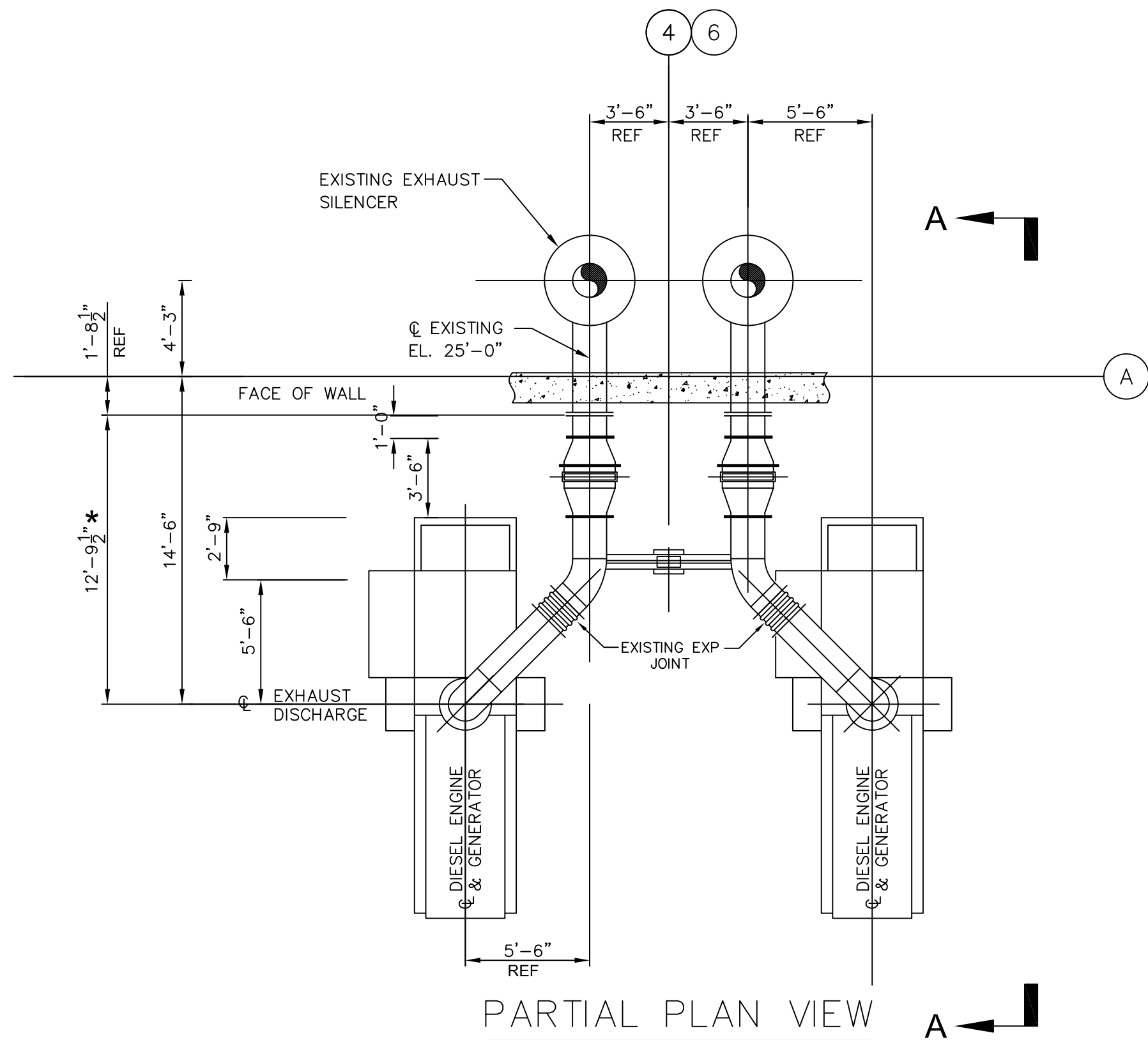
REV	DATE	BY	APPR	CHK	ENGR	APPR
0	7/30/14	RHG	"AS-BUILT"	TJ	TJ	SD
B	11/1/13	RHG	90% SUBMITTAL REVIEW	TJ	TJ	SD
A	9/25/13	RHG	60% SUBMITTAL REVIEW	TJ	TJ	SD

 THOMPSON GLOBAL PARTNERS LLC 405 N. REO STREET SUITE 300 TAMPA FL 33609 FL COA No. 28648	
PROJECT NO:	13-013
DESIGNED BY:	D. THORTON
DATE:	9/18/13
DRAWN BY:	J. HEWITT/R. GRAY
DATE:	9/18/13
CHECKED BY:	T. JOHN
APPROVED BY:	S. DEWITT
SCALE:	
DATE:	

CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PHASE 1 DIVISION SH3B
 STANDBY POWER AND SLUDGE STORAGE FACILITY

GENERAL ARRANGEMENT

DRAWING NO: 13-013-DWG-M-001 REV: 0



- NOTES:**
1. FOR EXISTING SUPPORT STEEL SEE PROJECT NO. 2026, DWG. NO. TM7
 2. FOR CATALYTIC CONVERTER SPECIFICATIONS, SEE VENDOR DRAWING 503711

PARTIAL PLAN VIEW

A 13-013-DWG-M-003

REFERENCES
 DWG. 13-013-DWG-M-003 PARTIAL PLAN DETAILS

REV	DATE	BY	APPR	CHK	ENGR	APPR
0	7/30/14	RHG	"AS-BUILT"	TJ	TJ	SD
B	11/1/13	RHG	90% SUBMITTAL REVIEW	TJ	TJ	SD
A	9/25/13	RHG	60% SUBMITTAL REVIEW	TJ	TJ	SD

TGP THOMPSON GLOBAL PARTNERS LLC
 405 N. REO STREET SUITE 300
 TAMPA FL 33609
 FL COA No. 28648

PROJECT NO: 13-013

DESIGNED BY: D. THORTON 9/13/13
 DRAWN BY: J. HEWITT/R. GRAY 9/16/13
 CHECKED BY: T. JOHN
 APPROVED BY: S. DEWITT

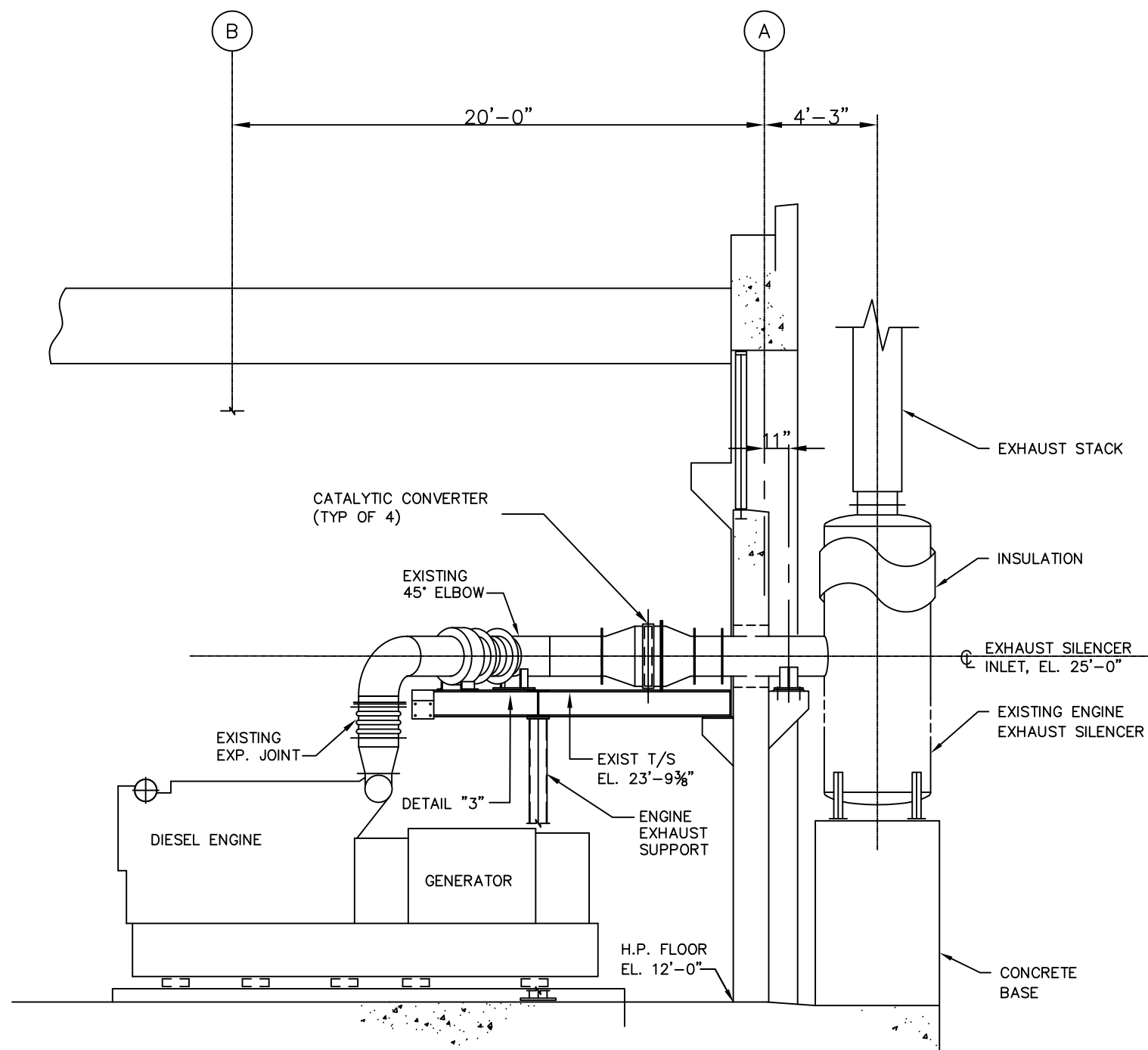
SCALE: DATE

CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PHASE 1 DIVISION SH3B
 STANDBY POWER AND SLUDGE STORAGE FACILITY

PARTIAL PLAN VIEW

DRAWING NO: 13-013-DWG-M-002 REV: 0

Name:
 Professional Engineer's Registration Number:




SECTION A-A
(LOOKING WEST)

REFERENCES

Name:
Professional Engineer's Registration Number:

REV	DATE	BY	APPR	CHK	ENGR	APPR
0	7/30/14	RHG	"AS-BUILT"	TJ	TJ	SD
B	11/1/13	RHG	90% SUBMITTAL REVIEW	TJ	TJ	SD
A	9/25/13	RHG	60% SUBMITTAL REVIEW	TJ	TJ	SD

 THOMPSON GLOBAL PARTNERS LLC 405 N. REO STREET SUITE 300 TAMPA FL 33609 FL COA No. 28648		PROJECT NO:	13-013	
		DESIGNED BY:	D. THORTON	9/13/13
		DRAWN BY:	J. HEWITT	9/16/13
		CHECKED BY:		
		APPROVED BY:		
		SCALE:		

CITY OF TAMPA, FLORIDA
 HOOKERS POINT WASTEWATER TREATMENT PLANT
 PHASE 1 DIVISION SH3B
 STANDBY POWER AND SLUDGE STORAGE FACILITY

DETAILS