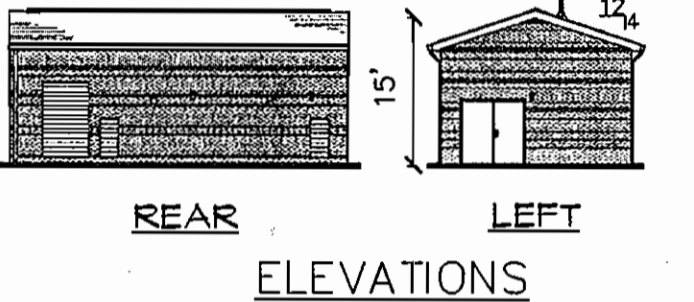
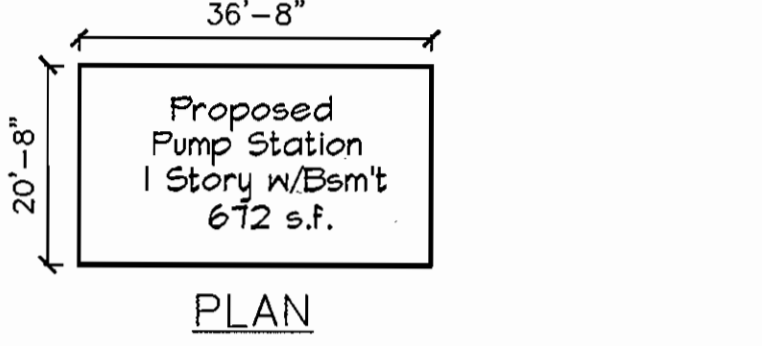
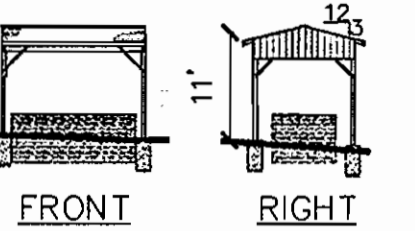
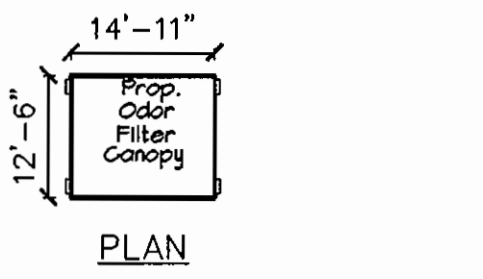


COLLEGE AVENUE WASTEWATER PUMPING STATION CONTRACT NO. 10-3898-D

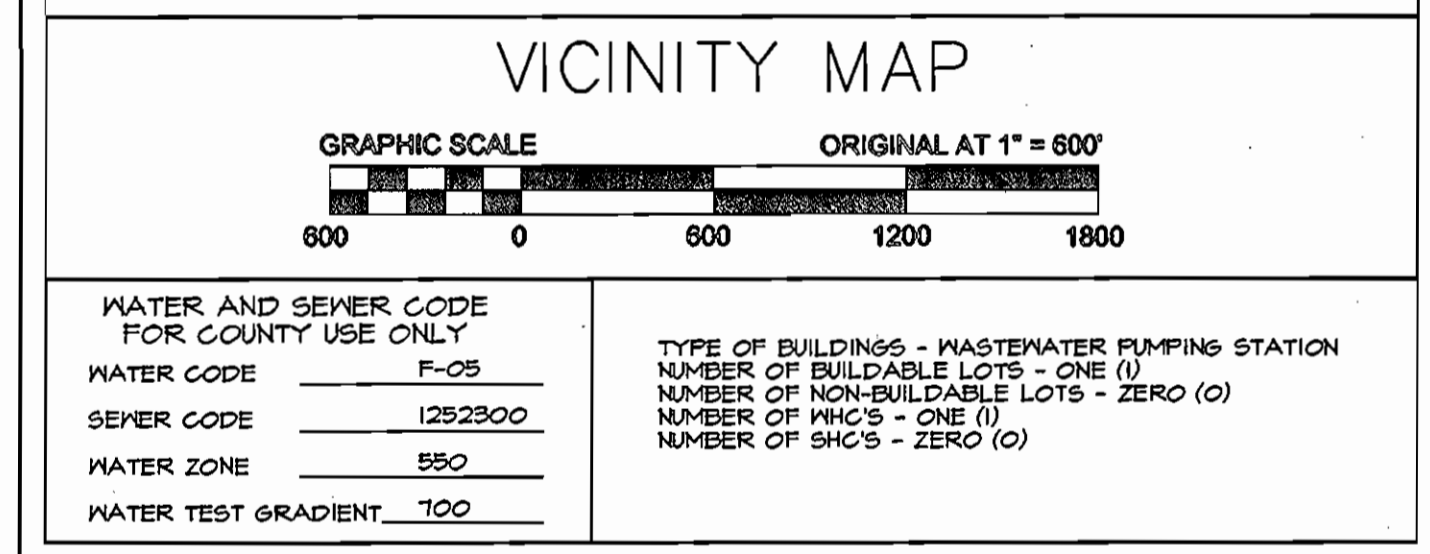
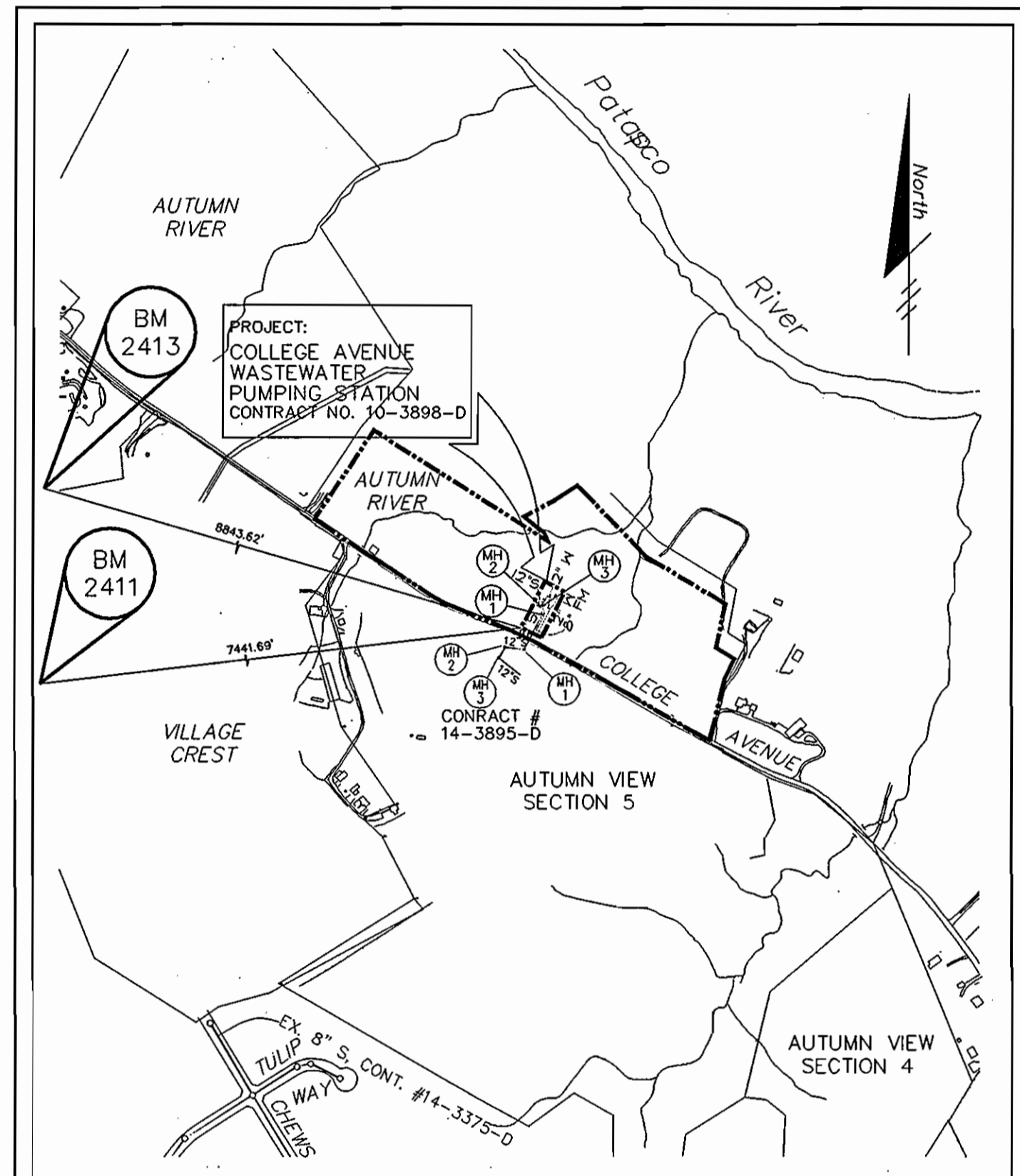


BUILDING PLANS
1" = 20'

GENERAL SITE NOTES:

- SUBJECT PROPERTY IS LOCATED ON TAX MAP NO. 25, GRID 21, PARCEL 172, AND IS DESIGNATED AS OPEN SPACE LOT #4 ON THE PLAT PREPARED UNDER F-01-08.
- PRESENT ZONING IS R-ED (RESIDENTIAL, ENVIRONMENTAL DEVELOPMENT), PER 10/18/93 COMPREHENSIVE ZONING PLAN.
- TOTAL AREA OF PROPERTY: 0.48 AC. OR 21,114 S.F.
- PROPERTY REFERENCE: PARENT TRACT DEED REFERENCE: 3888/725
- PARKING DATA:
 - INTENDED USE OF STRUCTURE: WASTEWATER PUMPING STATION
 - NUMBER OF SPACES REQUIRED: 2 PER HOWARD COUNTY DESIGN MANUAL, VOLUME IV, ITEM 2
 - NUMBER OF SPACES PROVIDED: 2 REGULAR SPACES (1' x 10')
- BUILDING COVERAGE OF SITE: 0.01 AC. OR 2.08% OF GROSS AREA.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/DIVISION OF CONSTRUCTION INSPECTION AT (410) 313-1880 AT LEAST FIVE(5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-251-1111 AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION WORK.
- SEE THIS SHEET FOR SCHEMATIC BUILDING PROFILES.
- ALL EXTERIOR LIGHTING OF BUILDING WILL BE DIRECTED DOWNWARD.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS & SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS & SPECIFICATIONS IF APPLICABLE AND SHALL COMPLY WITH SECTION 184 OF THE ZONING REGULATIONS.
- PLAN DIMENSIONS ARE TYPICALLY TO FACE OF BUILDING, CENTERLINE OF PERIMETER CURB, CENTERLINE OF PIPES, OR TO THE PROPERTY LINE.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD SURVEY WITH TWO (2) FOOT CONTOUR INTERVALS PREPARED BY FISHER, COLLINS & CARTER INC. PERFORMED ON OR ABOUT AUGUST 1994.
- EXISTING UTILITIES ARE BASED ON INFORMATION AND PLANS PROVIDED BY MILDBENBERG, BOENDER & ASSOC., INC.
- THERE ARE NO TIDAL, NOR NON-TIDAL, WETLANDS ON THIS SITE AS DETERMINED BY CHESAPEAKE ENVIRONMENTAL, IN MARCH 1995 AND SHOWN ON S-80-16.
- COLLEGE AVENUE IS CLASSIFIED AS A SCENIC ROAD AND ALL SPECIFICATIONS AND REQUIREMENTS HAVE BEEN ADHERED TO ACCORDING TO RESOLUTION NO. 101-1944, AMENDMENTS TO THE DESIGN MANUAL STANDARDS FOR IMPROVEMENTS TO SCENIC ROADS PER VOL. III HOWARD COUNTY ROADS & BRIDGES DESIGN MANUAL.
- REQUIRED SETBACKS FOR R-ED ZONING HAVE BEEN ADDRESSED AS FOLLOWS:

FRONT SETBACK: REQUIRED: 75' PROVIDED: 75'	SIDE SETBACK: REQUIRED: 75' PROVIDED: 75'	REAR SETBACK: REQUIRED: 25' PROVIDED: 25'
--	---	---
- 15' BUILDING; 75' FENCE 55' BUILDING; 12' FENCE | 50' BUILDING; 25' FENCE
- SITE CONSISTS OF SOIL CLASSIFICATIONS 18' (M2) and 1' (M2, M8) TYPE SOILS; N2C2 - NESHAMINY SILT LOAM, 3 TO 15 PERCENT SLOPES, MODERATELY ERODED M2F-MONTALTO AND RELAY VERY STONEY SILT LOAMS, 3 TO 25 PERCENT SLOPES M2F-MONTALTO AND RELAY VERY STONEY SILT LOAMS, 25 TO 60 PERCENT SLOPES
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 18.24 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- REFERENCE HOWARD COUNTY FILE NUMBERS: S-48-16, F-44-16, F-00-131, P.B. 325, F-01-08.
- ANY REFUSE AND DEBRIS FOUND ON THE SITE WILL BE EXCAVATED AND REMOVED FROM THE SITE TO AN APPROVED LANDFILL PRIOR TO PERFORMING ANY OTHER GRADING OPERATIONS.
- SOP-02-89 WILL ADDRESS SHM PER THE WDE 2000 MANUAL. GRASS SHALES IN COMBINATION WITH DRY SHALES WILL BE UTILIZED TO TREAT THE STORMWATER DRAINING FROM THE PROPOSED DEVELOPMENT. THESE BMPs ARE PUBLICLY OWNED AND MAINTAINED. THE MAINTANCE SCHEDULE IS AS SHOWN ON SHEET 4.
- THE FOREST CONSERVATION HAS BEEN ADDRESSED ON F-01-08.
- FOREST CONSERVATION OBLIGATIONS FOR OPEN SPACE LOT 4 ARE BEING MET BY A PROVIDED FOREST CONSERVATION EASEMENT OF 0.23 ACRES ON BULK PARCEL "B"
- NO CLEARINGS, GRADINGS, OR CONSTRUCTION IS PERMITTED WITHIN WETLANDS, STREAMS, OR THEIR BUFFERS, AND FOREST CONSERVATION EASEMENT AREAS.



WATER AND SEWER CODE FOR COUNTY USE ONLY			
WATER CODE	F-05	TYPE OF BUILDINGS - WASTEWATER PUMPING STATION	
SEWER CODE	1252300	NUMBER OF BUILDABLE LOTS - ONE (1)	
WATER ZONE	550	NUMBER OF NON-BUILDABLE LOTS - ZERO (0)	
WATER TEST GRADIENT	.00	NUMBER OF MH'S - ONE (1)	
		NUMBER OF SH'S - ZERO (0)	

BENCH MARK INFORMATION			
NUMBER	NORTH	EAST	ELEVATION
2411	175,960.9842 m.	416,380.5461 m.	437.914 ft.
2413	176,982.1414 m.	416,045.0472 m.	404.510 ft.

GENERAL WATER AND SEWER NOTES:

- APPROXIMATE LOCATIONS OF EXISTING MAINS OR POTENTIALLY CONCURRENT WORK BY OTHERS IS SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING OR CONSTRUCTED MAINS AND SERVICES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE TO EXISTING OR CONSTRUCTED MAINS SHALL BE IMMEDIATELY REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES, NAD 83, PER A SURVEY BY FISHER, COLLINS & CARTER, INC., GEODETIC CONTROL STATIONS NO. 2411 AND NO. 2413.
STA. 2411 N 175960.9842 E 416380.5461 (Meters)
STA. 2413 N 176982.1414 E 416045.0472 (Meters)
- FOR DETAILED RECOVERY INFO, SEE DRAWINGS FOR CONTRACT NO. 14-3420-D OR CONTACT FISHER, COLLINS & CARTER AT 410-461-2855.
- ALL VERTICAL CONTROLS ARE BASED ON NAVD 24 PER THE TRAVERSE POINTS NOTED IN ITEM 2 ABOVE.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 12". CLEAR ALL POLES BY A MINIMUM OF 8'-0" OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS NOT MADE ARRANGEMENTS FOR BRACING OF ANY POLES. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF POLES OR DAMAGES SHALL BE DELETED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
- NO TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - AT&T 1-800-526-2000
 - BSE (CONTRACTOR SERVICES) 410-850-4620
 - BSE (UNDERGROUND DAMAGE CONTROL) 410-787-4068
 - BUREAU OF UTILITIES 410-313-1880
 - BELL ATLANTIC MARYLAND, INC. 1-800-621-4400
 - COLONIAL PIPELINE CO. 410-785-1940
 - MISS UTILITY 1-800-251-1111
 - STATE HIGHWAY ADMINISTRATION 410-591-5533
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT POSSIBLE. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR WITHOUT GIVING NOTIFICATION TO HOWARD COUNTY DEPARTMENT OF ZONING PLANNING DEVELOPMENT ENGINEERING DIVISION.
- THE CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410) 313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPM REQUIREMENTS PER SECTION 18.14(G) OF THE HOWARD COUNTY CODE.

GENERAL WATER NOTES:

- ALL WATER MAINS SHALL BE D.I.P., CLASS 52 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.

GENERAL SEWER NOTES:

- ALL SEWER MAINS SHALL BE D.I.P. UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- FORCE MAINS SHALL BE D.I.P. ONLY.

RECORD DRAWING

This record drawing has been prepared, in part, based upon information furnished by others. While this information is believed to be reliable, the Engineer cannot assume its accuracy, and thus is not responsible for the accuracy of this record drawing or for any errors or omissions which may have been incorporated into it as a result. Those relying on this record drawing are advised to obtain verification of its accuracy before applying it for any purpose.

By: *[Signature]*
Date: 1/21/03

QUANTITY TABLE FOR UTILITY DESIGN					
ITEMS	ESTIMATED QUANTITIES		AS-BUILT		
	QUANTITY	UNIT	QUANTITIES	TYPE	MANUF./SUPPLIER
PUMPING STATION COMPLETE AND IN-PLACE	1	EACH	1 EA.		
SOIL ODOR FILTER	1	EACH	1 EA.		
8" SEWER D.I.P.	322	LF	322 LF		ARMSTEAD
8" GATE VALVE	3	EACH	3 EA.		U.S. PIPE
4" MANHOLE	1	EACH	1 EA.		ATLANTIC
5" MANHOLE	2	EACH	2 EA.		ATLANTIC
6" F.H. ASSEMBLY W/VALVE		EACH	1 EA.		MUELLER
2" WHC	183	LF	183 LF		K. COPPER
2" VALVE	3	EACH	3 EA.		U.S. PIPE
3/4" WATER	50	LF	50 LF		K. COPPER
4" PVC	68	LF	68 LF		J. M.

NAME OF UTILITY CONTRACTOR: **CONWEGO Construction**
SURVEY AND DRAFTING DIVISION AS-BUILT DATE:

OWNER/DEVELOPER INFORMATION

OWNER:
AUTUMN RIVER CORPORATION
4100 COLLEGE AVENUE
ELLICOTT CITY, MARYLAND 21043-0396

DEVELOPER:
LAND DESIGN & DEVELOPMENT
8000 MAIN STREET
ELLICOTT CITY, MD 21043
ATTN: DONALD R. REUWER

ENGINEER'S CERTIFICATION

I HEREBY 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.

[Signature]
ROBERT M. SELL
DATE: 1/23/03

DEVELOPER'S CERTIFICATION

"I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR SEDIMENT AND EROSION CONTROL BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS DEEMED NECESSARY."

"SEDMIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL AND STANDARDS & SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AS SHOWN ON THESE PLANS."

[Signature]
DONALD R. REUWER
DATE: 1/29/03

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR: _____ DATE: _____

CHIEF, DIVISION OF LAND DEVELOPMENT: _____ DATE: _____

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 1/20/03

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE: *[Signature]* DATE: 1/24/03

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

HOWARD SOIL CONSERVATION DISTRICT: *[Signature]* DATE: 1/20/03

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES: _____ DATE: _____

PROJECT	SECTION/AREA	LOT NO.
AUTUMN RIVER - OPEN SPACE LOT 4 COLLEGE AVE. WASTEWATER PUMPING STATION	N/A	OPEN SPACE LOT 4

PLAT NO.	BLOCK NO.	ZONE	TAXZONE	ELEC. DIST.	CENSUS TR.
	21	R-ED	25	2nd	8027

LOT/PARCEL # _____ STREET ADDRESS _____

OPEN SPACE LOT 4 P/O. PARCEL 172 4241 COLLEGE AVENUE

WATER CODE 001 SEWER CODE 1253100

ADDRESS CHART

LOT/PARCEL #	STREET ADDRESS
OPEN SPACE LOT 4 P/O. PARCEL 172	4241 COLLEGE AVENUE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES: *[Signature]* DATE: 1-24-03

APPROVED FOR PUBLIC WATER AND PUBLIC SEWER SYSTEMS

McCRONE
ENGINEERING & ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING & CONSTRUCTION SERVICES
20 ROOSELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 297-4821

ANNAPOLIS-CENTREVILLE-SALISBURY-ELKTON-PRINCE FREDERICK

DRN: J. Slenke
DES: J. Walker
CHK: R. Sell
DATE: 5/7/02 BY No. _____ REVISION _____ DATE _____

COVER SHEET

SITE DEVELOPMENT PLAN
COLLEGE AVENUE WASTEWATER PUMPING STATION
AUTUMN RIVER
OPEN SPACE LOT 4
CONTRACT NO. 10-3898-D
GRID 21

TAX MAP 25 / SECOND ELECTION DISTRICT

P/O PARCEL 172 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SDP SHEET 1 OF 7
UTILITY SHEET 1 OF 29

STAKEOUT TABLES

SEWER MANHOLE LOCATION DATA		
SMH	NORTHING	EASTING
1	578228.0949	1373542.2210
2	578258.6045	1373532.3494
3	578256.6704	1373546.6192

BUILDING LAYOUT		
CORNER*	NORTHING	EASTING
N	578305.3363	1373560.1675
S	578263.2755	1373561.8875
E	578295.9282	1373578.5726
W	578272.6836	1373543.4793

8" FORCE MAIN LAYOUT		
DESCRIPTION	NORTHING	EASTING
INTO BLDG.	578267.8009	1373552.3078
45' HB	578249.1380	1373542.7696
45' HB	578227.4888	1373549.7744
8" PLUG	578142.3411	1373506.2571

8" SEWER LAYOUT		
DESCRIPTION	NORTHING	EASTING
INTO WET WELL	578277.9169	1373542.2196
TIE-IN (SMH2)**	578273.2744	1373503.6419
TIE-IN (SMH1)**	578145.5092	1373500.0131

2" WATER		
DESCRIPTION	NORTHING	EASTING
WATER CONNECTION "A"		
2" TAP	578116.1930	1373506.3248
2" VALVE	578118.2488	1373507.3994
2" x 2" TEE	578236.4032	1373567.7618
2" VALVE	578240.5574	1373569.8849
WATER CONNECTION "B"		
2" VALVE	578238.2895	1373564.0182
INTO BLDG.	578269.6592	1373548.6718

*NOTE: Based on Building Walls

**NOTE: Point Taken @ Property Line

OWNER/DEVELOPER INFORMATION

OWNER:
AUTUMN RIVER CORPORATION
4100 COLLEGE AVENUE
ELLCOTT CITY, MARYLAND 21043-0809

DEVELOPER:
LAND DESIGN & DEVELOPMENT
8000 MAIN STREET
ELLCOTT CITY, MD 21043
ATTN: DONALD R. REUWER

ENGINEER'S CERTIFICATION

"I HEREBY 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."



ROBERT M. SELL *[Signature]* 01/02/03 DATE

DEVELOPER'S CERTIFICATION

"WE HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR SEDIMENT AND EROSION CONTROL BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY." "SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 210 OF THE HOWARD COUNTY DESIGN MANUAL AND STANDARDS & SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AS SHOWN ON THESE PLANS."

[Signature] 1-6-03 DATE
DONALD R. REUWER

**DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND**

DIRECTOR DATE

CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 1/2/03 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

**DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND**

CHIEF, BUREAU OF UTILITIES		DATE	
PROJECT	SECTION/AREA	LOT NO.	
AUTUMN RIVER - OPEN SPACE LOT 4	N/A	OPEN SPACE LOT 4	
PLAT NO.	BLOCK NO.	ZONE	TAXZONE
	21	R-ED	25
			2nd
			0027
WATER CODE	SEWER CODE		
G01	1253100		

APPROVED FOR PUBLIC WATER AND PUBLIC SEWER SYSTEMS



ENGINEERING & ENVIRONMENTAL SCIENCES

LAND PLANNING & SURVEYING & CONSTRUCTION SERVICES

20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 287-8821

ANNAPOLIS-CENTREVILLE-SALISBURY-ELKTON-PRINCE FREDERICK



DRN: J. Slenke			
DES: J. Walker			
CHK: R. Sell			
DATE: 5/7/02	BY	No.	REVISION

SITE & UTILITY PLAN

**SITE DEVELOPMENT PLAN
COLLEGE AVENUE WASTEWATER
PUMPING STATION**

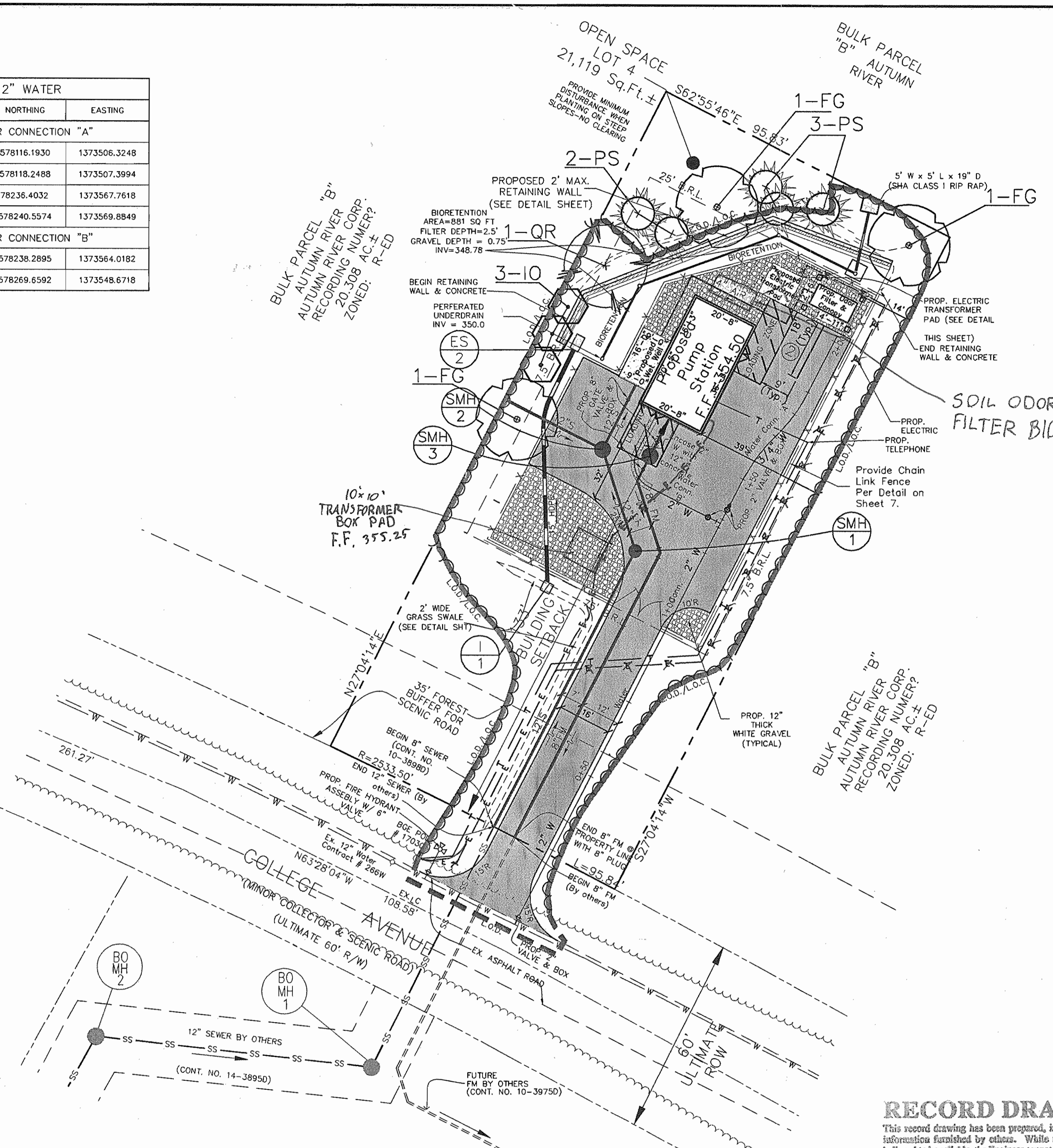
AUTUMN RIVER
OPEN SPACE LOT 4
CONTRACT NO. 10-3888-D

GRID 21 P/O PARCEL 172
HOWARD COUNTY, MARYLAND

SCALE 1"=20'
SDP SHEET 2 OF 7
UTILITY SHEET 2 OF 29

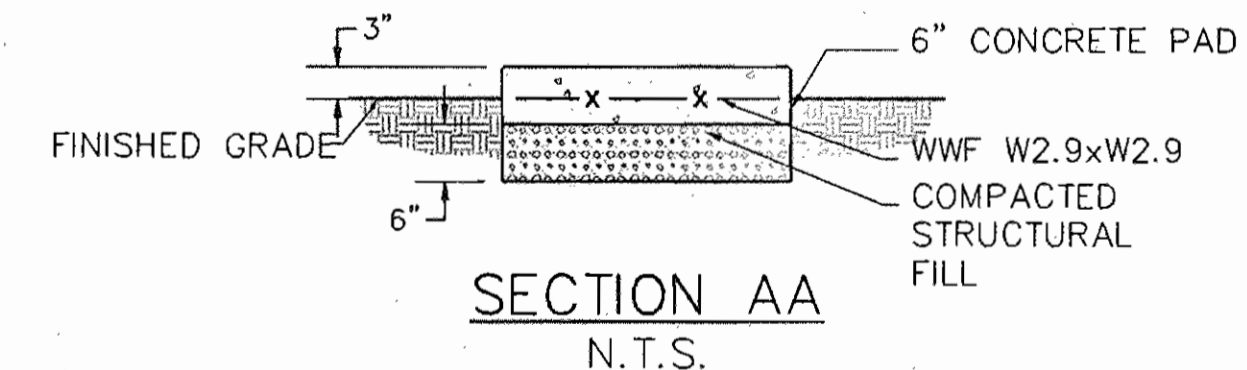
TAX MAP 25
SECOND ELECTION DISTRICT

SDP-02-85



PLAN VIEW
Scale: 1"=20'

TRANSFORMER CONCRETE PAD
N.T.S.



SECTION AA
N.T.S.

RECORD DRAWING

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By: *[Signature]*
Date: 1-2/03

NOTE:
FOR PROPOSED GRADES AND SPOT ELEVATIONS SEE SHEET 3 OF 7

PLOTTED: Jan 02, 2003 4:28pm C:\000023

1000033-SITE :XREFS/IMAGES CADD FILE: G:\1000033 - College Avenue\Drawings\CollegeAve-SDFBIO.dwg

ELEV.	SOIL DESCRIPTION	STR.	DEPTH	SAMPLE	BORING & SAMPLING
DEPTH	SCALE	CON	BLOWS	NO.	REC.
2.0	Gray, moist, silty, sandy silt, trace rootmatter (M)	1	4-7-10	1	7" Topsoil
3.0	Orange Brown/black, moist, medium dense to very dense, silty sand, silty mica and rock fragments (SM)	D	4-10-18	2	14" No groundwater encountered while drilling
10-9-11		D	10-9-11	3	18" Caved in at 8.5' at Completion
10-17-44		D	10-17-44	4	15" Caved in at 13.5' after 24 hours
8.5	Brown/Gray, dry, very dense, silty sand with some rock fragments (GM)	L	500	5	Backfilled after 24 hours
504	Decomposed Rock	D	504	6	
500	Rock core - Incomplete, very poor quality amphibole	L	500	7	

BORING #1
N.T.S.

ELEV.	SOIL DESCRIPTION	STR.	DEPTH	SAMPLE	BORING & SAMPLING
DEPTH	SCALE	CON	BLOWS	NO.	REC.
0.1	Gray, moist, medium silty, sandy silt, trace rootmatter (M)	1	2-5-5	1	14" 7" Topsoil
6.0	Orange Brown, moist, medium dense micaceous silty sand (SM)	D	6-7-8	2	11" No groundwater encountered while drilling
4.7-6		D	4-7-6	3	12" Caved in at 16.7' at Completion
7-0-12		D	7-0-12	4	15" Caved in at 13.5' after 24 hours
6-13-16		D	6-13-16	5	Backfilled after 24 hours
7-10-14		D	7-10-14	7	

BORING #2
N.T.S.

ELEV.	SOIL DESCRIPTION	STR.	DEPTH	SAMPLE	BORING & SAMPLING
DEPTH	SCALE	CON	BLOWS	NO.	REC.
1.1	Gray, moist, medium silty, sandy silt, trace rootmatter (M)	1			14" 7" Topsoil
6.75	Orange Brown, moist, medium dense micaceous silty sand (SM)	D			No groundwater encountered while drilling
8.75	Green/Gray, moist, medium dense to very dense, silty sand, silty mica and weathered rock (GM)	L			
11.0	End boring				

BORING #3
N.T.S.

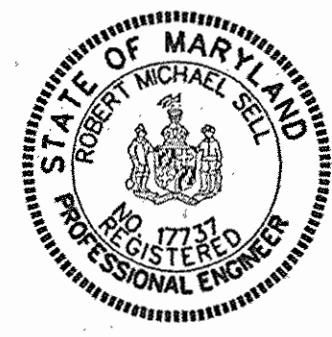
OWNER/DEVELOPER INFORMATION

OWNER:
AUTUMN RIVER CORPORATION
4100 COLLEGE AVENUE
ELLICOTT CITY, MARYLAND 21043-0396

DEVELOPER:
LAND DESIGN & DEVELOPMENT
8000 MAIN STREET
ELLICOTT CITY, MD 21033
ATTN: DONALD R. REUWER

ENGINEER'S CERTIFICATION

"I HEREBY 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."



ROBERT M. SELL
DATE: 6/12/03

DEVELOPER'S CERTIFICATION

"I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR SEDIMENT AND EROSION CONTROL BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."
"SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL AND STANDARDS & SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AS SHOWN ON THESE PLANS."

DONALD R. REUWER
DATE: 1/6/03

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR DATE

CHIEF, BUREAU OF UTILITIES DATE

CHIEF, DIVISION OF LAND DEVELOPMENT DATE

PROJECT: AUTUMN RIVER - OPEN SPACE LOT 4
SECTION/AREA: N/A
LOT NO.: OPEN SPACE LOT 4

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

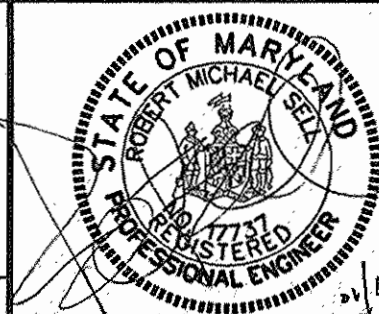
PLAT NO. BLOCK NO. ZONE TAXZONE ELEC. DIST. CENSUS TR.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

WATER CODE: G01
SEWER CODE: 1253100



LAND PLANNING & SURVEYING & CONSTRUCTION SERVICES
20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 291-8221



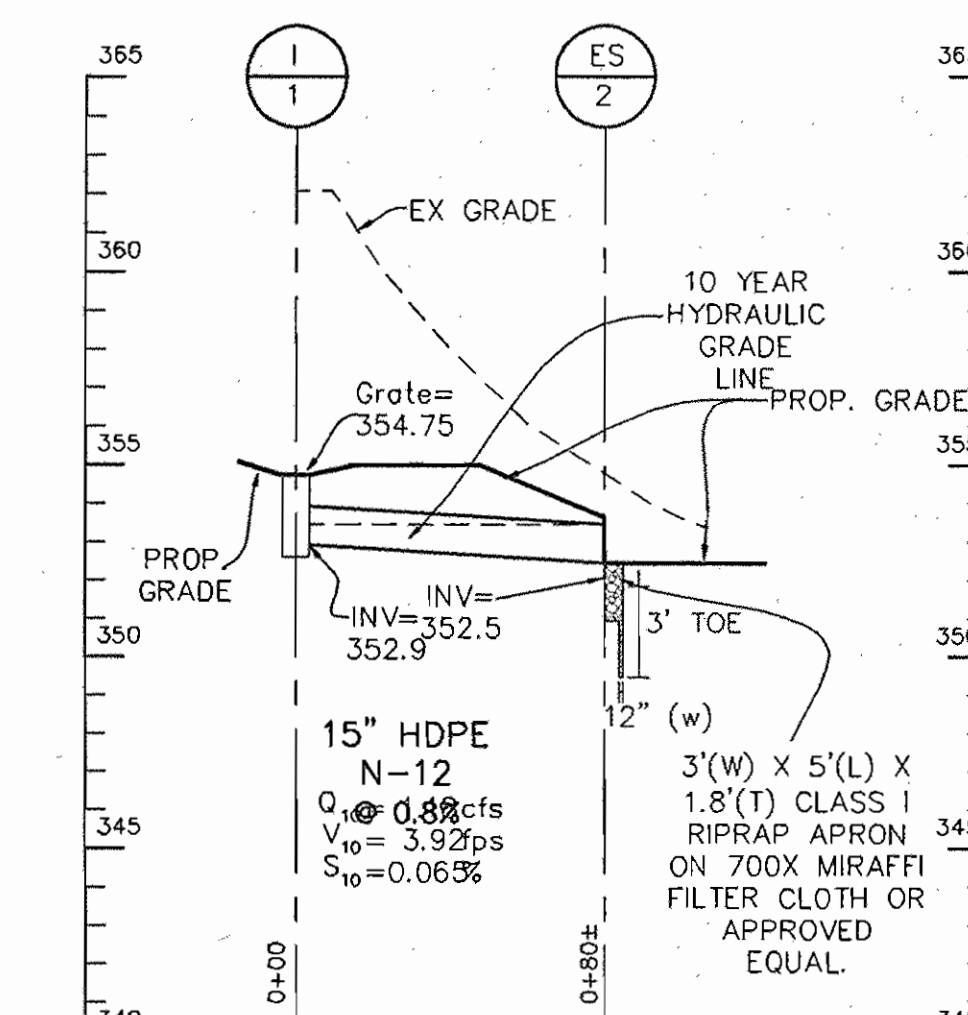
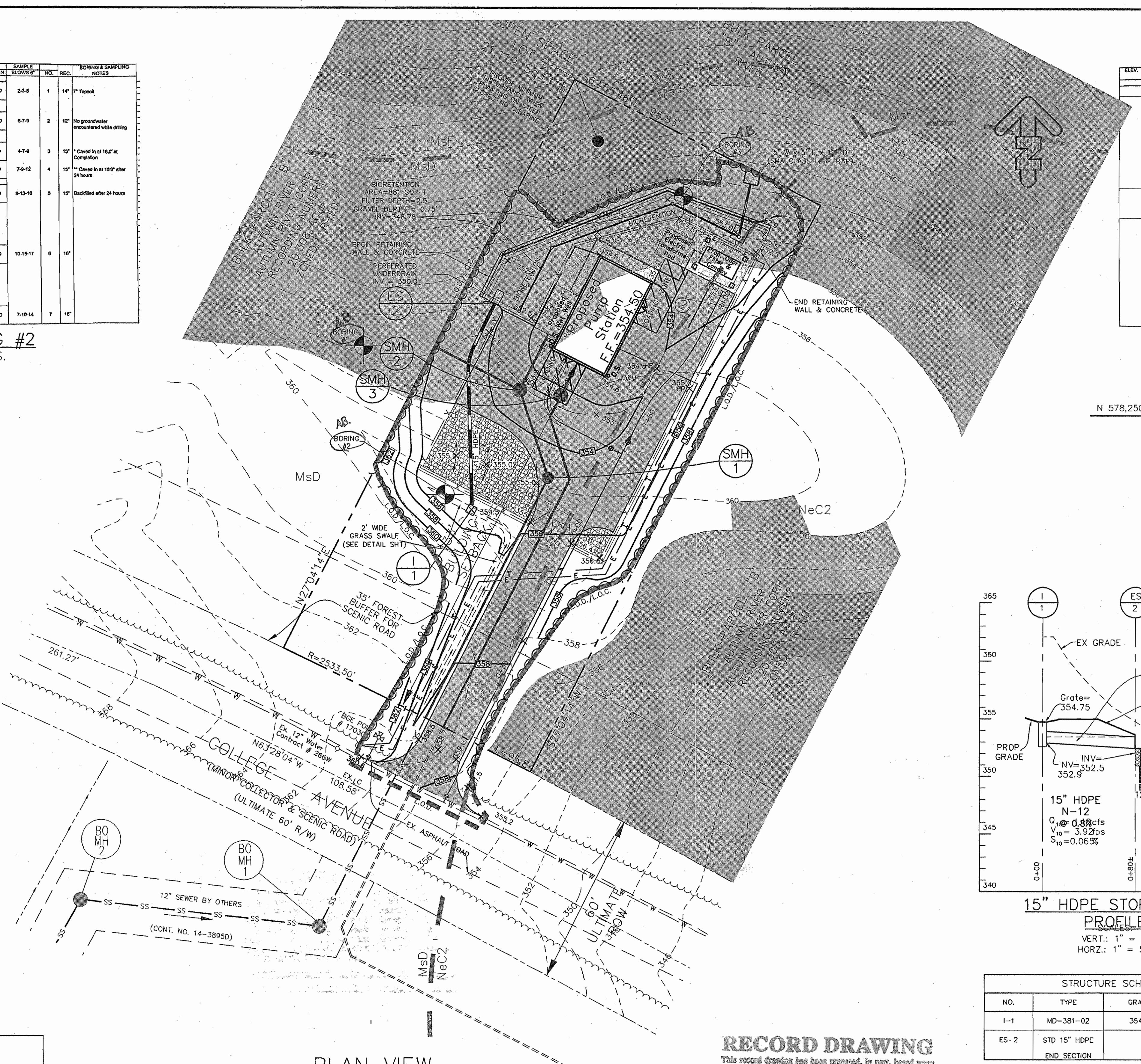
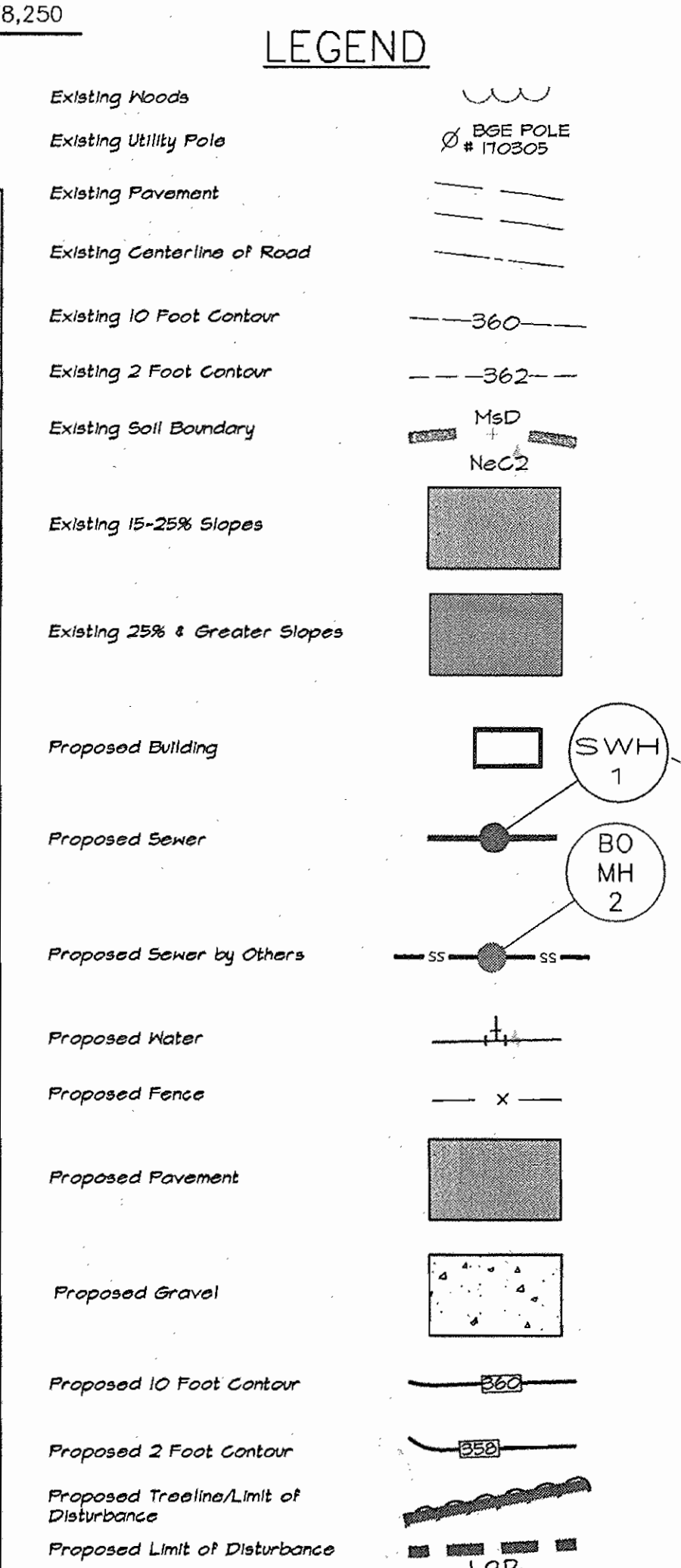
DRN: J. Slenke
DES: J. Walker
CHK: R. Sell
DATE: 5/7/02
BY: No. REVISION DATE

GRADING PLAN

TAX MAP 25
SECOND ELECTION DISTRICT

SITE DEVELOPMENT PLAN
COLLEGE AVENUE WASTEWATER
PUMPING STATION
AUTUMN RIVER
OPEN SPACE LOT 4
CONTRACT NO. 10-3898-D
GRID 21
P/O PARCEL 172
HOWARD COUNTY, MARYLAND

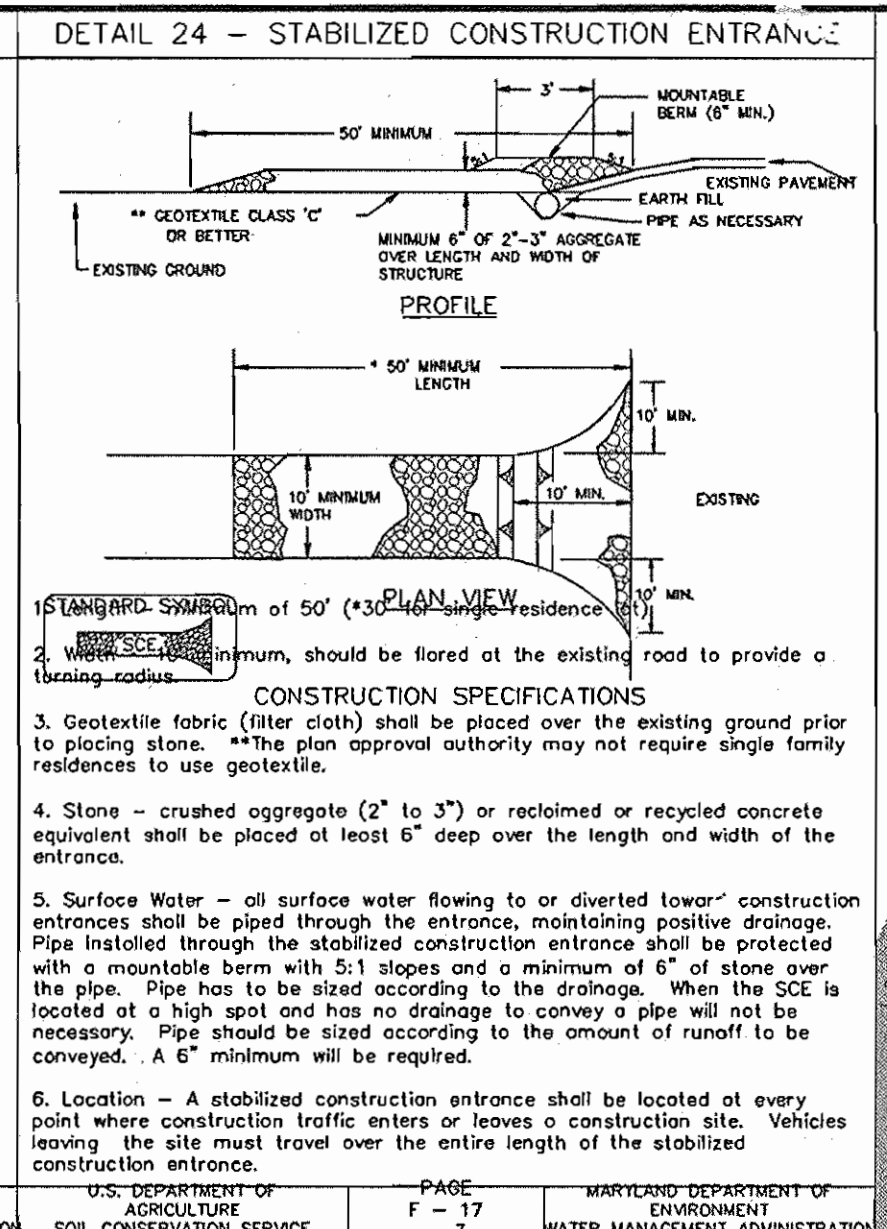
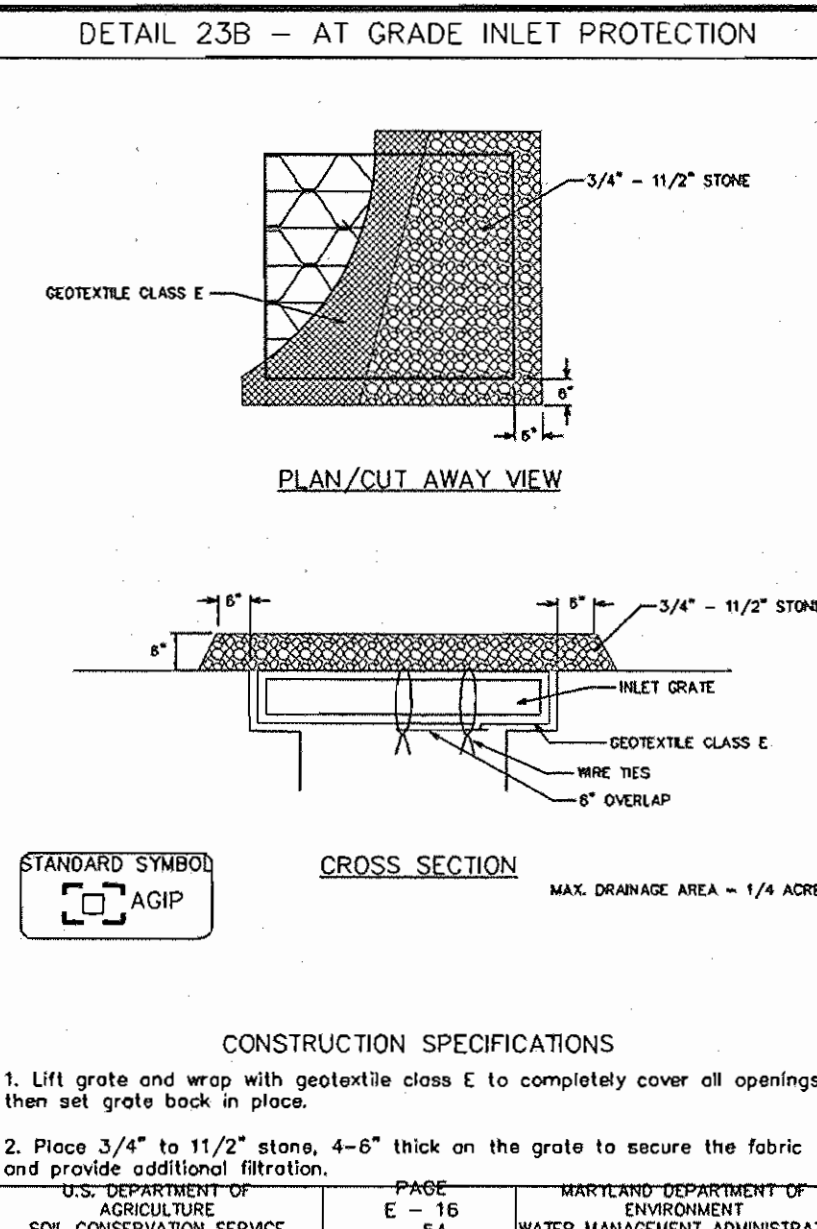
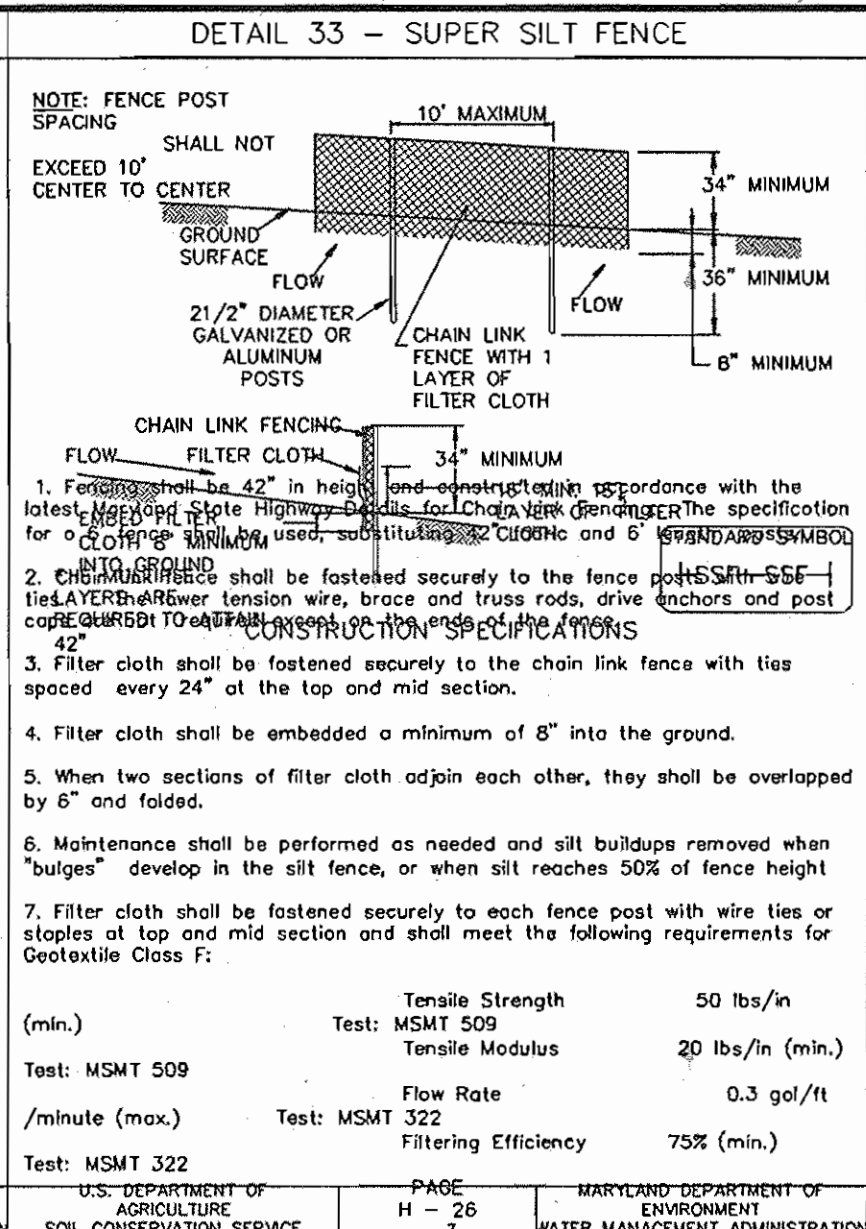
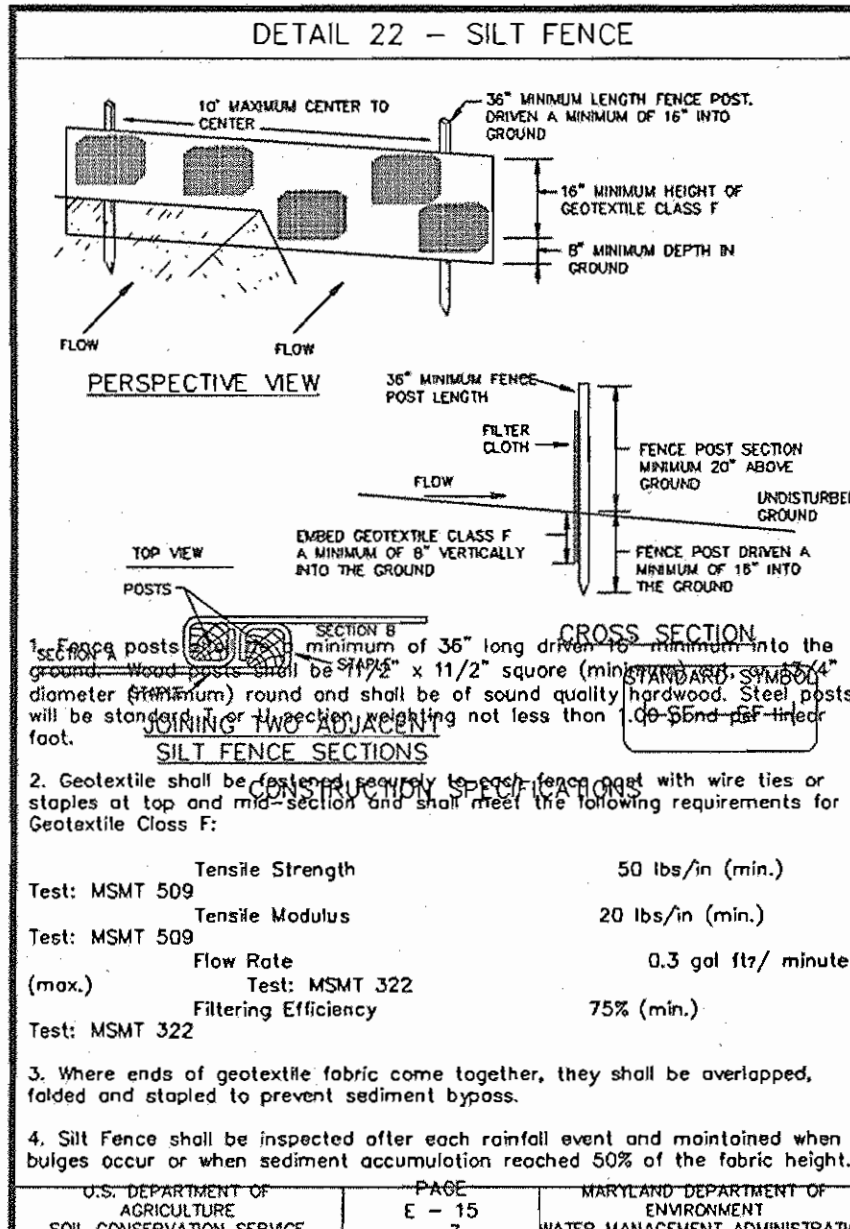
SCALE: 1"=20'
SDP SHEET 3 OF 7
UTILITY SHEET 3 OF 29
SDP-02-95



15" HDPE STORMDRAIN PROFILE
VERT.: 1" = 5'
HORZ.: 1" = 50'

STRUCTURE SCHEDULE			
NO.	TYPE	GRATE	INV. OUT
I-1	MD-381-02	354.5	352.5
ES-2	STD 15" HDPE		352.0
END SECTION			

RECORD DRAWING
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By: [Signature]
Date: 2/19/05



SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT. (2 WEEKS)
2. CLEAR FOR AND INSTALL STABILIZED CONSTRUCTION ENTRANCE (SCE), SILT FENCE (SF), EARTH DIKE (A-1) & TREE PROTECTION FENCE (TPF) AS SHOWN ON PLAN. (1 DAY)
3. THE CONTRACTOR SHALL INSPECT & PROVIDE NECESSARY MAINTENANCE OF THE SEDIMENT & EROSION CONTROL STRUCTURES SHOWN HEREON, AFTER EACH RAINFALL & ON A DAILY BASIS.
4. REMOVE SEDIMENT FROM ROADWAY & DRESS STONE CONSTRUCTION ENTRANCE AS REQUIRED. (1 DAY)
5. CLEAR & GRUB SITE; GRADE TO SUBGRADE. (3 DAYS)
6. CONSTRUCT UTILITIES; PUMPING STATION; APPURTENANCES, AND STORM DRAIN. (6 MONTHS)
7. INSTALL CURB AND FENCE POSTS. (3 DAYS)
8. PAVE DRIVEWAY AND PLACE WHITE STONE. (1 WEEK)
9. FINE GRADE PERIMETER AREAS AND INSTALL STORMWATER MANAGEMENT BIOTRETENTION AREA. (5 DAYS)
10. STABILIZE ALL REMAINING DISTURBED AREAS W/ PERMANENT SEEDING MIXTURE & STRAW MULCH. (2 DAYS)
11. AFTER PERMISSION HAS BEEN GIVEN BY THE SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL MEASURES & STABILIZE REMAINING DISTURBED AREA W/ PERMANENT SEEDING MIXTURE & STRAW MULCH. (1 DAY)

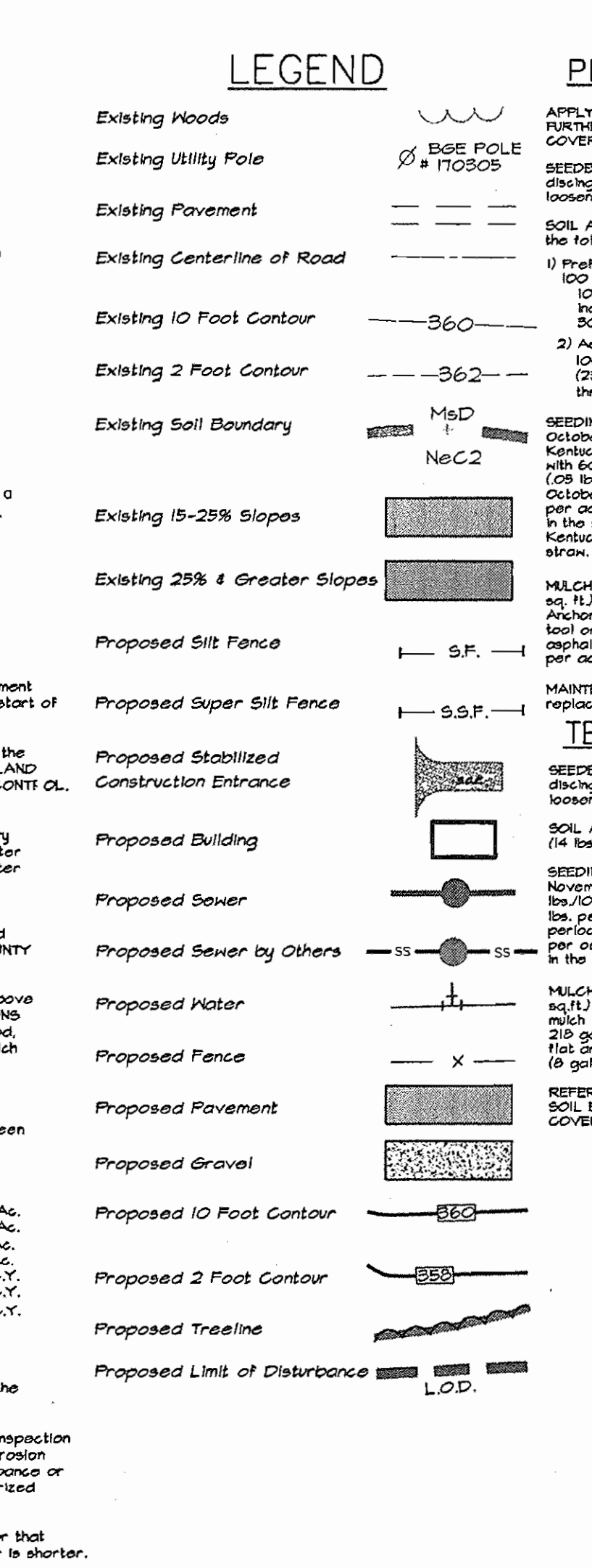
OPERATION AND MAINTENANCE SCHEDULE FOR BIOTRETENTION AREAS (F6)

1. Annual maintenance of plant material, mulch layer and soil is required. Maintenance of mulch and soil is limited to correcting areas of erosion or wash out. Any mulch replacement shall be done in the spring. Plant material shall be checked for disease and insect infestation and maintenance will address dead material and pruning.
2. Schedule of plant inspection will be twice a year in spring and fall. This inspection will include removal of dead and diseased vegetation considered beyond treatment, treatment of all diseased trees and shrubs and replacement of all deficient stakes and wires.
3. Mulch shall be inspected each spring. Remove previous mulch layer before applying new layer once every 2 to 3 events.
4. Soil erosion to be addressed on an as needed basis, with a minimum of once per month and after heavy storm events.

SEDIMENT CONTROL NOTES

1. A minimum of 48 hours notice must be given to the Howard County Department of Inspection, License and Permits Sediment Control Division prior to the start of any construction (913-1855).
2. All vegetation and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
3. Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: (a) 1 calendar day for all perimeter sediment control structures, dikes, perimeter slopes, and all slopes greater than 5% (b) 14 days on all other disturbed or graded areas on the project site.
4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 17, HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto. Temporary stabilization with mulch alone shall be done when recommended seeding dikes do not allow for proper germination and establishment of grasses.
6. 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.

LEGEND



PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS 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, disking or other acceptable means before seeding. If not previously loosened.

SOIL AMENDMENTS: In lieu of soil test recommendations, use one of the following schedules:

- 1) Preferred - Apply 2 tons per acre dolomitic limestone (82 lbs/1000 sq ft) and 400 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding. Harrow or disc into upper three inches of soil. At the time of seeding, apply 400 lbs per acre 50-0-0 ureaform fertilizer (14 lbs/1000 sq ft).
- 2) Acceptable - Apply 2 tons per acre dolomitic limestone (82 lbs/1000 sq ft) and 400 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding. Harrow or disc into upper three inches of soil.

SEEDING: For the periods March 1 thru April 30, and August 1 thru October 15, seed with 1 lb per acre Kentucky 31 Tall Fescue, for the period May 1 thru July 31, seed with 50 lbs/1000 sq ft of seeding mixtures. During the period of October 1 thru February 28, seed with 2 lbs per acre well anchored straw mulch and seed as soon as possible in the spring. (2) Use seed mixtures with 50 lbs/acre Kentucky 31 Tall Fescue and mix with 2 tons/acre well anchored straw.

MULCHING: Apply 1 1/2 to 2 tons per acre (10 to 14 lbs/1000 sq ft) of unweeded straw mulch immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 2 lb gallons per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes 5 feet or higher, use 340 gallons per acre (6 gal/1000 sq ft) for anchoring.

MAINTENANCE: Inspect all seeded areas and make needed repairs, replacements and reseeding.

TEMPORARY SEEDING NOTES

SEEDBED PREPARATION: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding. If not previously loosened.

SOIL AMENDMENTS: Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft).

SEEDING: For the periods March 1 thru April 30 and from August 1 thru November 15, seed with 2 1/2 bushels per acre of annual rye (82 lbs/1000 sq ft) for the period May 1 thru August 14, seed with 5 lbs per acre of seeding mixtures (14 lbs/1000 sq ft). For the period November 1 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use seed.

MULCHING: Apply 1 1/2 to 2 tons per acre (10 to 14 lbs/1000 sq ft) of unweeded straw mulch immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 2 lb gallons per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes 5 feet or higher, use 340 gallons per acre (6 gal/1000 sq ft) for anchoring.

REFER TO THE 1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, FOR RATE AND METHODS NOT COVERED.

RECORD DRAWING

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By: *[Signature]*
Date: 1/28/05

ENGINEER'S CERTIFICATION

"I HEREBY 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."

[Signature]
ROBERT M. BELL
DATE: 1/29/02

DEVELOPER'S CERTIFICATION

"I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR SEDIMENT AND EROSION CONTROL BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS DEEMED NECESSARY."

"SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 210 OF THE HOWARD COUNTY DESIGN MANUAL AND STANDARDS & SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AS SHOWN ON THESE PLANS."

[Signature]
DONALD R. REUWER
DATE: 1-6-03

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

U.S.D.A. NATURAL RESOURCE CONSERVATION SERVICE
DATE: 1/6/03

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
DATE: 1/6/03

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES	DATE
PROJECT: AUTUMN RIVER - OPEN SPACE LOT 4 COLLEGE AVE. WASTEWATER PUMPING STATION	SECTION/AREA
LOT NO.	LOT NO.
PLAT NO.	BLOCK NO.
21	R-ED
25	2nd
027	CENSUS TR.
001	SEWER CODE
1253100	

OWNER/DEVELOPER INFORMATION

OWNER:
AUTUMN RIVER CORPORATION
4100 COLLEGE AVENUE
ELLCOTT CITY, MARYLAND 21043-0395

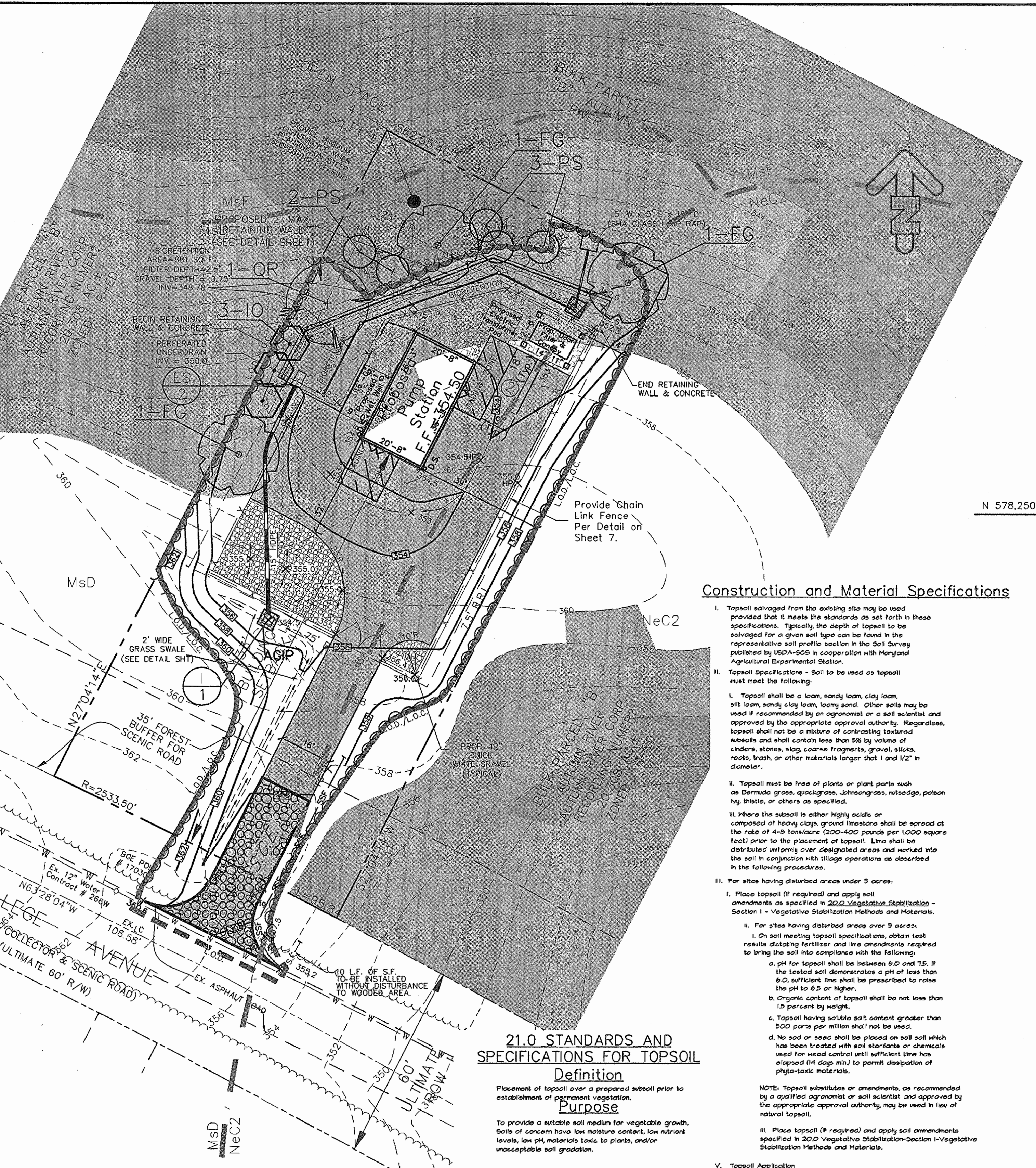
DEVELOPER:
LAND DESIGN & DEVELOPMENT
8000 MAIN STREET
ELLCOTT CITY, MD 21043
ATTN: DONALD R. REUWER

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

DIRECTOR
DATE

CHIEF, DIVISION OF LAND DEVELOPMENT
DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE



DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

DRN: J. Slenke
DES: J. Walker
CHK: R. Sell
DATE: 5/7/02

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

ANNAPOLIS-CENTREVILLE-SALISBURY-ELKTON-PRINCE FREDERICK

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

ANNAPOLIS-CENTREVILLE-SALISBURY-ELKTON-PRINCE FREDERICK

OWNER/DEVELOPER INFORMATION

DATE: 5/7/02

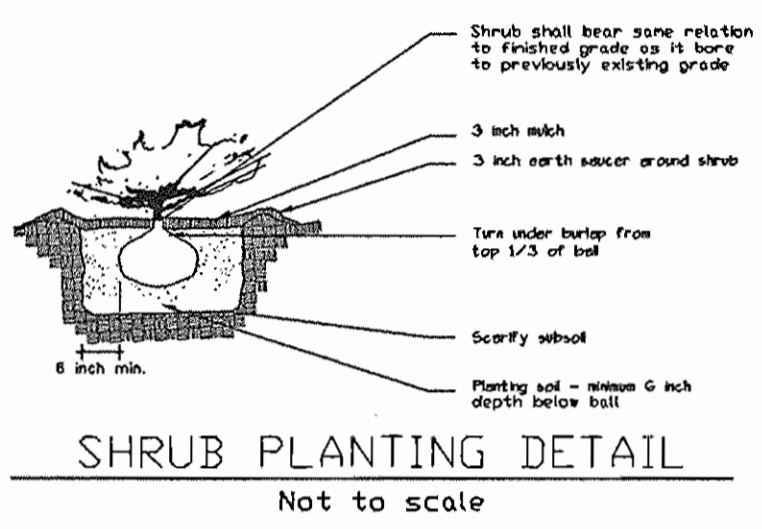
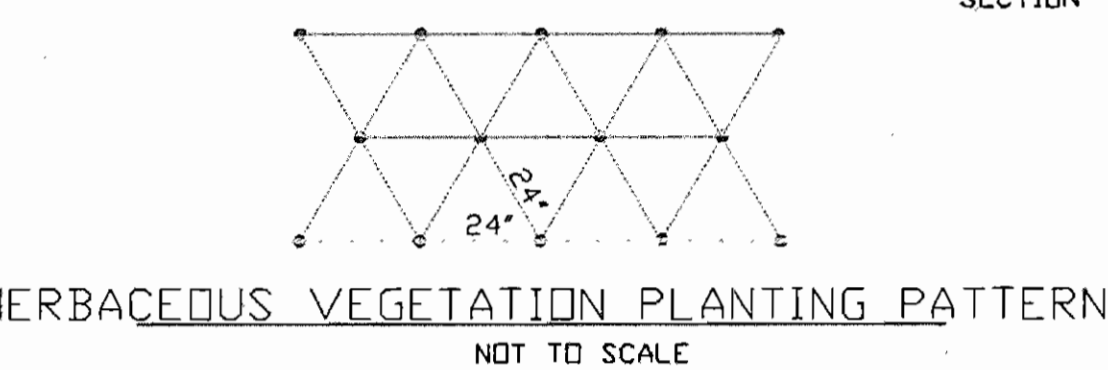
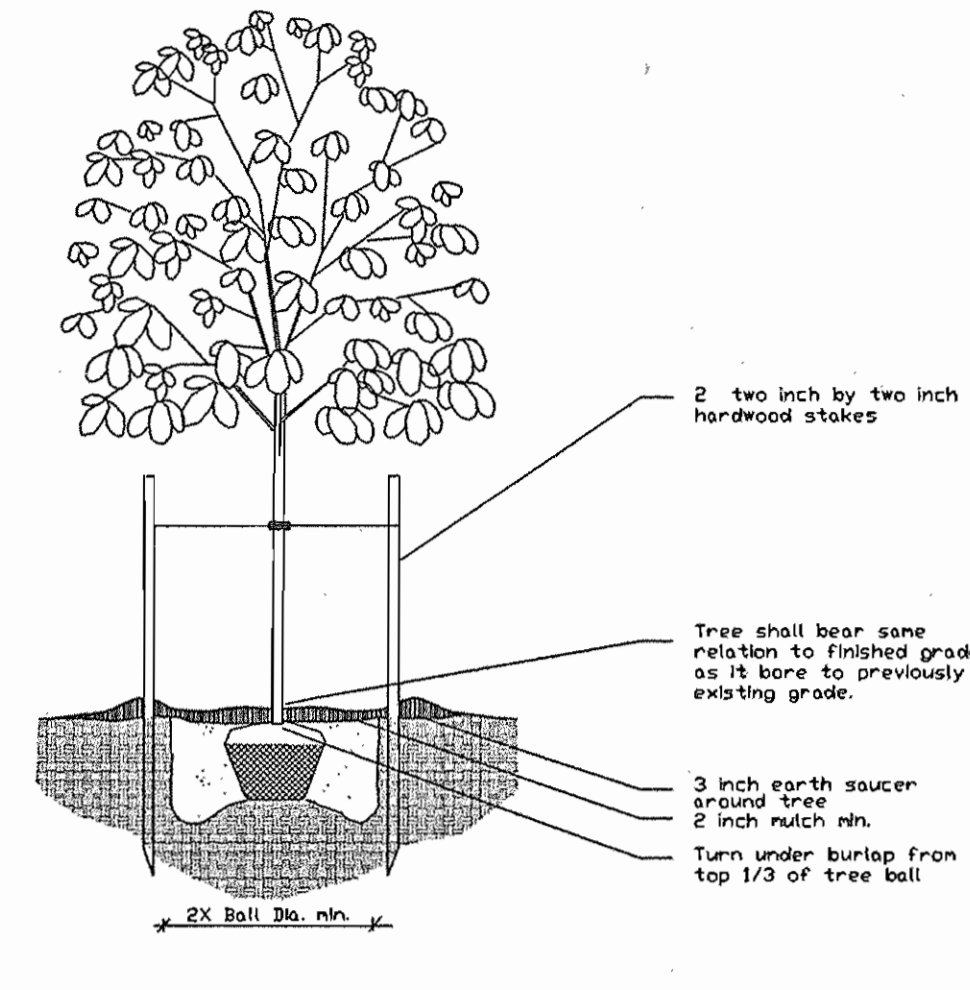
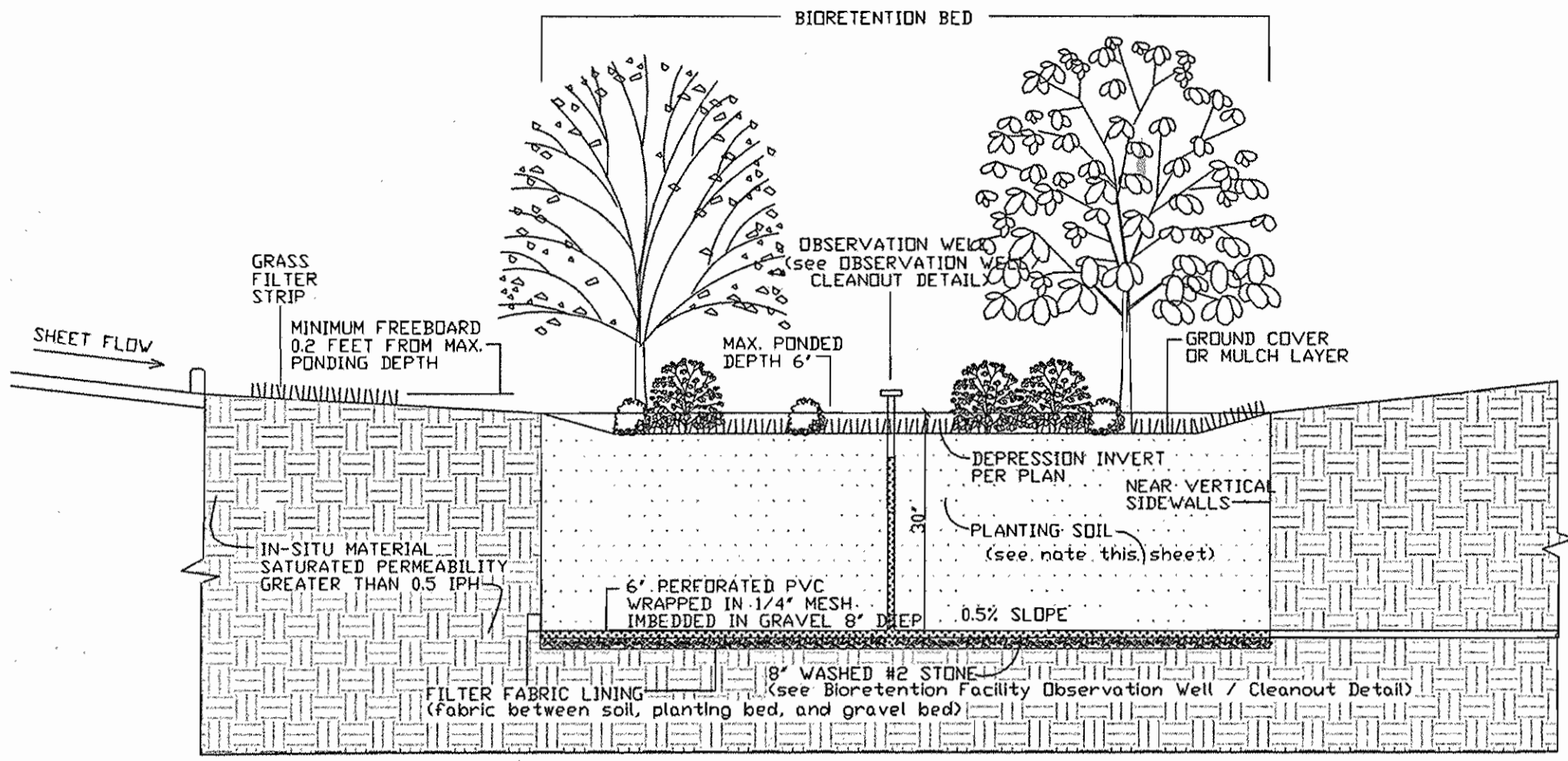
REVISION

NO.	DATE	REVISION

REVISION

DATE: 5/7/02

1000037 SITE - XREFS (IMAGES)



OWNER/DEVELOPER INFORMATION

OWNER:
AUTUMN RIVER CORPORATION
4100 COLLEGE AVENUE
ELLICOTT CITY, MARYLAND 21043-0395

DEVELOPER:
LAND DESIGN & DEVELOPMENT
2000 MAIN STREET
ELLICOTT CITY, MD 21043
ATTN: DONALD R. REUWER

ENGINEER'S CERTIFICATION

"I HEREBY 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."

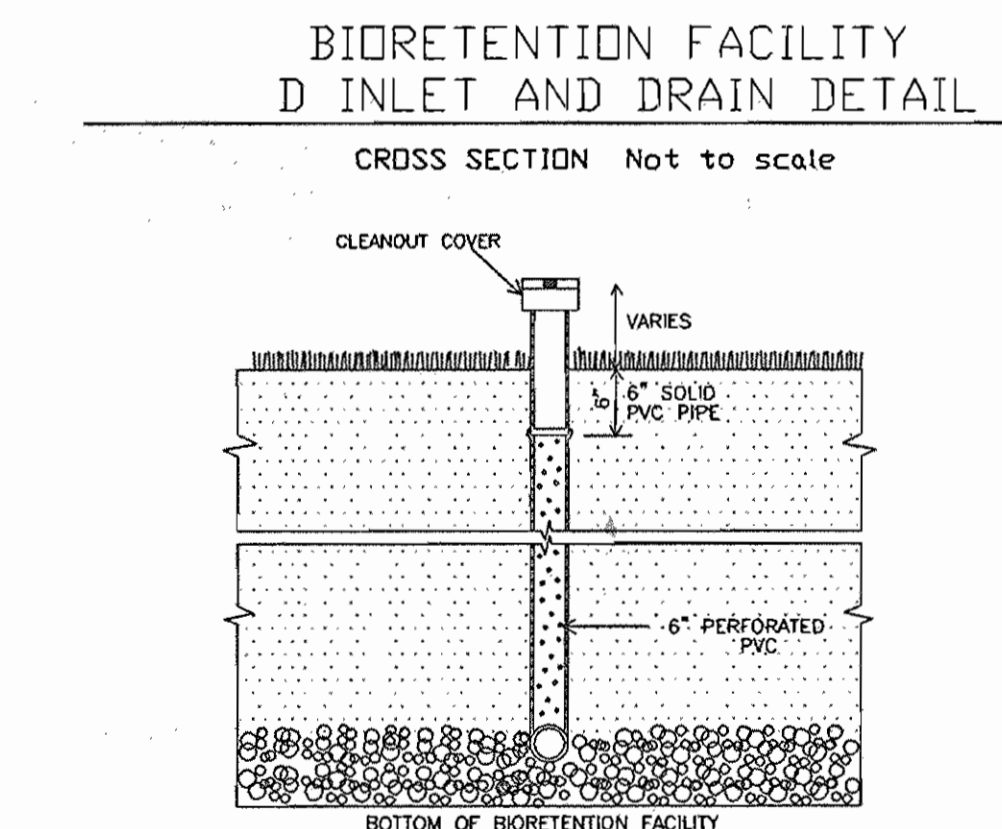
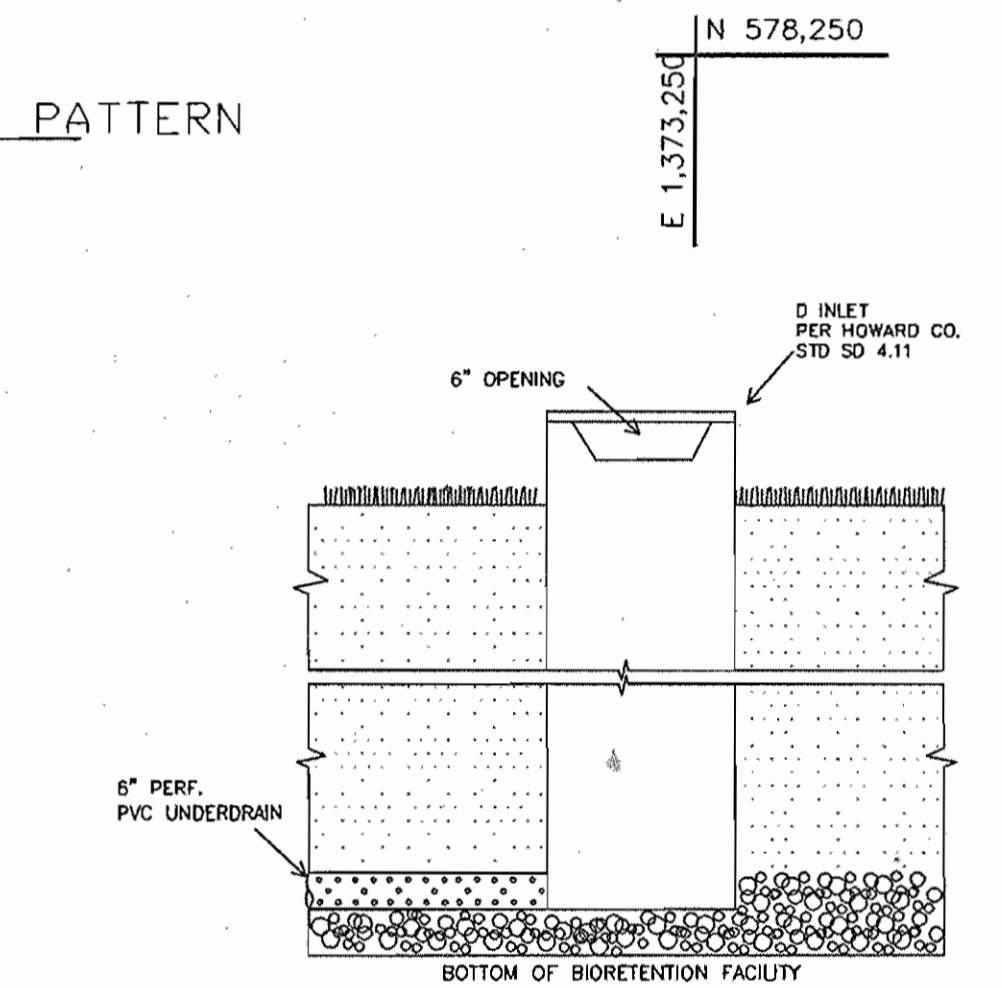


DEVELOPER'S CERTIFICATION

"I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR SEDIMENT AND EROSION CONTROL BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

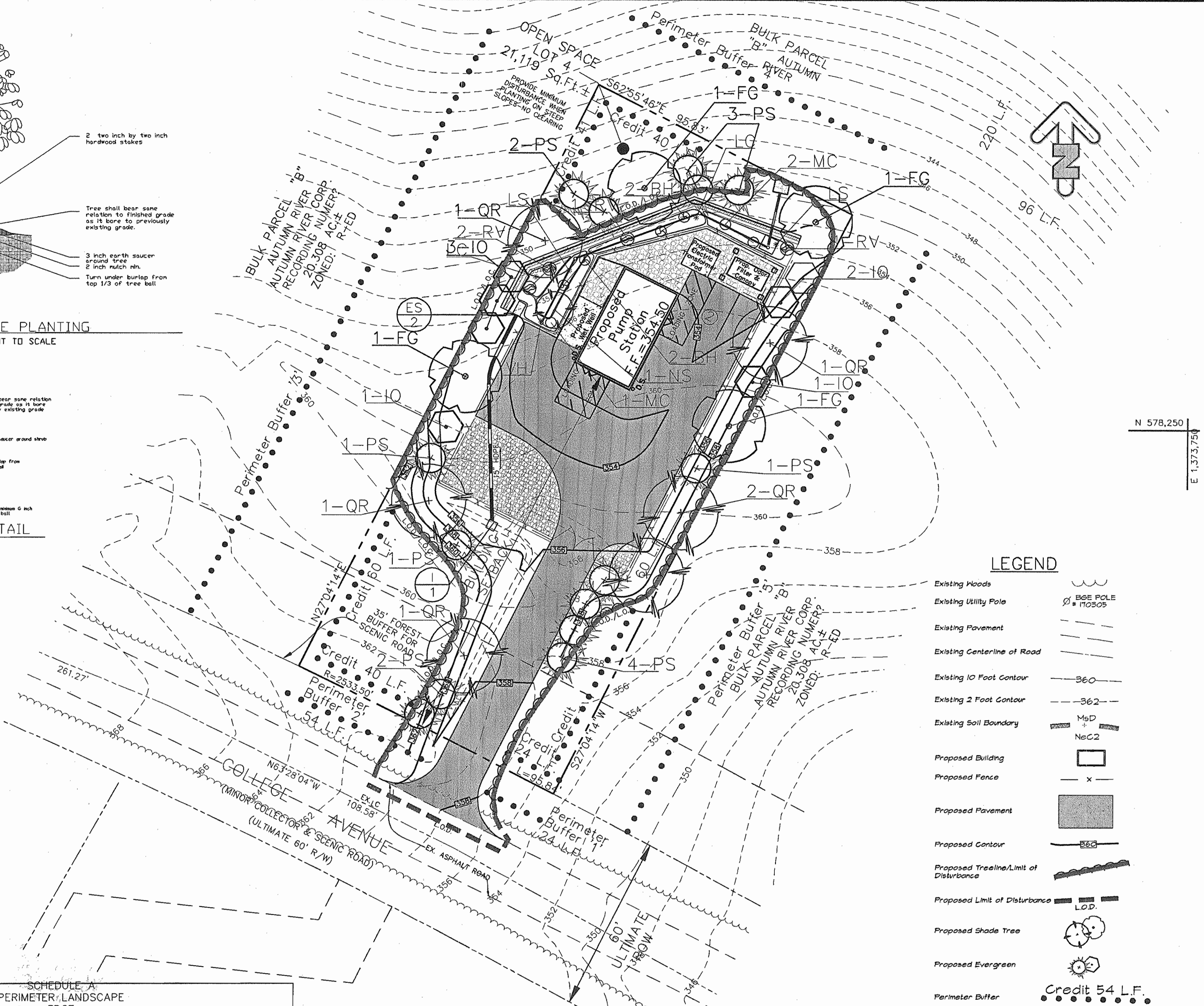
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND



SCHEDULE A PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS			ADJACENT TO PERIMETER PROPERTIES			TOTALS
	1'	2'	3'	1'	2'	3'	
Perimeter/Frontage Designation	B	B	C	C	C	C	
Linear Feet of Roadway Frontage/Perimeter	24 L.F.	54 L.F.	221 L.F.	94 L.F.	220 L.F.		
Credit for Existing Vegetation (Yes, No, Linear Feet Describe below if needed)	Yes	Yes	Yes	Yes	Yes	Yes	
Credit for Wall, Fence or Berm (Yes, No, Linear Feet Describe below if needed)	No	No	No	No	No	No	
Number of Plants Required	1:50 0	1:50 1	1:40 3	1:40 2	1:40 4	1:20 8	10
Shade Trees	0	0	0	0	0	0	0
Evergreen Trees	0	0	0	0	0	0	0
Shrubs	0	2	3	2	4	8	11
Number of Plants Provided	0	2	3	2	4	8	11
Shade Trees	0	2	3	2	4	8	11
Evergreen Trees	0	0	0	0	0	0	0
Other Trees (2:1 Substitution)	0	0	0	0	0	0	0
Shrubs (10:1 Substitution)	0	0	0	0	0	0	0
Describe Plant Substitution Credits Below if needed	0	0	0	0	0	0	0

1. This plan has been prepared in accordance with the provisions of section 16.124 of the Howard County code and the landscape manual.
2. Financial Surety for the required landscaping must be posted as part of the Grading Permit in the amount of \$5,700 (\$5,000.00 for 10 shade trees, and \$700.00 for 10 evergreen trees).



PLAN VIEW
Scale: 1"=20'

RECORD DRAWING

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By: [Signature]
Date: 12/9/05

LEGEND

- Existing Woods
- Existing Utility Pole
- Existing Pavement
- Existing Centerline of Road
- Existing 10 Foot Contour
- Existing 2 Foot Contour
- Existing Soil Boundary
- Proposed Building
- Proposed Fence
- Proposed Pavement
- Proposed Contour
- Proposed Tree Line/Limit of Disturbance
- Proposed Limit of Disturbance
- Proposed Shade Tree
- Proposed Evergreen
- Perimeter Buffer

LANDSCAPE SCHEDULE

KEY	QUAN.	BOTANICAL NAME	SIZE	CAT
QR	6	Quercus Rubra Red Oak	2 1/2"-3" Cal.	B & B
FG	4	Fagus grandifolia American Beech	2 1/2"-3" Cal.	B & B
IO	7	Ilex opaca American Holly	5'-6" Ht.	B & B
PS	14	Pinus strobus Eastern White Pine	6'-8" Ht.	B & B
NS	1	Nyssa sylvatica Black Gum	spacing as shown	B & B
RV	4	Rhododendron viscosum Swamp Azalea	spacing as shown	B & B
MC	3	Myrica cerifera Southern Bayberry	spacing as shown	B & B
BH	9	Baccharis halimifolia Eastern False Willow	spacing as shown	B & B
LC	5	Loebelia cardinalis L. Cardinal Flower	plugs, 2" o.c.	B & B
LS	1/2 Flat	Loebelia siphilitica L. Great Lobelia	plugs, 2" o.c.	B & B
VH	3	Verbena hastata Blue vervain	plugs, 2" o.c.	B & B

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES

PROJECT: AUTUMN RIVER - OPEN SPACE LOT 4 COLLEGE AVE. WASTEWATER PUMPING STATION

SECTION/AREA: N/A

LOT NO.: OPEN SPACE LOT 4

PLAT NO.: 21

BLOCK NO.: R-ED

ZONE: 25

TAX/ZONE: 2nd

ELEC. DIST.: 0027

CENSUS TR.:

WATER CODE: G01

SEWER CODE: 1259100

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, DEVELOPMENT ENGINEERING DIVISION

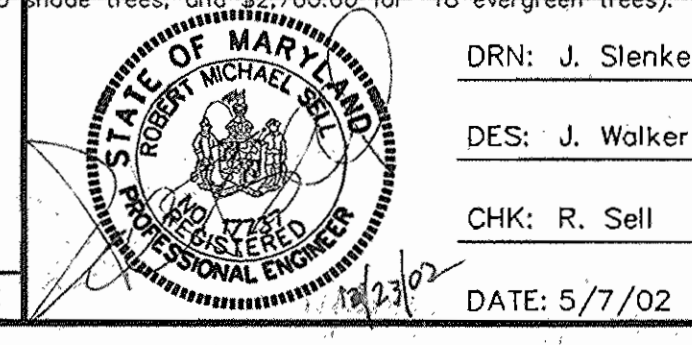
DATE: 1/6/03

MICRONE
ENGINEERING & ENVIRONMENTAL SCIENCES

LAND PLANNING & SURVEYING & CONSTRUCTION SERVICES

20 ROCKY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 287-8821

ANNAPOLIS-CENTREVILLE-SALISBURY-ELKTON-PRINCE FREDERICK



REVISION

NO.	DATE	DESCRIPTION
DRN: J. Slenke		
DES: J. Walker		
CHK: R. Sell		
DATE: 5/7/02		

LANDSCAPE PLAN

SITE DEVELOPMENT PLAN
COLLEGE AVENUE WASTEWATER PUMPING STATION
AUTUMN RIVER
OPEN SPACE LOT 4
CONTRACT NO. 10-3898-D
GRID 21

TAX MAP 25
SECOND ELECTION DISTRICT

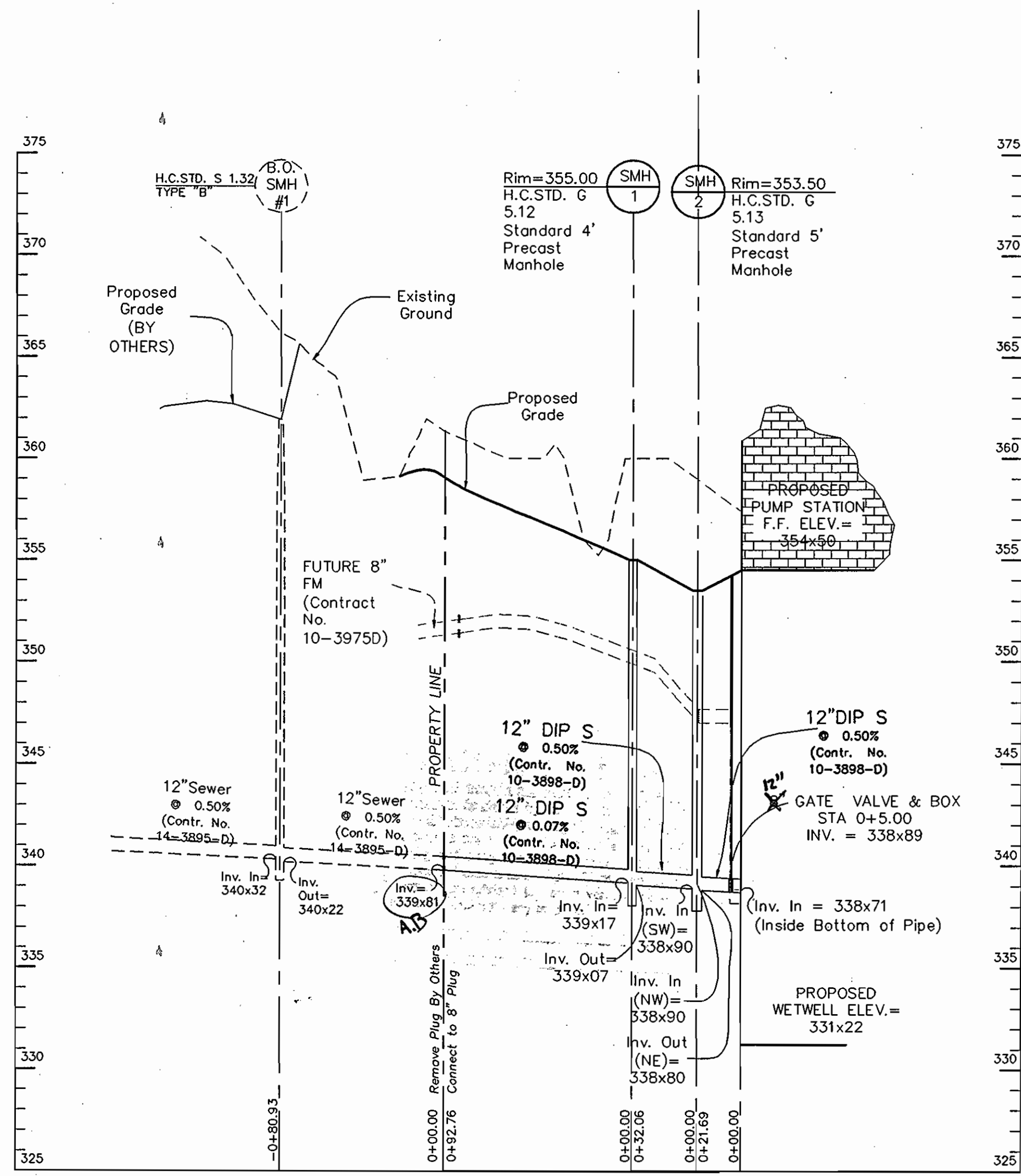
P/O PARCEL 172
HOWARD COUNTY, MARYLAND

SCALE
1"=20'

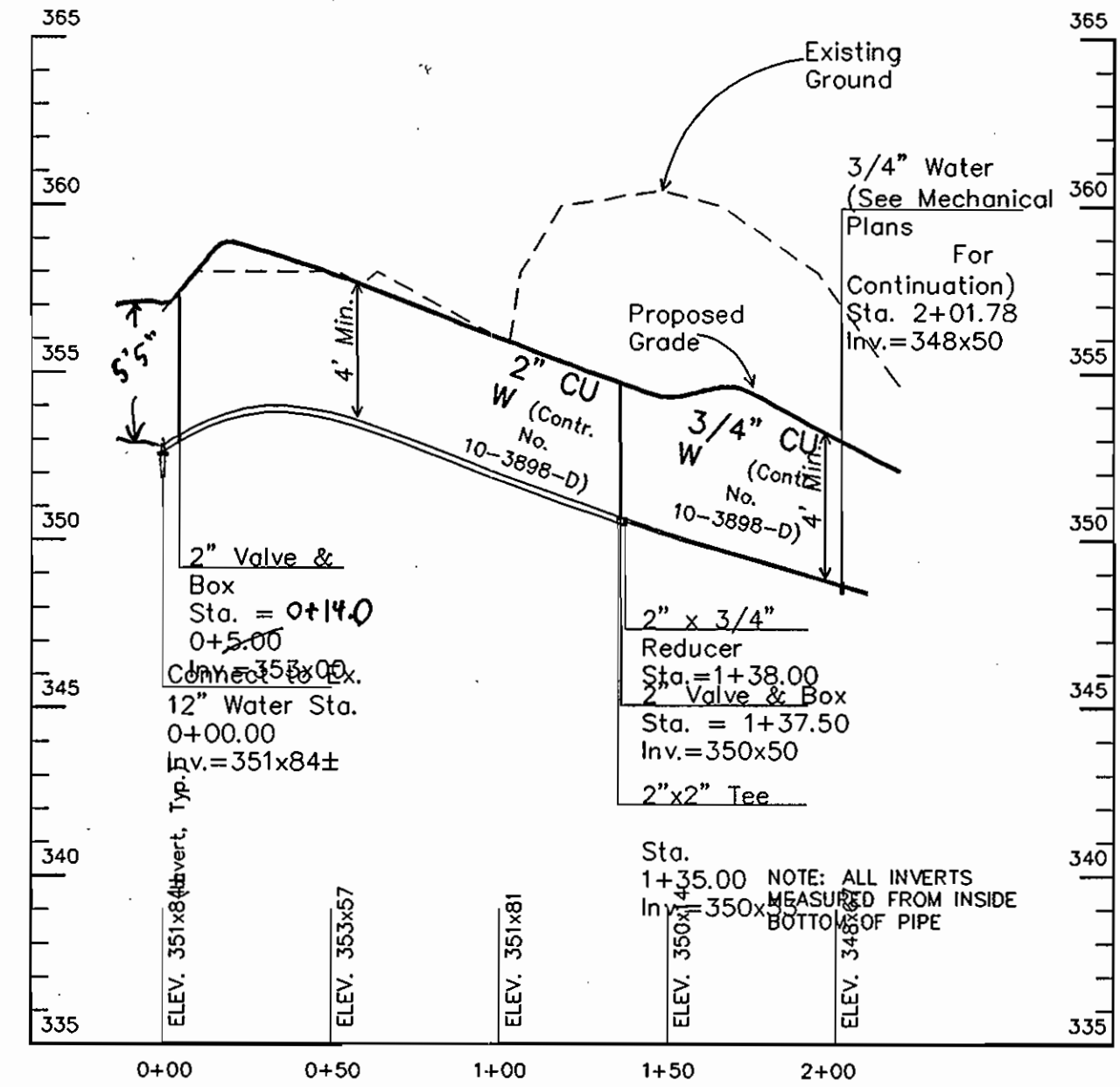
SDP SHEET
5 OF 7
UTILITY SHEET
5 OF 29

SDP-02-85

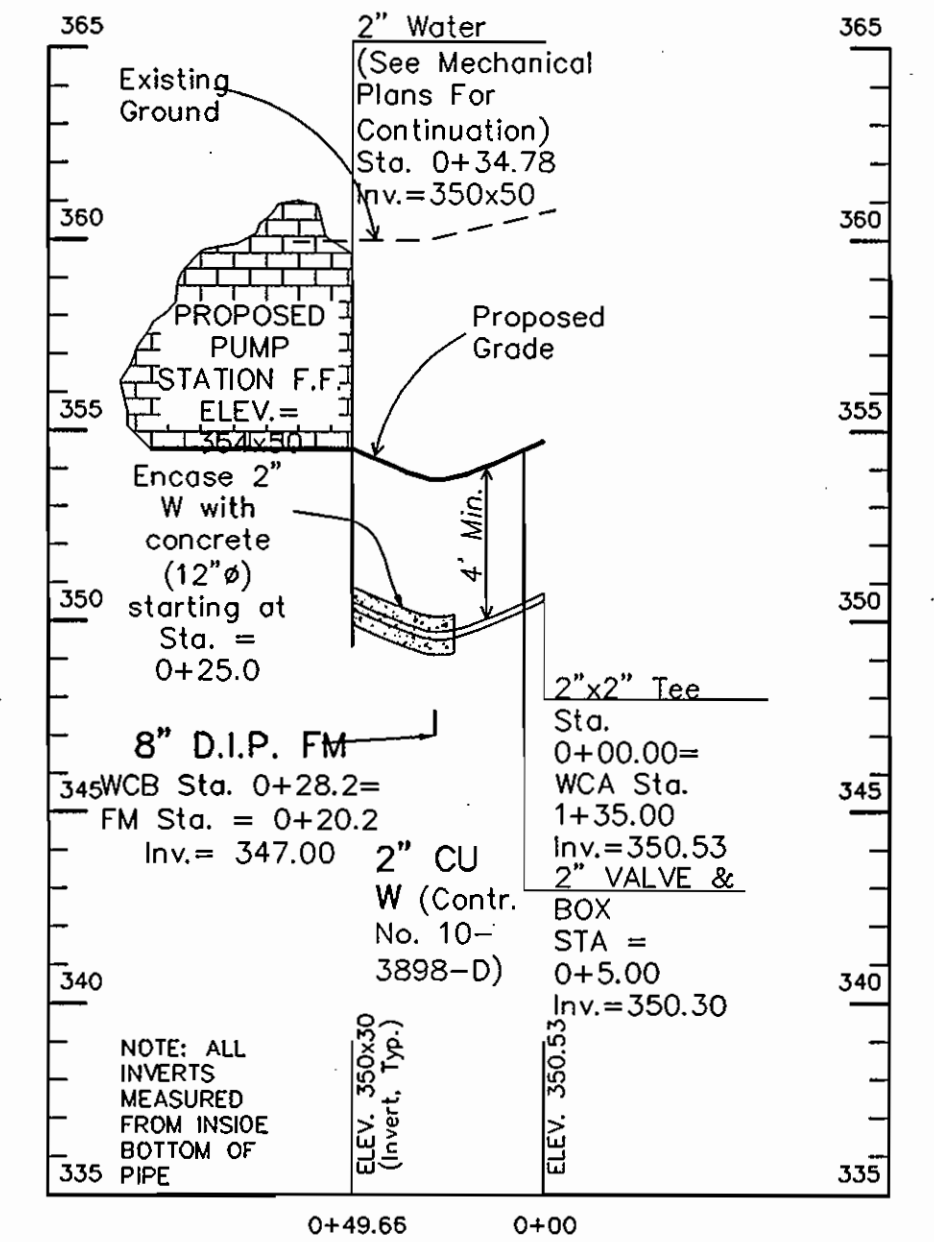
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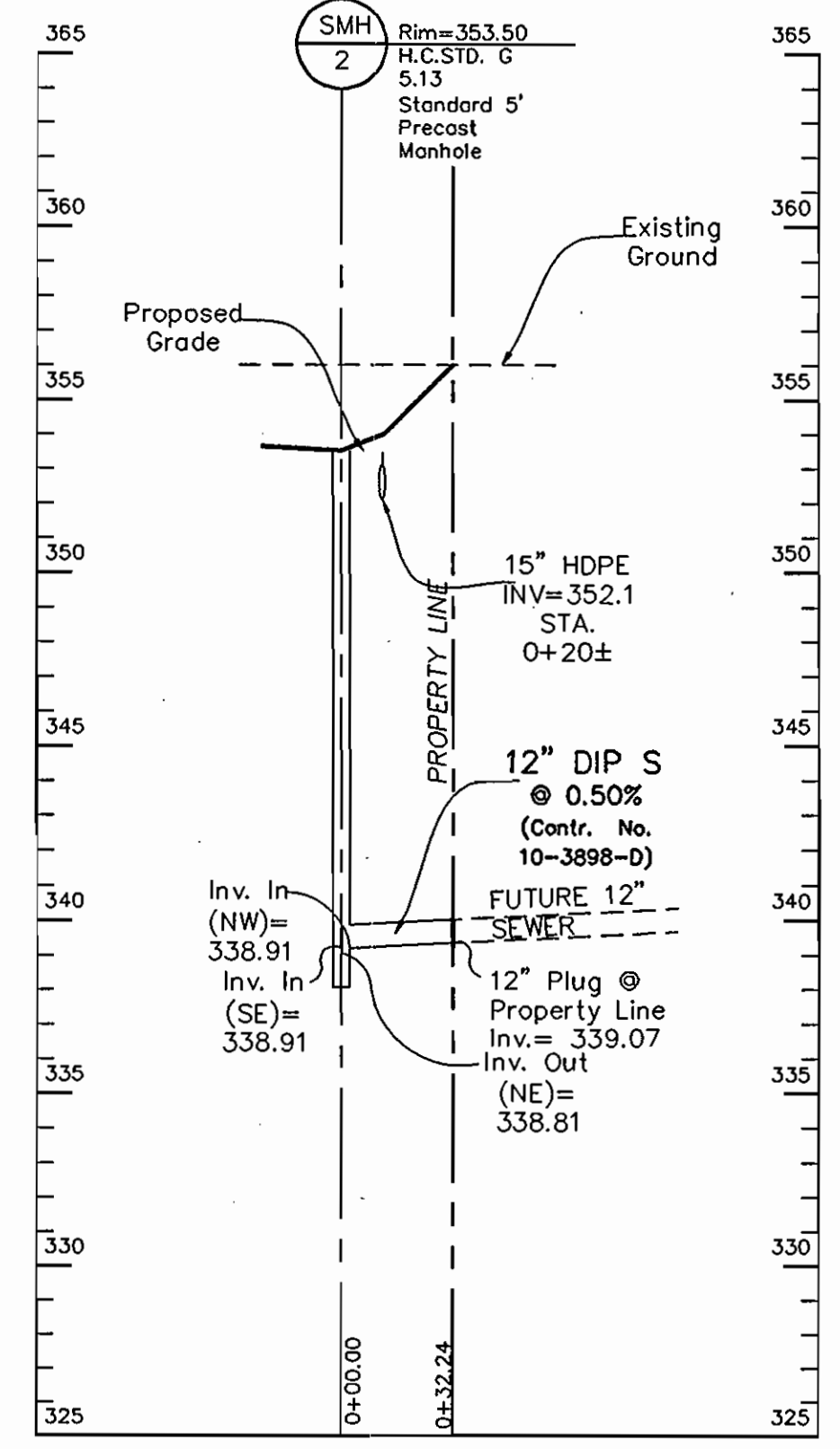
12" GRAVITY SEWER PROFILE
 VERT.: 1" = 5'
 HORZ.: 1" = 50'



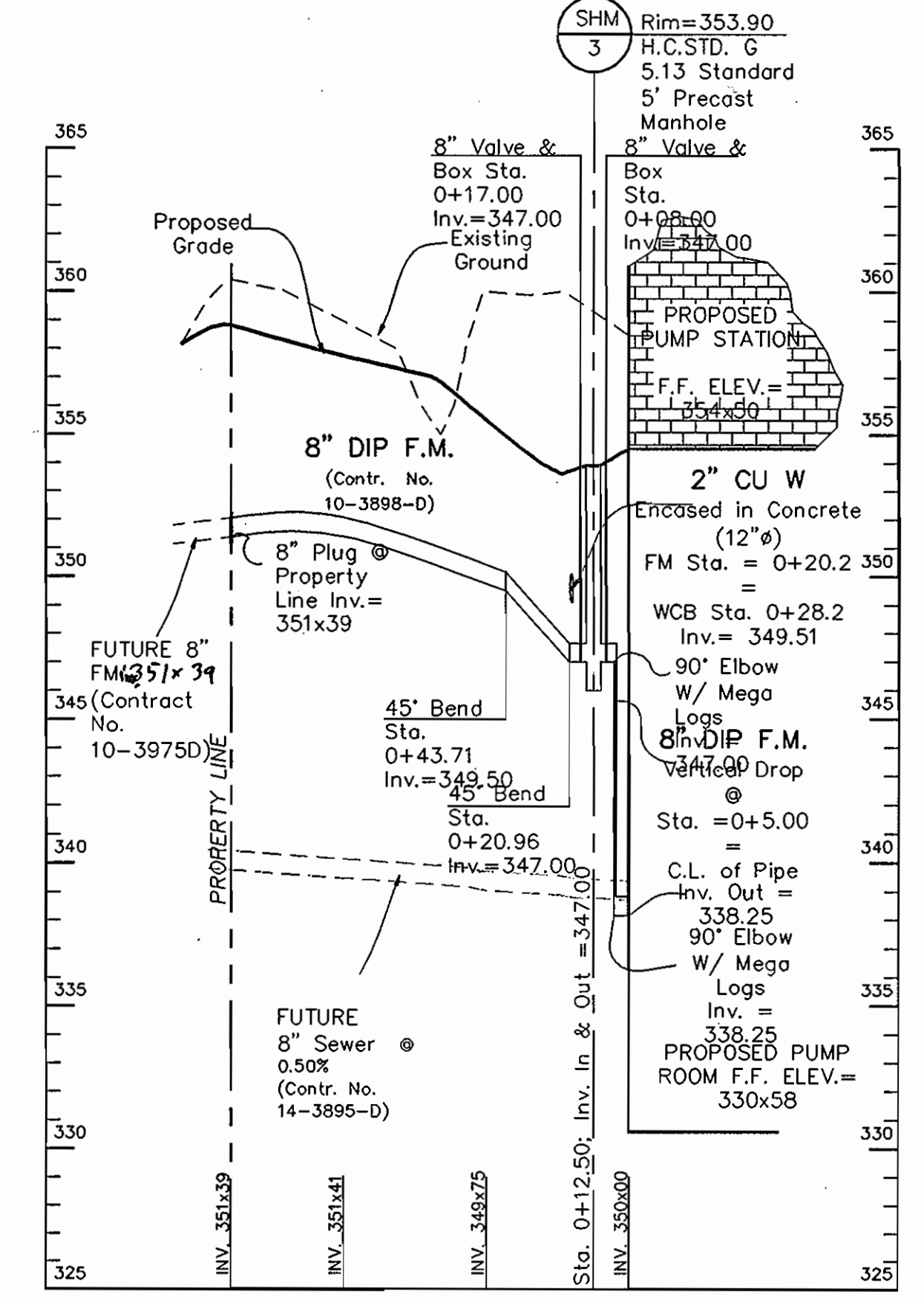
WATER CONNECTION 'A' PROFILE
 SCALES:
 VERT.: 1" = 5'
 HORZ.: 1" = 50'



WATER CONNECTION 'B' PROFILE
 SCALES:
 VERT.: 1" = 5'
 HORZ.: 1" = 50'



12" GRAVITY SEWER PROFILE
 SCALES:
 VERT.: 1" = 5'
 HORZ.: 1" = 50'



8" FORCE MAIN PROFILE
 SCALES:
 VERT.: 1" = 5'
 HORZ.: 1" = 50'

RECORD DRAWING

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By: *[Signature]*
 Date: 2/18/03

OWNER/DEVELOPER INFORMATION

OWNER:
 AUTUMN RIVER CORPORATION
 4100 COLLEGE AVENUE
 ELLICOTT CITY, MARYLAND 21043-0096

DEVELOPER:
 LAND DESIGN & DEVELOPMENT
 8000 MAIN STREET
 ELLICOTT CITY, MD 21043
 ATTN: DONALD R. REUWER

ENGINEER'S CERTIFICATION

"I HEREBY 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."

[Signature]
 ROBERT M. SELL
 DATE: 01/02/03

DEVELOPER'S CERTIFICATION

"I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR SEDIMENT AND EROSION CONTROL BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."

[Signature]
 DONALD R. REUWER
 DATE: 1/4/03

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

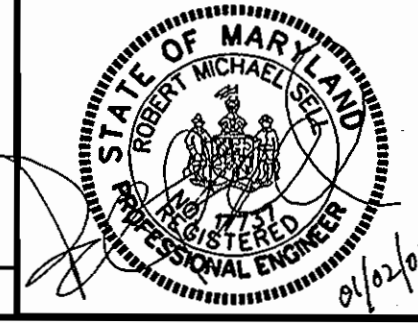
DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES

PROJECT	AUTUMN RIVER - OPEN SPACE LOT 4	SECTION/AREA	N/A	LOT NO.	OPEN SPACE LOT 4
PLAT NO.		BLOCK NO.	21	ZONE	R-ED
		TAX/ZONE	25	ELEC. DIST.	2nd
				CENSUS TR.	6027
WATER CODE	G01	SEWER CODE	1253100		

CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 1/20/03

McCRONE
 ENGINEERING & ENVIRONMENTAL SCIENCES
 LAND PLANNING & SURVEYING & CONSTRUCTION SERVICES
 20 REBELY AVENUE
 ANNAPOLIS, MARYLAND 21401
 (410) 291-5511



DRN: J. Slenke			
DES: J. Walker			
CHK: R. Sell			
DATE: 5/7/02	BY: No.	REVISION	DATE

WATER & SEWER PROFILES

SITE DEVELOPMENT PLAN
 COLLEGE AVENUE WASTEWATER PUMPING STATION
 AUTUMN RIVER OPEN SPACE LOT 4
 CONTRACT NO. 10-3898-D
 GRID 21

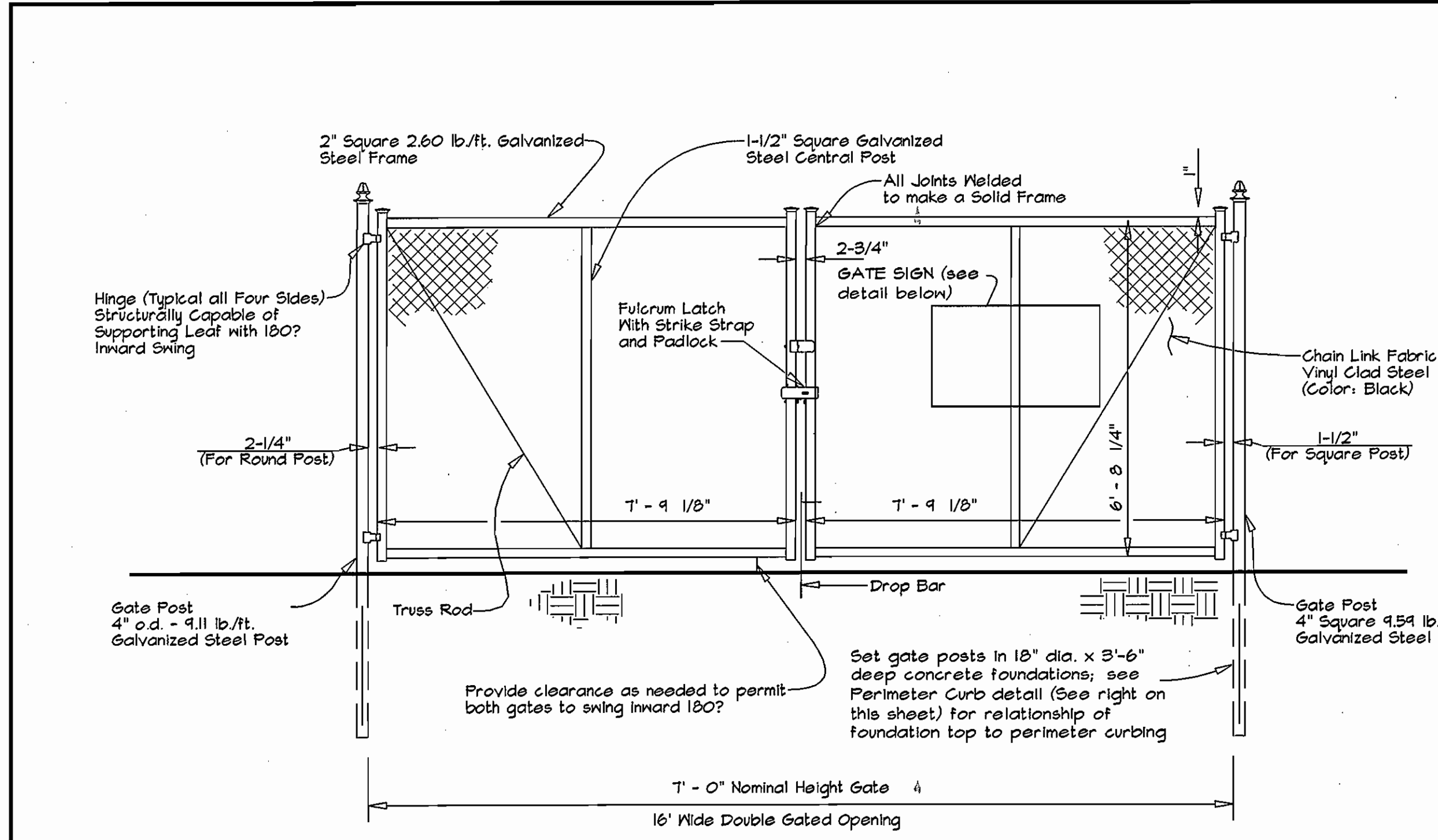
TAX MAP 25
 SECOND ELECTION DISTRICT

P/O PARCEL 172
 HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN
 SDP SHEET 6 OF 7
 UTILITY SHEET 6 OF 28

PLOTTED: Jan 02, 2003 - 4:38pm
 C:\000033

SEW - PROF.A; SEW - PROF.B; WAT - PROF.A; WAT - PROF.B; FM - PROF. : XREFS / IMAGES
 CADD FILE: G:\1000033 - College Avenue\Drawings\CollegeAve-SDPBIO.dwg
 SDP-02-85



OWNER/DEVELOPER INFORMATION

OWNER:
AUTUMN RIVER CORPORATION
4100 COLLEGE AVENUE
ELLCOTT CITY, MARYLAND 21043-0386

DEVELOPER:
LAND DESIGN & DEVELOPMENT
8000 MAIN STREET
ELLCOTT CITY, MD 21043
ATTN: DONALD R. REUWER

ENGINEER'S CERTIFICATION

I HEREBY 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.

DEVELOPER'S CERTIFICATION

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR SEDIMENT AND EROSION CONTROL BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY. SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 210 OF THE HOWARD COUNTY DESIGN MANUAL AND STANDARDS & SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AS SHOWN ON THESE PLANS.

ROBERT M. SELL 1/29/03
DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

PROJECT	SECTION/AREA	LOT NO.
AUTUMN RIVER - OPEN SPACE LOT 4 COLLEGE AVE. WASTEWATER PUMPING STATION	N/A	OPEN SPACE LOT 4

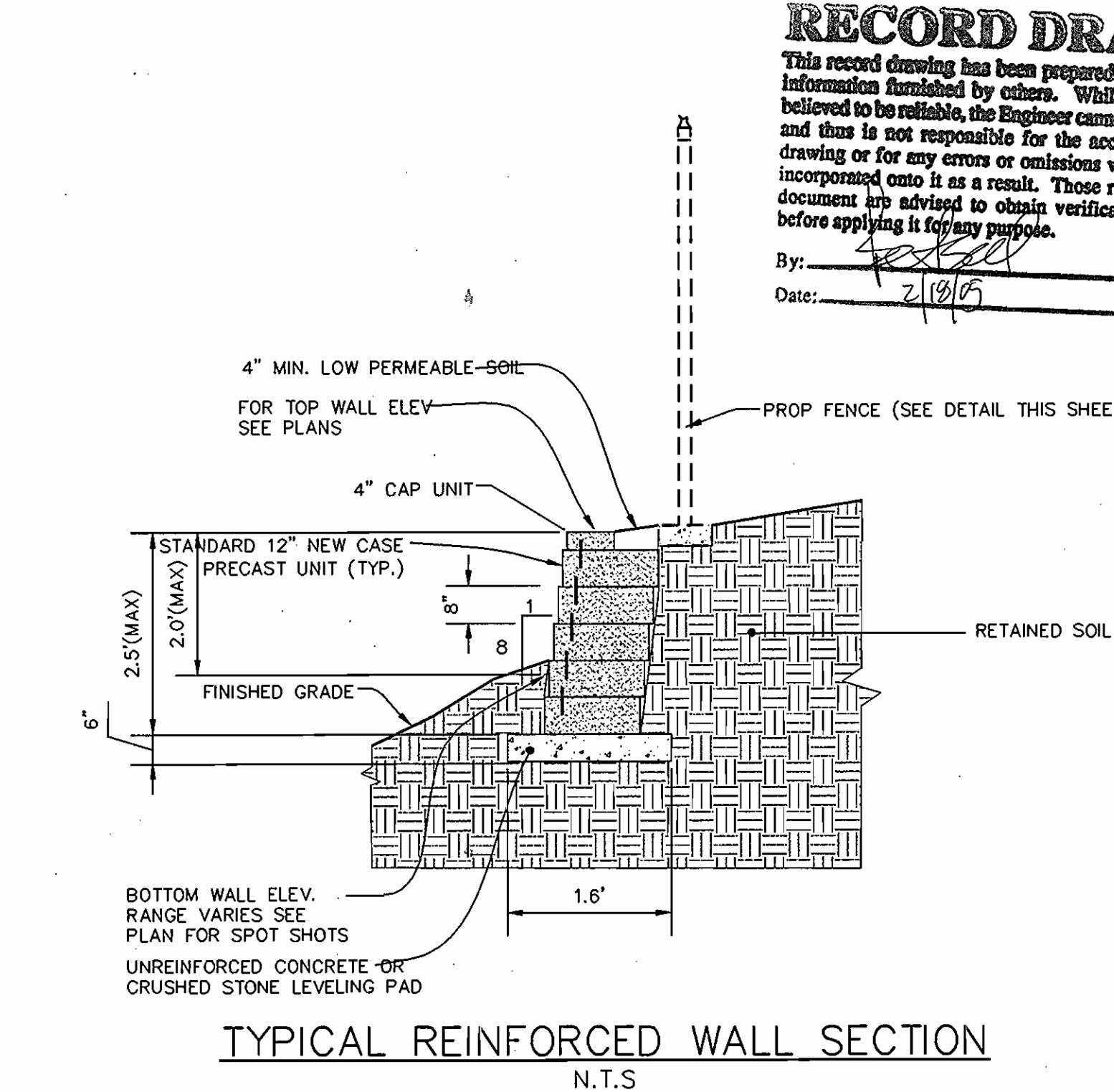
PLAT NO.	BLOCK NO.	ZONE	TAXZONE	ELEC. DIST.	CENSUS TR.
	21	R-ED	26	2nd	6027

WATER CODE: G01
SEWER CODE: 1263100

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

McCRONE
ENGINEERING & ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING & CONSTRUCTION SERVICES
20 HEDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 287-8821

CHAIN LINK FENCE DOUBLE GATE DETAIL
N.T.S.

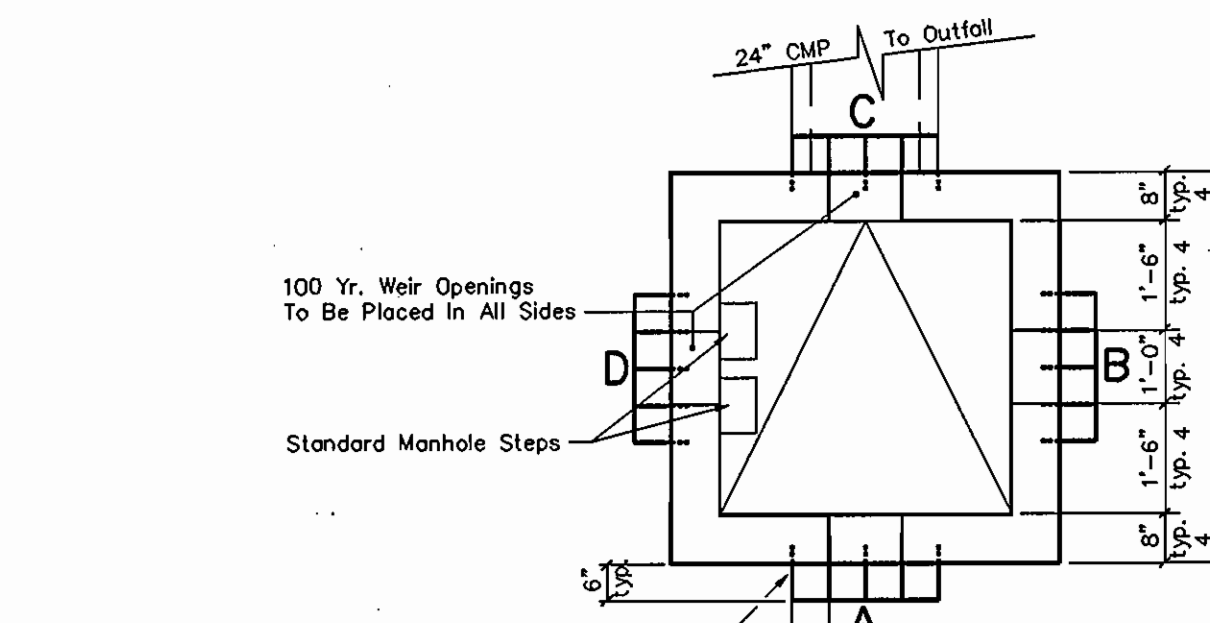
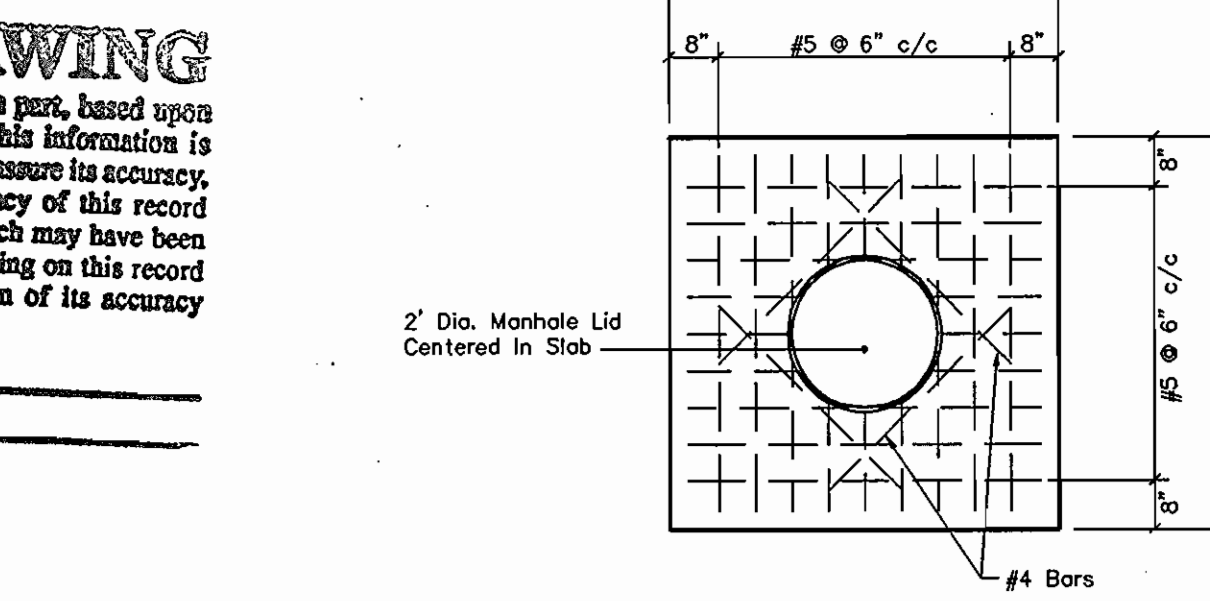


TYPICAL REINFORCED WALL SECTION
N.T.S.

GATE SIGN DETAIL
N.T.S.

NOTES:
1. CONTRACTOR SHALL PROVIDE AND SECURELY MOUNT SIGN ON CHAIN LINK GATE AT APPROXIMATE LOCATION SHOWN ON DETAIL FOR GATE.
2. SIGN MATERIAL TO BE 0.080" THICK ALUMINUM SHEET METAL.
3. FINISH TO BE BAKED ENAMEL PAINT.
4. COAT WITH POLYESTER BASED SPRAY.

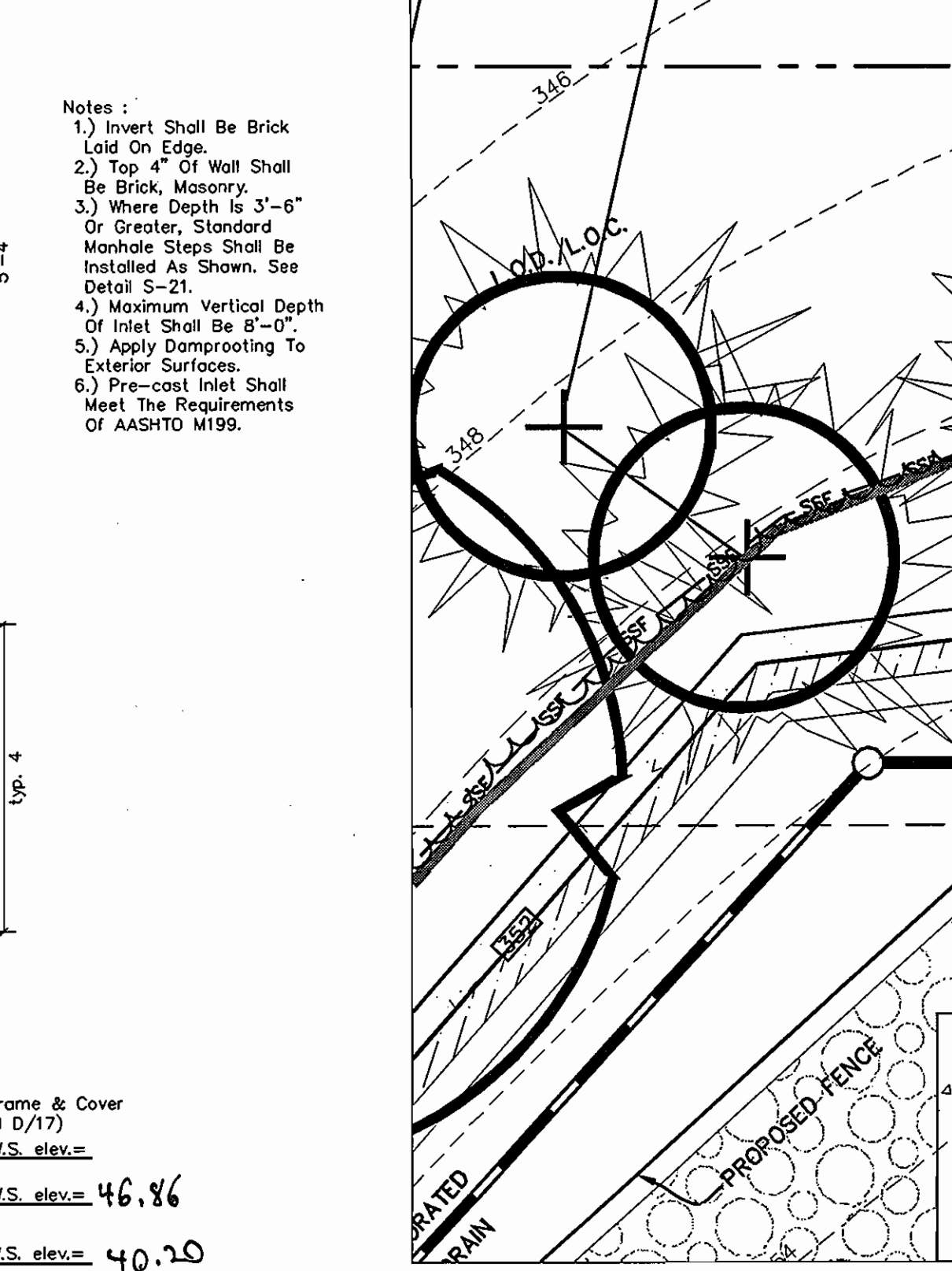
TYPICAL PERIMETER CURB DETAIL
N.T.S.



MODIFIED TYPE "D" INLET
N.T.S.

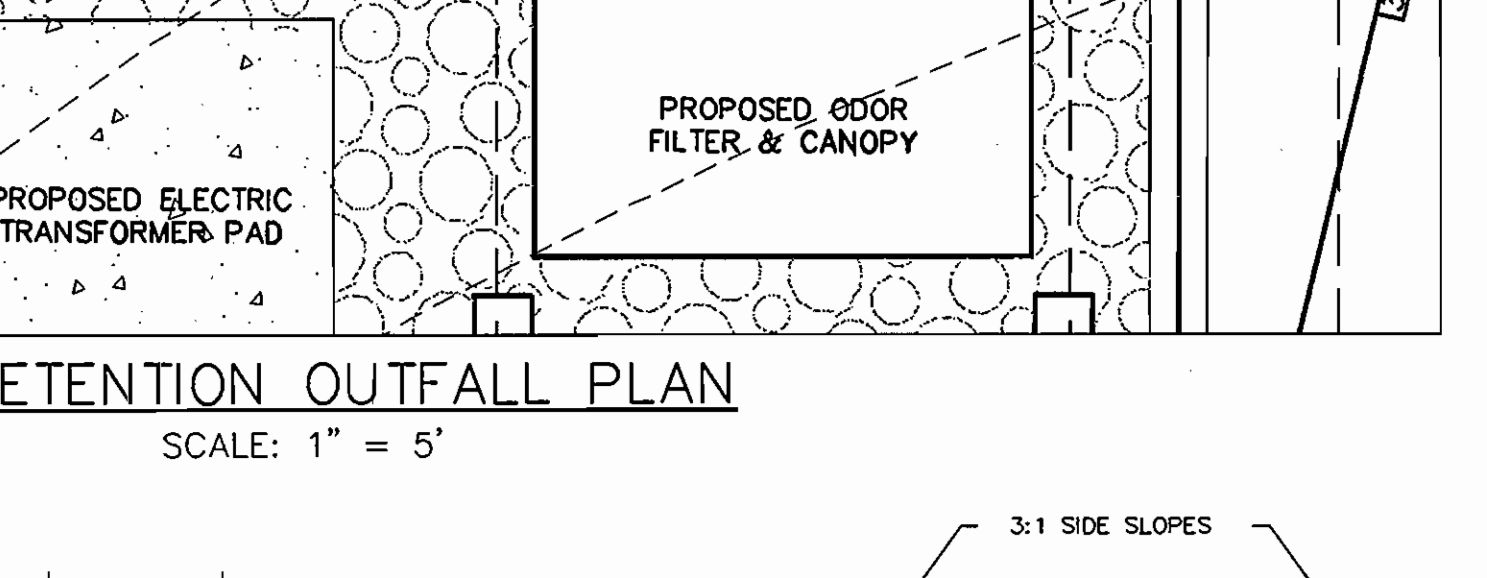
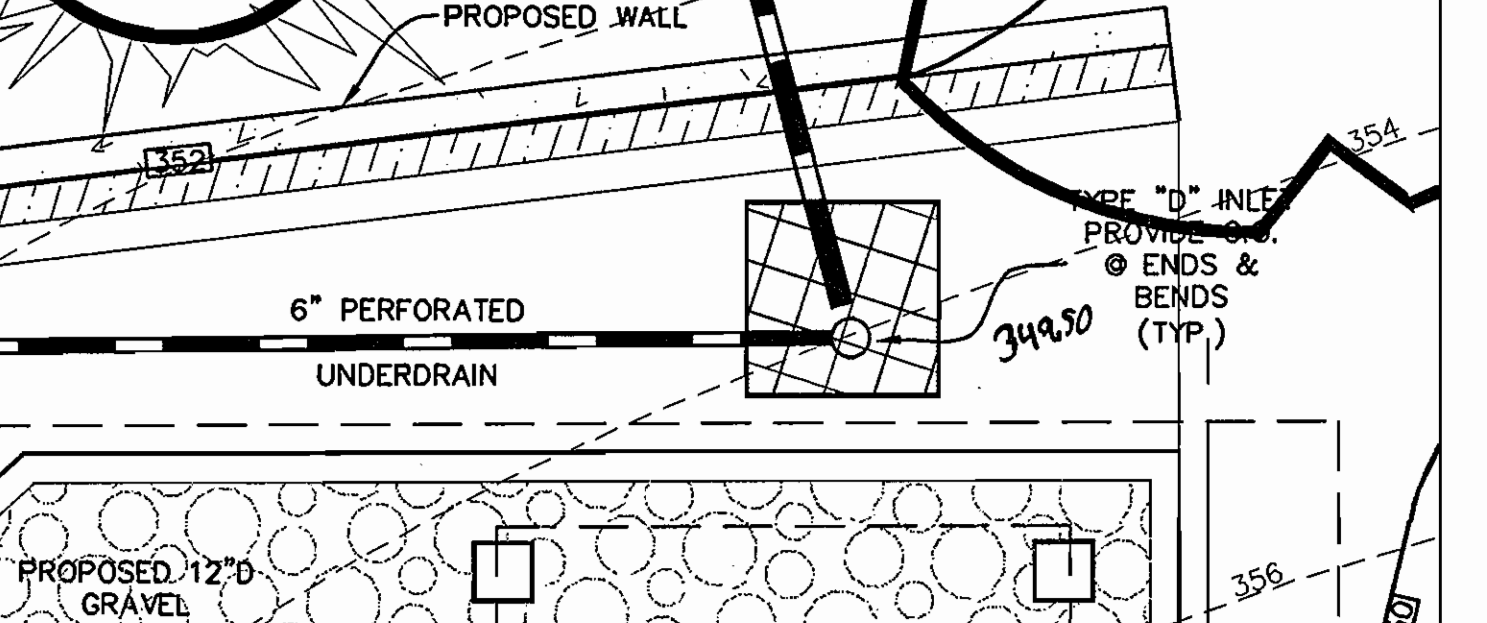
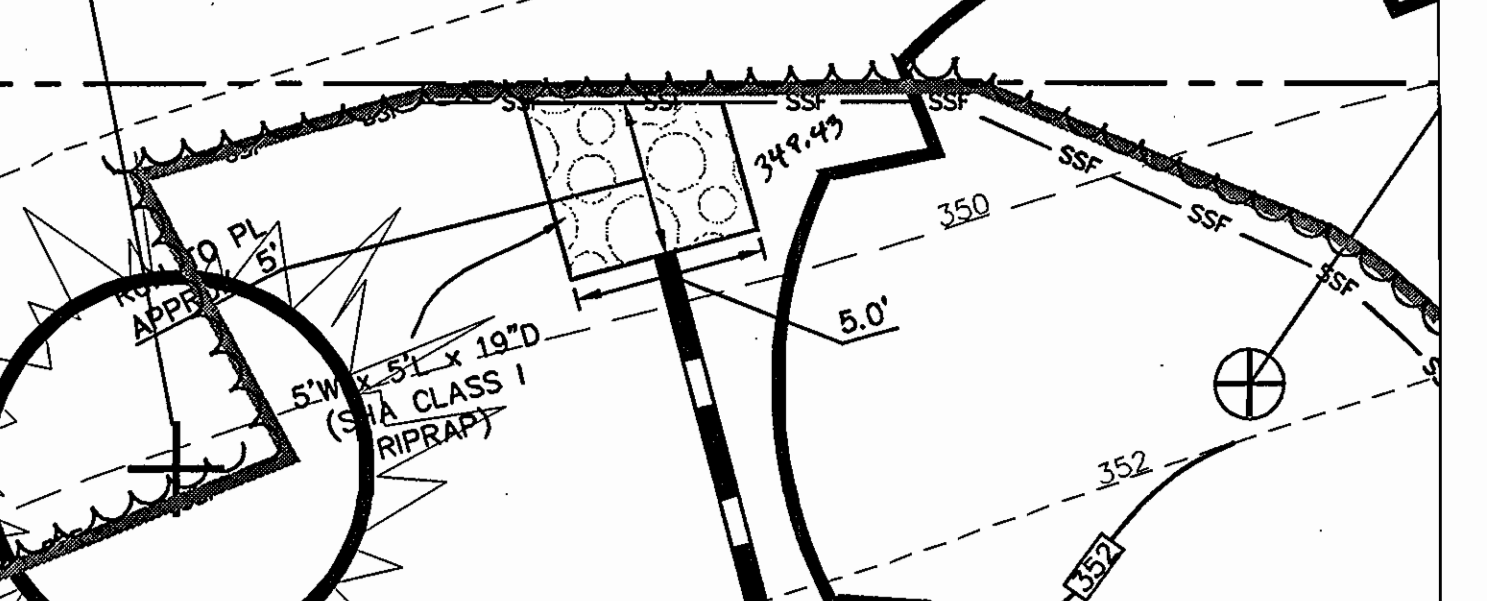
Walls shall be brick, mix No. 3 concrete, or reinf. concrete.

BIORETENTION OUTFALL PLAN
SCALE: 1" = 5'



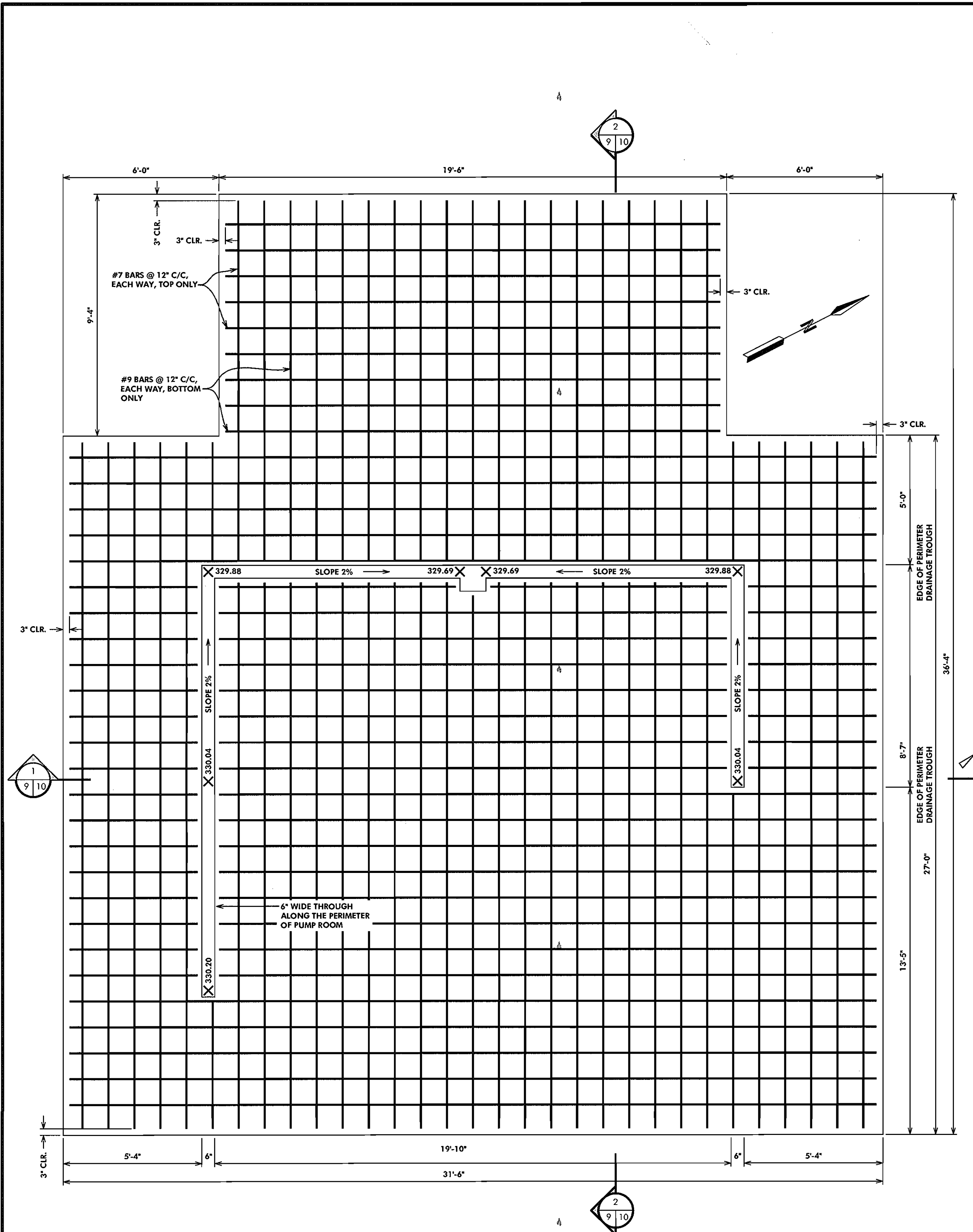
BIORETENTION OUTFALL PLAN
SCALE: 1" = 5'

BYPASS PUMPING MANHOLE
N.T.S.

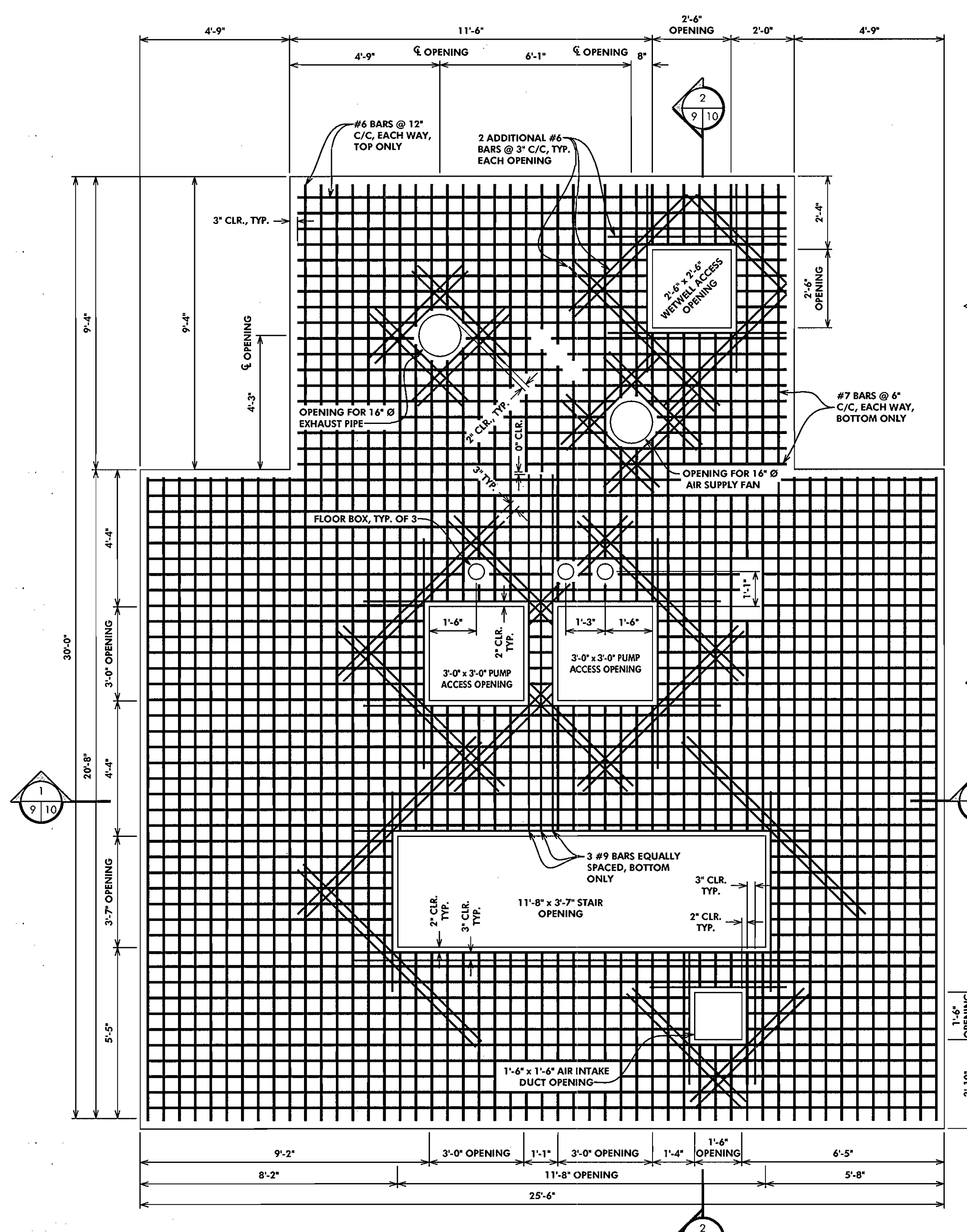


FULL DEPTH BITUMINOUS CONCRETE ALTERNATE
N.T.S.

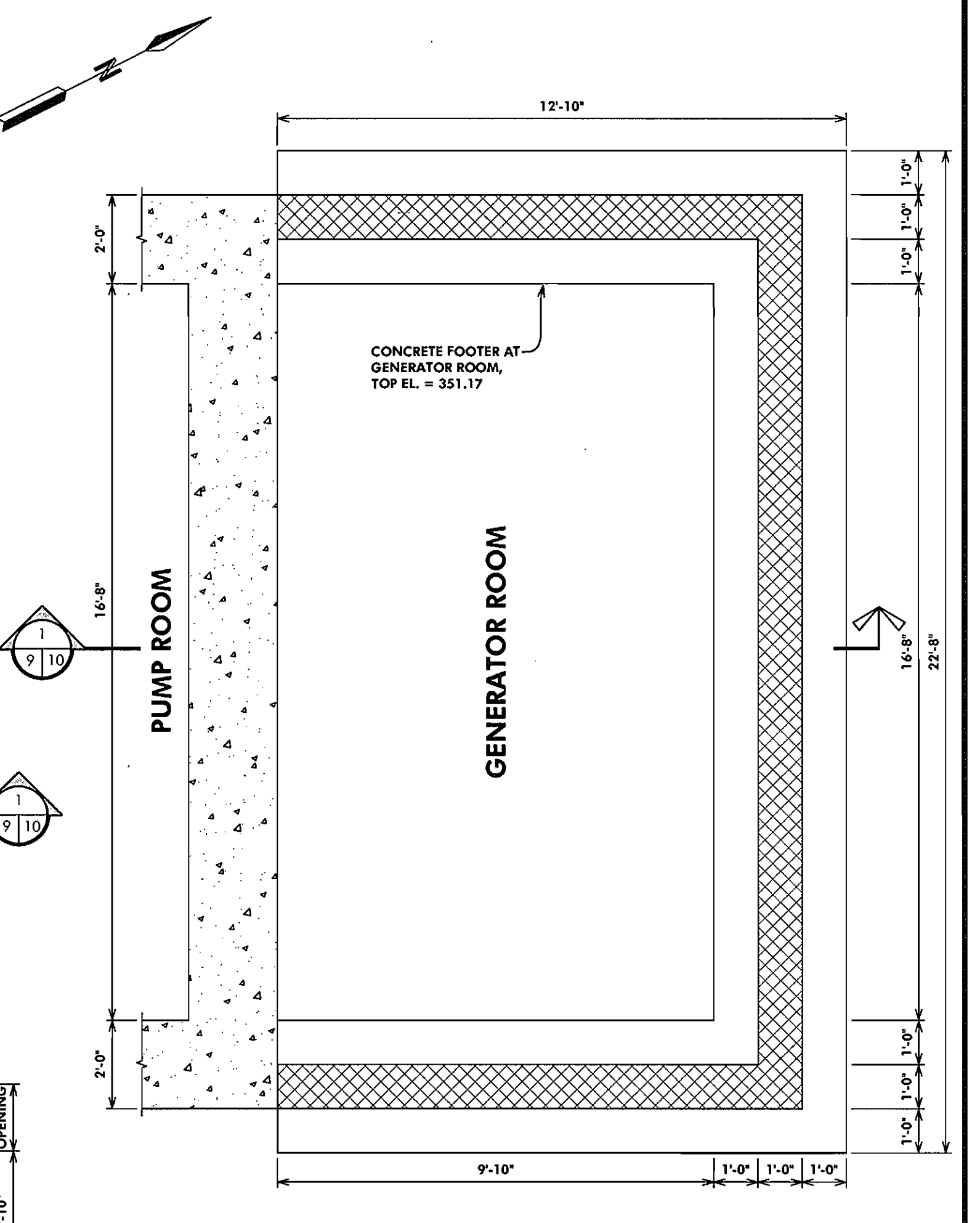
TYPICAL GRASS SWALE
N.T.S.



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



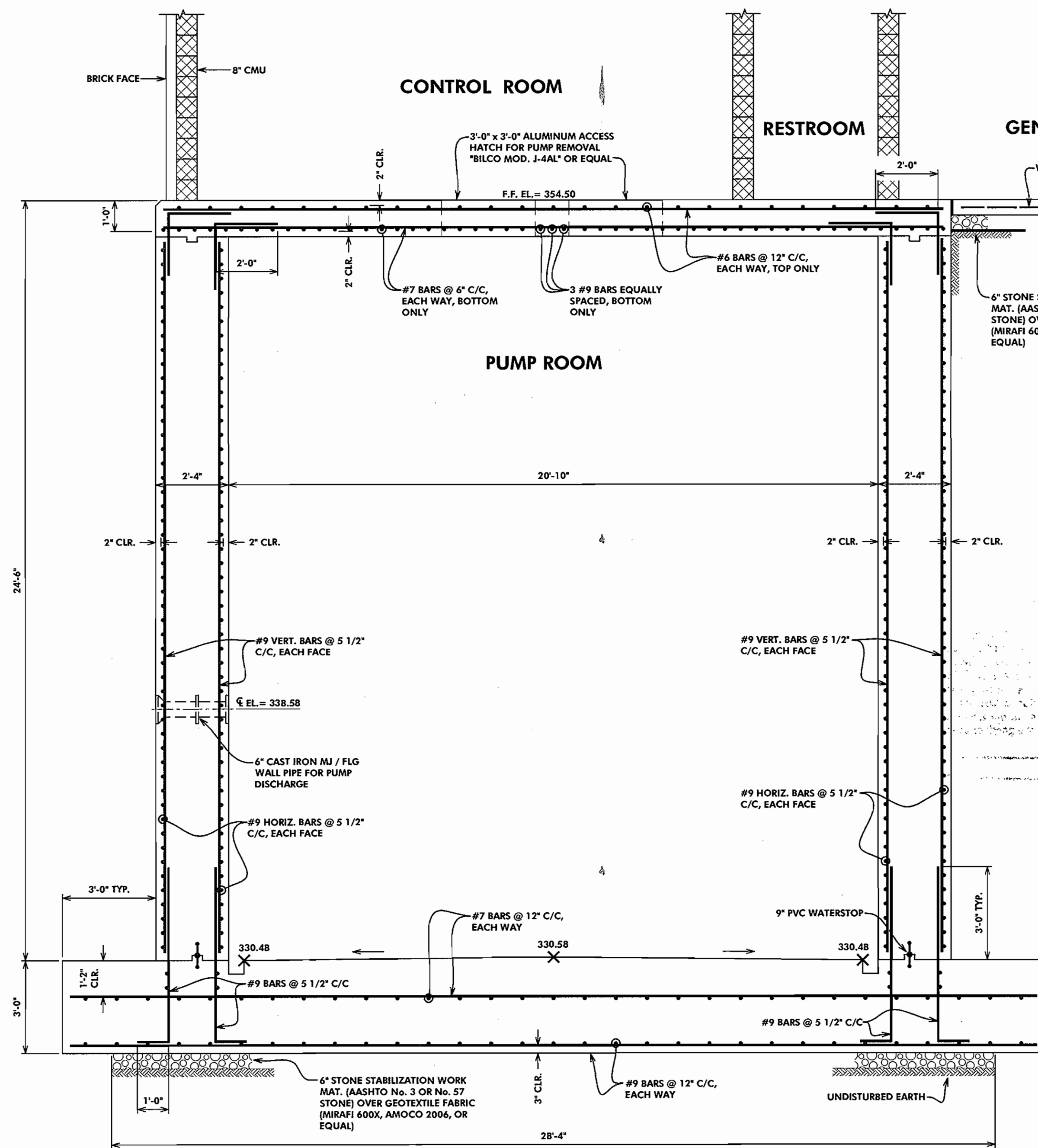
TOP SLAB PLAN
SCALE: 3/8"=1'-0"



FOUNDATION PLAN
SCALE: 3/8"=1'-0"
AT GENERATOR ROOM

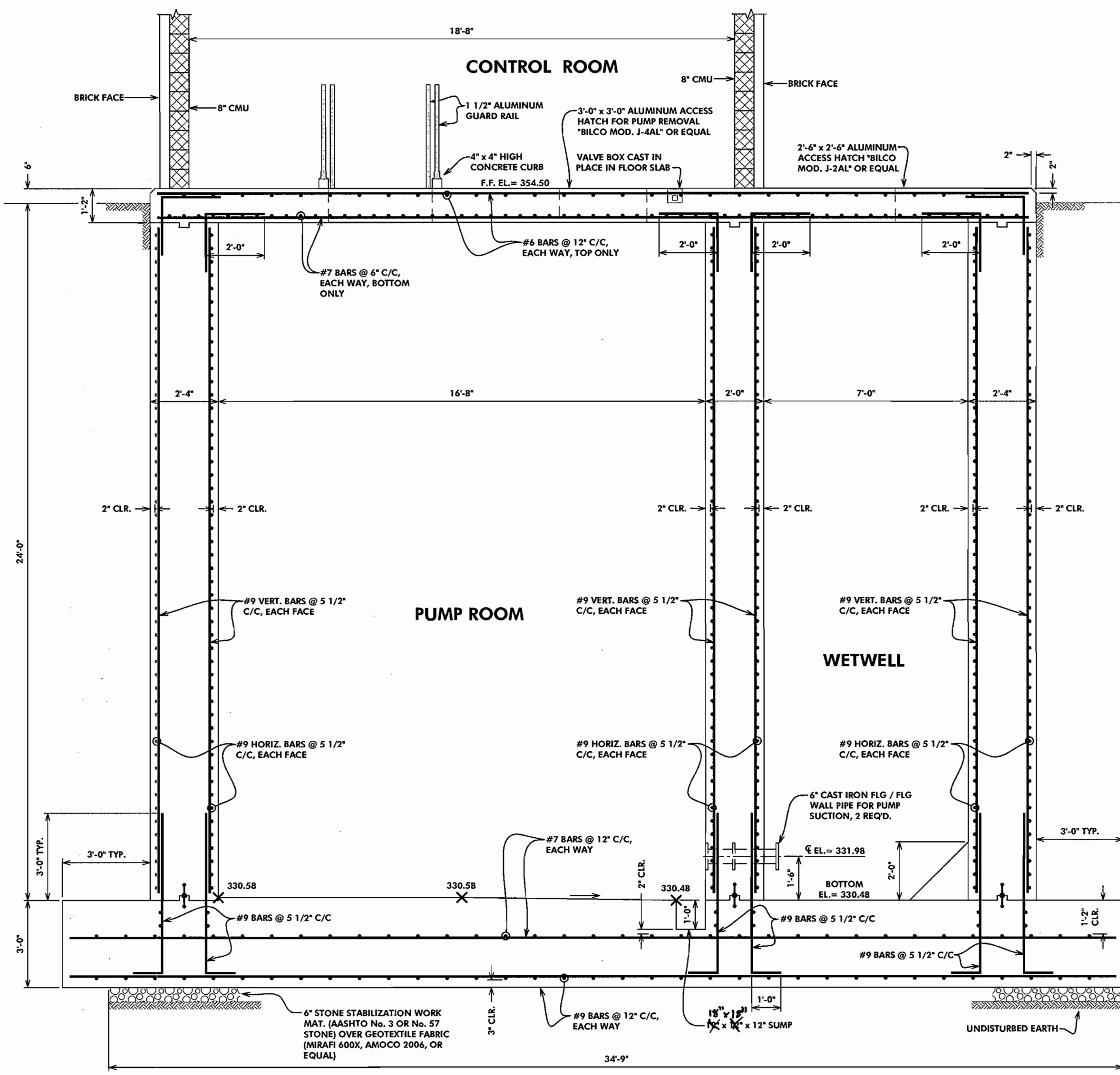
RECORD DRAWING
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By: *[Signature]*
Date: 2/19/05

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>[Signature]</i>	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND <i>[Signature]</i>	McCRONE ENGINEERING & ENVIRONMENTAL SCIENCES LAND PLANNING & SURVEYING CONSTRUCTION SERVICES 20 RIDGELY AVENUE ANNAPOLIS, MARYLAND 21401 (410) 267-8621 Fax (410) 267-9932		DES: S.A.C.		STRUCTURAL PLANS	COLLEGE AVENUE WASTEWATER PUMPING STATION CONTRACT # 10-3184-D	SCALE AS SHOWN SHEET 8 OF 29
				DRN: -				



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

- THE FOLLOWING LOADS WERE USED TO DESIGN THE BUILDING:
- FLOOR LIVE LOAD - 100 PSF
 - ROOF LIVE LOAD - 30 PSF
 - ROOF SNOW LOAD:
 - GROUND SNOW LOAD - 25 PSF
 - FLAT ROOF SNOW LOAD - N/A
 - SNOW EXPOSURE FACTOR - 1.0
 - SNOW LOAD IMPORTANCE FACTOR - 1.1
 - THERMAL FACTOR - 1.0
 - WIND LOAD
 - BASIC WIND SPEED - 90 MPH
 - WIND LOAD IMPORTANCE FACTOR I AND BUILDING CATEGORY - II
 - WIND EXPOSURE FACTOR - 6
 - APPLICABLE INTERNAL PRESSURE COEFFICIENT - 1.0
 - COMPONENTS AND CLADDING - N/A
 - EARTHQUAKE DESIGN DATA
 - SEISMIC USE GROUP - II
 - SPECIAL RESPONSE COEFFICIENTS:
 - RESPONSE MODIFICATION COEFFICIENT - 1-1/2
 - SYSTEM OVER STRENGTH FACTOR - 2-1/2
 - DEFLECTION AMPLIFICATION FACTOR - 1-1/4
 - SITE CLASS - D
 - BASIC SEISMIC-FORCE-RESISTING SYSTEM:
 - 1J ABOVE PUMP ROOM ROOF
 - 1D BELOW PUMP ROOM ROOF
 - DESIGN BASE SHEAR:
 - 34 kips AT PUMP ROOM ROOF
 - 309 kips AT PUMP ROOM BASE
 - ANALYSIS PROCEDURE - SECTION 1617.4 "EQUIVALENT LATERAL FORCE PROCEDURE"
 - ASSUMED SOIL BEARING VALUE - 3000 LB/FS



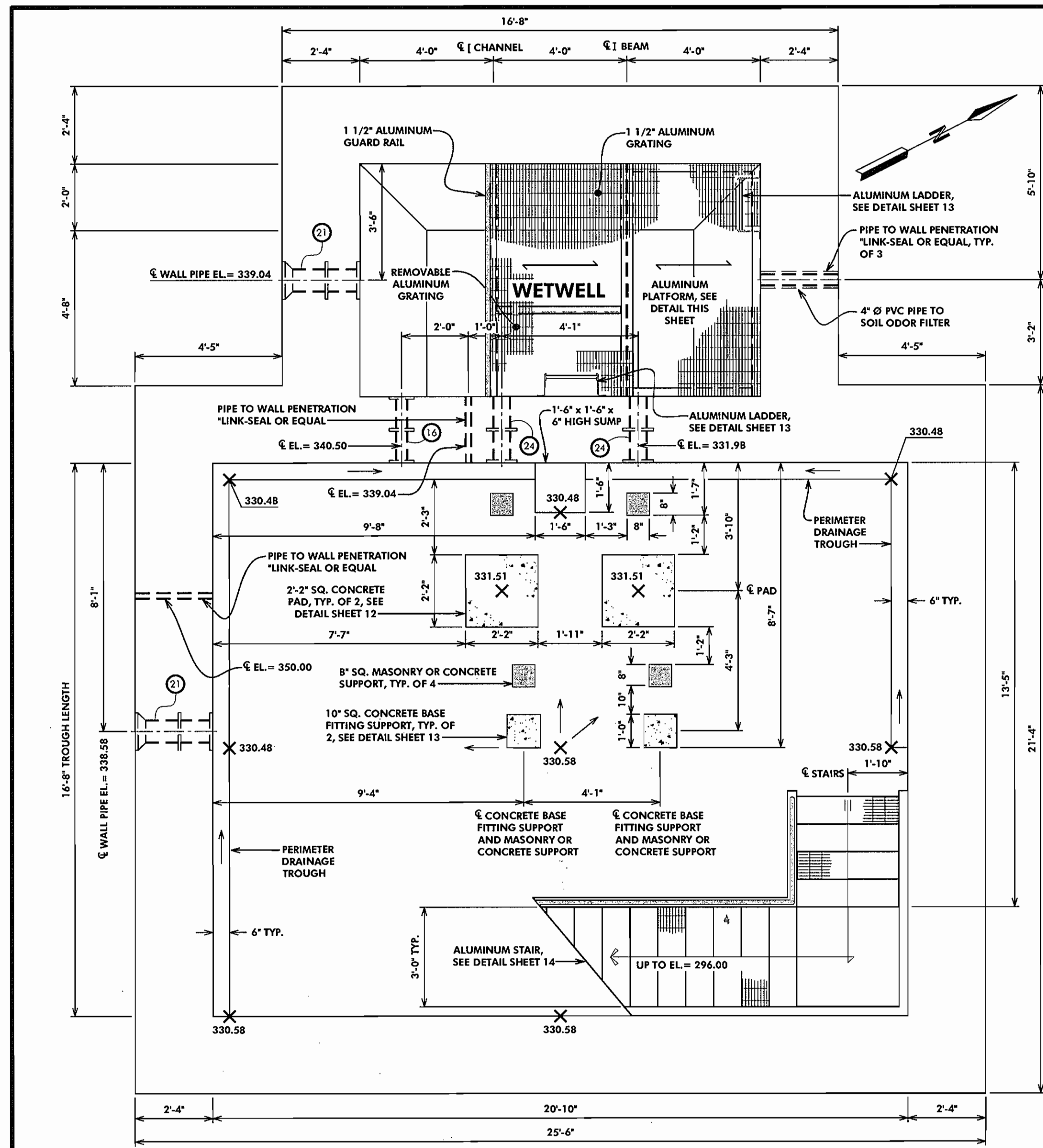
SECTION 2
SCALE: 1/2"=1'-0"

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By: *[Signature]*
Date: 2/18/05

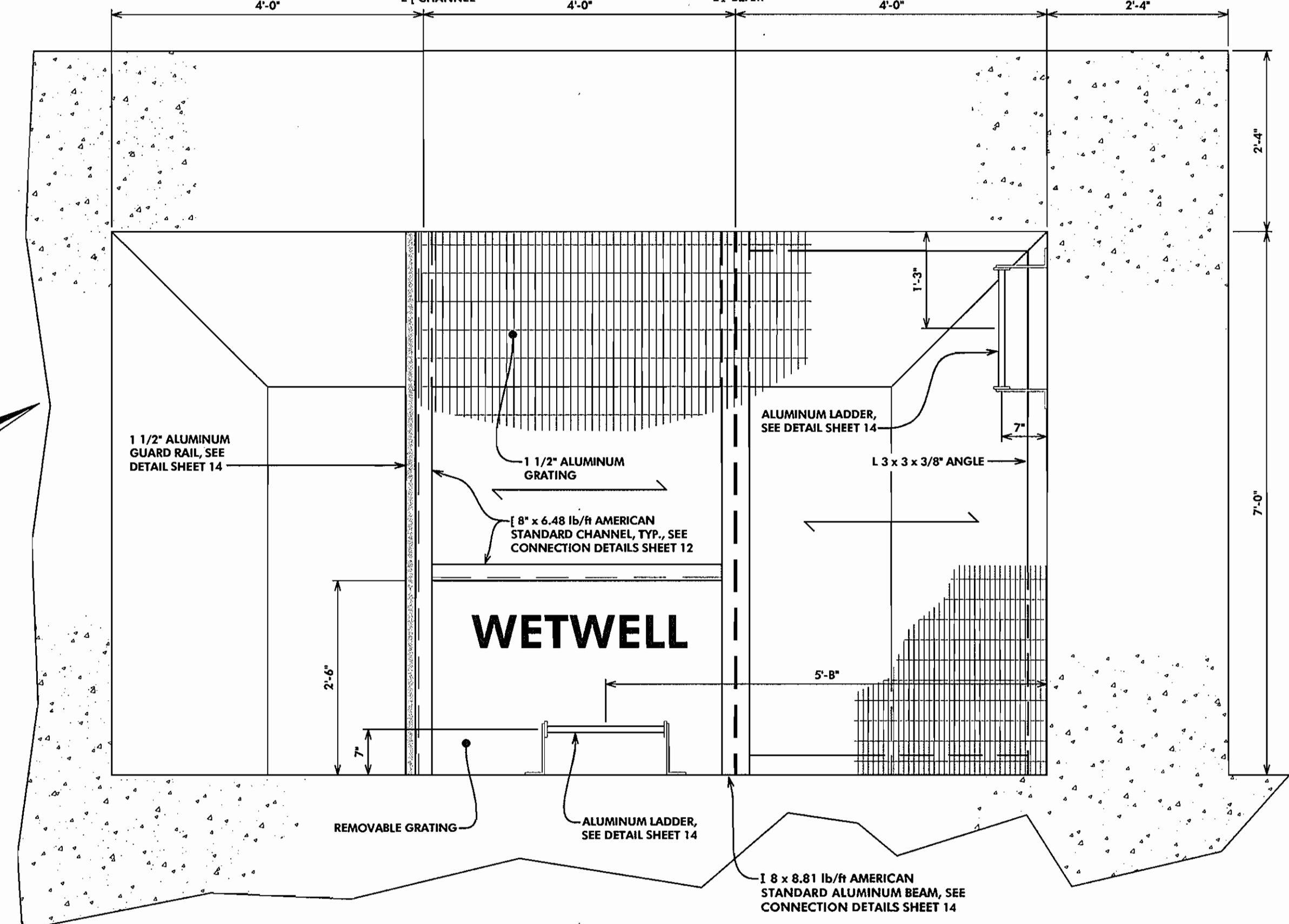
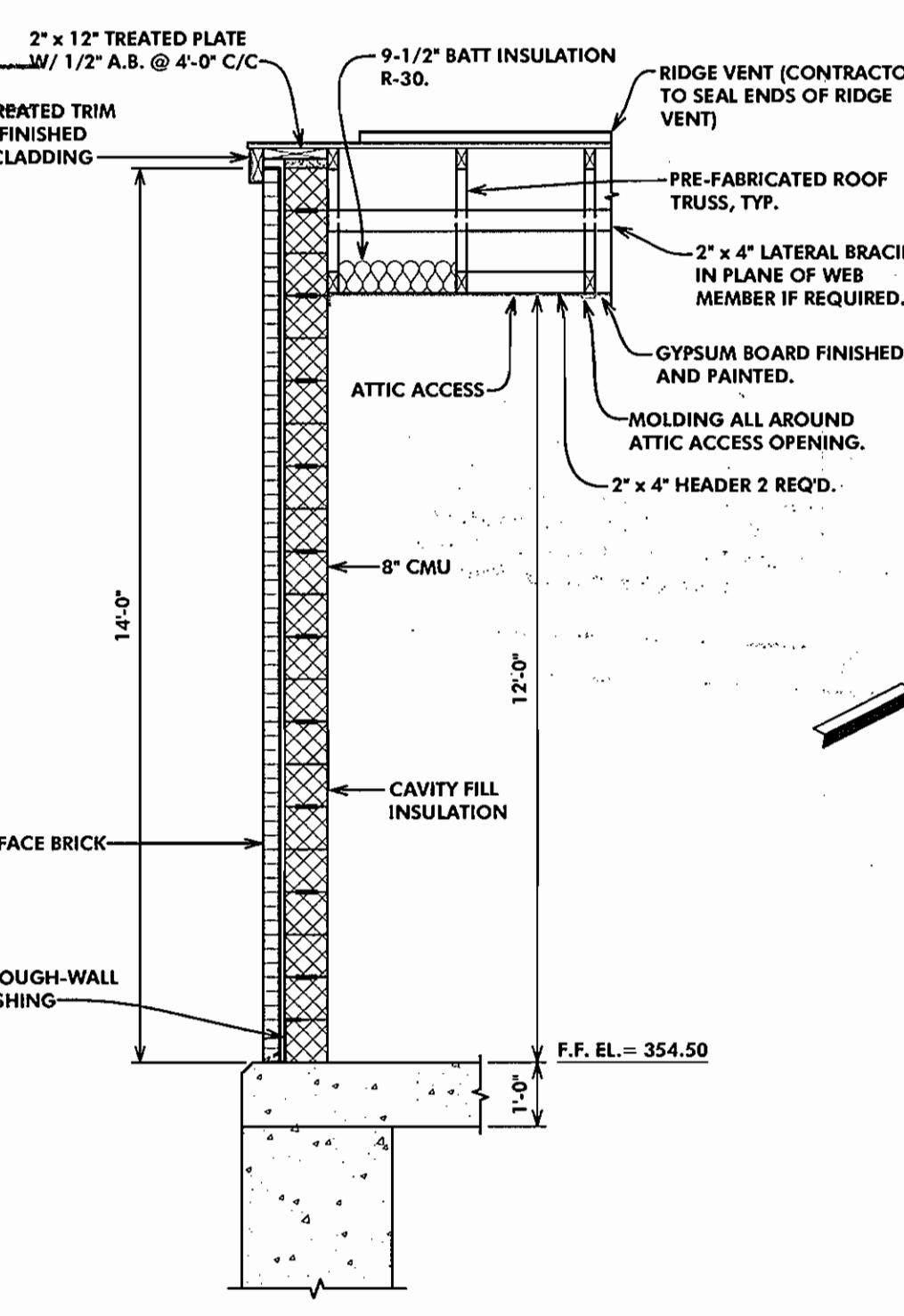
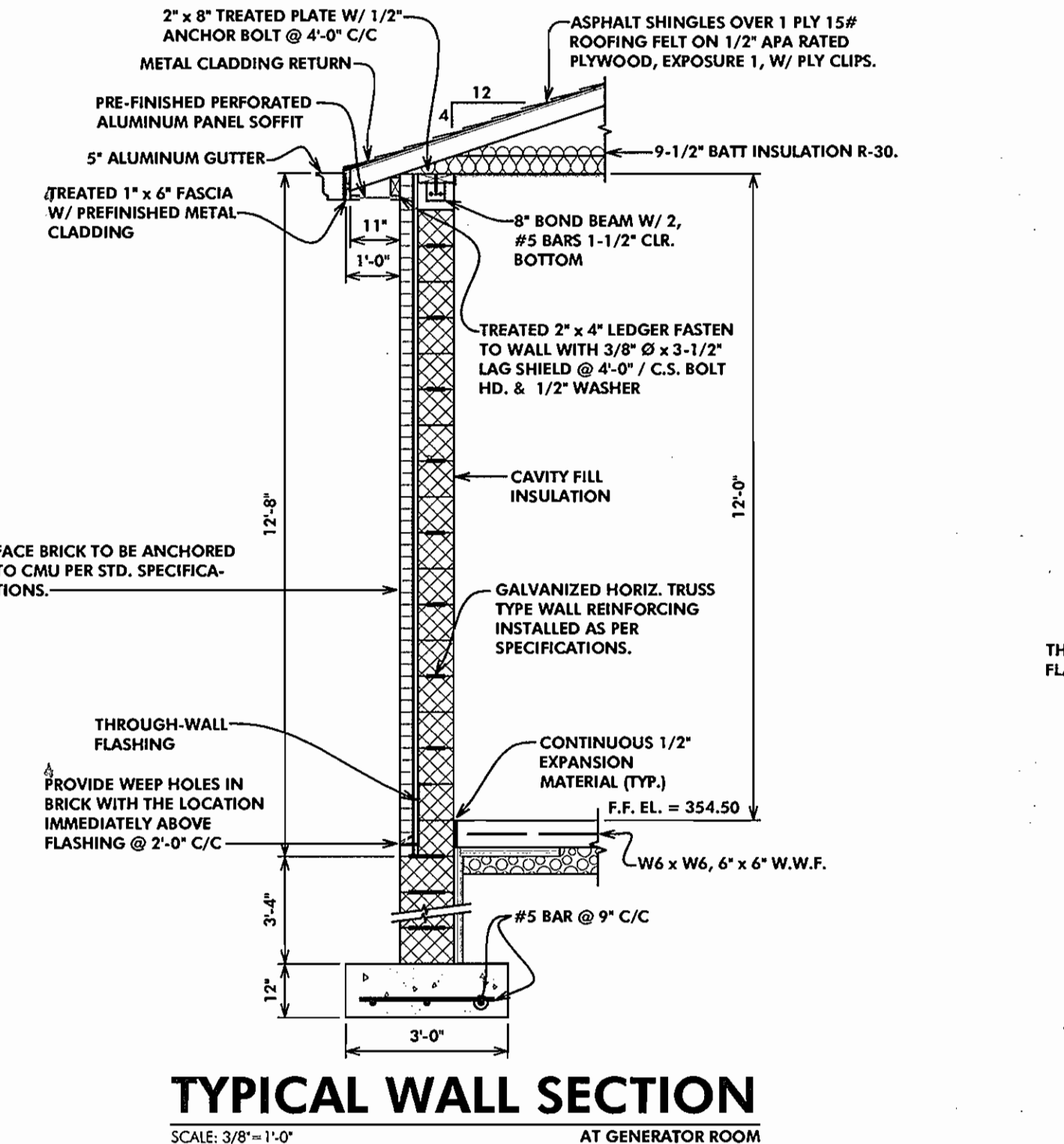
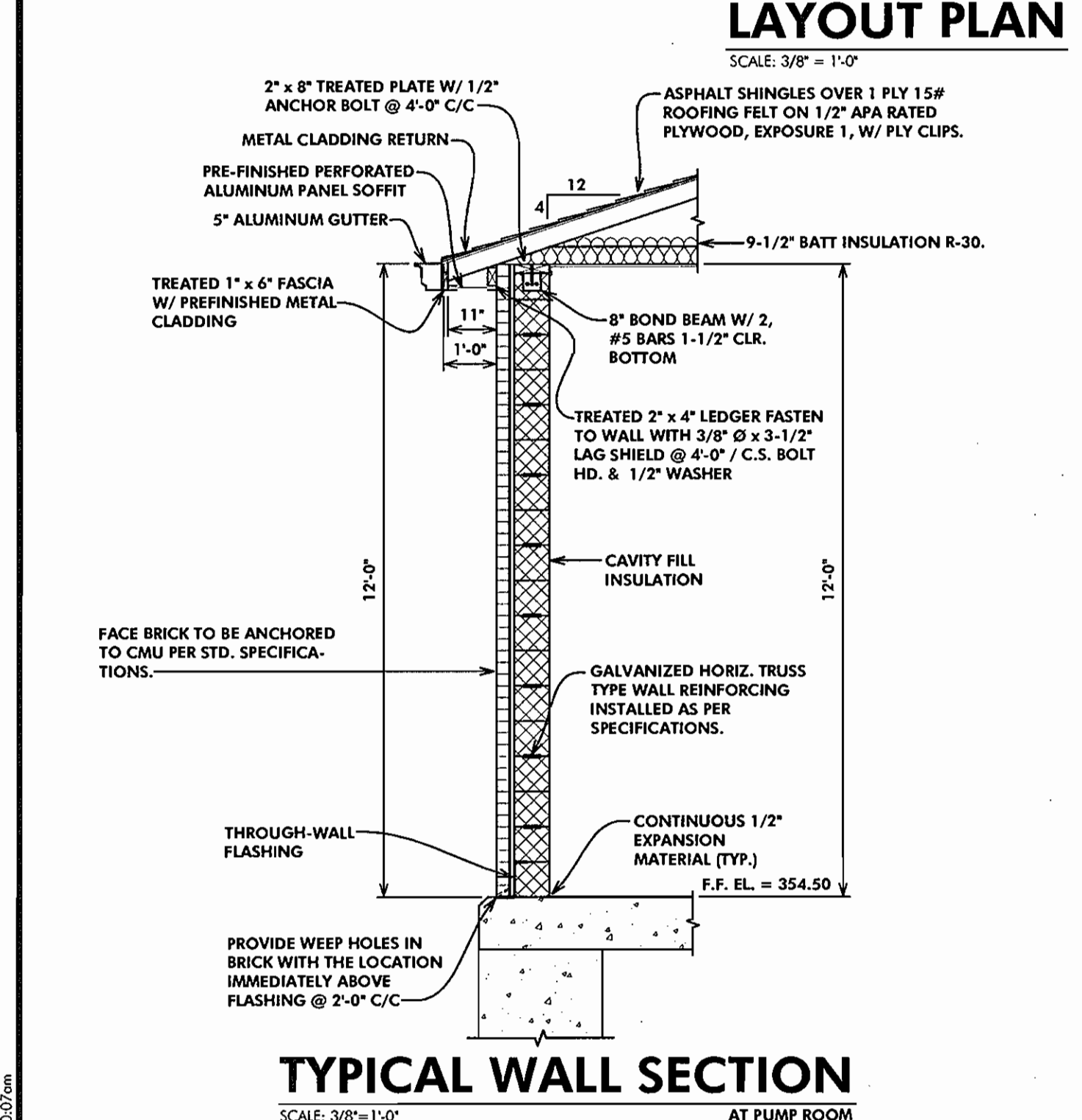
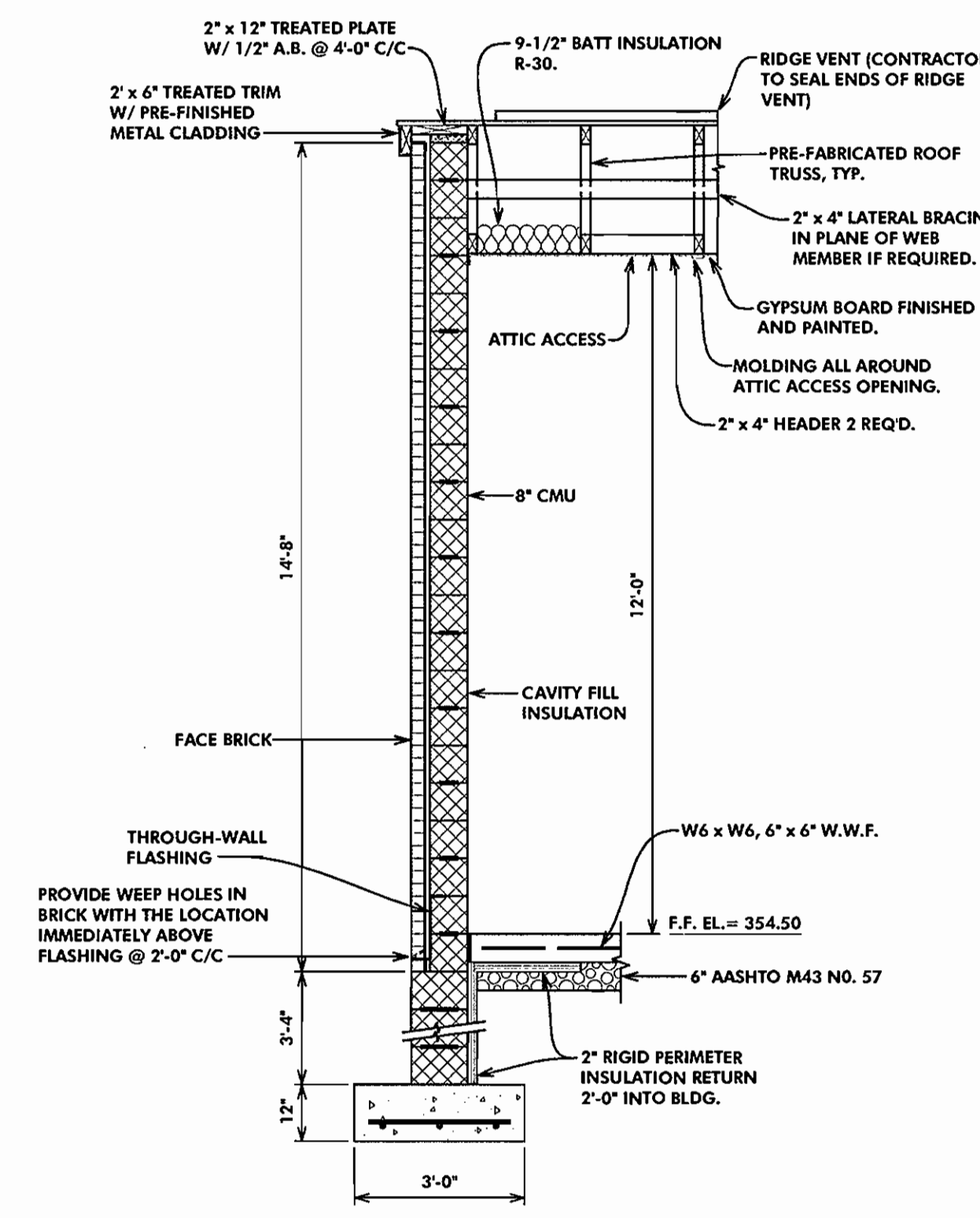
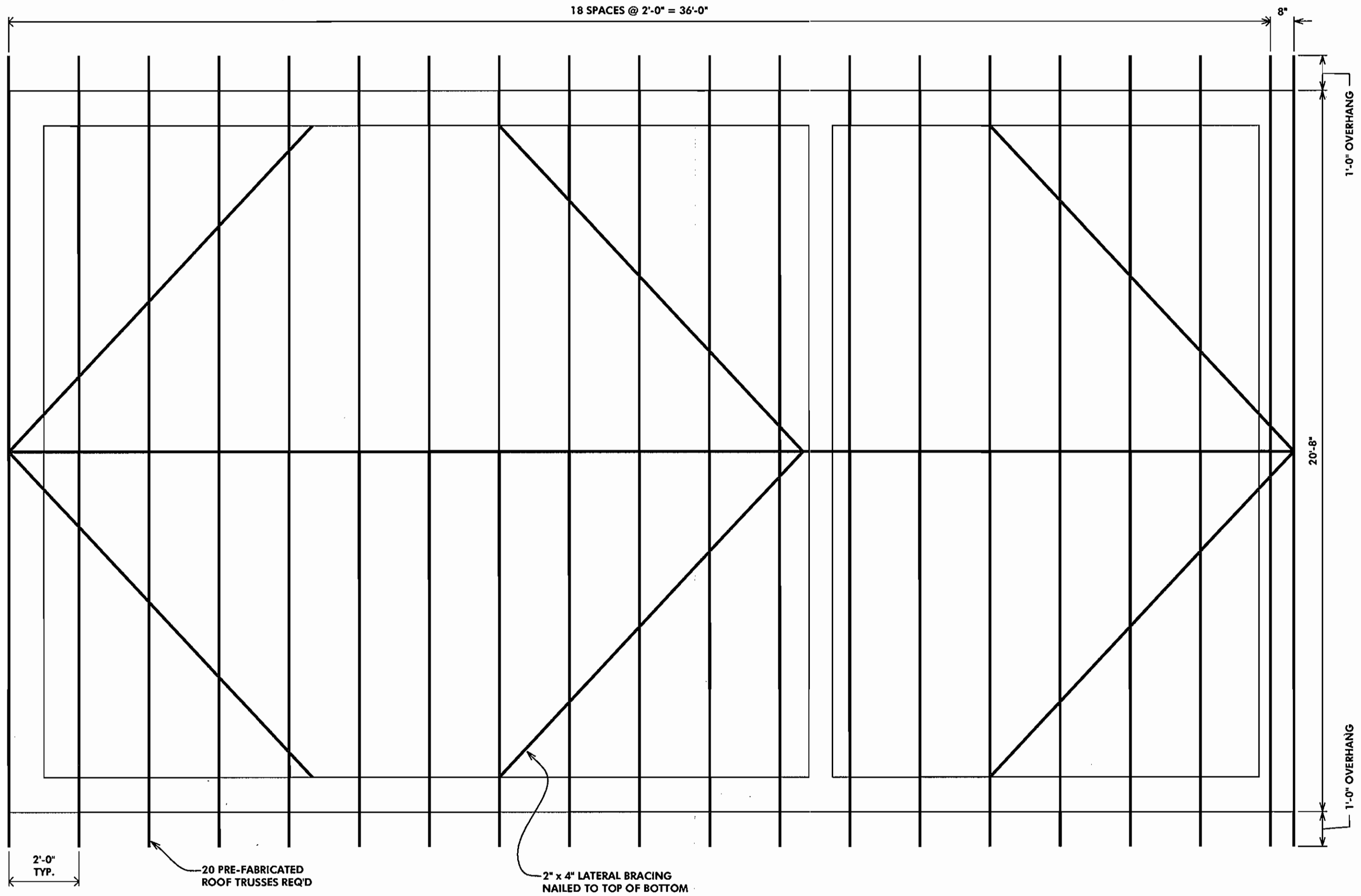
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>[Signature]</i> DATE 12/30/04	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND <i>[Signature]</i> DATE 1/30/05	MICRONE ENGINEERING, ENVIRONMENTAL SCIENCES LAND PLANNING & SURVEYING CONSTRUCTION SERVICES 20 RIDGELY AVENUE ANNAPOLIS, MARYLAND 21401 (410) 267-6621 Fax (410) 267-9932		DES: S.A.C.					STRUCTURAL SECTIONS COLLEGE AVENUE WASTEWATER PUMPING STATION CONTRACT # 10-3898-D 2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE AS SHOWN
				DRN: -						
DATE: FEB, 2000 BY No. REVISION DATE				File Name: G:\1000033 - College Avenue Drawings\MECHANICAL\NEW WORK\CA PS 8 INCH.DWG Tab Ref: STRUCTURAL SECTIONS SHEET 9						



RECORD DRAWING

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By: [Signature] Date: 2/10/05



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] DATE: 2/10/05

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

[Signature] DATE: 2/10/05

MCRONE
ENGINEERING ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING CONSTRUCTION SERVICES
20 BRIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 267-8631
Fax (410) 267-9932

[Signature] DATE: 2/10/05

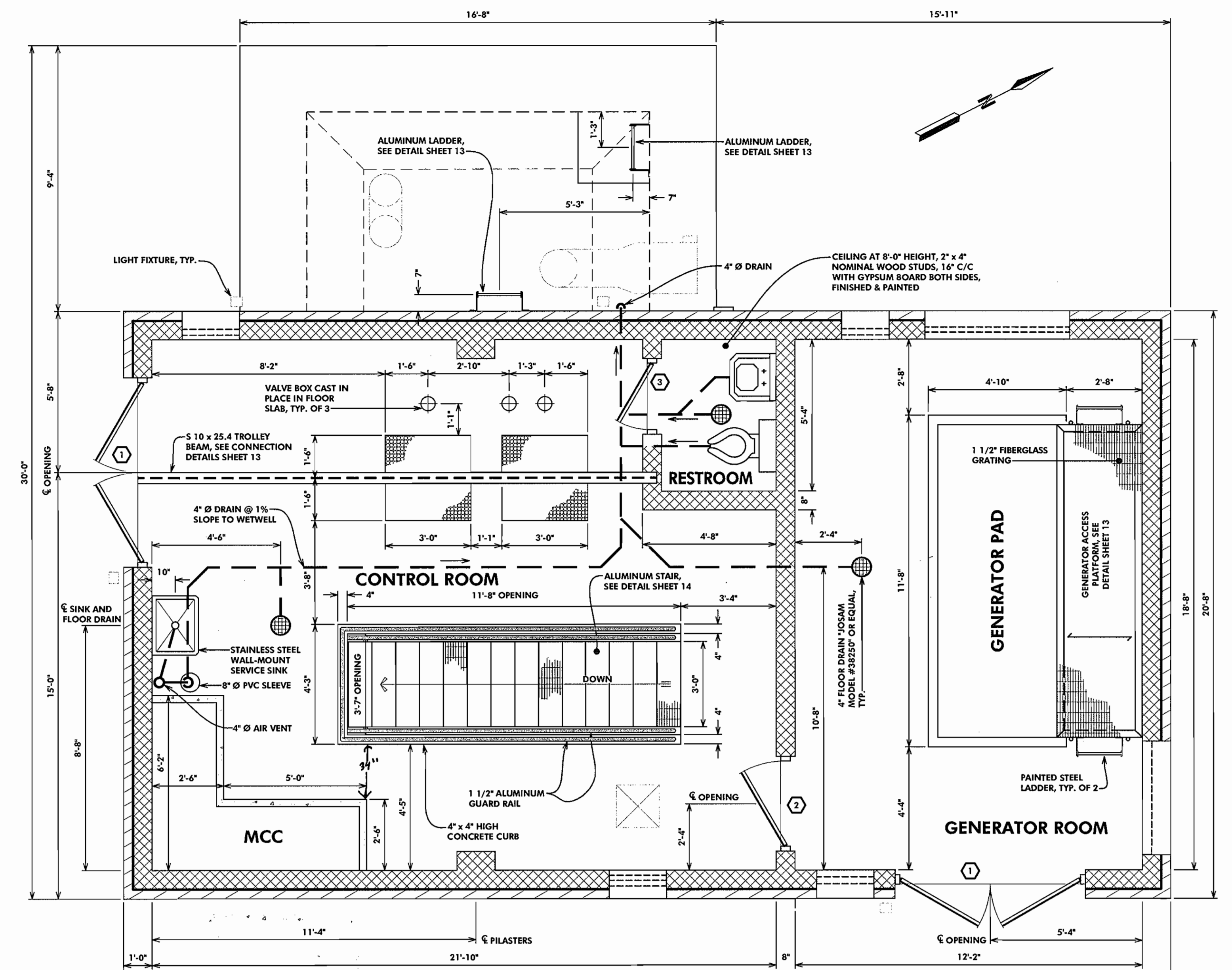
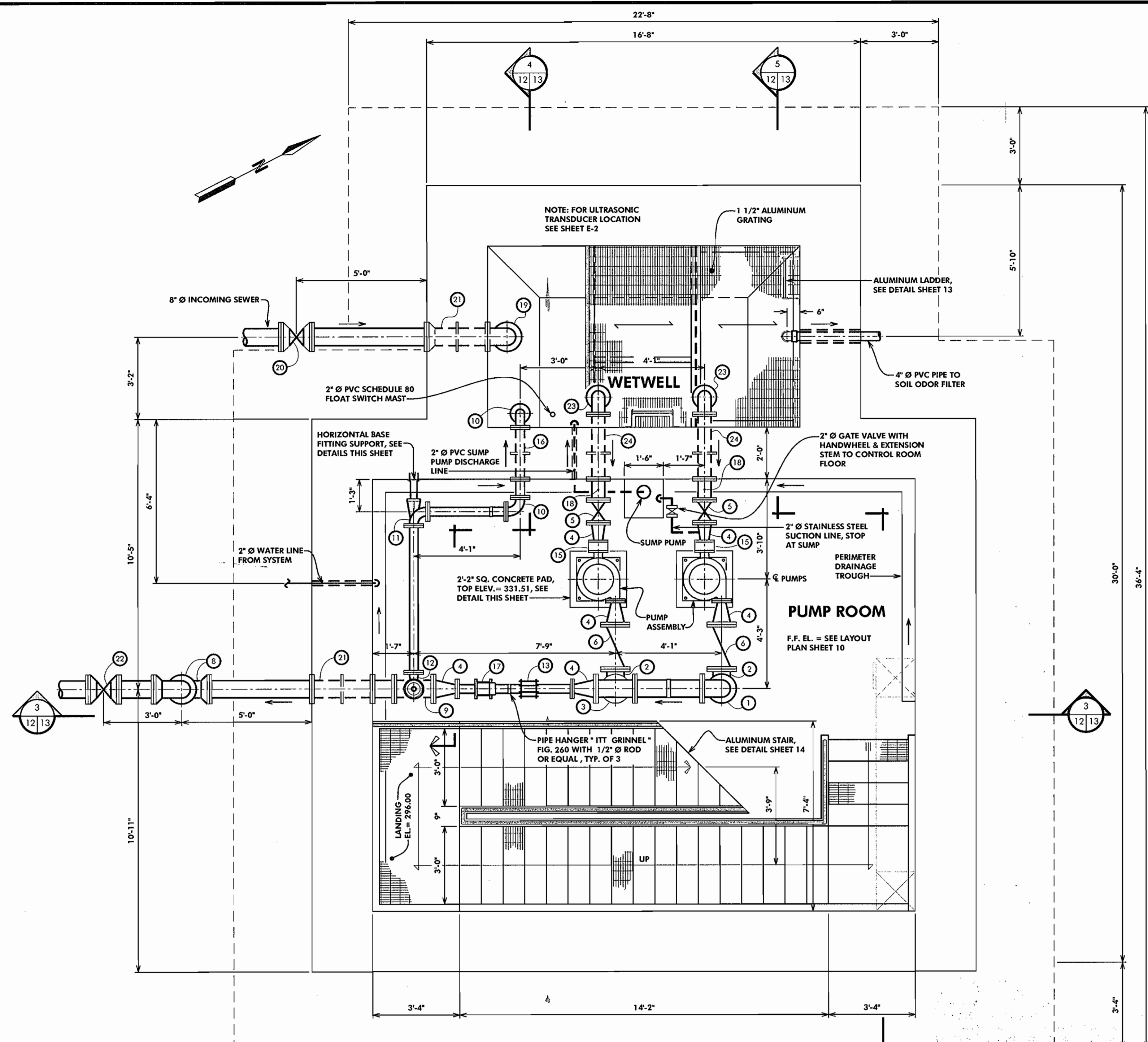
DES: S.A.C.	
DRN: -	
CHK: R.SELL	
DATE: FEB, 2000	
BY No.	
REVISION	
DATE	

LAYOUT, ROOF FRAMING PLAN, SECTIONS, DETAIL

COLLEGE AVENUE WASTEWATER PUMPING STATION
CONTRACT # 10-3818-D

2 nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 10 OF 29



RECORD DRAWING
This record drawing has been prepared, in part, based upon information furnished by others. While this information is believed to be reliable, the Engineer cannot assume its accuracy and does not warrant its accuracy. Those relying on this record drawing are advised to obtain verification of its accuracy before applying it for any purpose.

By: *[Signature]*
Date: 2/18/05

DOOR SCHEDULE

DOOR No.	SIZE	THICKNESS	TYPE	FINISH
1	6'-0" x 6'-8"	1 3/4"	HOLLOW METAL	PAINTED
2 *	3'-0" x 6'-8"	1 3/4"	HOLLOW METAL	PAINTED
3	3'-0" x 6'-8"	1 3/4"	HOLLOW METAL	PAINTED

* THIS DOOR SHALL BE "G" TYPE

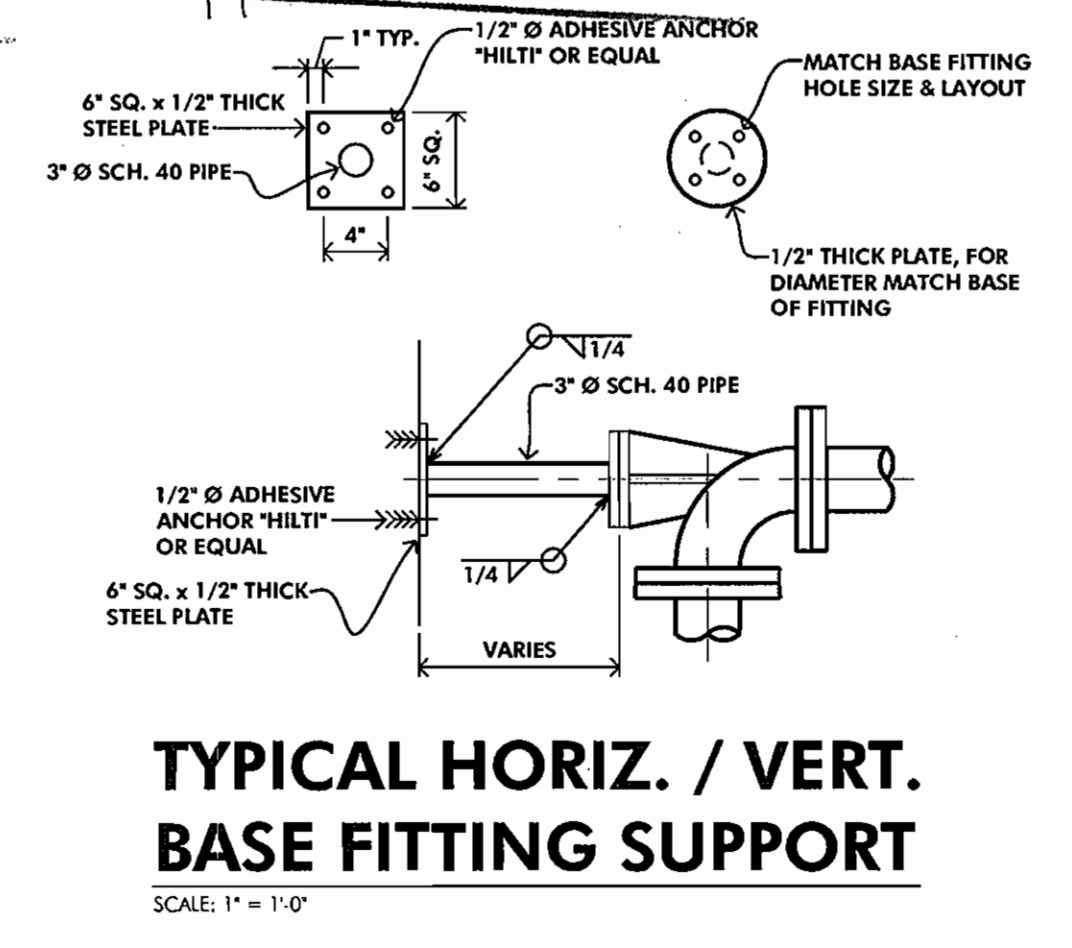
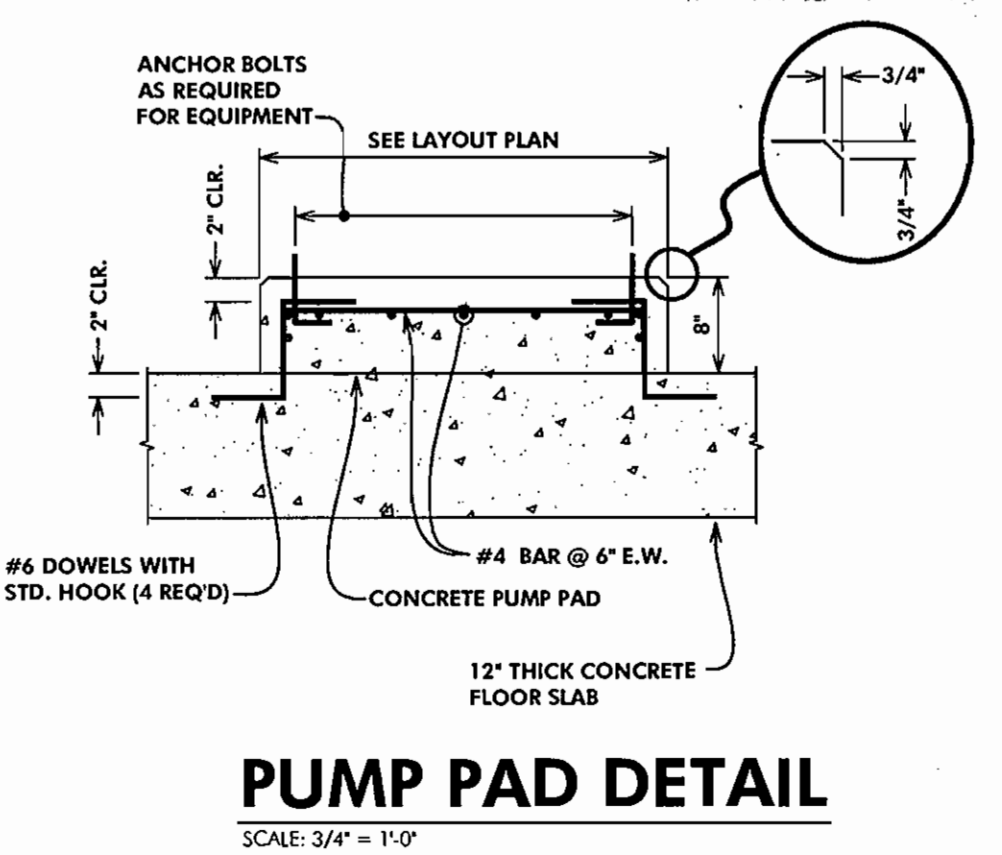
ABBREVIATIONS

STANLEY.....	ST
SARGENT.....	S
IVES.....	I
MONARCH.....	M
NATIONAL GUARD PRODUCT.....	N
HAGER (ACCENT).....	H
YALE.....	Y

LOCKS MUST BE KEYPED TO MATCH THE EXISTING HOWARD COUNTY'S LOCKS

HARDWARE SCHEDULE

ITEM	DOOR #1	DOOR #2	DOOR #3
HINGES	ST FBB 199 US 32 4-1/2" x 4-1/2"	ST FBB 199 US 32 4-1/2" x 4-1/2"	ST FBB 199 US 32 4" x 4"
* LOCK	Y CA 5507 US 32	Y CA 5402 US 32	Y CA 5402 US 32
CLOSER	S FIRE GUARD SERIES 2000	-----	-----
THRESHOLD	N 884 US 32	N 884 US 32	-----
THRESHOLD ANCHOR	N #720	N #720	-----
KICK PLATE	H 10 x 34 x 0.50 US 32 D	H 10 x 34 x 0.50 US 32 D	H 10 x 34 x 0.50 US 32 D
PANIC BAR	M XX M P US 32	M XX M P US 32	-----
HINGE PIN DOOR STOP	-----	-----	1 69
SILENCER	I #20 (3)	I #20 (3)	I #20 (3)
DOOR HOLDER	I #446 US 26 D	I #446 US 26 D	-----

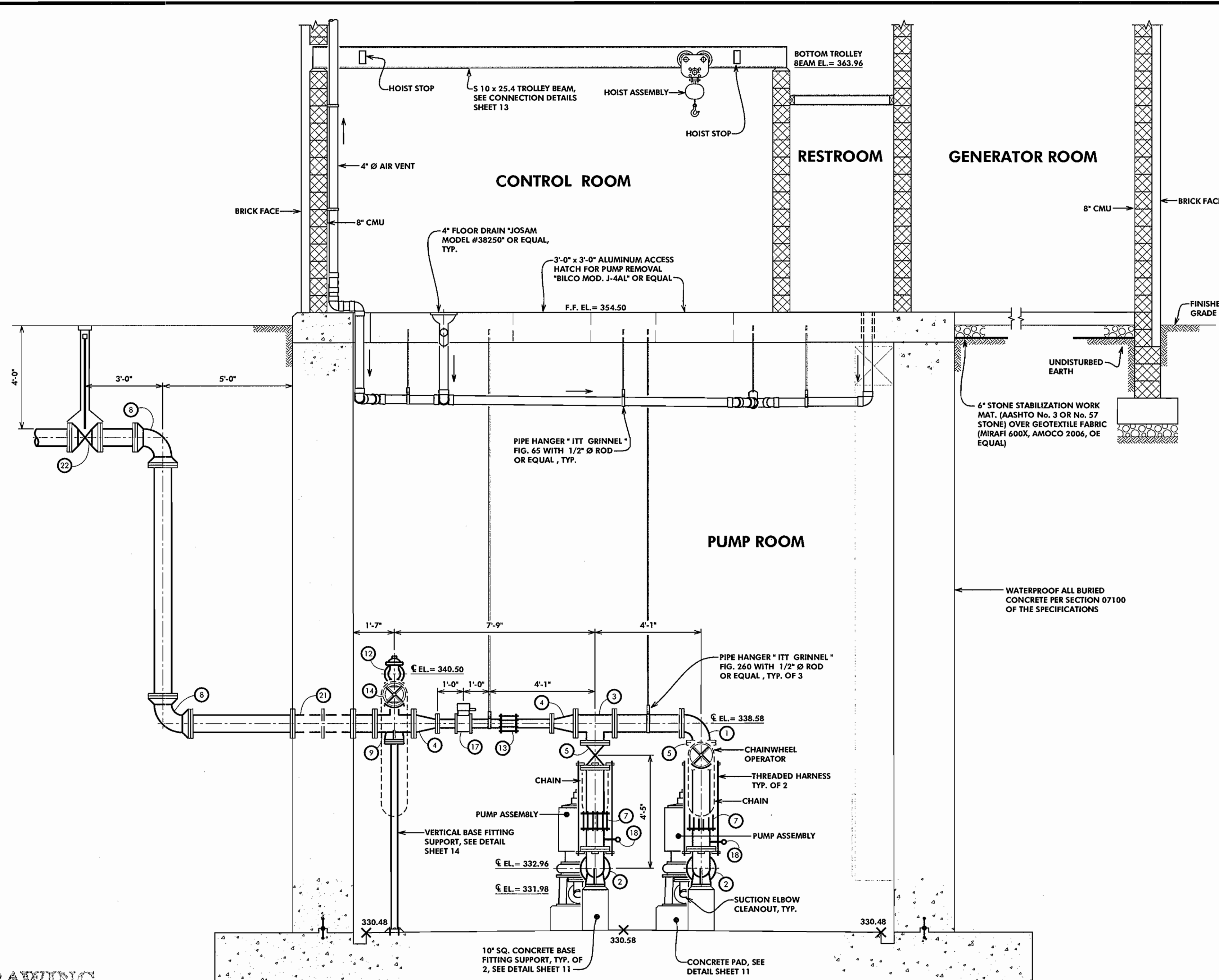
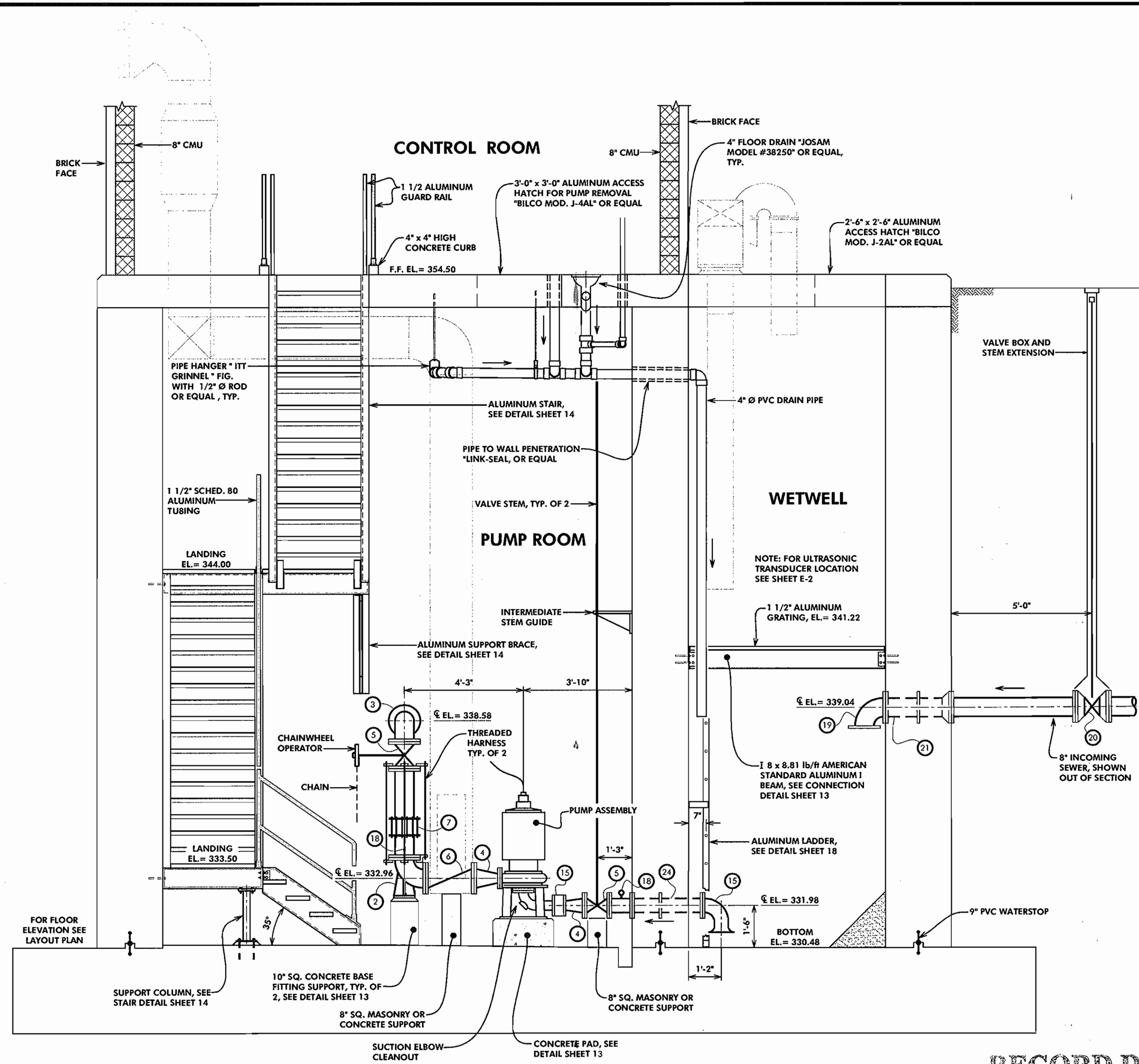


PIPING SCHEDULE

ITEM	SIZE	MAT'L	TYPE	DESCRIPTION
1	8"	D.I.	FLG.	90° ELBOW
2	8"	D.I.	FLG.	90° BASE ELBOW
3	8" x 8"	D.I.	FLG.	TEE
4	8" x 4"	D.I.	FLG.	CONCENTRIC REDUCER
5	8"	C.I.	FLG.	GATE VALVE
6	8"	-	FLG.	PUMP CONTROL VALVE DEEP WELL TYPE "BERMAD MOD. 745"
7	8"	-	-	MECHANICAL COUPLING
8	8"	D.I.	M.J.	90° ELBOW W/MEGA LOGS
9	8" x 4"	D.I.	FLG.	TEE
10	4"	D.I.	FLG.	90° ELBOW
11	4"	D.I.	FLG.	90° BASE ELBOW
12	4"	-	-	PRESSURE RELIEF/SUSTAINING AND CHECK VALVE "BERMAD MOD. 730"
13	4"	-	-	MECHANICAL COUPLING

ITEM	SIZE	MAT'L	TYPE	DESCRIPTION
14	4"	-	FLG.	GATE VALVE
15	4"	D.I.	-	FILLER FLANGE
16	4"	D.I.	FLG./FLG.	WALL PIPE
17	4"	-	-	MAGNETIC FLOWMETER - FISHER AND PORTER MINIMAG
18	-	-	-	PRESSURE GAUGE WITH DIAPHRAGM SEAL AND PET COCK FITTING
19	8"	D.I.	FLG.	90° ELBOW
20	8"	D.I.	M.J.	GATE VALVE
21	8"	D.I.	FLG./M.J.	WALL PIPE
22	8"	D.I.	M.J.	GATE VALVE
23	6"	D.I.	FLG.	FLARE
24	6"	D.I.	FLG./FLG.	WALL PIPE
25	6"	D.I.	-	FILLER FLANGE

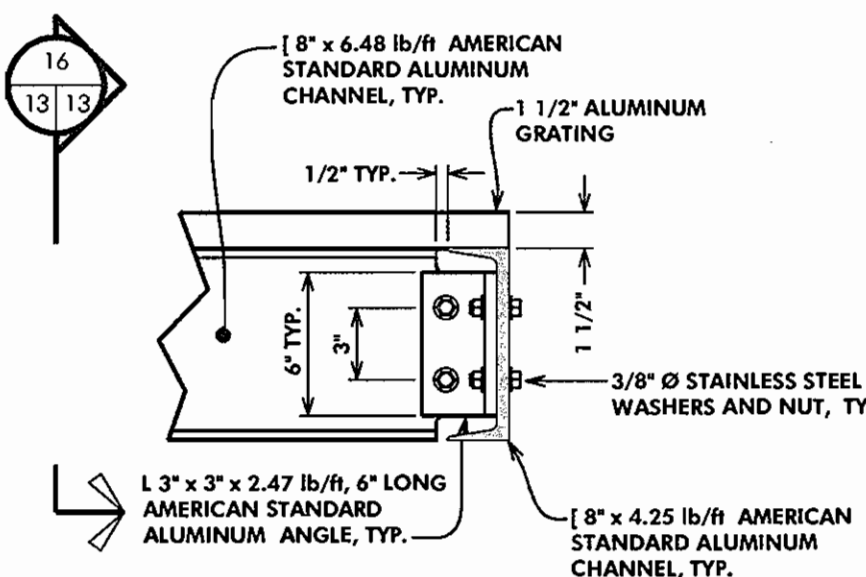
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>[Signature]</i> DATE: 2/18/05	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND <i>[Signature]</i> DATE: 2/18/05	MICRONE ENGINEERING: ENVIRONMENTAL SCIENCES LAND PLANNING & SURVEYING CONSTRUCTION SERVICES 20 BRIDGELY AVENUE ANNAPOLIS, MARYLAND 21401 (410) 267-8621 Fax: (410) 267-9922	DES: S.A.C. DRN: - CHK: R.SELL DATE: FEB, 2000	BY: No. REVISION DATE	PIPING PLAN	COLLEGE AVENUE WASTEWATER PUMPING STATION CONTRACT # 10-3898-D 2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE AS SHOWN SHEET 11 OF 29
--	---	--	---	-----------------------------	--------------------	--	----------------------------------



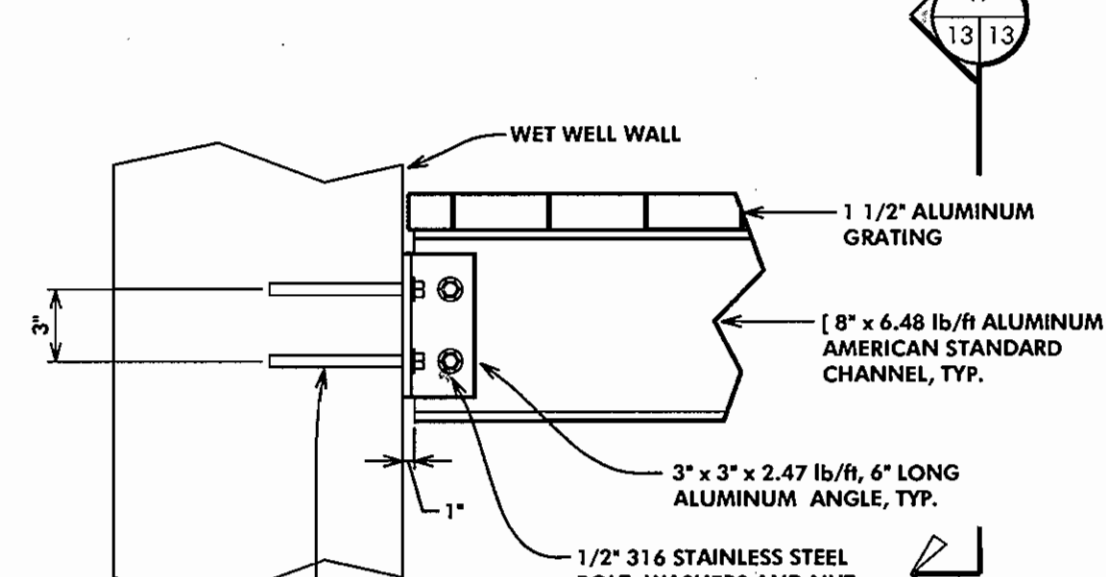
SECTION 5
SCALE: 1/2"=1'-0"

SECTION 3
SCALE: 1/2"=1'-0"

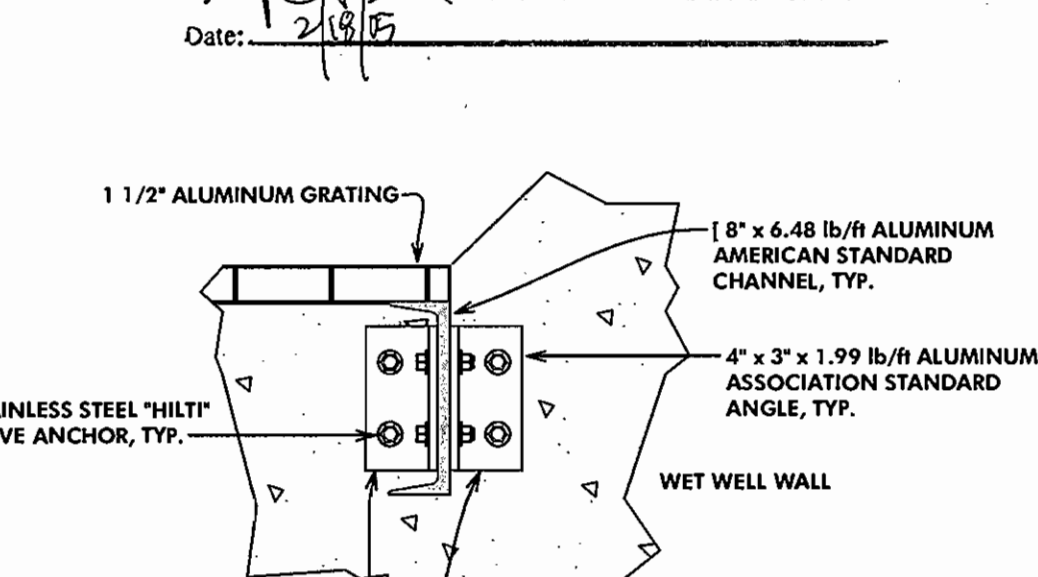
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By: [Signature]
Date: 2/8/00



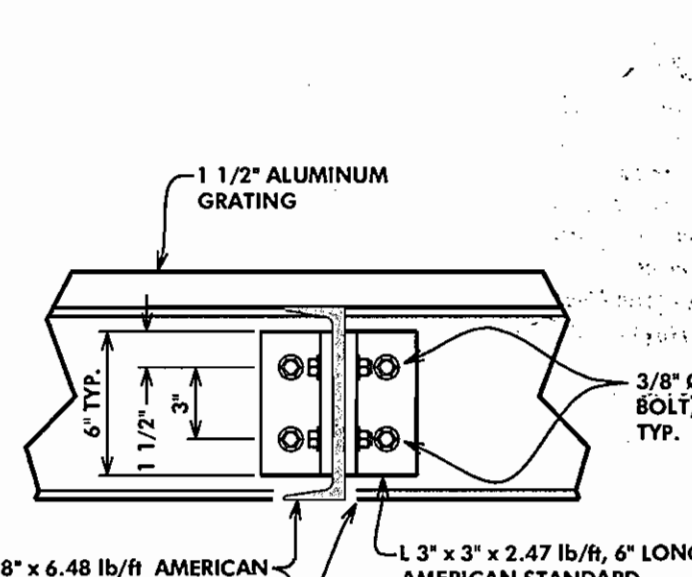
CHANNEL TO CHANNEL CONNECTION
SCALE: 1 1/2"=1'-0"



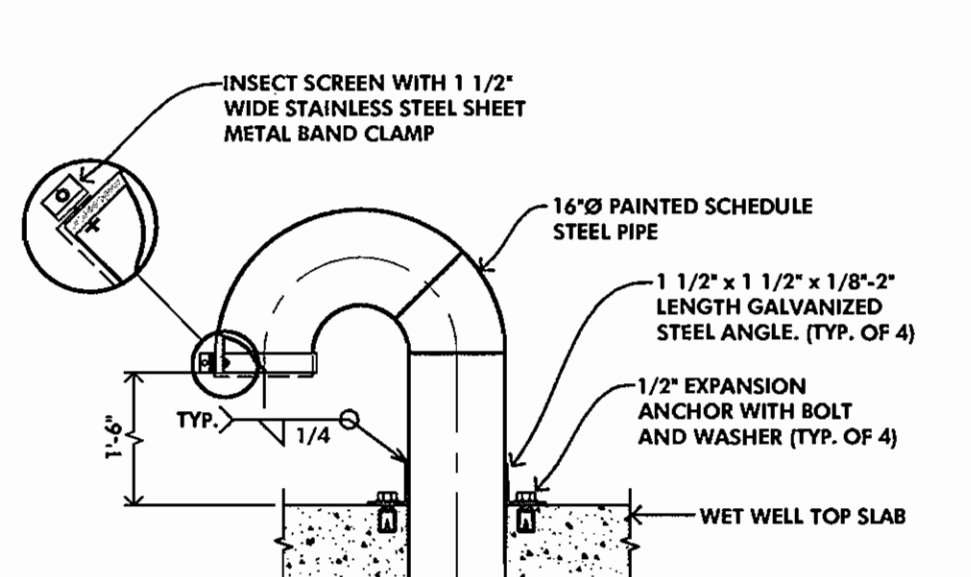
CHANNEL TO WALL CONNECTION
SCALE: 1 1/2"=1'-0"



SECTION 17
SCALE: 3/8"=1'-0"

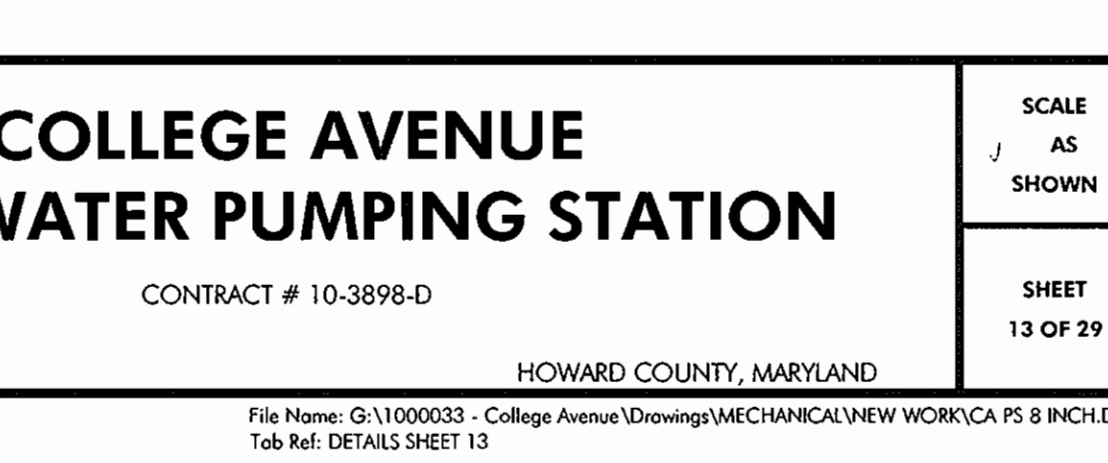
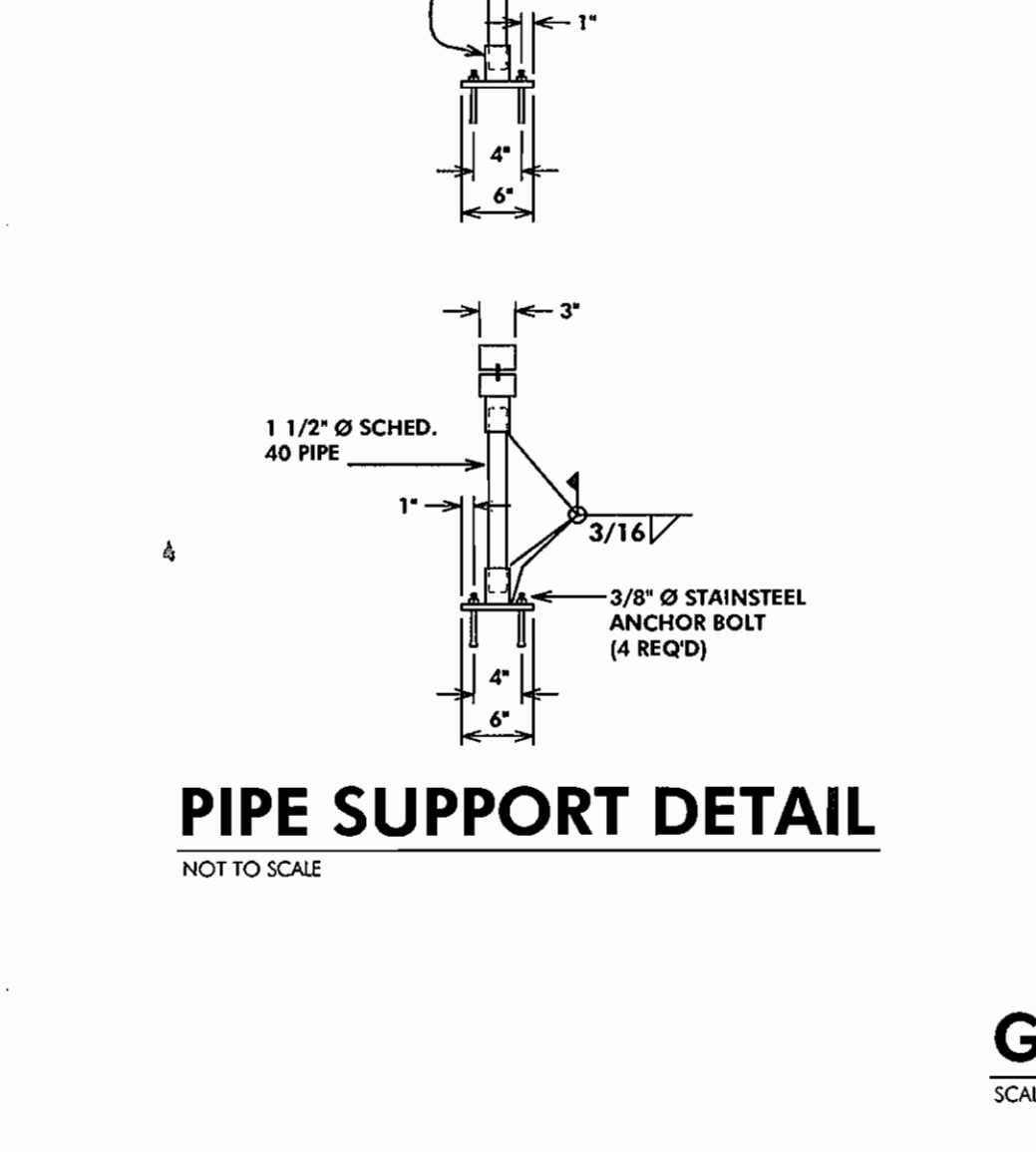
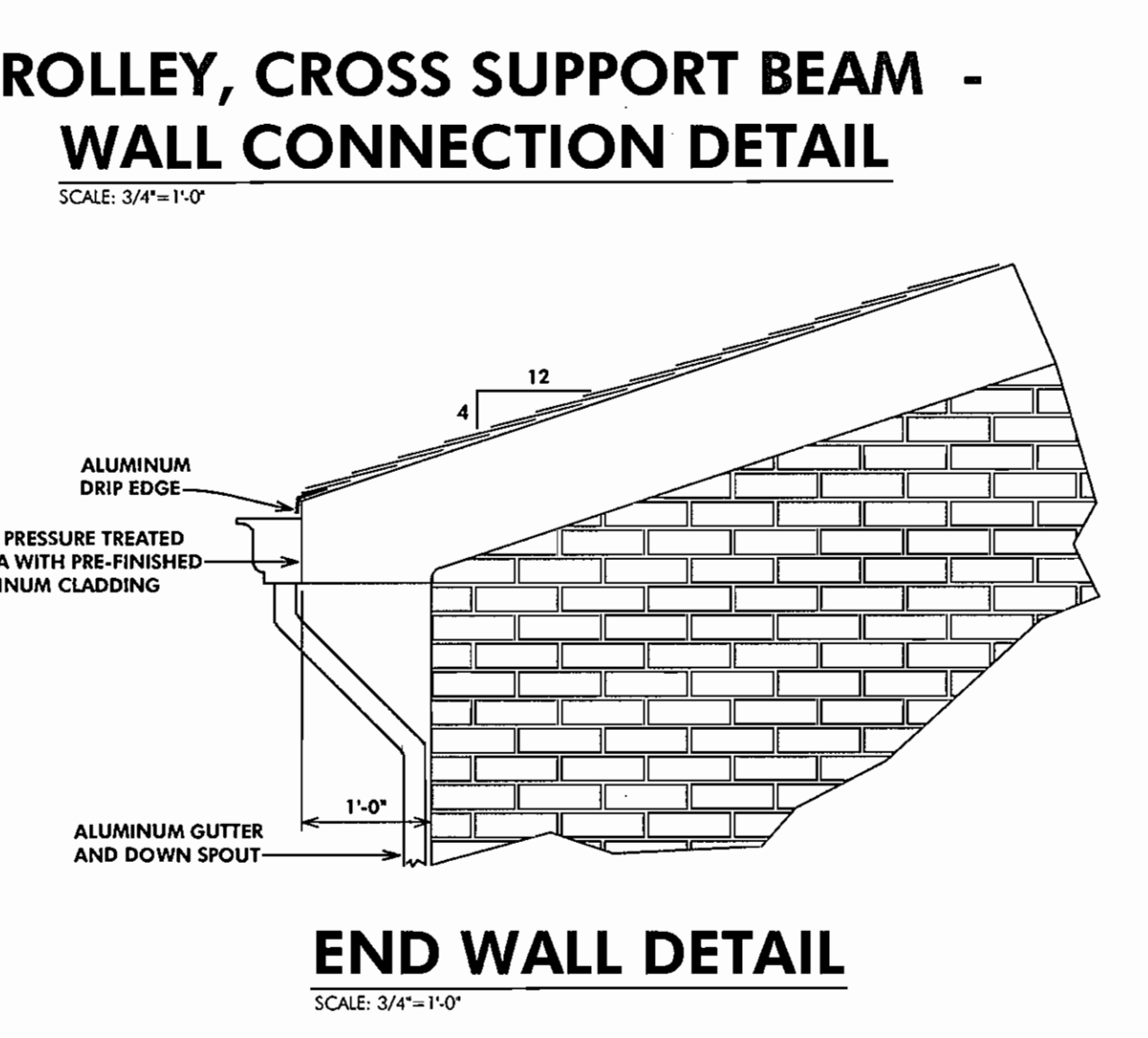
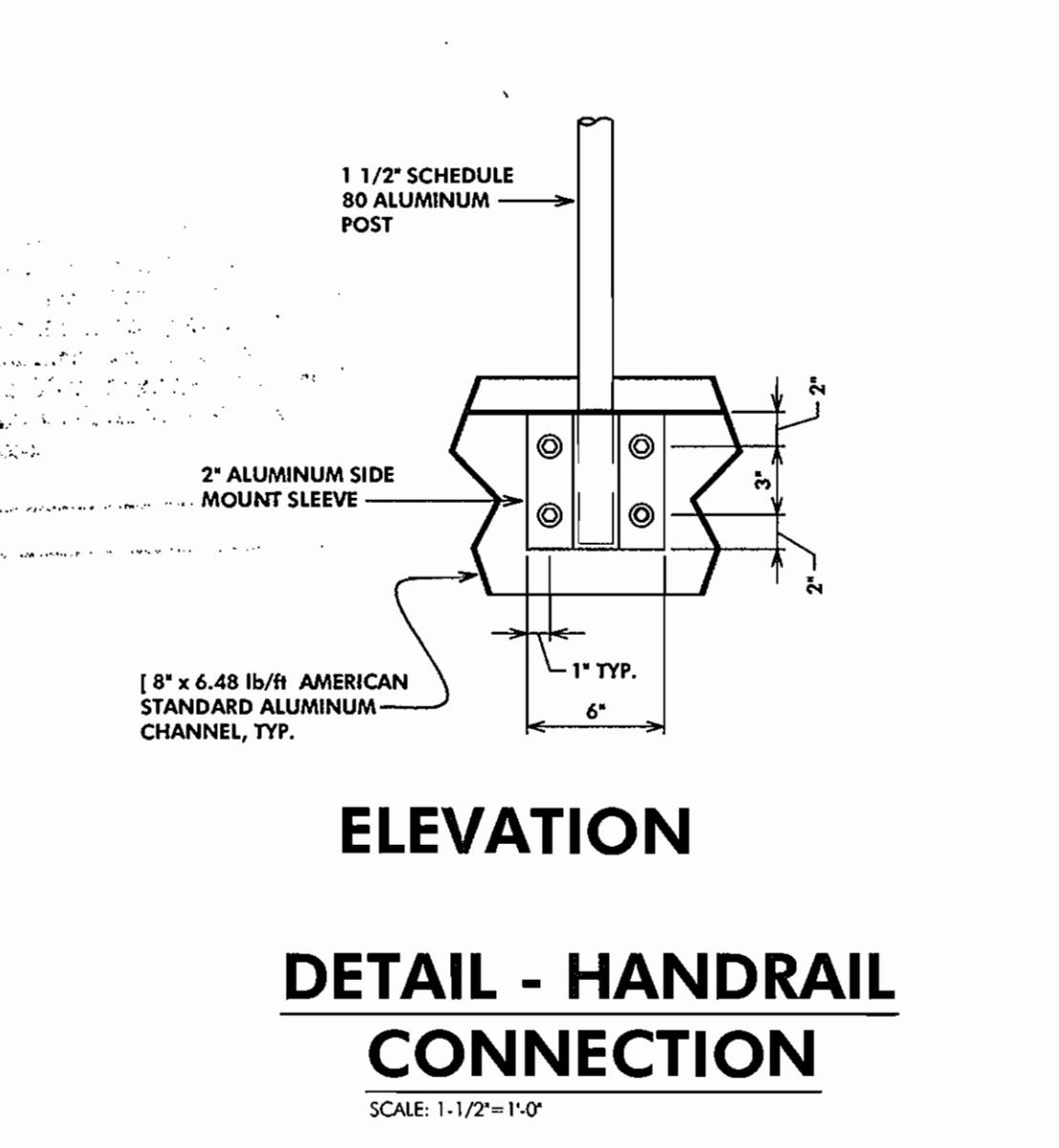
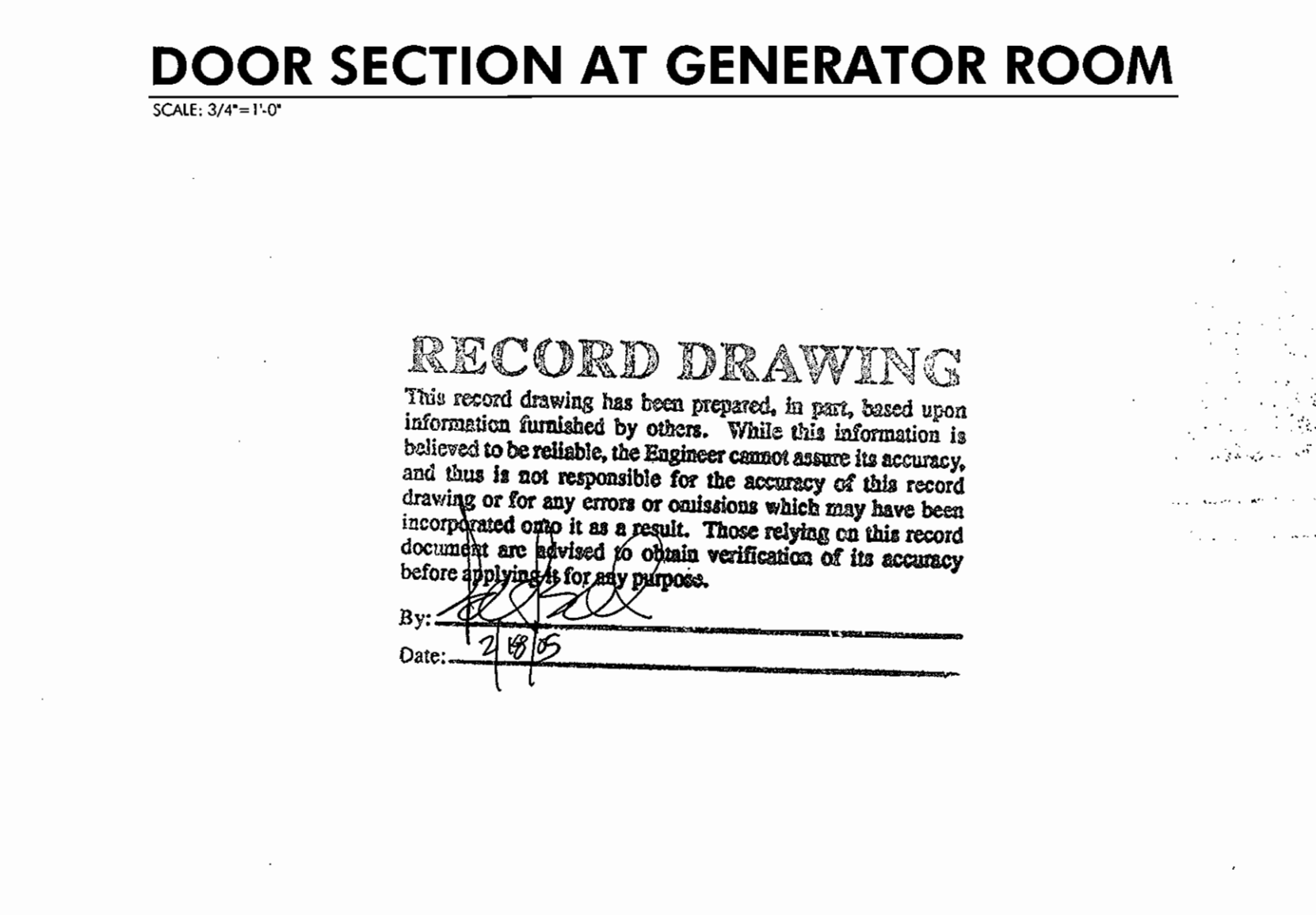
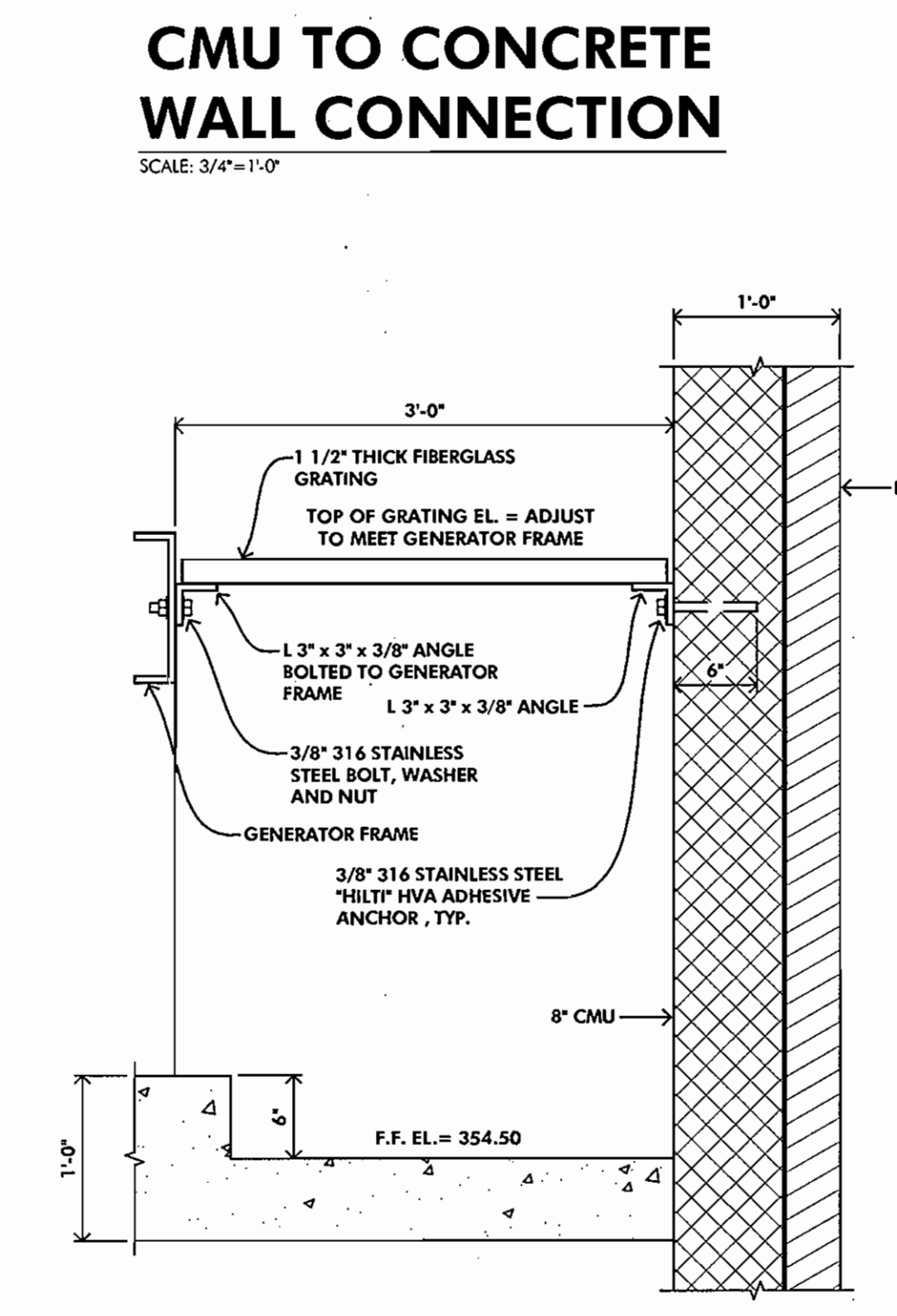
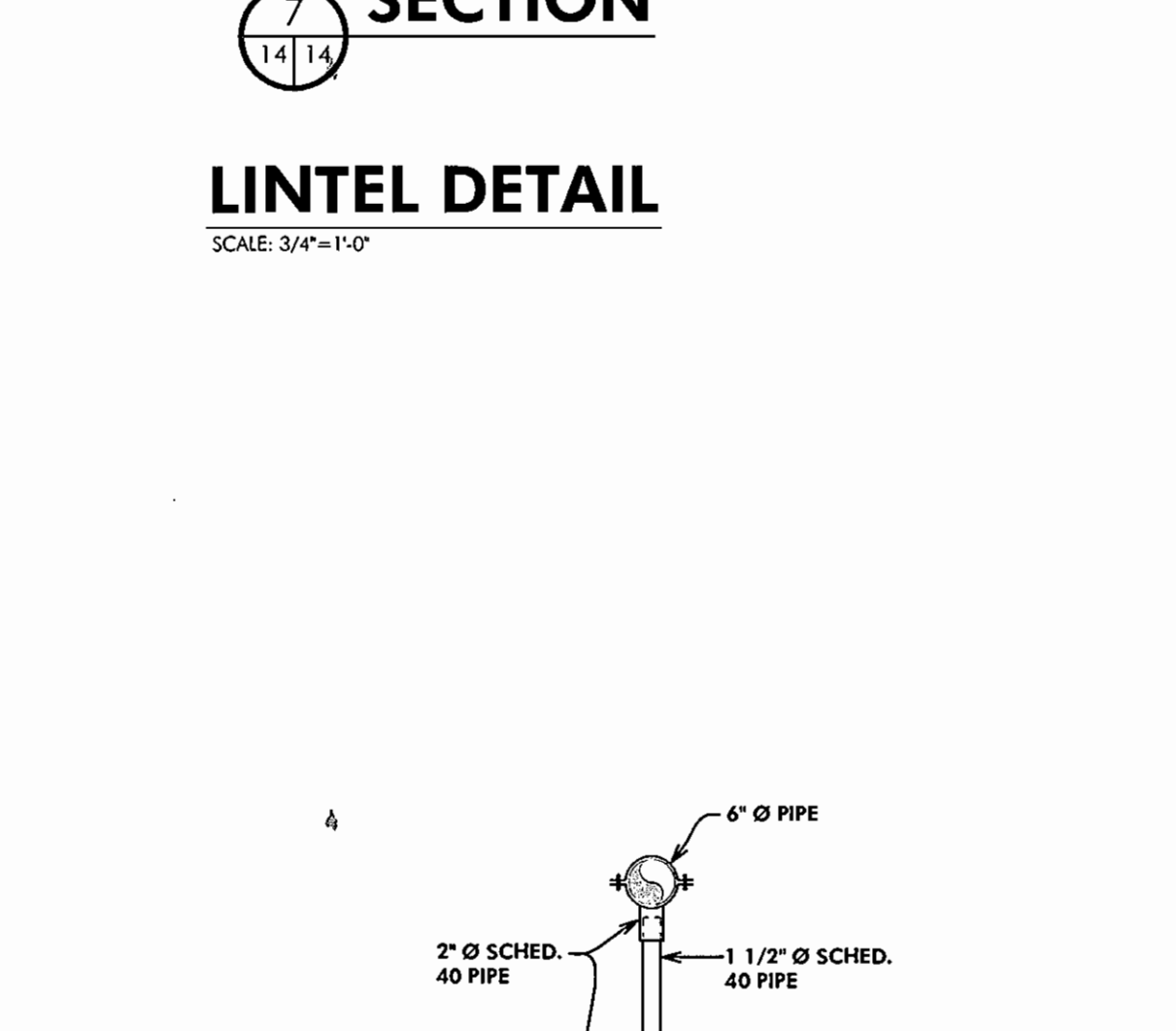
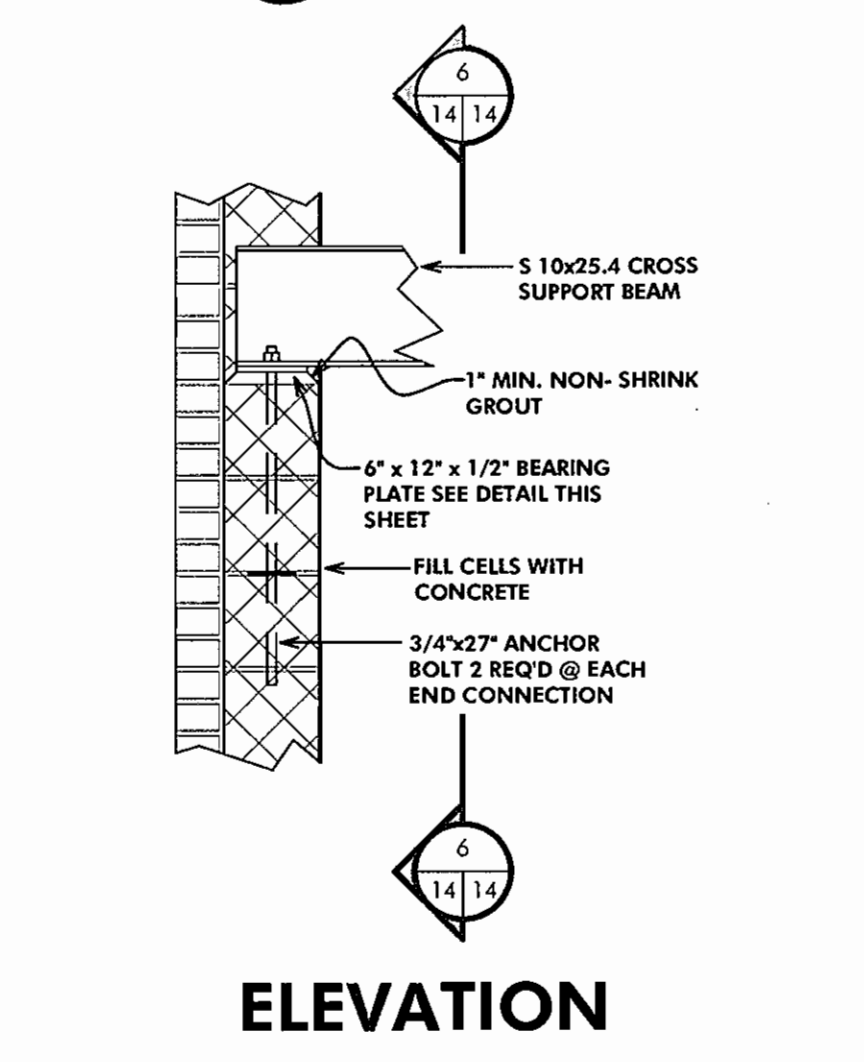
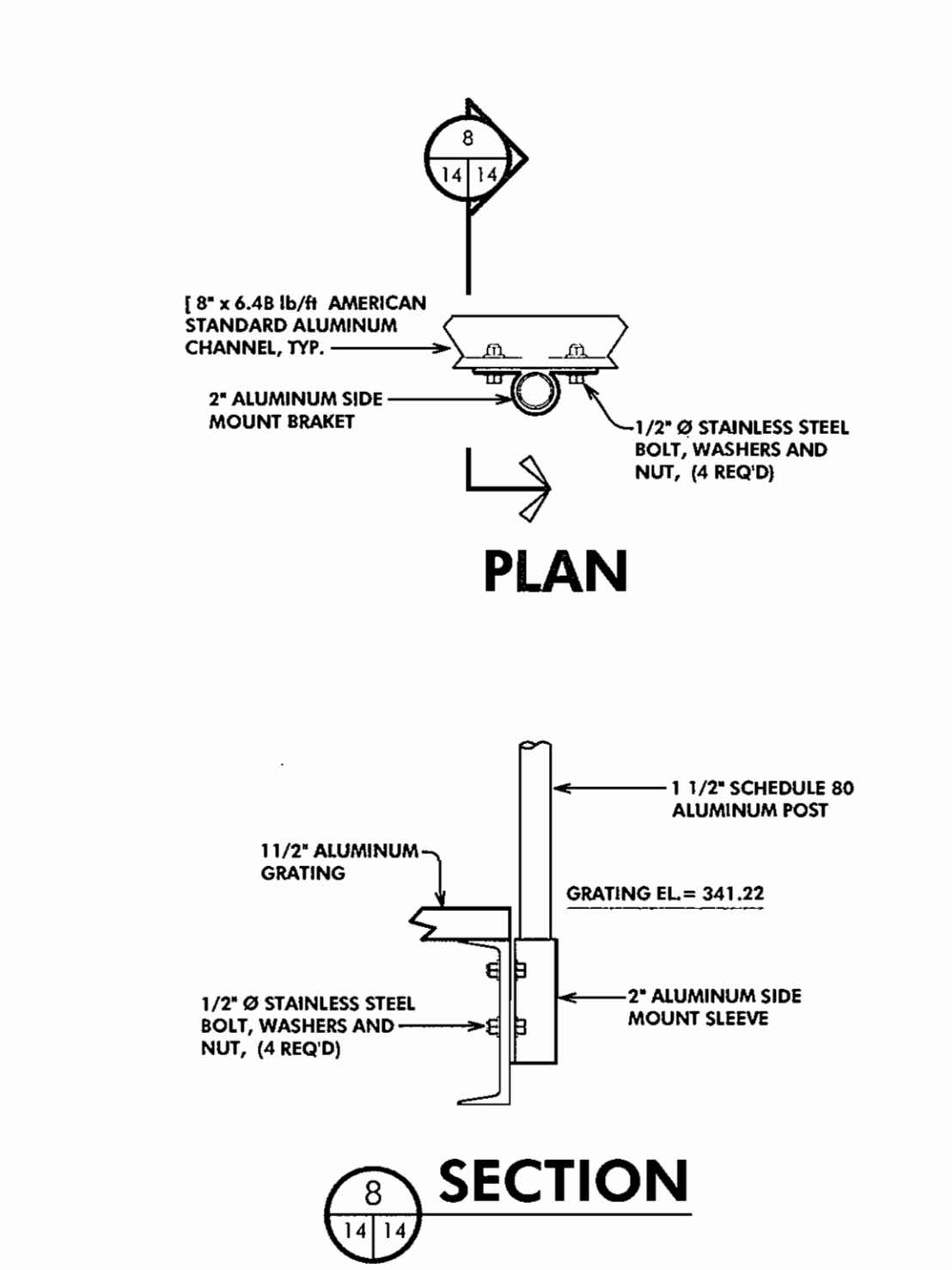
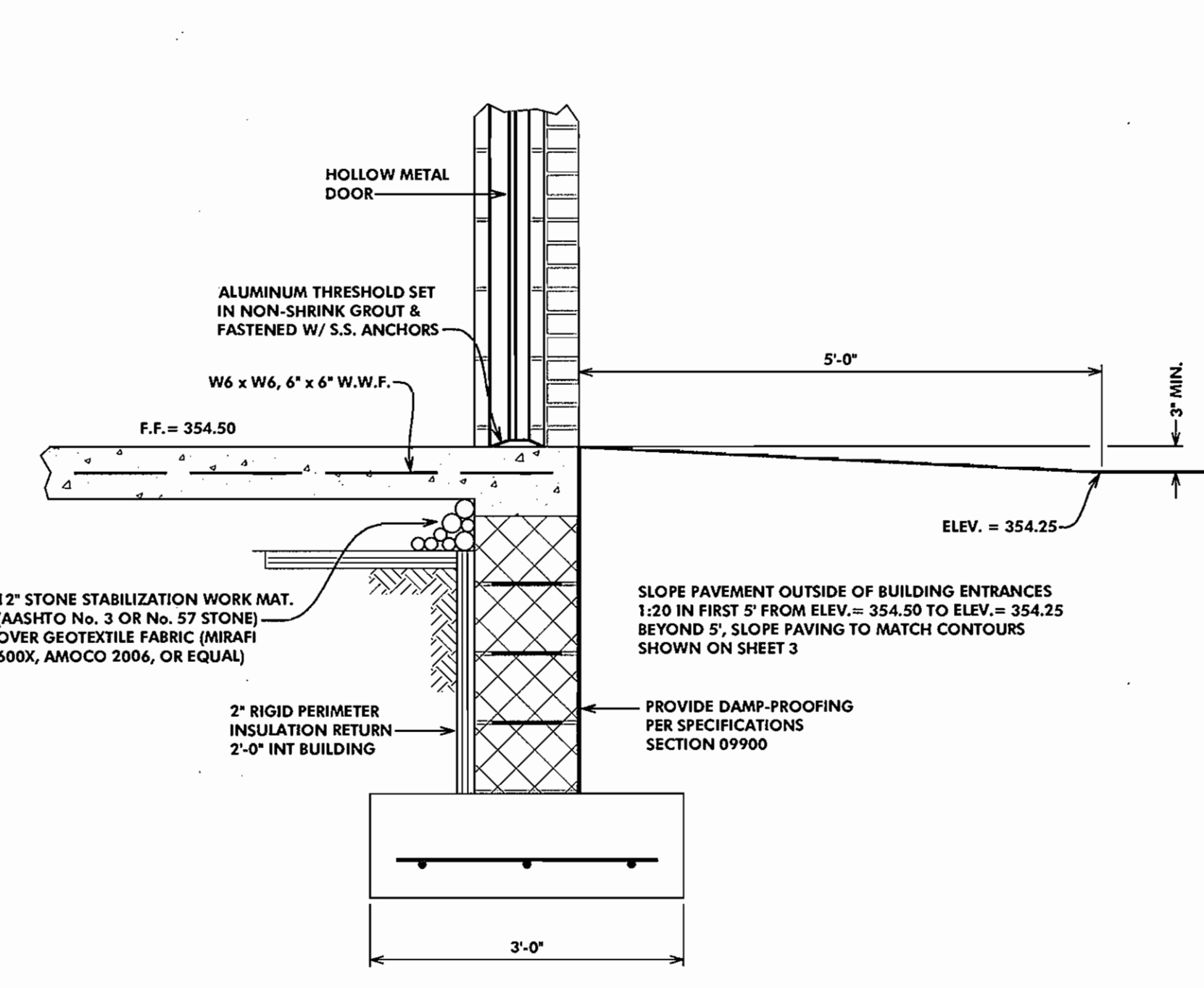
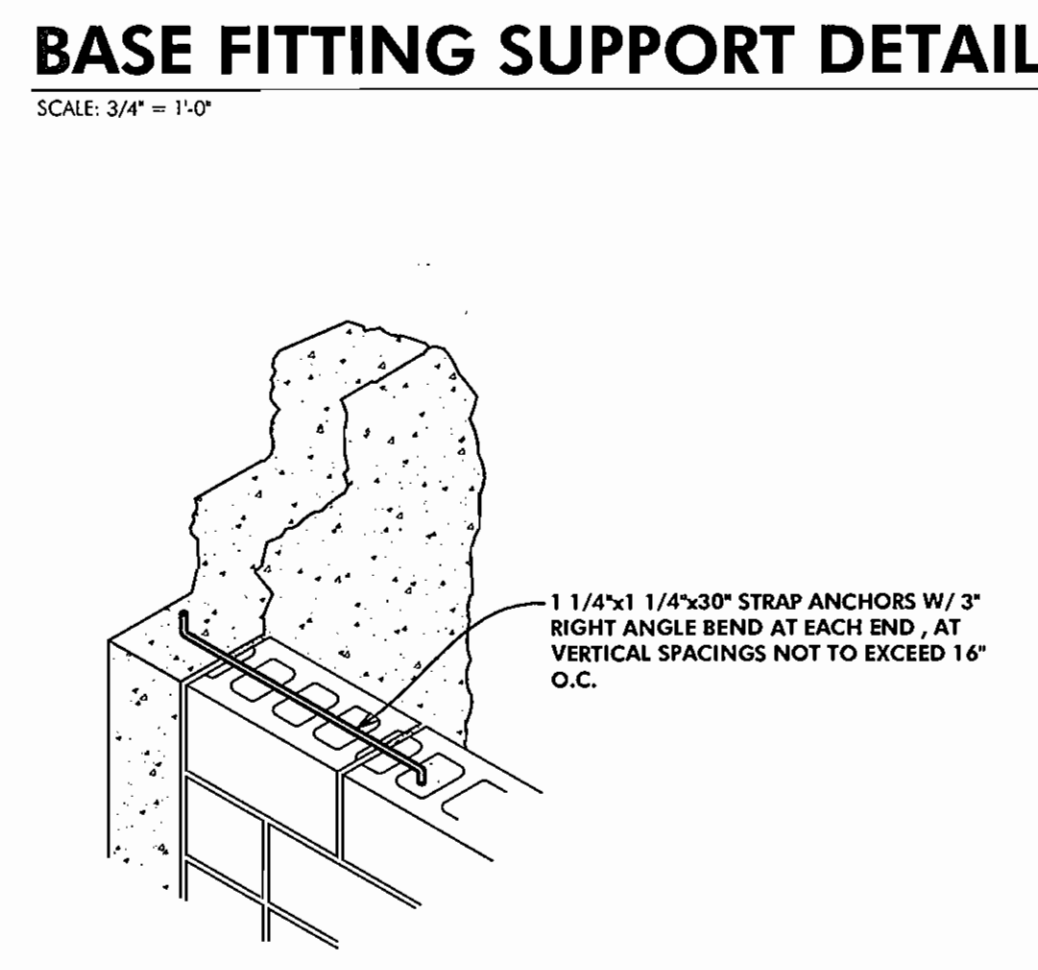
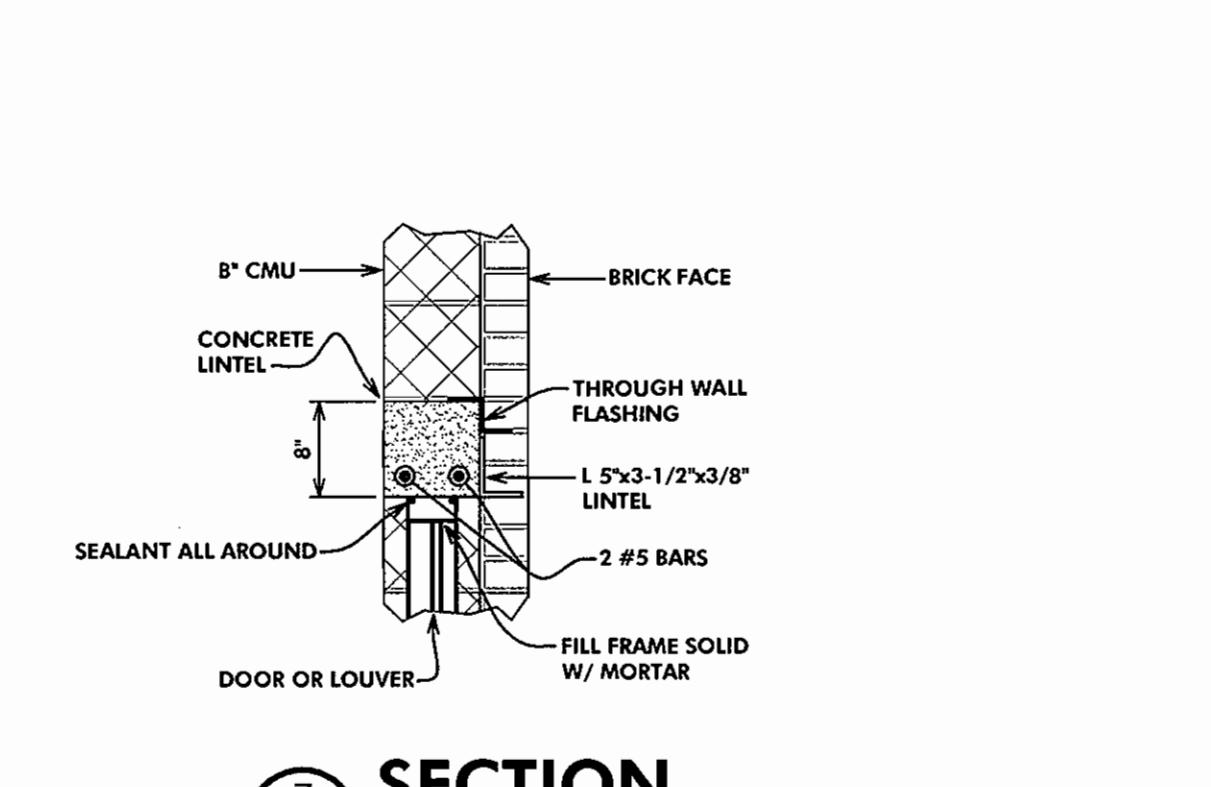
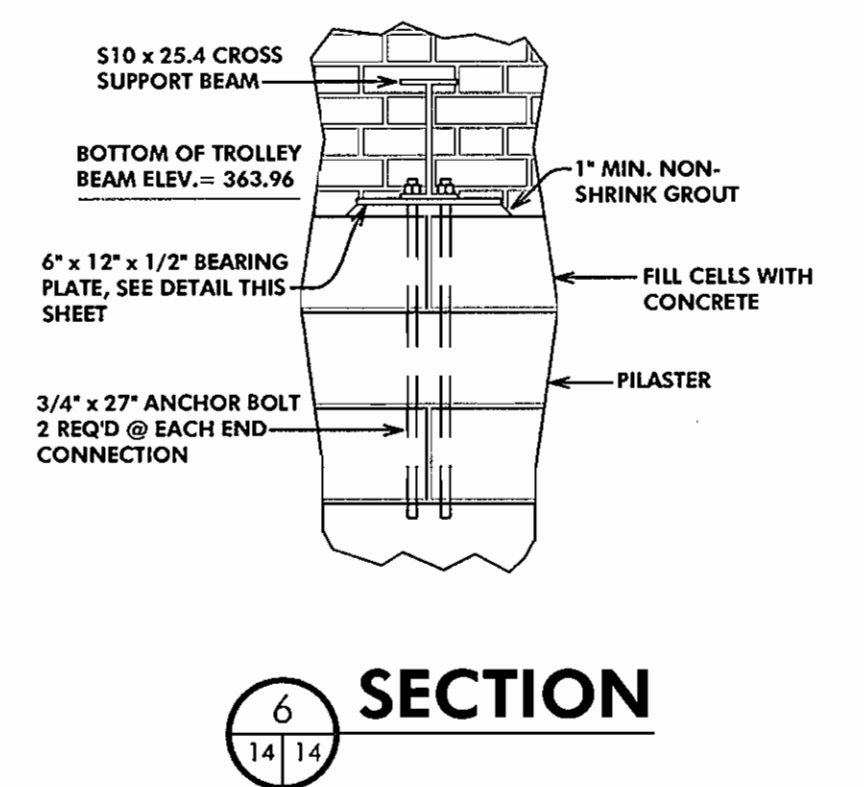
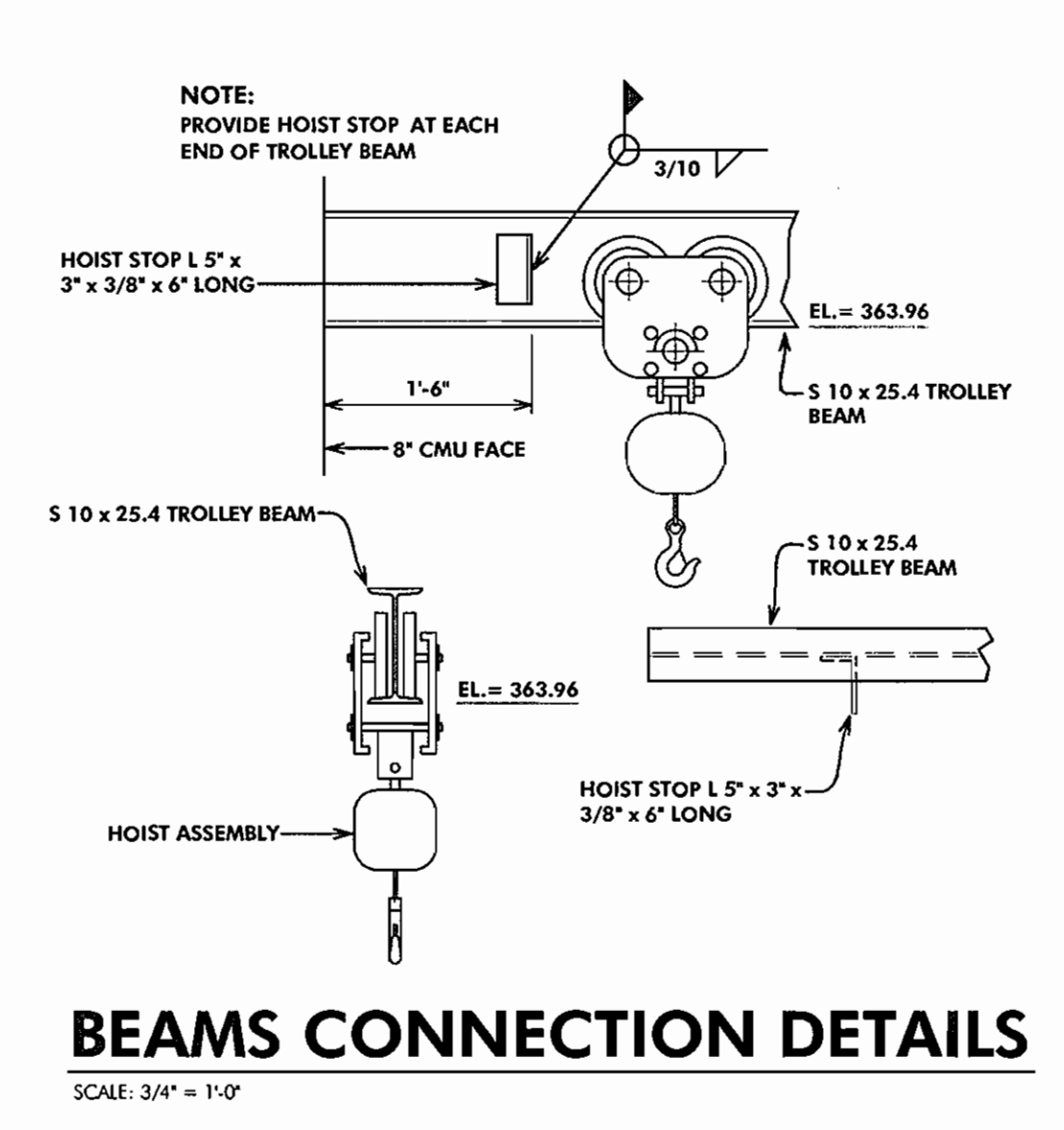
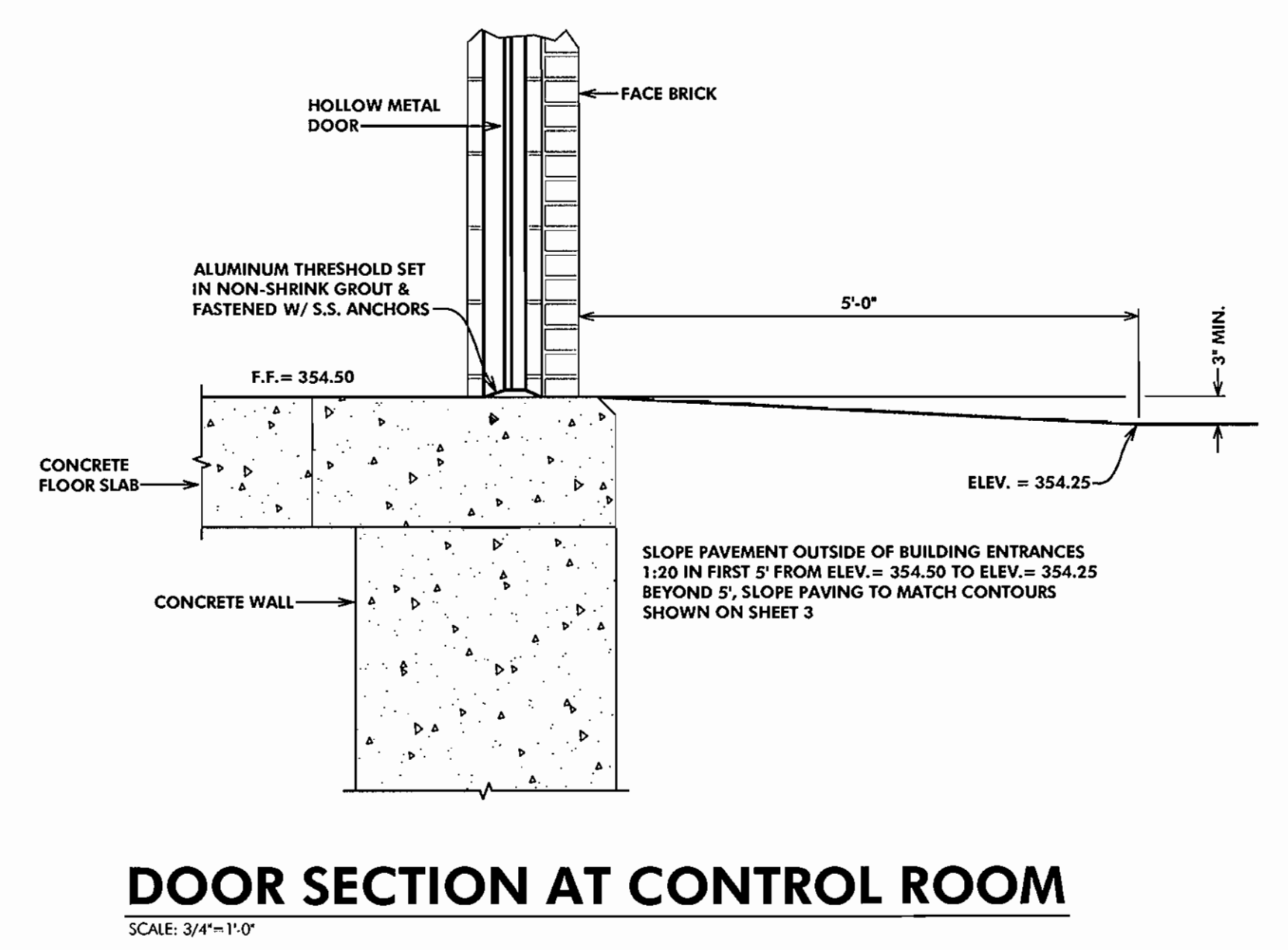
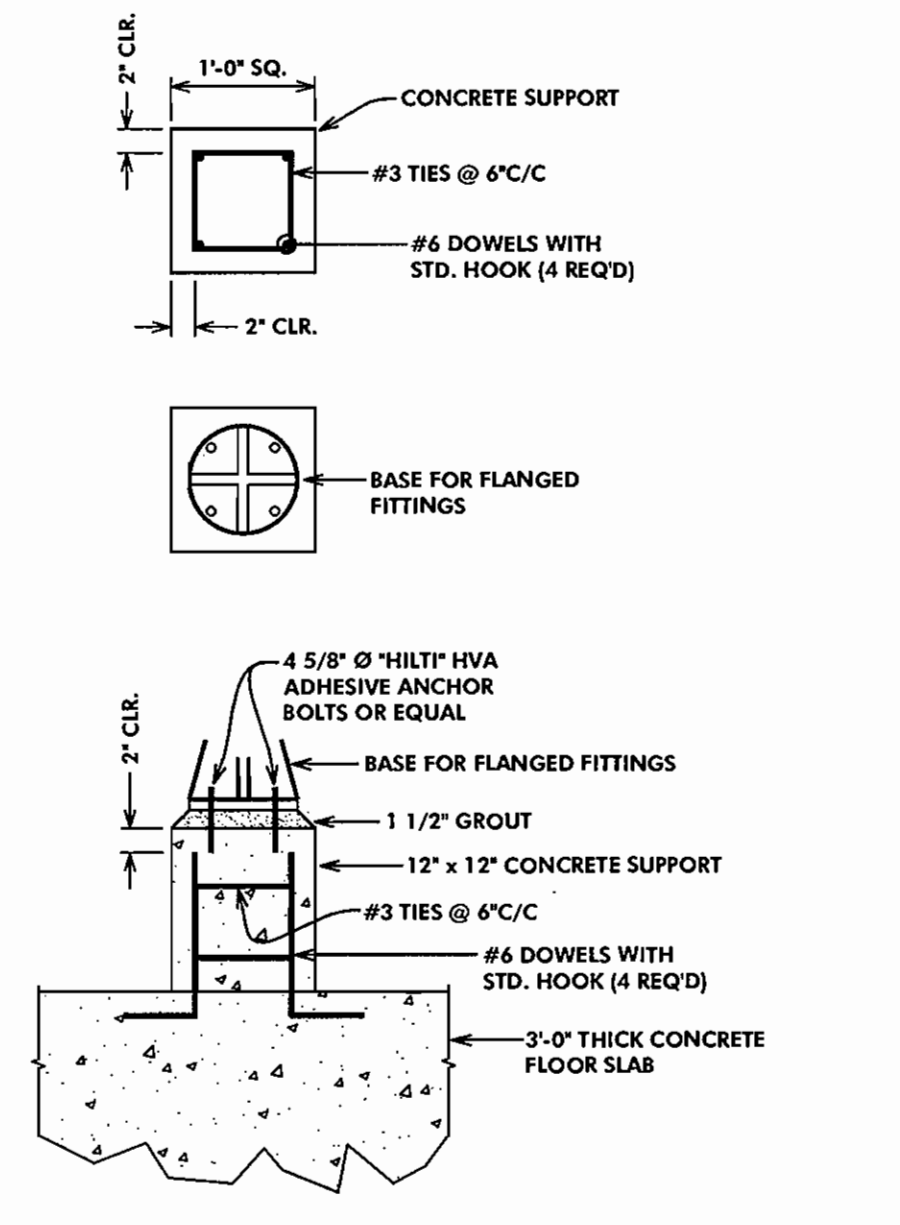
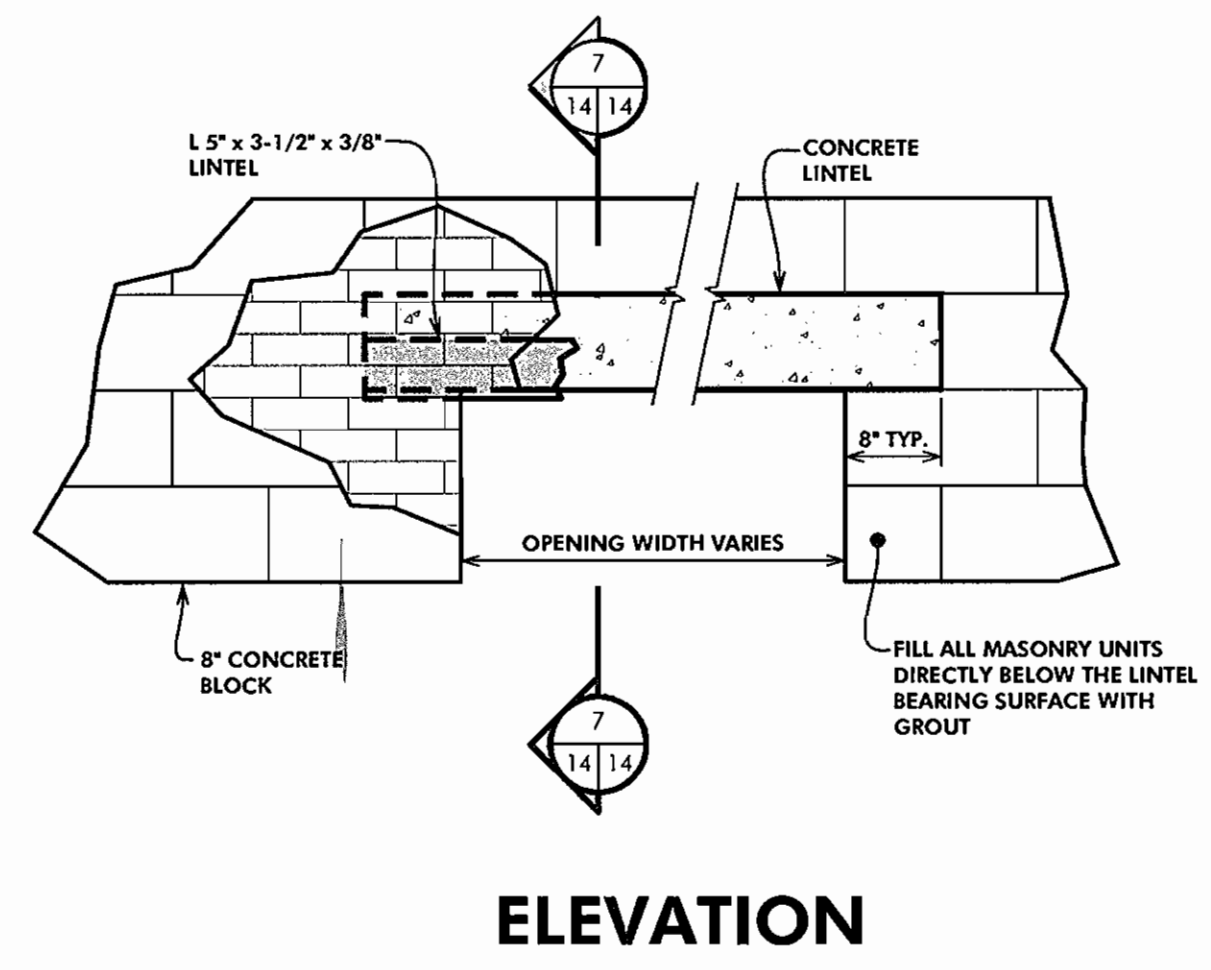
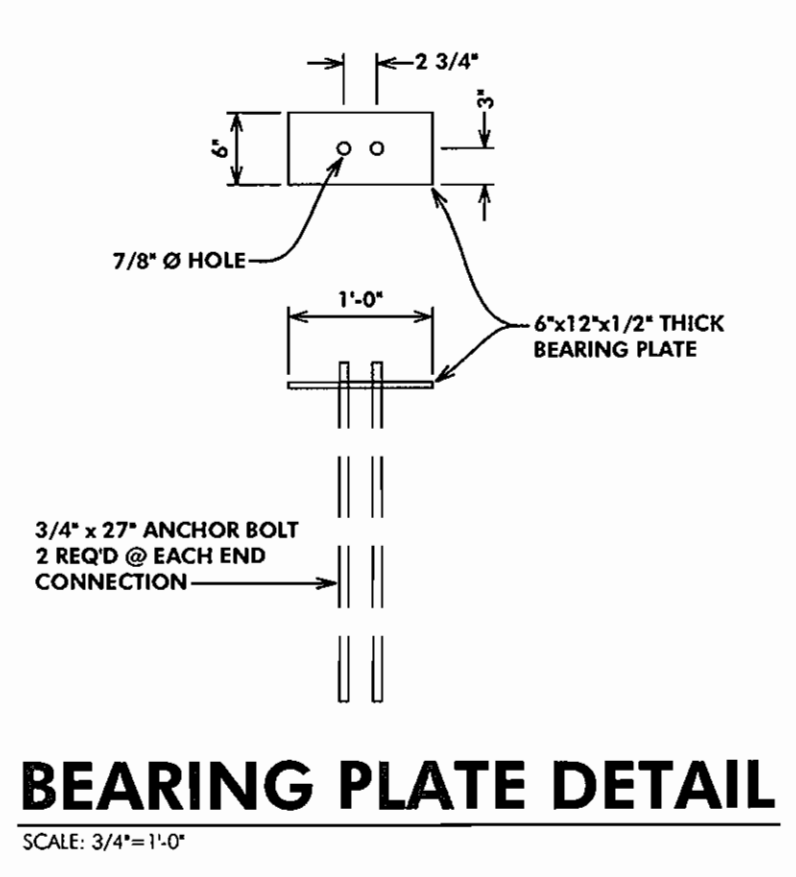


SECTION 16
SCALE: 1 1/2"=1'-0"

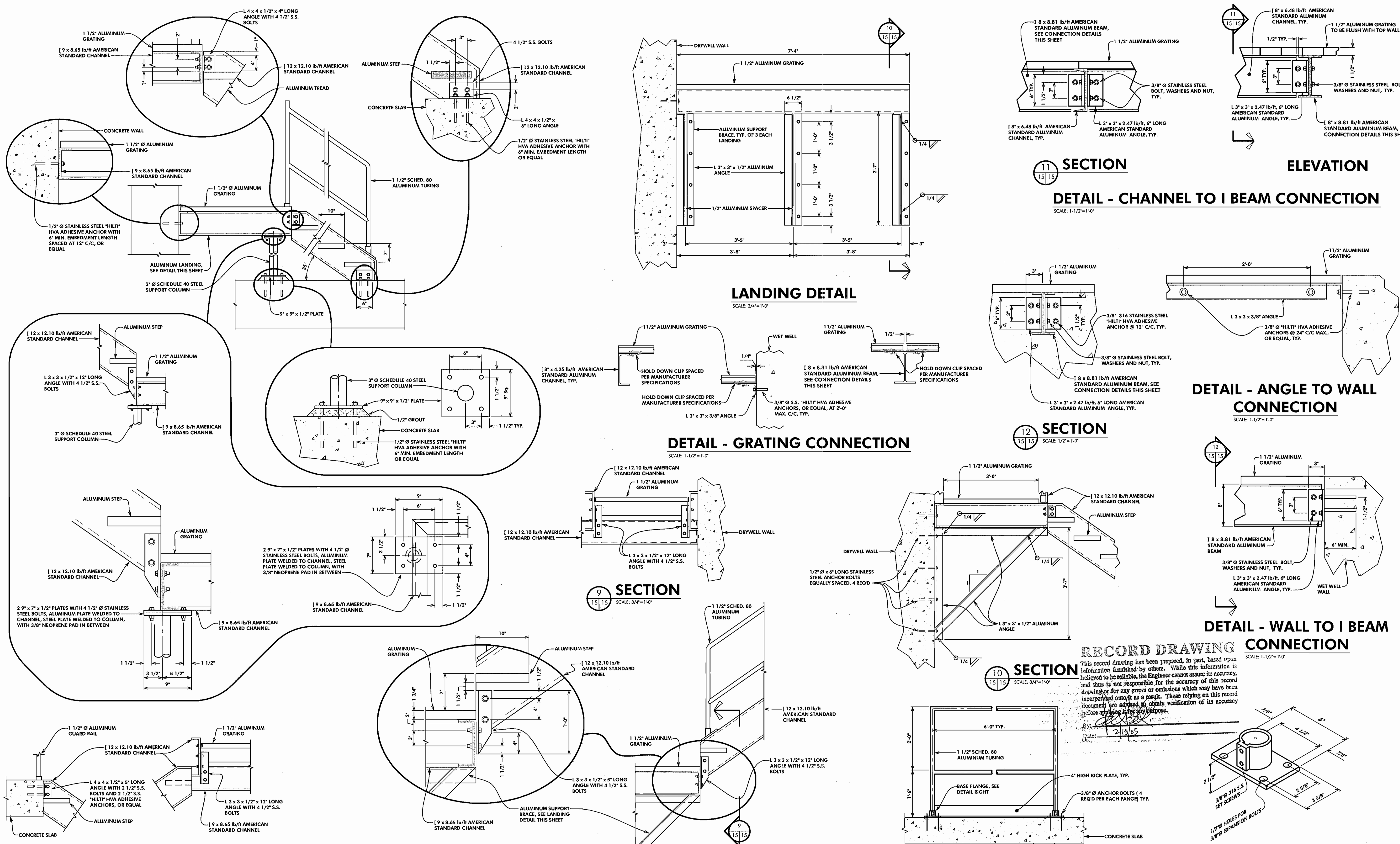


AIR PIPE DETAIL
NOT TO SCALE

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND [Signature]	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND [Signature]	MICRONE ENGINEERING, ENVIRONMENTAL SCIENCES LAND PLANNING & SURVEYING CONSTRUCTION SERVICES 20 RIDGELY AVENUE ANNAPOLIS, MARYLAND 21401 (410) 267-9621 Fax (410) 267-9932	DES: S.A.C. DRN: - CHK: R.SELL DATE: FEB, 2000	MECHANICAL SECTIONS	COLLEGE AVENUE WASTEWATER PUMPING STATION CONTRACT # 10-3898-D 2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE AS SHOWN SHEET 12 OF 29
--	---	--	---	---------------------	--	----------------------------------



RECORD DRAWING
 This record drawing has been prepared, in part, based upon information furnished by others. While this information is believed to be reliable, the Engineer cannot assure its accuracy, and thus is not responsible for the accuracy of this record drawing or for any errors or omissions which may have been incorporated into it as a result. Those relying on this record document are advised to obtain verification of its accuracy before applying it for any purpose.
 By: [Signature]
 Date: 2/15



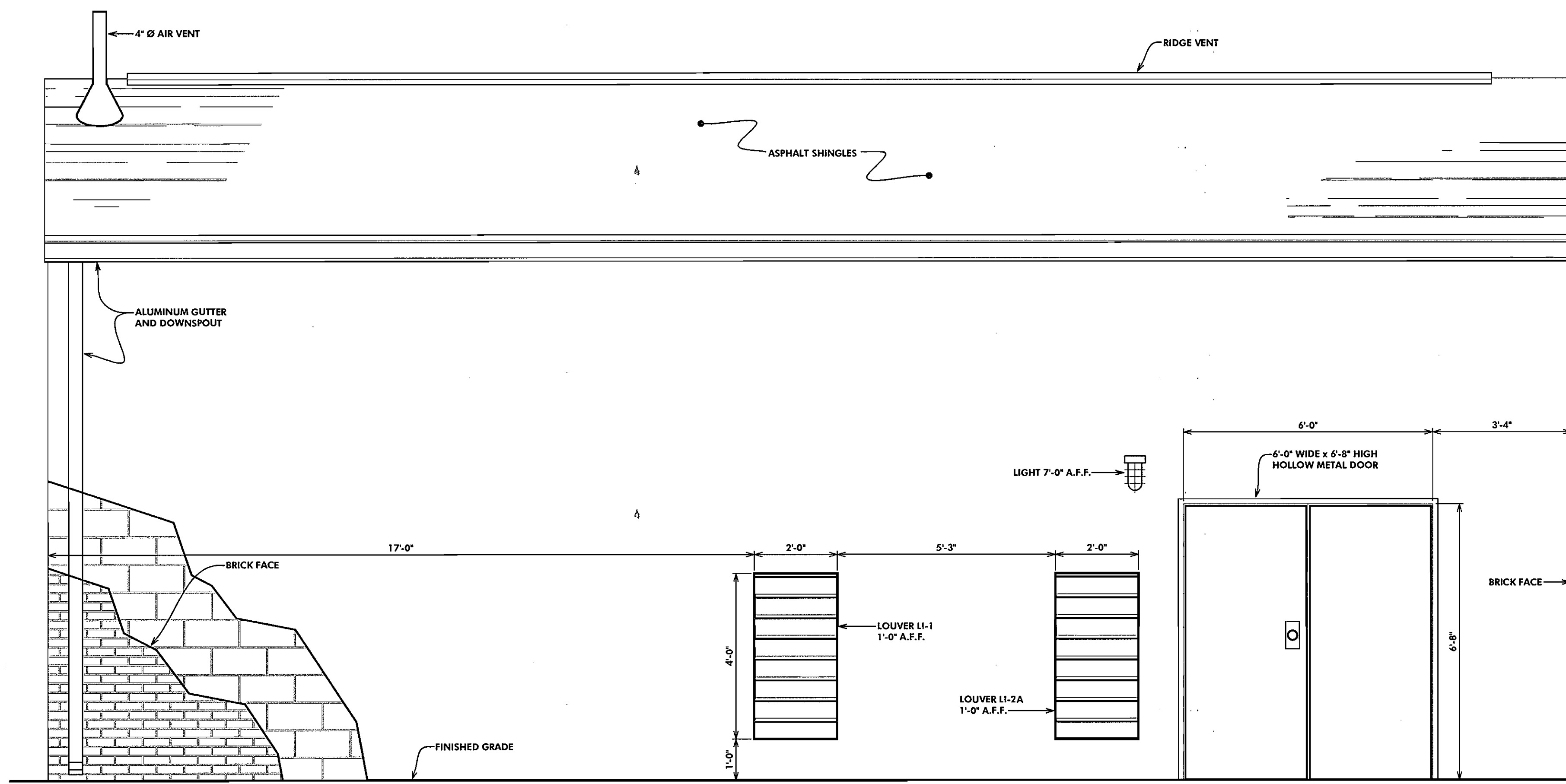
ALUMINUM STAIRS CONNECTION DETAILS
SCALE: 3/4"=1'-0"

RECORD DRAWING

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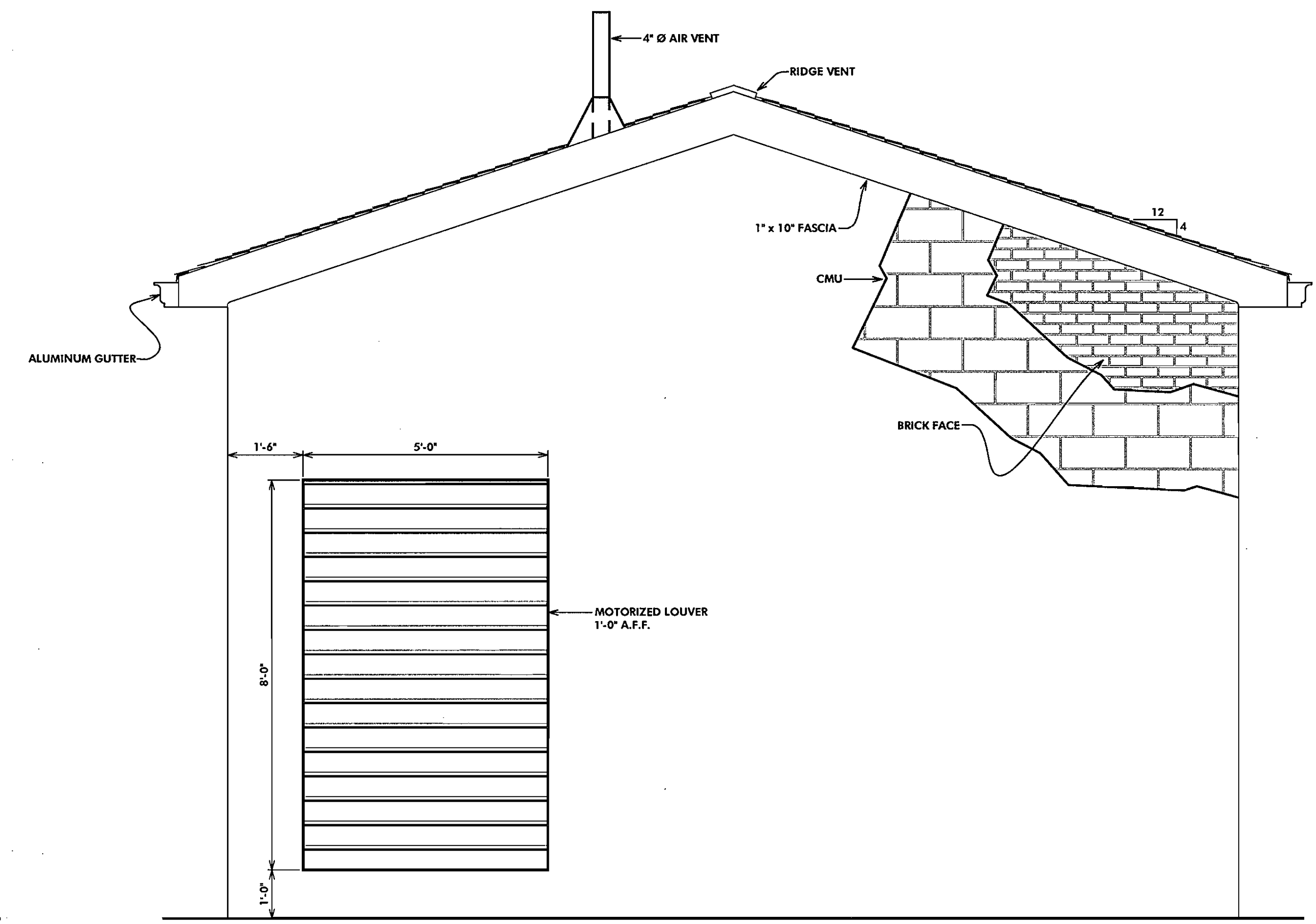
DATE: 2/18/05

<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>[Signature]</i> DATE: 1/31/05</p>	<p>DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND</p> <p><i>[Signature]</i> DATE: 1/31/05</p>	<p>McCRONE ENGINEERING, ENVIRONMENTAL SCIENCES LAND PLANNING & SURVEYING CONSTRUCTION SERVICES 20 RIDGELY AVENUE ANNAPOLIS, MARYLAND 21401 (410) 267-8621 Fax (410) 267-9932</p> <p>ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY</p>	<p>DES: S.A.C. DRN: - CHK: R.SELL DATE: FEB., 2000</p>	<p>DETAILS</p>	<p>COLLEGE AVENUE WASTEWATER PUMPING STATION</p> <p>CONTRACT # 10-38*6-D</p> <p>2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND</p>	<p>SCALE AS SHOWN SHEET 14 OF 29</p>
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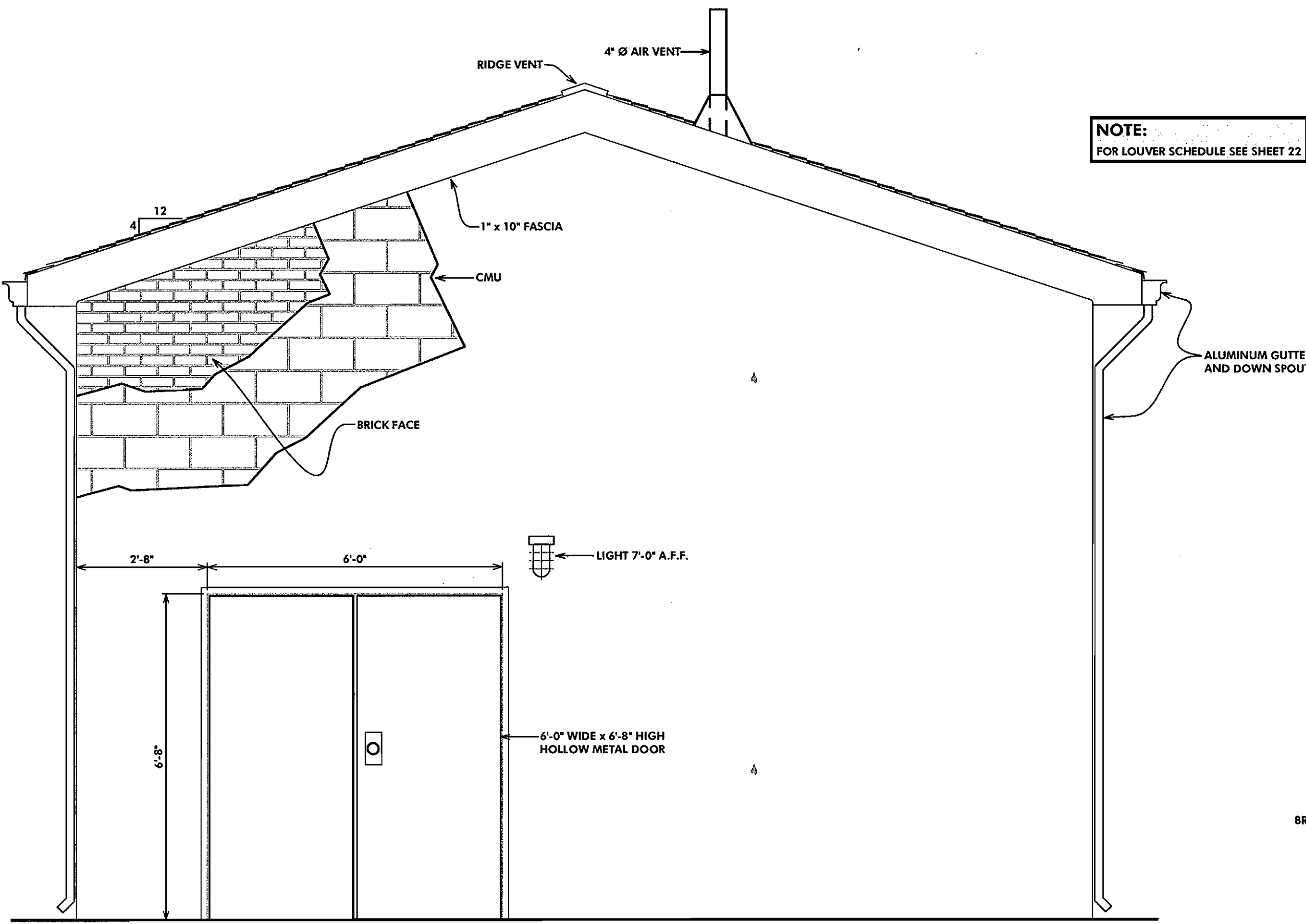
SOUTH ELEVATION

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



EAST ELEVATION

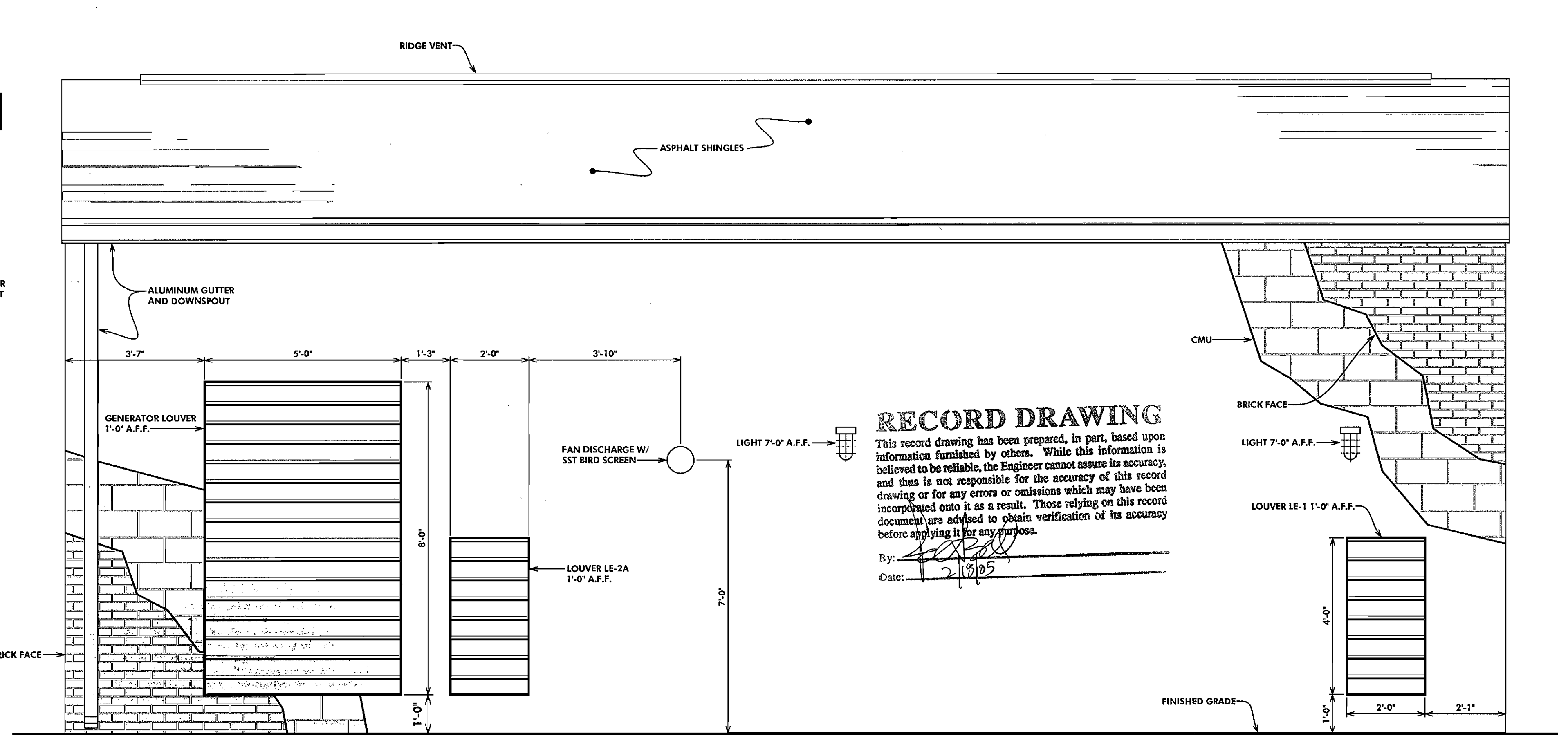
SCALE: 1/2"=1'-0"



WEST ELEVATION

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

NOTE:
FOR LOUVER SCHEDULE SEE SHEET 22



NORTH ELEVATION

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

RECORD DRAWING

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By: *[Signature]*
Date: 2/19/05

No Date and Time: Dec 24, 2002 - 10:38am

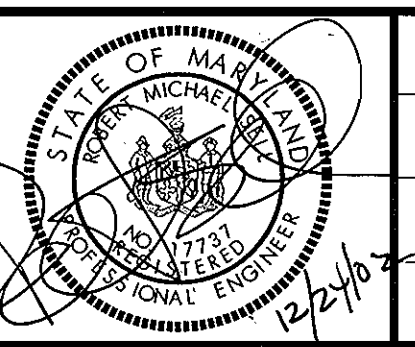
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature]
DATE: 12/24/02

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

[Signature]
DATE: 12/24/02

MICRONE
ENGINEERING: ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING: CONSTRUCTION SERVICES
20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 267-9621
FAX (410) 267-9932
ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY



DES: S.A.C.					
DRN: -					
CHK: R.SELL					
DATE: FEB, 2000	BY	No.	REVISION	DATE	

ELEVATIONS

**COLLEGE AVENUE
WASTEWATER PUMPING STATION**

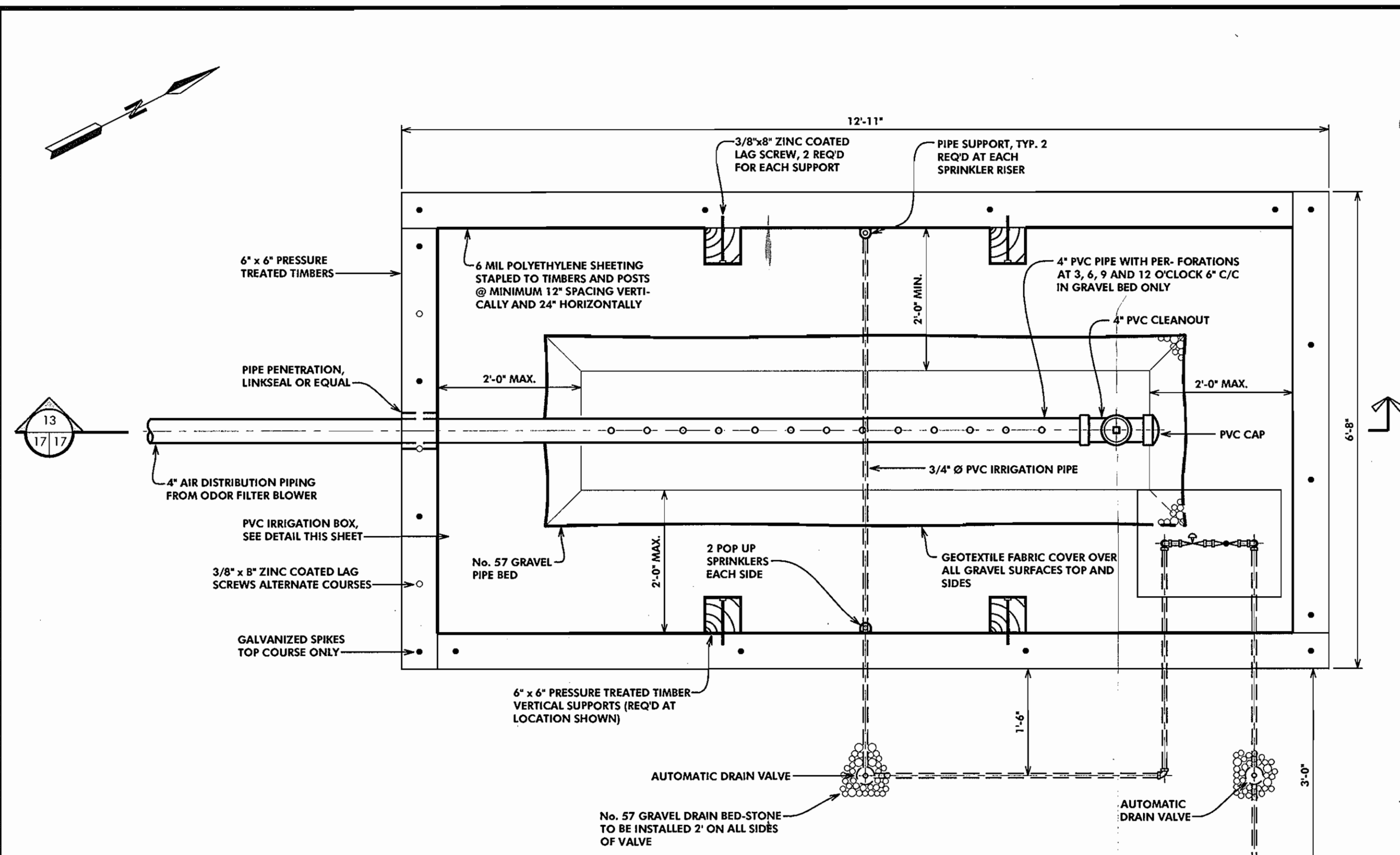
CONTRACT # 10-3898-D

2nd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 15 OF 29

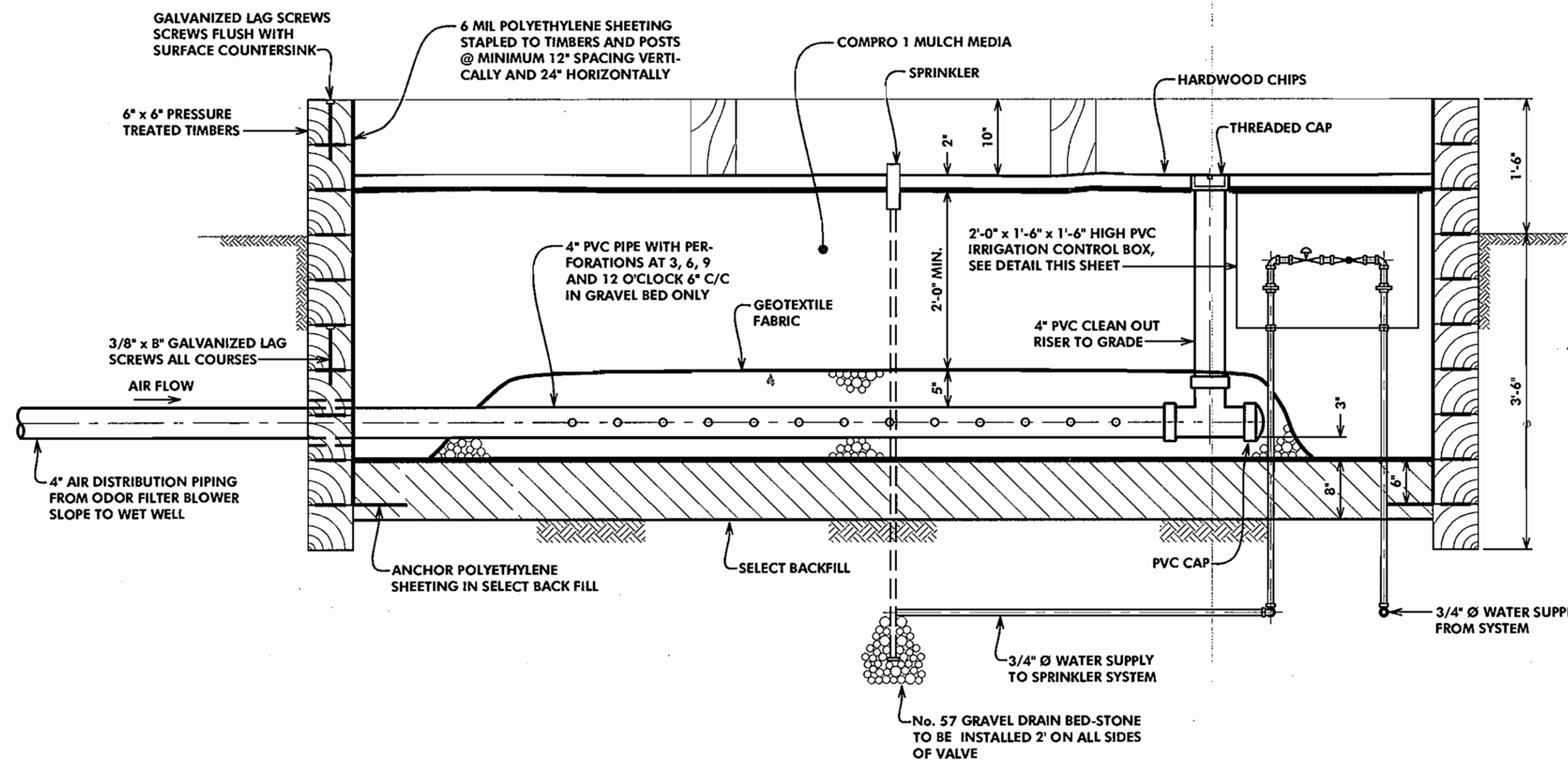


PLAN- SOIL ODOR FILTER

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

SOIL ODOR FILTER NOTES

1. THE PRESSURE TREATED TIMBERS SHALL BE MARINE GRADE AND BE TREATED WITH 100 PERCENT PURE OXIDE FORM OF CHROMATE COPPER ARSENATE (CAA) AT A RATE OF 2.5 lbs. CCA PER CUBIC FOOT OF WOOD. COMMON GRADE, GROUND CONTACT, PRESSURE TREATED TIMBERS WILL NOT BE APPROVED FOR USE IN CONSTRUCTING THE FILTER STRUCTURE. FOR DETAILED INFORMATION SEE SPECIFICATIONS SECTION 13010.10.
2. DURING CONSTRUCTION OF THE TIMBER FILTER STRUCTURE, INDIVIDUAL TIMBERS SHALL BE PLACED SUCH THAT THE 'BEST SIDE' IS FACING OUT.
3. DURING INSTALLATION OF TIMBERS ALL NECESSARY PRECAUTIONS SHALL BE MADE TO ENSURE THAT INDIVIDUAL TIMBERS ARE NOT SPLIT. THIS INCLUDES DRILLING ALL PILOT AND COUNTERSINK HOLES. ALL SPLIT TIMBERS SHALL BE REMOVED FROM THE PROJECT.
4. ALL PIPE TO BE SDR 21 PVC WITH SOLVENT CEMENTED JOINTS. 5. POLYETHYLENE SHEETING TO LINE STRUCTURE WALLS SHALL BE INSTALLED SUCH THAT ALL OVERLAPS ARE AT LEAST 6" AND STAPLED AT THE OVERLAP.

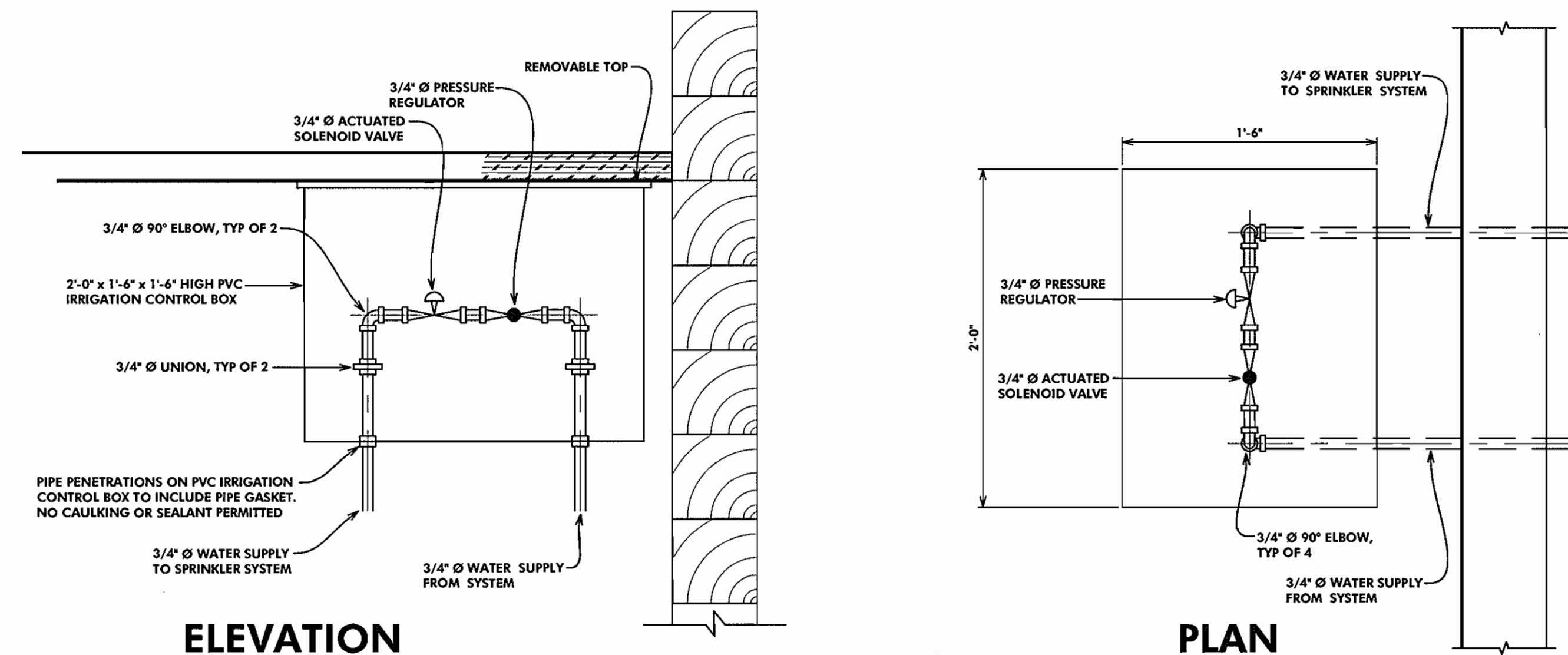


SECTION
SCALE: 1/2"=1'-0"

RECORD DRAWING

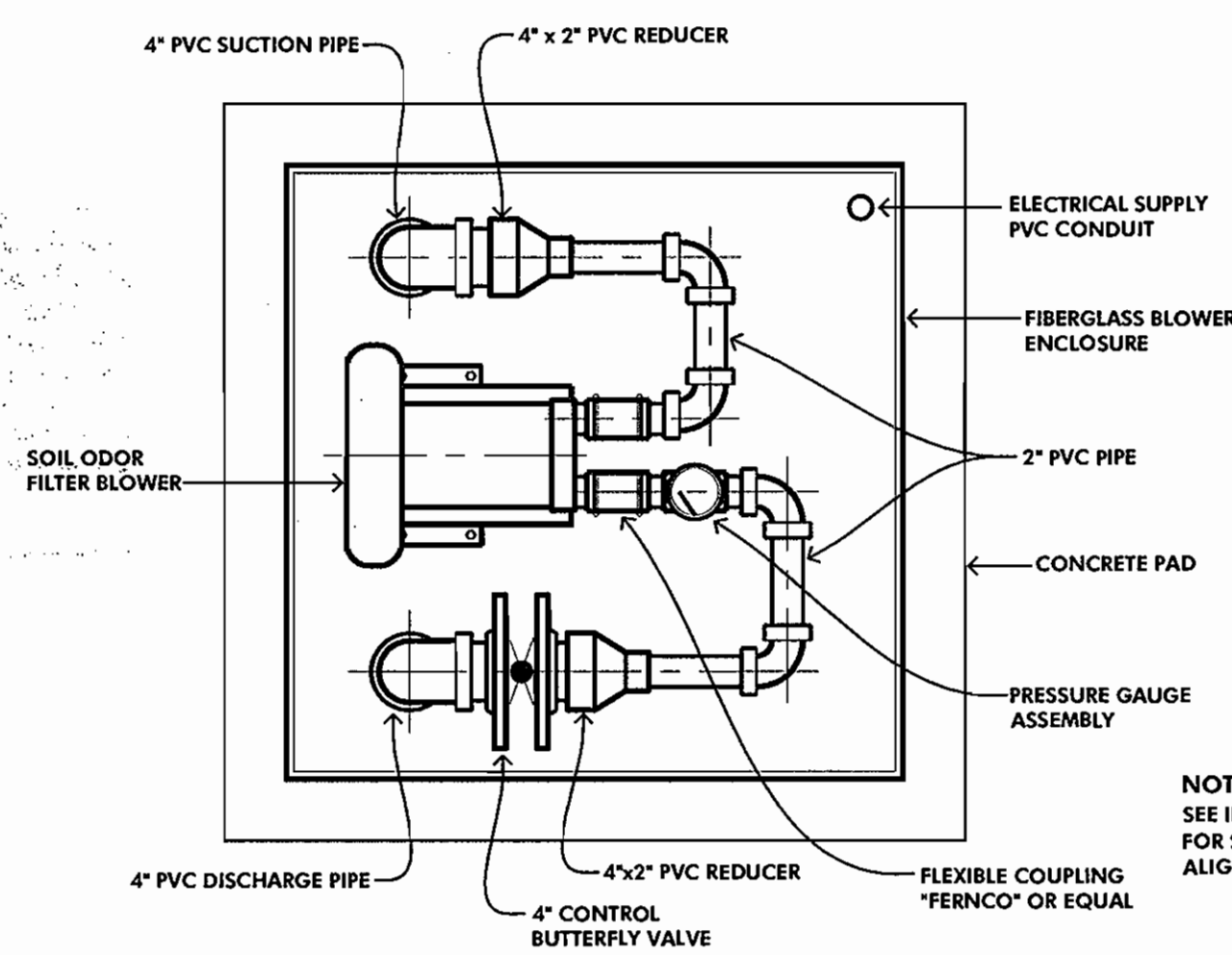
This record drawing has been prepared, in part, based upon information furnished by others. While this information is believed to be reliable, the Engineer cannot assume its accuracy, and thus is not responsible for the accuracy of this record drawing or for any errors or omissions which may have been incorporated into it as a result. Those relying on this record document are advised to obtain verification of its accuracy before applying it for any purpose.

Date: 2/10/00

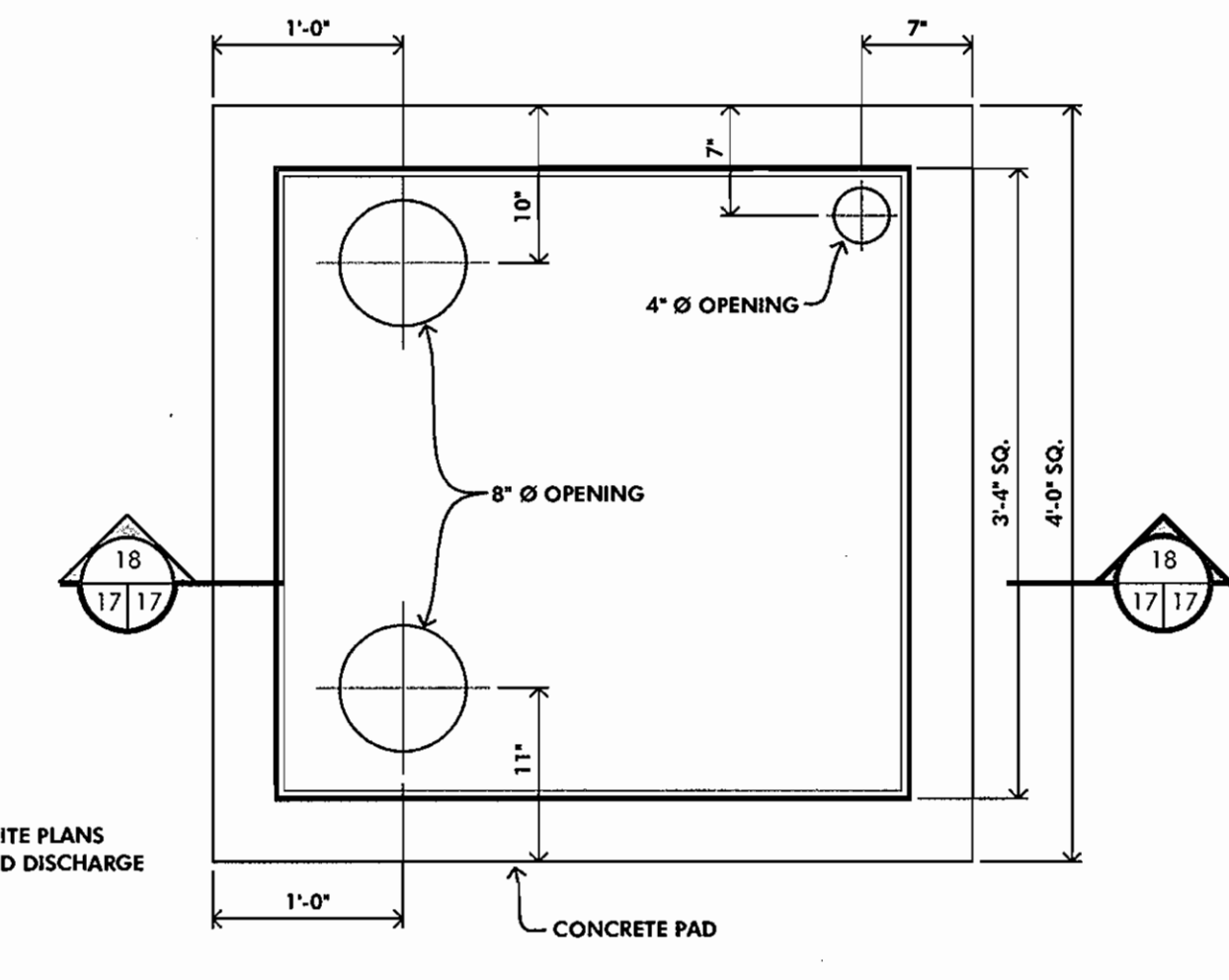


IRRIGATION CONTROL BOX

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



PIPING LAYOUT

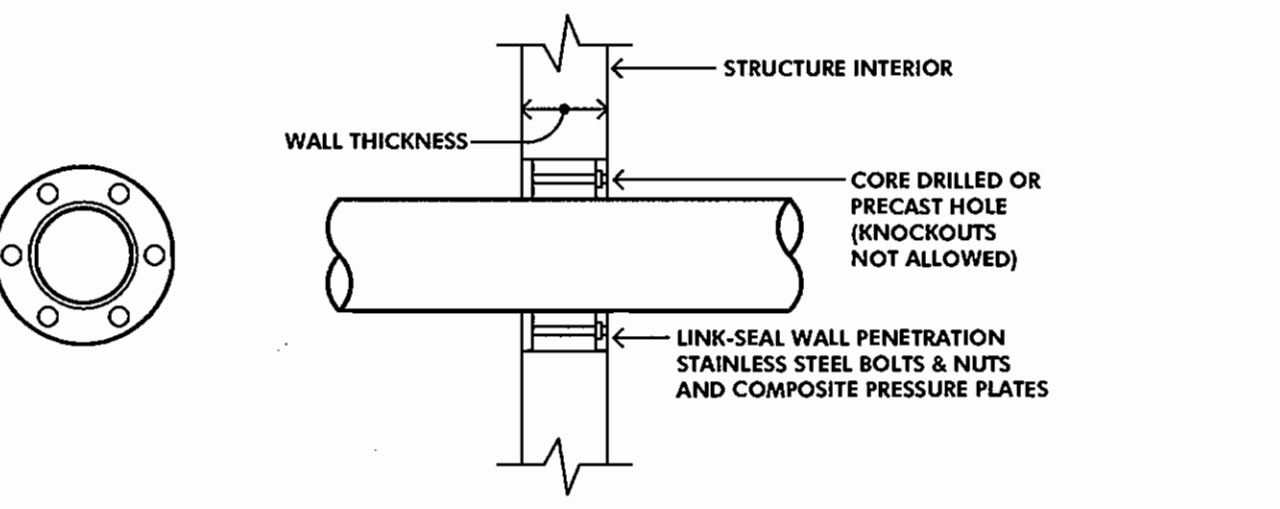


OPENING LAYOUT



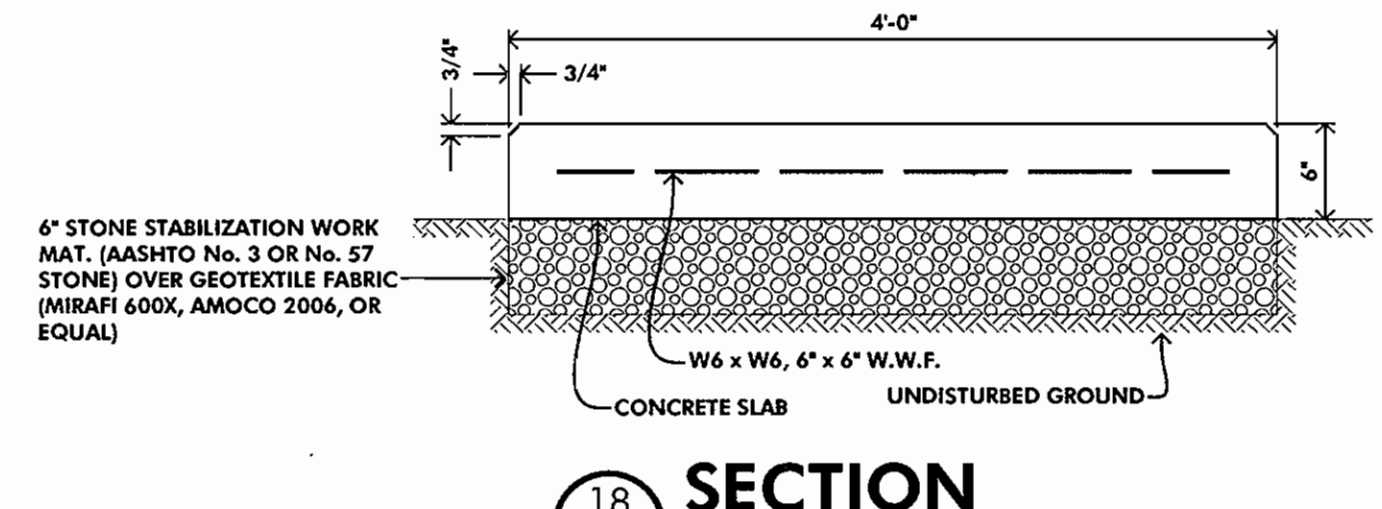
BLOWER DETAIL

SCALE: 1"=1'-0"



WALL PENETRATION

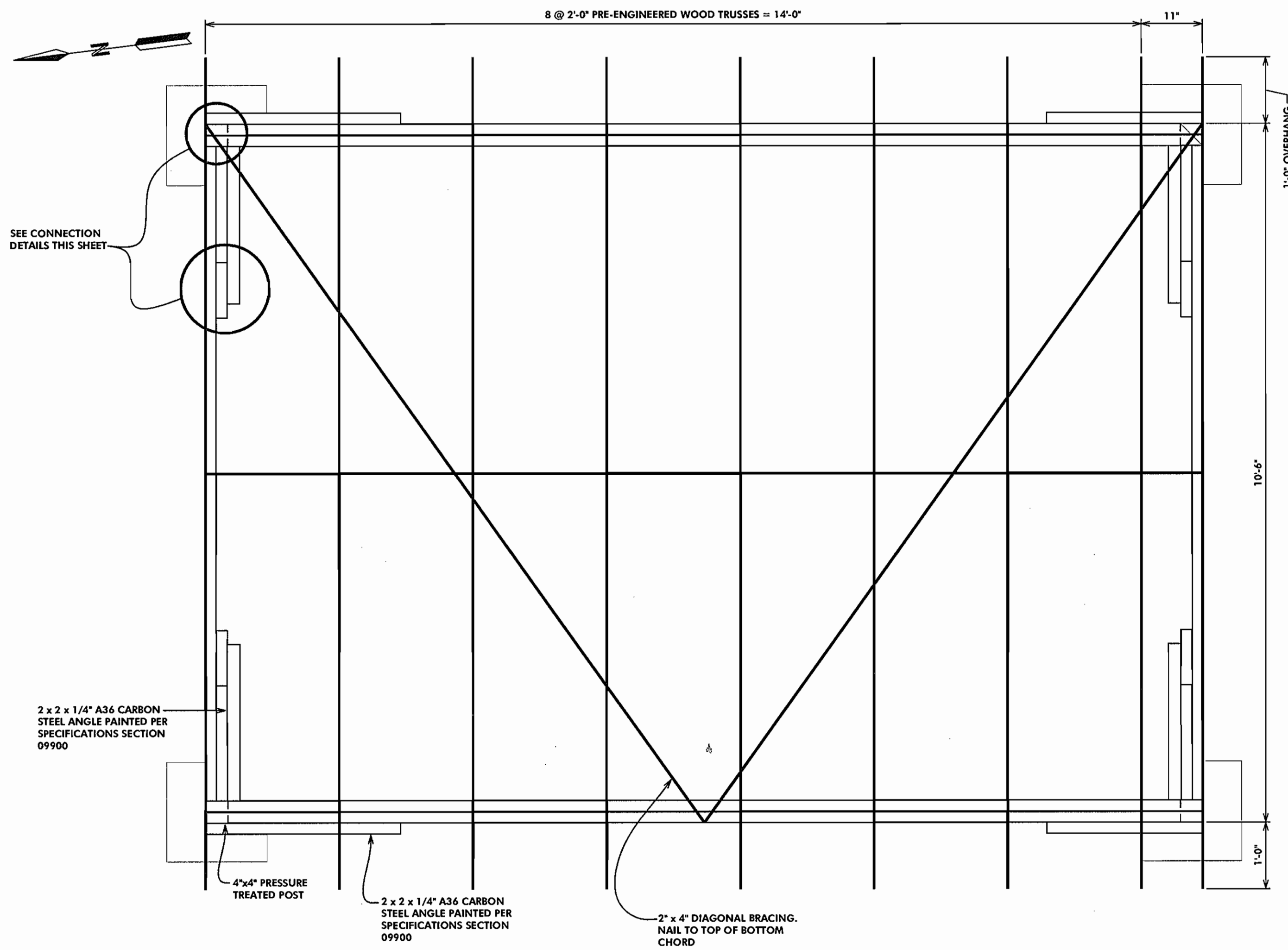
NOT TO SCALE



SECTION

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

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND [Signature]	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND [Signature]	McCRONE ENGINEERING, ENVIRONMENTAL SCIENCES LAND PLANNING & SURVEYING CONSTRUCTION SERVICES 20 BRIDLE AVENUE ANNAPOLIS, MARYLAND 21401 (410) 267-9621 Fax: (410) 267-9932		DES: S.A.C.				COLLEGE AVENUE WASTEWATER PUMPING STATION CONTRACT # 10-3896-D 2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE AS SHOWN
				DRN: -					SHEET 16 OF 29
DATE: FEB, 2000 BY No. REVISION DATE				File Name: G:\1000033 - College Avenue Drawings\MECHANICAL\NEW WORK\CA FS 8 INCH.DWG Tab Ref: SOIL ODOR FILTER SHEET 16					



ROOF FRAMING PLAN

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

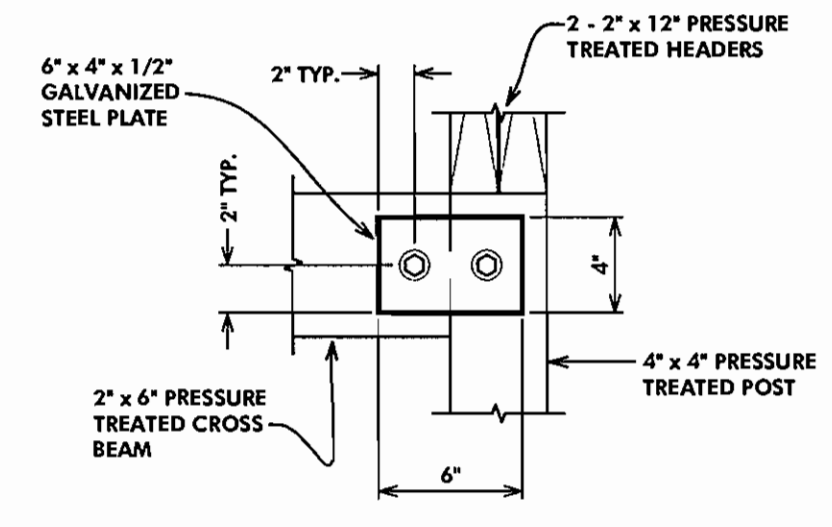
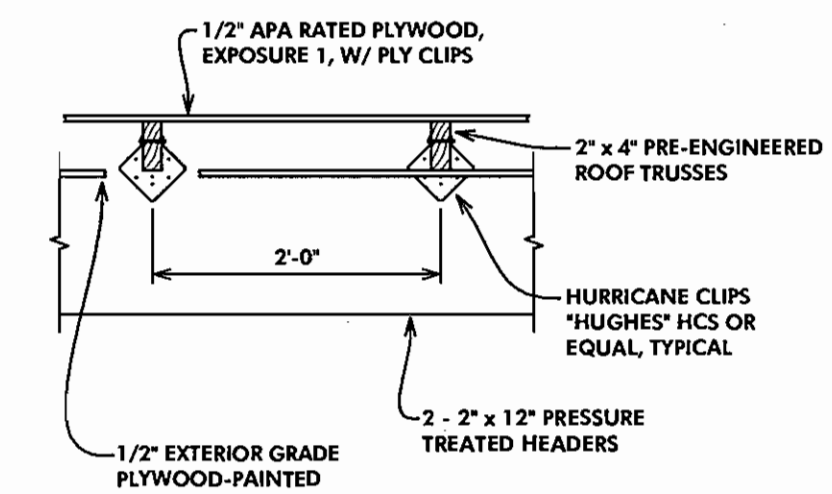


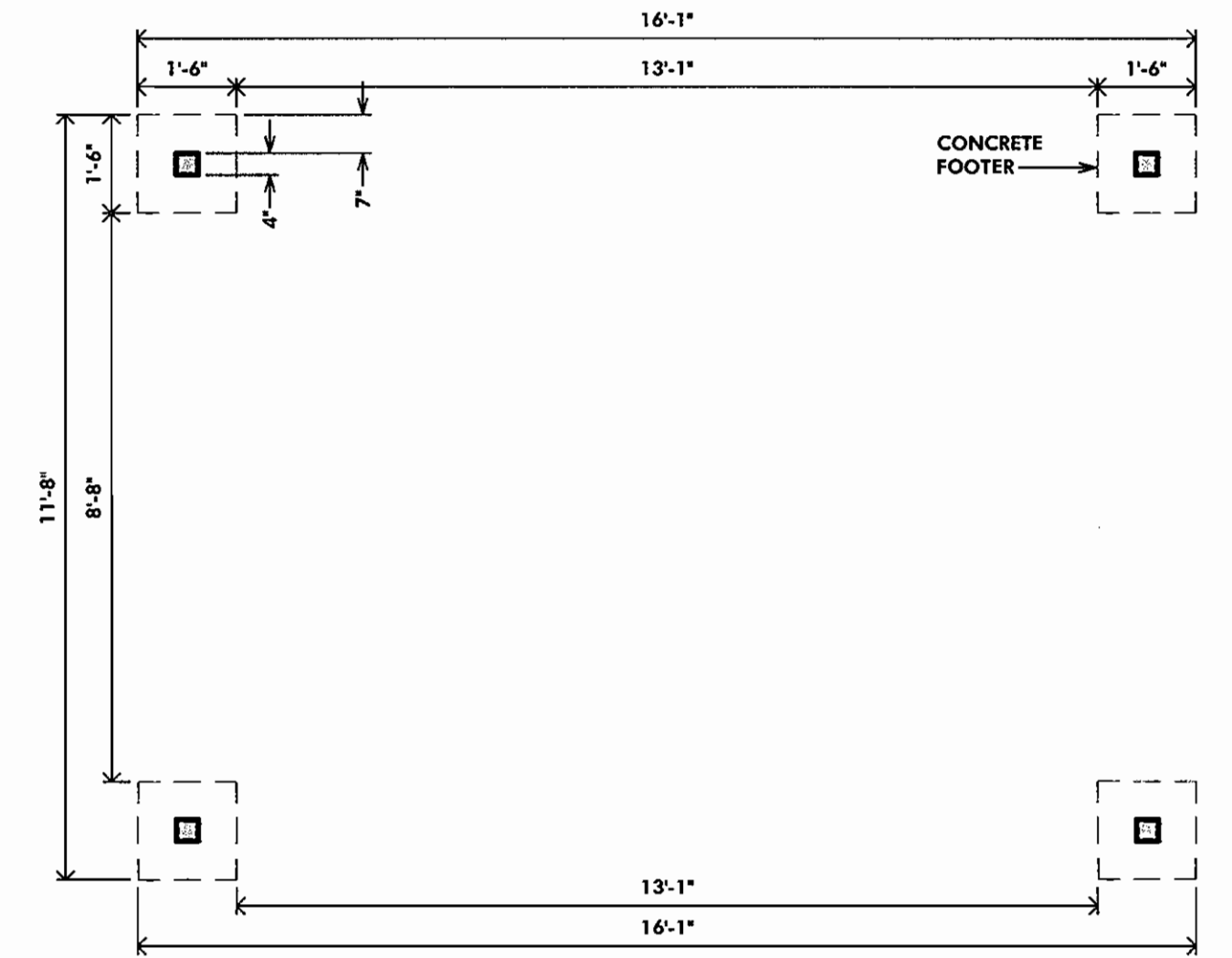
PLATE DETAIL

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



HEADER TRUSSES CONNECTION

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



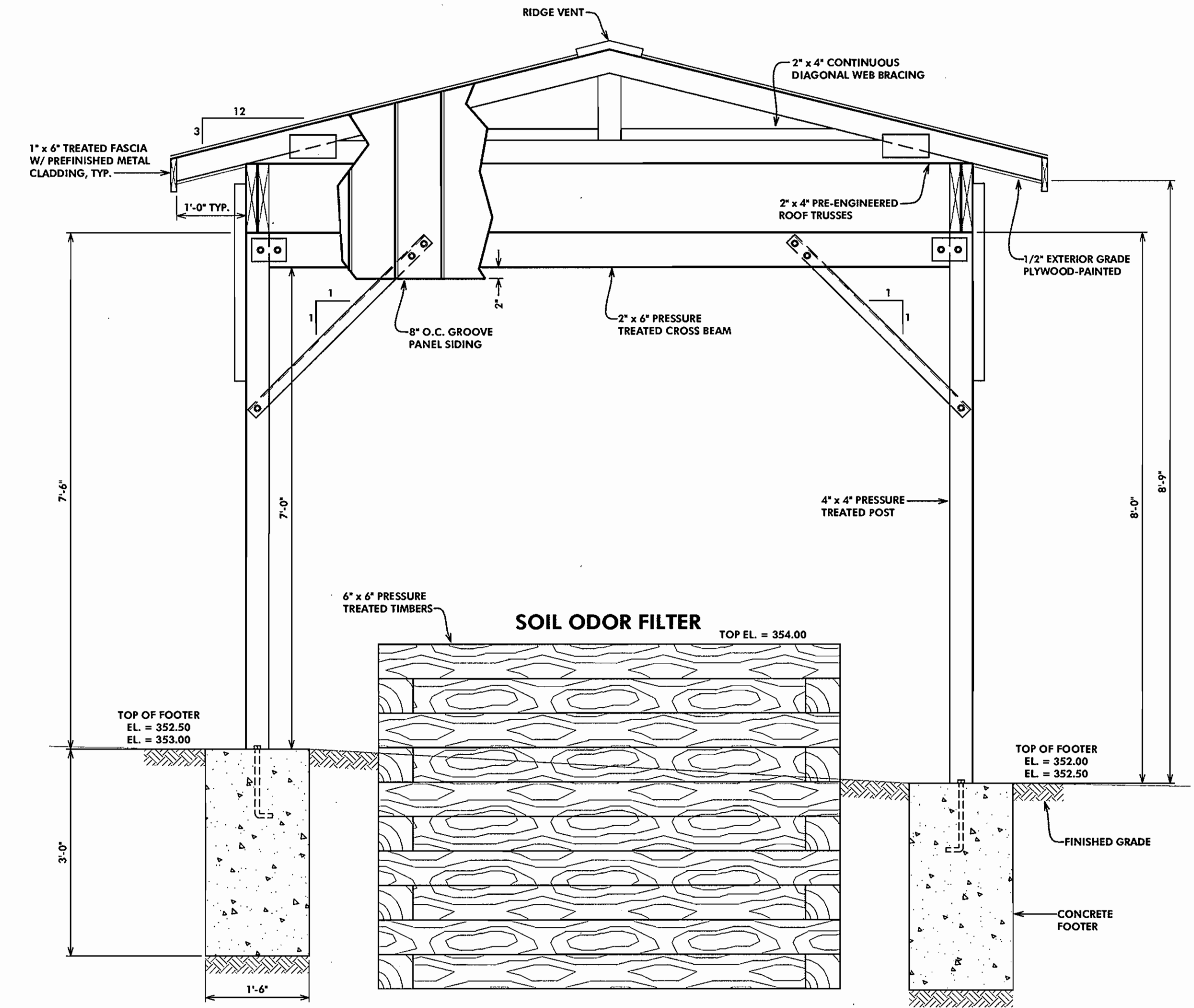
FOUNDATION PLAN

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

RECORD DRAWING

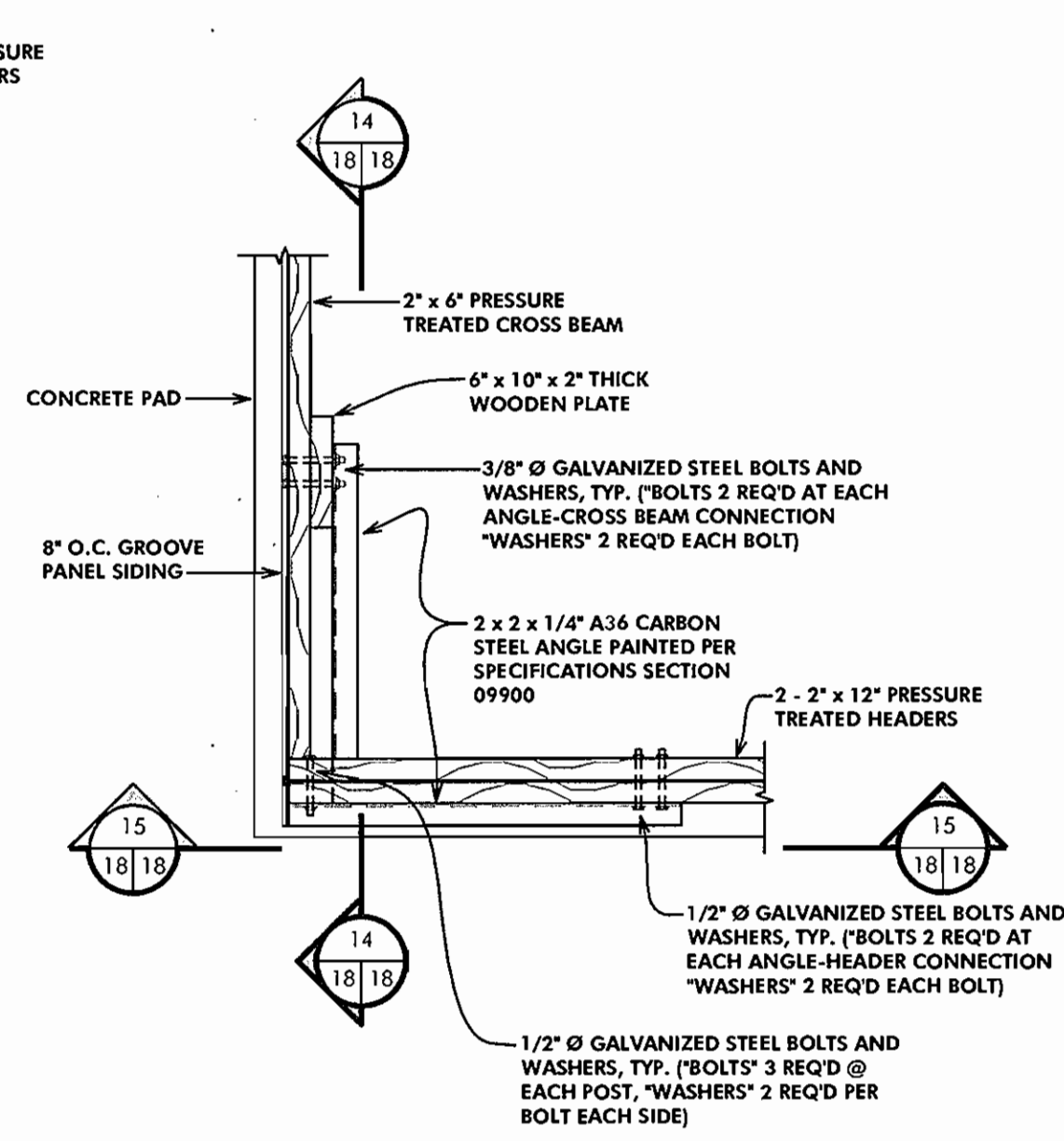
This record drawing has been prepared, in part, based upon information furnished by others. While this information is believed to be reliable, the Engineer cannot assume its accuracy, and thus is not responsible for the accuracy of this record drawing or for any errors or omissions which may have been incorporated into it as a result. Those relying on this record document are advised to obtain verification of its accuracy before applying it for any purpose.

By: *[Signature]*
Date: 2/18/07



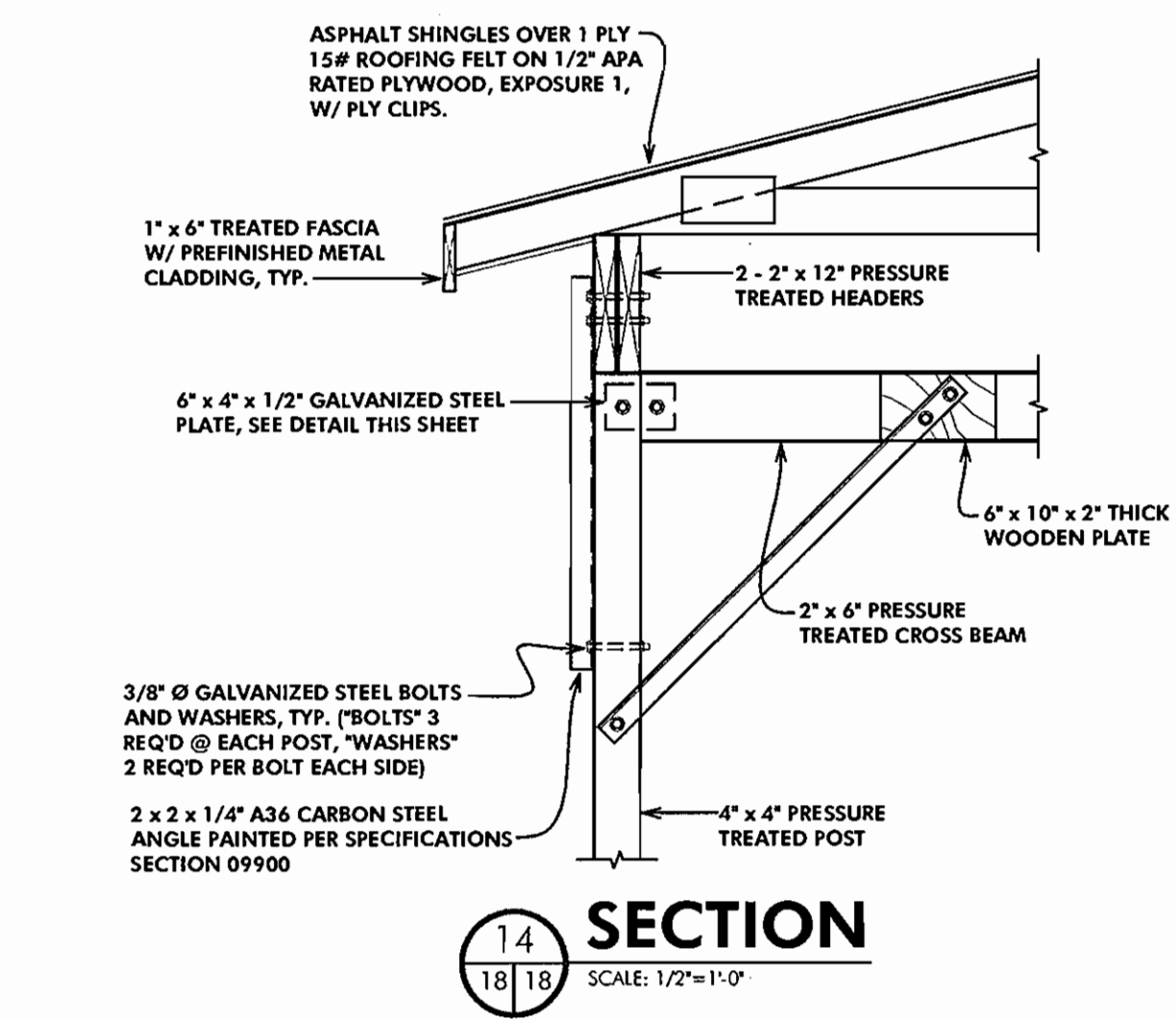
END VIEW ELEVATION

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



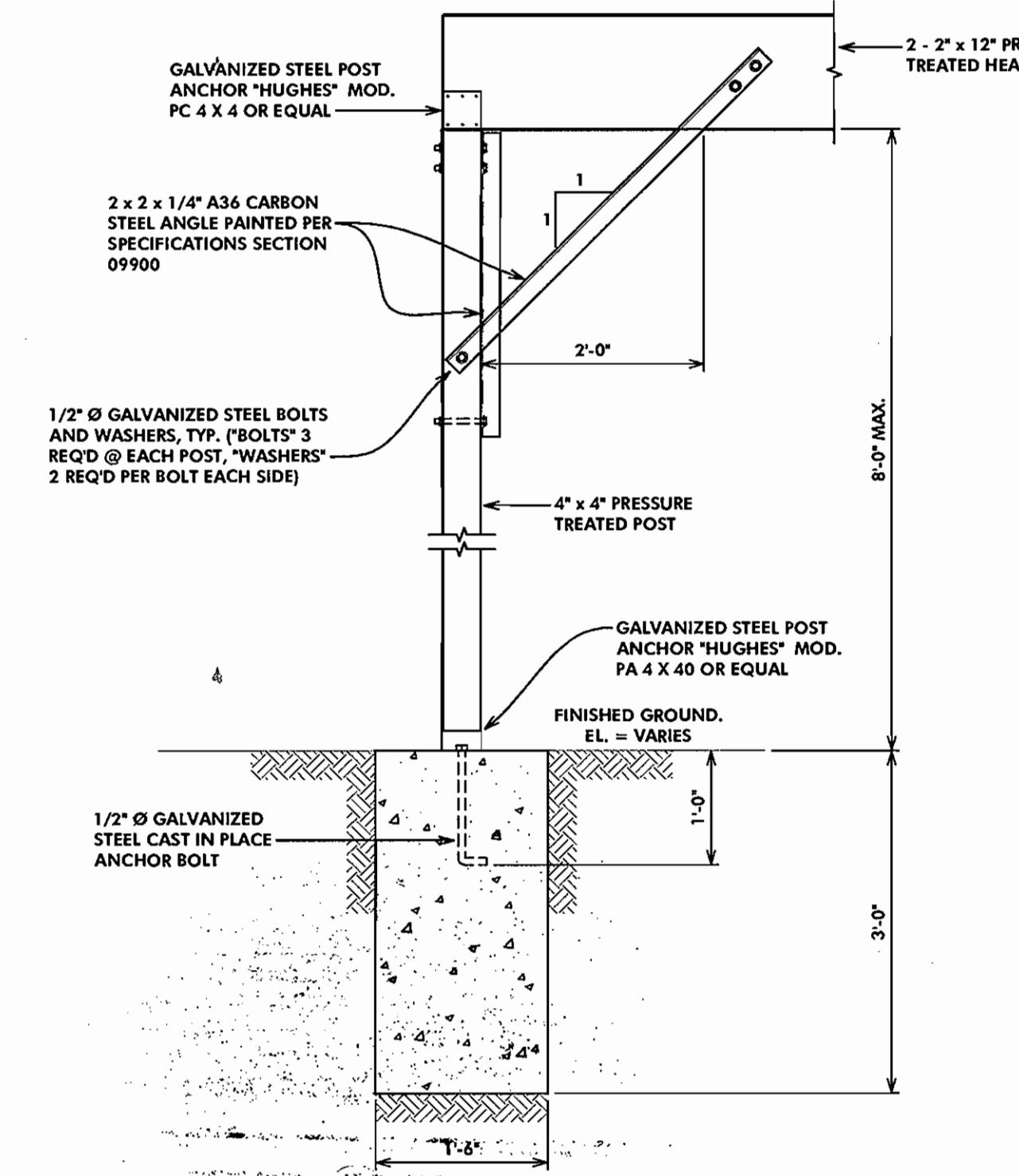
PLAN - CONNECTION DETAIL

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



SECTION 14

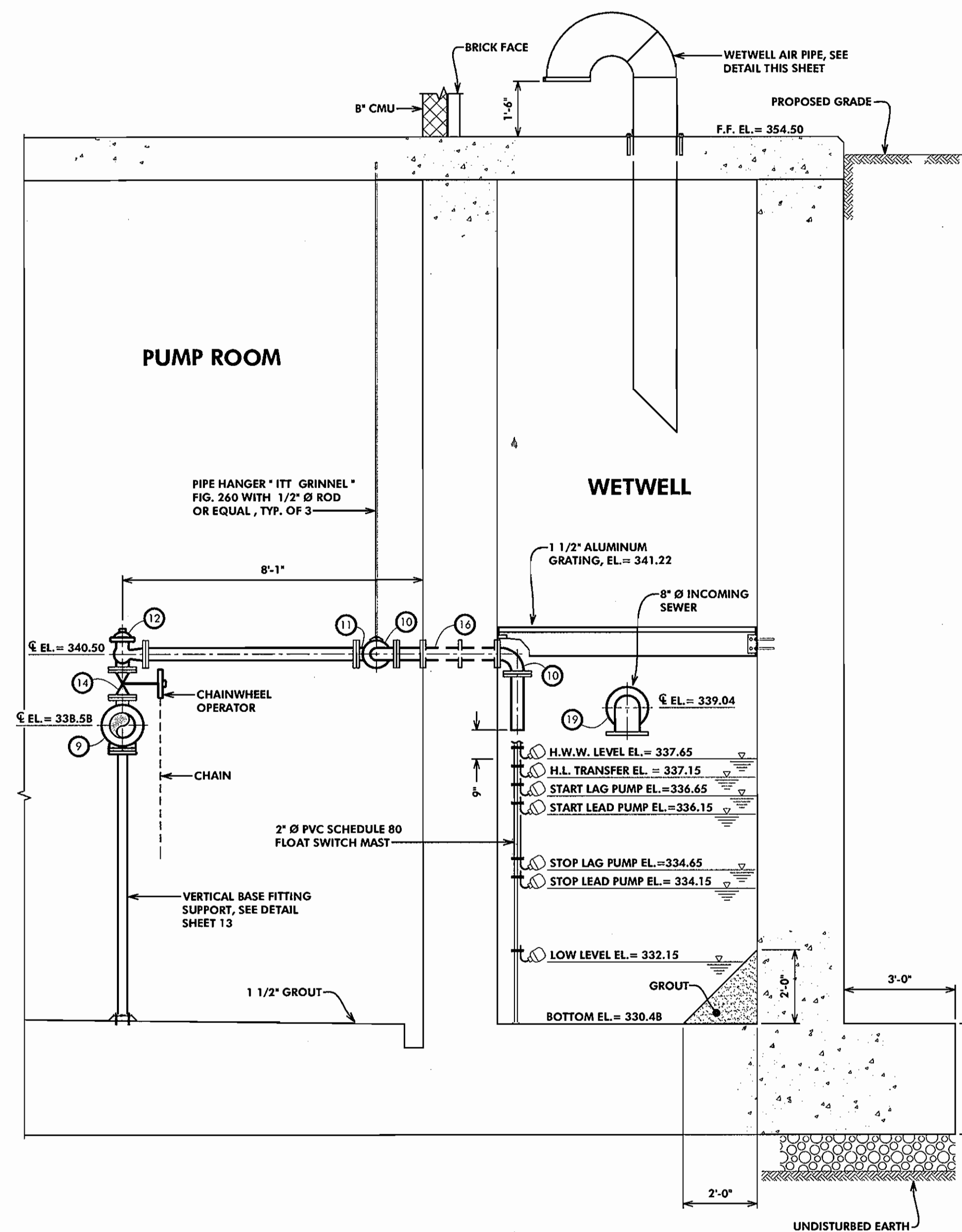
SCALE: 1/2"=1'-0"



SECTION 15

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

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>[Signature]</i> CHIEF, BUREAU OF UTILITIES	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND <i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	McCRONE ENGINEERING & ENVIRONMENTAL SCIENCES LAND PLANNING & SURVEYING & CONSTRUCTION SERVICES 20 BRIDGLEY AVENUE ANNAPOLIS, MARYLAND 21401 (410) 267-8621 Fax (410) 267-9922		DES: S.A.C.					PAVILION DETAILS	COLLEGE AVENUE WASTEWATER PUMPING STATION CONTRACT # 10-3898-D	SCALE AS SHOWN
				DRN: -							
DATE: FEB, 2000 BY No. REVISION DATE				2nd ELECTION DISTRICT		HOWARD COUNTY, MARYLAND		File Name: G:\1000033 - College Avenue Drawings\MECHANICAL\NEW WORK\CA FS 8 INCH.DWG Tab Ref: PAVILION SHEET 17			

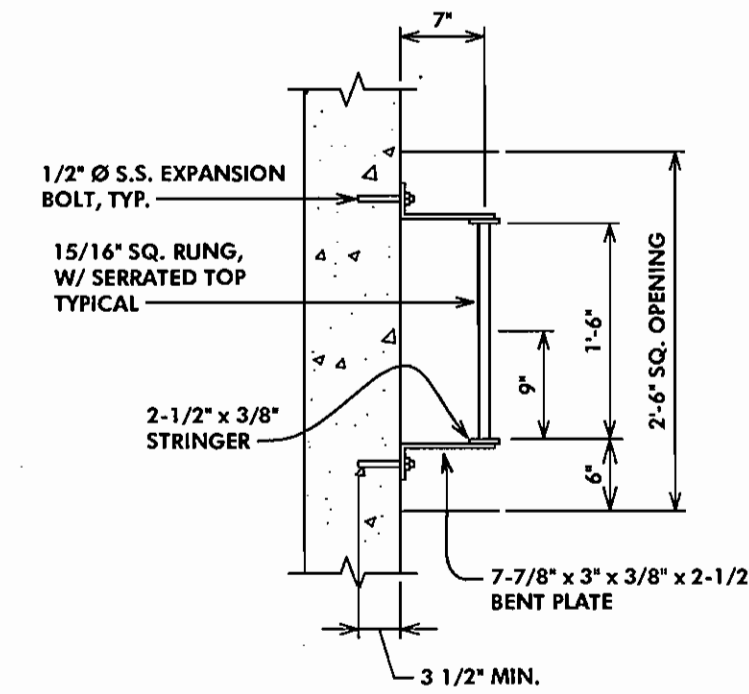


14 SECTION
12 19 SCALE: 1/2"=1'-0"

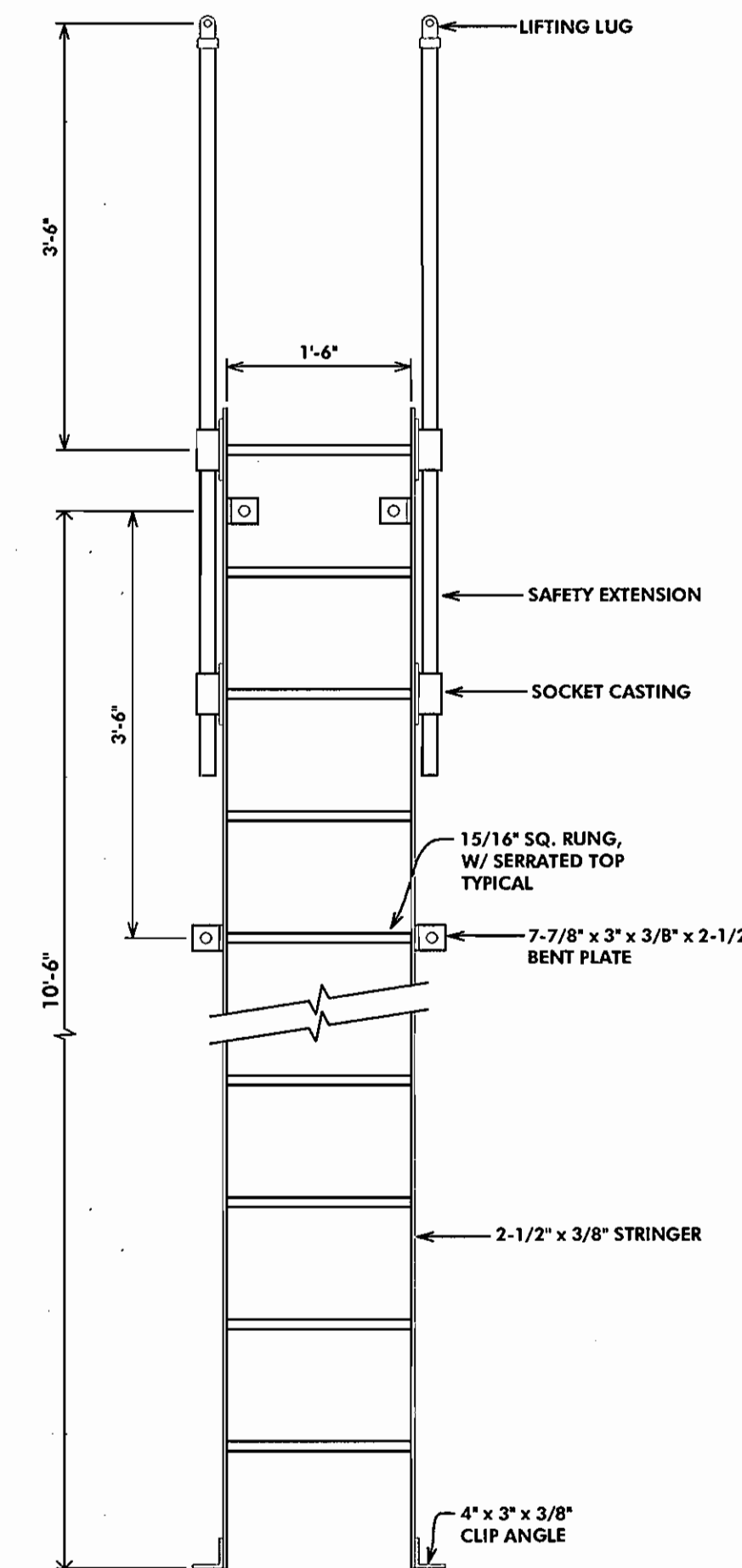
RECORD DRAWING

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By: *[Signature]*
Date: 2/18/05



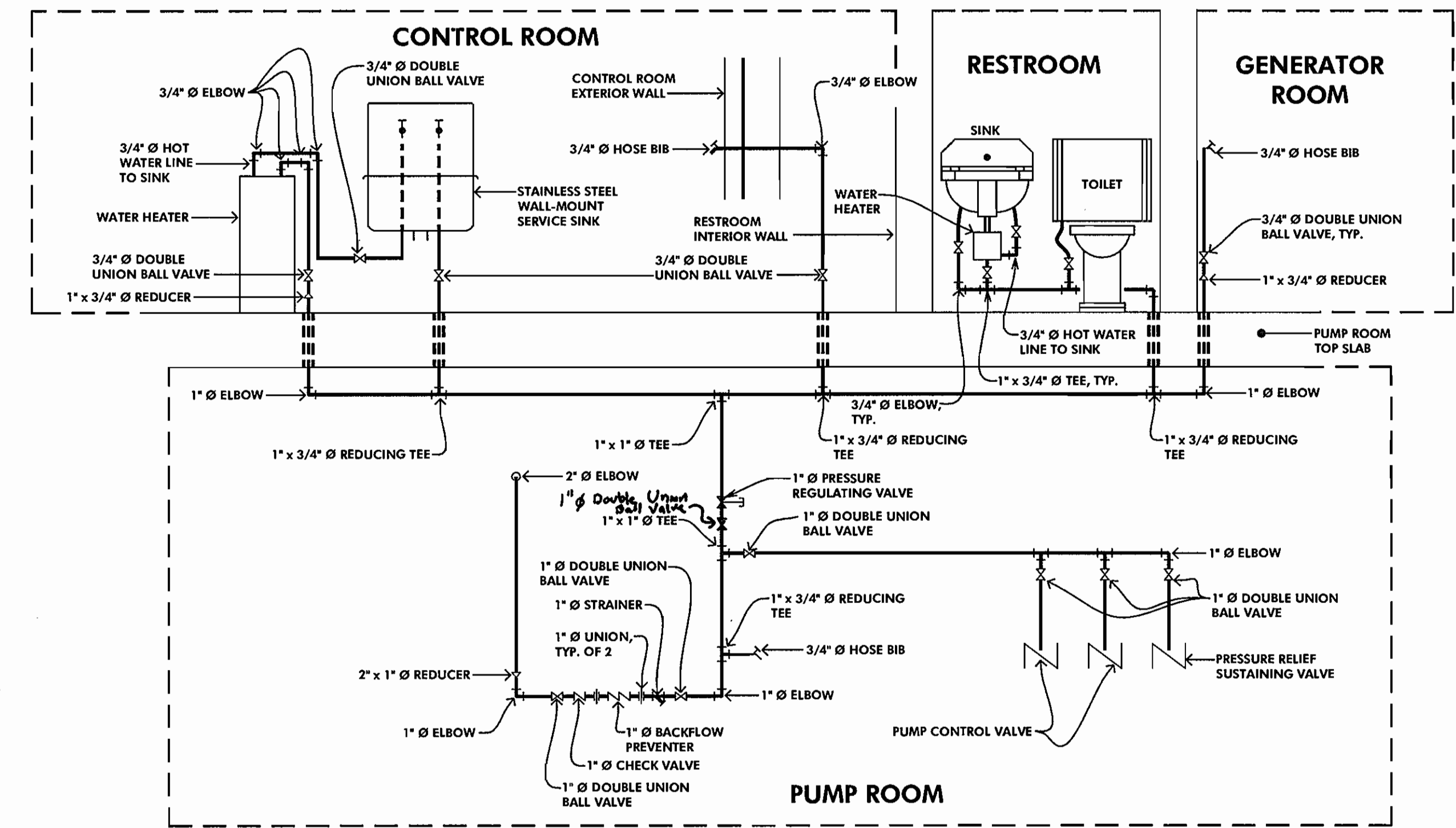
PLAN



ELEVATION

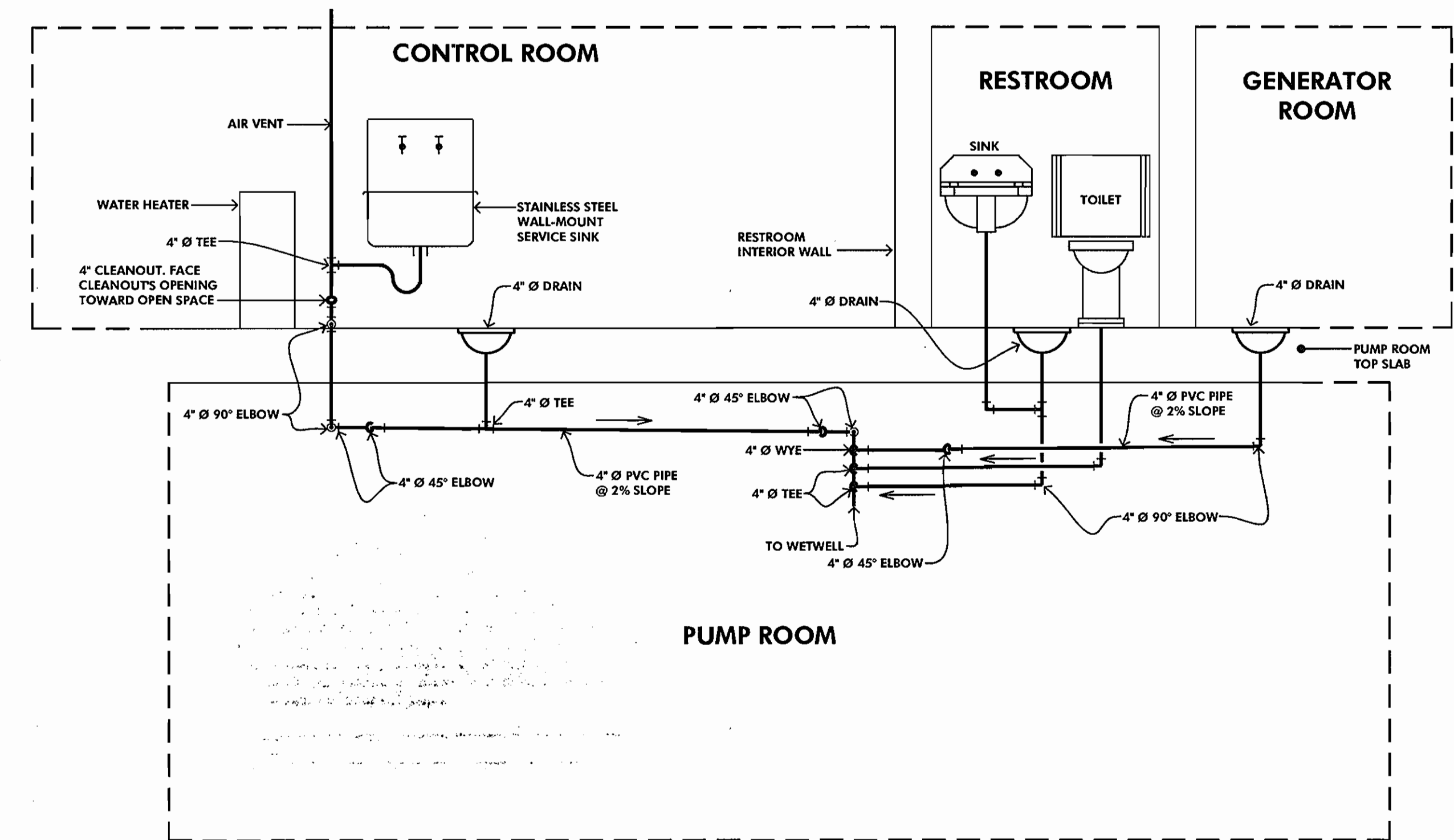
ALUMINUM LADDER DETAIL

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



WATER SCHEMATIC

NOT TO SCALE



DRAIN SCHEMATIC

NOT TO SCALE

For Date and Time: Dec 24, 2002, 10:17am

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

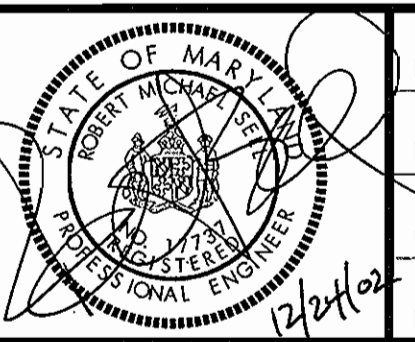
[Signature] DATE 12/24/02

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

[Signature] DATE 1/20/05

MICRONE
ENGINEERING ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING CONSTRUCTION SERVICES

20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 267-8621
Fax (410) 267-8922



DES: S.A.C.					
DRN: -					
CHK: R.SELL					
DATE: FEB, 2000	BY	No.	REVISION	DATE	

SCHEMATICS

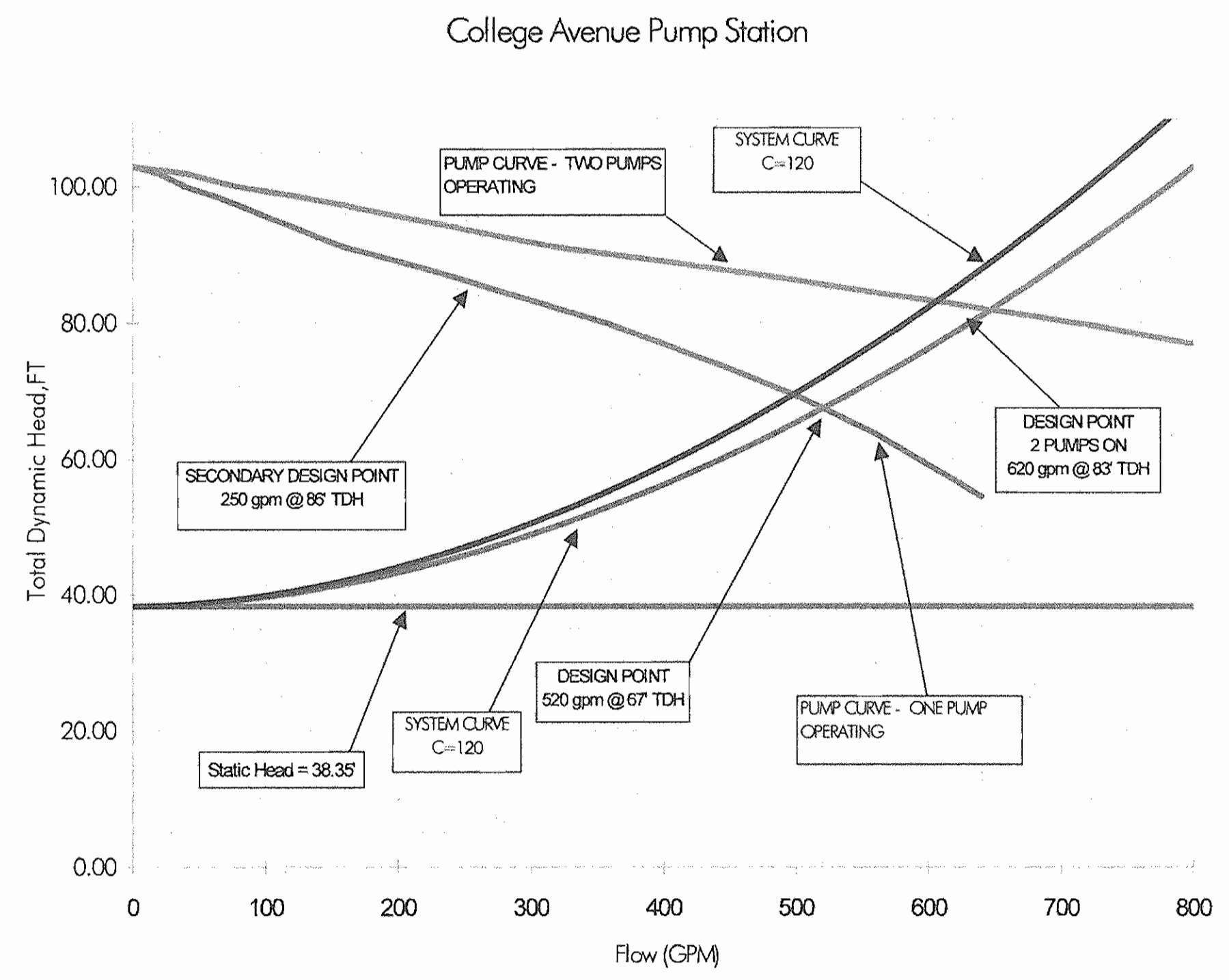
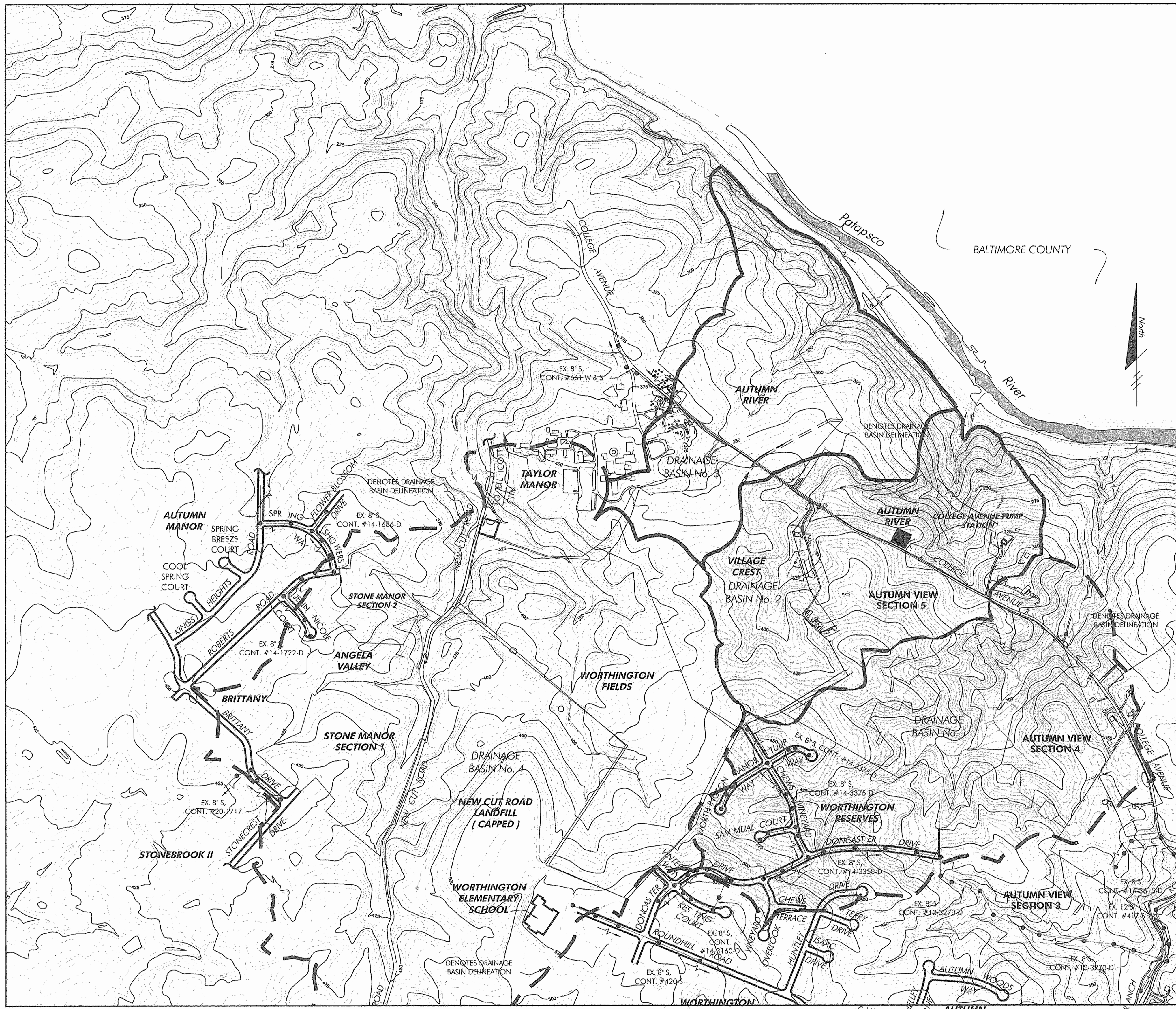
**COLLEGE AVENUE
WASTEWATER PUMPING STATION**

CONTRACT # 10-3898-D

2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 18 OF 29



SYSTEM CURVE

**COLLEGE AVENUE WASTEWATER PUMPING STATION
DRAINAGE BASINS NO. 1 AND NO. 2**

SUMMARY

AUTUMN VIEW:	151 SINGLE FAMILY LOTS
	28 TOWNHOMES
VILLAGE CREST:	100 TOWNHOMES
	48 CONDOMINIUMS

PLUS PUMPED FLOW FROM AUTUMN RIVER WWPS

DOMESTIC FLOW

151 SINGLE FAMILY LOTS @ 3.5 persons/D.U.	=	528.5 persons
128 TOWNHOMES @ 3.1 persons/D.U.	=	396.8 persons
48 CONDOMINIUMS @ 2.2 persons/D.U.	=	105.6 persons
		1030.9 persons
		<u>SAY 1031 persons</u>
1031 persons @ 72 gpcpd	=	74,232 gallons per day
PEAK: 74,232 gpd X 4	=	296,928 gallons per day
	=	206.2 gallons per minute
INFILTRATION: 1031 persons @ 40 gpcpd	=	41,240 gallons per day
	=	28.6 gallons per minute

DESIGN PUMPED FLOW FROM AUTUMN RIVER WWPS = 180 gpm

DESIGN FLOW = 180 + 28.6 + 206.2 = 414.8 GPM

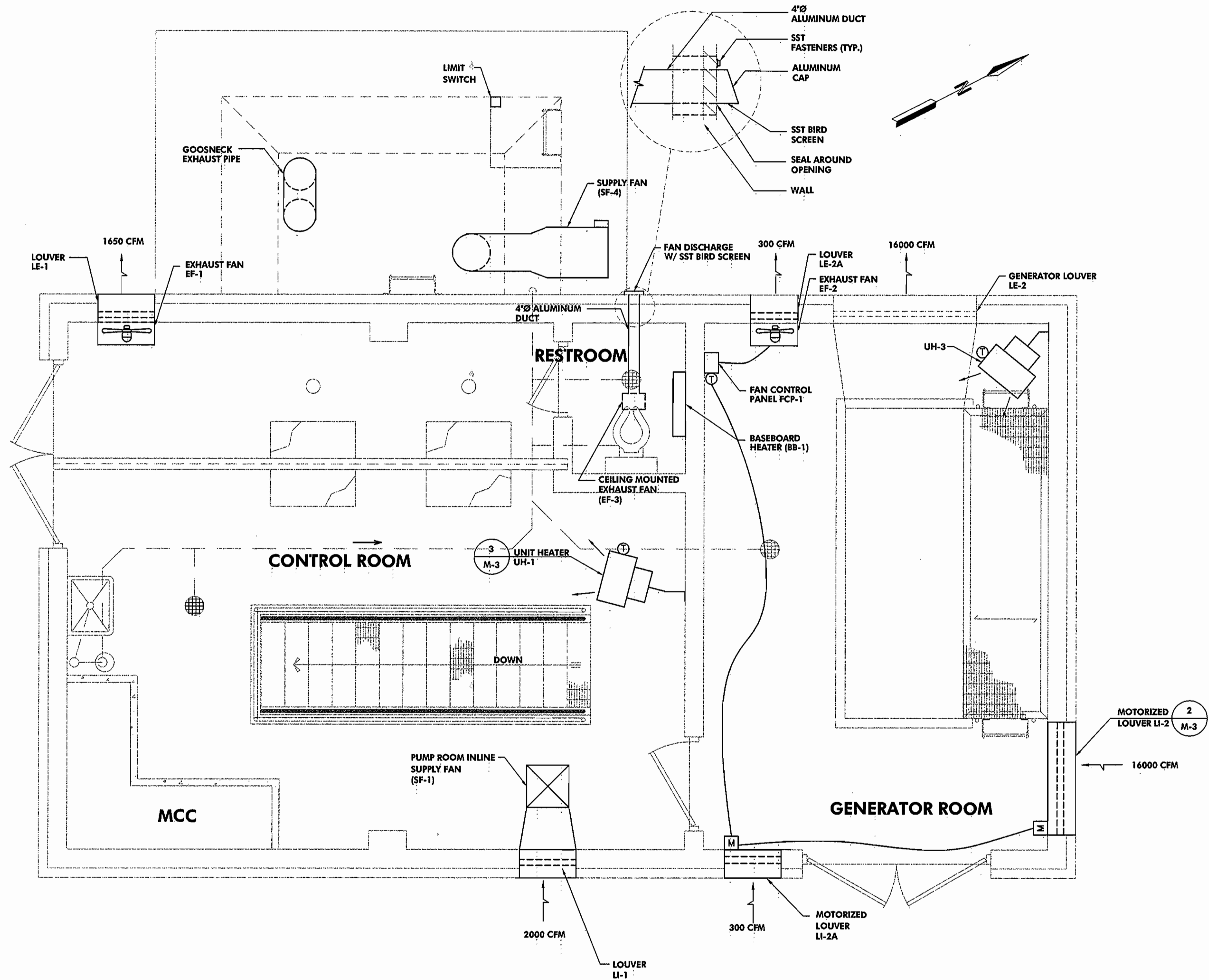
ULTIMATE DESIGN FLOW: 415 GPM

DESIGN CRITERIA

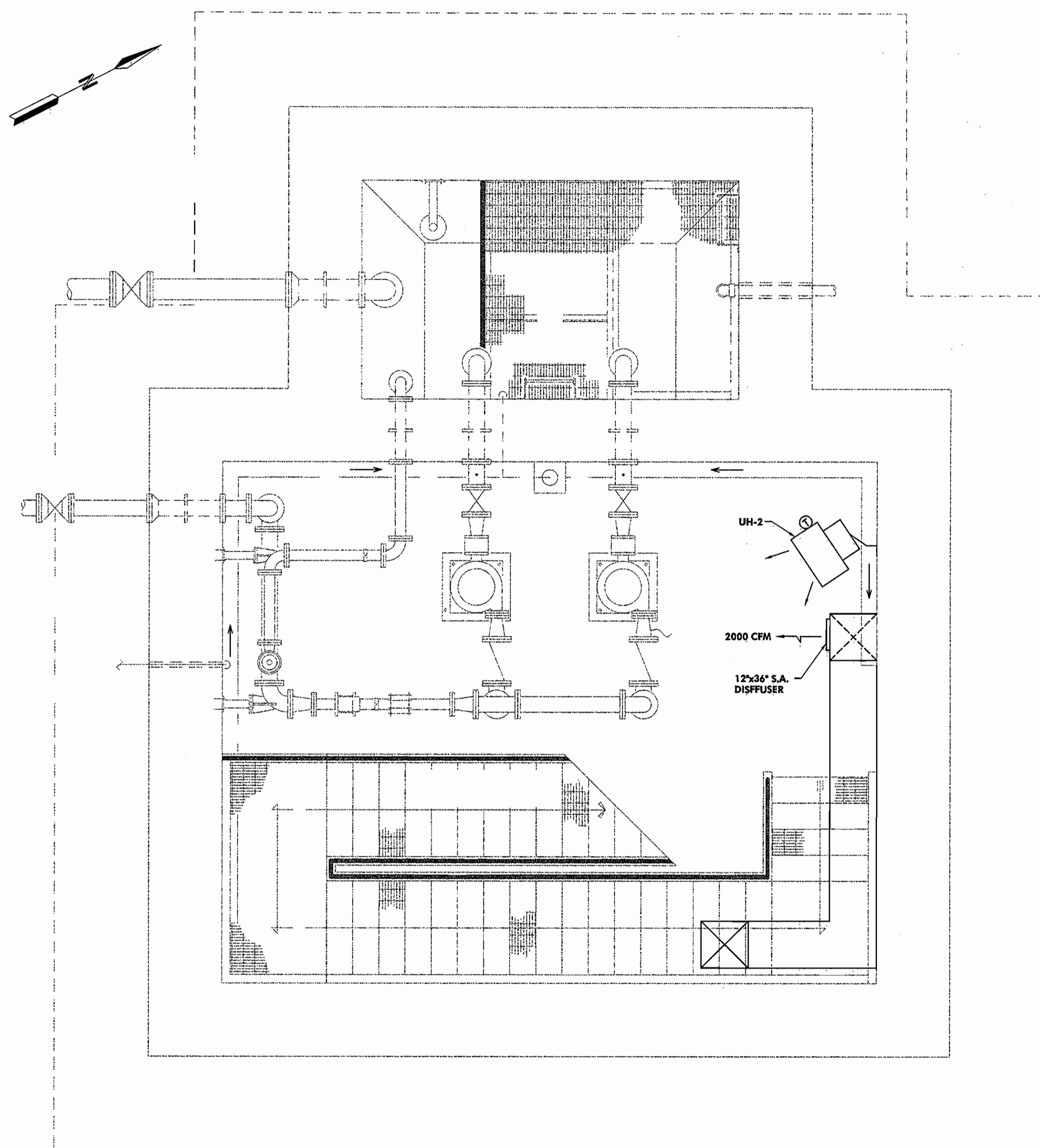
RECORD DRAWING
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 By: *[Signature]*
 Date: 2/19/03

Plot Date and Time: Jan 23, 2003 - 3:34pm

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>[Signature]</i> 1-24-03 <small>CHEF, BUREAU OF STREETS</small>	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND <i>[Signature]</i> 1/20/03 <small>CHEF, DEVELOPMENT ENGINEERING DIVISION</small>	 ENGINEERING ENVIRONMENTAL SCIENCES LAND PLANNING & SURVEYING & CONSTRUCTION SERVICES 20 RIDGELY AVENUE ANNAPOLIS, MARYLAND 21401 (410) 267-5822 Fax (410) 267-9992		DES: _____ DRN: _____ CHK: R.SELL DATE: FEB, 2002	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>BY</th> <th>No.</th> <th>REVISION</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	BY	No.	REVISION	DATE					<p>DRAINAGE AREA MAP</p>	<p>Contract No. 10-3898-D</p> <p>COLLEGE AVENUE WASTEWATER PUMP STATION</p> <p>ELECTION DISTRICT No. 2 HOWARD COUNTY, MARYLAND</p>	SCALE AS SHOWN SHEET 19 OF 29
BY	No.	REVISION	DATE													



CONTROL AND GENERATOR ROOM PLAN
SCALE: 3/8\"/>



PUMP ROOM PLAN
SCALE: 3/8\"/>

RECORD DRAWING
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By: [Signature]
Date: 2/13/02

NOTES:
1. COORDINATE LOUVER HEIGHTS AND SIZES IN MASONRY OPENINGS WITH ENGINEER AND ARCHITECTURAL DRAWINGS.

\\SPV\pvc\HART\ENG\1017\DRAWINGS\MASTER_12-22-02\C.A. PS\M-1.DWG Tue Dec 24 09:50:14 2002

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HOWARD COUNTY, MARYLAND
[Signature] DATE 12/20/02

HARTWELL ENGINEERING, INC.
ENGINEERS • INTEGRATORS
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SUITE 102
CROFTON, MARYLAND
(410)451-7335

McCRONE
ENGINEERING: ENVIRONMENTAL SCIENCES
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(410) 297-4631
FAX (410) 297-9922
ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY



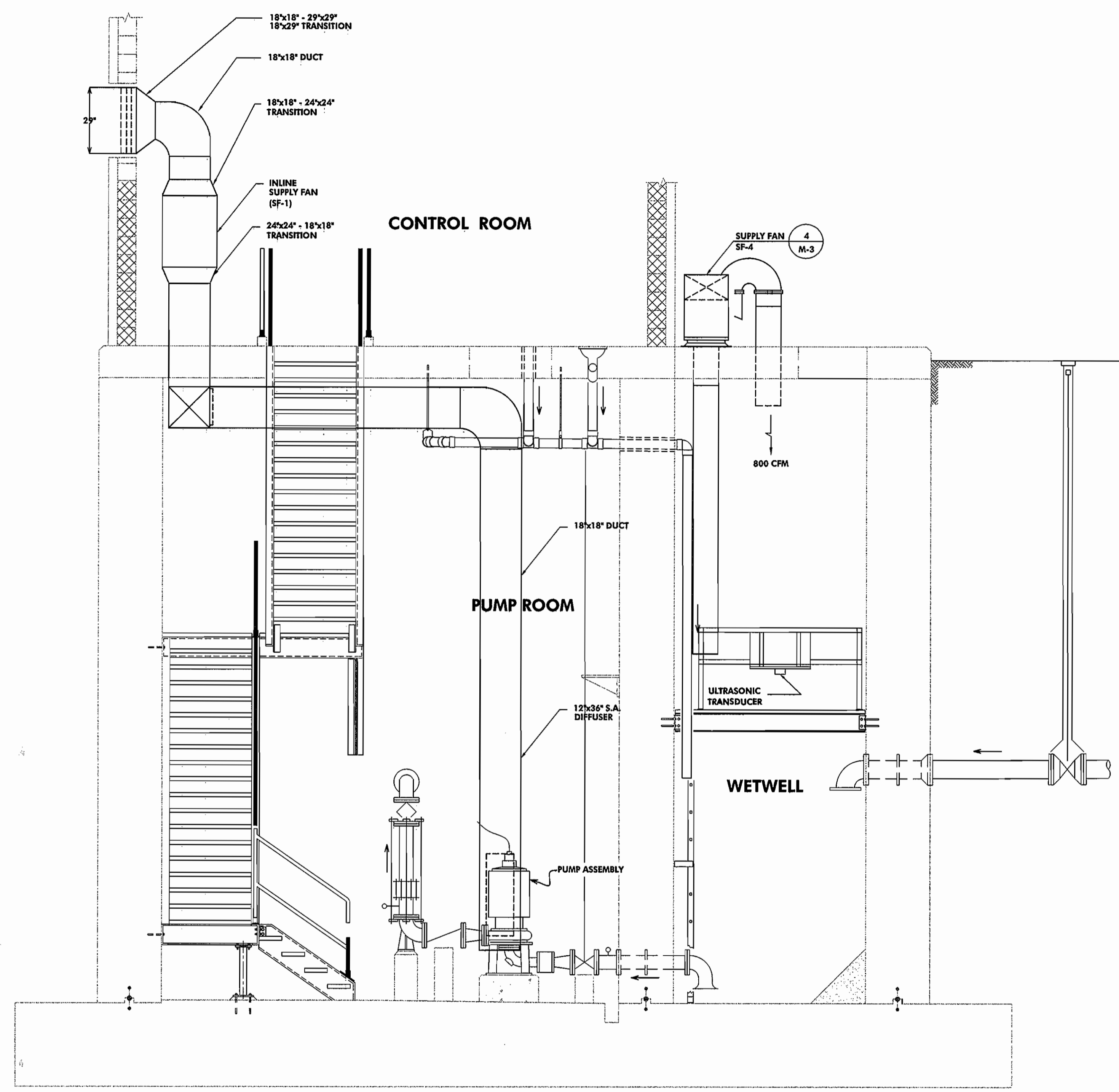
DES: TLH/KJN					
DRN: MRF					
CHK: TLH					
DATE: NOV, 2002	BY	No.	REVISION	DATE	

M-1 MECHANICAL PLAN

COLLEGE AVENUE WASTEWATER PUMPING STATION
CONTRACT # 10-368-D
2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 20 OF 29

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

RECORD DRAWING

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By: *[Signature]*
Date: 2/10/03

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HOWARD COUNTY, MARYLAND

[Signature] DATE 12/30/02

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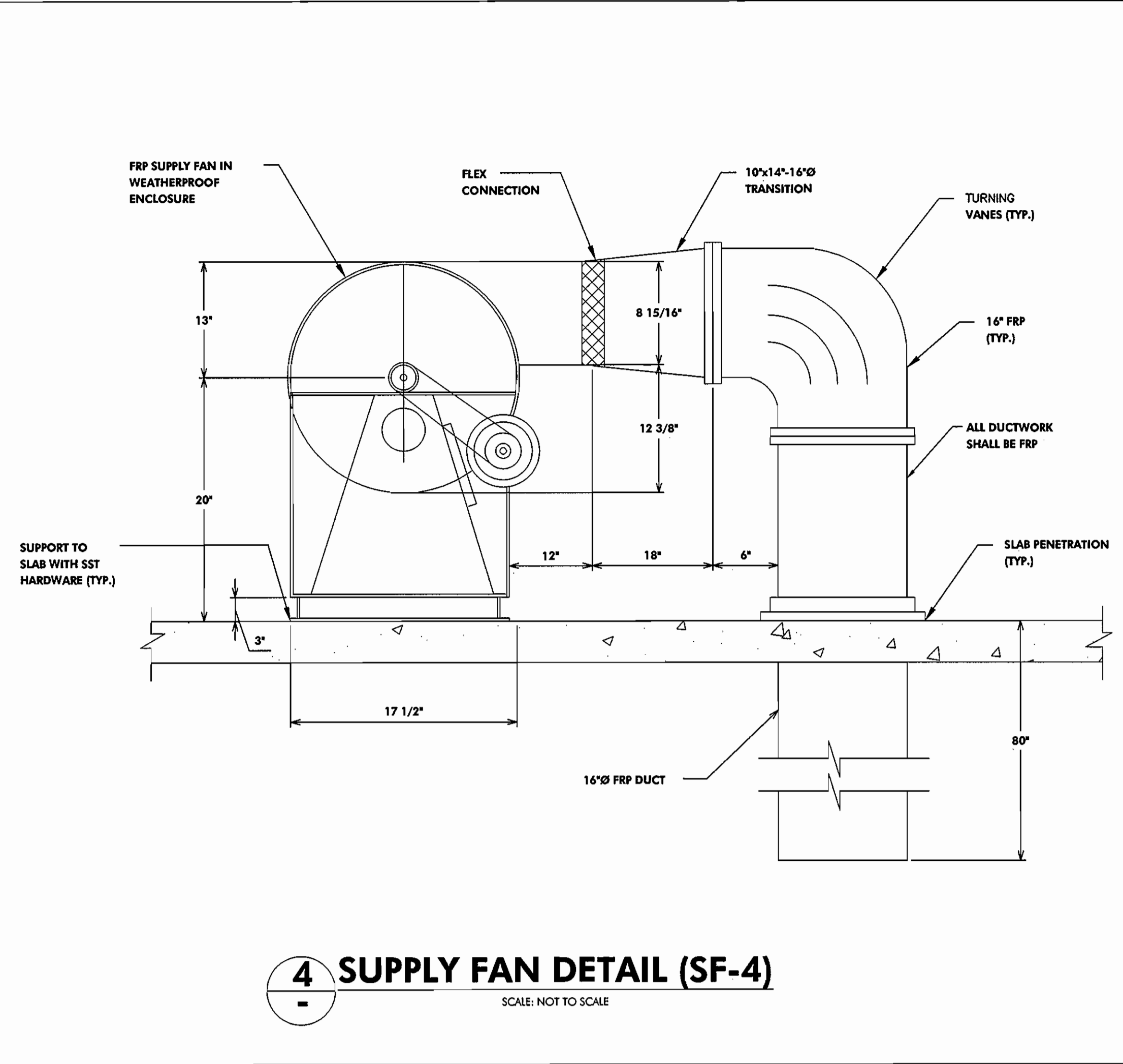
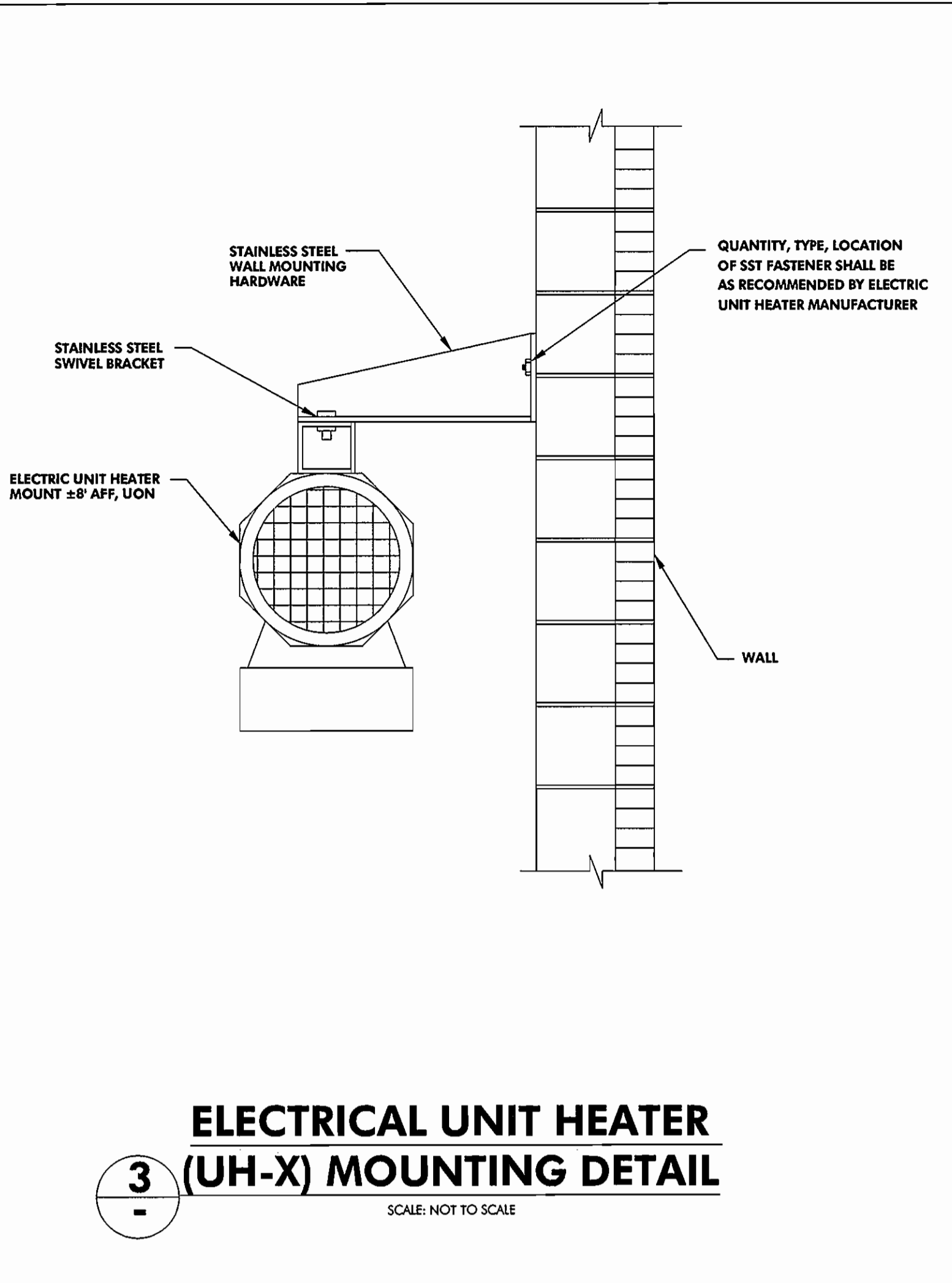
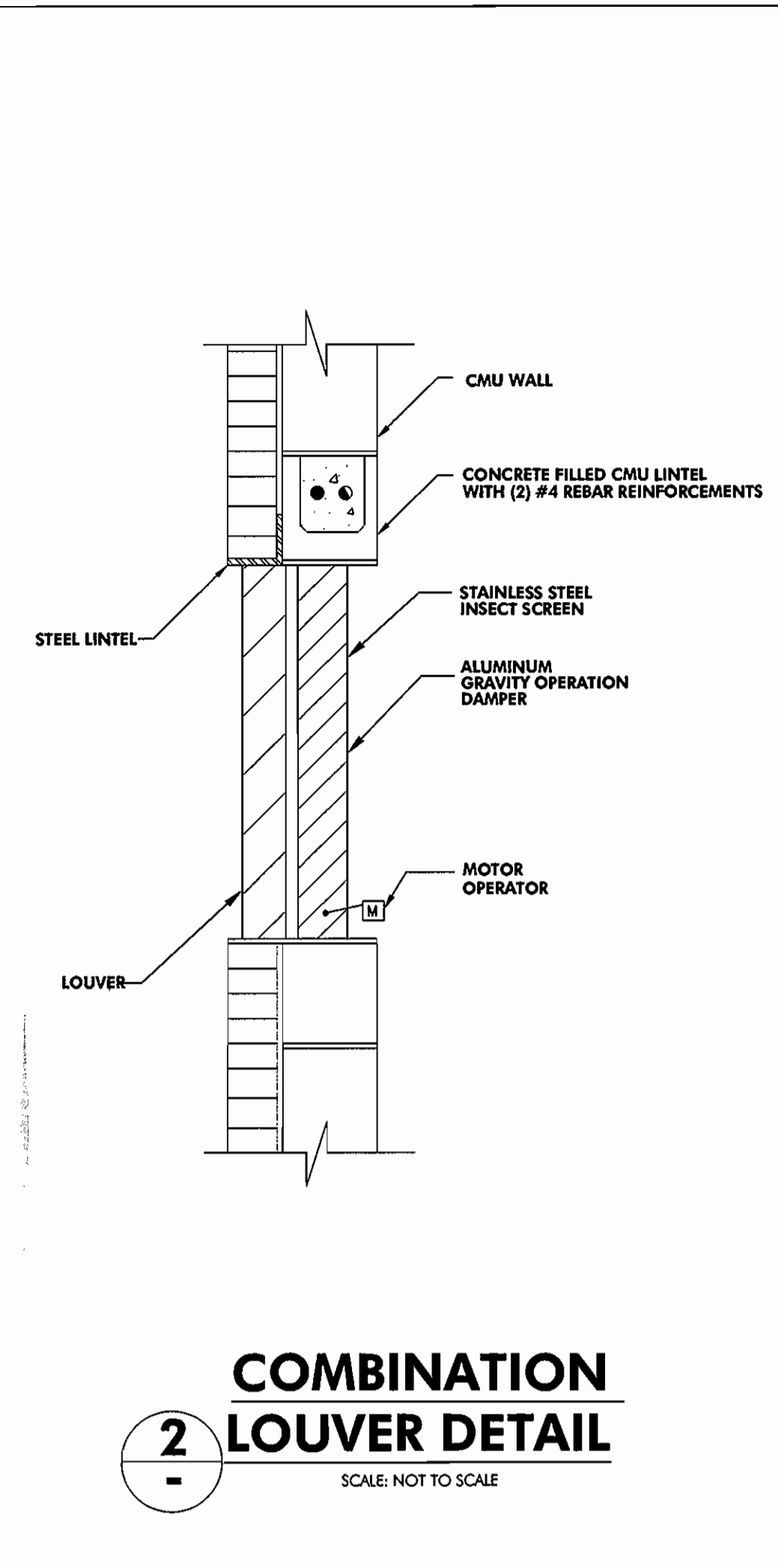
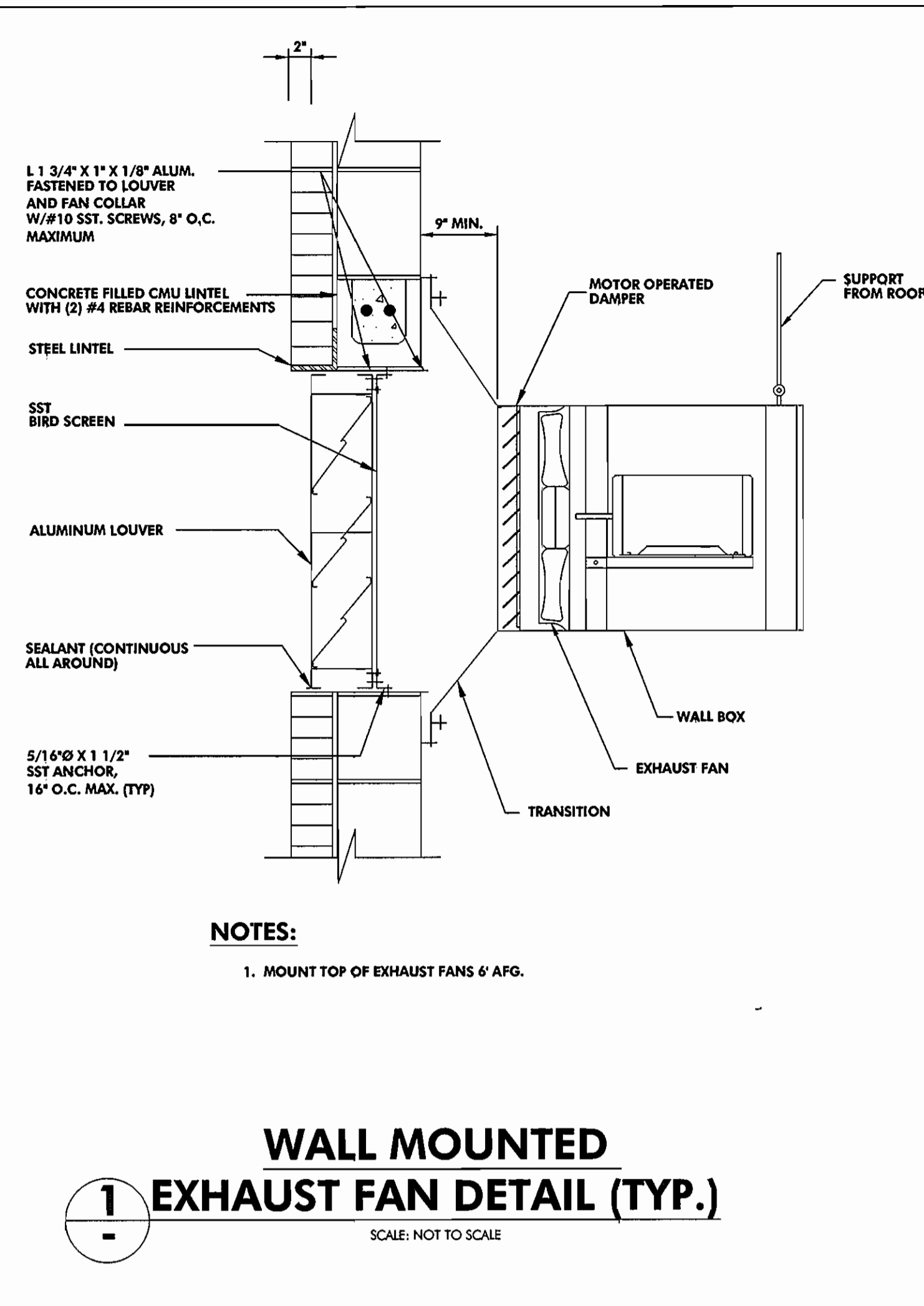


DES: TLH/KN					
DRN: MRF					
CHK: TLH					
DATE: NOV, 2002	BY	No.	REVISION	DATE	

**M-2
MECHANICAL SECTION**

**COLLEGE AVENUE
WASTEWATER PUMPING STATION**
CONTRACT # 10-3846-D
2 nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 21 OF 29



EXHAUST FAN SCHEDULE									
NUMBER	LOCATION	FAN TYPE/MOUNTING ARRANGEMENT	CFM	HP	SP (\"/>				
EF-1	PUMP ROOM	WALL	1650	.5	.375	480	3	60	REFER TO DRAWING E-7
EF-2	GENERATOR ROOM	WALL	300	.25	.25	120	1	60	REFER TO DRAWING E-6
EF-3	REST ROOM	CEILING	75	.05	.125	120	1	60	REFER TO DRAWING E-5

ELECTRIC UNIT HEATER SCHEDULE								
NUMBER	LOCATION	HEATER DATA	FAN MOTOR DATA			TSTAT CONTROL		
			KW RATING	VOLTS	PHASE		VOLTS	PHASE
UH-1	PUMP ROOM (UPPER)	10.0	480	3	480	1	1180	INTEGRAL
UH-2	PUMP ROOM (LOWER)	10.0	480	3	480	1	1330	INTEGRAL
UH-3	GENERATOR ROOM	5.0	480	3	480	1	405	INTEGRAL
BB-1	RESTROOM	1.0	120	1	N/A	N/A	N/A	INTEGRAL

LOUVER SCHEDULE										
DESCRIPTION	LOUVER SIZE	FREE AREA	MATERIAL	TYPE	FINISH	STYLE	BLADE	DEPTH	GALUGE	REMARKS
EXHAUST LOUVER (LE-1)	2'-2\"/>									

SUPPLY FAN SCHEDULE									
NUMBER	LOCATION	FAN TYPE/MOUNTING ARRANGEMENT	CFM	HP	SP (\"/>				
SF-1	PUMP ROOM	IN-LINE	2000	.5	.5	480	3	60	REFER TO DRAWING E-7
SF-4	WET WELL	SLAB	800	.25	.375	120	1	60	REFER TO DRAWING E-6

RECORD DRAWING
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By: *[Signature]*
Date: 2/13/05

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HOWARD COUNTY, MARYLAND
[Signature]
DATE 12/31/04

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ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY



DES: TLH/KN					
DRN: MRF					
CHK: TLH					
DATE: NOV, 2002	BY	No.	REVISION	DATE	

M-3 MECHANICAL DETAILS AND SCHEDULE

COLLEGE AVENUE WASTEWATER PUMPING STATION
CONTRACT # 10-3848-D
2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 22 OF 29

SYMBOLS

ABBREVIATIONS

SINGLE LINE DIAGRAM

- CIRCUIT BREAKER
- AMMETER
- VOLTMETER
- AMMETER
- VOLTMETER
- CURRENT TRANSFORMER, QUANTITY INDICATED
- POTENTIAL TRANSFORMER, QUANTITY INDICATED
- UTILITY METERING
- POWER TRANSFORMER
- MAGNETIC MOTOR STARTER, NEMA SIZE INDICATED
RV=REDUCED VOLTAGE STARTING, FV=FULL VOLTAGE STARTING
2S, 2W=2 SPEED, 2 WINDING
- FUSE
- DRAW-OUT TYPE EQUIPMENT
- GROUND-SYSTEM OR EQUIPMENT
- ELAPSED TIME METER
- OVERLOAD RELAY
- MOTOR OPERATED VALVE, MOV

GROUNDING

- GROUND ROD
- BOND TO REINFORCING STEEL
- GROUNDING CABLE OR GROUND LOOP COUNTERPOISE

SWITCHES

- SWITCH, SINGLE POLE-"0" INDICATE DEVICE CONTROLLED
- SWITCH, THREE WAY
- SWITCH, WITH RED PILOT LIGHT
- MANUAL MOTOR STARTER
- PUSHBUTTON

RECEPTACLE & MISCELLANEOUS

- ALL OUTLETS ARE WALL MOUNTED ±18" AFF (UNLESS OTHERWISE NOTED)
- DUPLEX RECEPTACLE
 - DUPLEX RECEPTACLE FLOOR MOUNT FLUSH
 - JUNCTION BOX
 - THERMOSTAT-WALL MOUNTED (MOUNT 4'-6" AFF, UON)

TELEPHONE

- TELEPHONE OUTLET ±18" AFF, UON
- TELEPHONE OUTLET - FLOOR MOUNTED

EQUIPMENT

- NON-FUSED DISCONNECT SWITCH, SIZE AS INDICATED
- ENCLOSED MAGNETIC STARTER, UON
- FUSED DISCONNECT SWITCH, SIZE AS INDICATED
- CONTROL STATION-TYPE AS INDICATED
- MOTOR
- MOTOR

CONDUIT AND WIRE

- CONDUIT NUMBER - SEE CONDUIT AND CONDUCTOR SCHEDULE
- HOMERUN INDICATES NUMBER OF #12 CONDUCTORS AND GROUND (UON)
LP-X (X-DENOTES CIRCUIT NUMBER IN PANEL LP)
- CONDUIT OR CONDUCTOR - EXPOSED
- CONDUIT OR CONDUCTOR - DIRECT BURIAL, IN SLAB, OR CONCEALED
- CONDUIT OR CONDUCTOR - CONCEALED IN WALL OR CEILING
- CONDUIT OR CONDUCTOR - TURNING UP
- CONDUIT OR CONDUCTOR - TURNING DOWN
- FLEXIBLE CONDUIT
- CONDUIT STUB-OUT WITH CAP

LIGHTING

- EXIT LIGHT - ARROWS INDICATE DIRECTION AND FACES
- EMERGENCY LIGHTING UNIT - WALL MOUNTED
- HID FIXTURE - WALL MOUNTED
- HID FIXTURE - POLE MOUNTED
- FLUORESCENT LIGHT FIXTURE

SCHEMATIC DIAGRAM

- N.O. CONTACT
- N.C. CONTACT
- CONTACT
- TIMED CONTACT
- CONTACT ACTION RETARDED ON DE-ENERGIZATION
- TIMED CONTACT
- CONTACT ACTION RETARDED ON ENERGIZATION
- PUSHBUTTON SINGLE CIRCUIT MOMENTARY CONTACT
- PUSHBUTTON SINGLE CIRCUIT LOCK - OUT
- LIMIT SWITCH
- LIMIT SWITCH HELD CLOSED
- LIMIT SWITCH HELD OPEN
- LIQUID - LEVEL ACTUATED SWITCH
- PRESSURE OR VACUUM ACTUATED SWITCH
- FLOW ACTUATED SWITCH
- FLOW ACTUATED SWITCH
- MOTOR OVERLOAD HEATERS
- PILOT LIGHT
R=RED, W=WHITE, G=GREEN, B=BLUE, A=AMBER
- PILOT LIGHT - PUSH TO TEST
- STARTER COIL
- SOLENOID OPERATED CONTROL VALVE
- ELAPSED TIME METER
- FUSE
- MOTOR OPERATED TERMINAL
- SELECTOR SWITCH
- PUSHBUTTON

MISCELLANEOUS

- CALL-OUT FOR DETAIL OR SECTION.
- *3" INDICATES NUMERICAL ORDER ON DETAIL DWG.
- *DE-2" INDICATES DETAIL DWG. REFERENCED.

3
DE-2

AT	AMPERE	MAX	MAXIMUM
A	AIR CONDITIONER	MECH	MECHANICAL
A/C	ALTERNATING CURRENT	MH	MANHOLE
AFF	ABOVE FINISHED FLOOR	MIN	MINIMUM
AFG	ABOVE FINISHED GRADE	MISC	MISCELLANEOUS
AHU	AIR HANDLING UNIT	N	NEUTRAL
AL	ALUMINUM	NEC	NATIONAL ELECTRICAL CODE
ATS	AUTOMATIC TRANSFER SWITCH	NTS	NOT TO SCALE
AWG	AMERICAN WIRE GAUGE	O	OVERHEAD
B	BREAKER	OL	OVERLOAD
BLDG	BUILDING	O.C.	ON-CENTER
C	CONDUCTOR	P	POLE
C	CONDUIT	P/E	PHOTO ELECTRIC CELL
CB	CIRCUIT BREAKER	PL	PLATE
CFM	CONTROL JOINT	PLC	PROGRAMMABLE LOGIC CONTROL
CJ	CIRCUIT	PNL	PANEL
CKT	CEILING	PVC	POLYVINYL CHLORIDE
CLG	CONCRETE MASONRY UNIT	PWR	POWER
CMU	COLUMN	Q	QUANTITY
COL	CONCRETE	R	RADIUS
CONC	CONTINUATION/CONTINUED	RD	ROOF DRAIN
CONT	CONTROL POWER TRANSFORMER	RECEPT	RECEPTACLE
CPT	DIRECT CURRENT	REINF	REINFORCING
D	DWG	RELO	RELOCATE
E	E.F.	RGS	RIGID GALVANIZED STEEL
EF	EACH FACE	RVAT	REDUCED VOLTAGE AUTO TRANSFORMER
EMT	ELECTRICAL METALLIC TUBING	RVSS	REDUCED VOLTAGE SOLID STATE
ETM	ELAPSED TIME METER	S	SUPPLY FAN
EWH	ELECTRIC WATER HEATER	SFT	SHEET
EXP	EXPANSION	SPST	SINGLE POLE SINGLE THROW
EXIST or EX	EXISTING	SSM	SOLID STATE METERING
F	F/D	SST	STAINLESS STEEL
FIN	FLOOR DRAIN	STP	SHIELDED TWISTED PAIR
FVNR	FULL VOLTAGE NON-REVERSING	STL	STEEL
G	G	T	TYPICAL
GFI	GROUND FAULT INTERRUPTER	U	UNDERGROUND
GND	GROUND	UH	UNIT HEATER
H	HH	UL	UNDERWRITERS LABORATORIES
HORIZ.	HORIZONTAL	UON	UNLESS OTHERWISE NOTED
HP	HIGH POINT	V	VOLT
J	J-BOX	VERT	VERTICAL
JT	JOINT	VFD	VARIABLE FREQUENCY DRIVE
L	LE	V.P.	VENT PIPE
LI	LOUVER	W	WITH
LG	MOTORIZED LOUVER	WP	WEATHERPROOF
LP	LONG	WWF	WELED WIRE FABRIC
LTS	LOW POINT	X	TRANSFER
	LIGHTS	XFER	TRANSFER
		XFMR	TRANSFORMER

NOTES:

1. NOT ALL SYMBOLS / ABBREVIATIONS USED ON DRAWINGS.

RECORD DRAWING

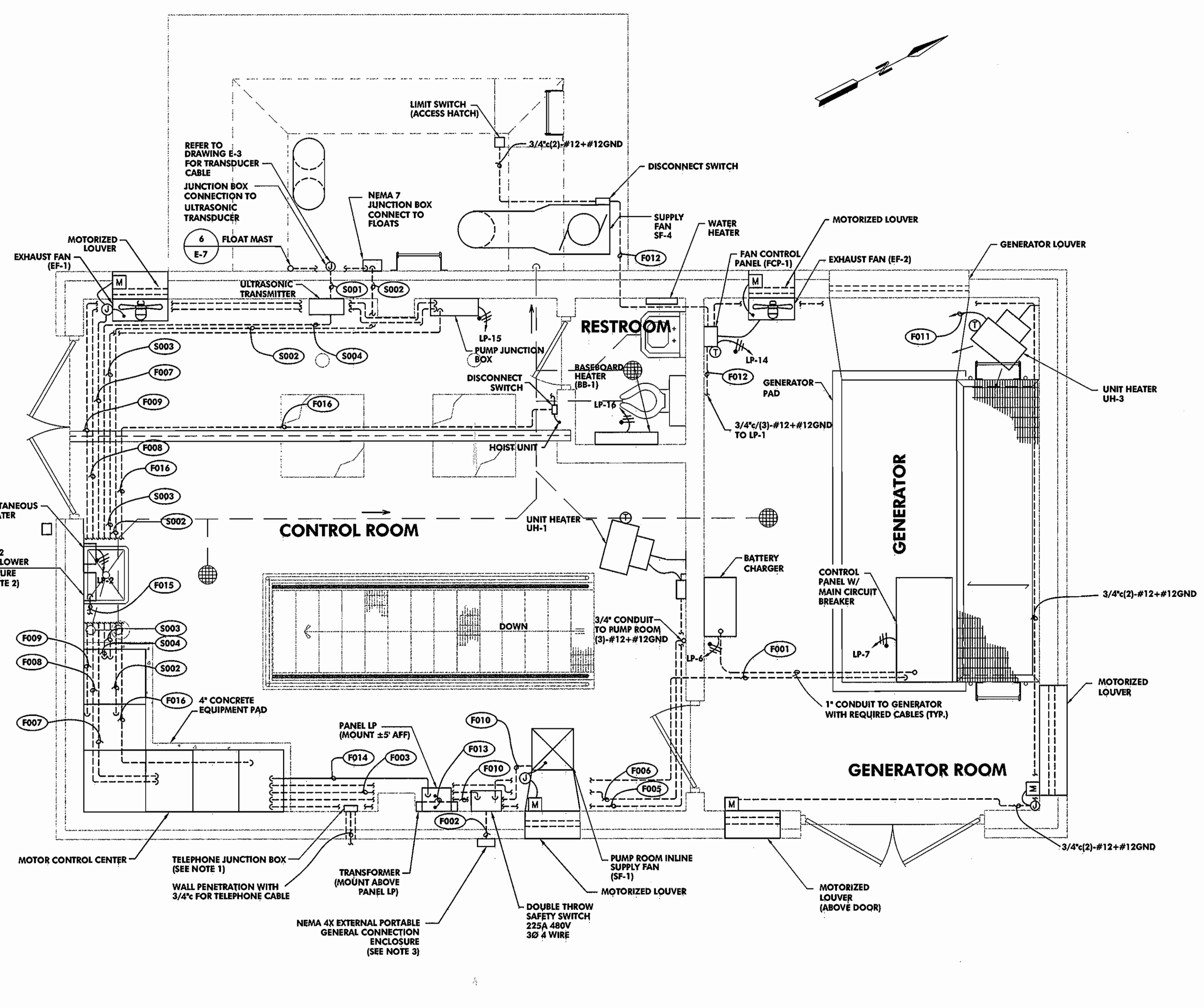
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By: Date: 2/19/05

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<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p> HARTWELL ENGINEERING, INC. ENGINEERS • INTEGRATORS 2127 ESPEY COURT SUITE 102 CROFTON, MARYLAND (410)451-7335</p>	<p> McCRONE ENGINEERING • ENVIRONMENTAL SCIENCES LAND PLANNING & SURVEYING • CONSTRUCTION SERVICES 20 RIDGELY AVENUE ANNAPOLIS, MARYLAND 21401 (410) 267-6621 Fax (410) 267-9932</p> <p>ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY</p>	<p>DES: TLH/KN</p> <p>DRN: MRF</p> <p>CHK: TLH</p> <p>DATE: NOV, 2002</p>	<p>BY No. REVISION</p>	<p>DATE</p>	<p>E-1 SYMBOLS AND ABBREVIATION</p>	<p>COLLEGE AVENUE WASTEWATER PUMPING STATION</p> <p>CONTRACT # 10-3898-D</p> <p>2 nd ELECTION DISTRICT</p> <p>HOWARD COUNTY, MARYLAND</p>	<p>SCALE AS SHOWN</p> <p>SHEET 23 OF 29</p>
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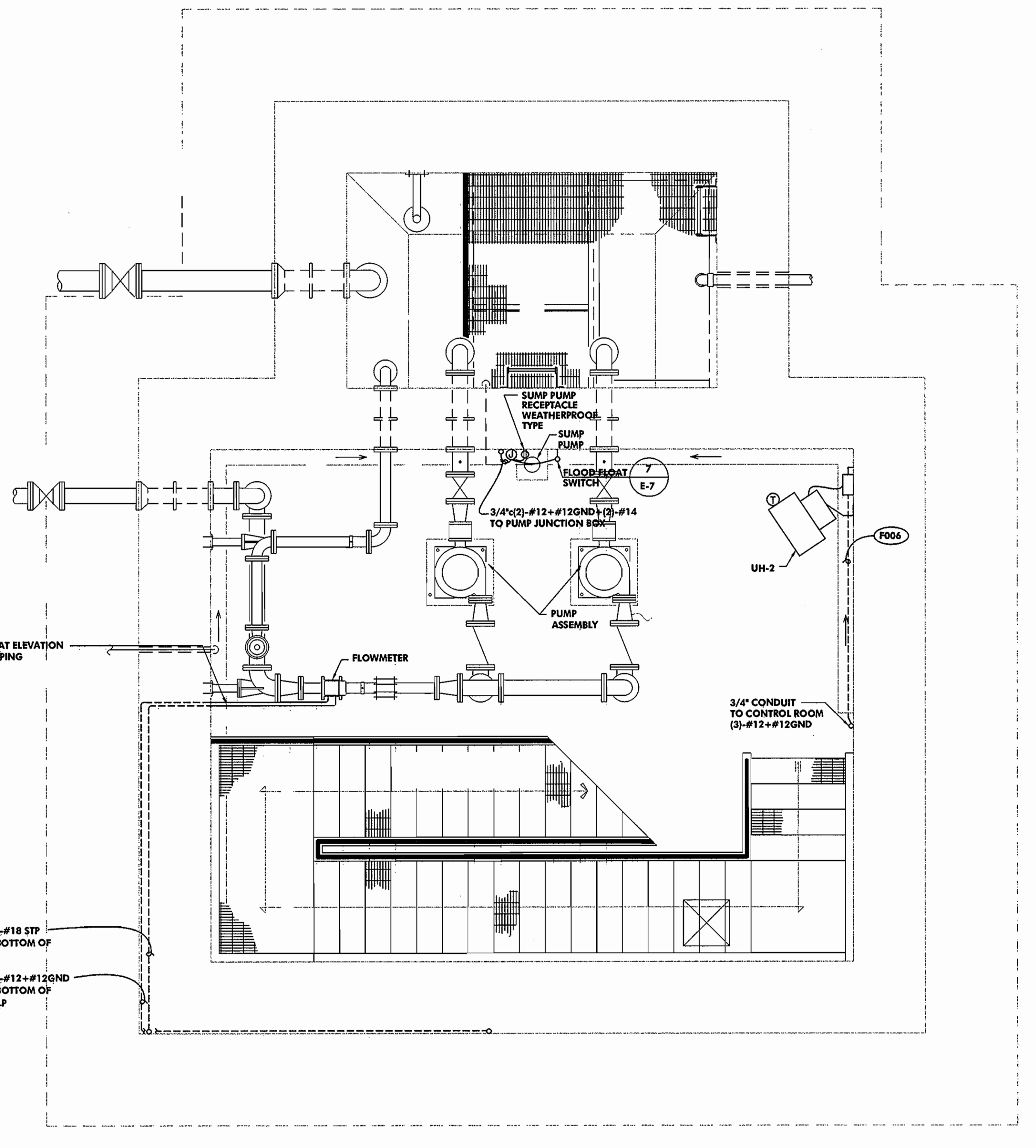
CONTROL AND GENERATOR ROOM PLAN
SCALE: 3/8"=1'-0"

- NOTES:**
- CONTRACTOR TO SUPPLY 5 PAIR CABLE PER VERIZON REQUIREMENTS. CABLE SHALL BE BURIED UNDERGROUND FROM BUILDING TO NEAREST PEDESTAL. CONTRACTOR TO COORDINATE WITH VERIZON FOR TESTING AND ACTIVATION OF DEDICATED CIRCUITS. CONTRACTOR TO NOTIFY BUREAU OF UTILITIES (410-313-4900) 4 WEEKS IN ADVANCE OF COMPLETION FOR ORDERING OF LINE. CONTRACTOR SHALL EXTEND PHONE CIRCUIT TO TELEMETRY SYSTEM IN MCC-1 IN 3/4\".
 - CONTRACTOR SHALL PROVIDE AND INSTALL 1\"(3)-#12+#12GND TO ODOR BLOWER AND 3/4\"(2)-#14+#12GND TO SOLENOID VALVE. REFER TO SITE AND PROCESS MECHANICAL DRAWINGS FOR LOCATIONS.
 - CONTRACTOR SHALL PROVIDE NEMA 4X ENCLOSURE AND MOUNT FOUR SINGLE POLE RECEPTACLES (HUBBLE-HBL400TBK, HBL400TR, HBL400ITB, HBL400ITGN) FOR CONNECTION OF PORTABLE GENERATOR.

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By: *[Signature]*
Date: 12/23/02



PUMP ROOM PLAN
SCALE: 3/8"=1'-0"

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature]
DATE

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ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY



DES: TLH/KN					
DRN: MRF					
CHK: TLH					
DATE: NOV, 2002	BY	No.	REVISION	DATE	

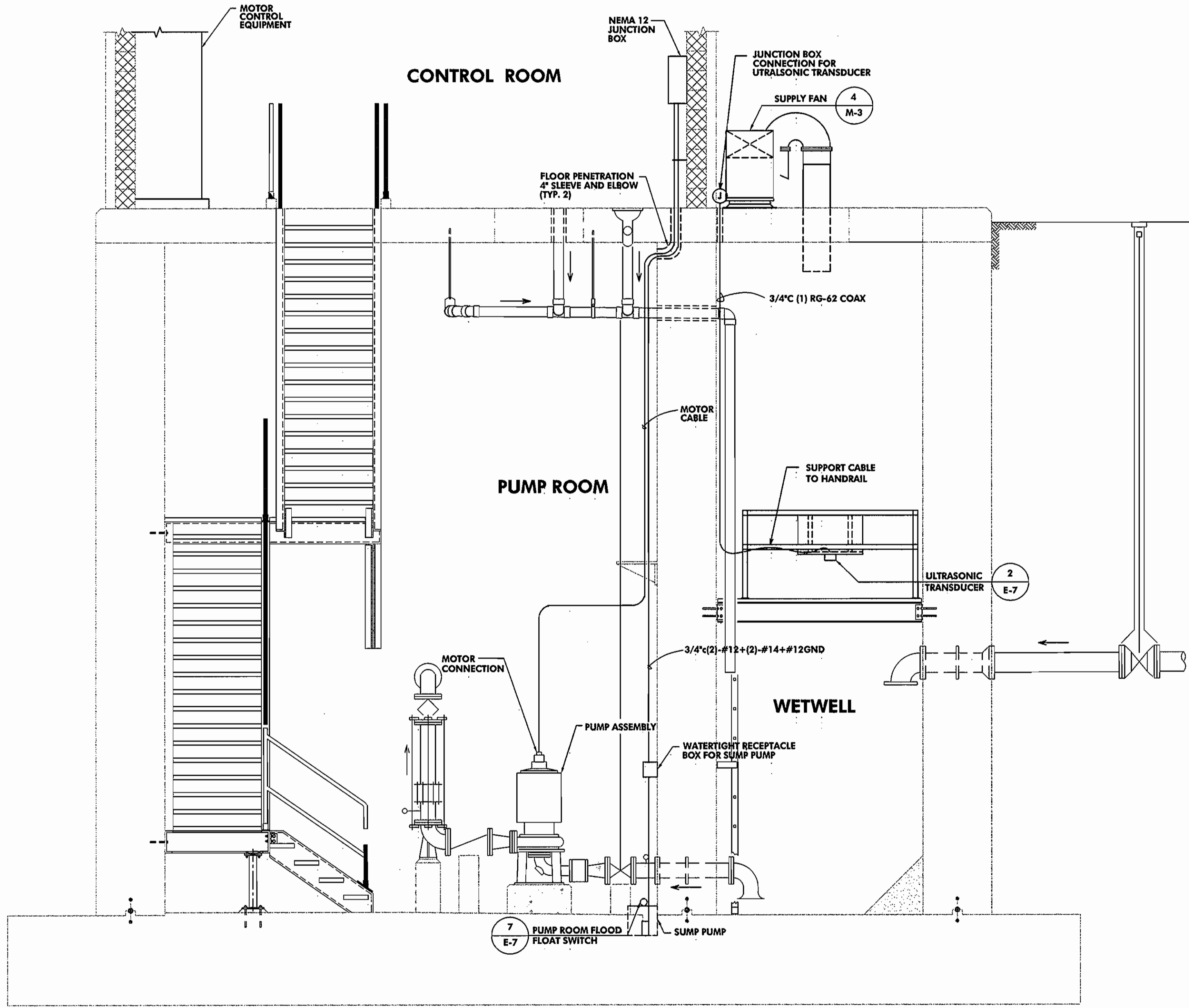
**E-2
ELECTRICAL POWER PLAN**

**COLLEGE AVENUE
WASTEWATER PUMPING STATION**

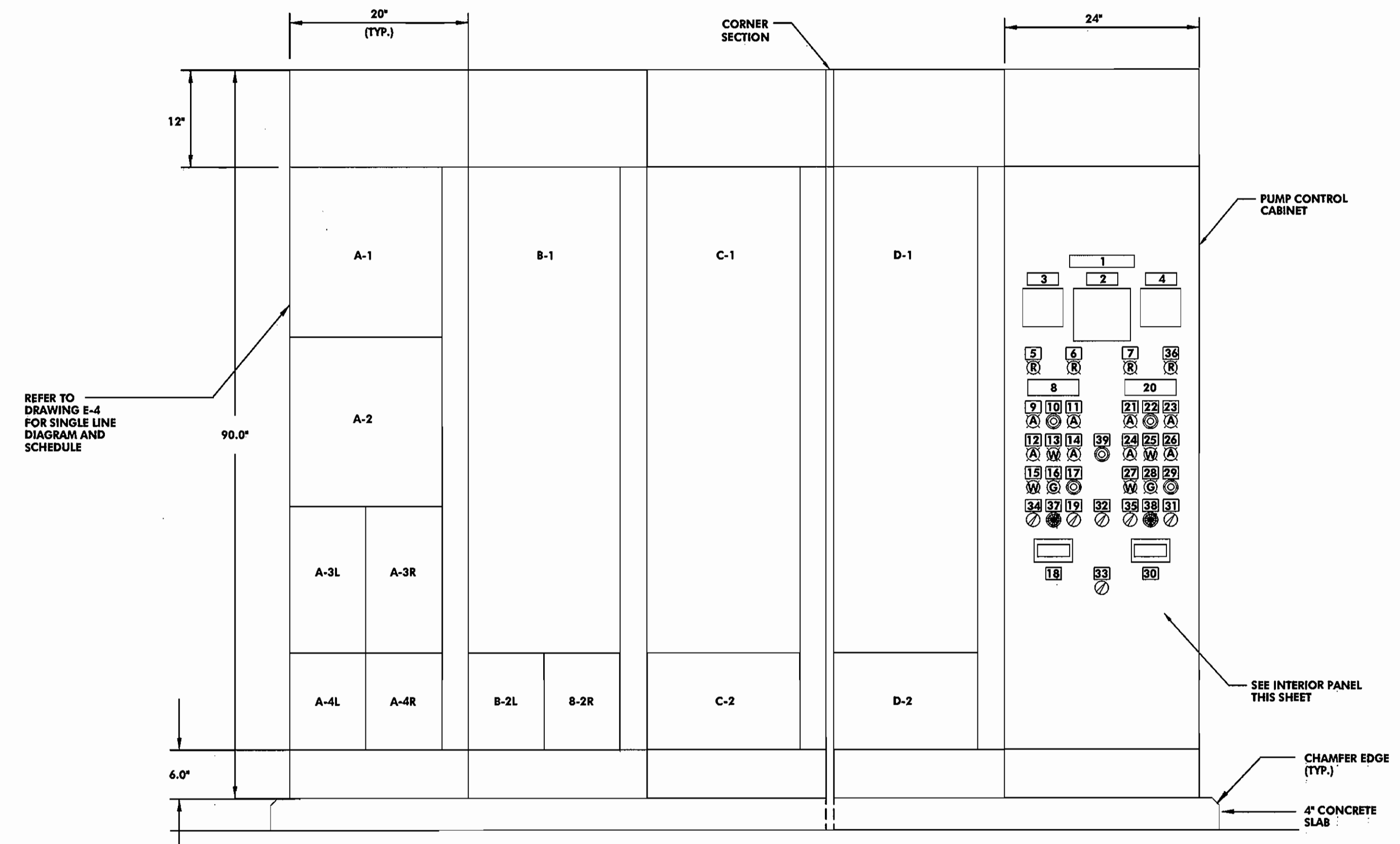
CONTRACT # 10-3898-D

2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 24 OF 29



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

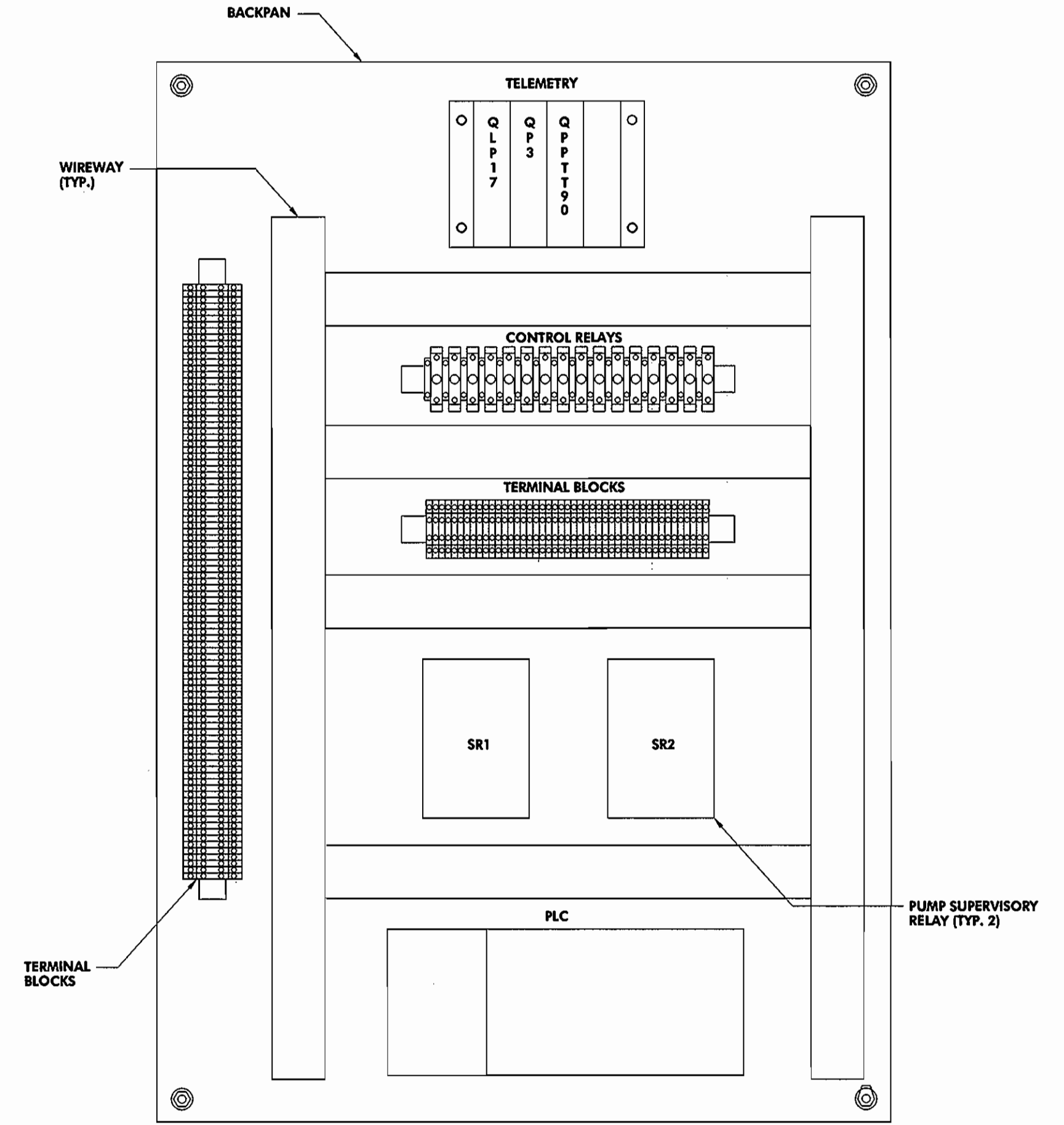


MCC ELEVATION
SCALE: NOT TO SCALE

PUMP CONTROL CABINET

NAMEPLATE	DESCRIPTION
1	PUMP CONTROL PANEL
2	HUMAN MACHINE INTERFACE (HMI)
3	WET WELL LEVEL RECORDER
4	STATION FLOW RECORDER
5	HIGH WET WELL LEVEL
6	LOW WET WELL LEVEL
7	PUMP ROOM FLOODED
8	PUMP #1
9	OVER TEMPERATURE
10	OVER TEMPERATURE/SEAL LEAK RESET
11	SEAL LEAK
12	VALVE FULLY OPEN
13	VALVE INCOMPLETE SEQUENCE
14	VALVE FULLY CLOSED
15	VALVE/PUMP LOCKOUT
16	RUNNING
17	INCOMPLETE SEQUENCE RESET
18	ELAPSED TIME METER
19	HAND/OFF/AUTO
20	PUMP #2
21	OVER TEMPERATURE
22	OVER TEMPERATURE/SEAL LEAK RESET
23	SEAL LEAK
24	VALVE FULLY OPEN
25	VALVE INCOMPLETE SEQUENCE
26	VALVE FULLY CLOSED
27	VALVE/PUMP LOCKOUT
28	RUNNING
29	INCOMPLETE SEQUENCE RESET
30	ELAPSED TIME METER
31	HAND/OFF/AUTO
32	PUMP 1 LEAD/ALTERNATE/PUMP 2 LEAD
33	TELEMETRY SYSTEM TEST SWITCH
34	PUMP #1 VFD/CONSTANT SPEED
35	PUMP #2 VFD/CONSTANT SPEED
36	SECONDARY CONTROL
37	MANUAL SPEED CONTROL
38	MANUAL SPEED CONTROL
39	PRIMARY PUMP CONTROL RESET

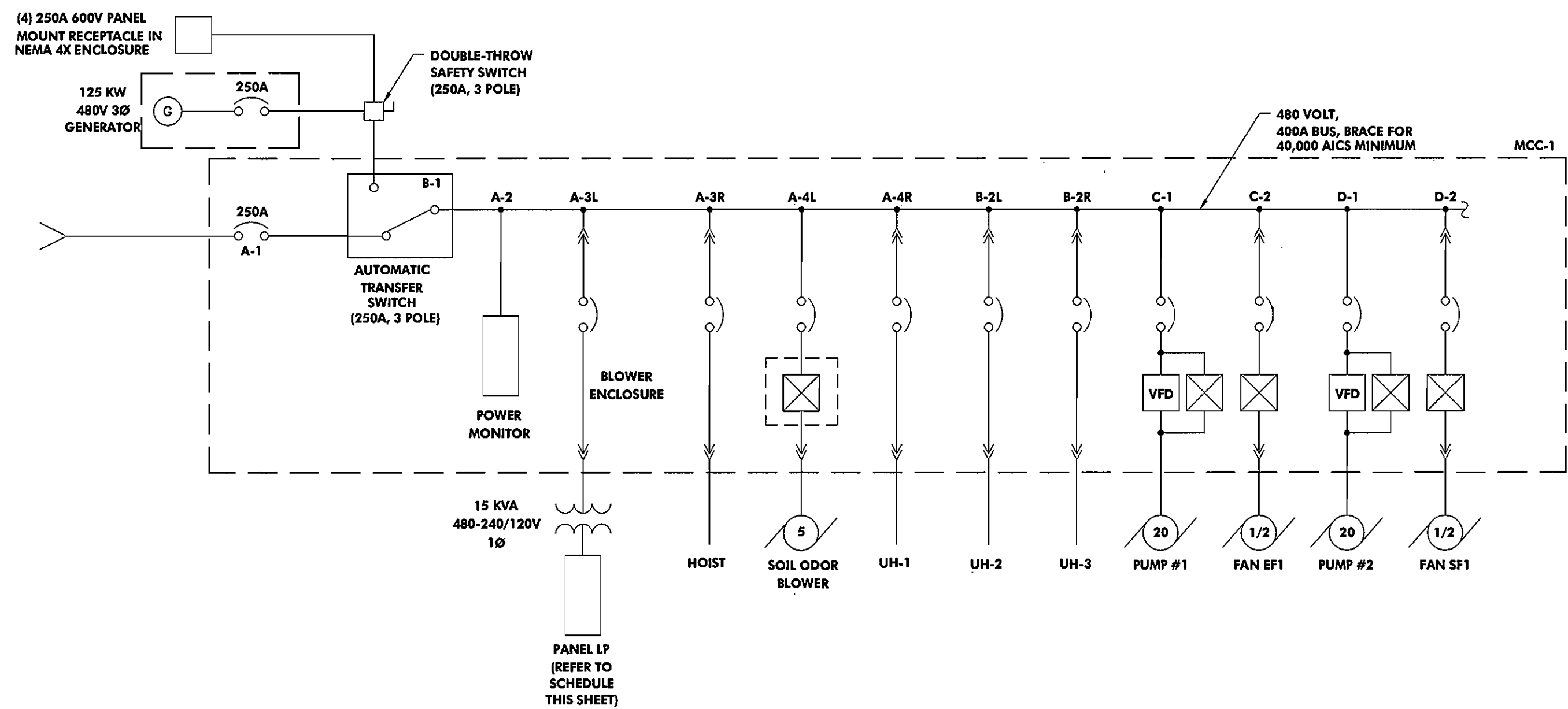
Pump 1
Pump 2



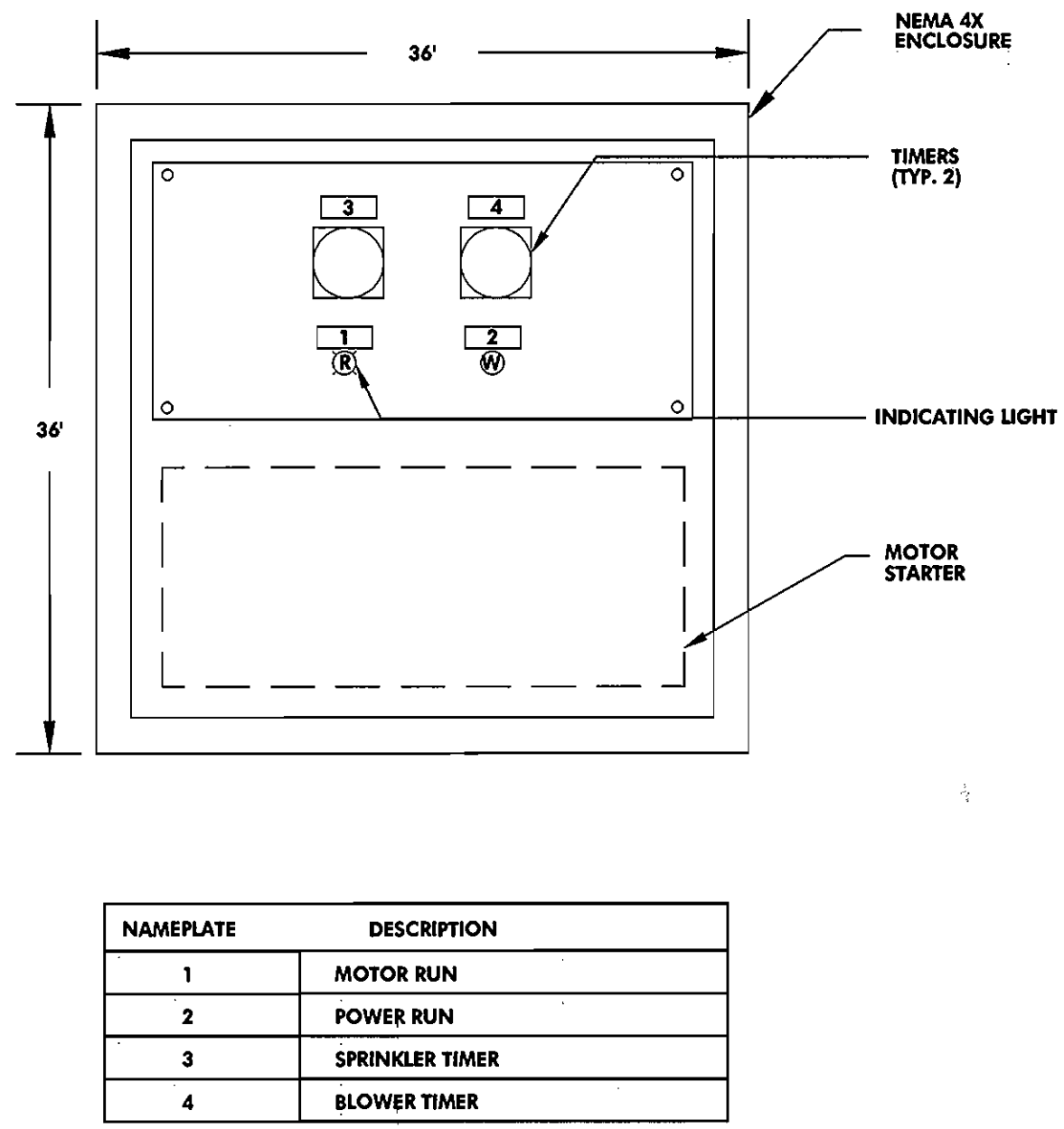
INTERIOR - CONTROL PANEL LAYOUT
SCALE: NOT TO SCALE

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By: [Signature]
Date: 1/19/05

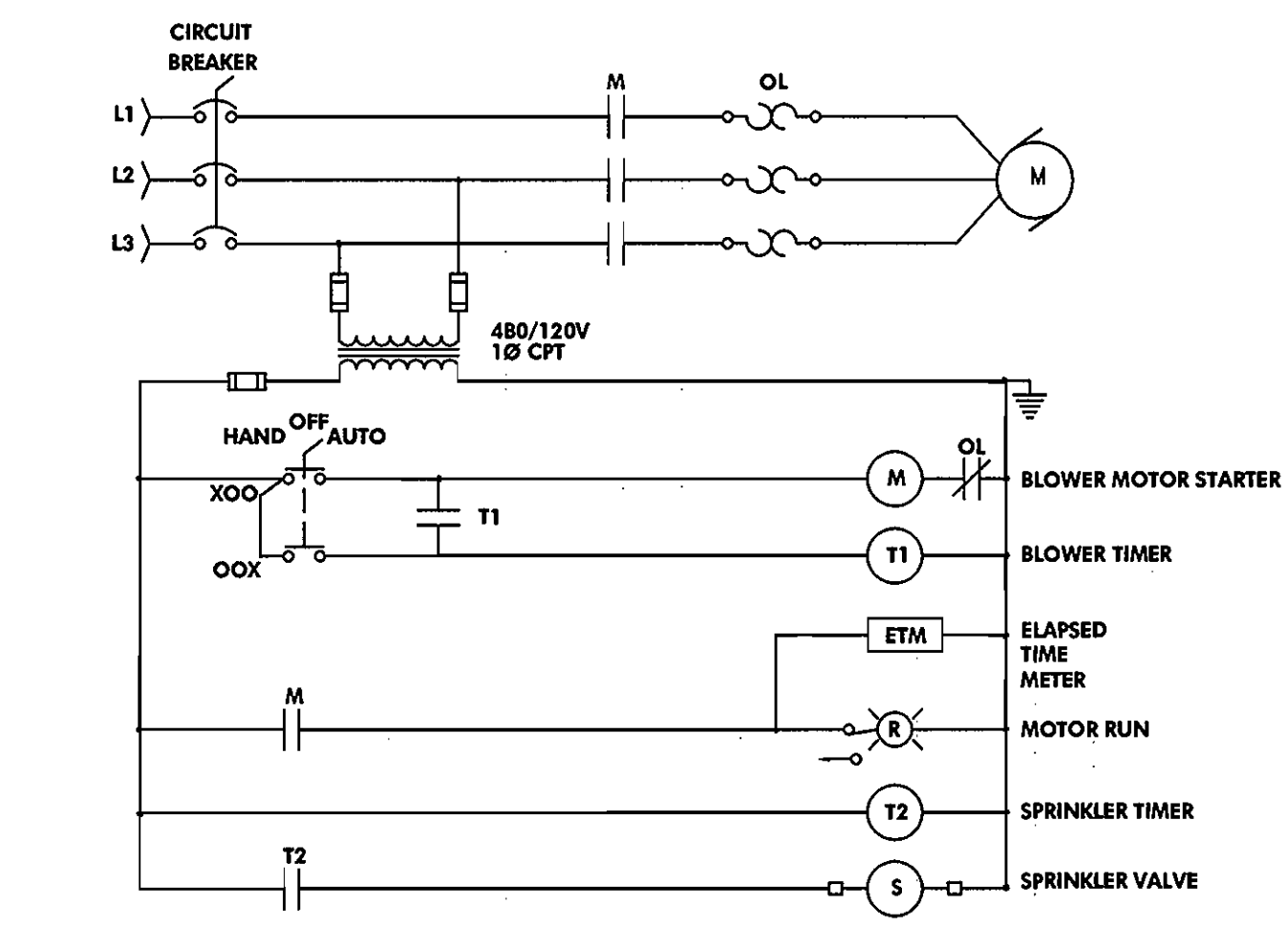
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SINGLE LINE DIAGRAM
SCALE: NOT TO SCALE



1 BLOWER ENCLOSURE
SCALE: NOT TO SCALE



2 ODOR BLOWER SCHEMATIC
SCALE: NOT TO SCALE

MCC1 SCHEDULE

SECT NO.	ITEM	H.P. OR SIZE	CIRCUIT BREAKER		NEMA STARTER SIZE	STARTER TYPE	REMARKS
			FRAME	TRIP			
A-1	MAIN BREAKER		400	250			
A-2	POWER MONITOR						
A-3	TRANSFORMER FEED	15KVA	100	40			2 POLE
A-4L	ODOR BLOWER	5	100	20	1	FVNR	STARTER IN SEPARATE ENCLOSURE
A-4R	UH-1	10KW	100	20			
B-1	AUTOMATIC TRANSFER SWITCH						
B-2L	UH-2	10KW	100	20			
B-2R	UH-3	5KW	100	20			
C-1	PUMP #1	20	100	50	2	VFD	WITH BYPASS
C-2	FAN EF-1	1/2	100	20	0	FVNR	
D-1	PUMP #2	20	100	50	2	VFD	WITH BYPASS
D-2	FANS SF-1	1/2	100	20	0	FVNR	

PANEL LP

240/120 VOLT, 1 PHASE 3Ø CIRCUIT 70 A MAIN CIRCUIT BREAKER

CKT #	BREAKER			SERVING	REMARKS
	POLE	FRAME	TRIP		
1	1	100	20	PUMP CONTROL PANEL	
2	2	100	20	WATER HEATER	
3	-	-	-	-	
4	1	100	20	RECEPTACLES - PUMP ROOM	
5	1	100	20	RECEPTACLES - EXTERIOR	
6	1	100	20	BATTERY CHARGER	
7	1	100	20	GENERATOR CONTROL PANEL	
8	1	100	20	GENERATOR ROOM LIGHTS	
9	1	100	20	SPARE	
10	1	100	20	LIGHTS PUMP ROOM	
11	1	100	20	LIGHTS WET WELL	
12	1	100	20	EXTERIOR LIGHTS	
13	1	100	20	EXHAUST FAN (EF-3)	
14	1	100	20	EXHAUST FAN (EF-2)	
15	1	100	20	SUMP PUMP	
16	2	100	20	BASE BOARD HEATER (BB-1)	
17	-	-	-	-	
18	1	100	20	FLOW METER	
19	1	100	20	ULTRASONICS LEVEL TRANSMITTER	(2)
20	1	100	20	SPARE	
21	1	100	20	RECEPTACLES GENERATOR ROOM	
22	1	100	20	SUPPLY FAN (SF-4)	
23	2	100	20	SURGE PROTECTION	
24	-	-	-	-	
	1	100	20	SPARE	

LIGHTING SCHEDULE

FIXTURE TYPE	DESCRIPTION	VOLTAGE	LAMPS	MANUFACTURER	NOTES
A	4x1' FLUORESCENT, INDUSTRIAL ENCLOSED AND GASKETED CORROSION RESISTANT, WET LOCATION	120V	2-32W, T-8	COLUMBIA LUN4 240 EB 12 120	PENDANT OR CEILING MOUNTED PROVIDE CONTINUOUS ROW KIT WHERE REQUIRED
A-1	4x1' FLUORESCENT, INDUSTRIAL ENCLOSED AND GASKETED CORROSION RESISTANT, WET LOCATION	120V	2-32W, T-8	COLUMBIA LUN4 240 EB 12 120	PROVIDE WALL MOUNTING BRACKETS
B	WALL MOUNT EXPLOSION PROOF INCANDESCENT GLOBE TYPE	120V	100W INCANDESCENT	CROUSE HINDS MODEL EVBX210	WALL MOUNT, WET WELL
H	WALL PAK - DIE CAST ALUMINUM HOUSING	120V	70W, QUARTZ	LITHONIA THW	WALL MOUNT ±7' AFG
E	EMERGENCY LIGHTING UNIT - CORROSION RESISTANT COMPLETE WITH SOLID STATE BATTERY CHARGER	120V	25W, SEALED BEAM PAR 36	LITHONIA ELU-8	MOUNT APPROXIMATE 1' ABOVE DOOR

FEEDER SCHEDULE

NUMBER	TO	FROM	CONDUIT	WIRE
F001	GENERATOR	SAFETY SWITCH	4"	(3)-250 MCM+#2GND (1)
F002	SAFETY SWITCH	RECEPTACLE	4"	(3)-250 MCM+#2GND (1)
F003	MCC-1	SAFETY SWITCH	4"	(3)-250 MCM+#2GND (1)
F004	ODOR CONTROL	MCC-1	3/4"	(3)-#12+#12GND
F005	UH-1	MCC-1	3/4"	(3)-#12+#12GND
F006	UH-2	MCC-1	3/4"	(3)-#12+#12GND
F007	EF-1	MCC-1	3/4"	(4)-#12+#12GND
F008	PUMP #1	MCC-1	1"	(3)-#8+#10GND + (4)-#14
F009	PUMP #2	MCC-1	1"	(3)-#8+#10GND + (4)-#14
F010	SF-1	MCC-1	3/4"	(4)-#12+#12GND
F011	UH-3	MCC-1	3/4"	(3)-#12+#12GND
F012	SUPPLY FAN SF-4	FCP-1	3/4"	(4)-#12+#12GND
F013	PANEL LP	TRANSFORMER	2"	(3)-#4+#8GND
F014	TRANSFORMER	MCC-1	1"	(2)-#8+#10GND
F015	ODOR BLOWER ENCLOSURE	MCC-1	3/4"	(3)-#12+#12GND
F016	HOIST DISCONNECT SWITCH	MCC-1	3/4"	(3)-#12+#12GND

CONTROL CIRCUIT SCHEDULE

NUMBER	TO	FROM	CONDUIT	WIRE
S001	JUNCTION BOX	LEVEL TRANSMITTER	3/4"	(1)-TRANSDUCER CABLE
S002	FLOAT CABLE JUNCTION BOX	MCC-1	1"	(20)-#14+#12GND
S003	PUMP JUNCTION BOX	MCC-1	3/4"	(2)-#14+#12GND
S004	LEVEL TRANSMITTER	MCC-1	3/4"	(1)-#18 STP

(1) INCLUDE (10)-#14 CONTROL WIRES TO ATS AND TELEMETRY SYSTEM
(2) PROVIDE AND INSTALL 3/4"/(2)-#12+#12GND TO LEVEL TRANSMITTER

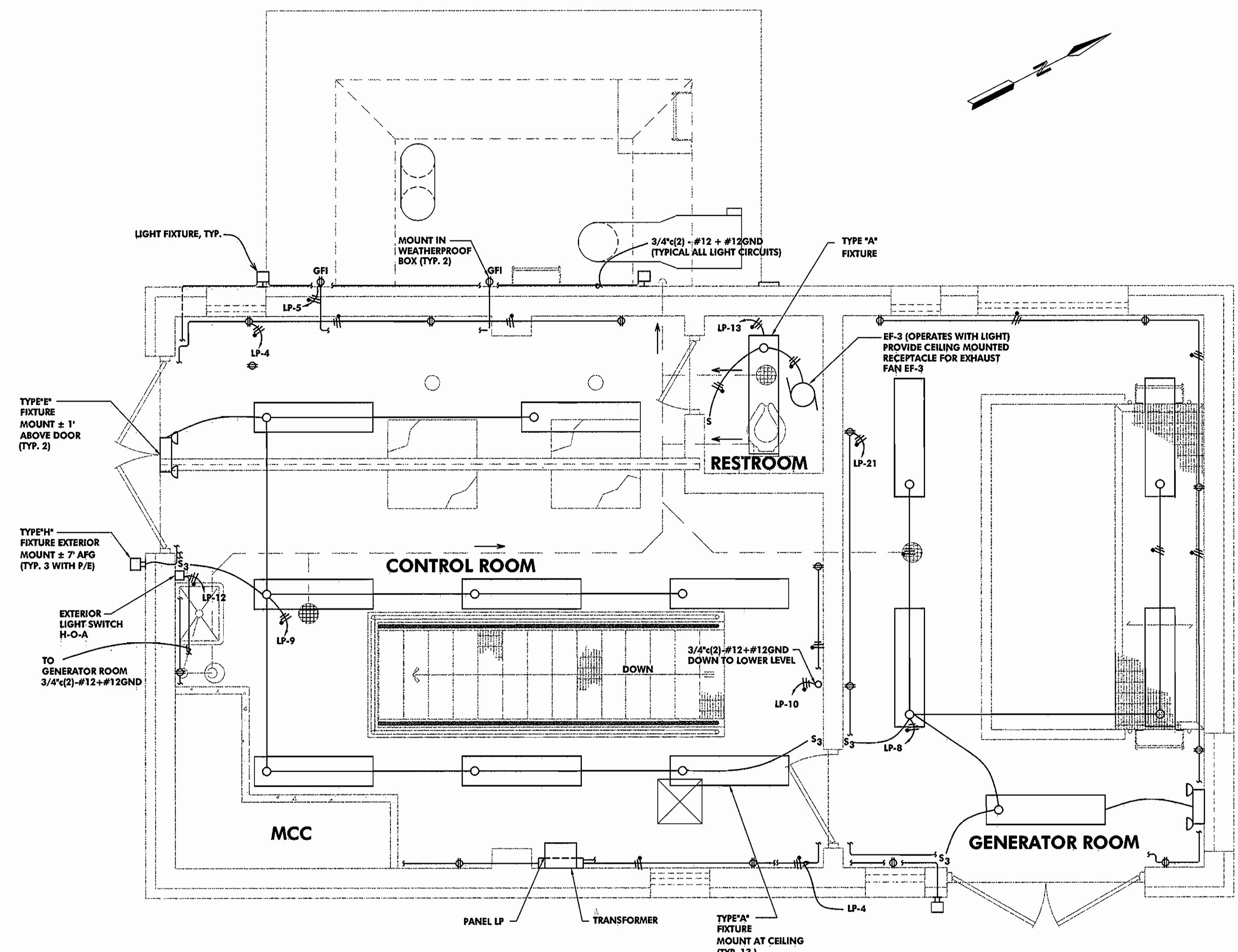
RECORD DRAWING

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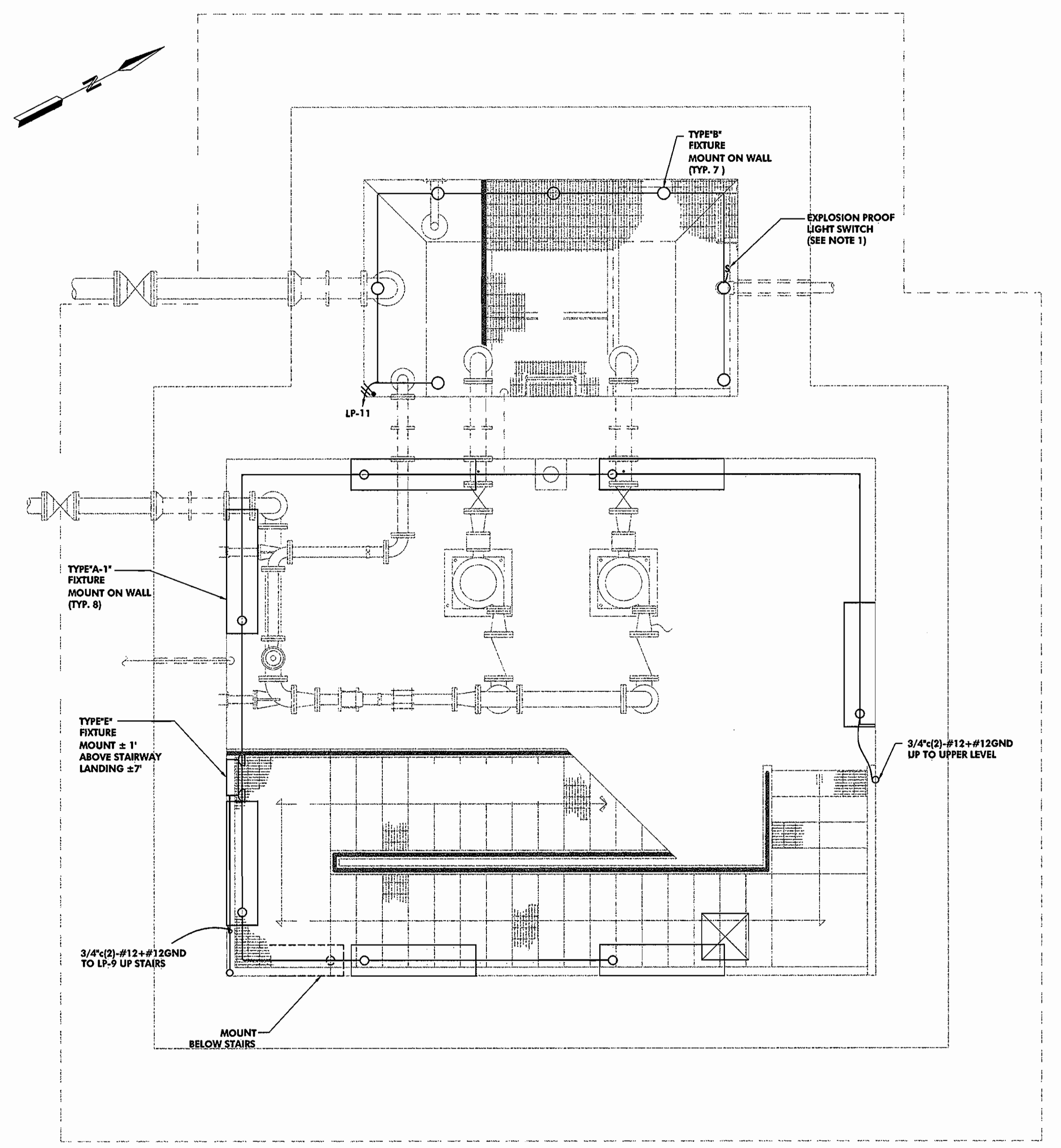
By: *[Signature]*
Date: 12/30/02

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**CONTROL AND
GENERATOR ROOM PLAN**
SCALE: 3/8"=1'-0"



PUMP ROOM PLAN
SCALE: 3/8"=1'-0"

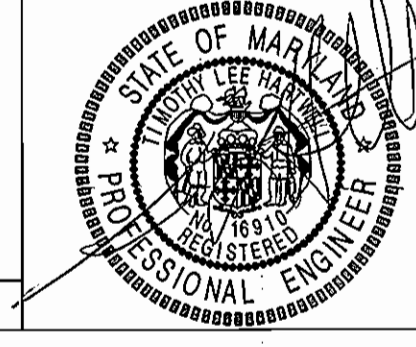
- NOTES:**
1. PROVIDE AND INSTALL EXPLOSION PROOF LIGHT SWITCH ±6" BELOW HATCH.
 1. PROVIDE ALL WIRE AND CONDUIT AS REQUIRED FOR LIGHT OPERATION AS SHOWN.

RECORD DRAWING
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By: *[Signature]*
Date: 2/18/05

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
[Signature] f. RMS 12/22/02
BUREAU OF UTILITIES DATE

HARTWELL ENGINEERING, INC.
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McCRONE
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ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

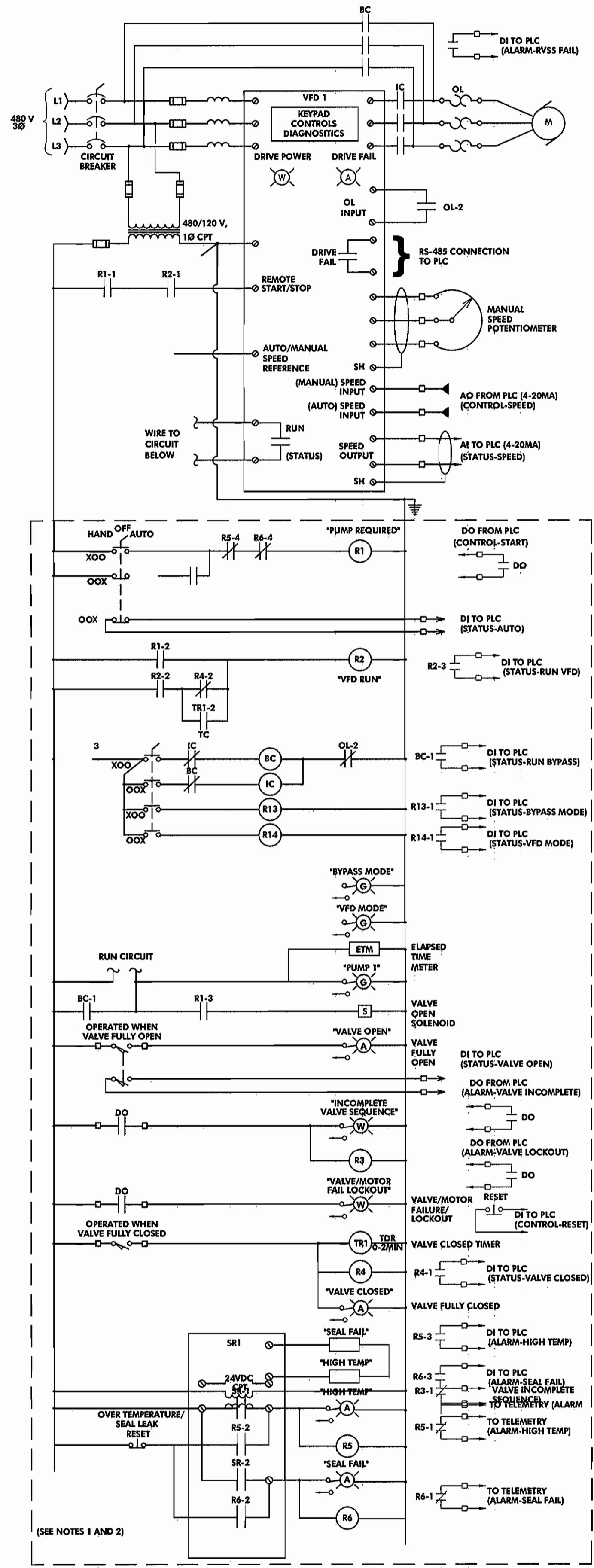


DES: TLH/KN					
DRN: MRF					
CHK: TLH					
DATE: NOV, 2002	BY	No.	REVISION	DATE	

**E-5
LIGHTING PLAN**

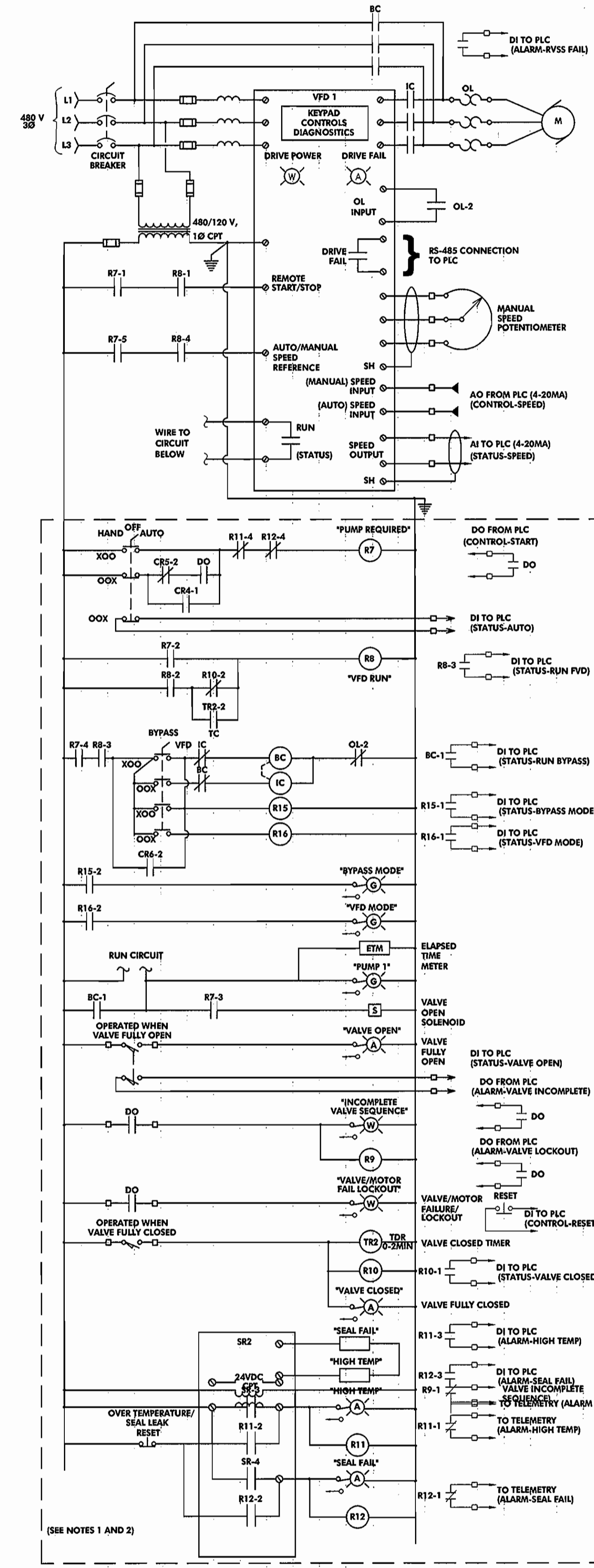
**COLLEGE AVENUE
WASTEWATER PUMPING STATION**
CONTRACT # 10-3888-D
2 nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 27 OF 29



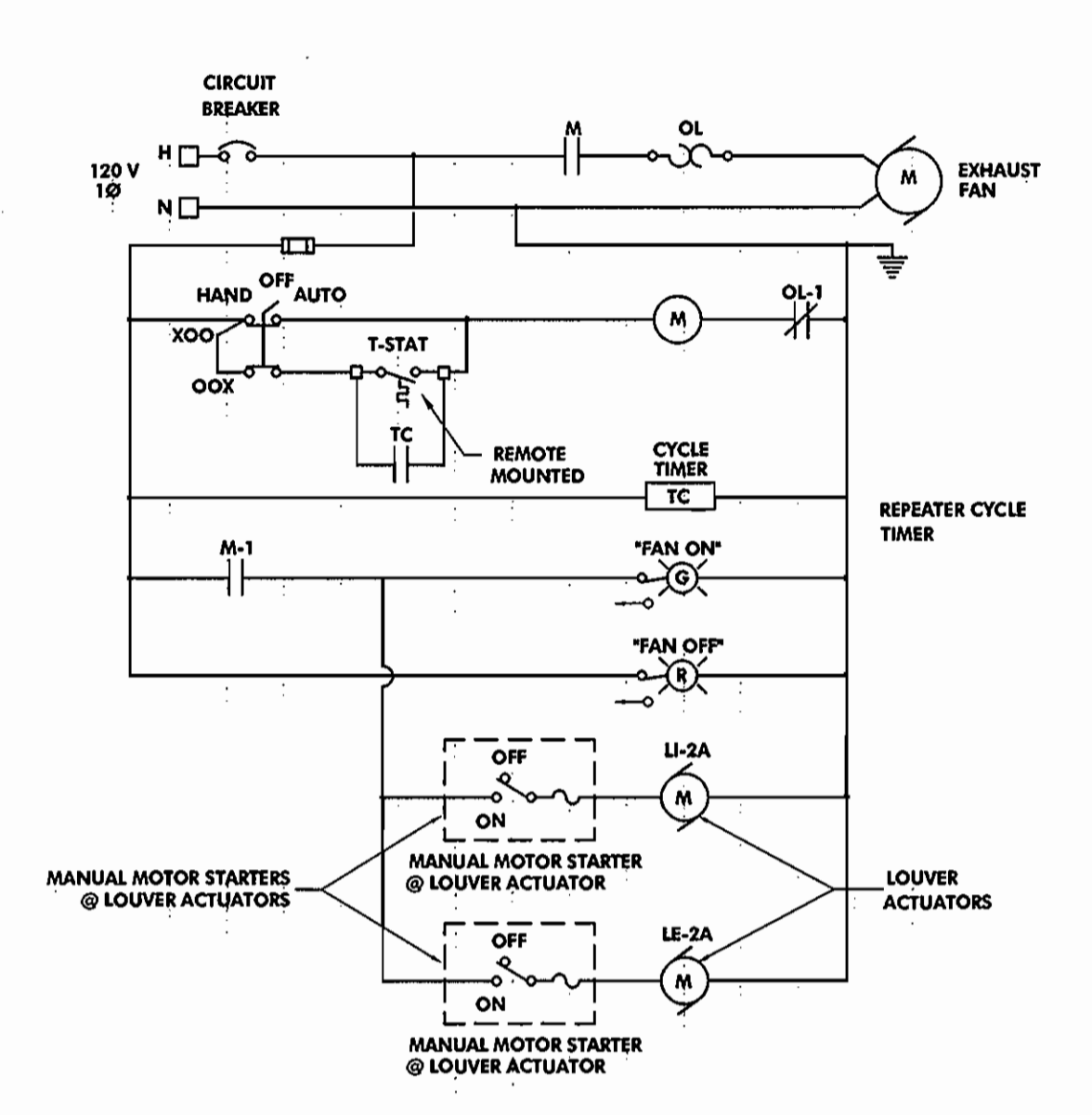
1 RAW SEWAGE PUMP 1 SCHEMATIC

NOTES:
 1. CONTROLS IN PUMP CONTROL PANEL INCLUDING MANUAL SPEED POTENTIOMETER.
 2. VFDs CONNECTED TO PLC VIA BUS COMMUNICATIONS.
 3. FURNISH OPERATOR OF AUTOMATIC



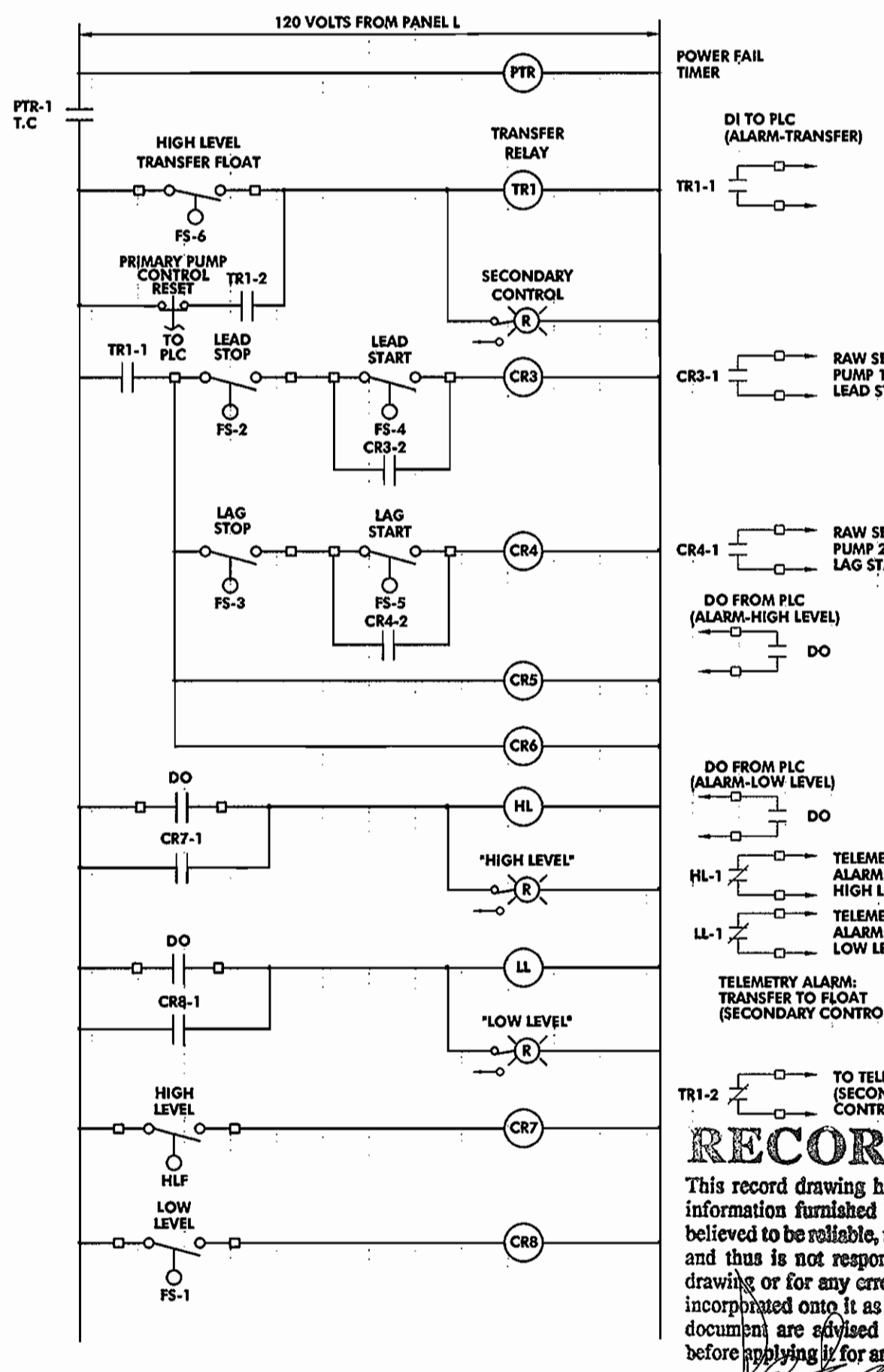
2 RAW SEWAGE PUMP 2 SCHEMATIC

NOTES:
 1. CONTROLS IN PUMP CONTROL PANEL INCLUDING MANUAL SPEED POTENTIOMETER.
 2. VFDs CONNECTED TO PLC VIA BUS COMMUNICATIONS.
 3. PROVIDE SIGN ON PUMP CONTROL CABINET WARNING OPERATOR OF AUTOMATIC BYPASS MODE VIA SECONDARY CONTROL.



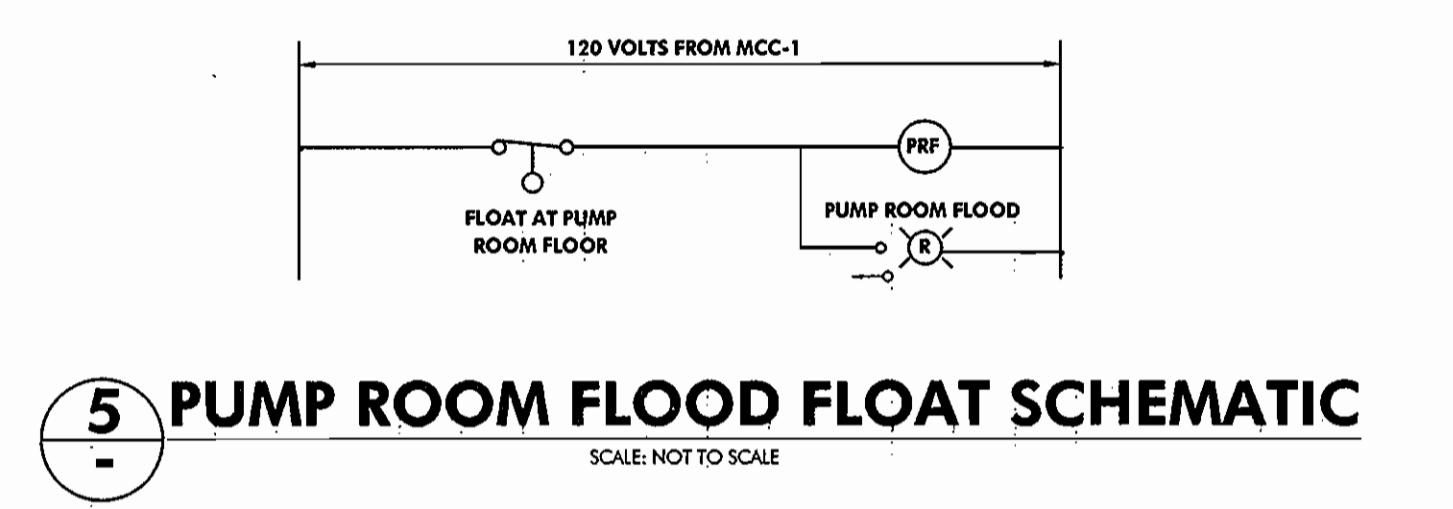
3 EXHAUST FAN SCHEMATIC (EF-2)

NOTES:
 1. ALL CONTROL SHALL BE LOCATED IN FCP-1.

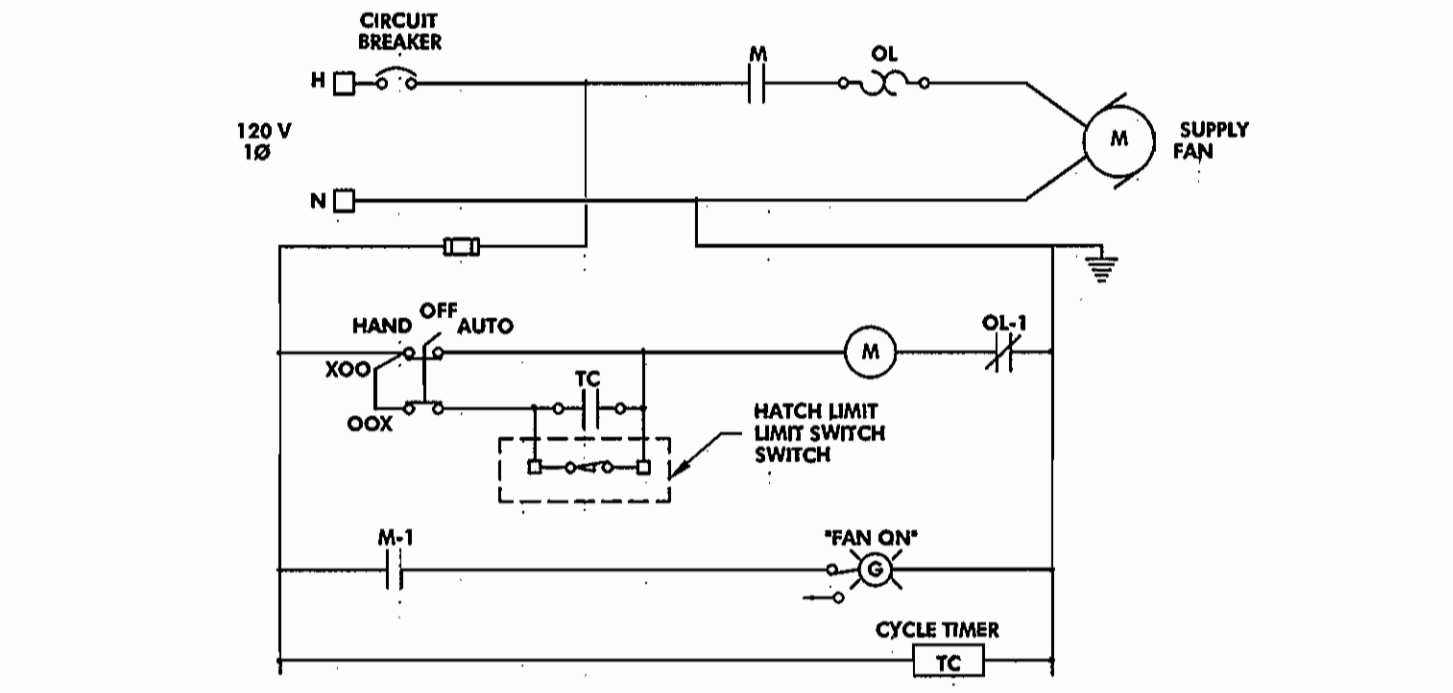


4 LEVEL CONTROLS SCHEMATIC

NOTES:
 1. PROVIDE INTRINSICALLY SAFE RELAYS FOR FLOAT SWITCH OPERATION.

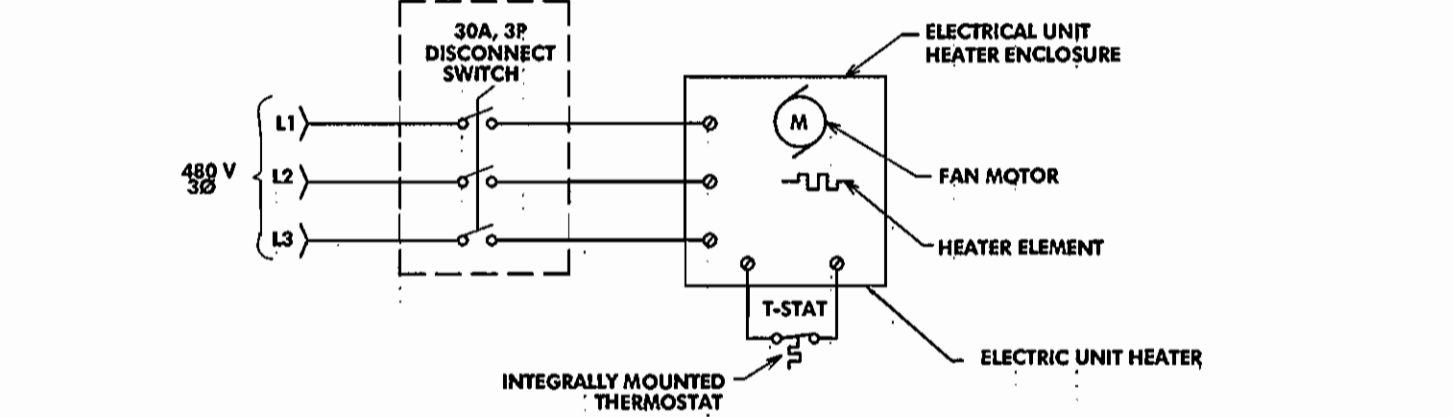


5 PUMP ROOM FLOOD FLOAT SCHEMATIC

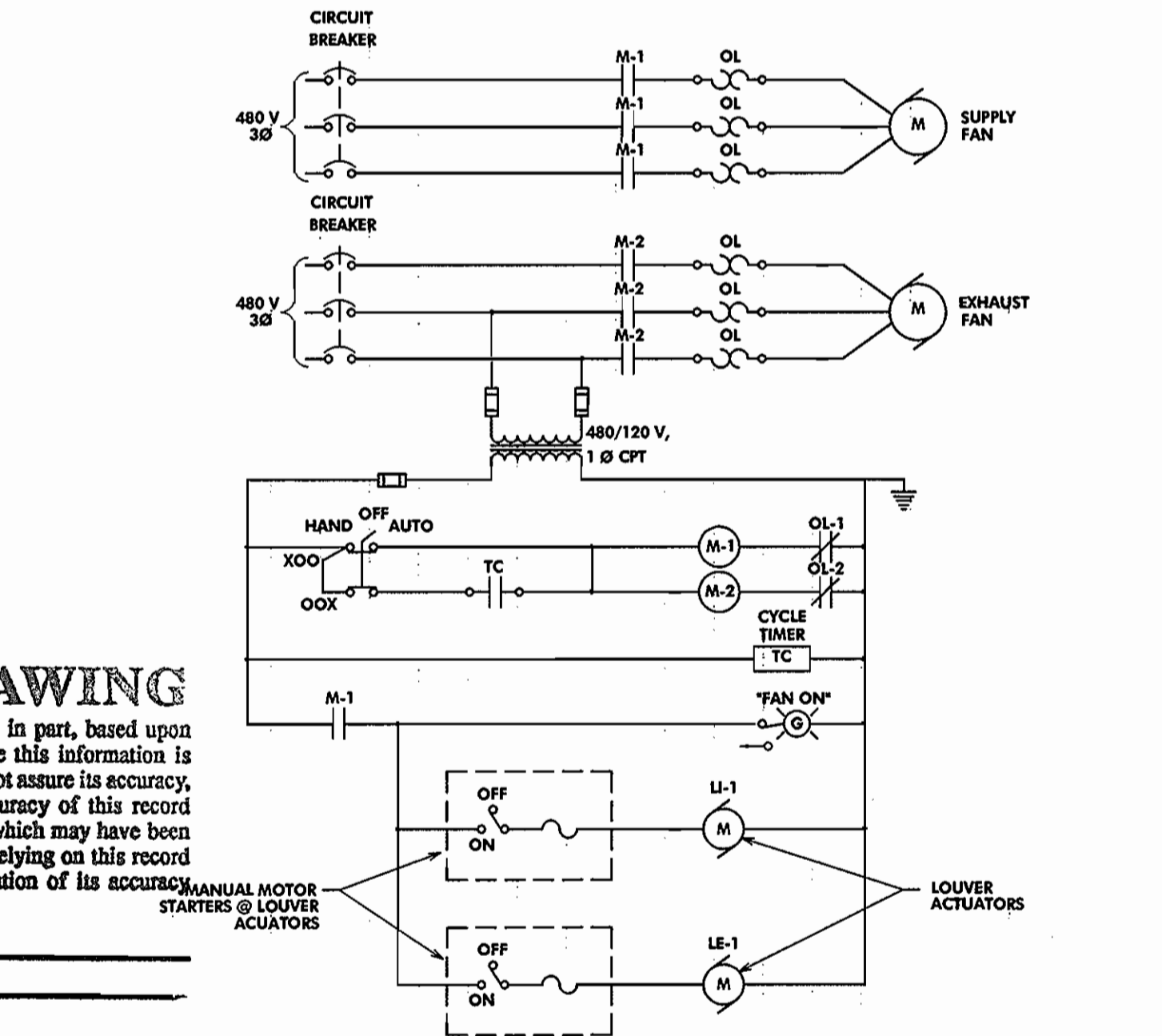


6 SUPPLY FAN SCHEMATIC (SF-4)

NOTES:
 1. ALL CONTROLS SHALL BE LOCATED IN PANEL FCP-1.
 2. SWITCH CLOSED WHEN HATCH IS OPENED.



7 ELECTRICAL UNIT HEATER (UH) SCHEMATIC (TYP. 3)



8 EXHAUST FAN SCHEMATIC (EF-1 AND SF-1)

NOTES:
 1. CONTROL LOCATED IN MCC-1.

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 By: [Signature] 2/18/05

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DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Bureau of Utilities

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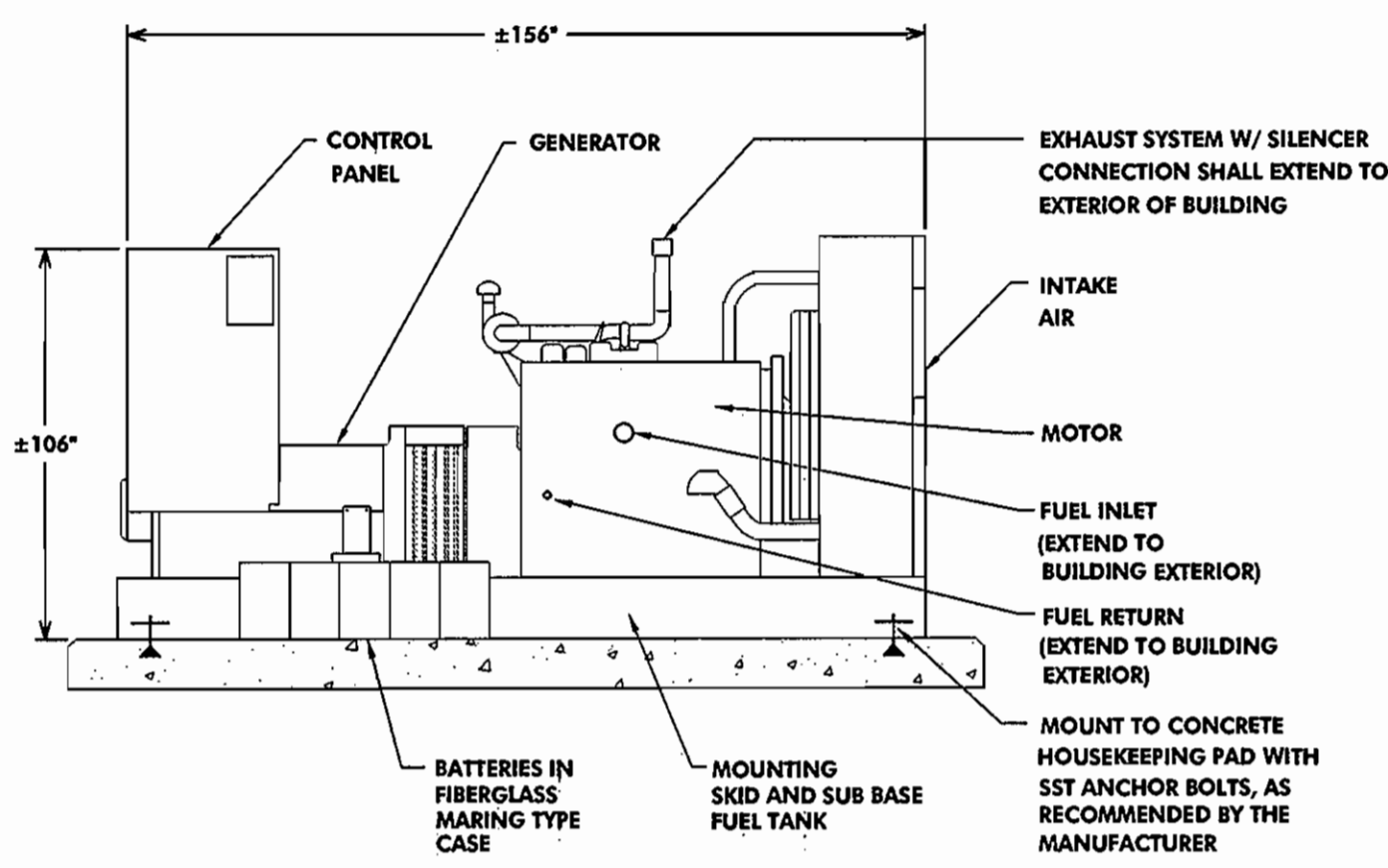


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DRN:	MRP
CHK:	TLH
DATE:	NOV, 2002
BY:	No.
REVISION:	
DATE:	

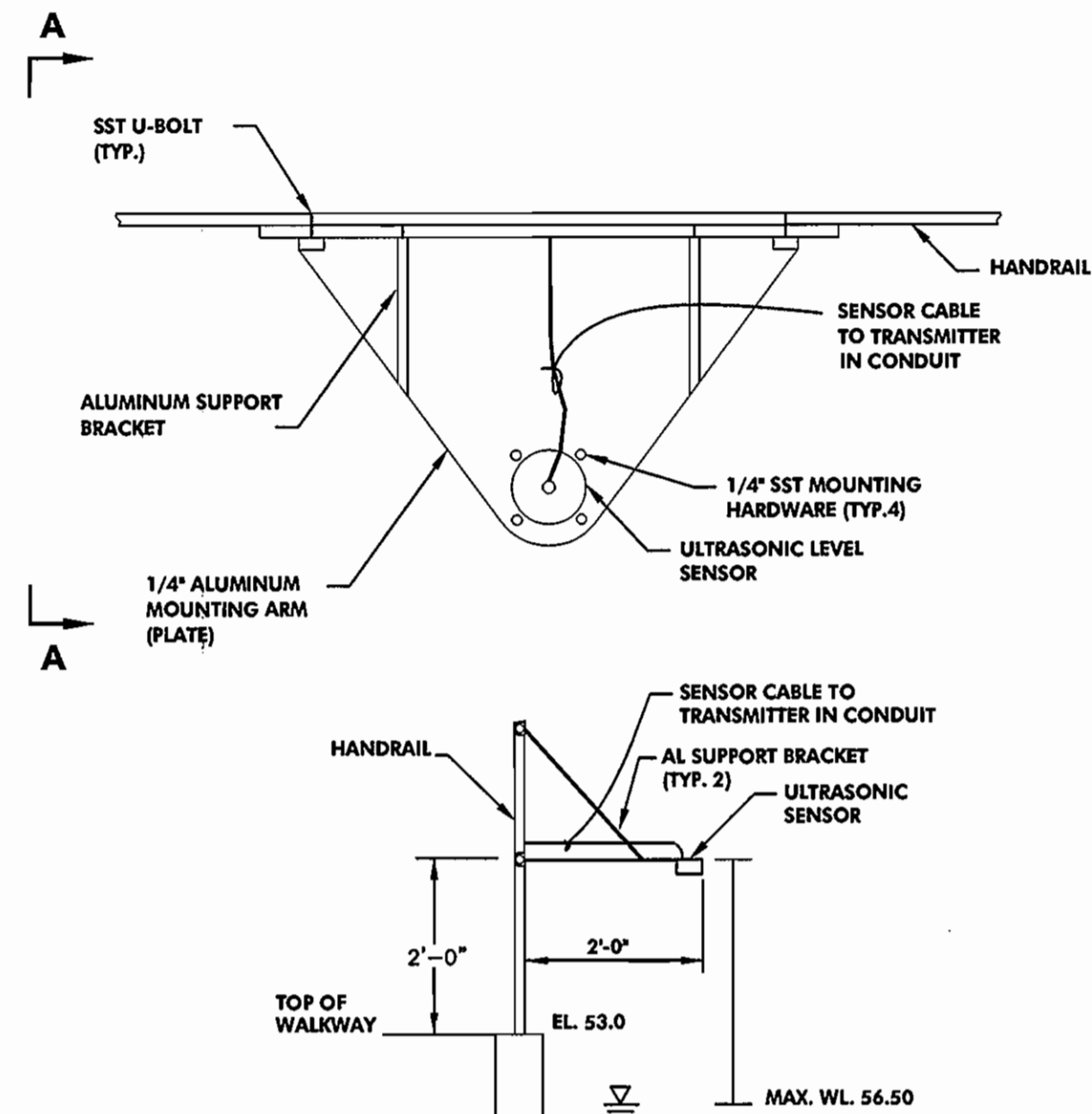
E-6 SCHEMATICS

COLLEGE AVENUE WASTEWATER PUMPING STATION
 CONTRACT # 10-3898-D
 2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

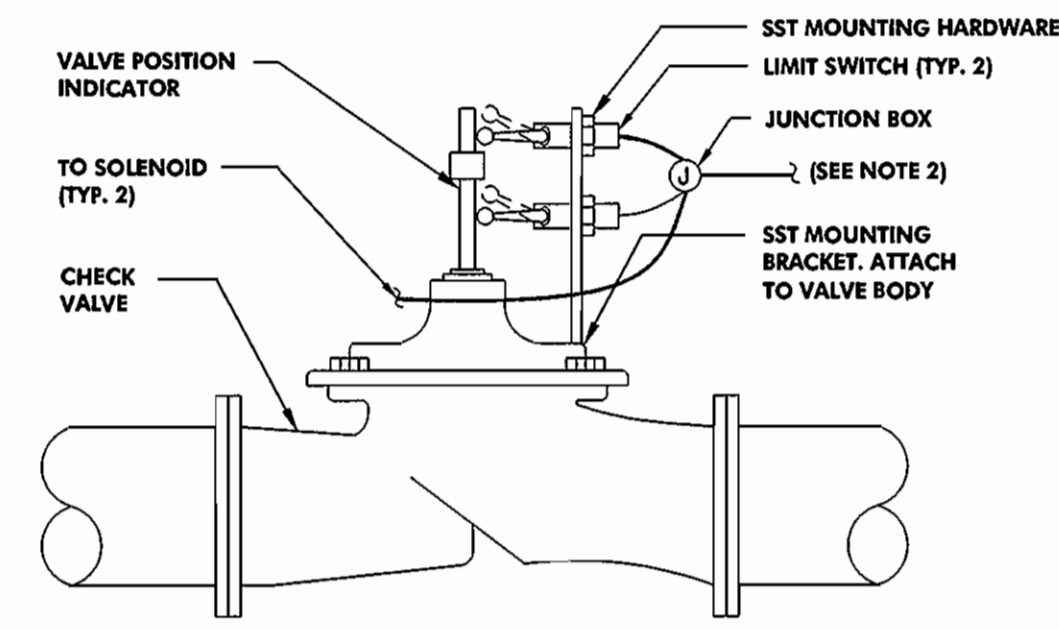
SCALE AS SHOWN
 SHEET 28 OF 29



1 GENERATOR
SCALE: NOT TO SCALE

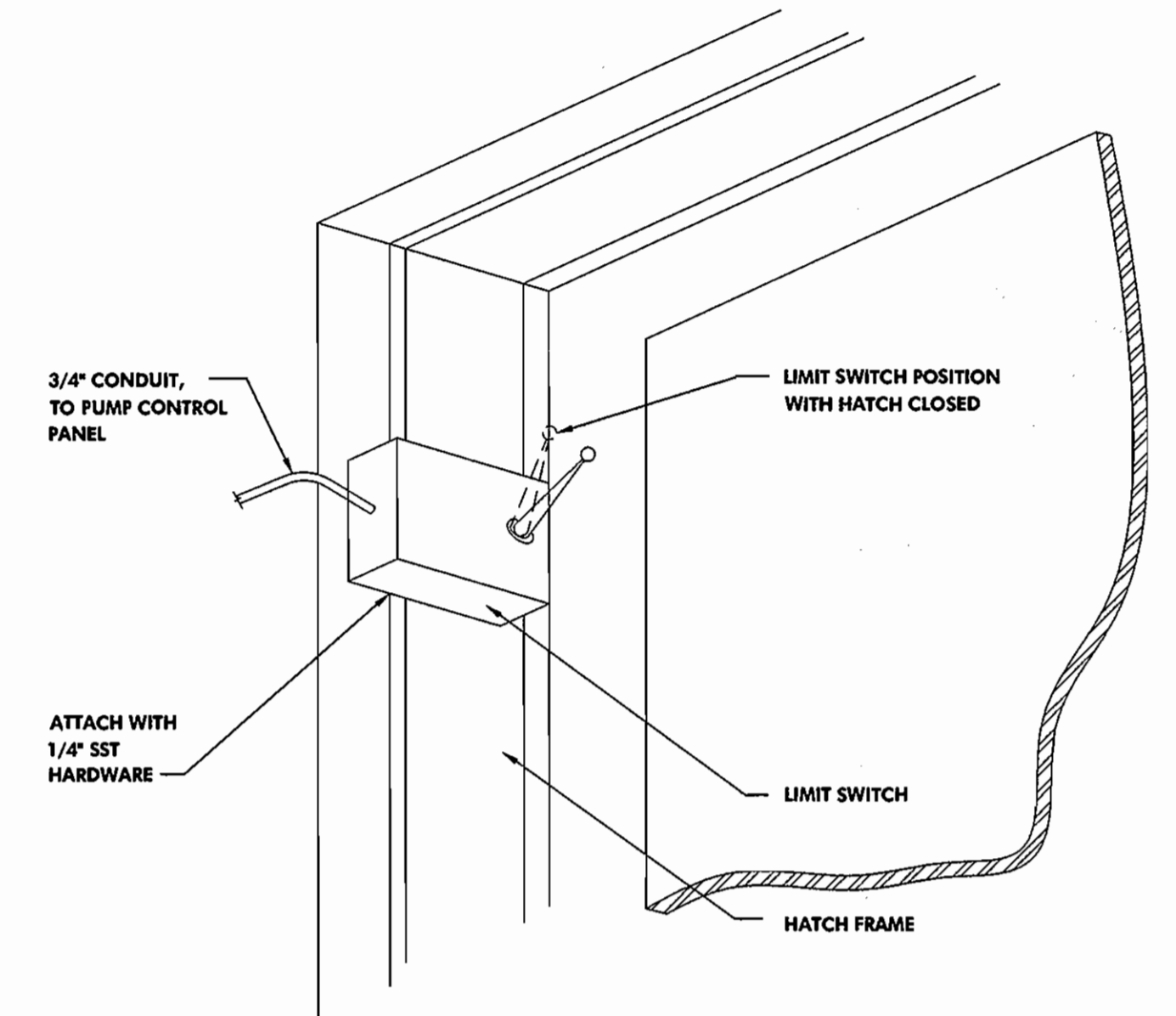


2 WET WELL ULTRASONIC MOUNTING DETAIL
SCALE: NOT TO SCALE



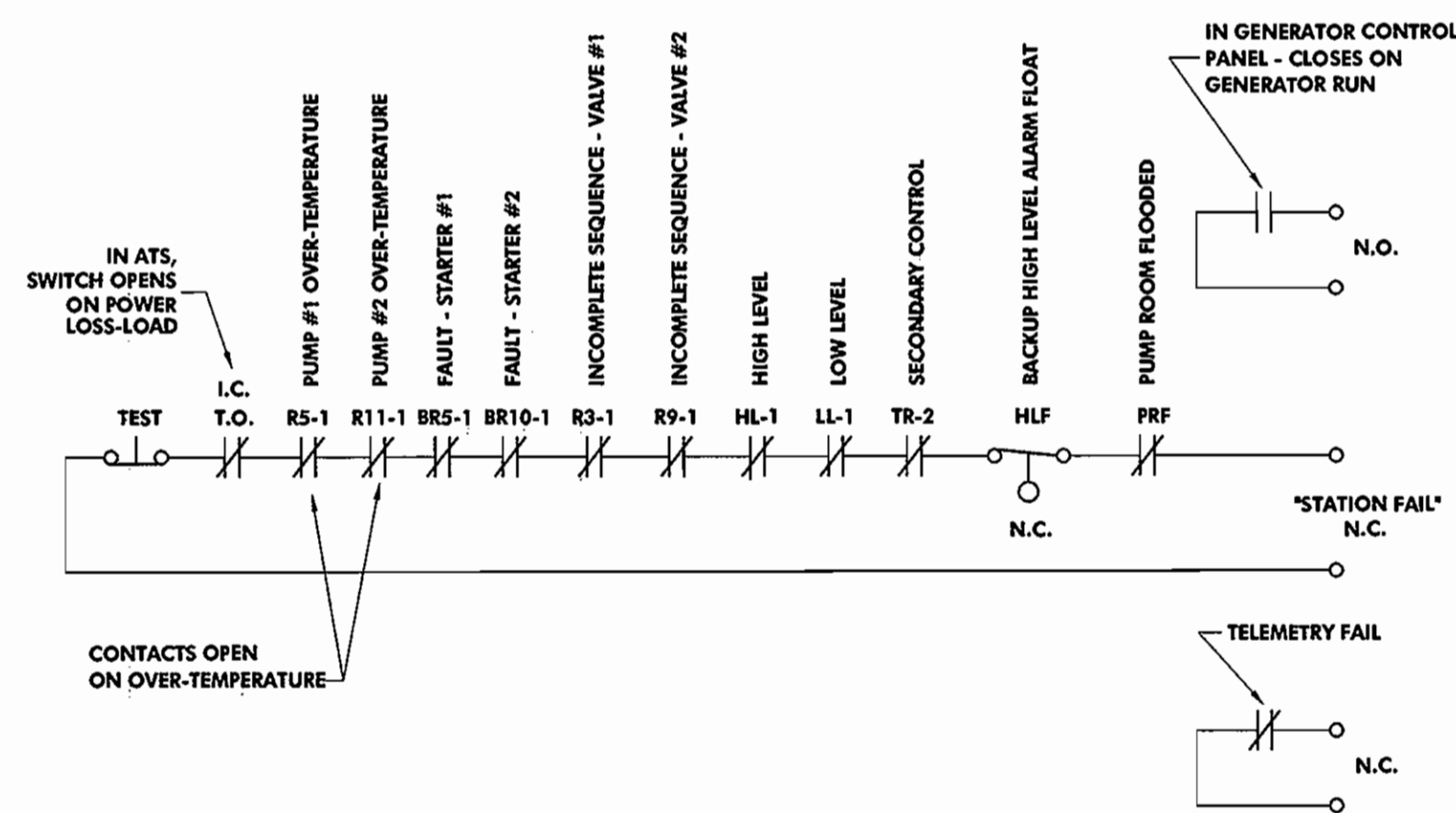
NOTES:
1. MOUNT LIMIT SWITCHES TO ENERGIZE WHEN VALVE STEM IS PROTRUDED (VALVE FULLY OPEN), (RETRACTED), AND (VALVE FULLY CLOSED).
2. PROVIDE AND INSTALL 3/4"x(10) - #14 + #12 GND TO MCC-1 FROM LIMIT SWITCHES AND SOLENOIDS.
3. REFER TO SCHEMATICS FOR CONTACT REQUIREMENTS AND WIRING.

3 LIMIT SWITCH DETAIL
SCALE: NOT TO SCALE (TYP. 2)



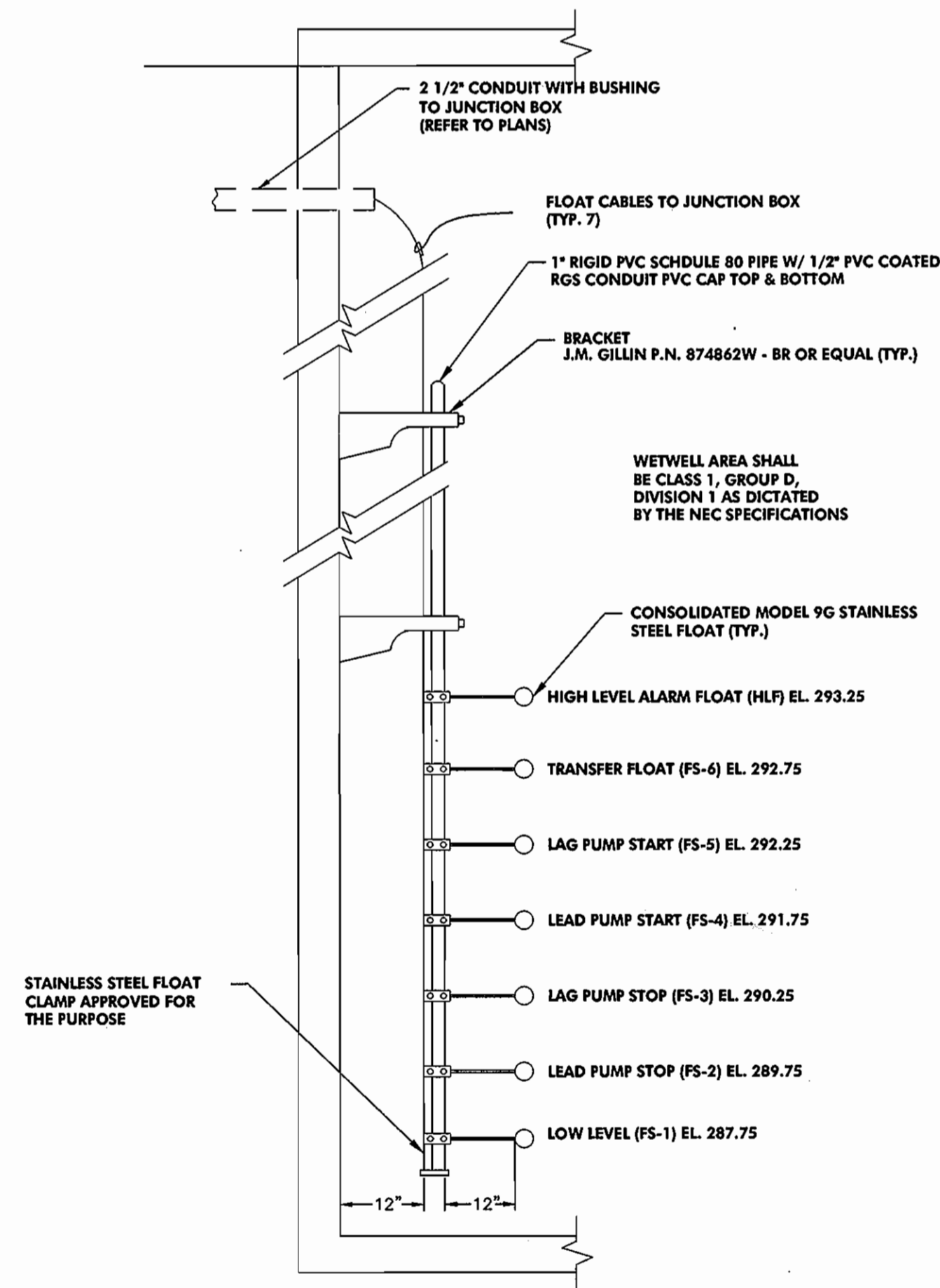
NOTES:
1. MOUNT SWITCH IN SIMILAR POSITION FOR HATCH ON WETWELL.
2. FOR HAZARDOUS LOCATIONS, PROVIDE INTRINSICALLY SAFE RELAY IN CONTROL PANEL FOR SWITCH, OR SWITCH SUITABLE FOR CLASS 1, DIVISION 1 LOCATIONS.

4 MAN IN STATION LIMIT SWITCH DETAIL
SCALE: NOT TO SCALE (TYP. 2)



NOTES:
1. PROVIDE ALL #14 WIRING BETWEEN TELEMETRY AND PUMP CONTROL SYSTEM, ATS, AND GENERATOR CONTROL PANEL.

5 TELEMETRY ALARM SCHEMATIC
SCALE: NOT TO SCALE (TYP. 2)

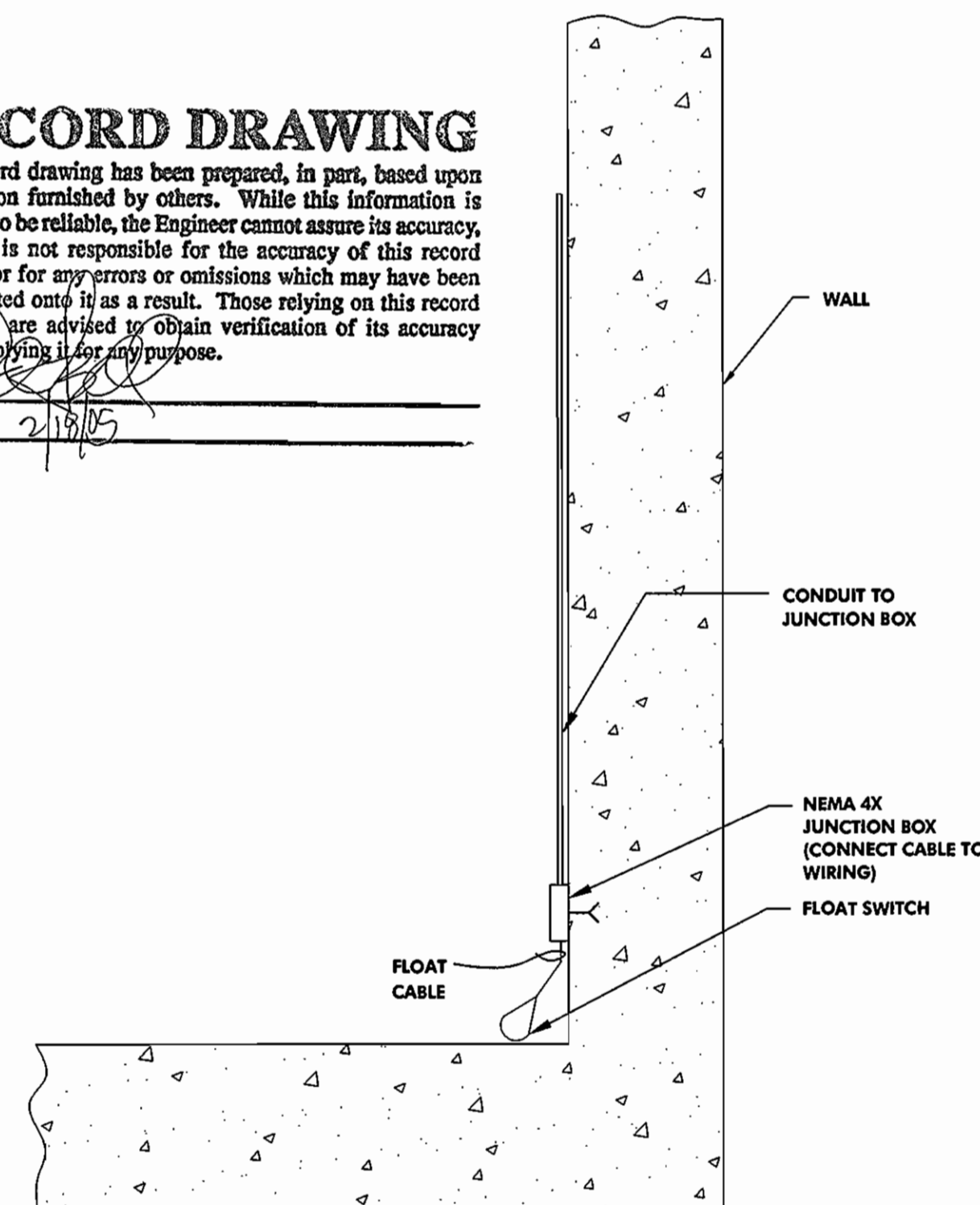


6 FLOAT MAST DETAIL
SCALE: NOT TO SCALE

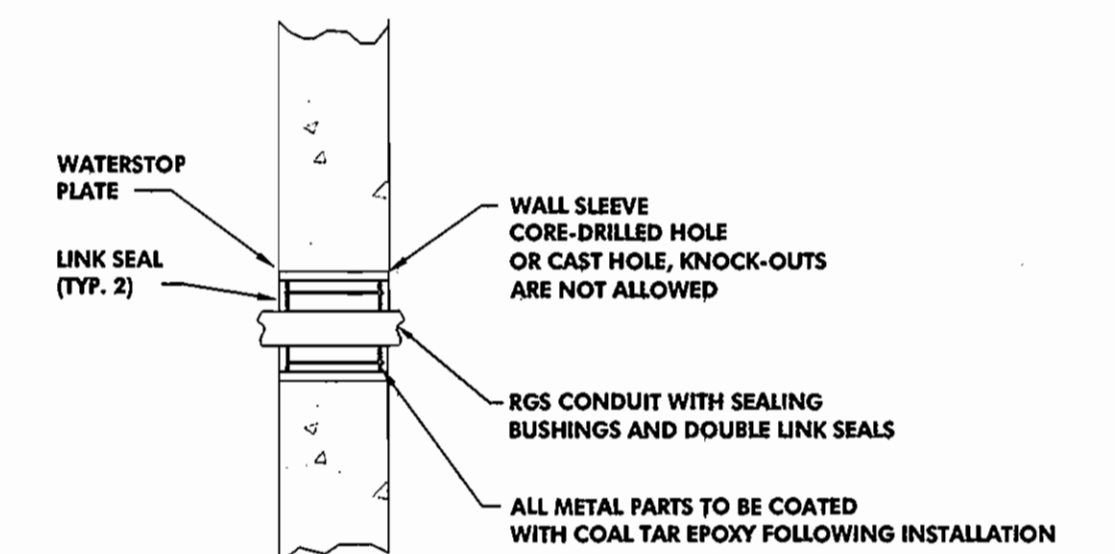
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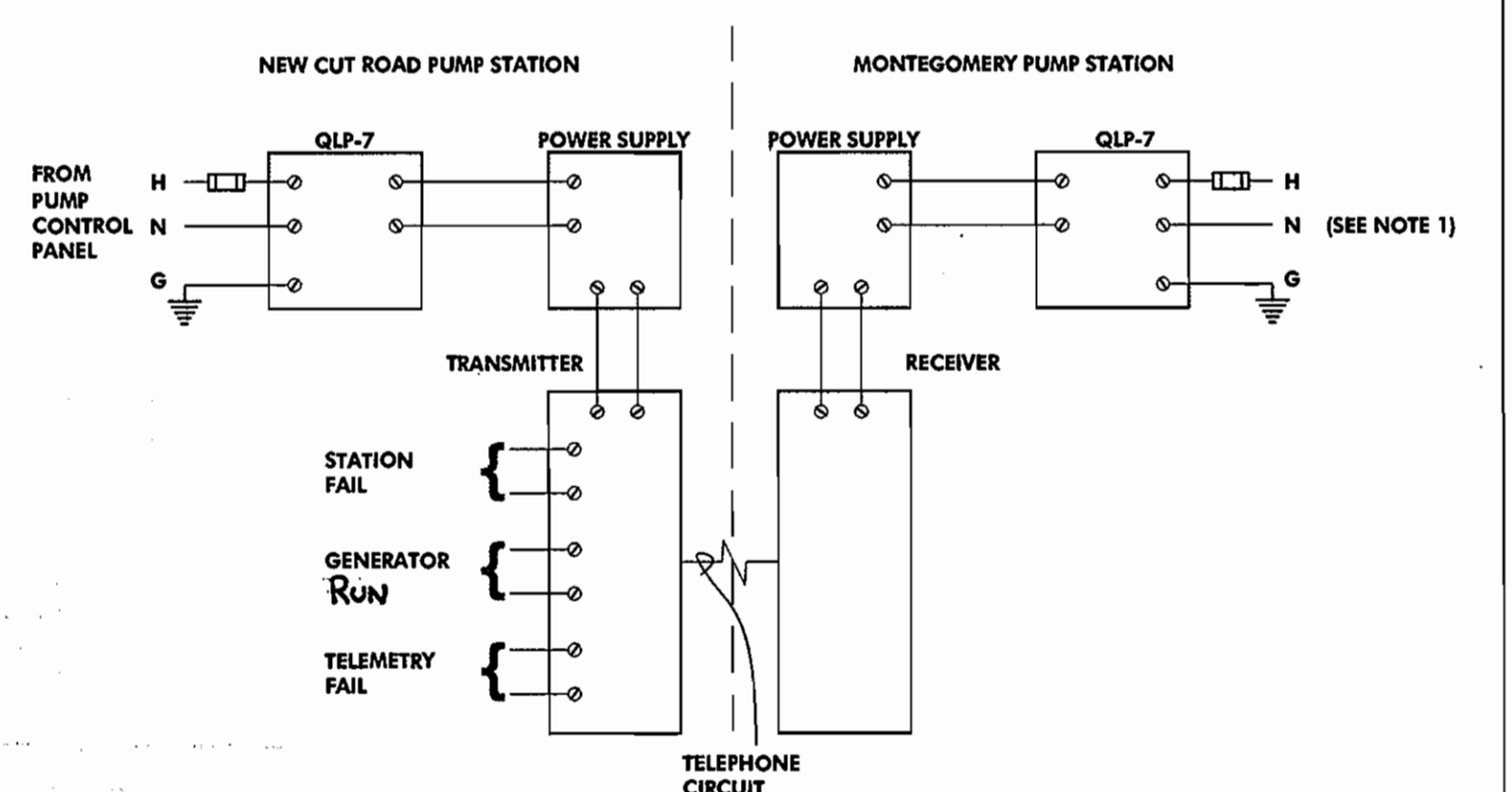
By: *[Signature]*
Date: 2/18/05



7 DRYWELL FLOAT DETAIL
SCALE: NOT TO SCALE



8 CONDUIT PENETRATION DETAIL
SCALE: NOT TO SCALE



NOTES:
1. PROVIDE AND INSTALL TELEMETRY EQUIPMENT AT MONTGOMERY PUMP STATION IN NEMA 12 ENCLOSURE. INCLUDE 3/4"x(2) - #12 + #12 GND TO EXISTING PANELBOARD FOR POWER. INCLUDE 3/4"x(6) - #14 TO EXISTING RTU SYSTEM FOR CONNECTION OF OUTPUTS.

9 TELEMETRY SCHEMATIC
SCALE: NOT TO SCALE