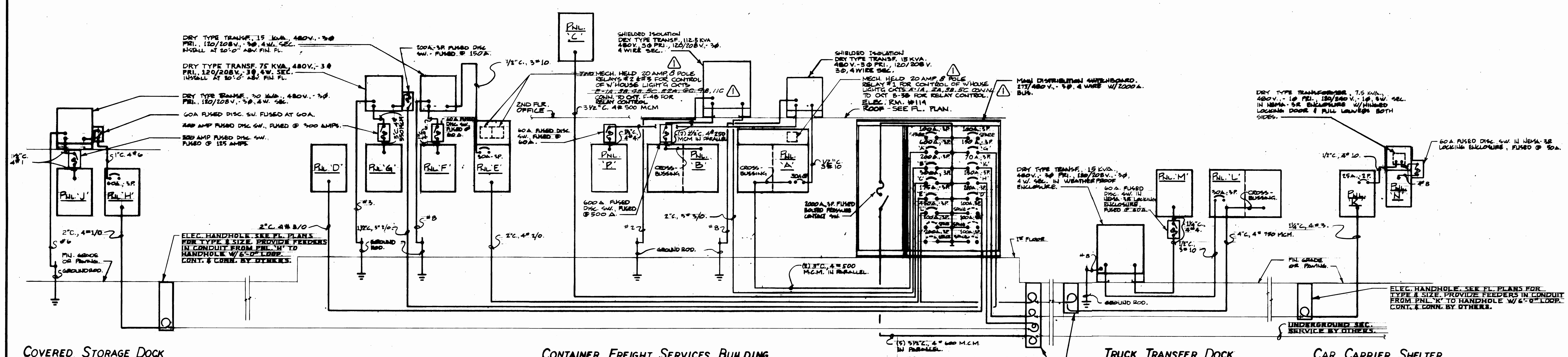
PANEL SCHEDULES

PANEL	CKT. NO.	SERVICE	AMPS	POLES	LOAD
'A' 277/480V., 3Ø.-4W. RECESSED	1A THRU 10B	LIGHTING	20	1	29.6 KW
	11 & 12	SPARES 11-LIGHTING ⚠1	20	1	4.0 KW
	13, 14 & 19	OUTDOOR HEAT PUMP	20	3	23.1 KW
	20, 25 & 26	OUTDOOR HEAT PUMP	30	3	45.0 KW
	31A	WALL HEATER	20	1	1.5 KW
	32A THRU 36C	RECEPTACLES - 2ND FLOOR ⚠1	20	1	10.0 KW
	37	FIRE SPRINKLER AIR COMPRESSOR	20	3	4.0 KW
	38 THRU 67	REFRIGERATION RECEPT.'S	30	3	182.6 KW
	68	PNL. 'P'	30	3	15.0 KW
	73	REFRIGERATION RECEPT.	30	3	18.3 KW
		(9) SPACES			
		TOTAL CONNECTED LOAD			333.1 KW
'B' 120/208V., 3Ø.-4W. RECESSED	1A	LIGHTING	20	1	1.7 KW
	2A THRU 56A	RECEPT.'S	20	1	97.5 KW
	56A & 58B	RECEPT.'S	20	1	5.2 KW
	57B	SPARE ⚠1	20	1	1.0 KW
	59C & 61A	SPARES	40	1	6.2 KW
	60C	F.A. PNL.	20	1	1.0 KW
	62A & 63B	RECEPT.'S	20	1	1.0 KW
	64B	INTRUSION ALARM CARD READER POWER MODULE	20	1	1.0 KW
	65C THRU 72C	65 CONTROL POWER FOR TIME CLOCKS & CONTACTORS 72 RAMP LIGHTS ⚠1	20	1	8.0 KW
	73A, 74B & 75C	INDOOR HEAT PUMPS	40	2	15.6 KW
	78	DUCT HEATING COIL	30	3	8.0 KW
		(3) SPACES			
		TOTAL CONNECTED LOAD			80.0 KW
'C' 277/480V., 3Ø.-4W. RECESSED	1A THRU 5C	LIGHTING	20	1	18.5 KW
	6C & 8A	H.W. HEATERS	40	1	16.6 KW
	7	ELEVATOR	80	3	28.2 KW
	10B & 12C	SPARES	20	1	4.0 KW
	13 & 14	INDOOR HEAT PUMP	30	3	16.3 KW
	17A	WALL HEATER	20	1	4.5 KW
	20	INDOOR HEAT PUMP	40	3	20.8 KW
	21B	SPARE ⚠1	50	1	9.9 KW
	23C	SPARE	20	1	2.0 KW
	25A	EXH. FAN	20	1	1.4 KW
	26	DUCT HT'G. COIL	20	3	10.0 KW
	27B & 29C	SPARES	20	1	4.0 KW
		(12) SPACES			
		TOTAL CONNECTED LOAD			136.7 KW
'D' 277/480V., 3Ø.-4W. RECESSED	1A & 2A	LIGHTING 1,3-LIGHTING, 2-NIGHT LITES ⚠1	20	1	7.9 KW
	3B THRU 6C	SPARES	20	1	8.0 KW
	7 THRU 32	BATTERY CHARGERS	20	3	75.0 KW
	37A THRU 41C	SPARES	20	1	11.0 KW
	42C	WALL HT'R			1.5 KW
		TOTAL CONNECTED LOAD			103.4 KW
'E' 277/480V., 3Ø.-4W. SURFACE MT'D	1A THRU 9B & 11C	LIGHTING. 7 SPARE	20	1	28.5 KW
	10B & 12C	SPARES	20	1	4.0 KW
	13 & 14	POWER DOORS	20	3	5.6 KW
	19	PNL. 'F'	30	3	16.8 KW
	20	TRASH COMPACTOR	30	3	17.4 KW
	25A THRU 30C	SPARES 27 - "V & X" FIXTURES	20	1	12.0 KW
		(12) SPACES			
		TOTAL CONNECTED LOAD			84.5 KW
'F' 120/208V., 3Ø.-4W. SURFACE MT'D	1A, 3B & 5C	LIGHTING	20	1	3.9 KW
	2A, 4B & 6C	RECEPT.'S	20	1	2.7 KW
	7A	TOOL SHED J-BOX	20	1	1.0 KW
	8A	LIGHTING	20	1	1.4 KW
	9B & 11C	RECEPT.'S	20	1	2.3 KW
	10B	T.V. CAMERAS	20	1	0.5 KW
	12C THRU 16B	SPARES 15-CONTROL POWER FOR TIME CLOCKS ABOVE PANEL 'E'. ⚠1	20	1	5.0 KW
		(2) SPACES			
		TOTAL CONNECTED LOAD			16.8 KW
'G' 120/208V., 3Ø., 4W. SURFACE MT'D	1A, 3B & 5C	LIGHTING	20	1	4.9 KW
	2A, 4B, 6C & 7B	RECEPT.'S	20	1	5.4 KW
	8A THRU 12C	SPARES	20	1	5.0 KW
	13 THRU 26	INSULATED CONTAINER FREIGHT UNIT RECEPT.'S	30	3	51.8 KW
		(12) SPACES			
		TOTAL CONNECTED LOAD			64.9 KW
'H' 277/480V., 3Ø.-4W. RECESSED	1A THRU 4B	LIGHTING	20	1	12.6 KW
	5C & 7A	SPARES	20	1	4.0 KW
	6C & 8A	LIGHTING	20	1	5.1 KW
	9B & 11C	WALL HEATERS	20	1	6.0 KW
	10B & 12C	SPARES	20	1	4.0 KW
	13A, 15B & 17C	SPARES	20	1	6.0 KW
	14	PNL. 'J'	50	3	30.0 KW
		(10) SPACES			
		TOTAL CONNECTED LOAD			67.7 KW
'I'		OMITTED			
'J' 120/208V., 3Ø.-4W.	1A	LIGHTING	20	1	.8 KW
	2	CRANE	45	3	11.6 KW
	3B & 5C	RECEPT.'S	20	1	1.3 KW
	7A THRU 12C	SPARES 11-RECEPTACLES ⚠1	20	1	6.0 KW
		(10) SPACES			
		TOTAL CONNECTED LOAD			19.2 KW
'K' 277/480V., 3Ø.-4W. SURFACE MT'D	1A & 3B	LIGHTING	20	1	5.5 KW
	2A, 4B, 6C & 5C	SPARES	20	1	8.0 KW
	7 & 8	HYDRAULIC RAMP	20	3	12.6 KW
	13 & B	PNL. 'N'	25	2	7.5 KW
		(8) SPACES			
		TOTAL CONNECTED LOAD			33.6 KW
'L' 277/480V., 3Ø.-4W. SURFACE MT'D	1A, 3B & 5C	LIGHTING	20	1	8.3 KW
	2 THRU 13	REFRIGERATION RECEPT.'S	30	3	73.0 KW
	14A, 16B, & 18C	SPARES	20	1	6.0 KW
	19	PNL. 'M'	30	3	15.0 KW
	20 THRU 49	CONVEYOR	20	3	116.3 KW
	50A, 52B & 54C	SPARES	20	1	6.0 KW
		(10) SPACES			
		TOTAL CONNECTED LOAD			224.6 KW
'M' 120/208V., 3Ø.-4W. RECESSED	1A THRU 6C	LIGHTING	20	1	9.0 KW
	7A & 9B	RECEPT.'S	20	1	1.4 KW
	8A, 10B, 12C & 11C	SPARES	20	1	4.0 KW
		(10) SPACES			
		TOTAL CONNECTED LOAD			14.4 KW
'N' 120/240V., 1Ø.-3W. SURFACE MT'D	1 THRU 3	RECEPT.'S	20	1	1.5 KW
	4	SPARE	20	1	1.0 KW
	5	LIGHTING			1.2 KW
	6 THRU 8	SPARES			3.0 KW
		TOTAL CONNECTED LOAD			6.7 KW
'O'		OMITTED			
'P' 120/208V., 3Ø.-4W. RECESSED	1A THRU 34B	RECEPT.'S	20	1	6.8 KW
	35C	RECEPT.	20	1	1.0 KW
	36C	RECEPT.	20	1	.2 KW
	37A	T.V. CAMERAS	20	1	1.0 KW
	38A	RECEPT.	20	1	1.0 KW
	39B THRU 42C	SPARES	20	1	4.0 KW
		TOTAL CONNECTED LOAD			14.0 KW
		PANEL CONNECTED LOAD			1136.3 KVA
		SPARE CAPACITY (FOR FUTURE LOAD)			200.0 KVA
		GRAND TOTAL CONNECTED LOAD			1336.3 KVA
		ESTIMATED MAX. DEMAND (90 %)			1200.0 KVA



ELECTRICAL DISTRIBUTION DIAGRAM

DIAGRAMMATIC

NOTES

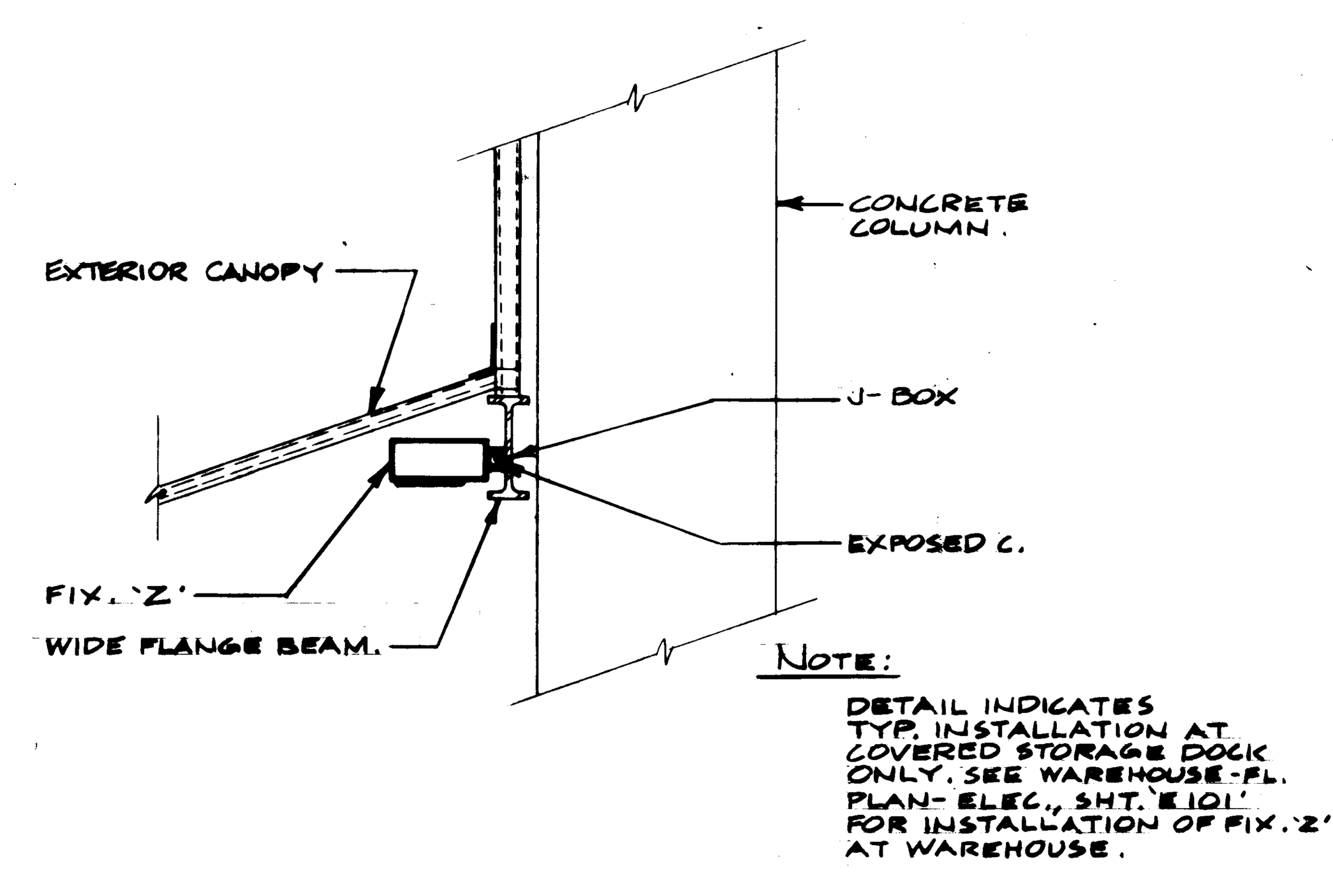
1. ALL WIRE SIZES SHOWN ARE FOR COPPER.
2. TACOMA CITY LIGHT IS SERVING UTILITY.
3. AVAILABLE FAULT CURRENT 75,000 R.M.S. AMPS.

DRAWN	PORT OF TACOMA
DATE	
CHECKED	TACOMA TERMINALS, INC.
DATE	PANEL SCHEDULES & ELEC. DIST. DIAG.
CHECKED	
DATE	
CONT. NO. 557	
FIELD BOOK (S)	SCALE
APPROVED [signature] PROJECT MANAGER 3/30/84 DATE	DRAWING NO. EP 3879-23 E106
[signature] CHIEF ENGINEER 3/30/84 DATE	SHEET 42 OF 71

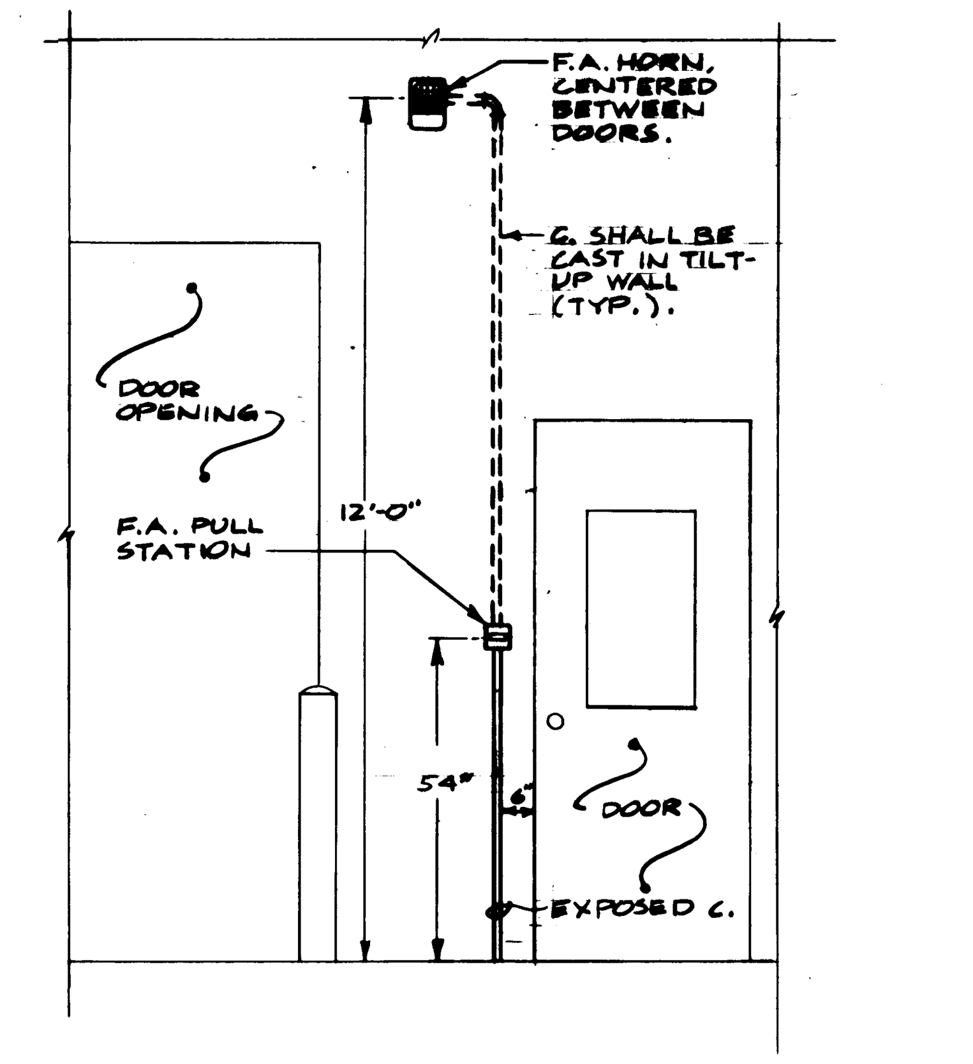
MARK	REVISION	BY	APP.	DATE
⚠1	REVISED TO AS BUILT	R.J.S		6-6-85

ELECTRICAL SYMBOLS

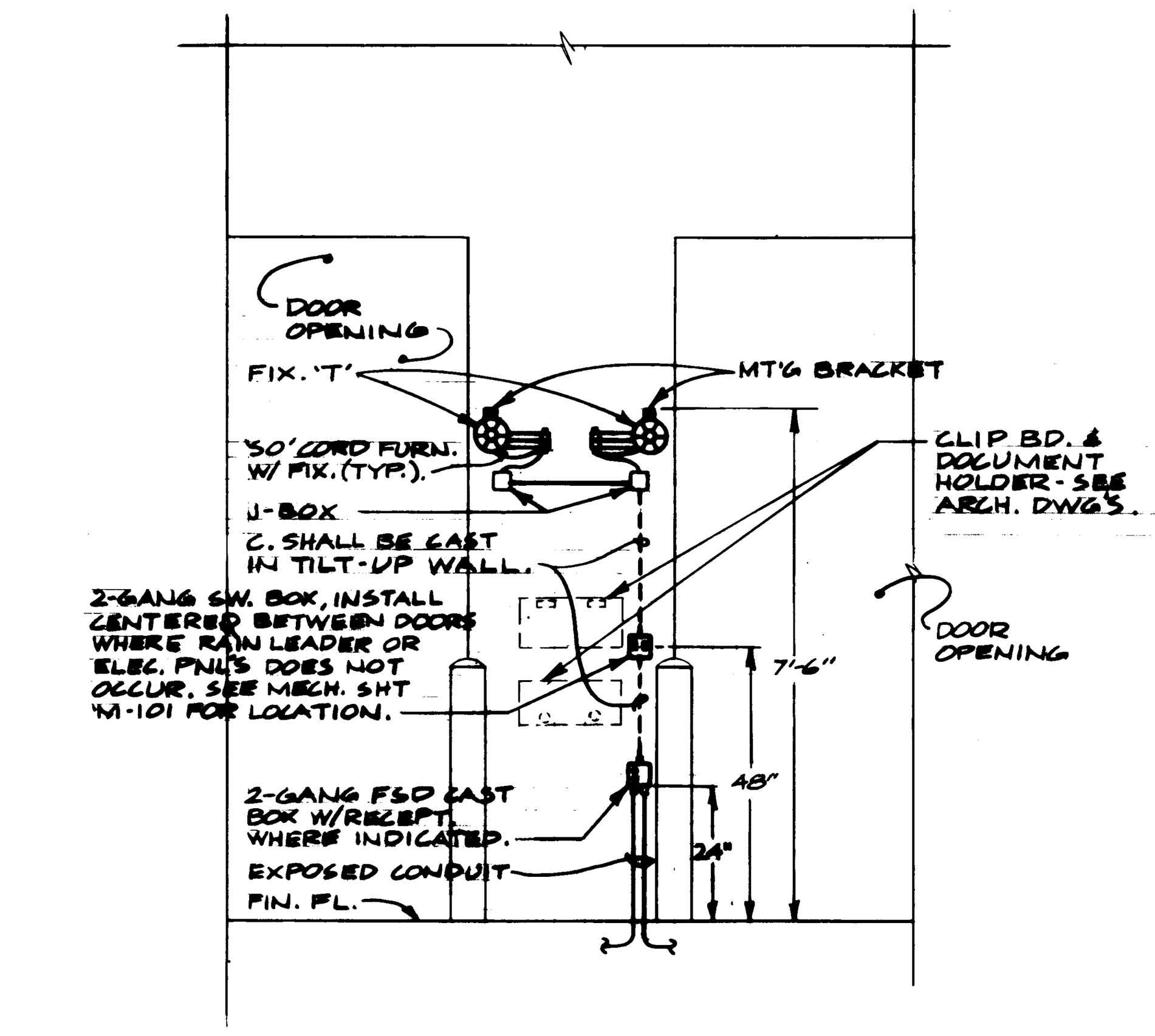
Symbol	Description	℄ Mtg. Ht.
	FLUORESCENT FIXTURE-SURFACE	—
	FLUORESCENT FIXTURE-RECESSED	—
	FIXTURE ON EMERGENCY CIRCUIT	—
	CEILING SURFACE MOUNTED FIXTURE	—
	WALL MOUNTED FIXTURE	—
	SQUARE RECESSED INCANDESCENT FIXTURE	—
	ROUND RECESSED INCANDESCENT FIXTURE	—
	FIXTURE ON NIGHT LIGHTING	—
	EXIT FIXTURE, CEILING	—
	EXIT FIXTURE, WALL MOUNTED	—
	EXIT FIXTURE, W/DIRECTIONAL ARROW	—
$	SINGLE-POLE SWITCH	+48"
$ 2	TWO-POLE SWITCH	+48"
$ 3	3-WAY SWITCH	+48"
$ 4	4-WAY SWITCH	+48"
$ K	KEY-SWITCH	+48"
$ P	SWITCH W/PILOT LIGHT	+48"
$ F	FAN SWITCH FURNISHED BY MECH., INSTALLED BY ELEC.	+48"
$ D	DOOR SWITCH	—
$ T	SWITCH W/TIMER	+48"
	DUPLEX RECEPTACLE	+48"
	DUPLEX RECEPTACLE, HORIZONTAL	
	RECEPTACLE IN FLOOR BOX	—
	WEATHERPROOF RECEPTACLE	—
	RANGE RECEPTACLE	—
	SPECIAL RECEPTACLE, LETTER INDICATES TYPE	—
	HEAT OUTLET, 120 V, 1Φ	—
	HEAT OUTLET, — V, Φ AS NOTED	—
	POWER OUTLET, — V, 1Φ	—
	POWER OUTLET, — V, Φ AS NOTED	—
	SPEAKER OUTLET, CEILING MTG.	—
	SPEAKER OUTLET, WALL MTG.	—
	PAGING SYSTEM TEL. OUTLET.	—
	VOLUME CONTROL	+48"
	MANUAL DIMMER	—
	MOTORIZED DIMMER	—
	CHIME	—
	TELEVISION SYSTEM OUTLET	+48"
	THERMOSTAT	+62"
	FIRE DETECTOR	—
	SMOKE DETECTOR	—
	FIRE ALARM PULL STATION	+54"
	FIRE ALARM HORN W/ALARM LIGHT	—
	FIRE ALARM HORN W/ALARM LIGHT	—
	WALL MTD. FLUSH JUNCTION BOX	—
	FLUSH JUNCTION BOX	—
	PROGRAM CLOCK W/BUZZER	—
	CLOCK HANGER RECEPTACLE	—
	FLUSH FLOOR BOX	—
	LOW VOLTAGE TRANSFORMER	—
	MICROPHONE OUTLET	+48"
	TELEPHONE OUTLET	+18"
	TELEPHONE FLOOR BOX & OUTLET	—
	PHOTO-ELECTRIC RELAY	—
	PROGRAM GONG	—
	PANELBOARD	—
	SURFACE METAL RACEWAY	—
	CONDUIT ABV. FLOOR OR GRADE	—
	CONDUIT RISE	—
	CONDUIT DROP	—
	CONDUIT RUN BELOW FLOOR OR FINISHED GRADE	—
	NO. OF CONDUCTORS IN CONDUIT	—
	RUN TO PANEL & NO. OF CIRCUITS	—
+48"	℄ MOUNTING HEIGHT ABV. FIN. FLOOR	—
	C.R.T. (COMPUTER REMOTE TERMINAL) OUTLELET.	+18"
	C.R.T. FLOOR BOX & OUTLET	
	C.R.T. FLOOR BOX W/ BLANK COVER PLATE	
	TELEPHONE FLOOR BOX W/ BLANK COVER PLATE.	
	INTRUSION ALARM J-BOX	



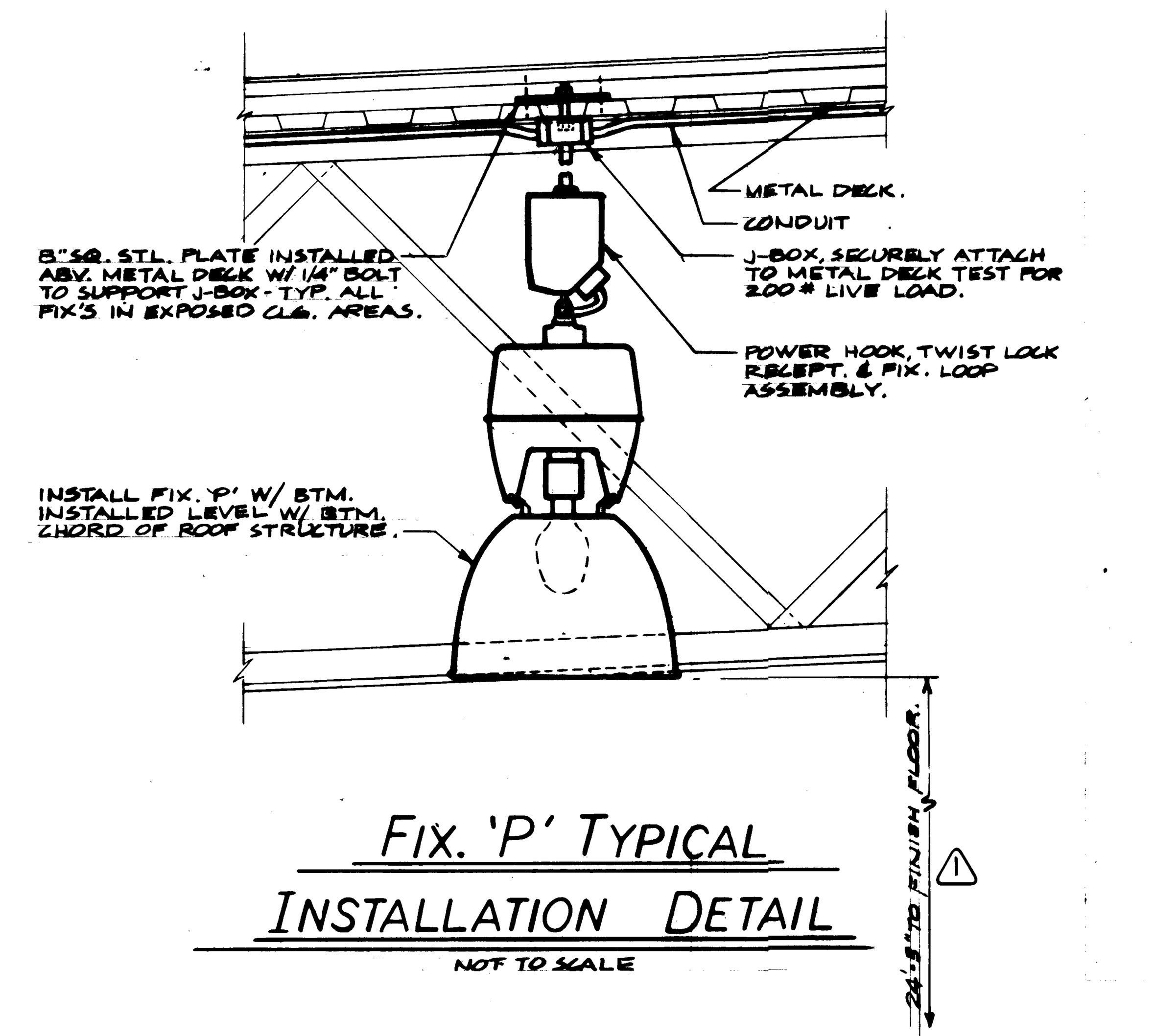
TYPICAL FIXTURE 'Z'
INSTALLATION DETAIL
NOT TO SCALE



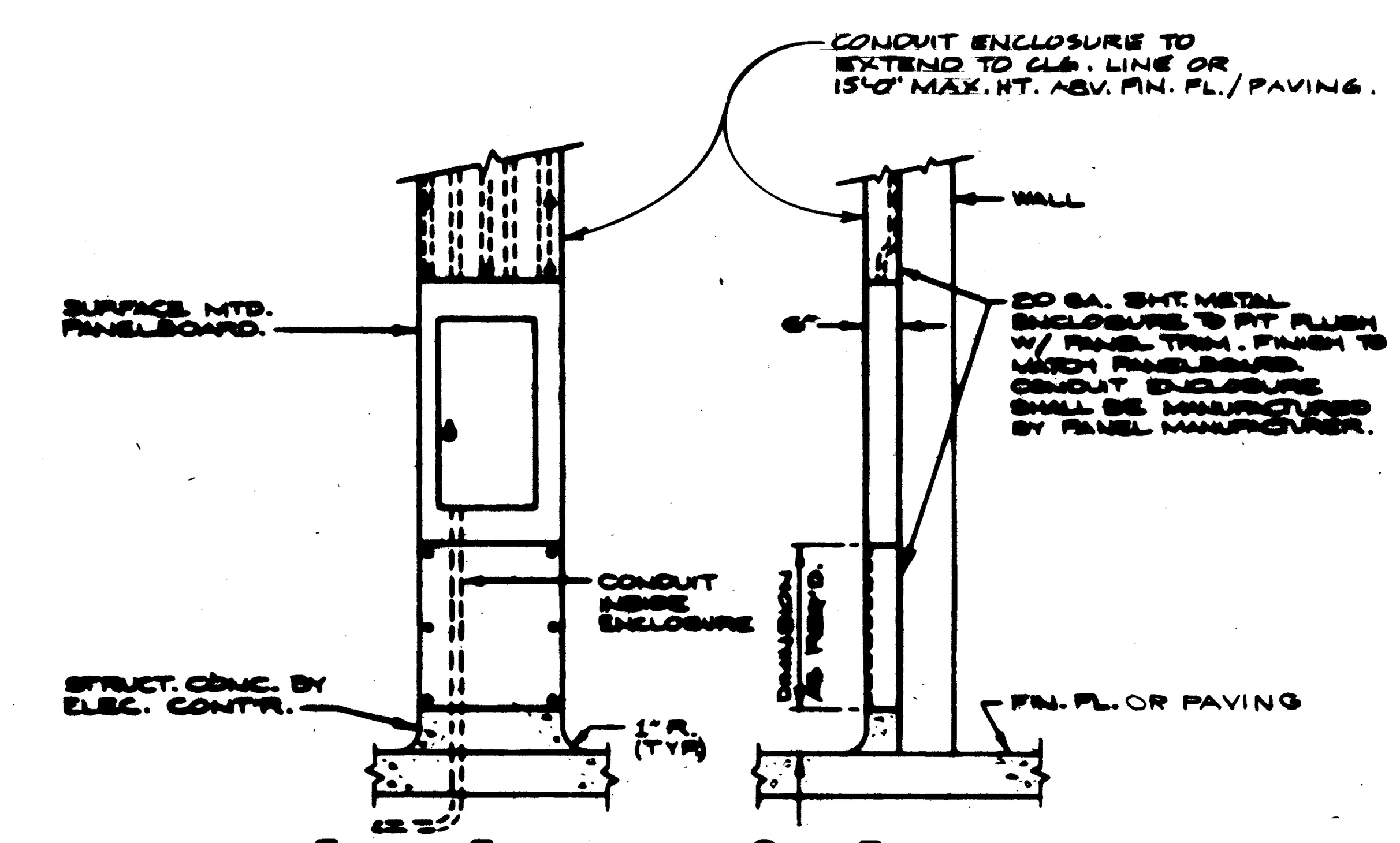
TYP. F. A. HORN & PULL STA.
INSTALLATION DET.
NOT TO SCALE



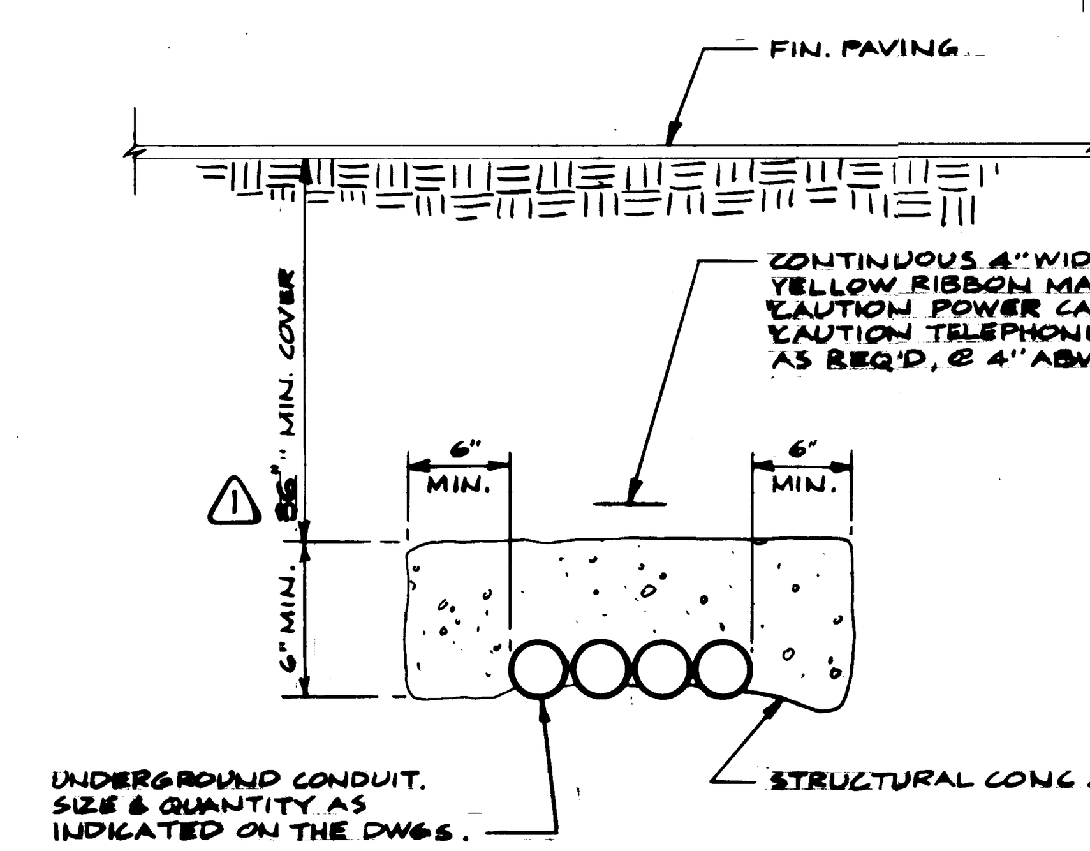
TYP. FIX. 'T' & RECEPT.
INSTALLATION DET.
NOT TO SCALE



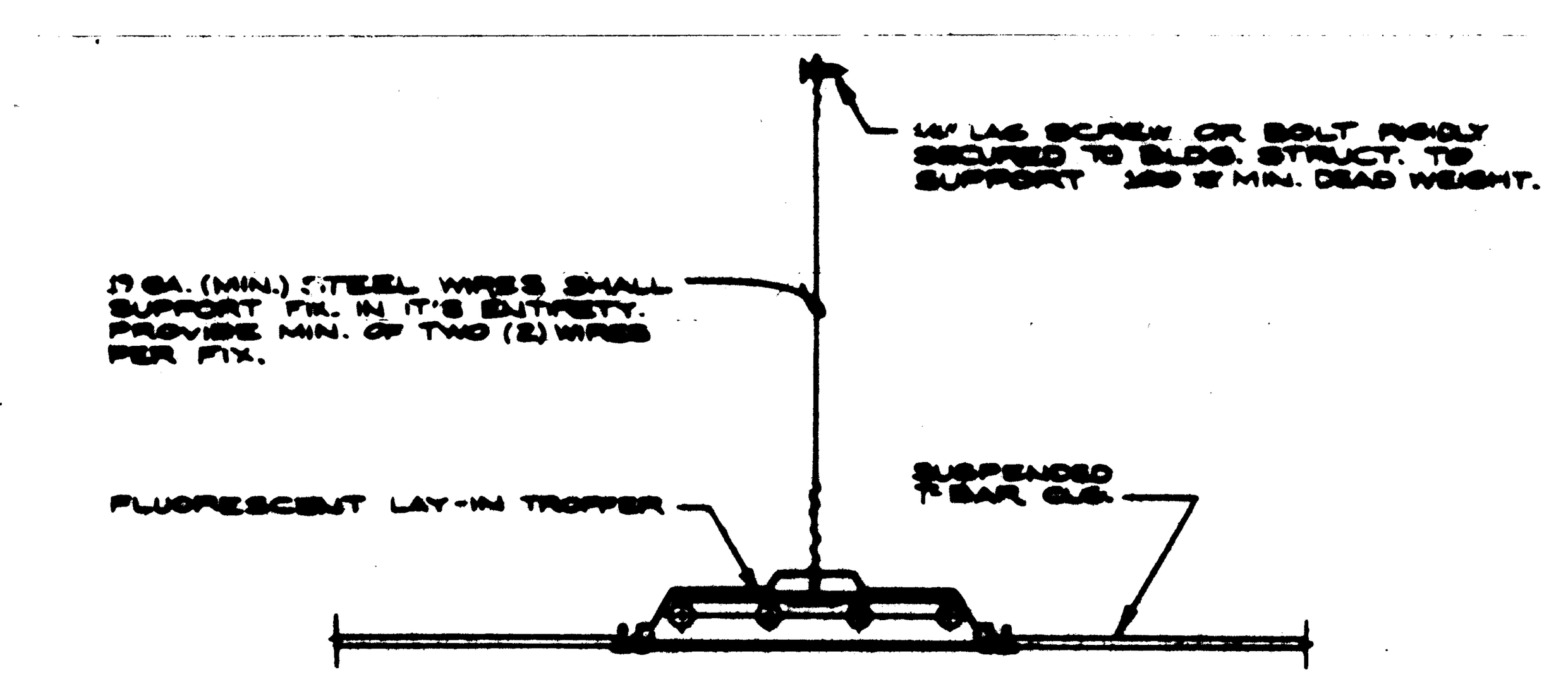
FIX. 'P' TYPICAL
INSTALLATION DETAIL
NOT TO SCALE



FRONT ELEVATION — SIDE ELEVATION
TYPICAL SURFACE MOUNTED
PANELBOARD INSTALLATION DETAIL
NOT TO SCALE



TYPICAL UNDERGROUND CONDUIT
INSTALLATION DETAIL
NOT TO SCALE

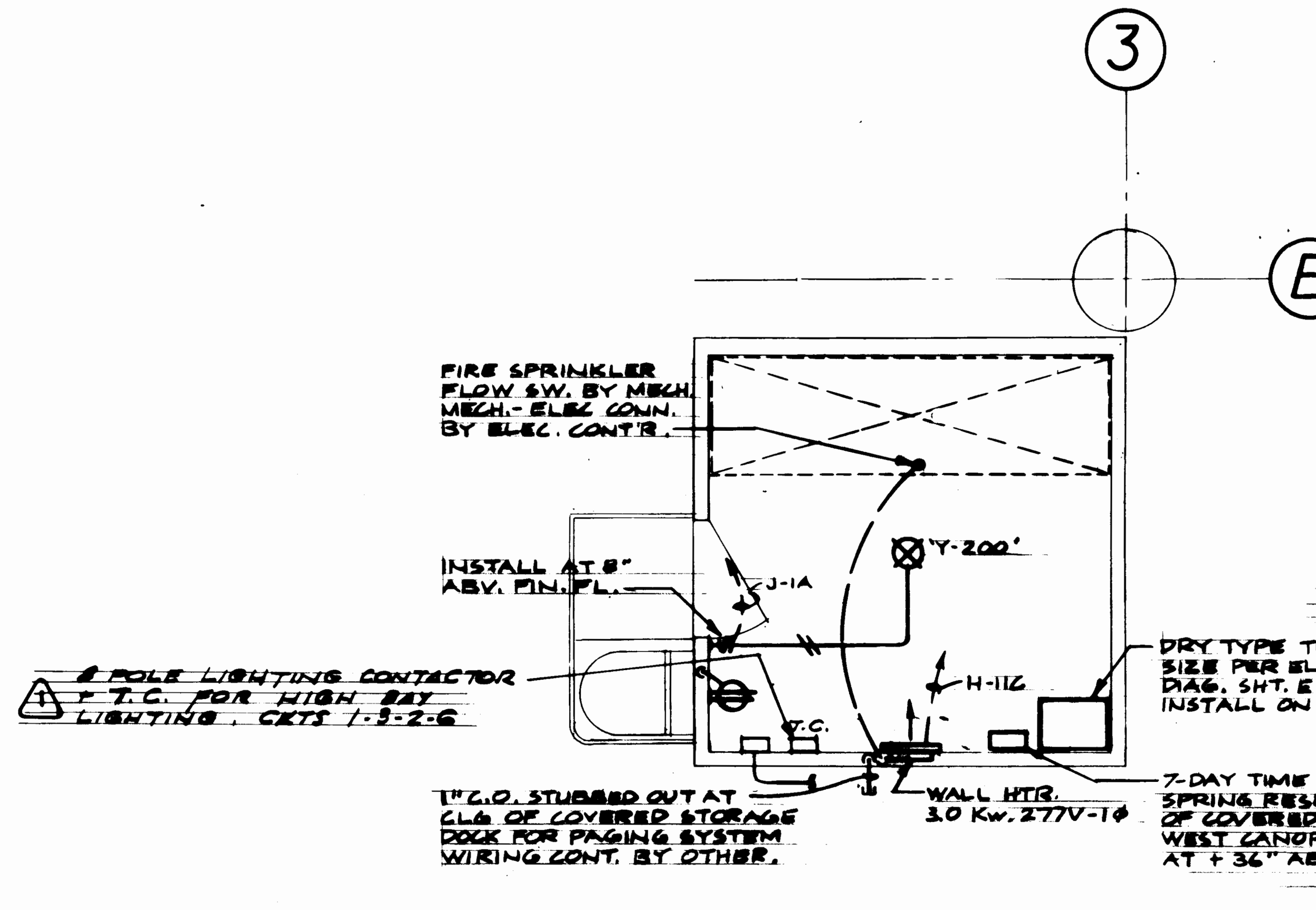


TYPICAL LAY-IN TROFFER SUPPORT DETAIL
NOT TO SCALE

MARK	REVISION	BY	APP.	DATE
1	REVISED TO AS-BUILT	RJS		6-6-85

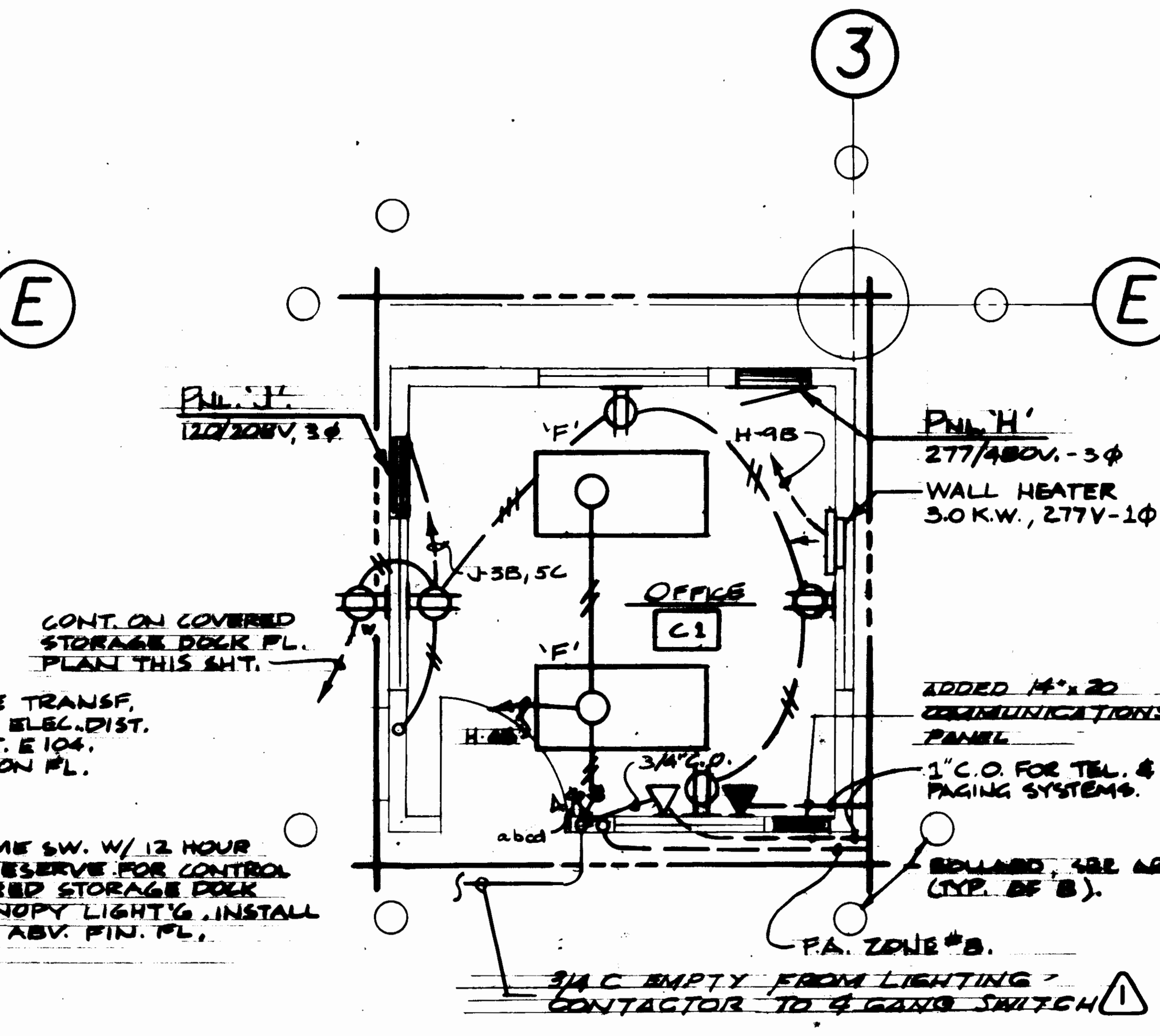
PORT OF TACOMA
TACOMA TERMINALS, INC.
ELEC. SYMBOLS & DETAILS

DRAWN ____ DATE ____
CHECKED ____ DATE ____
CHECKED ____ DATE ____
CONT. NO. 557
FIELD BOOK (S) ____
APPROVED — PROJECT MANAGER — DATE 3/30/84
CHIEF ENGINEER — DATE 3/30/84
SCALE ____
DRAWING NO. EP 3879-23 E105
SHEET 43 OF 71



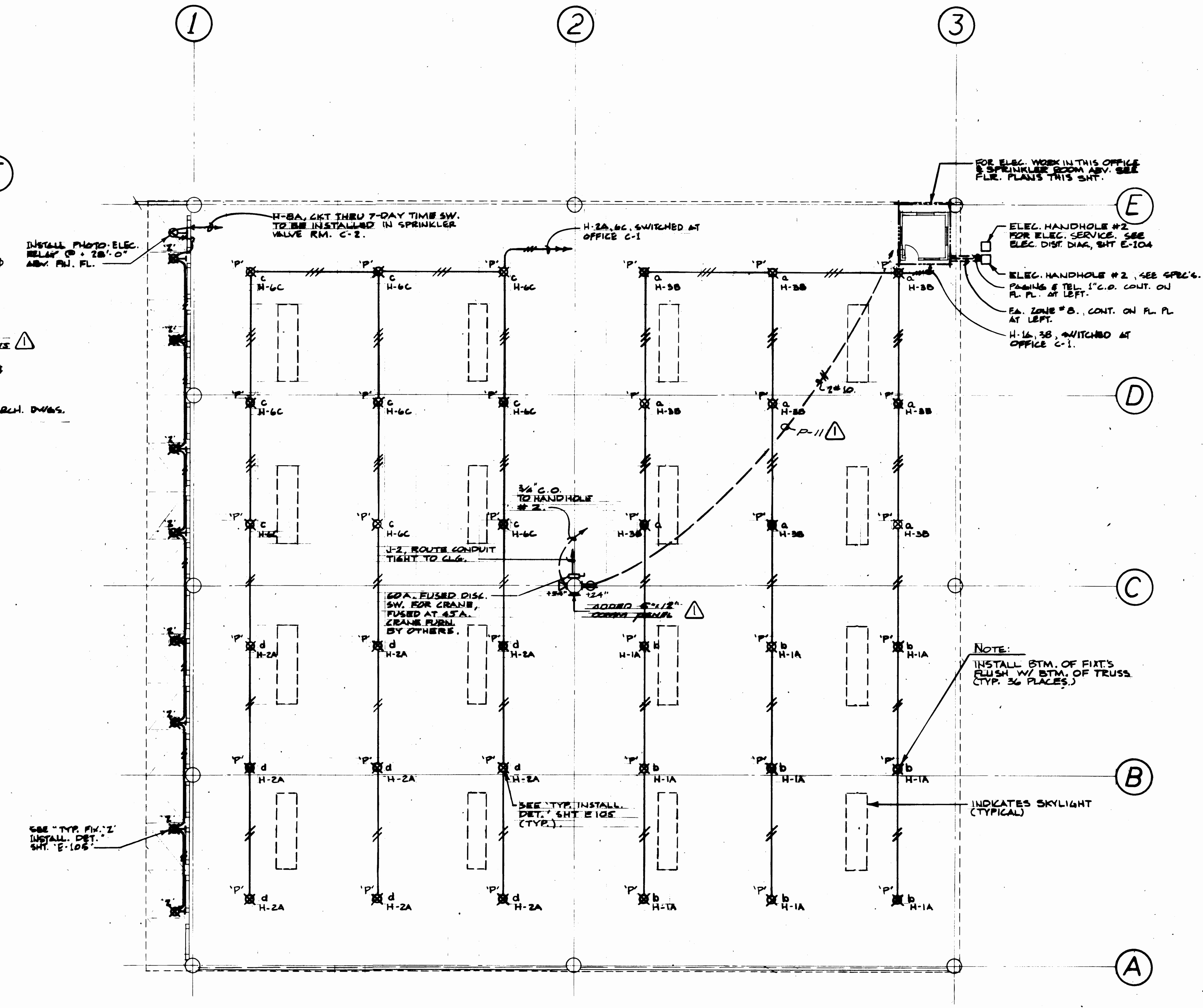
PART. FLOOR PLAN-
DRY PIPE VALVE RM.

SCALE 1/4" = 1'-0"



PART. FLOOR PLAN~OFF.

SCALE 1/4" = 1'-0"



COVERED STORAGE DOCK FLOOR PLAN~ELEC.

SCALE: 1/16" = 1'-0"

MARK	REVISION	BY	APP.	DATE
1	REVISED TO AS BUILT	R.d.S.		6-14-85

PORT OF TACOMA

TACOMA TERMINALS, INC.

COVERED STORAGE DOCK FL. PLAN - ELEC., OFFICE FL. PLAN - ELEC., FIRE SPRINKLER DRY PIPE VALVE RM. FL. PLAN - ELEC. & DETAILS.

DRAWN / DATE / CHECKED / DATE / CHECKED / DATE

CONT. NO. 587

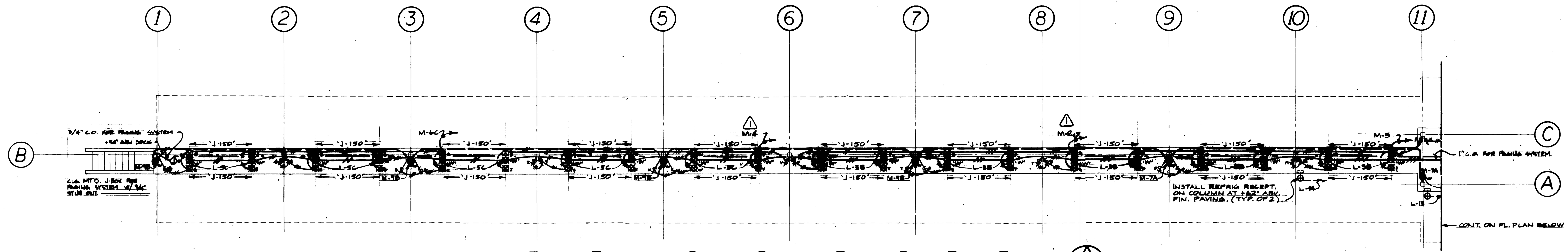
FIELD BOOK (S)

APPROVED 3/30/84

PROJECT MANAGER 3/30/84

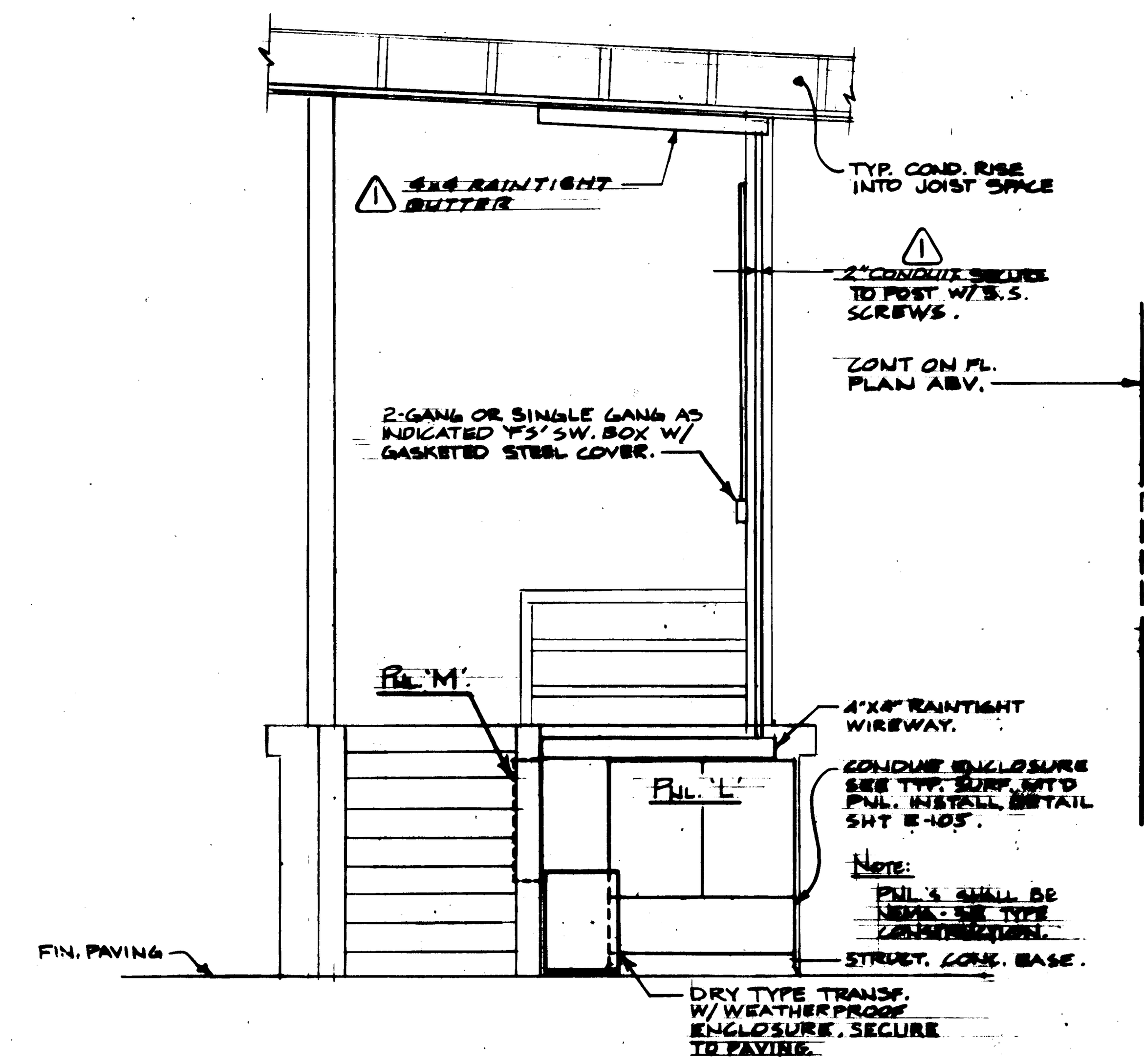
DRAWING NO. EP 3579-23 E

SHEET OF



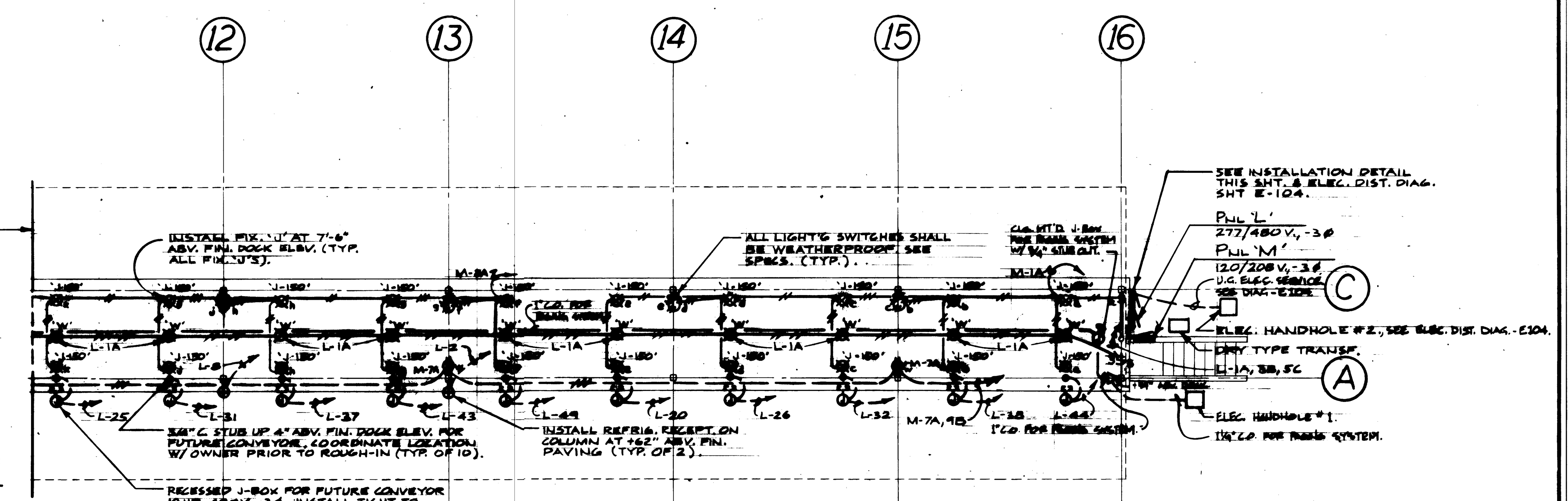
TRUCK TRANSFER DOCK ~ PARTIAL FLOOR PLAN EAST~ELEC.

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



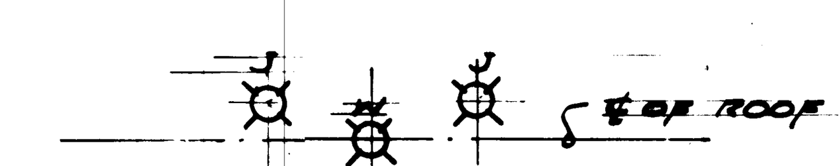
TYP. PANEL INSTALLATION DETAIL
AT EAST END OF TRUCK TRANSFER DOCK

NOT TO SCALE



TRUCK TRANSFER DOCK ~ PARTIAL FLOOR PLAN WEST ~ ELEC.

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



TYPICAL INSTALLATION ALL 'W' & 'J' FIXTURES

[redacted]

MARK	REVISION	BY	APP.	DATE
	REVISED TO AS-BUILT	RJS		

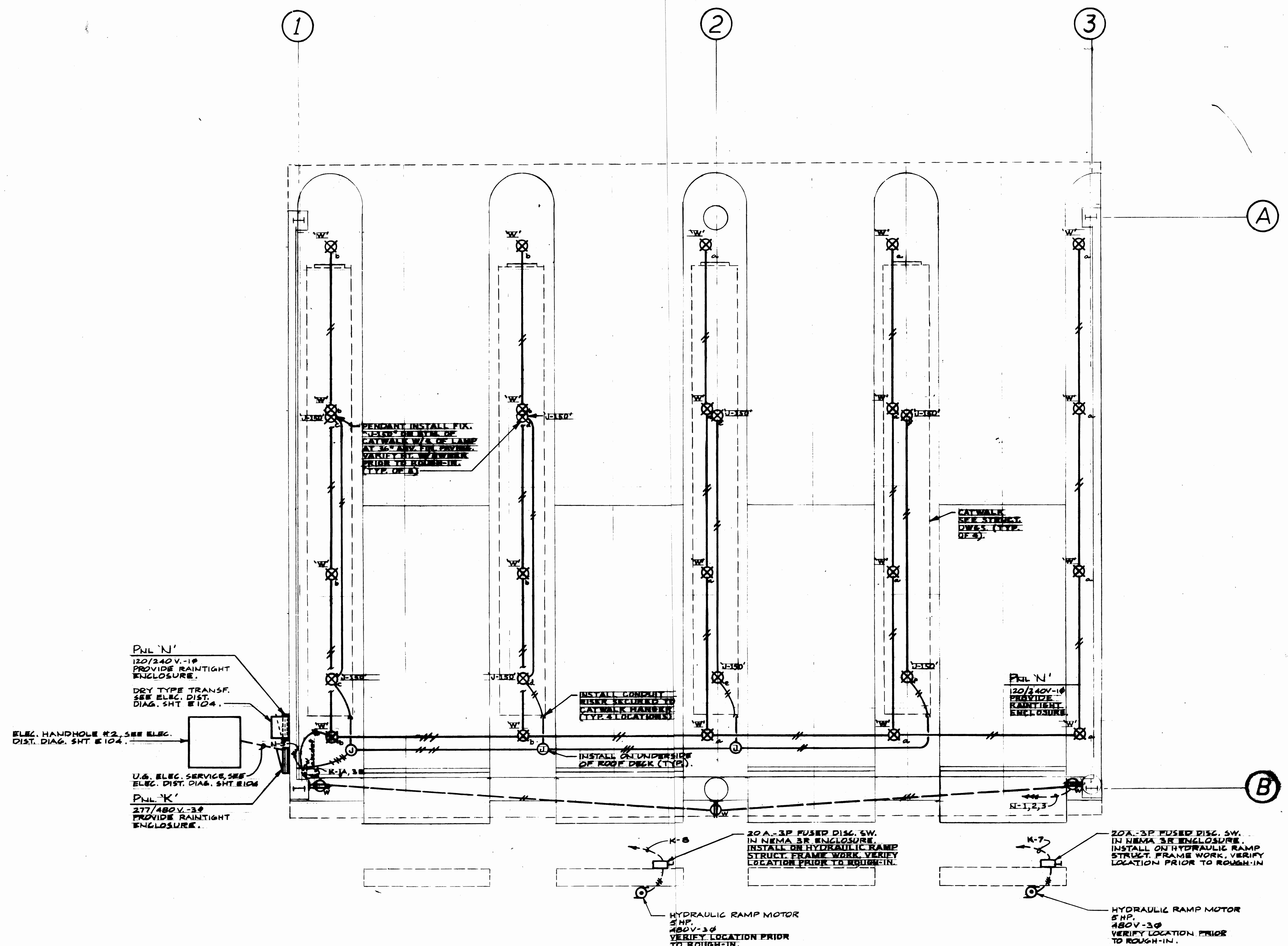
DRAWN
DATE
CHECKED
DATE
CHECKED
DATE
CONT. NO. 557

PORT OF TACOMA

TACOMA TERMINALS, INC.

TRUCK TRANSFER DOCK - PART. FL. PLAN EAST - ELEC., TRUCK TRANSFER DOCK - PART. FL. PLAN WEST - ELEC. & DETAILS.

FIELD BOOK (S)
APPROVED — PROJECT MANAGER — DATE 3/30/84
CHIEF ENGINEER — DATE
SCALE
DRAWING NO. EP 3879-23 E302
SHEET 64 OF



CAR CARRIER SHELTER~FLOOR PLAN~ELEC.

SCALE 1/4" = 1'-0"

N

MARK	REVISION	BY	APP.	DATE
	NO AS-BUILT CHANGES	RJS		6-19-86

DRAWN ______
DATE ______
CHECKED ______
DATE ______
CHECKED ______
DATE ______
CONT. NO. 557
FIELD BOOK (S) ______

PORT OF TACOMA

TACOMA TERMINALS, INC.

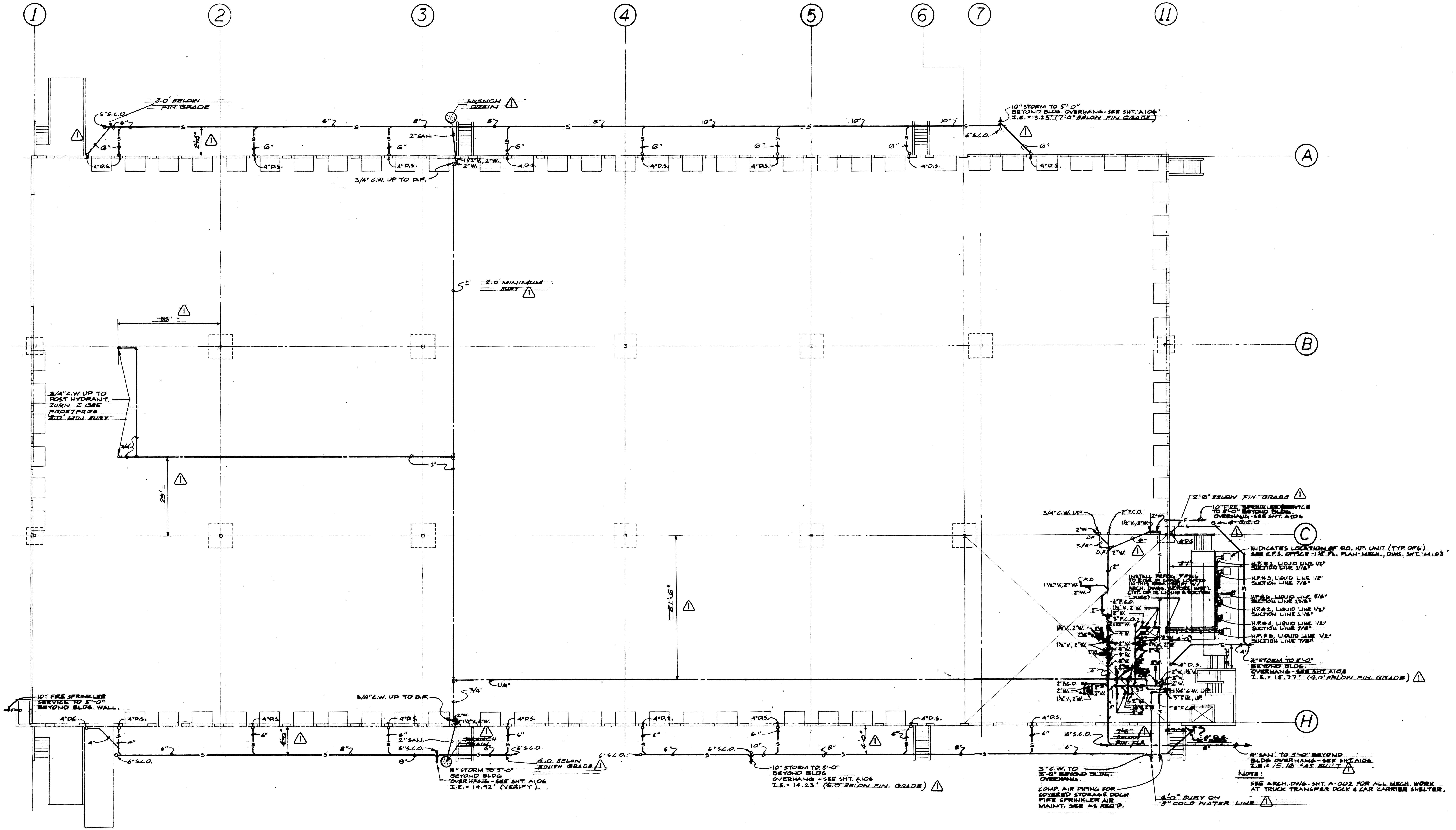
CAR CARRIER SHELTER ~ FL. PLAN ~ ELEC.

SCALE ______

APPROVED
3/30/84 DATE
3/30/84 DATE

DRAWING NO. EP 3879-23 E401

SHEET 71 OF 71



WAREHOUSE ~ FOUNDATION PLAN

SCALE: 1/16" = 1'-0"

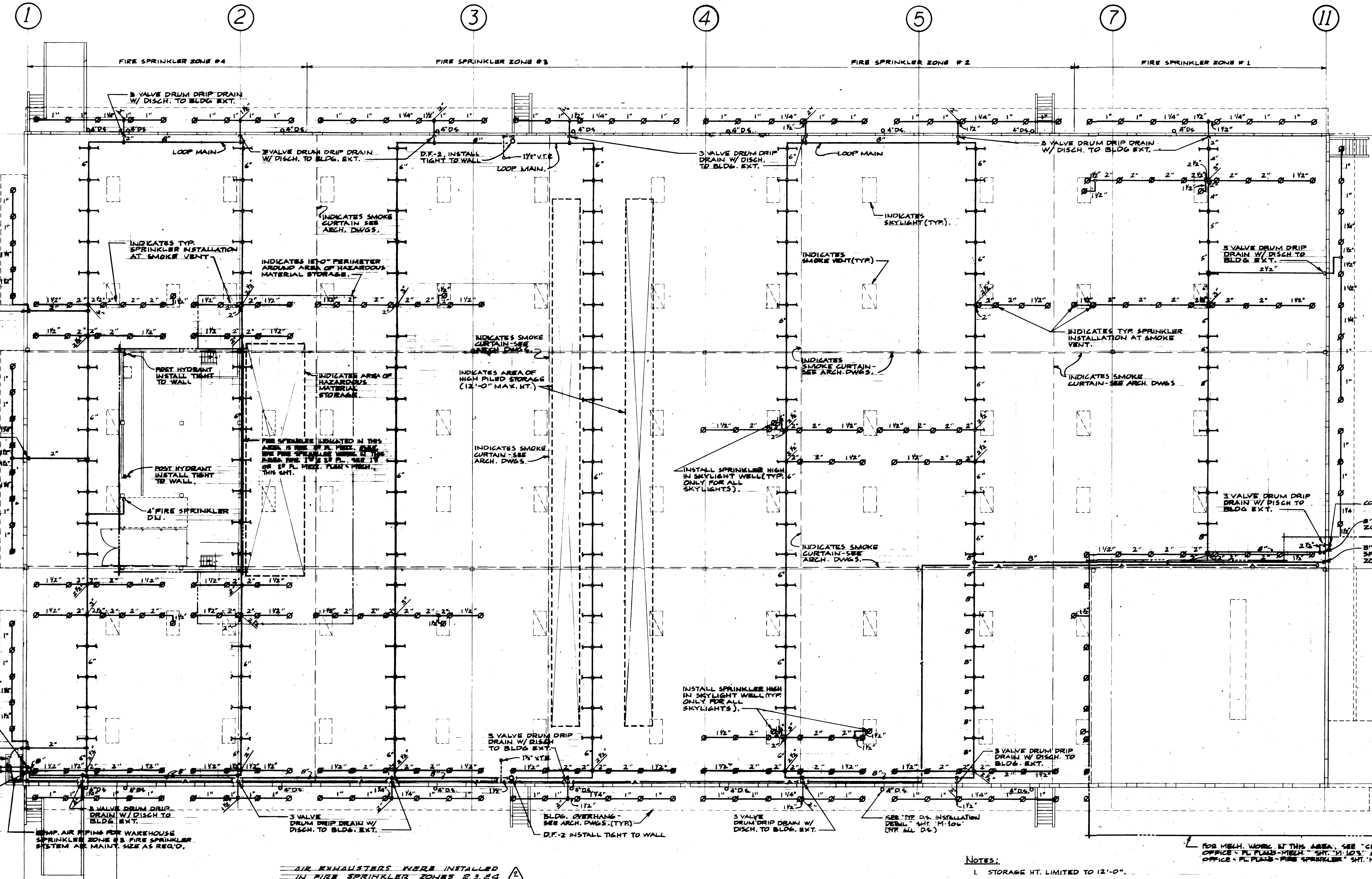
MARK	REVISION	BY	APP.	DATE
1	REVISED TO AS-BUILT	R.J.S.		6-7-85

PORT OF TACOMA

TACOMA TERMINALS, INC.

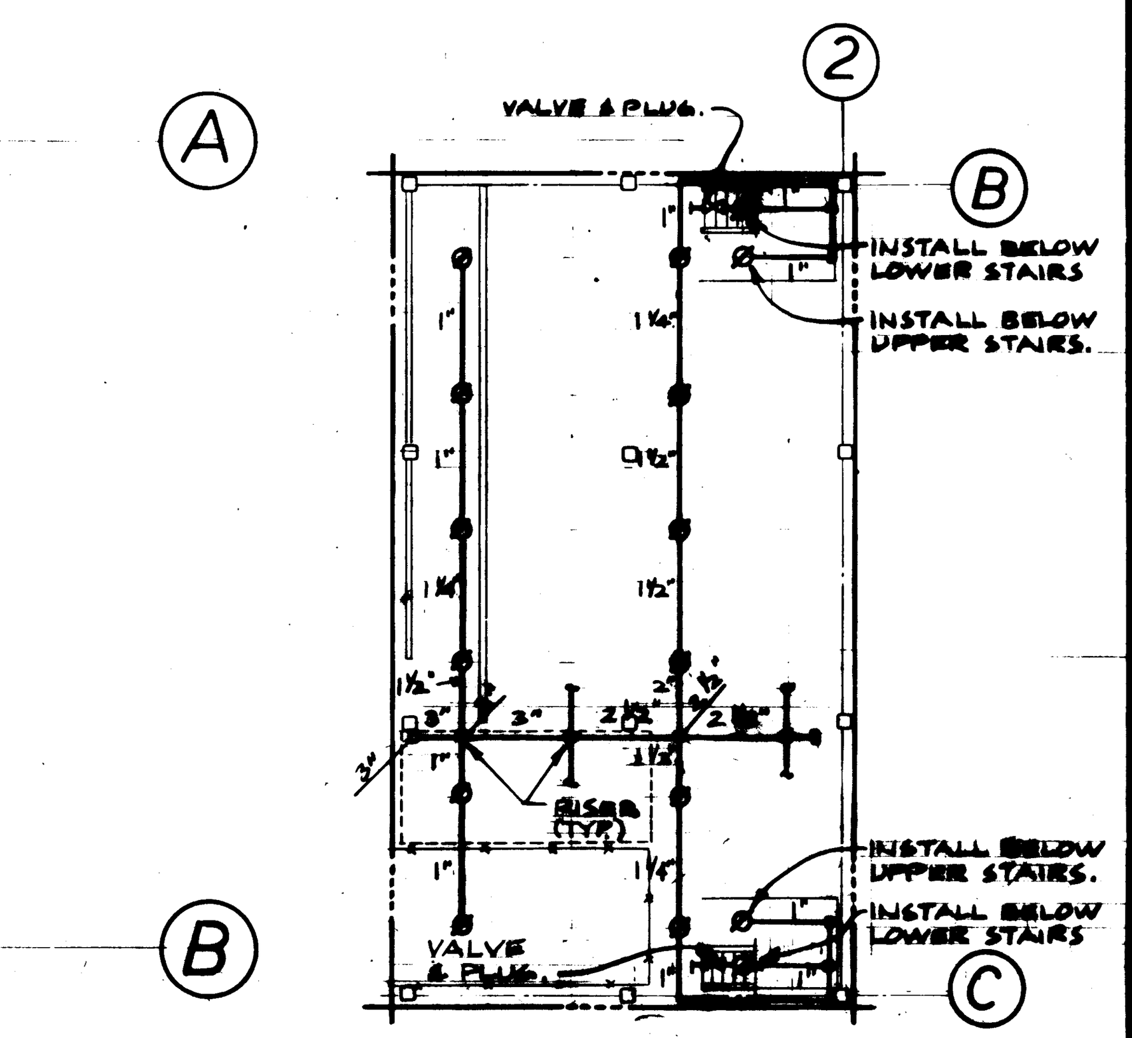
WAREHOUSE - FOUNDATION PLAN

DRAWN ____ DATE ____
CHECKED ____ DATE ____
CHECKED ____ DATE ____
CONT. NO. 567
FIELD BOOK (S) ____
SCALE ____
APPROVED: PROJECT MANAGER, DATE 3/30/84; DATE 3/30/84
DRAWING NO. EP 3879-23 [illegible]
SHEET 53 OF 71



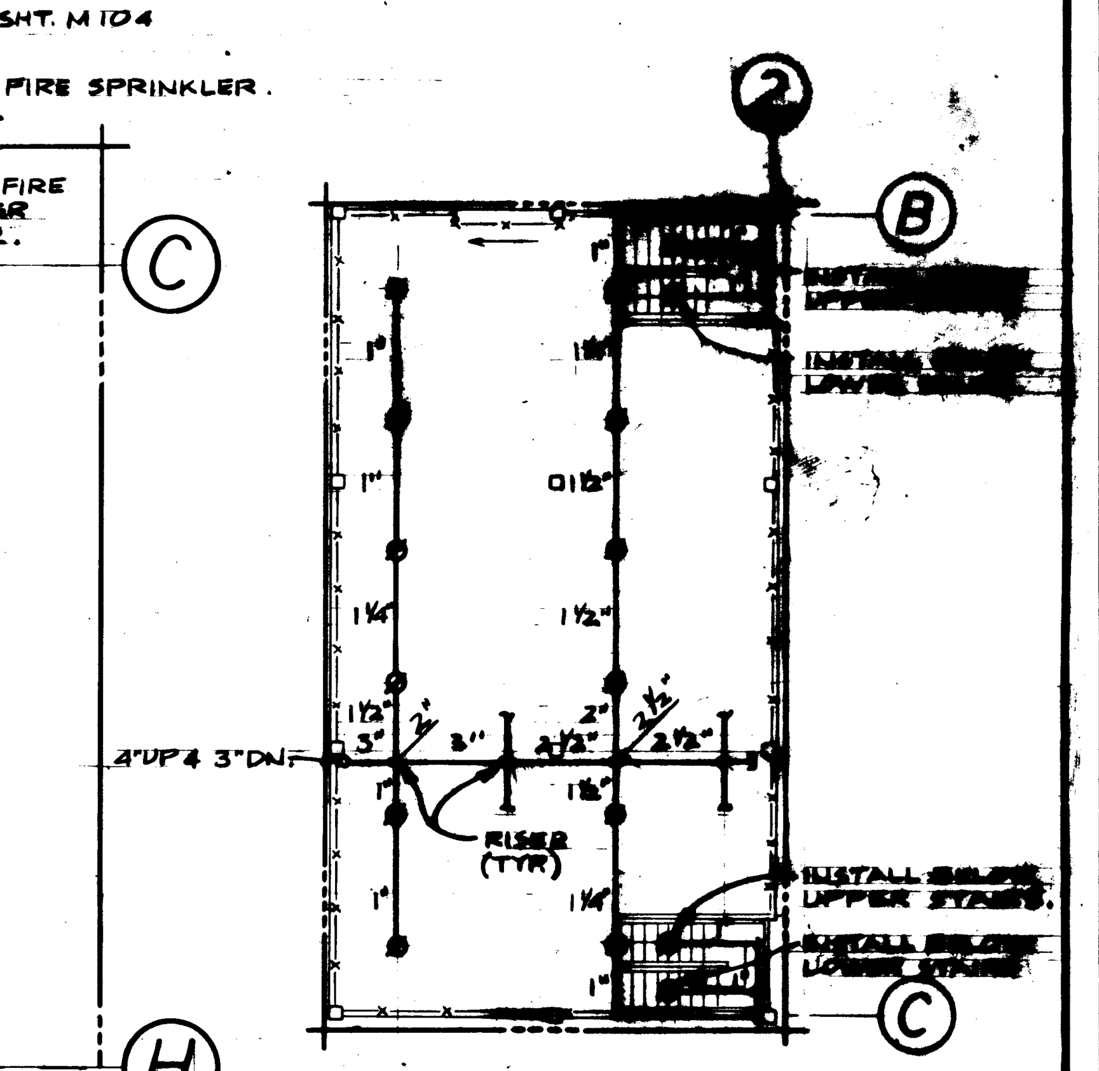
WAREHOUSE ~ FLOOR PLAN ~ MECH.

SCALE: 1/16" = 1'-0"



1ST FLOOR MEZZ. PLAN -MECH.

SCALE 1/8" = 1'-0"



2ND FLOOR MEZZ. PLAN -MECH.

SCALE 1/8" = 1'-0"

NOTES:

1. STORAGE HT. LIMITED TO 12'-0".
2. THE FIRE SPRINKLER SYSTEM DESIGN SHALL BE HYDRAULICALLY CALCULATED FOR DESITY OF .39 G.P.M./SQ.FT. OVER THE MOST REMOTE 6000 SQ. FT.
3. ROUTING OF SPRINKLER PIPING & LOCATION OF SPRINKLER HEADS SHALL BE AS INDICATED UNLESS SPECIFIC APPROVAL TO DEVIATE FROM DWGS IS OBTAINED FROM THE ENGINEER OR AS REQ'D TO AVOID INTERFERENCE W/ OTHER WORK & AS REQ'D TO COMPLY W/ THE REQUIREMENTS OF THE APPROVING AGENCIES.
4. SPRINKLER MAINS SHALL BE INSTALLED IN JOIST SPACE.
5. PROVIDE PIPE SUPPORTS & EARTHQUAKE BRACING FOR FIRE SPRINKLER PIPING AS REQ'D BY ALL APPLICABLE CODES.
6. THE CONT'R SHALL ADJUST SPRINKLER INSTALLATION AS REQ'D TO COORDINATE SPRINKLER HEAD LOCATIONS W/ LOCATIONS OF SMOKE CURTAINS - INSTALLATION SHALL BE IN COMPLIANCE W/ APPLICABLE CODES.
7. SEE SHT. A-002 FOR MECH. WORK AT TRUCK TRANSFER DOCK & CAR CARRIER SHELTER.
8. AVAILABLE FIRE FLOW AT SPRINKLER SERVICE CONN. TO 10" UNDERGROUND LOOP MAIN 3000 G.P.M. TO ANY ONE OF FOUR (4) SPRINKLER ZONES & 1000 G.P.M. TO EA. OF TWO (2) FIRE HYDRANTS LOCATED EITHER SIDE OF SPRINKLER SERVICE CONN. TO 10" UNDERGROUND LOOP MAIN - SEE SITE DEVELOPMENT DWGS. STATIC PRESS. 104 P.S.I., RESIDUAL PRESS. 71 P.S.I. AT WEST SIDE OF WAREHOUSE & 70 P.S.I. AT EAST SIDE OF WAREHOUSE. VERIFY FIRE FLOW W/ WHITACRE ENGINEERS INC. OF TACOMA, WA. PH: 272-5144.
9. EXT. CANOPIES FIRE SPRINKLER SYSTEM DESIGN SHALL BE SIZED FOR ORDINARY HAZARD.

MARK	REVISION	BY	APP.	DATE
1.	MODIFY & ADD SIZES TO SPRINKLER SYSTEM			4/16/84
2	REVISED TO AS BUILT	R.I.S.		8.5.88

ADDENDUM # 1

DRAWN	
DATE	
CHECKED	
DATE	
CHECKED	
DATE	
CONT. NO. 557	
FIELD BOOK (S)	
APPROVED	3/30/84
DATE	3/30/84

PORT OF TACOMA

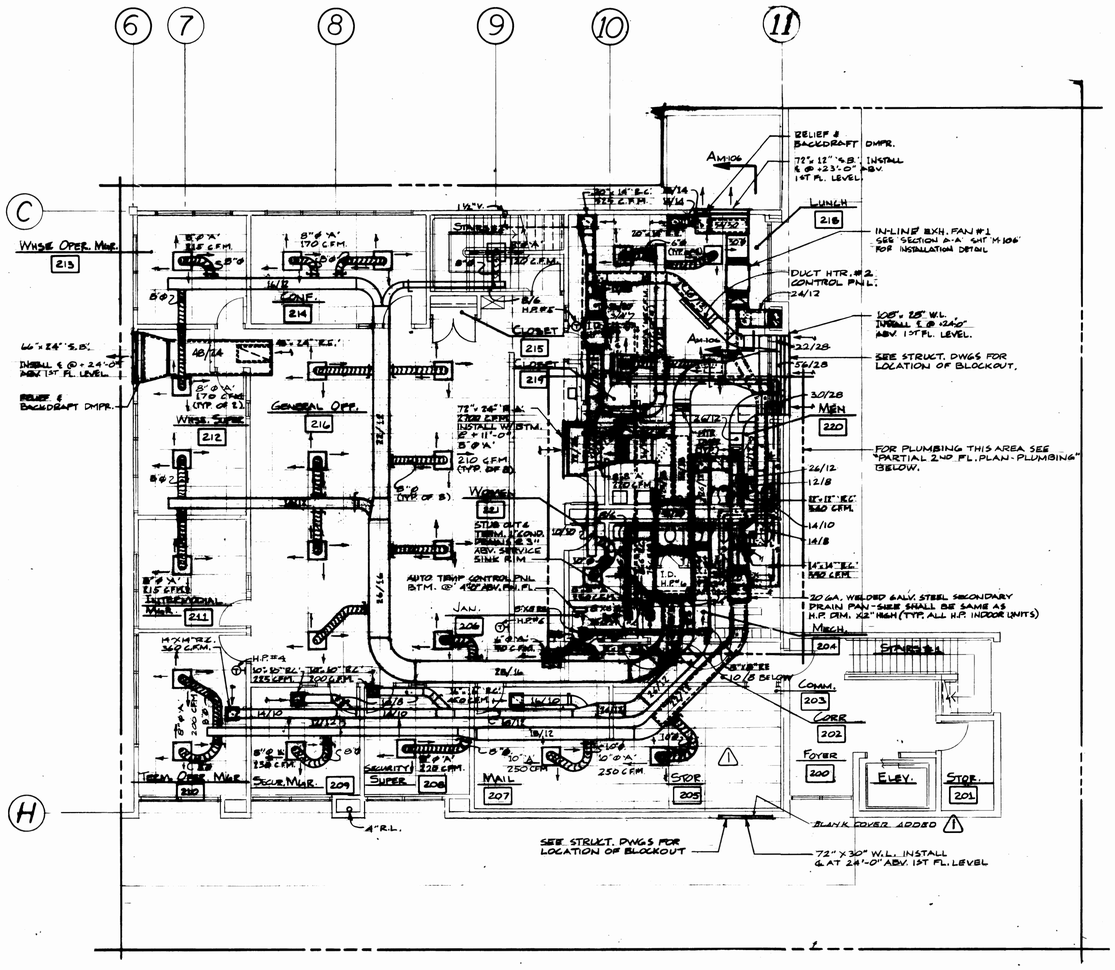
TACOMA TERMINALS, INC.

WAREHOUSE - FL. PLAN - MECH., 1ST FL. MEZZ. PLAN - MECH., & 2ND FL. MEZZ. PLAN - MECH.

SCALE

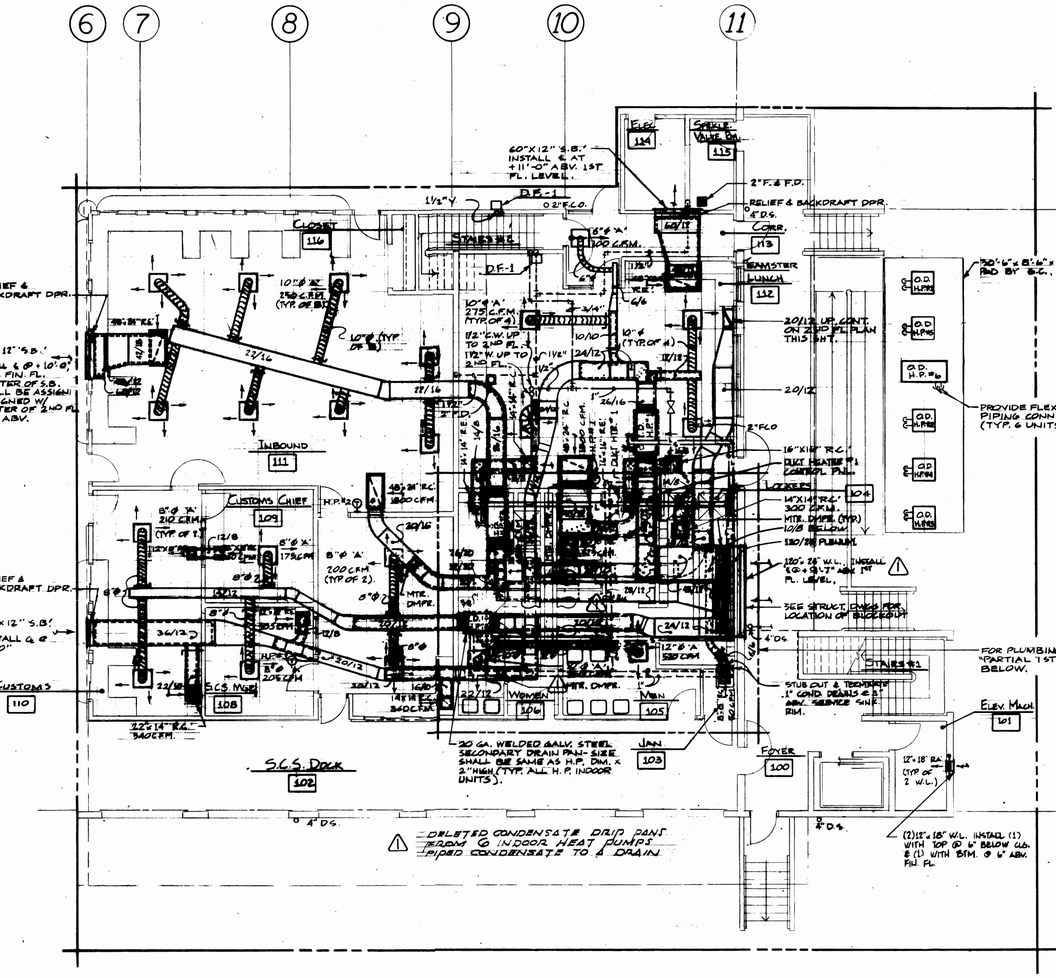
DRAWING NO. EP 5877-23

SHEET 54 OF



CFS OFFICE - 2ND FLOOR PLAN - MECH.

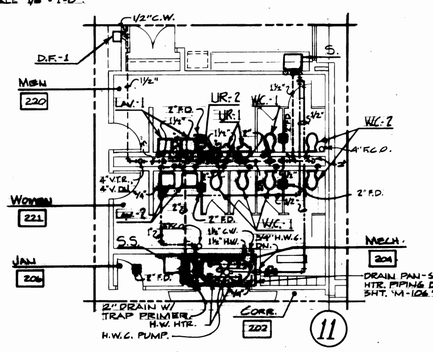
SCALE 1/8" = 1'-0"



CFS OFFICE - 1ST FLOOR PLAN - MECH.

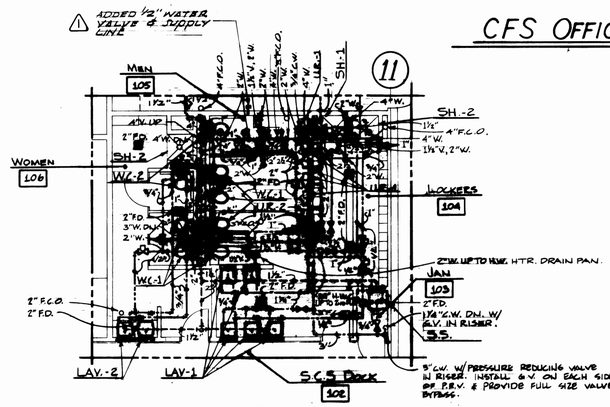
SCALE 1/8" = 1'-0"

NOTE:
SEE "WAREHOUSE - FOUNDATION PLAN", DWG SHT "M101" FOR ALL H.P. LIQ. & SUCT. SIZES.



PARTIAL 2ND FLOOR PLAN - PLUMBING

SCALE 1/8" = 1'-0"



PARTIAL 1ST FLOOR PLAN - PL'G

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

NOTE:
SEE "WAREHOUSE - FOUNDATION PLAN", DWG SHT "M101" FOR ALL H.P. LIQ. & SUCT. SIZES.

ALLEN V. OSTEN STATE OF WASHINGTON PROFESSIONAL ENGINEER

Shelton Engineers, Inc. Consulting Engineers
51 University, Suite 301 Seattle, WA 98101 (206) 682-4116
950 Bk. Pioneer, Suite 301 Tacoma, WA 98402 (206) 383-9767

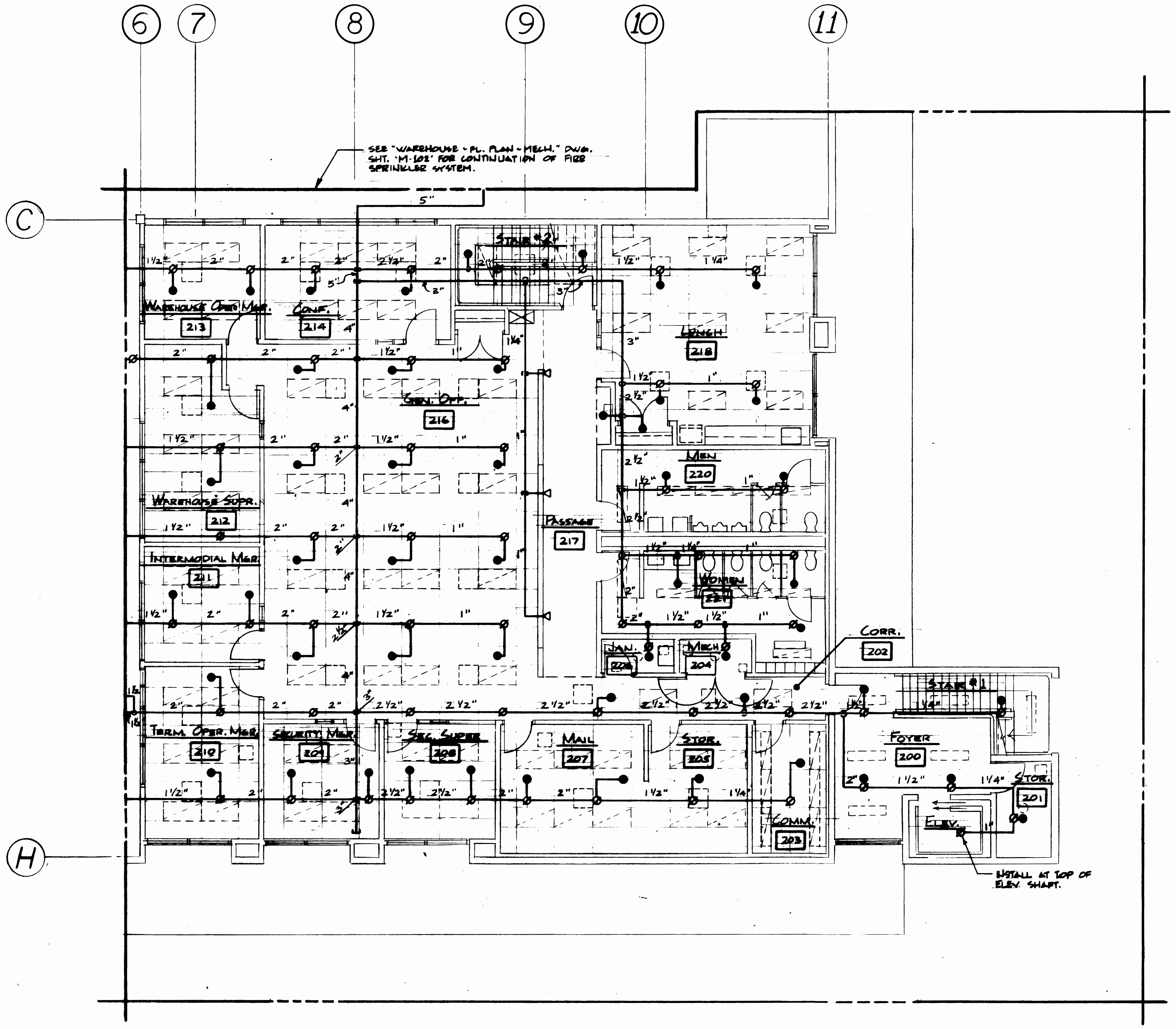
MARK	REVISION	BY	APP.	DATE
1	REVISED TO AS BUILT	R.J.S.		6-6-85

DRAWN ____ DATE ____
CHECKED ____ DATE ____
CHECKED ____ DATE ____
CONT. NO. 557
FIELD BOOK (S) ____

PORT OF TACOMA

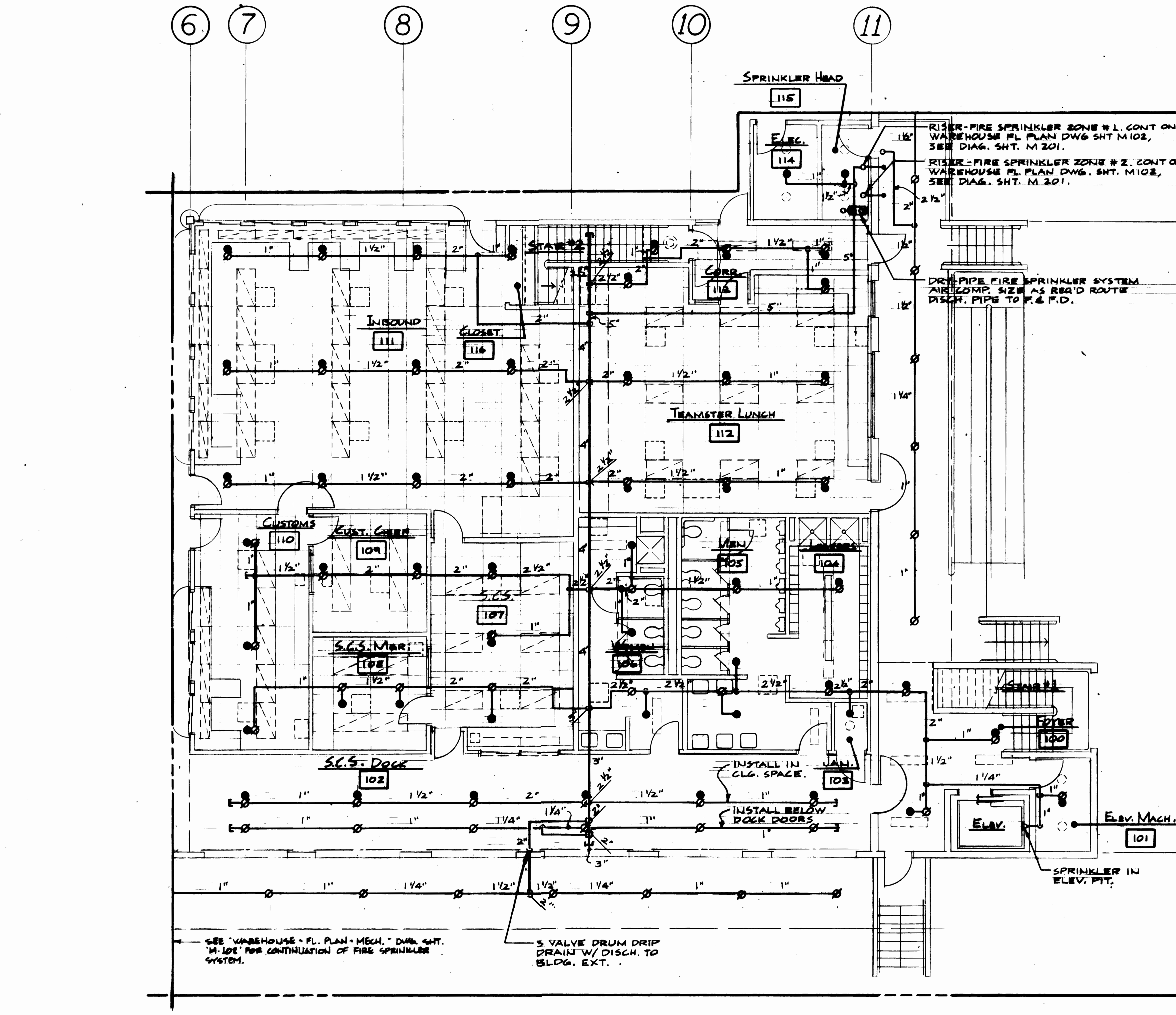
TACOMA TERMINALS, INC.
CFS OFFICE - 1ST FL. PLAN - MECH., CFS OFFICE - 2ND FL. PLAN - MECH., PART. 1ST FL. PLAN - PLG., & PART. 2ND FL. PLAN - PLG.

SCALE ____
APPROVED ____ DATE 3/30/84
PROJECT MANAGER
CHIEF ENGINEER ____ DATE 3/22/84
DRAWING NO. EP 5879-73 M102
SHEET 35 OF 71



CFS OFFICE ~ 2ND FLOOR PLAN ~ FIRE SPRINKLER

SCALE 1/8" = 1'-0"



CFS OFFICE ~ 1ST FLOOR PLAN ~ FIRE SPRINKLER

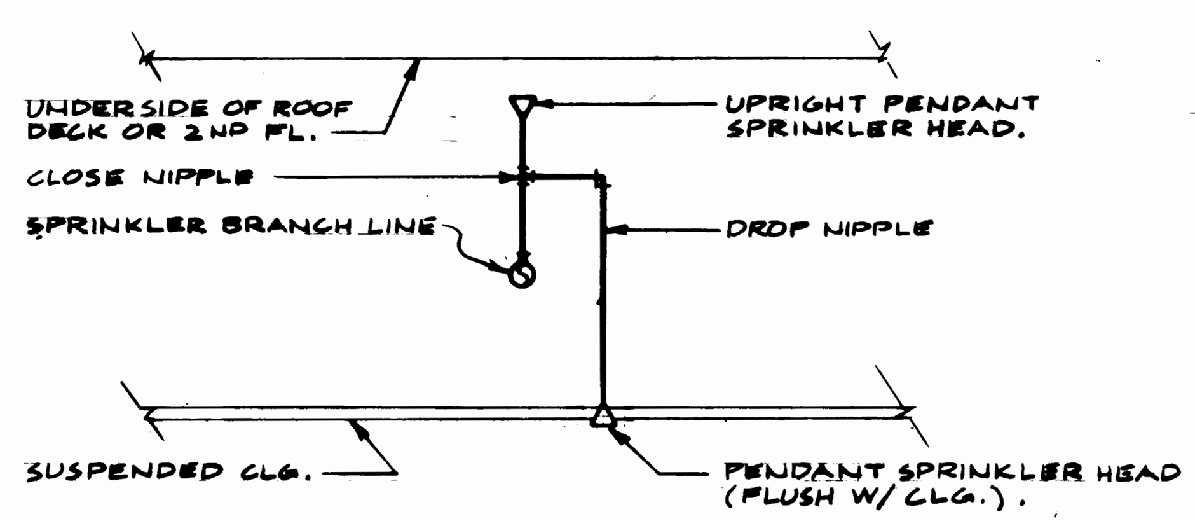
SCALE 1/8" = 1'-0"

NOTES:

1. ROUTING OF SPRINKLER PIPING & LOCATION OF SPRINKLER HEADS SHALL BE AS INDICATED UNLESS SPECIFIC APPROVAL TO DEVIATE FROM DWGS IS OBTAINED FROM THE ENGINEER OR AS REQ'D TO AVOID INTERFERENCE W/ OTHER WORK & AS REQ'D TO COMPLY W/ THE REQUIREMENTS OF THE APPROVING AGENCIES.
2. EXT. CANOPIES FIRE SPRINKLER SYSTEM DESIGN SHALL BE SIZED FOR ORDINARY HAZARD.

FIRE SPRINKLER SYMBOLS

SYMBOL	DESCRIPTION
⌀	UPRIGHT PENDANT SPRINKLER HEAD
●	PENDANT SPRINKLER HEAD
◀	EXPOSED SIDEWALL SPRINKLER HEAD
◁	SIDEWALL SPRINKLER HEAD
—●	INDICATOR VALVE



RETURN BEND PIPING DIAGRAM

NOT TO SCALE

MARK	REVISION	BY	APP.	DATE
1.	MODIFY & ADD SIZES TO SPRINKLER SYSTEM			4/16/84
2	REVISED TO AS-BUILT	R.J.S		6-4-85

ADDENDUM # 1

PORT OF TACOMA

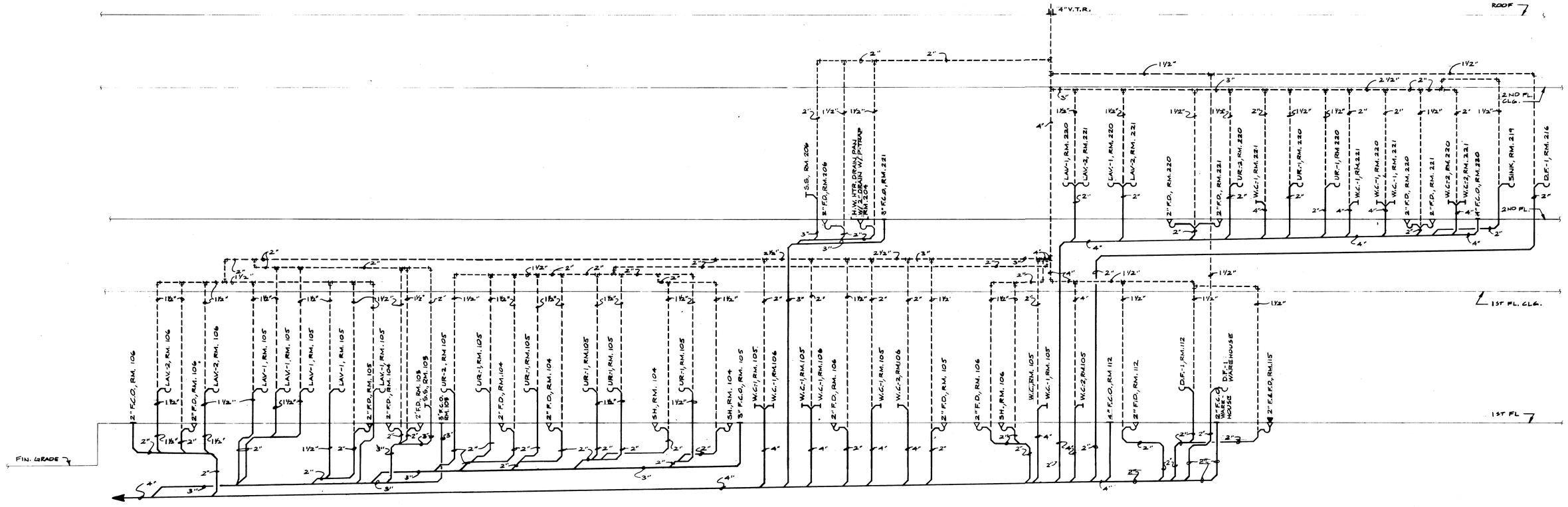
TACOMA TERMINALS, INC.
CFS OFFICE - 1ST FL. PLAN - FIRE SPRINKLER,
CFS OFFICE - 2ND FL. PLAN - FIRE SPRINKLER

DRAWN ______ DATE ______
CHECKED ______ DATE ______
CHECKED ______ DATE ______
CONT. NO. 557
FIELD BOOK (S) ______
SCALE ______

APPROVED: PROJECT MANAGER — DATE 3/30/84
CHIEF ENGINEER — DATE 3/30/84

DRAWING NO. EP [illegible]

SHEET 36 OF 71



PLUMBING RISER DIAGRAM

DIAGRAMATIC

PLUMBING FIXTURE SCHEDULE

SYMBOL	FIXTURE	C.W.	H.W.	W.	V.	REMARKS
W.C.-1	WATER CLOSET	1"	-	4"	2"	WALL HUNG
W.C.-2	WATER CLOSET	1"	-	4"	2"	WALL HUNG - H'CAPPED
UR.-1	URINAL	3/4"	-	2"	1 1/2"	WALL HUNG
UR.-2	URINAL	3/4"	-	2"	1 1/2"	WALL HUNG - H'CAPPED
LAV.-1	LAVATORY	1/2"	1/2"	1 1/2"	1 1/2"	WALL HUNG
LAV.-2	LAVATORY	1/2"	1/2"	1 1/2"	1 1/2"	COUNTER TOP
S.	SINK	1/2"	1/2"	1 1/2"	1 1/2"	COUNTER TOP SINGLE COMPT.
S.S.	SERVICE SINK	3/4"	3/4"	3"	2"	WALL
D.F.-1	DRINKING FOUNTAIN	1/2"	-	1 1/2"	1 1/2"	WALL HUNG
D.F.-2	DRINKING FOUNTAIN	1/2"	-	1 1/2"	1 1/2"	PEDESTAL
SH-1	SHOWER	1/2"	1/2"	2"	1 1/2"	
SH-2	SHOWER	1/2"	1/2"	2"	1 1/2"	

ALLEN V. OSTBY STATE OF WASHINGTON PROFESSIONAL ENGINEER

[redacted]

Shattuck Engineers, Inc.
Consulting Engineers
51 University, Suite 301
Seattle, WA 98101
(206) 625-4116
950 Bs. Fawcett, Suite 301
Tacoma, WA 98402
(206) 383-2787

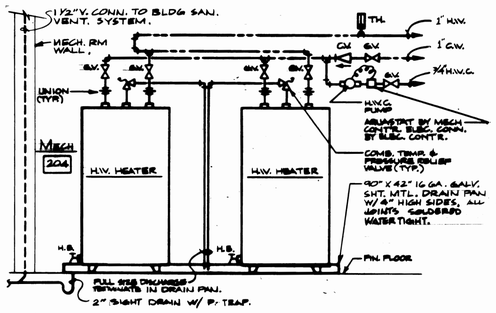
MARK	REVISION	BY	APP.	DATE
	NO AS-BUILT CHANGES	R.J.S		6-4-86

DRAWN
DATE
CHECKED
DATE
CHECKED
DATE
CONT. NO. 557

PORT OF TACOMA

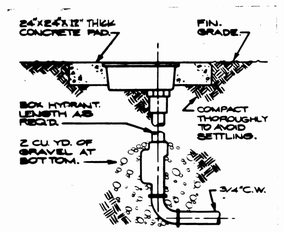
TACOMA TERMINALS, INC.
PLUMBING RISER DIAG., PLUMBING FIXTURE SCHEDULE.

FIELD BOOK (S)
SCALE
APPROVED
PROJECT MANAGER — DATE 3/30/84
CHIEF ENGINEER — DATE 3/30/84
DRAWING NO. EP 3879-23 M106
SHEET 37 OF 71



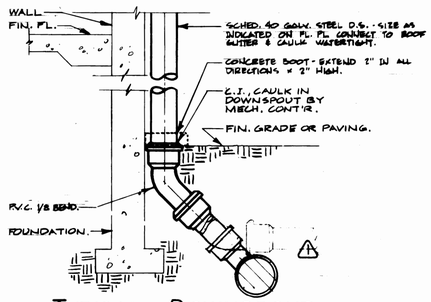
HOT WATER HEATEK PIPING DIAGRAM

DIAGRAMMATIC



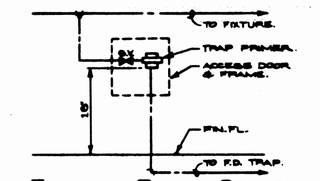
TYP. BOX HYDRANT INSTALLATION DETAIL

NOT TO SCALE



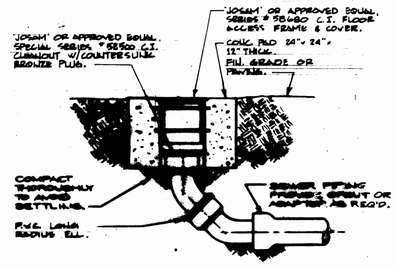
TYPICAL DOWNSPOUT CONNECTION DETAIL

NOT TO SCALE



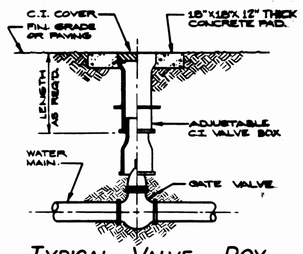
TYPICAL TRAP PRIMER PIPING DIAGRAM

DIAGRAMMATIC



TYPICAL SURFACE CLEANOUT DETAIL

NOT TO SCALE



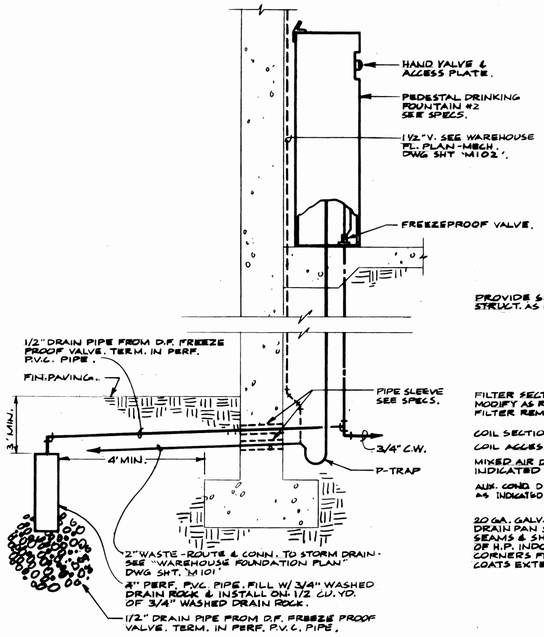
TYPICAL VALVE BOX INSTALLATION DETAIL

NOT TO SCALE

MECHANICAL SYMBOLS

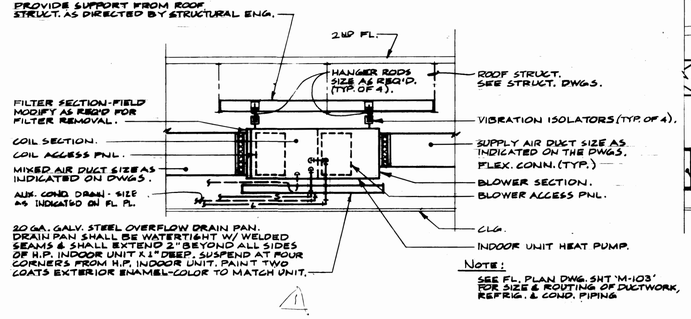
SYMBOL	ABBR.	DESCRIPTION
		BUTTERFLY VALVE
		BALL VALVE
	GV	GATE VALVE
		GLOBE VALVE
	CV	CHECK VALVE
	PRV	PRESSURE REDUCING VALVE
		BACKFLOW PREVENTER
		ASME RELIEF VALVE
		CONTROL VALVE
		3 WAY CONTROL VALVE
	BC	BALANCING COCK
		UNION
	BH	BOX HYDRANT
		GATE VALVE & VALVE BOX
	HB	HOSE BIBB
	WH	WALL HYDRANT FREEZEPROOF
		TRAP PRIMER
		CIRCULATING PUMP
	PG	PRESSURE GAUGE
	TH	THERMOMETER
		FLEXIBLE CONNECTION
	AAV	AUTOMATIC AIR VENT
	STR	STRAINER
	CW	COLD WATER PIPING
	HW	HOT WATER PIPING
	HWC	HOT WATER CIRCULATING
	V	SANITARY VENT PIPING
	SAN	SANITARY SEWER PIPING
	S	STORM SEWER PIPING
	R	HEATING RETURN PIPING
	F	HEATING FLOW PIPING
ACID		ACID RESISTANT PIPING
G		GAS PIPING
STM		STEAM PIPING
		CONDENSATE RETURN PIPING
F		FIRE MAIN

SYMBOL	ABBR.	DESCRIPTION
FOS		FUEL OIL SUPPLY
FOR		FUEL OIL RETURN
CWS		CHILLED WATER SUPPLY
CWR		CHILLED WATER RETURN
O_2		OXYGEN PIPING
N_2O		NITROUS OXIDE PIPING
A		COMPRESSED AIR PIPING
V	VAC	VACUUM PIPING
	FD	FLOOR DRAIN
	F & FD	FLOOR & FUNNEL DRAIN
	FCO	FLOOR CLEAN OUT
	SCO	SURFACE CLEAN OUT
	CB	CATCH BASIN
	FH	FIRE HYDRANT
		THRUST BLOCK
	F & T	FLOAT & THERMOSTATIC TRAP
		BUCKET TRAP
		OXYGEN WALL OUTLET
		COMPRESSED AIR OUTLET
		SINGLE VACUUM WALL OUTLET
		DOUBLE VACUUM WALL OUTLET
	T'-STAT	ROOM THERMOSTAT - @ 5'-4" ABOVE FIN. FLOOR
		DUCT RISING-AIR FLOW DN.
		DUCT RISING AIR FLOW UP
		DUCT DROP-AIR FLOW DN.
		DUCT DROP-AIR FLOW UP
		SOUNDLINED DUCT
		FLEXIBLE DUCT
	TV	TURNING VANES
	VD	MANUAL VOLUME DAMPER
	F DPR	FIRE DAMPER
	O.D.	OUTDOOR
	I.D.	INDOOR



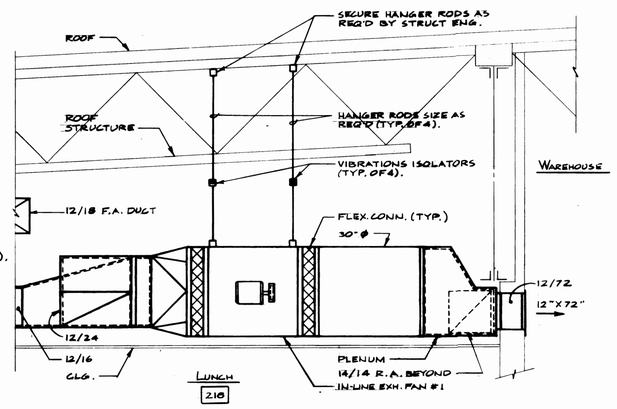
DRINKING FOUNTAIN #2 INSTALLATION DETAIL

NOT TO SCALE



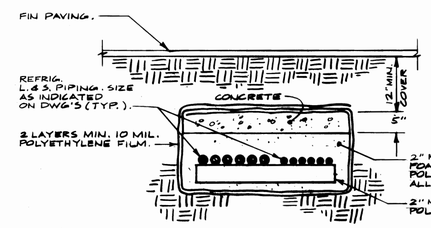
TYP. INDOOR HEAT PUMP INSTALLATION DETAIL

NOT TO SCALE



SECTION 'A-A'

NOT TO SCALE



UNDERGROUND REFRIGERANT PIPING INSTALLATION DETAIL

NOT TO SCALE:

ALBERT V. CARLSON — STATE OF WASHINGTON — PROFESSIONAL ENGINEER

Shelton Engineers, Inc.
Consulting Engineers
51 University, Suite 301
Seattle, WA 98101
(206) 622-4116
900 So. Fawcett, Suite 301
Tacoma, WA 98402
(206) 383-2787

MARK	REVISION	BY	APP.	DATE
A	REVISED TO AS-BUILT	A.J.S		6-6-84

DRAWN
DATE
CHECKED
DATE
CHECKED
DATE
CONT. NO. 557

PORT OF TACOMA

TACOMA TERMINALS, INC.

MECH. SYMBOLS, DETAILS, DIAGRAMS & SECTIONS

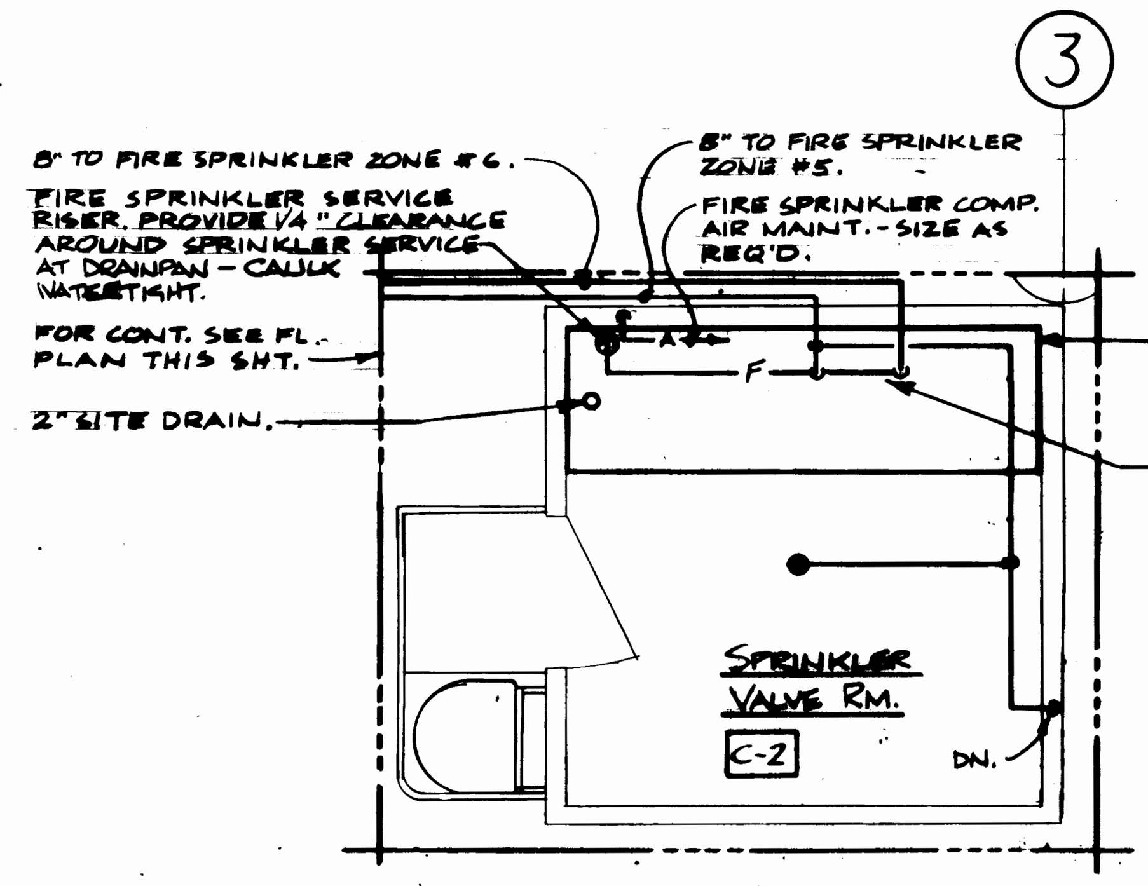
FIELD BOOK (S)

SCALE

APPROVED — PROJECT MANAGER — DATE 3/30/84
APPROVED — CHIEF ENGINEER — DATE 3/30/84

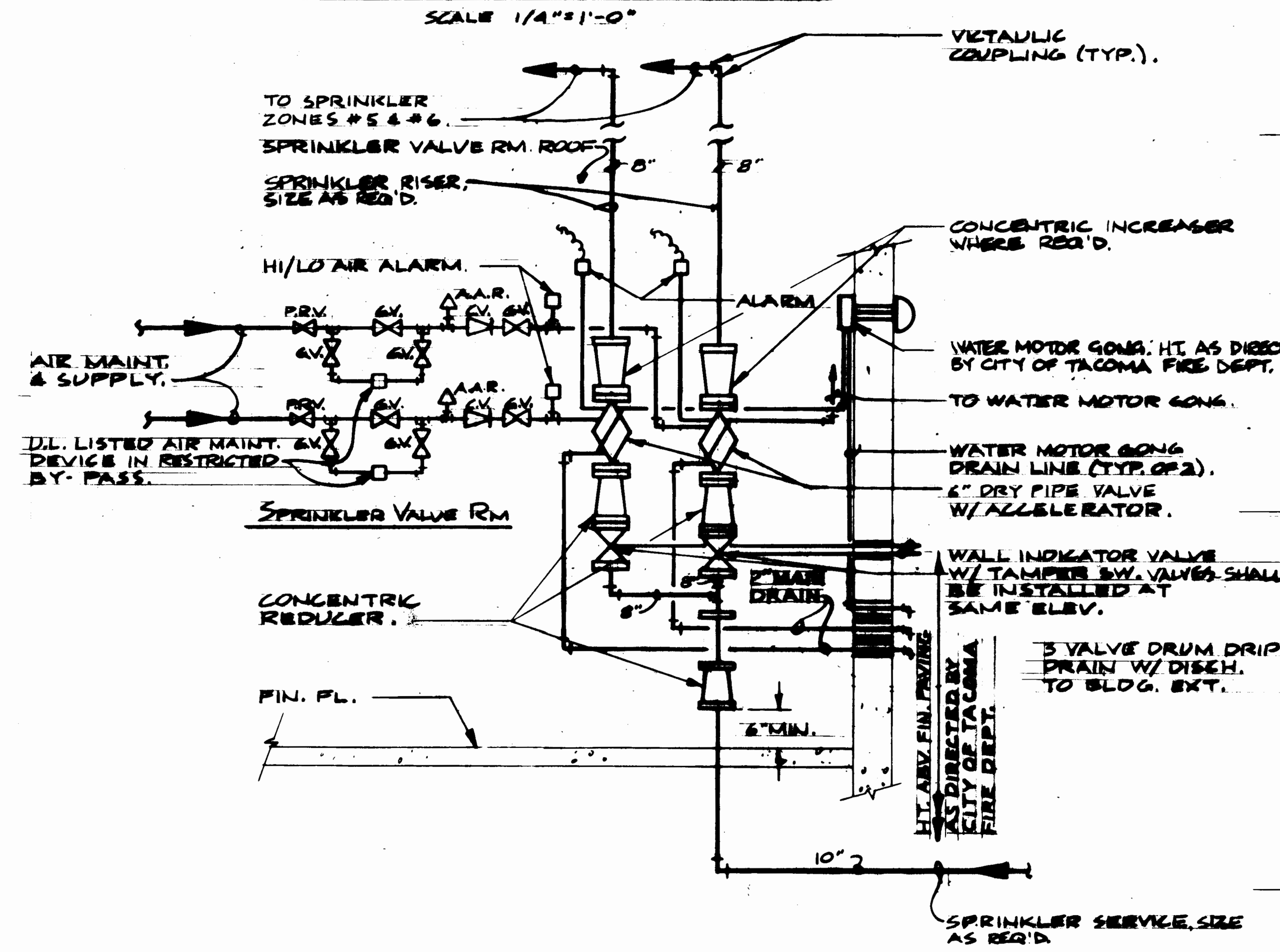
DRAWING NO. EP 3879-23 M106

SHEET 38 OF 71



FIRE SPRINKLER DRY-PIPE VALVE ROOM FLOOR PLAN~MECH.

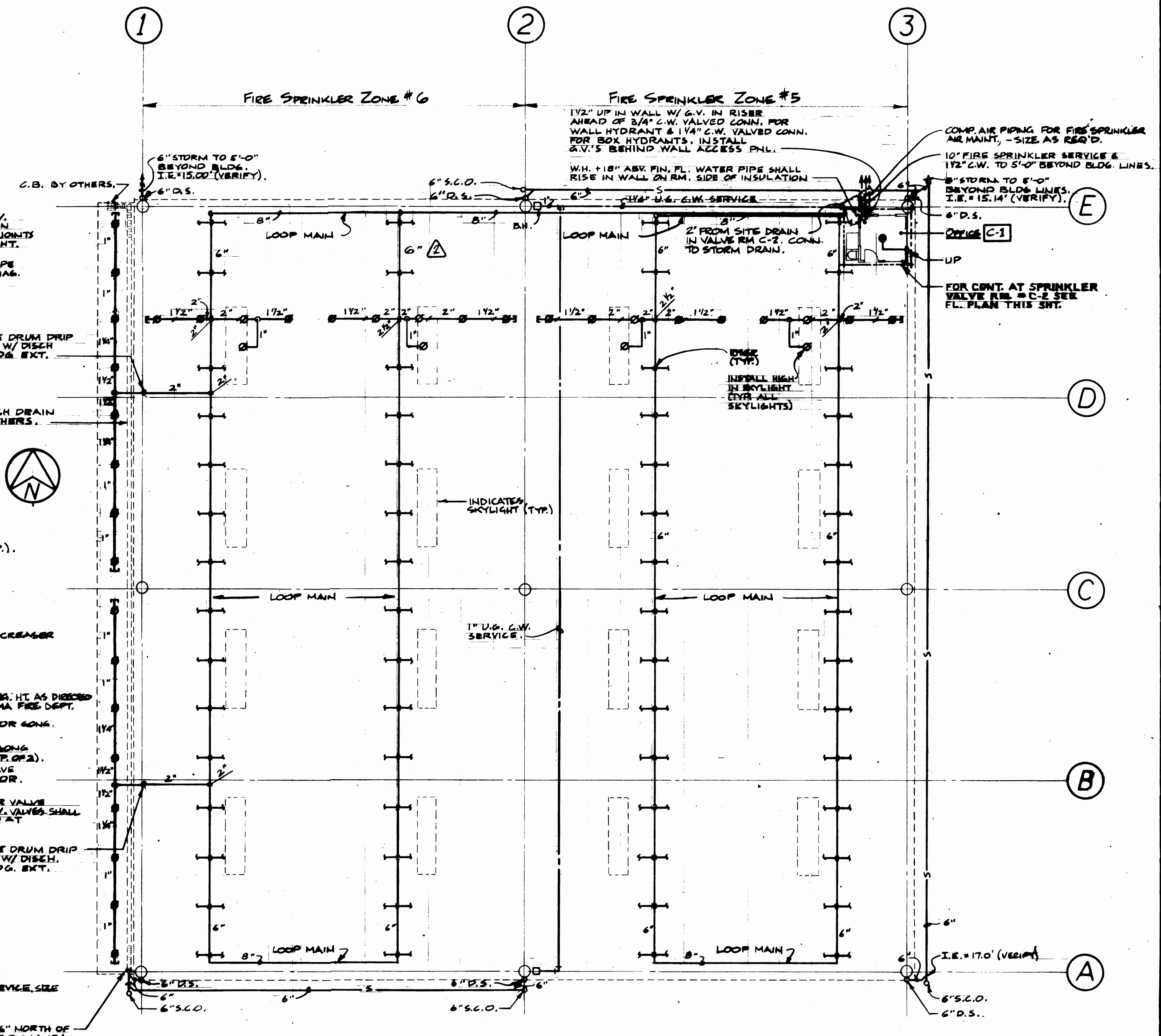
SCALE 1/4"=1'-0"



SPRINKLER RISER DIAGRAM

DIAGRAMMATIC

~~NOTE: SEE TROJAN FIRE PROTECTION CO. SHOP DRAWINGS FOR FINAL VALVE ROOM CONFIGURATION~~ 2



COVERED STORAGE DOCK FLOOR PLAN~MECH.

SCALE 1/16"=1'-0"

NOTES:

1. STORAGE HT. LIMITED TO 12'-0"
2. THE FIRE SPRINKLER SYSTEM DESIGN SHALL BE HYDRAULICALLY CALCULATED FOR A DENSITY OF .39 GPM/SQ.FT. OVER THE MOST REMOTE 6000 SQ.FT.
3. ROUTING OF SPRINKLER PIPING & LOCATION OF SPRINKLER HEADS SHALL BE AS INDICATED UNLESS SPECIFIC APPROVAL TO DEVIATE FROM DWGS IS OBTAINED FROM THE ENGINEER OR AS REQ'D TO AVOID INTERFERENCE W/ OTHER WORK & AS REQ'D TO COMPLY W/ THE REQUIREMENTS OF THE APPROVING AGENCIES.
4. AVAILABLE FIRE FLOW AT SPRINKLER SERVICE CONN. TO 10" UNDERGROUND LOOP MAIN 3000 G.P.M. TO ANY ONE OF TWO (2) SPRINKLER ZONES & 1000 G.P.M. TO EA. OF TWO (2) FIRE HYDRANTS LOCATED EITHER SIDE OF SPRINKLER SERVICE CONN. TO 10" UNDERGROUND LOOP MAIN - SEE SITE DEVELOPMENT DWGS. STATIC PRESS. 104 P.S.I. RESIDUAL PRESS. 70 P.S.I. VERIFY FIRE FLOW W/ WHITACRE ENGINEERS INC. OF TACOMA, WA. PH: 272-5144.
5. EXT. CANOPIES FIRE SPRINKLER SYSTEM DESIGN SHALL BE SIZED FOR ORDINARY HAZARD.

ADDENDUM # 1

MARK	REVISION	BY	APP.	DATE
1.	MODIFY & ADD SIZES TO SPRINKLER SYSTEM & ADD TWO (2) BOX HYDRANTS & C.W. SERVICE.			4/16/84
2	REVISED TO AS BUILT	R.S		

DRAWN ____ DATE ____
CHECKED ____ DATE ____
CHECKED ____ DATE ____
CONT. NO. 557

PORT OF TACOMA

TACOMA TERMINALS, INC.

COVERED STORAGE DOCK FL. PLAN-MECH., FIRE SPRINKLER DRY-PIPE VALVE RM. FL. PLAN-MECH., & DETAILS.

FIELD BOOK (S) ____
APPROVED ____ PROJECT MANAGER ____ DATE 3/30/84
SCALE ____
DRAWING NO. SP 3879-23 M7
SHEET 55 OF

GENERAL NOTES

These General Notes are to be used as a supplement to the Specifications. Any discrepancies found among the Drawings, the Specifications, these General Notes and the site conditions shall be reported to the Engineer, who shall correct such error or omission in writing. Any work done by the Contractor after discovery of such error shall be done at the Contractor's risk. The Contractor shall verify and coordinate dimensions among all drawings prior to proceeding with any work or fabrication. The Contractor is responsible for all bracing and shoring during construction.

Standards

All methods, materials and workmanship shall conform to the 1979 Uniform Building Code (UBC) as amended and adopted by the City of Tacoma.

DESIGN CRITERIA

Vertical Loads:

	Slab on Grade	Roof	Office Floor	Storage Area
Dead Load	Actual	Actual	Actual	Actual
Live Load	500 PSF	25 PSF	50 PSF	125 PSF
Partition Load	---	---	20 PSF	---

Lateral Forces

1. Lateral forces are transmitted by diaphragm action of roof and floors to shear walls. Loads are then transferred to foundation by shear wall action where ultimate displacement is resisted by passive pressure of earth and/or sliding friction. Overturning is resisted by dead load of the structure.

2. Wind: 25 PSF "Wind-Pressure-Map" Area (20 PSF for Height < 30'-0").
   Uplift - Enclosed Roof Areas: 75% of wind load less 2/3 design dead load.
   Overhangs and Partly Enclosed Areas: 125% of wind load less 2/3 design dead load.

3. Seismic: Zone 3 per 1979 UBC. V=ZIKCSW, V=Base Shear, Z=.75, I=1.00, K=1.33, CS=.14, W=Dead Load of Portion of Building.

Soil Bearing Pressure: 3500 PSF

All footings shall bear on firm, structural backfill. Areas over-excavated shall be backfilled with lean concrete (f'c=2000 PSI) or "Structural Backfill". Areas designated "Structural Backfill" shall be filled with approved well-graded bankrun material. Maximum size of rock 4"-6". Frozen soil, organic material and deleterious matter not allowed. Compact to at least 95% of its maximum density as determined by ASTM D-1557. Contractor shall exercise extreme care during excavation to avoid damage to buried lines, tanks, and other concealed items. Upon discovery, do not proceed with work until receiving written instructions from Engineer. A competent representative of the Owner shall inspect all footing excavations for suitability of bearing surfaces prior to placement of reinforcing steel. Provide drainage around all work to avoid water-softened footings.

CONCRETE

Concrete: Shall be made with Portland Cement ASTM C-150 Type I or Type I-II, coarse and fine aggregate ASTM C-33, water clean and potable, and shall be ready-mixed per ASTM C-94 unless otherwise approved. Add to all concrete exposed to weather an air entraining agent to attain 5% + 1-1/2% entrained air, by volume, conforming to ASTM C-260. No aluminum (conduit, miscellaneous items, etc.) shall be embedded in any concrete.

Materials

Item	Minimum f'c 28 Days	Normal Slump Inches* Maximum
Footings	3000	5
Tilt-Up Walls	4000	4
Slabs	4000	4
All Other Concrete	4000	4

*At Contractor's option, Contractor may use Master Builders Synergyzed Performance Systems or approved equal using Pozzolith admixtures to produce flowable concrete. Maximum slump shall not exceed 9". Master Builders concrete technician shall assist in determining proportions for SPS concrete and shall obtain approval of Engineer prior to employing this procedure.

Place concrete per ACI 304 and conform to ACI 604 (306) Winter Concreting and ACI 605 (305) for Hot Weather Concreting. Use interior mechanical vibrators with 7000 RPM minimum frequency. Do not over-vibrate. Concrete shall be poured monolithically between construction or expansion joints. Protect all freshly placed concrete from premature drying, excessive hot or cold temperature for seven days after pouring.* ~~Provide control joints at 10' o.c. maximum for slabs.~~ * Submit drawings with control joint pattern for Engineer's approval prior to placing.

* PROVIDE CONTROL JOINTS AS SHOWN ON FOUNDATION PLAN ⚠

PRECAST CONCRETE PANELS

Reinforcing shown on panel details is designed for forces occurring after panel is in place and tied to roof and floor diaphragms. Use strongbacks and extra reinforcing as required and directed by panel erector for erection purposes.

Panels drawn show typical locations of panel connections and additional reinforcing for most panel openings. NOT ALL embedded items and mechanical and electrical preparations are shown. Contractor shall coordinate penetrations with mechanical and electrical and reinforcing per detail 5/S116, or as directed by the Structural Engineer.

Submit shop drawings showing all panel dimensions, blockouts for openings, location of reinforcing steel, connections, inserts and all other embedded items for approval by Engineer.

Drypack Grout: Make from one part ASTM C-150 Type I Portland Cement, one part fine sand ASTM C-33, and one part "Embeco" by Master Builders or equal. Mix dry as can be worked, and pack solid to fill entire space under plates or shapes. Use "Embeco 636" for nonexposed work. Use "Master-flow 713" by Master Builders for exposed work.

Metal Reinforcement (Concrete & Masonry): All reinforcing shall conform to ASTM A-615, Grade 40 for #5 and smaller, Grade 60 for #6 and larger, Grade 40 for all welded bars. Detail, fabricate and place per ACI 315 and ACI 318. Splices shall be 24 bar diameters or 18" minimum (30 bar diameters, 18" minimum for masonry). Welded Wire Fabric shall conform to ASTM A-82 and A-185. Lap one full mesh on sides and ends. Place at mid-depth of slab, or as shown.

MASONRY

Hollow Concrete Masonry Units (CMU): Conform to ASTM C-90, minimum face shell thickness 1-1/2", Grade "N" half and half. Ultimate compressive strength f'm=1350 PSI minimum (f'm=1500 PSI solid grouted).

Mortar: Type S per UBC. Conform to ASTM C-270, f'm=1800 PSI minimum in 28 days.

Grout: Grout for pouring shall be a fluid consistency. Conform to ASTM C-476. f'c=2000 PSI minimum at 28 days.

STRUCTURAL STEEL

Detailing, Fabrication and Erection: Conform to the AISC "Manual of Steel Construction", 8th Edition.

Steel Shapes and Plates: ASTM A-36 (fy=36 ksi).

Steel Structural Tubing: ASTM A-500 (fy=46 ksi).

Machine Bolts (M.B.) and Anchor Bolts (A.B.): ASTM A-307.

Drilled-In Anchors: "Parabolt" by USM, Inc., Molly Fastener Division, or approved equal. Embed bolt into concrete or masonry 7 diameter minimum, except as shown.

Studs: "Nelson Studs" shall be by Nelson Stud Welding Division, Gregory Industries, Inc., or approved equal.

Concrete Anchors: Hooked or headed, smooth dowel stock, shop welded by certified welders.

Finish: Shop paint after fabrication with an approved primer (see Specifications). Galvanize after fabrication all miscellaneous steel exposed to weather or view.

Metal Joists: Shall conform to the Steel Joist Institute (SJI) and American Institute for Steel Construction (AISC) standards and shall be designed to carry the loads listed in the design criterion and those indicated on the framing plans. For special requirements, see structural drawings. Shop drawings shall be submitted bearing the stamp of a structural engineer licensed as such in the State of Washington.

Composite Floor Deck: Shall be "Formlok" (with depth and gauge as shown on Drawings) as manufactured by Verco Manufacturing, Inc., or approved equal. The floor units shall be formed from steel sheets conforming to ASTM A-446-72, and galvanized per ASTM A-525-71. Submit shop drawings showing layout and fastening pattern. All accessories shall be provided to complete the erection of the steel floor.

Metal Roof Deck: Shall contain the minimum properties shown on the structural drawings and specifications. The roof deck shall be formed from steel sheets conforming to ASTM A-611-70 or A-446-72, and shall be galvanized per ASTM A-525. The roof deck shall be placed on the supporting framework with a minimum end lap of two inches.

Light-Gauge Metal Framing: Framing members shall be of the type, size and gauge as shown on the Plans and shall be manufactured by the Milcor Division of INRYCO Inc., or approved equal. All 16 gauge and heavier galvanized structural members shall be formed from steel that meets the requirements of ASTM A-446-72, Grade D, minimum 50 ksi yield. All 18 gauge and lighter galvanized structural members shall be formed from steel that meets the requirements of ASTM A-446-72, Grade A, minimum 33 ksi yield. Bridging per manufacturer's requirements shall be in place prior to placing of any construction loads. All runs shall be rigidly anchored to end walls.

WELDING

Structural Steel: Weld in accordance with "Structural Welding Code" AWS D-1.1-76.

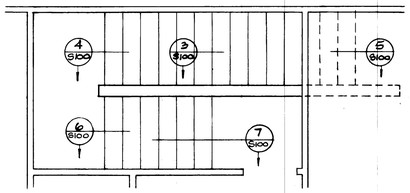
Reinforcing Steel: Weld in accordance with "Reinforcing Steel Welding Code" AWS D-12.1-75. Weld only with specific approval of the Engineer. In no case will a weld be made within 6 bar diameters of a "cold bend".

Certification: All welding shall be by certified welders.

Electrodes: Use E60 or E70 electrodes.

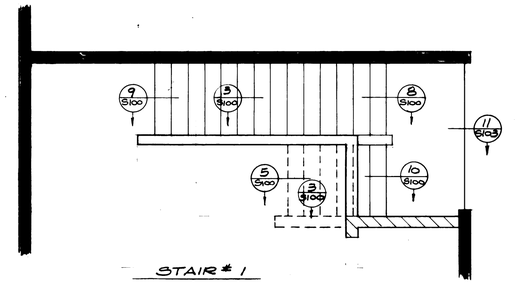
SUBSTITUTIONS

Substitutions may be allowed only if they meet the requirements of these General Notes and the Specifications, and if complete written engineering data for each condition required for this project is provided to the Project Engineer seven days prior to bid date and approved in written addenda by the Architect. Data is to indicate code basis by year, authority for stresses and stress increases, if any, and amount of expected deflection for flexural members under (1) total load and (2) live load only. All increased costs in mechanical, sprinkler, electrical or general installation and any architectural or structural redesign resulting from substitution will be borne by the General Contractor.



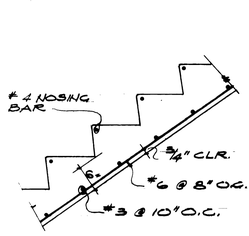
STAIR #2

PLAN 1/4"=1'-0" (1 S100)

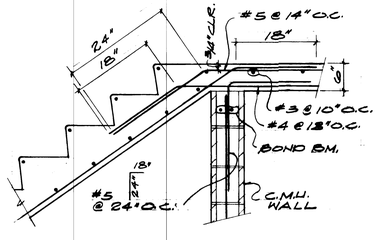


STAIR #1

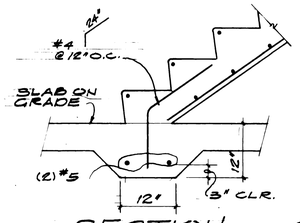
PLAN 1/4"=1'-0" (2 S100)



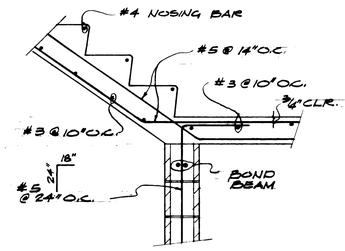
SECTION 3/4"=1'-0" (3 S100)



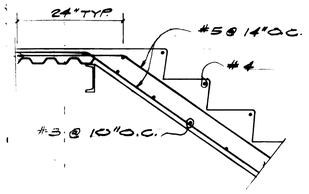
SECTION 3/4"=1'-0" (4 S100)



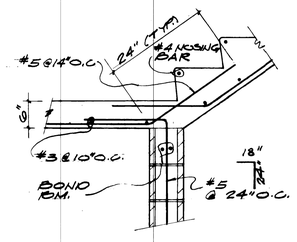
SECTION 3/4"=1'-0" (5 S100)



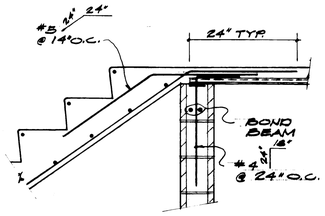
SECTION 3/4"=1'-0" (6 S100)



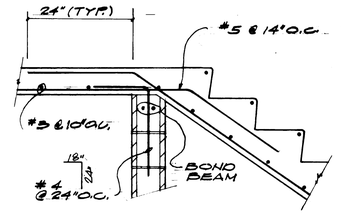
SECTION 3/4"=1'-0" (7 S100)



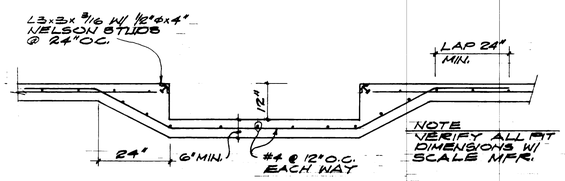
SECTION 3/4"=1'-0" (8 S100)



SECTION 3/4"=1'-0" (9 S100)

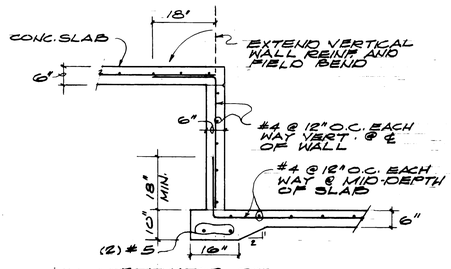


SECTION 3/4"=1'-0" (10 S100)



RECESS SLAB @ SCALE

SECTION 1/2"=1'-0" (11 S100)



ELEVATOR PIT

SECTION 1/2"=1'-0" (12 S100)

DRAWN N.N. DATE 3-22-84	PORT OF TACOMA			
CHECKED D.S. DATE 3-22-84	TACOMA TERMINALS, INC.			
CHECKED D.P. DATE 3-22-84	C.F.S. BUILDING			
CONT. NO. 557	GENERAL NOTES & STAIR DETAILS			
FIELD BOOK (S)			SCALE	
APPROVED PROJECT MANAGER	3/30/84 DATE		DRAWING NO.	EP 3879-23 -S1100
CHIEF ENGINEER	3/30/84 DATE		SHEET 16 OF 71	

MARK	REVISION	BY	APP.	DATE
⚠	REVISED TO AS-BUILT	R.J.S		5-31-85

Shelton Engineers, Inc. Consulting Engineers
51 University, Suite 301 Seattle, WA 98101 (206) 682-4116
660 So. Fawcett, Suite 301 Tacoma, WA 98402 (206) 383-4787

FOUNDATION PLAN

1/16" = 1'-0"

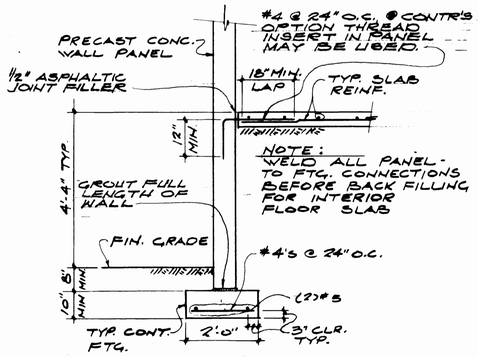
SLAB AND FOUNDATION NOTES

1. △ Indicates wall panel types. See Sheets S112 through S115 for panel elevations and details.
2. Denotes precast concrete wall panel over continuous concrete footing, see 1/S102.
3. "F-_____" Denotes size of spread footing in feet. For details and reinforcing see 8/S102.
4. Denotes CMU wall over continuous concrete footing, see 12/S104.
5. For details of pipes through concrete footings see 13/S102.
6. For details of exterior ramps and stairs see Sheet S104.
7. EXTERIOR CONCRETE PADS FOR HEAT PUMPS AND TRASH COMPACTOR SHALL BE 6" THICK WITH #4'S AT 12" O.C. EACH WAY AT MID-DEPTH OF SLAB.
8. DISTANCE FROM EXTERIOR WALL TO FIRST CONSTRUCTION JOINT SHALL BE 18'-0" MINIMUM.

MARK	REVISION	BY	APP.	DATE
1	REVISED TO AS-BUILT	R.J.S.		5.31.85

DRAWN N.N. DATE 3-22-84	PORT OF TACOMA
CHECKED D.S. DATE 3-22-84	TACOMA TERMINALS, INC.
CHECKED D.P. DATE 3-22-84	C.F.S. BUILDING FOUNDATION PLAN
CONT. NO. 557	
FIELD BOOK (S)	SCALE
APPROVED PROJECT MANAGER DATE 3/30/84	DRAWING NO. EP 3879-23 -S101
CHIEF ENGINEER DATE 3/30/84	SHEET 17 OF 71

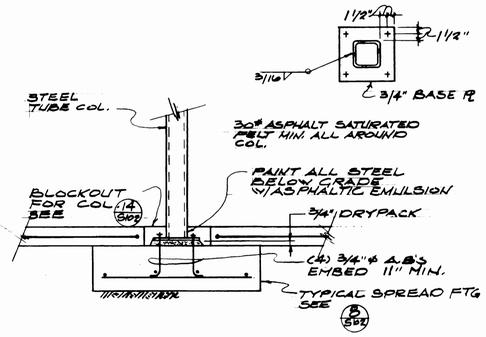
J-4585



TYP. CONT. FTG. & CONN. OF WALL PANEL TO FLOOR SLAB

SECTION

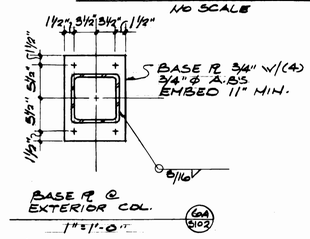
1/2" = 1'-0" (1/S102)

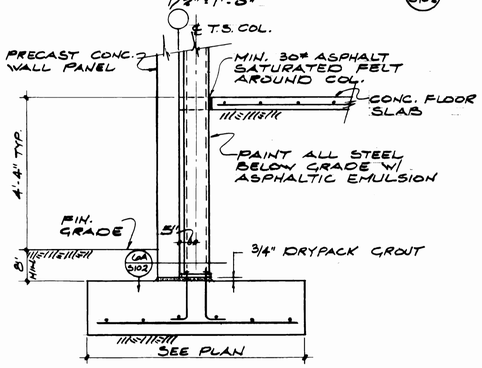


TYPICAL BASE FOR STEEL COL.

SECTION

NO SCALE (2/S102)

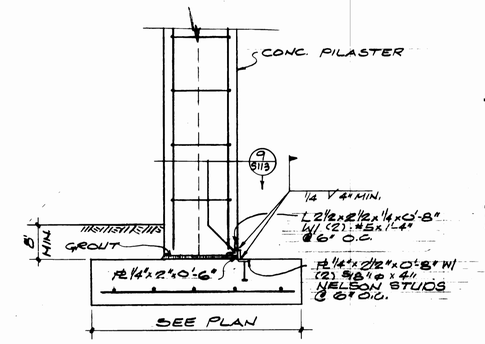




TYP. BASE FOR EXTERIOR STL. COL.

SECTION

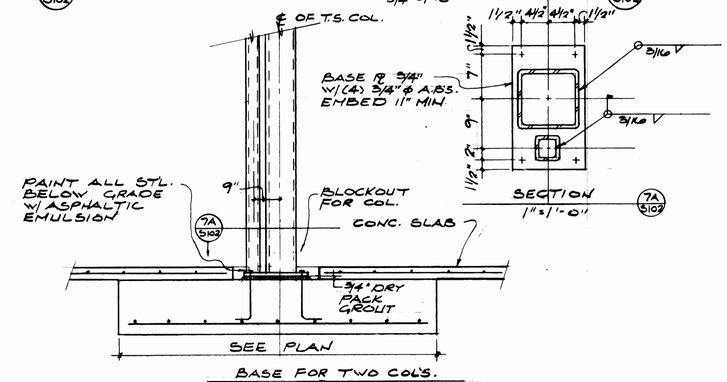
1/2" = 1'-0" (6/S102)



TYP PILASTER BASE DTL.

SECTION

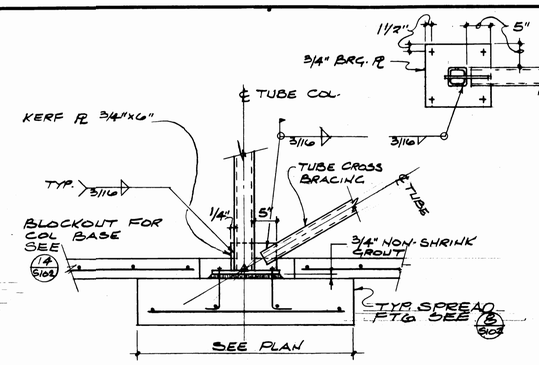
3/4" = 1'-0" (3/S102)



BASE FOR TWO COL'S.

SECTION

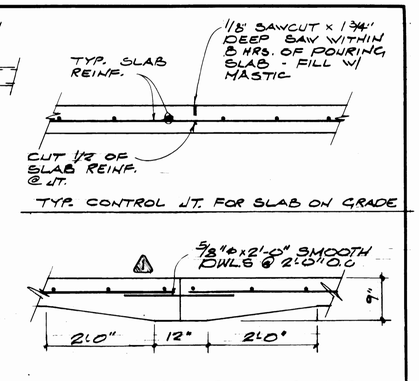
1/2" = 1'-0" (7/S102)



TYP. FDN DETAIL @ CROSS BRACING.

SECTION

3/4" = 1'-0" (4/S102)



TYP. CONSTRUCTION JT. FOR SLAB ON GRADE

SECTION

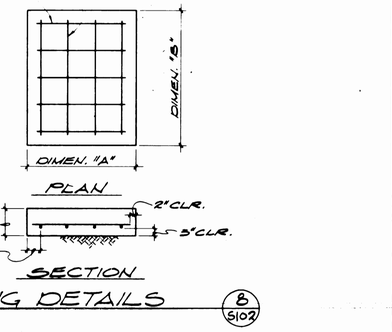
NO SCALE (5/S102)

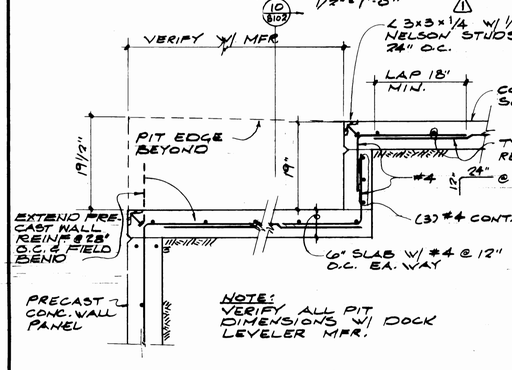
SPREAD FTG. SCHEDULE

MARK	DIMENSIONS "A"	DIMENSIONS "B"	REINF "t"	REINF "C"	REINF "D"	REMARKS
F2.0	2'-0"	2'-0"	10"	(3)#4	(3)#4	
F3.5	3'-6"	3'-6"	10"	(4)#6	(4)#6	
F4.0	4'-0"	4'-0"	12"	(5)#6	(5)#6	
F4.5	4'-6"	4'-6"	12"	(6)#6	(6)#6	
F5.0	5'-0"	5'-0"	14"	(7)#6	(7)#6	
F6.0	6'-0"	6'-0"	18"	(7)#7	(7)#7	
F6.5	6'-6"	6'-6"	18"	(9)#7	(9)#7	
F8.5	8'-6"	8'-6"	24"	(9)#9	(9)#9	
F9.0	9'-0"	9'-0"	26"	(10)#9	(10)#9	

REINF "C" PARALLEL TO DIM. "A" (EQUALLY SPACED)

REINF "D" PARALLEL TO DIM. "B" (EQUALLY SPACED)

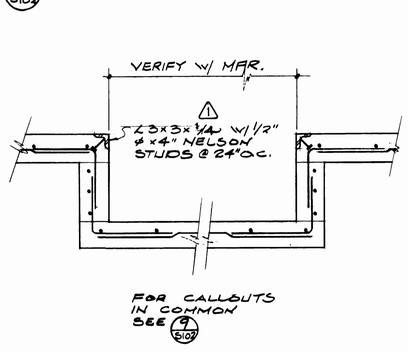




DOCK LEVELER PIT DETAIL

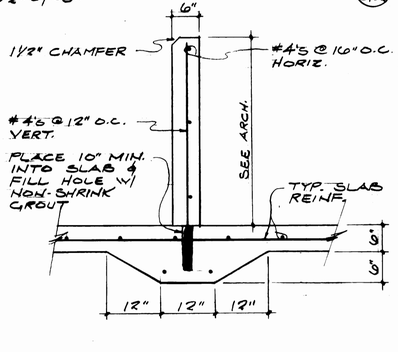
SECTION

3/4" = 1'-0" (9/S102)



SECTION

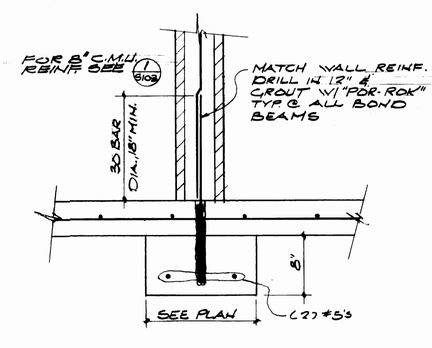
3/4" = 1'-0" (10/S102)



PROTECTION WALL.

SECTION

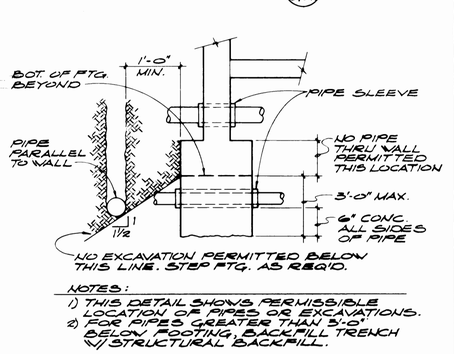
3/4" = 1'-0" (11/S102)



TYP CMU WALL FTG.

SECTION

1" = 1'-0" (12/S102)



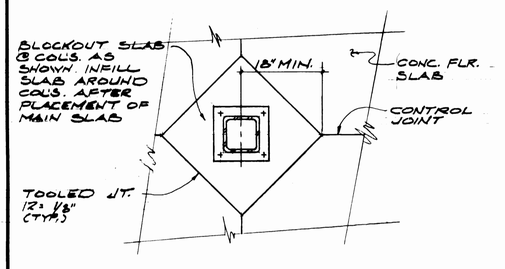
NOTES:

1) THIS DETAIL SHOWS PERMISSIBLE LOCATION OF PIPES OR EXCAVATIONS.
2) FOR PIPES GREATER THAN 3'-0" BELOW FOOTING, BACKFILL TRENCH W/ STRUCTURAL BACKFILL.

TYPICAL DETAIL OF PIPE @ CONC. FOOTINGS

SECTION

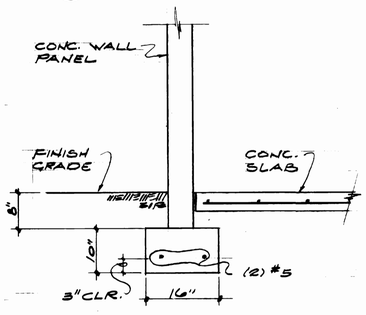
NO SCALE (13/S102)



TYP. COL. BLOCKOUT

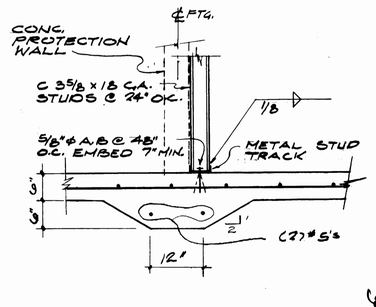
DETAIL

3/4" = 1'-0" (14/S102)



SECTION

3/4" = 1'-0" (15/S102)



SECTION

3/4" = 1'-0" (16/S102)

Shelton Engineers, Inc.
Consulting Engineers
51 University, Suite 301
Seattle, WA 98101
(206) 622-4116
950 Bc. Fawcett, Suite 301
Tacoma, WA 98402
(206) 383-2787

MARK	REVISION	BY	APP.	DATE
1	REVISED TO AS BUILT	R.J.S.		5-31-85

DRAWN N.N. DATE 3-22-84
CHECKED D.S. DATE 3-22-84
CHECKED D.P. DATE 3-22-84
CONT. NO. 837

PORT OF TACOMA

TACOMA TERMINALS, INC.

C.F.S. BUILDING

FOUNDATION DETAILS

FIELD BOOK (S)

SCALE

APPROVED

PROJECT MANAGER 3/30/84 DATE

CHIEF ENGINEER 3/30/84 DATE

DRAWING NO. EP 3574.29 -S102

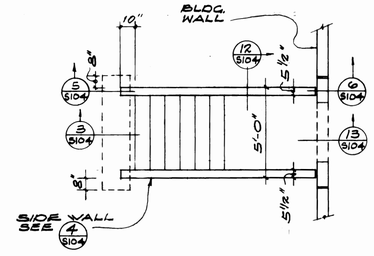
SHEET 18 OF 71

J-3585

DRAWN N.N. DATE 3-22-84	PORT OF TACOMA
CHECKED D.S. DATE 3-22-84	TACOMA TERMINALS, INC.
CHECKED D.P. DATE 3-22-84	C.F.S. BUILDING
CONT. NO. 537	MISC. DETAILS
APPROVED 3/30/84	DRAWING NO. EP 3879-23 -S103
CHIEF ENGINEER 3/30/84	SHEET 19 OF 71

MARK	REVISION	BY	APP.	DATE
1	REVISED TO AS-BUILT	R.J.S.		5-31-86

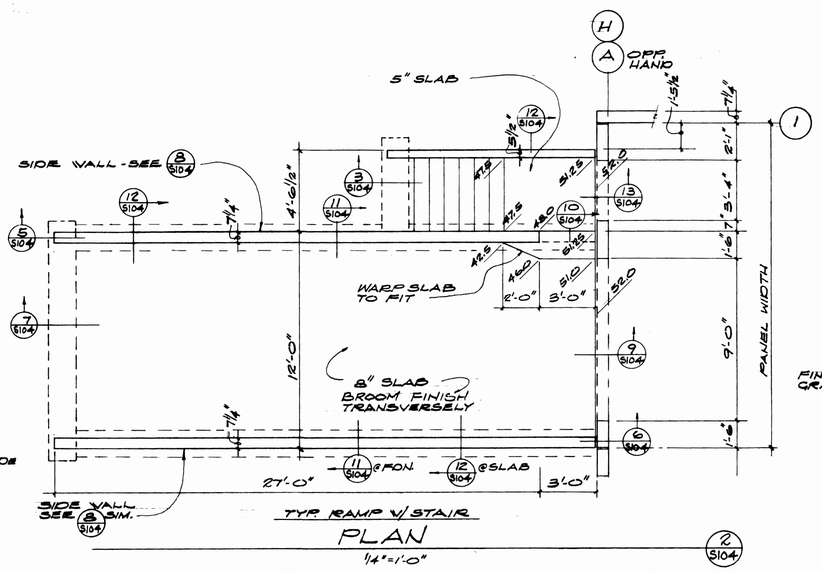
J-5585



TYP. STAIR

PLAN

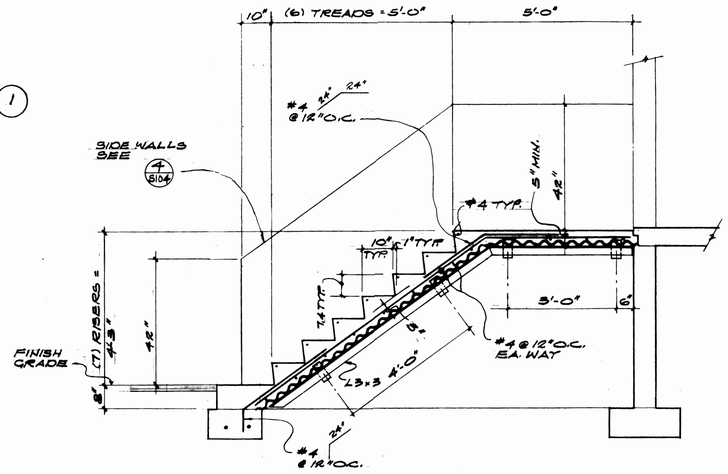
1/4" = 1'-0" (1/5104)



TYP. RAMP W/ STAIR

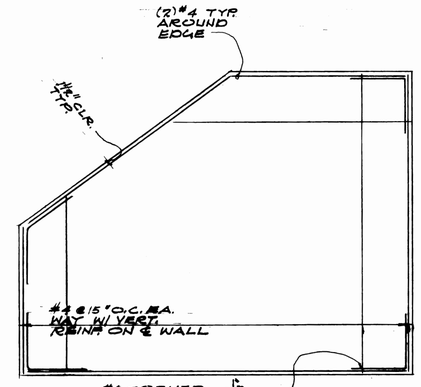
PLAN

1/4" = 1'-0" (2/5104)



SECTION

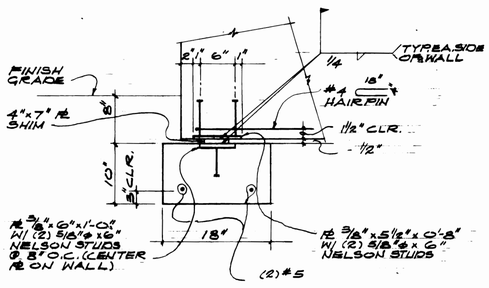
1/2" = 1'-0" (3/5104)



TYP. STAIR WALL PANEL

ELEVATION

1/2" = 1'-0" (4/5104)

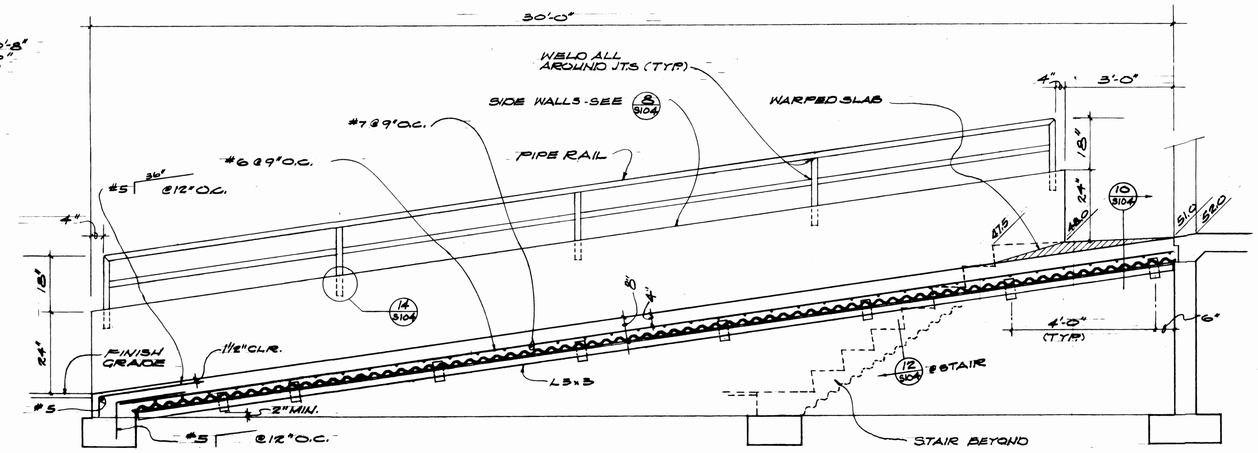


SECTION

1" = 1'-0" (5/5104)

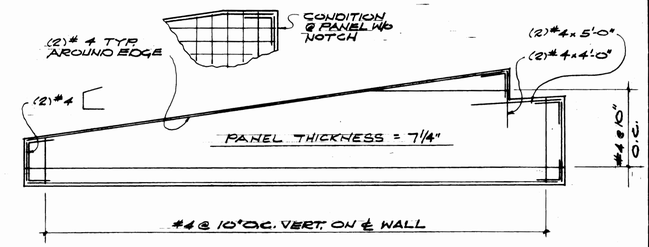
SECTION

1" = 1'-0" (6/5104)



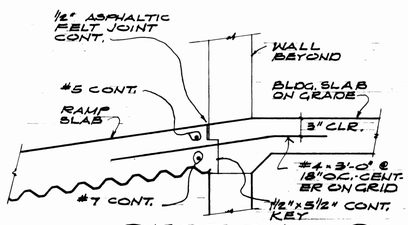
SECTION

1/2" = 1'-0" (7/5104)



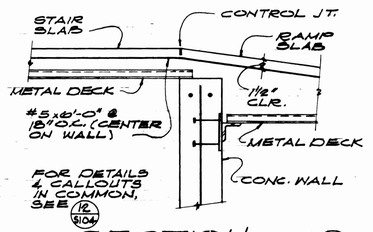
ELEVATION

1/4" = 1'-0" (8/5104)



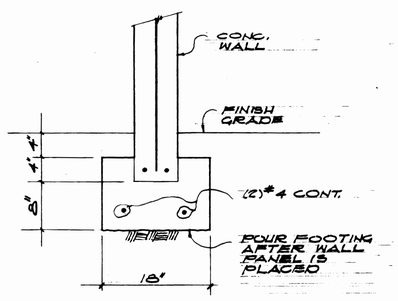
SECTION

(9/5104)



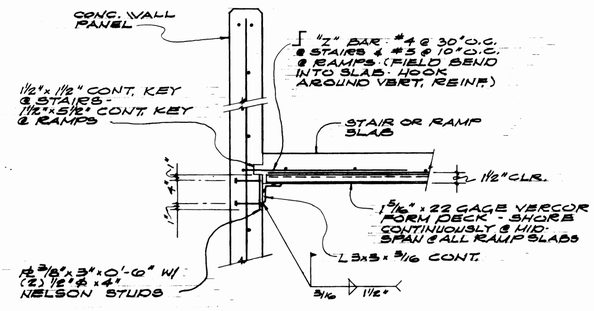
SECTION

1" = 1'-0" (10/5104)



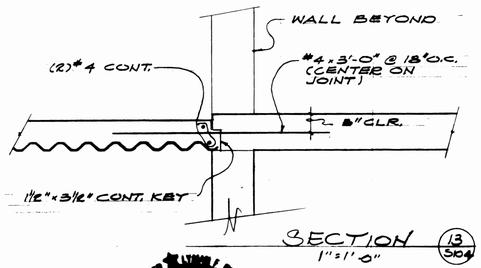
SECTION

1" = 1'-0" (11/5104)



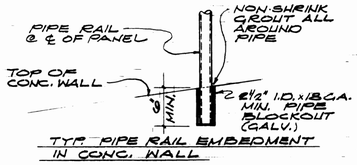
SECTION

1" = 1'-0" (12/5104)



SECTION

1" = 1'-0" (13/5104)



TYP. PIPE RAIL EMBEDMENT IN CONC. WALL

DETAIL

1" = 1'-0" (14/5104)

Shaffer Engineers, Inc.
Consulting Engineers
51 University, Suite 301
Seattle, WA 98101
(206) 622-4116
950 So. Fawcett, Suite 301
Tacoma, WA 98402
(206) 383-2787

MARK	REVISION	BY	APP.	DATE
	NO. AS-BUILT CHANGES	A.J.S		5-31-85

DRAWN N.N. DATE 3-22-84
CHECKED D.S. DATE 3-22-84
CHECKED D.R. DATE 3-22-84
CONT. NO. 327

PORT OF TACOMA

TACOMA TERMINALS, INC.

C.F.S. BUILDING

STAIR & RAMP DETAILS

FIELD BOOK (S)

SCALE

APPROVED

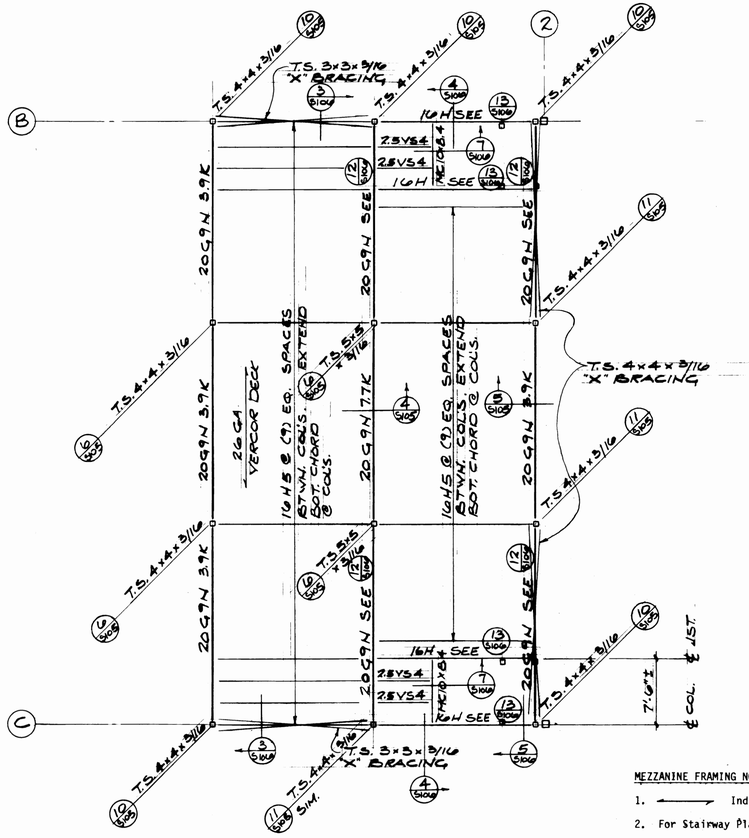
PORT MANAGER — DATE 3/30/84

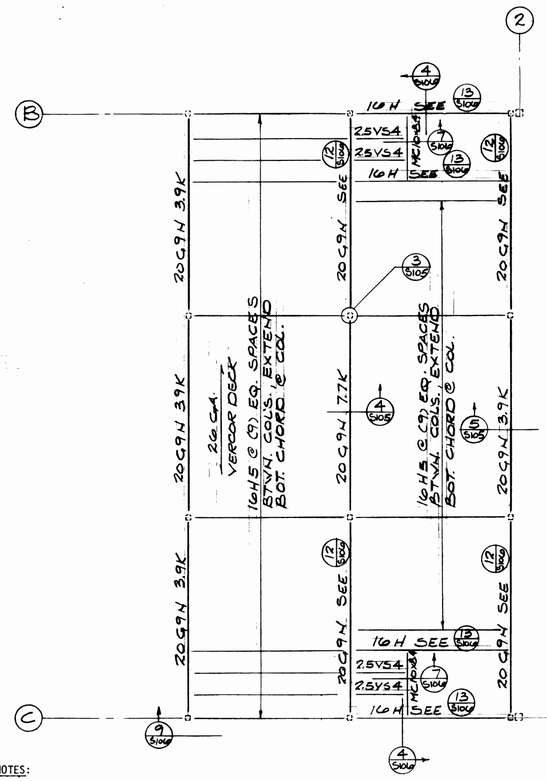
CHIEF ENGINEER — DATE 3/30/84

DRAWING NO. EP 3879-23 -5104

SHEET 20 OF 71

J-5585





MEZZANINE FRAMING NOTES:

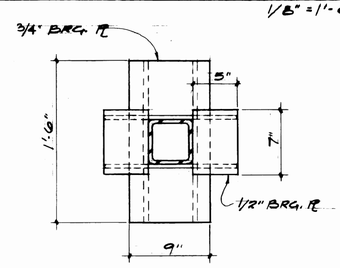
1. ⟶ Indicates span of metal deck, see 8/S106.
2. For Stairway Plan see 9/S106.

2nd FLOOR MEZZ. FRAMING PLAN (1/S105)

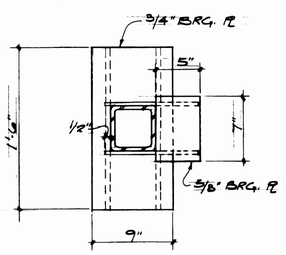
1/8" = 1'-0"

3rd FLOOR MEZZ. FRAMING PLAN (2/S105)

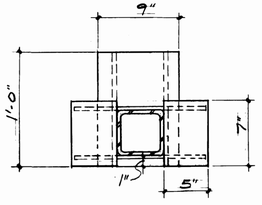
1/8" = 1'-0"



PLAN VIEW OF INTERIOR COL.



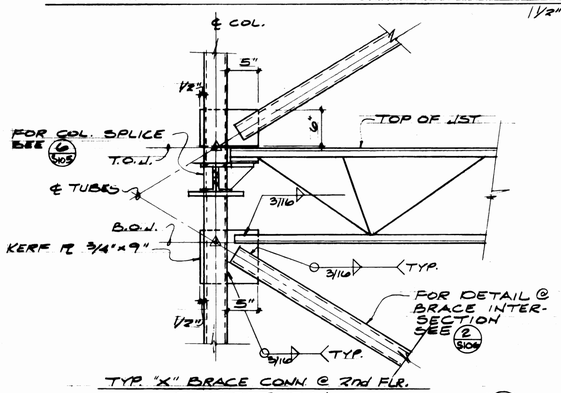
PLAN VIEW OF EXTERIOR COL. W/ JST. GIRDER BRG. EA. SIDE



PLAN VIEW OF EXTERIOR COL. W/ JOIST GIRDER BRG. ONE SIDE

SECTION (7/S105)

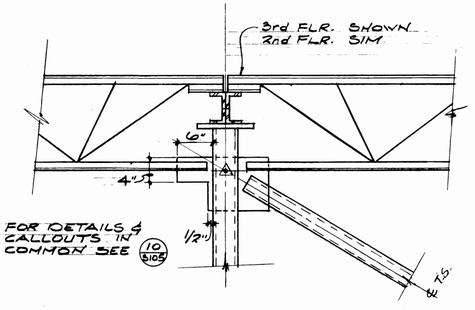
1 1/2" = 1'-0"



TYP. "X" BRACE CONN. @ 2nd FLR.

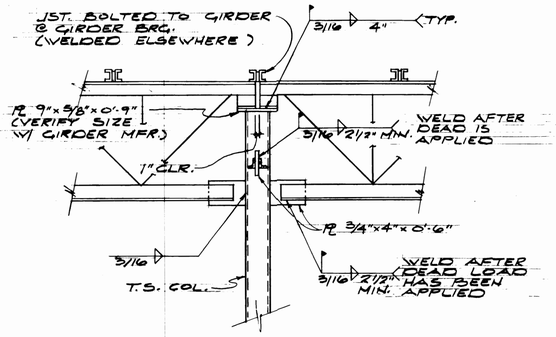
SECTION (10/S105)

1" = 1'-0"



SECTION (11/S105)

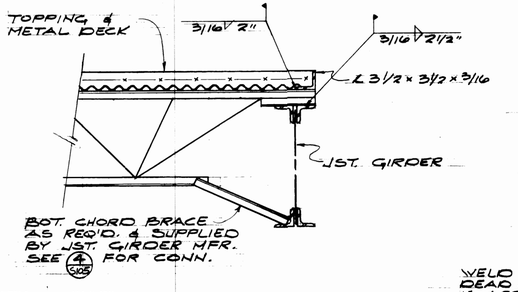
1" = 1'-0"



TYP. JST. GIRDER TO STL. COL. CONN.

SECTION (3/S105)

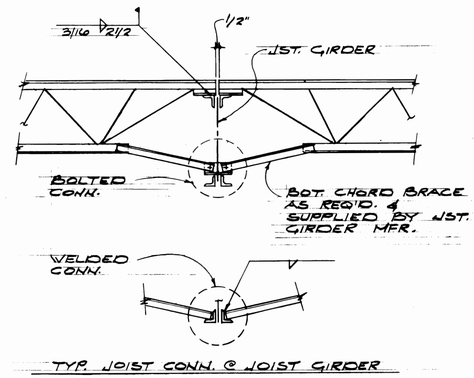
1" = 1'-0"



TYP. JST. CONN. @ EXTERIOR GIRDER

SECTION (5/S105)

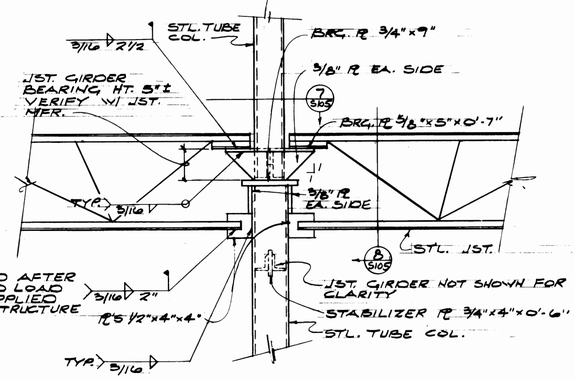
1" = 1'-0"



TYP. JOIST CONN. @ JOIST GIRDER

SECTION (4/S105)

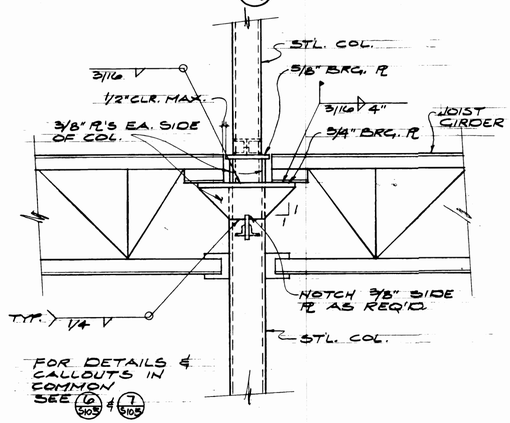
3/4" = 1'-0"



TYP. BRG. CONN. @ INTERIOR COL. (EXTERIOR COL'S. SIM.)

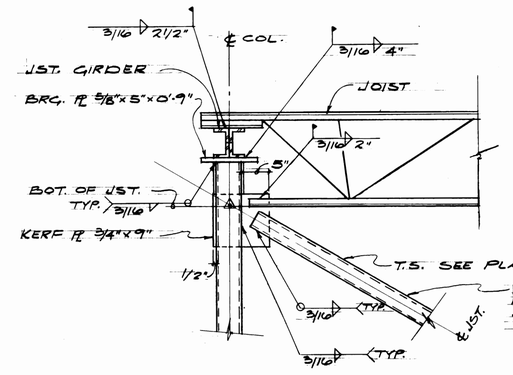
SECTION (6/S105)

1" = 1'-0"



SECTION (8/S105)

1" = 1'-0"



TYP. "X" BRACE CONN. @ 3rd FLR.

SECTION (9/S105)

1" = 1'-0"

	NO AS BUILT REVISIONS	R.J.S		5/31/85	
MARK	REVISION	BY	APP.	DATE	

Shaffer Engineers, Inc.
Consulting Engineers
51 University, Suite 301
Seattle, WA 98101
(206) 622-4116
960 So. Fawcett, Suite 301
Tacoma, WA 98402
(206) 383-2797

DRAWN N.N. DATE 3-22-84
CHECKED D.S. DATE 3-22-84
CHECKED D.P. DATE 3-22-84
CONT. NO. 557
FIELD BOOK (S)

PORT OF TACOMA

TACOMA TERMINALS, INC.

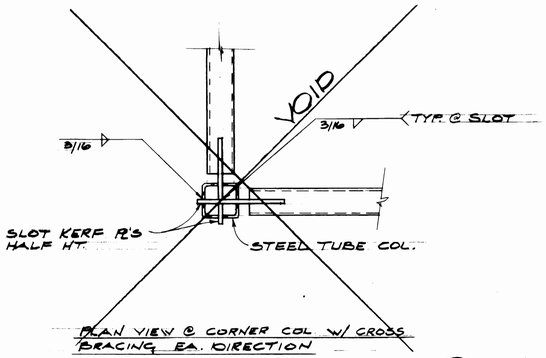
C.F.S. BUILDING

MEZZANINE FRAMING PLANS & DETAILS

APPROVED [signature] 3/30/84
MANAGER
CHIEF ENGINEER [signature] 3/30/84 DATE

SCALE
DRAWING NO. EP 3879-23 -3
SHEET 21 OF 71

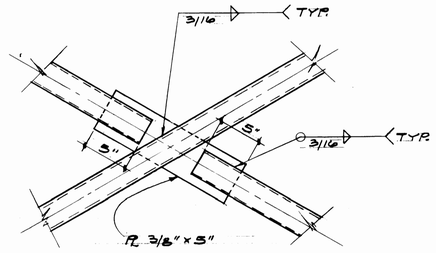
J-6585



PLAN VIEW @ CORNER COL W/ CROSS BRACING, EA. DIRECTION

DETAIL 1 5106

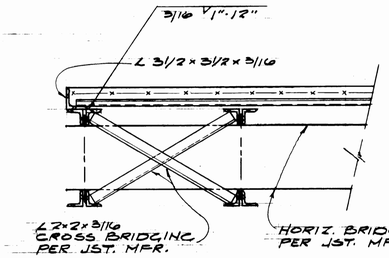
1 1/2" = 1'-0"



TYP. SPLICE @ CROSS BRACING

DETAIL 2 5106

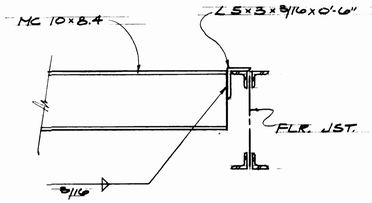
1 1/2" = 1'-0"



TYP. HORIZ. BRIDGING

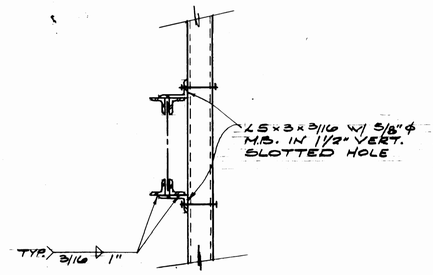
DETAIL 3 5106

1" = 1'-0"



SECTION 4 5106

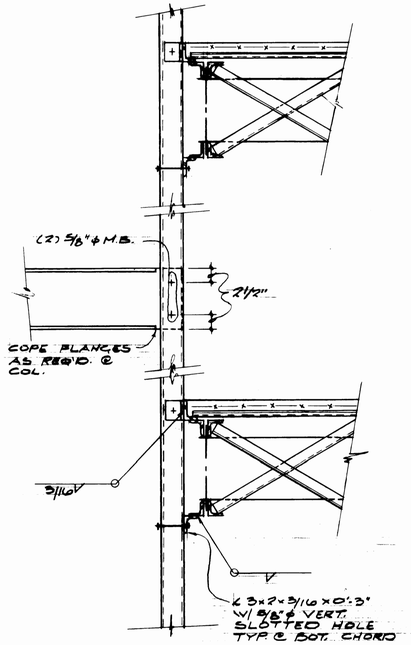
1" = 1'-0"



TYP. STAIR COL. CONN. @ EXTERIOR JOIST

SECTION 5 5106

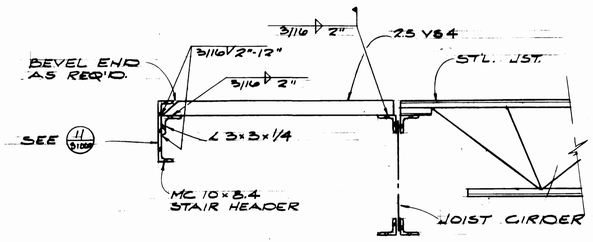
1" = 1'-0"



TYP. STAIR COL. CONN. @ INTERIOR JOISTS

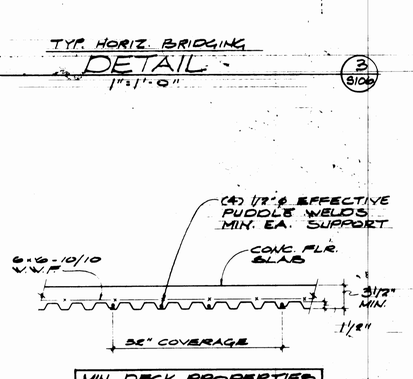
SECTION 6 5106

1" = 1'-0"



SECTION 7 5106

1" = 1'-0"

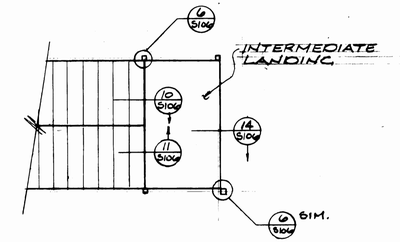


MIN. DECK PROPERTIES		
GAUGE	$I_{m.}^4$	$S_{in.}^3$
26	.073	.098

TYP COMPOSITE FLR. DECK

SECTION 8 5106

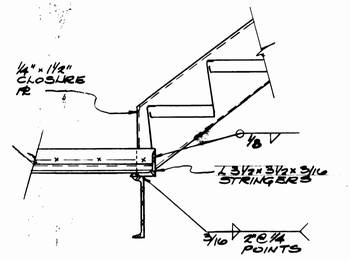
NO SCALE



MEZZANINE STAIR LAYOUT

PLAN 9 5106

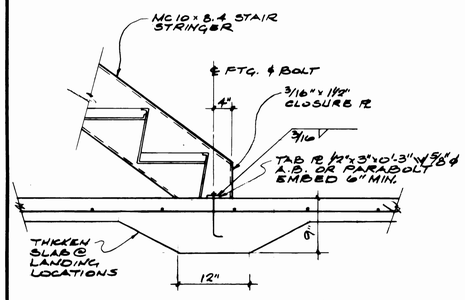
1/4" = 1'-0"



TYP. STAIR STRINGER CONN. @ UP-RUN

SECTION 10 5106

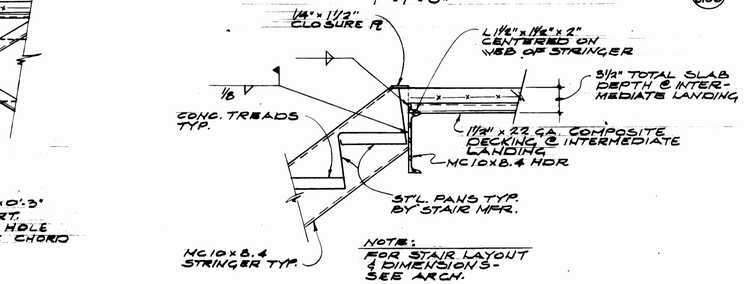
1" = 1'-0"



TYP. STAIR STRINGER TO SLAB CONN.

SECTION 16 5106

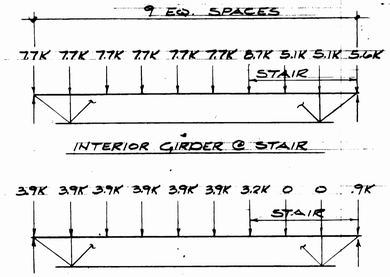
1" = 1'-0"



TYP STAIR STRINGER CONN. @ DOWN-RUN

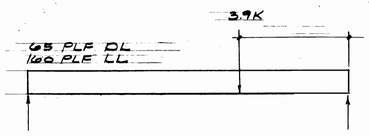
SECTION 11 5106

1" = 1'-0"



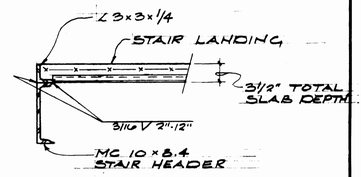
JST. GIRDER LOADING DIAGRAM 12 5106

NO SCALE



JOIST LOADING DIAGRAM 13 5106

NO SCALE



SECTION 14 5106

1" = 1'-0"

Shelton Engineers, Inc.
Consulting Engineers
51 University, Suite 301
Seattle, WA 98101
(206) 622-4116
950 Bs. Fawcett, Suite 301
Tacoma, WA 98402
(206) 383-2797

MARK	REVISION	BY	APP.	DATE
	NO AS-BUILT REVISIONS	R.J.S.		5.31.85

DRAWN N.N. DATE 3-22-84
CHECKED D.S. DATE 3-22-84
CHECKED D.R. DATE 3-22-84
CONT. NO. 557

PORT OF TACOMA

TACOMA TERMINALS, INC.

C.F.S. BUILDING

MEZZANINE DETAILS

FIELD BOOK (S)

SCALE

APPROVED

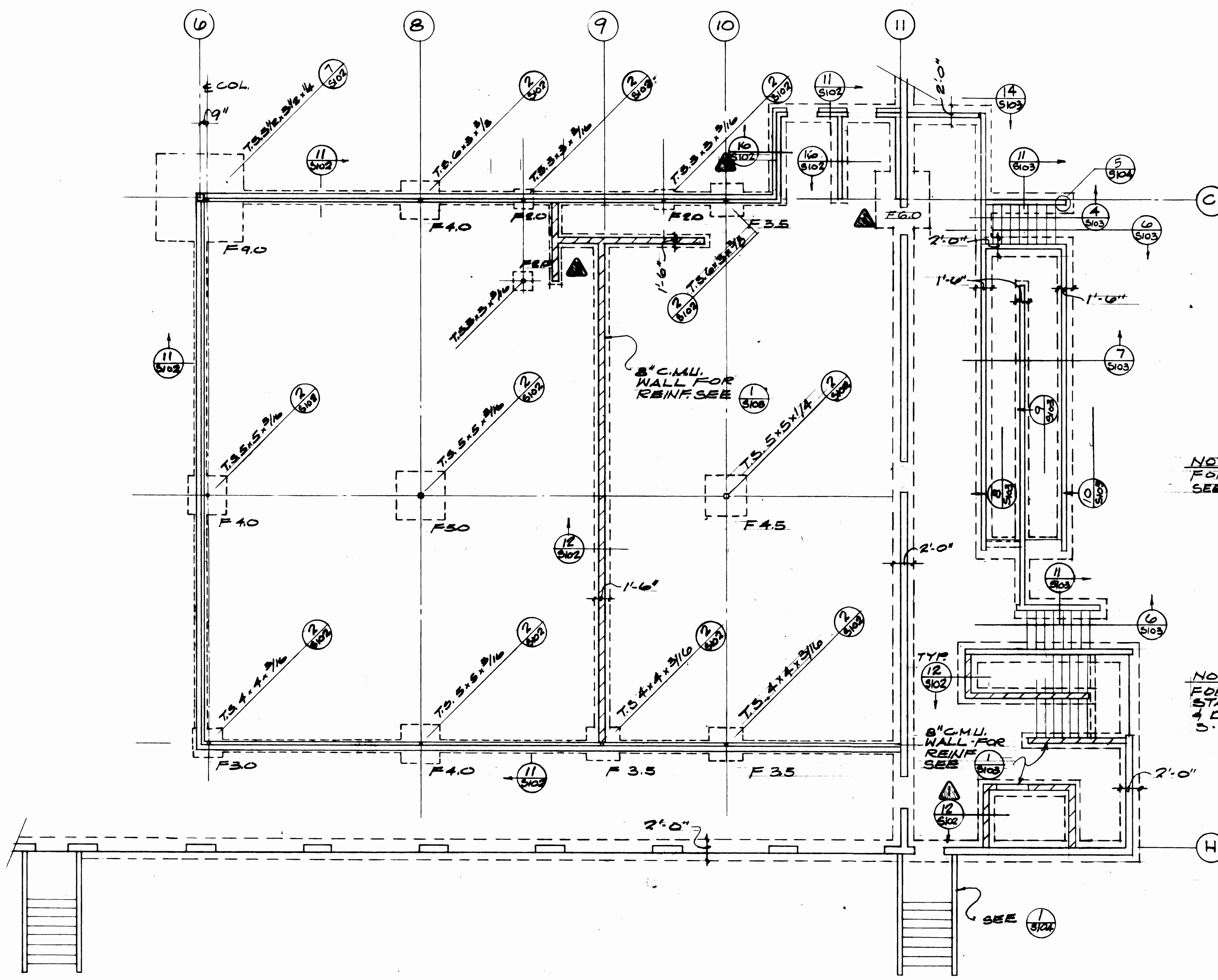
PROJECT MANAGER 3/30/84 DATE

CHIEF ENGINEER 3/30/84 DATE

DRAWING NO. EP 3879.23 *5106

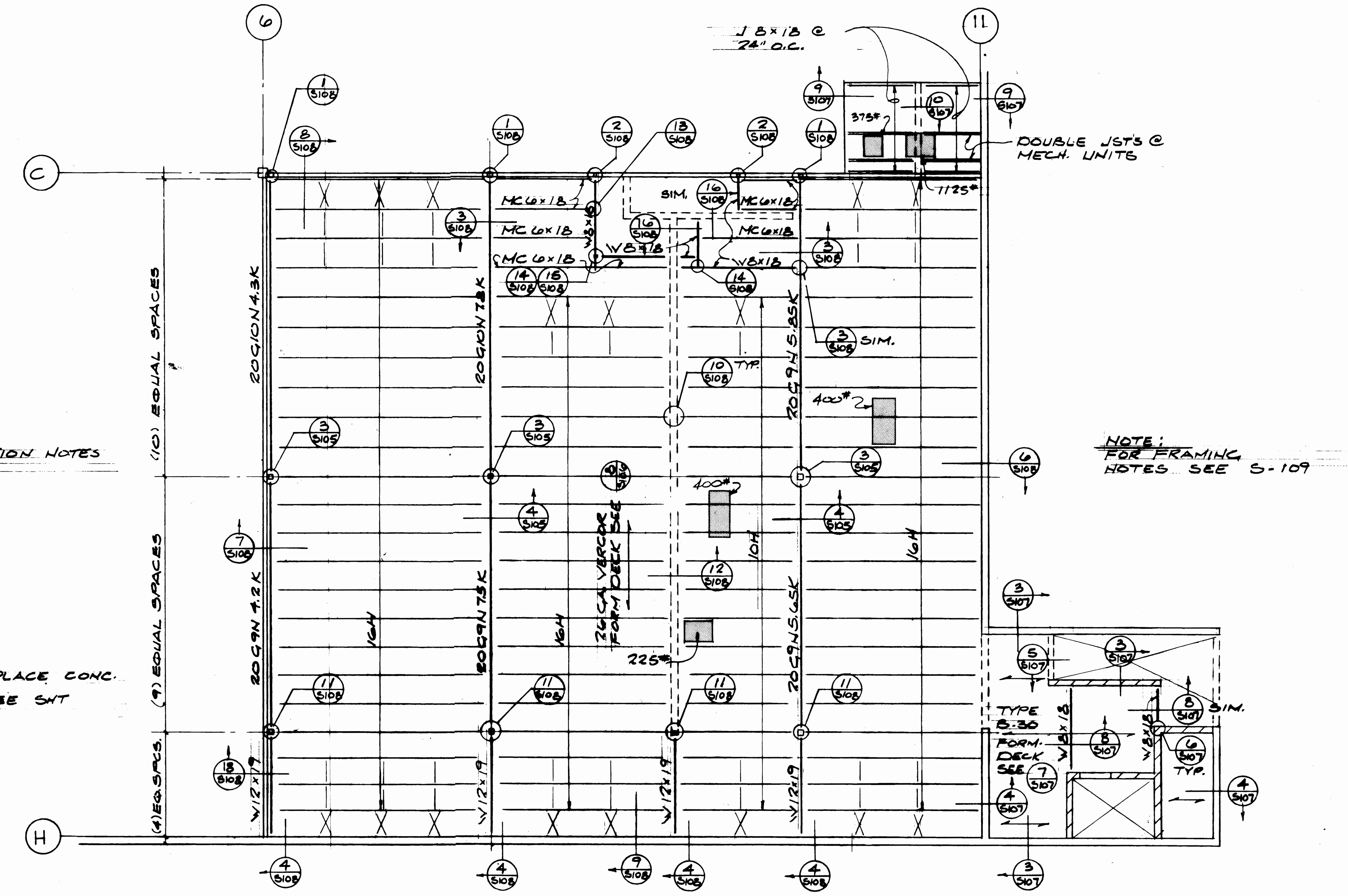
SHEET 22 OF 71

J-5585



NOTE:
FOR FOUNDATION NOTES SEE S-101

NOTE:
FOR CAST-IN-PLACE CONC. STAIR PLANS & DETAILS SEE SHT S-100.



OFFICE FOUNDATION PLAN (1/S107)

1/8" = 1'-0"

SECOND FLOOR-OFFICE FRAMING (2/S107)

1/8" = 1'-0"

MIN. DECK PROPERTIES		
GAUGE	I in.⁴	S in.³
22	.183	.209

TYP. METAL DECK TO LGR. ANGLE CONN.

SECTION (3/S107)

NO SCALE

TYP. METAL DECK PERPENDICULAR TO LEDGER ANGLE CONN.

SECTION (4/S107)

NO SCALE

SECTION (5/S107)

1½" = 1'-0"

PLAN (6A/S107)

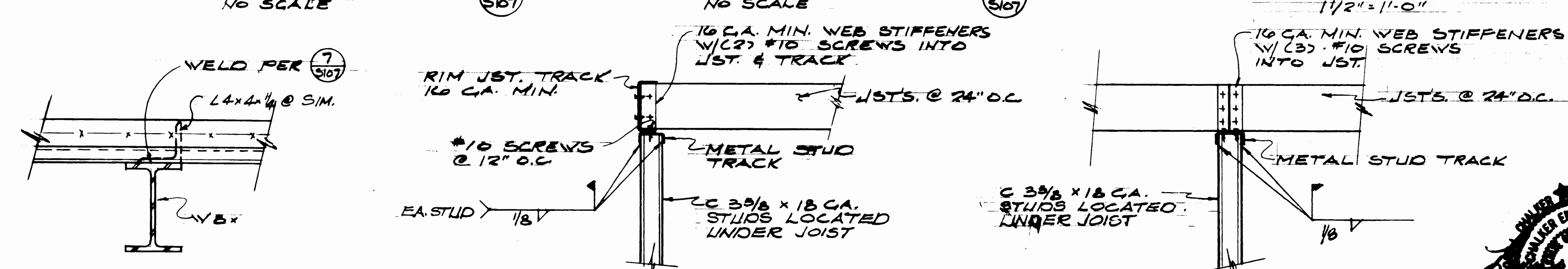
SECTION (6/S107)

1" = 1'-0"

TYP. COMPOSITE FLR. DECK

SECTION (7/S107)

NO SCALE



SECTION (8/S107)

1½" = 1'-0"

SECTION (9/S107)

3/4" = 1'-0"

TYP. METAL JST. CONN. @ INT. BRG. WALL

SECTION (10/S107)

3/4" = 1'-0"

Chalker Engineers, Inc.
Consulting Engineers
51 University, Suite 301
Seattle, WA 98101
(206) 622-4116
950 So. Fawcett, Suite 301
Tacoma, WA 98402
(206) 383-2797

MARK	REVISION	BY	APP.	DATE
1	REVISED TO AS-BUILT	R.J.S		5.31.85

DRAWN N.N. DATE 3-22-84
CHECKED D.S. DATE 3-22-84
CHECKED D.P. DATE 3-22-84
CONT. NO. 557

PORT OF TACOMA

TACOMA TERMINALS, INC.

C.F.S. BUILDING

OFFICE FOUNDATION & 2nd FLOOR FRAMING PLAN

FIELD BOOK (S)

SCALE

APPROVED
PROJECT MANAGER 3/30/84 DATE
CHIEF ENGINEER 3/30/84 DATE

DRAWING NO. EP 3879-23

SHEET 23 OF 71

J-5585

MARK	REVISION	BY	APP.	DATE
1	REVISED TO AS-BUILT.	R.J.S.		5-31-85

DRAWN N.H. DATE 3-22-84
CHECKED D.S. DATE 3-22-84
CHECKED D.P. DATE 3-22-84
CONT. NO. 557
FIELD BOOK (S)
APPROVED
PROJECT MANAGER 3/30/84 DATE
CHIEF ENGINEER 3/30/84 DATE

PORT OF TACOMA

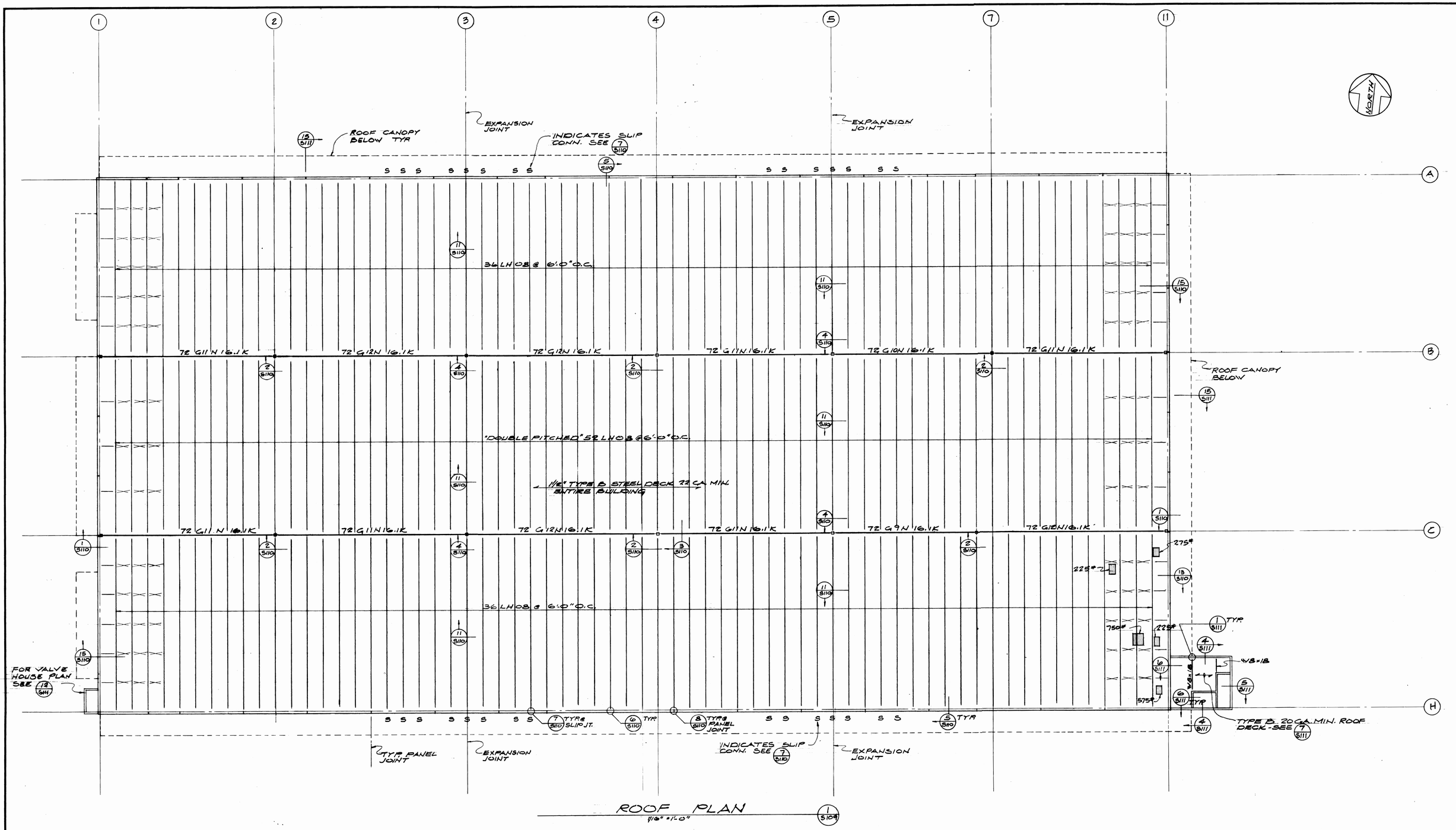
TACOMA TERMINALS, INC.

C.F.S. BUILDING

OFFICE FRAMING DETAILS

SCALE
DRAWING NO. EP 3879-73 S-108
SHEET 24 OF 71

J-3585



ROOF PLAN

1/16" = 1'-0"

1/S109

ROOF FRAMING NOTES:

1. Indicates lines of bridging -- see 15/S110.
2. Indicates span of metal deck -- see 7/S111.
3. For skylight framing see 8/S111.
4. For penetrations through metal deck less than 16" square see 10/S111.
5. For allowable methods and locations for hanging loads from steel joists (i.e. mechanical equipment, sprinkler pipes, etc.) see 3/S111.
6. Indicates mechanical unit, maximum weight shown. For allowable location and methods of hanging see 3/S111.

Shaffer Engineers, Inc.
Consulting Engineers
51 University, Suite 301
Seattle, WA 98101
(206) 622-4116
950 So. Fawcett, Suite 301
Tacoma, WA 98402
(206) 383-2787

MARK	REVISION	BY	APP.	DATE
	NO AS-BUILT REVISIONS	R.J.S.		5-31-85

DRAWN N.N. DATE 3-22-84
CHECKED R.B. DATE 3-22-84
CHECKED D.P. DATE 3-22-84
CONT. NO. 557
FIELD BOOK (S)

PORT OF TACOMA

TACOMA TERMINALS, INC.

C.F.S. BUILDING

ROOF FRAMING PLAN

SCALE

APPROVED
PROJECT MANAGER — DATE 3/30/84
CHIEF ENGINEER — DATE 3/30/84

DRAWING NO. EP 3879.93 ~~S109~~

SHEET 25 OF 71

J-3885

TYP. JST. GIRDER TO STEEL COLUMN CONN. @ EXT. WALL
SECTION 1 S110
3/4" = 1'-0"
T.S. COL.
1" CLR.
P/C CONC. PANEL
WELD AFTER DEAD LOAD OF ROOF IS APPLIED
STABILIZER ℞
TYP. JST. GIRDER TO STL. COL. CONN.
SECTION 2 S110
3/4" = 1'-0"
JST. BOLTED TO GIRDER & GIRDER BRG. (WELDED ELSEWHERE)
WELD AFTER DEAD LOAD HAS BEEN APPLIED
STABILIZER ℞
TYP. JOIST CONN. @ JOIST GIRDER
SECTION 3 S110
3/4" = 1'-0"
JOIST GIRDER
BOT. CHORD BRACE AS REQ'D & SUPPLIED BY JST. GIRDER MFR.
BOLTED CONN.
WELDED CONN.
DETAIL 4 S110
1 1/2" = 1'-0"
BOLT JST. ONE SIDE ONLY
6"x11" STL. SHIM SAME THICKNESS AS BRG. ℞
T.S. COL.
STL. BAR-DIA AS REQ'D.
ISOMETRIC
L4x4x3/8 EA. SIDE
TYP. JST. TO P/C PANEL CONN
SECTION 5 S110
@ PANEL JOINT
@ SLIP JOINT
@ TYP. CONN.
PUDDLE WELD @ 12" O.C.
PANEL EDGE REINF.
P/C PANEL
STEEL JST.
NOTE: SEE ROOF FRAMING PLAN FOR LOCATIONS WHERE JST. SLIP JT. CONN. IS REQ'D.
TYP. JOIST TO P/C PANEL CONN.
SECTION 6 S110
1 1/2" = 1'-0"
TYP. JST. TO P/C PANEL SLIP CONN.
SECTION 7 S110
1 1/2" = 1'-0"
2" SLOT
RECESS PANEL
TYP. JST. CONN. TO P/C PANEL JOINT
SECTION 8 S110
1 1/2" = 1'-0"
3/4" ϕ ALL THREAD
3" SLOTTED HOLE
RECESS PANEL
TYPICAL DIAPHRAGM CHORD SPLICE
DETAIL 9 S110
1 1/2" = 1'-0"
℄ CHORD SPLICE
GRIND HEEL AS REQ'D FOR TIGHT FIT
DIAPHRAGM CHORD
TYPICAL DIAPHRAGM CHORD SPLICE EXP. JT.
DETAIL 10 S110
1 1/2" = 1'-0"
DIAPHRAGM CHORD
GRIND HEEL AS REQ'D. FOR TIGHT FIT
DETAIL 11 S110
3" = 1'-0"
IF BOLT INTERFERES W/ METAL DECK, BURN HOLE IN DECK TO PERMIT SEATING AROUND BOLT PROVIDE FOR 1/2" MOVEMENT EA. WAY
TYP. METAL DECK TO P/C PANEL CONN.
SECTION 13 S110
1 1/2" = 1'-0"
TYP. PANEL EDGE REINF.
PUDDLE WELD PER DIAPHRAGM SHEAR REQM'TS
TYP. CROSS BRIDGING @ STL. JST.
DETAIL 15 S110
NO SCALE
NORMAL CROSS BRIDGING BY JOIST MFR.
NO CROSS BRIDGING @ END BAY
OPEN WEB STL. JSTS
SECTION 16 S110
1 1/2" = 1'-0"
HORIZ. BRIDGING
SECTION 17 S110
1 1/2" = 1'-0"
COPE L
JST.
REVISED TO AS-BUILT
MARK
REVISION
BY
APP.
DATE
DRAWN N.N.
DATE 3-22-84
CHECKED D.B.
DATE 3-22-84
CHECKED D.P.
DATE 3-22-84
CONT. NO. 557
FIELD BOOK (S)
APPROVED
3/30/84
CHIEF ENGINEER
PORT OF TACOMA
TACOMA TERMINALS, INC.
C.F.S. BUILDING
ROOF FRAMING DETAILS
SCALE
DRAWING NO.
EP 3879-23
SHEET 26 OF 71

1. Hang within 3" of any upper panel point for "H" series joist, 6" for "LH" series.
2. Hang within 3" of any lower panel point for "H" series joist, 6" for "LH" series.
3. Trapeze between any panel points.
4. Add an angle to stiffen the top chord - contact structural engineer for angle size.
5. Add an angle between load location and lower chord panel point - contact structural engineer for angle size.

Notes:
1. The maximum allowable single load that may be added to the joist at any one point = 400#
2. The maximum allowable total load that may be added to any one joist = 700#
3. Single loads less than 40# may be added anywhere along the upper chord (not just at panel points) without adding an angle to stiffen the joist.
4. Do not cut or drill through any joist member.
5. This detail is applicable to hanging mechanical equipment, sprinkler pipes, etc.

MIN. DECK PROPERTIES		
GAGE	I in.⁴	S in.³
20	.255	.271
22	.175	.206

NOTES:
1. Minimum deck properties and weld pattern shown: Provide heavier gage and/or weld pattern as required to develop diaphragm shears.
2. (2) span minimum, (3) span preferred.
3. For roof diaphragm shears see 11/S111.

Chalker Engineers, Inc.
Consulting Engineers
51 University, Suite 301
Seattle, WA 98101
(206) 622-4116
950 So. Fawcett, Suite 301
Tacoma, WA 98402
(206) 383-2787

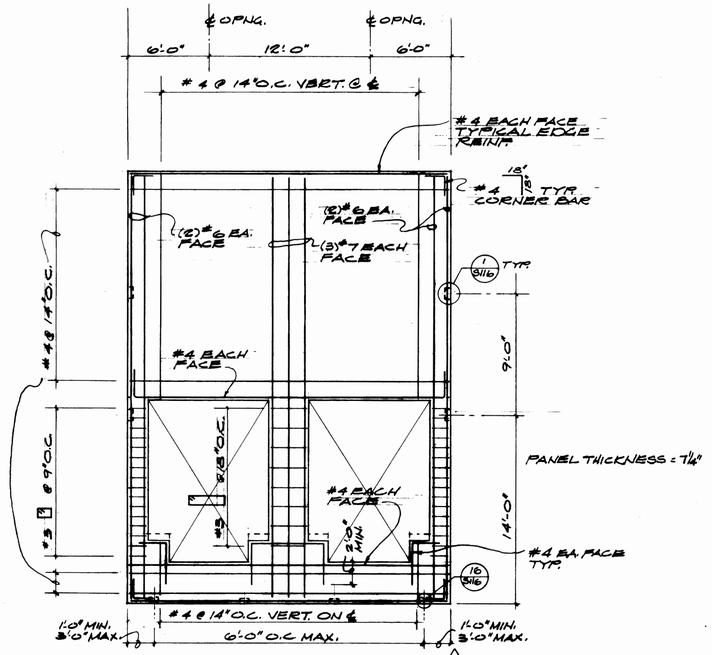
MARK	REVISION	BY	APP.	DATE
1	REVISED TO AS-BUILT	R.J.S.		5.31.86

DRAWN N.N. DATE 3-22-84
CHECKED D.S. DATE 3-22-84
CHECKED D.P. DATE 3-22-84
CONT. NO. 557
FIELD BOOK (S)
APPROVED [signature] PROJECT MANAGER 3/30/84 DATE
[signature] CHIEF ENGINEER 3/30/84 DATE

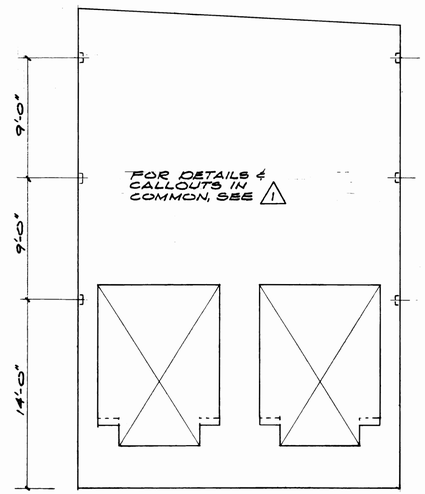
PORT OF TACOMA
TACOMA TERMINALS, INC.
C.F.S. BUILDING
MISCELLANEOUS DETAILS

SCALE
DRAWING NO. EP 3879-23 -S111
SHEET 27 OF 71

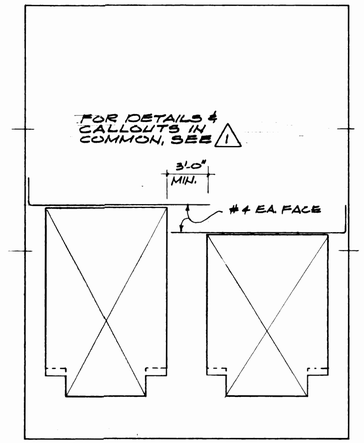
J-5585



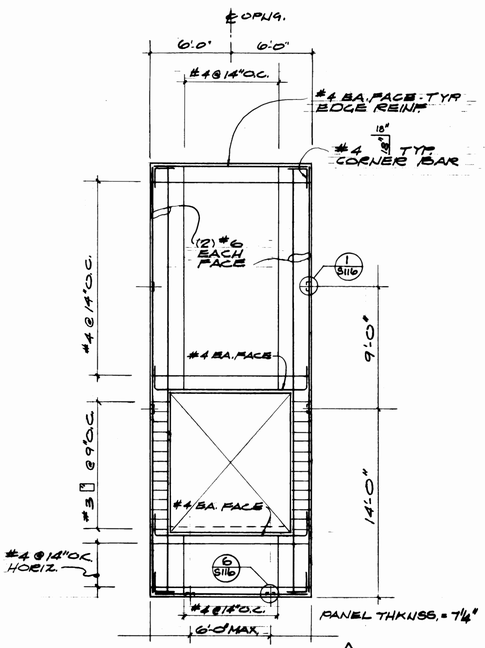
ELEVATION- PANEL 1



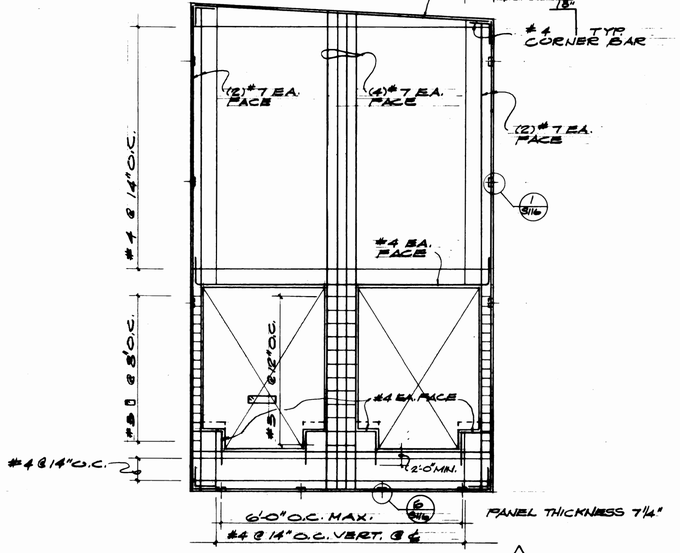
ELEVATION-PANEL 2



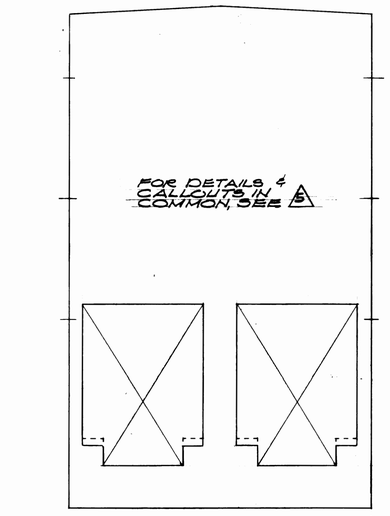
ELEVATION-PANEL 3



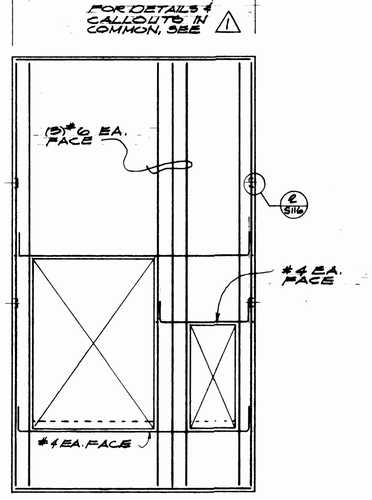
ELEVATION-PANEL 4



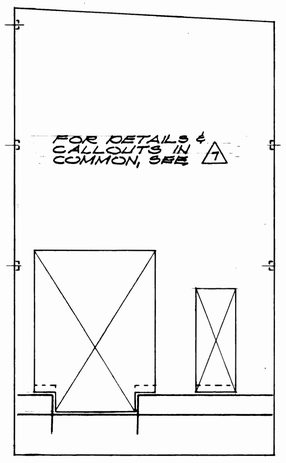
ELEVATION-PANEL 5



ELEVATION-PANEL 6



ELEVATION-PANEL 7



ELEVATION-PANEL 8

NOTE:
ALL PANELS ARE TO BE POURED W/ EXTERIOR FACE DOWN.

Shelter Engineers, Inc.
Consulting Engineers
51 University, Suite 301
Seattle, WA 98101
(206) 682-4116
920 So. Fawcett, Suite 301
Tacoma, WA 98402
(206) 383-2767

MARK	REVISION	BY	APP.	DATE
	NO AS-BUILT REVISIONS	R.J.S.		9/11/85

DRAWN N.N. DATE 3-22-84
CHECKED D.B. DATE 3-22-84
CHECKED D.P. DATE 3-22-84
CONT. NO. 557
FIELD BOOK (S)

PORT OF TACOMA

TACOMA TERMINALS, INC.

C.F.S. BUILDING

TILT-UP PANEL ELEVATIONS

APPROVED
PROJECT MANAGER — DATE 8/30/84
CHIEF ENGINEER — DATE 3/30/84

SCALE
DRAWING NO. EP 3879-23 -S116
SHEET 28 OF 71

J-8586

PORT OF TACOMA

TACOMA TERMINALS, INC.

C.F.S. BUILDING

TILT-UP PANEL ELEVATIONS AND DETAILS

DRAWN	N.N.
DATE	3-22-84
CHECKED	D.S.
DATE	3-22-84
CHECKED	D.P.
DATE	3-22-84
CONT. NO.	557
FIELD BOOK (S)	
APPROVED	3/30/84
PROJECT MANAGER	
CHIEF ENGINEER	3/30/84

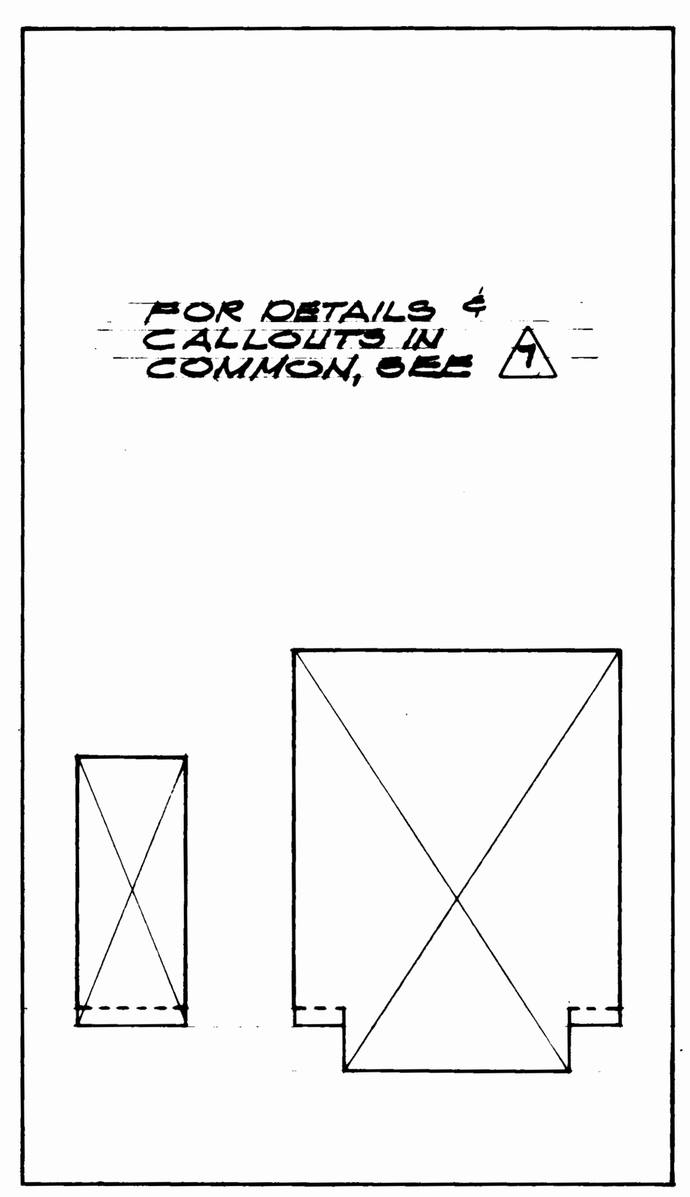
MARK	REVISION	BY	APP.	DATE
1	REVISED TO AS BUILT.	R.J.S.		6-3-85

SCALE

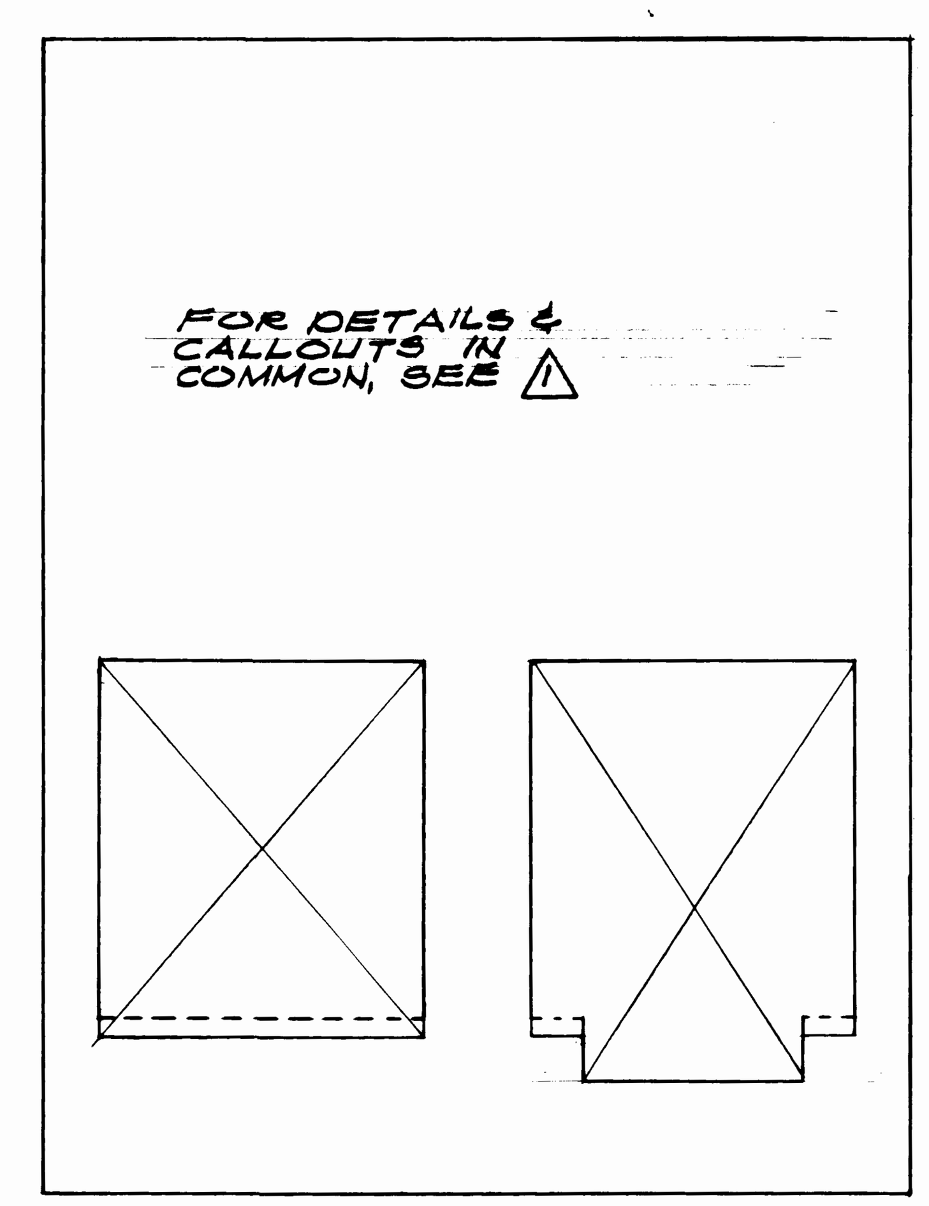
DRAWING NO. EP 3879-23 - S113

SHEET 29 OF 71

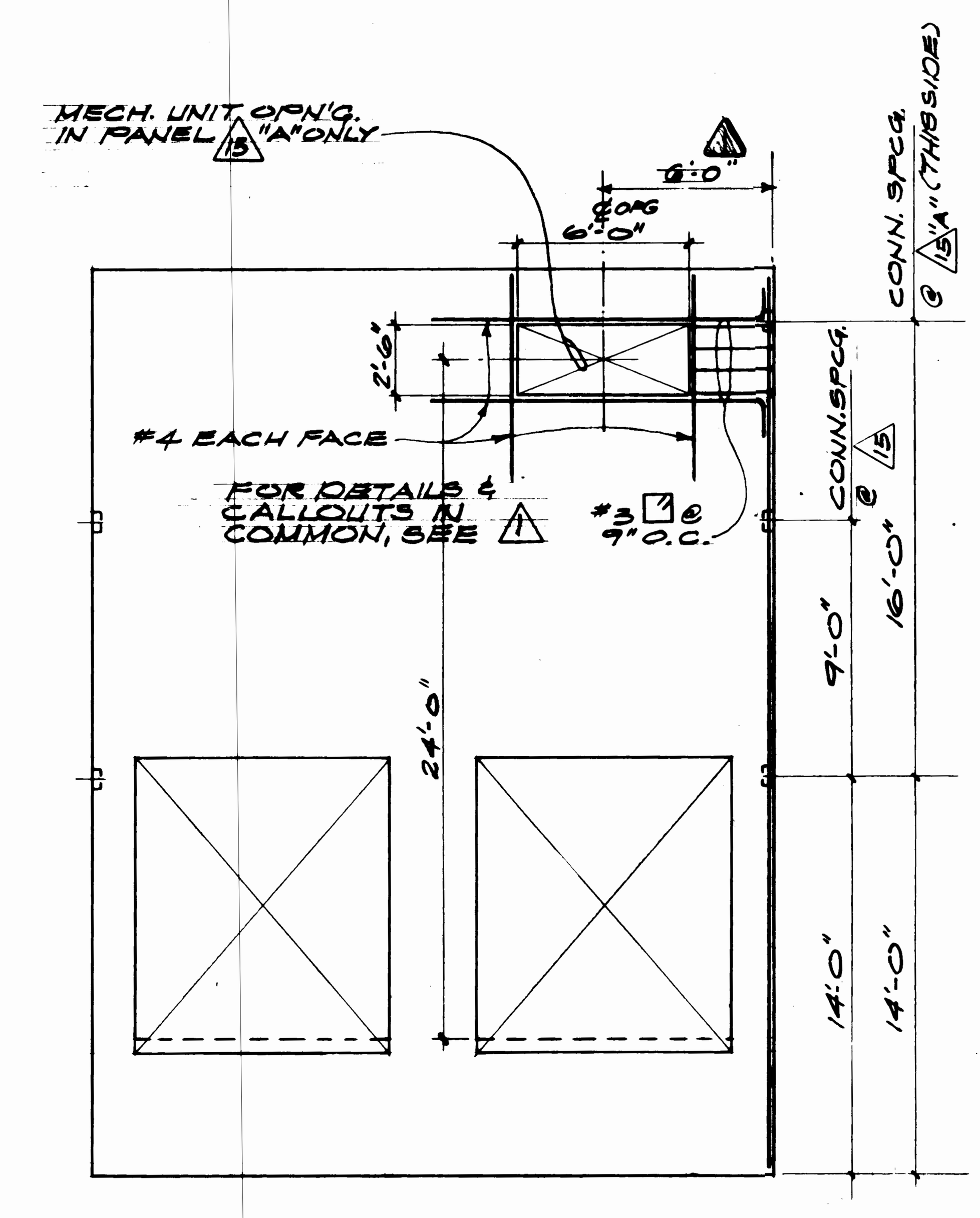
J-5585



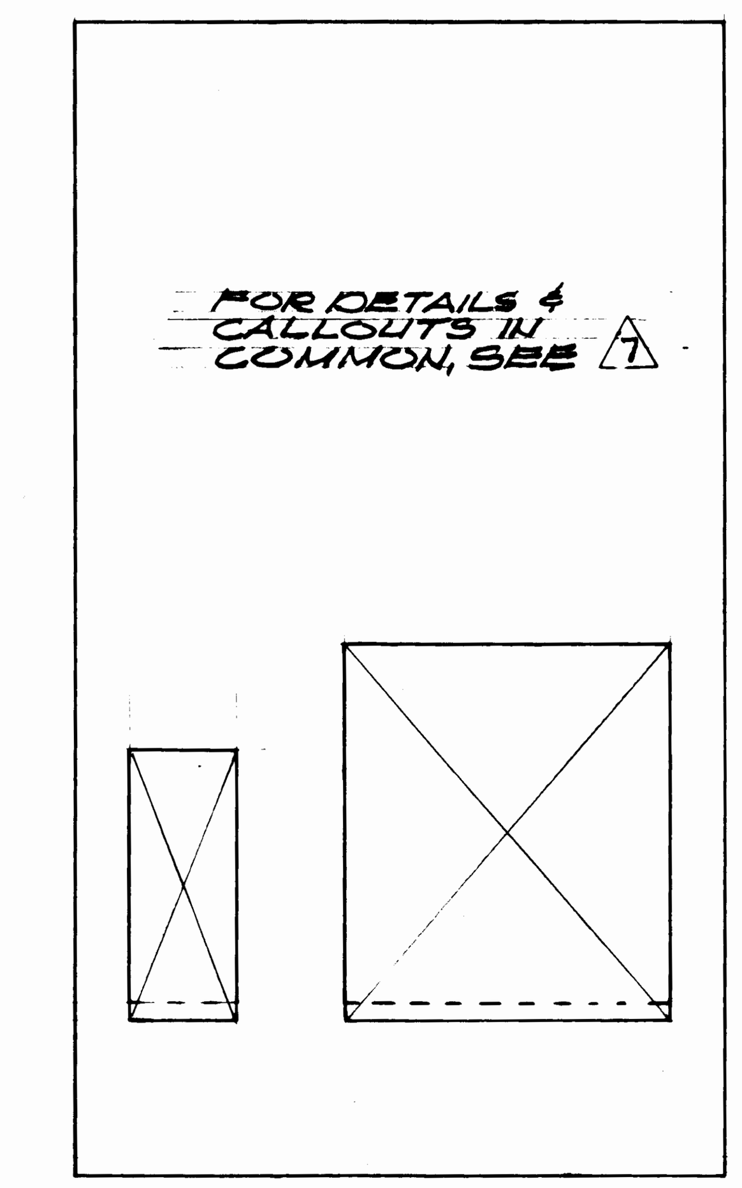
ELEVATION- PANEL 13



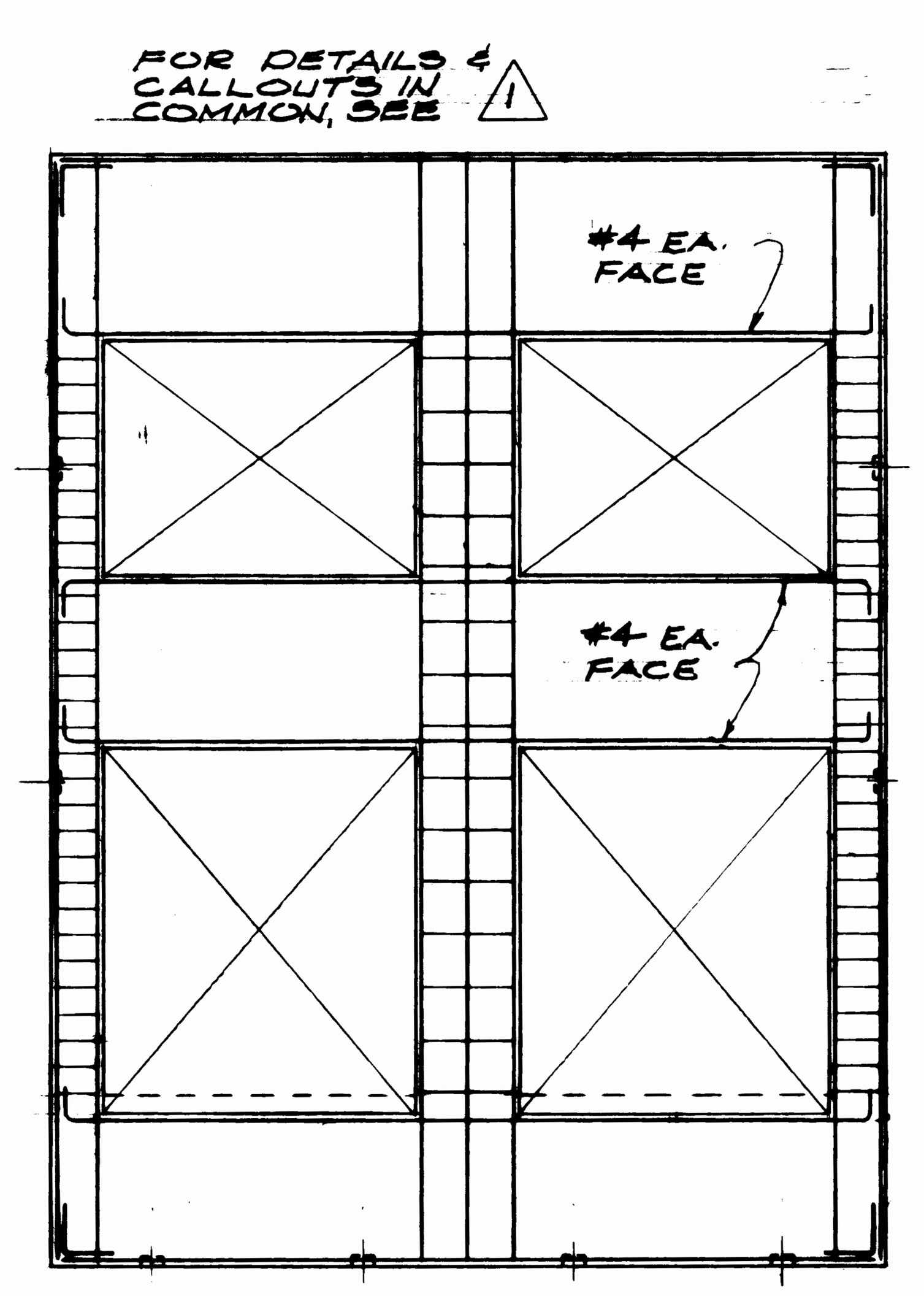
ELEVATION- PANEL 14



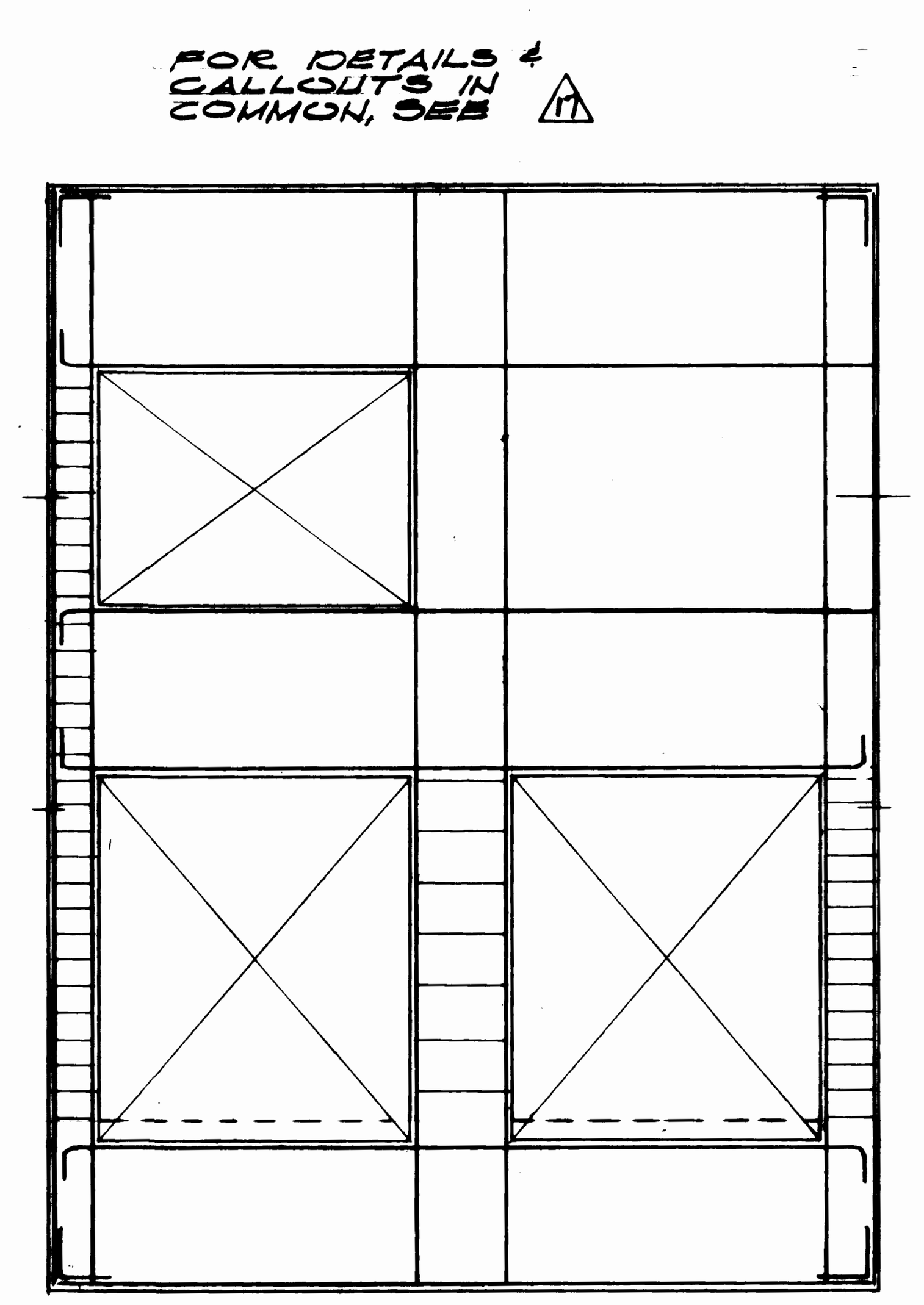
ELEVATION- PANEL 15 15"A"



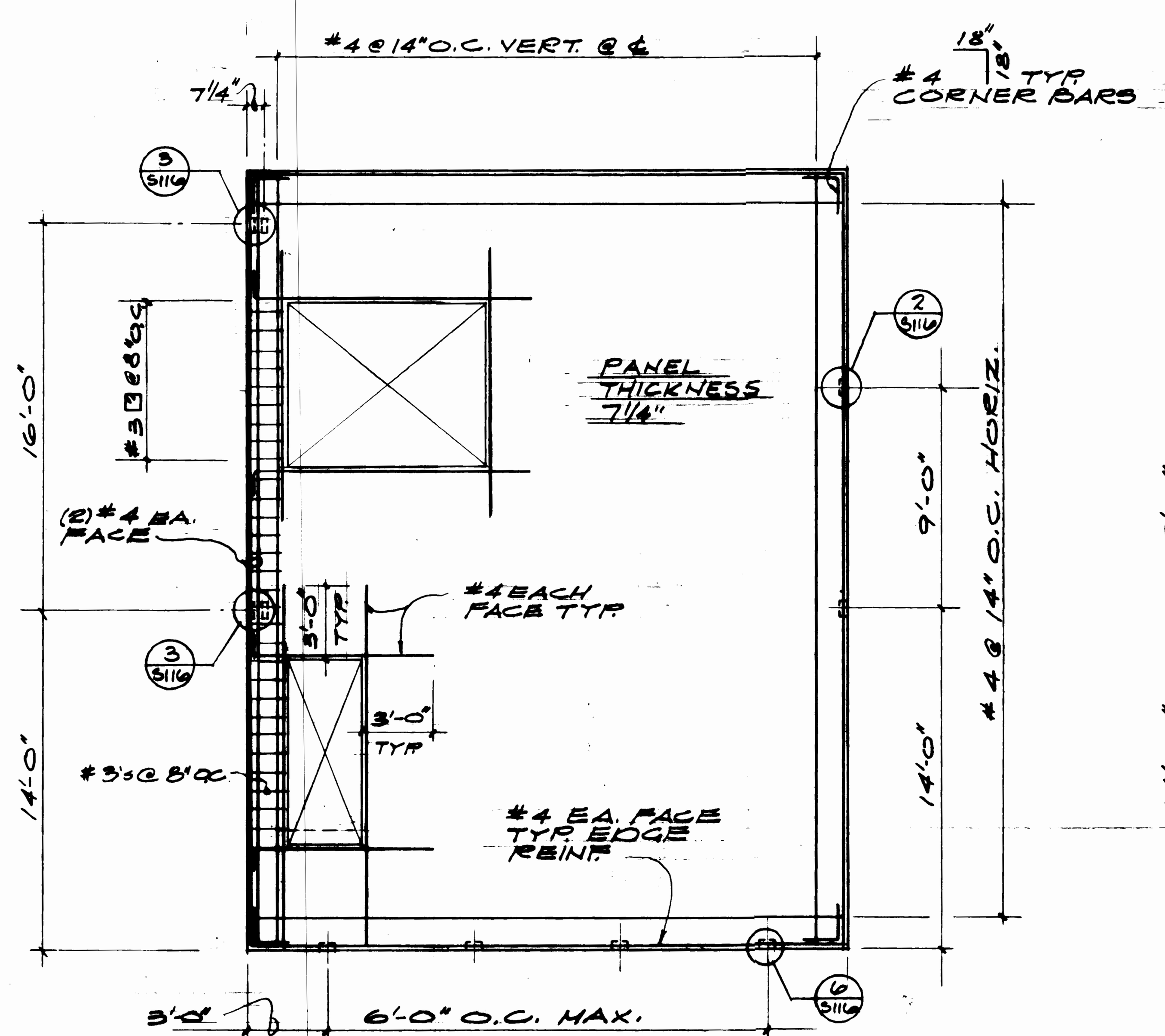
ELEVATION- PANEL 16



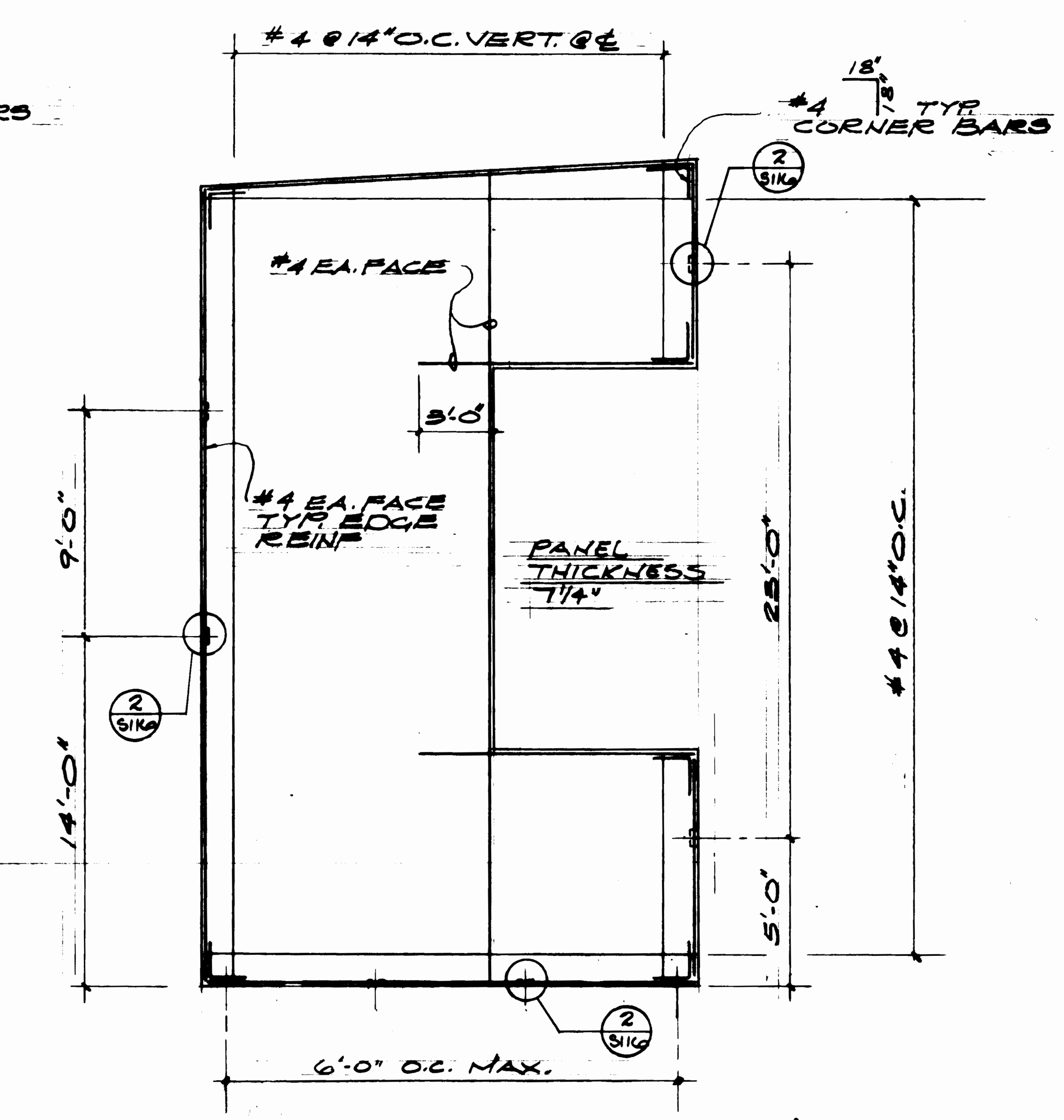
ELEVATION - PANEL 17



ELEVATION- PANEL 18



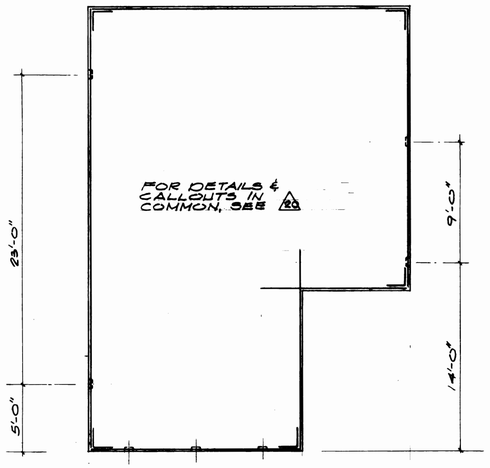
ELEVATION- PANEL 19



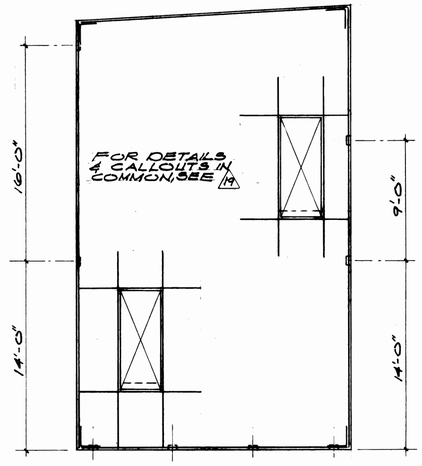
ELEVATION - PANEL 20

DRAWN N.N. DATE 3-22-84	PORT OF TACOMA
CHECKED D.S. DATE 3-22-84	TACOMA TERMINALS, INC.
CHECKED D.P. DATE 3-22-84	C.F.S. BUILDING — TILT-UP PANEL ELEVATIONS
CONT. NO. 557	
FIELD BOOK (S)	SCALE
APPROVED PROJECT MANAGER 3/30/84	DRAWING NO. EP 3879-23 -3114
CHIEF ENGINEER 3/30/84	SHEET 30 OF 71

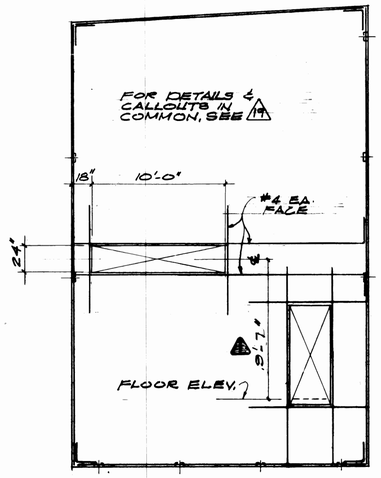
MARK	REVISION	BY	APP.	DATE
A	REVISED TO AS BUILT	R.J.S.		



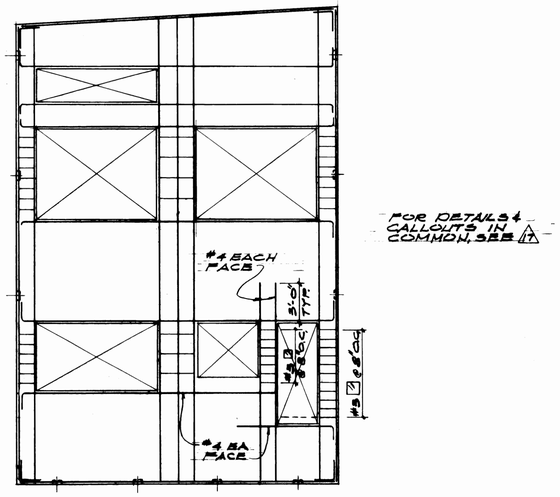
ELEVATION - PANEL 21



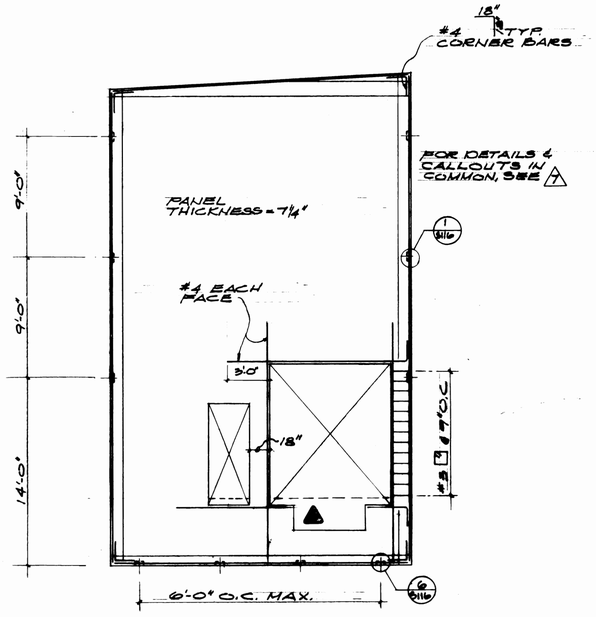
ELEVATION- PANEL 22



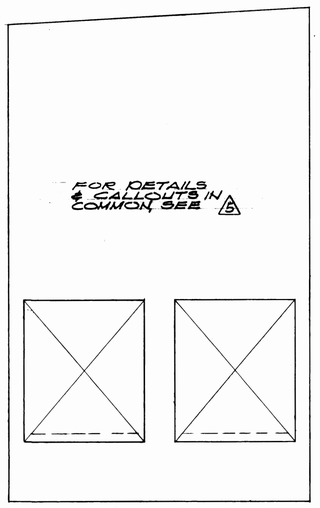
ELEVATION- PANEL 25



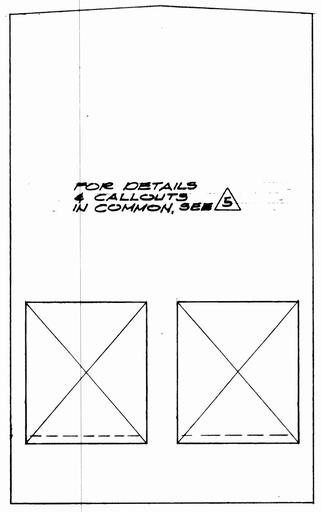
ELEVATION- PANEL 24



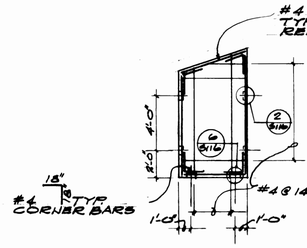
ELEVATION-PANEL 28



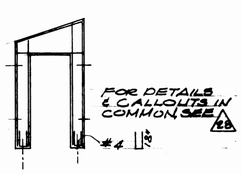
ELEVATION-PANEL 26



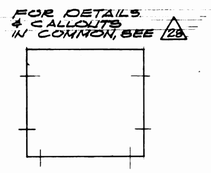
ELEVATION- PANEL 27



ELEVATION-PANEL 28



PANEL 29



PANEL 30

DRAWN N.N. DATE 3-22-84
CHECKED D.S. DATE 3-22-84
CHECKED D.P. DATE 3-22-84
CONT. NO. 557
FIELD BOOK (S)

PORT OF TACOMA

TACOMA TERMINALS, INC.

C.F.S. BUILDING

TILT-UP PANEL ELEVATIONS

SCALE

APPROVED — PROJECT MANAGER 3/30/84 DATE
CHIEF ENGINEER 3/30/84 DATE

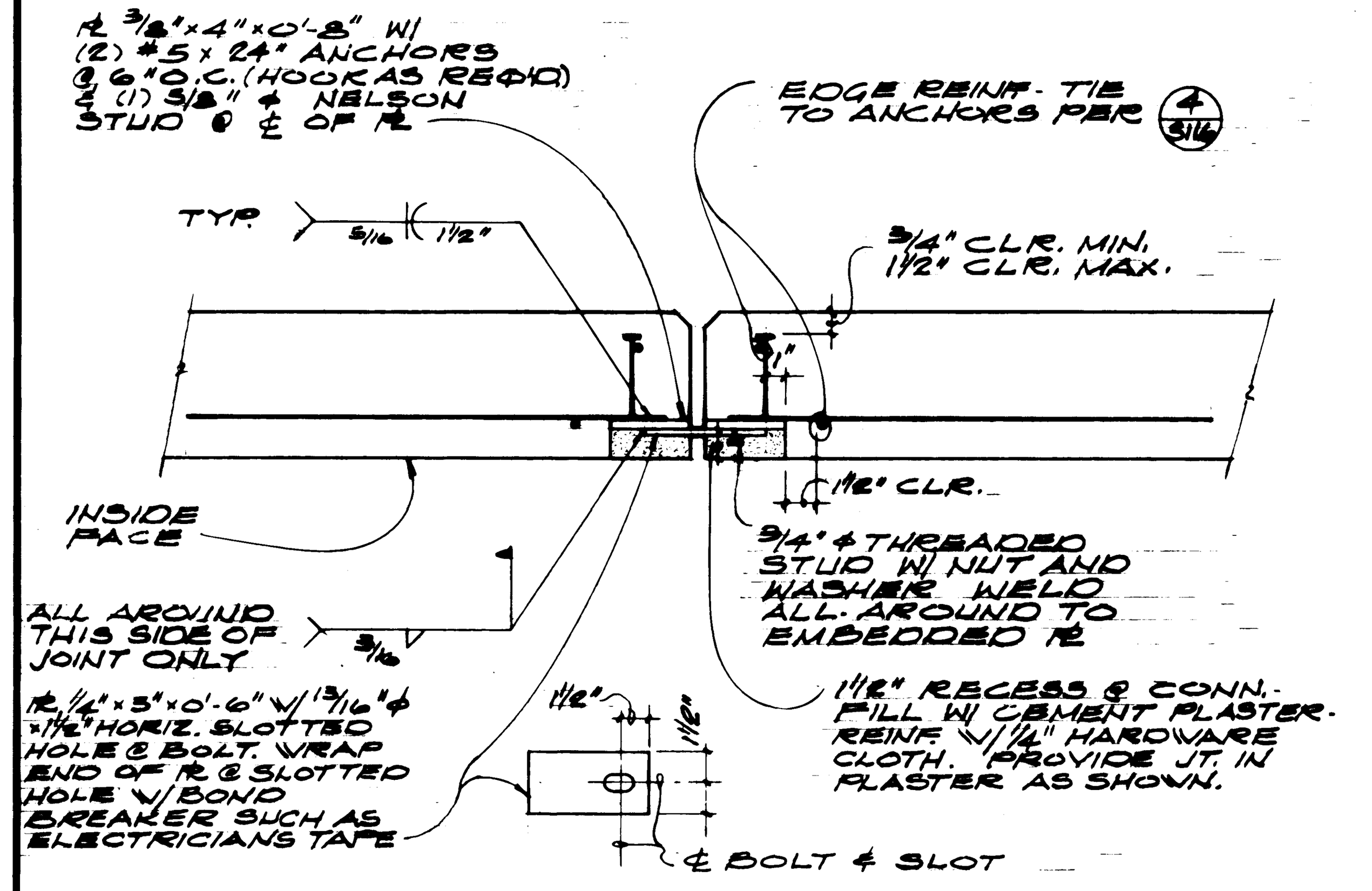
DRAWING NO. EP 3679-23 -S118

SHEET 31 OF 71

MARK	REVISION	BY	APP.	DATE
1	REVISED TO AS BUILT	R.J.S.		6-3-85

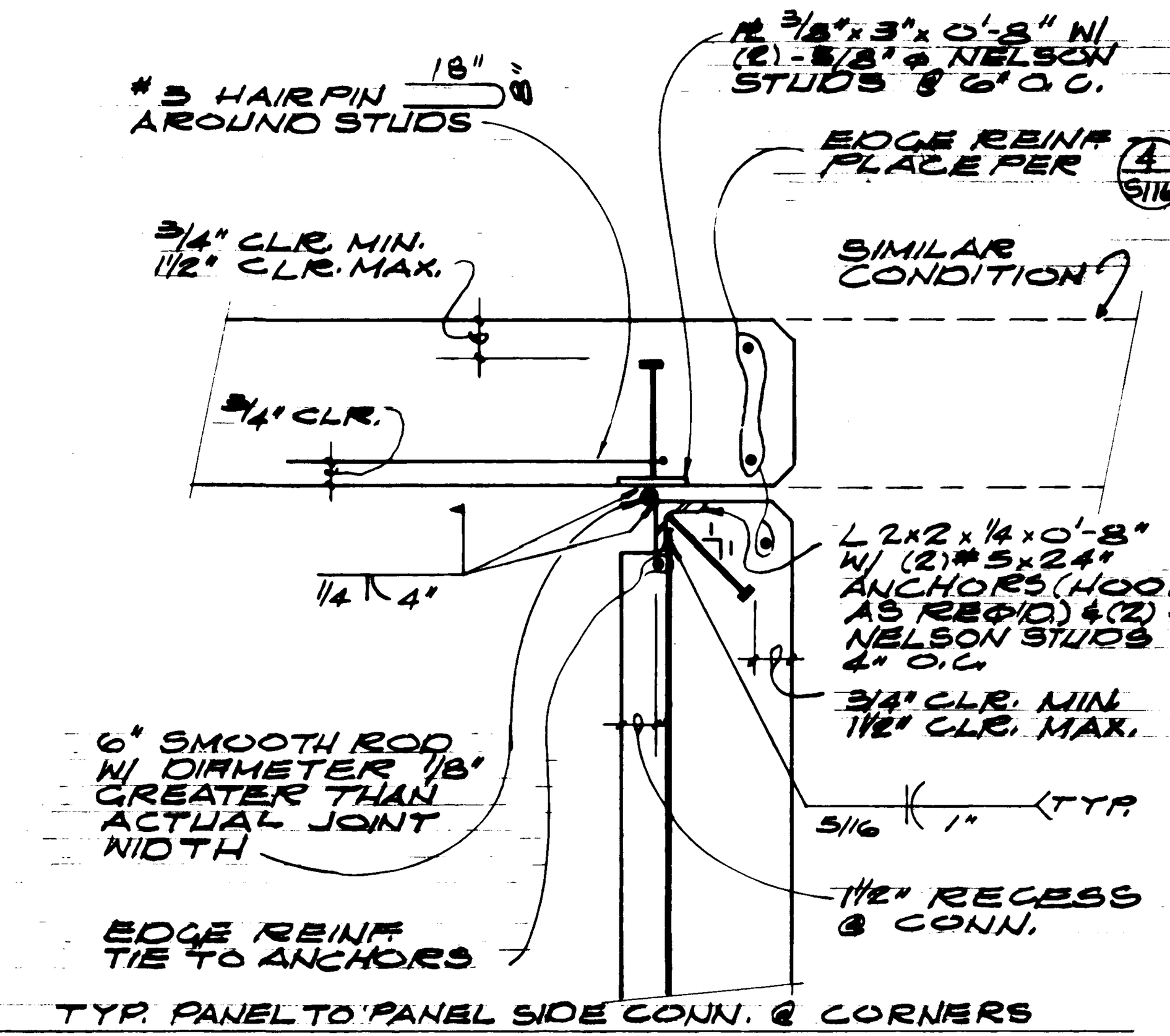
Shidler Engineers, Inc. Consulting Engineers
21 University, Suite 301, Seattle, WA 98101, (206) 682-4116
950 Bk. Pioneer, Suite 301, Tacoma, WA 98402, (206) 383-2787

J-5585



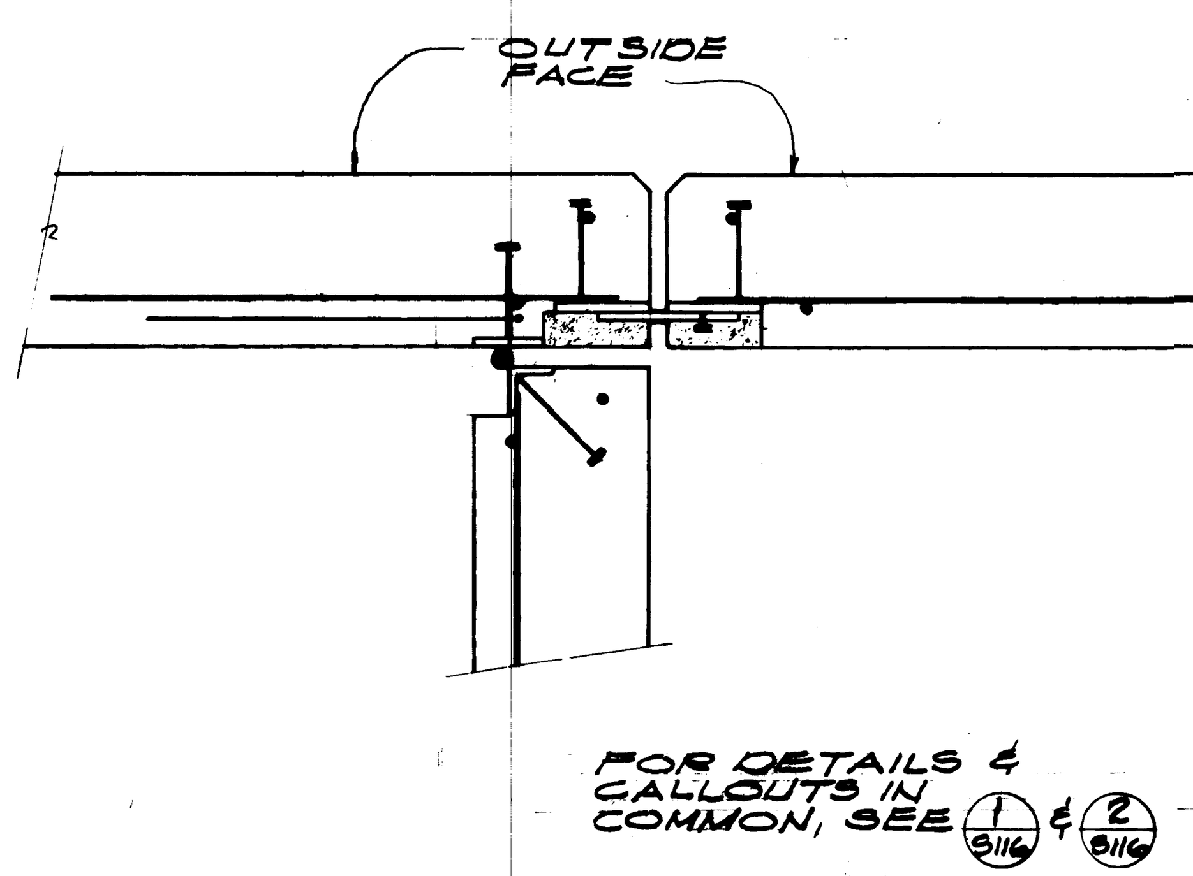
TYP. PANEL TO PANEL SIDE CONNECTOR

DETAIL (1/S116)
1½" = 1'-0"

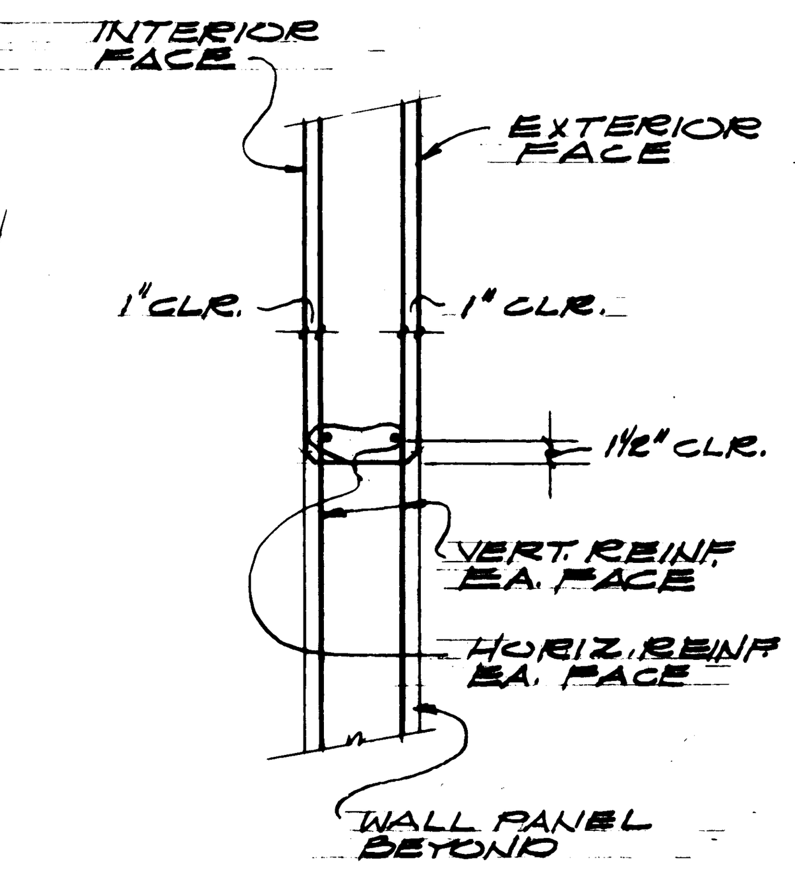


TYP. PANEL TO PANEL SIDE CONN. @ CORNERS

DETAIL (2/S116)
1½" = 1'-0"

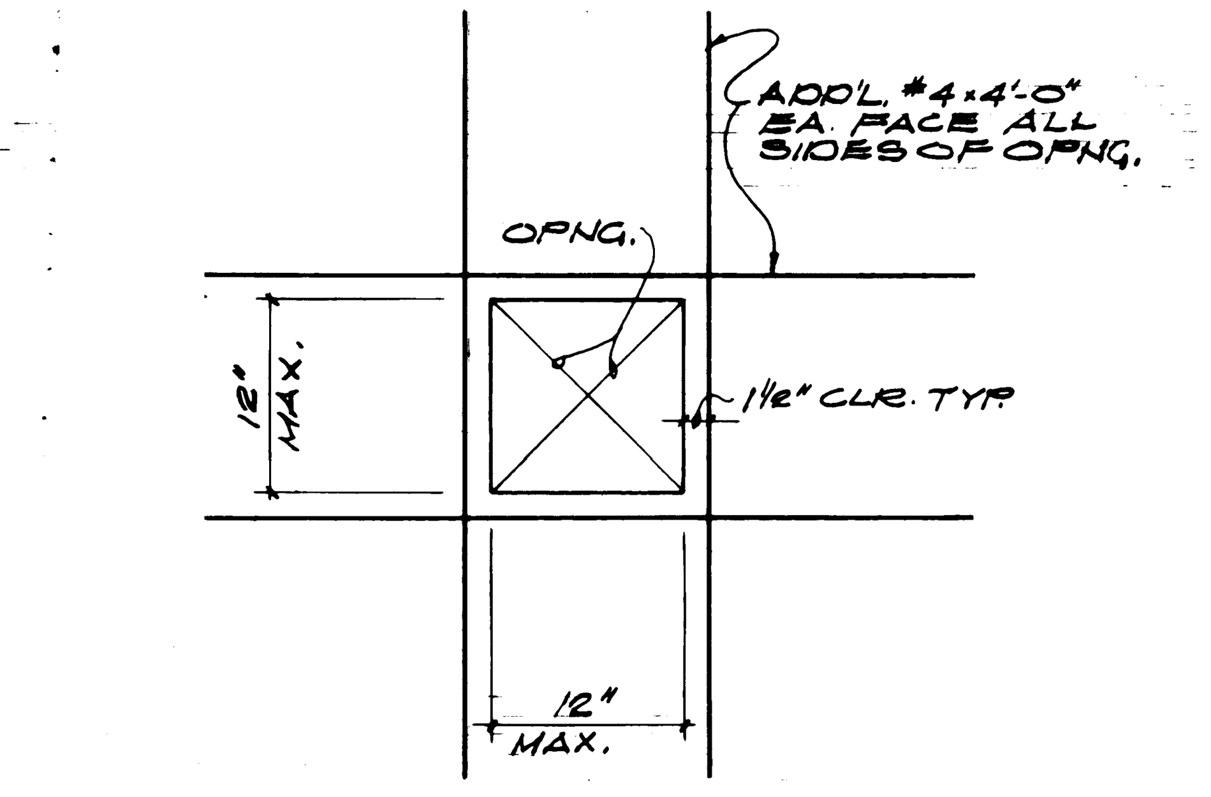


DETAIL (3/S116)
1½" = 1'-0"



TYP. PLACEMENT OF REINF. CALLED "EA. FACE" ON PANEL ELEVATIONS

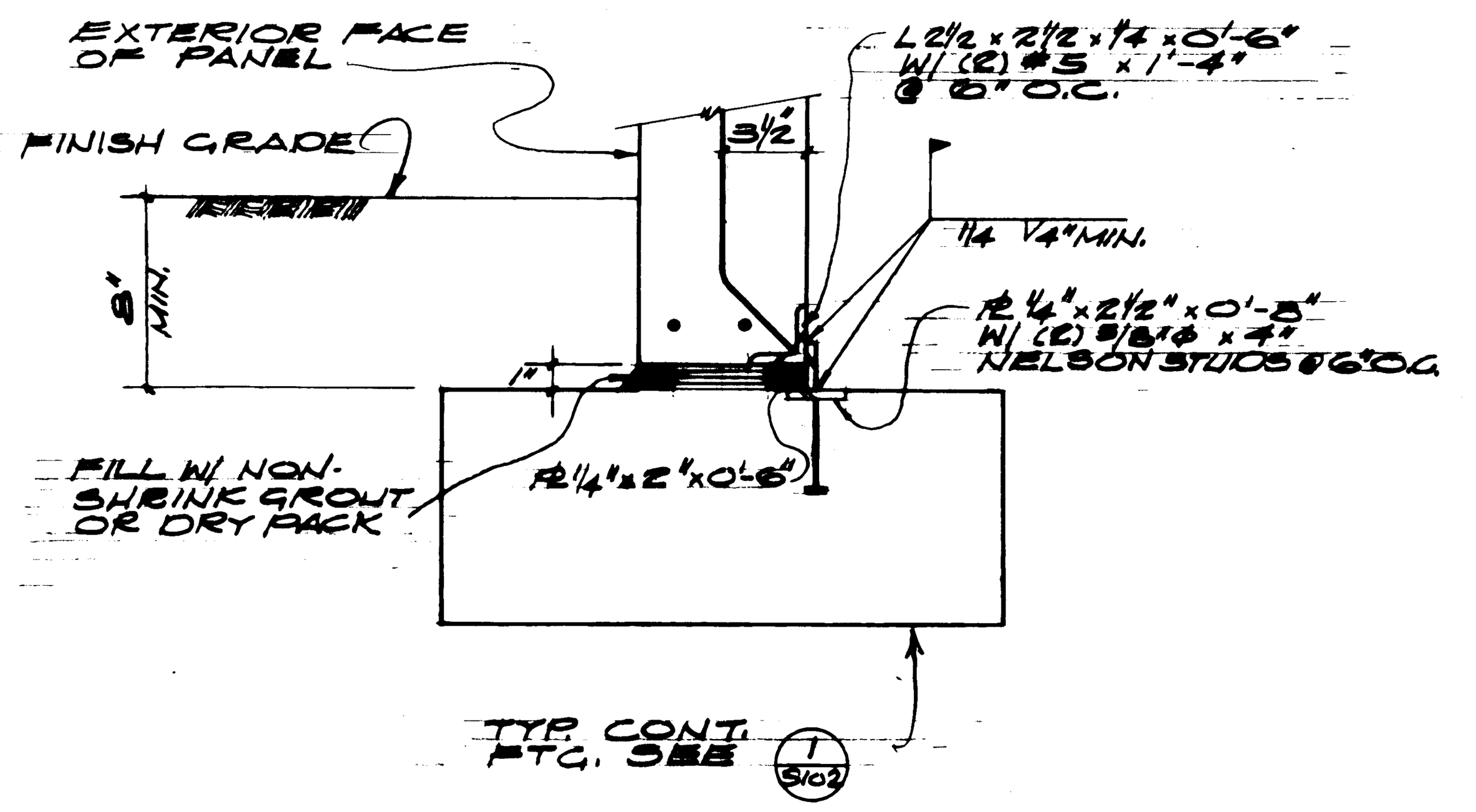
SECTION (4/S116)
1" = 1'-0"



NOTE
SPREAD NORMAL REINF. AS REQ'D. TO CLEAR OPNG.

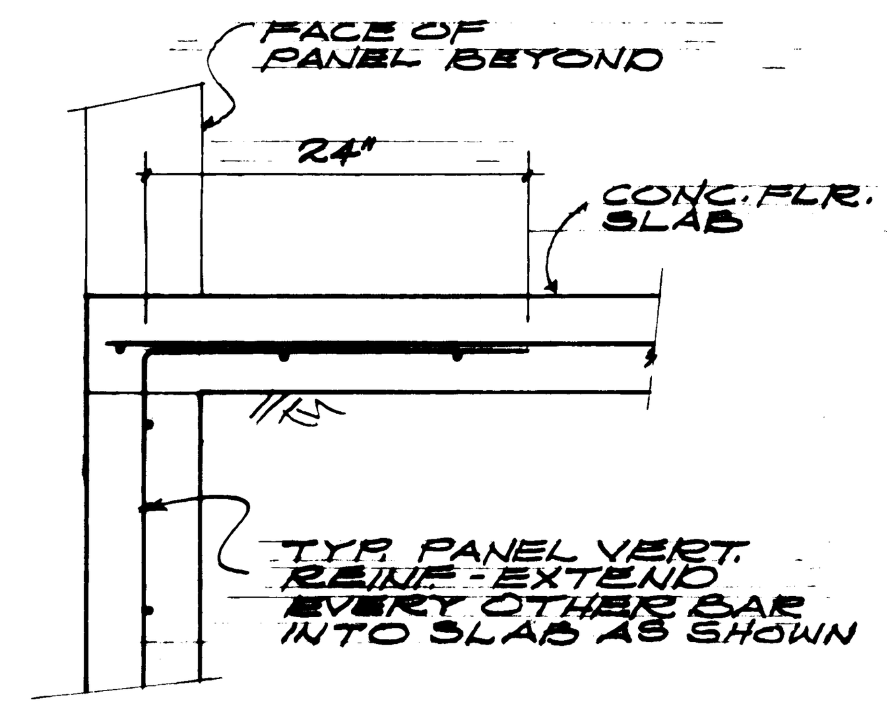
TYP. ADD'L. REINF. @ WALL OPNGS. SMALLER THAN 12"

DETAIL (5/S116)
NO SCALE



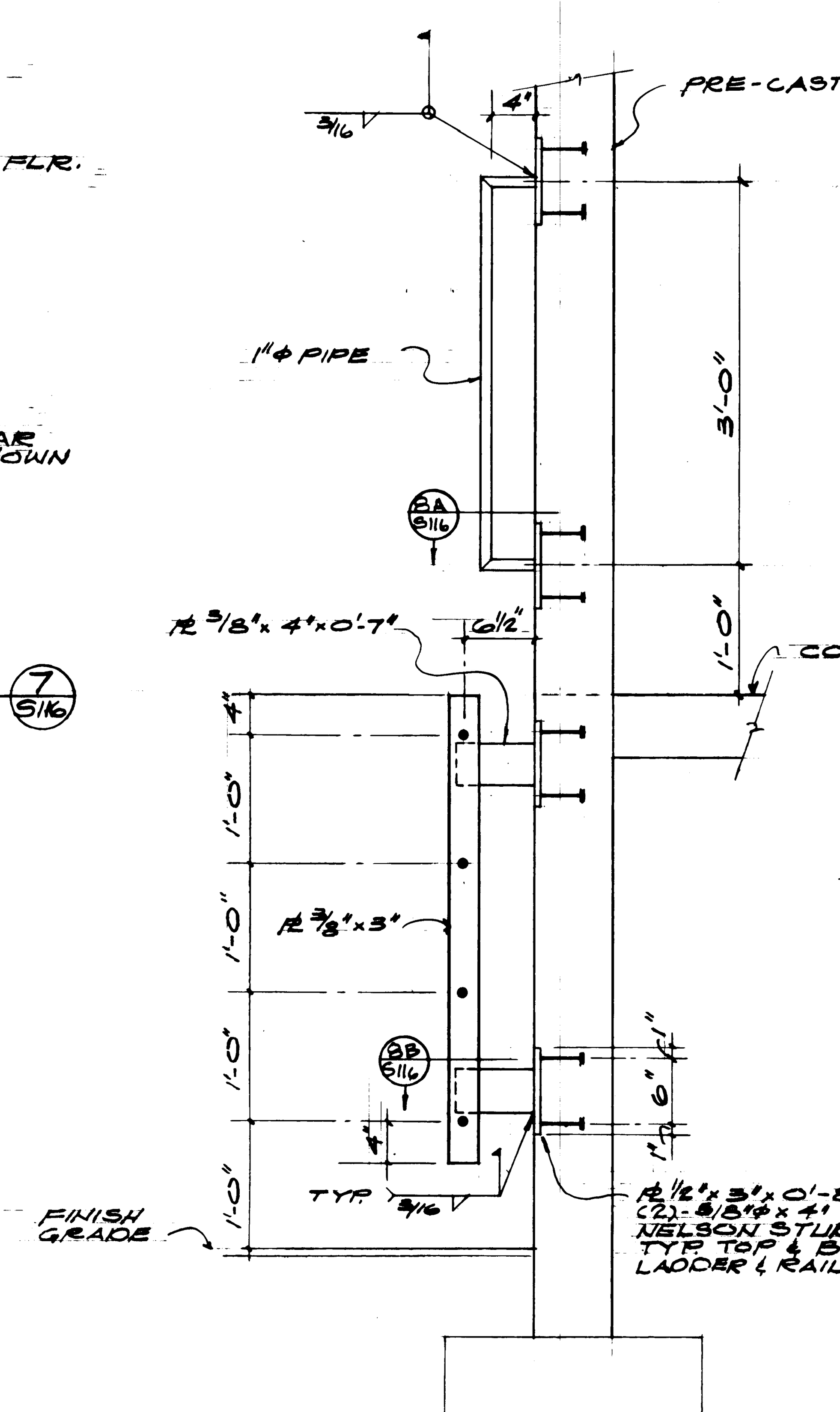
TYP. PANEL BOTTOM CONN. @ CONT. FTG.
SIMILAR AT SPREAD FOOTING

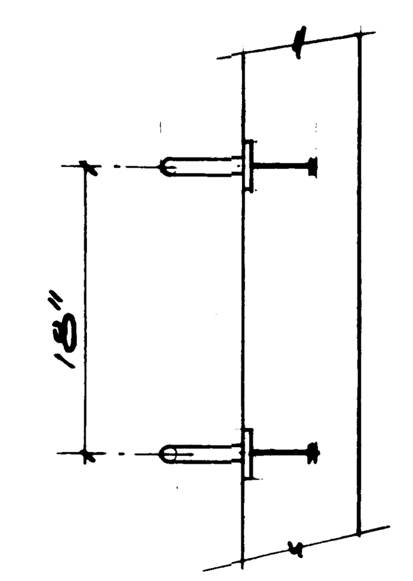
SECTION (6/S116)
1½" = 1'-0"



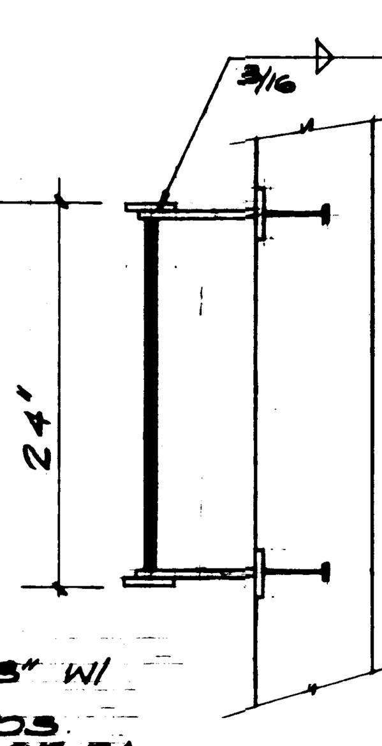
TYP. PANEL TO SLAB CONN. @ PANEL OPENING

SECTION (7/S116)
1" = 1'-0"





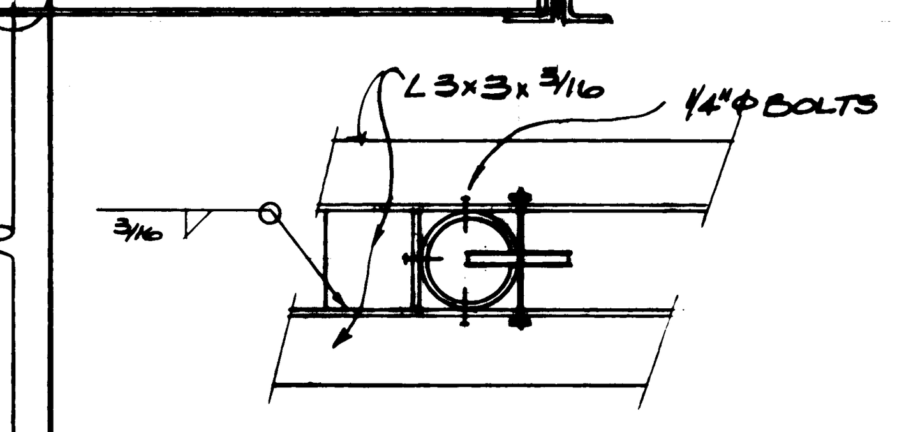
SECTION (8"A"/S116)
1" = 1'-0"



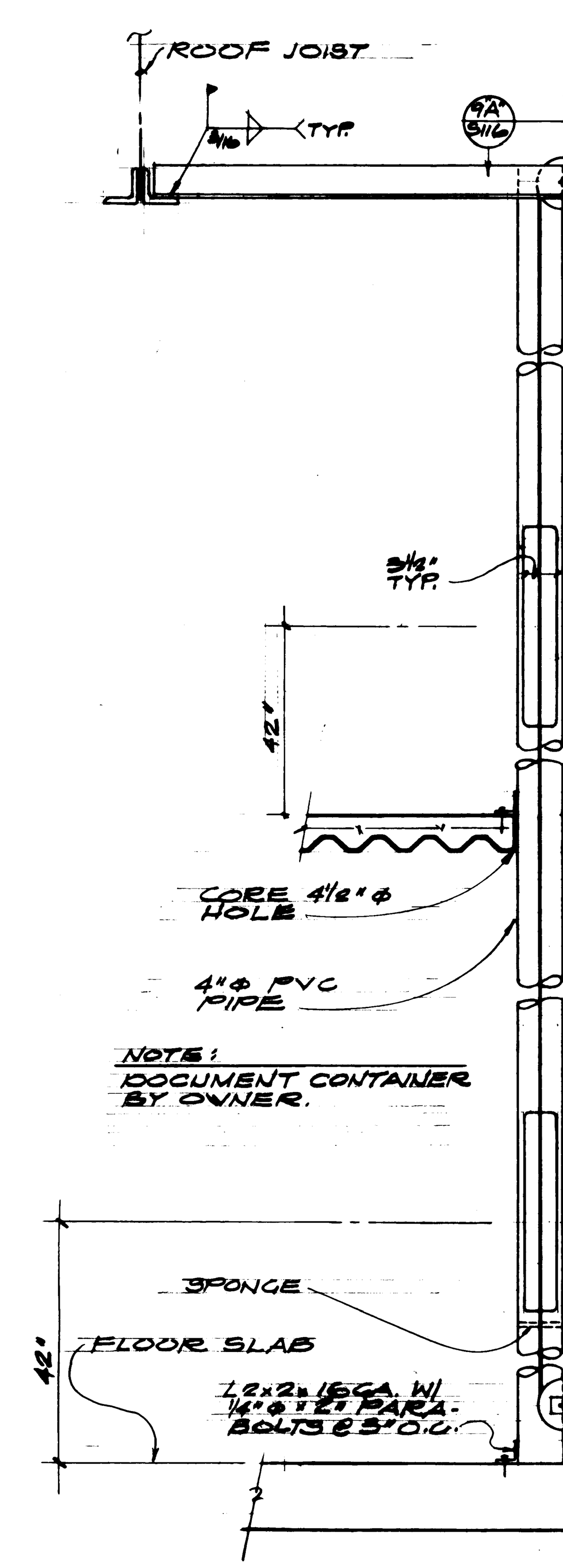
SECTION (8"B"/S116)
1" = 1'-0"

LADDER TYPE "L-1"

SECTION (8/S116)
1" = 1'-0"



PLAN (9"A"/S116)
1½" = 1'-0"



DOCUMENT LIFT

ELEVATION (9/S116)
1" = 1'-0"

Shafer Engineers, Inc.
Consulting Engineers
91 University, Suite 301
Seattle, WA 98101
(206) 682-4116
950 So. Fawcett, Suite 301
Tacoma, WA 98402
(206) 383-2797

MARK	REVISION	BY	APP.	DATE
	NO AS BUILT CHANGES	RJS		6.3.86

DRAWN N.N. DATE 3-22-84	PORT OF TACOMA
CHECKED D.S. DATE 3-22-84	TACOMA TERMINALS, INC.
CHECKED D.R. DATE 3-22-84	C.F.S. BUILDING TILT-UP PANEL DETAILS
CONT. NO. 557	
FIELD BOOK (S)	SCALE
APPROVED [signature] PROJECT MANAGER 3/30/84 DATE	DRAWING NO. EP3579-73 S-116
[signature] CHIEF ENGINEER 3/30/84 DATE	SHEET 32 OF 71

J 5585

GENERAL NOTES

These General Notes are to be used as a supplement to the Specifications. Any discrepancies found among the Drawings, the Specifications, these General Notes and the site conditions shall be reported to the Engineer, who shall correct such error or omission in writing. Any work done by the Contractor after discovery of such error shall be done at the Contractor's risk. The Contractor shall verify and coordinate dimensions among all drawings prior to proceeding with any work or fabrication. The Contractor is responsible for all bracing and shoring during construction.

Standards

All methods, materials and workmanship shall conform to the 1979 Uniform Building Code (UBC) as amended and adopted by the City of Tacoma.

DESIGN CRITERIA

		Roof	Slab on Grade
Vertical Loads:	Dead Load	Actual	Actual
	Live Load	25 PSF	500 PSF

Lateral Forces

1. Lateral forces are transmitted by diaphragm action of roof and floors to the columns. The loads are then transferred to the footing by cantilever action of the columns where ultimate displacement is resisted by passive pressure of earth and/or sliding friction. Overturning is resisted by dead load of the structure and soil surcharge.

2. Wind: 25 PSF "Wind-Pressure-Map" Area (20 PSF for Height < 30'-0").
   Overhangs and Partly Enclosed Areas: 125% of wind load less 2/3 design dead load.

3. Seismic: Zone 3 per 1979 UBC. V=ZIKCSW, V=Base Shear, Z=.75, I=1.00, K=1.00, CS=.14, W=Dead Load of Portion of Building.

Soil Bearing Pressure: 3500 PSF

All footings shall bear on firm structural backfill. Areas over-excavated shall be backfilled with lean concrete (f'c=2000 PSI) or "Structural Backfill". Areas designated "Structural Backfill" shall be filled with approved well-graded bankrun material. Maximum size of rock 4"-6". Frozen soil, organic material and deleterious matter not allowed. Compact to at least 95% of its maximum density as determined by ASTM D-1557. Contractor shall exercise extreme care during excavation to avoid damage to buried lines, tanks, and other concealed items. Upon discovery, do not proceed with work until receiving written instructions from Engineer. A competent representative of the Owner shall inspect all footing excavations for suitability of bearing surfaces prior to placement of reinforcing steel. Provide drainage around all work to avoid water-softened footings.

CONCRETE

Concrete: Shall be made with Portland Cement ASTM C-150 Type I or Type I-II, coarse and fine aggregate ASTM C-33, water clean and potable, and shall be ready-mixed per ASTM C-94 unless otherwise approved. Add to all concrete exposed to weather an air entraining agent to attain 5% ± 1-1/2% entrained air, by volume, conforming to ASTM C-260. No aluminum (conduit, miscellaneous items, etc.) shall be embedded in any concrete.

Materials

Item	Minimum f'c 28 Days	Normal Slump Inches* Maximum
Footings	3000	5
Retaining Walls	4000	4
Columns	4000	4
Slabs	4000	4
All Other Concrete	4000	4

*At Contractor's option, Contractor may use Master Builders Synergyzed Performance Systems or approved equal using Pozzolith admixtures to produce flowable concrete. Maximum slump shall not exceed 9". Master Builders concrete technician shall assist in determining proportions for SPS concrete and shall obtain approval of Engineer prior to employing this procedure.

Place concrete per ACI 304 and conform to ACI 604 (306) Winter Concreting and ACI 605 (305) for Hot Weather Concreting. Use interior mechanical vibrators with 7000 RPM minimum frequency. Do not over-vibrate. Concrete shall be poured monolithically between construction or expansion joints. Protect all freshly placed concrete from premature drying, excessive hot or cold temperature for seven days after pouring.

Non-Shrink Grout: Make from one part ASTM C-150 Type I Portland Cement, one part fine sand ASTM C-33, and one part "Master-flow 713" by Master Builders, or equal. Add water as required for a desired consistency. Fill entire space under plates, shapes, and it joints, avoiding air pockets. Use "Embeco 636" for nonexposed work.

Metal Reinforcement (Concrete & Masonry): All reinforcing shall conform to ASTM A-615, Grade 40 for #5 and smaller, Grade 60 for #6 and larger. Detail, fabricate and place per ACI 315 and ACI 318. Splices shall be 24 bar diameters or 18" minimum (30 bar diameters, 18" minimum for masonry).

STRUCTURAL STEEL

Detailing, Fabrication and Erection: Conform to the AISC "Manual of Steel Construction", 8th Edition.

Steel Shapes and Plates: ASTM A-36 (fy=36 ksi).

Steel Structural Tubing: ASTM A-500 (fy=46 ksi).

Machine Bolts (M.B.) and Anchor Bolts (A.B.): ASTM A-307.

Drilled-In Anchors: "Parabolt" by USM, Inc., Molly Fastener Division, or approved equal. Embed bolt into concrete or masonry 7 diameter minimum, except as shown.

Studs: "Nelson Studs" shall be by Nelson Stud Welding Division, Gregory Industries, Inc., or approved equal.

Concrete Anchors: Hooked or headed, smooth dowel stock, shop welded by certified welders.

Finish: Shop paint after fabrication with an approved primer (see Specifications). Galvanize after fabrication all miscellaneous steel exposed to weather or view.

Metal Joists: Shall conform to the Steel Joist Institute (SJI) and American Institute for Steel Construction (AISC) standards and shall be designed to carry the loads listed in the design criterion and those indicated on the framing plans. For special requirements, see structural drawings. Shop drawings shall be submitted bearing the stamp of a structural engineer licensed as such in the State of Washington.

Metal Roof Deck: Shall contain the minimum properties shown on the structural drawings and specifications. The roof deck shall be formed from steel sheets conforming to ASTM A-611-70 or A-446-72, and shall be galvanized per ASTM A-525. The roof deck shall be placed on the supporting framework with a minimum end lap of two inches.

Light-Gauge Metal Framing: Framing members shall be of the type, size and gauge as shown on the Plans and shall be manufactured by the Milcor Division of INRYCO Inc., or approved equal. All 16 gauge and heavier galvanized structural members shall be formed from steel that meets the requirements of ASTM A-446-72, Grade D, minimum 50 ksi yield. All 18 gauge and lighter galvanized structural members shall be formed from steel that meets the requirements of ASTM A-446-72, Grade A, minimum 33 ksi yield. Bridging per manufacturer's requirements shall be in place prior to placing of any construction loads. All runs shall be rigidly anchored to end walls.

WELDING

Structural Steel: Weld in accordance with "Structural Welding Code" AWS D-1.1-76.

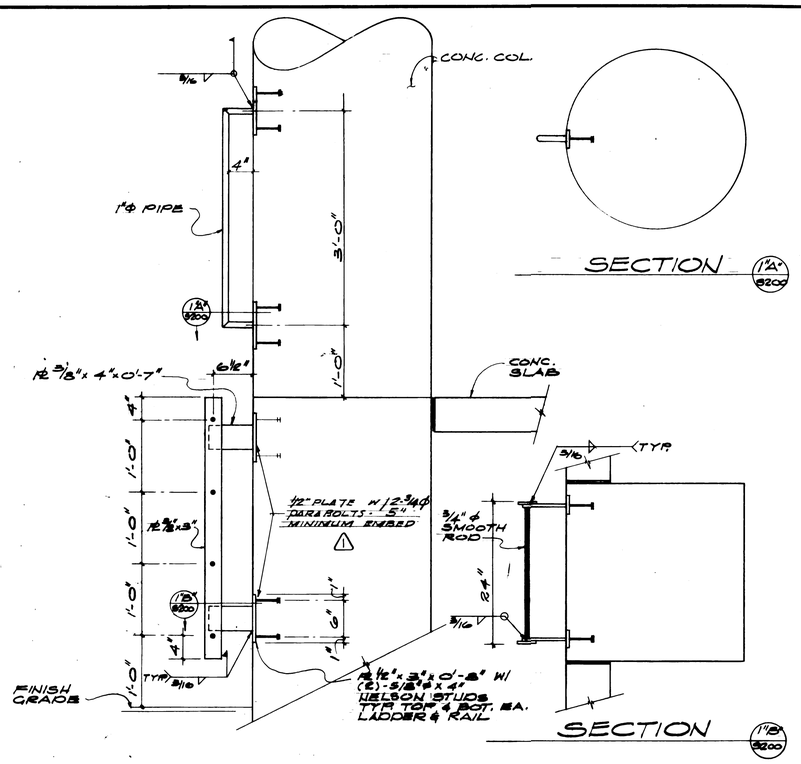
Reinforcing Steel: Weld in accordance with "Reinforcing Steel Welding Code" AWS D-12.1-75. Weld only with specific approval of the Engineer. In no case will a weld be made within 6 bar diameters of a "cold bend".

Certification: All welding shall be by certified welders.

Electrodes: Use E60 or E70 electrodes.

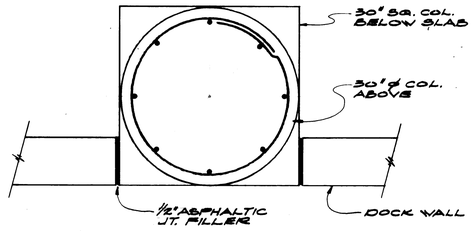
SUBSTITUTIONS

Substitutions may be allowed only if they meet the requirements of these General Notes and the Specifications, and if complete written engineering data for each condition required for this project is provided to the Project Engineer seven days prior to bid date and approved in written addenda by the Engineer. Data is to indicate code basis by year, authority for stresses and stress increases, if any, and amount of expected deflection for flexural members under (1) total load and (2) live load only. All increased costs in mechanical, sprinkler, electrical or general installation and any architectural or structural redesign resulting from substitution will be borne by the General Contractor.



LADDER TYPE "L-2"

SECTION
1"=1'-0"
1
S200



DETAIL
1"=1'-0"
2
S200

Shelton Engineers, Inc.
Consulting Engineers
51 University, Suite 301
Seattle, WA 98101
(206) 682-4116
950 Bs. Fawcett, Suite 301
Tacoma, WA 98402
(206) 383-5797

MARK	REVISION	BY	APP.	DATE
1	REVISED TO AS BUILT	RJS		9-6-85

DRAWN N.N. DATE 3-22-84
CHECKED D.S. DATE 3-22-84
CHECKED D.P. DATE 3-22-84
CONT. NO. 557

PORT OF TACOMA
TACOMA TERMINALS, INC.
COVERED STORAGE DOCK
GENERAL NOTES & MISC. DETAILS

FIELD BOOK (S)
SCALE
APPROVED
PROJECT MANAGER 3/30/84 DATE
CHIEF ENGINEER 3/30/84 DATE
DRAWING NO. EP 3579-23 S.200
SHEET 48 OF 71

J-5586

FOUNDATION NOTES:

1. L indicates ladder type "L-2", see 1/S200.
2. "F" denotes size of spread footing in feet. For details and reinforcing see 3/S201.

SPREAD FTG. SCHEDULE							
MARK	DIMENSIONS				REINF.		REMARKS
	"A"	"B"	"t"		"C"	"D"	
F5.5	5'-6"	5'-6"	16"		(7)#6	(7)#6	BURIED 2'
F9.0	9'-0"	9'-0"	30"		(18)#8	(18)#8	BURIED 2'
F12.0	12'-0"	12'-0"	30"		(18)#8	(18)#8	BURIED 2'
F13.0	13'-0"	13'-0"	30"		(18)#8	(18)#8	BURIED 3'

MARK	REVISION	BY	APP.	DATE
1	REVISED TO AS-BUILT			

DRAWN N.N. DATE 3-22-84
CHECKED D.S. DATE 3-22-84
CHECKED D.P. DATE 3-22-84
CONT. NO. 557

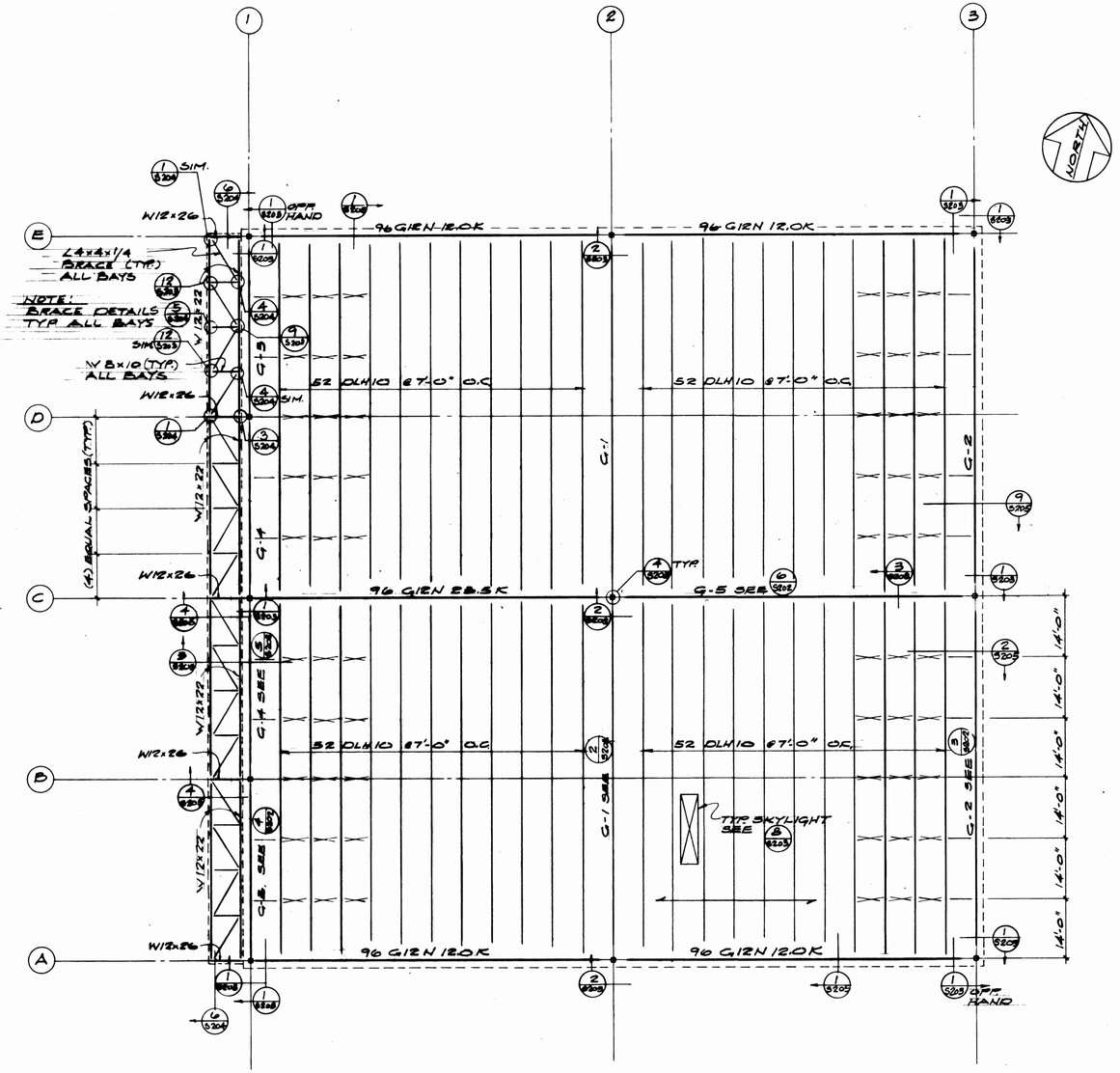
PORT OF TACOMA

TACOMA TERMINALS, INC.

COVERED STORAGE DOCK
FOUNDATION PLAN & DETAILS

FIELD BOOK (S)
SCALE
APPROVED
PROJECT MANAGER — DATE 3/30/84
CHIEF ENGINEER — DATE 3/30/84
DRAWING NO. EP 3879-23
SHEET 49 OF 71

J-

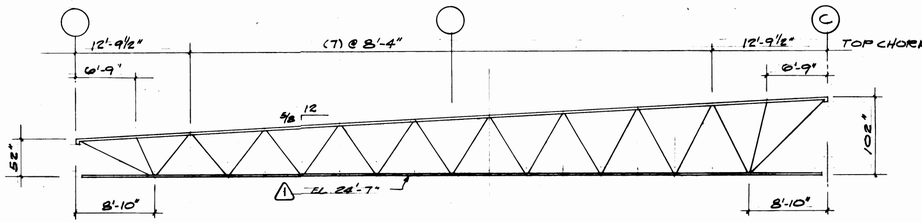


ROOF FRAMING PLAN

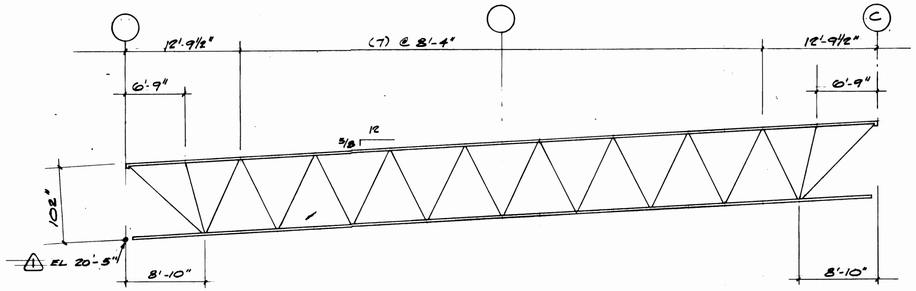
1/16" = 1'-0"

ROOF FRAMING NOTES:

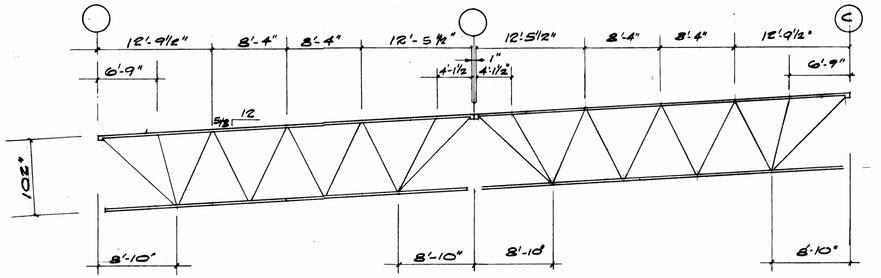
1. ⟷ Indicates direction of metal deck span. See 6/S203.
2. For openings less than 16" square see 7/S203.
3. For allowable methods and locations for hanging loads from steel joist see 5/S203.



ELEVATION - G-1

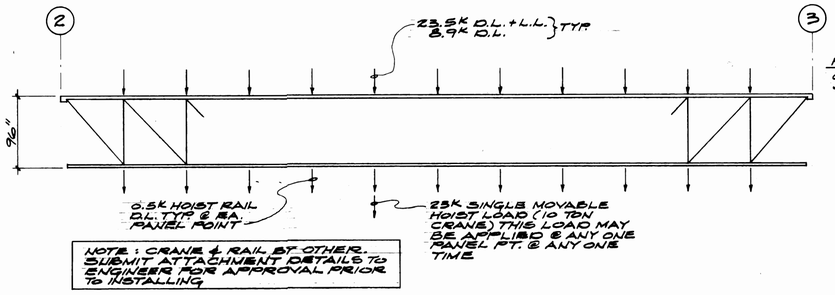


ELEVATION - G-2



ELEVATION - G-3

ELEVATION - G-4



NOTE:
GIRDER SHALL BE DESIGNED SEPARATELY FOR:
1) D.L.+L.L.+HOIST RAIL LOADS.
2) D.L.+HOIST RAIL+SINGLE MOVABLE HOIST LOAD @ ANY ONE PANEL POINT.
3) 7/8" ϕ BOLT HOLES IN EA. CHORD MEMBER @ EA. PANEL POINT.

ELEVATION - G-5

DRAWN N.N.
DATE 3-22-84
CHECKED D.S.
DATE 3-22-84
CHECKED D.P.
DATE 3-22-84
CONT. NO. 557

PORT OF TACOMA

TACOMA TERMINALS, INC.

COVERED STORAGE DOCK

ROOF FRAMING PLAN & DETAILS

FIELD BOOK (S)

SCALE

APPROVED

MANAGER

CHIEF ENGINEER

3/30/84
DATE

3/31/84
DATE

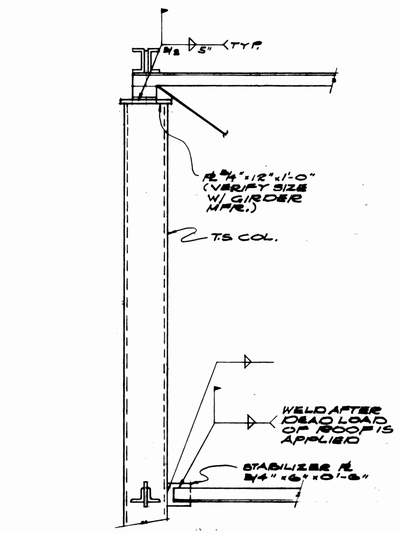
DRAWING NO. EP 3814-23 -S202

SHEET 50 OF 71

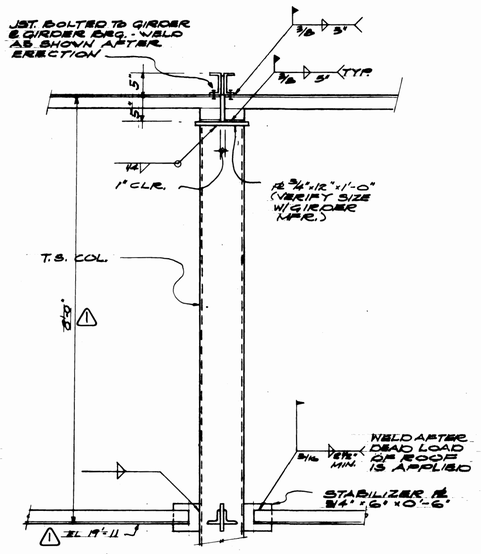
MARK	REVISION	BY	APP.	DATE
1	REVISED TO AS-BUILT	RJS		8-9-85

Shelton Engineers, Inc.
Consulting Engineers
91 University, Suite 201
Seattle, WA 98101
(206) 682-4116
950 Pacific, Suite 201
Tacoma, WA 98402
(206) 383-5797

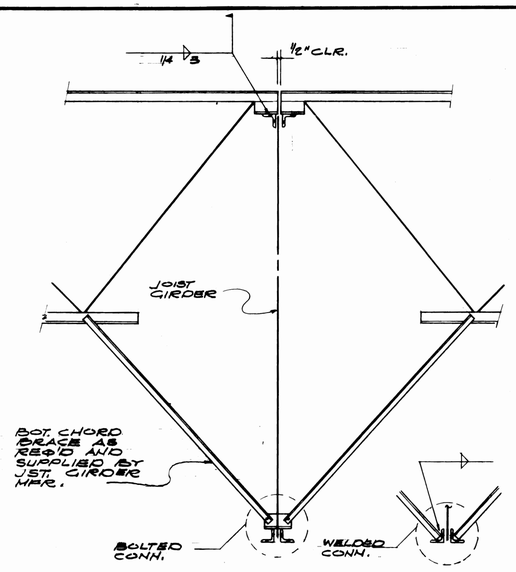
J-3886



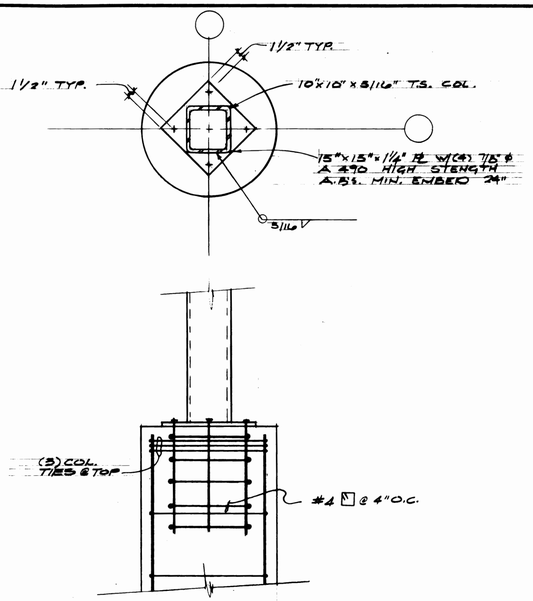
TYP. JST. GIRDER TO EXTERIOR STEEL COLUMN CONN.



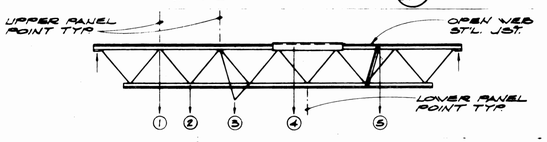
TYP. JST. GIRDER TO STL. COL. CONN.



TYP. JOIST CONN. @ JOIST GIRDER



SECTION 1 (5203) — 3/4" = 1'-0"



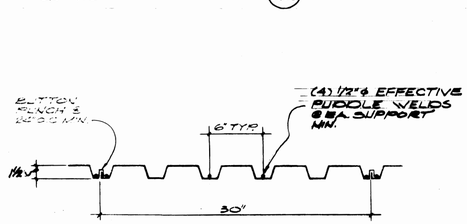
① Hang within 3" of any upper panel point for "H" series joist, 6" for "LH" series.
② Hang within 3" of any lower panel point for "H" series joist, 6" for "LH" series.
③ Trapeze between any panel points.
④ Add an angle to stiffen the top chord - contact structural engineer for angle size.
⑤ Add an angle between load location and lower chord panel point - contact structural engineer for angle size.

Notes:
1. The maximum allowable single load that may be added to the joist at any one point = **500#**
2. The maximum allowable total load that may be added to any one joist = **700#**
3. Single loads less than **40#** may be added anywhere along the upper chord (not just at panel points) without adding an angle to stiffen the joist.
4. Do not cut or drill through any joist member.
5. This detail is applicable to hanging mechanical equipment, sprinkler pipes, etc.

ALLOWABLE METHODS & LOCATIONS FOR HANGING LOADS FROM OPEN WEB STEEL JOIST

DETAIL — NO SCALE — (5) 5203

SECTION 2 (5203) — 3/4" = 1'-0"

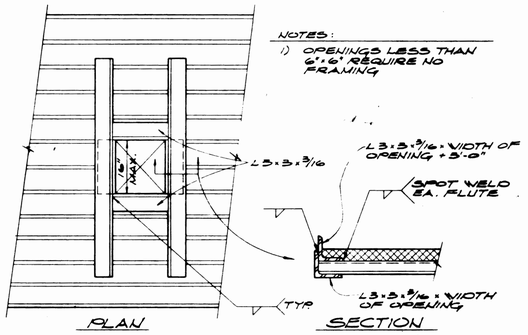


MIN. DECK PROPERTIES		
GAUGE	I in.^{4}	S in.^{3}
22	.175	.205

NOTES:
1) MIN. DECK PROPERTIES & WELD PATTERN SHOWN.
2) (2) SPAN MIN., (3) SPAN PREFERRED.

DETAIL — NO SCALE — (6) 5203

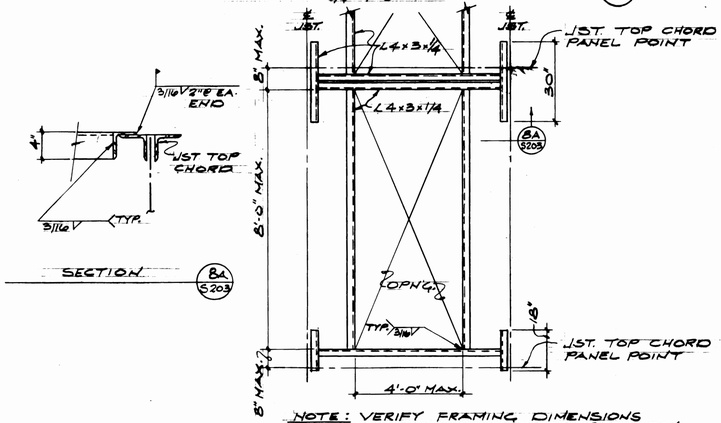
SECTION 3 (5203) — 3/4" = 1'-0"



TYP. DTL. @ OPN'GS. IN METAL DECK LESS THAN 16" SQUARE

SECTION — NO SCALE — (7) 5203

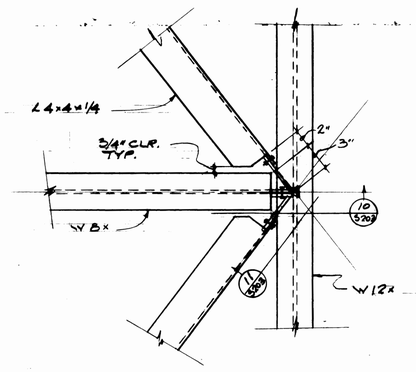
SECTION 4 (5203) — 3/4" = 1'-0"



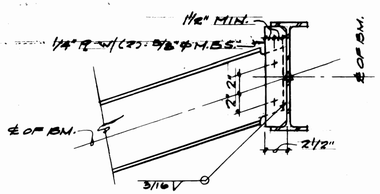
NOTE: VERIFY FRAMING DIMENSIONS W/ SKYLIGHT MANUFACTURER - SEE ARCH. FOR LOCATION.

TYP. FRAMING @ SKYLIGHT OPENING IN METAL ROOF DECK

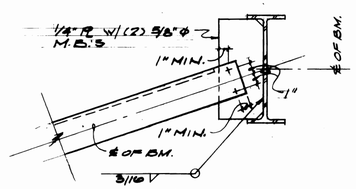
DETAIL — NO SCALE — (8) 5203



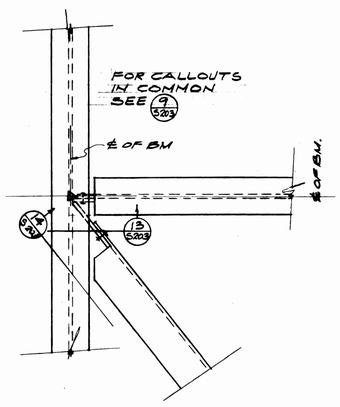
SECTION — 1 1/2" = 1'-0" — (9) 5203



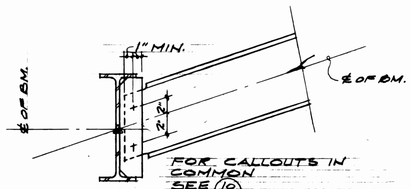
SECTION — 1 1/2" = 1'-0" — (10) 5203



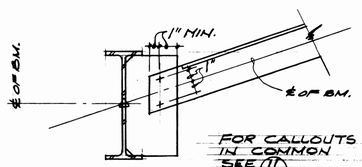
SECTION — 1 1/2" = 1'-0" — (11) 5203



SECTION — 1 1/2" = 1'-0" — (12) 5203



SECTION — 1 1/2" = 1'-0" — (13) 5203



SECTION — 1 1/2" = 1'-0" — (14) 5203

DRAWN N.N.
DATE 3-22-84
CHECKED D.B.
DATE 3-22-84
CHECKED D.P.
DATE 3-22-84
CONT. NO. 597

PORT OF TACOMA

TACOMA TERMINALS, INC.

COVERED STORAGE DOCK

SECTIONS & DETAILS

FIELD BOOK (S)

SCALE

APPROVED — DATE 3/30/84

CHIEF ENGINEER — DATE 3/30/84

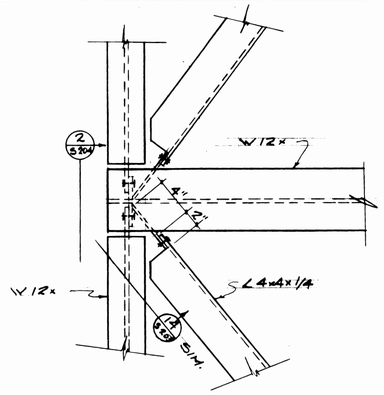
DRAWING NO. EP 3879.23 - 5203

SHEET 51 OF 71

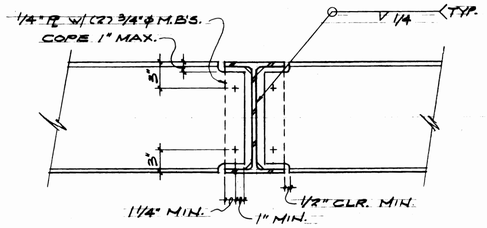
Shelton Engineers, Inc.
Consulting Engineers
51 University, Suite 301
Seattle, WA 98101
(206) 682-4116
950 Bo. Fawcett, Suite 301
Tacoma, WA 98402
(206) 383-2787

MARK	REVISION	BY	APP.	DATE
1	REVISED TO AS-BUILT	AJS		5/16/85

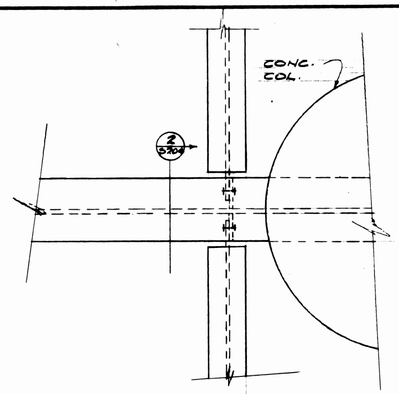
J-5586



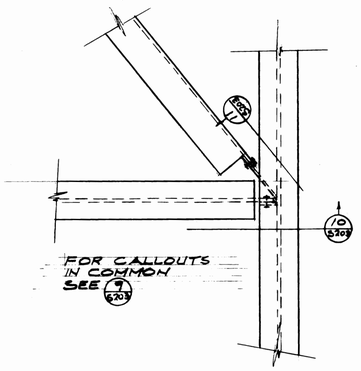
SECTION
1½"=1'-0"
1
S204



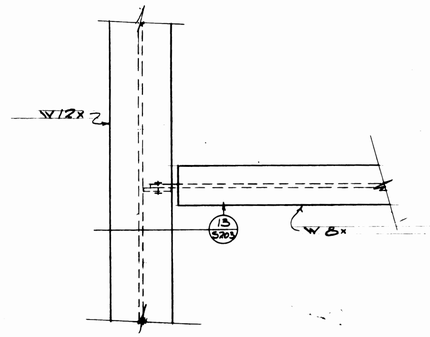
SECTION
1½"=1'-0"
2
S204



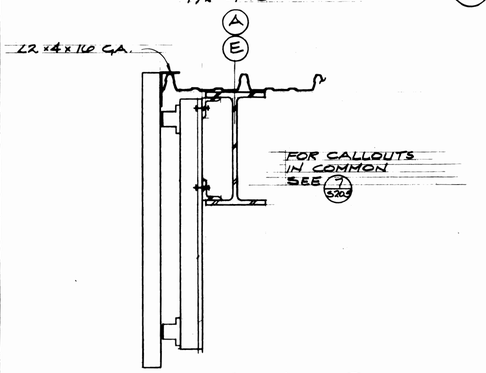
SECTION
1½"=1'-0"
3
S204



SECTION
1½"=1'-0"
4
S204



SECTION
1½"=1'-0"
5
S204

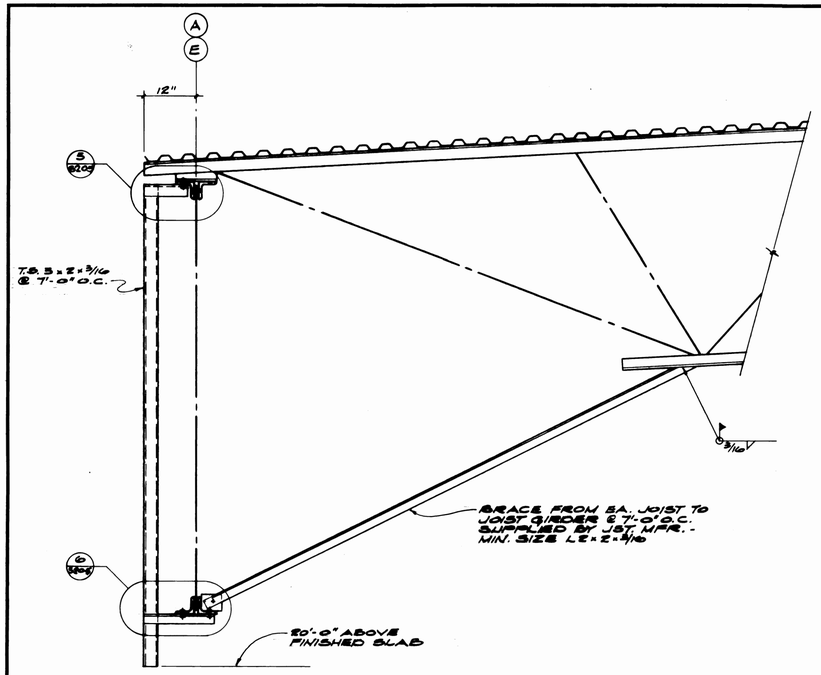


SECTION
6
S204

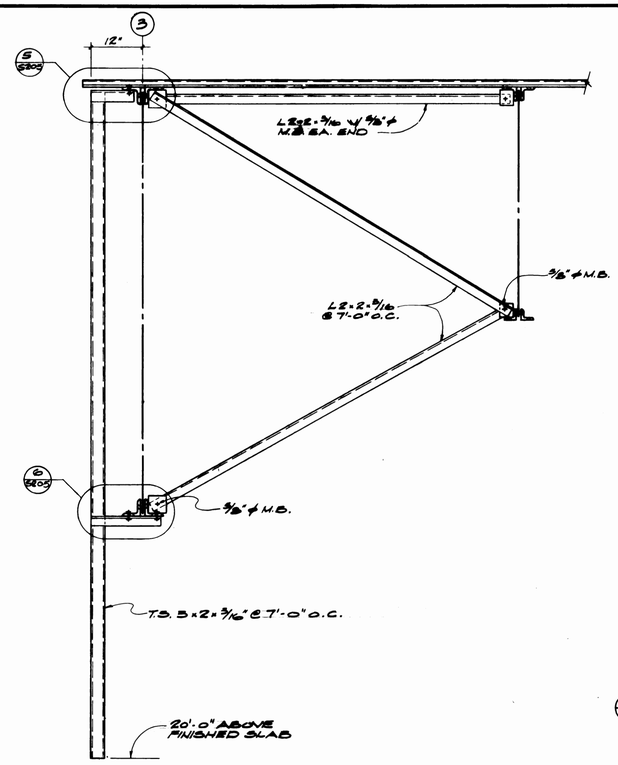
MARK	REVISION	BY	APP.	DATE
	NO AS-BUILT CHANGE	R.J.S.		6/18/84

DRAWN N.N. DATE 3-22-84	PORT OF TACOMA
CHECKED D.S. DATE 3-22-84	TACOMA TERMINALS, INC.
CHECKED D.P. DATE 3-22-84	COVERED STORAGE DOCK
CONT. NO. 557	SECTIONS & DETAILS
FIELD BOOK (S)	SCALE
APPROVED PROJECT MANAGER 3/30/84 DATE	DRAWING NO. EP 3879-22-5204
CHIEF ENGINEER 3/30/84 DATE	SHEET 52 OF 71

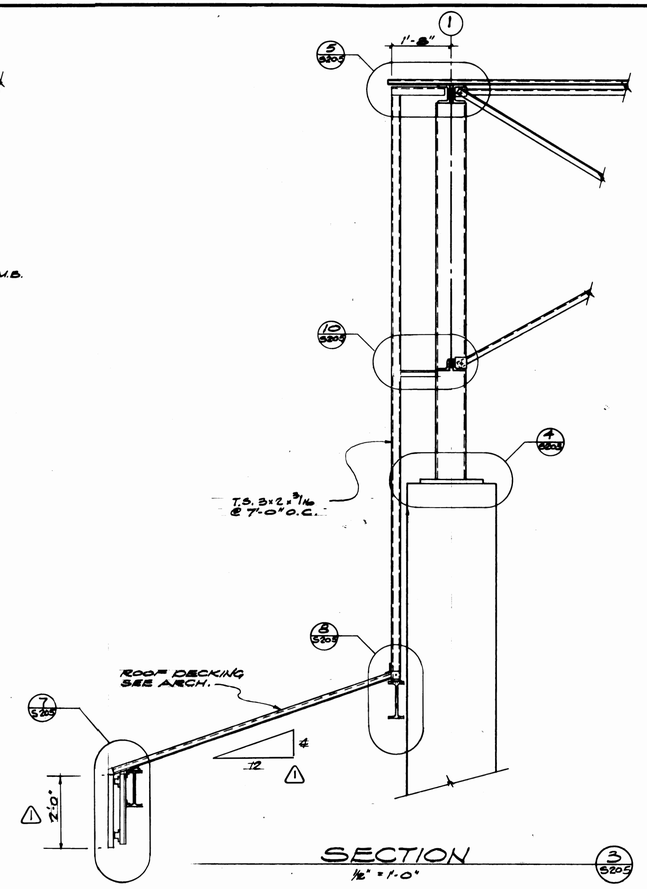
J-5586



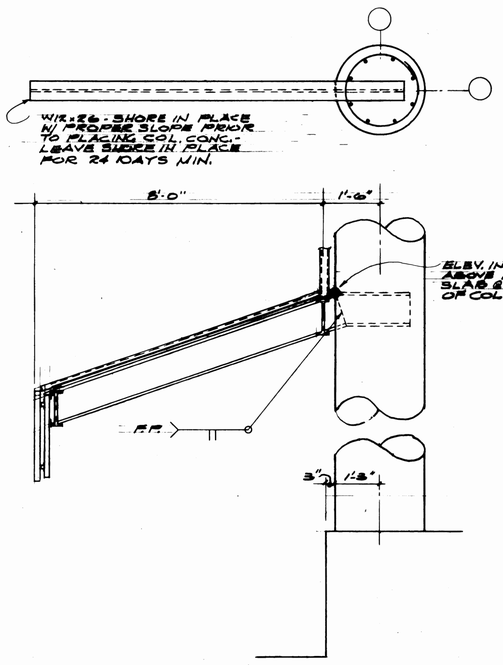
SECTION
3/4" = 1'-0"
1 5205



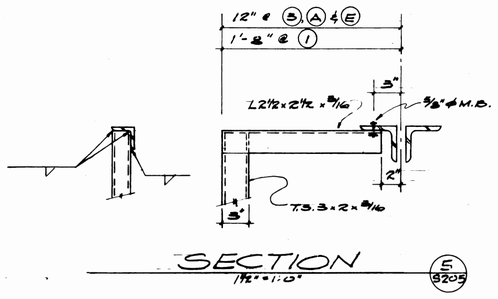
SECTION
3/4" = 1'-0"
2 5205



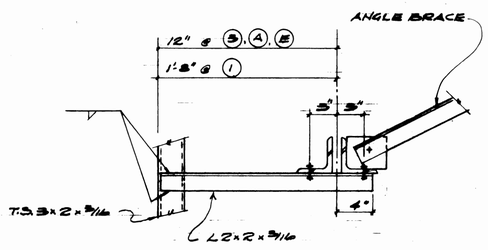
SECTION
1/2" = 1'-0"
3 5205



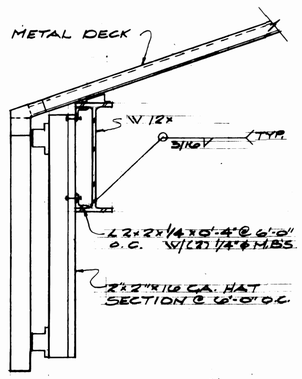
SECTION
1/2" = 1'-0"
4 5205



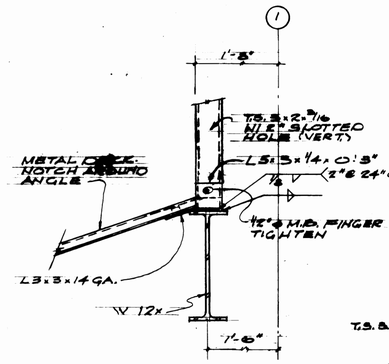
SECTION
1 1/2" = 1'-0"
5 5205



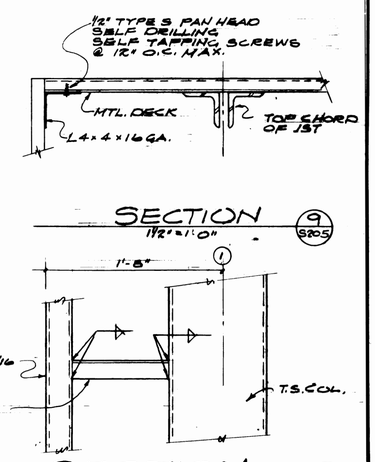
SECTION
1 1/2" = 1'-0"
6 5205



SECTION
1 1/2" = 1'-0"
7 5205



SECTION
1 1/2" = 1'-0"
8 5205



SECTION
1 1/2" = 1'-0"
9 5205

SECTION
1 1/2" = 1'-0"
10 5205

Shelton Engineers, Inc.
Consulting Engineers
51 University, Suite 201
Seattle, WA 98101
(206) 682-4116
950 Bo. Fawcett, Suite 201
Tacoma, WA 98402
(206) 383-2787

MARK	REVISION	BY	APP.	DATE
1	REVISED TO AS BUILT	R.J.S		6.14.85

DRAWN W.N.
DATE 3-22-84
CHECKED D.B.
DATE 3-22-84
CHECKED D.P.
DATE 3-22-84
CONT. NO. 557
FIELD BOOK (S)

PORT OF TACOMA

TACOMA TERMINALS, INC.

COVERED STORAGE DOCK

SECTIONS & DETAILS

APPROVED
PROJECT MANAGER 3/30/84 DATE
CHIEF ENGINEER 3/30/84 DATE

SCALE
DRAWING NO. EP 3879-23
SHEET 53 OF 71 SHEETS

J-8580

MARK	REVISION	BY	APP.	DATE
	RD AS-BUILT CHANGES	R.J.S.		6-14-85

DRAWN N.N. DATE 3-22-84
CHECKED D.B. DATE 3-22-84
CHECKED D.P. DATE 3-22-84
CONT. NO. 557

PORT OF TACOMA

TACOMA TERMINALS, INC.

COVERED STORAGE DOCK
OFFICE FRAMING PLAN & DETAILS

FIELD BOOK (S)
SCALE

APPROVED
PROJECT MANAGER — DATE 3/30/84
CHIEF ENGINEER — DATE 3/30/84

DRAWING NO. EP 3579-23 S-206
SHEET 54 OF 71

J-5586