

EIGHT PRIMARY DIGESTERS & ONE SLUDGE STORAGE TANK

CONTRACT NO. 84 PL 021

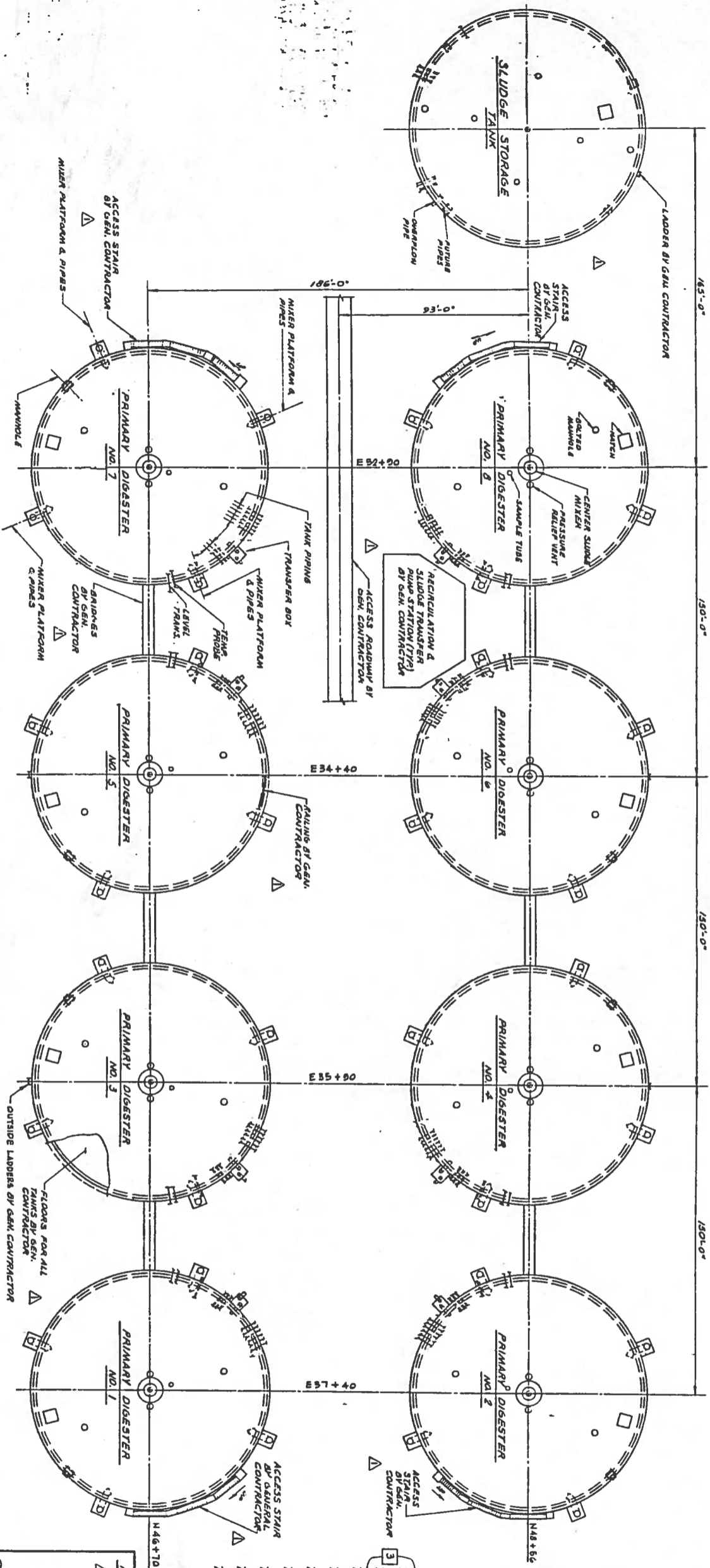
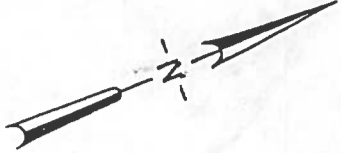
DOS RIOS FACILITY

SAN ANTONIO, TEXAS

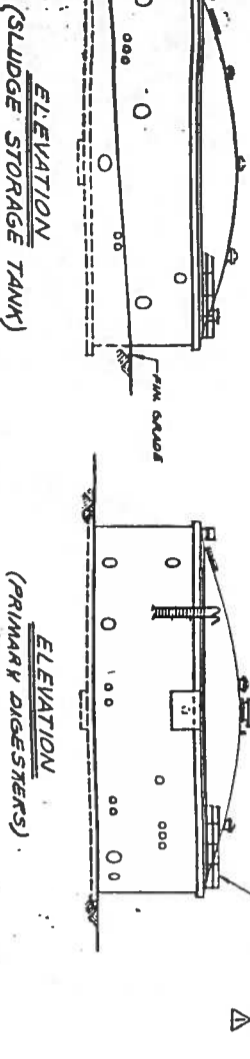
CONSULTING ENGINEERS:

MALCOLM PIRNIE INC. (914-694-2100)

White Plains, N.Y.



PLAN OF PRIMARY DIGESTERS & SLUDGE STORAGE TANK



NO	DATE	DESCRIPTION	BY	CHKD
1	7-2-68	AS PER ENGINEER'S COMMENTS	JD	RAO
2	7-2-68	REVISED AS PER ENGINEER'S COMMENTS	JD	RAO
3	7-2-68	REVISED AS PER ENGINEER'S COMMENTS	JD	RAO

PRELOAD

WORKING DRAWING

DOS RIOS FACILITY

SAN ANTONIO, TEXAS

- NOTES:**
- ALL PENETRATIONS IN TANK WALLS AND DOORS TO BE RECOMMENDED BY GENERAL CONTRACTOR AND INSTALLED BY HIS SUBS. ALL EXPANSION JOINTS OTHER THAN THOSE SHOWN ON THESE DRAWINGS ARE NOT PERMITTED WITH PERMISSSION OF PRELOAD COMPANY INC.
 - ALL SPACE ABOVE TANK ROOFING AND FOR OUTSIDE OF TANK WALL SHALL REMAIN FREE AND CLEAR UNTIL COMPLETION OF PRELOAD WORK.
 - WALL PANELS MAY BE LIFTED IMMEDIATELY AFTER VERIFICATION OF PRELOAD.
 - THE RESPONSIBILITIES FOR WATER TIGHTNESS AND STRUCTURAL INTEGRITY SHALL BE PRELOAD'S AS TO THE ELEMENTS OF THE WORK IT PERFORMS.

- REVISIONS**
- | NO | DATE | DESCRIPTION | BY | CHKD |
|----|--------|------------------------------------|----|------|
| 1 | 7-2-68 | AS PER ENGINEER'S COMMENTS | JD | RAO |
| 2 | 7-2-68 | REVISED AS PER ENGINEER'S COMMENTS | JD | RAO |
| 3 | 7-2-68 | REVISED AS PER ENGINEER'S COMMENTS | JD | RAO |
- GENERAL ARRANGEMENT**
- DESIGNED BY: RAO
CHECKED BY: RAO
DATE: 5/24/65

- PRELOAD WORKING DRAWING**
- TEX. 83-084-1 GENERAL ARRANGEMENT
 - TEX. 83-084-2D TANKS NO. 1 & 2; TYP. DIGESTER TANK & TYP. I PANEL DETAILS
 - TEX. 83-084-2D-1 TANKS NO. 2, 3, 4, 5, 6 & 8; TYP. DIGESTER SECTION & TYP. I PANEL DETAILS
 - TEX. 83-084-2D-2 TYP. I PANEL DETAILS
 - TEX. 83-084-3 DIGESTER TANKS #1 & 7 WIREWINDING & TRANSFER BOX DETAILS & MISC. JOBS
 - TEX. 83-084-3A DIGESTER TANKS #2, 3, 4, 5, 6 & 8 WIREWINDING & TRANSFER BOX DETAILS & MISC. JOBS
 - TEX. 83-084-3B DIGESTER TANK #3 WIREWINDING & TRANSFER BOX DETAILS & MISC. JOBS
 - TEX. 83-084-401 TANK NO. 1 PANEL LAYOUT
 - TEX. 83-084-402 TANK NO. 2 PANEL LAYOUT
 - TEX. 83-084-403 TANK NO. 3 PANEL LAYOUT
 - TEX. 83-084-404 TANK NO. 4 PANEL LAYOUT
 - TEX. 83-084-405 TANK NO. 5 PANEL LAYOUT
 - TEX. 83-084-406 TANK NO. 6 PANEL LAYOUT
 - TEX. 83-084-407 TANK NO. 7 PANEL LAYOUT
 - TEX. 83-084-408 TANK NO. 8 PANEL LAYOUT
 - TEX. 83-084-50 PANEL DETAILS TYPE II, III & IV
 - TEX. 83-084-60 PANEL DETAILS TYPE III, I & II
 - TEX. 83-084-70 PANEL DETAILS TYPE III & II
 - TEX. 83-084-80 PANEL DETAILS TYPE III & III
 - TEX. 83-084-90 PRIMARY DIGESTER TANKS SLEEVE & ANCHOR & DETAILS
 - TEX. 83-084-10 HINGED MANHOLE DETAILS AND SLEEVE FOR MIXER PIPE DETAILS
 - TEX. 83-084-110 PRIMARY DIGESTERS ROOF PLANS AND STAIR ROOF DETAILS
 - TEX. 83-084-12 PRIMARY DIGESTERS & SLUDGE STORAGE REBAR SCHEDULE
 - TEX. 83-084-13 TYPICAL SLUDGE STORAGE TANK SECT. I PANEL DETAILS
 - TEX. 83-084-13S SLUDGE STORAGE TANK WIREWINDING SCHEDULE & DETAILS
 - TEX. 83-084-14S SLUDGE STORAGE TANK PANEL LAYOUT
 - TEX. 83-084-15S PANEL DETAILS TYPE III, III & III
 - TEX. 83-084-16S PANEL DETAILS TYPE III, III & III
 - TEX. 83-084-17S PANEL DETAILS TYPE III, III & III
 - TEX. 83-084-20S PANEL DETAILS TYPE II & III
 - TEX. 83-084-20S SLUDGE STORAGE TANK SLEEVE & ANCHOR PLATE DETAILS
 - TEX. 83-084-22S SLUDGE STORAGE TANK ROOF PLAN & DET.

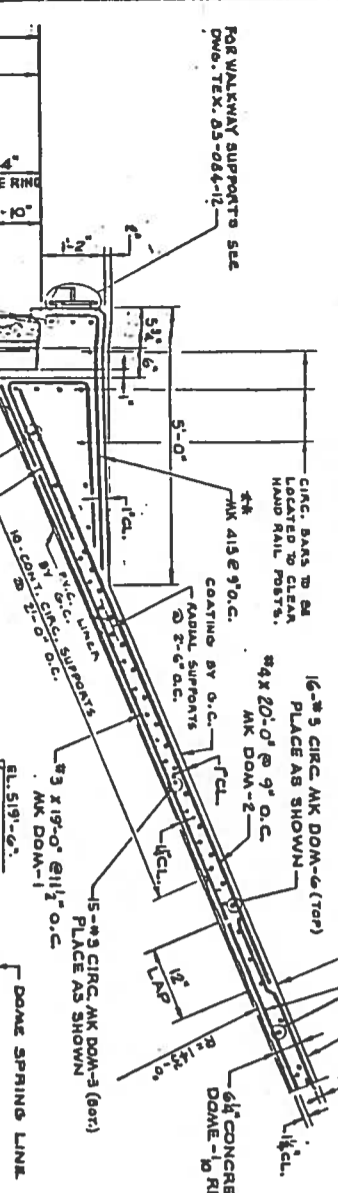
THE DETAILS SHOWN ON THIS DRAWING SHALL BE REPRODUCED IN ACCORDANCE WITH THE SPECIFICATIONS SET FORTH IN THE PRELOAD COMPANY'S PRELOADING MANUAL, WHICH IS A PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND REVIEWING THE PRELOADING MANUAL AND FOR OBTAINING THE NECESSARY APPROVALS FROM THE PRELOAD COMPANY AND THE STATE OF TEXAS.

STAND STRESSING NOTES:

- APPLY PRESTRESS BY JACKING TO A FORCE OF 44 KIPS BEFORE RELEASE. ELEVATION IS 2 1/2 INCHES, WHEN RELEASED.
- STANDS TO BE STRESSED STARTING WITH CENTER STRAND & ALTERNATING TO 2 STRAYS (NEARER SIDE, UNTIL ALL STANDS ARE STRESSED) (NOT MORE THAN 2 STAND INBALANCE TO EXIST AT ANY TIME).

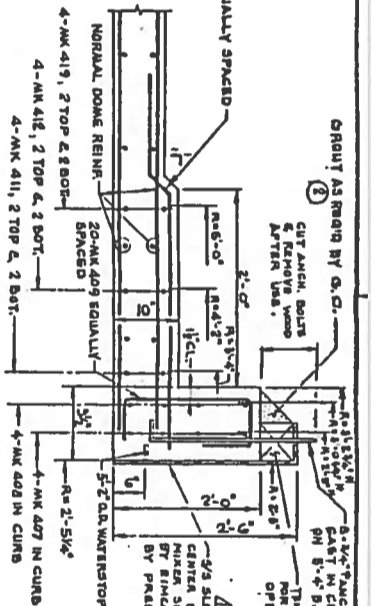


16-#3 CIRC. MK DOW-2 (TOP) PLACE AS SHOWN
 16-#3 CIRC. MK DOW-2 (BOTTOM) PLACE AS SHOWN
 16-#3 CIRC. MK DOW-2 (TOP) PLACE AS SHOWN
 16-#3 CIRC. MK DOW-2 (BOTTOM) PLACE AS SHOWN



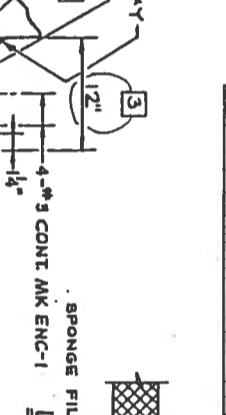
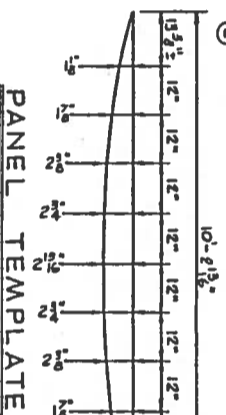
TYPICAL SECTION AT WALL

1. P.M. = PRECAST PANEL + 1/2" P.M.
 2. MIN. 28-DAY CONCRETE CYLINDER STRENGTHS:
 4000 PSI
 4500 PSI



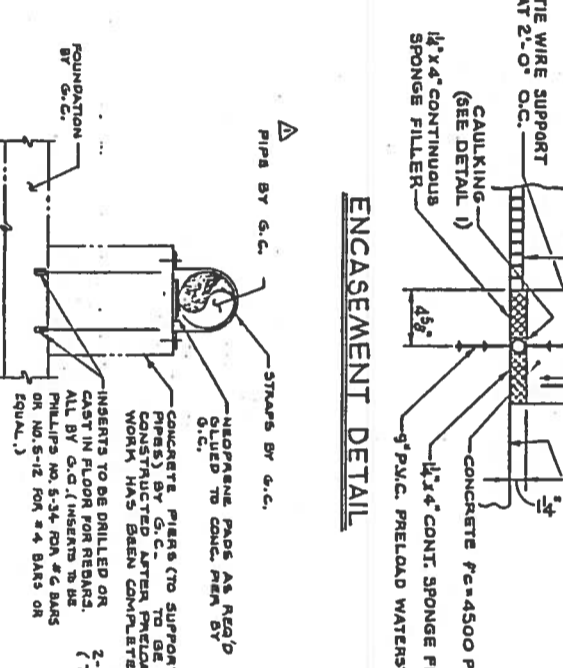
CENTER SLUDGE MIXER DETAIL

1. PACK ALL INSERT HOLES WITH GROUT AND APPLY TWO COATS OF EPOXY UPON COMPLETION OF THEIR USE.
 2. INSIDE FACE OF PANEL TO BE TROWEL FINISHED.
 3. PANELS NOT TO BE STRESSED UNTIL CONC. STRENGTH OF 3500 PSI IS ATTAINED.
 4. LIFTING CABLE: 4 POINT PICKUP 40' CABLE LENGTH.
 5. LINER ORIENTED AT INSERTS TO BE PATCHED & WELDED PVC LINER BY G.C.



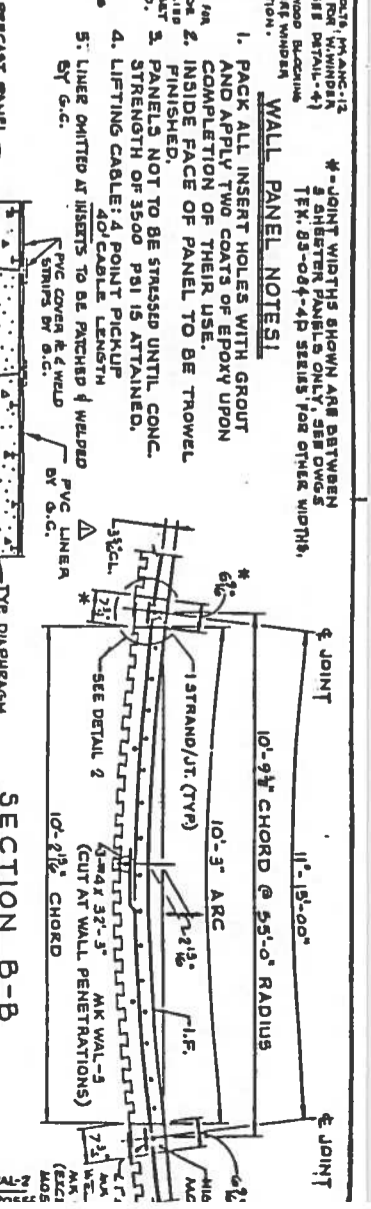
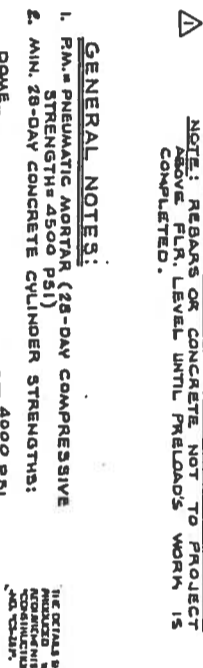
ENCASEMENT DETAIL

1. P.M. = PRECAST PANEL + 1/2" P.M.
 2. MIN. 28-DAY CONCRETE CYLINDER STRENGTHS:
 4000 PSI
 4500 PSI



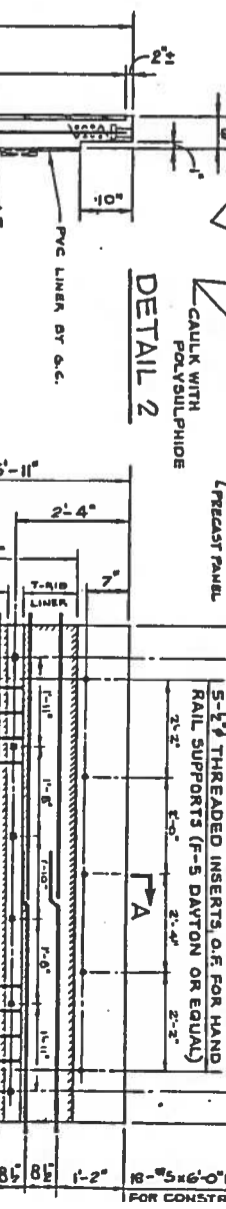
TYP. FLOOR PROJECTION DETAIL

1. P.M. = PRECAST PANEL + 1/2" P.M.
 2. MIN. 28-DAY CONCRETE CYLINDER STRENGTHS:
 4000 PSI
 4500 PSI



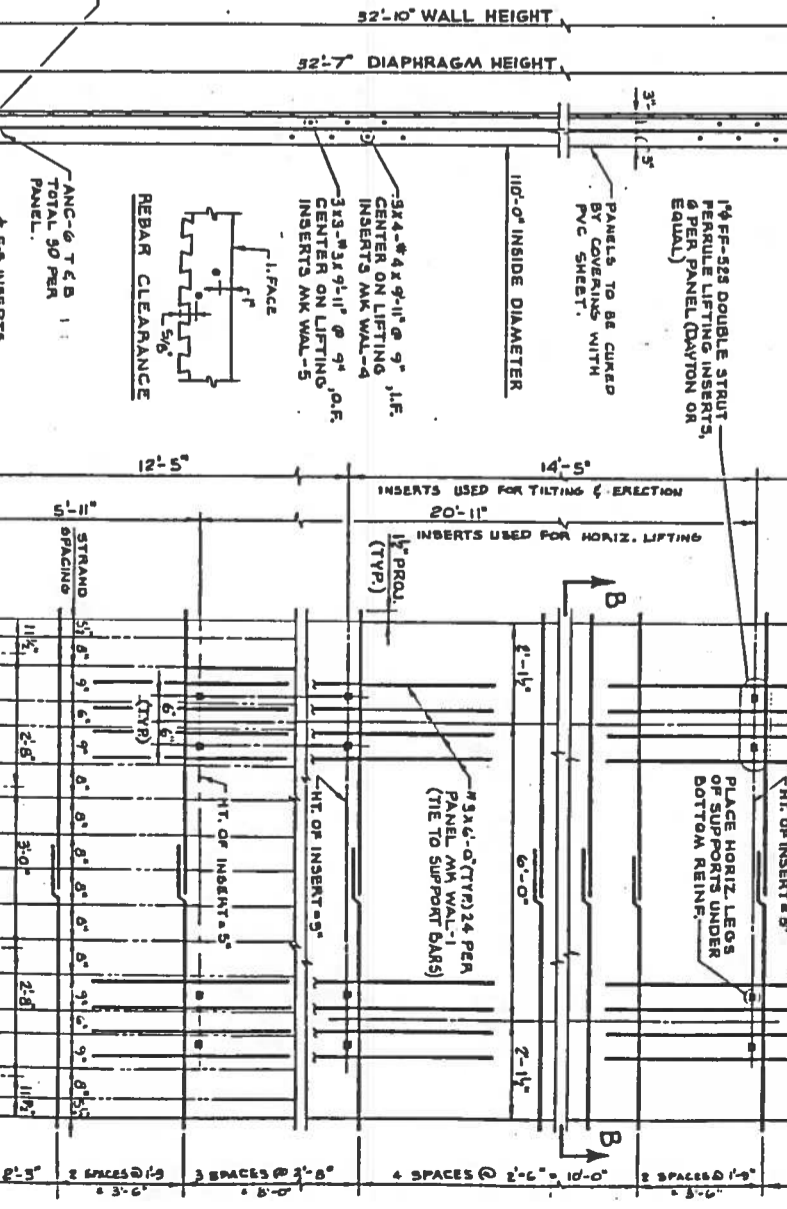
SECTION B-B

1. PACK ALL INSERT HOLES WITH GROUT AND APPLY TWO COATS OF EPOXY UPON COMPLETION OF THEIR USE.
 2. INSIDE FACE OF PANEL TO BE TROWEL FINISHED.
 3. PANELS NOT TO BE STRESSED UNTIL CONC. STRENGTH OF 3500 PSI IS ATTAINED.
 4. LIFTING CABLE: 4 POINT PICKUP 40' CABLE LENGTH.
 5. LINER ORIENTED AT INSERTS TO BE PATCHED & WELDED PVC LINER BY G.C.



SECTION A-A

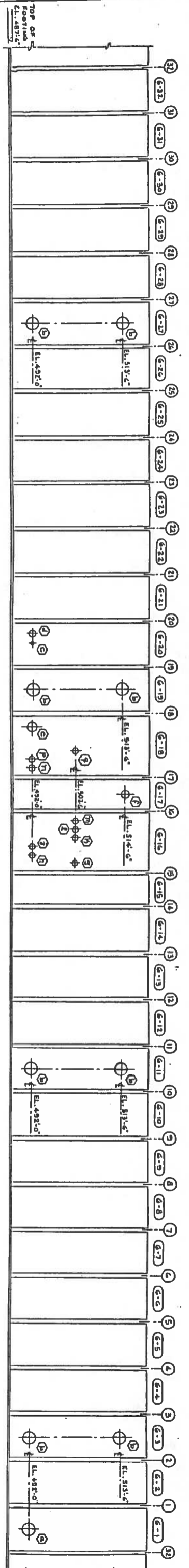
1. P.M. = PRECAST PANEL + 1/2" P.M.
 2. MIN. 28-DAY CONCRETE CYLINDER STRENGTHS:
 4000 PSI
 4500 PSI



WALL PANEL ELEVATION (WEIGHT OF PANEL=12 TYPE I (TOTAL 176 REQ'D FOR 2 TAN TANKS NOS 2, 4, 5, 6)

1. P.M. = PRECAST PANEL + 1/2" P.M.
 2. MIN. 28-DAY CONCRETE CYLINDER STRENGTHS:
 4000 PSI
 4500 PSI

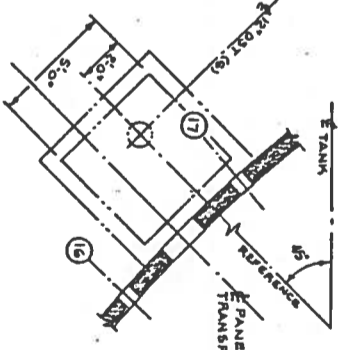
NO	DATE	DESCRIPTION	BY	CHKD
1	12/25/85	AS PER ENGINEER'S COMMENTS	JD	RAO
2	1/10/86	AS PER ENGINEER'S COMMENTS	JD	RAO
3	1/10/86	AS PER ENGINEER'S COMMENTS	JD	RAO



DEVELOPED ELEVATION
(OUTSIDE FACE OF WALL SHOWN)
SCALE: 1"=2'

PANEL LOCATIONS: CUMULATIVE ANGLES

C.L. PANEL NO. G-1 TO	0 - 1 - 8
C.L. JOINT NO. 1	5 - 37 - 28
C.L. JOINT NO. 2	16 - 52 - 29
C.L. JOINT NO. 3	28 - 07 - 29
C.L. JOINT NO. 4	39 - 22 - 29
C.L. JOINT NO. 5	50 - 37 - 29
C.L. JOINT NO. 6	61 - 52 - 29
C.L. JOINT NO. 7	73 - 07 - 29
C.L. JOINT NO. 8	84 - 22 - 29
C.L. JOINT NO. 9	95 - 37 - 29
C.L. JOINT NO. 10	108 - 52 - 29
C.L. JOINT NO. 11	118 - 07 - 29
C.L. JOINT NO. 12	129 - 22 - 29
C.L. JOINT NO. 13	140 - 37 - 29
C.L. JOINT NO. 14	151 - 52 - 29
C.L. JOINT NO. 15	159 - 40 - 23
C.L. JOINT NO. 16	174 - 22 - 29
C.L. JOINT NO. 17	182 - 10 - 23
C.L. JOINT NO. 18	196 - 52 - 29
C.L. JOINT NO. 19	208 - 07 - 29
C.L. JOINT NO. 20	219 - 22 - 29
C.L. JOINT NO. 21	230 - 37 - 29
C.L. JOINT NO. 22	241 - 52 - 29
C.L. JOINT NO. 23	253 - 07 - 29
C.L. JOINT NO. 24	264 - 22 - 29
C.L. JOINT NO. 25	275 - 37 - 29
C.L. JOINT NO. 26	286 - 52 - 29
C.L. JOINT NO. 27	298 - 07 - 29
C.L. JOINT NO. 28	309 - 22 - 29
C.L. JOINT NO. 29	320 - 37 - 29
C.L. JOINT NO. 30	331 - 52 - 29
C.L. JOINT NO. 31	343 - 07 - 29
C.L. JOINT NO. 32	354 - 22 - 29
C.L. PANEL NO. G-1	360 - 00 - 00



PLAN - TRANSFER BOX ORIENTATION
N.T.S.

* ϵ OF OPENINGS MUST BE MAINTAINED AT ANGLES SHOWN.

PANEL TYPES & QTY.

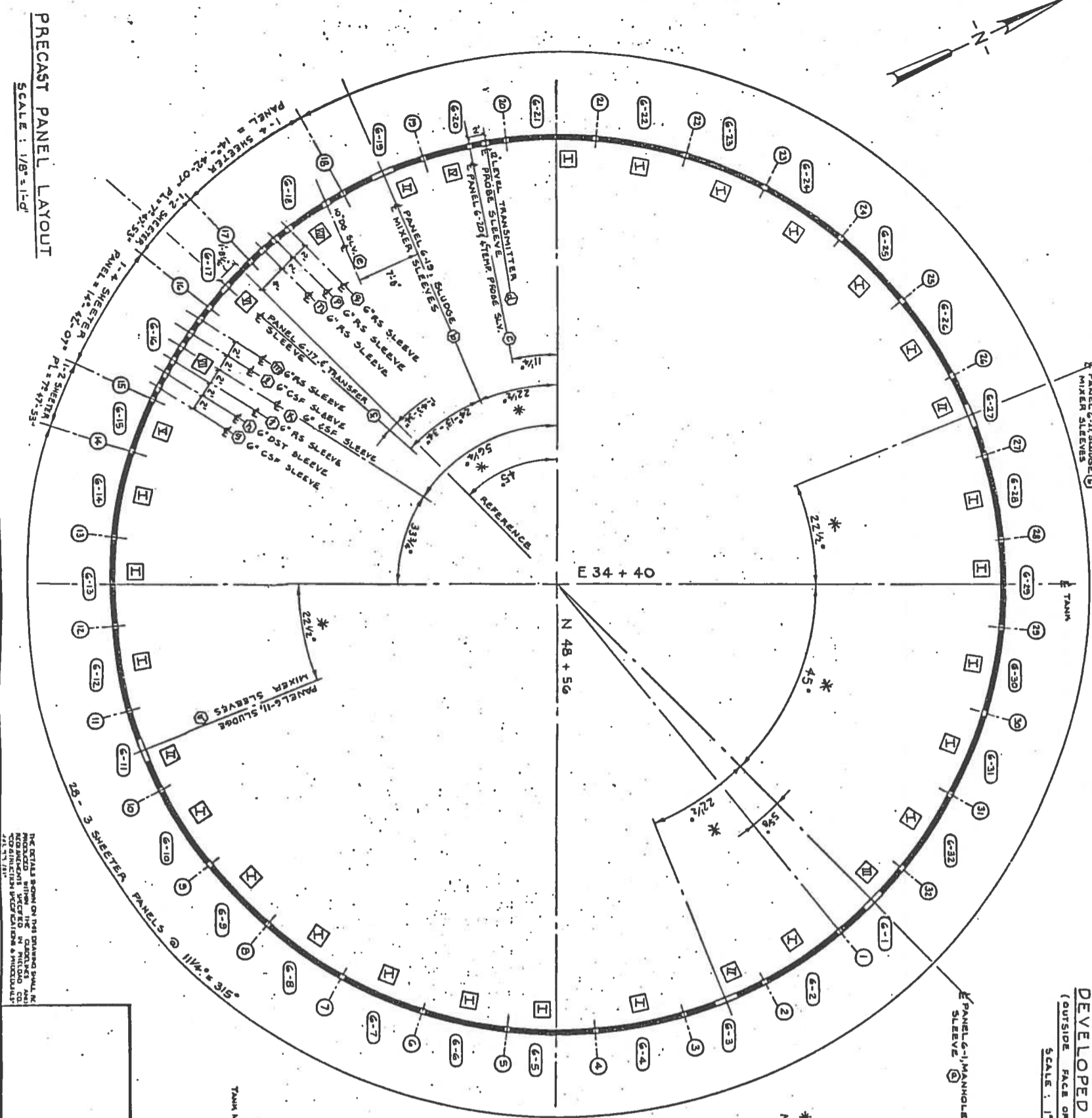
- TYPE I - 22
- TYPE II - 4
- TYPE III - 1
- TYPE IV - 1
- TYPE V - 1
- TYPE VI - 1
- TYPE VII - 1
- TYPE VIII - 1
- TYPE IX - 1
- TYPE X - 1
- TYPE XI - 1
- TYPE XII - 1
- TYPE XIII - 1

JOINT WIDTH (O.FACE)

- ALL JOINTS (EXCEPT AS NOTED) 7/16"
- JOINTS (5) & (6) : 7/16"
- JOINTS (16) (17) & (18) : 7/8"

LEGEND

- (I) = JOINT NUMBERS
- (II) = PANEL NUMBERS
- (III) = PANEL TYPE
- (IV) = PANEL SLEEVE TYPE



PRECAST PANEL LAYOUT

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

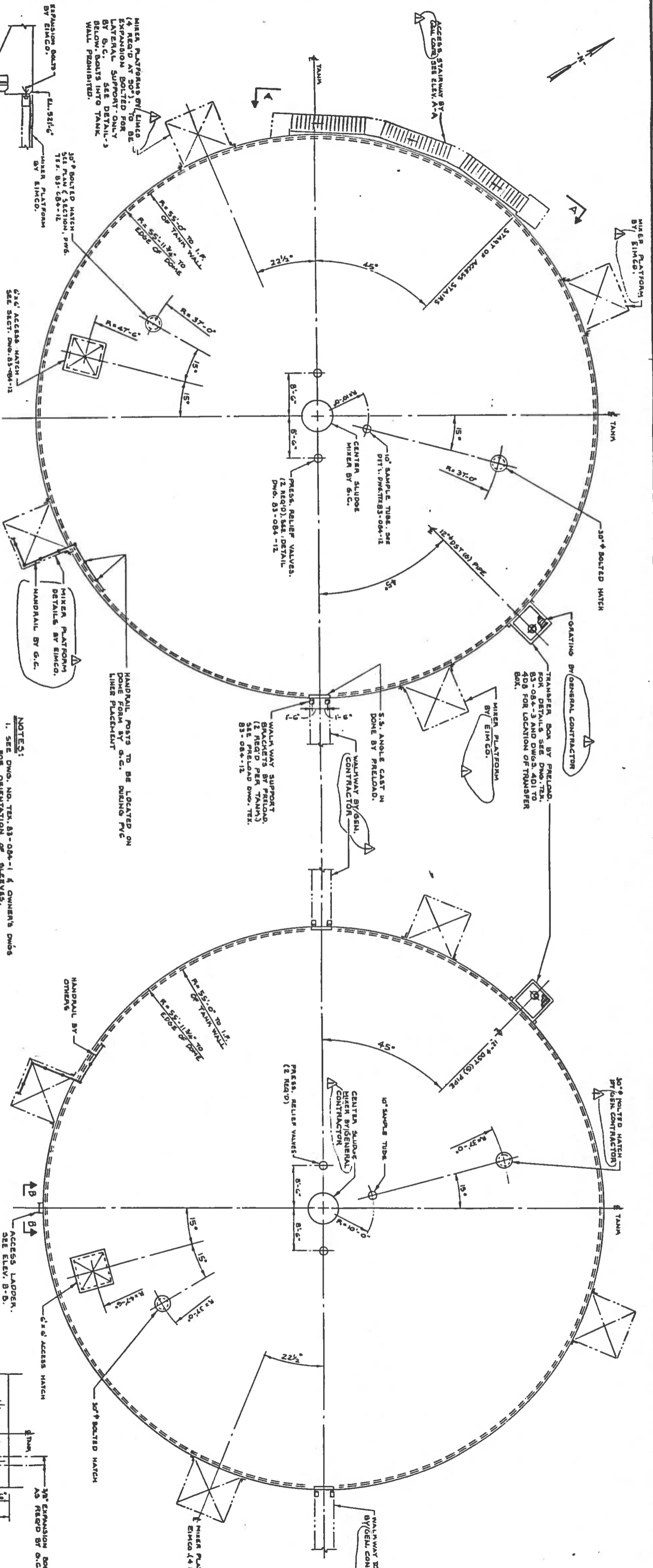
THE DETAILS SHOWN ON THIS DRAWING SHALL BE CONSIDERED TO BE THE STANDARD DETAILS FOR THE PRECAST PANELS AND SLEEVES UNLESS OTHERWISE SPECIFIED.

REVISIONS		BY CKD	
NO.	DATE	DESCRIPTION	

PRELOAD
438 STEWART AVENUE, GARDEN CITY, NEW YORK, 11530

WORKING DRAWING
DOS RIOS FACILITY
SAN ANTONIO, TEXAS
PRIMARY DIGESTER TAN
TANK NO. 6 PANEL LAYOUT

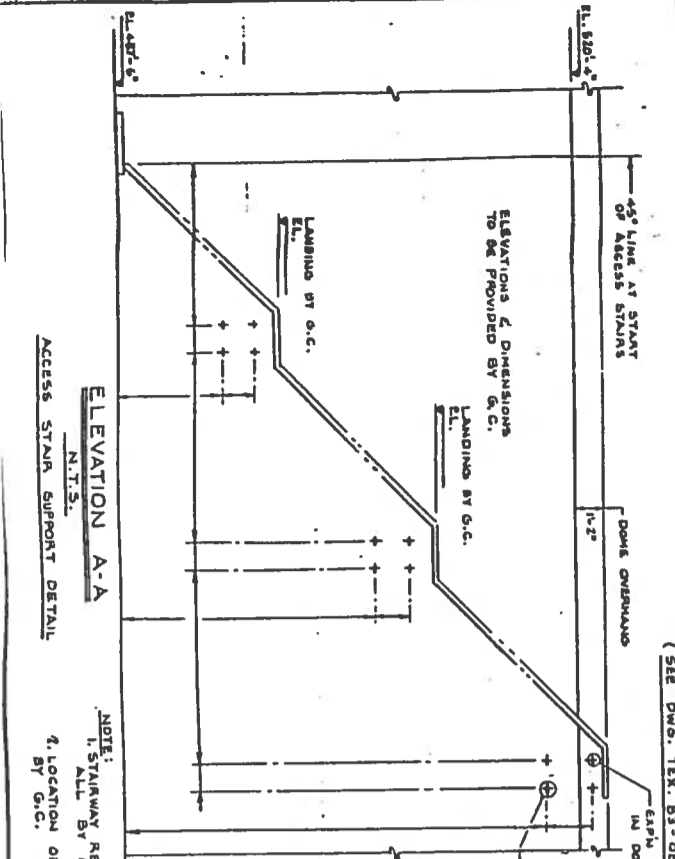
DESIGNED BY	DATE	APPROVED BY	DATE
J.D.	5/24/85	R.A.G.	5/24/85
CHECKED BY	DATE	APPROVED BY	DATE
F.P.	5/24/85	R.A.G.	5/24/85



ROOF PLAN
SCALE: 1" = 10'
TANK NO. 7 SHOWN. TANKS NO. 1, 2 & 8 SIMILAR.
(SEE DWG. TEX. 83-084-1.)

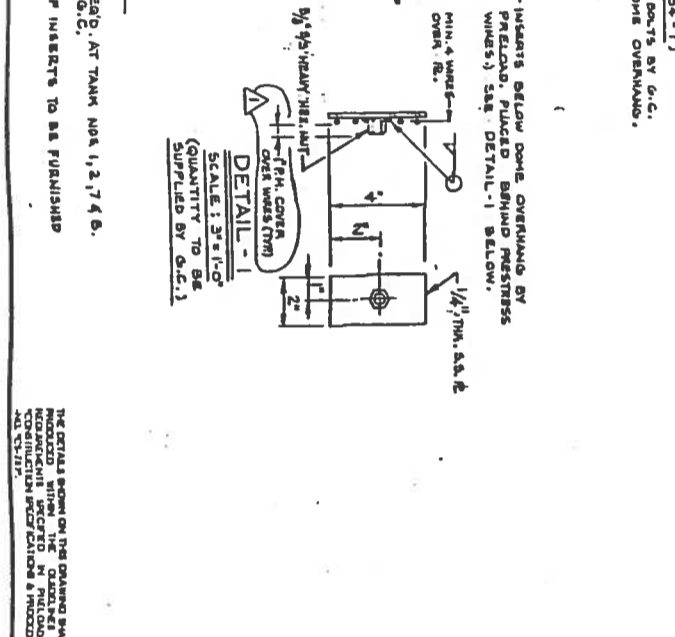
- NOTES:**
1. SEE DWG. NO. TEX. 83-084-1 & OWNER'S DWGS FOR ORIENTATION OF SLEEVES.
 2. LOCATION OF VERTICAL SLEEVES IN EACH TANK ROOF CONCRETE.
 3. ALL DOME PENETRATIONS FOR ALL TANKS BY G.C.

ROOF PLAN
SCALE: 1" = 10'
TANK NO. 5 SHOWN. TANKS NO. 3, 4 & 6 SIMILAR.



ELEVATION A-A
N.T.S.
ACCESS STAIR SUPPORT DETAIL

DETAIL - 3
N.T.S.



ELEVATION B-B (N.T.S.)
LADDER SUPPORT DETAILS
WORKING DRAWING

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

NO.	DATE	DESCRIPTION	BY	CND
1	7-2-85	AS PER ENGINEER	JD	RAO

REVISIONS

PRELOAD

NO. AND LOCATIONS OF INSERTS TO BE SUPPLIED BY G.C.

430 STEWARD AVENUE, GARDEN CITY, NEW YORK, 11530

DOS RIOS FACILITY
SAN ANTONIO, TEXAS
PRIMARY DIGESTERS

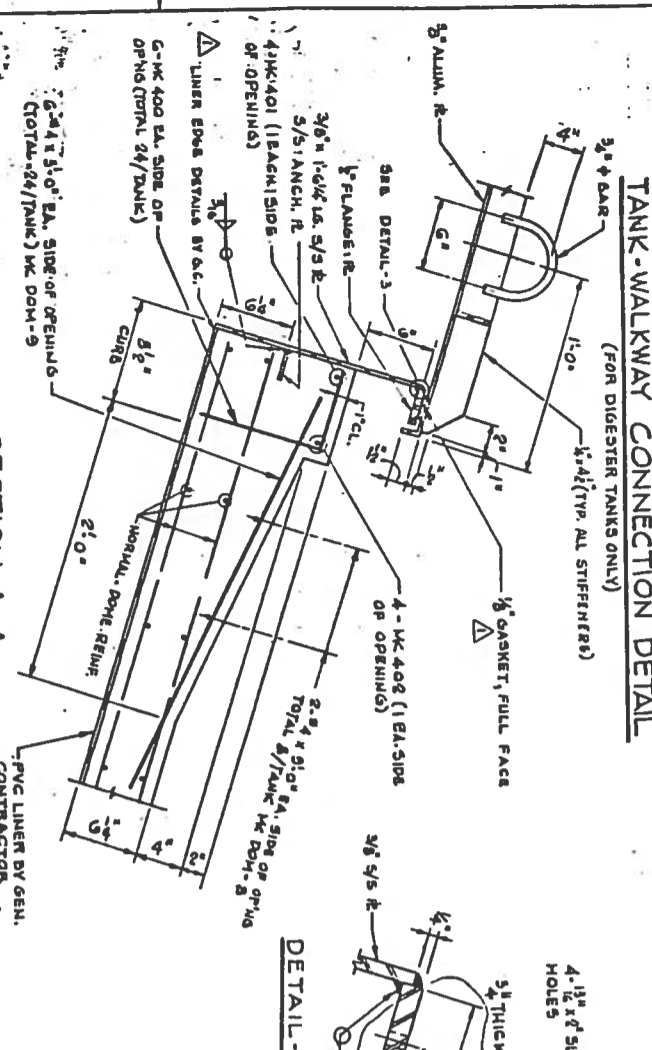
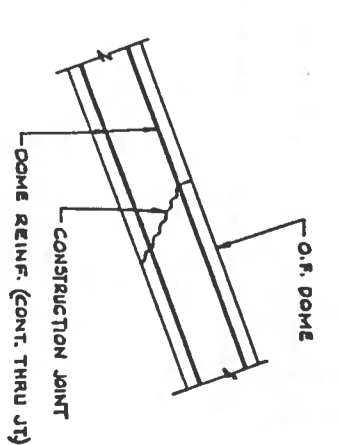
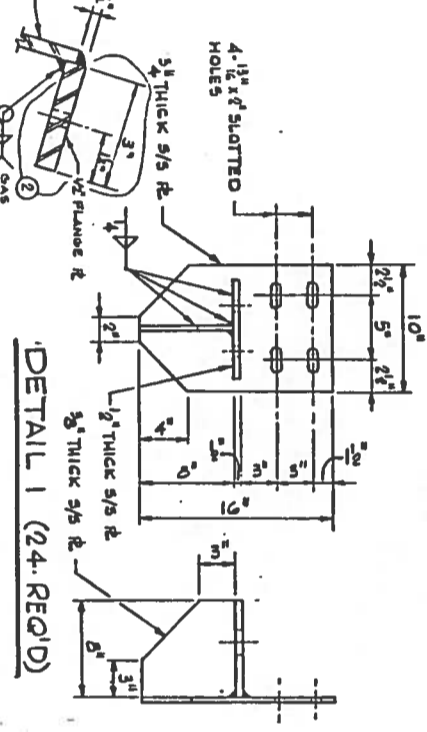
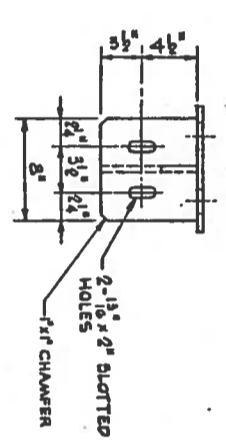
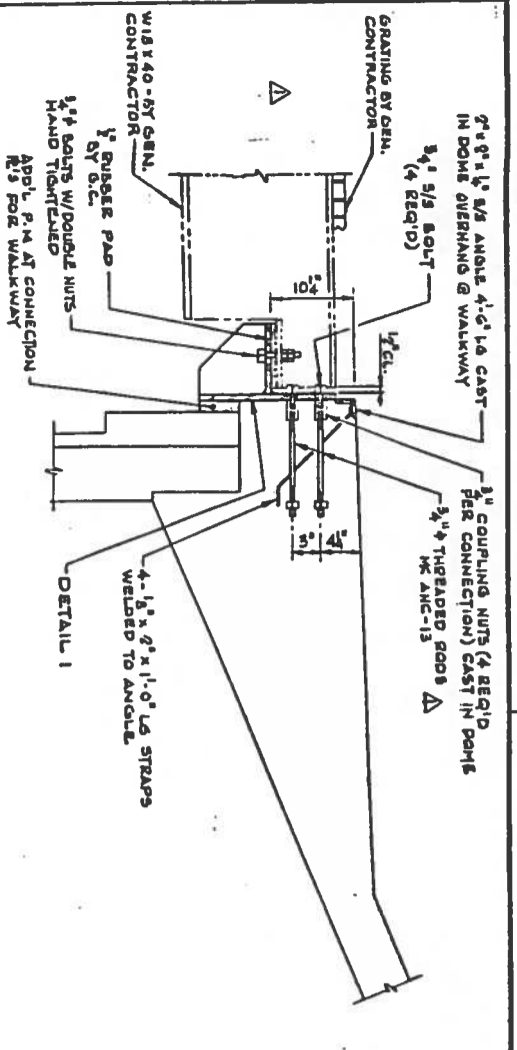
ROOF PLANS AND STAIR DETAIL

DESIGNED BY: JD
CHECKED BY: RAO
DATE: 5/24/85

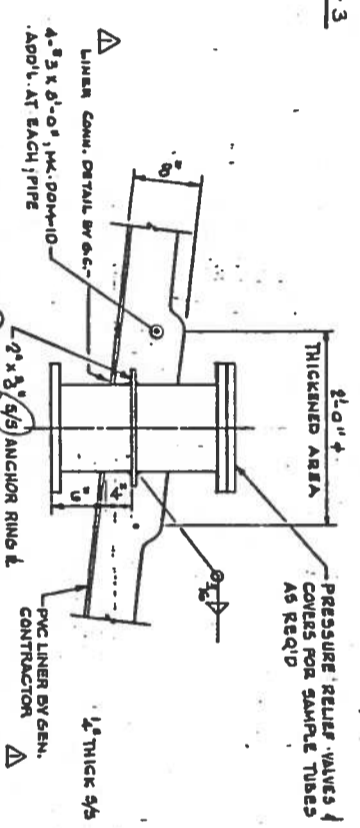
NOTE:
1. STAIRWAY REQ'D. AT TANK NO. 1, 2, 7 & 8.
ALL BY G.C.
4. LOCATION OF INSERTS TO BE FURNISHED BY G.C.

DETAIL - 1
SCALE: 3" = 1'-0"
(QUANTITY TO BE SUPPLIED BY G.C.)

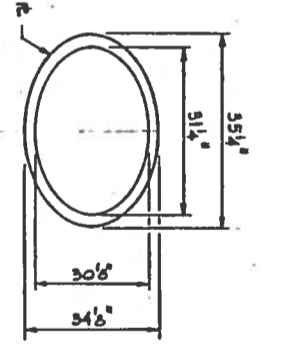
THE DETAILS SHOWN ON THIS DRAWING SHALL BE CONSIDERED TO BE PART OF THE CONTRACT DOCUMENTS AND SHALL BE SUBJECT TO THE SPECIFICATIONS AND REQUIREMENTS SET FORTH THEREIN.



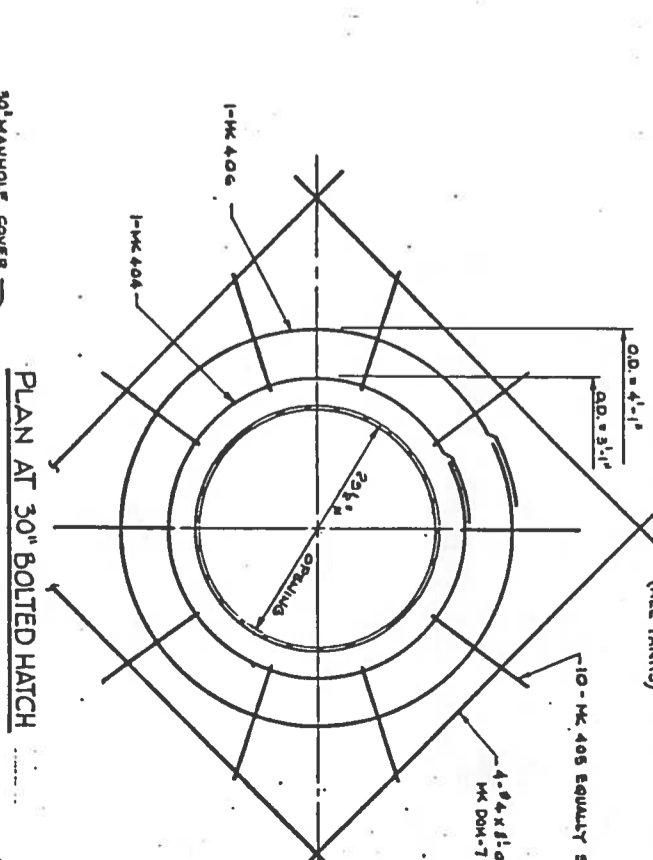
SECTION A-A



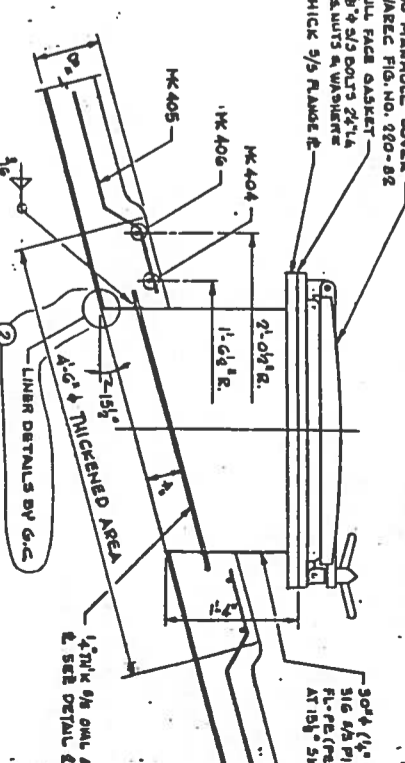
DOME PENETRATION DETAIL



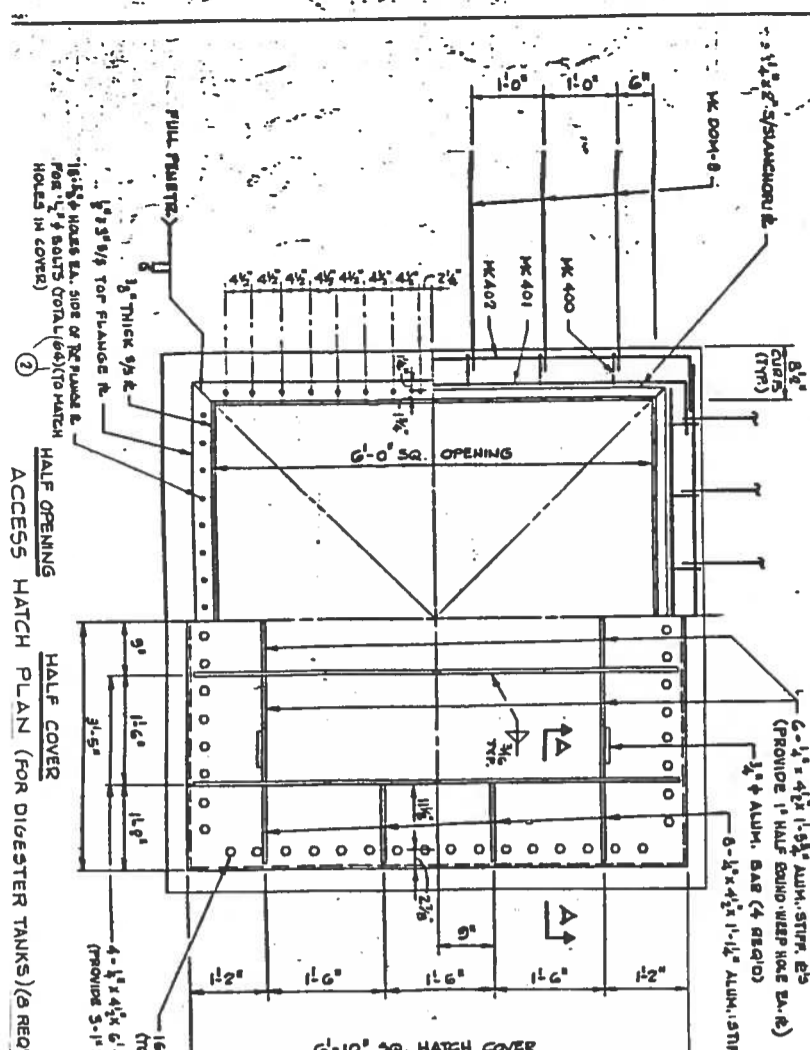
OVAL ANCHOR DETAIL 2 (1/2 REQ'D)



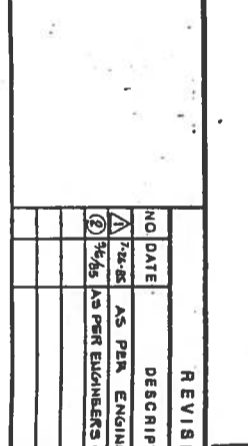
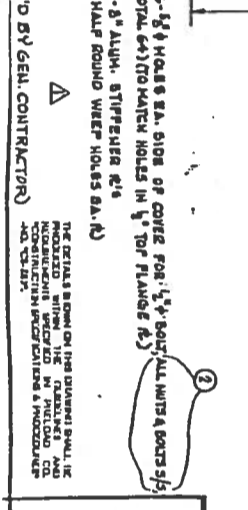
PLAN AT 30" BOLTED HATCH



SECTION AT 30" BOLTED HATCH TOTAL 1/2 REQ'D (2 PER TANK) (INCLUDING SLUDGE STORAGE TANK)



ALUMINIUM SHALL CONFORM TO CODES



NO.	DATE	DESCRIPTION	BY	CHKD
1	1/2/85	AS PER ENGINEER'S COMMENTS	JP	RAO
2	1/2/85	AS PER ENGINEER'S COMMENTS	PV	RAO

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1	1/2/85	AS PER ENGINEER'S COMMENTS	JP	RAO
2	1/2/85	AS PER ENGINEER'S COMMENTS	PV	RAO

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1	1/2/85	AS PER ENGINEER'S COMMENTS	JP	RAO
2	1/2/85	AS PER ENGINEER'S COMMENTS	PV	RAO