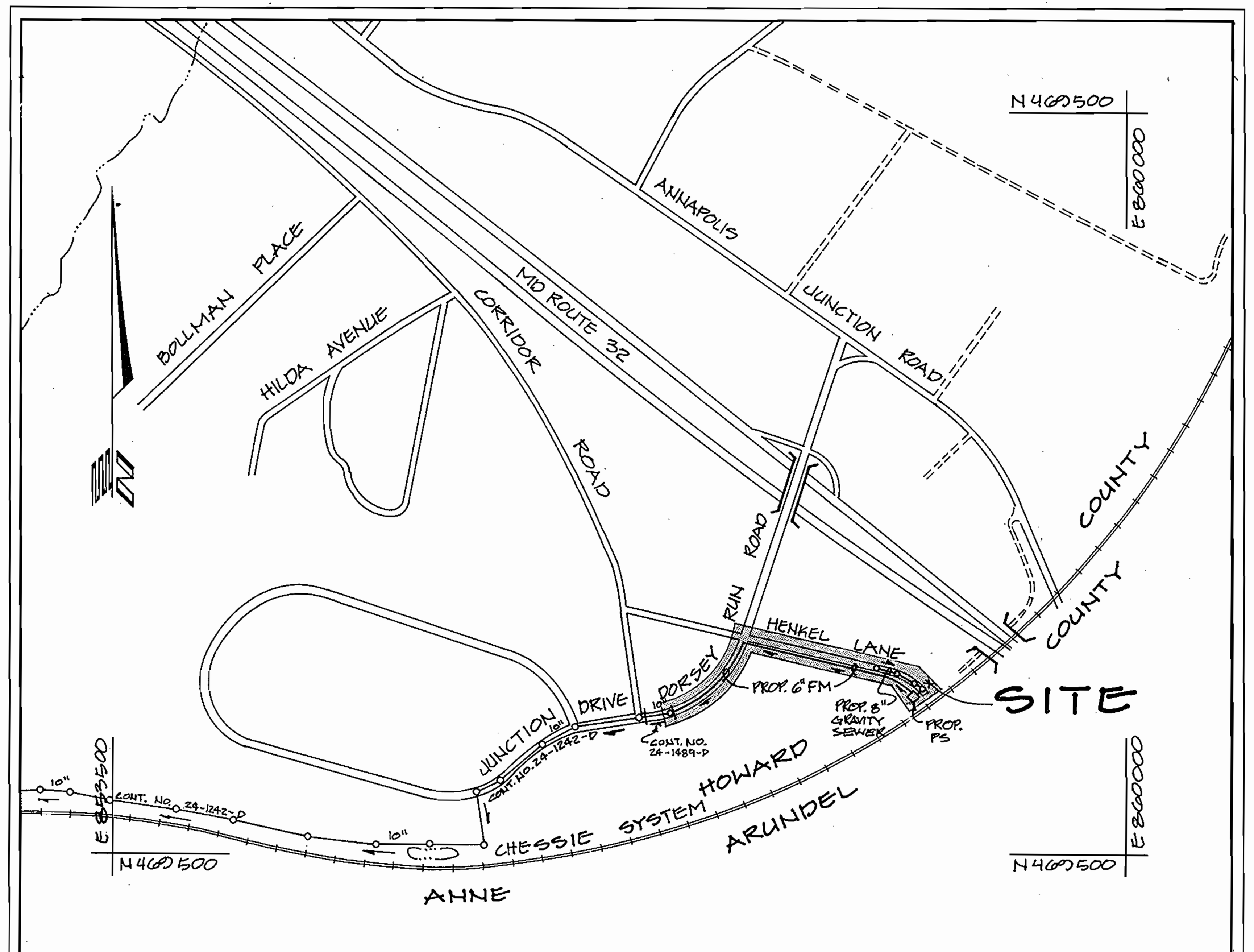


WATER & SEWER CODE:
WATER -
SEWER - 402,000

VICINITY MAP
SCALE: 1" = 600'

DRAINAGE AREA: LITTLE PATUXENT
TYPE of BUILDINGS: NONE
No. of S.H.C.: 3
No. of W.H.C.: 0

CAPITAL PROJECT S-6158

CONTRACT NO. 20 - 3015

ANNAPOLIS JUNCTION COLLECTION SYSTEM

GENERAL NOTES

PART I

1. APPROXIMATE LOCATION OF EXISTINC MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTINC MAINS AND SERVICES, AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMACE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENCINEER AT THE CONTRACTOR'S EXPENSE.
2. ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
3. ALL VERTICAL CONTROLS ARE BASED ON U.S.C.S. DATA.
4. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
5. CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANCEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINCS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACINC OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONEY OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
6. FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIAL AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
7. TEST PITS HAVE NOT BEEN MADE ON EXISTING UTILITIES. EXISTING UTILITIES IN VICINITY OF THE PROPOSED WORK SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
8. CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

   STATE HIGHWAY ADMINISTRATION - 531-5533
   BALTIMORE GAS & ELECTRIC CO. - CONTRACTOR SERVICES 850-4620
   BALTIMORE GAS & ELECTRIC CO. UNDER GROUND DAMACE CONTROL - 859-9004
   BALTIMORE GAS & ELECTRIC CO. TROUBLE SHOOTING - 298-9001
   MISS UTILITY - 1-800-257-7777
   COLONIAL PIPELINE CO. - 795-1390
   BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 992-2366
9. TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
10. CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.

PART II

1. ALL SEWER MAINS SHALL BE DUCTILE IRON PIPE OR P.V.C. UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR MANHOLE WALL.
3. ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED
4. FORCE MAINS SHALL BE D.I.P. ONLY.
5. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL G5.52. WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
6. HORIZONTAL AND VERTICAL CONTROL ARE BASED ON THE FOLLOWING HOWARD COUNTY MONUMENTS:

   A) MON. NO. 1844001 BEING A REBAR SET 27.6'± NORTH OFF THE EDGE OF BROCK BRIDGE ROAD.
   N 469,916.562 E 858,380.949 ELEV. 170.974

   B) MON. NO. 1843007 BEING A REBAR SET 14'± SOUTH OFF THE CENTERLINE OF BROCK BRIDGE ROAD.
   N 469,424.430 E 857,132.358 ELEV. 174.606

LIST OF DRAWINGS

1. TITLE SHEET
2. COLLECTION SYSTEM, PLAN & PROFILE
3. COLLECTION SYSTEM, PLAN & PROFILE, PUMP CONTROL DIAGRAM
4. PUMPING STATION, PLAN & DETAILS
5. PUMPING STATION, ELECTRICAL
6. SEDIMENT & EROSION CONTROL MISCELLANEOUS DETAILS
7. PUMPING STATION BUILDING PLAN, SECTIONS, ELECTRICAL AND DETAILS. △

QUANTITIES

ITEM	UNIT	ESTIMATED	AS BUILT	MATERIAL/SUPPLIER
MANHOLES	EA.	4	4 EA	ATLANTIC CONCRETE
8" PVC SEWER	L.F.	368	350 L.F.	CHARLOTTE PIPE - A&P Supply
6" D.I.P. F.M.	L.F.	1717	N.A.	GRIFFIN PIPE Product
6" S.H.C.	L.F.	110	109 L.F.	CHARLOTTE PIPE - A&P Supply
AIR/VAC. VALVES	EA.	1	1 EA	N.A.
3" BLOWOFF	EA.	1	1 EA	N.A.
PUMP STA. & APPURT.	L.S.	1	1 EA	FLYGT CORPORATION
8" D.I.P. SEWER	L.F	15	16.50 L.F.	Griffin Pipe Product
V.F. MANHOLE	VF	—	47'9" VF	ATLANTIC CONCRETE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[signature] 6/4/90 — DIRECTOR OF PUBLIC WORKS, DATE
[signature] 6-4-90 — CHIEF, BUREAU OF ENGINEERING, DATE
Robert M Beninger 5-31-90 — CHIEF, BUREAU of UTILITIES, DATE
[signature] 5-23-90 — CHIEF, UTILITY DESIGN DIVISION, DATE

Dewberry & Davis
ARCHITECTS • ENGINEERS • PLANNERS • SURVEYORS
200 Harry S. Truman Parkway, Annapolis, Maryland 21401
8411 Arlington Boulevard, Fairfax, Virginia 22030

STATE OF MARYLAND — BRUCE W. OWEN — No. 14832 — REGISTERED — PROFESSIONAL ENGINEER — 5-16-90

DES:
DRN:
CHK:
DATE:

BY	NO.	REVISION	DATE
	△	ENCLOSE WET WELL AND ELECTRICAL EQUIPMENT IN BUILDING, ADD GENERATOR.	1/30/91

TITLE SHEET

600' SCALE MAP NO. 48 BLOCK NO. 19

ANNAPOLIS JUNCTION COLLECTION SYSTEM
CAPITAL PROJECT: S-6158 CONTRACT NO.: 20-3015
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 1 OF 6 7

BRUNING 44-132 69150

AS-BUILT 5-17-91

STRUCTURE LOCATION TABLE		
STRUCTURE	℄ STATION	LOCATION
MH 1	0+37	37' LEFT
MH 2	0+76	19' LEFT
MH 3	2+43	20' LEFT
MH 4	3+99	30' LEFT
WET WELL	0+46	56' LEFT
VALVE VAULT	0+56	50' LEFT
EMERGENCY CONNECTION VAULT	0+68	46' LEFT

THIS DRAWING IS FOR THE CONSTRUCTION OF SANITARY FORCE MAIN AND GRAVITY SEWER ONLY

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 6/4/90
CHIEF, BUREAU OF ENGINEERING — DATE 6-4-90
CHIEF, BUREAU of UTILITIES — DATE 5-31-90
CHIEF, UTILITY DESIGN DIVISION — DATE 5-23-90

Dewberry & Davis
ARCHITECTS • ENGINEERS • PLANNERS • SURVEYORS
200 Harry S. Truman Parkway, Annapolis, Maryland 21401
8411 Arlington Boulevard, Fairfax, Virginia 22030

5-16-90

DES:
DRN:
CHK:
DATE:

BY	NO.	REVISION	DATE

COLLECTION SYSTEM, PLAN & PROFILE

600' SCALE MAP NO. 48 BLOCK NO. 10

ANNAPOLIS JUNCTION COLLECTION SYSTEM

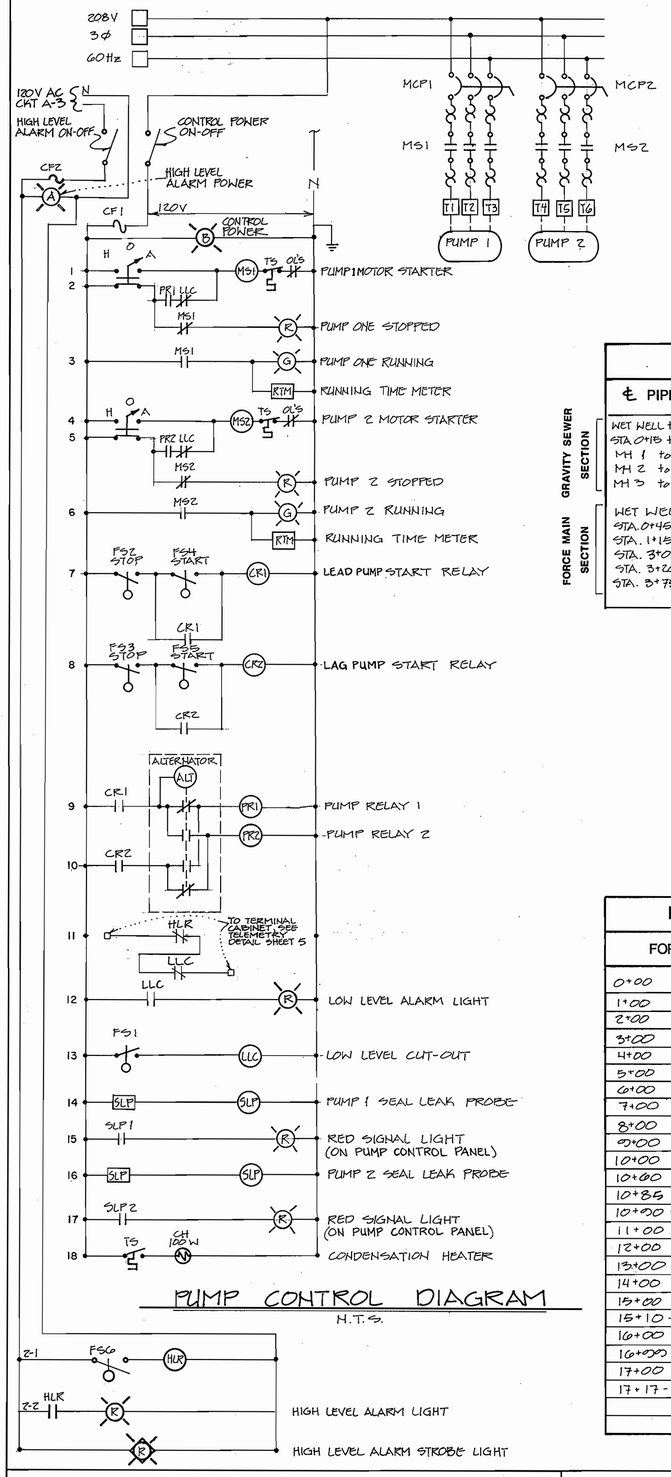
CAPITAL PROJECT: S-6158 CONTRACT NO.: 20-3015

ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 2 OF 6 7

AS-BUILT 5-17-91



PUMP CONTROL DIAGRAM

H.T.S.

PUMP CONTROL DIAGRAM LEGEND

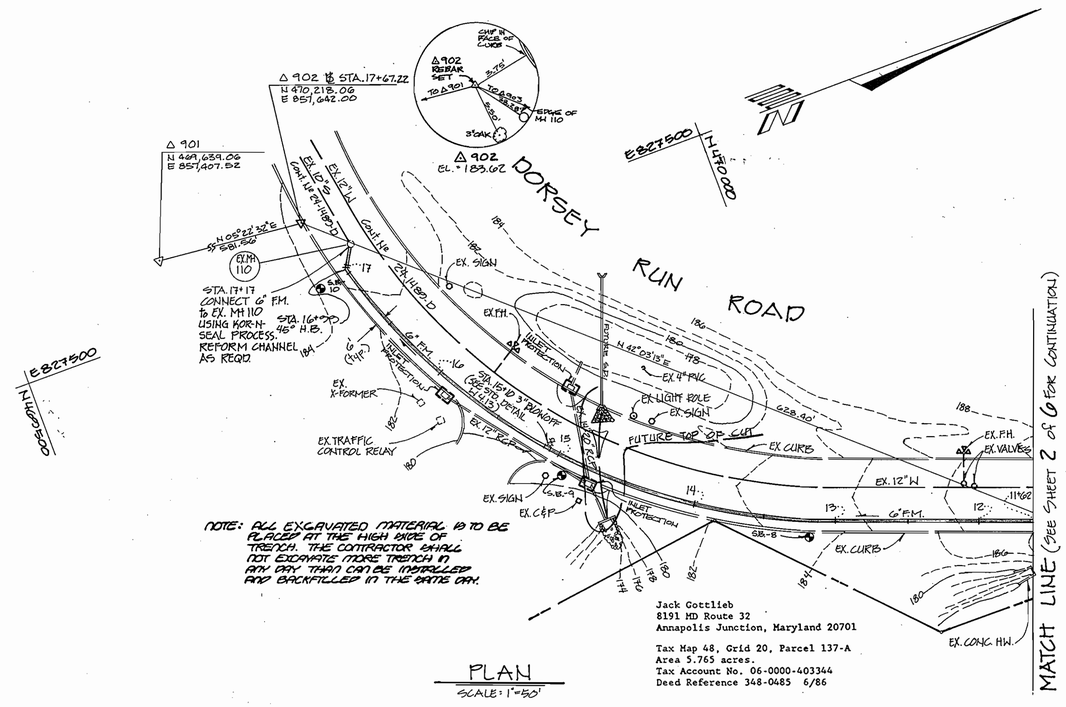
MCB	MAIN CIRCUIT BREAKER
MCP	MAIN CIRCUIT PROTECTOR
CF	CIRCUIT FUSE
OL	OVER LOAD
MS	MOTOR STARTER
PR	PUMP RELAY
LLC	LOW LEVEL CUTOUT
TS	TEMPERATURE SWITCH
CR	CONTROL RELAY
SLP	SEAL LEAK PROBE
T	TERMINAL
HR	HIGH LEVEL HORN
FS	FLOAT SWITCH
H	HAND
O	OFF
A	AUTOMATIC
HLR	HIGH LEVEL RELAY

RESTORATION SCHEDULE

	℄ PIPE SCHEDULE	MATERIAL
GRAVITY SEWER SECTION	WET WELL to STA. 0+15	COMPACTED FILL & TEXAS WHITE STONE
	STA. 0+15 to MH 1	" " & PERMANENT REPAVING
	MH 1 to MH 2	" " " " "
	MH 2 to MH 3	" " " " "
	MH 3 to MH 4	" " " " "
FORCE MAIN SECTION	WET WELL to STA. 0+45	COMPACTED FILL & TEXAS WHITE STONE
	STA. 0+45 to STA. 1+15	" " & PERMANENT REPAVING
	STA. 1+15 to STA. 3+02	" " & SEEDING
	STA. 3+02 to STA. 3+20	" " & PERMANENT REPAVING
	STA. 3+20 to STA. 10+75	" " & SEED
	STA. 3+75 to EX. MH 110	" " & PERMANENT REPAVING

FORCE MAIN LOCATION TABLE

FORCE MAIN STATION	℄ STATION	LOCATION
0+00 WET WELL	0+46	56' LT.
1+00	1+45	27' LT.
2+00	2+48	32' LT.
3+00	3+73	46' LT.
4+00	4+73	39' LT.
5+00	5+73	33' LT.
6+00	6+73	27' LT.
7+00	7+72	20' LT.
8+00	8+72	14' LT.
9+00	9+72	8' LT.
10+00	10+71	2' LT.
10+80	11+31	2' RT.
10+85 - 45° H.B.	11+46	10' RT.
10+90 - 45° H.B.	11+51	21' RT.
11+00	11+60	18' RT.
12+00	12+51	20' LT.
13+00	13+44	57' LT.
14+00	14+39	82' LT.
15+00	15+40	84' LT.
15+10 - 6"x4" TEE (BLOWOFF)	15+49	83' LT.
16+00	16+39	62' LT.
16+09 - 45° H.B.	17+26	10' LT.
17+00	17+27	18' LT.
17+17 - EX. MH 10	17+30	1' LT.

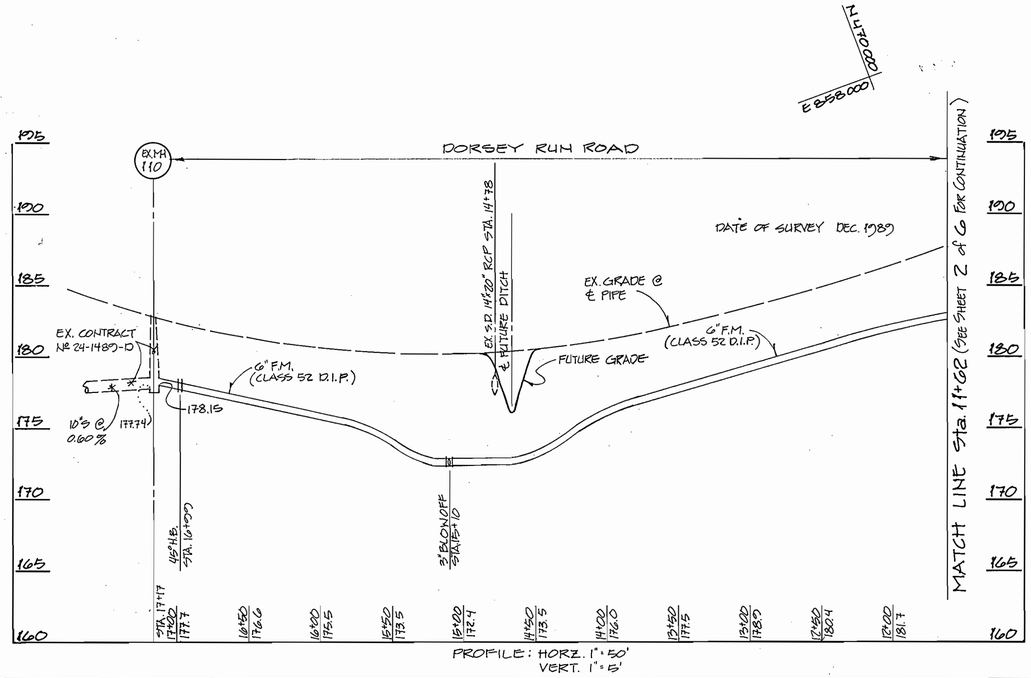


NOTE: ALL EXCAVATED MATERIAL IS TO BE PLACED AT THE HIGH SIDE OF TRENCH. THE CONTRACTOR SHALL NOT EXCAVATE MORE TRENCH IN ANY DAY THAN CAN BE INSTALLED AND BACKFILLED IN THE SAME DAY.

PLAN
SCALE: 1"=50'

Jack Gottlieb
8191 MD Route 32
Annapolis Junction, Maryland 20701

Tax Map 48, Grid 20, Parcel 137-A
Area 5.765 acres.
Tax Account No. 06-0000-403344
Deed Reference 348-0485 6/86

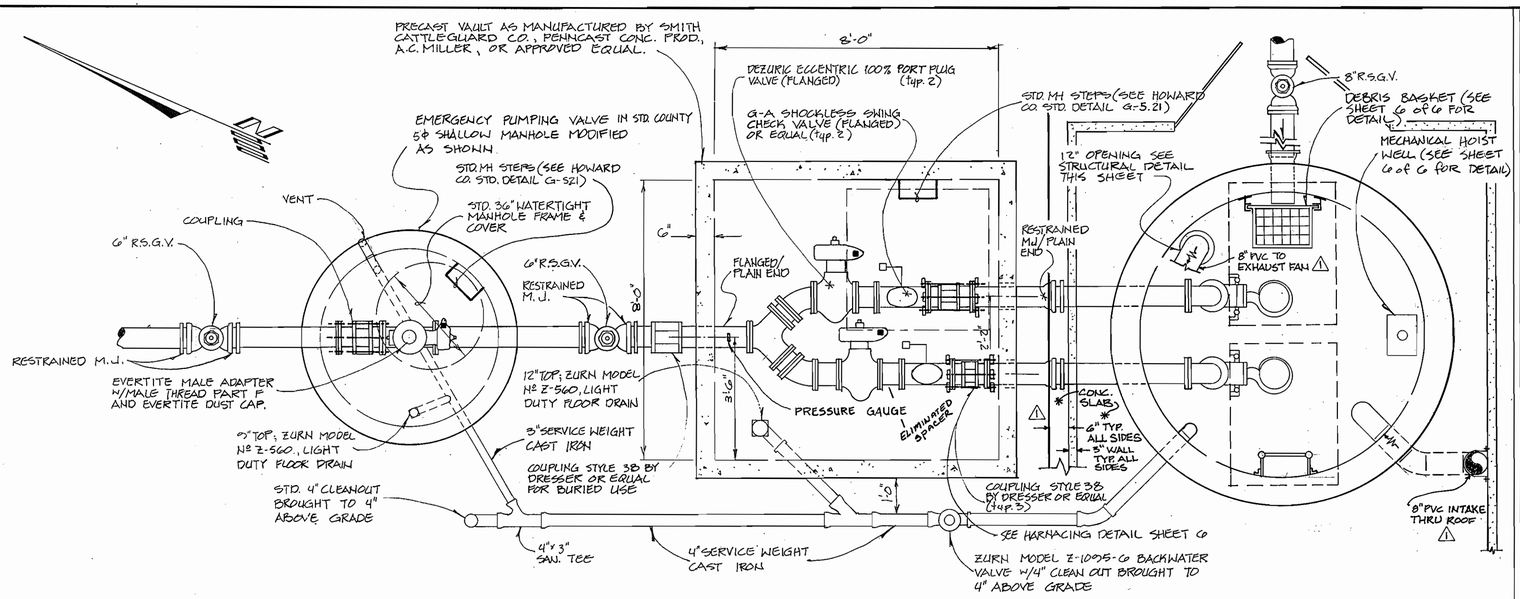


PROFILE: HORZ. 1"=50'
VERT. 1"=5'

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MARYLAND	Dewberry & Davis	DES:					COLLECTION SYSTEM, PLAN & PROFILE, PUMP CONTROL DIAGRAM	ANNAPOLIS JUNCTION COLLECTION SYSTEM	SCALE AS SHOWN
DIRECTOR OF PUBLIC WORKS — DATE 6/6/90	ARCHITECTS • ENGINEERS • PLANNERS • SURVEYORS	DRN:						CAPITAL PROJECT: S-6158 CONTRACT NO.: 20-3015	SHEET 3 OF 6 7
CHIEF, BUREAU OF ENGINEERING — DATE 6-8-90	200 Harry S. Truman Parkway, Annapolis, Maryland 21401	CHK:						ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND	
CHIEF, BUREAU of UTILITIES — DATE 5-31-90	8411 Arlington Boulevard, Fairfax, Virginia 22030	DATE:	BY	NO.	REVISION	DATE	600' SCALE MAP NO. 48 BLOCK NO. 19		
CHIEF, UTILITY DESIGN DIVISION — DATE 5-23-90	5-16-90								

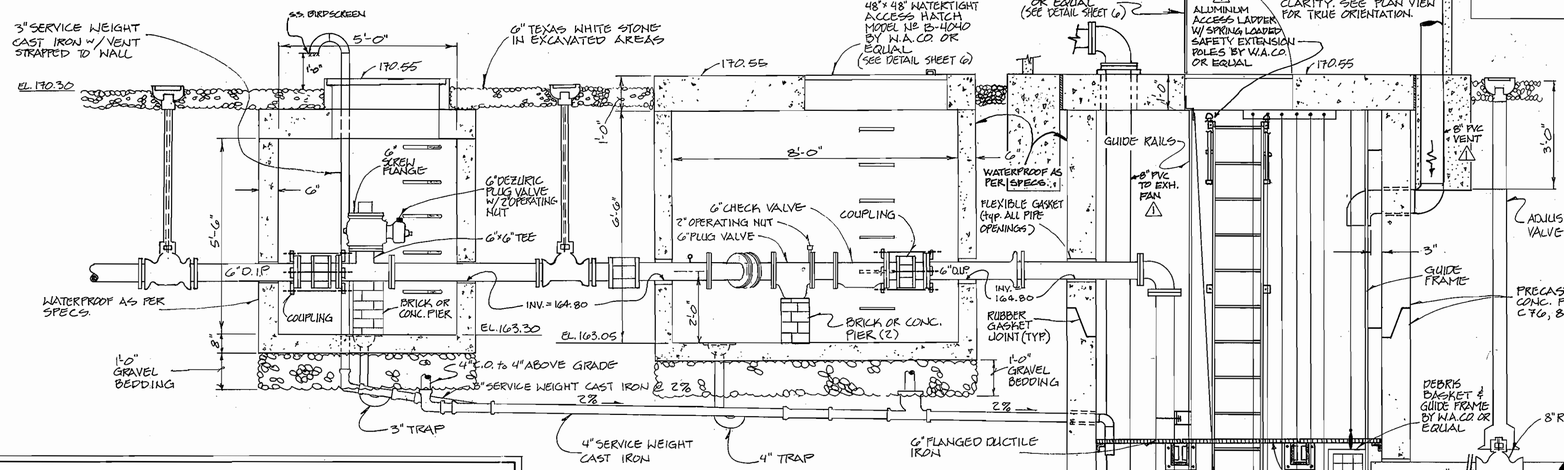
AS-BUILT 5-17-91

69150 BRUNING



PLAN VIEW

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



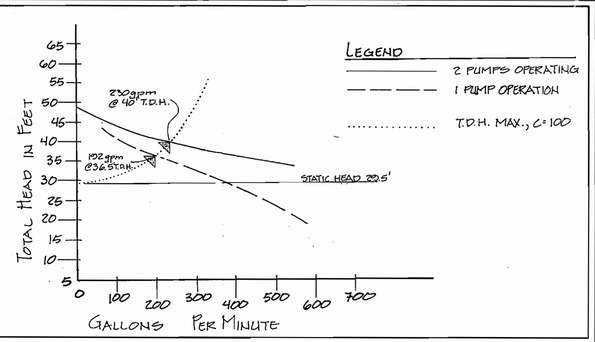
NOTE: VALVE VAULT AS PER HOWARD CO. STD. DETAIL Nº W 3.36 MODIFIED AS SHOWN ABOVE.

ALSO, BACKFILL ALL EXCAVATIONS WITH SELECT FILL AND COMPACT TO 95% IN 8" LAYERS.

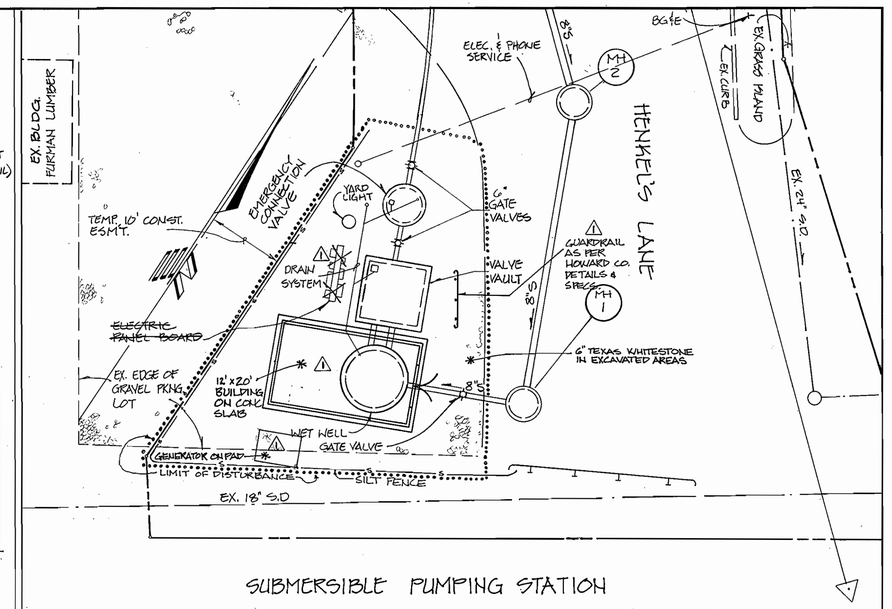
ELEVATION

EMERGENCY PUMPING CONNECTION, VALVE VAULT & WET WELL

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



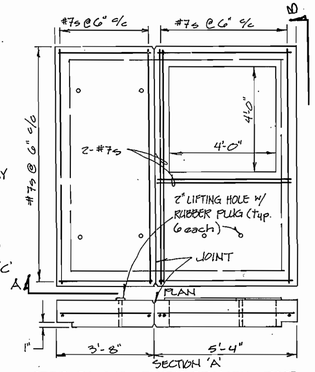
PUMP CURVE



SUBMERSIBLE PUMPING STATION

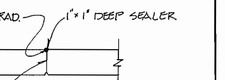
SITE PLAN

SCALE: 1" = 10'



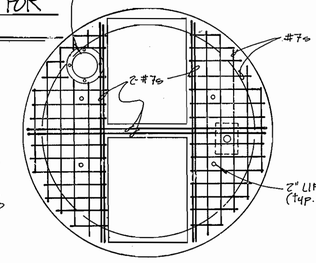
TOP SLAB STRUCTURE FOR VALVE VAULT

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



SLAB JOINT DETAIL

N.T.S.



TOP SLAB STRUCTURE FOR WET WELL

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

NOTE: FOR NON STANDARD PRECAST TOP SLABS, SUBMIT DETAILS CERTIFIED BY P.E. THAT SLABS ARE DESIGNED FOR LOAD H20.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 6/4/90
CHIEF, BUREAU OF ENGINEERING — DATE 6-4-90
CHIEF, BUREAU OF UTILITIES — DATE 5-31-90
CHIEF, UTILITY DESIGN DIVISION — DATE 5-23-90

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Bruce W Owen 6-16-90

DES:
DRN:
CHK:
DATE:

BY	NO.	REVISION	DATE
	1	ENCLOSE WET WELL AND ELECTRICAL EQUIPMENT IN BUILDINGS, ADD GENERATOR.	1/30/91

PUMPING STATION, PLAN & DETAILS

ANNAPOLIS JUNCTION COLLECTION SYSTEM

CAPITAL PROJECT: S-6158 CONTRACT NO.: 20-3015

ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

600' SCALE MAP NO. 48 BLOCK NO. 10

SCALE AS SHOWN

SHEET 4 OF ~~16~~ 17

AS BUILT 6-17-91

A21116

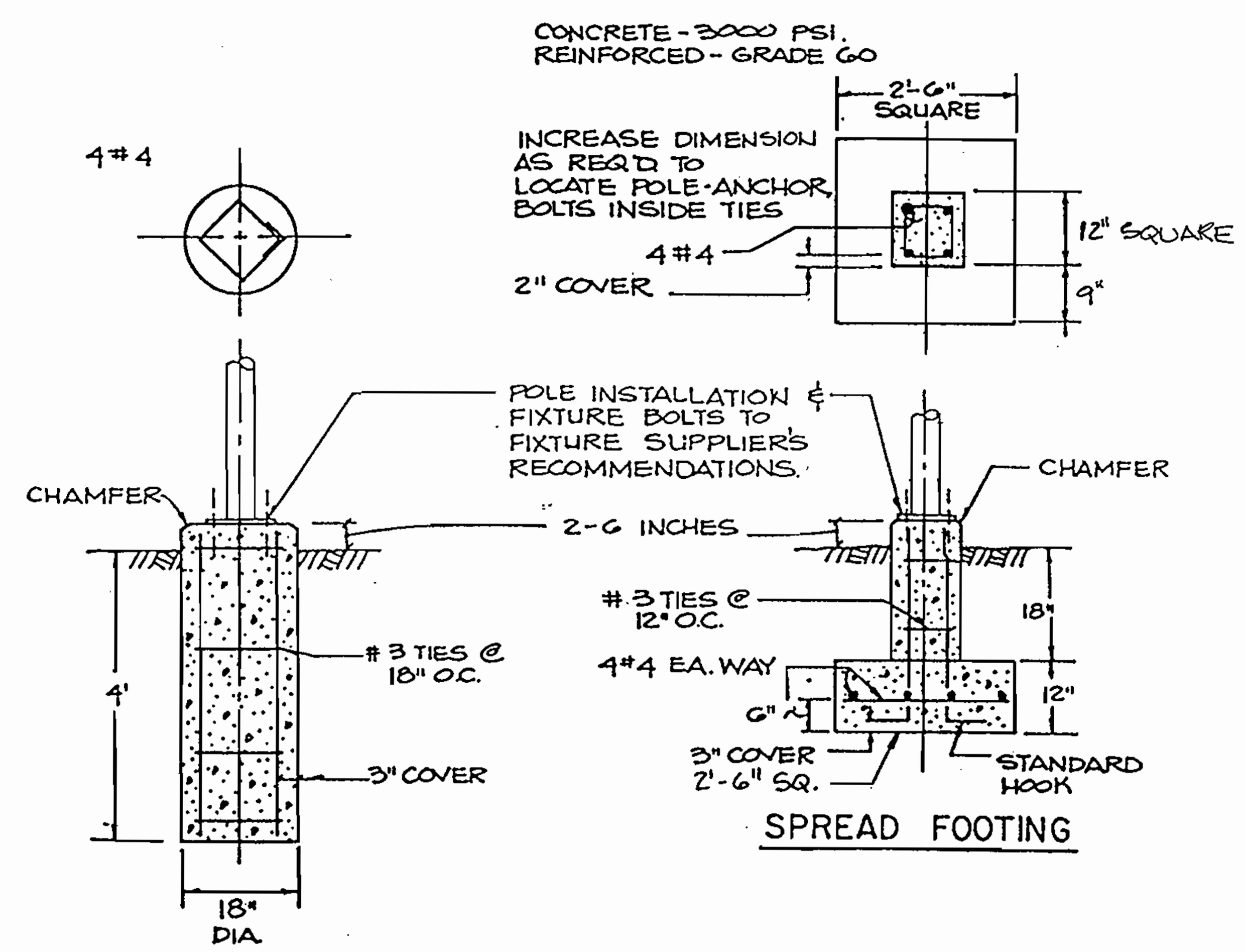
LIGHTING FIXTURE SCHEDULE

FIXT. TYPE	MANUFACTURER	CATALOG NUMBER	LAMPS NO.	LAMPS TYPE	VOLTS	MOUNTING	REMARKS
A	BENJAMIN	7634	1	150 W A-23	120	WALL	EXPLOSION PROOF
B	GENERAL ELECTRIC	PM-118-C890N804	1	150 W HPS	120	POLE	PROVIDE PHOTOELECTRIC CONTROL & POLE #C690H03X
C	GUTH	PL4-2F40-1-0	3	40W FLUOR	120	CEILING SURFACE	LOW AMBIENT △1
D	HOLOPHANE	WP-1-A-150IN-12-B2	1	150 W INC.	120	WALL	△1

PANEL SCHEDULE

LOAD	WIRE	CKT. BRKR.	CKT. №	CKT. №	CKT. BRKR.	WIRE	LOAD
PUMP CONTROL PANEL	# ~~4~~ 6 △1	~~90~~/3 60 △1	1	2	20/1	#12	YARD LIGHT
				4	20/1	#12	VALVE VAULT & MH LIGHTS
HIGH LEVEL ALARM	#14	15/1	3	6	20/1	#12	TELEMETRY CABINET
RECEPTACLE △1	#12	20 GFI	4	10 8-30	—	—	PANEL ENCL. SPACES △1
FANS	#12	20/1	5	7	20/1	12	DAY TANK △1
SPACES △1			9 3-25	8	20/1	12	WATER JACKET HEATER △1

PANEL A - 208/120V - 3φ - 4W SURFACE MOUNT CIRCUIT BREAKER, LOAD CENTER, △1 100 ~~225~~A MAINS, 30 POLE SPACE, 22,000 A.I.C. RATING NEMA ~~3R~~1 △1



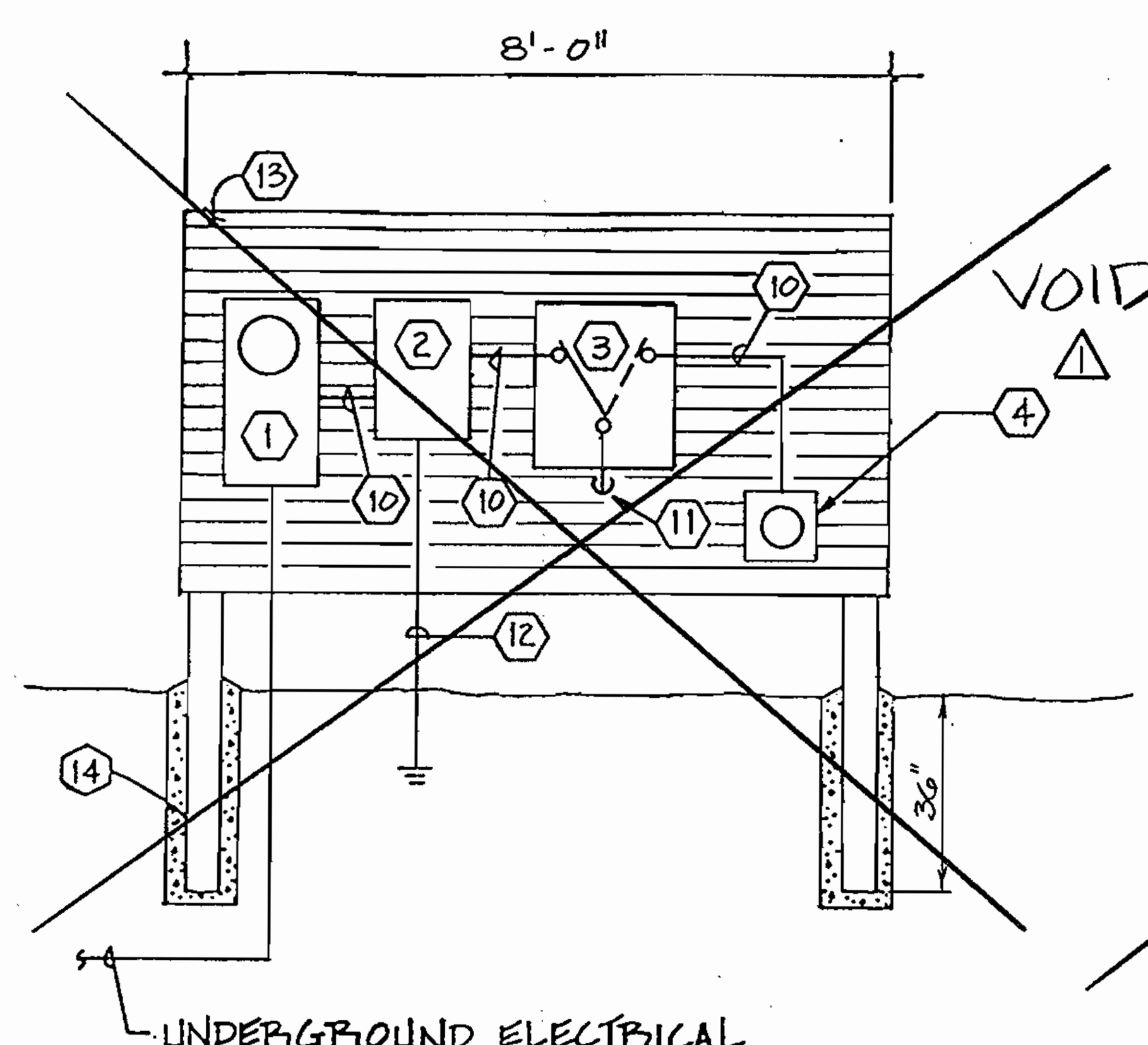
FOOTINGS - B FIXTURE △1
SCALE: 1/2"=1'-0"

ELECTRICAL NOTES

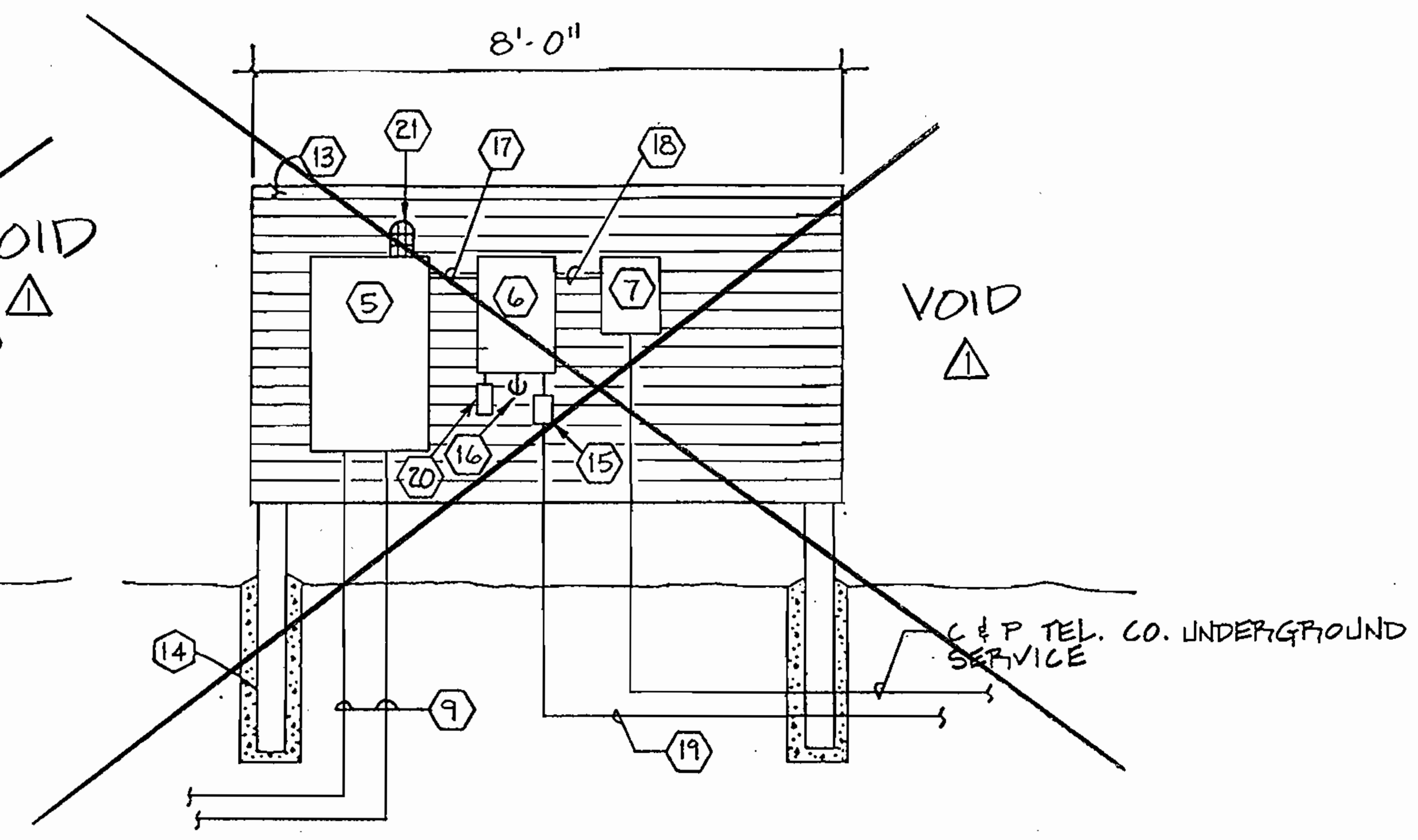
1. . . METER BASE PER POWER CO. REQUIREMENTS. PROVIDED & INSTALLED BY ELECTRICAL CONTRACTOR. △1
2. 100A ~~200A~~ - 240V - 3φ S/N DISCONNECT SWITCH FUSED @ 100A ~~200A~~; RATED FOR SERVICE ENTRANCE. PAD LOCKABLE, NEMA TYPE 3R ENCLOSURE. △1
3. △1 ~~DOUBLE THROW SAFETY SWITCH (MANUAL TRANSFER SWITCH) 200A - 240V - 3φ PAD LOCKABLE, NEMA TYPE 3R ENCLOSURE.~~ 100A 3 POLE 4 WIRE 208 VOLT AUTO TRANSFER SWITCH, ZENITH ZTS 10EG-4 W/OPTIONS A1, A3, A4, E, L1, L2, P, T, U, W, R3, R43, C/D
4. △1 ~~HEAVY DUTY RECEPTABLE ASSEMBLY FOR PORTABLE GENERATOR EQUAL TO CROUSE-HINDS~~
5. PUMP CONTROL PANEL IN PAD LOCKABLE, NEMA TYPE 3R ENCLOSURE.
6. △1 PANEL A 100 ~~200~~A - 20~~8~~/120V - 3φ - 4W M.L.O. PAD LOCKABLE, NEMA TYPE ~~3R~~ 1 ENCLOSURE.
7. △1 TELEMETRY TERMINAL CABINET PAD LOCKABLE, NEMA TYPE ~~3R~~ 1 ENCLOSURE SIZE FOR EQUIPMENT REQUIRED.
8. △1 3 - ~~#8~~ 12 & 1 - ~~#8~~ 12 GND. - 1" C. EACH TO 5 HP PUMPS.
9. △1 1 RUN OF 6 - ~~#8~~ 10 & 1 - #8 GND. - 1 1/4" R.G.S.C. 1 RUN OF 12 - #14 - 3/4" R.G.S.C. FOR CONTROLS
10. 4 - #6 & 2 - #6 GND. - 1 1/4" R.G.S.C.
11. △1 4 - ~~#3/0~~ 1 & 1 - #6 GND. - ~~2~~ 1 1/2" ~~R.G.S.C.~~ IMC. ~~TO PANEL A ON OPPOSITE SIDE OF BACKBOARD.~~
12. #4 GROUNDING ELECTRODE CONDUCTOR. GROUND PER N.E.C. ARTICLE 250.
13. △1 ~~PRESSURE TREATED 2X6 ON BOTH SIDES OF BACKBOARD. ATTACH TO POST WITH GALVANIZED LAG SCREWS, TYP.~~
14. △1 ~~PRESSURE TREATED 6 X 6 POST EMBEDDED IN CONCRETE TO BELOW FROST LINE, TYP.~~
15. △1 ~~20A - 120/277V WEATHERPROOF TOGGLE SWITCH FOR YARD LIGHT.~~
16. △1 ~~4 - #3/0 & 1 - #6 GND. - 2 1/2" R.G.S.C. TO MANUAL TRANSFER SWITCH ON OPPOSITE SIDE OF BACKBOARD.~~
17. △1 3 - ~~#4~~ 6 & 1 - #6 GND. - 1 1/4" ~~R.G.S.C.~~ IMC
18. 2 - #12 & 1 - #12 GND. - 1/2" R.G.S.C.
19. 2 - #12 & 1 - #12 GND. - 1/2" R.G.S.C. TO YARD LIGHT.
20. WEATHERPROOF DUPLEX RECEPTACLE
21. △1 HIGH / LOW LEVEL FLASHING ALARM LIGHT ON BUILDING ROOF
22. SURFACE MOUNTED NEMA TYPE 8 JUNCTION BOX EQUAL TO CROUSE-HINDS WDB SERIES. SIZE PER N.E.C. REQUIREMENTS.
23. 12 - #14 - 3/4" C. - PUMP CONTROL WIRING.
24. CROUSE-HINDS SERIES ES SEAL OR EQUAL, TYP.
25. CROUSE-HINDS SERIES EYS SEAL OR EQUAL, TYP.
26. PUMP 1 & 2 IN WET WELL. 5 HP EACH - 208V - 3φ.
27. 4 #3, 1 #6 GND, 2 #12 ENGINE START, 2" R.G.S.C. TO GENERATOR

ELECTRICAL LEGEND

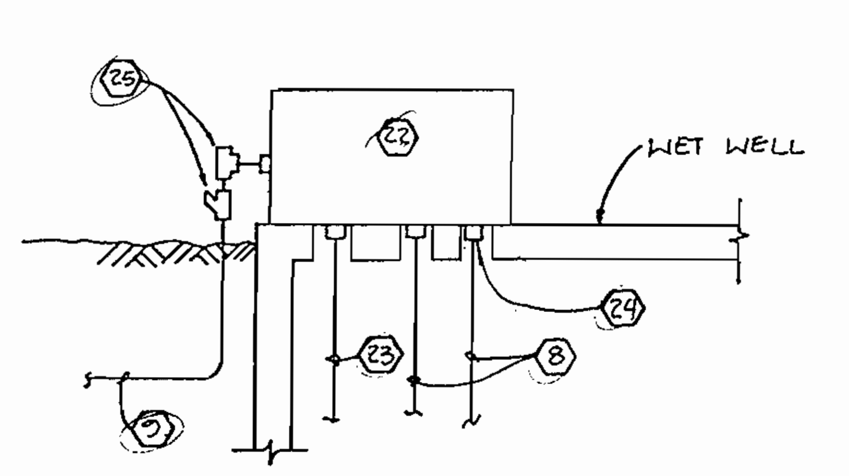
Symbol	Description
O-|	WALL MOUNTED FIXTURE
O	YARD LIGHT
△A	LIGHTING FIXTURE TYPE, SEE SCHEDULE
S	SINGLE POLE TOGGLE SWITCH, 20A - 120/277V - 48" A.F.F. OR UNLESS OTHERWISE NOTED.
(arrow with slashes)	WIRING RUN CONCEALED IN CEILING AND/OR WALL OR EXPOSED. NUMBER OF SLASHES INDICATE NUMBER OF #12 AWG COPPER CONDUCTORS EXCEPT GROUND AND 1/2" RACEWAY UNLESS OTHERWISE NOTED. ARROW HEADS INDICATE NUMBER OF CIRCUITS.
(dashed line)	CONDUIT AND CONDUCTORS RUN UNDERGROUND
o—	CONDUIT GOING UP
●—	CONDUIT GOING DOWN
(panel symbol)	PANELBOARD
(5)	MOTOR CONNECTION - HORSEPOWER AS INDICATED
(J) [J]	JUNCTION OR PULL BOX. TYPE AND SIZE AS REQUIRED BY THE N.E.C. FOR THE APPLICATION.
—T—	UNDERGROUND TELEPHONE CABLE



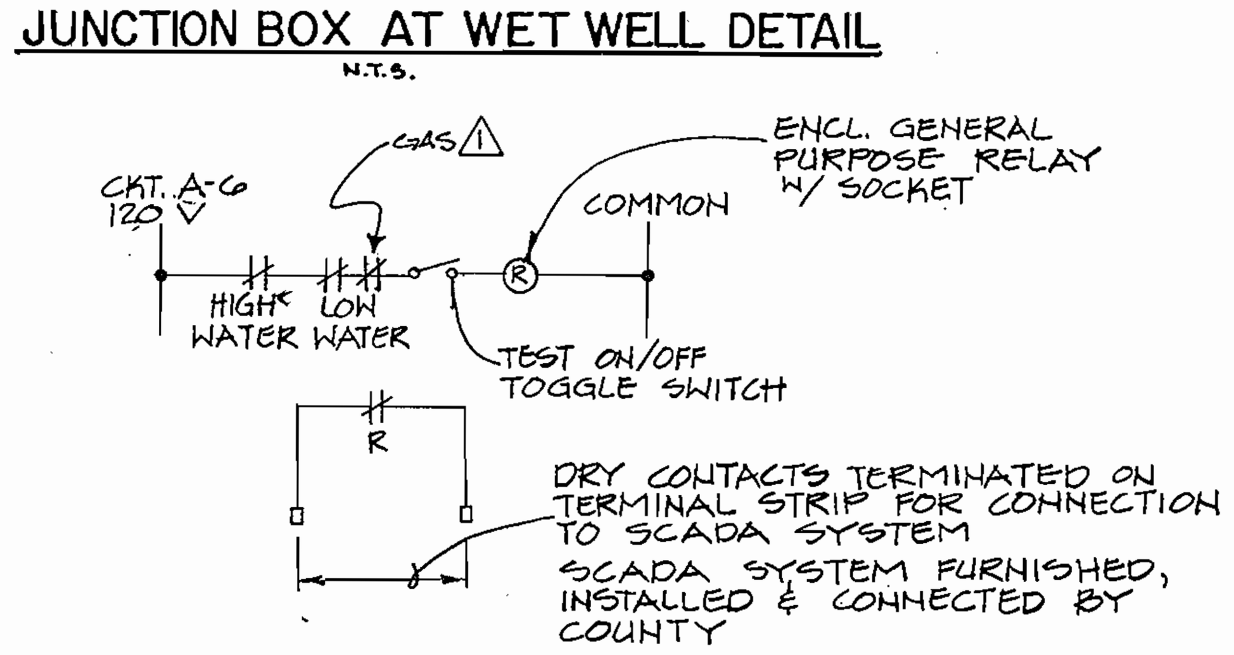
BACKBOARD ELEVATION A/5
N.T.S.



BACKBOARD ELEVATION B/5
N.T.S.

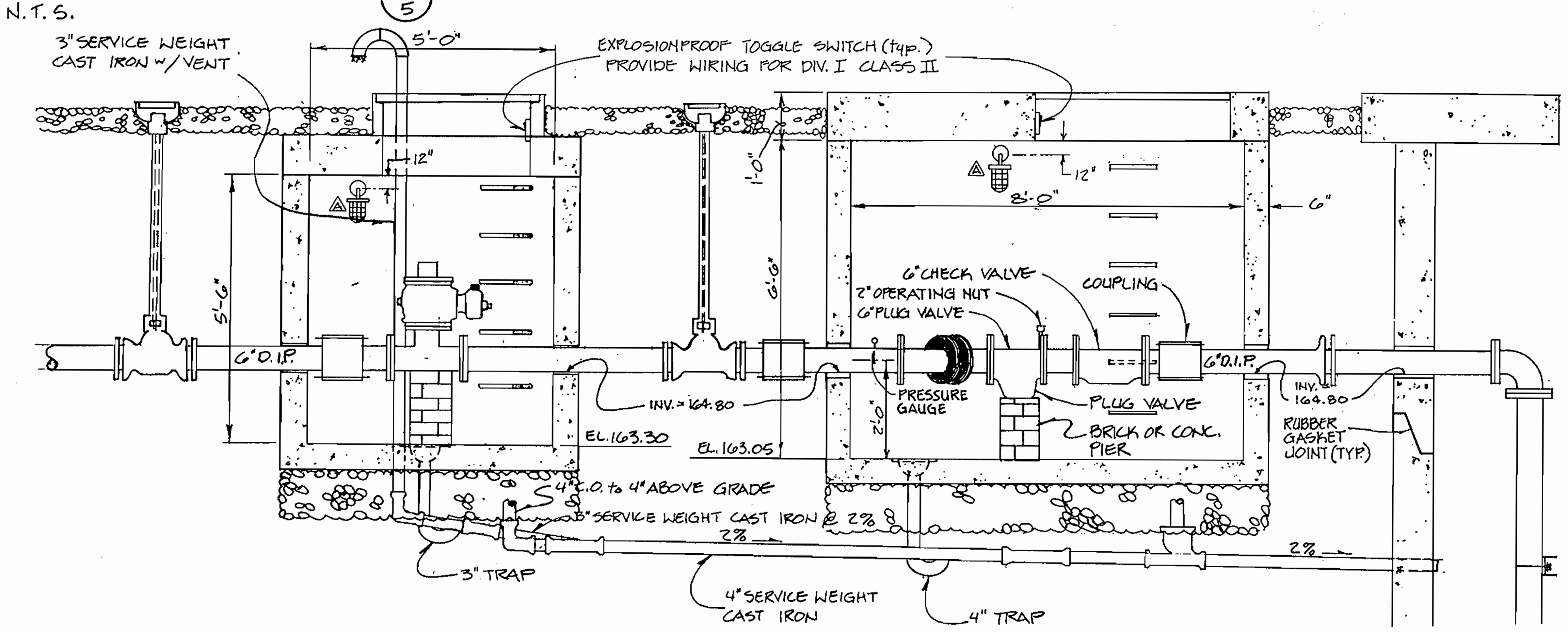


JUNCTION BOX AT WET WELL DETAIL
N.T.S.



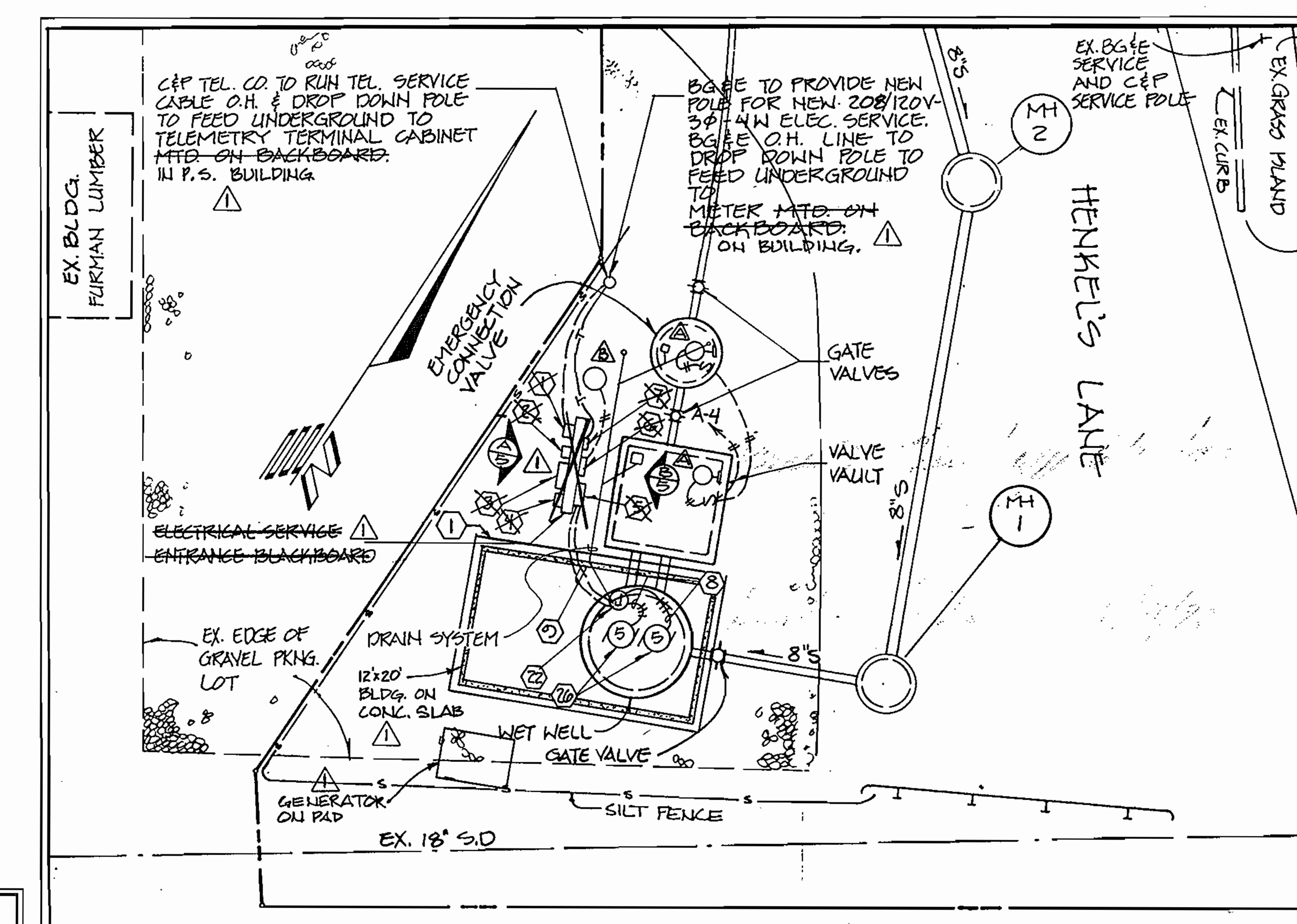
TELEMETRY SCHEMATIC DIAGRAM
N.T.S.

NOTE: SLEEVES SHALL BE PROVIDED FOR ALL CONDUIT IN PRECAST STRUCTURES



ELEVATION
EMERGENCY PUMPING CONNECTION & VALVE VAULT & WET WELL
SCALE: 1/2" = 1'-0"

THIS DRAWING IS FOR THE CONSTRUCTON OF ELECTRICAL WORK ONLY



ELECTRICAL SITE PLAN
SCALE: 1"=10'

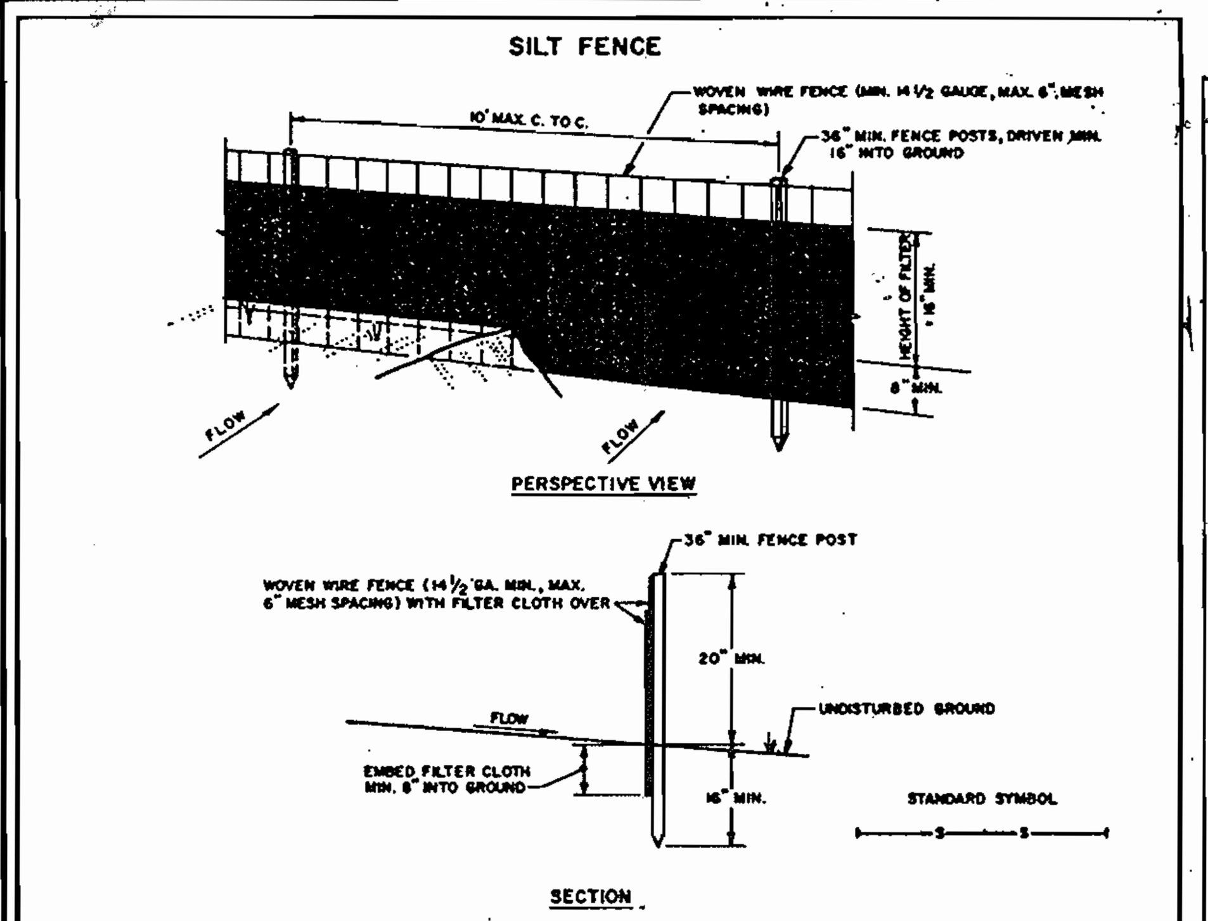
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	Dewberry & Davis	DES: J.M.B.	PUMPING STATION, ELECTRICAL	ANNAPOLIS JUNCTION COLLECTION SYSTEM	SCALE AS SHOWN
DIRECTOR OF PUBLIC WORKS — DATE 6/4/91	ARCHITECTS • ENGINEERS • PLANNERS • SURVEYORS	DRN: J.M.B.		CAPITAL PROJECT: S-6158 CONTRACT NO.: 20-3015	SHEET 5 OF ~~6~~ 7
CHIEF, BUREAU OF ENGINEERING — DATE 6-4-90	200 Harry S. Truman Parkway, Annapolis, Maryland 21401	CHK:			
CHIEF, BUREAU OF UTILITIES — DATE 5-31-90	8411 Arlington Boulevard, Fairfax, Virginia 22030	DATE:		ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND	
CHIEF, UTILITY DESIGN DIVISION — DATE 5-23-90					

BY	NO.	REVISION	DATE
	△1	ENCLOSE WET WELL AND ELECTRICAL EQUIPMENT IN BUILDING. ADD GENERATOR	1/30/91

600' SCALE MAP NO. 48 BLOCK NO. 19

STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER 5/16/90

AS-BUILT 5-17-91



CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD

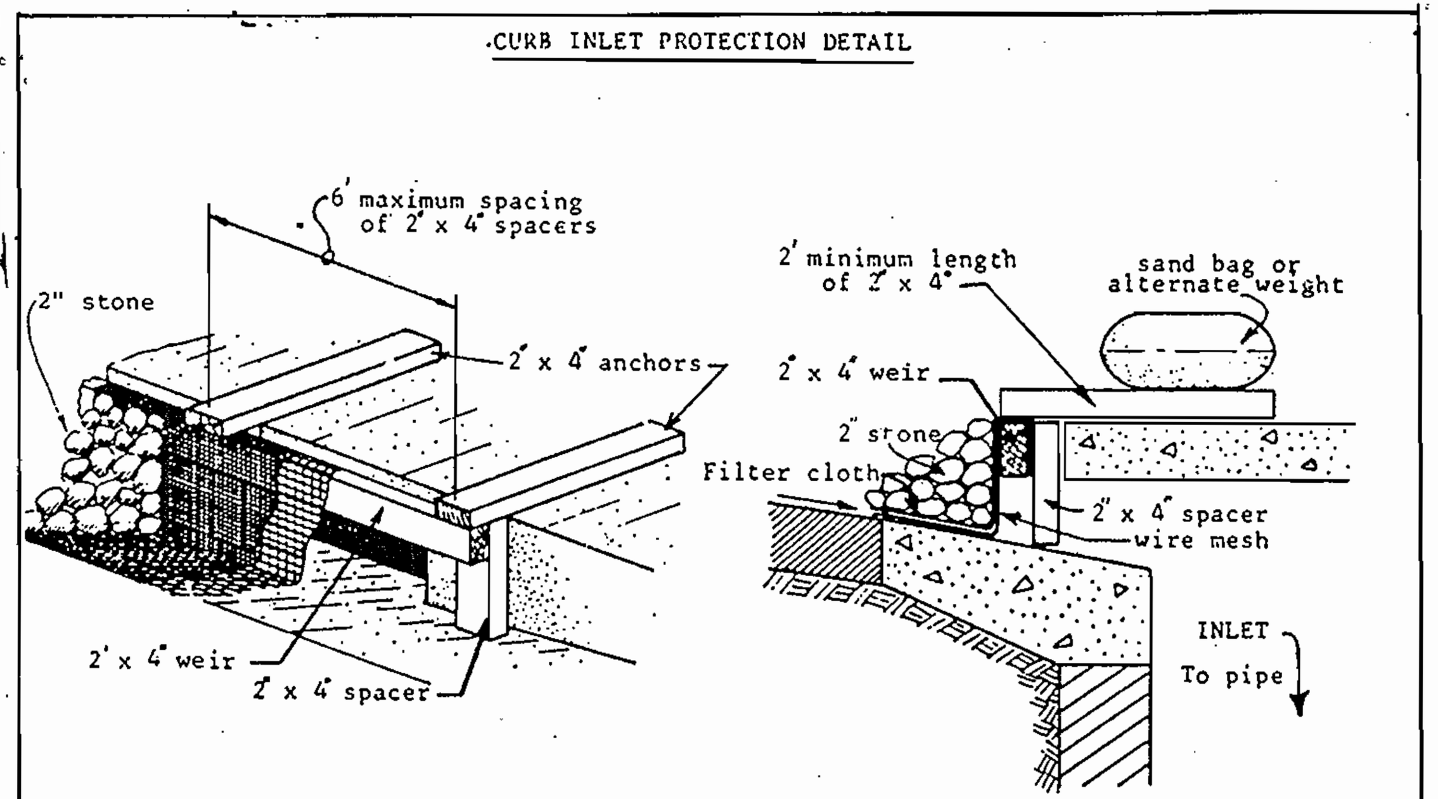
FENCE: WOVEN WIRE, 14 GA. 6" MAX. MESH OPENING

FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T140N OR APPROVED EQUAL

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	SILT FENCE	STANDARD DRAWING SF-1

CURB INLET PROTECTION DETAIL



STANDARD SYMBOL

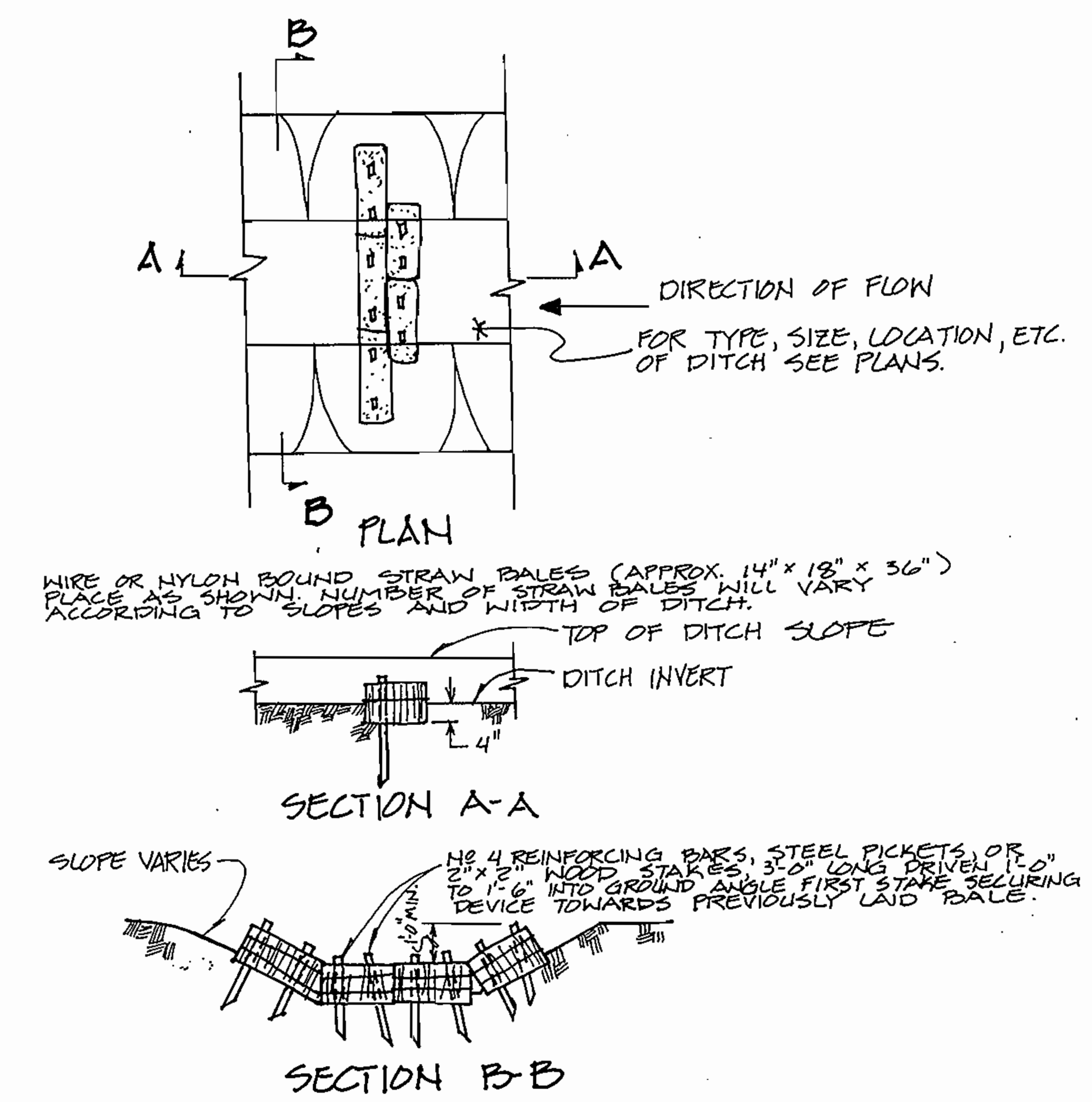
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	INLET PROTECTION DETAIL	STANDARD DRAWING IPD-1

CURB INLET PROTECTION
CONSTRUCTION SPECIFICATIONS

I. MATERIALS
- A. WOODEN FRAME IS TO BE CONSTRUCTED OF 2" X 4" CONSTRUCTION GRADE LUMBER.
- B. WIRE MESH MUST BE OF SUFFICIENT STRENGTH TO SUPPORT FILTER FABRIC, AND STONE FOR CURB INLETS, WITH WATER FULLY IMPOUNDED AGAINST IT.
- C. FILTER CLOTH MUST BE OF A TYPE APPROVED FOR THIS PURPOSE; RESISTANT TO SUNLIGHT WITH SIEVE SIZE, EOS, 40-85, TO ALLOW SUFFICIENT PASSAGE OF WATER AND REMOVAL OF SEDIMENT.
- D. STONE IS TO BE 2" IN SIZE AND CLEAN, SINCE FINES WOULD CLOG THE CLOTH.

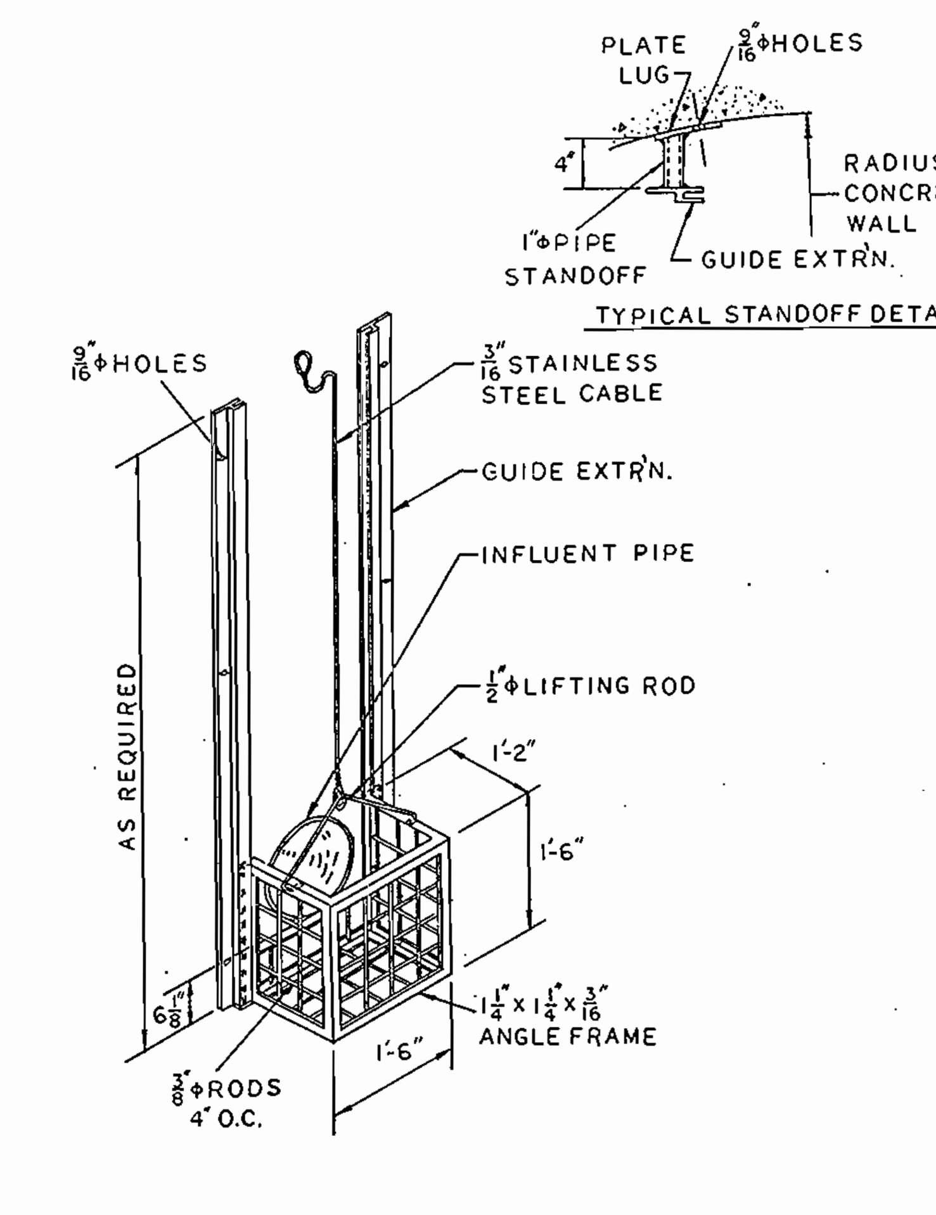
II. PROCEDURE

A. CURB INLET PROTECTION
1. ATTACH A CONTINUOUS PIECE OF WIRE MESH (30" MIN. WIDTH BY THROAT LENGTH PLUS 4') TO THE 2"X4" WEIR (MEASURING THROAT LENGTH PLUS 2'), AS SHOWN ON THE STANDARD DRAWING.
2. PLACE A PIECE OF APPROVED FILTER CLOTH (40-85 SIEVE) OF THE SAME DIMENSIONS AS THE WIRE MESH OVER THE WIRE MESH AND SECURELY FASTEN TO THE 2"X4" WEIR.
3. SECURELY NAIL THE 2"X4" WEIR TO 9" LONG VERTICAL SPACERS TO BE LOCATED BETWEEN THE WEIR AND INLET FACE (MAX. 6' APART).
4. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL (MINIMUM 2' LENGTHS OF 2"X4" TO THE TOP OF THE WEIR AT SPACER LOCATIONS). THESE 2"X4" ANCHORS SHALL EXTEND ACROSS THE INLET TOP AND BE HELD IN PLACE BY SANDBAGS OR ALTERNATE WEIGHT.
5. THE ASSEMBLY SHALL BE PLACED SO THAT THE END SPACERS ARE A MINIMUM 1' BEYOND BOTH ENDS OF THE THROAT OPENING.
6. FORM THE WIRE MESH AND FILTER CLOTH TO THE CONCRETE GUTTER AND AGAINST THE FACE OF CURB ON BOTH SIDES OF THE INLET. PLACE CLEAN 2" STONE OVER THE WIRE MESH AND FILTER FABRIC IN SUCH A MANNER AS TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE FILTER CLOTH.
7. THIS TYPE OF PROTECTION MUST BE INSPECTED FREQUENTLY AND THE FILTER CLOTH AND STONE REPLACED WHEN CLOGGED WITH SEDIMENT.
8. ASSURE THAT STORM FLOW DOES NOT BYPASS INLET BY INSTALLING TEMPORARY EARTH OR ASPHALT DIKES DIRECTING FLOW INTO INLET.



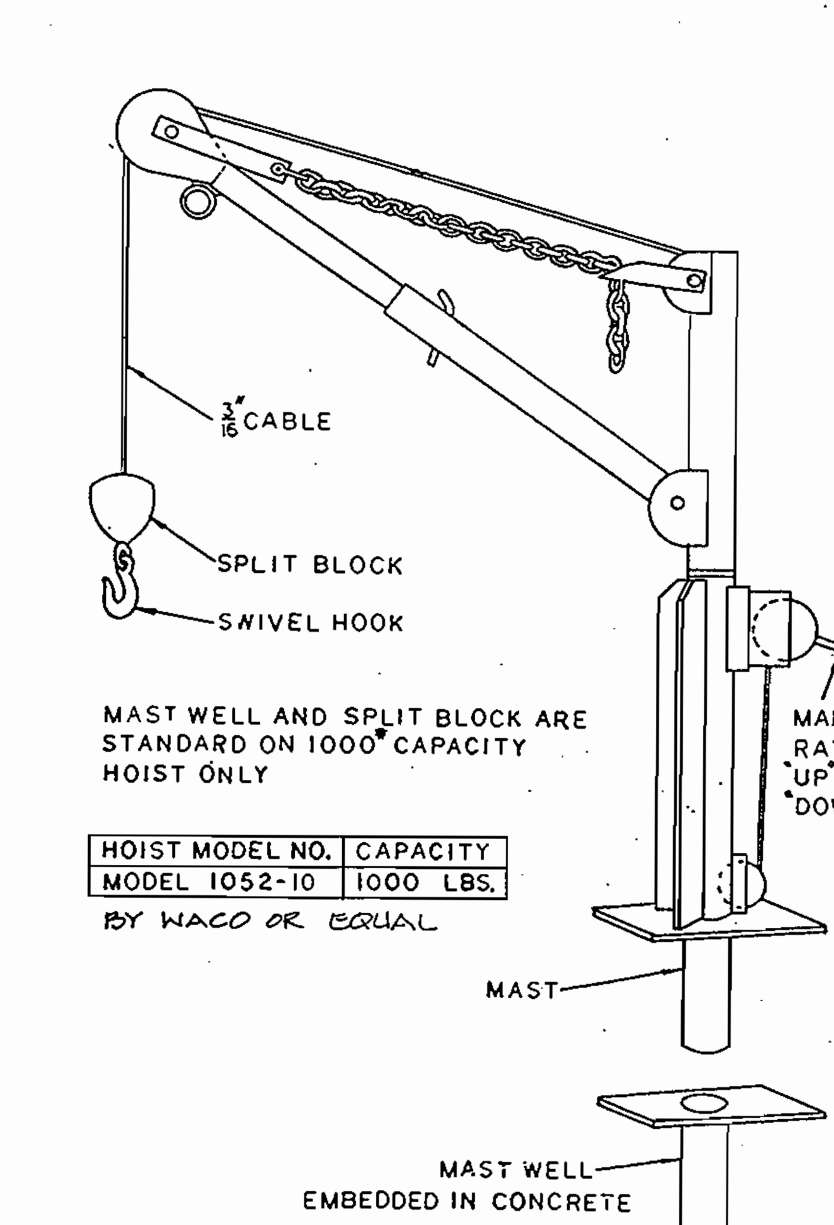
GENERAL NOTES:
1. INTENDED FOR USE IN EXISTING, PROPOSED & TEMPORARY DITCHES OF ALL TYPES WHERE THE CONSTRUCTION OF A SEDIMENT TRAP WOULD CREATE A TRAFFIC HAZARD OR WHERE DIRECTED BY ENGINEER.
2. FOR LOCATIONS OF STRAW BALES REFER TO CONSTRUCTION PLANS.
3. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
4. "STRAW BALES" SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

STRAW BALE DITCH CHECK



ALUMINUM COARSE DEBRIS BASKET

DETAIL
N.T.S.



MECHANICAL HOIST

DETAIL
N.T.S.

PERMANENT SEEDING NOTES:

APPLY TO GRADED OR CLEARED AREA NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE-INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULE.
1) PREFERED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 lbs/1000 SQ. FT.) AND 600 lbs PER ACRE 10-10-10 FERTILIZER (14 lbs/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER 3-INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 lbs/ACRE 30-0-0 UREAFORM FERTILIZER 9 lbs/1000 SQ. FT.
2) ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 lbs PER 1000 SQ. FT.) AND 1000 lbs/ACRE 10-10-10 FERTILIZER (23 lbs/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER 3-INCHES OF SOIL.

SEEDING: FOR THE PERIODS MARCH 1 THRU APRIL 30 & AUGUST 1 THRU OCT. 15, SEED W/60 lbs/ACRE (1.4 lbs/1000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED W/60 lbs OF KENTUCKY 31 TALL FESCUE PER ACRE AND 2 lbs PER ACRE (.05 lbs PER 1000 SQ. FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCT. 16 THRU FEB. 28, PROTECT SITE BY: OPTION (1) 2 TONS/ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED W/60 lbs/ACRE KENTUCKY 31 TALL FESCUE AND MULCH W/2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING: APPLY 1.5 to 2 TONS/ACRE (70 to 90 lbs/1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS/ACRE (5 GAL/1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GAL. PER ACRE (8 GAL/1000 SQ. FT.) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES:

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED

SEEDBED PREPARATION: LOOSEN UPPER 3-INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

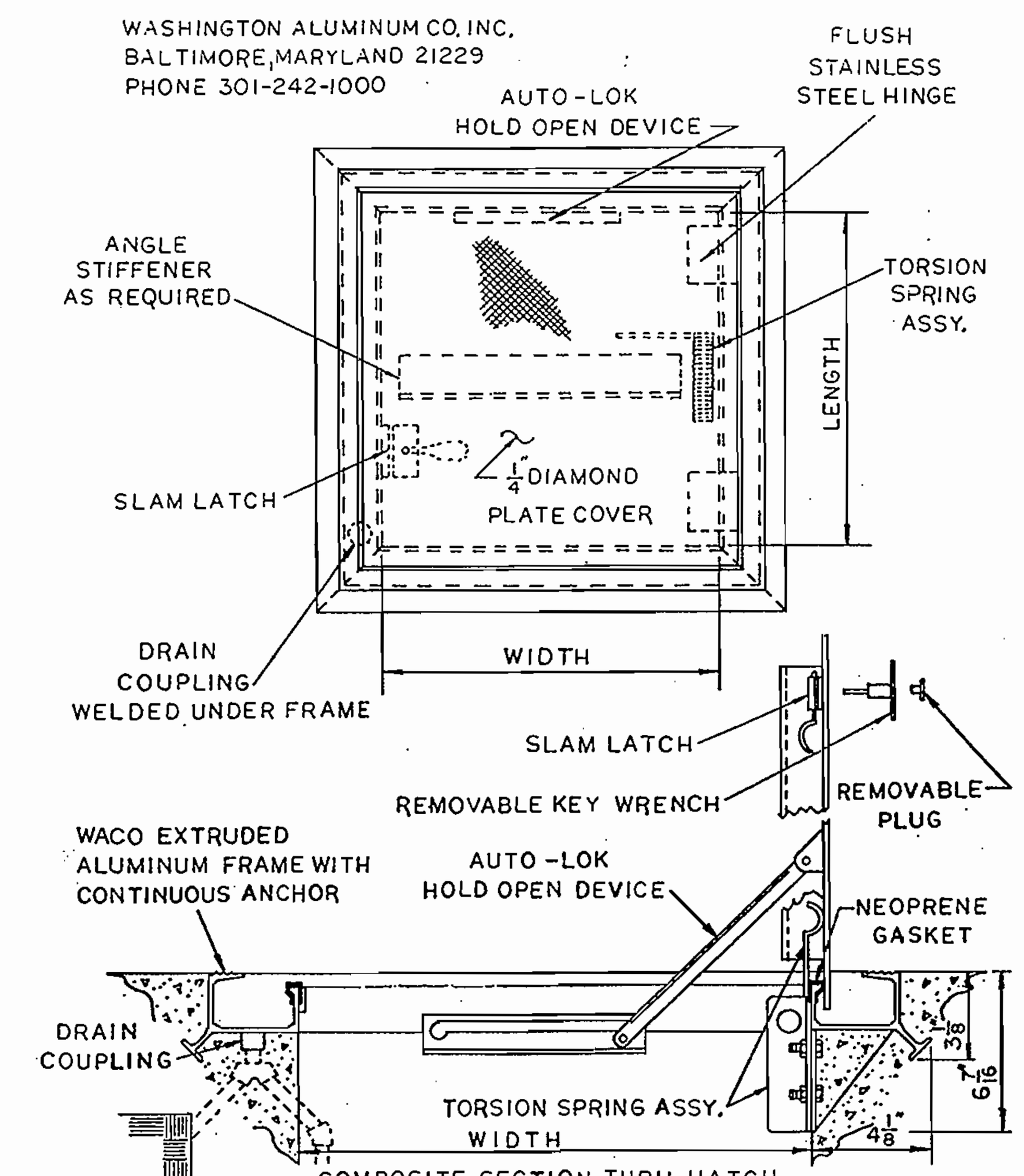
SOIL AMENDMENTS: APPLY 600 lbs/ACRE 10-10-10 FERTILIZER (14 lbs/1000 SQ. FT.)

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUG. 15 THRU DEC. 15, SEED W/2.5 BUSHEL PER ACRE ANNUAL RYE (3.2 lbs/1000 SQ. FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED W/3 lbs/ACRE OF WEEPING LOVEGRASS (.07 lbs/1000 SQ. FT.). FOR THE PERIOD NOV. 16 THRU FEB. 28, PROTECT SITE BY APPLYING 2 TONS/ACRE OF WELL ANCHORED STRAW MULCH AN SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: APPLY 1.5 to 2 TONS PER ACRE (70 to 90 lbs/1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL/ACRE (5 GAL/1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT. OR HIGHER, USE 348 GAL./ACRE (8 GAL. PER 1000 SQ. FT.) FOR ANCHORING.

REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION & SEDIMENT CONTROL FOR RATES AND METHODS NOT COVERED

WASHINGTON ALUMINUM CO. INC.
BALTIMORE, MARYLAND 21229
PHONE 301-242-1000



ALUMINUM TYPE "B" HATCH COVER (typical)

SEDIMENT CONTROL NOTES

1) A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (992-2437).

2) All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

3) Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.

4) All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 51) sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.

5) All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.

6) Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

7) Additional sediment controls must be provided, if deemed necessary by the Howard County DPW sediment control inspector.

8) Sediment control approval is predicated on daily backfilling of all open trenches.

9) Provisions shall be made for daily clean up of any sediment that accumulates on the public or private roads or right-of-ways.

10) Sediment control measures for this contract will be implemented in accordance with Volume 4, Article 15 of the Howard County Design Manual and these plans.

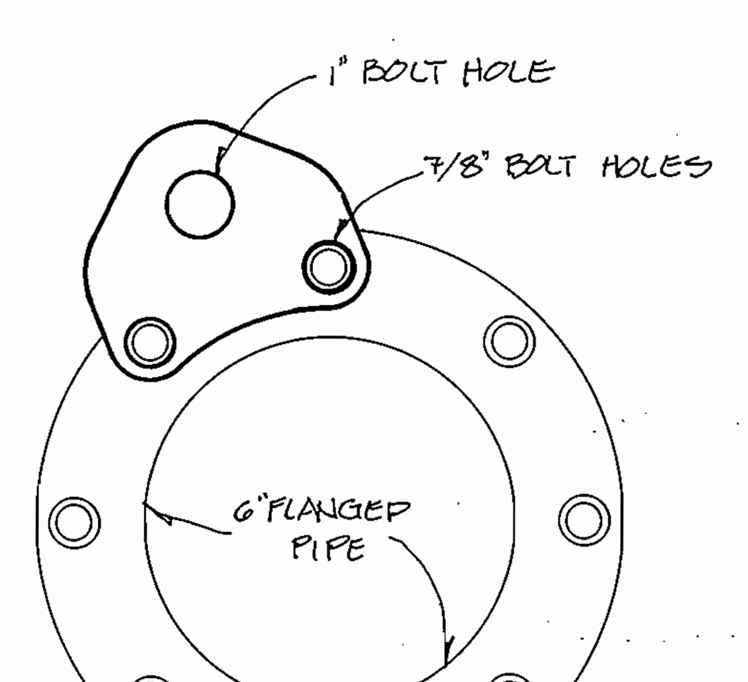
11) SITE ANALYSIS:

TOTAL AREA OF SITE	0.05 ACRES
AREA DISTURBED	0.04 ACRES
AREA TO BE COVERED OR PAVED	0.04 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0 ACRES
TOTAL CUT	N/A
TOTAL FILL	N/A

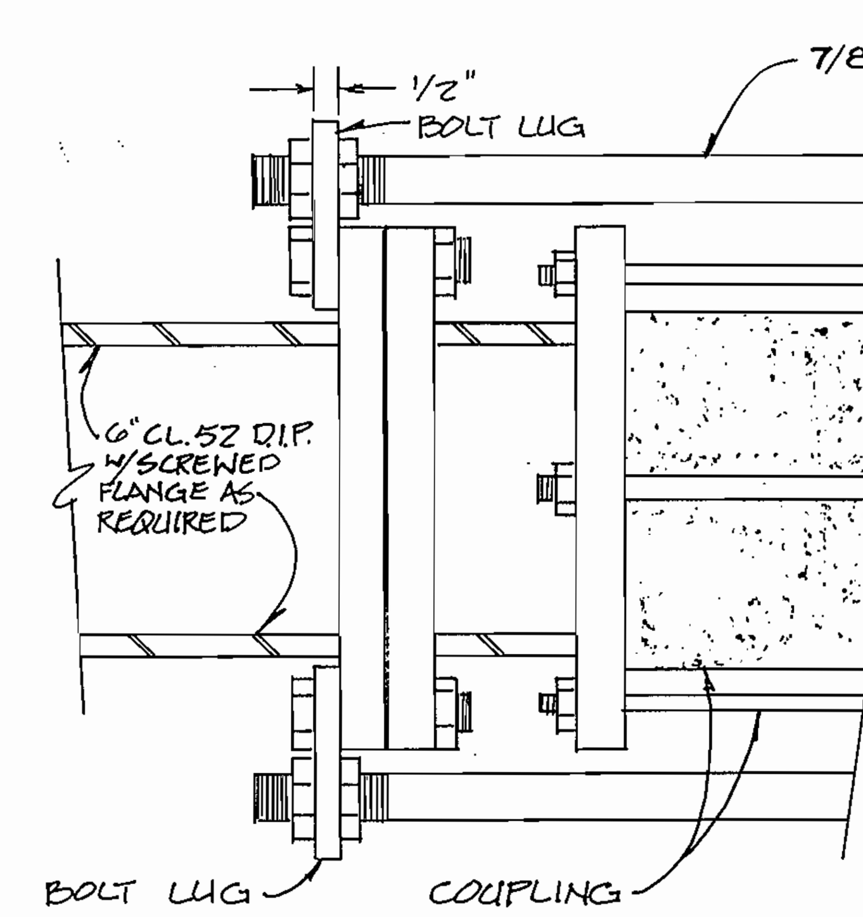
OFFSITE WASTE/BORROW AREA LOCATION - TO BE PROVIDED BY CONTRACTOR

SEQUENCE OF CONSTRUCTION

1. ALL NECESSARY PERMITS FOR CONSTRUCTION MUST BE OBTAINED.
2. INSTALL SILT FENCE, STRAW BALE CHECK DAMS, AND INLET PROTECTION.
3. CONSTRUCT PUMPING STATION, FORCE MAIN AND GRAVITY SEWER. STABILIZE ALL DISTURBED AREAS.
4. WITH APPROVAL OF INSPECTOR, REMOVE ALL SEDIMENT CONTROLS ONCE ALL AREAS ARE STABILIZED.
5. MAINTENANCE.



"BOLT LUG"
(USE FOUR PER FLANGE)
SCALE: 1/4" = 1'-0"



"BOLT LUG"
RESTRAINED COUPLING DETAIL
SCALE: 1/4" = 1'-0"

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for construction, soil erosion and sediment control.

James M. Helm 6/27/90
U.S. Soil Conservation Service — Date

These plans for soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

John R. Robertson 6/29/90
Howard Soil Conservation District — Date

ENGINEER'S CERTIFICATE

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

Bruce W. Owen 5/16/90
BRUCE W. OWEN, P.E. # 14832 — DATE

DEVELOPER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF THE SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

6-4-90
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS — DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS 6/4/90 DATE — CHIEF, BUREAU OF ENGINEERING 6-4-90 DATE

CHIEF, BUREAU OF UTILITIES 5-31-90 DATE — CHIEF, UTILITY DESIGN DIVISION 5-23-90 DATE

Dewberry & Davis
ARCHITECTS • ENGINEERS • PLANNERS • SURVEYORS
200 Harry S. Truman Parkway, Annapolis, Maryland 21401
8411 Arlington Boulevard, Fairfax, Virginia 22030

STATE OF MARYLAND — REGISTERED PROFESSIONAL ENGINEER — 5-16-90

DES: / DRN: / CHK: / DATE:

BY	NO.	REVISION	DATE

SEDIMENT & EROSION CONTROL

600' SCALE MAP NO. 48 BLOCK NO. 19

ANNAPOLIS JUNCTION COLLECTION SYSTEM

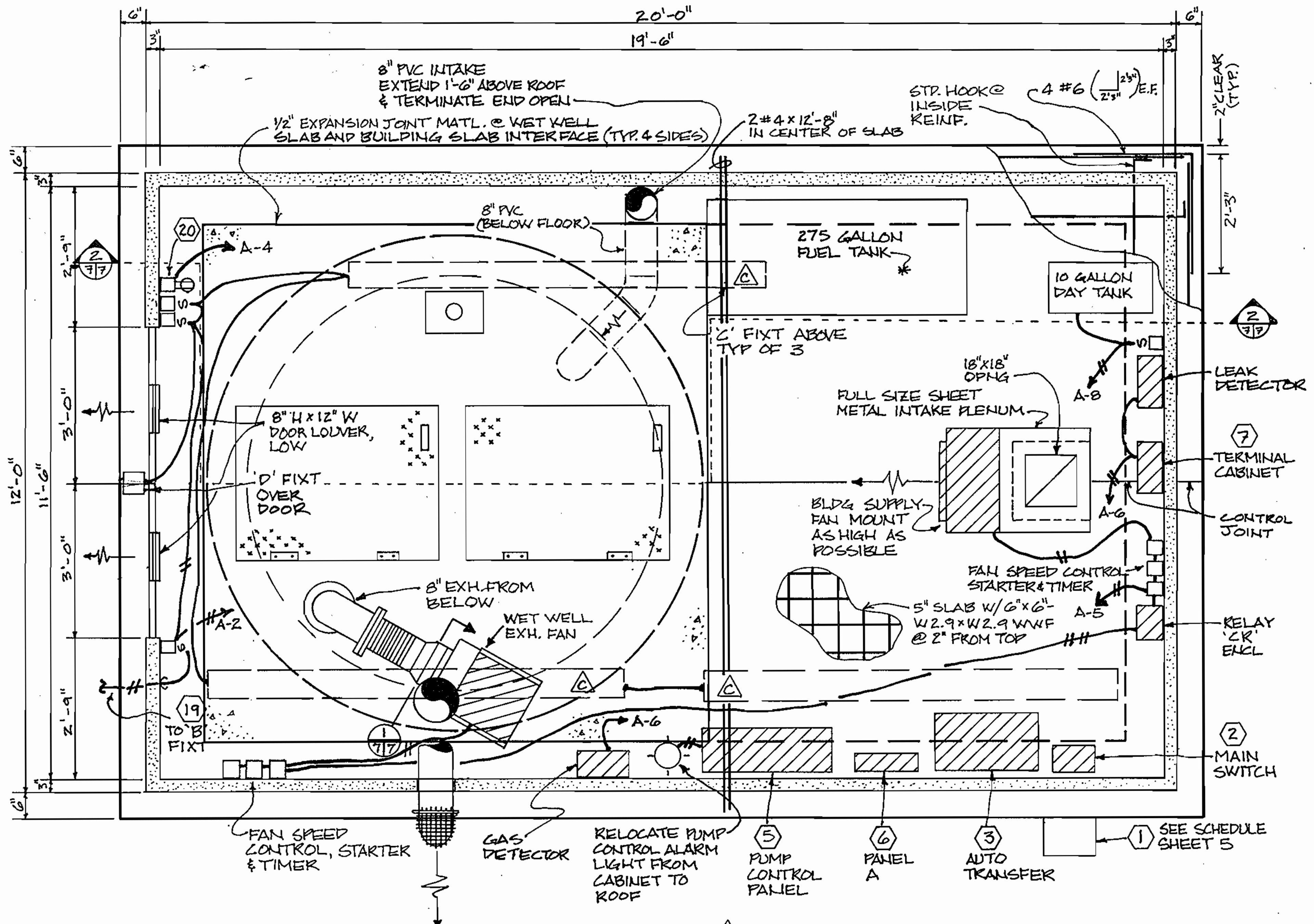
CAPITAL PROJECT: S-6158 CONTRACT NO.: 20-3015

ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

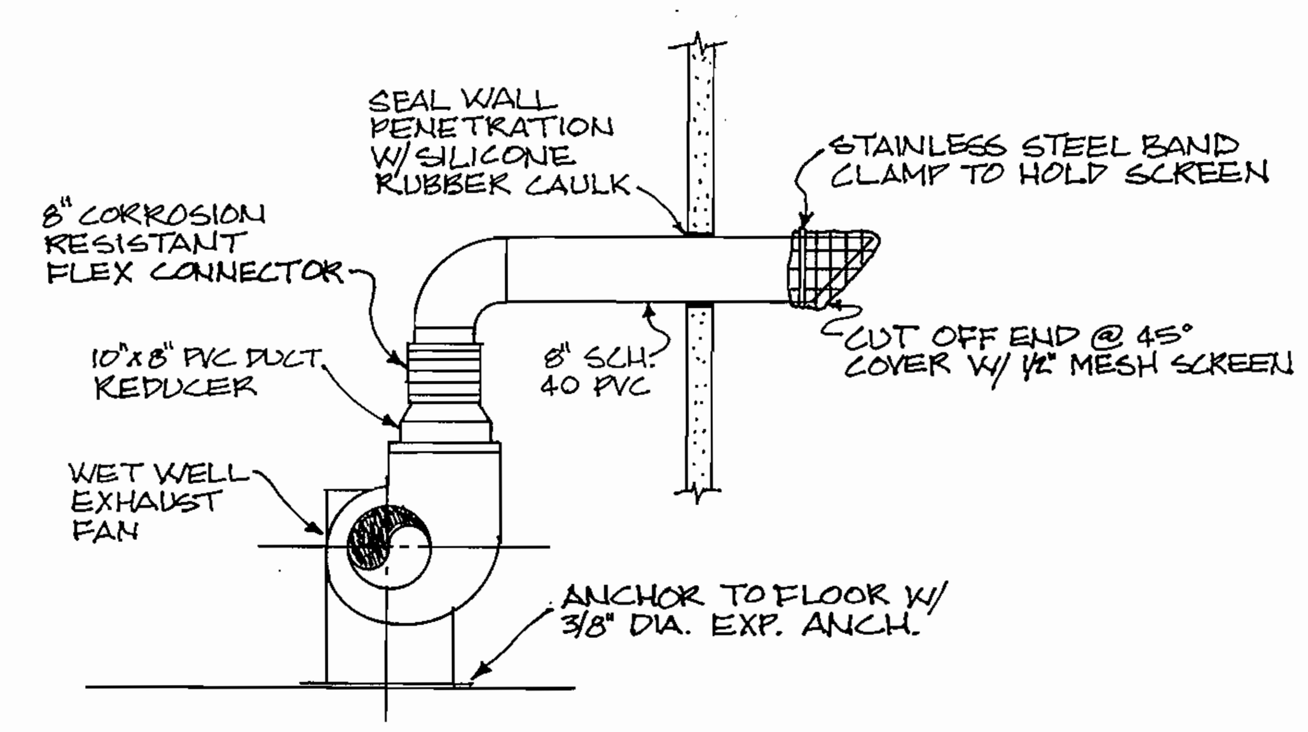
SCALE AS SHOWN

SHEET 6 OF 7

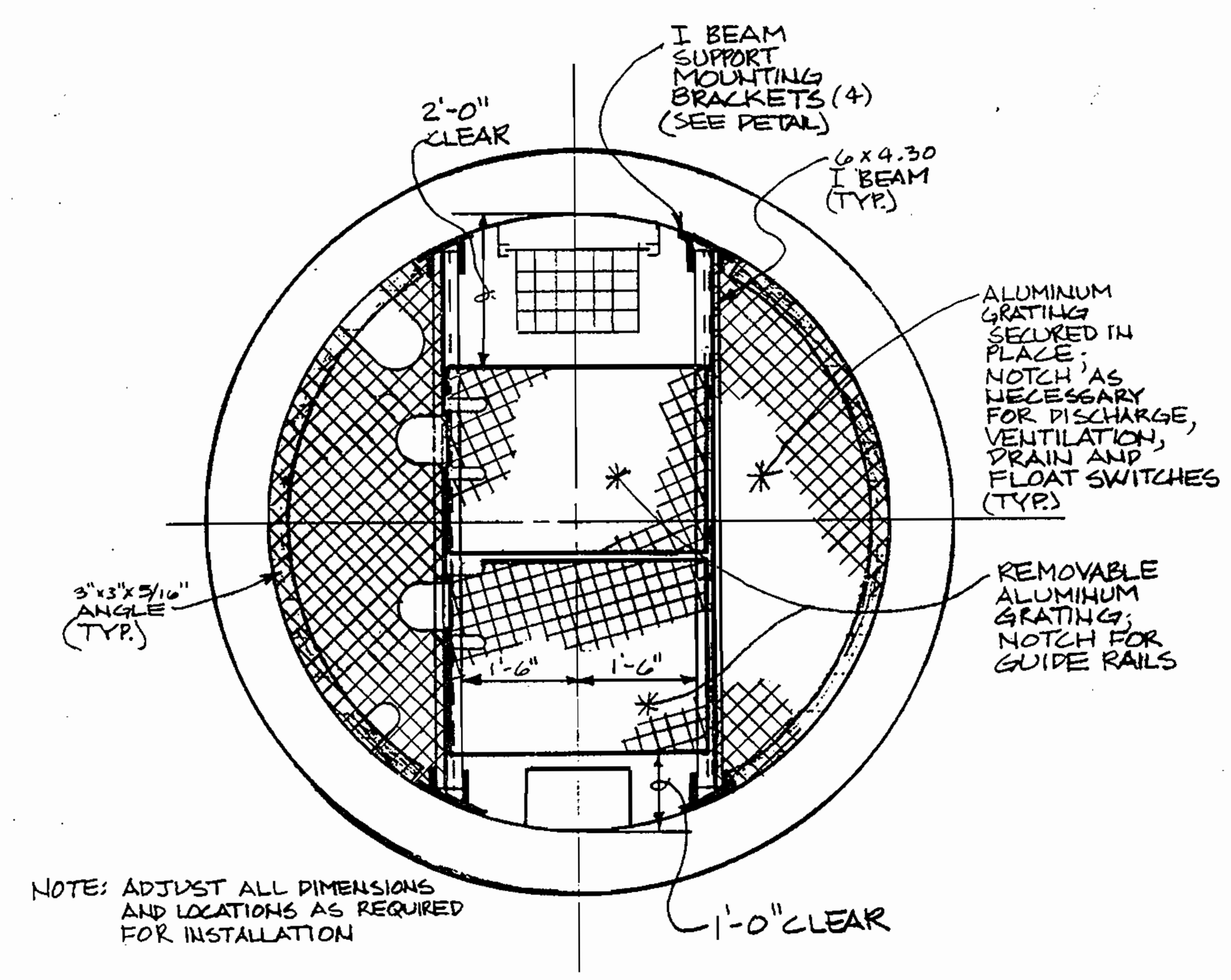
5-17-91



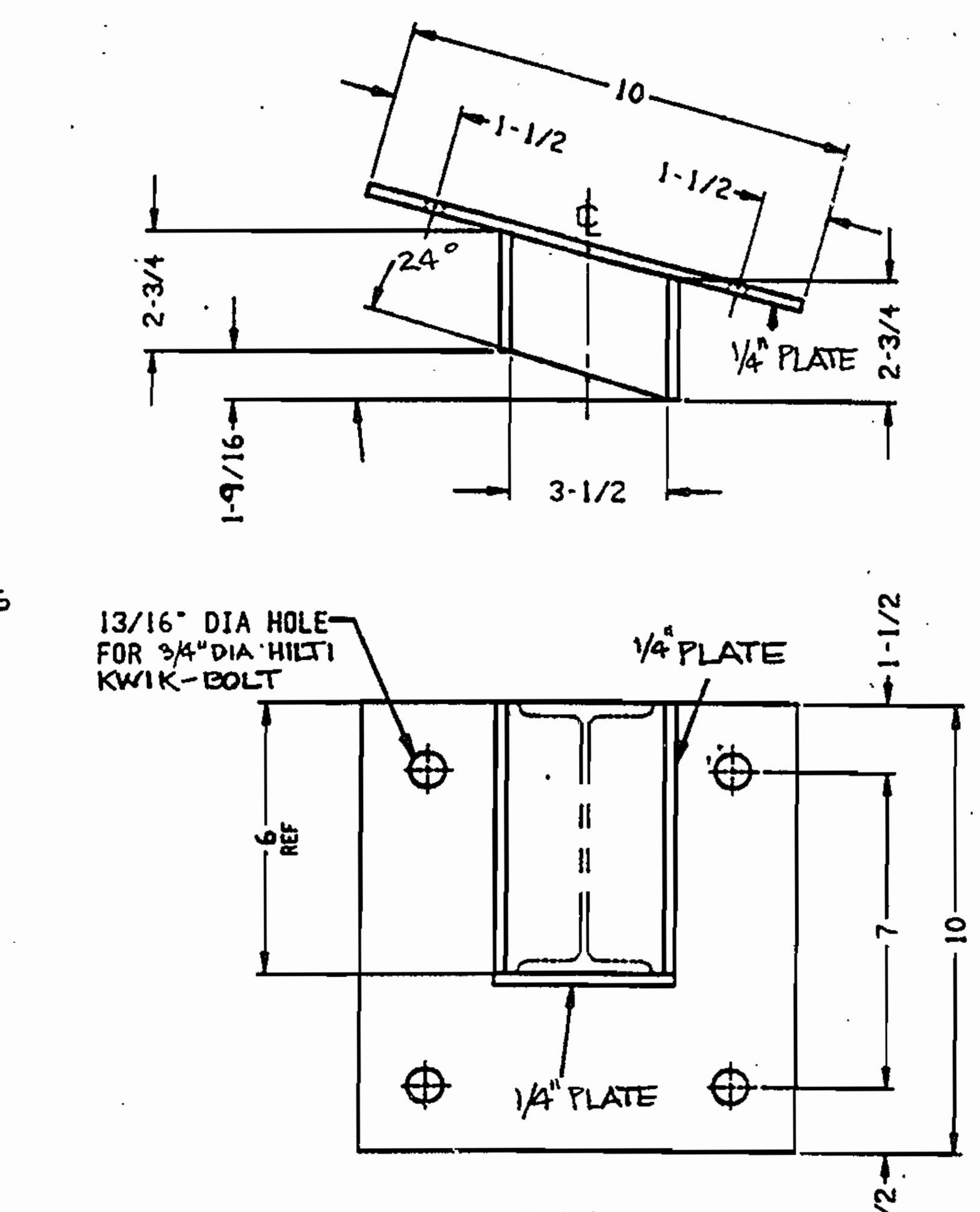
PLAN ⚠
PUMP STATION BUILDING
SCALE: 1/2" = 1'-0"



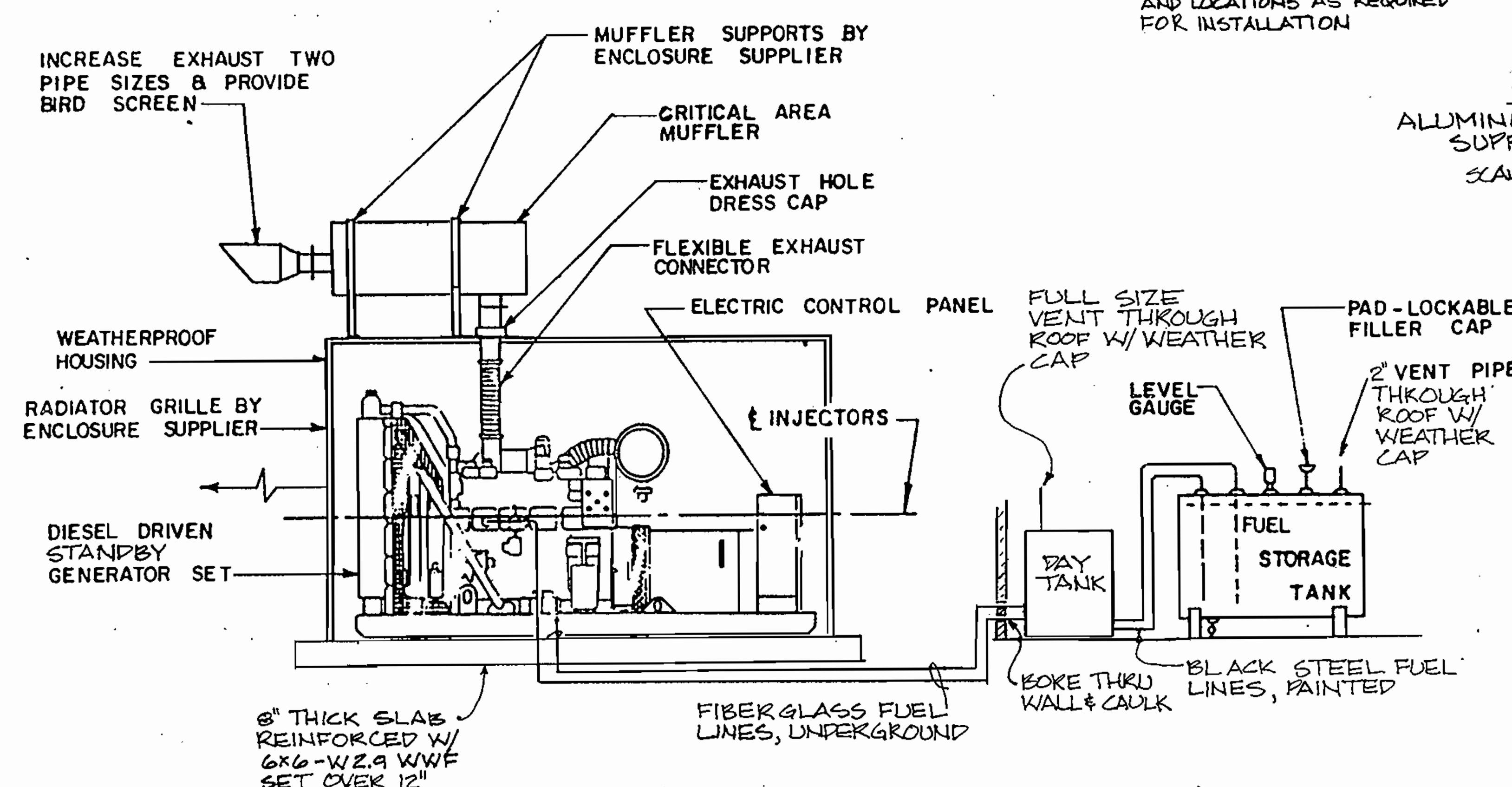
SECTION 1/7 ⚠
SCALE: 1/2" = 1'-0"



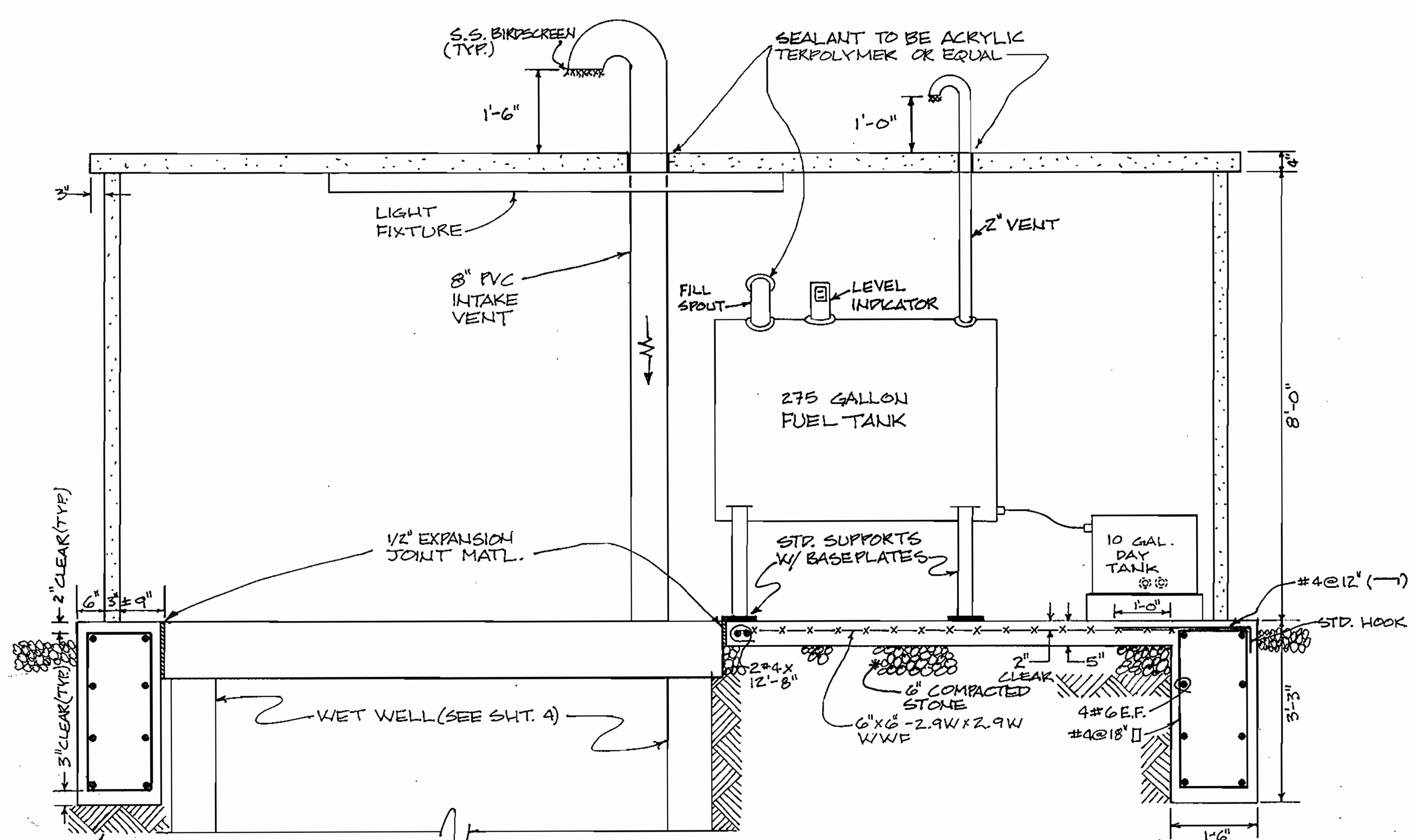
PLAN ⚠
ALUMINUM GRATING AND SUPPORT FRAME
SCALE: 1/2" = 1'-0"



DETAIL
I BEAM SUPPORTS ⚠
TWO REQ'D AS SHOWN
TWO REQ'D OPPOSITE HAND

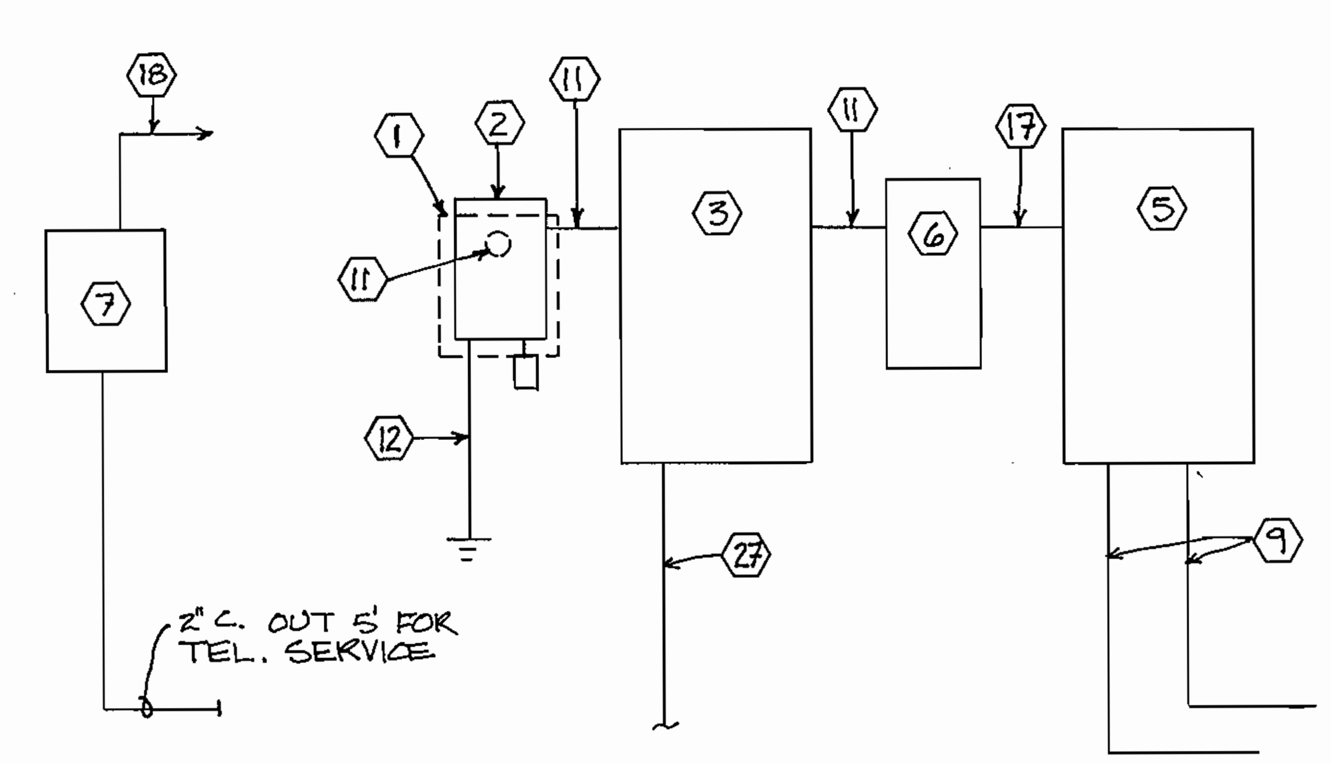


DETAIL, GENERATOR INSTALLATION ⚠
NOT TO SCALE

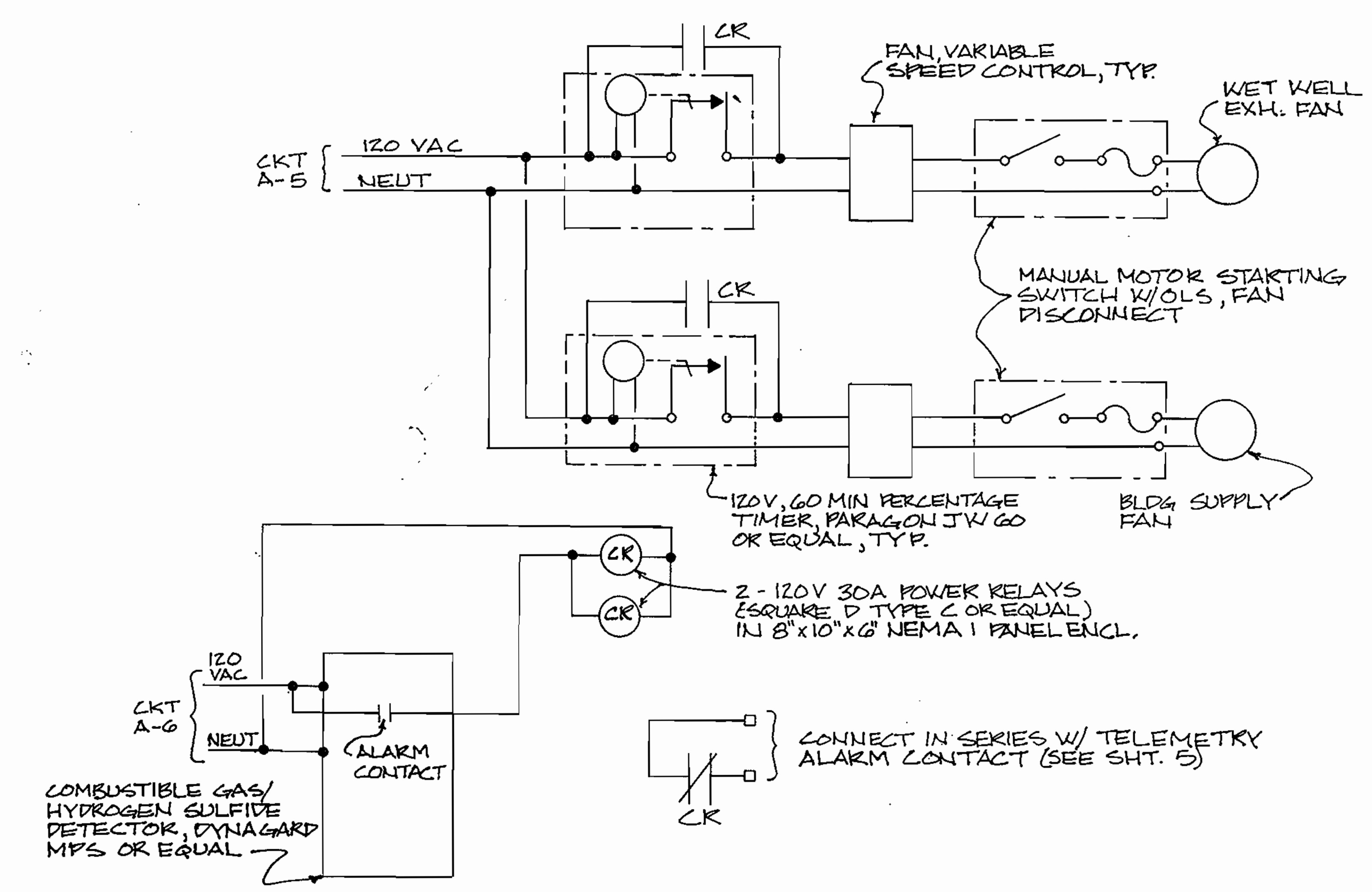


SECTION 2/7 ⚠
SCALE: 1/2" = 1'-0"

NOTE: BACKFILL SHALL BE PLACED IN MAXIMUM LIFTS OF 4" AND COMPACTED TO 95% OF MAXIMUM DRY DENSITY PER ASTM D-698 (STANDARD PROCTOR) W/ LIGHT HAND OPERATED COMPACTION EQUIPMENT. (TYP.)



SCHEMATIC ARRANGEMENT,
ELECTRICAL EQUIPMENT ⚠
NOT TO SCALE



SCHEMATIC WIRING ⚠
FAN CONTROL
NOT TO SCALE

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DIRECTOR OF PUBLIC WORKS 7/3/91 DATE CHIEF, BUREAU OF ENGINEERING 7-3-91 DATE CHIEF, BUREAU OF UTILITIES 7-3-91 DATE CHIEF, UTILITY DESIGN DIVISION 7-3-91 DATE	Dewberry & Davis ARCHITECTS • ENGINEERS • PLANNERS • SURVEYORS 200 Harry S. Truman Parkway, Annapolis, Maryland 21401 8411 Arlington Boulevard, Fairfax, Virginia 22030	STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER 1-30-91	DES: DRN: CHK: DATE:	

BY	NO.	REVISION	DATE
	⚠	ENCLOSE WET WELL AND ELECTRICAL EQUIPMENT IN BUILDING. ADD GENERATOR.	1/30/91

PUMPING STATION BUILDING
PLAN, SECTIONS,
ELECTRICAL AND DETAILS

600' SCALE MAP NO. 48 BLOCK NO. 19

ANNAPOLIS JUNCTION COLLECTION SYSTEM

CAPITAL PROJECT: S-6158 CONTRACT NO.: 20-3015

ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 7 OF 7