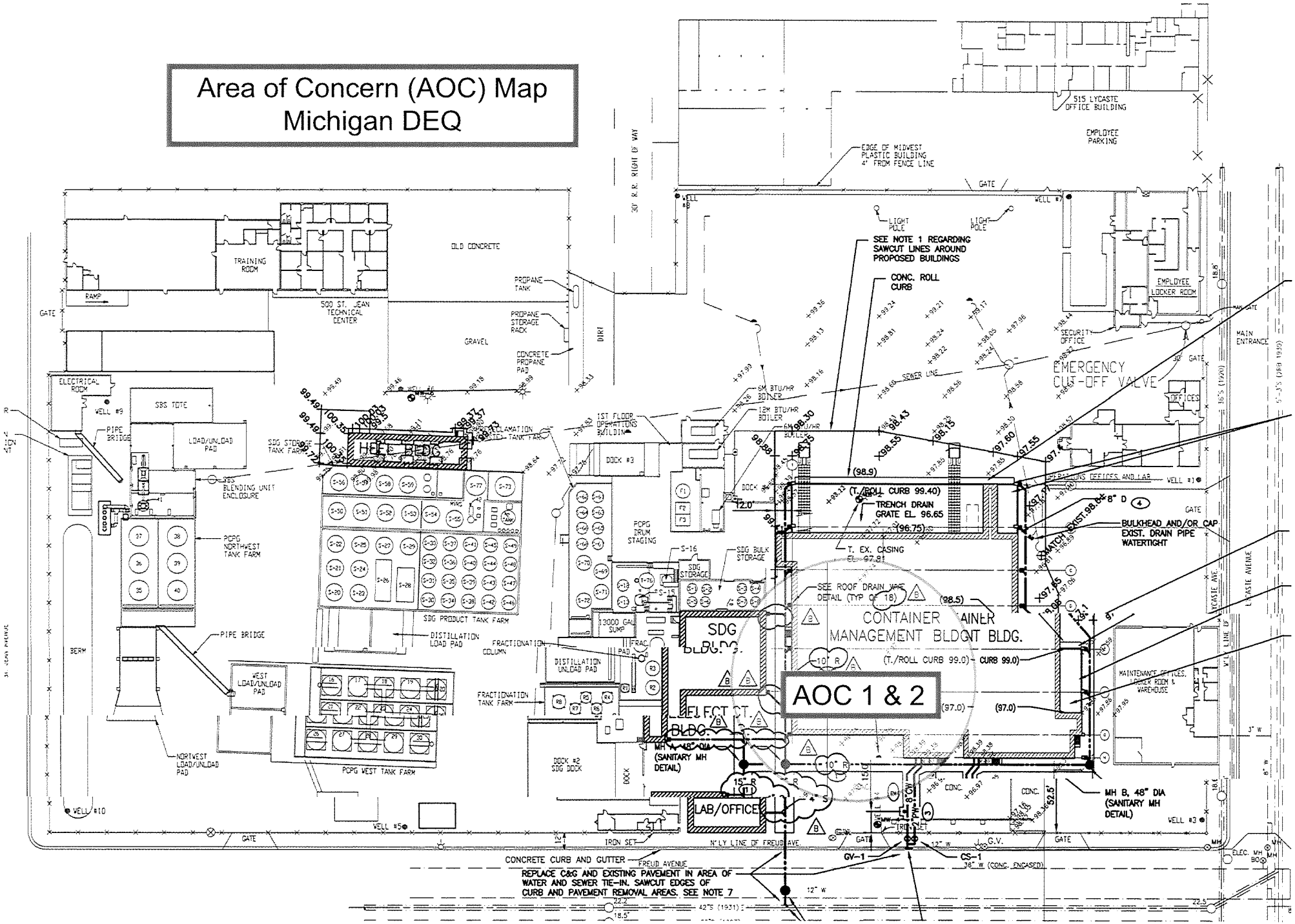
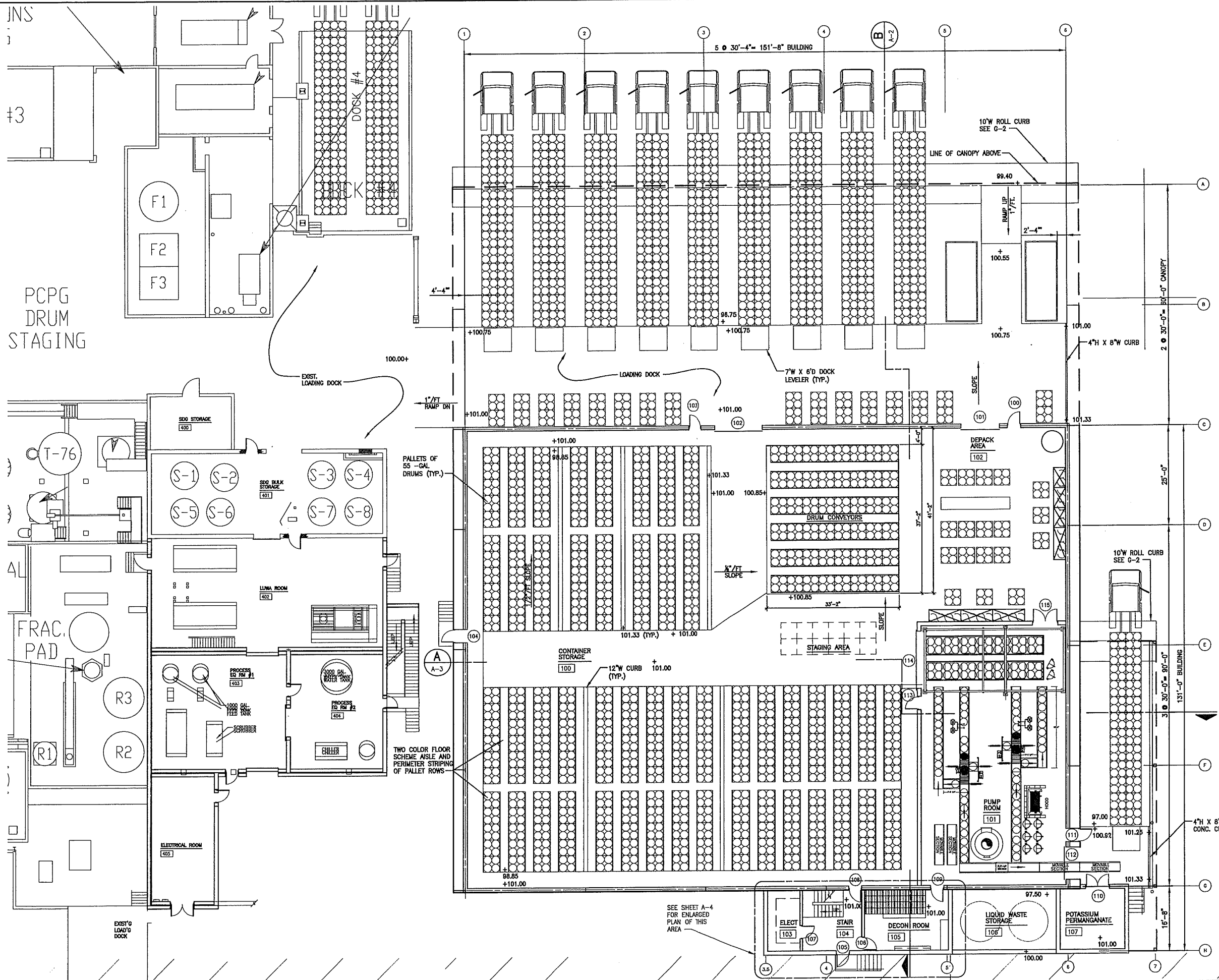


Attachment 6
Engineering Plans and Specifications

Area of Concern (AOC) Map Michigan DEQ



CONCRETE CURB AND GUTTER
 REPLACE C&G AND EXISTING PAVEMENT IN AREA OF
 WATER AND SEWER TIE-IN. SAWCUT EDGES OF
 CURB AND PAVEMENT REMOVAL AREAS. SEE NOTE 7



- 2003 MI BLDG CODE NOTES:
CONTAINER MANAGEMENT BLDG
1. USE GROUP/BLDG SF
H2/(21118 SF)
B/(2 @ 768= 1536 SF)
(RMS 103, 104, 105, 200, 201, 202)
 2. 2HR FIRE SEPARATION WALL: B/H2
(TABLE 302.3.2)
 3. TYPE OF CONSTRUCTION: 1B
(16,000 SF ALLOWABLE INCREASED BY
59.7% AS PER SECTION 503 TO 26350SF)
 4. FIRE PROTECTION: SPRINKLED BY 903.2.4
(GROUP H)
 5. FIRE-RATED: STRUCTURAL FRAME - 2 HR
(TABLE 601); ROOF CONSTR. - 1 HR
(INCLUDING SUPPORT BMS AND JOISTS)

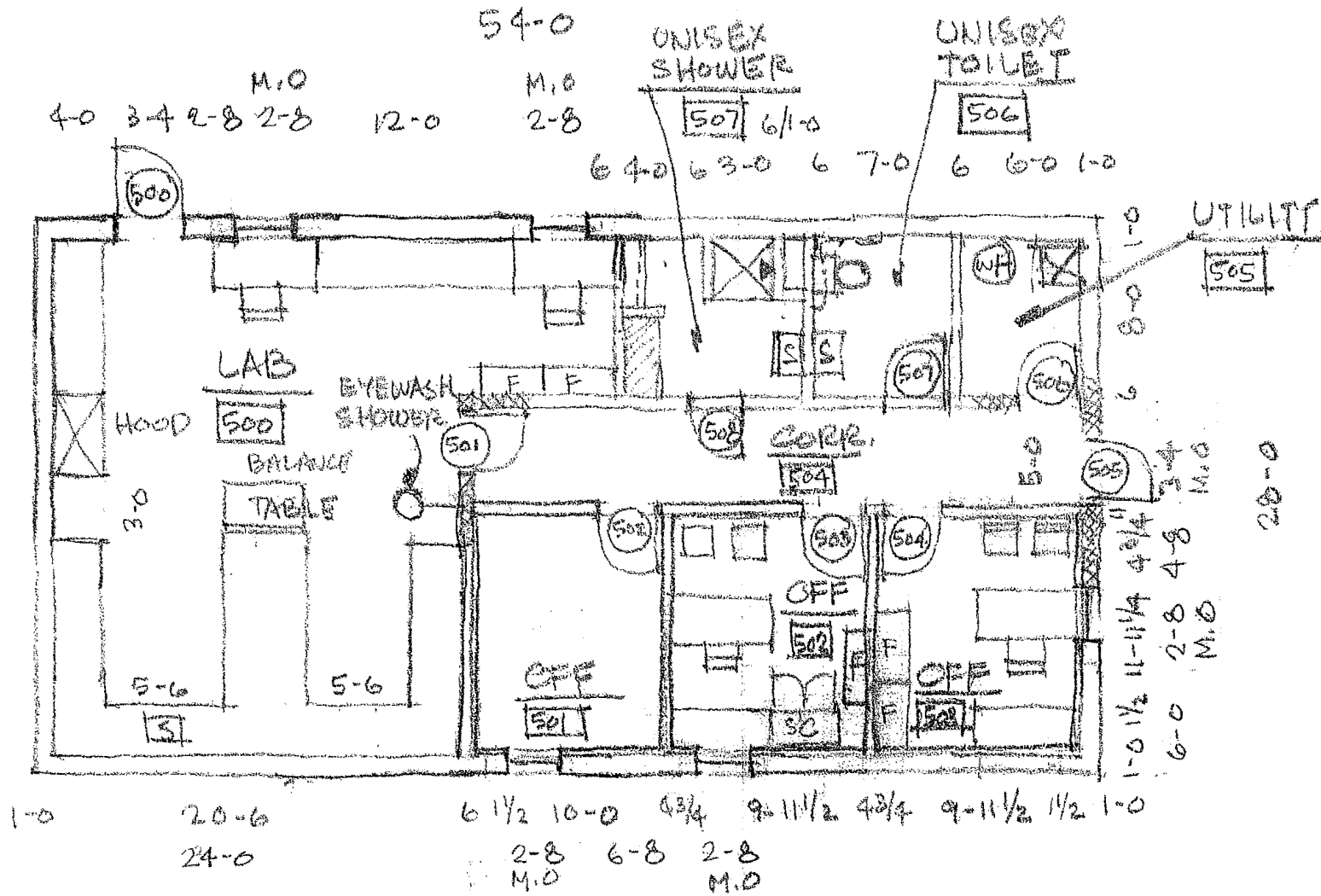
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ISSUED TO MDEQ	1/09/07	DEN		
REV	DESCRIPTION	BY	DATE	CHK'D
DESIGNED: B. CLARK		CHECKED:		
SCALE: 3/32" = 1'-0"		CADD DATE: 3/2/2007 1:58 PM		
PART: P:\143-17450-07-001\240\143-17450-07-001\FLOORPLAN.DWG				
PSC ENVIRONMENTAL SERVICES 515 LYCASLE, DETROIT, MI DETROIT FACILITY REBUILD ARCHITECTURAL CONTAINER MANAGEMENT BLDG FLOOR PLAN				
ENVSCH	CONTRACT			SHEET A-1 OF

PLOT DATE: 3/2/2007 1:58 PM LAST EDITED BY: RESUMEYR PLOT DEVICE: S32 840 - P:\envsch

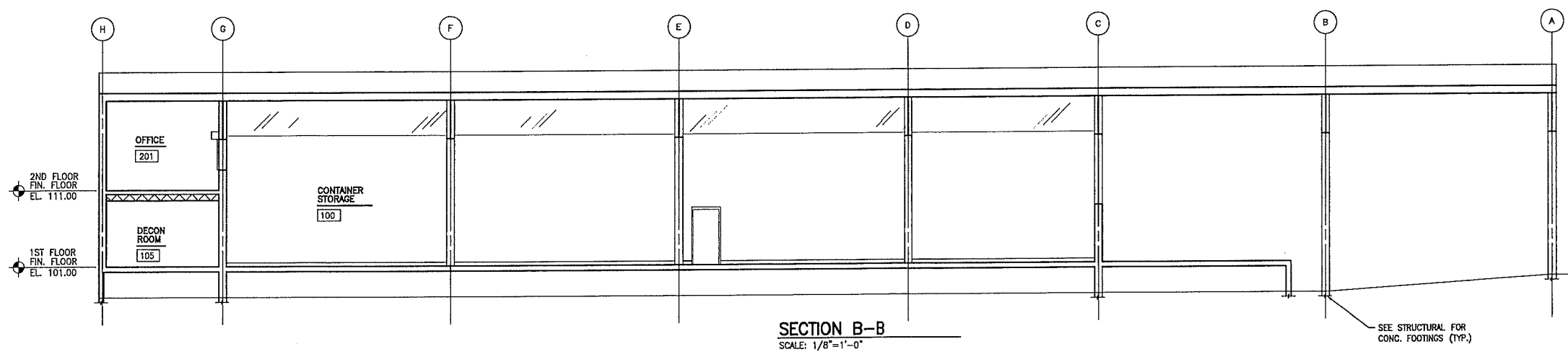
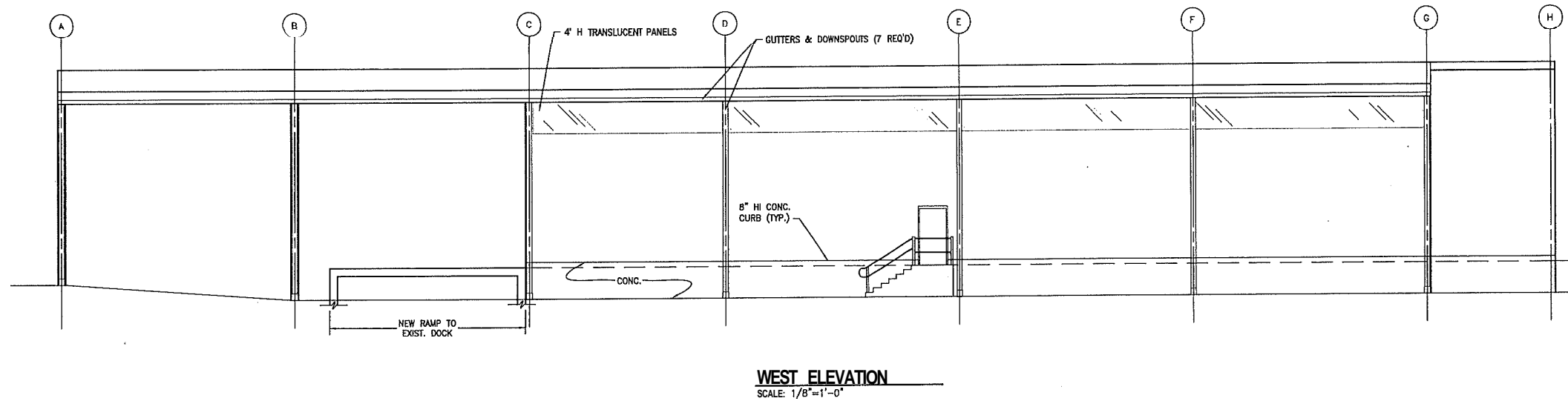
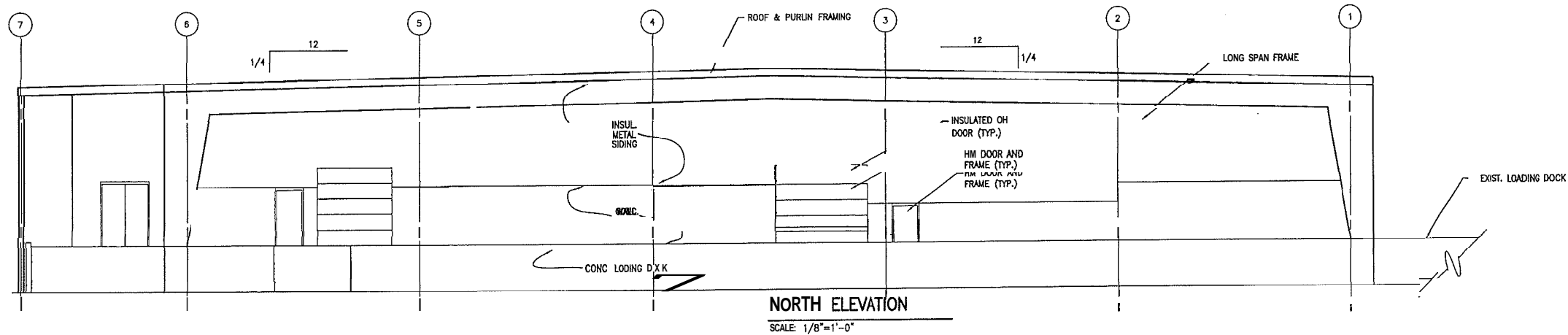
JOB PSC ENVIRONMENTAL SERVICES SHEET NO. SUP A1
 SUBJECT LAB/OFF SUPPLEMENTAL DWGS FILE NO. _____
 COMPUTED BY BTC DATE 2/13/07 CHK BY _____ DATE _____



TETRA TECH, INC.



LAB/OFFICE (1512 SF)
 SCALE: 1/8" = 1'-0"



PLOT DATE: 3/2/2007 11:08 AM LAST EDITED BY: MANUELY PLOT SCALE: XES 8000 - P:\plott\p3

DESIGNED	B. CLARK	CHECKED	
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PSC ENVIRONMENTAL SERVICES 515 LYCASLE DETROIT, MI DETROIT FACILITY REPAIR			
ARCHITECTURAL CONTAINER MANAGEMENT BLDG SECTION & ELEVATIONS			
DIVISION	CONTRACT	SHEET	
		A-2	of



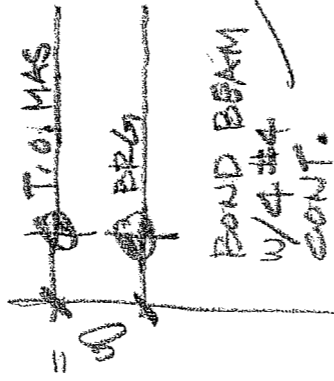
TETRA TECH, INC.

JOB PSC ENVIRONMENTAL SERVICES SHEET NO. SUP A2
SUBJECT LAB/OFF SUPPLEMENTAL DUKS FILE NO. _____

COMPUTED BY BTC DATE 2/13/07 CHK BY _____ DATE _____

GRAVEL STOP/FASCIA
OVER 2X6 W/ 1/2 ANCHOR
BOLTS @ 4'-0" O.C.
OVER 6" BLOCK

MECHANICALLY ATTACHED
1-PLY EPDM



TAPERED POLYISO INSUL.
4 1/2" @ 1/2", 1" @ 1/2"
2x6 @ 1 1/2"
METAL DECK

ADHERE GYP. BD. DIRECT TO
SUBSTRATE @ METAL & JAMBS (TYP.)

STL. WINDOW
SEE WINDOW SCHEDULE
& STANDARD DETAILS

ALUM WINDOW W/
1" INSULAT'G LOW E GLASS

3/4" ALUM SILL

MAS. REINF @ 16" O.C.
(TYP.)

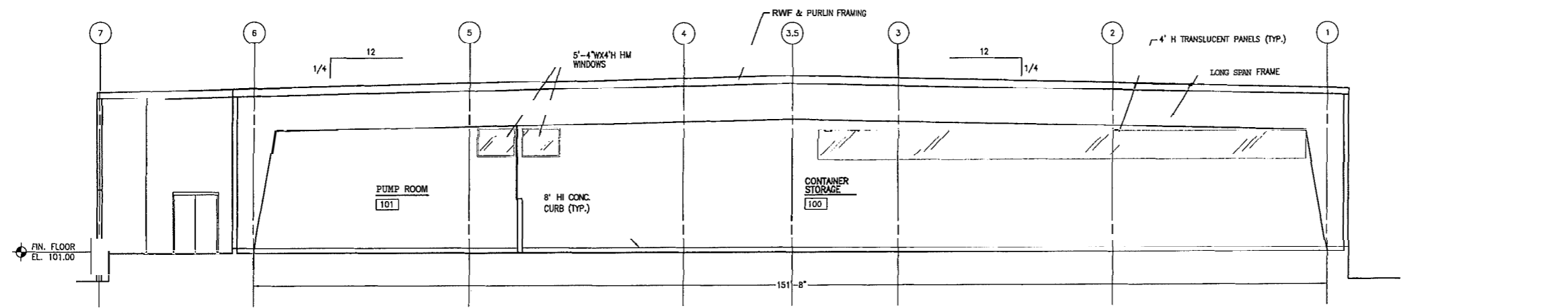
5/8" GYP OVER
7/8" METAL HAT CHANNELS
@ 16" O.C.

12" CONC. BLOCK W/
POURED INSUL. (TYP.)

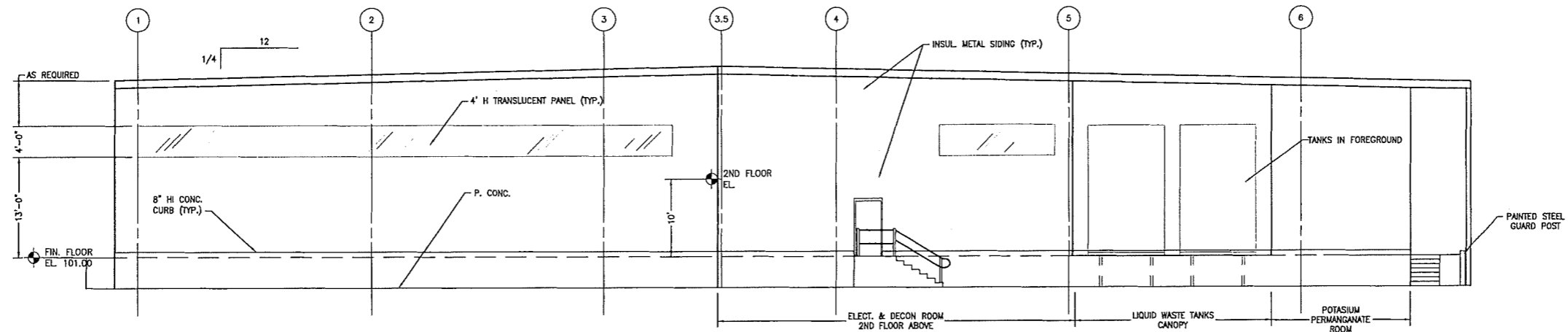
SEE MASONRY DETAILS
ON SHEET A-9

WALL SECTION

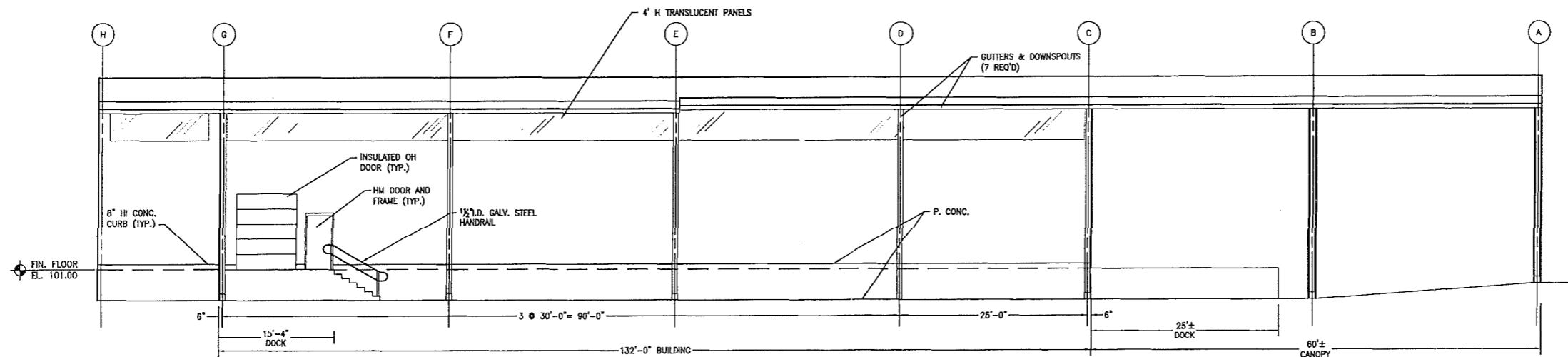
SCALE: 3/4" = 1'-0"



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




SOUTH ELEVATION
SCALE: 1/8"=1'-0"



EAST ELEVATION
SCALE: 1/8"=1'-0"

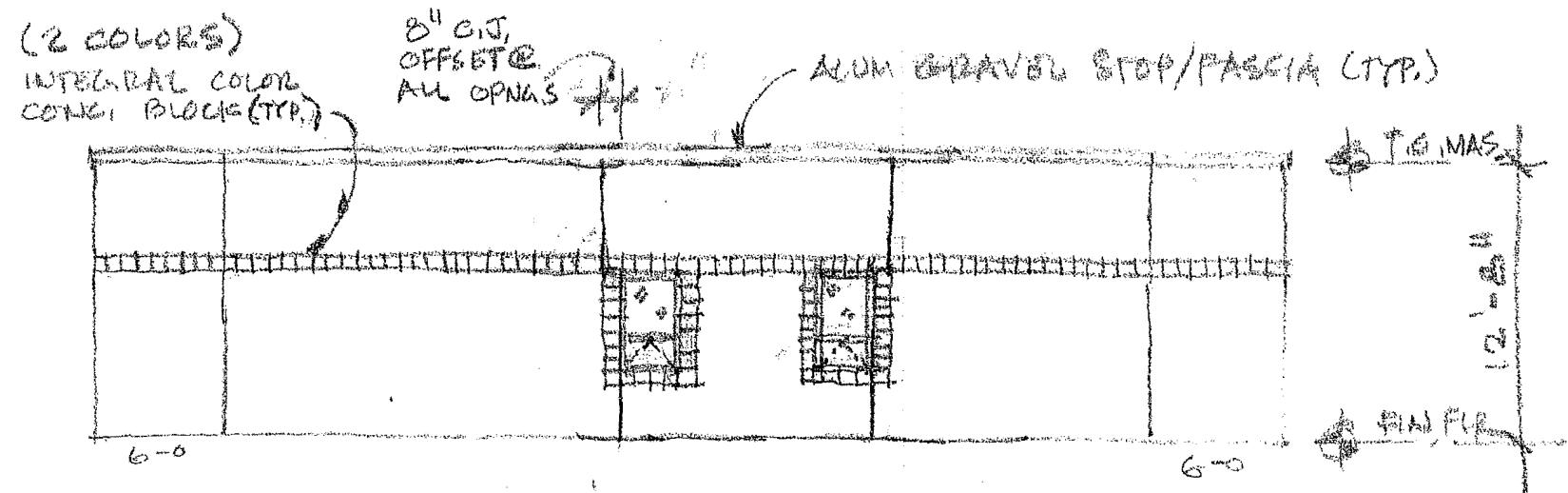
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ISSUED TO MDEQ	1/09/07	DEN
REV	DESCRIPTION	BY DATE CHK'D
 TETRA TECH		
DESIGNED B. CLARK	CHECKED	
SCALE 1/8" = 1'-0"	CADD DATE 3/2/2007 1:58 PM	
PART PA\142-17450-07-001\CA\142-17450-07-001\FLOORPLAN.DWG		
PSC ENVIRONMENTAL SERVICES 515 LYCALLE DETROIT, MI DETROIT FACILITY REBUILD		
ARCHITECTURAL		
CONTAINER WAREHOUSE SECTION & ELEVATIONS		
DIVISION	CONTRACT	SHEET A-3 OF

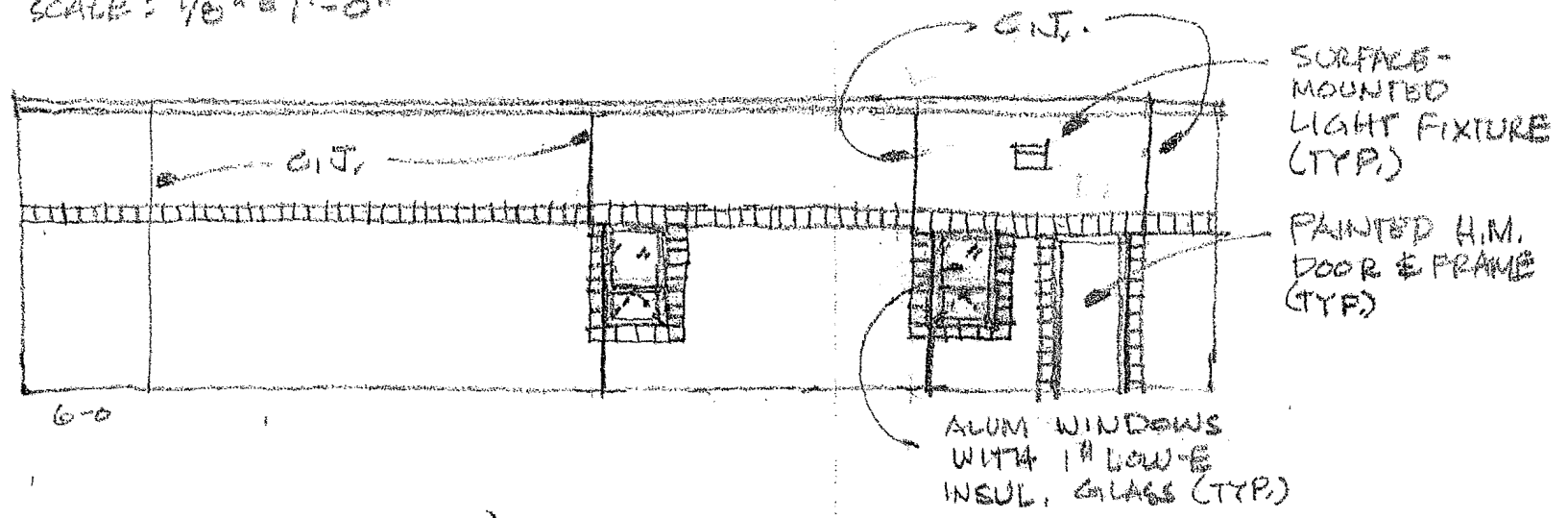
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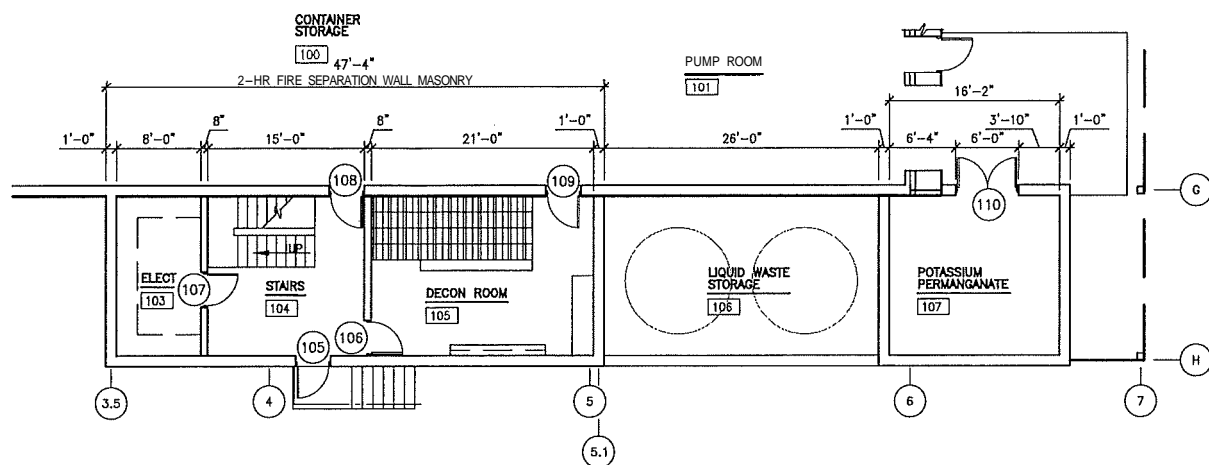
TETRA TECH, INC.



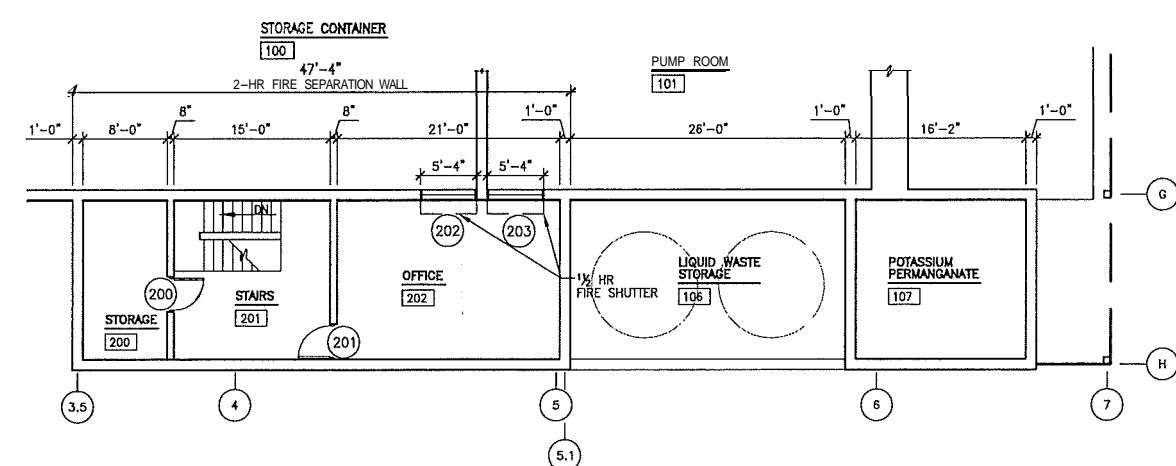
SOUTH ELEVATION
 SCALE: 1/8" = 1'-0"



NORTH ELEVATION
 SCALE: 1/8" = 1'-0"



1ST FLOOR
SCALE: 1/8"=1'-0"



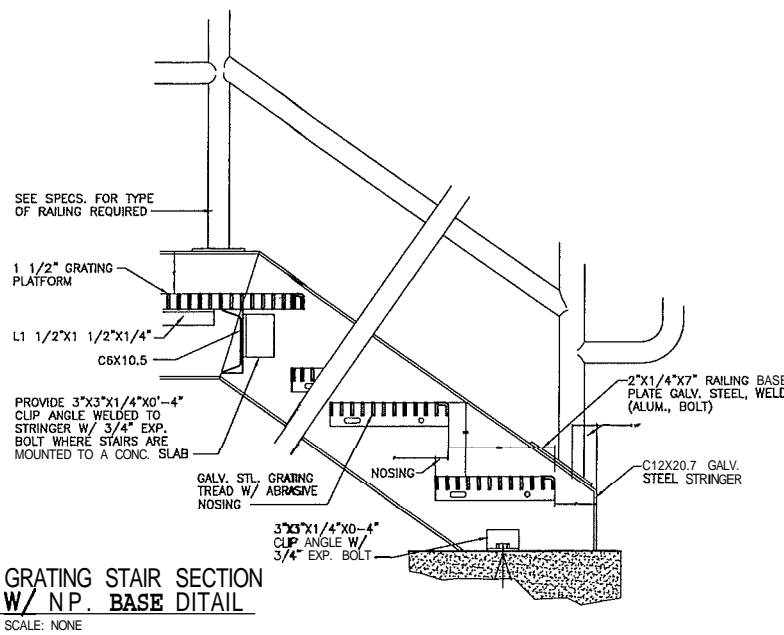
2ND FLOOR
SCALE: 1/8"=1'-0"

FINISH SCHEDULE											
NO.	ROOM NAME	FLOOR	BASE	N. WALL	E. WALL	S. WALL	W. WALL	CEILING	HST.	SPECIAL CONDITIONS	
		SUB/FIN	SUB/FIN	SUB/FIN	SUB/FIN	SUB/FIN	SUB/FIN	SUB/FIN		FLOOR	WALL
CONTAINER WAREHOUSE BLDG											
100	LOADING DOCK	CNC/P-2	CNC/P-2	CNC/HAR	MLP/FAC	MLP/FAC	MLP/FAC	EXP/NON		8	1,3,4
101	PUMP ROOM	CNC/SC2	CNC/SC1	CNC/SC2	CNC/SC2	CNC/SC2	CNC/SC2	EXP/NON		6	
102	DEPACK AREA	CNC/SC2	CNC/P-2	CNC/HAR	MLP/FAC	MLP/FAC	MLP/FAC	EXP/NON		6	
103	ELECT ROOM	CNC/HAR	CNC/HAR	BLK/P-1	BLK/P-1	MLP/FAC	MLP/FAC	EXP/NON		7	
104	STAIRS	CNC/HAR	CNC/HAR	BLK/P-1	BLK/P-1	MLP/FAC	MLP/FAC	EXP/NON		7	
105	DECON ROOM	CNC/P-2	CNC/P-2	MLP/FAC	MLP/FAC	MLP/FAC	MLP/FAC	EXP/P-1		7	
106	LIQUID WASTE STOR	CNC/HAR	CNC/HAR	CNC/HAR	CNC/HAR	CNC/HAR	CNC/HAR	EXP/FAC			
107	POTASSIUM PERM	CNC/SC1	CNC/SC1	MLP/FAC	MLP/FAC	MLP/FAC	MLP/FAC	EXP/NON		3,4	
200	STOR	CNC/HAR	CNC/HAR	MLP/FAC	MLP/FAC	MLP/FAC	MLP/FAC	EXP/NON		1	
201	STAIR	CNC/HAR	CNC/HAR	MLP/FAC	MLP/FAC	MLP/FAC	MLP/FAC	EXP/NON		1	
202	OFFICE	CNC/MCT	GYP/VBC	GYP/P-1	GYP/P-1	GYP/P-1	GYP/P-1	ACM/FAC	B-8		
HEEL MANAGEMENT BLDG											
300	WASH AREA	CNC/SC1	CNC/SC1	MLP/FAC	MLP/FAC	MLP/FAC	MLP/FAC	EXP/NON			
SDG BLDG											
400	SDG STORAGE										
401	SDG BULK STORAGE										
402	LUXA ROOM	CNC/P-2	BLK/P-1	BLK/P-1	BLK/P-1	BLK/P-1	BLK/P-1	EXP/P-1			
403	PROCESS EQ RM #1	CNC/P-2	BLK/P-1	BLK/P-1	BLK/P-1	BLK/P-1	BLK/P-1	EXP/P-1			
404	PROCESS EQ RM #2	CNC/P-2	BLK/P-1	BLK/P-1	BLK/P-1	BLK/P-1	BLK/P-1	EXP/P-1			
405	ELECT RM	CNC/P-2	BLK/P-1	BLK/P-1	BLK/P-1	BLK/P-1	BLK/P-1	EXP/P-1			
LAB/OFFICE											
500	LAB	CNC/CTU	BLK/CTU	BLK/P-1	BLK/P-1	BLK/P-1	BLK/P-1	ACM/FAC	B-8		
501	OFF	CNC/MCT	GYP/VBC	GYP/P-1	GYP/P-1	GYP/P-1	GYP/P-1	ACM/FAC	B-8		
502	OFF	CNC/MCT	GYP/VBC	GYP/P-1	GYP/P-1	GYP/P-1	GYP/P-1	ACM/FAC	B-8		
503	OFF	CNC/MCT	GYP/VBC	GYP/P-1	GYP/P-1	GYP/P-1	GYP/P-1	ACM/FAC	B-8		
504	CORR	CNC/MCT	GYP/VBC	BLK/P-1	BLK/P-1	GYP/P-1	BLK/P-1	ACM/FAC	B-8		
505	UTILITY	CNC/P-2	BLK/P-1	BLK/P-1	BLK/P-1	BLK/P-1	BLK/P-1	ACM/FAC	B-8		
506	UNISEX TOILET	CNC/CTU	BLK/CTU	BLK/P-1	BLK/P-1	GYP/P-1	BLK/P-1	ACM/FAC	B-8		
507	UNISEX SHOWER	CNC/CTU	BLK/CTU	BLK/P-1	BLK/P-1	BLK/P-1	BLK/P-1	ACM/FAC	B-8		

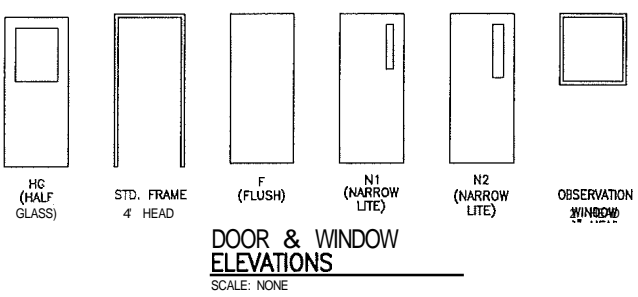
FINISH SCHEDULE LEGEND			SPECIAL CONDITIONS		
ACM	LAY IN TILE - MINERAL	HAR	HARDENER	1	CONC EXTENDS TO 7'-4" ABOVE FINISH FLOOR
ACC	LAY IN TILE - CERAMIC	MLP	METAL LINER PANEL	2	CONC BLOCK EXTENDS 7'-4" ABOVE FINISH FLOOR
CNC	CAST-IN-PLACE CONCRETE	NON	NONE	3	CONCRETE CURB BASE EXTENDS 8" ABOVE FINISH FLOOR
ECN	EXISTING CONCRETE	P-1	EPOXY SEMI-GLOSS PAINT	4	MLP EXTENDS TO 7'-4" ABOVE FINISH FLOOR
CTG	CERAMIC TILE UNGLAZED	P-2	EPOXY NON-SLIP PAINT	5	MLP EXTENDS FROM 7'-4" TO ROOF DECK
CTG	CERAMIC TILE GLAZED	SCI	SPECIAL COATING, SEE SPEC	6	FLOOR AND WALLS OF RECESSED SUMP
EXP	EXPOSED CONSTRUCTION	SC2	SPECIAL COATING, SEE SPEC	7	SEE CONTAINMENT DWE
FAC	FACTORY	VBC	VINYL BASE FIBER	8	NORTH BLOCK WALL IS 2HR FIRE SEP. WALL
GYP	GYP/MS BOARD		VINYL COMP. TILE	9	TWO COLOR SCHEME, BASE COLOR AND

DOOR AND FRAME SCHEDULE														
MARK	LOCATION	STRUCTURAL	DOOR	FRAME	GLASS	FINISH	REMARKS							
NO.	OR NUMBER	(FT. & IN.)	(FT. & IN.)	(INCHES)	(IN)	(FIN)								
CONTAINER WAREHOUSE														
100	EXT 100	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
101	EXT 101	10'-0"	GST	SOH	1'-0"	10'-0"	STL -							
102	EXT 102	12'-0"	GST	SOH	1'-0"	12'-0"	STL -							
103	EXT 103	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
104	EXT 104	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
105	EXT 105	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
106	EXT 106	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
107	EXT 107	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
108	EXT 108	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
109	EXT 109	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
110	EXT 110	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
111	EXT 111	8'-0"	HM	SOH	1'-0"	8'-0"	STL -							
112	EXT 112	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
113	EXT 113	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
114	EXT 114	12'-0"	GST	COH	1'-0"	12'-0"	STL -							
115	EXT 115	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
200	EXT 200	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
201	EXT 201	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
202	EXT 202	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
203	EXT 203	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
HEEL MANAGEMENT														
300	EXT 300	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
301	EXT 301	16'-0"	GST	SOH	1'-0"	16'-0"	STL -							
302	EXT 302	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
303	EXT 303	16'-0"	GST	SOH	1'-0"	16'-0"	STL -							
SDG BLDG														
400	EXT 400	6'-0"	HM	N1	2'-2-10"	7'-0"	6-24 SAF HM 2 2 5.75 310							
401	EXT 401	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
402	EXT 402	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
403	EXT 403	6'-0"	HM	N1	2'-2-10"	7'-0"	6-24 SAF HM 2 2 5.75 310							
404	EXT 404	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
405	EXT 405	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
406	EXT 406	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
407	EXT 407	6'-0"	HM	N1	2'-2-10"	7'-0"	6-24 SAF HM 2 2 5.75 310							
408	EXT 408	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
409	EXT 409	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
410	EXT 410	6'-0"	HM	N1	2'-2-10"	7'-0"	6-24 SAF HM 2 2 5.75 310							
411	EXT 411	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
412	EXT 412	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
413	EXT 413	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
LAB/OFFICE														
500	EXT 500	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
501	EXT 501	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
502	EXT 502	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
503	EXT 503	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
504	EXT 504	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
505	EXT 505	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
506	EXT 506	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							
507	EXT 507	3'-4"	HM	N1	1'-3"	2'-8"	6-24 SAF HM 2 2 5.75 310							

DOOR SCHEDULE LEGEND		REMARKS
COH	CEILING OVERHEAD	1. HURST
EXT	EXTERIOR	2. VERTICAL LEFT
HM	HALLOW METAL	3. SUBING
HST	HEAVY STEEL	4. FIRE SHUTTER
SAP	SAFETY	5. WITH FIBERGLASS
SL	SLIDING	
SOH	SECTIONAL OVERHEAD	
STL	STEEL	

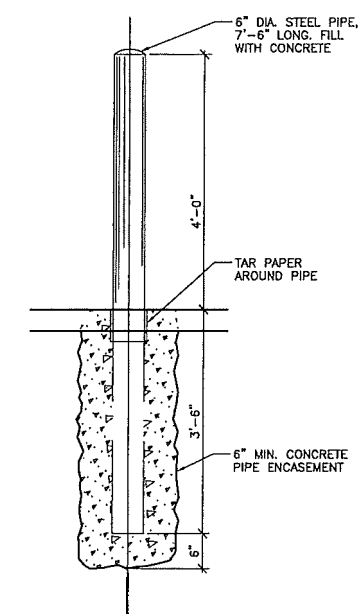


GRATING STAIR SECTION W/ N.P. BASE DETAIL
SCALE: NONE



LINTEL SCHEDULE			
WALL THICKNESS	OPENING LENGTH	DESCRIPTION (INCHES & POUNDS)	REMARKS
6"	UP TO 3'-6"	(2) L'S 3 1/2"x3 1/2"x5/16"	SEE NOTES 2 & 3

- NOTES:
- FOR OPENINGS LARGER THAN 12'-6". SEE STRUCTURAL DRAWINGS FOR SIZE AND SHAPE.
 - SEE SPECIFICATIONS FOR COPING REQUIREMENTS.
 - PROVIDE 5/16" X (WALL THICKNESS - 1 1/2") PLATE, WHEN SEAM IS EXPOSED TO VIEW.
 - SLH = SHORT LEG HORIZONTAL
 - LLH = LONG LEG HORIZONTAL
 - LOADING CONDITION IMPOSED ON LINTELS FROM ROOF AND/OR ELEVATED STRUCTURES ARE NOT INCLUDED IN THE LINTEL SIZE CALCULATION.



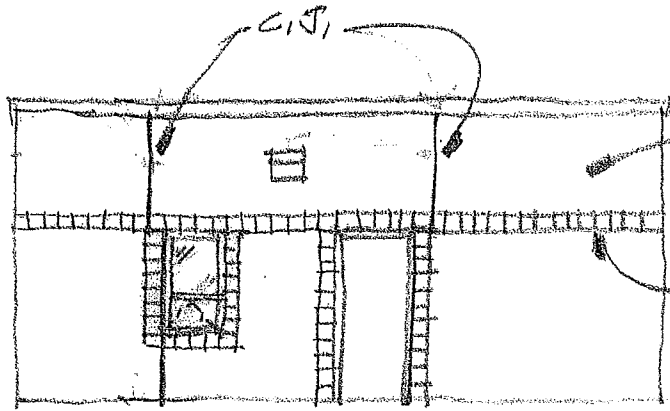
STEEL GUARD POST DETAIL
SCALE: NONE

ISSUED FOR BID	02/13/07	DEN
REVISION	DESCRIPTION	BY
TETRA TECH		
DESIGNED BY	B. CLARK	CHECKED
SCALE	1/8" = 1'-0"	CADD DATE
PSC ENVIRONMENTAL SERVICES 515 LUCAS DETROIT, MI DETROIT FACILITY REBUILD		
ARCHITECTURAL		
CONTAINER MANAGEMENT BLDG FLOOR PLANS, SCHEDULES & DETAILS		
ENCL	CONTRACT	SHEET
		A-4

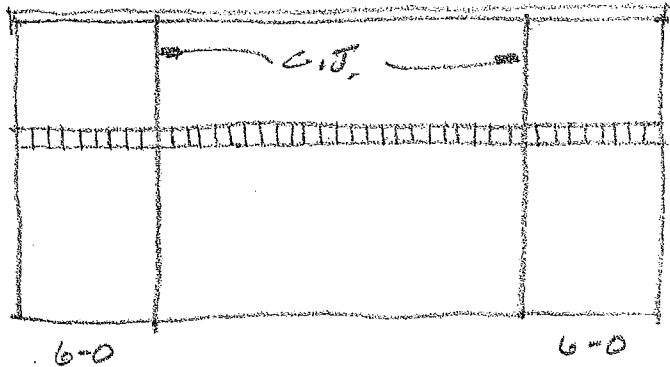
JOB PSC ENVIRONMENTAL SERVICES SHEET NO. SUP A4
SUBJECT LAB/OFF SUPPLEMENTAL DWGS FILE NO. _____
COMPUTED BY BTC DATE 2/13/07 CHK. BY _____



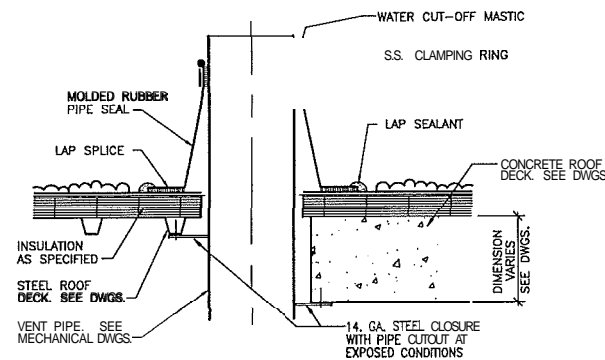
TETRA TECH, INC.



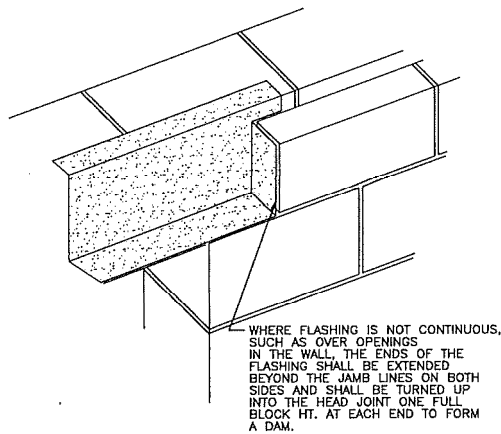
EAST ELEVATION
SCALE: 1/8" = 1'-0"



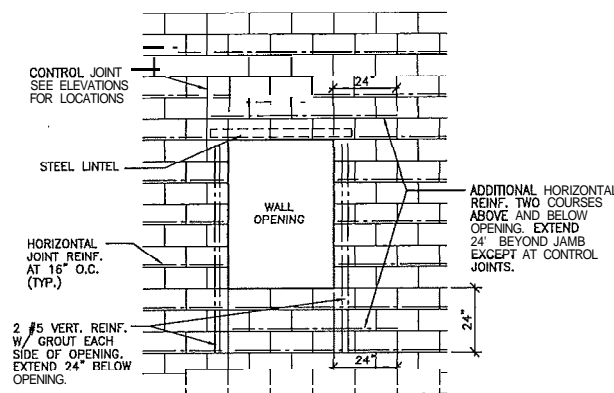
WEST ELEVATION
SCALE: 1/8" = 1'-0"



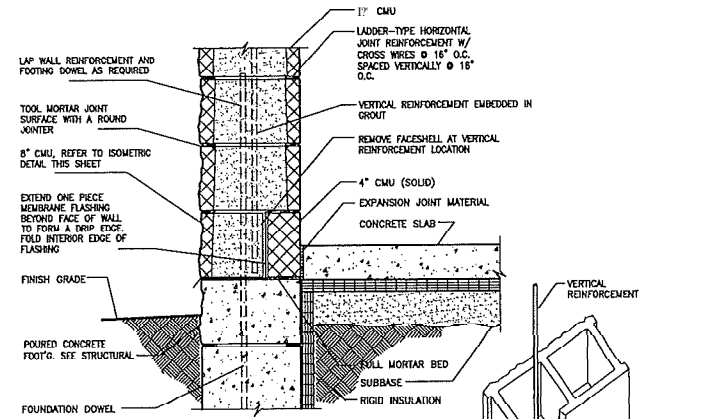
6"Ø OR LESS PIPE PENETRATION THROUGH SINGLE-PLY ROOFING
NO SCALE



N.P. FLASHING END DAM DETAIL
NO SCALE

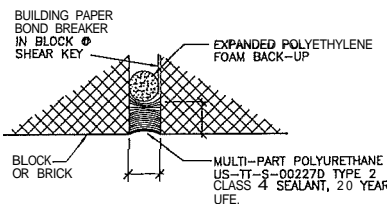


TYP. REINFORCING AT WALL OPENING
NO SCALE



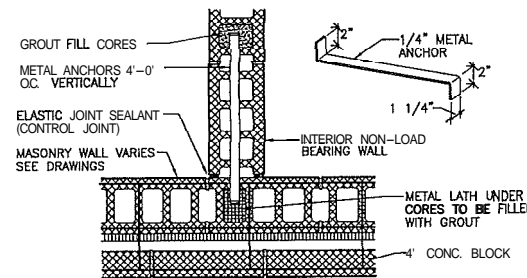
REINFORCED 12" CONC. BLOCK & FLASHING DETAIL
NO SCALE

NOTE: DETAIL FOR REINFORCED CELL ONLY. FOR UNREINFORCED CELLS REFER TO GENERAL WALL DESIGN - SINGLE WYTHE HOLLOW LOADBEARING UNREINFORCED 12" CMU.

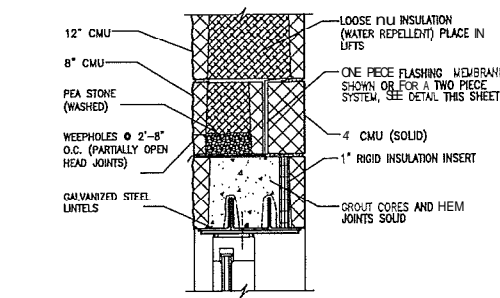


NOTES:
1. "X" DIMENSION TO EQUAL TYPICAL MASONRY JOINT
2. "Y" DIMENSION TO EQUAL "X"

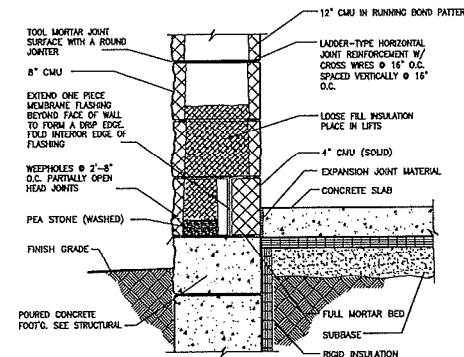
EXTERIOR CONTROL JOINT
NO SCALE



INTER-SECTION OF EXTERIOR LOAD BEARING WALL W/ INTERIOR NON-LOAD BEARING WALL
NO SCALE



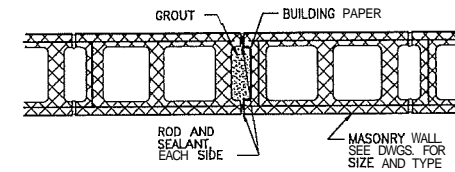
12" CONC. BLOCK LINTEL FLASHING DETAIL
NO SCALE



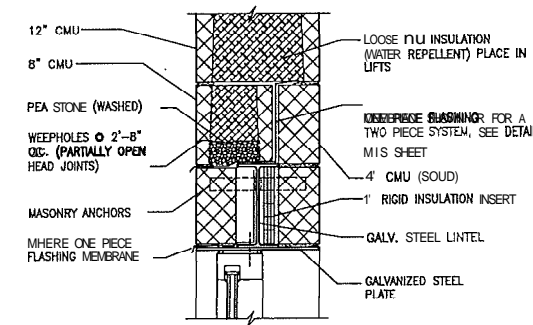
INSULATED 12" CONC. BLOCK WEEP HOLE & FLASHING DETAIL
NO SCALE

LINTEL SCHEDULE			
WALL THICKNESS	OPENING LENGTH	DESCRIPTION (INCHES & POUNDS)	REMARKS
12"	UP TO 3'-6"	(3) L'S 3 1/2"x3 1/2"x5/16"	SEE NOTES 2 & 3
	3'-6" TO 6'-6"	(3) L'S 4.73 1/2"x5/16" W8X10	SEE NOTES 2 & 3
	6'-6" TO 12'-6"	(1) 5/16"x10 1/2" PLATE	SEE NOTES 2 & 3
8"	UP TO 3'-6"	(2) L'S 3 1/2"x3 1/2"x5/16"	SEE NOTES 2 & 3

- NOTES:
- FOR OPENINGS LARGER THAN 12'-6", SEE STRUCTURAL DRAWINGS FOR SIZE AND SHAPE.
 - SEE SPECIFICATIONS FOR COPING REQUIREMENTS.
 - PROVIDE 5/16" X (WALL THICKNESS - 1 1/2") PLATE, WHEN SEAM IS EXPOSED TO VIEW.
 - SLH = SHORT LEG HORIZONTAL
 - LLH = LONG LEG HORIZONTAL
 - LOADING CONDITION IMPOSED ON LINTELS FROM ROOF AND/OR ELEVATED STRUCTURES ARE NOT INCLUDED IN M/E LINTEL SIZE CALCULATION.



TYPICAL SINGLE WYTHE CONTROL JOINT DETAIL
NO SCALE



12" CONC. BLOCK LINTEL FLASHING DETAIL
NO SCALE

REV	DESCRIPTION	BY	DATE	CHK'D

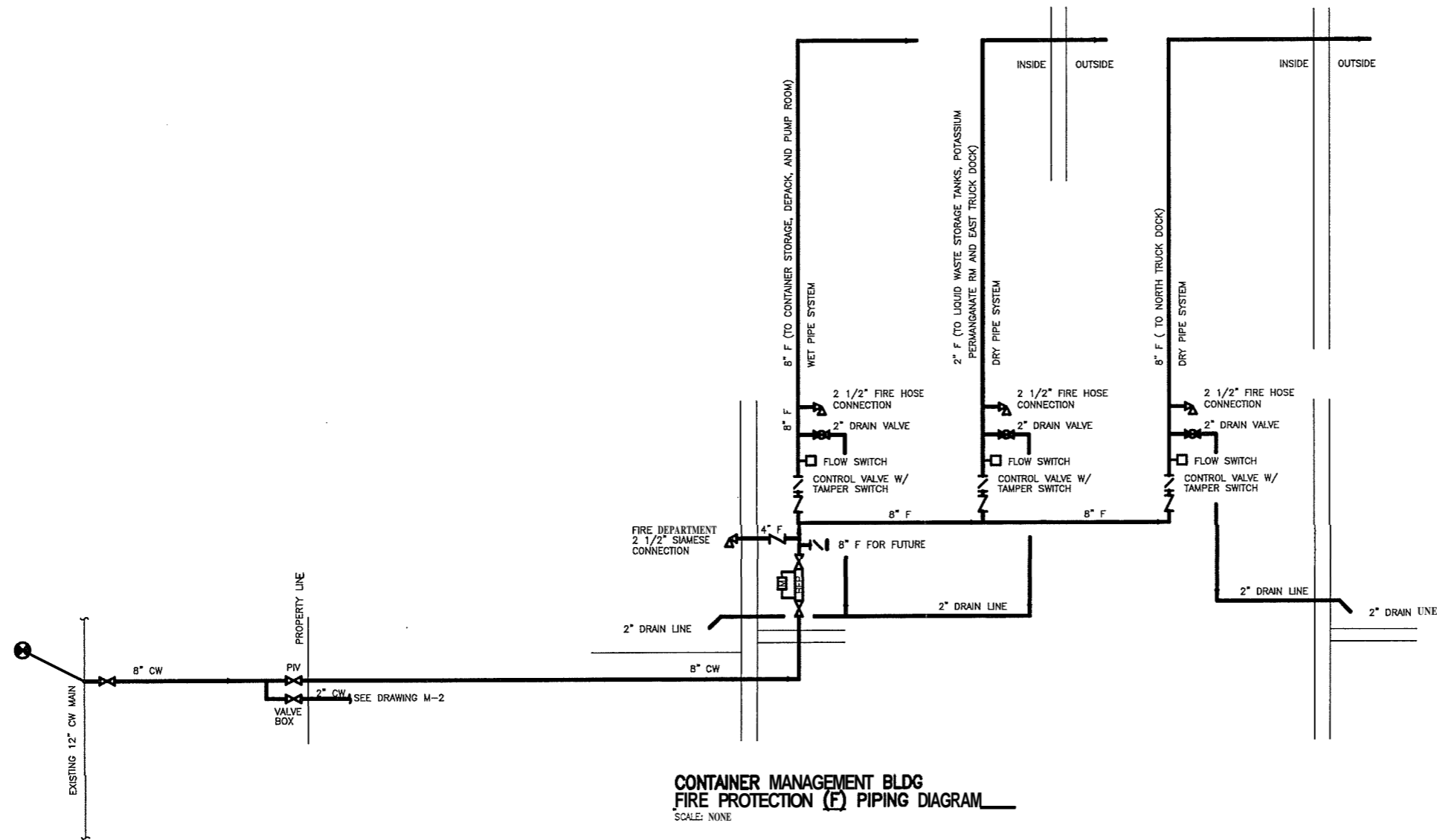
TE TETRA TECH

DESIGNED: D. NAWARRE CHECKED: _____
SCALE: AS NOTED DATE: 2/19/2007 9:43 AM
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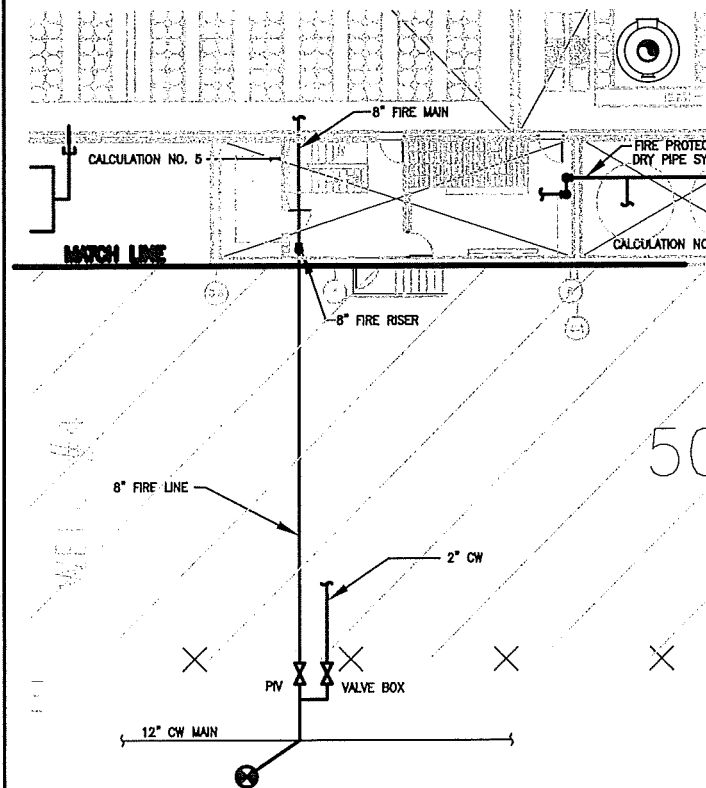
PSC ENVIRONMENTAL SERVICES
515 LYONSLE, DETROIT, MI
DETROIT FACILITY REBUILD

ARCHITECTURAL
DETAILS

DMSN	CONTRACT	SHEET
		A-9
		OF



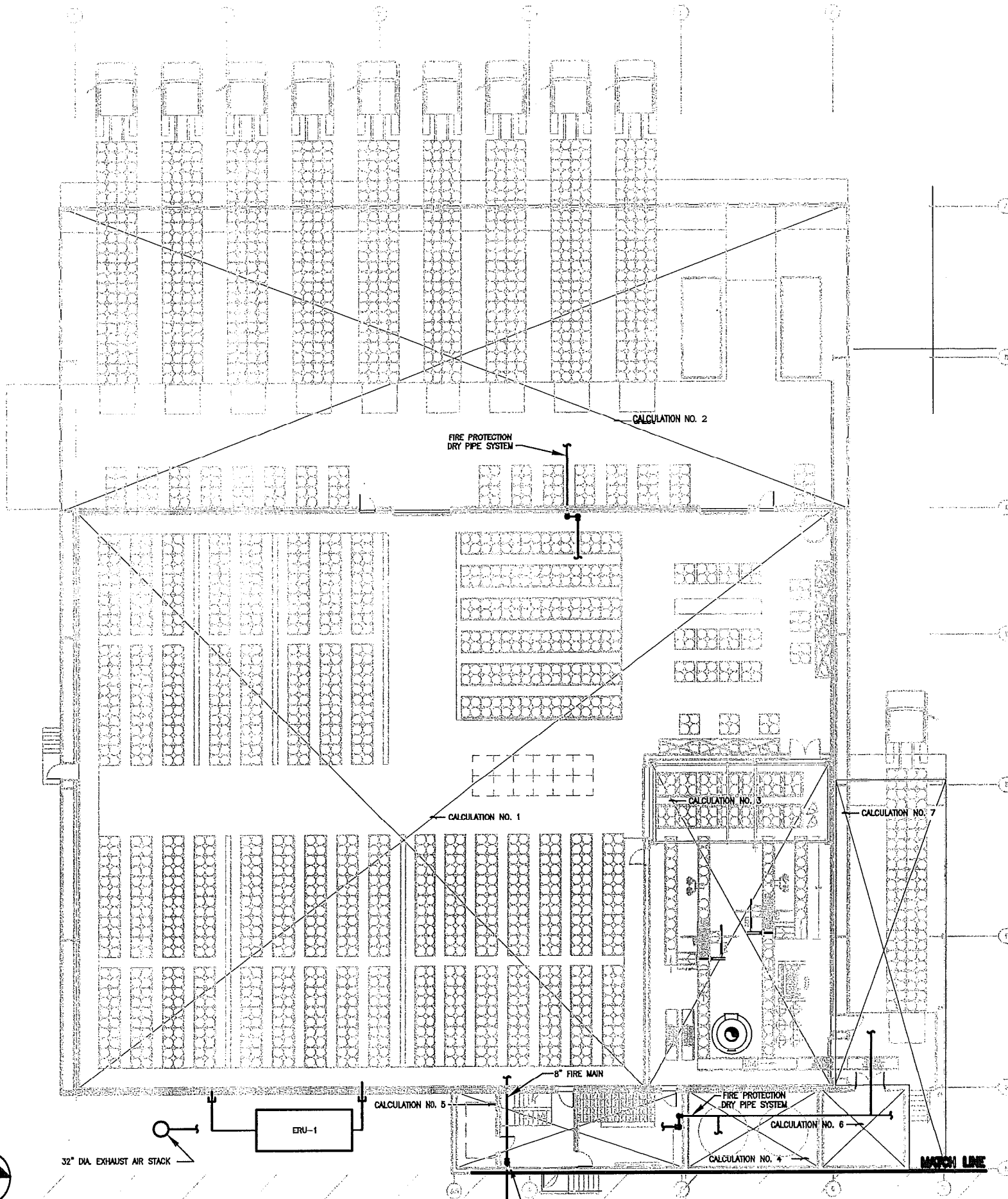
△				
△				
△	ISSUED FOR BID	DCW	02/13/07	DEN
△	ISSUED TO MDEQ	DCW	01/09/07	DEN
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DESIGNED	D. WALZER		CHECKED	DEN
SCALE	AS NOTED		DATE	2/18/2007 8:18 AM
FILE: P:\142-17450-07-001\040\142-17450-07-001\Fire Protection Flow Diagram.dwg				
PSC ENVIRONMENTAL SERVICES DIVISION 515 LYCASTE DETROIT, MICHIGAN DETROIT FACILITY REBUILD				
MECHANICAL CONTAINER MANAGEMENT BLDG FIRE PROTECTION FLOW DIAGRAM				
DIVISION	CONTRACT			SHEET F-1 OF 2



PARTIAL PLAN
SCALE: 3/32"=1'-0"



PLAN
SCALE: 3/32"=1'-0"



CALCULATION SUMMARY	
	CALCULATION NO. 1
HAZARD CLASSIFICATION	HIGH HAZARD GROUP II
SYSTEM TYPE	WET SYSTEM
DENSITY	0.4/2500 GPM/SQ.FT.
CALCULATED AREA	2500 SQ.FT.
AREA PER SPRINKLER	177 SQ.FT.
SYSTEM DEMAND	1000 GPM @ ???.?? PSI
PRESSURE @ MAIN	???.?? PSI
HOSE ALLOWANCE	???.?? GPM @ FC
	CALCULATION NO. 2
HAZARD CLASSIFICATION	HIGH HAZARD GROUP II
SYSTEM TYPE	DRY PIPE SYSTEM
DENSITY	0.4/2500 GPM/SQ.FT.
CALCULATED AREA	2500 SQ.FT.
AREA PER SPRINKLER	177 SQ.FT.
SYSTEM DEMAND	1000 GPM @ ???.?? PSI
PRESSURE @ MAIN	???.?? PSI
HOSE ALLOWANCE	???.?? GPM @ FC
	CALCULATION NO. 3
HAZARD CLASSIFICATION	HIGH HAZARD GROUP II
SYSTEM TYPE	WET SYSTEM
DENSITY	0.4/2500 GPM/SQ.FT.
CALCULATED AREA	2500 SQ.FT.
AREA PER SPRINKLER	177 SQ.FT.
SYSTEM DEMAND	1000 GPM @ ???.?? PSI
PRESSURE @ MAIN	???.?? PSI
HOSE ALLOWANCE	???.?? GPM @ FC
	CALCULATION NO. 4
HAZARD CLASSIFICATION	HIGH HAZARD GROUP II
SYSTEM TYPE	DRY PIPE SYSTEM
DENSITY	0.4/2500 GPM/SQ.FT.
CALCULATED AREA	2500 SQ.FT.
AREA PER SPRINKLER	177 SQ.FT.
SYSTEM DEMAND	1000 GPM @ ???.?? PSI
PRESSURE @ MAIN	???.?? PSI
HOSE ALLOWANCE	???.?? GPM @ FC
	CALCULATION NO. 5
HAZARD CLASSIFICATION	HIGH HAZARD GROUP II
SYSTEM TYPE	WET SYSTEM
DENSITY	0.4/2500 GPM/SQ.FT.
CALCULATED AREA	2500 SQ.FT.
AREA PER SPRINKLER	177 SQ.FT.
SYSTEM DEMAND	1000 GPM @ ???.?? PSI
PRESSURE @ MAIN	???.?? PSI
HOSE ALLOWANCE	???.?? GPM @ FC
	CALCULATION NO. 6
HAZARD CLASSIFICATION	HIGH HAZARD GROUP II
SYSTEM TYPE	WET SYSTEM
DENSITY	0.4/2500 GPM/SQ.FT.
CALCULATED AREA	2500 SQ.FT.
AREA PER SPRINKLER	177 SQ.FT.
SYSTEM DEMAND	1000 GPM @ ???.?? PSI
PRESSURE @ MAIN	???.?? PSI
HOSE ALLOWANCE	???.?? GPM @ FC
	CALCULATION NO. 7
HAZARD CLASSIFICATION	HIGH HAZARD GROUP II
SYSTEM TYPE	DRY PIPE SYSTEM
DENSITY	0.4/2500 GPM/SQ.FT.
CALCULATED AREA	2500 SQ.FT.
AREA PER SPRINKLER	177 SQ.FT.
SYSTEM DEMAND	1000 GPM @ ???.?? PSI
PRESSURE @ MAIN	???.?? PSI
HOSE ALLOWANCE	???.?? GPM @ FC

ISSUED FOR BID	DCW 02/13/07	DEN
ISSUED TO MDEQ	DCW 01/09/07	DEN
REV	DESCRIPTION	BY DATE CHG



DESIGNED: D. WALZER CHECKED: DEN
SCALE: 3/32" = 1'-0" DATE: 2/16/2007 8:43 AM
FILE: P:\142-17450-07-001\DWG\142-17450-07-001\FD\FD FIRE PROTECTION FLOOR PLAN-F-2.DWG

PSC ENVIRONMENTAL SERVICES DIVISION
515 LYCASTE DETROIT, MICHIGAN
DETROIT FACILITY REURD

MECHANICAL
CONTAINER WAREHOUSE
FIRE PROTECTION
FLOOR PLAN

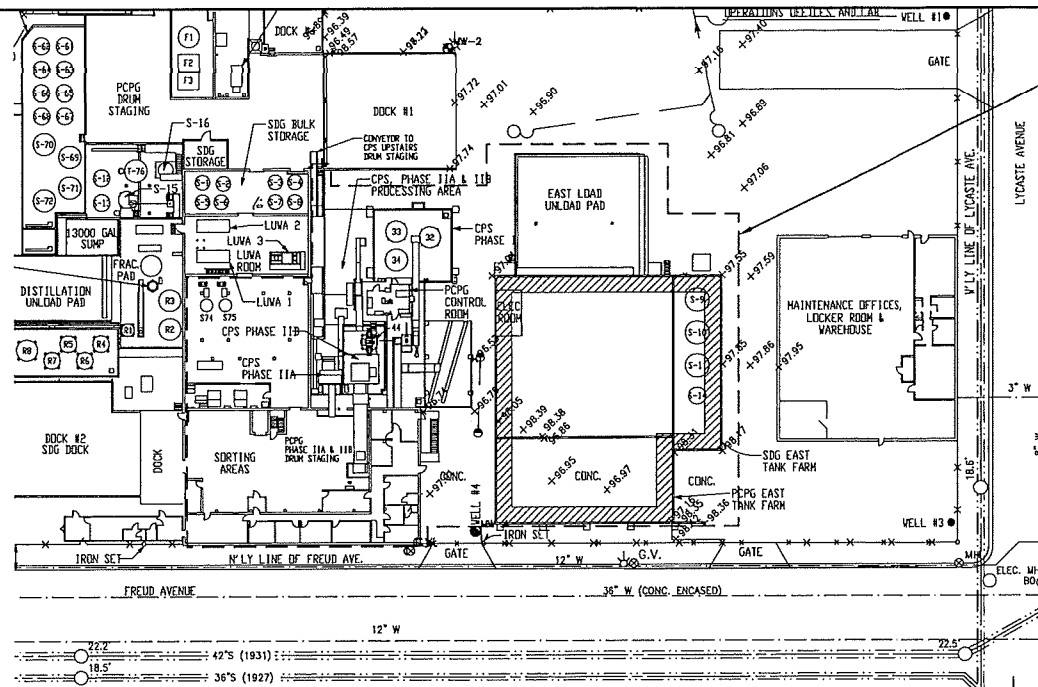
DIVISION	CONTRACT	SHEET
		F-2
		OF 2

DATE: 02/16/2007 08:43 AM | USER: DWALZER | PLOT: 142-17450-07-001\FD\FD FIRE PROTECTION FLOOR PLAN-F-2.DWG

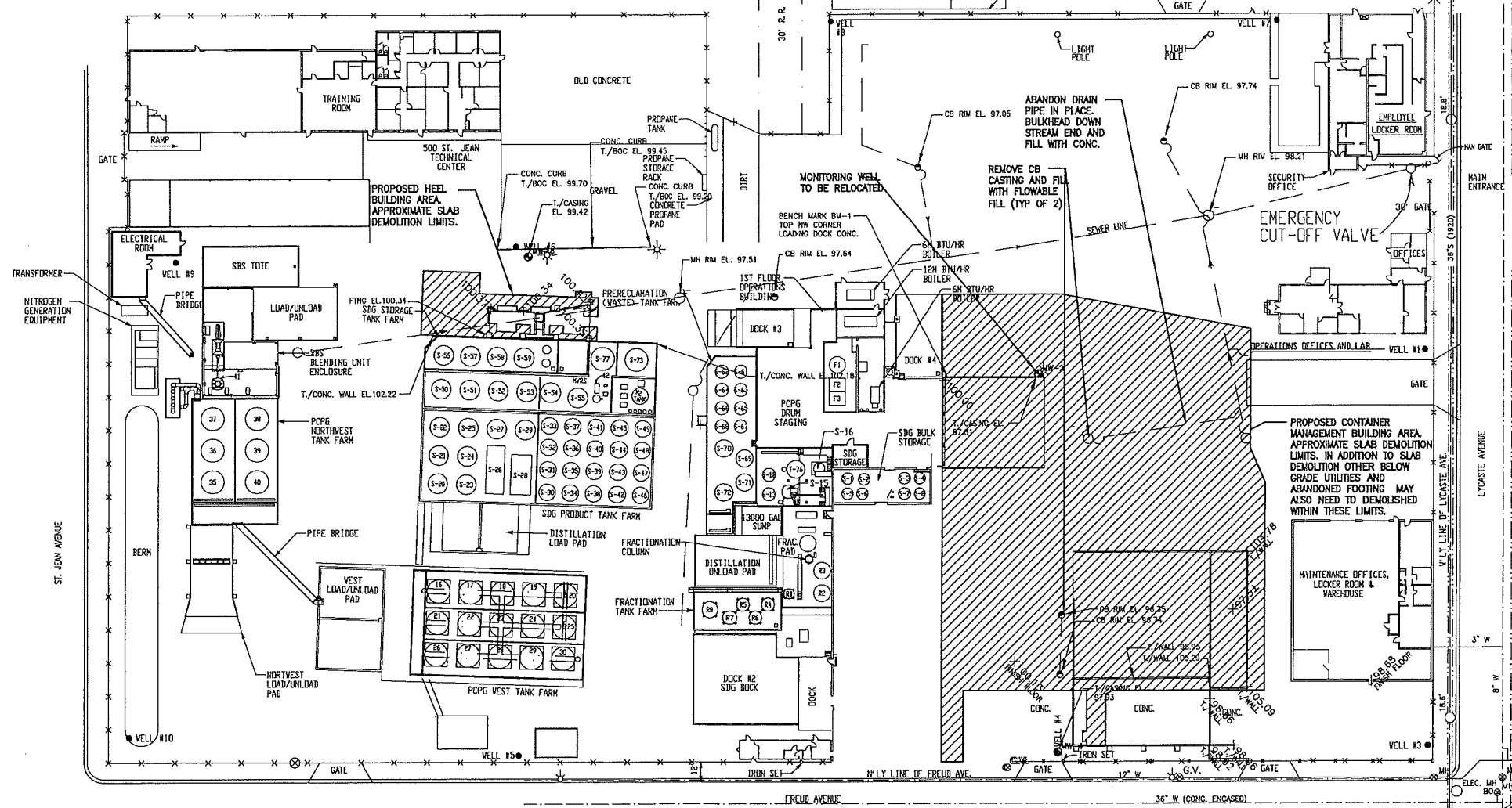
LEGEND - SITE IMPROVEMENTS

(NOTE: HEAVIER LINE WEIGHTS INDICATE PROPOSED WORK)

- PROPOSED SUPERSTRUCTURE
- STRUCTURE (TANKS, ETC.)
- MISSING SUPERSTRUCTURE
- MISSING UNDERGROUND STRUCTURE
- FUTURE STRUCTURE
- PROPOSED UTILITY 35" AND SMALLER
- PROPOSED WATER MAIN
- PROPOSED SANITARY FORCE MAIN
- PROPOSED UTILITY 36" AND LARGER
- EXISTING UTILITY 35" AND SMALLER
- EXISTING UTILITY 36" AND LARGER
- PROPOSED ELEVATION CONTOUR W/E
- EXISTING ELEVATION CONTOUR LINE
- EX. APPROXIMATE CONTOUR (GROUND OBSCURED)
- FINISH GRADE AT STRUCTURE
- PROPOSED SPOT ELEVATION
- MISSING SPOT ELEVATION
- PROPERTY/R.O.W. UNE
- ADJACENT PROPERTY W/ SAME OWNER
- EASEMENT/SETBACK LINE
- FENCE LINE
- GUARDRAIL
- MANHOLE
- PROPOSED MANHOLE
- SANITARY SEWER UNE
- COMBINED SEWER UNE
- FORCE MAIN UNE
- CLEAN OW
- STORM SEWER LINE
- EDGE DRAIN LINE
- EXISTING DRAINAGE STRUCTURE
- PROPOSED DRAINAGE STRUCTURE
- WATER UNE
- VALVE MANHOLE
- VALVE BOX
- WELL
- FIRE HYDRANT ASSEMBLY
- STEAM UNE
- GAS UNE
- GAS VALVE BOX
- GAS UNE MARKER
- UTILITY, POWER, OR TEL. POLE
- G.W. ANCHOR
- LIGHT - POLE OR FIXED TO STRUCTURE
- TRAFFIC SIGNAL POLE
- UNDERGROUND DUCT BANK
- UNDERGROUND ELECTRIC CONDUIT
- UNDERGROUND ELECTRIC CABLE
- OVERHEAD ELECTRIC UNE
- ELECTRIC BOX
- UNDERGROUND TELEPHONE LINE
- UNDERGROUND FIBER OPTIC LINE
- OVERHEAD TELEPHONE UNE
- TELEPHONE BOX
- TELEPHONE
- UNDERGROUND CABLE UNE
- CABLE BOX
- SECTION CORNER
- PROPERTY IRON - FOUND
- PROPERTY MONUMENT - FOUR
- PROPERTY IRON - SET
- PROPERTY MONUMENT - SET
- SURVEY CONTROL POINT
- STAKEOUT COORDINATE POINT
- HORIZONTAL CURVE NUMBER
- SOIL BORING LOCATION AND NUMBER
- SOIL EROSION CONTROL MEASURE



PARTIAL EXISTING SITE PLAN
SCALE: 1"=40'



DEMOLITION PLAN
SCALE: 1"=40'

APPROXIMATE LIMITS OF SUPERSTRUCTURE DEMOLITION BY OWNER. BUILDING SUPERSTRUCTURES, EQUIPMENT, UTILITIES AND OTHER ABOVE GRADE FEATURES HAVE BEEN OR WILL BE REMOVED BY OWNER. FOOTINGS, SLABS, RETAINING WALLS ALONG WITH BELOW GRADE UTILITIES AND ELECTRICAL LINES WILL REMAIN AND, IF REQUIRED, SHALL BE DEMOLISHED BY CONTRACTOR TO PERFORM THE WORK. CONTRACTOR IS RESPONSIBLE TO VISIT AND EXPLORE THE SITE TO DETERMINE THE EXTENT OF REMAINING ITEMS THAT NEED TO BE DEMOLISHED.

- NOTES:**
1. SINCE THIS DRAWING WAS CREATED THE OWNER HAS PERFORMED SOME DEMOLITION WORK. CONTRACTOR MUST VISIT THE SITE TO DETERMINE THE EXTENT OF DEMOLITION WORK REMAINING.
 2. THERE ARE TWO LEVELS OF EXISTING CONCRETE SLAB IN THE AREA OF THE CONTAINER MGMT BLDG. THERE IS AN ORIGINAL SLAB THAT WAS LATER BUILT OVER. THE LOWER SLAB SHALL REMAIN IN PLACE. FIELD INVESTIGATION IS REQUIRED TO DETERMINE THE EXTENT AND ELEVATION OF THE LOWER SLAB.
 3. SLAB DEMOLITION IS REQUIRED FOR INSTALLATION OF THE SDG AND LAB/OFFICE BUILDING FOUNDATIONS AND DRAIN PIPING. REFER TO SHEET 0-2 FOR THE LOCATION OF THESE BUILDINGS ON THE SITE. CONTRACTOR SHALL COORDINATE WITH STRUCTURAL DRAWINGS TO DETERMINE THE EXTENT AND LOCATION OF SLAB DEMOLITION.

REV	DESCRIPTION	BY	DATE	CHKD
ADDENDUM NO. 1			02/07	
ISSUED FOR BID			02/13/07	DEN
ISSUED TO MGR			1/09/07	DEN

Tetra Tech

DESIGNED: ROK CHECKED: _____
SCALE: 1"=40' DATED: 2/27/2007 8:31 AM

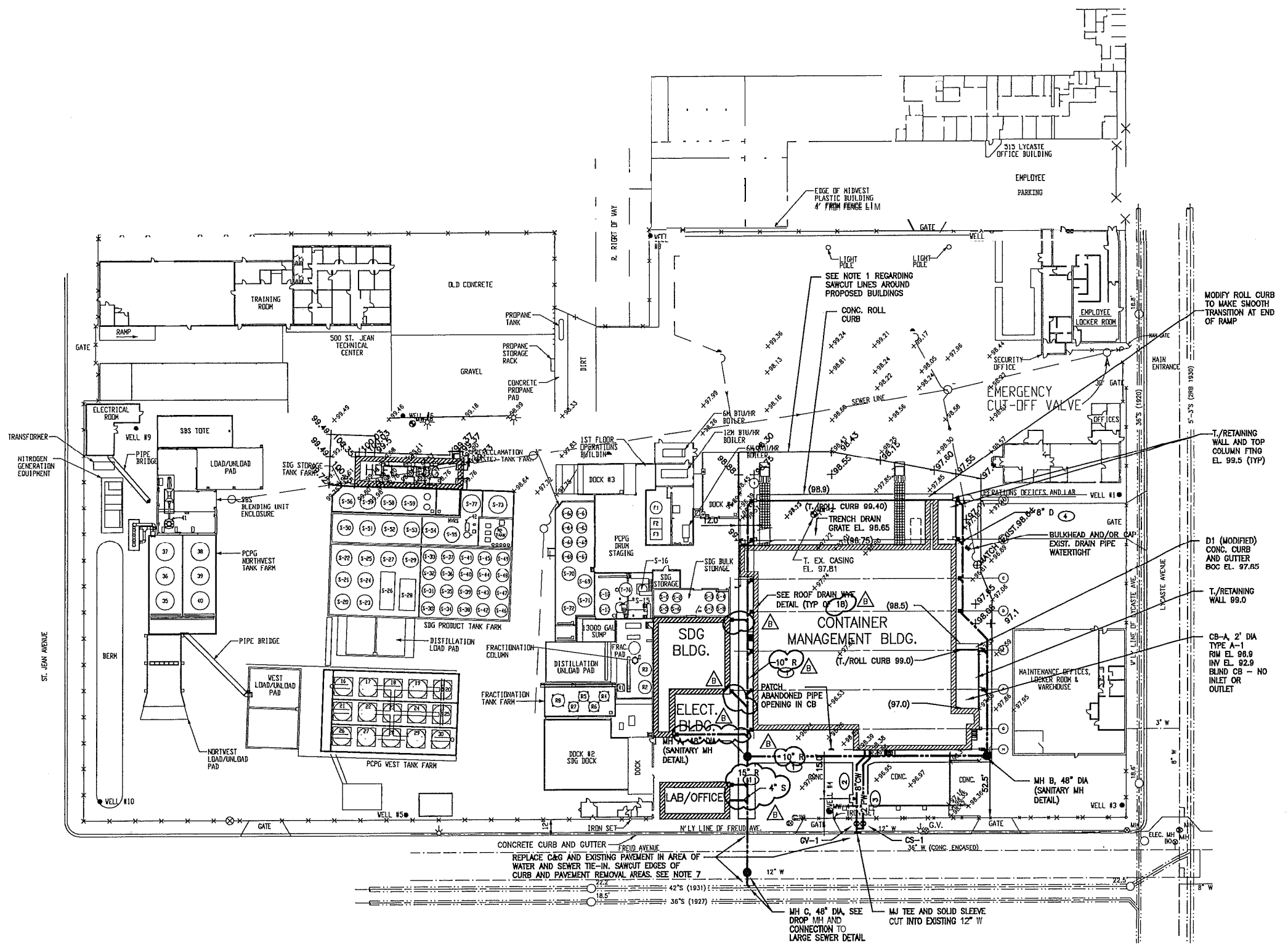
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PSC ENVIRONMENTAL SERVICES DIVISION
515 LYCASTE, DETROIT, MICHIGAN
DETROIT FACILITY REBUILD

GENERAL EXISTING SITE PLAN DEMOLITION PLAN AND LEGEND

DIVISION: _____ CONTRACT: _____ SHEET: **G-1** OF _____

PLOT DATE: 3/1/2007 11:12 AM LWF: DETROIT PLOT DEVICE: SD3 8000 PLOT IN: PLOT2



- NOTES:
- ADJUSTMENTS TO THE EXACT SAWCUT LOCATIONS MAY BE REQUIRED TO MATCH EXISTING GRADE.
 - CONTRACTOR RESPONSIBLE TO OBTAIN WATER SERVICE PERMIT FROM DWSJ AND A ROW PERMIT FROM DETROIT CITY ENGINEERS DEPARTMENT AND TO PAY ALL PERMIT AND INSPECTION FEES.
 - CONTRACTOR RESPONSIBLE TO OBTAIN DWSJ SEWER PERMIT AND DETROIT CITY ENGINEER ROW PERMIT AND PAY ALL INSPECTION FEES.
 - CONCRETE SLABS SHALL BE REMOVED BY SAWING A STRAIGHT CUT PARALLEL OR PERPENDICULAR TO EXISTING BUILDING LINES OR EXISTING SLAB JOINTS UNLESS SHOWN OTHERWISE. NO CUTTING SHALL BE DONE LESS THAN 4" FROM AN EXISTING JOINT. IF THE SLAB SECTION TO BE REMOVED IS LESS THAN 4" FROM AN EXISTING JOINT THE REMOVAL AND REPLACEMENT SHALL BE EXTENDED TO SAID JOINT.
 - AT CORNERS OF CONCRETE SLAB REMOVAL, SAW BLADE OVERCUTS SHALL BE SEALED.
 - UNLESS OTHERWISE INDICATED LIMIT EXISTING CONCRETE DEMOLITION TO MINIMUM REQUIRED TO ACCOMMODATE NEW BUILDING CONSTRUCTION.
 - FREUD AVENUE IS LIKELY HMA OVERLAY OVER BRICK OR CONCRETE BASE. EXIST. PAVEMENT MATERIALS AND THICKNESS WILL NEED TO BE FIELD VERIFIED. CONTRACTOR SHALL ASSUME ROAD RESTORATION WILL NEED TO BE EXTENDED TO NEAREST CONCRETE M.E. JOINT AND THAT BRICK SHALL BE REPLACED WITH EQUIVALENT THICKNESS OF HMA.

ADDENDUM NO. 1	02/07			
ISSUED FOR BID	02/13/07 DEN			
REV	DESCRIPTION	BY	DATE	CHKD

TETRA TECH

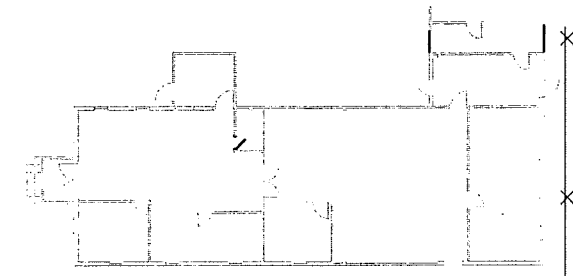
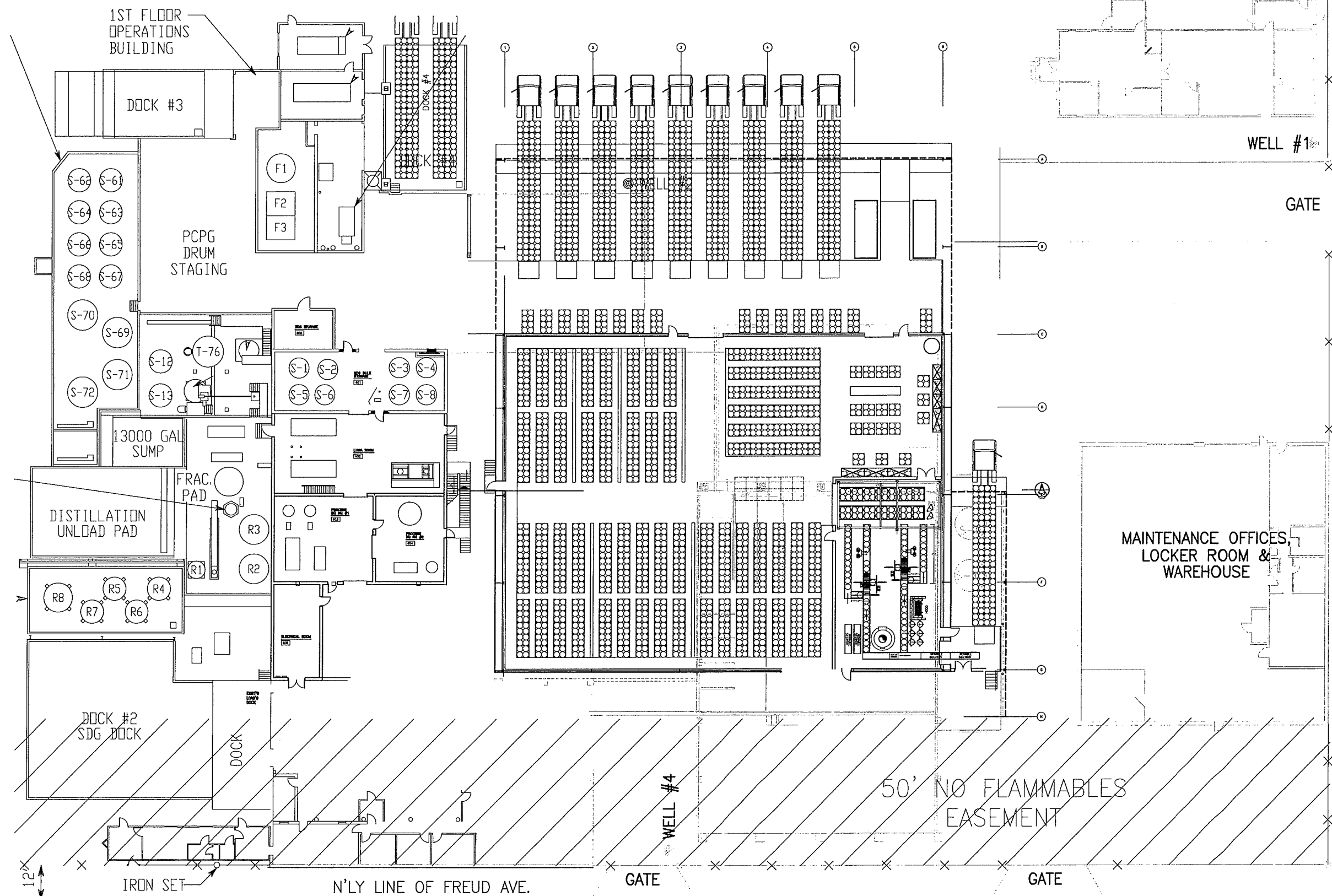
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PSC ENVIRONMENTAL SERVICES DIVISION
 515 LYCASTE, DETROIT, MICHIGAN
 DETROIT FACILITY REBUILD

GENERAL
PROPOSED SITE PLAN

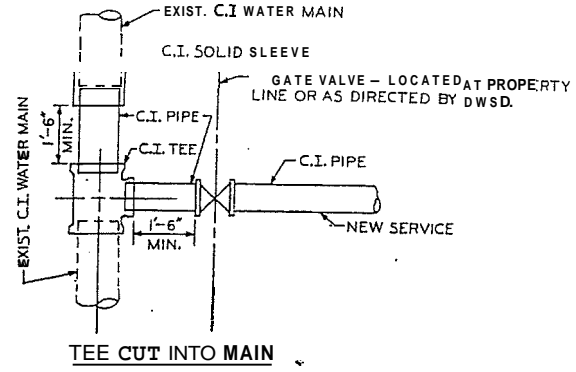
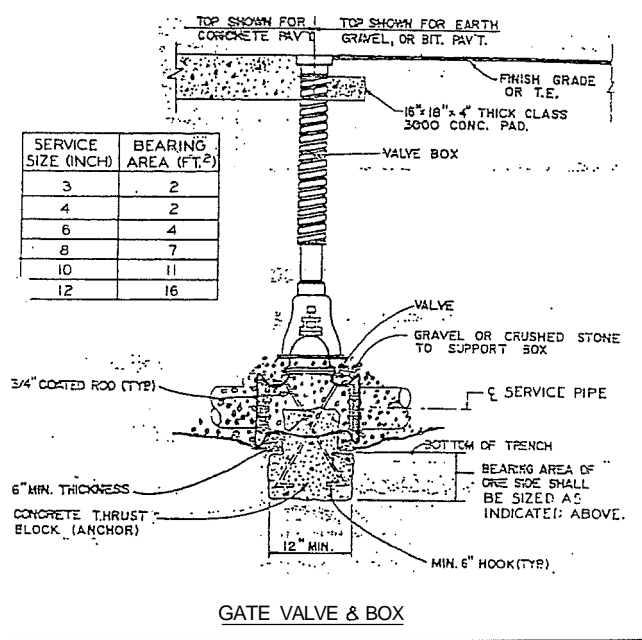
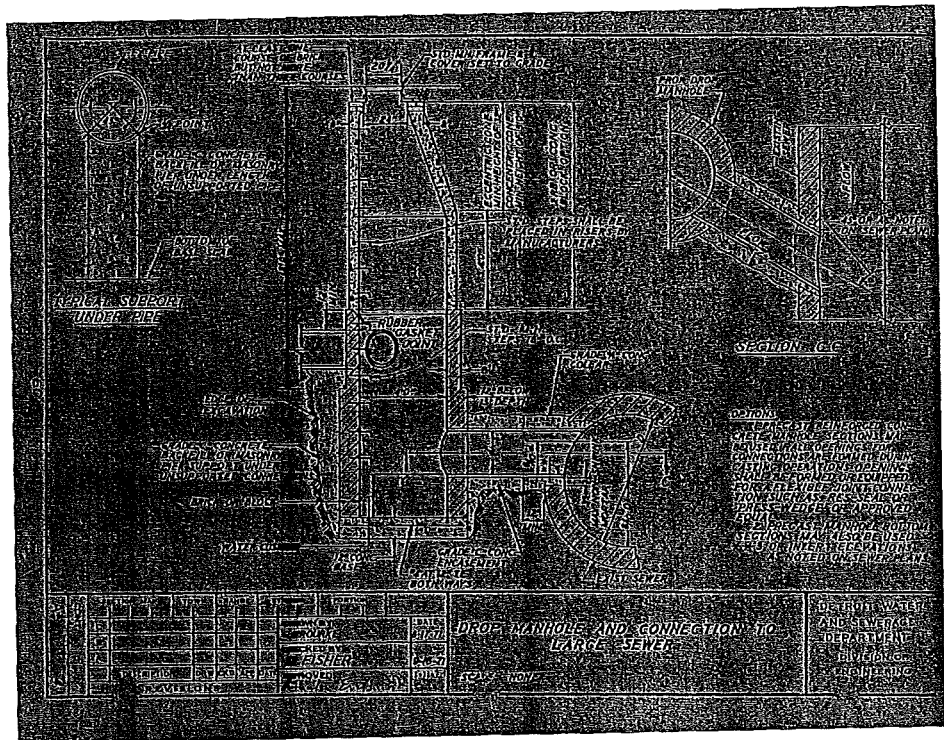
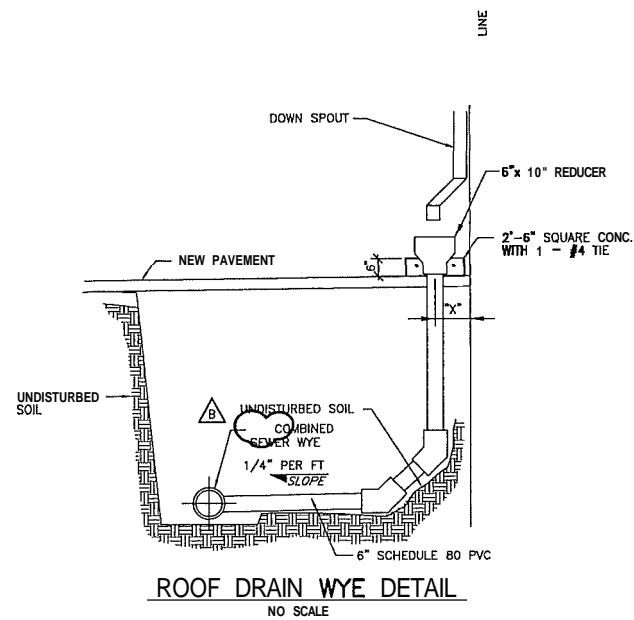
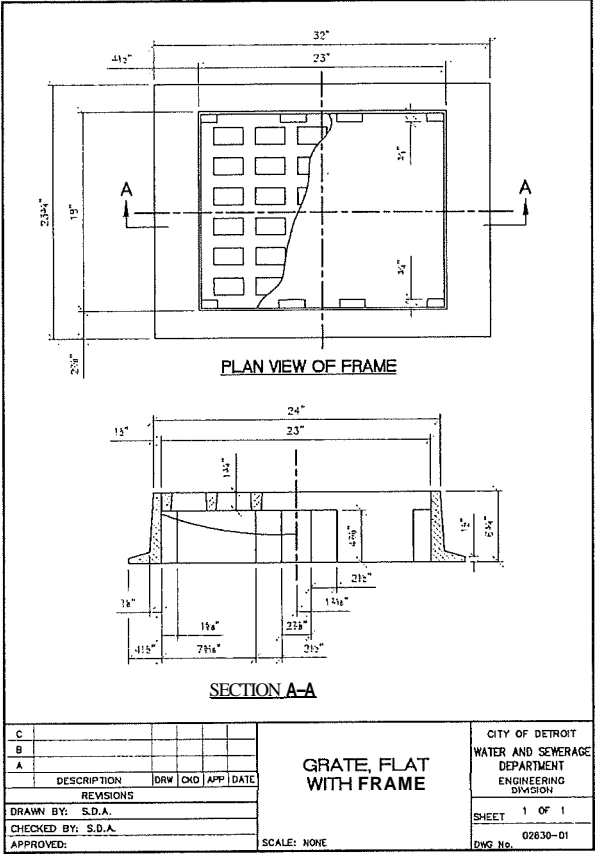
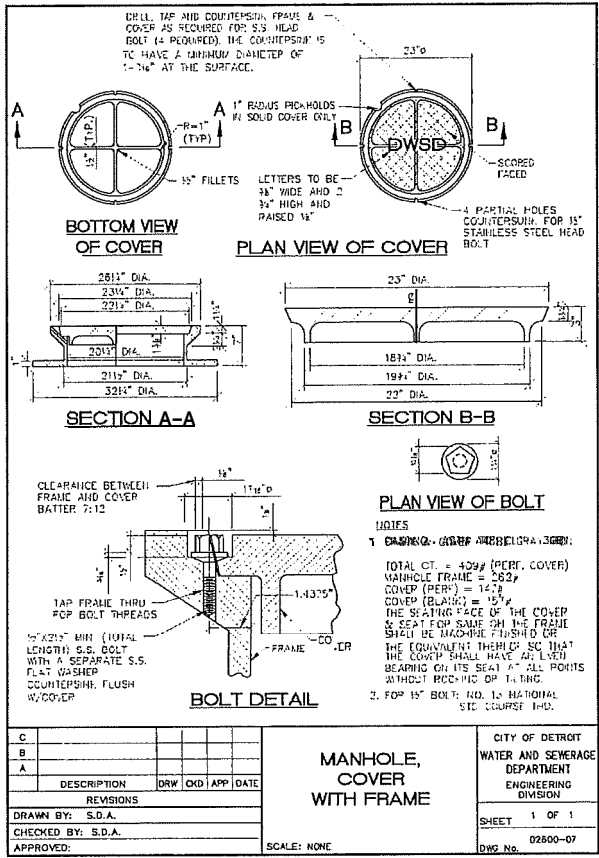
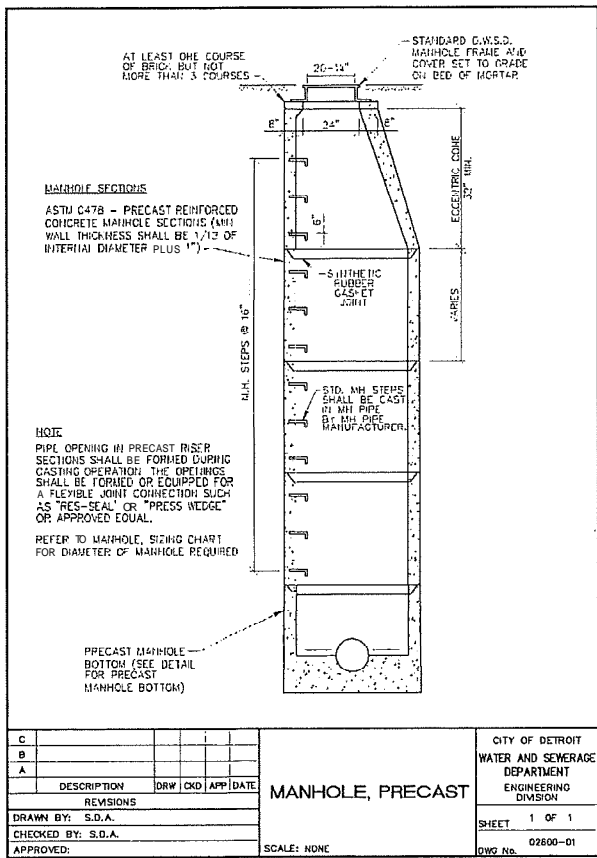
DWSJON	CONTRACT	SHEET G-2 OF
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PLOT DWG/2/07 - I LAST DATED BY: REVISION: SEE RED - PLOT BY: TEL: 313



PLOT DATE: 3/7/2007 11:13 AM LUT: EXIST BY: MICHIGAN MUTI DOCKS: 335 8330 - P000003

DESIGNED	B. CLARK	CHECKED	
SCALE	1/16" = 1'-0"	CADD DATE	2/15/2007 5:01 PM
PROJECT	PSC ENVIRONMENTAL SERVICES 515 LUCASLE, DETROIT, MI DETROIT FACILITY REBUILD		
CIVIL PARTIAL SITE PLAN			
DRAWN	CONTRACT	SHEET G-3 OF	

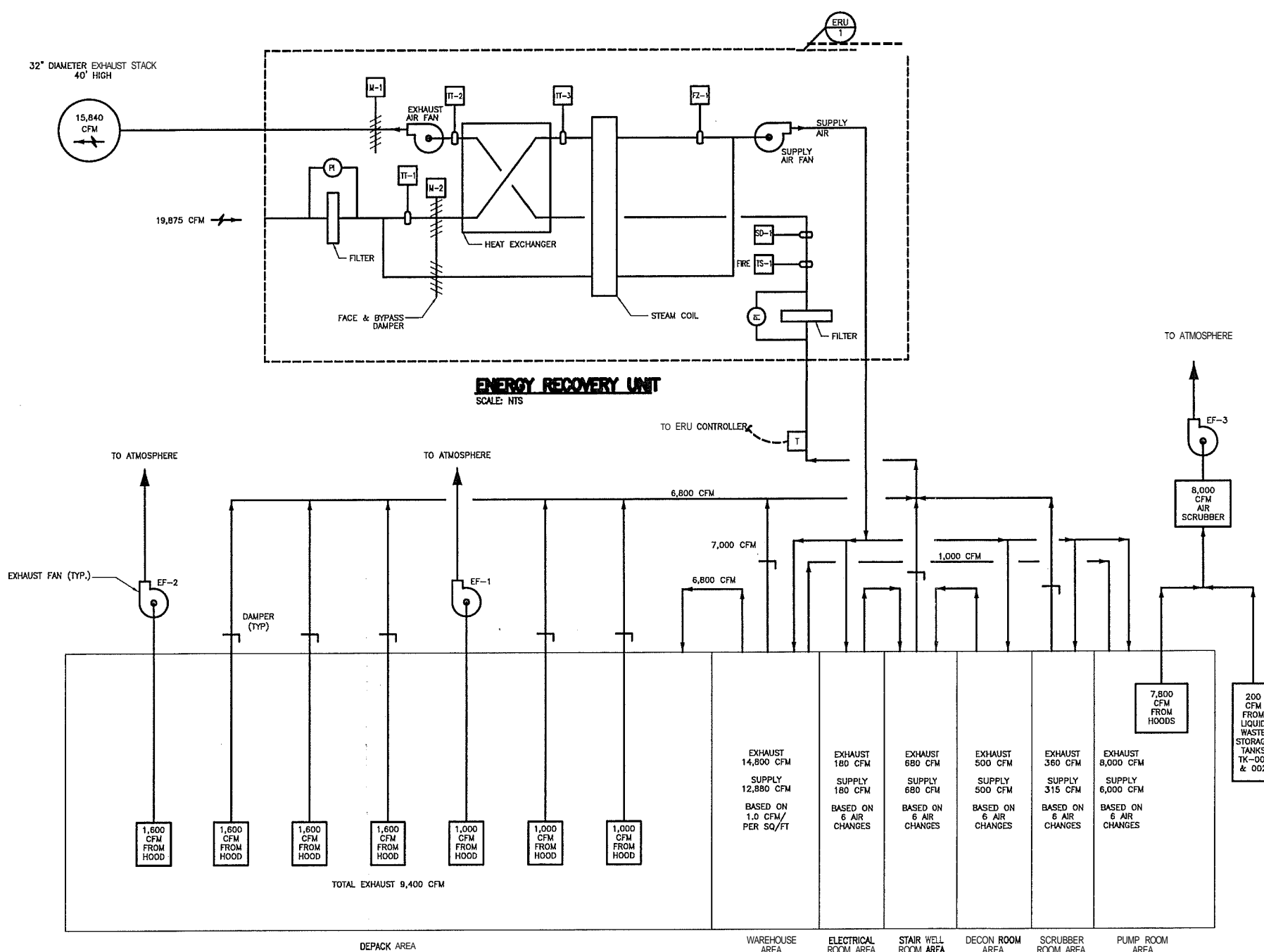


NOTES:

1. CONCRETE CLASS DESIGNATIONS ON DWSD DETAILS REFER TO DWSD STANDARD CONCRETE CLASSES AND ARE NOT NECESSARILY THE SAME AS THE CONCRETE CLASS DESIGNATIONS IN THE PROJECT SPECIFICATIONS

ADDENDUM NO. 1	02/07			
ISSUED FOR BID	02/13/07 DEN			
REV	DESCRIPTION	BY	DATE	CHKD
TETRA TECH				
DESIGNED	RGK	CHECKED		
SCALE	AS NOTED	CRD DATE	2/21/2007 8:31 AM	
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PSC ENVIRONMENTAL SERVICES DIVISION 515 LYON ST. DETROIT, MICHIGAN DETROIT FACILITY REBUILD				
GENERAL DETAILS				
DIVISION	CONTRACT	SHEET G-4		OF

PLOT DATE: 3/2/2007 AM 1:58:58 PM PROJECT: 142-17150-07-001 - PSC - PLOT



ENERGY RECOVERY UNIT
SCALE: NTS

STEAM UNIT HEATERS (120 PSI STEAM) (DH)									
MARK	LOCATION	CFM	MIN	PPH	HP	VOLTS	FRAME	MODEL NO.	REMARKS
DH-1-6	CONTAINER STORAGE	4480	540	610	0.5	1075	1	MOORE SORBUS	SUPPLIED BY CONTRACTOR INSTALLED BY CONTRACTOR

NOTES:
1. INTERLOCK DH-1 THRU 6 WITH AUTOMATIC DOOR OPENERS. DH-1 M/RU 6 SHALL ENERGIZE WHEN WOR OPENER ENERGIZES AND STAY ENERGIZED WHILE DOOR IS OPEN AND DENERGIZE WHEN DOOR CLOSER IS ENERGIZED.

STEAM TRAP SCHEDULE (ST)									
MARK	LOCATION (EQIP. OR DEVI. NO.)	TYPE OF TRAP	WORK PRESS. (PSI)	CAPACITY (GPM)	TRAP DIFF. PRESS. (PSI)	COL. ROWS	REMARKS		
ST-1	ERU-1 CONTAINER BUILDING	INVERTED BUCKET	2155	11/32	150	6843	120	N/A	SUPPLIED BY CONTRACTOR INSTALLED BY CONTRACTOR
ST-2	DH-1 THRU 6 CONTAINER BUILDING	INVERTED BUCKET	2155	5/32	150	1735	120	N/A	SUPPLIED BY CONTRACTOR INSTALLED BY CONTRACTOR
ST-3									

EXHAUST FANS									
MARK	LOCATION	CFM	HP	WORKER HP	VOLTS	FRAME	ROUGH OPENING	GREEN-BECK MODEL NO.	REMARKS
EF-1	HOOD EXHAUST FAN DEPACK ROOM	1000	0.5"	0.5	115	1	---	TCB-1-13	SUPPLIED BY CONTRACTOR INSTALLED BY CONTRACTOR
EF-2	HOOD EXHAUST FAN DEPACK ROOM	1600	0.5"	0.5	115	1	---	TCB-1-13	SUPPLIED BY CONTRACTOR INSTALLED BY CONTRACTOR
EF-3	SCRUBBER FAN PUMP ROOM	8000	6.0"	15	480	3	---	NEW YORK BLOWER	SUPPLIED BY OWNER INSTALLED BY CONTRACTOR
EF-4	VACUUM BLOWER DEPACK ROOM	250	30"	5	480	3	---	NEW YORK BLOWER	SUPPLIED BY OWNER INSTALLED BY CONTRACTOR

PUMP SCHEDULE (P)										
MARK	QUANTITY	LOCATION	TYPE	CAPACITY (GPM)	TOTAL HEAD (FT)	DESIGN TEMP.	HP	MOTOR DESCRIPTION	SERVICE	REMARKS
P-1 - 4	4	CONTAINER PUMP OUT PUMP ROOM	AIR DIAPHRAM	80	60	70	N/A	PLANT AIR (100 PSI)	LIQUID WASTE	SUPPLIED BY OWNER INSTALLED BY OWNER
P-5	1	AIR SCRUBBER PUMP ROOM	CENTRIFUGAL	320	70	70	15	460V 3-PH	RECIRCULATION SCRUBBER	SUPPLIED BY OWNER INSTALLED BY OWNER
P-6	1	TW RECIRCULATING PUMP DECON ROOM	CENTRIFUGAL	20	60	120	1.5	460V 3-PH	RECIRCULATION TW	SUPPLIED BY CONTRACTOR INSTALLED BY CONTRACTOR
P-7 & 8	2	TK-001 AND TK-002 PUMP ROOM	CENTRIFUGAL	200	80	70	15	480V 3-PH	LIQUID WASTE	SUPPLIED BY OWNER INSTALLED BY OWNER

NOTES:
1. PUMPS P-1 THRU 4 SHALL BE ALL-FLO MODEL ST-20E, 2" X 2" FLANGED, 316SS W/ SANTOPRENE
2. PUMP P-5 SHALL BE PEERLESS MODEL B186 W/P, 316SS, 3K4-10 WITH 15HP 1800R 254TEXPRF.
3. PUMP P-6 SHALL BE GRUNDFOS MODEL TP40-240/2, 1-1/2" X 1-1/2" RANGED. CAST IRON WITH 1 1/2HP TEFC, 3/60/208-230-460V MOTOR.
4. PUMP P-7 & 8 SHALL BE GORMAN RUPP SUPER T SERIES SELF-PRIMING CENTRIFUGAL PUMP. MODEL T3A615-B/F, SIZE 3" X 3", TRASH PUMP W/ GRAY IRON WING AND SS FITTED INTERNALS BELT DRIVEN APPROX. 1900 RPM W/ 1750 RPM 254T FRAME, 3/60/230-460V, EXPLOSION PROOF MOTOR. MOUNTED ON A STEEL VERTICAL FABRICATED V-BELT BASEPLATE ASSEMBLY W/BELT GUARD.

ENERGY RECOVERY UNIT (ERU) - PLATE HK															
MARK	LOCATION	SUPPLY			EXHAUST			HK		SHEM		VOLTS	FRAME	MODEL NO.	REMARKS
		CFM	ESP	HP	CFM	ESP	HP	MIN	DEFF	EW	MIN				
ERU-1	OUTSIDE CONTAINER BLDG	19,875	3.46	20	15,840	2.47	15	60	40	1534	1768	480	3	SEE NOTES BELOW	SEE NOTES BELOW

NOTES:
1. ERU-1 SHALL BE SUPPLIED BY OWNER, INSTALLED BY CONTRACTOR.
2. PROVIDE TYPE COUNTER FLOW HEAT EXCHANGER FOR SENSIBLE HEAT RECOVERY.
3. PROVIDE HK FACE AND BYPASS DAMPERS ON FRESH AIR SIDE FOR FROST PREVENTION AND SUMMER OPERATION.
4. ERU-1 EXHAUST PLENUM TO BE CUSS 1, DIVISION 2, GROUP D AREA.
5. PROVIDE RANGED CONNECTION AT EXHAUST DISCHARGE FROM ERU-1.
6. ERU-1 MANUFACTURE INNOVENT AIR HANDLING EQUIPMENT, MODEL: RHXC-1F-1010-19000-ST/FR-A-1
7. ERU-1 SHALL BE SUPPLIED BY OWNER, INSTALLED BY CONTRACTOR.

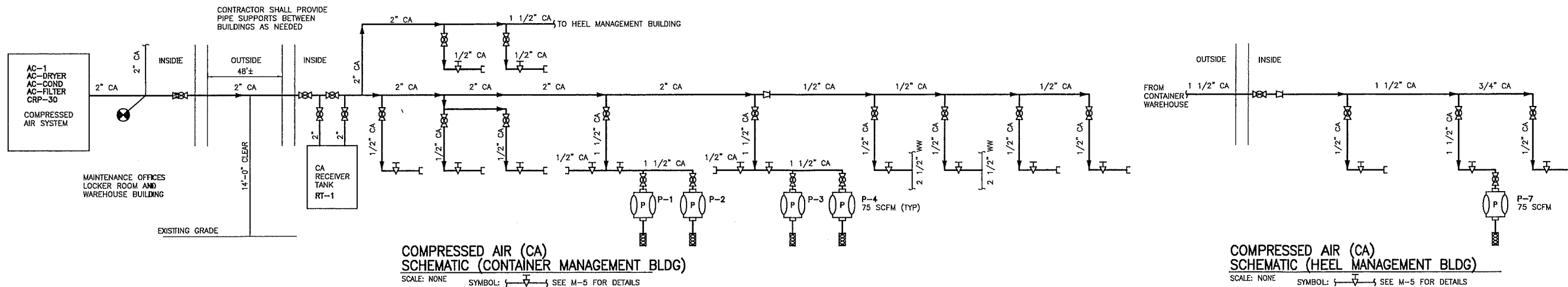
RETURN GRILLE (RG) AND SUPPLY REGISTER (SR) SCHEDULE					
MARK	DESCRIPTION	CFM RANGE	NECK	STYLE	REMARKS
SR-1	CONTAINER WAREHOUSE	1610	24X14	TITUS 300FS	SUPPLIED BY CONTRACTOR INSTALLED BY CONTRACTOR
SR-2	PUMP ROOM	3000	35X16	TITUS 300FS	SUPPLIED BY CONTRACTOR INSTALLED BY CONTRACTOR
SR-3	ELECTRICAL ROOM	180	8X6	TITUS 300FS	SUPPLIED BY CONTRACTOR INSTALLED BY CONTRACTOR
SR-4	DECON ROOM	500	12X10	TITUS 300FS	SUPPLIED BY CONTRACTOR INSTALLED BY CONTRACTOR
SR-5	MANHOOD ROOM	315	12X6	TITUS 300FS	SUPPLIED BY CONTRACTOR INSTALLED BY CONTRACTOR
RG-1	CONTAINER WAREHOUSE	500	12X12	TITUS 350DFL	SUPPLIED BY CONTRACTOR INSTALLED BY CONTRACTOR
RG-2	STAIRWELL ROOM	340	10X10	TITUS 350DFL	SUPPLIED BY CONTRACTOR INSTALLED BY CONTRACTOR
RG-3	MANHOOD ROOM	180	8X8	TITUS 350DFL	SUPPLIED BY CONTRACTOR INSTALLED BY CONTRACTOR

NEW CONTAINER WAREHOUSE & PROCESS BUILDING
SCALE: NTS

a			
a			
ISSUED FOR BID	DCW	02/13/07	DEM
REVISED	DCW	01/09/07	DEM
REV	DESCRIPTION	BY	DATE
TETRA TECH			
DESIGNED BY	D. WALZER	CHECKED BY	DEM
SCALE		ISSUE DATE	02/14/2007 4:51 PM
FILE P:\142-17450-07-001\CAPI\142-17450-07-001\142-17450-07-001\MECH-SCHED & BUILDING			
PSC ENVIRONMENTAL SERVICES DIVISION 515 LUCASIE DETROIT, MICHIGAN DETROIT FACILITY REBUILD			
MECHANICAL			
CONTAINER MANAGEMENT BLDG			
HEATING AND VENTILATING			
ROW DIAGRAM			
DIVISION	CONTRACT	SHEET	
		M-1	
		OF 6	

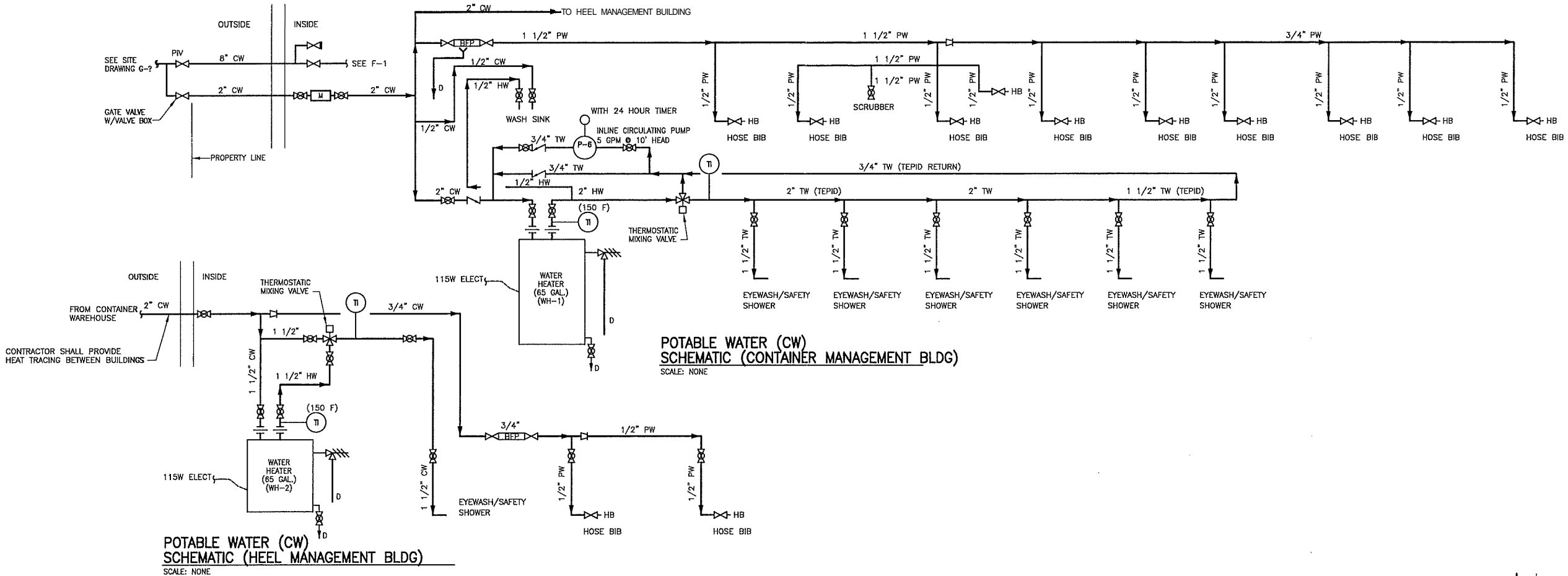
NOTES:
1. SEE DRAWING M-4 FOR EQUIPMENT AND PUMP SCHEDULE.
2. SEE MECHANICAL SPECIFICATIONS 15050 THROUGH 15095 FOR MATERIAL AND INSTALLATION REQUIREMENTS OF MECHANICAL EQUIPMENT.
3. SEE SCHEDULES FOR MATERIALS AND EQUIPMENT SUPPLIED BY OWNER/CONTRACTOR AND INSTALLED BY OWNER/CONTRACTOR.
4. CONTRACTOR SHALL SUPPLY ALL PIPING MATERIALS, VALVES, FITTINGS, HANGERS, ETC. FOR ALL PIPING SYSTEMS SHOWN ON M/E DESIGN DRAWINGS.
5. COORDINATE FINAL LOCATION OF EQUIPMENT AND PIPING WITH OWNER.
6. PUMP COMPRESSOR, DRYER, AND FILTERS SHALL BE INSTALLED IN M/E MANAGEMENT OFFICE LOCKER RM. WAREHOUSE BUILDING; SEE OWNER FOR LOCATION.
7. M/E CONTRACTOR IS ALSO RESPONSIBLE FOR ALL ADDED VALUE REVIEWS/CHANGES TO M/E DESIGN DRAWINGS TO MEET ALL CODES AND REQUIREMENTS, AND PROVIDE M/E OWNER WITH ANY POTENTIAL COST SAVINGS. THE CONTRACTOR IS ENCOURAGED TO FURTHER EXPLORE OWNER OPTIONS THAT MAY MEET PROJECT OBJECTIVES WHILE REDUCING COST.

PLANT AREA 2/14/2007 4:51 PM



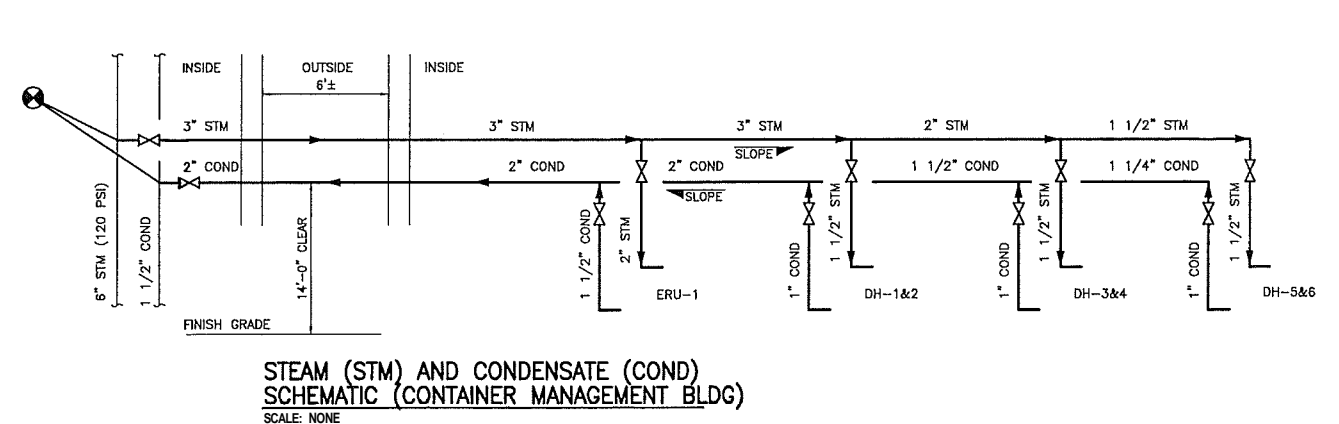
**COMPRESSED AIR (CA)
SCHEMATIC (CONTAINER MANAGEMENT BLDG)**
SCALE: NONE SYMBOL: SEE M-5 FOR DETAILS

**COMPRESSED AIR (CA)
SCHEMATIC (HEEL MANAGEMENT BLDG)**
SCALE: NONE SYMBOL: SEE M-5 FOR DETAILS

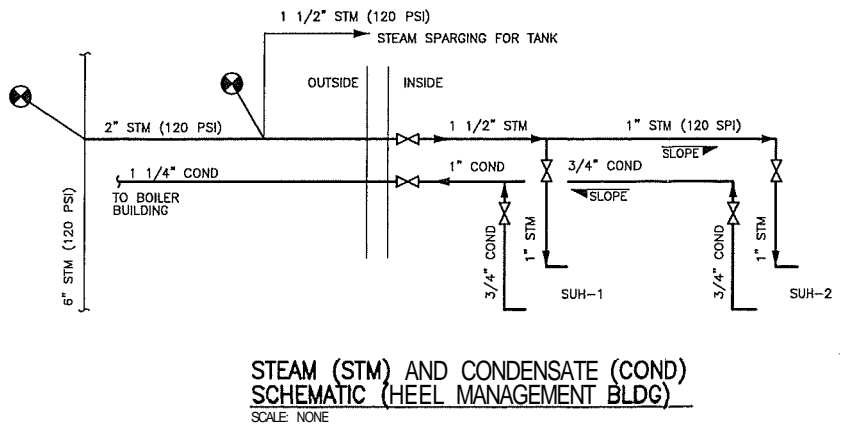


**POTABLE WATER (CW)
SCHEMATIC (CONTAINER MANAGEMENT BLDG)**
SCALE: NONE

**POTABLE WATER (CW)
SCHEMATIC (HEEL MANAGEMENT BLDG)**
SCALE: NONE



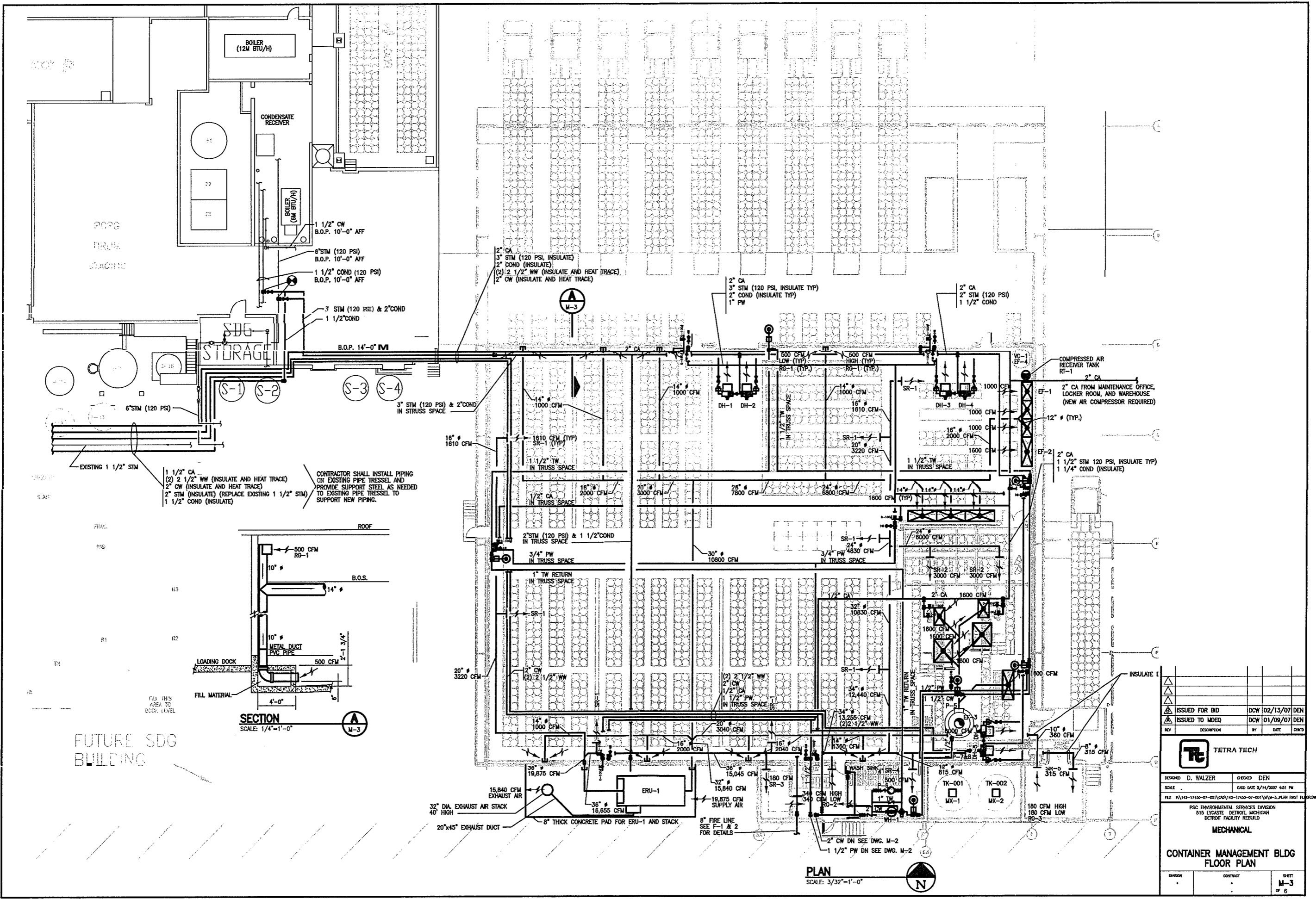
**STEAM (STM) AND CONDENSATE (COND)
SCHEMATIC (CONTAINER MANAGEMENT BLDG)**
SCALE: NONE



**STEAM (STM) AND CONDENSATE (COND)
SCHEMATIC (HEEL MANAGEMENT BLDG)**
SCALE: NONE

DESIGNED	D. WALZER	CHECKED	DEN
SCALE	AS NOTED	CADD DATE	3/1/2007 4:24 PM
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PSC ENVIRONMENTAL SERVICES DIVISION 515 LYCOSTE DETROIT, MICHIGAN DETROIT FACILITY REBUILD			
MECHANICAL			
CONTAINER MANAGEMENT BLDG AND HEEL MANAGEMENT BLDG FLOW DIAGRAM			
DIVISION	CONTRACT	SHEET	M-2
		OF	9

PLOT DATE: 3/1/2007 11:20 AM | PLOT WIDTH: 11.00 IN | PLOT HEIGHT: 17.00 IN | PLOT SCALE: 1:1 | PLOT DEVICE: HP DesignJet 500 | PLOTTER: HP DesignJet 500



CONTRACTOR SHALL INSTALL PIPING ON EXISTING PIPE TRESSSEL AND PROVIDE SUPPORT STEEL AS NEEDED TO EXISTING PIPE TRESSSEL TO SUPPORT NEW PIPING.

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

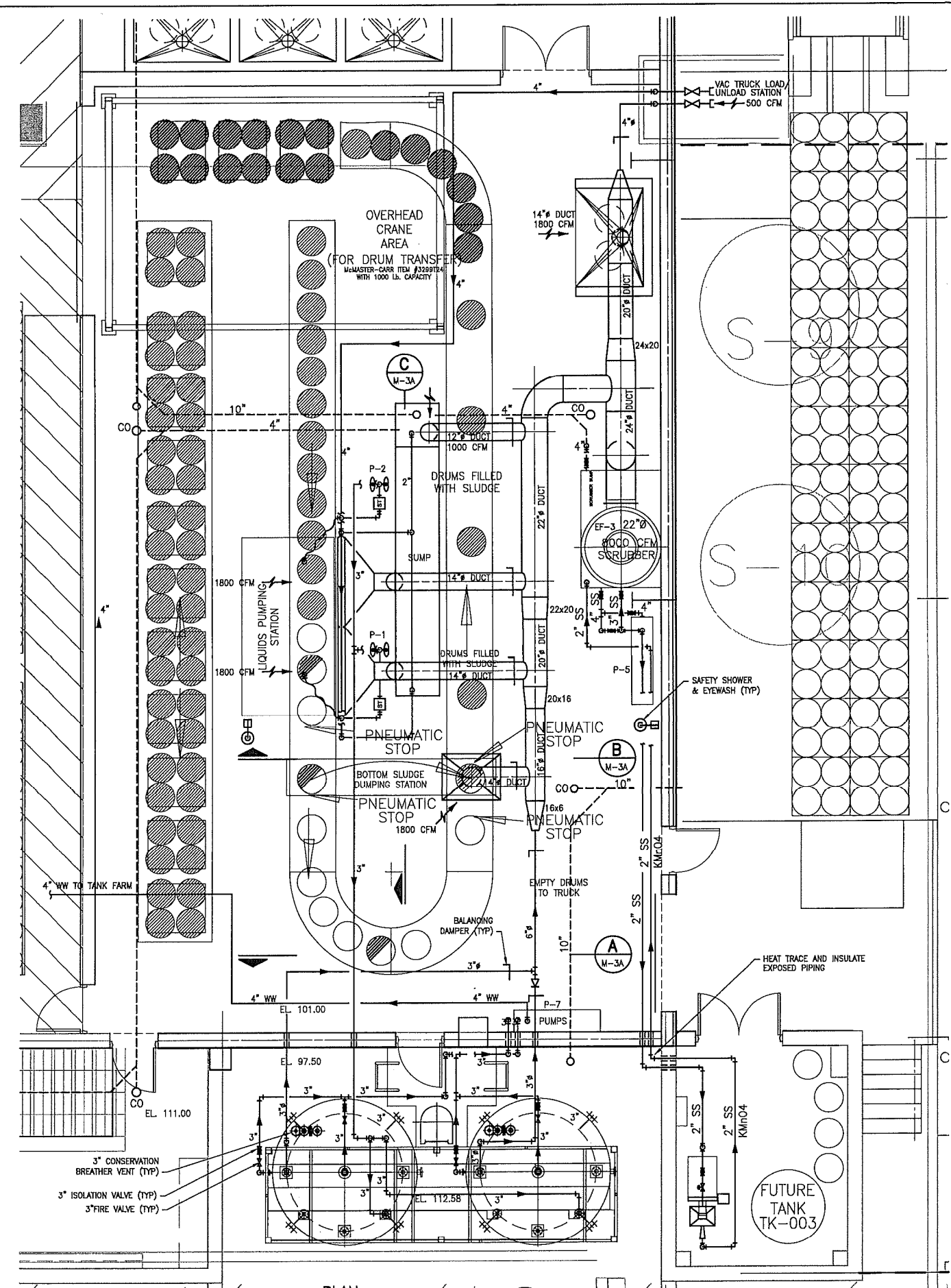
FUTURE SDG BUILDING

PLAN
SCALE: 3/32"=1'-0"

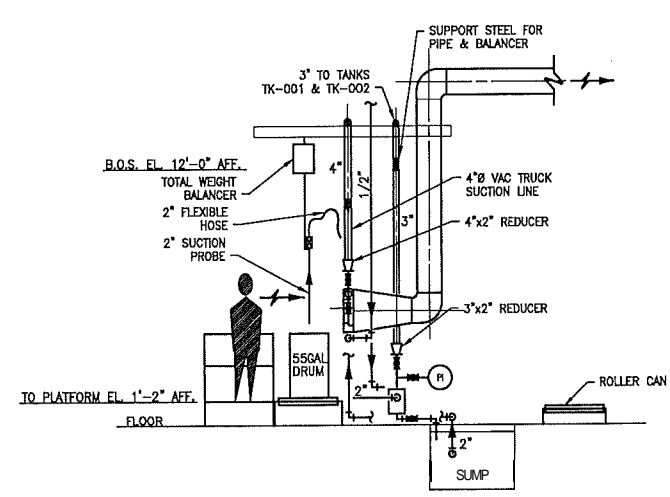
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ISSUED TO MDEQ	DCW	01/09/07	DEN
REV	DESCRIPTION	BY	DATE
 TETRA TECH			
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SCALE	DATE 2/14/2007 4:51 PM		
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PSC ENVIRONMENTAL SERVICES DIVISION 515 LYCASTE DETROIT, MICHIGAN DETROIT FACILITY REBUILD MECHANICAL			
CONTAINER MANAGEMENT BLDG FLOOR PLAN			SHEET M-3 OF 6

DATE: 02/14/2007 4:51 PM
 USER: DENVER
 PLOT: P:\142-17450-07-001\04\142-17450-07-001\W\M-3_PLAN FIRST FLOOR.DWG

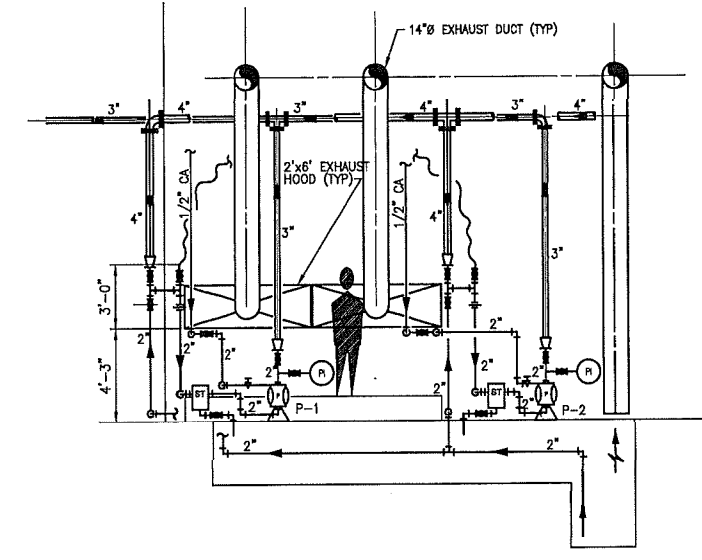
PLOT DATE: 8/1/2008 1:48 PM | USER: DWD | DWG: M-3A | PROJECT: PUMP ROOM ENLARGED PLAN



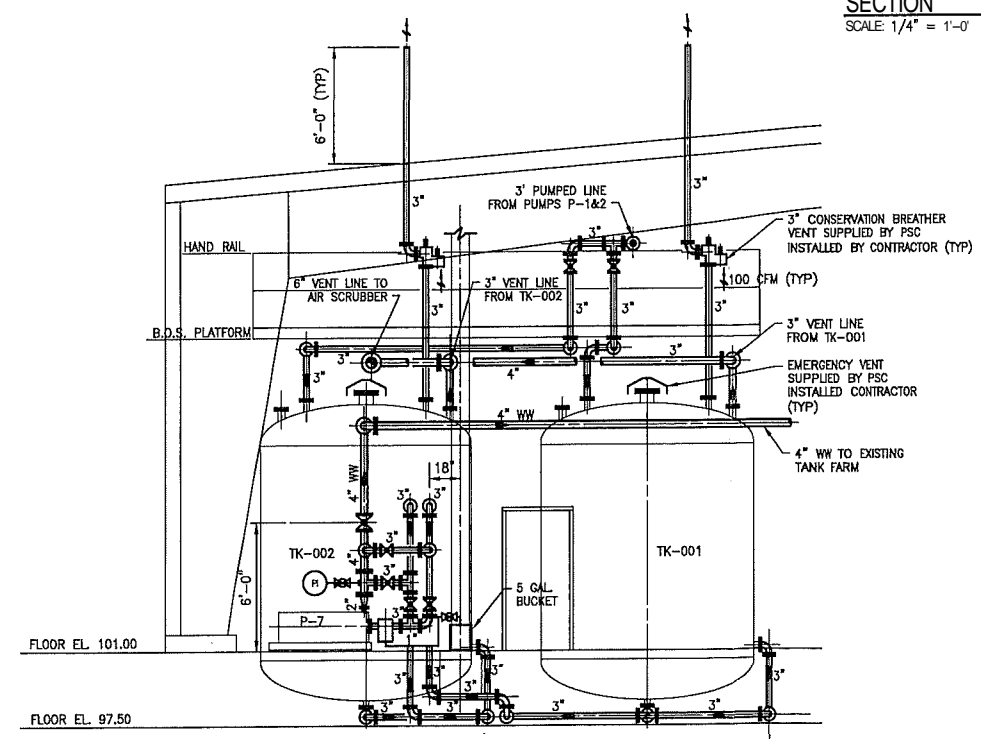
PLAN CONTAINMENT AREAS
 SCALE: 1/4" = 1'-0"



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

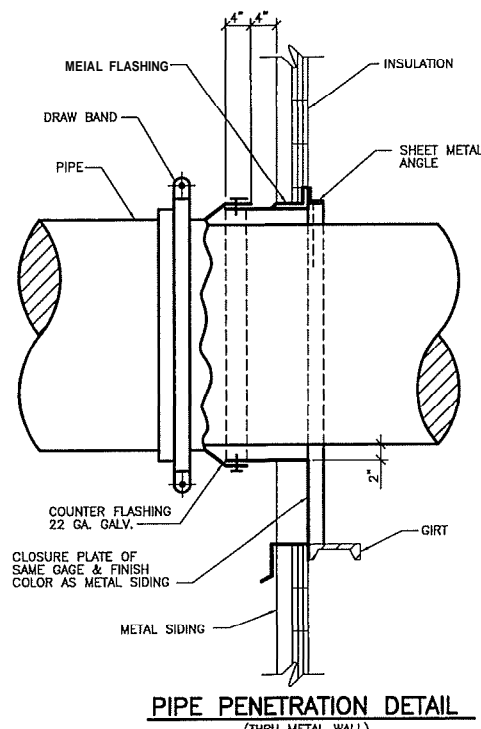


SECTION C
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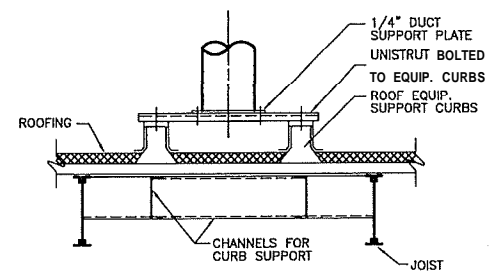


SECTION A
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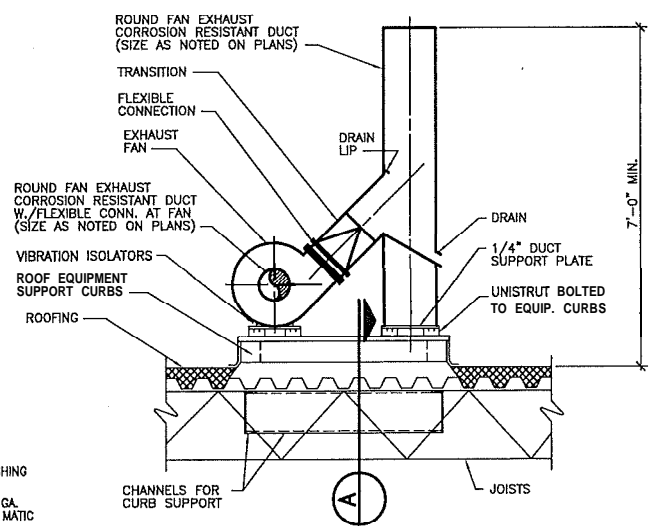
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△	PR NUMBER 18	DCW 07/31/08	DEN
REV	DESCRIPTION	BY	DATE
DESIGNED: D. WALZER		CHECKED: DEN	
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PSC ENVIRONMENTAL SERVICES DIVISION 515 LYCASTE DETROIT, MICHIGAN DETROIT FACILITY REBUILD			
GENERAL			
PUMP ROOM ENLARGED PLAN			
PHASE	CONTRACT	SHEET	
2		M-3A	



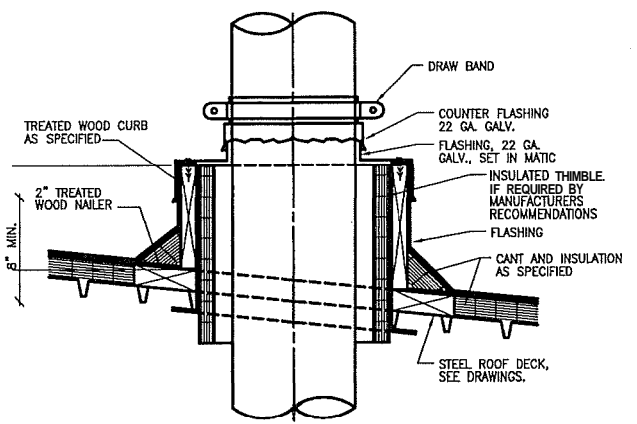
PIPE PENETRATION DETAIL
(THRU METAL WALL)



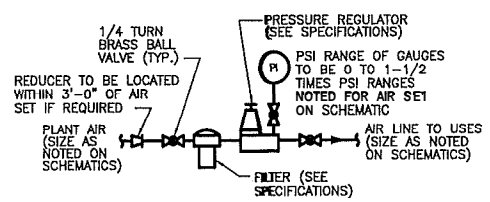
SECTION THRU EQUIPMENT CURB (A)
NO SCALE



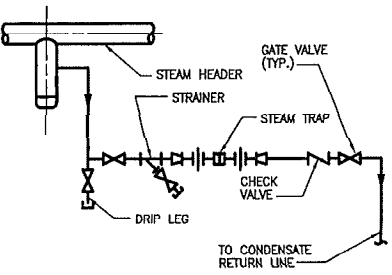
TYPICAL CENTRIFUGAL ROOF EXHAUST FAN DETAIL



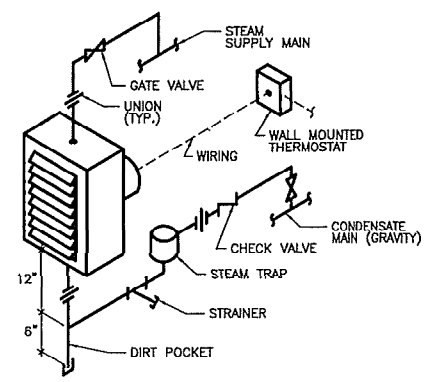
ROOF PENETRATIONS
STEEL ROOF DECK



AIR SET DETAIL
SYMBOL



TYPICAL STEAM LINE DRAIN

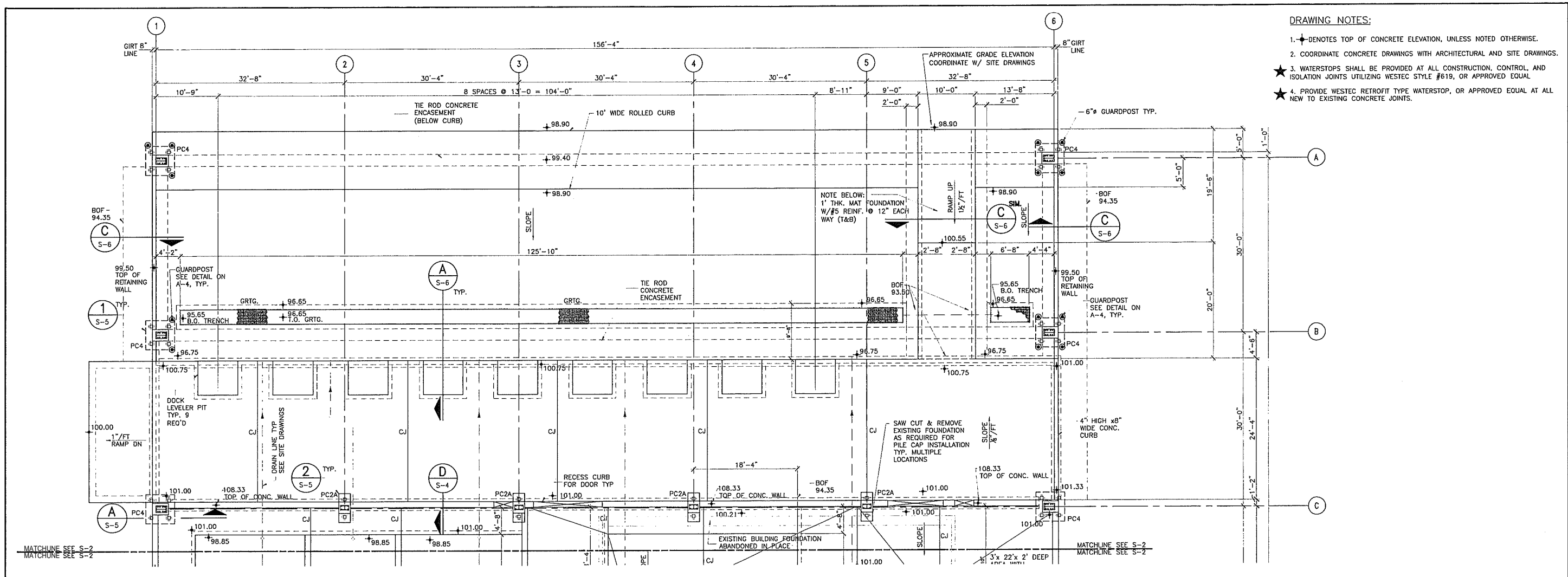


STEAM UNIT HEATER PIPING AND CONTROLS

EQUIPMENT SCHEDULE							
MARK	QUANTITY	DESCRIPTION	CONNECTIONS	CAPACITY	ELECTRICAL	MODEL NO.	REMARKS
MX-1	1	MIXER/AGITATOR	ELECTRICAL	3 HP MOTOR	480V 3-PH	????	SUPPLIED BY OWNER INSTALLED BY CONTRACTOR
MX-2	1	MIXER/AGITATOR	ELECTRICAL	3 HP MOTOR	480V 3-PH	????	SUPPLIED BY OWNER INSTALLED BY CONTRACTOR
TK-001	1	LIQUID WASTE STORAGE TANK	2\"/>				

- LEGEND**
- NEW PIPE
 - EXISTING PIPE
 - CITY WATER (POTABLE)
 - COMPRESSED AIR
 - CONDENSATE (STM)
 - STEAM (?? PH)
 - STORM SEWER
 - PROCESS WATER
 - WASTE WATER
 - RETURN GRILL
 - SUPPLY REGISTER
 - FIRE PROTECTION
 - SUPPLY DUCT
 - RETURN DUCT
 - HOSE BIB
 - GATE VALVE
 - BALL VALVE
 - ELBOW UP
 - ELBOW DOWN
 - REDUCER
 - BREAK IN UNE
 - CAP
 - AIR FLOW
 - AIR SET
 - FLOW ARROW
 - STEAM TRAP
 - METER
 - BACK FLOW PREVENTER
 - EYEWASH/SAFETY SHOWER
 - TIE-IN POINT
 - SUPPLY DEFUSER
 - RETURN GRILLE
 - THERMOSTATE
 - DOOR UNIT HEATER

ISSUED FOR BID	DCW	02/13/07	DEN
ISSUED TO MDEQ	DCW	01/09/07	DEN
DESIGNED	D. WALZER	CREATED	DEN
SCALE	AS NOTED	ODD DATE	2/12/2007 2:24 PM
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PSC ENVIRONMENTAL SERVICES DIVISION 515 LYCASTE DETROIT, MICHIGAN DETROIT FACILITY REBUILD			
MECHANICAL			
CONTAINER MANAGEMENT DLG			
DETAILS			
AND SCHEDULES			
DIVISION	CONTRACT	SHEET	
		M-4	
		OF 6	



- DRAWING NOTES:**
1. \blacktriangledown DENOTES TOP OF CONCRETE ELEVATION, UNLESS NOTED OTHERWISE.
 2. COORDINATE CONCRETE DRAWINGS WITH ARCHITECTURAL AND SITE DRAWINGS.
 3. WATERSTOPS SHALL BE PROVIDED AT ALL CONSTRUCTION, CONTROL, AND ISOLATION JOINTS UTILIZING WESTEC STYLE #619, OR APPROVED EQUAL
 4. PROVIDE WESTEC RETROFIT TYPE WATERSTOP, OR APPROVED EQUAL AT ALL NEW TO EXISTING CONCRETE JOINTS.

PARTIAL FOUNDATION PLAN
SCALE: 1/8"=1'-0"

- A. THESE GENERAL NOTES PRESENT AND/OR SUMMARIZE KEY PROJECT INFORMATION FOR THE PLANS READER'S CONVENIENCE. SEE ALSO INDIVIDUAL PLAN NOTES A PROJECT SPECIFICATIONS FOR FURTHER DETAILS AND REQUIREMENTS**
- B. ALL REFERENCES TO REFERENCE STANDARDS HEREIN ARE TO MOST RECENT ISSUE IN EFFECT AS OF THE DATE OF THESE DOCUMENTS UNLESS NOTED OTHERWISE IN PROJECT SPECIFICATIONS OR ON THE PLANS.**
- C. ELEVATIONS. ALL ELEVATIONS ARE REFERENCED TO EL. 100'-0" = _____ ALL ELEVATIONS SHOWN ON PLANS ARE REFERENCED TO THIS DATUM UNLESS NOTED.**
- D. ABBREVIATIONS:**
 B/BOTTOM OF CONC
 CONC CONCRETE
 CMU CONCRETE MASONRY UNIT
 DEMO DEMOLITION
 EF EACH FACE
 EL ELEVATION
 EMBED EMBEDMENT
 EW EACH WAY
 EXT. EXISTING
 GA GAUGE
 GB GRADE BEAM
 NF NEAR FACE
 NW NORMAL WEIGHT
 OC ON CENTER
 T/ TOP OF
 TOS TOP OF STEEL
 N.P TYPICAL
 UNO UNLESS NOTED OTHERWISE
 WWF WELDED WIRE FABRIC
- E. SUBMIT SHOP DRAWINGS, PROJECT DATA AND SAMPLES AS SPECIFIED IN PROJECT SPECIFICATIONS.**
- F. SPECIAL IDENTIFICATION: ★ INDICATES CONTRACT/CONSTRUCTION REQUIREMENTS THAT IN THE EXPERIENCE OF THE DESIGNER ARE (A) ESPECIALLY CRITICAL TO SAFE OR SATISFACTORY PERFORMANCE, AND/OR (B) FREQUENTLY NOT GIVEN ADEQUATE CONSTRUCTION CONTROL BY SUBCONTRACTORS; AND/OR (C) NOT STANDARD OR COMMON CONSTRUCTION REQUIREMENTS AND THEREFORE MAY BE SUBJECT TO CONTRACTOR OVERSIGHT IN COSTING AND/OR CONSTRUCTION**

- 3. FOUNDATIONS**
- A. FOUNDATIONS SHALL BE A DEEP FOUNDATION SYSTEM UTILIZING TITAN MICROPILES (UNITED DYNAMICS (812)-282-2222, ERIC MINZENBERGER) OR APPROVED EQUAL. SEE PLANS FOR REQUIRED CAPACITIES. A MINIMUM OF 2 TEST PILES WILL BE REQUIRED. PROVISIONS SHALL BE MADE FOR ADDITIONAL TEST PILES IF SITE CONDITIONS WARRANT.**
- B. GEOTECHNICAL ENGINEER SHALL BE RETAINED TO PROVIDE OBSERVATION AND TESTING SERVICES DURING THE GRADING AND FOUNDATION PHASE OF CONSTRUCTION PER SOIL REPORT RECOMMENDATIONS. INSPECTION AND TESTING REPORTS SHALL BE SUBMITTED TO M E STRUCTURAL ENGINEER.**
- ★ **C. SUBGRADE FOR ALL SHALLOW BEARING CONTINUOUS WALL FOUNDATIONS SHALL BE OVEREXCAVATED A MINIMUM OF 2'-0", COMPACTED, AND FILLED WITH CRUSHED STONE. THIS IS NOT REQUIRED AT THE PERIMETER GRADE BEAMS.**
- D. PROVIDE PROTECTION OF ALL EXISTING AND ADJOINING PUBLIC AND PRIVATE PROPERTY FROM DAMAGE DUE TO EXCAVATIONS.**
- E. DESIGN AND PROVIDE SHEETING AND SHORING AS REQUIRED TO CONTAIN BANKS AND SIDES OF EXCAVATIONS.**
- F. FURNISH AND INSTALL UNDERPINNING REQUIRED TO SUPPORT EXISTING STRUCTURES.**
- G. PREVENT HEAVY VEHICULAR TRAFFIC WITHIN 10 FEET OF SHORING BULKHEAD OR TOP OF EMBANKMENTS.**
- H. EMERGENCY TELEPHONE NUMBERS (FIRE, POLICE, TRAFFIC, UTILITY, SEWER MAINTENANCE, ETC.) SHALL BE POSTED AT THE JOB SITE AND ALL OTHER NECESSARY PRECAUTIONS SHALL BE TAKEN TO PROVIDE FOR EMERGENCIES.**
- 4. CAST-IN-PLACE REINFORCED CONCRETE**
- A. REFERENCE STANDARD: ACI 301. COLD WEATHER PLACEMENT: ACI 306-1. HOT WEATHER PLACEMENT: ACI 305R. CONTRACTOR TO MAINTAIN COPIES OF THESE SPECIFICATIONS AT JOB SITE.**
- B. MIX DESIGN SHALL BE DOCUMENTED IN ACCORDANCE WITH SECTION 03300 OF THE PROJECT SPECS AND ACI 301. C/WATER 3 PROPORTIONING MIX DESIGNS WHICH ARE SUBMITTED WITHOUT THE REQUIRED DOCUMENTATION WILL BE REJECTED. FIELD SLUMPS RECORDED AT JOB SITE SHALL NOT EXCEED THE SLUMP ESTABLISHED FOR THE MIX DESIGN.**
- C. N.P.E CONCRETE: SEE CONCRETE SPECIFICATION 03310**
1. PILE CAPS, CONTINUOUS WALL FOUNDATIONS: CLASS A
 2. ALL REMAINING CONCRETE STRUCTURES SHOWN: CLASS S
 3. ALL CONCRETE EXPOSED TO THE ELEMENTS SHALL BE AIR-ENTRAINED 5 1/2% (± 1 1/2%), SEE SPECS.
 4. ALL CONCRETE IN 8" WALLS OR COLUMNS WITH TWO PLANES OF REINFORCEMENT SHALL HAVE MAXIMUM 3/4" INCH AGGREGATE. IT IS RECOMMENDED THAT THE CONTRACTOR CONSIDER SUPER-PLASTICIZED CONCRETE PER SPECS.
 5. TYPICAL REINFORCING BARS LAP: TENSION "B" UNLESS NOTED OTHERWISE.

- D. REINFORCEMENT:**
1. REINFORCING BARS: DEFORMED, GRADE 60, ASTM A615, A616, A617 OR A706
 - A. FABRICATION: ACI 315-60 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT OR CRSI "REINFORCING BAR DETAILING" (MANUAL OF STANDARD PRACTICE).
 2. WELDED SMOOTH WIRE FABRIC - ASTM A185 (SHEETS ONLY, ROLL FABRIC NOT ALLOWED)
 3. WELDING - ACI 301, SECTION 5.3
 4. ACCESSORIES: PROVIDE PROTECTED BAR SUPPORTS CLASS 1, MAXIMUM PROTECTION (CRSI MANUAL OF STANDARD PRACTICE) FOR ALL SLABS AND BEAMS WITH SOFFITS EXPOSED TO VIEW, INCLUDING PAINTED OR SPRAY-ON FINISHED SURFACES. MINIMUM BAR CLEARANCES/ COVERAGE MUST BE MAINTAINED. IF SOFFIT IS TO BE GROUND, PLASTIC DIPPED/COATED ACCESSORIES ARE NOT ACCEPTABLE. USE MOLDED PLASTIC LEGS, 1/4" MINIMUM LENGTH.
 5. CORNER BARS: PROVIDE CORNER BARS SAME SIZE AND SPACING AS HORIZONTAL REINFORCEMENT AT INTERSECTIONS OF ALL WALLS, UPTURNED BEAMS AND GRADE BEAMS.
 6. BEAMS: PROVIDE (2) #4 CARRYING BARS CONTINUOUS IN TOP OF ALL BEAMS, UNO
 7. SPLICES: CONTINUOUS REINFORCING BARS SHALL BE PROVIDED WITH TENSION LAPS AT ALL SPLICES, U.N.O., INCLUDING CORNER BARS.
 8. COVER FOR PROTECTION TYPICAL, U.N.O.:
 A. UNFORMED SURFACE IN CONTACT WITH GROUND - 3"
 B. FORMED SURFACE IN CONTACT WITH GROUND OR EXPOSED TO THE ELEMENTS - 2.5"
 C. BEAMS & GIRDERS - 2 1/2"
 D. COLUMN TIES, BEAM TIES & STIRRUPS - 2 1/2"
 E. IN ALL CASES NOT LESS THAN THE DIAMETER OF THE BAR.
 F. HOOKS INDICATED ARE ACI/CRSI STANDARD 90° OR 180° HOOKS. BAR LENGTHS SHOWN ARE OUT-TO-OUT AND DO NOT INCLUDE HOOK LENGTH.
 G. PROVIDE HOOKS ON ALL TOP BARS IN SLABS AND BEAMS TYPICAL AT DISCONTINUOUS ENDS.
- E. EMBEDDED PIPES OR CONDUIT, MAXIMUM DIAMETER - 1/3 X SLAB OR WALL THICKNESS. SPACED MINIMUM OF 3 TIMES DIAMETER ON CENTER.**
- F. CURING AND PROTECTION: SEE SPECS.**
1. STRIP CAST WITH CONTROL/CONSTRUCTION JOINTS TO ALIGN WITH COLUMN CENTERLINES AND/OR AT 15' OC, MAX.
 2. CONTROL JOINTS MADE BY ZIPSTRIP BY GREENSTREAK OR EQUAL CONSTRUCTION JOINTS DETAILS SEE PLANS. (JOINTS MAY BE SAVED WITH ENGINEER'S APPROVAL AFTER REVIEW OF CONCRETE MIX DESIGN POUR SEQUENCE AND SAWING SCHEDULE.)
- G. SHOP DRAWINGS: SUBMIT REBAR SHOP DRAWINGS. SEE SPECS.**

SPECIAL INSPECTIONS				
THE FOLLOWING ARE REQUIRED PER THE 2003 MICHIGAN BUILDING CODE, SECTION 1704.1 CONCRETE CONSTRUCTION:				
1.	PERIODIC INSPECTION OF REINFORCING STEEL IN FOOTINGS, GRADE BEAMS, WALLS AND SLABS.			
2.	CONTINUOUS INSPECTION OF BOLTS TO BE INSTALLED IN CONCRETE (PRIOR TO AND DURING PLACEMENT OF CONCRETE).			
3.	PERIODIC VERIFICATION OF DESIGN MIX.			
4.	CONTINUOUS SAMPLING FOR STRENGTH TESTS, SLUMP AND AIR CONTENT AND TEMPERATURE TESTS FOR CAST-IN-PLACE CONCRETE.			
5.	PERIODIC INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURES AND TECHNIQUES.			
STEEL CONSTRUCTION:				
1.	PERIODIC VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND MANUFACTURER'S CERTIFICATE OF COMPLIANCE.			
2.	INSPECTION OF SPICES AND CONNECTIONS. CONTINUOUS			
3.	CONTINUOUS INSPECTION OF COMPLETE AND PARTIAL PENETRATIONS GROOVE WELDS, MULTI-PASS FILLET WELDS, AND SINGLE-PASS FILLET WELDS > 3/16".			
4.	PERIODIC INSPECTION OF SINGLE-PASS FILLET WELDS < 3/16", AND FLOOR AND DECK WELDS.			
5.	PERIODIC INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS.			
MASONRY CONSTRUCTION:				
1.	LEVEL 2 SPECIAL INSPECTION AS DELINEATED IN TABLE 1704.5.3 OF THE INTERNATIONAL BUILDING CODE.			

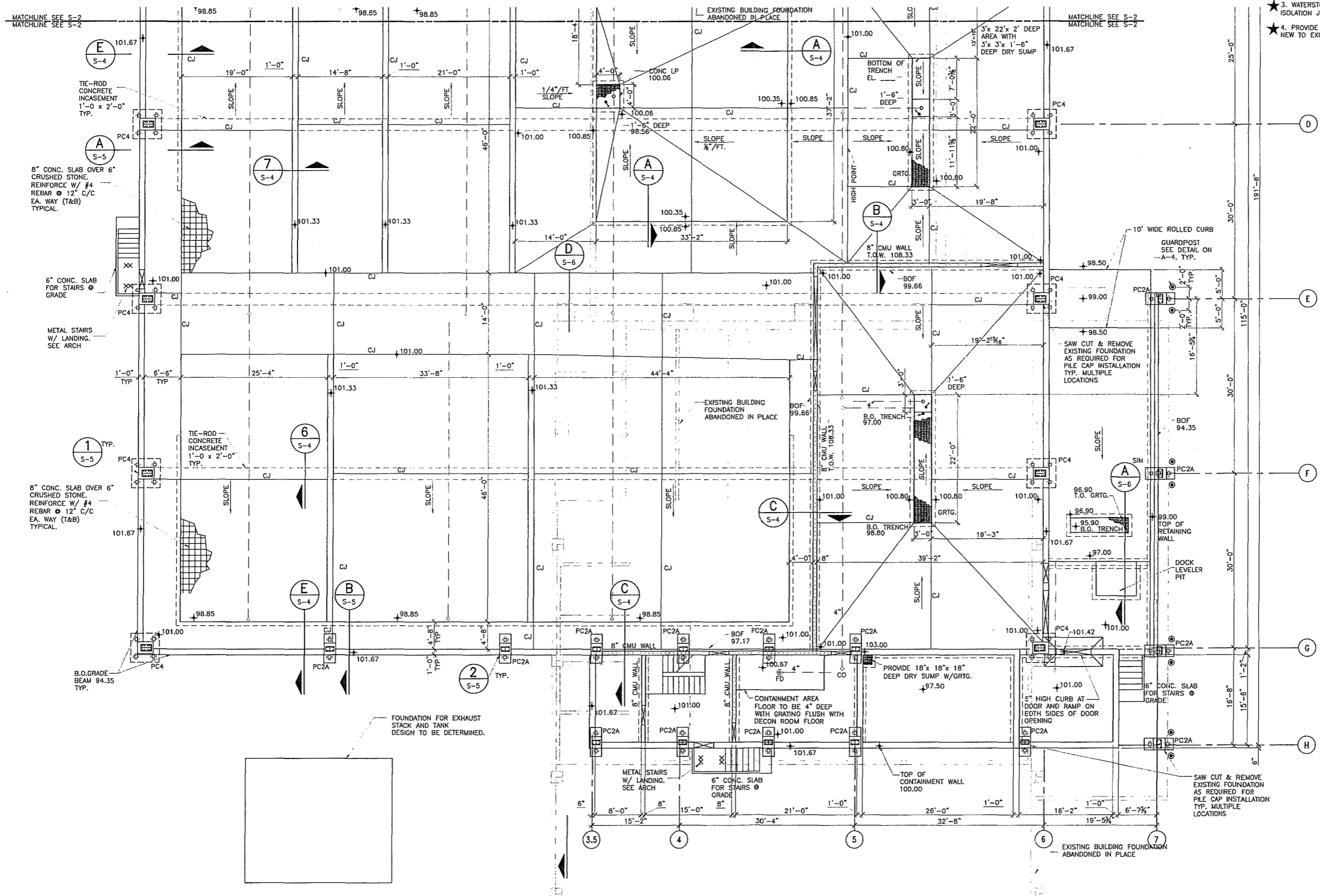
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△	ISSUED FOR BID		02/13/07	DEN
△	ISSUED TO MDO		1/09/07	DEN

DESIGNED BR/		CHECKED CDC	
SCALE 1/8" = 1'-0"		CAD DATE 1/17/2007 10:36 AM	
PART P\142-17450-07-001\CAD\142-17450-07-001\A\FOUNDATION.PLD			
PSC ENVIRONMENTAL SERVICES 515 LYCOSTE DETROIT MI DETROIT FACILITY REBUILD			
STRUCTURAL			
CONTAINER MANAGEMENT BLDG. PARTIAL FOUNDATION PLAN			
DIVISION	CONTRACT	SHEET S-1	

PLOT DATE: 1/14/2007 12:51 PM LAST PLOTTED BY: REVIEWSER, PLOT DEVICE: SES, 8500 - P:\pwr\p3

DRAWING NOTES:

1. ∇ DENOTES TOP OF CONCRETE ELEVATION, UNLESS NOTED OTHERWISE.
2. COORDINATE CONCRETE DRAWINGS WITH ARCHITECTURAL AND SITE DRAWINGS.
- ★ 3. WATERSTOPS SHALL BE PROVIDED AT ALL CONSTRUCTION, CONTROL, AND ISOLATION JOINTS UTILIZING WESTEC STYLE #619, OR APPROVED EQUAL.
- ★ 4. PROVIDE WESTEC RETROFIT TYPE WATERSTOP, OR APPROVED EQUAL AT ALL NEW TO EXISTING CONCRETE JOINTS.



PARTIAL FOUNDATION PLAN
SCALE: 1/8"=1'-0"

ISSUED FOR BID	02/13/07	DEN
ISSUED TO MDOE	1/09/07	DEN
REV	DESCRIPTION	BY DATE CHKD

TETRA TECH

DESIGNED BRF CHECKED CDC

SCALE 1/8" = 1'-0" CAD DATE 1/17/2007 10:36 AM

PART PA\142-17430-07-001\CAD\142-17430-07-001\FLOORPLAN.DWG

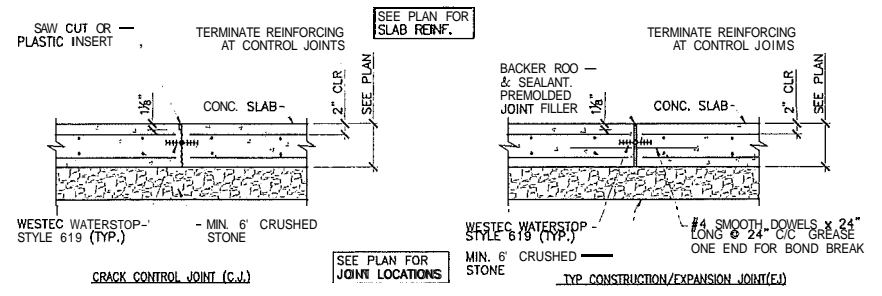
PSC ENVIRONMENTAL SERVICES
515 LYCASTE DETROIT, MI
DETROIT FACILITY REQUIRED

STRUCTURAL

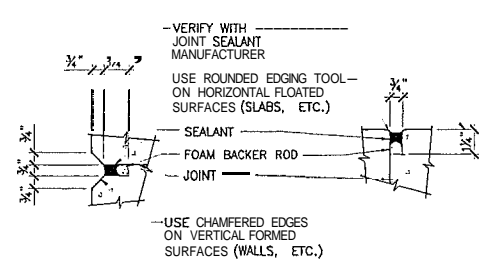
**CONTAINER MANAGEMENT BLDG.
PARTIAL FOUNDATION PLAN**

DIVISION	CONTRACT	SHEET
		S-2

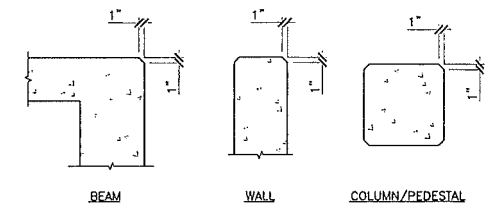
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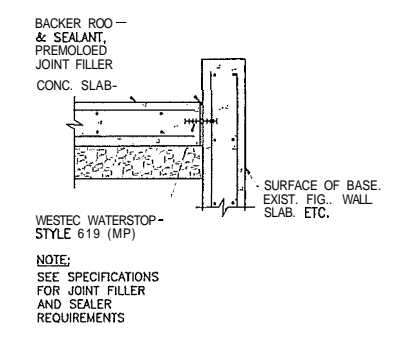
DETAIL 1
SCALE: 3/4"=1'-0"
S-4
TYPICAL JOINT DETAILS



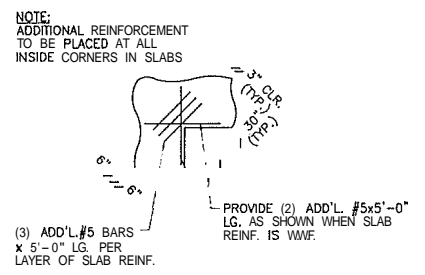
DETAIL 2
SCALE: N.T.S.
S-4
TYPICAL JOINT SEALANT DETAILS



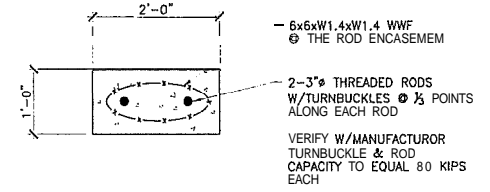
DETAIL 3
SCALE: N.T.S.
S-4
TYP. CHAMFER DETAILS



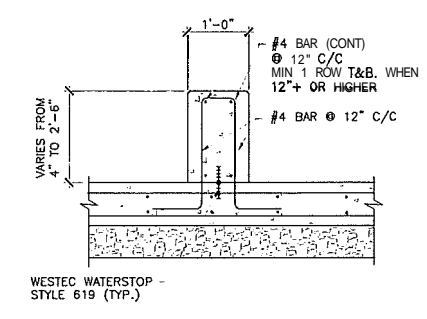
DETAIL 4
SCALE: 3/4"=1'-0"
S-4
TYP. SLAB TO WALL ISOLATION JOINT



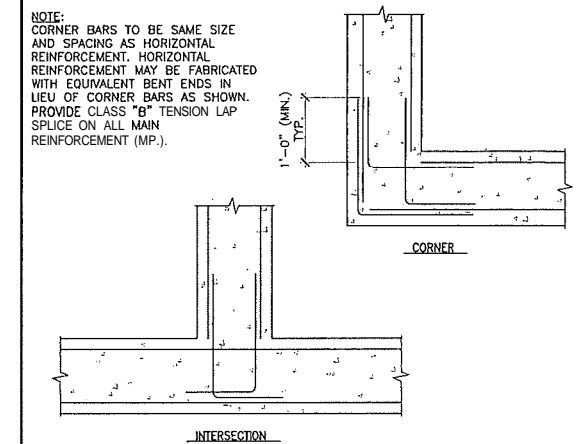
DETAIL 5
SCALE: 3/4"=1'-0"
S-4
TYP. REINF. @ RE-ENTRANT CORNER DETAIL



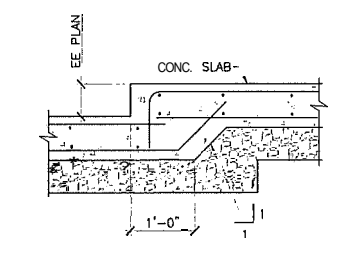
SECTION 6
SCALE: 3/4"=1'-0"
S-4
TYPICAL THRUST ROD DETAILS



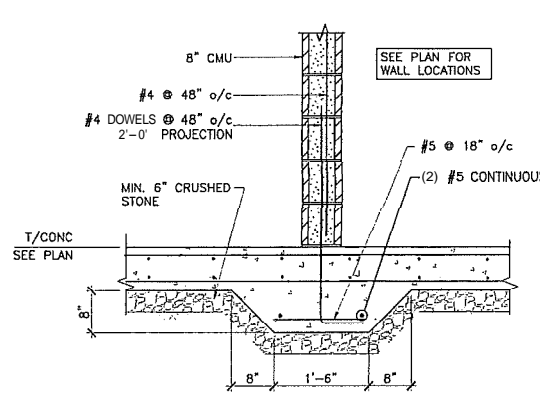
DETAIL 7
SCALE: 3/4"=1'-0"
S-4
TYPICAL CONTINUOUS CURB DETAIL



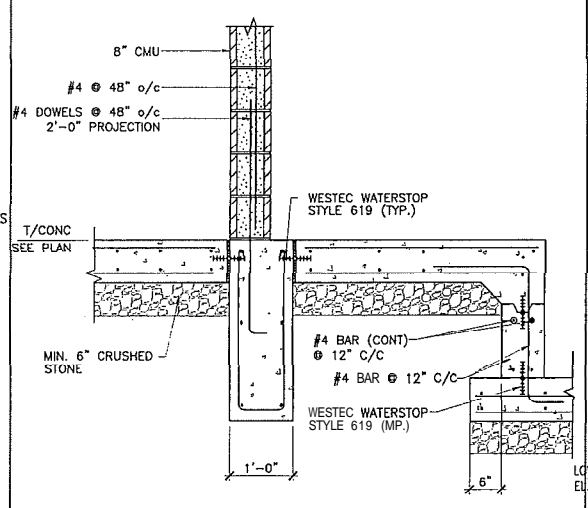
DETAIL 8
SCALE: N.T.S.
S-4
TYPICAL WALL CORNER BARS DETAIL



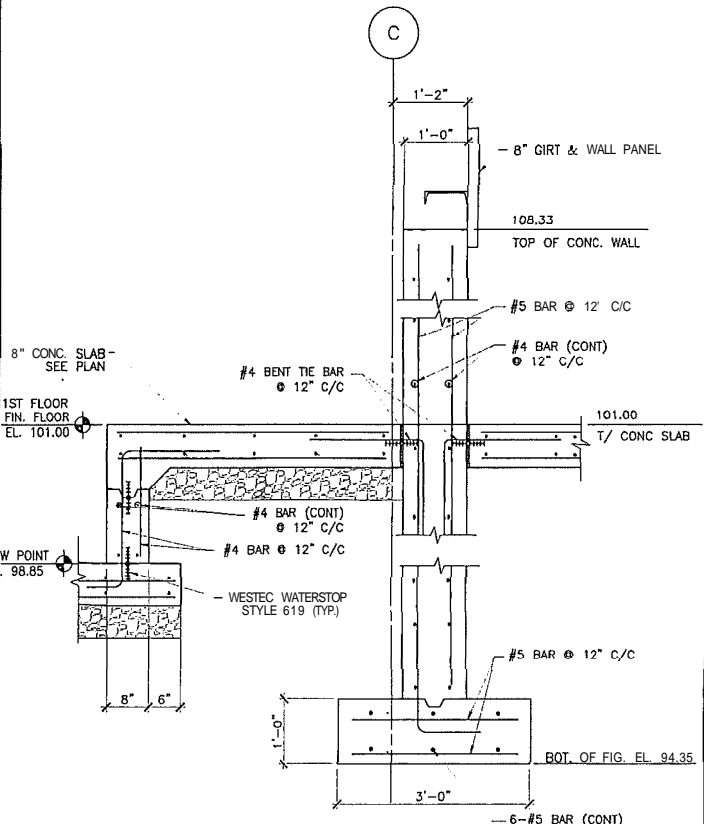
SECTION A
SCALE: 3/4"=1'-0"
S-4
TYPICAL SLAB STEP DETAIL



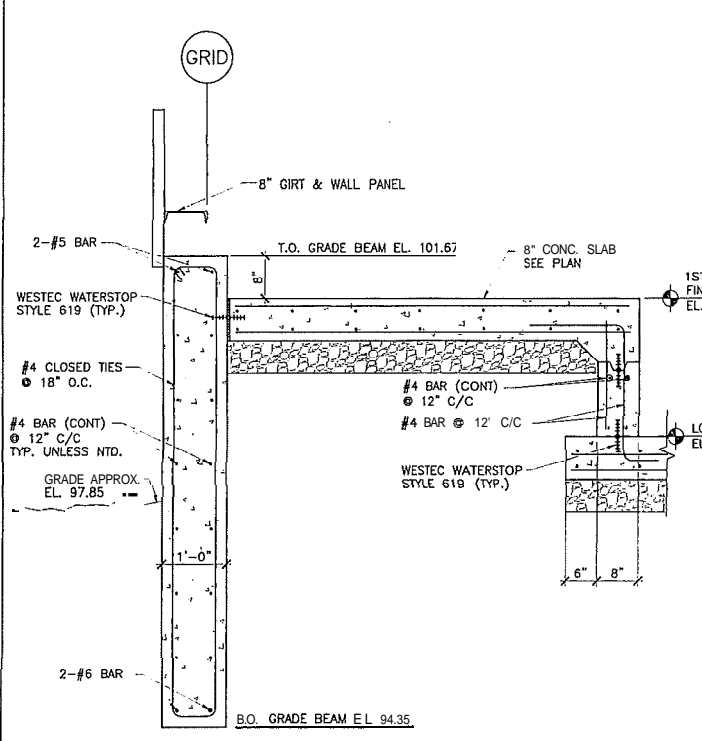
SECTION B
SCALE: 3/4"=1'-0"
S-4
TYPICAL SECTION @ CMU WALL



SECTION C
SCALE: 3/4"=1'-0"
S-4
WALL SECTION



SECTION D
SCALE: 3/4"=1'-0"
S-4
WALL LEVELER SECTION



SECTION E
SCALE: 3/4"=1'-0"
S-4
TYPICAL GRADE BEAM SECTION

REV	DESCRIPTION	BY	DATE	CHK'D
△	ISSUED FOR BID		02/13/07	DEN
△	ISSUED TO MDO		1/09/07	DEN

TETRA TECH

DESIGNED: BRF
SCALE: AS NOTED
PART: P1\112-17459-07-001\CAD\112-17459-07-001\A\LDORP\DWG

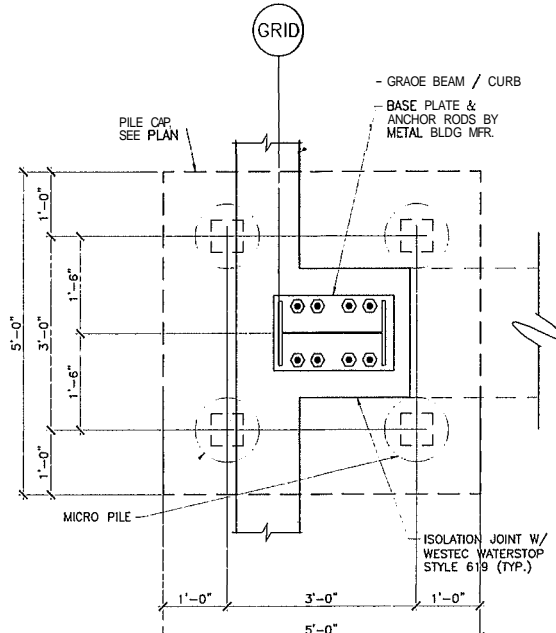
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DATE: 1/17/2007 10:38 AM

PSC ENVIRONMENTAL SERVICES
315 LYCASTE, DETROIT, MI
DETROIT FACILITY REBUILD

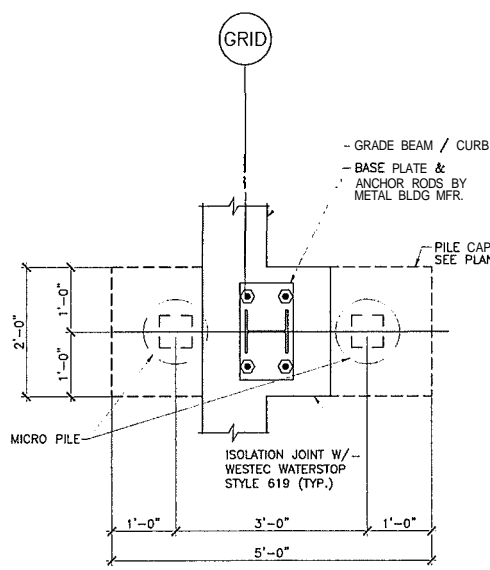
STRUCTURAL
CONTAINER MANAGEMENT BLDG. & HEEL MANAGEMENT BLDG.
DETAIL SHEET

DIVISION: _____ CONTRACT: _____ SHEET: S-4 OF _____

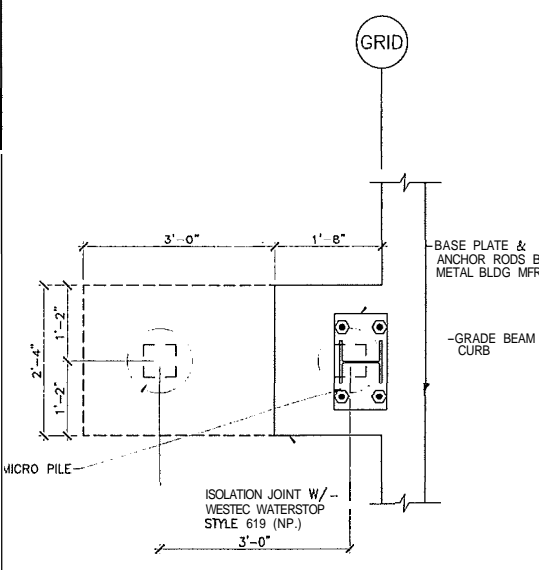
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 PLOT DEVICE: HPGL PLOT



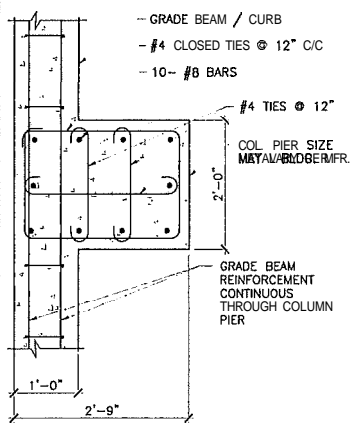
DETAIL 1
SCALE: 3/4"=1'-0"
S-5
PC4 COLUMN PIER DETAIL



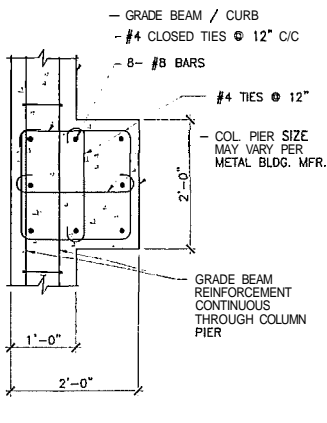
DETAIL 2
SCALE: 3/4"=1'-0"
S-5
PC2A COLUMN PIER DETAIL



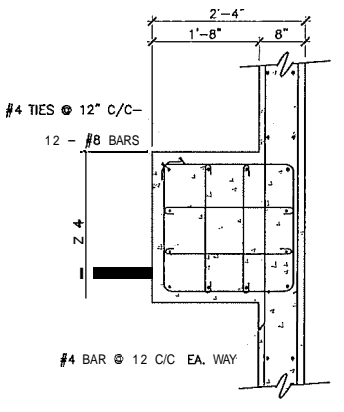
DETAIL 3
SCALE: 3/4"=1'-0"
S-5
PC2B COLUMN PIER REINF. DETAIL



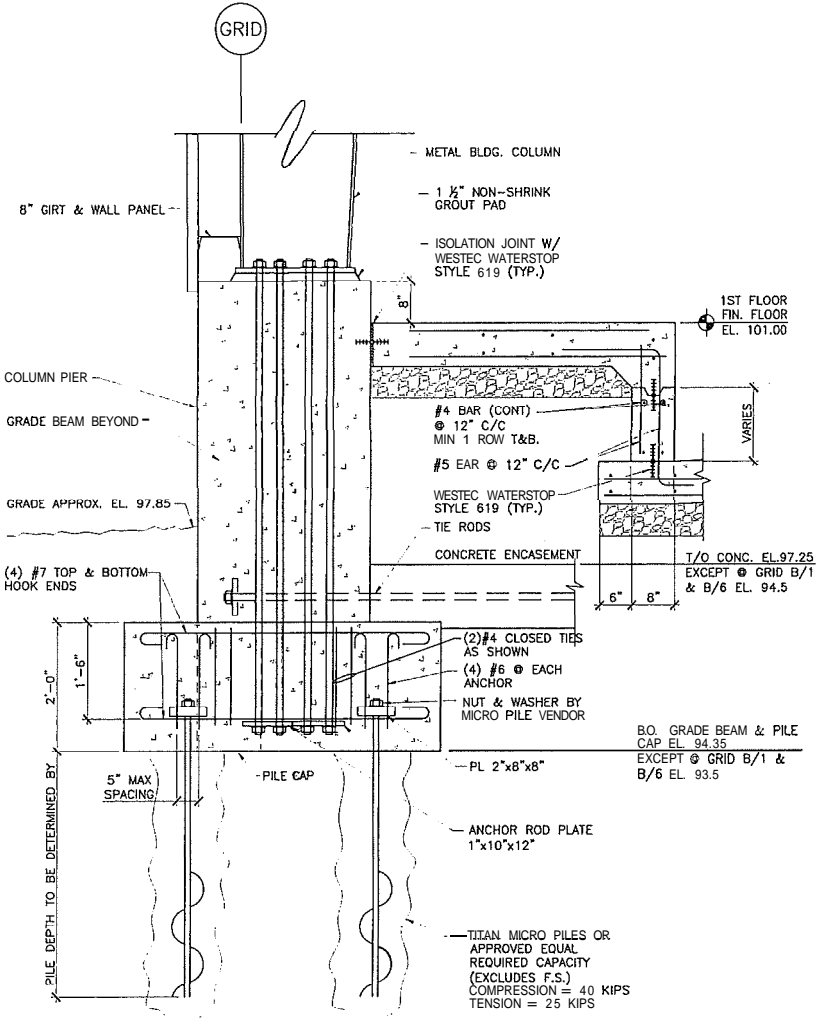
DETAIL 4
SCALE: 3/4"=1'-0"
S-5
PC4 COLUMN PIER REINF. DETAIL



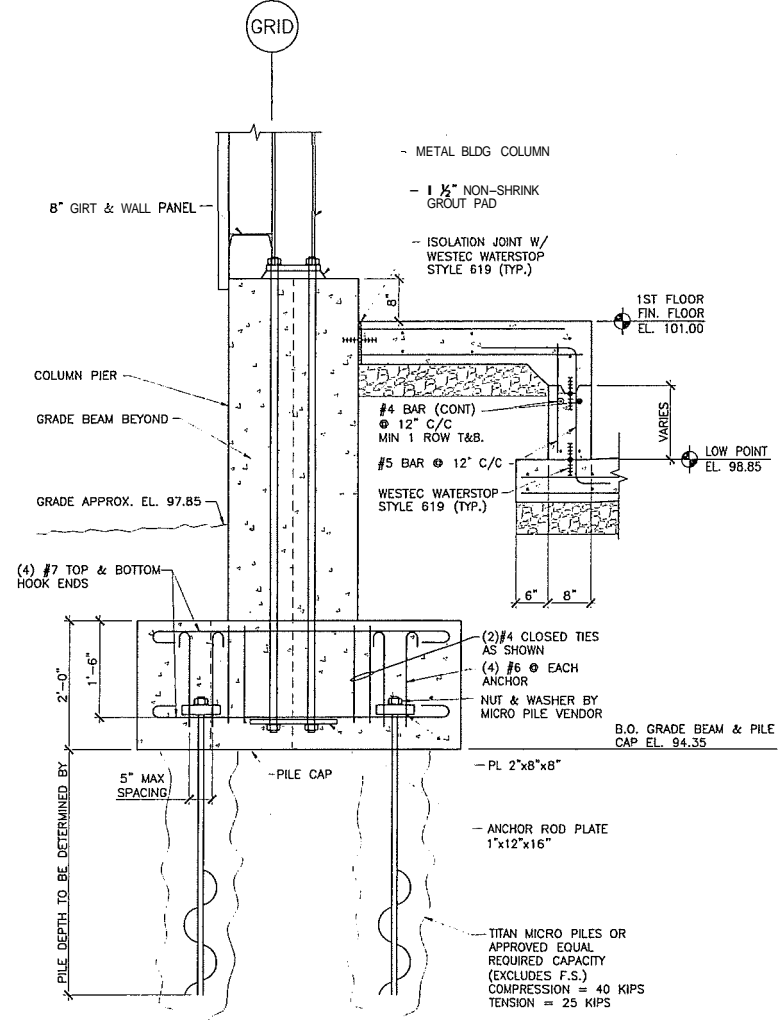
DETAIL 5
SCALE: 3/4"=1'-0"
S-5
PC2A COLUMN PIER REINF. DETAIL



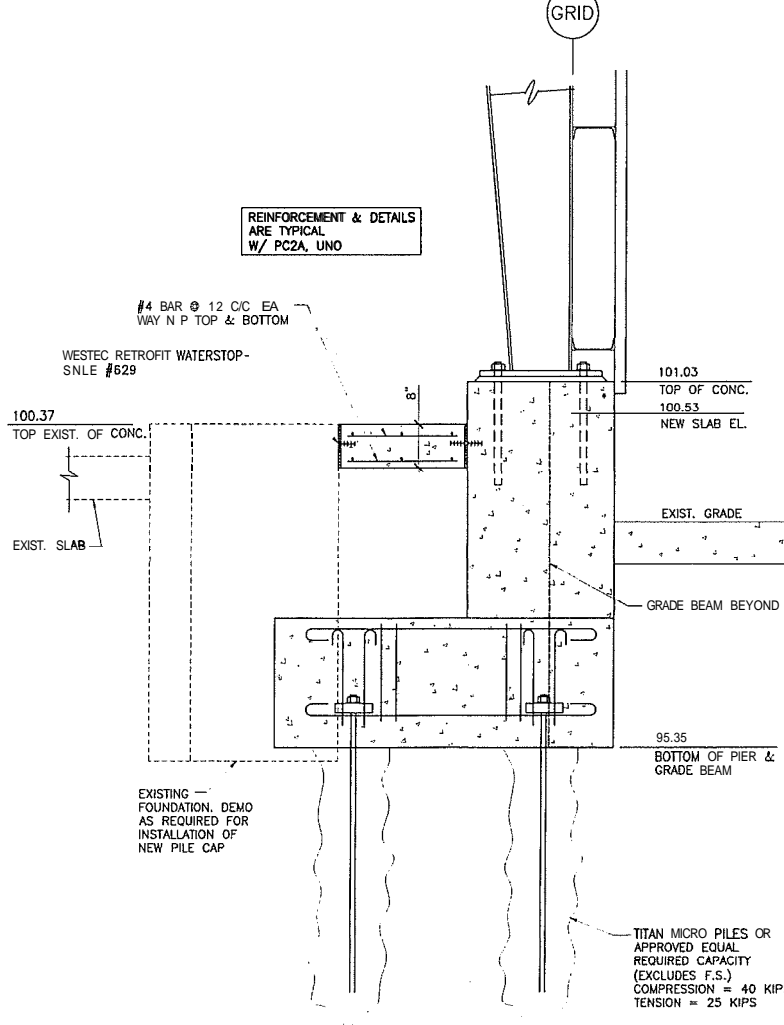
DETAIL 6
SCALE: 3/4"=1'-0"
S-5
PC2B COLUMN PIER REINF. DETAIL



SECTION A
SCALE: 3/4"=1'-0"
S-5
WALL SECTION @ PC1 PIER



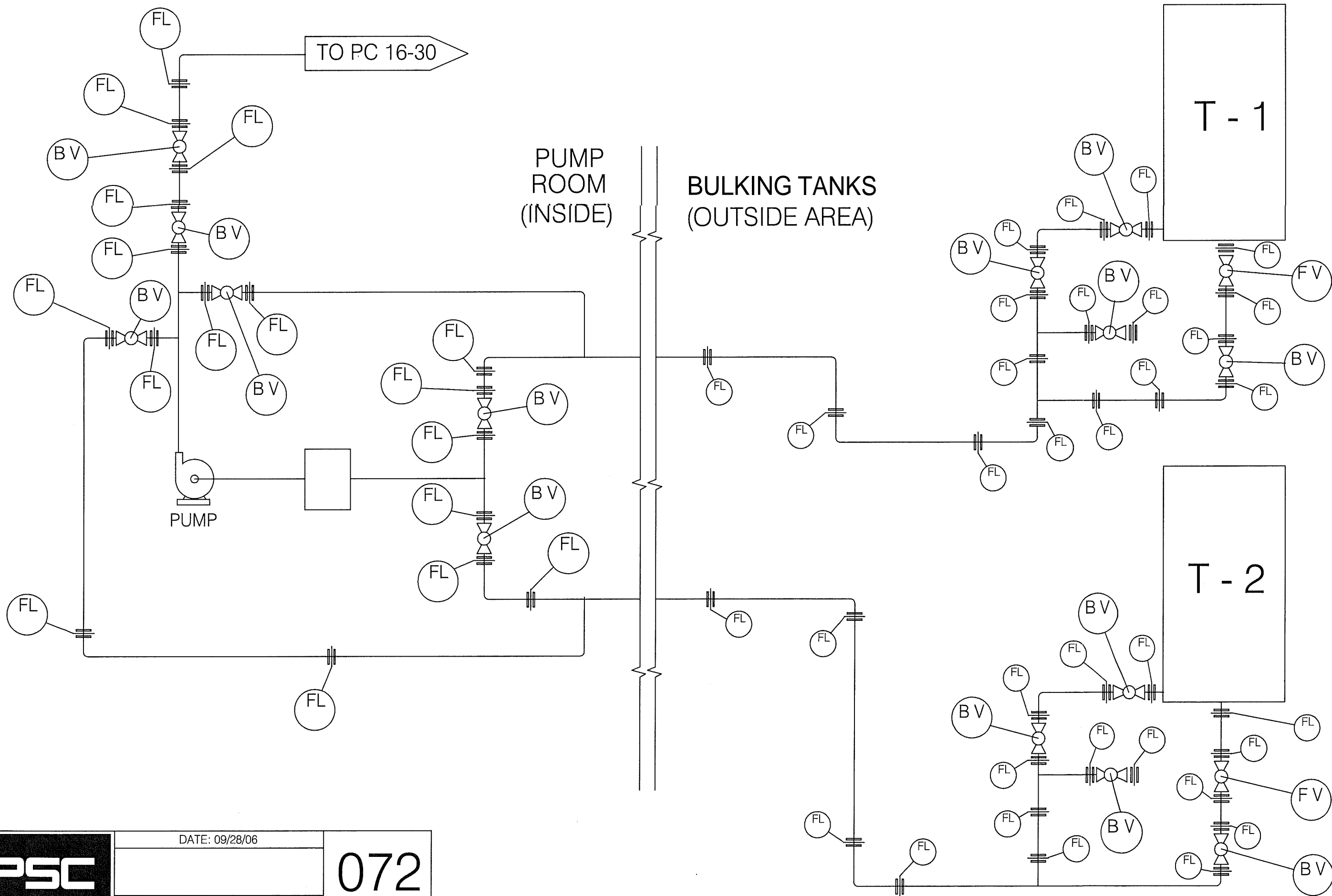
SECTION B
SCALE: 3/4"=1'-0"
S-5
WALL SECTION Q PC2A PIER



SECTION C
SCALE: 3/4"=1'-0"
S-5
WALL SECTION @ PC2B PIER

DESIGNED	BRF	CHECKED	CDC
SCALE	AS NOTED	CAD DATE	1/17/2007 10:36 AM
PSC ENVIRONMENTAL SERVICES 515 LYCASTE, DETROIT, MI DETROIT FACILITY REBUILD			
STRUCTURAL			
CONTAINER MANAGEMENT BLDG. & HEEL MANAGEMENT BLDG. DETAIL SHEET			
DIVISION	CONTRACT	SHEET S-5 OF	

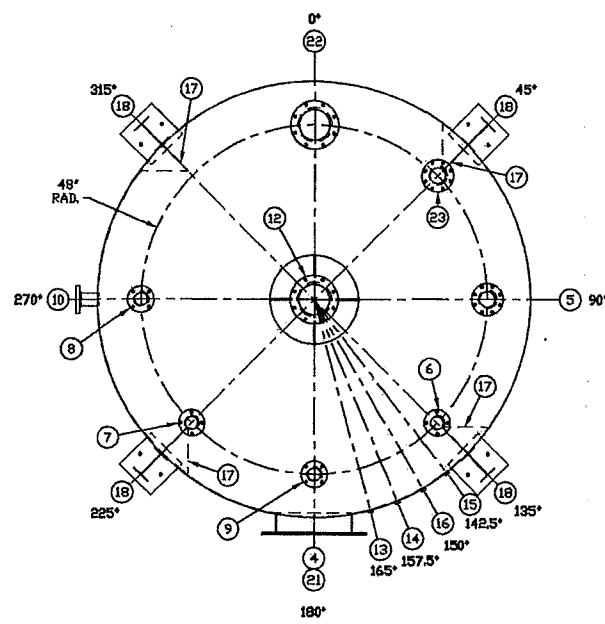
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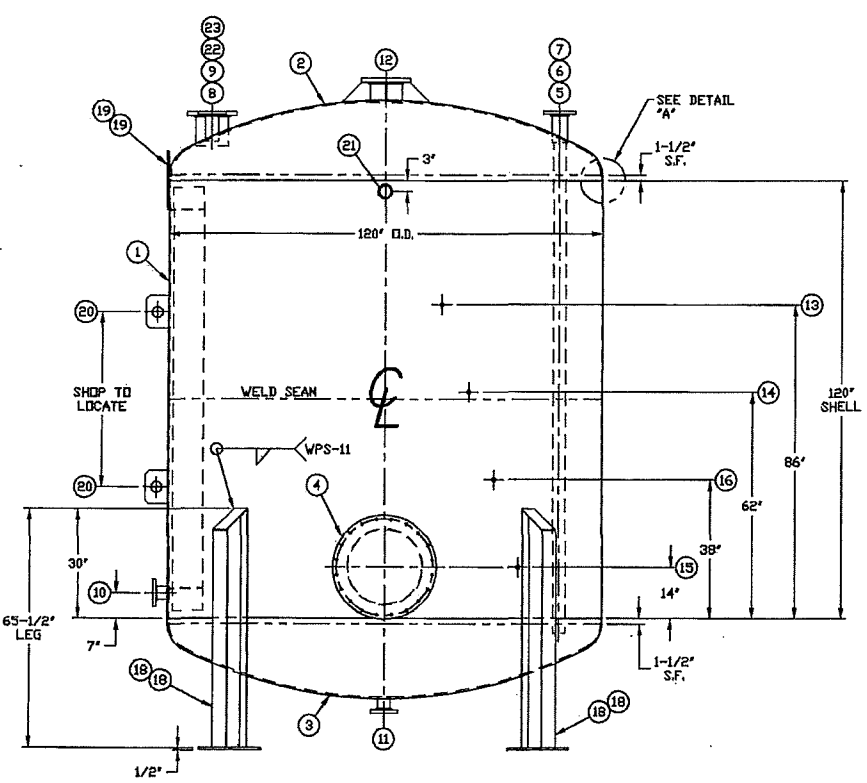
DATE: 09/28/06

DRAWN BY: LEWIS KRYK APPROVED BY: BRIAN CAPE

072

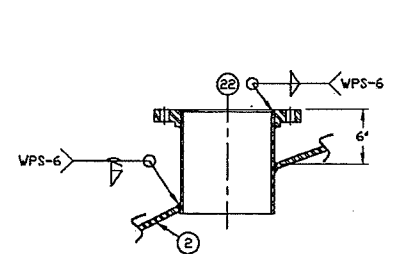


PLAN VIEW

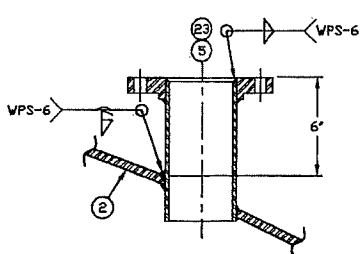


ELEVATION VIEW
SEE PLAN VIEW FOR TRUE ORIENTATION

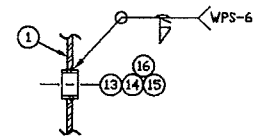
ITEMS SHIPPED LOOSE WITH TANK			
NO.	QTY.	PART NUMBER	DESCRIPTION
1	2	PLT660.3404	2HP BRAVN MIXER 1/2" DIA SHAFT, (1) 35" DIA
			IMPELLOR MODEL #3VG-2-68



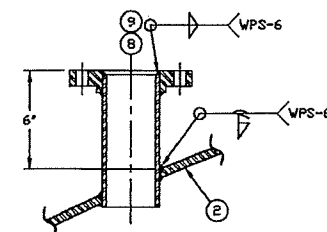
DETAIL OF ITEM #22
SCALE: 3/16"=1"



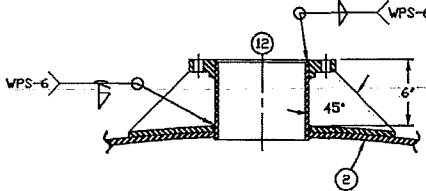
DETAIL OF ITEM #5,23
SCALE: 3/16"=1"



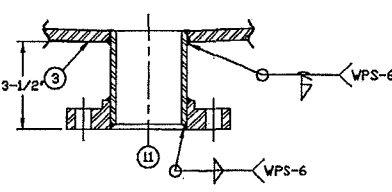
DETAIL OF ITEM #13-16
SCALE: 1/4"=1"



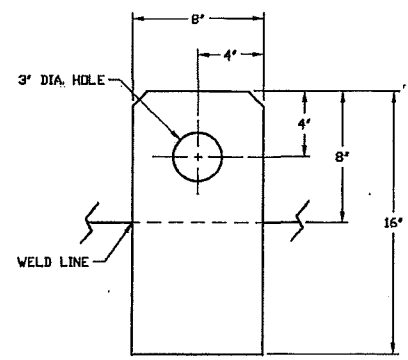
DETAIL OF ITEM #8 & #9
SCALE: 3/16"=1"



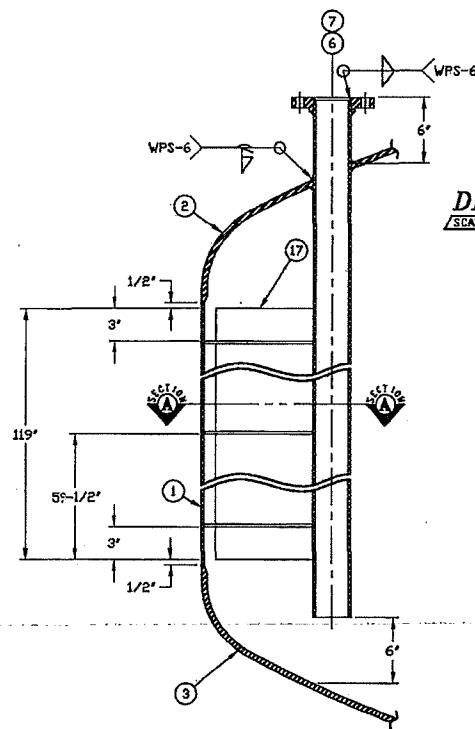
DETAIL OF ITEM #12
SCALE: 3/16"=1"



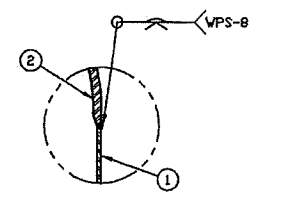
DETAIL OF ITEM #11
SCALE: 3/16"=1"



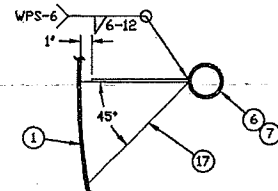
DETAIL OF ITEM #19
SCALE: 3/16"=1"



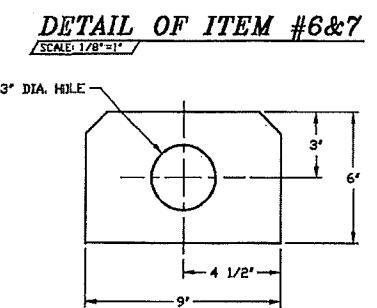
DETAIL OF ITEM #10
SCALE: 1/4"=1"



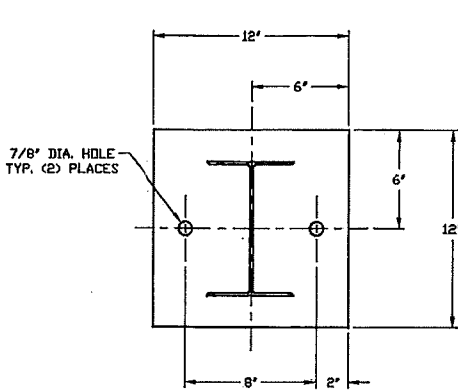
DETAIL "A"
SCALE: 3/16"=1"



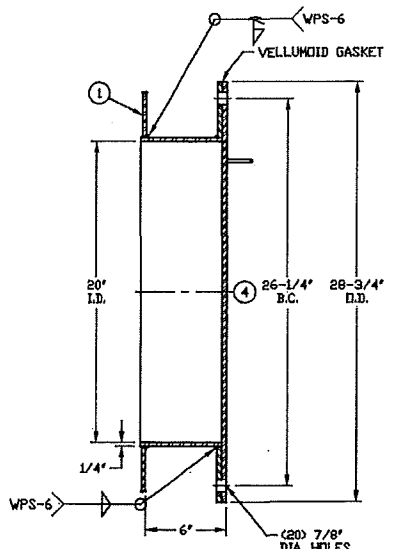
SECTION A-A
SCALE: 1/8"=1"



DETAIL OF ITEM #6&7
SCALE: 1/8"=1"



DETAIL OF ITEM #18
SCALE: 3/16"=1"



DETAIL OF ITEM #4
SCALE: 3/16"=1"

SCHEDULE			
NO.	QTY.	PART NUMBER	DESCRIPTION
SA240-304L	1	2	PLT660.3404 60" X 340" X 3/16" PLATE - SHELL
SA240-304L	2	1	ASME120K4 120" O.D. X 1/2" ASME F&D HEAD W/ 1-1/2" S.F. - TOP
SA240-304L	3	1	ASME120K4 120" O.D. X 1/2" ASME F&D HEAD W/ 1-1/2" S.F. - BOTTOM
SA240-304L	4	1	DN.28.750.4.20A 28-3/4" O.D. X 3/8" THICK COVER
			(CUT (20) 7/8" HOLES AT 26-1/4" B.C.)
SA240-304L	1	1	DN.28.20.7.4.20A 28-3/4" O.D. X 20-5/8" I.D. X 5/16" DONUT
			(CUT (20) 7/8" HOLES AT 26-1/4" B.C.)
SA240-304L	1	1	PLTH6.654 6" X 65" X 1/4" PLATE (ROLLED TO 20-1/2" O.D.)
VELLUMOID	1	1	G27.5V20FF20 25-1/4" O.D. X 20" I.D. X 1/8" VELLUMOID RING GASKET
SA-193 88	20	20	BOLT.5.1518 1/2" DIA. BOLT X 1-1/2" LG
SA-194 88	20	20	NUT.5.18 1/2" DIA NUT
SA182-F304L	5	1	FLG4B4 4" 150# R.F.S.D. FLANGE
SA312-TP304L	1	1	P4B4A8.75 4" SCH 40 PIPE X 8-3/4" LG P.E.
SA182-F304L	6	1	FLG3B4 3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	1	P3B4A144 3" SCH 40 PIPE X 144" LG P.E.
SA182-F304L	7	1	FLG3B4 3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	1	P3B4A144 3" SCH 40 PIPE X 144" LG P.E.
SA182-F304L	8	1	FLG3B4 3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	1	P3B4A8.375 3" SCH 40 PIPE 8-3/8" LG P.E.
SA182-F304L	9	1	FLG3B4 3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	1	P3B4A8.375 3" SCH 40 PIPE 8-3/8" LG P.E.
SA182-F304L	10	1	FLG3B4 3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	1	P3B4A4.5 3" SCH 40 PIPE 4-1/2" LG P.E.
SA182-F304L	11	1	FLG3B4 3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	1	P3B4A5 3" SCH 40 PIPE 5" LG P.E.
SA182-F304L	12	1	FLG3B4 3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	1	P3B4A6.75 3" SCH 40 PIPE 6-3/4" LG P.E.
SA240-304L	2	2	PLTJ5.584 5-1/2" X 8" X 3/8" PLATE - CUT IN HALF
SA240-304L	1	1	PLTH25.254 25" X 25" X 1/4" PLATE - CUT TO 24-1/2" DIA REPAD
SA182-F304L	13	1	CPLGH75A4A 3/4" 150# THREADED HALF COUPLING
SA182-F304L	14	1	CPLGH75A4A 3/4" 150# THREADED HALF COUPLING
SA182-F304L	15	1	CPLGH75A4A 3/4" 150# THREADED HALF COUPLING
SA182-F304L	16	1	CPLGH75A4A 3/4" 150# THREADED HALF COUPLING
SA240-304L	17	4	PLTH9.1194 9" X 119" X 1/4" PLATE - BAFFLE
SA240-304L	12	12	PLTH9.25.104 9-1/4" X 10" X 1/4" PLATE - (CUT IN HALF) SUPPORT
SA-36	4	4	PLTHK12.121 12" X 12" X 1/2" PLATE - BASE PLATE
SA240-304L	19	2	PLTHB164 8" X 16" X 1/4" PLATE - VERTICAL LIFT LUG
SA240-304L	20	2	PLTHB164 6" X 9" X 1/4" PLATE - HORIZONTAL LIFT LUG
SA182-F304L	21	1	CPLGH3A4A 3" 150# THREADED HALF COUPLING
SA182-F304L	22	1	FLG3B4 3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	1	P3B4A9.5 3" SCH 40 PIPE X 9-1/2" LG P.E.
SA182-F304L	23	1	FLG4B4 4" 150# R.F.S.D. FLANGE
SA312-TP304L	1	1	P4B4A8.75 4" SCH 40 PIPE X 8-3/4" LG P.E.

- NOTES:**
- TANK IS TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH API-650 AS SUPPLEMENTED.
 - TANK TO BE OF BUTT-WELDED CONSTRUCTION WITH FULL PENETRATION WELDS INSIDE AND OUT.
 - JOINT EFFICIENCY: 70%
 - X-RAY: NONE
 - TANK IS TO BE AIR TESTED AT 3-5 PSI.
 - INTERIOR IS TO BE CLEANED OF DIRT, WELD-SLAG, AND ETC.
 - EXTERIOR IS TO BE CLEANED OF DIRT, WELD-SLAG, AND ETC.
 - HANDLE GASKET TO BE CUSTOMER TO SPECIFY.
 - CLAWSON TANK COMPANY IS RESPONSIBLE FOR THE PERFORMANCE OF ANY CUSTOMER SPECIFIED GASKET MATERIAL.
 - ALL BOLT HOLE PATTERNS ARE TO STRADDLE FLANGES NATURAL CENTER LINES.
 - NO FITTINGS TO BE PLACED IN ANY HORIZONTAL OR VERTICAL WELD SEAMS.
 - ALL FITTINGS TO BE COVERED PRIOR TO SHIPPING.
 - CONFIRM MIXER DIRECTION FOR BAFFLE LAYOUT.

CERTIFIED TANKS BUILT

AS DRAWN 11-3-10

TANK # TK-001
APPROXIMATE EMPTY TANK WEIGHT 9,000 LBS

NO.	DATE	DESCRIPTION	BY	APPV.
6	7-21-08	REVISED ITEM #22, #23 INS SCHEDULE		KD
5	7-02-08	ADD ITEMS #22, AND #23		KD
4	9-19-07	REVISED BAFFLE SIZE AND DETAIL		LL
3	8-30-07	REVISED REPAD SIZE ON ITEM #12 IN SCHEDULE		LL
2	7-31-07	ADDED ITEM #10 TO PLAN VIEW		LL
1	6-01-07	ADDED ITEM #21, REVISE NOZZLE EXTENSION TO ITEM #11		LL

CLAWSON TANK COMPANY

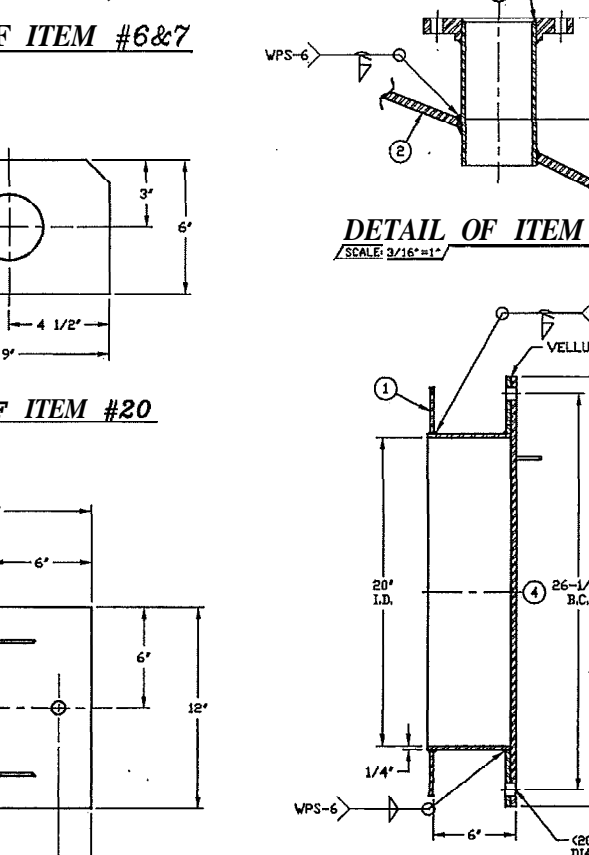
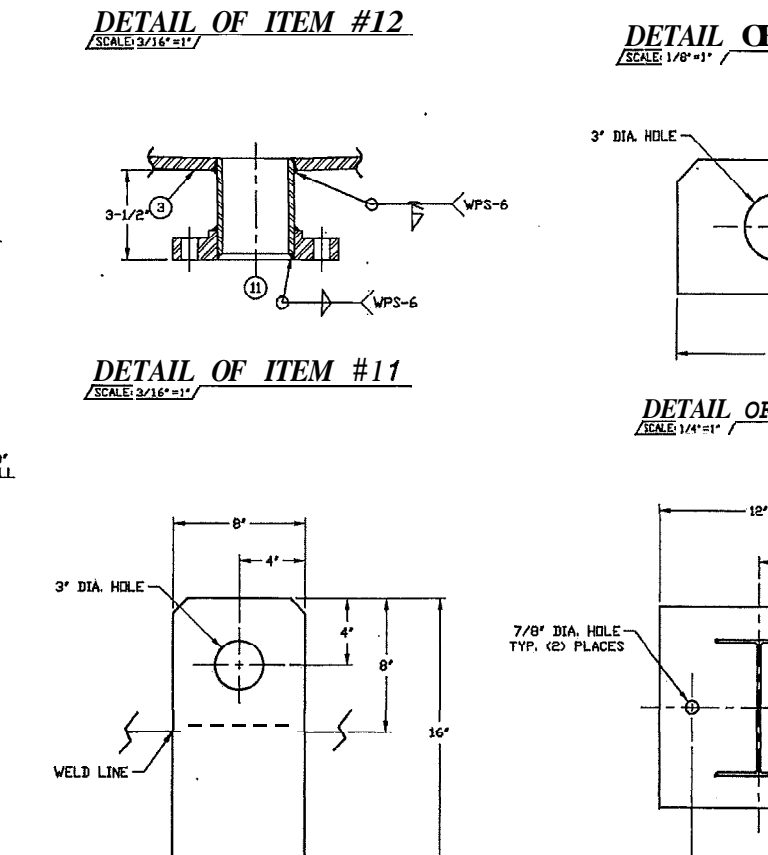
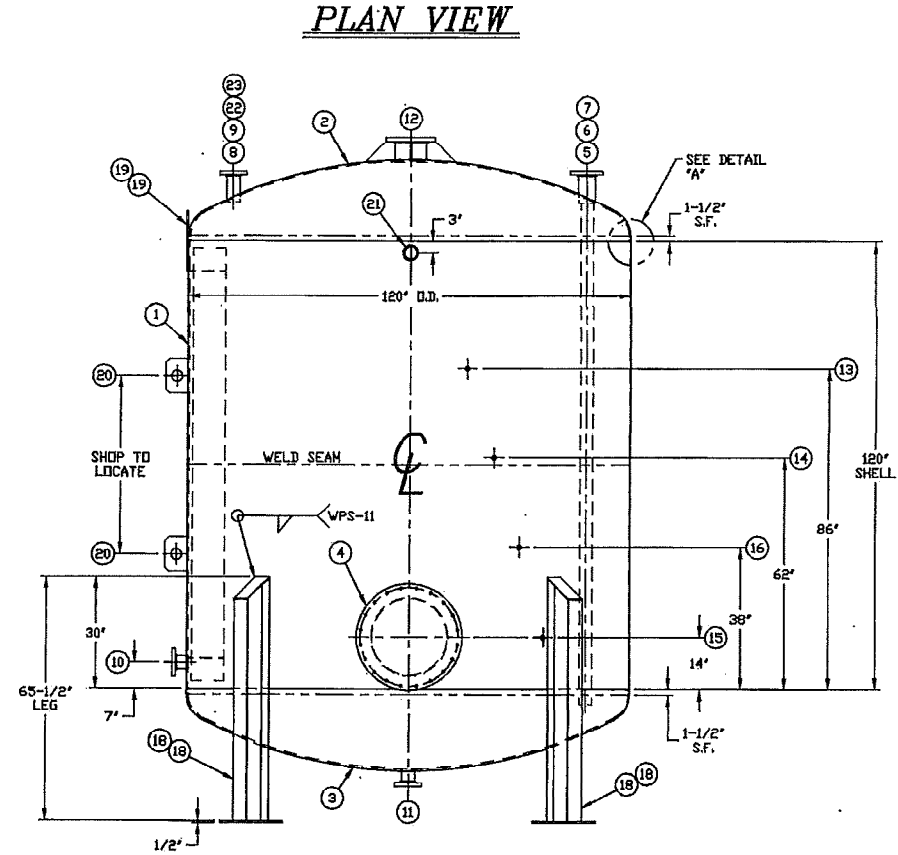
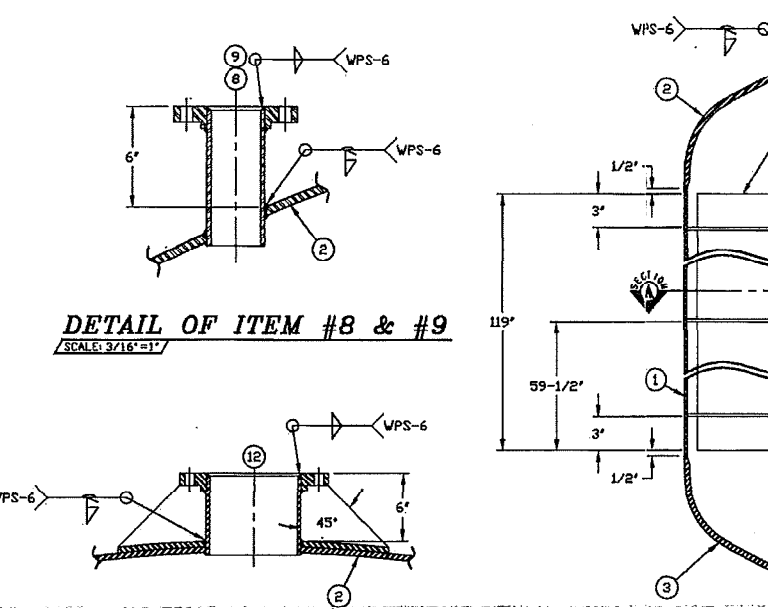
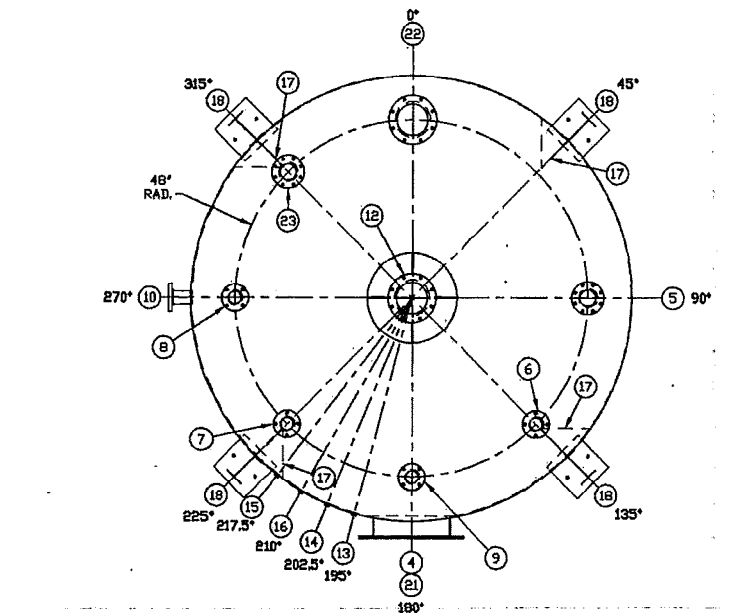
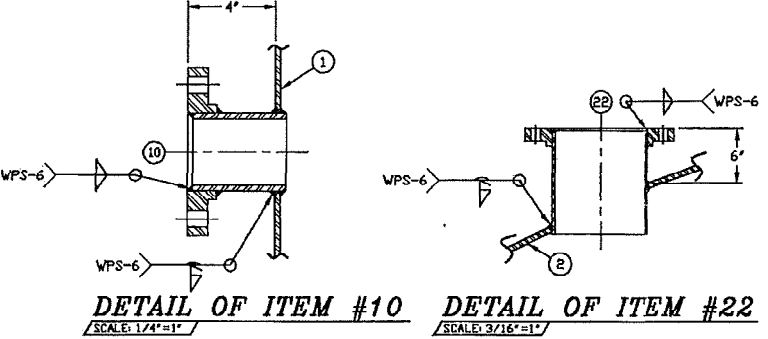
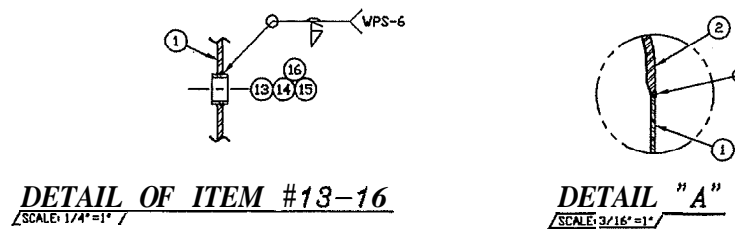
CLAWSON TANK COMPANY
2004
TK001
6,000 GAL VERTICAL S.S.
09507

SCHEDULE

ITEMS SHIPPED LOOSE WITH TANK

NO.	QTY.	PART NUMBER	DESCRIPTION
1	2	PLT660.3404	60" X 340" X 3/16" PLATE - SHELL
2	1	ASME120K4	120" O.D. X 1/2" ASME F&D HEAD W/ 1-1/2" S.F. - TOP
3	1	ASME120K4	120" O.D. X 1/2" ASME F&D HEAD W/ 1-1/2" S.F. - BOTTOM
4	1	DNJB8.75.0.4.20A	28-3/4" O.D. X 3/8" THICK COVER
			(CUT (20) 7/8" HOLES AT 26-1/4" B.C.)
SA240-304L	1	DNJB8.20.7.4.20A	28-3/4" O.D. X 20-5/8" I.D. X 5/16" DONUT
			(CUT (20) 7/8" HOLES AT 26-1/4" B.C.)
SA240-304L	1	PLTH6.654	6" X 65" X 1/4" PLATE (ROLLED TO 28-1/2" O.D.)
VELLUMOID SA-193 B8	1	GE27.5V20FF20	25-1/4" O.D. X 20" I.D. X 1/8" VELLUMOID RING GASKET
	20	BOLT.51.518	1/2" DIA. BOLT X 1-1/2" LG
SA-194 B8	20	NUT.518	1/2" DIA NUT
SA182-F304L	3	FLG3B4A	4" 150# R.F.S.D. FLANGE
SA312-TP304L	1	P4B4A8.75	4" SCH 40 PIPE X 8-3/4" LG P.E.
SA182-F304L	6	FLG3B4A	3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	P3B4A144	3" SCH 40 PIPE X 144" LG P.E.
SA182-F304L	7	FLG3B4A	3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	P3B4A144	3" SCH 40 PIPE X 144" LG P.E.
SA182-F304L	8	FLG3B4A	3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	P3B4A8.375	3" SCH 40 PIPE 8-3/8" LG P.E.
SA182-F304L	9	FLG3B4A	3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	P3B4A8.375	3" SCH 40 PIPE 8-3/8" LG P.E.
SA182-F304L	10	FLG3B4A	3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	P3B4A4.5	3" SCH 40 PIPE 4-1/2" LG P.E.
SA182-F304L	11	FLG3B4A	3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	P3B4A5	3" SCH 40 PIPE 5" LG P.E.
SA182-F304L	12	FLG3B4A	3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	P3B4A6.75	3" SCH 40 PIPE 6-3/4" LG P.E.
SA240-304L	2	PLT.5.5.84	5-1/2" X 8" X 3/8" PLATE - CUT IN HALF
SA240-304L	1	PLTH25.254	25" X 25" X 1/4" PLATE - CUT TO 24-1/2" DIA REPAD
SA182-F304L	13	CPLG175A4A	3/4" 150# THREADED HALF COUPLING
SA182-F304L	14	CPLG175A4A	3/4" 150# THREADED HALF COUPLING
SA182-F304L	15	CPLG175A4A	3/4" 150# THREADED HALF COUPLING
SA182-F304L	16	CPLG175A4A	3/4" 150# THREADED HALF COUPLING
SA240-304L	17	PLTH9.1194	10" X 119" X 1/4" PLATE - BAFFLE
SA240-304L SA-36	12	PLTH9.25104	9-1/4" X 10" X 1/4" PLATE - (CUT IN HALF) SUPPORT
	11	BEAMBWB18W11	8" X 18" WIDE FLANGE BEAM X 20" LG (CUT 4 PCS @ 65-1/2" LG - LEG
SA-36	4	PLTH12.121	12" X 12" X 1/2" PLATE - BASE PLATE
SA240-304L	19	PLTH8.164	8" X 16" X 1/4" PLATE - VERTICAL LIFT LUG
SA240-304L	20	PLTH8.164	6" X 9" X 1/4" PLATE - HORIZONTAL LIFT LUG
SA182-F304L	21	CPLG13A4A	3" 150# THREADED HALF COUPLING
SA182-F304L	22	FLG3B4A	3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	P3B4A9.5	3" SCH 40 PIPE X 9-1/2" LG P.E.
SA182-F304L	23	FLG3B4A	3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	P4B4A8.75	4" SCH 40 PIPE X 8-3/4" LG P.E.

NO.	QTY.	PART NUMBER	DESCRIPTION
1			2HP BRAWN MIXER W/2" DIA SHAFT, (1) 35" DIA IMPELLOR MODEL #BVG-2-68



NO.	QTY.	PART NUMBER	DESCRIPTION
1	2	PLT660.3404	60" X 340" X 3/16" PLATE - SHELL
2	1	ASME120K4	120" O.D. X 1/2" ASME F&D HEAD W/ 1-1/2" S.F. - TOP
3	1	ASME120K4	120" O.D. X 1/2" ASME F&D HEAD W/ 1-1/2" S.F. - BOTTOM
4	1	DNJB8.75.0.4.20A	28-3/4" O.D. X 3/8" THICK COVER
			(CUT (20) 7/8" HOLES AT 26-1/4" B.C.)
SA240-304L	1	DNJB8.20.7.4.20A	28-3/4" O.D. X 20-5/8" I.D. X 5/16" DONUT
			(CUT (20) 7/8" HOLES AT 26-1/4" B.C.)
SA240-304L	1	PLTH6.654	6" X 65" X 1/4" PLATE (ROLLED TO 28-1/2" O.D.)
VELLUMOID SA-193 B8	1	GE27.5V20FF20	25-1/4" O.D. X 20" I.D. X 1/8" VELLUMOID RING GASKET
	20	BOLT.51.518	1/2" DIA. BOLT X 1-1/2" LG
SA-194 B8	20	NUT.518	1/2" DIA NUT
SA182-F304L	3	FLG3B4A	4" 150# R.F.S.D. FLANGE
SA312-TP304L	1	P4B4A8.75	4" SCH 40 PIPE X 8-3/4" LG P.E.
SA182-F304L	6	FLG3B4A	3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	P3B4A144	3" SCH 40 PIPE X 144" LG P.E.
SA182-F304L	7	FLG3B4A	3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	P3B4A144	3" SCH 40 PIPE X 144" LG P.E.
SA182-F304L	8	FLG3B4A	3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	P3B4A8.375	3" SCH 40 PIPE 8-3/8" LG P.E.
SA182-F304L	9	FLG3B4A	3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	P3B4A8.375	3" SCH 40 PIPE 8-3/8" LG P.E.
SA182-F304L	10	FLG3B4A	3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	P3B4A4.5	3" SCH 40 PIPE 4-1/2" LG P.E.
SA182-F304L	11	FLG3B4A	3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	P3B4A5	3" SCH 40 PIPE 5" LG P.E.
SA182-F304L	12	FLG3B4A	3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	P3B4A6.75	3" SCH 40 PIPE 6-3/4" LG P.E.
SA240-304L	2	PLT.5.5.84	5-1/2" X 8" X 3/8" PLATE - CUT IN HALF
SA240-304L	1	PLTH25.254	25" X 25" X 1/4" PLATE - CUT TO 24-1/2" DIA REPAD
SA182-F304L	13	CPLG175A4A	3/4" 150# THREADED HALF COUPLING
SA182-F304L	14	CPLG175A4A	3/4" 150# THREADED HALF COUPLING
SA182-F304L	15	CPLG175A4A	3/4" 150# THREADED HALF COUPLING
SA182-F304L	16	CPLG175A4A	3/4" 150# THREADED HALF COUPLING
SA240-304L	17	PLTH9.1194	10" X 119" X 1/4" PLATE - BAFFLE
SA240-304L SA-36	12	PLTH9.25104	9-1/4" X 10" X 1/4" PLATE - (CUT IN HALF) SUPPORT
	11	BEAMBWB18W11	8" X 18" WIDE FLANGE BEAM X 20" LG (CUT 4 PCS @ 65-1/2" LG - LEG
SA-36	4	PLTH12.121	12" X 12" X 1/2" PLATE - BASE PLATE
SA240-304L	19	PLTH8.164	8" X 16" X 1/4" PLATE - VERTICAL LIFT LUG
SA240-304L	20	PLTH8.164	6" X 9" X 1/4" PLATE - HORIZONTAL LIFT LUG
SA182-F304L	21	CPLG13A4A	3" 150# THREADED HALF COUPLING
SA182-F304L	22	FLG3B4A	3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	P3B4A9.5	3" SCH 40 PIPE X 9-1/2" LG P.E.
SA182-F304L	23	FLG3B4A	3" 150# R.F.S.D. FLANGE
SA312-TP304L	1	P4B4A8.75	4" SCH 40 PIPE X 8-3/4" LG P.E.

NOTES:

- TANK IS TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH API-650 AS SUPPLEMENTED.
- TANK TO BE OF BUTT-WELDED CONSTRUCTION WITH FULL PENETRATION WELDS INSIDE AND OUT.
- JOINT EFFICIENCY: 70%
- X-RAY: NONE
- TANK IS TO BE AIR TESTED AT 3-5 PSI.
- INTERIOR IS TO BE CLEANED OF DIRT, WELD-SLAG, AND ETC.
- EXTERIOR IS TO BE CLEANED OF DIRT, WELD-SLAG, AND ETC.
- MANHOLE GASKET TO BE _____ (CUSTOMER TO SPECIFY).
- CLAWSON TANK COMPANY BE RESPONSIBLE FOR THE PERFORMANCE OF ANY CUSTOMER SPECIFIED GASKET MATERIAL.
- ALL BOLT HOLE PATTERNS ARE TO STRADDLE FLANGES NATURAL CENTER LINES.
- NO FITTINGS TO BE PLACED IN ANY HORIZONTAL OR VERTICAL WELD SEAMS.
- ALL FITTINGS TO BE COVERED PRIOR TO SHIPPING.
- CONFORM WITH DIRECTION FOR BAFFLE LAYOUT.

CERTIFIED TANKS, BUILT AS DRAWN

TANK #1 TK-002
APPROXIMATE EMPTY TANK WEIGHT: 9,000 LBS

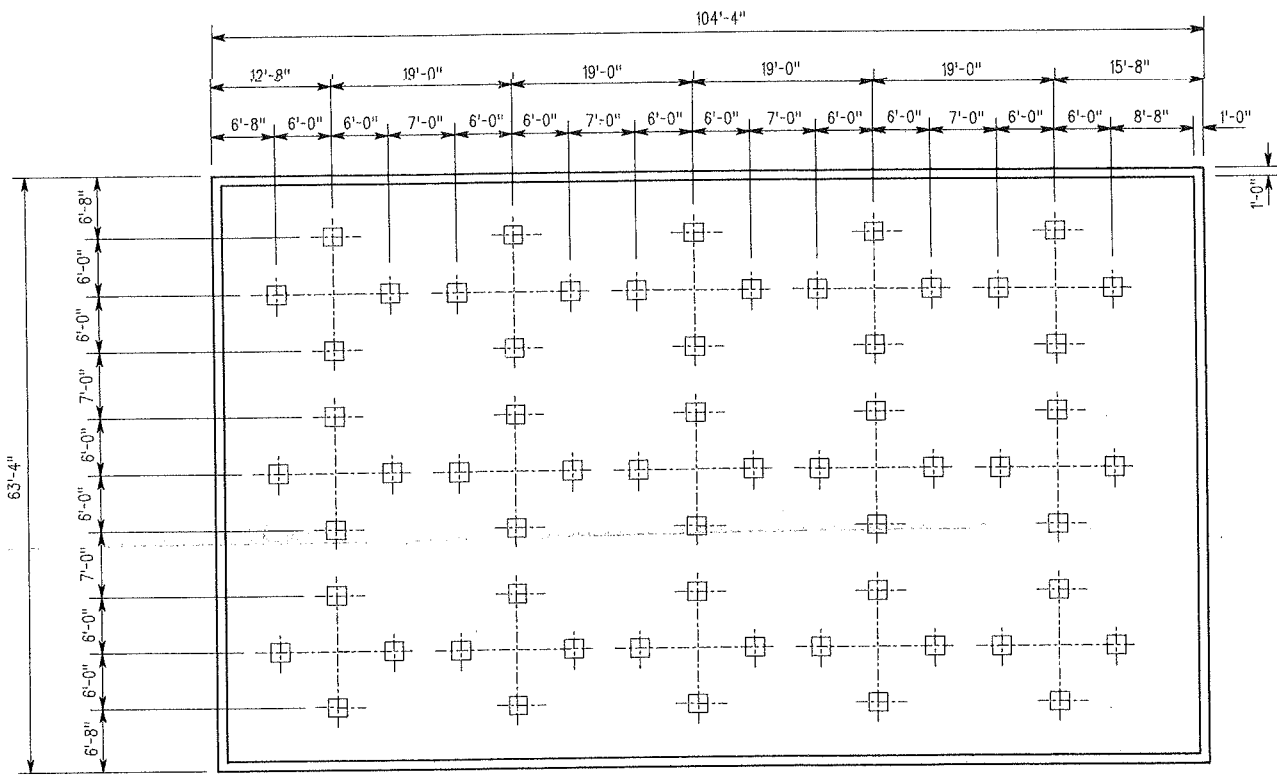
NO.	DATE	DESCRIPTION	BY	APP.
3	7-21-08	REVISED ITEM #22, #23 IN SCHEDULE		LL
4	7-07-08	ADD ITEMS #22, AND #23		KD
3	9-19-07	REVISED BAFFLE SIZE AND DETAIL		LL
2	9-10-07	REVISED REPAD SIZE ON ITEM #12 IN SCHEDULE		LL
1	17-31-07	ADDED ITEM #10 TO PLAN VIEW		LL

CLAWSON TANK COMPANY

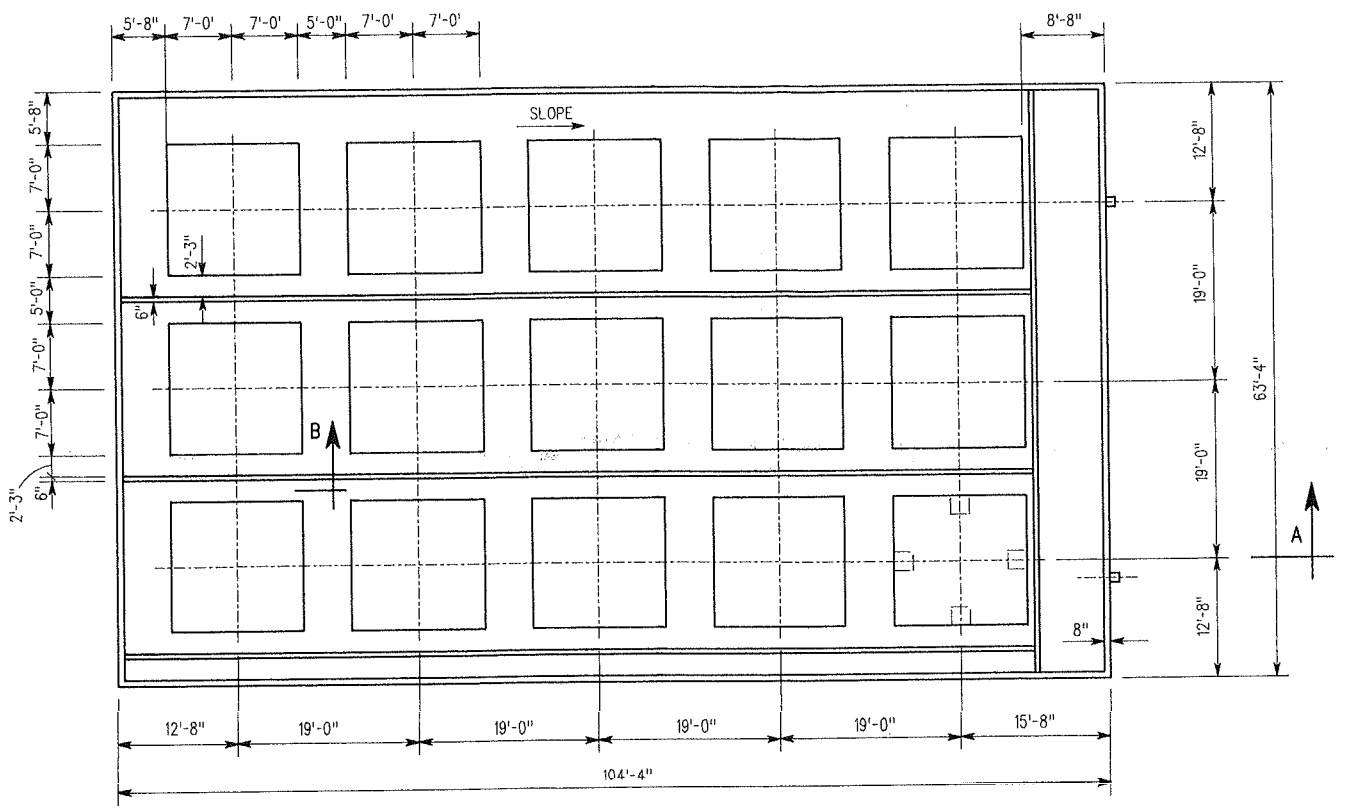
CUSTOMER: PHILIP SERVICES DETROIT, MI
JOB: PHILIP SERVICES DETROIT, MI
TANK #1: TK002

SCALE: 1/2" = 12"
DATE: 6-01-07

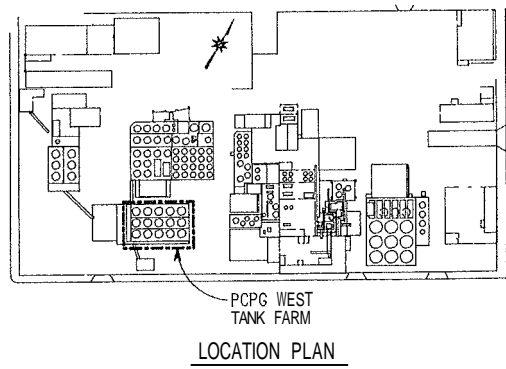
APPROVED BY: _____
DRAWN BY: J. GROH
CHECKED BY: _____



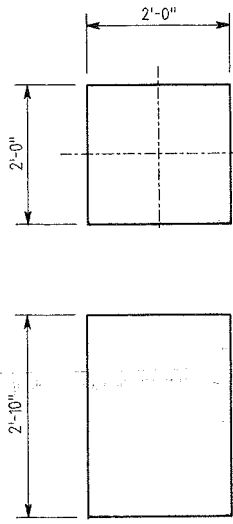
FOOTING PLAN
SCALE: 1" = 10'-0"



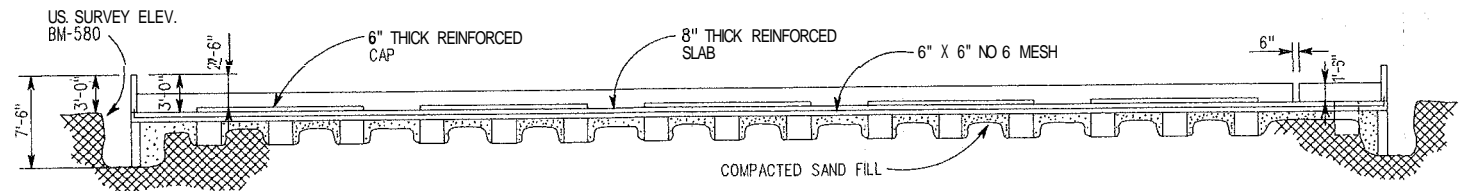
SLAB PLAN
SCALE 1" = 10'-0"



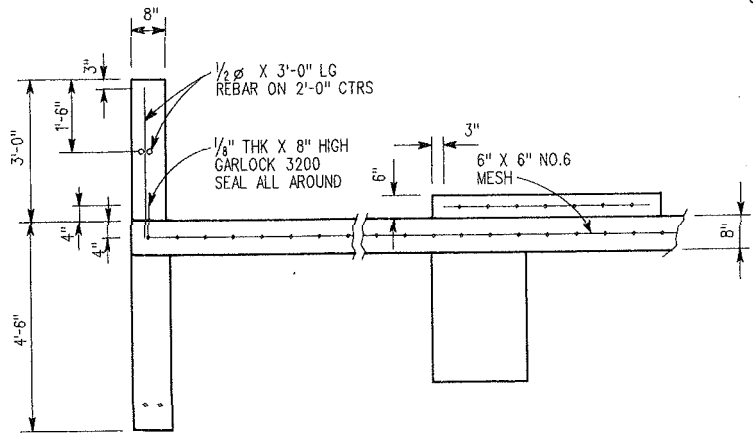
LOCATION PLAN



TANK FOOTING DETAIL
SCALE: 3/4" = 1'-0"



SECTION A-A
SCALE 1/8" = 1'-0"

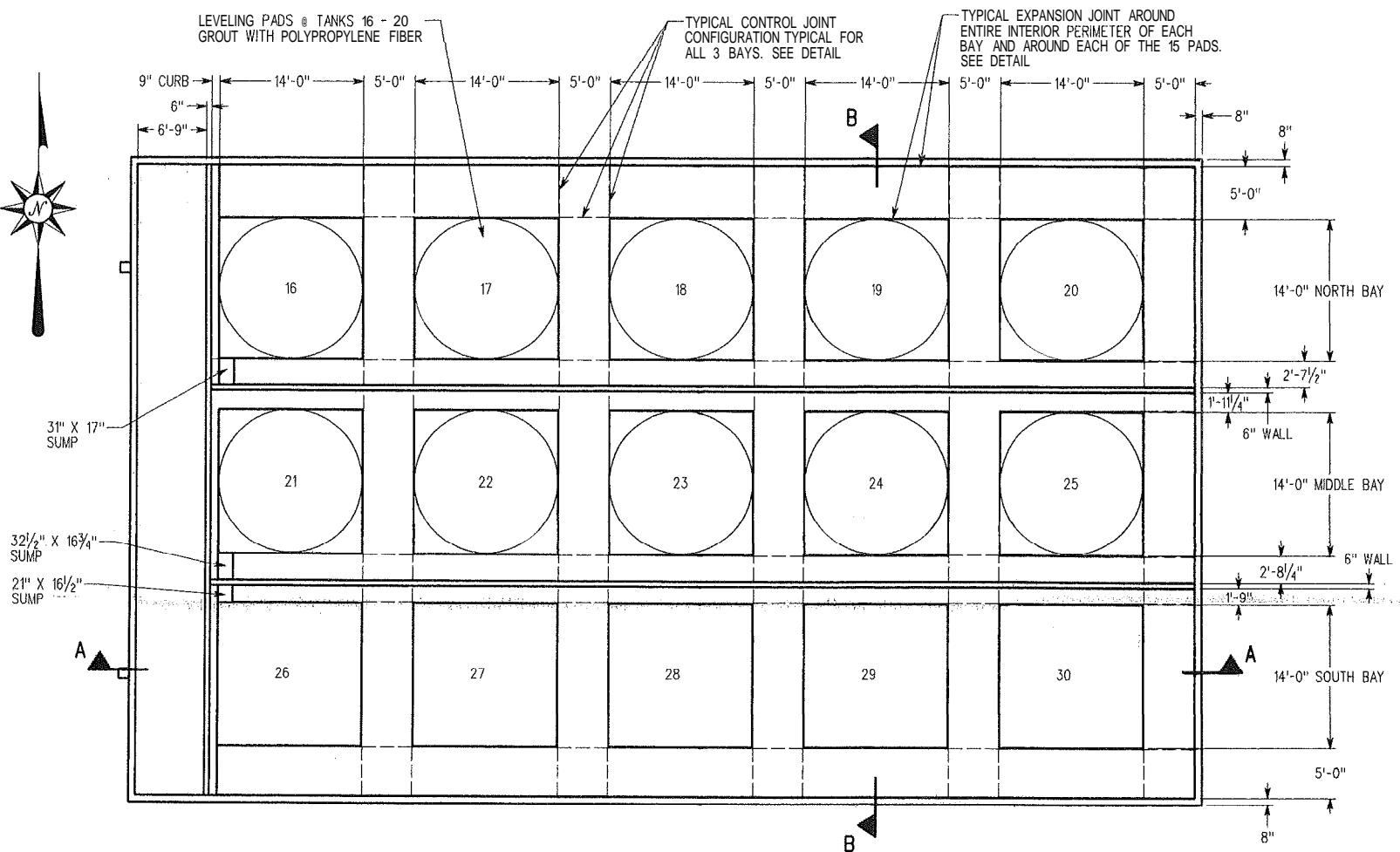


SECTION B-B
SCALE: 1/2" = 1'-0"

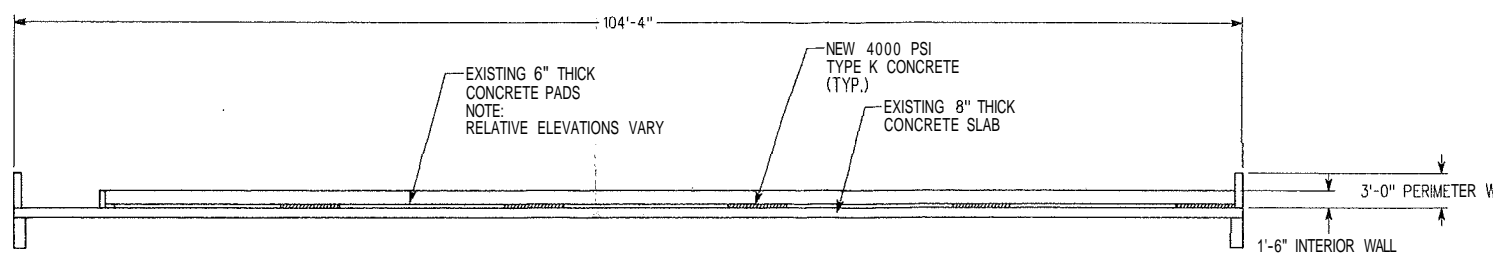
NOTE:
CONCRETE MIX = 6 BAG
MESH = 6" X 6" NO. 6
REBAR = 1/2" LENGTH TO SUIT

TOTAL VOLUME:
103' X 62' X 3' X 7.48 GAL/FT³ = 143,301 GALLONS
(7')² X 1' X 3' X 7.48 GAL/FT³ = 3454 GAL X 15 = 51,810 GALLONS
143,301 - 51,810 = 91,491 GALLONS

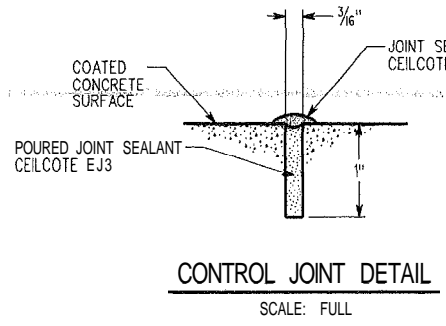
AK	24JUN96	ADDED CONTAINMENT CALCULATIONS.	PHILIP ENVIRONMENTAL	BY-PRODUCTS RECOVERY GROUP
BKM	06SEP96	REVISED CONTAINMENT CALCULATIONS.		
SCALE: AS NOTED			APPROVED BY:	DRAWN BY: LMB
DATE: 25AUG88				REVISED:
PCPG WEST TANK FARM CONCRETE PLAN				
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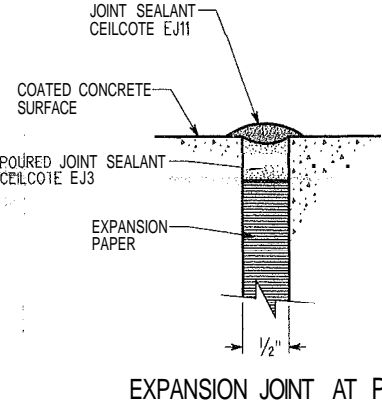
PLAN VIEW
SCALE: 1/8" = 1'-0"



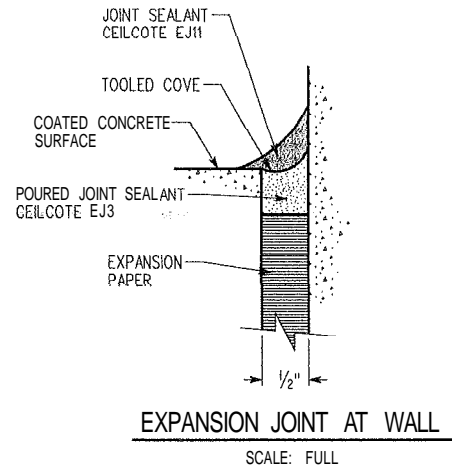
SECTION A-A
SCALE: 1/8" = 1'-0"



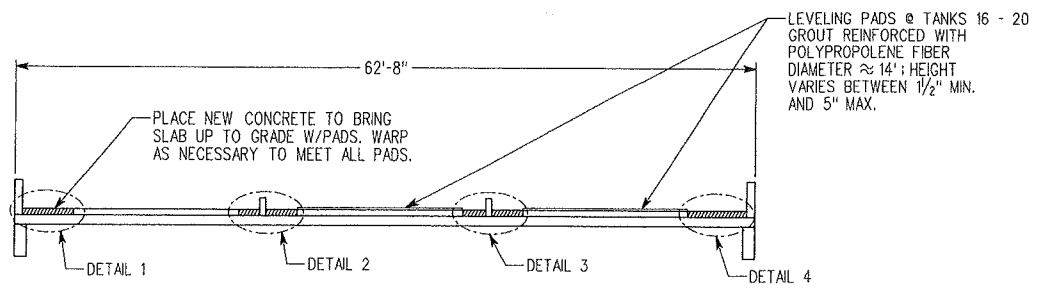
CONTROL JOINT DETAIL
SCALE: FULL



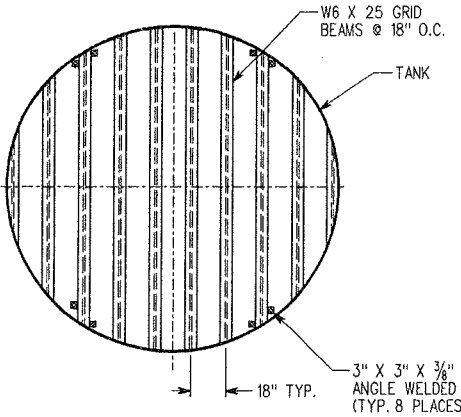
EXPANSION JOINT AT PAD
SCALE: FULL



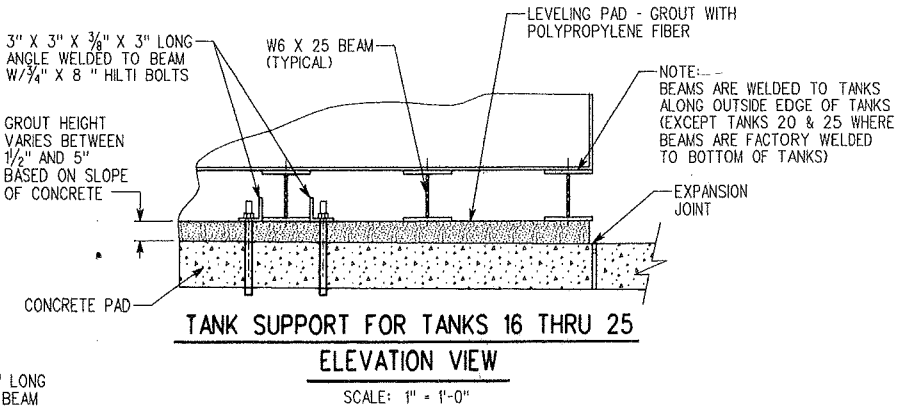
EXPANSION JOINT AT WALL
SCALE: FULL



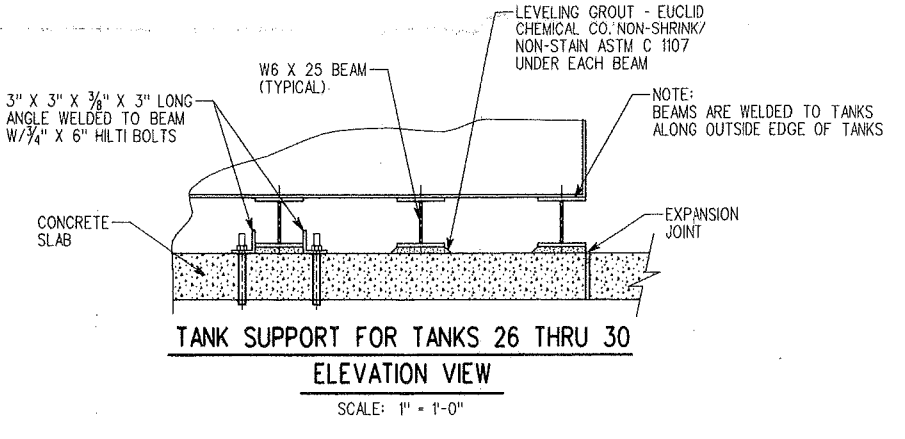
SECTION B-B
SCALE: 1/8" = 1'-0"



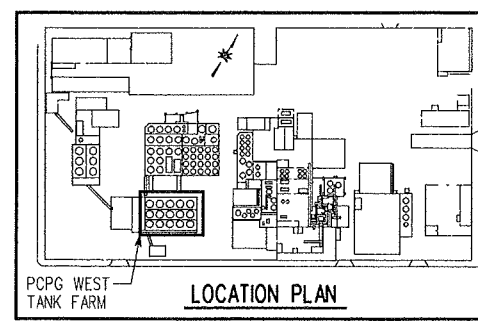
TYP. TANK SUPPORT - PLAN VIEW
SCALE: 1/4" = 1'-0"



TANK SUPPORT FOR TANKS 16 THRU 25
ELEVATION VIEW
SCALE: 1" = 1'-0"



TANK SUPPORT FOR TANKS 26 THRU 30
ELEVATION VIEW
SCALE: 1" = 1'-0"

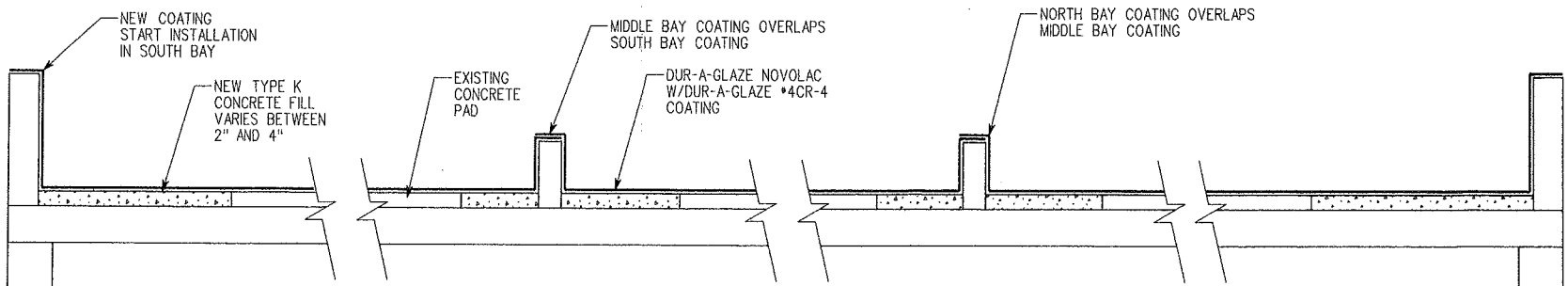


LOCATION PLAN

- NOTES:**
- ALL NEW CONCRETE TO BE 4000 PSI W/TYPE K EXPANSIVE CEMENT.
 - ALL NEW CONCRETE WORK TO BE DONE IN ACCORDANCE WITH APPLICABLE SECTIONS OF ACI 223-98 RE THE USE OF SHRINKAGE-COMPENSATING CONCRETE.
 - CONTRACTOR TO PROVIDE OWNER W/ ONE COPY OF BILL OF LADING FOR ALL CONCRETE DELIVERIES.

CONTAINMENT CALCULATIONS:

REQUIRED CONTAINMENT:	15 TANKS (30,000)(10%) = 45,000 GAL.
AVAILABLE CONTAINMENT:	
GROSS VOLUME =	103(62)(2.5) = 15,965 CFT
LESS INT. WALLS =	2(0.5)(95)(1) = [95]
	1(0.5)(62)(1) = [31]
LESS 14 TANKS =	14(7)(7)(2.5) = [5388]
NET VOLUME =	10,451 CFT = 78,173 GALS.
	78,173 > 45,000: OK



DETAIL 1 SCALE: 1/2" = 1'-0"
DETAIL 2 SCALE: 1/2" = 1'-0"
DETAIL 3 SCALE: 1/2" = 1'-0"
DETAIL 4 SCALE: 1/2" = 1'-0"

AV	13JUL01	REVISED PER AS-BUILT CONDITIONS.
SCALE:	AS NOTED	APPROVED BY:
DATE:	19MAR01	DESIGNED BY:
		DRAWN BY: LM

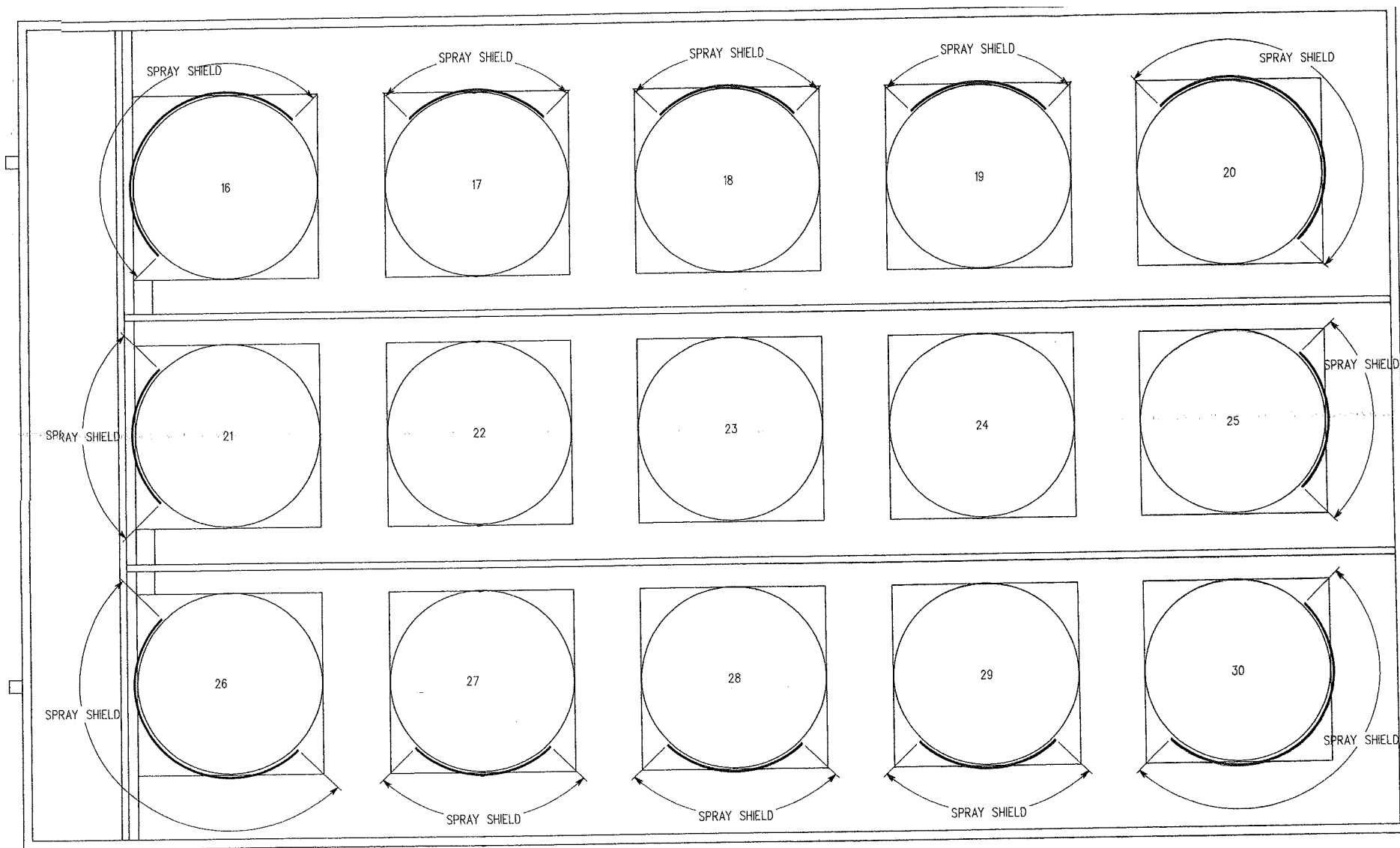
FILE: PCP1580

PSC
By-Products Services Group

PCPG WEST TANK FARM CONTAINMENT UPGRADE

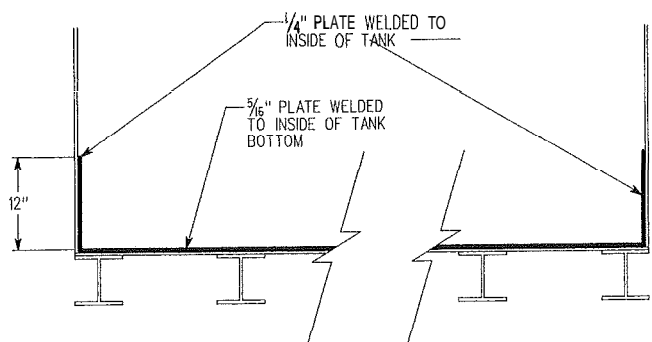
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DRAWING NUMBER
PCPI-58



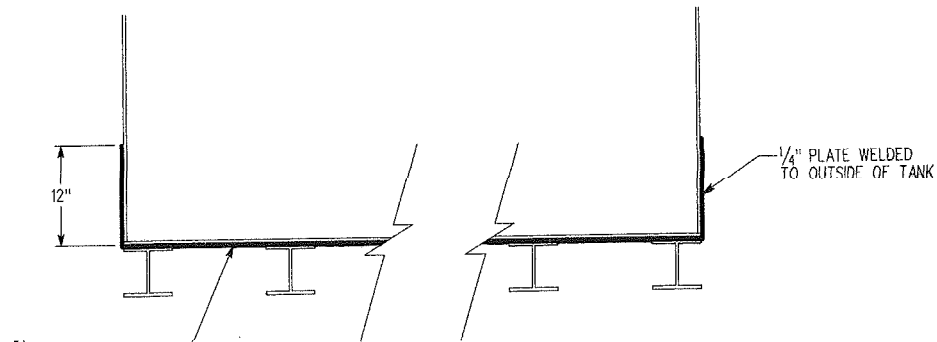
PLAN VIEW

SCALE: $\frac{3}{16}" = 1'-0"$



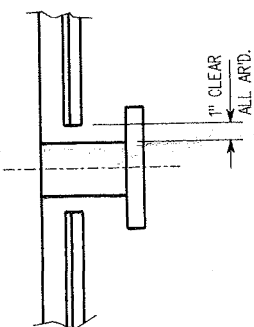
TANK REINFORCEMENT FOR TANKS 26 - 30

SCALE: 1" = 1'-0"

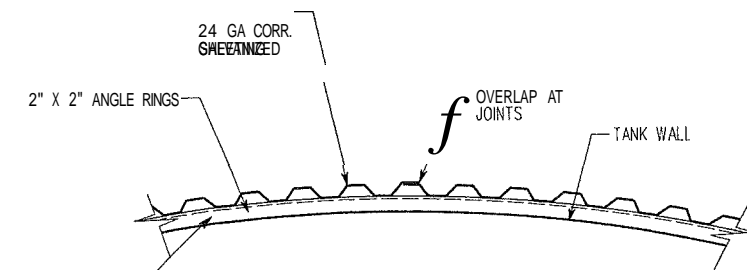


TANK REINFORCEMENT FOR TANKS 16 - 19, 21 & 24

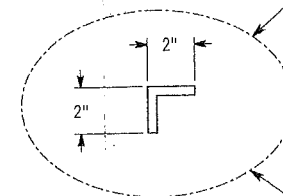
SCALE: 1" = 1'-0"



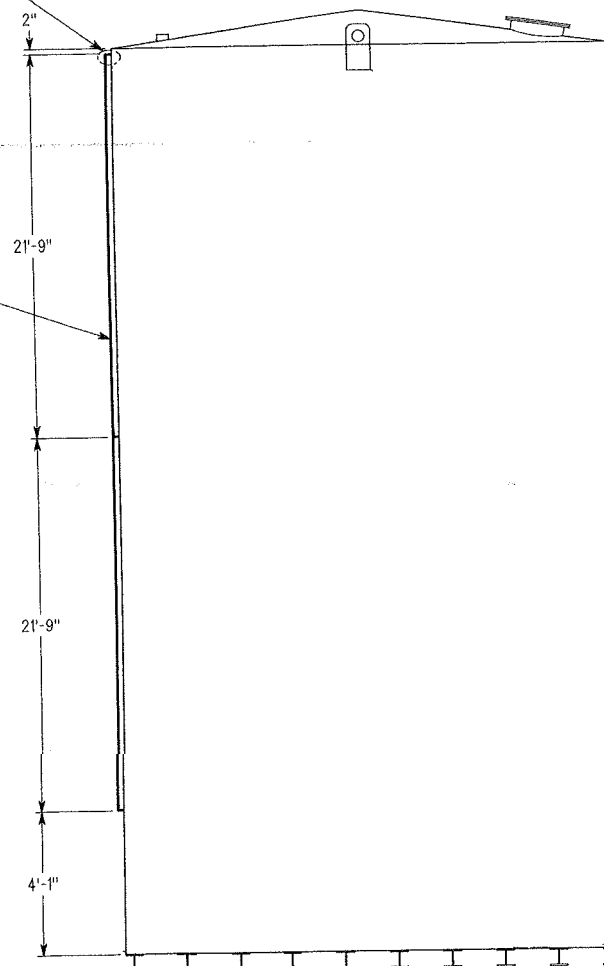
TANK NOZZLE CUT-OUT DETAIL NOT TO SCALE



SKIRT CONNECTION @ TANK SCALE: $\frac{1}{2}" = 1'-0"$



24 GA CORR. GALVANIZED SHEETING

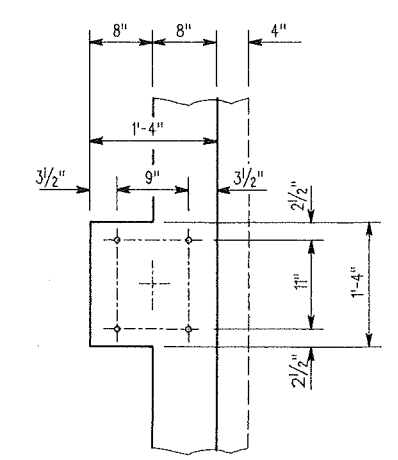
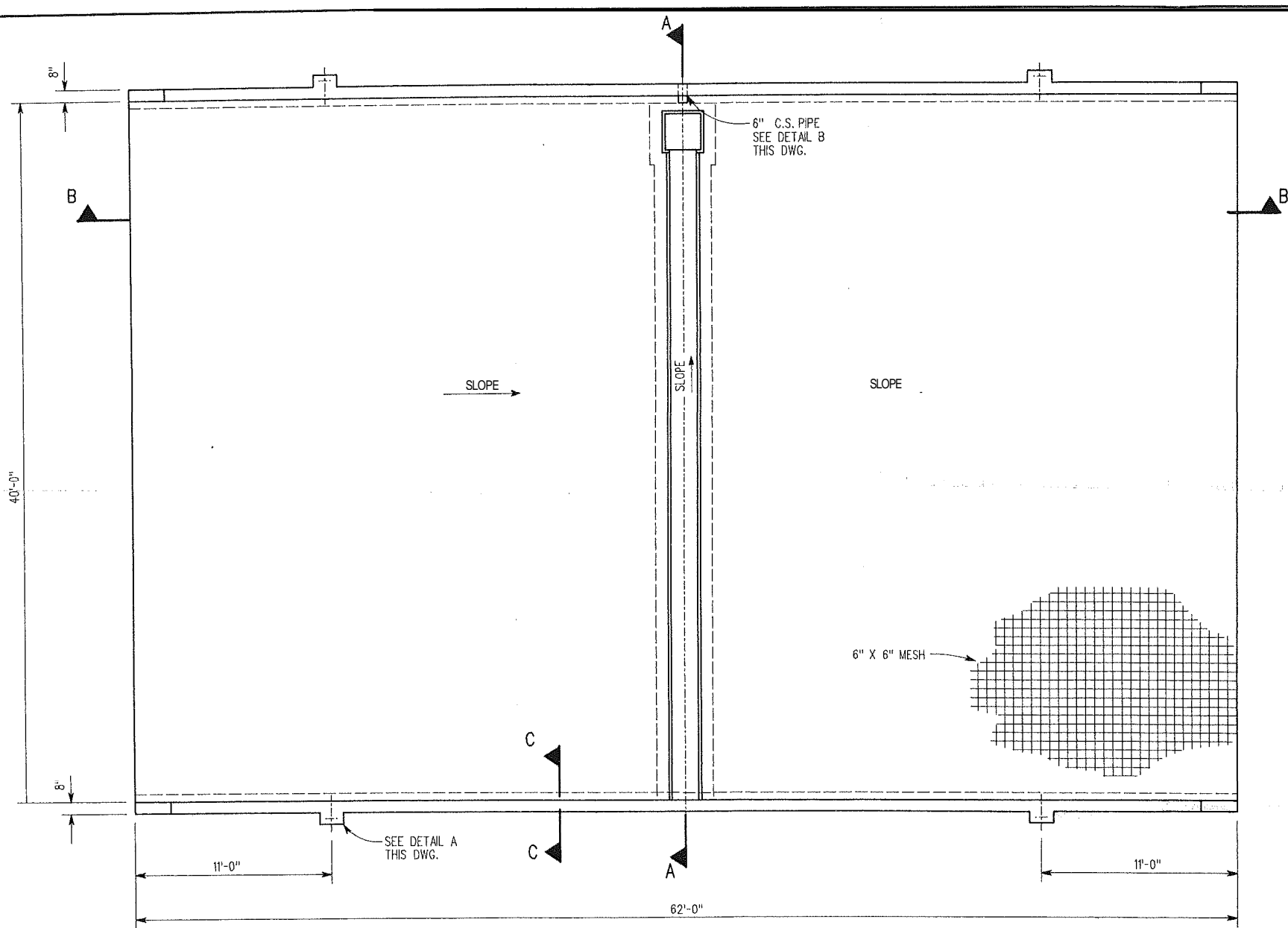


CHANNEL CLIP MOUNTING LOCATIONS SCALE: $\frac{3}{8}" = 1'-0"$

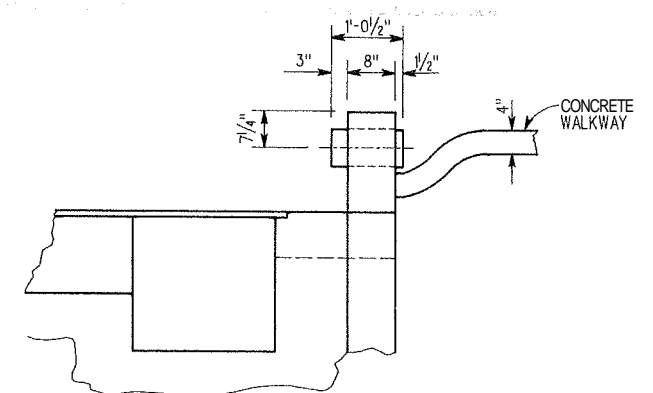


PSC By-Products Services Group		DESIGNED BY: K	DRAWN BY: L
SCALE: AS NOTED	APPROVED BY:	DATE: 17.08.01	DRAWING NUMBER: PCPI-58
PCPG WEST TANK FARM SPRAY PROTECTION AND TANK REINFORCEMENT PLAN			
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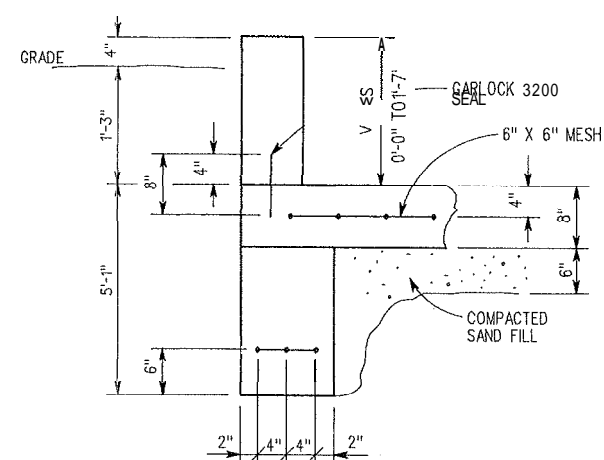
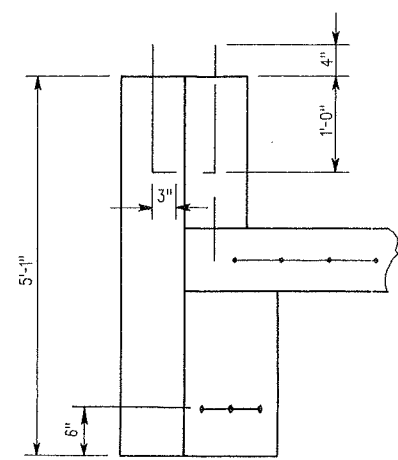
FILE: PCPI58C



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

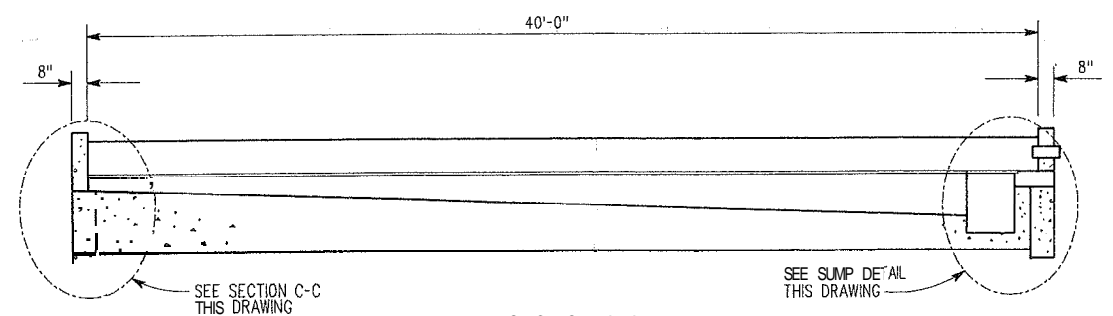


DETAIL B
SCALE: 3/4" = 1'-0"

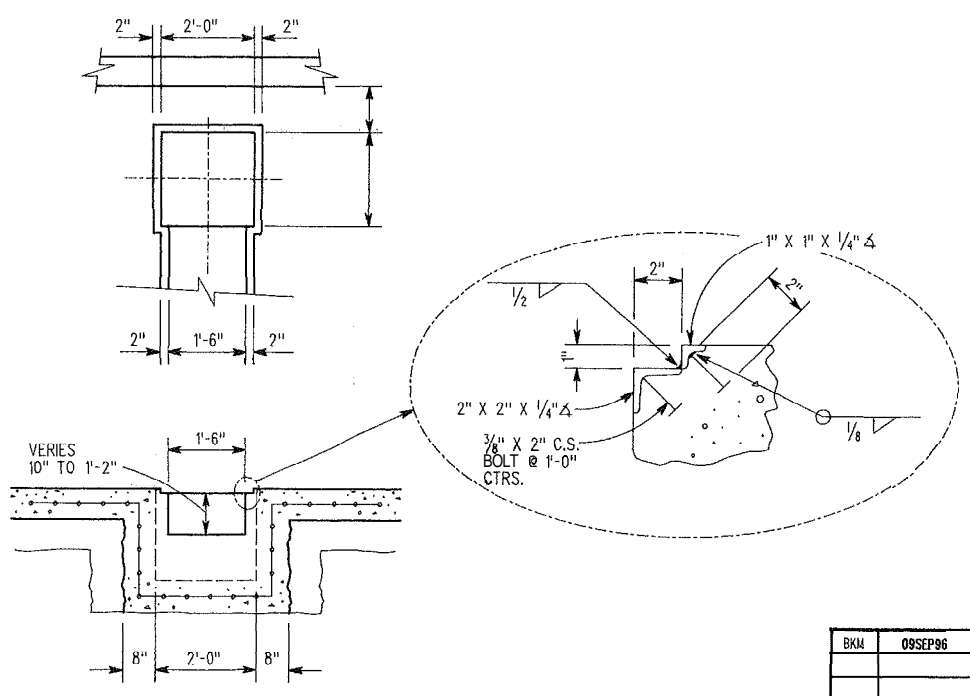


SECTION C-C
SCALE: 1" = 1'-0"

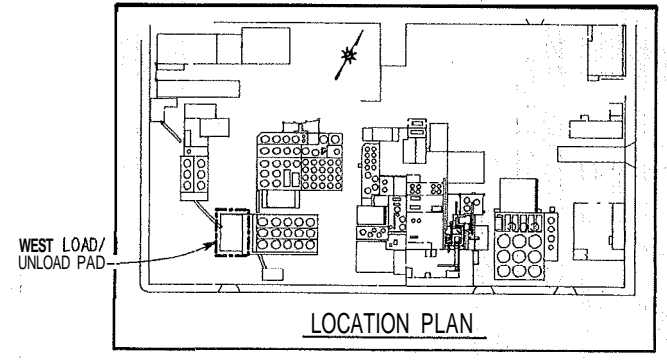
LOADING PAD PLAN
SCALE: 1/4" = 1'-0"



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



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



CONTAINMENT VOLUME:
1596 FT³ (PAD) + 103.87 FT³ (SUMP) = 1699.87 FT³ X 7.48 = 12,715 GALLONS

BKM	09SEP96	ADDED LOC. PLAN & CONTAINMENT VOLUME.

PHILIP ENVIRONMENTAL
BY-PRODUCTS RECOVERY GROUP

SCALE: AS NOTED	APPROVED BY:	DRAWN BY: LIM
DATE: 24APR89		REVISED:

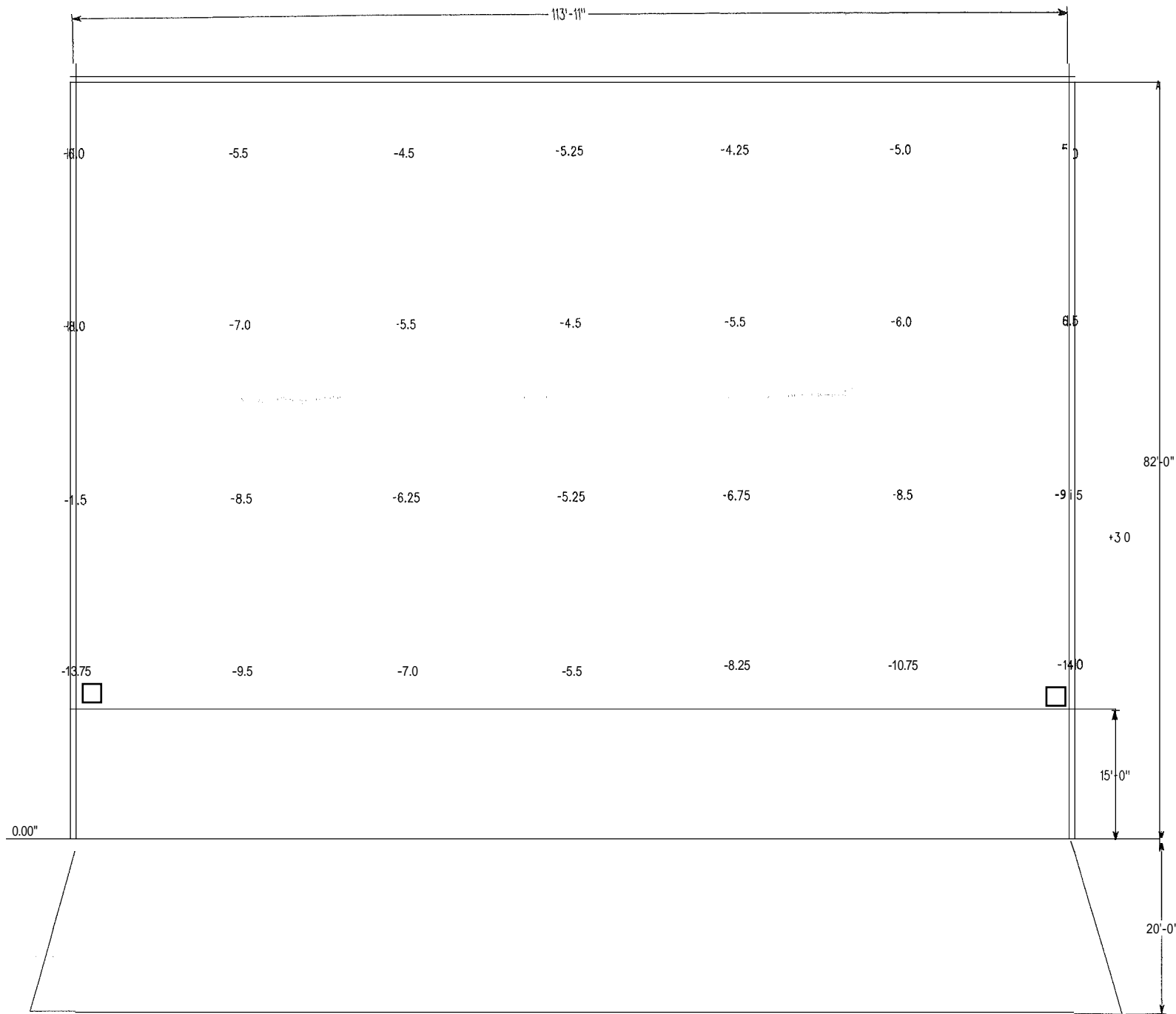
WEST LOADING/UNLOADING PAD CONCRETE PLAN

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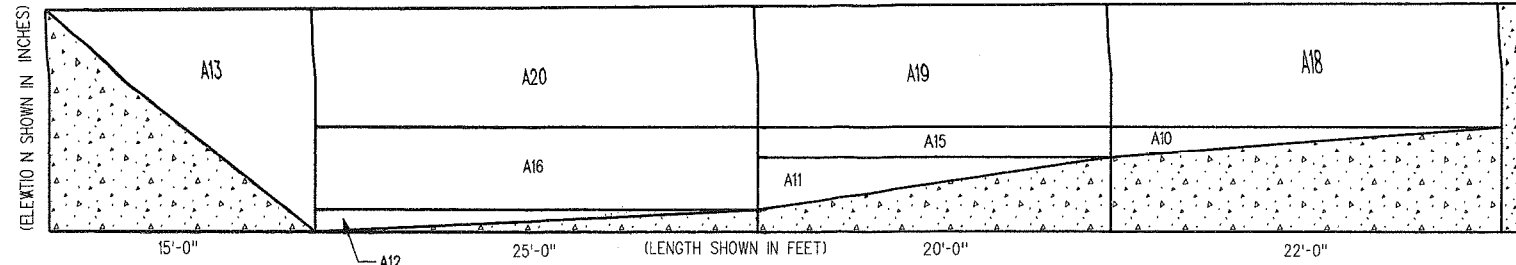
DRAWING NUMBER
70710

FILE: PCP159

ILLUSTRATION OF CONTAINMENT CALCULATIONS



PCPG/SDG TRUCK PAD ELEVATIONS



	A (20 FT. W.)	B (20 FT. W.)	C (20 FT. W.)	D (20 FT. W.)	E (10 FT. W.)	F (14 FT. W.)	
SLAB ELEVATIONS (INCHES)							
1	5.75	5.00	4.88	4.75	4.63	5.00	
2	7.50	5.75	5.00	5.00	5.75	6.25	
3	10.00	7.33	5.75	6.00	7.63	9.13	
4	11.25	8.25	6.25	6.88	9.50	12.38	
5	0.00	0.00	0.00	0.00	0.00	0.00	
INTERPOLATED SLOPES (INCHES)							
6	1.75	0.75	0.12	0.25	1.12	1.25	
7	2.50	1.58	0.75	1.00	1.88	2.88	
8	1.25	0.92	0.50	0.88	1.87	3.25	
9	11.25	8.25	6.25	6.88	9.50	12.38	
CROSS SECTIONS OF SLOPED AREAS - TRIANGULAR SECTIONS (SQ. FT.)							
10	1.60	0.69	0.11	0.23	1.03	1.15	
11	2.08	1.32	0.62	0.83	1.57	2.40	
12	1.30	0.96	0.52	0.92	1.95	3.38	
13	7.03	5.15	3.90	4.30	5.94	7.73	
CROSS SECTIONS OF SLOPED AREAS - RECTANGULAR SECTIONS (SQ. FT.)							
14	0.00	0.00	0.00	0.00	0.00	0.00	
15	2.92	1.25	0.20	0.42	1.87	2.08	
16	8.85	4.85	1.81	2.60	6.25	8.60	
17	0.00	0.00	0.00	0.00	0.00	0.00	
CROSS SECTIONS OF CURBED AREAS (SQ. FT.)							
18	10.54	9.16	8.94	8.70	8.48	9.16	
19	9.58	8.33	8.13	7.91	7.71	8.33	
20	11.97	10.41	10.16	9.89	9.64	10.41	
21	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL CROSS SECTIONS (SQ. FT.)							
22	12.14	9.85	9.05	8.93	9.51	10.31	
23	14.58	10.90	8.95	9.16	11.15	12.81	
24	22.13	16.22	12.50	13.41	17.84	22.40	
25	7.03	5.15	3.90	4.30	5.94	7.73	
VOLUMES (CU. FT.)							
26	242.8	197.0	181.1	178.7	190.2	144.3	
27	291.6	217.9	179.1	183.3	222.9	179.4	
28	442.5	324.5	249.9	268.2	356.7	313.6	
29	140.6	103.1	78.1	86.0	118.7	108.3	
TOTAL SECTION VOLUMES (CU. FT.)							
30	1,117.5	842.5	688.1	716.1	888.6	745.5	4,998 CUBIC FEET
TOTAL SECTION VOLUMES (GALLONS)							
31	8,359	6,302	5,147	5,357	6,646	5,577	37,387 GALLONS AVAILABLE

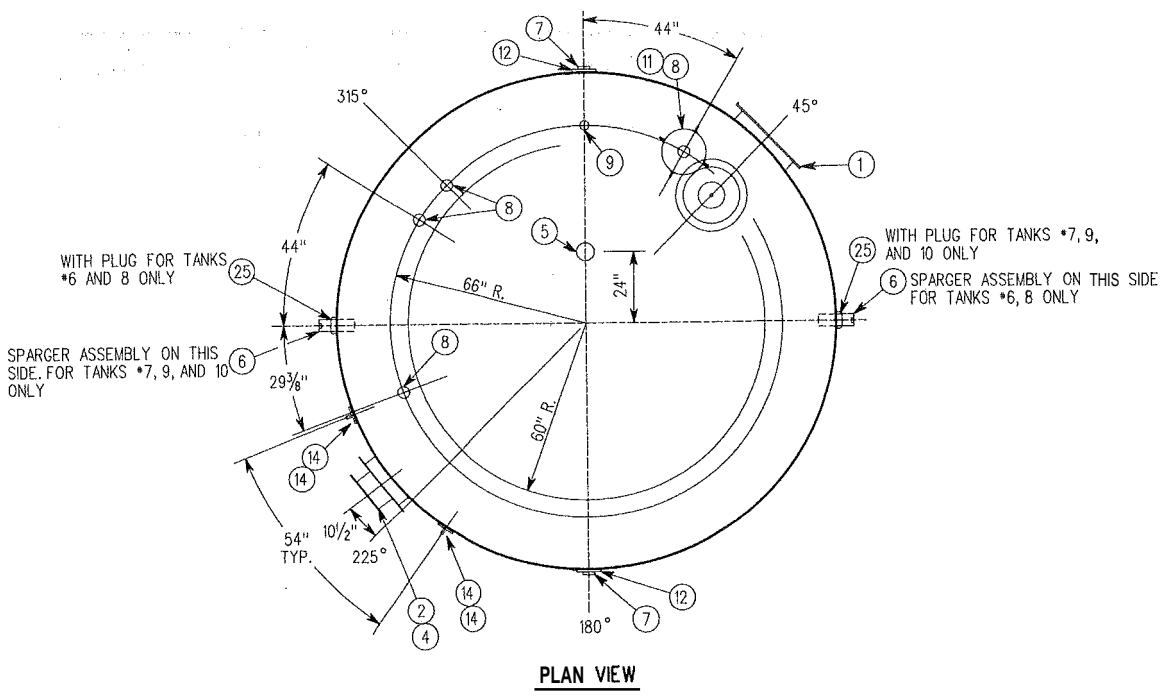
CONTAINMENT NEEDED: 114 X 82 X 4/12 X 7.48 = 23,384 GALLONS (24 HOUR/25 YEAR RAIN) PLUS 12,000 GALLONS (LARGEST CONTAINER) 35,284 GALLONS NEEDED

NOTE: ALL ELEVATIONS MEASURED DOWN FROM THE TOP OF NEW CURB ON THE SOUTH SIDE OF THE CONTAINMENT

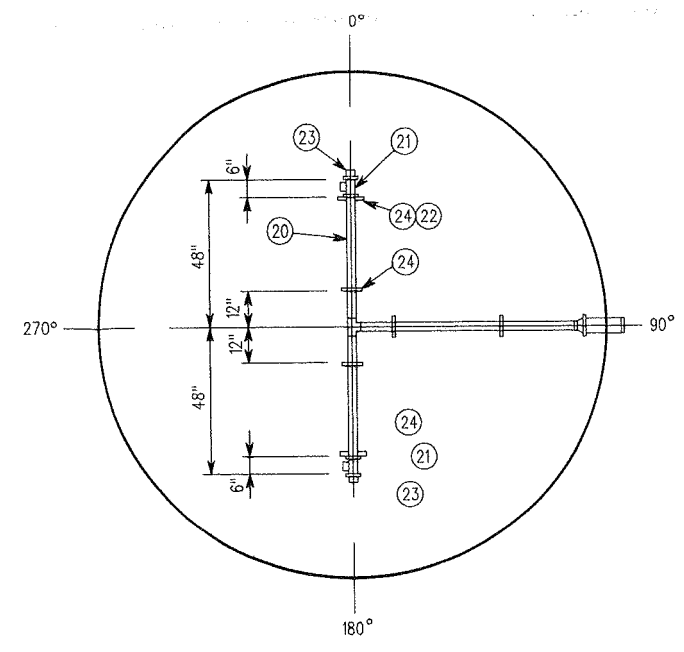


FILE: PCPI63 .L

AV	21JUN02	REVISED PER ENGINEERING COMMENTS			DESIGNED BY: AV
					DRAWN BY: LMB
SCALE: N.T.S. DATE: 03JUN02			APPROVED BY:		
PCPG/SDG TRUCK PAD CONTAINMENT CALCULATIONS			THE DISCLOSURE AND CONTENTS OF THIS DRAWING ARE CONFIDENTIAL AND THE EXCLUSIVE PROPERTY OF PSC BY-PRODUCTS SERVICES GROUP AND IS NOT TO BE COPIED OR PRODUCED WITHOUT WRITTEN PERMISSION FROM PSC. ACCEPTANCE OF THIS DRAWING WILL BE CONSIDERED AS AN AGREEMENT TO THE ABOVE.		
			DRAWING NUMBER PCPI-63E		



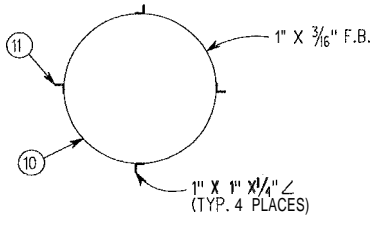
PLAN VIEW



**PLAN VIEW
INTERNAL PIPING ASSEMBLY**

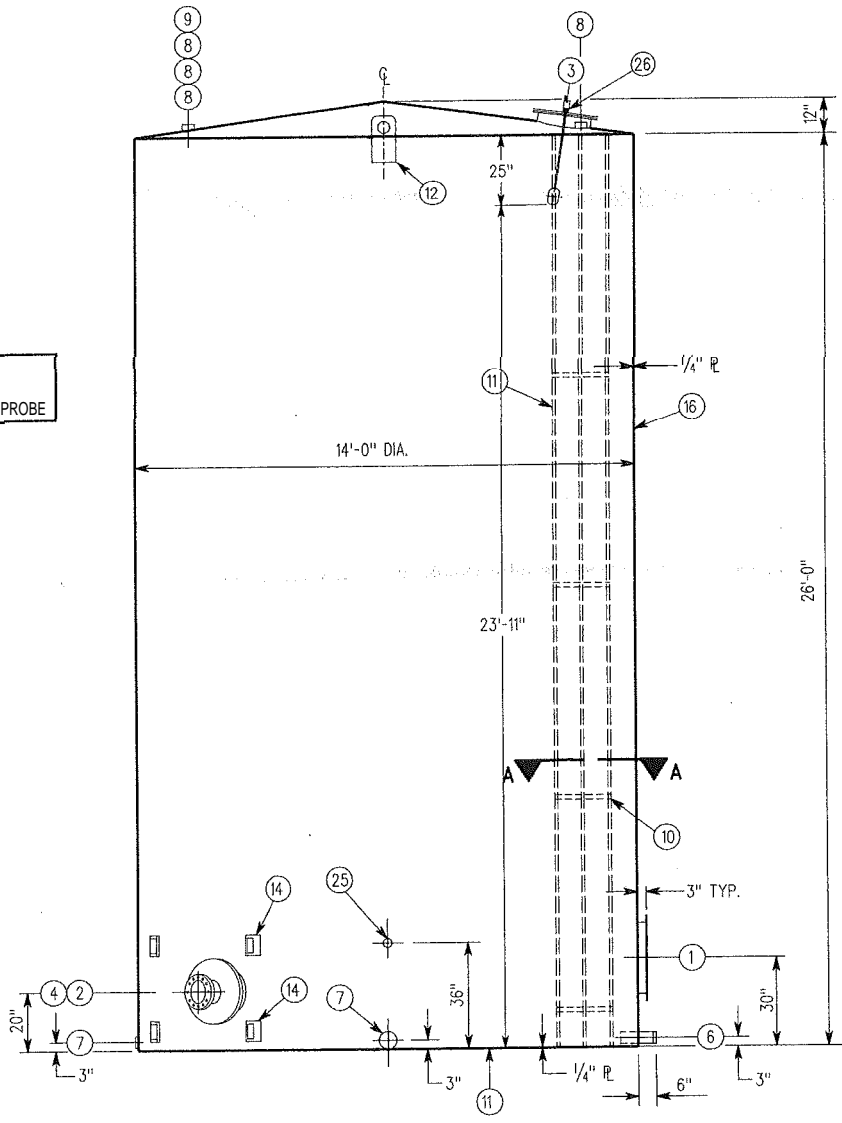
BILL OF MATERIALS		
ITEM	QTY	DESCRIPTION
1	1	24" DIA SHELL MANHOLE WITH GARLOCK BLUE GASKET
2	1	18" DIA SHELL MANHOLE WITH GARLOCK BLUE GASKET
3	1	18" DIA ROOF MANHOLE WITH 8" HOLE
4	1	8" 150° R.F.S.O. FLG. W/8" SCH. 40 PIPE NECK
5	1	6" SCH. 40 PIPE X 6" LONG T.O.E. W/CAP
6	1	4" SCH. 40 PIPE X 12" LONG T.B.E.
7	2	4" HALF COUPLING
8	4	3" FULL COUPLING
9	1	2" FULL COUPLING
10	5	1" X3/16" F.B. ROLLED TO 17" DIA. I.D. - FOR ITEM *11 PIPE SUPPORT
11	4	1" X 1" X 1/4" L X 26'-5" LONG - GAUGE SUPPORT
12	2	LIFT LUG
13	8	1" X 1" X 1/4" L X 2" LONG CLIP - GAUGE SUPPORT
14	4	STABILIZER SUPPORT BRACKETS - SEE DETAIL
15	1	14'-0" DIA X 1/4" R X 12" CONE ROOF
16	1	1/4" R SHELL
17	1	14'-0" DIA X 1/4" R - BOTTOM
18	1	4" X 2" REDUCER
19	1	2" SCH. 40 PIPE X 74" LONG T.B.E.
20	2	2" SCH. 40 PIPE X 44" LONG T.B.E.
21	3	2" TEE
22	6	U-BOLT FOR 2" PIPE
23	2	2" PIPE PLUG
24	6	PIPE SUPPORT
25	1	2" HALF COUPLING
26	1	HIGH LEVEL PROBE

* SEE PLAN VIEW FOR LOCATION OF SPARGER ASSEMBLY.

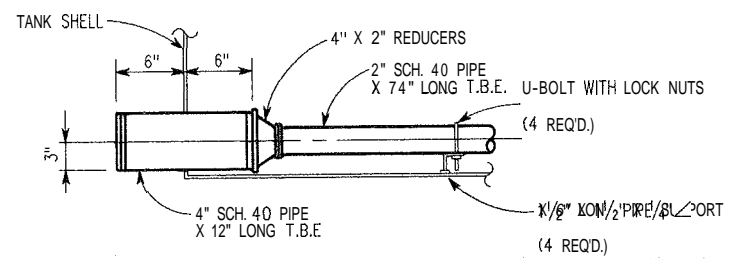


**SECTION A-A
NOT TO SCALE**

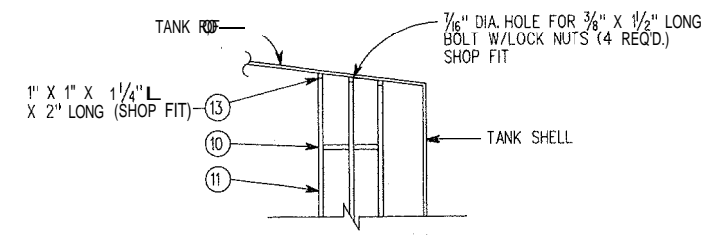
NOTE:
96 GALLONS PER INCH X 23'-11"
= 27,552 GALLONS AT BOTTOM OF HIGH LEVEL PROBE



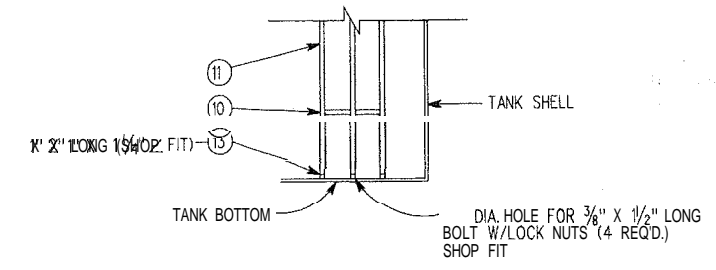
**ELEVATION VIEW
SEE PLAN VIEW FOR ORIENTATION**



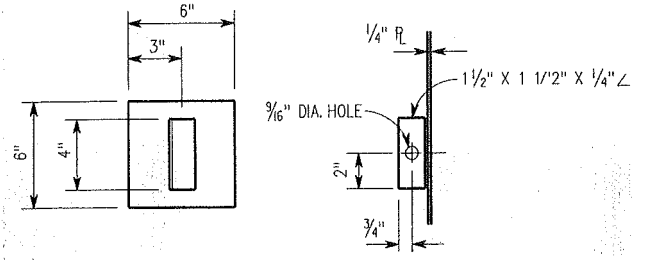
**INTERNAL PIPING DETAIL
NOT TO SCALE**



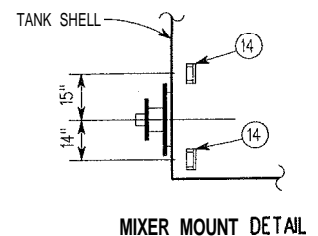
**TOP MOUNTING CLIPS
FLOAT GAUGE SUPPORT DETAIL
NOT TO SCALE**



**BOTTOM MOUNTING CLIPS
FLOAT GAUGE SUPPORT DETAIL
NOT TO SCALE**

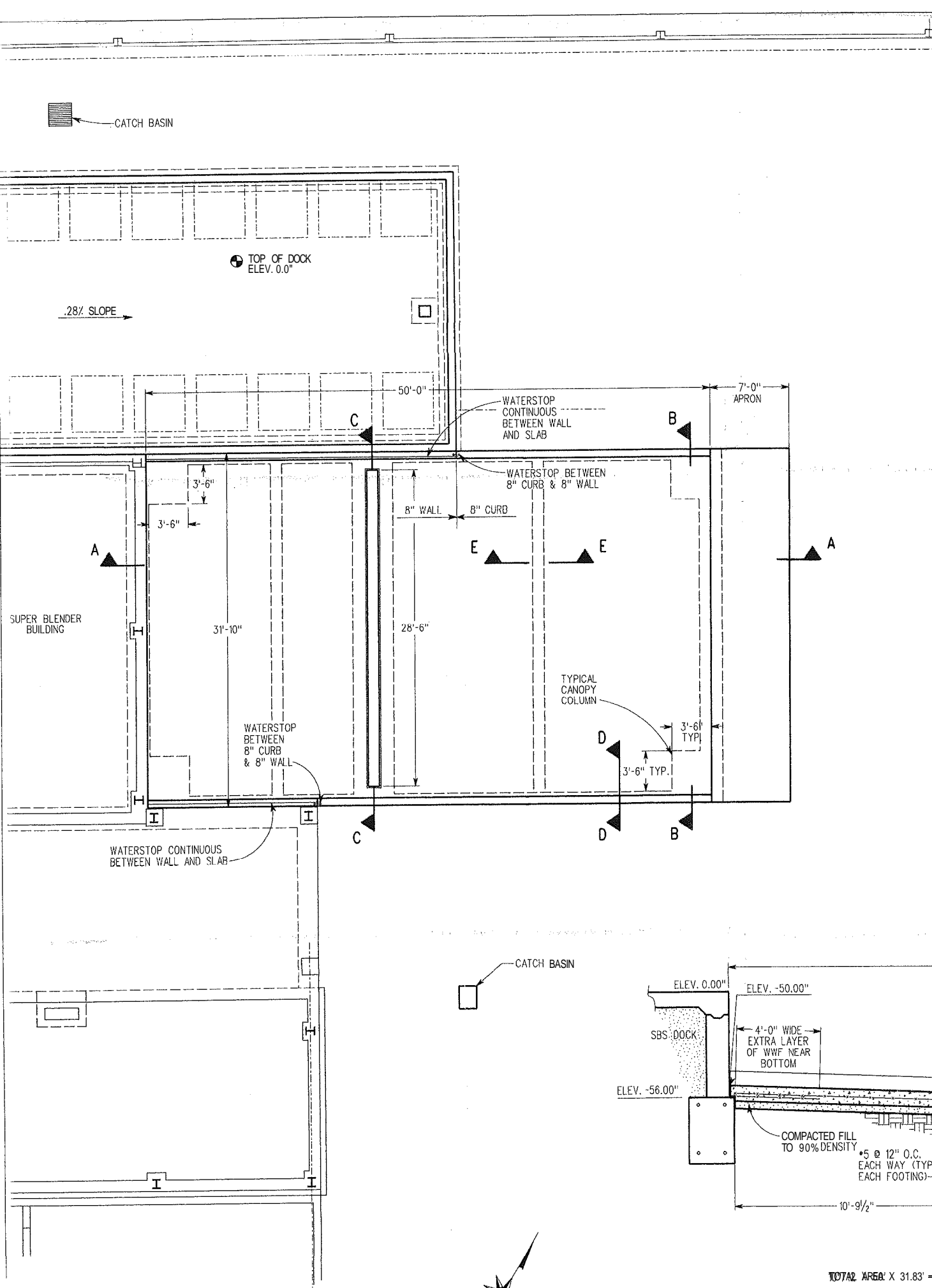


**DETAIL OF ITEM *14
NOT TO SCALE**



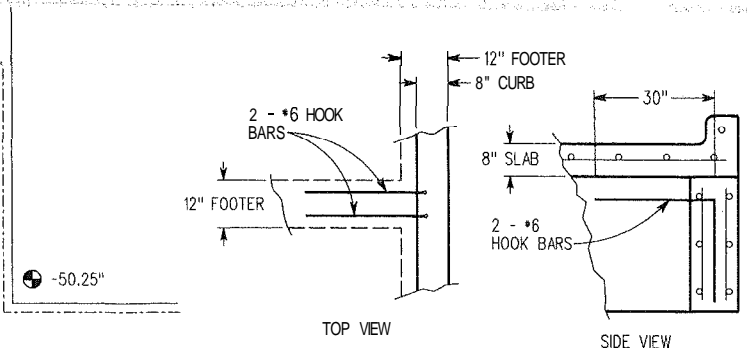
MIXER MOUNT DETAIL

NK	15JUL99	ADDED LEVEL PROBE	
NK	13AUG99	REVISED LEVEL PROBE	
SCALE: 3/8" = 1'-0" DATE: 28JUL88			APPROVED BY: DRAWN BY: LMB REVISED:
30,000 GALLON C.S. VERTICAL STORAGE TANK - TANKS 16 - 30			DRAWING NUMBER PCPI-79
<small>THE DISCLOSURE AND CONTENTS OF THIS DRAWING ARE CONFIDENTIAL AND THE EXCLUSIVE PROPERTY OF PHILIP SERVICES CORP. AND IS NOT TO BE COPIED OR PRODUCED WITHOUT WRITTEN PERMISSION FROM PHILIP SERVICES CORP. ACCEPTANCE OF THIS DRAWING WILL BE CONSTRUED AS AN AGREEMENT TO THE ABOVE.</small>			

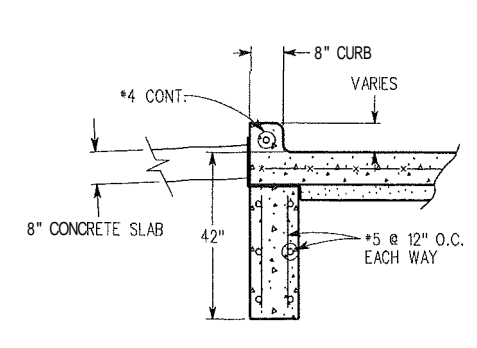


PLAN VIEW
SCALE: 3/16" = 1'-0"

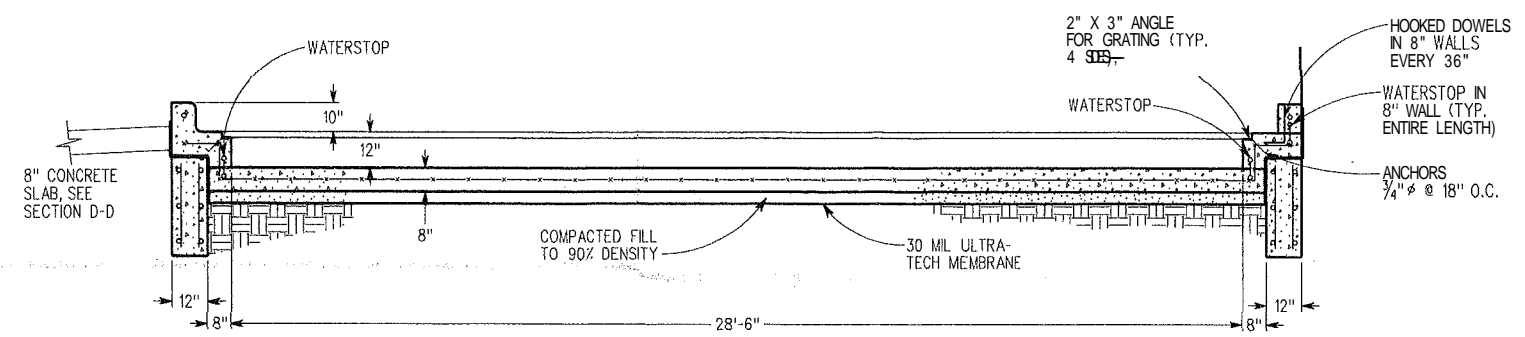
TOTAL AREA X 31.83' = 1326.25
 - (8' / 12 X 20' X 31.82) / 2 = 212.2
 - (10' / 12 X 30' X 31.83) / 2 = 397.87
 = 716.17 FT³ + 27.8 FT³ SUMP CONTAINMENT
 CONTAINMENT = 743.97 FT³ (7.48 GAL / FT³) = 5,564 GALLONS



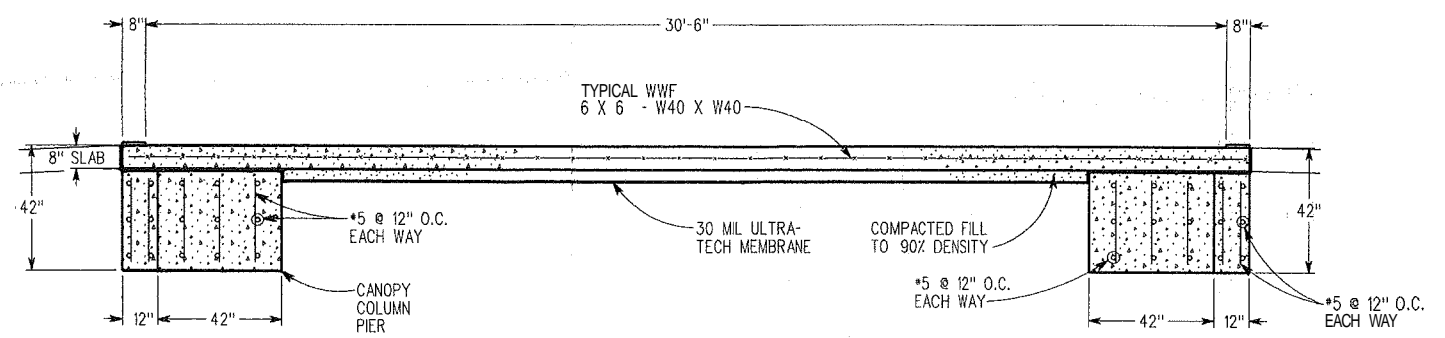
DETAIL OF FOOTER INTERSECTIONS
SCALE: 1/2" = 1'-0"



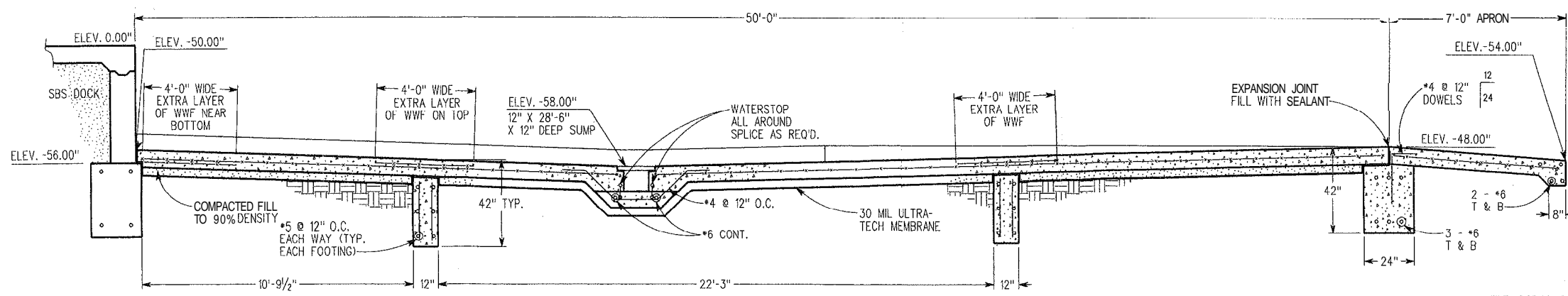
SECTION D-D
SCALE: 1/2" = 1'-0"



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



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



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

DK	DATE	REVISION	BY	DESCRIPTION
DK	10FEB95	REVISED PER AS-BUILT CONDITIONS.	SF	03APR95 ADDED EXISTING ELEVATIONS
			CDW	29AUG95 REVISED LOAD PAD PLAN; ADDED SECTIONS & DETS.
			CDW	30AUG95 REVISED PER ENGINEERING COMMENTS.
			CDW	06NOV95 ADDED TOTE BOX DOCK AND CANOPY COLUMNS.
			BKM	29NOV95 REVISED PER PCPI-95B & PCPI-96B.
			CDW	14DEC95 REVISED PER AS-BUILT CONDITIONS.
			CDW	20DEC95 REVISED PER AS-BUILT CONDITIONS.
			CDW	18JAN96 REVISED PER ENGINEERING COMMENTS.
			AK	28JUN96 ADDED CONTAINMENT CALCULATIONS.
			AK	24JUL97 REVISED CONTAINMENT CALCULATIONS.

PSC PHILIP SERVICES
Industrial Services Group

SCALE: AS NOTED
DATE: 3MAR95

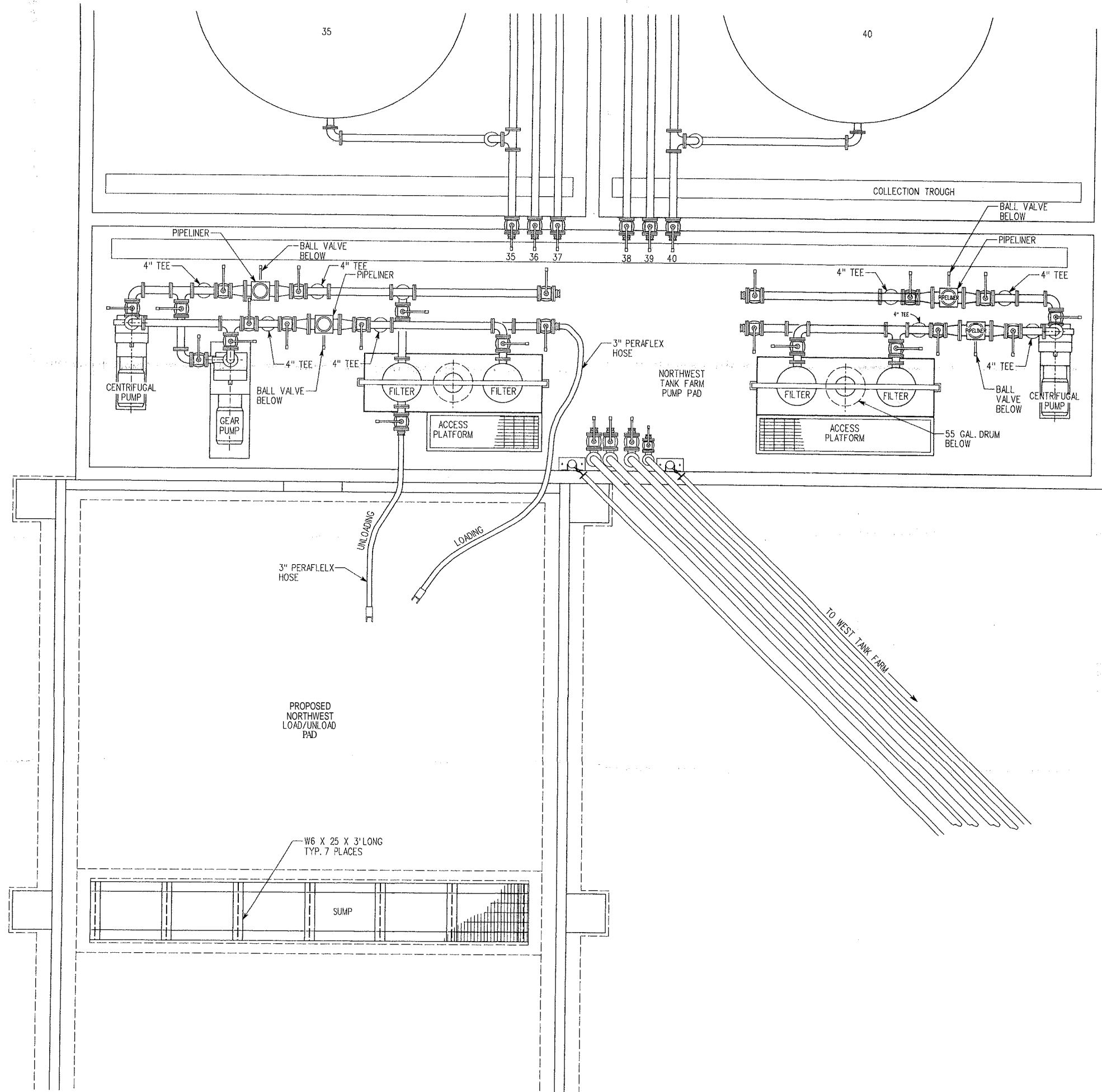
APPROVED BY: *[Signature]*
DRAWN BY: LUB
REVISED: 3-11-98

SBS LOAD/UNLOAD PAD CONCRETE PLAN AND DETAILS

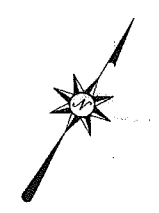
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DRAWING NUMBER: **PCPI-91**

FILE: PCPI91.DGN



NORTHWEST TANK FARM



PROPOSED NORTHWEST LOAD/UNLOAD PAD

W6 X 25 X 3' LONG TYP. 7 PLACES

SUMP

TO WEST TANK FARM

AV	13OCT97	REVISED PER ENGINEERING COMMENTS.

FILE: PCPI16E

PSC
PHILIP SERVICES

SCALE: 3/8" = 1'-0" APPROVED BY: DESIGNED BY:
DATE: 10OCT97 DRAWN BY:

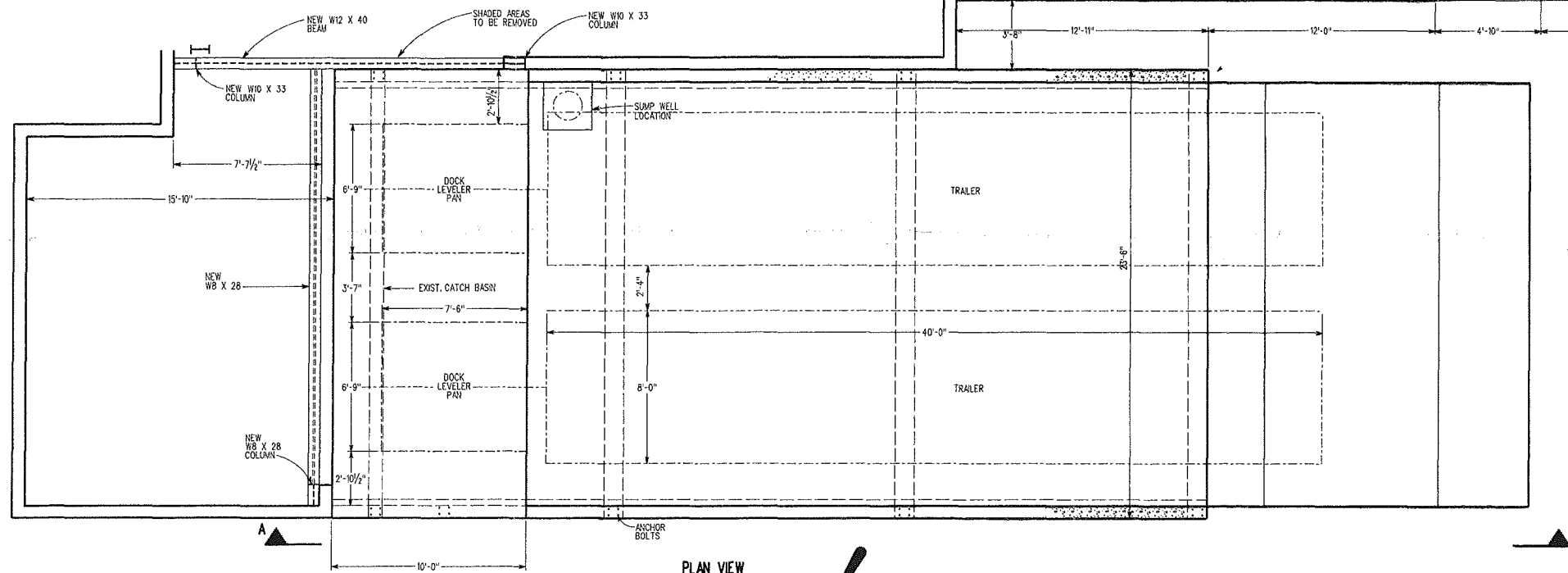
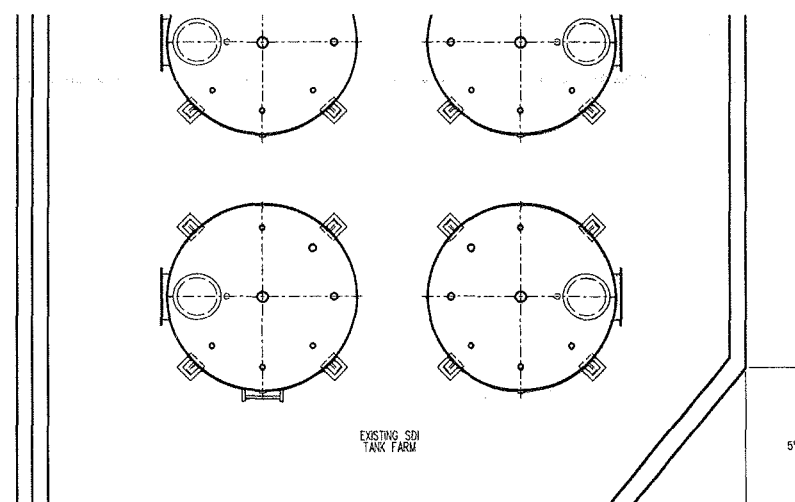
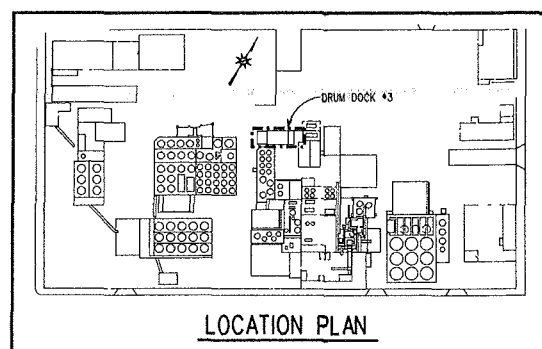
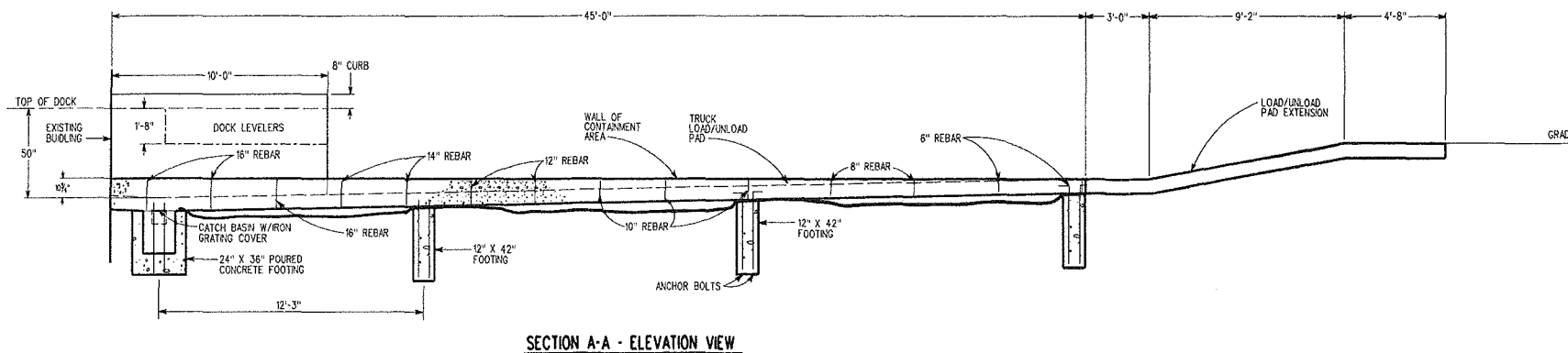
PCPG NORTHWEST TANK FARM EXISTING PUMP PAD AND PROPOSED LOADING PAD LAYOUT

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DRAWING NUMBER
PCPI-116

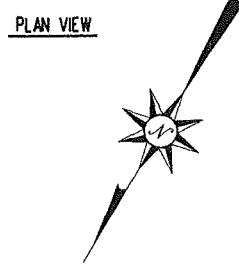
GENERAL NOTES - STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL IS DESIGNED, FABRICATED AND ERECTED ACCORDING TO THE AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, DATED JUNE 1, 1989.
2. WELDING IS IN ACCORDANCE WITH "STRUCTURAL WELDING CODE-STEEL" (AWS/AWS D11-88), AMERICAN WELDING SOCIETY. ELECTRODES FOR WELDING ARE IN ACCORDANCE WITH AWS A5.1 OR A5.5, E70XX E70B. WELDERS ARE QUALIFIED PER SPECIFICATIONS.
3. STRUCTURAL STEEL WAS NOT ALTERED IN THE FIELD FROM THAT SHOWN ON THE DESIGN DRAWINGS. BURNING OF HOLES WAS NOT PERMITTED. UNSHAPED HOLES WERE REAMED TO A LARGER DIAMETER. CUTTING, BURNING, OR WELDING NOT SHOWN ON DESIGN DRAWINGS WAS NOT PERFORMED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.
4. STRUCTURAL SHAPES AND PLATES CONFORM TO ASTM A-36 (FY-36 KSI). PIPE COLLARS CONFORM TO ASTM A-53 GRADE B TYPE E OR S (FY-35 KSI).
5. ALL CONNECTIONS ARE ADEQUATE TO CARRY A REACTION EQUAL TO 1/2 THE ALLOWABLE UNIFORM LOAD FOR THE APPLICABLE SPAN AS NOTED IN THE "ALLOWABLE LOADS ON BEAMS" TABLES IN THE AISC MANUAL OF STEEL CONSTRUCTION - NINTH EDITION.
6. THE STRUCTURAL STEEL CONTRACTOR PROVIDED TEMPORARY BRACING WHERE REQUIRED UNTIL ALL CONNECTIONS REQUIRED FOR STRUCTURAL STABILITY WERE COMPLETED.
7. WHERE BEAMS ARE COPIED IN ORDER TO FRAME TO OTHER BEAMS, MAXIMUM GAP BETWEEN THE TOP FLANGE OF THE COPIED MEMBERS AND THE FLANGE OF SUPPORTING MEMBERS DO NOT EXCEED 1/4".
8. CONTRACTOR VERIFIED ALL EXISTING DIMENSIONS AND ELEVATIONS SHOWN ON THE DRAWING BEFORE COMMENCING WORK.
9. BOLTS, NUTS, AND WASHERS CONFORM TO A.S.T.M. DESIGNATION A-325 AND WERE INSTALLED IN ACCORDANCE WITH "SPECIFICATIONS FOR STRUCTURAL JOINTS USING A-325 OR A-490 BOLTS", APPROVED NOVEMBER 13, 1985 BY THE RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS OF THE ENGINEERING FOUNDATION.
10. BOLTS ARE 3/4" DIAMETER UNLESS NOTED.
11. ALL STEEL RECEIVED ONE SHOP APPLIED PRIME COAT OF PAINT. OMITTED PAINT AT HOLES FOR SLIP-CRITICAL TYPE CONNECTIONS, AT FIREPROOFED STRUCTURAL STEEL EXPOSED OR IN CONTACT WITH CONCRETE, AND ON TOP FLANGE OF BEAMS THAT RECEIVED SHEAR CONNECTIONS. TOUCHED UP ALL EXPOSED STEEL OR DAMAGED PAINT SURFACES.
12. GROUT CONFORMS TO ARMY CORP OF ENGINEERS STANDARD CRD C621-80, FOR NON-SHRINK GROUT.
13. ALL CONNECTIONS ARE SHEAR/BEARING TYPE HIGH STRENGTH BOLTED. ANCHOR BOLTS ARE CHEMICAL ADHESIVE TYPE SUCH AS HILTI/HVA ANCHOR SYSTEM, OR OWNER APPROVED EQUAL.



TOTAL VOLUME:
 [45.0' X 22.8333' X 0.89833'] 0.5 + [2.0' X 2.0' X 2.0'] (SUMP) = 468.23 FT³
 CONTAINMENT CAPACITY:
 468.23 FT³ X 7.481 GAL/FT³ = 3,503 GALLONS

PLAN VIEW
 SCALE: 1/4" = 1'-0"



REV	DATE	DESCRIPTION	BY	CHECKED
BKM	09SEP98	ADDED LOCATION PLAN.	GAC	08JUN92
DK	05FEB98	REVISED PER ENGINEERING COMMENTS.	GAC	09JUN92
			GAC	16JUN92
			GAC	18JUN92
			DCB	07JUL92
			DCB	15JUL92
			DCB	23JUL92
			GAC	30JUL92
			DCB	28AUG92
			AK	21JUN96

PCPG/SDG DRUM DOCK NO. 3

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

DATE: 03JUN92

APPROVED BY: *[Signature]*

DRAWN BY: *[Signature]*

REVISED: 13/11

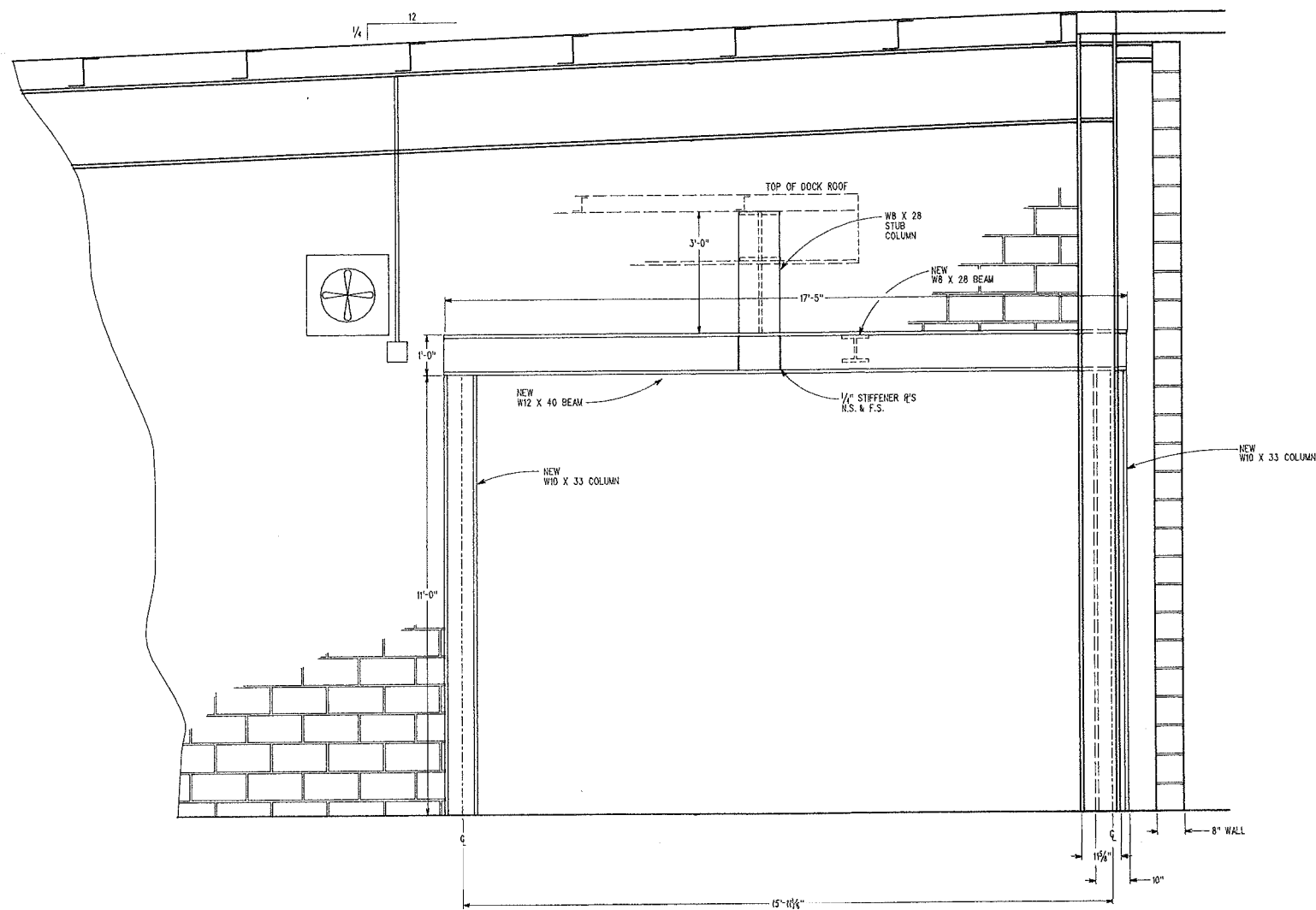
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DRAWING NUMBER: PCPI-153

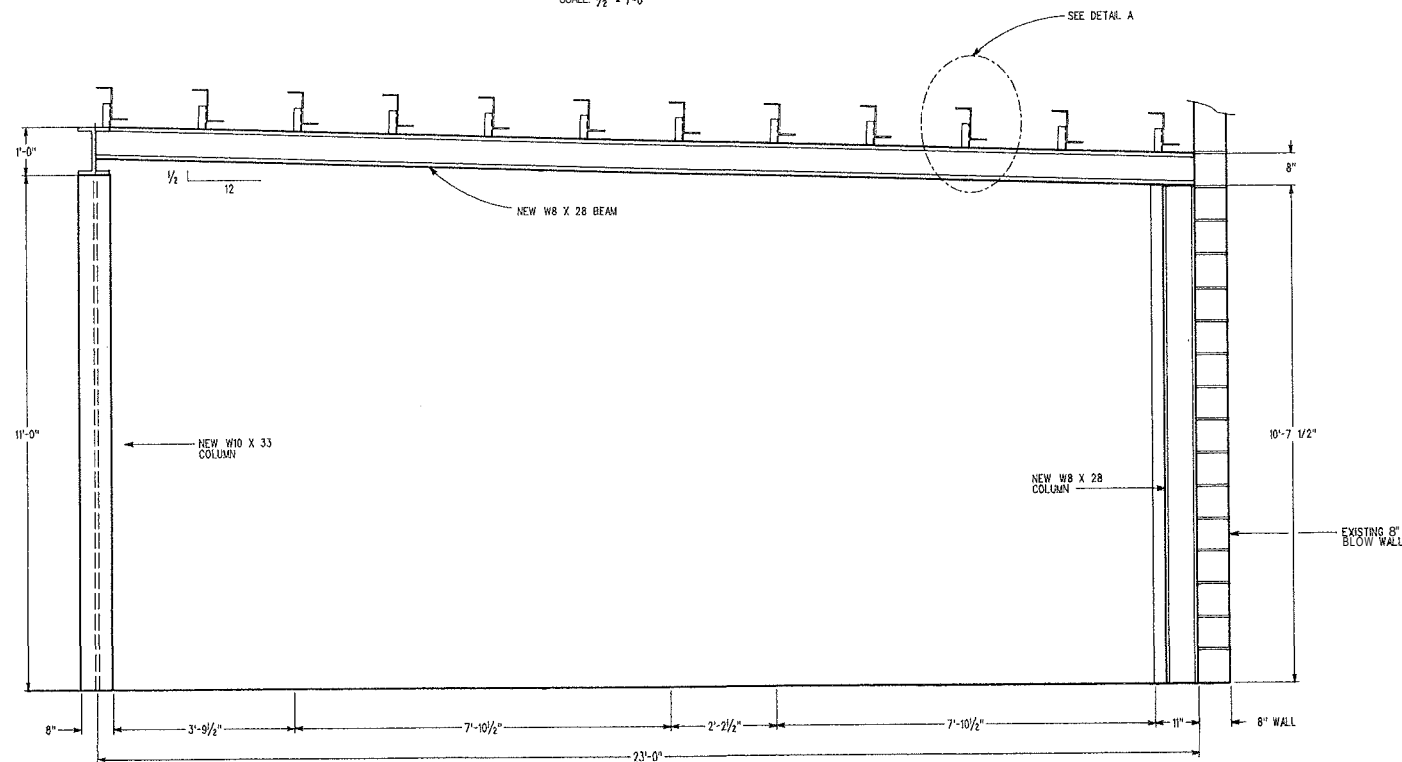
FILE: PCPI153

GENERAL NOTES - STRUCTURAL STEEL

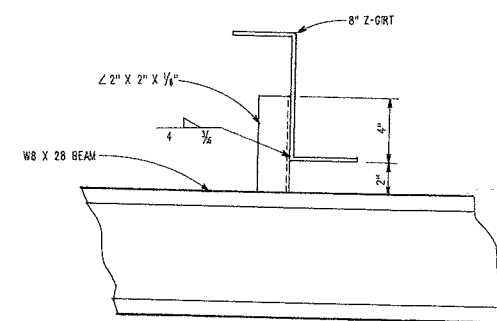
1. ALL STRUCTURAL STEEL SHALL BE DESIGNED, FABRICATED AND ERRECTED IN ACCORDANCE WITH THE SPECIFICATION FOR STRUCTURAL STEEL.
2. WELDING SHALL BE IN ACCORDANCE WITH "STRUCTURAL WELDING CODE-STEEL" (AWS/AWS D11.88), AMERICAN WELDING SOCIETY, ELECTRODES FOR WELDING SHALL BE IN ACCORDANCE WITH AWS A5.1 OR A5.5, E70XX E7018. WELDERS SHALL BE QUALIFIED PER SPECIFICATIONS.
3. STRUCTURAL STEEL SHALL NOT BE ALTERED IN THE FIELD FROM THAT SHOWN ON THE DESIGN DRAWINGS. BURNS OF HOLES IS NOT PERMITTED. UNSHATCHED HOLES SHALL BE REAMED TO A LARGER DIAMETER. CUTTING, BURNING, OR WELDING NOT SHOWN ON DESIGN DRAWINGS SHALL NOT BE PERFORMED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.
4. STRUCTURAL SHAPES AND PLATES SHALL CONFORM TO ASTM A-36 (FY-36 KSI). PIPE COLUMNS SHALL CONFORM TO ASTM A-53 GRADE B TYPE E OR S (FY-35 KSI).
5. ALL CONNECTIONS SHALL BE ADEQUATE TO CARRY A REACTION EQUAL TO 1/2 THE ALLOWABLE UNIFORM LOAD FOR THE APPLICABLE SPAN AS NOTED IN THE "ALLOWABLE LOADS ON BEAMS" TABLES IN THE AISC MANUAL OF STEEL CONSTRUCTION - NINTH EDITION.
6. THE STRUCTURAL STEEL CONTRACTOR SHALL PROVIDE TEMPORARY BRACING WHERE REQUIRED UNTIL ALL CONNECTIONS REQUIRED FOR STRUCTURAL STABILITY ARE COMPLETED.
7. BETWEEN BEAMS AND COLUMNS OR OVER COLUMNS, THE MAXIMUM GAP SUPPORTING MEMBERS SHALL NOT EXCEED 1/4".
8. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND ELEVATIONS SHOWN ON THE DRAWING AND REPORT ANY DISCREPANCIES TO THE ENGINEER.
9. BOLTS, NUTS AND WASHERS SHALL CONFORM TO A.S.T.M. DESIGNATION A-325, AND SHALL BE INSTALLED IN ACCORDANCE WITH "SPECIFICATIONS FOR STRUCTURAL JOINTS USING A-325 OR A-490 BOLTS" APPROVED NOVEMBER 19, 1985 BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC. COUNCIL ON STRUCTURAL CONNECTIONS OF THE ENGINEERING.
10. BOLTS ARE TO BE 3/4" DIAMETER UNLESS NOTED.
11. ALL STEEL TO RECEIVE ONE SHOP APPLIED PRIME COAT OF PAINT. OMIT PAINT AT HOLES FOR SLIP-CRITICAL TYPE CONNECTIONS, AT STRUCTURAL STEEL TO BE FIREPROOFED, ENCASED OR IN CONTACT WITH CONCRETE, AND ON TOP FLANGE OF BEAMS RECEIVING SHEAR CONNECTIONS. FIELD TOUCH UP ALL EXPOSED STEEL OR DAMAGED PAINT SURFACES.
12. REFER TO THE CONSTRUCTION TO ARMY CORP OF ENGINEERS STANDARD CRD C621-80.
13. ALL CONNECTIONS SHALL BE SHEAR/BEARING TYPE HIGH STRENGTH BOLTED. ANCHOR BOLTS SHALL BE CHEMICAL ADHESIVE TYPE SUCH AS HLT HVA ANCHOR SYSTEM OR OWNER APPROVED EQUAL.



ELEVATION LOOKING NORTH
SCALE: 1/2" = 1'-0"




ELEVATION LOOKING WEST
SCALE: 1/2" = 1'-0"



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

DCB	15.JUL.92	ADDED PROPOSED SUPPORT STRUCTURE PER ENGINEERING COMMENTS
DCB	23.JUL.92	ADDED ELEVATION LOOKING WEST AND STRUCTURAL STEEL DESIGNATIONS PER ENGINEERING COMMENTS
GAC	30.JUL.92	REVISED COLUMN LOCATIONS AND BEAM SIZES; ADDED EXISTING DOORS IN ELEVATION LOOKING WEST
DCB	31.AUG.92	REVISED TO REFLECT AS-BUILT CONDITIONS; ADDED DETAIL A

FILE: PCP15

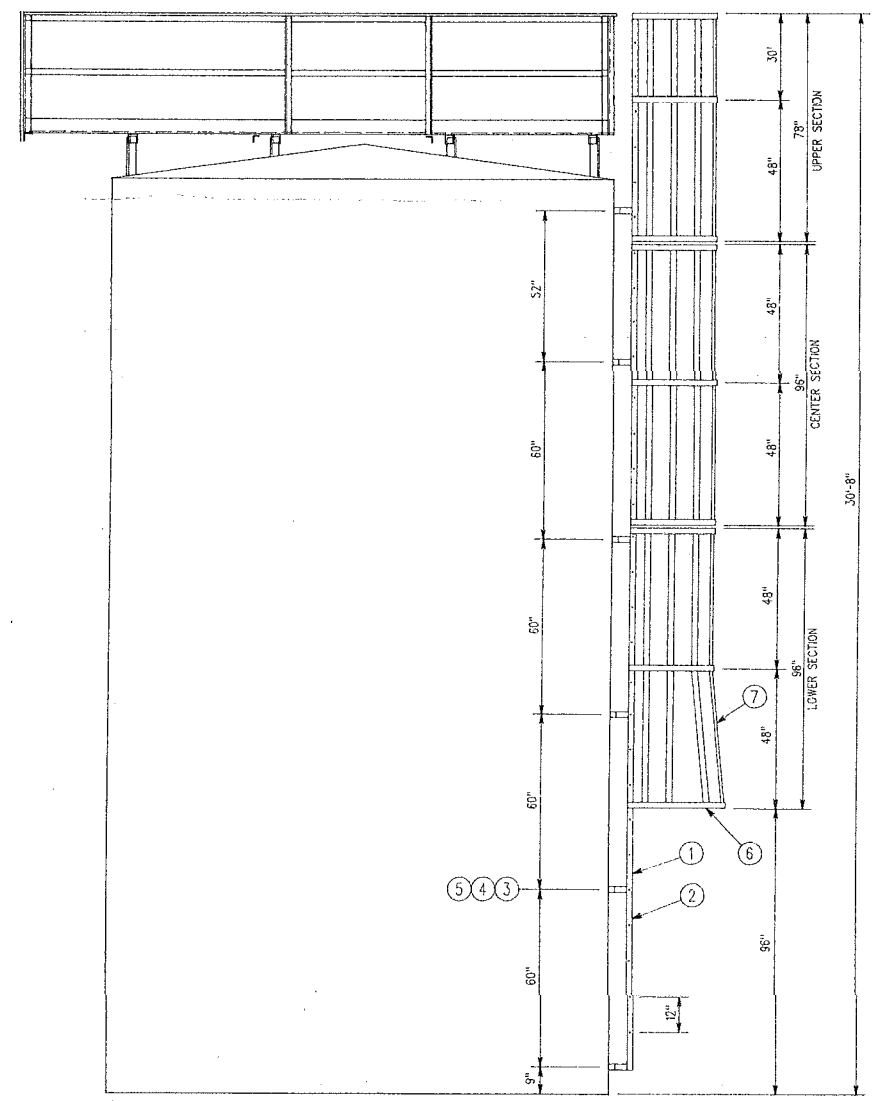


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PROCESSING GROUP
Specializing in Hydrocarbon Processing and Reuse

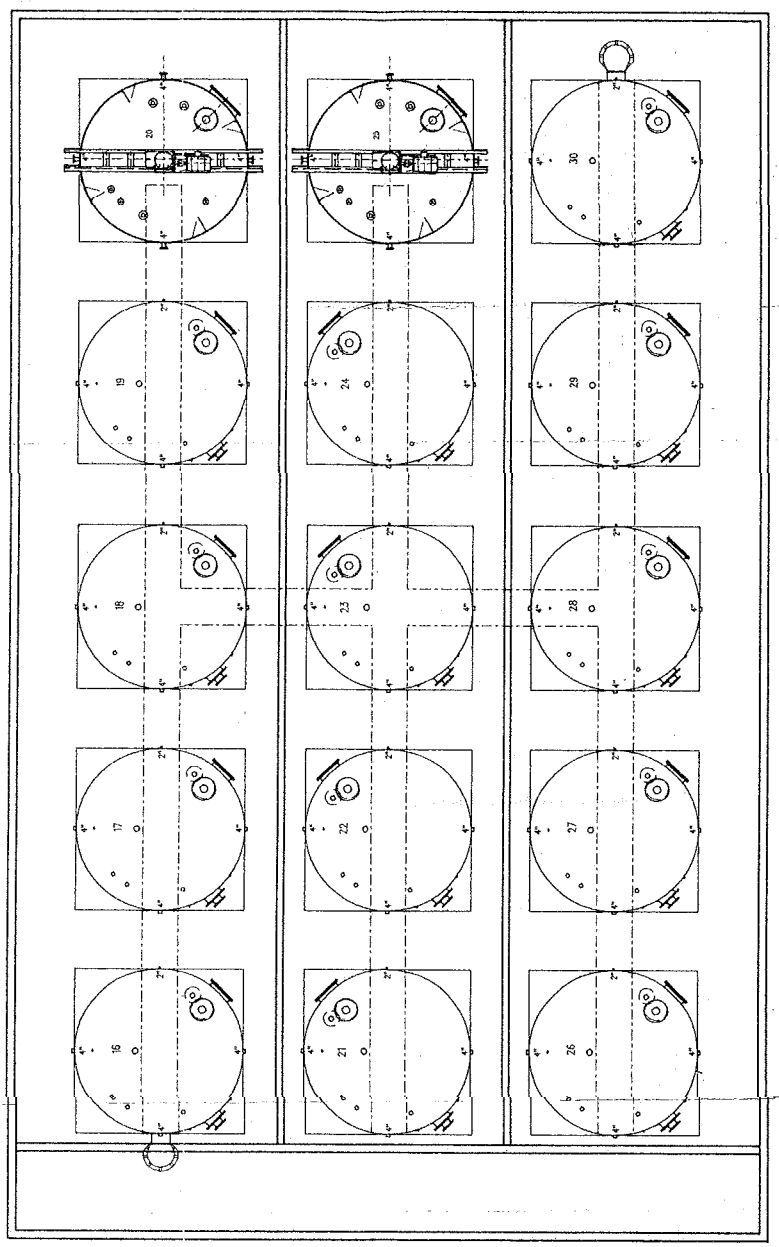
SCALE: AS NOTED	APPROVED BY:	DRAWN BY:
DATE: 08JUN92		REVISION:
DRUM DOCK NO. 3 ELEVATION VIEWS		
THE DISCLOSURE AND CONTENTS OF THIS DRAWING ARE CONFIDENTIAL AND THE EXCLUSIVE PROPERTY OF NORTRU, INC. AND IS NOT TO BE COPIED OR PRODUCED WITHOUT WRITTEN PERMISSION FROM NORTRU, INC. ACCEPTANCE OF THIS DRAWING WILL BE CONSTRUED AS AN AGREEMENT TO THE ABOVE.		DRAWING NUM: PCPI

SCHEDULE		
NO.	QTY.	DESCRIPTION
1	2	2" X 3/8" F.B. X 29'-11" LONG LADDER RAIL
2	27	3/4" BAR X 15 3/8" LONG LADDER RUNG
3	12	2" X 3/8" F.B. X 2" LONG TANK CLIPS
4	12	2" X 1/2" F.B. X 9" LONG LADDER CLIPS
5	24	1/2" X 1 1/2" LONG BOLT W/WAITS & LOCKWASHERS (NOT)
6	33	2" X 1/4" F.B. CAGE HOOPS
7	228	2" X 3/4" F.B. CAGE SIDES

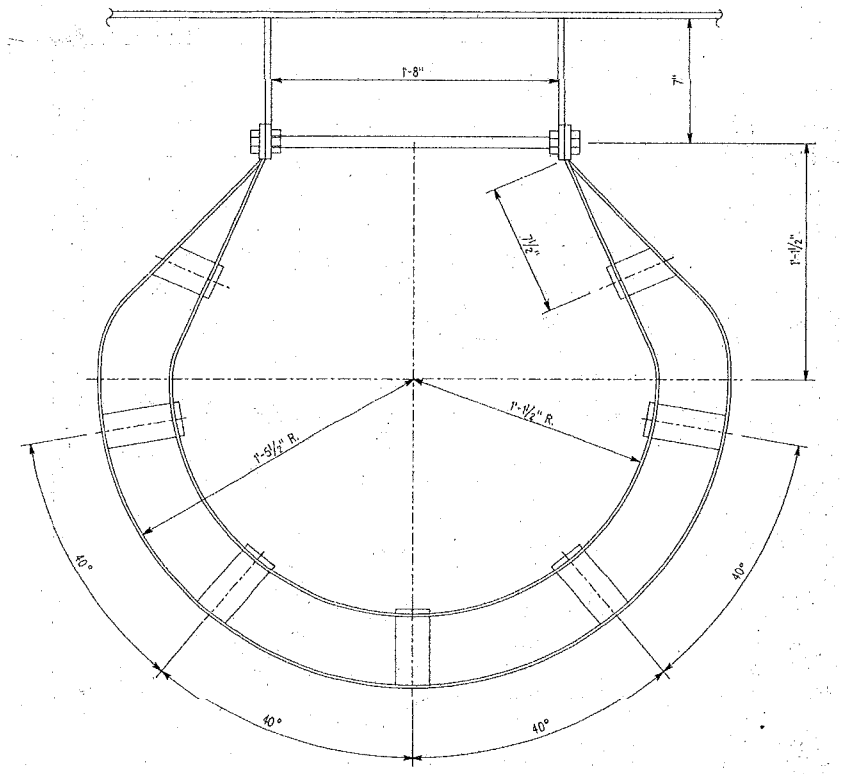
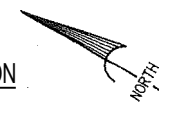
- NOTES:**
- LADDER TO BE SHOP FITTED AND SHIPPED LOOSE WITH TANKS
 - LADDER TO RECEIVE A SHOP COAT OF RED OXIDE PRIMER OVER A CLEAN SURFACE



LADDER ASSEMBLY ELEVATION VIEW
SCALE: 3/8" = 1'-0"



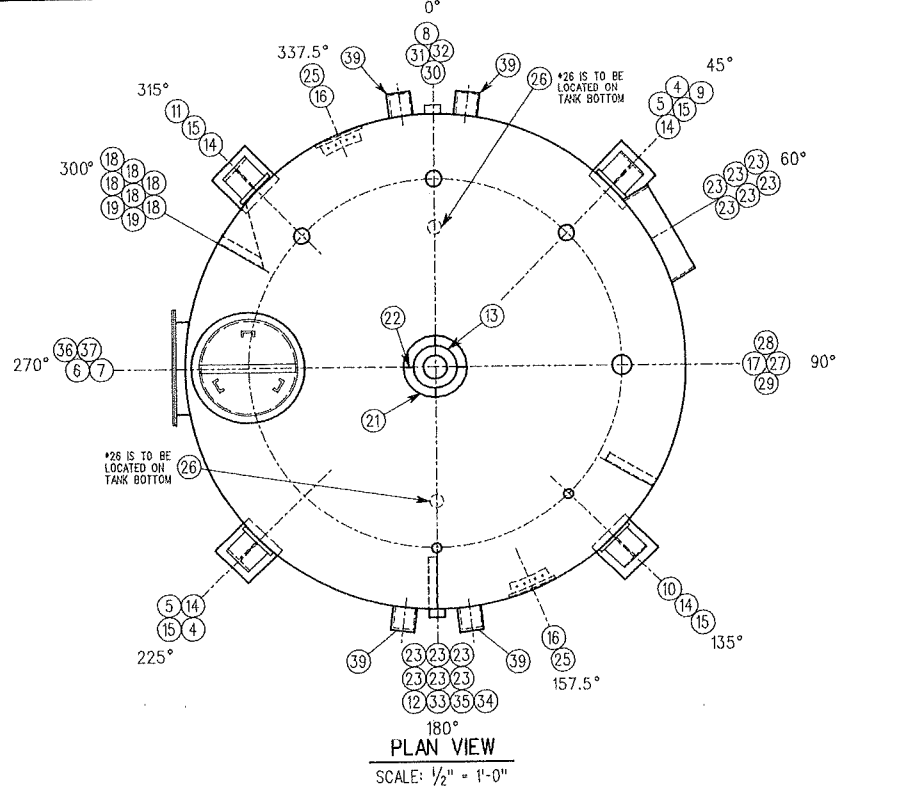
TANK ORIENTATION
SCALE: 1/8" = 1'-0"



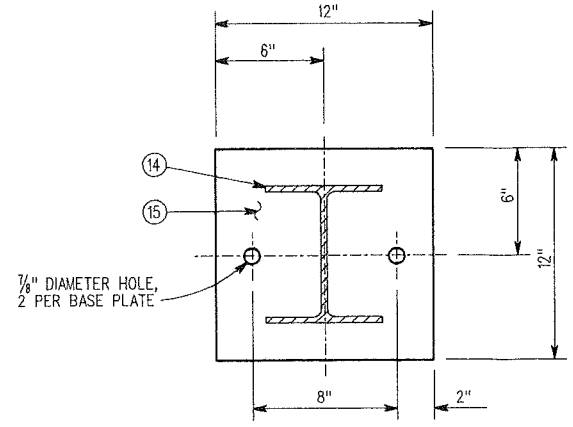
LADDER ASSEMBLY PLAN VIEW
NOT TO SCALE

AMM	12JAN93	REVISED PER AS-BUILT CONDITIONS	<p>Petro-Chem PROCESSING GROUP Specializing in Hydrocarbon Processing and Refuse</p>	SCALE: AS NOTED	APPROVED BY:	DRAWN BY:
AMM	22JAN93	REVISED TANK COUPLINGS PER AS-BUILT CONDITIONS		DATE: 18DEC90	REVISOR:	
AMM	28JAN93	REVISED TANK COUPLINGS PER AS-BUILT CONDITIONS				
LMB	01FEB93	REVISED PER ENGINEERING COMMENTS				
PCPG WEST TANK FARM TANK ORIENTATION & LADDER ASSEMBLY				THE DISCLOSURE AND CONTENTS OF THIS DRAWING ARE CONFIDENTIAL AND THE EXCLUSIVE PROPERTY OF NORTRU, INC. AND IS NOT TO BE COPIED OR PRODUCED WITHOUT WRITTEN PERMISSION FROM NORTRU, INC. ACCEPTANCE OF THIS DRAWING WILL BE CONSIDERED AS AN AGREEMENT TO THE ABOVE.		
				DRAWING NUM: PCPI-		

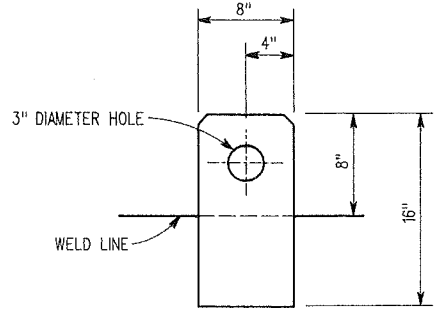
FILE: PCPI



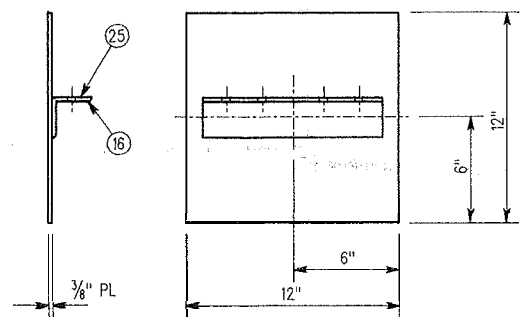
PLAN VIEW
SCALE: 1/2" = 1'-0"



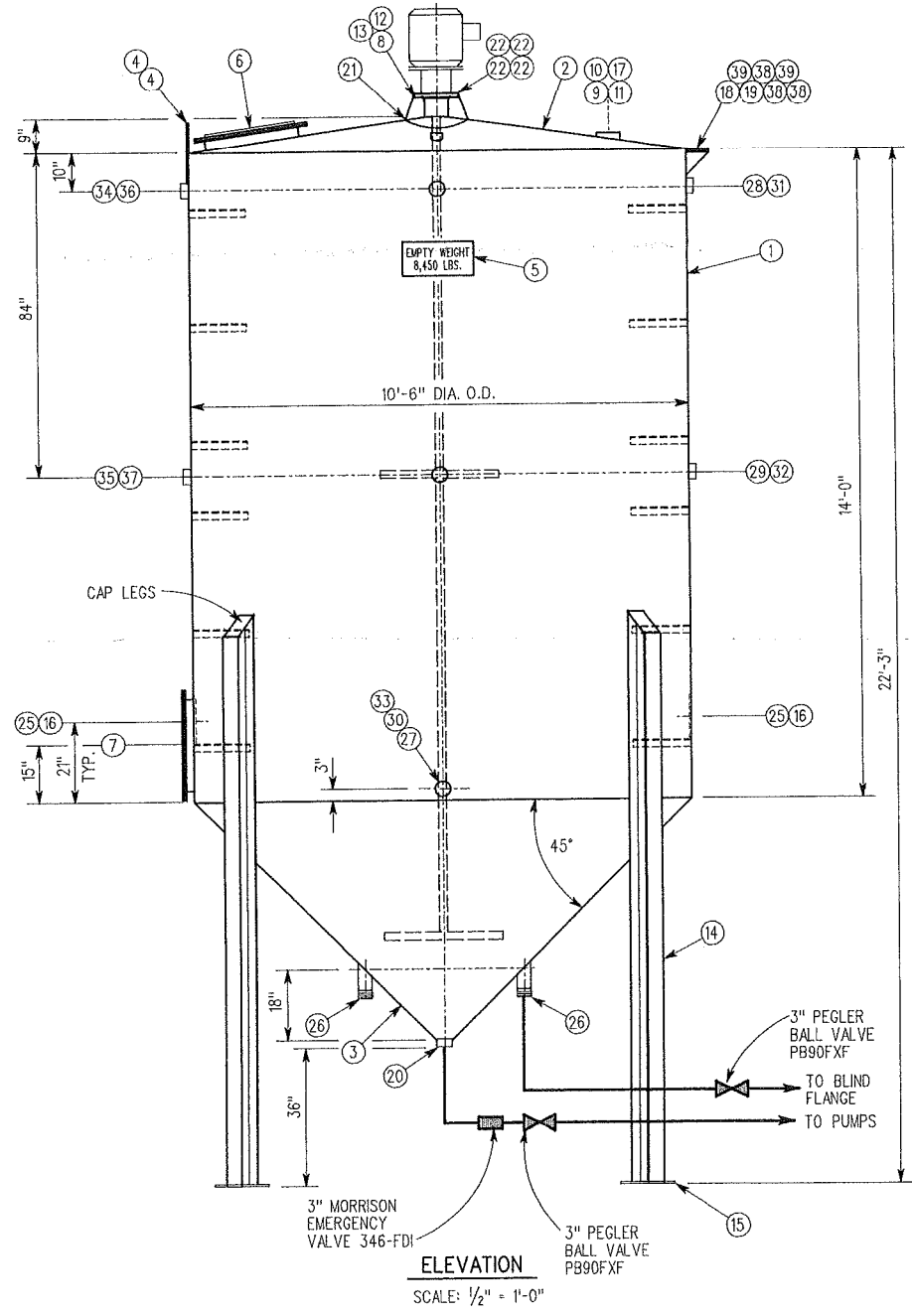
BASE PLATE DETAIL
SCALE: 3/16" = 1'-0"



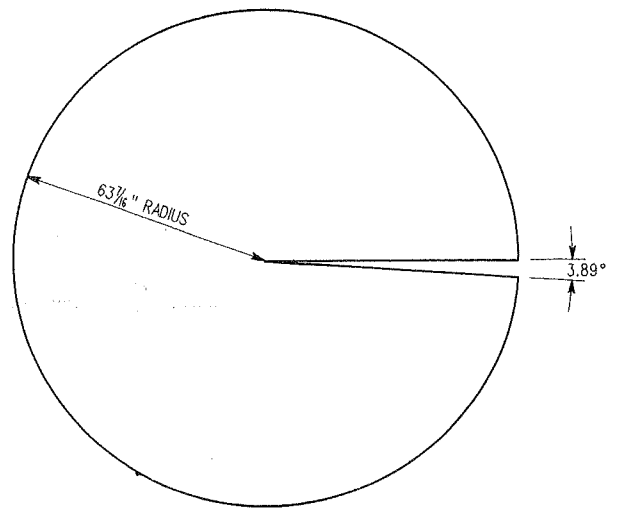
VERTICAL LIFT LUG DETAIL
SCALE: 1/8" = 1'-0"



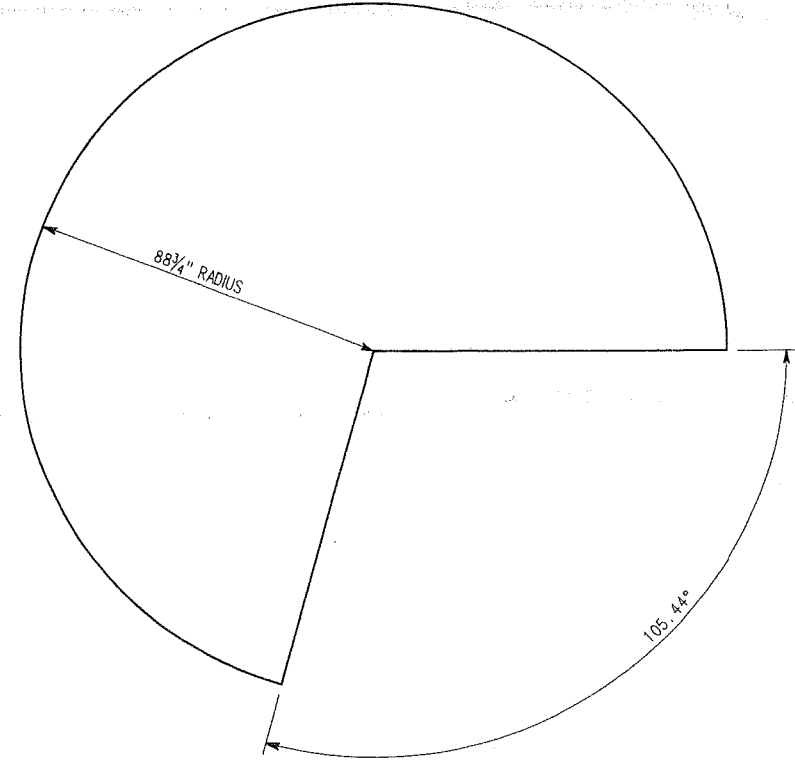
DETAIL OF #16, #25
SCALE: 3/8" = 1'-0"



ELEVATION
SCALE: 1/2" = 1'-0"



TOP CONE LAYOUT
SCALE: 1/2" = 1'-0"



BOTTOM CONE LAYOUT
SCALE: 1/2" = 1'-0"

SCHEDULE		
NO.	QTY.	DESCRIPTION
1	1	1/4" PL SHELL
2	1	3/8" PL CONE TOP
3	1	1/4" PL CONE BOTTOM
4	2	VERTICAL LIFT LUG - SEE DETAIL
5	2	STENCIL
6	1	24" DIA. LONG BOLT MANHOLE W/GASKET & COVER W/OPW 202-F VENT
7	1	24" DIA. MANHOLE W/GASKET & COVER
8	1	3" THREADED HALF COUPLING - SPARE
9	1	3" THREADED HALF COUPLING - NITROGEN (FUTURE)
10	1	3" THREADED HALF COUPLING - P/V VENT
11	1	2" THREADED HALF COUPLING - SPARE
12	1	2" THREADED HALF COUPLING - EPS II
13	1	6" 150° R.F.S.O. FLANGE W/6" SCH. 40 PIPE X 5 1/4" L.
14	4	8" X 20" BEAM LEGS X 12"-3" LONG - SEE DETAIL
15	4	12" X 12" X 1/2" PL BASE PLATE
16	2	MIXER SUPPORTS - SEE DETAIL
17	1	4" THREADED HALF COUPLING - TOP SAMPLE BOMB P
18	1	1/2" PL (TOP PLATE) SEE DETAIL OF CATWALK SUPPOR
19	1	8" DIA. X 1/4" PL REPAD - SEE DETAIL
20	4	3" THREADED HALF COUPLING - MAIN OUTLET
21	1	16" O.D. X 1/4" PL REPAD
22	1	1/4" PL GUSSET - SEE DETAIL
23	1	2" X 2" X 1/4" ANGLE X 14" LONG - SEE DETAIL
24	1	1/2" DIA. BOLTS X 1" LONG W/LOCK WASHERS & NUTS
25	1	12" X 12" X 1/2" PL REPAD- SPARE
26	1	3" SCH. 40 PIPE X 9" LONG T.O.E. - SECONDARY OUT & SAMPLE CONE
27	1	3" THREADED FULL COUPLING - SPARE
28	1	3" THREADED HALF COUPLING - PEMBERTHY HILEVEL
29	1	3" THREADED HALF COUPLING - SPARE
30	1	3" THREADED FULL COUPLING - SPARE
31	1	3" THREADED HALF COUPLING - SPARE
32	1	3" THREADED HALF COUPLING - SPARE
33	1	3" THREADED FULL COUPLING - RECYCLE LINE (FUTU
34	1	3" THREADED HALF COUPLING - SPARE
35	1	3" THREADED HALF COUPLING - SPARE
36	1	3" THREADED HALF COUPLING - SPARE
37	1	3" THREADED HALF COUPLING - SPARE
38	3	1/4" PL SUPPORTS - SEE DETAIL OF CATWALK SUPPOR
39	1	1/4" PL SUPPORT - SEE DETAIL

NOTES:

- TANK TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE TO CODE U.L. 142 BUT NOT LABELED.
- TANK TO BE AIR TESTED AT 3-5 P.S.I.G.
- INTERIOR AND EXTERIOR TO BE CLEANED OF ALL DIRT, WELD SLAG, ETC.
- EXTERIOR TO RECEIVE A SHOP COAT OF RED OXIDE PRIMER APPLIED OVER A CLEAN, DRY SURFACE.
- MANHOLE GASKET TO BE C4401 MARTIN FLUID POWER CO. (CUSTOMER SUPPLIED).
- C.T.C. WILL NOT BE RESPONSIBLE FOR ANY CUSTOMER SPECIFIED GASKET MATERIAL.
- STENCIL TANK EMPTY WEIGHT NEAR LIFTING LUGS.
- ALL BOLT PATTERNS TO STRADDLE THEIR NATURAL CENTERLINES.
- TANK IS NOT PREPARED FOR LINING.

KDM	23APR91	REVISED PER ENGINEERING COMMENTS

FILE: PCPII

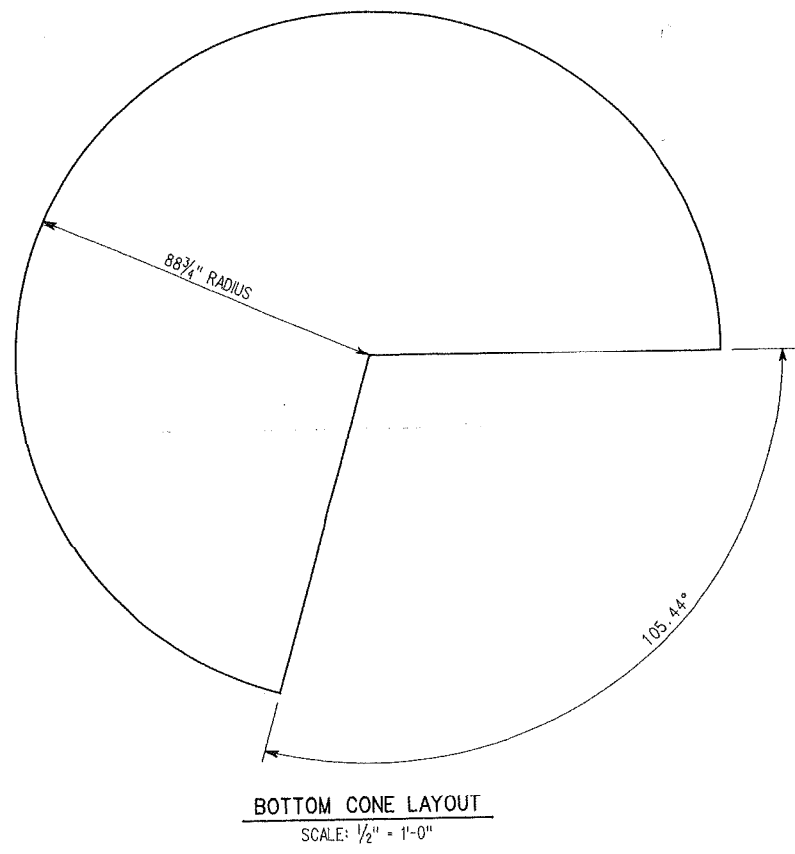
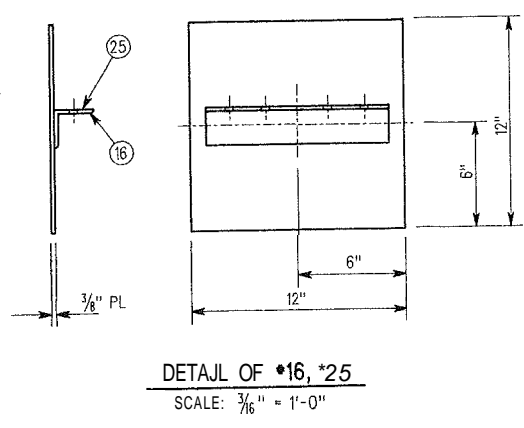
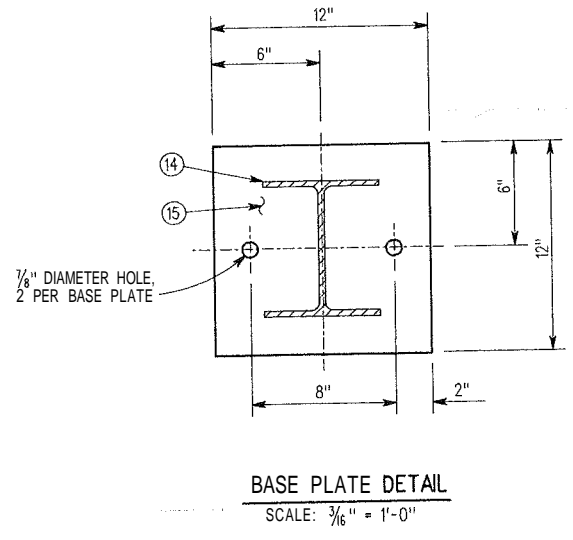
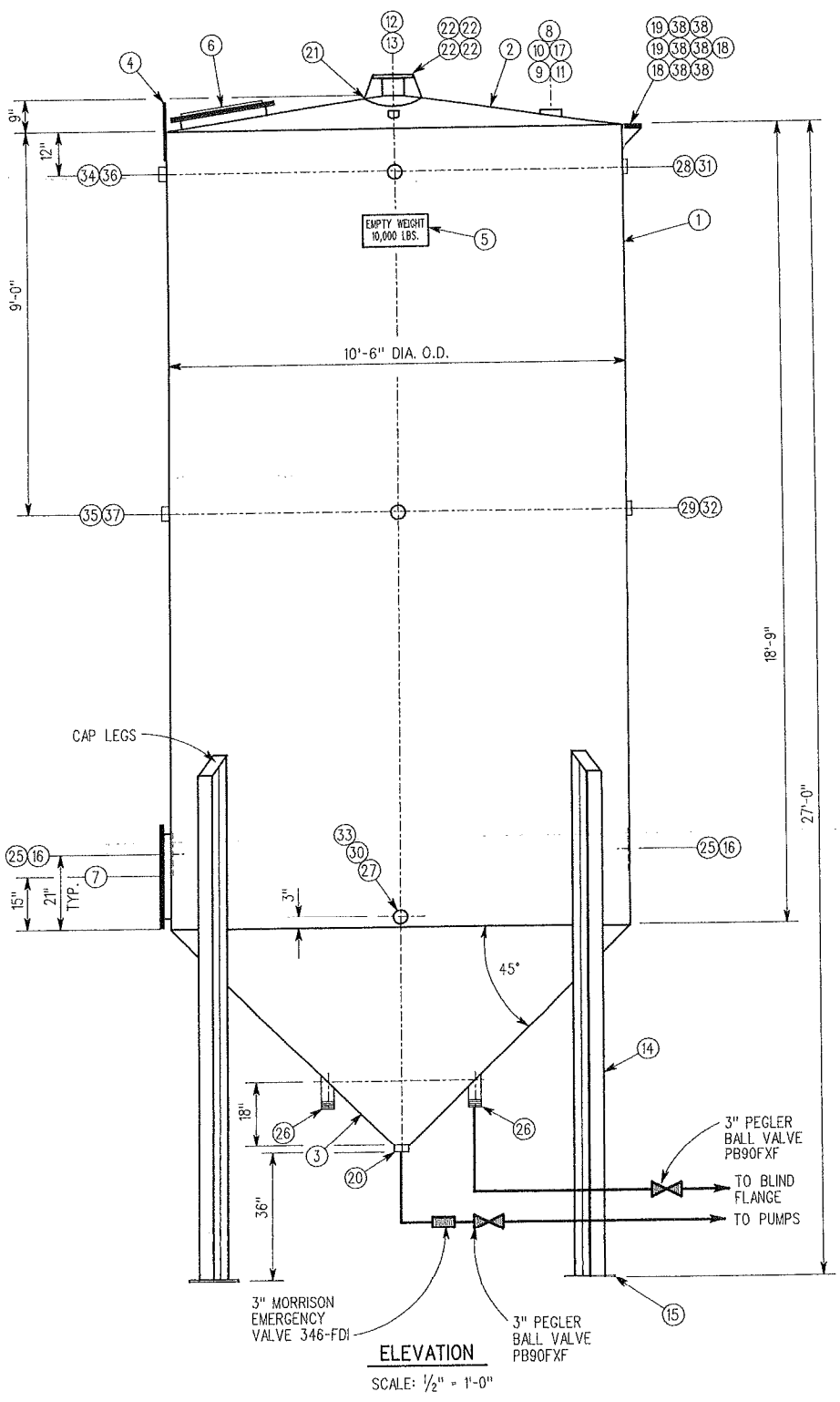
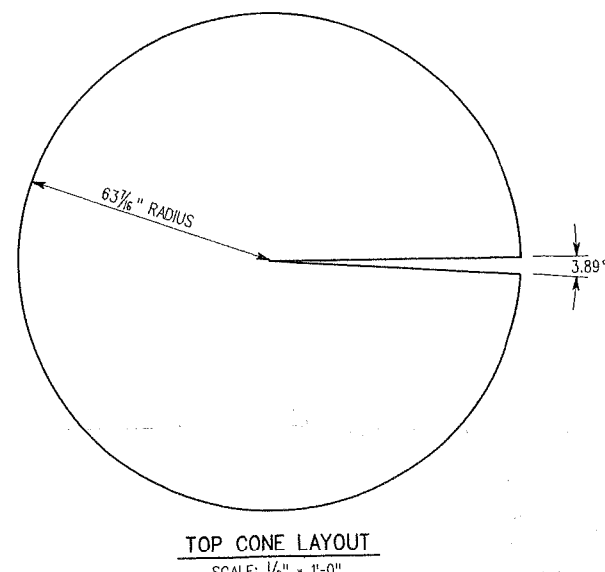
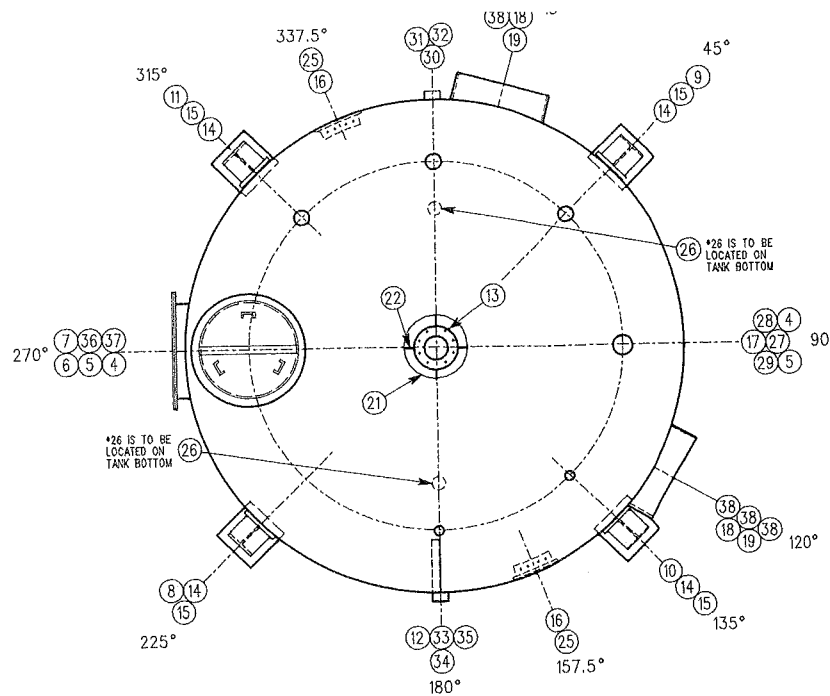
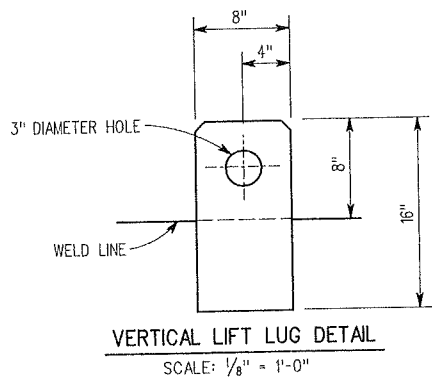
Petro-Chem
PROCESSING GROUP
Specializing in Hydrocarbon Processing and Reuse

SCALE: 1/2" = 1'-0"	APPROVED BY:	DRAWN BY:
DATE: 19NOV90		

10,000 GALLON SDG VERTICAL STORAGE TANKS - TANKS S-71,

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DRAWING NUMBER
PCPI-



NO.	QTY.	DESCRIPTION
1	1	1/4" PL SHELL
2	1	3/8" PL CONE TOP
3	1	1/4" PL CONE BOTTOM
4	2	VERTICAL LIFT LUG - SEE DETAIL
5	2	STENCIL
6	1	24" DIA. LONG BOLT MANHOLE W/GASKET & COVER W/OPW 202-F VENT
7	1	24" DIA. MANHOLE W/GASKET & COVER
8	1	3" THREADED HALF COUPLING - SPARE
9	1	3" THREADED HALF COUPLING - NITROGEN (FUTURE)
10	1	3" THREADED HALF COUPLING - P/V VENT
11	1	2" THREADED HALF COUPLING - SPARE
12	1	2" THREADED HALF COUPLING - EPS II
13	1	6" 150° R.F.S.O. FLANGE W/6" SCH. 40 PIPE X 5 1/4"
14	4	8" X 20" BEAM LEGS X 12"-3" LONG - SEE DETAIL
15	4	12" X 12" X 1/2" PL BASE PLATE
16	2	MIXER SUPPORTS - SEE DETAIL
17	1	4" THREADED HALF COUPLING - TOP SAMPLE BOMB
18	1	1/2" PL (TOP PLATE) SEE DETAIL OF CATWALK SUPP
19	1	8" DIA. X 1/4" PL REPAD - SEE DETAIL
20	4	3" THREADED HALF COUPLING - MAIN OUTLET
21	1	16" O.D. X 1/4" PL REPAD
22	1	1/4" PL GUSSET - SEE DETAIL
25	1	12" X 12" X 3/8" PL REPAD - SPARE
26	1	3" SCH. 40 PIPE X 9" LONG T.O.E. - SECONDARY O & SAMPLE
27	1	3" THREADED FULL COUPLING - SPARE
28	1	3" THREADED HALF COUPLING - PEMBERTHY HILEVE
29	1	3" THREADED HALF COUPLING - SPARE
30	1	3" THREADED FULL COUPLING - SPARE
31	1	3" THREADED HALF COUPLING - SPARE
32	1	3" THREADED HALF COUPLING - SPARE
33	1	3" THREADED FULL COUPLING - RECYCLE LINE (FU
34	1	3" THREADED HALF COUPLING - SPARE
35	1	3" THREADED HALF COUPLING - SPARE
36	1	3" THREADED HALF COUPLING - SPARE
37	1	3" THREADED HALF COUPLING - SPARE
38	3	1/4" PL SUPPORTS - SEE DETAIL OF CATWALK SUPP

- NOTES:**
- TANK TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE TO CODE U.L. 142 BUT NOT LABELED.
 - TANK TO BE AIR TESTED AT 3-5 P.S.I.G.
 - INTERIOR AND EXTERIOR TO BE CLEANED OF ALL DIRT, WELD SLAG, ETC.
 - EXTERIOR TO RECEIVE A SHOP COAT OF RED OXIDE PRIMER APPLIED OVER A CLEAN, DRY SURFACE.
 - MANHOLE GASKET TO BE C4401 MARTIN FLUID POWER CO. CUSTOMER SUPPLIED.
 - C.T.C. WILL NOT BE RESPONSIBLE FOR ANY CUSTOMER SPECIFIED GASKET MATERIAL.
 - STENCIL TANK EMPTY WEIGHT NEAR LIFTING LUGS.
 - ALL BOLT PATTERNS TO STRADDLE THEIR NATURAL CENTERLINES.
 - TANK IS NOT PREPARED FOR LINING.

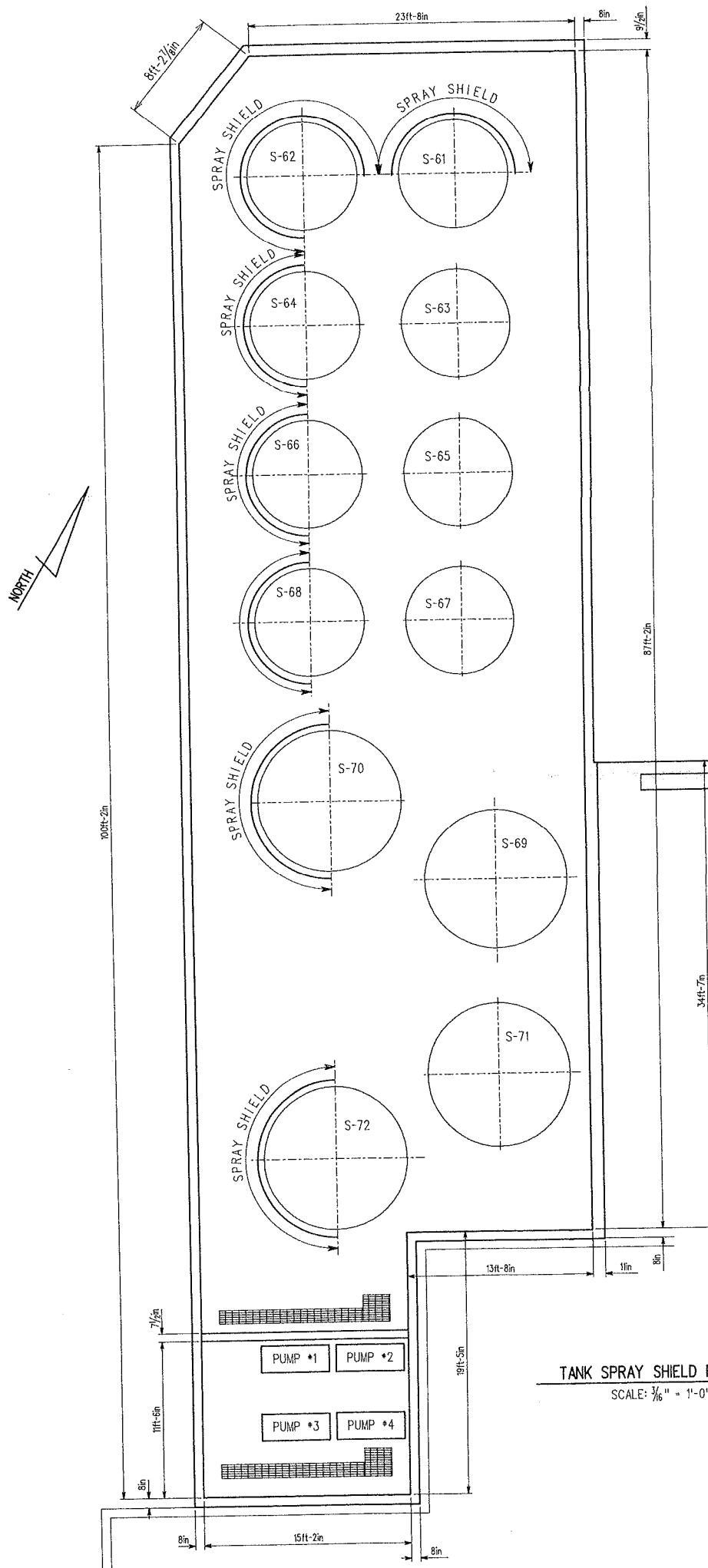
KDM	23APR91	REVISED RA I. VALVE DESIGNATION & NOTES

Petro-Chem PROCESSING GROUP
Specializing in Hydrocarbon Processing and Reuse

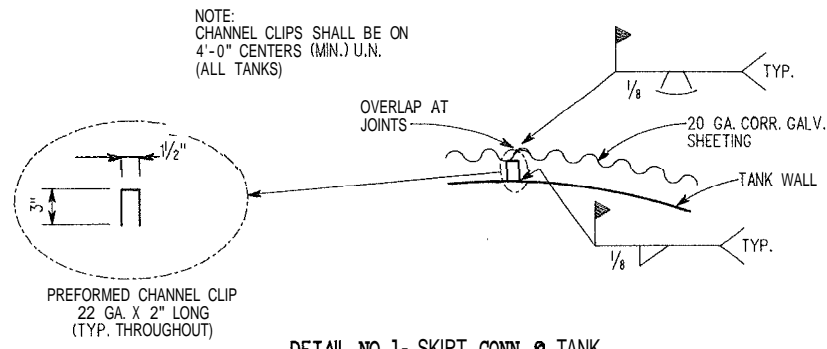
SCALE: 1/2" = 1'-0" APPROVED BY: _____ DRAWN BY: _____
DATE: 13FEB91 REVISIONS: _____

13,000 GALLON SDI VERTICAL STORAGE TANKS - TANKS S-

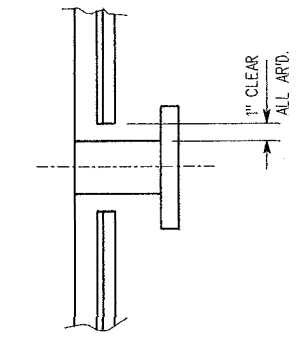
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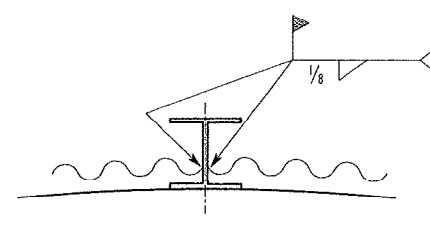
TANK SPRAY SHIELD PLAN VIEW
SCALE: 3/16" = 1'-0"



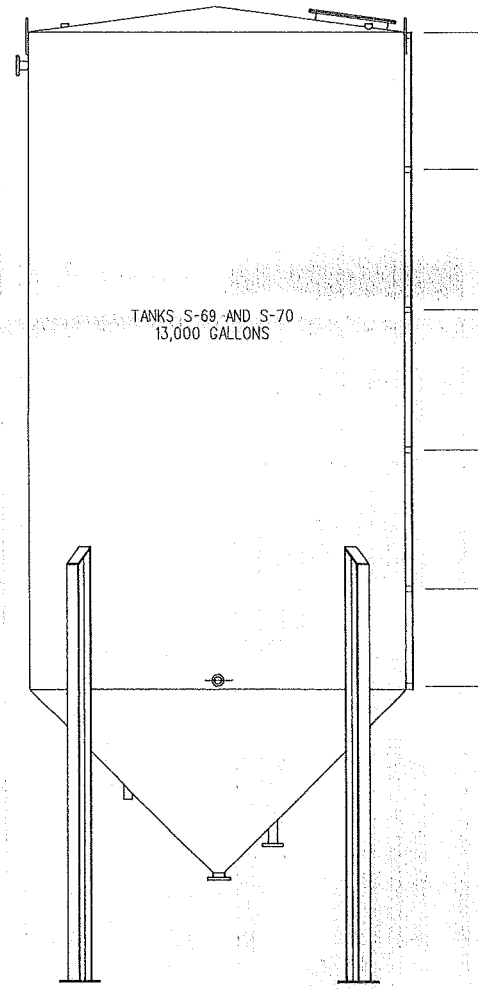
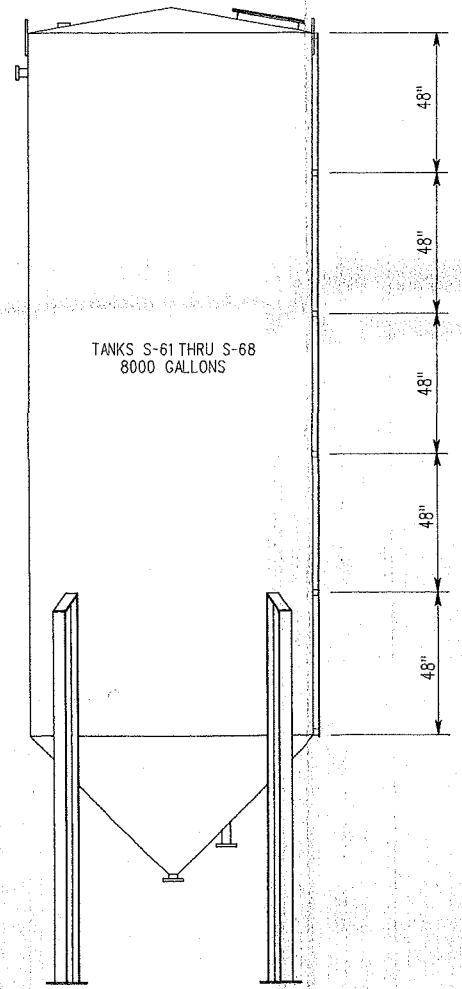
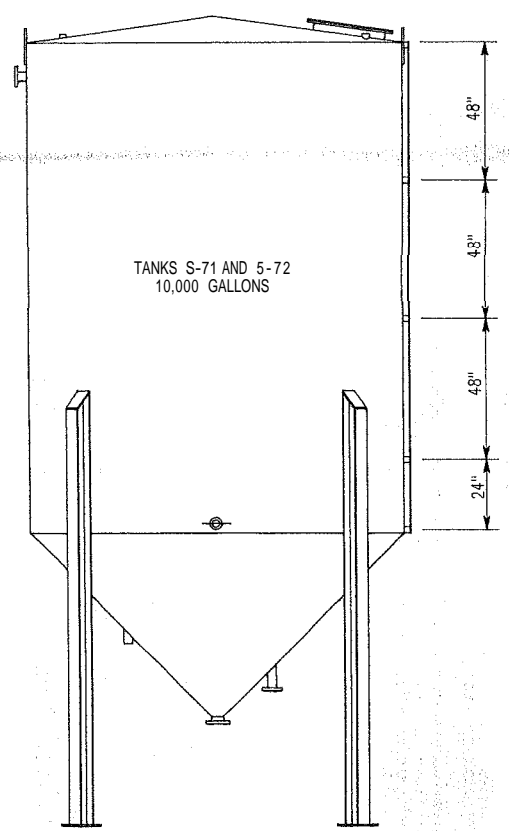
DETAIL NO.1 - SKIRT CONN. @ TANK
NOT TO SCALE



DETAIL NO.2 - TANK NOZZLE CUT-OUT
(TYP. ALL TANKS)
NOT TO SCALE



DETAIL NO.3 - TANK LEG CONNECTION
NOT TO SCALE

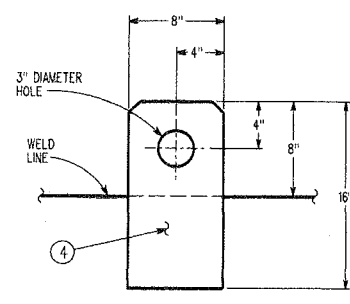
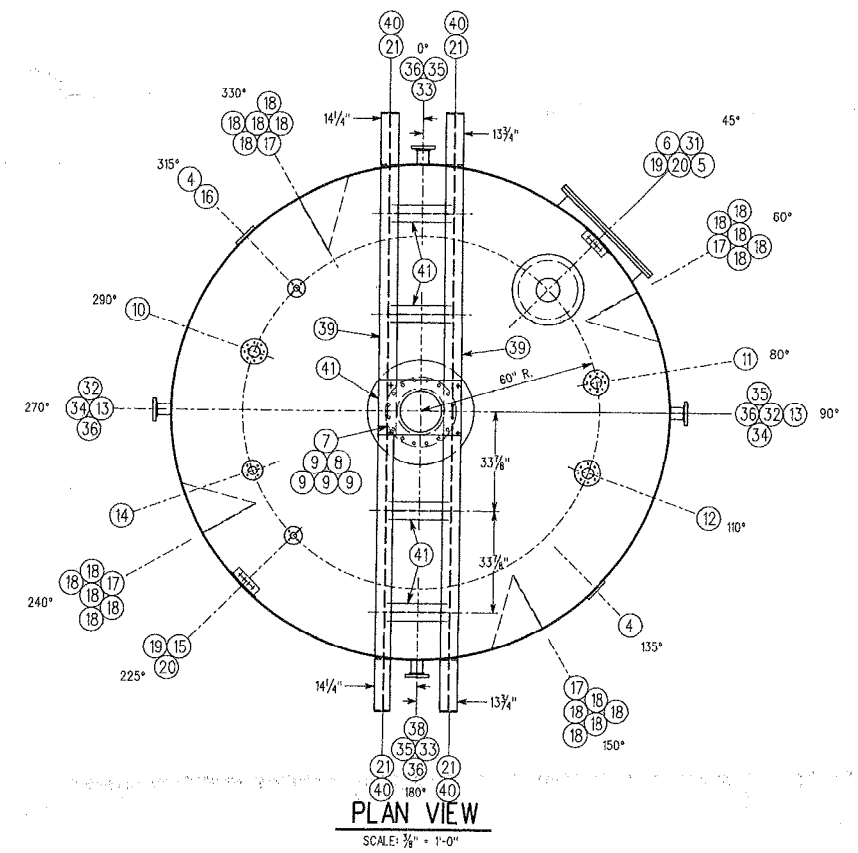


CHANNEL CLIP MOUNTING LOCATIONS
SCALE: 3/8" = 1'-0"

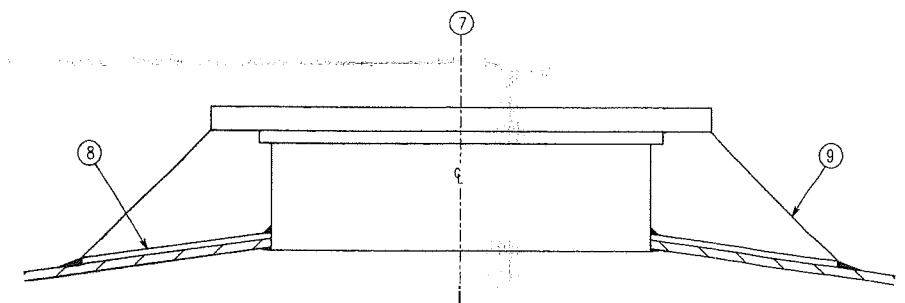
 Petro-Chem PROCESSING GROUP Specializing in Hydrocarbon Processing and Reuse		
SCALE: AS NOTED	APPROVED BY:	DRAWN BY:
DATE: 11/19/91		REVISION:
TANK SPRAY SHIELDS PLAN AND DETAILS, SDG WASTE TANKS		
<small>THE DISCLOSURE AND CONTENTS OF THIS DRAWING ARE CONFIDENTIAL AND THE EXCLUSIVE PROPERTY OF NORTRU, INC. AND IS NOT TO BE COPIED OR PRODUCED WITHOUT WRITTEN PERMISSION FROM NORTRU, INC. ACCEPTANCE OF THIS DRAWING WILL BE CONSTRUED AS AN AGREEMENT TO THE ABOVE.</small>		
DRAWING NUMBER		PCPI-

SCHEDULE

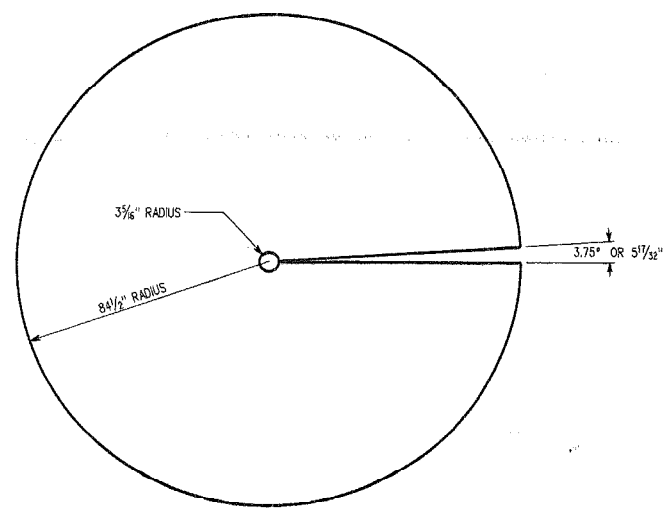
NO.	QTY.	DESCRIPTION
C.S.-	1	1 3/8" PL CONE TOP
C.S.-	2	1 3/8" PL SHELL
C.S.-	3	1 3/8" PL BOTTOM
C.S.-	4	2 VERTICAL LIFT LUG - SEE DETAIL
C.S.-	5	1 36" DIA. MANHOLE WITH GASKET & COVER
C.S.-	6	1 24" DIA. MANHOLE WITH GASKET & COVER
C.S.-	7	1 16" 150* R.F.S.O. FLANGE WITH 16" SCH. 40 PIPE X 6" LONG
C.S.-	8	1 35" DIA. O.D. X 1/4" PL. REPAD
C.S.-	9	4 1/4" PL. GUSSET - SEE DETAIL
C.S.-	10	1 4" 150* R.F.S.O. FLANGE WITH 4" SCH. 40 PIPE X 7" LONG
C.S.-	11	1 4" 150* R.F.S.O. FLANGE WITH 4" SCH. 40 PIPE X 7" LONG
C.S.-	12	1 4" 150* R.F.S.O. FLANGE WITH 4" SCH. 40 PIPE X 7" LONG
C.S.-	13	2 4" 150* R.F.S.O. FLANGE WITH 4" SCH. 40 PIPE X 6 1/2" LONG
C.S.-	14	1 3" 150* R.F.S.O. FLANGE WITH 3" SCH. 40 PIPE X 6 1/2" LONG
C.S.-	15	1 2" 150* R.F.S.O. FLANGE WITH 2" SCH. 40 PIPE X 6 1/2" LONG
C.S.-	16	1 2" 150* R.F.S.O. FLANGE WITH 2" SCH. 40 PIPE X 6 1/2" LONG
C.S.-	17	4 18" X 3/8" PL. BAFFLE X 25'-0"
C.S.-	18	32 3/8" PL. BAFFLE SUPPORT - SEE DETAIL
C.S.-	19	2 3" X 3" X 1/4" ANGLE MIXER SUPPORT - SEE DETAIL
C.S.-	20	2 12" X 12" X 3/8" PL. REPAD - SEE DETAIL
C.S.-	21	4 3/8" PL. MIXER BRIDGE SUPPORT - SEE DETAIL
C.S.-	22	10 6" X 25" WF I-BEAM - TASK SUPPORT
C.S.-	23	1 4" SCH. 40 PIPE X 12" LONG - T.B.E.
C.S.-	24	1 4" X 2" THREADED BELL REDUCER
C.S.-	25	1 2" SCH. 40 PIPE X 7 1/2" LONG - T.B.E.
C.S.-	26	3 2" PIPE CAP
C.S.-	27	3 2" SCH. 40 PIPE X 48" LONG - T.B.E.
C.S.-	28	8 2" X 2" X 1/4" ANGLE X 6" LONG
C.S.-	29	8 U-BOLT TO FIT 2" SCH. 40 PIPE W/ LOCK NUTS
C.S.-	30	1 2" THREADED CROSS
C.S.-	31	1 8" SCH. 40 PIPE X 4" LONG - T.O.E.
C.S.-	32	2 4" 150* R.F.S.O. FLANGE WITH 4" SCH. 40 PIPE X 6 1/2" LONG
C.S.-	33	2 4" 150* R.F.S.O. FLANGE WITH 4" SCH. 40 PIPE X 6 1/2" LONG
C.S.-	34	1 4" 150* R.F.S.O. FLANGE WITH 4" SCH. 40 PIPE X 6 1/2" LONG
C.S.-	35	3 4" 150* R.F.S.O. FLANGE WITH 4" SCH. 40 PIPE X 6 1/2" LONG
C.S.-	36	4 4" 150* R.F.S.O. FLANGE WITH 4" SCH. 40 PIPE X 6 1/2" LONG
C.S.-	38	1 4" 150* R.F.S.O. FLANGE WITH 4" SCH. 40 PIPE X 6 1/2" LONG
C.S.-	39	2 18 X 35" BEAM X 203 3/8" LONG MIXER BRIDGE
C.S.-	40	4 18 X 25" BEAM X 33 1/2" LONG MIXER BRIDGE LEGS
C.S.-	41	1 28" X 20" X 1/2" PL. MIXER MOUNT
C.S.-	42	4 6" X 15" BEAM X 2 1/2" LONG
C.S.-	43	1 HIGH LEVEL PROBE



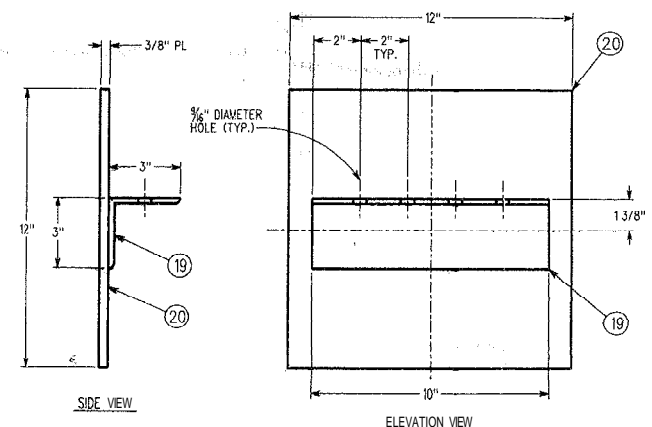
DETAIL OF VERTICAL LIFT LUG
SCALE: 1/2" = 1'-0"



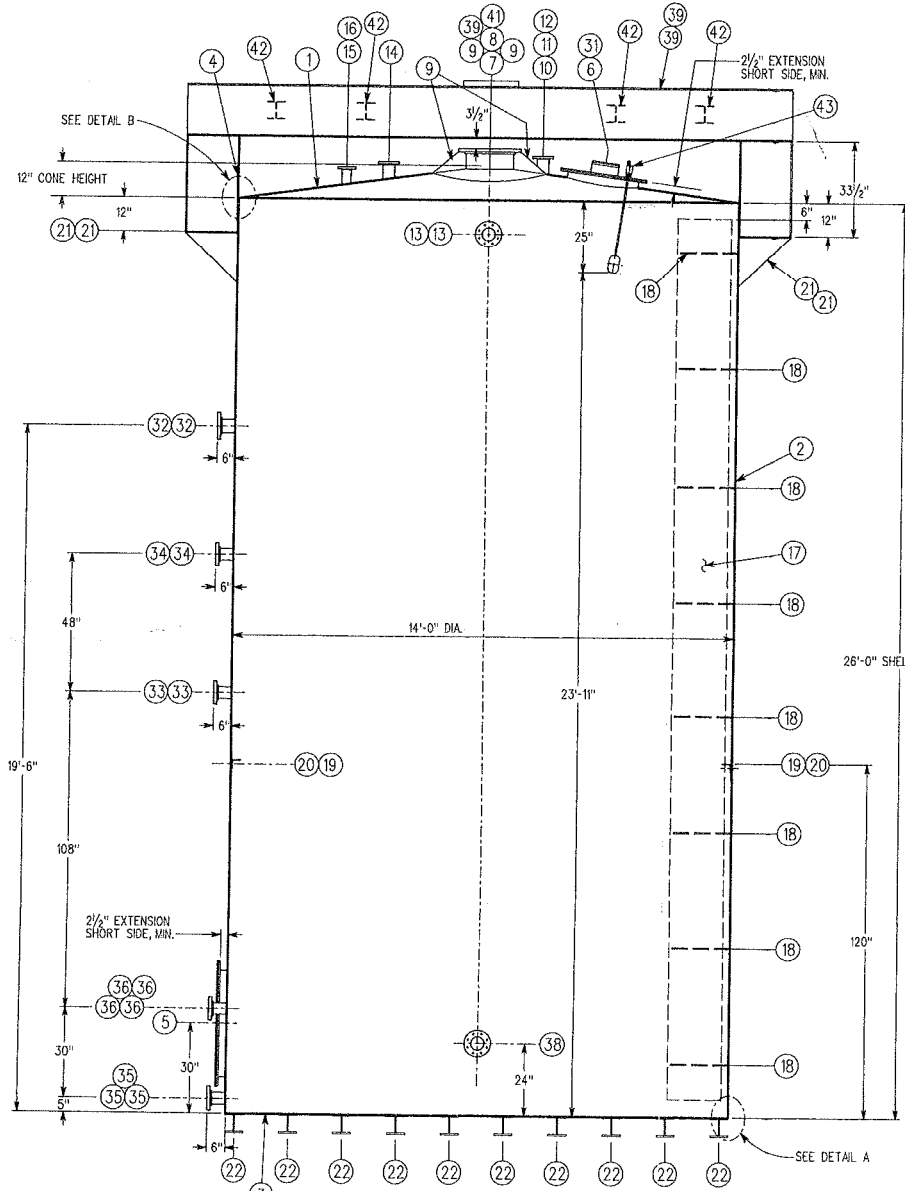
DETAIL OF ITEM #7, 8, 9
SCALE: 3\"/>



CONE LAYOUT
SCALE: 3/8\"/>

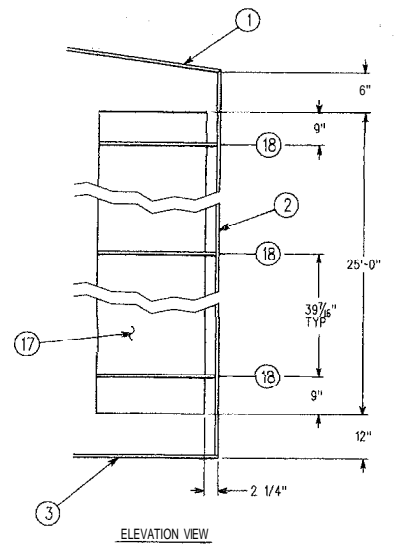


DETAIL OF ITEM #19 & #20
SCALE: 3\"/>

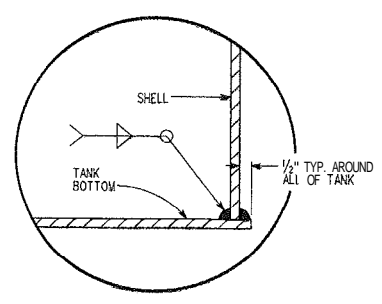


ELEVATION VIEW
SEE PLAN VIEW FOR TRUE ORIENTATION
SCALE: 3/8\"/>

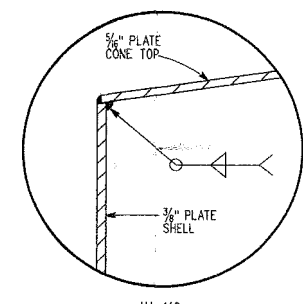
NOTE:
96 GALLONS PER INCH X 23'-11"
= 27,552 GALLONS AT BOTTOM OF HIGH LEVEL PROBE



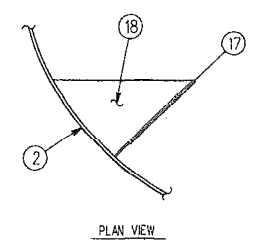
BAFFLE DETAIL
NOT TO SCALE



DETAIL A
SCALE: 3\"/>



DETAIL B
SCALE: 3\"/>



PLAN VIEW

NOTES:

- TANK TO BE DESIGNED AND CONSTRUCTED PER U.L. CODE 142 AND LABELED AS SUCH.
- TANK TO BE AIR TESTED AT 3 - 5 PSI.
- INTERIOR TO BE CLEANED OF ALL DIRT, SLAG, ETC.
- EXTERIOR TO BE RECEIVED IN CONDITION OF #10-1 RED-OXIDE (CUSTOMER TO SPECIFY)
- MANHOLE GASKET TO BE GARLOCK (CUSTOMER TO SPECIFY)
- CLAWSON TANK CANNOT BE RESPONSIBLE FOR THE PERFORMANCE OF ANY CUSTOMER SPECIFIED GASKET MATERIAL.
- MANHOLE GASKET FOR SHIPPING AND TESTING PURPOSES TO BE VELLUMOD.
- ALL BOLT PATTERNS ARE TO STRADDLE THEIR NATURAL CENTERLINES

NOTE:
SEE PCPI-184B FOR SPARGER AND I-BEAM ASSEMBLY.

WORK THIS DRAWING WITH PCPI-572B

APPROXIMATE TANK EMPTY WEIGHT: 25,000 LBS.

FILE: PCPI572B

KJW	15DEC94	REVISED PER CLAWSON TANK CO. AS-BUILT DRAWINGS.
NK	10AUG99	ADDED LEVEL PROBE PER AS BUILT CONDITIONS.
NK	13AUG99	REVISED HIGH LEVEL PROBE.

SCALE: AS NOTED APPROVED BY: _____ DRAWN BY: _____
DATE: 29OCT93 REVISED: _____

PCPC NORTHWEST TANK FARM 30,000 GALLON TANKS 35 - 40

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