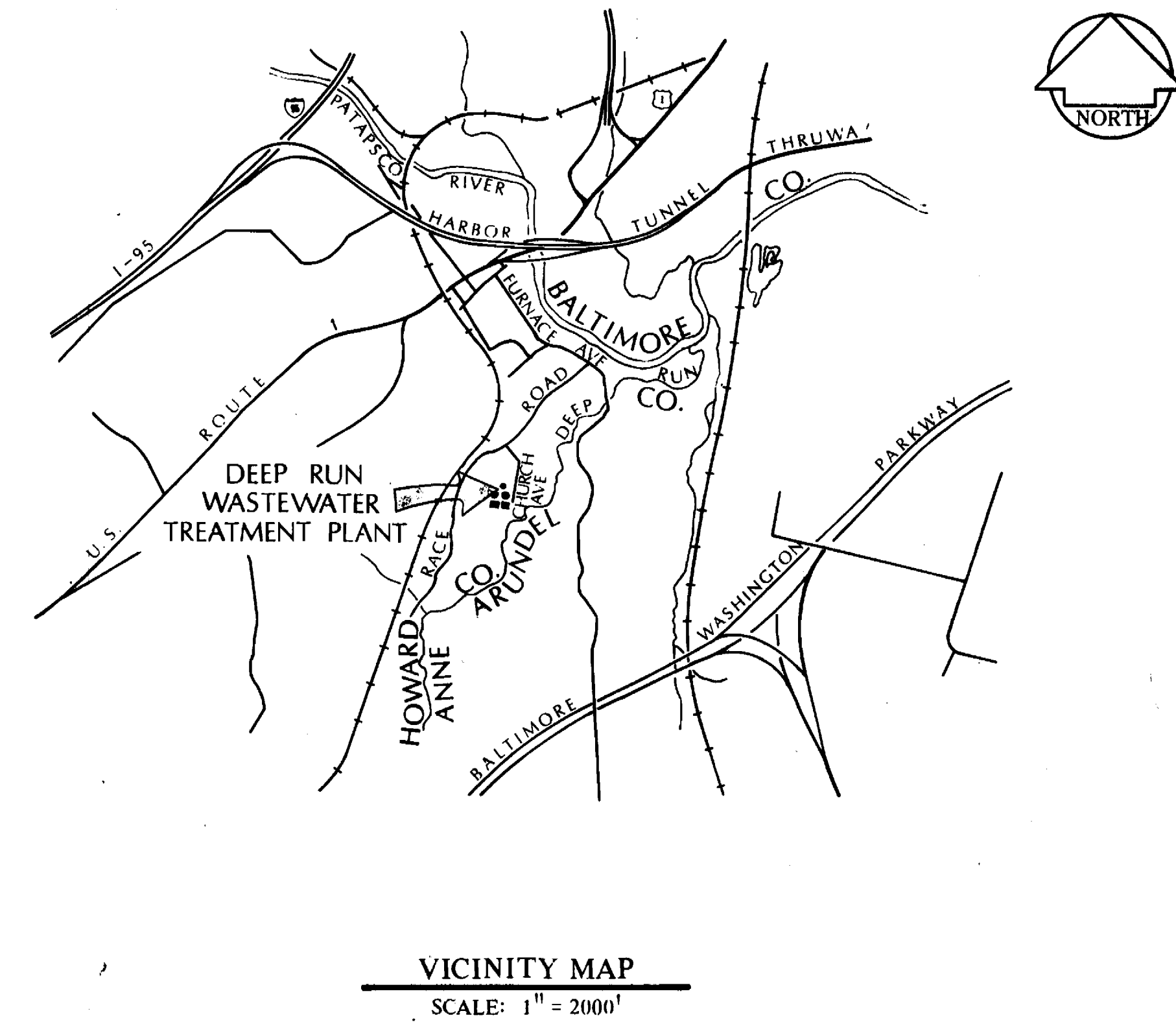
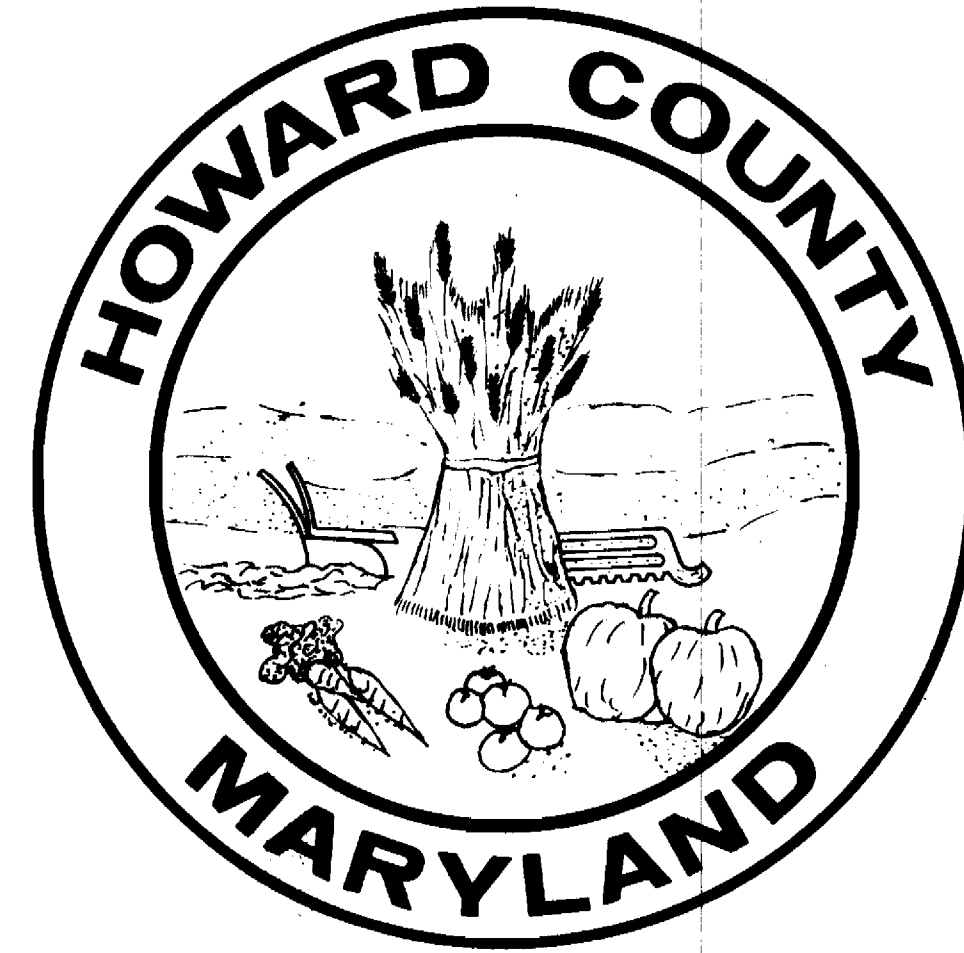
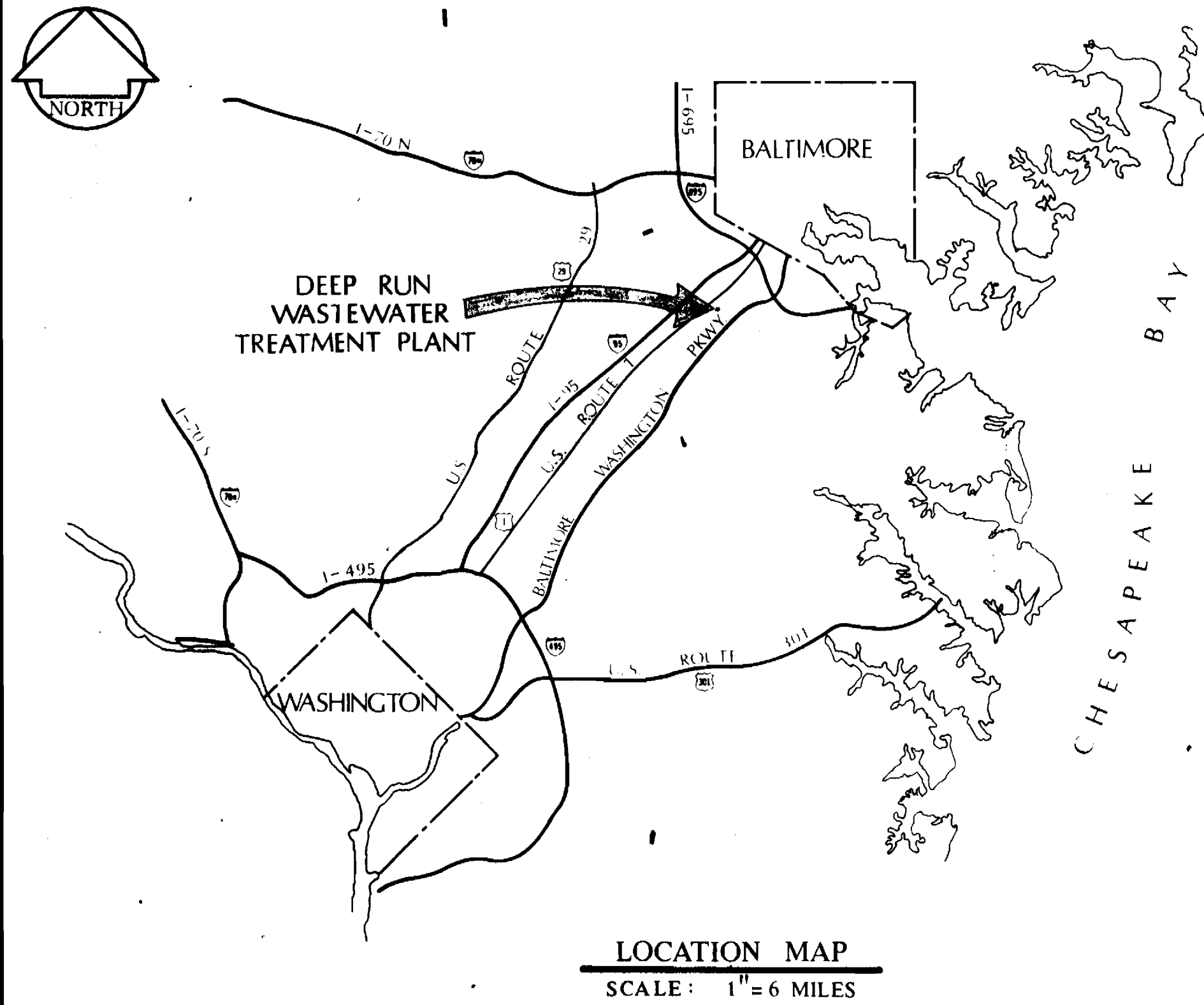


HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS



DEEP RUN WASTEWATER TREATMENT PLANT

CONTRACT 837-S

HOWARD COUNTY

George F. Neimeyer
GEORGE F. NEIMEYER - DIRECTOR - DEPARTMENT OF PUBLIC WORKS

James M. Irvin
JAMES M. IRVIN - CHIEF - BUREAU OF ENVIRONMENTAL SERVICES

WHITMAN, REQUARDT & ASSOCIATES - ENGINEERS

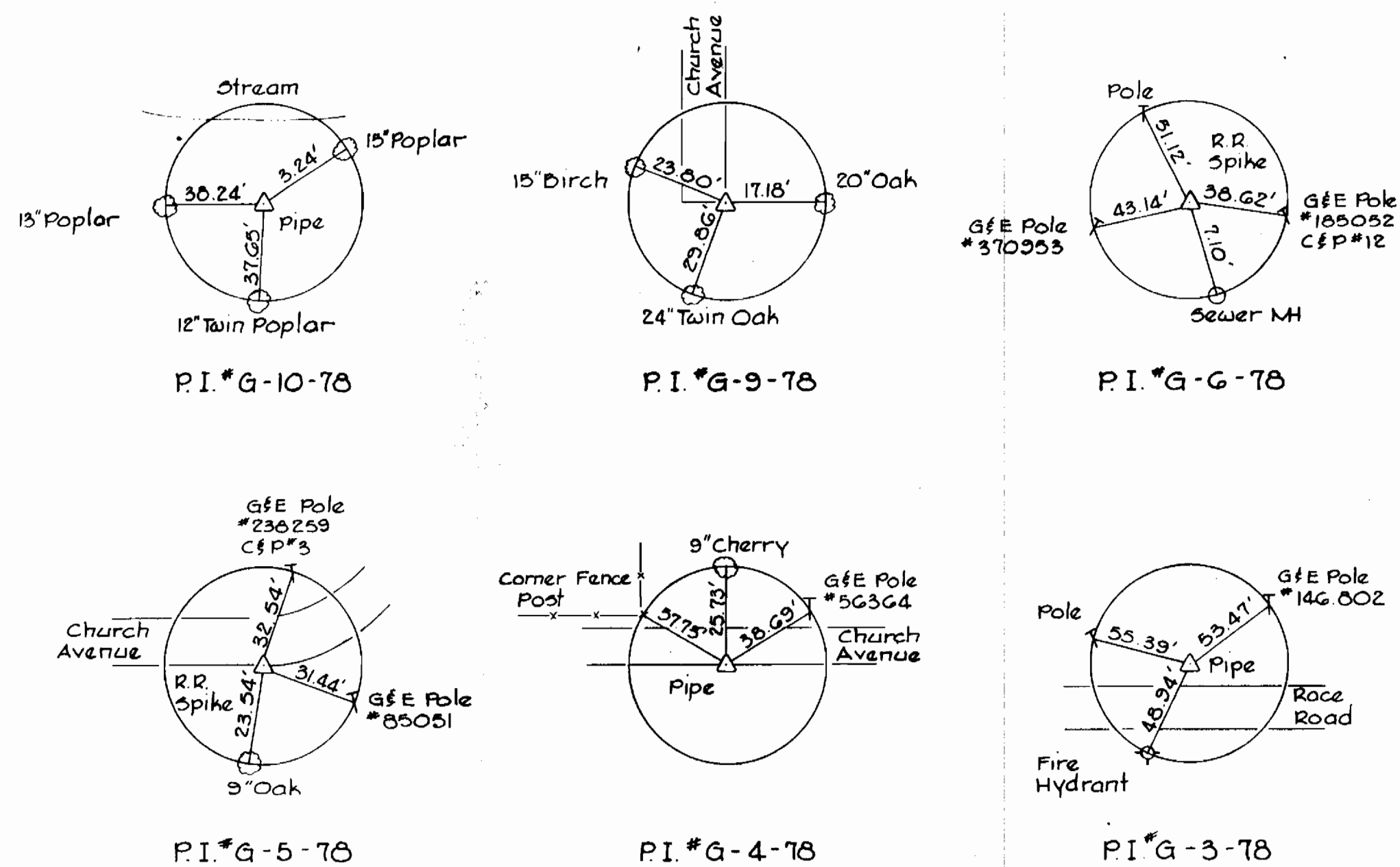
Kenneth A. McCord
KENNETH A. McCORD

GENERAL NOTES

- 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 THE DRAWING AT THE INTERSECTION OF THE SURVEY BASELINES. ALL BUILDING AND STRUCTURE COORDINATES ARE THE FRONT FACE OF CONCRETE SURFACES.
- THE LOCATION OF EXISTING PIPELINES AND STRUCTURES ARE APPROXIMATE. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING LINES AND STRUCTURES AND MAINTAIN UNINTERRUPTED FLOW IN THESE SYSTEMS. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY. FOR LOCATION OF UTILITIES ENTERING BUILDINGS OR STRUCTURES SEE MECHANICAL AND ELECTRICAL DRAWINGS.
- 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.
- THE CONTRACTOR IS CAUTIONED THAT THE PROPOSED CONSTRUCTION UNDER THIS CONTRACT IS IN AN AREA PREVIOUSLY OCCUPIED BY RESIDENTIAL DWELLING UNITS. IT IS EXPECTED THAT EXCAVATIONS WILL ENCOUNTER BUILDING FOUNDATIONS, UTILITY SERVICES, ETC. NORMALLY ASSOCIATED WITH RESIDENCES. ALL UTILITY SERVICES SHALL BE CAPPED OR PLUGGED WATERTIGHT.
- ALL PIPELINE PROFILE ELEVATIONS ARE INVERT ELEVATIONS, UNLESS OTHERWISE NOTED.
- THE LOCATION OF ALL VALVES, FITTINGS, ETC. SHALL BE LOCATED WHERE SHOWN ON THE DRAWINGS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- FOR STANDARD DETAILS - SEE SPECIFICATIONS.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE AS DETAILED OR AS APPROVED BY THE ENGINEER.
- 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.
- 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.
- THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL EXTERIOR LOOSE JOINTED PIPE SYSTEMS WITHIN 2 FEET OF EXTERIOR WALLS.
- ALL BURIED VALVES OR CORPORATION STOPS SHALL HAVE ROADWAY BOXES WITH CONCRETE SLABS IN ALL AREAS OTHER THAN PAVED AREAS.
- ALL EXISTING PAVED AREAS THAT REQUIRE REMOVAL FOR CONSTRUCTION PURPOSES SHALL BE PATCHED AND RESURFACED ACCORDING TO APPLICABLE TYPICAL SECTION. ALL EXISTING PAVED AREAS THAT ARE DISTURBED OR DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED IN KIND PRIOR TO RESURFACING ACCORDING TO APPLICABLE TYPICAL SECTION.
- ALL DISTURBED AREAS NOT PAVED OR SODDED SHALL BE FINE GRADED AND SHALL HAVE TOPSOIL, SEED, FERTILIZER, LIME AND MULCH PLACED IN ACCORDANCE WITH THE SPECIFICATIONS.
- ALL EXISTING VALVE BOXES, MANHOLE FRAMES AND COVERS AND SIMILAR APPURTENANCES SHALL BE ADJUSTED TO FINISHED GRADE OF THIS CONTRACT

LIST OF DRAWINGS

DRAWING NO.	SHEET NO.	GENERAL	DESCRIPTION
1	G-1	TITLE SHEET	
2	G-2	LIST OF DRAWINGS, ABBREVIATIONS, LEGEND AND GENERAL NOTES	
CIVIL			
3	C-1	LOCATION AND LANDSCAPING PLAN	
4	C-2	SITE AND UTILITY PLAN	
5	C-3	GRADING PLAN	
6	C-4	PROFILES	
7	C-5	PROFILES	
8	C-6	PROFILES AND DETAILS	
9	C-7	SECTIONS AND DETAILS	
10	C-8	DETAILS	
11	C-9	SOIL CONSERVATION PLAN AND DETAILS	
STRUCTURAL			
12	S-1	FLOW EQUALIZATION TANK - PLANS AND SECTIONS	
13	S-2	TREATMENT UNIT PLANS, SECTIONS AND DETAILS	
14	S-3	OPERATIONS AND SERVICE BUILDINGS PLANS, SECTIONS AND DETAILS	
15	S-4	CHLORINE CONTACT BASIN PLANS AND SECTIONS	
16	S-5	CHLORINE CONTACT BASIN ELEVATIONS, SECTIONS AND DETAILS	
17	S-6	MISCELLANEOUS STRUCTURAL DETAILS	
ARCHITECTURAL			
18	A-1	OPERATIONS BUILDING PLANS, ELEVATIONS AND SECTIONS	
19	A-2	SERVICE BUILDING PLANS, ELEVATIONS AND SECTIONS	
20	A-3	SCHEDULES AND DETAILS	
MECHANICAL			
21	M-1	OPERATIONS AND SERVICE BUILDINGS PLANS AND SECTIONS	
22	M-2	RAW SEWAGE PUMPING STATION PLANS, SECTIONS AND DETAILS	
23	M-3	MISCELLANEOUS DETAILS	
MECHANICAL/ELECTRICAL			
24	ME-1	TREATMENT UNITS PLANS AND DETAILS	
25	ME-2	TREATMENT UNITS SECTION AND DETAILS	
26	ME-3	FLOW EQUALIZATION TANK PLAN, SECTIONS AND DETAILS	
ELECTRICAL			
27	E-1	WIRING DIAGRAMS	
28	E-2	GENERAL ELECTRICAL NOTES AND LEGEND	
29	E-3	SWITCHBOARD/CONTROL CENTER SCHEDULE AND DETAILS	
30	E-4	SERVICE BUILDING PLANS AND DETAILS	
31	E-5	ADMINISTRATION/OPERATIONS BUILDING PLANS AND DETAILS	
32	E-6	UNDERGROUND HANDHOLES AND DETAILS	
33	E-7	WIRING DIAGRAMS	
34	E-8	PUMPING STATION PLAN AND DETAILS	
35	E-9	ANNUNCIATORS	



SURVEY REFERENCES

B.M.*G-1-78 ELEV. 24.605
 Spike in base of Guy Pole 20' ± left of Sta. 3+50 ± between P.I.*G-6-78 & P.I.*G-5-78 marked with Guard.

B.M.*G-2-78 ELEV. 24.941
 Spike in base of 20' Oak 20' ± left of P.I.*G-9-78 marked with Guard.

BENCHMARKS

DESIGN CRITERIA

DESIGN YEAR - (INTERIM PLANT)
 DESIGN POPULATION - 10,000
 DESIGN FLOW - 1.0 MGD
 SAFE PUMPING CAPACITY 2.0 MGD
 FLOW EQUALIZATION TANK
 VOLUME, TOTAL 200,000 GAL.
 , OPERATING 160,000 GAL.
 MIXING AND SEPTIC CONTROL - SURFACE AERATOR
 INFLUENT CHARACTERISTICS
 BOD CONCENTRATION - 200 MG/L
 BOD LOADING - 1700 LBS/DAY
 SS CONCENTRATION - 240 MG/L
 SS LOADING - 2000 LBS/DAY
 TREATMENT PROCESS - EXTENDED AERATION-ACTIVATED SLUDGE
 NUMBER OF UNITS - 2 - 0.5 MGD EACH
 AERATION VOLUME - 1,000,000 GAL.
 BOD LOADING RATE - 25.41 LBS/1000 CF
 AIR REQUIRED - 2100 CF/LB BOD 5
 AIR FLOW RATE - 2480 CFM
 SLUDGE STORAGE VOLUME - 72,500 GAL.
 AIR REQUIRED - 22 CFM/1000 CF
 AIR FLOW RATE - 220 CFM
 TOTAL AIR REQUIRED - 2700 CFM
 SAFE BLOWER CAPACITY - 3000 CFM
 SETTLING ZONE VOLUME - 112,000 GAL.
 SURFACE SETTLING RATE - 400 GPD/SF
 DETENTION TIME - 5.0 HOURS
 CHLORINATION-DECHLORINATION CHAMBER
 CHLORINATION : DECHLORINATION
 VOLUME 36,000 GAL. 9300
 DETENTION TIME 52 MIN. 13 MIN.
 DOSAGE, MAX. 15 MG/L 3 MG/L

ABBREVIATIONS

PIPE LINE	MISCELLANEOUS
MH - MANHOLE	BM - BENCHMARK
D - DRAIN	BL - BASELINE
S - SEWER OR INTERCEPTOR	CL - CENTERLINE
W - POTABLE WATER	N - NORTH
FM - FORCE MAIN	E - EAST
E - EFFLUENT	S - SOUTH
CL2 - CHLORINE	W - WEST
SO2 - SULFUR DIOXIDE	TYP. - TYPICAL
A - AIR	MIN. - MINIMUM
H.B. - HORIZONTAL BEND	MAX. - MAXIMUM
V.B. - VERTICAL BEND	DIA. - DIAMETER
S.D. - SLUDGE DRAW-OFF	ELEV. - ELEVATION
O.F. - OVER FLOW	EX. - EXISTING
V - VALVE	PI. - POINT OF INTERSECTION
F.H. - FIRE HYDRANT	CONSTR. - CONSTRUCTION
	CONC. - CONCRETE
	SPECS. - SPECIFICATIONS
	CL. - CLEAR
	S.S. - STAINLESS STEEL
	E.W. - EACH WAY
	T & B. - TOP & BOTTOM
	O.C. - ON CENTER
	SH. - SHEET
	NO. - NUMBER
	PSI. - POUNDS PER SQUARE INCH
	PSF. - POUNDS PER SQUARE FOOT
	PCF. - POUNDS PER CUBIC FOOT
	H.S. - HIGH STRENGTH
	W/FNDT. - WITH FOUNDATION

LEGEND

EXISTING	CONSTRUCTION THIS CONTRACT
PROPERTY LINE	TREE
TREE	EMBANKMENT
EMBANKMENT	SURVEY TRAVERSE or CONSTRUCTION
SURVEY TRAVERSE or CONSTRUCTION	STREAM
STREAM	DITCH
DITCH	SWALE
SWALE	CONTOURS
CONTOURS	GRADE CONTROL
GRADE CONTROL	ELEVATION
ELEVATION	BUILDINGS or STRUCTURES
BUILDINGS or STRUCTURES	ROADWAYS:
ROADWAYS:	RESURFACING
RESURFACING	RECONSTRUCTION WITH WEDGE COURSE
RECONSTRUCTION WITH WEDGE COURSE	NEW TOTAL CONSTRUCTION
NEW TOTAL CONSTRUCTION	SIDEWALK
SIDEWALK	CURB & CURB OPENING
CURB & CURB OPENING	STAIRWAY
STAIRWAY	FENCE & GATE
FENCE & GATE	PIPELINE (8" & SMALLER)
PIPELINE (8" & SMALLER)	(10" & LARGER)
(10" & LARGER)	MANHOLES / CLEANOUTS, HANDHOLES
MANHOLES / CLEANOUTS, HANDHOLES	VALVES
VALVES	WATER METER VAULT
WATER METER VAULT	BEND, WYE, TEE, REDUCER INCREASER
BEND, WYE, TEE, REDUCER INCREASER	CAP or PLUG
CAP or PLUG	HYDRANT (STANDARD FIRE)
HYDRANT (STANDARD FIRE)	HEADWALL
HEADWALL	DIRECT BURIED CABLE
DIRECT BURIED CABLE	CONDUIT
CONDUIT	LIGHT FIXTURE
LIGHT FIXTURE	RIP RAP
RIP RAP	POWER POLE
POWER POLE	

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

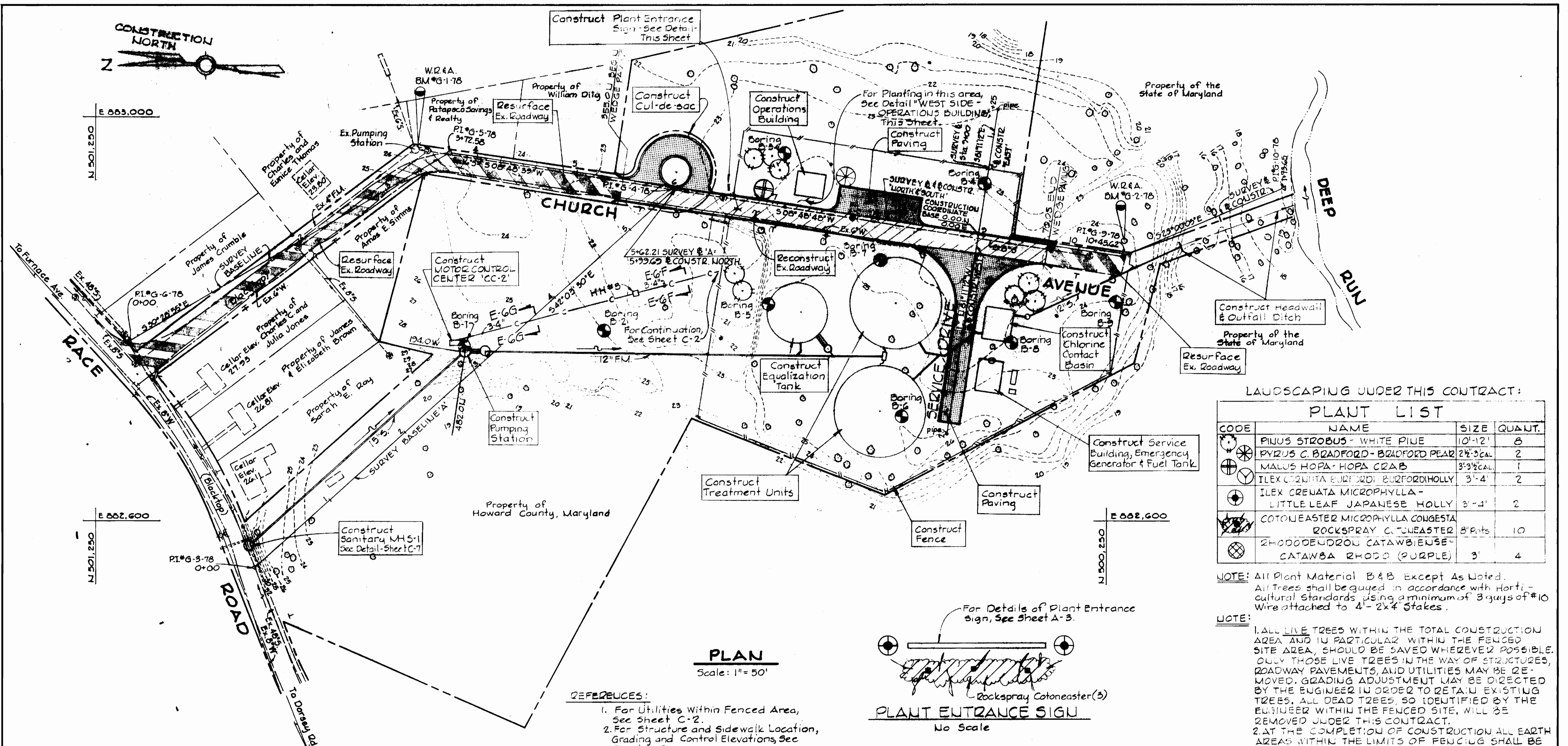
DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

CONTRACT NO. 837-S

LIST OF DRAWINGS, ABBREVIATIONS,
 LEGEND AND GENERAL NOTES

DEEP RUN INTERIM
 WASTEWATER TREATMENT PLANT

DRAWING NO. 2 OF 35	SCALE NONE	PS. 500-23 501-23
		FB. 6219
		6224



LANDSCAPING UNDER THIS CONTRACT:

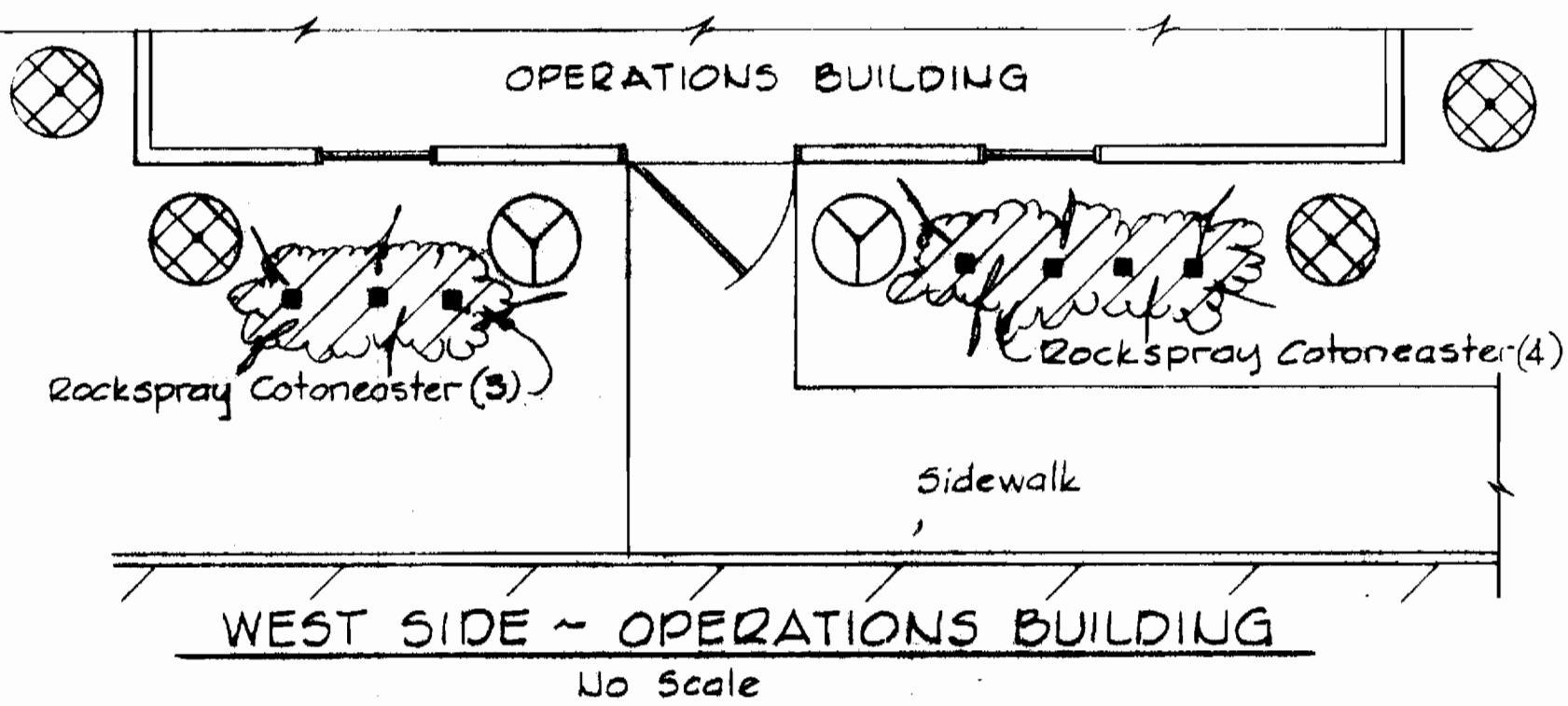
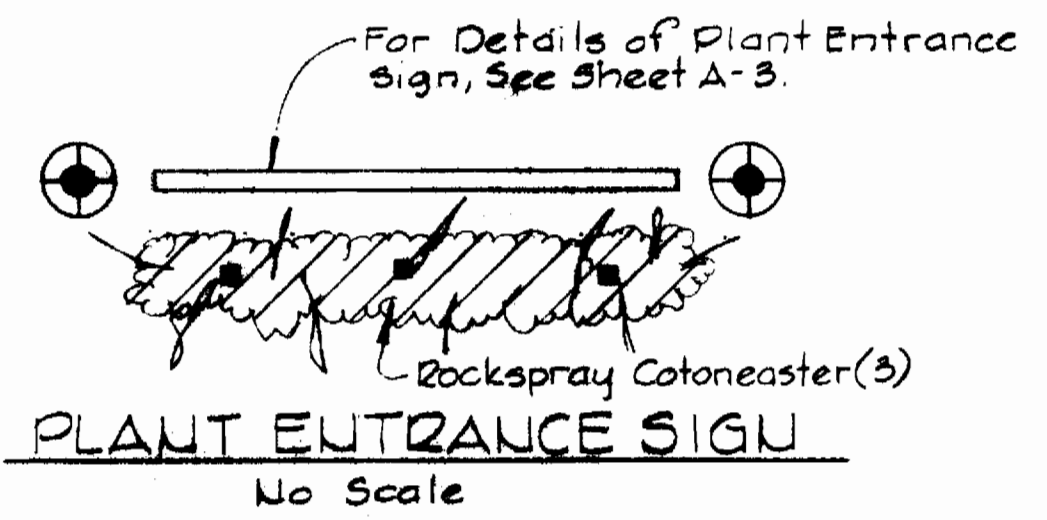
PLANT LIST			
CODE	NAME	SIZE	QUANT.
⊗	PINUS STROBUS - WHITE PINE	10'-12'	8
⊗	PRUNUS C. BRADFORD - BRADFORD PEAR	2 1/2 - 3 CAL.	2
⊗	MALUS HOPA - HOPA CRAB	3 - 3 1/2 CAL.	1
⊗	ILEX COQUITA BURFORDI - BURFORD HOLLY	3'-4'	2
⊗	ILEX CRENATA MICROPHYLLA - LITTLE LEAF JAPANESE HOLLY	3'-4'	2
⊗	COTONEASTER MICROPHYLLA CONGESTA - ROCKSPRAY COTONEASTER	5' PITS	10
⊗	RHODODENDRON CATAWBIENSE - CATAWBA RHODO (PURPLE)	3'	4

NOTE: All Plant Material B & B Except As Noted. All Trees shall be dug in accordance with Horticultural Standards using a minimum of 3 guys of #10 Wire attached to 4" x 24" stakes.

NOTE: 1. ALL LIVE TREES WITHIN THE TOTAL CONSTRUCTION AREA AND IN PARTICULAR WITHIN THE FENCED SITE AREA, SHOULD BE SAVED WHEREVER POSSIBLE. ONLY THOSE LIVE TREES IN THE WAY OF STRUCTURES, ROADWAY PAVEMENTS, AND UTILITIES MAY BE REMOVED. GRADING ADJUSTMENT MAY BE DIRECTED BY THE ENGINEER IN ORDER TO RETAIN EXISTING TREES. ALL DEAD TREES, SO IDENTIFIED BY THE ENGINEER WITHIN THE FENCED SITE, WILL BE REMOVED UNDER THIS CONTRACT. 2. AT THE COMPLETION OF CONSTRUCTION ALL EARTH AREAS WITHIN THE LIMITS OF FENCING SHALL BE SCARIFIED, SEEDED, ETC. AS PER THE SPECIFICATIONS. 3. ALL EXISTING UTILITY SERVICES IN OR ADJACENT TO CHURCH AVENUE SHALL BE ADJUSTED UNDER THIS CONTRACT TO FINISHED GRADE. THIS INCLUDES VALVE BOXES, MANHOLE FRAMES AND COVERS, HYDRANTS, ETC.

PLAN
Scale: 1" = 50'

- REFERENCES:
1. For Utilities Within Fenced Area, See Sheet C-2.
 2. For Structure and Sidewalk Location, Grading and Control Elevations, See Sheet C-3.



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

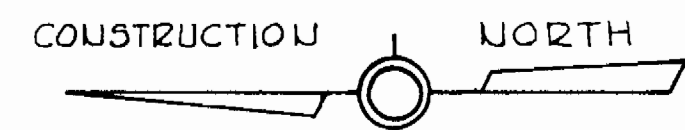
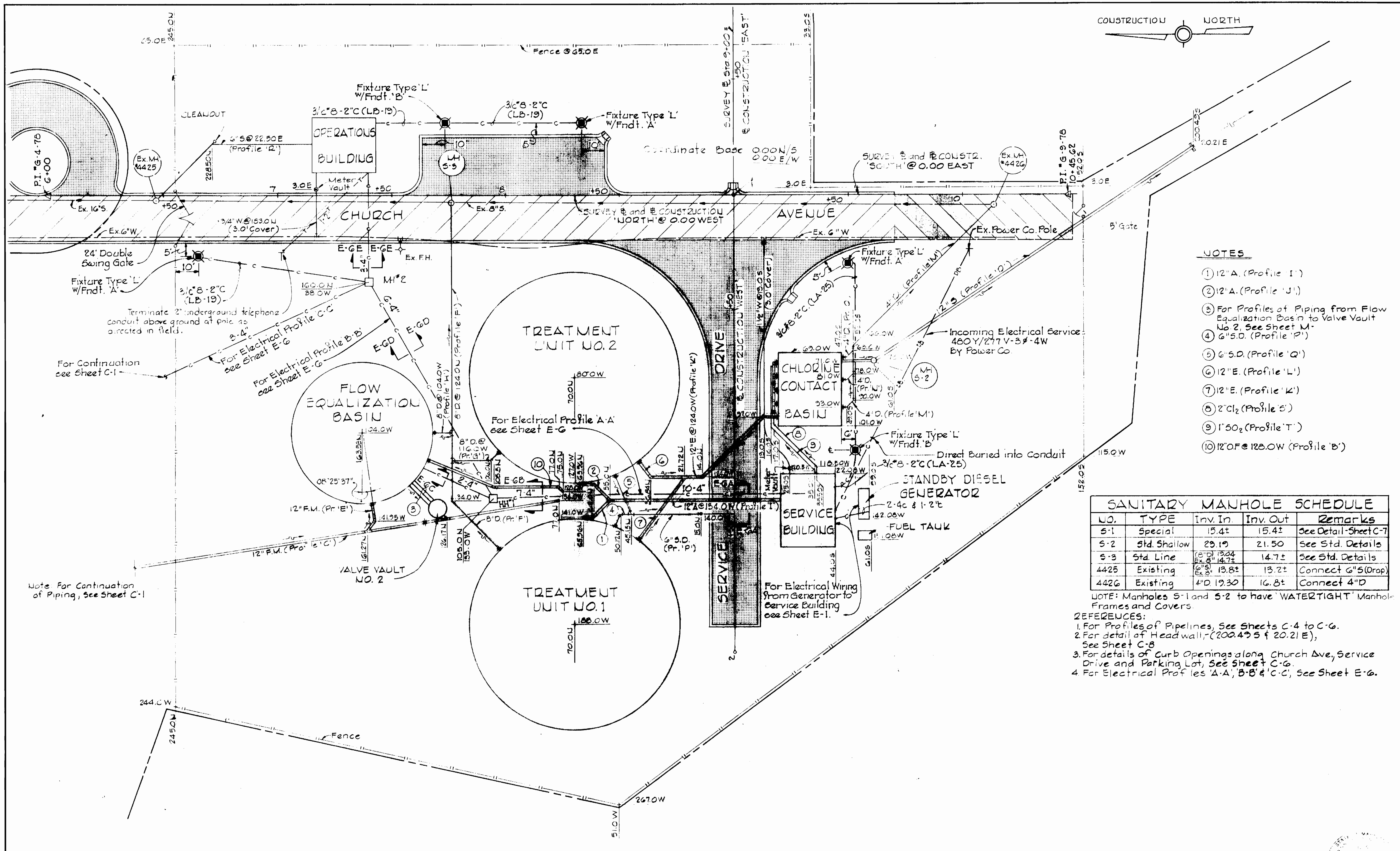
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DATE: 3/6/79
CHIEF - BUREAU OF ENVIRONMENTAL SERVICES

CONTRACT NO. 837-S

LOCATION & LANDSCAPING PLAN

DEEP RUN INTERIM
WASTEWATER TREATMENT PLANT

DRAWING NO. 3 OF 35
SCALE 1" = 50'

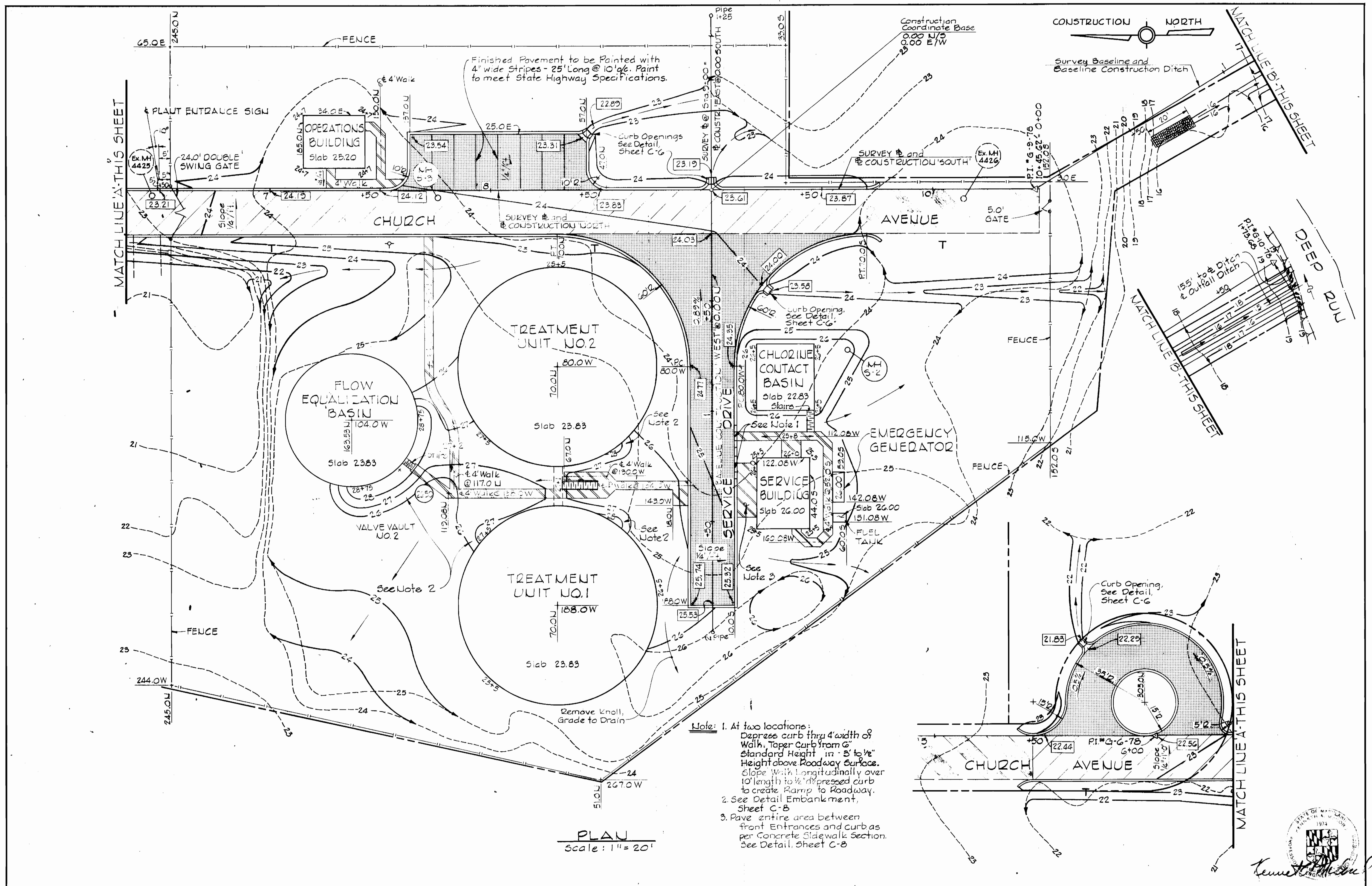


- NOTES**
- ① 12" A. (Profile 'I')
 - ② 12" A. (Profile 'J')
 - ③ For Profiles of Piping from Flow Equalization Basin to Valve Vault No. 2. See Sheet M-1.
 - ④ 6" S.D. (Profile 'P')
 - ⑤ 6" S.D. (Profile 'Q')
 - ⑥ 12" E. (Profile 'L')
 - ⑦ 12" E. (Profile 'K')
 - ⑧ 2" Cl₂ (Profile 'S')
 - ⑨ 1" SO₂ (Profile 'T')
 - ⑩ 12" OF @ 125.0W (Profile 'B')

SANITARY MANHOLE SCHEDULE				
NO.	TYPE	Inv. In	Inv. Out	Remarks
S-1	Special	15.4±	15.4±	See Detail Sheet C-7
S-2	Std. Shallow	23.19	21.50	See Std. Details
S-3	Std. Line	(E) 13.04 EX. 14.7±	14.7±	See Std. Details
4425	Existing	(E) 13.8± EX. 13.2±	13.2±	Connect 6" S(Drop)
4426	Existing	4" D 13.30	16.8±	Connect 4" D

- NOTE: Manholes S-1 and S-2 to have 'WATERTIGHT' Manhole Frames and Covers.
- REFERENCES:**
1. For Profiles of Pipelines, See Sheets C-4 to C-6.
 2. For detail of Headwall, (200.49 S & 20.21 E), See Sheet C-8.
 3. For details of Curb Openings along Church Ave, Service Drive and Parking Lot, See Sheet C-6.
 4. For Electrical Profiles 'A-A', 'B-B' & 'C-C', See Sheet E-6.

PLAN
Scale: 1"=20'

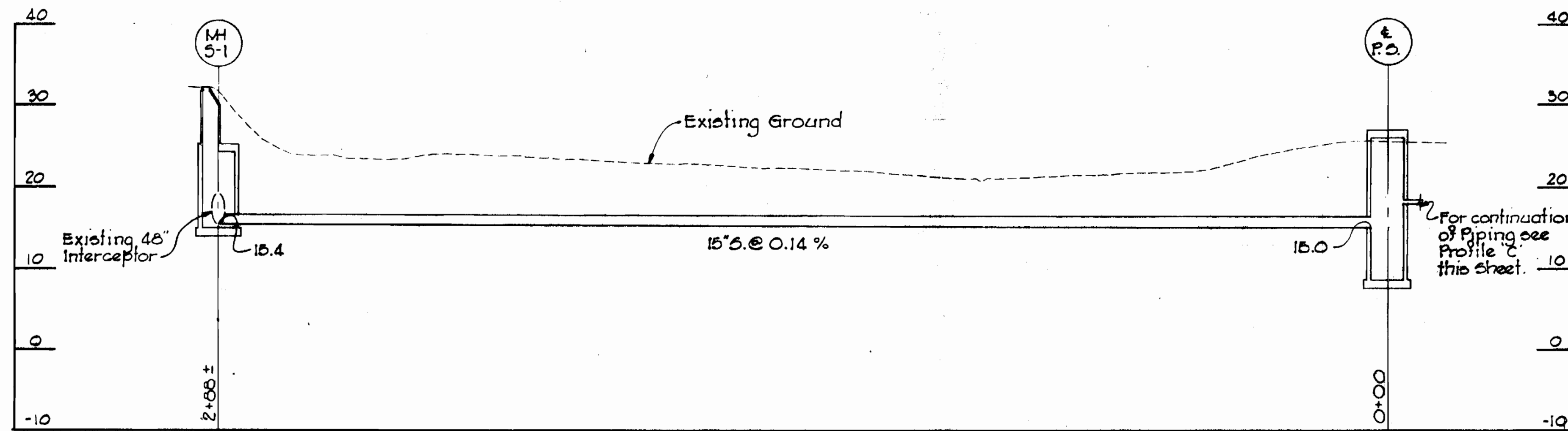


Finished Pavement to be Painted with 4" wide Stripes - 25' Long @ 10' oc. Paint to meet State Highway Specifications.

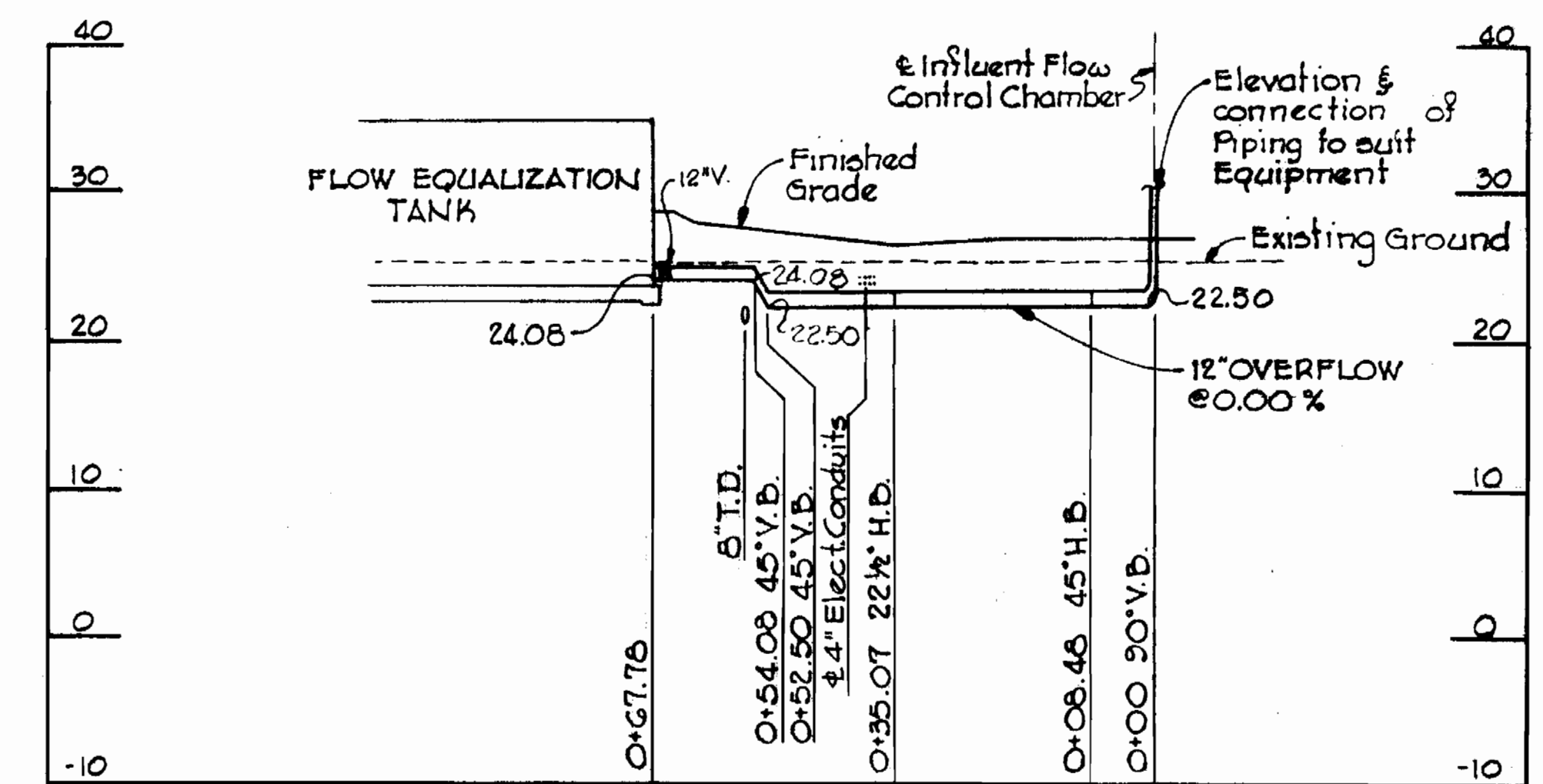
Note: 1. At two locations: Depress curb thru 4' width of Walk, Taper Curb from 6" Standard Height in 3' to 1/2" Height above Roadway Surface. Slope Walk Longitudinally over 10' length to 1/2" depressed curb to create Ramp to Roadway.
 2. See Detail Embankment, Sheet C-8
 3. Pave entire area between front Entrances and Curb as per Concrete Sidewalk Section. See Detail, Sheet C-8

PLAN
Scale: 1" = 20'

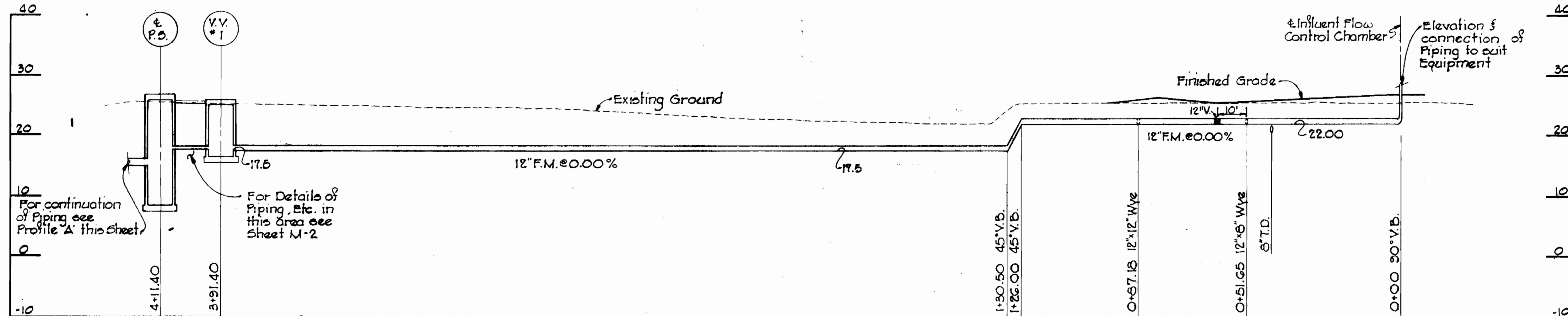
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: 3/6/79 CHIEF - BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 837-S	GRADING PLAN	DEEP RUN INTERIM WASTEWATER TREATMENT PLANT	DRAWING NO. 5 OF 35 SCALE 1" = 20'
-----------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------	--------------------	--------------	------------------------------------------------	---------------------------------------



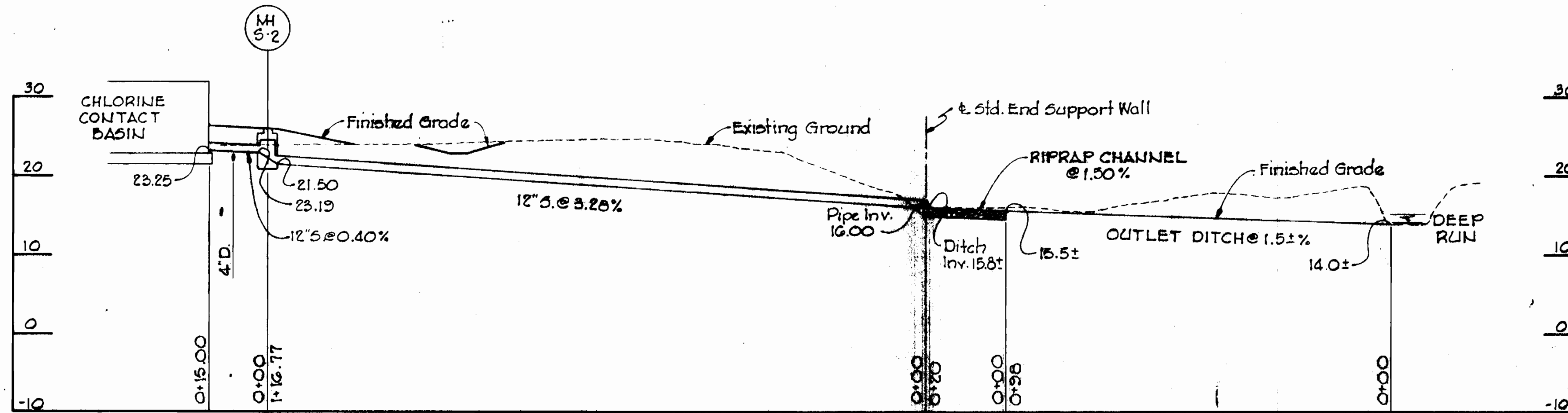
PROFILE 'A'



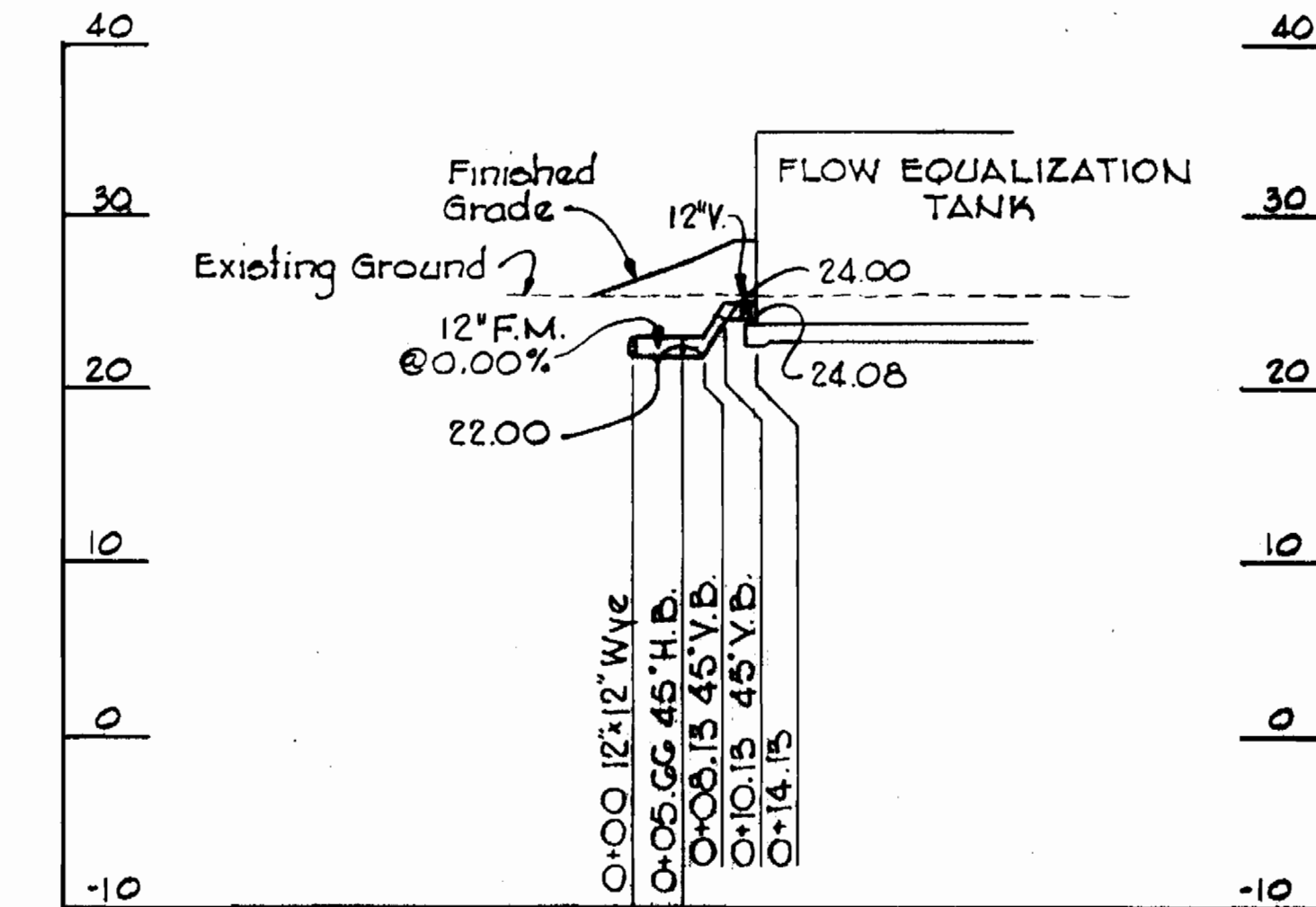
PROFILE 'B'



PROFILE 'C'



PROFILE 'D'



PROFILE 'E'

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

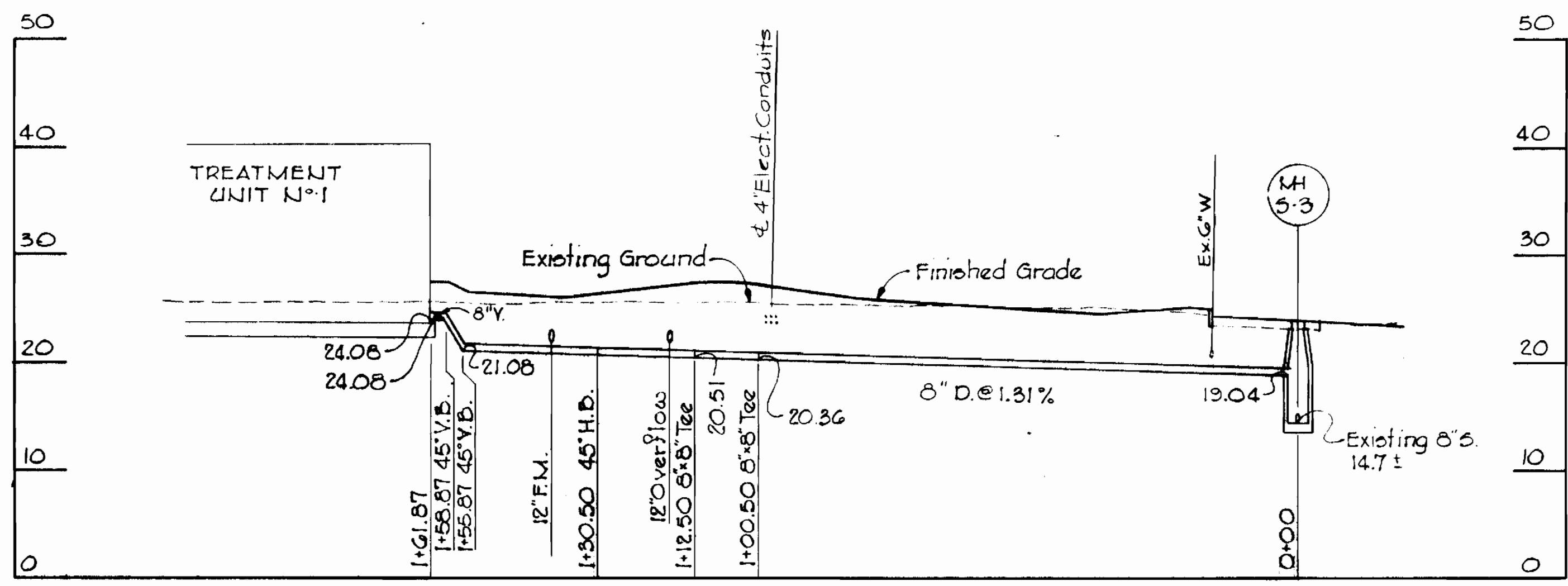
CONTRACT NO. 837-S

PROFILES

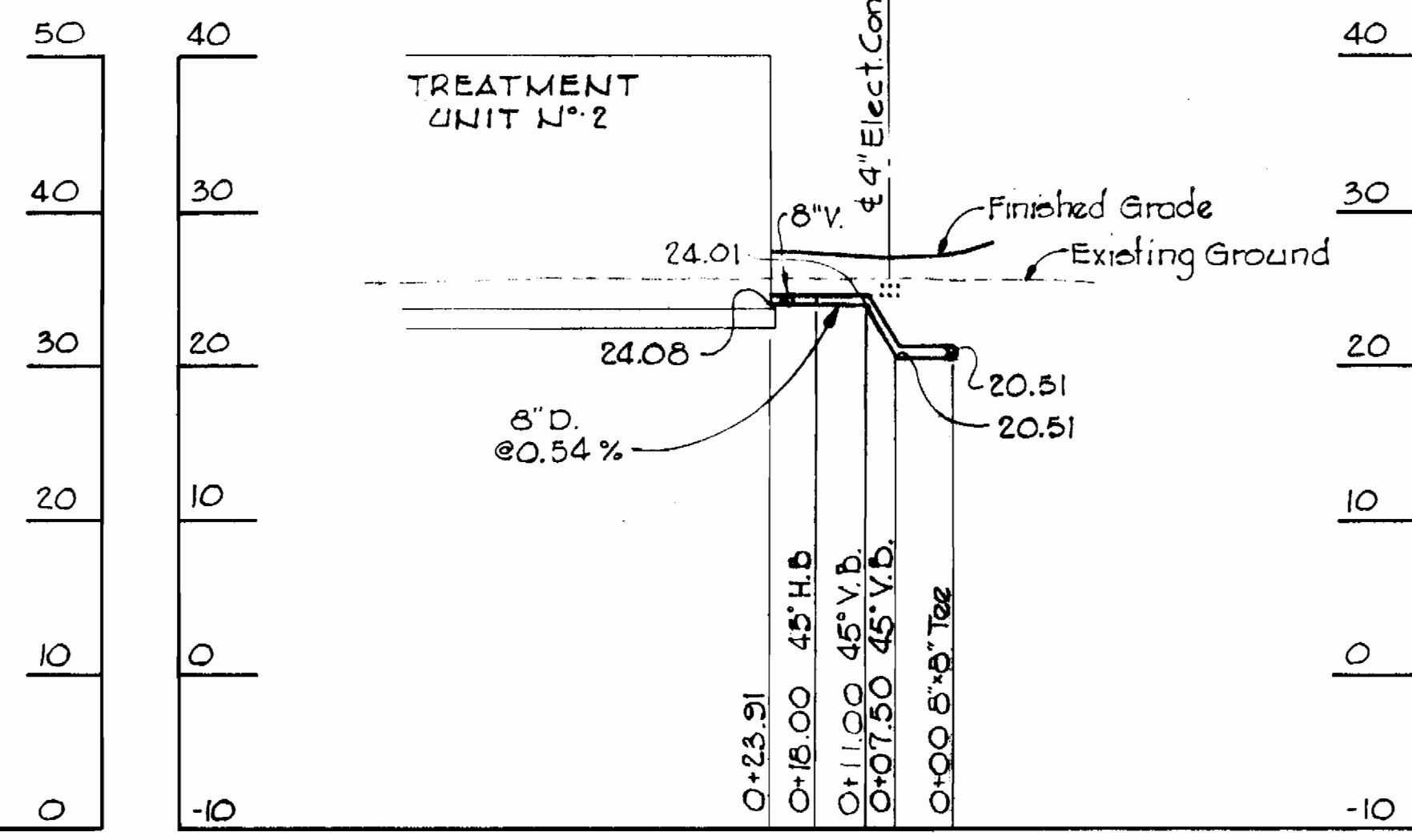
DEEP RUN INTERIM
WASTEWATER TREATMENT PLANT

DRAWING NO. 6
OF 35

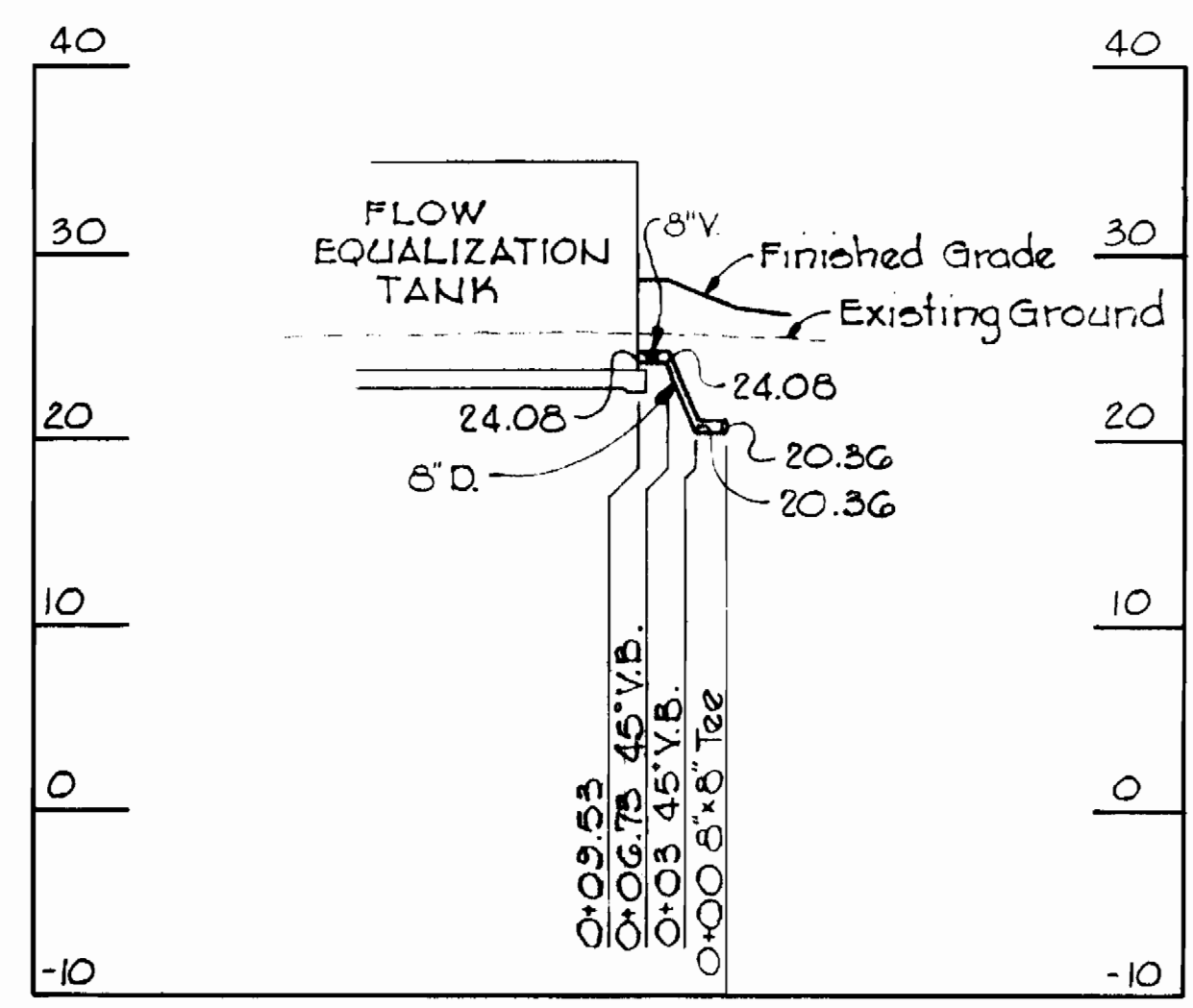
SCALE
H:1"=20'
V:1"=10'



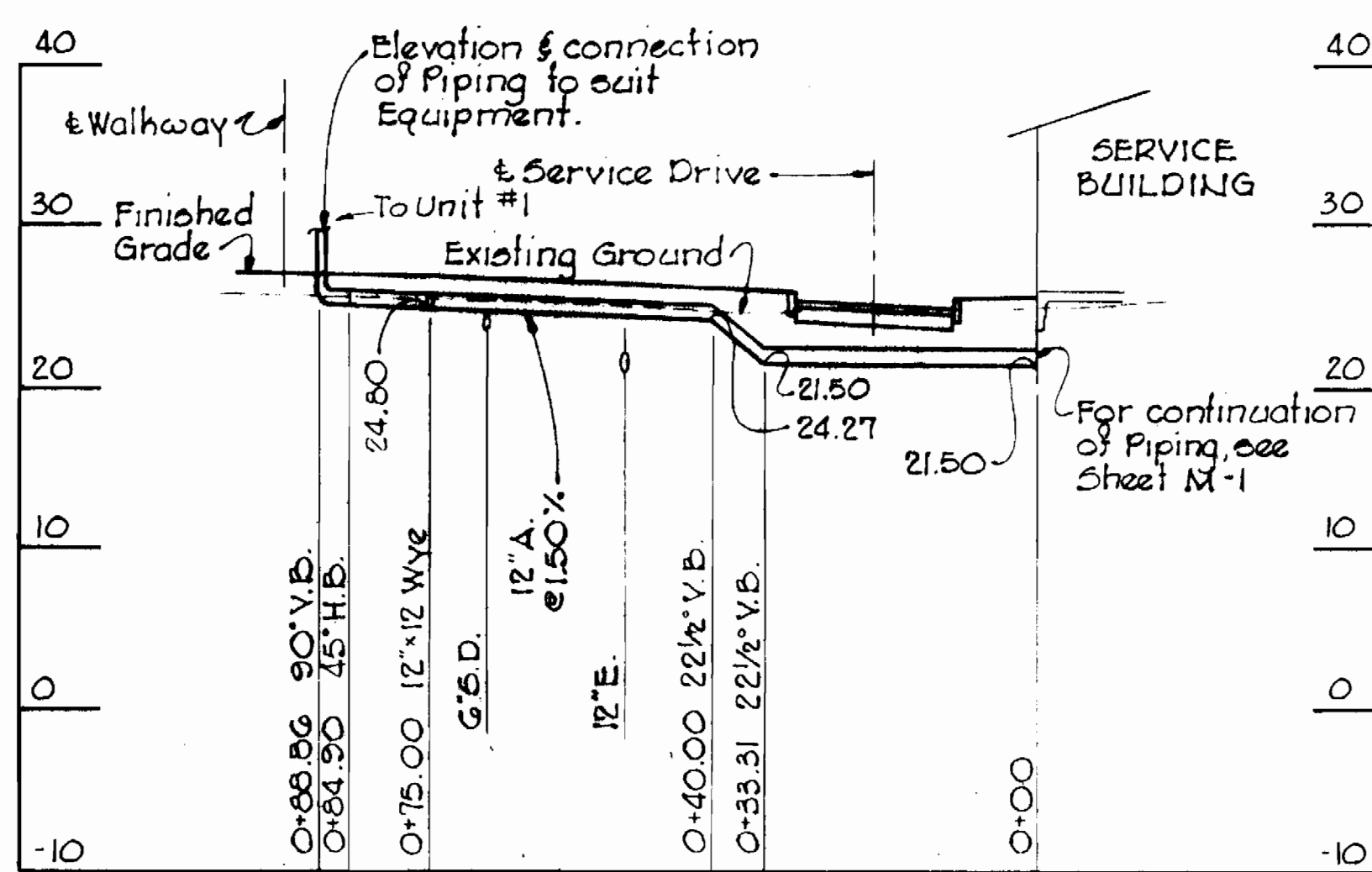
PROFILE 'F'



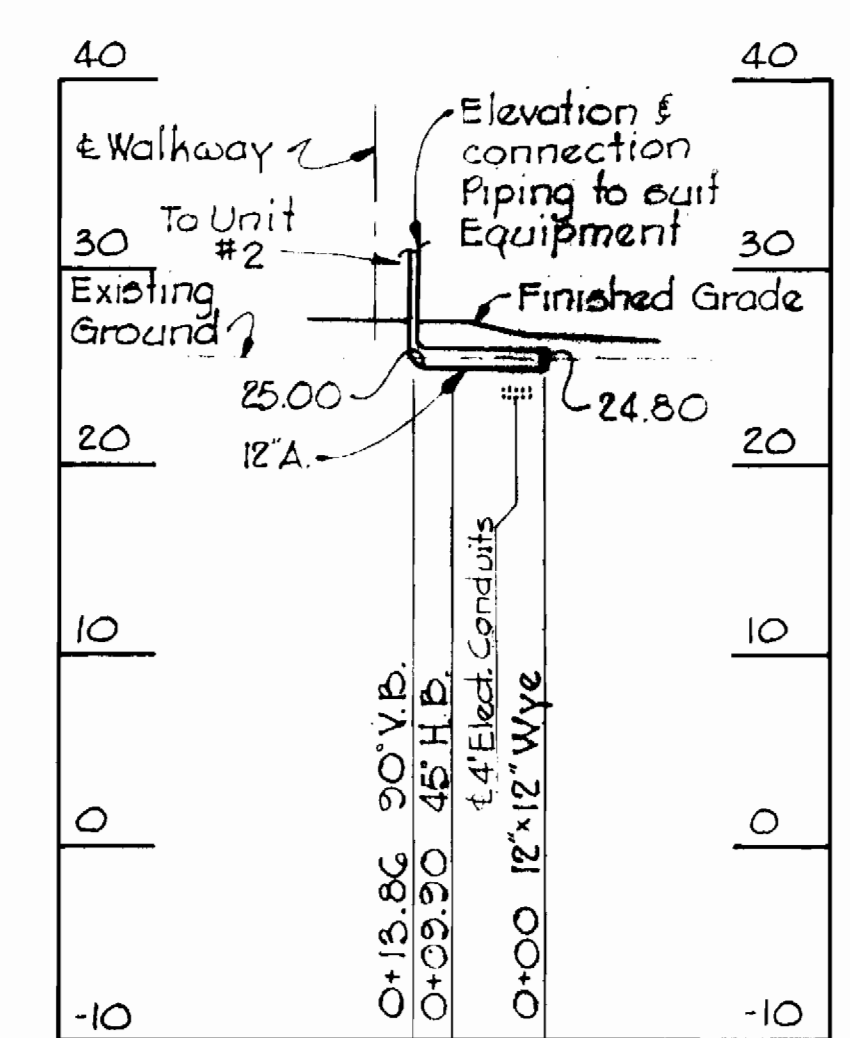
PROFILE 'G'



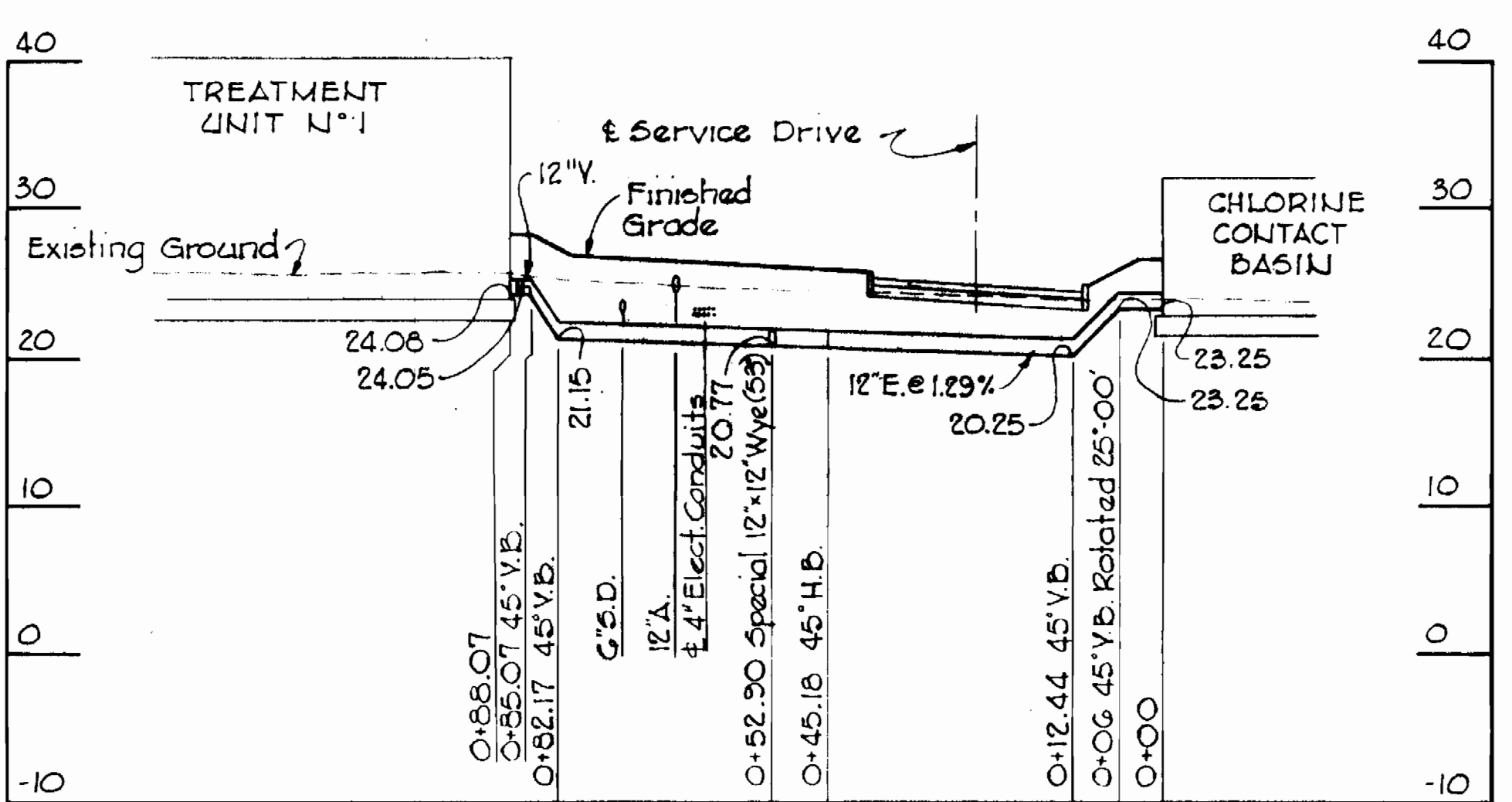
PROFILE 'H'



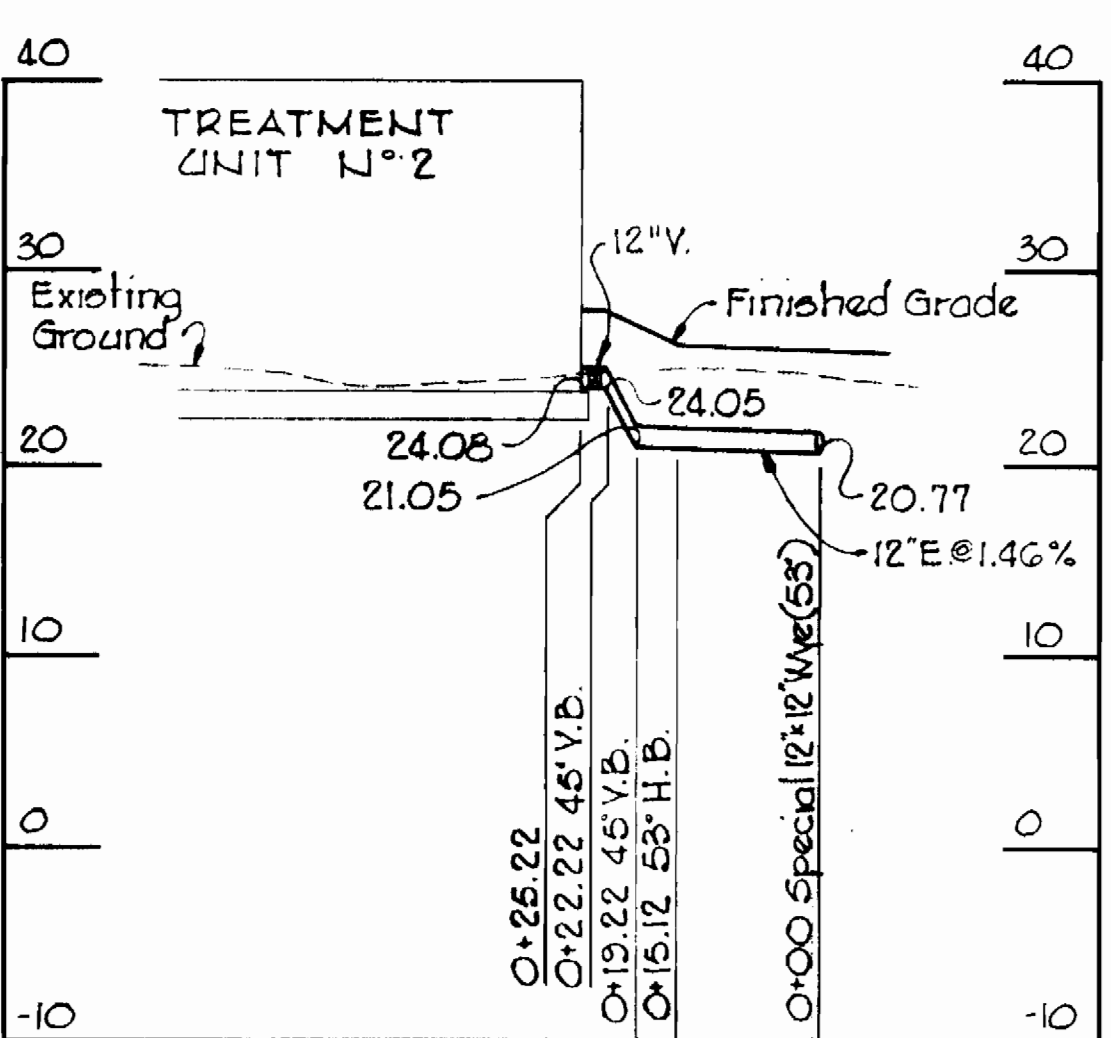
PROFILE 'I'



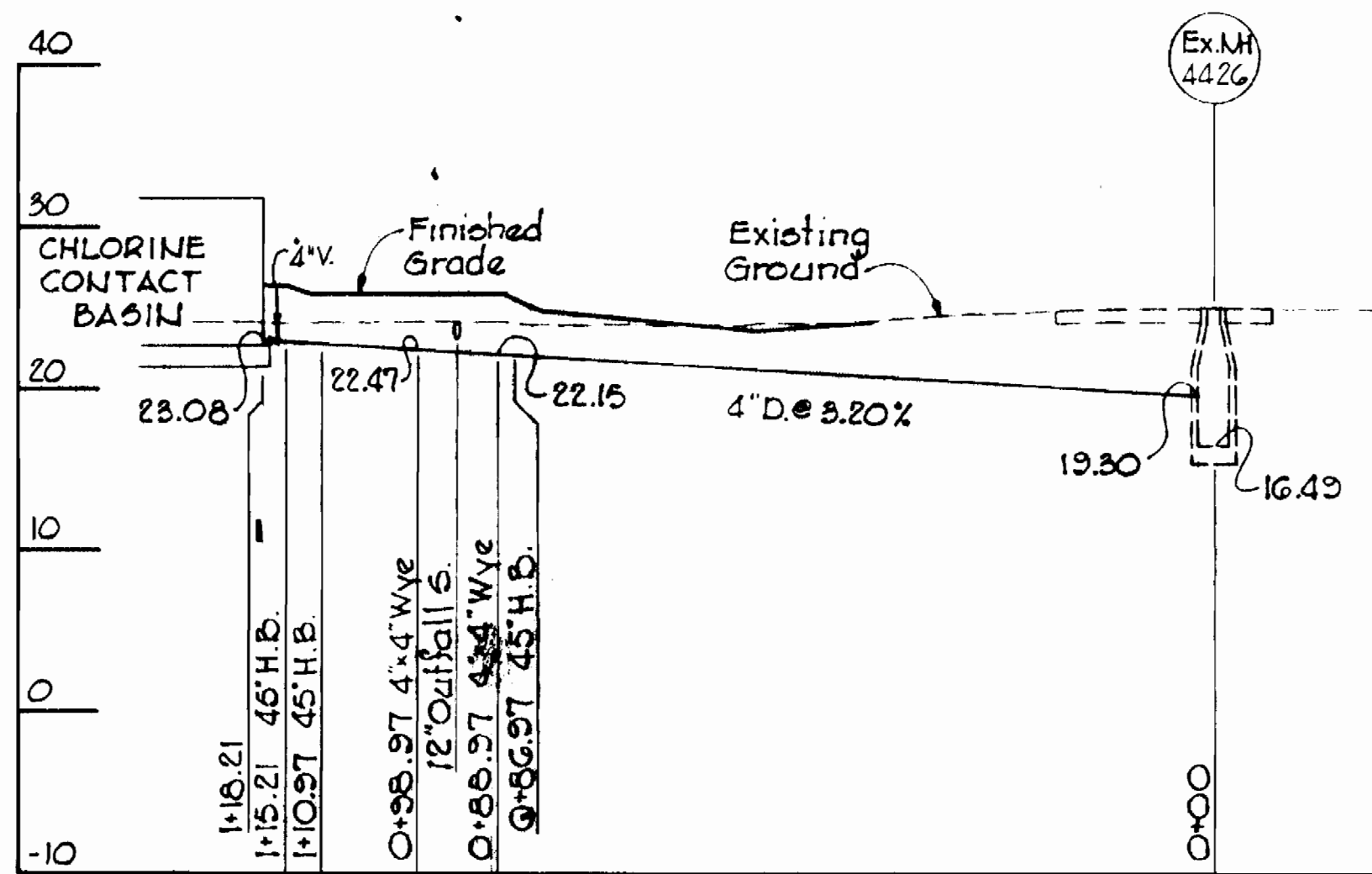
PROFILE 'J'



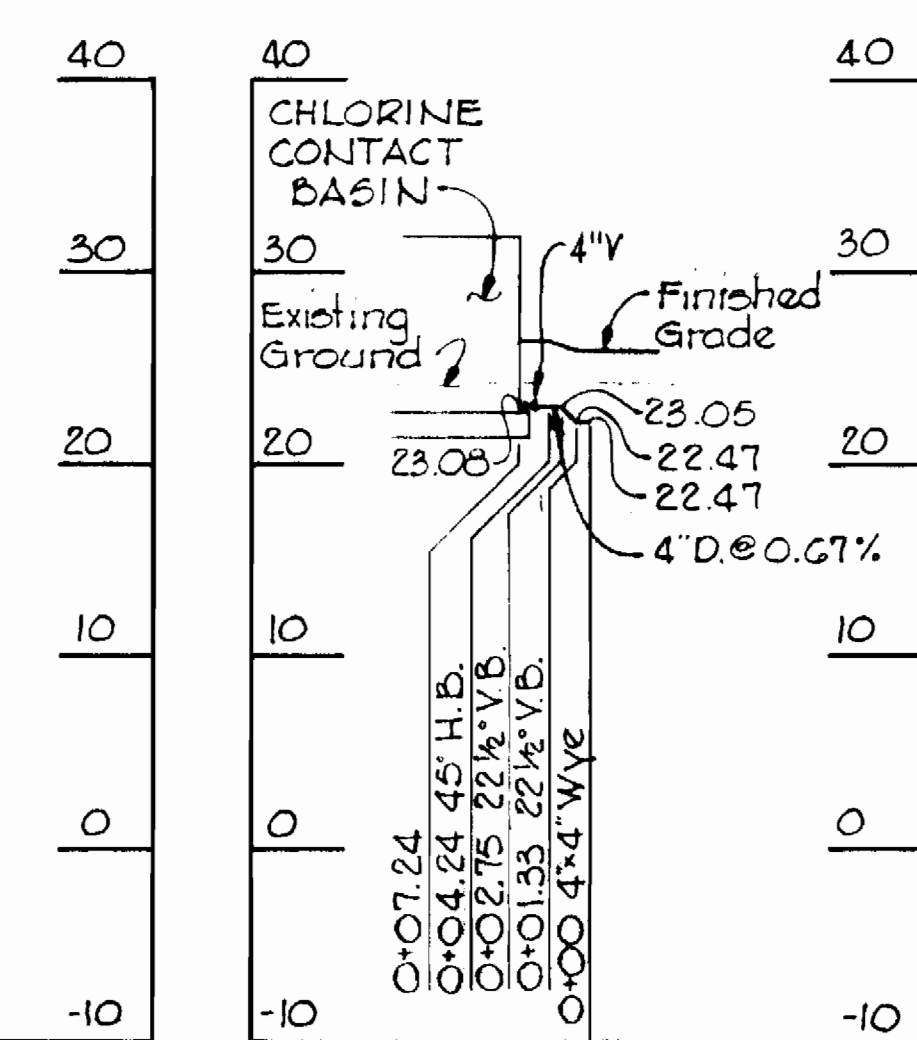
PROFILE 'K'



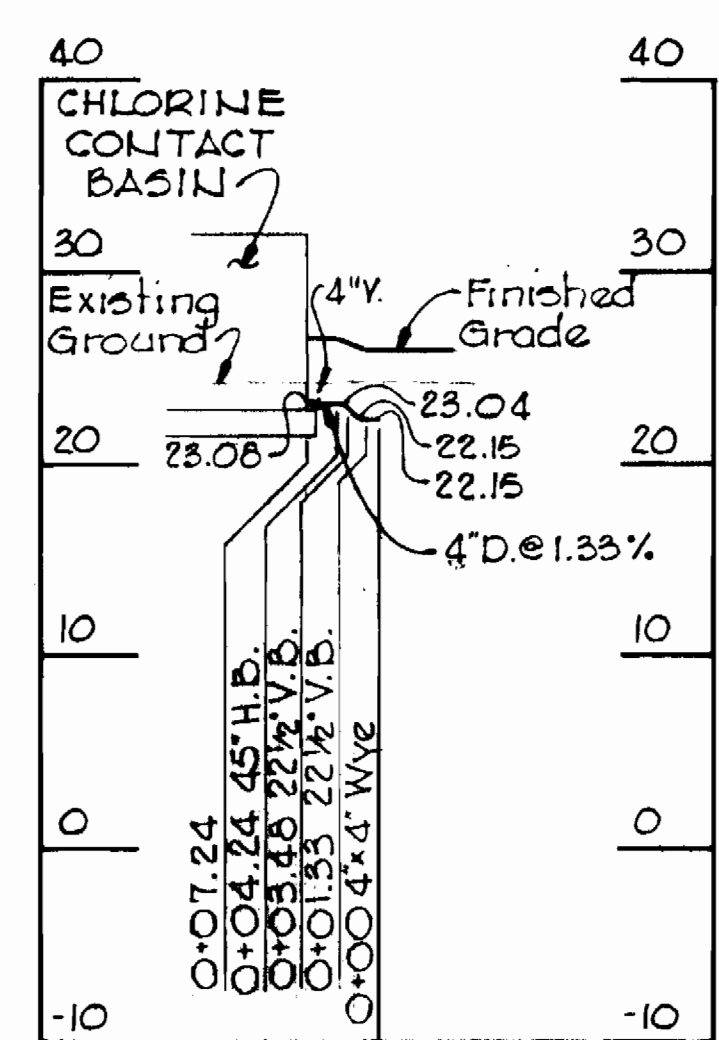
PROFILE 'L'



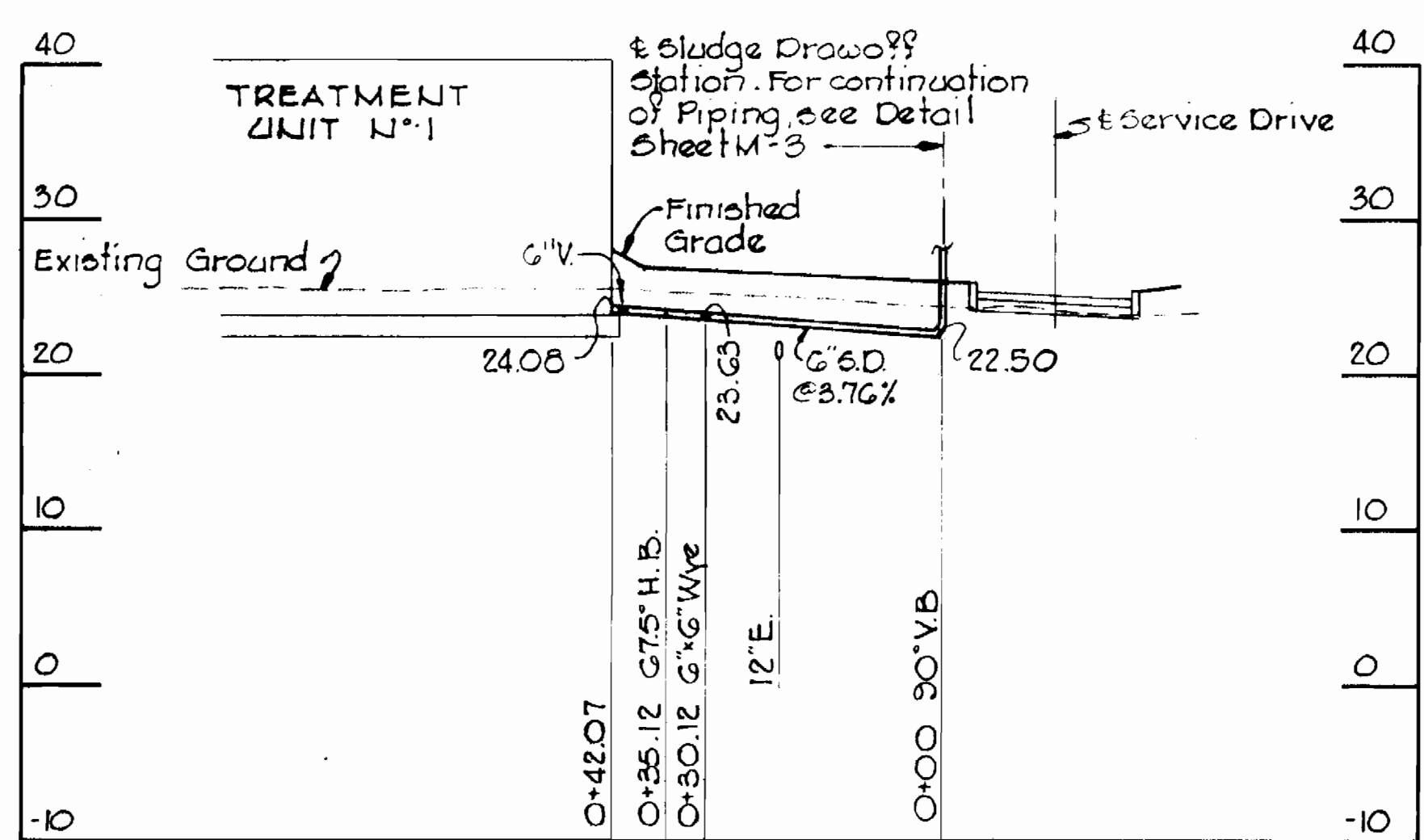
PROFILE 'M'



PROFILE 'N'



PROFILE 'O'



PROFILE 'P'

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CONTRACT NO. 837-S

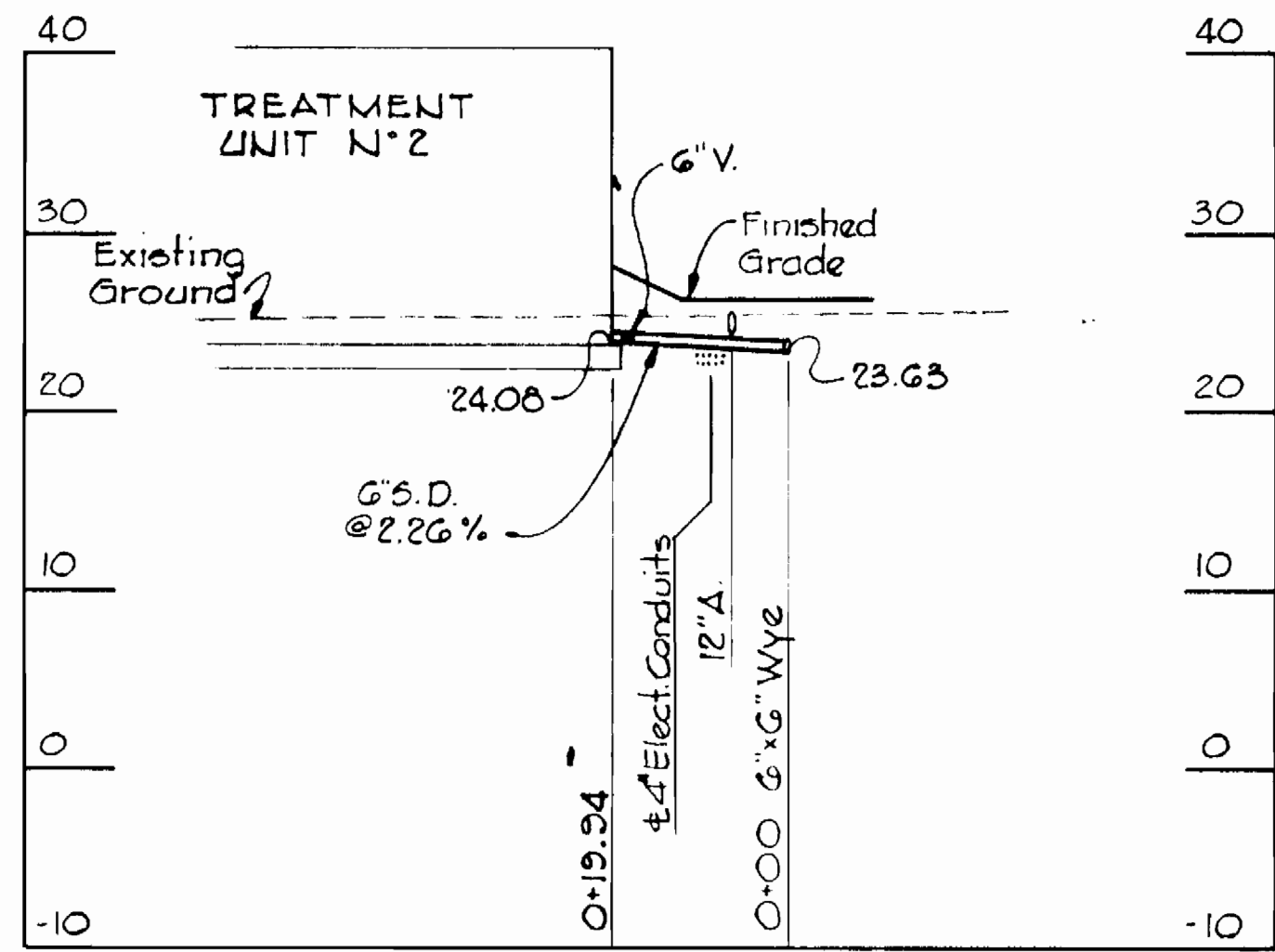
PROFILES

DEEP RUN INTERIM
WASTEWATER TREATMENT PLANT

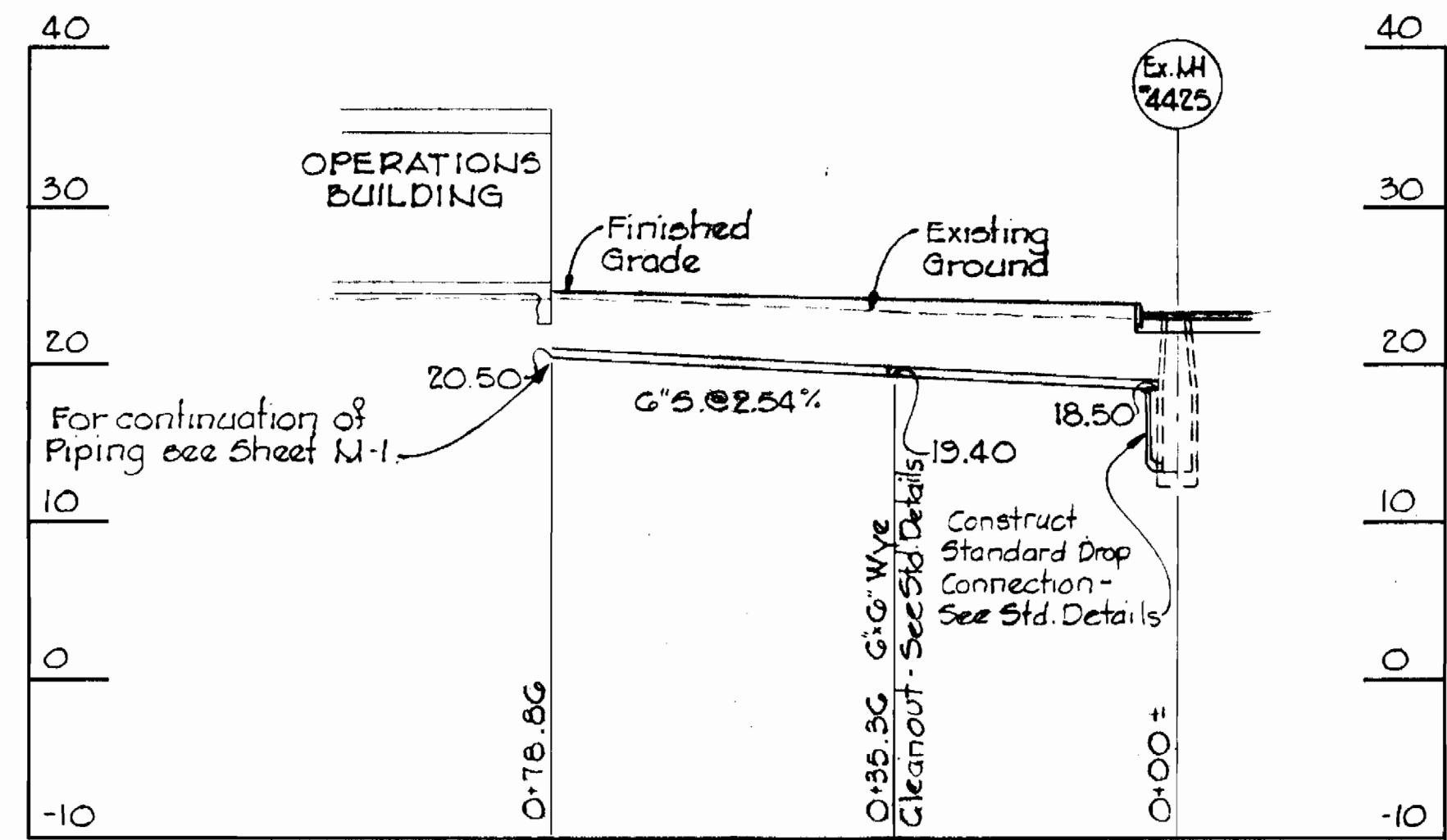
DRAWING
NO. 7
OF 35

SCALE
H: 1"=20'
V: 1"=10'

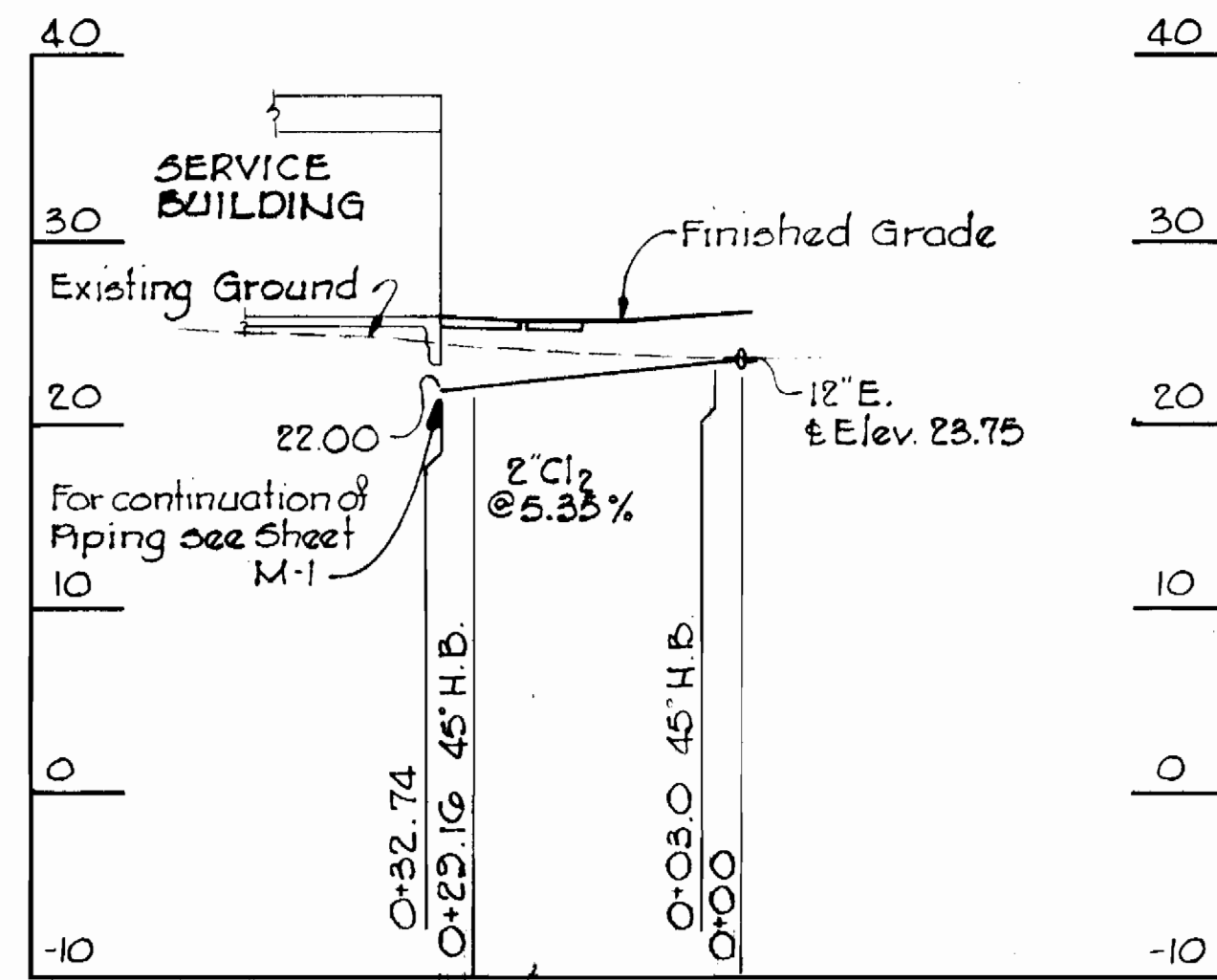
Kenneth McInerney



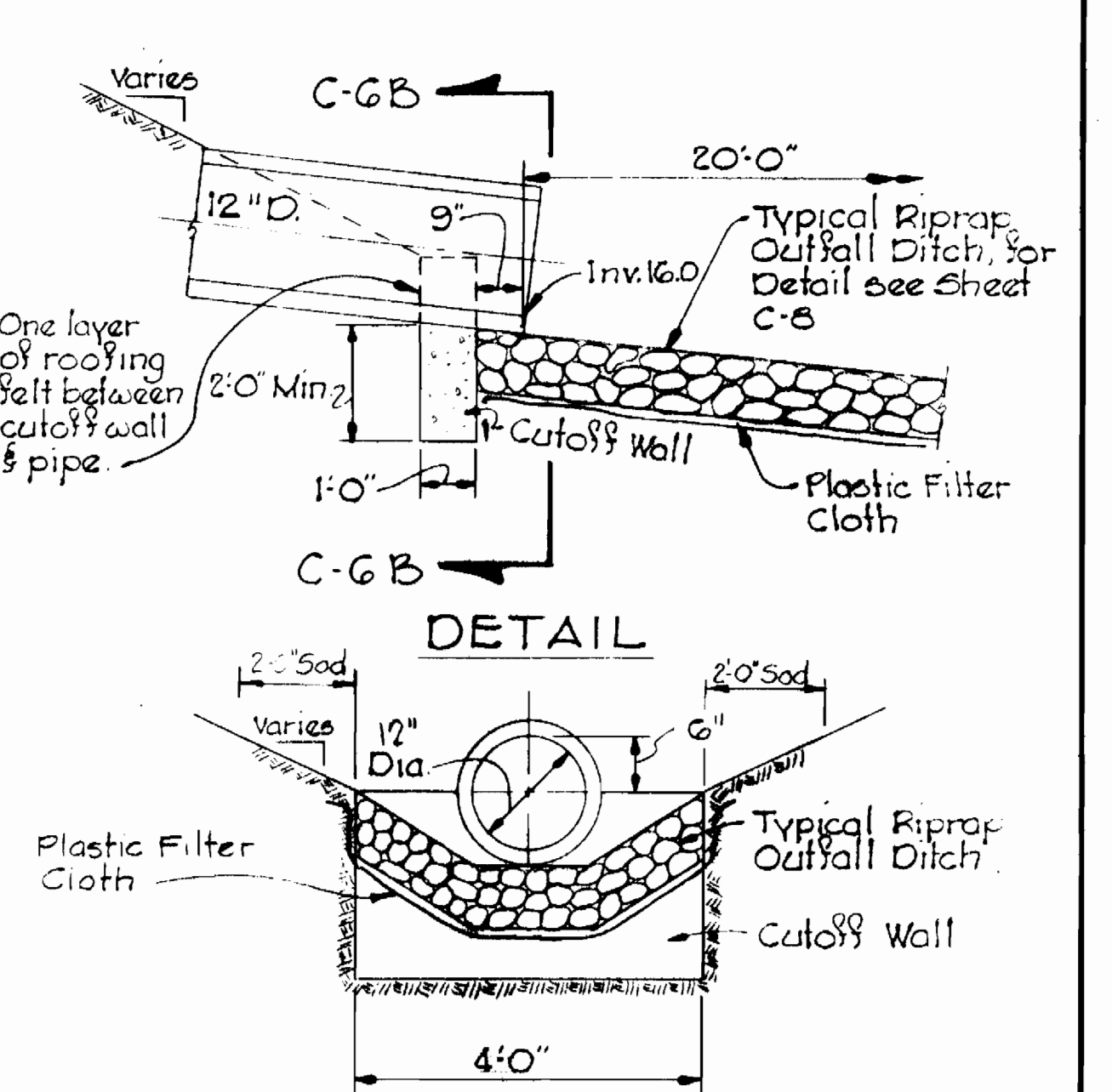
PROFILE 'Q'



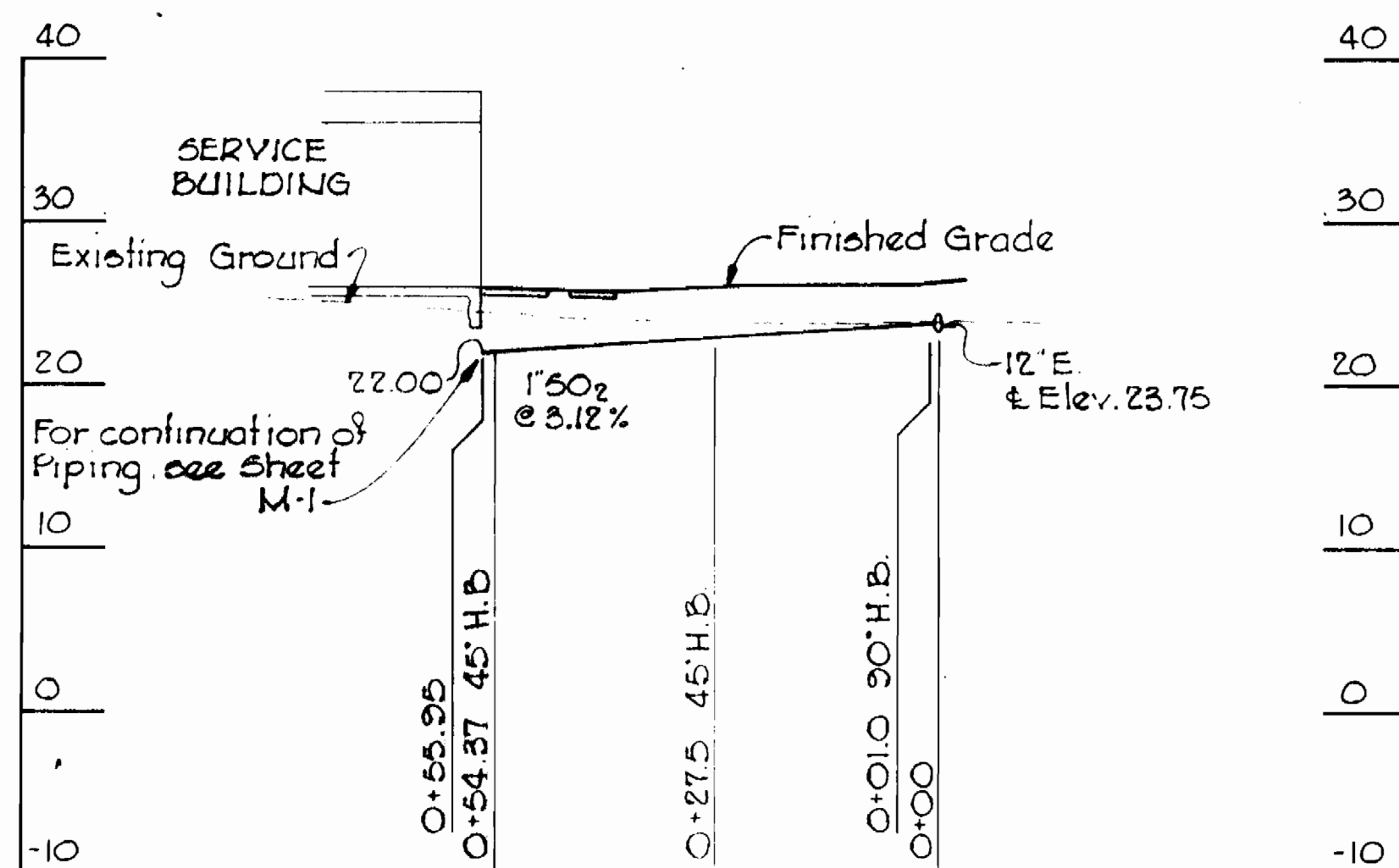
PROFILE 'R'



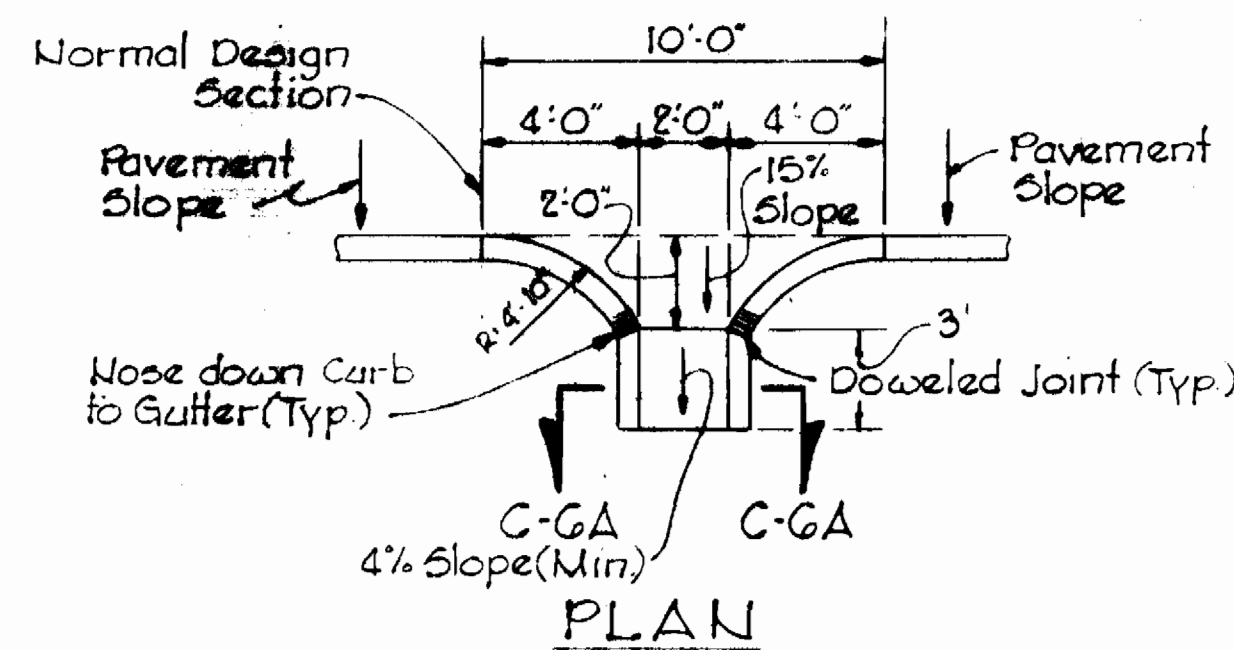
PROFILE 'S'



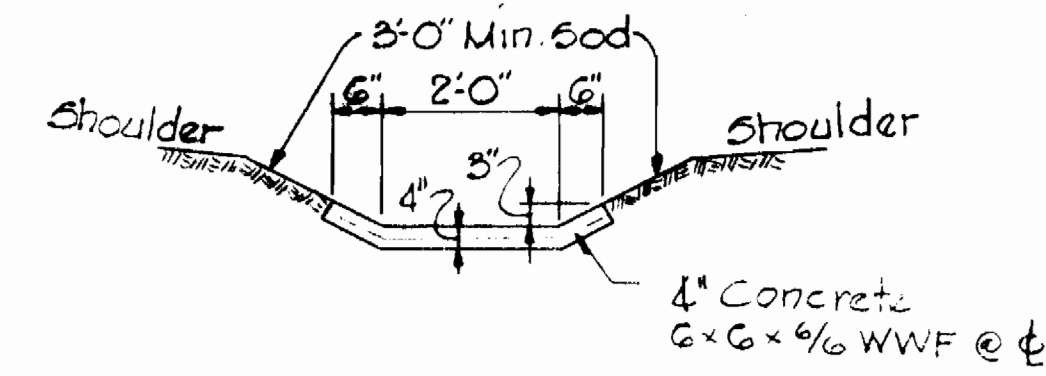
SECTION C-GB/C-G



PROFILE 'T'



DETAIL - CURB OPENING
No Scale



SECTION C-GA/C-G

HEADWALL
No Scale

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CONTRACT NO. 837-S

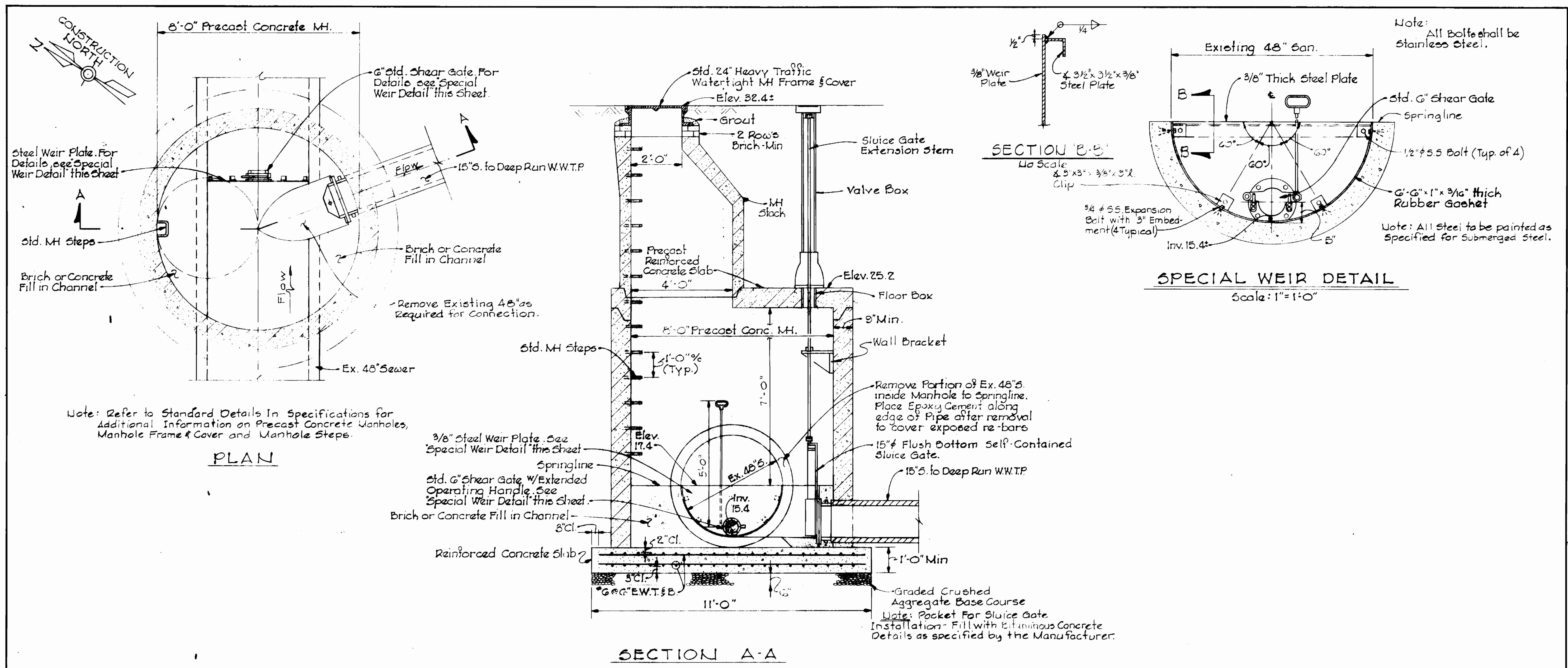
PROFILES & DETAILS

DEEP RUN INTERIM
WASTEWATER TREATMENT PLANT

DRAWING
NO. 8
OF 35

SCALE
H: 1"=20'
V: 1"=10'

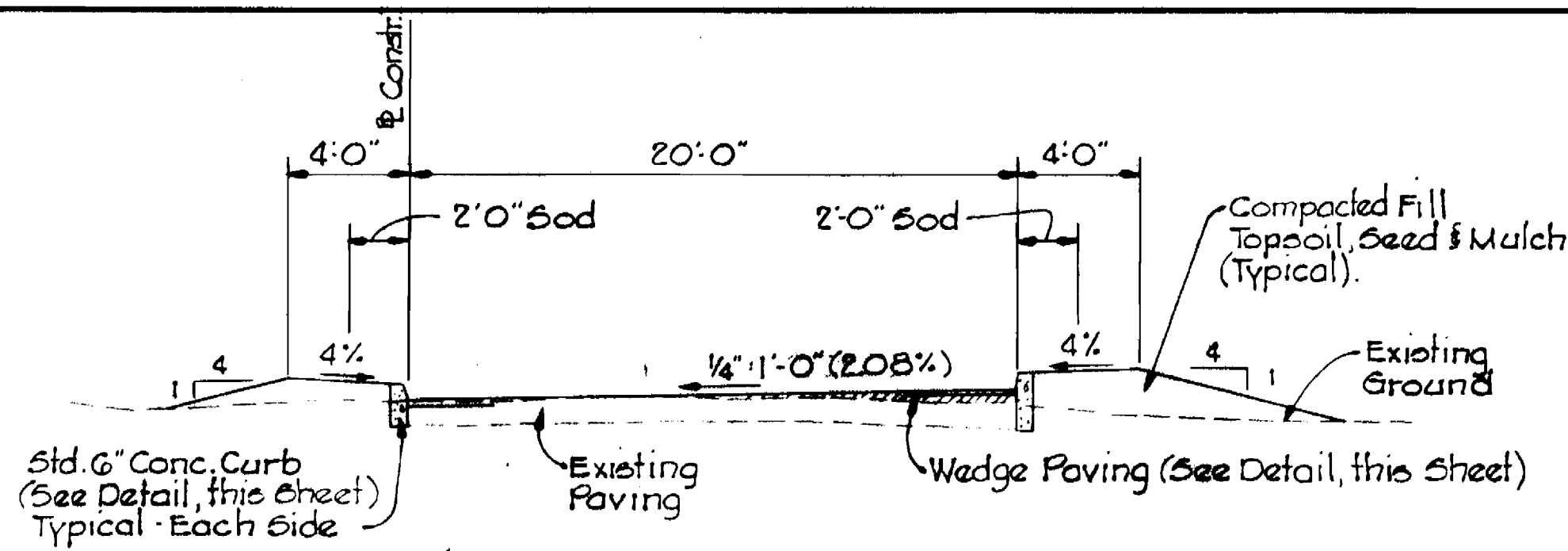
Kenneth A. McLeod



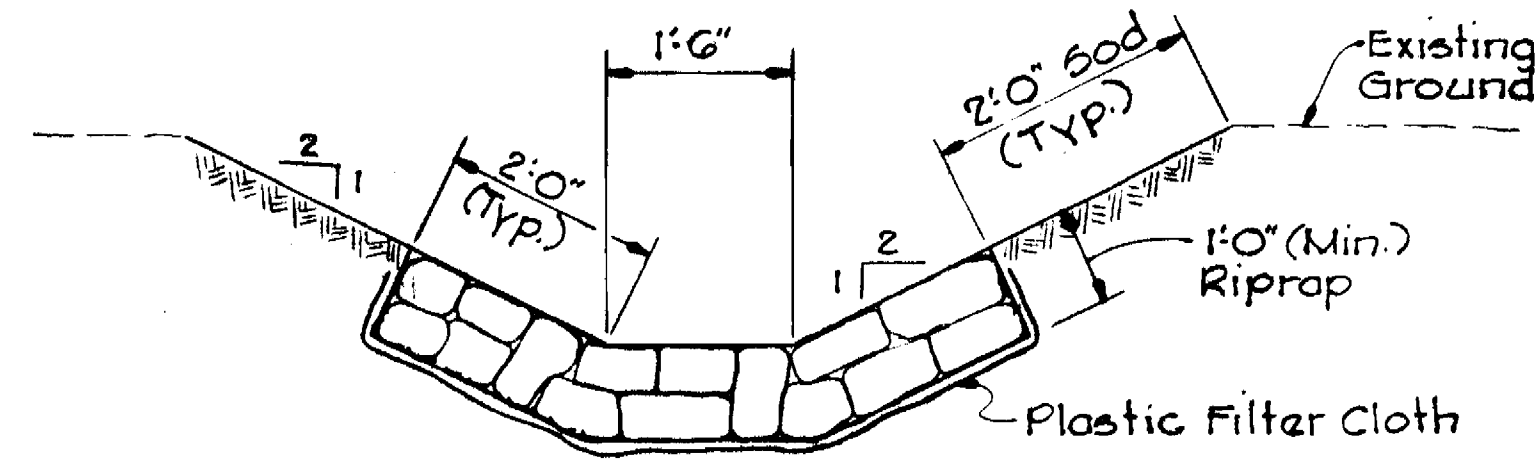
DETAIL - SANITARY MANHOLE S-1
Scale: 1/2" = 1'-0"

Kenneth M. ...

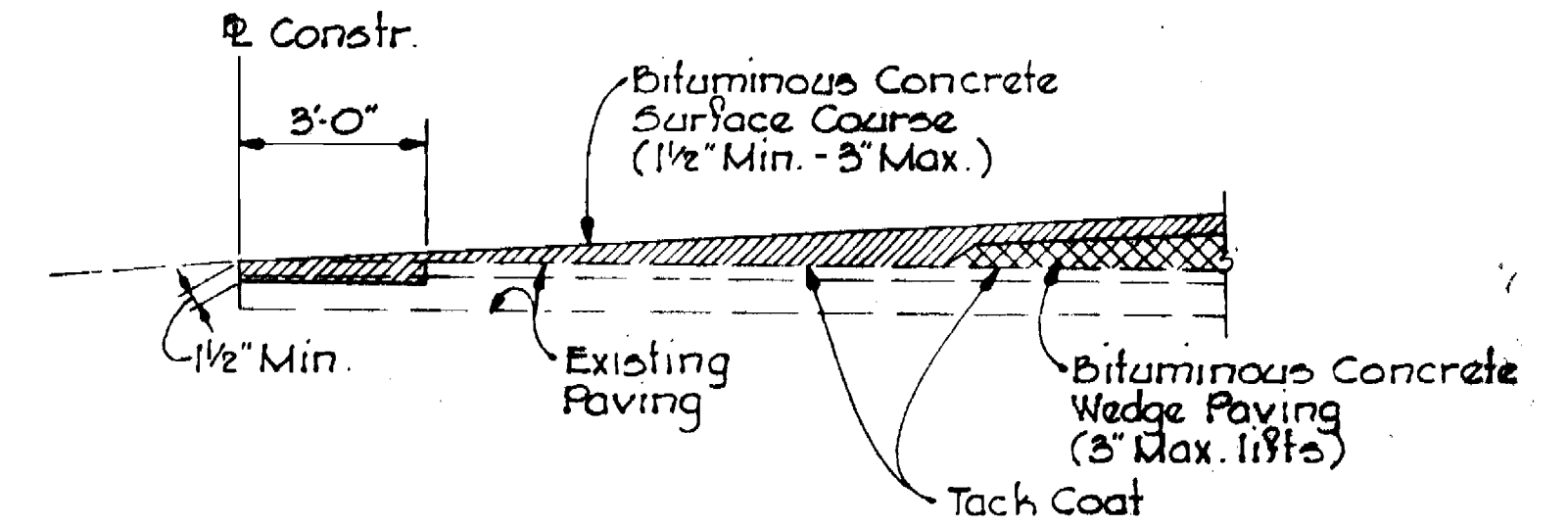
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/6/79 DATE CHIEF - BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 837-S	SECTIONS & DETAILS	DEEP RUN INTERIM WASTEWATER TREATMENT PLANT	DRAWING NO. 9 OF 35 SCALE AS SHOWN
-----------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------	--------------------	--------------------	------------------------------------------------	---------------------------------------



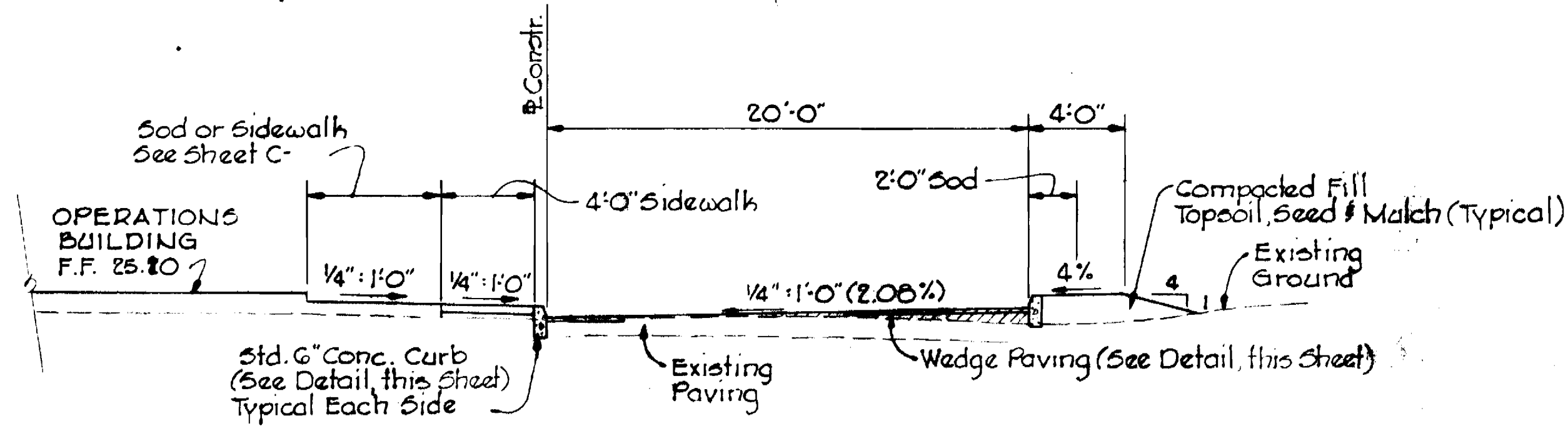
TYPICAL SECTION - CHURCH AVENUE
Sta. 5+44 to Sta. 7+15 & Sta. 8+43 to Sta. 9+70 Survey &
Scale: 1"=5'0"



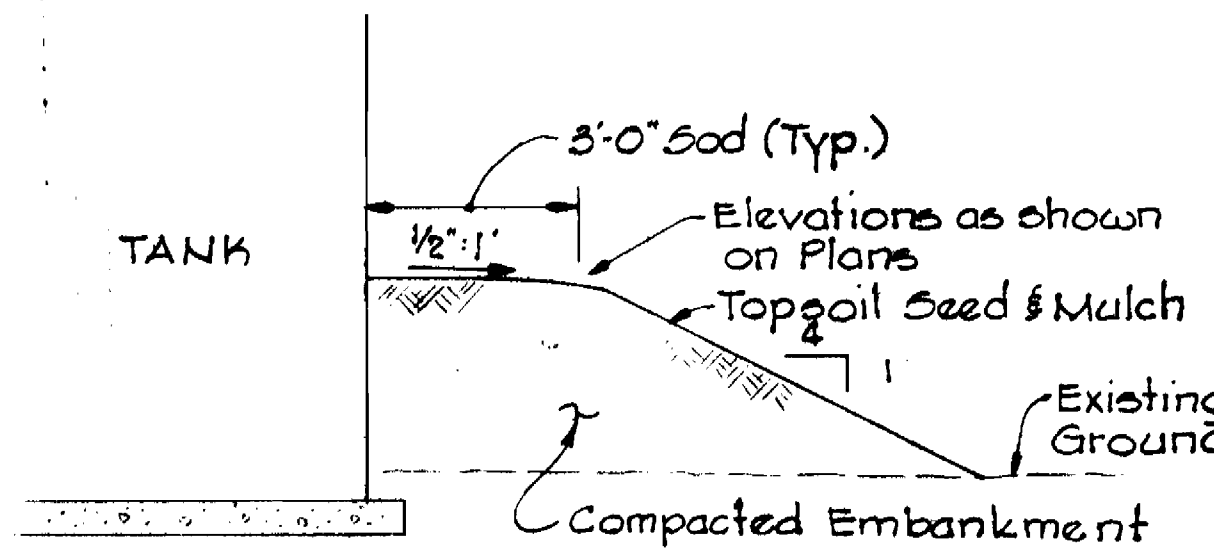
TYPICAL RIPRAP OUTFALL DITCH
No Scale



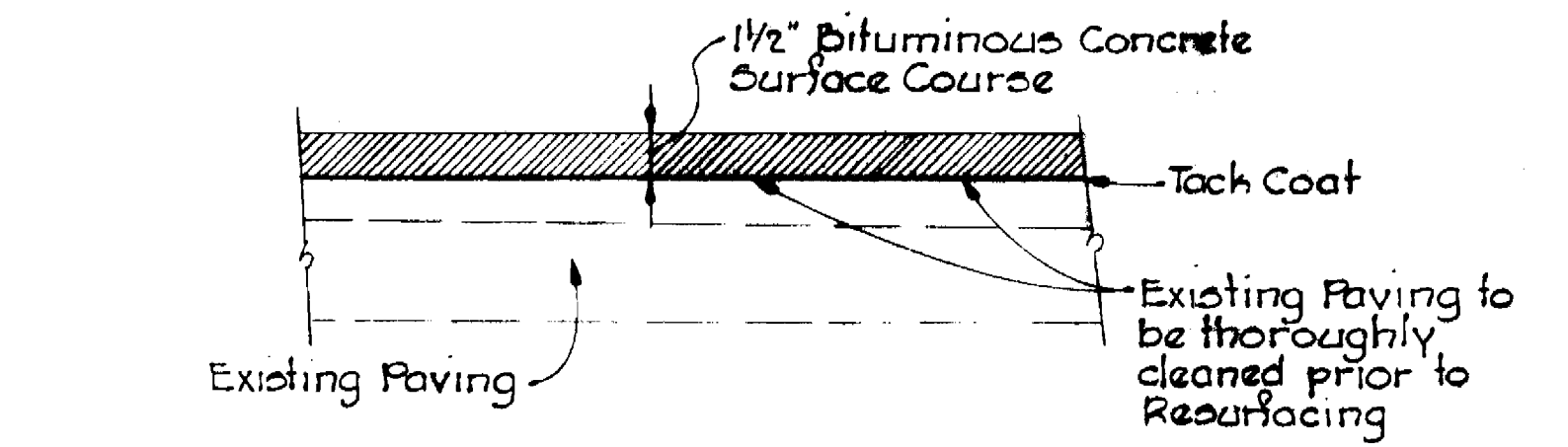
WEDGE PAVING DETAIL
No Scale



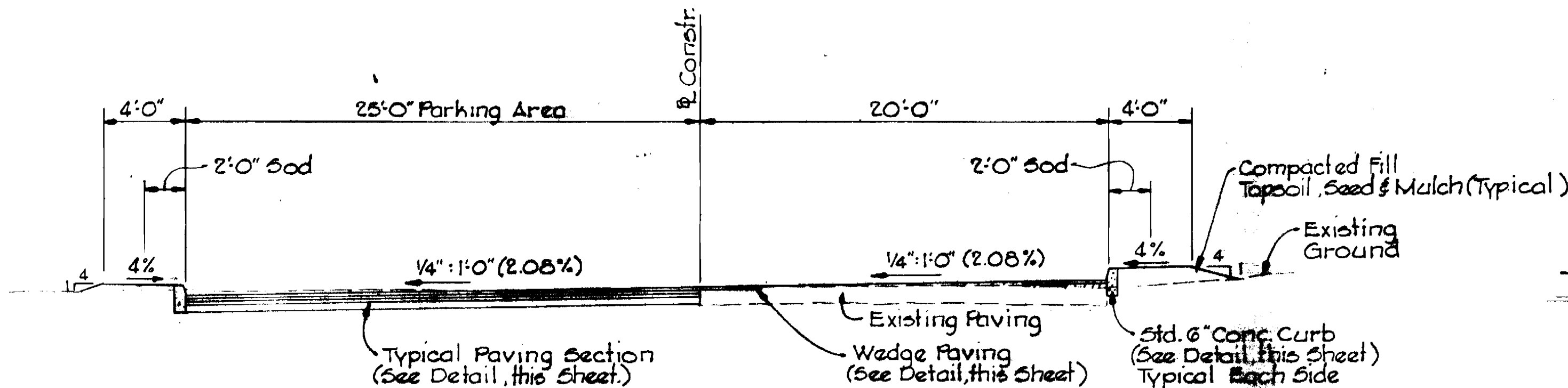
TYPICAL SECTION - CHURCH AVENUE
Sta. 7+15 to Sta. 7+63 Survey &
Scale: 1"=5'0"



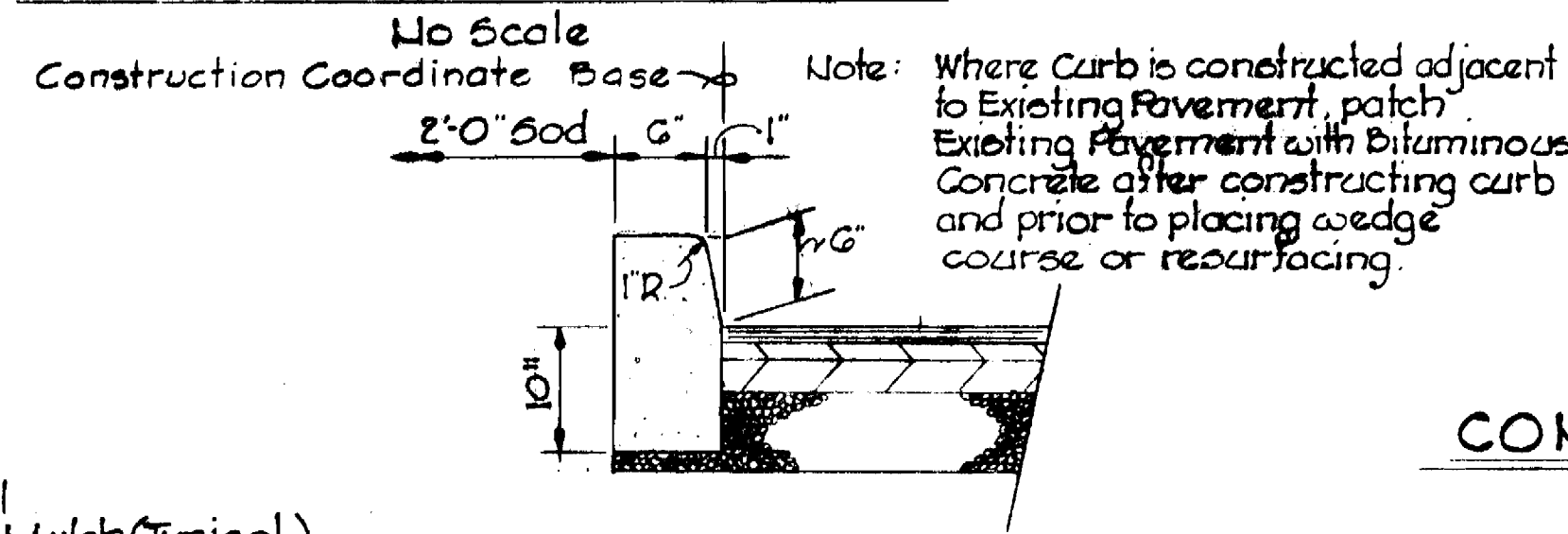
DETAIL - TYPICAL EMBANKMENT FOR EXTERIOR PIPING
No Scale



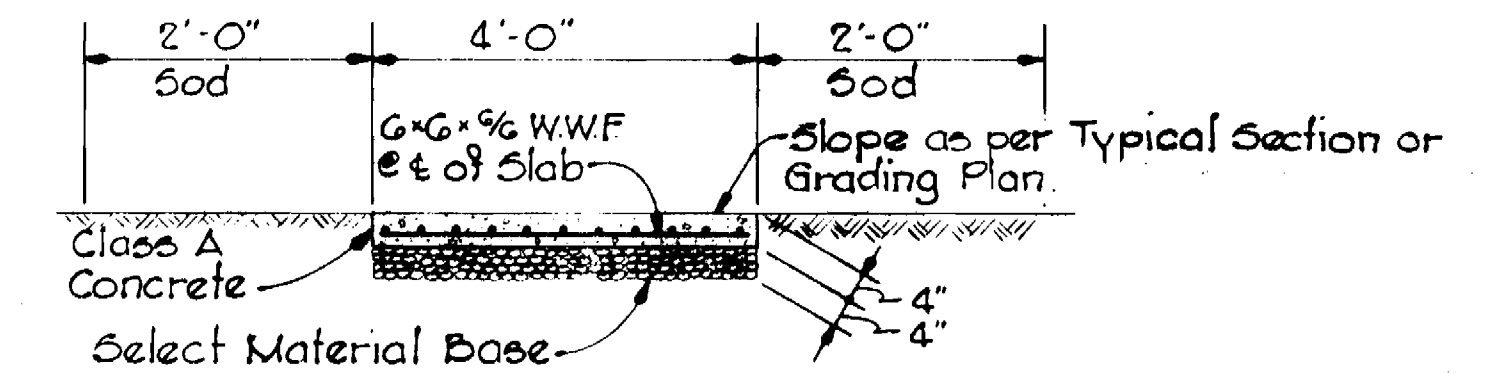
TYPICAL RESURFACING SECTION
CHURCH AVENUE
Sta. 0+00± to Sta. 5+44 & Sta. 9+70 to Sta. 10+46± Survey &
No Scale



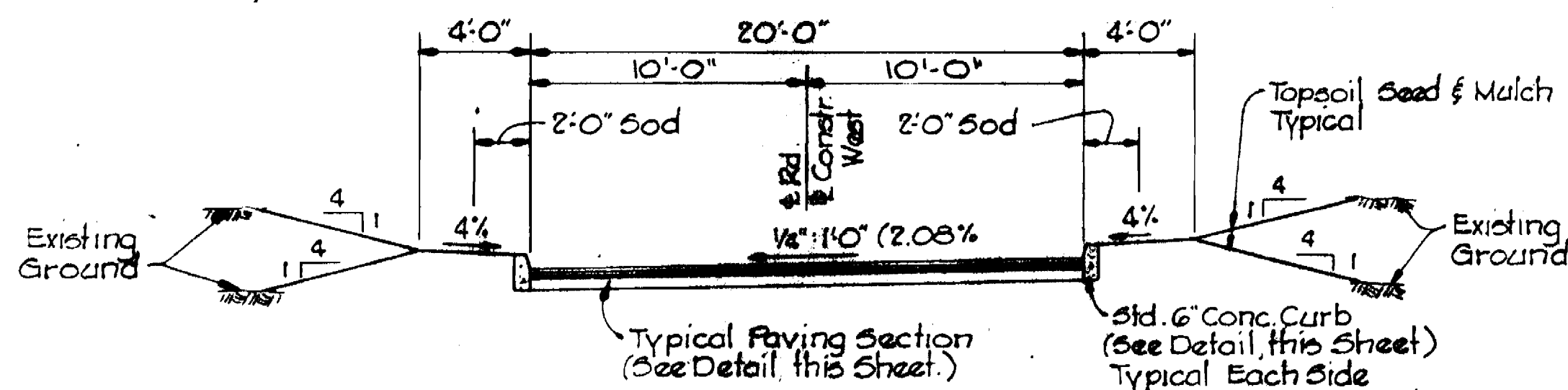
TYPICAL SECTION - CHURCH AVENUE
Sta. 7+63 to Sta. 8+43 Survey &
Scale: 1"=5'0"



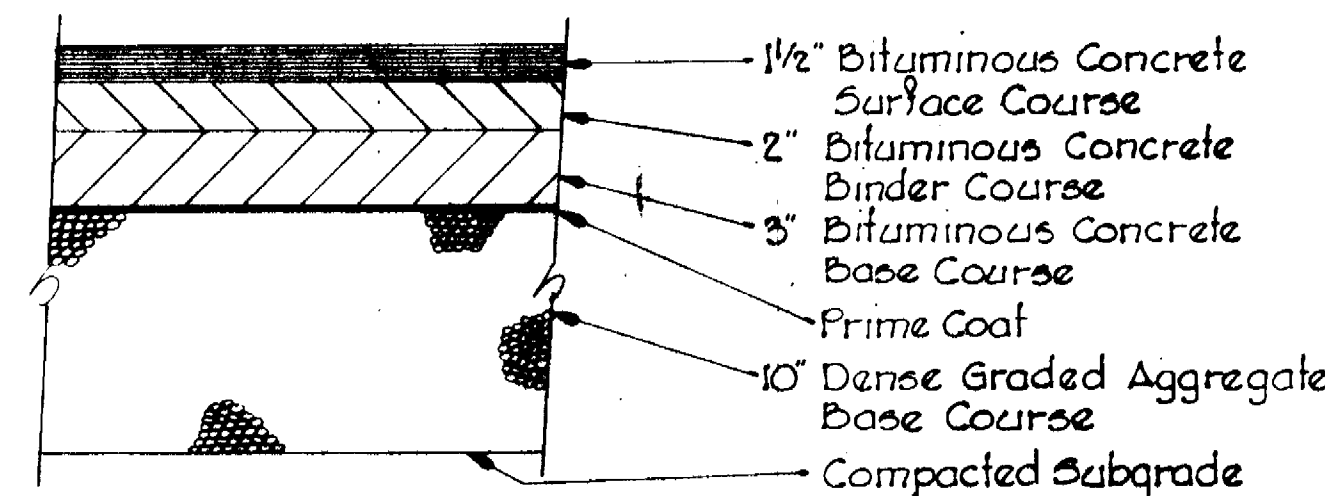
TYPICAL CURB DETAIL
No Scale



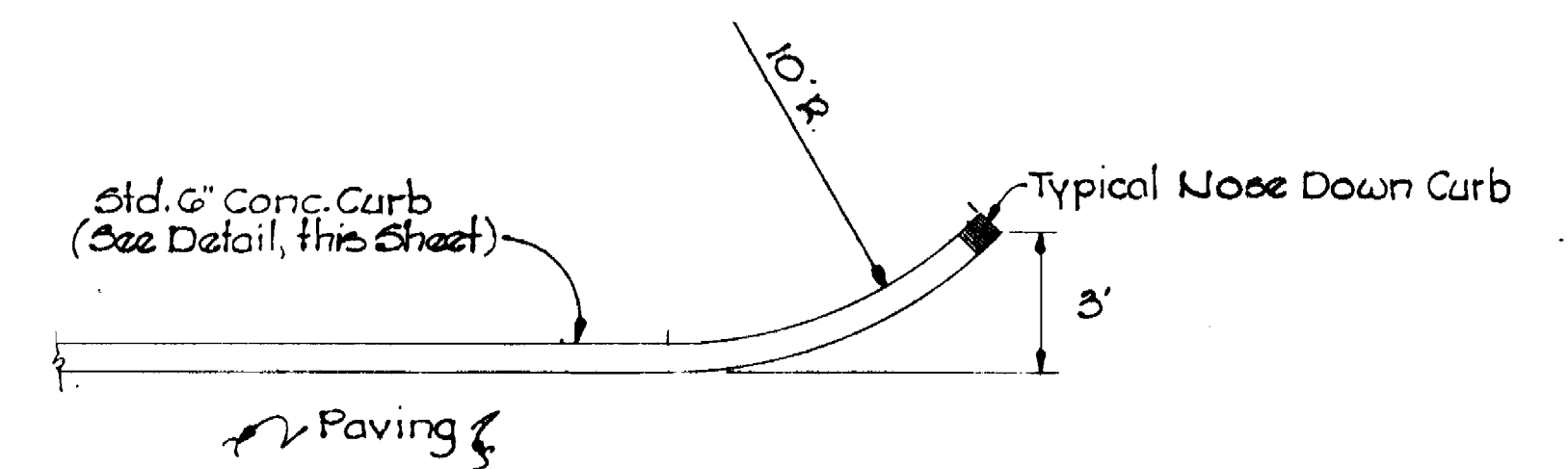
CONCRETE SIDEWALK DETAIL
No Scale



TYPICAL SECTION - SERVICE DRIVE
Sta. 0+20± to Sta. 1+88 & Construction West
Scale: 1"=5'0"



TYPICAL PAVING SECTION
No Scale



TYPICAL FLARED CURB DETAIL
No Scale

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

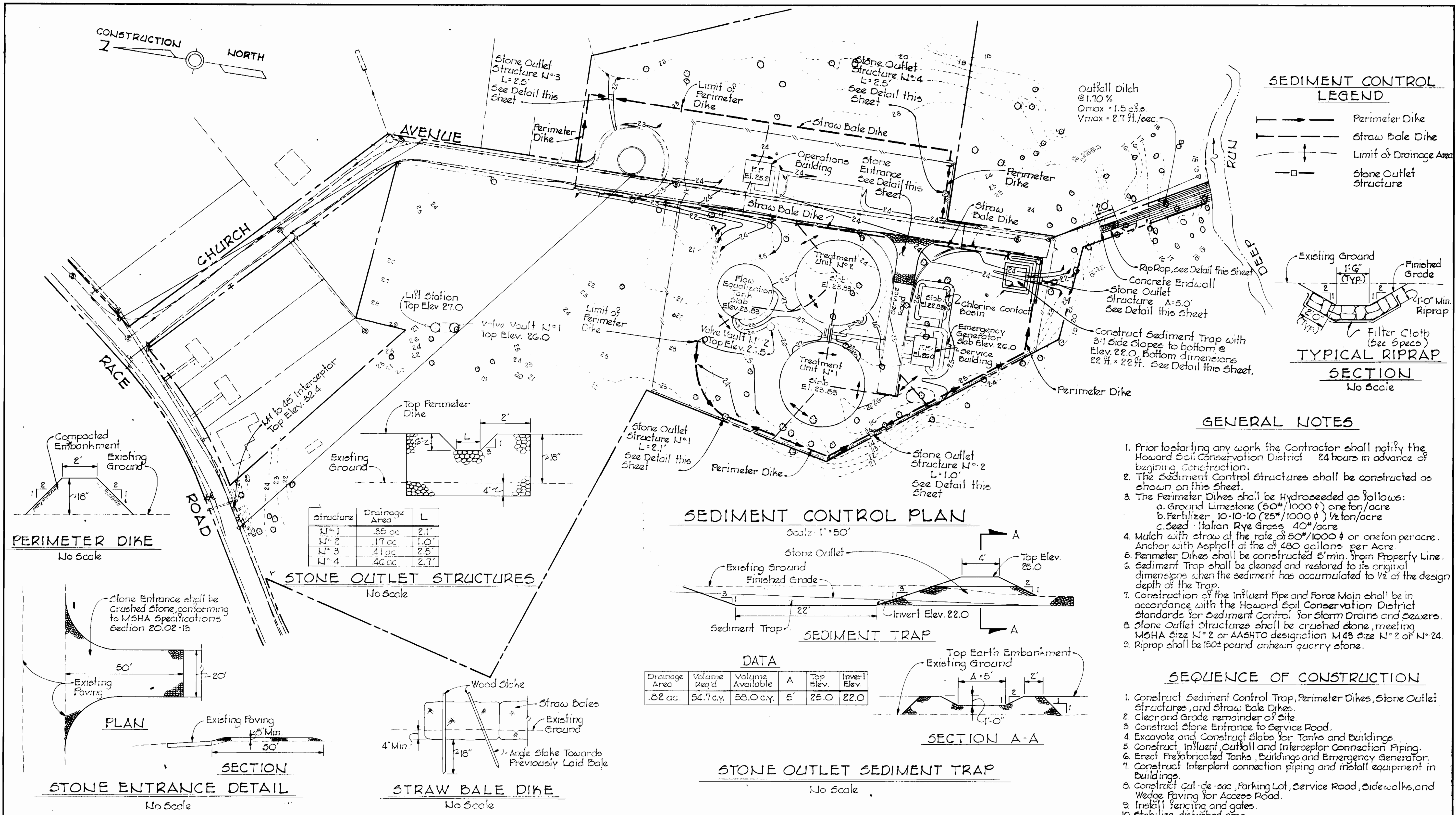
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CONTRACT NO. 837-S

DETAILS

DEEP RUN INTERIM
WASTEWATER TREATMENT PLANT

DRAWING NO. 10
OF 35
SCALE AS SHOWN



CERTIFICATION BY THE DEVELOPER

"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL, AND I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."

W.O. Filbert
WILLIAM O. FILBERT - CHIEF, BUREAU OF ENGINEERING
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

DATE: 2/28/79

CERTIFICATION BY THE ENGINEER

"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

Kenneth A. McCord
KENNETH A. MCCORD, P.E. NO. 1974

DATE: 3/6/79

REVIEWED FOR Howard S.C.D. NAME

AND MEETS TECHNICAL REQUIREMENTS

C. Wayne Ray
C. WAYNE RAY
U.S. SOIL CONSERVATION SERVICE

DATE: 2/28/79

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Robert J. Zich
APPROVED: ROBERT J. ZICH
HOWARD S.C.D.

DATE: 3/20/79

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

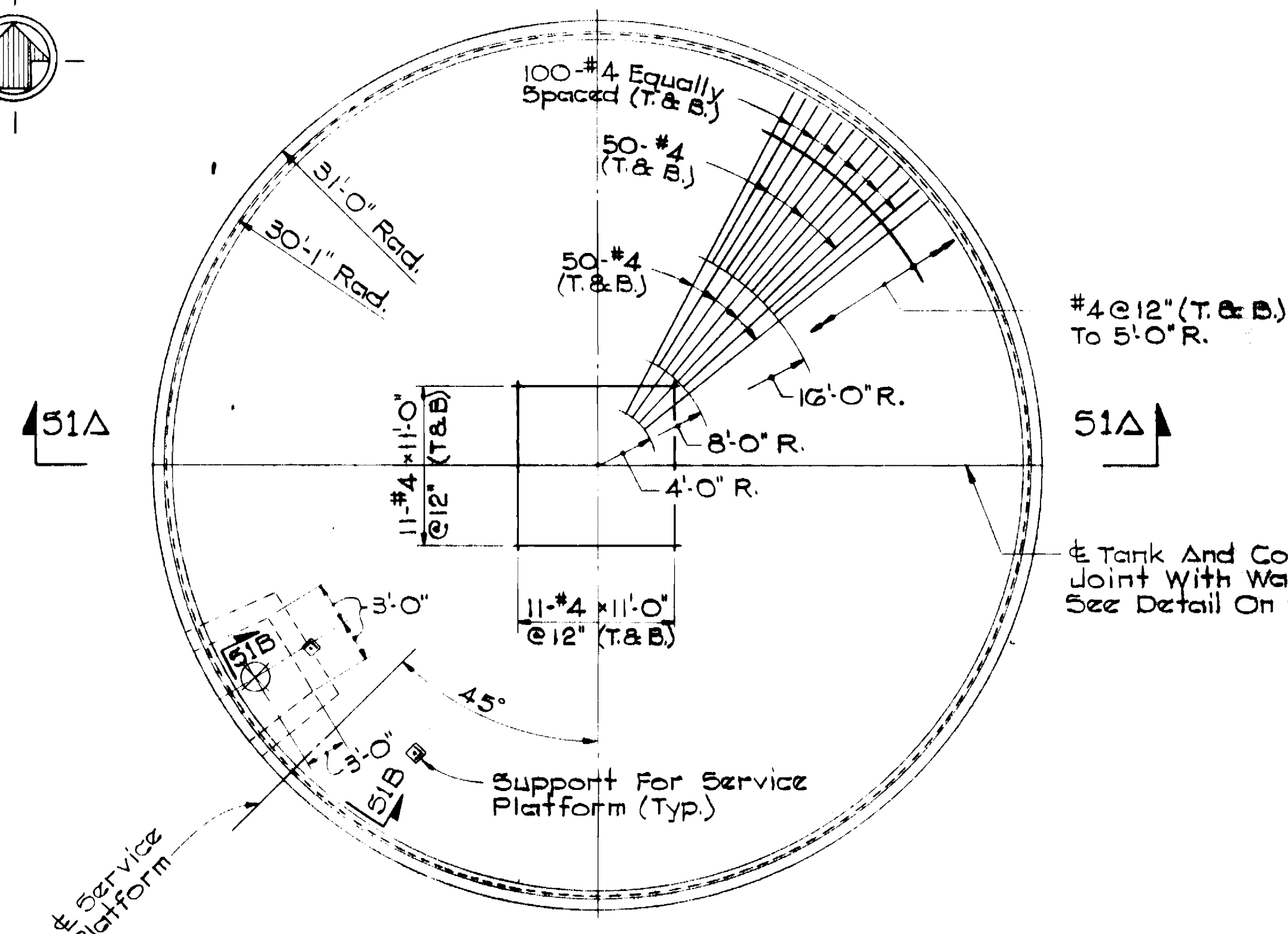
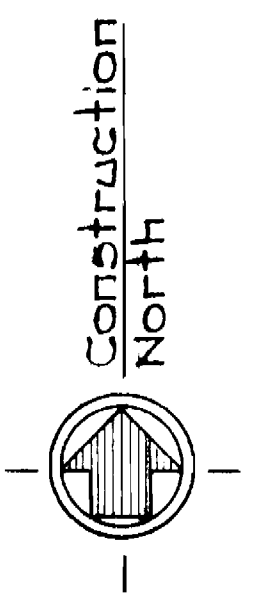
DATE: 3/6/79
CHIEF - BUREAU OF ENVIRONMENTAL SERVICES

CONTRACT NO. 837-S

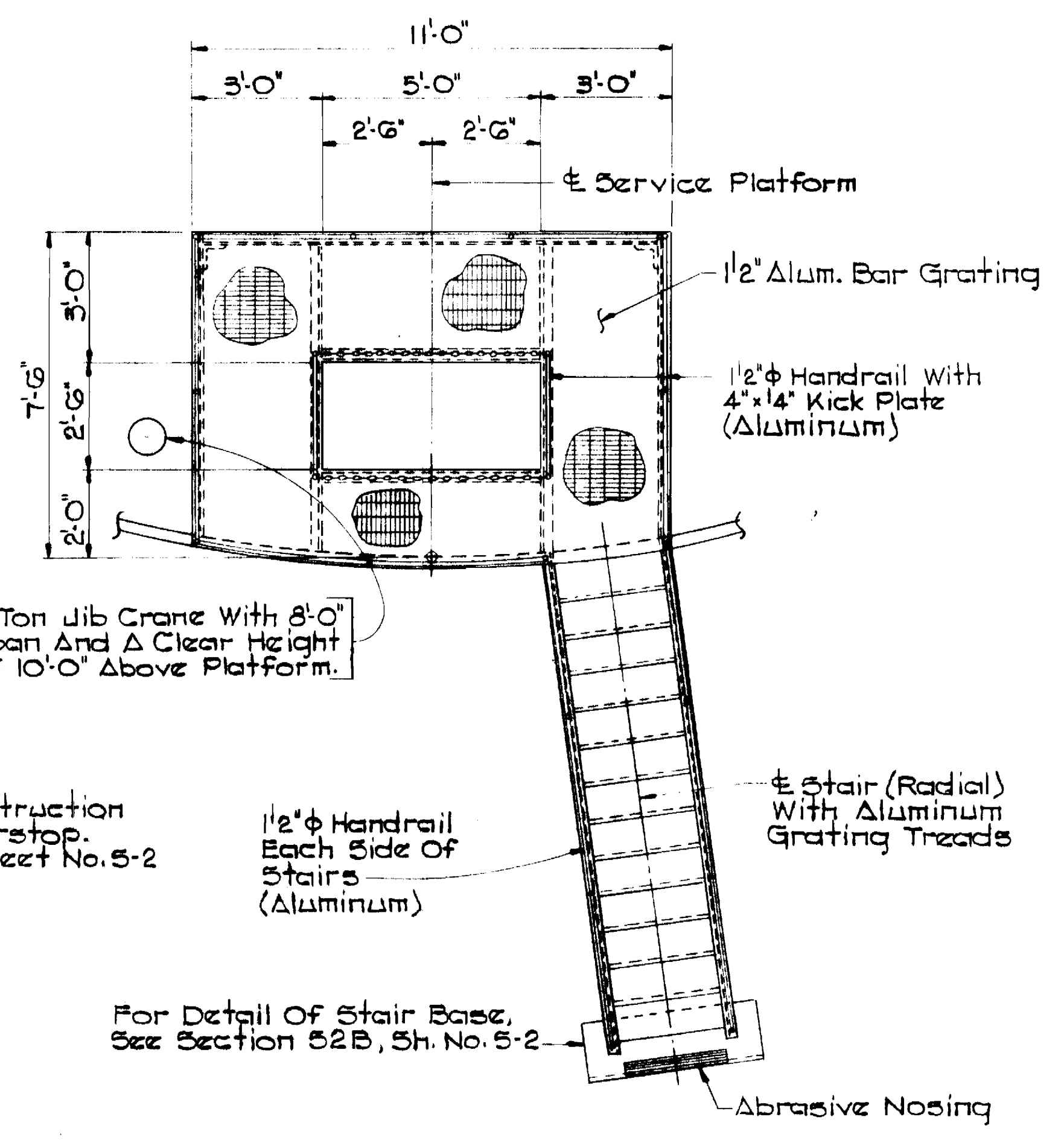
SOIL CONSERVATION PLAN & DETAILS

DEEP RUN INTERIM WASTEWATER TREATMENT PLANT

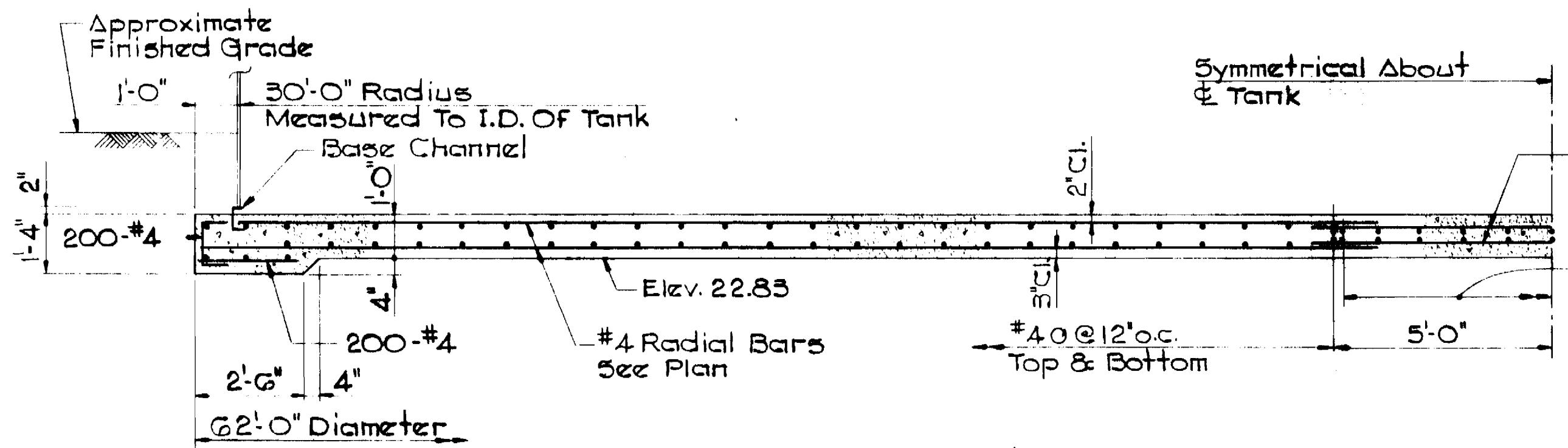
DRAWING NO. <u>11</u> OF <u>35</u>	SCALE AS SHOWN
------------------------------------	----------------



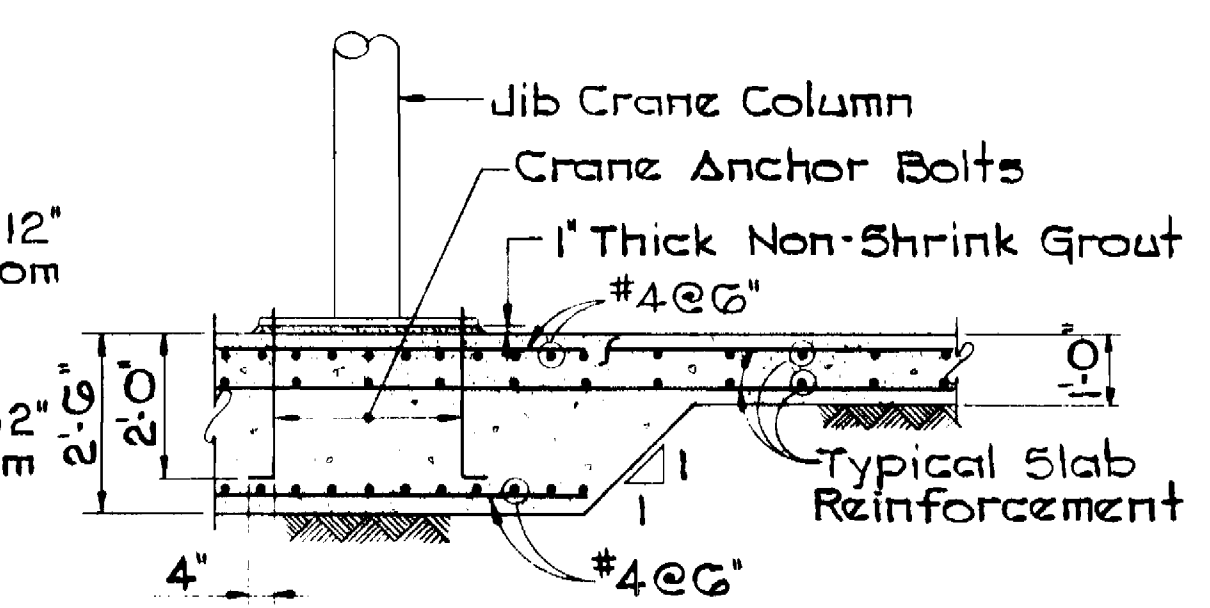
PLAN - FLOW EQUALIZATION TANK
Scale: 1/8" = 1'-0"



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



SECTION 51A/51
Scale: 3/8" = 1'-0"



SECTION 51B/51
Scale: 3/8" = 1'-0"

BASE CHANNEL NOTES

1. Top Surface Of Base Channel To Be Level $\pm 1/8"$.
2. Diameter Of Base Channel Ring To Be Held To A Tolerance Of $\pm 1/4"$.
3. All Base Channel Joints Shall Be Continuously Welded And Watertight.
4. Base Channels To Be Supported With L 3/2" x 3/2" x 1/4" Or Approved Equivalent. There Shall Be A Minimum Of Three (3) Supports Per Base Channel Section.

FOUNDATION NOTES

1. All Excavations Shall Be Inspected And Approved By The Engineer Before Placing Any Concrete.
2. Any Excavation Below The Elevation Of The Concrete Shall Be Filled With Compacted Crushed Stone Or Gravel.
3. For Mechanical And Electrical Work To Be Incorporated In Foundation Work, See Mechanical And Electrical Drawings.
4. All Excavations Shall Be Kept Dry. Water Shall Not Be Allowed To Stand In Excavations.
5. All Foundations Have Been Designed For A Maximum Soil Bearing Capacity Of 2000 psf.

CONCRETE NOTES

1. All Concrete Shall Have A Minimum Compressive Strength Of 3000 psi At 28 Days.
2. Reinforced Concrete Shall Be Detailed And Constructed In Accordance With The Current "A.C.I. Standard Building Code Requirements For Reinforced Concrete" (318-71). The Ultimate Strength Design Method Has Been Used For Structures Not In Contact With Or Immediately Adjacent To Sewage. The Service Load Design Method Has Been Used For Structures In Contact With Or Adjacent To Sewage.
3. All Reinforcement Shall Be Grade 60 And Conform To A.S.T.M. Specification A615-75.
4. Chamfer All Exposed Edges 3/4" Unless Otherwise Noted.
5. The Contractor Shall Submit Shop Details Of Reinforcing Steel Before Proceeding With Fabrication.
6. Reinforcing Steel Shall Be Detailed In Accordance With A.C.I. 315-74, Manual Of Standard Practice For Detailing Reinforced Concrete Structures Except Where Shown Otherwise.
7. Concrete Slabs Shall Be Poured Between Indicated Joints Allowing A Minimum Period Of 3 Days To Elope Between Adjacent Pours.
8. Construction Joints Shall Be As Detailed On The Drawings And No Additional Joints Shall Be Used Nor Any Omitted Except By Written Authorization Of The Engineer.
9. All Waterstops Shall Be 3/8" Thick P.V.C. 2-Bulb Type. See Specifications For Other Requirements.
10. Anchor Bolts And Equipment Pedestals Shall Be Sized And Located As Required To Suit Equipment Furnished.
11. See Civil, Mechanical, And Electrical Drawings For All Embedded Items, Such As Sleeves, Anchors, Electrical Conduits, Openings, Etc., Which Interfere With Concrete Construction.

MISCELLANEOUS STEEL NOTES

1. All Structural Steel Shall Conform To A.S.T.M. Designation A-36.
2. All Structural Steel Has Been Designed By Elastic Analysis And Shall Be Fabricated In Accordance With The Current A.I.S.C. Specification For The Design, Fabrication, And Erection Of Structural Steel For Buildings.
3. The Contractor Shall Submit Erection Plans And Shop Details Before Proceeding With Fabrication.
4. All Shop Connections Shall Be Welded With Electrodes As Specified. All Field Connections Shall Be High Strength Bolted, Using A-325 Bolts Except Where Noted.
5. Except Where Otherwise Noted On The Drawings, Connections Of Framing Members Shall Be Capable Of Transferring The Full Strength Of The Member Using 3/4" Diameter High Strength Bolts, Where Threading Is Excluded From Shear Planes. High Strength Bolted Connections Shall Be Designed As Bearing Type Connections. Shop Side Of Connection Angles May Be Fillet Welded All Around Resulting In A Connection Of Equal Strength With The Bolted Connection.
6. Mill Bottom Of All Columns And Finish Top Of All Base Plates In Accordance With A.I.S.C. Specifications. Base Plates Shall Be Welded To Bottom Of Columns.

DESIGN LOADS

- Dead Loads
- Actual Weight Of Structure And Equipment
 - Weight Of Soil - 100 pcf To Resist Uplift
 - 120 pcf Dead Load
- Live Loads
- Floor - 125 psf In Areas Not Occupied By Equipment
 - Equipment - Actual Weight - 125 psf Minimum
 - Walkways And Stairways - 100 psf
 - Storage Areas - 300 psf
 - Handrail - 200 lbs In Any Direction, At Any Point Or 50 lb/ft On The Top Rail
 - Roof - 30 psf Snow
 - 20 psf
 - Elev. 24.0
- Wind Load
Flood Level

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

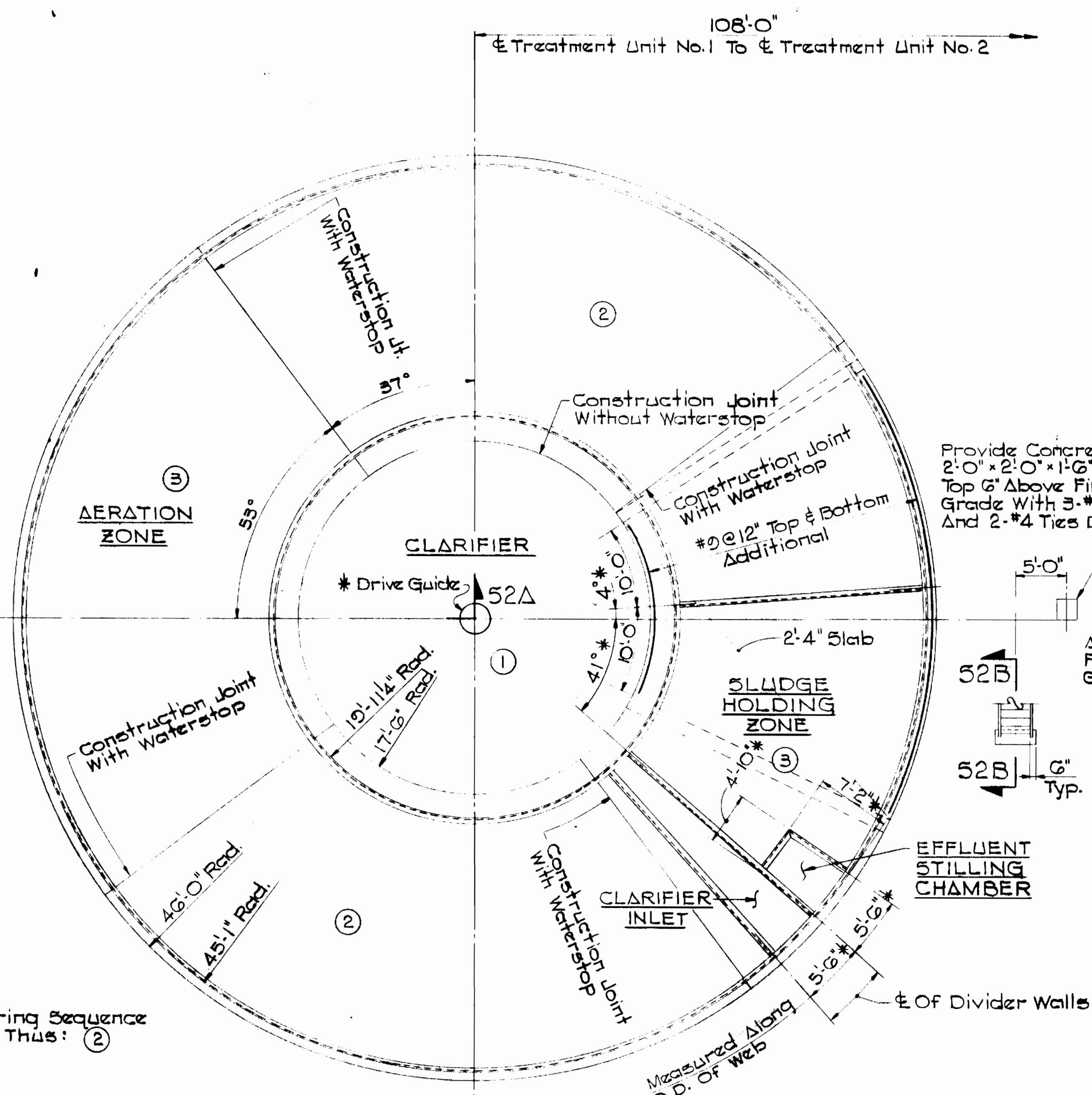
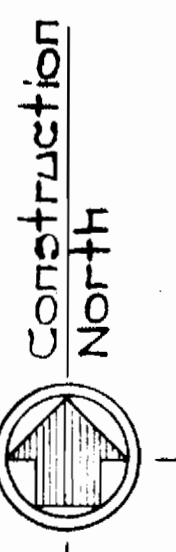
CONTRACT NO. 837-S

FLOW EQUALIZATION TANK
PLANS AND SECTIONS

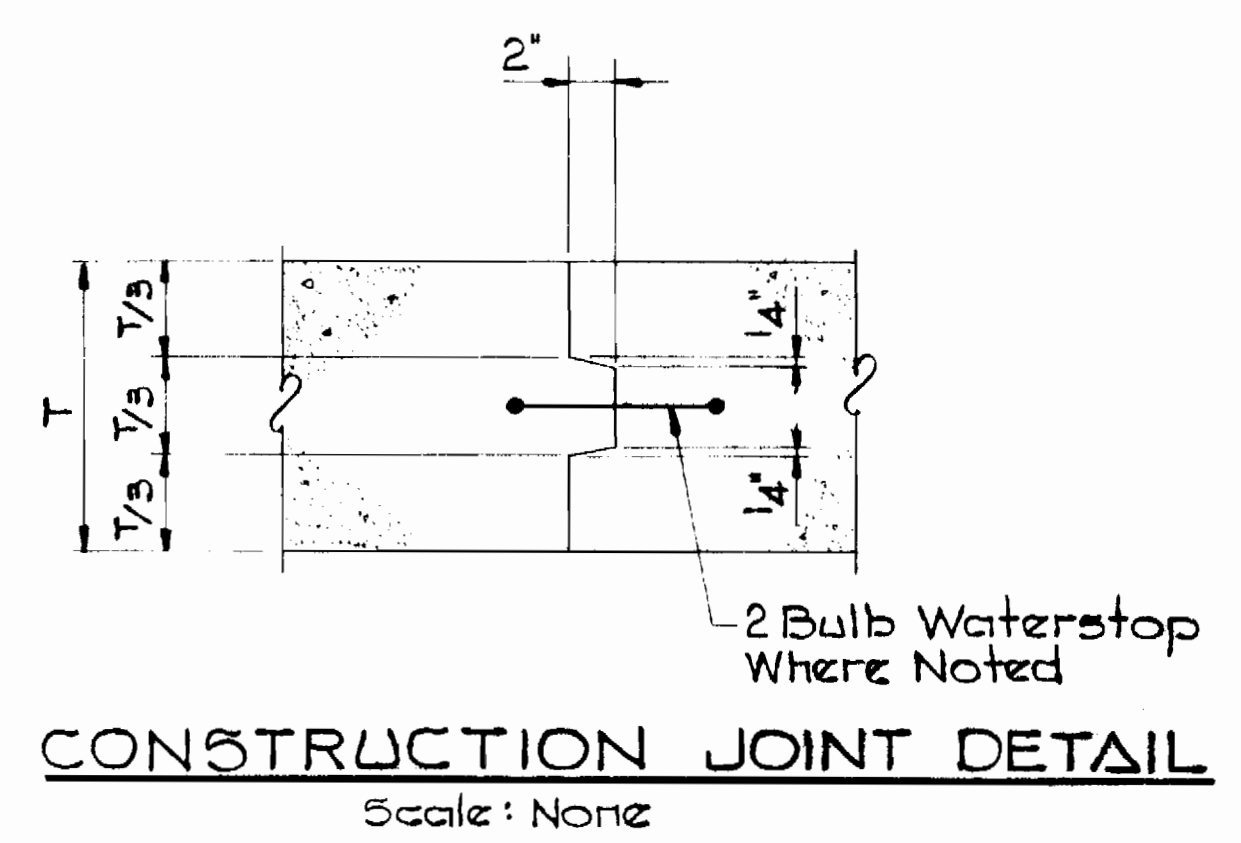
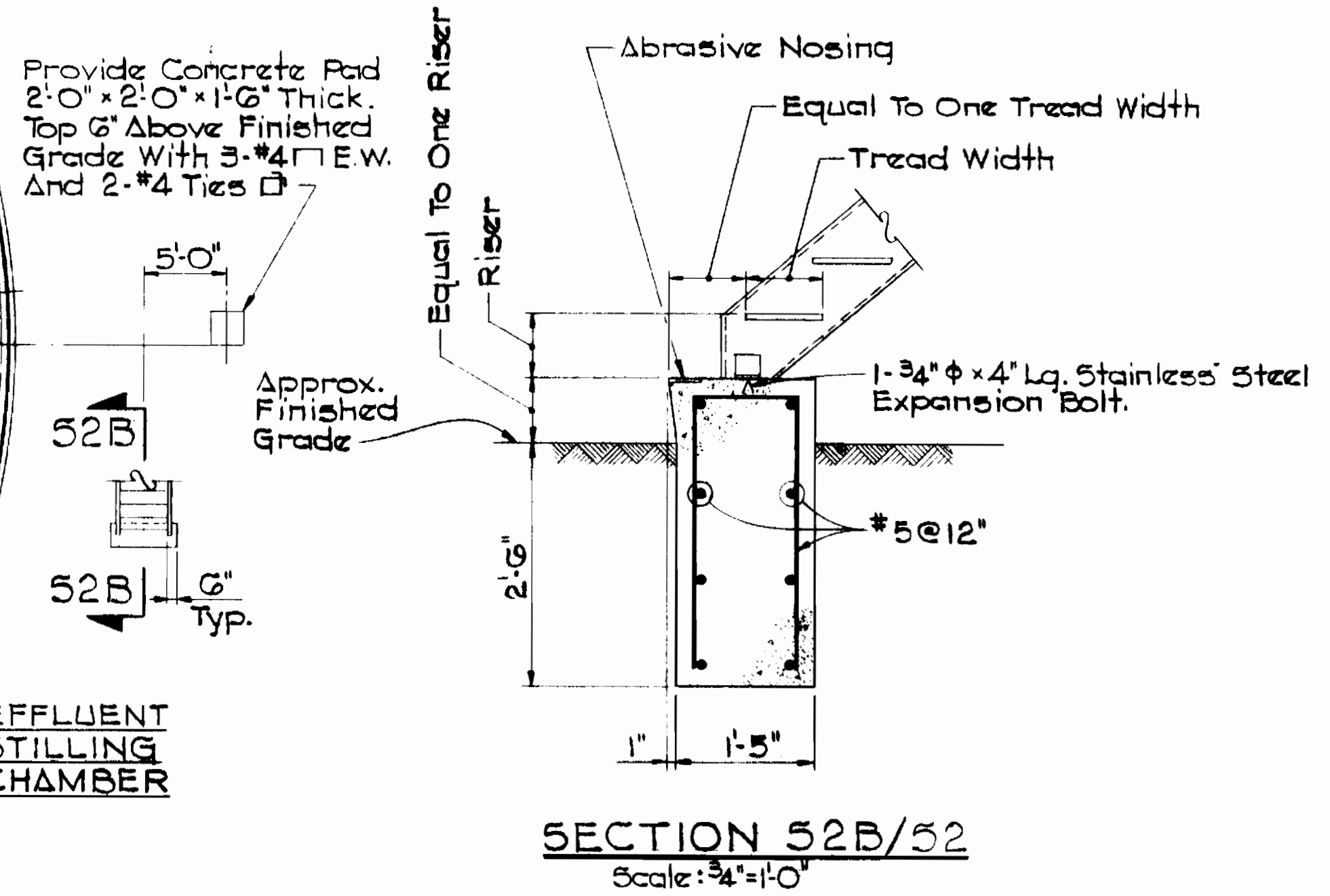
DEEP RUN INTERIM
WASTEWATER TREATMENT PLANT

DRAWING NO. 12 OF 35
SCALE AS SHOWN



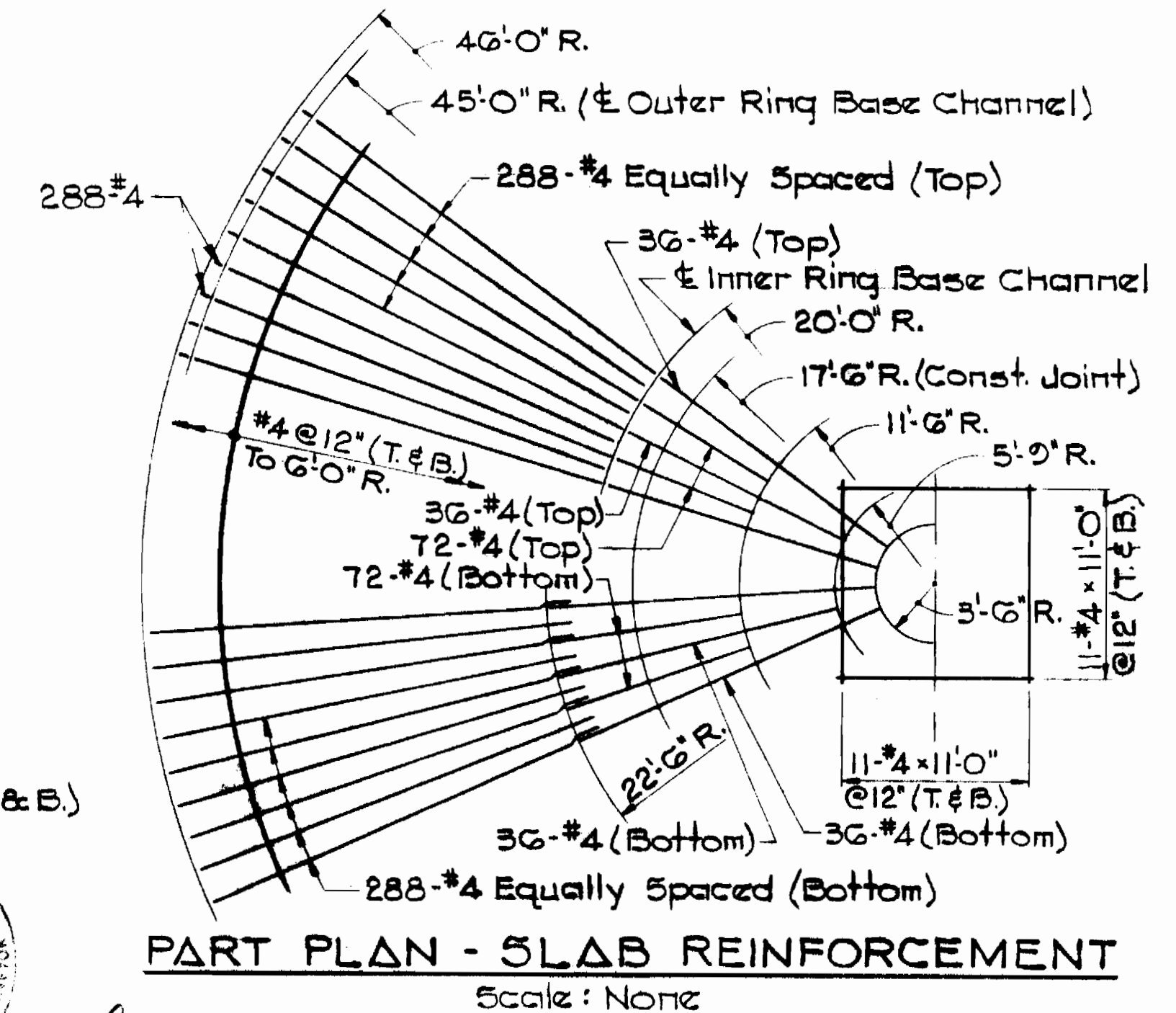
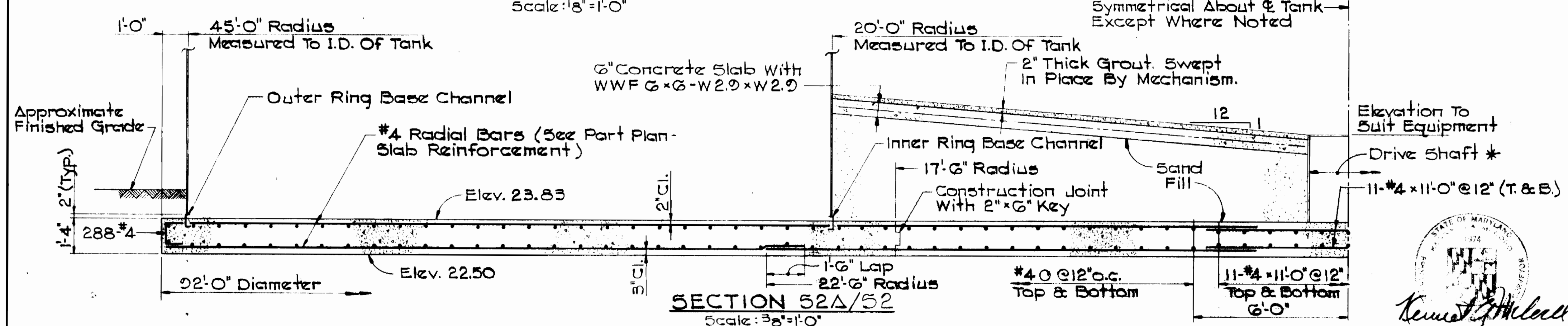


- NOTES:**
1. Dimensions Marked Thus: * To Vary To Suit Equipment Furnished.
 2. Two (2") Inch Grout Shall Be Swept In Place By Use Of Mechanism. The Mechanism Shall Not Be Operated By Its Motor When Screeding Grout.
 3. For General Notes And Base Channel Notes, See Sheet S-1.



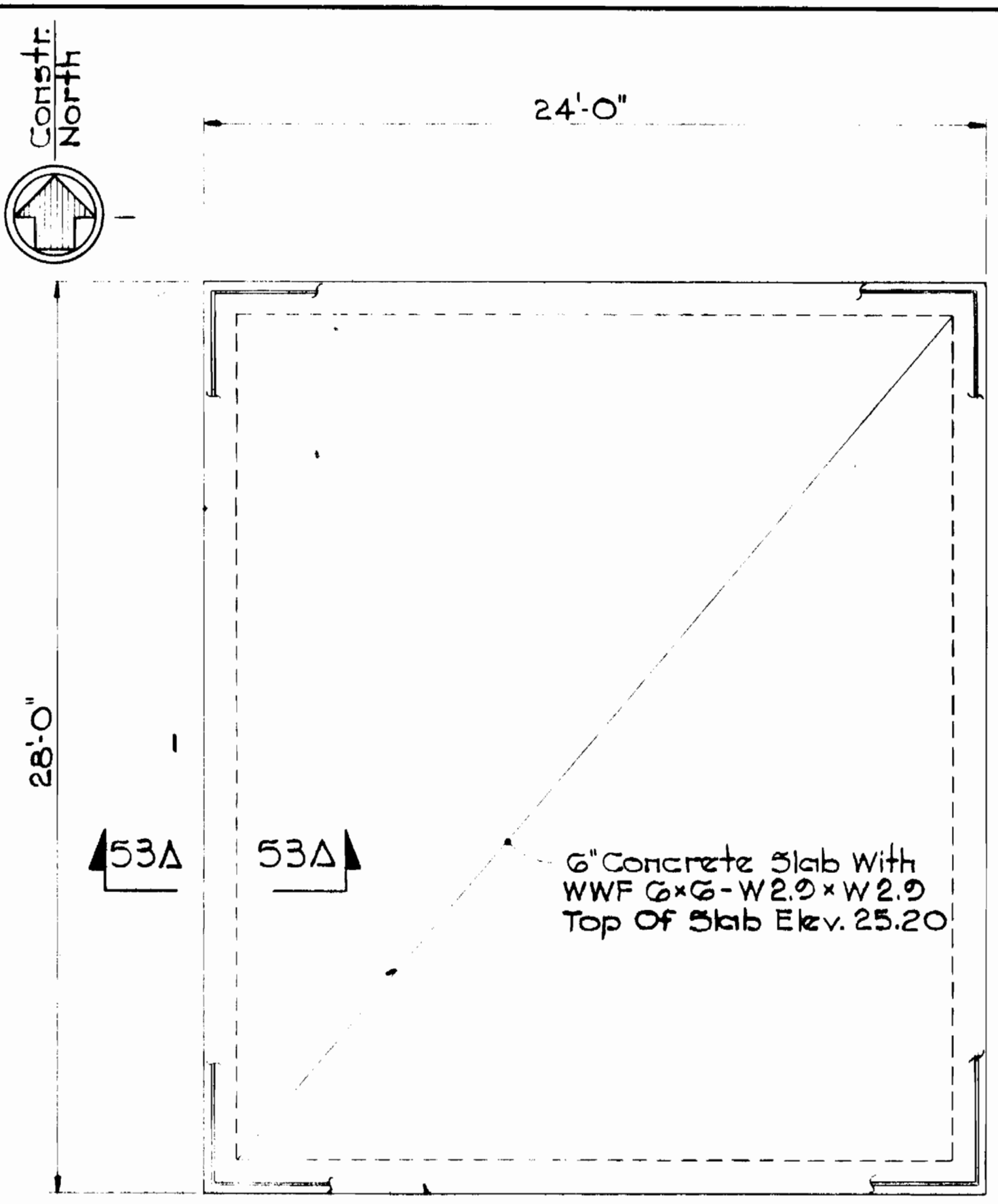
Note:
Slab Pouring Sequence Denoted Thus: ②

TREATMENT UNIT NO. 1 - AS SHOWN
TREATMENT UNIT NO. 2 - OPPOSITE HAND
Scale: 1/8" = 1'-0"

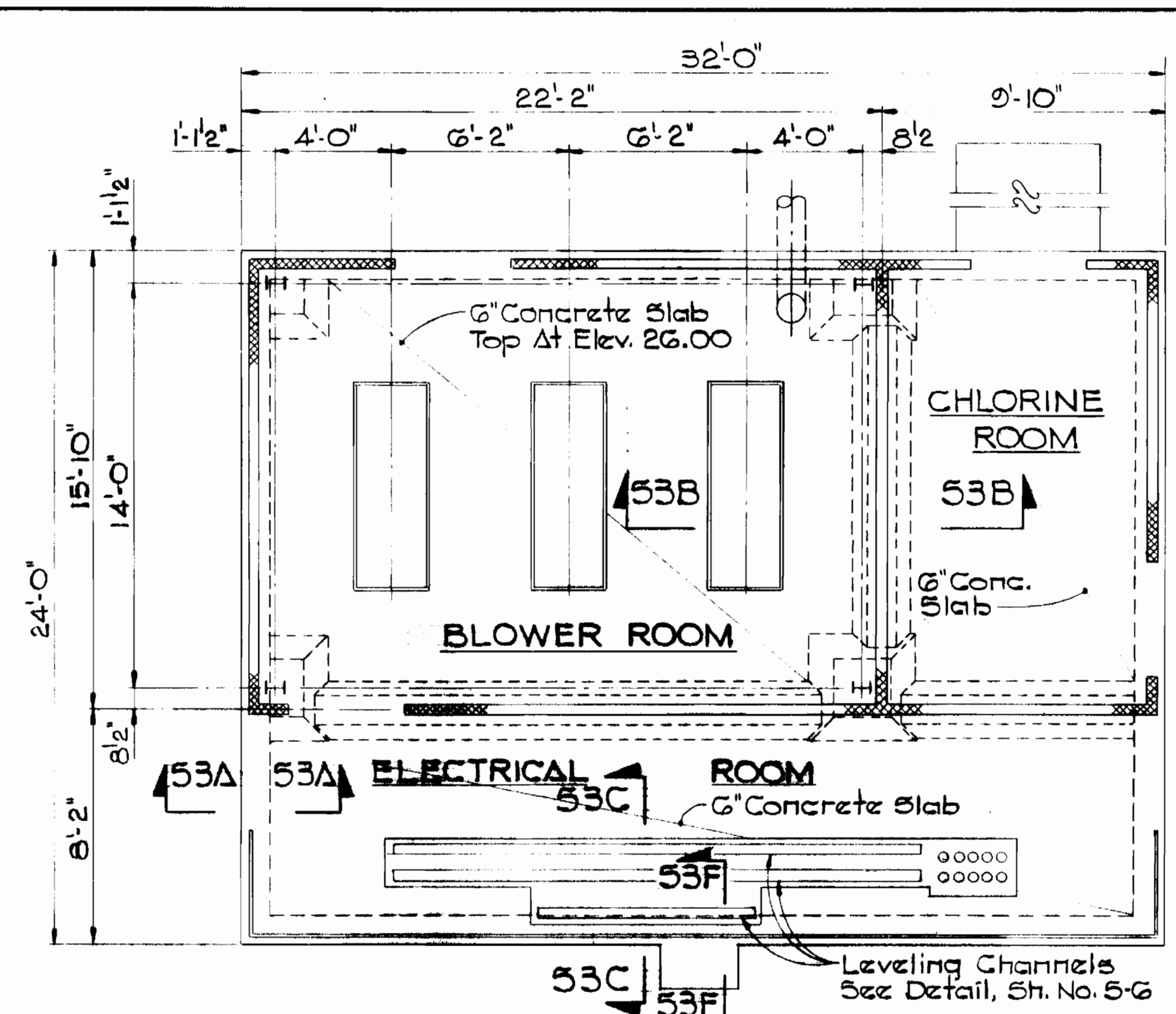


Kenneth M. Wood

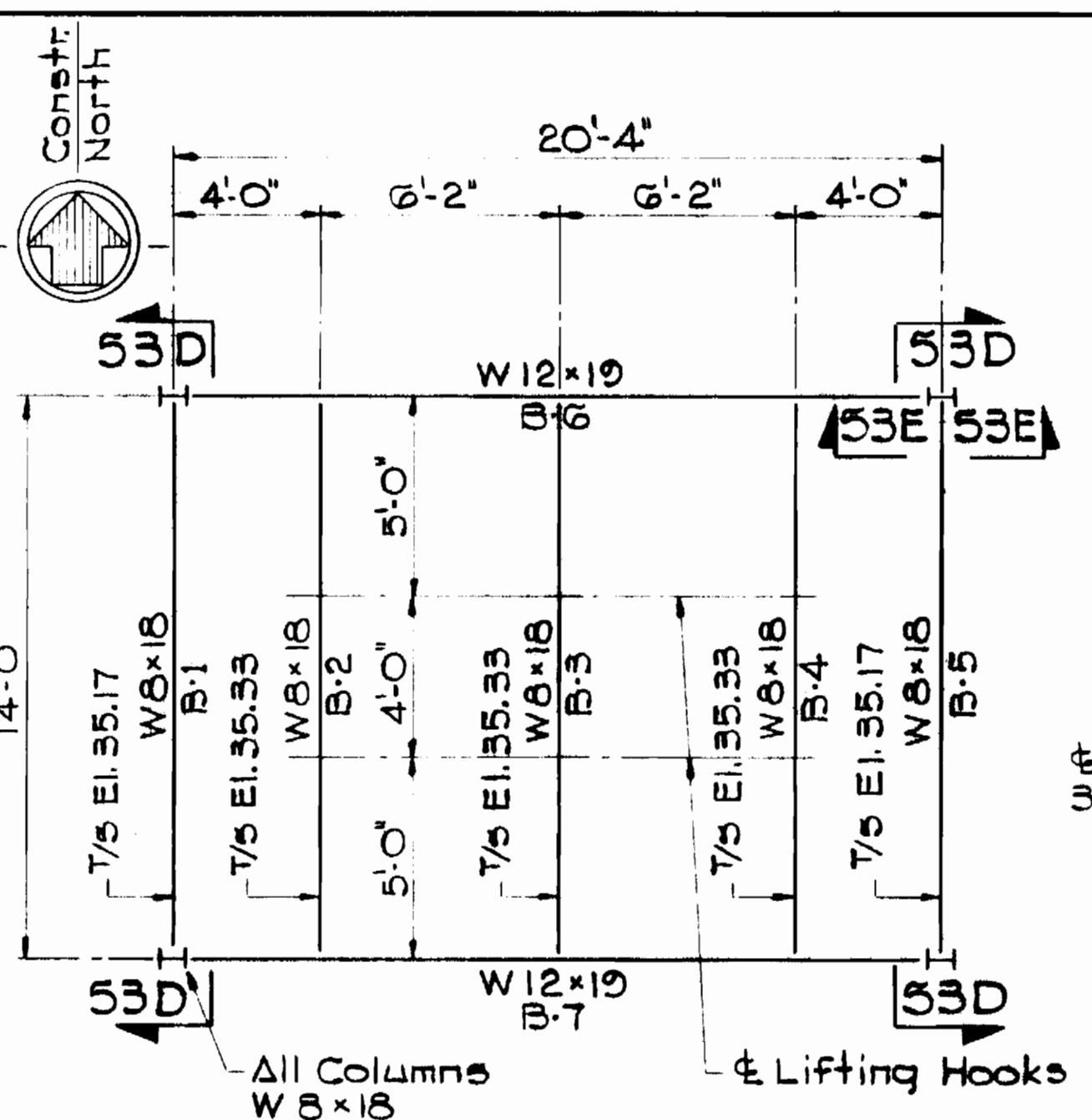
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/21/79 DATE CHIEF - BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 837-S	TREATMENT UNIT PLANS, SECTIONS & DETAILS	DEEP RUN INTERIM WASTEWATER TREATMENT PLANT	DRAWING NO. 13 OF 35 SCALE AS SHOWN
-----------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------	--------------------	---------------------------------------------	------------------------------------------------	----------------------------------------



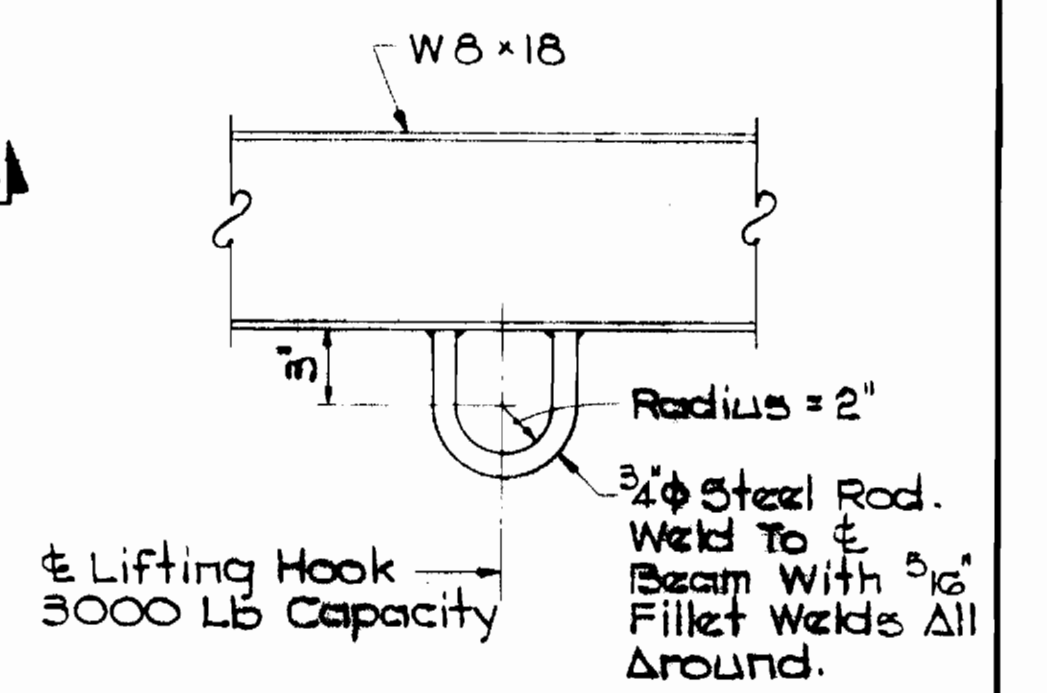
PLAN - OPERATIONS BUILDING
Scale: 1/4" = 1'-0"



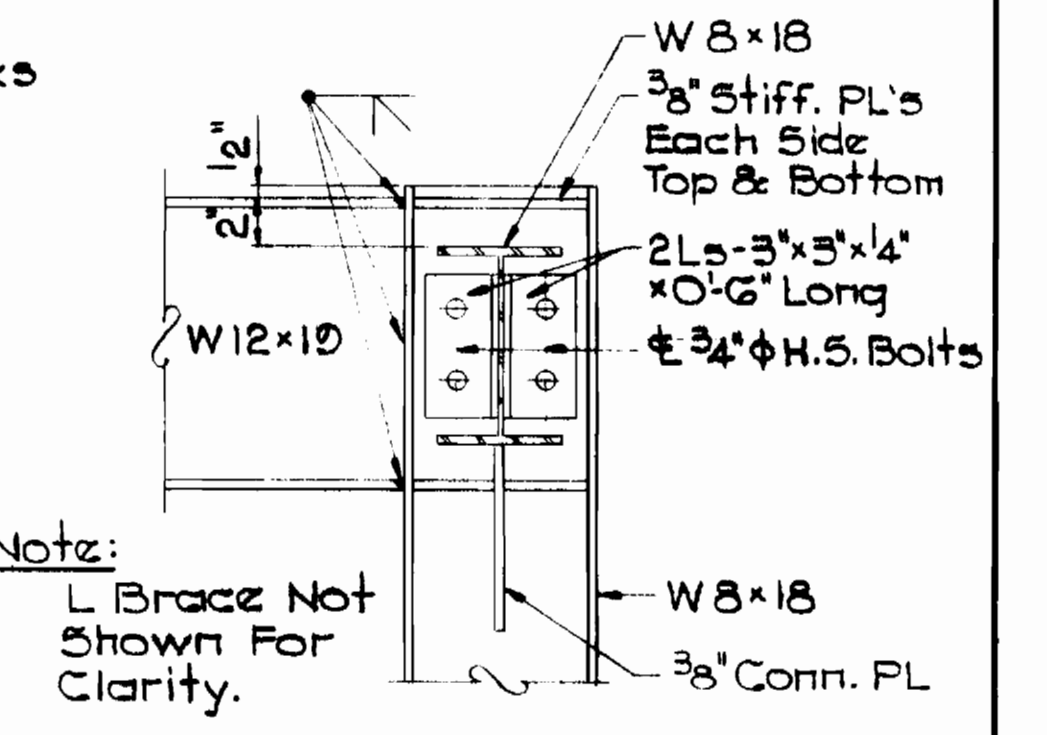
PLAN - SERVICE BUILDING
Scale: 1/4" = 1'-0"



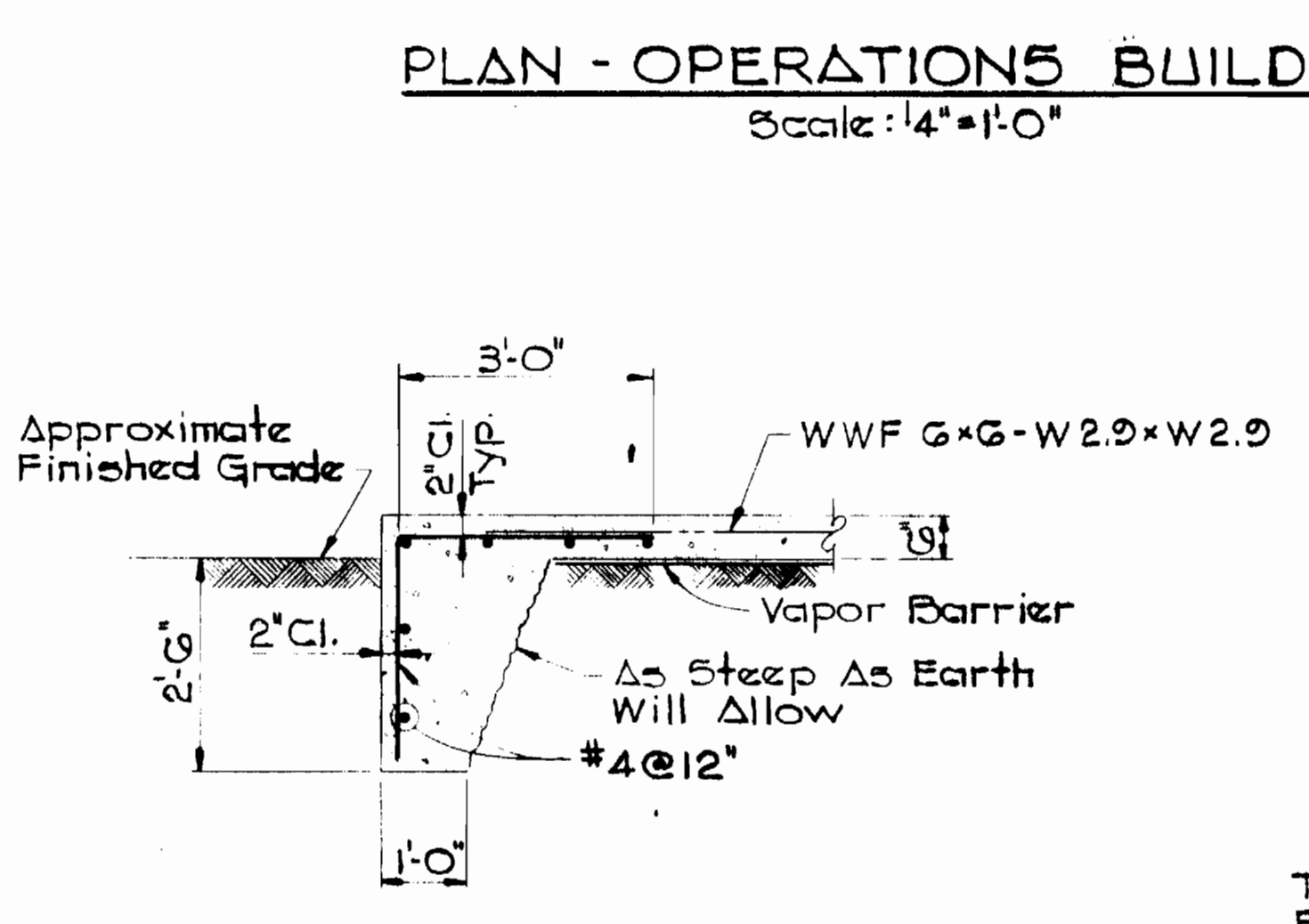
FRAMING PLAN
Scale: None



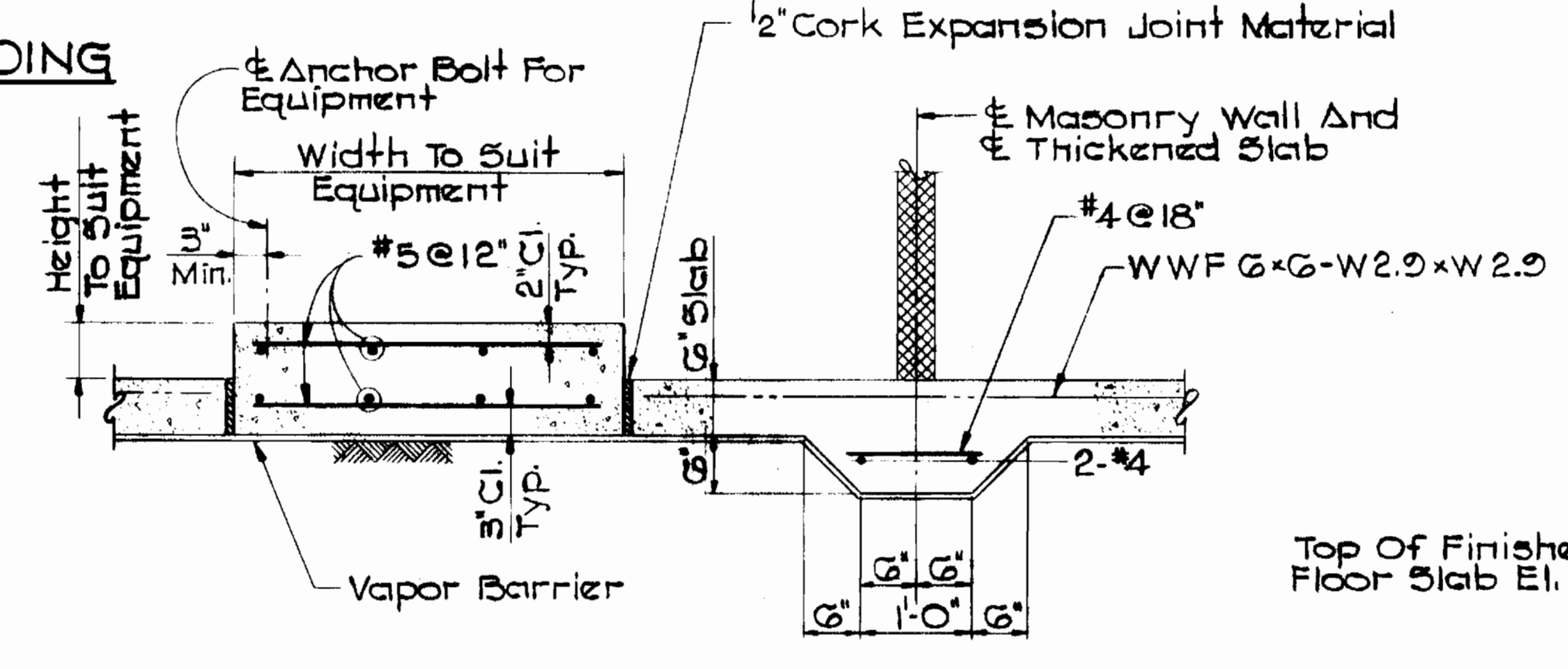
LIFTING HOOK DETAIL
Scale: None



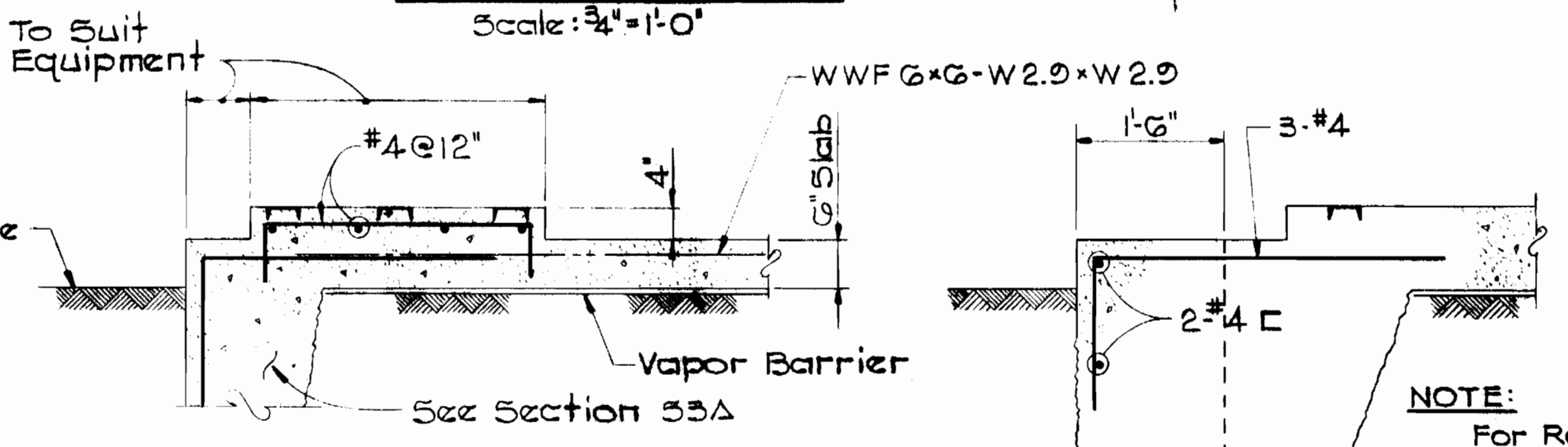
SECTION 53E/53
Scale: 1/2" = 1'-0"



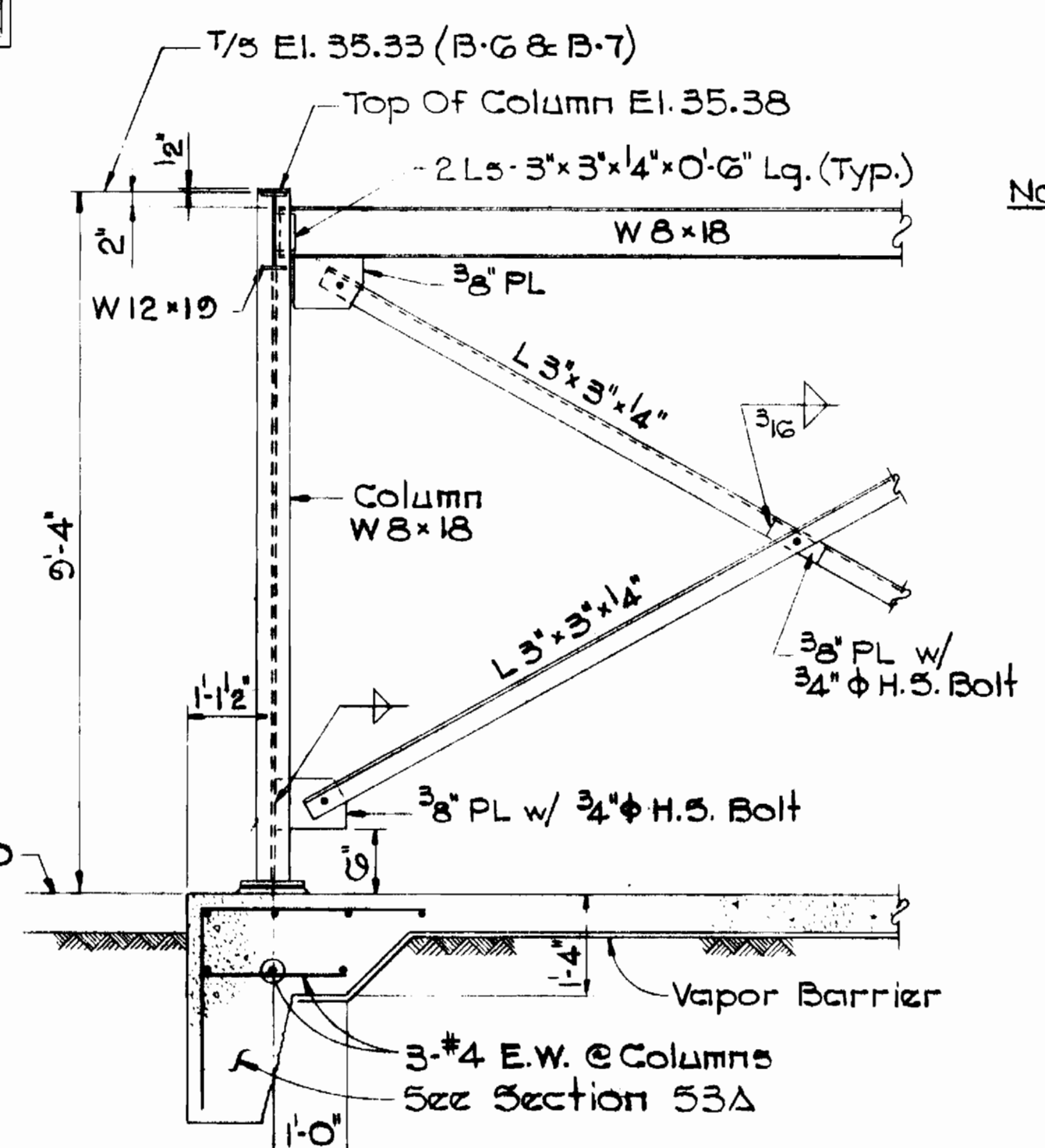
SECTION 53A/53
Scale: 1/2" = 1'-0"



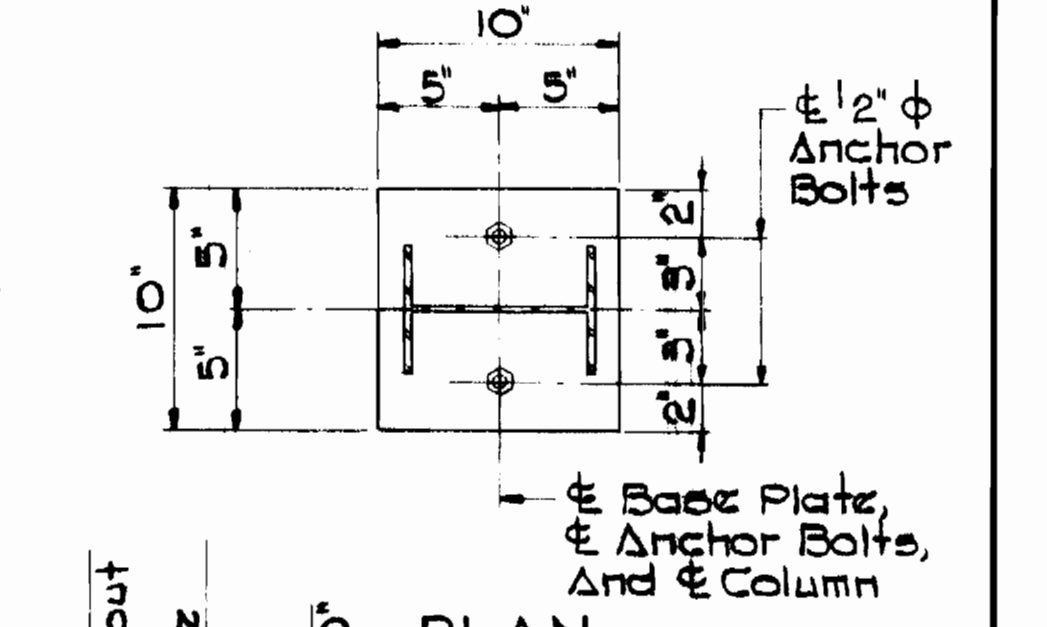
SECTION 53B/53
Scale: 3/4" = 1'-0"



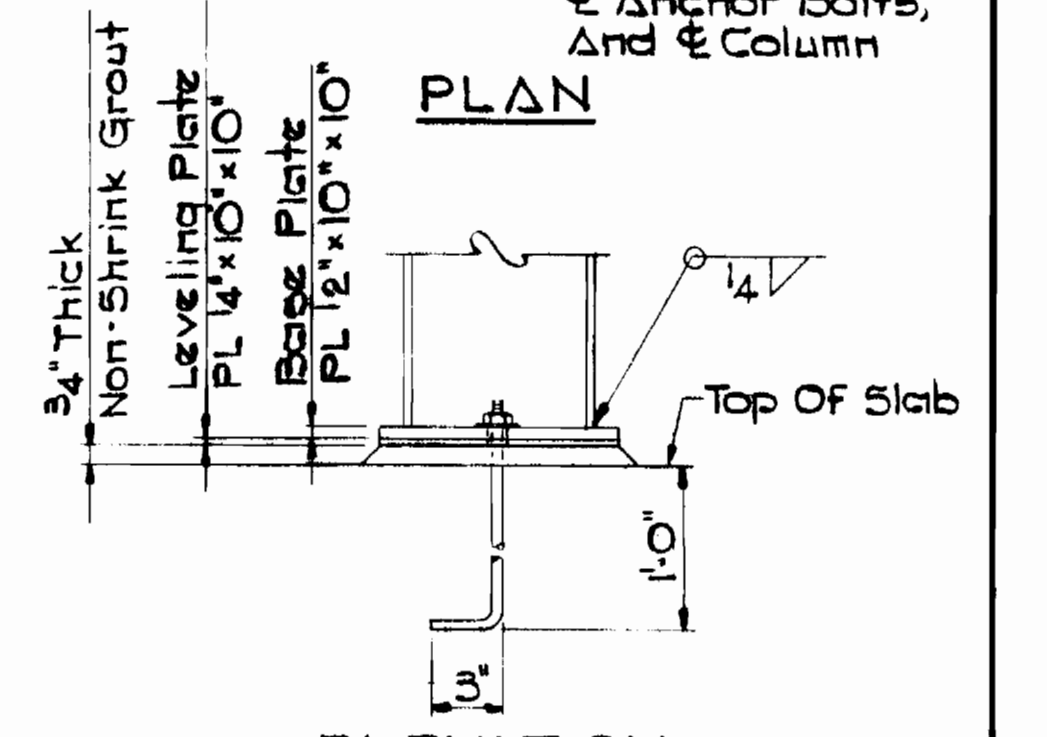
SECTION 53C/53
Scale: 3/4" = 1'-0"



SECTION 53D/53
Scale: 1/2" = 1'-0"



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



ELEVATION
BASE PLATE DETAILS
Scale: 1/2" = 1'-0"

- NOTES:**
1. For Location Of Operations And Service Buildings, See Civil Drawings.
 2. For Pre-Engineered Building Details See The Architectural Drawings And The Specifications.

NOTE:
For Reinforcing Not Shown See Section 53A And Section 53C.

SECTION 53F/53
Scale: 3/4" = 1'-0"

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DATE: 3.2.79
CHIEF - BUREAU OF ENVIRONMENTAL SERVICES

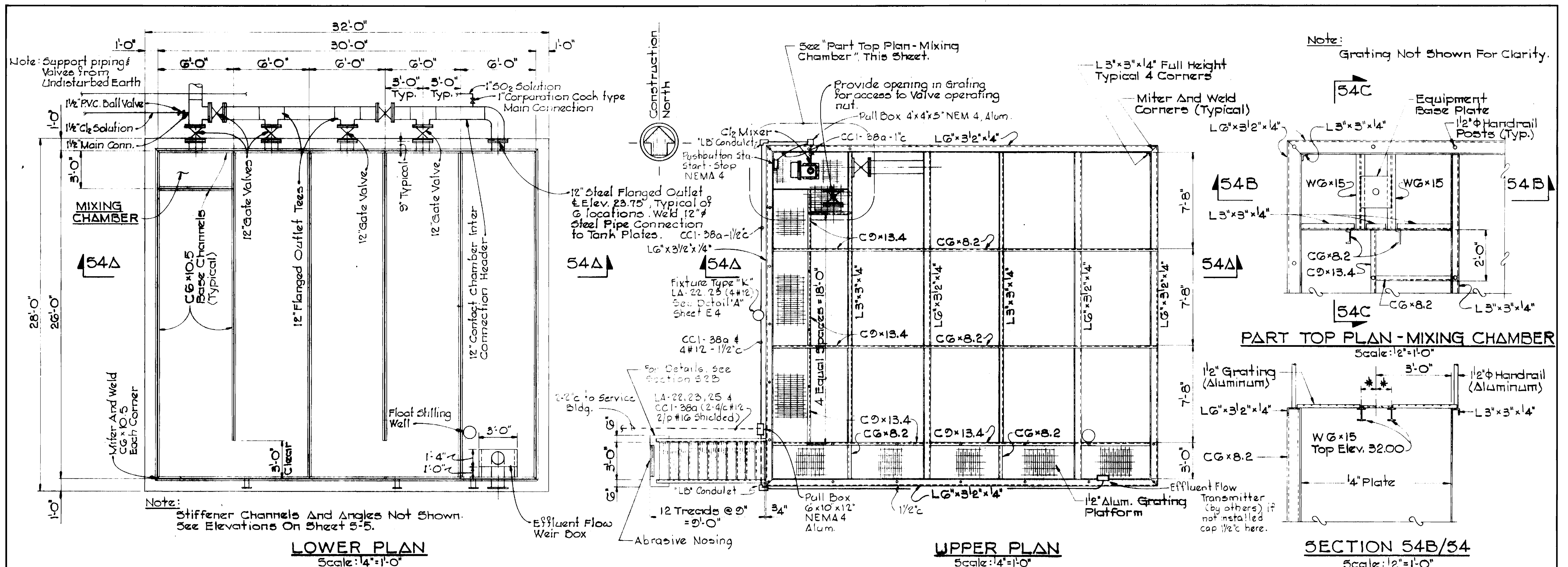
CONTRACT NO. 837-S

OPERATIONS & SERVICE BUILDINGS
PLANS, SECTIONS & DETAILS

DEEP RUN INTERIM
WASTEWATER TREATMENT PLANT

DRAWING NO. 14 OF 35
SCALE AS SHOWN

Kenneth M. McLeod



Note: Stiffener Channels And Angles Not Shown. See Elevations On Sheet 5-5.

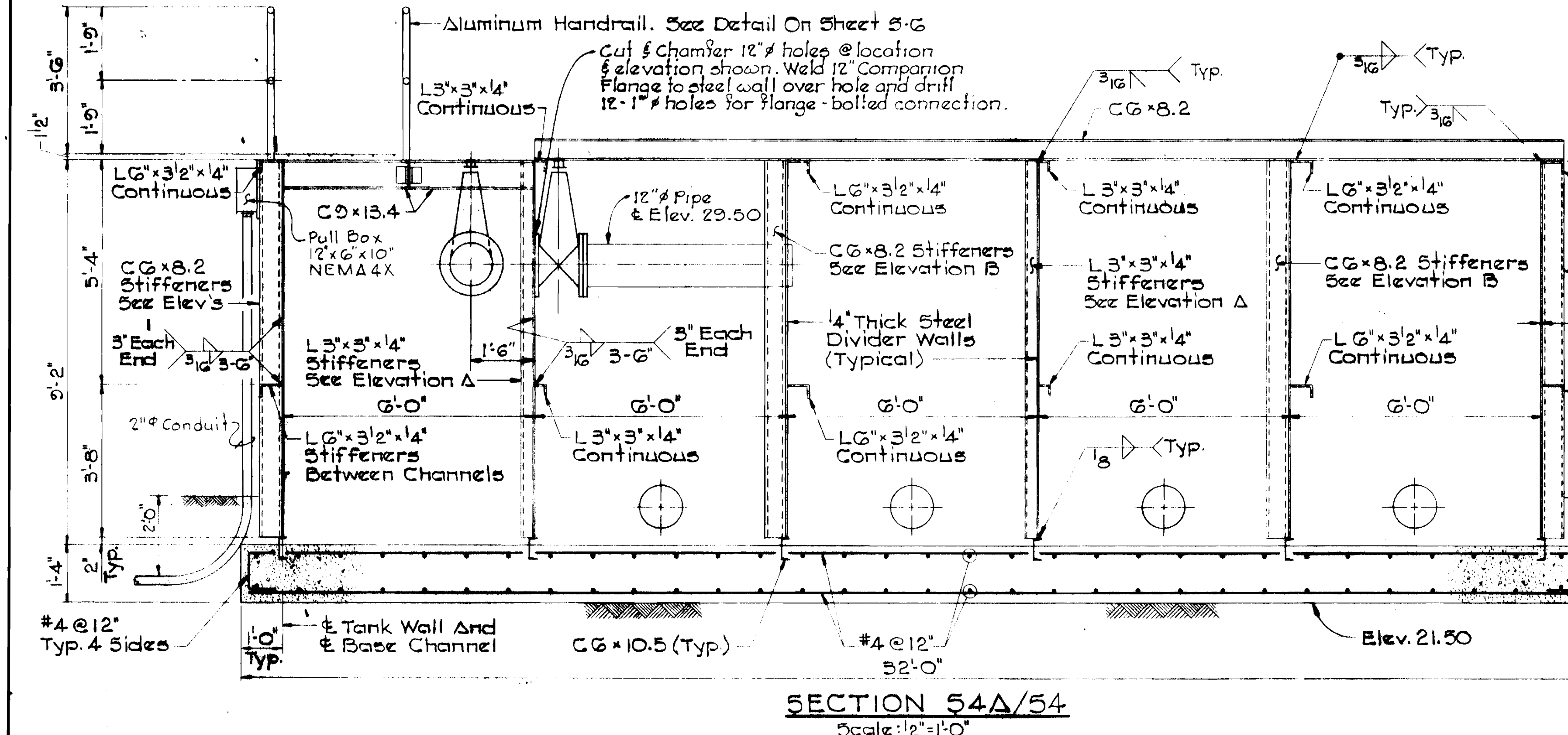
LOWER PLAN
Scale: 1/4" = 1'-0"

UPPER PLAN
Scale: 1/4" = 1'-0"

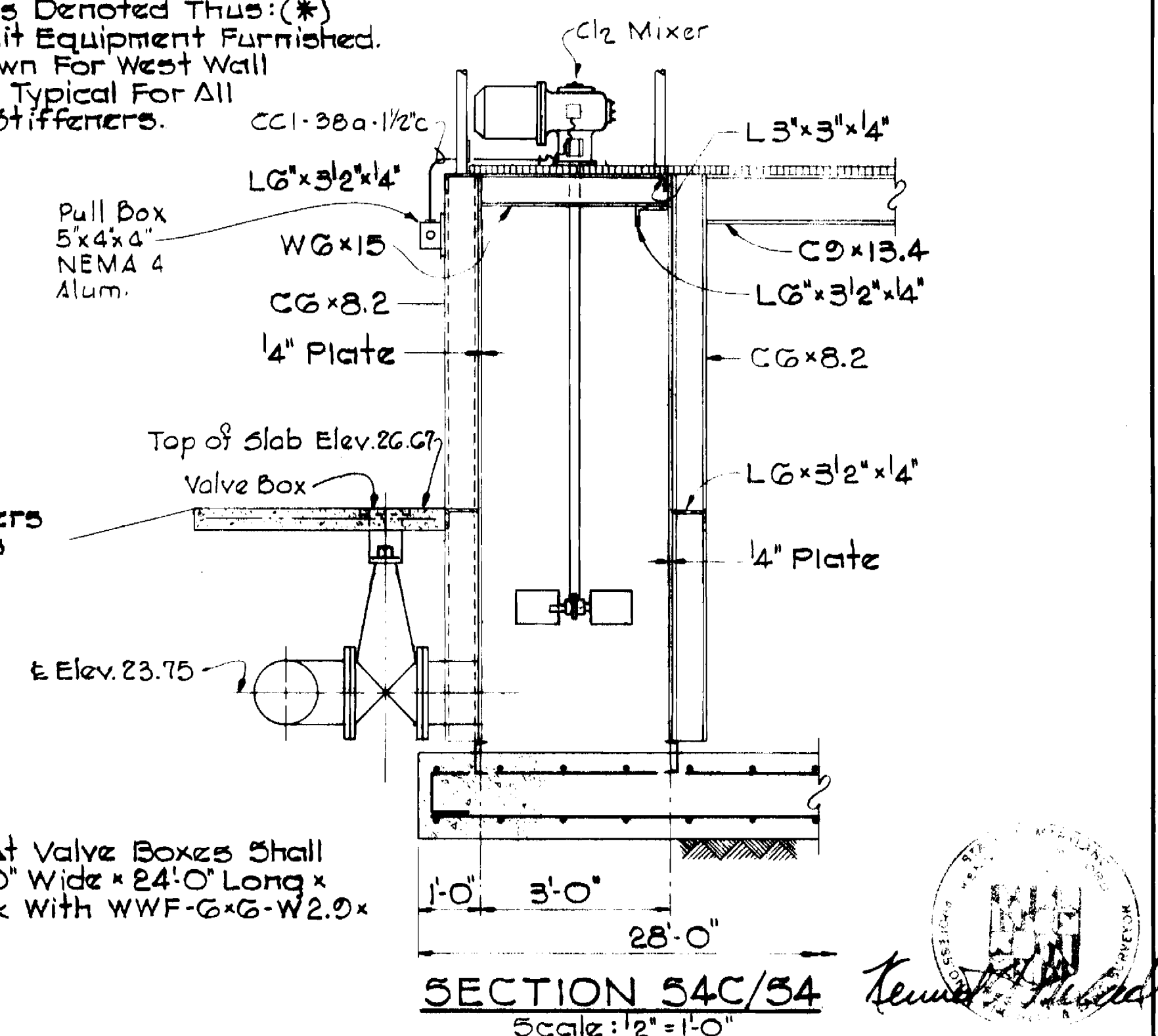
PART TOP PLAN - MIXING CHAMBER
Scale: 1/2" = 1'-0"

SECTION 54B/54
Scale: 1/2" = 1'-0"

- NOTES:**
1. Dimensions Denoted Thus: (*) Vary To Suit Equipment Furnished.
 2. Welds Shown For West Wall Stiffeners Typical For All Exterior Stiffeners.



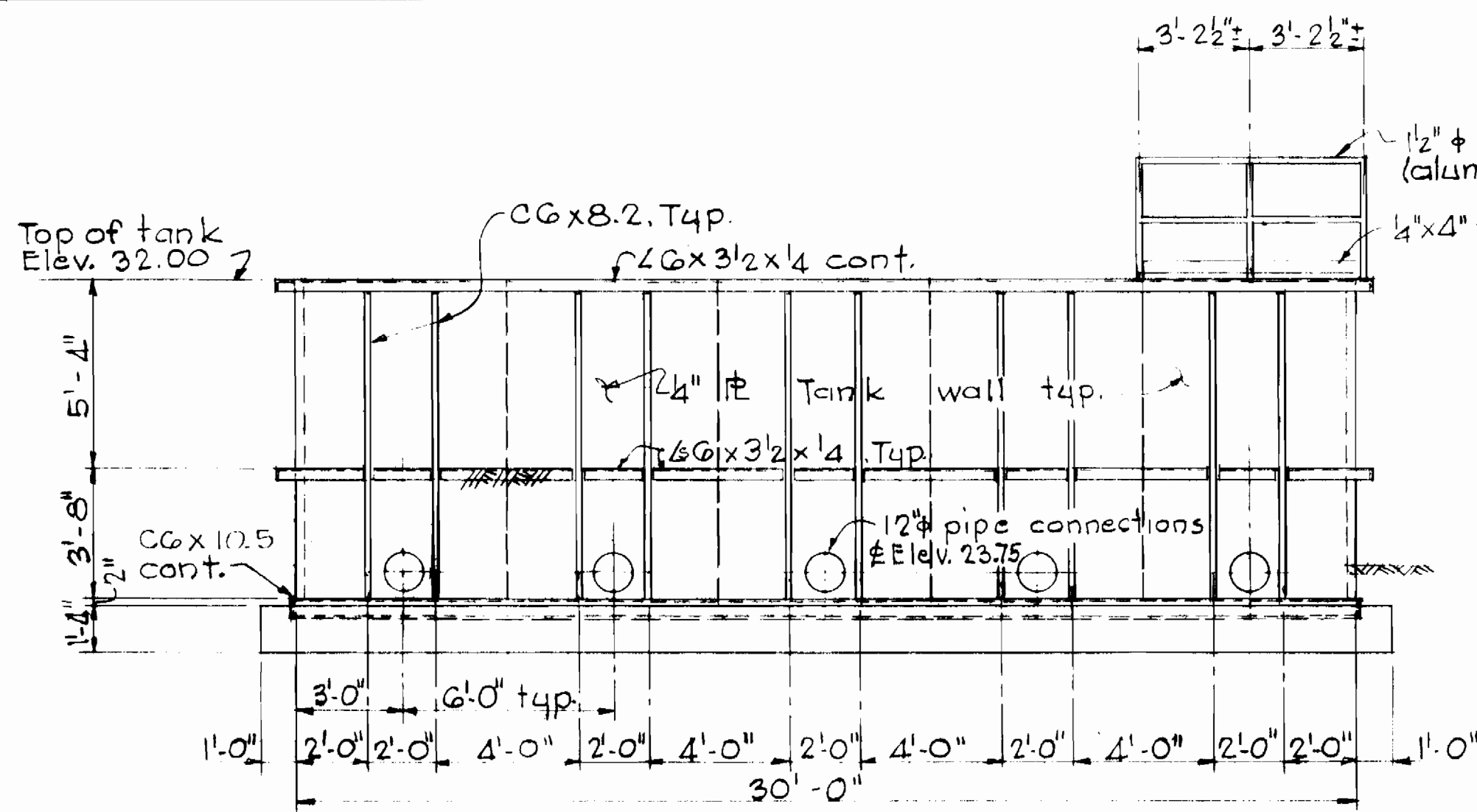
SECTION 54A/54
Scale: 1/2" = 1'-0"



SECTION 54C/54
Scale: 1/2" = 1'-0"

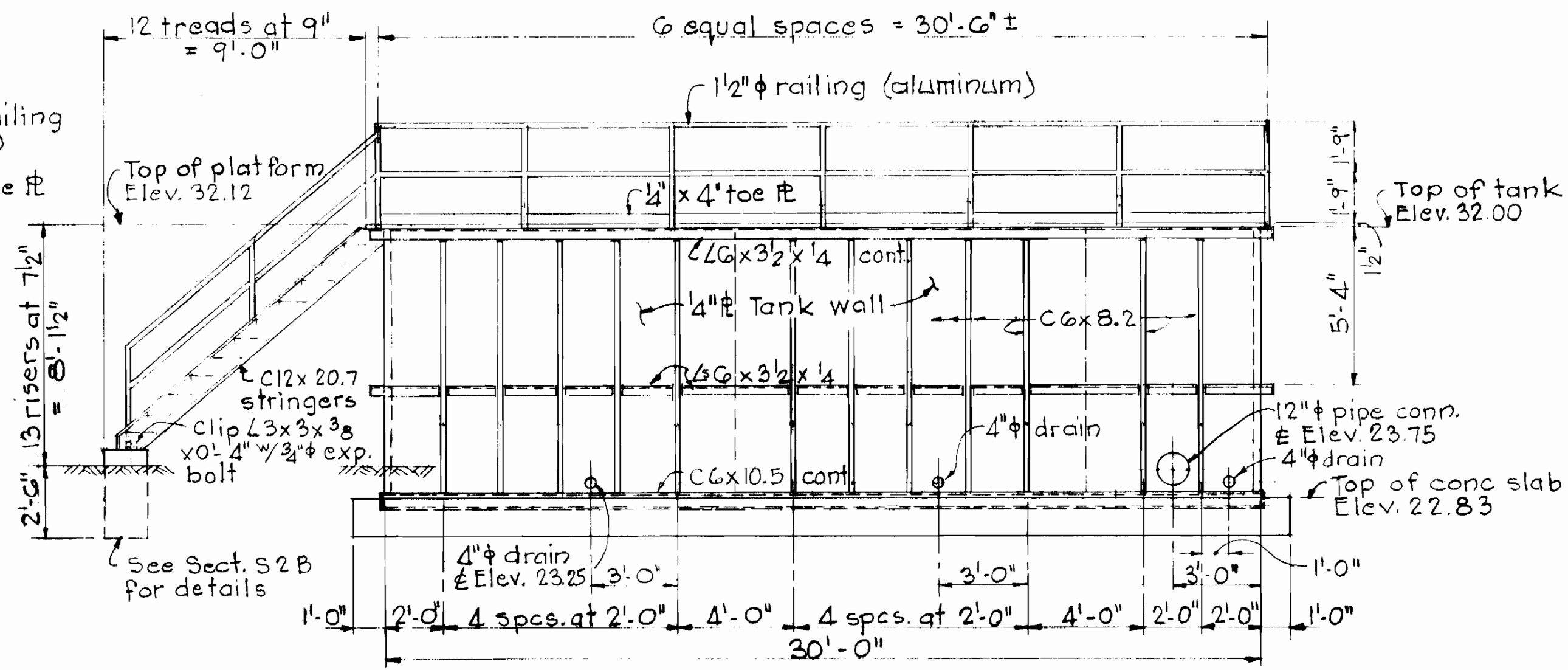
Note: Slab At Valve Boxes Shall Be 4'-0" Wide x 24'-0" Long x 4" Thick With WWF-G-G-W2.9 x W2.9

<p>WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND</p>	<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p>	<p>CONTRACT NO. 837-S</p>	<p>CHLORINE CONTACT BASIN PLANS AND SECTIONS</p>	<p>DEEP RUN INTERIM WASTEWATER TREATMENT PLANT</p>	<p>DRAWING NO. 15 OF 35 SCALE AS SHOWN</p>
-------------------------------------------------------------------------------------------------------	---------------------------------------------------------------	---------------------------	------------------------------------------------------	--------------------------------------------------------	------------------------------------------------



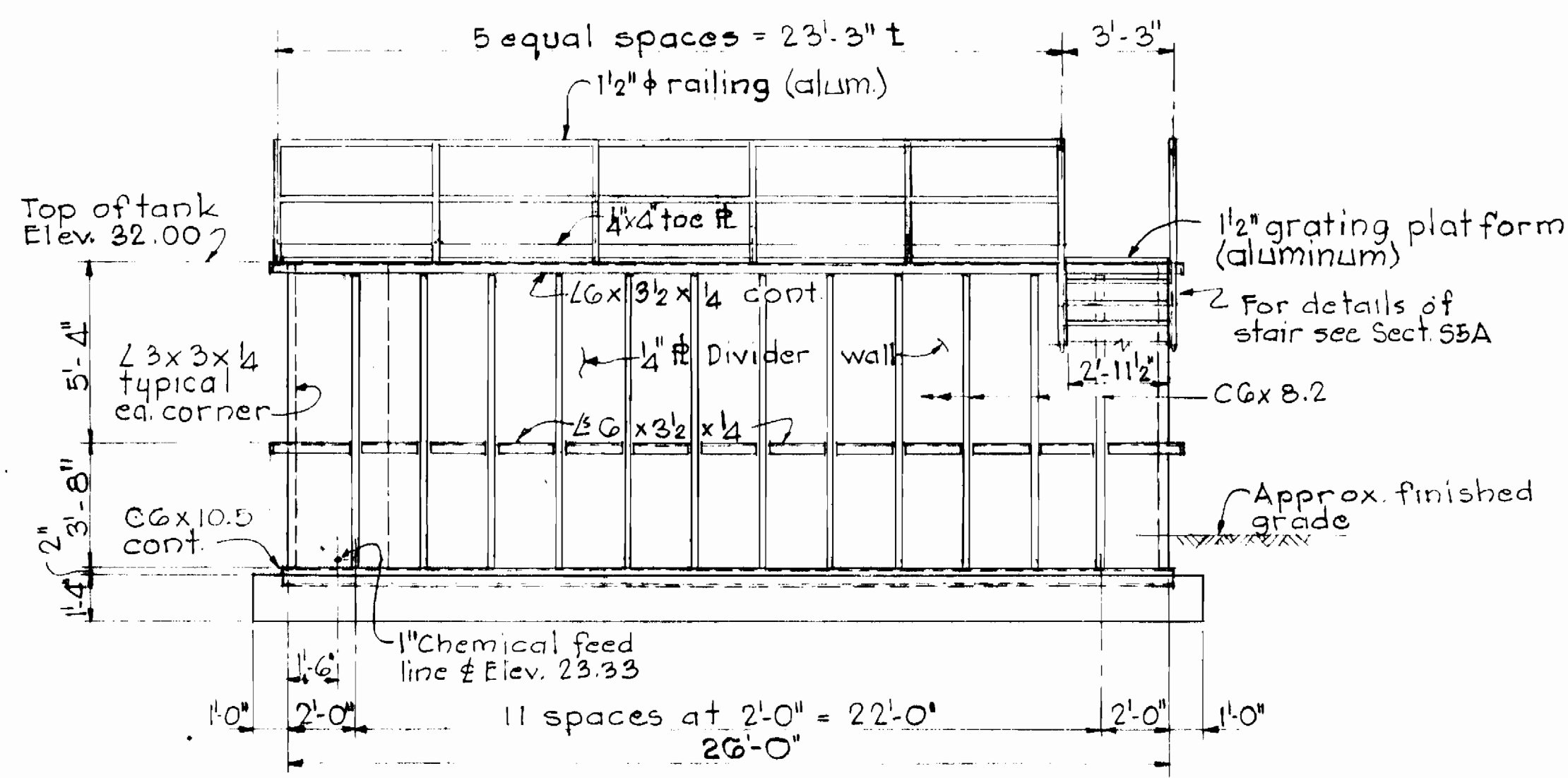
NORTH ELEVATION

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



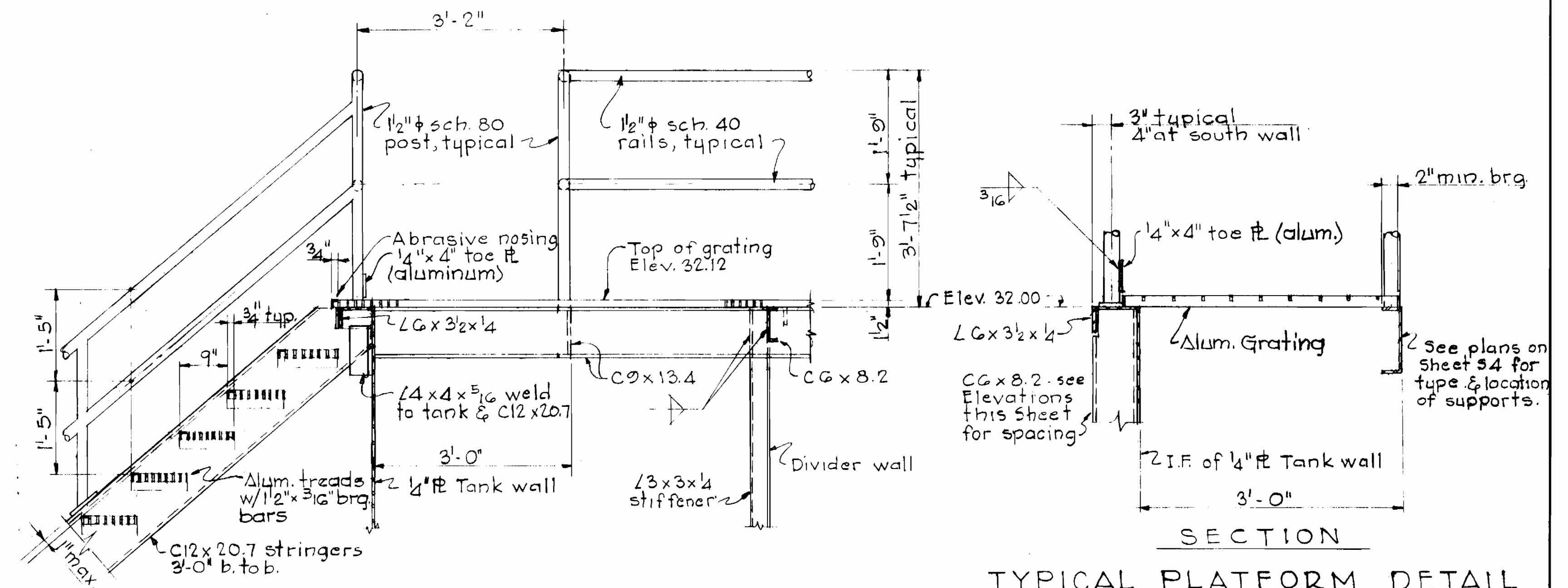
SOUTH ELEVATION

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



**WEST ELEVATION - AS SHOWN
EAST ELEVATION - SIMILAR**

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

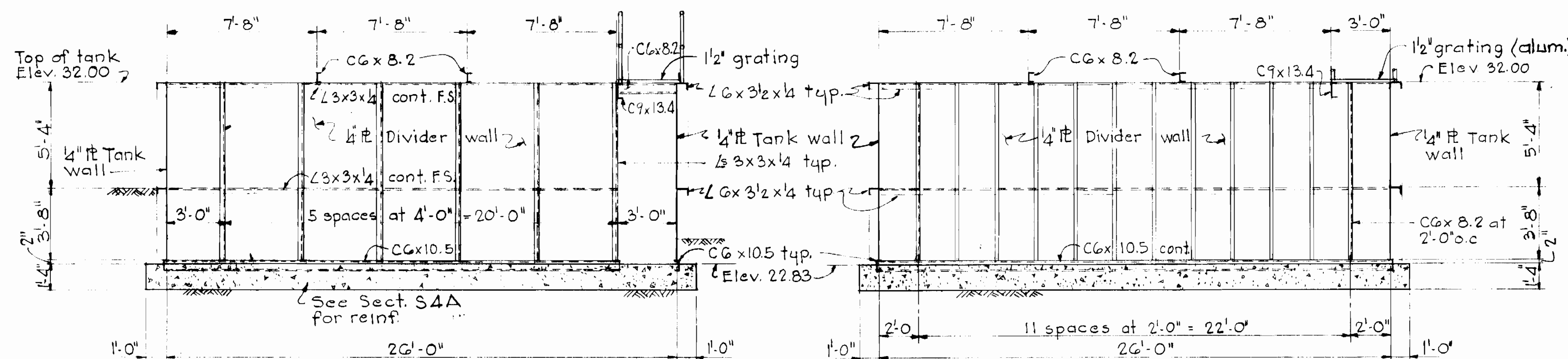


SECTION S5A/S4

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

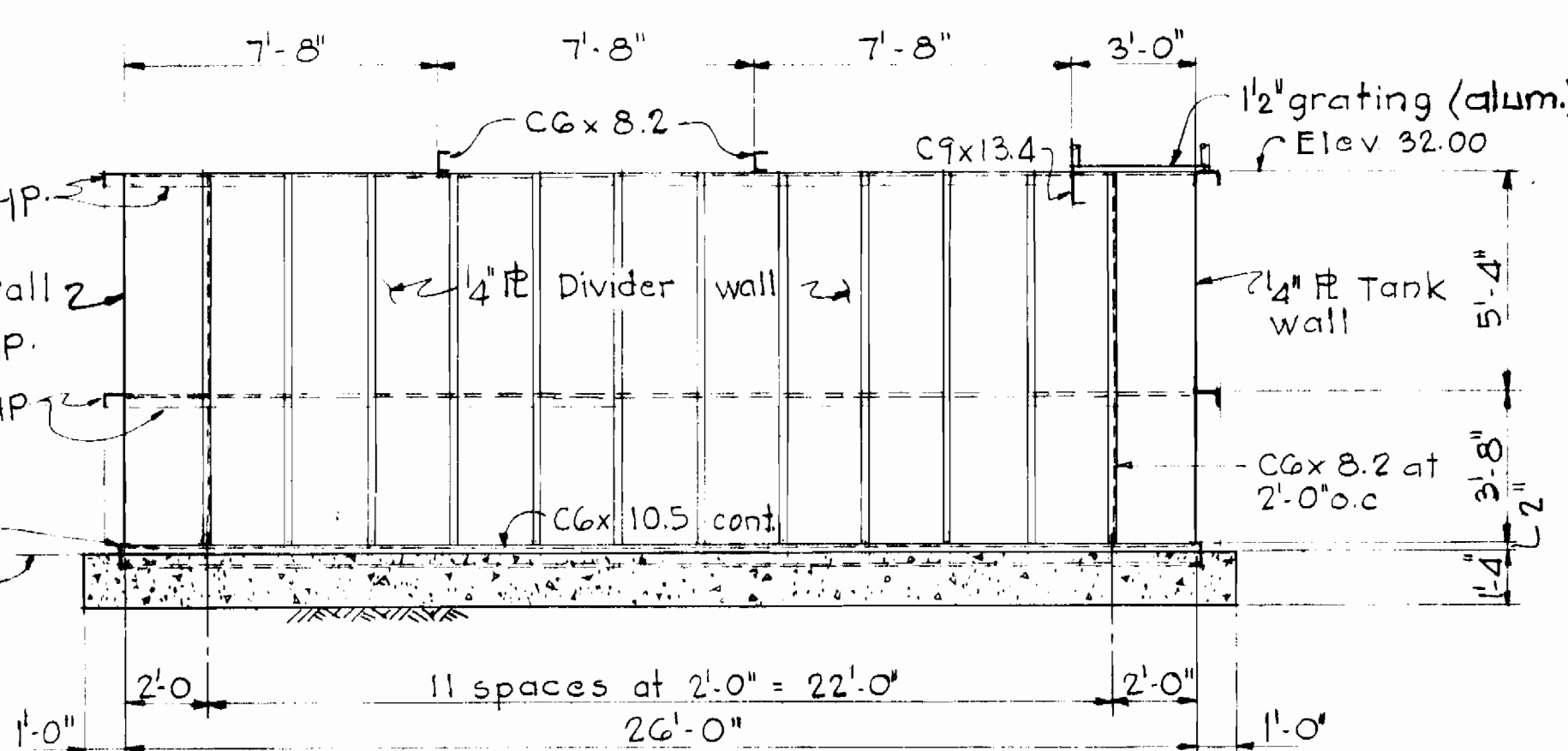
TYPICAL PLATFORM DETAIL

Scale: 1" = 1'-0"



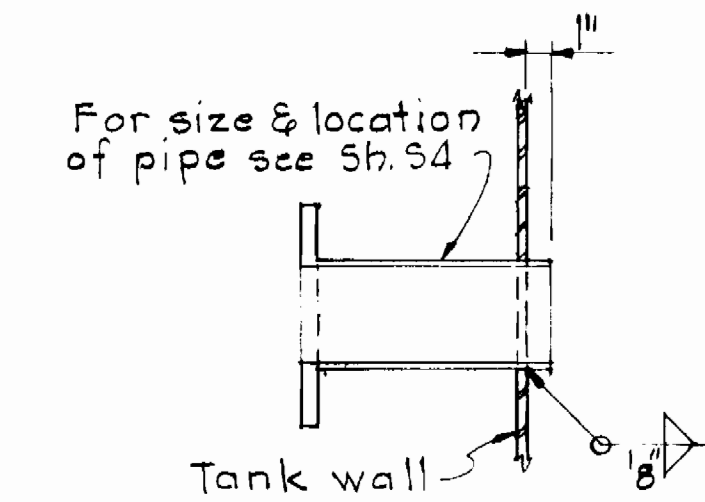
DIVIDER WALL ELEVATION "A"

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



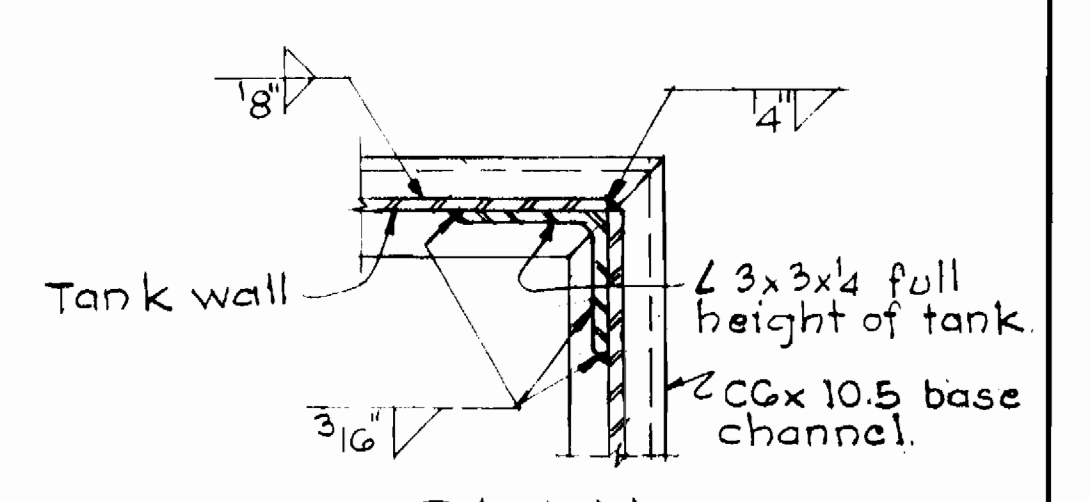
DIVIDER WALL - ELEVATION "B"

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



TYPICAL PIPE CONNECTION DETAIL

Scale: None



TYPICAL TANK CORNER DETAIL

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

- NOTES:**
1. Top surface of base channels to be level to $\pm 1/8"$.
 2. Base channels shall be set with a horizontal tolerance of $\pm 1/4"$.
 3. Base channels shall be supported with 1/3" x 3/4" or approved equivalent. There shall be a minimum of five support angles per side and interior partition.
 4. All base channel joints, joints between exterior walls, interior divider walls and/or wall sections shall be continuously welded and watertight.

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

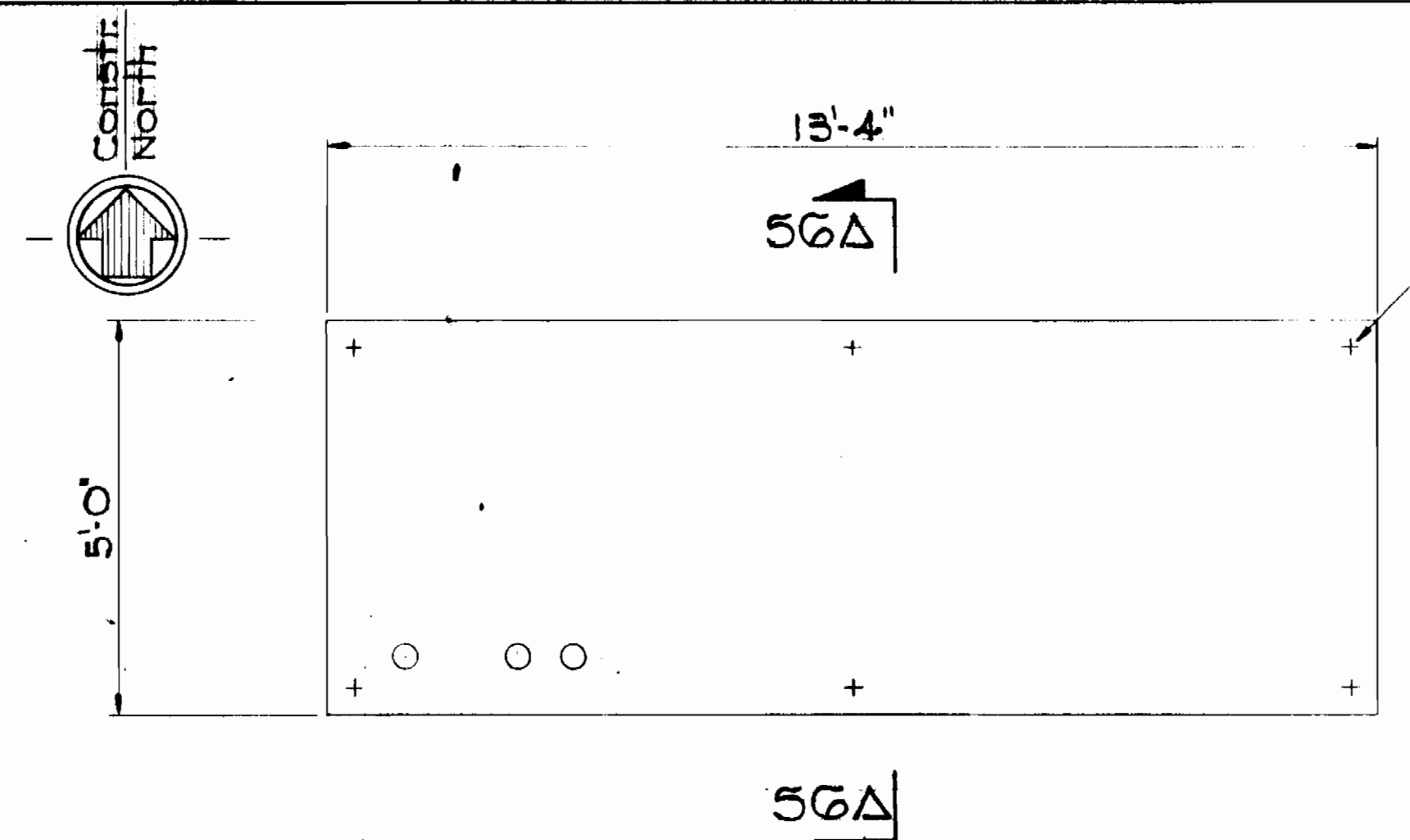
CONTRACT NO. 837-S

CHLORINE CONTACT BASIN
ELEVATIONS, SECTIONS & DETAILS

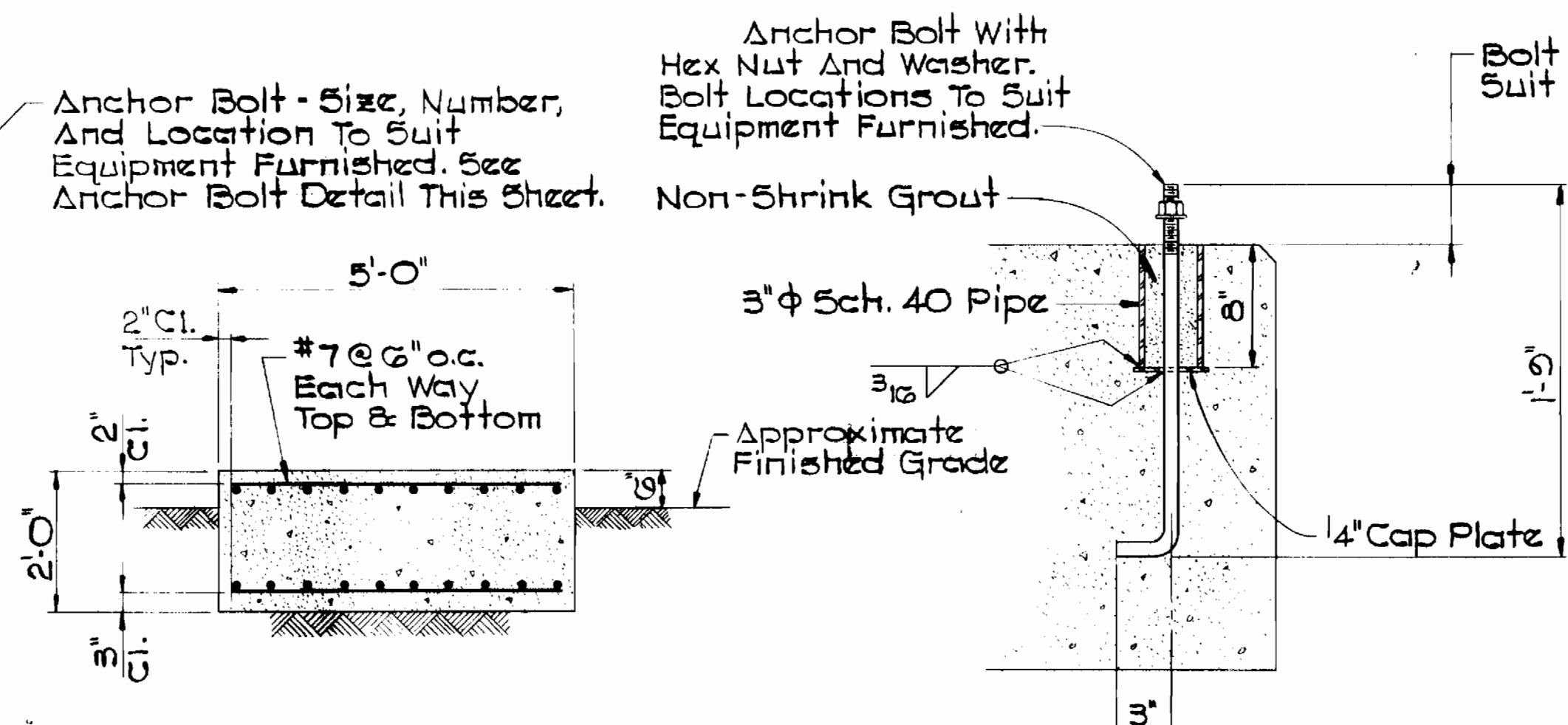
DEEP RUN INTERIM
WASTEWATER TREATMENT PLANT

DRAWING
NO. 16
OF 35

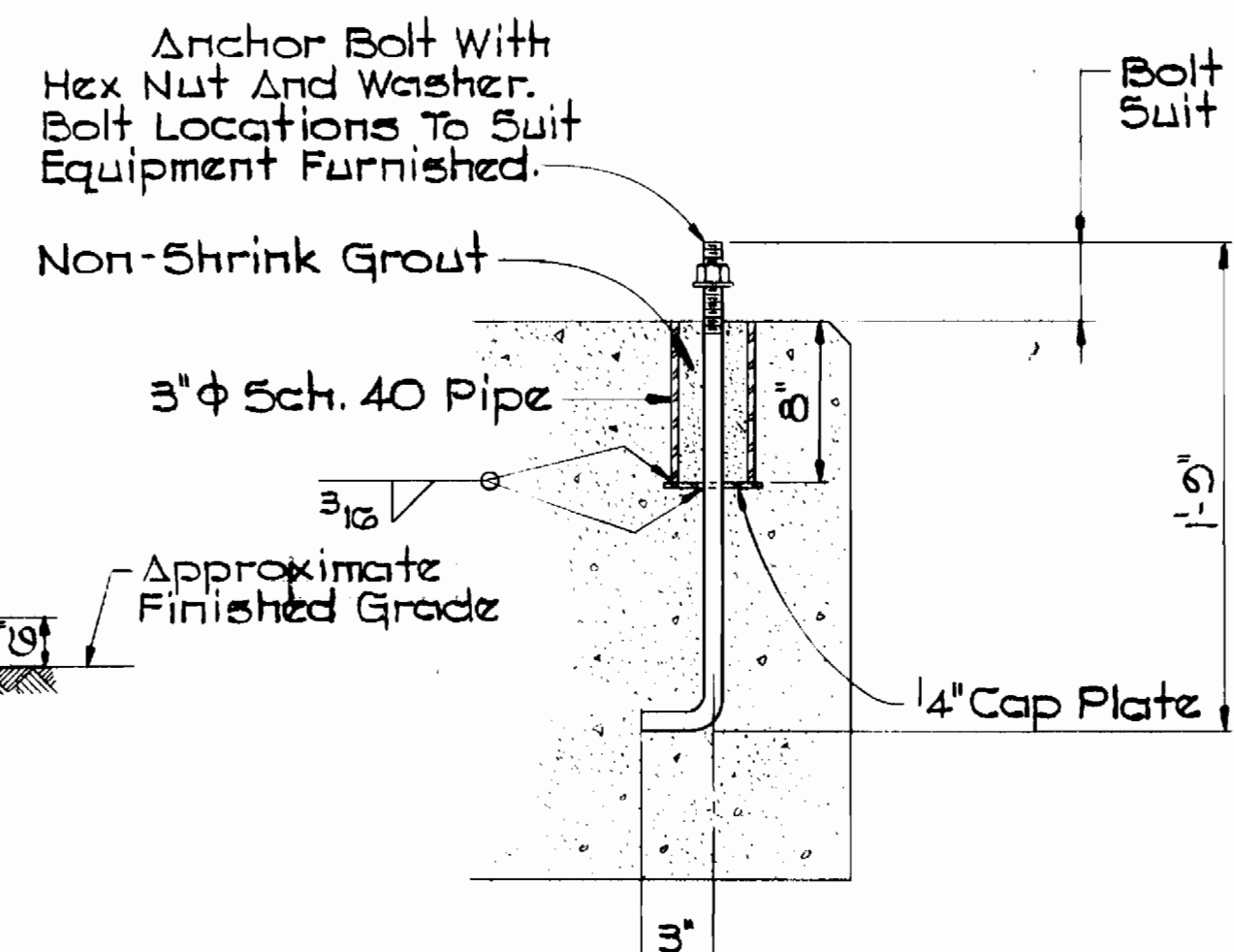
SCALE
AS
SHOWN



PLAN - GENERATOR SUPPORT SLAB
Scale: 1/2" = 1'-0"

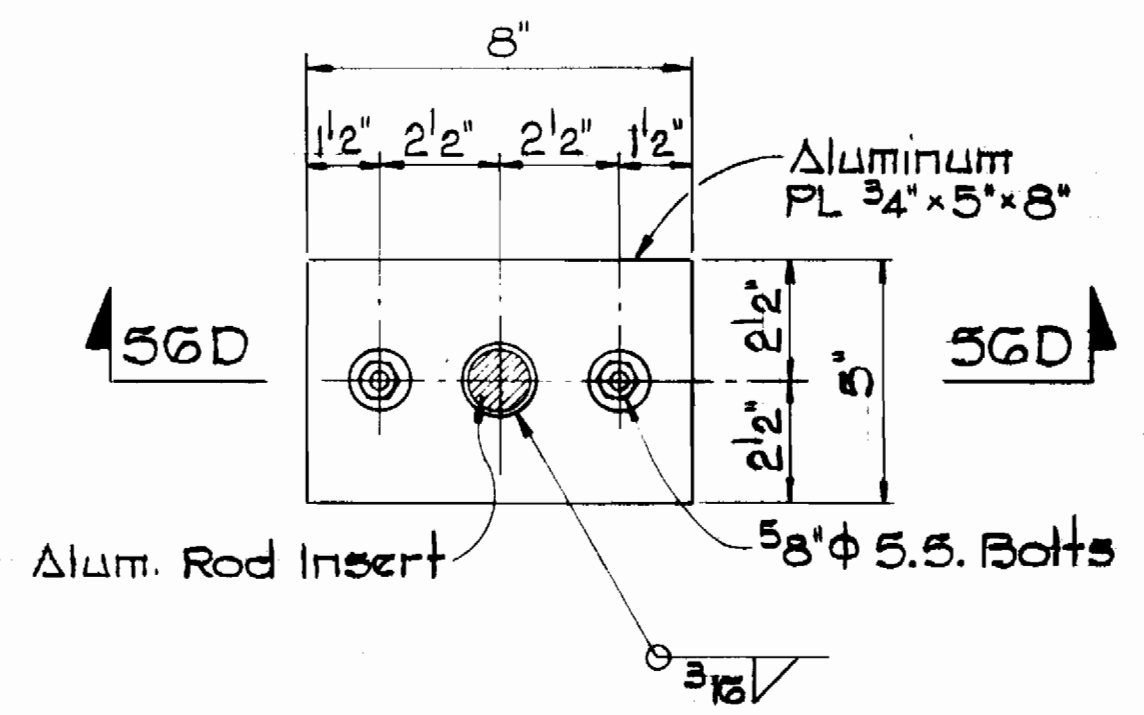


SECTION 56A/56
Scale: 1/2" = 1'-0"

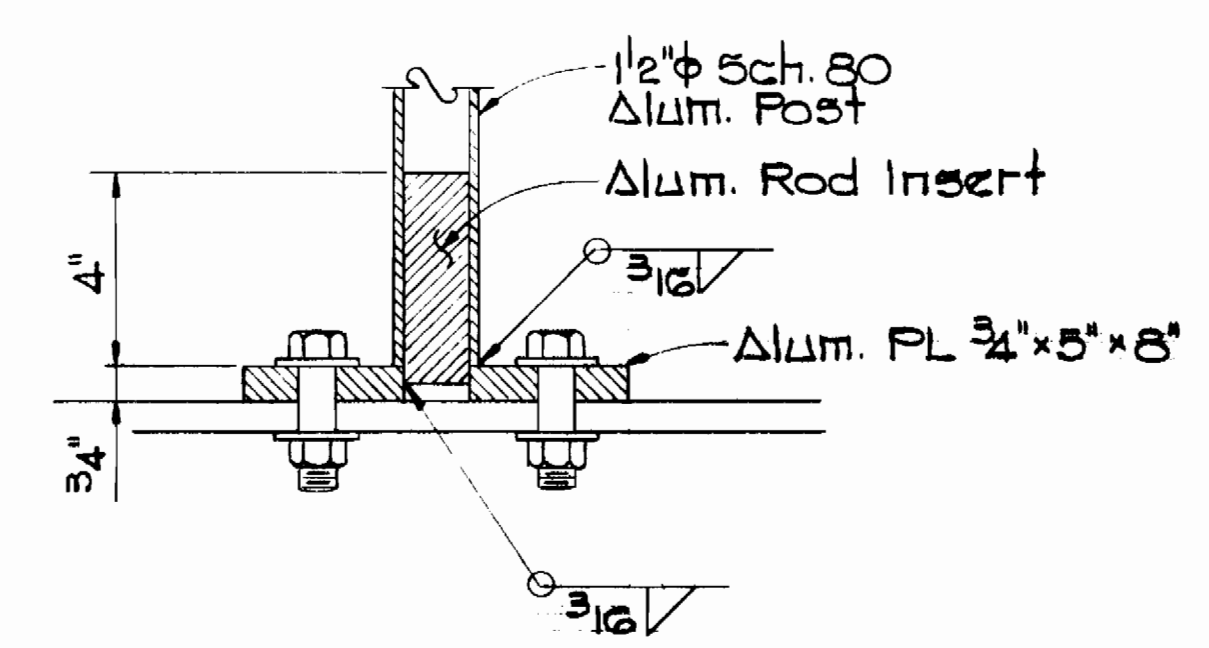


ANCHOR BOLT DETAIL
Scale: 1/2" = 1'-0"

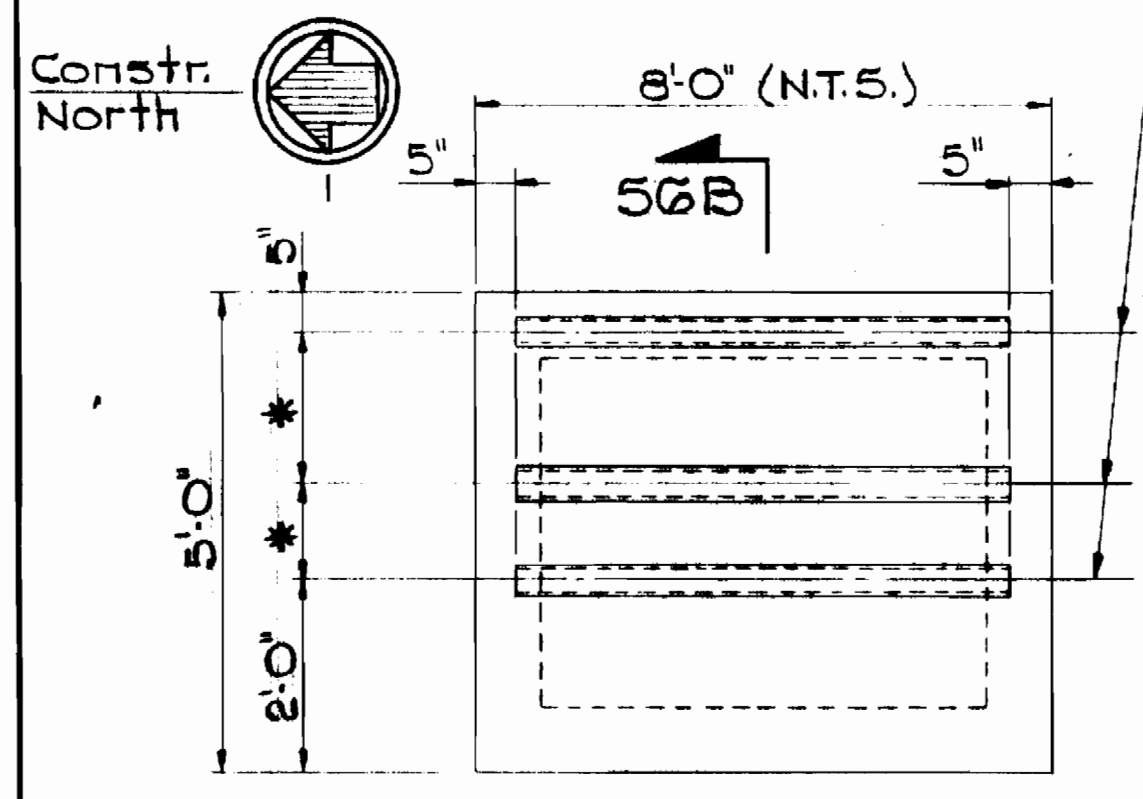
- NOTES:**
1. For Location Of Generator Support Slab, See Civil Sheets.
 2. For Location Of Control Center "CC 2" Support Slab, See Electrical Sheets.
 3. For Location Of Fuel Tank Support Slab, See Civil Sheets.



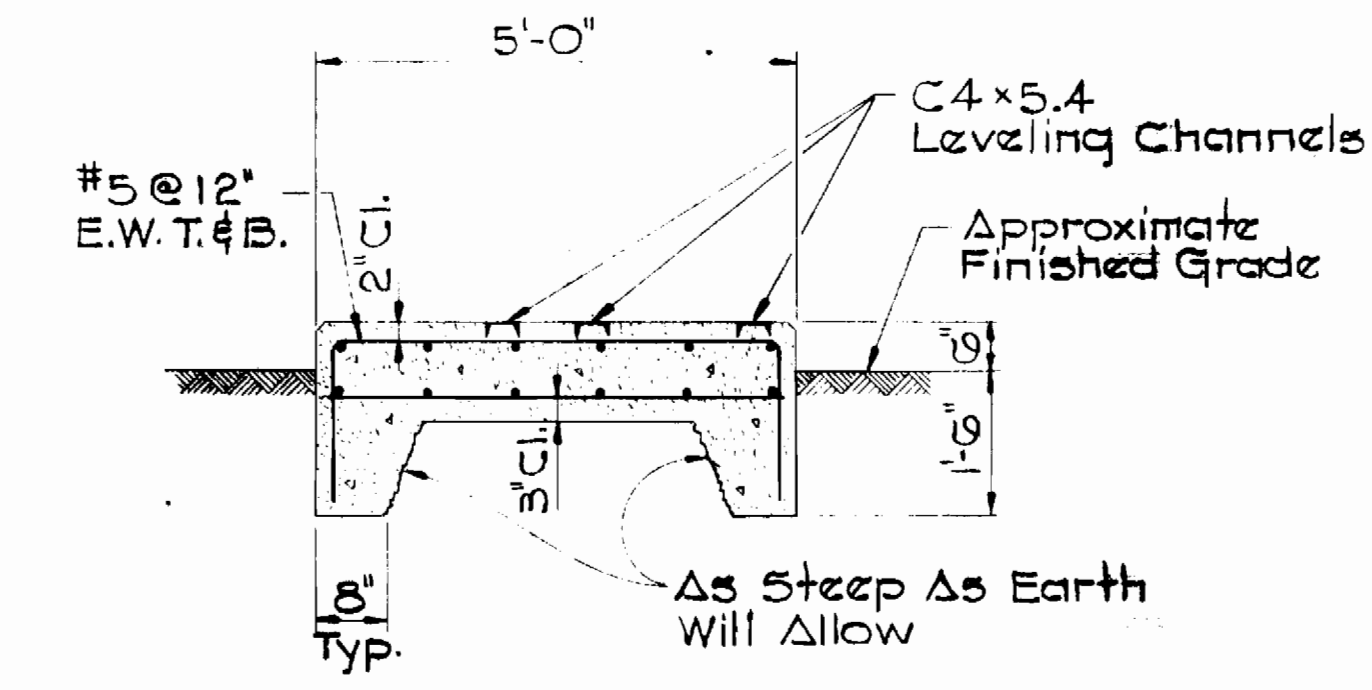
PLAN



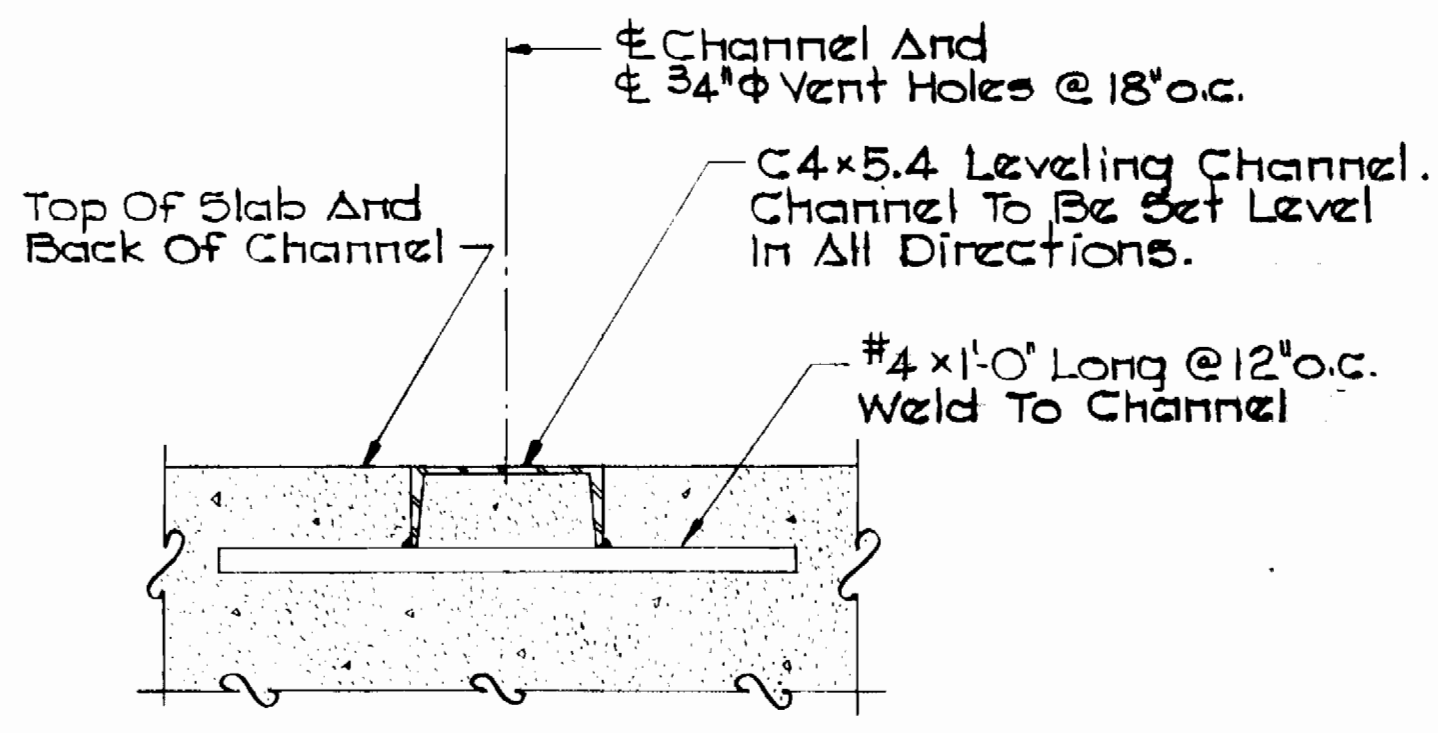
SECTION 56D/56
ALUMINUM HANDRAIL BASE DETAILS
Scale: 3/4" = 1'-0"



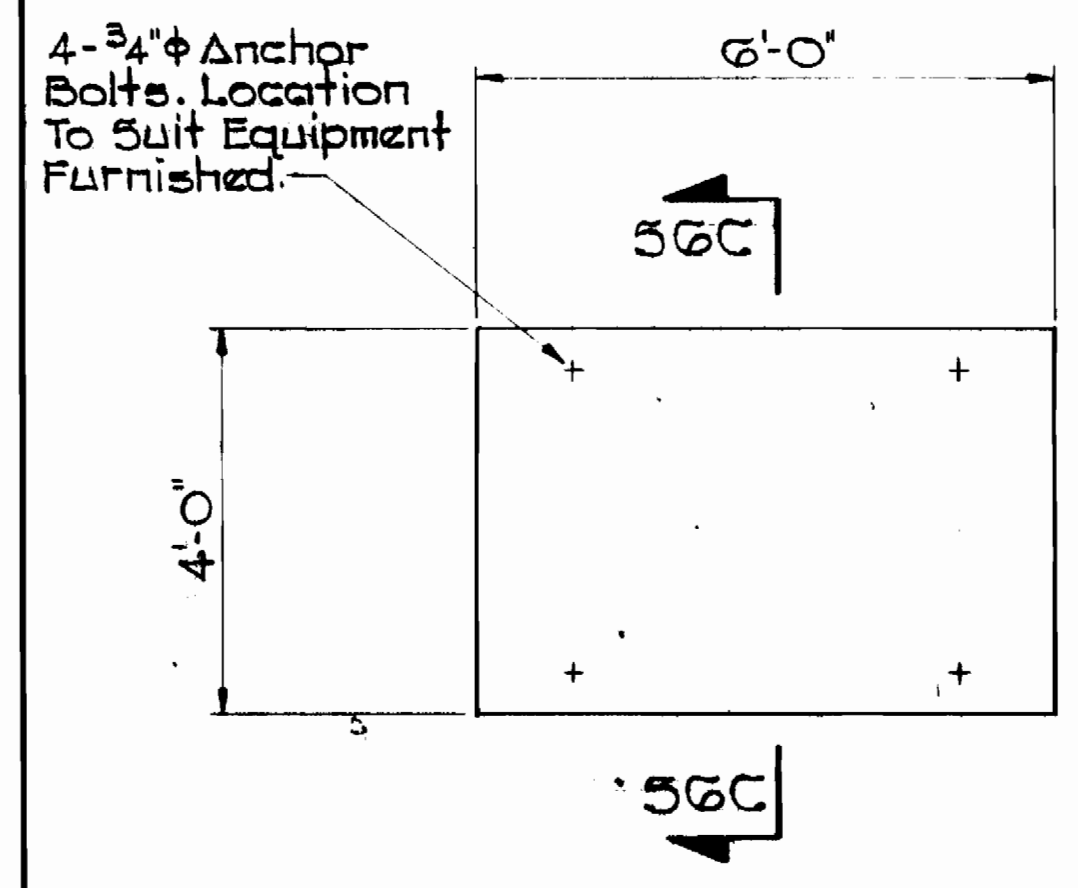
PLAN
CONTROL CENTER "CC 2" SUPPORT SLAB
Scale: 1/2" = 1'-0"



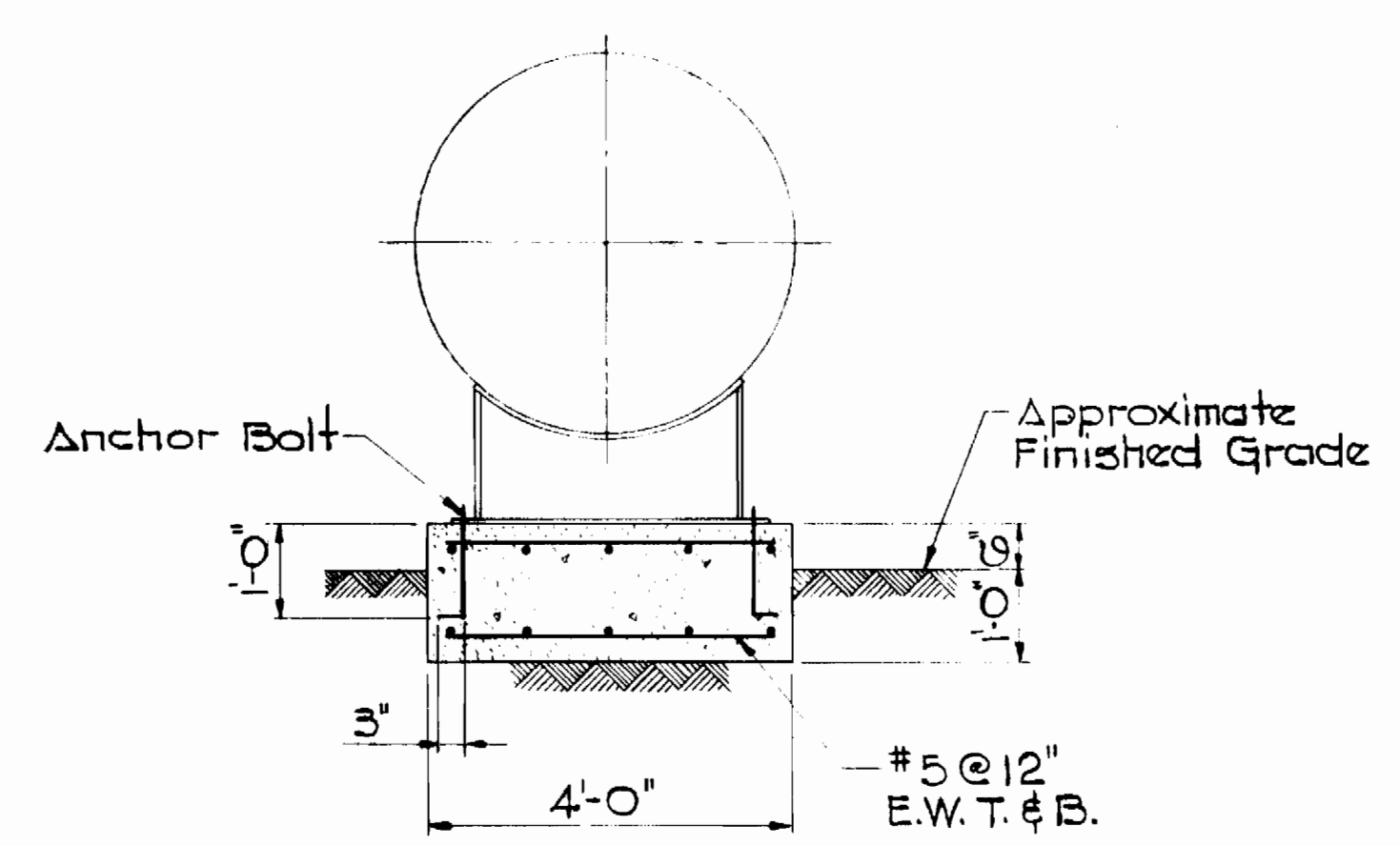
SECTION 56B/56



LEVELING CHANNEL DETAIL
Scale: 3/4" = 1'-0"



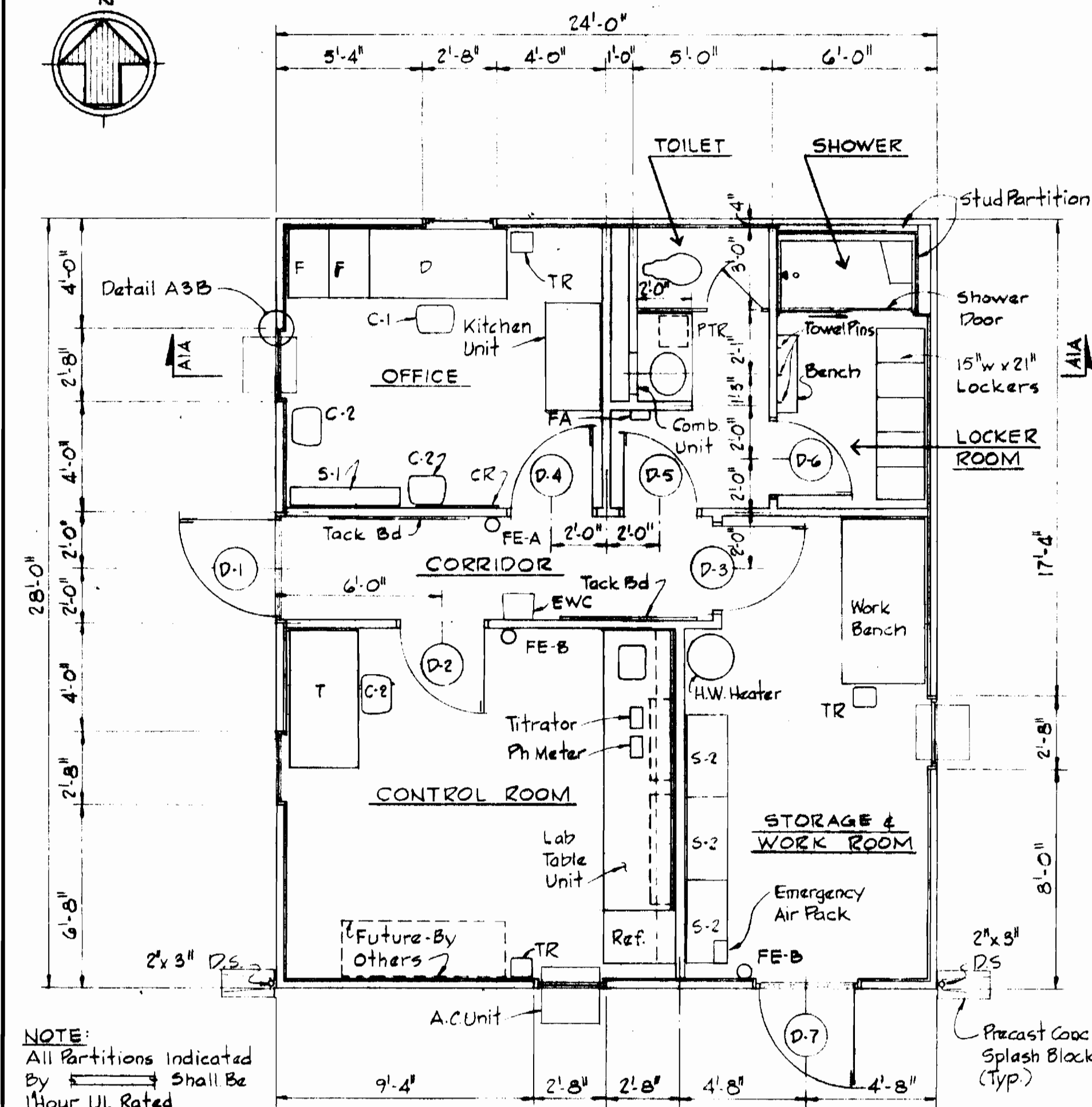
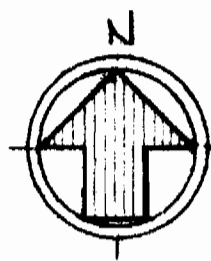
PLAN
FUEL TANK SUPPORT SLAB
Scale: 1/2" = 1'-0"



SECTION 56C/56

Kenneth Michael

WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: 3/6/79 CHIEF: BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 837-S	MISCELLANEOUS STRUCTURAL DETAILS	DEEP RUN INTERIM WASTEWATER TREATMENT PLANT	DRAWING NO. 17 OF 35	SCALE AS SHOWN
-----------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------	--------------------	-------------------------------------	------------------------------------------------	----------------------------	----------------------



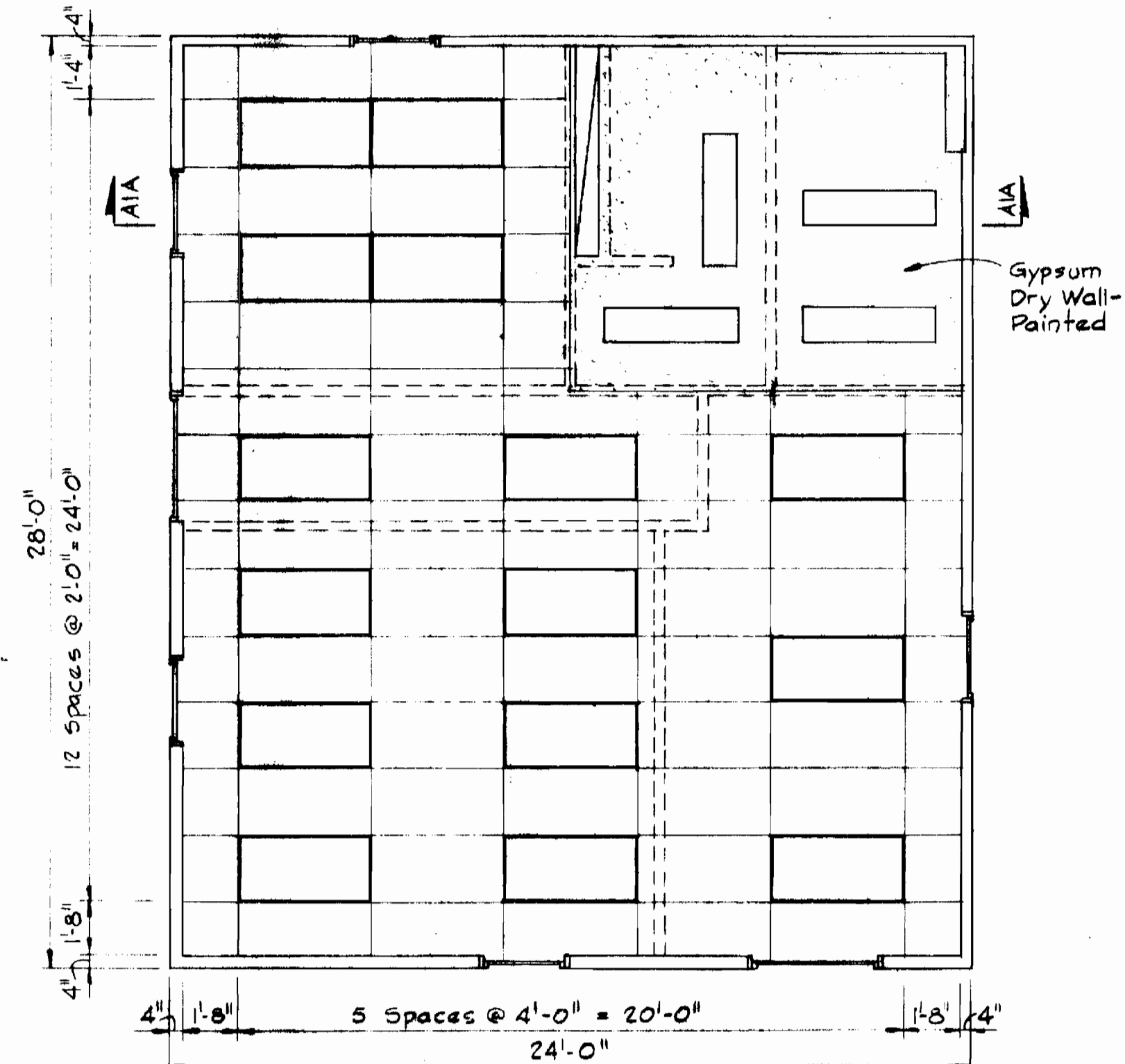
FLOOR PLAN

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

NOTE: All Partitions Indicated By [Symbol] Shall Be 1 Hour UL Rated Demountable Partitions.

Mounting Heights Above Finish Floor:

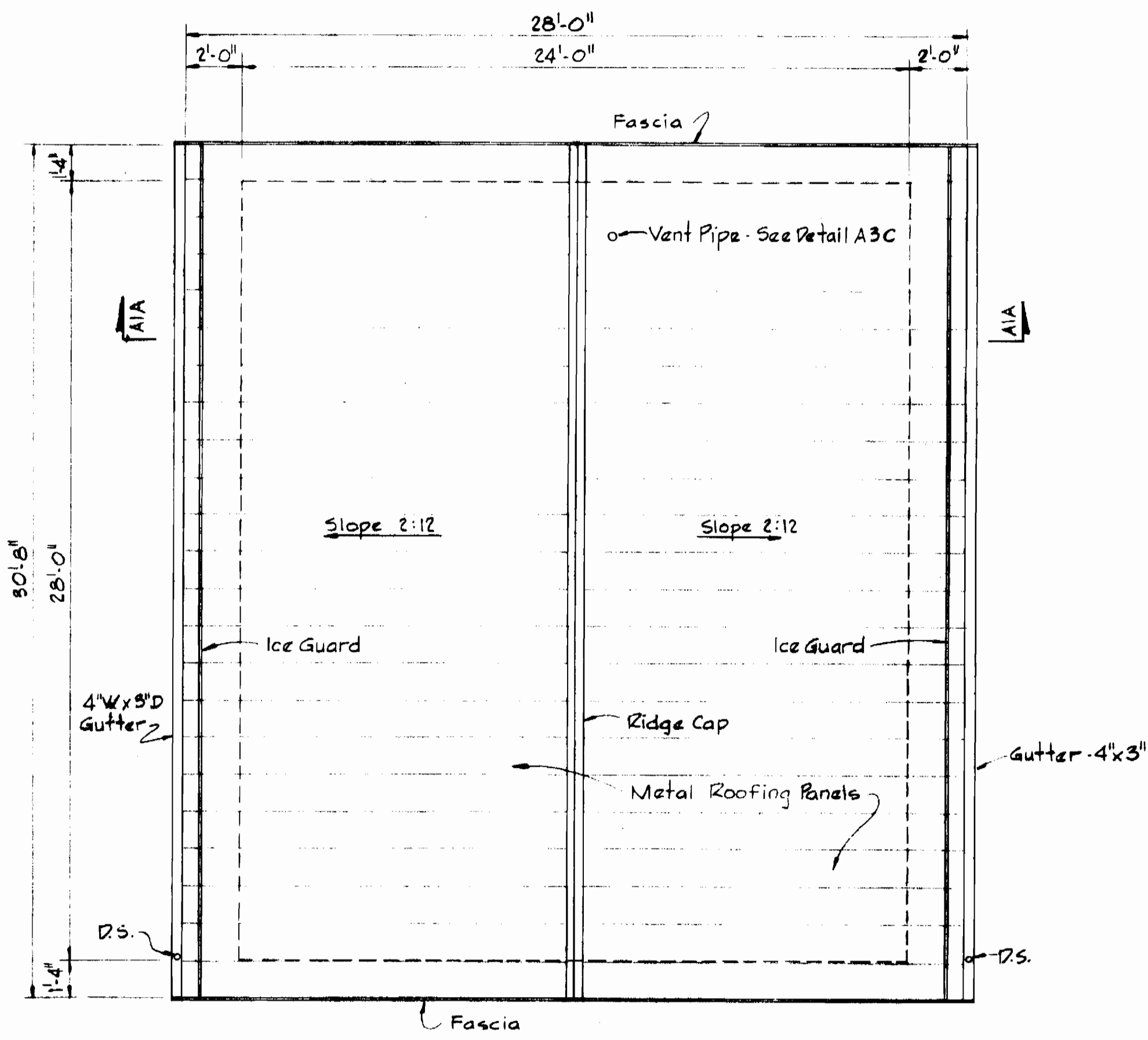
1. Top of Fire Extinguishers = 5'-4"
2. Top of S-I wall bracket = 6'-2"
3. Top of Combination Unit = 6'-0"
4. Top of Towel Pins = 5'-6"
5. Top of Tack Boards = 6'-0"
6. Top of Emergency Air Pack = 4'-0"
7. Top of First Aid Kit = 5'-0"



REFLECTED CEILING PLAN

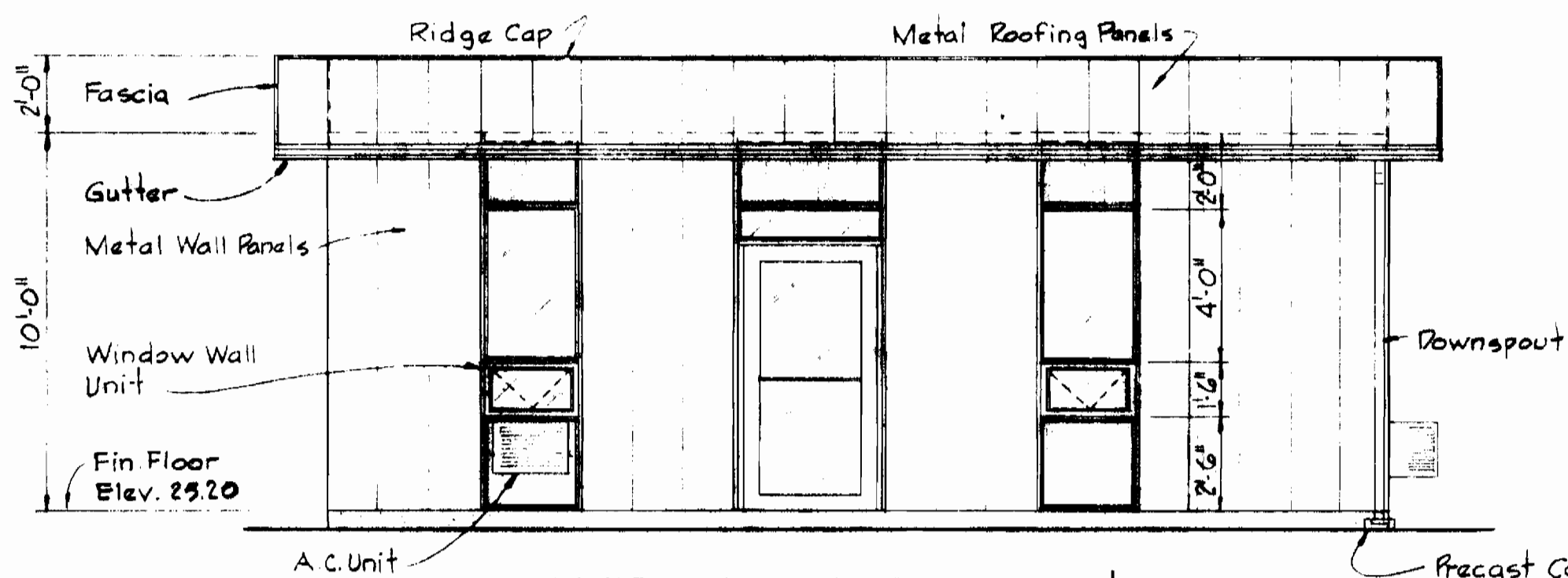
Scale: 1/4" = 1'-0"

NOTE: All Ceilings Shall Be Suspended From Metal Building.



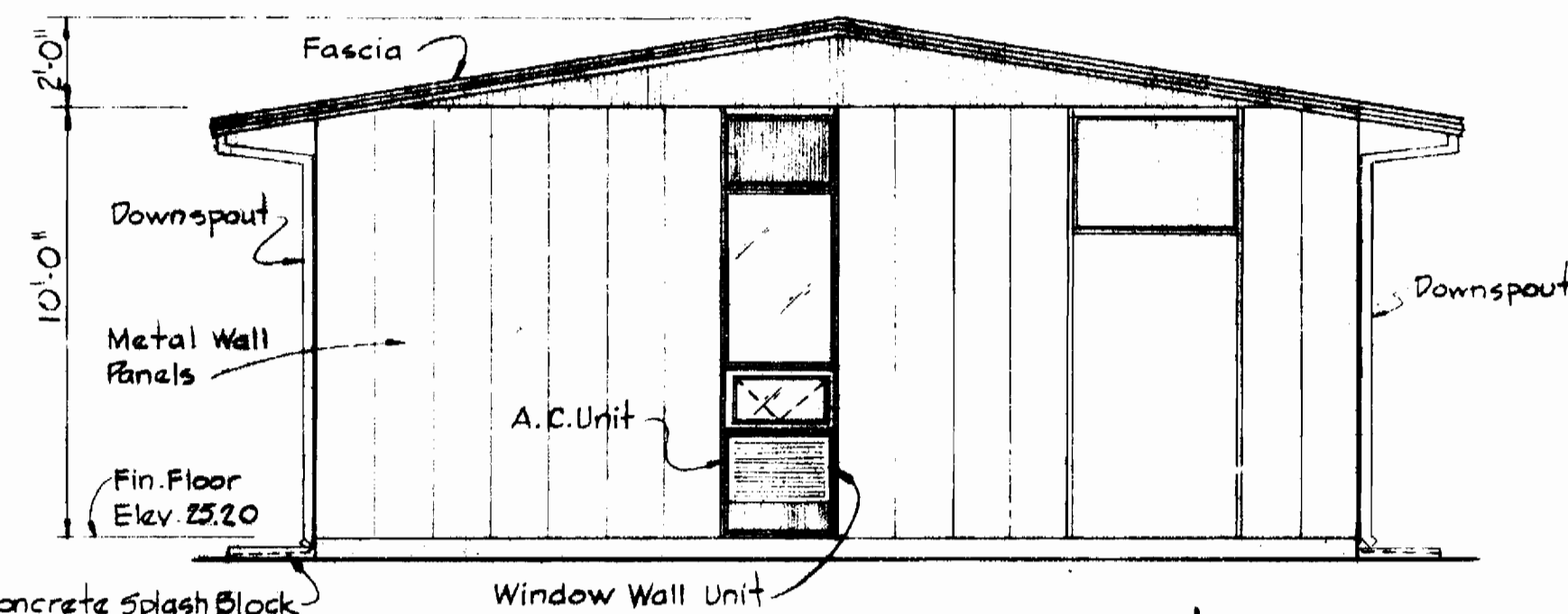
ROOF PLAN

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



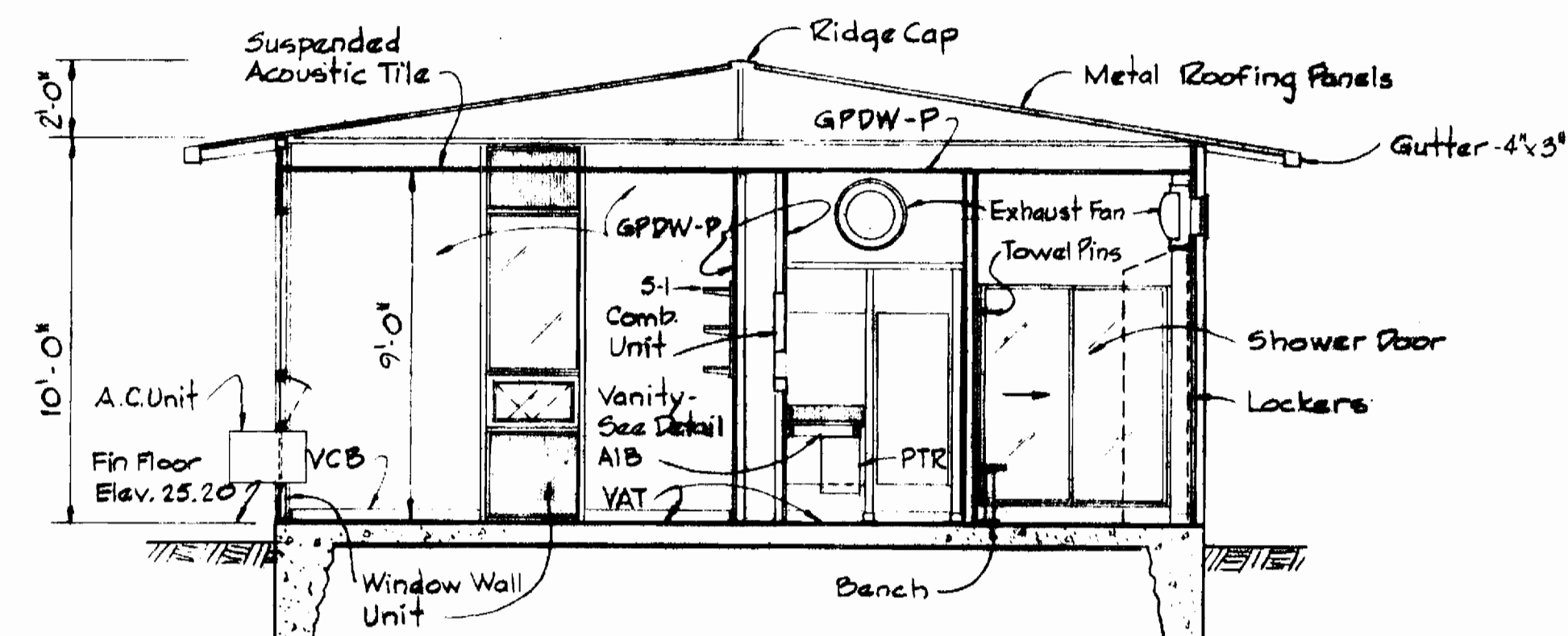
WEST ELEVATION

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



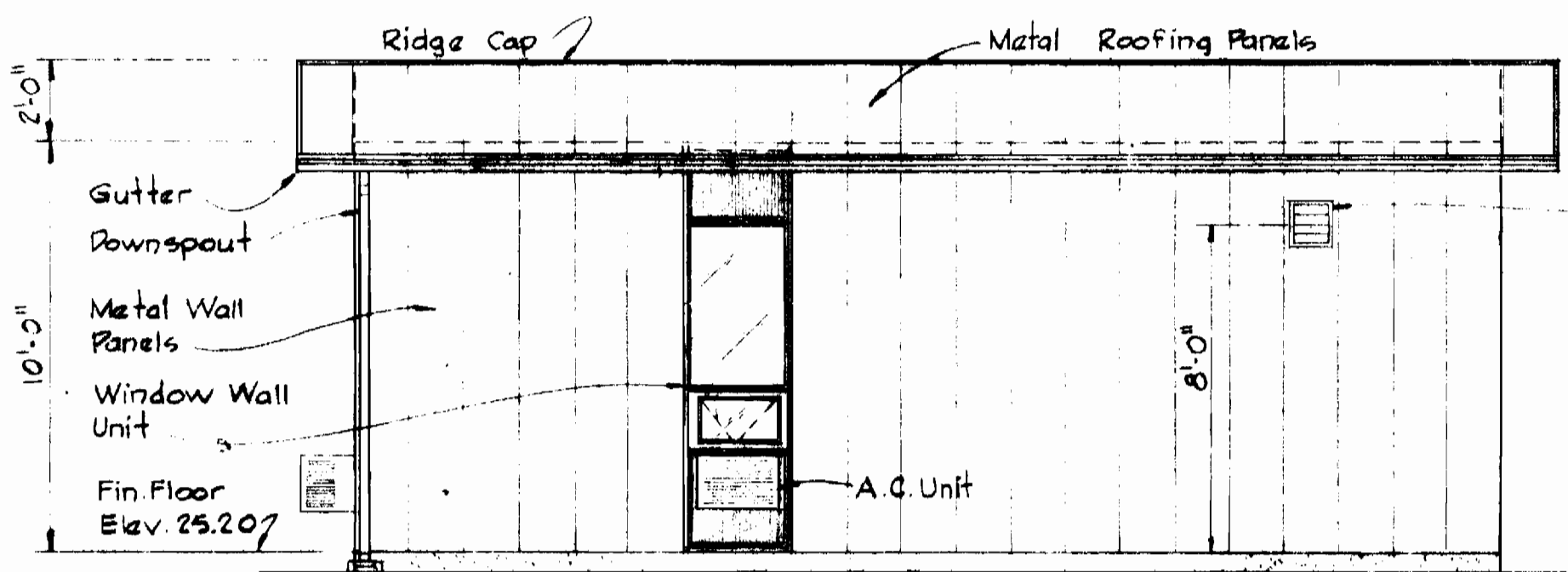
SOUTH ELEVATION

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



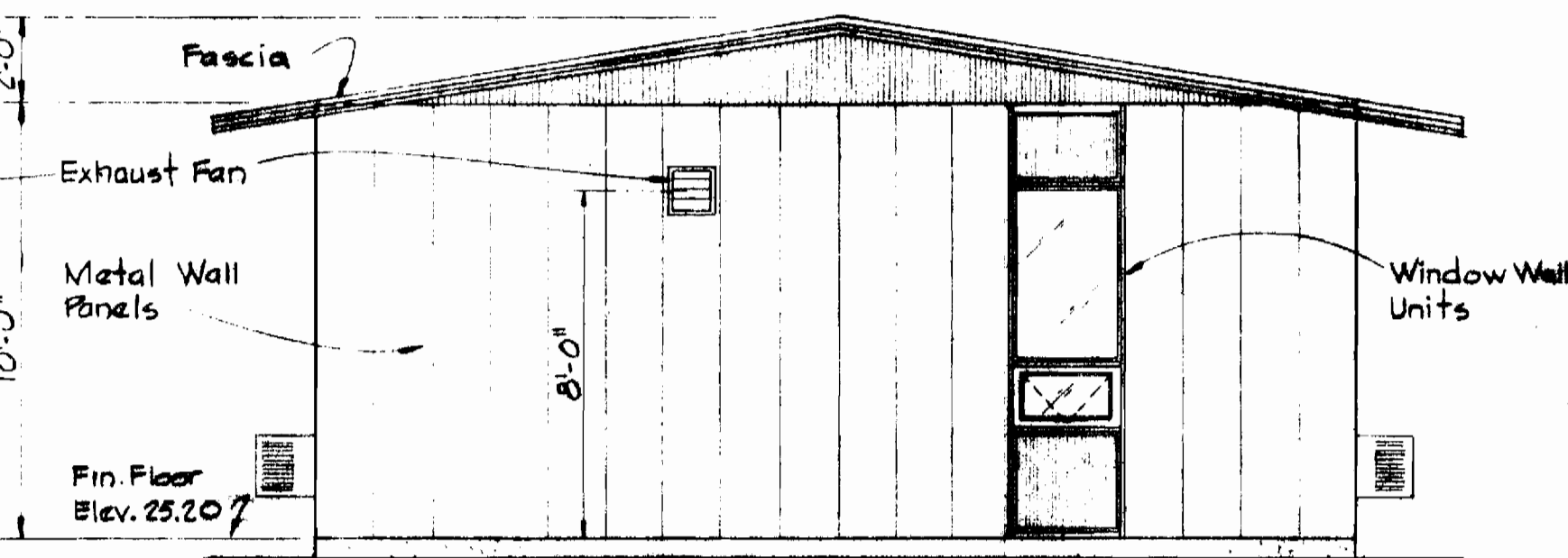
SECTION AIA/AI

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



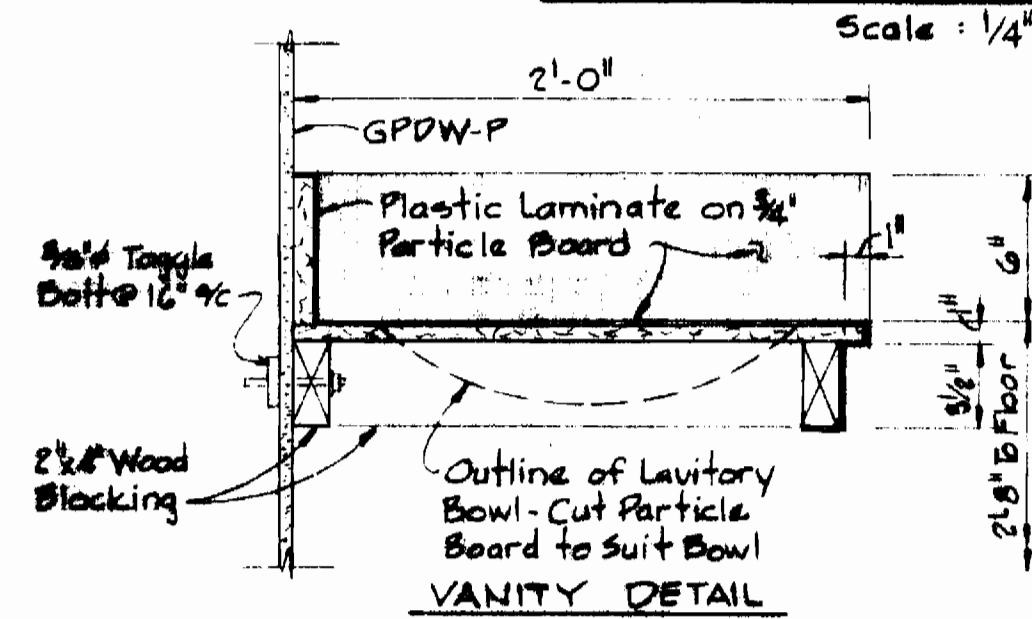
EAST ELEVATION

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



NORTH ELEVATION

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



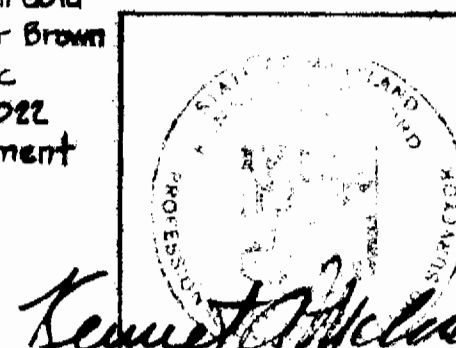
DETAIL A1B/AI

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

NOTE:

Colors of Exterior components of Prefabricated Metal Buildings shall be as follows:

Siding: Burnished Gold	ARMCO	Autum Gold
Trim: Bronze		Quaker Brown
Roofs: TO-2022		Thermax
Accent Panels: Parchment		TO-2022
		Parchment



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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

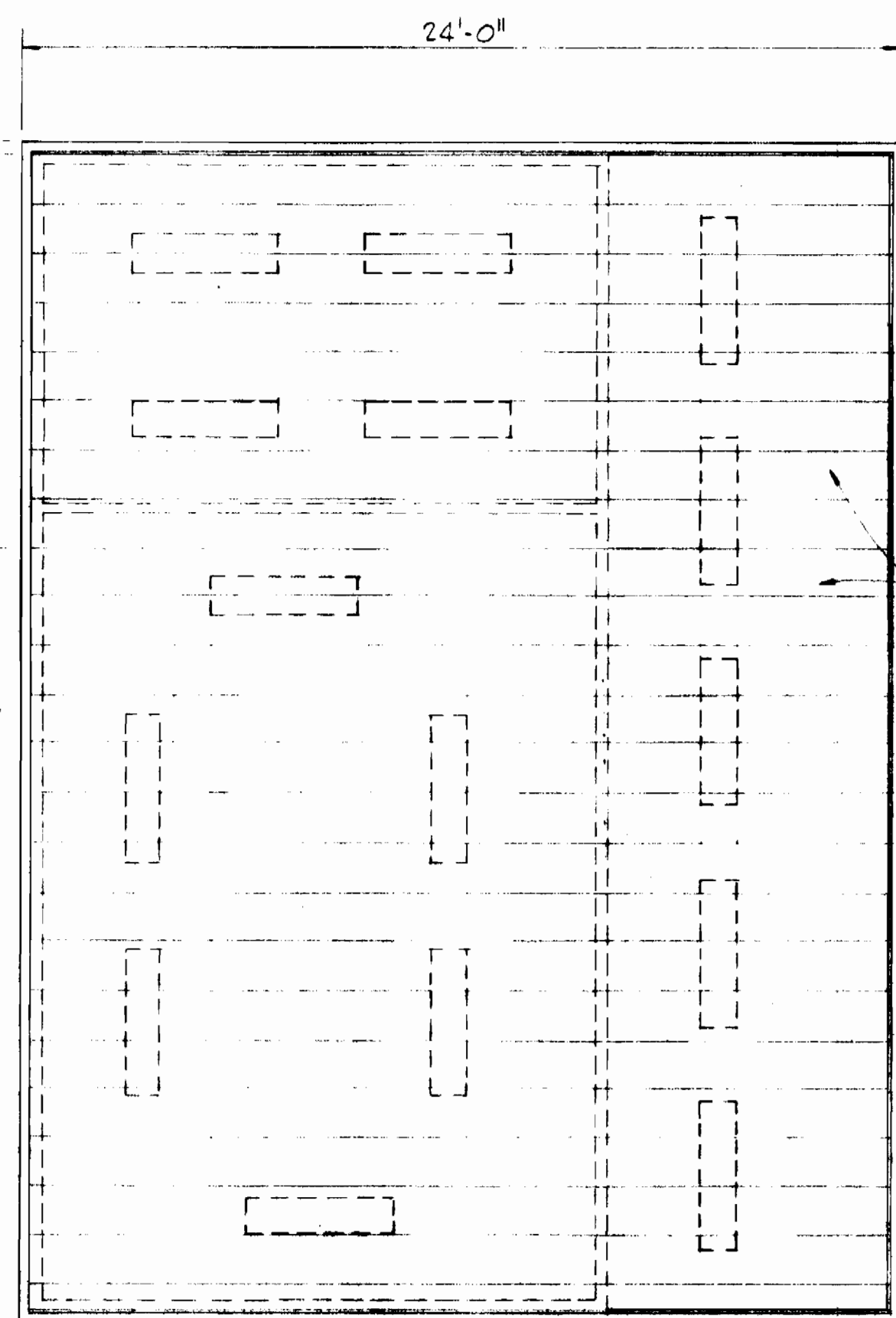
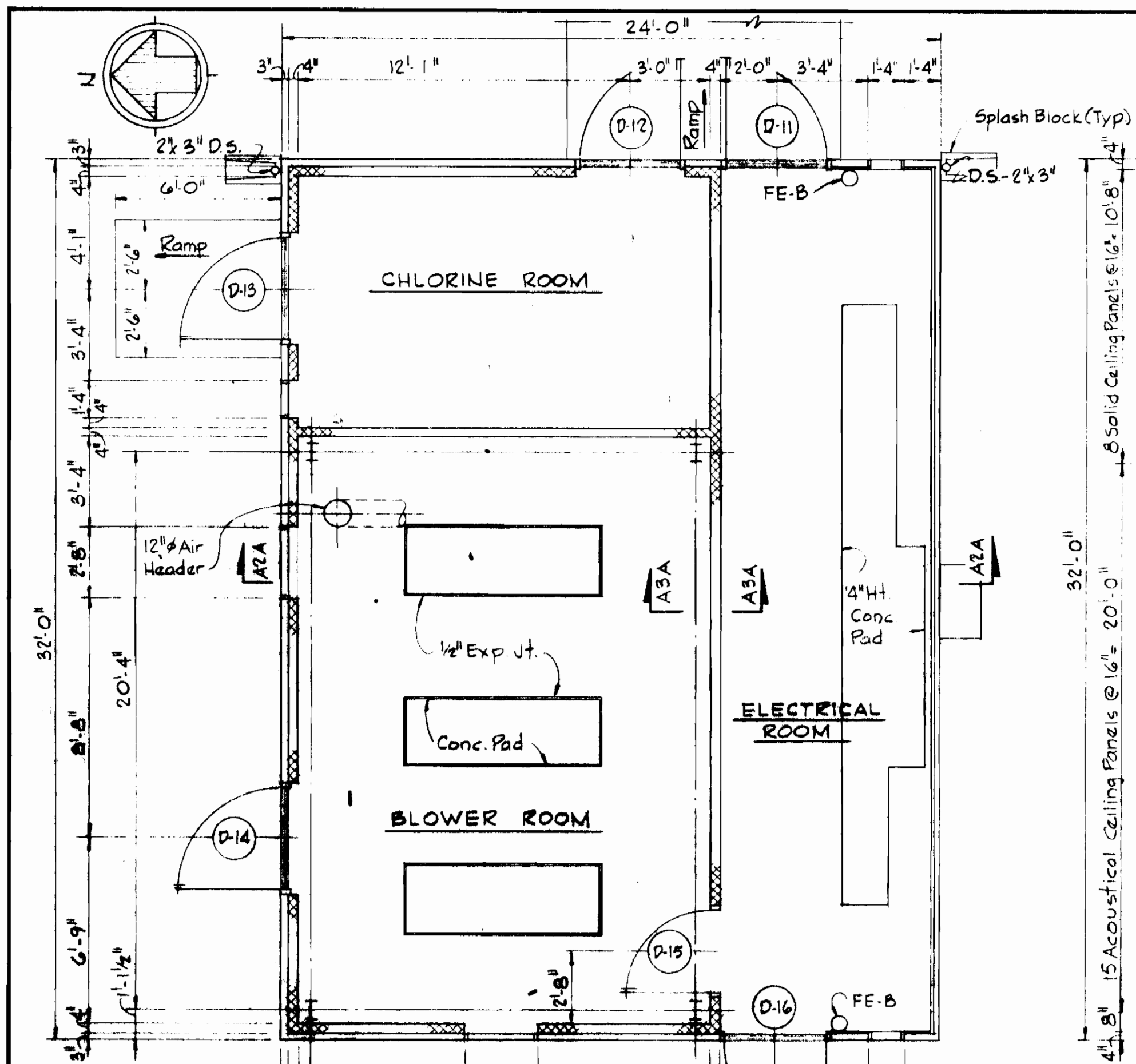
CONTRACT NO. 837-S

OPERATION BUILDING
PLANS, ELEVATIONS & SECTIONS

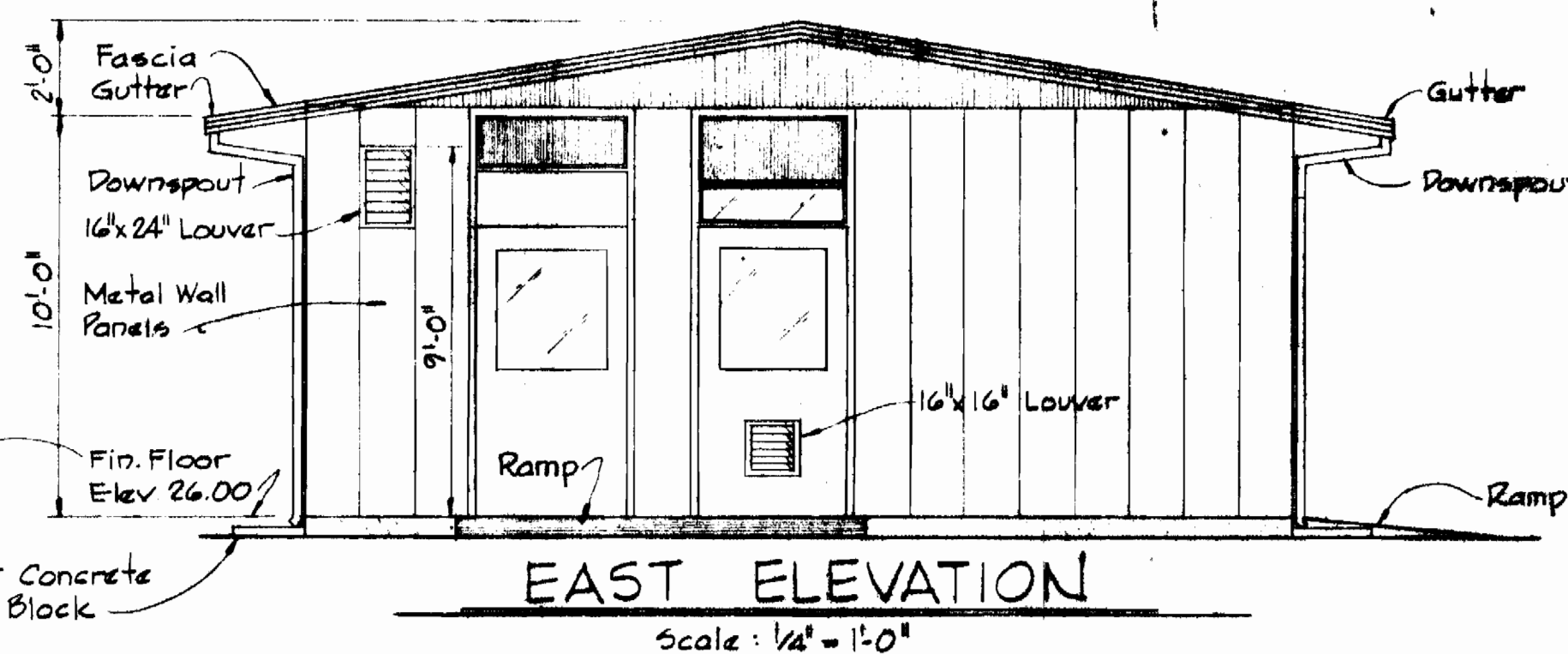
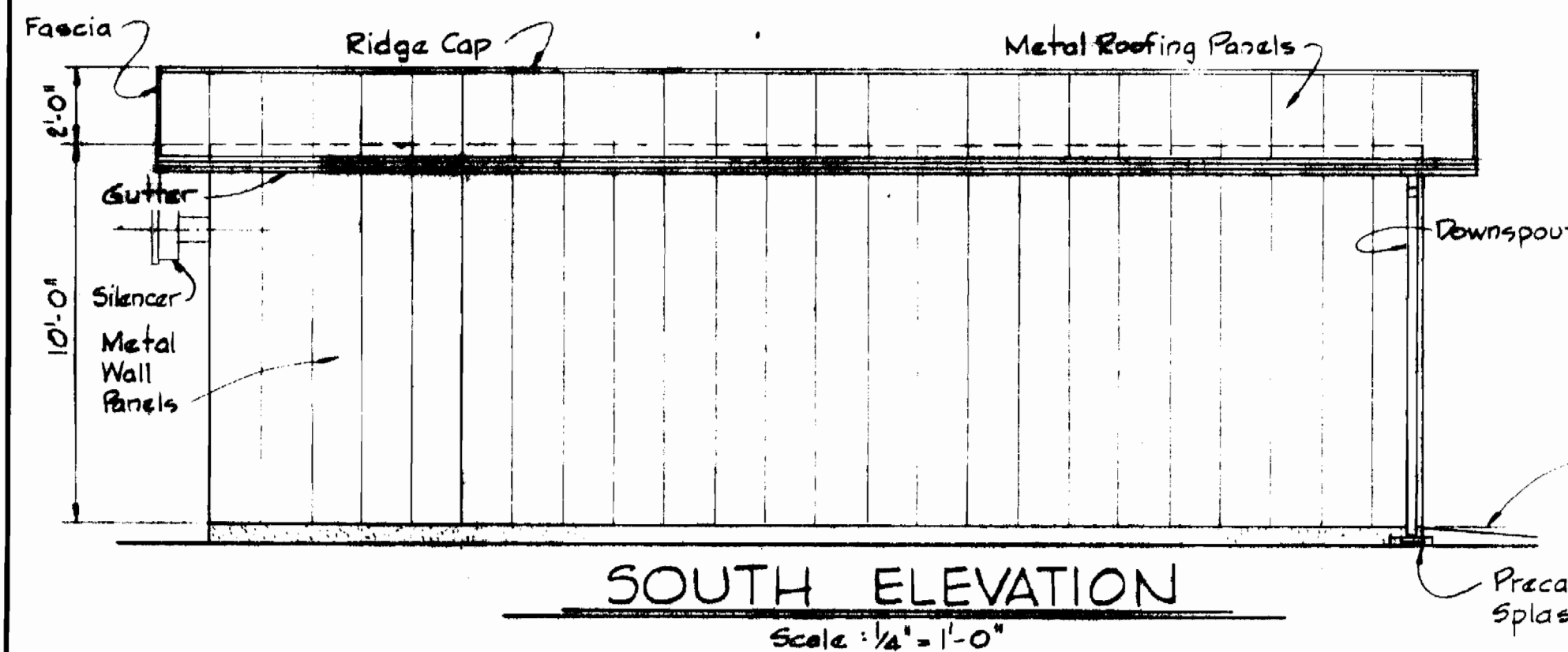
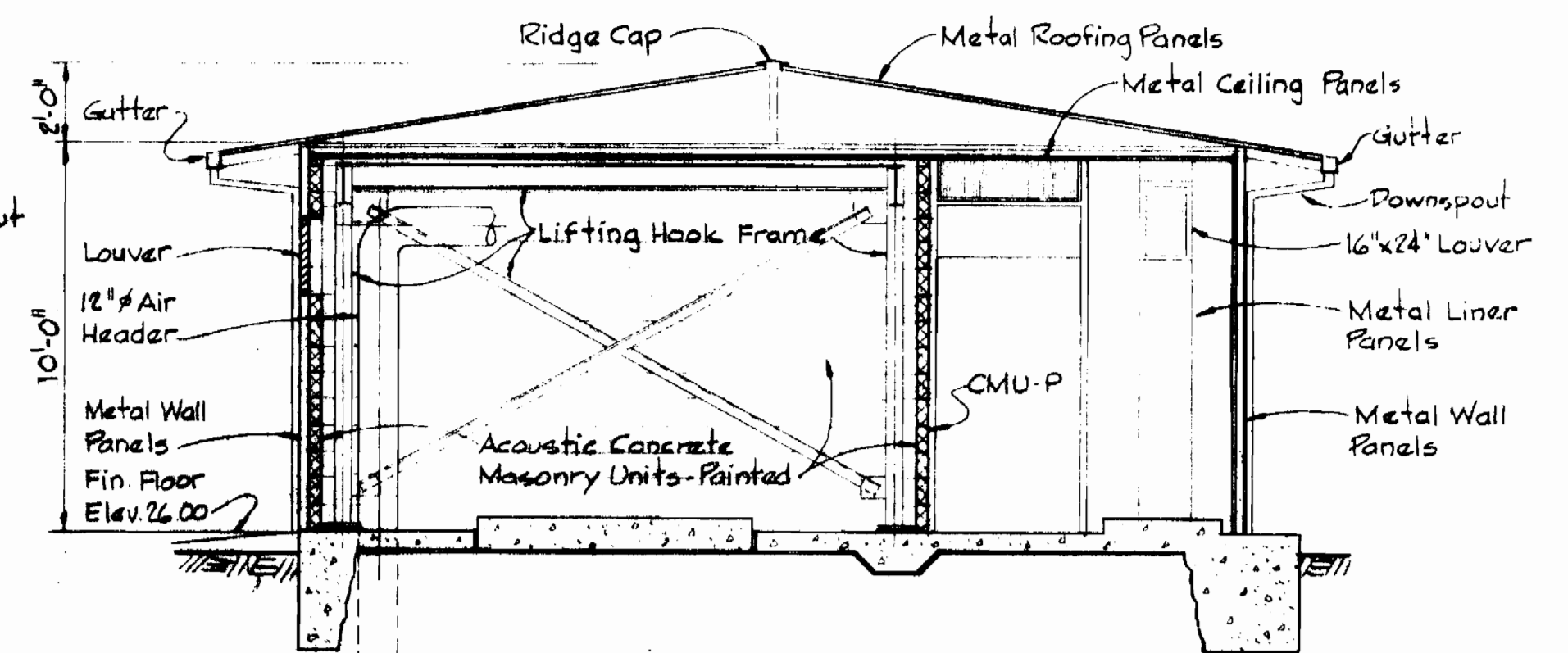
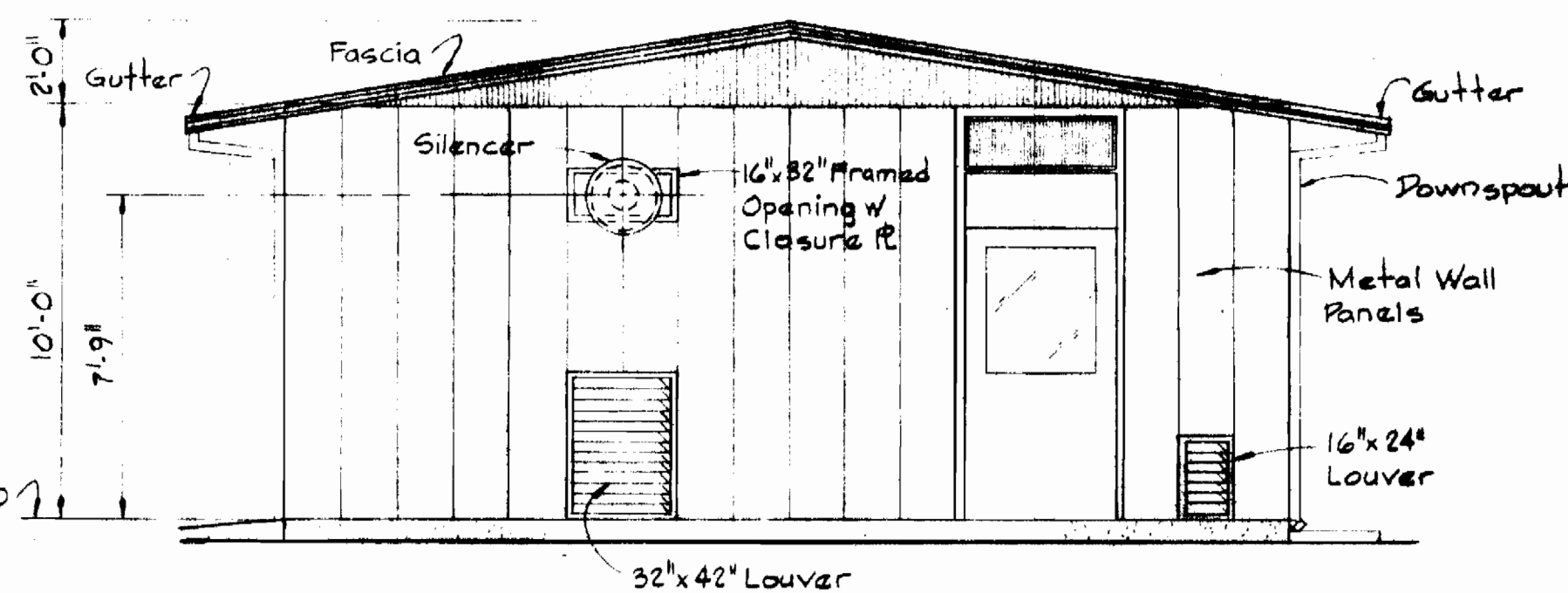
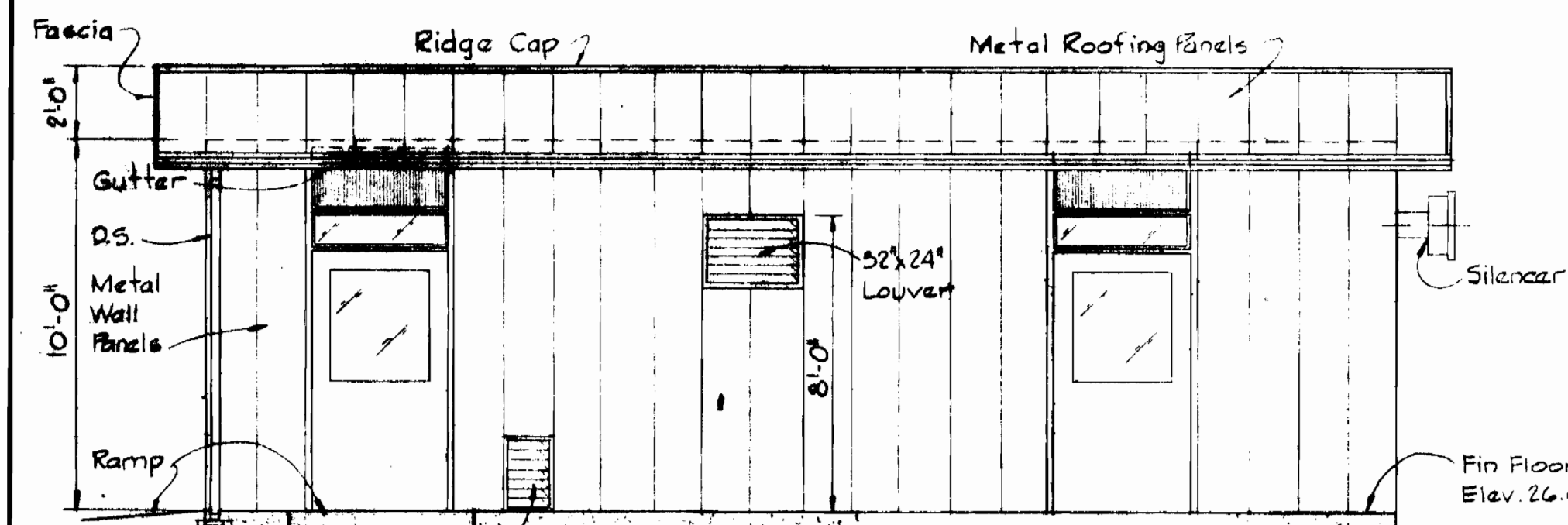
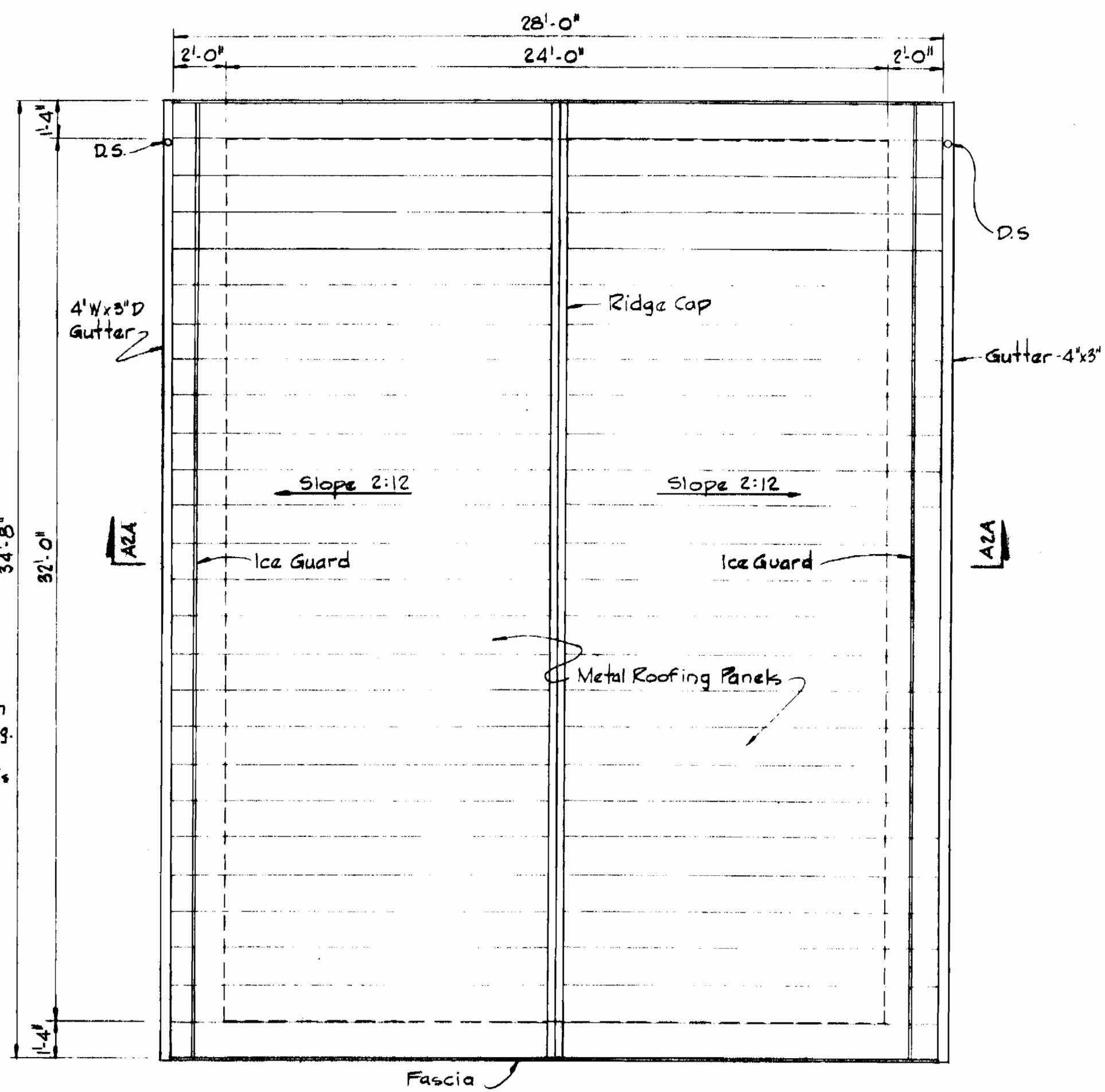
DEEP RUN INTERIM
WASTEWATER TREATMENT PLANT

DRAWING
NO. 18
OF 35

SCALE
AS
SHOWN



NOTE:
Extend 3" T.K.
Ceiling Insulation
over entire ceiling.
Omit roof
insulation in this
building only.



THERMAL VALUES

MATERIAL	U-Value
Uo-Gross Exterior Wall - Operations Building	0.179
Uo-Gross Exterior Wall - Service Building	0.210
Uo-Roof/Ceiling - Both Buildings	0.100
Metal Siding, Insulation & 1/2" Gyp Drywall	0.11
3/8" Insulated Panels	0.25
3/8" Insulated Glass	0.50
Metal Siding & Liner Panel	0.19
Metal Siding, Insulation & CMU	0.10
Metal Siding, Insulation & ACMU	0.09
H.M. Door	0.35
Entrance Door - 1/4" T.K. Glass	1.13
Louvers	1.15

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CONTRACT NO. 837-S

SERVICE BUILDING
PLANS, ELEVATIONS & SECTIONS

DEEP RUN INTERIM
WASTEWATER TREATMENT PLANT

DRAWING
NO. 19
OF 35
SCALE
AS
SHOWN

FINISH SCHEDULE

ABBREVIATIONS USED IN FINISH SCHEDULE AND DRAWINGS

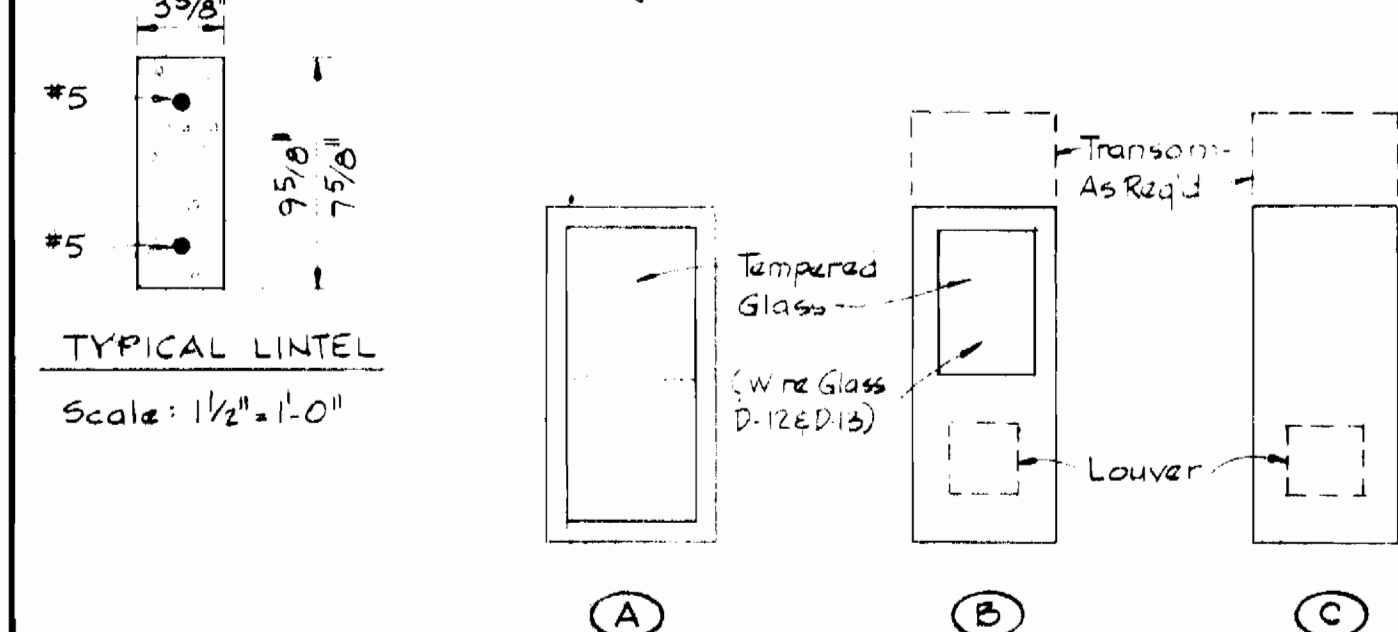
ACT	ACOUSTICAL TILE	HM	HOLLOW METAL	MB	METAL BASE
ALUM	ALUMINUM	HT	HEIGHT	PLP	PREPARED LINE PLASTER
CARP	CARPENTRY	ACPL	KEENE'S CEMENT PLASTER	PCP	PREPARED CONCRETE PANEL
CFH	CONCRETE FLOOR HARDENER	MT	METAL THRESHOLD	ACMUP	INDUSTRIAL CONCRETE MASONRY
CJT	CONTROL JOINT	PLAS-P	PLASTER (P-PAINTED)	PE	PAINTS-PAINTED
CMU-P	CONCRETE MASONRY UNITS (P-PAINTED)	PTD	PAPER TOWEL DISPENSER	FE	FIRE EXTINGUISHER
CONC	CONCRETE	PTR	PAPER TOWEL RECEPTOR	FA	SHIRT AND KIT
ES-P	EXPOSED STRUCTURE (P-PAINTED)	RD	ROOF DRAIN		
EXP. JT.	EXPANSION JOINT	SAT	SUSPENDED ACOUSTICAL TILE		
FD	FLOOR DRAIN	SST	STAINLESS STEEL		
GA	GAUGE	TPD	TOILET PAPER DISPENSER		
GCMU-P	GLAZED CONCRETE MASONRY UNITS	VAT	VINYL ASBESTOS TILE		
GPDW-P	GYPSUM DRY WALL (P-PAINTED)	VCB	VINYL COVE BASE		
HDW	HARDWARE	VCCB	VINYL COVERED GYPSUM BOARD		

ROOM OR AREA	FLOOR		BASE		WALL		CEILING		REMARKS
	MAT'L	COLOR	MAT'L	COLOR	MAT'L	COLOR	MAT'L	COLOR	
OFFICE	VAT		VCB		GPDWP		SAT		9'-0"
CORRIDOR	VAT		VCB		GPDWP		SAT		9'-0"
CONTROL ROOM	VAT		VCB		GPDWP		SAT		9'-0"
TOILET	VAT		VCB		GPDWP		GPDWP		9'-0"
LOCKER ROOM	VAT		VCB		GPDWP		GPDWP		9'-0"
SHOWER					GPDWP		GPDWP		9'-0"
STORAGE & WORK ROOM	VAT		VCB		GPDWP		SAT		9'-0"
ELECTRICAL ROOM	CONC.		MB		PLP		PCP		9'-8"
CHLORINE ROOM	CONC.		CMU-P		CMU-P		PCP		9'-8"
BLOWER ROOM	CONC.		ACMU-P		ACMU-P		PCP		9'-8"

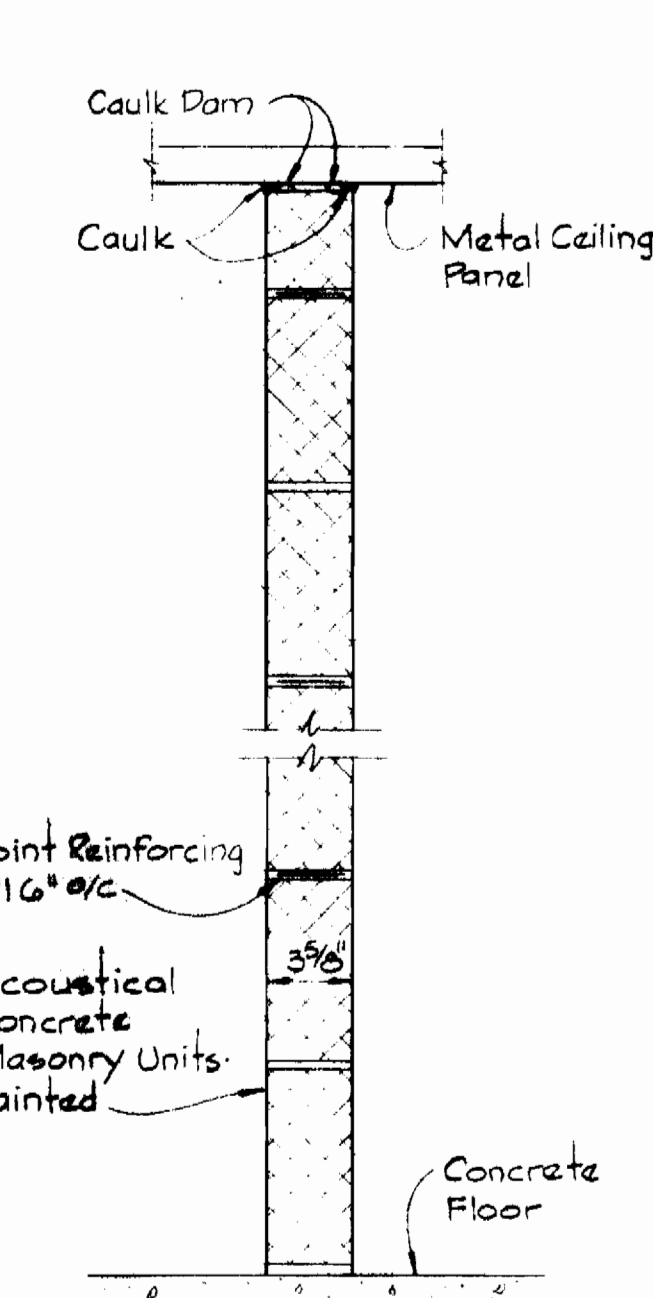
DOOR SCHEDULE

NO.	SIZE	MAT'L	TYPE	HEAD	JAMB	LOUVER	LINTEL	TRANSOM	HDW	KICK R.
D-1	3'-6" x 7'-0" x 1 3/4"	ALUM	A	H-1	J-1				HW-1	
D-2	3'-0" x 7'-0" x 1 3/4"	PLAM	B	H-2	J-2	18" x 18"		3'-0" x 1'-0"	HW-2	
D-3	3'-0" x 7'-0" x 1 3/4"	PLAM	B	H-2	J-2	18" x 18"		3'-0" x 1'-0"	HW-2	
D-4	3'-0" x 7'-0" x 1 3/4"	PLAM	B	H-2	J-2	18" x 18"		3'-0" x 1'-0"	HW-2	
D-5	3'-0" x 7'-0" x 1 3/4"	PLAM	C	H-2	J-2	24" x 24"		3'-0" x 1'-0"	HW-3	8" x 24"
D-6	2'-8" x 7'-0" x 1 3/4"	PLAM	C	H-2	J-2	18" x 18"		2'-8" x 1'-0"	HW-3	8" x 30"
D-7	3'-8" x 7'-0" x 1 3/4"	H.M.	C	H-3	J-3				HW-4	
D-8	Not Used									
D-9	Not Used									
D-10	Not Used									
D-11	3'-8" x 7'-0" x 1 3/4"	H.M.	B	H-4	J-4 & 5			3'-8" x 1'-0"	HW-7	
D-12	3'-8" x 7'-0" x 1 3/4"	H.M.	B	H-5	J-5	16" x 16"			HW-5	
D-13	3'-8" x 7'-0" x 1 3/4"	H.M.	B	H-5	J-5				HW-5	
D-14	3'-8" x 7'-0" x 1 3/4"	H.M.	B	H-5	J-5				HW-4	
D-15	3'-0" x 7'-0" x 1 3/4"	H.M.	B	H-6	J-6				HW-6	
D-16	3'-8" x 7'-0" x 1 3/4"	H.M.	B	H-4	J-4 & 5			3'-8" x 1'-0"	HW-7	

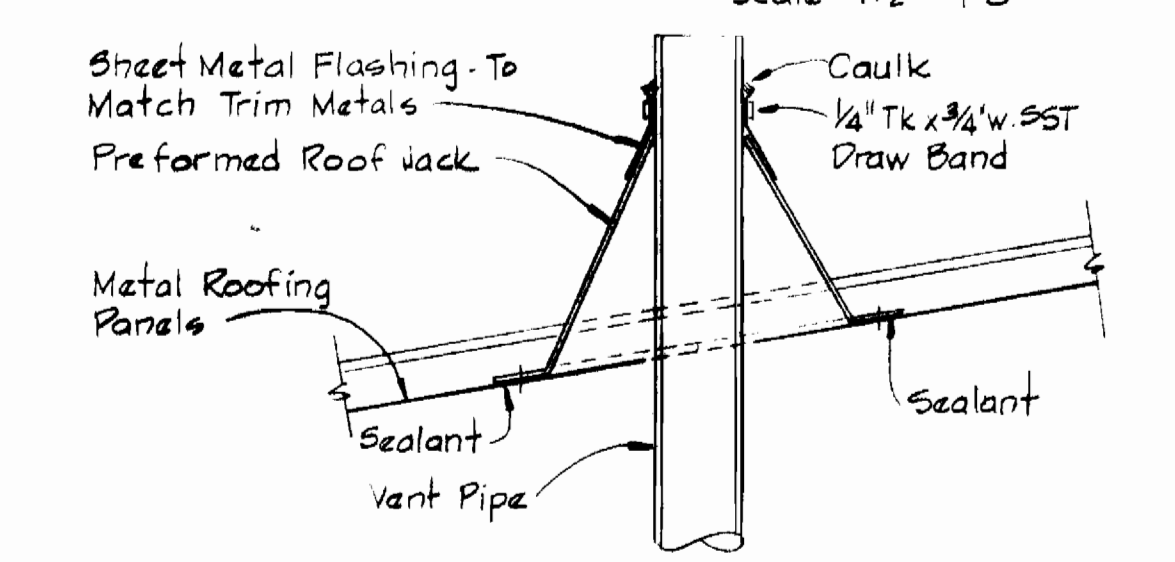
NOTE: Provide Precast concrete Lintels Above All Doors, Louvers & Framed Openings in the BLOWER ROOM. Lintels shall have 15' Min Bearing on each side. Length shall be as required for each opening.



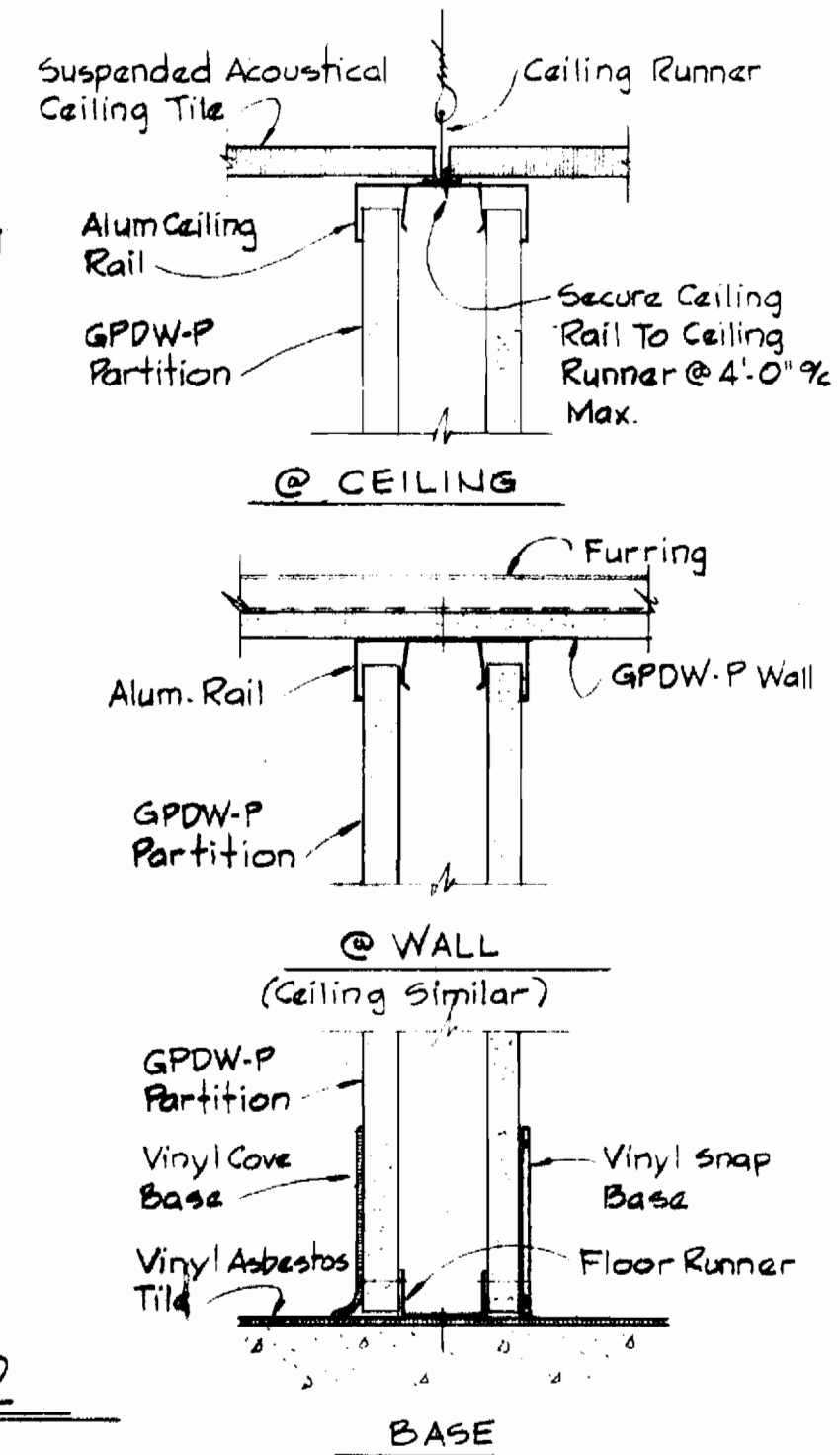
DOOR TYPES
No Scale



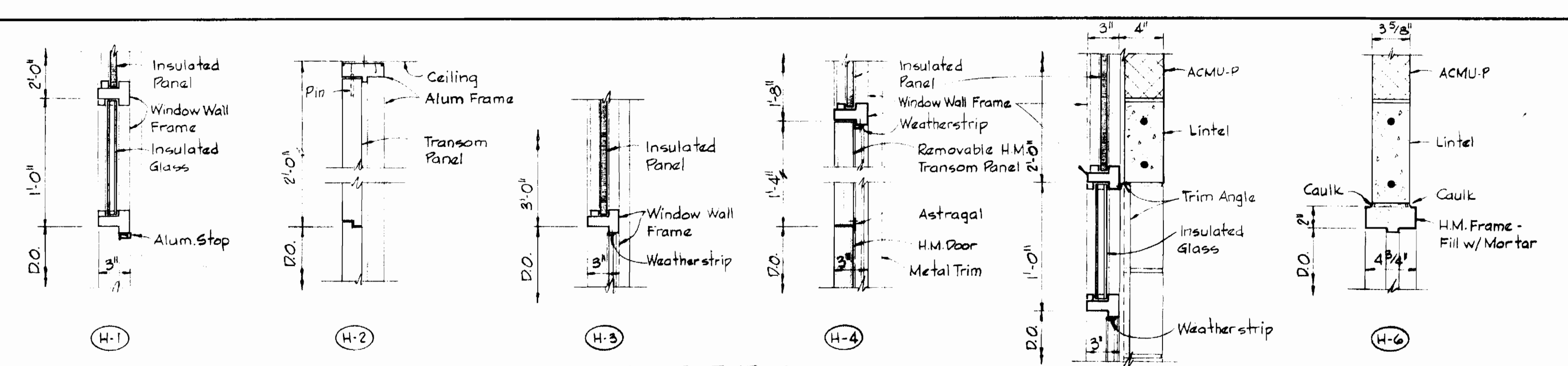
SECTION A3A/A2
Scale: 1/2" = 1'-0"



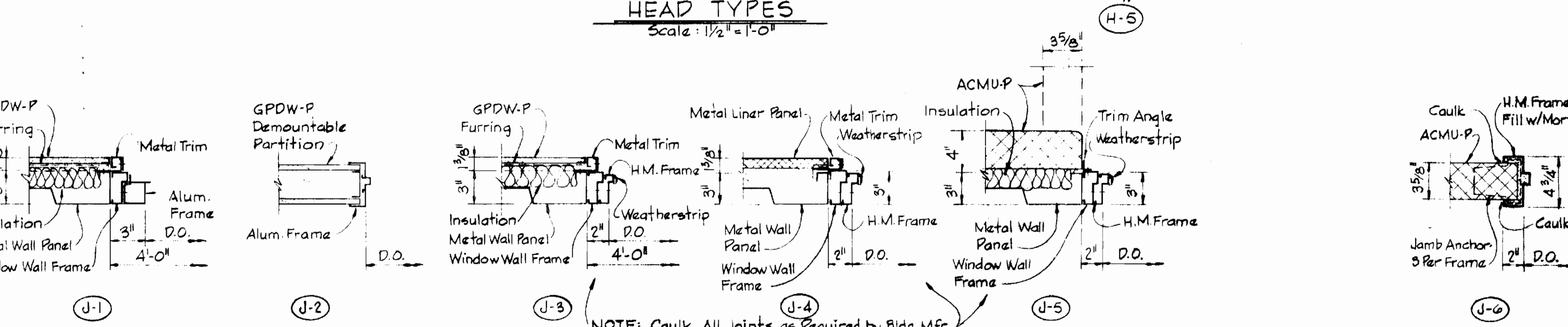
VENT PIPE
DETAIL A3C/A1
Scale: 1/2" = 1'-0"



TYPICAL DETAILS
Scale: 3/4" = 1'-0"

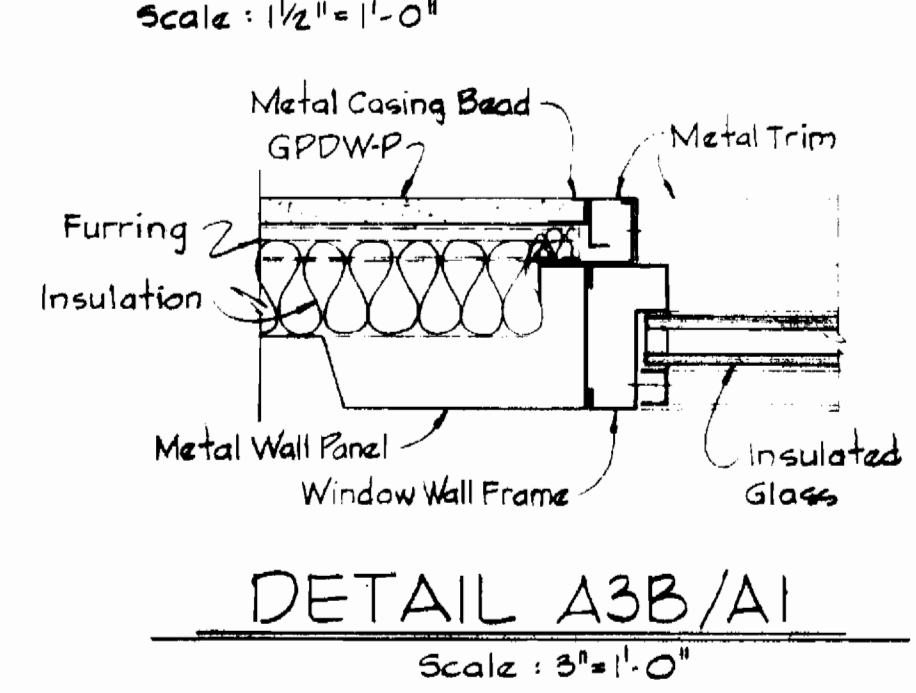


HEAD TYPES
Scale: 1/2" = 1'-0"

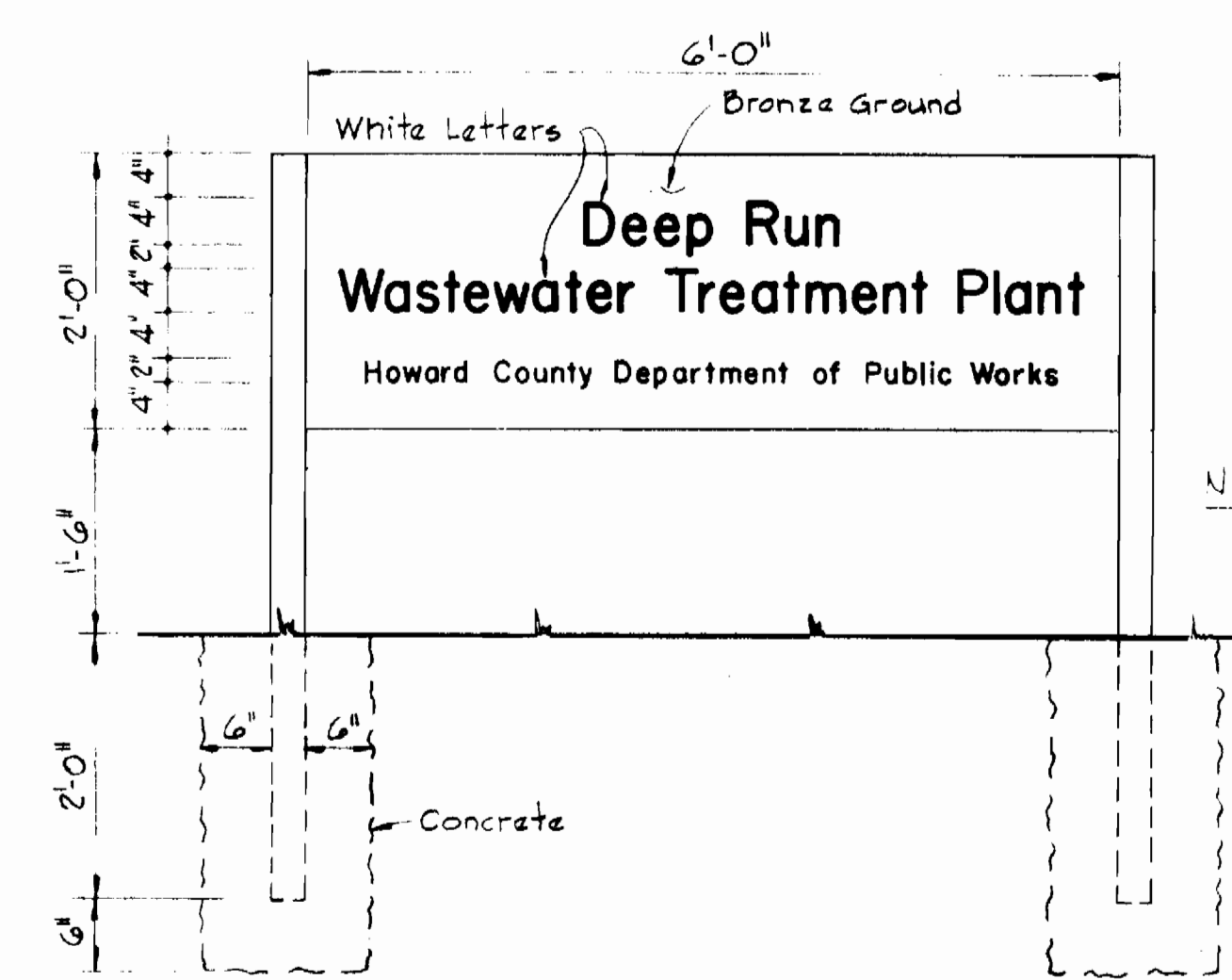


JAMB TYPES
Scale: 1/2" = 1'-0"

NOTE: Caulk All Joints as Required by Bldg Mfr.

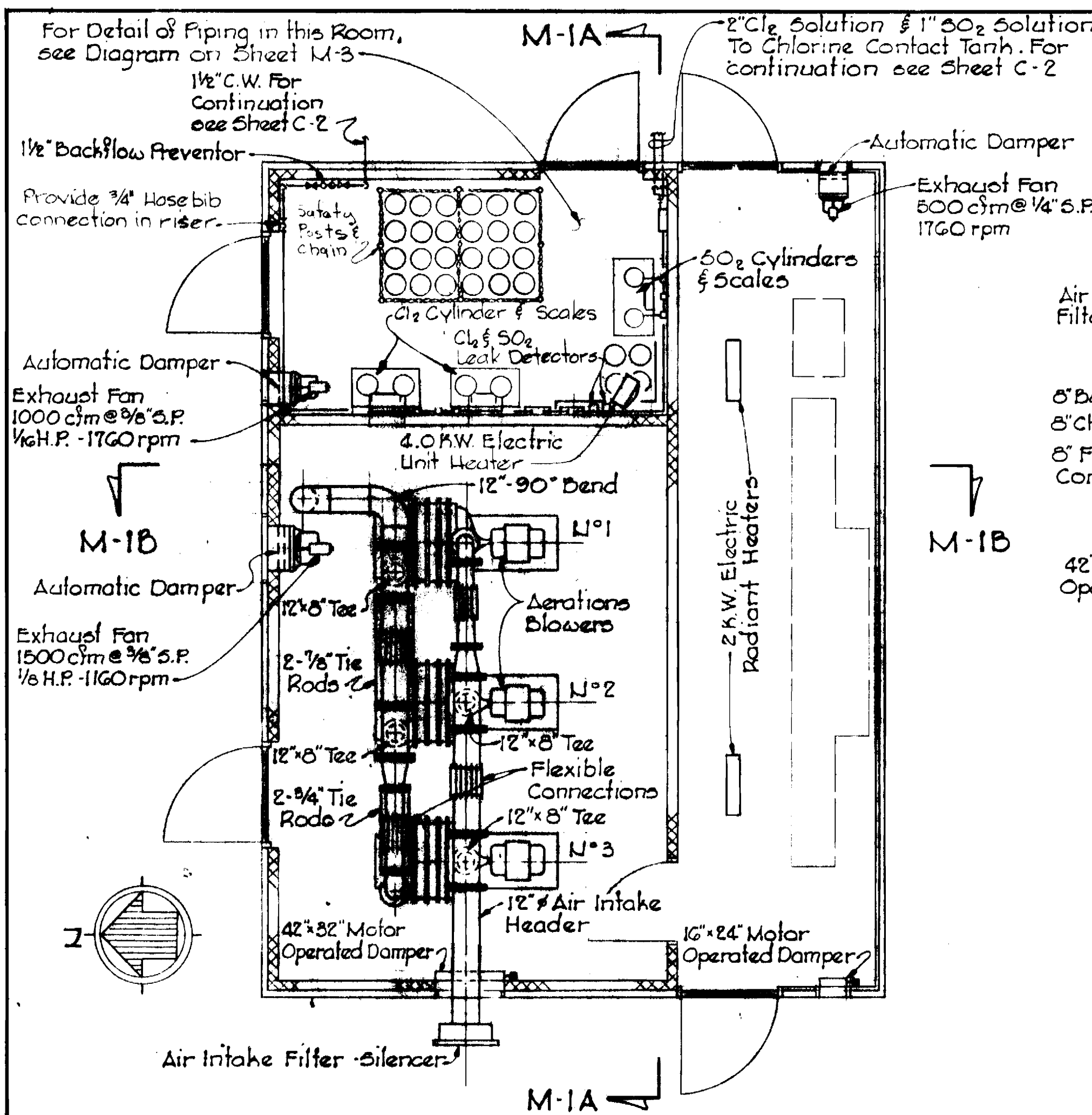


DETAIL A3B/A1
Scale: 3/4" = 1'-0"

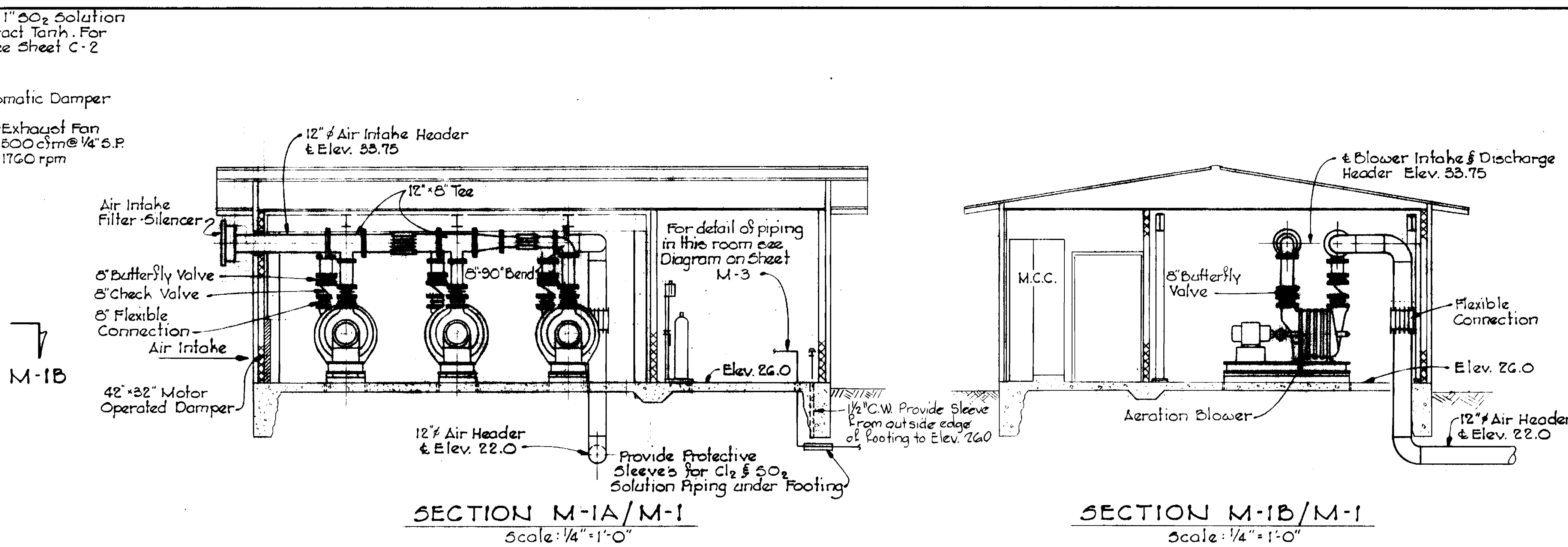


PLANT ENTRANCE SIGN
Scale: 3/4" = 1'-0"

NOTE: For Landscaping See Sheet C-1

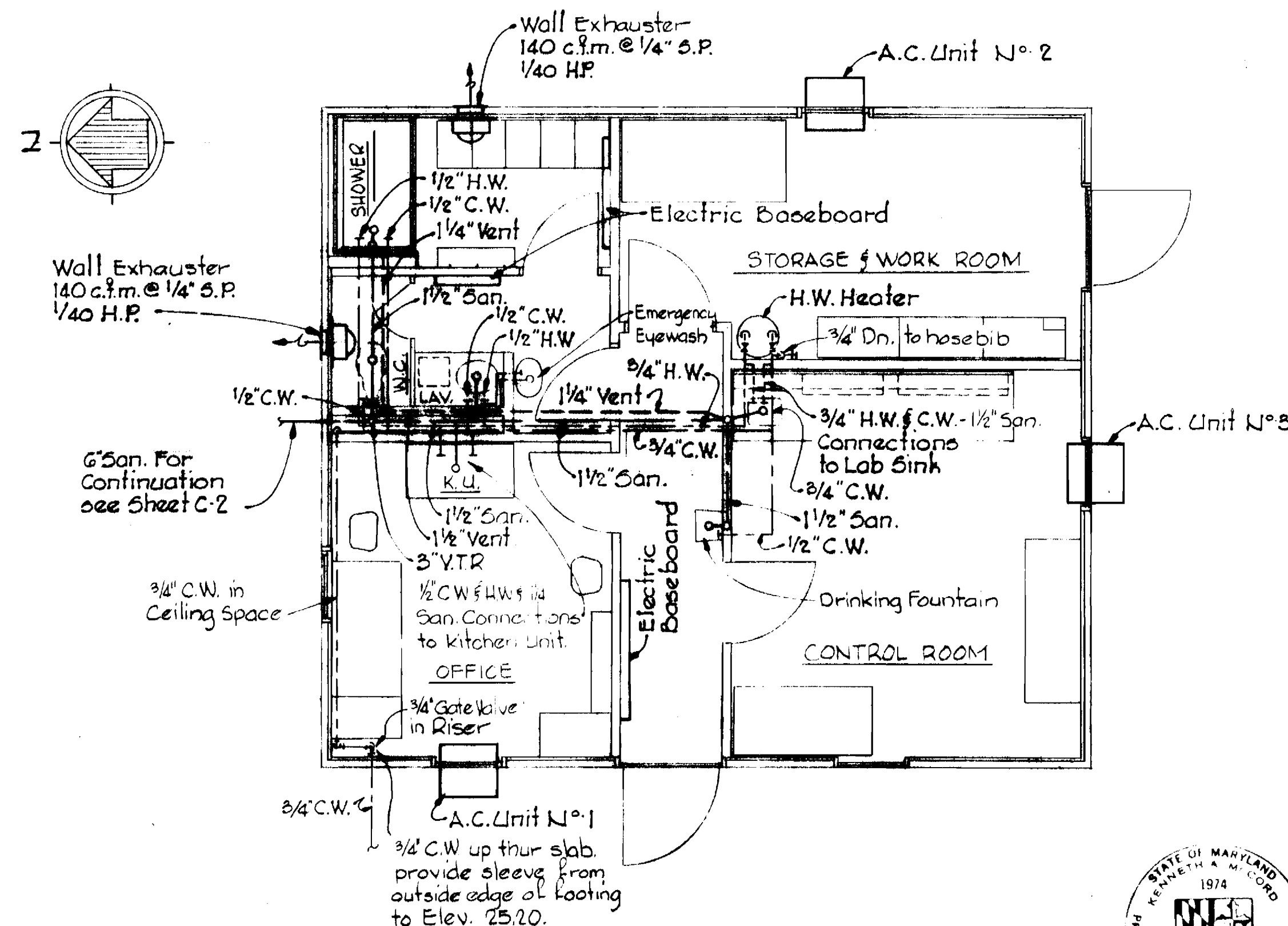


PLAN - SERVICE BUILDING
Scale: 1/4" = 1'-0"

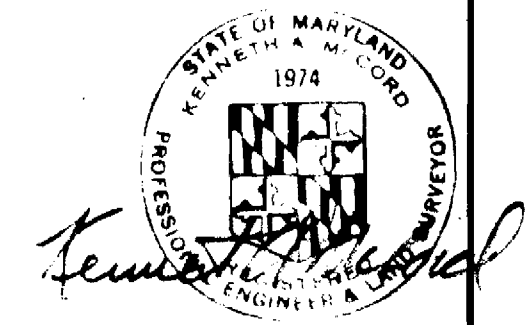


SECTION M-1A/M-1
Scale: 1/4" = 1'-0"

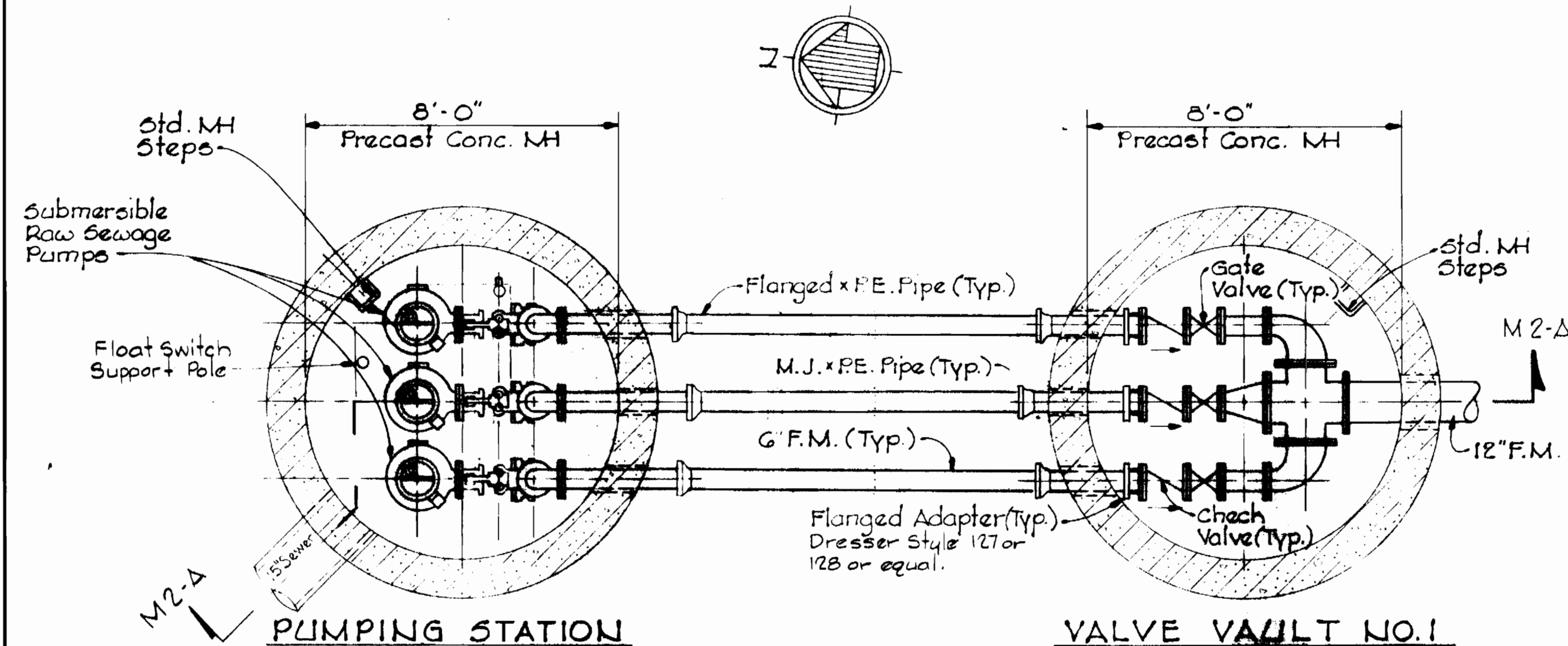
SECTION M-1B/M-1
Scale: 1/4" = 1'-0"



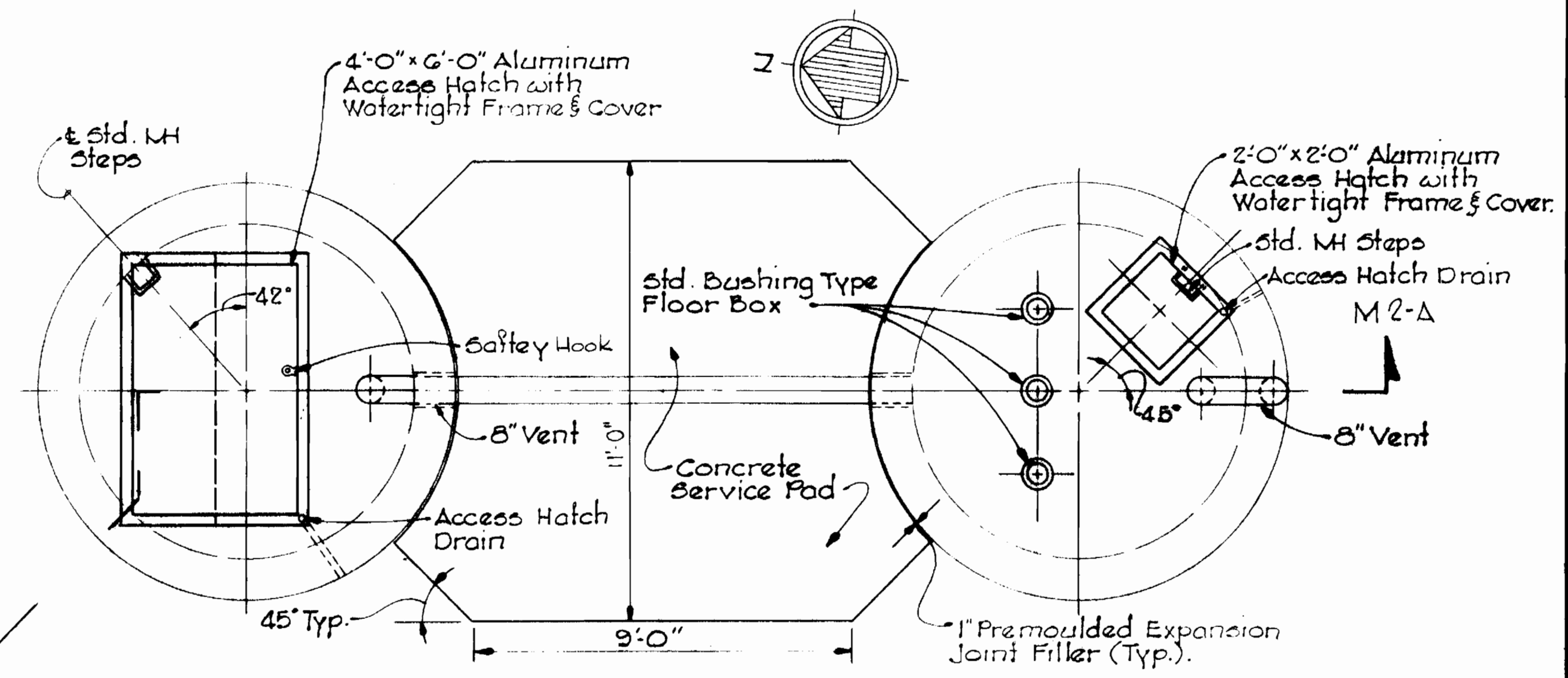
PLAN - OPERATIONS BUILDING
Scale: 1/4" = 1'-0"



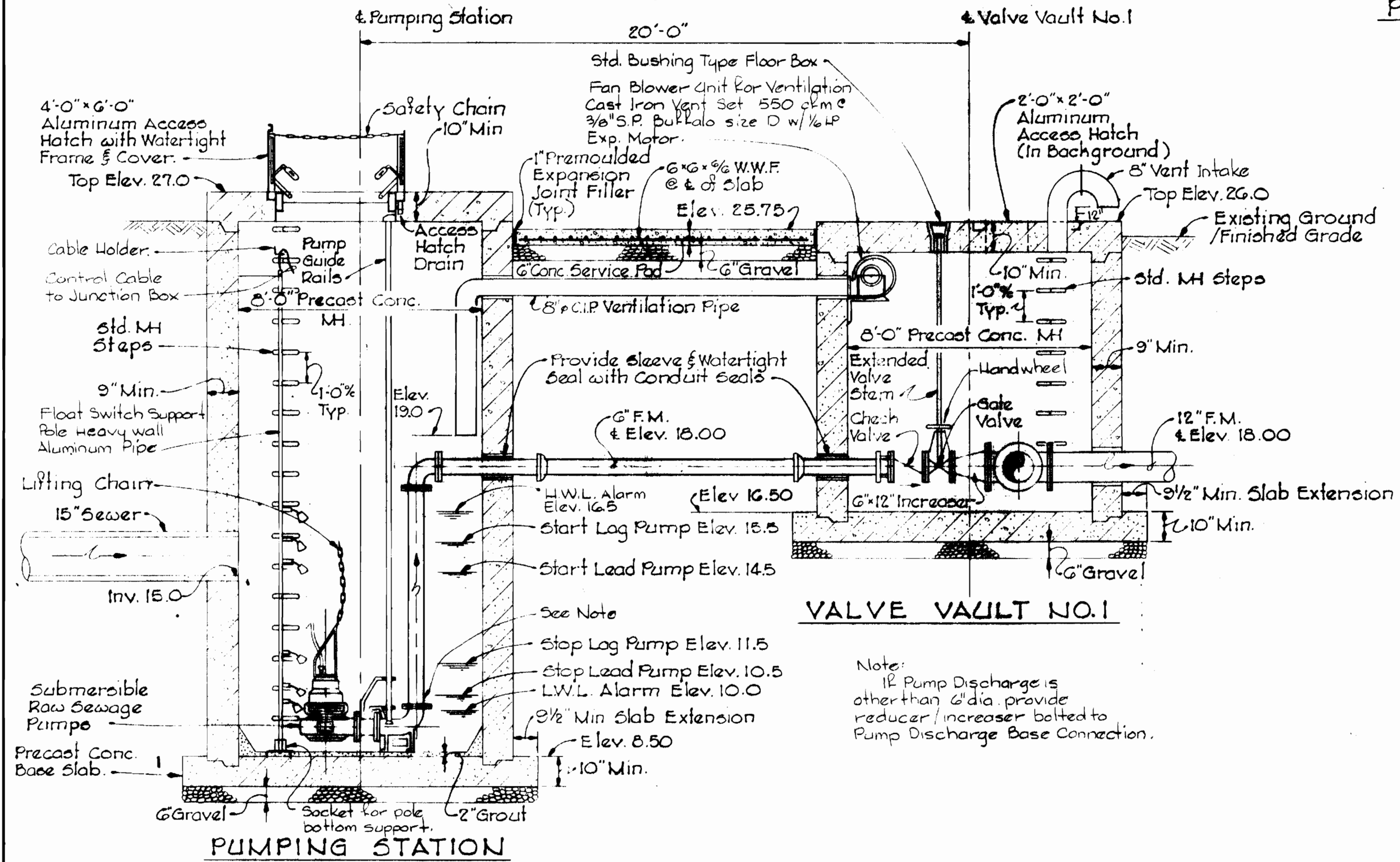
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: 3/6/79 CHIEF - BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 837-S	OPERATIONS & SERVICE BUILDINGS PLANS & SECTIONS	DEEP RUN INTERIM WASTEWATER TREATMENT PLANT	DRAWING NO. 21 OF 35 SCALE 1/4" = 1'-0"
-----------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------	--------------------	----------------------------------------------------	------------------------------------------------	--------------------------------------------



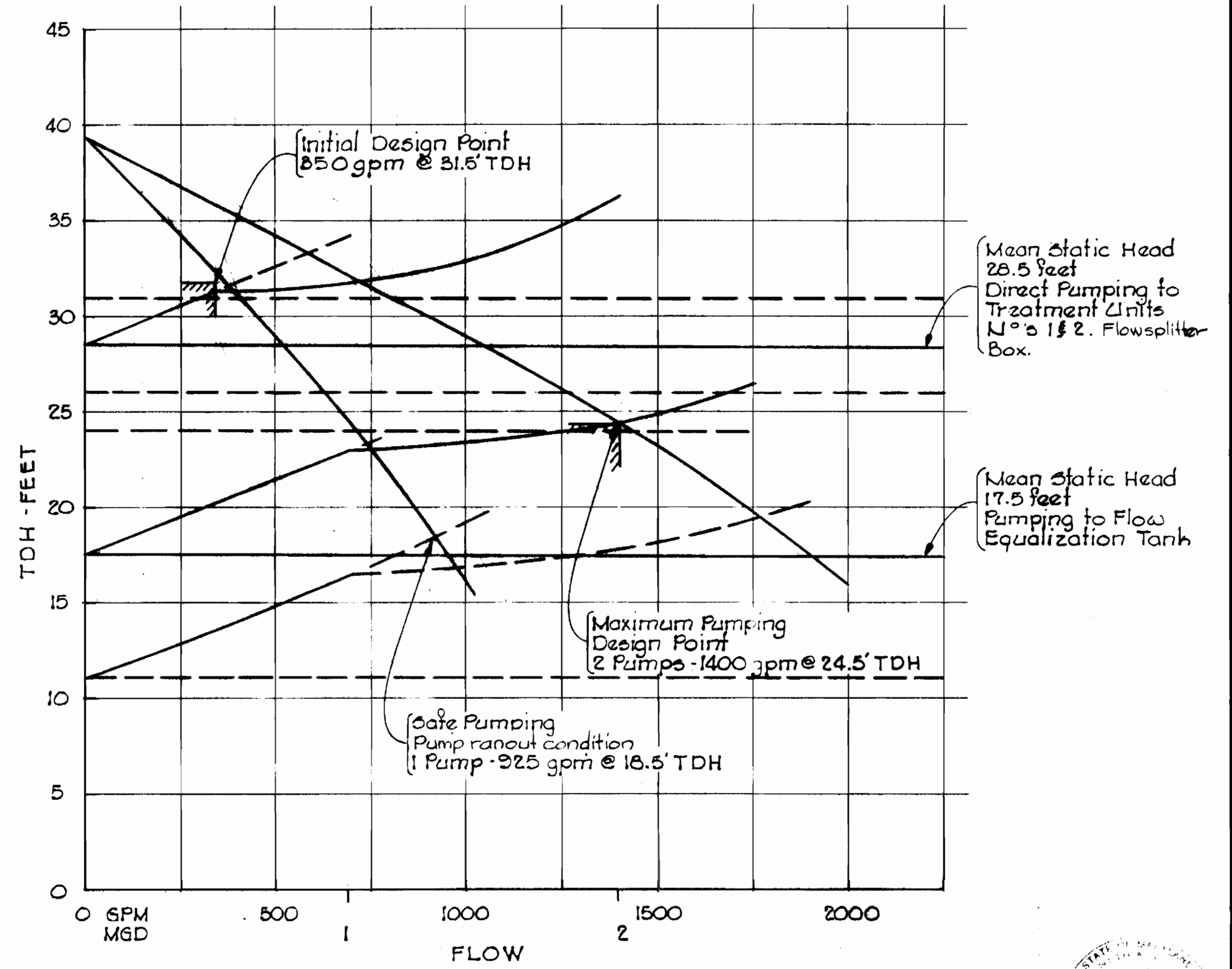
PLAN BELOW ELEVATION 20.00
Scale: 3/8" = 1'-0"



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



SECTION M2-A
Scale: 3/8" = 1'-0"



SYSTEM CURVE
RAW SEWAGE PUMPING STATION



WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: 3/6/79 CHIEF: BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 837-S	RAW SEWAGE PUMPING STATION PLANS, SECTIONS & DETAILS	RUN INTERIM WASTEWATER TREATMENT PLANT	DRAWING NO. 22 OF 35 SCALE: 3/8" = 1'-0"
-----------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------	--------------------	---------------------------------------------------------	-------------------------------------------	---------------------------------------------

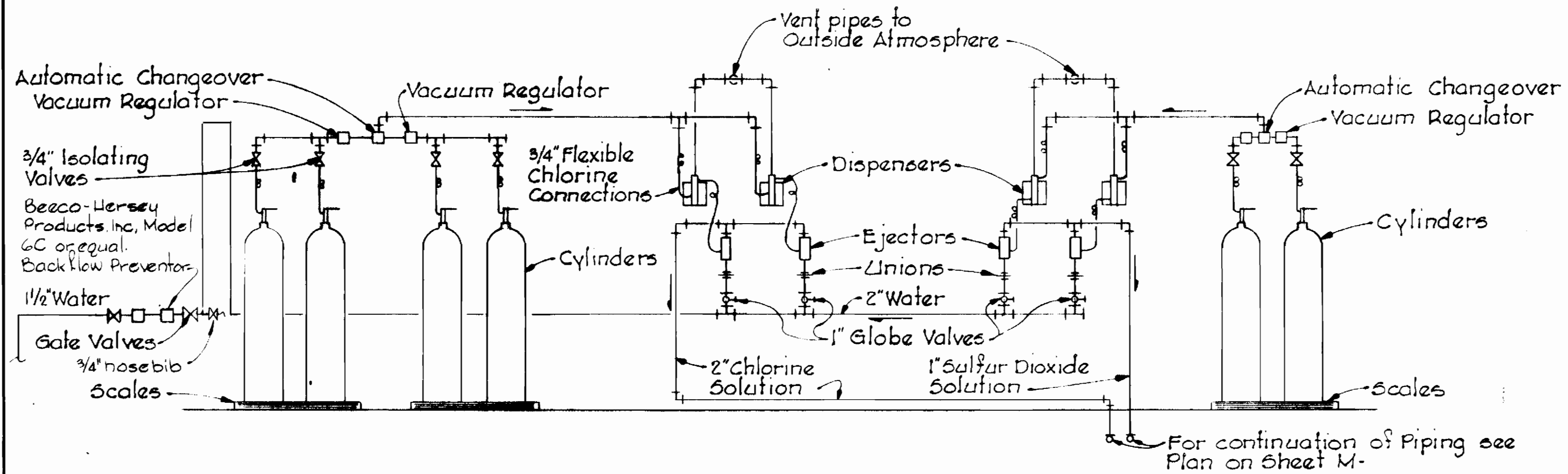
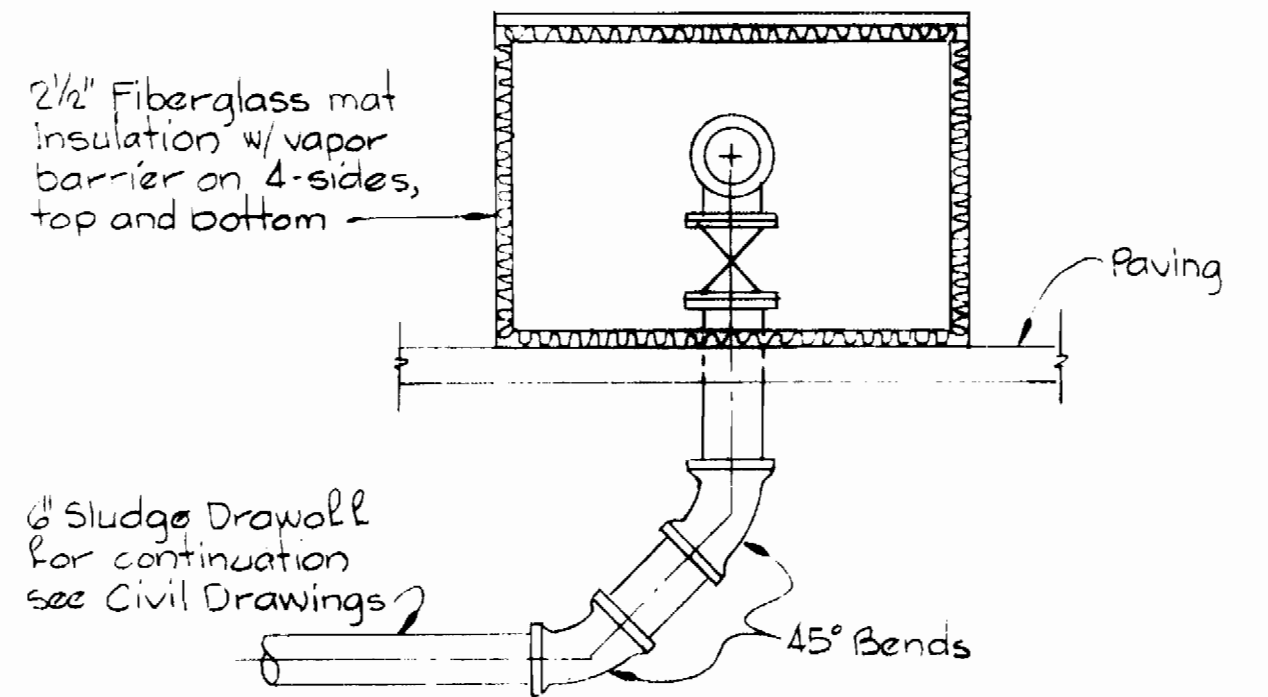
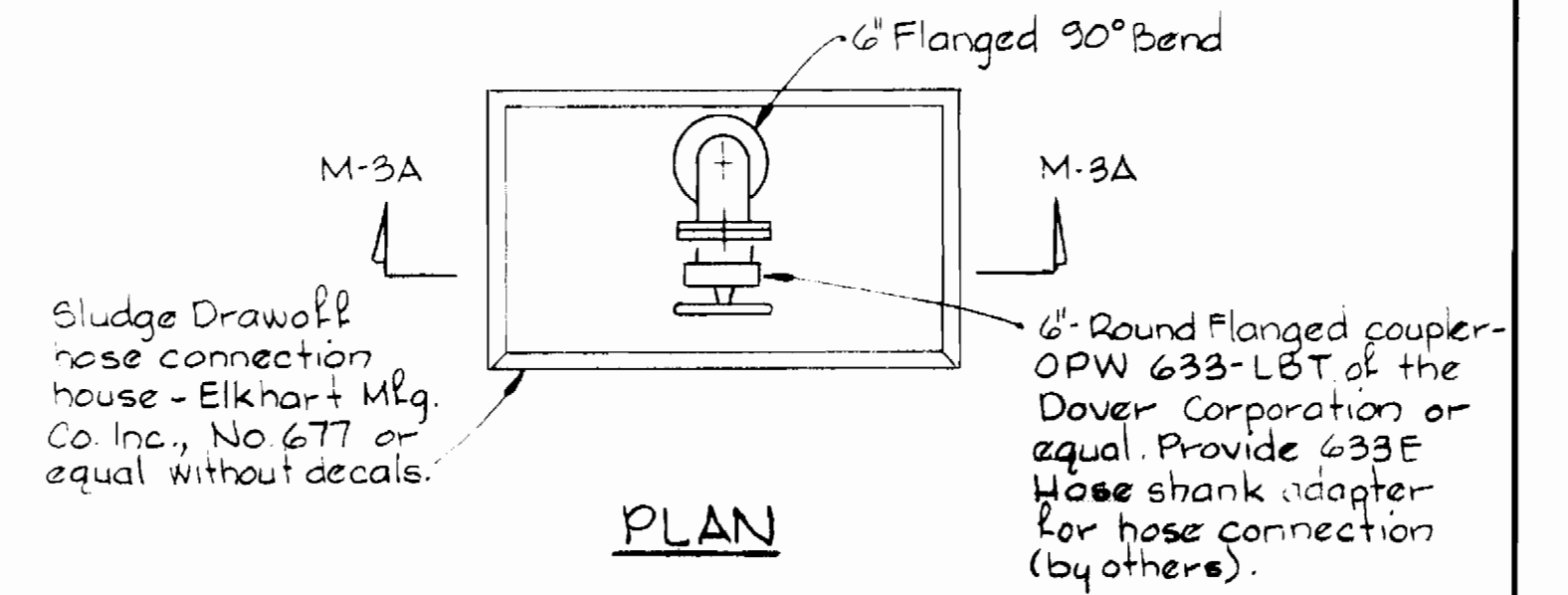
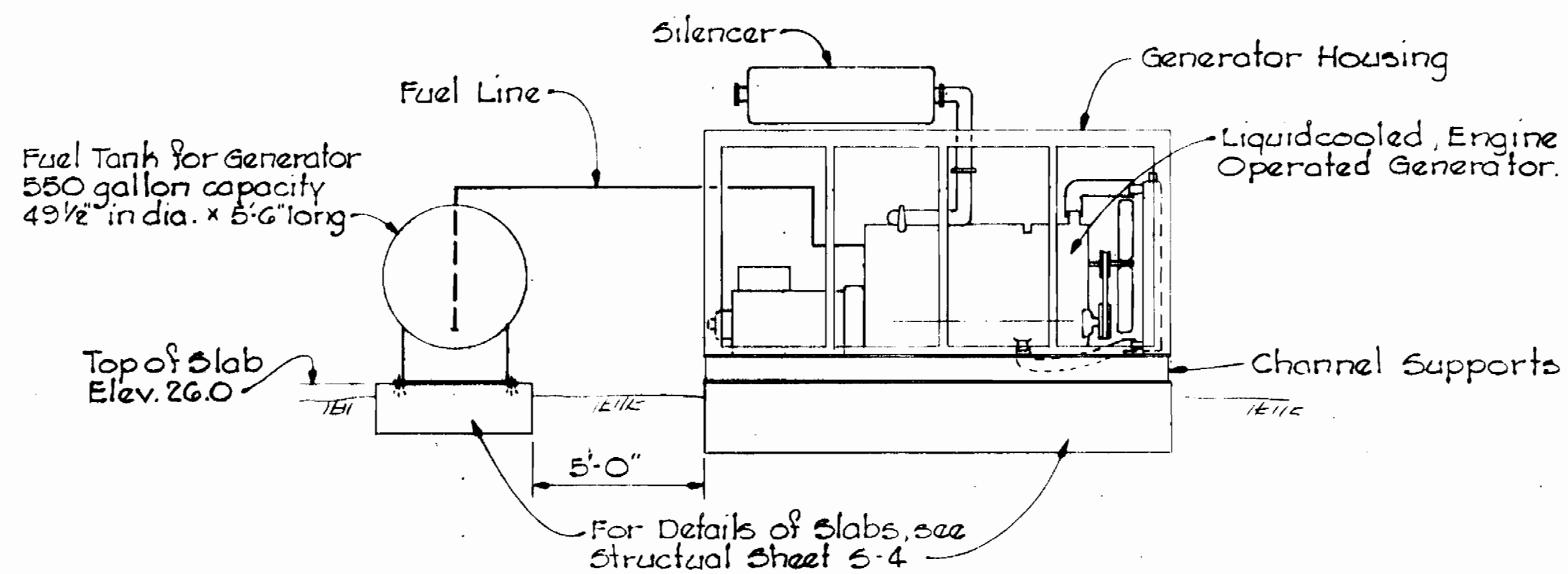


DIAGRAM - CHLORINE & SULFUR DIOXIDE PIPING
Scale: None



SECTION M-3A/M-1

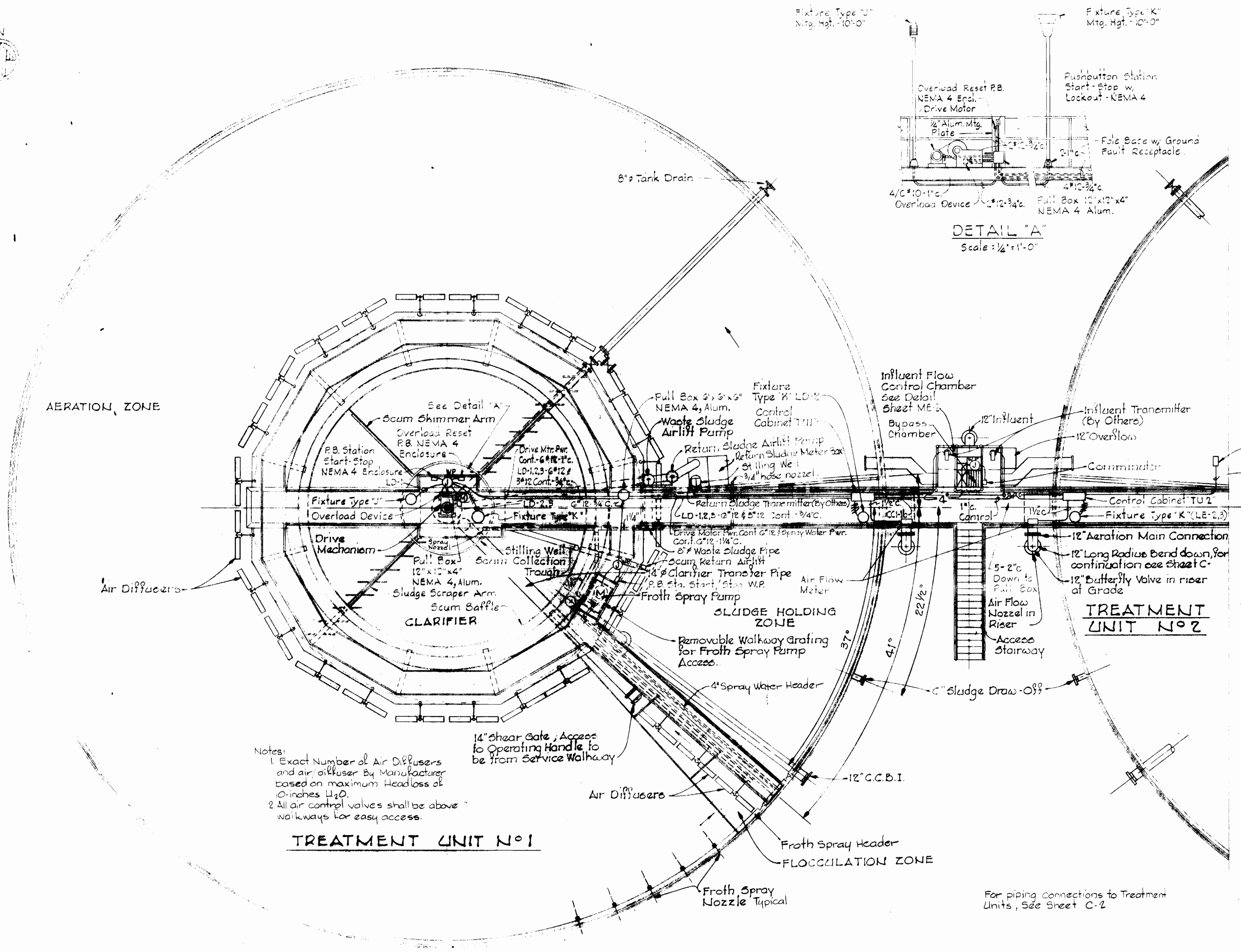
DETAIL - SLUDGE DRAWOFF HOUSE
Scale: 1/2" = 1'-0"



DETAIL - EMERGENCY GENERATOR & FUEL TANK
Scale: None

Kenneth W. McLeod

WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3.6.79 DATE CHIEF - BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 837-S	MISCELLANEOUS DETAILS	DEEP RUN INTERIM WASTEWATER TREATMENT PLANT	DRAWING NO. 23 OF 35	SCALE AS SHOWN
-----------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------	--------------------	-----------------------	------------------------------------------------	----------------------------	----------------------



AERATION ZONE

TREATMENT UNIT N°1

TREATMENT UNIT N°2

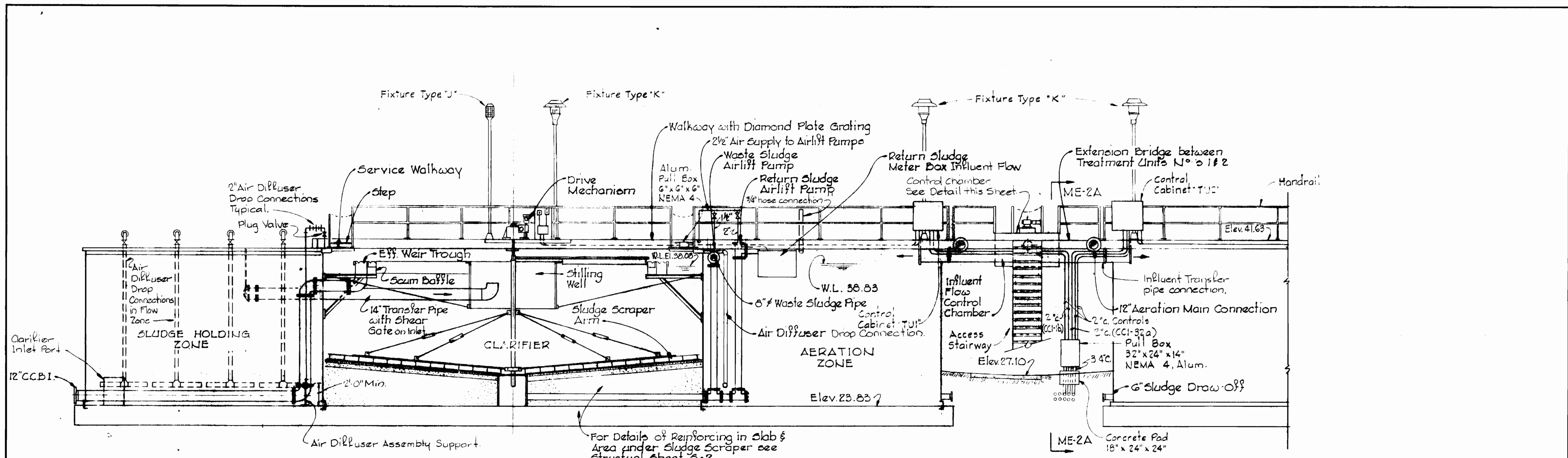
PLAN - TREATMENT UNITS N°s 1 & 2
Scale: 5/16" = 1'-0"

- Notes:
1. Exact Number of Air Diffusers and air diffuser by Manufacturer based on maximum Headloss of 10-inches H₂O.
 2. All air control valves shall be above walkways for easy access.

- NOTES
1. All electrical equipment shown on Treatment Unit No. 1 shall be duplicated on Unit No. 2.
 2. If transmitters (provided by others) are not installed cap the 1/2" in the vicinity of the transmitter location.

For piping connections to Treatment Units, See Sheet C-2

<p>WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND</p>	<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p>DATE: _____ CHIEF - BUREAU OF ENVIRONMENTAL SERVICES</p>	<p>CONTRACT NO. <u>837-S</u></p>	<p>TREATMENT UNITS PLANS & DETAILS</p>	<p>DEEP RUN INTERIM WASTEWATER TREATMENT PLANT</p>	<p>DRAWING NO. <u>24</u> OF <u>35</u></p> <p>SCALE AS SHOWN</p>
-------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------	----------------------------------	------------------------------------------------	--------------------------------------------------------	---------------------------------------------------------------------

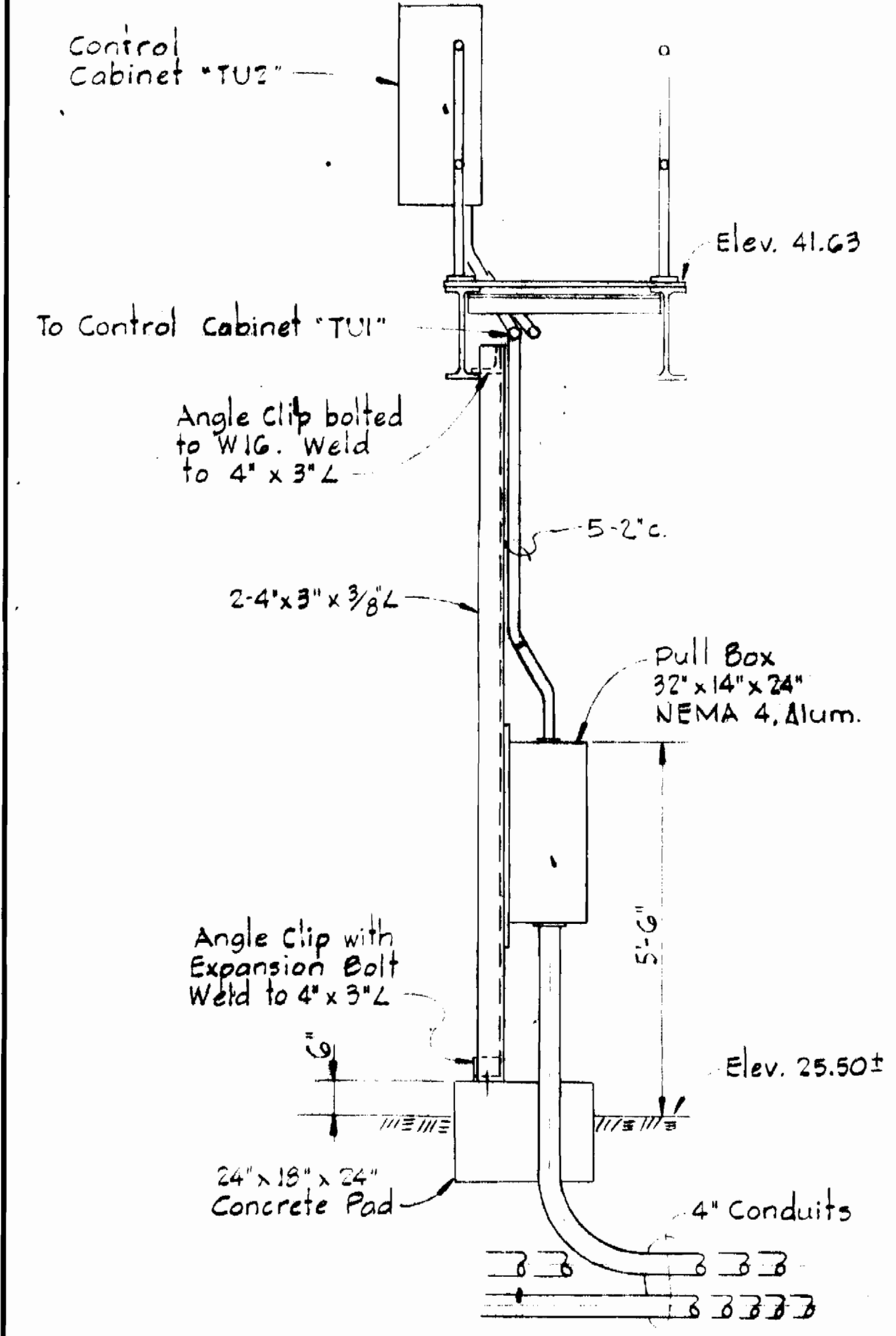


TREATMENT UNIT NO. 1

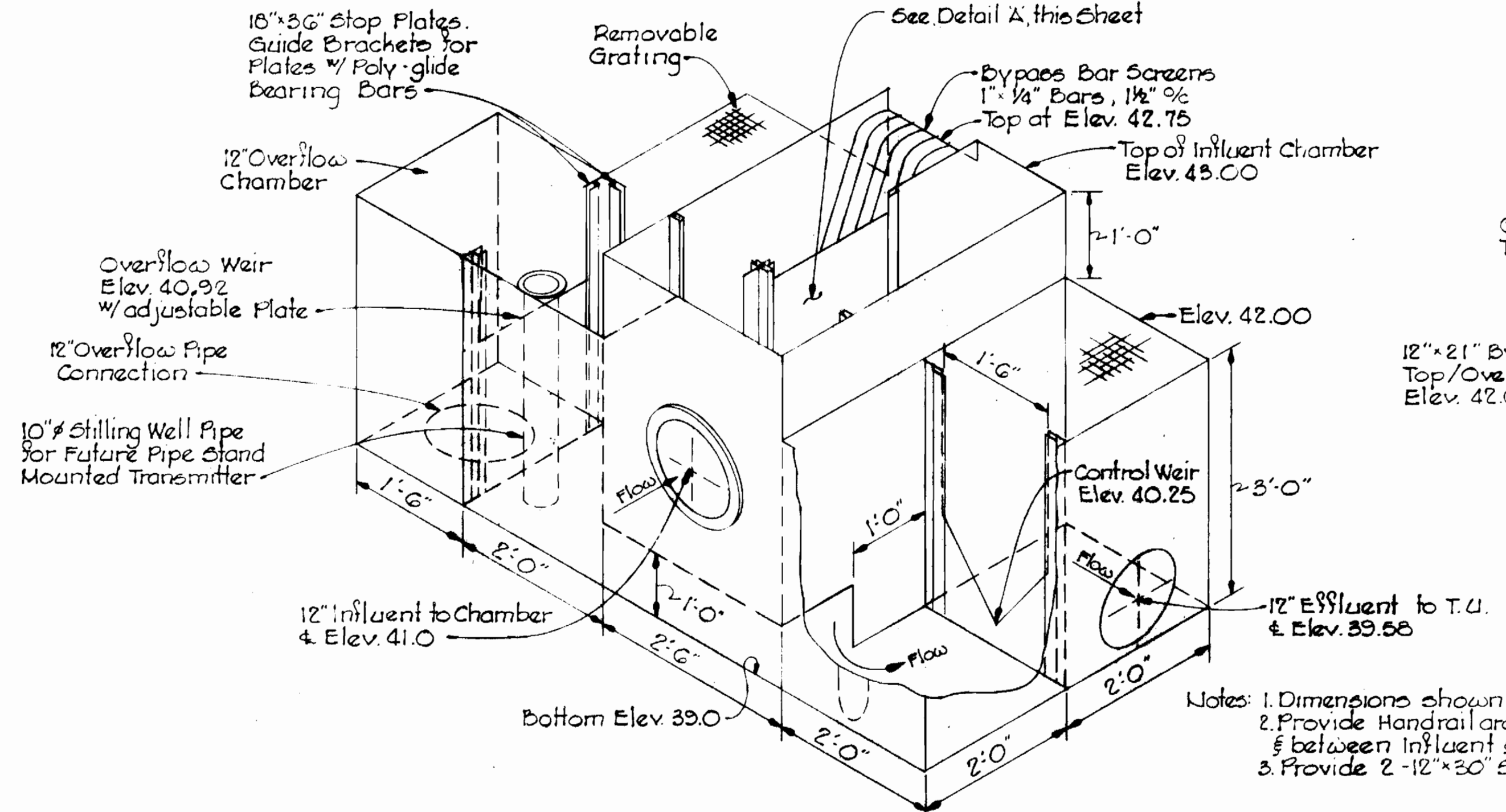
TREATMENT UNIT NO. 2

Note: All electrical equipment shown on Treatment Unit No. 1 shall be duplicated on Unit No. 2

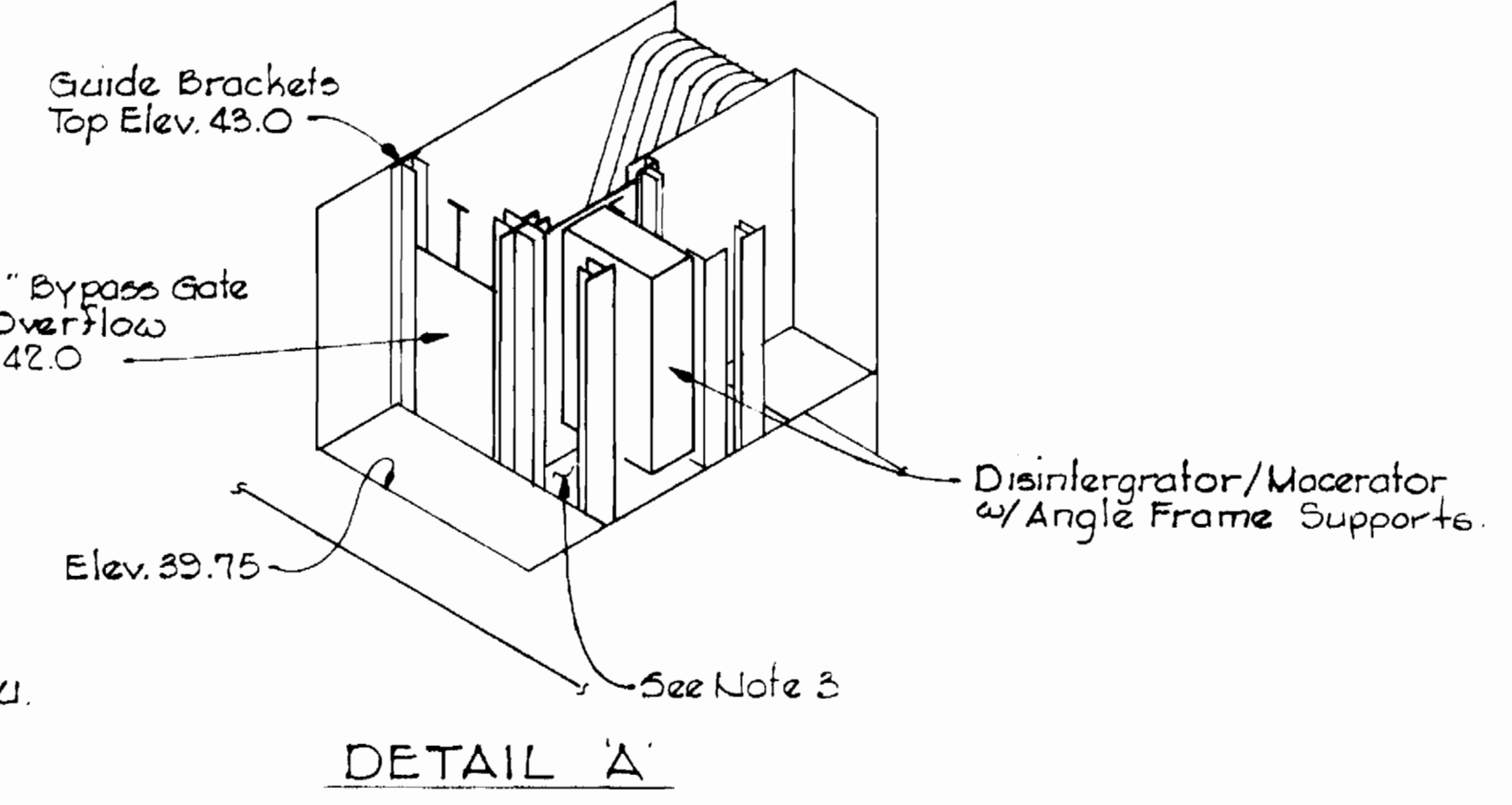
TYPICAL SECTION
Scale: 3/16" = 1'-0"



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



DETAIL - INFLUENT FLOW CONTROL CHAMBER
No Scale

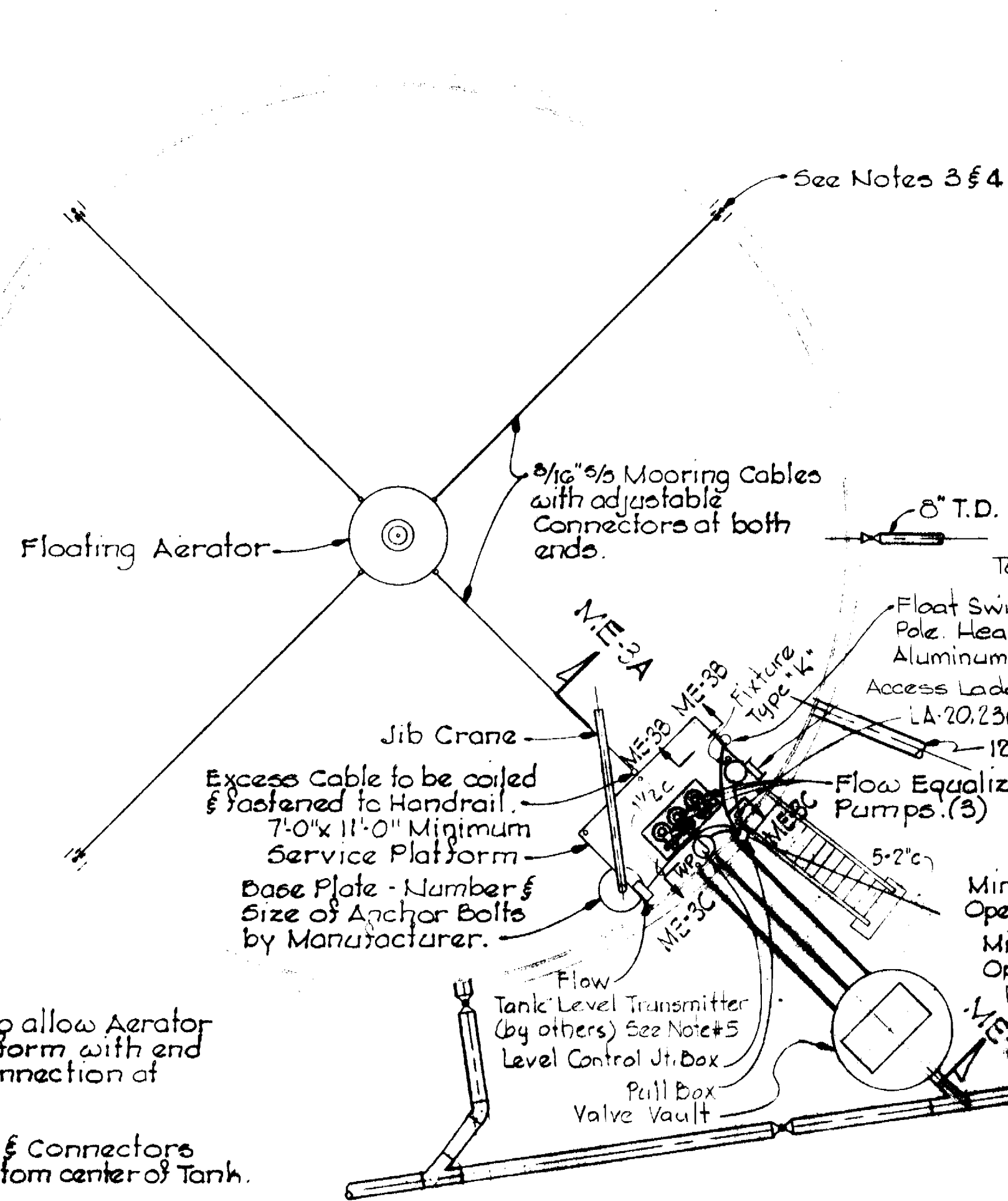
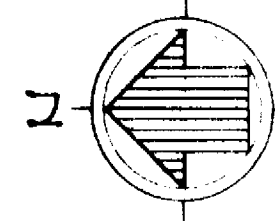


DETAIL A

Notes: 1. Dimensions shown are Minimum.
2. Provide Handrail around outside of Chamber & between Influent & Effluent Compartment.
3. Provide 2 - 12\"/>

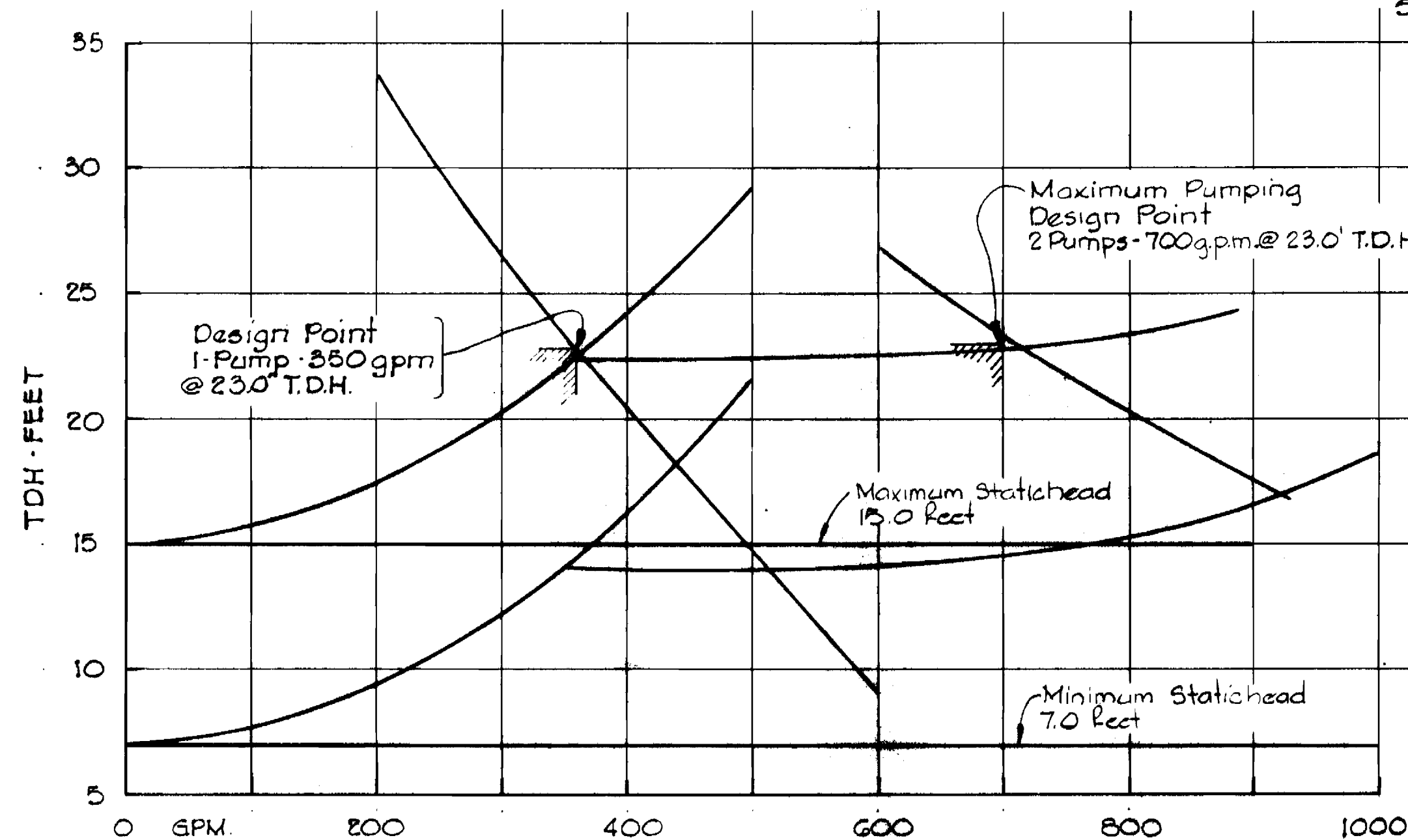


WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: 3/6/79 CHIEF - BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 837-S	TREATMENT UNITS SECTION & DETAILS	DEEP RUN INTERIM WASTEWATER TREATMENT PLANT	DRAWING NO. 25 OF 35 SCALE AS SHOWN
-----------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------	--------------------	--------------------------------------	------------------------------------------------	----------------------------------------

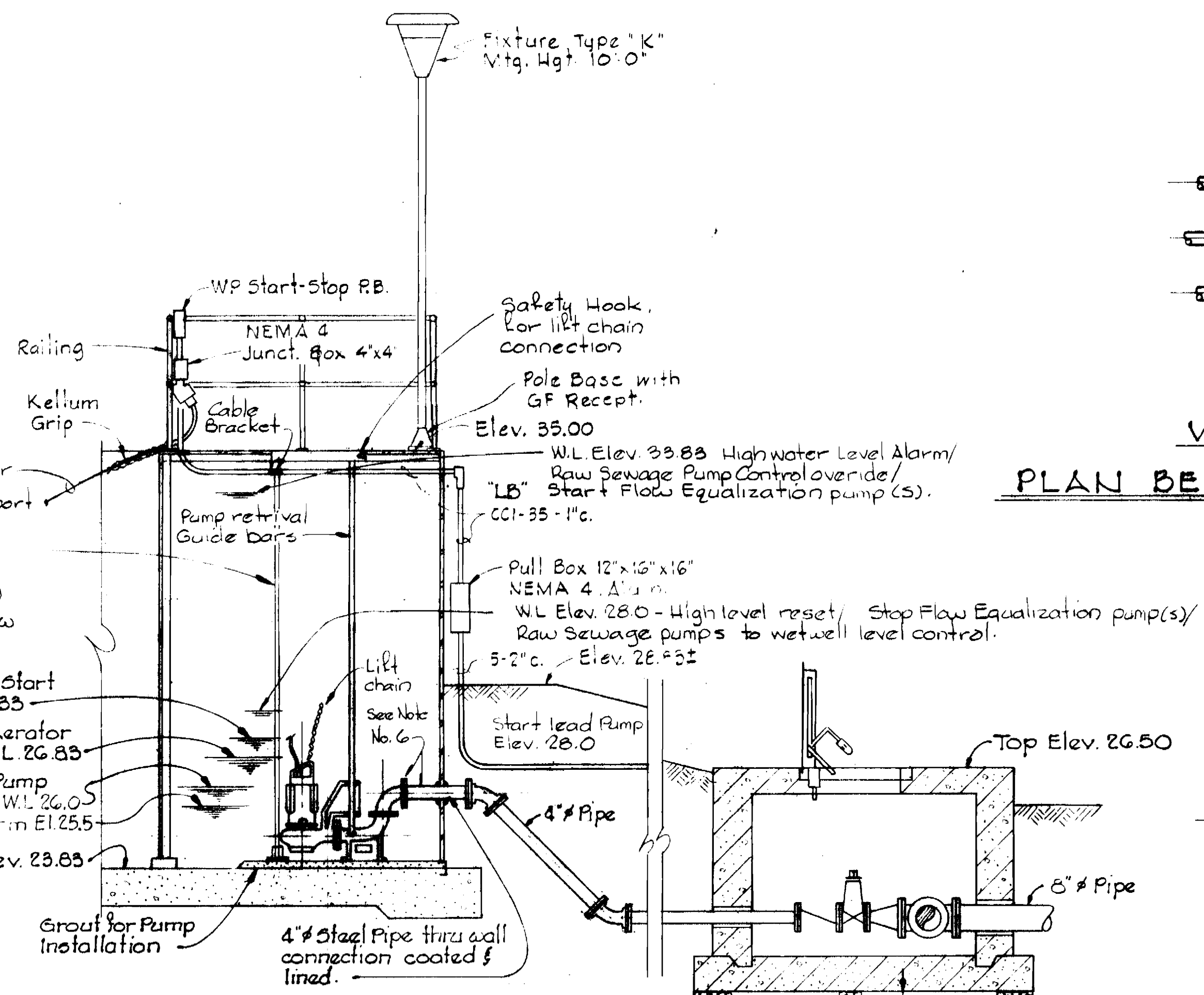


PLAN - FLOW EQUALIZATION TANK

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



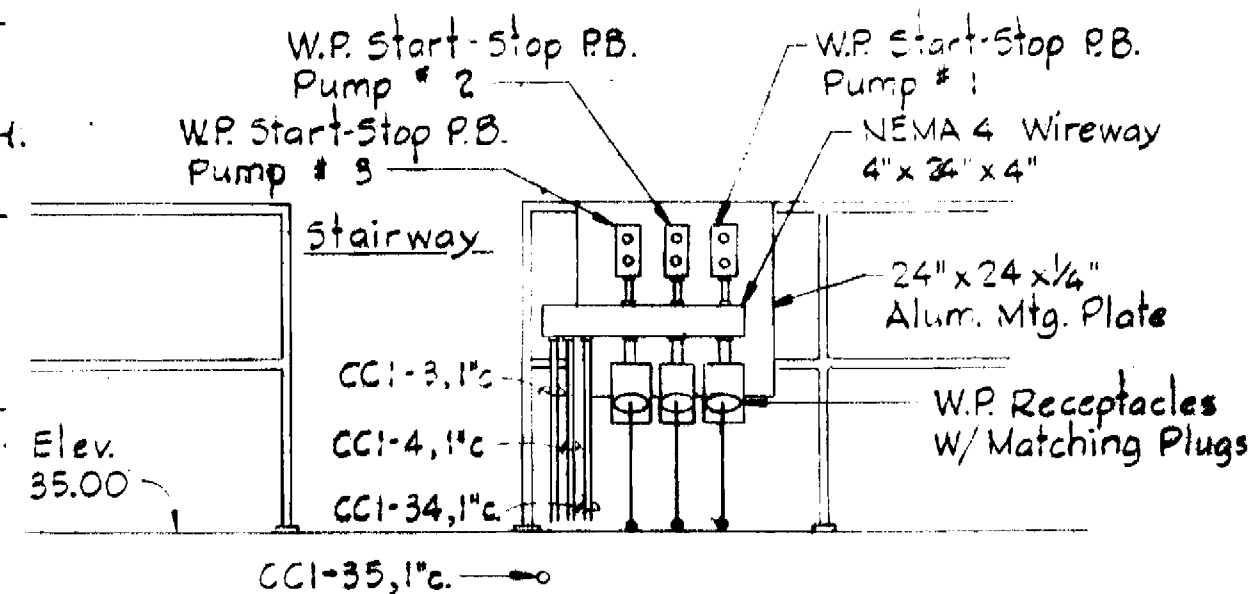
**SYSTEM CURVE
FLOW EQUALIZATION TANK**



SECTION ME-3A/ME-3

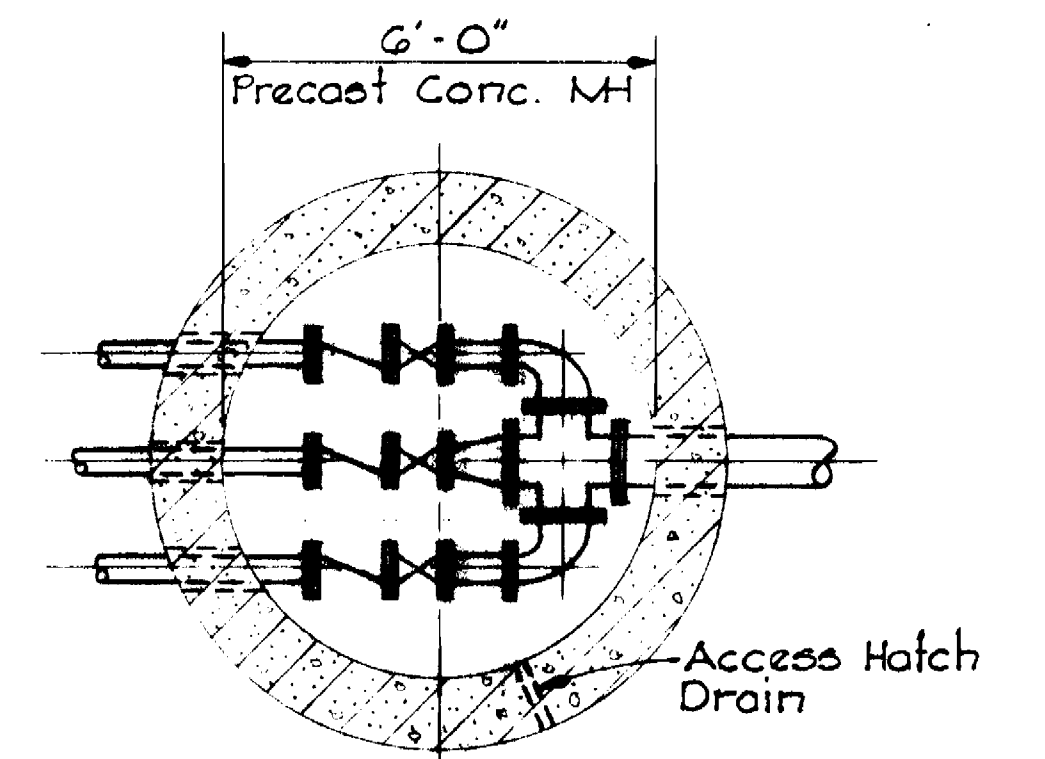
SECTION ME-3A/ME-3

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



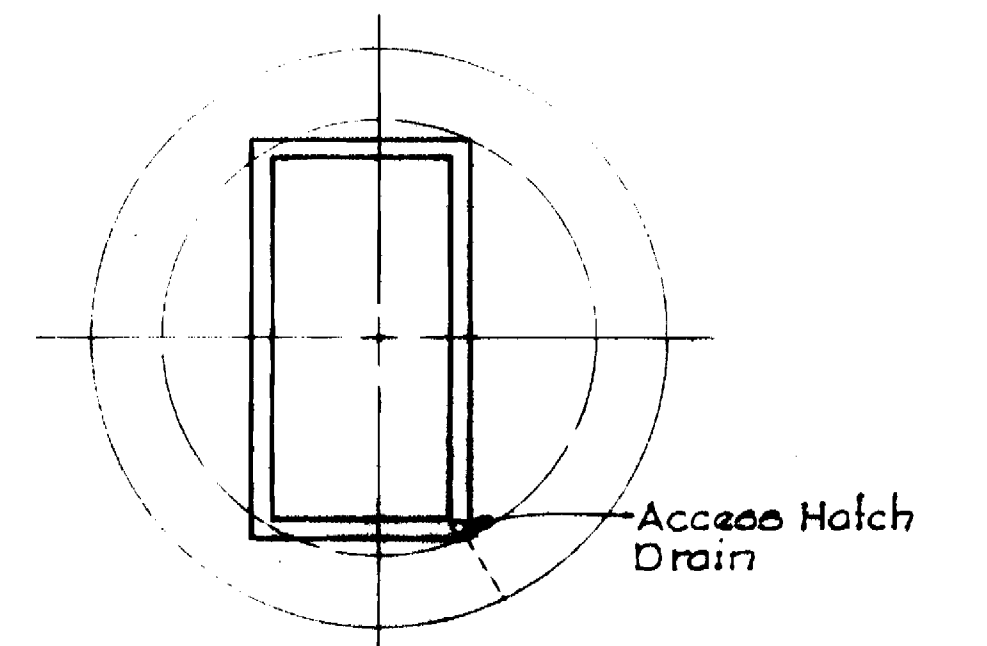
SECTION ME-3C/ME-3

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



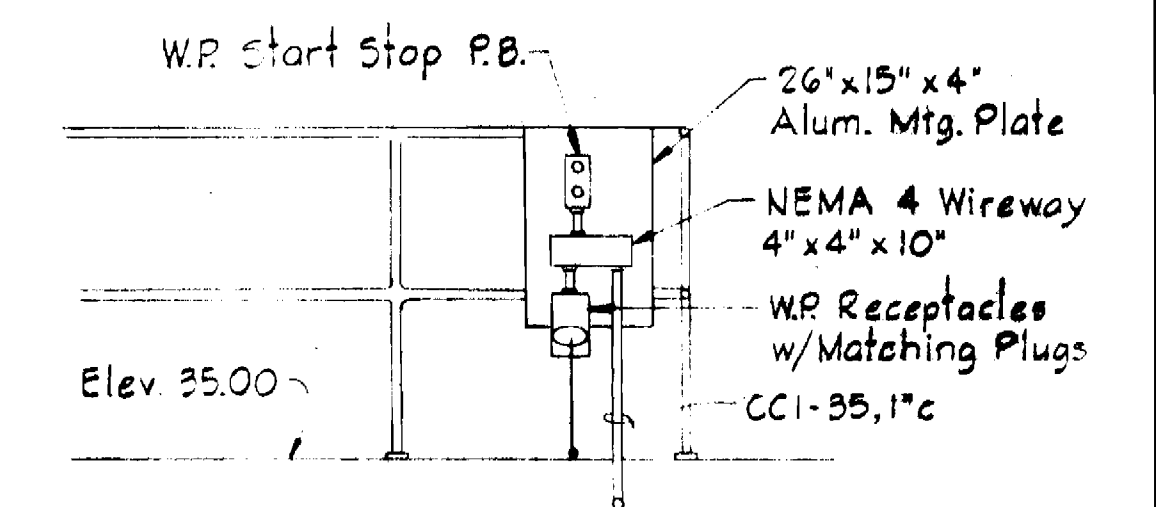
**VALVE VAULT NO. 2
PLAN BELOW ELEVATION 28.00**

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



**VALVE VAULT NO. 2
PLAN TOP SLAB**

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



SECTION ME-3D/ME-3

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

NOTES:

1. Lengths of Mooring Cables to allow Aerator to be moved to Service Platform with end cable still below Anchor Connection at side of Tank 3-locations.
2. Cables to be installed taught & Connectors fastened with Aerator at Bottom center of Tank.
3. Provide Swivel and Pulley at Tank Sidewall fastened to Ring Reinforcing Member. Provide Mooring Eye fastened to Stiffener Member at Elevation 29.0± typical of 3 locations.
4. Excess Cable to be coiled & fastened to Tank Stiffener Member.
5. If transmitters (provided by others) are not installed cap the 1/2" c in the vicinity of the transmitter location.
6. If Pump Discharge is larger than 4" diameter provide reducing 90° elbow for 4" pipe connection.

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

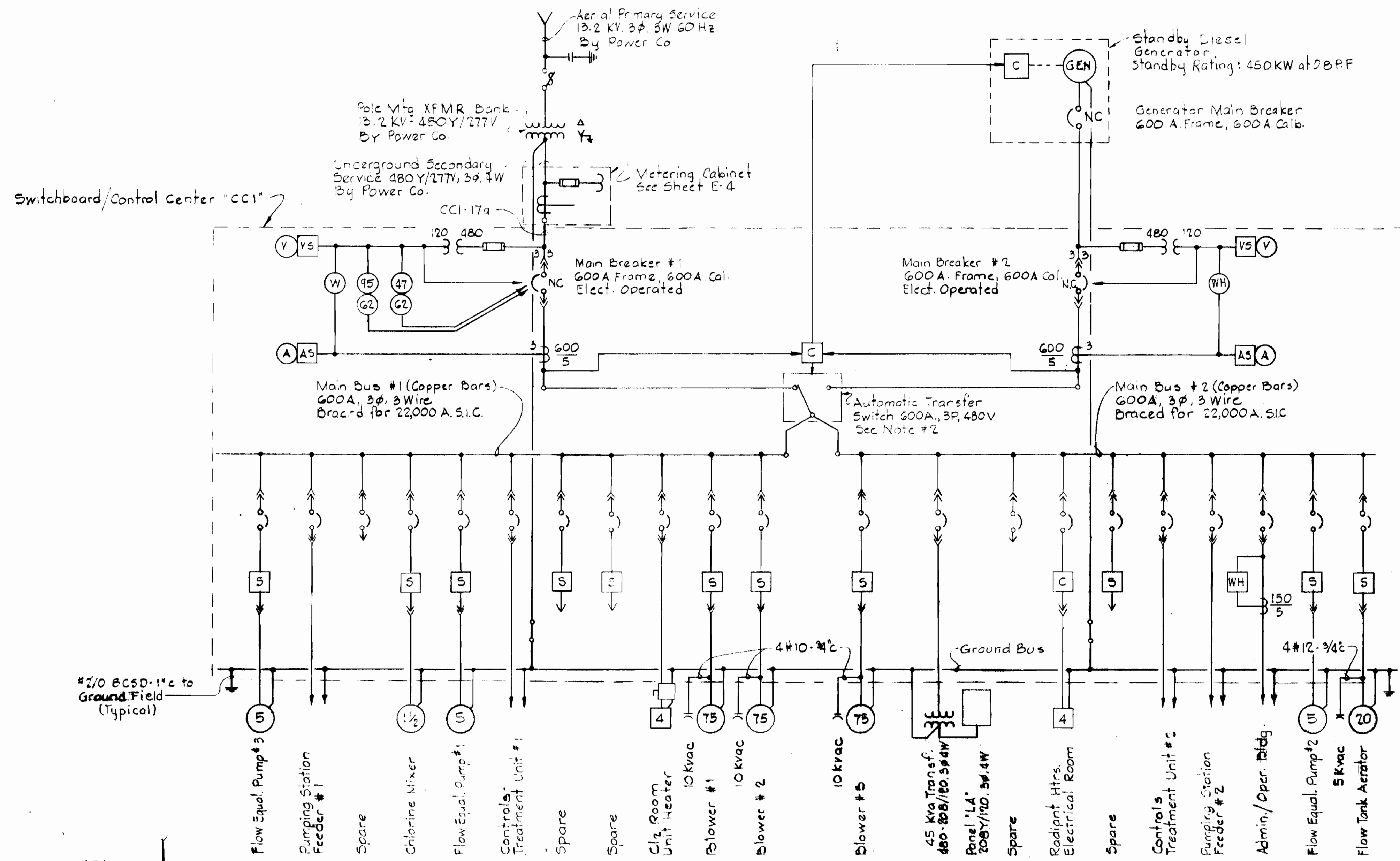
CONTRACT NO. 837-S

FLOW EQUALIZATION TANK
PLANS SECTIONS & DETAILS

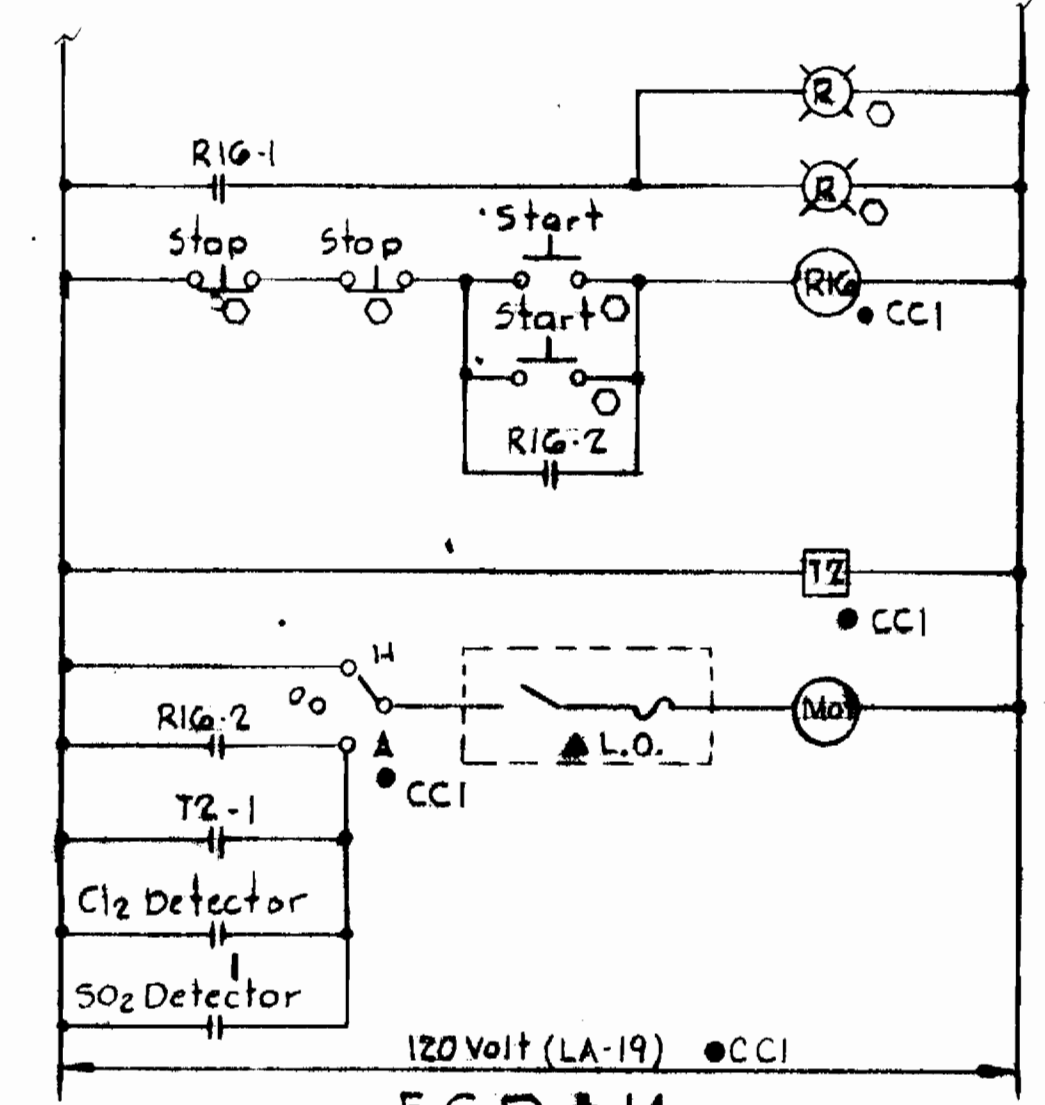
DEEP RUN INTERIM
WASTEWATER TREATMENT PLANT

DRAWING NO. 26
OF 35

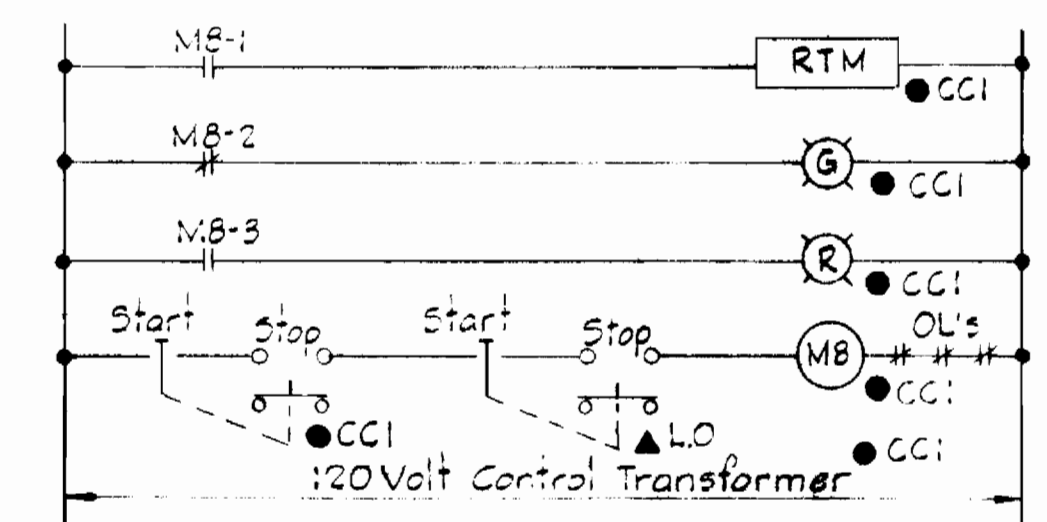
SCALE AS
SHOWN



ONE LINE WIRING DIAGRAM
SWITCHBOARD/CONTROL CENTER



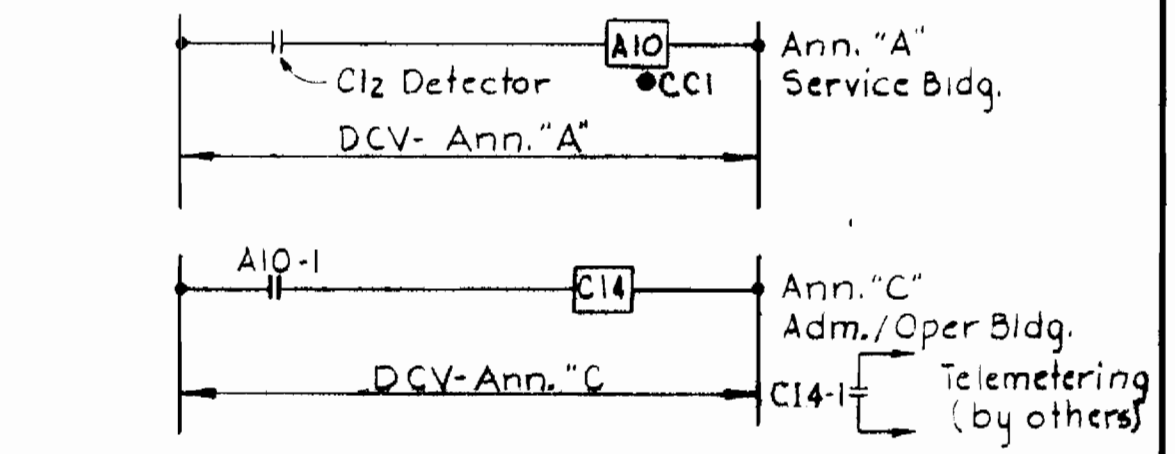
E.C.D. #14
CHLORINE ROOM - EXHAUST FAN



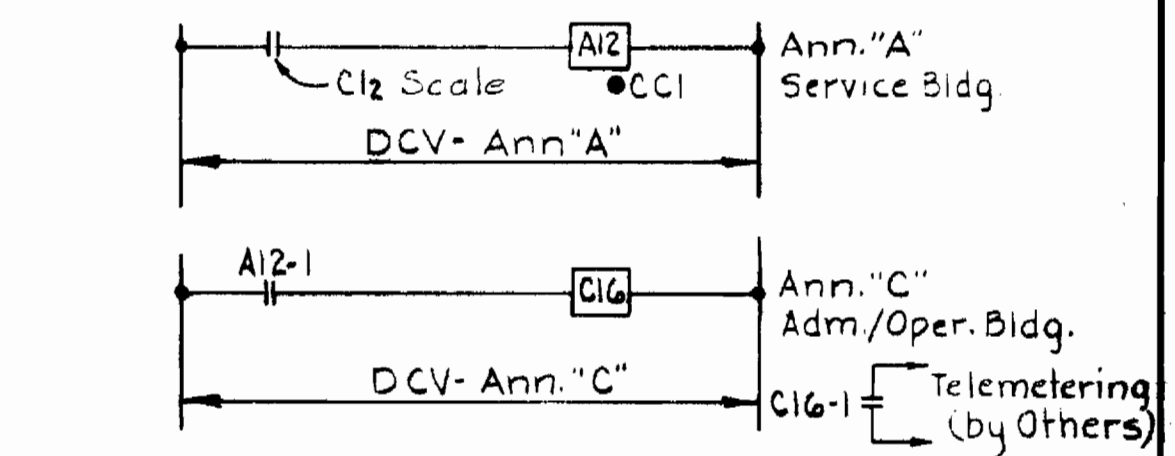
E.C.D. #15
CHLORINE MIXER

NOTES

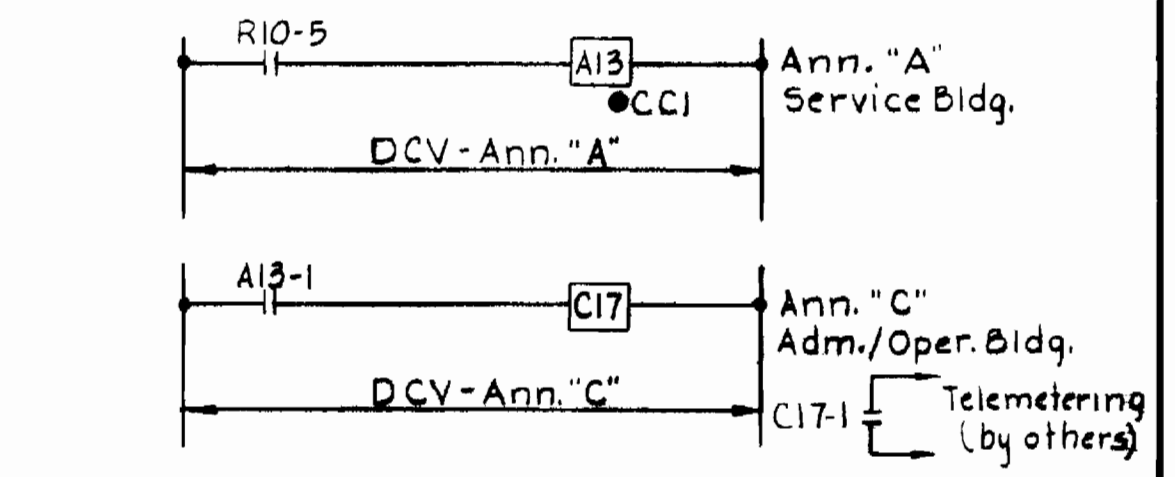
1. For General Electrical Notes and Legend See Sheet E-2
2. Automatic Transfer Switch shall be complete with ground fault protection and as specified in Section 16F and as shown on this drawing.



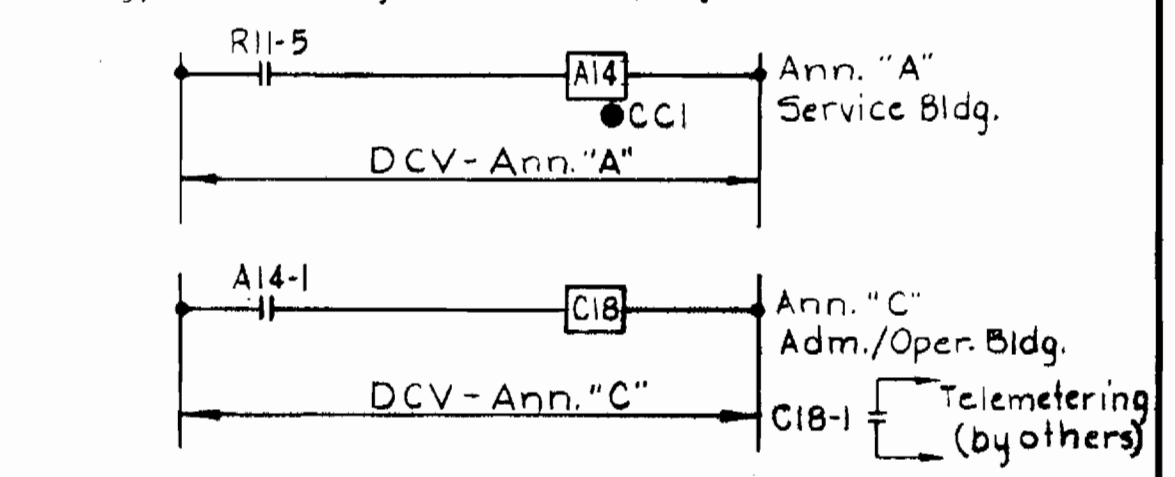
E.C.D. #21
CHLORINE LEAK - CHLORINE ROOM
SERVICE BUILDING
Typical for: Sulphur Leak - Chlorine Room



E.C.D. #22
LOW CHLORINE WEIGHT - CHLORINE RM.
SERVICE BUILDING



E.C.D. #23
HIGH LEVEL - FLOW EQUAL TANK
Typical for: High Level - Pumping Station - Ann. 'B' P.S.



E.C.D. #24
LOW LEVEL - FLOW EQUAL TANK
Typical for: Low Level - Pumping Station - Ann. 'B' P.S.

Kenneth McLaughlin

WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: 2/6/79 CHIEF - BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 837-S	WIRING DIAGRAMS	DEEP RUN INTERIM WASTEWATER TREATMENT PLANT	DRAWING NO. 27 OF 35 SCALE AS SHOWN
-----------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------	--------------------	-----------------	------------------------------------------------	----------------------------------------

INTERIOR

ONE LINE/ELEMENTARY

GENERAL ELECTRICAL NOTES:

- □ ○ Outlet Incandescent - Ceiling, Recessed, Wall
- ⊕ ⊕ Outlet Incandescent - Emergency - Ceiling, Wall
- ⊙ ⊙ Outlet Clock - Single Face - Ceiling, Wall
- ⊙ ⊙ DF Outlet Clock - Double Face - Ceiling, Wall
- □ WF Outlet Fluorescent - 4 Foot
- □ WF Outlet Fluorescent - 4 Foot with Kindorf Wiring Channel
- □ WF Outlet Fluorescent - 4 Foot with Kindorf support & Conduit
- □ WF Outlet Fluorescent - 2 Foot
- ⊗ ⊗ Outlet Exit Light - Ceiling, Wall - with or without Directional Arrows
- ⊕ ⊕ Outlet Mercury - Ceiling, Wall
- ⊕ ⊕ Outlet Duplex Convenience
- ⊕ ⊕ Outlet Special Purpose, Floor
- ⊕ ⊕ Outlet 20A, 250V Receptacle - Polarized
- ⊕ ⊕ Outlet 30A, 250V Receptacle & Plug - Polarized
- ⊕ ⊕ Outlet 50A, 250V Receptacle - Polarized
- ⊕ ⊕ WF Outlet Telephone - Wall, Desk, Extension
- ⊕ ⊕ Outlet Intercommunication
- ⊕ ⊕ Junction Box
- EXP WP Explosion proof, Weatherproof - where indicated
- S S₂ S_P Switch - Single Pole, Double Pole, with Pilot Light
- S₃ S₄ Switch - Three Way, Four Way
- S_K S_D Switch - Key Operated, Door Operated
- S_{MC} S_{RC} Switch - Momentary Contact, Remote Control
- C-1 Contactor - Number as indicated
- Th C T f Thermostat - Heating, Cooling, Freeze-stat
- A ⊕ Aquastat - Generator
- Unit Heater
- ⊕ ⊕ Motor - Constant Speed, Variable Speed
- M ⊕ Starter - Manual, Combination
- S ⊕ S₂ Starter - Magnetic (FVNR), Magnetic (FVR)
- S₂ Starter - Magnetic [FVNR - 25 (Two Speed)]
- F ⊕ Disconnect Switch - Fused, Unfused
- S Selector Switch - Two Position
- SC Secondary Motor Controls
- PB Pull Box - Size as Indicated
- TA Telemetering Transmitter - Number as Noted
- Lighting Panel - Power Panel
- Telephone or Control Wiring Cabinet as Noted
- Contactor Cabinet
- Home run to Panelboard - Number of arrows indicates number of circuits, number of cross lines indicates number of wires. Where no cross lines appear, two conductors are implied

- Conduit - On Ceiling or Wall
- Conduit - Under Floor
- T — Conduit - Telephone
- PT — Conduit - Private Telephone
- FA — Conduit - Fire Alarm
- C — Conduit - Communication
- In Wall, Slab or Ceiling
- Stub Up, Stub Down
- Seal
- ⊕ ⊕ Disconnect - Circuit Breaker
- ⊕ ⊕ Outlet Incandescent - Floodlight
- ⊕ ⊕ Pushbutton Station - One, Two & Three Pushbutton
- ⊕ ⊕ Horn - Bell
- CC1 - 6 Control Center Wire & Cable Run Number
- SI-1 Switchgear Wire & Cable Run Number
- SSI-1 Unit Substation Wire & Cable Run Number
- CC5 Control Cable Wire & Cable Run Number
- ⊕ Fire Detector
- F Fire Alarm Striking Station
- ⊕ Fire Alarm Bell
- ⊕ End of line Resistor
- ⊕ Pressure Switch
- ⊕ Hydraulic Valve & Limit Switches
- ⊕ Dimmer - type as specified
- GFP Ground Fault Protected

- ⊕ ⊕ Molded Case Circuit Breaker
- ⊕ ⊕ Oil Circuit Breaker
- ⊕ ⊕ Selector Switch
- ⊕ ⊕ Disconnecting Switch
- ⊕ ⊕ Interrupter Switch
- ⊕ ⊕ Selector Interrupter Switch
- ⊕ ⊕ Knife Switch
- ⊕ ⊕ Contacts - Normally Open
- ⊕ ⊕ Contacts - Normally Closed
- ⊕ ⊕ Current Transformer
- ⊕ ⊕ Potential Transformer
- ⊕ ⊕ Power Transformer
- ⊕ ⊕ Ground
- ⊕ ⊕ Resistor
- ⊕ ⊕ Fuse
- ⊕ ⊕ Pinhead
- ⊕ ⊕ Pushbutton
- ⊕ ⊕ Pressure Switch
- ⊕ ⊕ Float Switch
- ⊕ ⊕ Flow Switch
- ⊕ ⊕ Limit Switch
- ⊕ ⊕ Thermostat
- ⊕ ⊕ Disconnect Link
- ⊕ ⊕ Lightning Arrestor
- ⊕ ⊕ Incoming Line
- ⊕ ⊕ Outgoing Line
- ⊕ ⊕ Tie Line
- ⊕ ⊕ Capacitor - size as shown
- ⊕ ⊕ Rectifier
- ⊕ ⊕ Mechanical Interlock
- ⊕ ⊕ Electrical Interlock
- ⊕ ⊕ Key Interlock
- ⊕ ⊕ Overcurrent Trip Thermal Type
- ⊕ ⊕ Relay - Instantaneous Overcurrent, Time Overcurrent
- ⊕ ⊕ A.C. Power Circuit Breaker
- ⊕ ⊕ Motor (three phase) - Constant Speed, Variable Speed
- ⊕ ⊕ Starter - Magnetic (FVNR), Magnetic (FVR), Magnetic [FVNR - 25 (Two Speed)]
- ⊕ ⊕ Running Time Meter
- ⊕ ⊕ Indicating Light - color as indicated by letter
- ⊕ ⊕ Solenoid - Motor (single phase)
- ⊕ ⊕ Manual Motor Starter

- ⊕ ⊕ (M1) Contactor Coil - Starter Coil (number as indicated)
- ⊕ ⊕ (AS) Ammeter - Ammeter Switch
- ⊕ ⊕ (VS) Voltmeter - Voltmeter Switch
- ⊕ ⊕ (KW) Watthour meter - Kilowatt meter
- ⊕ ⊕ (TS) Test Block - Test Switch
- ⊕ ⊕ (RD) Recording - Recording Demand Meter
- ⊕ ⊕ (TI) Relay & Timer - Number as indicated
- ⊕ ⊕ (CS) Instrument Switch - Control Switch
- ⊕ ⊕ (PF) Ground Lamps - Power Factor Meter
- ⊕ ⊕ (47) Phase Sequence Voltage Relay
- ⊕ ⊕ (86) (87) Tripping Relay Lockout Type - Differential Relay
- ⊕ ⊕ Automatic Transfer Switch
- ⊕ ⊕ Electric Radiant Heaters
- ⊕ ⊕ (C) (D) Contactor - Demand Meter
- ⊕ ⊕ (80) (81) Relay - Time Overcurrent w/ Instantaneous Trip
- ⊕ ⊕ (94) Ground Overcurrent Relay - Tripping Relay
- ⊕ ⊕ (PH) Frequency Meter
- ⊕ ⊕ (6SR) Position Indicator - Ground Sensing Relay
- ⊕ ⊕ (52) (55) A.C. Power Circuit Breaker with Solid State Trip & Ground Device
- ⊕ ⊕ Receptacle & Plug - Polarized
- ⊕ ⊕ (HP) Horsepower Meter
- ⊕ ⊕ (46) Reverse Phase or Phase Balance Current Relay
- ⊕ ⊕ (67) Permissive Control Switch - Time Delay Relay
- ⊕ ⊕ (95) Voltage Unbalance Relay
- ⊕ ⊕ (63) Liquid or Gas Pressure Relay
- ⊕ ⊕ (47) (27) Reverse Phase & Undervoltage Relay with Time Delay
- ⊕ ⊕ (VF) Motor Controller - Variable Frequency
- ⊕ ⊕ (Start) (Stop) Pushbutton - Maintain Type

1. For PANELBOARD SCHEDULES, see Specifications: DETAILED ELECTRICAL REQUIREMENTS.
2. For explanation of Lighting Fixture Types shown on Dwg's, see Specifications: DETAILED ELECTRICAL REQUIREMENTS.
3. Mounting heights for interior lighting fixtures shall be from finished floor to bottom of fixture unless otherwise noted.
4. Mounting heights for lighting fixtures mounted on exterior walls of buildings shall be from finished floor to centerline of recessed junction box unless otherwise noted.
5. Verify all door swings before installing switch boxes.
6. Receptacles shall be mounted 2'-0" above finished floor unless otherwise noted.
7. All Elementary Control Diagrams are shown de-energized.

LOCATION SYMBOLS FOR ELEMENTARY CONTROL DIAGRAMS

- ccc Device located in respective controlboard, control center
- Device located at respective unit
- ▲ Device located at respective motor
- Device located in Starter
- Device located in Pumping Station
- u Device located in respective unit control cabinet
- △ Device located in Flow Equalization Tank
- Device located outside chlorine room doors

MOTOR CONTROL CENTERS, POWER CENTERS & UNIT SUBSTATIONS

- AUXILIARY DESCRIPTION
- a Red & Green Indicating Lights
 - b 480-120 Volt Control Transformer
 - c Running Time Meter
 - d Hand-Off - Automatic Selector Switch
 - e Start-Stop Pushbutton Station
 - f Key Interlock

UNDERGROUND

- 2" C Existing Conduit - size as indicated
- DB 2 1/2 Existing Direct Buried Cable - number and size as indicated.
- DB 2 1/4 Direct Buried Cable - number and size as indicated
- C Conduit - size as indicated

EXTERIOR

- ⊕ HID Area Light
- ⊕ Incandescent Area Light
- ⊕ Existing Pole
- ⊕ 35'-2 Pole - Length & Class as indicated
- ⊕ 35'-2 20' Pole with Down Guy & Anchor - length, class & Lead as indicated
- ⊕ 35'-2 Pole with Street Light - length & class as indicated
- ⊕ 4" 1/2 Primary Distribution Line - KV - number & size of wires as indicated
- ⊕ 4" 2 Secondary Distribution Line - 3ϕ - number & size of wires as indicated
- ⊕ Service Prop - number & size of wires as indicated
- ⊕ Weatherhead & Rack
- ⊕ HID Floodlight - Pole Mounted

CIRCUIT BREAKER S.I.C. LEGEND

- 10 10,000 Amperes at Operating Voltage
- 14 14,000 Amperes at Operating Voltage
- 22 22,000 Amperes at Operating Voltage
- 30 30,000 Amperes at Operating Voltage
- 50 50,000 Amperes at Operating Voltage
- 60 60,000 Amperes at Operating Voltage
- 65 65,000 Amperes at Operating Voltage

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DATE: 5/21/79
CHIEF - BUREAU OF ENVIRONMENTAL SERVICES

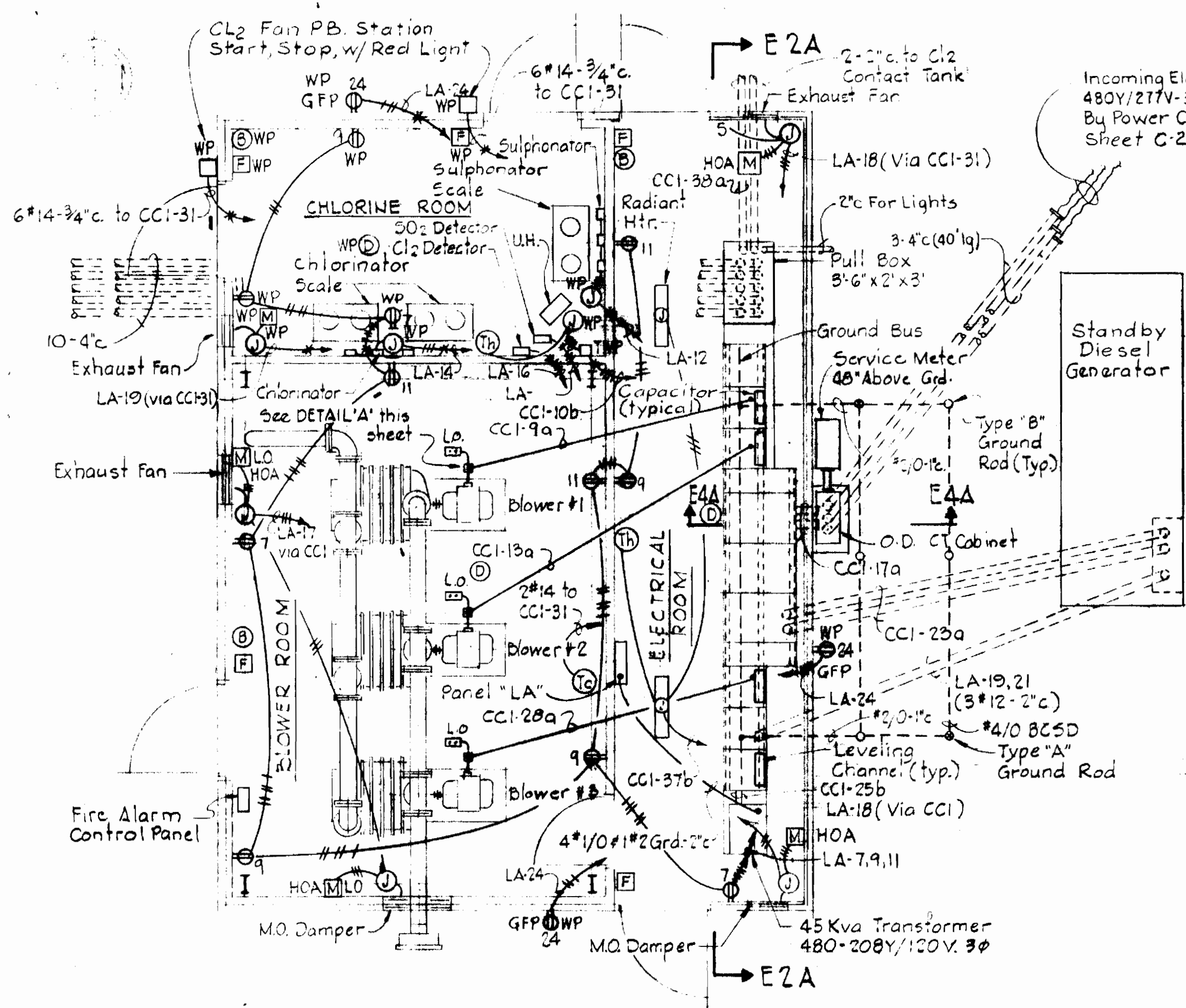
CONTRACT NO. 837-S

GENERAL ELECTRICAL NOTES AND LEGEND

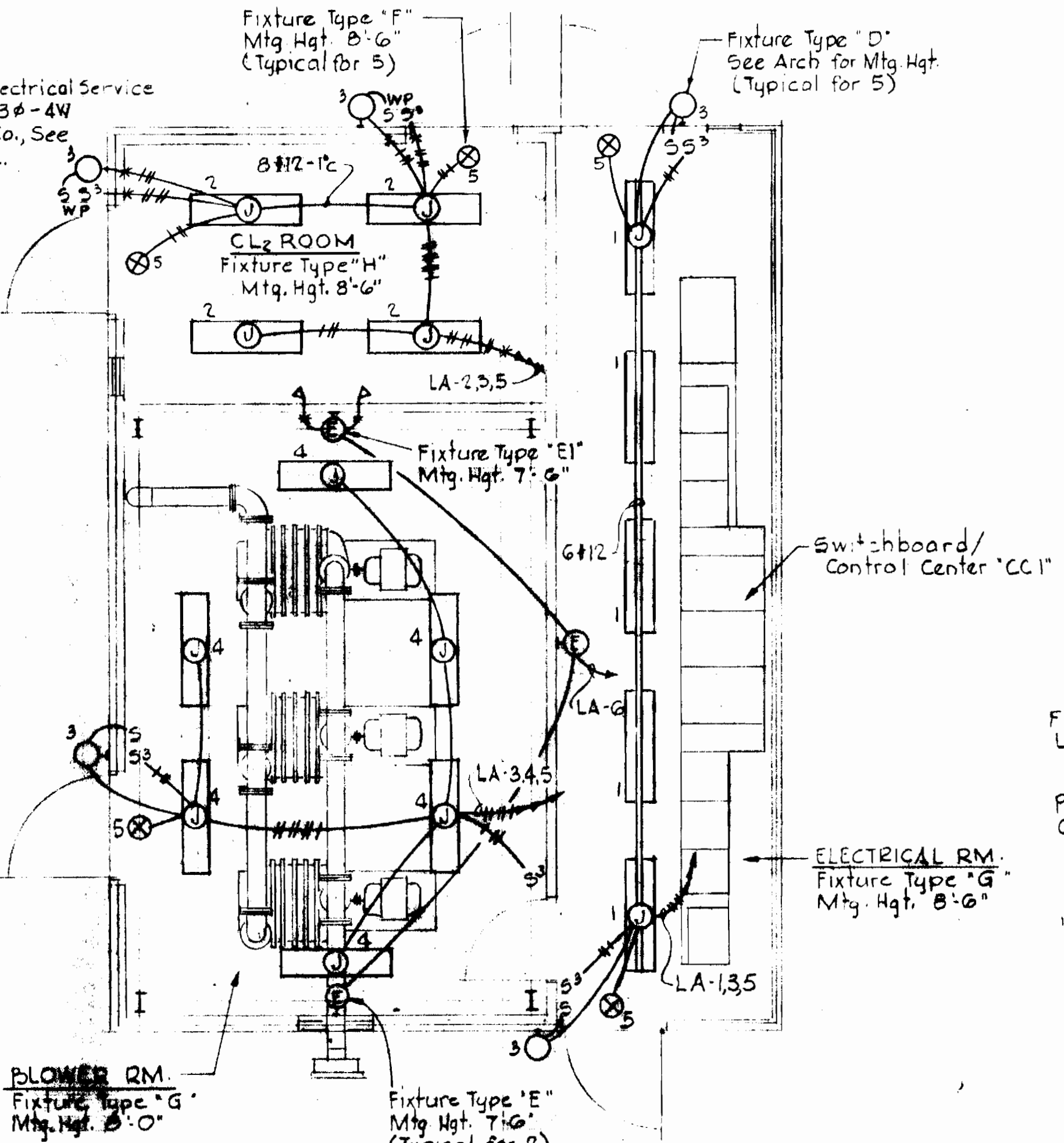
DEEP RUN INTERIM WASTEWATER TREATMENT PLANT

DRAWING NO. 28 OF 35
SCALE AS SHOWN

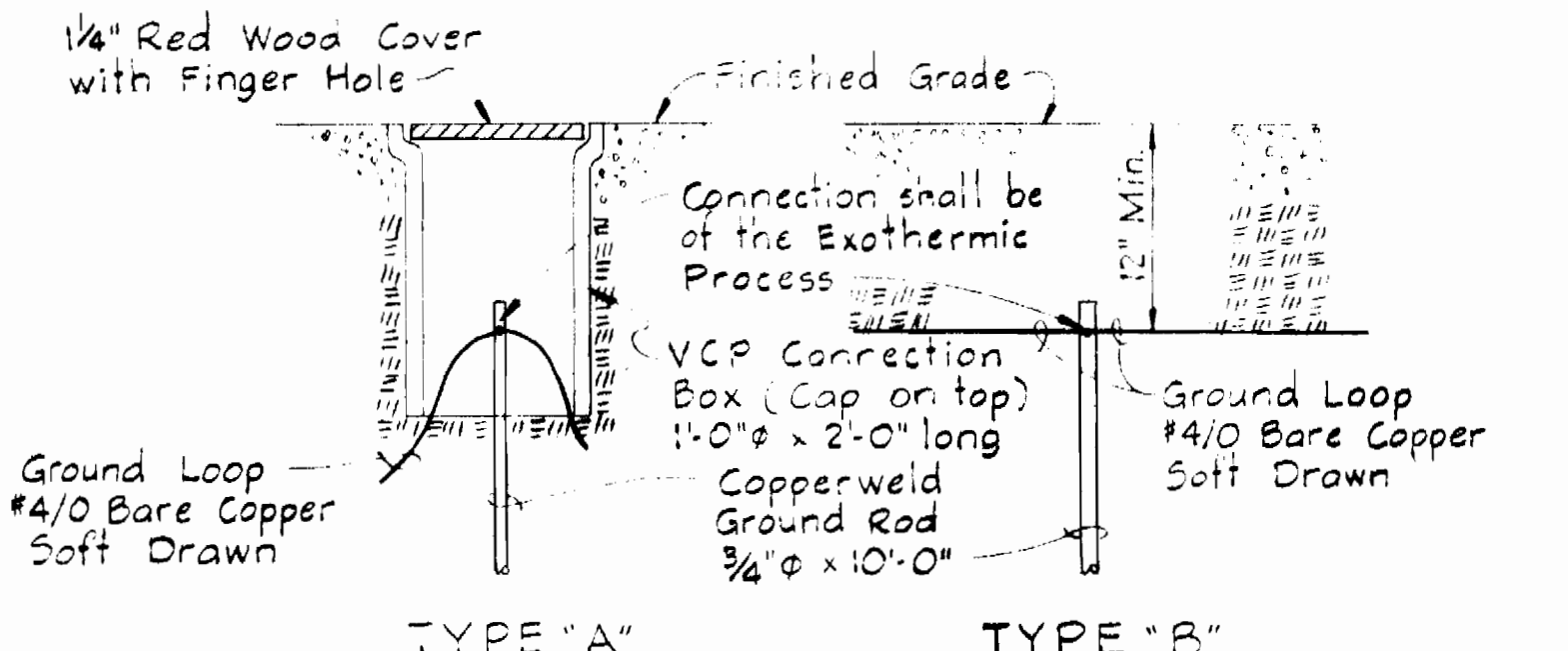
Kenneth J. McLaughlin



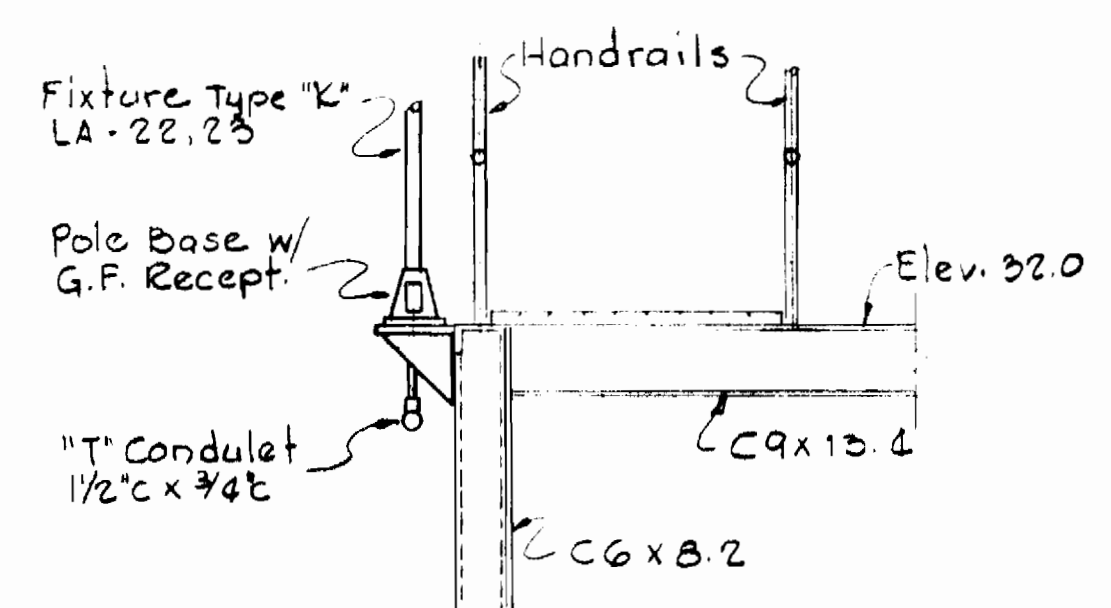
POWER PLAN



LIGHTING PLAN



GROUND ROD DETAILS



DETAIL 'A'

SERVICE BUILDING

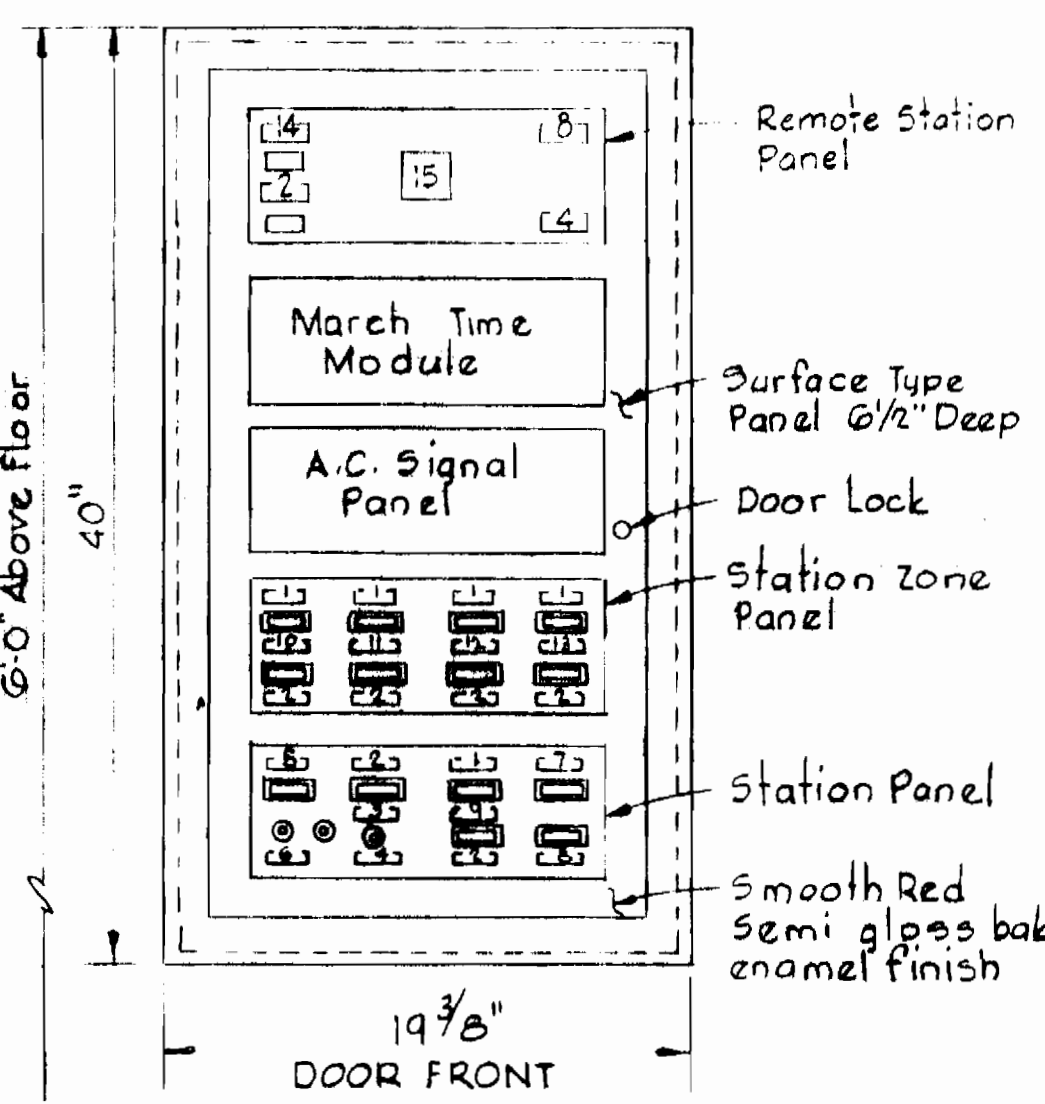
Scale: 1/4" = 1'-0"

NOTES

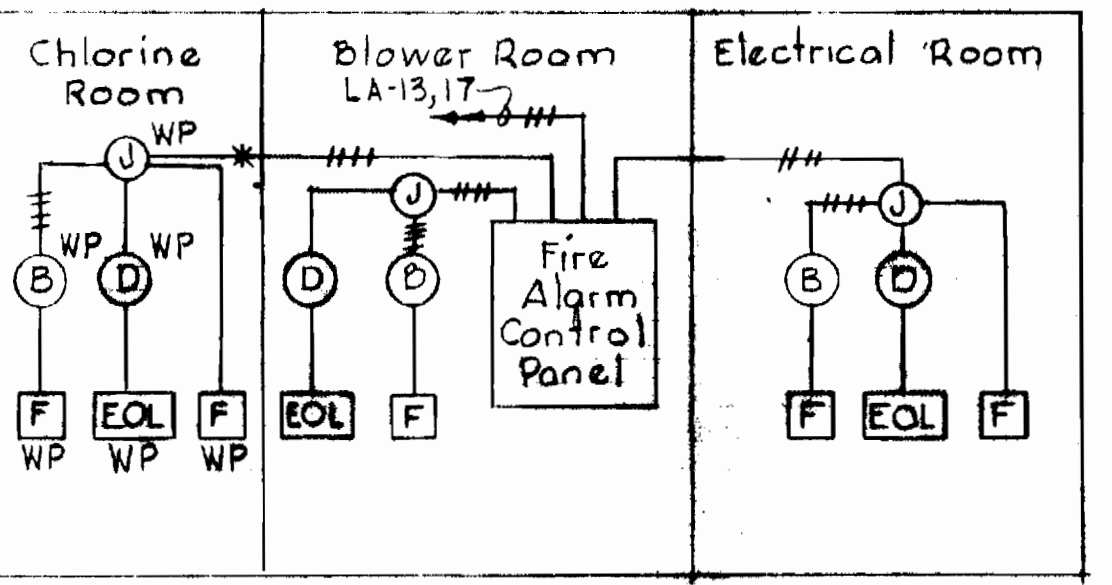
1. For General Electrical Notes & Legend see Sheet E-2.
2. See Power Company's Electric Service & Metering Manual (Sheet 211 & 211-1) for additional details for the CT Cabinet for Underground Service, Outdoor Instrument Current Transformer (C.T.) Meter.

LEGEND
 [Symbol] Nameplate
 [Symbol] Indicating Light
 [Symbol] Switch

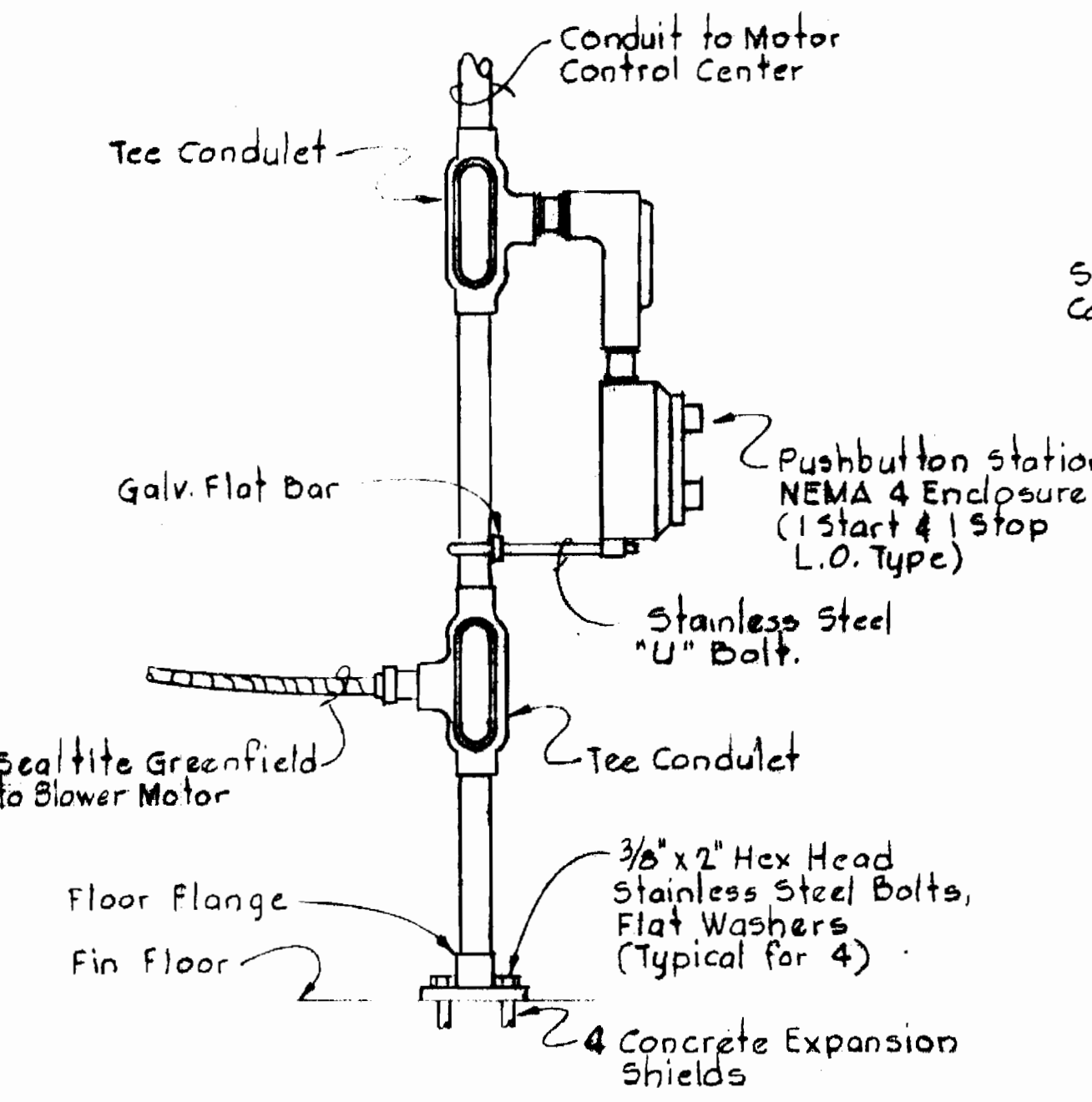
- NAMEPLATES**
1. Alarm
 2. Trouble
 3. Normal
 4. Silence
 5. Normal Power
 6. Reset
 7. Supervisory Power Trouble
 8. Operating Power Trouble
 9. Spare
 10. Electrical Room
 11. Chlorine Room
 12. Blower Room
 13. Spare
 14. Remote Line
 15. Milliammeter



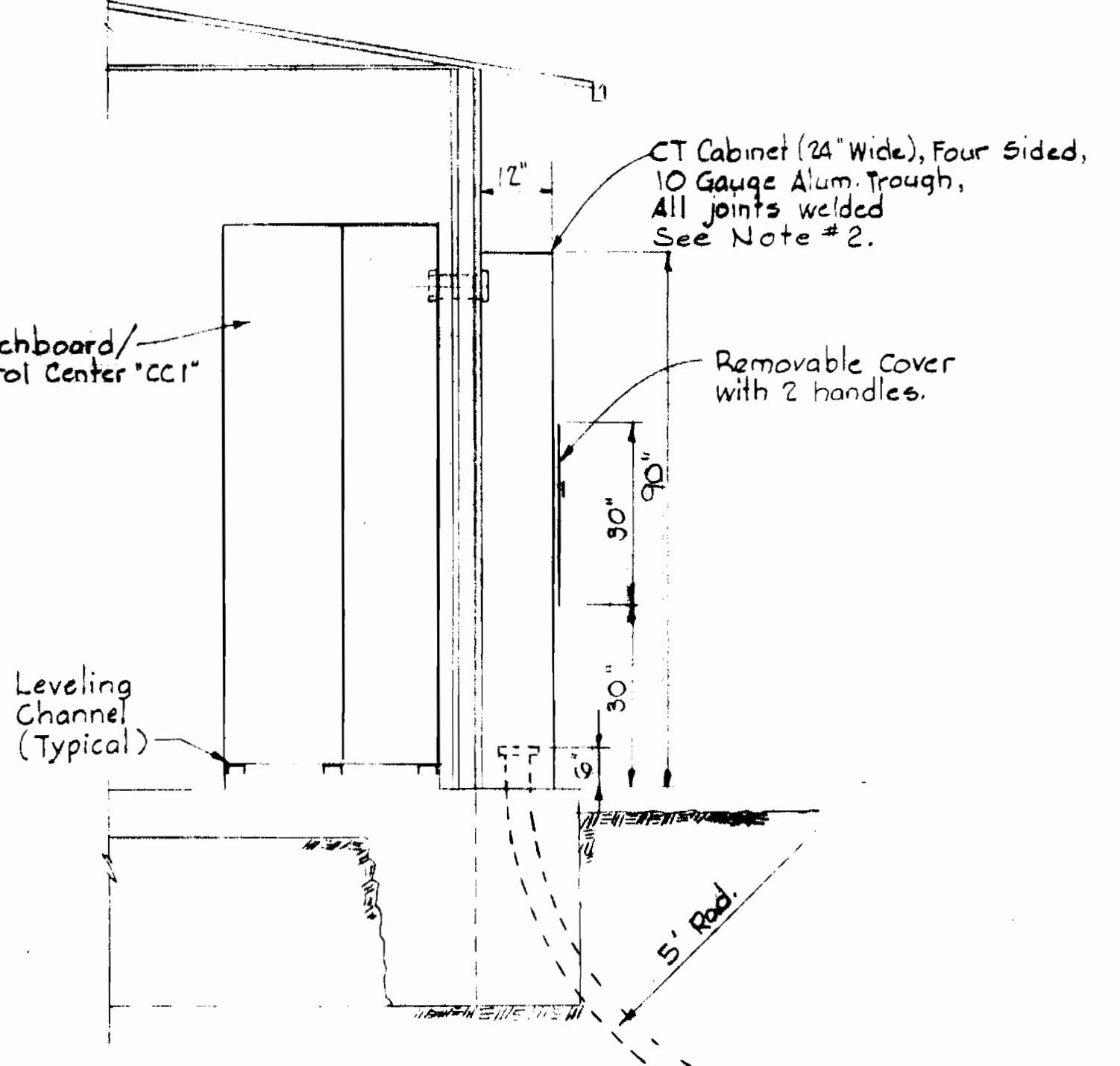
FIRE ALARM CONTROL PANEL
SERVICE BUILDING
 No Scale



ONE LINE DIAGRAM
FIRE ALARM SYSTEM
SERVICE BUILDING
 No Scale



MOUNTING DETAIL 'A'
PUSHBUTTON STATION
 No Scale



SECTION E4A/E4
 Scale 1/2" = 1'-0"

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

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 DATE: 3/12/79
 CHIEF - BUREAU OF ENVIRONMENTAL SERVICES

CONTRACT NO. 837-S

SERVICE BUILDING
 PLANS AND DETAILS

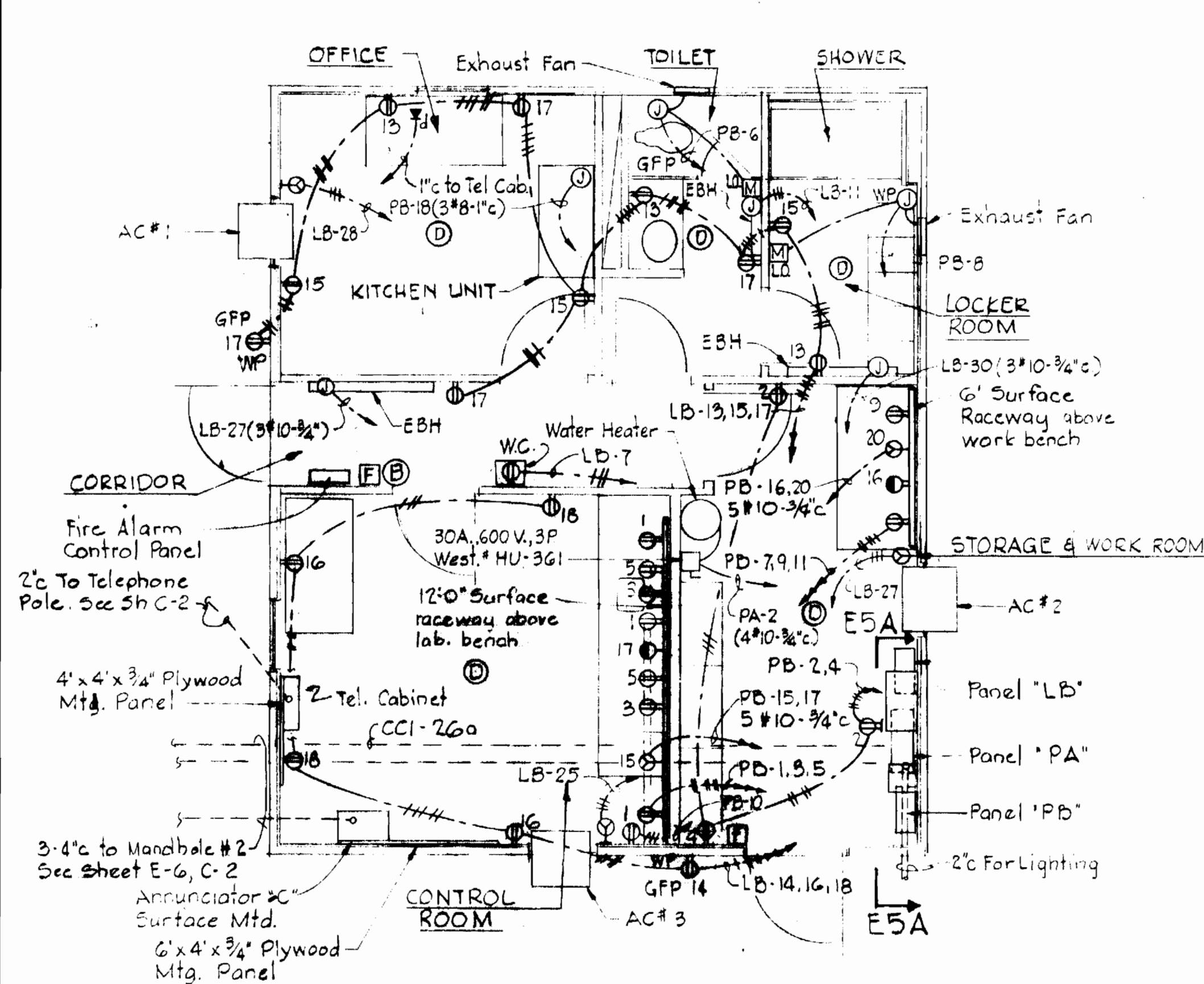
DEEP RUN INTERIM
 WASTEWATER TREATMENT PLANT

DRAWING NO. 30
 OF 35
 SCALE AS SHOWN

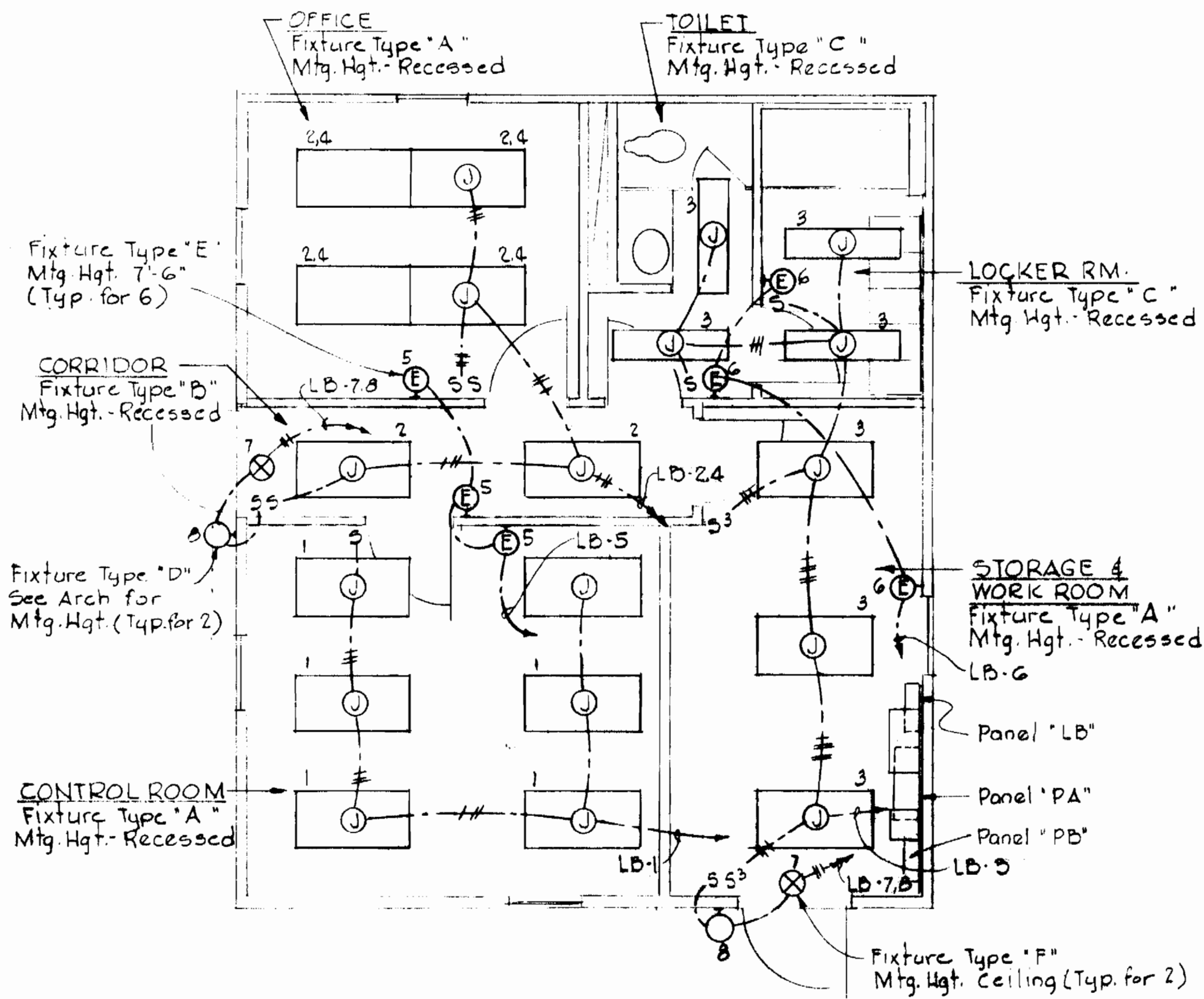


NOTES

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



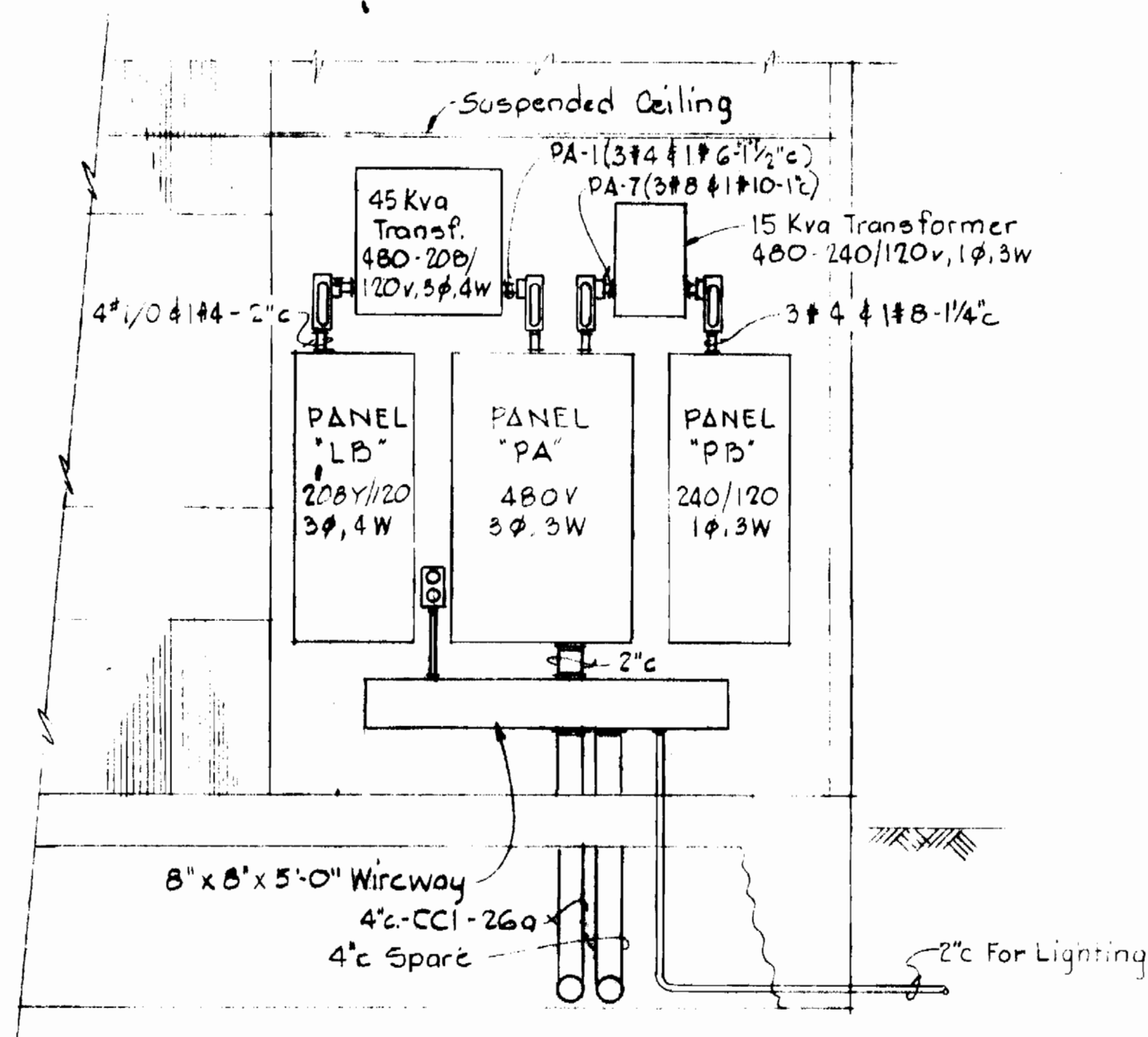
POWER PLAN



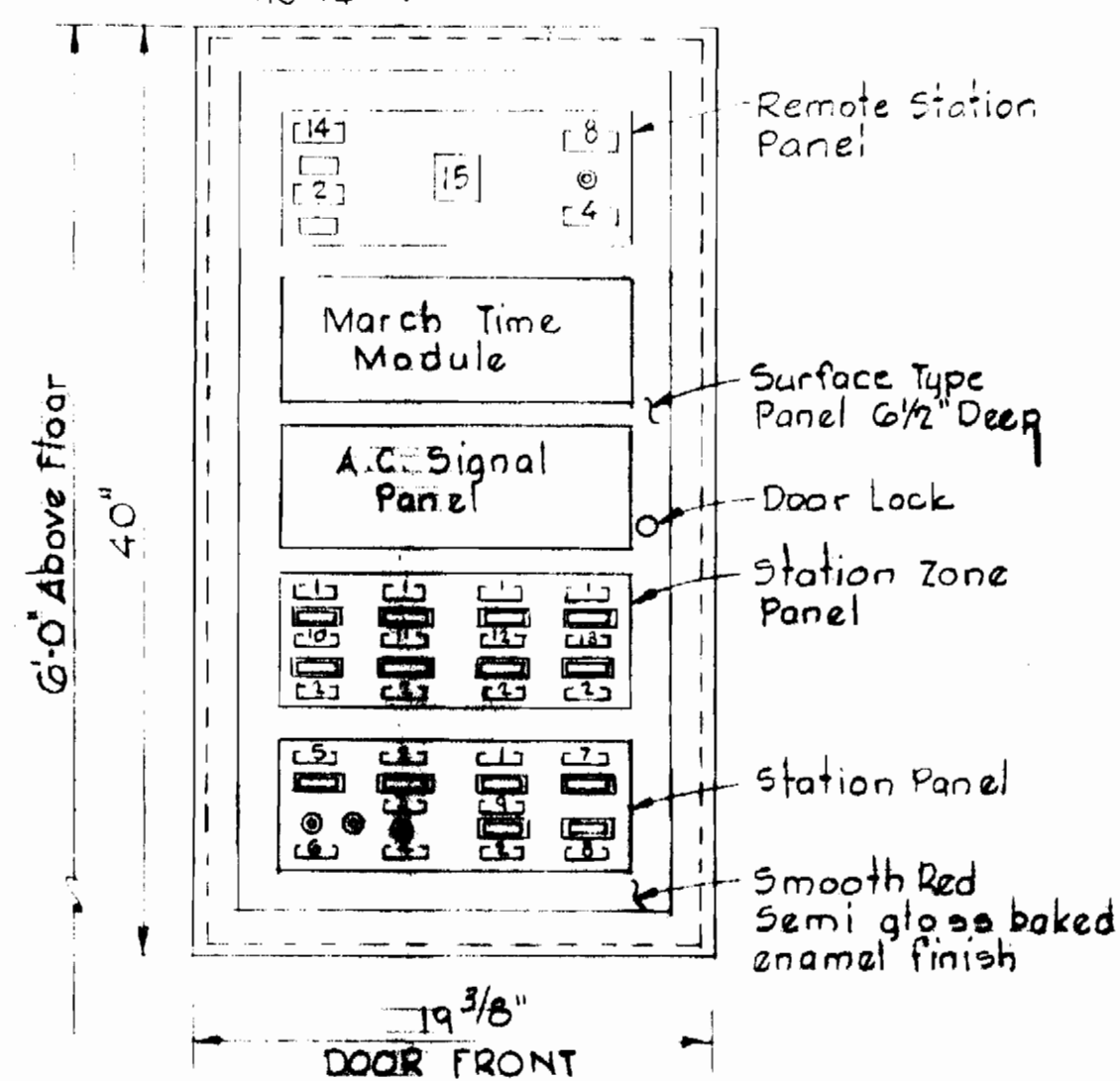
LIGHTING PLAN

ADMINISTRATION/OPERATION BUILDING

Scale 1/4"=1'-0"



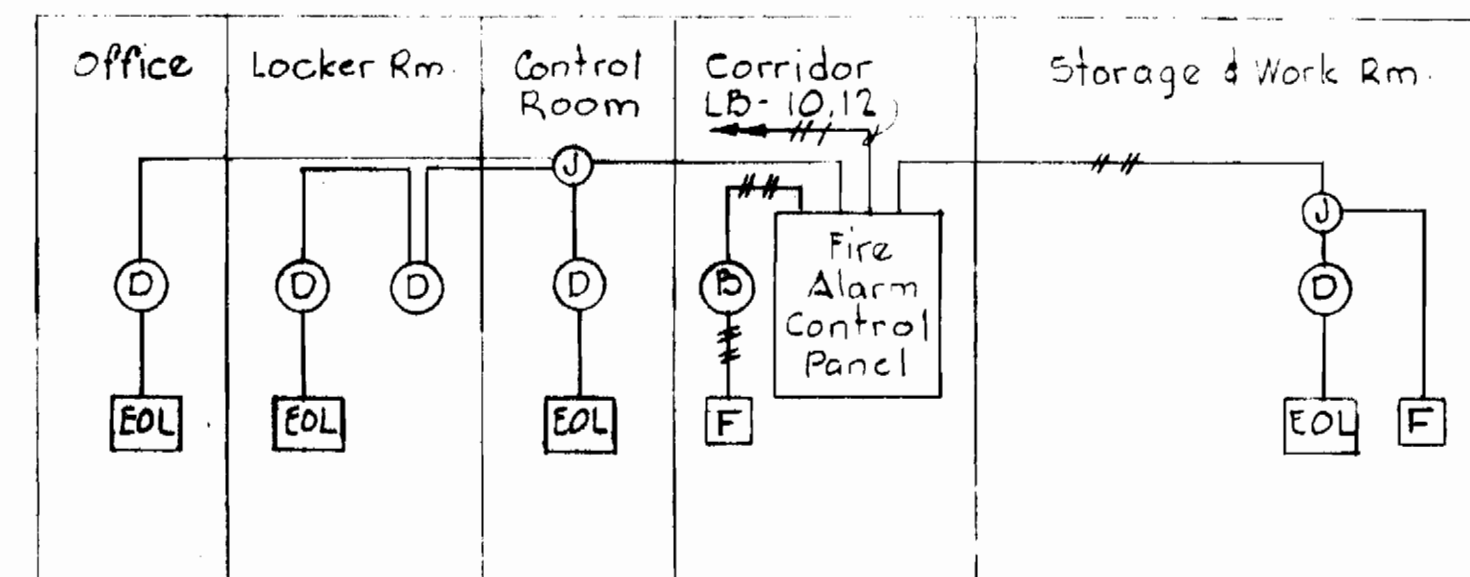
SECTION E5A/E5
Scale 1/2"=1'-0"



FIRE ALARM CONTROL PANEL
ADMINISTRATION/OPERATION BLDG.
No Scale

- LEGEND**
- Nameplate
 - Indicating light
 - Switch

- NAMEPLATES**
1. Alarm
 2. Trouble
 3. Normal
 4. Silence
 5. Normal Power
 6. Reset
 7. Supervisory Power Trouble
 8. Operating Power Trouble
 9. Spare
 10. Locker Room
 11. Control Room
 12. Office
 13. Storage & Work Rm.
 14. Remote Line
 15. Millimeter



ONE LINE DIAGRAM
FIRE ALARM SYSTEM
ADMINISTRATION/OPERATION BLDG.
No Scale

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

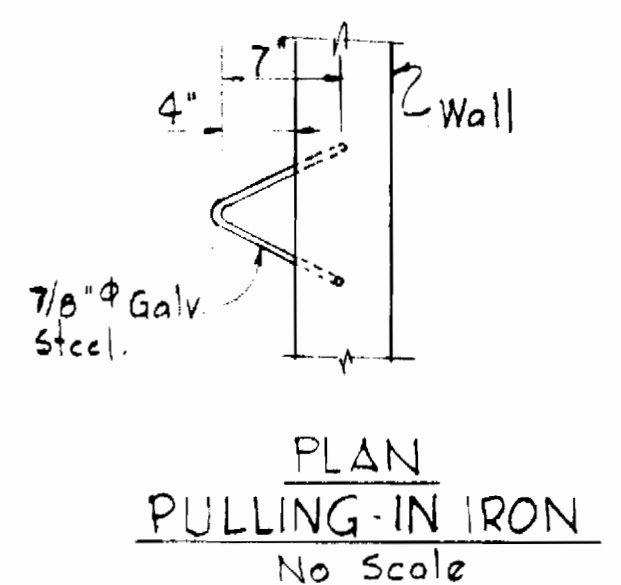
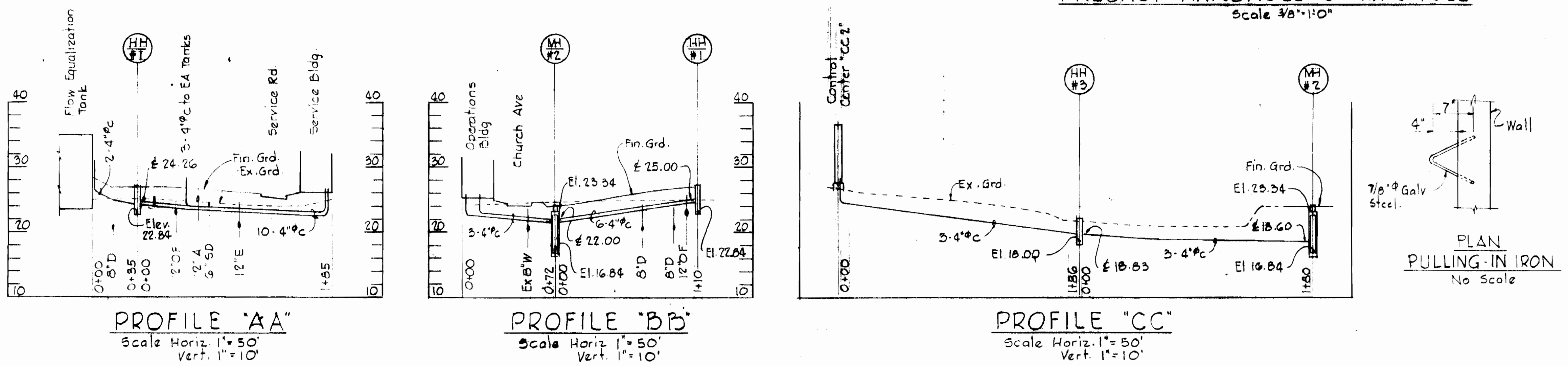
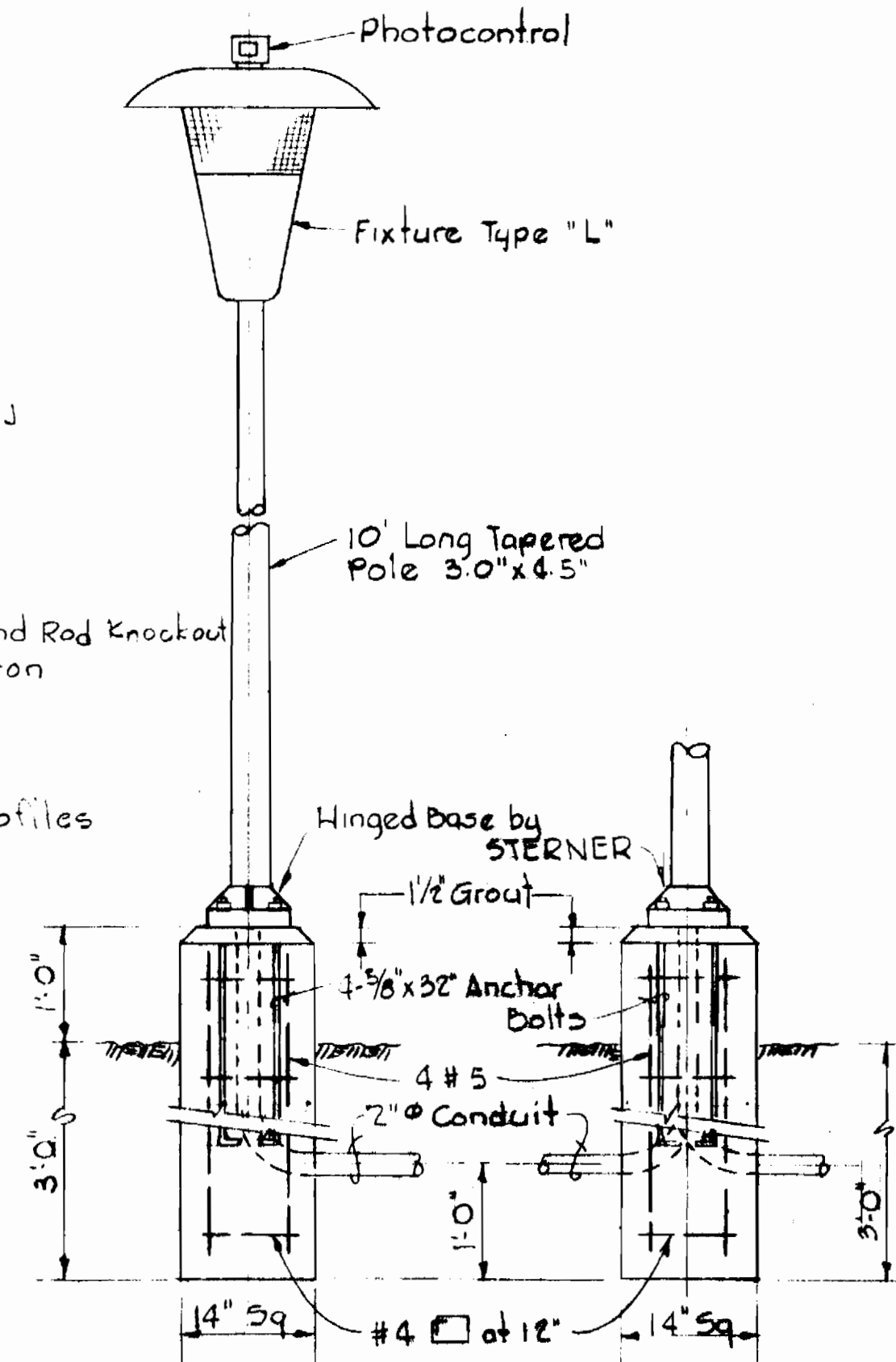
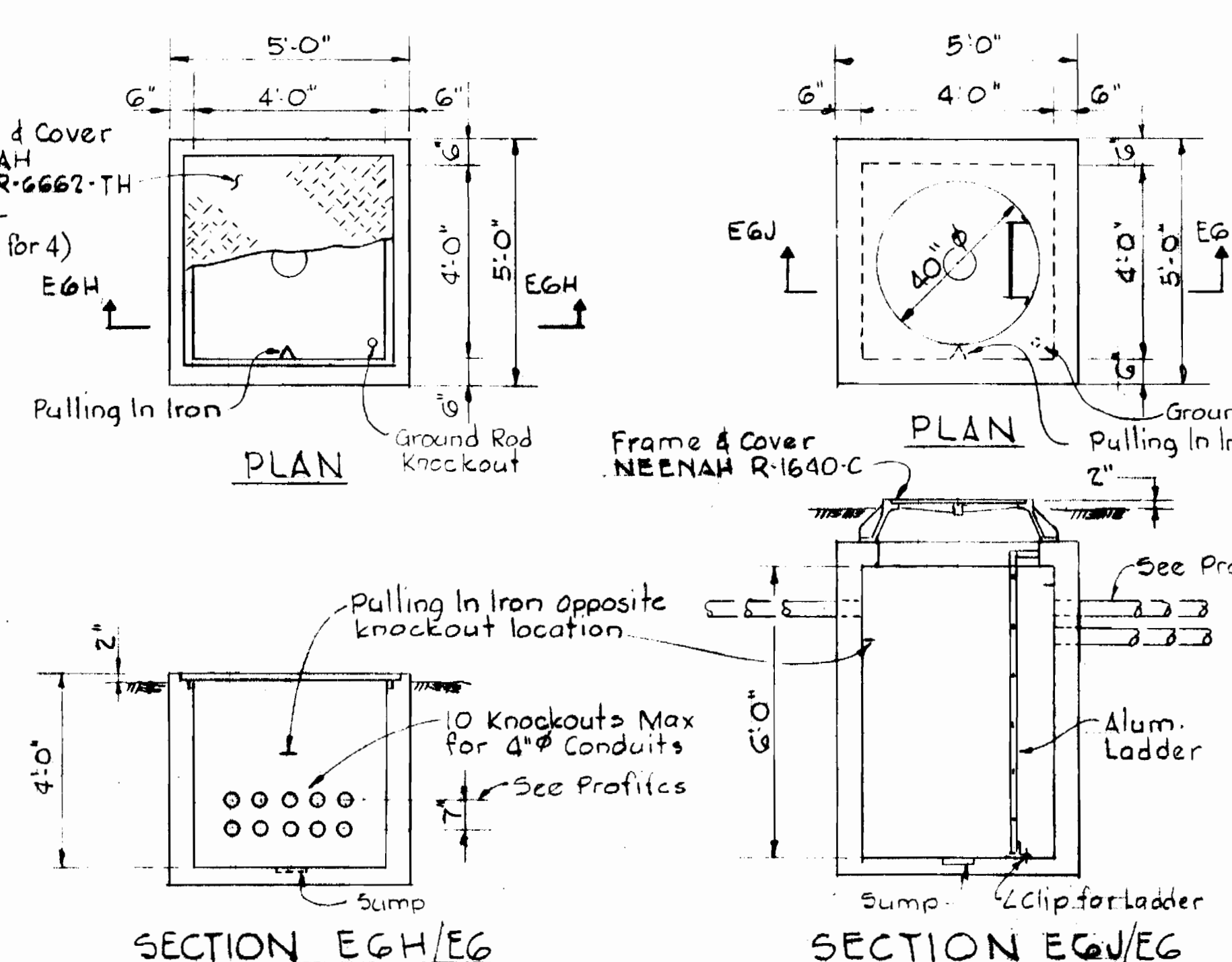
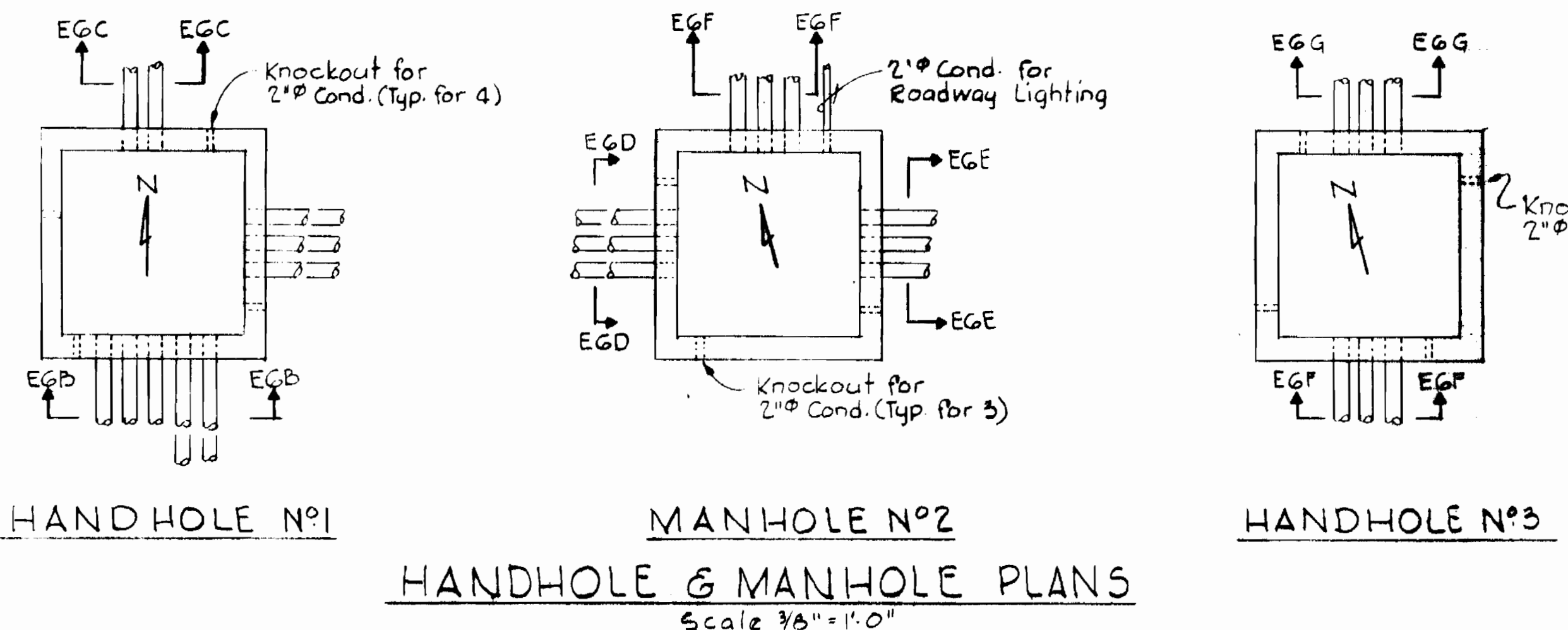
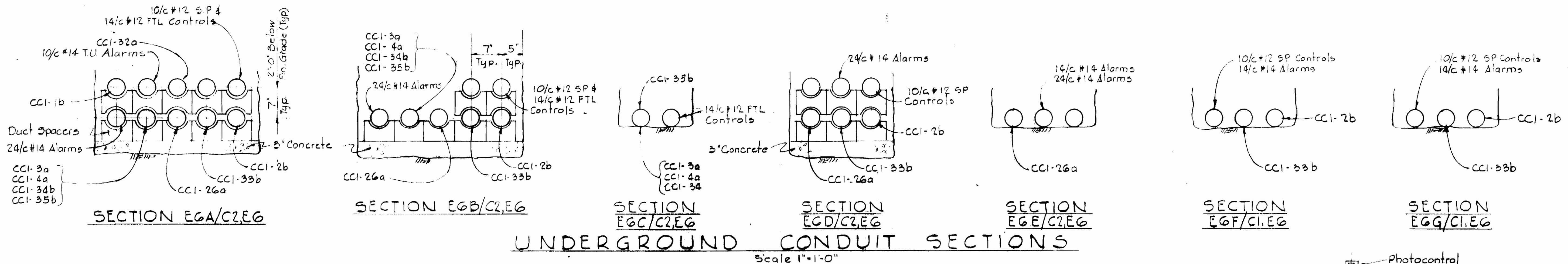
CONTRACT NO. 837-S

ADMINISTRATION/OPERATION BUILDING
PLANS AND DETAILS

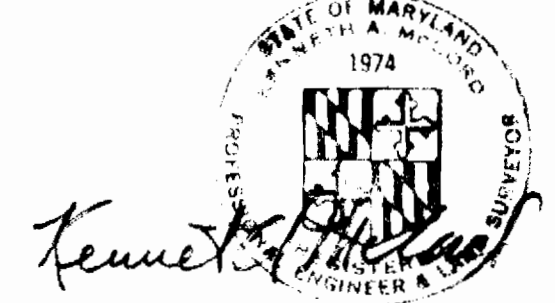
DEEP RUN INTERIM
WASTEWATER TREATMENT PLANT

DRAWING NO. 31
OF 35

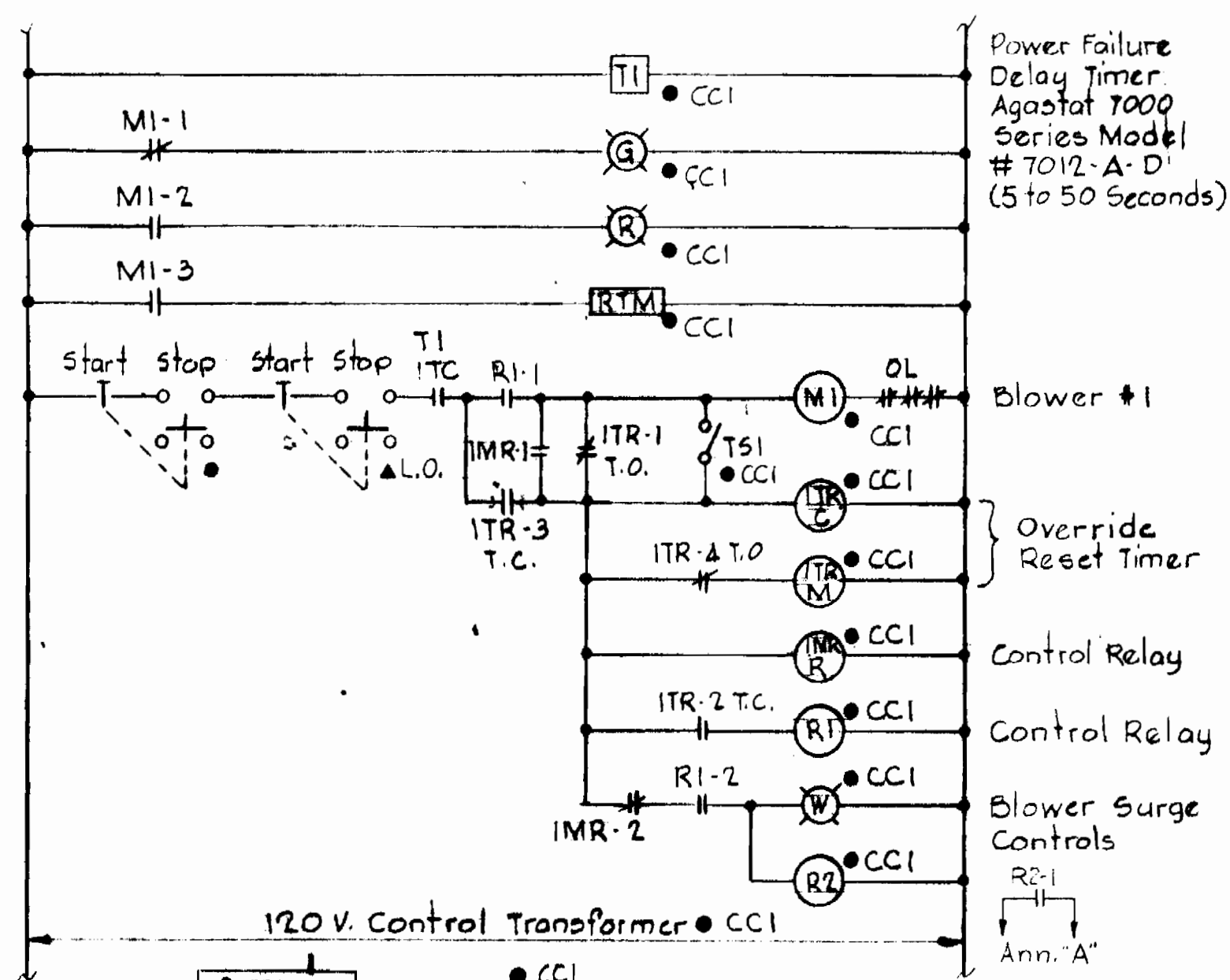
SCALE AS SHOWN



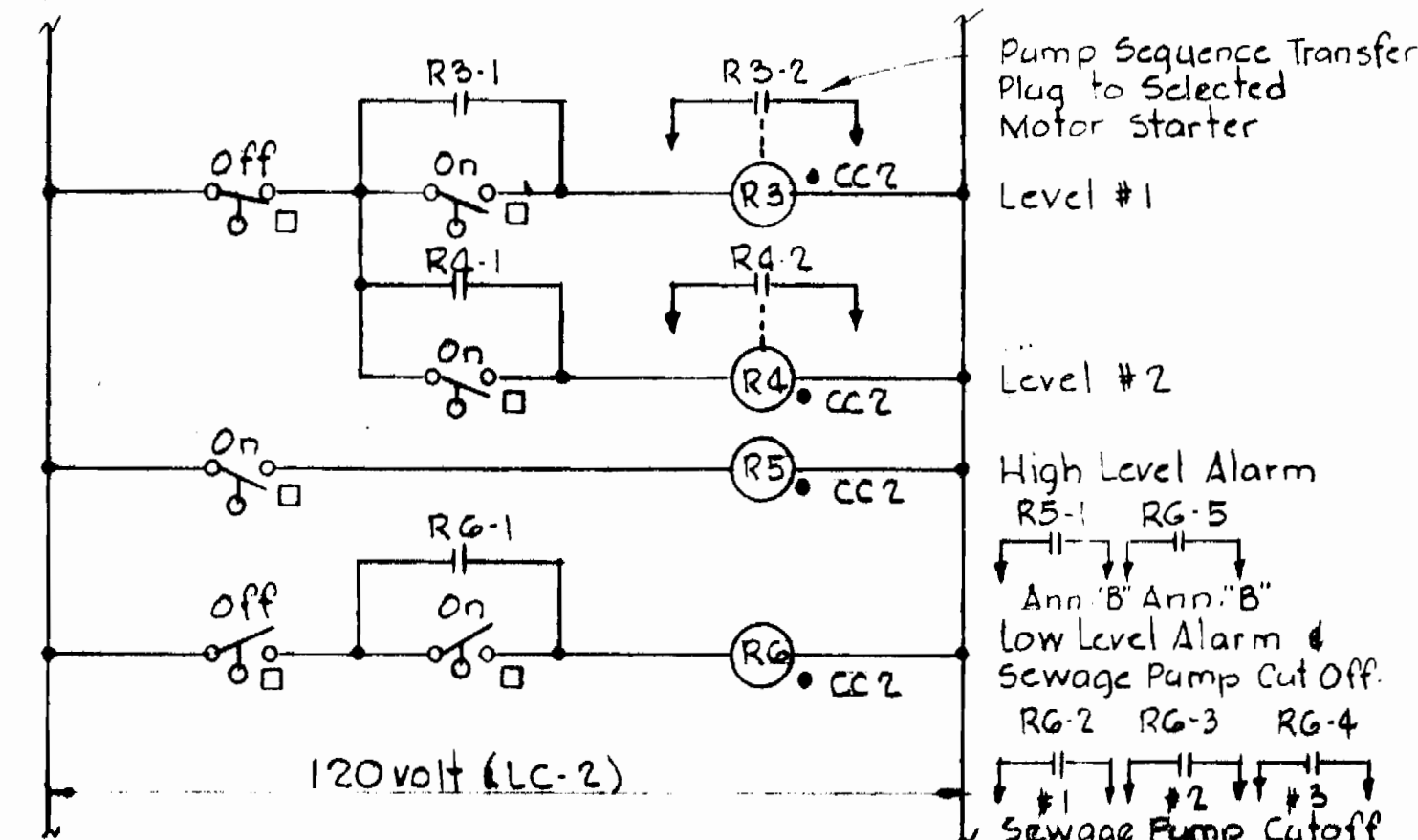
- NOTES**
1. For General Electrical Notes & Legend, See Sheet E-2.
 2. Exterior walls of manhole & handhole shall be covered with two coats of coal tar epoxy material (A13 Thene-Tar or Ponitar Type M). Each coat shall have a dry thickness of 7.0 mils.



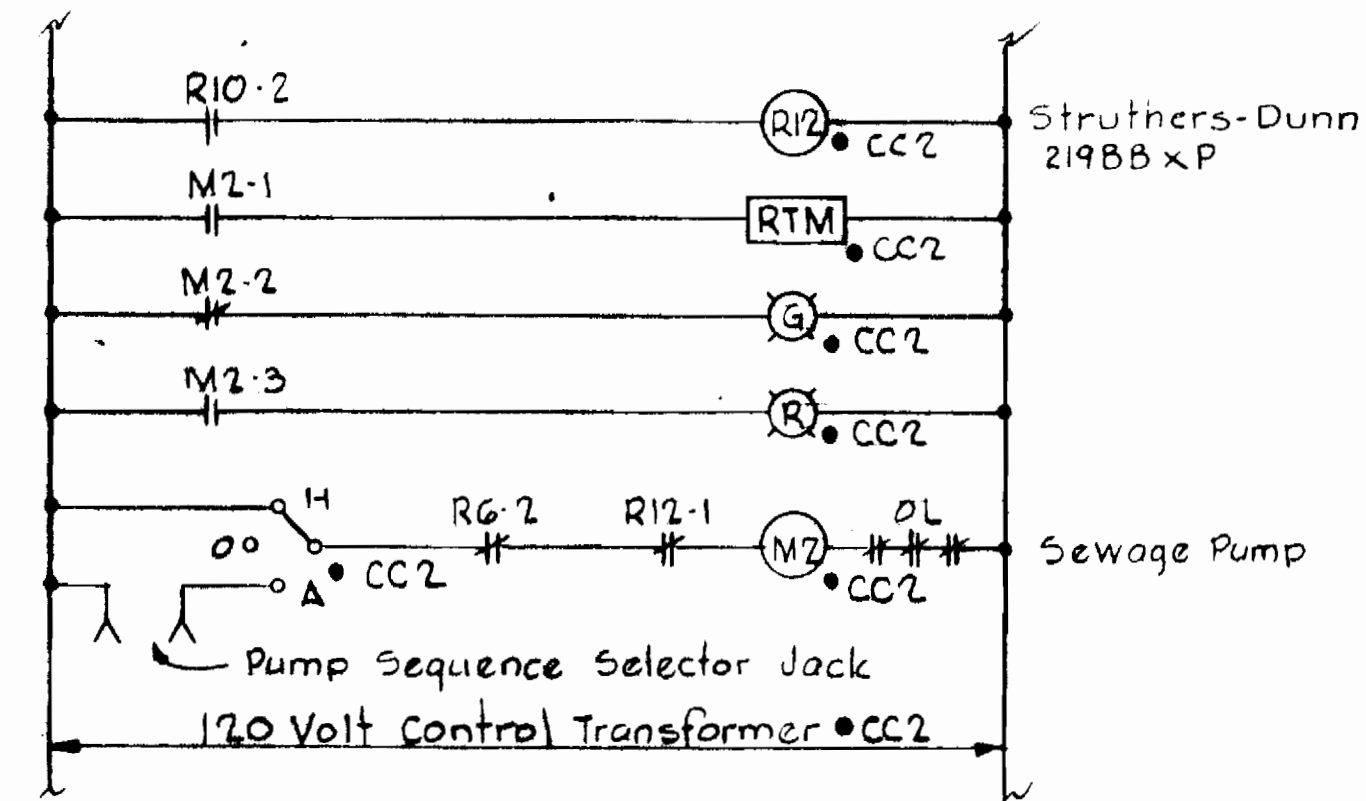
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>James M. Brown</i> DATE: 3/6/74 CHIEF - BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 837-S	UNDERGROUND HANDHOLES AND DETAILS	DEEP RUN INTERIM WASTEWATER TREATMENT PLANT	DRAWING NO. 32 OF 35	SCALE AS SHOWN
----------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------	----------------------------------------------	--------------------------------------------------------	-------------------------------------	-------------------------------



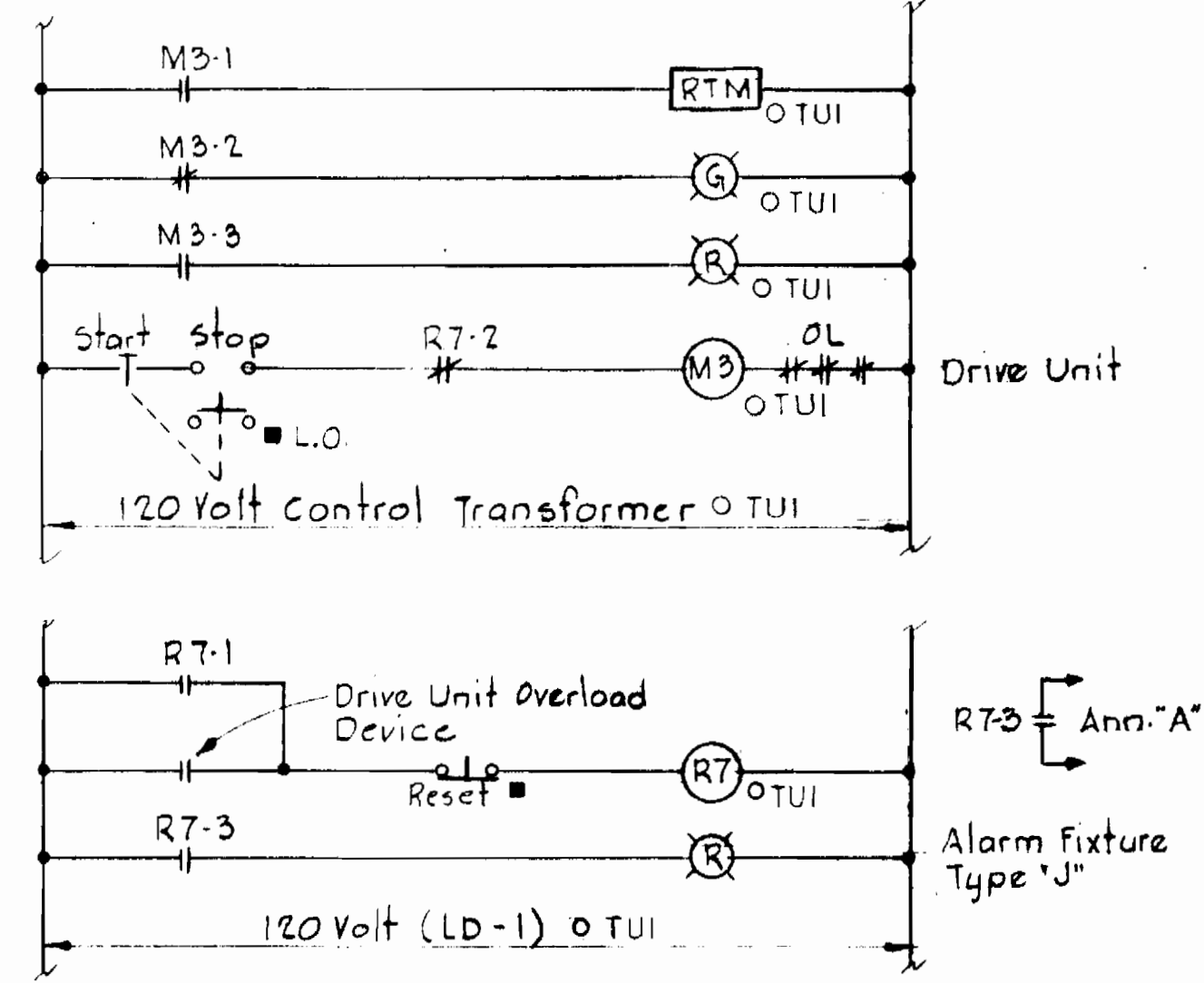
ECD #1
BLOWER #1
Typical for Blowers #2 & 3



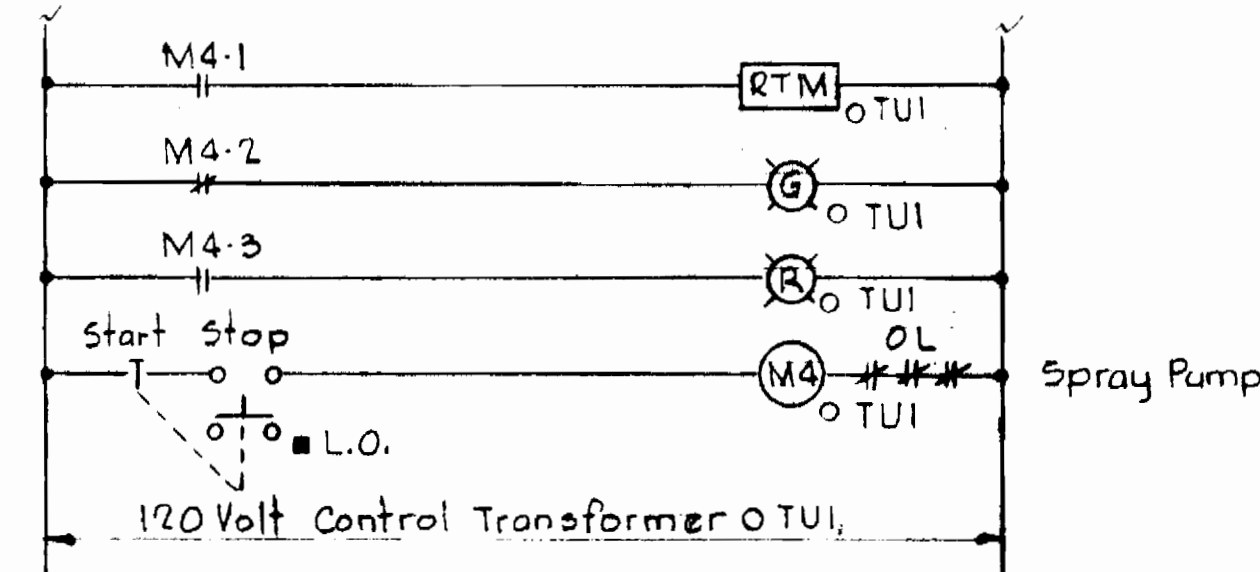
ECD #2
LEVEL CONTROLS P.S.



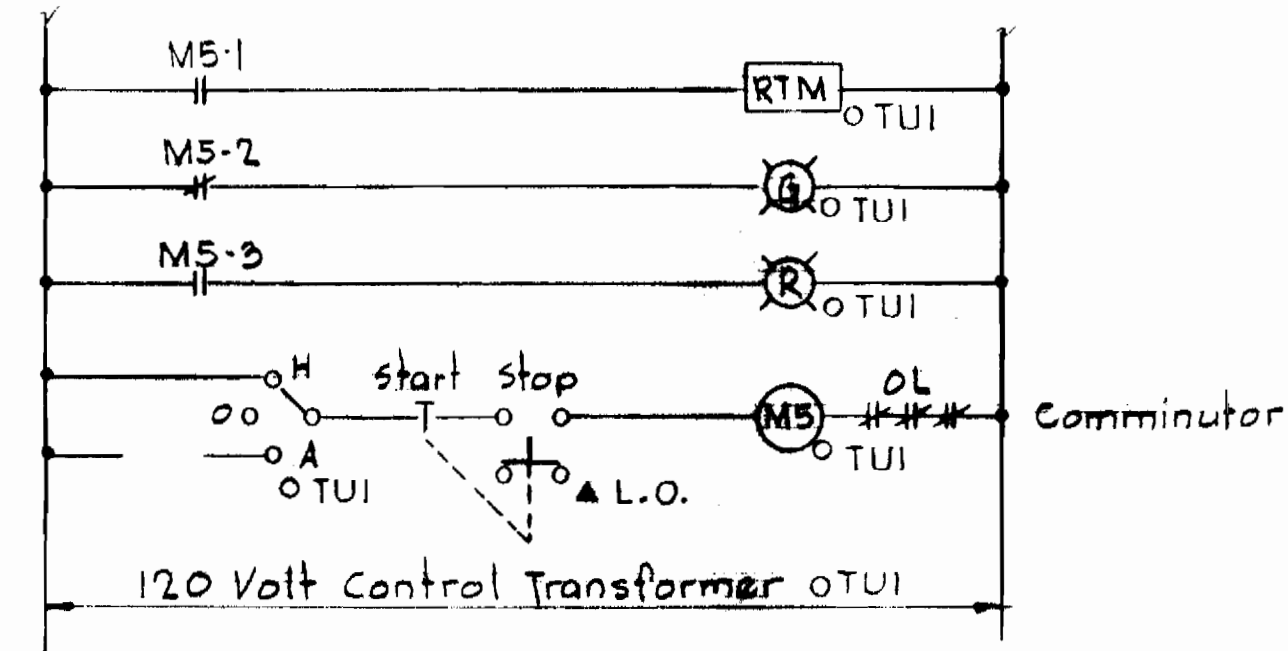
ECD #3
SEWAGE PUMP #1
Typical for Sewage Pumps #2 & 3



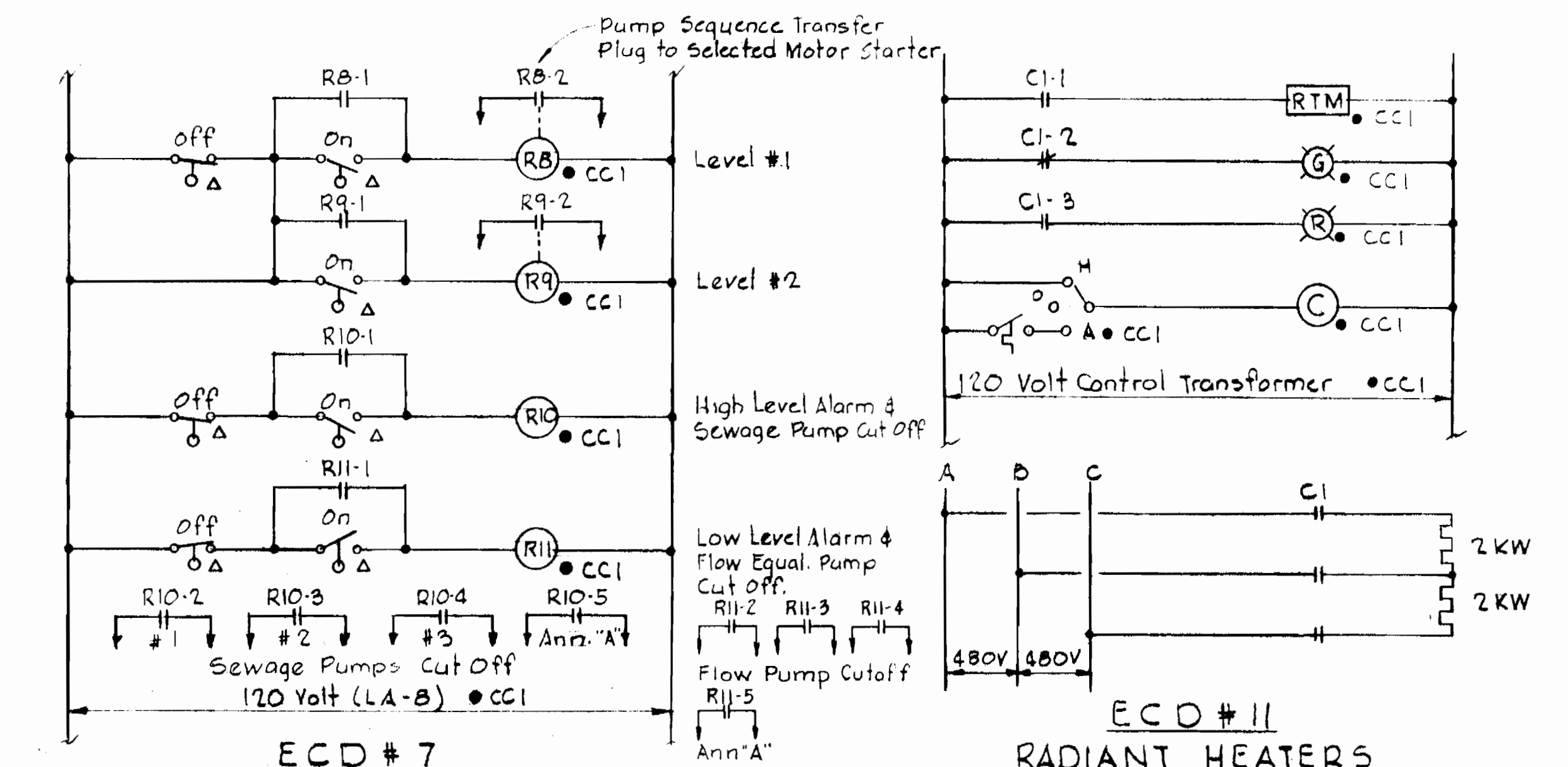
ECD #4
DRIVE UNIT - TREATMENT UNIT #1
Typical for Drive Unit - Treatment Unit #2 & TU2



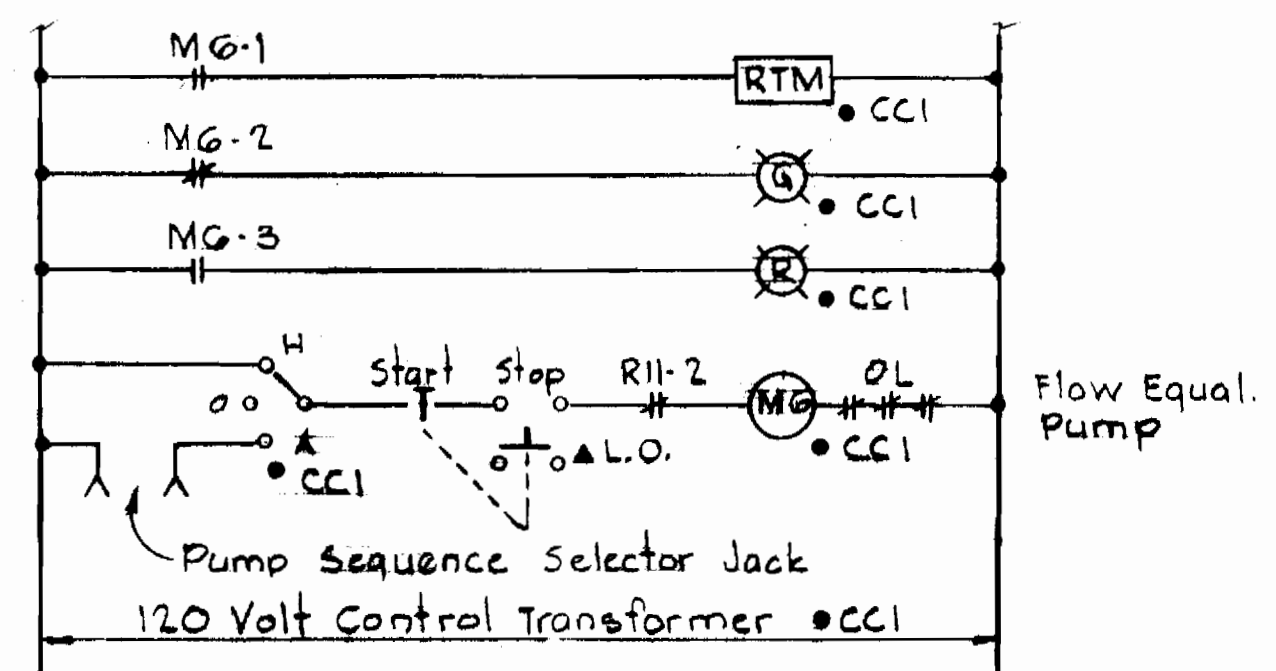
ECD #5
SPRAY PUMP - TREATMENT UNIT #1
Typical for Spray Pump - Treatment Unit #2 & TU2



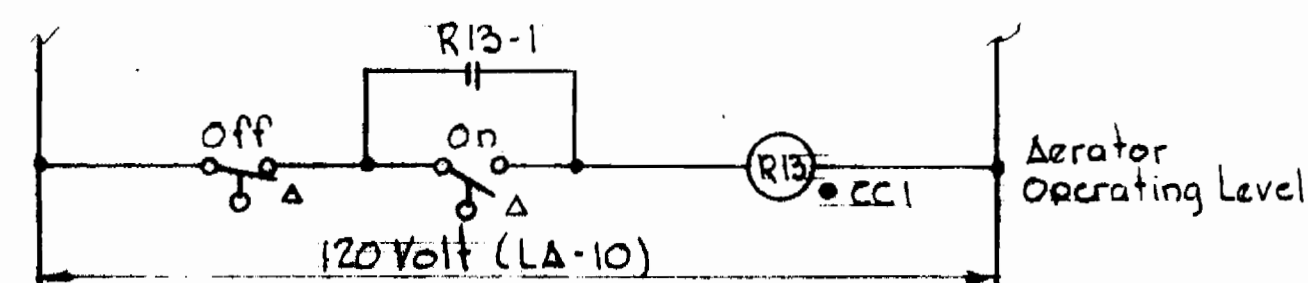
ECD #6
COMMINUTOR - SPLITTER BOX TREATMENT UNITS



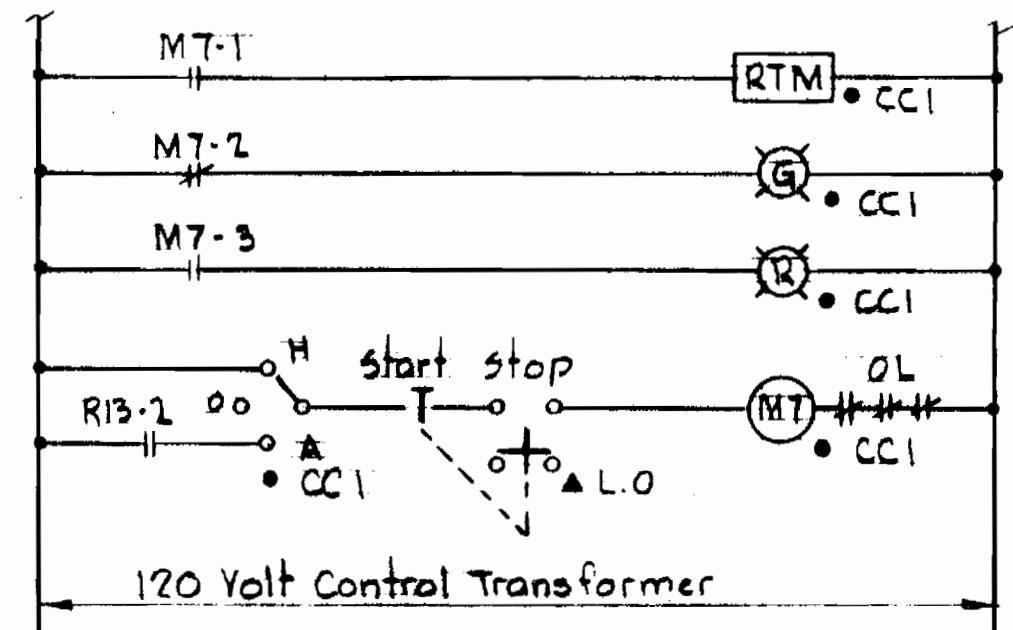
ECD #7
LEVEL CONTROLS - FLOW EQUAL TANK



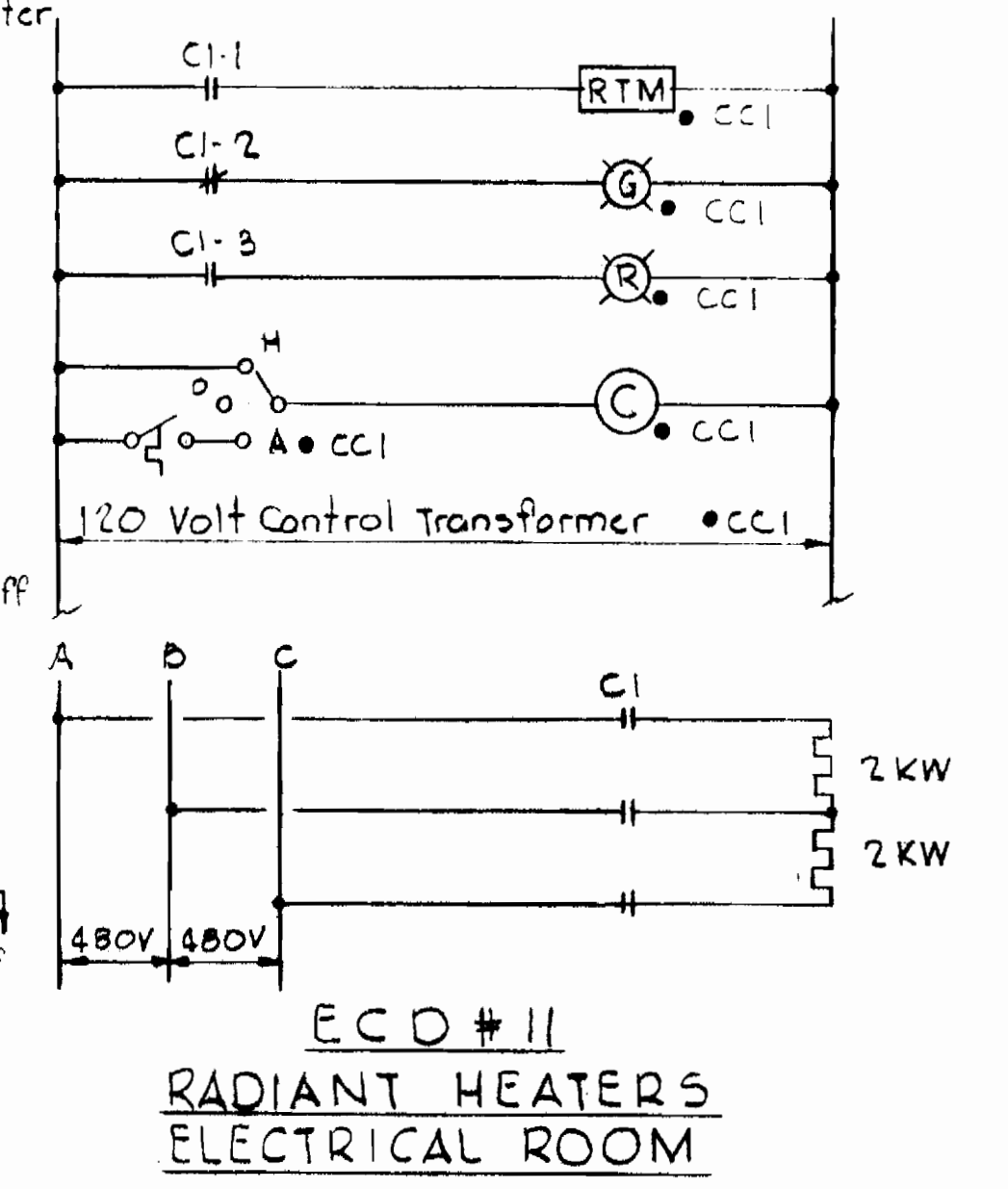
ECD #8
FLOW EQUAL PUMP #1
Typical for Flow Equal Pump #2 & 3



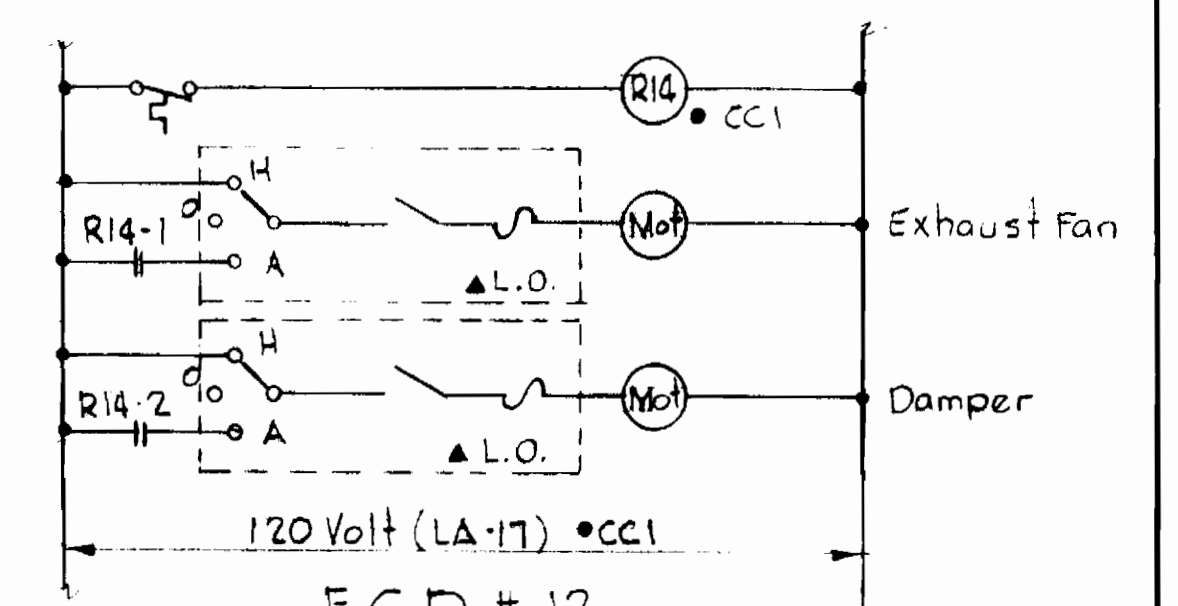
ECD #9
LEVEL CONTROL AERATOR FLOW EQUAL TANK



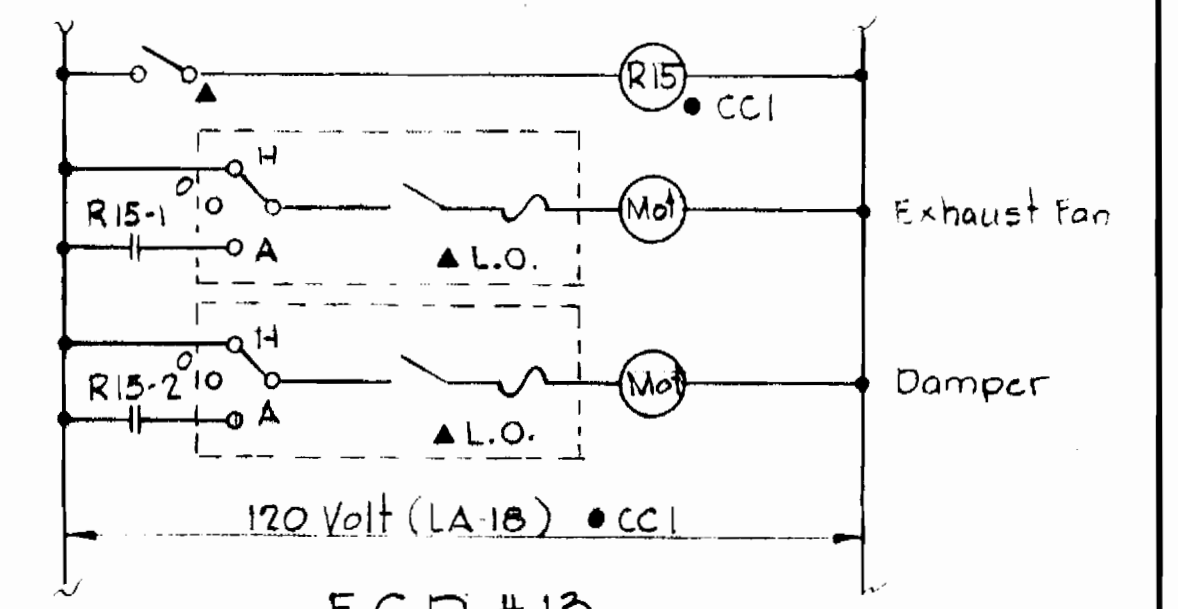
ECD #10
AERATOR - FLOW EQUAL TANK



ECD #11
RADIANT HEATERS ELECTRICAL ROOM



ECD #12
BLOWER ROOM - EXHAUST FAN



ECD #13
ELECTRICAL ROOM - EXHAUST FAN

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

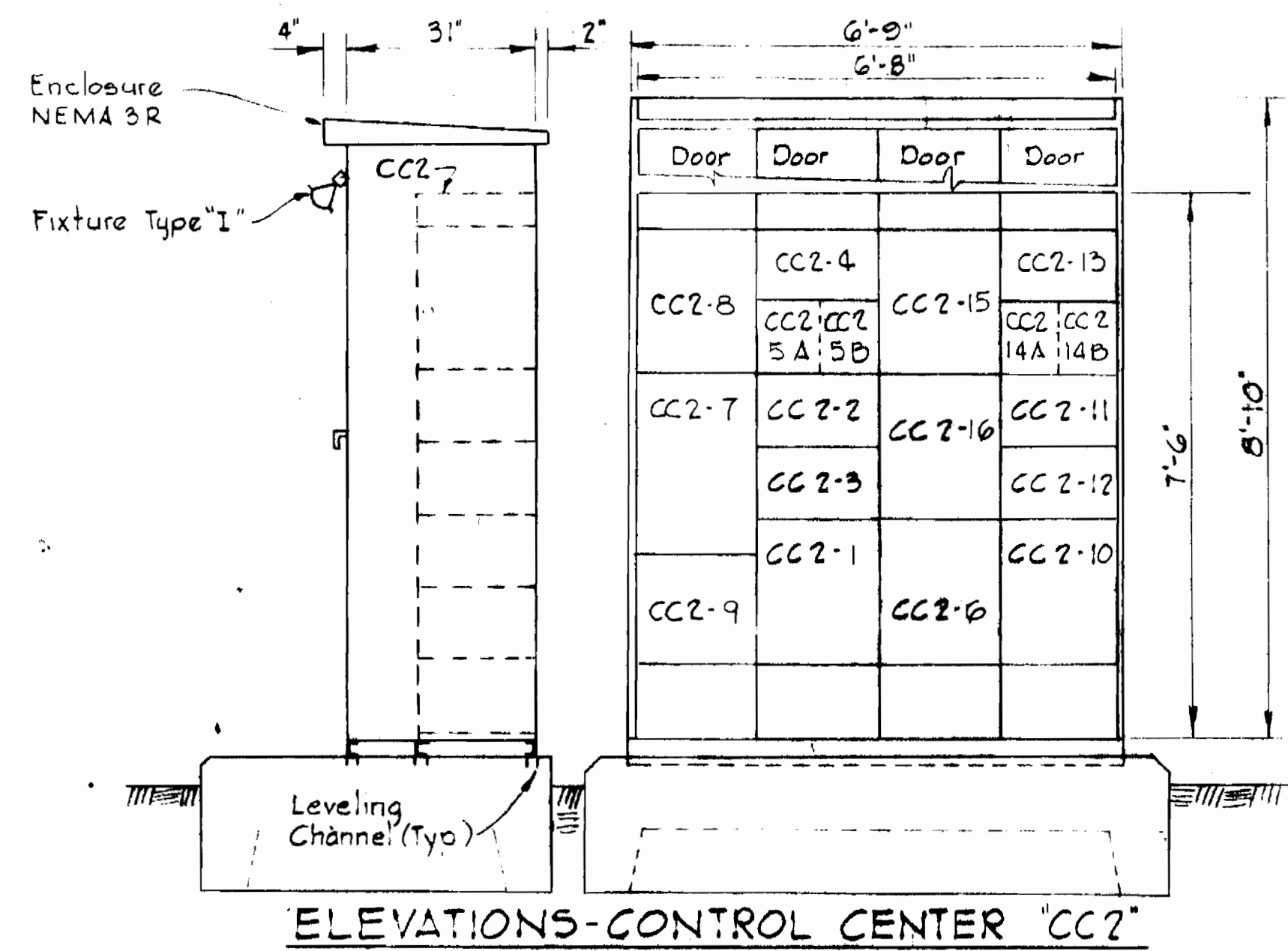
CONTRACT NO. 837-S

WIRING DIAGRAMS

DEEP RUN INTERIM
WASTEWATER TREATMENT PLANT

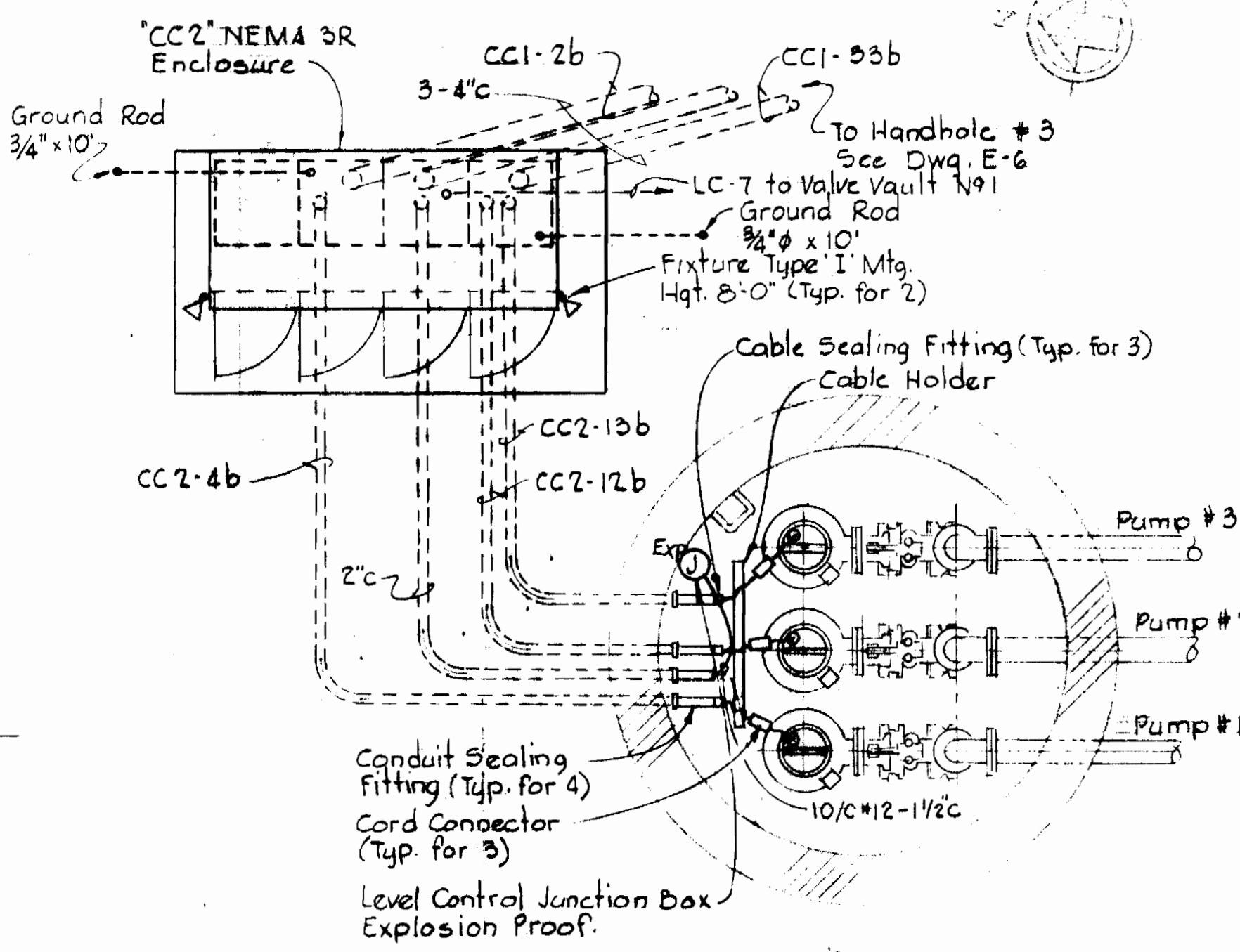
DRAWING
NO. 33
OF 35

SCALE
AS
SHOWN



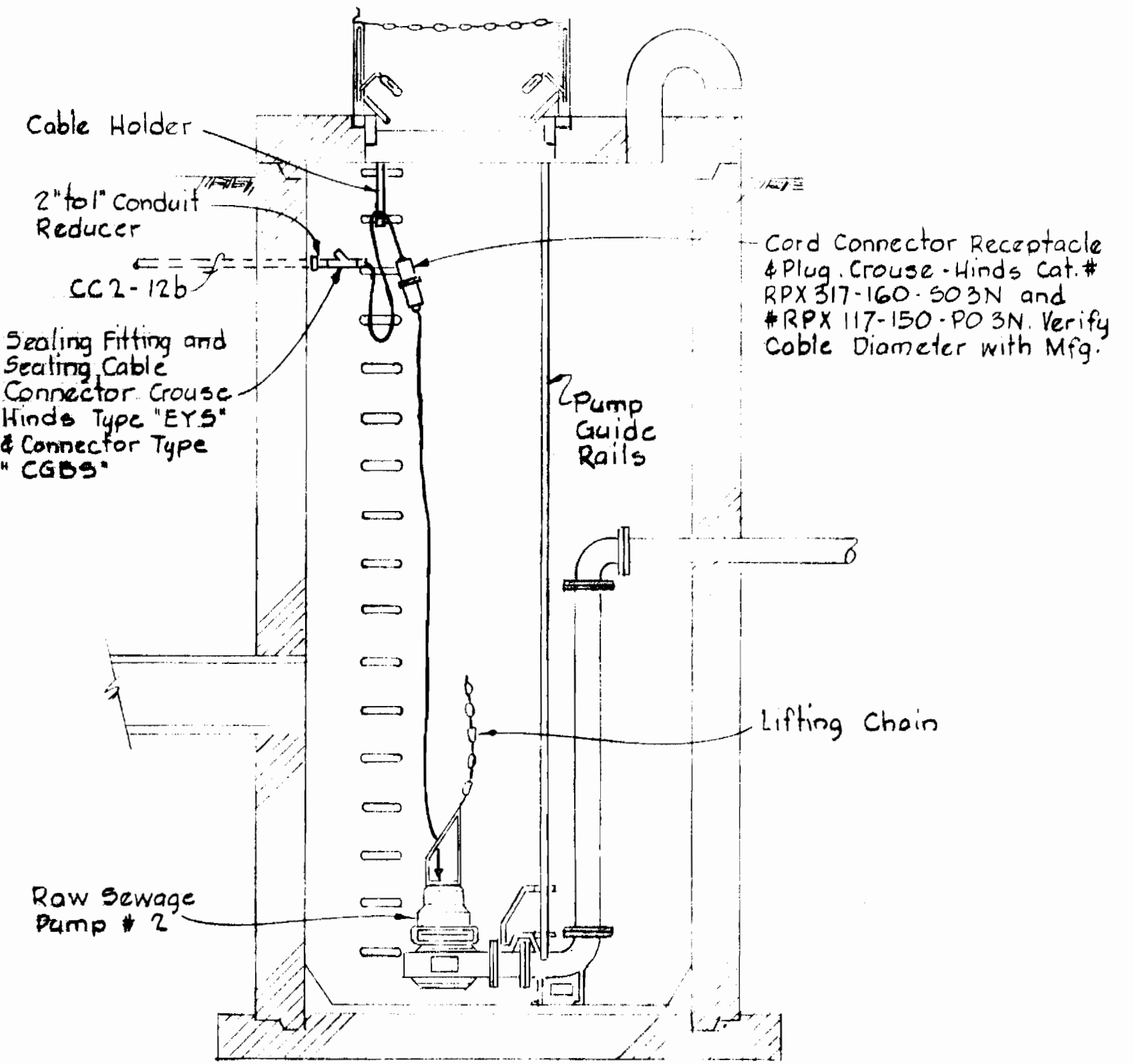
ELEVATIONS-CONTROL CENTER "CC2"

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



PLAN - PUMPING STATION

Scale 3/8" = 1'-0"



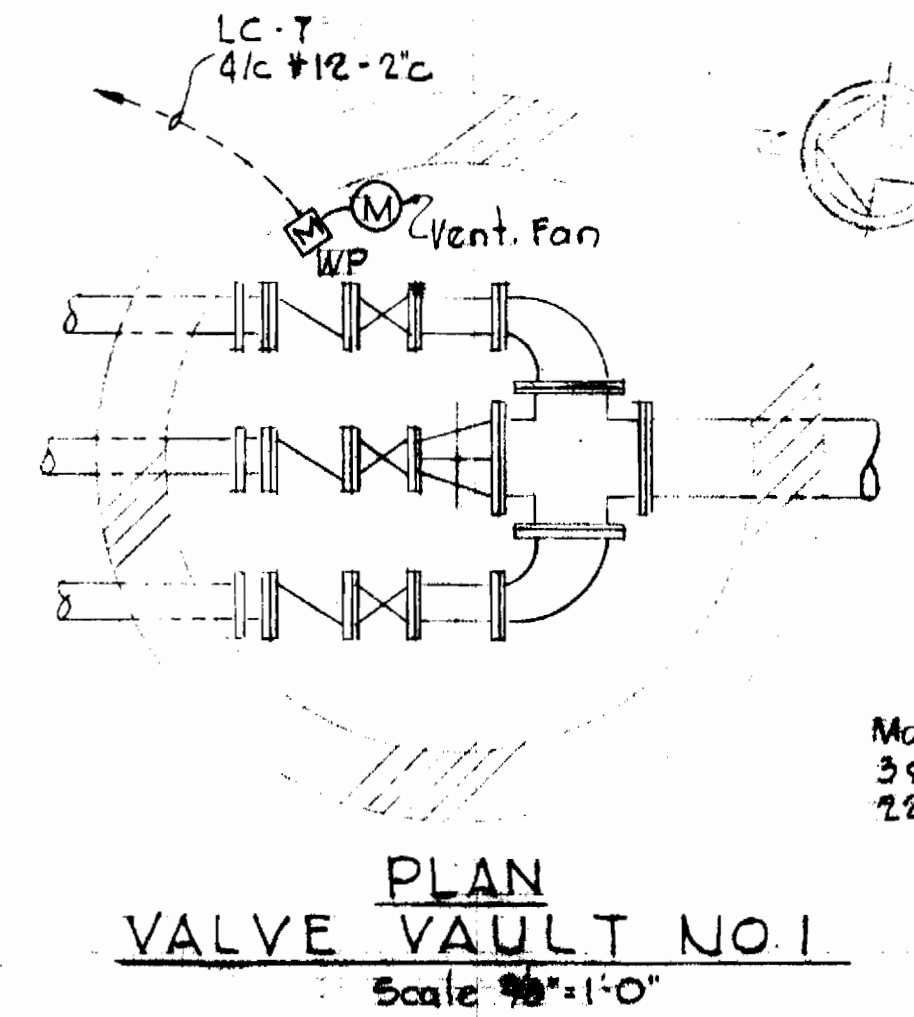
SECTION E8A/E8

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

CONTROL CENTER SCHEDULE "CC2" 480V.-3Ø-3W-60 HZ													
UNIT NUMBER	NAMEPLATE DATA	DEVICE DESCRIPTION	HP or KVA	AUX. DESCR.	BREAKER OR MCP FRAME	POLE	CALIB.	SIC	RUN NUMBER	WIRE - POWER NO.	WIRE - CONTROL NO.	COND. SIZE	ECD NO.
CC2-1	MAIN BREAKER #1	Circuit Breaker (SST)	-	See Spec.	600	3	150	30	-	-	-	-	-
CC2-2	BLANK (SPARE)	Combination Starter NEMA Size 1, FVNR	7 1/2	a, b, c, d	100	3	10X	14	-	-	-	-	-
CC2-3	SEWAGE PUMP CONTROLS	Relay, Lead-Lag Selector Plugs & Jacks	-	See Spec.	-	-	-	-	-	By Manufacturer	-	-	2, E-7
CC2-4	SEWAGE PUMP #1	Combination Starter NEMA Size 1, FVNR	7 1/2	a, b, c, d	100	3	10X	14	CC2-4a	4/c	10	See Spec.	10 2" 3, E-7
CC2-5A	BLANK (SPARE)	Circuit Breaker	-	-	100	3	30	14	-	By Manufacturer	-	-	-
CC2-5B	TRANSF. "C" FOR #1	Circuit Breaker	-	-	100	2	30	14	-	By Manufacturer	-	-	-
CC2-6	TRANSFER SWITCH	150A, 3P, 480 V., Auto. Transfer Sw.	-	See Spec.	-	-	-	-	-	By Manufacturer	-	-	-
CC2-7	PANEL "LC"	Circuit Breaker Panelboard 240/120, 1Ø, 3W	-	See Spec.	-	-	-	-	-	By Manufacturer	-	-	-
CC2-8	ANNUNCIATOR "B"	Annunciator (9 Points)	-	See Spec.	-	-	-	-	-	-	-	-	See Dwg.
CC2-9	TRANSFORMER "C"	10 Kva Transformer 480-240/120V, 1Ø, 3W	10	See Spec.	-	-	-	-	-	By Manufacturer	-	-	-
CC2-10	MAIN BREAKER #2	Circuit Breaker (SST)	-	See Spec.	600	3	150	30	-	-	-	-	See "CC1" Schedule
CC2-11	BLANK (SPARE)	Combination Starter NEMA Size 1, FVNR	7 1/2	a, b, c, d	100	3	10X	14	-	-	-	-	-
CC2-12	SEWAGE PUMP #2	Combination Starter NEMA Size 1, FVNR	7 1/2	a, b, c, d	100	3	10X	14	CC2-12a	4/c	10	See Spec.	10 2" 3, E-7
CC2-13	SEWAGE PUMP #3	Combination Starter NEMA Size 1, FVNR	7 1/2	a, b, c, d	100	3	10X	14	CC2-13a	4/c	10	See Spec.	10 2" 3, E-7
CC2-14A	BLANK (SPARE)	Circuit Breaker	-	-	100	2	30	14	-	-	-	-	-
CC2-14B	BLANK (SPARE)	Circuit Breaker	-	-	100	3	30	14	-	-	-	-	-
CC2-15	Standard Nameplates	Ammeter, Voltmeters, Sws, Watthour, C's, P's, etc.	-	See Spec.	-	-	-	-	-	By Manufacturer	-	-	-
CC2-16	-	Space	-	-	-	-	-	-	-	-	-	-	-

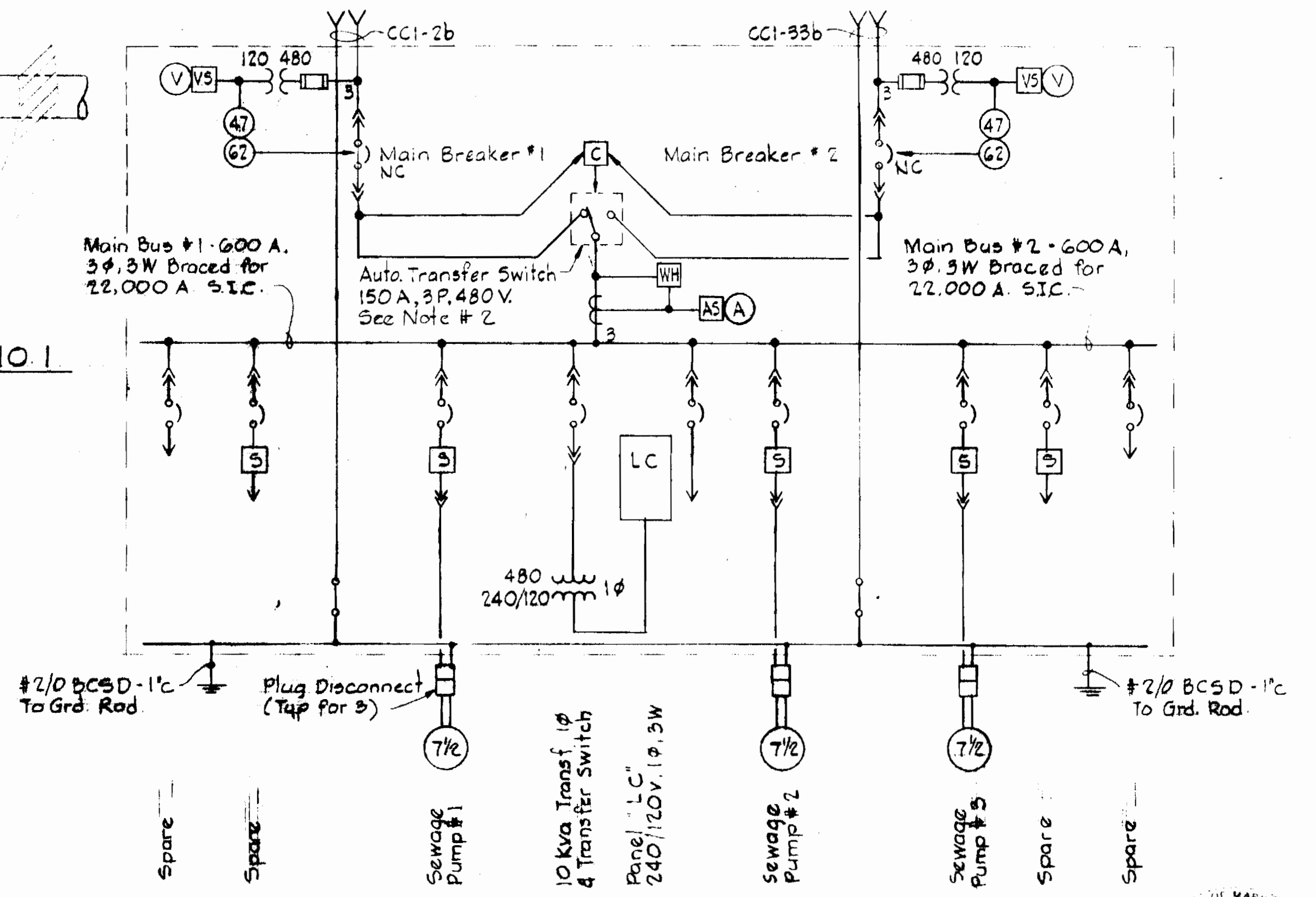
NOTES:

- For General Electrical Notes and Legend see Sheet E-2.
- Automatic Transfer Switch shall be complete with ground fault protection and as specified in Section 16E and as shown on this drawing.



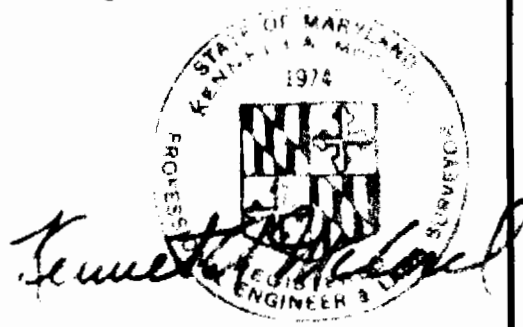
PLAN VALVE VAULT NO. 1

Scale 3/8" = 1'-0"



ONE LINE WIRING DIAGRAM

No Scale

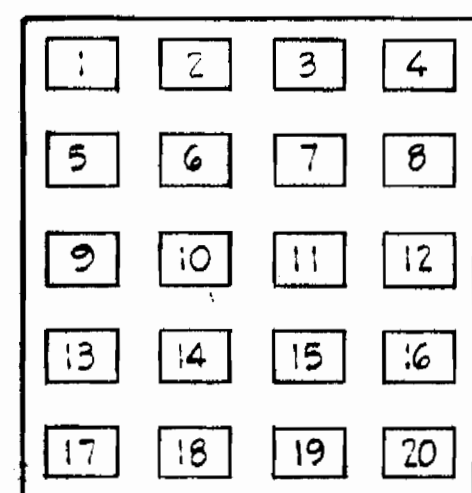


WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 2/16/79 DATE	CONTRACT NO. 837-S	PUMPING STATION PLANS AND DETAILS	DEEP RUN INTERIM WASTEWATER TREATMENT PLANT	DRAWING NO. 34 OF 35	SCALE AS SHOWN
-----------------------------------------------------------------------------------------	--------------------------------------------------------------------------	--------------------	--------------------------------------	------------------------------------------------	----------------------------	----------------------

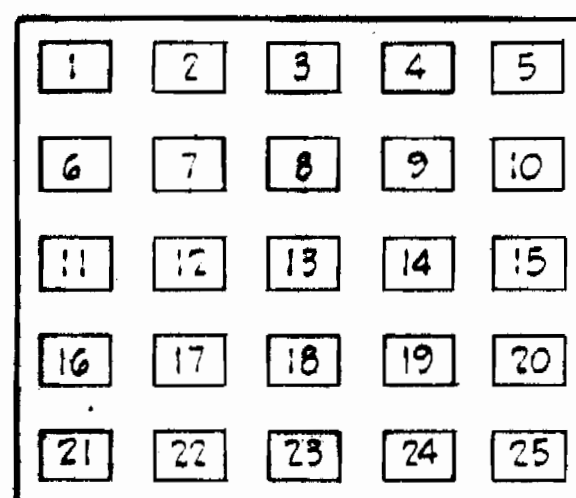
ANNUNCIATOR "A"		
POINT NO.	WINDOW INSCRIPTION	ECD NO.
1	MAIN BREAKER #1 - OPEN SWITCHBOARD/CONTROL CENTER "CC1" SERVICE BUILDING	16,E-9
2	MAIN BREAKER #2 - OPEN SWITCHBOARD/CONTROL CENTER "CC2" SERVICE BUILDING	16,E-9
3	NO VOLTAGE SWITCHBOARD/CONTROL CENTER "CC1" SERVICE BUILDING	17,E-9
4	TRANSFER SW. IN STANDBY POSITION SWITCHBOARD/CONTROL CENTER SERVICE BUILDING	18,E-9
5	AIR SURGE BLOWER #1 SERVICE BUILDING	1,E-7 19,E-9
6	AIR SURGE BLOWER #2 SERVICE BUILDING	1,E-7 19,E-9
7	AIR SURGE BLOWER #3 SERVICE BUILDING	1,E-7 19,E-9
8	OVERLOAD COLLECTOR DRIVE TREATMENT UNIT #1	4,E-7 20,E-9
9	OVERLOAD COLLECTOR DRIVE TREATMENT UNIT #2	4,E-7 20,E-9
10	CHLORINE LEAK CHLORINE ROOM SERVICE BUILDING	21,E-1
11	SULPHUR DIOXIDE LEAK CHLORINE ROOM SERVICE BUILDING	21,E-1
12	LDW CHLORINE WEIGHT CHLORINE ROOM SERVICE BUILDING	22,E-1
13	HIGH LEVEL FLOW EQUALIZATION TANK	7,E-7 23,E-1
14	LOW LEVEL FLOW EQUALIZATION TANK	7,E-7 24,E-1
15	BLANK (SPARE)	
16	BLANK (SPARE)	
17	BLANK (SPARE)	
18	BLANK (SPARE)	
19	BLANK (SPARE)	
20	BLANK (SPARE)	

ANNUNCIATOR "B"		
POINT NO.	WINDOW INSCRIPTION	ECD NO.
1	MAIN BREAKER #1 - OPEN CONTROL CENTER "CC2" PUMPING STATION	16,E-9
2	MAIN BREAKER #2 - OPEN CONTROL CENTER "CC2" PUMPING STATION	16,E-9
3	NO VOLTAGE CONTROL CENTER "CC2" PUMPING STATION	17,E-9
4	TRANSFER SW. IN STANDBY POSITION CONTROL CENTER "CC2" PUMPING STATION	18,E-9
5	HIGH LEVEL PUMPING STATION	2,E-7 23,E-1
6	LOW LEVEL PUMPING STATION	2,E-7 24,E-1
7	BLANK (SPARE)	
8	BLANK (SPARE)	
9	BLANK (SPARE)	

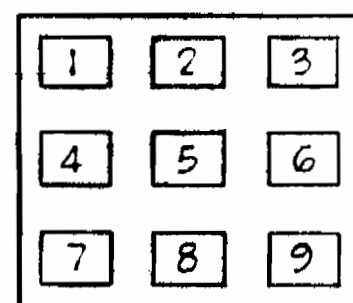
ANNUNCIATOR "C"		
POINT NO.	WINDOW INSCRIPTION	ECD NO.
1	MAIN BREAKER #1 - OPEN SWITCHBOARD/CONTROL CENTER "CC1" SERVICE BUILDING	16,E-9
2	MAIN BREAKER #2 - OPEN SWITCHBOARD/CONTROL CENTER "CC1" SERVICE BUILDING	16,E-9
3	NO VOLTAGE SWITCHBOARD/CONTROL CENTER "CC1" SERVICE BUILDING	17,E-9
4	TRANSFER SW. IN STANDBY POSITION SWITCHBOARD/CONTROL CENTER "CC1" SERVICE BUILDING	18,E-9
5	MAIN BREAKER #1 - OPEN CONTROL CENTER "CC2" PUMPING STATION	16,E-9
6	MAIN BREAKER #2 - OPEN CONTROL CENTER "CC2" PUMPING STATION	16,E-9
7	NO VOLTAGE CONTROL CENTER "CC2" PUMPING STATION	17,E-9
8	TRANSFER SW. IN STANDBY POSITION CONTROL CENTER "CC2" PUMPING STATION	18,E-9
9	AIR SURGE BLOWER #1 SERVICE BUILDING	1,E-7 19,E-9
10	AIR SURGE BLOWER #2 SERVICE BUILDING	1,E-7 19,E-9
11	AIR SURGE BLOWER #3 SERVICE BUILDING	1,E-7 19,E-9
12	OVERLOAD COLLECTOR DRIVE TREATMENT UNIT #1	4,E-7 20,E-9
13	OVERLOAD COLLECTOR DRIVE TREATMENT UNIT #2	4,E-7 20,E-9
14	CHLORINE LEAK CHLORINE ROOM SERVICE BUILDING	21,E-1
15	SULPHUR DIOXIDE LEAK CHLORINE ROOM SERVICE BUILDING	21,E-1
16	LOW CHLORINE WEIGHT CHLORINE ROOM SERVICE BUILDING	22,E-9
17	HIGH LEVEL FLOW EQUALIZATION TANK	7,E-7 23,E-1
18	LOW LEVEL FLOW EQUALIZATION TANK	7,E-7 24,E-1
19	HIGH LEVEL PUMPING STATION	2,E-7 23,E-1
20	LOW LEVEL PUMPING STATION	2,E-7 24,E-1
21	BLANK (SPARE)	
22	BLANK (SPARE)	
23	BLANK (SPARE)	
24	BLANK (SPARE)	
25	BLANK (SPARE)	



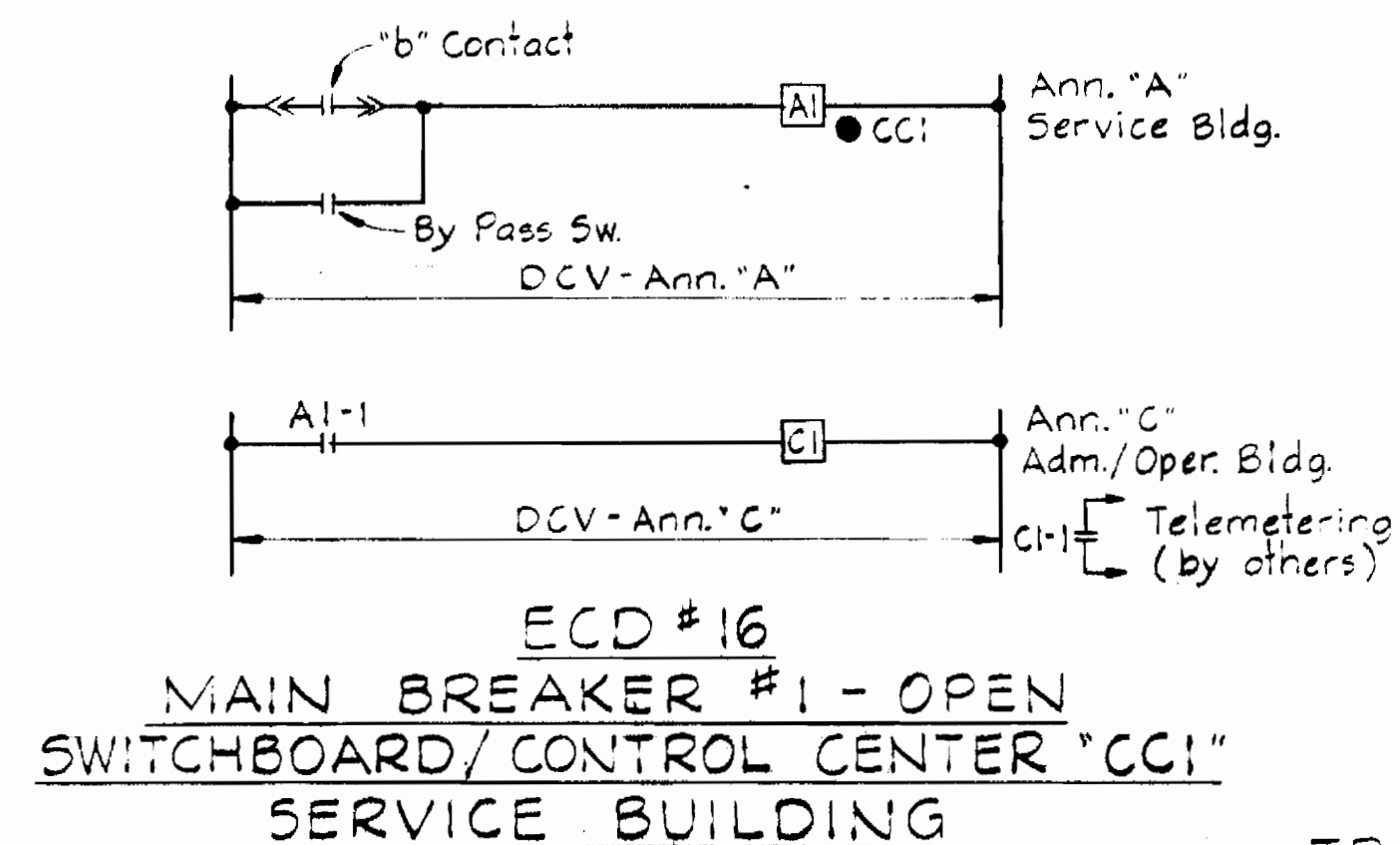
ANNUNCIATOR "A"
SWITCHBOARD/CONTROL CENTER "CC1"
SERVICE BUILDING



ANNUNCIATOR "C"
CONTROL ROOM,
ADMINISTRATIVE/OPERATIONS BLDG.

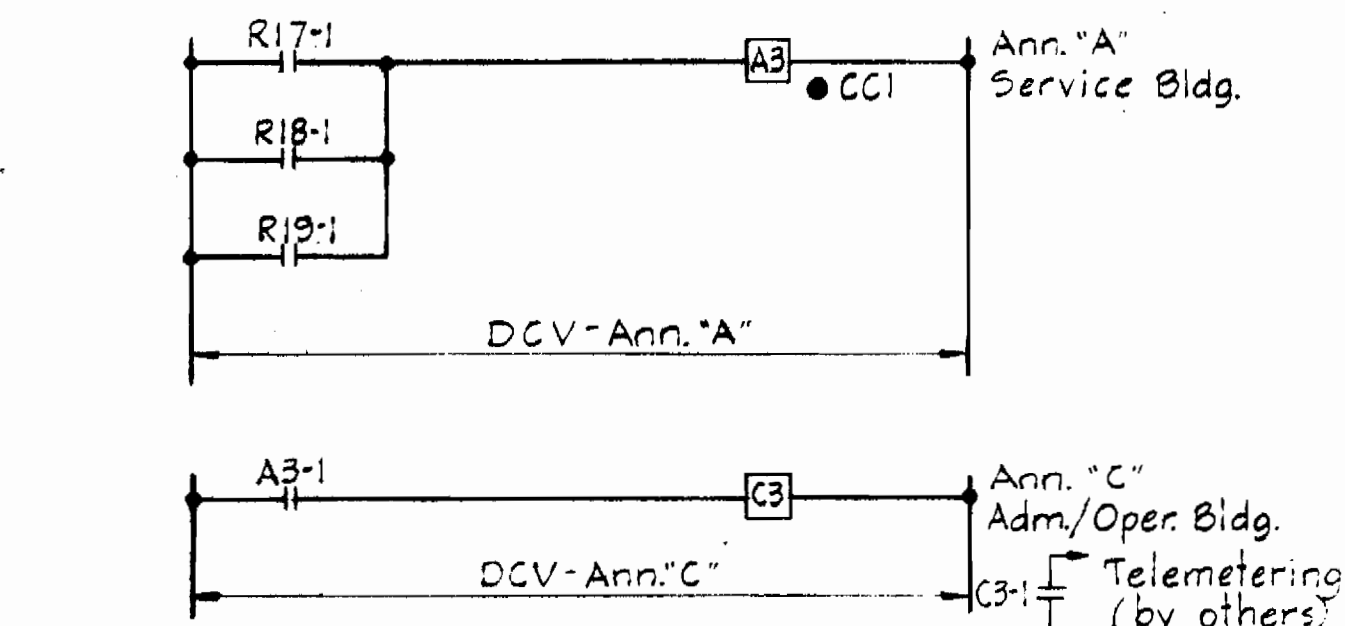
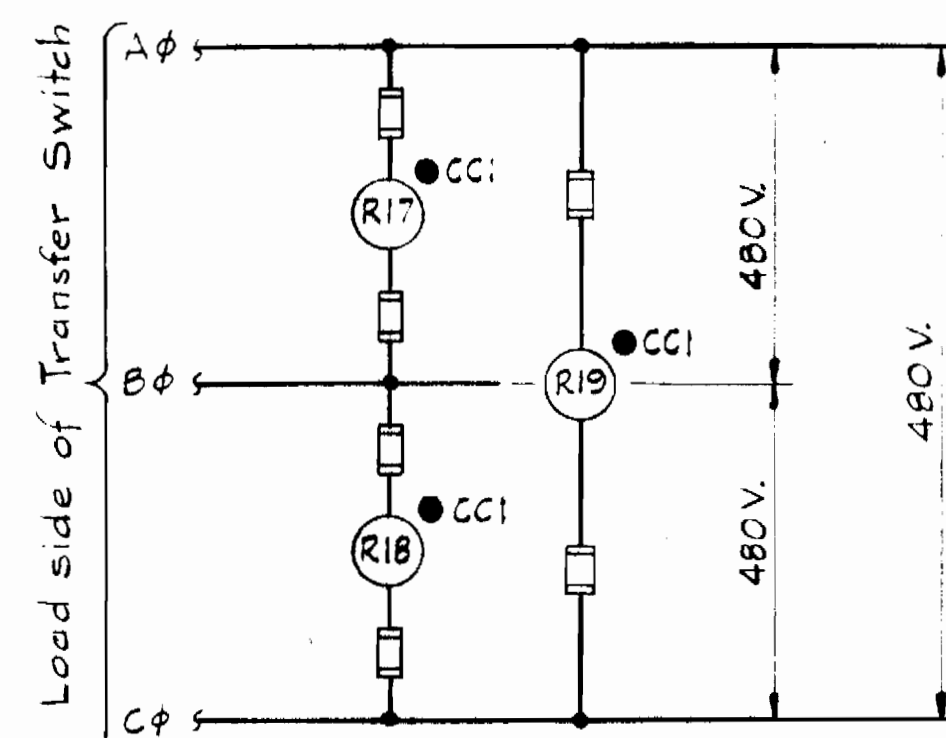


ANNUNCIATOR "B"
CONTROL CENTER "CC1"
PUMPING STATION



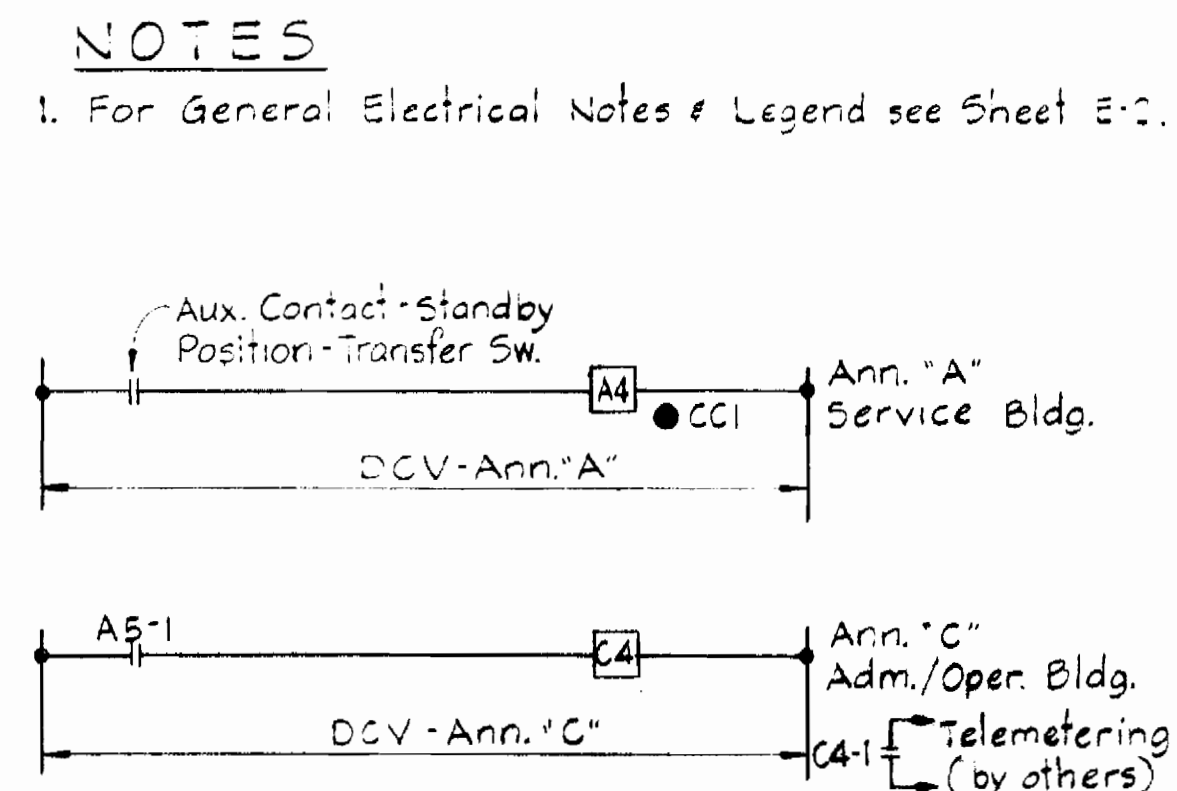
ECD #16
MAIN BREAKER #1 - OPEN
SWITCHBOARD/CONTROL CENTER "CC1"
SERVICE BUILDING

Typical for:
1. Main Bkr. #2 - Open - "CC1"
2. Main Bkr. #1 - Open - "CC2" Ann. "B" - P.S.
3. Main Bkr. #2 - Open - "CC2" Ann. "B" - P.S.



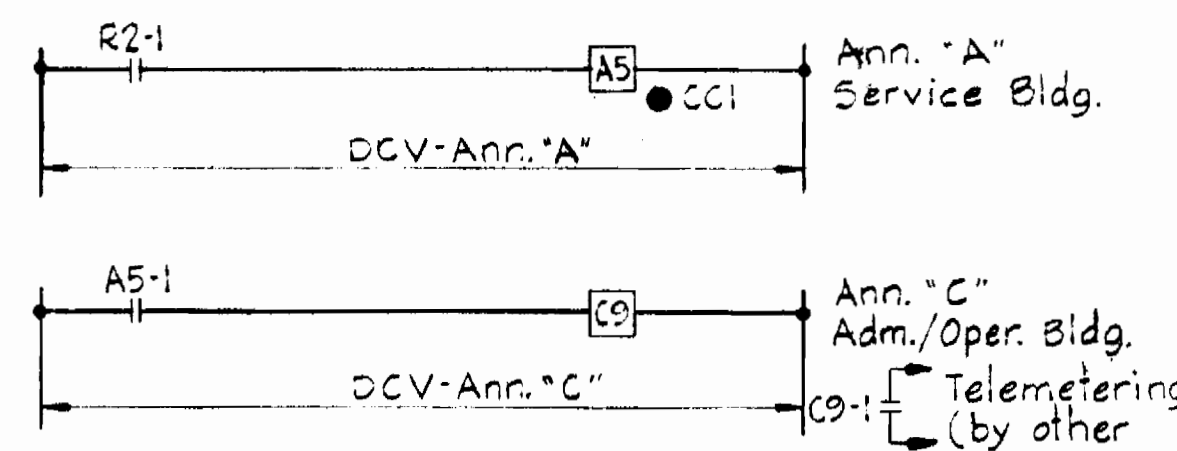
ECD #17
NO VOLTAGE
SWITCHBOARD/CONTROL CENTER "CC1"
SERVICE BUILDING

Typical for:
1. No Voltage - Control Center "CC2" - Ann. "B" - P.S.



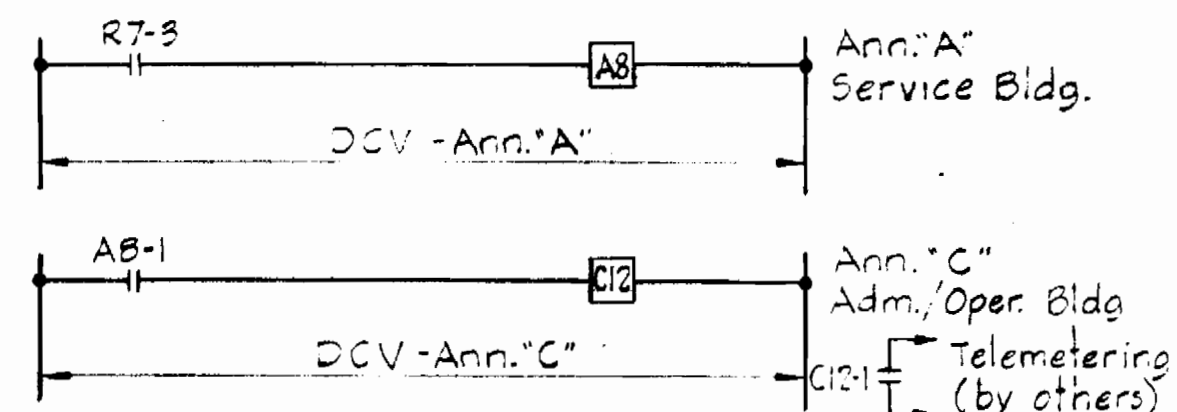
ECD #18
TRANSFER SW. IN STANDBY POSITION
SWITCHBOARD/CONTROL CENTER "CC1"
SERVICE BUILDING

Typical for:
1. Transfer Sw. in Standby Position - "CC2" - Ann. "B" - P.S.



ECD #19
AIR SURGE - BLOWER #1
SERVICE BUILDING

Typical for:
1. Air Surge - Blower #2
2. Air Surge - Blower #3



ECD #20
OVERLOAD-COLLECTOR DRIVE
TREATMENT UNIT #1

Typical for:
1. Overload Collector Drive - Treatment Unit #2

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CONTRACT NO. 837-S

ANNUNCIATORS

DEEP RUN INTERIM
WASTEWATER TREATMENT PLANT

DRAWING
NO. 35
OF 35

SCALE
AS
SHOWN