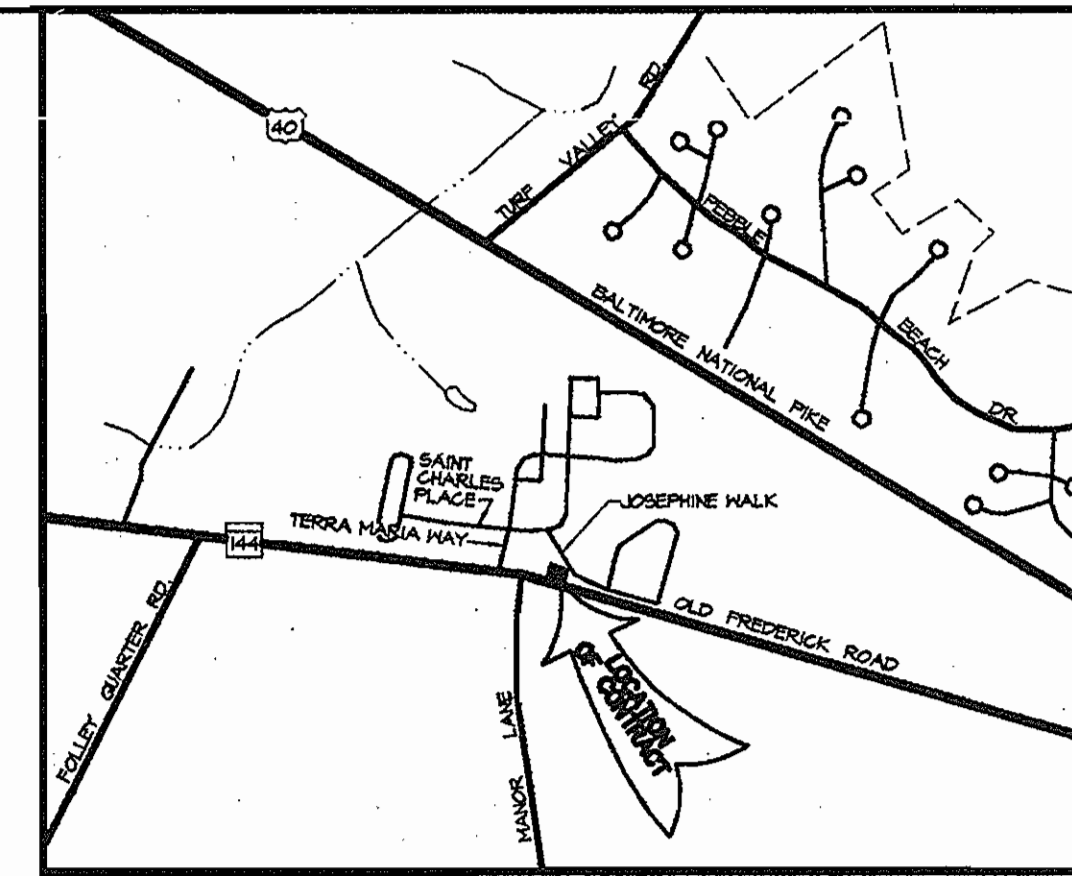


# FREDERICK ROAD PUMPING STATION CAPITAL PROJECT NO. W-8203 HOWARD COUNTY, MARYLAND



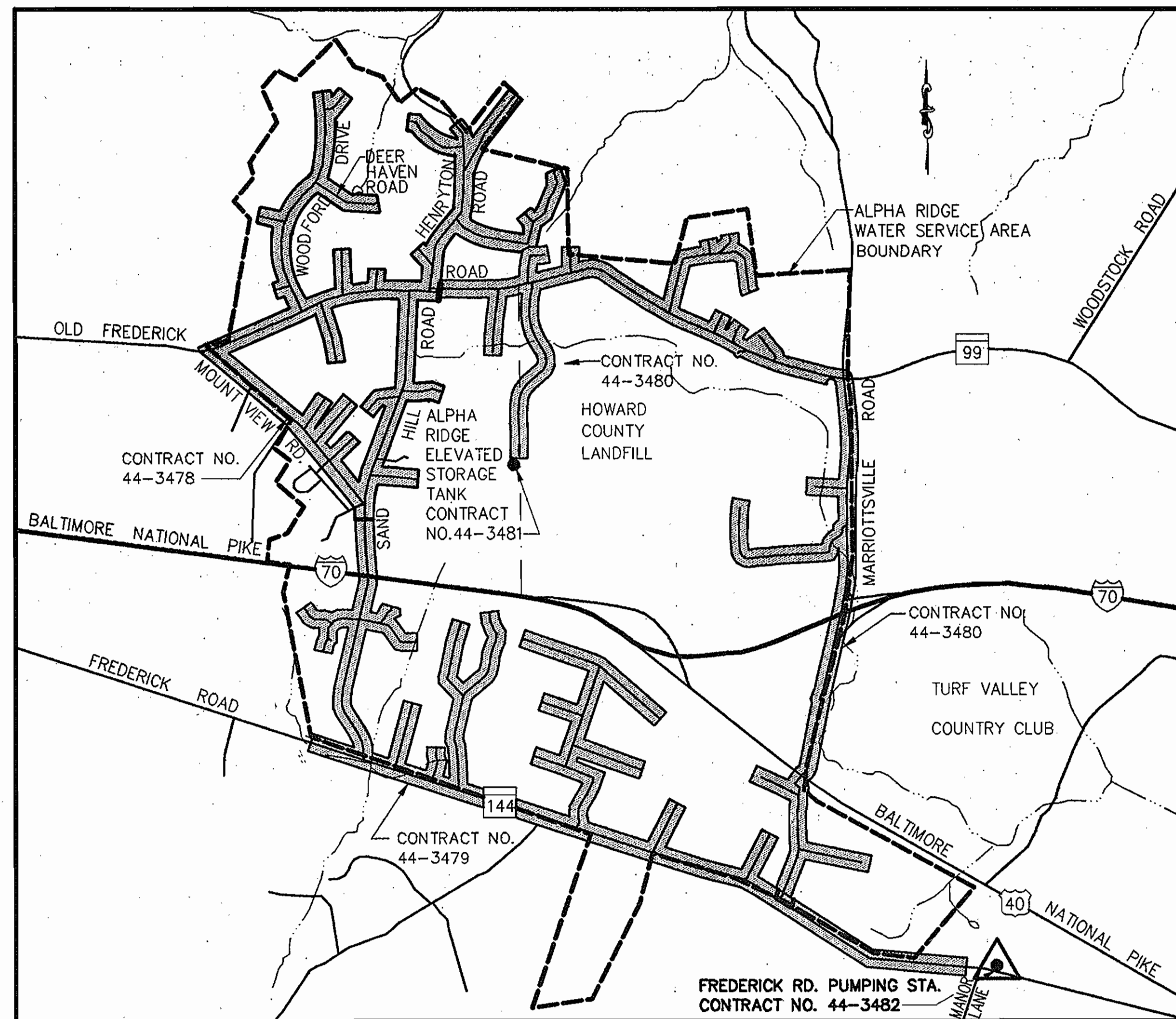
## DEPARTMENT OF PUBLIC WORKS CONTRACT NO. 44-3482

APPROVED  
PLANNING BOARD  
OF HOWARD COUNTY

DATE: 3/14/96  
*J. A. Wayfield*

### INDEX OF DRAWINGS

SHEET NO.	DWG. NO.	DESCRIPTION
G-1	1	TITLE SHEET - VICINITY MAP, INDEX OF DRAWINGS, GENERAL NOTES
C-1	2	SITE PREPARATION PLAN
C-2	3	SITE DEVELOPMENT PLAN - NOTES, DETAILS AND PROFILES
S-1	4	STRUCTURAL - FOUNDATION PLAN AND SECTIONS
S-2	5	STRUCTURAL - PLANS, SECTIONS AND DETAILS
SM-1	6	STRUCTURAL - MECHANICAL - SECTIONS AND DETAILS
M-1	7	MECHANICAL - SECTIONS, DETAILS AND SYSTEM CURVES
M-2	8	MECHANICAL - PIPING DIAGRAMS AND DETAILS
A-1	9	ARCHITECTURAL - BUILDING ELEVATIONS
A-2	10	ARCHITECTURAL - SCHEDULES AND DETAILS
E-1	11	ELECTRICAL - SITE PLAN
E-2	12	ELECTRICAL - FLOOR PLANS
E-3	13	ELECTRICAL - LEGEND, DIAGRAMS AND SCHEDULES



WATER CODE FOR COUNTY  
USE ONLY  
WATER NUMBER: K01

VICINITY MAP  
Scale: 1" = 2,000'

SITE ANALYSIS:  
TOTAL AREA OF SITE: 0.29 ACRES  
AREA TO BE ROOFED OR PAVED: 0.07 ACRES  
AREA TO BE VEGETATIVELY STABILIZED: 0.15 ACRES  
TOTAL CUT: 137 CU YDS.  
TOTAL FILL: 242 CU YDS.  
F-95-99  
NUMBER OF EMPLOYEES: 0  
NUMBER OF PARKING SPACES: 2

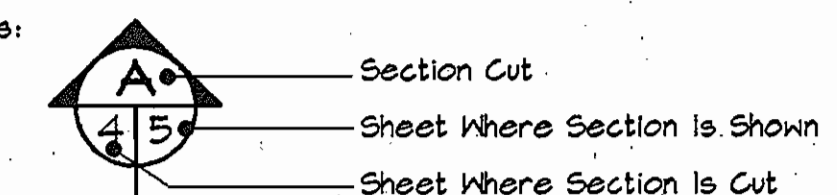
NUMBER OF WATER HOUSE  
CONNECTIONS: 1

### GENERAL NOTES CONT'D

20. County Council Resolution R-16-1000 Was Passed On March 4, 1996, Granting A Variance To The Required 75 Foot Structure And Use Setback From An External Public Right-Of-Way. The Variance Allows The Building And Parking To Be Within 25 Feet Of The Right-Of-Way Line For Frederick Road (MD Route 144).

**AS BUILT**

24. Previous Files To Allow TND - Zoning Board Case ZB 925M, Waiver Petition WP-92-114, Planning Board Case PB 291.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*J. A. Wayfield* 3/14/96  
DIRECTOR DATE

*Robert J. Hall* 2/28/96  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Anna Summerville* 3/14/96  
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

ADDRESS CHART	
LOT NUMBER	STREET ADDRESS
10800	FREDERICK ROAD

PERMIT INFORMATION CHART					
SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL			
TERRA MARIA, LOTS 3-118	N/A	113/A,B,C,D&E			
PLAT	BLOCK	ZONE	TAX MAP	ELECT.	CENSUS TRACT
F-95-99	N/A	R-ED	16	2	6023.01
WATER CODE		SEWER CODE			
K01		N/A			

Reviewed For Howard County S.C.D. and meets technical requirements.

*J. A. Wayfield* Date: 2/28/96  
NATURAL RESOURCES CONSERVATION SERVICE

This development plan is approved for soil erosion and sediment control by The Howard County Soil Conservation District.

Approved: *John P. Blanton* Date: 2/28/96  
HOWARD COUNTY SCD

### ENGINEER'S CERTIFICATION

I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard County Soil Conservation District.

*Robert J. Hall* Date: 2-29-96

### DEVELOPER'S CERTIFICATION

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

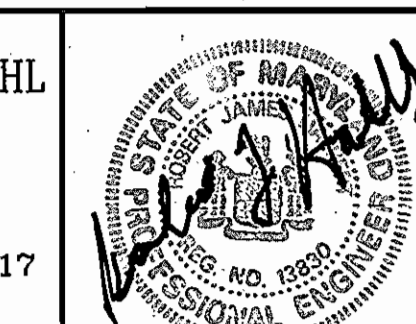
*Robert J. Hall* 2/14/96  
SIGNATURE OF DEVELOPER DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*John P. Blanton* 2/28/96  
DIRECTOR OF PUBLIC WORKS DATE

*Robert J. Hall* 2/14/96  
CHIEF, BUREAU OF ENGINEERING DATE

**RK & K**  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217



DES:	DCE			
DRN:	MJS			
CHK:	DCE			
DATE:	9/95	BY	NO.	REVISION

TITLE SHEET - VICINITY MAP,  
INDEX OF DRAWINGS, GENERAL NOTES

600' SCALE MAP NO. 16 BLOCK NO. 23

FREDERICK ROAD PUMPING STATION  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3482  
ELECTION DISTRICT NO. 2  
HOWARD COUNTY, MARYLAND

DWG. NO.  
G-1  
SCALE  
AS SHOWN  
SHEET  
1 OF 13

RKK2\_V052:SDSKPROJ\CM9473(PUMP)\ALP-5-01.DWG 02/09/1996 14:51

**DEVELOPER'S CERTIFICATION**

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

*[Signature]*  
SIGNATURE OF DEVELOPER

2/14/96  
DATE

**NOTES:**

1. STAIRS SHALL BE STANDARD 4 FOOT WIDE CONCRETE TYPE WITH PIPE RAILING IN ACCORDANCE WITH STANDARD DETAILS G7.01 AND G7.03 OF THE STANDARD SPECIFICATIONS. STAIRS SHALL BE CONSTRUCTED FROM THE BRICK STOOPTO TO THE EXISTING SIDEWALK ELEVATION AT THE LIMIT OF CONSTRUCTION. PREFORMED JOINT MATERIAL SHALL BE INSTALLED AT THE STOOPTO AND SIDEWALK.
2. CONSTRUCT CONCRETE SIDEWALK FROM THE PROPOSED STAIRS TO EXISTING SIDEWALK. SIDEWALK SHALL BE IN ACCORDANCE WITH STANDARD DETAIL R-3.05 OF THE STANDARD SPECIFICATIONS.
3. FIRE HYDRANTS SHALL BE INSTALLED WITH THE PUMPER NOZZLE FACING THE PROPOSED PAVING.

CATEGORY	ADJACENT TO ROADWAYS		ADJACENT TO PERIMETER PROPERTIES	
	B	D	A	C
LANDSCAPE TYPE PERIMETER	B	D	A	C
LINEAR FEET OF ROADWAY FRONTAGE PERIMETER	100'	124'	107'	92'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	YES 50' EX WOODS + 1-24" PINE	YES 1-24" PINE	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	—	—	—	—
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	2 2 —	1 7 —	3 — —	2 — —
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION) SHRUBS (10:1 SUBSTITUTION) (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	2 0 0 2①	1 5② 0	0 0 15③	1 0 0 0

- ① 2 SHRUBS SUBSTITUTED FOR 2 EVERGREEN TREES
- ② 1 EX. 24" OAK SUBSTITUTED FOR 2 EVERGREEN TREES
- ③ 15 SHRUBS SUBSTITUTED FOR 15 SHADE TREES; 1 EX. 24" EVERGREEN TREE FOR 1 SHADE, 1 SM. TREE FOR 0.5 SHADE TREES
- ④ 2 SMALL FLOWERING TREES SUBSTITUTED FOR 1 SHADE TREE

Reviewed For Howard County S.C.D. and meets technical requirements.

*J. H. Wolford/WR* Date: 2/28/96  
NATURAL RESOURCES CONSERVATION SERVICE

This development plan is approved for soil erosion and sediment control by The Howard County Soil Conservation District.

Approved: *[Signature]* Date: 2/28/96  
HOWARD COUNTY SCD

**ENGINEER'S CERTIFICATION**

I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard County Soil Conservation District.

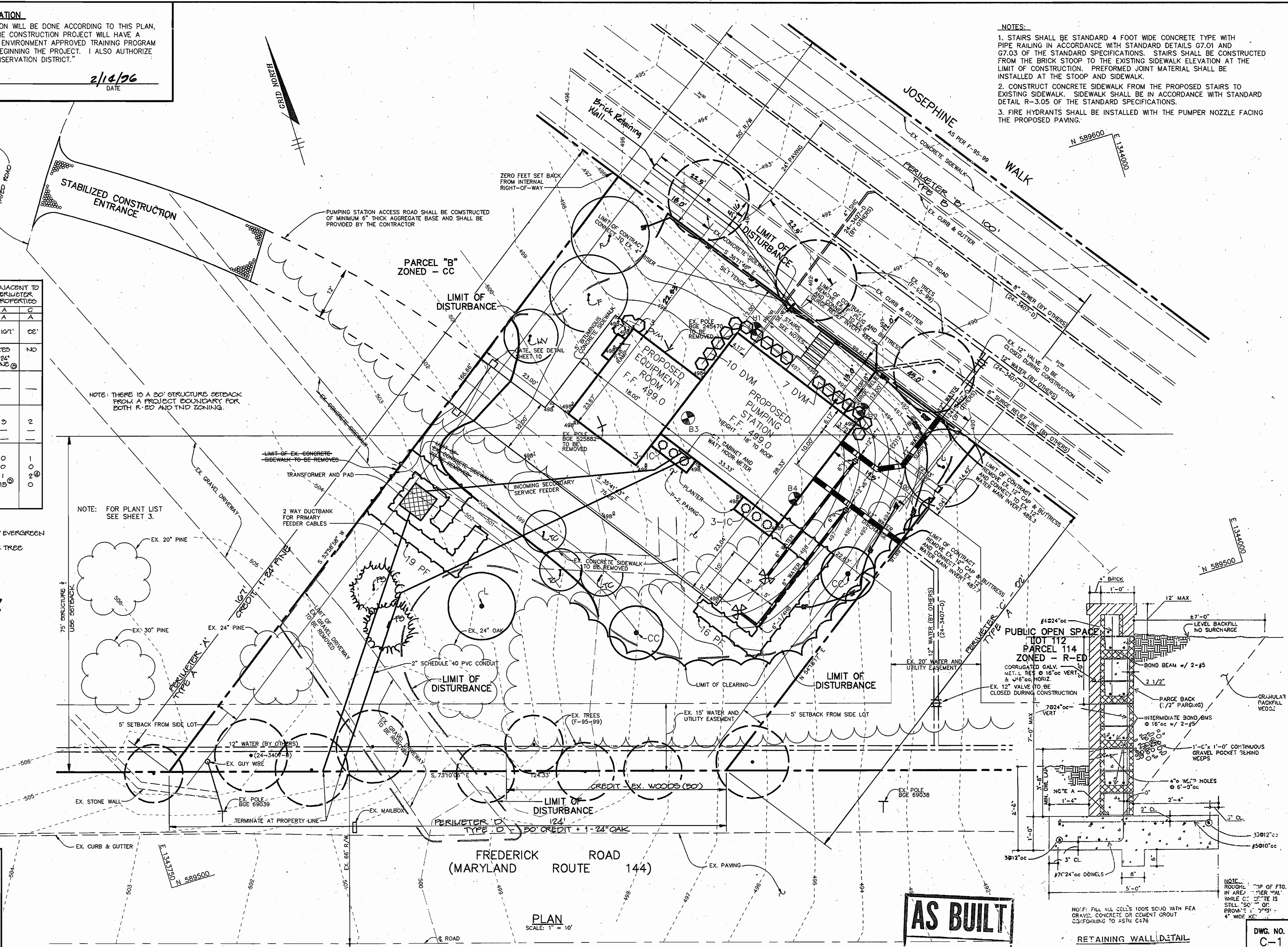
*Robert Hall* Date: 2-9-96

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

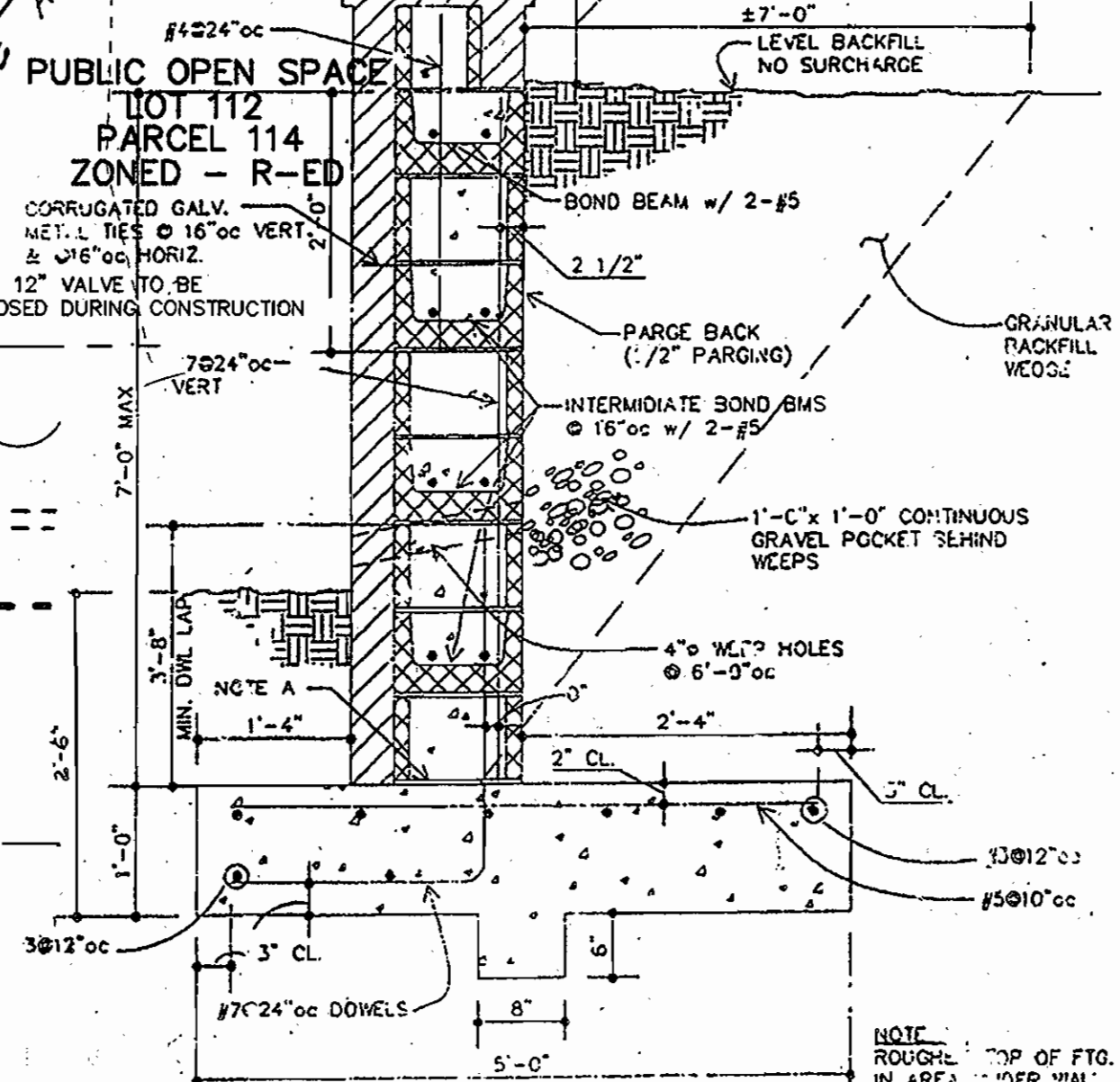
*[Signature]* 3/14/96  
DIRECTOR DATE

*[Signature]* 2/22/96  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 3/14/96  
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE



**AS BUILT**



RKK2/USR2.SDKPROJ/CM8473.DWG ALP-5-02.DWG 02/26/1996 14:11

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

*[Signature]* 2/14/96  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 2-14-96  
CHIEF, BUREAU OF ENGINEERING DATE

*[Signature]* 2-22-96  
CHIEF, BUREAU OF UTILITIES DATE

*[Signature]* 2-14-96  
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

**RK & K**  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217



DES:	DRN:	CHK:	DATE:	BY:	NO.	REVISION:	DATE:
			12/95				

**SITE PREPARATION PLAN**

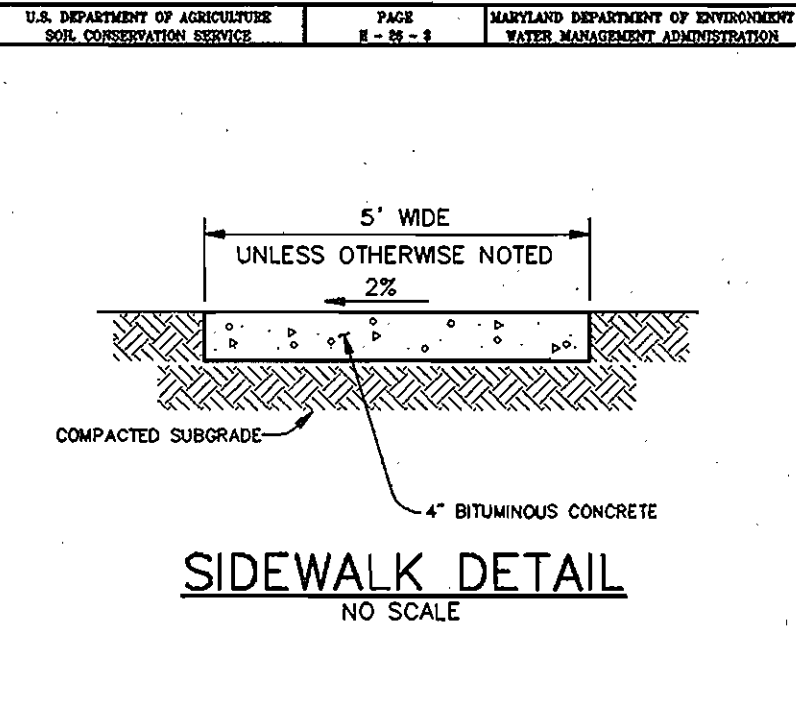
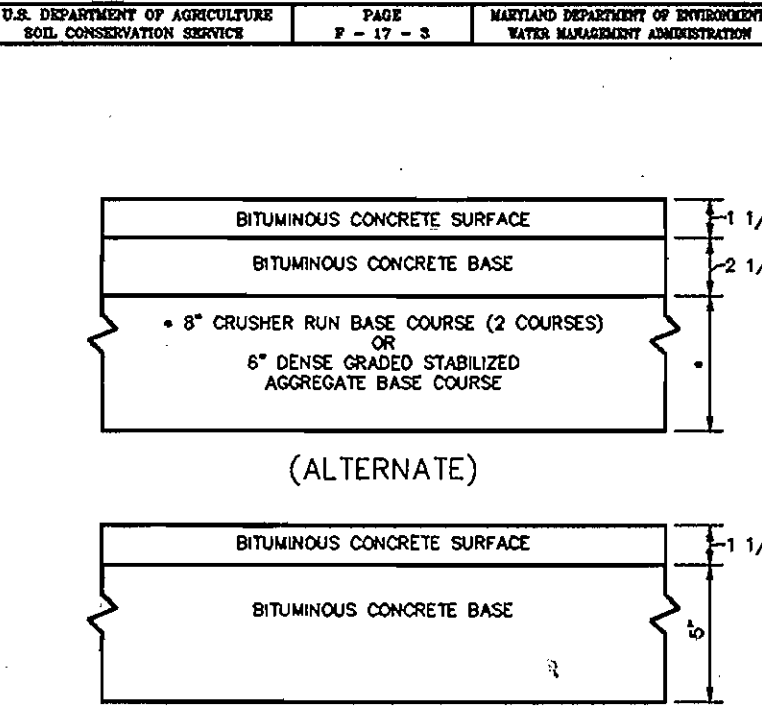
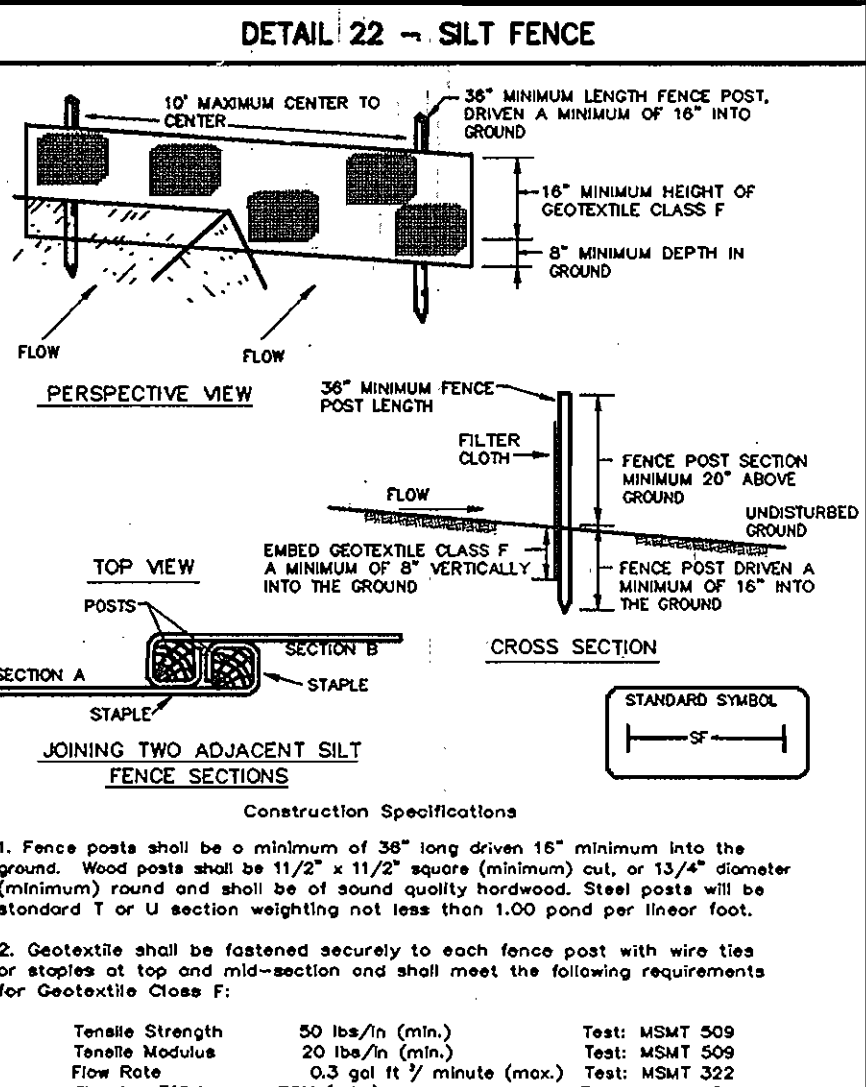
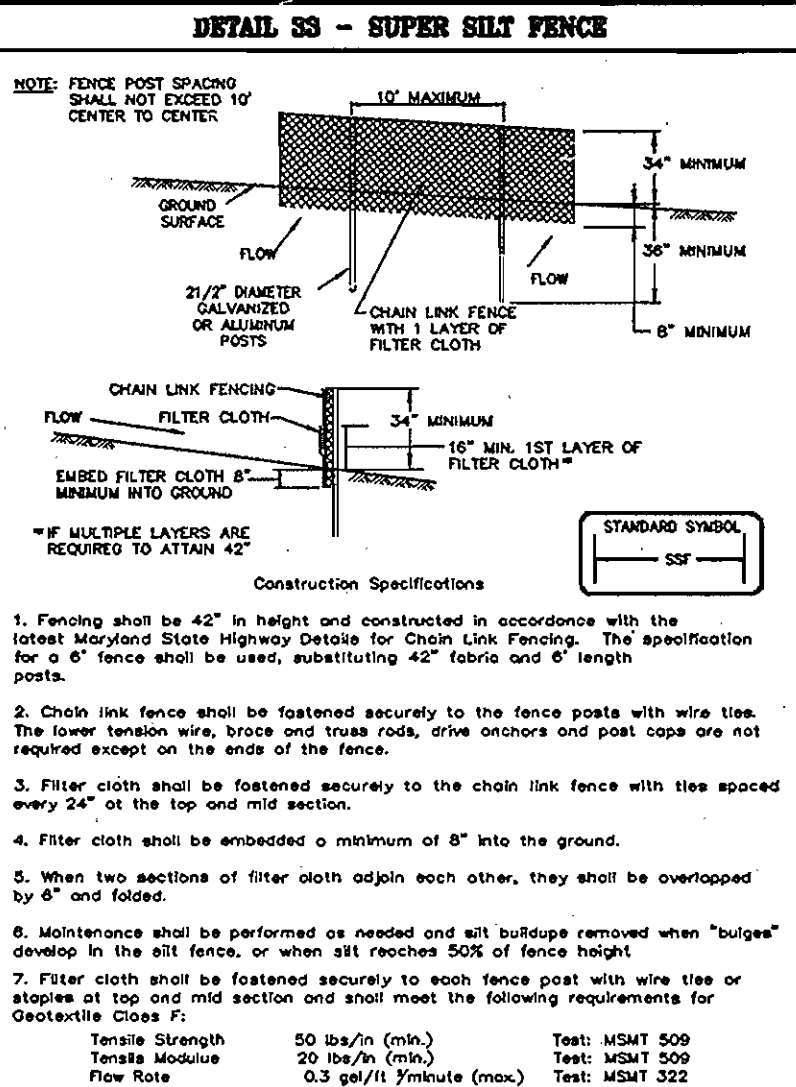
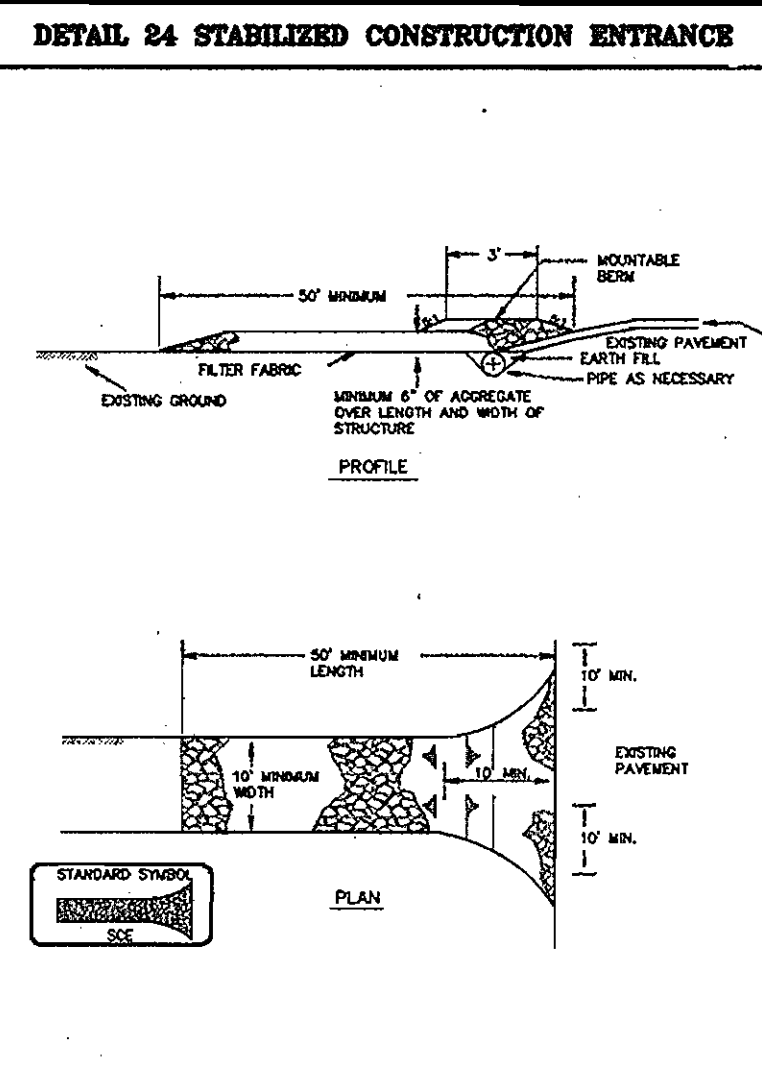
600' SCALE MAP NO. 16 BLOCK NO. 23

**FREDERICK ROAD PUMPING STATION**  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3482  
ELECTION DISTRICT NO. 2  
HOWARD COUNTY, MARYLAND

DWG. NO. C-1  
SCALE AS SHOWN  
SHEET 2 OF 13

SDP-96-72

2/13



**SILT FENCE**

Silt Fence Design Criteria

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	80 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-2.01)

P-2 PAVING  
NO SCALE

ALL FILL AREAS WITHIN ROADWAYS TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T160.

**TEMPORARY SEEDING NOTES**

Apply to graded or cleared areas likely to be redistributed where a short-term vegetative cover is needed.

**Seedbed Preparation:** Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

**Soil Amendments:** Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.).

**Seeding:** For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushels per acre of annual rye (3.2 lbs. per 1000 sq.ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (0.07 lbs. per 1000 sq.ft.). For the period November 16 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 sod.

**Mulching:** Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

**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, discing 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 (92 lbs. per 1000 sq.ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs. per 1000 sq.ft.).
- 2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.

**Seeding:** For the period March 1 thru April 30 and from August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (0.05 lbs. per 1000 sq.ft.) of weeping lovegrass. During the period October 16 thru February 28, protect site by one of the following options:

- 1) 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.
- 2) Use sod.
- 3) Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.

**Mulching:** Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

**Maintenance:** Inspect all seeded areas and make needed repairs, replacements and reseedings.

**SEDIMENT CONTROL NOTES**

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION (313-1810).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL, AND REVISIONS THEREJO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL FOR PERMANENT SEEDINGS (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS:  
TOTAL AREA OF SITE: 0.29 ACRES  
AREA DISTURBED: 0.22 ACRES  
AREA TO BE ROOFED OR PAVED: 0.07 ACRES  
AREA TO BE VEGETATIVELY STABILIZED: 0.15 ACRES  
TOTAL CUT: 137 CU.YDS.  
TOTAL FILL: 342 CU.YDS.  
WASTE SITE: F-95-99
8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
11. SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.
12. CUT AND FILL QUANTITIES PROVIDED UNDER SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, STRUCTURAL FILL OR EMBANKMENT MATERIAL, NOR DO THEY REFLECT CONSIDERATION OF UNDERCUTTING OR REMOVAL OF UNSUITABLE MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY AFFECT THE WORK.
13. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 AC., APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
14. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

**GENERAL NOTES**

1. EXISTING TOPOGRAPHY IS FROM RIEMER MUEGG & ASSOCIATES FIELD SURVEY DATED AUGUST 1995 AND IS AT 1 FOOT INTERVALS.
2. STORMWATER MANAGEMENT IS PROVIDED FOR THIS DEVELOPMENT UNDER F-95-99.
3. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
4. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.

**PLANT LIST TREES**

KEY	QTY.	BOTANICAL/COMMON NAME	SIZE	STATE	COMMENTS
F	2	FRAXINUS AMERICANA "AUTUMN PURPLE" AUTUMN PURPLE ASH (SEEDLESS)	13' - 15' HT. 2 1/2" - 3" HT.	B & B	FULL FORM, SINGLE LEADER
L	2	LIQUIDAMBAR STYRACIFLUA VALLEY WHITE	13' - 15' HT. 2 1/2" - 3" HT.	B & B	FULL FORM, SINGLE LEADER
MV	1	MAGNOLIA VIRGINIANA	8' - 10' HT.	B & B	MULTI-TRUNKED
CC	2	CERCIS CANADENSIS	6' - 7' HT.	B & B	
PO	2	PINUS STROBILUS	6' - 8' HT.	B & B	
TC	2	TEUQUA CANADENSIS	6' - 8' HT.	B & B	

**SHRUBS**

DVM	20	AZALEA 'DELAWARE VALELEY WHITE'	24" - 30"	4 GAL.	
PF	35	PHOTINIA X FRASERI	24" - 30"	3 GAL.	
IC	6	ILEX CRENATA 'HELLERI' HELLERI JAPANESE HOLLY	18" - 24"	#2 CAN.	

**SEQUENCE OF CONSTRUCTION**

1. Obtain A Grading Permit.
2. Contact Howard County, Department Of Inspections And Permits (313-1810) Prior To Starting Date.
3. Install SCE, Silt Fence And Super Silt Fence. (1 DAY)
4. Perform Rough Grading And Begin Pump Station Construction (3 WEEKS)
5. Upon Reaching Subgrade Elevation, Install Utility Connections To Building (2 WEEKS)
6. Perform Paving (1 WEEK)
7. Complete Final Grading And Install Landscaping (5 DAYS)
8. Complete Construction And Stabilize Remaining Disturbed Areas In Accordance With The Permanent Seeding Notes. (2 WEEKS)
9. Upon Permission From The Department Of Inspections And Permits Sediment Control Inspector Remove Sediment Controls And Stabilize Any Areas In Accordance With The Permanent Seeding Notes (1 DAY)

**ENGINEER'S CERTIFICATION**

I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard County Soil Conservation District.

*Robert Hall* Date: 2-9-96

Reviewed For Howard County S.C.D. and meets technical requirements.

*J.H. Warfield* Date: 2/29/96  
NATURAL RESOURCES CONSERVATION SERVICE

This development plan is approved for soil erosion and sediment control by The Howard County Soil Conservation District.

Approved: *John R. Roberts* Date: 2/29/96  
HOWARD COUNTY SCD

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*David S. Smith* 3/14/96 DATE  
DIRECTOR

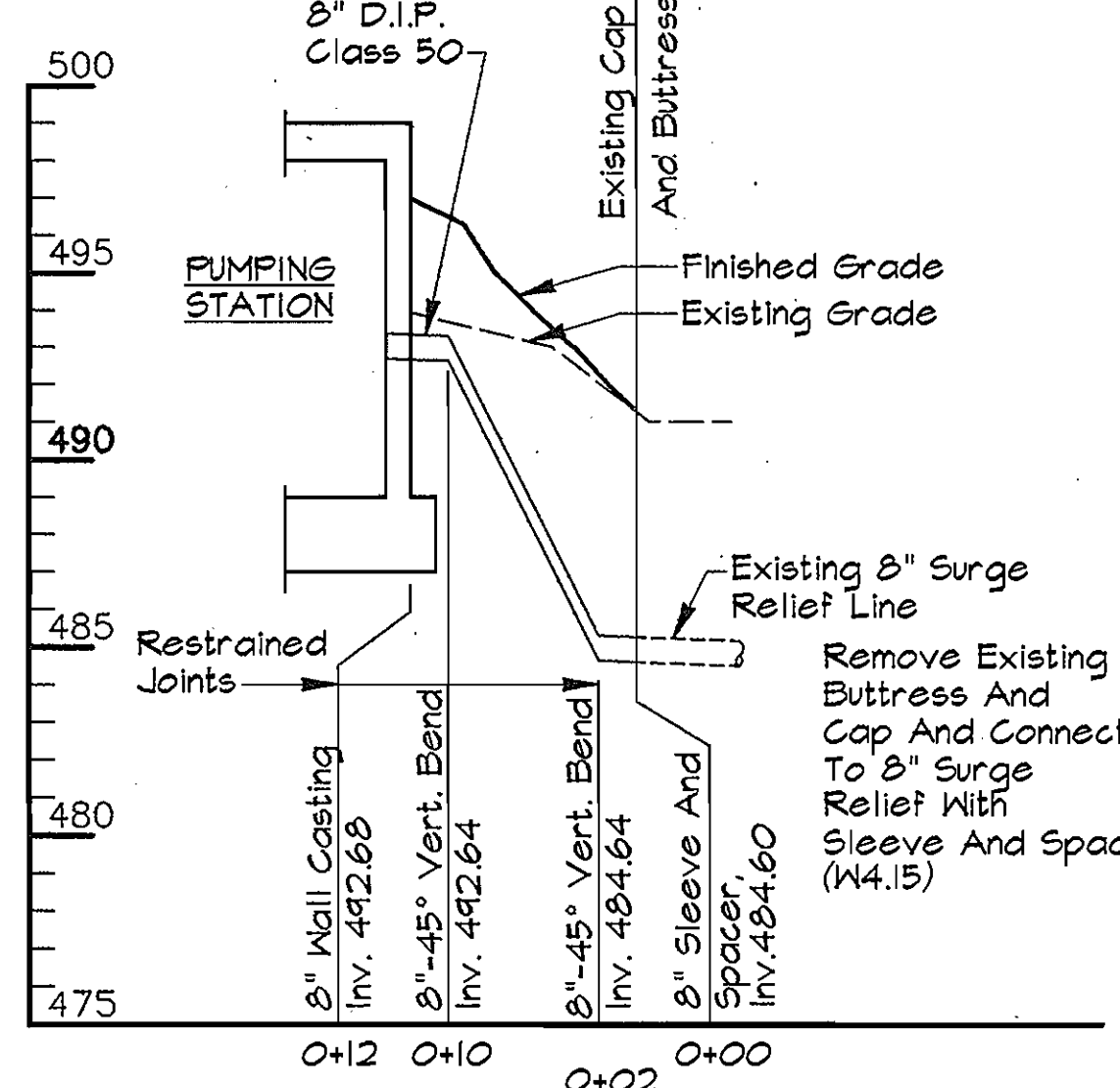
*John P. Williams* 2/29/96 DATE  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*Anna Shumway* 3/14/96 DATE  
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

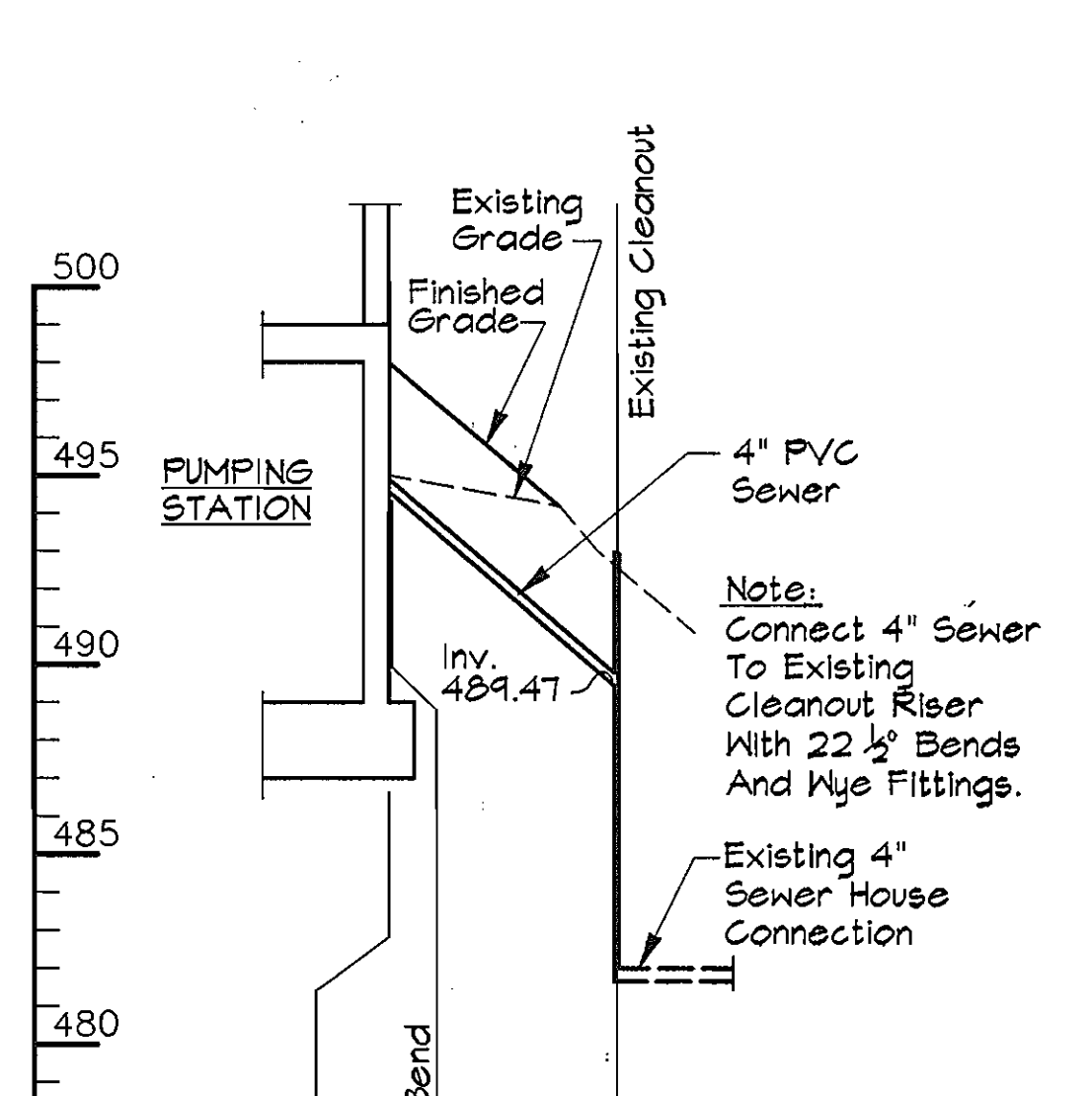
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"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING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

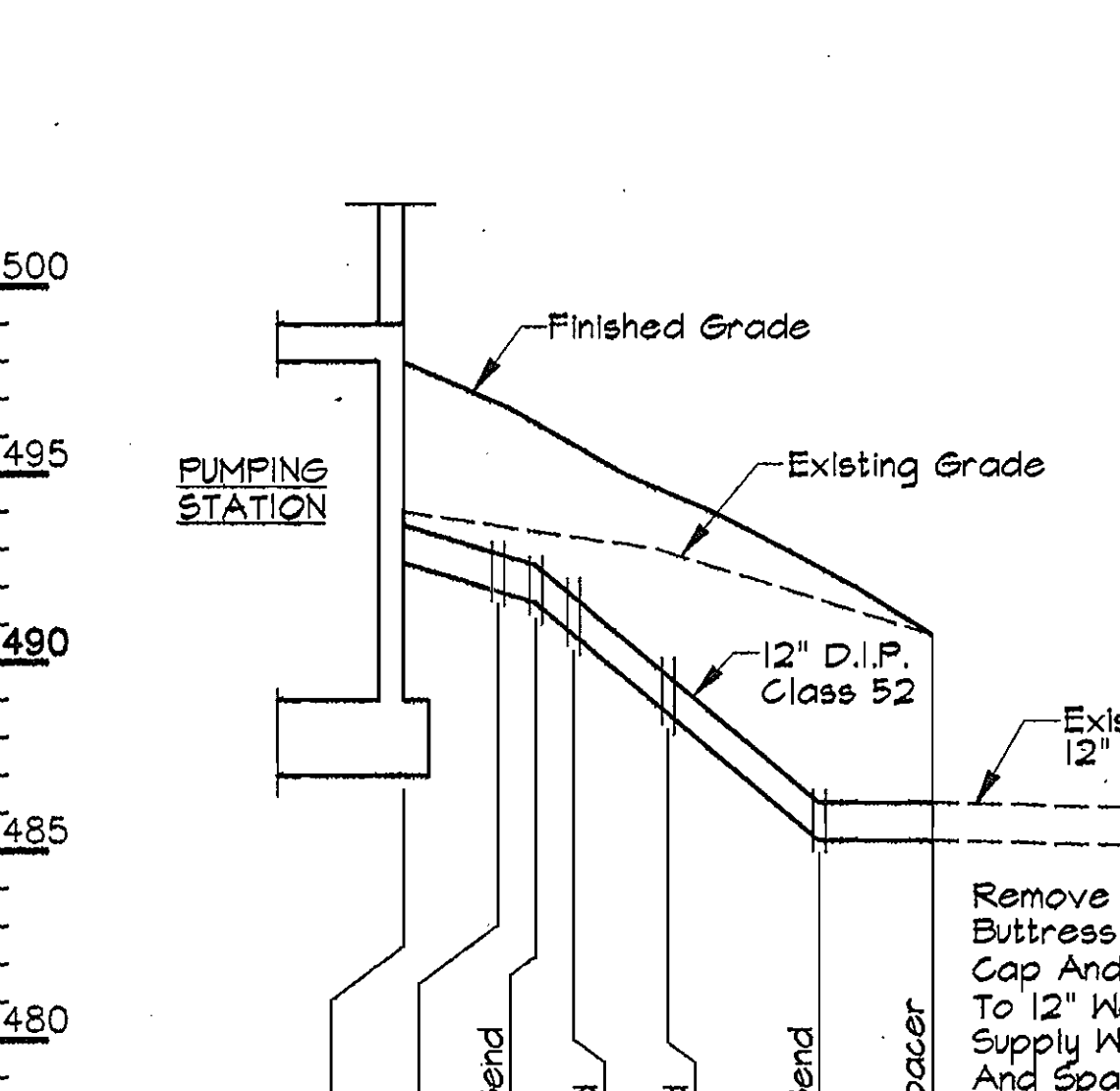
*Robert D. Egan* 2/14/96 DATE  
SIGNATURE OF DEVELOPER



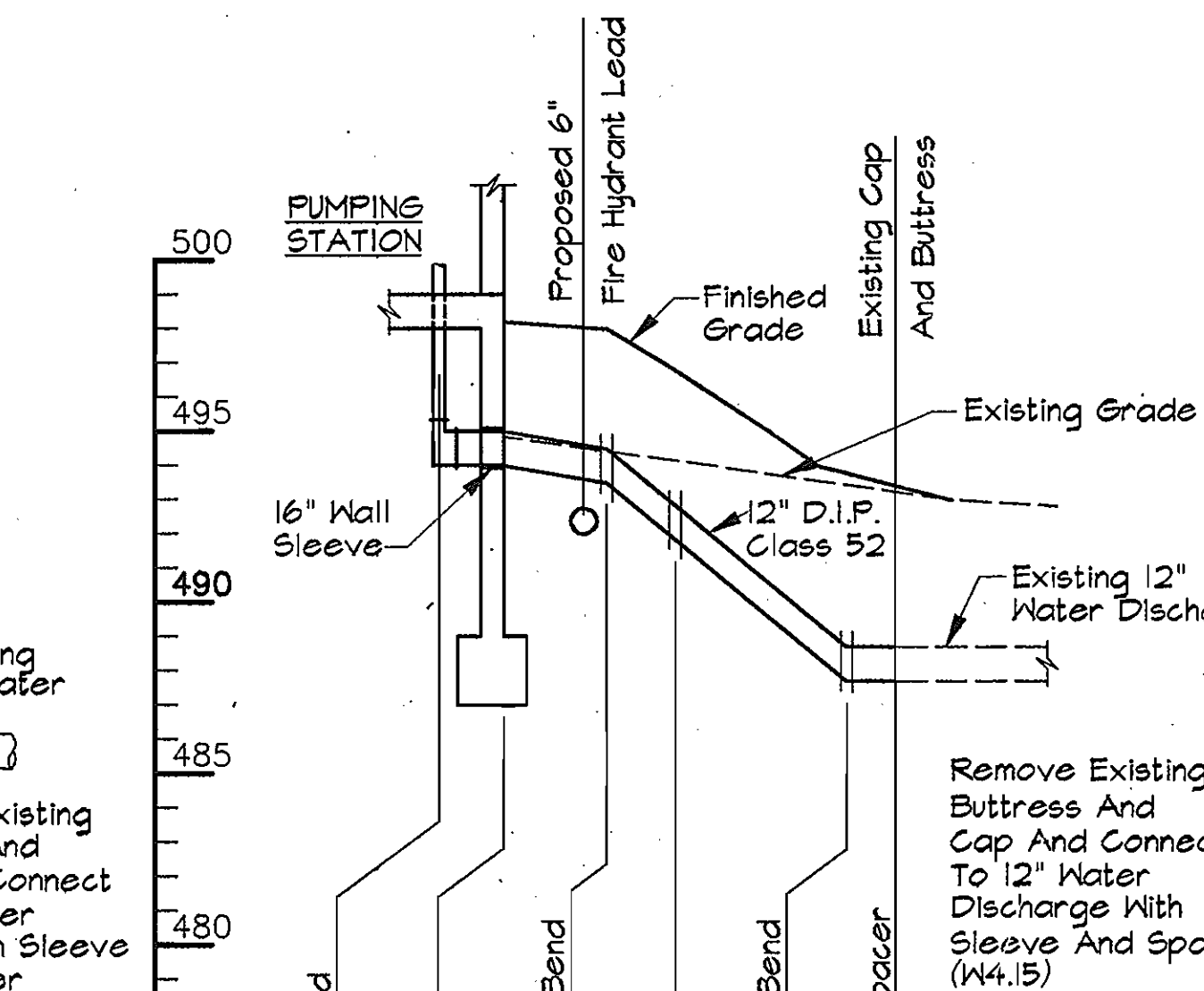
PROFILE - 8" SURGE RELIEF  
SCALE: Horiz. 1"=10'  
Vert. 1"=5'



PROFILE - 4" SEWER  
SCALE: Horiz. 1"=10'  
Vert. 1"=5'



PROFILE - 12" WATER SUPPLY  
SCALE: Horiz. 1"=10'  
Vert. 1"=5'



PROFILE - 12" WATER DISCHARGE  
SCALE: Horiz. 1"=10'  
Vert. 1"=5'

**AS BUILT**

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James J. Lewis* 2/29/96 DATE  
DIRECTOR OF PUBLIC WORKS

*Michael J. Williams* 2-23-96 DATE  
CHIEF, BUREAU OF UTILITIES

RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217

*Robert D. Egan* 2/14/96 DATE  
CHIEF, BUREAU OF ENGINEERING

*Robert D. Egan* 2-14-96 DATE  
CHIEF WATER AND SEWER DESIGN DIVISION

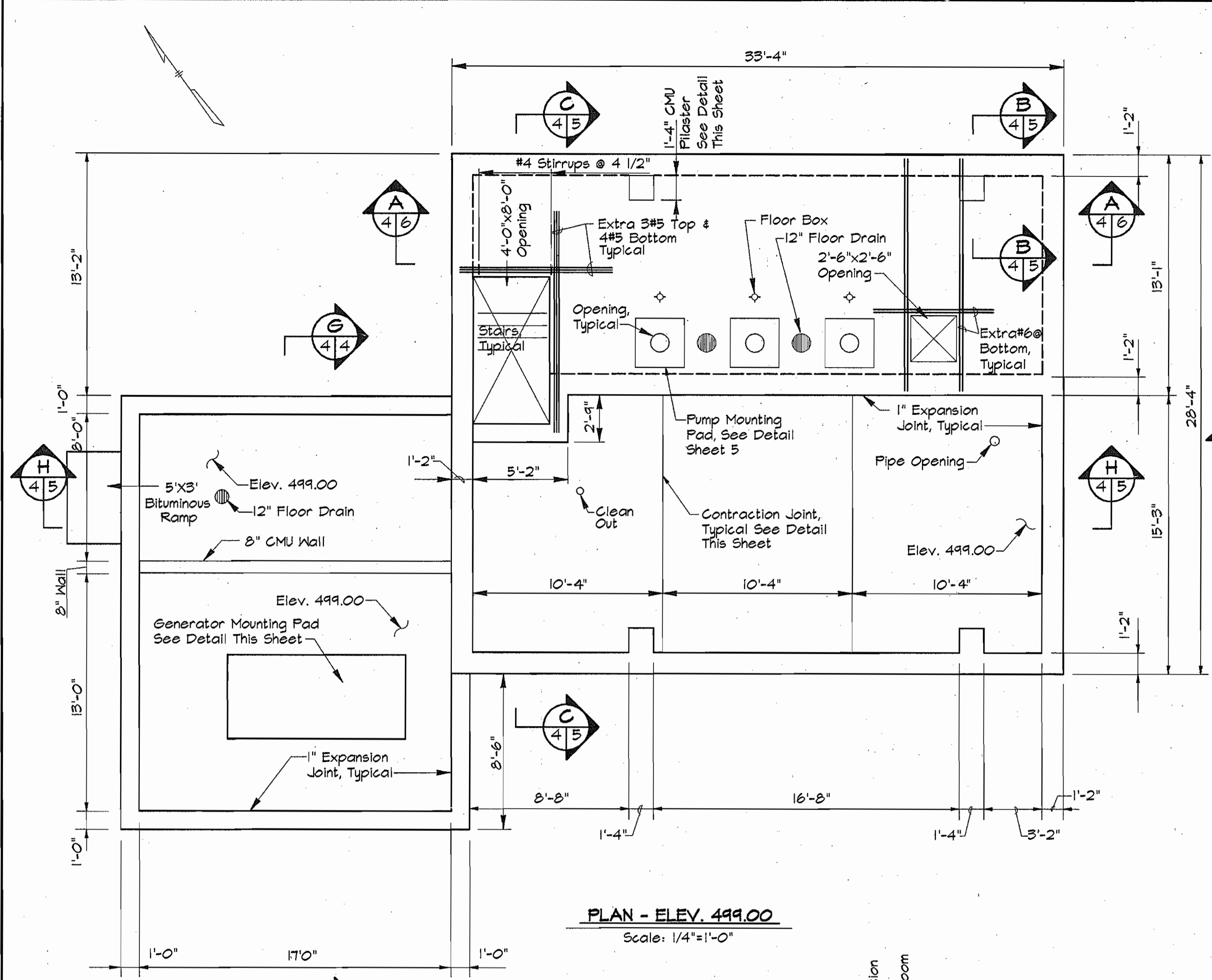
DES: C.J.R.			
DRN: D.A.M.			
CHK: B.B.			
DATE: 12/95			
BY: NO.		REVISION	
		DATE	

SITE DEVELOPMENT PLAN  
NOTES, DETAILS AND PROFILES

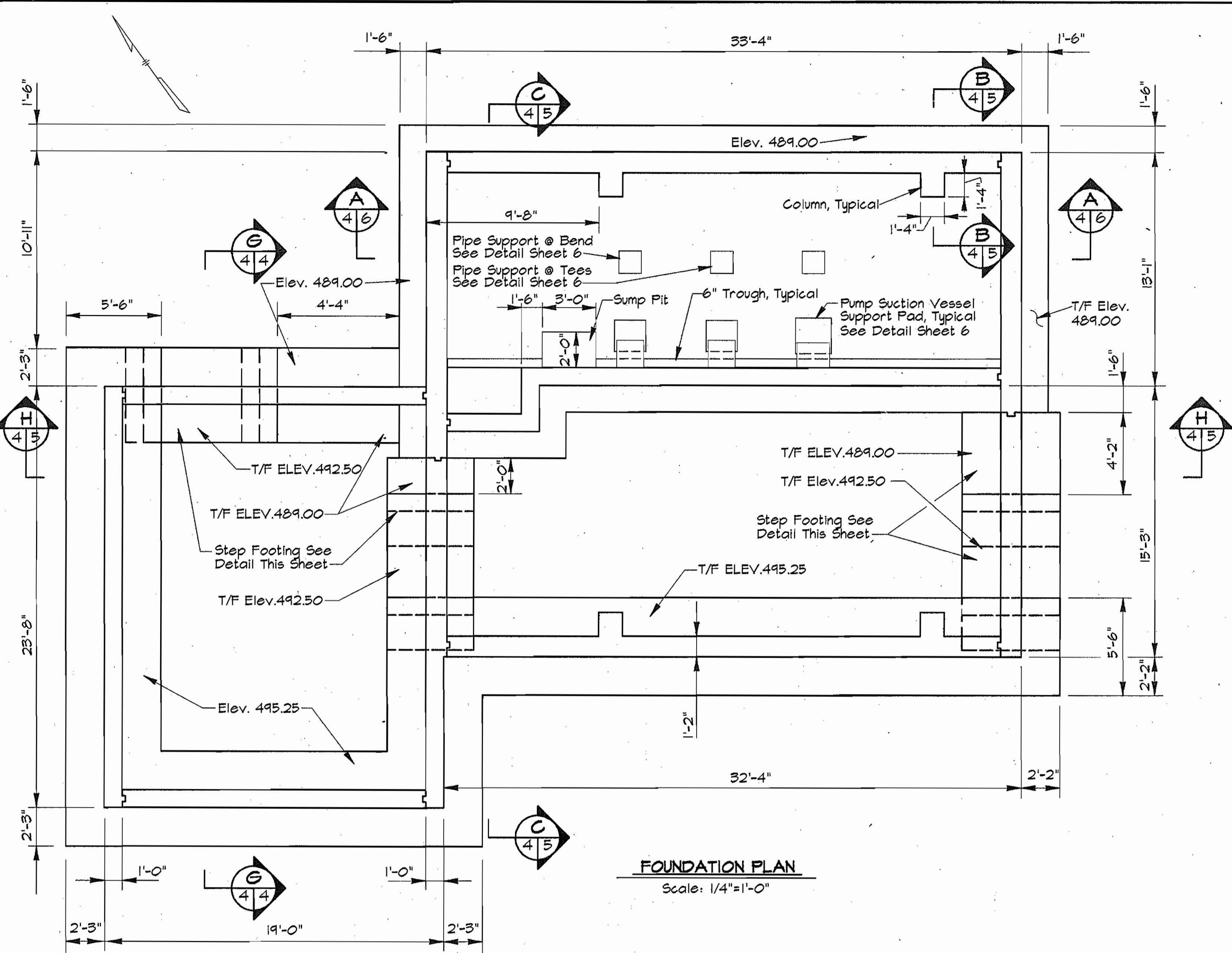
600' SCALE MAP NO. 16 BLOCK NO. 23

FREDERICK ROAD PUMPING STATION  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3482  
ELECTION DISTRICT NO. 2  
HOWARD COUNTY, MARYLAND

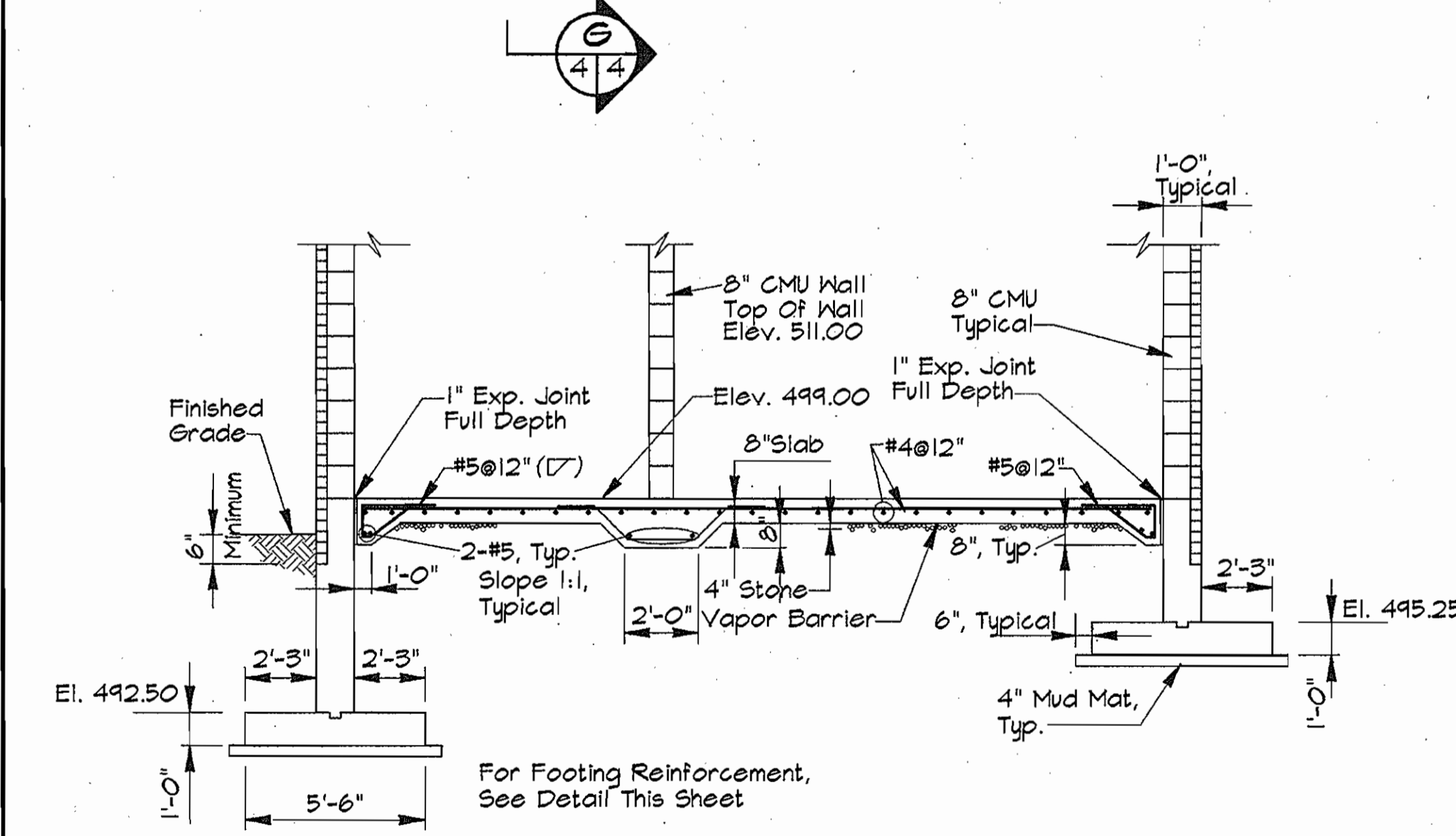
SCALE AS SHOWN  
SHEET 3 OF 13



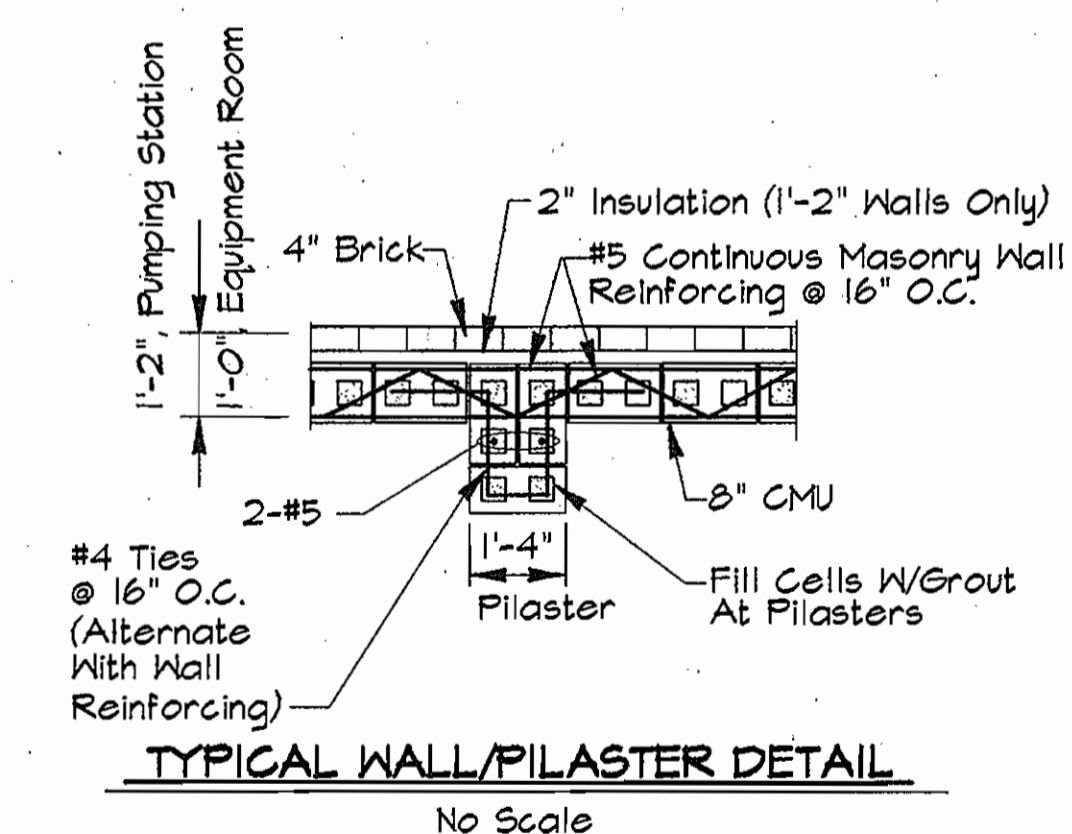
**PLAN - ELEV. 499.00**  
Scale: 1/4"=1'-0"



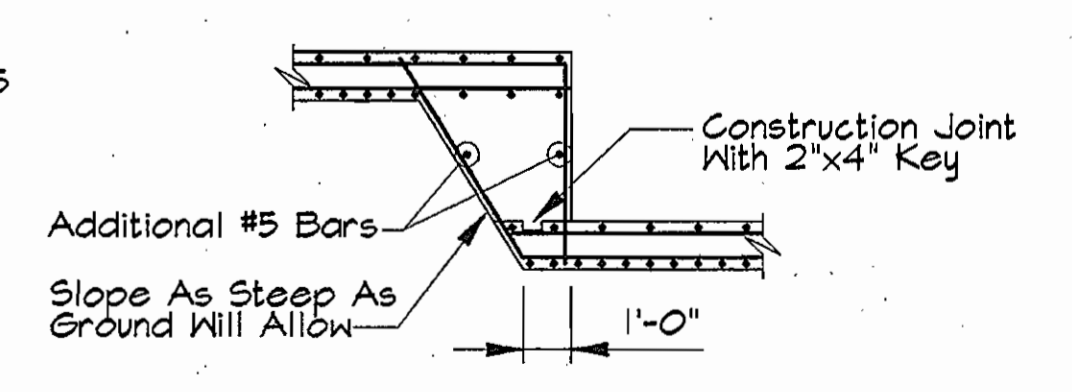
**FOUNDATION PLAN**  
Scale: 1/4"=1'-0"



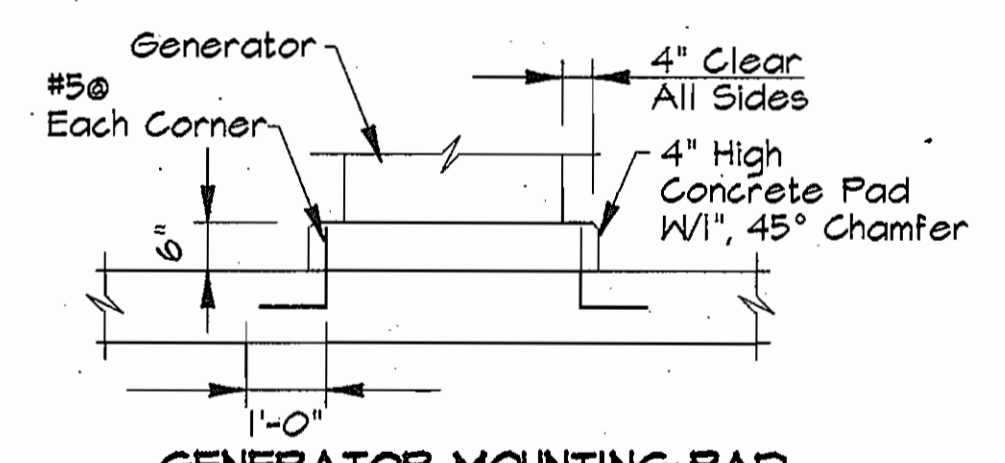
**SECTION G-4**  
Scale: 1/4"=1'-0"



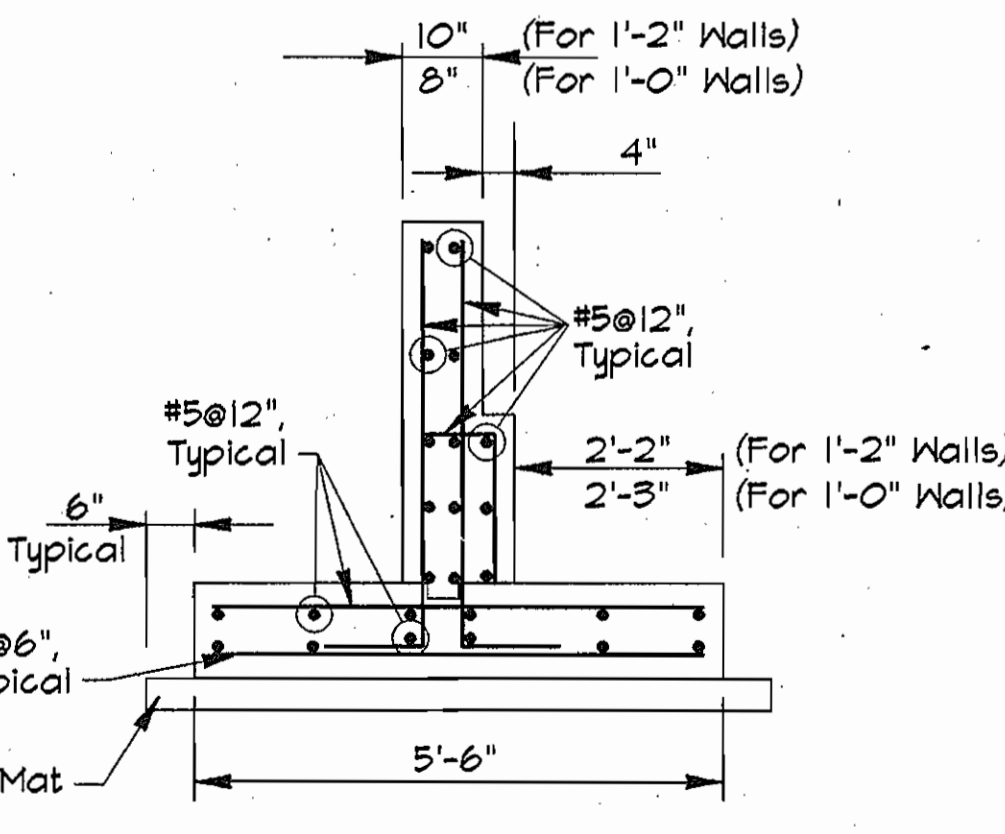
**TYPICAL WALL/PILASTER DETAIL**  
No Scale



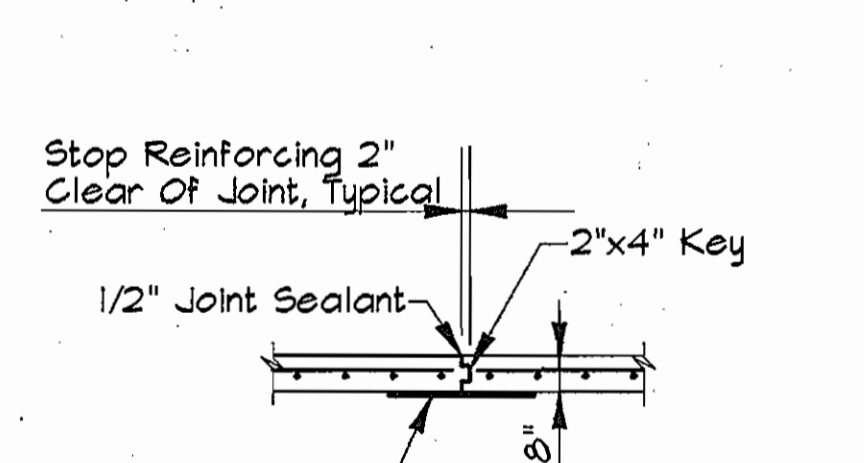
**STEP FOOTING DETAIL**  
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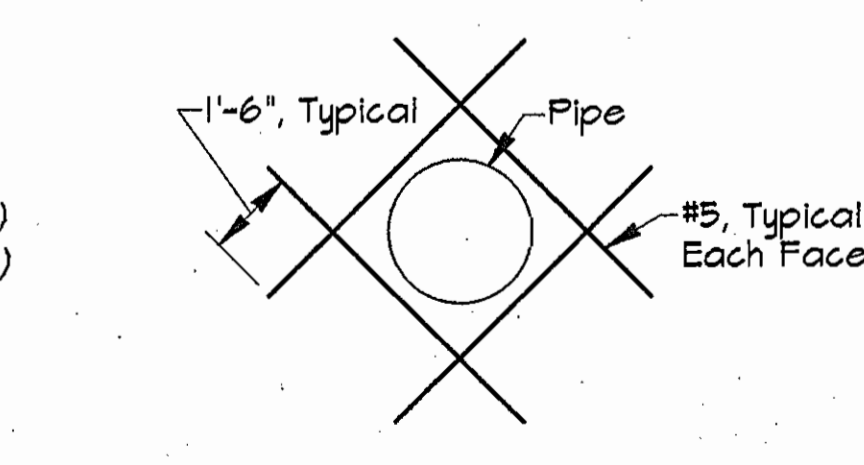
**GENERATOR MOUNTING PAD**  
No Scale



**TYPICAL FOOTING DETAIL**  
No Scale



**CONTRACTION JOINT**  
No Scale



**TYPICAL ADDITIONAL REINFORCEMENT AT WALL AND FLOOR OPENINGS**  
No Scale

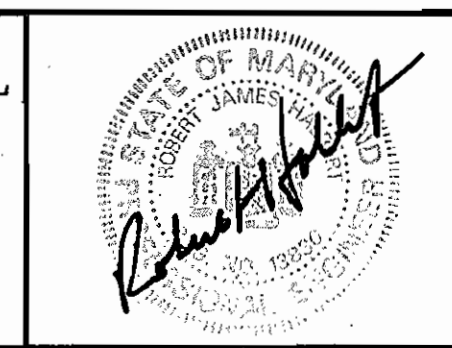
- STRUCTURAL NOTES:**
- All Concrete Work Shall Conform With The Requirements Of The American Concrete Institute A.C.I. 318-89.
  - All Concrete Unless Otherwise Noted Shall Have A Minimum Ultimate Compressive Strength Of 3,500 P.S.I. After 28 Days.
  - Reinforcing Steel Shall Be Deformed Bars Of Intermediate Grade New Billet Steel Conforming To Current Requirements Of A.S.T.M. A-615 Grade 60. Design Stress 24,000 P.S.I. Lap Bars, 40 Diameter Unless Otherwise Noted.
  - All Fill For Masonry Walls Shall Be Concrete Grout Conforming To A.S.T.M. C-476. Grouting Shall Be Placed In 5'-0" Maximum Lifts.
  - Excavations Shall Be Kept Free Of Water. No Concrete Shall Be Placed In Water.
  - Loadings  
 Floor Live Load - 300 psf, Max. Equipment Weight On The Supporting Concrete Pad = 3,200 lb.  
 Roof Live Load - 30 psf  
 Snow Load  
 Ground Snow Load = 30 psf  
 Snow Exposure Factor - 0.7  
 Flat Roof Snow Load = 21 psf  
 Snow Load Importance Factor - 1.0  
 Wind Load  
 Basic Wind Speed - 100 mph  
 Wind Design Pressure = 25 psf  
 Wind Exposure Factor - C  
 Wind Load Importance Factor - 1.0  
 Assumed Soil Bearing Pressure - 3,000 psf

**AS BUILT**

N:\SDSKPROJ\CM9473 PUMP ALP-5-04.DWG 07.45 02/12/1996

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works: *Michael A. Williams* 2/22/96  
 Chief, Bureau of Utilities: *RMB*

**RK & K**  
 RUMMEL, KLEPPER & KAHL  
 CONSULTING ENGINEERS  
 81 MOSHER ST.  
 BALTIMORE, MARYLAND 21217

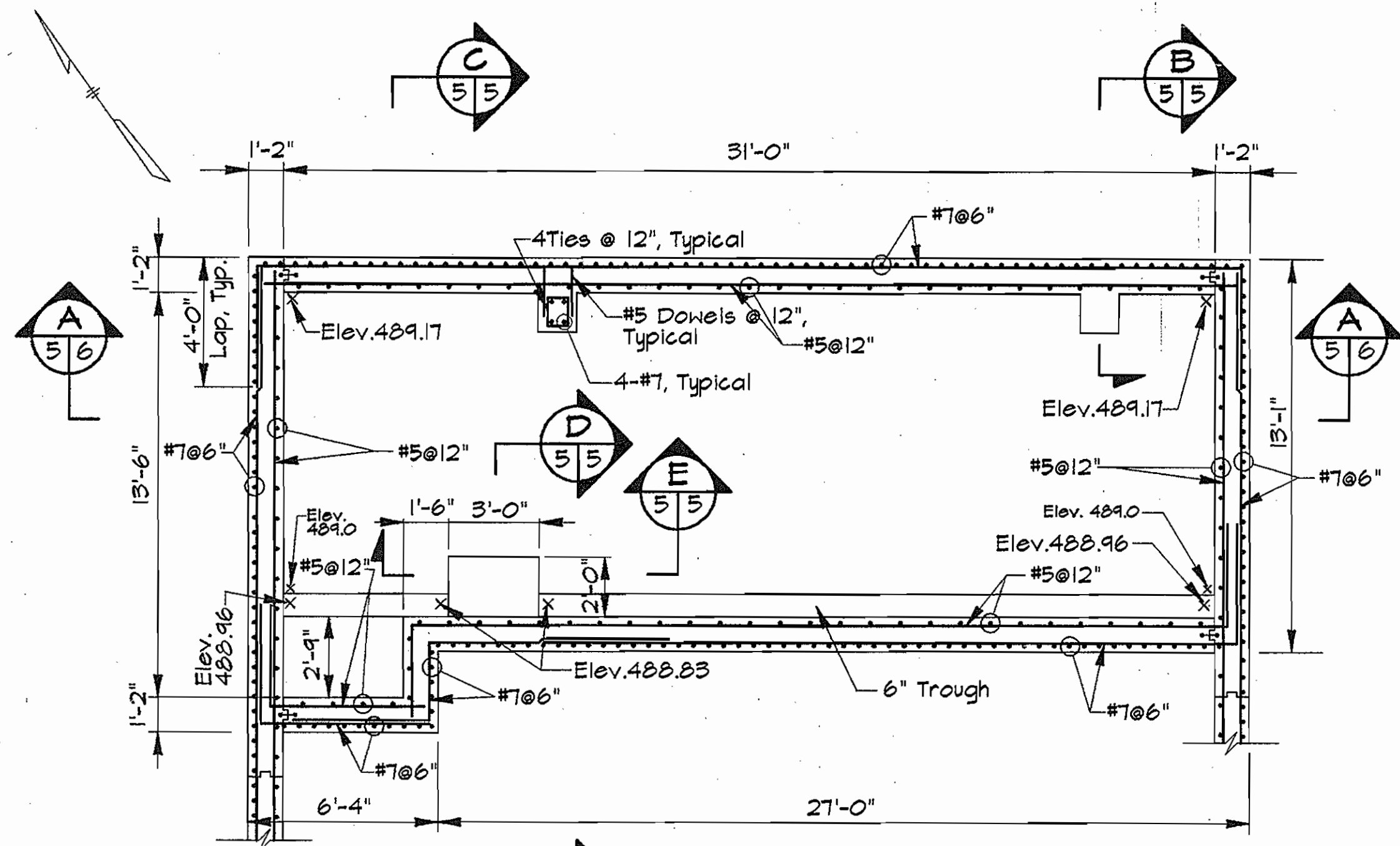


DES:	JHC				
DRN:	MJS				
CHK:	JHC				
DATE:	11/95				
BY:					
NO.					
REVISION					
DATE					

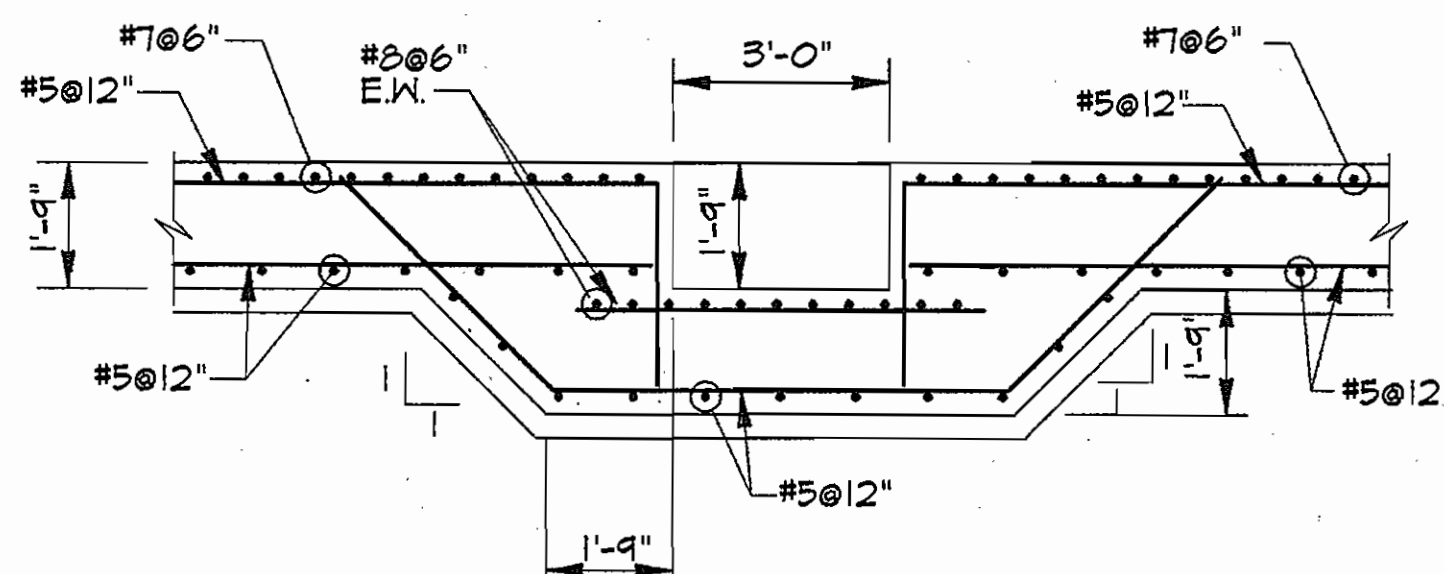
STRUCTURAL  
 FOUNDATION PLAN AND SECTIONS  
 600' SCALE MAP NO. 16 BLOCK NO. 23

FREDERICK ROAD PUMPING STATION  
 CAPITAL PROJECT W-8203  
 CONTRACT NO. 44-3482  
 ELECTION DISTRICT NO. 2  
 HOWARD COUNTY, MARYLAND

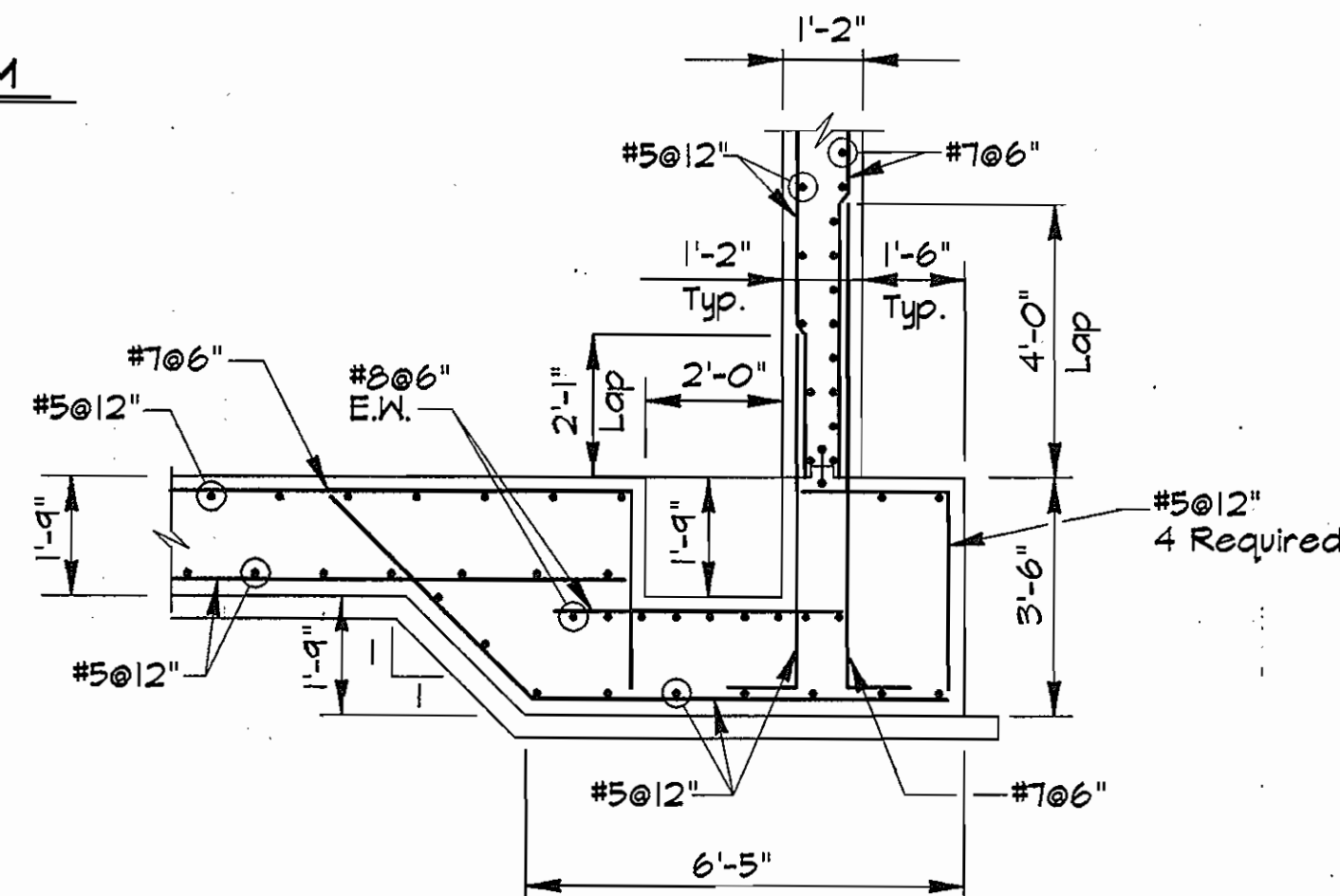
DWG. NO. S-1  
 SCALE AS SHOWN  
 SHEET 4 OF 13



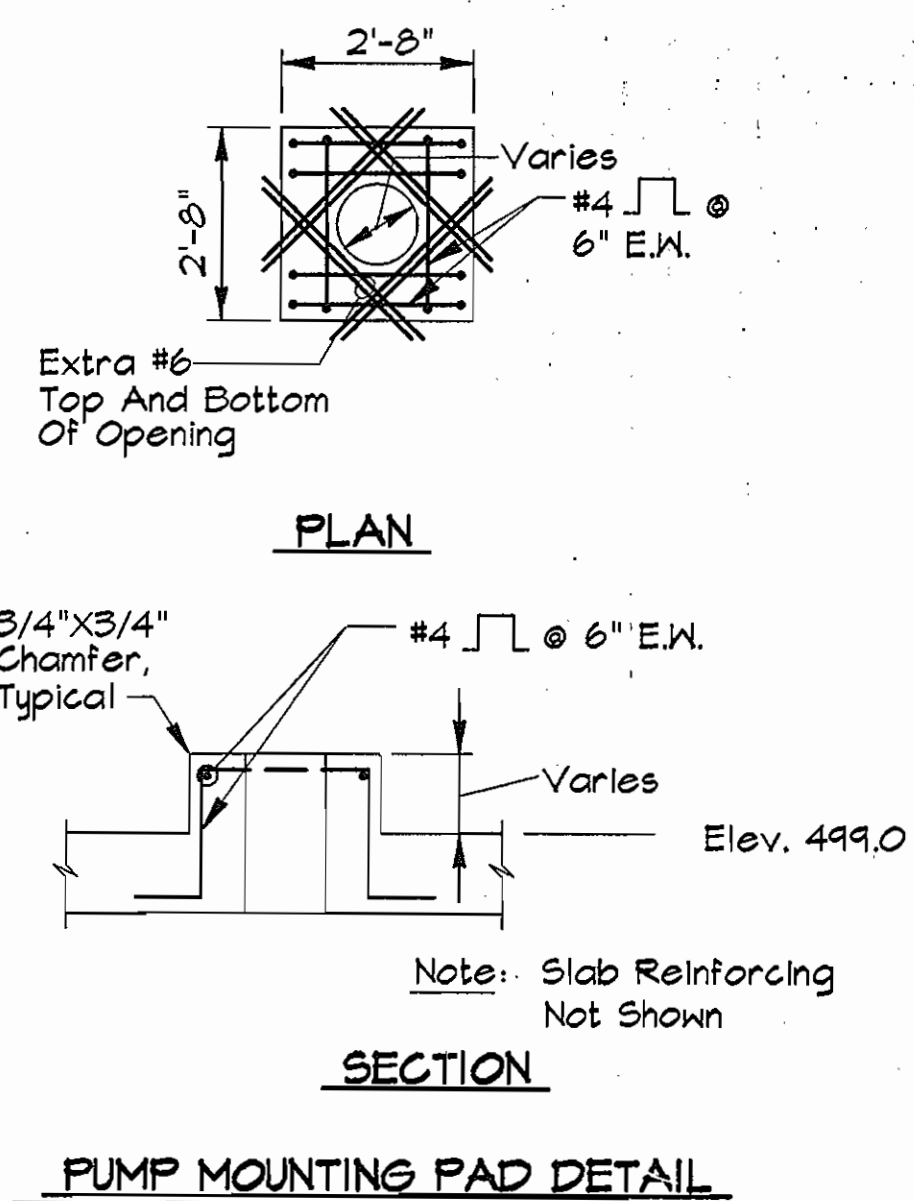
**PLAN - PUMP ROOM**  
Scale: 1/4"=1'-0"



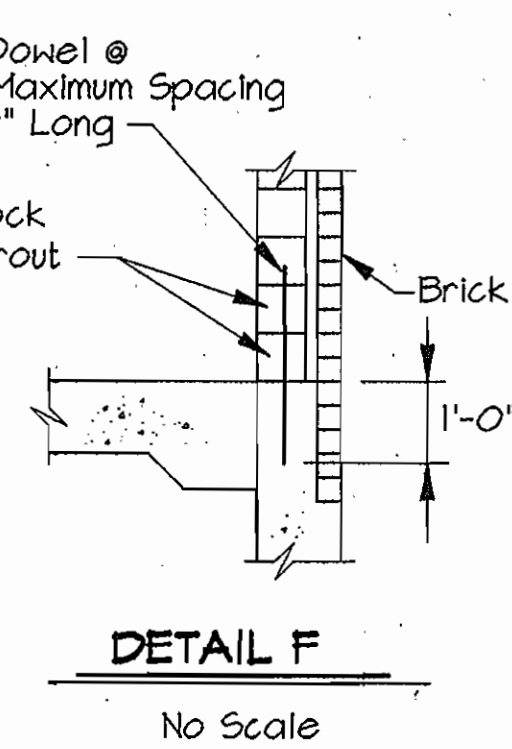
**SECTION E**  
Scale: 3/8"=1'-0"



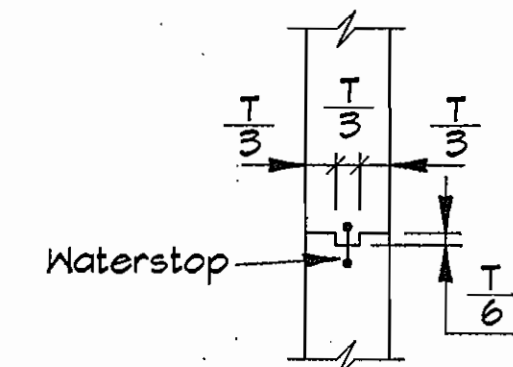
**SECTION D**  
Scale: 3/8"=1'-0"



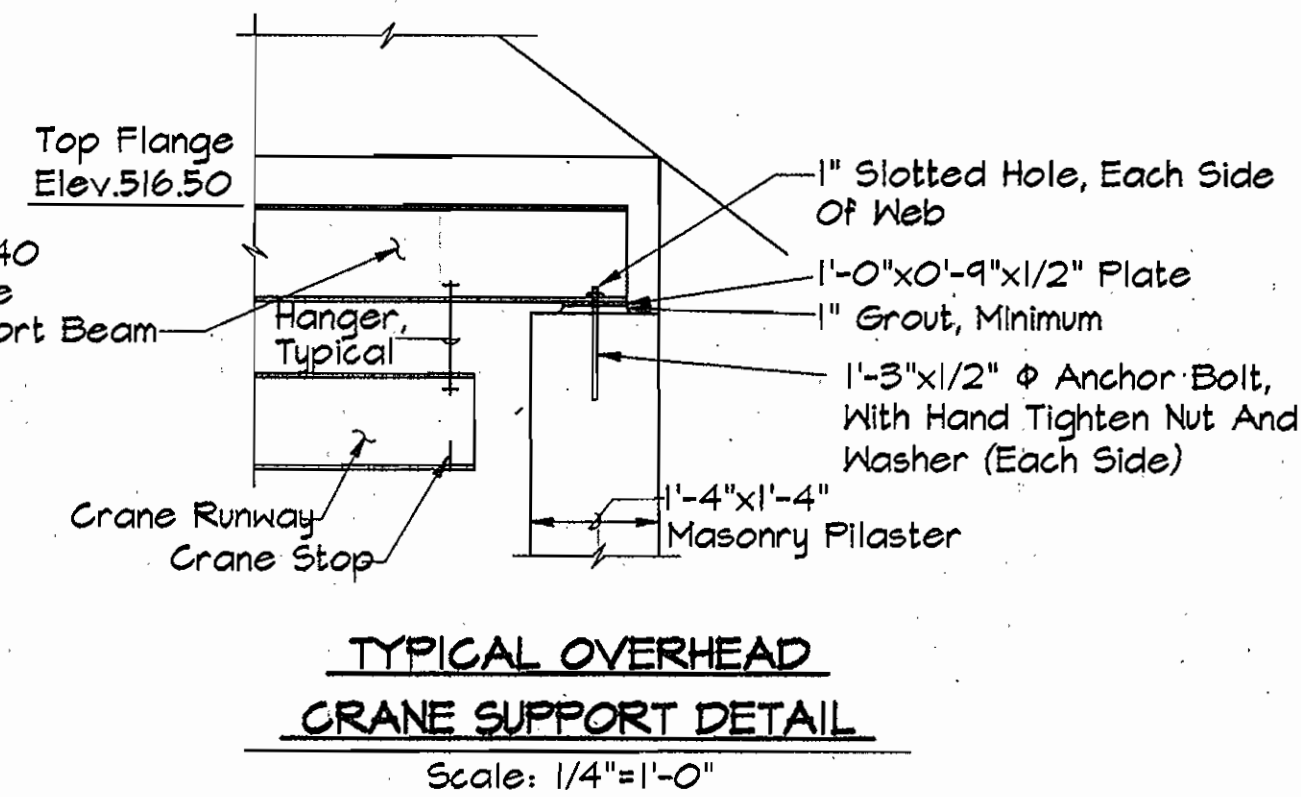
**PUMP MOUNTING PAD DETAIL**  
No Scale



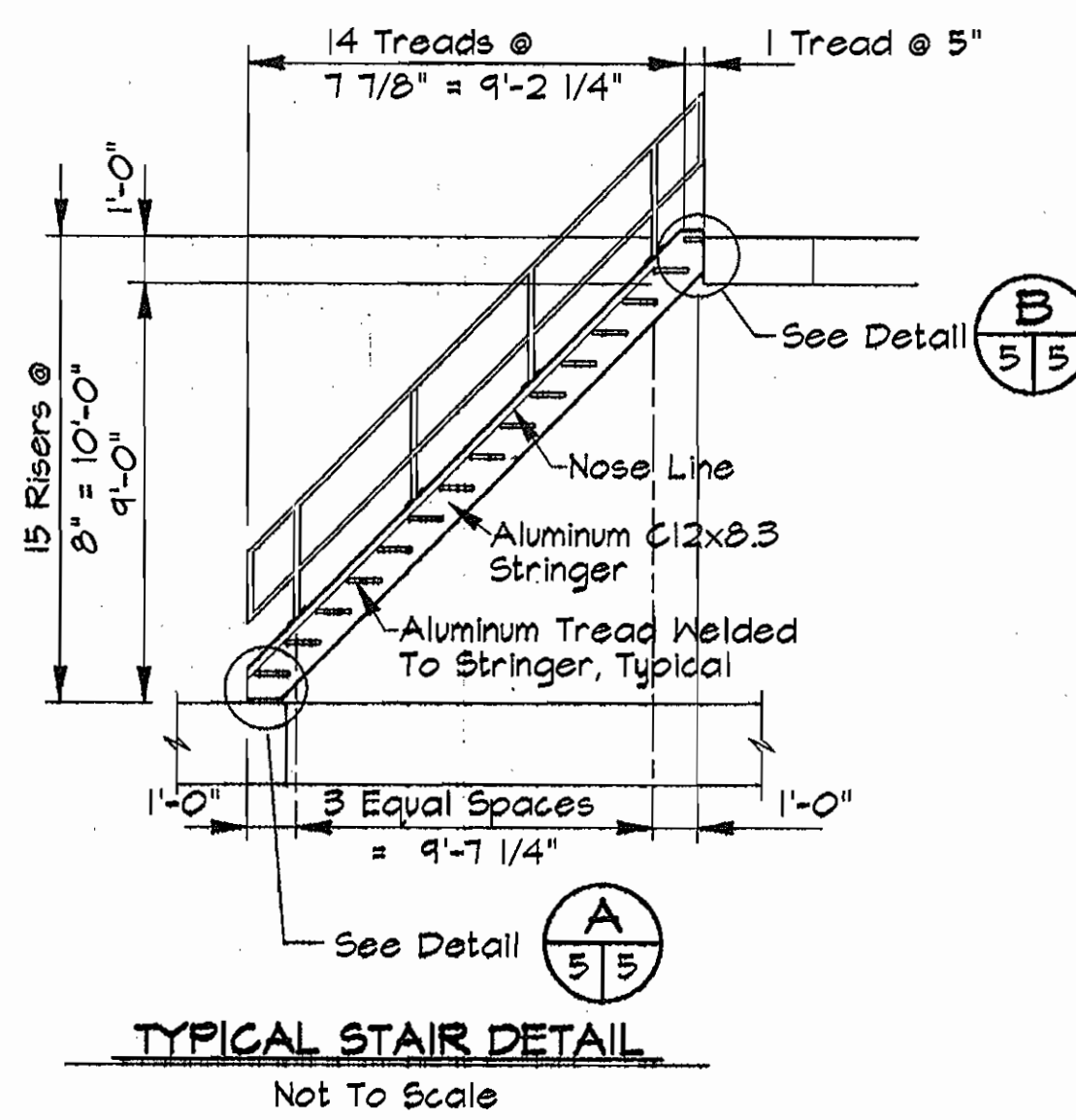
**DETAIL F**  
No Scale



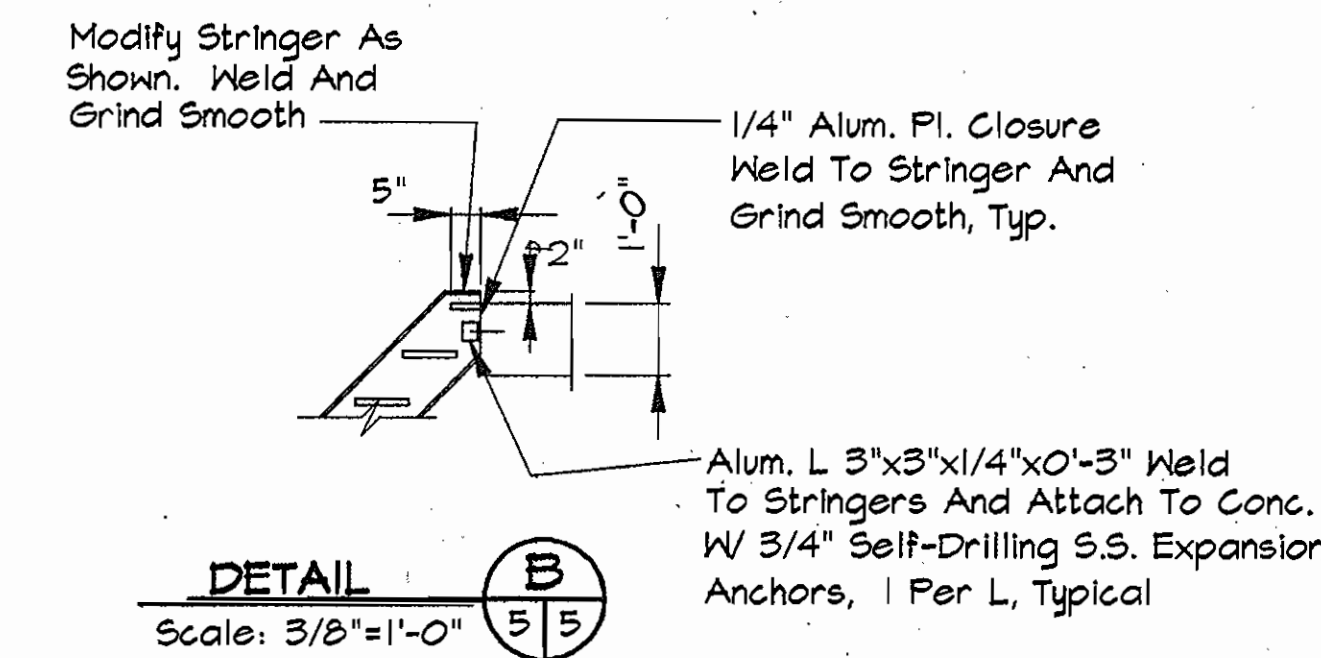
**TYPICAL CONSTRUCTION JOINT DETAIL**  
Scale: 3/8"=1'-0"



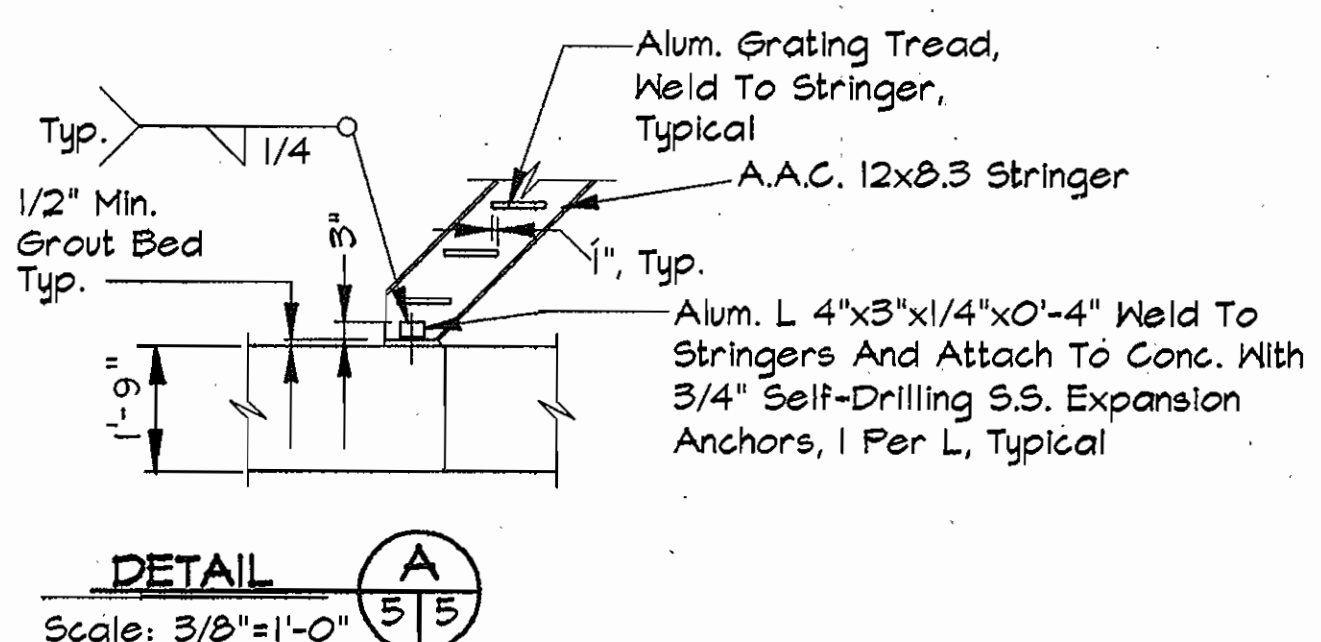
**TYPICAL OVERHEAD CRANE SUPPORT DETAIL**  
Scale: 1/4"=1'-0"



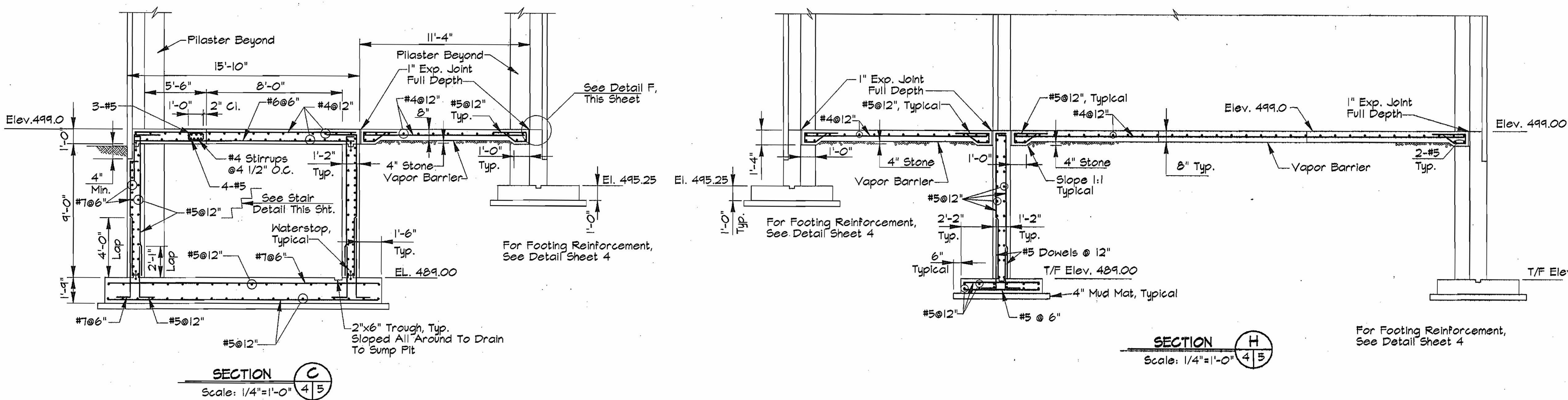
**TYPICAL STAIR DETAIL**  
Not To Scale



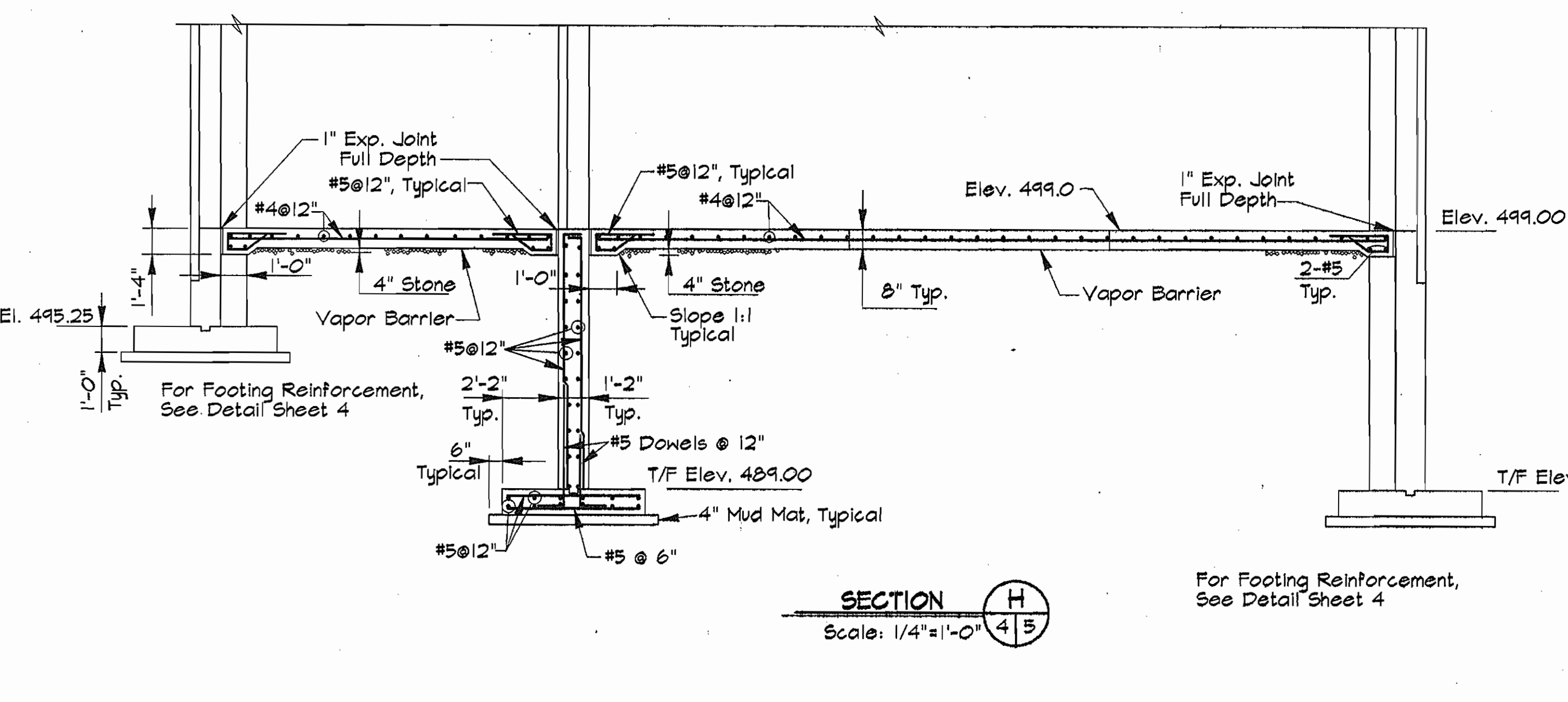
**DETAIL B**  
Scale: 3/8"=1'-0"



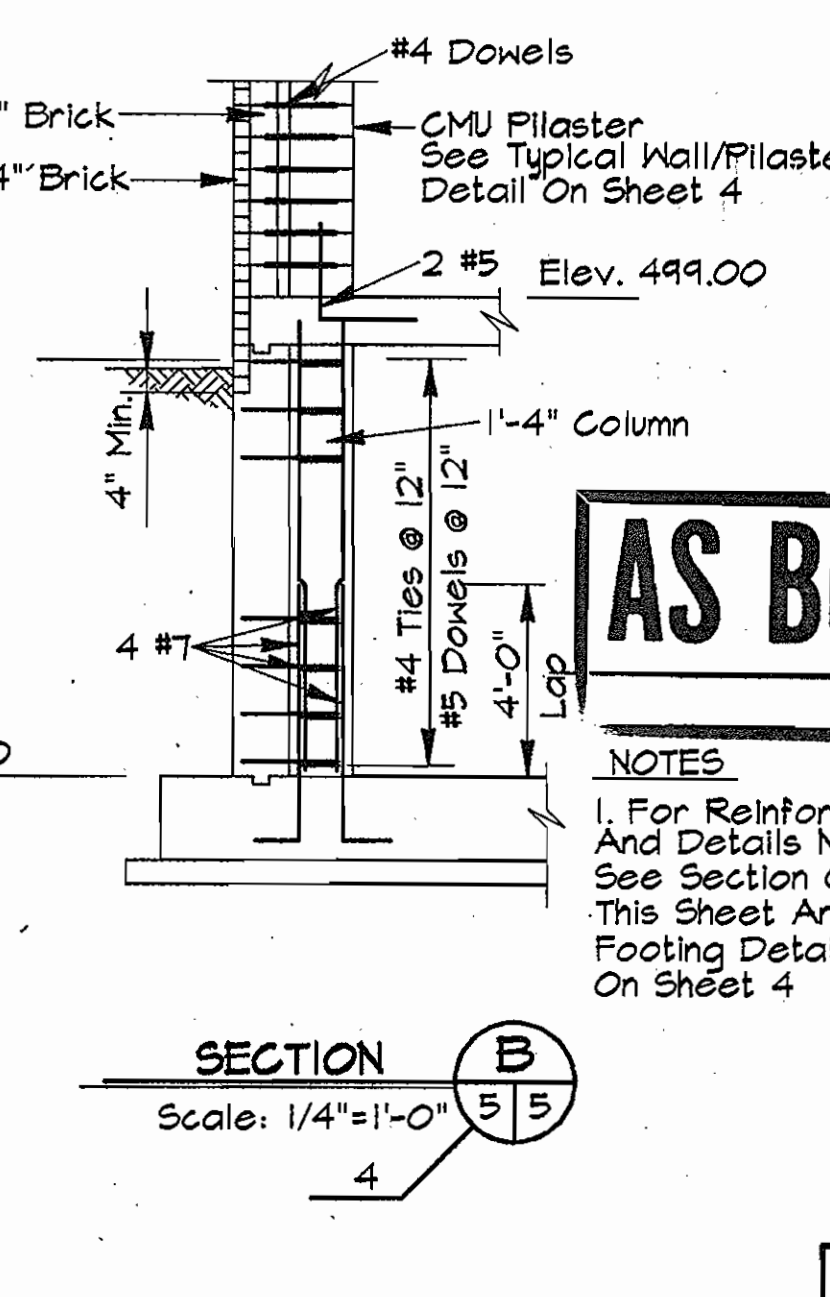
**DETAIL A**  
Scale: 3/8"=1'-0"



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



**SECTION H**  
Scale: 1/4"=1'-0"



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

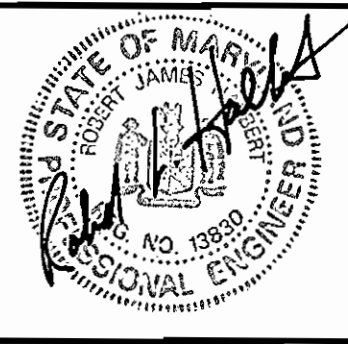
**AS BUILT**

**NOTES**  
1. For Reinforcement And Details Not Shown See Section C This Sheet And Footing Detail On Sheet 4

N:\SDS\PROJ\CM9473\PUMP 13-16 STRUCT.DWG 01/26/1996

**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND  
Director of Public Works: *Michael A. Starnes* 2/23/96  
Chief, Bureau of Utilities: *RMG*

**RK & K**  
**RUMMEL, KLEPPER & KAHL**  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217



DES:	JHC			
DRN:	MJS			
CHK:	JHC			
DATE:	11/95	BY:	NO.	REVISION

**STRUCTURAL PLANS, SECTIONS AND DETAILS**

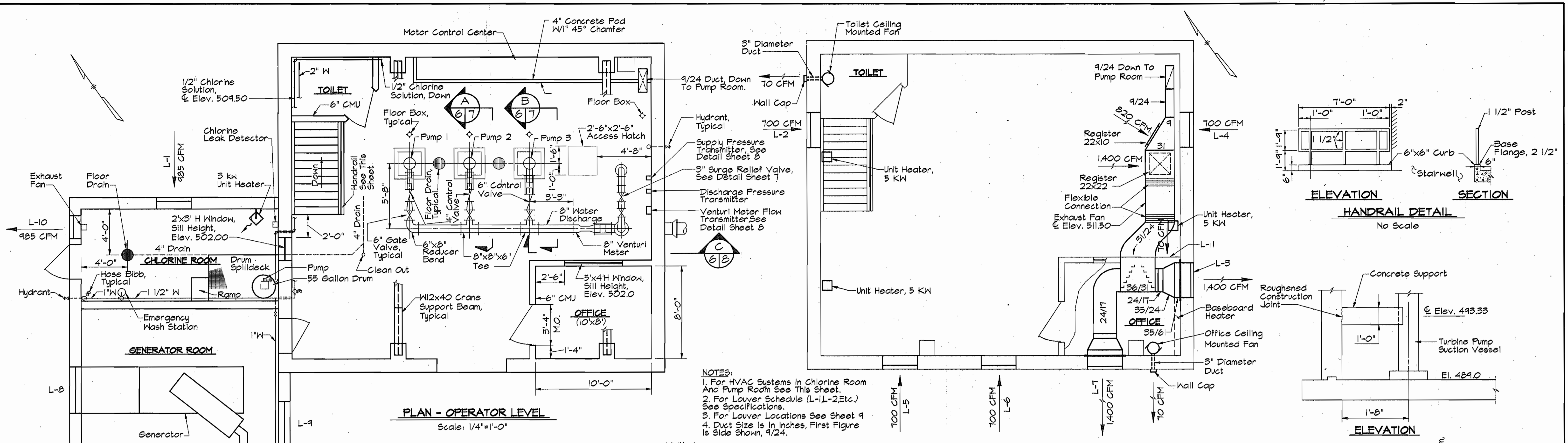
DATE: 600' SCALE MAP NO. 16 BLOCK NO. 23

**FREDERICK ROAD PUMPING STATION**  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3482  
ELECTION DISTRICT NO. 2  
HOWARD COUNTY, MARYLAND

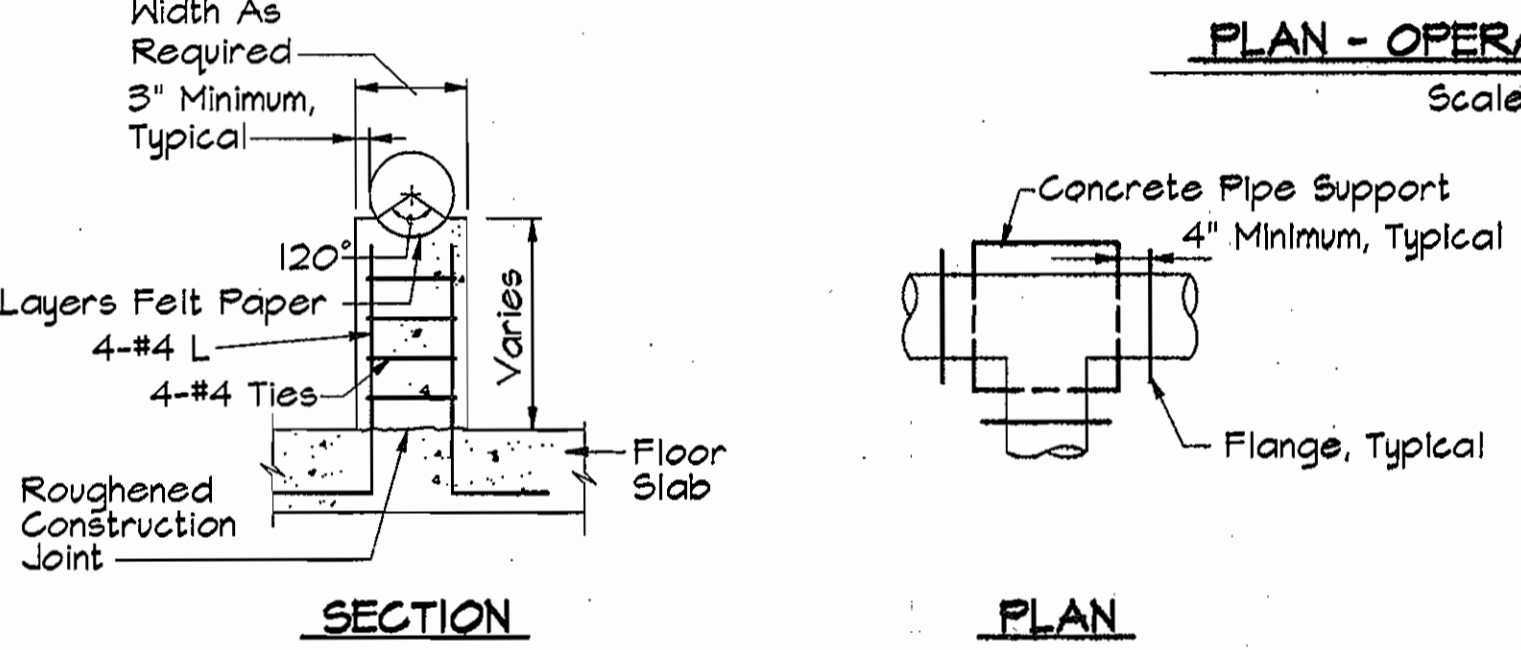
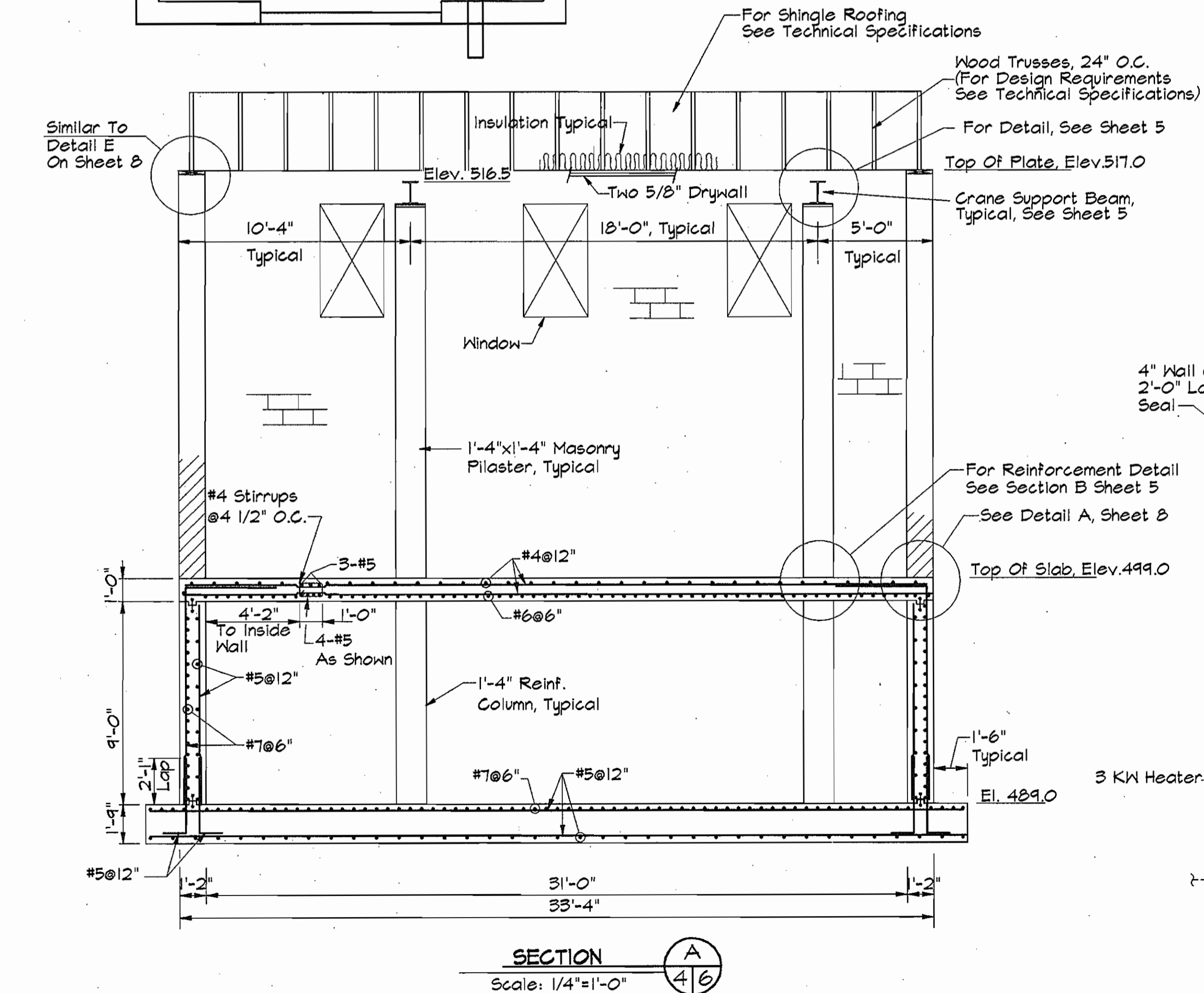
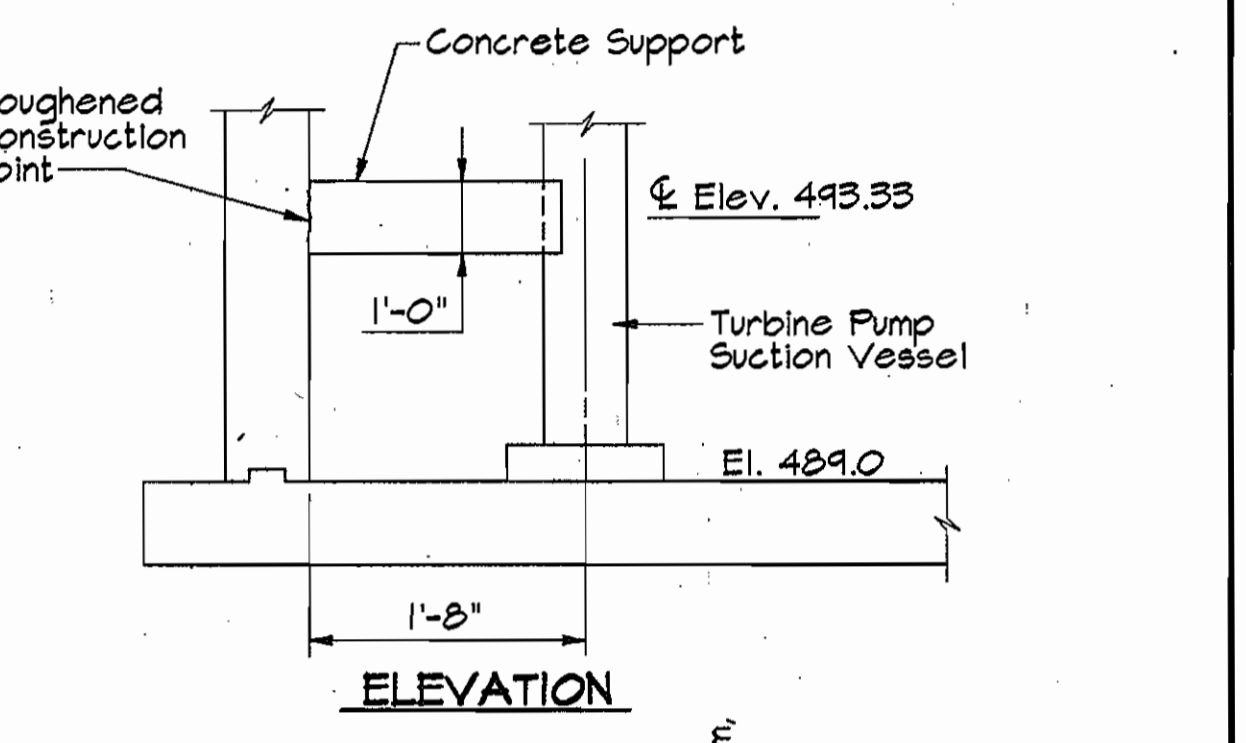
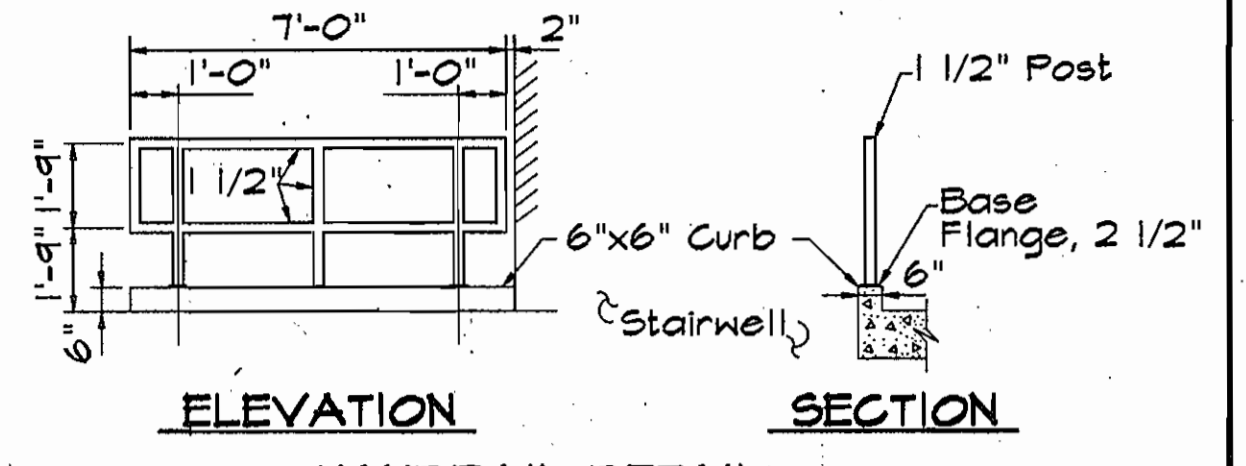
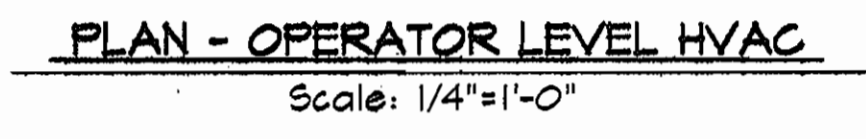
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SCALE AS SHOWN

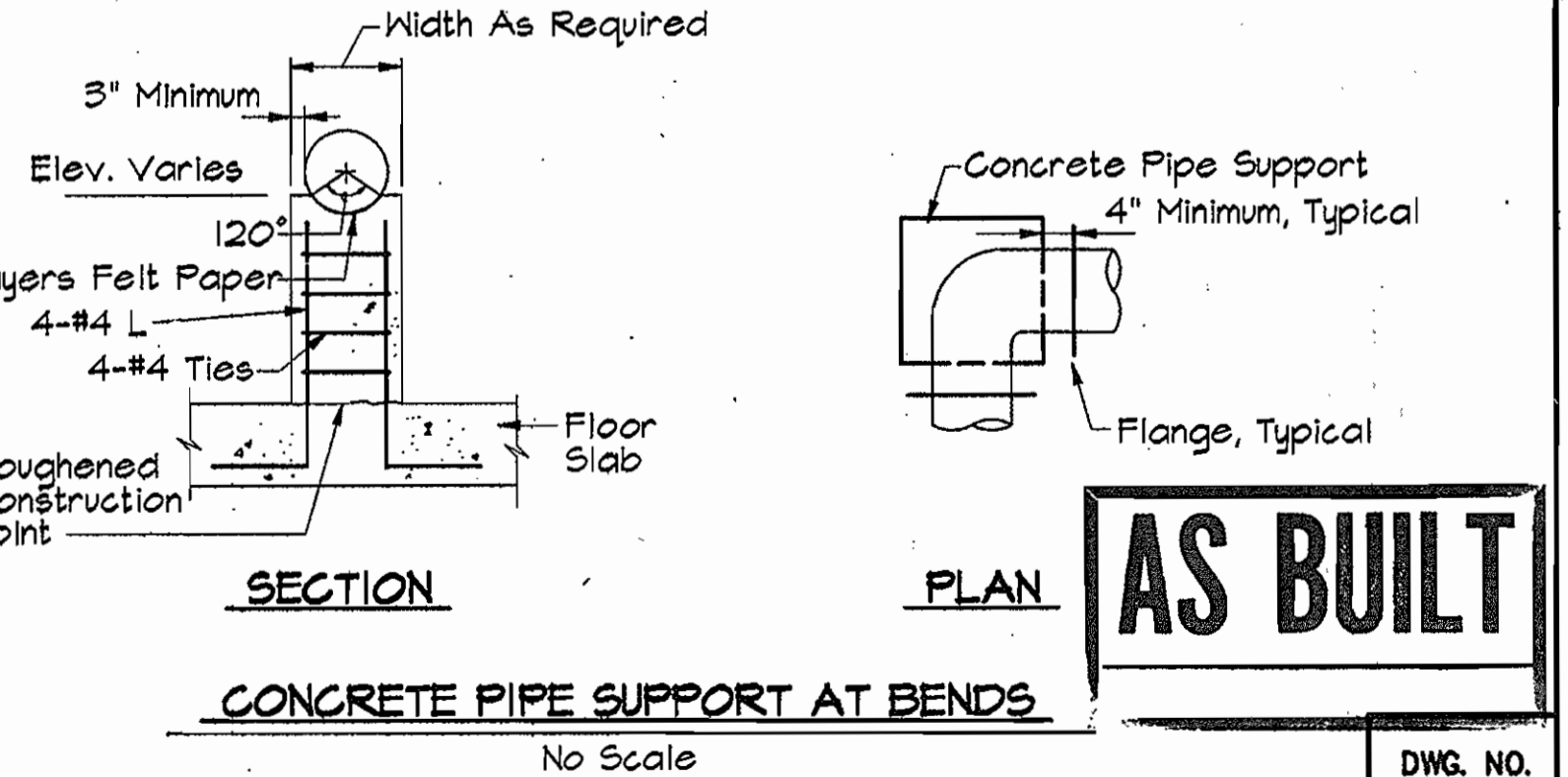
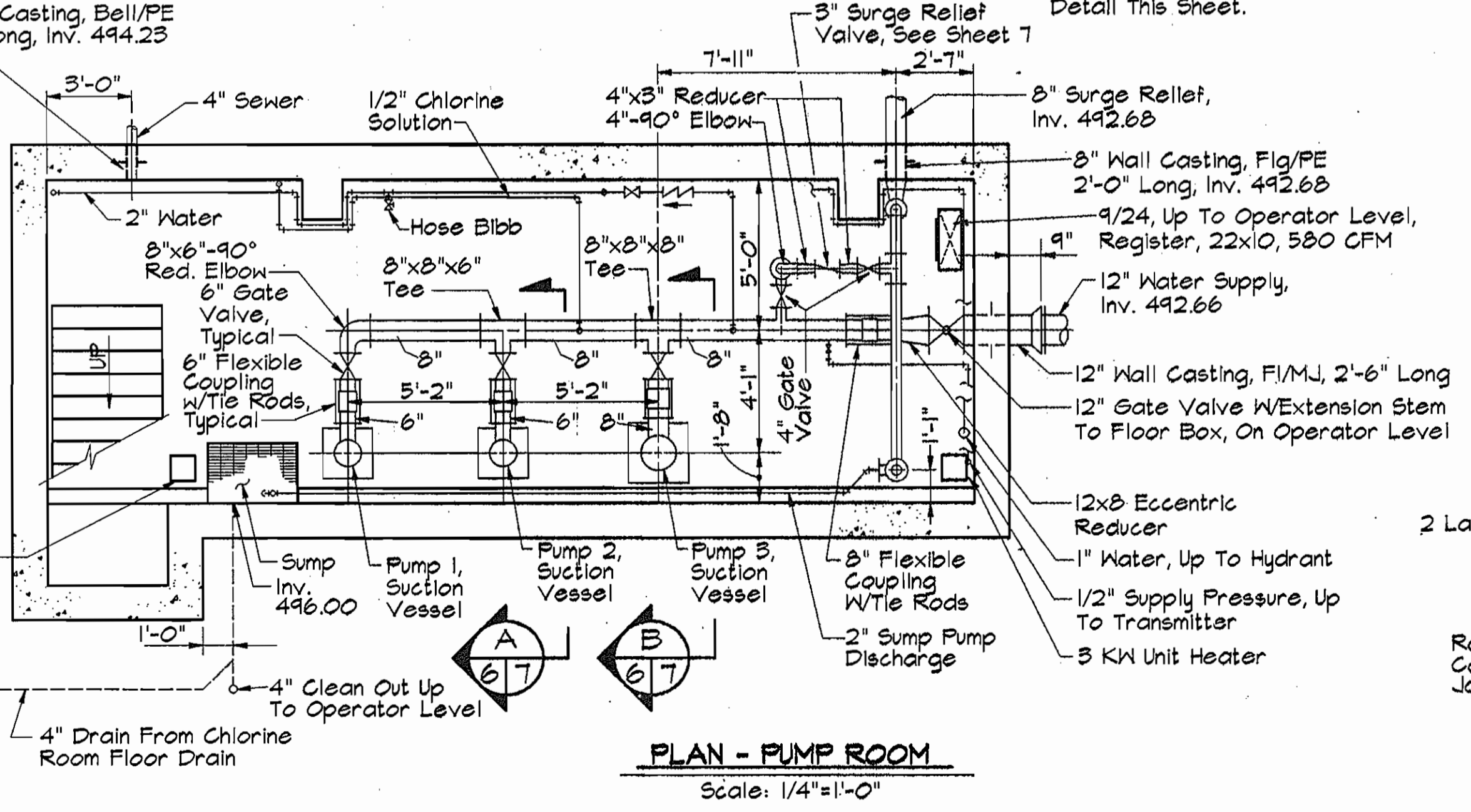
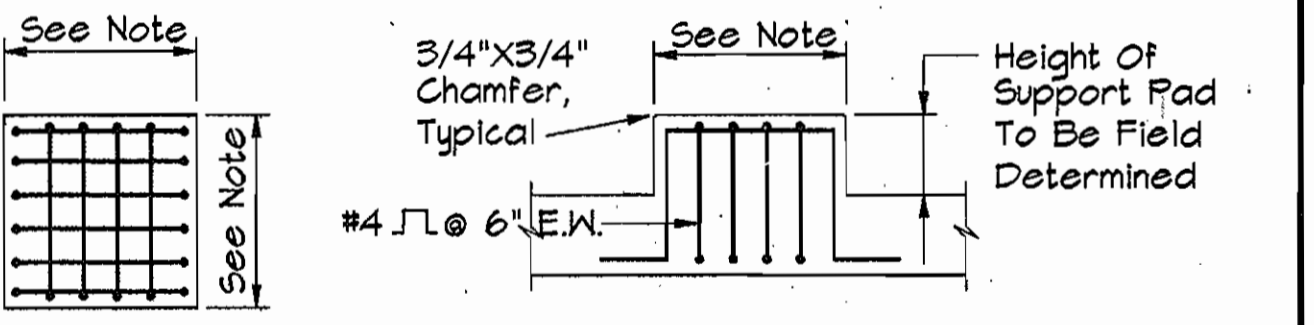
SHEET 5 OF 13



NOTES:  
 1. For HVAC Systems in Chlorine Room And Pump Room See This Sheet.  
 2. For Louver Schedule (L-1-L-2, Etc.) See Specifications.  
 3. For Louver Locations See Sheet 9.  
 4. Duct Size Is In Inches, First Figure Is Side Shown, 9/24.



NOTE:  
 Provide Pipe Support At All 8 Inch Bends, Tees And Control Valves. See Detail This Sheet.

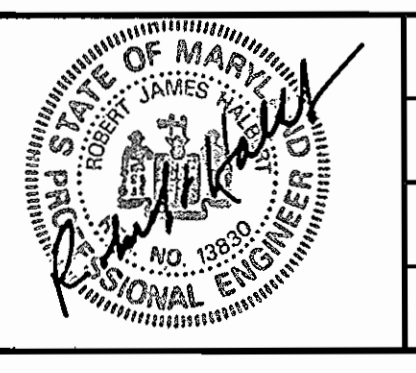


**AS BUILT**

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 01/28/1996 ALP-5-06.DWG

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works: *James M. Linn* 2/26/96  
 Chief, Bureau of Engineering: *Paul J. Pappas* 2/14/96  
 Chief, Bureau of Utilities: *Michael A. Hummel* 2-23-96  
 Chief, Water and Sewer Design Division: *W. D. Linn* 2-14-96

**RK & K**  
 RUMMEL, KLEPPER & KAHL  
 CONSULTING ENGINEERS  
 81 MOSHER ST.  
 BALTIMORE, MARYLAND 21217

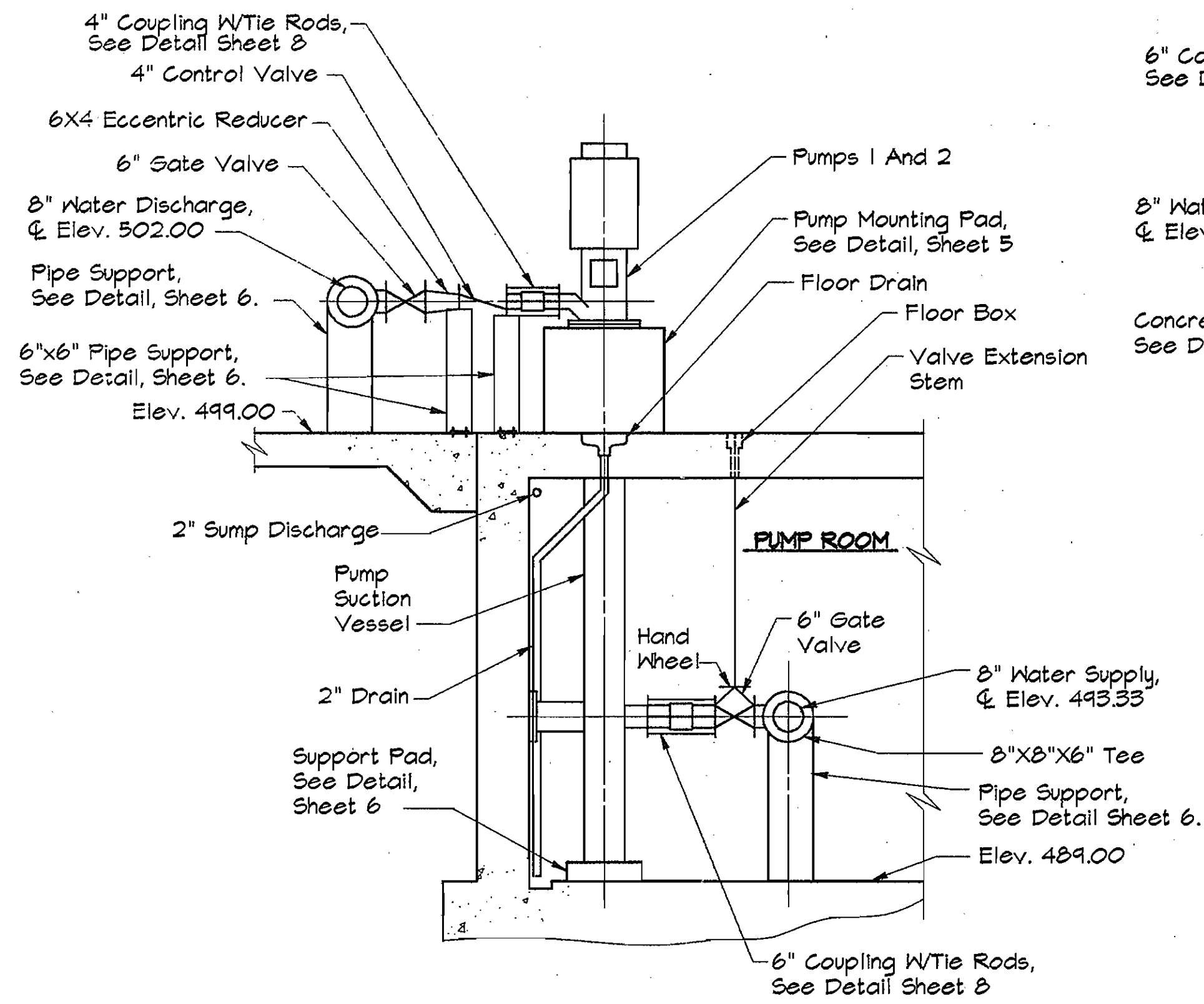


DES:	JHC	DATE:	11/95
DRN:	SJR	BY:	NO.
CHK:	JHC	REVISION:	
DATE:	11/95	DATE:	600' SCALE MAP NO. 16
		BLOCK NO.:	23

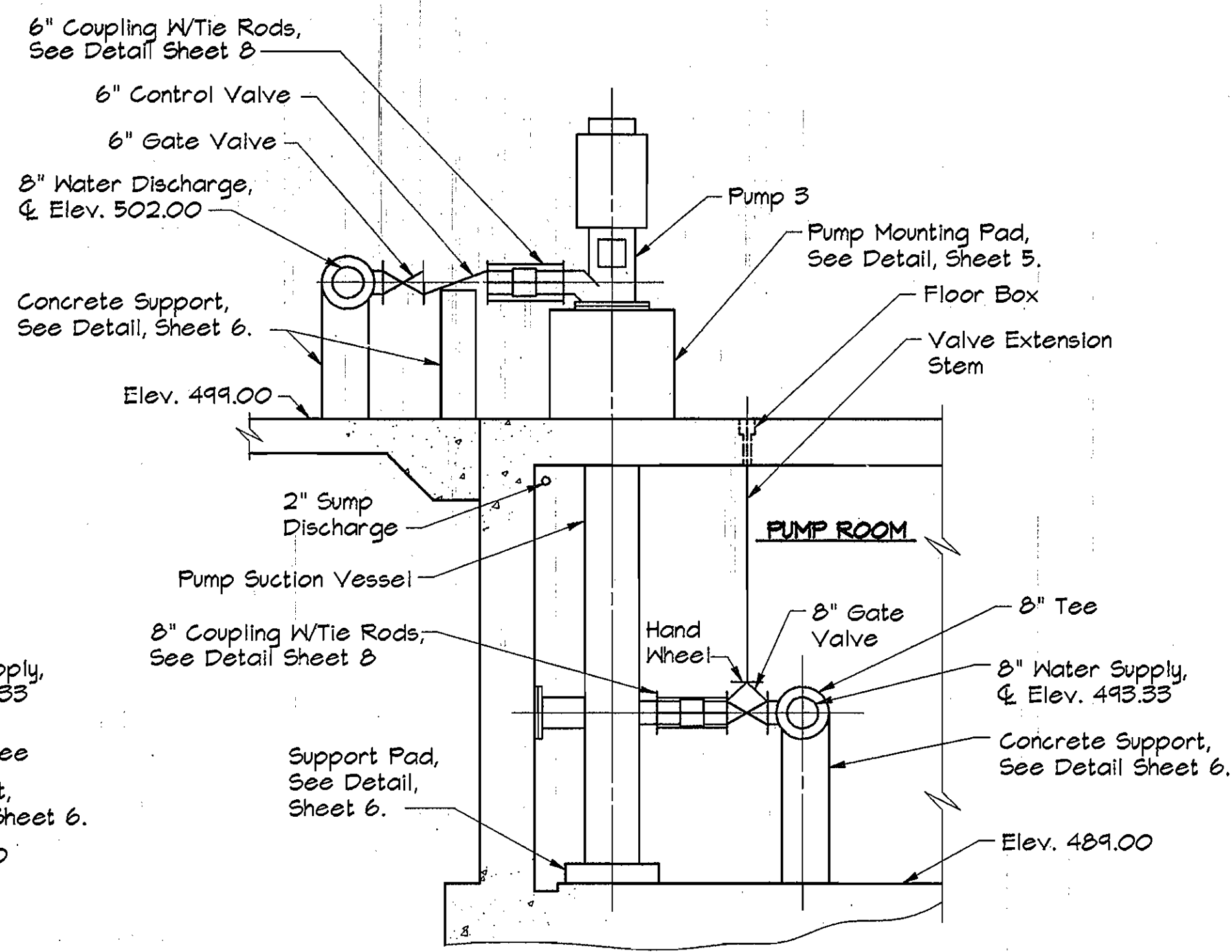
STRUCTURAL-MECHANICAL  
 SECTIONS AND DETAILS

FREDERICK ROAD PUMPING STATION  
 CAPITAL PROJECT W-8203  
 CONTRACT NO. 44-3482  
 ELECTION DISTRICT NO. 2  
 HOWARD COUNTY, MARYLAND

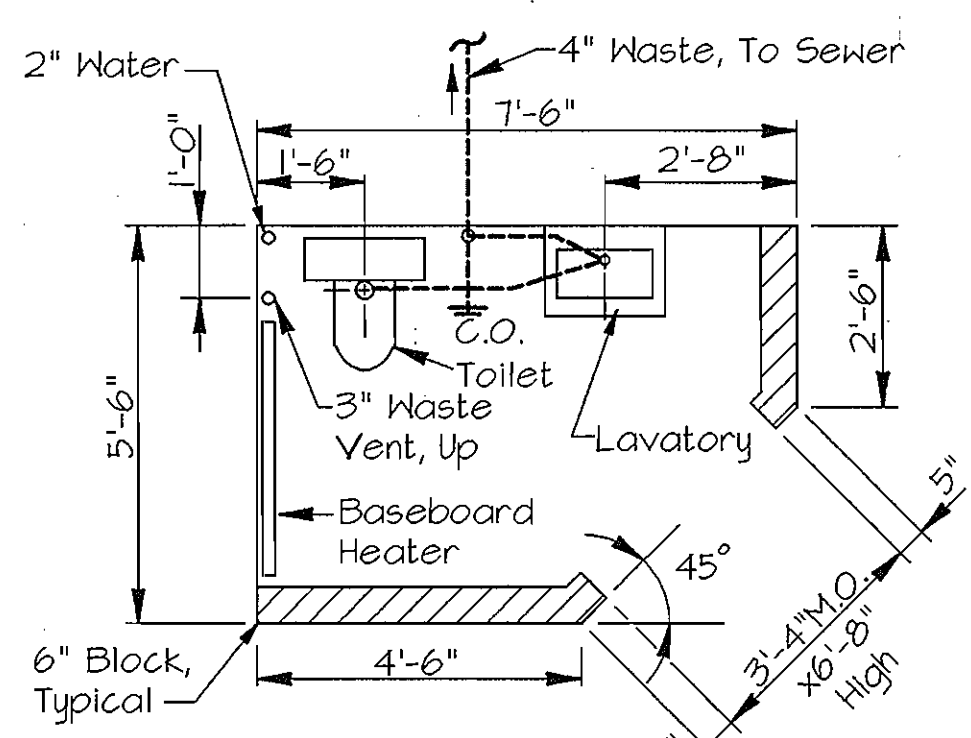
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 SCALE AS SHOWN  
 SHEET 6 OF 13



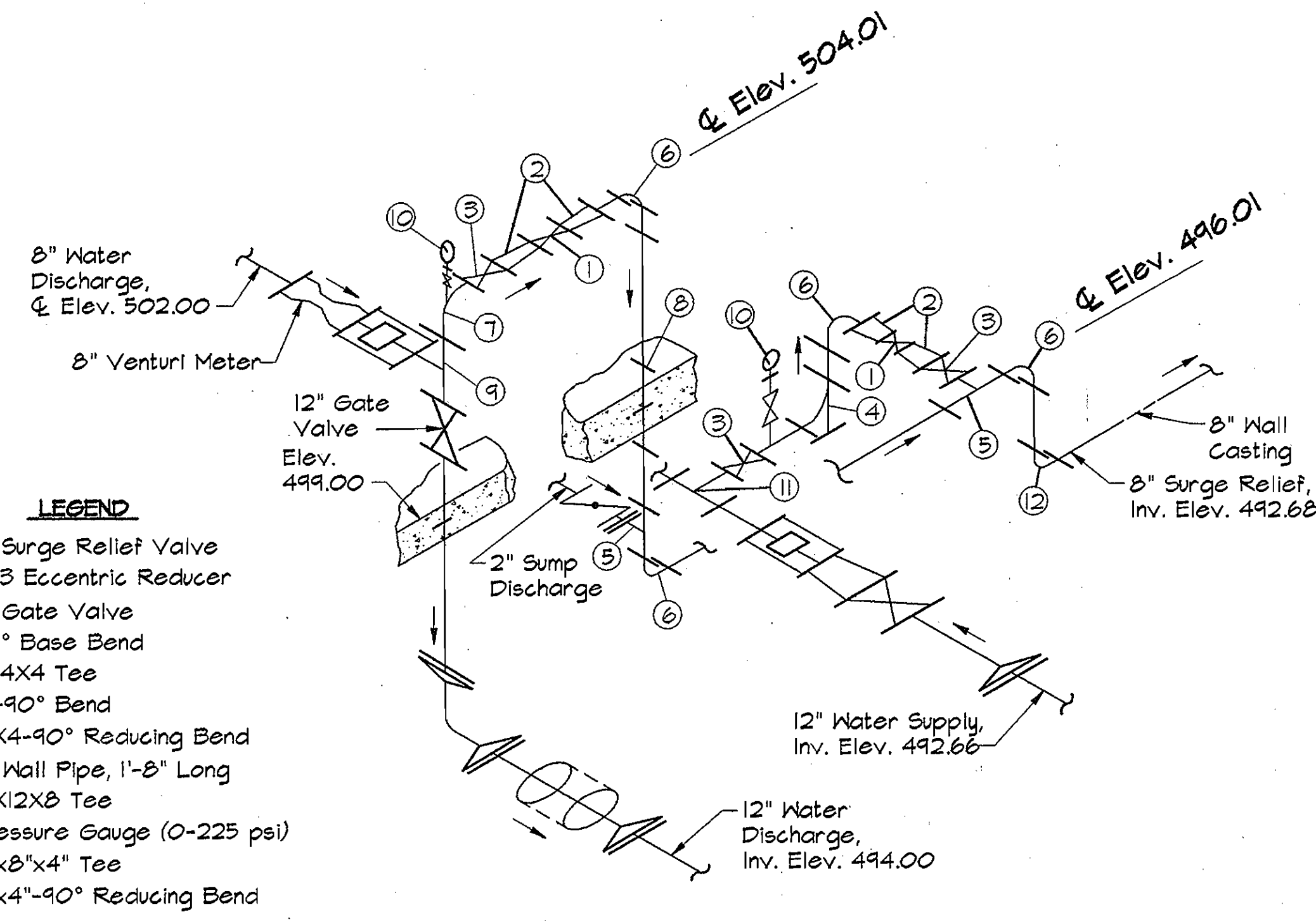
**SECTION A**  
Scale: 3/8"=1'-0" 6/17



**SECTION B**  
Scale: 3/8"=1'-0" 6/17



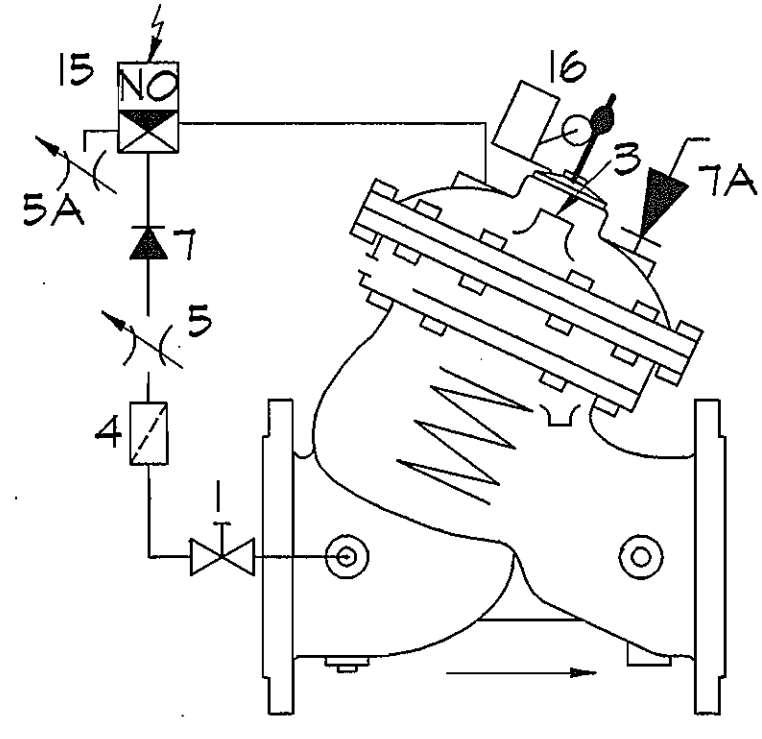
**PLAN - TOILET**  
Scale: 3/8"=1'-0"



**SURGE RELIEF PIPING DIAGRAM**  
No Scale

- LEGEND**
- 1. 3" Surge Relief Valve
  - 2. 4x3 Eccentric Reducer
  - 3. 4" Gate Valve
  - 4. 90° Base Bend
  - 5. 4x4 Tee
  - 6. 4"-90° Bend
  - 7. 12x4-90° Reducing Bend
  - 8. 4" Wall Pipe, 1'-8" Long
  - 9. 12x12 Tee
  - 10. Pressure Gauge (0-225 psi)
  - 11. 8"x8"x4" Tee
  - 12. 8"x4"-90° Reducing Bend

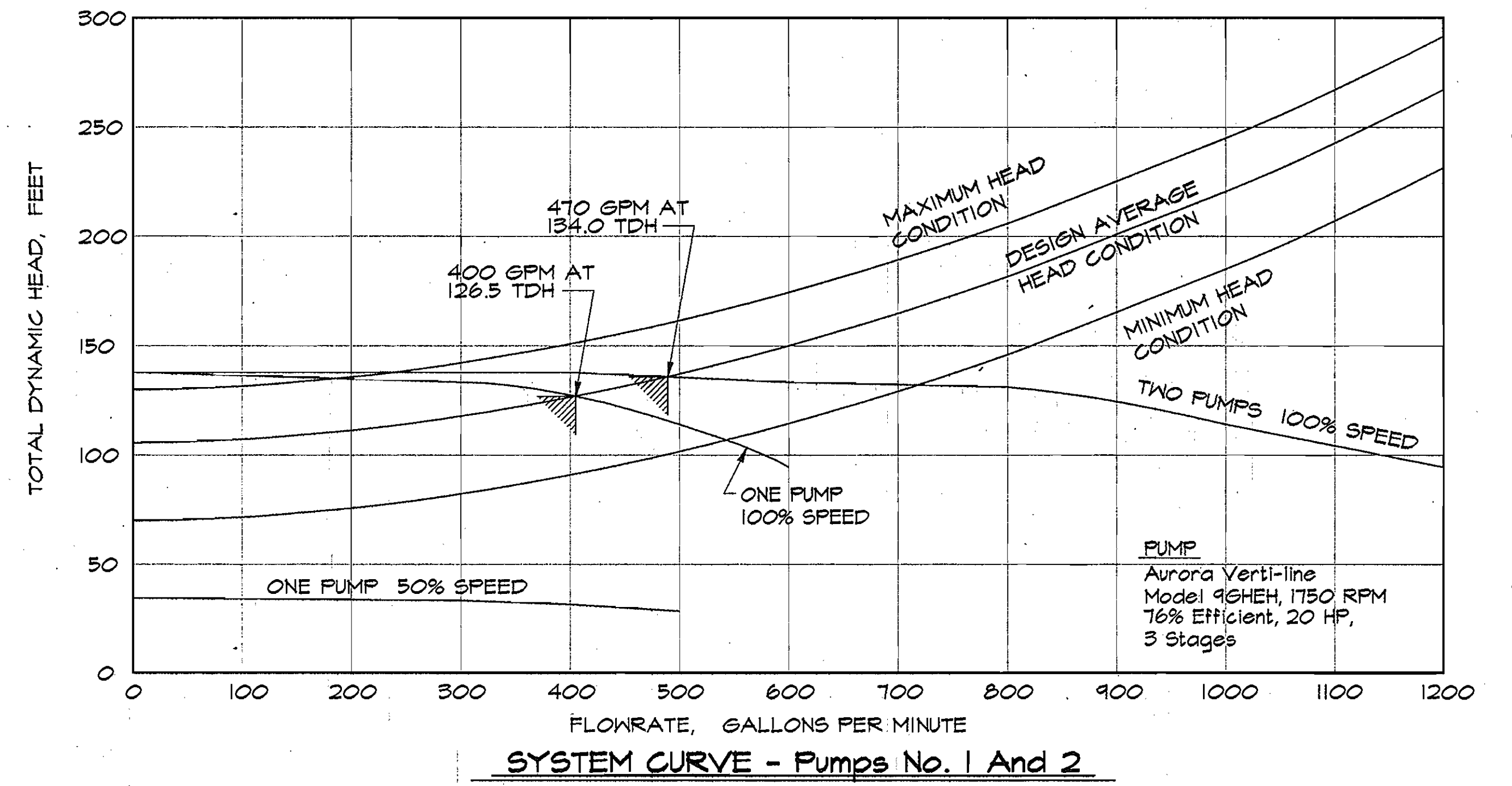
**NOTE:**  
Provide 8"x8" Concrete Pipe Support At Base Bends



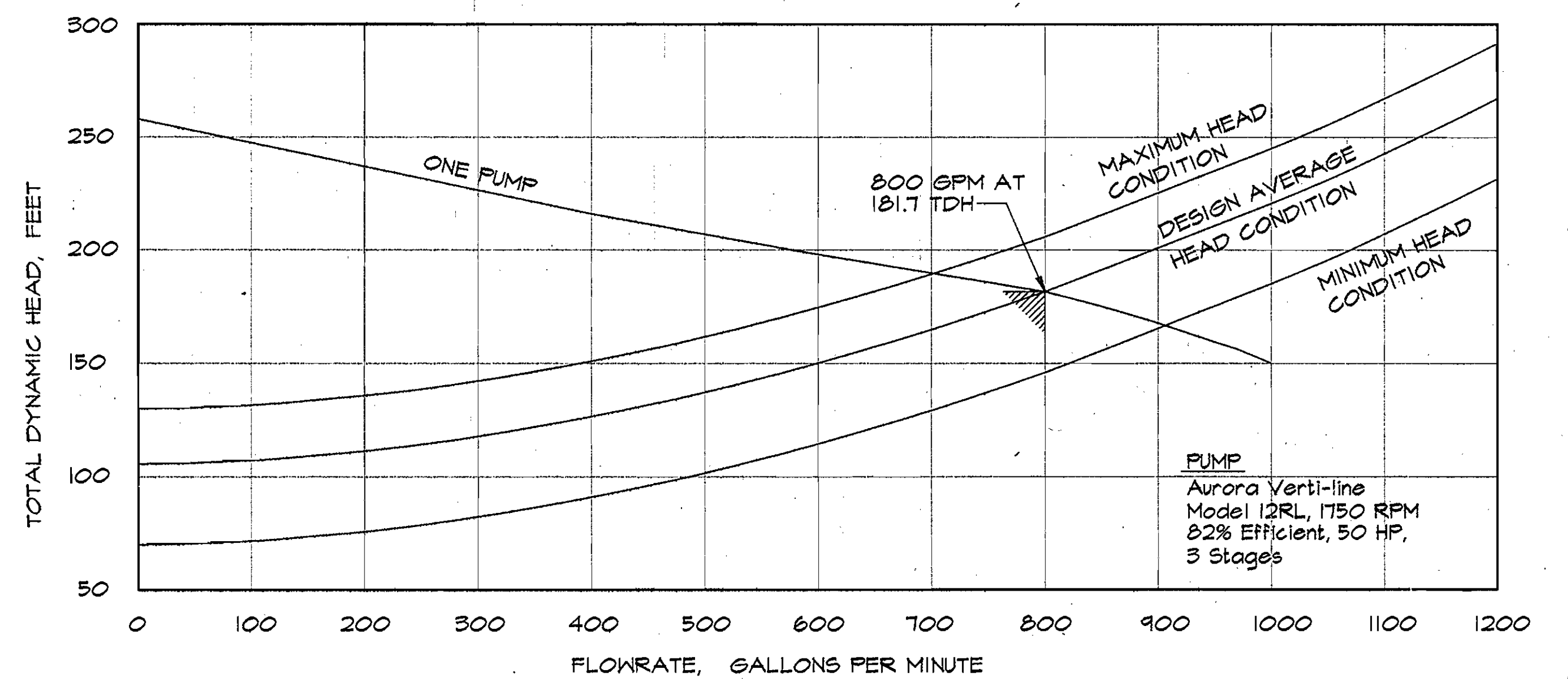
**SCHEMATIC PIPING PUMP CONTROL VALVE**  
Not To Scale

**CONTROLS LIST**

- 1. Cock Valve
- 3. Cover Plug
- 4. Filter
- 5. Needle Valve-Closing Speed
- 5A. Needle Valve-Opening Speed
- 7. Check Valve
- 7A. Check Valve
- 15. 3-Way Solenoid
- 16. Limit Switch



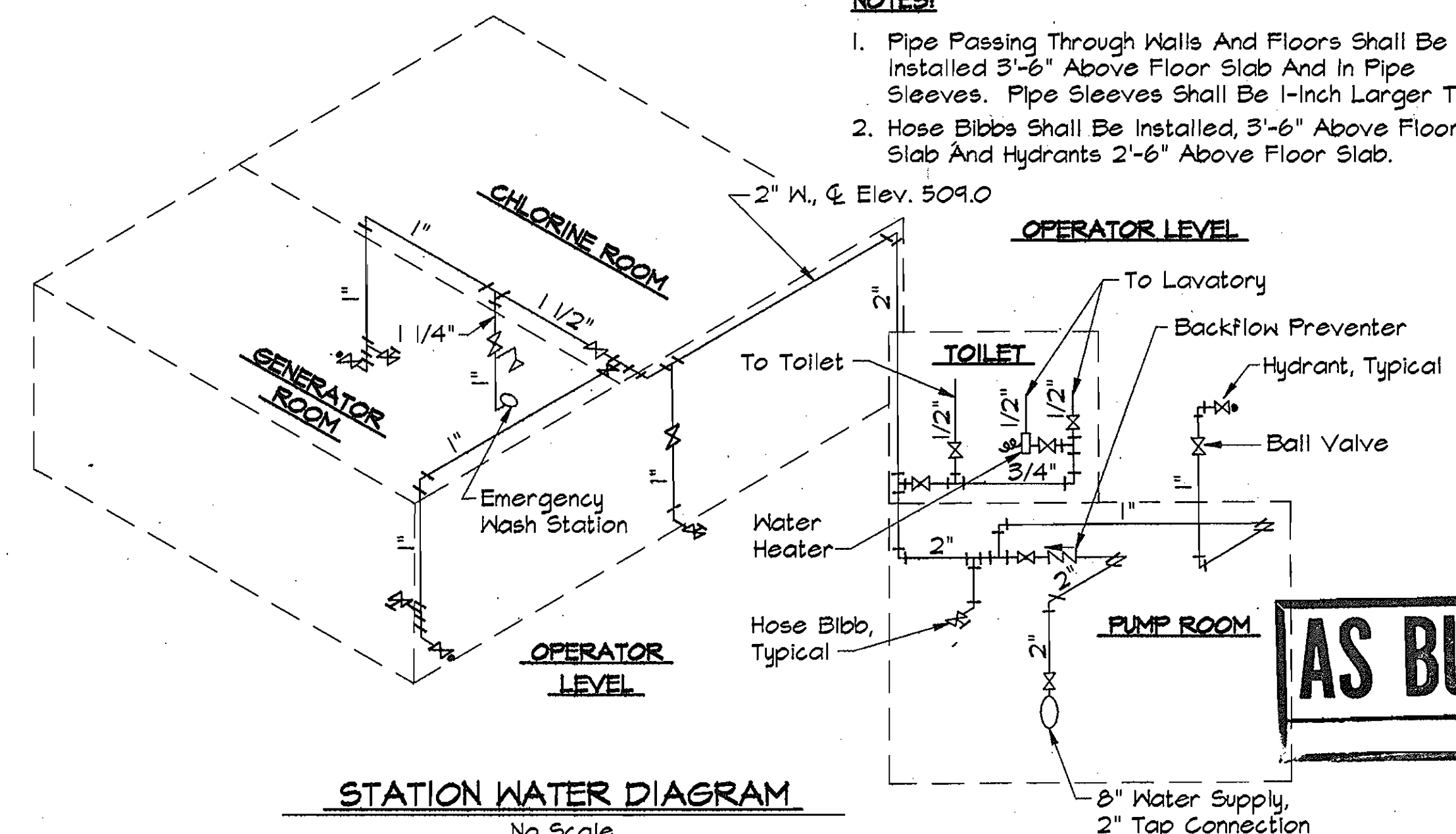
**SYSTEM CURVE - Pumps No. 1 And 2**



**SYSTEM CURVE - Pump No. 3**

**NOTES:**

- 1. Pipe Passing Through Walls And Floors Shall Be Installed 3'-6" Above Floor Slab And In Pipe Sleeves. Pipe Sleeves Shall Be 1-Inch Larger Than Pipe.
- 2. Hose Bibbs Shall Be Installed, 3'-6" Above Floor Slab And Hydrants 2'-6" Above Floor Slab.



**STATION WATER DIAGRAM**  
No Scale

**AS BUILT**

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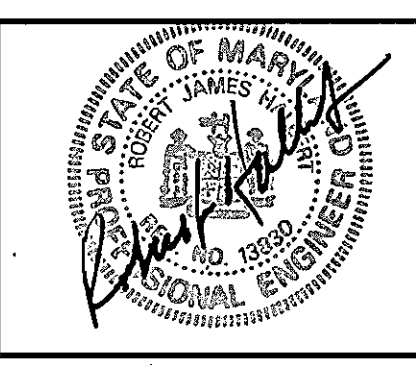
**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND

*James M. Lewis* 2/14/96  
DIRECTOR OF PUBLIC WORKS

*Richard A. Duvall* 2-23-96  
CHIEF, BUREAU OF UTILITIES

*Richard A. Duvall* 2-14-96  
CHIEF, WATER AND SEWER DESIGN DIVISION

**RK & K**  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217



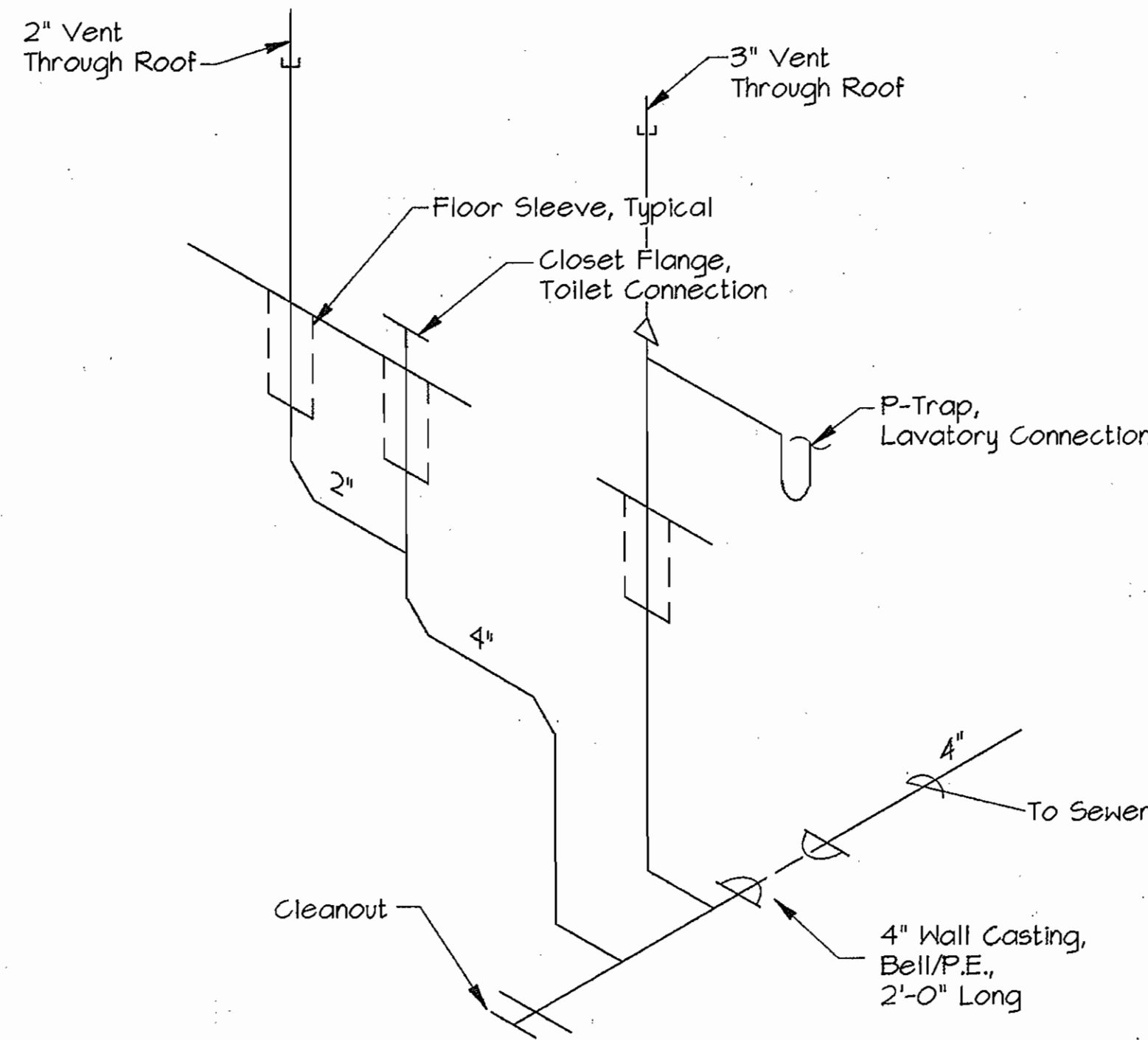
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DRN:	SR	BY:	NO.	REVISION:	DATE:
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DATE:	12/95	BY:	NO.	REVISION:	DATE:

MECHANICAL - SECTIONS, DETAILS AND SYSTEM CURVES

600' SCALE MAP NO. 16 BLOCK NO. 23

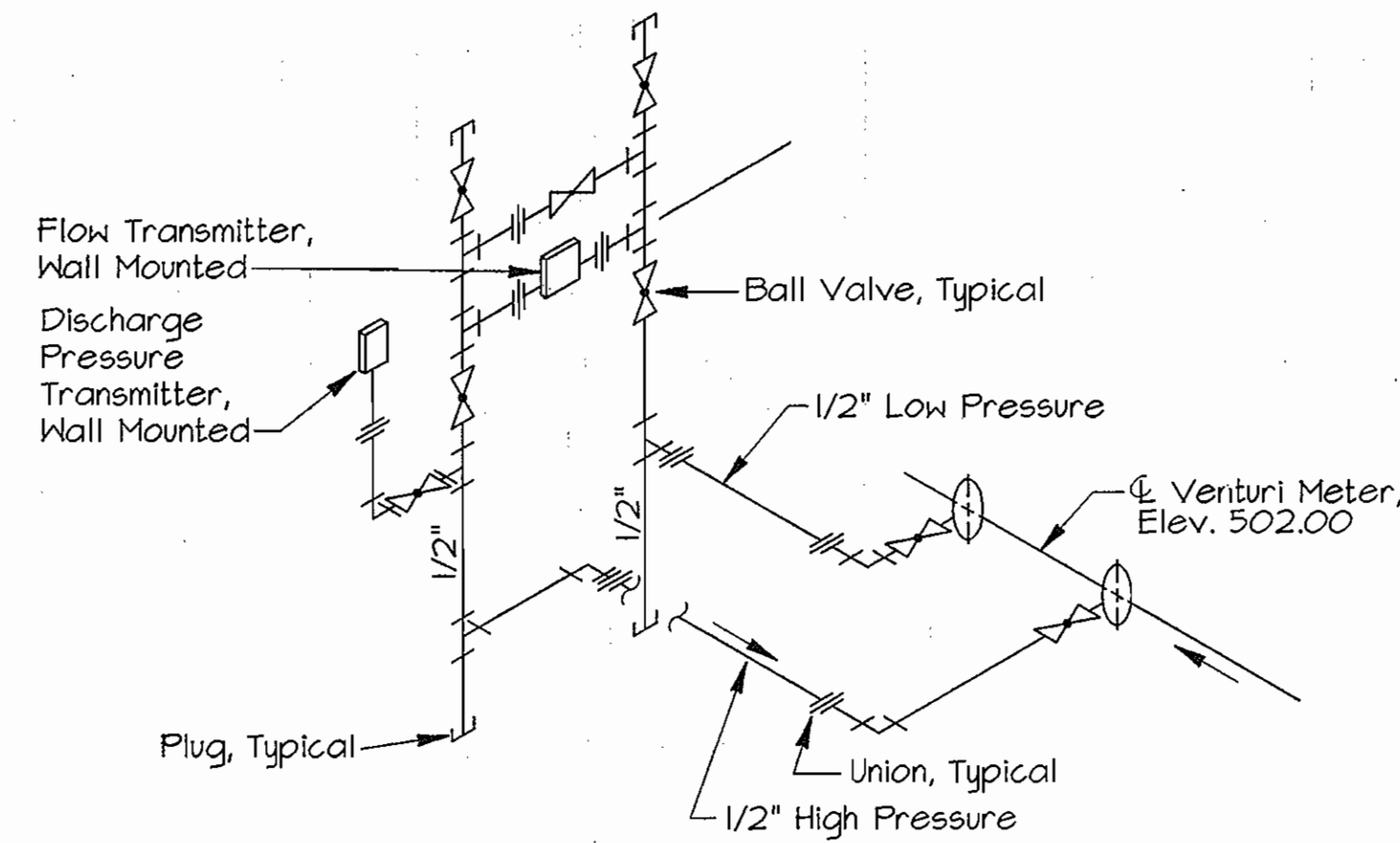
FREDERICK ROAD PUMPING STATION  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3482  
ELECTION DISTRICT NO. 2  
HOWARD COUNTY, MARYLAND

DWG. NO. M-1  
SCALE AS SHOWN  
SHEET 7 OF 13



**SANITARY WASTE PIPING DIAGRAM**

No Scale

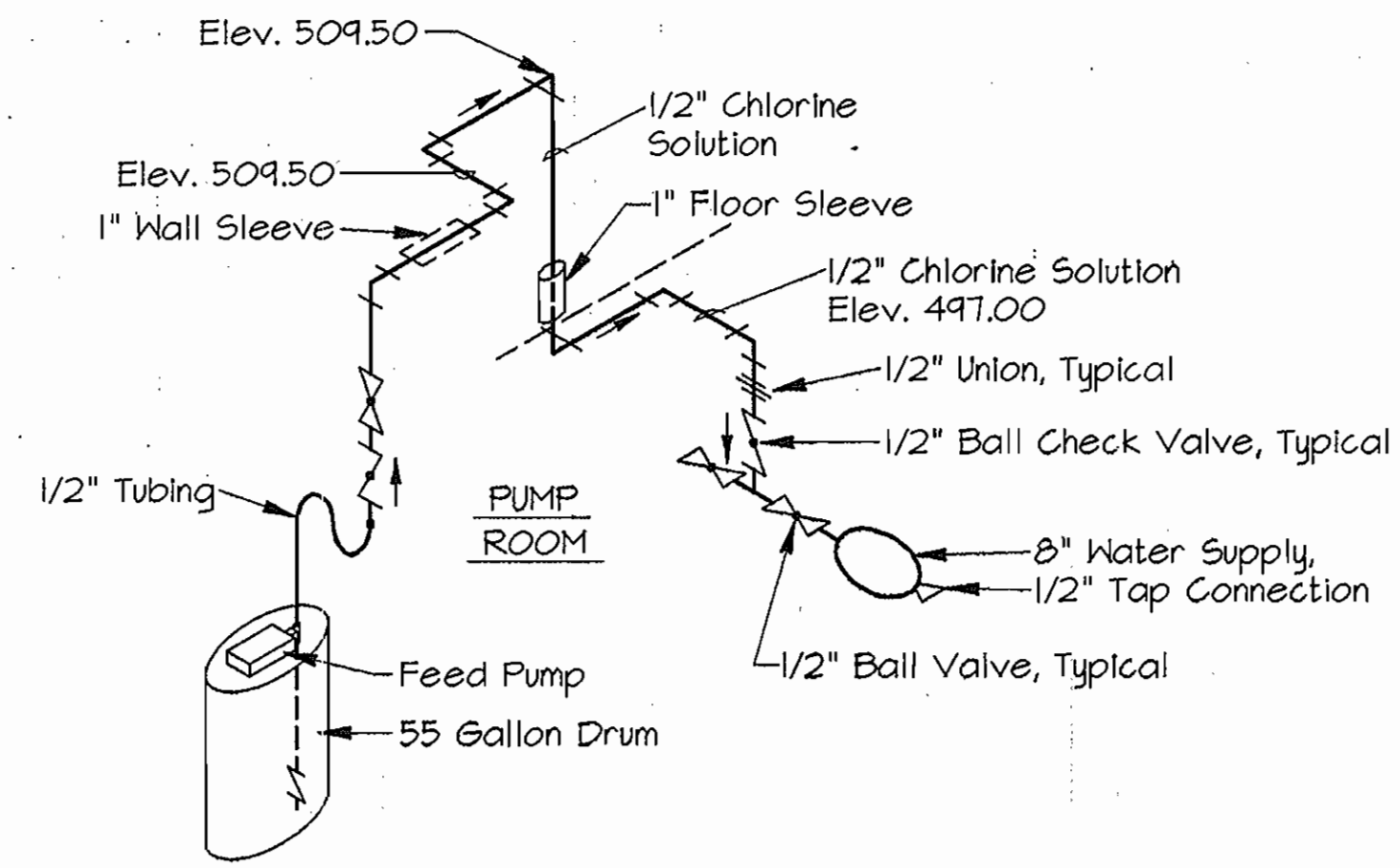


Notes:

1. Slope Piping Down To Meter, 1/2" Per Foot
2. Transmitters Shall Be Mounted At Elev. 504.50

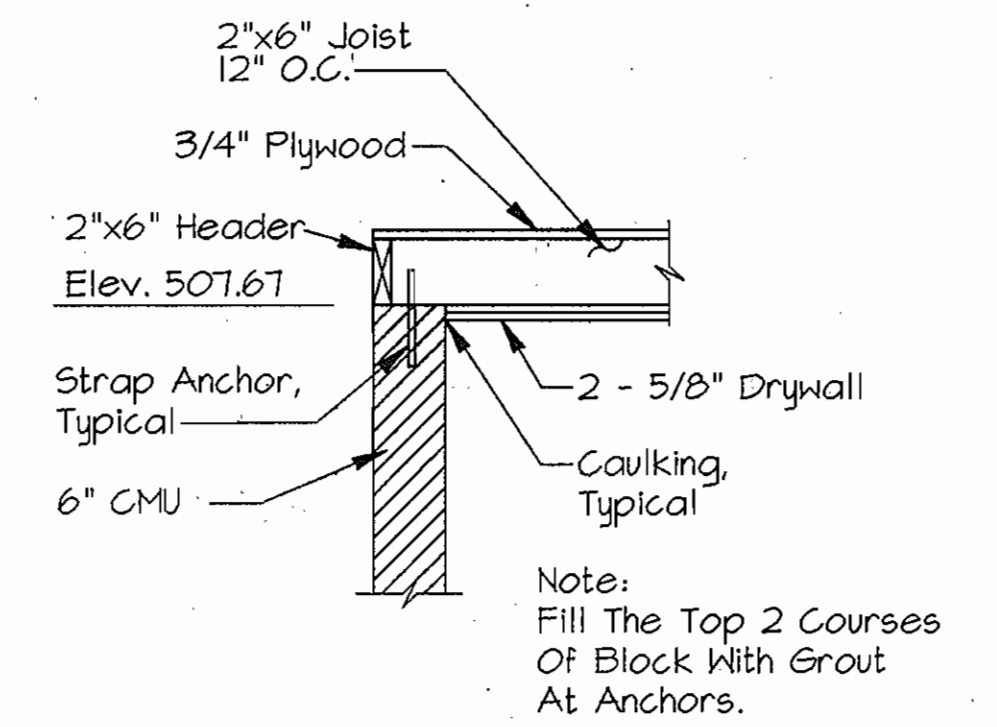
**FLOW METER PRESSURE PIPING DIAGRAM**

No Scale

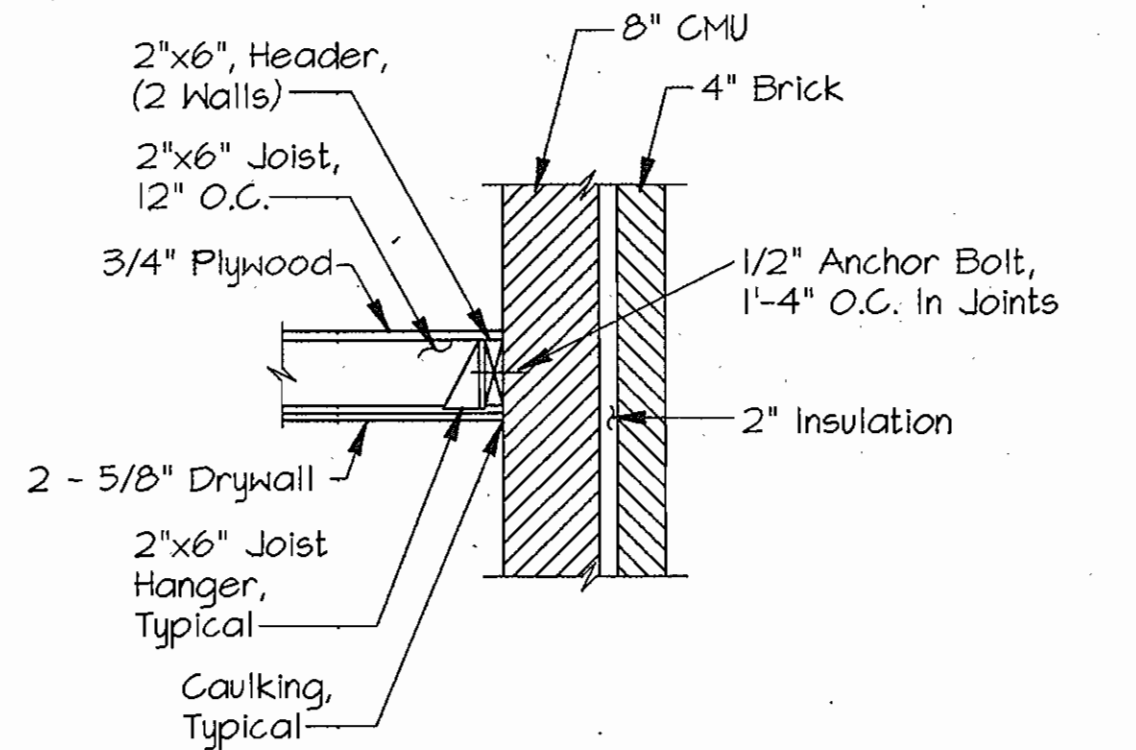


**CHLORINE FEED SYSTEM DIAGRAM**

No Scale



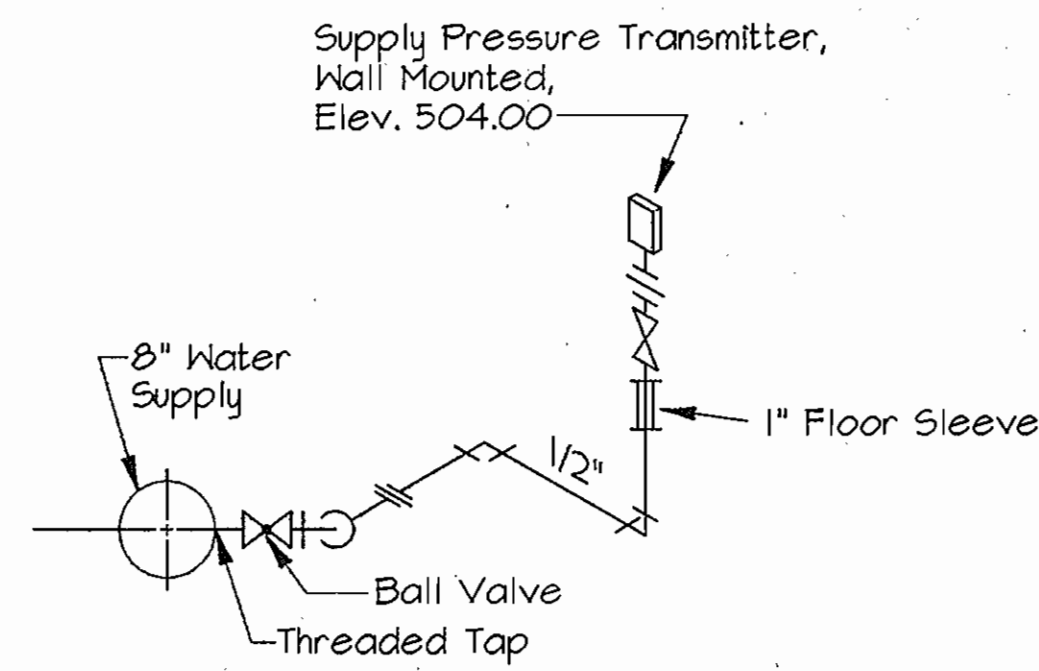
**DETAIL AT INTERIOR WALLS**



**DETAIL AT EXTERIOR WALLS**

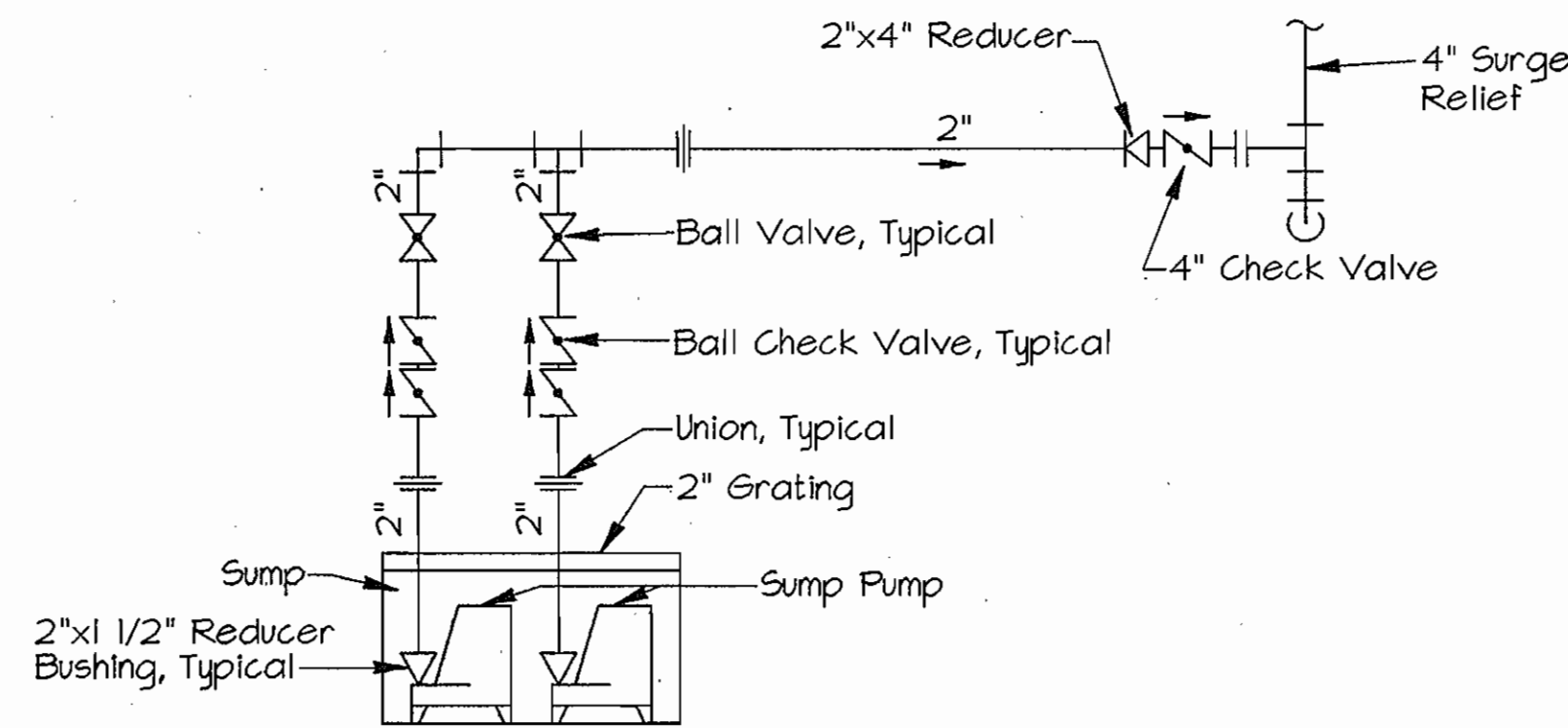
**TOILET AND OFFICE CEILING DETAILS**

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



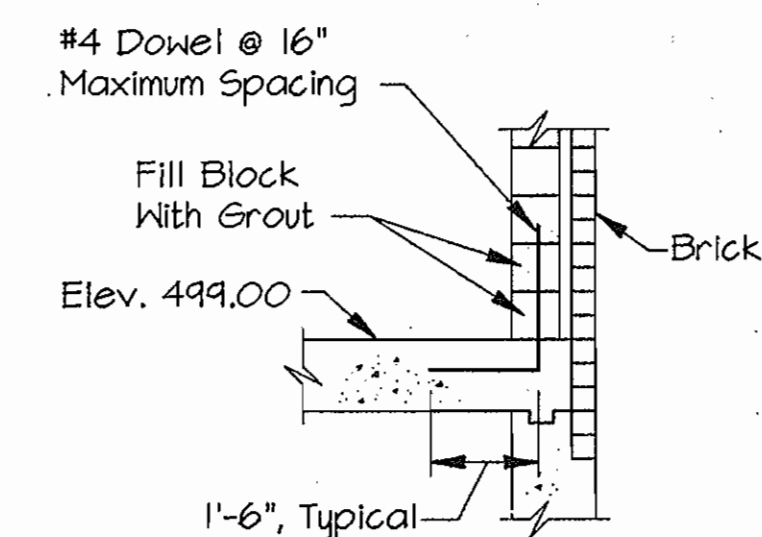
**SUPPLY PRESSURE TRANSMITTER PIPING DIAGRAM**

No Scale



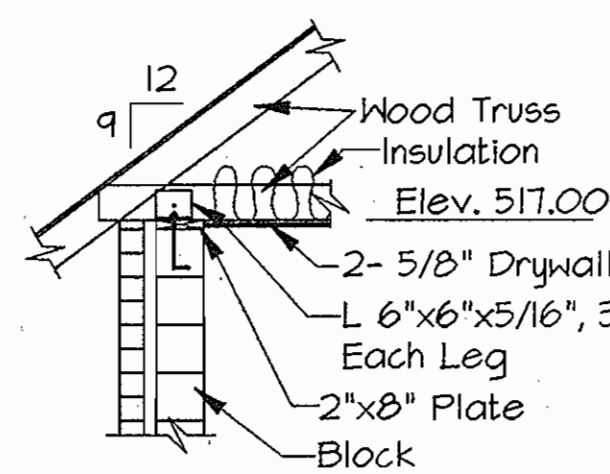
**SUMP PUMP PIPING DIAGRAM**

No Scale



**DETAIL A**

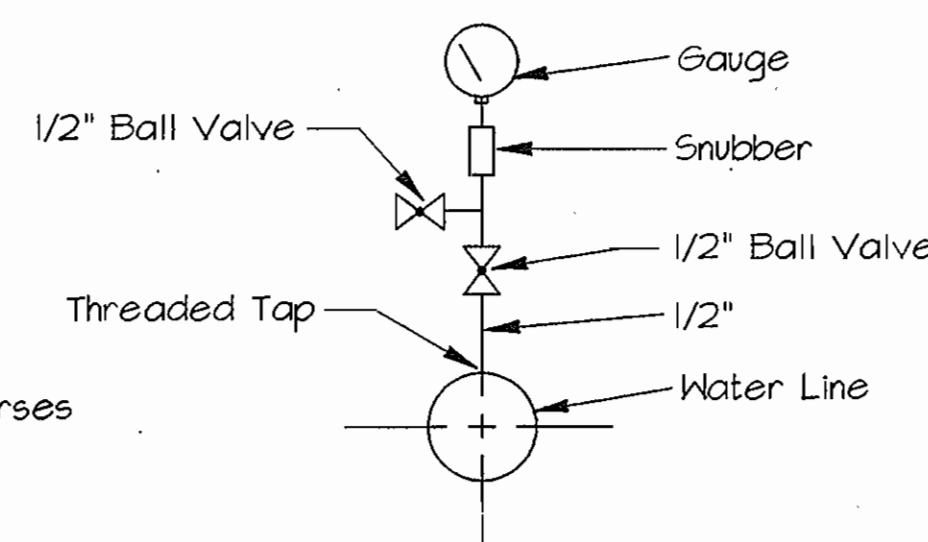
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**DETAIL E**

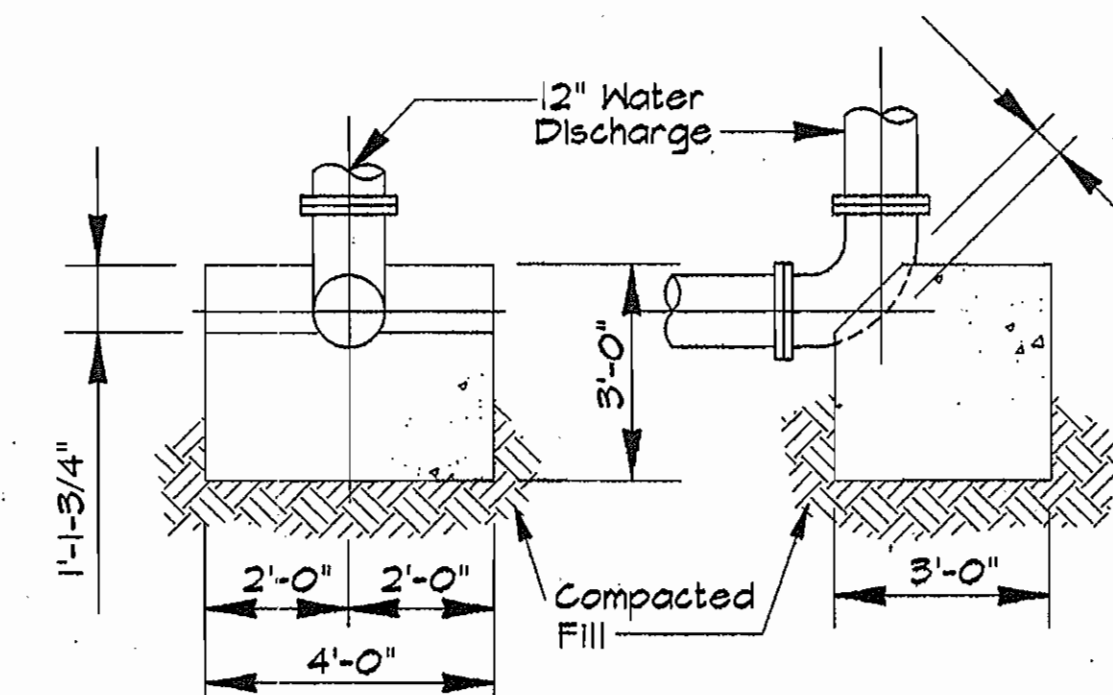
No Scale

NOTE:  
Fill Top Two Courses  
Of Block With  
Grout



**DETAIL - PRESSURE GAUGE ASSEMBLY**

No Scale

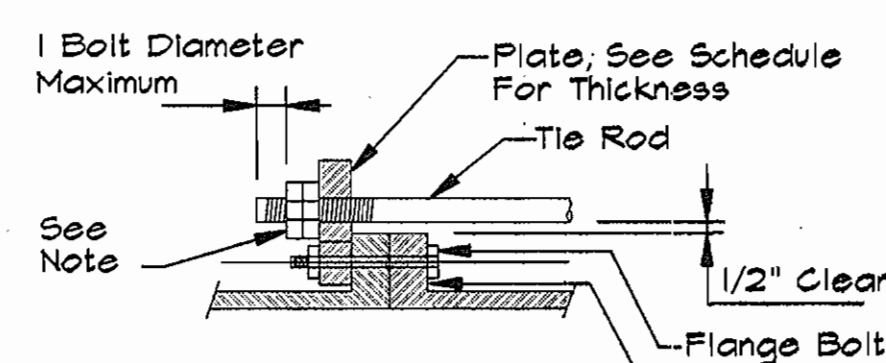


**ELEVATION SECTION**

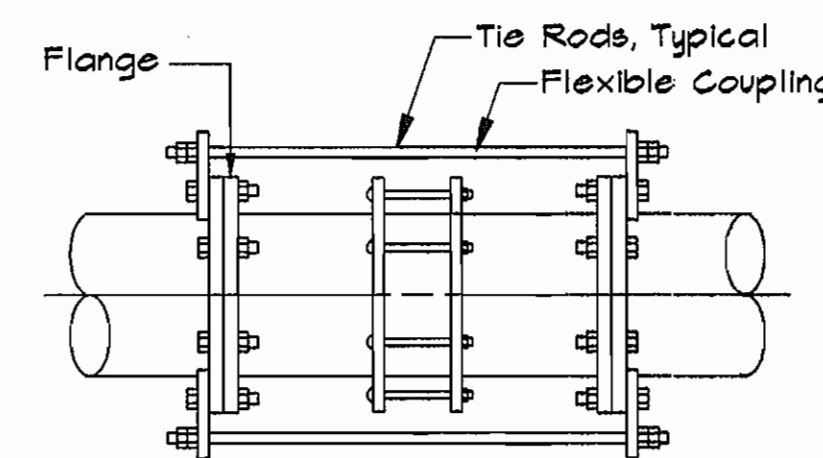
**DETAIL - THRUST BLOCK**

No Scale

NOTE:  
Concrete Mix No. 2

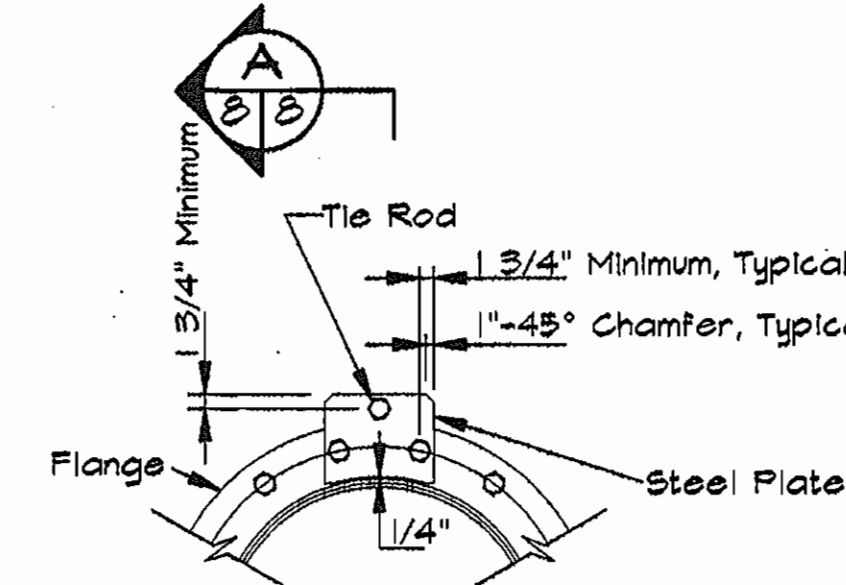


**SECTION A**



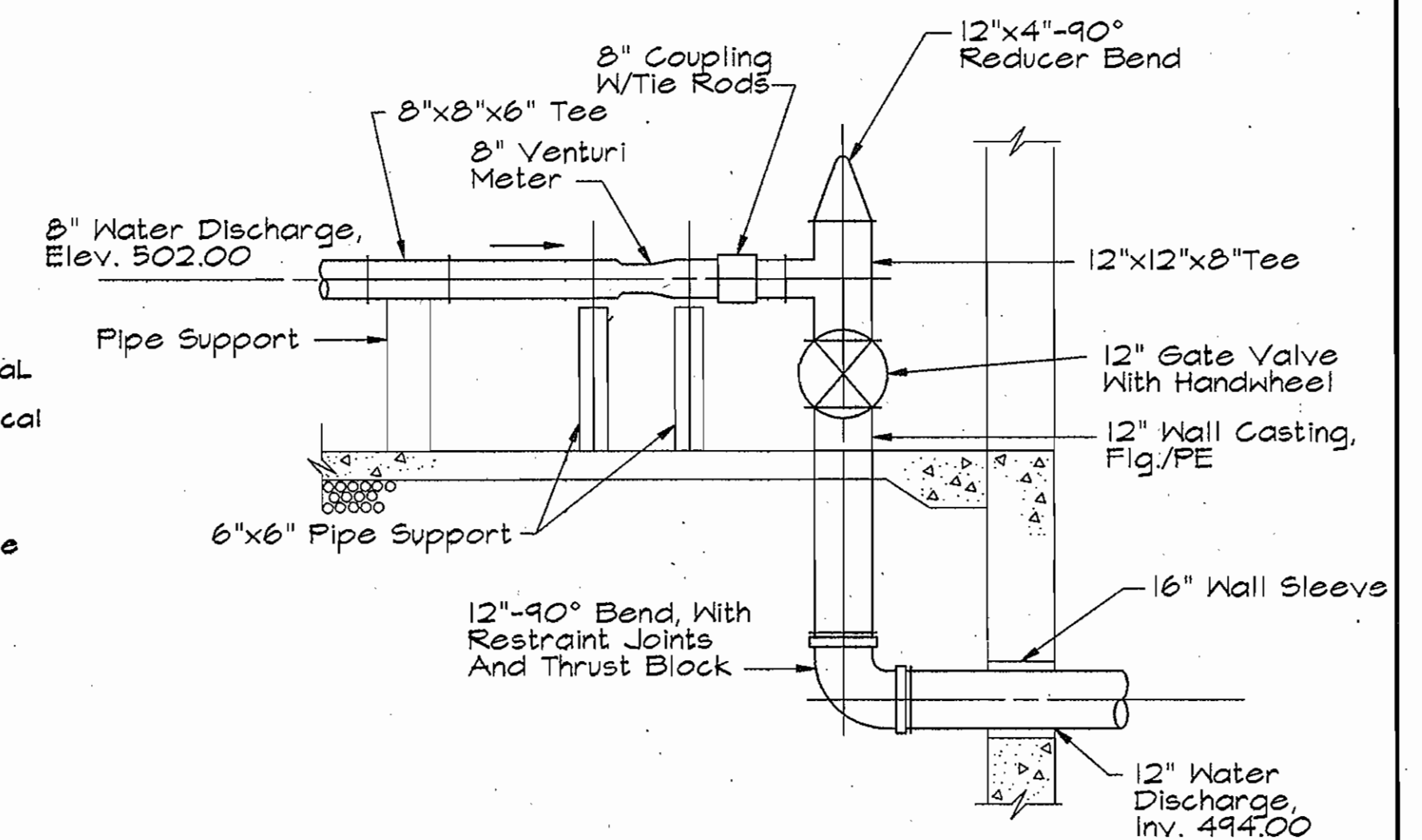
**PLAN TIE ROD ASSEMBLY**

No Scale



NOTE:  
Inside Nut To Be Hand Tight And Two Nuts Shall Be  
Tightened Against Each Other.

SCHEDULE			
PIPE DIA.	NO. OF RODS	DIA. OF RODS	PLATE THICKNESS
4" & 6"	2	3/4"	3/4"
8"	2	7/8"	1 1/8"



**SECTION C**

No Scale

**AS BUILT**

DWG. NO.  
M-2

SCALE  
AS  
SHOWN

SHEET  
8 OF 13

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND



RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217



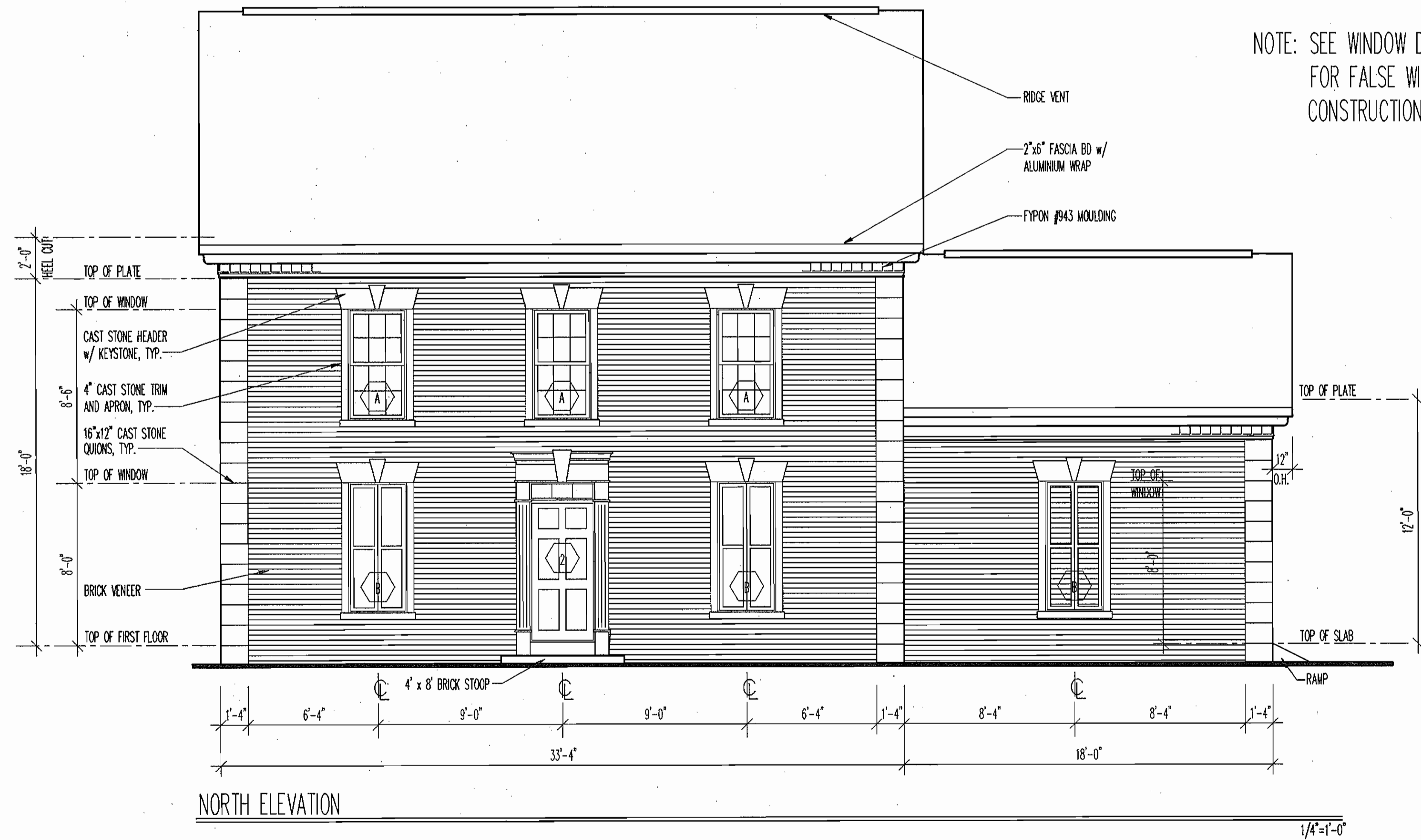
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DRN:	MJS				
CHK:	SRK				
DATE:	12/95	BY:	NO.	REVISION	DATE

MECHANICAL  
PIPING DIAGRAMS AND DETAILS

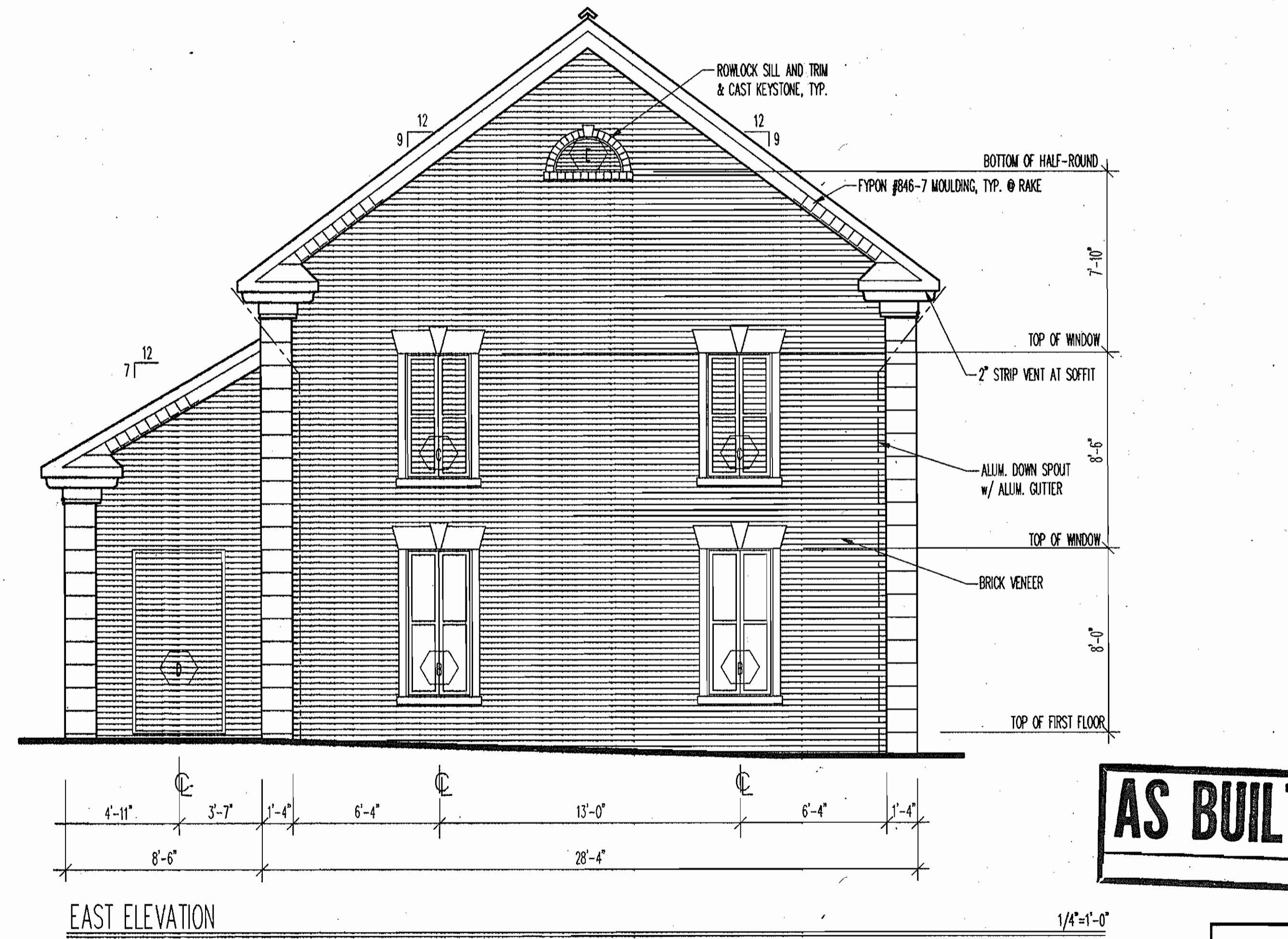
FREDERICK ROAD PUMPING STATION  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3482  
ELECTION DISTRICT NO. 2  
HOWARD COUNTY, MARYLAND

600' SCALE MAP NO. 16 BLOCK NO. 23





NOTE: SEE WINDOW DETAILS FOR FALSE WINDOW CONSTRUCTION.



**AS BUILT**

pld scale 48  
N:\AS\CD\PROJ\CM9374\PLMP ALP-5-08.DWG 11-22  
01/26/1996

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

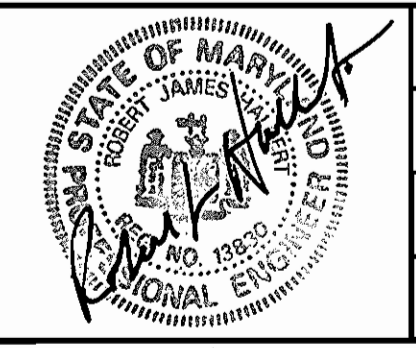
*James W. Lewis* 2/26/96  
DIRECTOR OF PUBLIC WORKS DATE

*Michael A. Alexander* 2-22-96  
CHIEF, BUREAU OF UTILITIES DATE

*Robert J. Rapson* 2/14/96  
CHIEF, BUREAU OF ENGINEERING DATE

*Debra J. Quinn* 2-11-96  
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

**RK & K**  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217



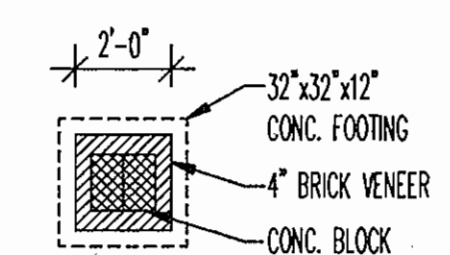
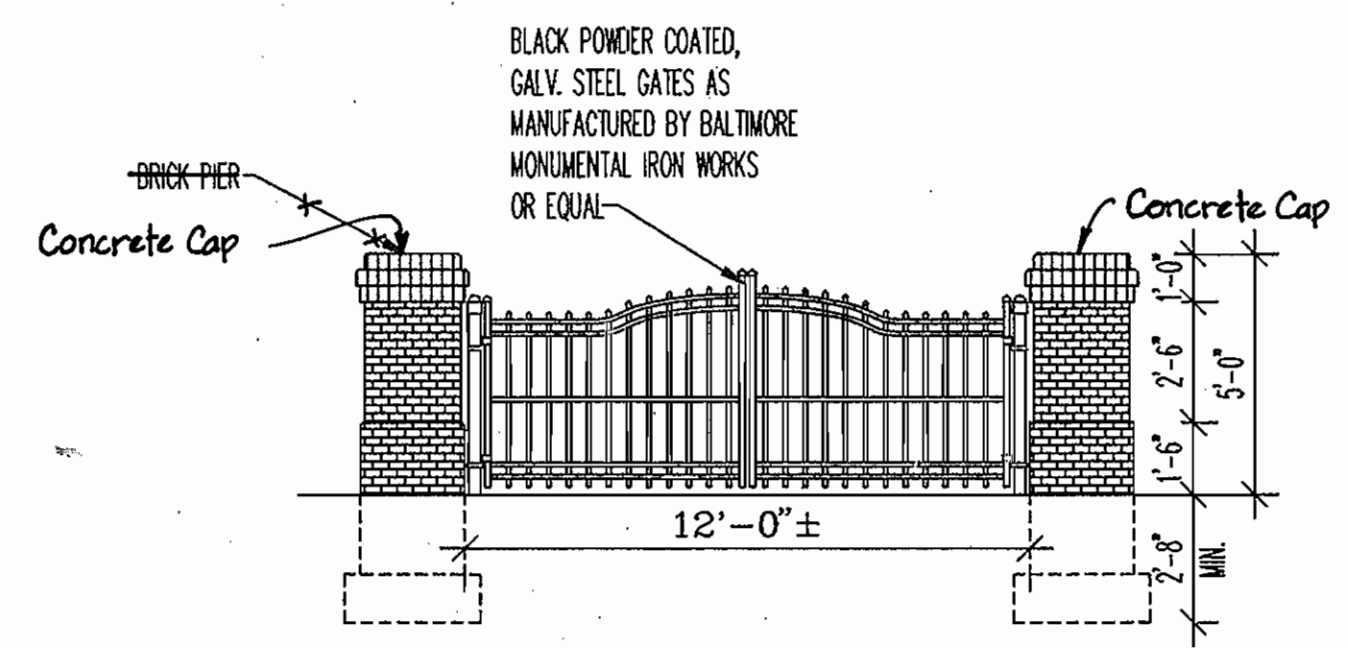
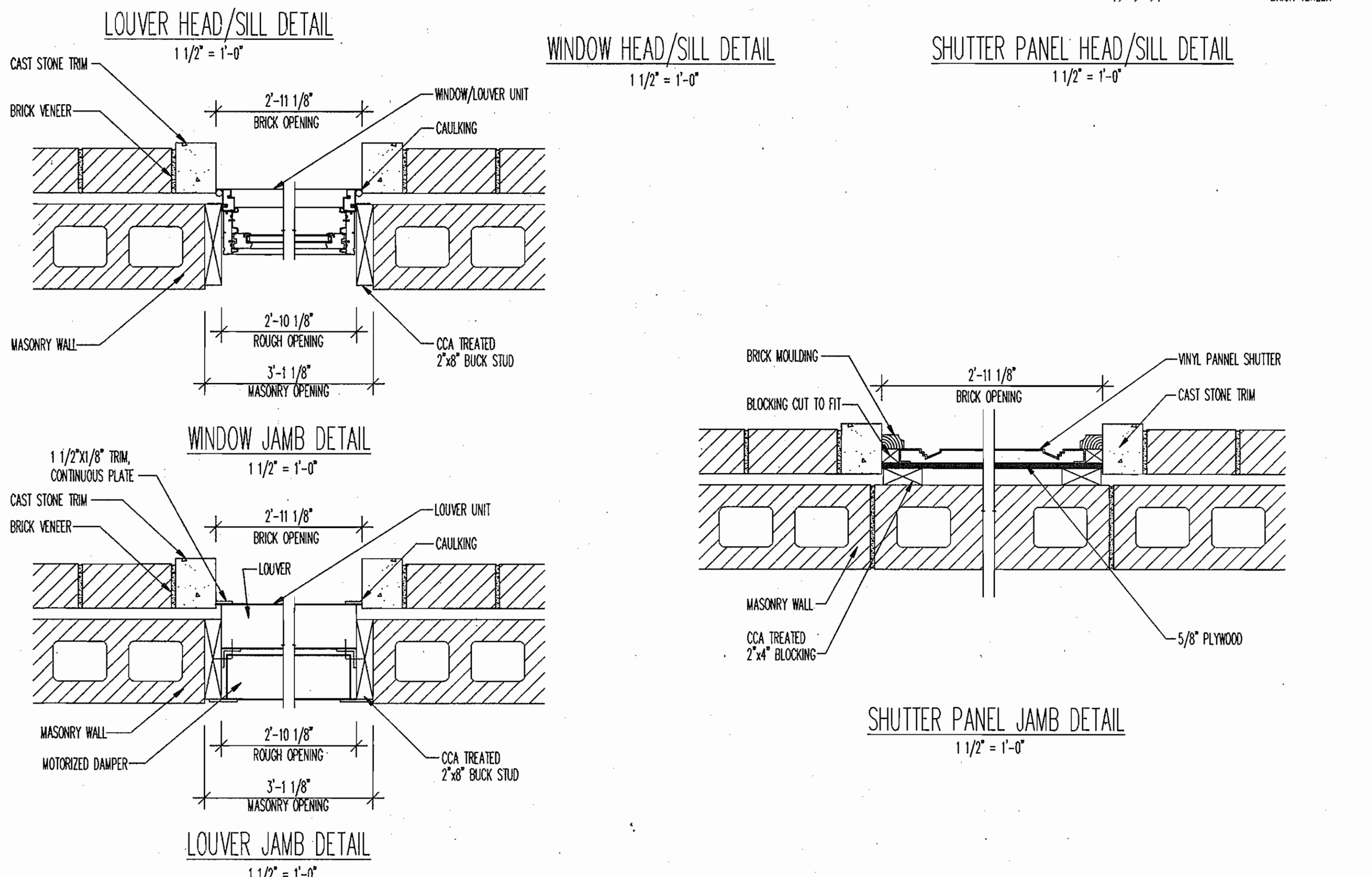
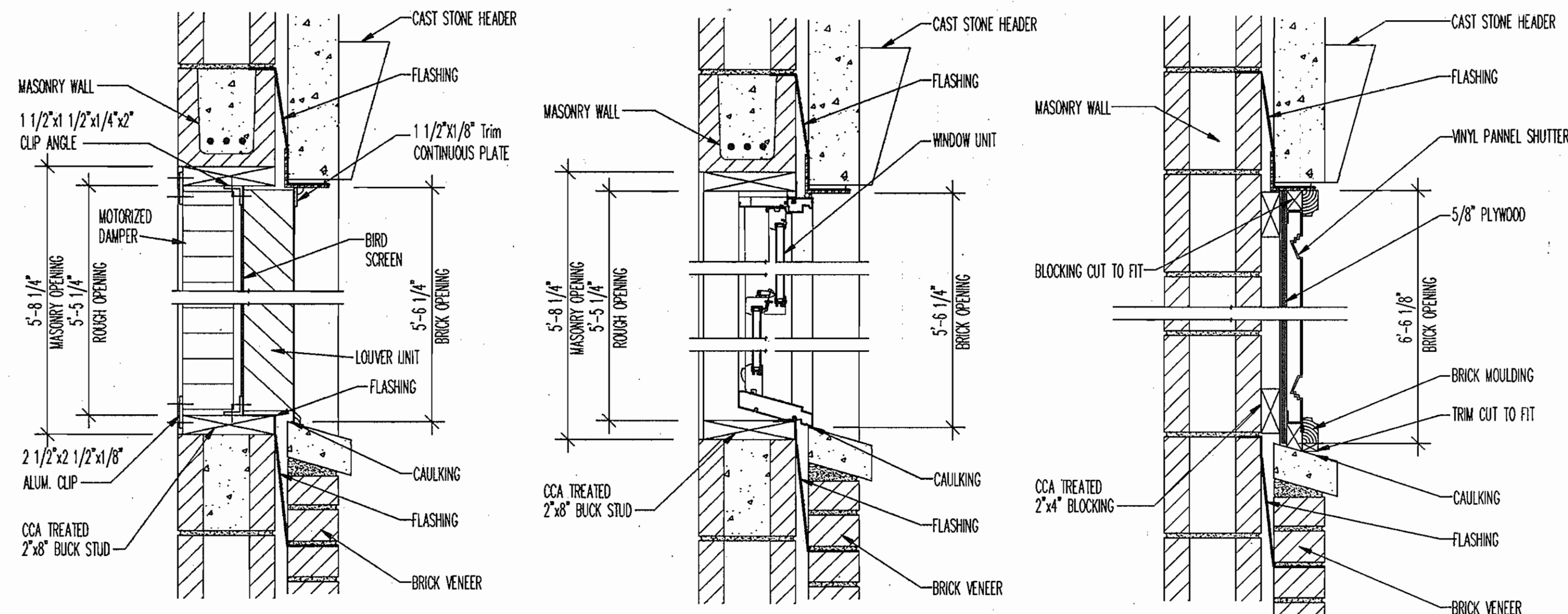
DES:	DWT				
DRN:	SJR				
CHK:	SRK				
DATE:	12/95	BY:	NO.	REVISION	DATE

**ARCHITECTURAL BUILDING ELEVATIONS**

600' SCALE MAP NO. 16 BLOCK NO. 23

**FREDERICK ROAD PUMPING STATION**  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3482  
ELECTION DISTRICT NO. 2  
HOWARD COUNTY, MARYLAND

DWG. NO. A-1  
SCALE AS SHOWN  
SHEET 9 OF 13



EXTERIOR FINISH SCHEDULE	
BRICK	CUSHWA ROSE FULL RANGE #30 - 140, STANDARD SIZE
MORTAR	CHASE # C-179 ( GRAPEVINE JOINT )
TRIM	DURON #5810 W PAINT
VINYL SHUTTERS	CELLWOOD PAINTED - DURON #6155 N
PASSAGE DOORS	PEACHTREE INSULATED METAL. PAINTED-DURON #6155 N
OVER HEAD DOOR	STANLEY INSULATED ALUM. PAINTED-DURON #5810 W
GUTTERS /7 DOWNSPOUTS	IVORY ALUMINIUM
ROOF	CERTAINTEE "INDEPENDANCE" COLOR-WEATHERED WOOD
RENAISSANCE MASONRY UNITS & CAST STONE HEADS & SILLS	COLOR: BUFF
& JAMBS-COLOR TO MATCH:	SIZE: 8" x 16" x 4"
	STYLE: CHAMFERED
	FINISH: SMOOTH

WINDOW/LOUVER SCHEDULE				
A	B	C	D	E
2852 LEXAN WINDOW w/ NO SCREEN Clear Lexan Cover	2-16" x 75" CELLWOOD RAISED PANEL SHUTTERS	33 5/8" x 65 1/4" C/S 4115/4830 LOUVERS & SCREEN FOR VENTILATION TACK WELD METAL TRIM TO LOUVER TO MATCH PANEL SHUTTERS	46" x 96" C/S 4115/4830 INTAKE LOUVER PAINTED TO MATCH BRICK COLOR	FYPON #660H-36 CLOSED LOUVER
( SEE DETAILS THIS PAGE FOR MORE INFORMATION )				

DOOR SCHEDULE			
1	2	3	4
8' x 7' STANLEY OVER HEAD ALUMINUM GARAGE DOOR	3468 FIXED DOOR w/ 12" LEXAN TRANSOM ABOVE & 11" WIDE FYPON #1030 FLUTED PLASTER w/ FYPON DELUXE CROSSHEAD w/ KEYSTONE	6068 DOOR w/ 12" LEXAN TRANSOM ABOVE & 11" WIDE FYPON #1030 FLUTED PLASTER w/ FYPON DELUXE CROSSHEAD w/ KEYSTONE	3068 DOOR w/ 11" WIDE FYPON #1030 FLUTED PLASTER w/ FYPON DELUXE CROSSHEAD w/ KEYSTONE

**AS BUILT**

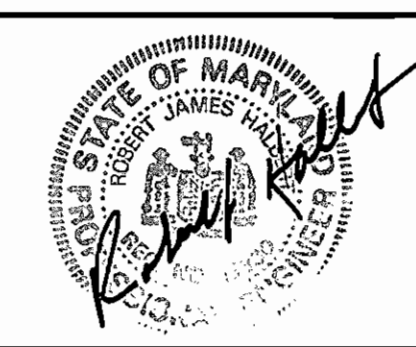
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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Director of Public Works: *Michael A. Simonich* 2-23-96  
Chief, Bureau of Utilities: *RMB*

Chief, Bureau of Engineering: *Paul J. Sapon* 2/14/96  
Chief, Water and Sewer Design Division: *Di. J. Sapon* 2-14-96

**RK & K**  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217



DES: DWT  
DRN: SJR  
CHK: SRK  
DATE: 12/95

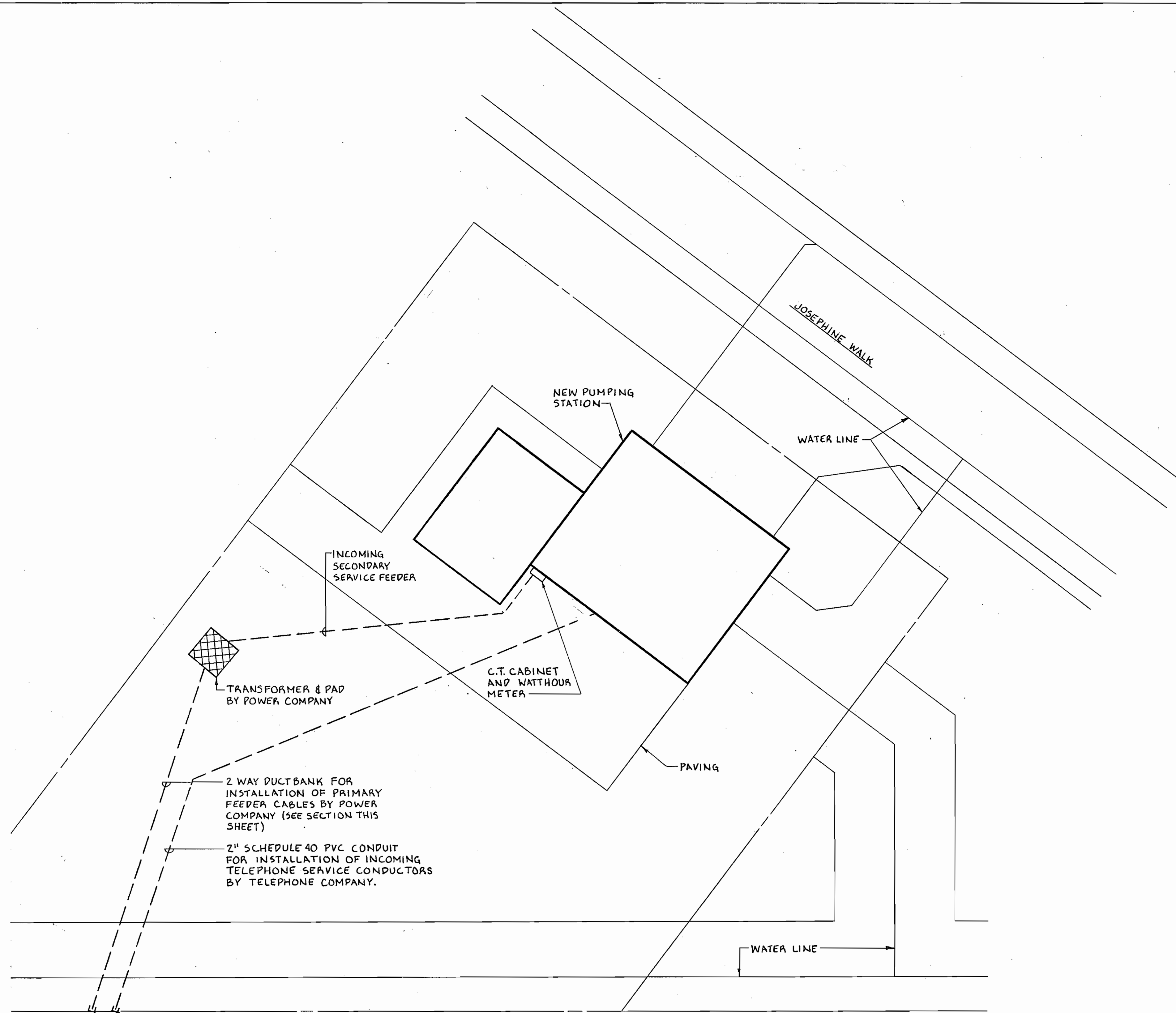
BY: NO. REVISION DATE

ARCHITECTURAL SCHEDULES AND DETAILS

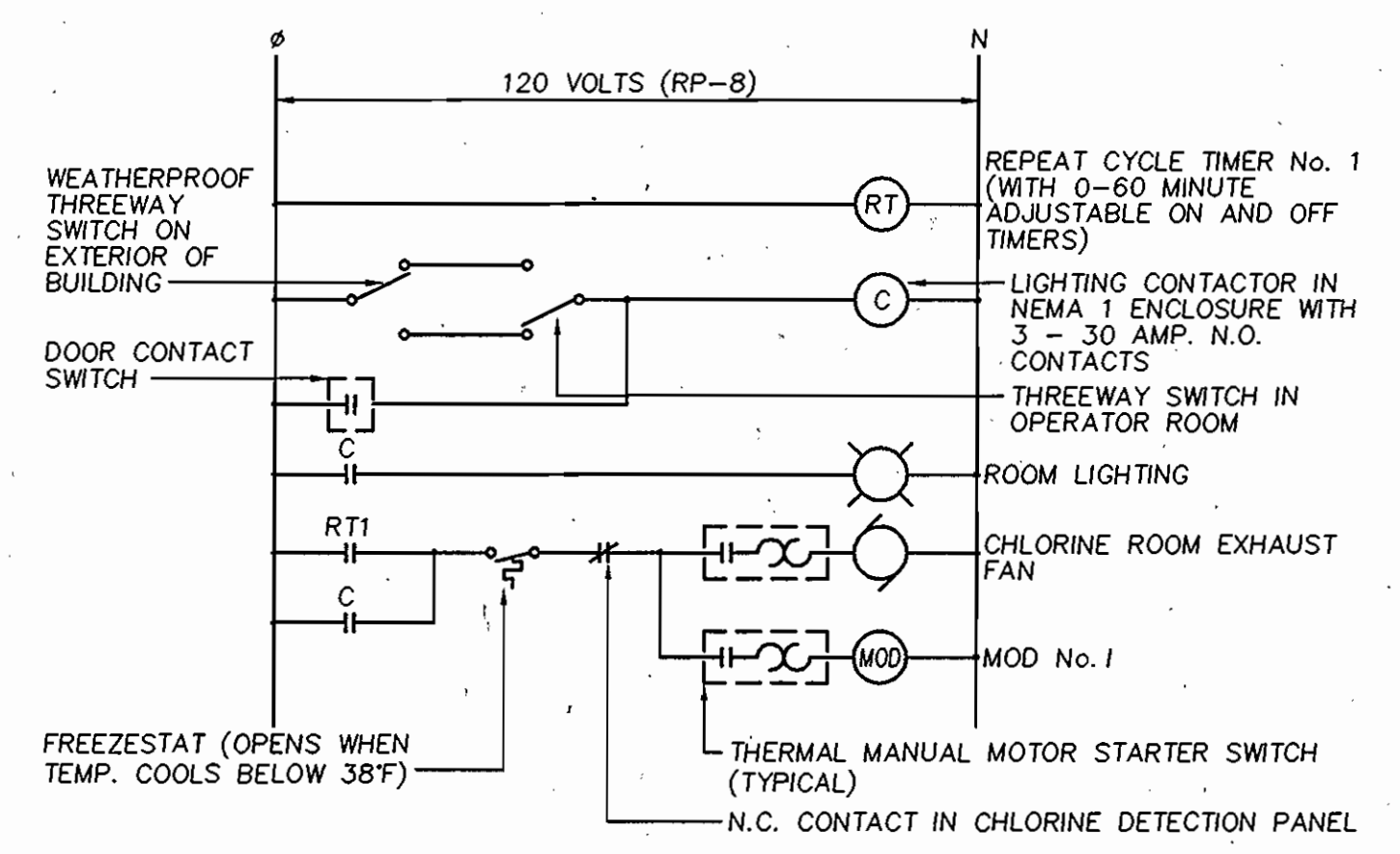
600' SCALE MAP NO. 16 BLOCK NO. 23

FREDERICK ROAD PUMPING STATION  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3482  
ELECTION DISTRICT NO. 2  
HOWARD COUNTY, MARYLAND

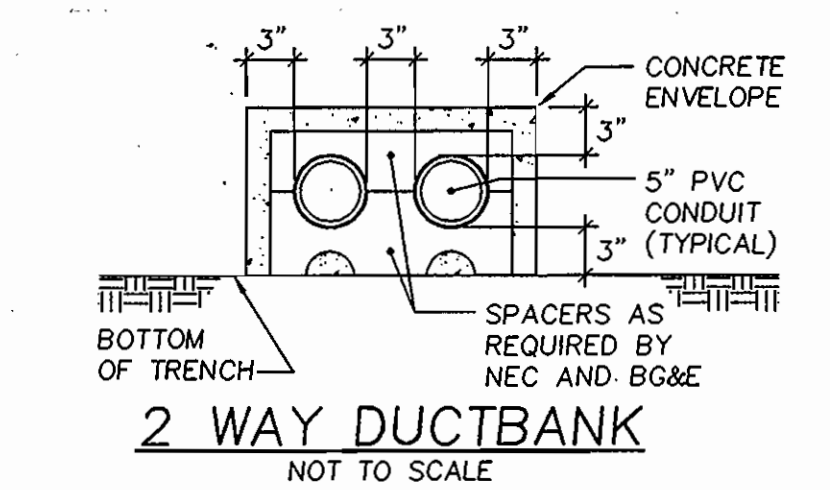
DWG. NO. A-2  
SCALE AS SHOWN  
SHEET 10 OF 13



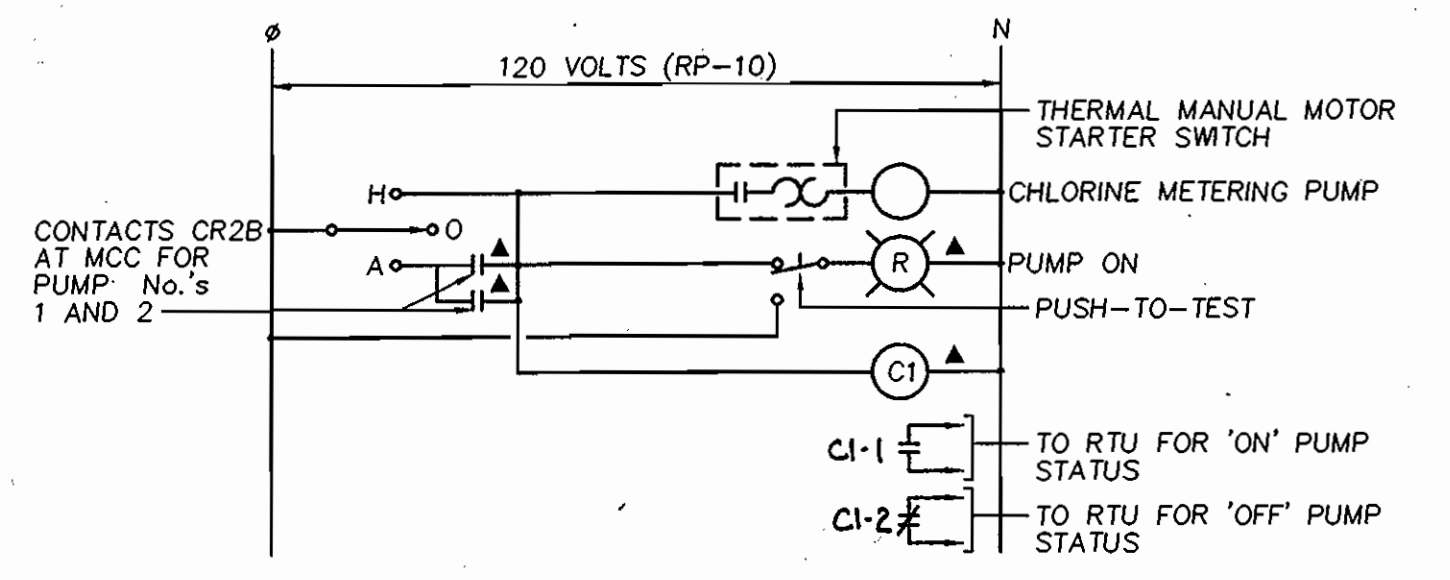
**SITE PLAN - ELECTRICAL**  
SCALE: 1" = 10'



**CONTROL DIAGRAM - CHLORINE ROOM EXHAUST FAN**  
NO SCALE

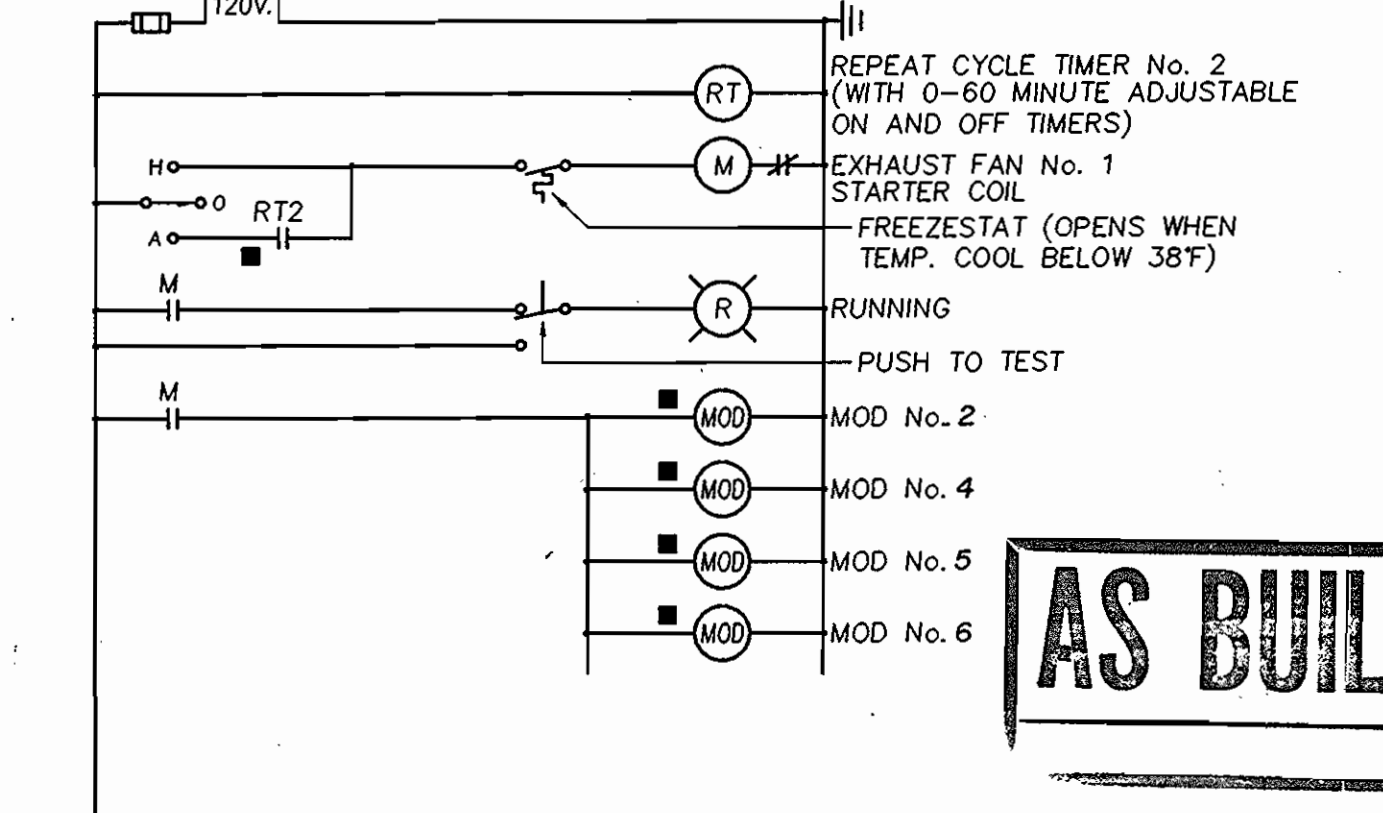
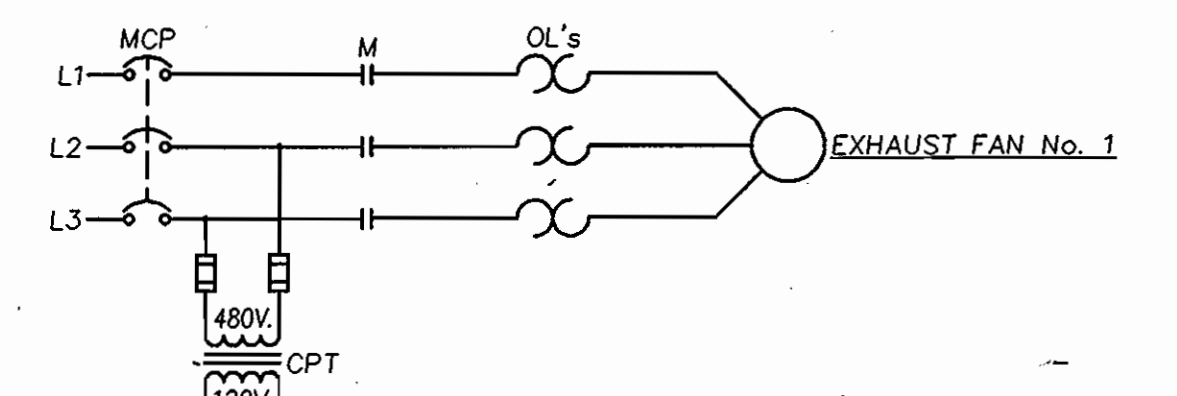


- 2 WAY DUCTBANK**  
NOT TO SCALE
- NOTES:**
1. PROVIDE TEMPORARY ANCHORING TO PREVENT THE CONDUIT FROM FLOATING OR CHANGING ALIGNMENT WHILE POURING ENVELOPE.
  2. CONCRETE MIX: 1-2-4 (1/2" GRAVEL) 2500 PSI
  3. INSTALLATION OF DUCTBANK SHALL BE IN STRICT COMPLIANCE WITH THE REQUIREMENTS OF B.G.&E.
  4. MINIMUM BURIAL DEPTH OF DUCTBANK SHALL BE 30" BELOW FINISHED GRADE TO TOP OF CONCRETE ENVELOPE UNLESS OTHERWISE DIRECTED BY B.G.E.



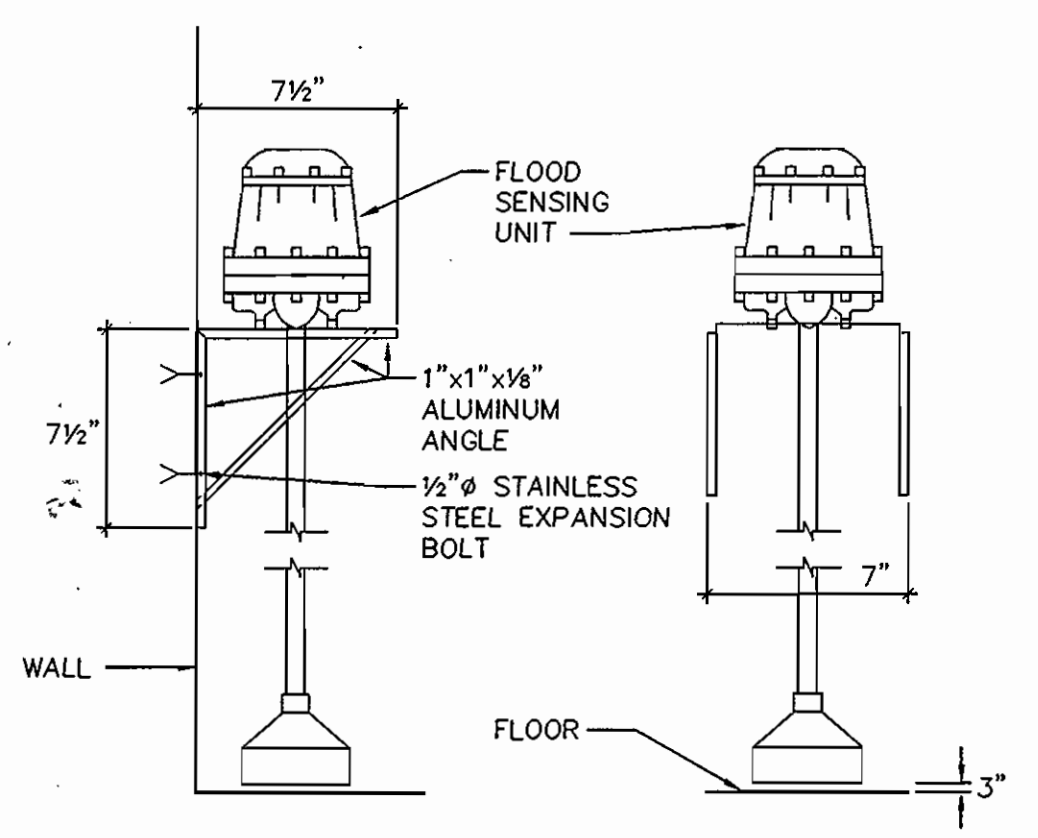
**CONTROL DIAGRAM - CHLORINE METERING PUMP**  
NO SCALE

- NOTES:**
1. ITEMS MARKED ▲ SHALL BE LOCATED AND LABELED AT THE MOTOR CONTROL CENTER. SEE PLANS FOR LOCATIONS OF OTHER DEVICES.
  2. ALL WIRING SHALL BE #12 AWG. ALL WIRING OUTSIDE OF ENCLOSURES SHALL BE IN 3/4" R.S.C. MINIMUM.



**CONTROL DIAGRAM - EXHAUST FAN No. 1**  
NO SCALE

- NOTES:**
1. ALL CONTROL WIRING SHALL BE A MINIMUM OF #14 AWG. ALL CONTROL WIRING OUTSIDE OF ENCLOSURES SHALL BE IN 3/4" RIGID STEEL CONDUIT MINIMUM.
  2. DEVICES MARKED ■ ARE LOCATED OUTSIDE OF STARTER ENCLOSURE.



**FLOOD SENSOR MOUNTING DETAILS**  
NOT TO SCALE

- NOTE:**  
SENSOR SHALL BE AUTOCON INDUSTRIES, INC., VIGILTROL CLASS 7502 OR APPROVED EQUAL.

**AS BUILT**

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

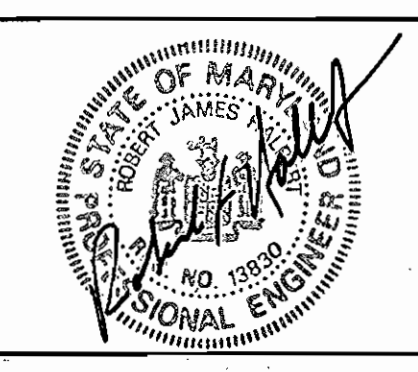
*James P. Lee* 2/26/96  
DIRECTOR OF PUBLIC WORKS DATE

*Michael A. Wiseman* 2/23/96  
CHIEF, BUREAU OF UTILITIES RMB DATE

*Paul D. Reppan* 2/19/96  
CHIEF, BUREAU OF ENGINEERING DATE

*Cl. DeLeon* 2-14-96  
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

**RK & K**  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217



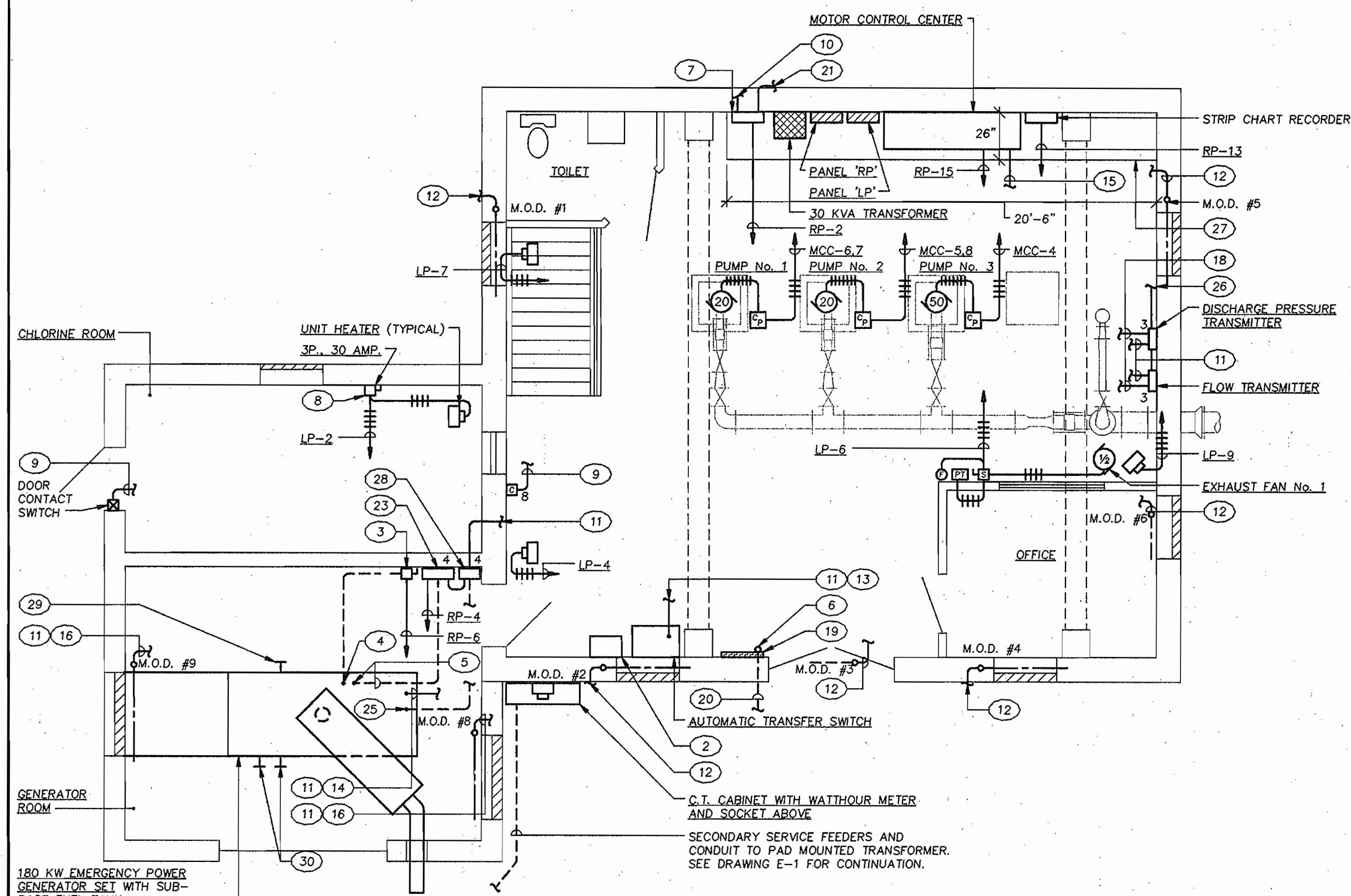
DES:	RCA			
DRN:	DAP			
CHK:	RCA			
DATE:	Jan. 1996	BY	NO.	REVISION

ELECTRICAL -  
**SITE PLAN**

600' SCALE MAP NO. 16 BLOCK NO. 23

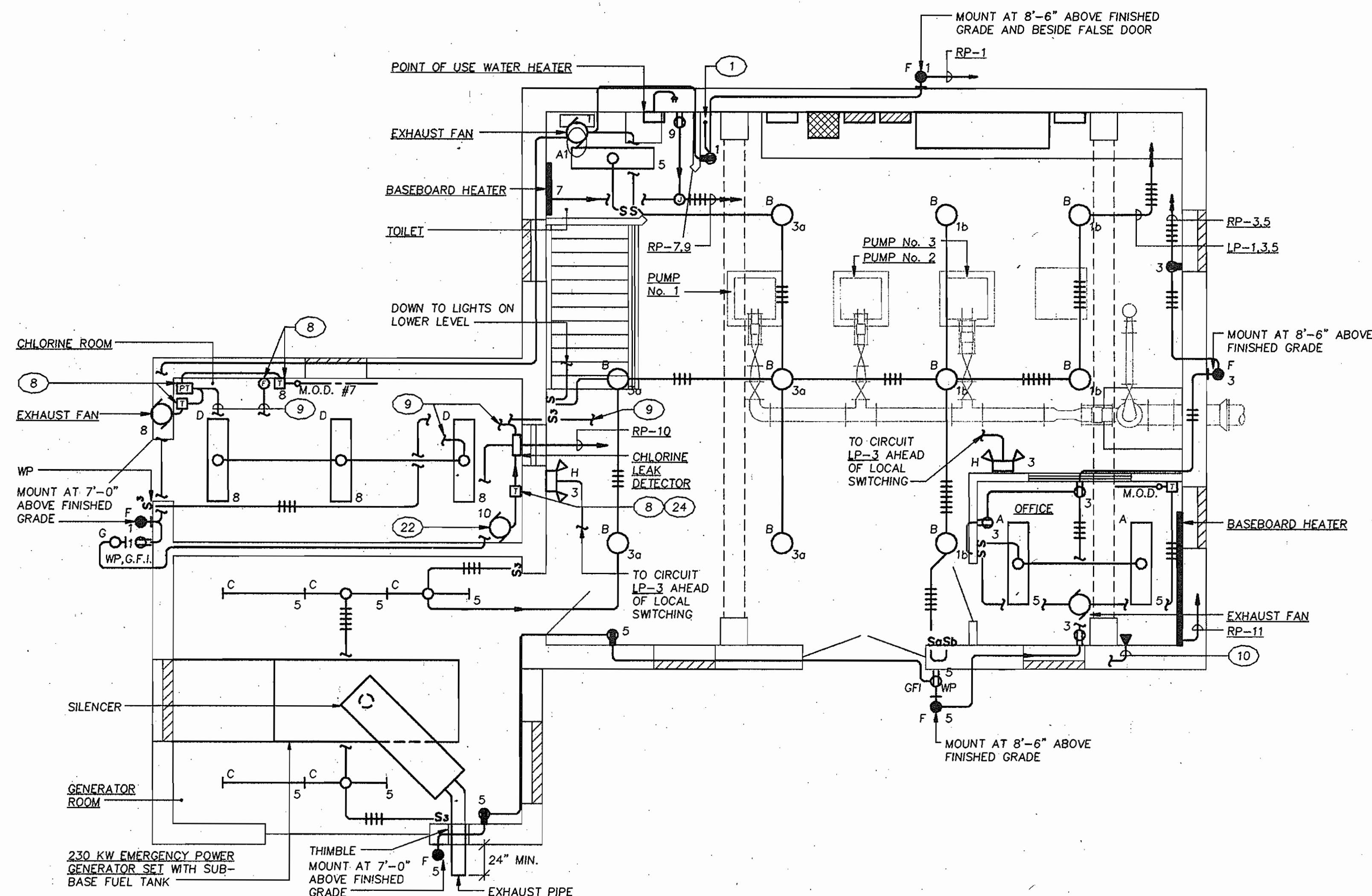
FREDERICK ROAD PUMPING STATION  
CAPITOL PROJECT W-8203  
CONTRACT NO. 44-3482  
ELECTION DISTRICT No. 2  
HOWARD COUNTY, MARYLAND

**E-1**  
SCALE AS NOTED  
SHEET 11 OF 13



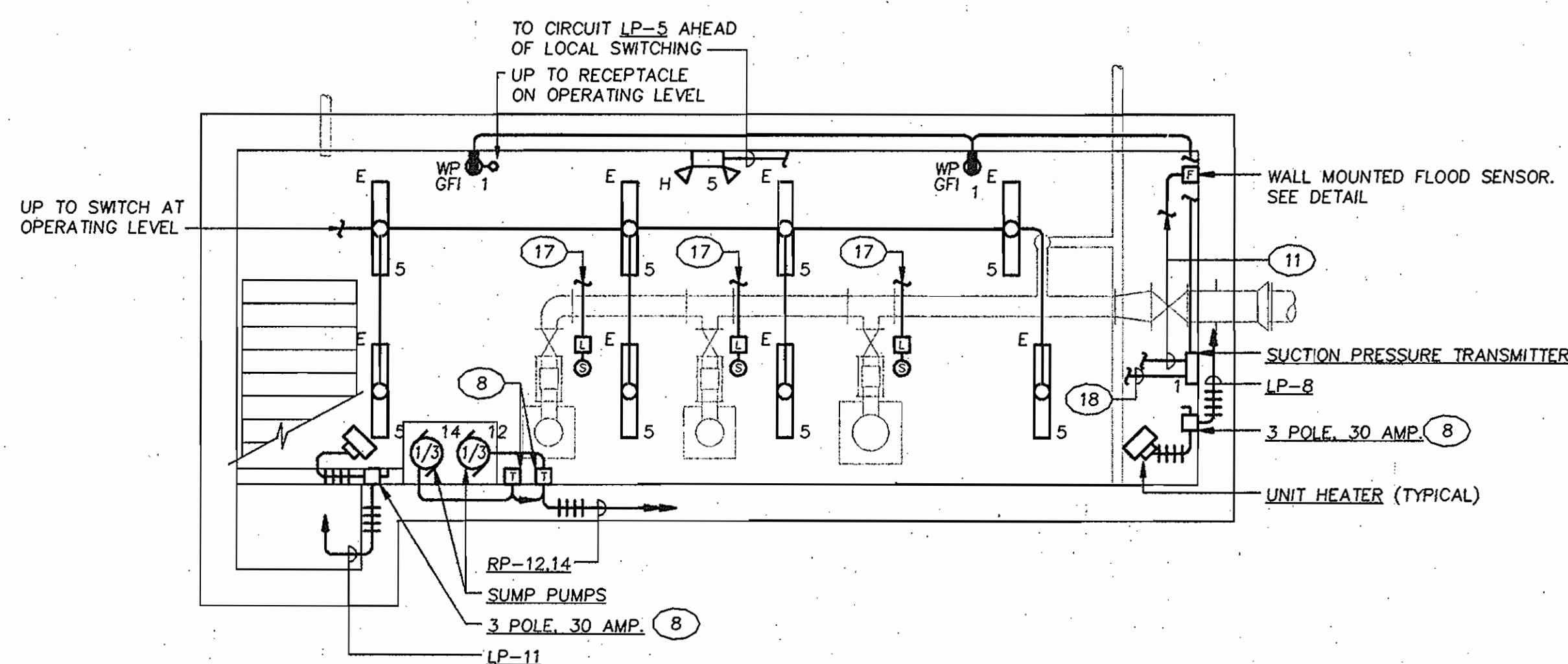
**ELECTRICAL POWER PLAN - OPERATING LEVEL**

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



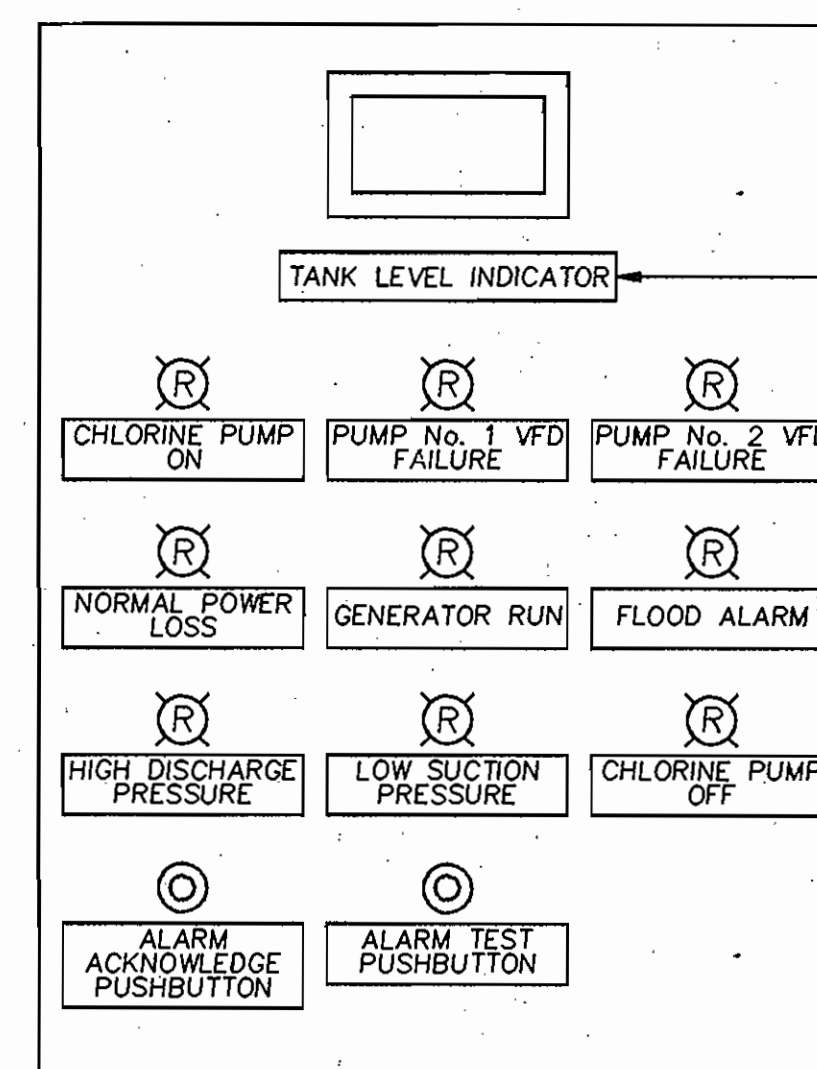
**ELECTRICAL LIGHTING PLAN - OPERATING LEVEL**

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



**ELECTRICAL PLAN - PUMP ROOM**

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



**DETAIL - ANNUNCIATION PANEL AT MOTOR CONTROL CENTER**

NOTE: 1. EXCEPT FOR INDICATOR LIGHT ASSOCIATED WITH CHLORINE PUMP RUN STATUS, ALL DEVICES SHALL BE CONTROLLED BY THE RTU UNIT.

- SHEET NOTES:**
- DOWN TO RECEPTACLE ON LOWER LEVEL.
  - 3 POLE, 300 AMP. MAIN SERVICE BREAKER IN NEMA 1 ENCLOSURE.
  - 2 POLE, 30 AMP. IN NEMA 1 ENCLOSURE.
  - TO BLOCK HEATER.
  - BATTERY CHARGING CONDUCTORS IN A 2" CONDUIT BETWEEN BATTERIES AND CHARGER UNIT.
  - CONDUIT STUB-UP 6" A.F.F.
  - TELEMETRY SYSTEM RTU/MODEM CABINET.
  - IN NEMA 4X ENCLOSURE.
  - TO FAN/LIGHT CONTROLS FOR CHLORINE ROOM. SEE CONTROL DIAGRAM.
  - 2 PAIR, 24 AWG CONDUCTOR CABLE IN 3/4" CONDUIT OVER TO TELEPHONE SERVICE BACKBOARD.
  - CONTROL/SIGNAL CONDUCTORS IN 3/4" CONDUIT TO RTU.
  - 3#14's IN 3/4" CONDUIT TO STARTER FOR EXHAUST FAN No. 1.
  - SIGNAL CONDUCTORS SHALL BE FOR MONITORING LOSS OF NORMAL POWER TO THE STATION.
  - SIGNAL CONDUCTORS SHALL BE FOR MONITORING THE RUN STATUS OF THE EMERGENCY GENERATOR SET.
  - SIGNAL CONDUCTORS IN 1" R.S.C. FROM ANNUNCIATION PANEL WITHIN MCC TO RTU.
  - TO START CONTROLS FOR GENERATOR.
  - CONTROL CONDUCTORS IN 3/4" CONDUIT UP TO STARTER AT MOTOR CONTROL CENTER.
  - SIGNAL CONDUCTORS IN 3/4" CONDUIT TO CHART RECORDER.
  - 2'x2'x3/4" FIRE RETARDANT PLYWOOD AS TELEPHONE SERVICE BACKBOARD. MOUNT AT 8'-0" A.F.F. TO TOP.
  - 1 - 2" PVC CONDUIT UNDERGROUND OUT TO PROPERTY LINE FOR INSTALLATION OF INCOMING TELEPHONE SERVICE CABLES BY TELEPHONE COMPANY. CONDUIT TO TERMINATE AT PROPERTY LINE WHERE DIRECTED BY TELEPHONE COMPANY.
  - SIGNAL CONDUCTORS IN 3/4" CONDUIT OVER TO TANK LEVEL INDICATOR AT MOTOR CONTROL CENTER. MOUNT INDICATOR FLUSH IN DOOR OF PUMP CONTROL/STATUS PANEL.
  - CHLORINE METERING PUMP.
  - BATTERY CHARGER.

**AS BUILT**

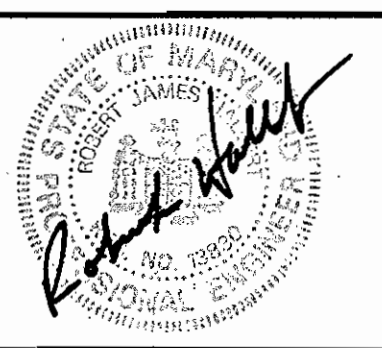
E-2

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Laura M. ...* 2/26/96  
DIRECTOR OF PUBLIC WORKS DATE

*Michael ...* 2/22/96  
CHIEF, BUREAU OF UTILITIES DATE

**RK & K**  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217



DES:	RCA			
DRN:	DSY			
CHK:	RCA			
DATE:	JAN. 1996	BY	NO.	
		REVISION		DATE

**ELECTRICAL - FLOOR PLANS**

600' SCALE MAP NO. 16 BLOCK NO. 23

FREDERICK ROAD PUMPING STATION  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3482  
ELECTION DISTRICT NO. 2  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 12 OF 13

SCHEDULE OF PANEL LP																	
225 AMP BUS CAP. M.L.O.																	
3 PHASE			4 WIRE			277/480 VOLTS											
CKT. No.	FOR	WIRE No.	RACEWAY SIZE	BREAKERS POLE	AMP	VOLT	CKT. No.	FOR	WIRE No.	RACEWAY SIZE	BREAKERS POLE	AMP	VOLT				
1	LTG - OPERATING LEVEL	3	12	C	34"	1	20	277	2	UNIT HEATER - CHLORINE ROOM	4	12	C	34"	3	15	480
3	LTG - OPERATING LEVEL	3	12	C	34"	1	20	277	-	-	-	-	-	-	-	-	-
5	LTG - OFFICE PUMP LEVEL	3	12	C	34"	1	20	277	-	-	-	-	-	-	-	-	-
7	UNIT HEATER - OPERATING LEVEL	4	12	C	34"	3	15	480	4	UNIT HEATER - OPERATING LEVEL	4	12	C	34"	3	15	480
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	UNIT HEATER - OPERATING LEVEL	4	12	C	34"	3	15	480	6	EXHAUST FAN No. 1	4	12	C	34"	3	15	480
13	TRANSFORMER/PANEL 'RP'	3/1	8/10	C	34"	3	45	480	10	SPARE	-	-	-	-	-	-	-
15	SPACE	-	-	-	-	-	-	-	12	SPARE	-	-	-	-	-	-	-
17	SPACE	-	-	-	-	-	-	-	14	SPACE	-	-	-	-	-	-	-
19	SPACE	-	-	-	-	-	-	-	16	SPACE	-	-	-	-	-	-	-
21	SPACE	-	-	-	-	-	-	-	18	SPACE	-	-	-	-	-	-	-
23	SPACE	-	-	-	-	-	-	-	20	SPACE	-	-	-	-	-	-	-
25	SPACE	-	-	-	-	-	-	-	22	SPACE	-	-	-	-	-	-	-
27	SPACE	-	-	-	-	-	-	-	24	SPACE	-	-	-	-	-	-	-
29	SPACE	-	-	-	-	-	-	-	26	SPACE	-	-	-	-	-	-	-

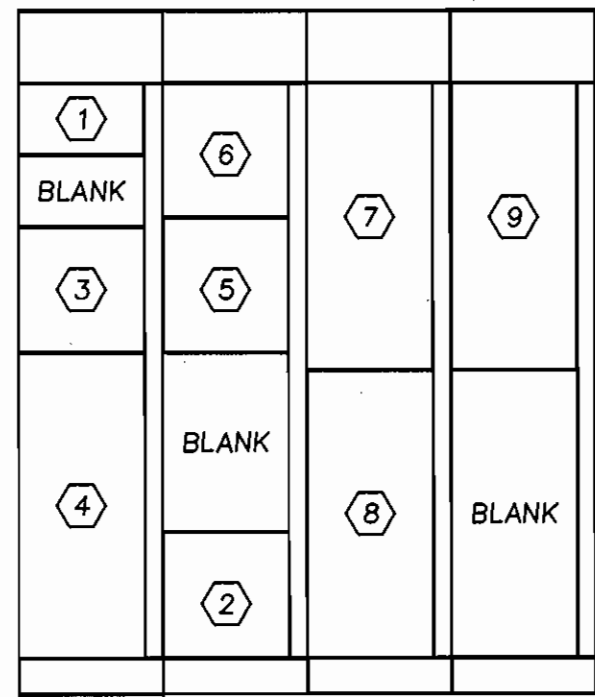
SCHEDULE OF PANEL RP																	
100 AMP BUS CAP. 100 AMP MAIN BRKR.																	
3 PHASE			4 WIRE			120/208 VOLTS											
CKT. No.	FOR	WIRE No.	RACEWAY SIZE	BREAKERS POLE	AMP	VOLT	CKT. No.	FOR	WIRE No.	RACEWAY SIZE	BREAKERS POLE	AMP	VOLT				
1	REC. AND EXTERIOR LTG.	3	12	C	34"	1	20	120	2	TELEMETRY SYSTEM	3	12	C	34"	1	20	120
3	REC. AND EXTERIOR LTG.	3	12	C	34"	1	20	120	4	GENSET BATTERY CHARGER	3	12	C	34"	1	20	120
5	REC. AND EXTERIOR LTG.	3	12	C	34"	1	20	120	6	GENSET BLOCK HEATER	3	12	C	34"	2	15	240
7	HEATER - TOILET	3	12	C	34"	1	20	120	-	-	-	-	-	-	-	-	-
9	WATER HEATER	3	12	C	34"	1	20	120	8	LTG - CHLORINE ROOM	3	12	C	34"	1	20	120
11	HEATER - OFFICE	3	12	C	34"	1	20	120	10	CHLORINE METERING PUMP	3	12	C	34"	1	20	120
13	STRIP CHART RECORDER	3	12	C	34"	1	20	120	12	SUMP PUMP	3	12	C	34"	1	20	120
15	ANNUNCIATOR PANEL @ MCC	3	12	C	34"	1	20	120	14	SUMP PUMP	3	12	C	34"	1	20	120
17	SPACE	-	-	-	-	-	-	-	16	SPACE	-	-	-	-	-	-	-
19	SPACE	-	-	-	-	-	-	-	18	SPACE	-	-	-	-	-	-	-
21	SPACE	-	-	-	-	-	-	-	20	SPACE	-	-	-	-	-	-	-
23	SPACE	-	-	-	-	-	-	-	22	SPACE	-	-	-	-	-	-	-
25	SPACE	-	-	-	-	-	-	-	24	SPACE	-	-	-	-	-	-	-
27	SPACE	-	-	-	-	-	-	-	26	SPACE	-	-	-	-	-	-	-
29	SPACE	-	-	-	-	-	-	-	28	SPACE	-	-	-	-	-	-	-

NOTE: \* BREAKER SHALL BE G.F.C.I. TYPE.

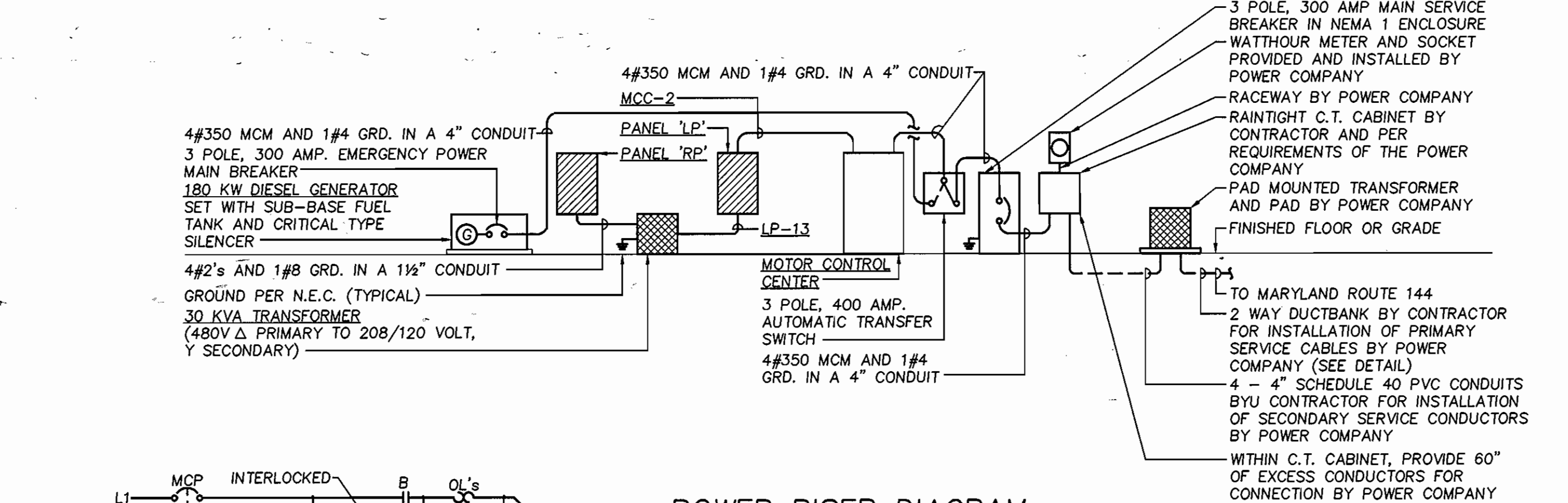
LIGHT FIXTURE SCHEDULE						
TYPE	DESCRIPTION	LAMPS	VOLTAGE	MOUNTING	MANUFACTURER	
A	NOMINAL 14"x48" FLUOR. FIXTURE WITH WRAPAROUND ACRYLIC PRISMATIC LENS	4-F40T12	277	CEILING SURFACE	METALUX CATALOG No. W440A277L3 OR APPROVED EQUAL	
A1	NOMINAL 14"x48" FLUOR. FIXTURE WITH WRAPAROUND ACRYLIC PRISMATIC LENS	2-F40T12	277	CEILING SURFACE	METALUX CATALOG No. W440A277L3 OR APPROVED EQUAL	
B	H.I.D. LOW BAY INDUSTRIAL FIXTURE WITH DIE-CAST ALUMINUM BALLAST HOUSING, FULLY FLUTED ANODIZED ALUMINUM REFLECTOR, VIRGIN ACRYLIC LENS, AND A QUARTZ RESTRIKING SYSTEM	1-250 WATT METAL HALIDE & 1-200 WATT QUARTZ	277	CEILING SURFACE	LITHONIA CATALOG No. TX250MA26277-QRS OR APPROVED EQUAL	
C	4' INDUSTRIAL FLUOR. FIXTURE.	2-F40T12	277	CEILING SURFACE	BENJAMIN CATALOG No. FLB-1124-4U OR APPROVED EQUAL	
D	4' VAPORTIGHT FLUOR. FIXTURE WITH CORROSION RESISTANT PORCELAIN ENAMEL FINISH AND CLEAR ACRYLIC LENS	2-F40T12	120	CEILING SURFACE	BENJAMIN CATALOG No. FY-2324-4 OR APPROVED EQUAL	
E	4' DUST/MOISTURE LOCATION TYPE FLUOR. FIXTURE WITH POLYESTER HOUSING AND PRISMATIC ACRYLIC DIFFUSER SECURED BY CAPTIVE CAM-ACTION LATCHES	2-F40T12	277	CEILING SURFACE	LITHONIA CATALOG No. DW40277ES OR APPROVED EQUAL	
F	SMALL SIZE VANDAL-RESISTANT H.I.D. WALL PACK UNIT WITH STEEL HOUSING, POLYCARBONATE LENS AND INTEGRAL PHOTOELECTRIC CONTROLS	1-70 WATT H.P.S.	120	WALL MOUNTED	LITHONIA CATALOG No. TWL70S120PEK/PE OR APPROVED EQUAL	
G	VAPORTIGHT INCANDESCENT FIXTURE WITH GLASS GLOBE AND CAST ALUMINUM GUARD	1-100 WATT A-19 (RED)	120	WALL MOUNTED AT 7'-0" ABOVE FINISHED GRADE	STONCO CATALOG No. VWXL11GC OR APPROVED EQUAL	
H	SELF CONTAINED EMERGENCY LIGHT PACK WITH NEMA 4X ENCLOSURE	PER MANUFACTURER	277	WALL MOUNTED AT 8'-0" A.F.F.	DUALITE CATALOG No. N4X2 OR APPROVED EQUAL	

SCHEDULE OF MOTOR CONTROL CENTER						
480/277 VOLT, 3 PHASE, 4 WIRE, 600 AMP MAIN BUS AND GROUND BUS, 35,000 A.I.C.						
CKT. No.	EQUIPMENT SERVED	HP OR KVA	STARTER NEMA SIZE	AUXILIARIES	FULL LOAD AMPS	BREAKER TRIP POLES VOLTS
1	INCOMING SERVICE MAIN LUGS	-	-	-	-	-
2	PANEL 'LP'	62.1KVA	-	-	75	100 3 480 4/1 2/8 1.25"
3	3 PHASE VOLTMETER AND AMMETER WITH SELECTOR SWITCHES	-	-	-	-	-
4	PUMP No. 3	50HP	3 (AUTO VFR)	abdefghijkl	65	90 3 480 3/1 2/8 1.25"
5	BY-PASS STARTER FOR PUMP No. 2	20HP	2	abcdafghijkl	27	60 3 480 3/1 6/10 1"
6	BY-PASS STARTER FOR PUMP No. 1	20HP	2	abcdafghijkl	27	60 3 480 3/1 6/10 1"
7	VARIABLE FREQUENCY DRIVE UNIT FOR PUMP No. 1	-	-	-	-	-
8	VARIABLE FREQUENCY DRIVE UNIT FOR PUMP No. 2	-	-	-	-	-
9	ANNUNCIATOR PANEL (SEE DETAIL)	-	-	-	-	-

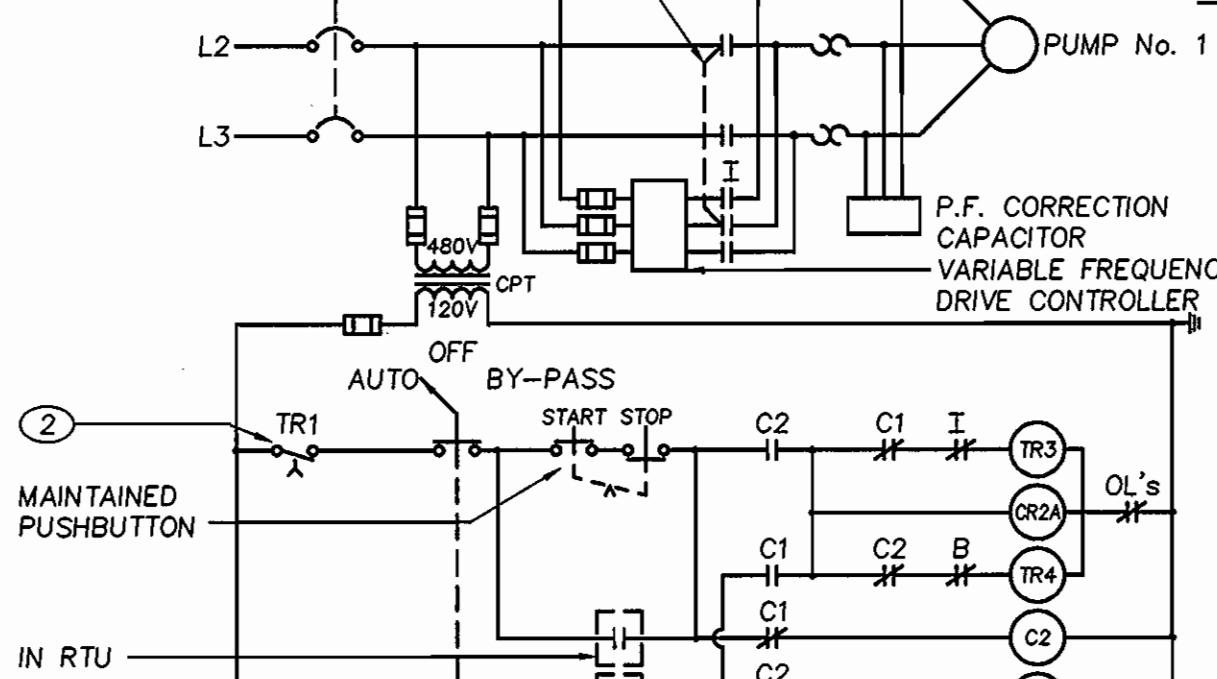
- AUXILIARIES:
- a: 3 OVERLOADS
  - b: FUSED CONTROL POWER TRANSFORMER
  - c: AUTO-OFF-BYPASS SELECTOR SWITCH
  - d: AUXILIARY CONTACTS NUMBER AND TYPE PER CONTROL SEQUENCE REQUIREMENTS
  - e: MOTOR RUN PILOT LIGHT (RED WITH PUSH-TO-TEST BUTTON)
  - f: MOTOR STOP PILOT LIGHT (GREEN WITH PUSH-TO-TEST BUTTON)
  - g: START-STOP PUSHBUTTONS
  - h: ELAPSED TIME METER
  - i: SEE CONTROL DIAGRAMS FOR OTHER AUXILIARY DEVICES
  - j: REMOTE - LOCAL SELECTOR SWITCH
  - k: LOCKOUT RELAY WITH RESET PUSHBUTTON
  - l: VALVE FAILURE PILOT LIGHT (WHITE WITH PUSH-TO-TEST BUTTON)



ELEVATION - MOTOR CONTROL CENTER  
NO SCALE

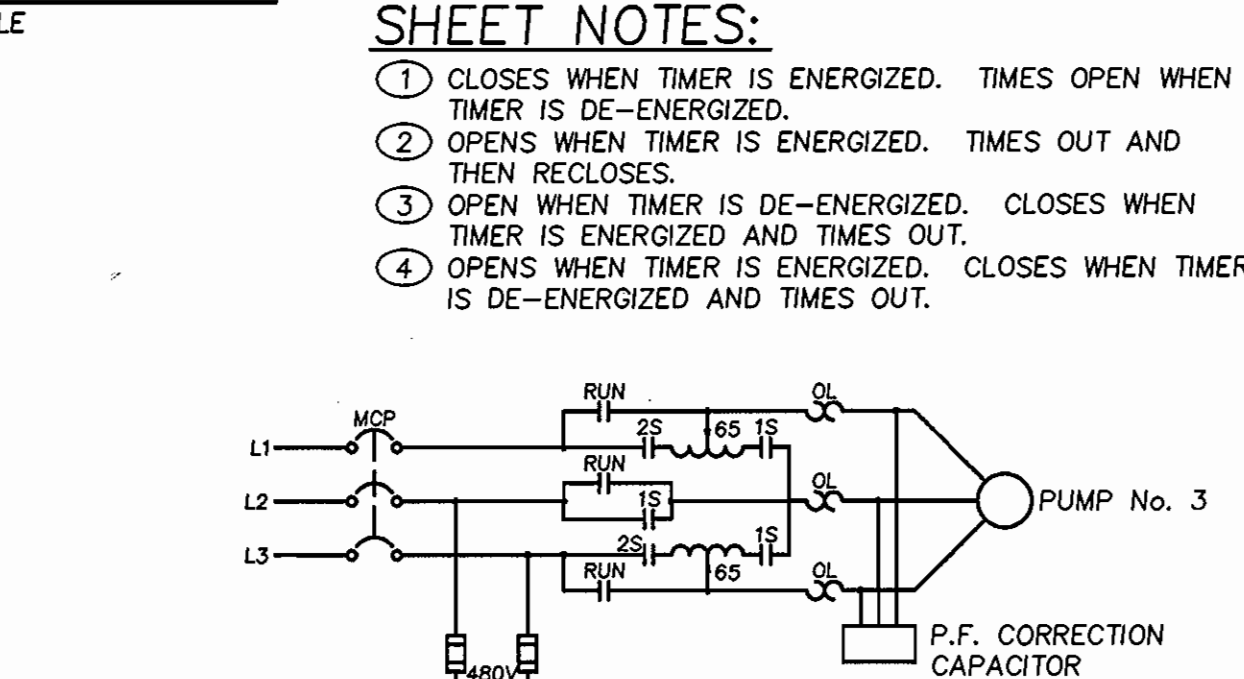


POWER RISER DIAGRAM  
NO SCALE



PUMP No. 1 CONTROL DIAGRAM  
NO SCALE

- NOTES:
- ITEMS MARKED ▲ ARE DEVICES LOCATED AT RTU. ITEMS MARKED △ ARE DEVICES LOCATED NEAR PUMP. ALL OTHER DEVICES SHALL BE LOCATED AT MOTOR CONTROL CENTER.
  - ALL CONTROL WIRING SHALL BE A MINIMUM OF #14 AWG. CONTROL WIRING OUTSIDE OF MOTOR CONTROL CENTER SHALL BE IN 3/4" R.S.C. MINIMUM.
  - DIAGRAM IS TYPICAL FOR PUMP No. 2.
  - ALL TIMER RELAYS SHALL BE ADJUSTABLE BETWEEN .1 AND 10 MINUTES.



PUMP No. 3 CONTROL DIAGRAM  
NO SCALE

- NOTES:
- ITEMS MARKED ▲ ARE DEVICES LOCATED AT RTU. ITEMS MARKED △ ARE DEVICES LOCATED NEAR PUMP. ALL OTHER DEVICES SHALL BE LOCATED AT MOTOR CONTROL CENTER.
  - ALL CONTROL WIRING SHALL BE A MINIMUM OF #14 AWG. CONTROL WIRING OUTSIDE OF MOTOR CONTROL CENTER SHALL BE IN 3/4" R.S.C. MINIMUM.
  - ALL TIMER RELAYS SHALL BE ADJUSTABLE BETWEEN .1 AND 10 MINUTES.

ELECTRICAL LEGEND

- SYMBOL DESCRIPTION
- CONDUIT ON CEILING AND WALLS. UNLESS OTHERWISE NOTED, NUMBER OF HASH MARKS INDICATE THE NUMBER OF CONDUCTORS IF MORE THAN 3. UNLESS OTHERWISE NOTED, SEE PANELBOARD SCHEDULE FOR SIZES OF CONDUCTORS AND CONDUIT.
  - HOMERUN TO PANELBOARD. NUMBER OF ARROWS INDICATE THE NUMBER OF CIRCUITS. UNLESS OTHERWISE NOTED, HASH MARKS INDICATE THE NUMBER OF CONDUCTORS IF MORE THAN 3. UNLESS OTHERWISE NOTED, SEE PANELBOARD OR MOTOR CONTROL CENTER SCHEDULE FOR SIZES OF CONDUCTORS AND CONDUIT.
  - CONDUIT AND/OR WIRING INSTALLED UNDERGROUND OR UNDERSLAB.
  - LIGHT FIXTURE - INCANDESCENT. WALL MOUNTED. LETTER DESIGNATES FIXTURE TYPE.
  - EMERGENCY LIGHT PACK. WALL MOUNTED. LETTER DESIGNATES FIXTURE TYPE.
  - LIGHT FIXTURE - FLUORESCENT. SURFACE MOUNTED. LETTER DESIGNATES FIXTURE TYPE.
  - LIGHT FIXTURE - H.I.D. WALL MOUNTED. LETTER DESIGNATES FIXTURE TYPE.
  - LIGHT FIXTURE - H.I.D. CEILING SURFACE MOUNTED. LETTER DESIGNATES FIXTURE TYPE.
  - LIGHT FIXTURE - INDUSTRIAL STYLE FLUORESCENT. CEILING SURFACE MOUNTED. LETTER DESIGNATES FIXTURE TYPE.
  - RECEPTACLE - 125 VOLT, 20 AMP, 2 POLE, 3 WIRE DUPLEX WITH NEMA 5-20R CONFIGURATION. MOUNT AT 48" A.F.F. WP INDICATES DEVICE WITH WEATHERPROOF SPRING-HINGED COVER PLATE. 'G.F.I.' INDICATES RECEPTACLE AS BEING GROUND FAULT CURRENT INTERRUPTING TYPE.
  - RECEPTACLE - 125 VOLT, 20 AMP, 2 POLE, 3 WIRE DUPLEX WITH NEMA 5-20R CONFIGURATION. MOUNT AT 18" A.F.F. U.O.N. INDICATES DEVICE WITH WEATHERPROOF SPRING-HINGED COVER PLATE. 'G.F.I.' INDICATES RECEPTACLE AS BEING GROUND FAULT CURRENT INTERRUPTING TYPE.
  - ELECTRICAL PANELBOARD - MOUNT AT 6'-6" A.F.F. TO TOP.
  - NON-FUSIBLE DISCONNECT SWITCH. SIZE AND ENCLOSURE TYPE AS NOTED. MOUNT AT 5'-6" A.F.F.
  - CAPACITOR IN NEMA 1 ENCLOSURE. MOUNT TO FREE STANDING STEEL CHANNELING AND ADJACENT TO MOTOR.
  - MOTOR - HORSEPOWER INDICATED WHERE APPLICABLE.
  - GROUND.
  - TRANSFORMER.
  - AUTOMATIC TRANSFER SWITCH IN NEMA 1 ENCLOSURE. MOUNT AT 5'-6" A.F.F. TO TOP. SIZE AS NOTED.
  - CIRCUIT BREAKER.
  - SWITCH - SINGLE POLE, THREEWAY. MOUNT AT 4'-0" A.F.F. 'WP' ADJACENT TO SYMBOL INDICATES DEVICE WITH WEATHERPROOF SPRING-HINGED COVER PLATE.
  - ① DENOTES REFERENCE TO SHEET NOTE.
  - THERMAL MANUAL MOTOR STARTER SWITCH. PROVIDE WITH H.O.A. SELECTOR SWITCH WHERE INDICATED. PROVIDE NEMA 1 ENCLOSURE U.O.N. MOUNT AT 4'-0" A.F.F.
  - ② SEPARATELY ENCLOSED REPEAT CYCLE TIMER. PROVIDE NEMA 1 ENCLOSURE U.O.N. MOUNT AT 4'-0" A.F.F.
  - ③ FREEZE STAT. MOUNT AT 4'-0" A.F.F.
  - COMBINATION STARTER AND DISCONNECT SWITCH. STARTER SHALL BE NEMA SIZE 1. ENCLOSURE SHALL BE NEMA TYPE 1. MOUNT AT 5'-6" A.F.F. REFER TO CONTROL DIAGRAMS AND SPECIFICATIONS FOR REQUIRED ACCESSORIES.
  - TELEPHONE OUTLET BOX WITH 4 WIRE MODULAR JACK. MOUNT AT 18" A.F.F.
  - VALVE LIMIT SWITCH.
  - SWITCH.
  - COIL (NORMALLY).
  - NORMALLY OPEN CONTACT.
  - NORMALLY CLOSED CONTACT.
  - HANDS-OFF-AUTOMATIC SELECTOR SWITCH.
  - ELECTRIC SOLENOID VALVE.
  - FUSE AND FUSE HOLDER.
  - PILOT LIGHT - RED, GREEN, WHITE.
  - OVERLOAD.
  - SWITCH - SINGLE POLE. SUBSCRIPT REPRESENTS DEVICE CONTROLLED.
  - JUNCTION BOX.
  - CORD AND PLUG ASSEMBLY.
  - PUSHBUTTON.
  - TIMER CONTACT.
  - LIGHTING CONTACTOR IN NEMA 1 ENCLOSURE WITH 3 - 30 AMP. NORMALLY OPEN CONTACTS. MOUNT AT 5'-0" A.F.F.
  - MOTOR OPERATED DAMPER.
  - TIMER RELAY.

ABBREVIATIONS

- |          |                                  |        |  |
|----------|----------------------------------|--------|--|
| AWG      | AMERICAN WIRE GAUGE              | N.E.C. | NATIONAL ELECTRICAL CODE                       |
| A.F.F.   | ABOVE FINISHED FLOOR             | NEMA   | NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION |
| AMP.     | AMPERE (S)                       | N.     | NEUTRAL  |
| A.I.C.   | AMPERE INTERRUPTING CAPACITY     | N.C.   | NORMALLY CLOSED                                |
| BRKR.    | BREAKER                          | N.O.   | NORMALLY OPEN                                  |
| CAP.     | CAPACITY                         | No., # | NUMBER   |
| CKT.     | CIRCUIT                          | OL's   | OVERLOADS                                      |
| C.       | CONDUIT                          | Ø      | PHASE  |
| CPT      | CONTROL POWER TRANSFORMER        | PVC    | POLYVINYL CHLORIDE                             |
| C.T.     | CURRENT TRANSFORMER              | P.S.I. | POUNDS PER SQUARE INCH                         |
| F.       | FARENHEIT                        | P.F.   | POWER FACTOR                                   |
| FLUOR.   | FLUORESCENT                      | REC.   | RECEPTACLE                                     |
| GRD.     | GROUND                           | RTU    | REMOTE TERMINAL UNIT                           |
| GFCI/GFI | GROUND FAULT CURRENT INTERRUPTER | R.S.C. | RIGID STEEL CONDUIT                            |
| H.O.A.   | HANDS-OFF-AUTOMATIC              | MCM    | THOUSAND CIRCULAR MILS                         |
| H.I.D.   | HIGH INTENSITY DISCHARGE         | XFMR.  | TRANSFORMER                                    |
| HP       | HORSEPOWER                       | TYP.   | TYPICAL  |
| KVA      | KILOVOLT-AMPERES                 | U.O.N. | UNLESS OTHERWISE NOTED                         |
| KW       | KILOWATTS                        | VFD    | VARIABLE FREQUENCY DRIVE                       |
| LTG.     | LIGHTS                           | V.     | VOLTS  |
| LOR      | LOCK-OUT RELAY                   | WP     | WEATHERPROOF                                   |
| M.L.O.   | MAIN LUGS ONLY                   |        |  |
| MIN.     | MINUTE                           |        |  |
| MCP      | MOTOR CIRCUIT PROTECTOR          |        |  |
| M.O.D.   | MOTOR OPERATED DAMPER            |        |  |

AS BUILT