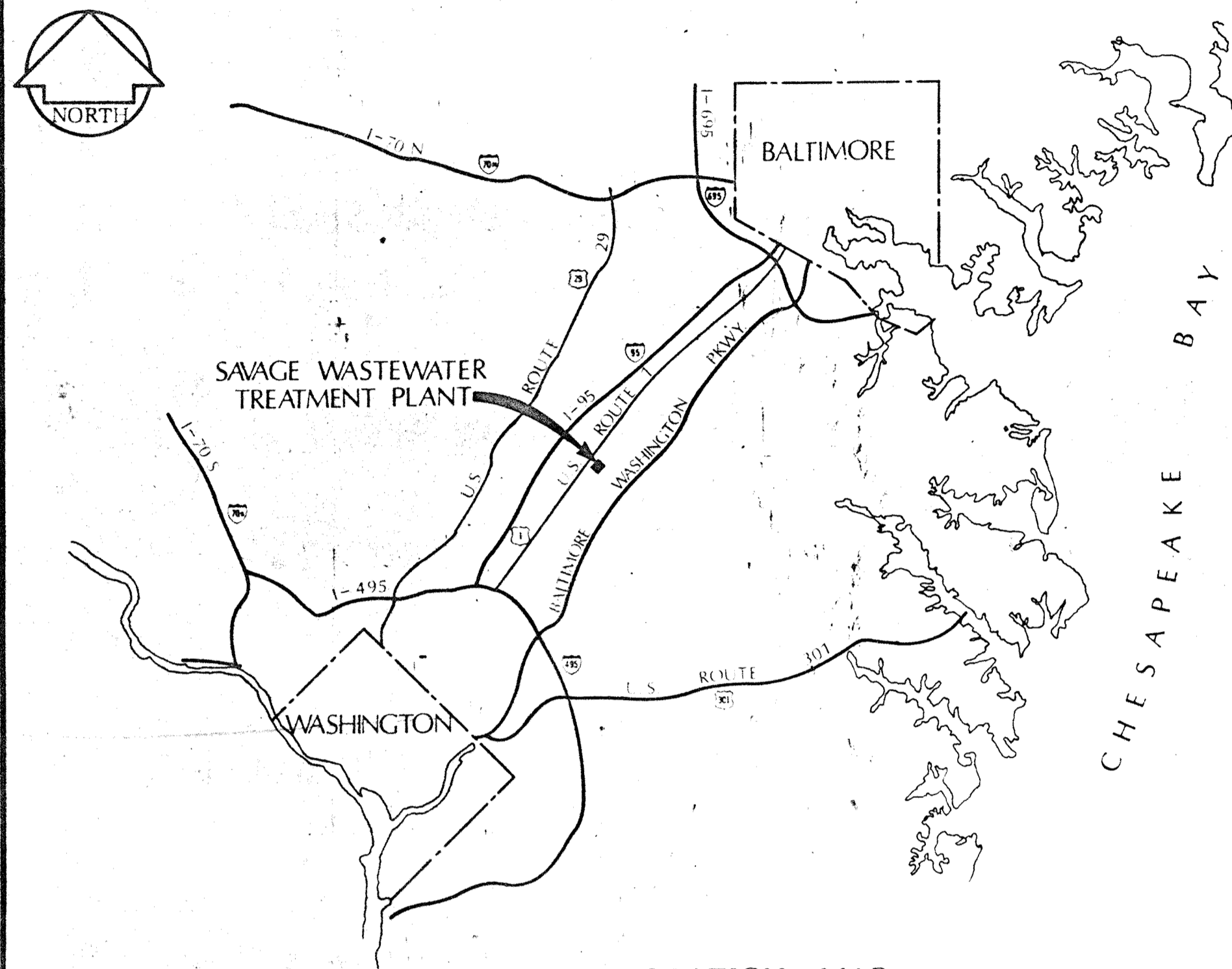
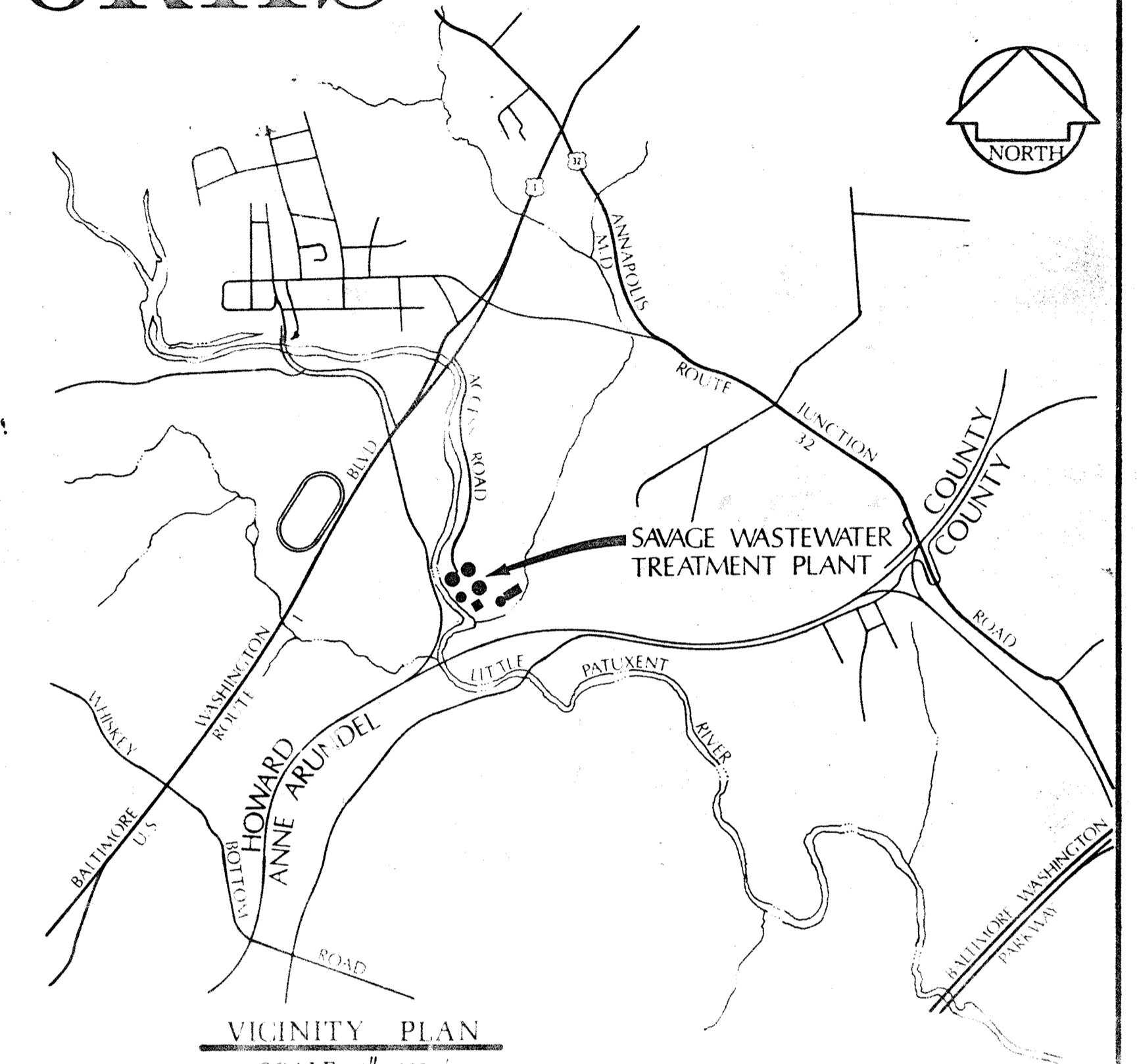
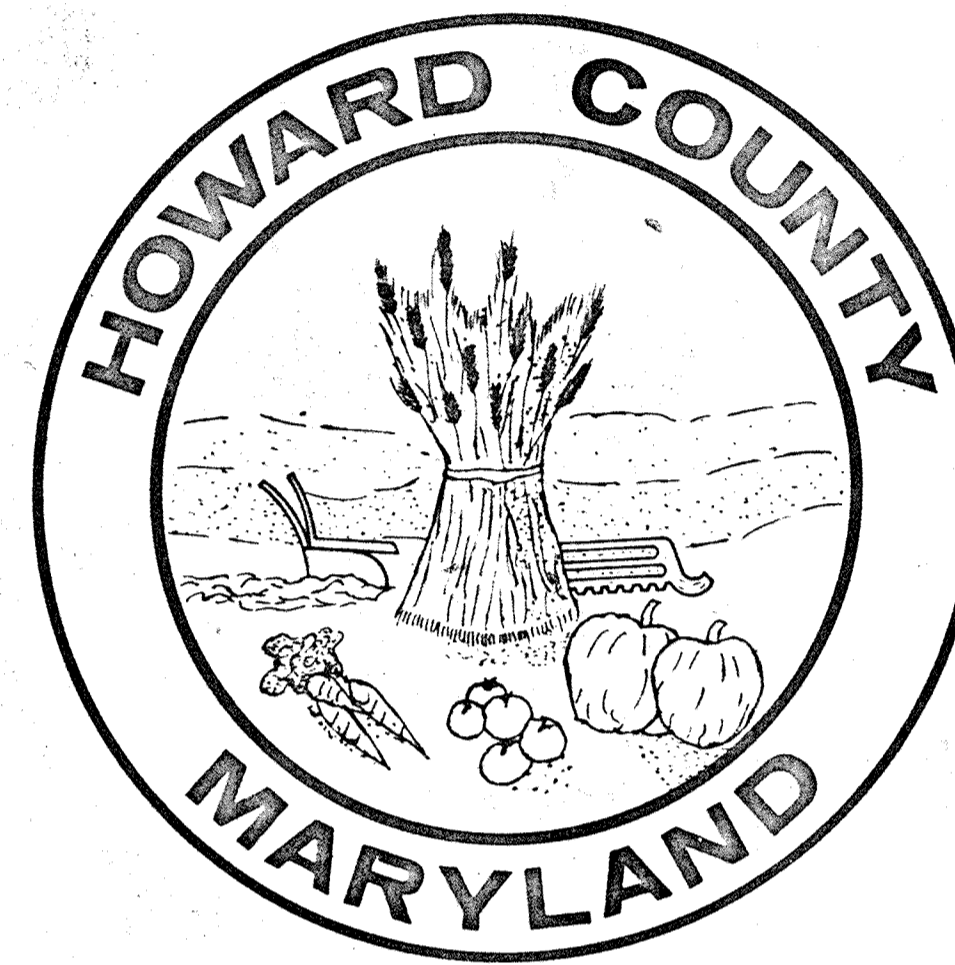


HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS



LOCATION MAP
SCALE: 1" = 6 MILES



VICINITY PLAN
SCALE: 1" = 2000'

SAVAGE WASTEWATER TREATMENT PLANT

ADDITION NO. 4

CONTRACT 503-S

HOWARD COUNTY

RICHARD FREUDENBURGER - CHIEF
BUREAU OF ENVIRONMENTAL SERVICES

WHITMAN, REQUARDT & ASSOCIATES - ENGINEERS

KENNETH A. MCGORD

DRAWING & SHEET NO.		DESCRIPTION	DRAWING & SHEET NO.	DESCRIPTION
1	G-1	TITLE SHEET		MECHANICAL
2	G-2	LIST OF DRAWINGS, ABBREVIATIONS AND LEGEND		ADMINISTRATION BUILDING
3	G-3	GENERAL NOTES AND REFERENCES	38	M-1 HVAC - FLOOR PLAN
			39	M-2 HVAC - CEILING PLAN
			40	M-3 HVAC - PLAN, SECTIONS AND DETAILS
			41	M-4 PLUMBING - PLAN
			42	M-5 PLUMBING - PART PLANS AND DETAILS
			43	M-6 PLUMBING - RISER DIAGRAM
			44	M-7 PLUMBING - RISER DIAGRAM
				MAINTENANCE BUILDING
			45	M-8 MAINTENANCE BUILDING PLANS AND DIAGRAMS
			46	M-9 MAINTENANCE BUILDING PLANS AND DETAILS
				ELECTRICAL
			47	E-1 POWER - ONE LINE WIRING DIAGRAM
			48	E-2 GENERAL ELECTRICAL NOTES AND LEGEND
			49	E-3 ELECTRICAL SITE PLAN AND DETAILS
				ADMINISTRATION BUILDING
10	A-1	FLOOR PLAN		
11	A-2	CEILING PLAN		
12	A-3	LABORATORY PLAN AND FURNITURE SCHEDULE	50	E-4 LIGHTING PLAN
13	A-4	LABORATORY EQUIPMENT ELEVATIONS AND DETAILS	51	E-5 POWER PLAN
14	A-5	TOILET ROOM PLAN AND ELEVATIONS	52	E-6 SWITCH BOARD
15	A-6	ROOF PLAN AND DETAILS	53	E-7 DETAILS
16	A-7	ELEVATIONS		UNDERGROUND
17	A-8	CROSS SECTIONS	54	E-8 MANHOLES AND DETAILS
18	A-9	WALL SECTIONS	55	E-9 DUCTBANK SECTIONS
19	A-10	WALL SECTIONS		ADMINISTRATION BUILDING
20	A-11	FLOOR AND MASONRY DETAILS	56	E-10 MOTOR CONTROL CENTER "CC17" AND DETAILS
21	A-12	MISCELLANEOUS DETAILS	57	E-11 FIRE ALARM DETAILS
22	A-13	DISPLAY BOARD DETAILS	58	E-12 LIGHTING WIRING DIAGRAM
23	A-14	DISPLAY BOARD AND PANEL DETAILS	59	E-13 PLANS AND DETAILS
24	A-15	FURNITURE LAYOUT		GENERAL
			60	E-14 TELEPHONE WIRING DIAGRAMS
				MAINTENANCE BUILDING
25	A-16	PLANS		
26	A-17	ELEVATIONS AND CROSS SECTIONS	61	E-15 POWER - PLANS AND DETAILS
27	A-18	WALL SECTIONS	62	E-16 LIGHTING - PLANS AND DETAILS
28	A-19	TOILET ROOM PLAN AND DETAILS	63	E-17 MOTOR CONTROL CENTER - "CC8"
29	A-20	FINISH SCHEDULE AND DETAILS	64	E-18 ONE LINE AND ELEMENTARY WIRING DIAGRAM
30	A-21	DOOR SCHEDULE AND DETAILS		
				STRUCTURAL
				ADMINISTRATION BUILDING
31	S-1	FOUNDATION AND FLOOR SLAB PLAN		
32	S-2	ROOF FRAMING PLAN		
33	S-3	FOUNDATION AND ROOF SECTIONS		
34	S-4	CANOPY FRAMING DETAILS		
				MAINTENANCE BUILDING
35	S-5	FOUNDATION PLAN AND DETAILS		
36	S-6	SECOND FLOOR PLAN, ROOF PLAN AND DETAILS		
37	S-7	SECTIONS AND DETAILS		

ABBREVIATIONS

PIPELINE		MISCELLANEOUS	
AS	AQUARIUM SUPPLY	⊕	BASELINE
CCBI	CHLORINE CONTACT BASIN INFLUENT	⊕	CENTERLINE
CL2	CHLORINE	EX	EXISTING
D	DRAIN	FF	FIRST FLOOR
DB	DUCTBANK	MH	MANHOLE
PR	PROFILE	INV	INVERT ELEVATION
S	SEWER OR INTERCEPTOR	PC	POINT OF CURVATURE
UD	UNDER DRAIN	PI	POINT OF INTERSECTION
PCI	PRIMARY CLARIFIER INFLUENT	PT	POINT OF TANGENCY
W	WATER (POTABLE)	R	RADIUS
PC	PRIMARY CLARIFIER	N	NORTH
CS	CONTACT STABILIZATION	NO	NUMBER
SC	SECONDARY CLARIFIER	E	EAST
NC	NITRIFICATION CLARIFIER	S	SOUTH
PD	PROCESS DRAIN	W	WEST
		WL	WATER LEVEL
		CFM	CUBIC FEET PER MINUTE
		FD	FLOOR DRAIN
		BLDG	BUILDING

APPURTENANCES

C	CROSS	P	PLUG
T	TEE	VB	VERTICAL BEND
V	VALVE	R	REDUCER / INCREASER (CONCENTRIC)
Y	WYE	ER	REDUCER / INCREASER (ECCENTRIC)
HB	HORIZONTAL BEND		

LEGEND

	EXISTING	CONSTRUCTION THIS CONTRACT	EXISTING	CONSTRUCTION THIS CONTRACT
PROPERTY LINE	---	---	---	---
RAILROAD				
EMBANKMENT	Y Y Y	Y Y Y	Y Y Y	Y Y Y
SURVEY TRAVERSE or CONSTRUCTION &	△	△	△	△
WOODS	~~~~~	~~~~~	~~~~~	~~~~~
STREAM	~~~~~	~~~~~	~~~~~	~~~~~
DITCH	~~~~~	~~~~~	~~~~~	~~~~~
CONTOURS	~~~~~	~~~~~	~~~~~	~~~~~
GRADE CONTROL ELEVATION	127	127	127	127
BUILDINGS or STRUCTURES	□	□	□	□
ROADWAYS	---	---	---	---
CURB	---	---	---	---
PARKING CHOCKS	---	---	---	---
SIDEWALK	---	---	---	---
STAIRWAY	---	---	---	---
FENCE & GATE	---	---	---	---
TELEPHONE W/GUY	---	---	---	---
PIPELINE (6" & SMALLER)	---	---	---	---
(8" & LARGER)	---	---	---	---
MANHOLES / CLEANOUTS	○	○	○	○
VALVES	⊕	⊕	⊕	⊕
BEND, WYE, TEE	---	---	---	---
REDUCER / INCREASER	---	---	---	---
CAP or PLUG	---	---	---	---
HYDRANT (STANDARD FIRE)	---	---	---	---
FLARED END SECTION	---	---	---	---
ELECTRICAL DUCTBANK	---	---	---	---
CONDUIT	---	---	---	---

(CONSTRUCTION BY OTHERS - SO NOTED & IDENTIFIED)

WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
3/20/75
DATE

CONTRACT NO. 503-S

LIST OF DRAWINGS,
ABBREVIATIONS, AND LEGEND

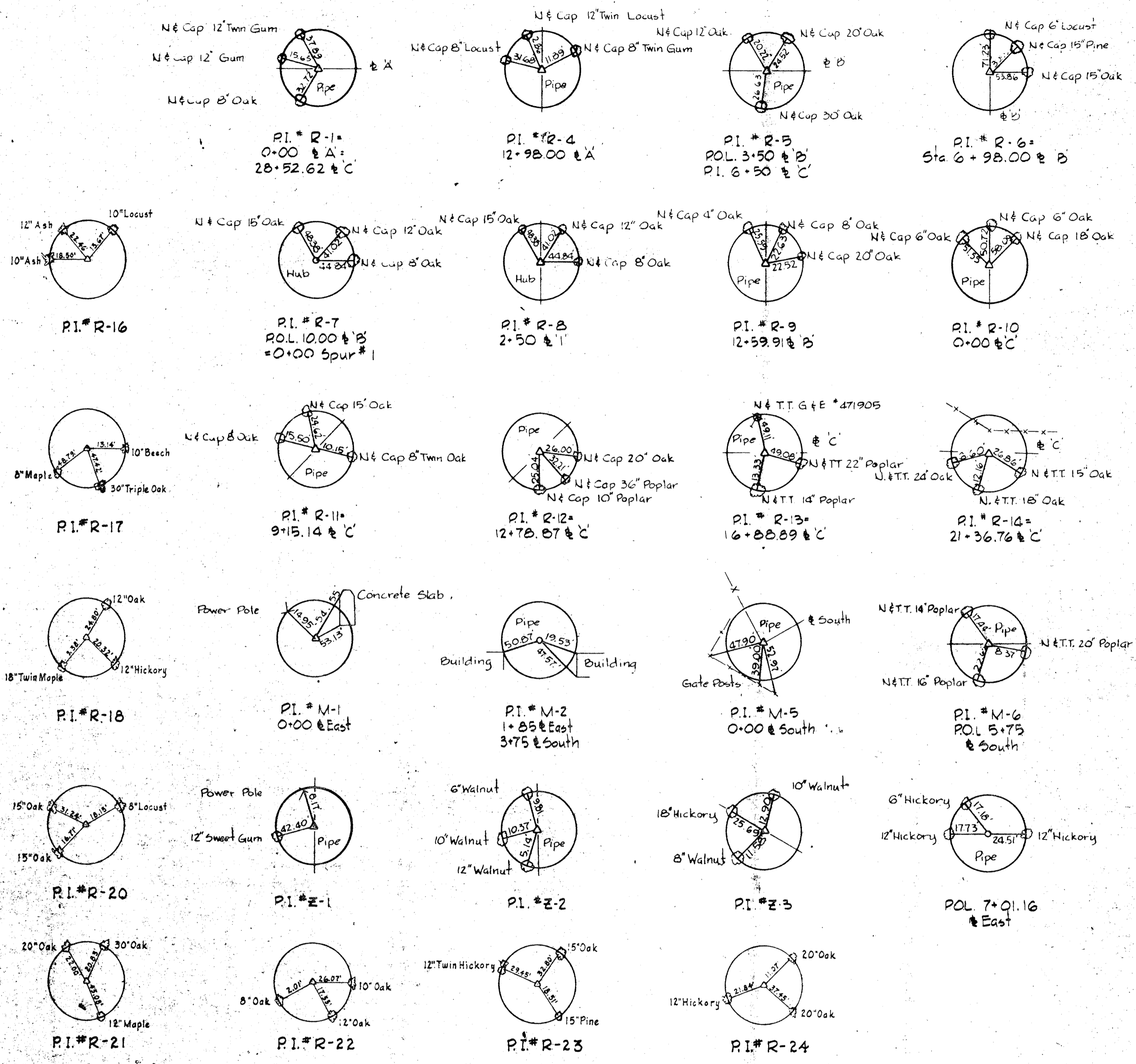
SAVAGE WASTEWATER
TREATMENT PLANT ADDITION NO. 4

DRAWING NO. 2
OF 64
SCALE NONE

GENERAL NOTES

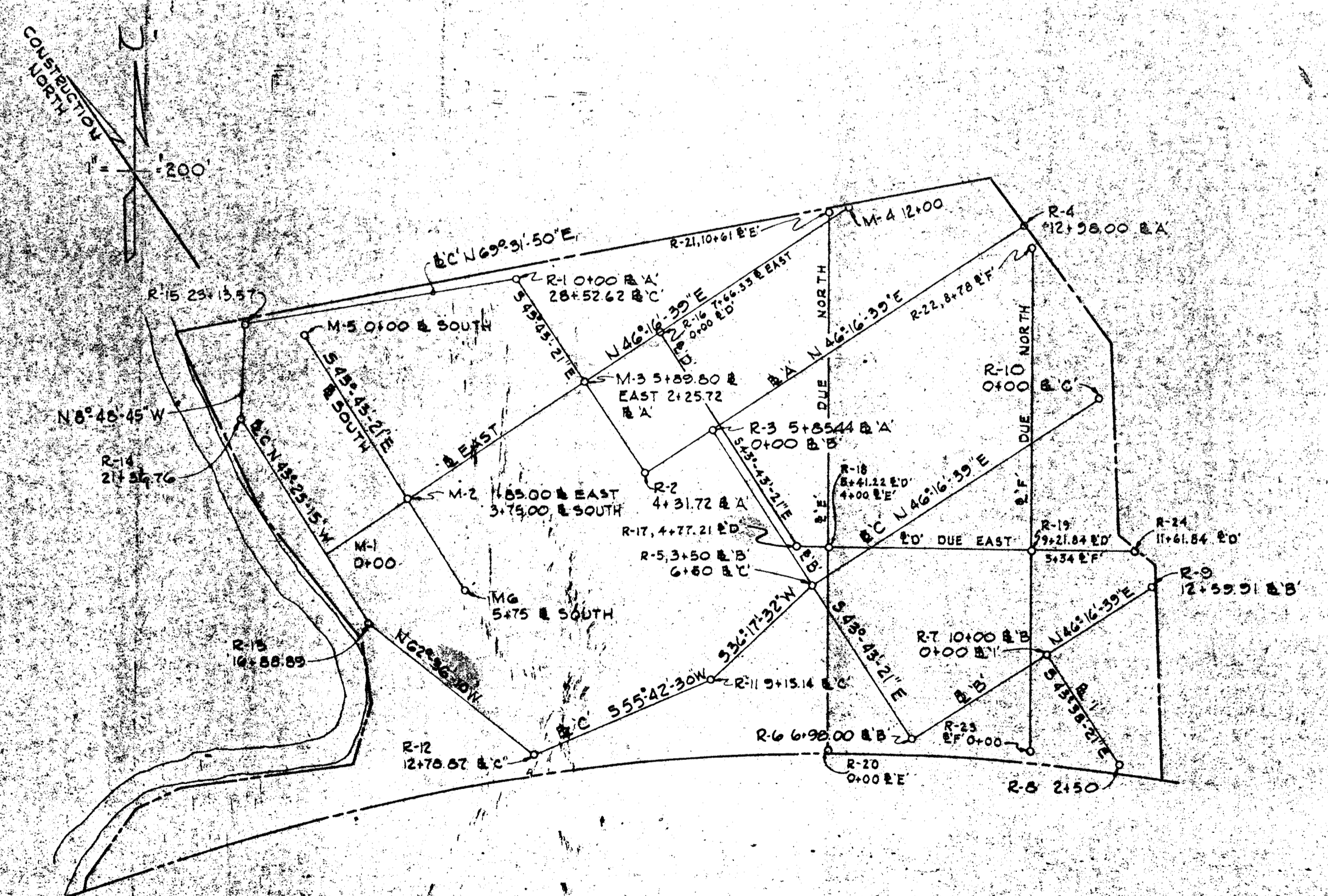
1. The location of existing pipelines & structures are approximate. The Contractor shall take all necessary precautions to protect existing lines and structures and maintain uninterrupted supply. Any damage incurred shall be repaired immediately.
2. The Contractor shall locate existing utilities by test pits a minimum of two weeks in advance of construction operations in the vicinity of the utilities.
3. All pipeline profile elevations are invert elevations.
4. The location of all valves, fittings etc. shall be located where shown on the drawings unless otherwise directed by the Engineer.
5. For standard details - See Specifications.
6. All fittings shall be buttressed or anchored with concrete or restrained with special approved devices - See Specifications.
7. Pipelines shall be of the material listed in the specifications. All pipelines shall have a minimum cover of 2 feet except sewer and water lines shall have a minimum cover of 3 feet, unless otherwise shown by profiles or elevations on the plans.
8. Clear all utilities by a minimum of 6 inches vertically. All parallel pipe systems shall have 1.5 feet minimum horizontal clearance unless otherwise directed by the Engineer.
9. The Contractor shall provide a joint in all exterior loose jointed pipe systems within 2 feet of exterior walls.
10. All existing valve boxes, manhole frames and covers and similar appurtenances shall be adjusted to finished grade.
11. All outside valves in sewer lines up to and including 12 inch diameter shall be plug valves. All valves larger than 12 inches shall be gate valves and shall be horizontal or vertical as indicated on profile drawings. All outside valves in water lines (potable and flushing) shall be gate valves. All buried valves shall have roadway boxes with concrete slabs in all areas other than paved areas. All valves shall be the same size as the pipeline unless otherwise indicated.
12. Elevations and grid coordinates are based on the Maryland State System. All structures, buildings, roadways, pipe, centerlines etc. are located by construction coordinates. Zero base for the construction coordinated system is as noted on Sheet C-1. @ the intersection of survey baselines. All building corner coordinates are front face of brick.
13. For location of utilities entering buildings, see Mechanical & Electrical Drawings.
14. Connections to existing pipelines may be made by tapping existing pipelines under pressure or by use of sleeves and spacers with shut down of system. Attention is directed to the specifications for plant operational requirements while making connections.
15. All pipelines that are capped or plugged shall be flagged with striped 2x4's set 3ft. into ground and 2 feet above grade if identified with all weather markings.
16. All existing walkways paved areas that require removal for construction purposes or that are disturbed or damaged by construction activities shall be replaced.
17. All pipelines, conduits and utility systems including structures that are designated to be abandoned shall be removed by the Contractor to the degree necessary to complete construction as determined by the Engineer. Voids left by systems removed shall be backfilled with select material and compacted as per the specifications. Systems that are designed to be abandoned and allowed by the Engineer to be left in place, shall be permanently capped or sealed watertight at each end. Materials and appurtenances removed shall be salvaged and become the property of the County unless otherwise directed by the Engineer then they shall become the property of the Contractor and removed from the site.

P.I. REFERENCES



BENCH MARKS

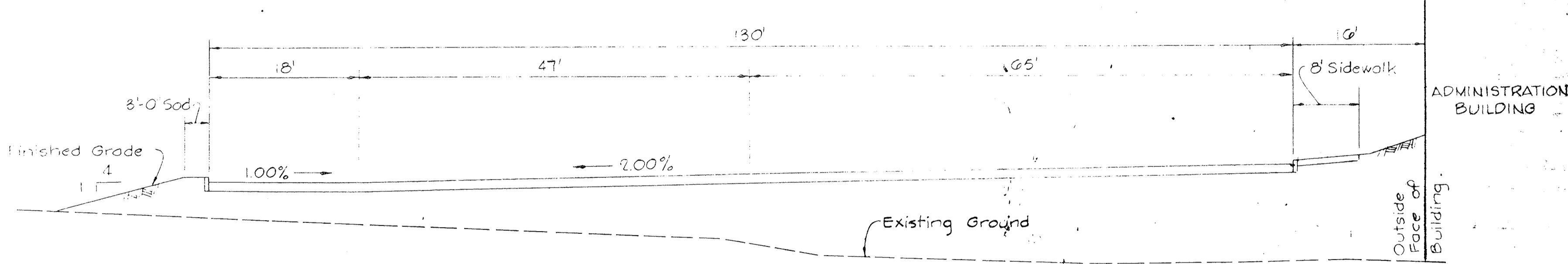
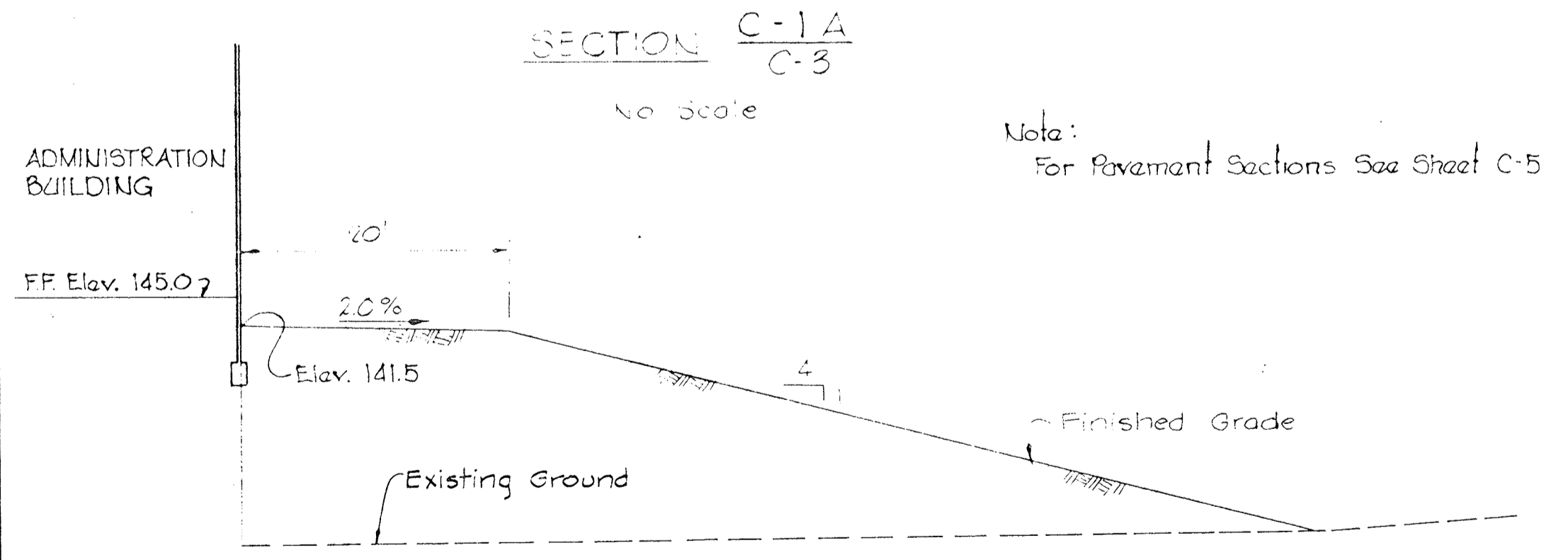
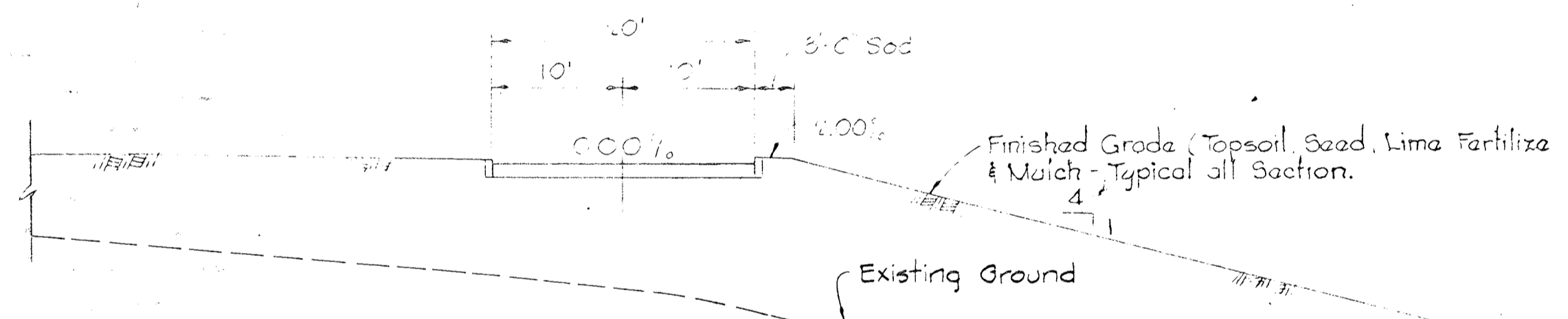
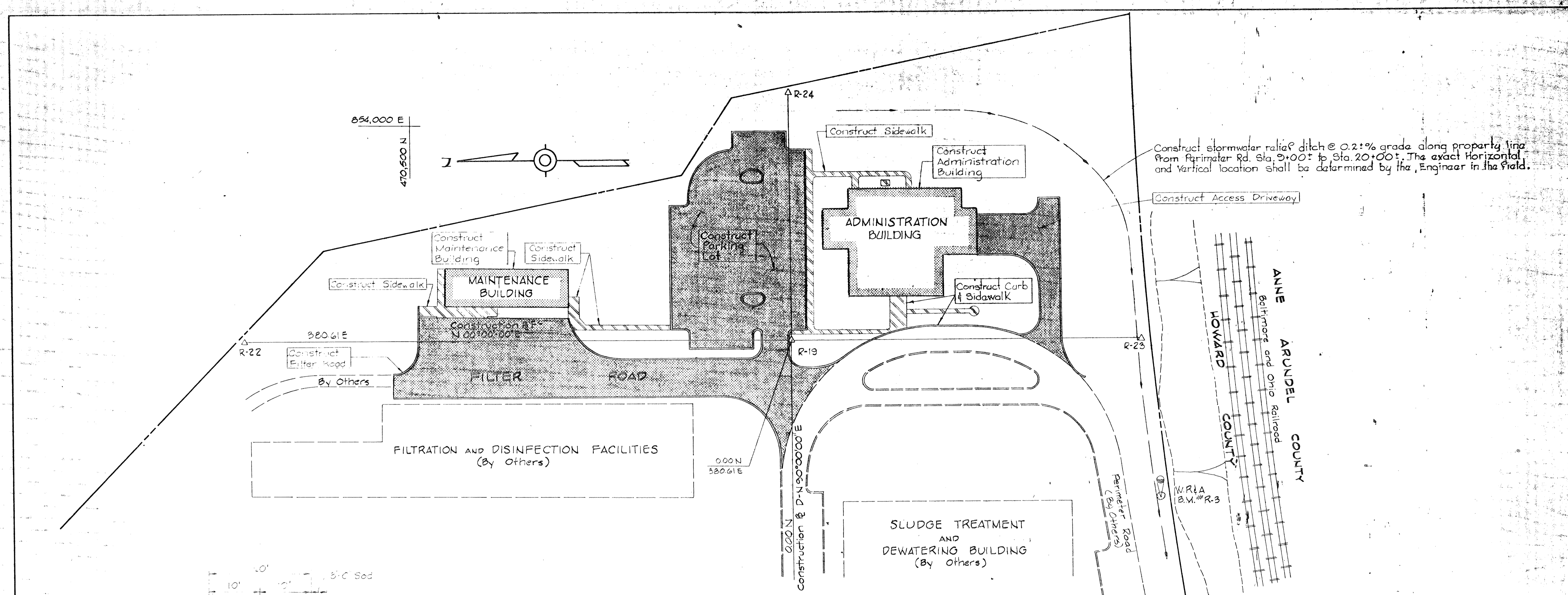
- | | |
|---|--|
| W.R.#A. B.M. 'Blaine' Elev. 137.770
X-Cut on flange bolt of fire hydrant
40± Rt. of Sta. 2+25 ± & South | W.R.#A. B.M. 'Rolly-3' Elev. 132.162
R.R. Spike in 15' at foot of R.R. Fill
35± East of P.I.#R-6 |
| W.R.#A. B.M. 'Rolly-1' Elev. 130.388
R.R. Spike in 12' Oak, 25± Lt. of
Sta. 12+50 ± East | W.R.#A. B.M. 'Rolly-4' Elev. 137.222
R.R. Spike in 18' Oak 25± Rt. of P.I.#R-9 |
| W.R.#A. B.M. 'Rolly-2' Elev. 147.097
R.R. Spike in 8' Locust 4± from
P.I.#R-4 | W.R.#A. B.M. 'Rolly-5' Elev. 132.996
R.R. Spike in 36' Poplar-30' Lt. of
P.I.#R-12 |



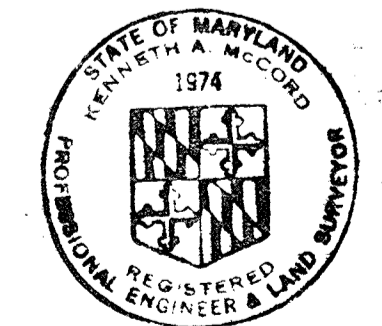
PLAN-CONSTRUCTION & SURVEY BASELINE
Scale 1" = 200'

WHITMAN REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: 3/20/15 W. O. Fallick CHIEF BUREAU OF ENGINEERING	CONTRACT NO. 503-S	GENERAL NOTES, REFERENCES & BASELINE PLAN	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 3 OF 64	SCALE NONE
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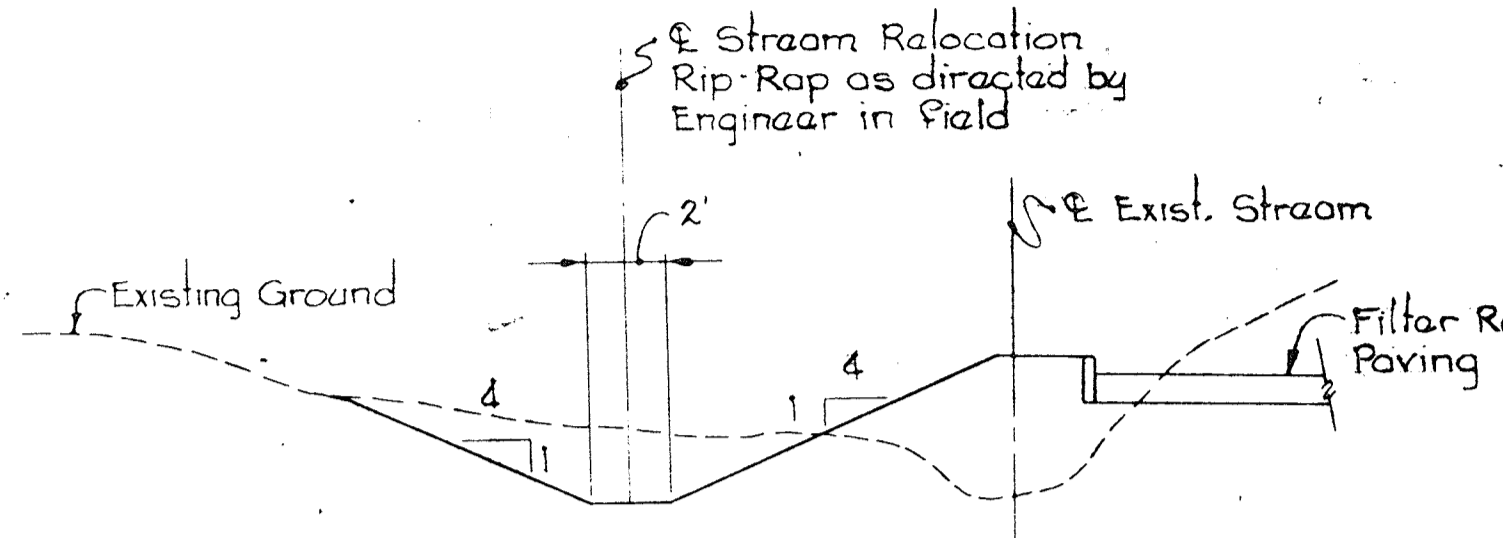
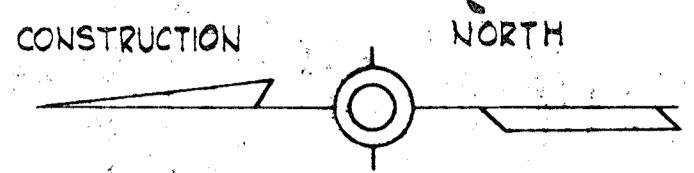
Note:
For Pavement Sections See Sheet C-5



WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 11-7-77 DATE <i>Richard E. Lindenberger</i> CHIEF BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 503-S	LOCATION PLAN AND SECTIONS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 4 OF 64 SCALE AS SHOWN SHEET C-1
---	--	--------------------	-------------------------------	---	---

W. O. 6887-2

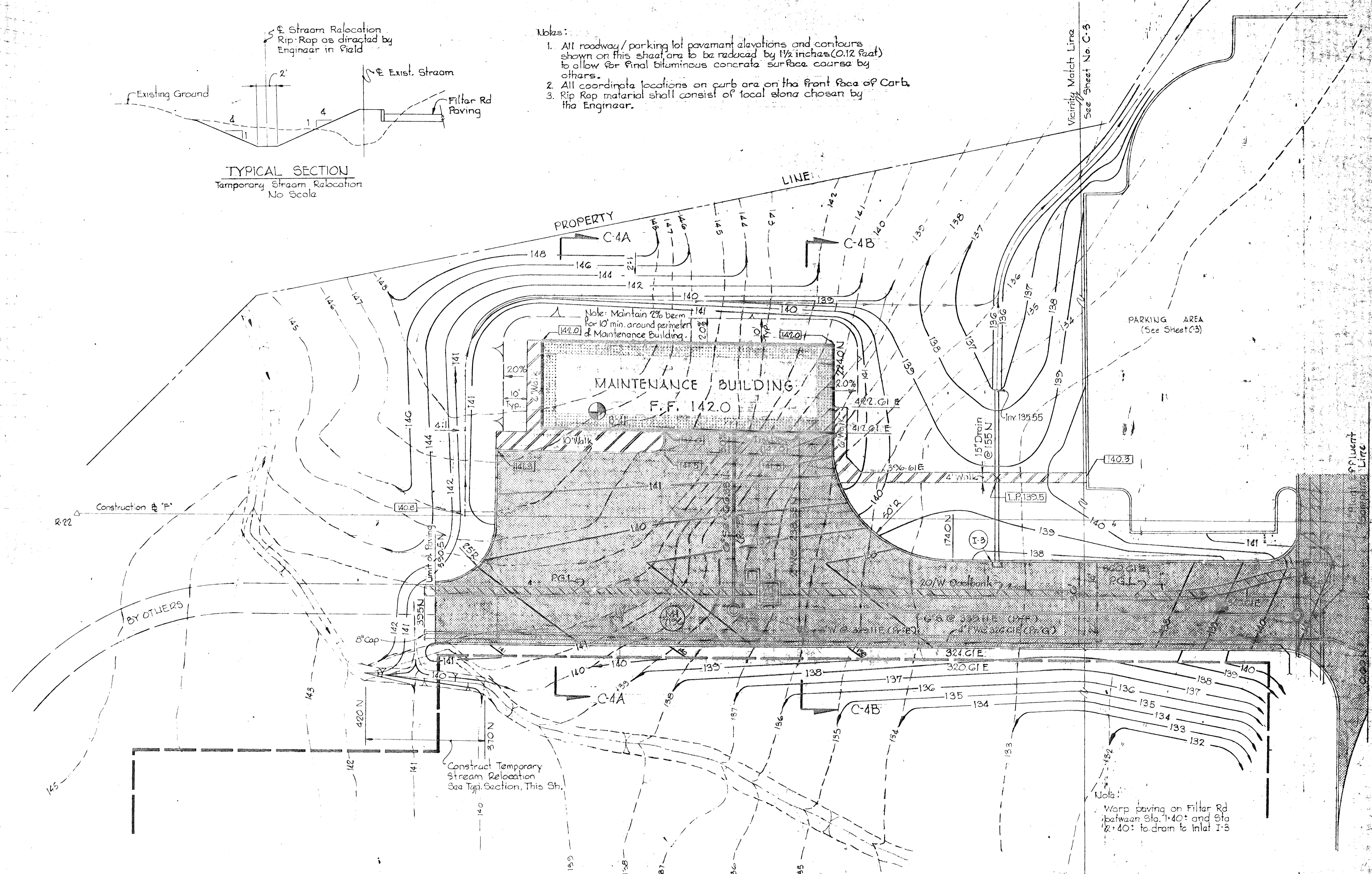
BRUNING 44-510 18392



TYPICAL SECTION
Temporary Stream Relocation
No Scale

Notes:

1. All roadway / parking lot pavement elevations and contours shown on this sheet are to be reduced by 1/2 inches (0.12 feet) to allow for final bituminous concrete surface course by others.
2. All coordinate locations on curb are on the front face of curb.
3. Rip-Rap material shall consist of local stone chosen by the Engineer.



WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

11-7-77
DATE

Richard E. Greider, Sr.
CHIEF BUREAU OF ENVIRONMENTAL SERVICES

CONTRACT NO. 503-S

GRADING AND UTILITY PLAN

SAVAGE WASTEWATER
TREATMENT PLANT ADDITION NO. 4

DRAWING
NO. 5
OF 64

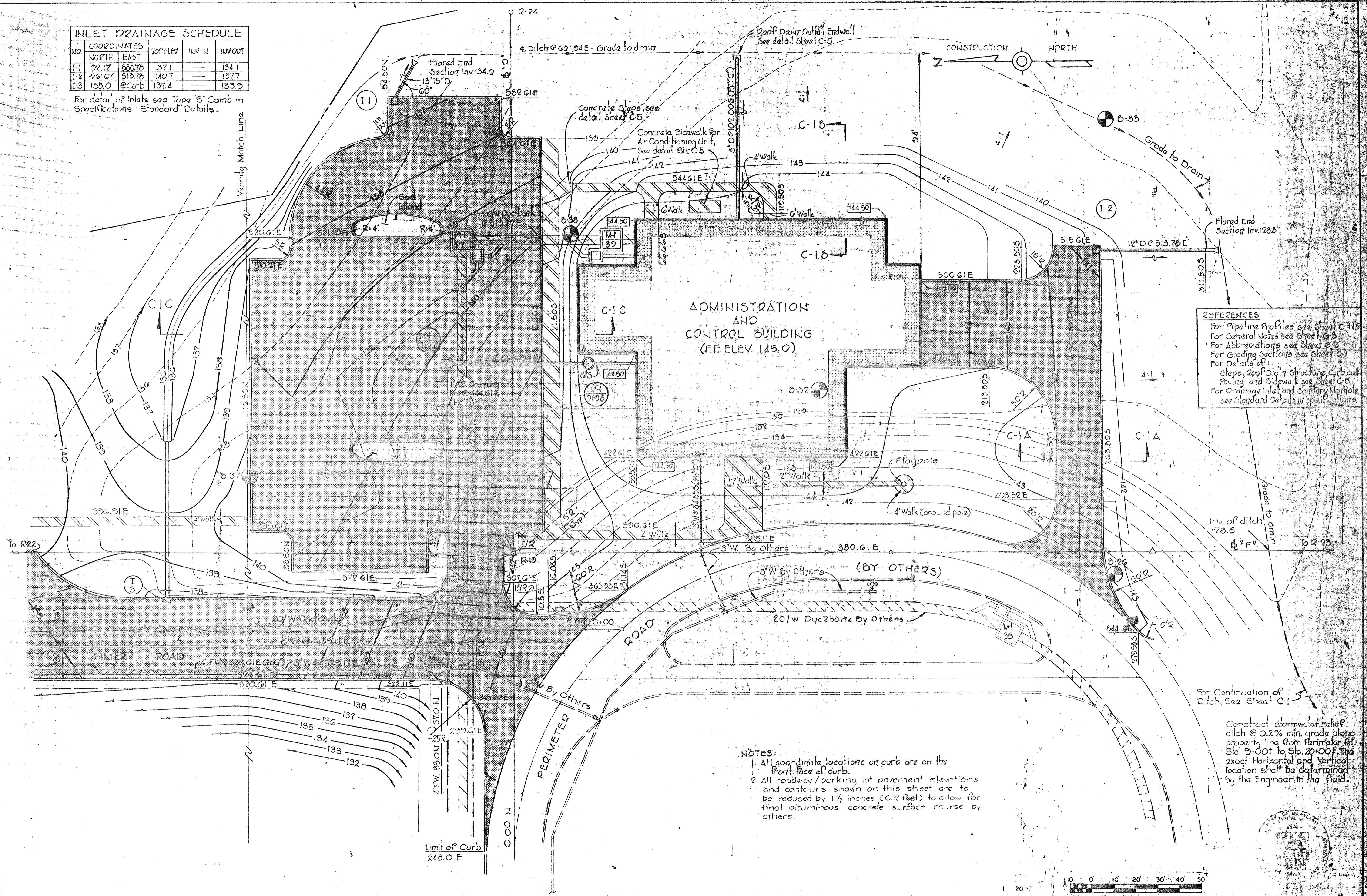
SCALE
1" = 20'

SHEET C-2

INLET DRAINAGE SCHEDULE

NO	COORDINATES NORTH EAST	TOP ELEV	IN IN	IN OUT
I-1	92.17 580.76	137.1	---	134.1
I-2	261.67 513.78	140.7	---	137.7
I-3	155.0 @Curb	137.4	---	135.9

For detail of Inlets see Type 'S' Comb in Specifications - Standard Details.

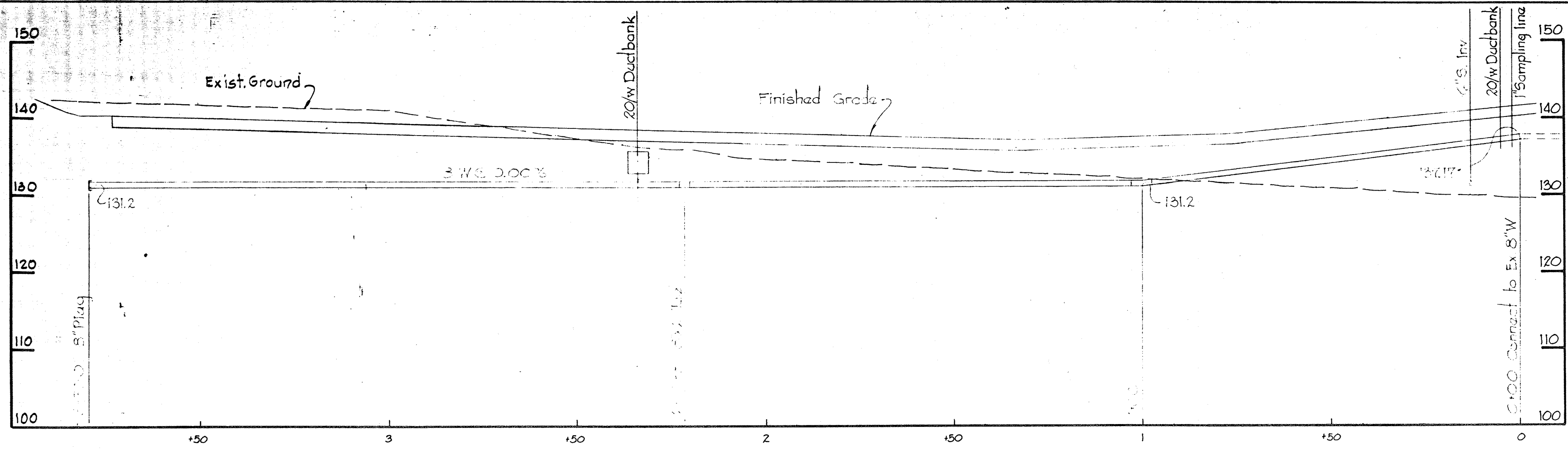


REFERENCES
 For Pipeline Profiles see Sheet C-15
 For General Notes see Sheet C-3
 For Abrogations see Sheet C-2
 For Grading Sections see Sheet C-1
 For Details of:
 Steps, Roof Drain Structure, Curb and
 Paving and Sidewalk see Sheet C-5
 For Drainage Inlet and Sanitary Manhole
 see Standard Details in Specifications.

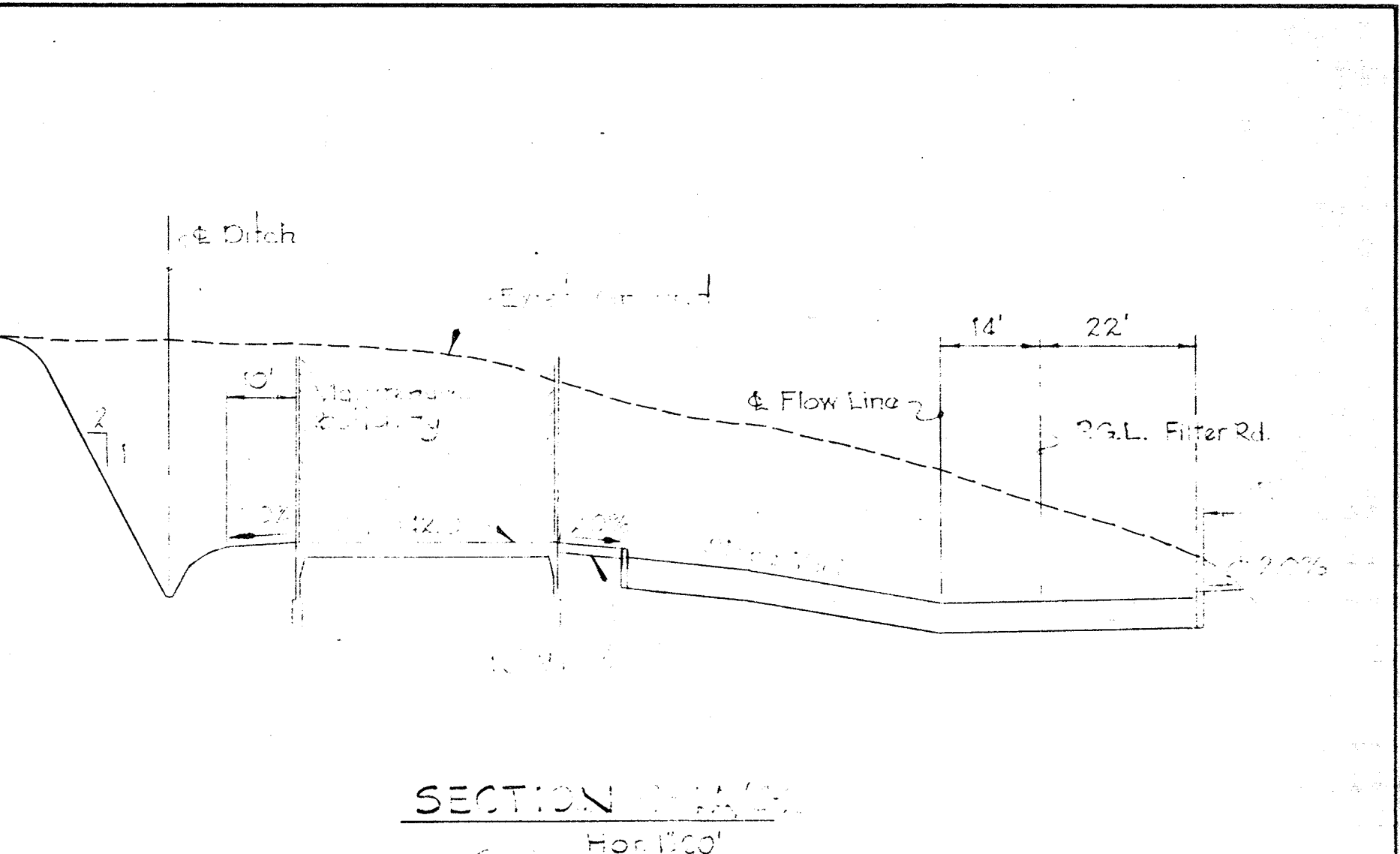
NOTES:
 1. All coordinate locations on curb are on the front face of curb.
 2. All roadway/parking lot pavement elevations and contours shown on this sheet are to be reduced by 1 1/2 inches (0.12 feet) to allow for final bituminous concrete surface course by others.

For Continuation of Ditch, See Sheet C-1
 Construct stormwater relief ditch @ 0.2% min. grade along property line from Perimeter Rd Sta. 0+00 to Sta. 20+00. The exact horizontal and vertical location shall be determined by the Engineer in the field.

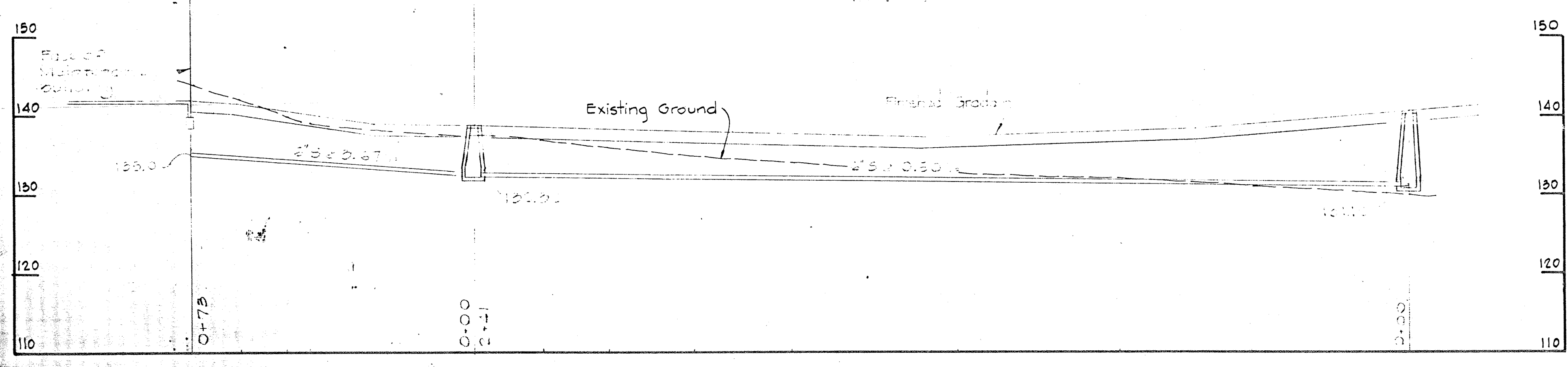
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: 5/20/78 W.O. Gilbert CHIEF BUREAU OF ENGINEERING	CONTRACT NO. 503-S	GRADING AND UTILITY PLAN	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 6 OF 64 SCALE 1" = 20' SHEET C-3
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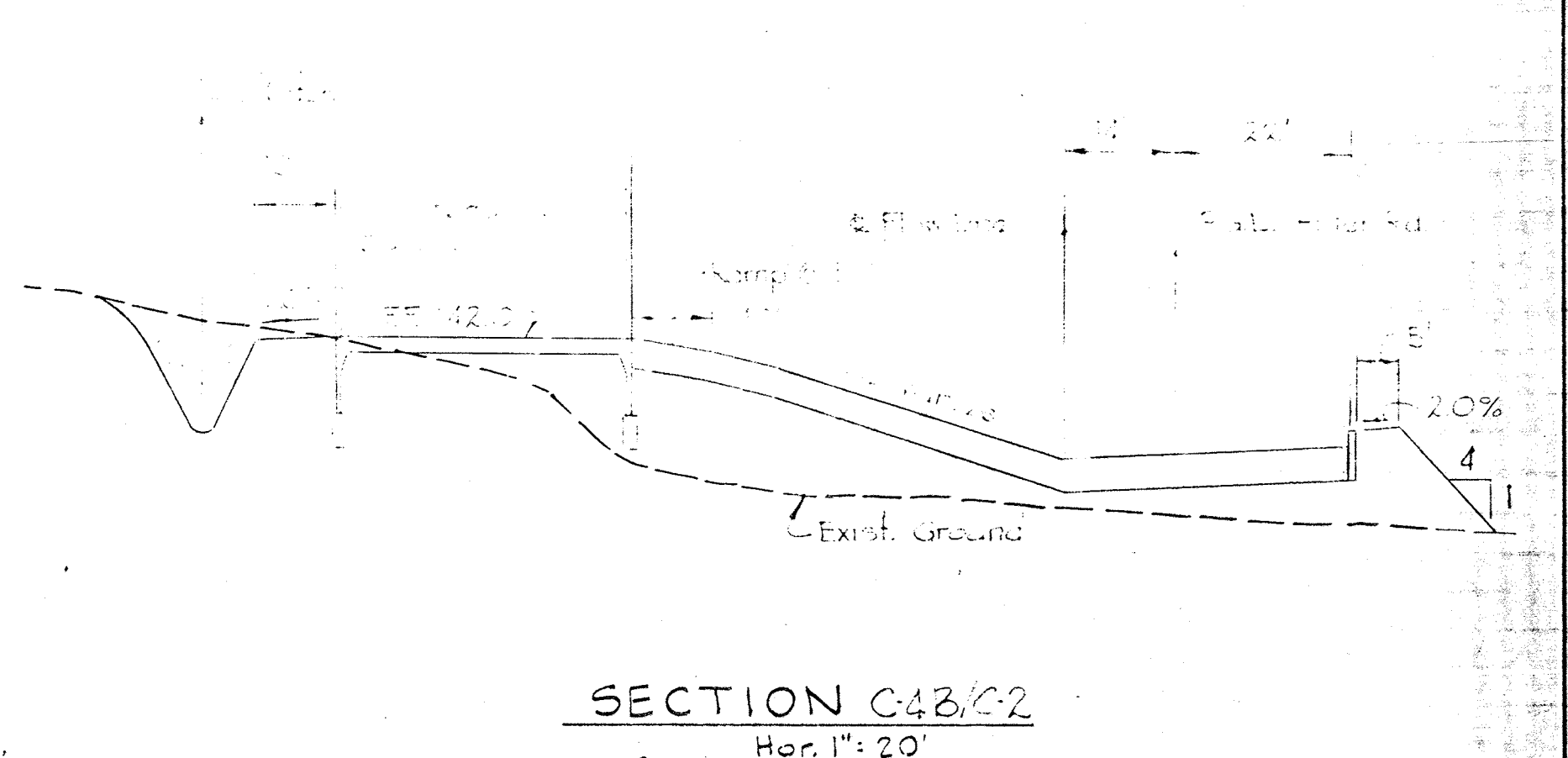
PROFILE 'E'
Scale: Hor: 1" = 50'
Vert: 1" = 10'



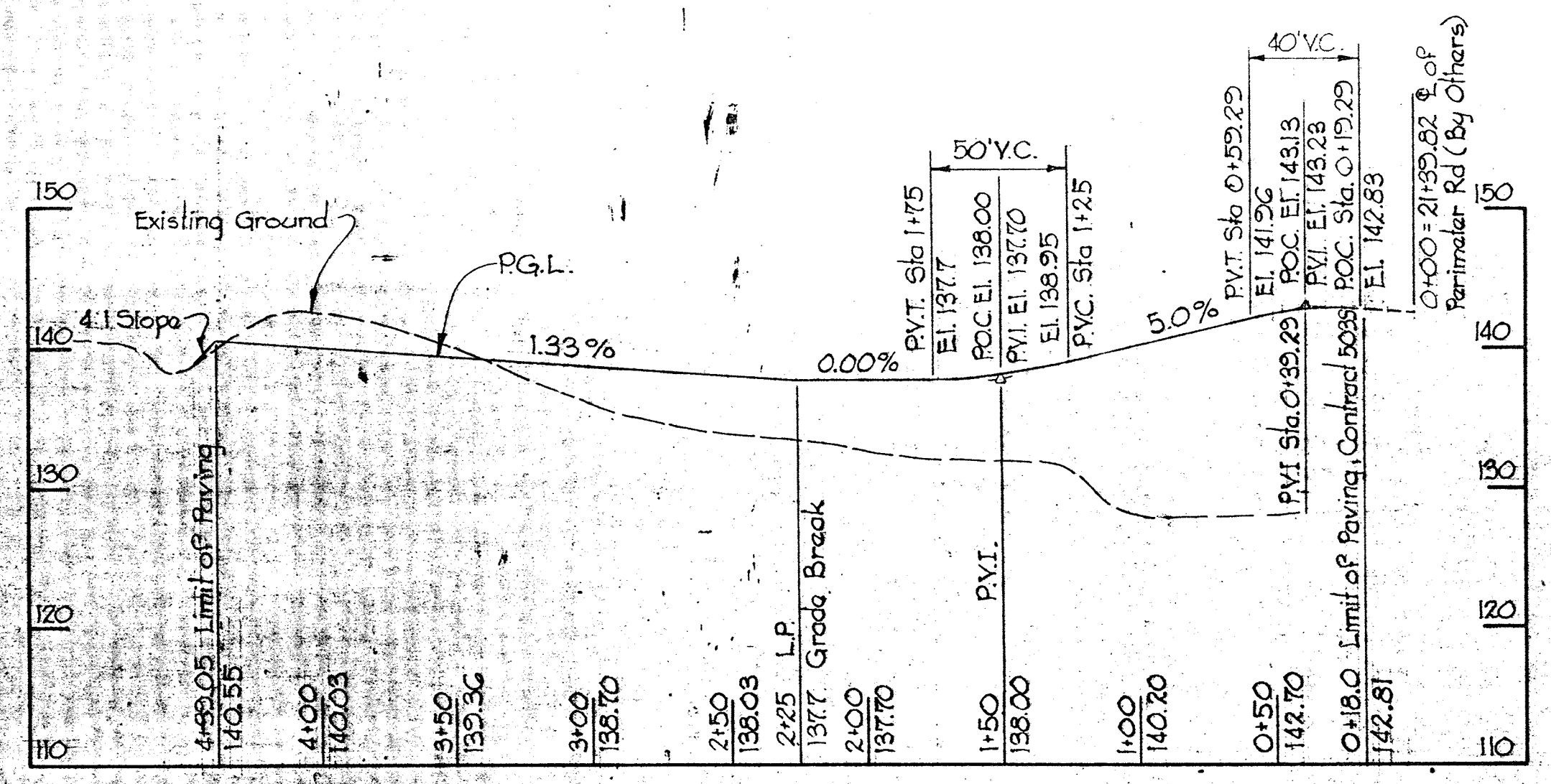
SECTION C43/C1
Scale: Hor: 1" = 20'
Vert: 1" = 5'



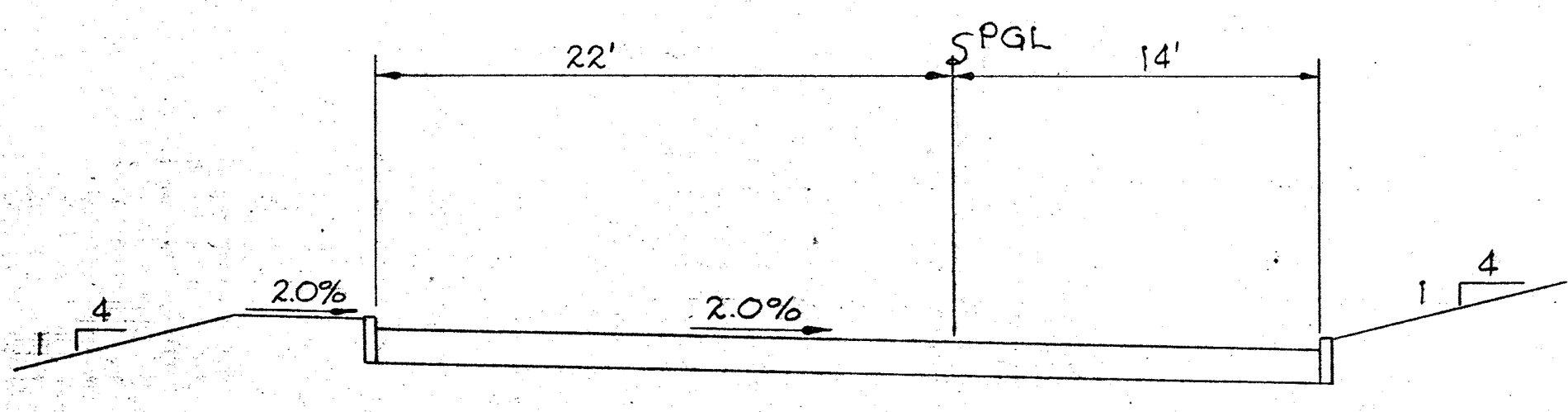
PROFILE 'F'
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Vert: 1" = 10'



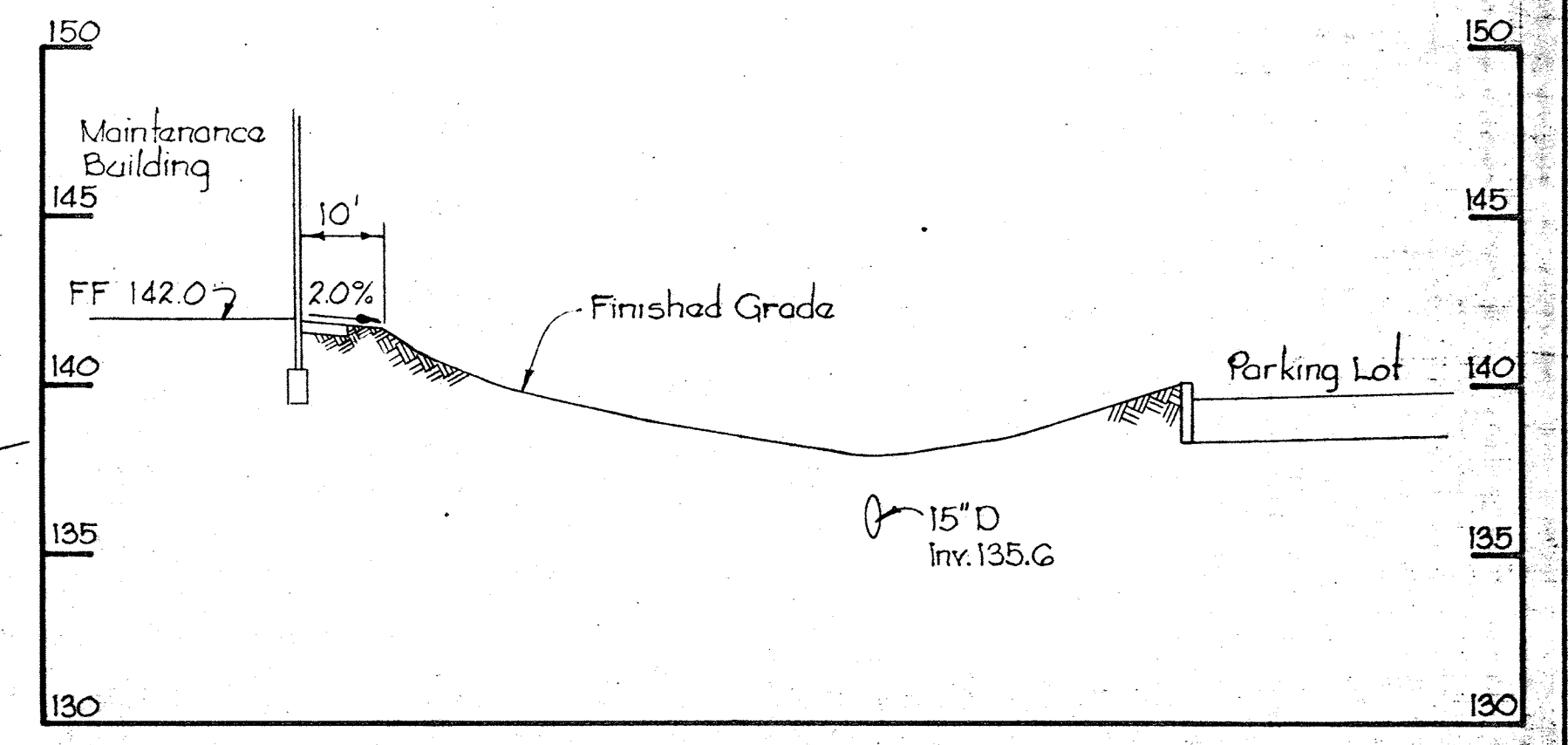
SECTION C43/C2
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Vert: 1" = 5'



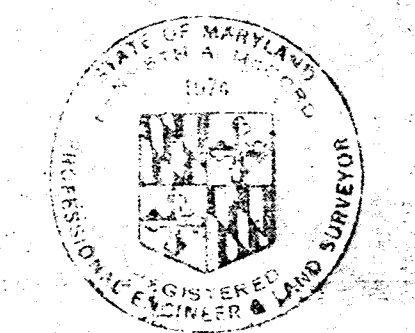
PROFILE FILTER ROAD
Scale: Hor: 1" = 50'
Vert: 1" = 10'



TYPICAL SECTION - FILTER ROAD
Sta. 0+75 to Sta. 1+40



SECTION C-4C
Scale: Hor: 1" = 20'
Vert: 1" = 5'



WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
11-7-77
DATE
Richard E. Freudenberger
CHIEF BUREAU OF ENVIRONMENTAL SERVICES

CONTRACT NO. 503-S

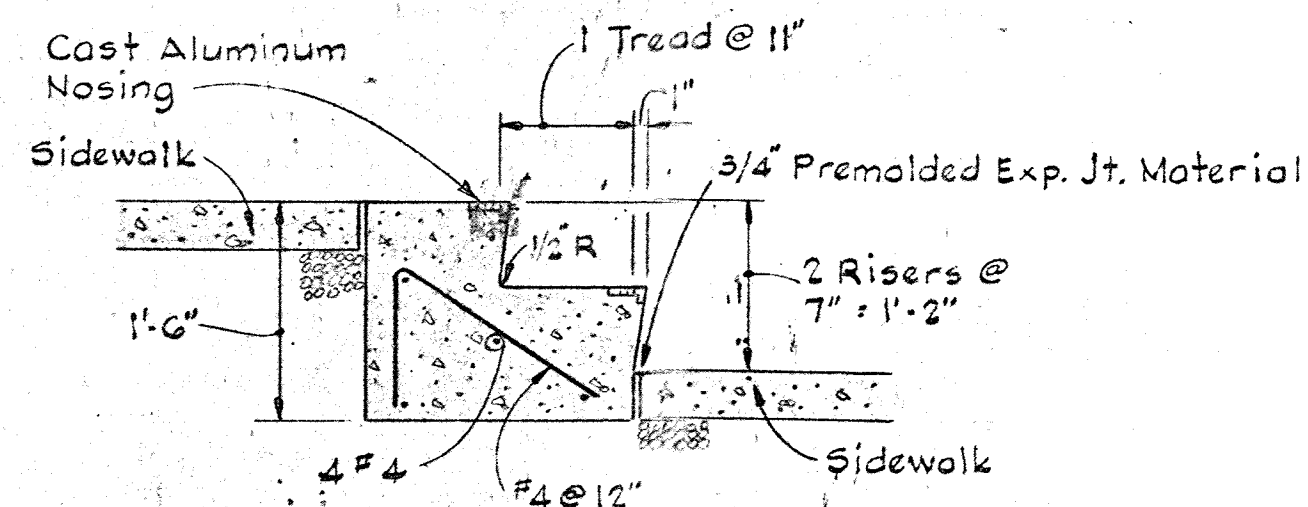
PROFILES & SECTIONS

SAVAGE WASTEWATER
TREATMENT PLANT ADDITION NO. 4

DRAWING NO. 7 OF 64
SCALE AS SHOWN

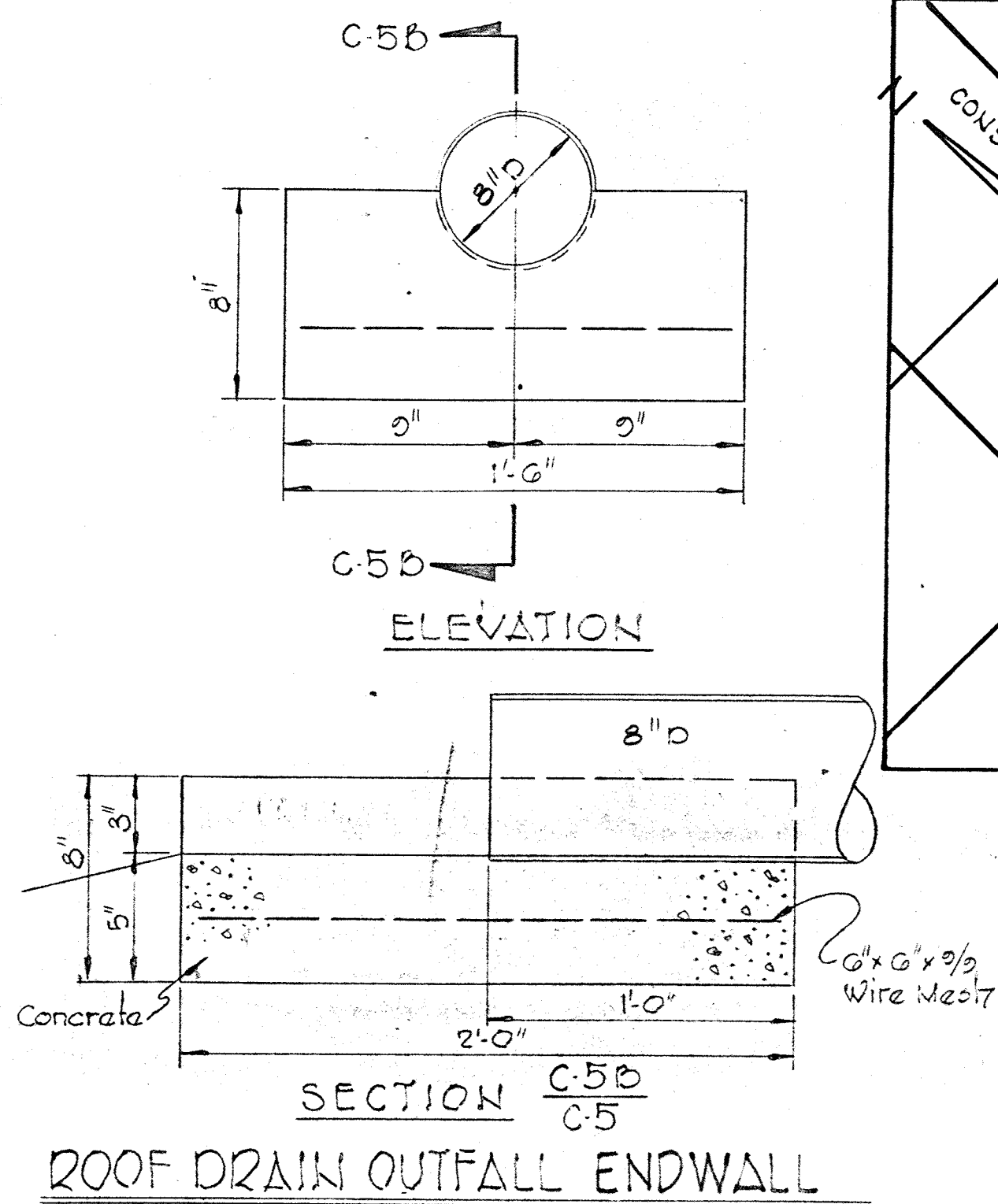
SHEET C-4

W.O. 6887-2

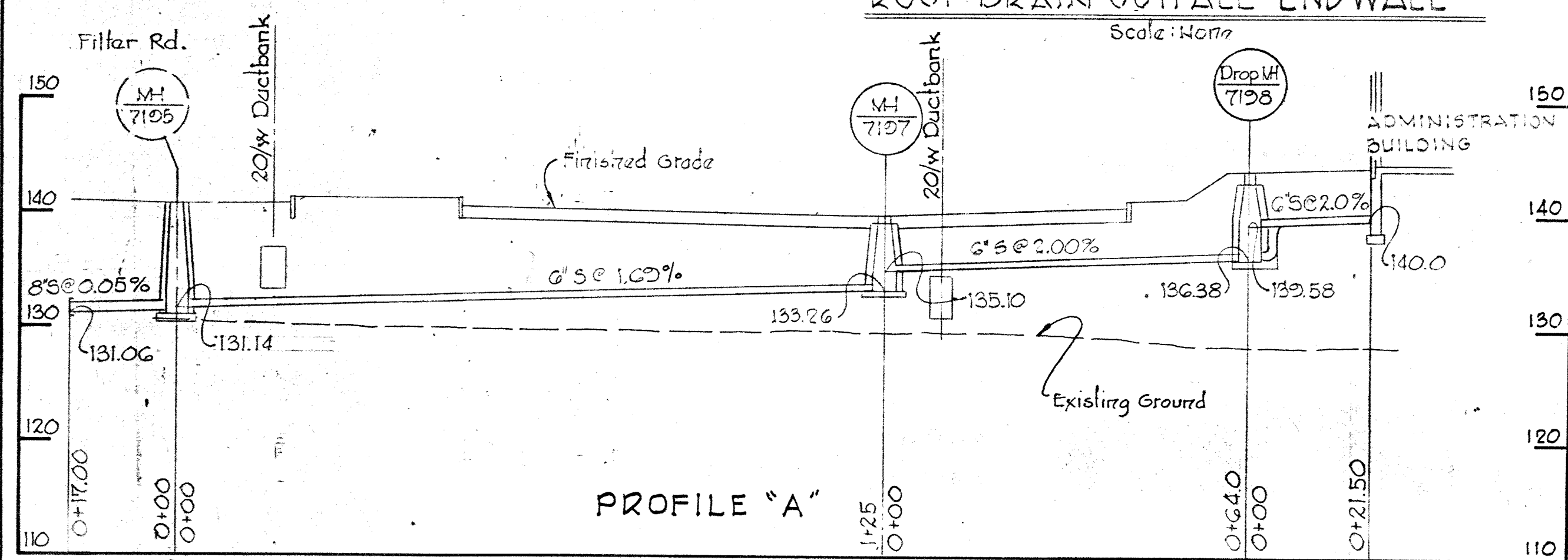


- NOTES:**
- 1) 4'-0" and 6'-0" wide steps see sheet C-3 for location.
 - 2) For General Notes - Concrete and Steel See Sheet S-1.
 - 3) Sod 1' each side of steps.

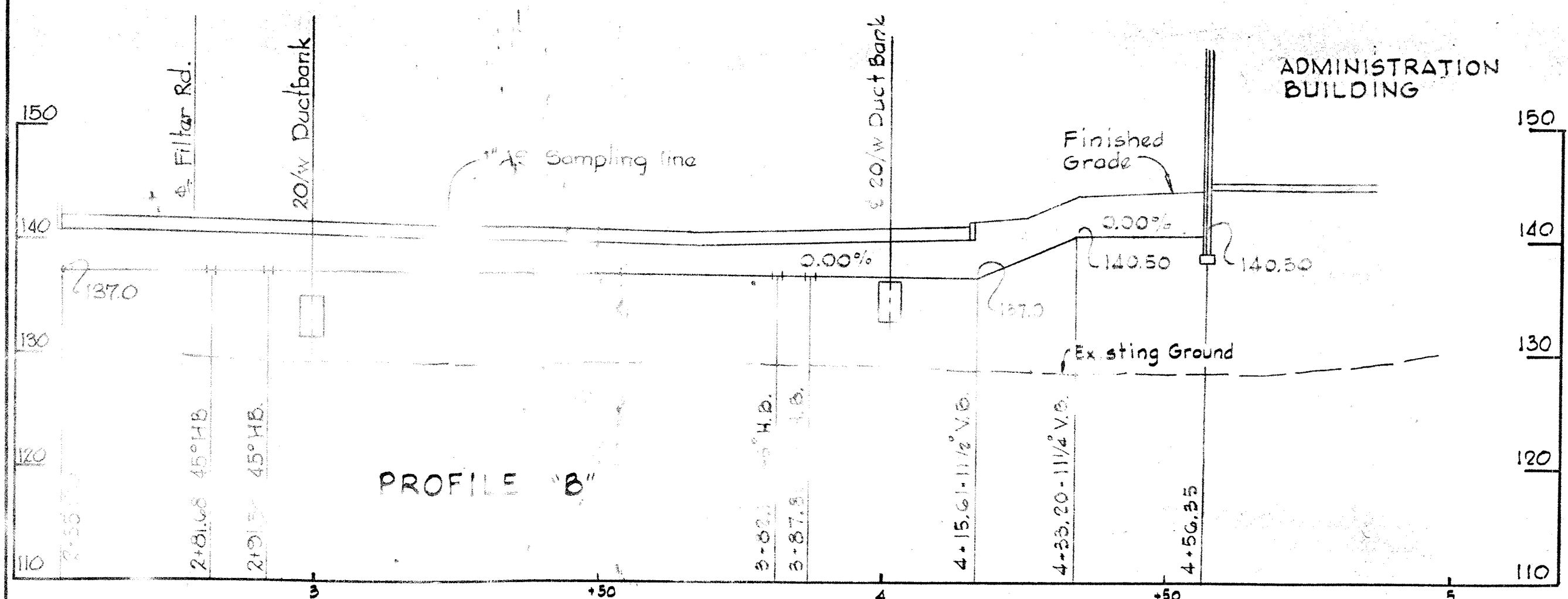
CONCRETE STEP DETAIL
Scale: 3/4" = 1'-0"



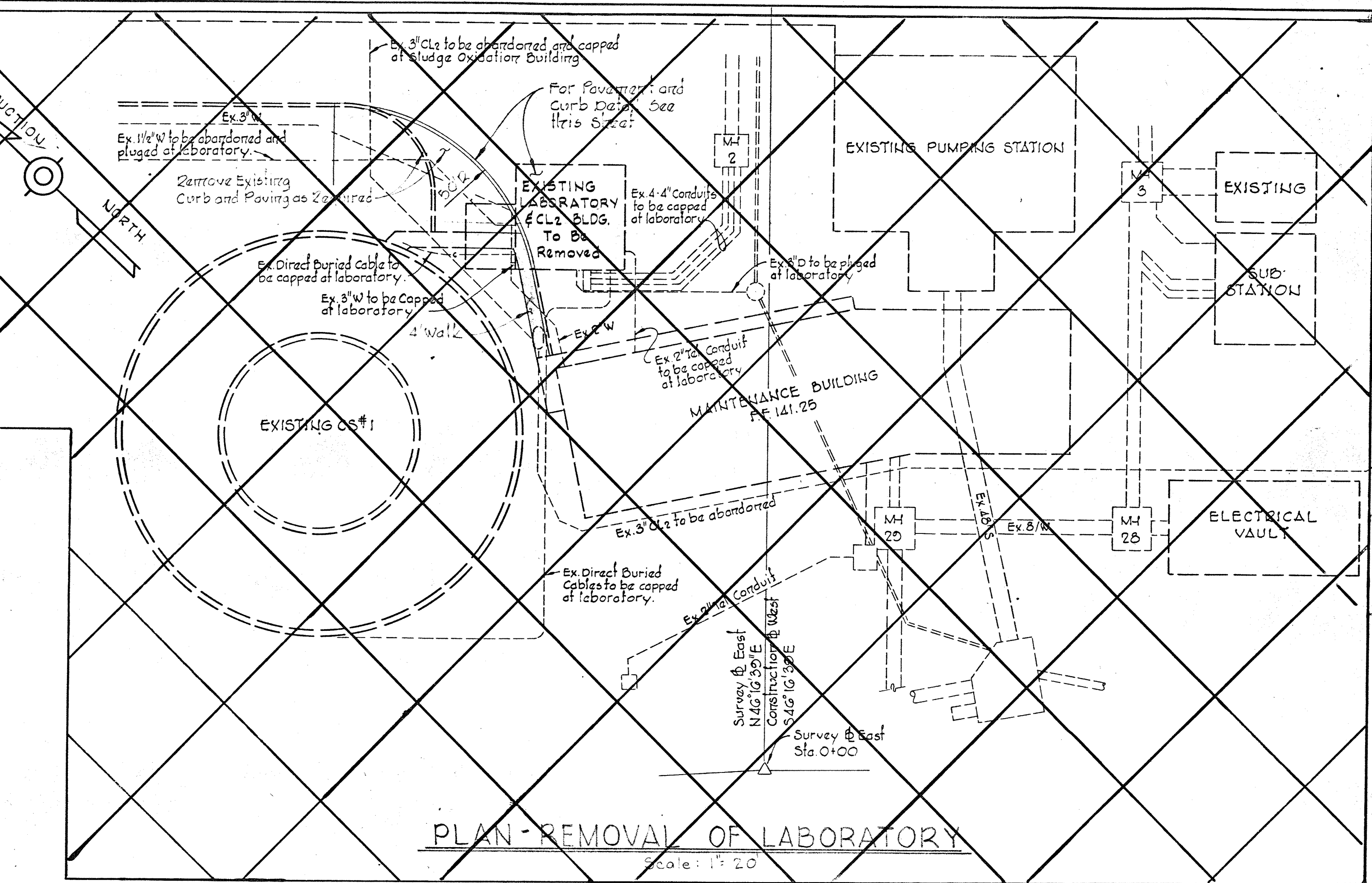
SECTION C-5B
ROOF DRAIN OUTFALL ENDWALL
Scale: None



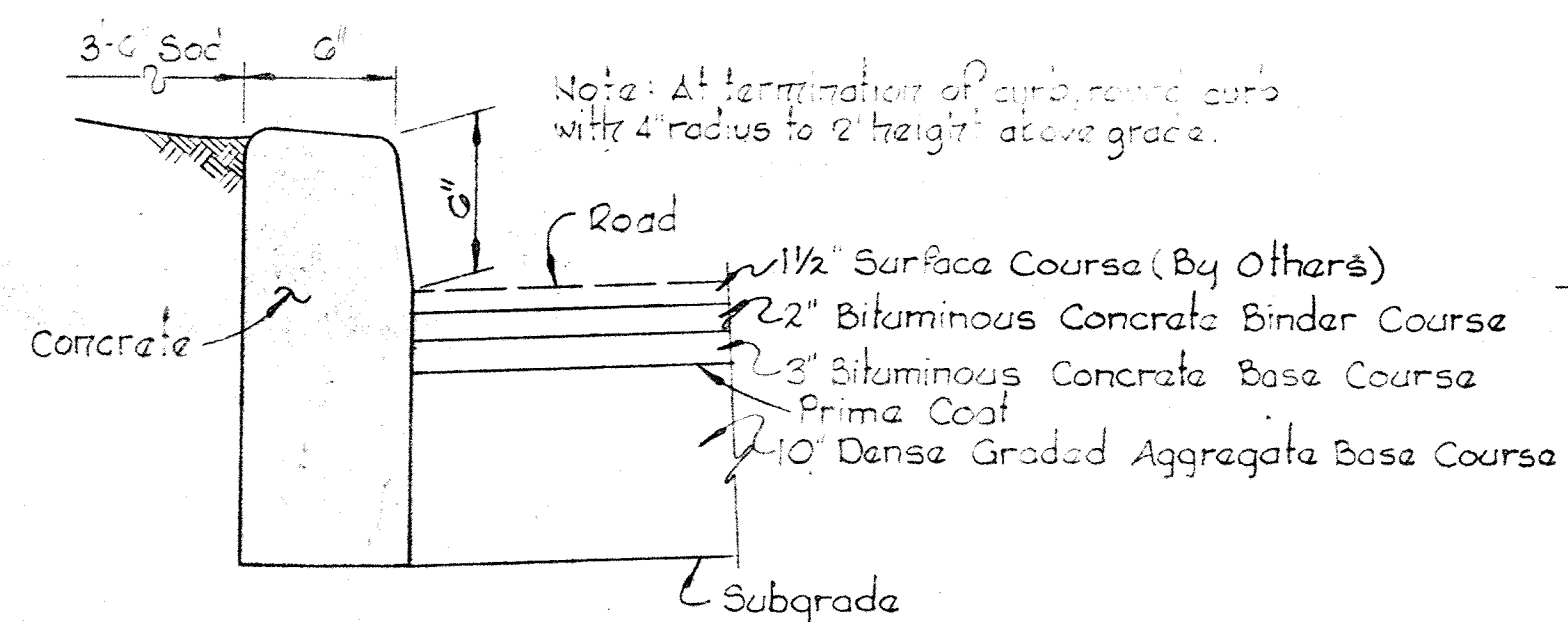
PROFILE "A"



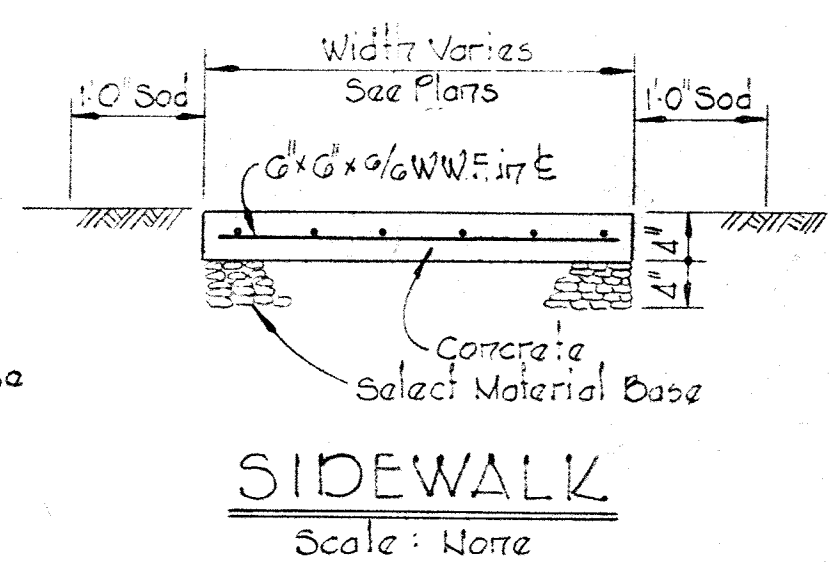
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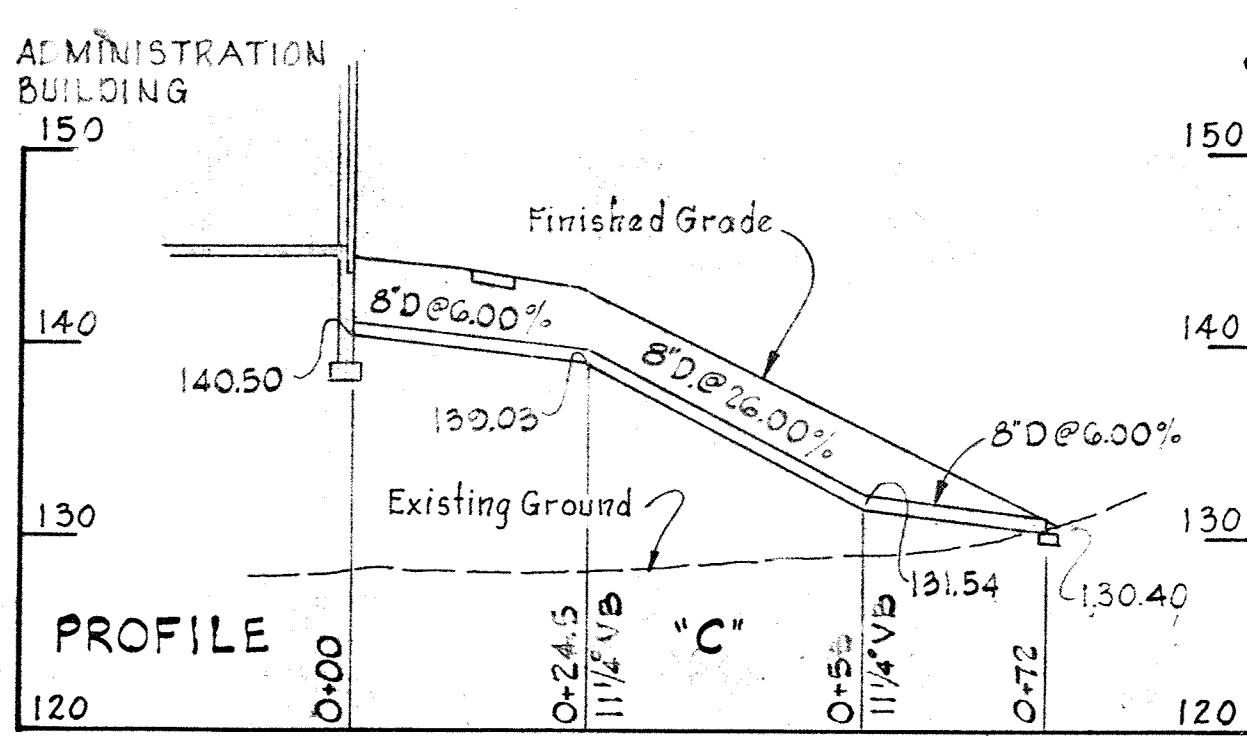
PLAN-REMOVAL OF LABORATORY
Scale: 1" = 20'



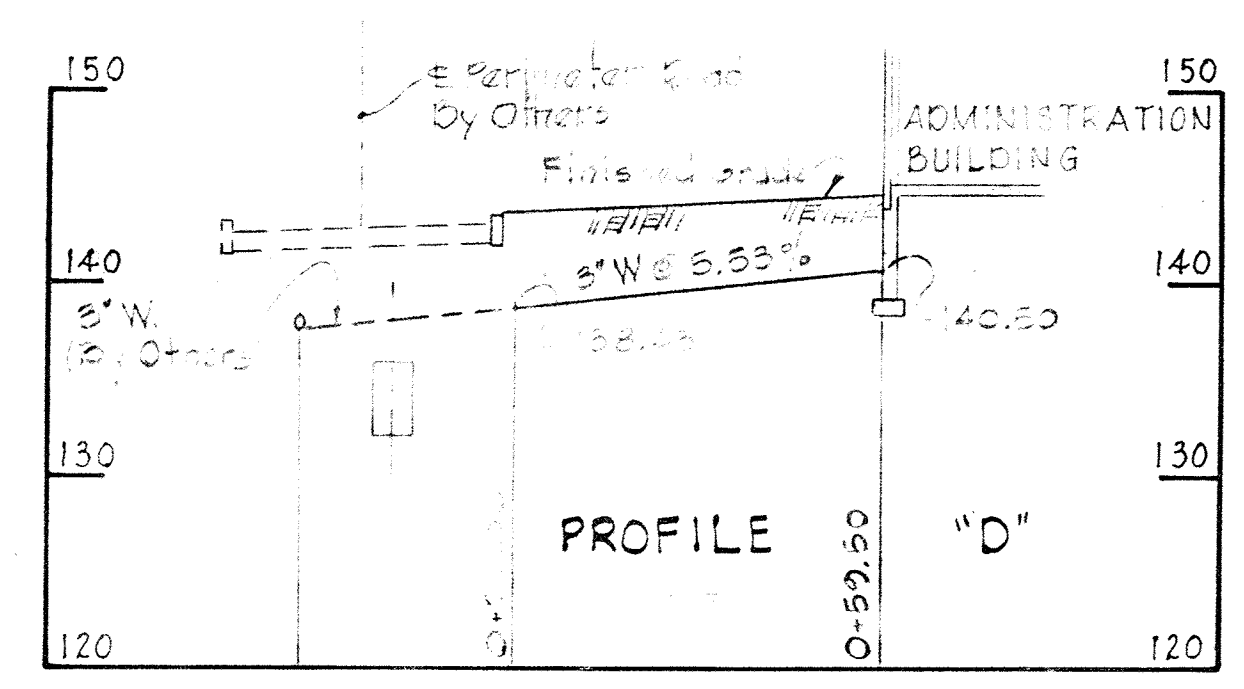
CURB AND PAVING DETAIL
Scale: None



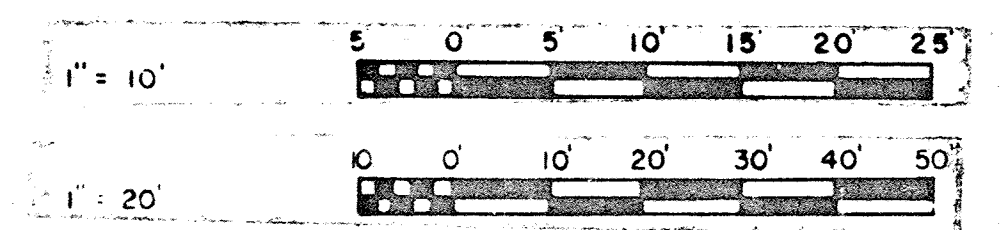
SIDEWALK
Scale: None



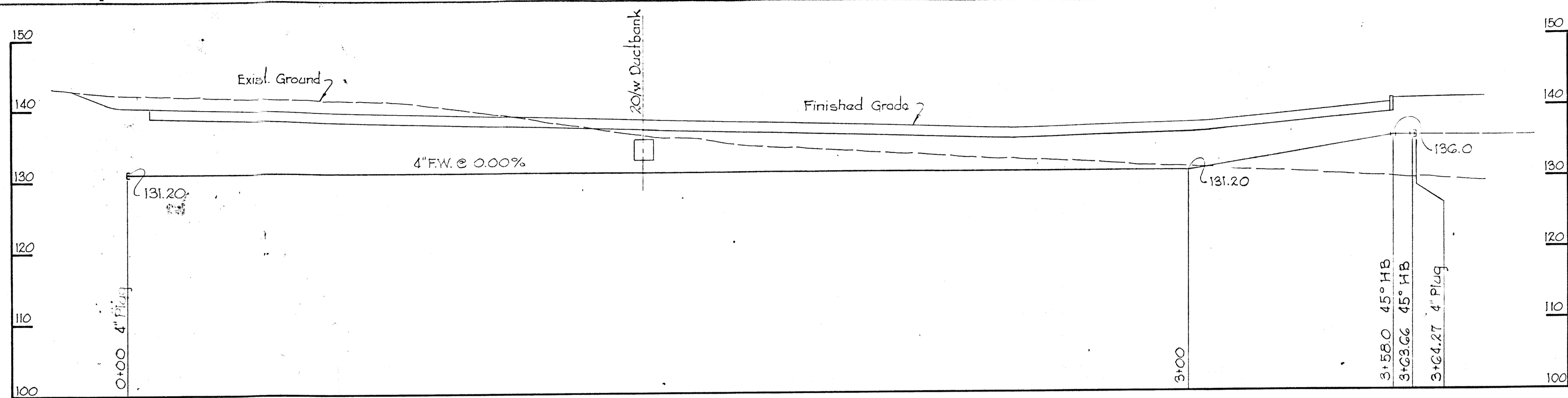
PROFILE "C"



PROFILE "D"

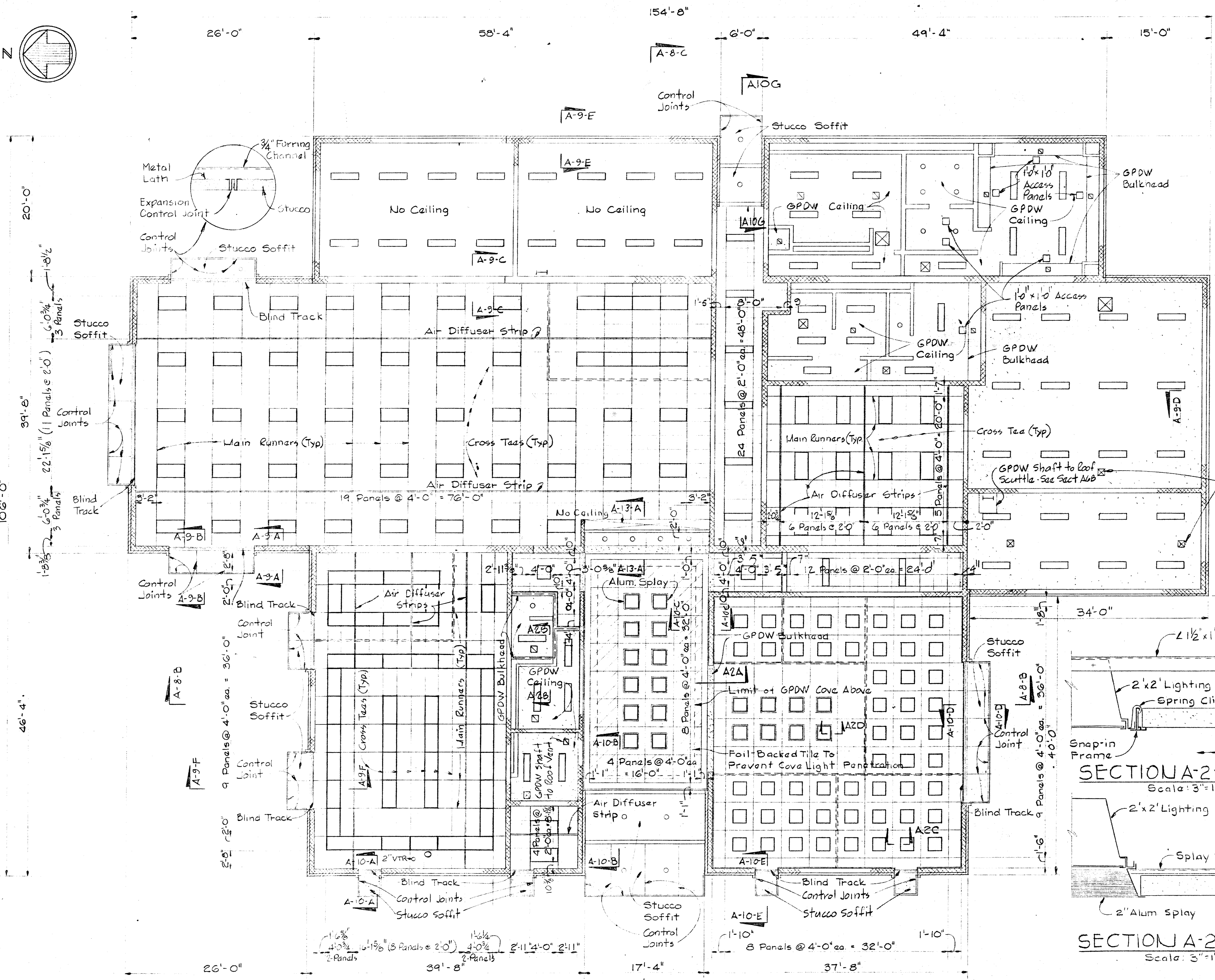
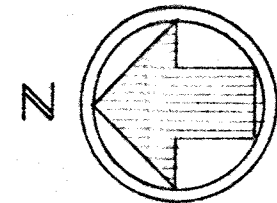


WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/30/75 DATE	CONTRACT NO. 503-S	MISCELLANEOUS DETAILS AND PROFILES	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 8 OF 64 SCALE AS SHOWN
---	--	--------------------	---------------------------------------	---	--



PROFILE "G"
 Scale: Hor. 1"=20'
 Vert. 1"=10'

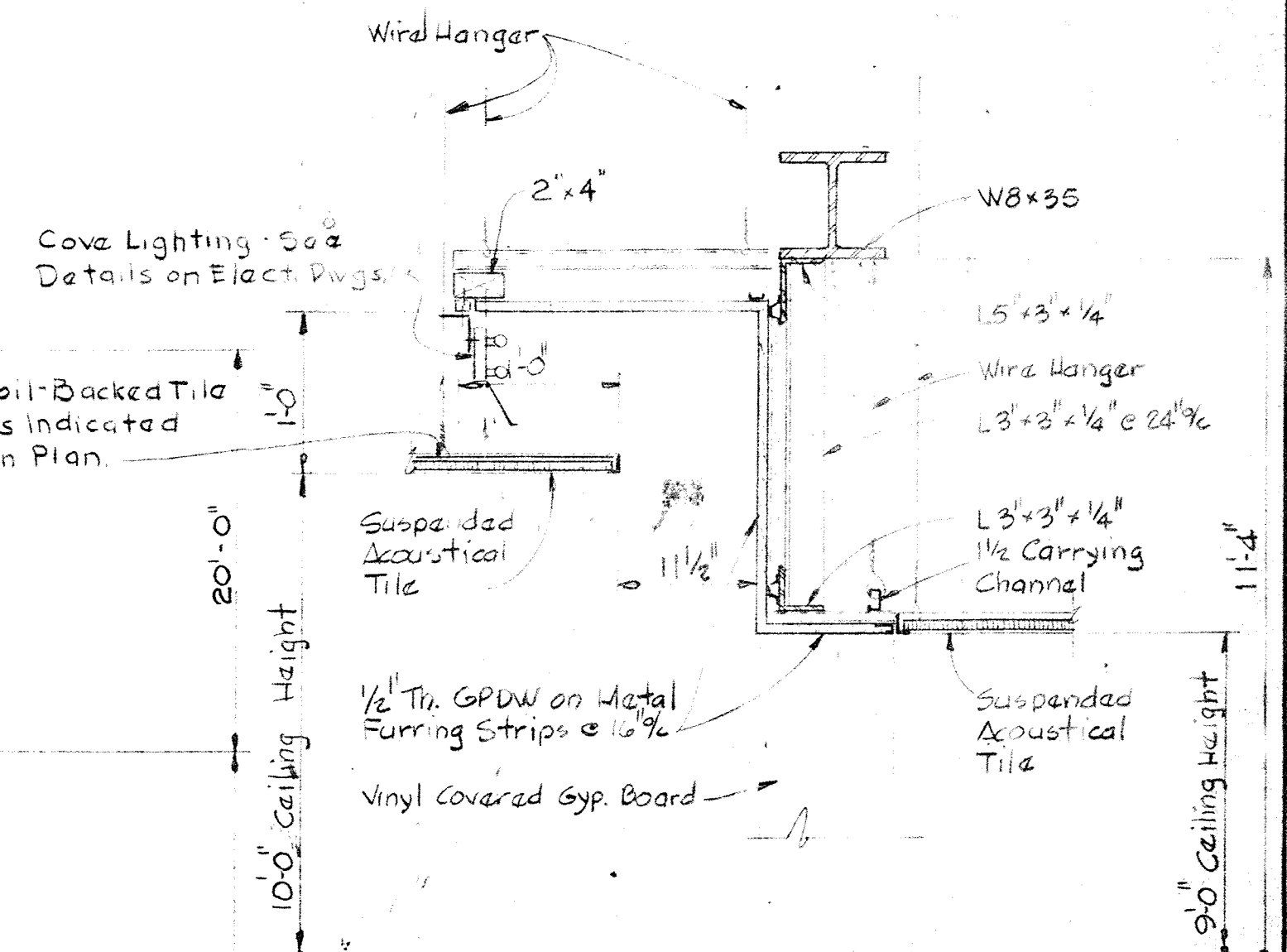
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE _____ CHIEF BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. <u>503-S</u>	PROFILES	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. <u>9</u> OF <u>64</u>	SCALE AS SHOWN
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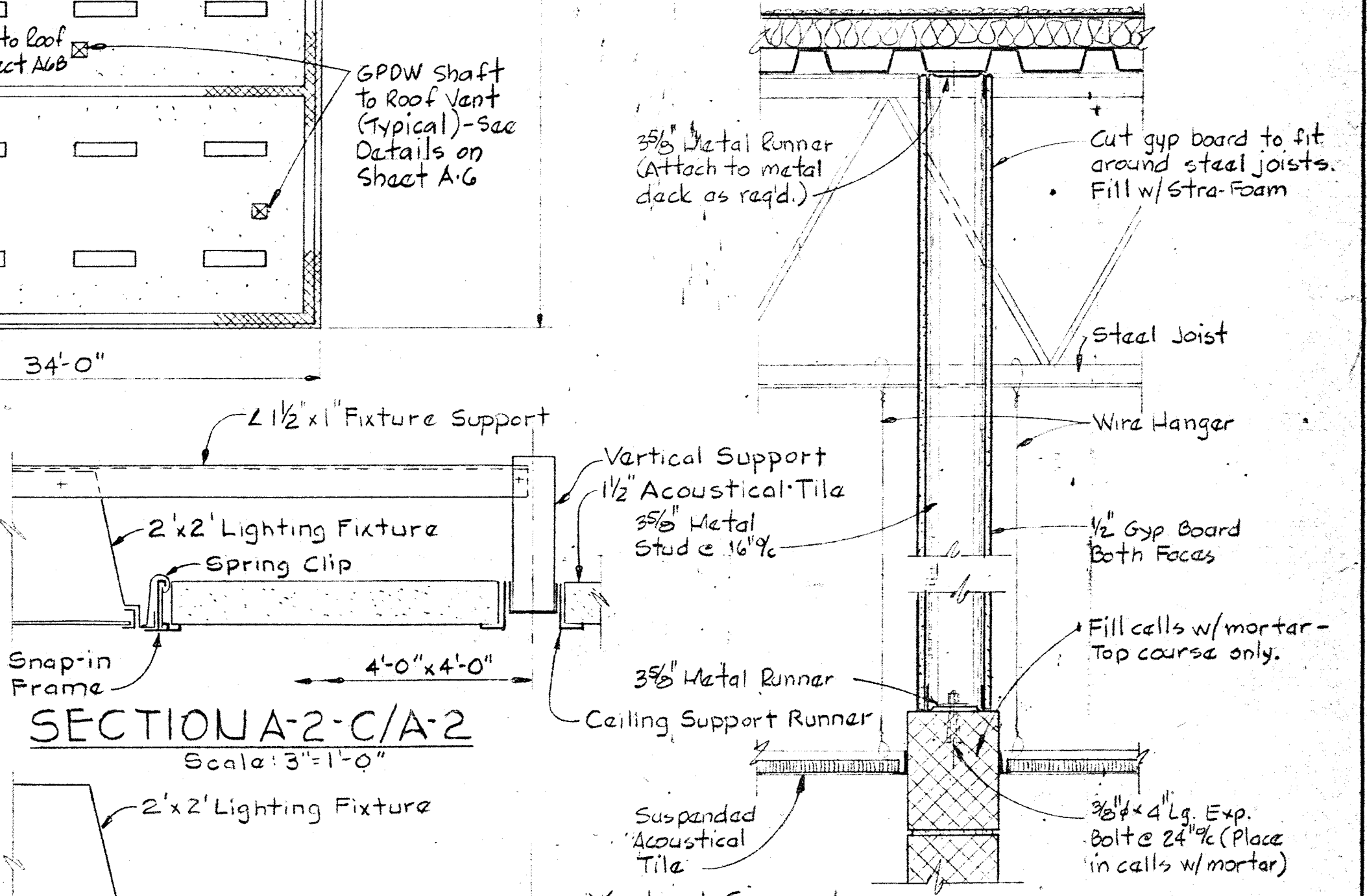
CEILING PLAN

Scale 1/2" = 1'-0"
 NOTES: 1. Ceiling height 9'-0" unless otherwise noted or shown
 2. Masonry walls shown thus are full height.
 Masonry walls shown thus are 3'-4" high.

NOTE:
 Splay lights in Lobby & Reception Area only



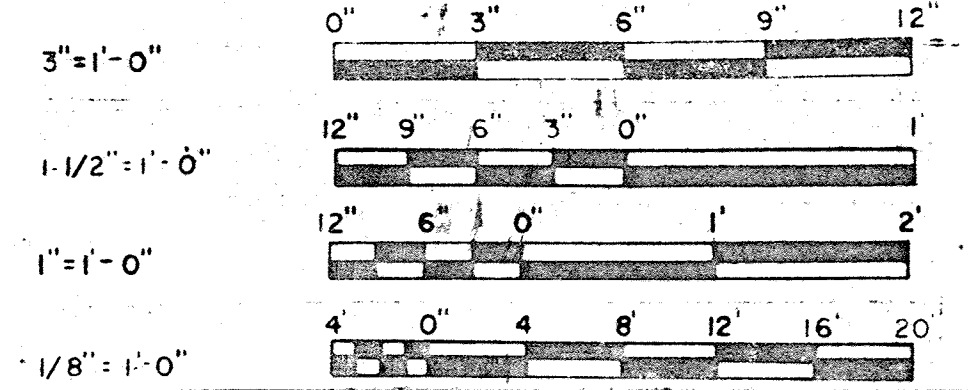
SECTION A2A/A2
 Scale 1" = 1'-0"



SECTION A-2-C/A-2
 Scale 3/4" = 1'-0"

SECTION A2B/A2, A4
 Scale 1/2" = 1'-0"

SECTION A-2-D/A-2
 Scale 3/4" = 1'-0"



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 HOWARD COUNTY, MARYLAND
 Chief Bureau of Engineering

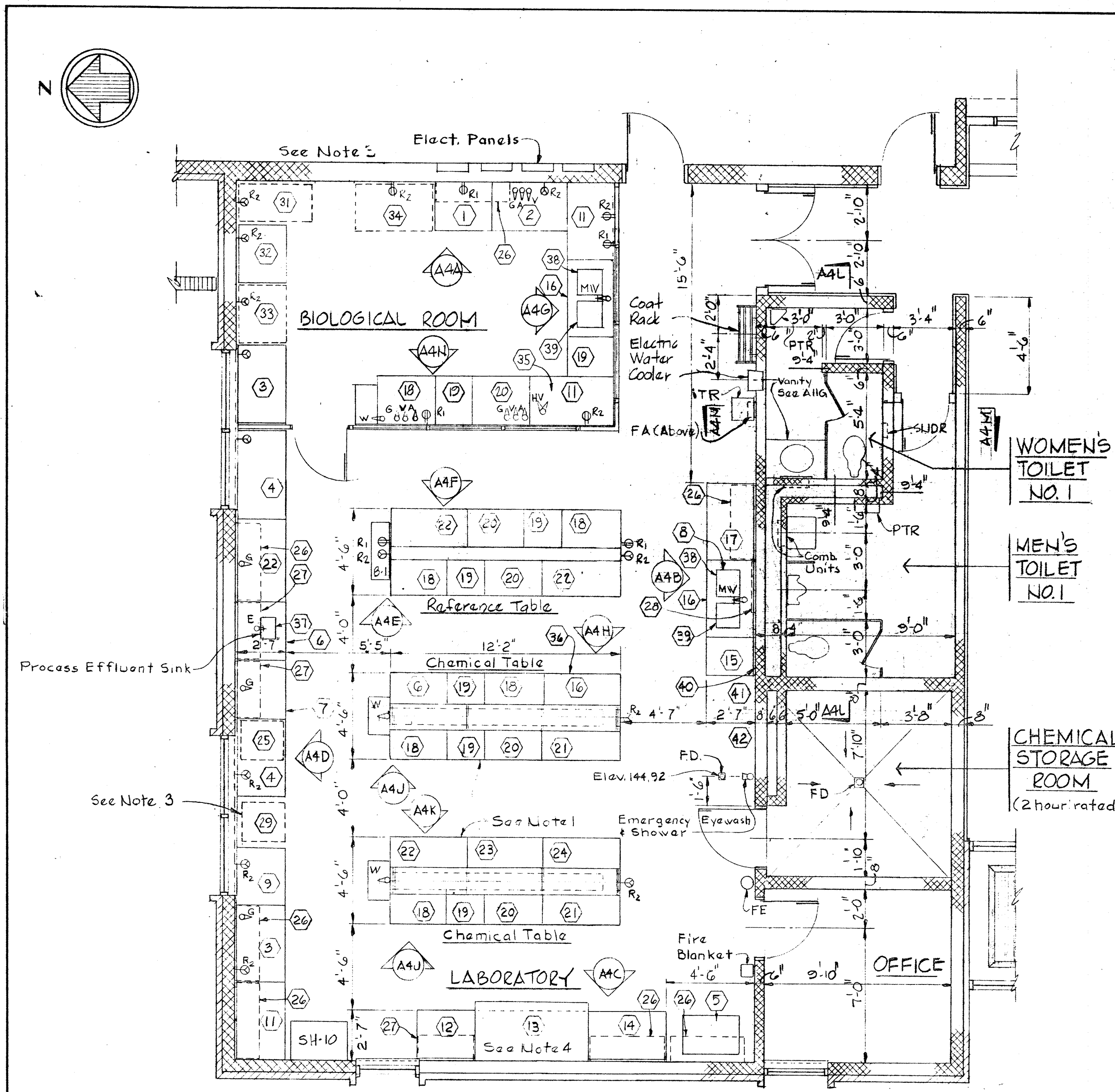
CONTRACT NO. 503-S

ARCHITECTURAL
 CEILING PLAN

SAVAGE WASTEWATER
 TREATMENT PLANT ADDITION NO. 4

DRAWING
 NO. 11
 OF 64

SCALE
 AS
 NOTED



PARTIAL PLAN - LABORATORY, WOMEN'S & MEN'S TOILET NO. 1
Scale 1/4" = 1'-0"

NOTE: All partitions are full height unless shown thus 3'-4"
B. Floor Drain In Chemical Storage Room - Top Elev. 144.75

SERVICE FITTING LEGEND	
Symbol	Description
E	Plant Effluent
G	Gas
MW	Hot & Cold Water Mixing
R ₁	115V
R ₂	230V
V	Vacuum
W	Cold Water

LABORATORY NOTES

1. Chemical Table Service Piping & Conduit Under Reagent Rack (Gas, Vac, Air, Cw, 115V-6 Each On Each Table).
2. Vacuum Pump Mounted On Floor Inside Cabinet - Control Switch Mounted On Face of Cabinet Between Louvers.
3. Existing Floor Standing Equip. To Be Moved From Existing Lab. & Installed. Not shown on Elevations on Sheet A-4
4. Fume Hood w/Air, Vac., Gas, 115V, 230V, & Drain.
5. Vacuum Pump and Air Compressor mounted on floor inside cabinet.

LABORATORY FURNITURE & EQUIPMENT SCHEDULE

Equip. No.	Q'ty Req'd.	Manufacturer & Model No.	Description	Dimension LxWxH
1	1	Kewaunee KE-2478	Base Unit	48"x22"x35 3/4"
2	1	" KD-2318	Base Unit	48"x22"x35 3/4"
3	2	" KE-2728	Base Unit	48"x22"x35 3/4"
4	2	" KE-2638	Base Unit	48"x22"x35 3/4"
5	1	" KT-6590	Balance Table	35"x24"x30"
6	2	" KG-2006	Sink Base Unit	36"x22"x35 3/4"
7	1	" KE-2446	Base Unit	36"x22"x35 3/4"
8	1	In-Sink-Erator 707	Disposal	
9	1	Kewaunee KE-2406	Base Unit	36"x22"x35 3/4"
11	2	" KG-2128	Base Unit	48"x22"x35 3/4"
12	1	" KE-2426	Base Unit	36"x22"x35 3/4"
13	1	" KH-1006-MT	Fume Hood	6'-0"x37"x7'-1 1/4"
14	1	" KE-2418	Base Unit	48"x22"x35 3/4"
15	1	" 3C-4001	Undercounter Dishwasher	
16	2	" KG-2008	Sink Base Unit	48"x22"x35 3/4"
17	1	" KE-2438	Base Unit	48"x22"x35 3/4"
18	6	" KD-2506	Base Unit	36"x22"x35 3/4"
19	7	" KA-2422-1A	Drawer Apron Unit	24"x21 1/2"x4 1/2"
20	5	" KE-2616	Base Unit	36"x22"x35 3/4"
21	3	" KG-2218	Acid Storage Base Unit	48"x22"x35 3/4"
22	4	" KD-2528	Base Unit	48"x22"x35 3/4"
23	1	" KE-2618	Base Unit	48"x22"x35 3/4"
24	1	" KD-2508	Base Unit	48"x22"x35 3/4"
25	1	Existing	Muffle Furnace	
26	7	Kewaunee KW-1618	Wall Mounted Unit	48"x16"x30"
27	3	" KW-1616	Wall Mounted Unit	36"x16"x30"
28	1	" K7-1906	Pageboard	32"Lx29"Hx1 1/4"Th.
29	1	Existing	Drying Oven	
30	1	Market Forge Sterimatic	Autoclave	
31	1	Existing	Autoclave	
32	1	Precision Scientific 31213	BOD Incubator	
33	1	Existing	BOD Incubator	
34	1	Existing	Bacteriological Incubator	
35	1	Precision, Model 35	Vacuum Pump - See Note 2	
36	1	Pneumatic, BLVGH-10	Vacuum Pump + Air Compressor - See Note 5.	
37	1	Kewaunee 1000	Kemresin Tub Sink	14"x10"x6"D
38	1	" 1079	Stainless Steel Tub Sink	18"x14 1/4"x10"D
39	1	" 1003	Kemresin Tub Sink	18"x15"x11"D
40	1	Barnstead	Demineralizer	
41	1	Horizon # 6321-31	Storage Tank, 30 gal.	
42	1	Barnstead	Distilling Apparatus, elec., 5gph	

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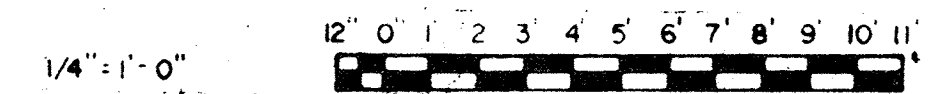
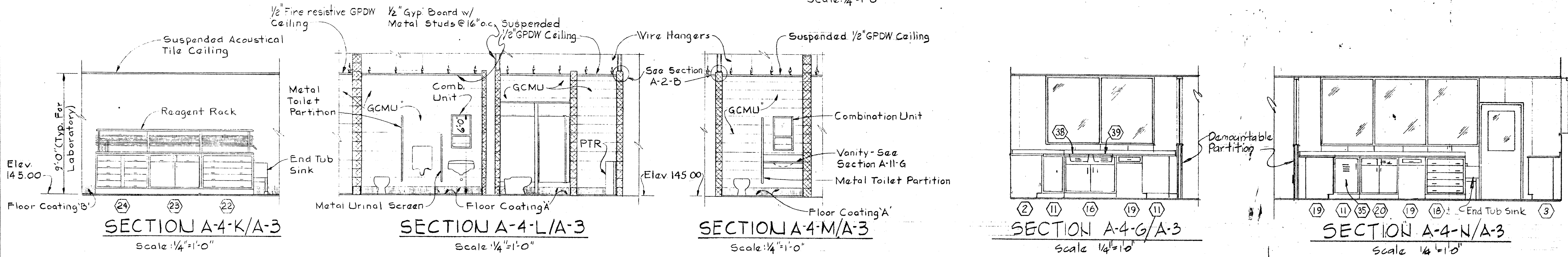
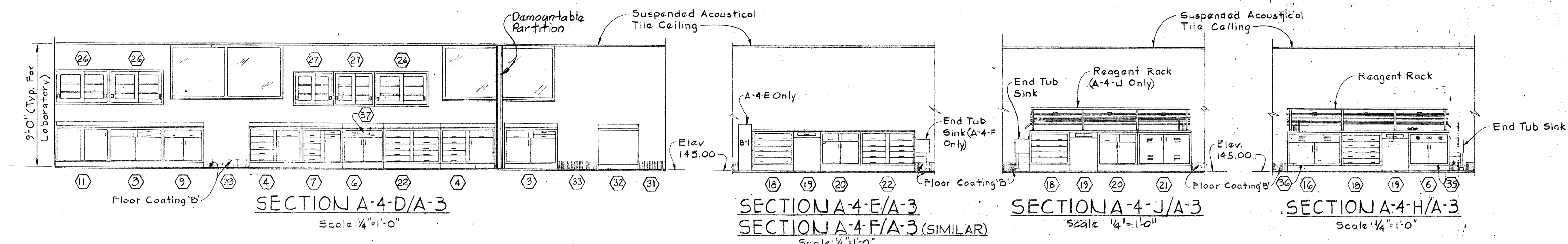
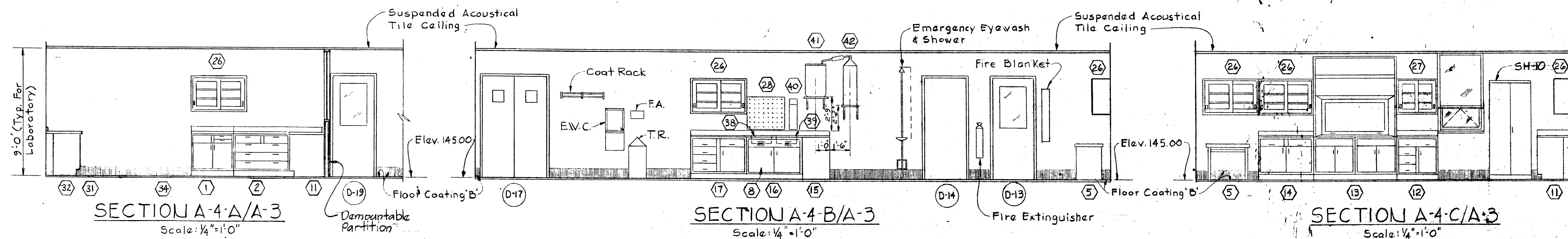
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
3/20/15
DATE
W. O. 6887-2
CHIEF-BUREAU OF ENGINEERING

CONTRACT NO. 503-S

ARCHITECTURAL
LABORATORY PLAN AND
SCHEDULES

SAVAGE WASTEWATER
TREATMENT PLANT ADDITION NO. 4

DRAWING NO. 12 OF 64
SCALE AS NOTED



WHITMAN, REQUARDT & ASSOCIATES
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CONTRACT NO. 503-S

ARCHITECTURAL
LABORATORY EQUIPMENT
ELEVATIONS & DETAILS

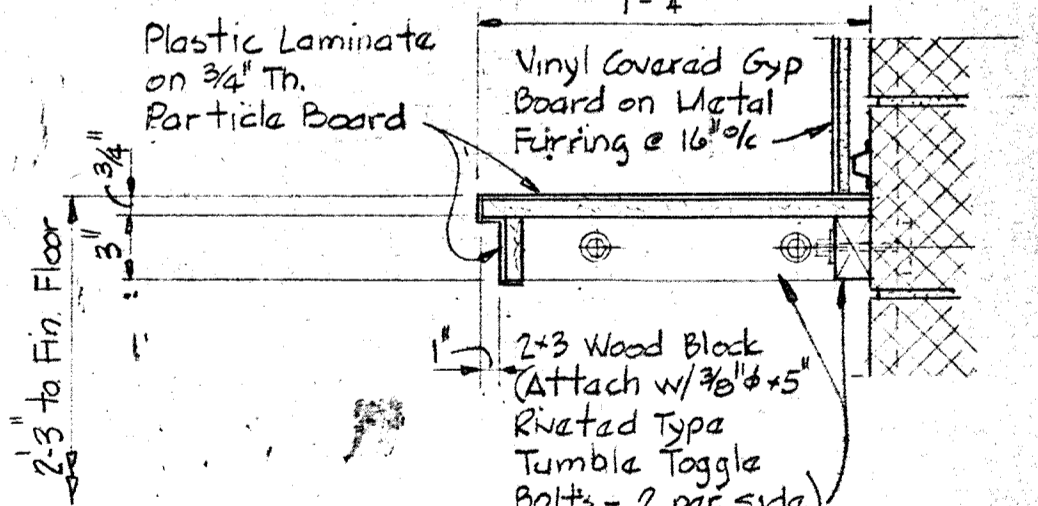
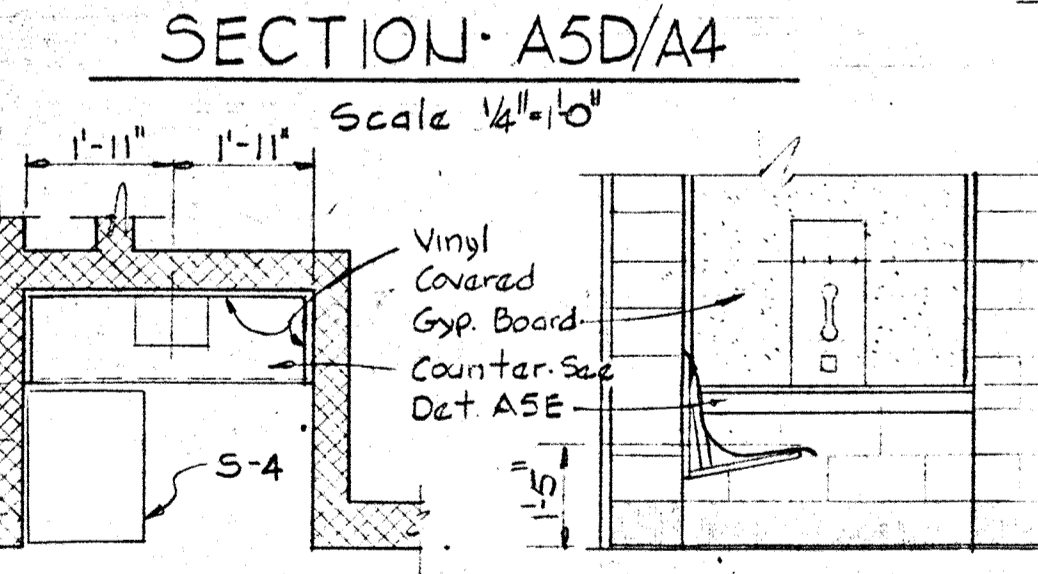
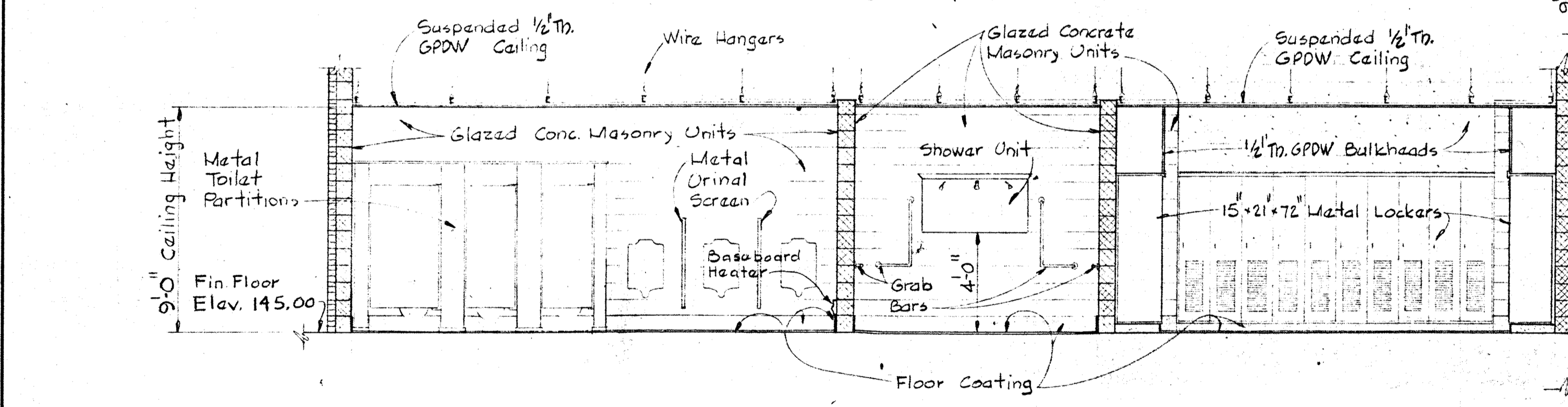
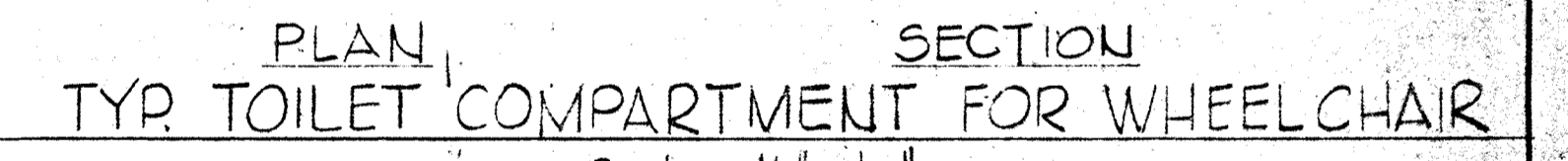
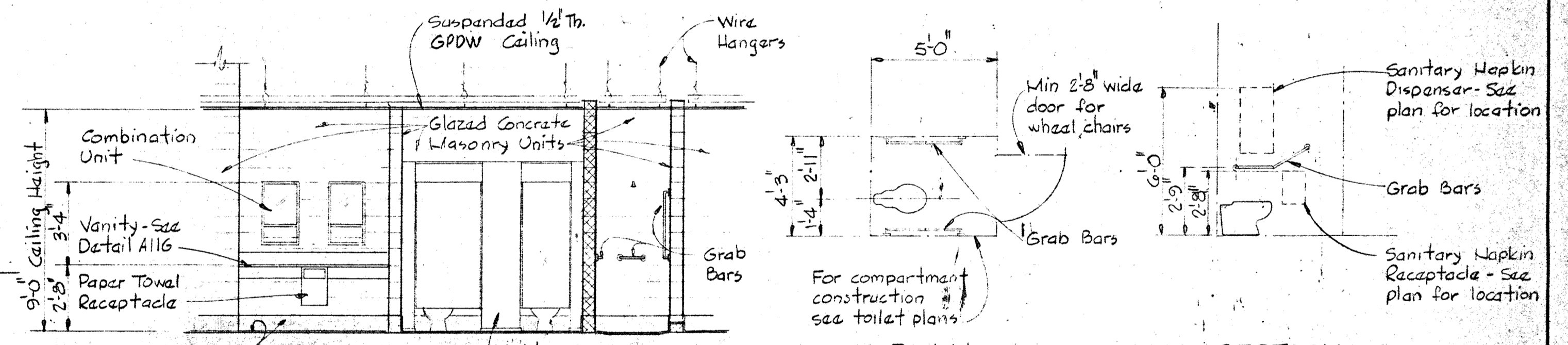
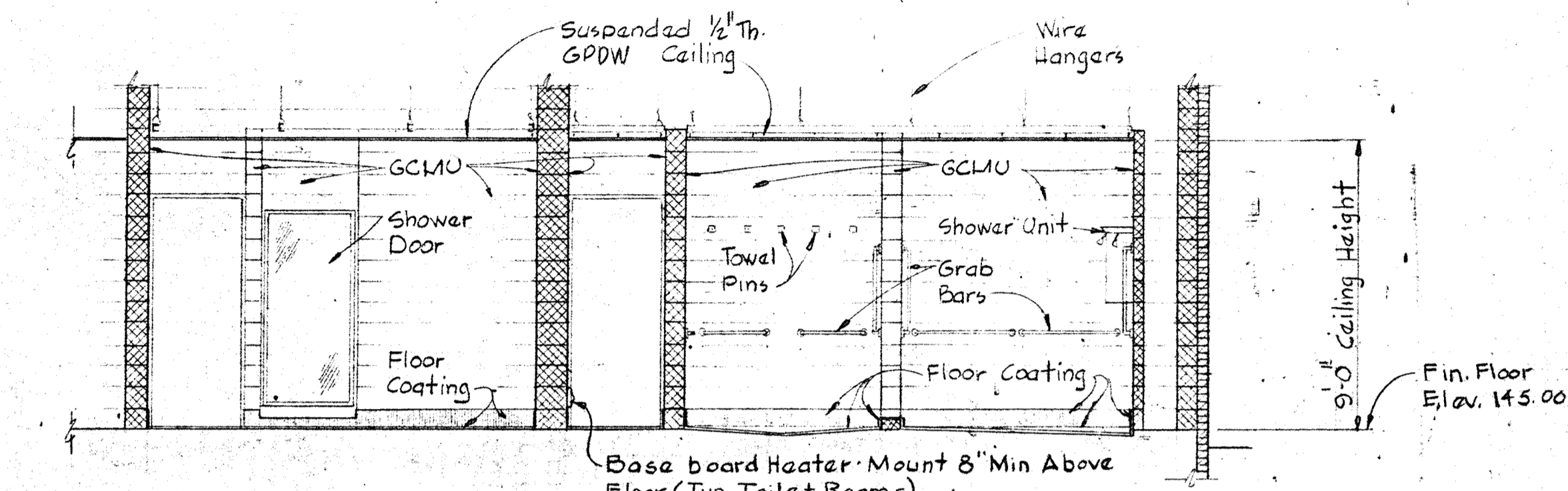
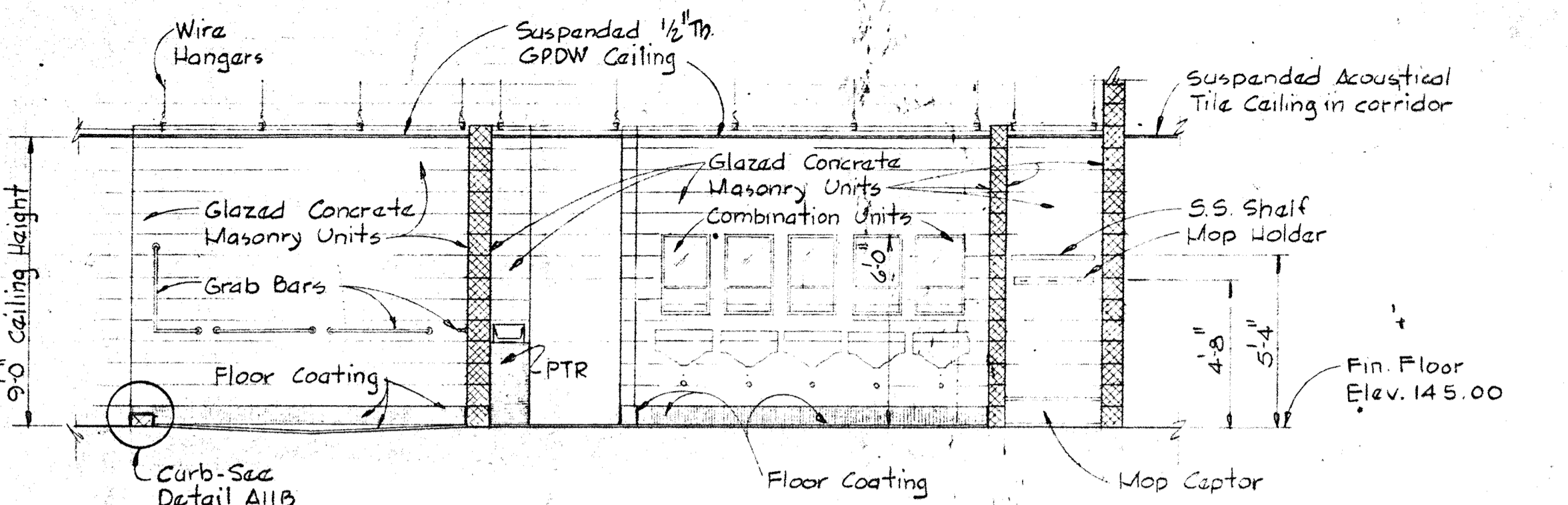
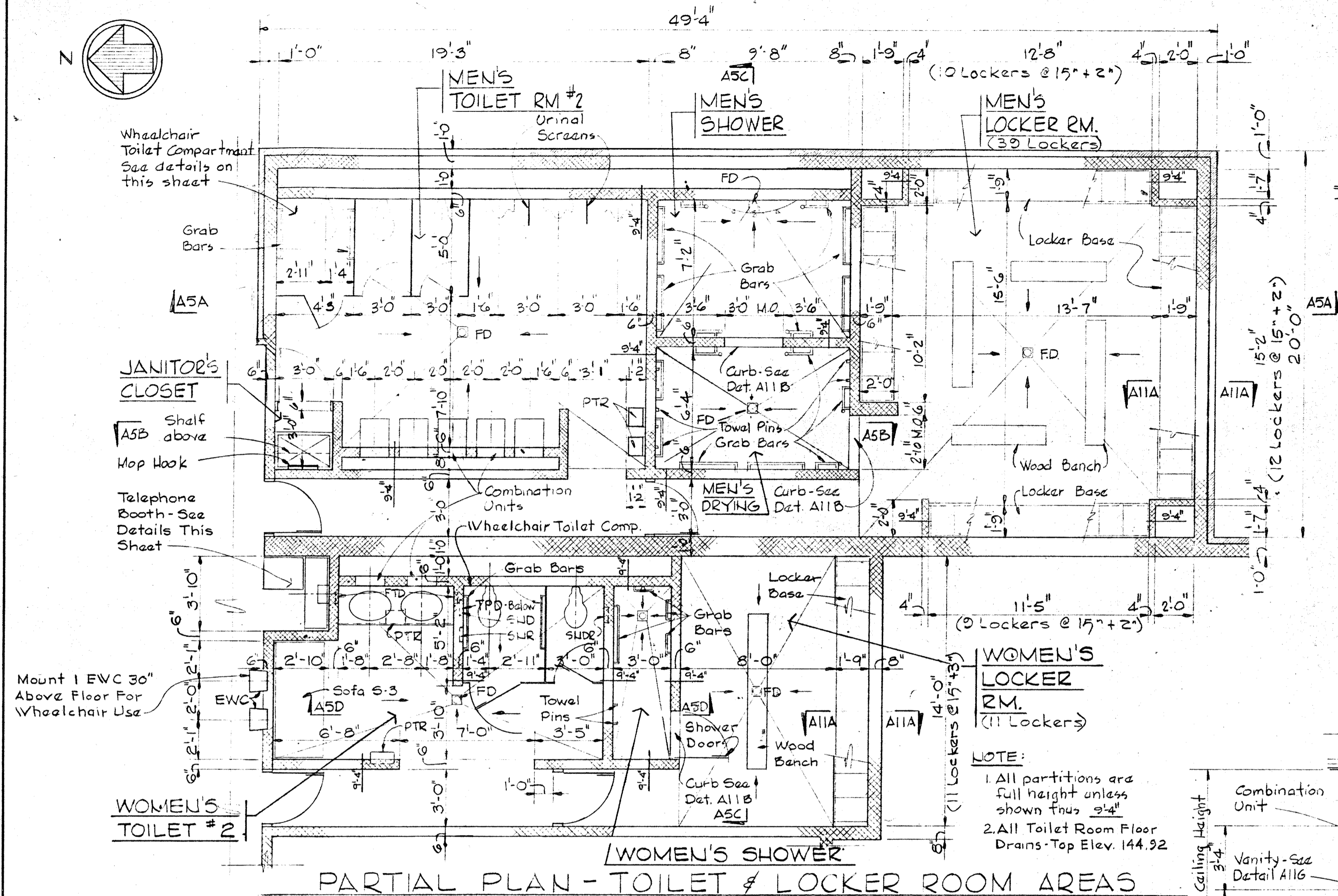
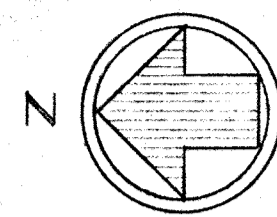
SAVAGE WASTEWATER
TREATMENT PLANT ADDITION NO. 4

DRAWING NO. 13 OF 64
SCALE AS NOTED

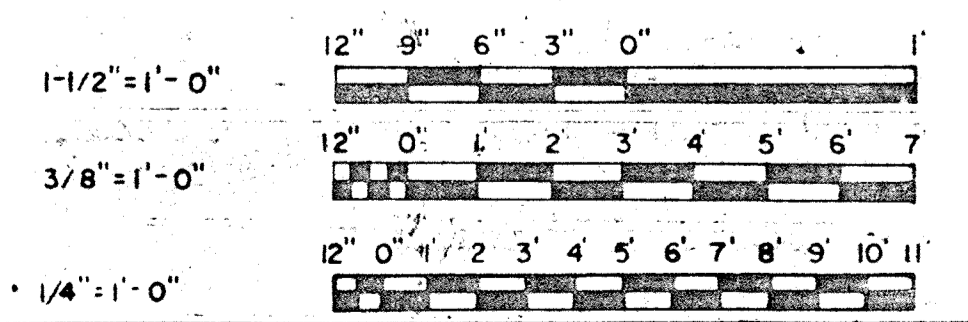
W. O. 6887-2

SHEET A-4

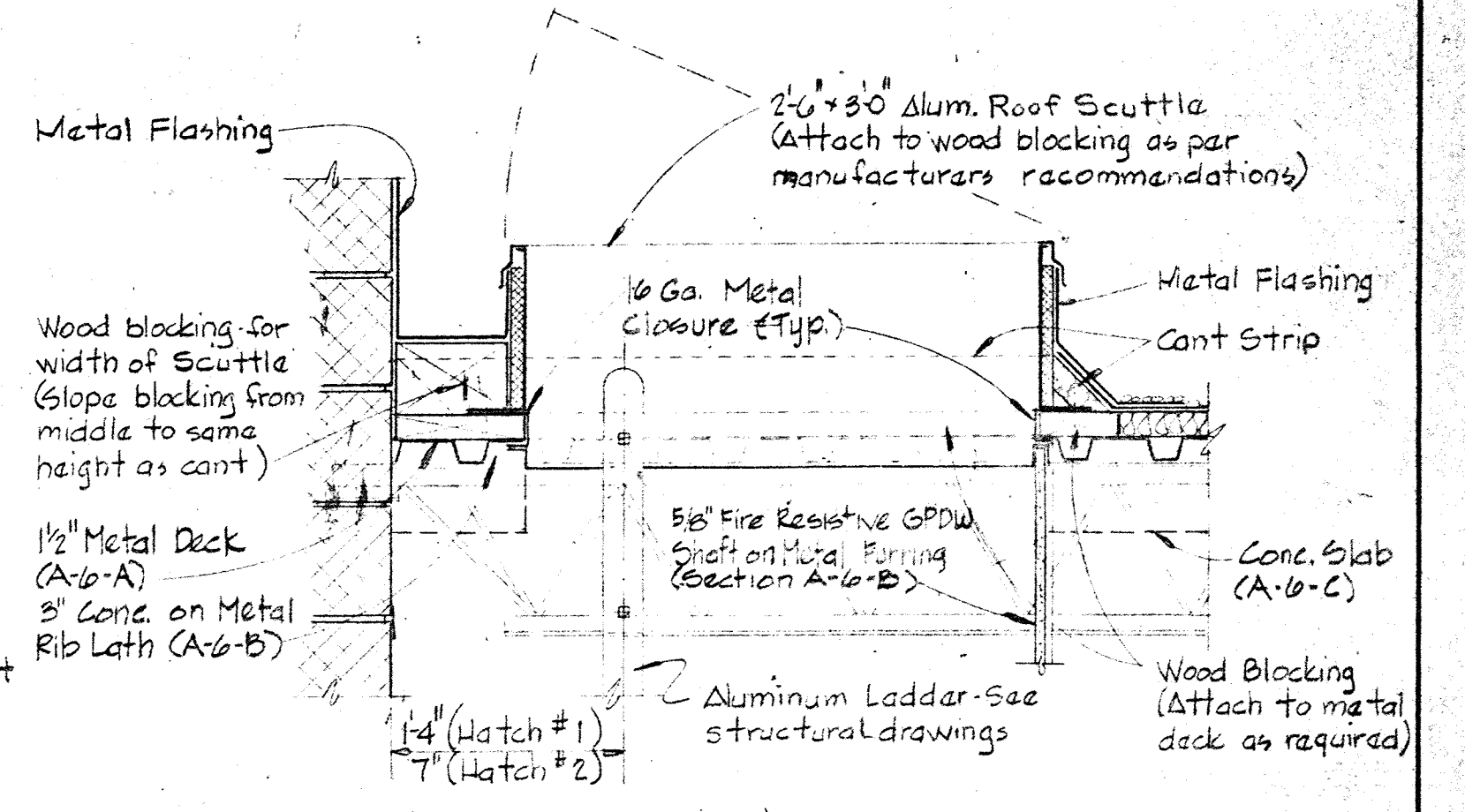
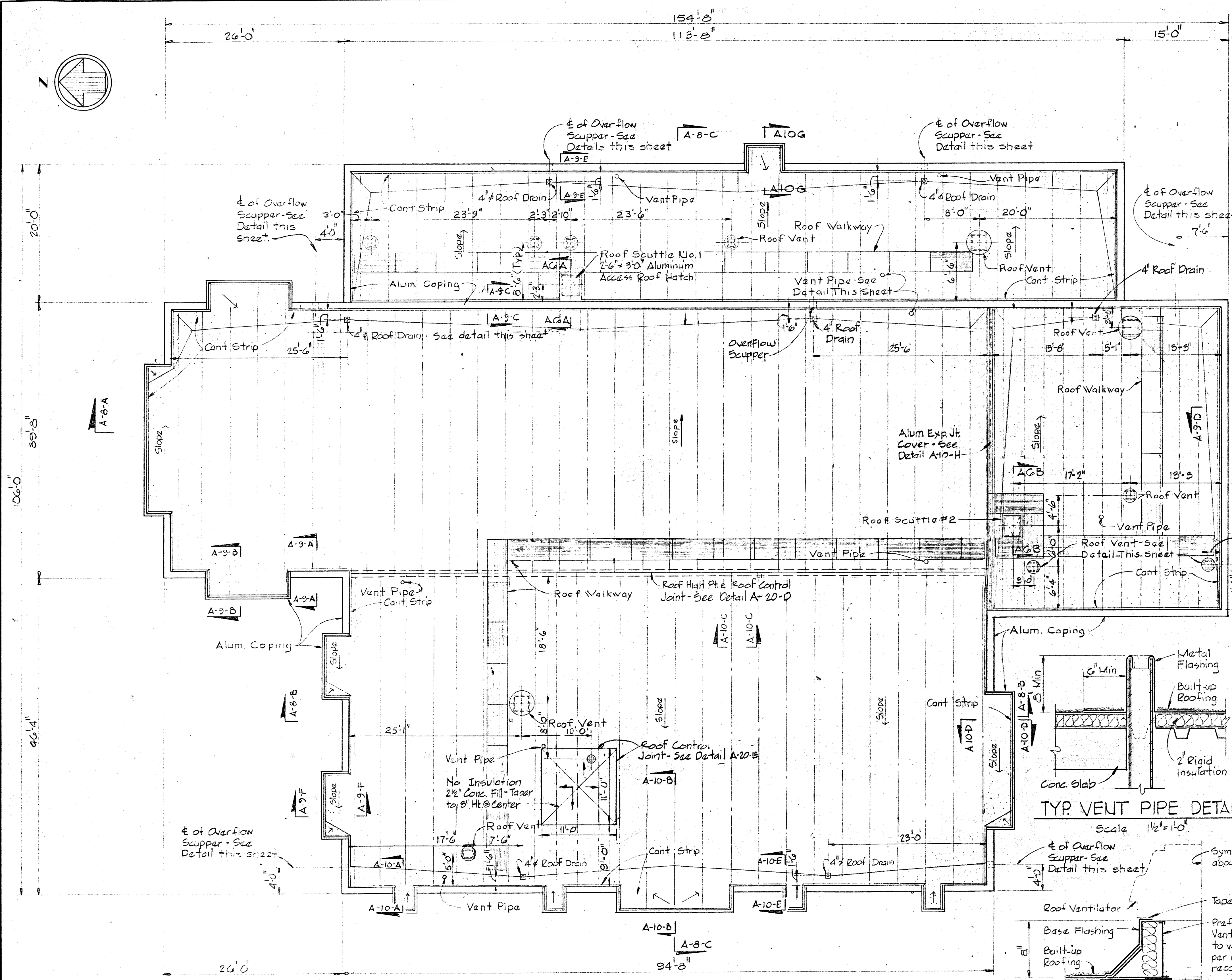
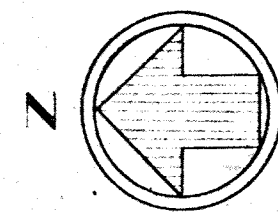
BRUNING 44510 18392



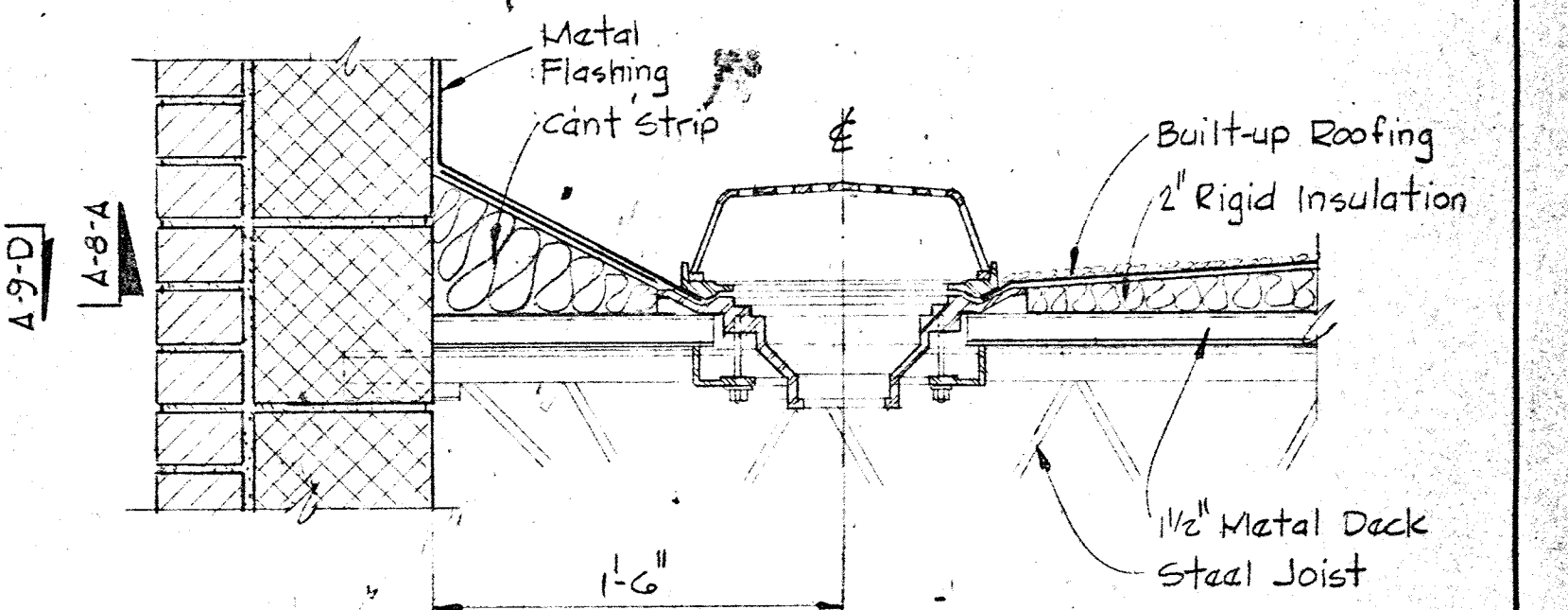
- MOUNTING HEIGHTS:**
1. Top of Combination Units 6'-0" above floor on \pm of sinks.
 2. Bottom of Facial Tissue Dispenser 3'-4" above floor - Women's Toilet only - Location as shown.
 3. \pm of Towel Pins 6'-0" Above Floor - Location As Shown.
 4. Top of S.S. Shelf 6'-0" Above Floor - Janitors Closet.
 5. Top of Recessed Sanitary Napkin Dispenser 6'-0" above floor.
 6. Top of Recessed Sanitary Napkin Receptacle 2'-8" above floor.
 7. Top of Recessed Toilet Tissue Dispenser 2'-8" above floor - Women's Toilet only - Location as shown.
 8. \pm of Grab Bars 2'-8" above floor - Location as shown.
 9. \pm of Mop Hooks 5'-4" Above Floor - Janitors Closet.
 10. Bottom of Paper Towel Receptacle - 2" Min Above Floor
 11. \pm Mop Hook 5'-4" Above Floor
 12. \pm Curtain Rod 7'-4" Above Floor
 13. Bottom of Key Cabinets 4'-8" Above Floor



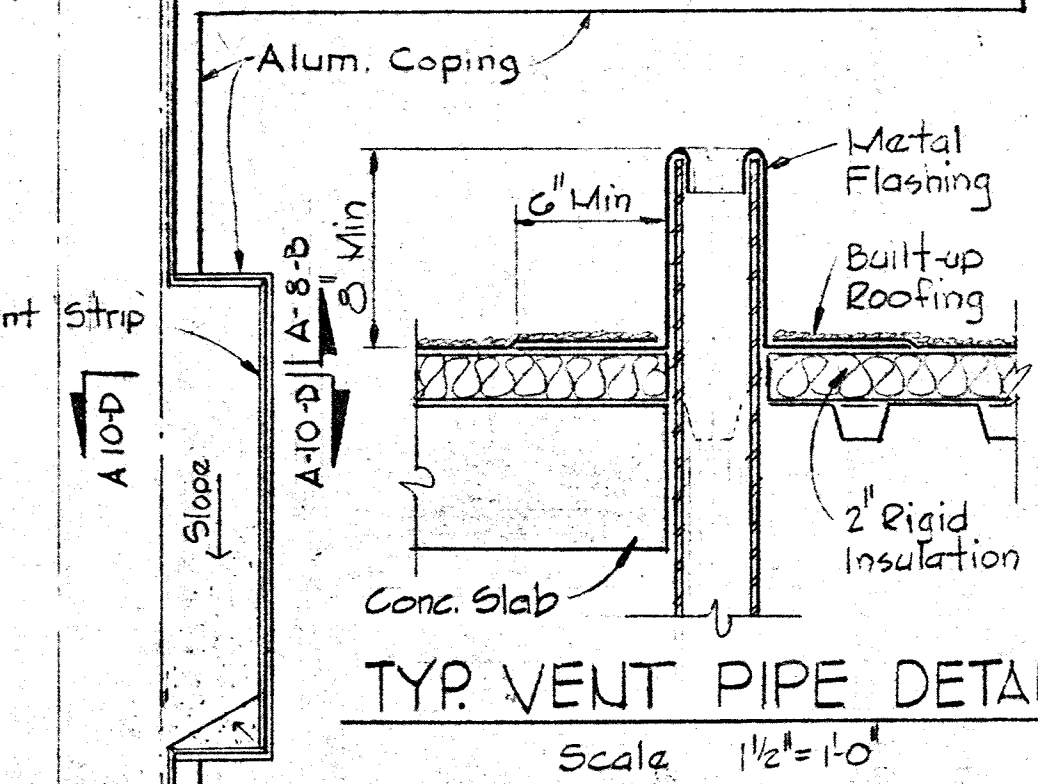
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 	CONTRACT NO. 503-S	ARCHITECTURAL TOILET ROOM PLAN AND ELEVATIONS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 14 OF 64 SCALE AS NOTED
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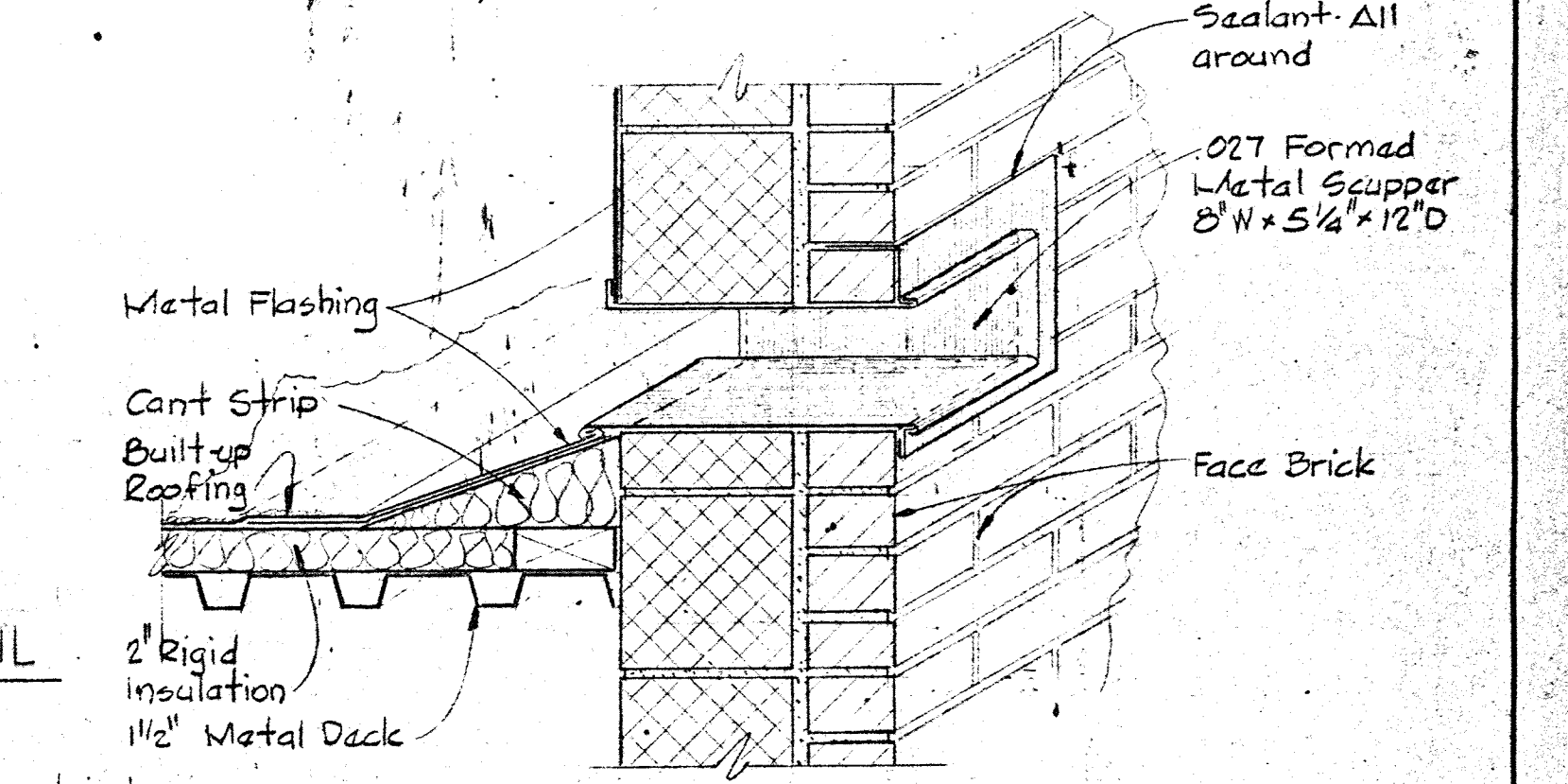
ROOF SCUTTLE NO. 1 - SECTION A-6A/A-6
(ROOF SCUTTLE NO. 2 - SECTION A-6B/A-6 SIMILAR)
(ROOF SCUTTLE NO. 3 - SECTION A-6-C/A-16 SIMILAR)
Scale 1" = 1'-0"



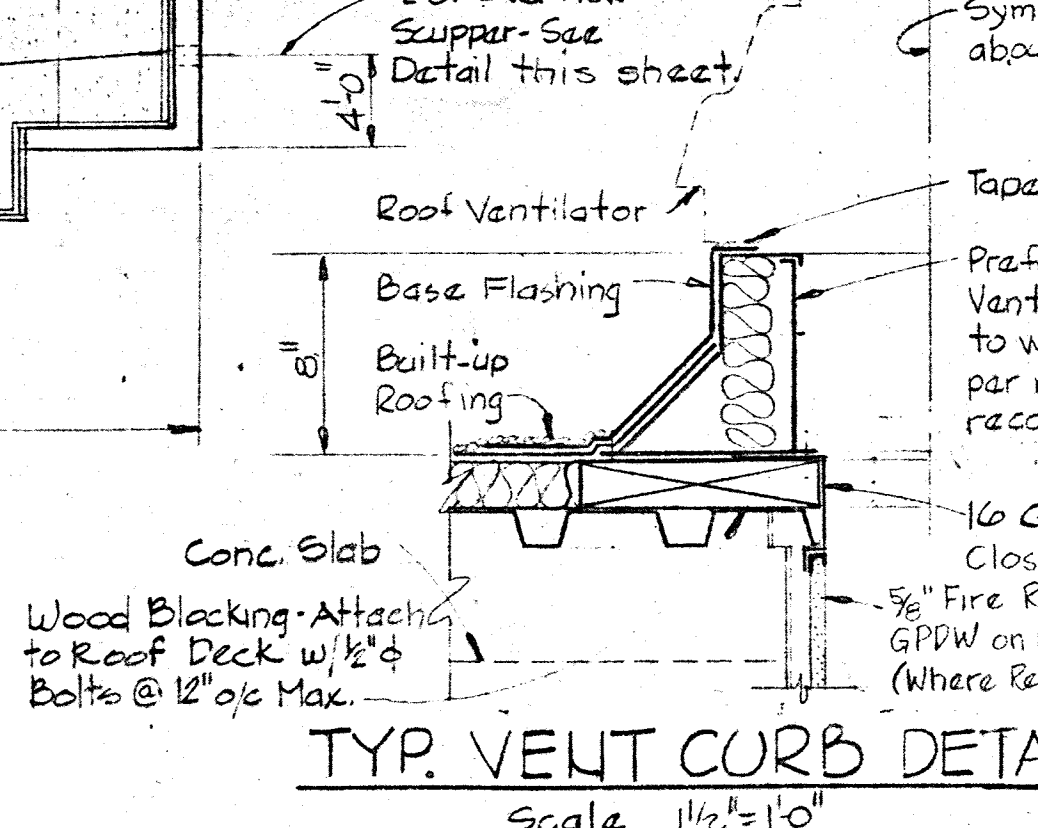
TYPICAL ROOF DRAIN DETAIL
Scale 1 1/2" = 1'-0"



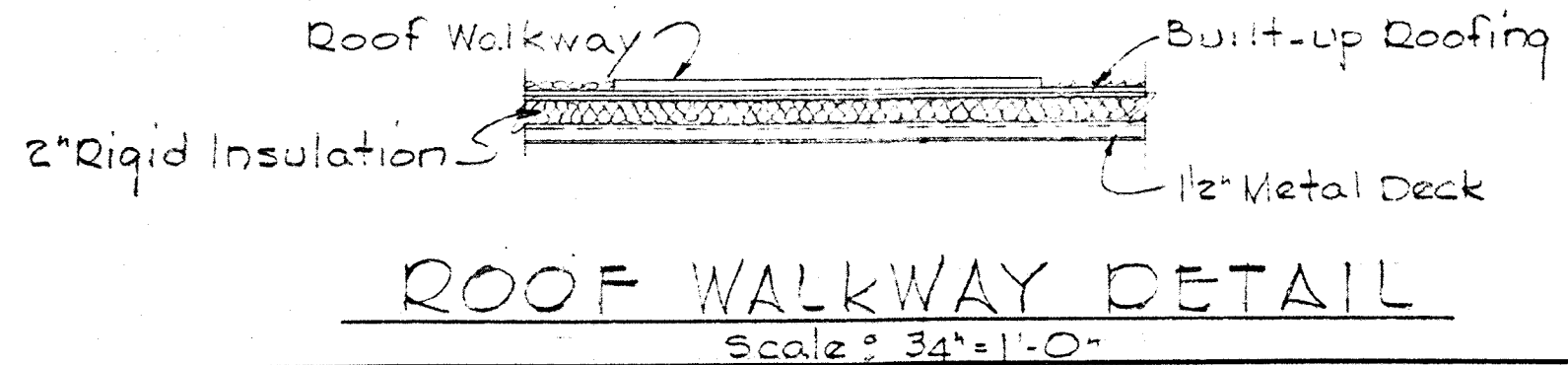
TYP. VENT PIPE DETAIL
Scale 1 1/2" = 1'-0"



TYP. OVERFLOW SCUPPER DETAIL
Scale 1 1/2" = 1'-0"

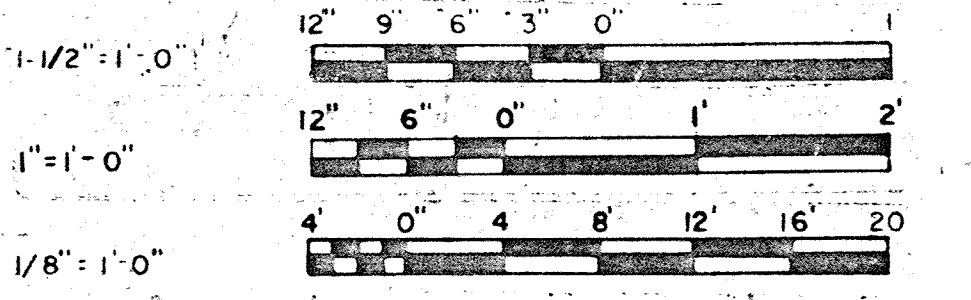


TYP. VENT CURB DETAIL
Scale 1 1/2" = 1'-0"



ROOF WALKWAY DETAIL
Scale 3/4" = 1'-0"

ROOF PLAN
Scale 1/8" = 1'-0"



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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DATE: 3/1/10
CHIEF-BUREAU OF ENGINEERING

CONTRACT NO. 503-S

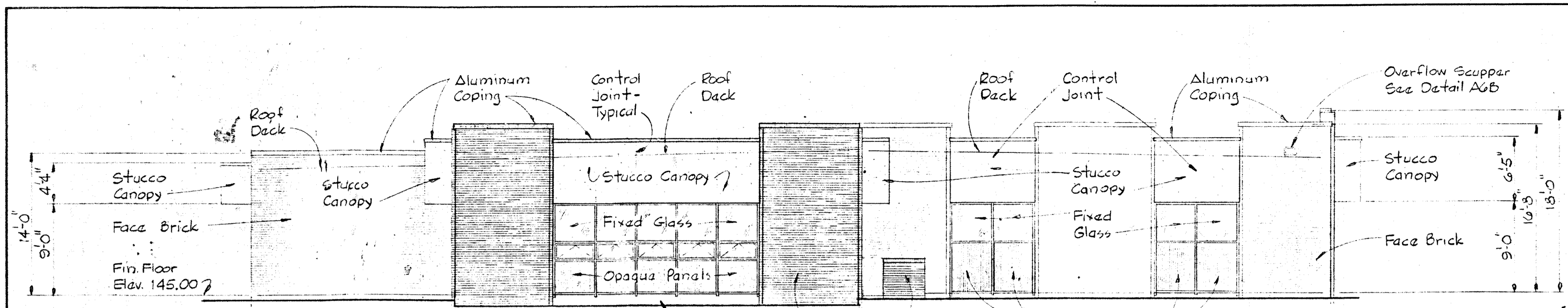
ARCHITECTURAL
ROOF PLAN AND DETAILS

Savage WASTEWATER
TREATMENT PLANT ADDITION NO. 4

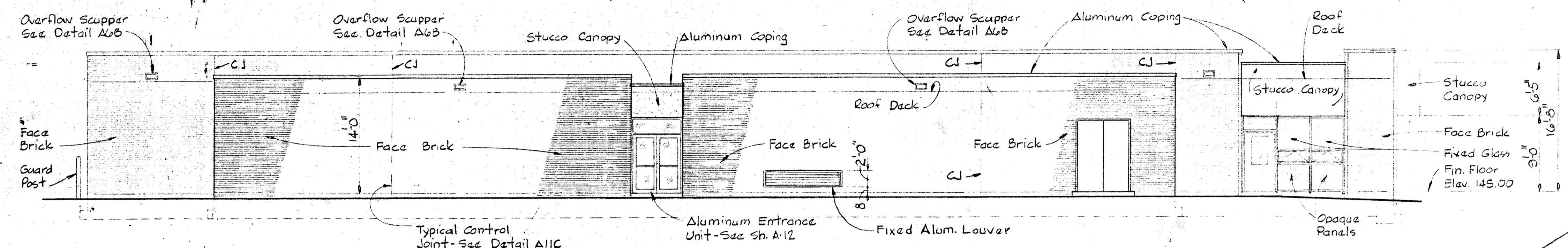
DRAWING NO. 15 OF 64
SCALE AS NOTED

BRUNING 44510 16392

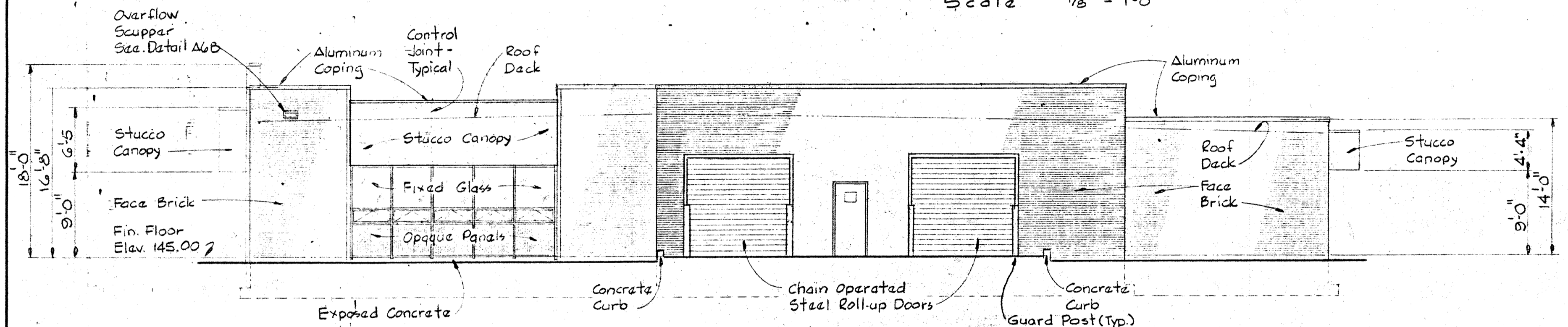
9/27



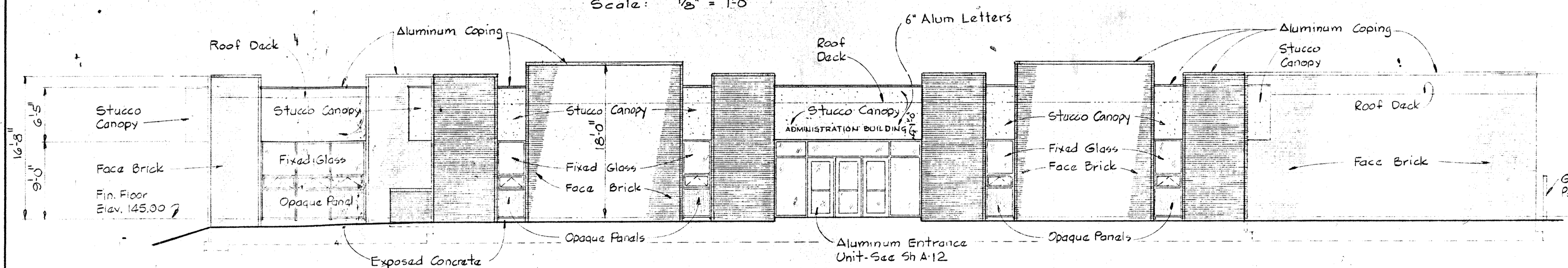
NOTE: Existing Grade Elev. 128.50±
NORTH ELEVATION
 Scale: 1/8" = 1'-0"



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

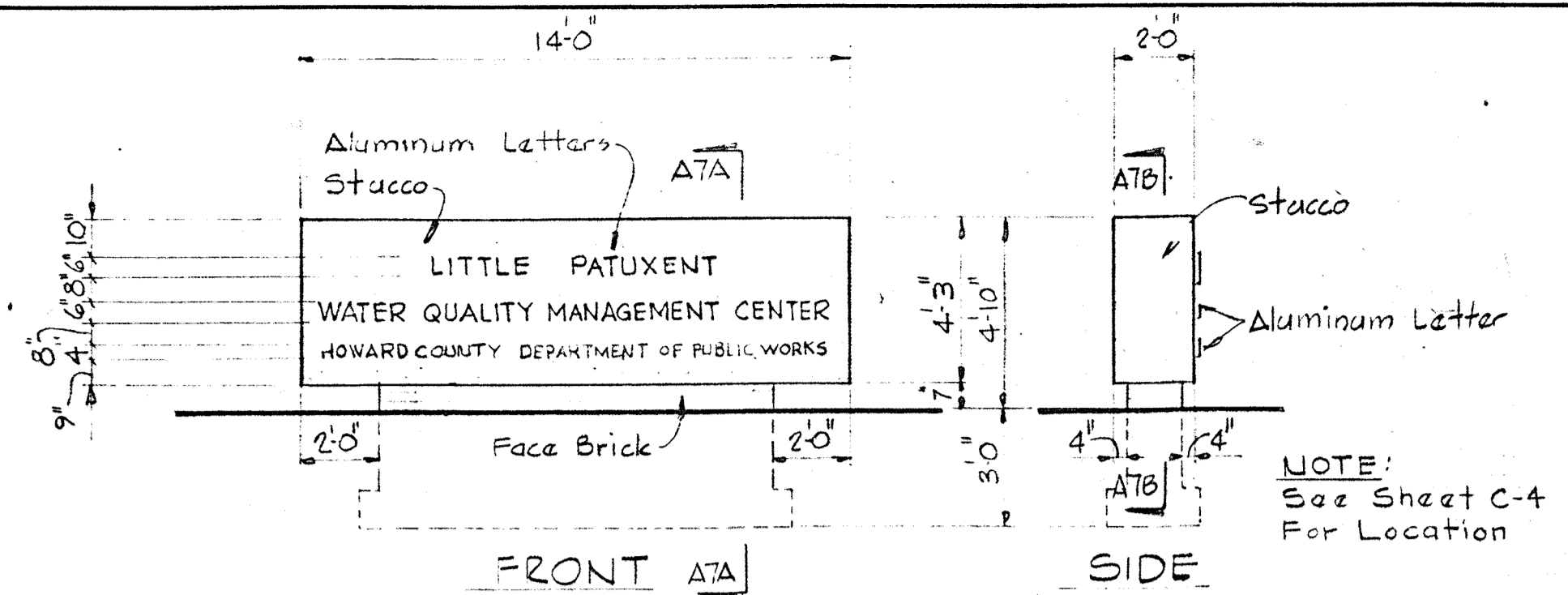


SOUTH ELEVATION
 Scale: 1/8" = 1'-0"

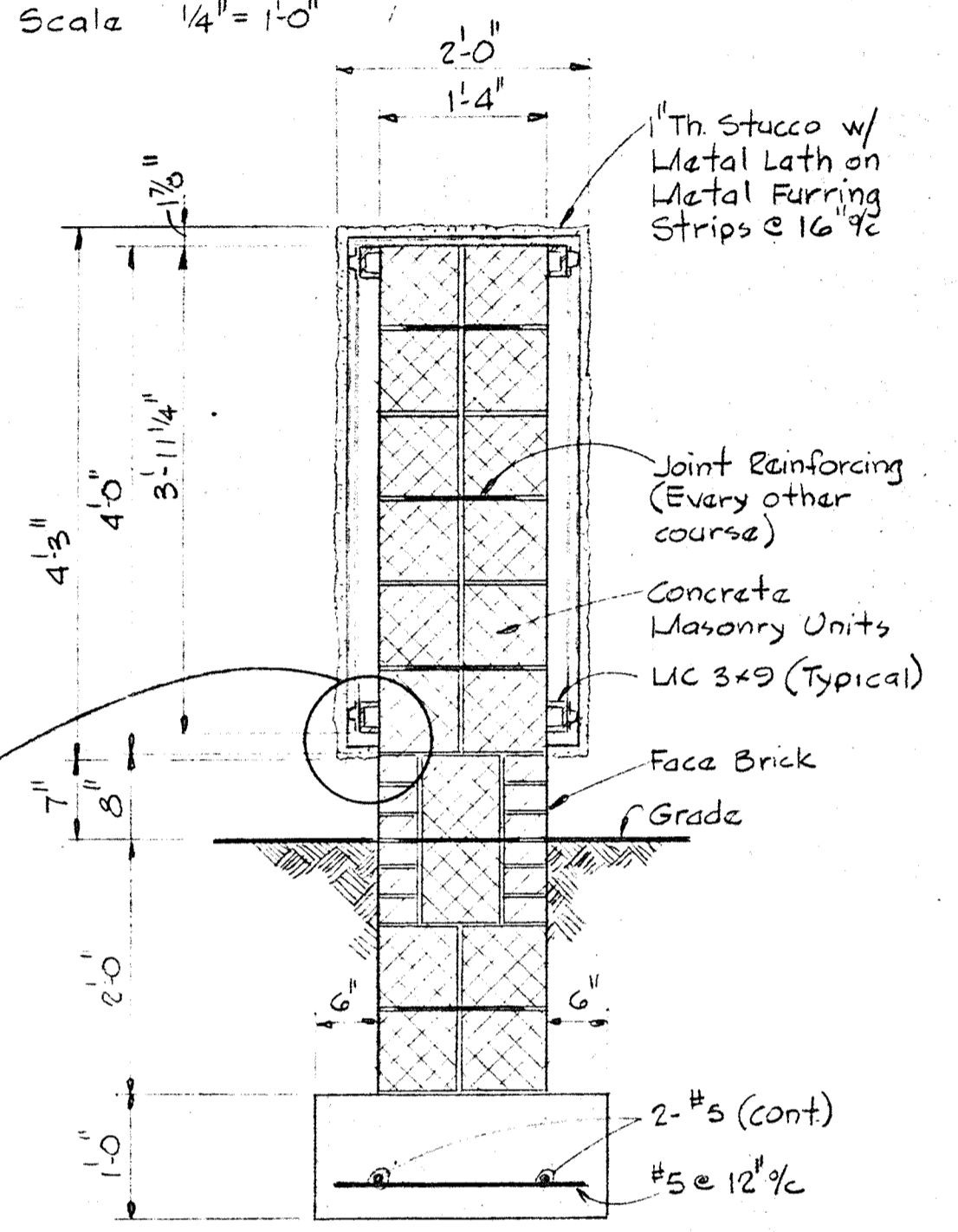


WEST ELEVATION
 Scale: 1/8" = 1'-0"

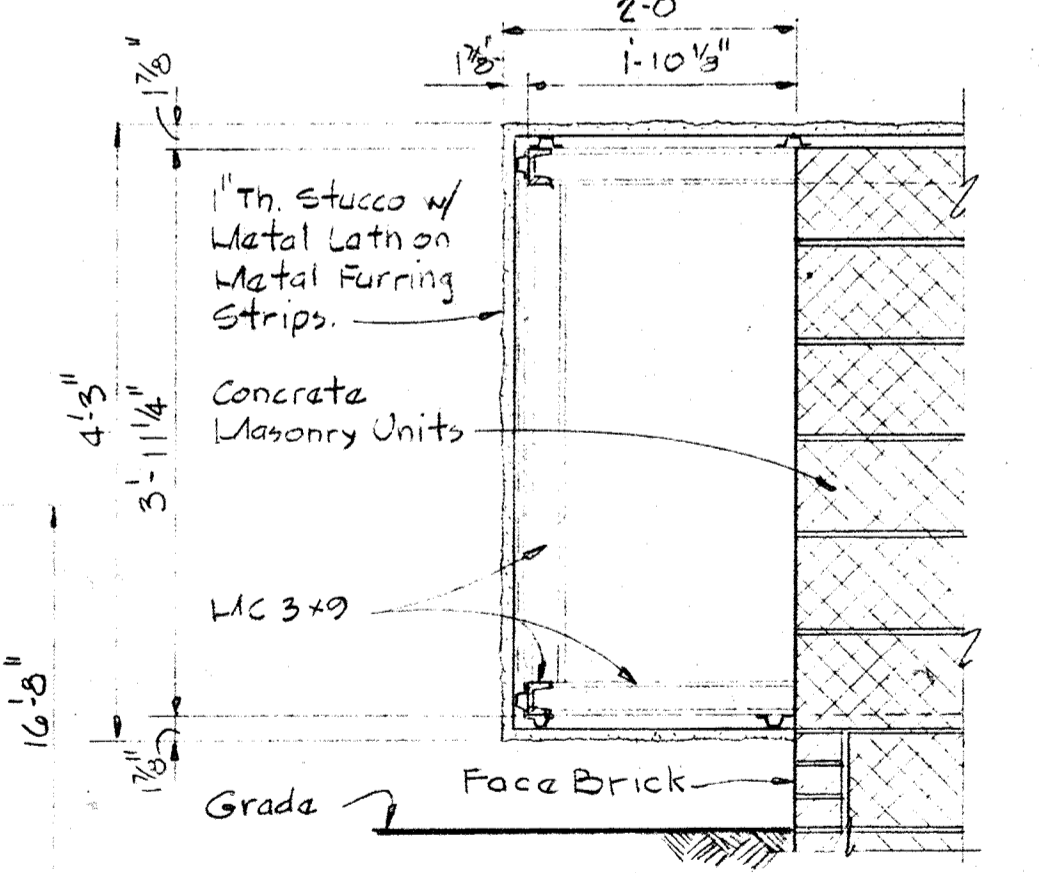
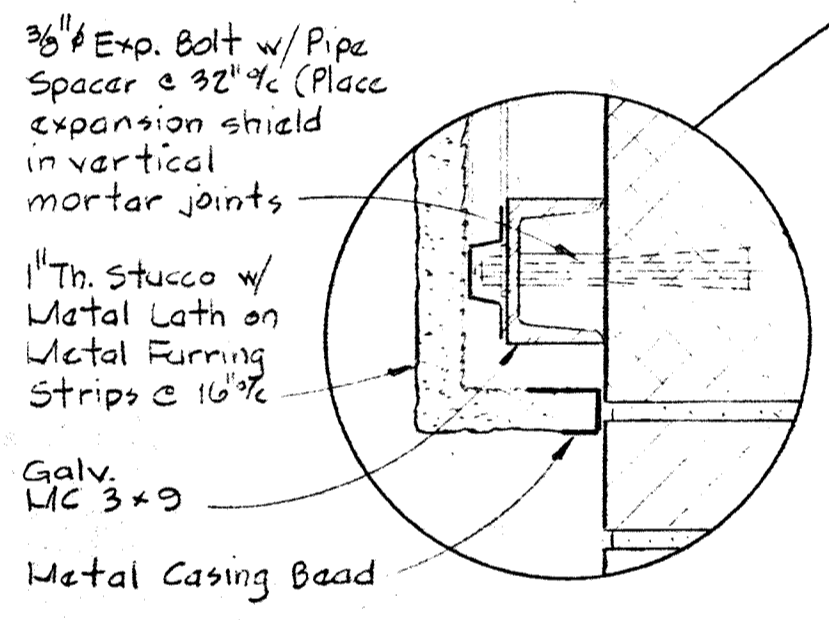
NOTE: Paint all exposed stucco surfaces



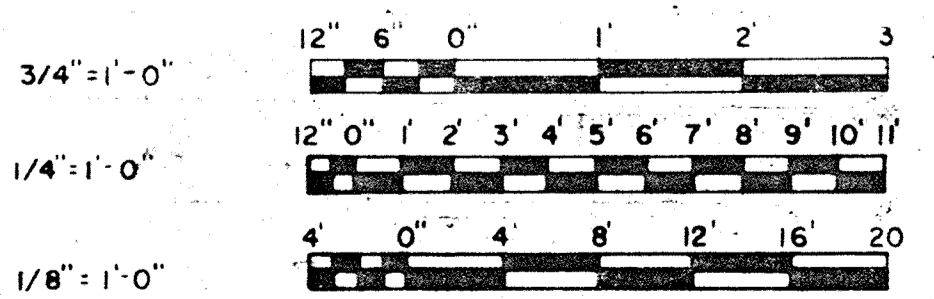
FRONT SIGN
 Scale: 1/4" = 1'-0"



SECTION A7A/A7
 Scale: 3/4" = 1'-0"



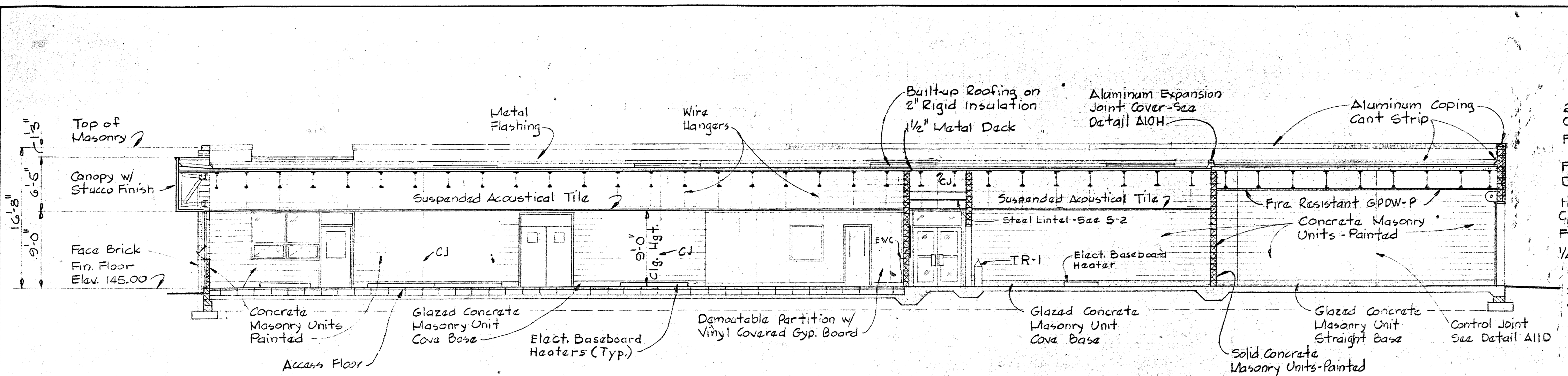
SECTION A7B/A7
 Scale: 3/4" = 1'-0"



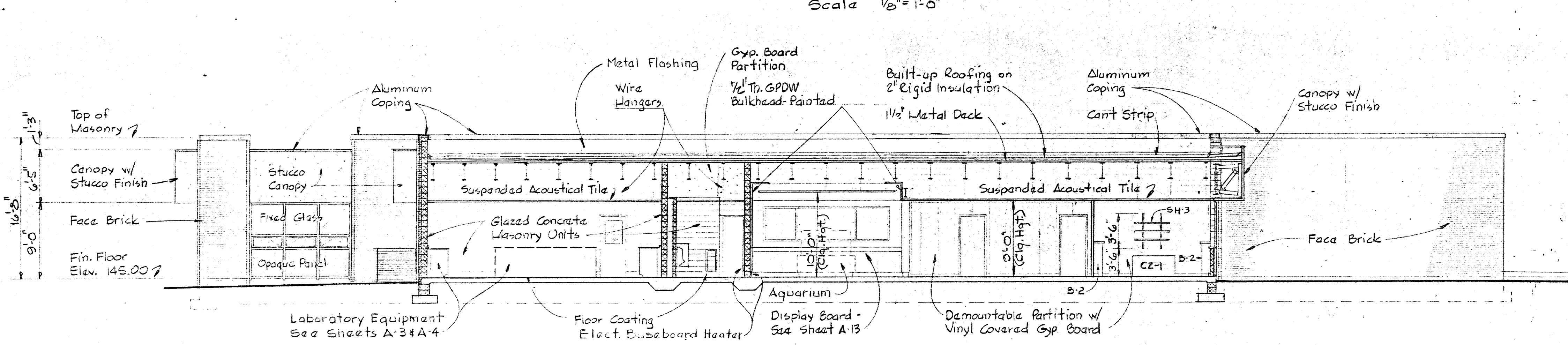
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND CHIEF-BUREAU OF ENGINEERING	CONTRACT NO. 503-S	ARCHITECTURAL ELEVATIONS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4.	DRAWING NO. 16	SCALE AS NOTED
					OF 64	

W.O. 6887-2

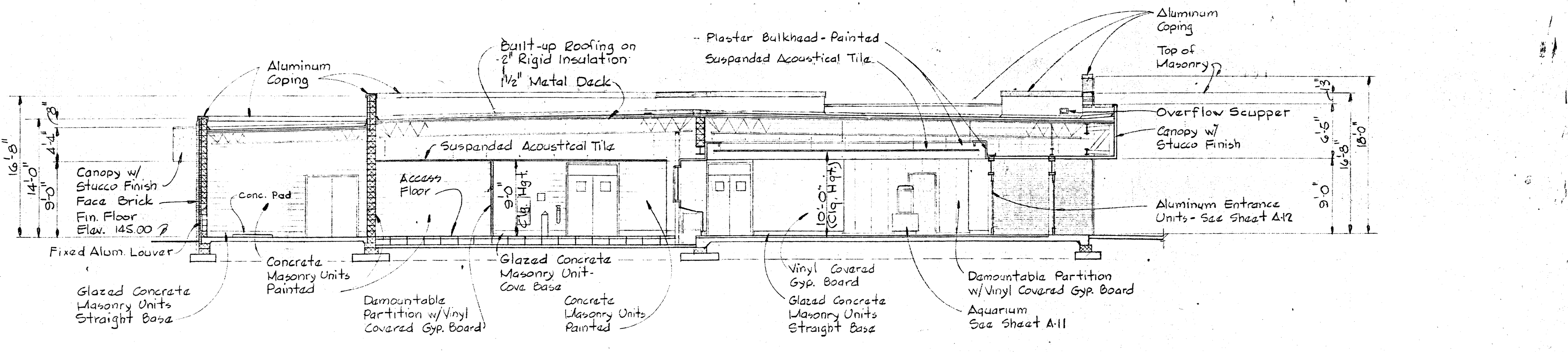
SHEET A-7



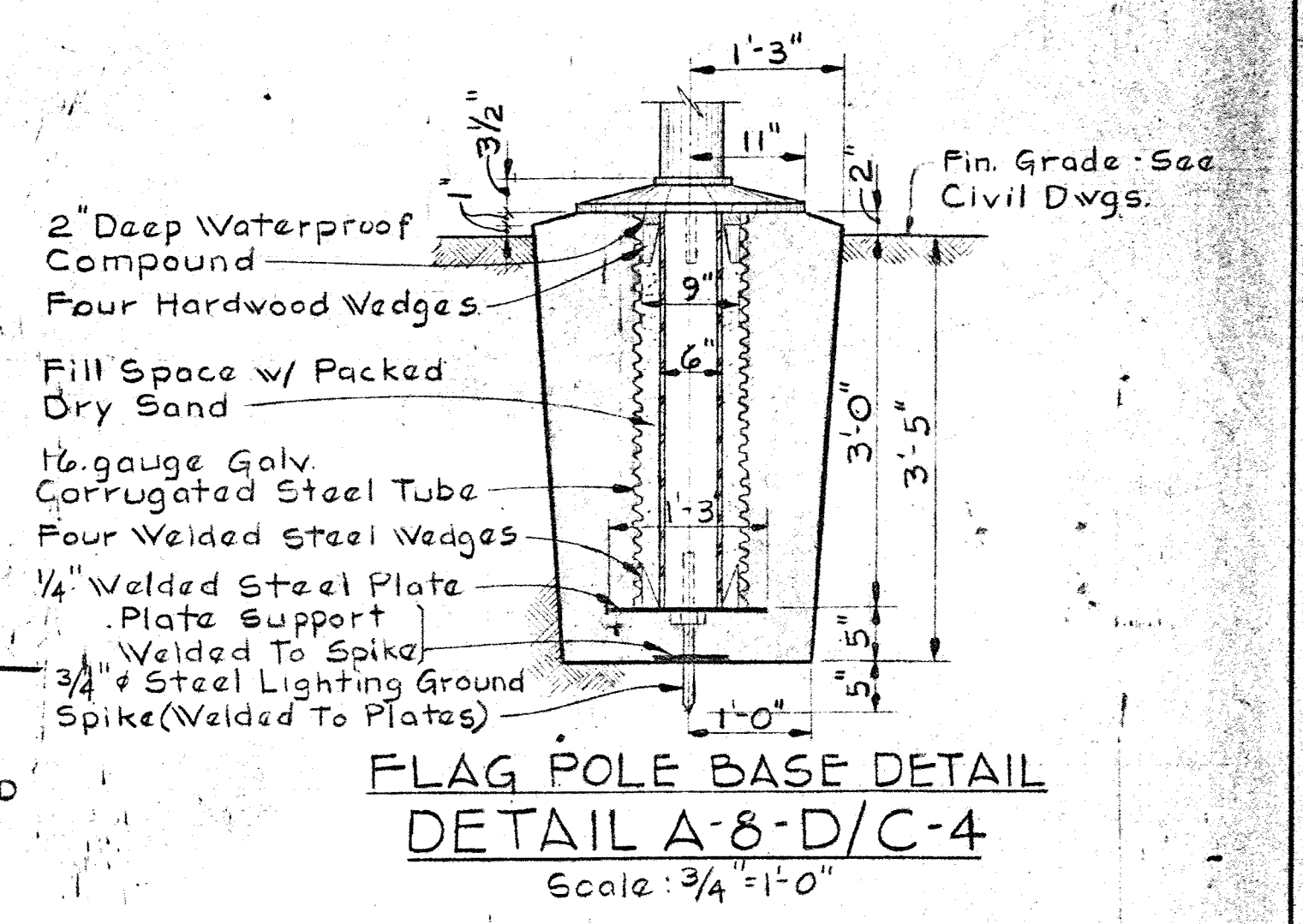
LONGITUDINAL SECTION A8A/A1,A2,A6
Scale 1/8" = 1'-0"



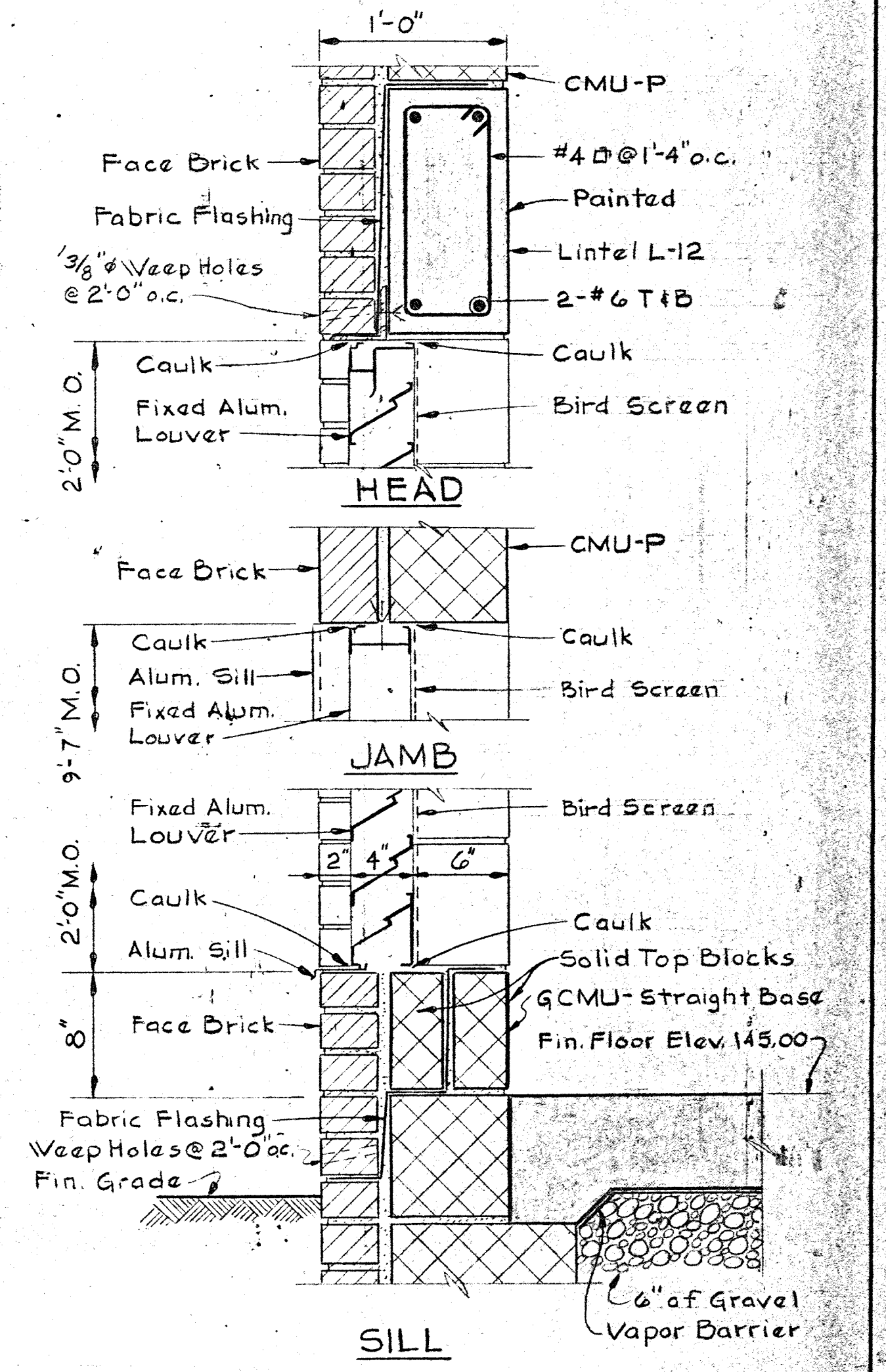
LONGITUDINAL SECTION A8B/A1,A2,A6
Scale 1/8" = 1'-0"



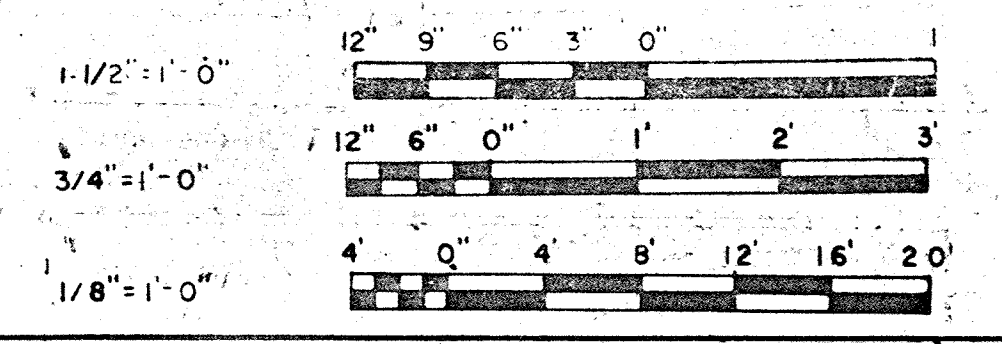
CROSS SECTION A8C/A1,A2,A6
Scale 1/8" = 1'-0"



FLAG POLE BASE DETAIL
DETAIL A-8-D/C-4
Scale 3/4" = 1'-0"



SECTION A-8-E/A-1
Scale 1/2" = 1'-0"

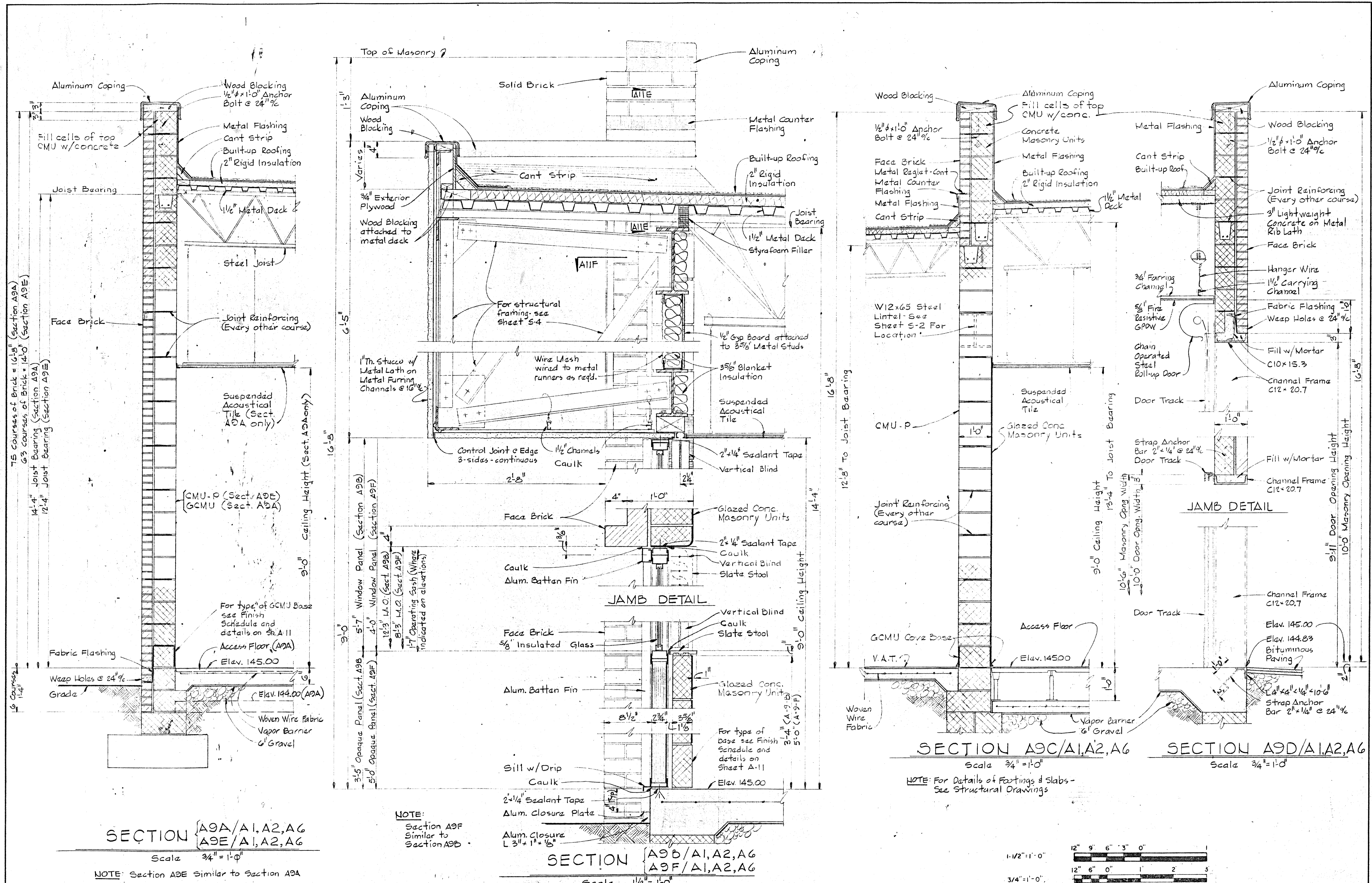


WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>s/bohr</i> DATE	CONTRACT NO. 503-S <i>W. O. Libel</i> CHIEF, BUREAU OF ENGINEERING	ARCHITECTURAL CROSS SECTIONS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 17 OF 64 SCALE AS NOTED
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W.O. 6887-2

SHEET A-8

BRUNING 44-510 16392



SECTION A9A/A1,A2,A6
A9E/A1,A2,A6
 Scale 3/4" = 1'-0"
 NOTE: Section A9E Similar to Section A9A

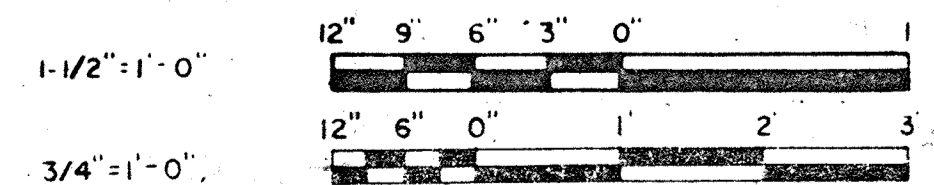
NOTE:
 Section A9F
 Similar to
 Section A9B

SECTION A9B/A1,A2,A6
A9F/A1,A2,A6
 Scale 1/2" = 1'-0"

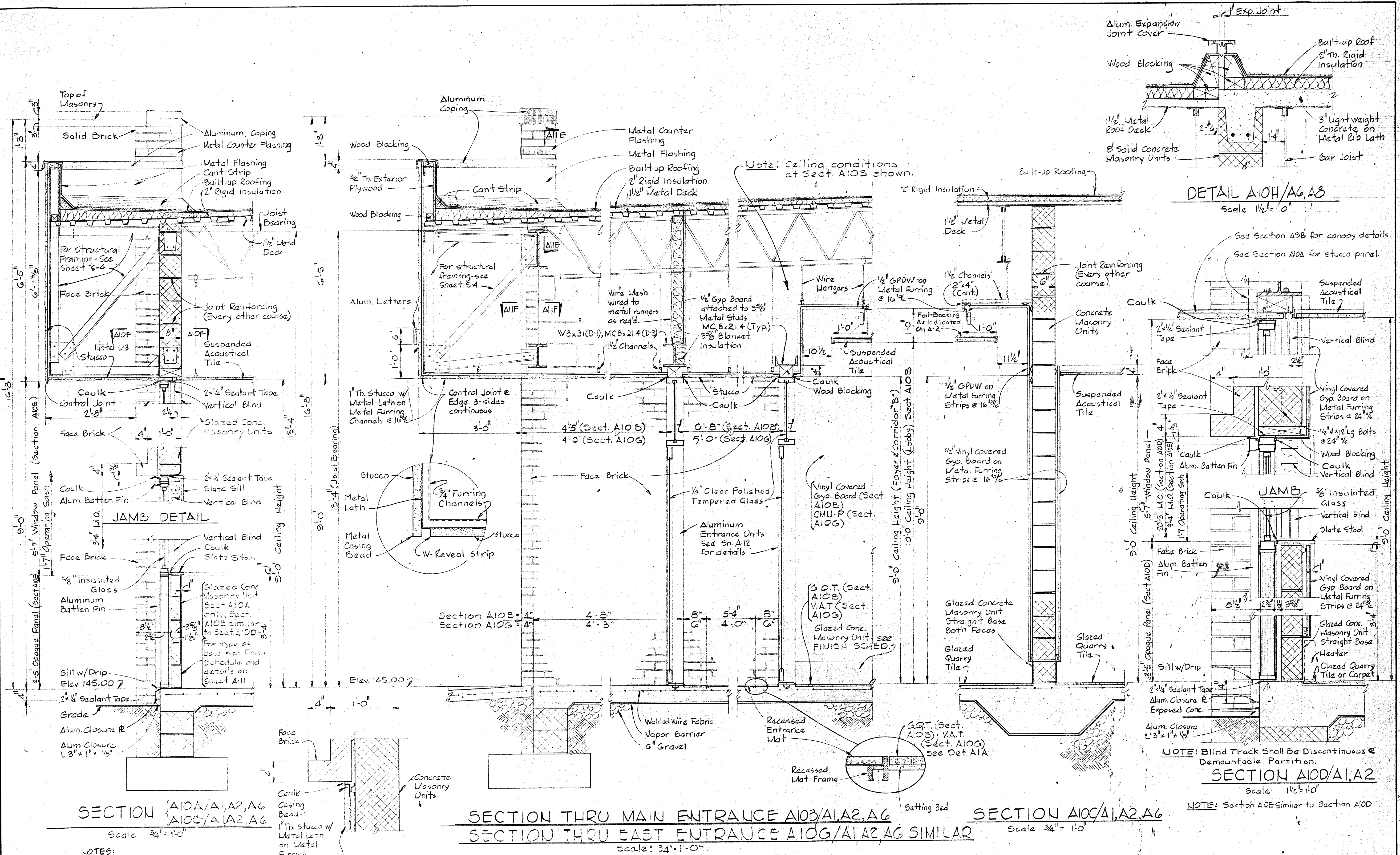
SECTION A9C/A1,A2,A6
 Scale 3/4" = 1'-0"

SECTION A9D/A1,A2,A6
 Scale 3/4" = 1'-0"

NOTE: For Details of Fastenings & Slabs -
 See Structural Drawings

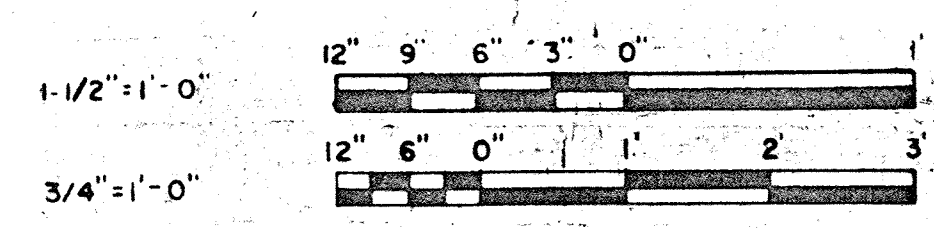


WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: 3/20/75 CHIEF-BUREAU OF ENGINEERING	CONTRACT NO. 503-S	ARCHITECTURAL WALL SECTIONS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 18 OF 64 SCALE AS NOTED
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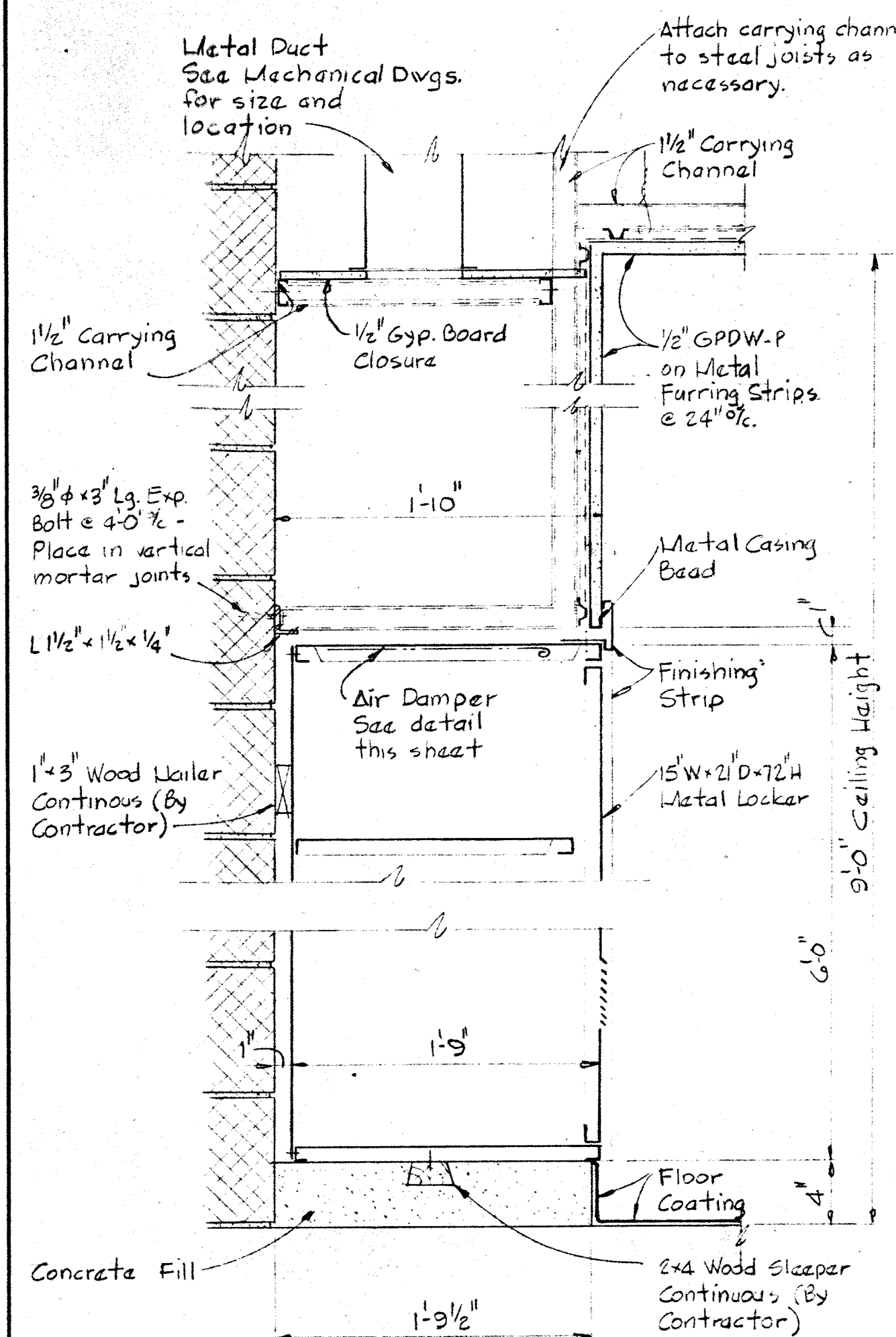


NOTES:
 1. For interior finishes of Section A10E, see Section A10D
 2. For Canopy Details - See Section A05B

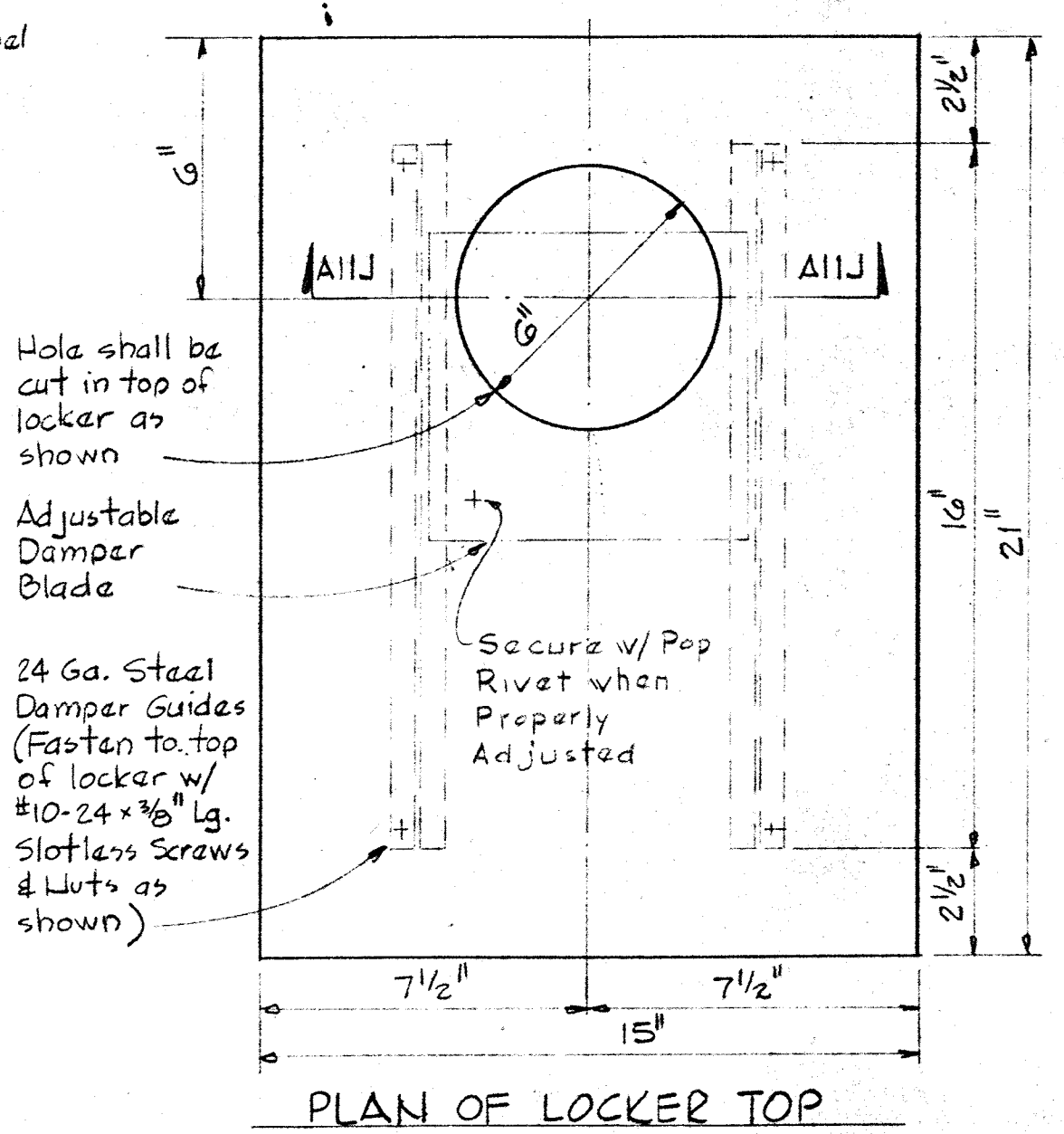
NOTE: Blind Track Shall Be Discontinuous & Demountable Partition.
 NOTE: Section A10E Similar to Section A10D



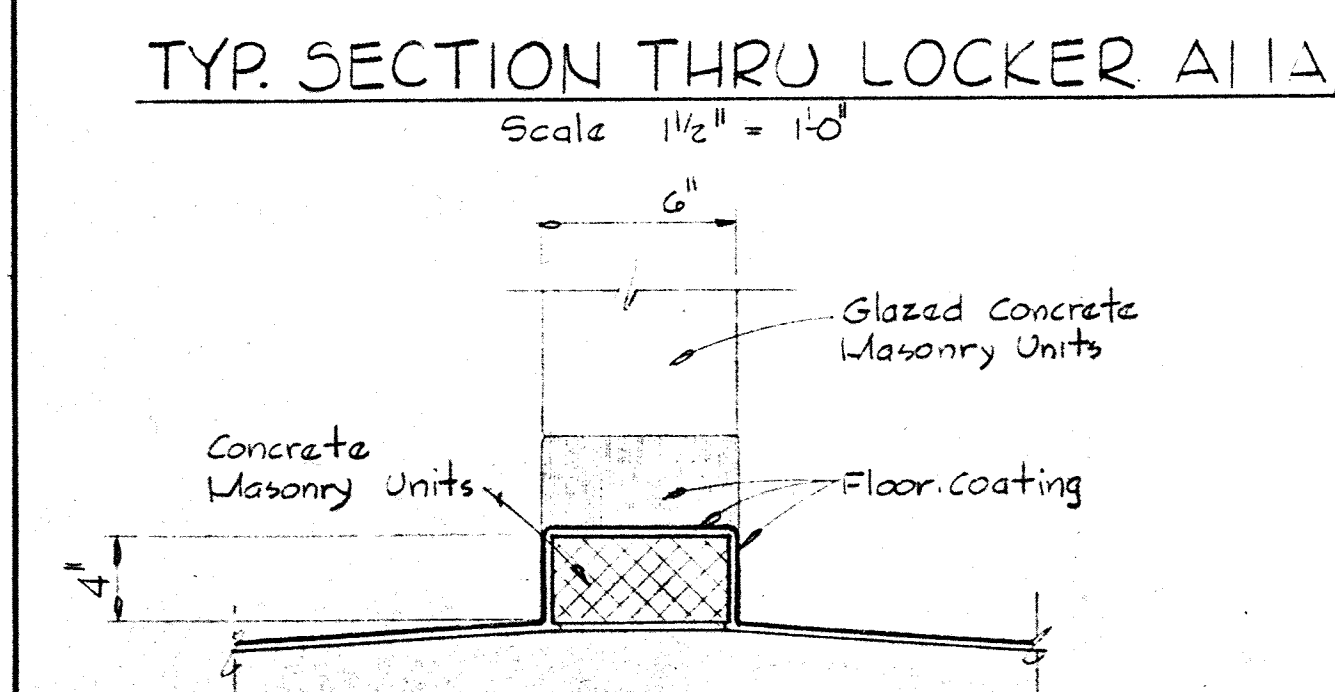
WHITMAN, REQUARDT & ASSOCIATES' ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>3/12/68</i> DATE <i>W.O. Libard</i> CHIEF BUREAU OF ENGINEERING	CONTRACT NO. 503-S	ARCHITECTURAL WALL SECTIONS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 19 OF 64 SCALE AS NOTED
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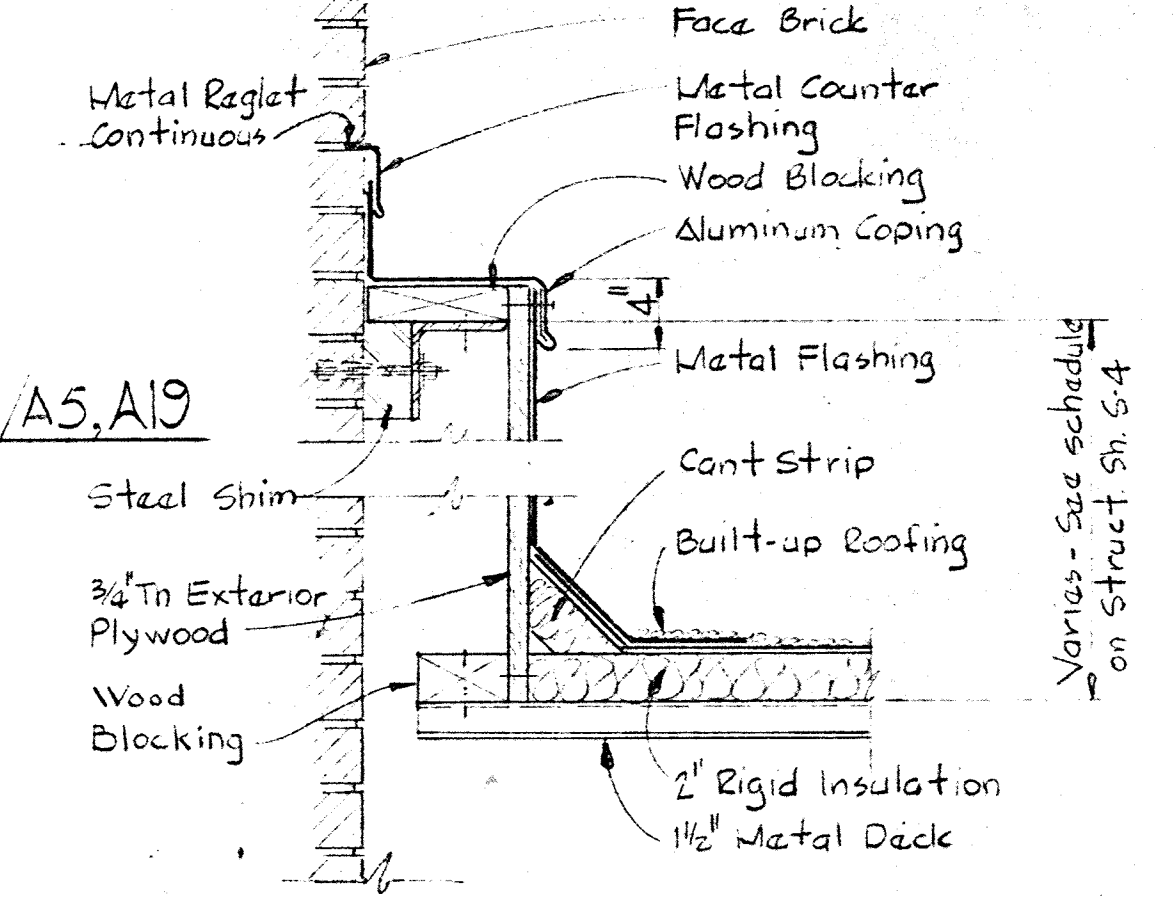
TYP. SECTION THRU LOCKER A11A/A5,A19
Scale 1 1/2" = 1'-0"



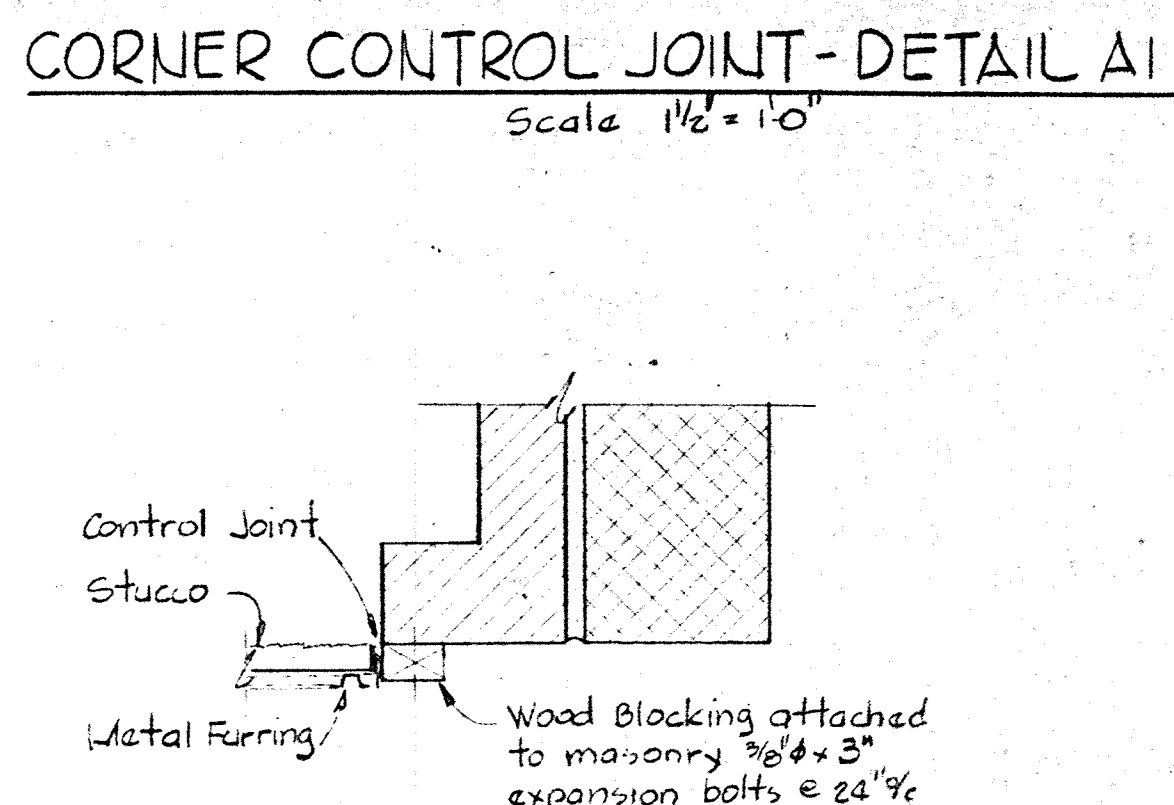
SECTION A11J/A11
TYP. LOCKER DAMPER DETAIL
Scale 3" = 1'-0"



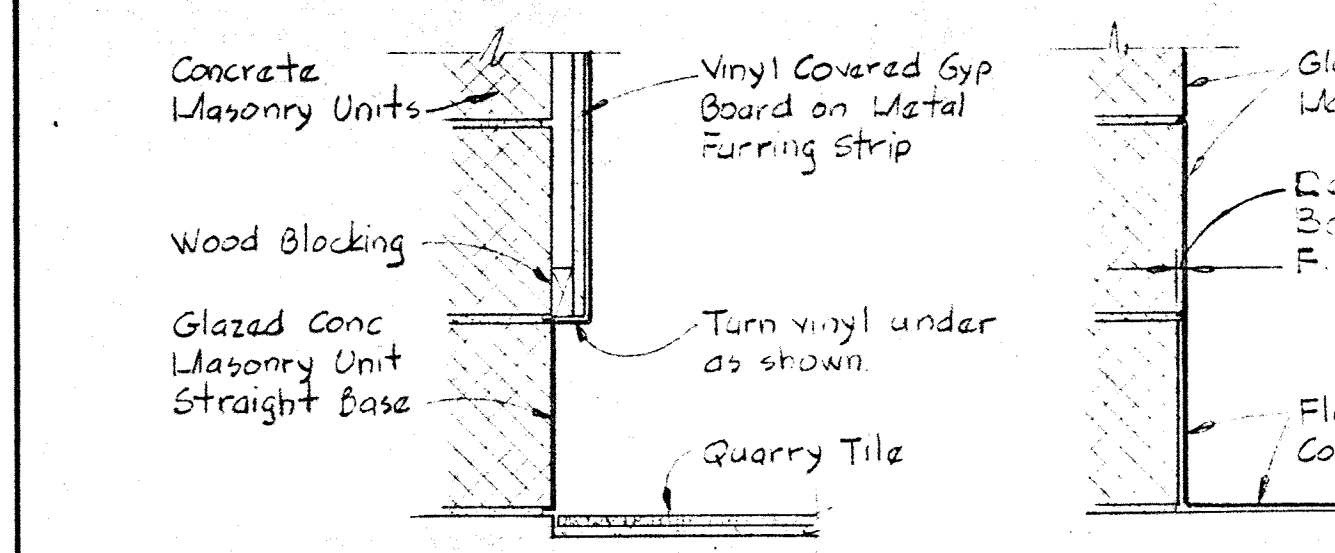
TYP. CURB DETAIL A11B/A5,A19
Scale 1 1/2" = 1'-0"



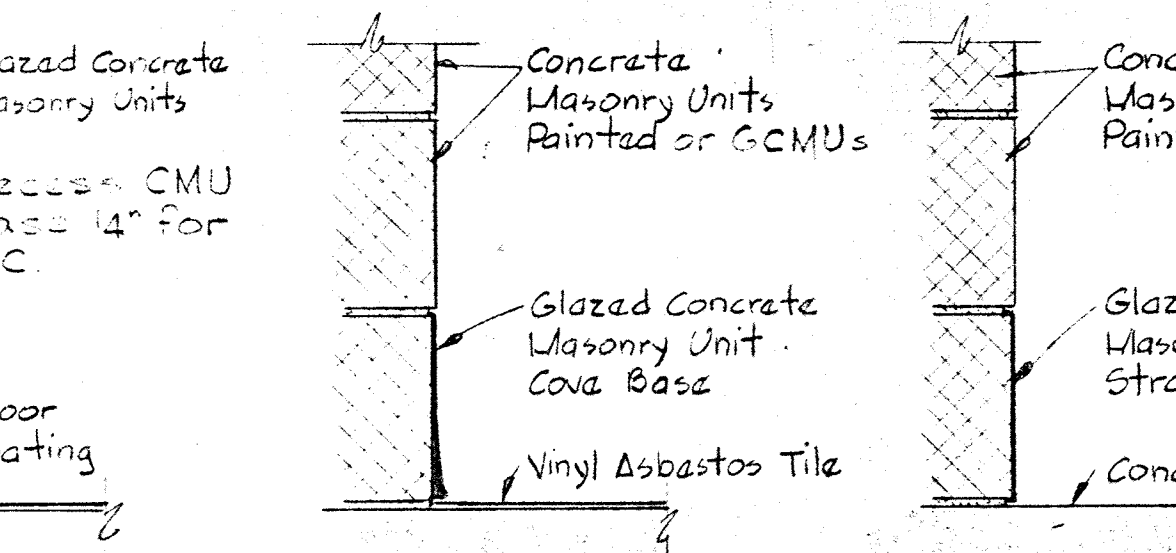
TYPICAL SECTION A11E/A9,A10
Scale 1 1/2" = 1'-0"



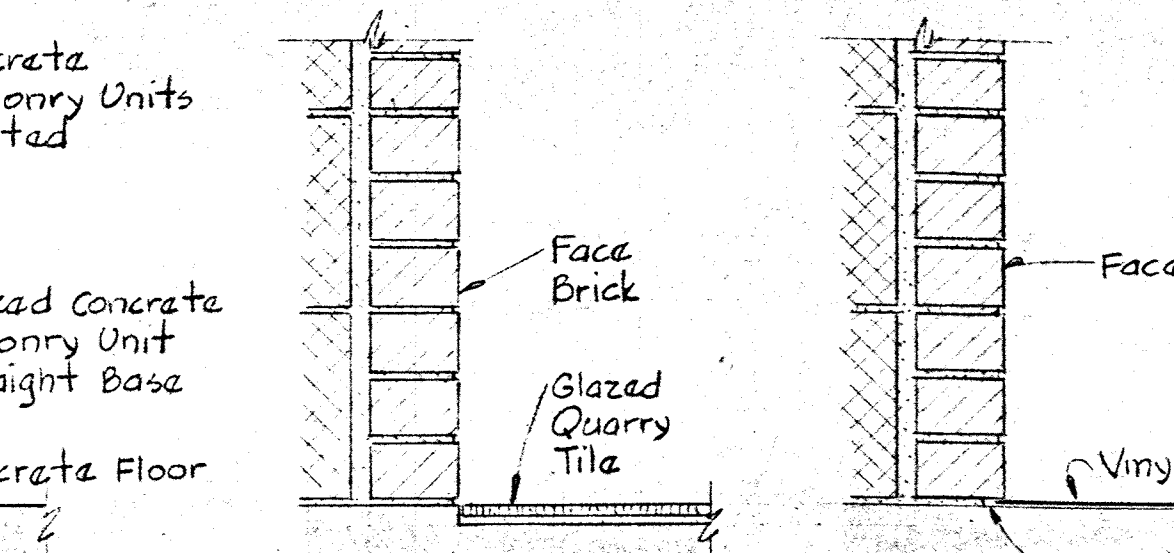
TYP. SECTION A11F/A9,A10
Scale 1 1/2" = 1'-0"



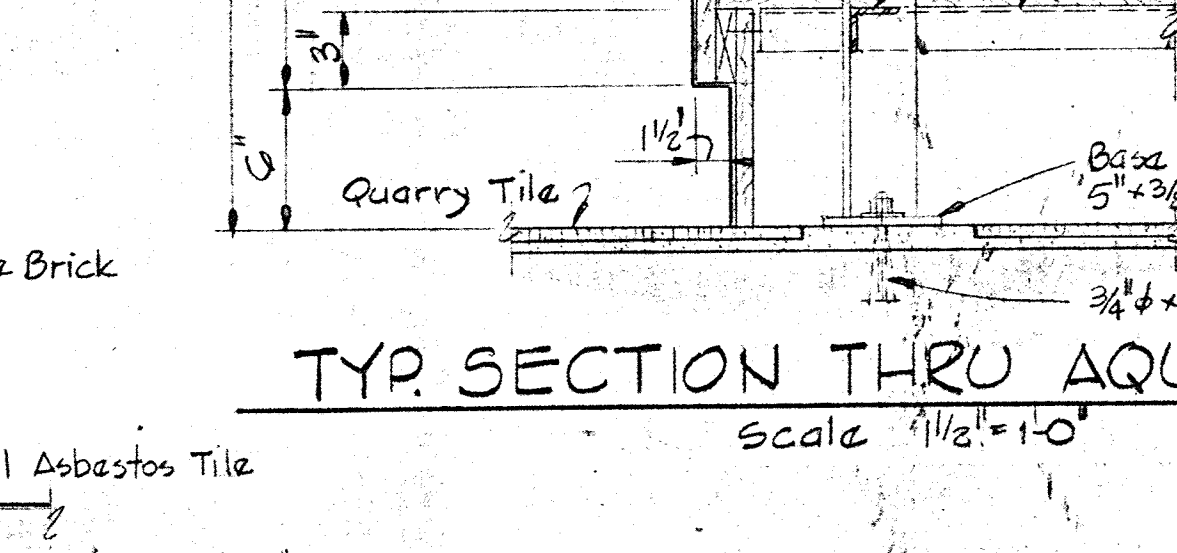
TYPE 1



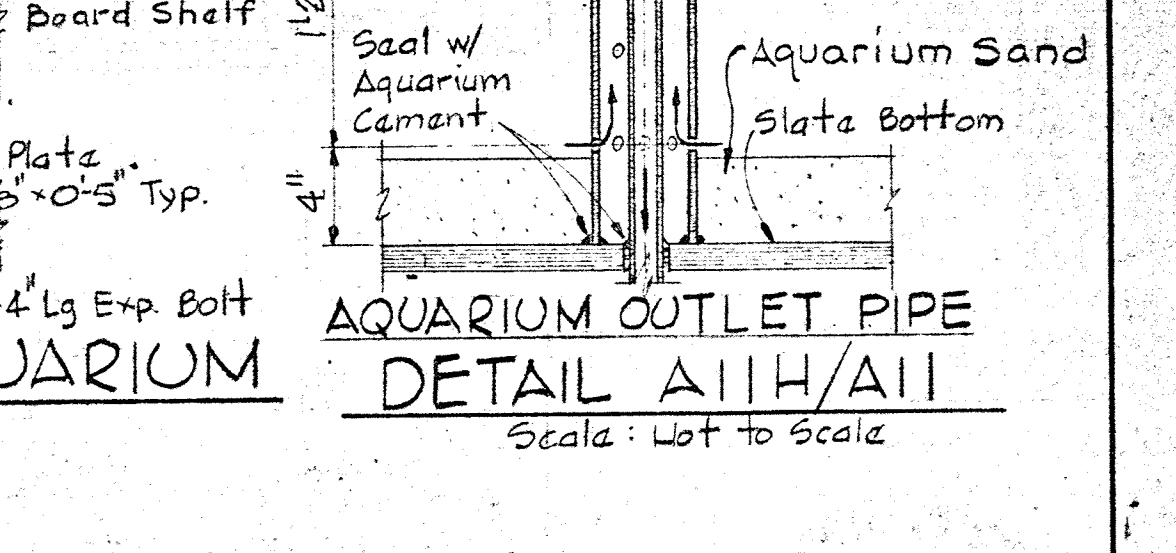
TYPE 2



TYPE 3



TYPE 4

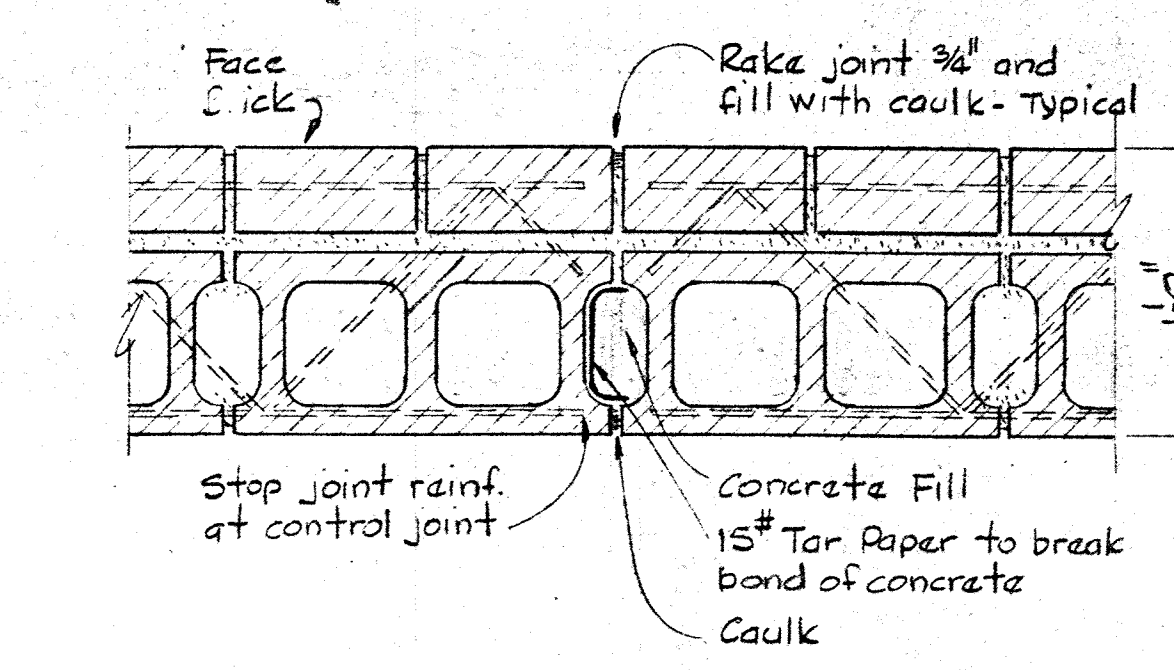


TYPE 5

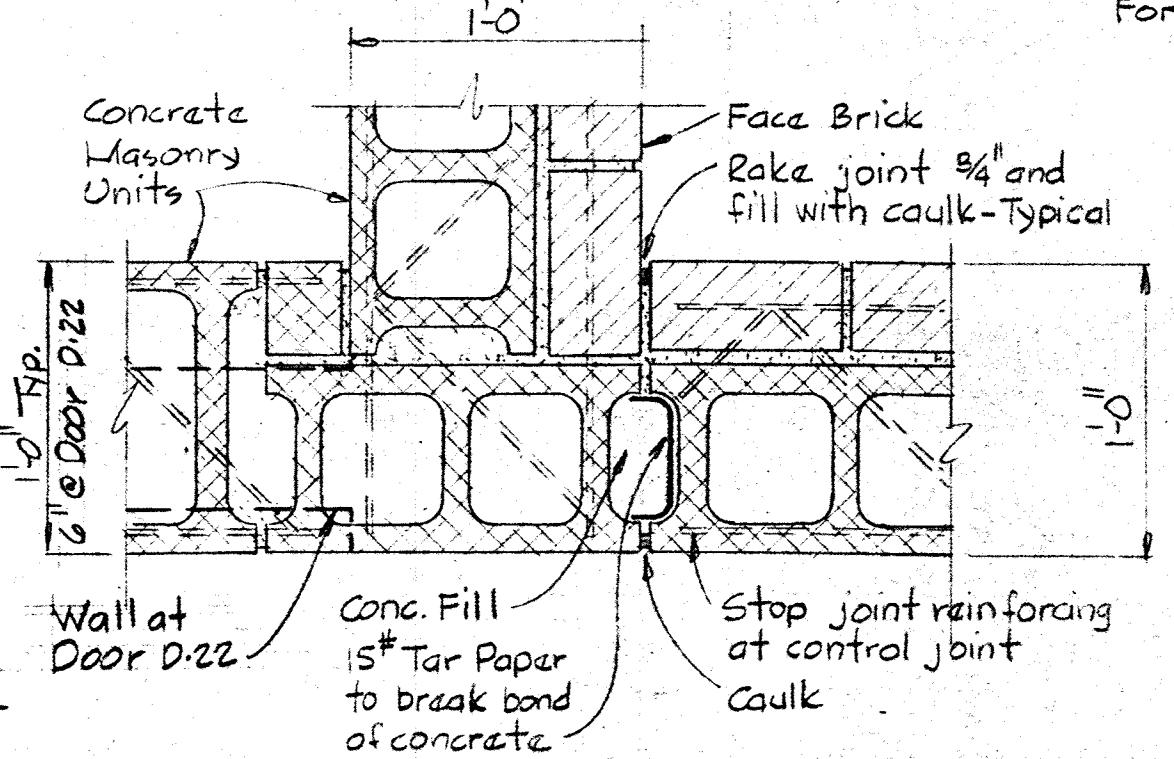


TYPE 6

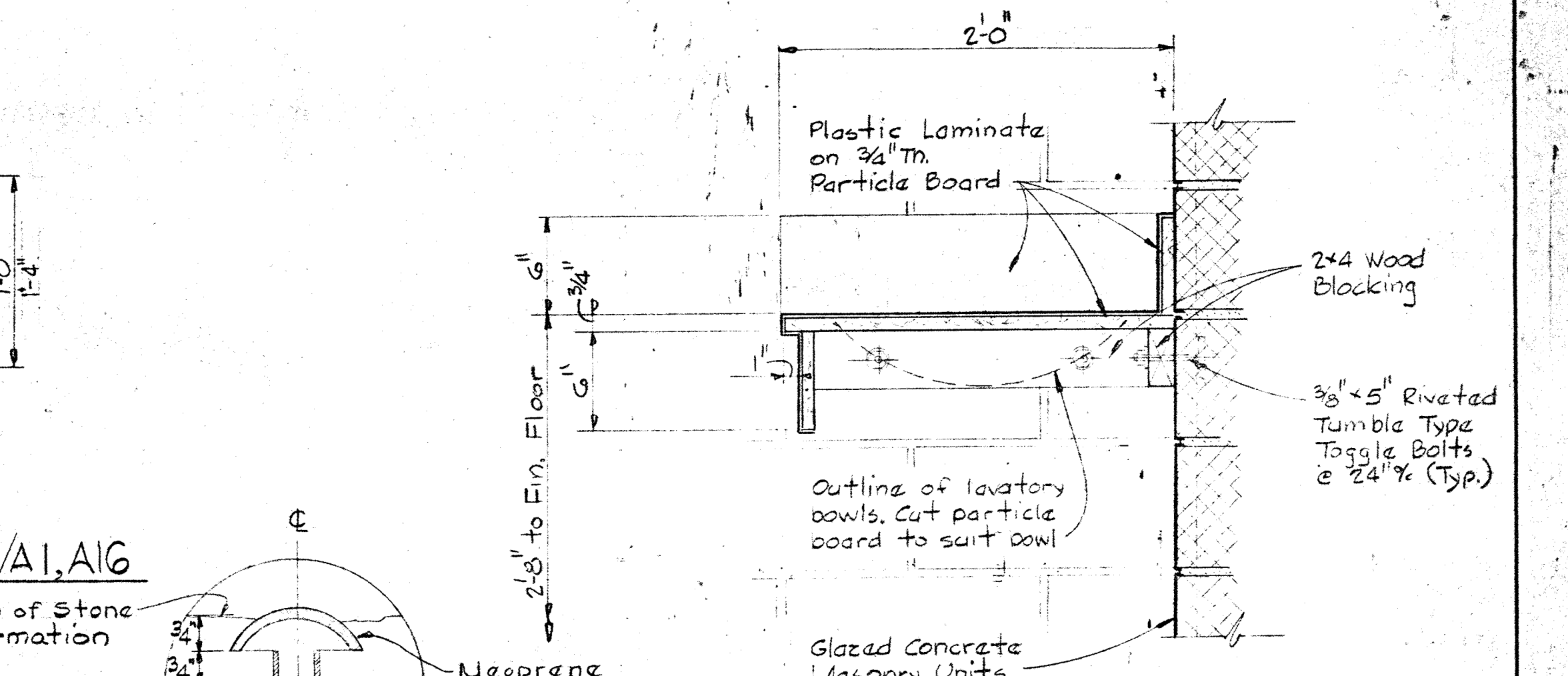
NOTE: Hold face of bases flush w/ Glazed Masonry Unit or Masonry Units Painted above
TYPICAL MASONRY WALL BASE DETAILS
Scale 1 1/2" = 1'-0"



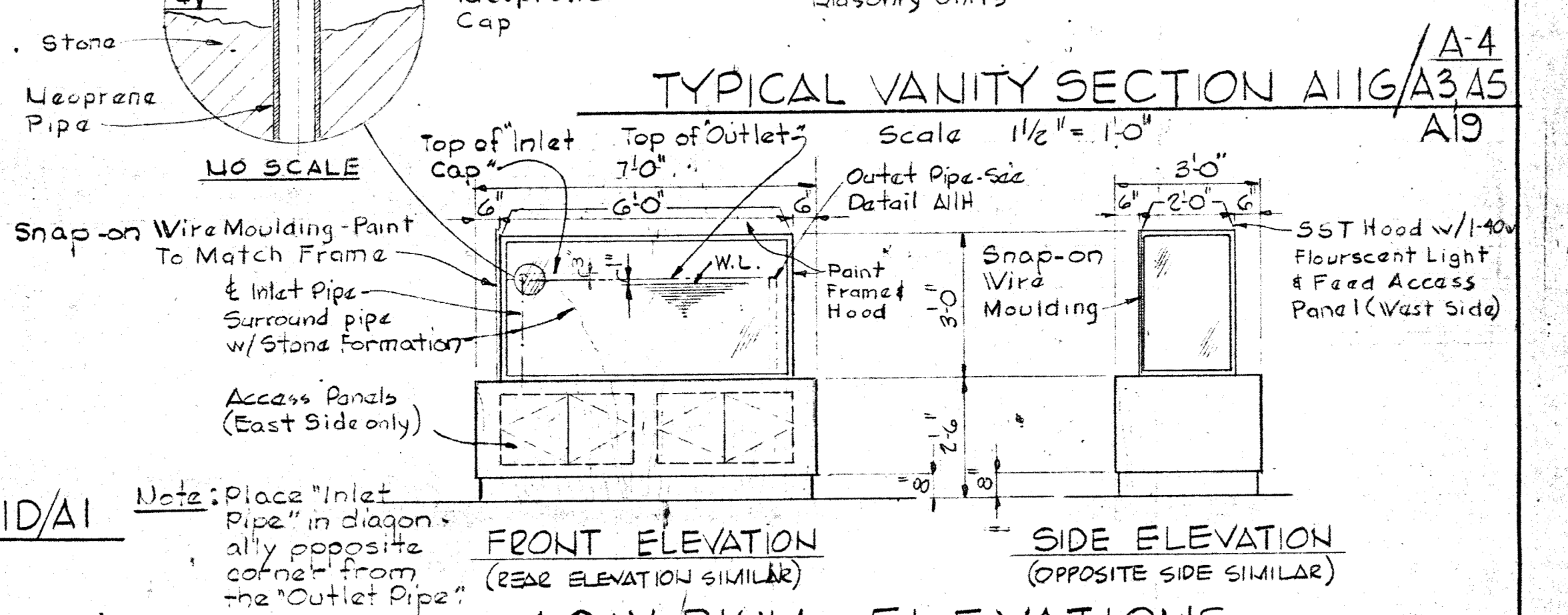
TYP. CONTROL JOINT-DETAIL A11C/A1,A16
Scale 1 1/2" = 1'-0"



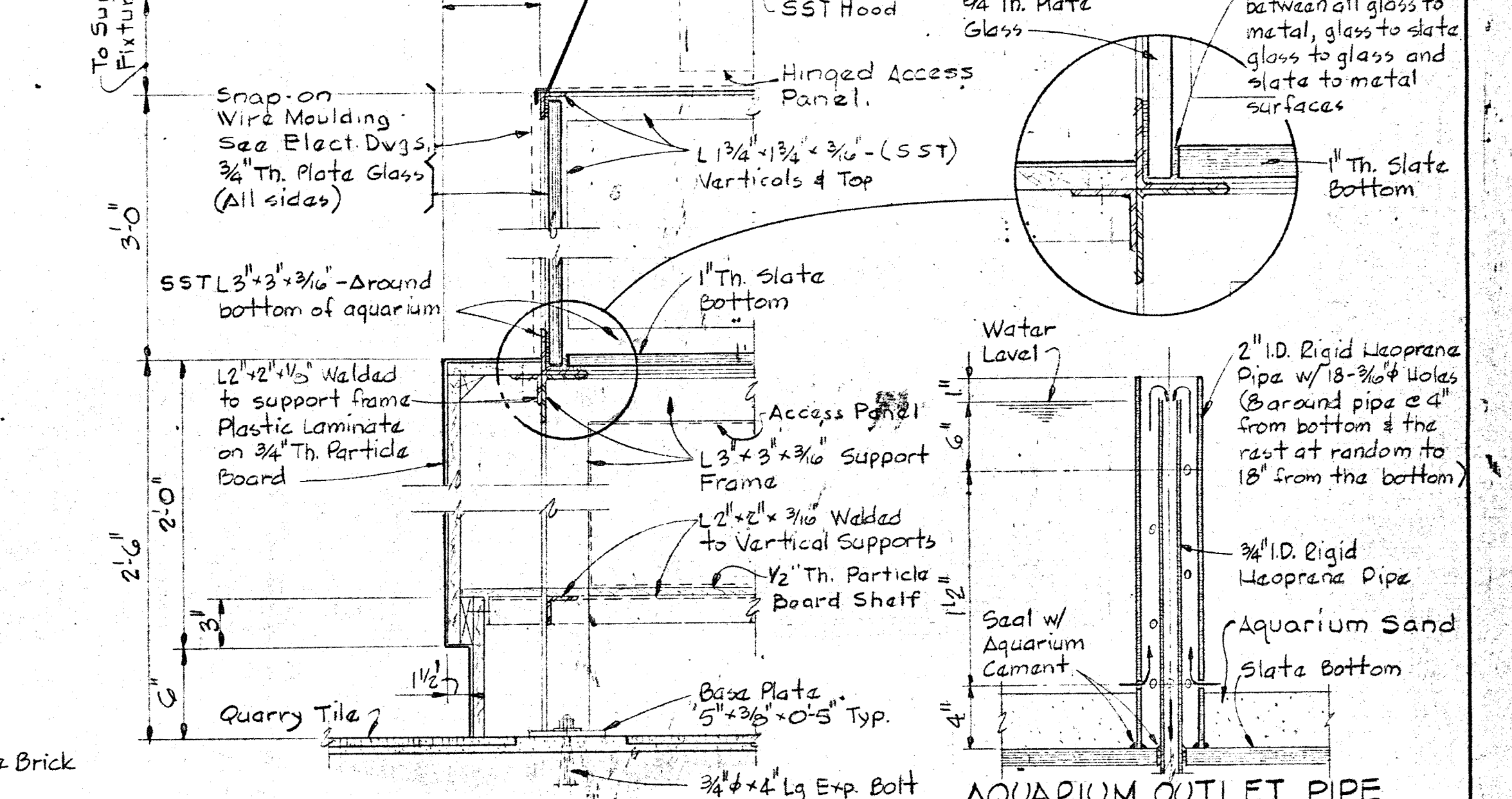
CORNER CONTROL JOINT-DETAIL A11D/A1
Scale 1 1/2" = 1'-0"



TYPICAL VANITY SECTION A11G/A3,A5
Scale 1 1/2" = 1'-0"

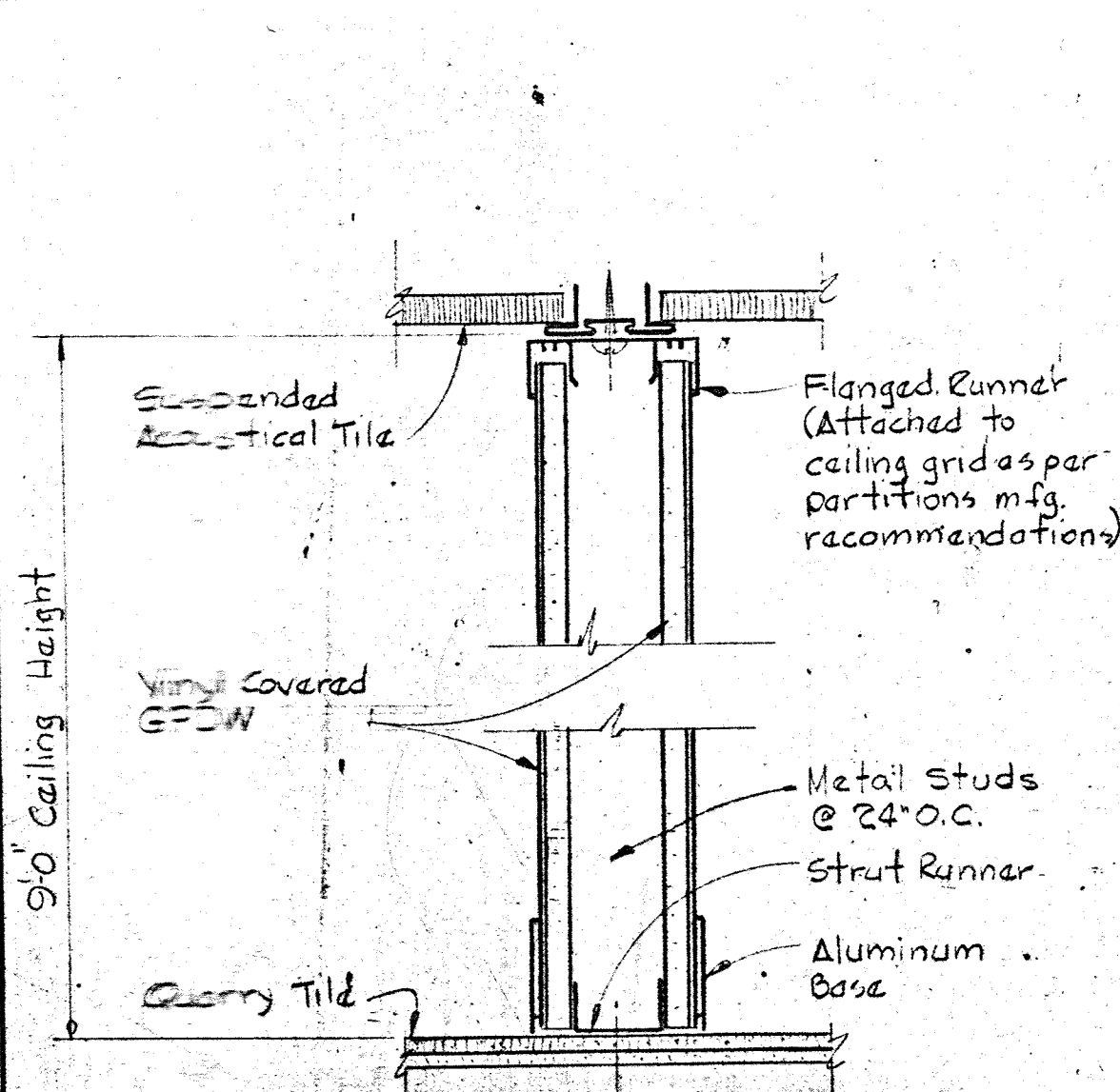


AQUARIUM ELEVATIONS
Scale 3/8" = 1'-0"

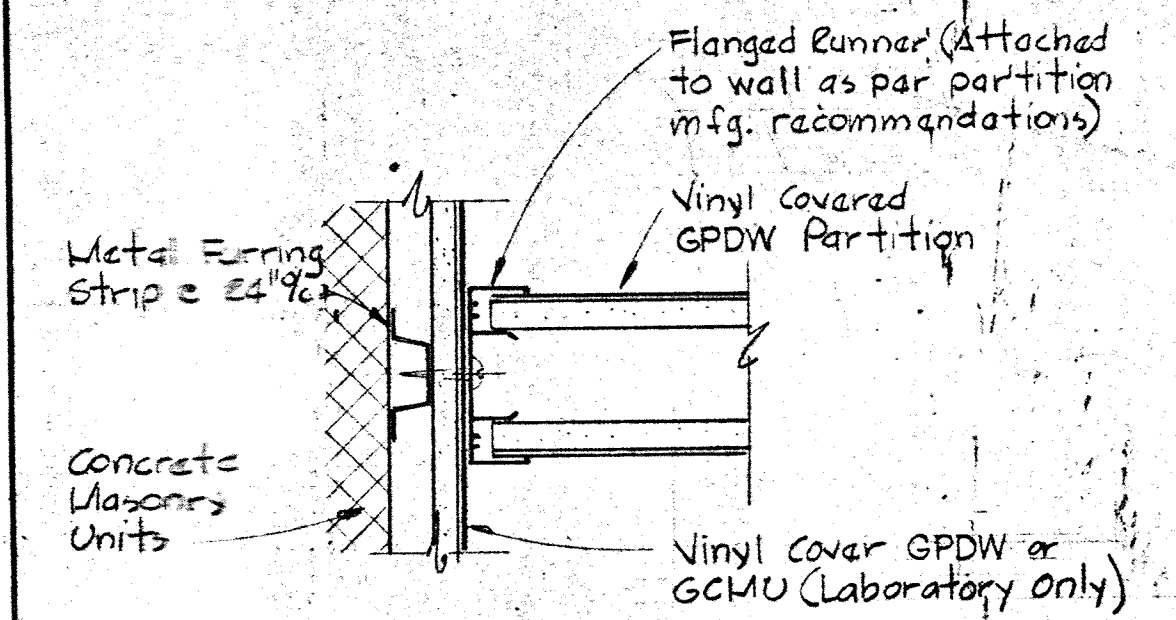


TYP. SECTION THRU AQUARIUM
Scale 1 1/2" = 1'-0"

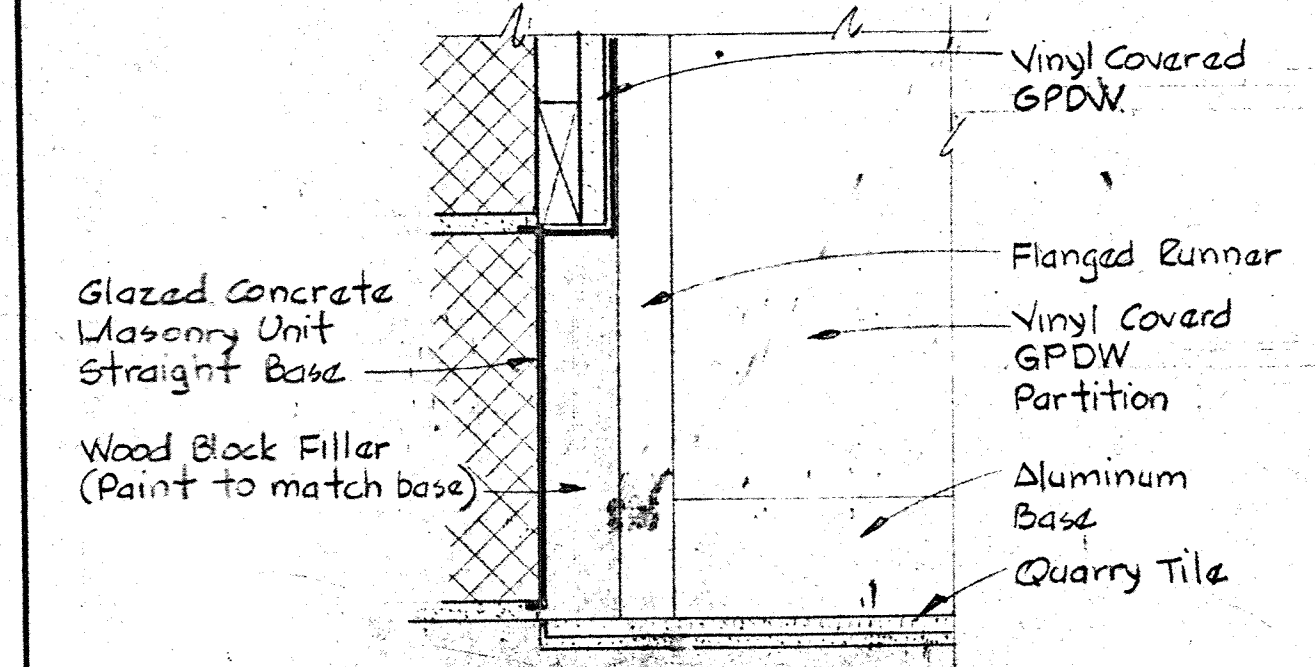
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/20/75 DATE	CONTRACT NO. 503-S W.O. 6887-2 CHIEF BUREAU OF ENGINEERING	ARCHITECTURAL FLOOR & MASONRY DETAILS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 20 OF 64	SCALE AS NOTED
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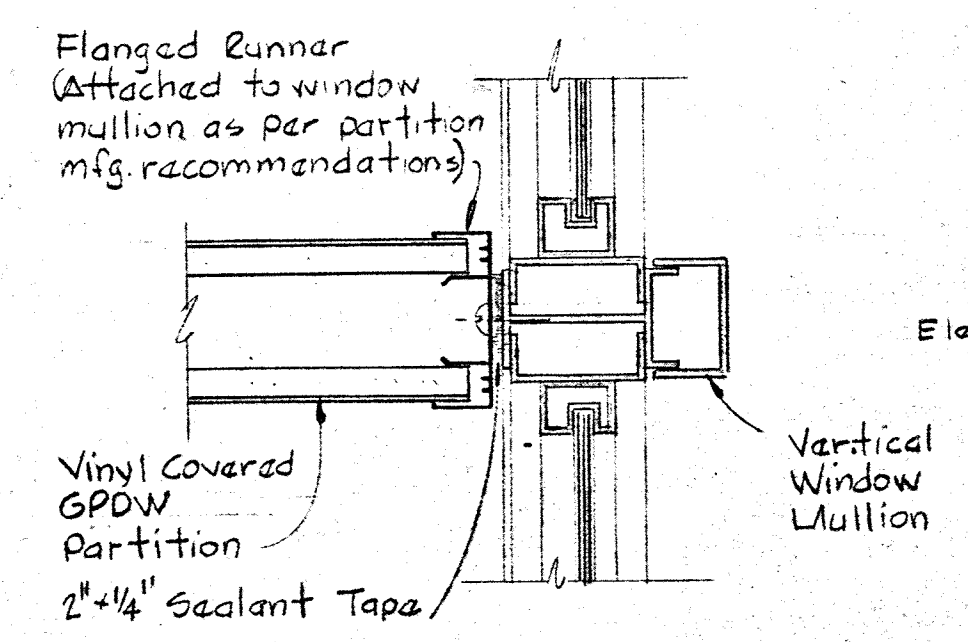
TYP. SECTION THRU PARTITION



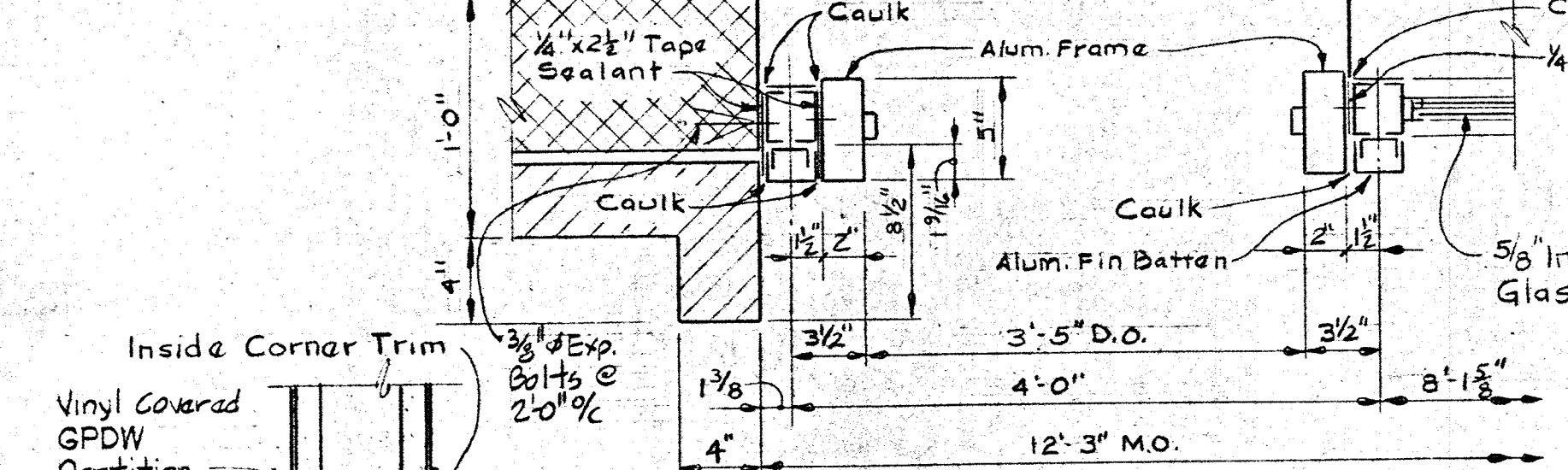
TYP. DETAIL AT MASONRY WALLS w/ VINYL COVERED GYP. BOARD (DETAIL AT EXPOSED MASONRY WALLS SIMILAR)



TYP. BASE DETAIL AT MASONRY WALL w/ VINYL COVER GYP. BOARD



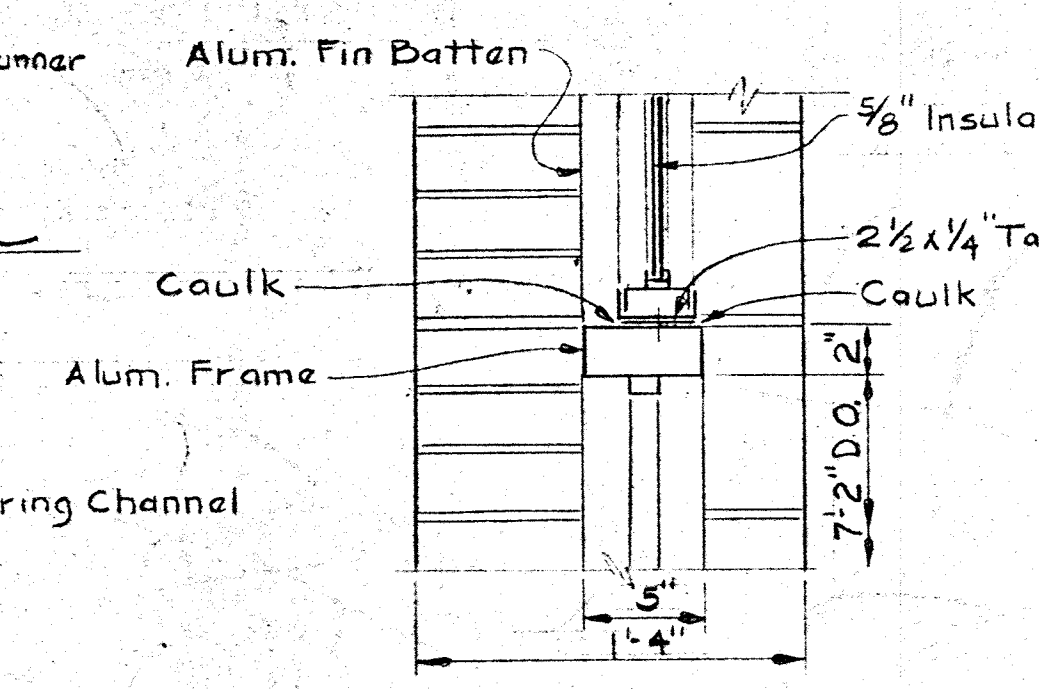
TYP. DETAIL AT WINDOW MULLION



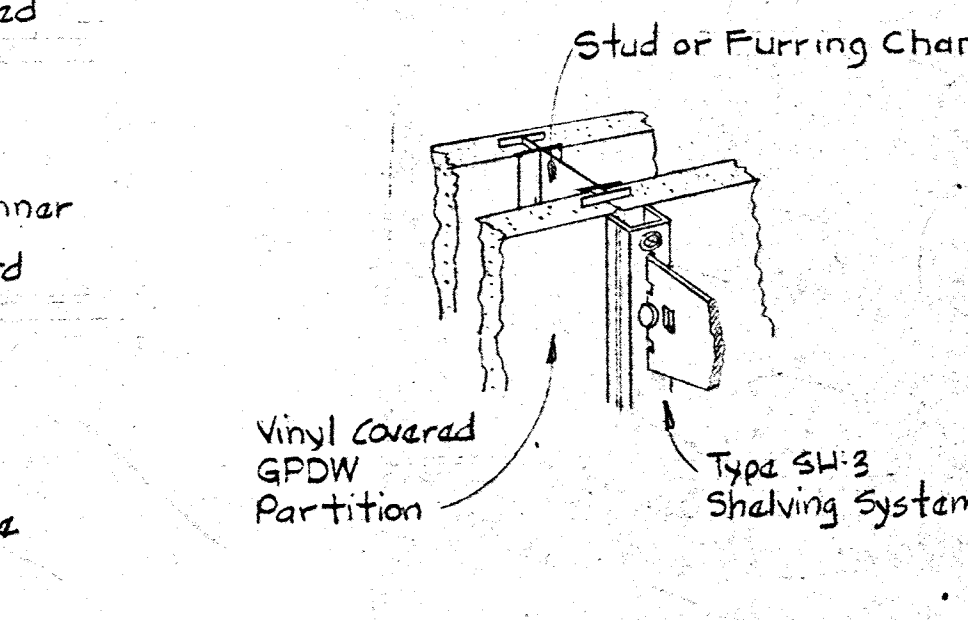
SECTION A-12-J/A-12 Scale: 1/2" = 1'-0"



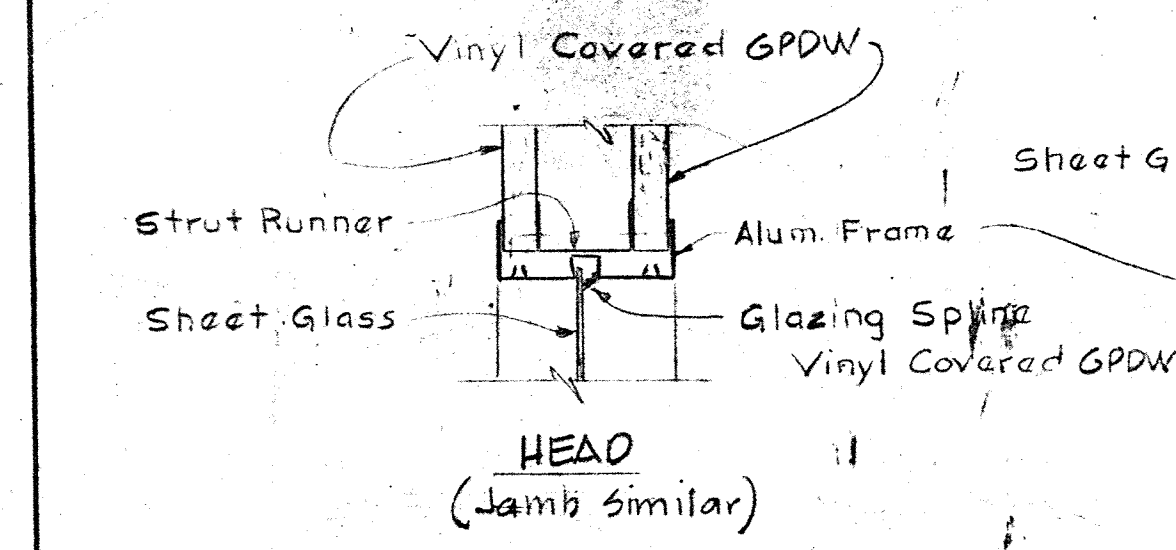
TYP. CORNER DETAIL



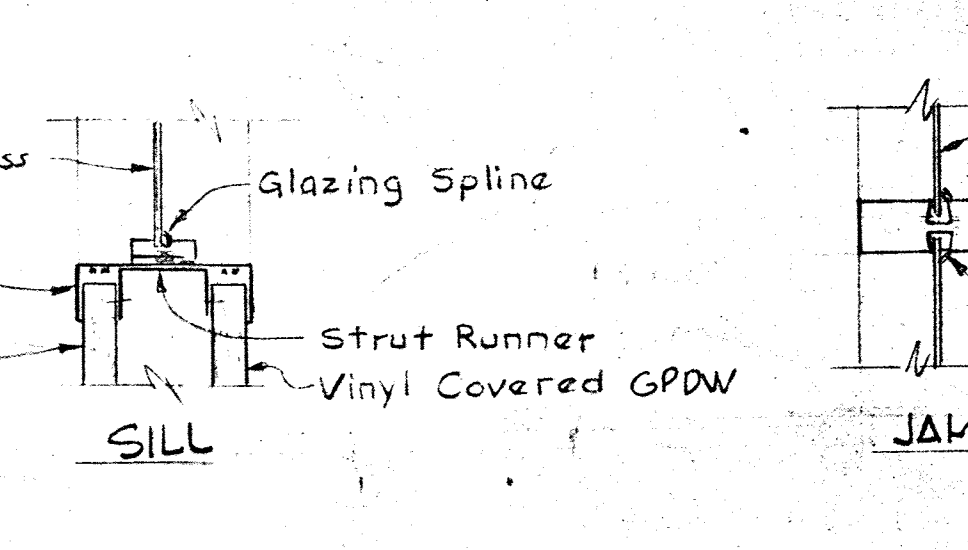
SECTION A-12-K/A-12 Scale: 1/2" = 1'-0"



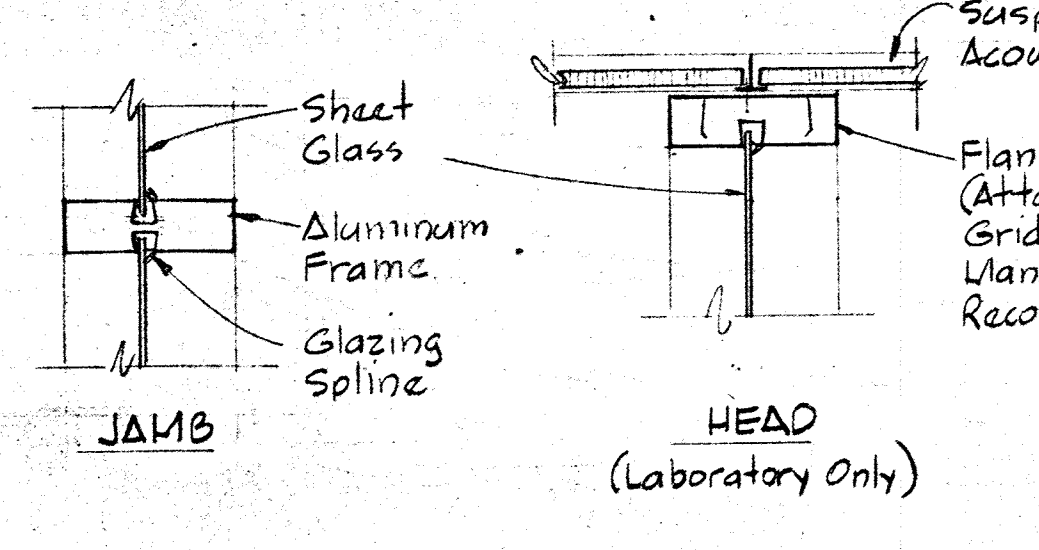
TYP. SHELF DETAIL



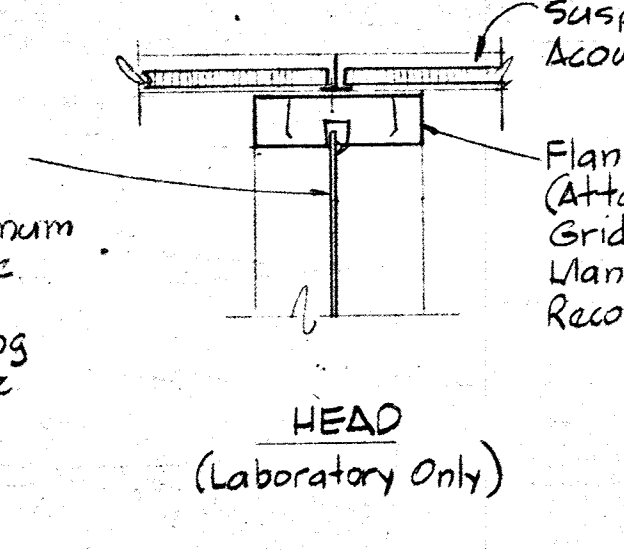
HEAD (Jamb similar)



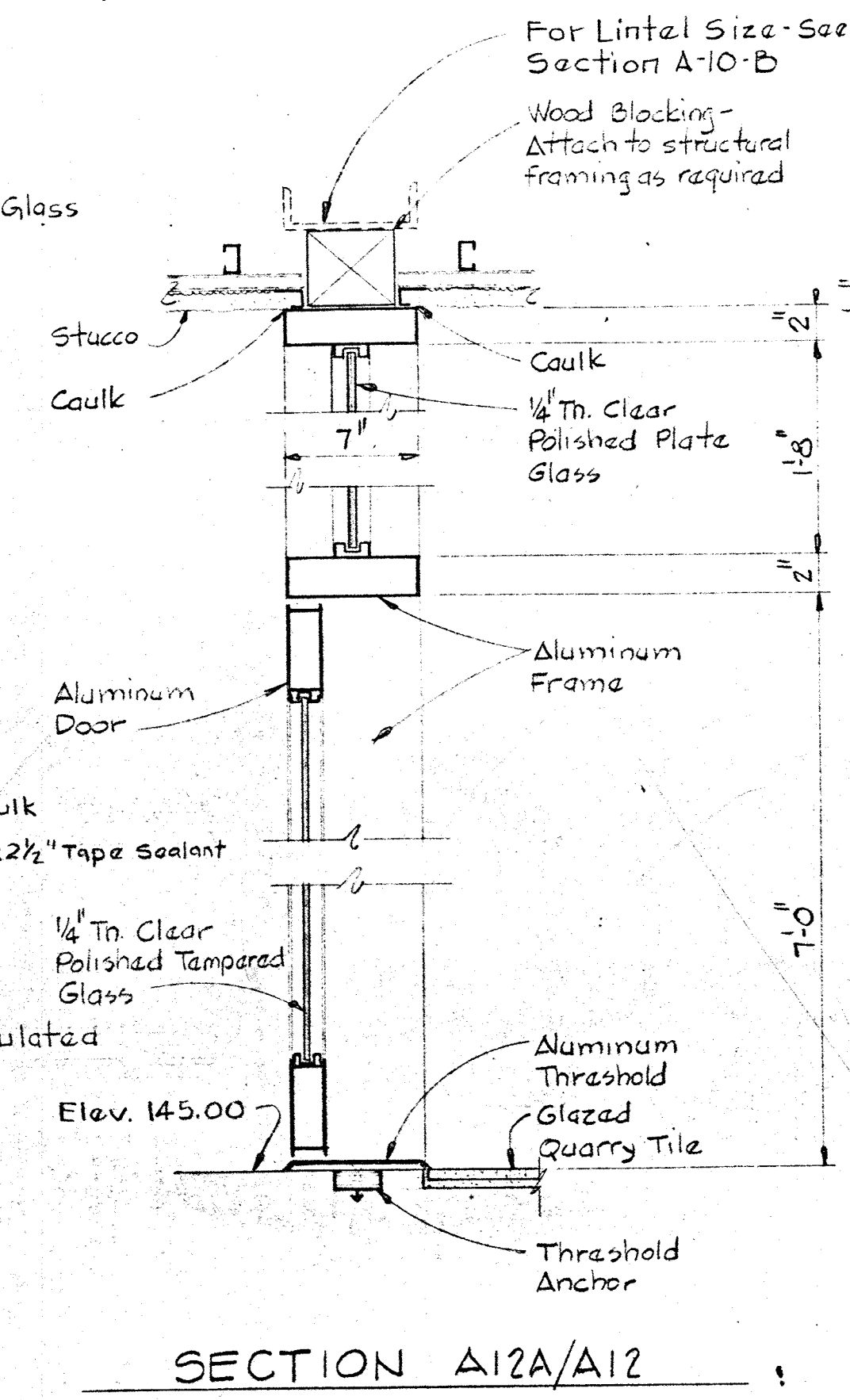
SILL



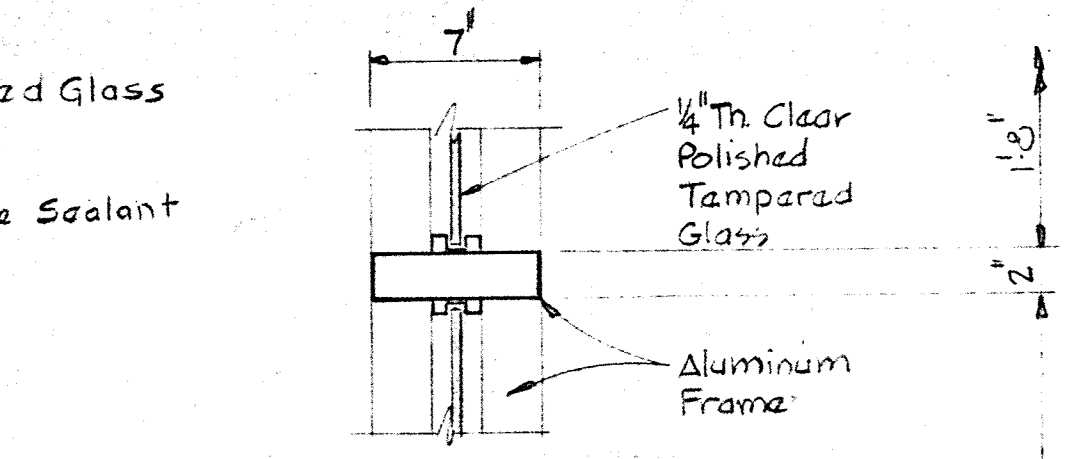
JAMB



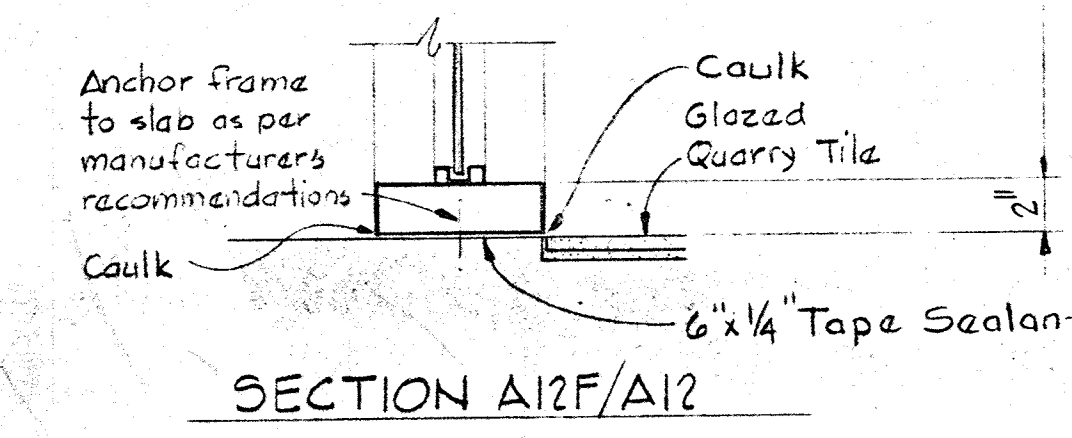
HEAD (Laboratory Only)



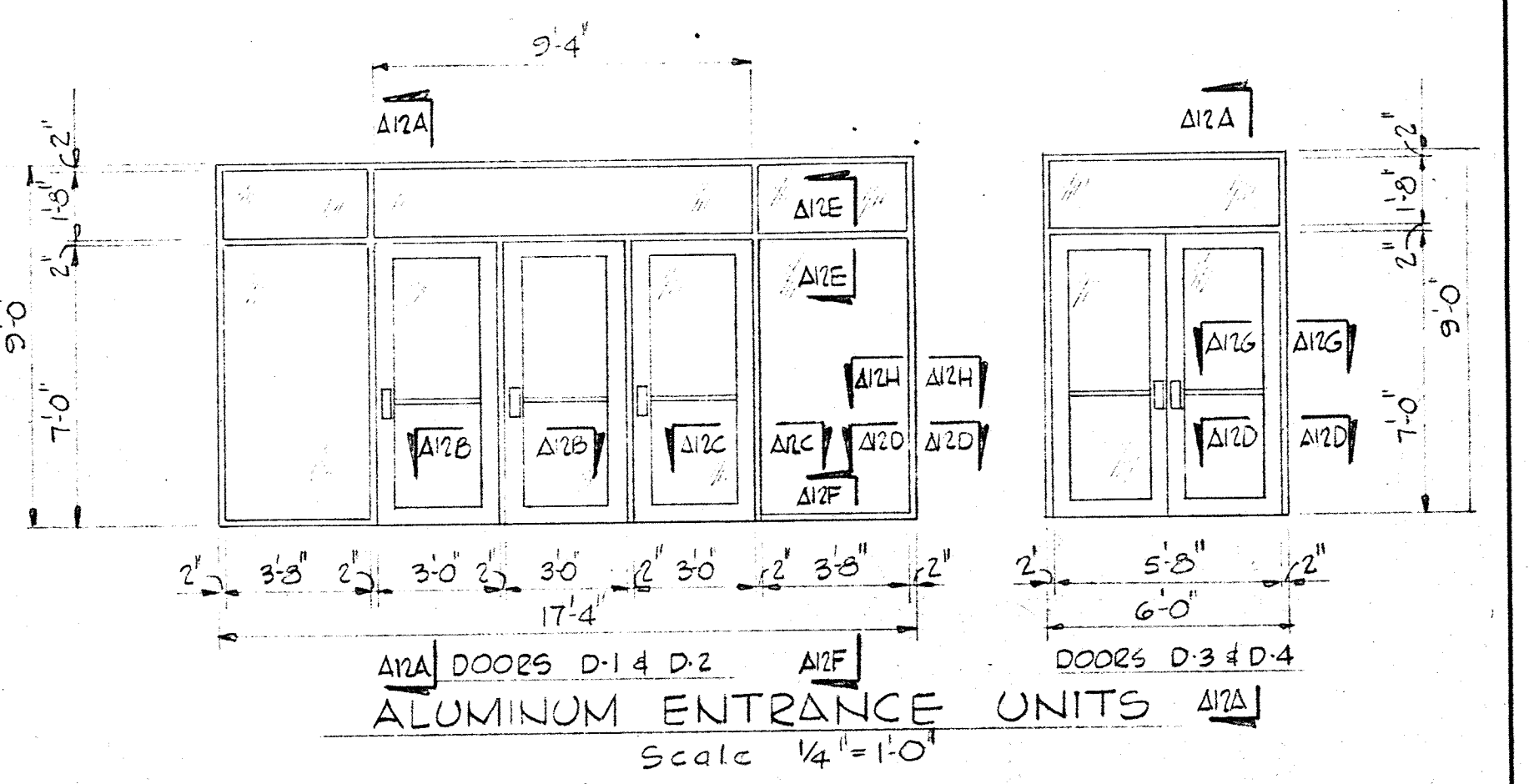
SECTION A12A/A12



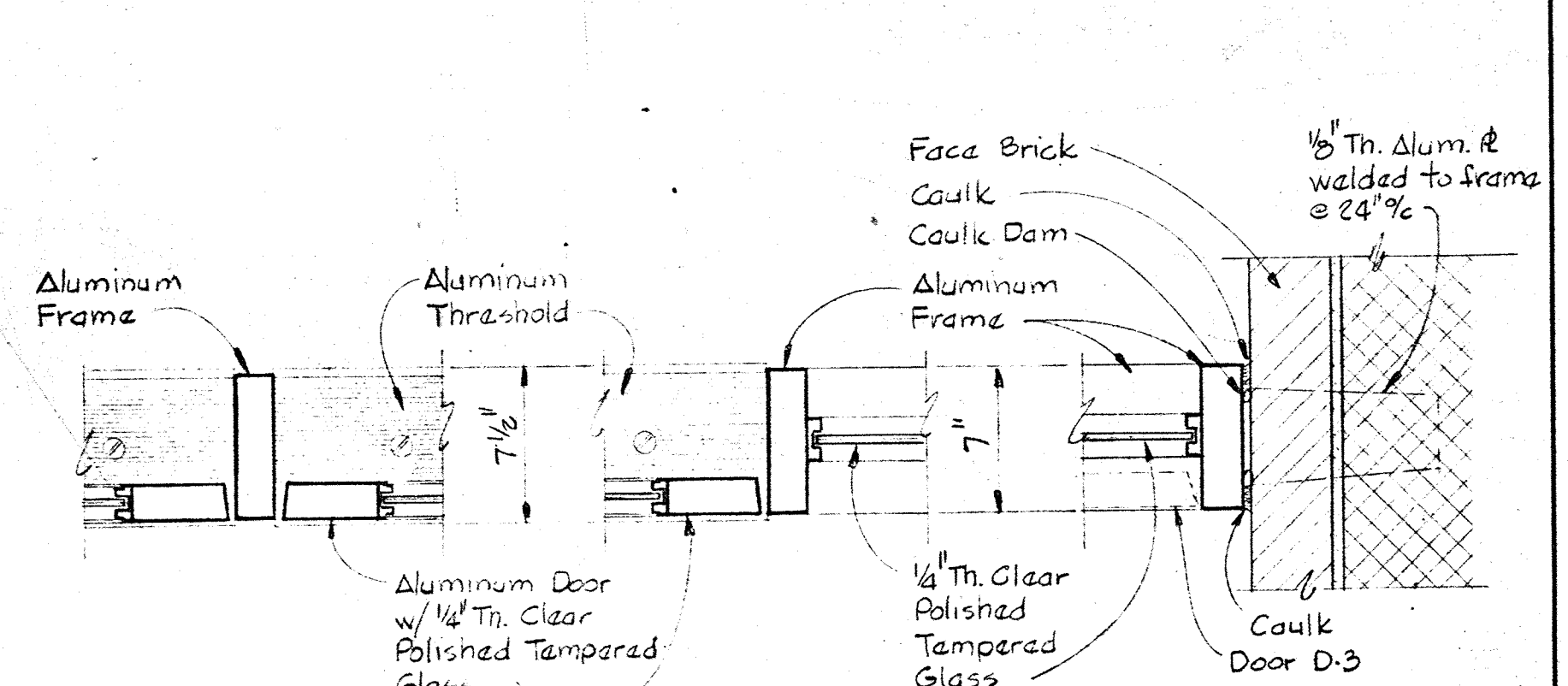
SECTION A12B/A12



SECTION A12F/A12



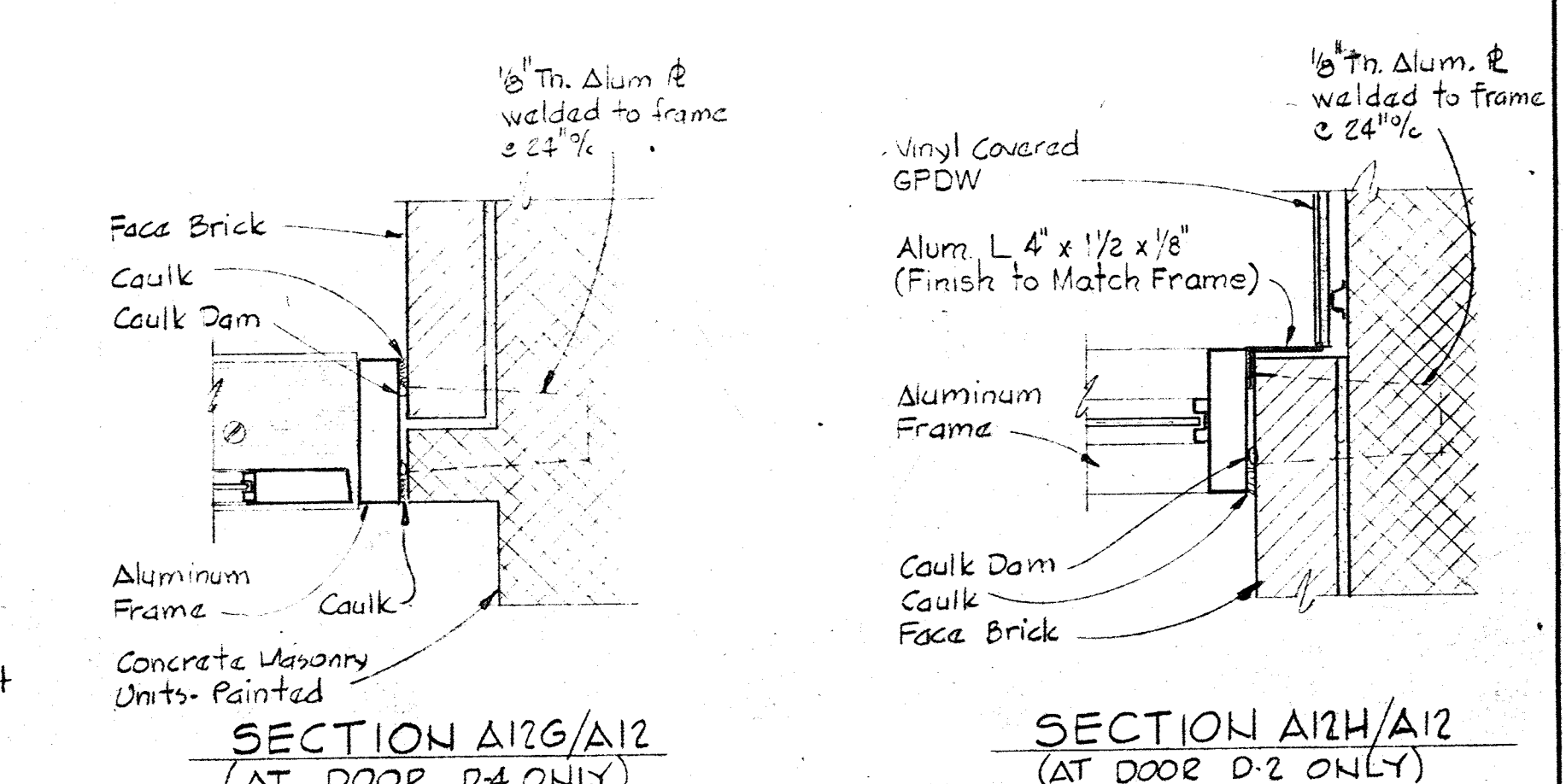
ALUMINUM ENTRANCE UNITS Scale: 1/4" = 1'-0"



SECTION A12C/A12

SECTION A12C/A12

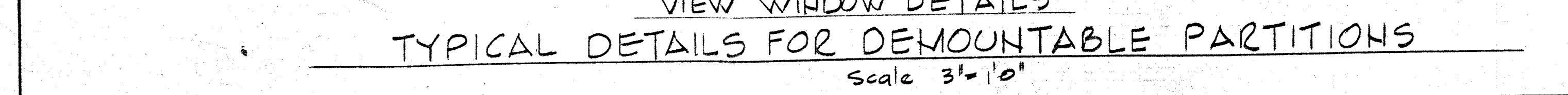
SECTION A12D/A12



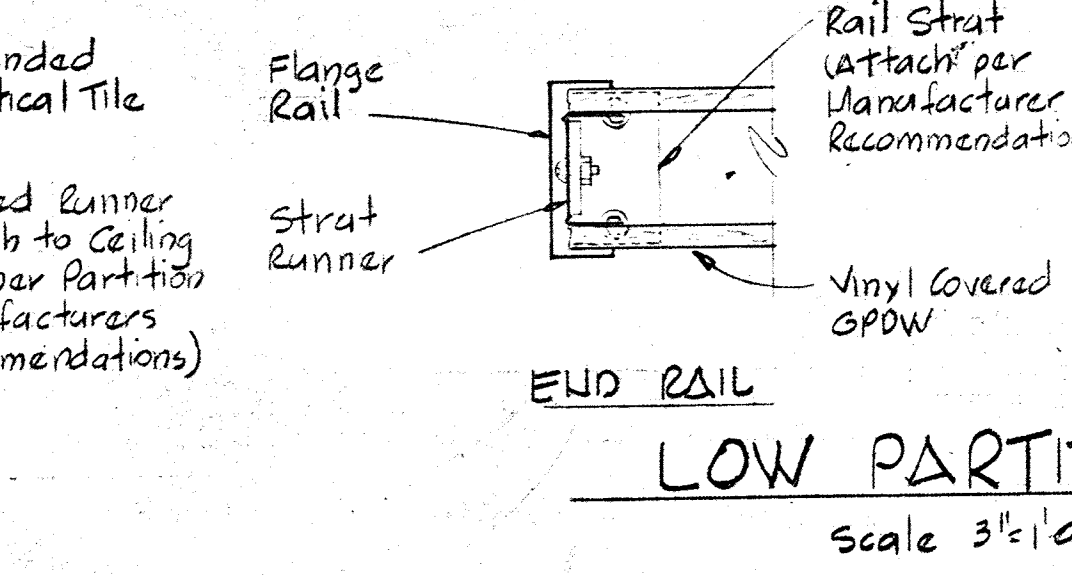
SECTION A12G/A12 (AT DOOR D-4 ONLY)

SECTION A12H/A12 (AT DOOR D-2 ONLY)

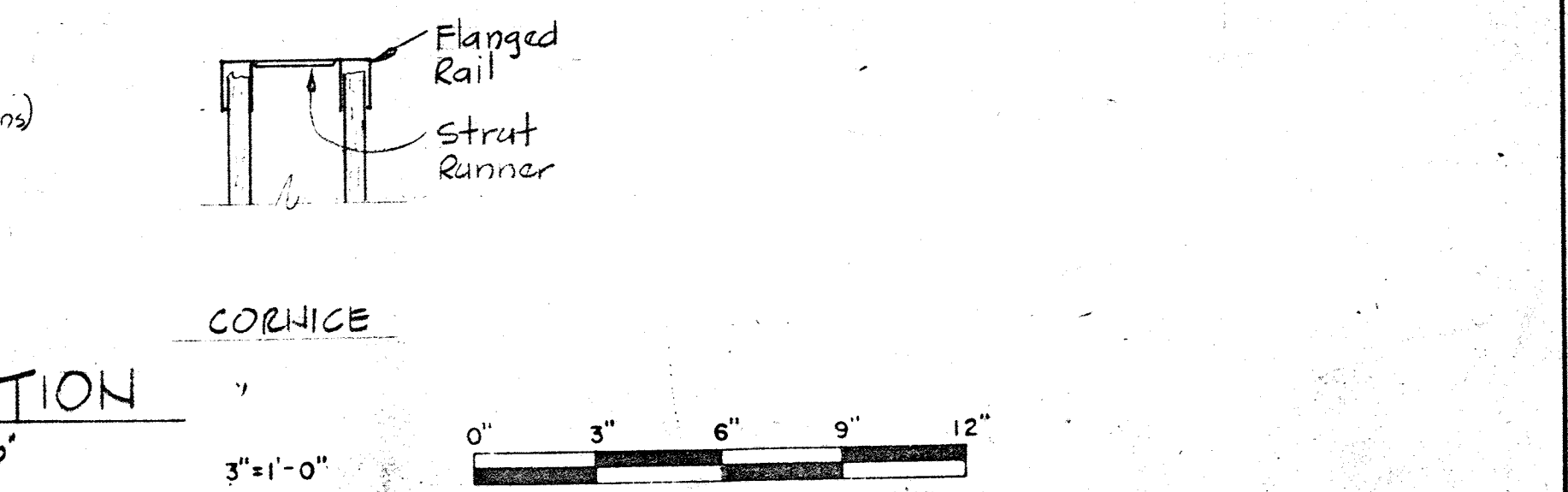
TYPICAL ALUMINUM ENTRANCE UNIT DETAILS Scale: 1/2" = 1'-0"



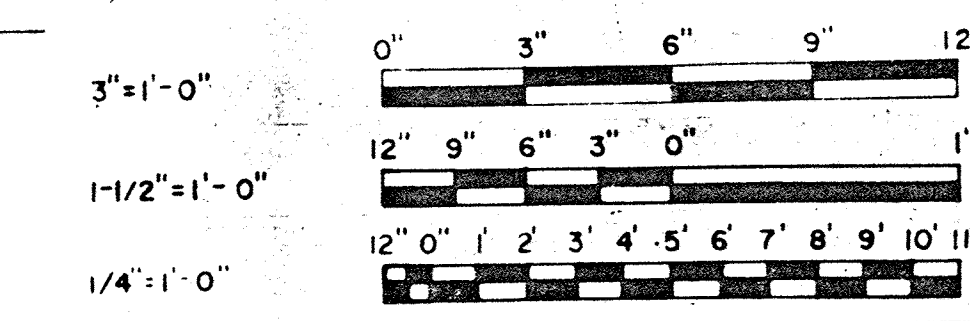
VIEW WINDOW DETAILS TYPICAL DETAILS FOR DEMOUNTABLE PARTITIONS Scale: 3/8" = 1'-0"



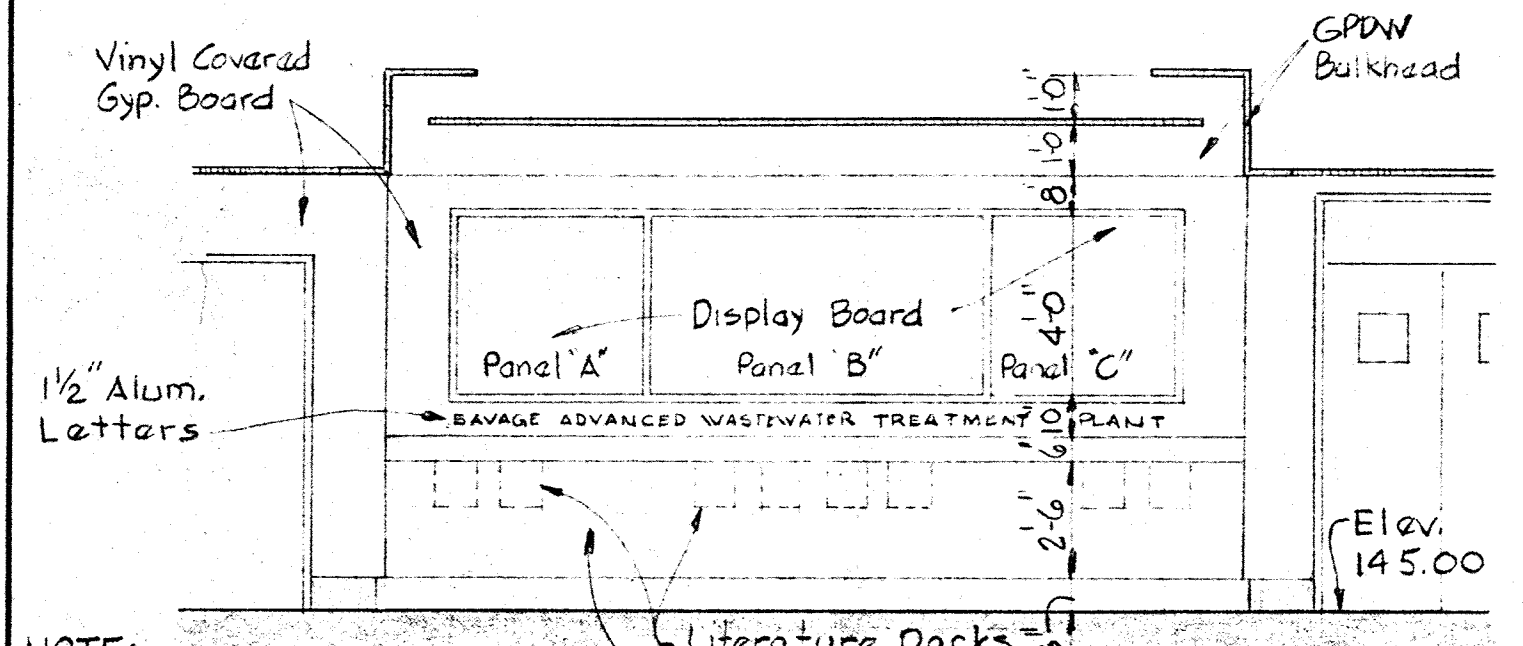
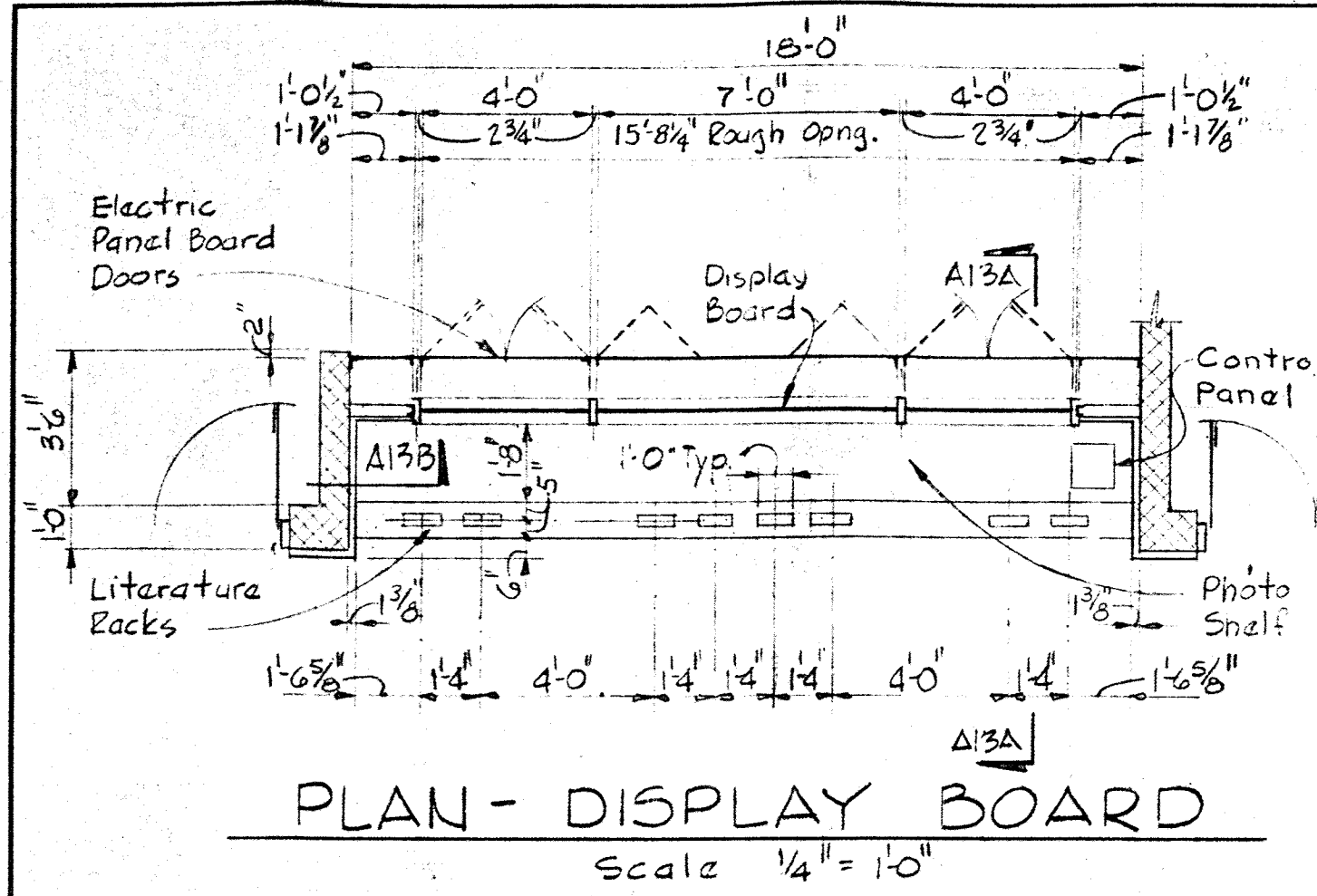
LOW PARTITION Scale: 3/8" = 1'-0"



CORNICE

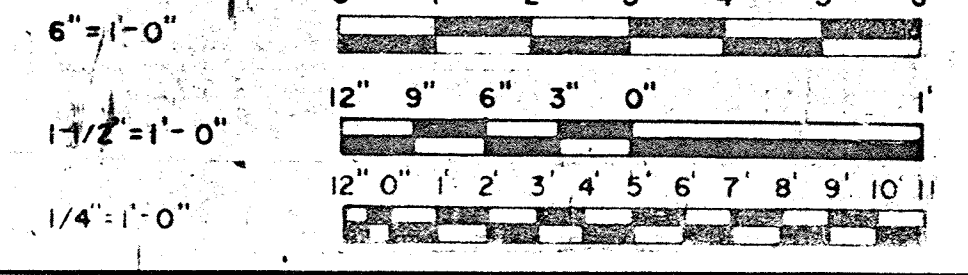
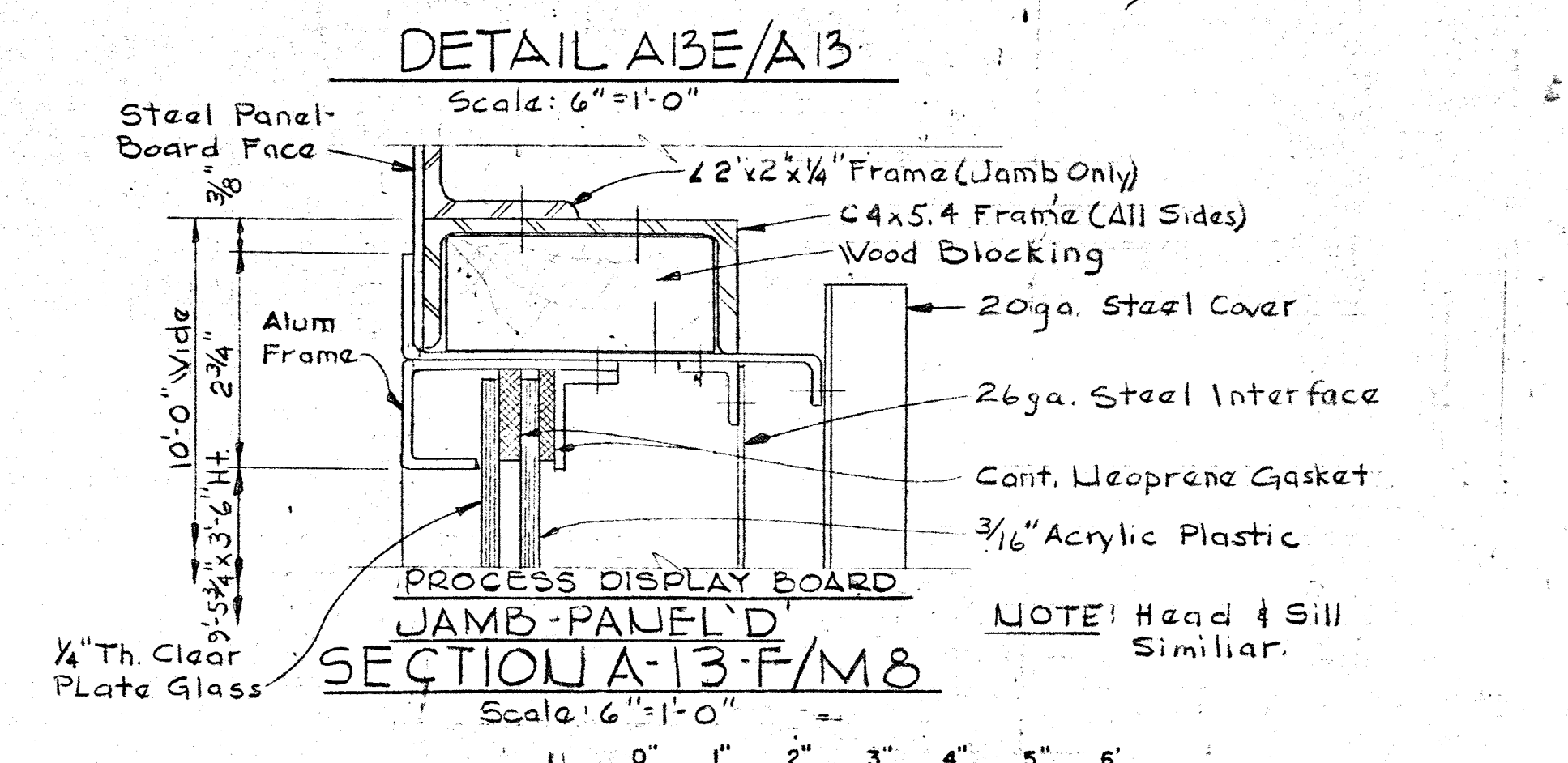
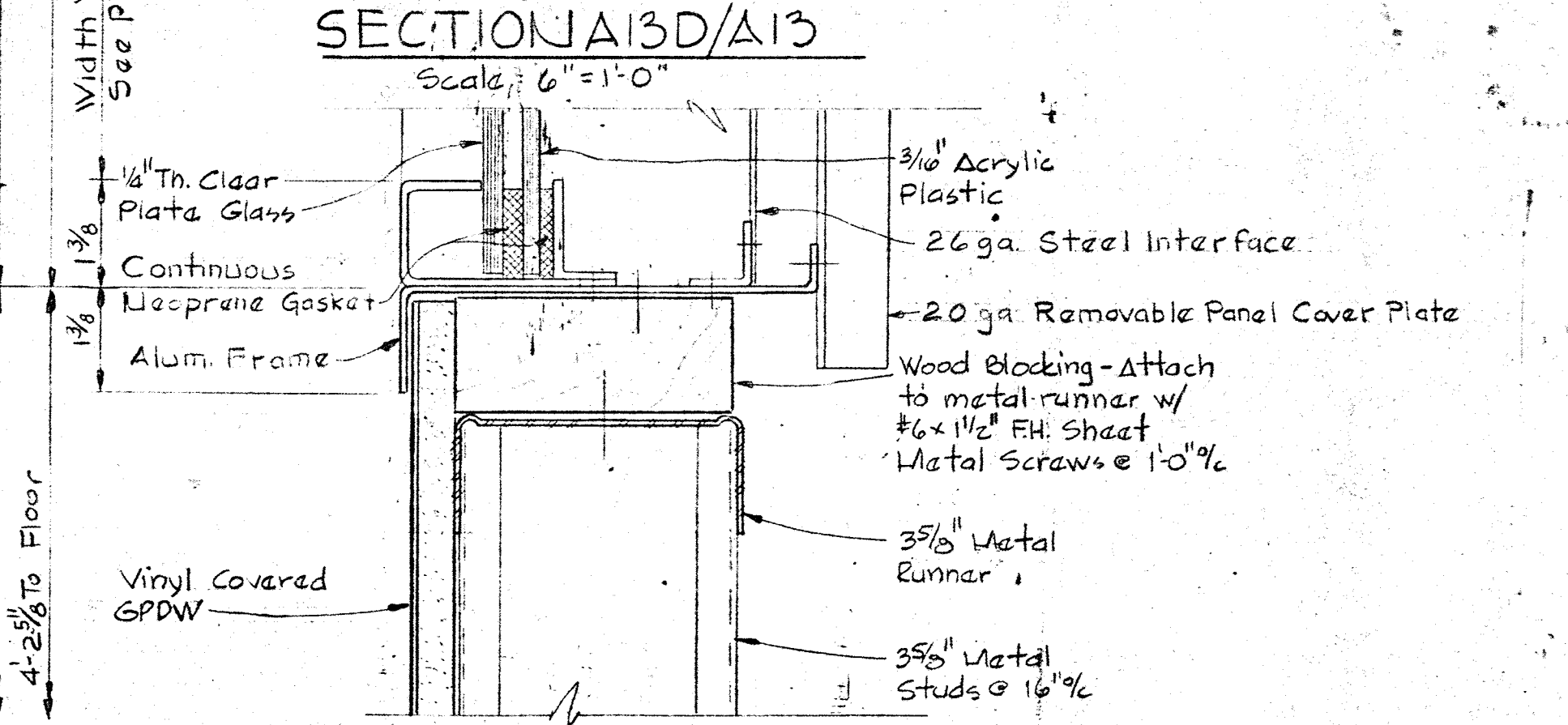
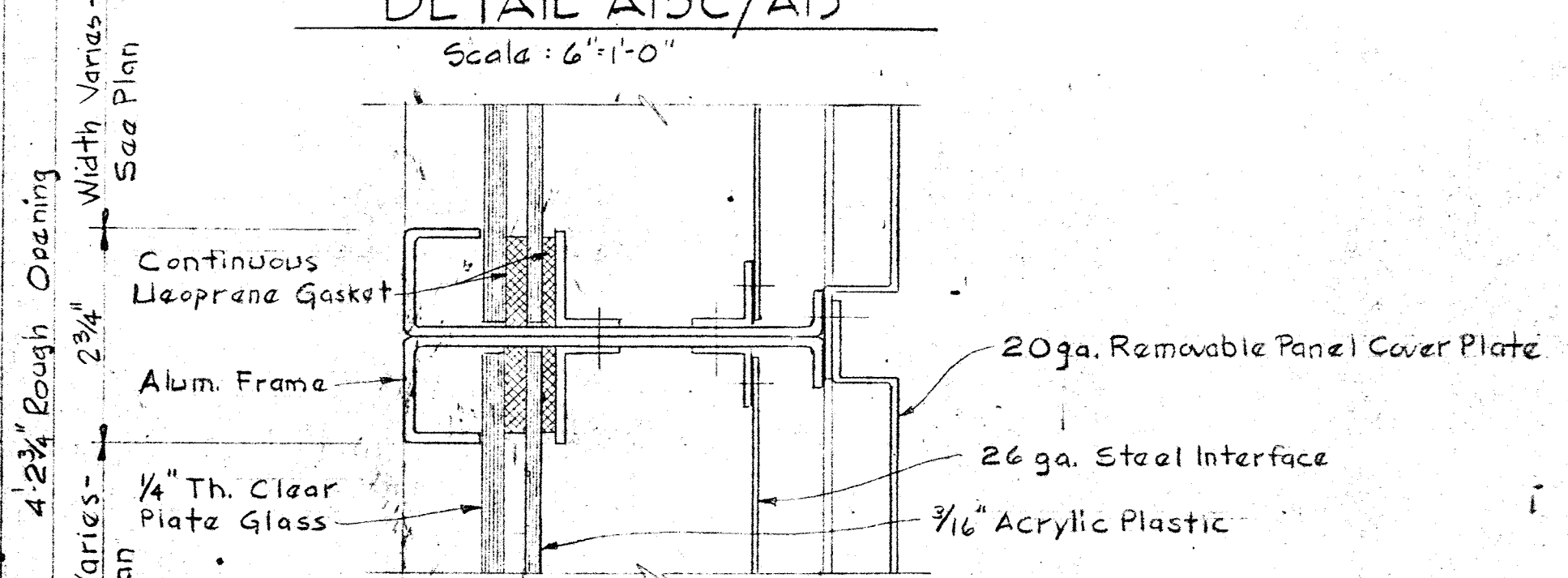
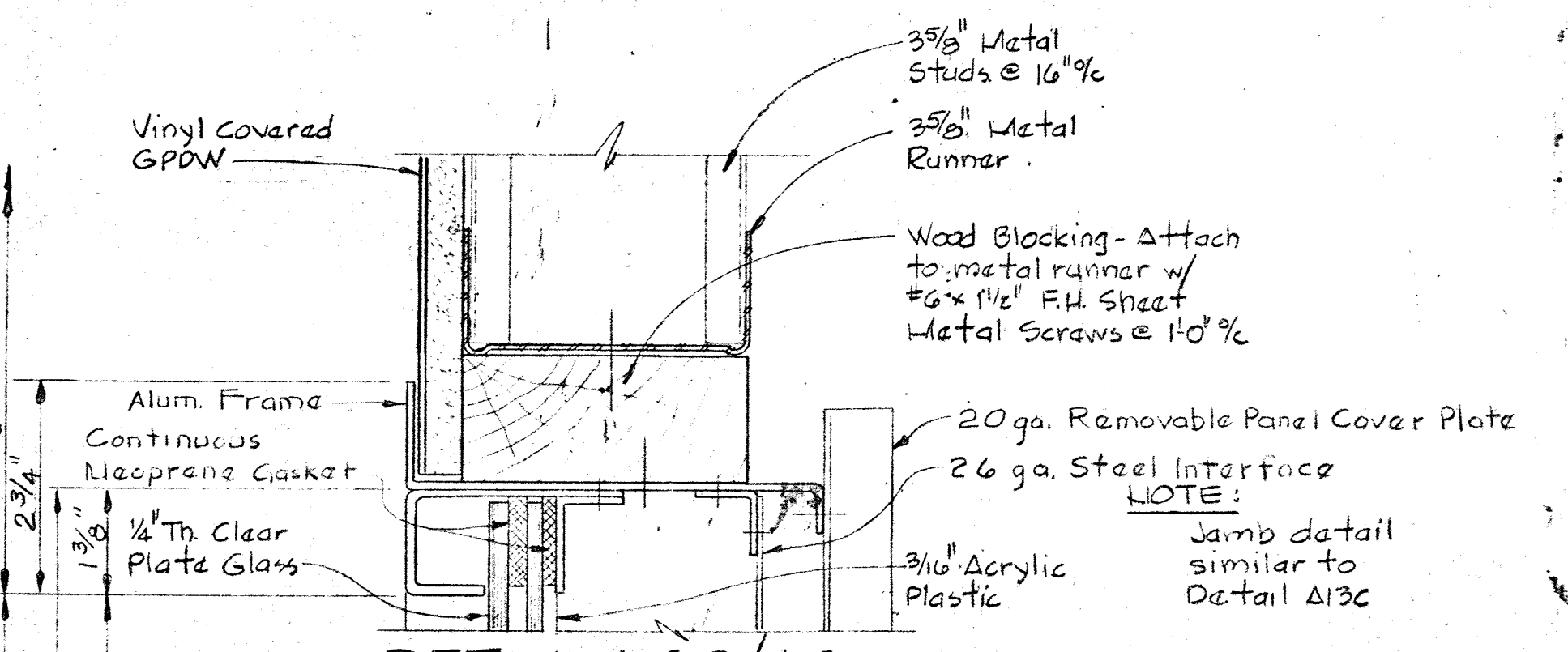
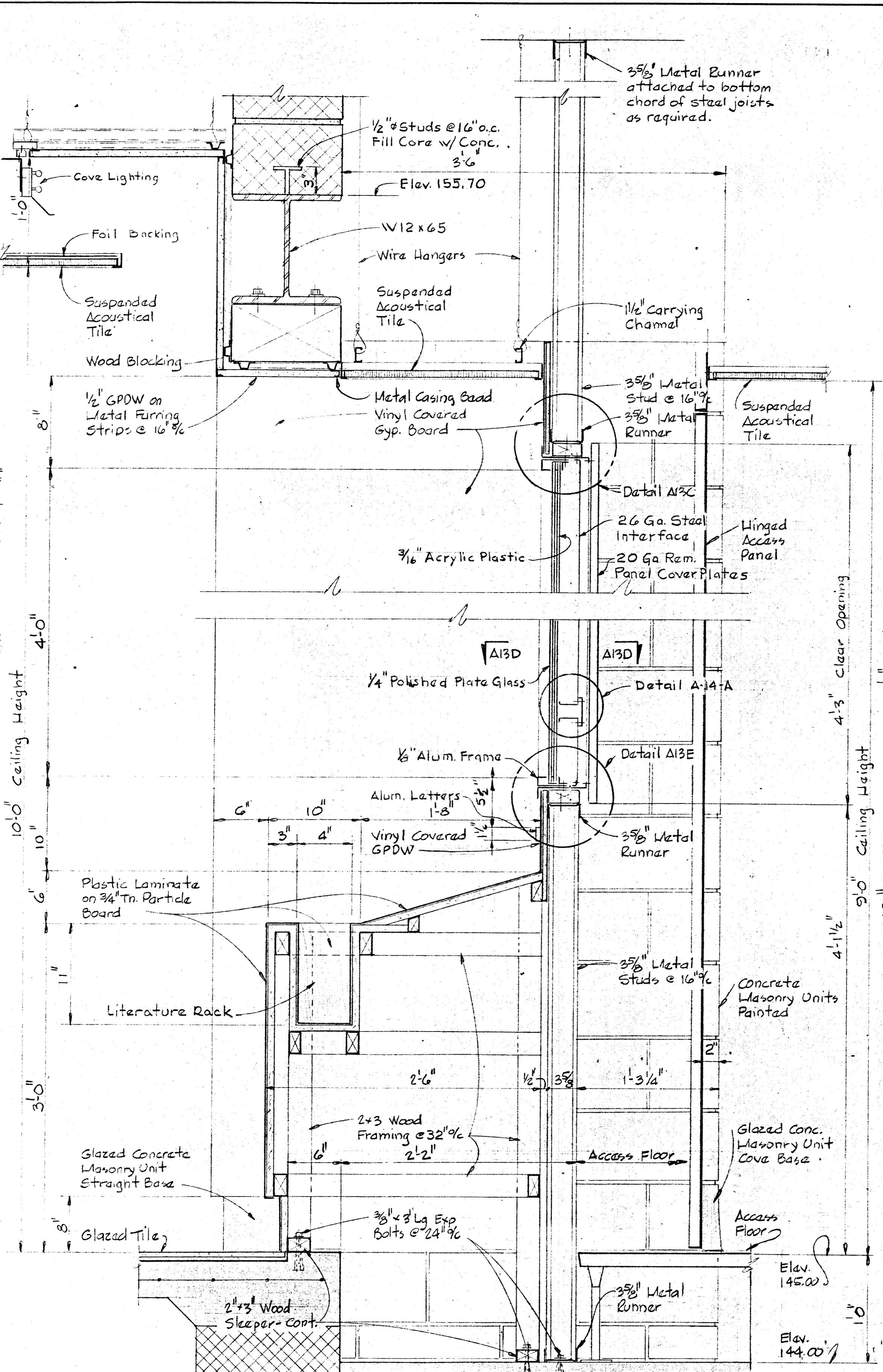
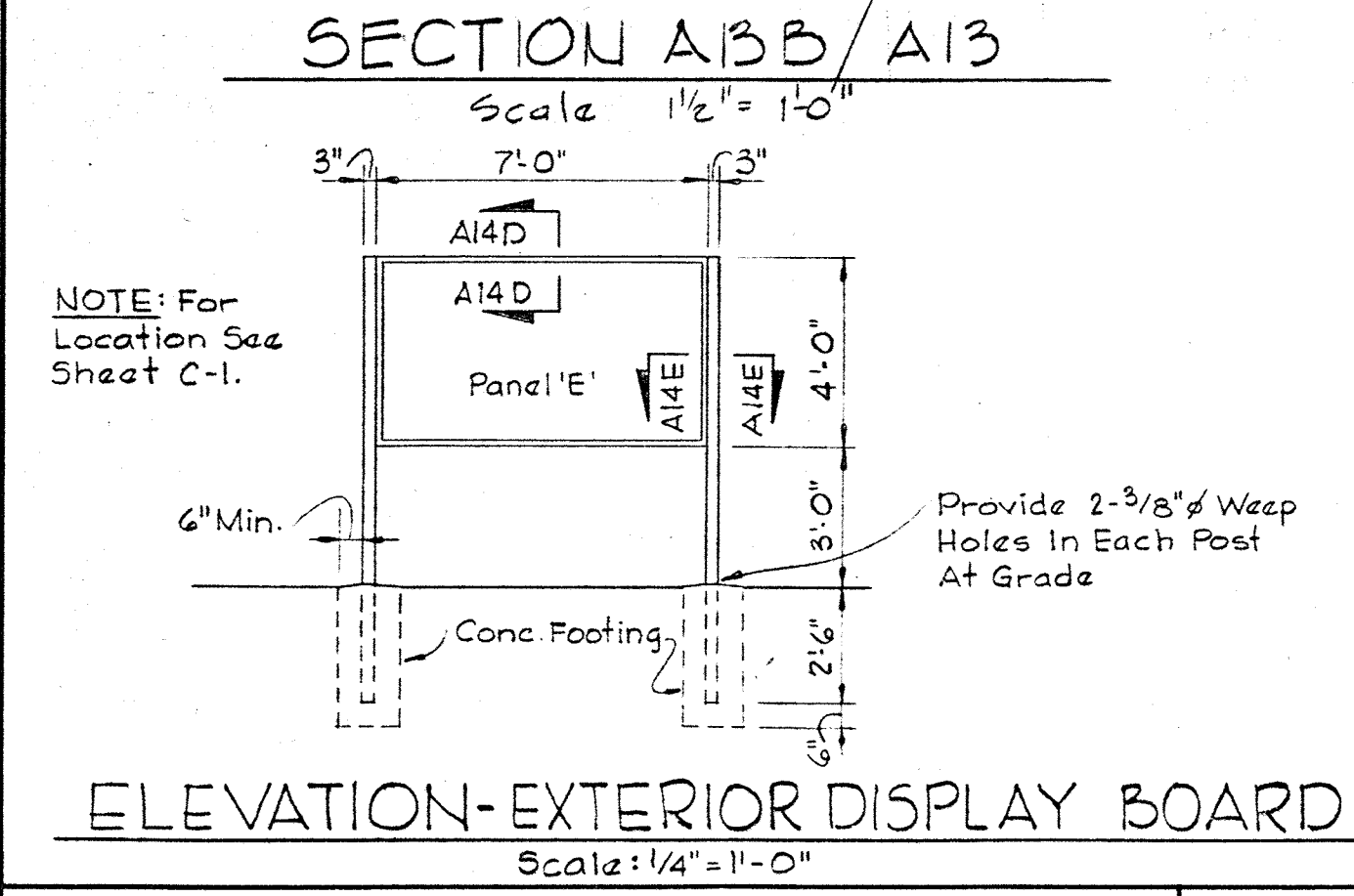
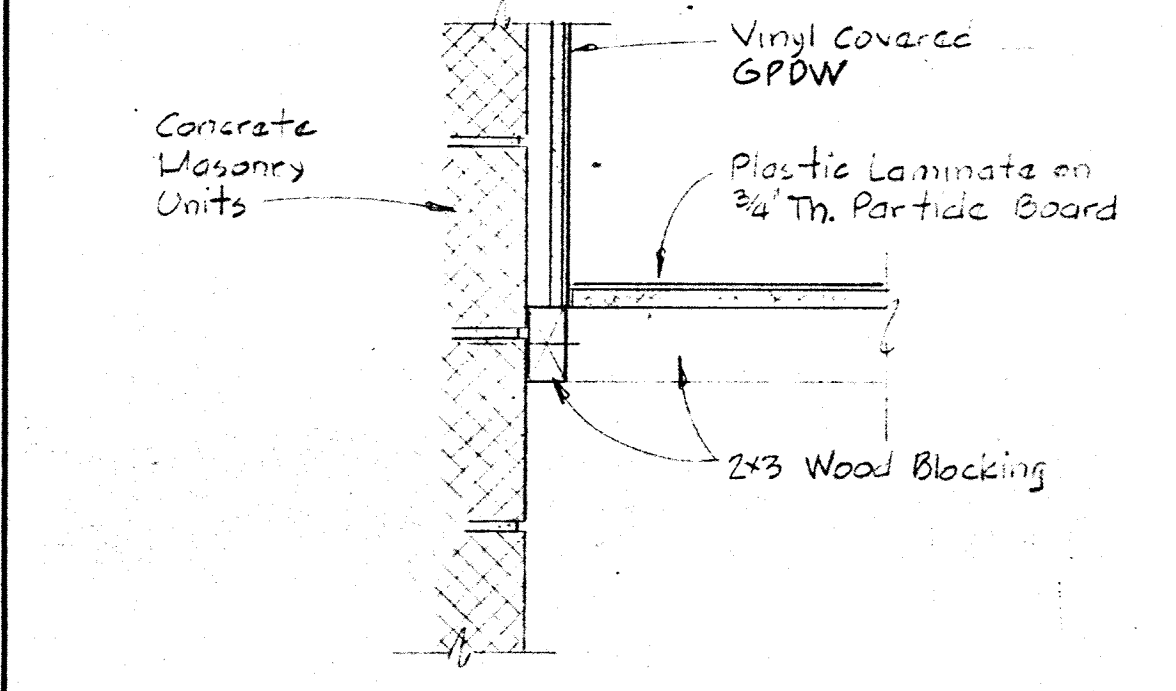


WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/20/15 DATE	CONTRACT NO. 503-S	ARCHITECTURAL MISCELLANEOUS DETAILS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 21 OF 64 SCALE AS NOTED
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NOTE: Plastic laminate base to match glazed masonry unit base.

NOTES: 1. See Display Board Panel Details on Sheet A-14
2. See Sheet M-8 For Elevation of Panel 'D'. See Detail A-13-F For Typical Frame Detail



WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

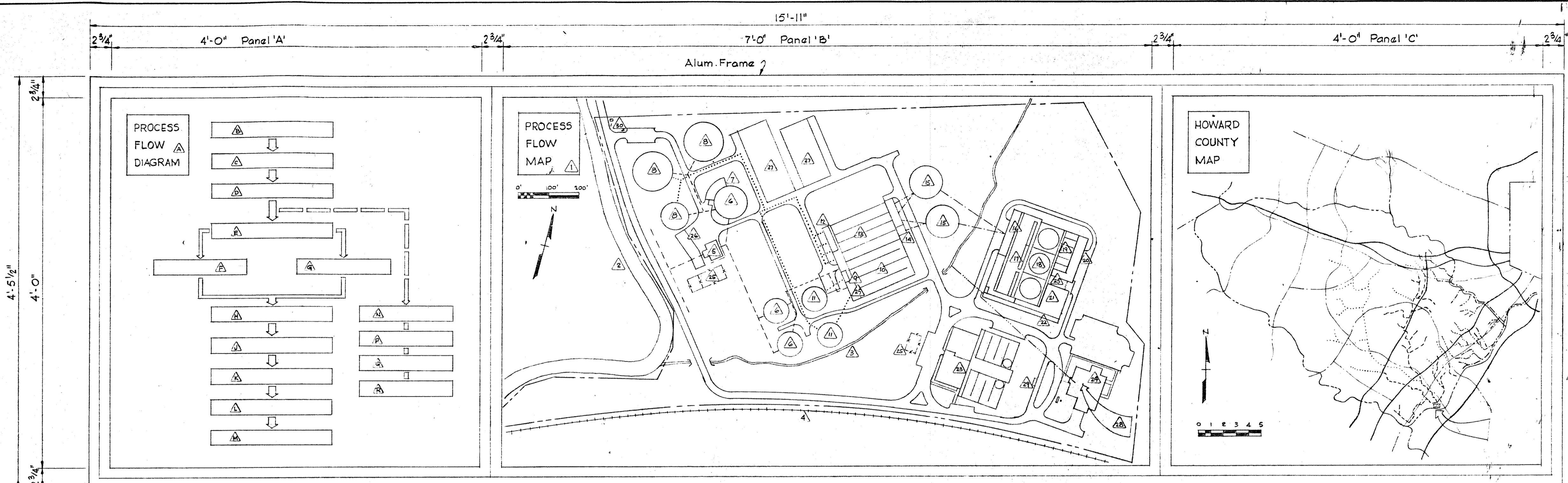
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DATE: 3/20/78
CHIEF-BUREAU OF ENGINEERING

CONTRACT NO. 503-S

ARCHITECTURAL
DISPLAY BOARD DETAILS

Savage Wastewater
TREATMENT PLANT ADDITION NO. 4

DRAWING NO. 22 OF 64
SCALE AS NOTED



LEGEND

PANEL 'B'

- Gray
- Tan
- Red
- Orange
- Green
- Blue

PANEL 'C'

- Political Boundaries - Black on Yellow
- Major Highways - Red
- Minor Highways - Black
- Interceptors, Exist-S - Gray (Solid Line)
- Interceptors, Future - Gray (Long Dash)
- Interceptors, Exist-P - Tan (Solid Line)
- Interceptors, Future - Tan (Long Dash)
- Rivers & Lakes - Blue
- Cities, Towns & Comms - Yellow
- Plant Site & Arrow - Orange

- ### NOTES: PANEL 'C'
- Face to be blank - design to be lighted from behind. See Detail A14B.
 - All lettering shall be Black.
 - Graphic Scale & North Arrow shall be Black.
 - Identify all counties, highways, rivers, lakes, cities, towns, & major communities.
 - Lines shown as dashed shall be solid, or long dashes, of color indicated on LEGEND.
 - Orange Arrow shall indicate plant site with title 'SAVAGE ADVANCED WASTEWATER TREATMENT PLANT.'

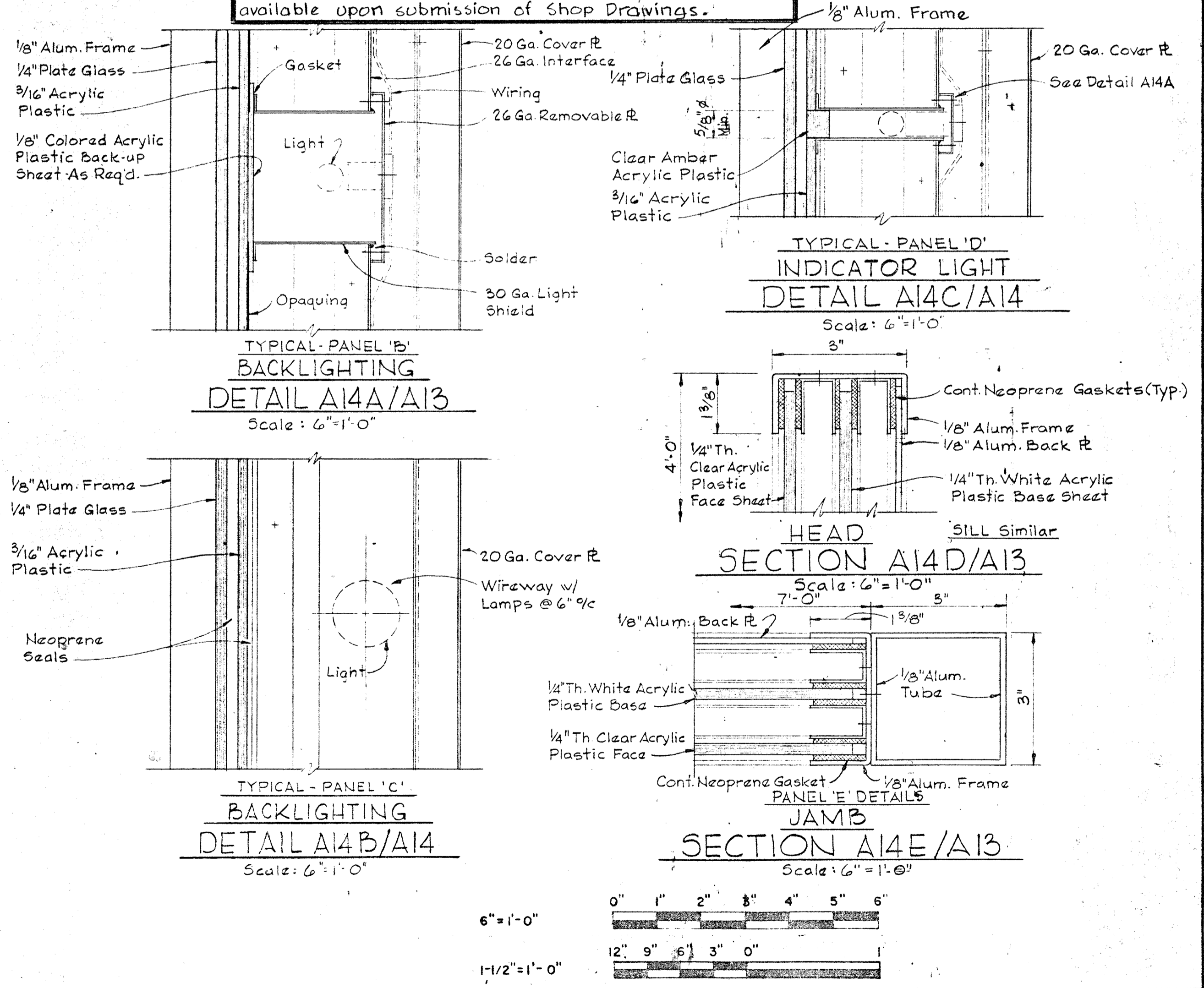
DISPLAY BOARD
Scale: 1/2" = 1'-0"

Note: For Elevation of Panel "D" Process Display Board see Sheet M8.

NOTE: Display boards shown and specified indicate the size, type, and quality of the finished boards. Illustrations shown will be modified to a certain extent when all process information is known. This information will be available upon submission of Shop Drawings.

DISPLAY BOARD SCHEDULE

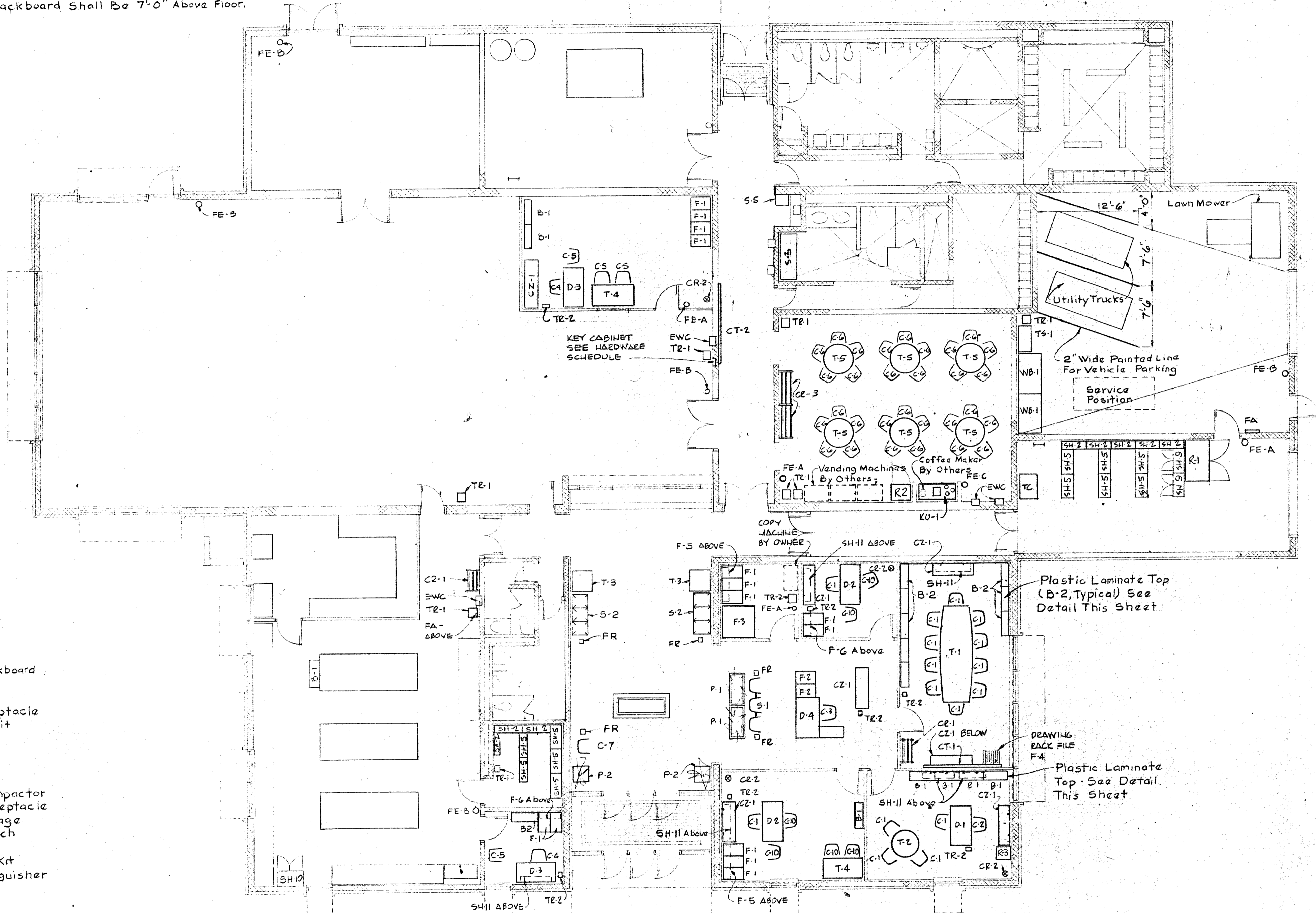
Index	Name or Description	Color	Notes	Index	Name or Description	Color	Notes
A	Title Box	Green	1. Face to be blank - design to be lighted from behind. 2. Arrows below lettering bars shall be same color as bar & lighted w/bar. 3. All lettering shall be Black.	1a,b	Mechanical Screens 1 & 2	Gray	1. Panel design shall be as shown on Sheet M8. 2. Color of Arrows on affluent side of process or equipment shall match the color of the process or equipment. 3. All equipment, arrows & processes shall be outlined in Black. 4. All processes and equipment shall be identified. 5. All lettering shall be Black. 6. Indicator Lights shall be located as shown on M-8 - see Detail A14C.
B	WASTE WATER SOURCE	Gray		1a,f	Raw Sewage Pumps 1-6	Gray	
C	SCREENING & GRINDING	Gray		3	Primary Clarifier No. 1	Tan	
D	PRIMARY CLARIFICATION	Tan		4	Future Primary Clarifier No. 2	Blank	
E	ACTIVATED SLUDGE	Red		5	Future Primary Clarifier No. 3	Blank	
F	CONTACT STABILIZATION	Red		6	Primary Clarifier No. 4	Tan	
G	AERATION	Red		7	Primary Clarifier No. 5	Tan	
H	NITRIFICATION	Orange		8	C.S. Unit A	Red	
I	DENITRIFICATION	Yellow		9	C.S. Unit B	Red	
J	FILTRATION	Green		10	C.S. Unit C	Red	
K	OZONATION	Blue		11	Aeration Basin No. 4	Red	
L	EFFLUENT DISPOSAL	Blue		12	Aeration Basin No. 5	Red	
M	SLUDGE THICKENING	Brown		13a-g	Blowers	Gray	
N	AEROBIC DIGESTION	Brown		14a-c	Return Activated Sludge Pumps No. 4a-c	Red	
P	VACUUM FILTRATION	Brown		15a-c	Return Activated Sludge Pumps No. 5a-c	Red	
Q	LAND DISPOSAL	Brown		16	Future Secondary Clarifier No. 2	Blank	
R				17	Future Secondary Clarifier No. 3	Blank	
				18	Secondary Clarifier No. 4	Red	
				19	Secondary Clarifier No. 5	Red	
				20a,b	Limf Feeders 1 & 2	Orange	
			21	Rapid Mixer	Orange		
			22	Future Aeration Basin No. 1	Blank		
			23	Nitrification Aeration Basin No. 2	Orange		
			24	Nitrification Aeration Basin No. 3	Orange		
			25a-d	Reactor Blowers 1-4	Yellow		
			26a-c	Return Nitrogenous Sludge Pumps 1A-C	Orange		
			27	Future Nitrification Clarifier No. 3	Blank		
			28	Nitrification Clarifier No. 1	Orange		
			29	Nitrification Clarifier No. 2	Orange		
			30a-c	Return Nitrogenous Sludge Pumps 2A-C	Orange		
			31a-c	Methanol Feed Pumps No. 1-3	Yellow		
			32a-c	Flocculator Drives 1A-C	Yellow		
			33a-c	Flocculator Drives 2A-C	Yellow		
			34a-c	Flocculator Drives 3A-C	Yellow		
			35	Future Flocculator Drives	Blank		
			36	Future Flocculator Drives	Yellow		
			37a-c	Alum Feed Pumps No. 1-3	Blank		
			38	Future Denitrification Clarifier No. 5	Blank		
			39	Future Denitrification Clarifier No. 4	Blank		
			40	Denitrification Clarifier No. 3	Yellow		
			41	Denitrification Clarifier No. 2	Yellow		
			42a-c	Return Denitrification Sludge Pumps 3A-C	Yellow		
			43a-c	Return Denitrification Sludge Pumps 2A-C	Yellow		
			44a-c	Return Denitrification Sludge Pumps 1A-C	Yellow		
			45	Denitrification Clarifier No. 1	Yellow		
			46	Blower Filter Air Wash	Green		
			47a-k	Filters No. 1-6 / Future Filters No. 7-10	Green / Blank		
			48	Filter Effluent Pumps No. 1, 2, 4 & 5 / Future 3	Green / Blank		
			49a,b	Filter Washwater Pumps No. 1 & 2	Green		
			50	Ozone Contact Chamber	Blue		
			51a-e	Air Preparation Units No. 2-5 / Future No. 1	Blue / Blank		
			52a-j	Ozone Generators No. 1-6 / Future No. 7-9	Blue / Blank		



WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: _____ CHIEF, BUREAU OF ENGINEERING	CONTRACT NO. 503-S	ARCHITECTURAL DISPLAY BOARD PANEL DETAILS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 23 OF 64	SCALE AS NOTED
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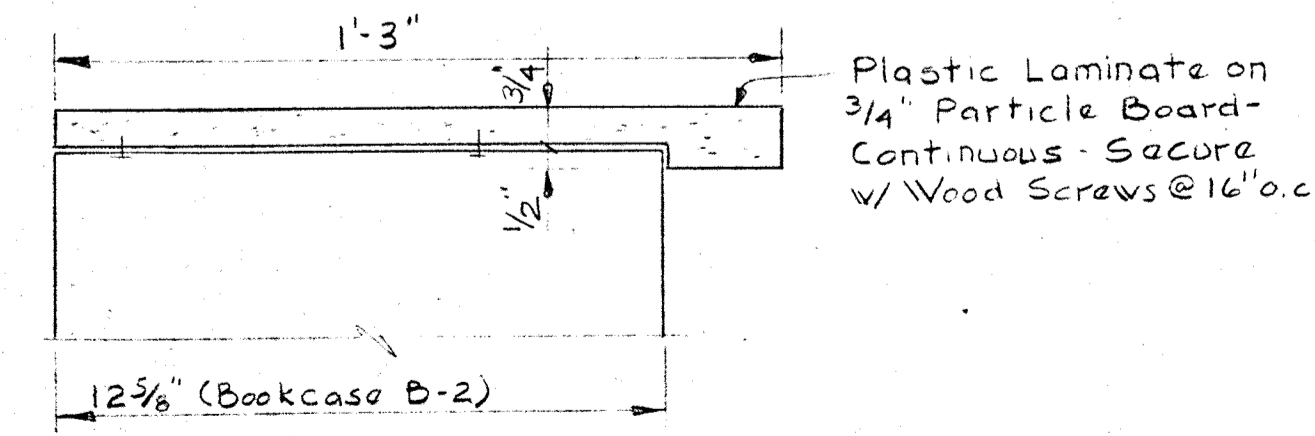
MOUNTING NOTES:

1. Fire Extinguishers Shall Be Wall Mounted w/ Top 40" Max. Above Floor.
2. First Aid Kits Shall Be Wall Mounted w/ Top 4'-8" Max. Above Floor.
3. Top of Shelf of Wall Mounted Coat Racks Shall Be 6'-0" Above Floor.
4. Bottom of Shelving (SH-3) Standards Shall Be 3'-6" Above Floor. See Section A-B-B.
5. Top of Key Cabinet Shall Be 6'-0" Above Floor.
6. Top of Galk & Tackboard Shall Be 7'-0" Above Floor.



LEGEND

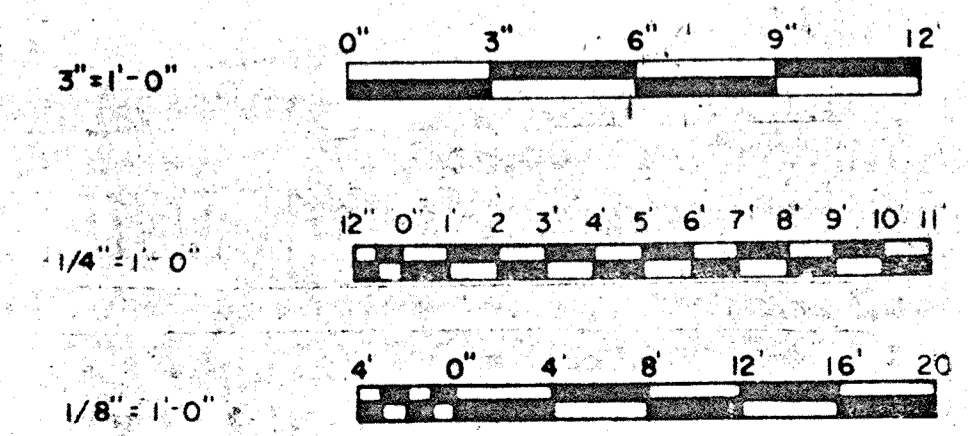
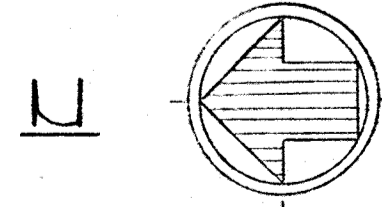
- B Bookcase
- C Chair
- CR Coat Rack
- CT Chalk & Tackboard
- CZ Credenza
- D Desk
- FR Floor Receptacle
- KU Kitchen Unit
- P Planter
- S Seating
- SH Shelves
- T Table
- TC Trash Compactor
- TR Trash Receptacle
- TS Tool Storage
- VB Work Bench
- F Files
- FA First Aid Kit
- FE Fire Extinguisher



BOOKCASE B-2 TOP
Scale: 3/8" = 1'-0"

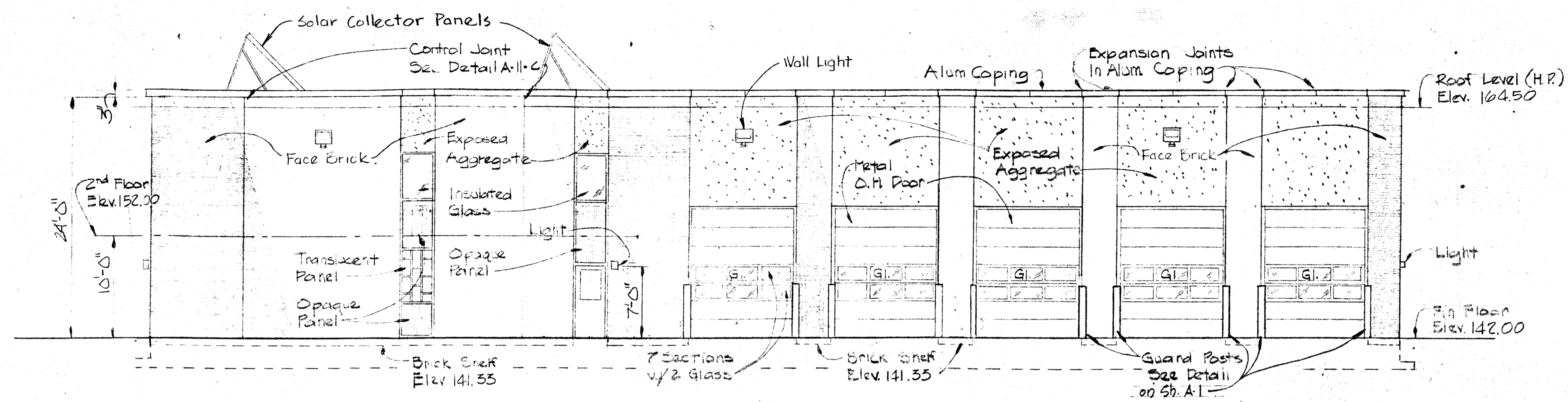
FURNITURE LOCATION PLAN

Scale 1/8" = 1'-0"

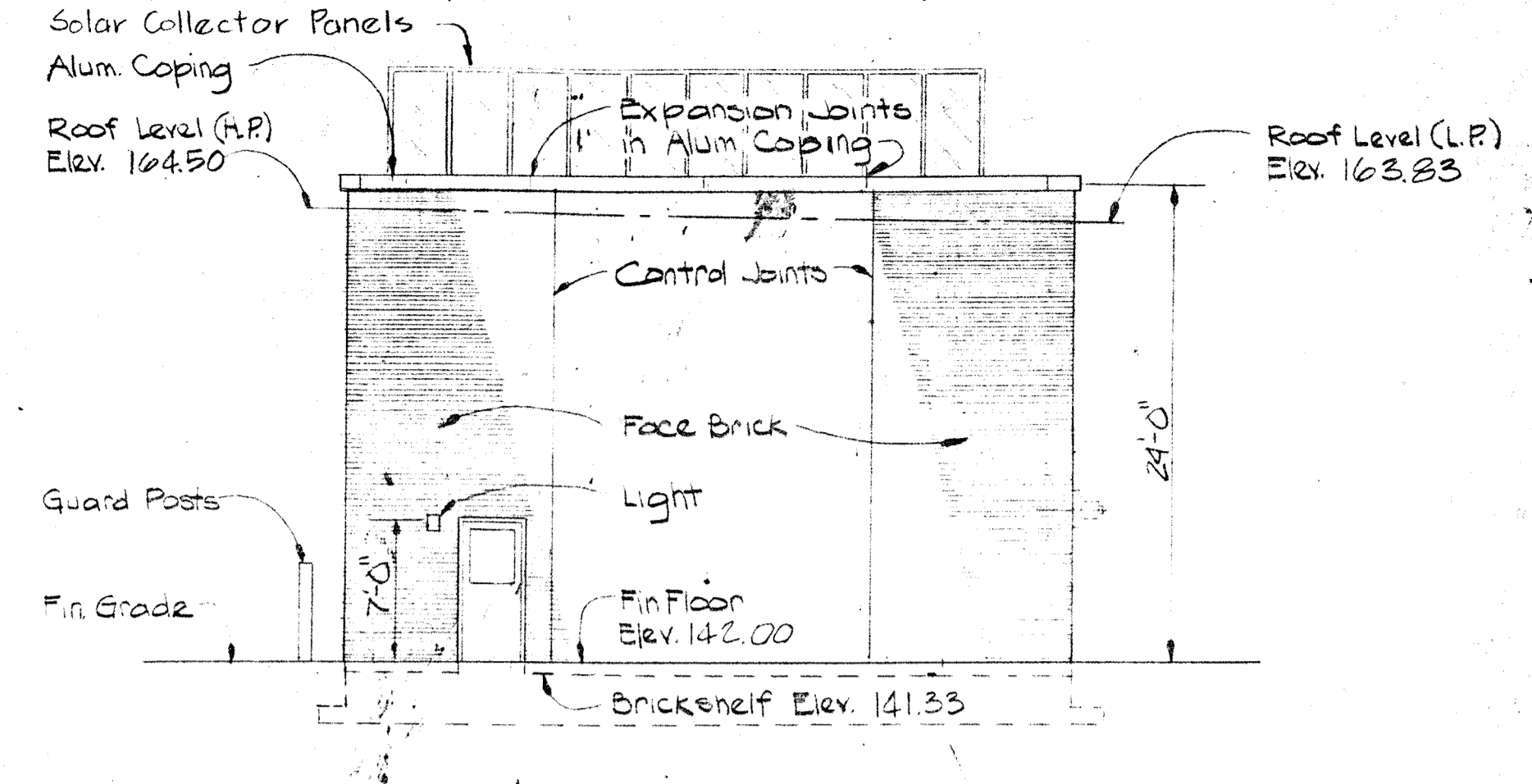


WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: _____ CHIEF BUREAU OF ENGINEERING	CONTRACT NO. 503-S	ARCHITECTURAL FURNITURE LAYOUT PLAN	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 24 OF 64 SCALE AS NOTED
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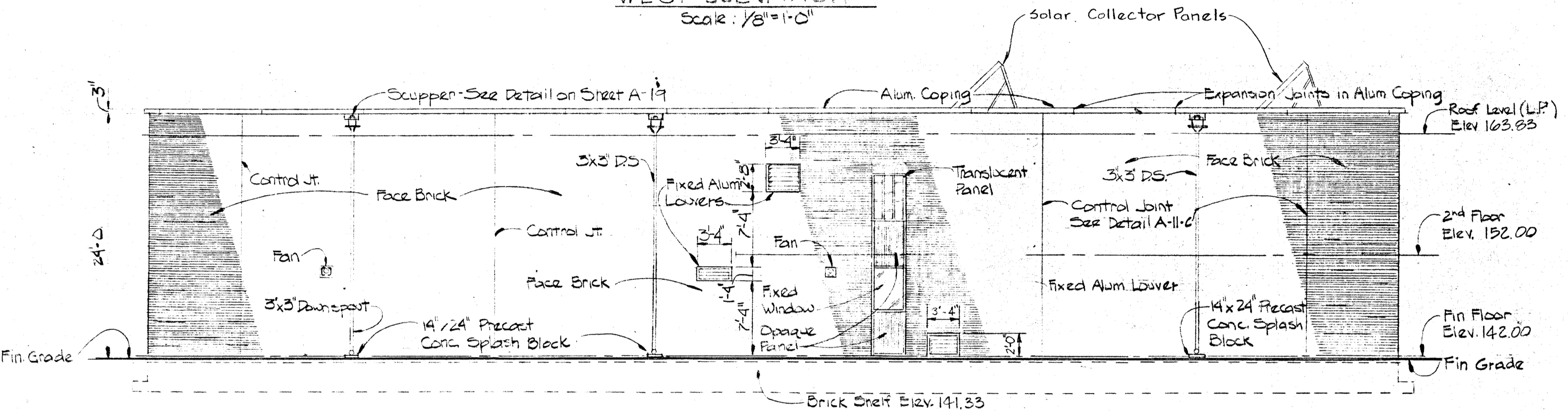
BRUNING 44510 18392



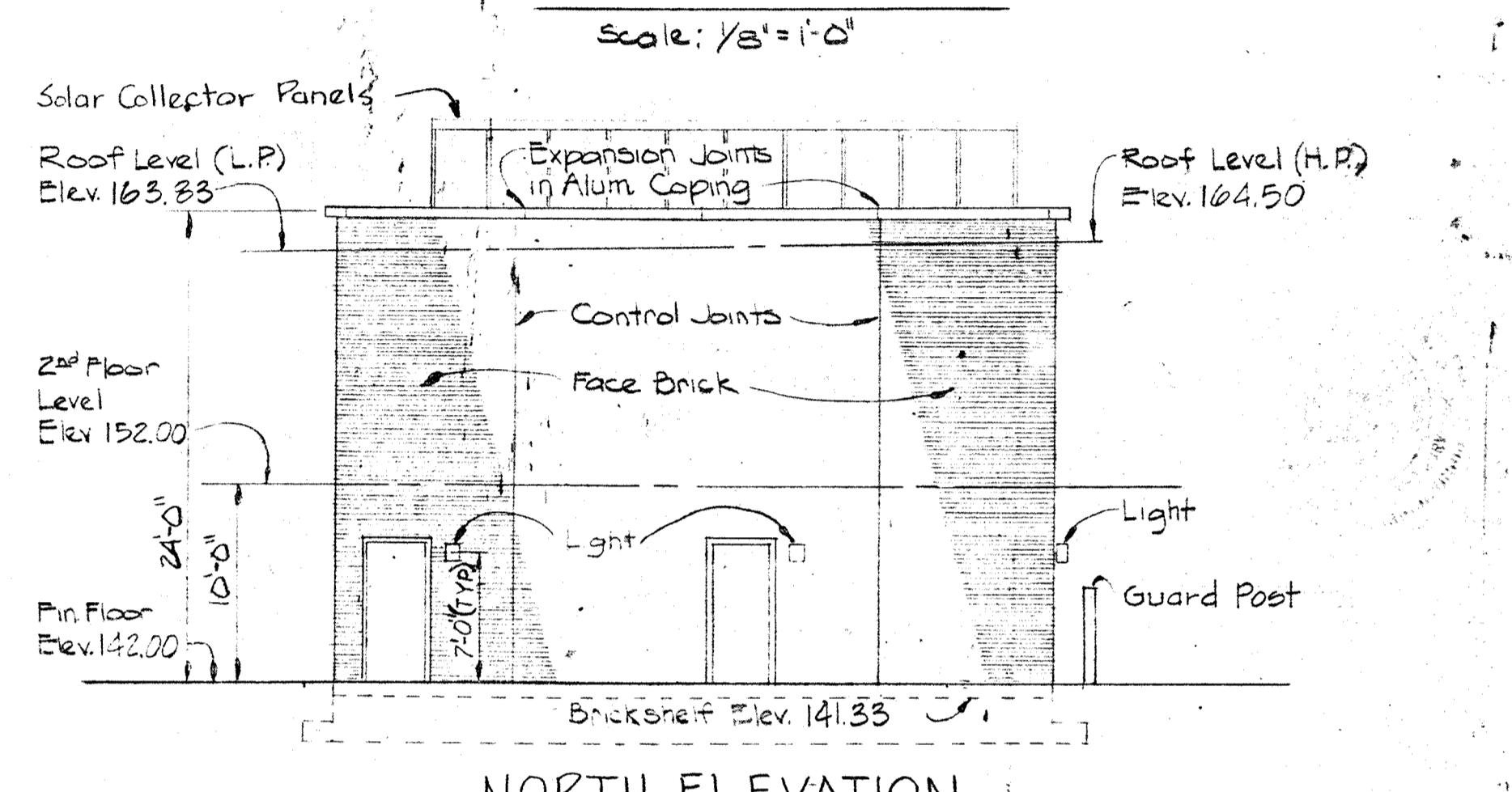
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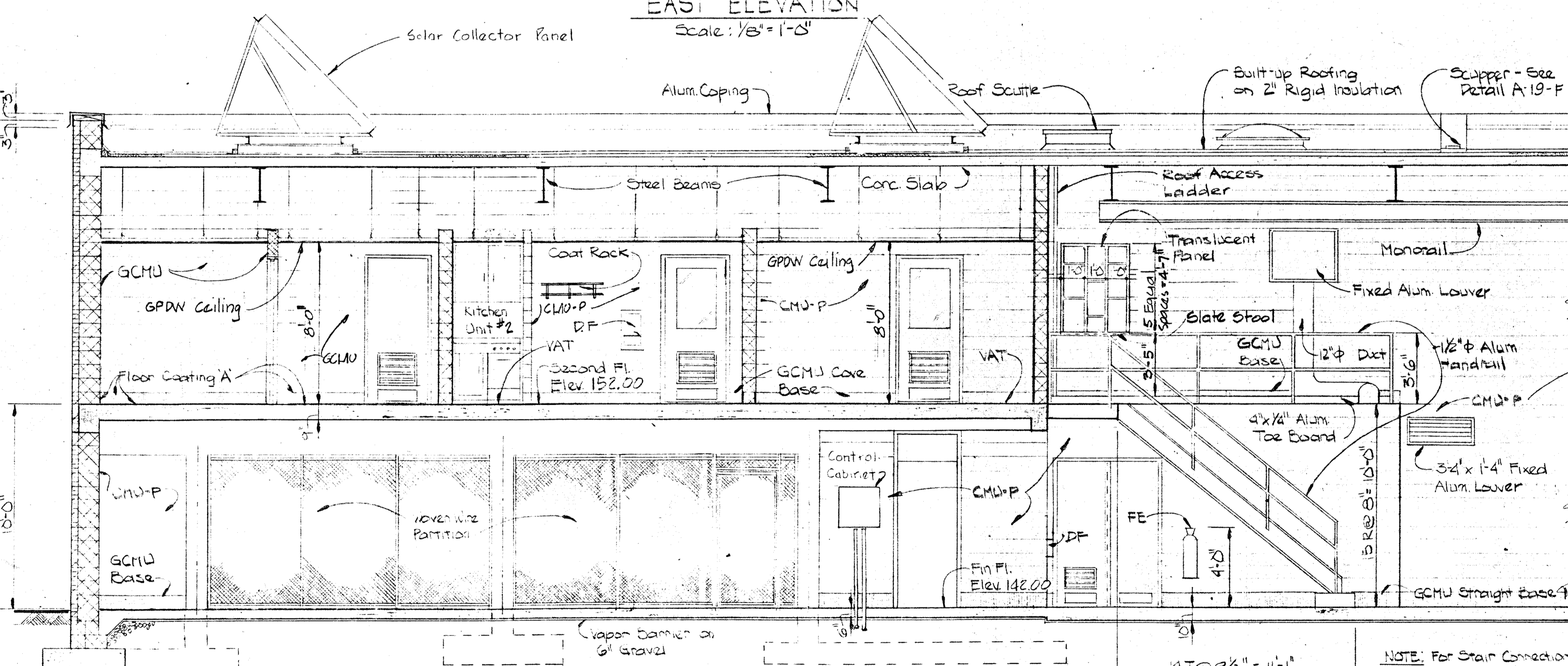
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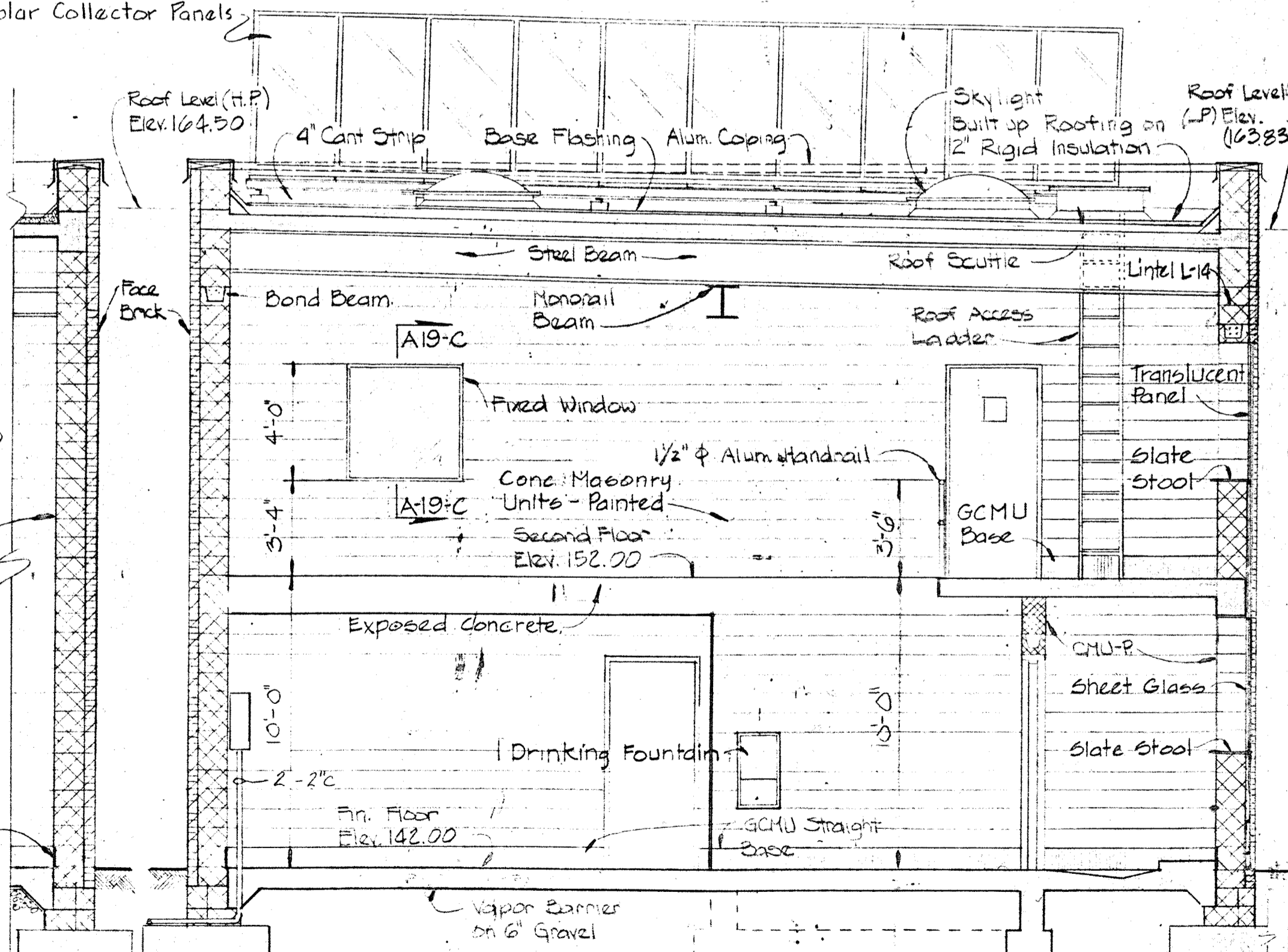
EAST ELEVATION
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NORTH ELEVATION
Scale: 1/8" = 1'-0"



SECTION A-17-A/A16
Scale: 1/4" = 1'-0"



SECTION A17-B/A16
Scale: 1/4" = 1'-0"

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ENGINEERS
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BALTIMORE, MARYLAND

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HOWARD COUNTY, MARYLAND
DATE: 11-7-77
CHIEF BUREAU OF ENVIRONMENTAL SERVICES

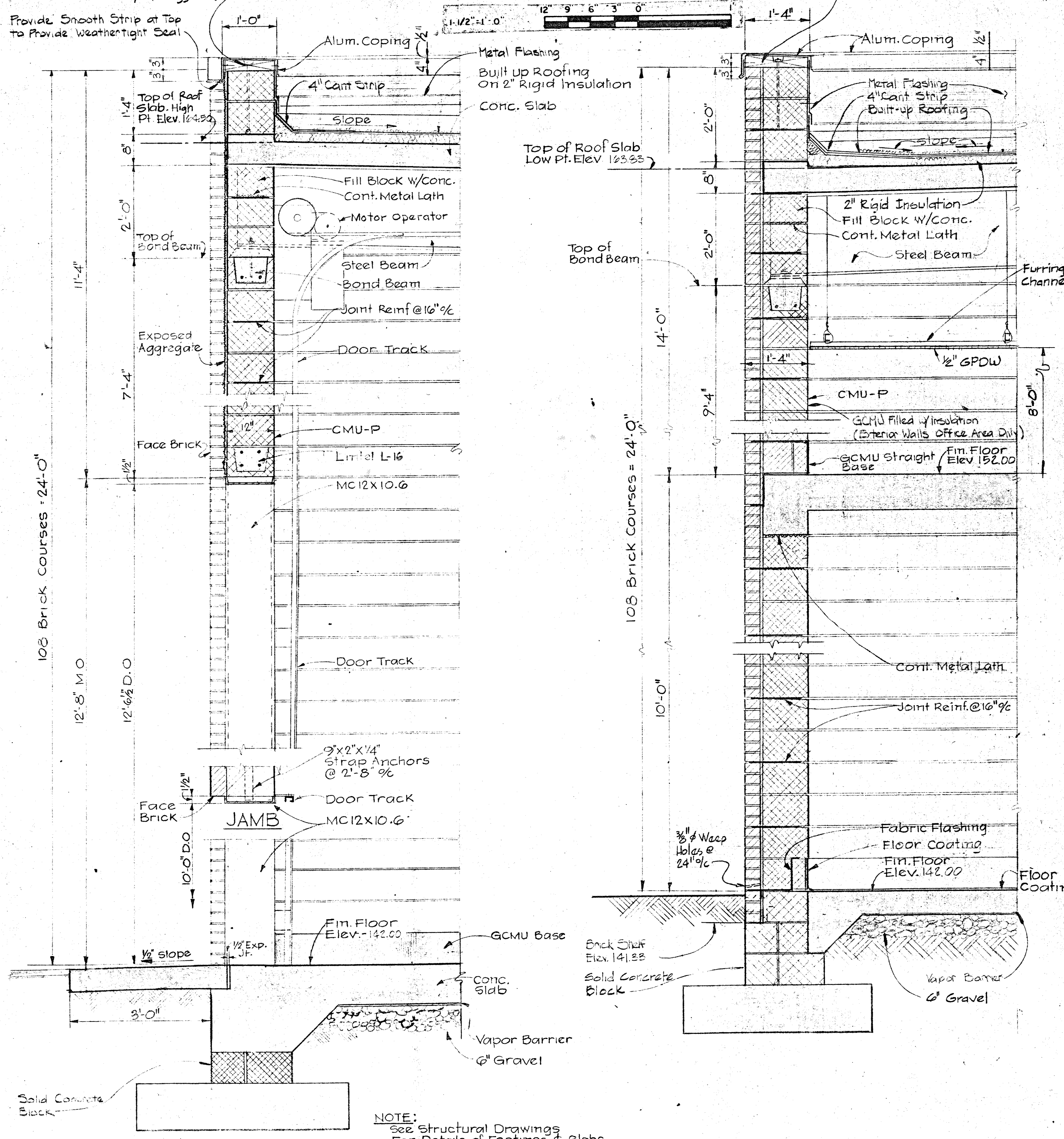
CONTRACT NO. 503-S

MAINTENANCE BUILDING
ELEVATIONS & CROSS SECTIONS

SAVAGE WASTEWATER
TREATMENT PLANT ADDITION NO. 4

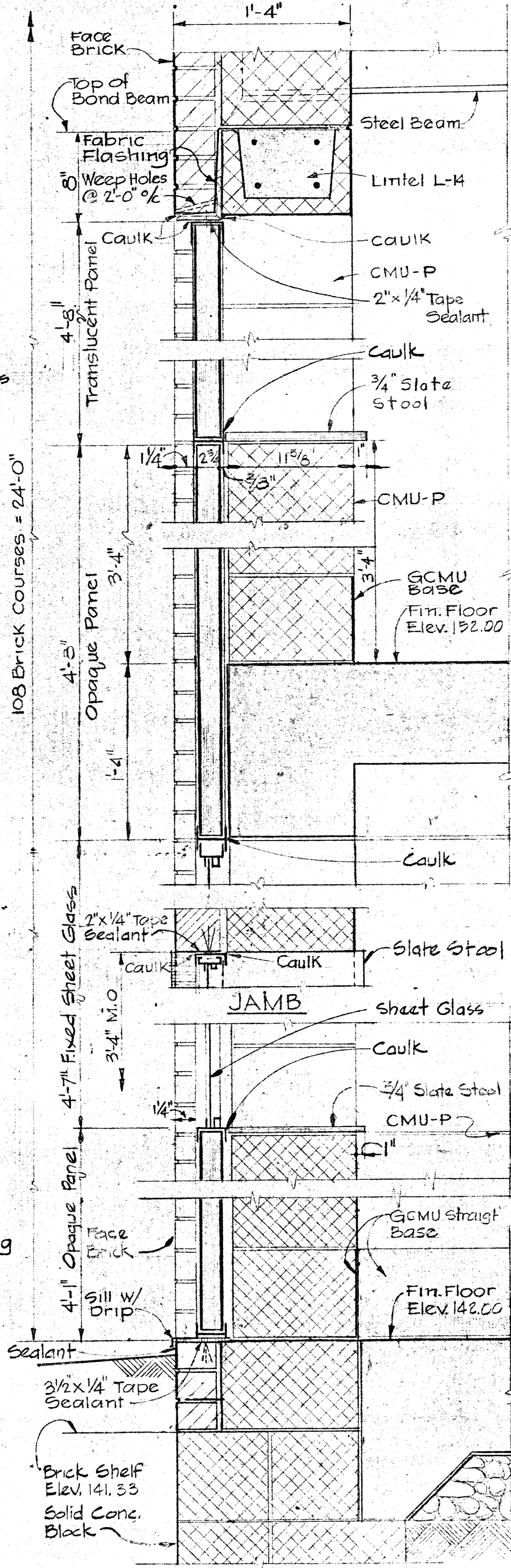
DRAWING NO. 26
OF 64
SCALE AS NOTED

Wood Blocking - Secure w/ 3/4" ϕ Anchor Bolts @ 2'-0" o/c (Staggered)
 Provide Smooth Strip at Top to Provide Weathertight Seal

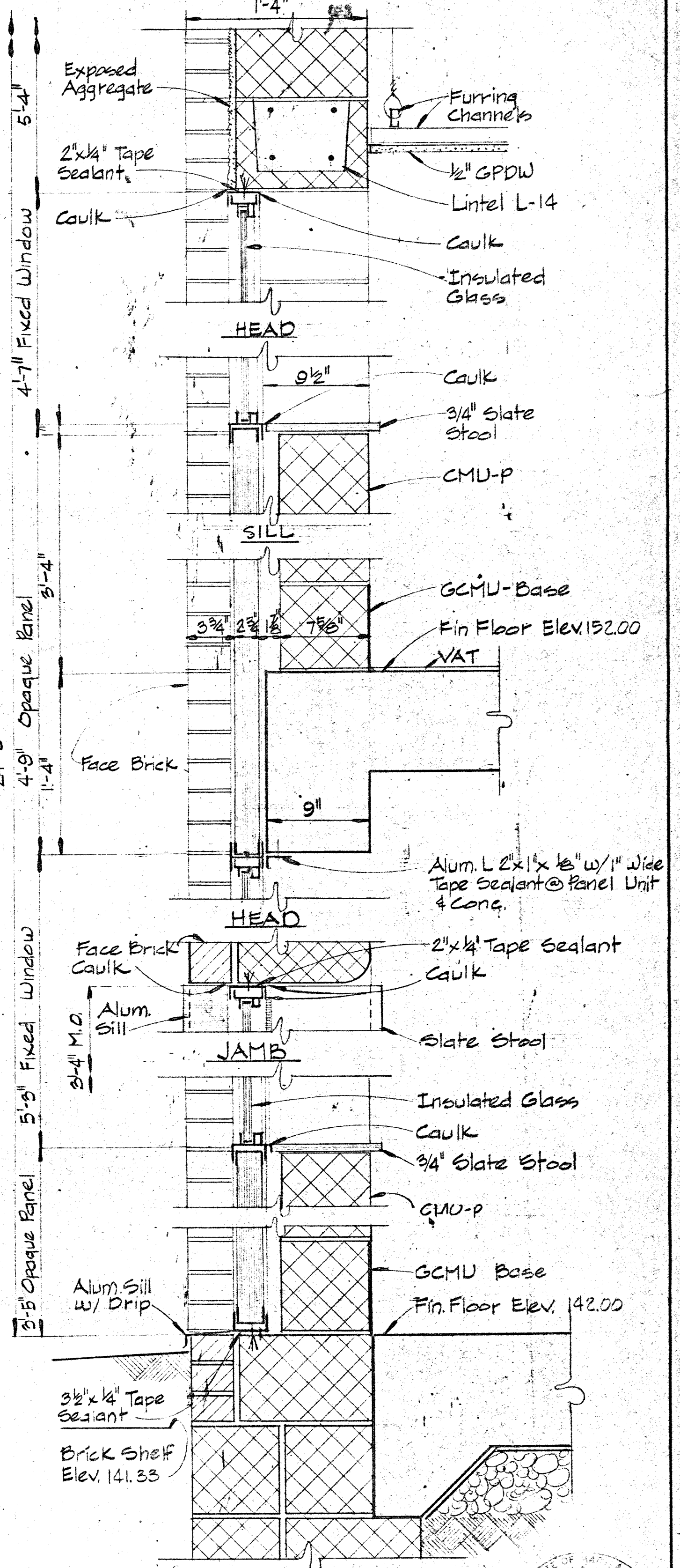


SECTION A-B-A/A-16
 Scale: 3/4" = 1'-0"

SECTION A-B-B/A-16
 Scale: 3/4" = 1'-0"

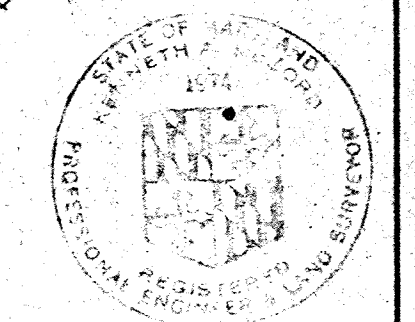


SECTION A-B-C/A-16
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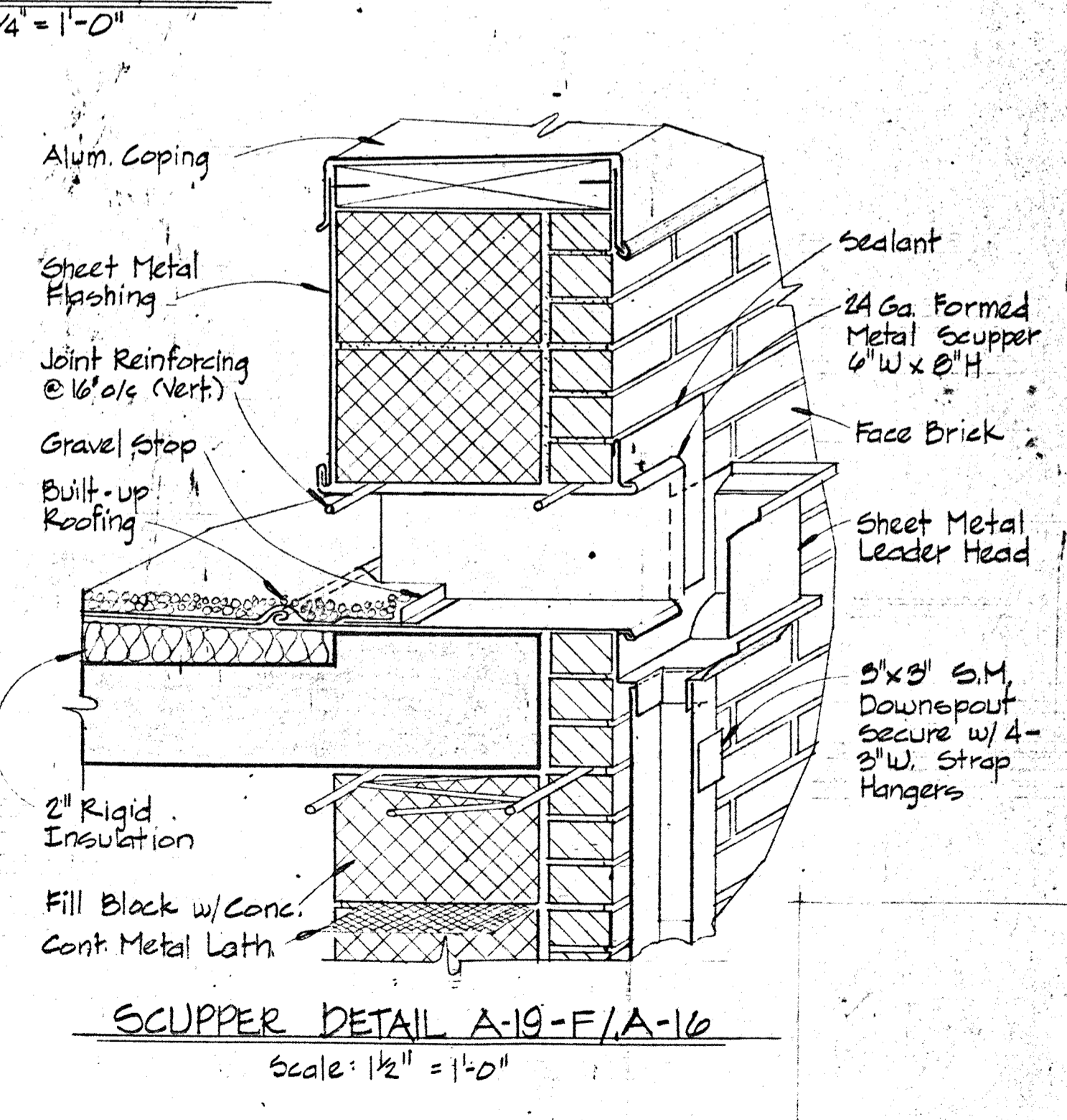
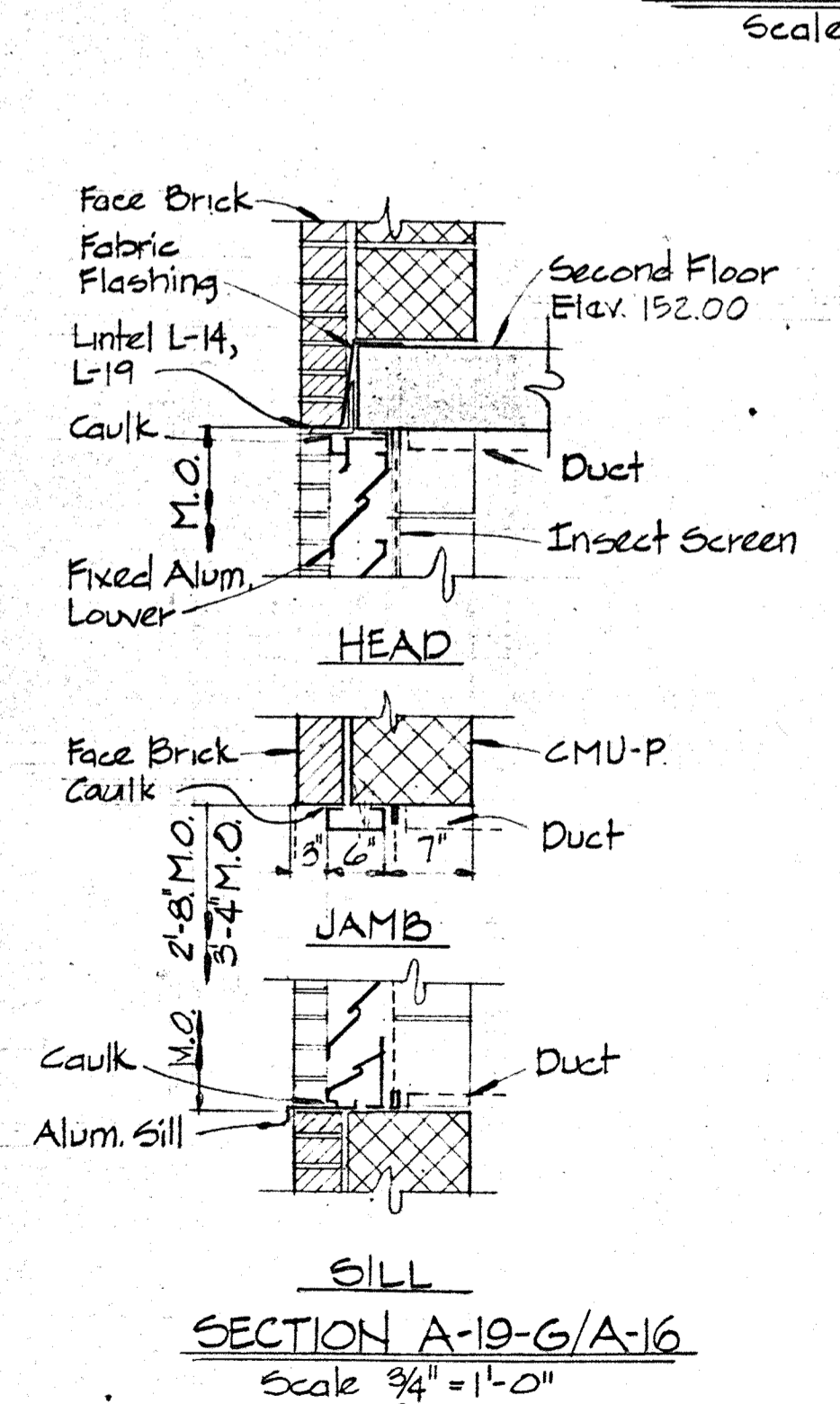
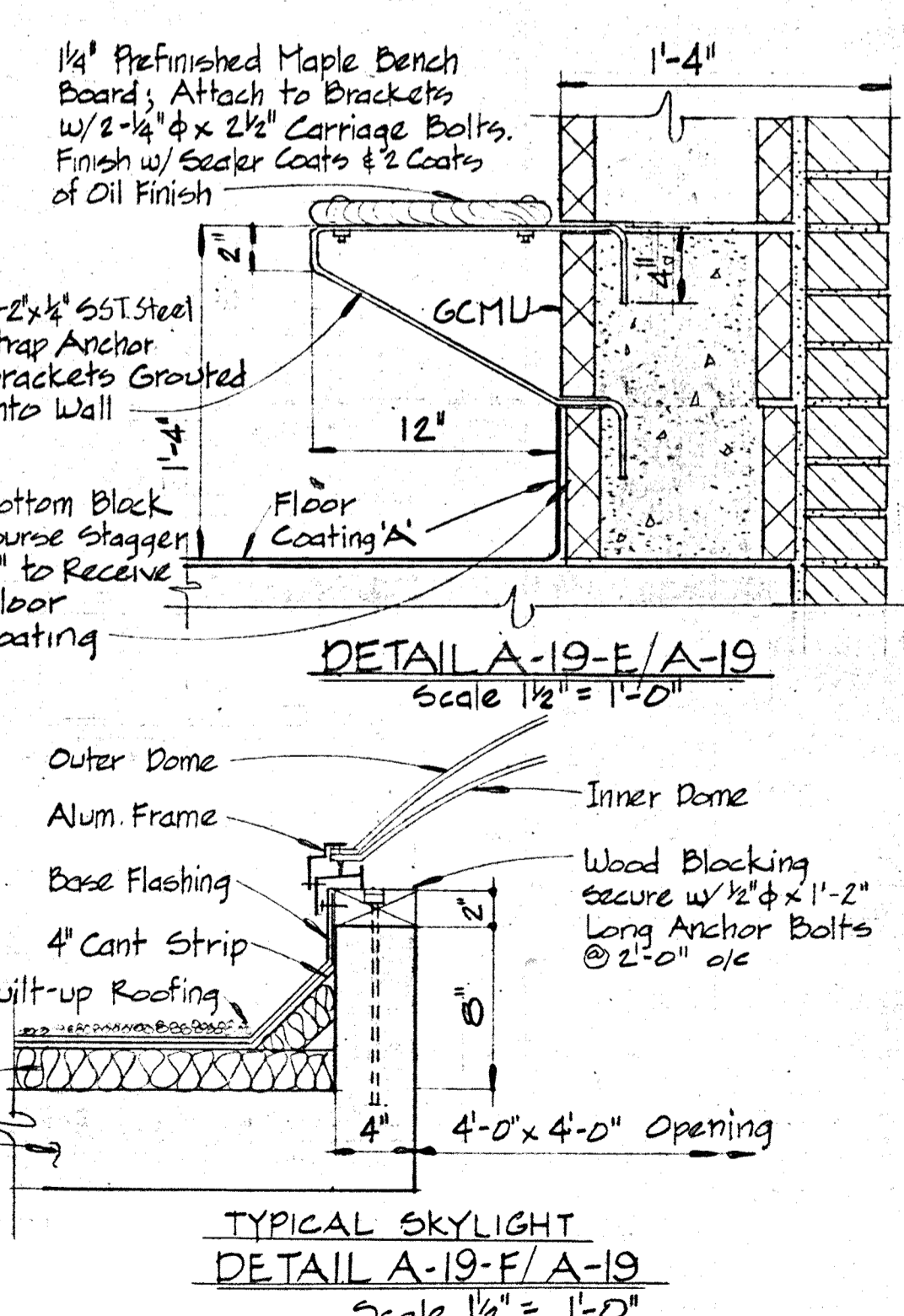
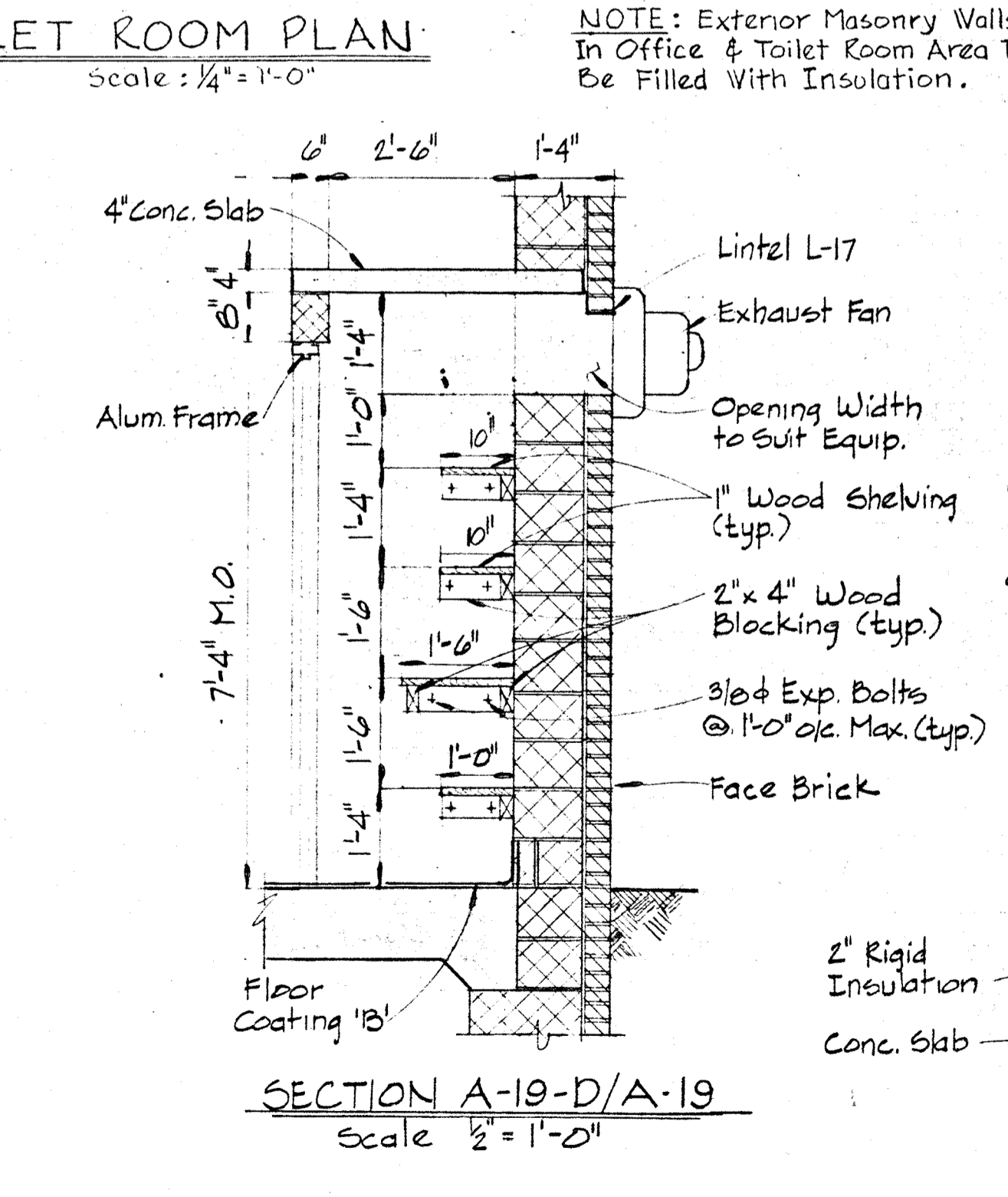
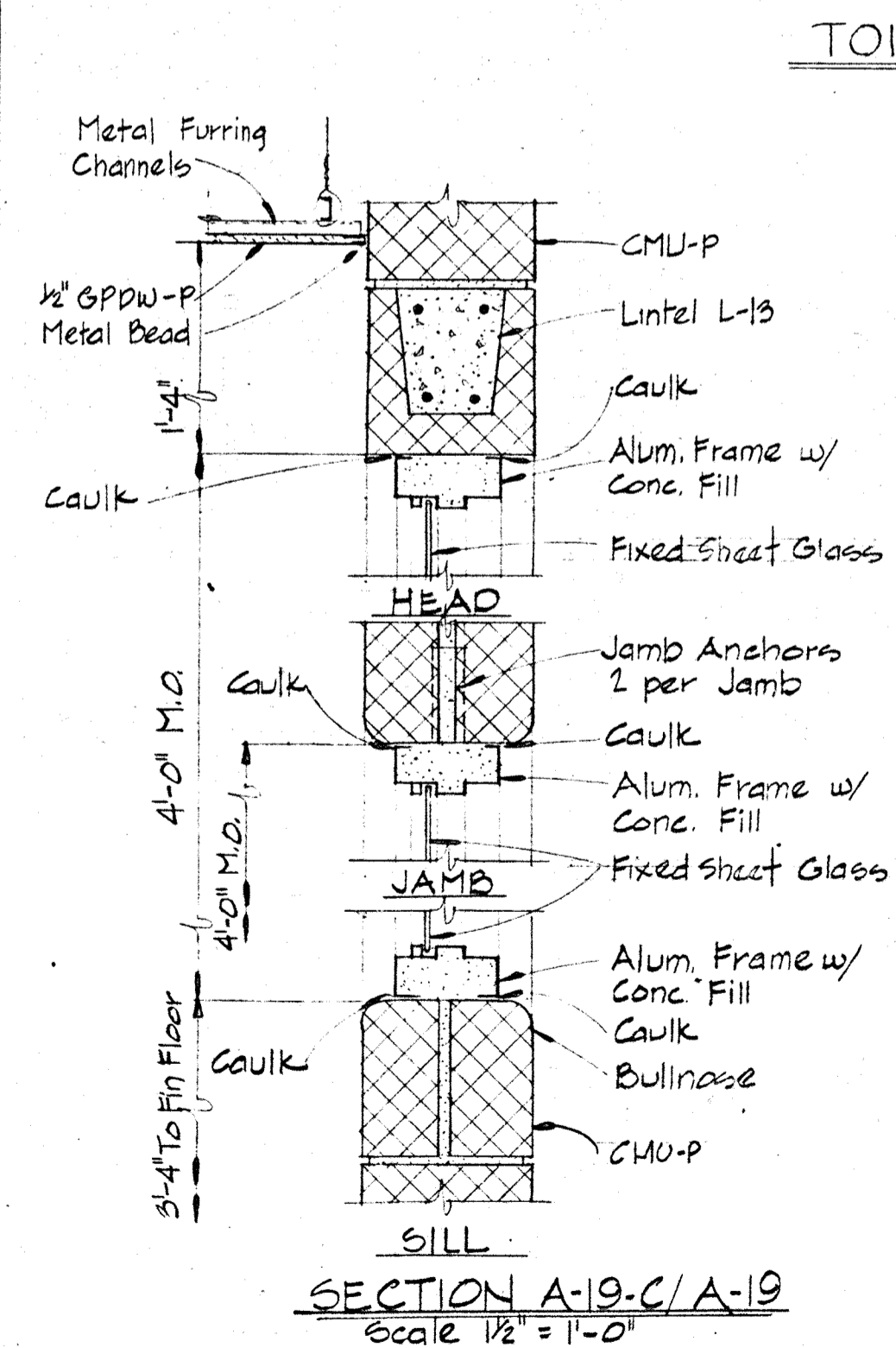
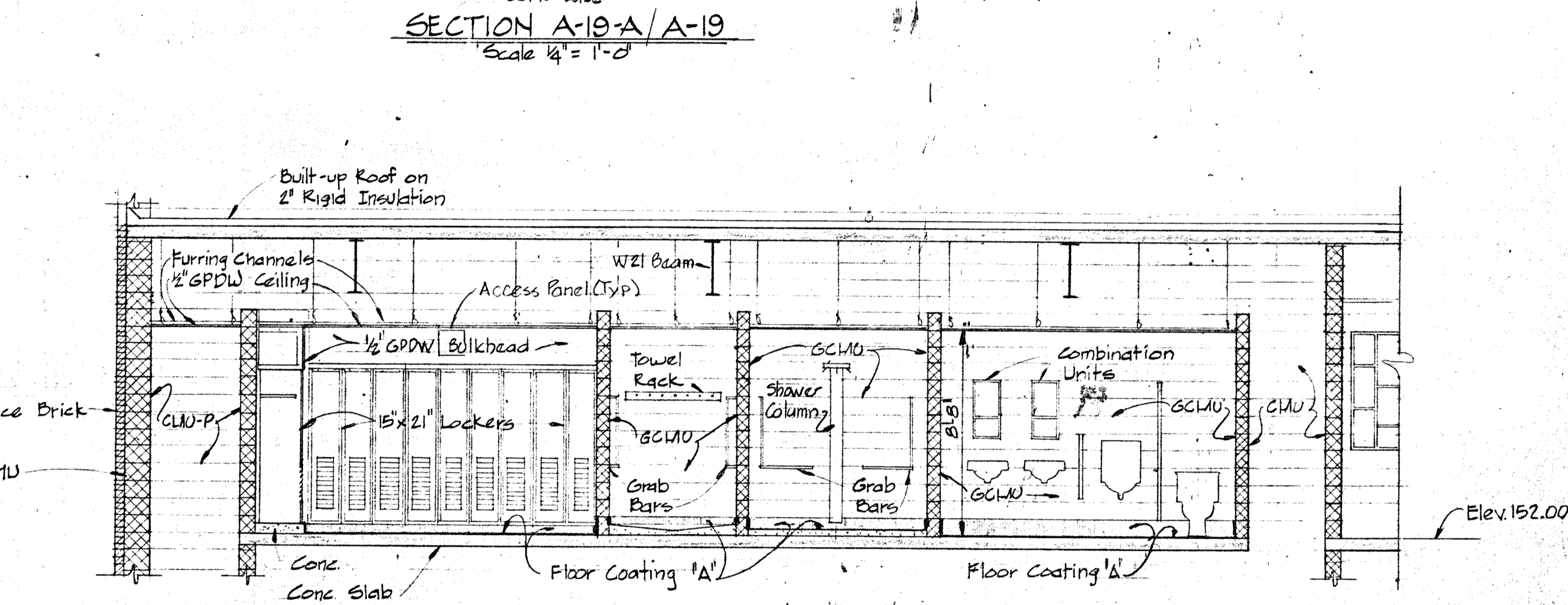
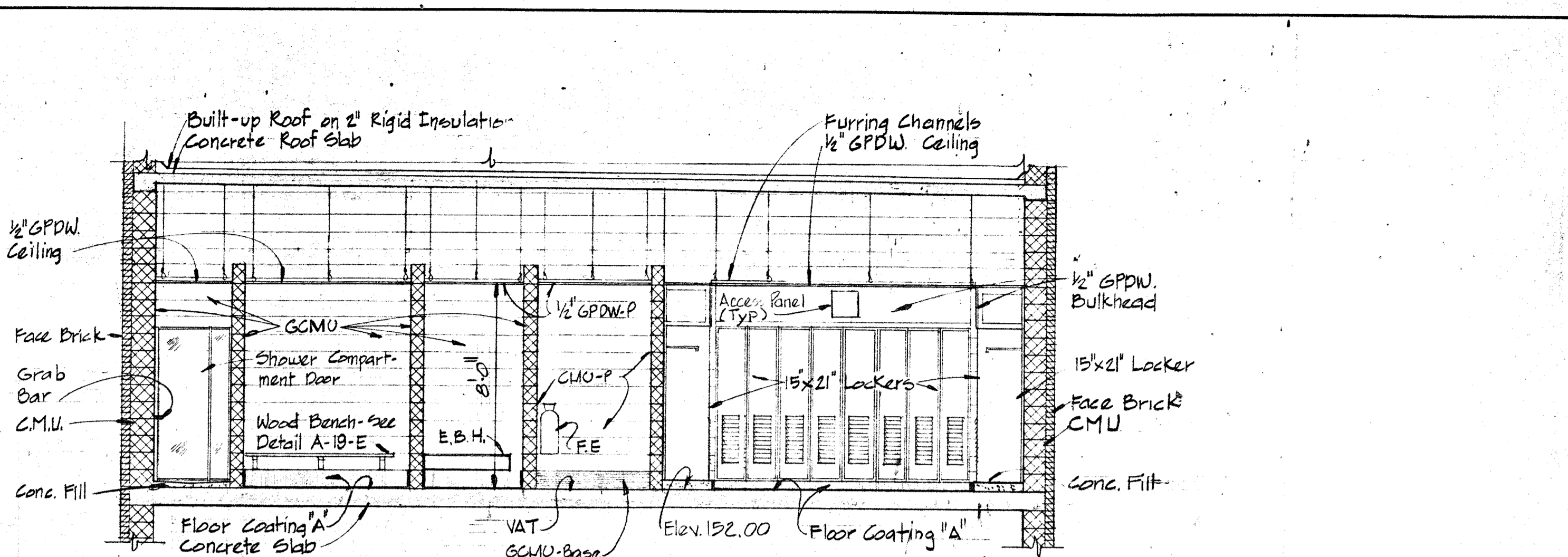
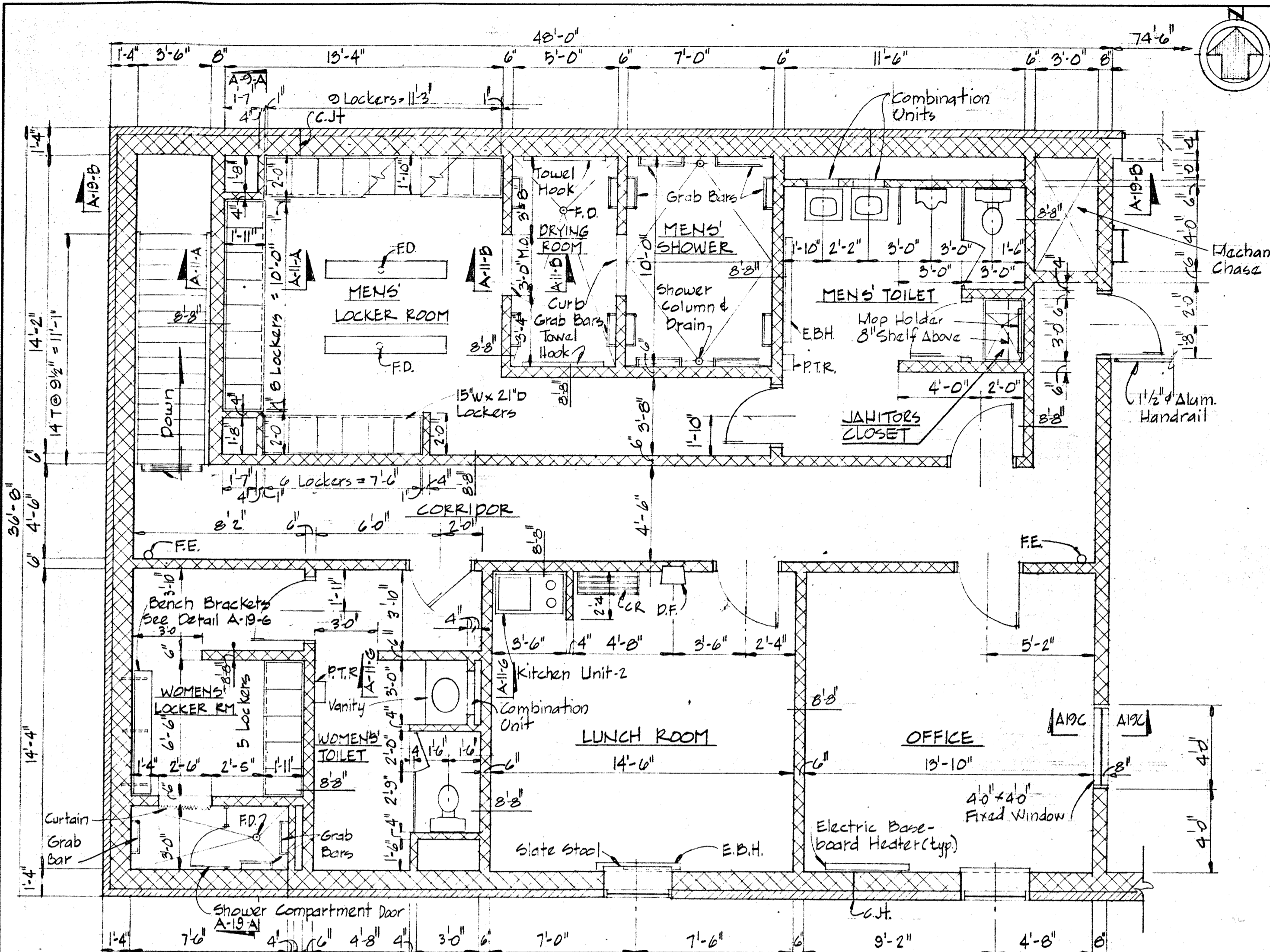


SECTION A-B-D/A-16
 Scale: 1/2" = 1'-0"

NOTE:
 See Structural Drawings
 For Details of Footings & Slabs



WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/20/15 DATE	CONTRACT NO. 503-S	MAINTENANCE BUILDING WALL SECTIONS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 27 OF 64	SCALE AS SHOWN
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WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: 11-77 CHIEF BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 503-S	MAINTENANCE BUILDING TOILET ROOM PLAN & DETAILS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 28 OF 64 SCALE AS SHOWN
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W. O. 6887-2

SHEET A-19

DOOR SCHEDULE

No.	SIZE	MAT'L	TYPE	HEAD	JAMB	LOWER	UNTEL	HDW.	KICK PL.
D-1	3'-0" x 7'-0" x 1 3/4"	Alum.	A	For Details See Sheet A-12	HW-1				
D-2	3'-0" x 7'-0" x 1 3/4"	Alum.	A	For Details See Sheet A-12	HW-2				
D-3	2'-2-10" x 7'-0" x 1 3/4"	Alum.	B	For Details See Sheet A-12	HW-3				
D-4	2'-2-10" x 7'-0" x 1 3/4"	Alum.	B	For Details See Sheet A-12	HW-4				
D-5	3'-0" x 7'-0" x 1 3/4"	Alum.	C	H-1	J-1		L-1	HW-5	8" x 30"
D-6	2'-3'-0" x 7'-0" x 1 3/4"	Alum.	D	H-1	J-1		L-2	HW-6	2'8" x 30"
D-7	3'-5" x 7'-2" x 1 3/4"	Alum.	E	For Details See Sheet A-12	HW-7				
D-8	3'-0" x 7'-2" x 1 3/4"	PL. LAM.	F	H-3	J-3			HW-8	
D-9	3'-0" x 7'-2" x 1 3/4"	PL. LAM.	F	H-3	J-3			HW-8	
D-10	3'-0" x 7'-2" x 1 3/4"	PL. LAM.	F	H-3	J-3			HW-8	
D-11	3'-0" x 7'-2" x 1 3/4"	PL. LAM.	F	H-3	J-3			HW-8	
D-12	3'-0" x 7'-2" x 1 3/4"	PL. LAM.	F	H-3	J-3			HW-8	8" x 30"
D-13	3'-0" x 7'-2" x 1 3/4"	PL. LAM.	F	H-3	J-3			HW-8	8" x 30"
D-14	3'-0" x 7'-2" x 1 3/4"	PL. LAM.	F-2	H-4	J-4		L-3	HW-10	8" x 30"
D-15	2'-8" x 7'-2" x 1 3/4"	PL. LAM.	F	H-5	J-5		L-4	HW-11	8" x 30"
D-16	2'-8" x 7'-2" x 1 3/4"	PL. LAM.	F	H-5	J-5		L-4	HW-11	8" x 30"
D-17	2'-2-6" x 7'-2" x 1 3/4"	PL. LAM.	G	H-5	J-5	J-6	L-10	HW-24	2'8" x 30"
D-18	3'-0" x 7'-2" x 1 3/4"	PL. LAM.	F	H-6	J-7		L-6	HW-13	8" x 30"
D-19	3'-0" x 7'-2" x 1 3/4"	PL. LAM.	E	H-6	J-7		L-6	HW-25	8" x 30"
D-20	3'-0" x 7'-2" x 1 3/4"	PL. LAM.	E	H-6	J-7		L-6	HW-25	8" x 30"
D-21	2'-2-6" x 7'-2" x 1 3/4"	PL. LAM.	G	H-5	J-5		L-10	HW-12	2'8" x 30"
D-22	2'-2-6" x 7'-2" x 1 3/4"	H.M.	G-2	H-4	J-5	J-7	L-5	HW-19	2'8" x 30"
D-23	3'-0" x 7'-2" x 1 3/4"	H.M.	E	H-5	J-4		L-11	HW-15	8" x 30"
D-24	2'-2-6" x 7'-2" x 1 3/4"	PL. LAM.	G	H-6	J-7		L-7	HW-12	2'8" x 30"
D-25	2'-3'-0" x 7'-2" x 1 3/4"	H.M.	G	H-4	J-4		L-8	HW-12	2'8" x 30"
D-26	NOT USED								
D-27	NOT USED								
D-28	2'-8" x 7'-2" x 1 3/4"	H.M.	F	H-5	J-6		L-4	HW-15	8" x 30"
D-29	2'-8" x 7'-2" x 1 3/4"	H.M.	F	H-5	J-6		L-4	HW-15	8" x 30"
D-30	2'-8" x 7'-2" x 1 3/4"	H.M.	F	H-5	J-6		L-4	HW-15	8" x 30"
D-31	2'-8" x 7'-2" x 1 3/4"	H.M.	F	H-5	J-6		L-4	HW-15	8" x 30"
D-32	2'-8" x 7'-2" x 1 3/4"	H.M.	F	H-5	J-6		L-4	HW-15	8" x 30"
D-33	2'-3'-0" x 7'-2" x 1 3/4"	H.M.	D	H-4	J-4		L-8	HW-17	8" x 30"
D-34	2'-3'-0" x 7'-2" x 1 3/4"	H.M.	G	H-6	J-7		L-9	HW-18	8" x 30"
D-35	3'-0" x 7'-2" x 1 3/4"	PL. LAM.	E	H-3	J-3			HW-26	8" x 30"
D-36	NOT USED								
D-37	NOT USED								
D-38	NOT USED								
D-39	NOT USED								
D-40	3'-0" x 7'-2" x 1 3/4"	Alum.	F	H-2	J-2		L-14	HW-7	12" x 30"
D-41	3'-0" x 7'-2" x 1 3/4"	Alum.	F	H-2	J-2		L-14	HW-7	8" x 30"
D-42	3'-0" x 7'-2" x 1 3/4"	Alum.	F	H-9	J-8		L-3	HW-20	8" x 30"
D-43	2'-2-6" x 7'-2" x 1 3/4"	H.M.	D	H-3	J-3	1-12 x 18"	L-15	HW-19	4-12 x 30"
D-44	3'-0" x 7'-2" x 1 3/4"	Alum.	E	H-2	J-2		L-14	HW-5	12" x 30"
D-45	3'-0" x 7'-2" x 1 3/4"	Alum.	F	H-8	J-9	12H x 24W	L-4	HW-21	
D-46	3'-0" x 7'-2" x 1 3/4"	Alum.	E	H-2	J-2		L-14	HW-5	12" x 30"
D-47	2'-8" x 7'-2" x 1 3/4"	Alum.	F	H-8	J-9	30W x 24H	L-4	HW-22	8" x 30"
D-48	2'-8" x 7'-2" x 1 3/4"	Alum.	F	H-8	J-9		L-4	HW-22	8" x 30"
D-49	3'-0" x 7'-2" x 1 3/4"	Alum.	E	H-8	J-9	24W x 18H	L-11	HW-22	8" x 30"
D-50	3'-0" x 7'-2" x 1 3/4"	Alum.	E	H-8	J-9	24W x 18H	L-4	HW-9	8" x 30"
D-51	2'-8" x 7'-2" x 1 3/4"	Alum.	F	H-8	J-9	24W x 24H	L-4	HW-22	8" x 30"
D-52	2'-8" x 7'-2" x 1 3/4"	Alum.	F	H-8	J-9		L-4	HW-22	8" x 30"
D-53	3'-0" x 7'-2" x 1 3/4"	Alum.	C-2	H-7	J-8		L-3	HW-23	8" x 30"
D-54	2'-8" x 7'-2" x 1 3/4"	Alum.	F	H-8	J-9	24W x 24H	L-4	HW-21	
OH-1	10'-0" x 12'-6 1/2"	WOOD	H			Note (4)		L-16	
OH-2	10'-0" x 12'-6 1/2"	WOOD	H			Note (4)		L-16	
OH-3	10'-0" x 12'-6 1/2"	WOOD	H			Note (4)		L-16	
OH-4	10'-0" x 12'-6 1/2"	WOOD	H			Note (4)		L-16	
OH-5	10'-0" x 12'-6 1/2"	WOOD	H			Note (4)		L-16	
R-1	10'-0" W x 9'-9" H					See Section A9D			
R-2	10'-0" W x 9'-9" H					See Section A9D			

NOTES:

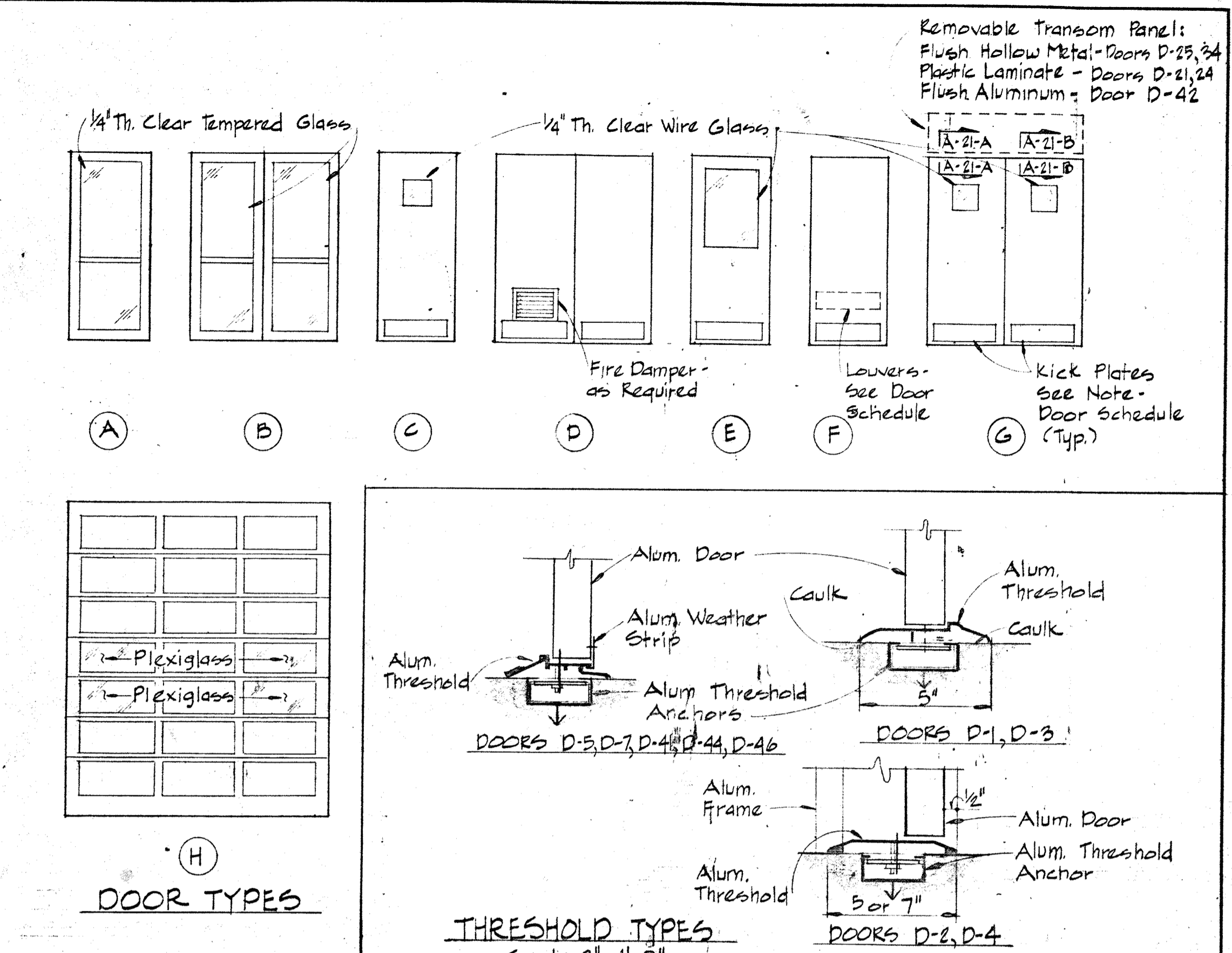
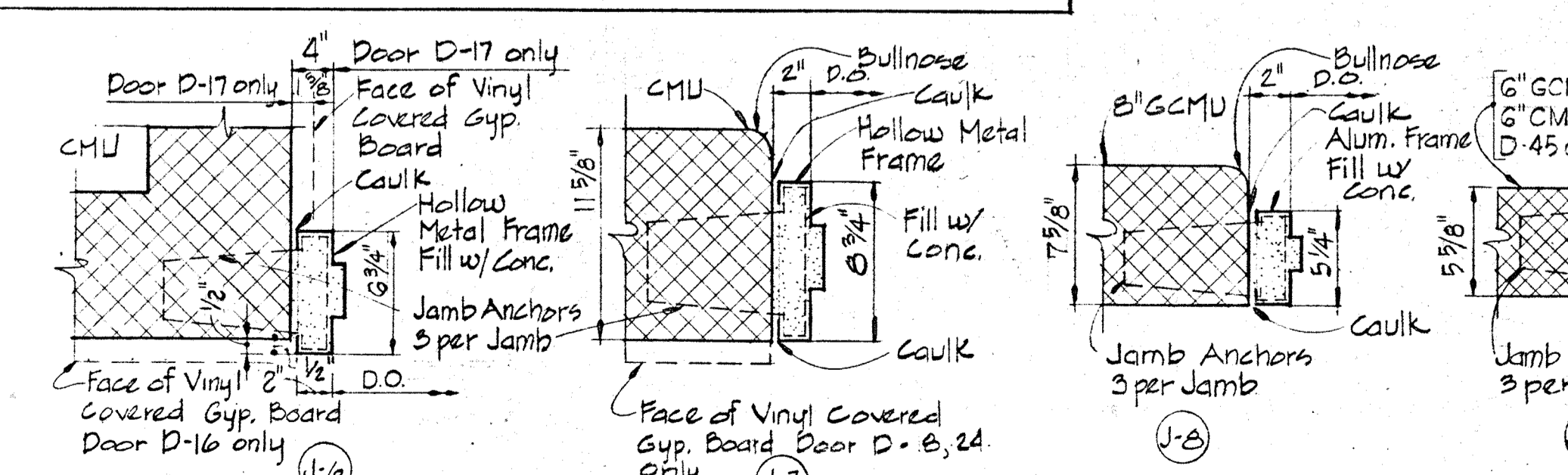
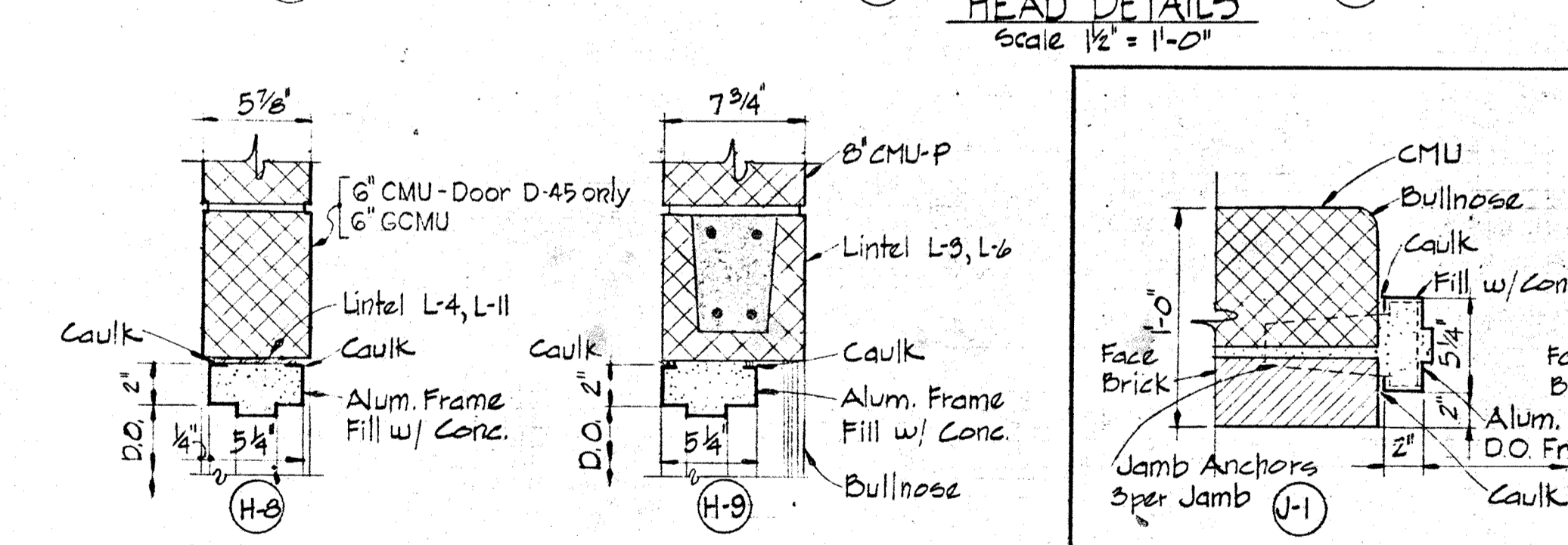
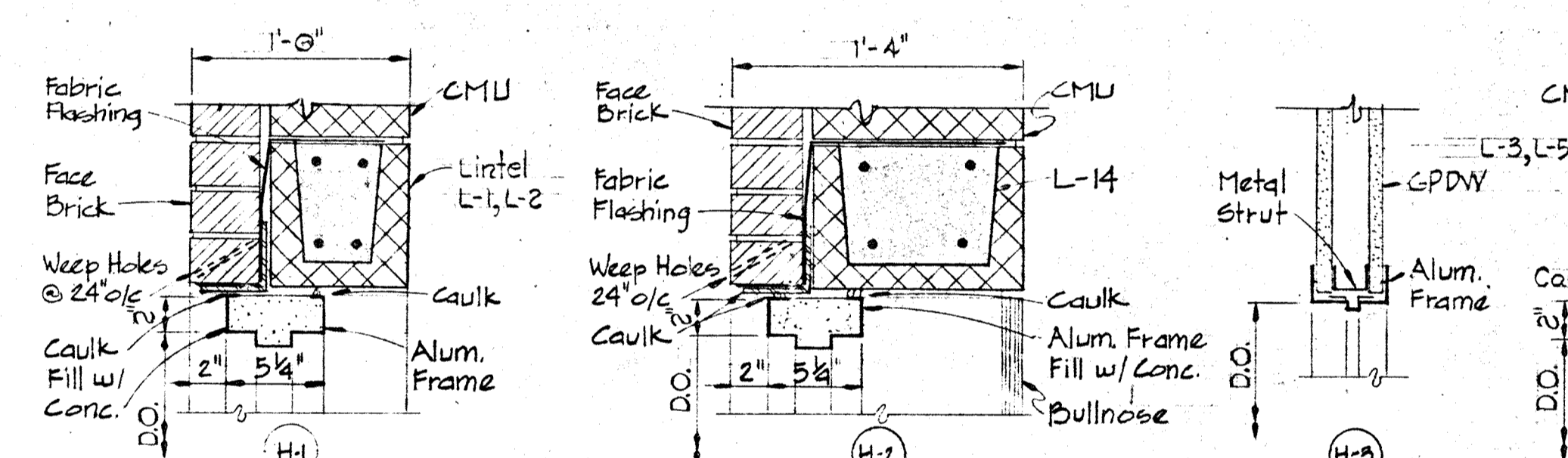
- Kick plates (Min. 8" high) to be installed on inside face of exterior doors and outside of doors swinging into rooms or corridors.
- All aluminum hardware on aluminum doors except thresholds and threshold anchors shall be Duranodic-Dark Bronze 313.
- Doors D-14, 22, and 53 to be '3' Label.
- See Section A-18-A for details.

LINTEL SCHEDULE

No.	TYPE	M.O.	REINFORCING	STEEL ANGLES	REMARKS
L-1	A	3'-4"	2 # 5 (T & B)	L-4' x 3 1/2" x 5/16"	D-5
L-2	A	6'-4"	2 # 5 (T & B)	L-4' x 3 1/2" x 5/16"	D-6
L-3	A	3'-0"	2 # 5 (T & B)		D-14 & 42, A-10-A, E, D-16, 28, 29, 30, 31, 32, 45, 47, 48, 50, 51, 52, 54
L-4	C	3'-0"	2 # 5 (T & B)	ST. PL. 5" x 3/8"	D-22
L-5	A	5'-8"	2 # 5 (T & B)		D-18, 19
L-6	B	3'-4"	2 # 5 (T & B)		D-24
L-7	B	5'-4"	2 # 5 (T & B)		D-25, 33
L-8	A	6'-4"	2 # 5 (T & B)		D-34
L-9	B	6'-4"	2 # 5 (T & B)		D-17, 21
L-10	C	5'-8"		ST. PL. 5" x 3/8"	D-13, 15, 23, 49
L-11	C	3'-4"		ST. PL. 5" x 3/8"	
L-12	D	9'-7"	2 # 5 (T & B) #4 @ 16"	L-4' x 3 1/2" x 5/16" Bolt to Beam	Lower-Mech Room
L-13	A	4'-0"	2 # 5 (T & B)		A-19-C Fixed Window
L-14	B	5'-4"	2 # 5 (T & B)	L-4' x 3 1/2" x 5/16"	D-40, 41, 44, A-19-C
L-15	A	5'-4"	2 # 5 (T & B)		D-43 A-18-C & D
L-16	E	10'-3"	2 # 5 (T & B)	M.C. 10" x 10.6	OH Doors - CMU's Contin.
L-17	F	1'-0"		L-4' x 3 1/2" x 5/16"	See Section A-19-D Fan
L-18	F	3'-4"		L-4' x 3 1/2" x 5/16"	See Det. A-16-A, LV-2
L-19	F	2'-8"		L-4' x 3 1/2" x 5/16"	See Det. A-19-G, LV-3

NOTES:

- All lintels to have 8" min. bearing on each end.
- Additional masonry lintels as required for mechanical and electrical services shall match reinforcing and bearing requirements indicated on lintel schedule.



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Richard E. Green
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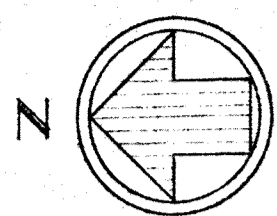
CONTRACT NO. 503-S

MAINTENANCE BUILDING
DOOR SCHEDULE & DETAILS

SAVAGE WASTEWATER
TREATMENT PLANT ADDITION NO. 4

DRAWING
NO. 30
OF 64

SCALE
AS
SHOWN



FOUNDATION NOTES

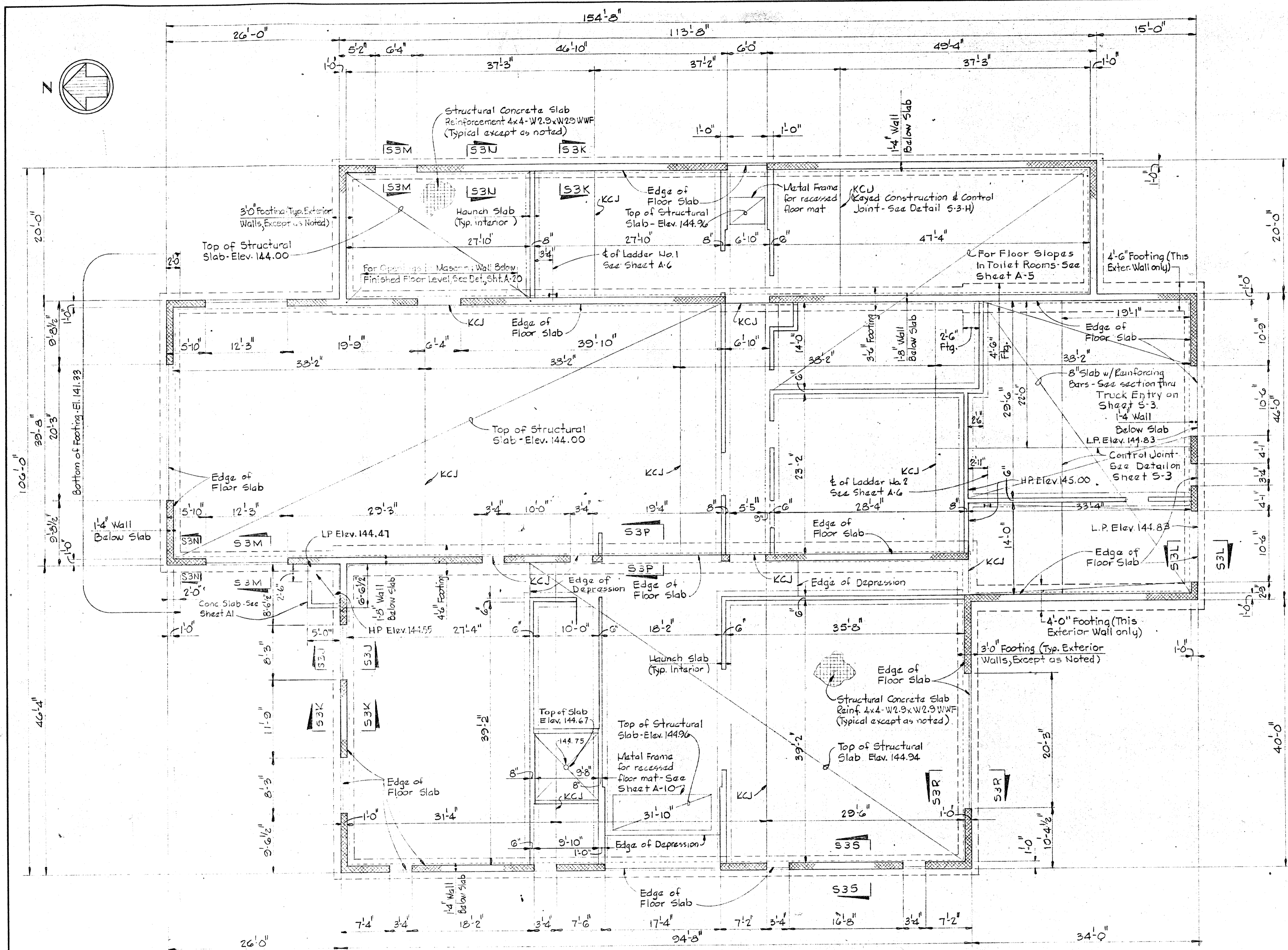
- All backfill shall be compacted to 90% of maximum density in maximum increments of 6", except top 12" shall be compacted to 95% of maximum density.
- Maximum density and optimum moisture shall be in accordance with AASHTO test designation T180-74 method D.
- All foundations have been designed for a maximum allowable soil bearing pressure of 1200 psf.

CONCRETE NOTES

- All concrete shall have a minimum compressive strength of 3500 psi at 28 days.
- Reinforced concrete shall be detailed and constructed in accordance with current A.C.I. specification 318-71. Concrete has been designed by the alternate design method.
- All reinforcing steel shall conform to ASTM A615-70a Grade 40.
- Concrete cover for reinforcing shall be as follows, unless otherwise noted on drawings:
 - Unformed concrete, bottom bars in footings and slabs on earth, rock, gravel or crushed stone - 5".
- Exposed concrete edges shall be chamfered 3/4" unless otherwise noted.
- Slabs shall be poured between indicated joints allowing a minimum period of 3 days to elapse between adjacent pours.
- Construction, expansion and contraction joints shall be as shown on the drawings and no additional joints will be used, nor any omitted except by written authorization of the engineer.
- Reinforcing bar laps shall be as follows, unless shown otherwise on the drawings:
 - Sizes #3 to #5 - 24 bar diameters.
 - Sizes #6 to #8 - 32 bar diameters.
 - Welded Wire Fabric on outermost cross wires to lap 2"
- See Civil, Architectural, Mechanical, Electrical drawings for all embedded items, such as pipe sleeves, anchors, electrical conduit openings, chases, etc. which interfere with concrete construction.

STRUCTURAL STEEL NOTES

- All structural steel shall conform to ASTM A36-75.
- All shop connections shall be welded with AWS A5.5 Class E series electrodes.
- All field connections shall be high strength bolted using ASTM-A325 bolts except where otherwise shown or noted on drawings.
- All structural steel is designed by elastic analysis and shall be fabricated in accordance with current AISC specifications for buildings.
- All structural steel shall be given one shop coat of primer except for those items noted on the drawings to be galvanized.
- Anchor bolts to be hot dipped galvanized steel unless otherwise noted on the drawings.

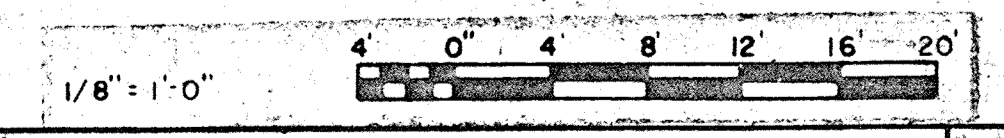


- NOTES:**
- Finish floor elevation 145.00
 - Top of structural floor slabs elevation 145.00 except where otherwise noted. All slabs are 4" thick except where otherwise noted. See Notes 4.
 - Bottom of footings elevation 141.00 except where otherwise noted.

- NOTES (continued):**
- At all floor drains deepen structural slab to 8" for a 2'-0" square area around $\frac{1}{2}$ of drains. See Sheet S-2.

FOUNDATION AND FLOOR SLAB PLAN

Scale 1/8" = 1'-0"



WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DATE: 3/15/82
CHIEF-BUREAU OF ENGINEERING

CONTRACT NO. 503-S

STRUCTURAL
ADMINISTRATION BUILDING
FOUNDATION AND FLOOR
SLAB PLAN

SAVAGE WASTEWATER
TREATMENT PLANT ADDITION NO. 4

DRAWING NO. 31 OF 64

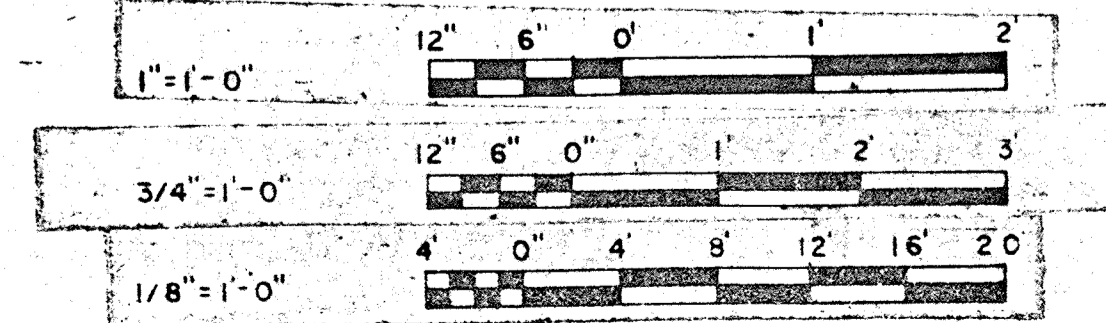
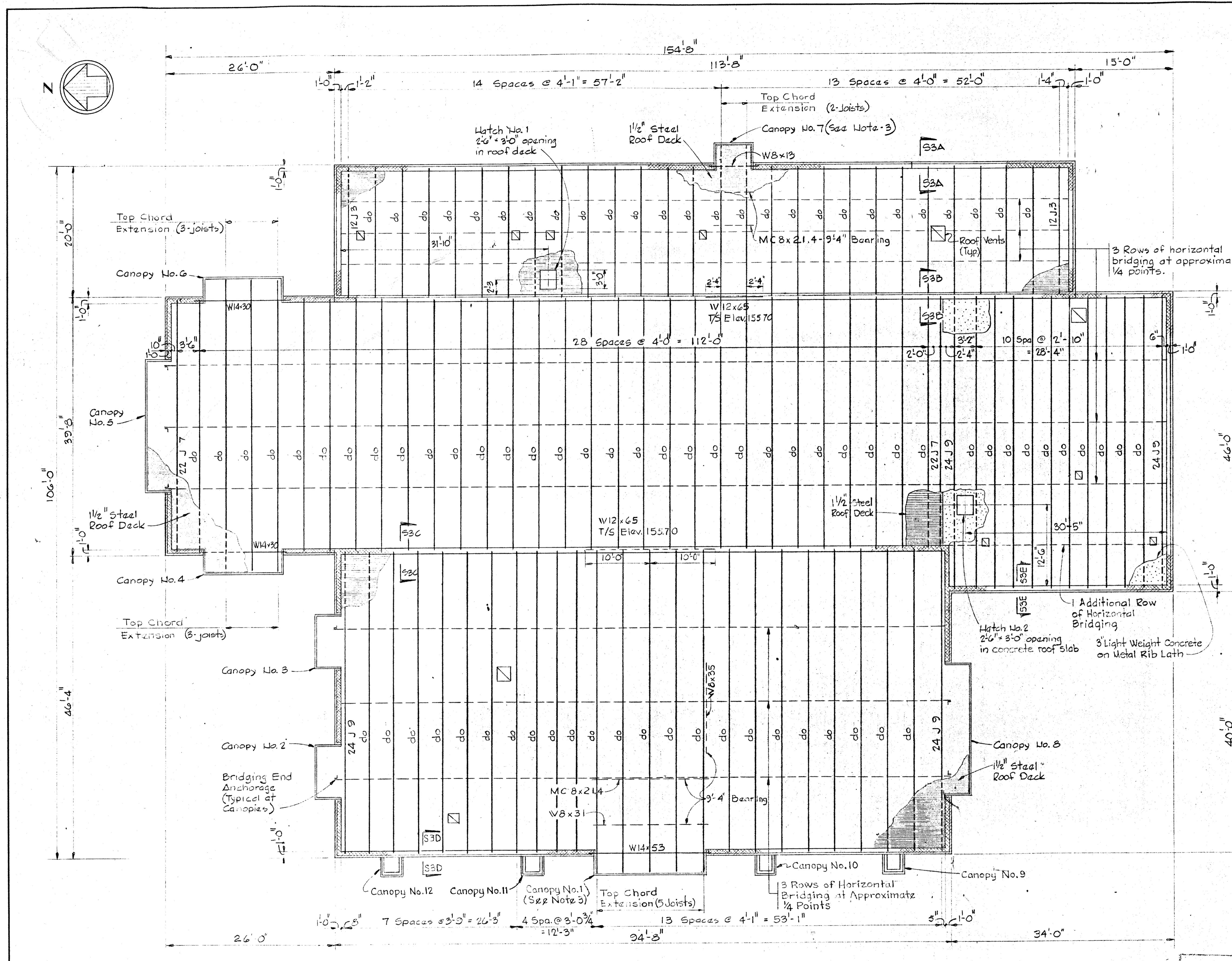
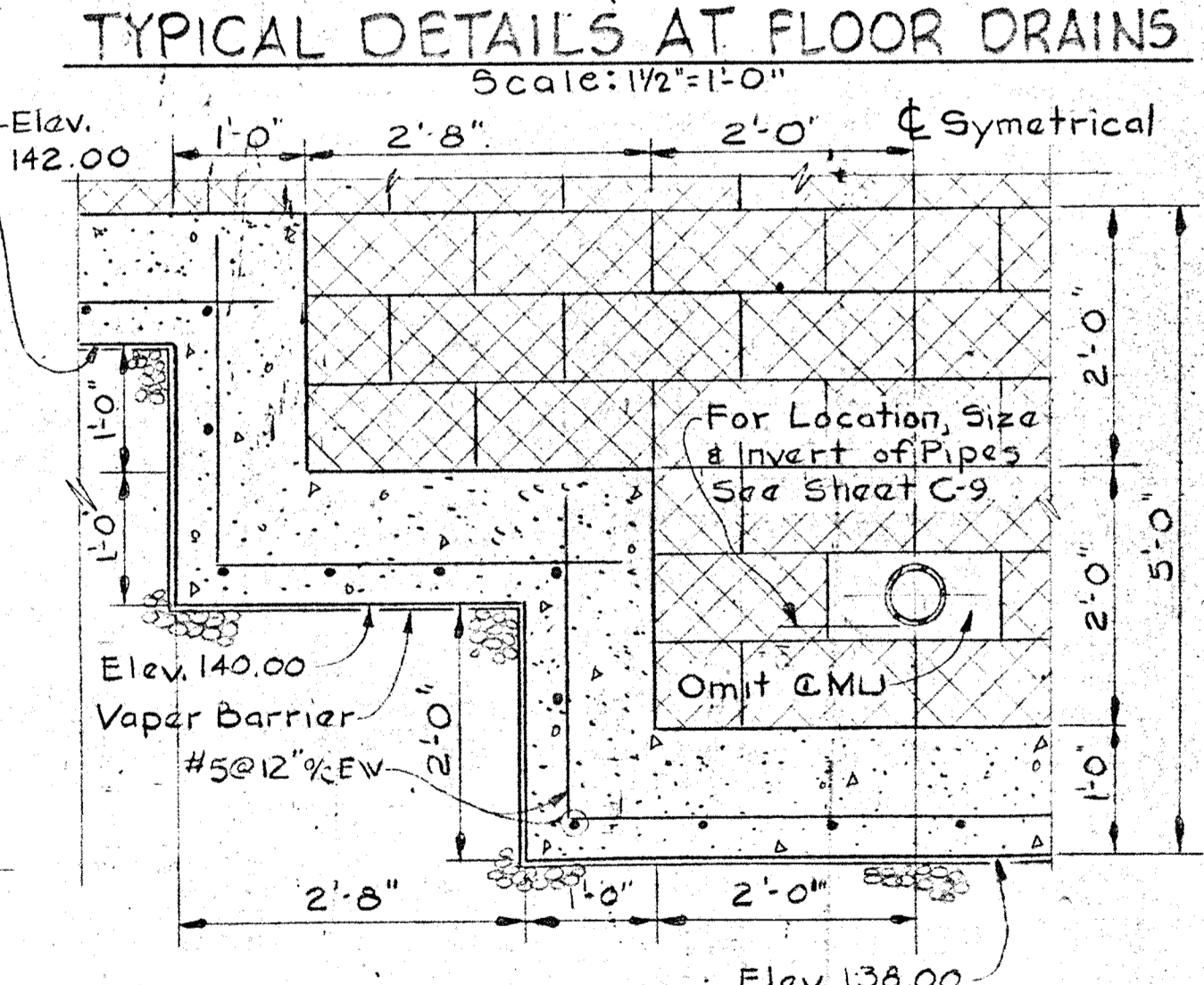
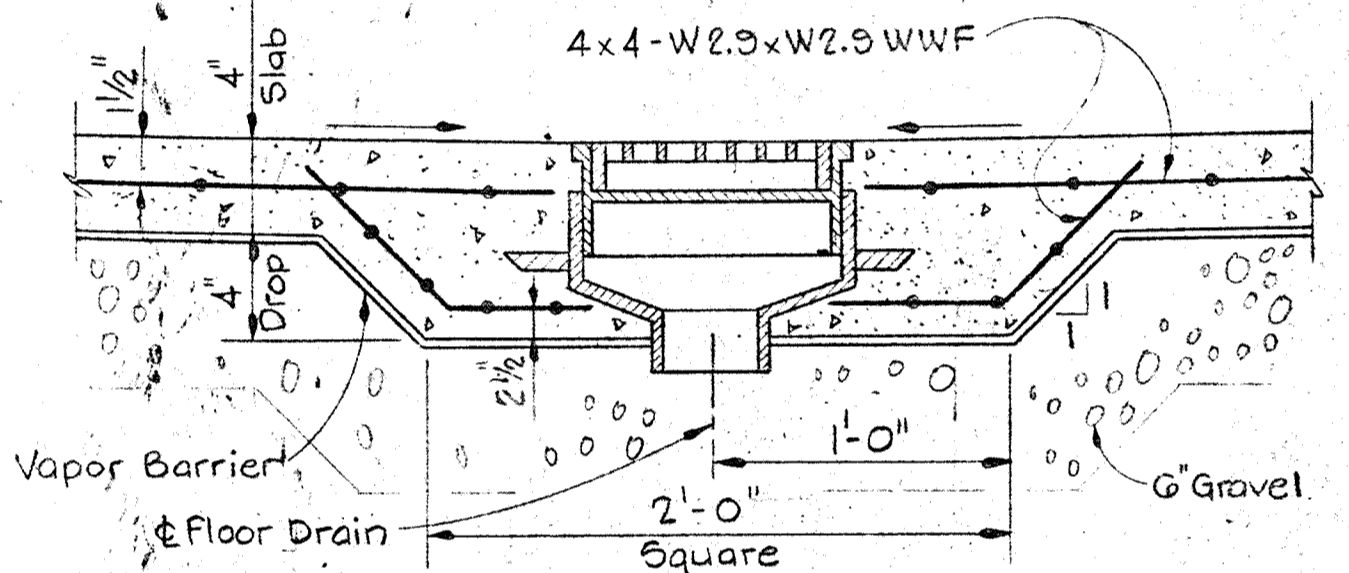
SCALE AS NOTED

ROOF SYSTEM

- Open Web Steel Joists:
 - Bridging shall consist of continuous horizontal members not less than 3/8" round, one at top chord and one at bottom chord attached by welding to the diagonal members. Bridging to be welded to every joist. All bridging shall be anchored at ends as shown on drawings. Welds to be capable of resisting 700 lbs. each.
- Steel Roof Decking shall be as follows:
 - Nominal Depth = 1 1/2"
 - Gage = 22 Minimum
 - Section Modulus = 0.20 inches per foot minimum
 - Deflection shall not exceed 1/80 of the span length center to center of supports under a live load of 30 pounds per square foot.
 - Maximum fiber stress shall not exceed 0.6 times the yield strength of the steel (F_b ≤ 0.60 F_y) under a total load of 45 pounds per square foot.
- Canopy Framing:

For sections and details see Sheet S-4.
- Roof Drains and Vents:

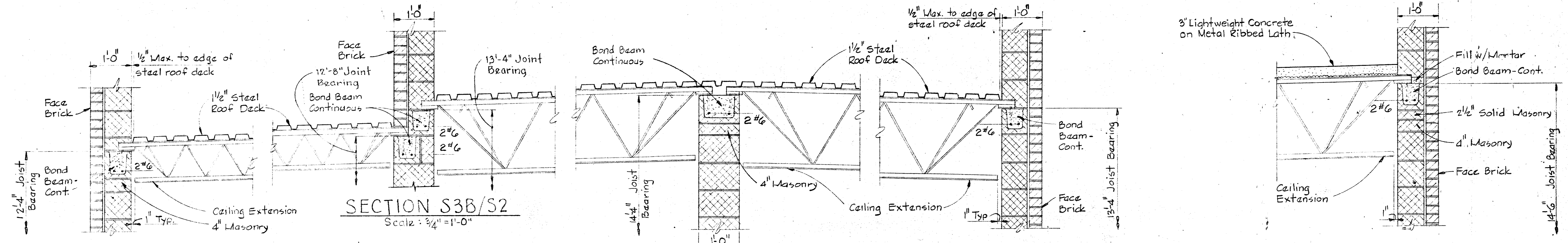
For drain and vent openings in metal deck and concrete slab see sheet A-6.



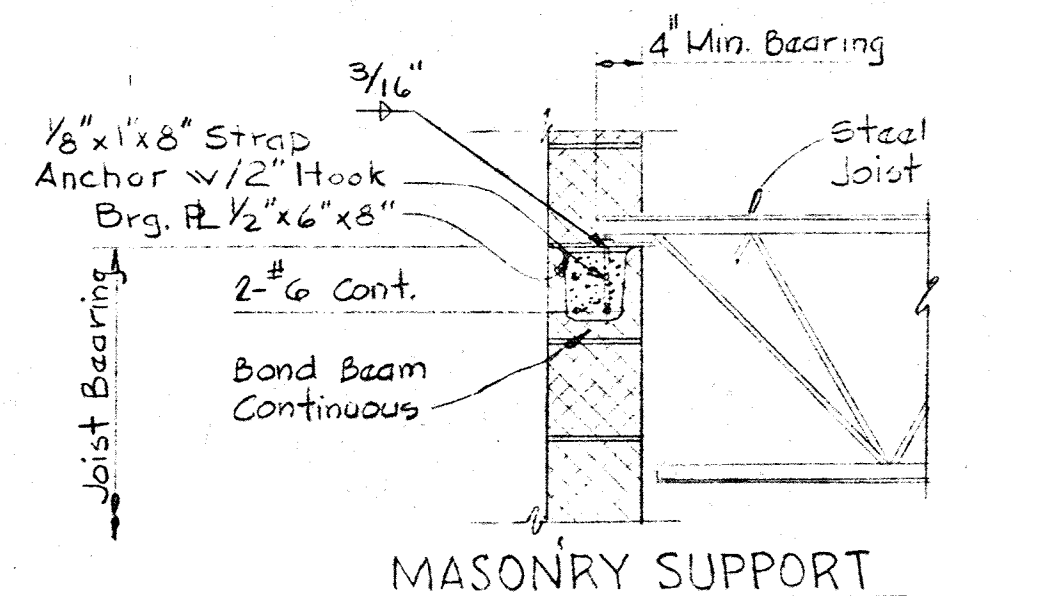
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: <i>3/18/52</i> CHIEF-BUREAU OF ENGINEERING: <i>W.O. 7132-2</i>	CONTRACT NO. 503-S	STRUCTURAL ADMINISTRATION BUILDING ROOF FRAMING PLAN	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 32 OF 64 SCALE AS NOTED
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W.O. 7132-2

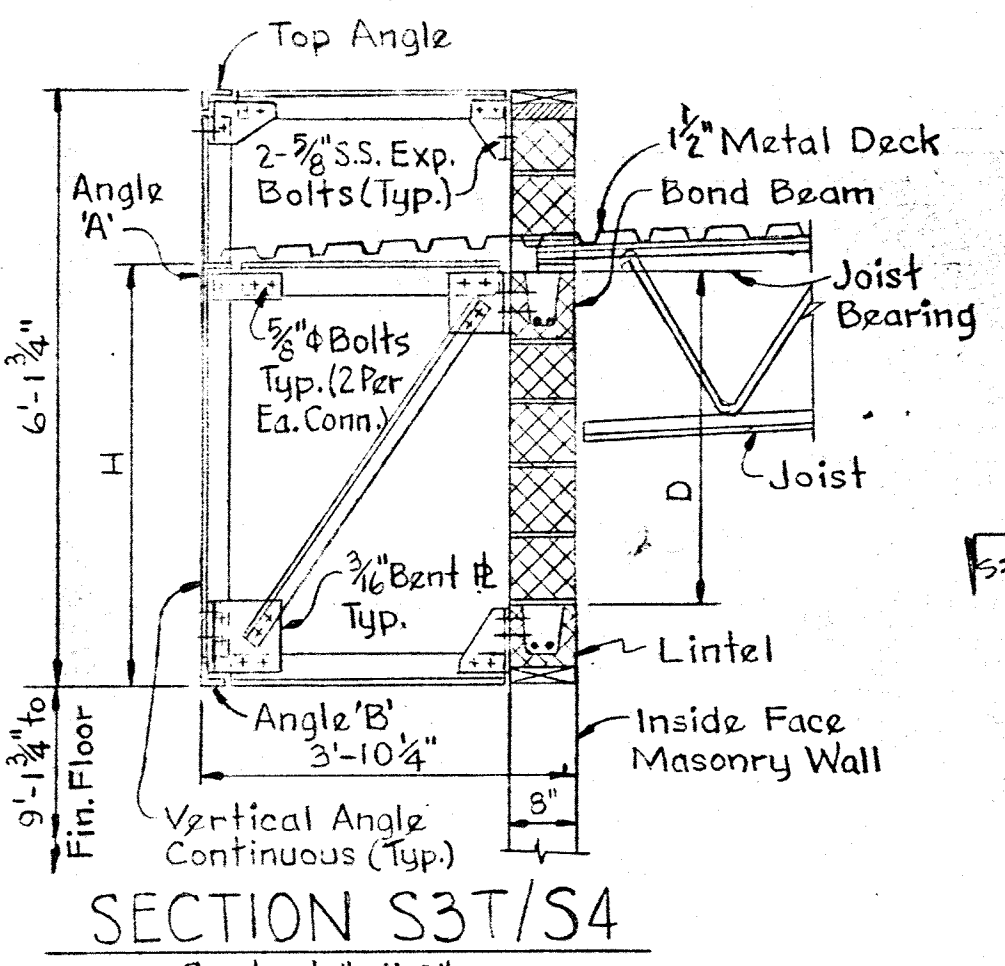
NOTE: All bond beams to run continuous around all walls at same course level where possible. Where intersection of walls have bond beams on different levels, continuity of the 2-#6 reinforcing bars may be attained by use of bond beams of 8"x16"x8" CMU and field banding reinforcing bars to suit difference in elevations.



SECTION S3A/S2
Scale 3/4" = 1'-0"

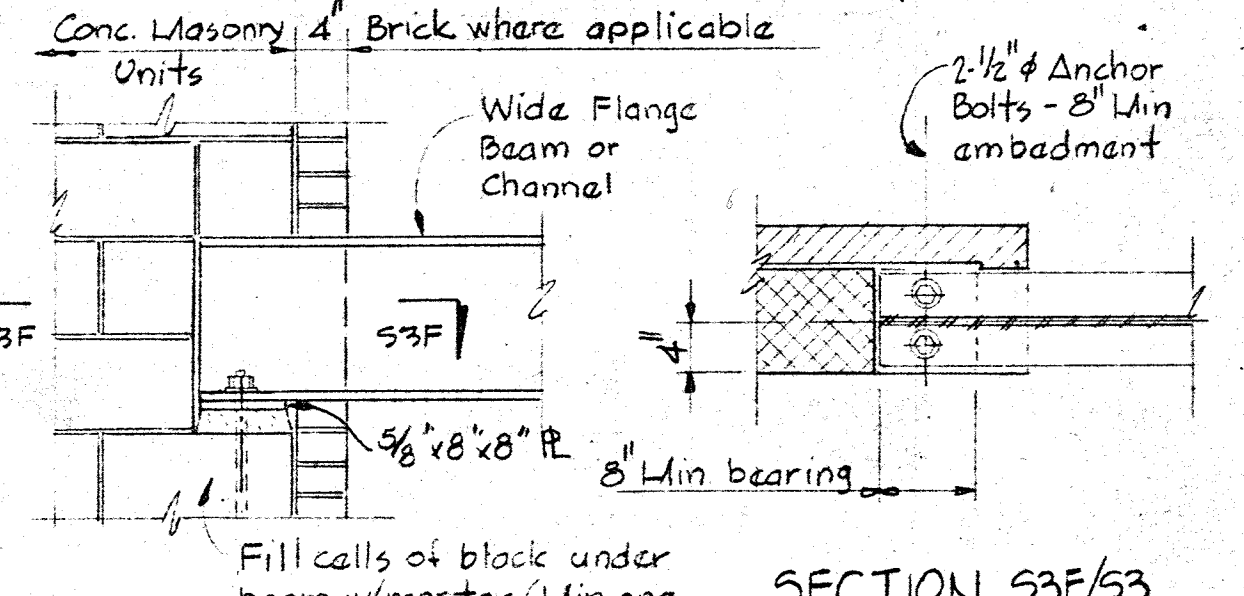


MASONRY SUPPORT TYP. BEARING DETAIL
Scale: 3/4" = 1'-0"



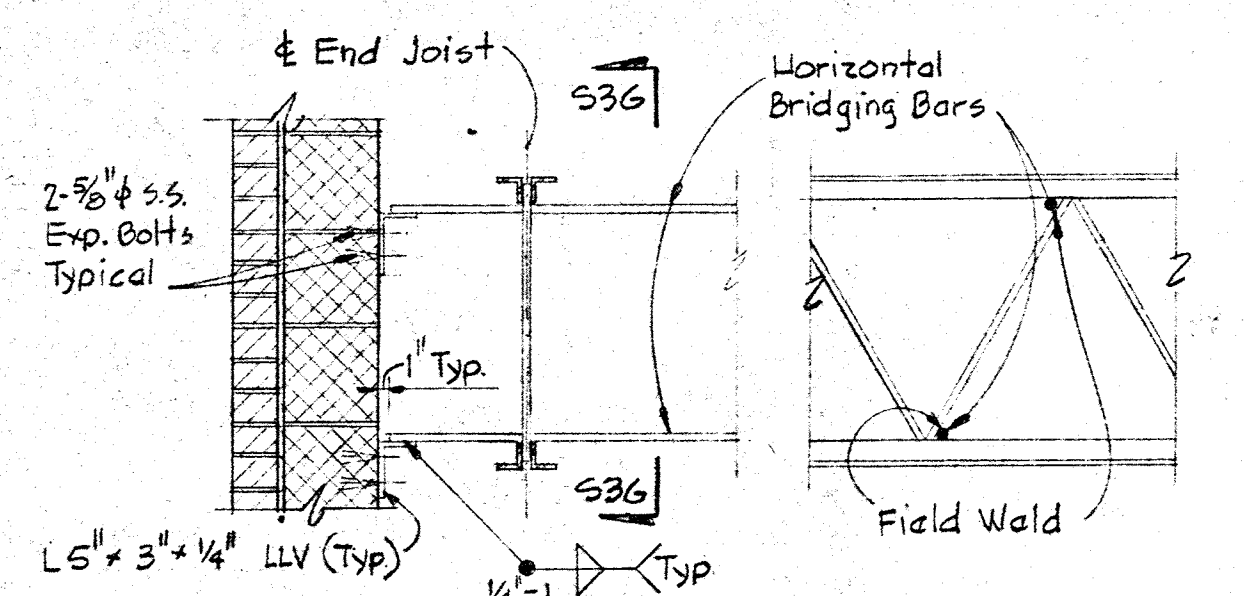
SECTION S3T/S4
Scale: 1/2" = 1'-0"

SECTION S3C/S2
Scale 3/4" = 1'-0"



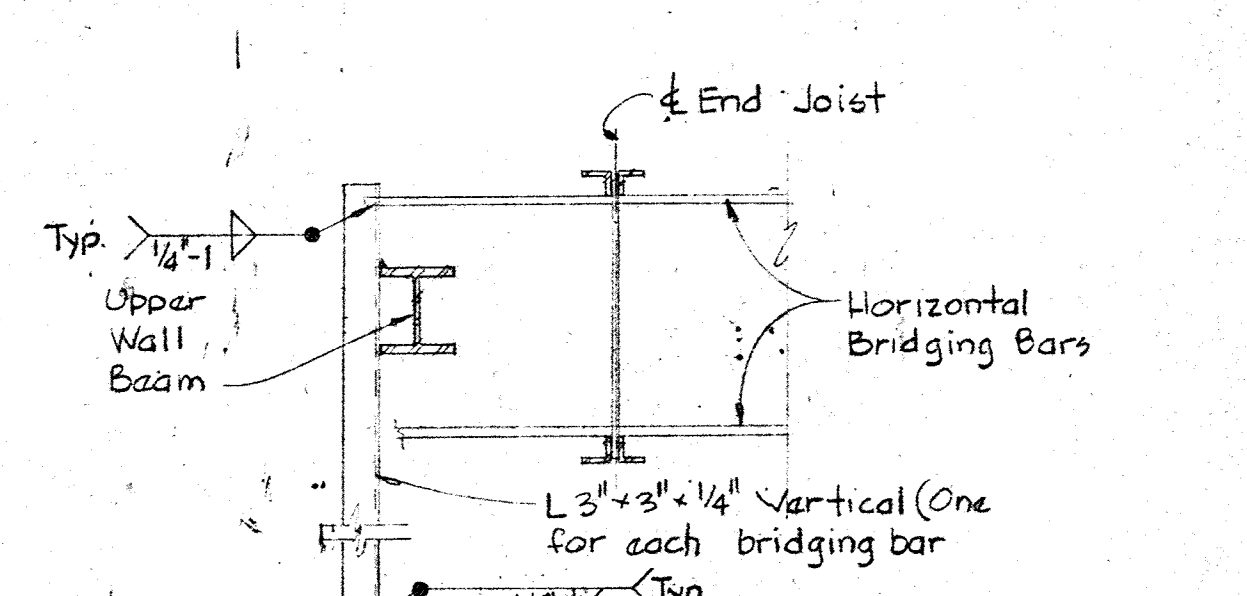
SECTION S3F/S3
Scale 3/4" = 1'-0"

SECTION S3D/S2
Scale 3/4" = 1'-0"



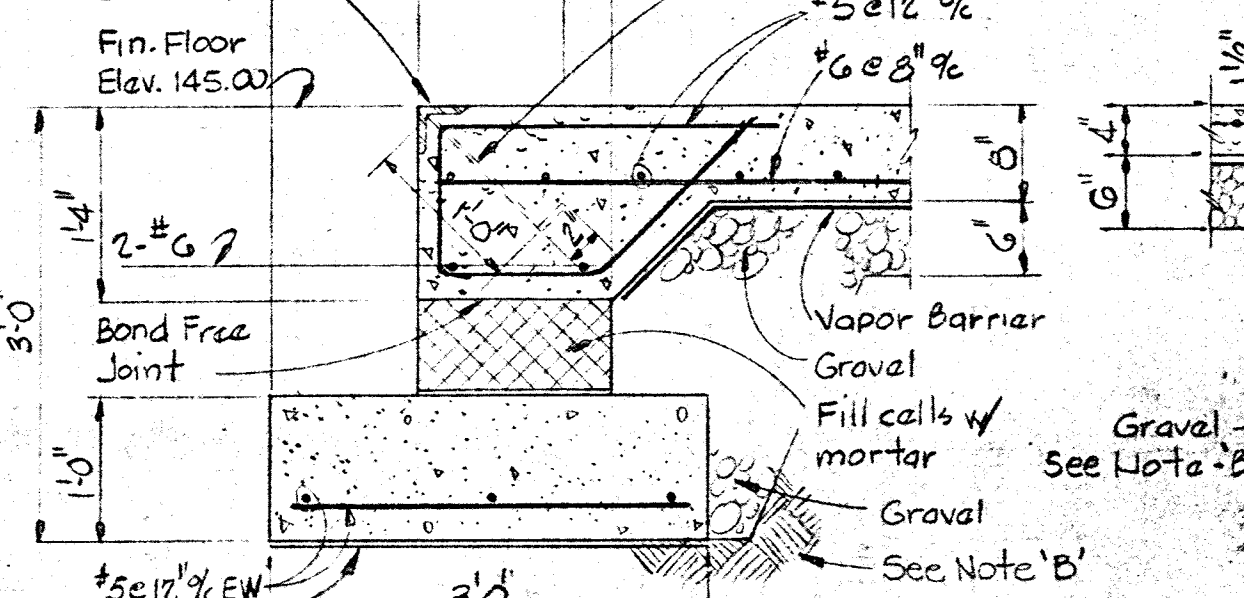
SECTION S3G/S3
Scale 3/4" = 1'-0"

SECTION S3E/S2
Scale 3/4" = 1'-0"

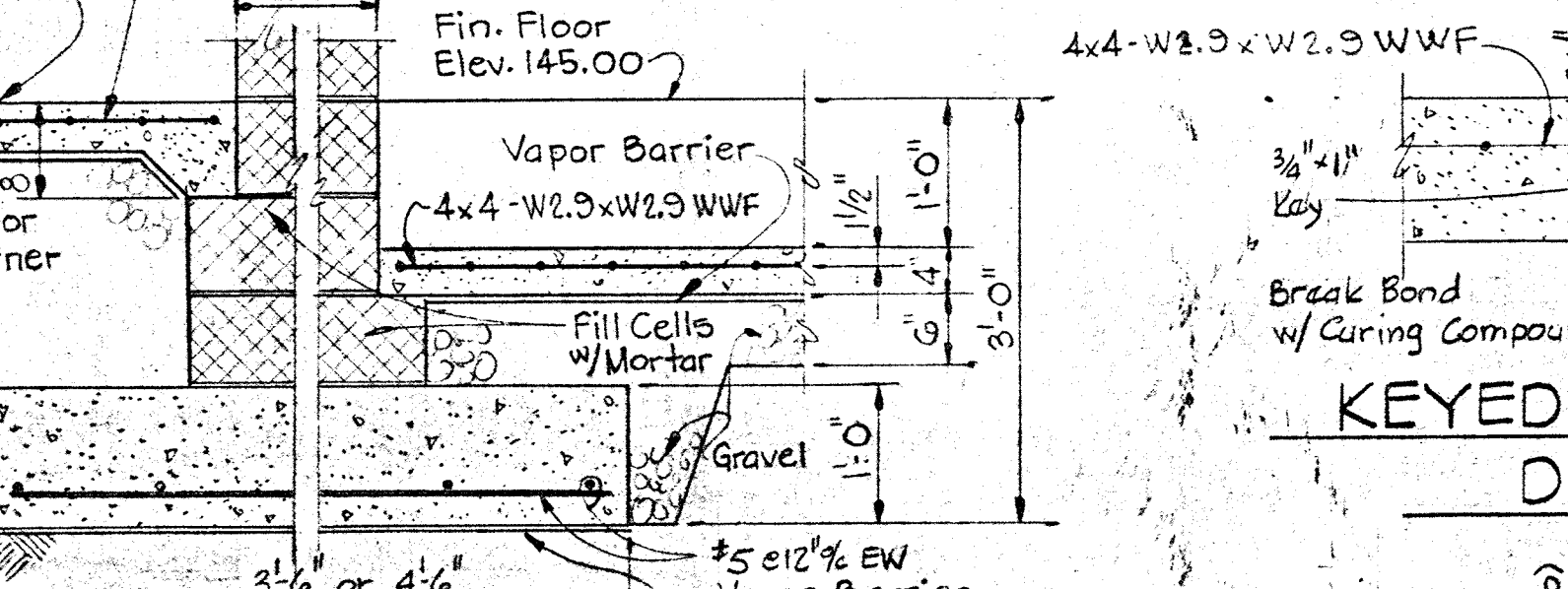


SECTION S3H/S1
Scale 1 1/2" = 1'-0"

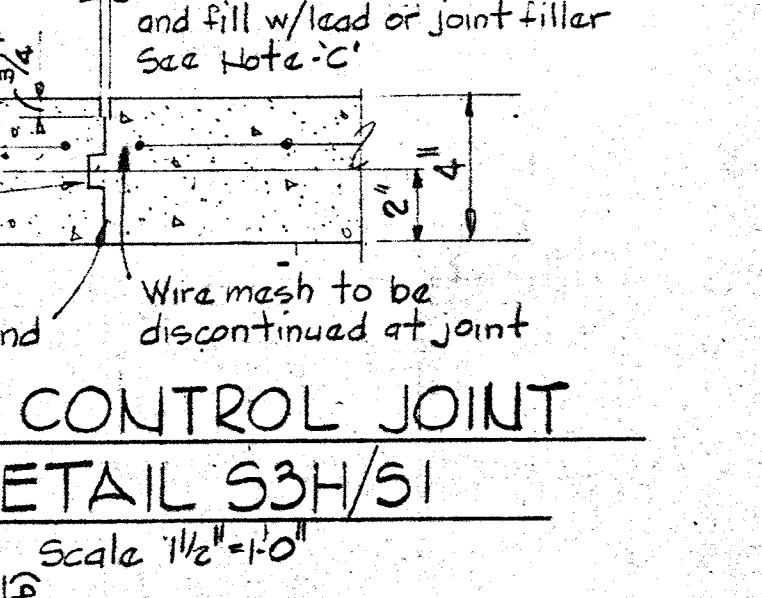
CANOPY BEAM END ANCHORAGE
Scale 3/4" = 1'-0"



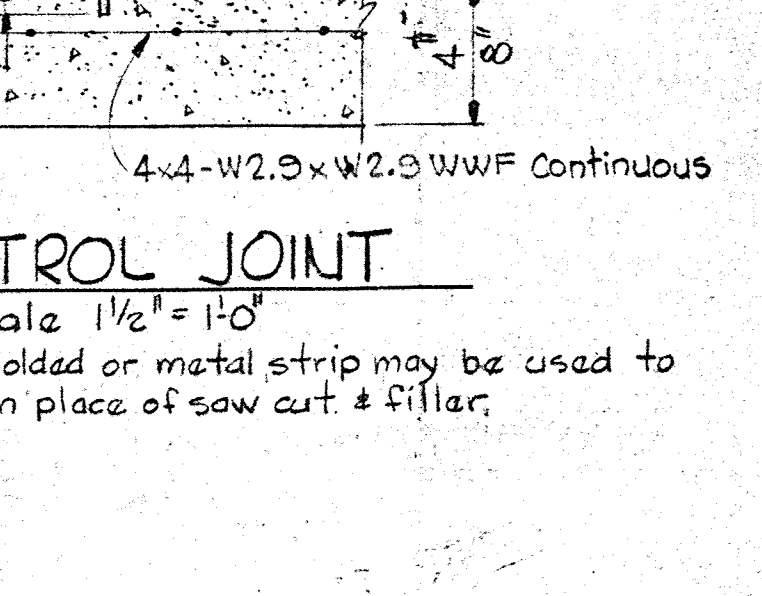
BRIDGING END ANCHORAGE
Scale 3/4" = 1'-0"



KEYED CONTROL JOINT DETAIL S3H/S1
Scale 1 1/2" = 1'-0"

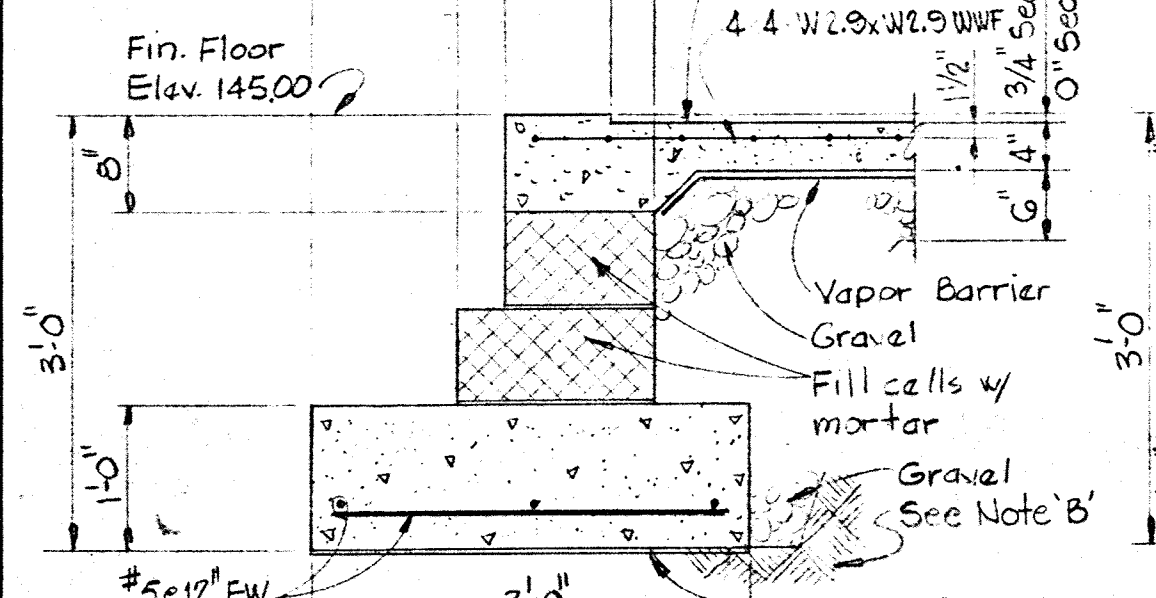


CONTROL JOINT
Scale 1 1/2" = 1'-0"

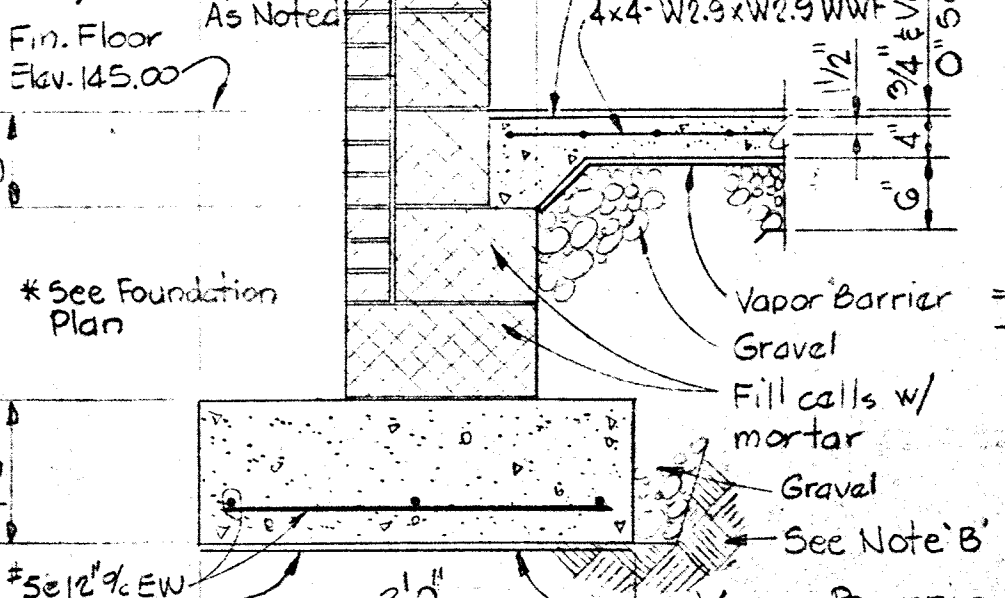


CONTROL JOINT
Scale 1 1/2" = 1'-0"

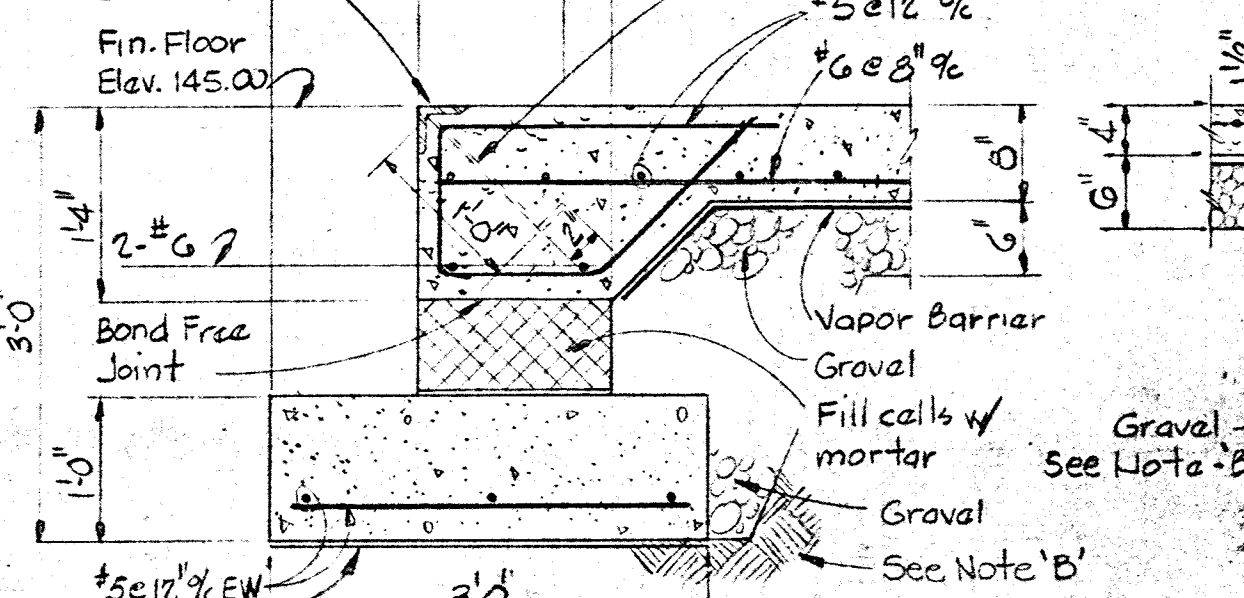
SECTIONS S3I & S3J/S1
Scale 3/4" = 1'-0"



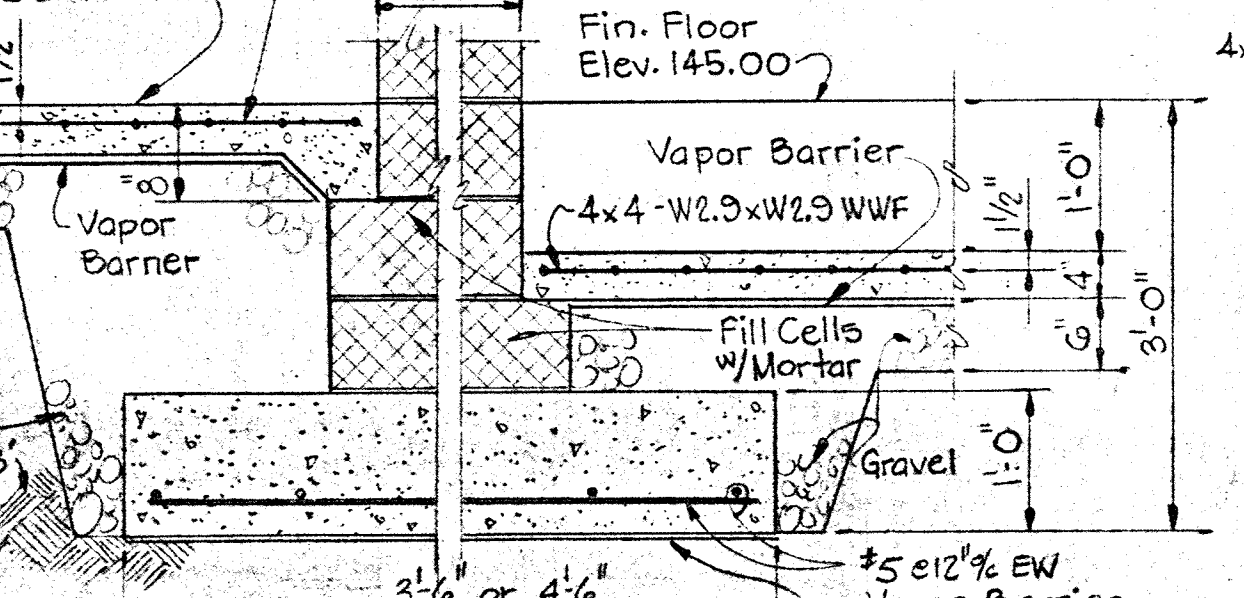
SECTIONS S3K & S3L/S1
Scale 3/4" = 1'-0"



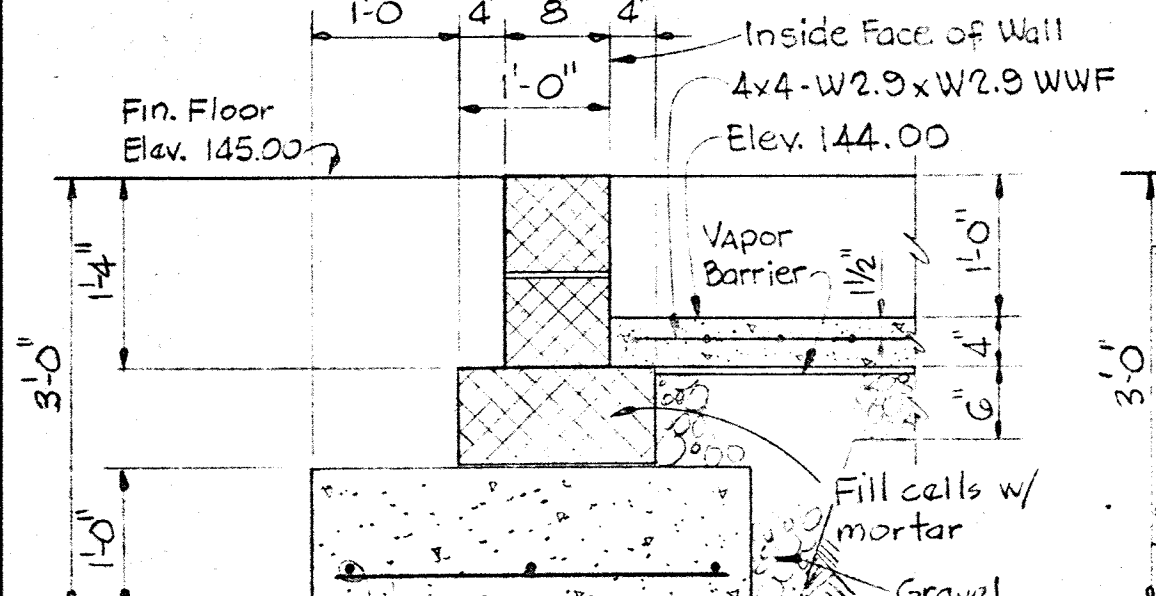
SECTION S3L/S1
Scale 3/4" = 1'-0"



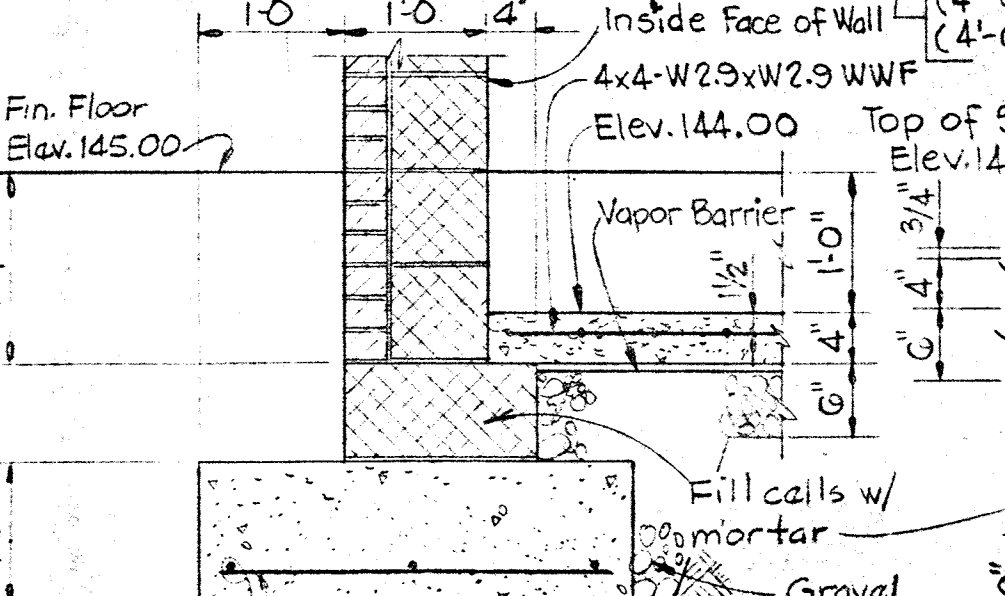
FLOOR AT EL. 145.00 FLOOR DEPRESSED AT LOAD BEARING WALLS
Scale 3/4" = 1'-0"



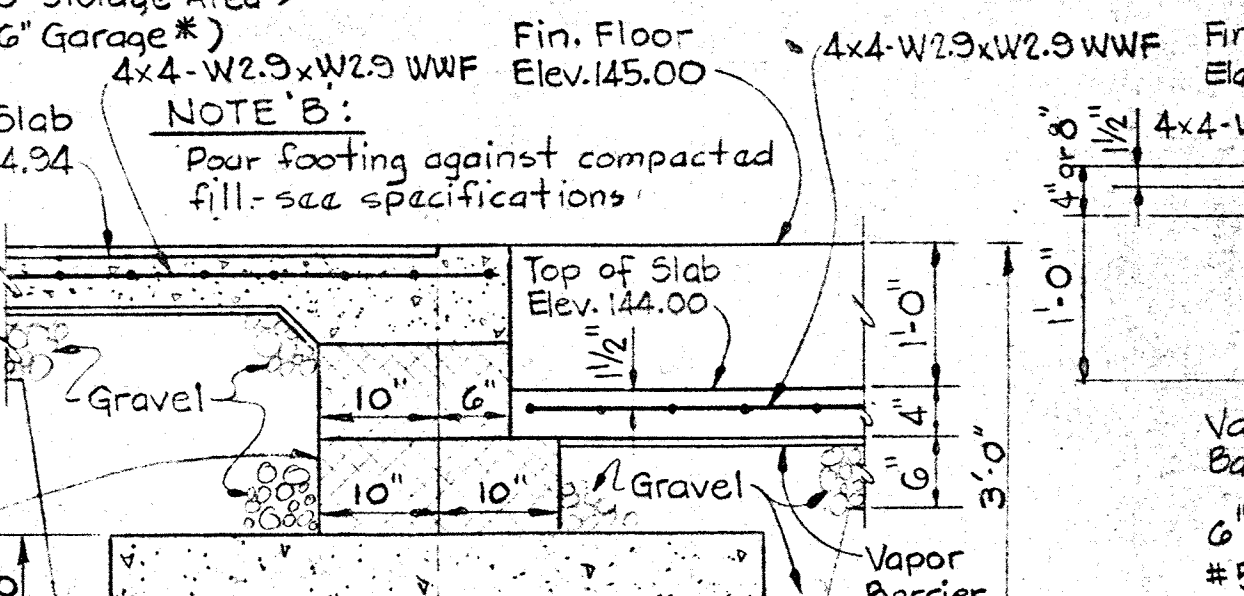
SECTION S3M/S1
Scale 3/4" = 1'-0"



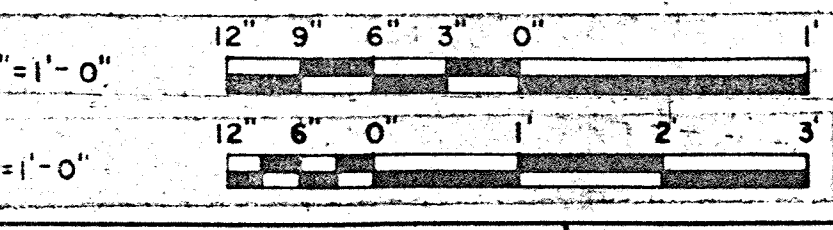
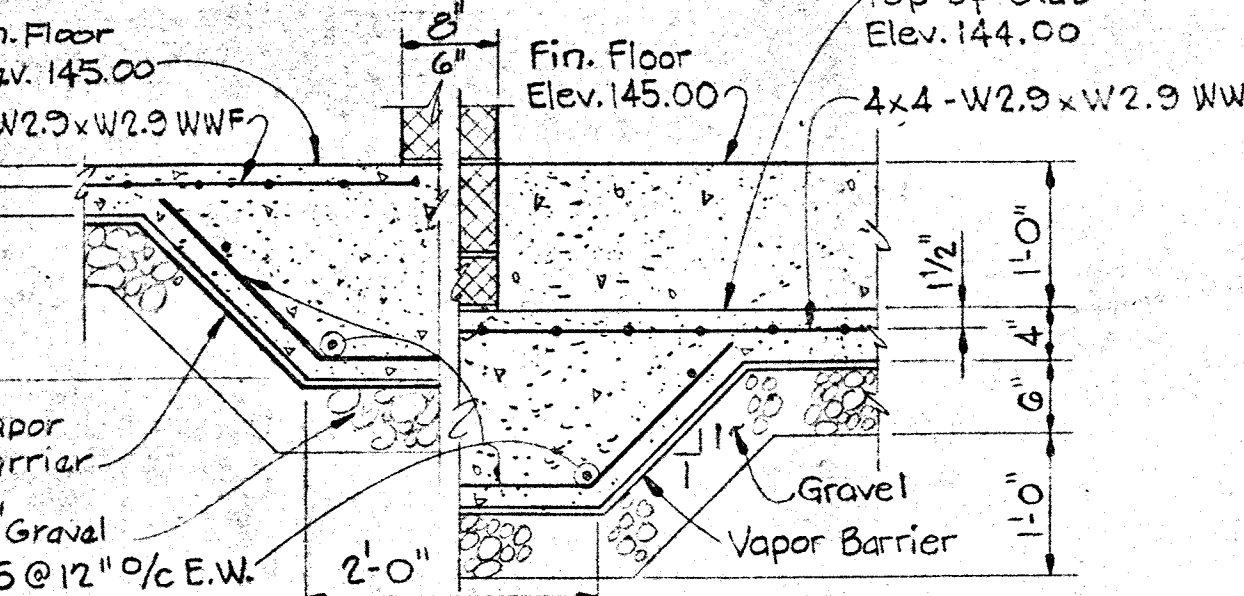
SECTION S3N/S1
Scale 3/4" = 1'-0"



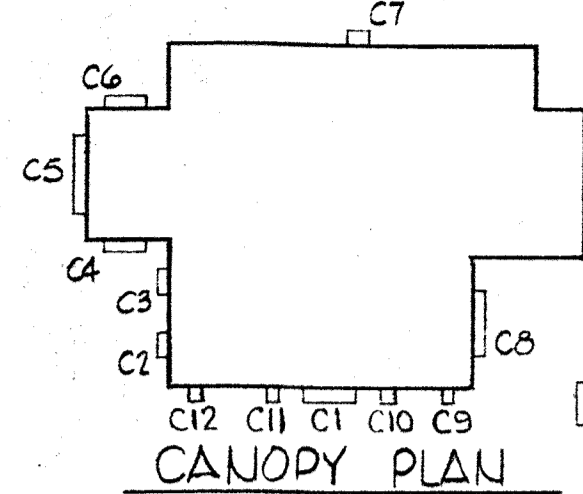
SECTION S3P/S1
Scale 3/4" = 1'-0"



FLOOR AT EL. 145.00 FLOOR DEPRESSED AT NON-LOAD BEARING WALLS
Scale 3/4" = 1'-0"

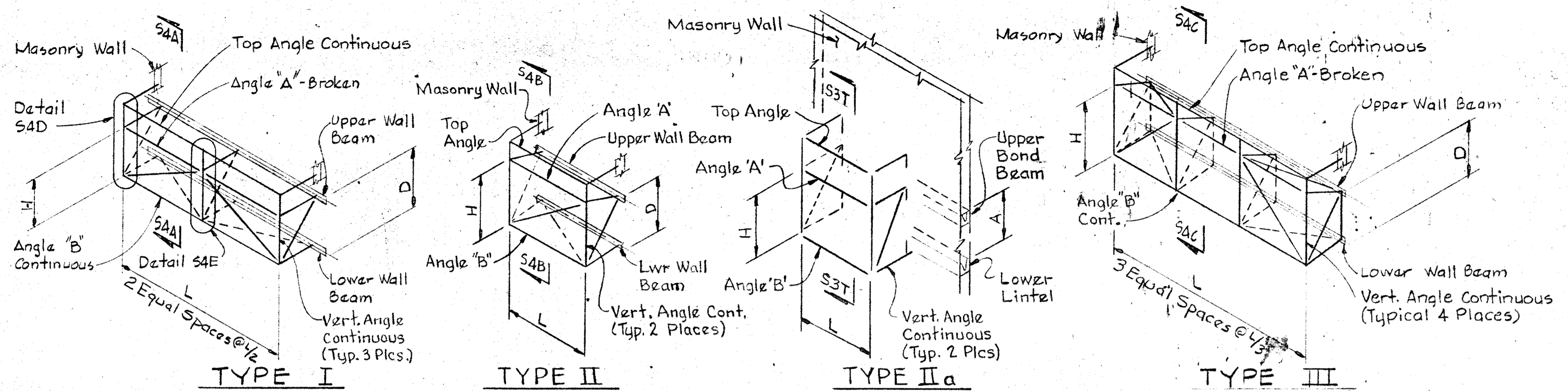


WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: 3/10/18 CHIEF BUREAU OF ENGINEERING	CONTRACT NO. 503-S	STRUCTURAL ADMINISTRATION BUILDING FOUNDATION AND ROOF SECTIONS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION, NO. 4	DRAWING NO. 33 OF 64	SCALE AS NOTED
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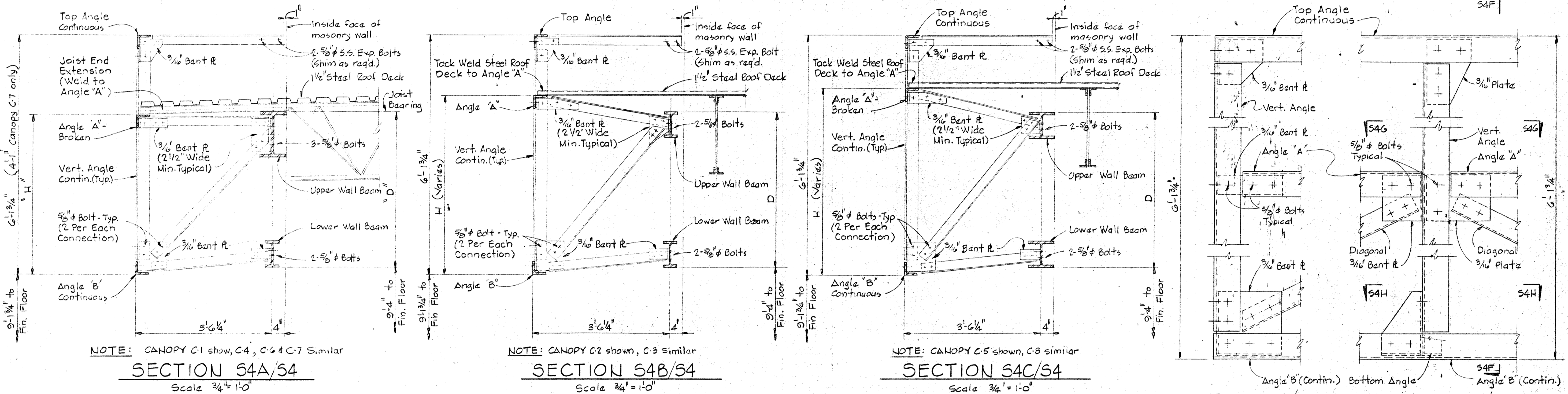


CANOPY FRAMING MEMBERS									
CANOPY	TYPE	L	H	D	WALL BEAM		ANGLES		ANGLE SECTION
					UPPER	LOWER	"A"	"B"	
C1	I	7'-0 1/2"	4'-1 1/4"	4'-0"	W14x53	W8x13	4" x 3 1/2" x 1/4"	3" x 3" x 3/16"	S4A
C2	II	7'-11 1/2"	Varies ②	4'-0"	W8x13	W8x13	4" x 3 1/2" x 1/4"	3" x 3" x 3/16"	S4B
C3	II	7'-11 1/2"	Varies ②	4'-8"	W8x13	W8x13	4" x 3 1/2" x 1/4"	3" x 3" x 3/16"	S4B
C4	I	11'-11 1/2"	5'-5 3/4"	5'-0"	W14x30	W8x13	3" x 3" x 3/16"	2 1/2" x 2 1/2" x 3/16"	S4A
C5	III	19'-11 1/2"	Varies ③	4'-0"	W8x35	W8x35	3" x 3" x 1/4"	2 1/2" x 2 1/2" x 3/16"	S4C
C6	I	11'-11 1/2"	4'-3 1/2"	4'-0"	W14x30	W8x13	3" x 3" x 3/16"	2 1/2" x 2 1/2" x 3/16"	S4A
C7	II	5'-8 1/2"	3'-1 1/2"	3'-0"	W8x13	W8x13	3" x 3" x 3/16"	2 1/2" x 2 1/2" x 3/16"	S4A
C8	III	19'-11 1/2"	Varies ④	4'-0"	W8x35	W8x35	3" x 3" x 1/4"	2 1/2" x 2 1/2" x 3/16"	S4C
C9, C10, C11, C12	IIa	3'-0 3/4"	4'-3 3/4"	3'-4"	⑤	⑥	⑦	⑧	S3T

- NOTES: * Part of Roof Framing System see Sheet S-2
- Varies from 4'-7" to 4'-9" (W to E end)
 - Varies from 5'-0 1/4" to 5'-2 1/4" (W to E end)
 - Varies from 4'-7 1/4" to 5'-2" (E to W end)
 - Varies from 4'-8" to 5'-1 1/2" (W to E end)
 - All angles L 2 1/2" x 2 1/2" x 3/16", except as shown in Table.
 - Masonry Wall Bond Beam
 - Masonry Wall Lintel



TYPE I
TYPE II
TYPE III
CANOPY FRAMING DIAGRAMS
Scale: No Scale



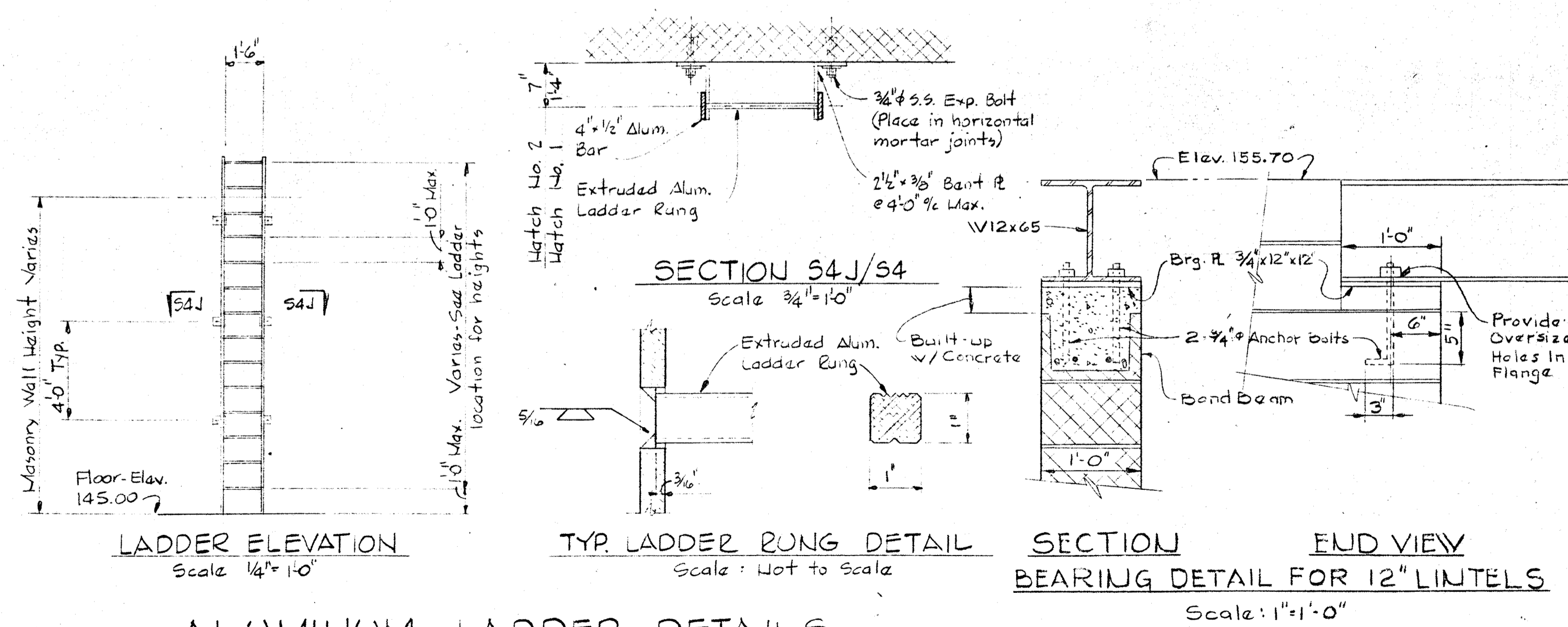
NOTE: CANOPY C1 show, C4, C6 & C7 Similar
SECTION 54A/54
Scale 3/4" = 1'-0"

NOTE: CANOPY C2 shown, C3 Similar
SECTION 54B/54
Scale 3/4" = 1'-0"

NOTE: CANOPY C5 shown, C8 similar
SECTION 54C/54
Scale 3/4" = 1'-0"

DETAIL 54D/54
Scale 1 1/2" = 1'-0"

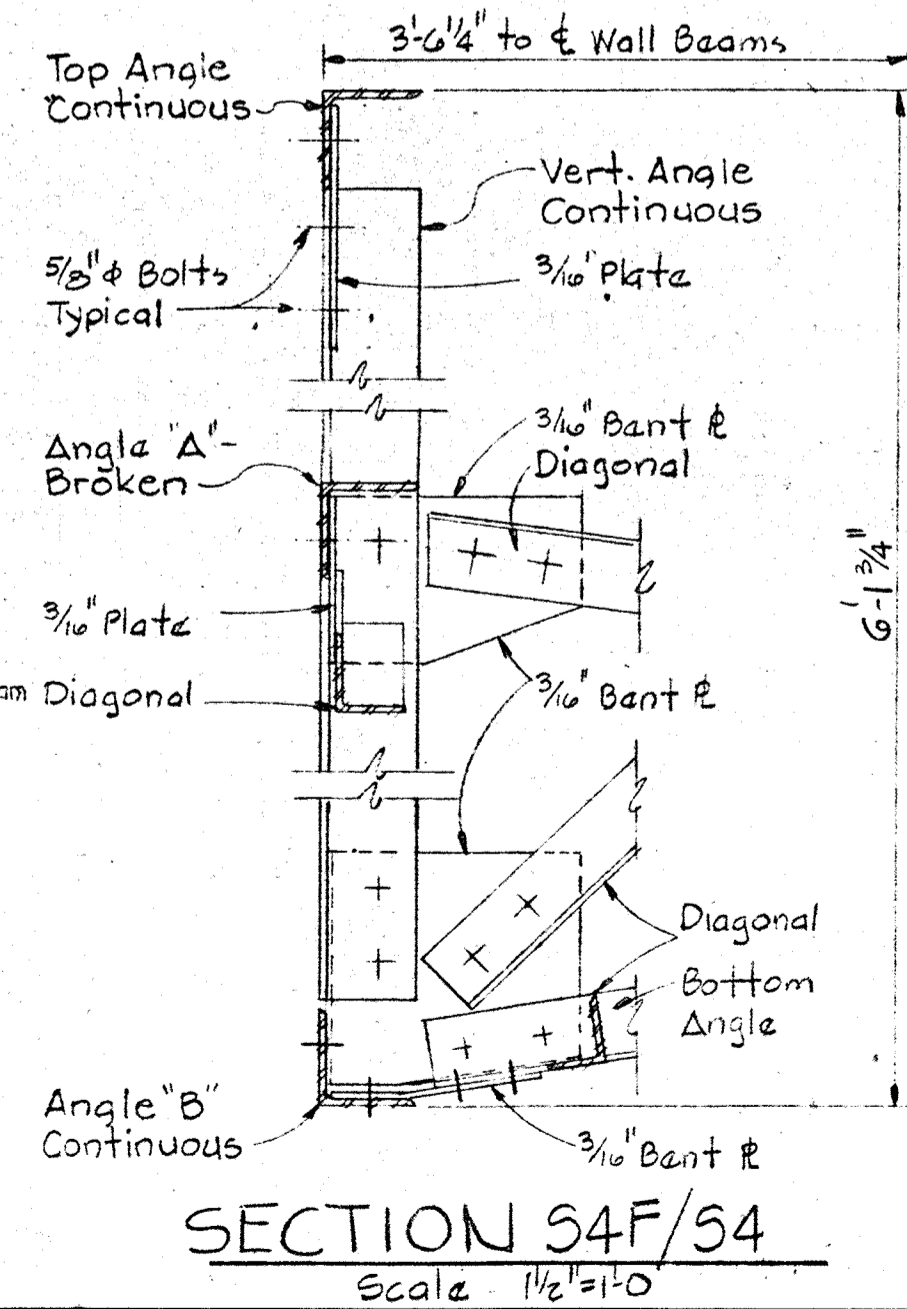
DETAIL 54E/54
Scale 1 1/2" = 1'-0"



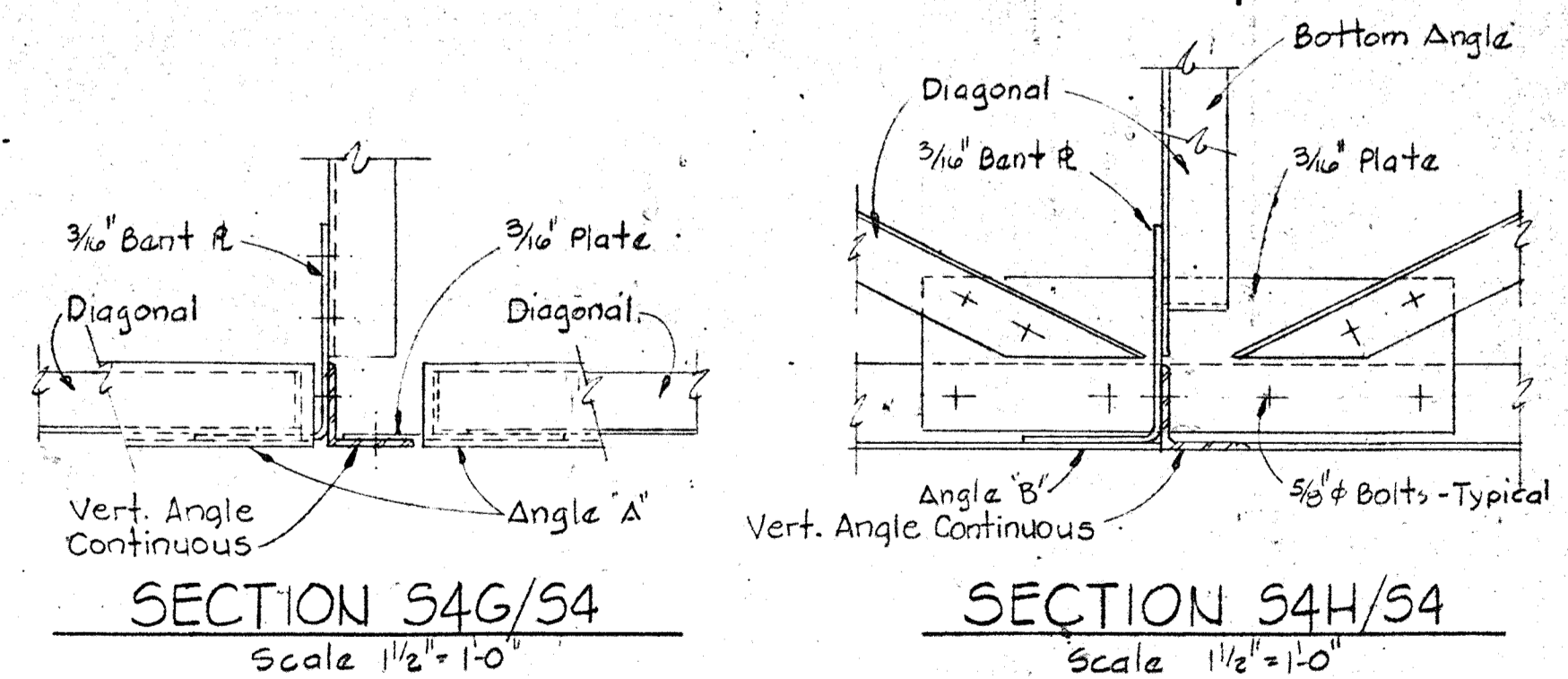
LADDER ELEVATION
Scale 1/4" = 1'-0"

TYP LADDER RUNG DETAIL
Scale: Not to Scale

SECTION END VIEW
BEARING DETAIL FOR 12" LINTELS
Scale: 1" = 1'-0"

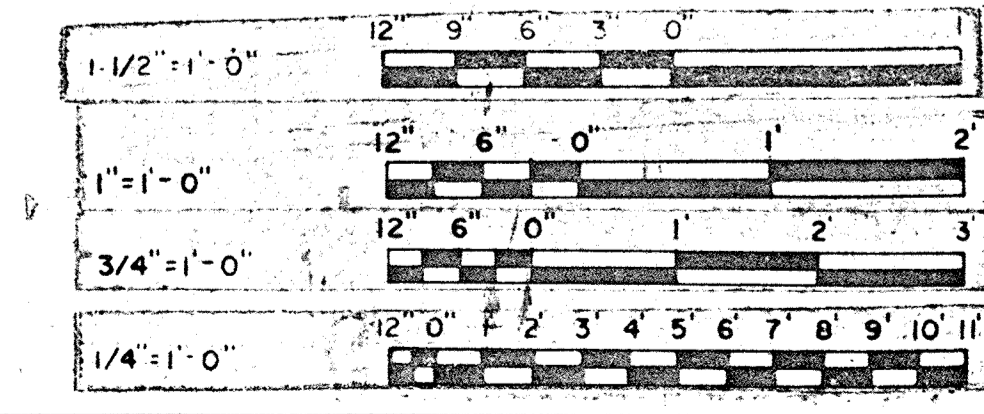


SECTION 54F/54
Scale 1 1/2" = 1'-0"



SECTION 54G/54
Scale 1 1/2" = 1'-0"

SECTION 54H/54
Scale 1 1/2" = 1'-0"



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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DATE 3/21/16

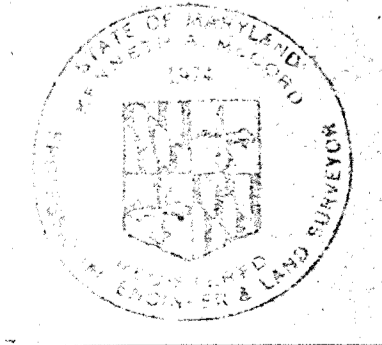
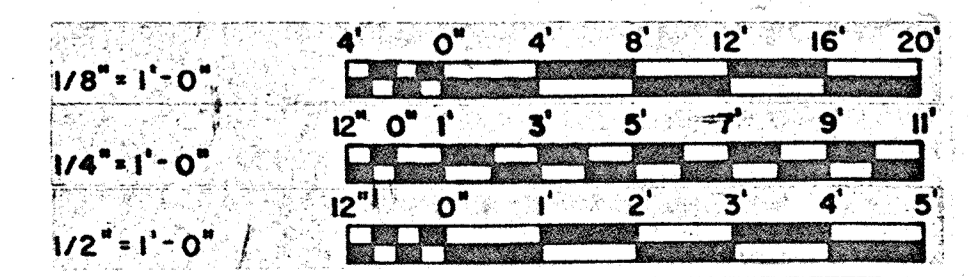
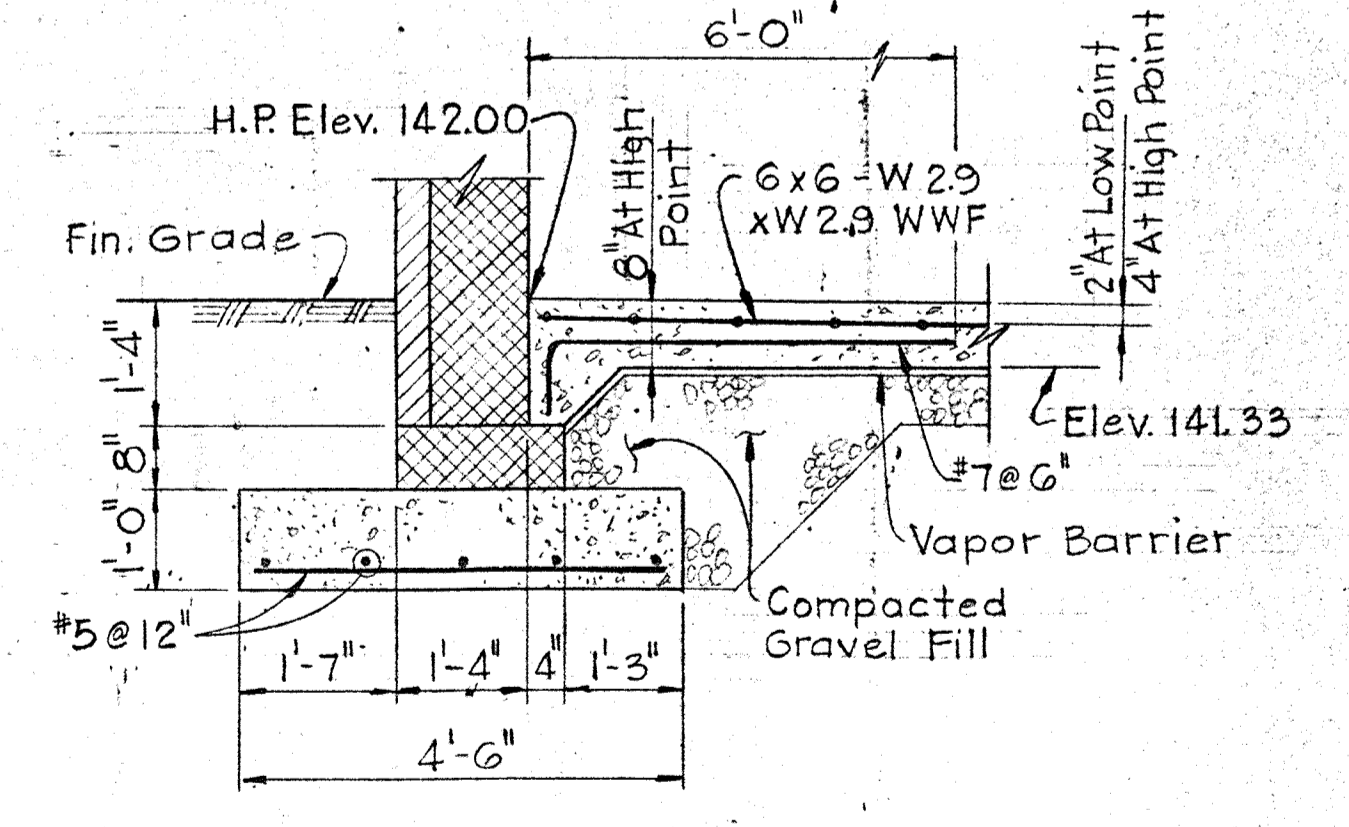
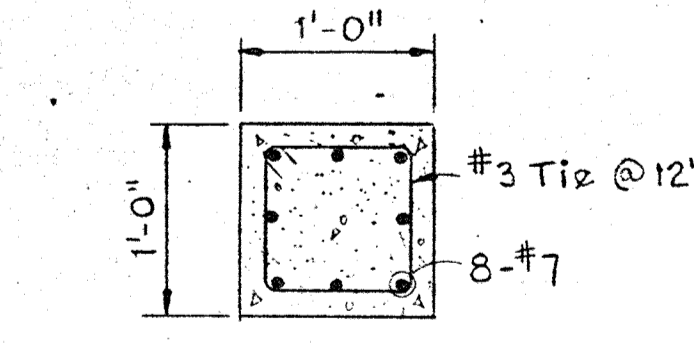
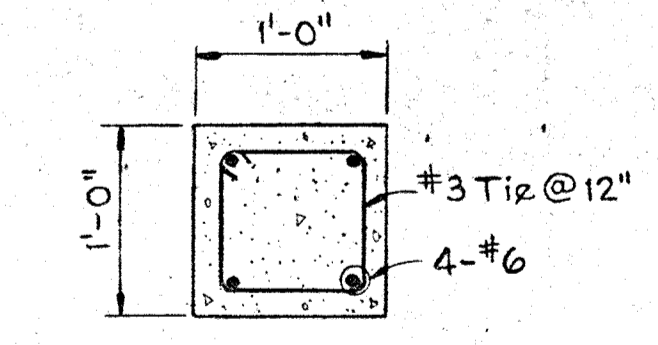
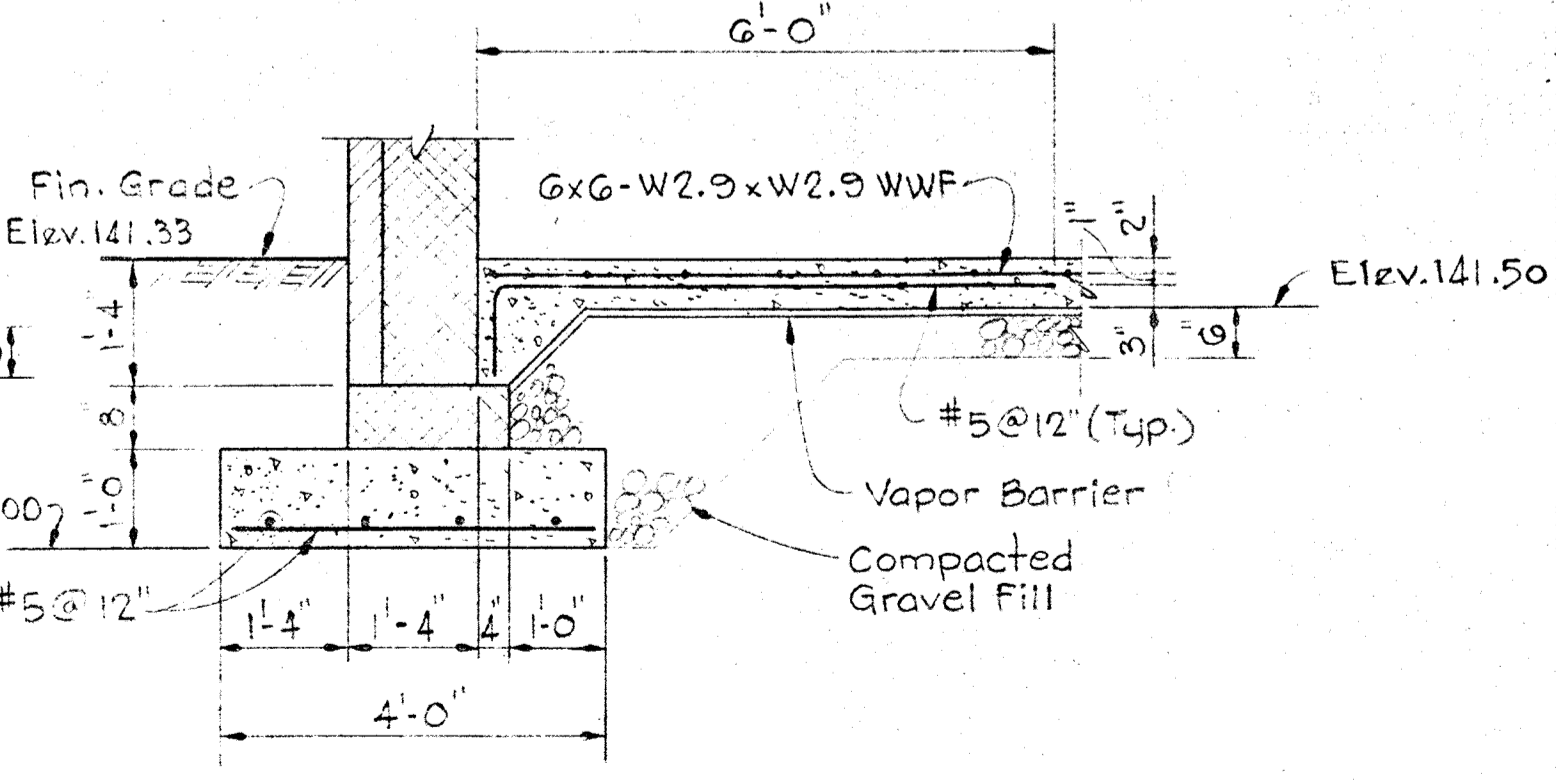
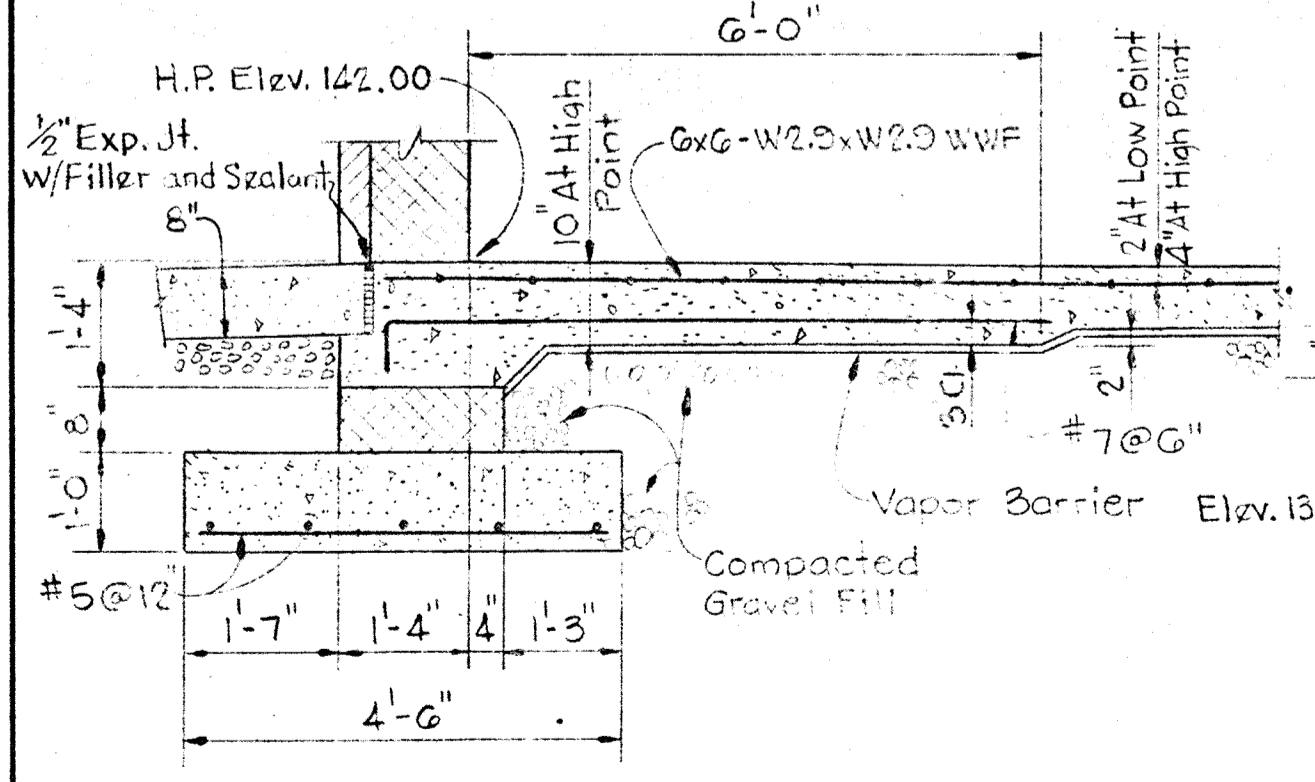
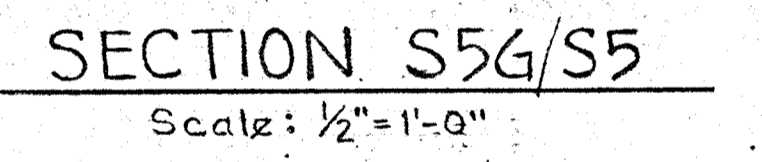
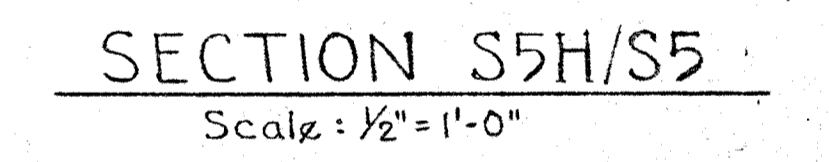
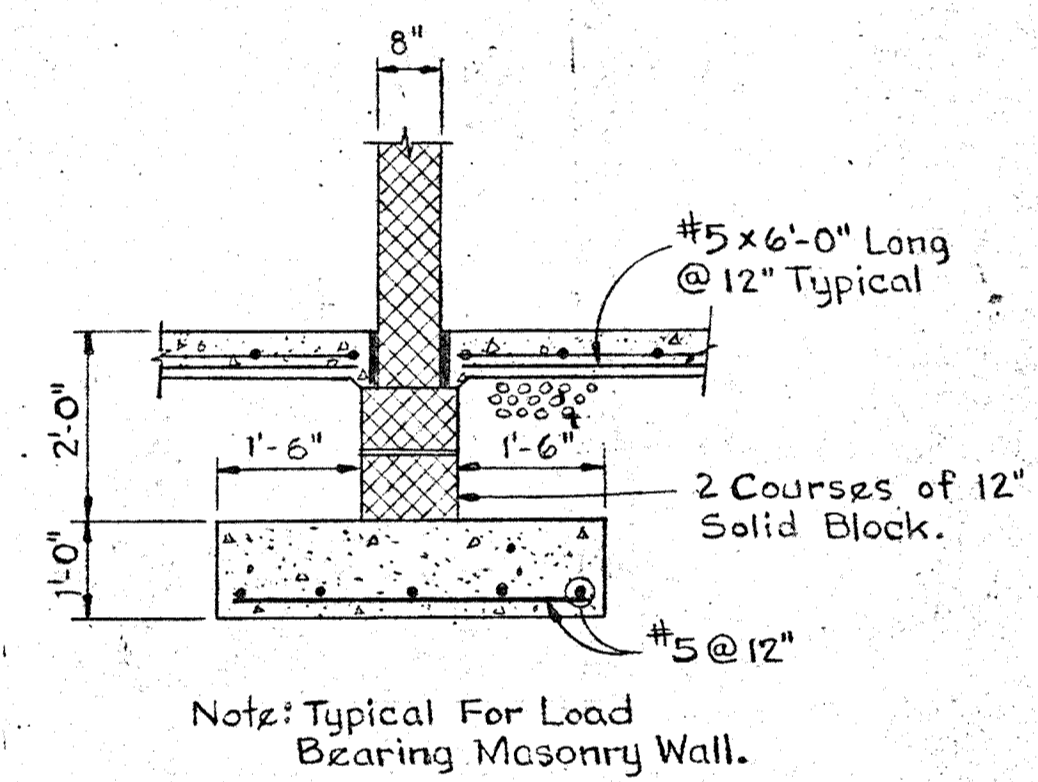
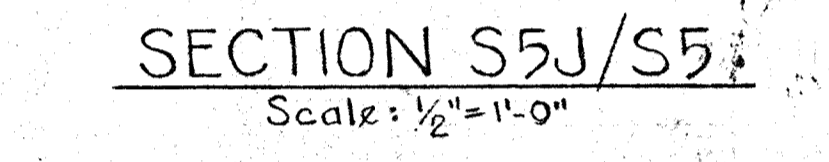
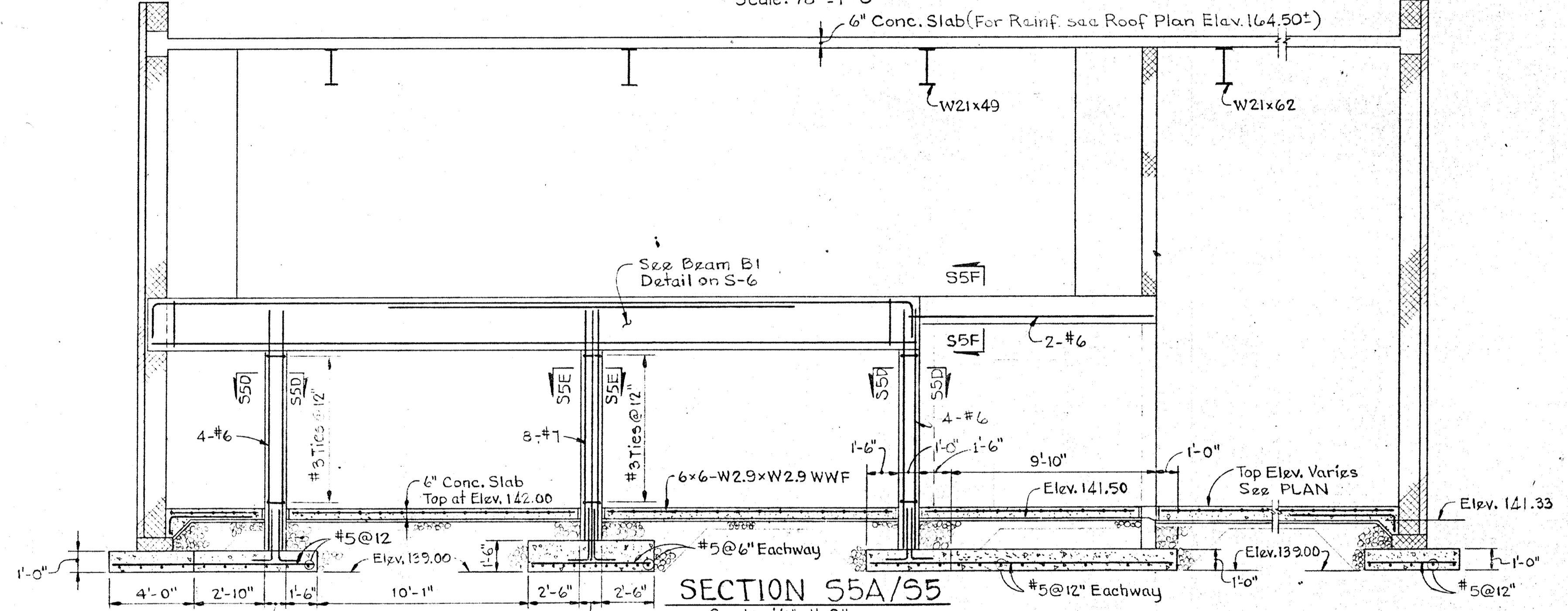
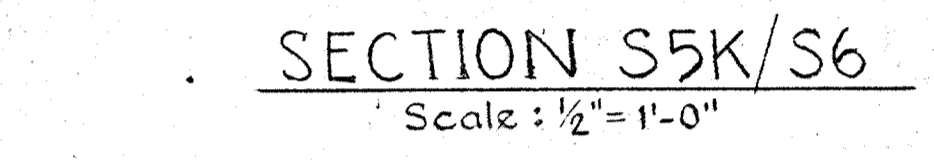
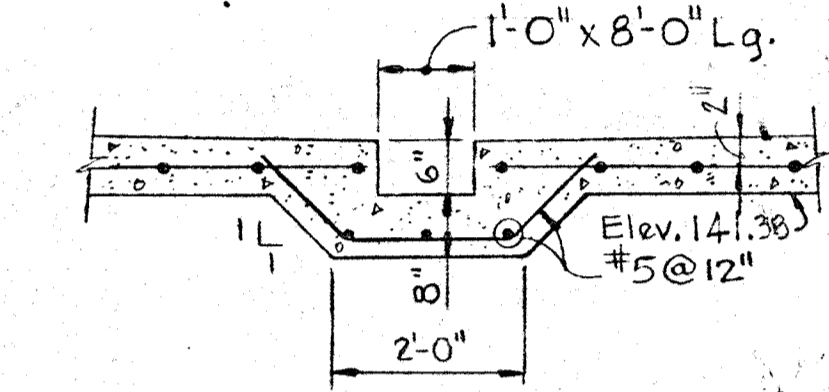
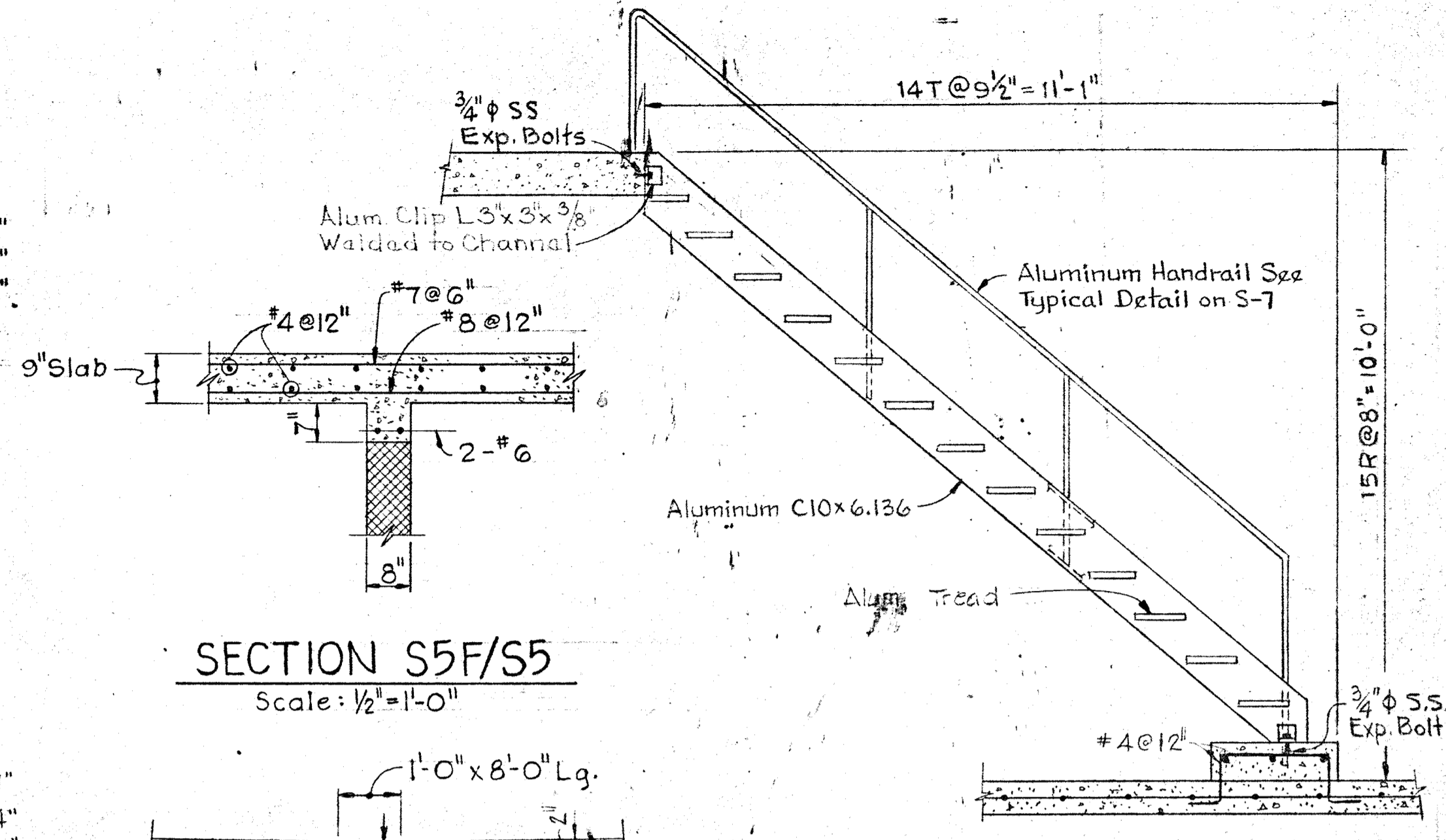
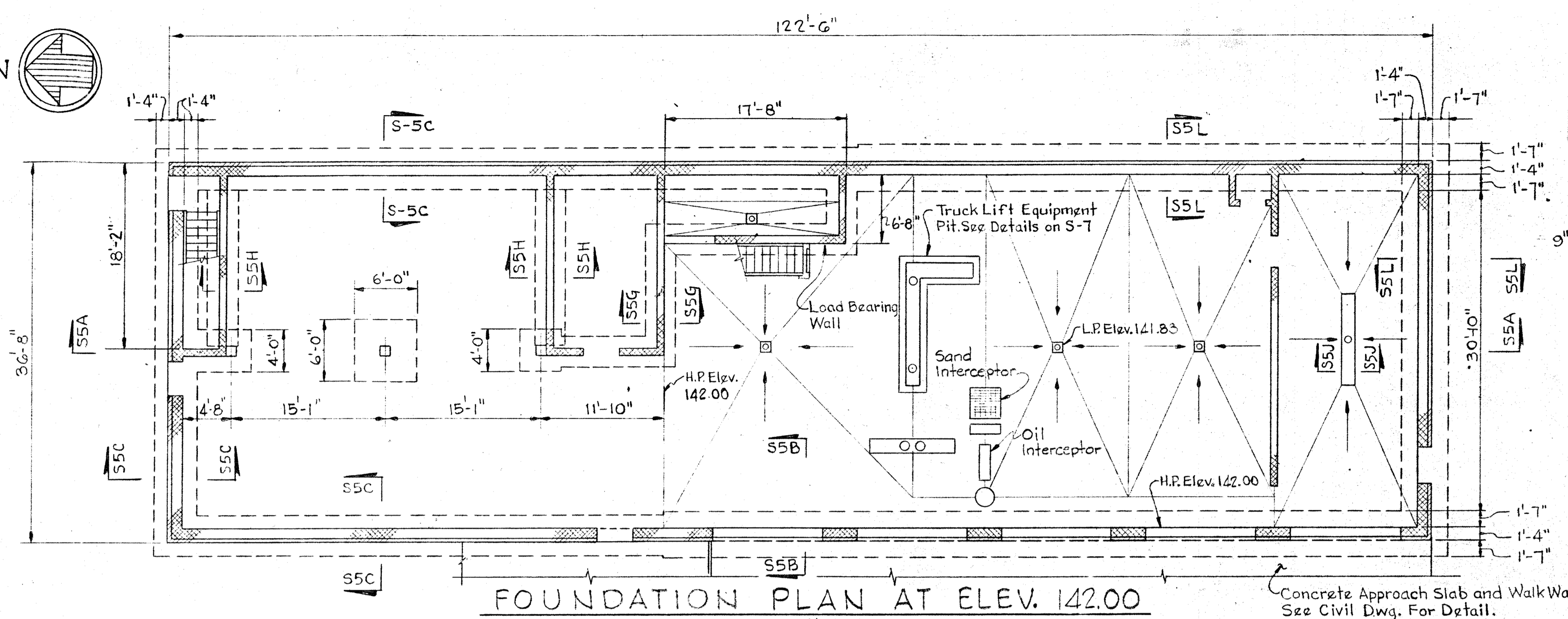
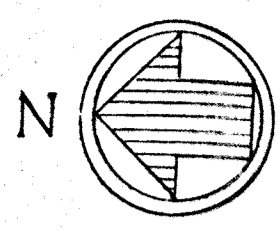
CONTRACT NO. 503-S

STRUCTURAL
ADMINISTRATION BUILDING
CANOPY FRAMING DETAILS

SAVAGE WASTEWATER
TREATMENT PLANT ADDITION NO.4

DRAWING
NO. 34
OF 64

SCALE
AS
NOTED



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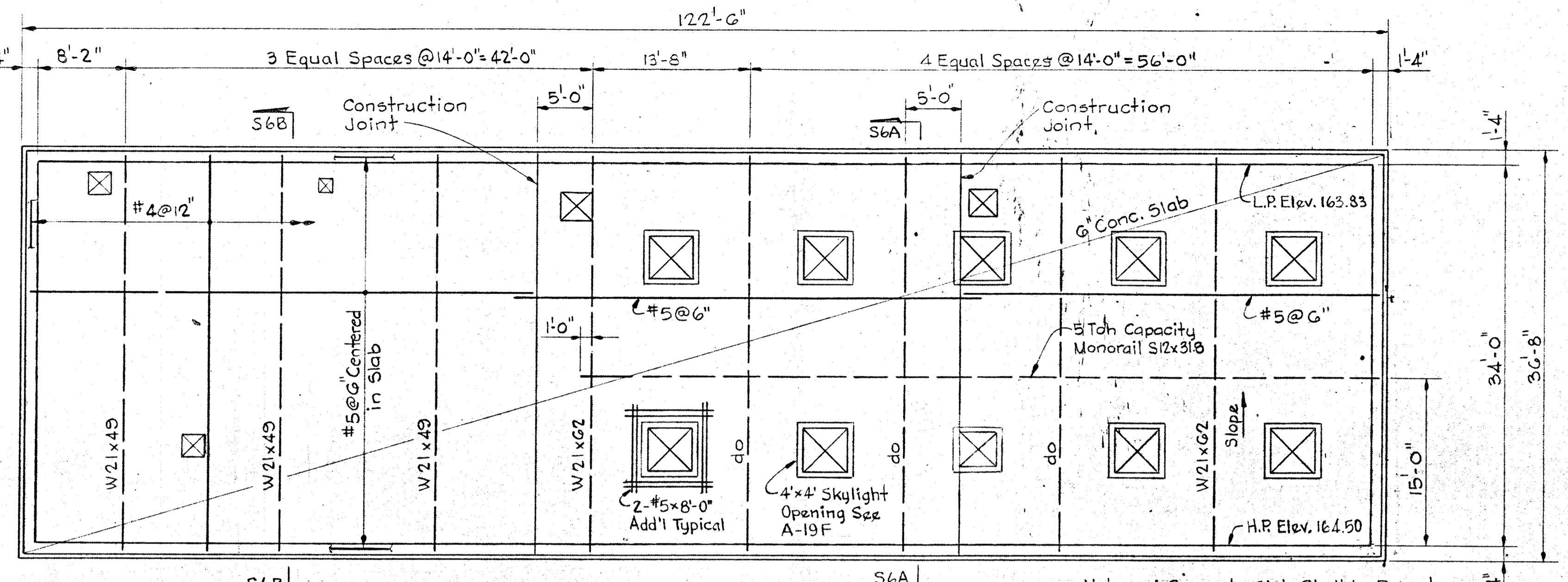
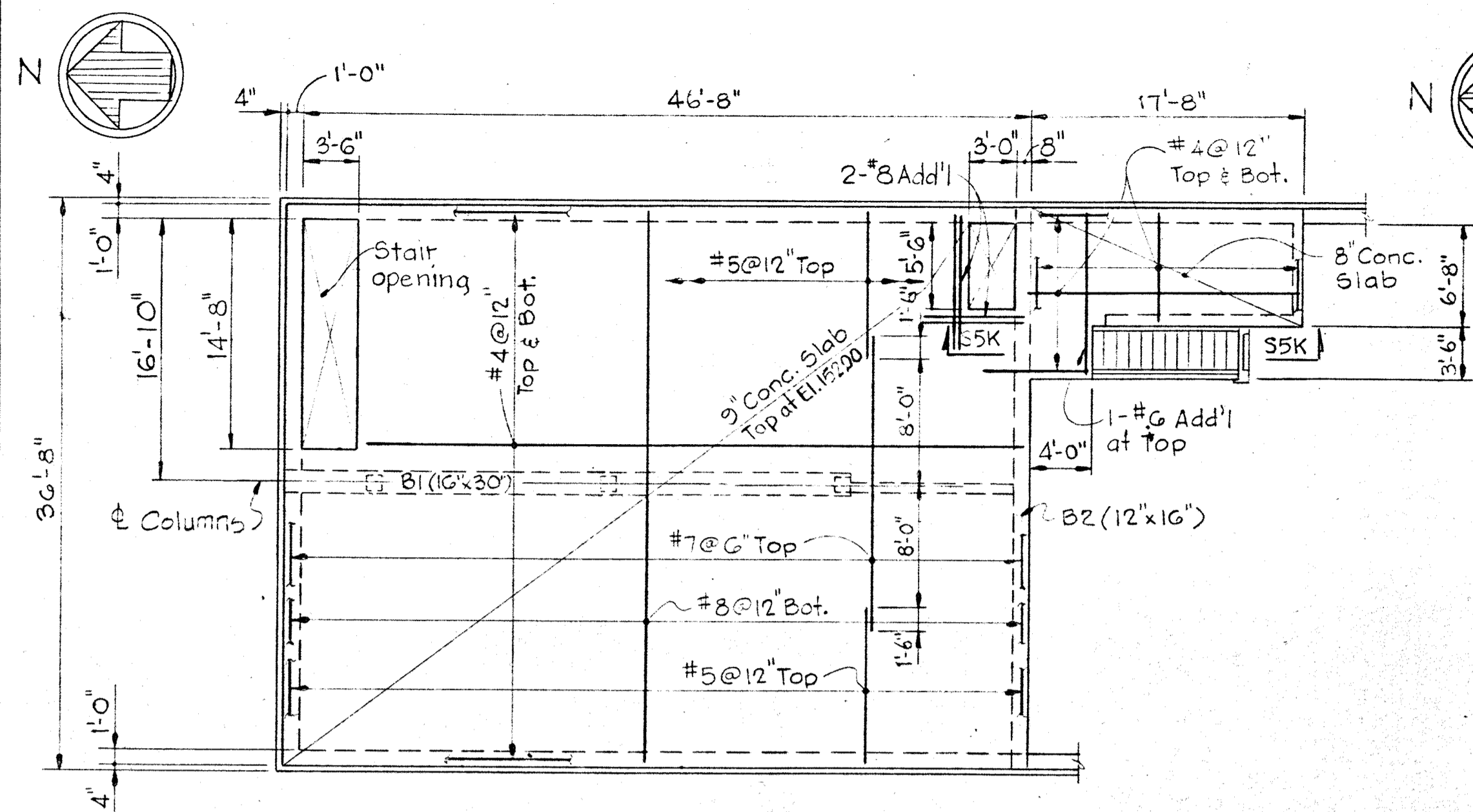
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
11-7-77
DATE
Richard E. Freudenberger
CHIEF BUREAU OF ENVIRONMENTAL SERVICES

CONTRACT NO. 503 - S

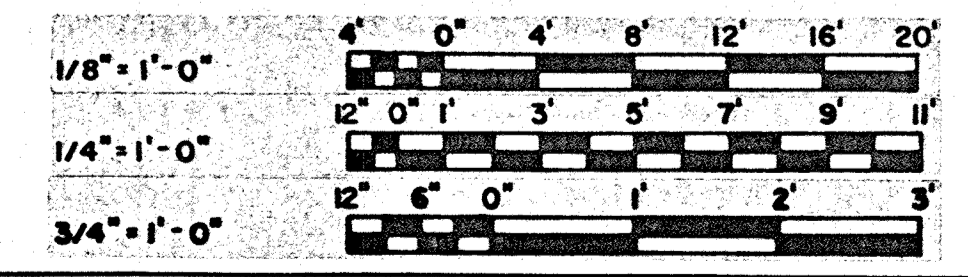
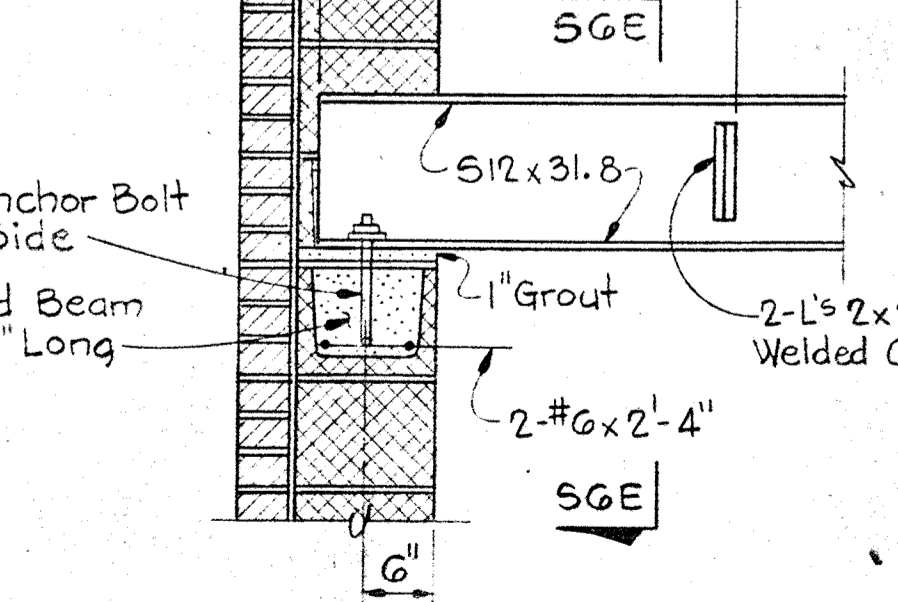
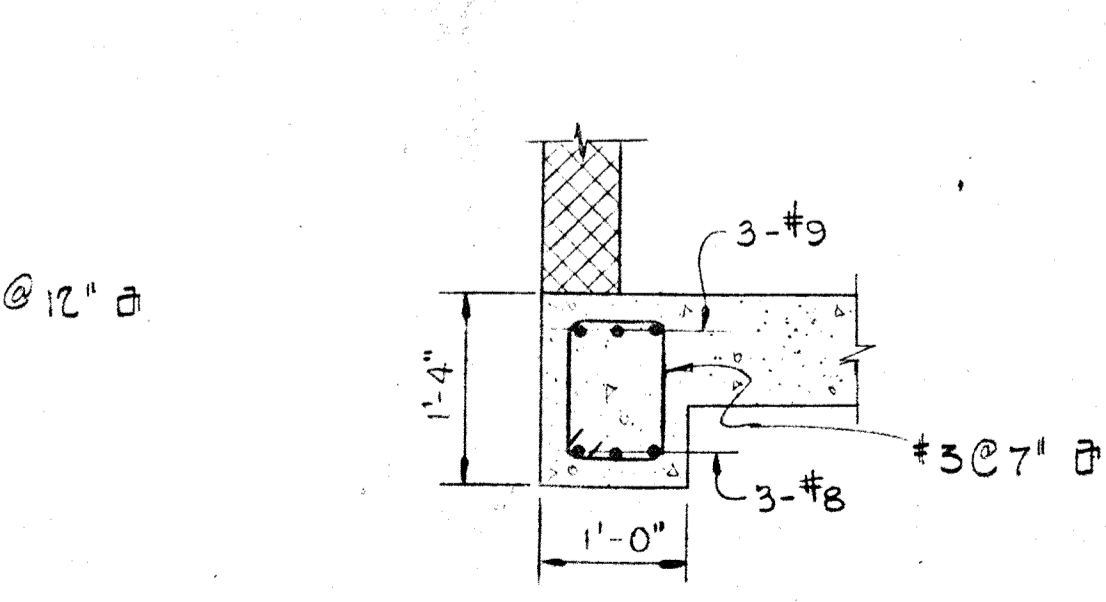
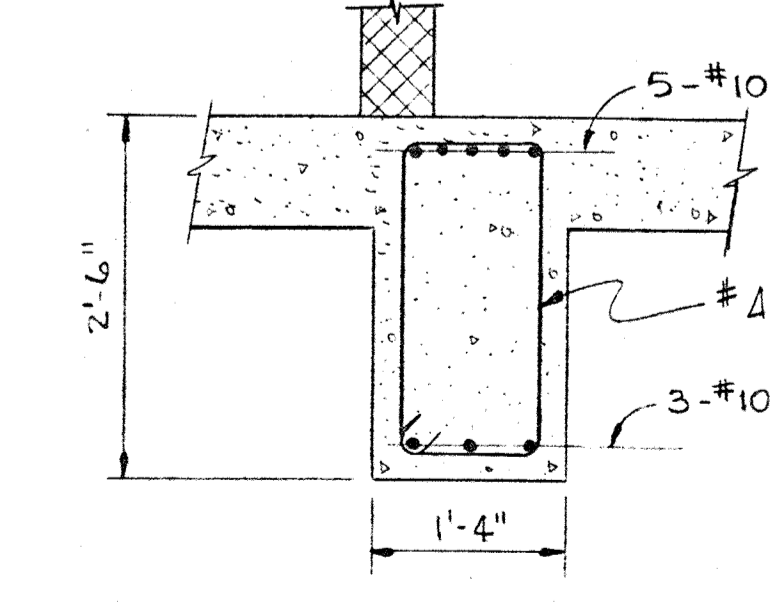
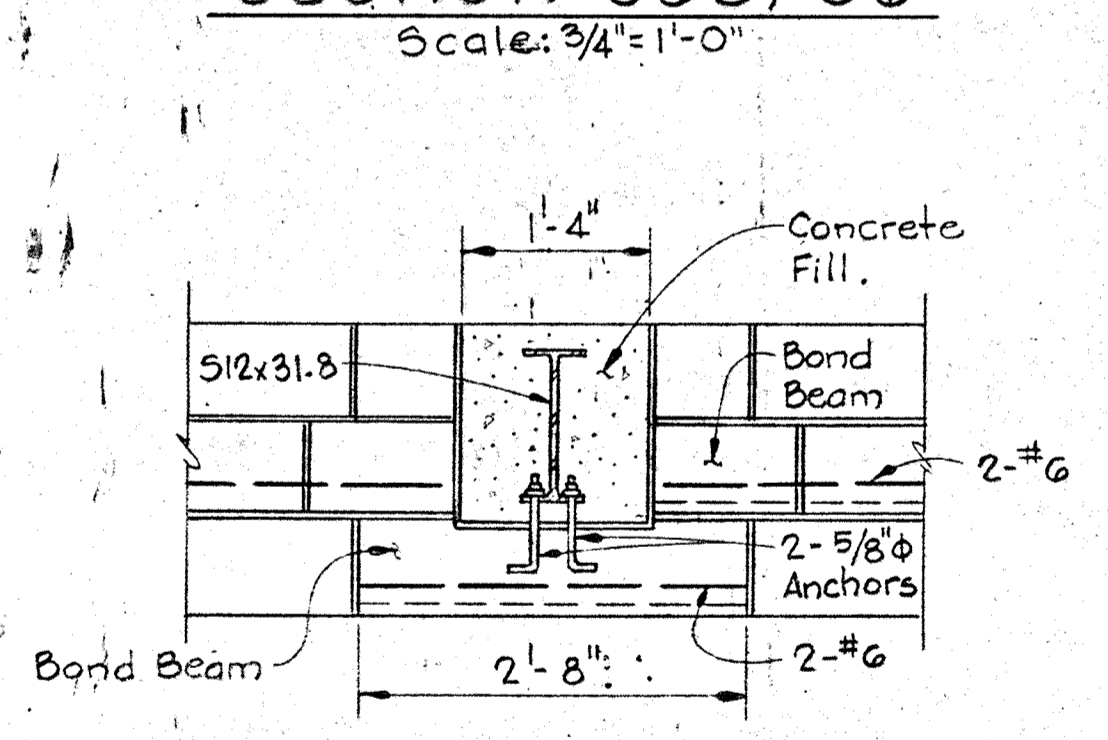
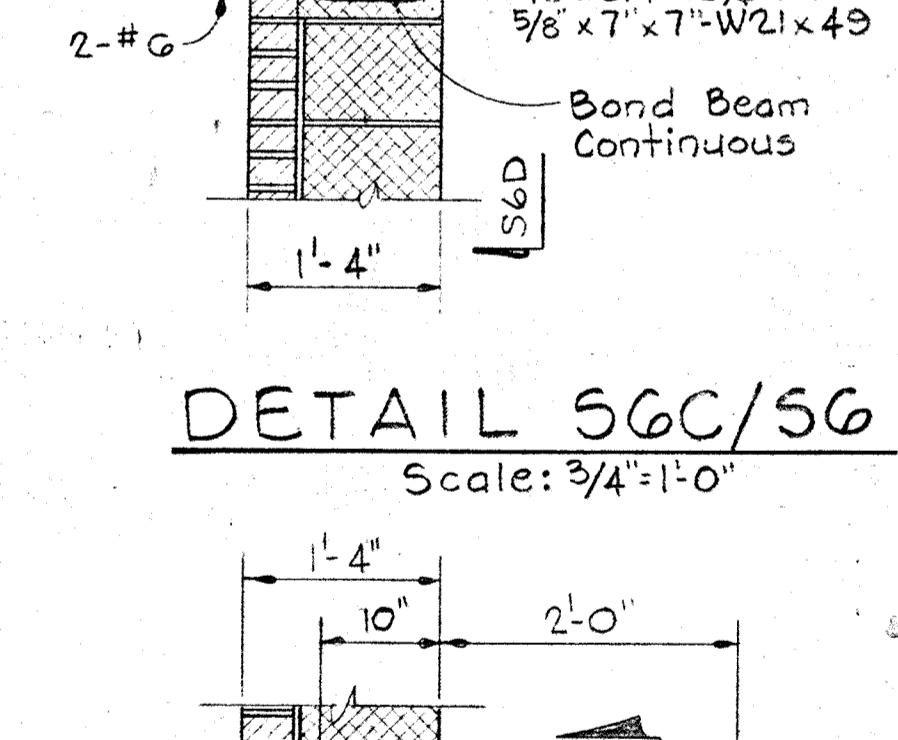
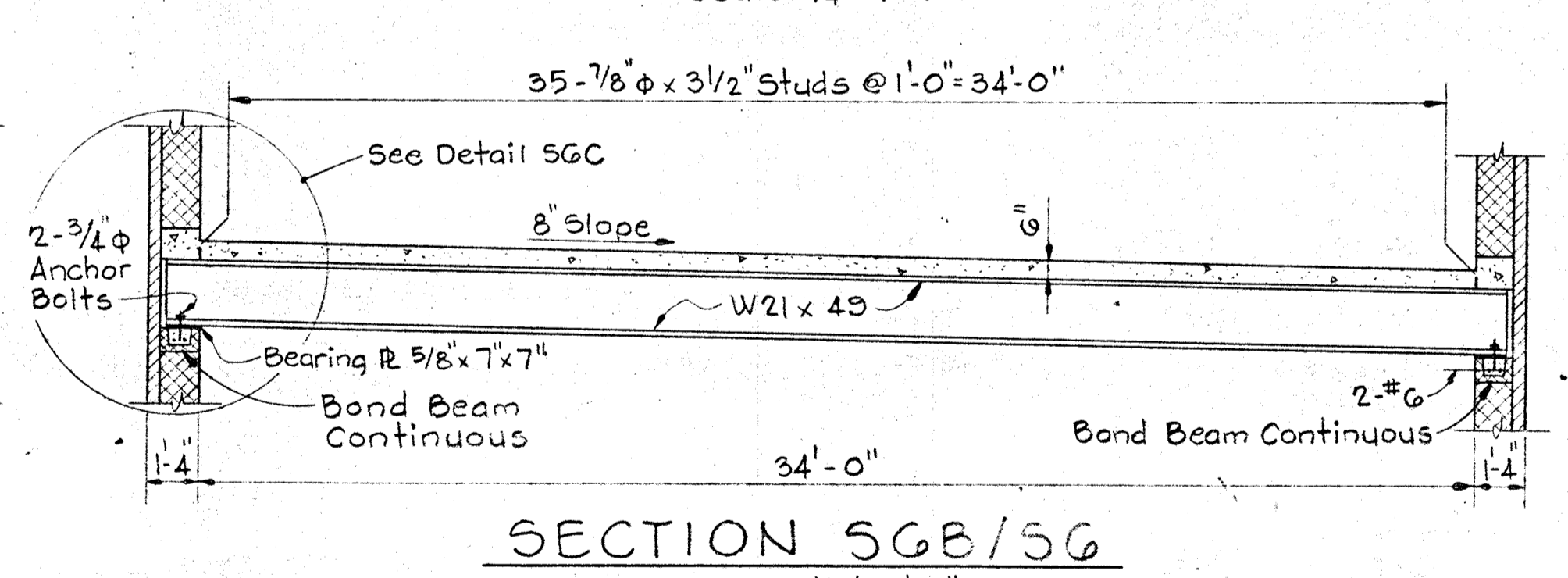
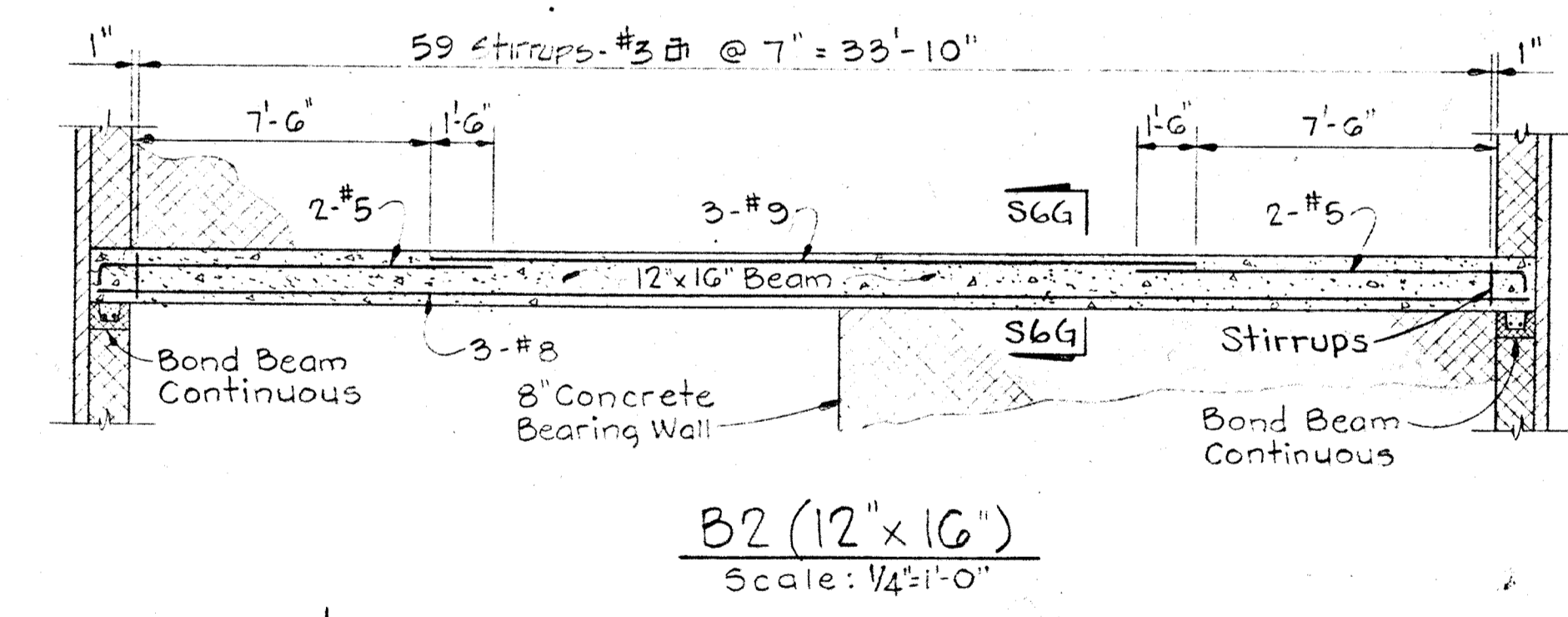
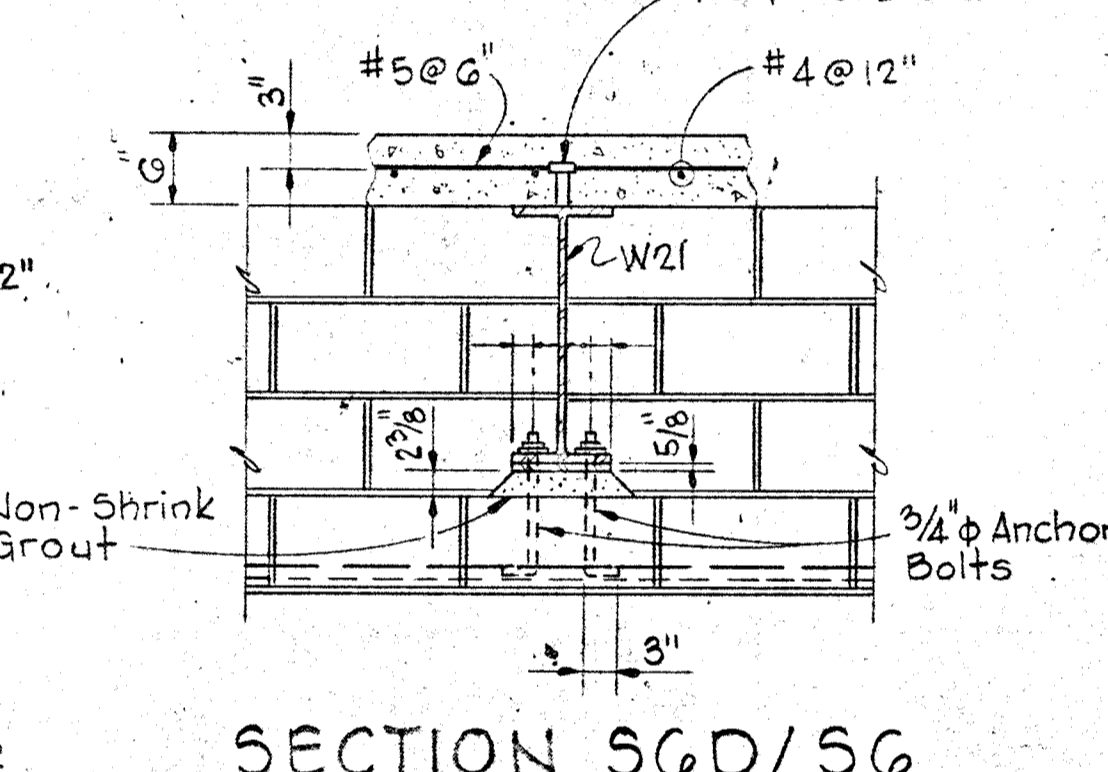
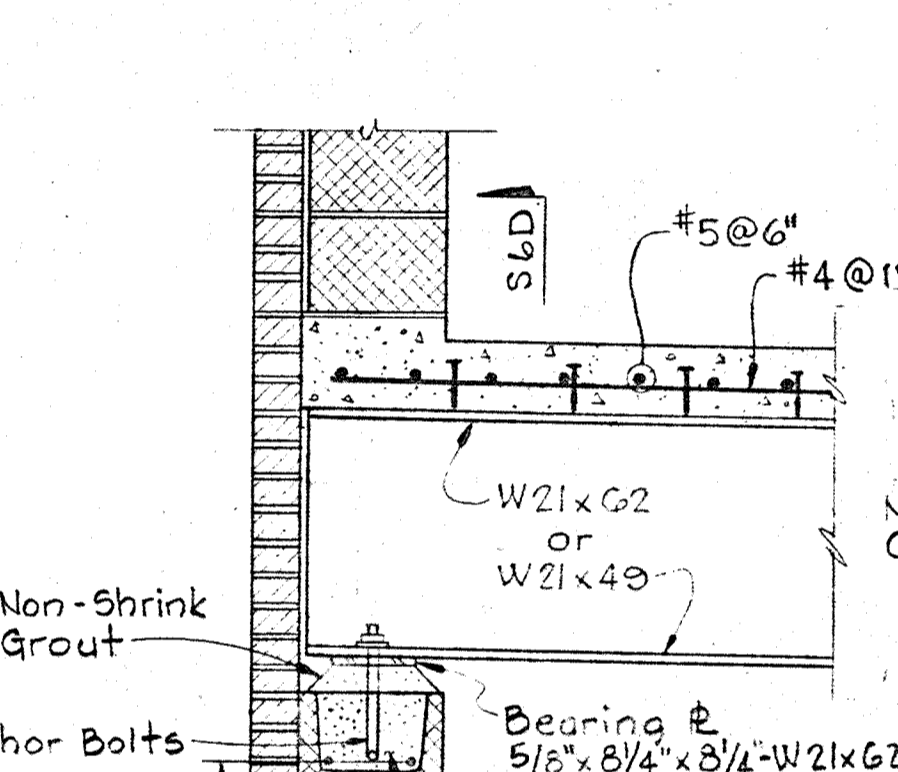
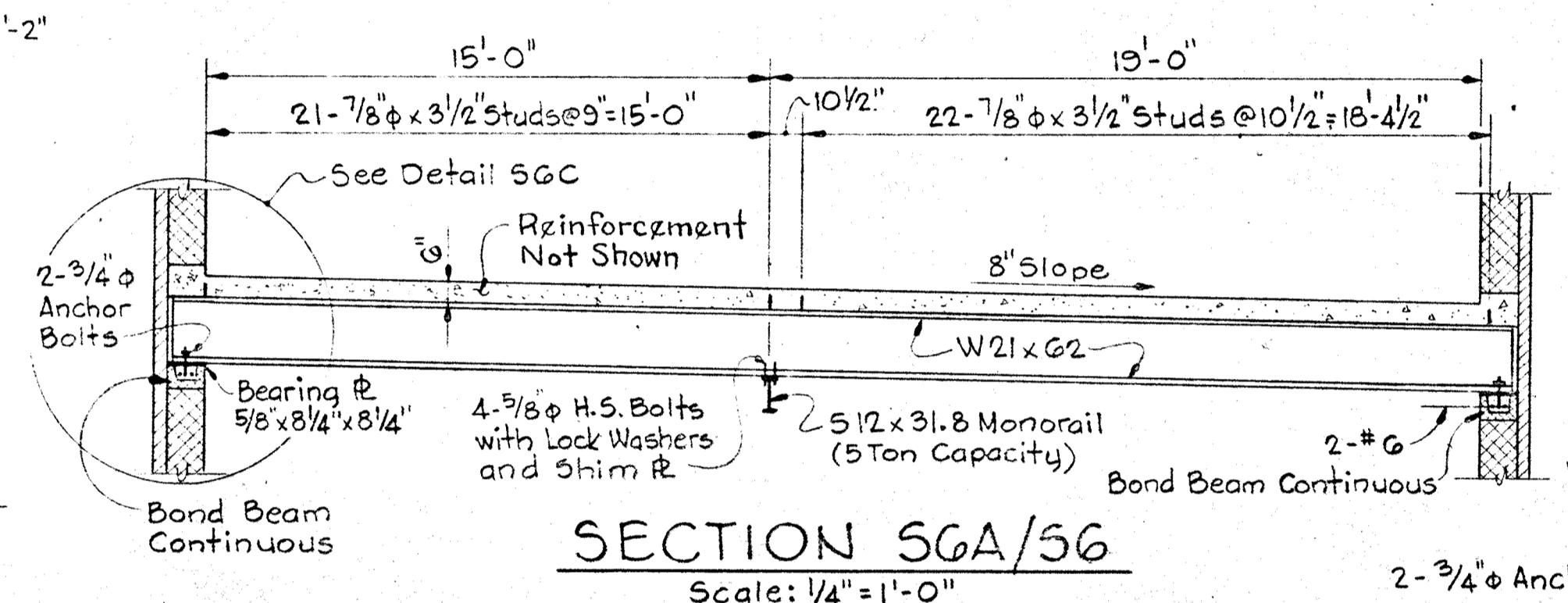
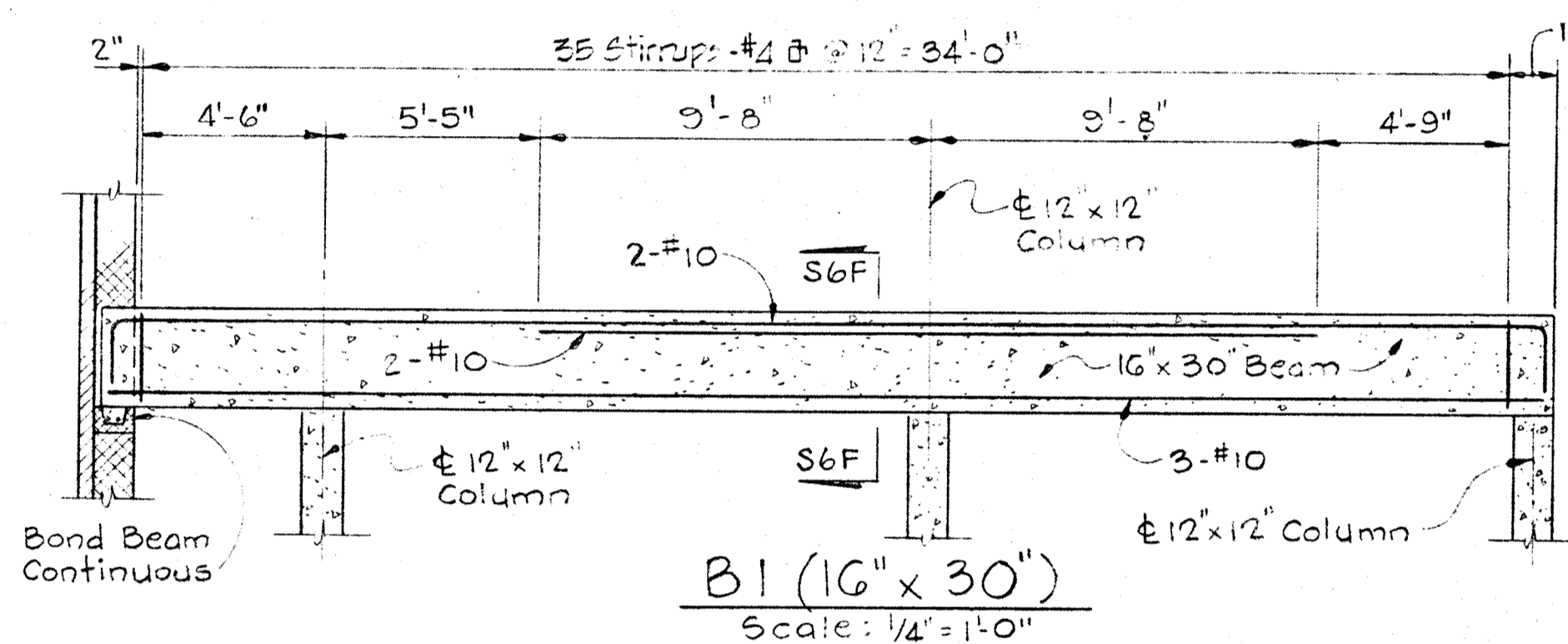
STRUCTURAL
MAINTENANCE BUILDING
FOUNDATION PLAN & DETAILS

SAVAGE WASTEWATER
TREATMENT PLANT ADDITION NO. 4

DRAWING NO. 35 OF 64
SCALE AS NOTED



Notes: 1. Concrete Slab Shall be Poured in Checker Board Pattern.
2. See Architectural and Mechanical Drawings for sizes and locations not detailed.



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BALTIMORE, MARYLAND

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HOWARD COUNTY, MARYLAND
Richard L. Linderberger
CHIEF BUREAU OF ENVIRONMENTAL SERVICES

CONTRACT NO. 503-S

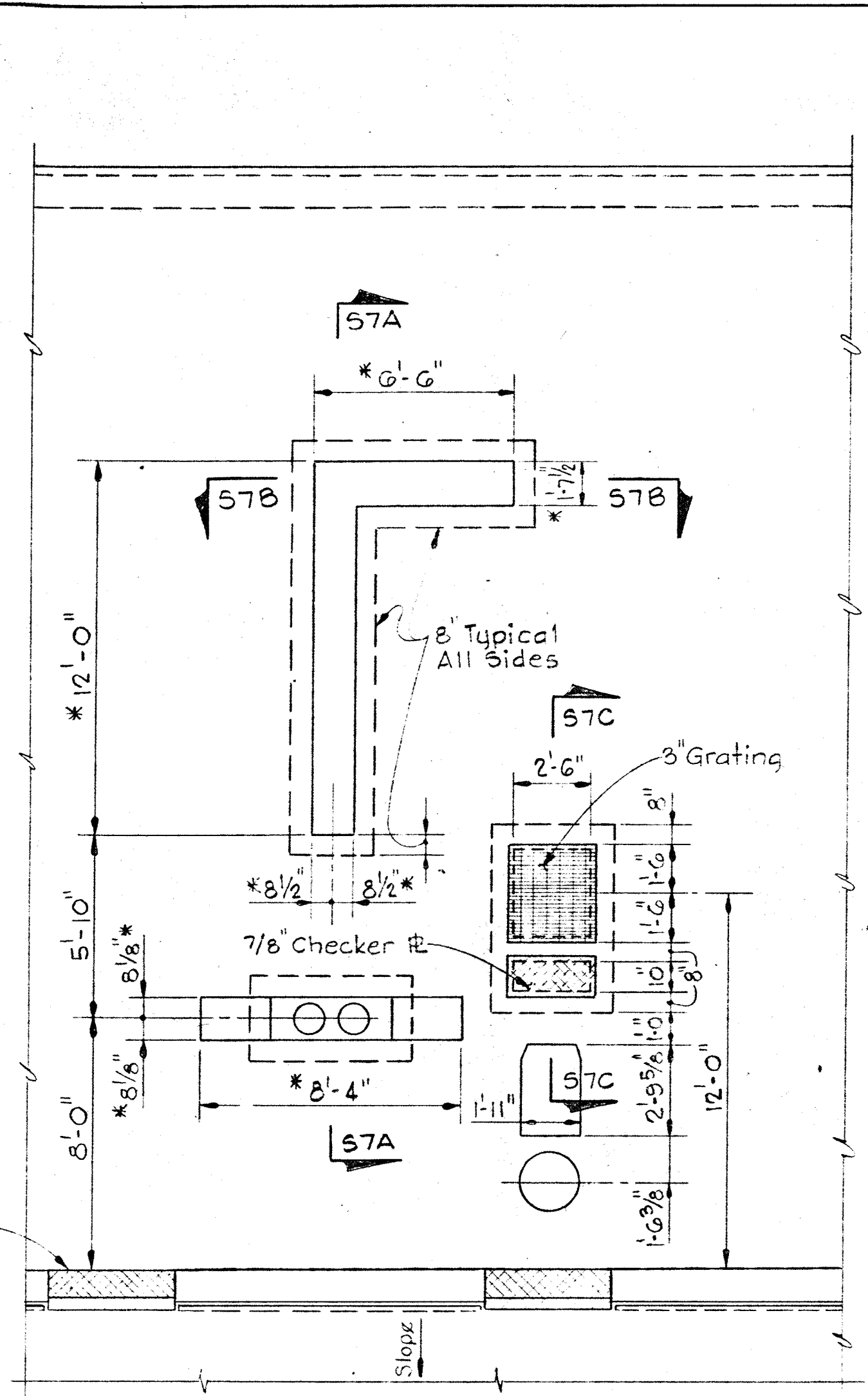
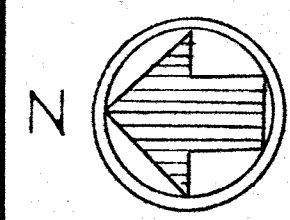
STRUCTURAL
MAINTENANCE BUILDING
SECOND FLOOR PLAN, ROOF
PLAN & DETAILS

SAVAGE WASTEWATER
TREATMENT PLANT ADDITION NO. 4

DRAWING NO. 36 OF 64
SCALE AS NOTED

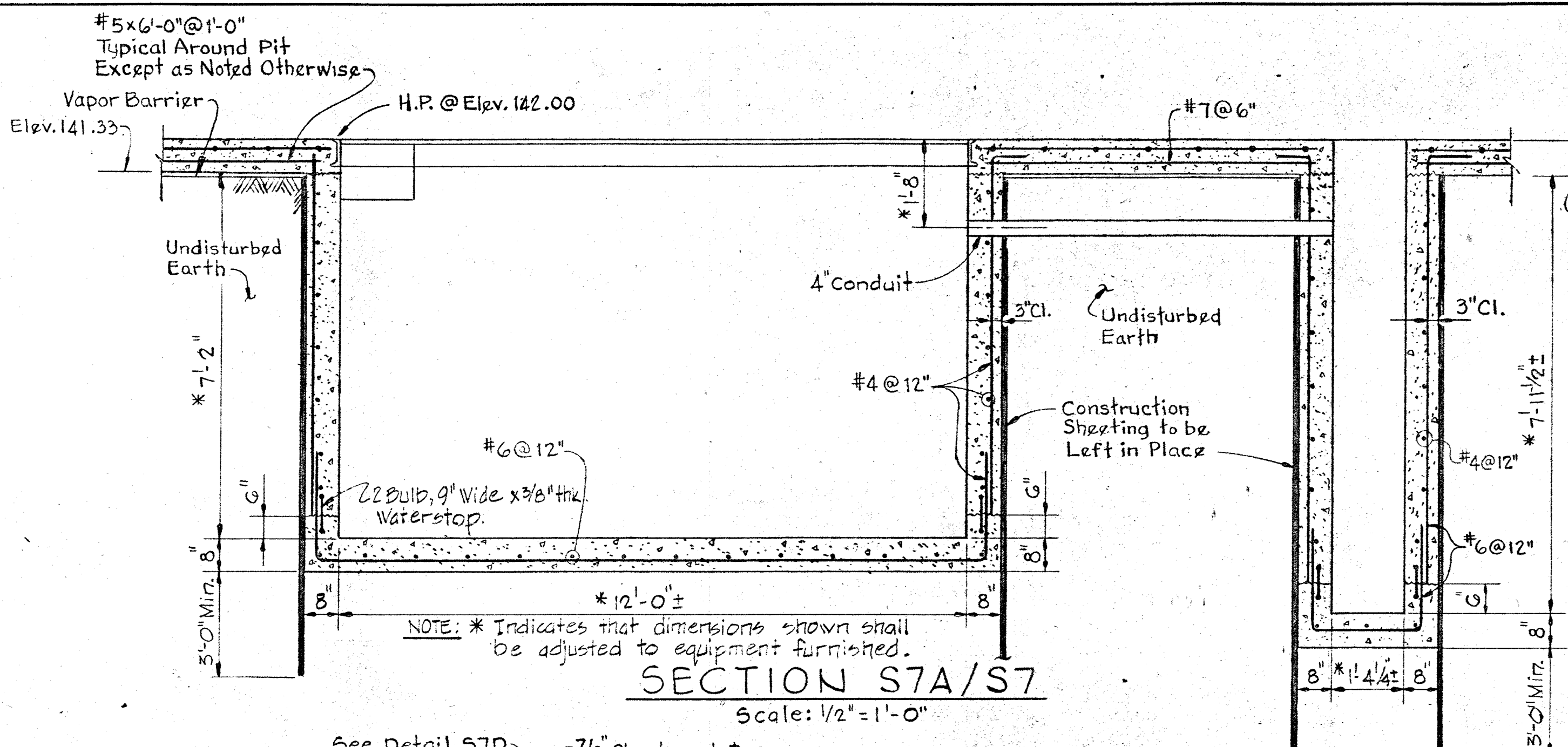
W. O. 7132-2

SHEET S-6

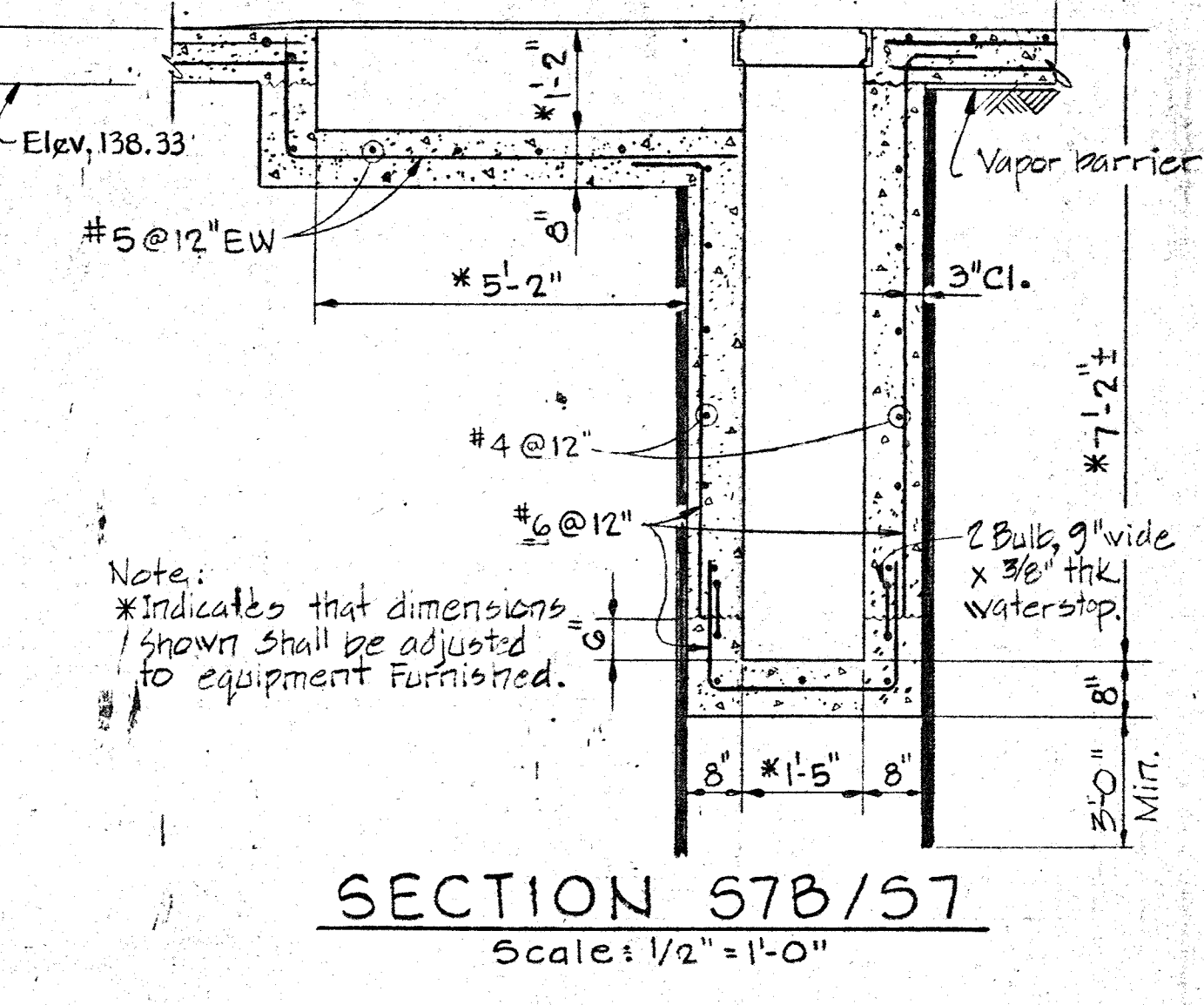


NOTE: * Indicates that Dimension shown shall be Adjusted to Equipment Furnished

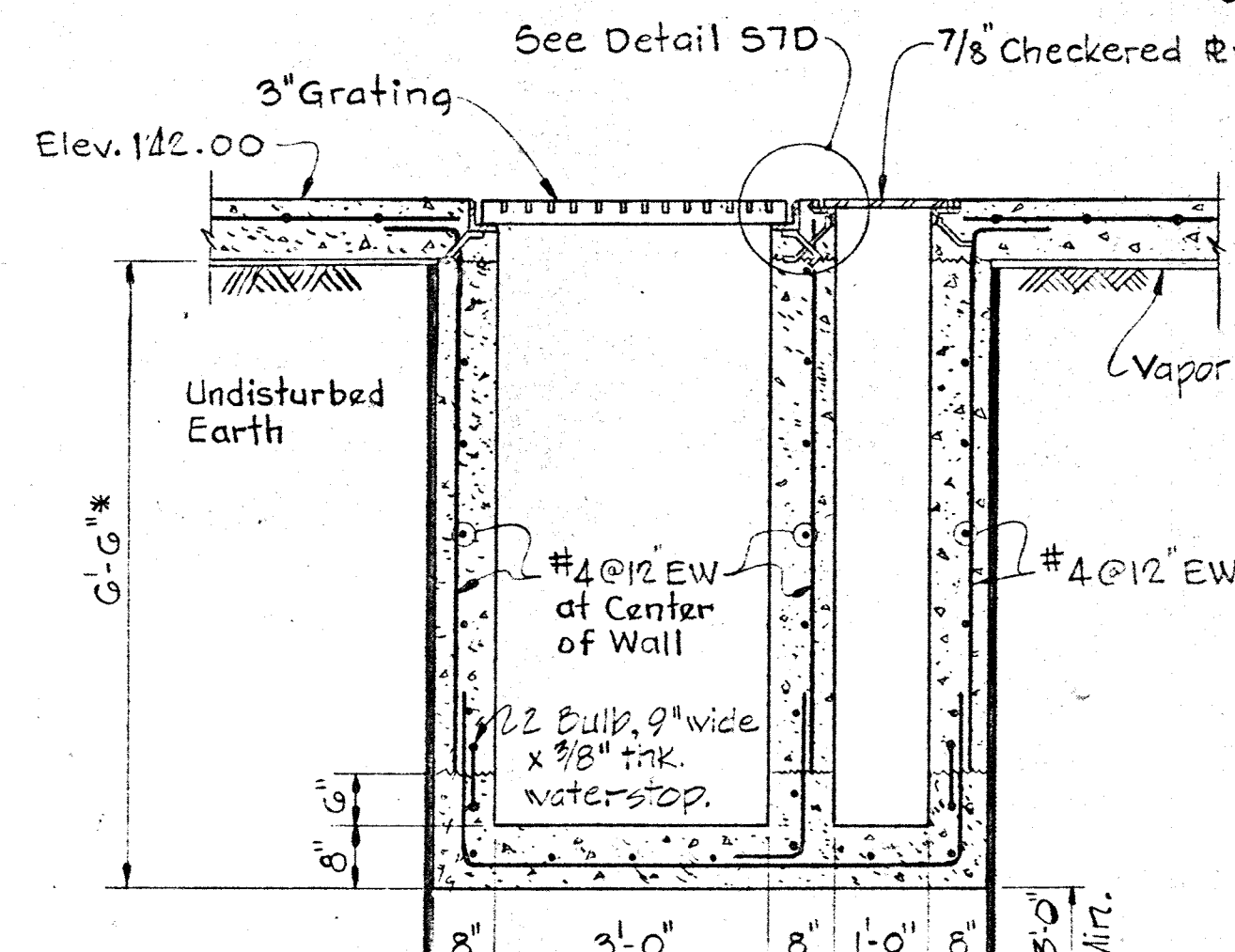
EQUIPMENT PART PLAN
Scale: 1/4" = 1'-0"



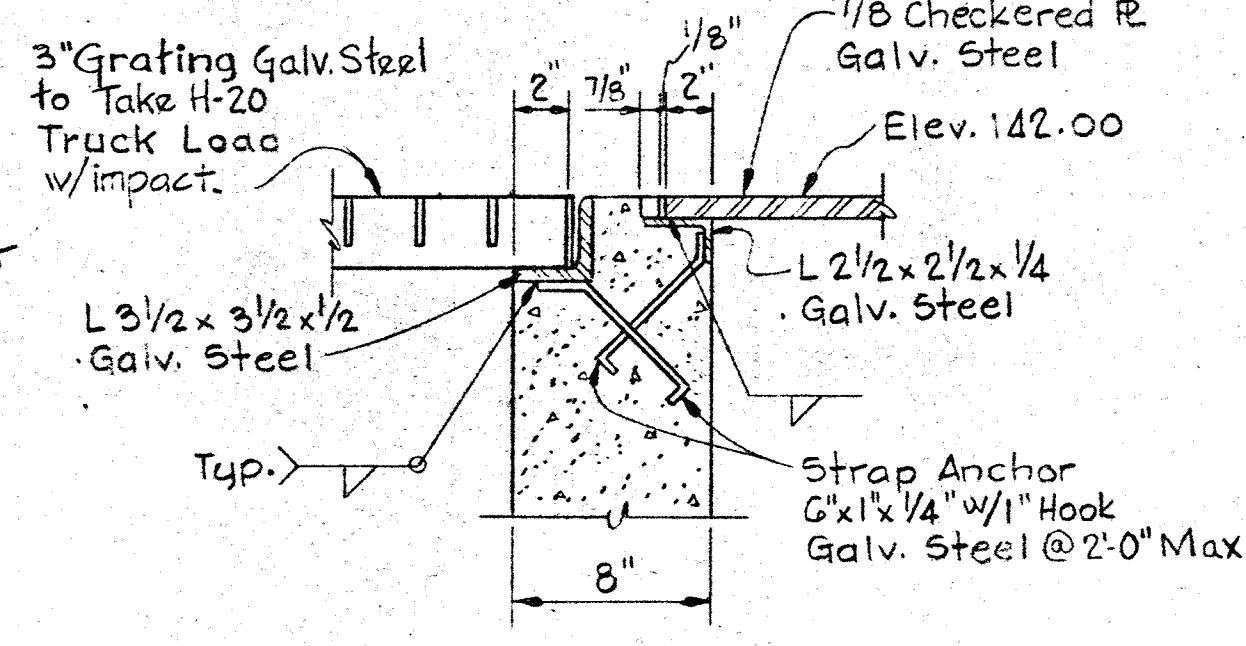
SECTION 57A/S7
Scale: 1/2" = 1'-0"



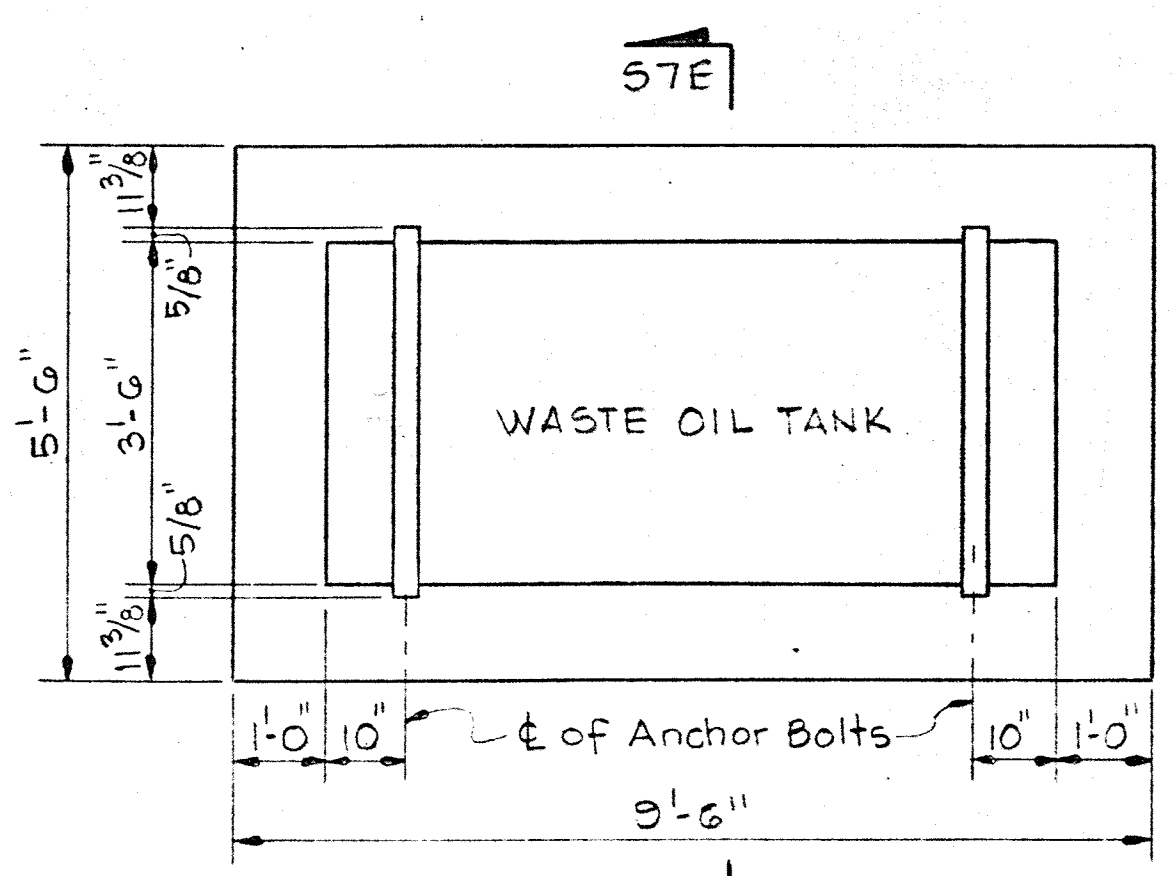
SECTION 57B/S7
Scale: 1/2" = 1'-0"



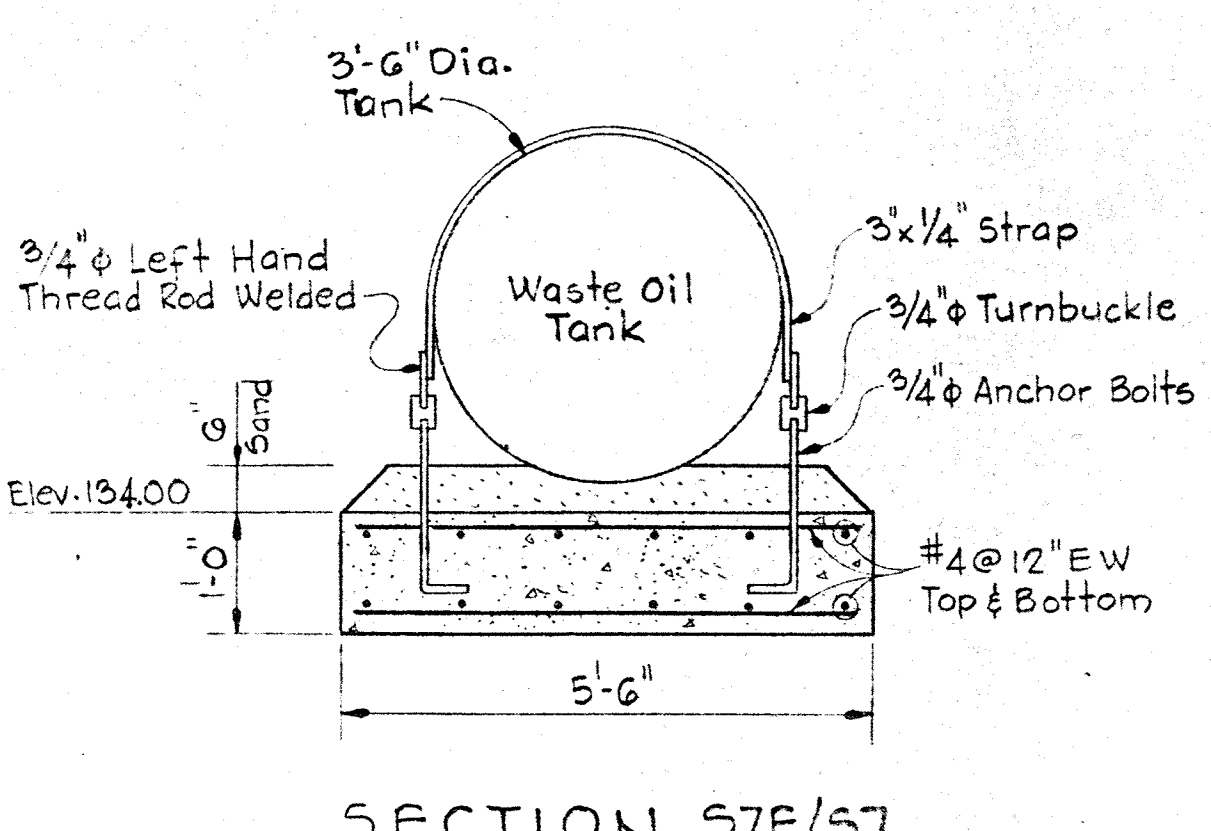
SECTION 57C/S7
Scale: 1/2" = 1'-0"



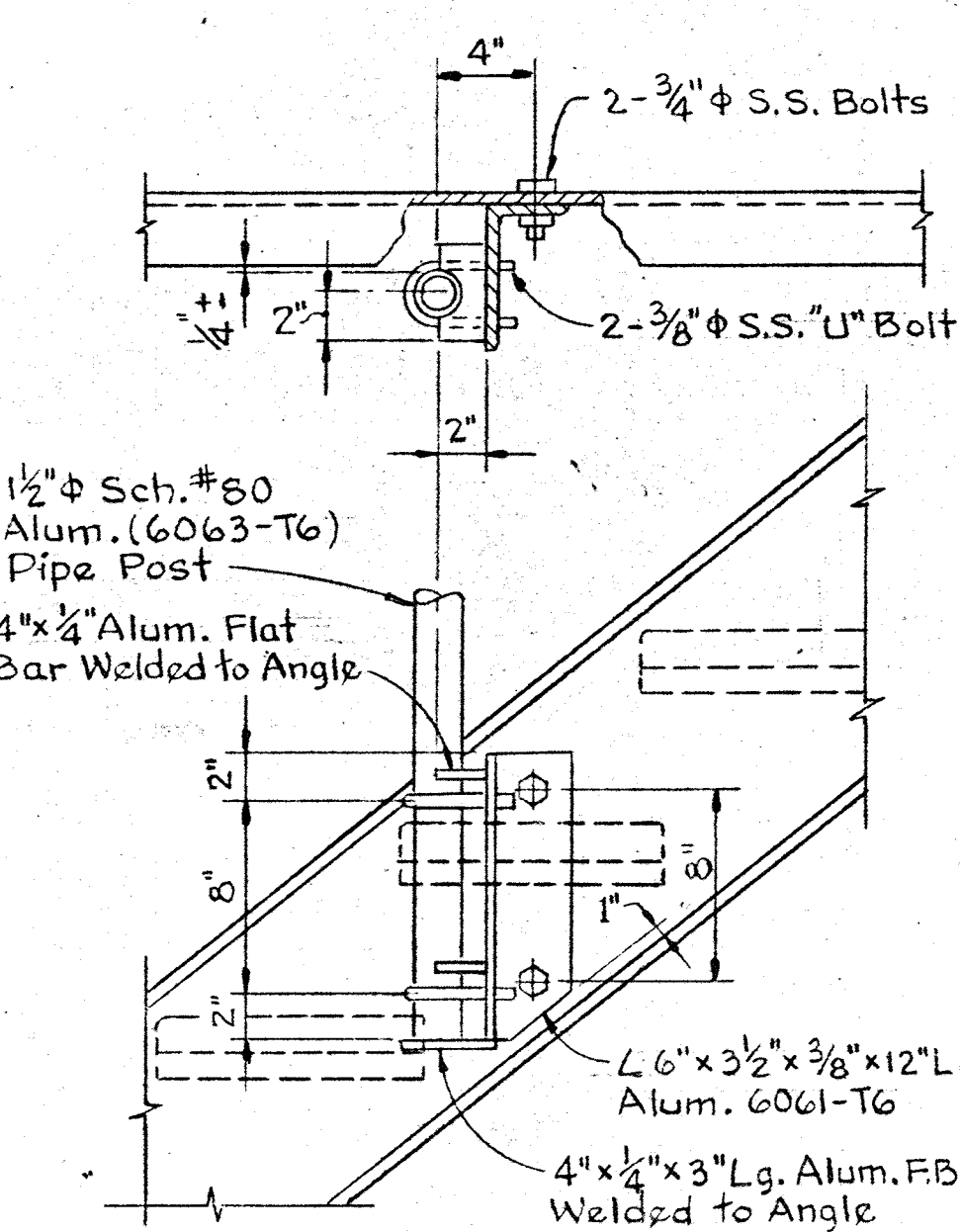
DETAIL 57D/S7
Scale: 1/2" = 1'-0"



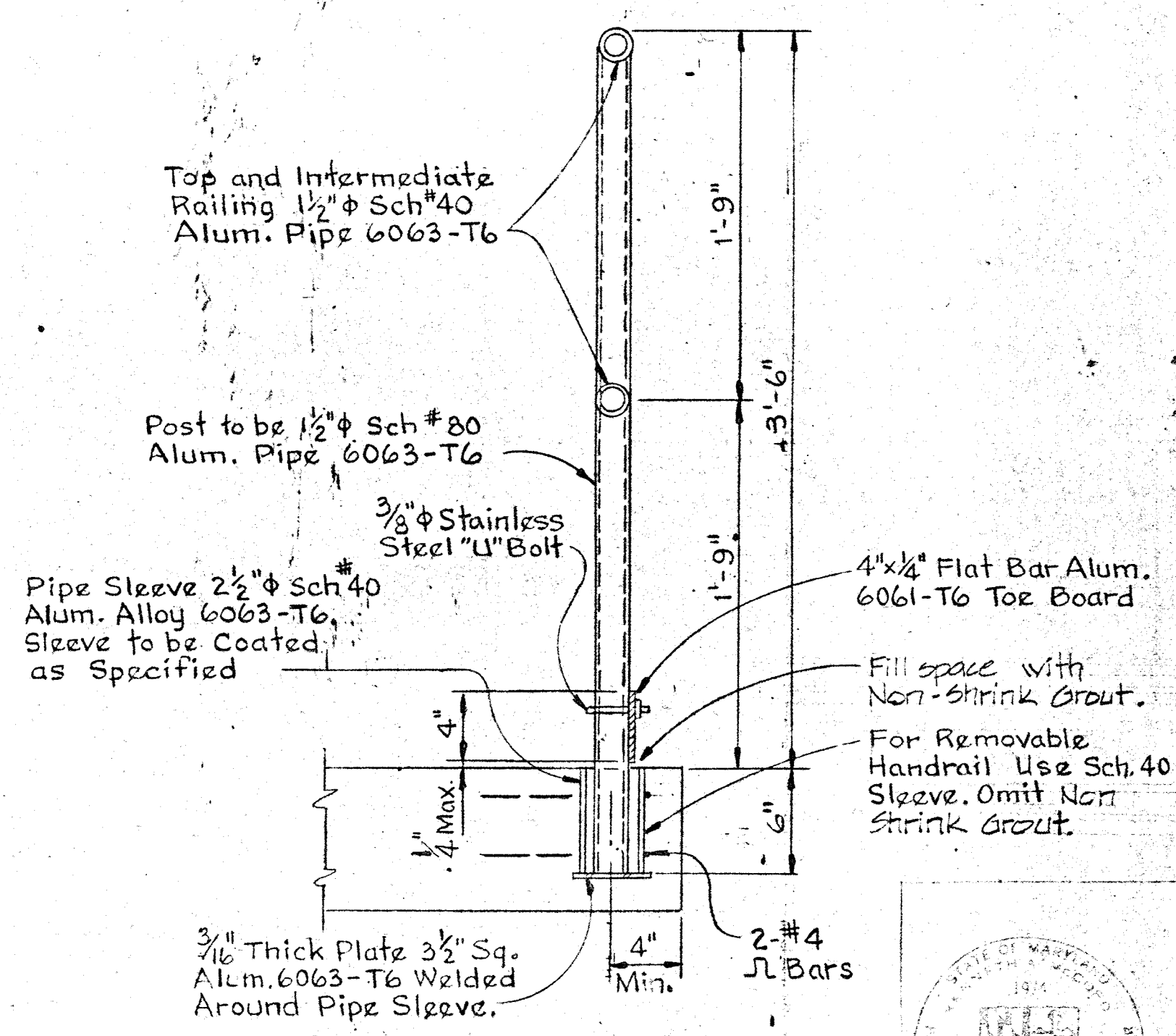
WASTE OIL TANK SUPPORT
Scale: 1/2" = 1'-0"



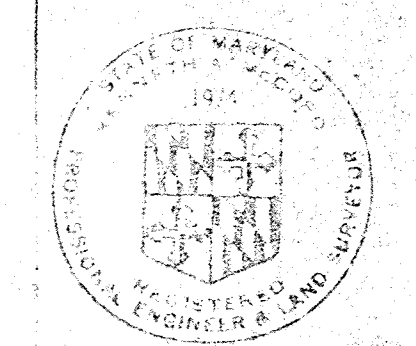
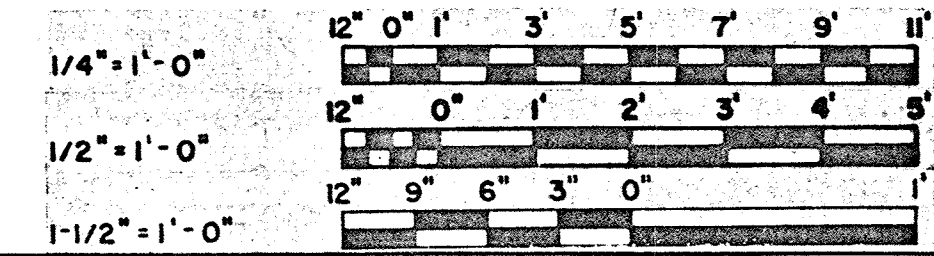
SECTION 57E/S7



TYPICAL HANDRAIL POST CONNECTION ON STAIRS
Scale: 1/2" = 1'-0"



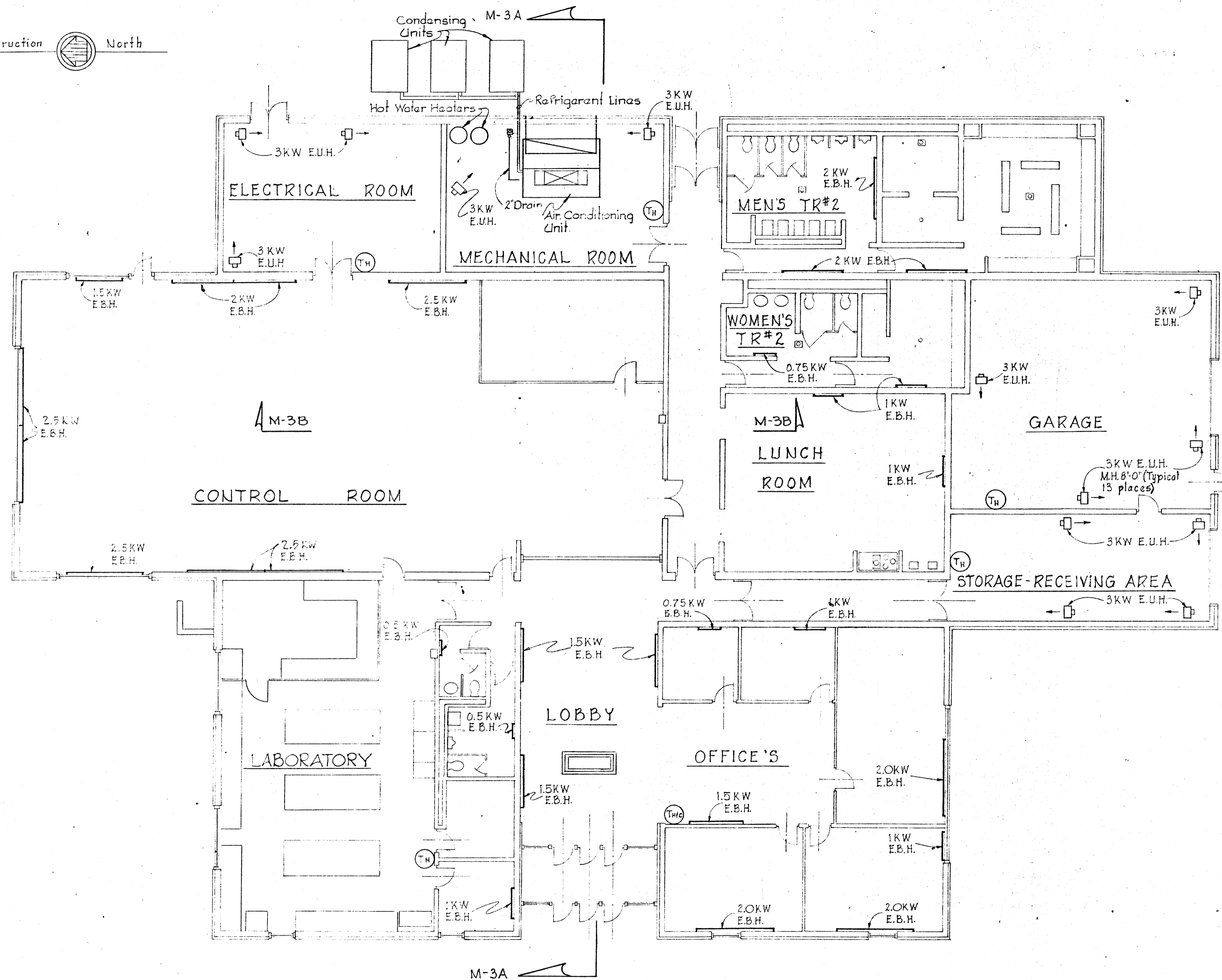
TYPICAL HANDRAIL POST CONNECTION IN CONCRETE
Scale: 1/2" = 1'-0"



WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 11-7-77 DATE	CONTRACT NO. 503-S	STRUCTURAL MAINTENANCE BUILDING SECTIONS & DETAILS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 37 OF 64	SCALE AS NOTED
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W. O. 7132-2

SHEET S-7



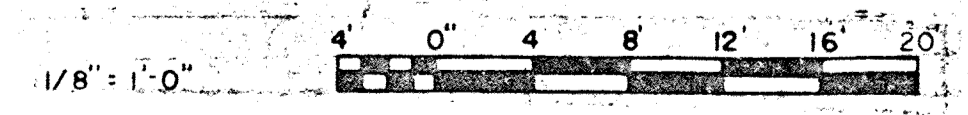
PLAN
Scale: 1/8" = 1'-0"

LEGEND
PIPE, VALVES AND FITTINGS

SYMBOLS	DESCRIPTION	ABBREVIATIONS
	Cold Water, City Water	C.W.
	Hot Water	H.W.
	Vent	
	Vent Thru Roof	V.T.R.
	Sanitary Drain	S
	Compressed Air	A
	Gas Piping	G
	Gate Valve	
	Swing Check Valve	
	Floor Drain	F.D.
	Cleanout, Flush Type Strainer	F.C.O.
	Shock Absorber	
	Hose Bibb	H.B.
	Reducer	
	Union	
	Storm Drain	S.D.
	Roof Drain	R.D.
	Vacuum	V
	High Vacuum	H.V.

VENTILATION

	Splitter Damper
	Square Elbow with Turning Vanes
	Supply Air Duct
	Return or Exhaust Air Duct
	Duct Thermostat
	Air Flow Switch
	Transition, Flat on Top
	Transition, Flat on Bottom
	Volume Damper
	Flexible Ductwork
	Rise in Ductwork in Respect to Flow
	Drop in Ductwork in Respect to Flow
	Ventril
	Motor Operated Damper

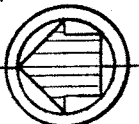


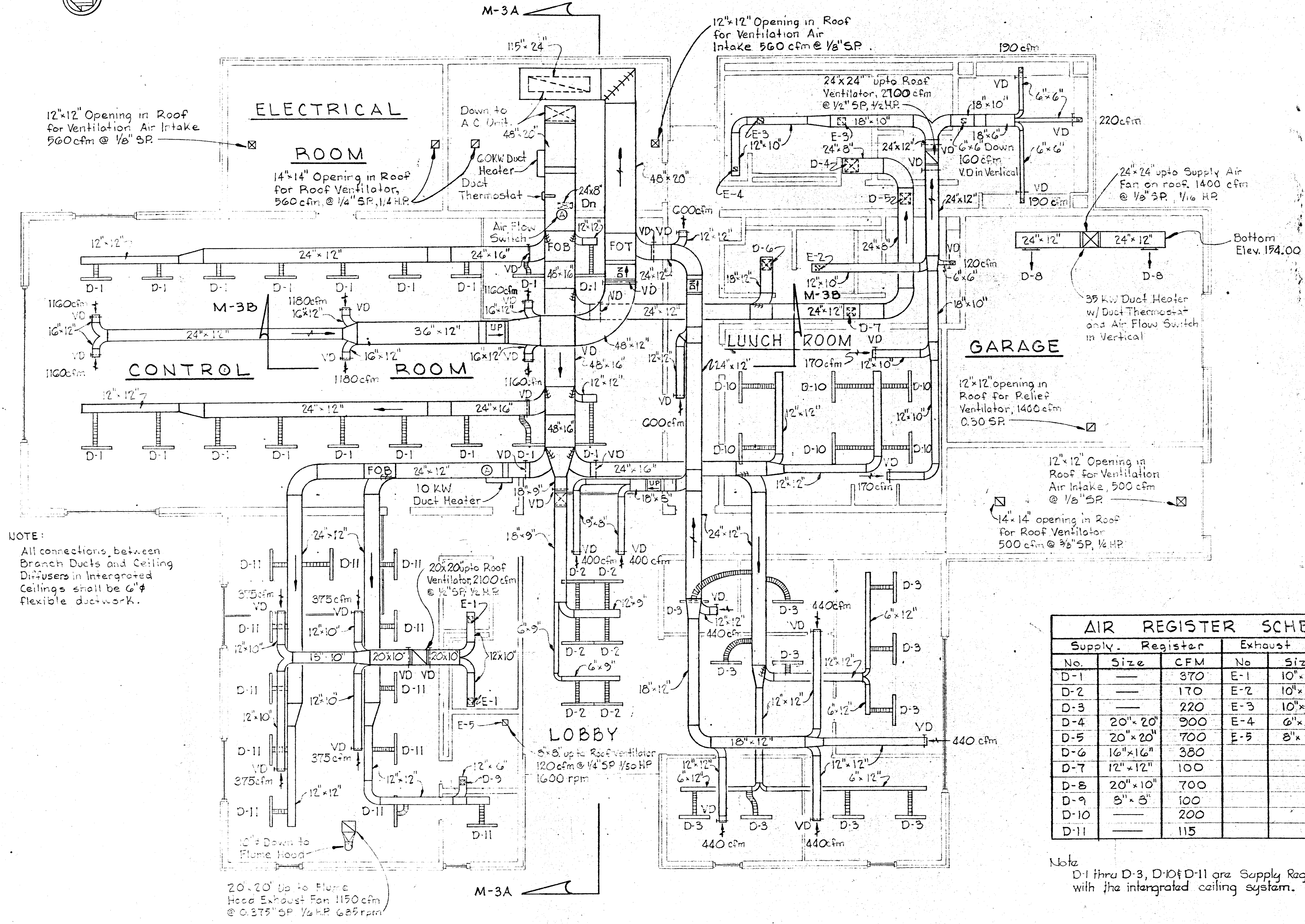
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: <i>4/15/64</i> CHIEF-BUREAU OF ENGINEERING	CONTRACT NO. <u>503-S</u>	HVAC FLOOR PLAN	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. <u>38</u> OF <u>64</u>	SCALE AS SHOWN
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W. O.6887-2

SHEET M-1

DRAWING 44-510 18392

Construction  North

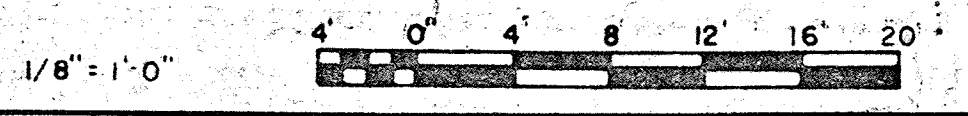


NOTE:
All connections between Branch Ducts and Ceiling Diffusers in Integrated Ceilings shall be 6" flexible ductwork.

AIR REGISTER SCHEDULE					
Supply Register			Exhaust Register		
No.	Size	CFM	No.	Size	CFM
D-1		370	E-1	10" x 10"	300
D-2		170	E-2	10" x 10"	480
D-3		220	E-3	10" x 10"	475
D-4	20" x 20"	900	E-4	6" x 6"	50
D-5	20" x 20"	700	E-5	8" x 8"	120
D-6	16" x 16"	380			
D-7	12" x 12"	100			
D-8	20" x 10"	700			
D-9	8" x 8"	100			
D-10		200			
D-11		115			

Note
D-1 thru D-3, D-10 & D-11 are Supply Registers supplied with the integrated ceiling system.

CEILING PLAN
Scale: 1/8" = 1'-0"

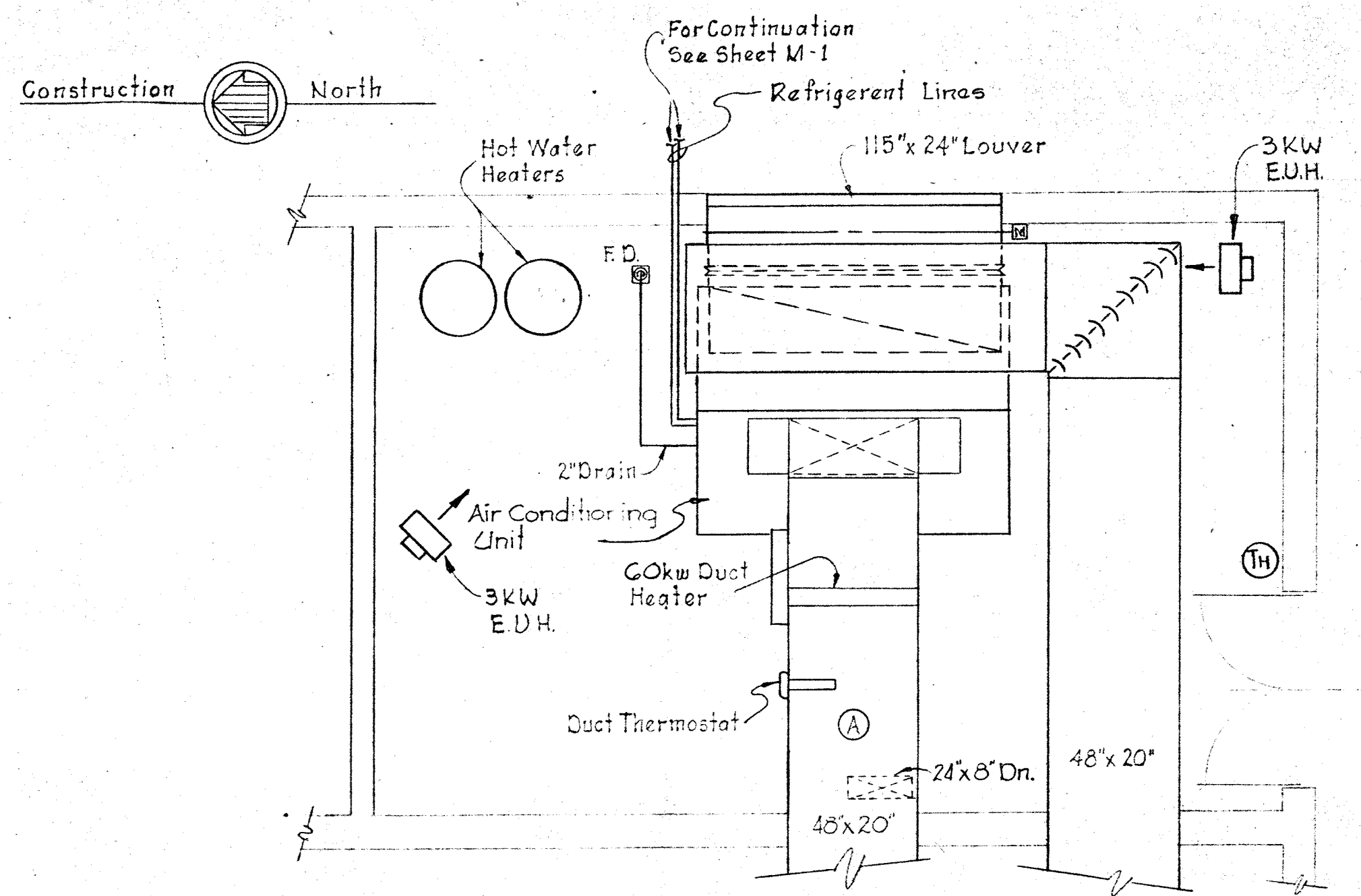


WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: <i>3/10/15</i> CHIEF, BUREAU OF ENGINEERING	CONTRACT NO. 503-S	HVAC CEILING PLAN	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 39 OF 64 SCALE AS SHOWN
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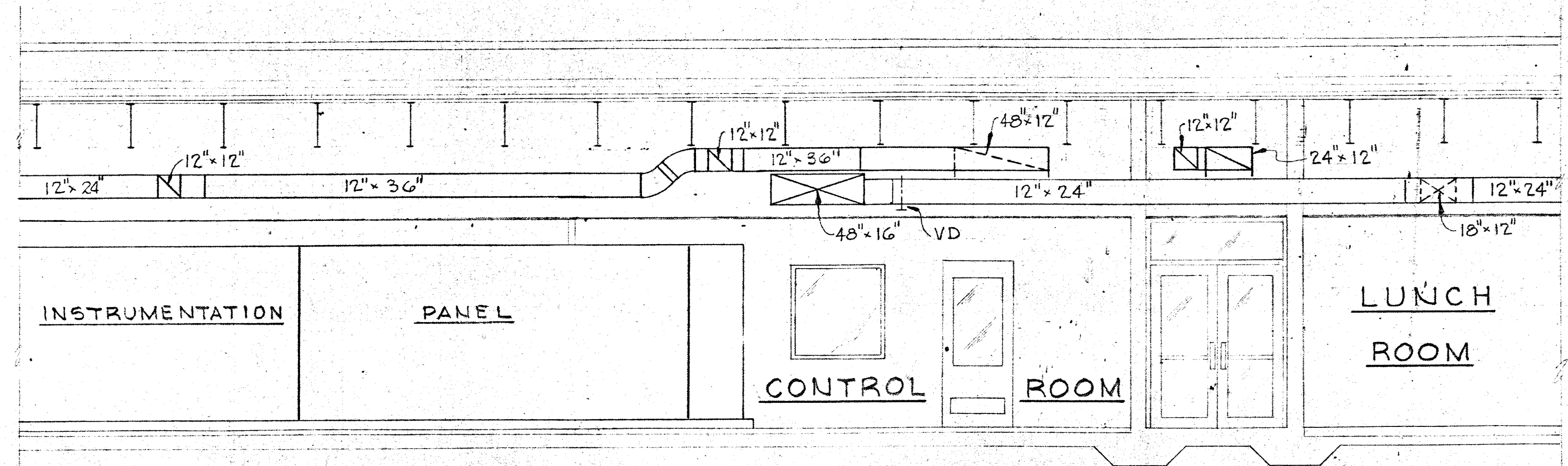
W. O. 6887 *2

SHEET M-2

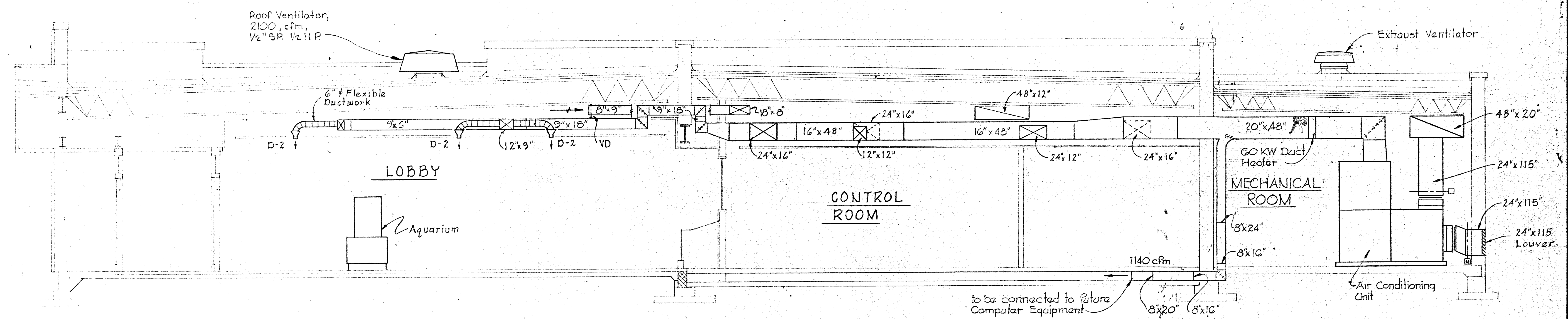
BRUNING 44-510 18992



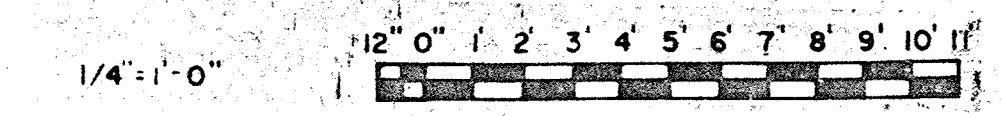
PART PLAN MECHANICAL ROOM
Scale: 1/4" = 1'-0"



SECTION M-3B/M-1,2
Scale: 1/4" = 1'-0"



SECTION M-3A/M-1,2
Scale: 1/4" = 1'-0"



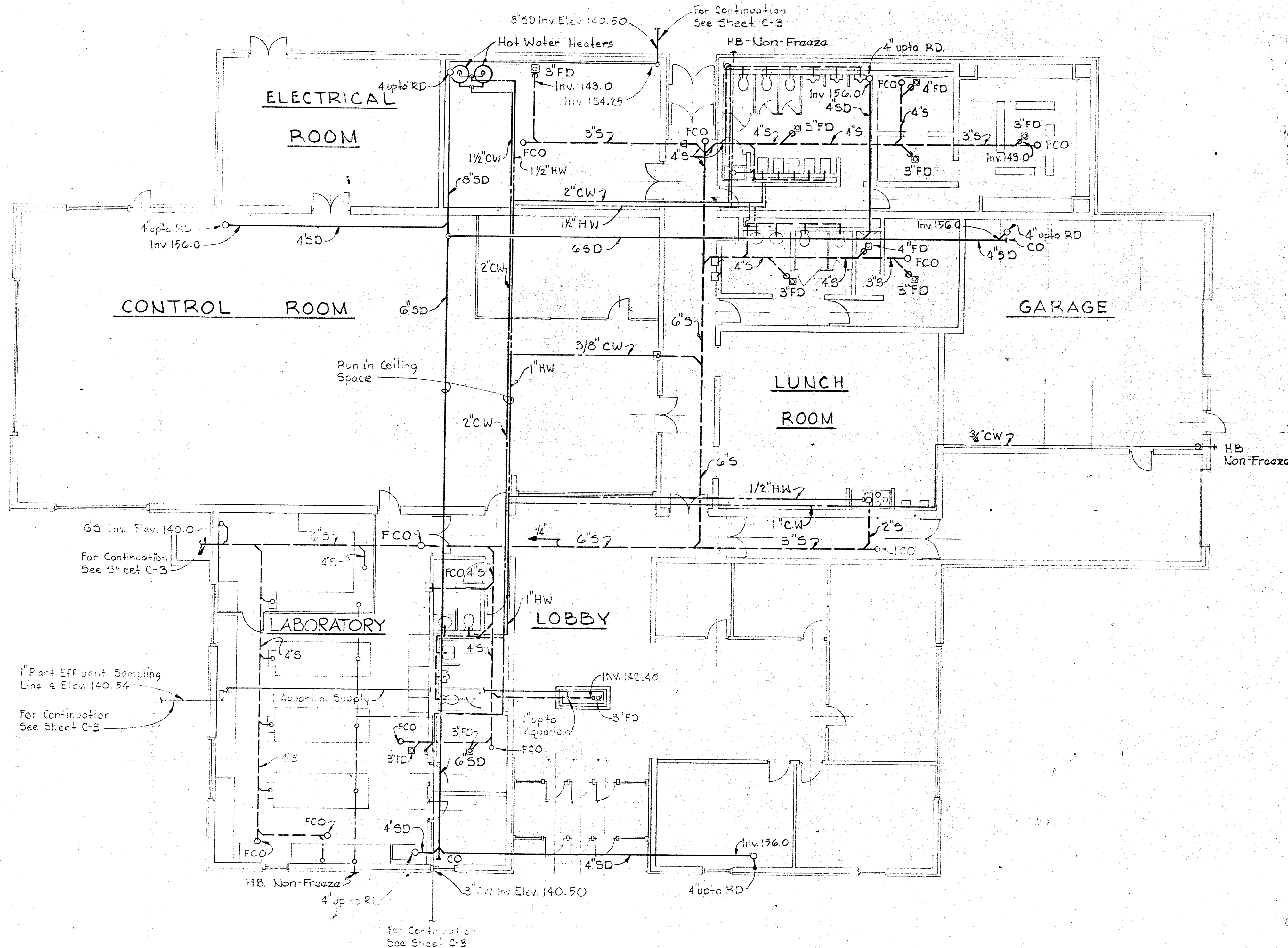
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>3/10/75</i> DATE	CONTRACT NO. 503-S	HVAC PLAN, SECTIONS, AND DETAILS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 40 OF 64 SCALE AS SHOWN
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W. O. 6887-2

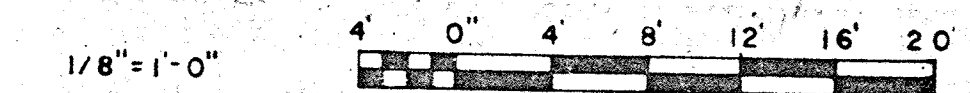
SHEET M-3

BRUNING 44510 18392

Construction  North



PLAN - PLUMBING
Scale: 1/8"=1'-0"



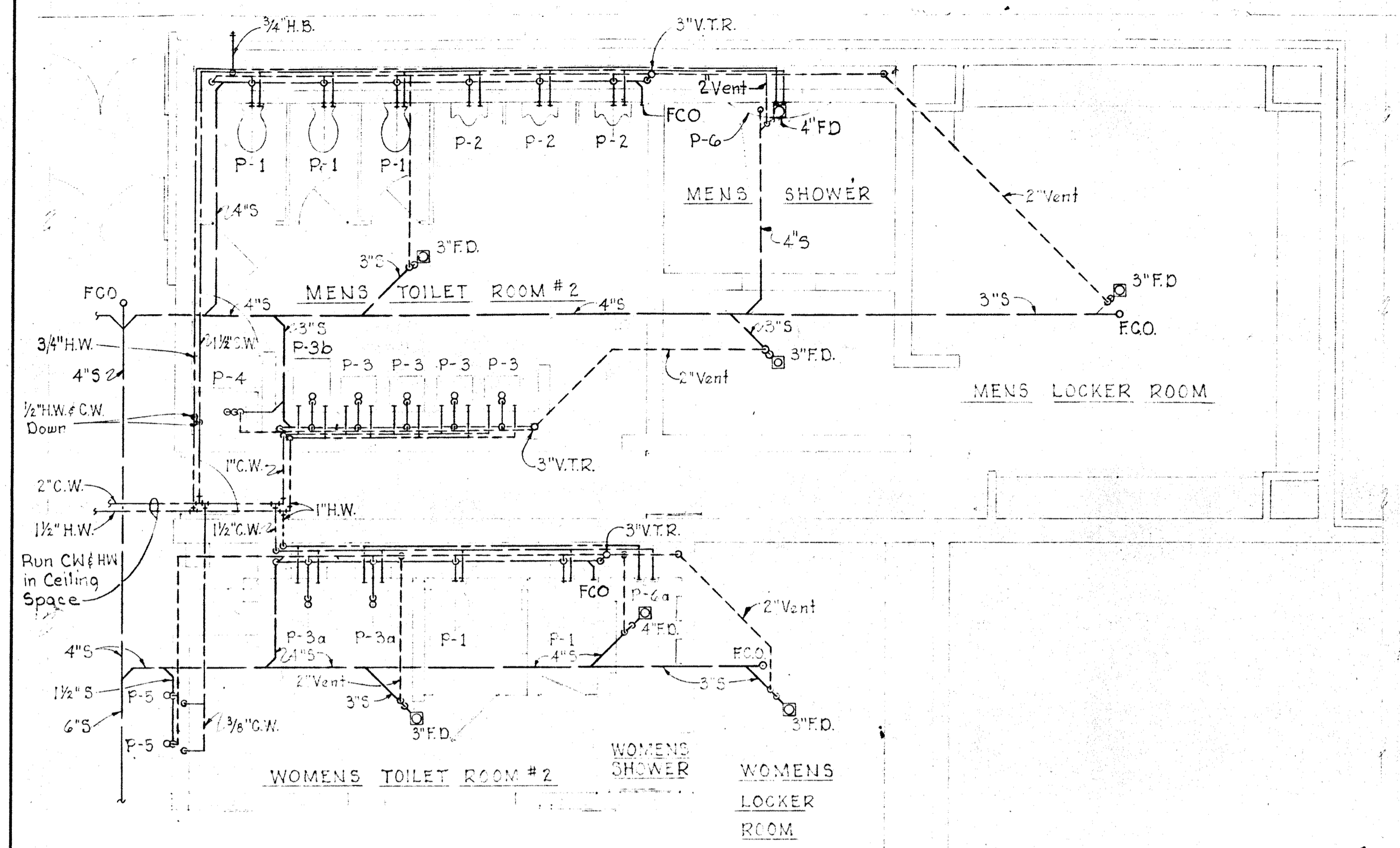
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>3/20/15</i> DATE <i>W.O. Herb</i> CHIEF BUREAU OF ENGINEERING	CONTRACT NO. 503-S	PLUMBING PLAN	SAVAGE, WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 41 OF 64 SCALE AS SHOWN
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W. O. 6887-2

SHEET-M-4

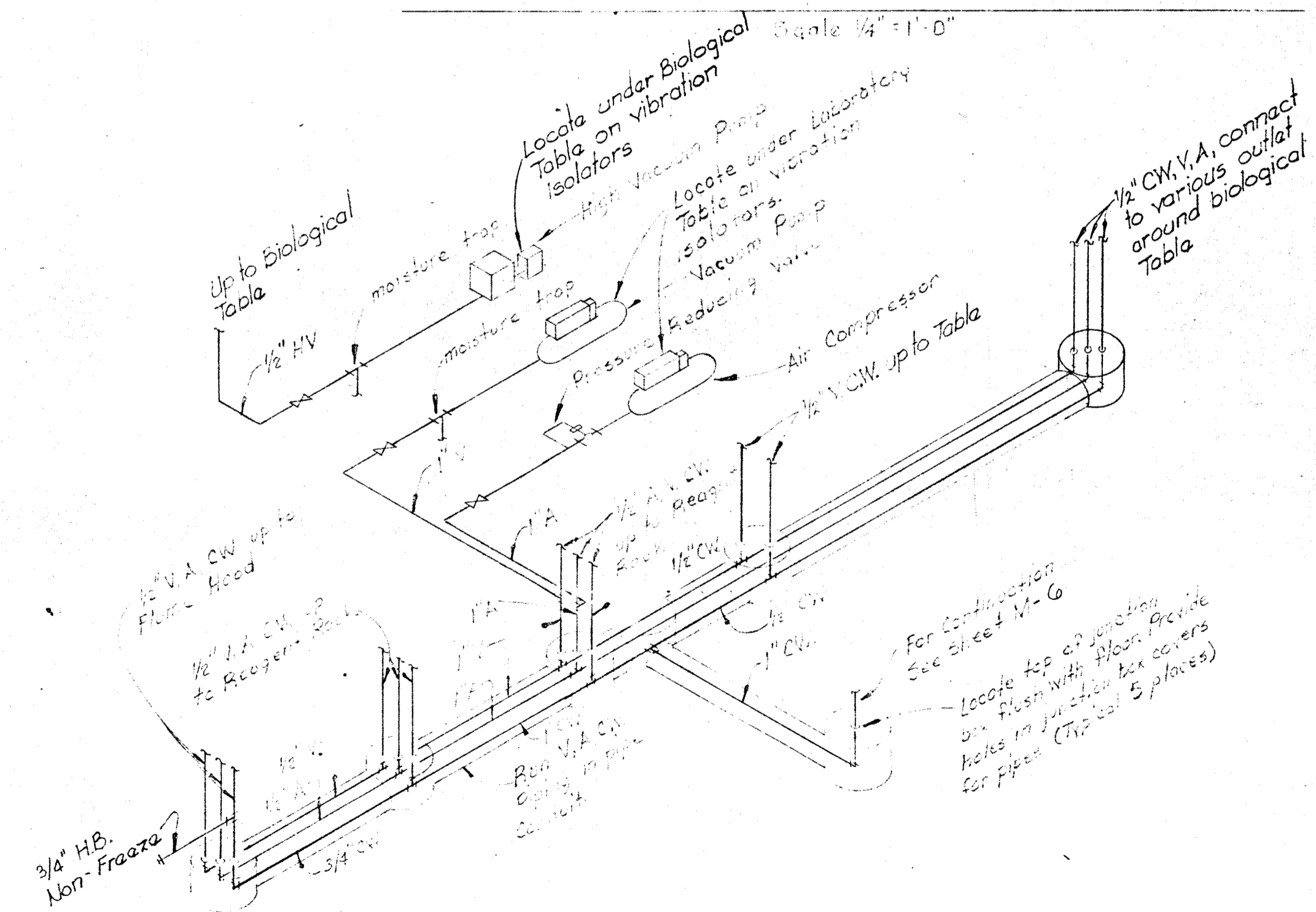
BRUNING 44510 18992

Construction North



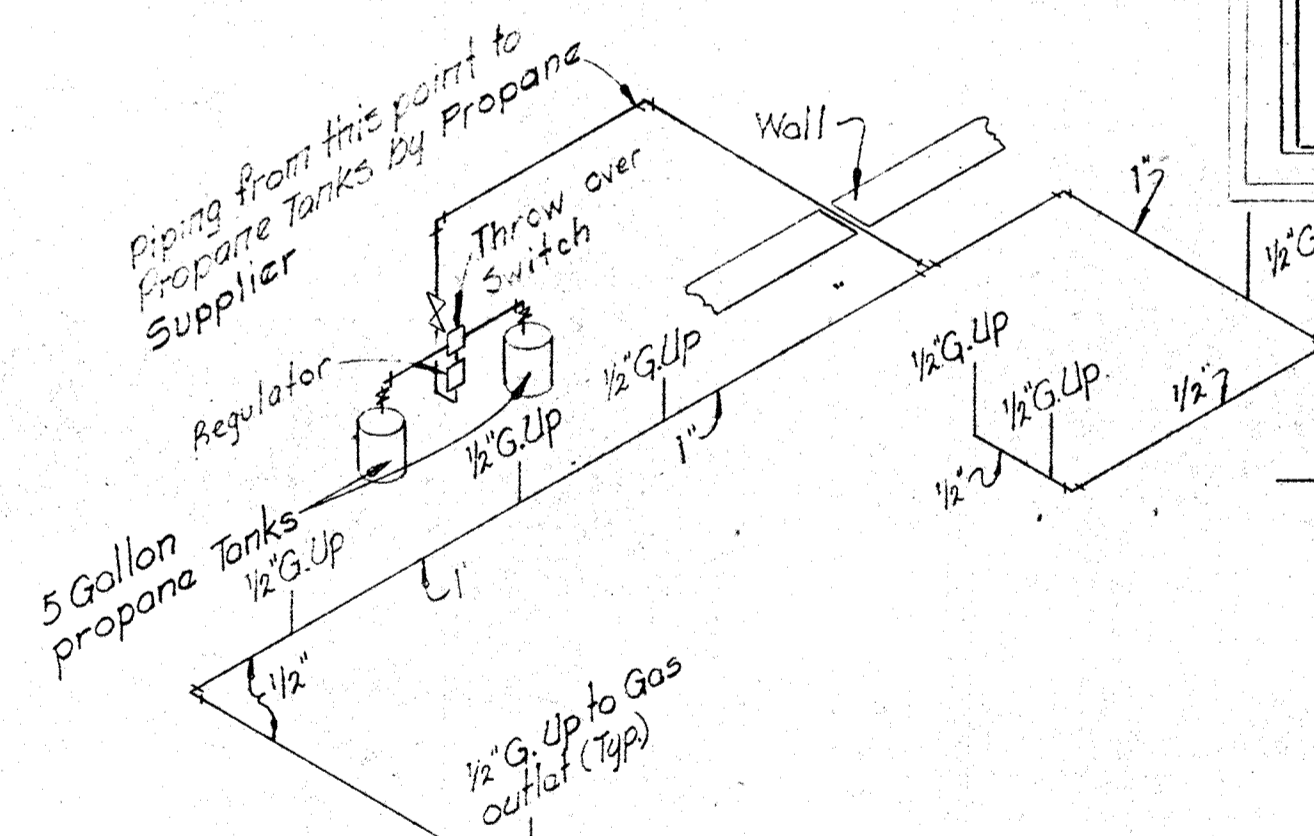
PART PLAN TOILET AND LOCKER ROOM AREAS

Scale 1/4" = 1'-0"



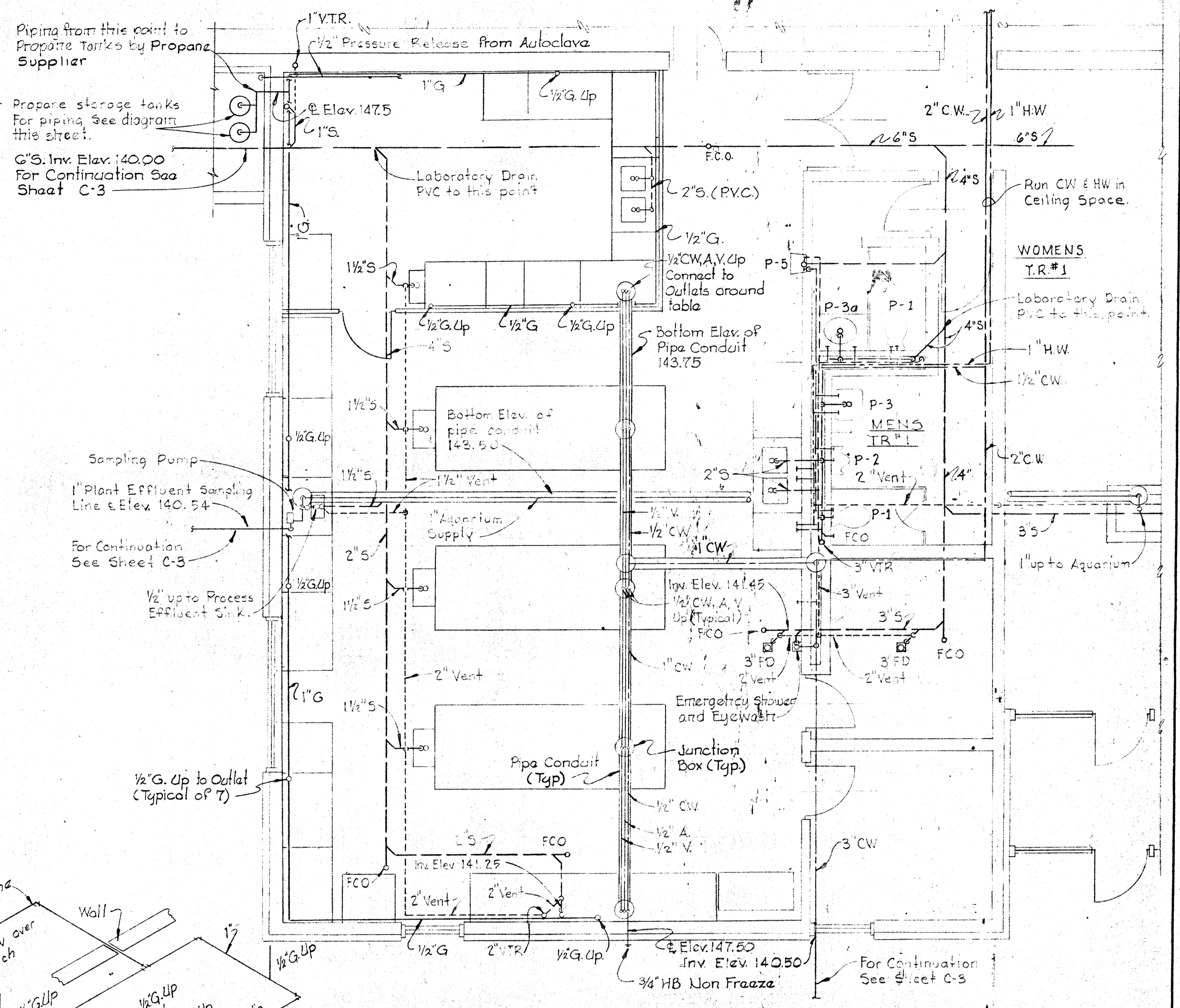
LABORATORY - VACUUM, COMPRESSED AIR AND COLD WATER DIAGRAM

No Scale



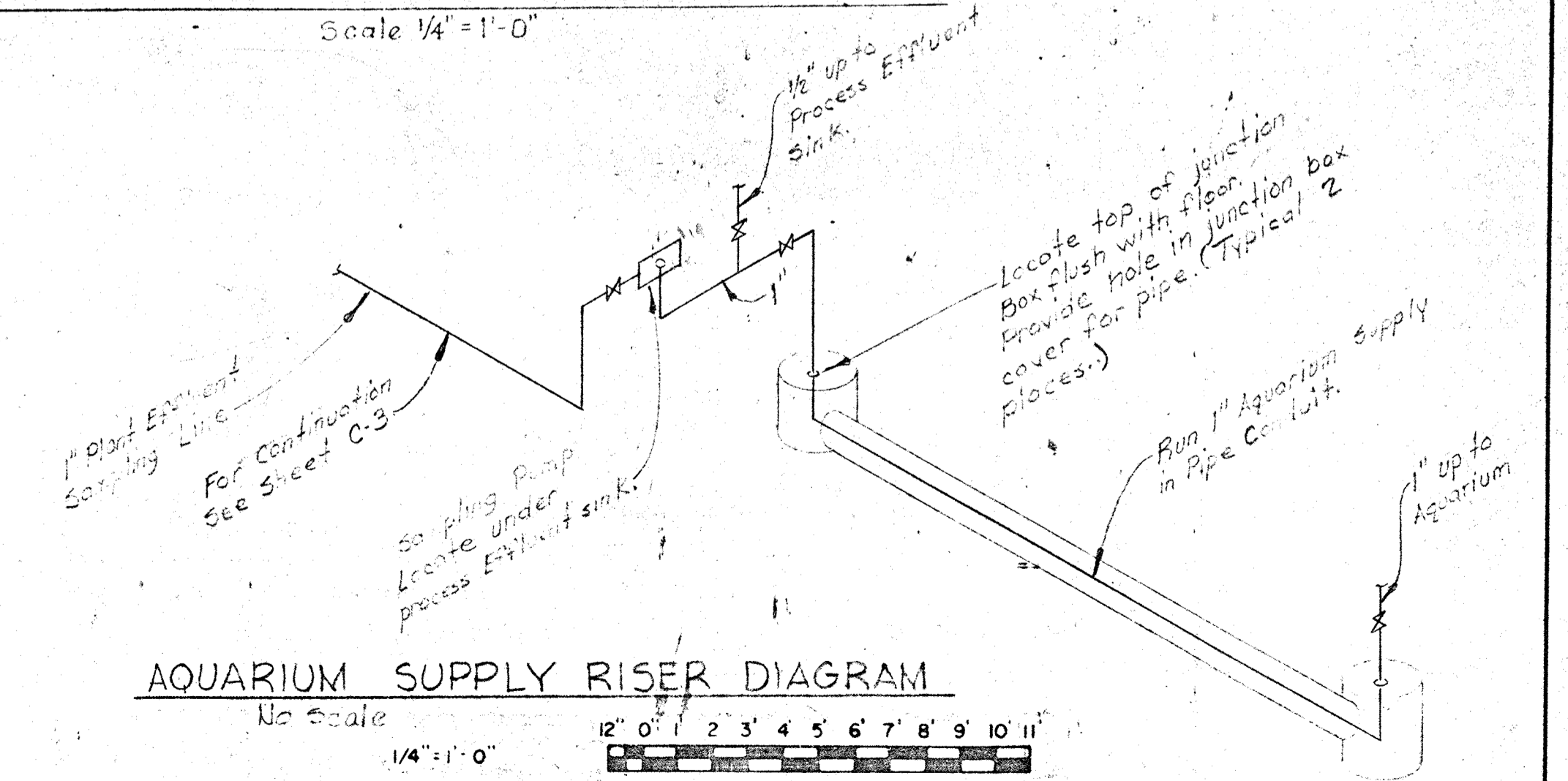
LABORATORY - GAS PIPING DIAGRAM

No Scale



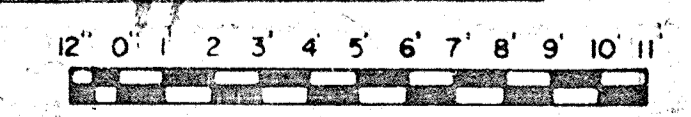
PLAN LABORATORY AND TOILET ROOMS #1

Scale 1/4" = 1'-0"



AQUARIUM SUPPLY RISER DIAGRAM

No Scale



WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DATE: 3/1/58
CHIEF-BUREAU OF ENGINEERING

CONTRACT NO. 503-S

PLUMBING
PART PLANS AND DETAILS

SAVAGE WASTEWATER
TREATMENT PLANT ADDITION NO. 4

DRAWING NO. 42 OF 64
SCALE AS SHOWN

W. O. 6887-2

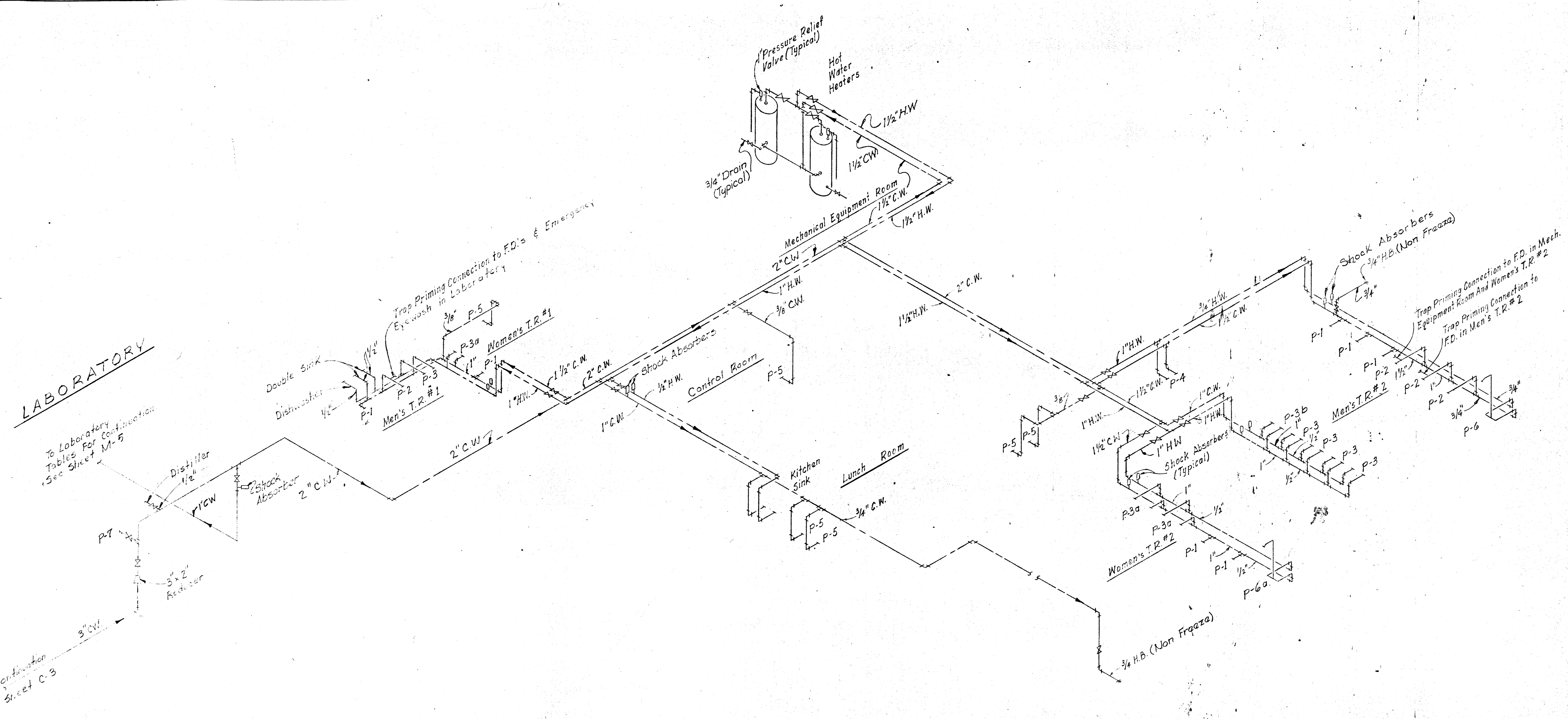
SHEET M-5

BRUNING 44510 18392

LABORATORY

To Laboratory Tables for Continuation See Sheet M-5

For Continuation See Sheet C-3



HOT AND COLD WATER RISER DIAGRAM
No Scale

No.	FIXTURE	CONNECTIONS		
		H.W.	C.W.	Drains
P-1	Water Closet		1"	4"
P-2	Urinal		1"	3"
P-3	Lavatory (men)	1/2"	1/2"	2"
P-3a	Lavatory (women)	1/2"	1 1/2"	2"
P-3b	Lavatory (wheel chair)	1/2"	1 1/2"	2"
P-4	Mop Sink	1/2"	1/2"	3"
P-5	Electric Water Cooler	1/2"	3/8"	1 1/2"
P-6	Shower (men)	3/4"	3/4"	FD
P-6a	Shower (women)	1/2"	1/2"	FD
	Kitchen Sink	1/2"	1/2"	2"
P-7	Emergency Shower & Eye wash		1"	1 1/2"

WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
3/20/75
DATE
CHIEF BUREAU OF ENGINEERING

CONTRACT NO. 503-S

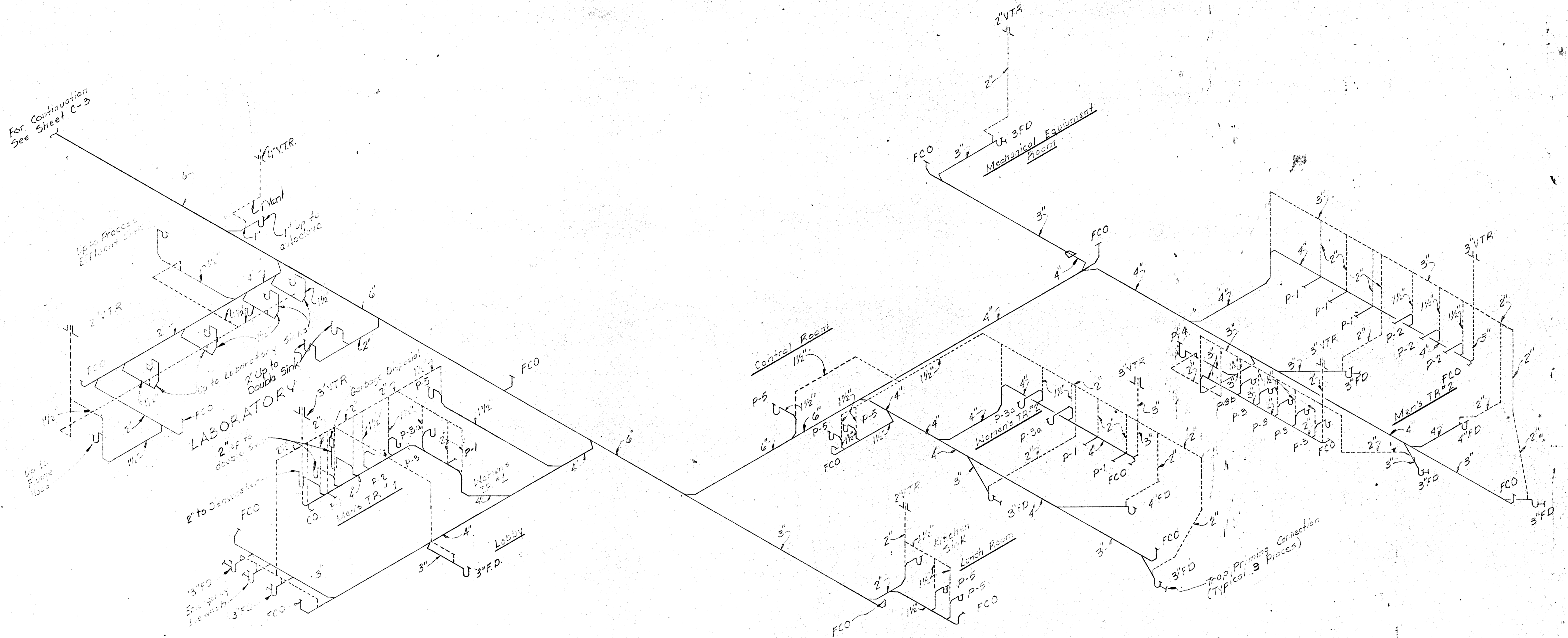
PLUMBING
RISER DIAGRAM

SAVAGE WASTEWATER
TREATMENT PLANT ADDITION NO. 4

DRAWING NO. 43
OF 64
SCALE AS SHOWN

SHEET M-6

For Continuation
See
Sheet C-3



SANITARY RISER DIAGRAM
No Scale

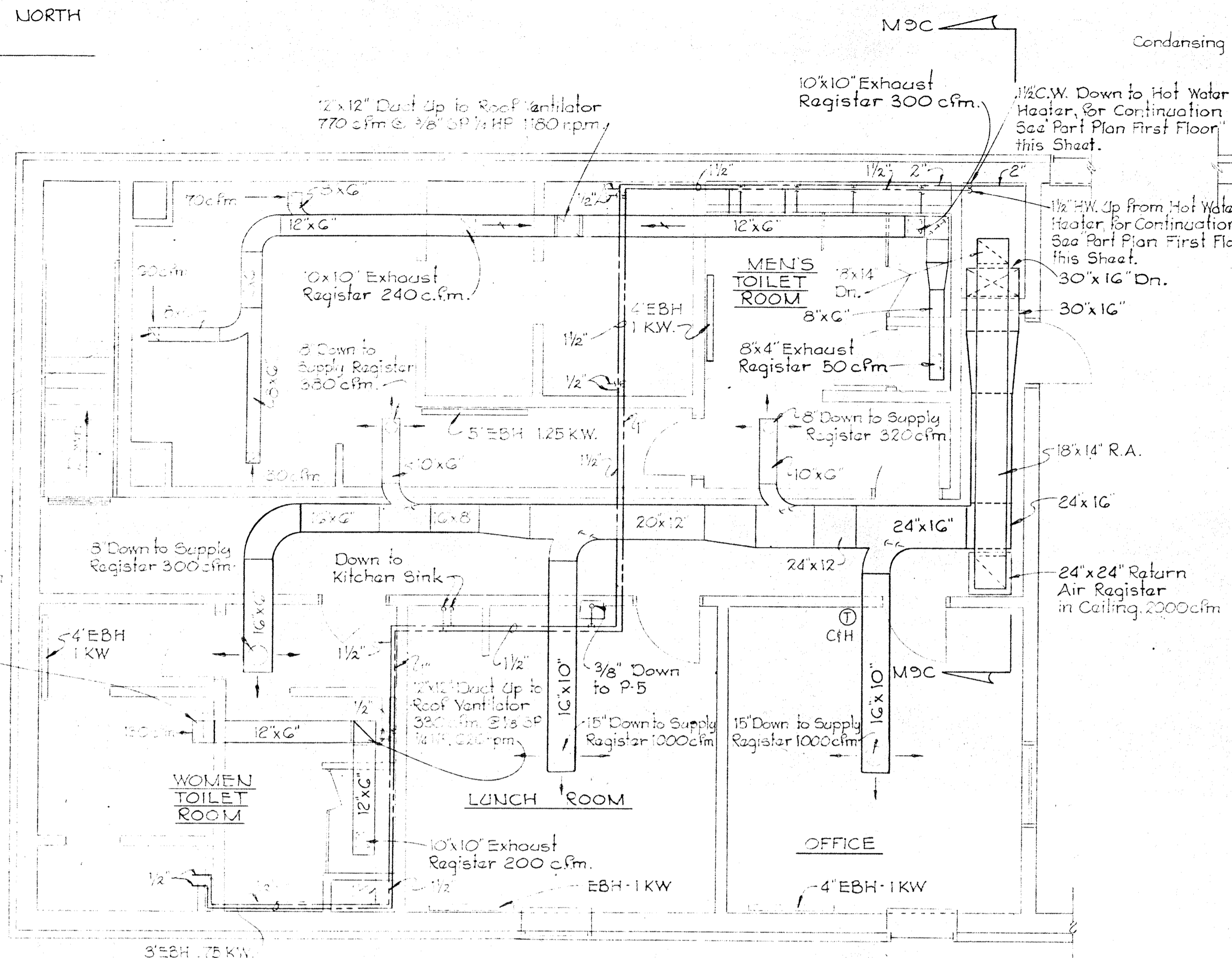
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>3/2/75</i> DATE <i>[Signature]</i> CHIEF BUREAU OF ENGINEERING	CONTRACT NO. 503-S	PLUMBING RISER DIAGRAM	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 44 OF 64 SCALE AS SHOWN
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W. O. 6887-2

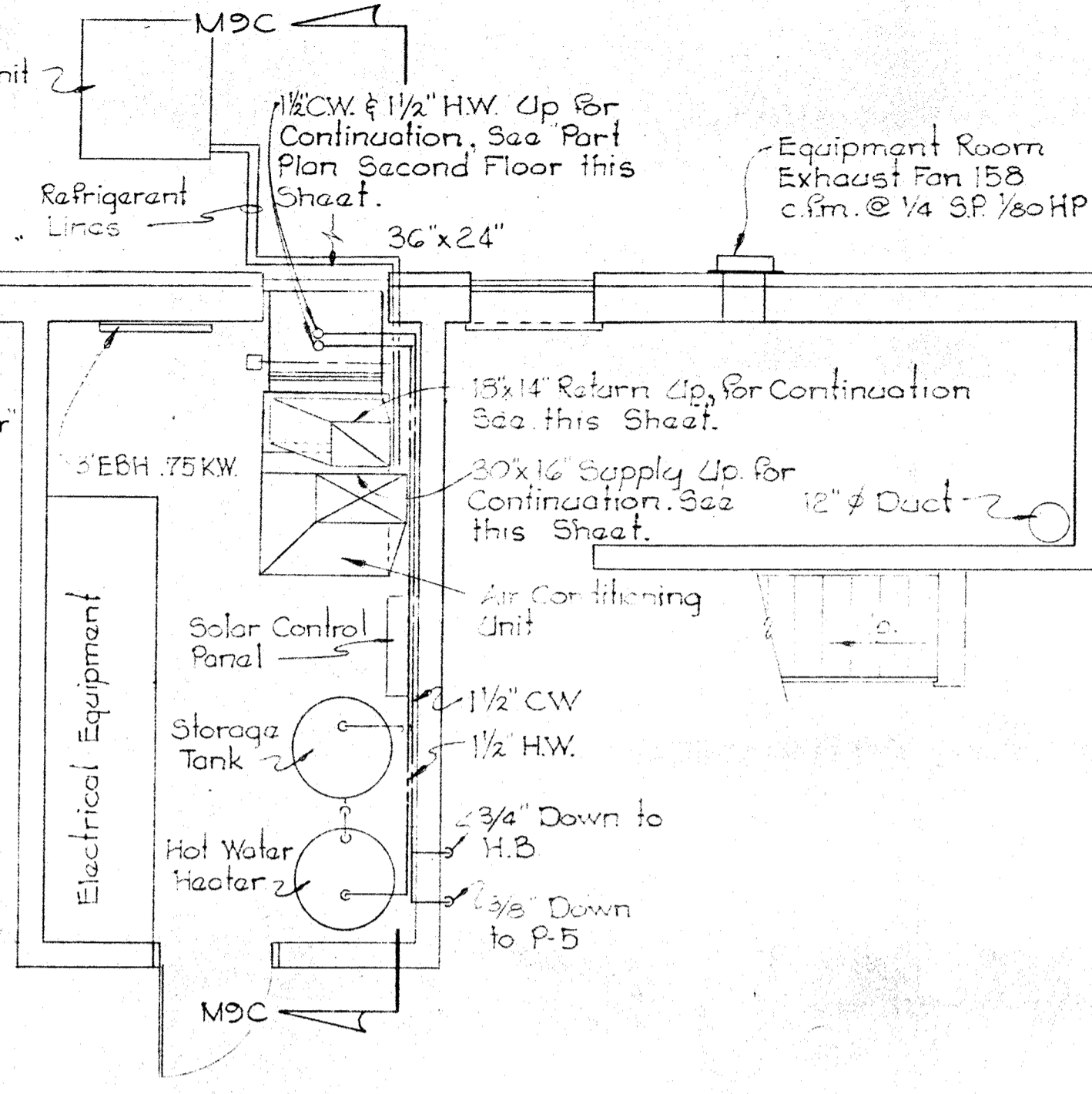
SHEET M-7

BRUNING 44510 18392

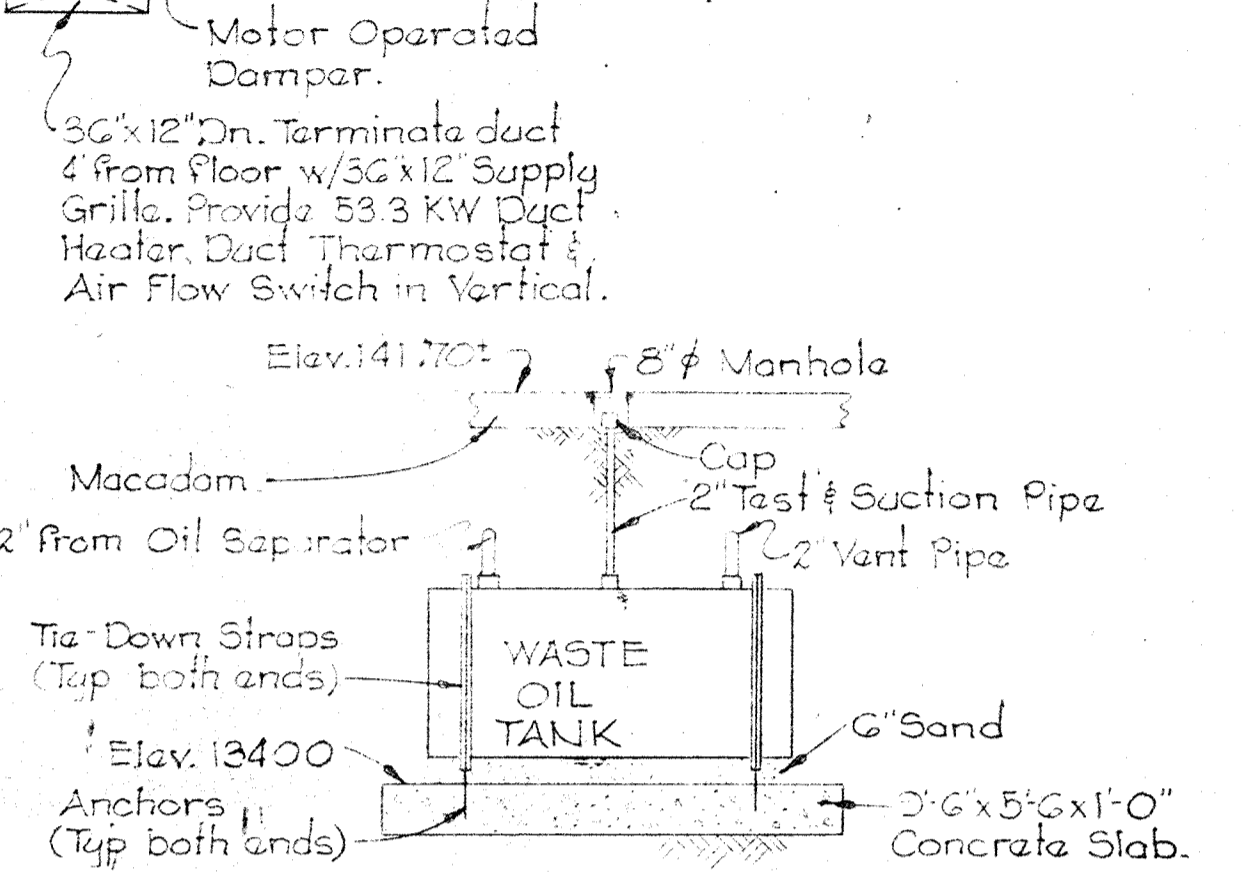
CONSTRUCTION NORTH



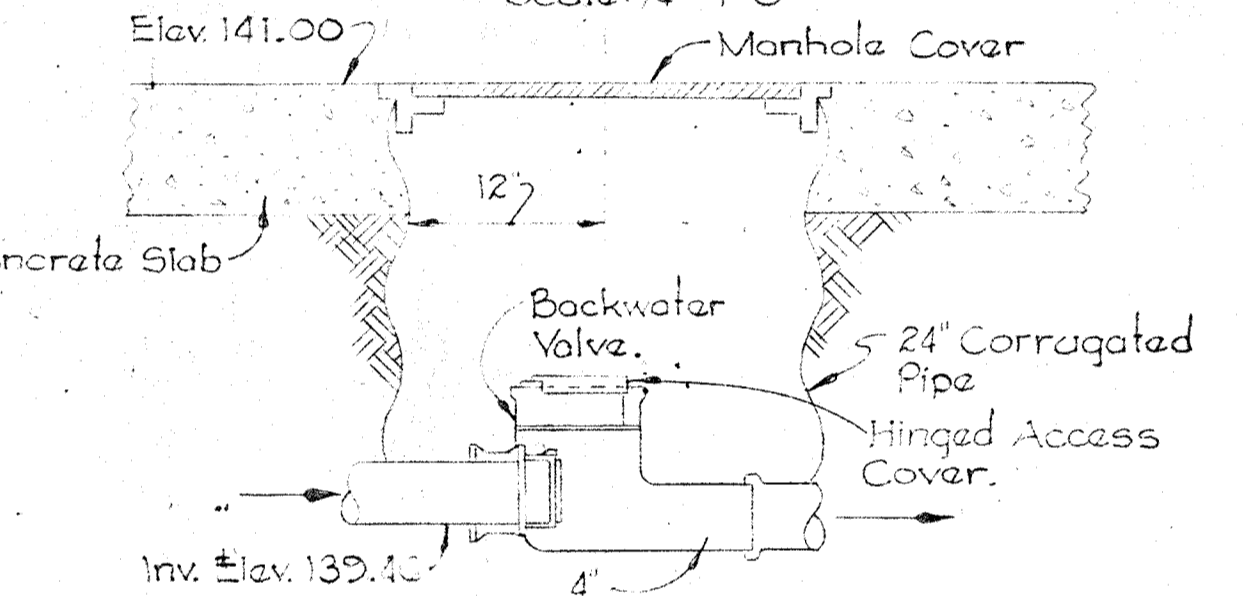
PART PLAN OF SECOND FLOOR
Scale: 1/4" = 1'-0"



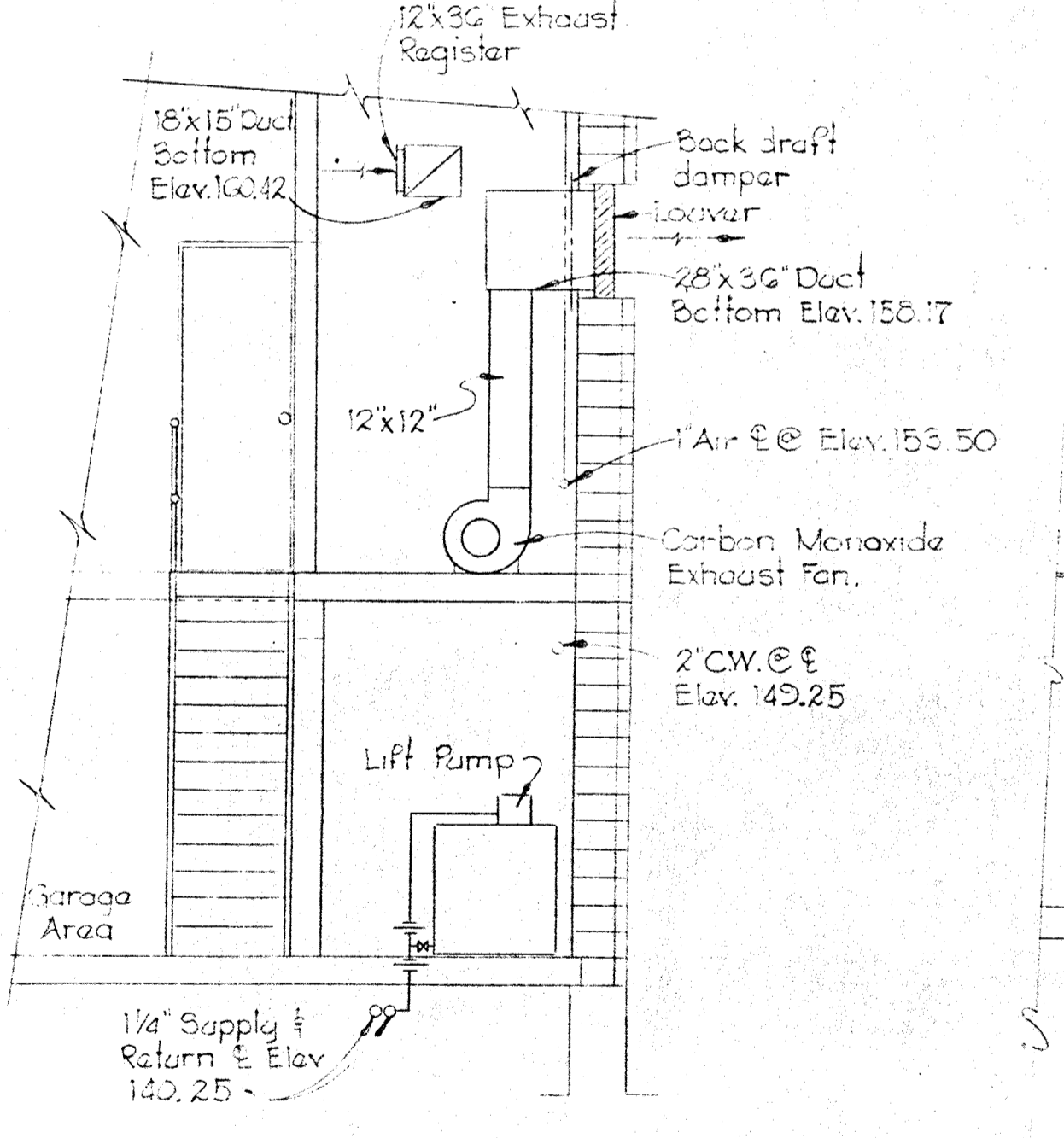
PART PLAN FIRST FLOOR
(MECHANICAL, ELECTRICAL ROOM & EQUIPMENT ROOM)
Scale: 1/4" = 1'-0"



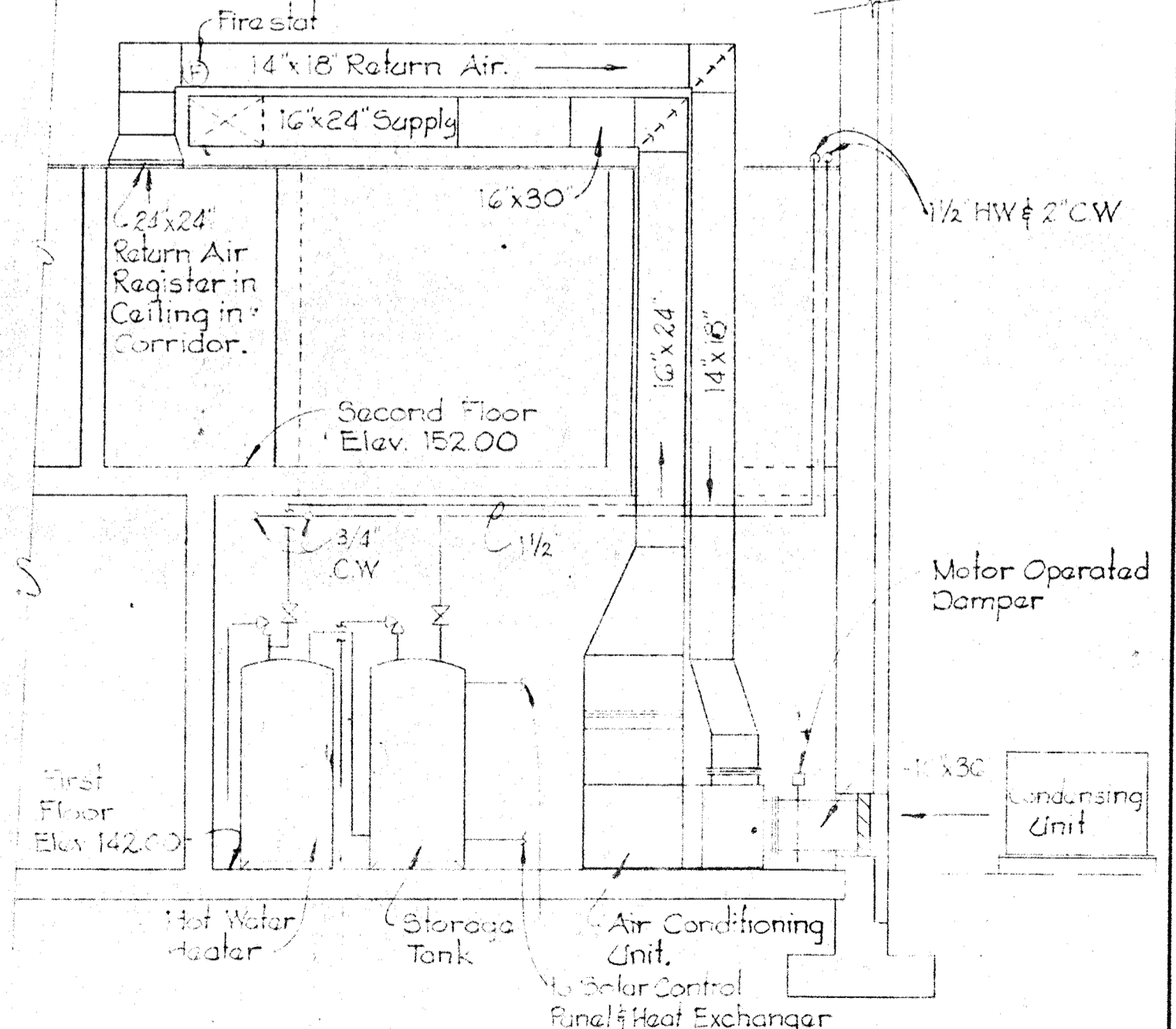
SECTION M-9 A/M-8
Scale: 1/4" = 1'-0"



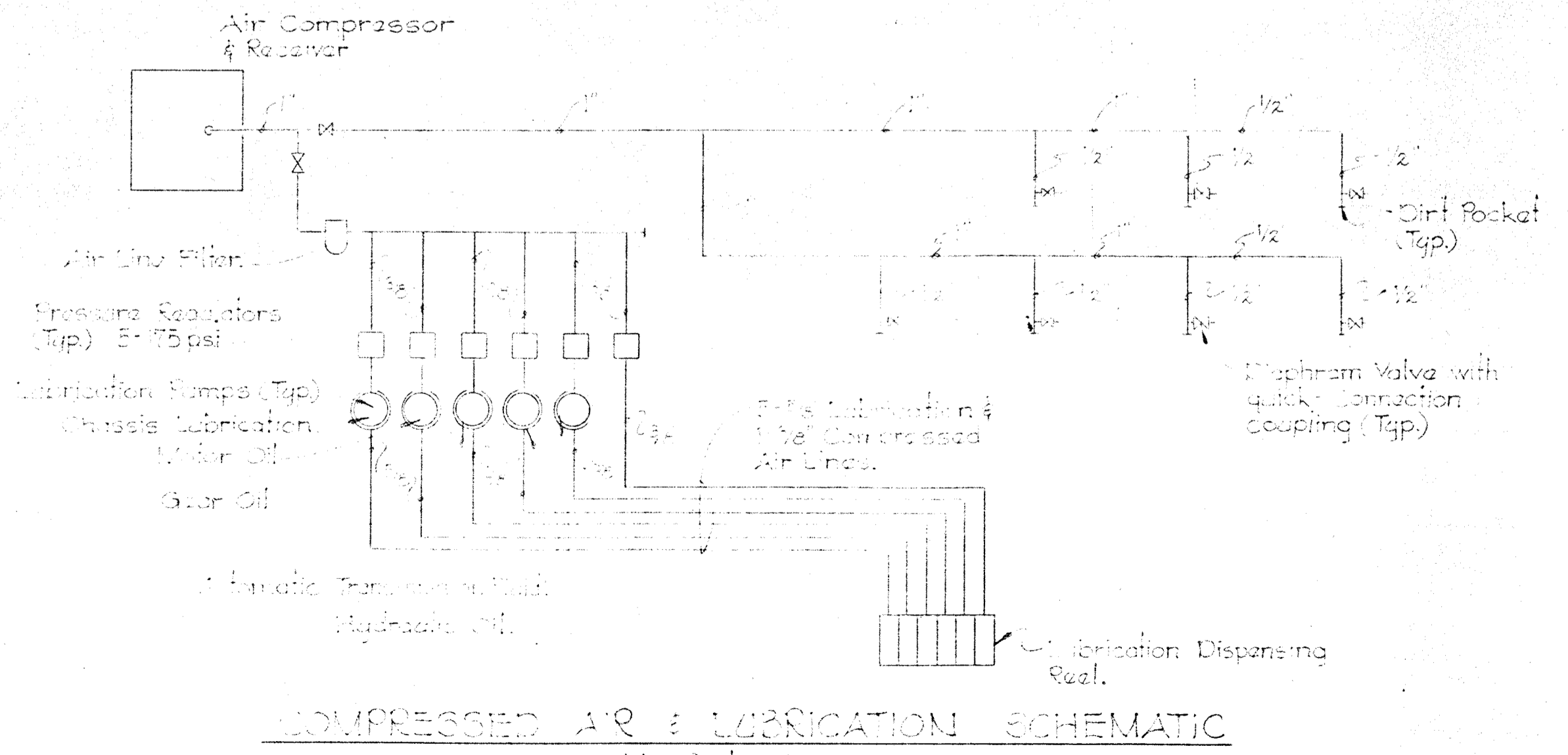
DETAIL M-9 B/M-8
Scale: 1/4" = 1'-0"



SECTION M-9 D/M-8
Scale: 1/4" = 1'-0"



SECTION M-9 C/M-9
Scale: 1/4" = 1'-0"



COMPRESSED AIR & LUBRICATION SCHEMATIC
No Scale

WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CONTRACT NO. 503-S

MAINTENANCE BUILDING
PLANS & DETAILS

SAVAGE WASTEWATER
TREATMENT PLANT ADDITION NO.4

DRAWING
NO. 46
OF 64

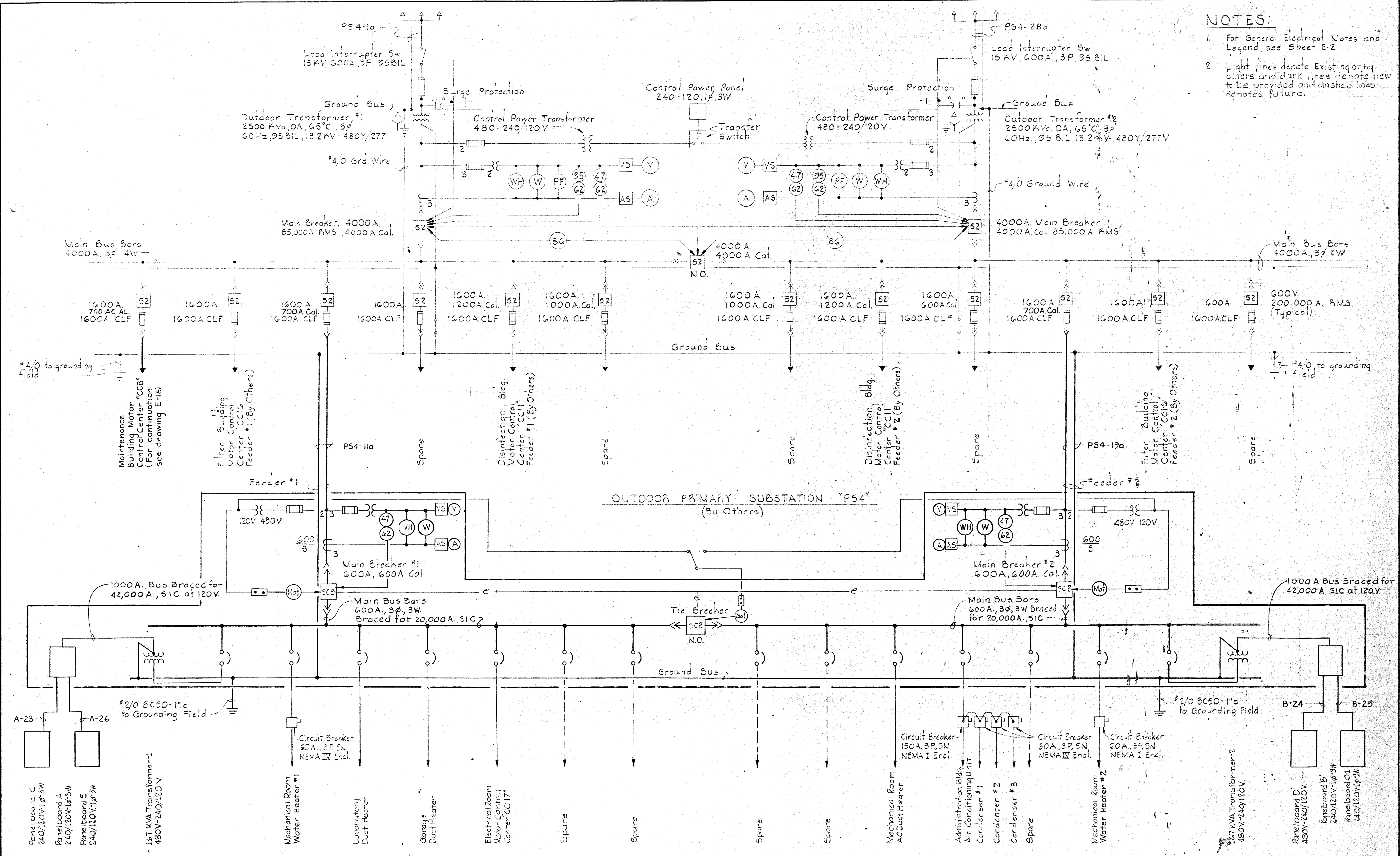
SCALE
AS
SHOWN

W. O. 6887-2

SHEET M-9

DRAWING 44-510 16392

- NOTES:**
1. For General Electrical Notes and Legend, see Sheet E-2.
 2. Light lines denote Existing or by others and dark lines denote new to be provided and dashed lines denotes future.



**INDOOR SWITCHBOARD SWBD-1
ADMINISTRATION BUILDING**

<p>WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND</p>	<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>shelton</i> DATE _____ CHIEF BUREAU OF ENGINEERING</p>	<p>CONTRACT NO. <u>503-S</u></p>	<p>POWER-ONE LINE WIRING DIAGRAM</p>	<p>SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4</p>	<p>DRAWING NO. <u>47</u> OF <u>64</u> SCALE NONE</p>
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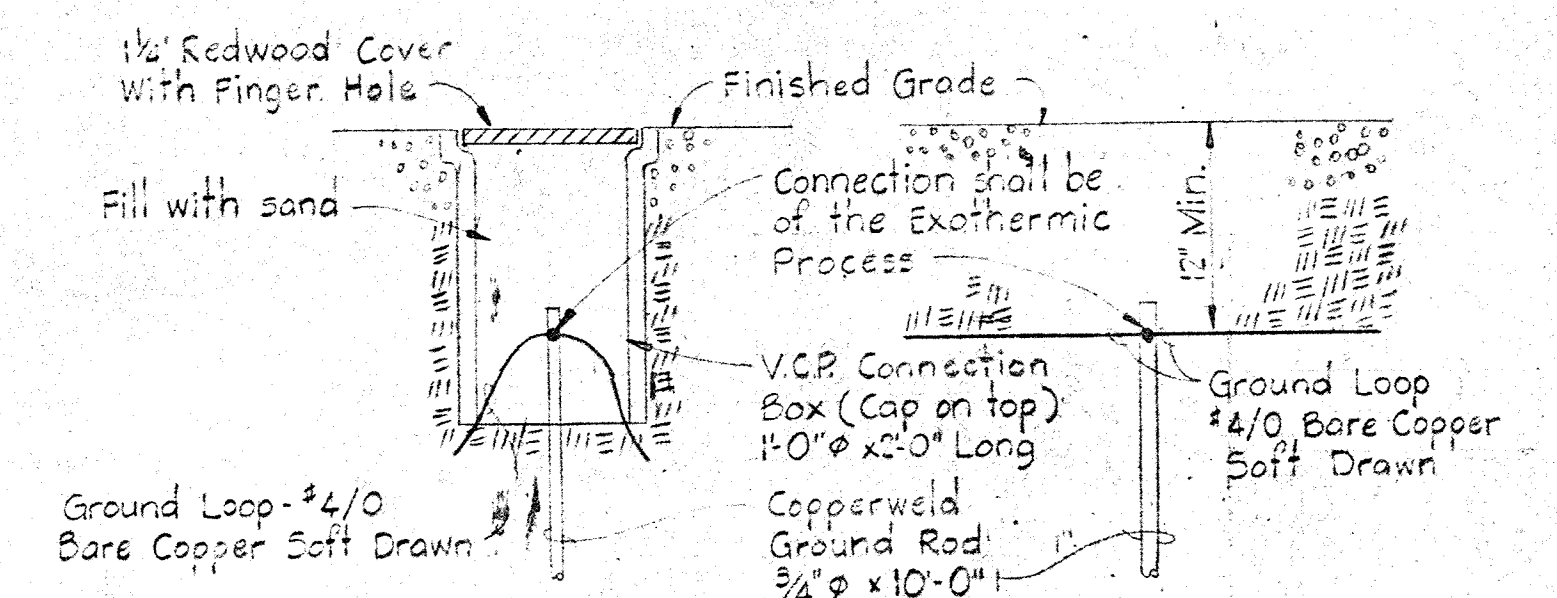
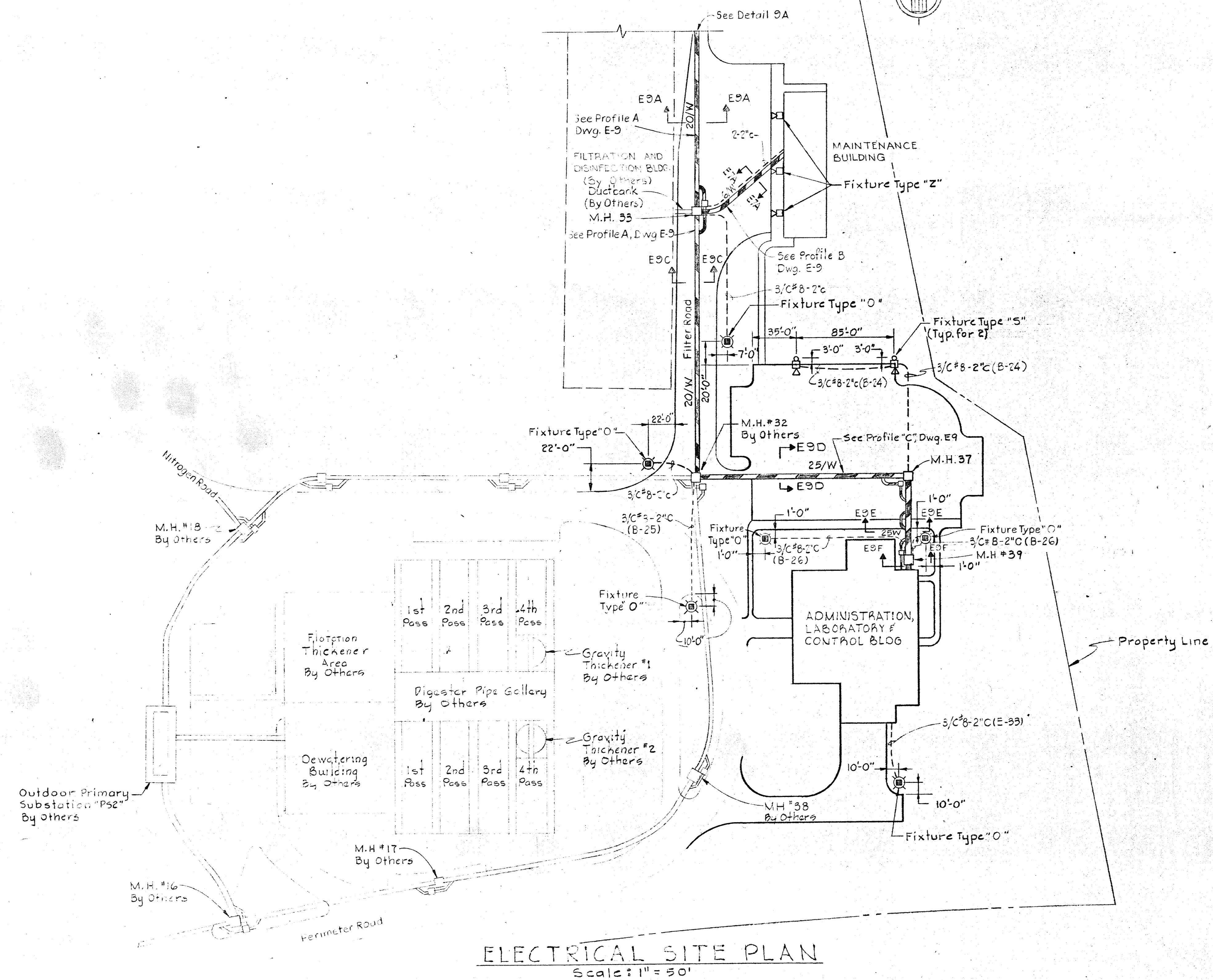
W.O. 6887-2

SHEET E-1

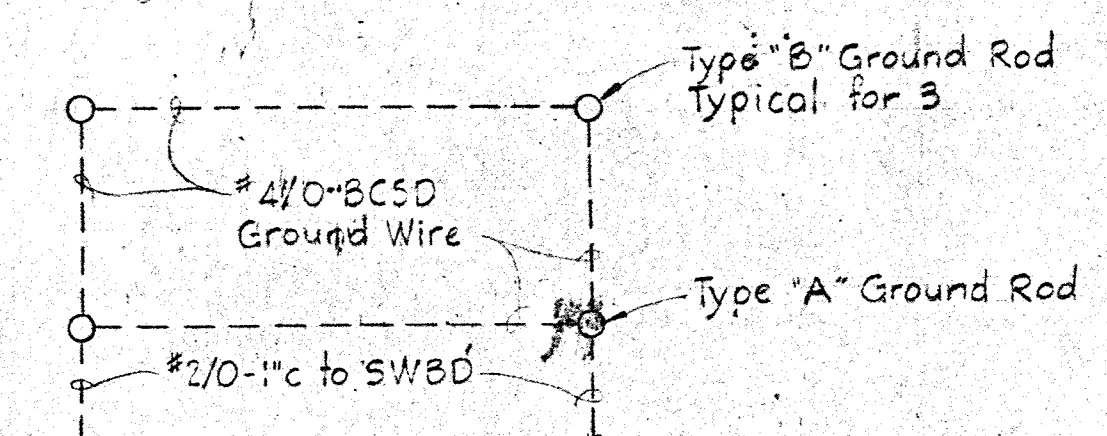
BRUNING 44-510 1839Z

NOTES:

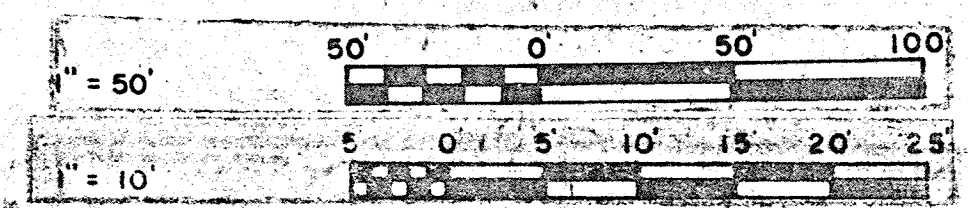
1. For General Electrical Notes & Legend, see Sheet E-2.
2. Light lines denote existing, Dash lines denote new Dashed lines denote future.
3. For manhole plans and details see Drawings E-8 & E-9.



GROUND ROD DETAILS
No Scale

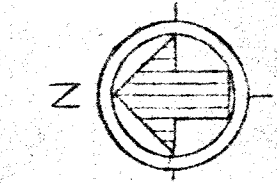


GROUNDING FIELD PLAN
No Scale
GROUNDING DETAILS FOR SWITCHBOARD
(See Sheet E-5)



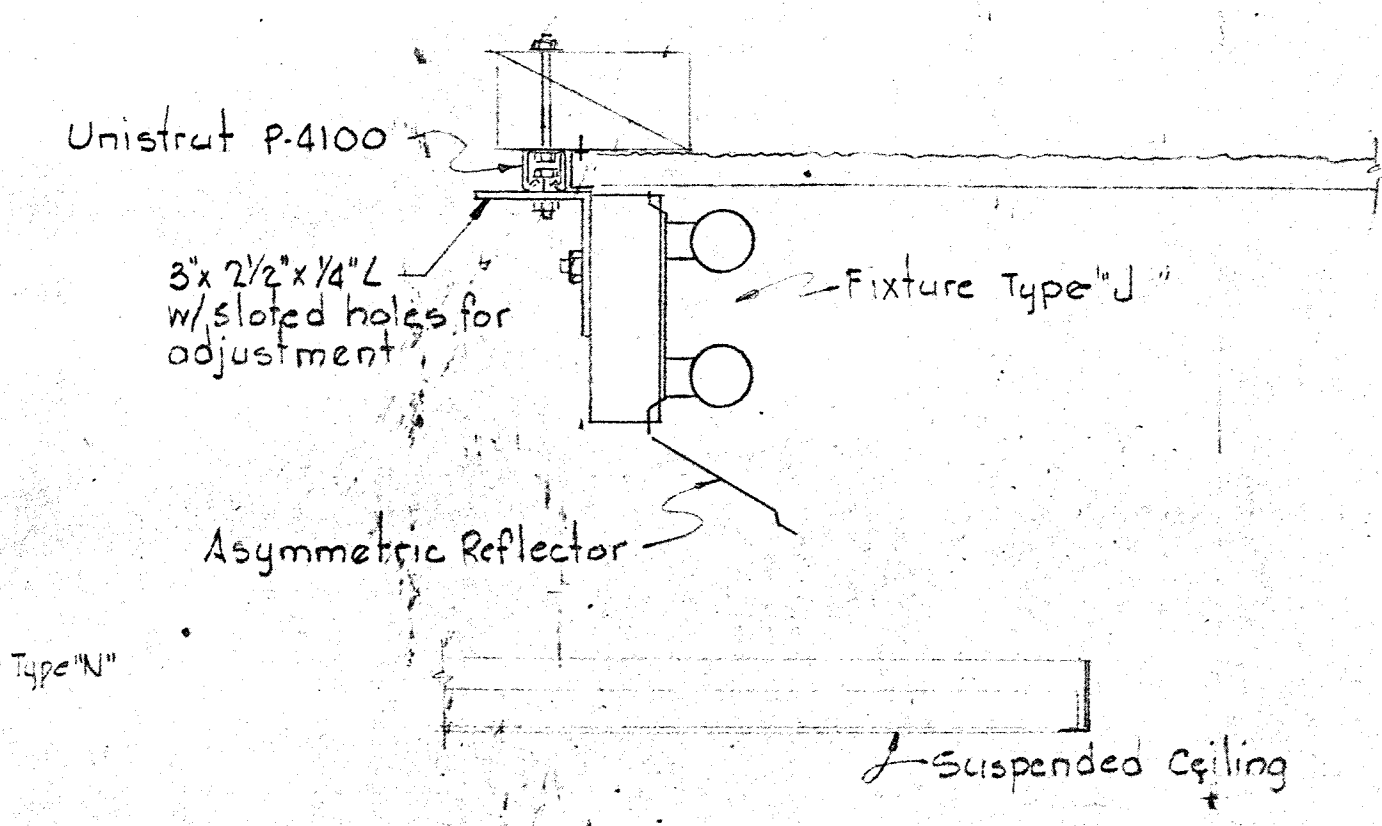
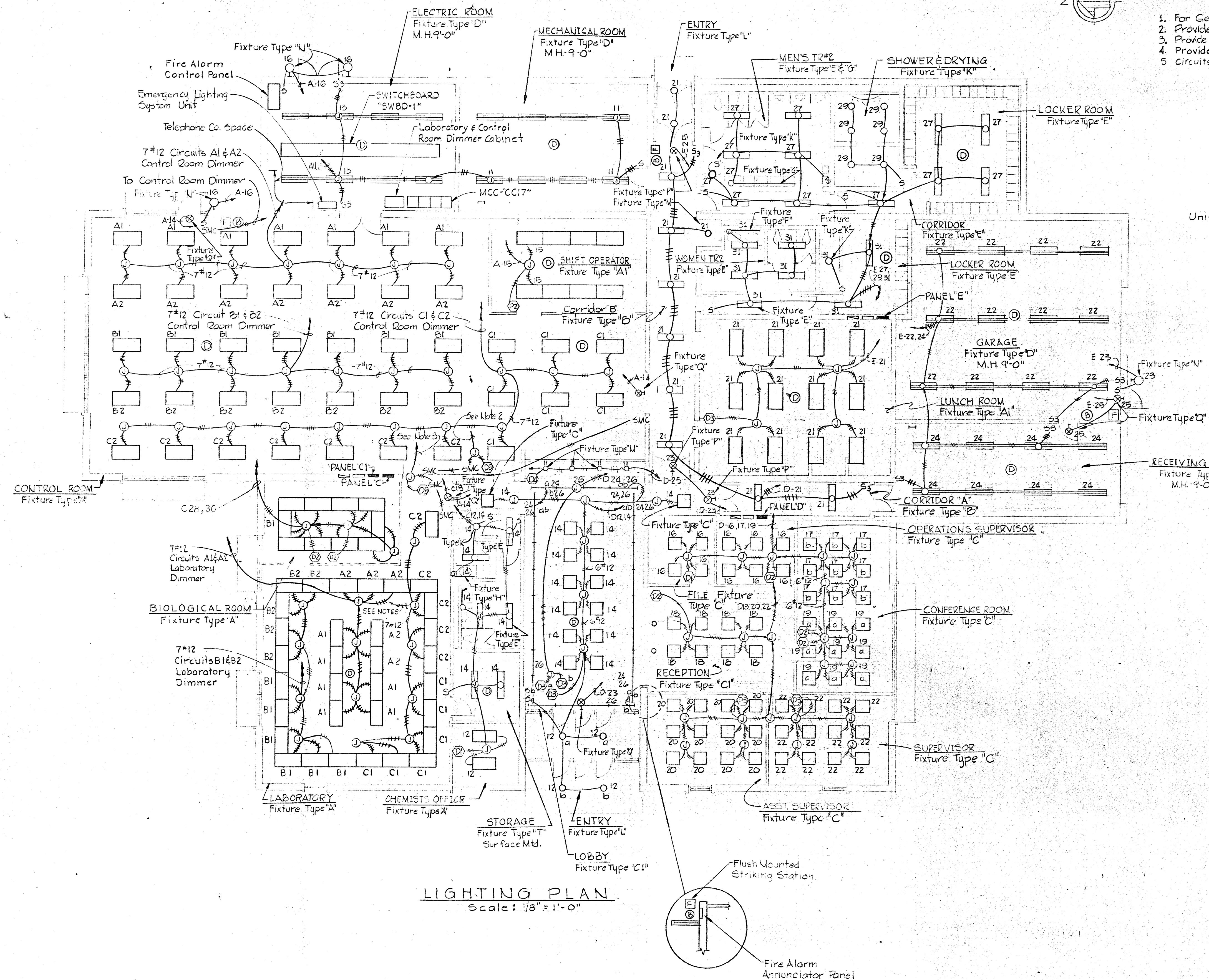
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: 3/20/15 CHIEF BUREAU OF ENGINEERING	CONTRACT NO. 503-S	ELECTRICAL SITE PLAN AND DETAILS	SAVAGE - WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 49 OF 64 SCALE AS SHOWN
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W.O. 6887-2

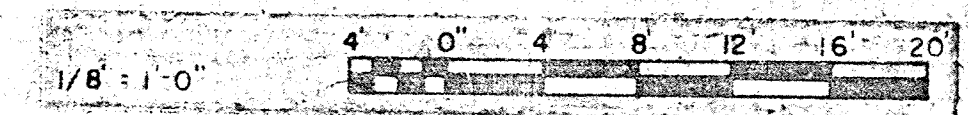
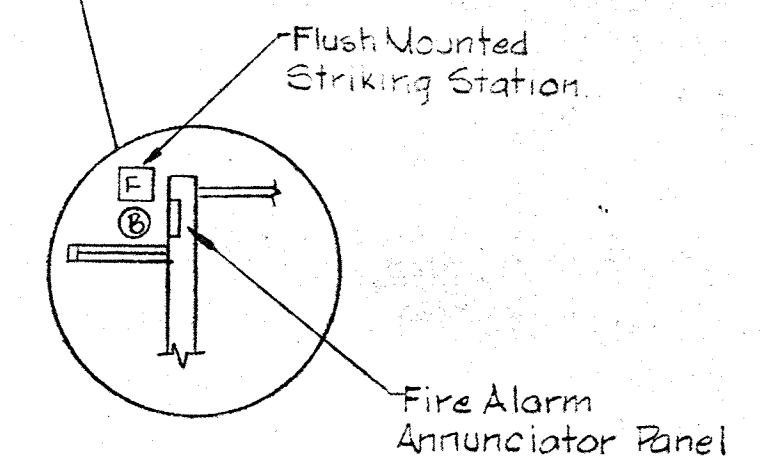


NOTES

1. For General Electrical Notes & Electrical Legend see sheet E-2.
2. Provide 6#12 - 3/4" c to Control Room Dimmer Controls.
3. Provide 6#12 - 3/4" c to Laboratory Dimmer Controls.
4. Provide 3#12 - 3/4" c to Laboratory Dimmer Control.
5. Circuits C1 and C2 Laboratory Dimmer



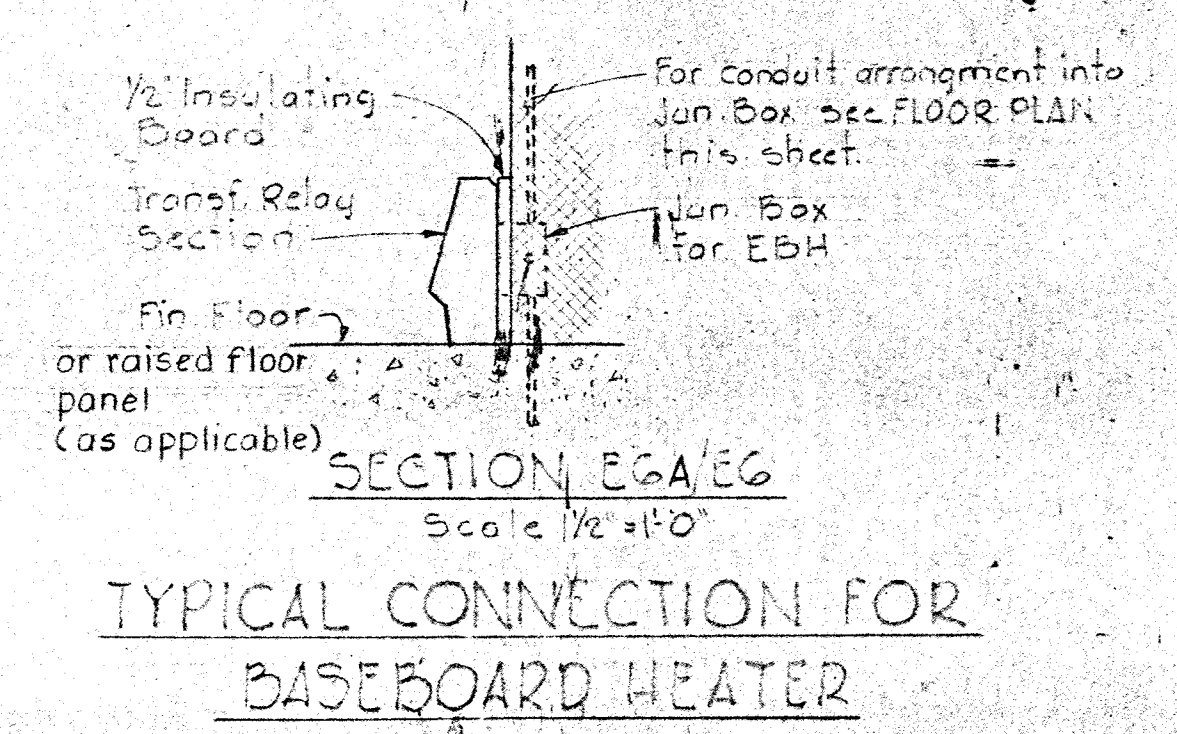
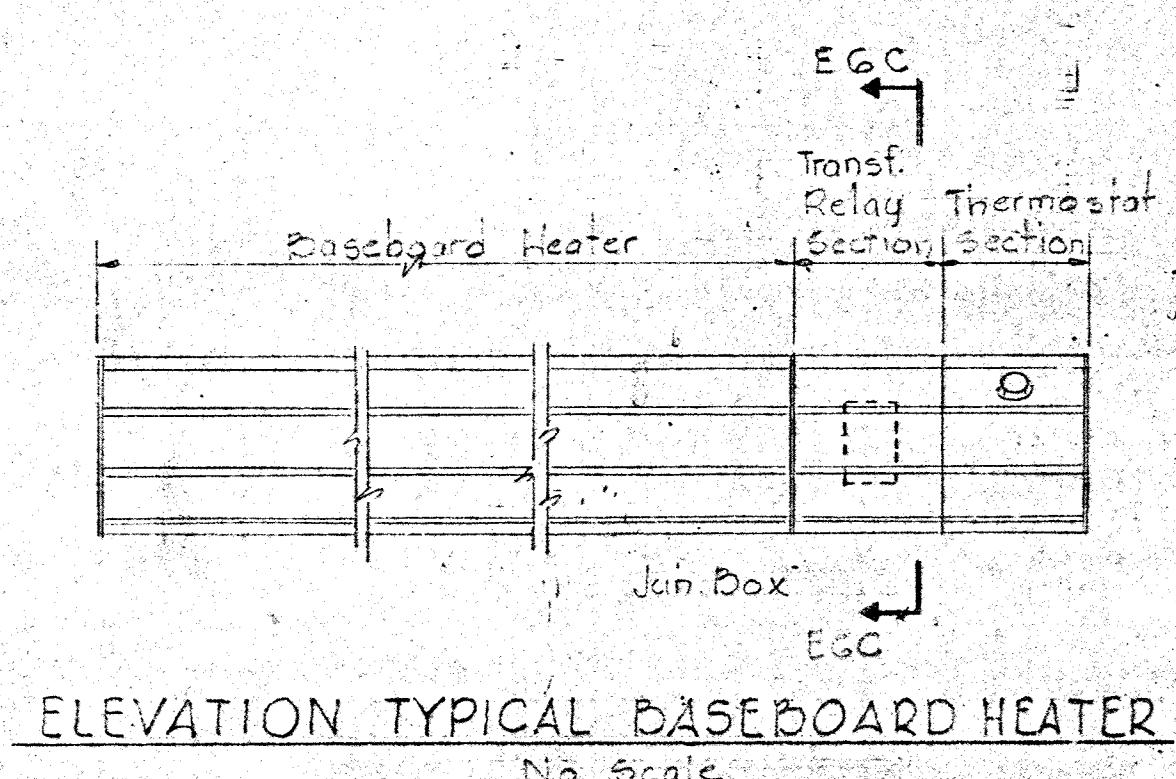
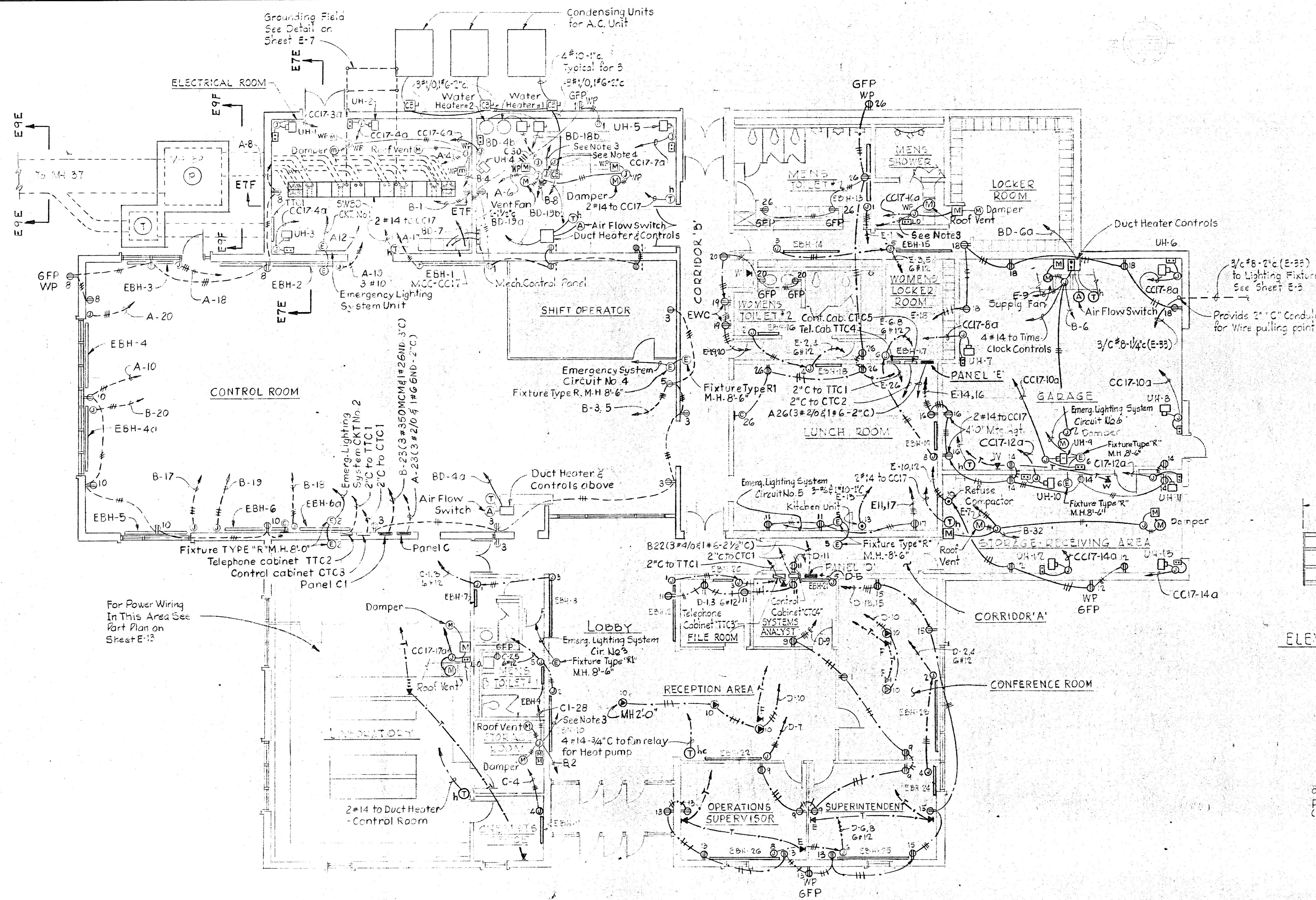
DETAIL OF COVE LIGHTING
No Scale



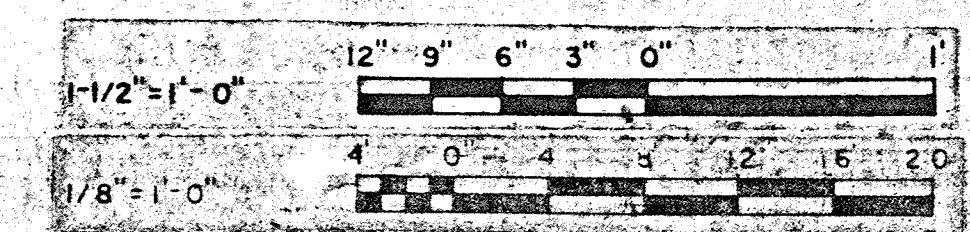
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>3/26/78</i> DATE <i>W.C. West</i> CHIEF BUREAU OF ENGINEERING	CONTRACT NO. 503-S	ADMINISTRATION BUILDING LIGHTING PLAN	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 50 OF 64 SCALE AS SHOWN
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BRUNING 44-510 18392

NOTES
 1. For General Electrical Notes & Legend see sheet E-2



FLOOR PLAN



WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/20/78 DATE	CONTRACT NO. 503-S	ADMINISTRATION BUILDING POWER PLAN	SAVAGE WASTEWATER TREATMENT PLANT ADDITION, NO. 4	DRAWING NO. 51 OF 64 SCALE .AS SHOWN
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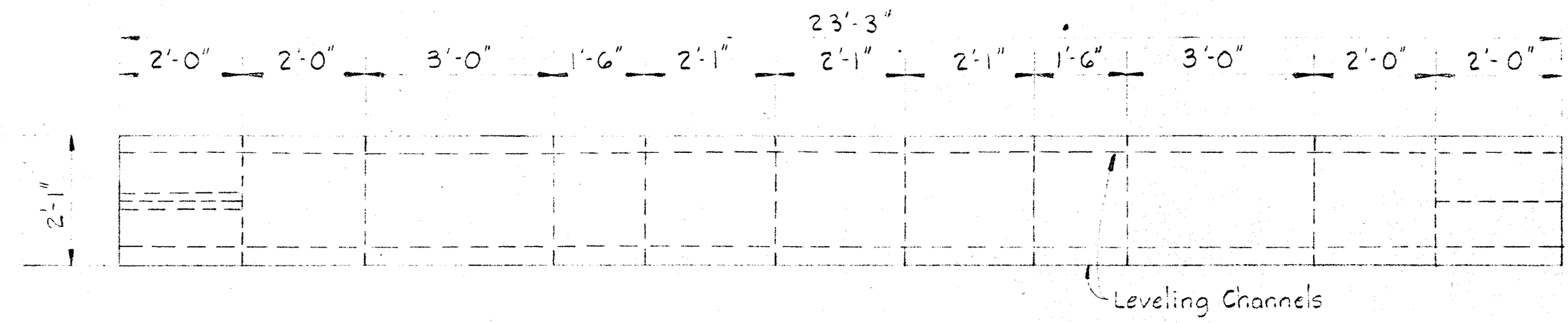
W.O. 6887-2

SHEET E-5

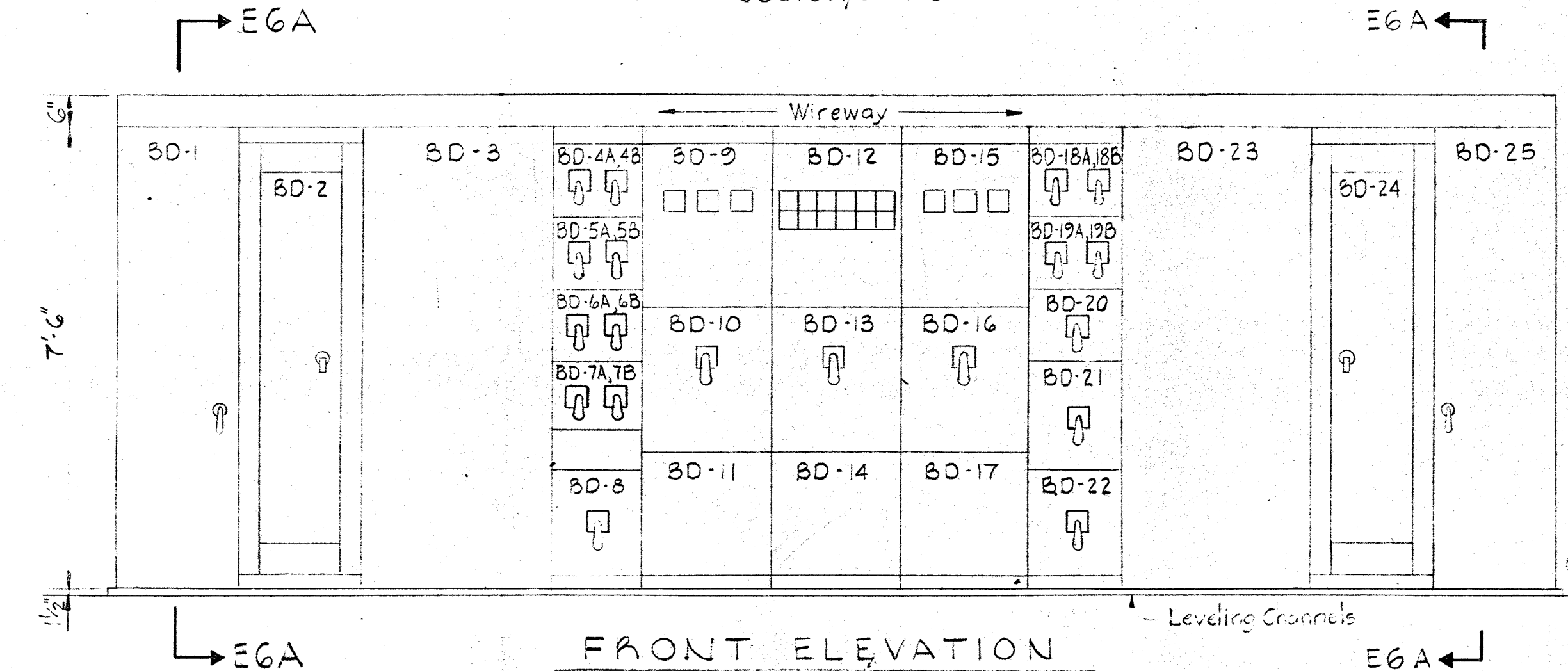
BRUNING 44-510 18392

NOTES

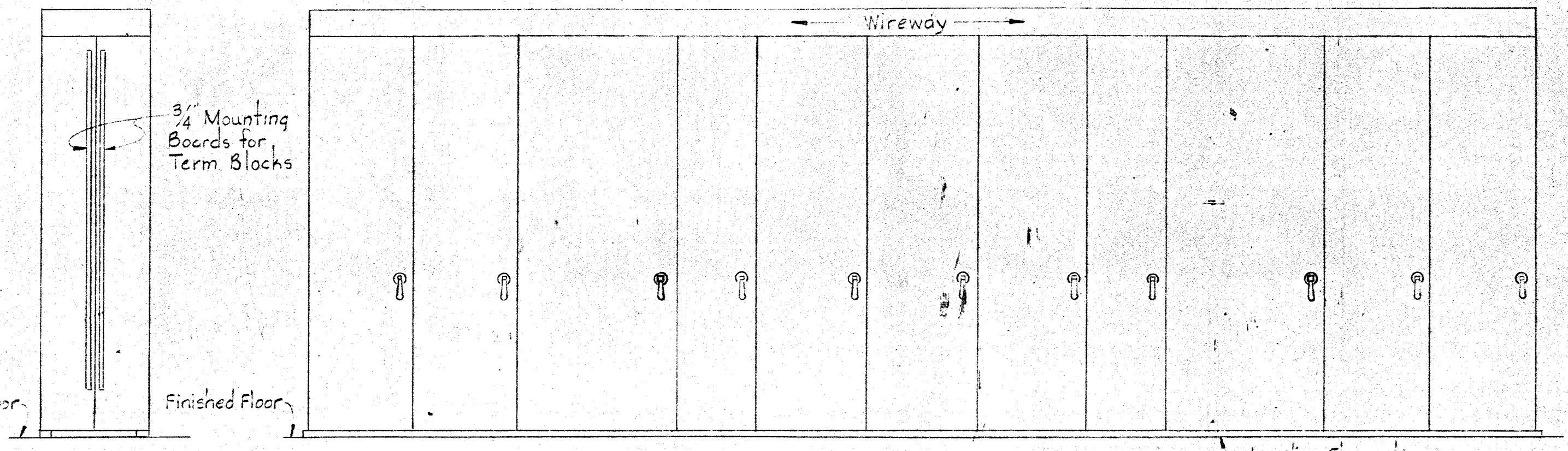
1. For General Electrical Notes and Legend, see sheet E-2



PLAN
Scale: 1/2" = 1'-0"



FRONT ELEVATION
Scale: 1/2" = 1'-0"

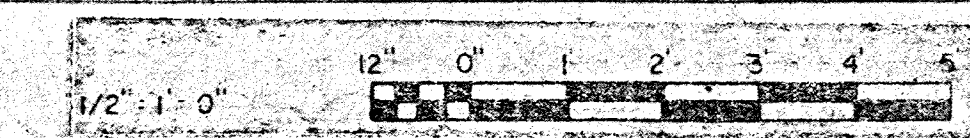


SECTION EGA/EG
Scale: 1/2" = 1'-0"

REAR ELEVATION
Scale: 1/2" = 1'-0"

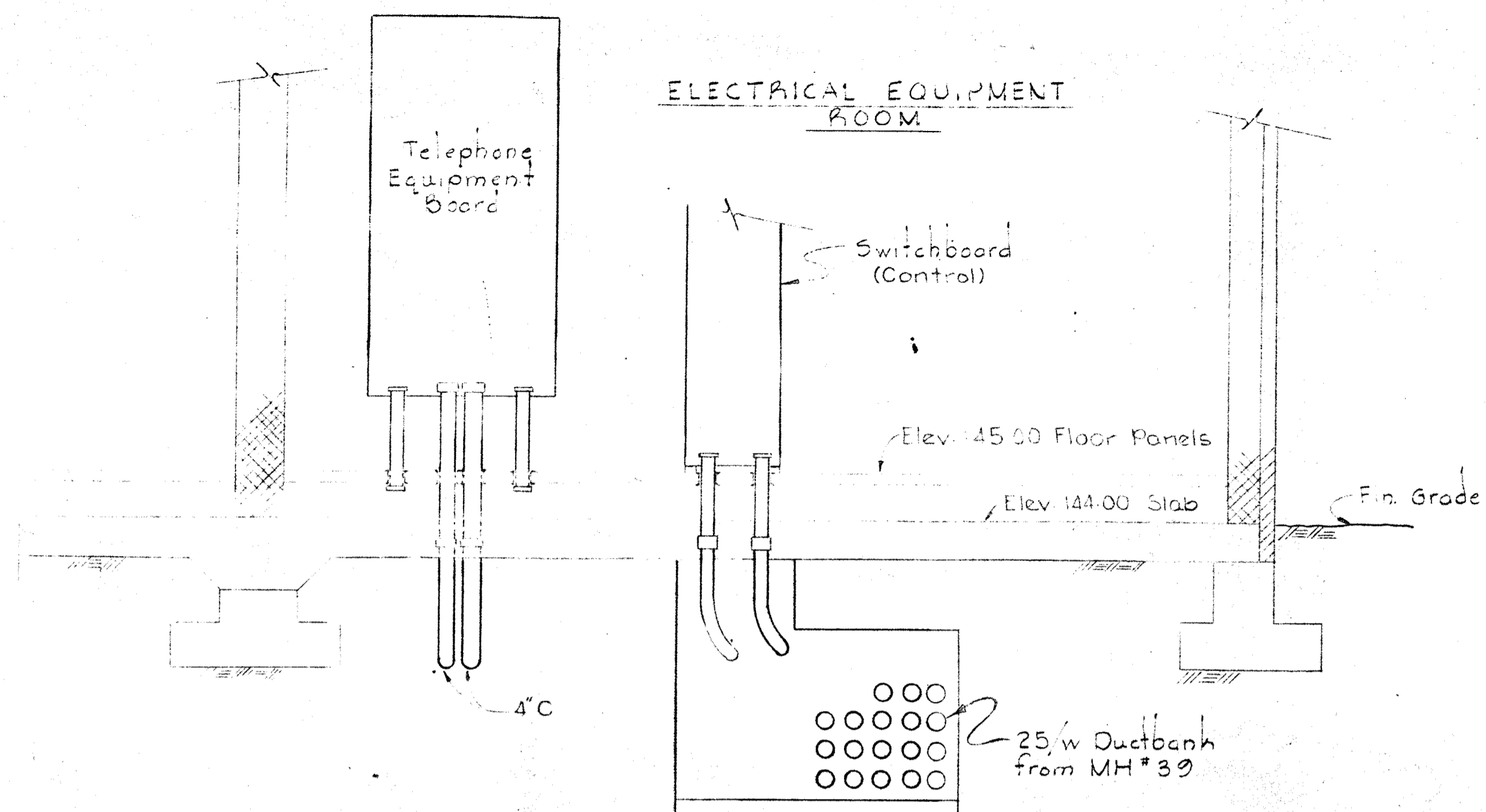
SWITCHBOARD SCHEDULE SWBD-1 480V, 3Ø, 3W & 240/120V, 1Ø, 3W													
UNIT NUMBER	NAMEPLATE DATA	DEVICE DESCRIPTION	HP or KVA	AUX. DESCR.	BREAKER OR MCP FRAME POLE CALIB SETS S.I.C.	RUN NUMBER	WIRE - POWER No. SIZE TYPE	GRD WIRE SIZE	COND. SIZE	REMARKS			
BD-1	TERMINAL CABINET "CTC2" INDICATION & INSTRUMENTATION	Wire Terminals & Cabinet	—	See Specs.	—	—	—	—	See Dwg.	—			
BD-2	PANELBOARD - A 240/120V-1Ø-3W	Circuit Breaker, Distribution Panelboard	—	See Specs.	See Specifications	—	See Drawings	—	—	—			
BD-3	167 KVA XFMR - 1 480-240/120V	SWBD Dry Type Power Transformer	—	See Specs.	600A	—	By Manufacturer	—	—	—			
BD-4A	LABORATORY DUCT HEATER	Circuit Breaker Thermal/Magnetic Trip	20	—	100A 3 30 14	DD-4a	3 8 THW 10 1"	—	—	—			
BD-4B	MECHANICAL ROOM WATER HEATER #1	Circuit Breaker Thermal/Magnetic Trip	27	—	100A 3 40 14	DD-4b	3 8 THW 10 1"	—	—	—			
BD-5A	BLANK (Spare)	Circuit Breaker Thermal/Magnetic Trip	—	—	225A 3 175 22	—	—	—	—	—			
BD-5B	BLANK (Spare)	Circuit Breaker Thermal/Magnetic Trip	—	—	225A 3 150 22	—	—	—	—	—			
BD-6A	GARAGE DUCT HEATER	Circuit Breaker Thermal/Magnetic Trip	35	—	100A 3 60 14	BD-6a	3 6 THW 8 1 1/4"	—	—	—			
BD-7	CONTROL CENTER "CC17" ELECTRICAL ROOM	Circuit Breaker w/ Static Trip	40	See Specs.	100A 3 100 14	CC17-2a	3 2 See Specs. 8 1 1/2"	—	—	—			
BD-8	167 KVA XFMR - 1 480V SWBD-1	Circuit Breaker w/ Static Trip	167	See Specs.	600A 2 350 30	—	By Manufacturers	—	—	—			
BD-9	STANDARD NAMEPLATE	Ammeter, Voltmeter, Sw's, PT's, CT's, Wattmeter etc.	—	See Specs.	—	—	By Manufacturers	—	—	—			
BD-10	MAIN BREAKER - 1 480V SWBD-1	Drawout Circuit Breaker w/ Static Trip	—	See Specs.	600A 3 600A 30	—	2(3/c) 500 MCM See Specs. 2(1/0) See Dwg.	—	—	—			
BD-11	INCOMING FEEDER NO. 1	—	—	—	—	P54-11a	2(3/c) 500 MCM See Specs. 2(1/0) See Dwg.	—	—	—			
BD-12	ANNUNCIATOR PANEL	12 Point	—	See Specs.	—	—	See Drawings	—	—	See Drawing E-13 for details			
BD-13	TIE BREAKER 480V SWBD-1	Drawout Circuit Breaker w/ Static Trip	—	See Specs.	600A 3 600A 30	—	By Manufacturer	—	—	—			
BD-14	BLANK	Space	—	—	—	—	—	—	—	—			
BD-15	STANDARD NAMEPLATES	Ammeter, Voltmeter, Sw's, PT's, CT's, Wattmeter etc.	—	See Specs.	—	—	By Manufacturers	—	—	—			

SWITCHBOARD SCHEDULE SWBD-1 480V, 3Ø, 3W & 240/120V, 1Ø, 3W													
UNIT NUMBER	NAMEPLATE DATA	DEVICE DESCRIPTION	HP or KVA	AUX. DESCR.	BREAKER OR MCP FRAME POLE CALIB SETS S.I.C.	RUN NUMBER	WIRE - POWER No. SIZE TYPE	GRD WIRE SIZE	COND. SIZE	REMARKS			
BD-16	MAIN BREAKER - 2 480V SWBD-1	Drawout Circuit Breaker w/ Static Trip	—	See Specs.	600A 3 600A	—	2(3/c) 500 MCM See Specs. 2(1/0) See Dwg.	—	—	—			
BD-17	INCOMING FEEDER NO. 2	—	—	—	—	P54-19a	2(3/c) 500 MCM See Specs. 2(1/0) See Dwg.	—	—	—			
BD-18A	BLANK (Spare)	Circuit Breaker Thermal/Magnetic Trip	27	—	100A 3 50 14	—	—	—	—	—			
BD-18B	MECH. ROOM WATER HEATER	Circuit Breaker Thermal/Magnetic Trip	27	—	100A 3 40 14	BD-18b	3 8 THW 10 1"	—	—	—			
BD-19A	MECHANICAL ROOM DUCT HEATER	Circuit Breaker Thermal/Magnetic Trip	110	—	225A 3 175 22	BD-19a	3 2/0 THW 6 2"	—	—	—			
BD-19B	AIR CONDITIONER ADMINISTRATION BLDG	Circuit Breaker Thermal/Magnetic Trip	61	—	225A 3 150 22	BD-19b	3 1/0 THW 6 2"	—	—	—			
BD-20	BLANK (Spare)	Circuit Breaker Thermal/Magnetic Trip	—	—	100A 3 40 14	—	—	—	—	—			
BD-21	BLANK (Spare)	Circuit Breaker w/ Static Trip	—	See Specs.	600A 3 600 30	—	—	—	—	—			
BD-22	167 KVA XFMR - 2 480V - SWBD-1	Circuit Breaker w/ Static Trip	167	See Specs.	600A 3 350 30	—	By Manufacturer	—	—	—			
BD-23	167 KVA XFMR - 2 480V - 240/120V	SWBD Dry Type Power Transformer	—	See Specs.	—	—	By Equipment Mfg.	—	—	—			
BD-24	PANELBOARD - B 240/120V-1Ø-3W	Circuit Breaker Distribution Panelboard	—	See Specs.	See Specifications	—	See Drawings	—	—	—			
BD-25	TERMINAL CABINET "CTC2" INDICATION & INSTRUMENTATION	Wire Terminals & Cabinet	—	See Specs.	—	—	See Dwg.	—	—	—			
BD-26	BLANK	Space	—	—	—	—	—	—	—	—			
BD-27	BLANK	Space	—	—	—	—	—	—	—	—			
BD-28	BLANK	Space	—	—	—	—	—	—	—	—			

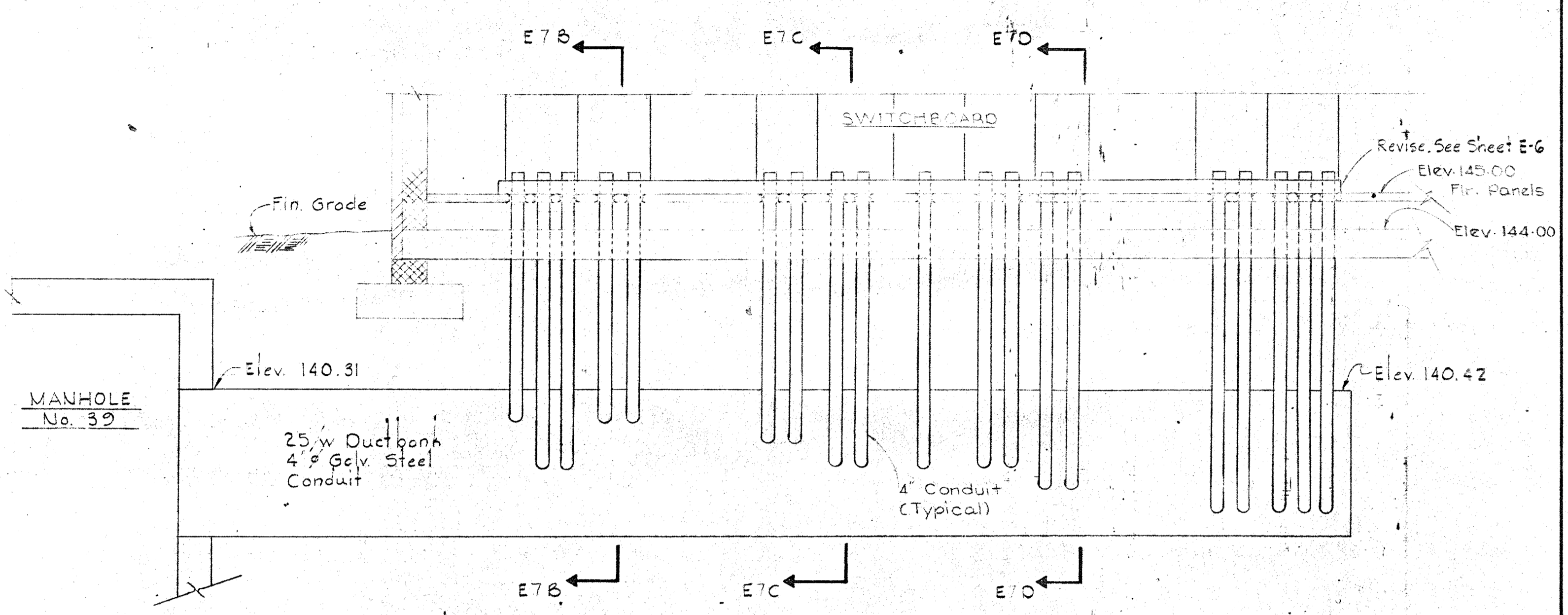


WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/20/15 DATE WOLBERT CHIEF BUREAU OF ENGINEERING	CONTRACT NO. 503-S	ADMINISTRATION BUILDING SWITCHBOARD	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 52	SCALE AS SHOWN
					OF 64	SHEET E-6

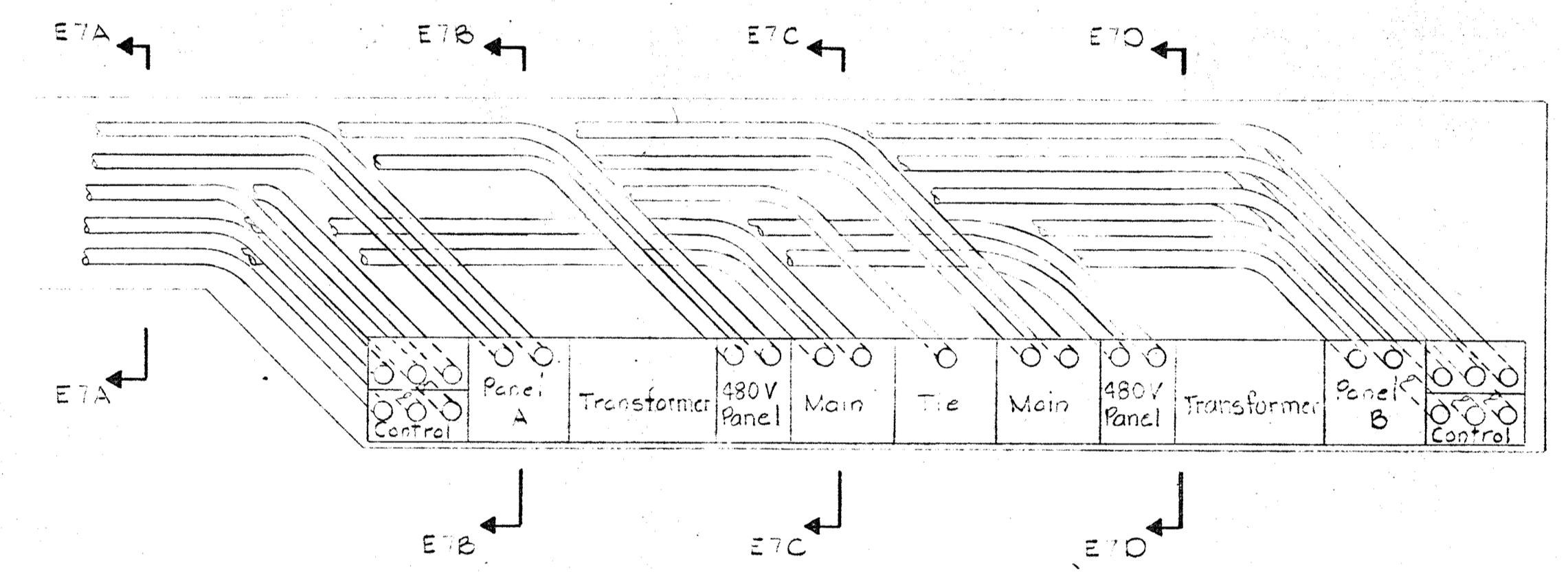
BRUNING 44-510 18392



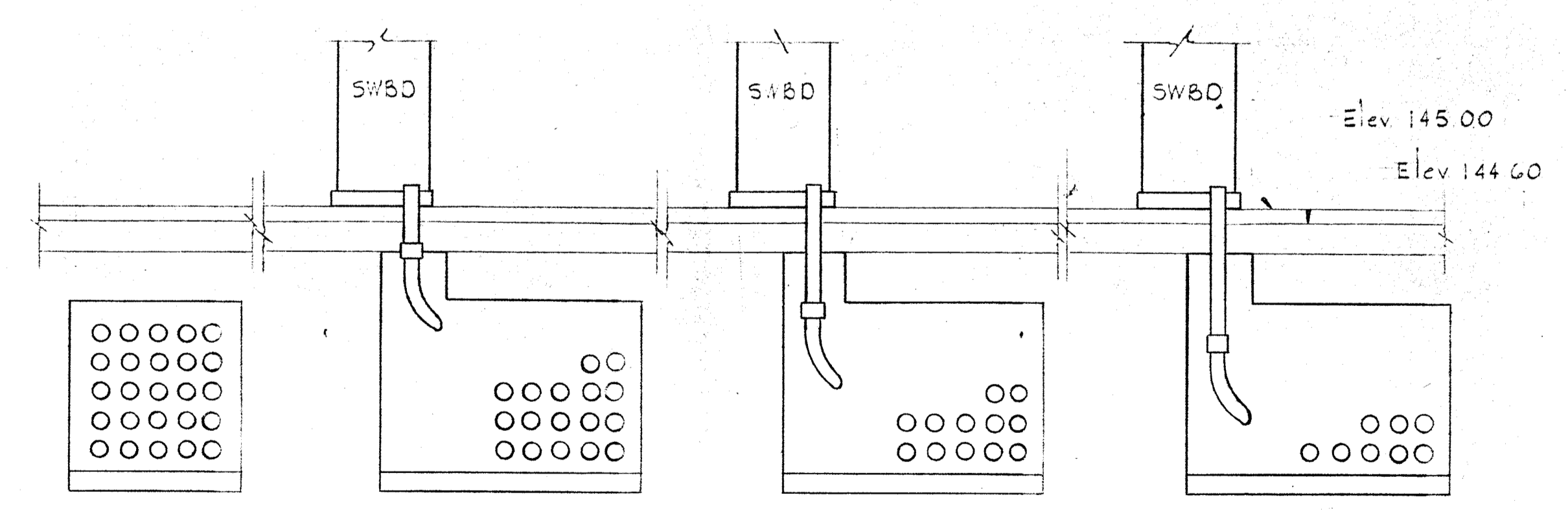
SECTION E7E/E5
Scale: 3/8" = 1'-0"



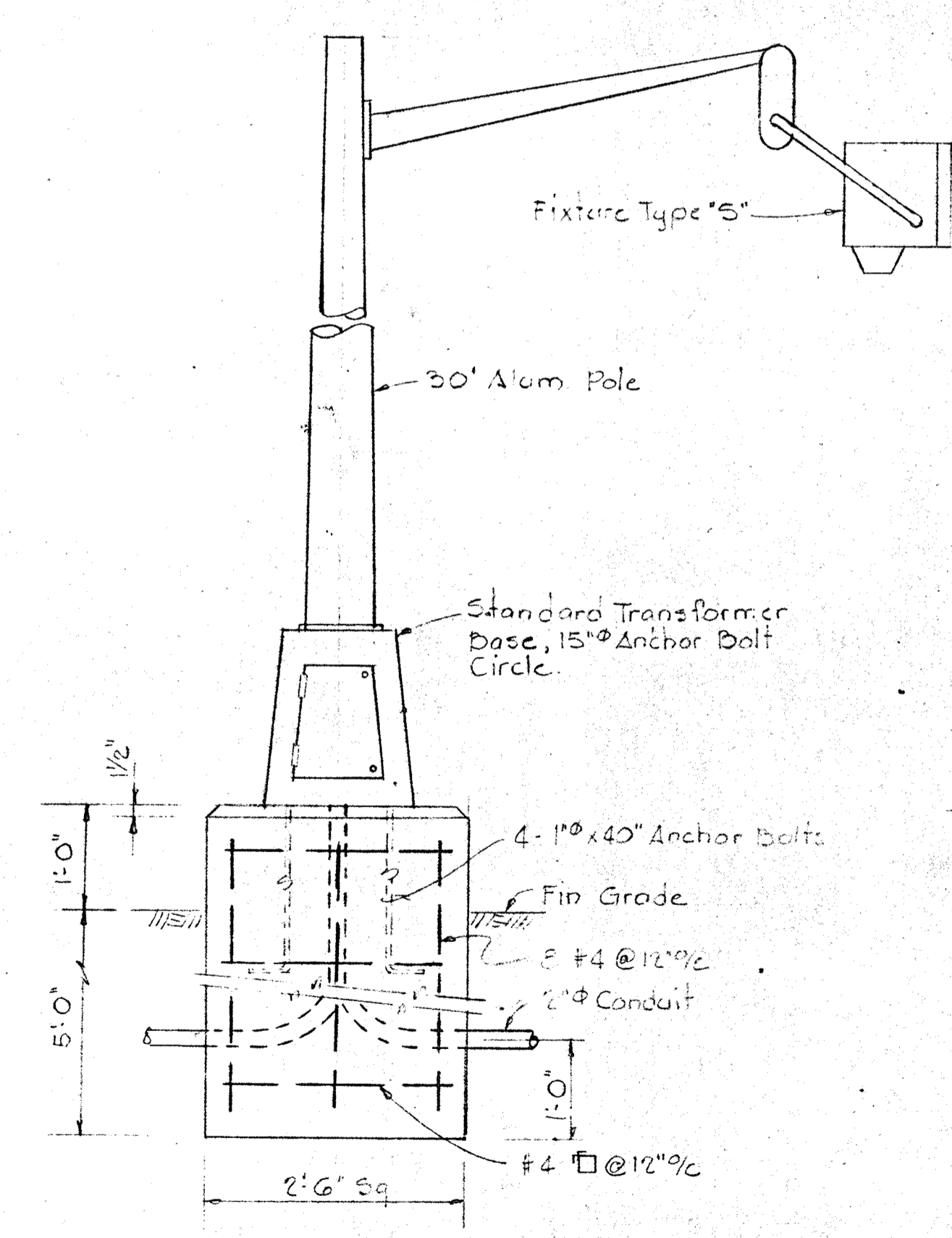
SECTION E7F/E5
Scale: 3/8" = 1'-0"



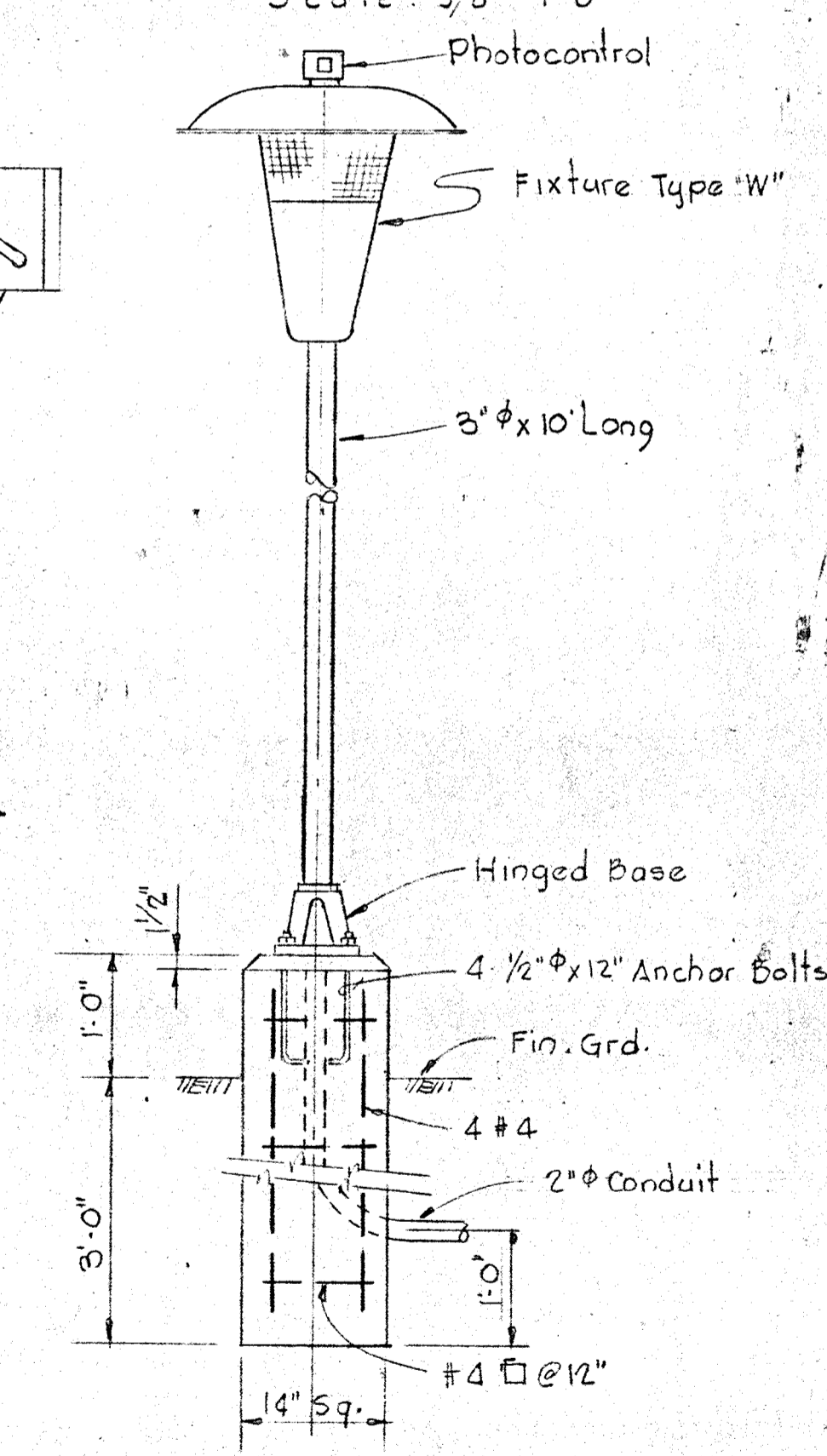
PLAN
Scale: 3/8" = 1'-0"



SECTION E7A/E1 SECTION E7B/E1 SECTION E7C/E1 SECTION E7D/E1
Scale: 3/8" = 1'-0"

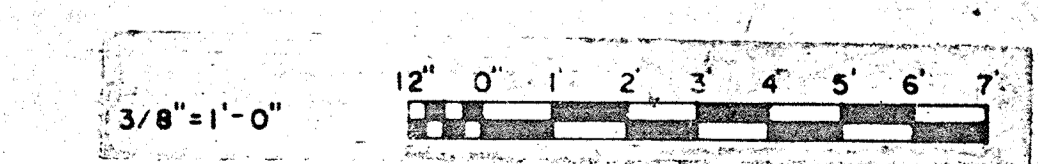


DETAIL "A"
FOUNDATION DETAILS FOR LIGHTING FIXTURES
Scale 3/4" = 1'-0"



DETAIL "B"

NOTES
1. For General Electrical Notes and Legend, see sheet E-2.



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ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DATE: *3/2/53*
CHIEF-BUREAU OF ENGINEERING

CONTRACT NO. 503-S

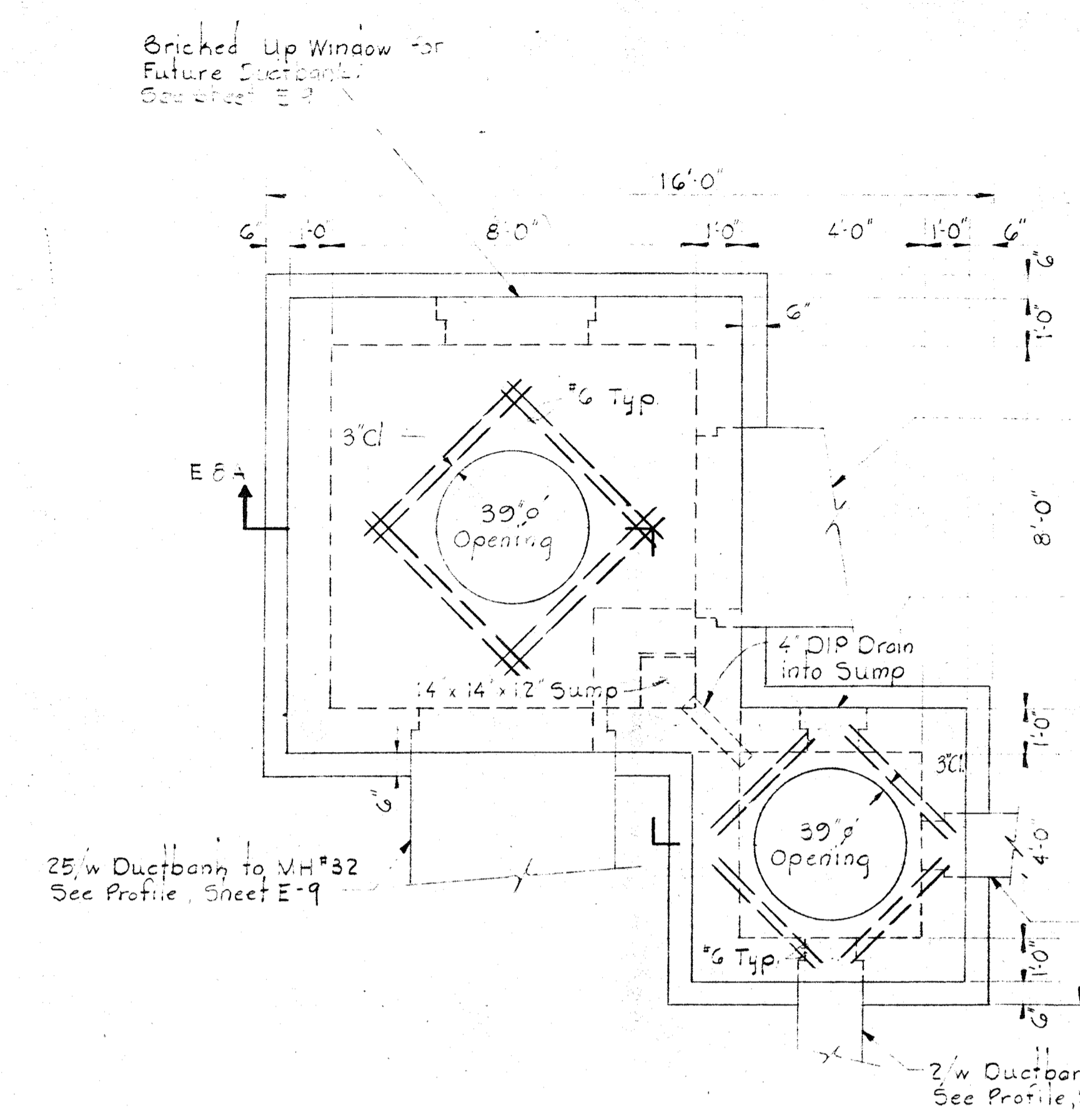
ADMINISTRATION BUILDING
DETAILS

SAVAGE WASTEWATER
TREATMENT PLANT ADDITION NO. 4

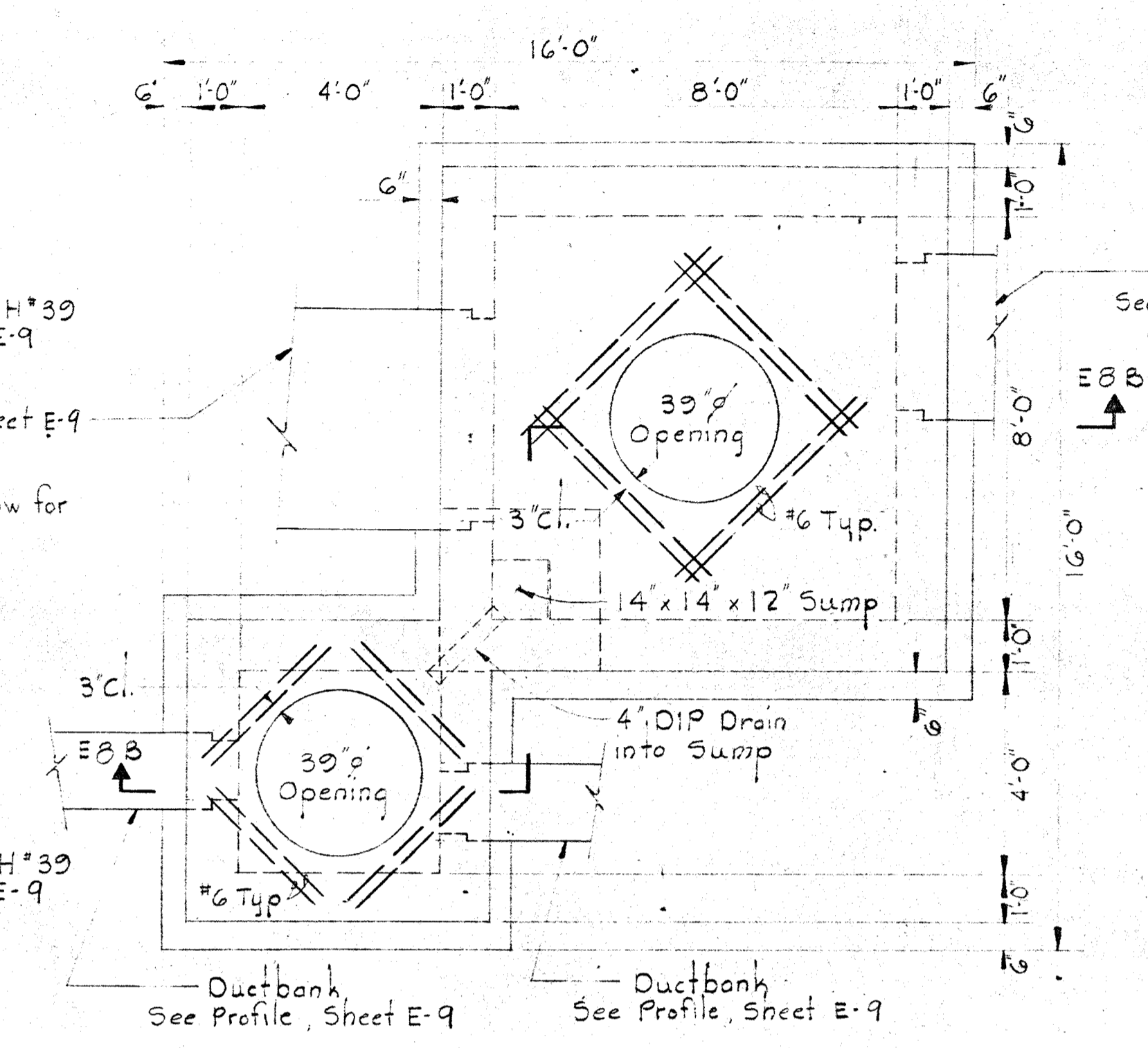
DRAWING NO. 53
OF 64
SCALE AS SHOWN

BRUNING 44-510 18392

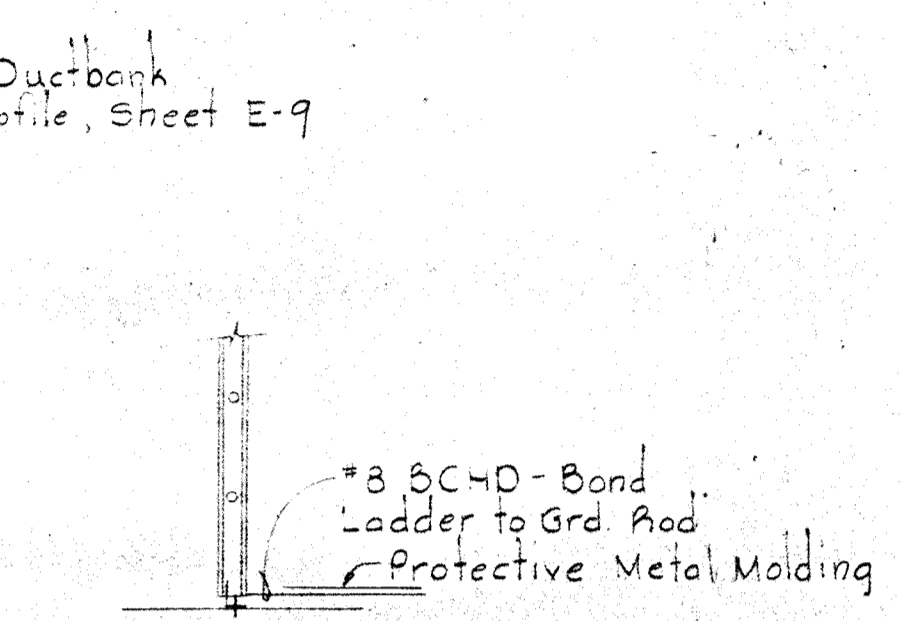
- NOTES:**
1. For General Electrical Notes and Legend see Sheet E-2
 2. For Plan Orientation see Sheet E-4
 3. For Ductbank Sections see Sheet E-9



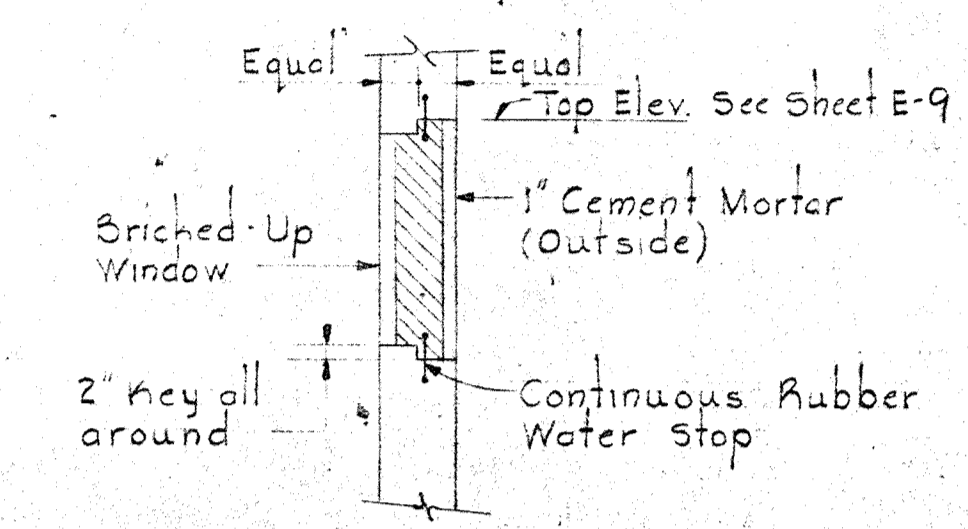
PLAN - MANHOLE #37
Scale: 3/8" = 1'-0"



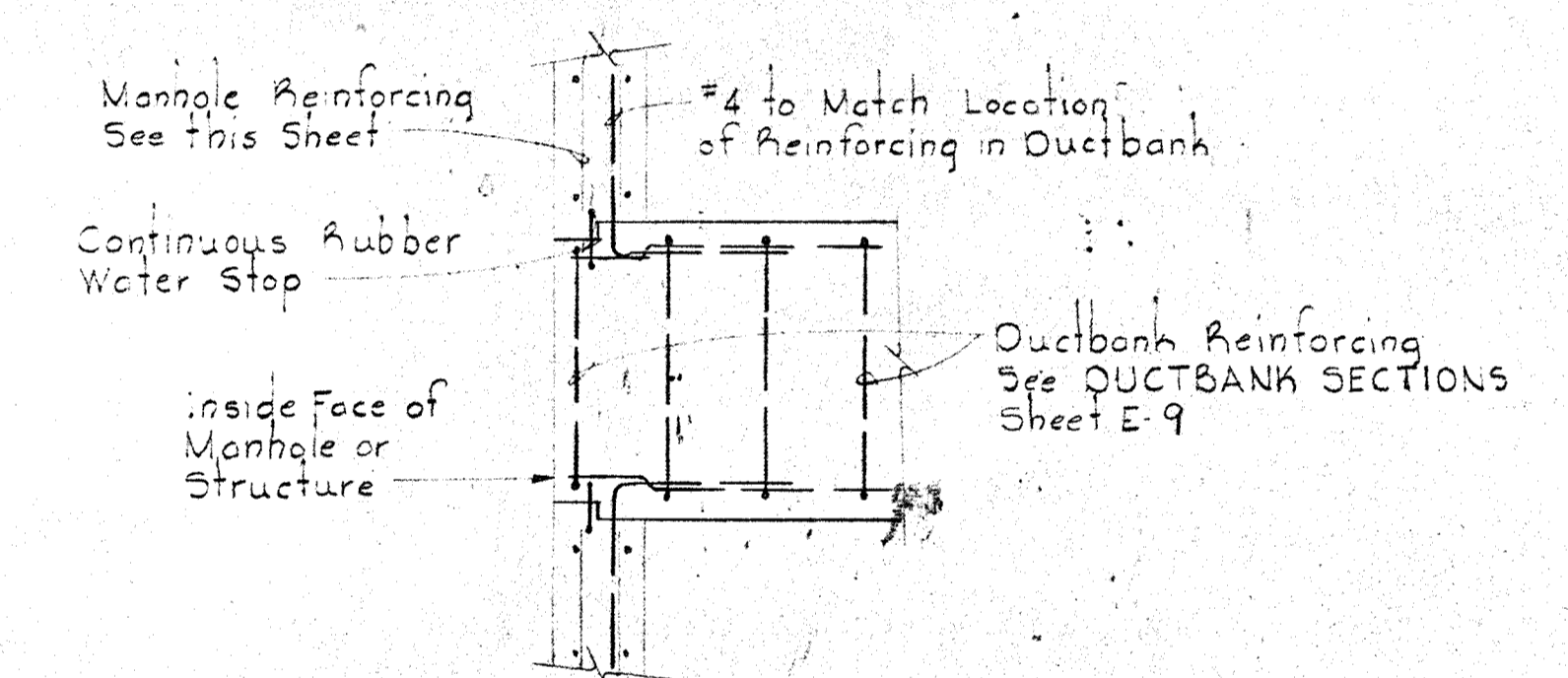
PLAN - MANHOLE #39
MANHOLE #39 SIMILAR
Scale: 3/8" = 1'-0"



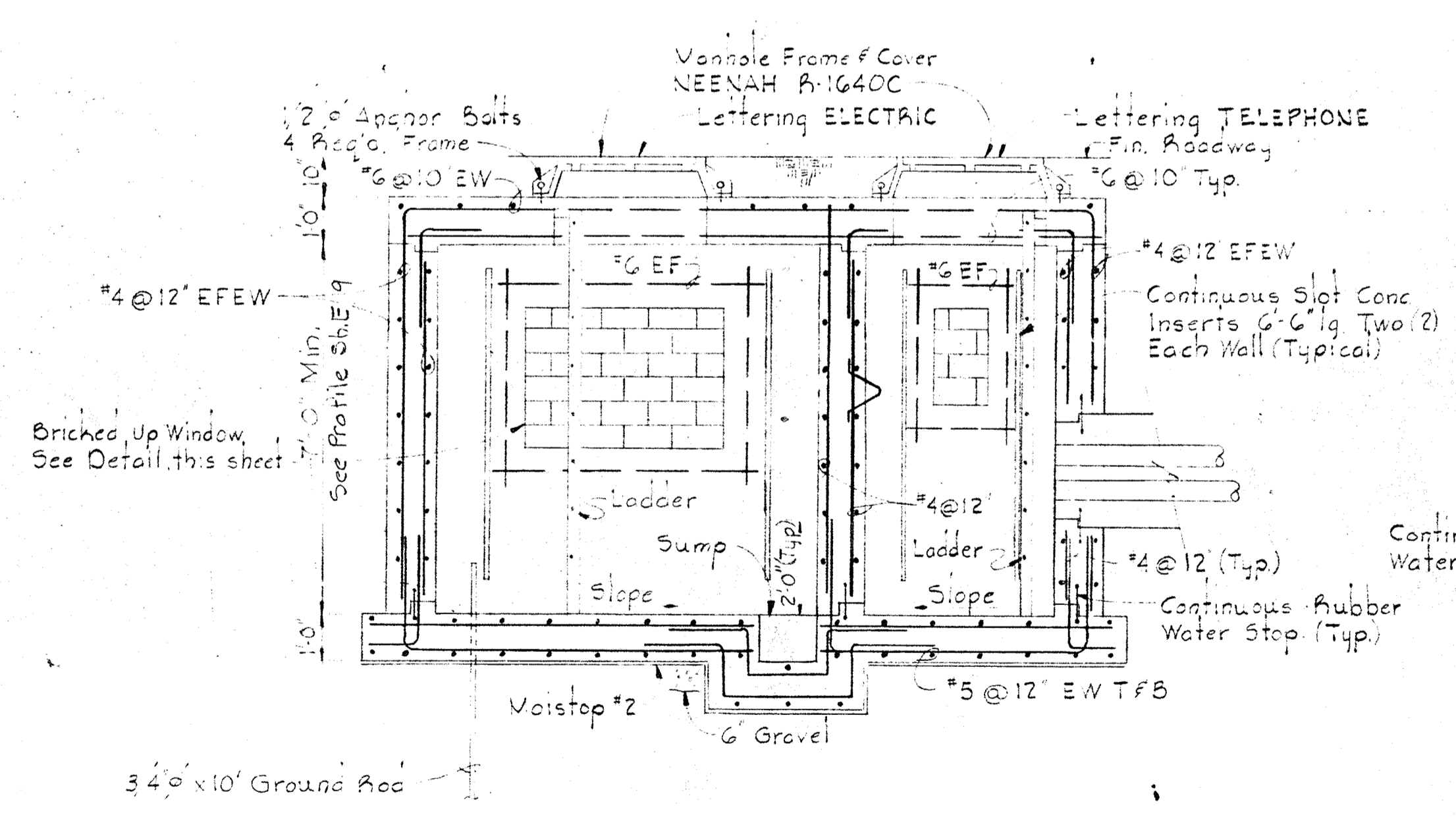
DETAIL OF MANHOLE LADDER GROUNDING
Scale: 1/2" = 1'-0"



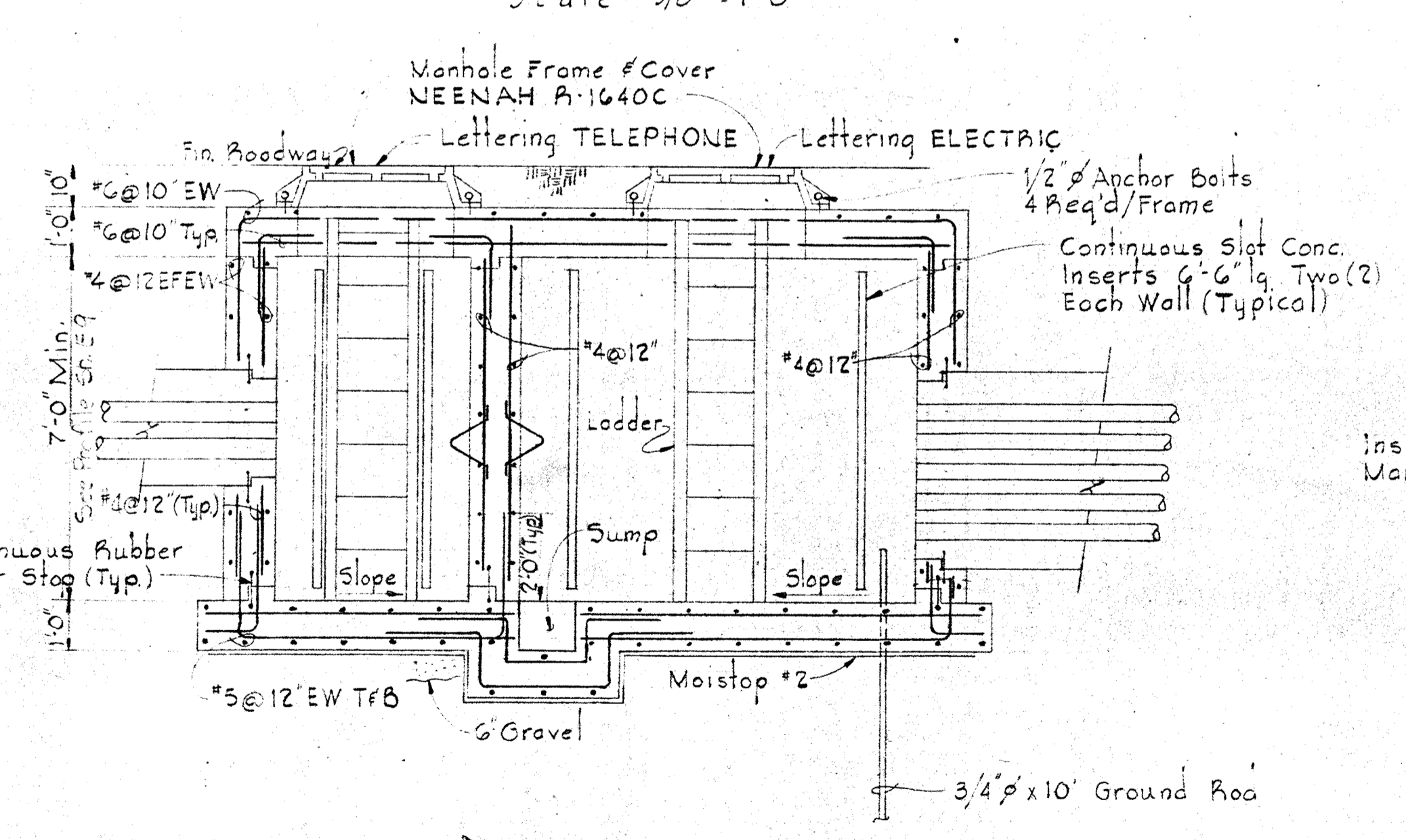
DETAIL OF BRICKED UP WINDOW FOR FUTURE DUCTBANKS
Scale: 3/8" = 1'-0"



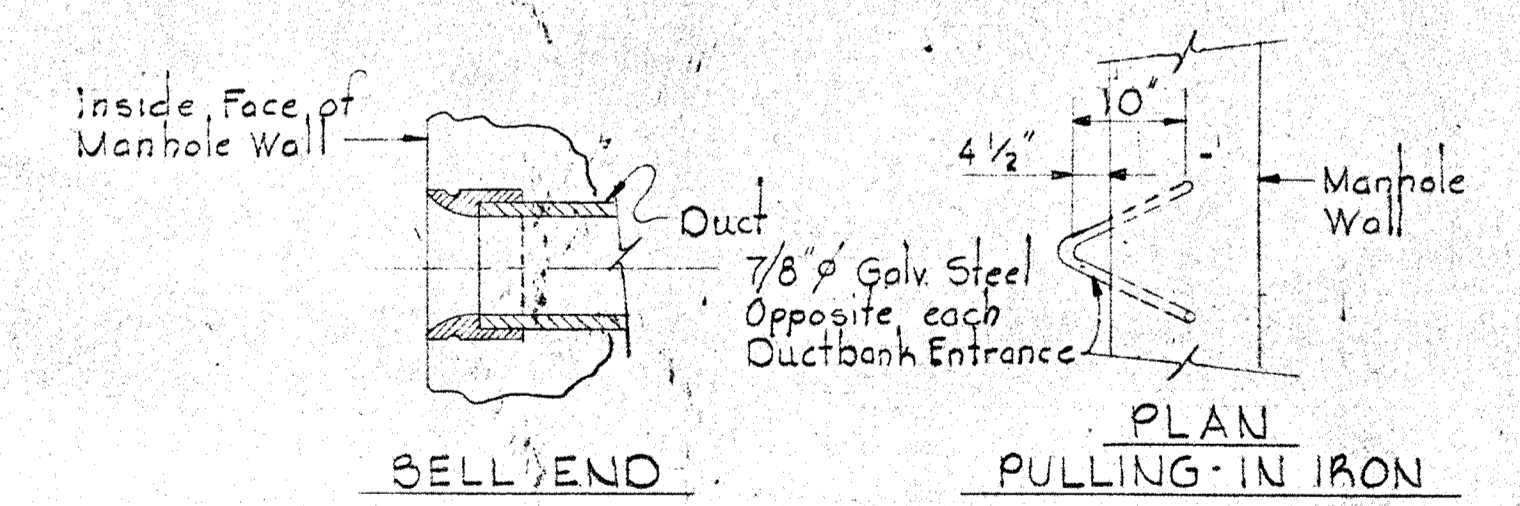
ARRANGEMENT OF DUCTBANK REINFORCEMENT AT ENTRANCE TO MANHOLES & STRUCTURES
Scale: 1/2" = 1'-0"



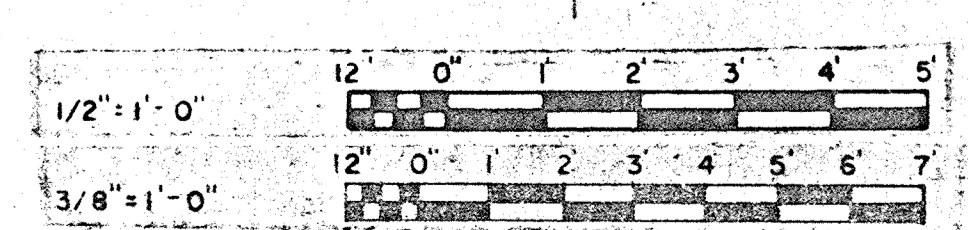
SECTION E8A/E8
Scale: 3/8" = 1'-0"



SECTION E8B/E8
Scale: 3/8" = 1'-0"



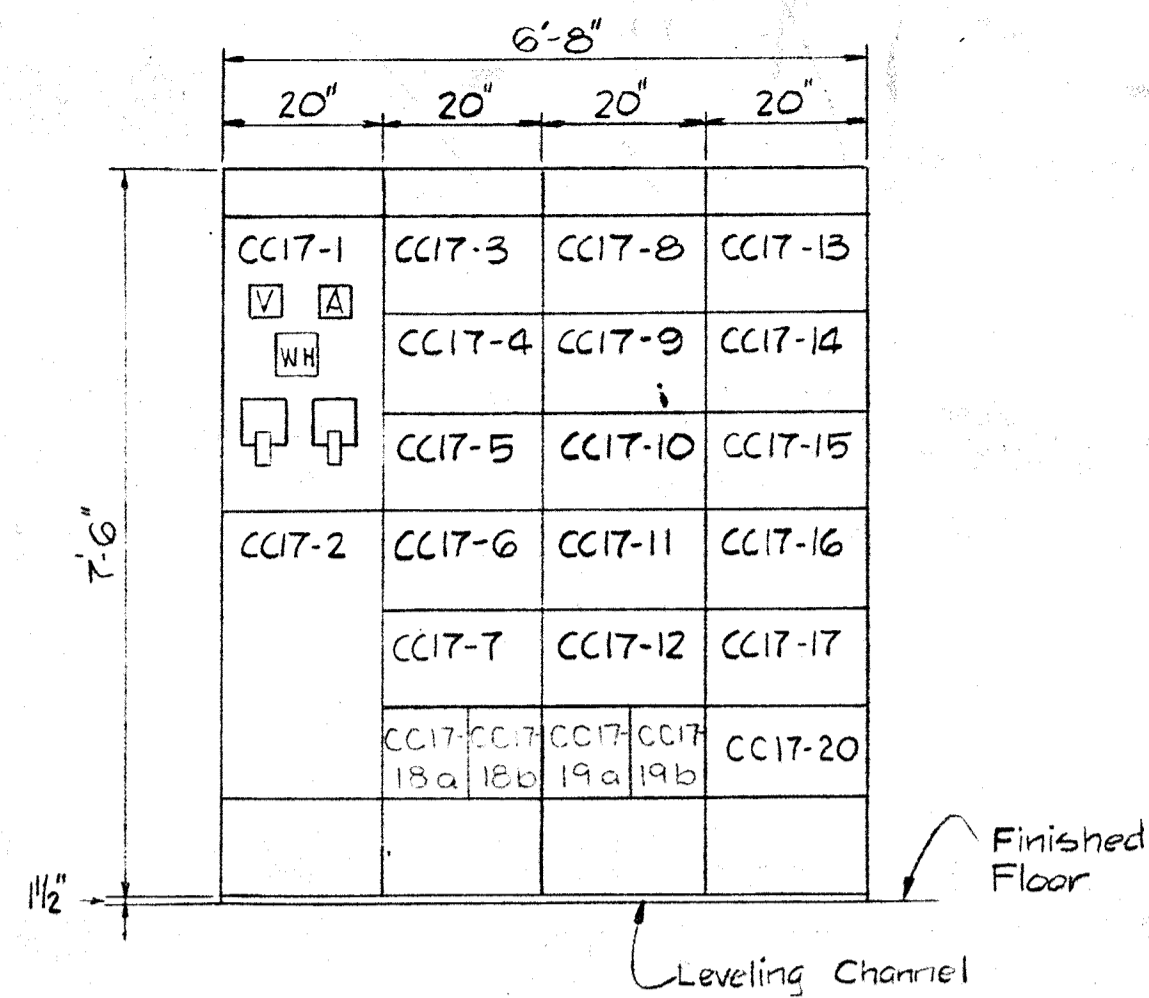
MISCELLANEOUS MANHOLE DETAILS
No Scale



WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>W. O. Libbert</i> CHIEF BUREAU OF ENGINEERING	CONTRACT NO. 503-S	UNDERGROUND MANHOLES & DETAILS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 54	SCALE AS SHOWN
					OF 64	SHEET E-8

W.O. 6887-2

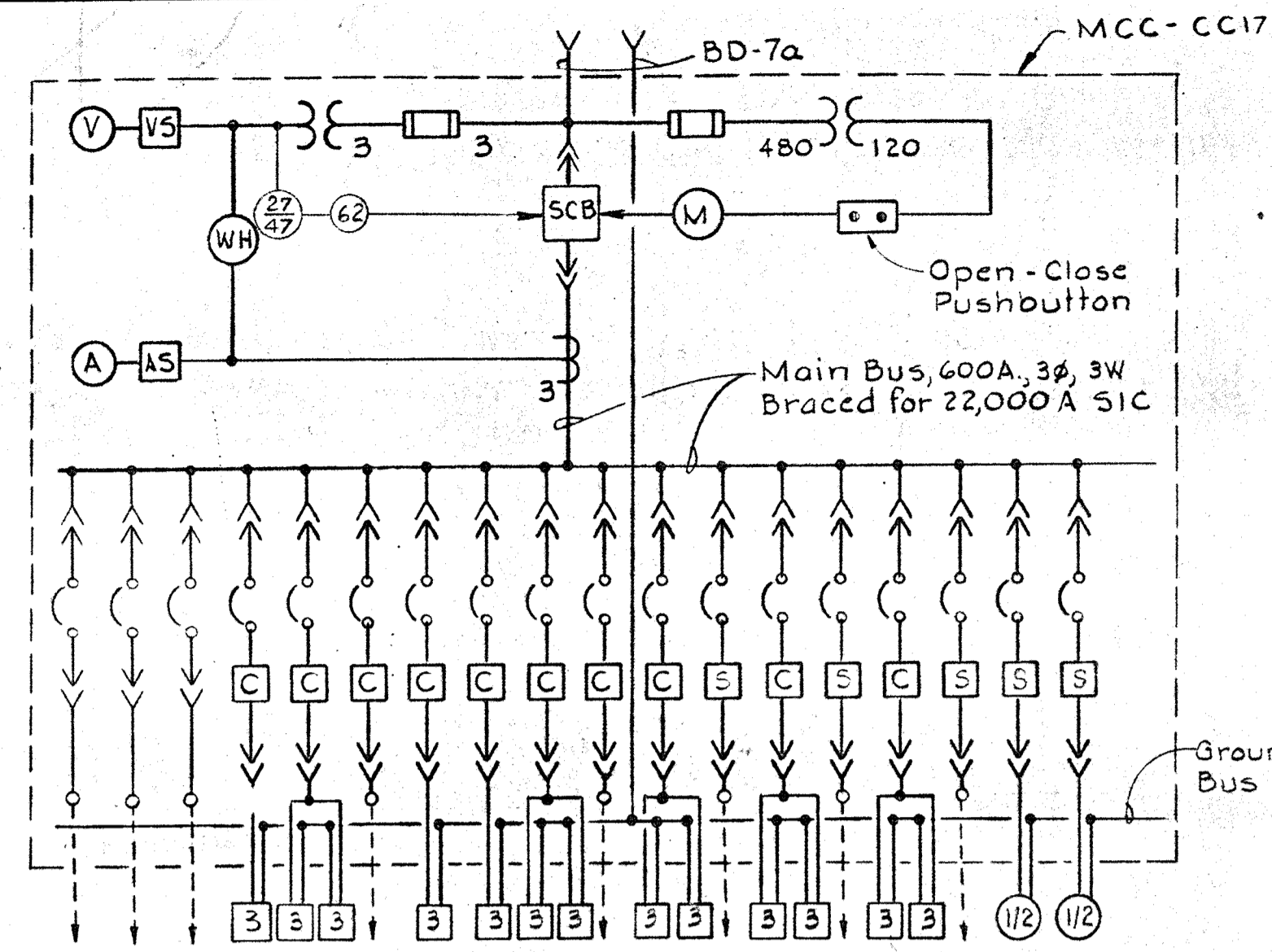
BRUNING 44510 1892



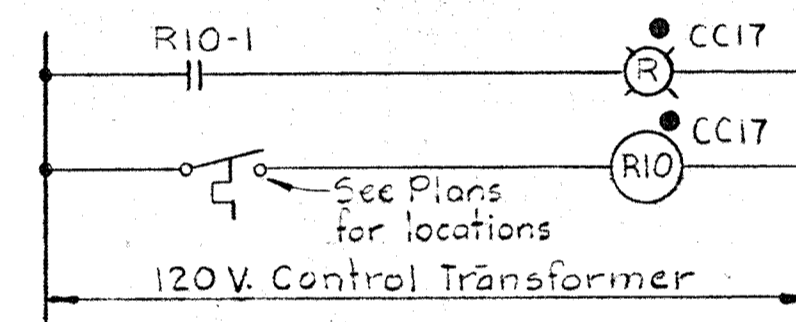
FRONT ELEVATION
MOTOR CONTROL CENTER "CC17"
Scale 1/2" = 1'-0"

MOTOR CONTROL CENTER SCHEDULE "CC17" 480V-3Ø-3W-60 Hz.

UNIT NO.	NAMEPLATE DATA	DEVICE DESCRIPTION	HP Per KVA	AUX DESC.	BREAKER OR MCP			RUN NO.	WIRE - POWER			WIRE CONTROL			GRD WIRE	COND. SIZE	
					FRAME	POLE	CALIB/SET/G		SIC.	No.	Size	Type	No.	Size			Type
CC17-1	STANDARD NAMEPLATE	Ammeter Voltmeter, SW's, CT's, Relays	—	See Spec.	—	—	—	—	By Manufacturer			—	—	—	—		
CC17-2	MAIN BREAKER	Systems Circuit Breaker Drawout Type	—	See Spec.	600	3	100	30	BD-7	3	2	See Spec.	—	—	8	1 1/2"	
CC17-3	ELECTRICAL ROOM UNIT HEATER #1	Comb. Contactor NEMA Size 1 FVNR	3	a.c. d.g.	100	3	15	14	CC17-3a	3	12	THW	2	14	THW	12	1"
CC17-4	ELECTRICAL ROOM UNIT HEATER #2 & #3	Comb. Contactor NEMA Size 2 FVNR	(2)3	a.c. d.g.	100	3	20	14	CC17-4a	3	12	THW	2	14	THW	12	1"
CC17-5	BLANK (SPARE)	Comb. Contactor NEMA Size 1 FVNR	—	a.c. d.g.	100	3	20	14	—	—	—	—	—	—	—	—	
CC17-6	MECHANICAL ROOM UNIT HEATER # 4	Comb. Contactor NEMA Size 1 FVNR	3	a.c. d.g.	100	3	15	14	CC17-6a	3	12	THW	2	14	THW	12	1"
CC17-7	MECHANICAL ROOM UNIT HEATER #5	Comb. Contactor NEMA Size 1 FVNR	3	a.c. d.g.	100	3	15	14	CC17-7a	3	12	THW	2	14	THW	12	1"
CC17-8	GARAGE UNIT HEATER #6 & #7	Comb. Contactor NEMA Size 2 FVNR	3	a.c. d.g.	100	3	20	14	CC17-8a	3	12	THW	2	14	THW	12	1"
CC17-9	BLANK (SPARE)	Comb. Contactor NEMA Size 1 FVNR	—	a.c. d.g.	100	3	20	14	—	—	—	—	—	—	—	—	
CC17-10	GARAGE UNIT HEATER #8 & #9	Comb. Contactor NEMA Size 2 FVNR	(2)3	a.c. d.g.	100	3	20	14	CC17-10a	3	12	THW	2	14	THW	12	1"
CC17-11	BLANK (SPARE)	Comb. Starter NEMA Size 1 FVNR	—	a.c. d.g.	100	3	10X	14	—	—	—	—	—	—	—	—	
CC17-12	STORAGE RECEIVING UNIT HEATER #10 & #11	Comb. Contactor NEMA Size 2 FVNR	(2)3	a.c. d.g.	100	3	20	14	CC17-12a	3	12	THW	2	14	THW	6	1"
CC17-13	BLANK (SPARE)	Comb. Starter NEMA Size 1 FVNR	—	a.c. d.g.	100	3	10X	14	—	—	—	—	—	—	—	—	
CC17-14	STORAGE RECEIVING UNIT HEATER #12 & #13	Comb. Contactor NEMA Size 2 FVNR	(2)3	a.c. d.g.	100	3	20	14	CC17-14a	3	12	THW	2	14	THW	12	1"
CC17-15	AIR COND. & HEATING UNIT CONTROLS	Relays & Timers	—	a.d.	—	—	—	—	—	—	—	—	—	—	—	—	
CC17-16	MENS TOILET #2 ROOF VENTILATOR	Comb. Starter NEMA Size 1 FVNR	1/2	a.c. d.g.	100	3	10X	14	CC17-16a	3	12	THW	4	14	THW	12	1"
CC17-17	LABORATORY ROOF VENTILATOR	Comb. Starter NEMA Size 1 FVNR	1/2	a.c. d.g.	100	3	10X	14	CC17-17a	3	12	THW	4	14	THW	12	1"
CC17-18a	BLANK (SPARE)	Circuit Breaker	—	—	100	3	100	14	—	—	—	—	—	—	—	—	
CC17-19a	BLANK (SPARE)	Circuit Breaker	—	—	100	3	100	14	—	—	—	—	—	—	—	—	
CC17-19b	BLANK (SPARE)	Circuit Breaker	—	—	100	3	100	14	—	—	—	—	—	—	—	—	
CC17-19c	BLANK (SPARE)	Circuit Breaker	—	—	100	3	100	14	—	—	—	—	—	—	—	—	
CC17-20	BLANK (SPARE)	Comb. Starter NEMA Size 1 FVNR	—	a.c. d.g.	100	3	10X	14	—	—	—	—	—	—	—	—	

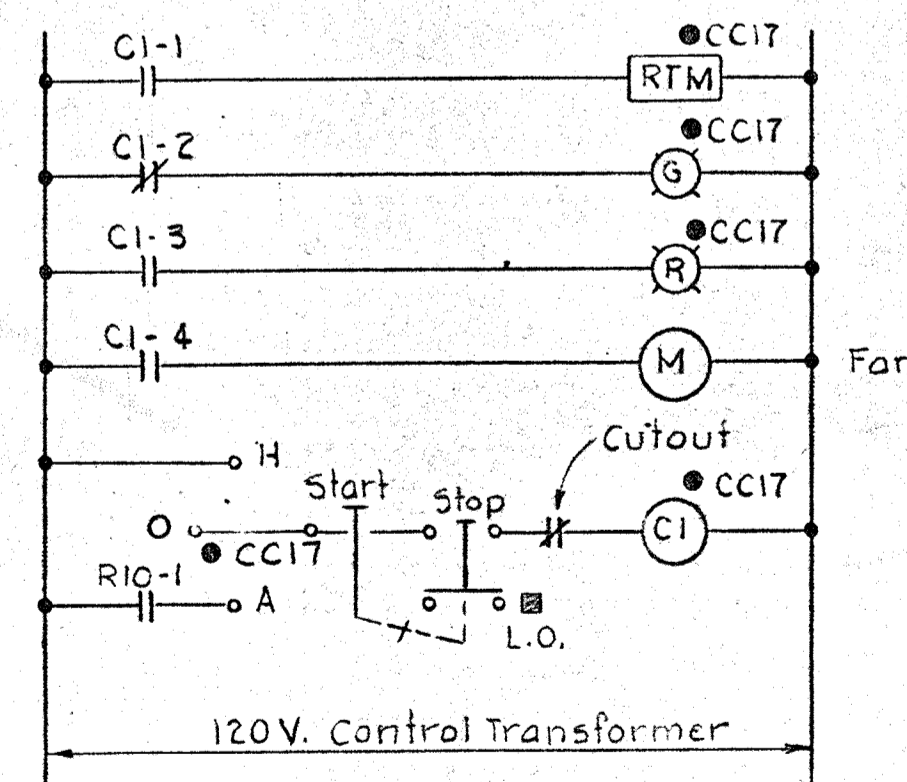


ONE LINE DIAGRAM
MOTOR CONTROL CENTER "CC17"



CONTROL ELECTRICAL RM. U.H.'S

Typical for the following Units:
1. Mechanical Room Unit Heaters
2. Garage Unit Heaters
3. Storage & Receiving Unit Heaters

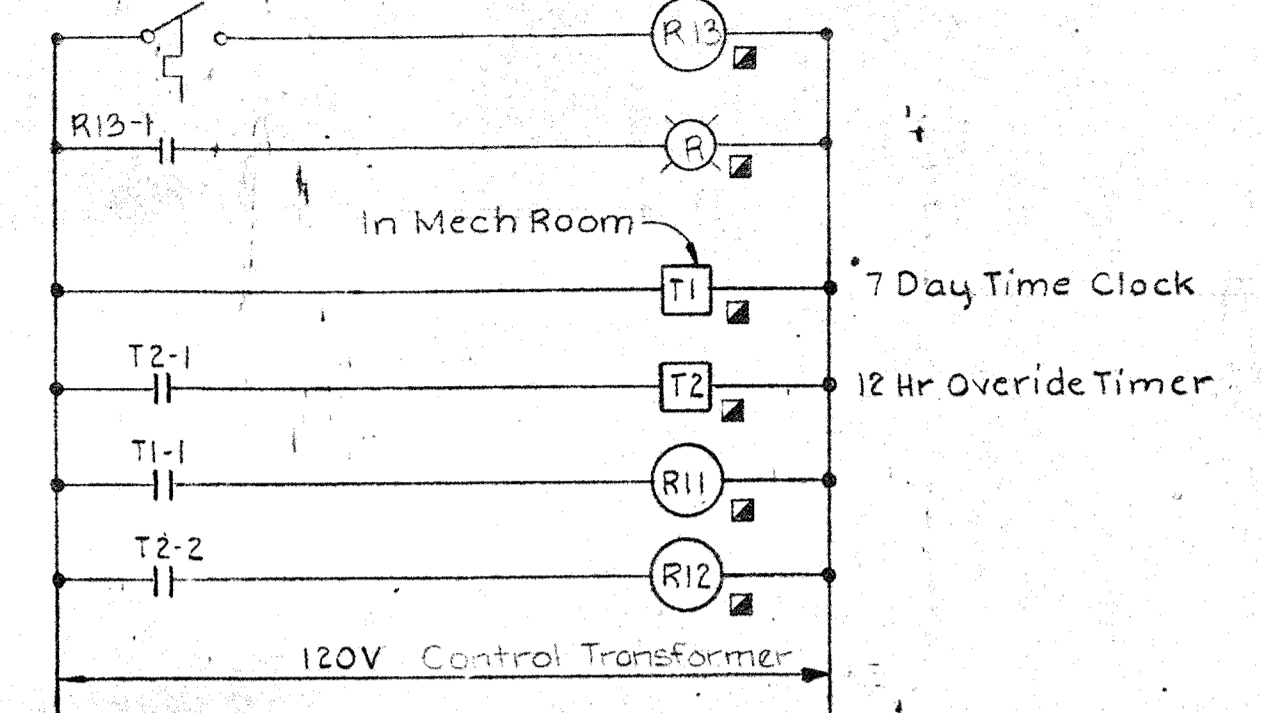


ELECTRICAL ROOM U.H. #1

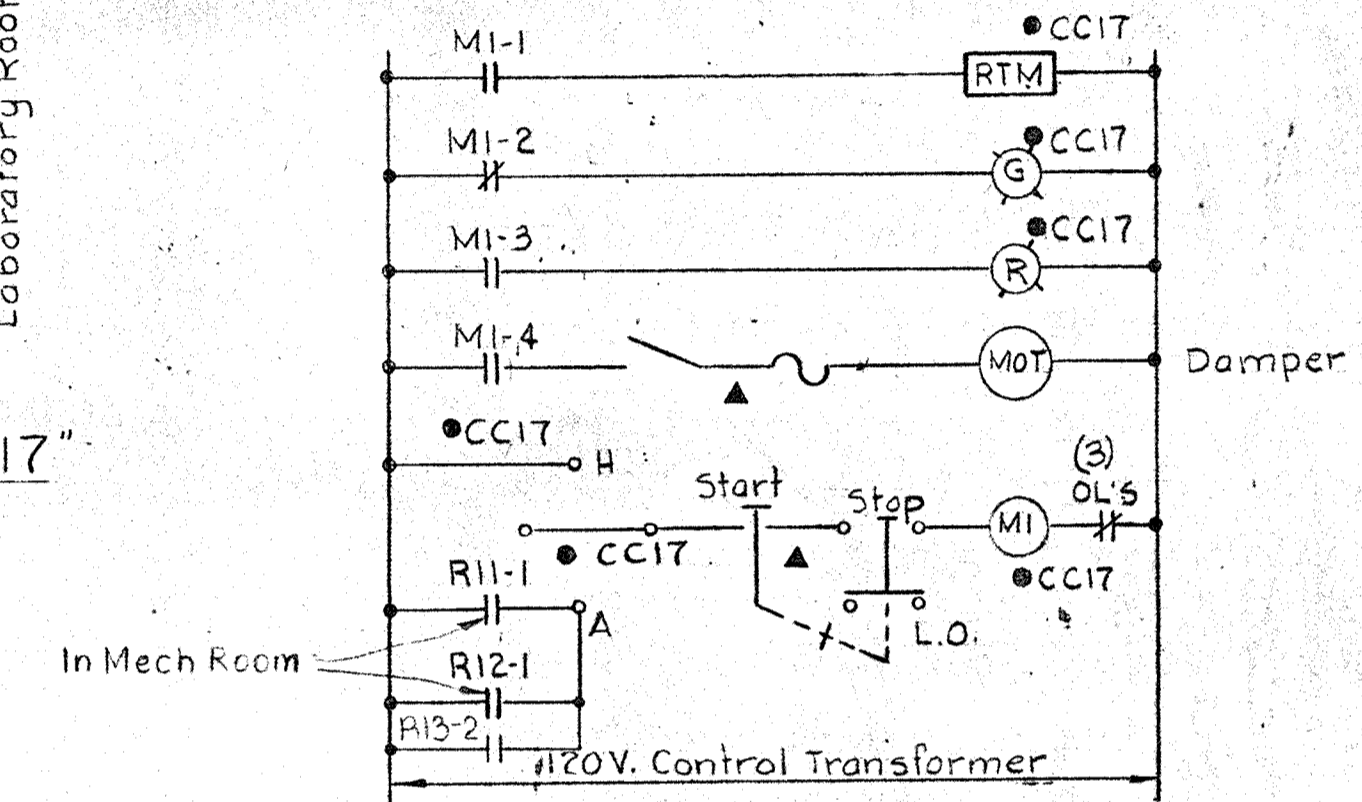
Typical for the following Units:
1. Electrical Room U.H.'s #2 & #3
2. Mechanical Room U.H.'s #4, #5
3. Garage U.H.'s #6 & #7, #8 & #9
4. Storage Receiving U.H.'s #10 & #11, #12 & #13

NOTES

- For General Electrical Notes and Legend, see sheet E-2.
- Mechanical Room Vent Fan & Storage & Receiving Vent Fan - See Panel Schedule "B" for Circuit.

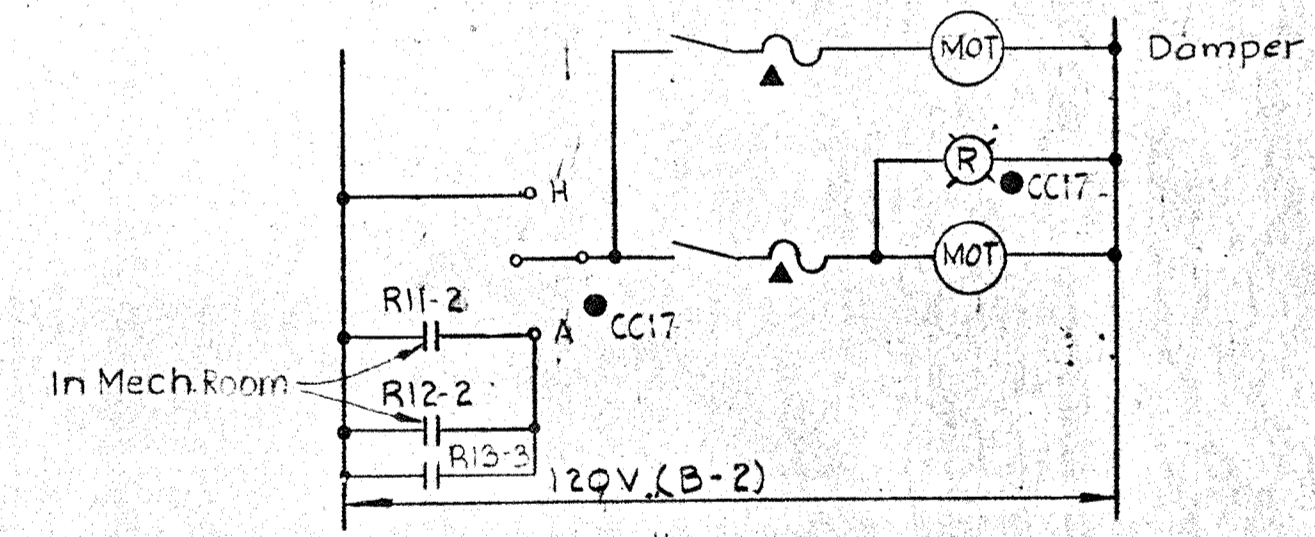


CONTROL AIR CONDITIONING UNIT & MENS TOILET RM #2, LAB. & LAB. STOR. VENT FANS
Typical for Garage Supply Fan.



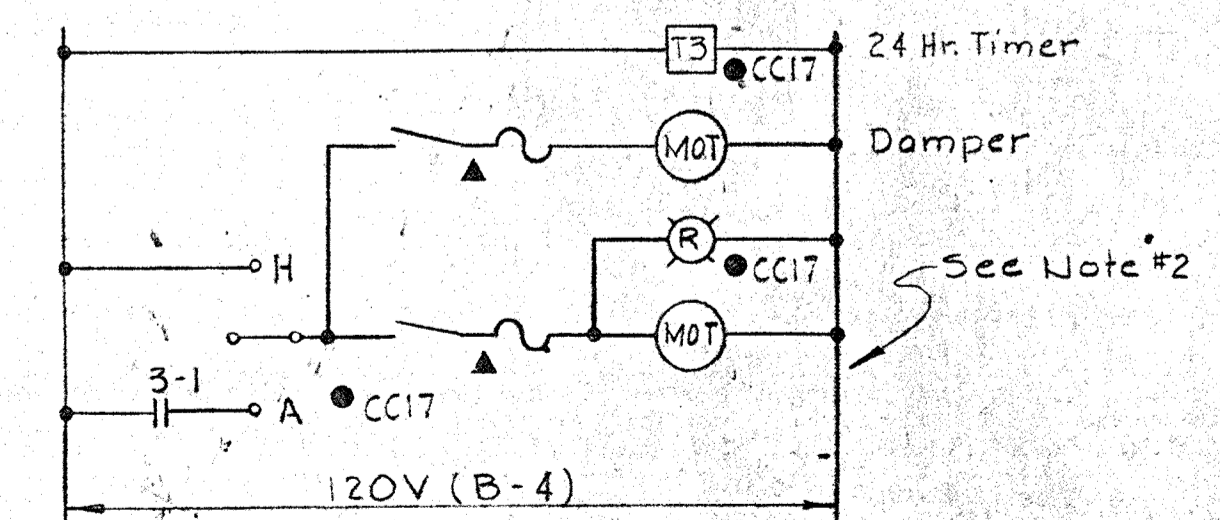
ROOF VENTILATOR FOR LABORATORY

Typical for Roof Ventilator for Mens Toilet #2



LABORATORY CHEMICAL STORAGE VENT FAN

Typical for Garage Supply Fan, except delete R13-3 contact. See Panel Schedule "B" for Circuit.



ELECTRICAL ROOM VENT FAN

1/2" = 1'-0"

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ENGINEERS
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BALTIMORE, MARYLAND

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HOWARD COUNTY, MARYLAND

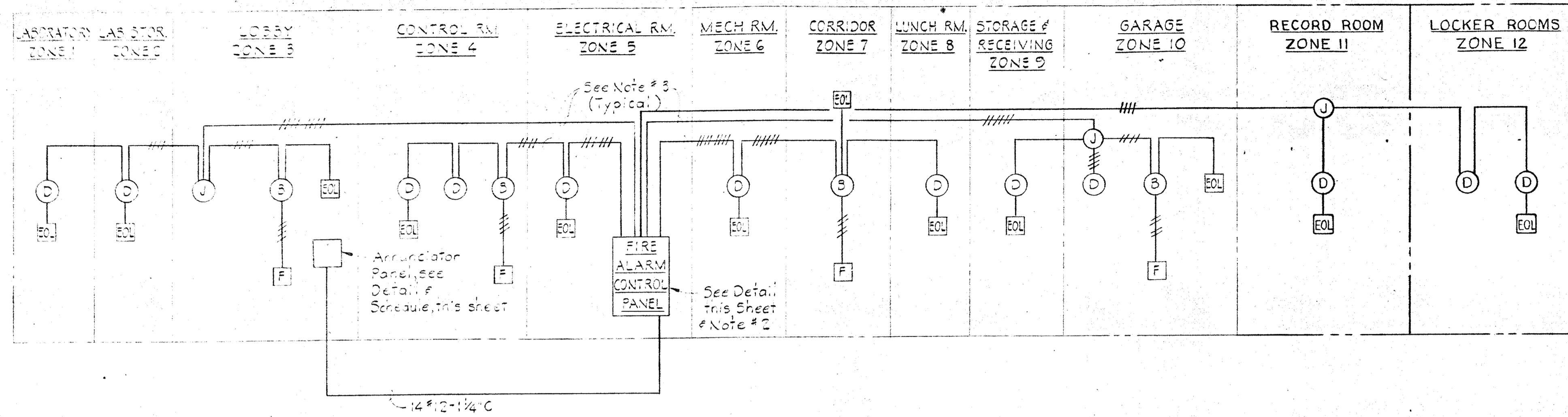
CONTRACT NO. 503-S

ADMINISTRATION BUILDING
MOTOR CONTROL CENTER "CC17"
AND DETAILS

SAVAGE WASTEWATER
TREATMENT PLANT ADDITION NO. 4

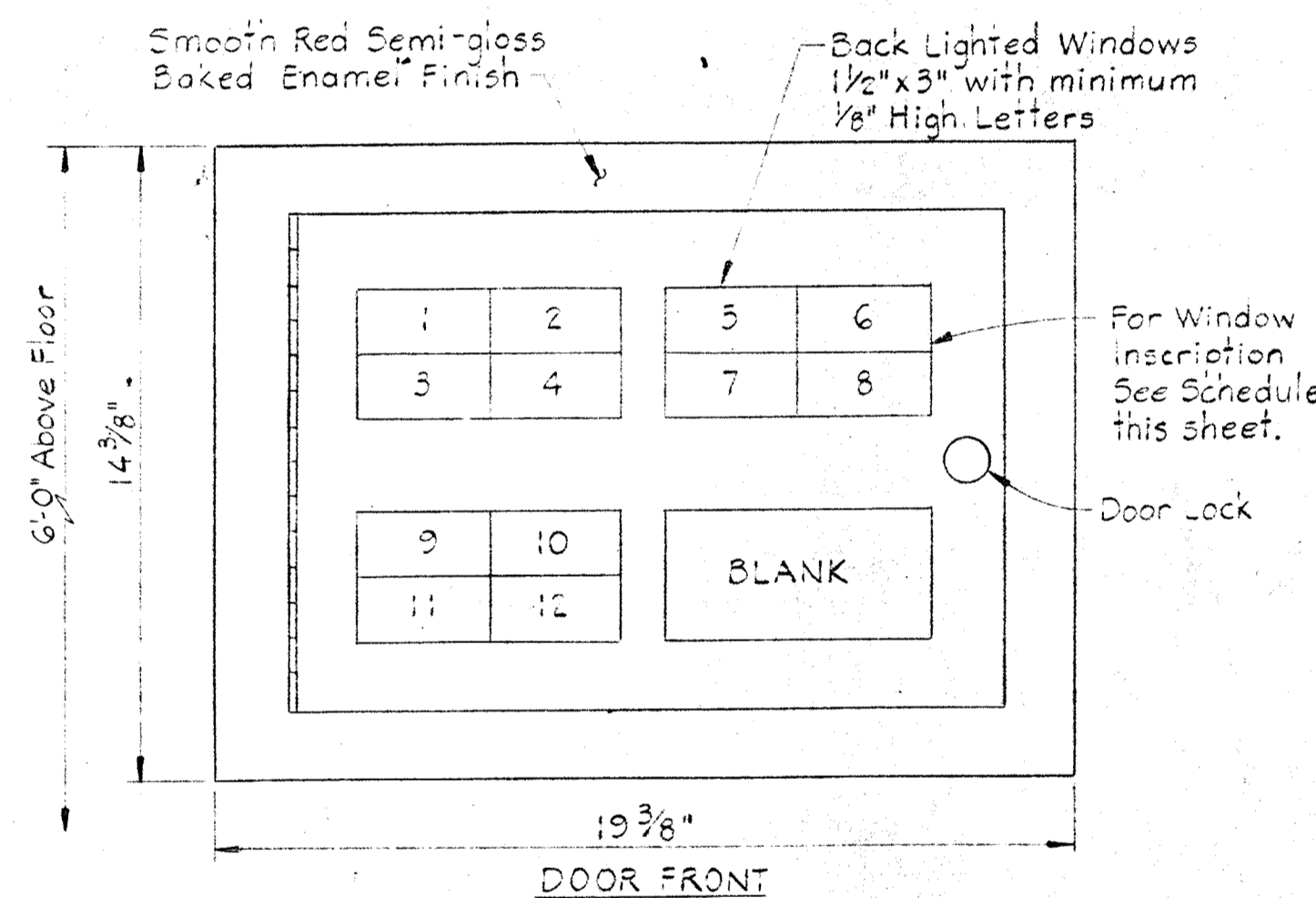
DRAWING NO. 56
OF 64
SCALE NONE

SHEET E-10

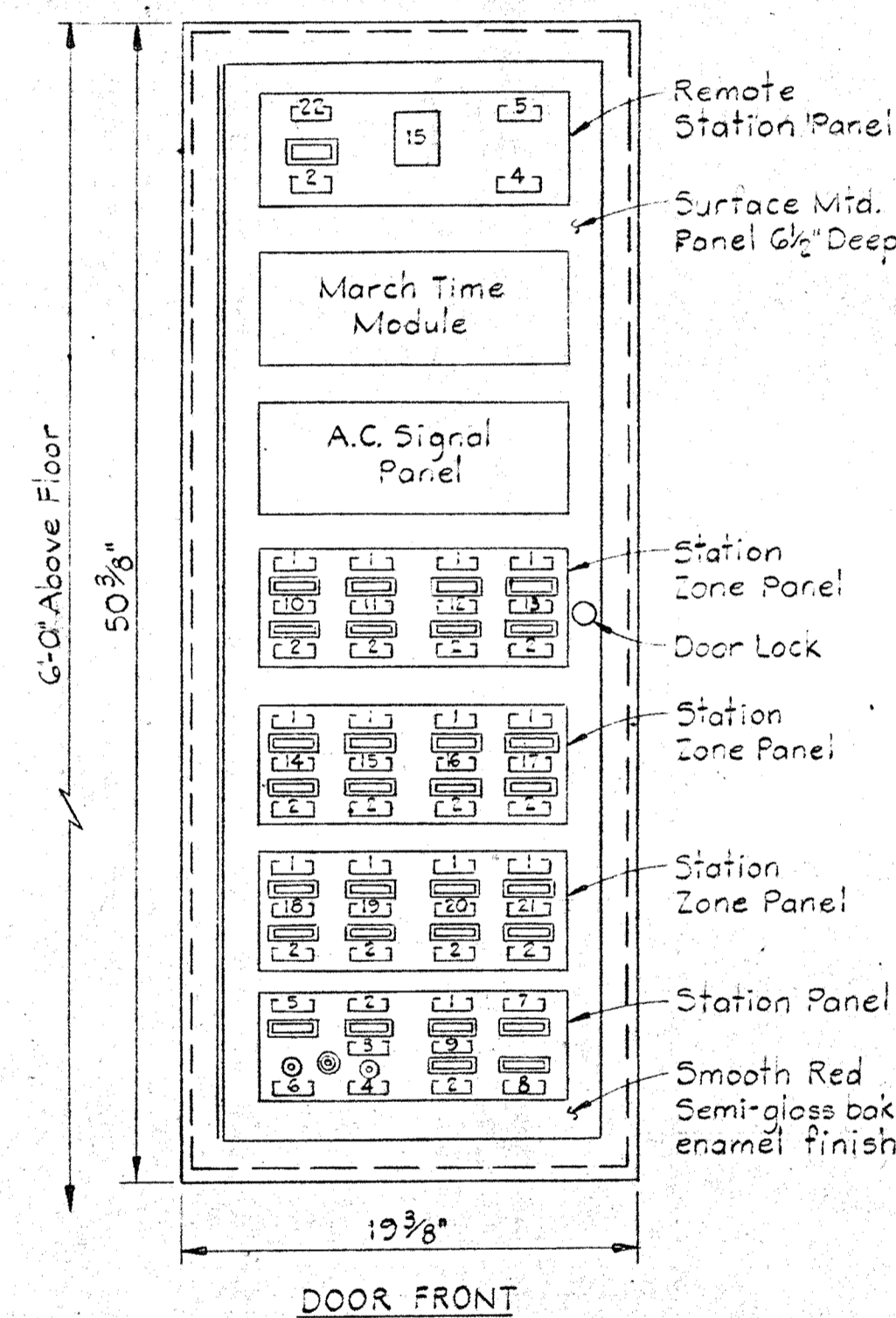


ONE LINE DIAGRAM
FIRE ALARM SYSTEM
ADMINISTRATION BUILDING
No Scale

FIRE ALARM ANNUNCIATOR SCHEDULE (ADMINISTRATION BLDG.)		
POINT NO.	WINDOW INSCRIPTION	EOL NO.
1	LABORATORY	
2	LABORATORY STORAGE ROOM	
3	LOBBY	
4	CONTROL ROOM	
5	ELECTRICAL ROOM	
6	MECHANICAL ROOM	
7	CORRIDOR	
8	LUNCH ROOM	
9	STORAGE RECEIVING AREA	
10	GARAGE	
11	RECORD ROOM	
12	LOCKER ROOMS	



FIRE ALARM ANNUNCIATOR PANEL
ADMINISTRATION BUILDING
Scale: 1/4"=1'-0"



FIRE ALARM CONTROL PANEL
ADMINISTRATION BUILDING
Scale: 1/2"=1'-0"

LEGEND
1-22 Nameplates
15 Millimeter
Indicating Light
Switch

- NAMEPLATES
- ALARM
 - TROUBLE
 - NORMAL
 - SILENCE
 - NORMAL POWER
 - RESET
 - SUPPLY POWER TROUBLE
 - OPER. POWER TROUBLE
 - SPARE (Blank)
 - LABORATORY
 - LABORATORY STORAGE
 - LOBBY
 - CONTROL ROOM
 - ELECTRICAL ROOM
 - MECHANICAL ROOM
 - CORRIDOR
 - LUNCH ROOM
 - STORAGE-RECEIVING AREA
 - GARAGE
 - RECORD ROOM
 - LOCKER ROOMS
 - REMOTE LINE

NOTES:

- For General Electrical Notes & Legend see Sheet E-2.
- Thirteen Zone Fire Alarm Control Panels shall be connected as shown in One Line Diagram this sheet.
- All Wiring in Fire Alarm System shall be #14 AWG unless otherwise noted.

WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DATE: 3/20/65
W. O. F. L. B. E. D.
CHIEF BUREAU OF ENGINEERING

CONTRACT NO. 503-S

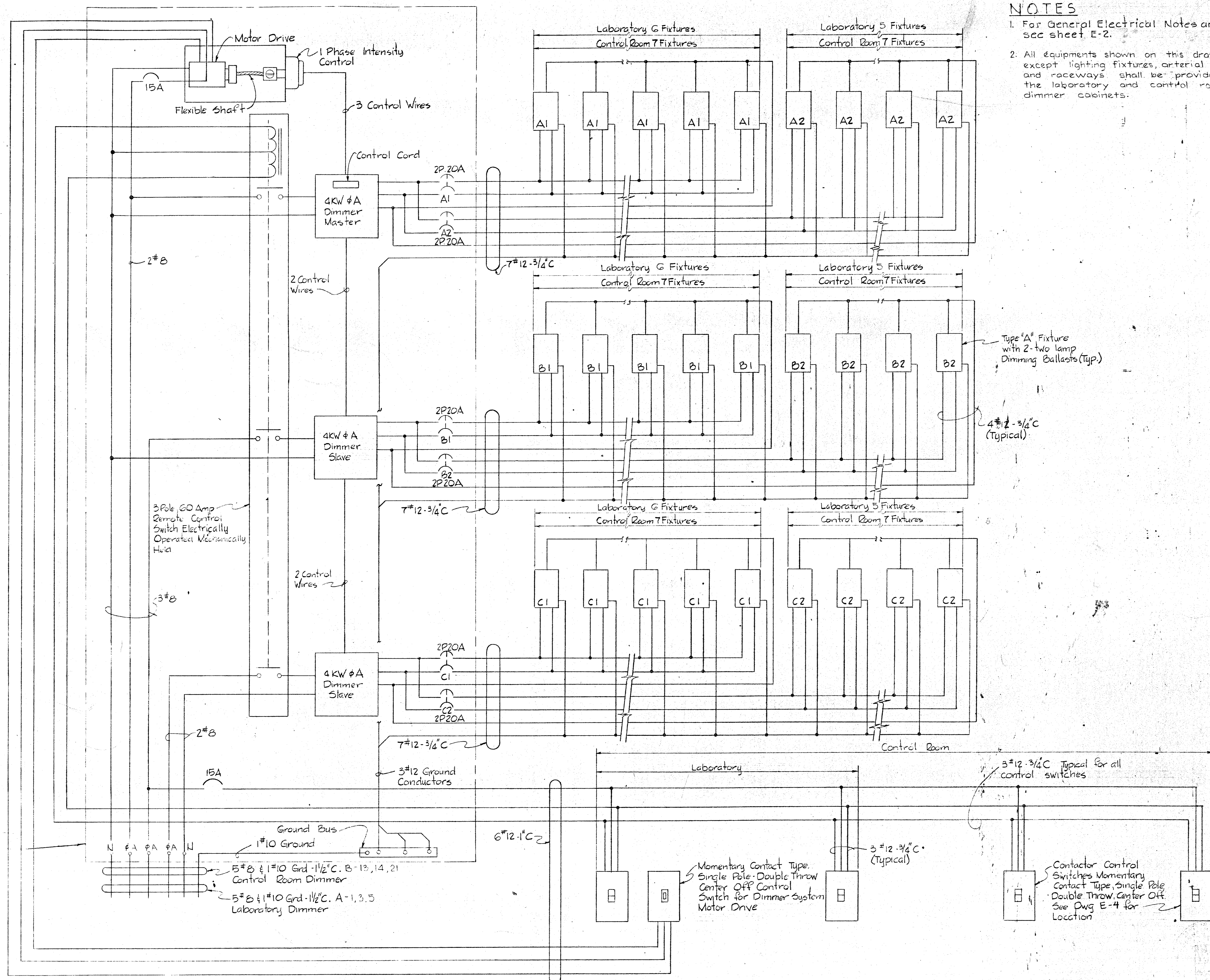
ADMINISTRATION BUILDING
FIRE ALARM DETAILS

SAVAGE WASTEWATER
TREATMENT PLANT ADDITION NO. 4

DRAWING NO. 57 OF 64
SCALE AS NOTED

NOTES

1. For General Electrical Notes and Legend, see sheet E-2.
2. All equipments shown on this drawing, except lighting fixtures, arterial wiring and raceways shall be provided within the laboratory and control room dimmer cabinets.



Control Cabinets for Control Room and Laboratory Motorized Dimmer Systems Contact Cabinet shall be provided with 2 complete 1 ϕ Motorized Fluorescent Dimming Systems.

WIRING DIAGRAM-LABORATORY AND CONTROL ROOM FLUORESCENT DIMMING SYSTEM

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1304 ST. PAUL ST.
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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
3/20/75
DATE

CONTRACT NO. 503-S

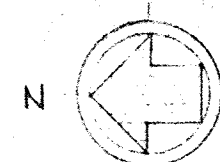
ADMINISTRATION BUILDING
LIGHTING WIRING DIAGRAMS

SAVAGE WASTEWATER
TREATMENT PLANT ADDITION NO. 4

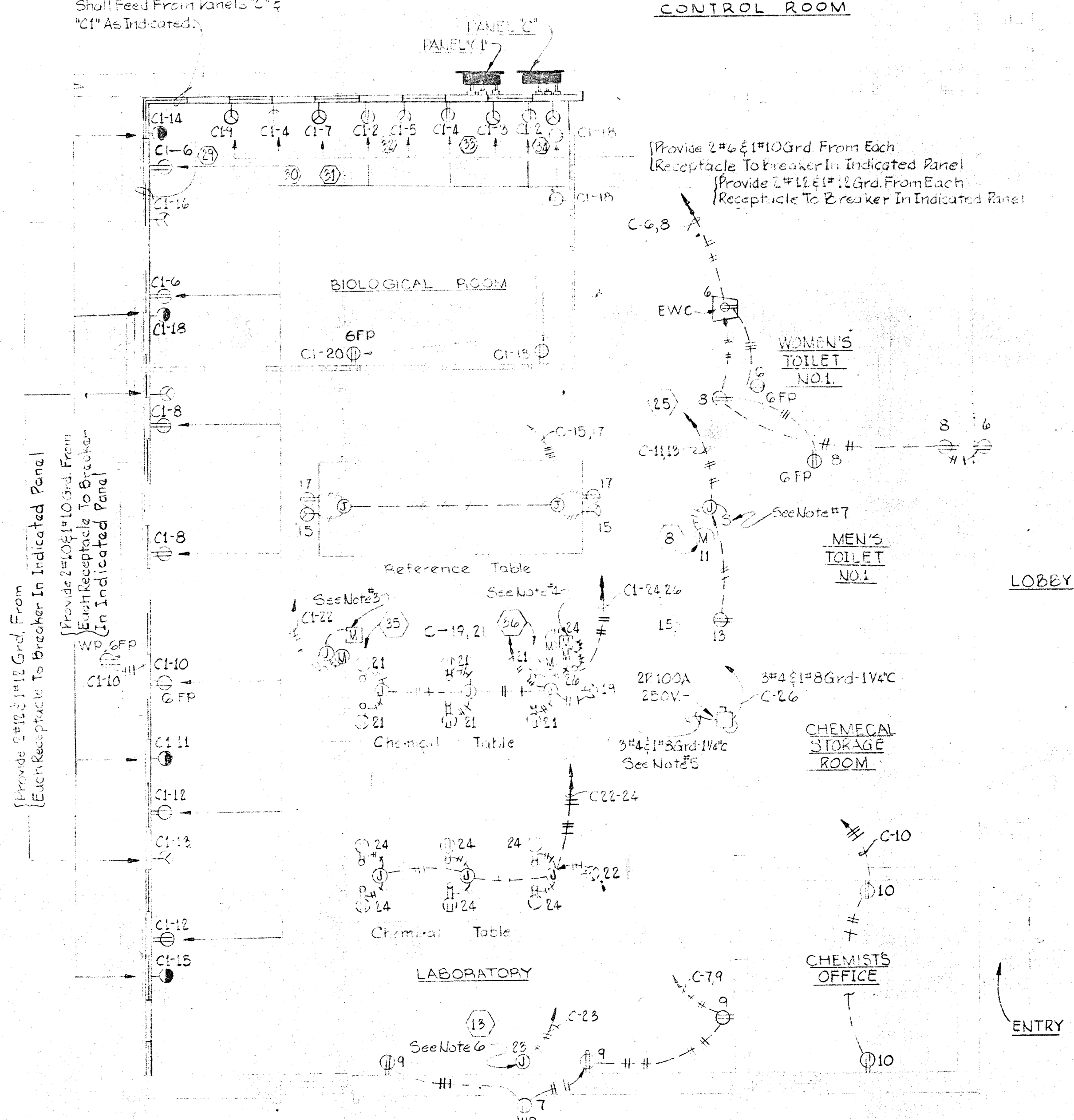
DRAWING
NO. 58
OF 64

SCALE
NONE

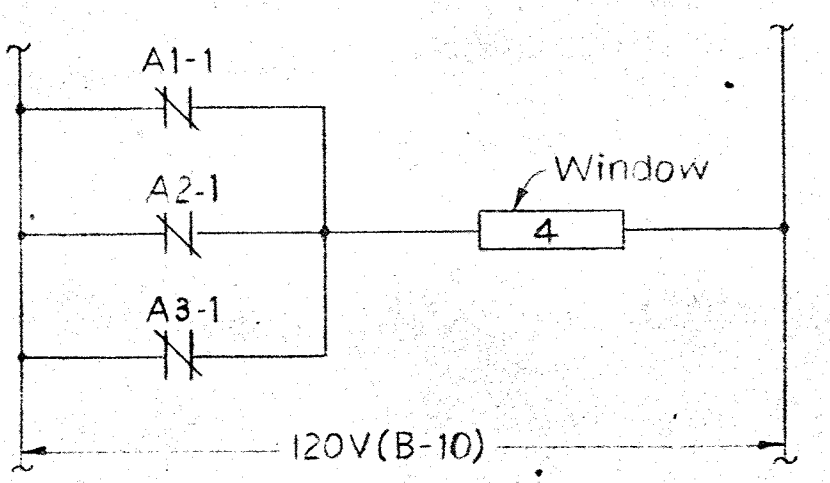
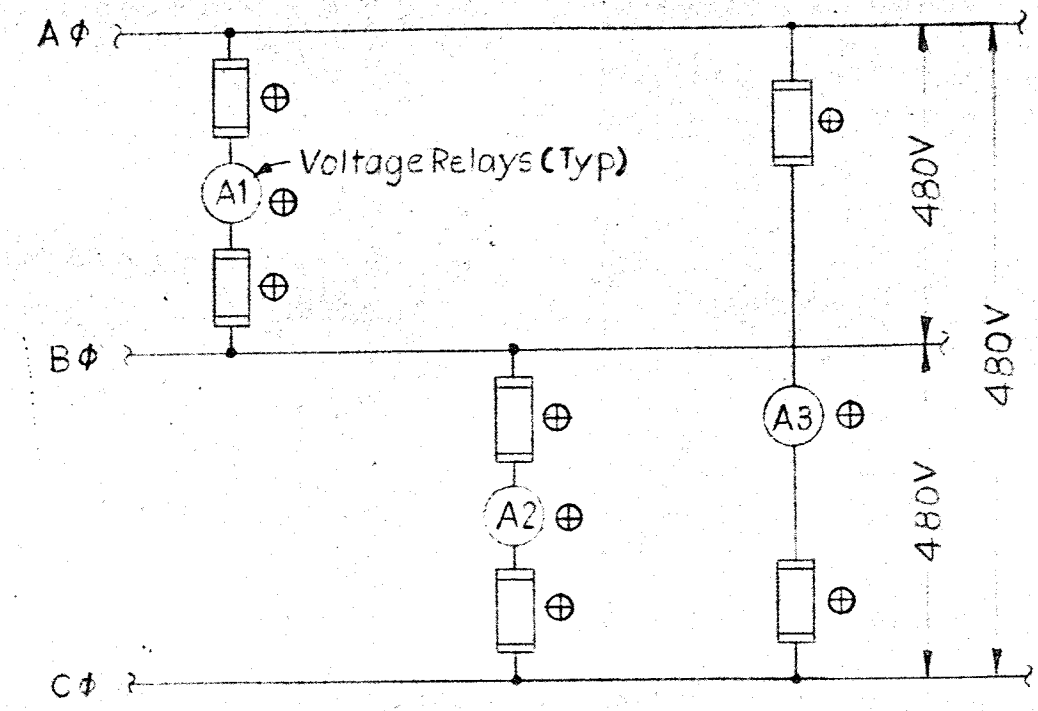
BRUNING 44-510 18392



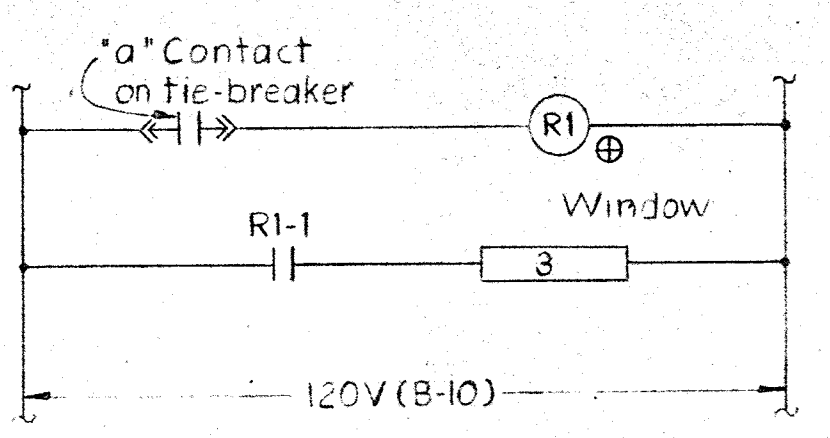
NOTE
 Multi-Outlet Surface Mounted
 Ketch Rack Raceway System
 Along Entire Length of Wall
 With Receptacles As Shown.
 All Branch Circuit Conductors
 Shall Feed From Panels C1 &
 C2 As Indicated.



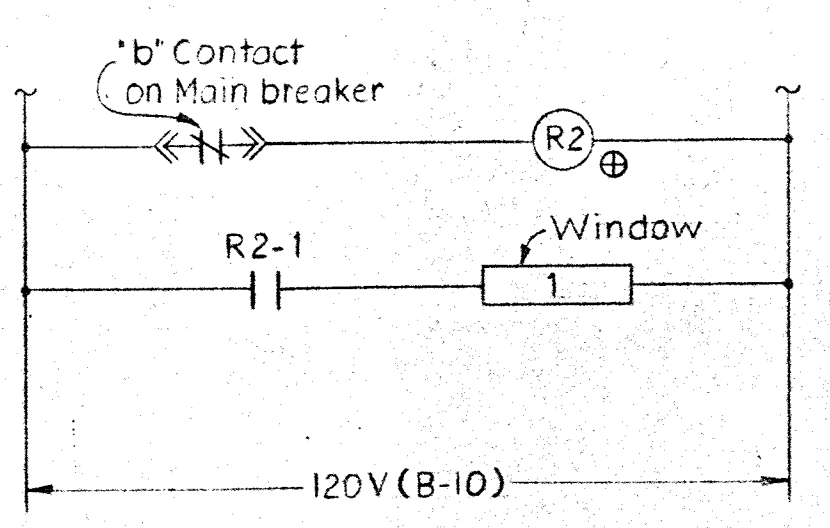
PART PLAN
LABORATORY, WOMEN'S & MEN'S TOILET No. 1
 Scale: 1/4" = 1'-0"



ELEMENTARY CONTROL DIAGRAM
 (No Voltage service FDR #1)
 1. Typical for no voltage service FDR #2



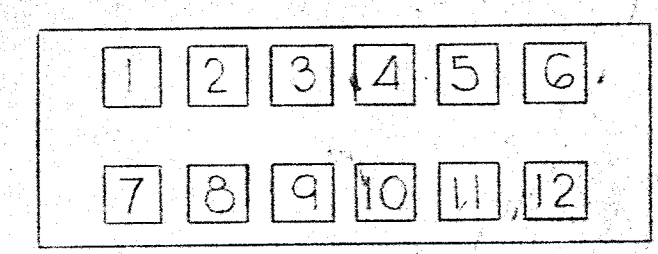
ELEMENTARY CONTROL DIAGRAM
 (Tie-Breaker closed)



ELEMENTARY CONTROL DIAGRAM
 (Main Breaker #1 open)
 1. Typical for Main Breaker #2 open

NOTES

1. For General Electrical Notes And Electrical Legend, See Sheet E-2
2. For Schedule of Laboratory Equipment, See Sheet A-3.
3. Provide Vacuum Pump Control Switch recessed in Face of Cabinet Between Louvers.
4. Provide Disconnect Switches For Vacuum Pump & Air Compressor Inside Cabinet.
5. Provide Non-Fused Disconnect Switch for Water Distiller in Accordance With Manufacturer's Recommendations.
6. Provide Feed To Fume Hood in Suitable Location to Accommodate Unit.
7. Provide Control Switch For Disposal Unit recessed in Wall Adjacent To Sink.



ANNUNCIATOR No. 16A
ADMINISTRATION BUILDING

POINT No.	WINDOW DESCRIPTION
1	Main Breaker #1 open - SWBD
2	Main Breaker #2 open - SWBD
3	Tie Breaker closed - SWBD
4	No Voltage-Service Fdr #1 - SWBD
5	No Voltage-Service Fdr #2 - SWBD
6	Blank
7	Blank
8	Blank
9	Blank
10	Blank
11	Blank
12	Blank

WHITMAN, REQUARDT & ASSOCIATES
 ENGINEERS
 1304 ST. PAUL ST.
 BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 DATE: *3/10/55*
 CHIEF BUREAU OF ENGINEERING

CONTRACT NO. 503-S

ADMINISTRATION BLDG.
 PLANS & DETAILS

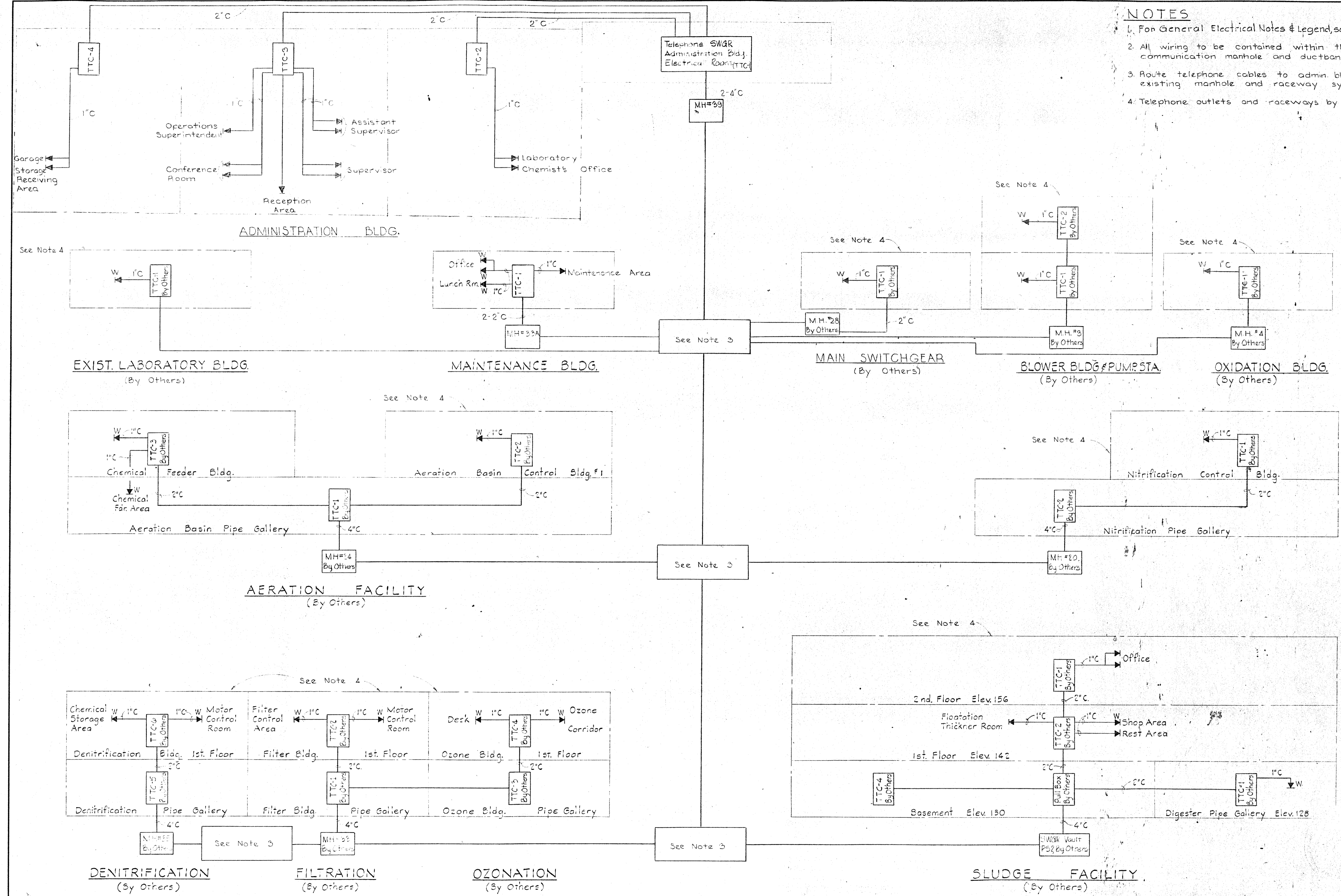
SAVAGE WASTE WATER
 TREATMENT PLANT ADDITION NO. 4

DRAWING NO. 59
 OF 64

SCALE
 NONE

NOTES

1. For General Electrical Notes & Legend, see sheet E-2.
2. All wiring to be contained within the communication manhole and ductbank system.
3. Route telephone cables to admin. bldg. via existing manhole and raceway system.
4. Telephone outlets and raceways by others.



WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
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BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
al/his
DATE

CONTRACT NO. 503-S

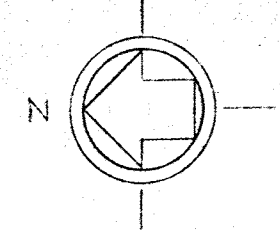
TELEPHONE WIRING DIAGRAM

SAVAGE WASTEWATER
TREATMENT PLANT ADDITION NO. 4

DRAWING NO. 60
OF 64

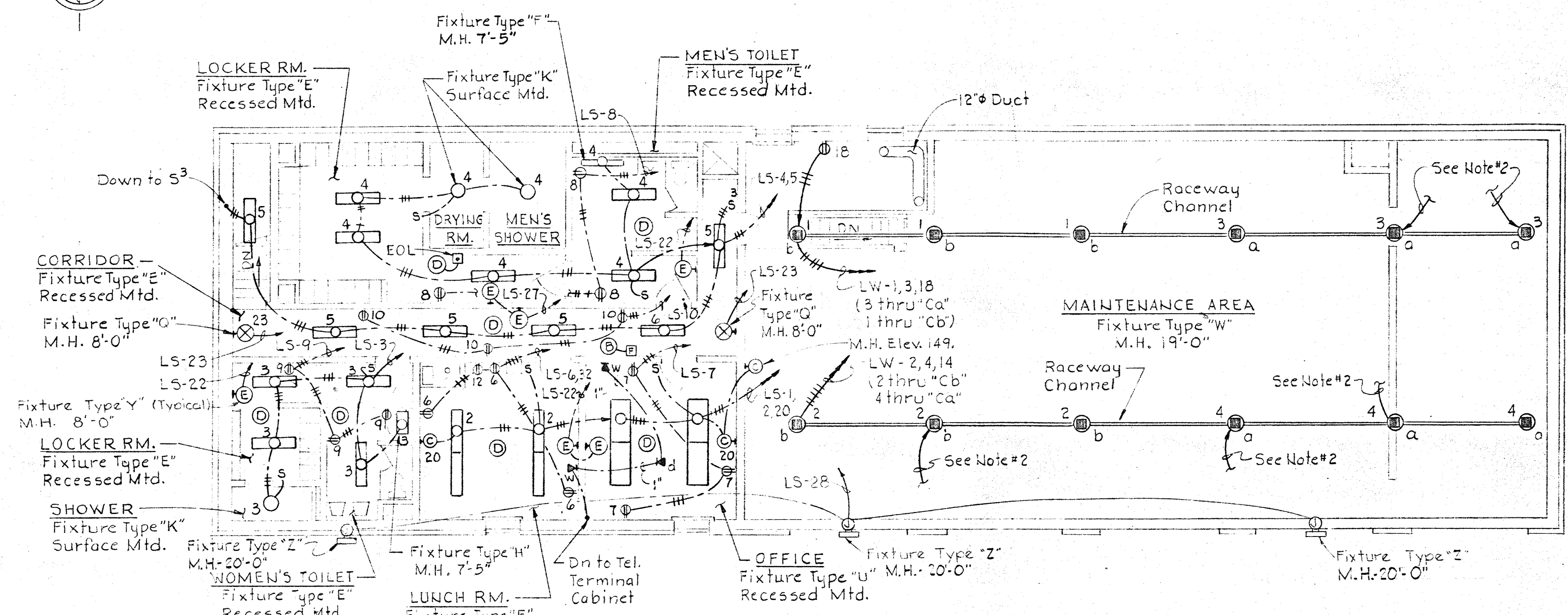
SCALE NONE

BRUNING 44-510 18392

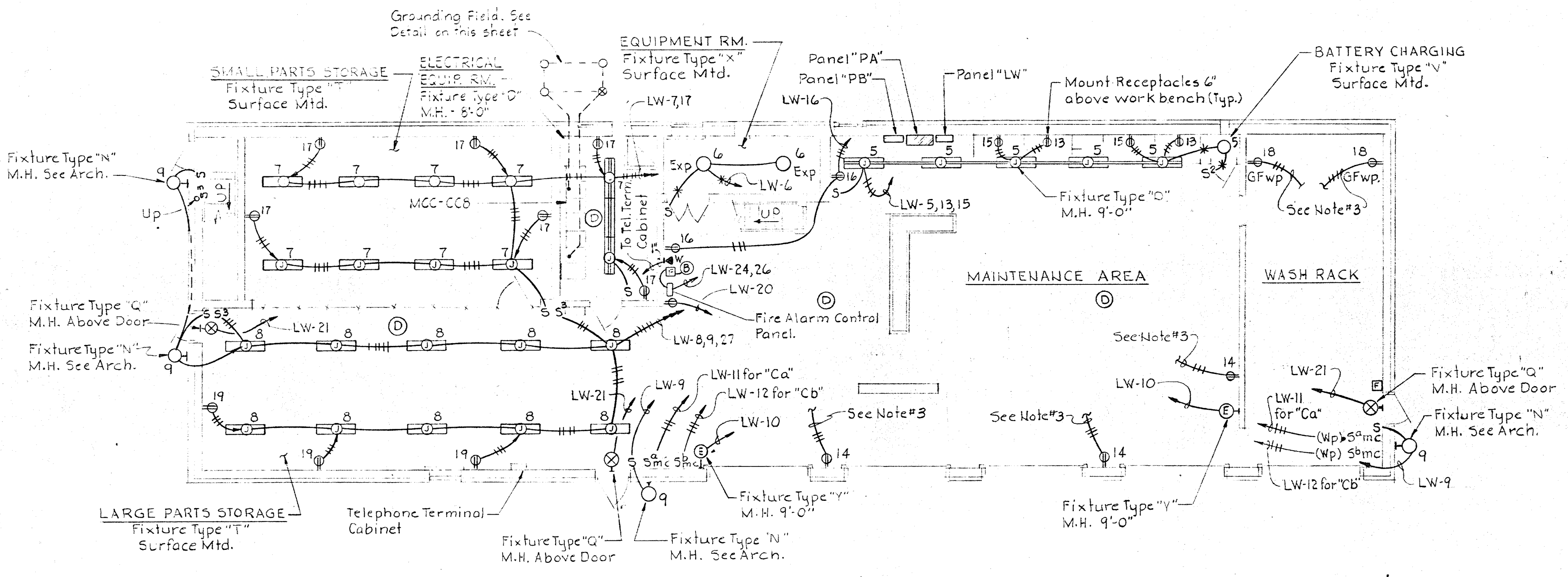


NOTES

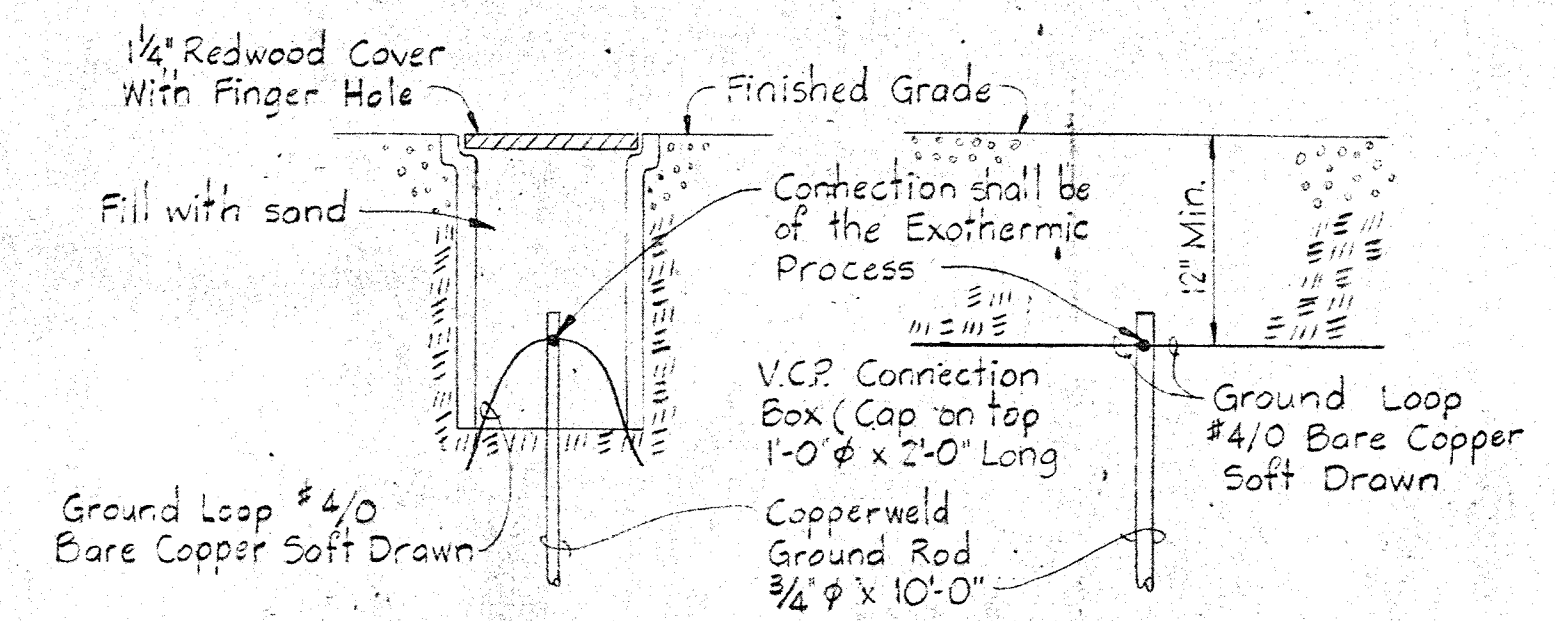
1. For GENERAL ELECTRICAL NOTES & LEGEND, See Sheet E-2.
2. Connect to receptacle below.
3. Connect to lighting fixture outlet above.
4. Conduit in second floor office, lunch & toilet areas shall be run concealed.



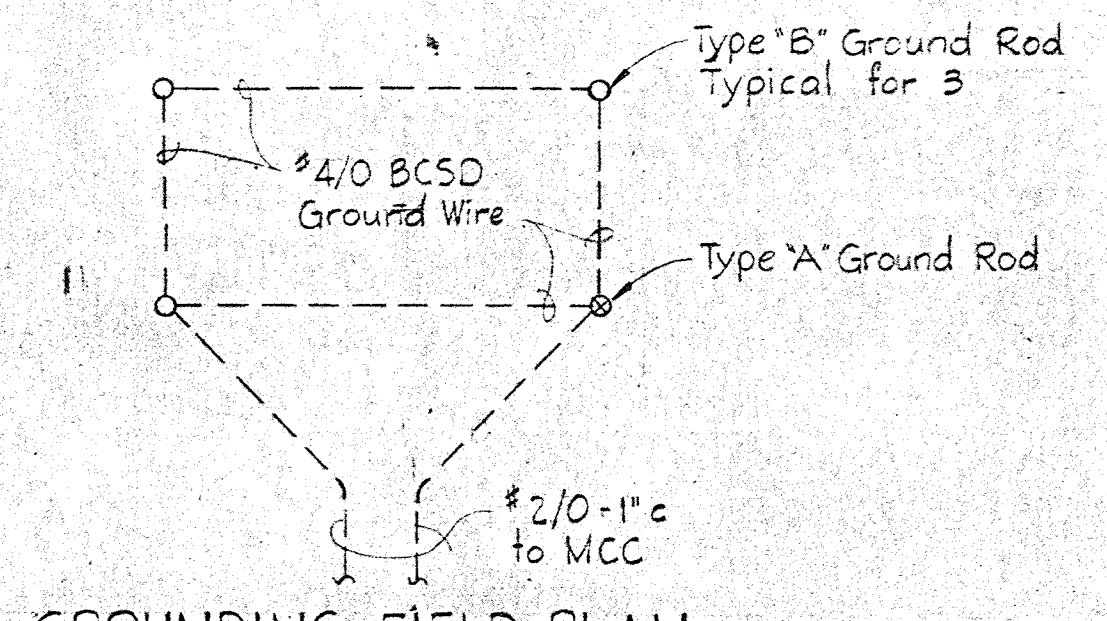
SECOND FLOOR PLAN
Scale 1/8" = 1'-0"



FIRST FLOOR PLAN
Scale 1/8" = 1'-0"



GROUND ROD DETAILS
No Scale



GROUNDING FIELD PLAN
No Scale

GROUNDING DETAILS FOR MOTOR CONTROL CENTER
See First Floor Plan on this sheet.

WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DATE: _____
CHIEF BUREAU OF ENVIRONMENTAL SERVICES

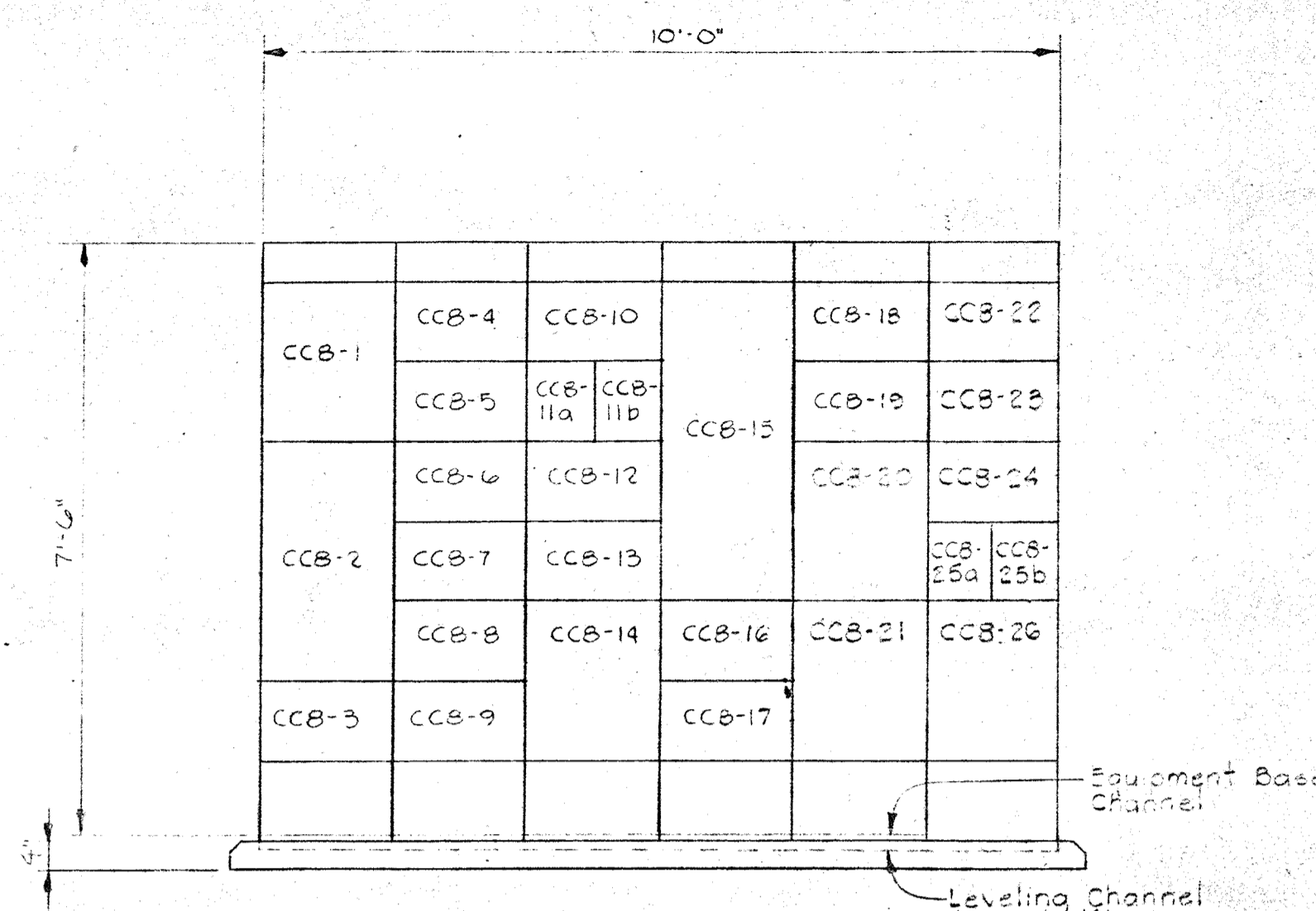
CONTRACT NO. 503-S

MAINTENANCE BUILDING
LIGHTING- PLANS & DETAILS

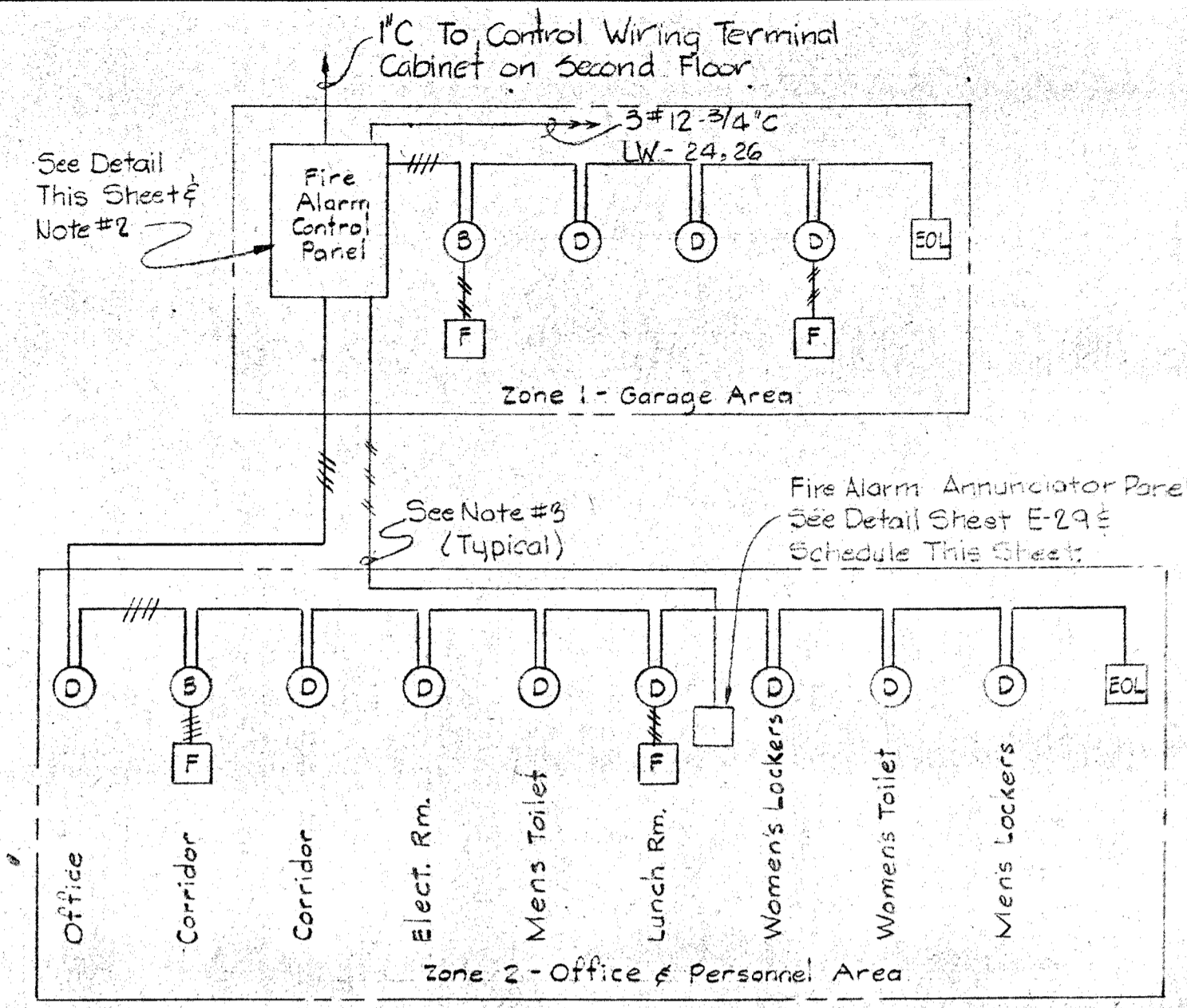
SAVAGE WASTEWATER
TREATMENT PLANT ADDITION NO. 4

DRAWING NO. 62 OF 64
SCALE AS NOTED

SHEET E-16



MOTOR CONTROL CENTER "CC8"
Scale: 1/2" = 1'-0"



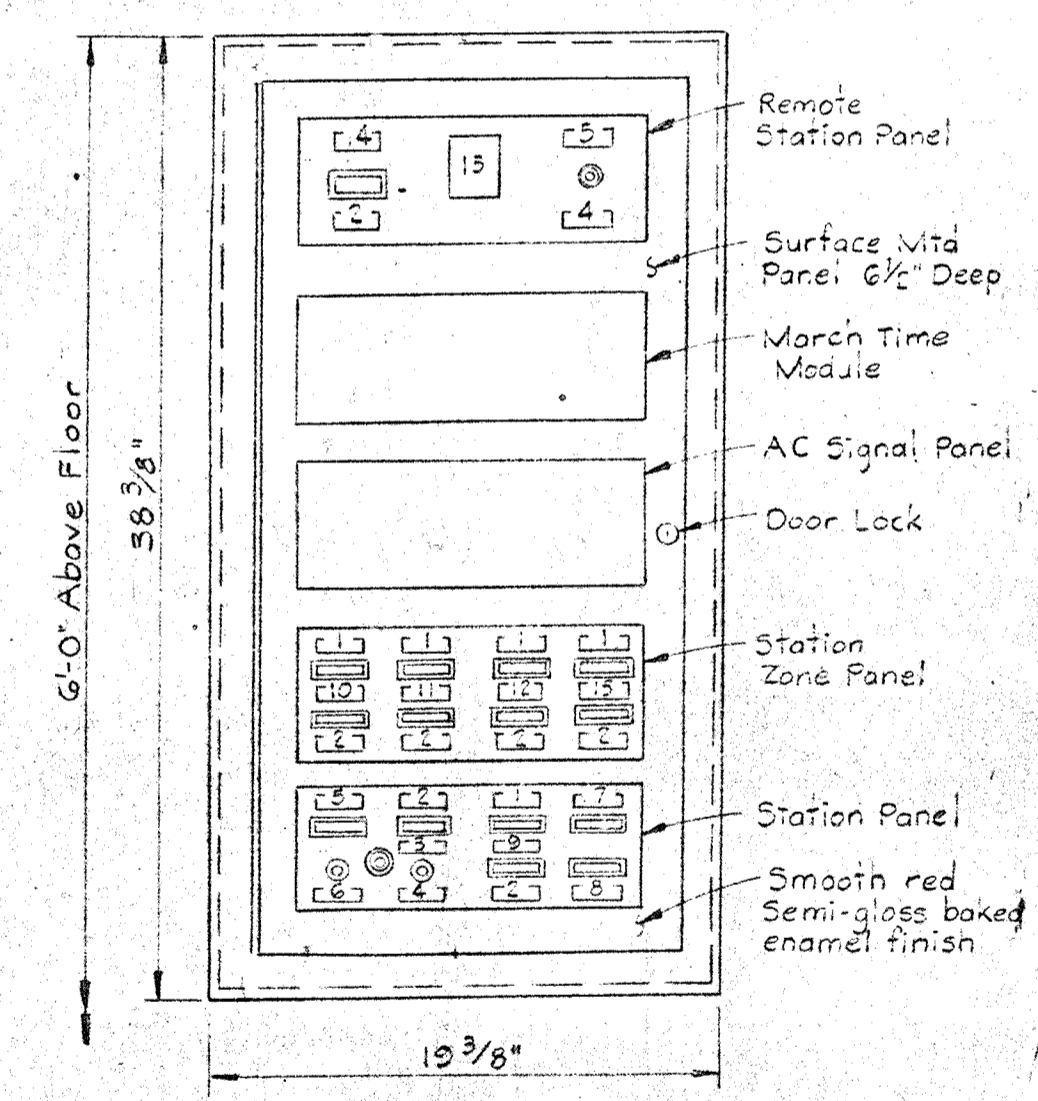
ONE LINE DIAGRAM
FIRE ALARM SYSTEM
MAINTENANCE BUILDING
No Scale
Note: #14 Wire

- NOTES**
- For General Electrical Notes & Legend see Sheet E-2.
 - Five Zone Fire Alarm Control Panel Shall be Connected as Shown in One Line Diagram.
 - All Wiring Shall be #14 AWG Unless Otherwise Noted.

POINT NO.	WINDOW DESCRIPTION	ECD NO.
1	GARAGE AREA	
2	OFFICE & PERSONNEL AREA	
3	BLANK	
4	BLANK	

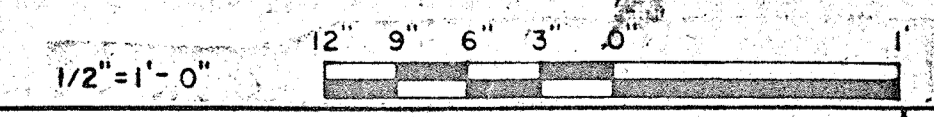
FIRE ALARM ANNUNCIATOR SCHEDULE
Annunciator Panel Detail similar to Detail on Sheet E-11 except 4 windows

MOTOR CONTROL CENTER SCHEDULE "CC8" - 480V, 3φ, 3W, 60Hz																	
UNIT NUMBER	NAMEPLATE DATA	DEVICE DESCRIPTION	HP or KVA	AUX. DESC.	BREAKER				RUN NUMBER	WIRE - POWER			WIRE - CONTROL			GRD WIRE	COND SIZE
					FRAME	POLE	CAL.	S.I.C.		No.	SIZE	TYPE	No.	SIZE	TYPE		
CCB-1	Standard Nameplates	Ammeter, Voltmeter, Switches, C.T.S.	-	See Specs	-	-	-	-	-	By Manufacturer			-	-	-	-	-
CCB-2	MAIN BREAKER	Power Circuit Breaker Drawout Type	-	See Specs	600	3	800	30	CCB-2a	2(S/G)	500MCM	See Spec.	-	-	-	2(1/0)	See Dwg
CCB-3	-	Space for Incoming Feeder	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CCB-4	MAINTENANCE AREA UNIT HEATER #1	Combination Contactor NEMA Size 2 FVNR	24	a.c. d.g.	100	3	40	22	CCB-4a	3	#8	THW	4	#14	THW	#10	1 1/2"
CCB-5	UNIT HEATERS CONTROL RELAYS	Control Relays	-	See Specs	-	-	-	-	-	By Manufacturer			-	-	-	-	-
CCB-6	SMALL PARTS VENT FAN	Combination Starter NEMA Size 1 FVNR	3/4	a.c. d.g.	100	3	15	22	CCB-6a	3	#12	THW	4	#14	THW	#12	1"
CCB-7	HYDRAULIC LIFT	Circuit Breaker	7.5	-	100	3	80	22	CCB-7a	3	#10	THW	-	-	-	-	-
CCB-8	EUH-3	Combination Starter NEMA Size 1 FVNR	5	a.c. d.g.	100	3	20	22	CCB-8a	3	#12	THW	2	#14	THW	#12	3/4"
CCB-9	WATER HEATER	Circuit Breaker	17	-	100	3	40	22	CCB-9a	3	#8	THW	-	-	-	#10	1"
CCB-10	AIR COMPRESSOR	Combination Starter NEMA Size 1 FVNR	3	a.c. d.g.	100	3	15	22	CCB-10a	3	#12	THW	4	#14	THW	#12	1"
CCB-11a	30 KVA TRANSFORMER	Circuit Breaker	-	-	100	3	50	22	CCB-11a	3	#6	THW	-	-	-	#6	1 1/2"
CCB-11b	BLANK (Space)	Circuit Breaker	-	-	100	3	50	22	-	-	-	-	-	-	-	-	-
CCB-12	HEAT PUMP HTG UNIT	Circuit Breaker	15	-	100	3	30	22	CCB-12a	3	#10	THW	-	-	-	#10	1"
CCB-13	MAINTENANCE AREA UNIT HEATER #2	Combination Contactor NEMA Size 2 FVNR	24	a.c. d.g.	100	3	40	22	CCB-13a	3	#8	THW	4	#14	THW	#10	1 1/2"
CCB-14	GARAGE VENT FAN	Combination Starter NEMA Size 1 FVNR, 2 Speed	3/4	a.c. d.g.	100	3	15	22	CCB-14a	6	#12	THW	4	#14	THW	#12	1"
CCB-15	PANELBOARD "LS" 20BY/10 - 3φ - 4W	Circuit Breaker Panelboard	-	See Specs	-	-	-	-	CCB-15a	4	#2	THW	-	-	-	#6	2"
CCB-16	BATTERY CHARGING FAN CONTROL	Timer, Relay	-	a.d.	-	-	-	-	-	-	-	-	-	-	-	-	-
CCB-17	CARBON MONOXIDE EXHAUST FAN	Combination Starter NEMA Size 1 FVNR	1 1/2	a.c. d.g.	100	3	15	22	CCB-17a	3	#12	THW	4	#14	THW	#12	1"
CCB-18	EUH-4	Combination Starter NEMA Size 1 FVNR	5	a.c. d.g.	100	3	20	22	CCB-18a	3	#12	THW	2	#14	THW	#12	1"
CCB-19	EUH-5	Combination Starter NEMA Size 1 FVNR	5	a.c. d.g.	100	3	20	22	CCB-19a	3	#12	THW	2	#14	THW	#12	1"
CCB-20	PANEL PA	Circuit Breaker	-	-	400	3	800	30	CCB-20a	3	350MCM	THW	-	-	-	#2	4"
CCB-21	DUCT HEATER	Combination Contactor NEMA Size 4 FVNR	55.5	a.c. d.g.	100	3	90	22	CCB-21a	3	#	THW	6	#14	THW	#6	2"
CCB-22	AIR COND. & HEATING UNIT CONTROLS	Relays, Timers	-	See Specs	-	-	-	-	-	-	-	-	-	-	-	-	-
CCB-23	FAN UNIT HEATER #1	Combination Starter NEMA Size 1 FVNR	1 1/2	a.c. d.g.	100	3	15	22	CCB-23a	3	#12	THW	2	#14	THW	#12	1"
CCB-24	FAN UNIT HEATER #2	Combination Starter NEMA Size 1 FVNR	1 1/2	a.c. d.g.	100	3	15	22	CCB-24a	3	#12	THW	2	#14	THW	#12	1"
CCB-25a	CONDENSER	Circuit Breaker	-	-	100	3	20	22	CCB-25a	3	#10	THW	-	-	-	#10	1"
CCB-25b	BLANK (Space)	Circuit Breaker	-	-	100	3	20	22	-	-	-	-	-	-	-	-	-
CCB-26	BLANK (Space)	Space & Bus	-	-	100	3	-	-	-	-	-	-	-	-	-	-	-



DOOR FRONT
FIRE ALARM CONTROL PANEL
MAINTENANCE BUILDING
Scale: 1/2" = 1'-0"

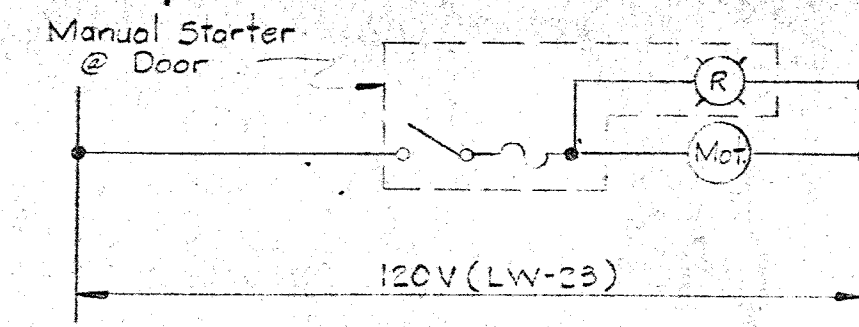
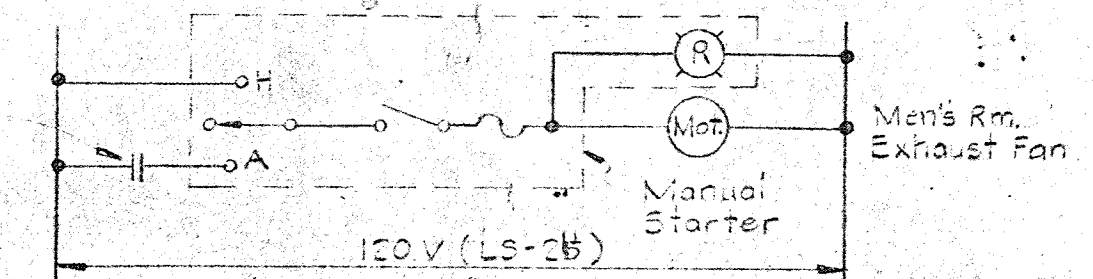
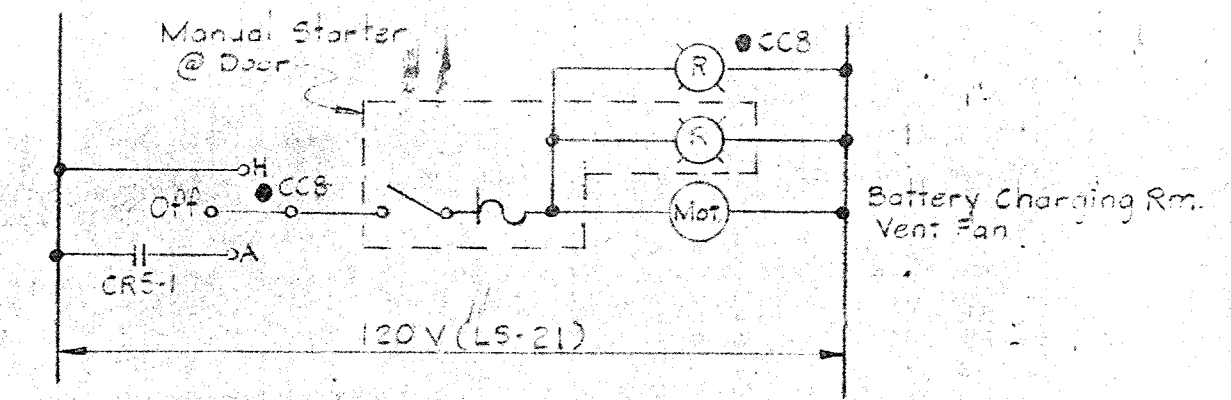
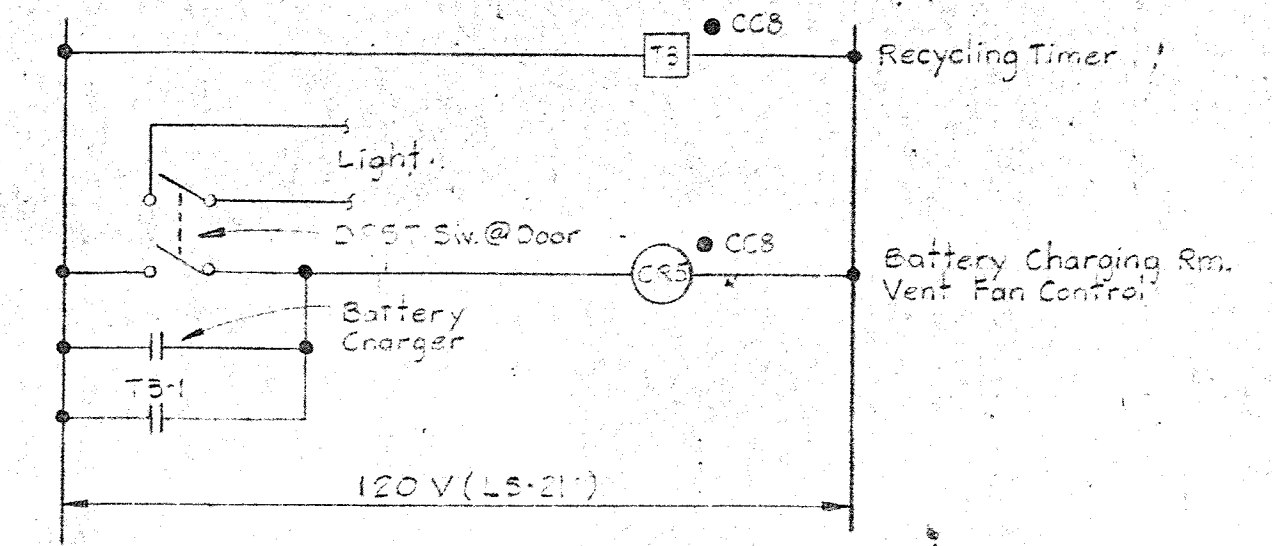
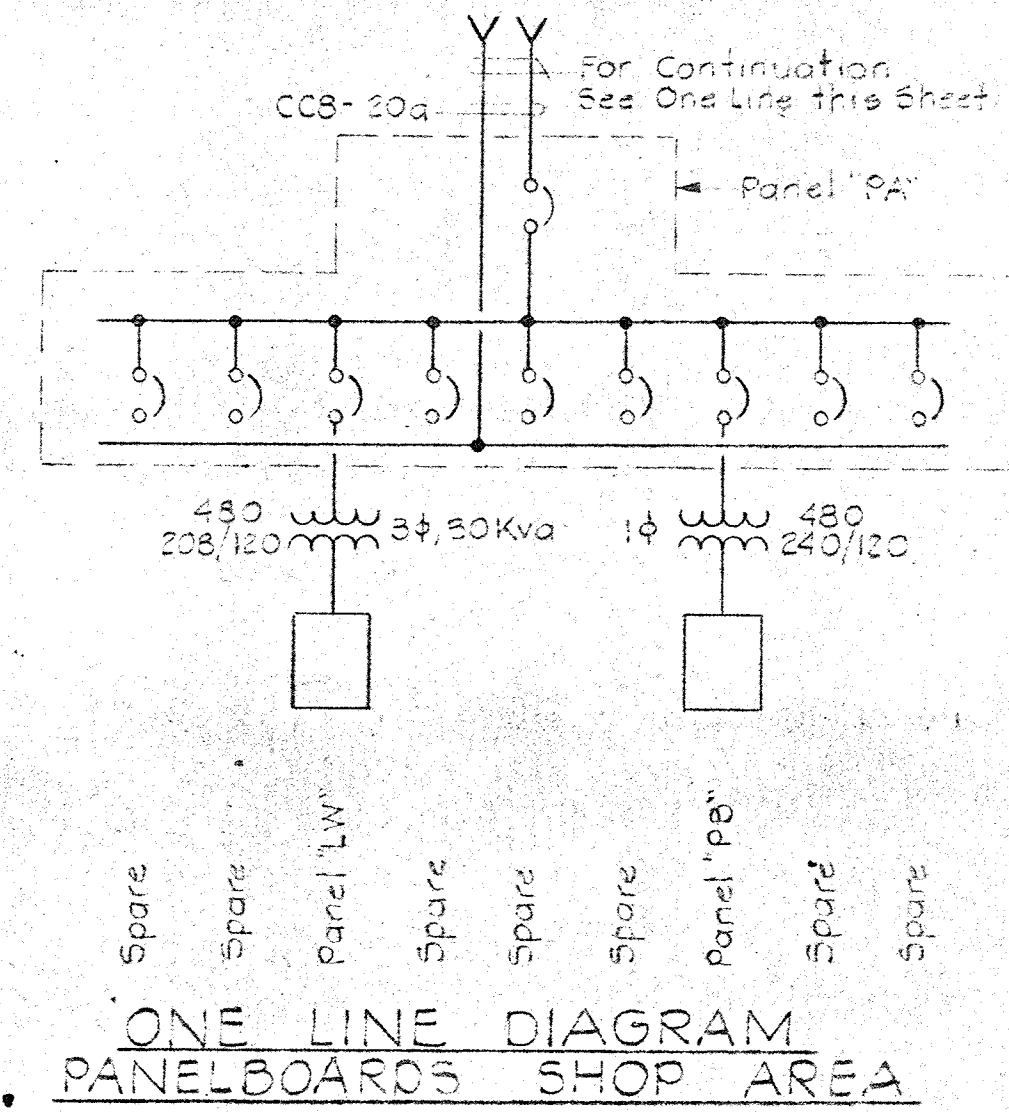
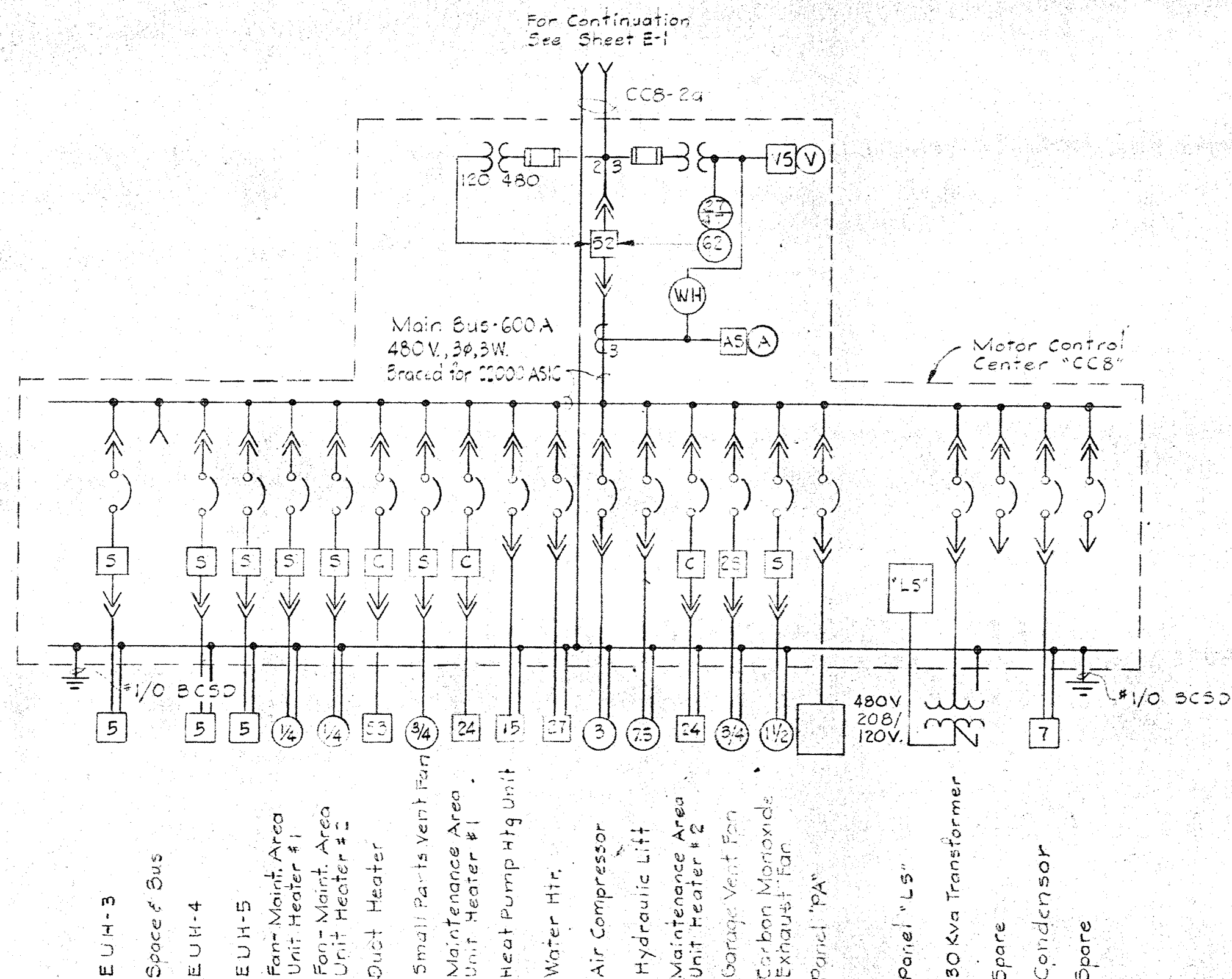
- LEGEND**
- #14 Nameplates
 - #5 Millimeter Indicating Light Switch
- NAMEPLATES**
- ALARM
 - TROUBLE
 - NORMAL
 - SILENCE
 - NORMAL POWER
 - RESET
 - SUPPLY POWER TROUBLE
 - OPER. POWER TROUBLE
 - GARAGE AREA
 - OFFICE & PERSONNEL AREA
 - SPARE (Blank)
 - SPARE (Blank)
 - SPARE (Blank)
 - REMOTE LINE



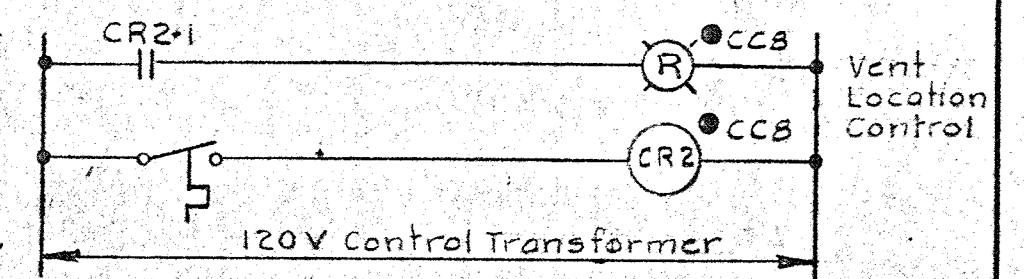
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/20/75 DATE	CONTRACT NO. 503-S MAINTENANCE BUILDING MOTOR CONTROL CENTER-CC8	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 63 OF 64 SCALE AS SHOWN
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W. O. 6887-2

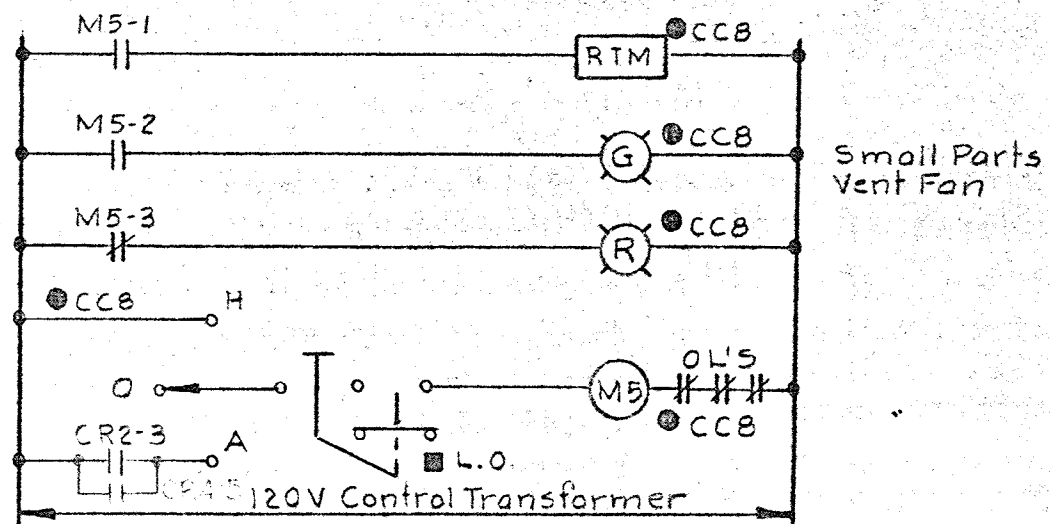
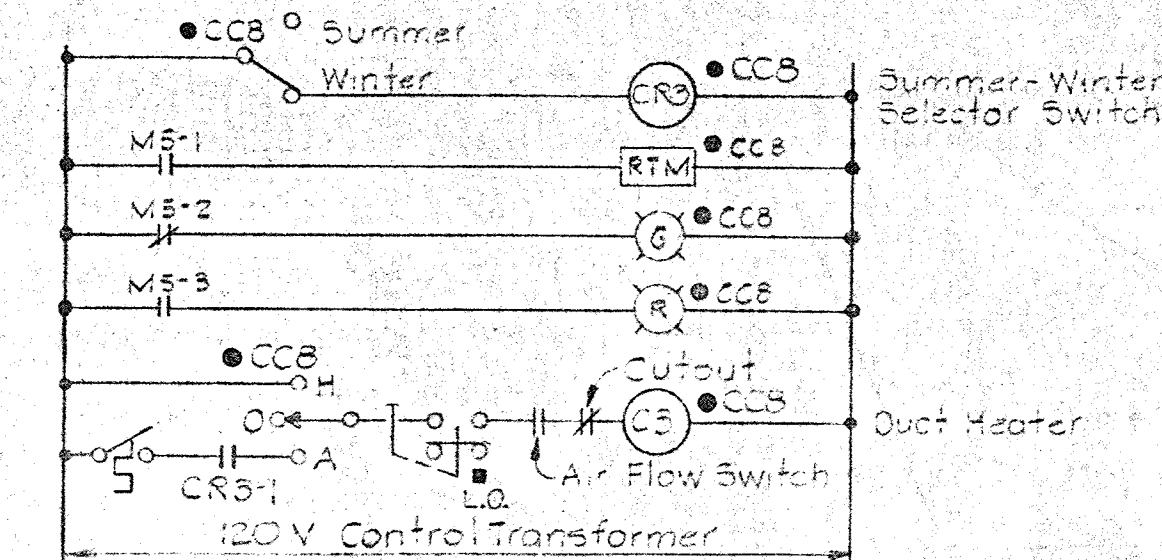
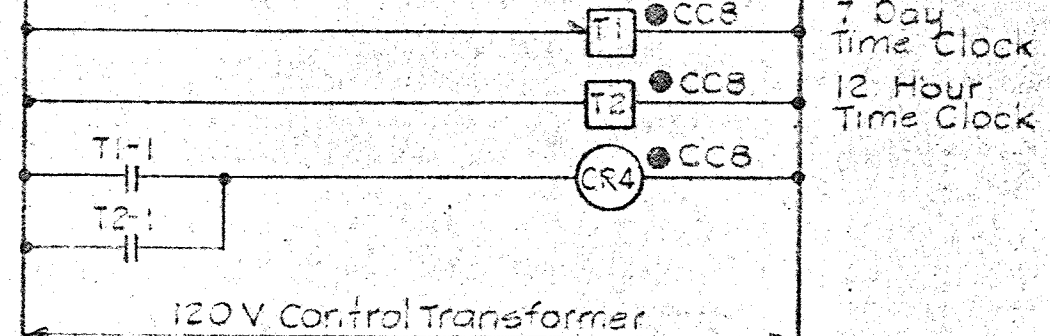
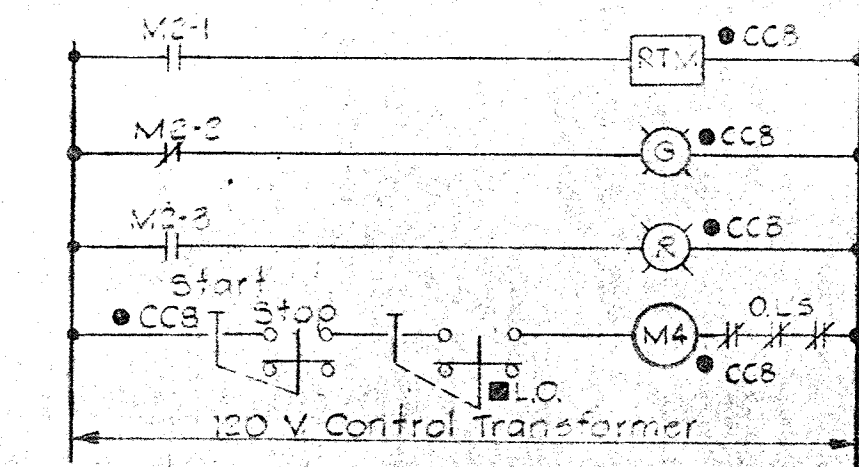
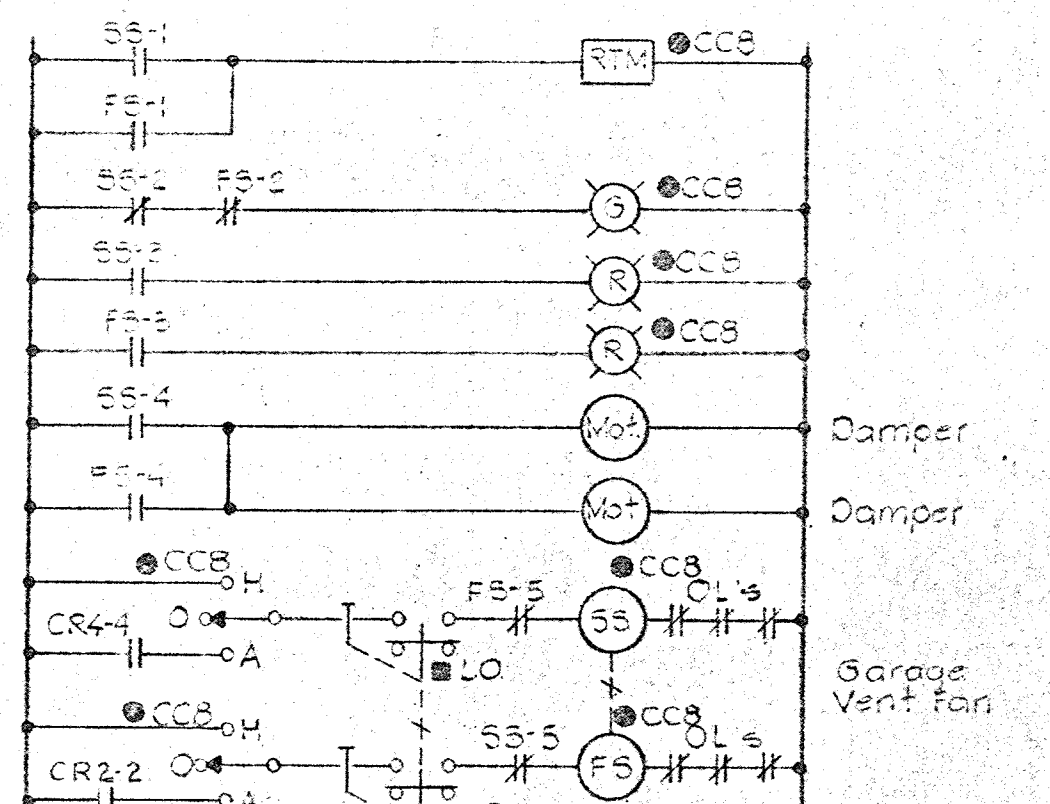
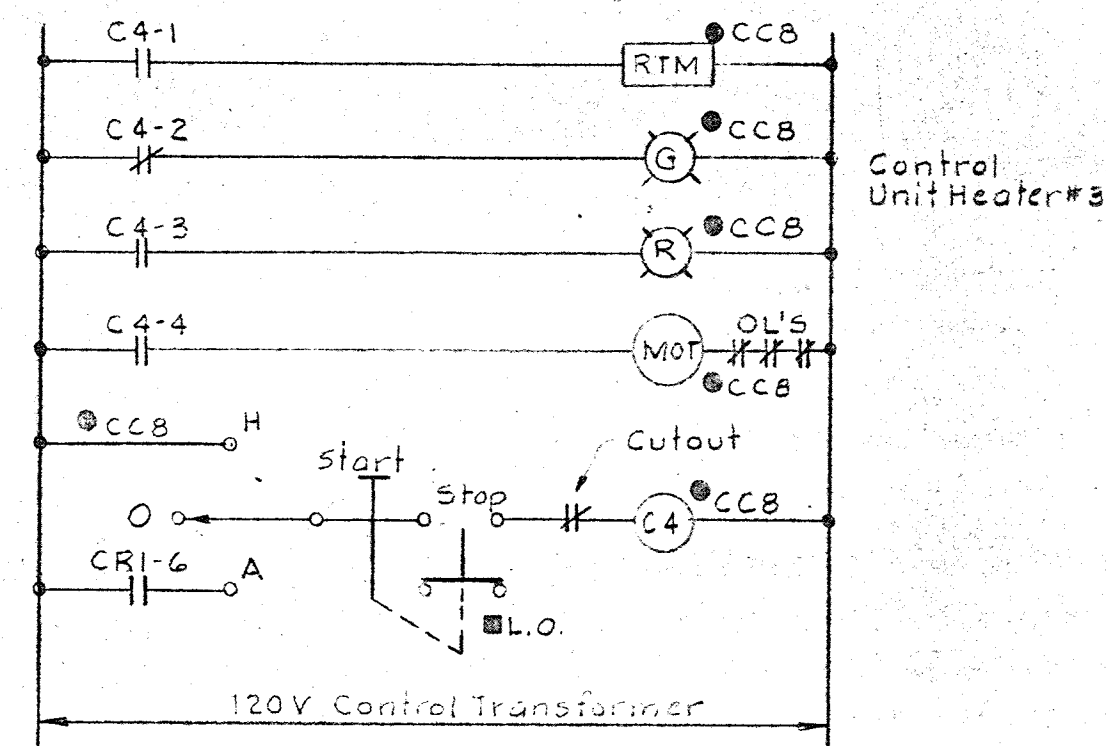
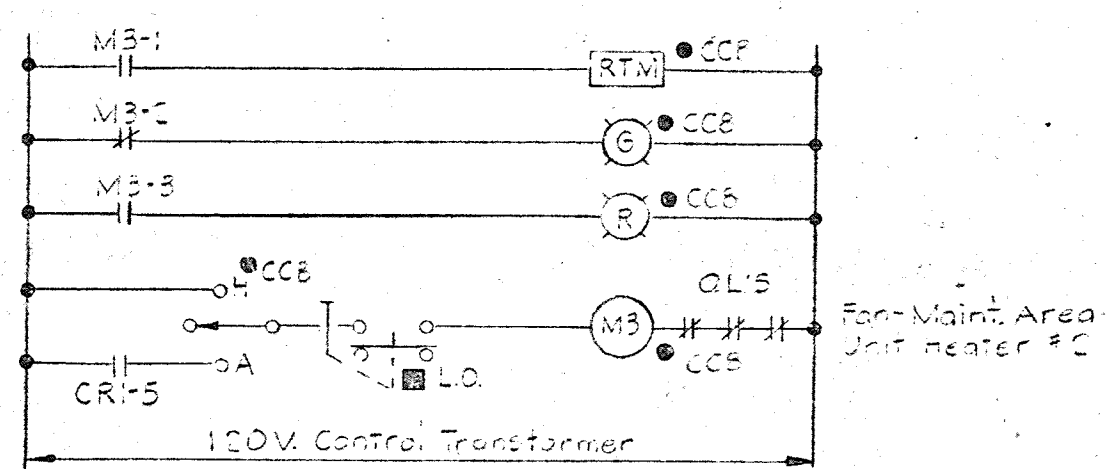
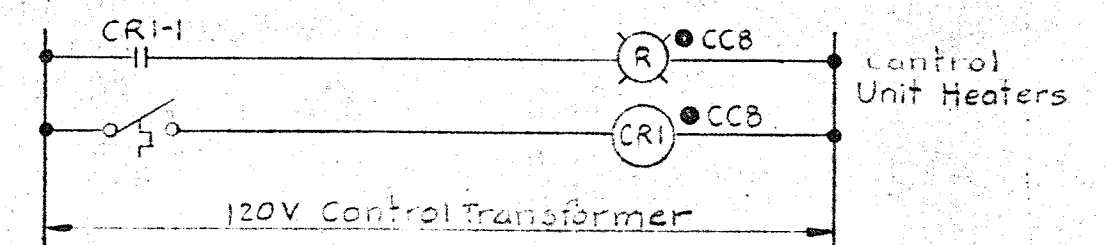
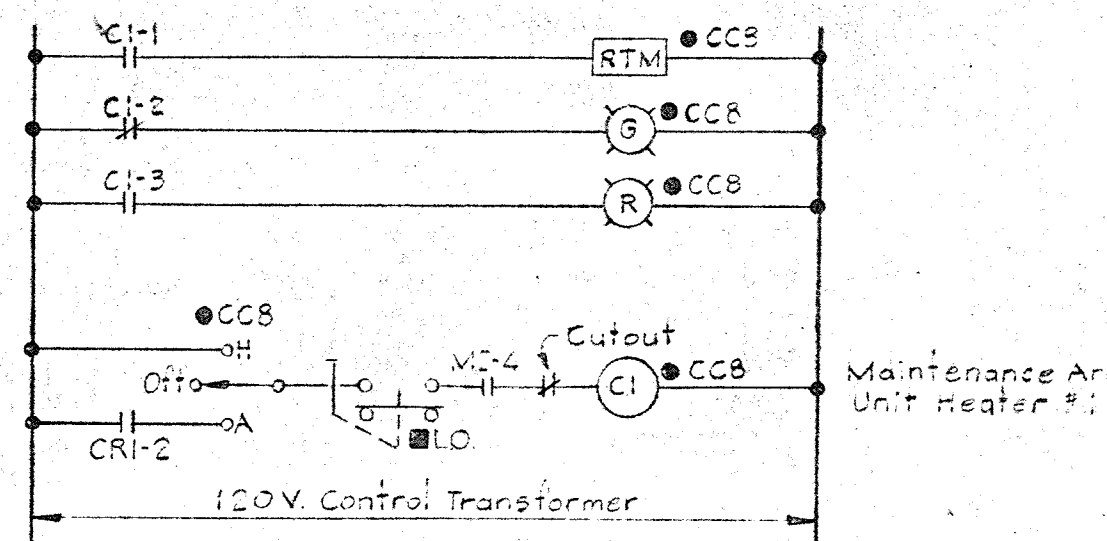
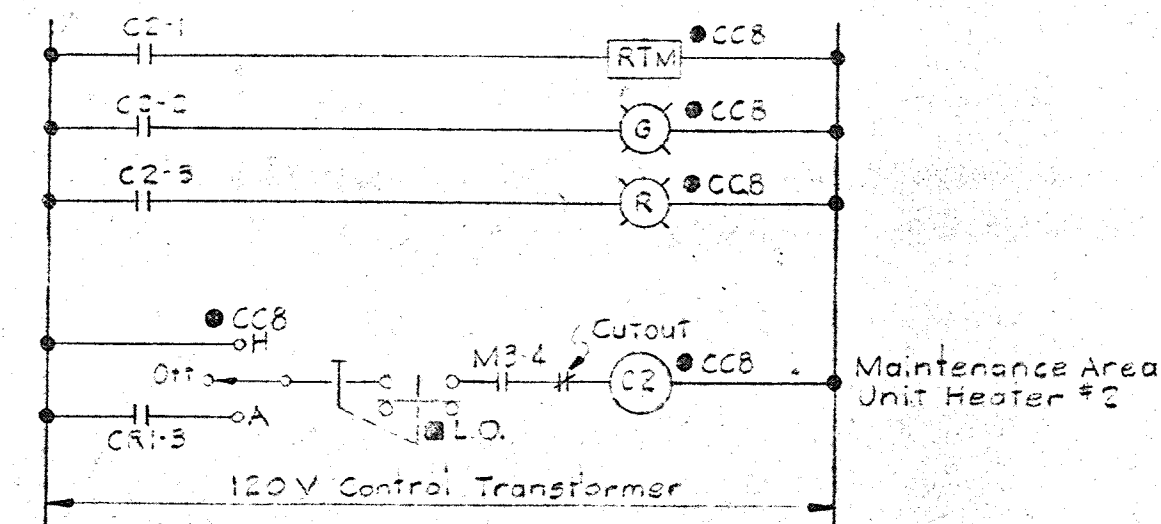
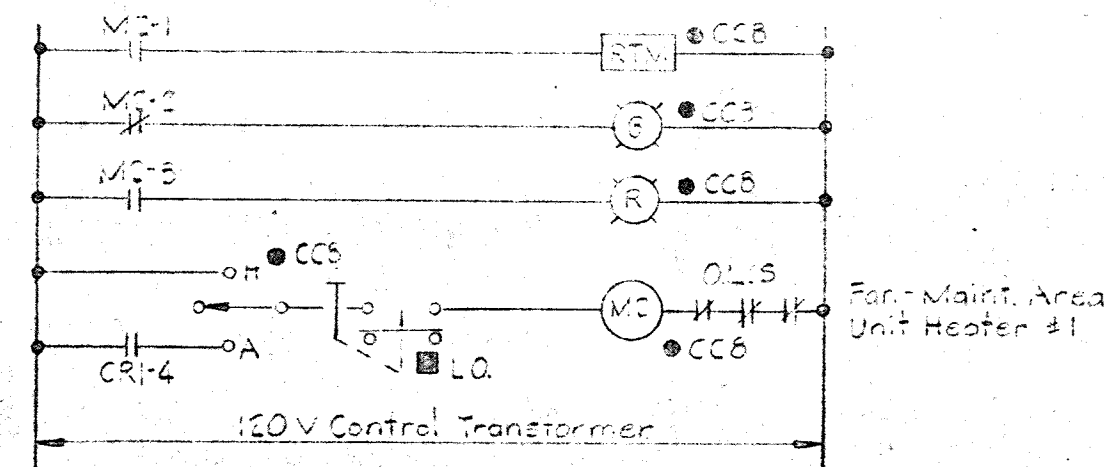
SHEET E-17



NOTES:
1. For General Electrical Notes & Electrical Legend see Sheet E-2.



ONE LINE DIAGRAM
MOTOR CONTROL CENTER "CCB"



WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
3/20/15
DATE

CONTRACT NO. 503-S

MAINTENANCE BUILDING
ONE LINE & ELEMENTARY
WIRING DIAGRAM

SAVAGE WASTEWATER
TREATMENT PLANT ADDITION NO. 4

DRAWING NO. 64 OF 64

SCALE NONE

W. O. 6887-2

SHEET E-18