

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

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

James McV... Date: 5-2-84
U.S. SOIL CONSERVATION SERVICE

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

Approved: *Joseph K. Bogovich* Date: 5/2/84
HOWARD COUNTY S.C.D.

ENGINEER'S CERTIFICATION

I certify that this plan for erosion & 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.

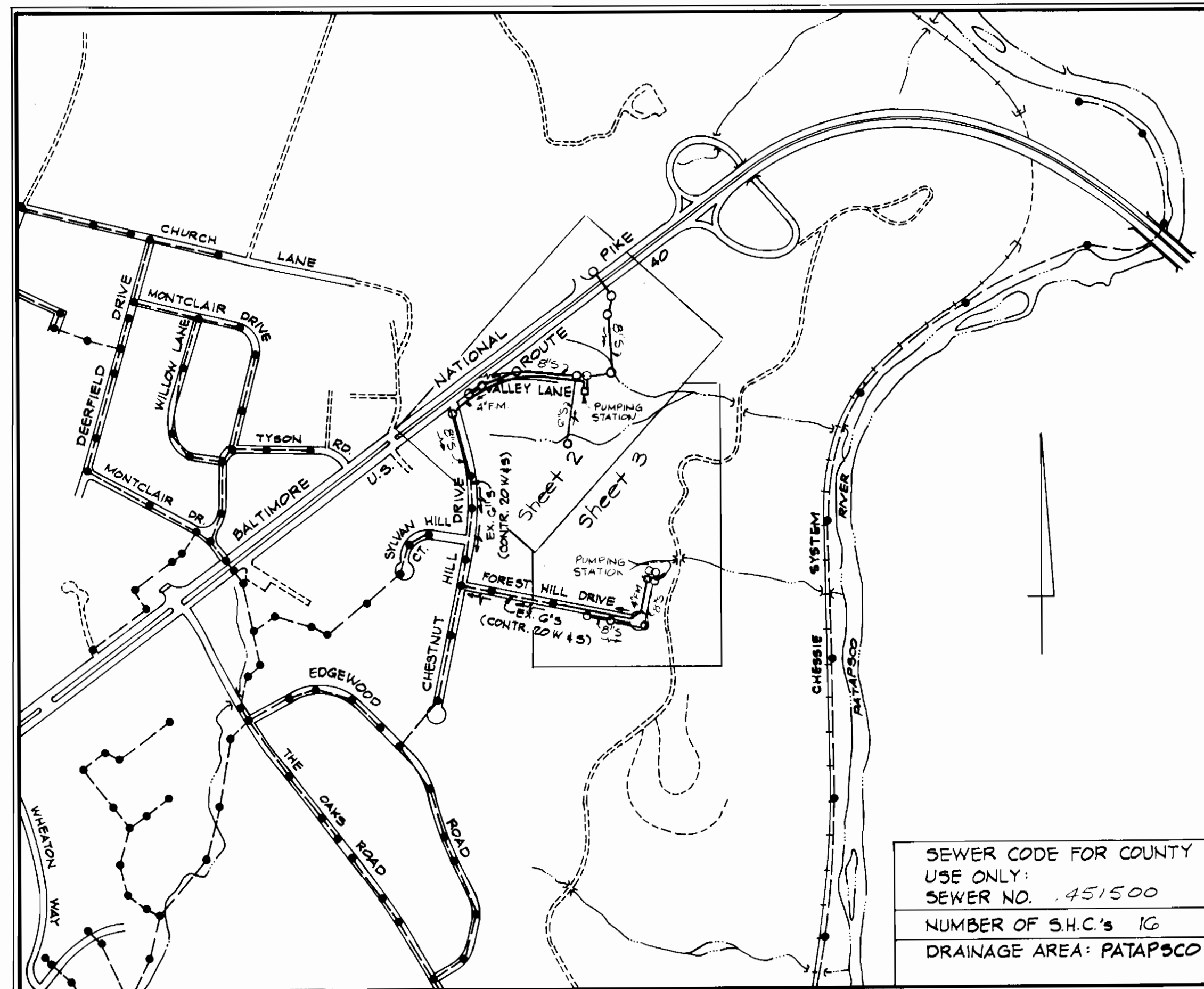
Walter B. Krumm Date: 5/23/84
KIDDE CONSULTANTS, INC.
1020 CROMWELL BRIDGE ROAD
TOWSON, MD. 21204

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 Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project."

BUREAU OF ENGINEERING
DEPARTMENT OF PUBLIC WORKS

ADDRESS CHART	
LOT NO.	STREET ADDRESS
P. 248	8100 VALLEY LANE
P. 167	8100 FOREST HILL DRIVE



- GENERAL NOTES
- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SUPPLY. ALL DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.
 - ALL HORIZONTAL CONTROLS ARE BASED ON MD. STATE COORDINATES.
 - ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
 - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED. @-INV.
 - CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED. ANY COST INCURRED TO THE CONTRACTOR FOR TUNNELING OR BRACING AT POLES SHALL BE INCLUDED IN UNIT PRICES BID FOR CONSTRUCTION OF THE MAIN.
 - FOR DETAILS NOT SHOWN ON THE DRAWINGS USE HOWARD COUNTY STANDARD DETAILS FOR CONSTRUCTION.
 - MATERIALS AND CONSTRUCTION METHODS SHALL BE IN STRICT ACCORDANCE WITH HOWARD COUNTY STANDARD SPECIFICATIONS.
 - CONTRACTOR SHALL LOCATE EXISTING UTILITIES A MINIMUM OF TWO (2) WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS IN THE VICINITY OF PROPOSED UTILITIES AT HIS OWN EXPENSE, AND NOTE ANY CONFLICTS TO THE ENGINEER.
 - CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK ON THESE PLANS:
STATE HIGHWAY ADMINISTRATION 303-4435
ATTN: MR. CHARLIE K. WATKINS, DISTRICT UTILITY ENGINEER
BALTIMORE GAS & ELECTRIC CO. - UNDERGROUND GAS DISTRIBUTION CUSTOMER SERVICE 685-0123
ENGINEERING - "DAMAGE CONTROL" 234-5621
"MISS UTILITY" 1-550-0100
CHESAPEAKE & POTOMAC (CAP) TELEPHONE CO. 725-0076
 - BUREAU OF UTILITIES HOWARD COUNTY 302-2366
 - TREES ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
 - CONTRACTOR SHALL REMOVE AND TRANSPORT FROM THE SITE, TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION AS DIRECTED BY THE ENGINEER. PAYMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE PIPE AS APPLICABLE.
 - PLACE REGULATION "MEN WORKING" AND WARNING SIGNS AS REQUIRED TO COMPLY WITH MARYLAND STATE HIGHWAY ADMINISTRATION MANUAL OF TRAFFIC CONTROL FOR HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS.
- For Continuation of General Notes See Drawing 2 of 10.

SUBDIVISION NAME		SECTION/AREA	LOT/PARCEL NO.
HO. CO. CHESTNUT HILLS PUMP STA.		---	248, 167
PLAT NO. OR L/F	BLOCK NO.	TAX/ZONE MAP	ELEC. DIST. CENSUS TR.
14	R-20, R	18	2 6025
WATER CODE		SEWER CODE	
14/A		1451500	

CHESTNUT HILLS COLLECTOR SEWERS

CAPITAL PROJECT NO. S-6116

CONTRACT NO. 10-1133

ELECTION DISTRICT NO. 2

APPROVED
DIVISION OF LAND DEVELOPMENT &
ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 11-22-83

ITEM	QUANTITIES Δ		TYPE MATERIAL	SUPPLIERS
	ESTIMATE	AS BUILT		
Valley Lane Pumping Sta.	1 Each	---		
Forest Hill Pumping Sta.	1 Each	---		
4" Force Main	1584 L.F.			
8" Sewer	2225 L.F.			
8" D.I.P. CL. 52 Sewer	316 L.F.			
Sanitary Manholes	13			
San. MAs over 65 depth	36 V.F.			
Bone & Jack Steel Slope	25 L.F.			
6" House Connection	355 L.F.			
Main Line Cleanout	1			
8 1/2" Tees, 44e Branches, etc.	14			
2" Water	237 L.F.			
6" Type 'A' Drop Conn.	1			
6" Type 'B' Drop Conn.	1			
6" D.H.C. Storm Pipe	2 V.F.			

KCI Δ	Quantities Revised	5/24/84
BY NO.	REVISION	DATE

APPROVED: Howard County Office of Planning and Zoning
James A. Small 6-12-84
PLANNING DIRECTOR DATE

CHIEF, DIVISION OF LAND DEV. & ZONING ADMIN. DATE

APPROVED: For Public Water and Public Sewerage Systems
HOWARD COUNTY HEALTH DEPARTMENT
John Boyd 6-11-84
COUNTY HEALTH OFFICER DATE

APPROVED: For Public Water, Public Sewerage and Storm Drainage Systems and Roads
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
W. F. ... 6-9-84
DIRECTOR DATE

CHIEF, BUREAU OF ENGINEERING DATE

CHESTNUT HILLS COLLECTOR SEWERS
CAPITAL PROJECT NO. S-6116
CONTRACT NO. 10-1133 SDP 1076

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert M. ... 6-1-84
DIRECTOR OF PUBLIC WORKS DATE

Allen L. ... 5/18/84
CHIEF, BUREAU OF UTILITIES DATE

KIDDE CONSULTANTS, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND
1020 CROMWELL BRIDGE RD. 21204

CONTRACT NO. 10-1133
CAPITAL PROJECT S-6116

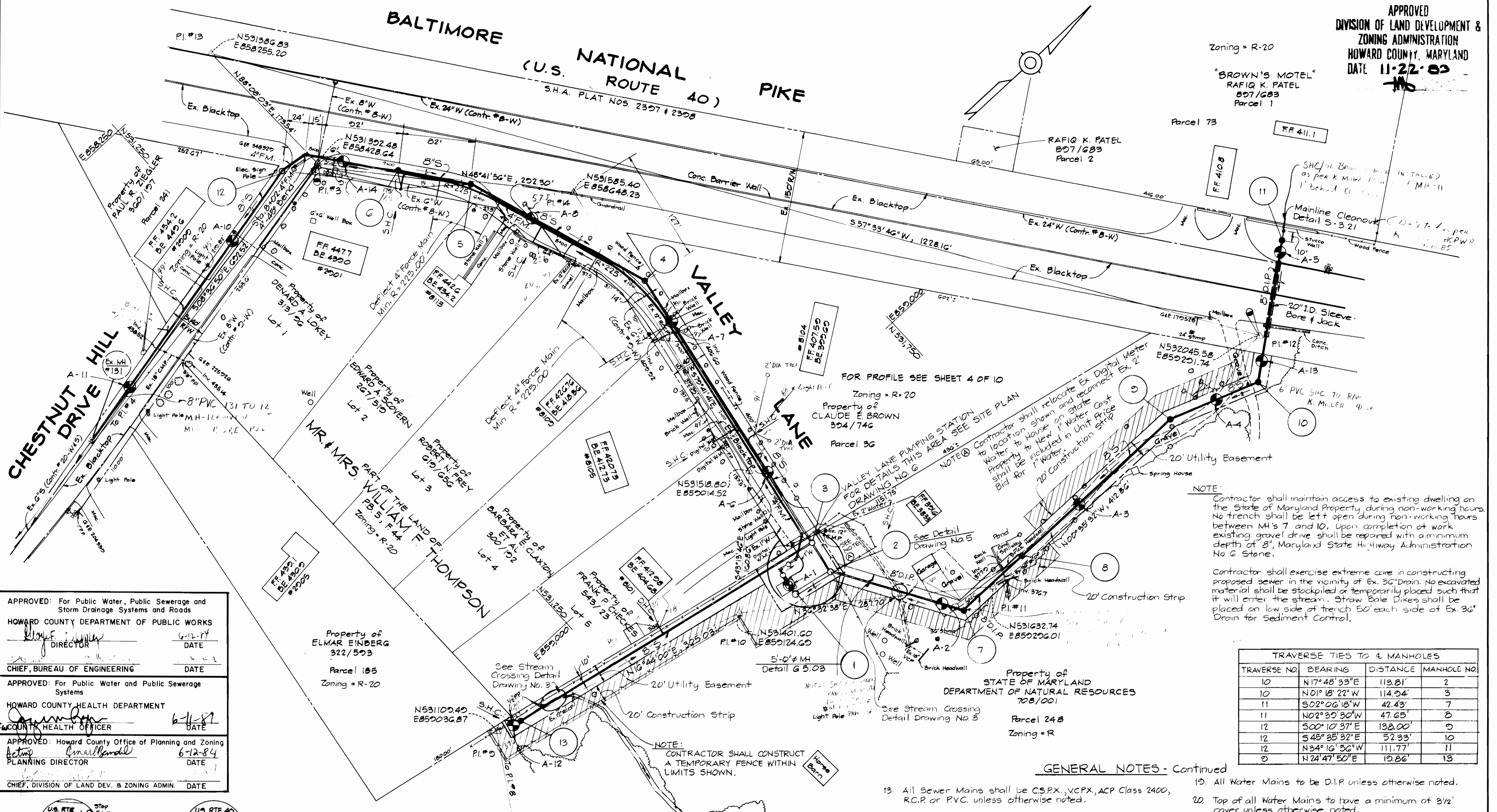
LOCATION MAP OF
SEWER MAIN EXTENSION

CHESTNUT HILLS COLLECTOR SEWERS
TITLE SHEET

DRAWING NO. 1 OF 10	SCALE 1" = 600'	DES. W.B.H. DRN. T.E.S. CHK. W.B.H.
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Zoning = R-20

"BROWN'S MOTEL"
RAFIQ K. PATEL
807/683
Parcel 1



NOTE:
Contractor shall maintain access to existing dwelling on the State of Maryland Property during non-working hours. No trench shall be left open during non-working hours between M's 7 and 10. Upon completion of work existing gravel drive shall be repaired with a minimum depth of 8" Maryland State Highway Administration No 6 Stone.

Contractor shall exercise extreme care in constructing proposed sewer in the vicinity of Ex. 36" Drain. No excavated material shall be stockpiled or temporarily placed such that it will enter the stream. Straw Bale Dikes shall be placed on low side of trench 50' each side of Ex. 36" Drain for Sediment Control.

TRAVERSE TIES TO & MANHOLES			
TRAVERSE NO.	BEARING	DISTANCE	MANHOLE NO.
10	N17°48'33"E	113.81'	2
10	N01°18'22"W	114.04'	3
11	S02°06'18"W	42.43'	7
11	N02°39'30"W	47.65'	8
12	S00°10'37"E	138.00'	9
12	S45°35'32"E	52.33'	10
12	N34°16'56"W	111.77'	11
9	N24°47'50"E	19.86'	13

GENERAL NOTES - Continued

- All Sewer Mains shall be C.S.P.X., V.C.P.X., A.C.P. Class 2400, R.C.P. or P.V.C. unless otherwise noted.
- The Contractor shall provide a joint in all Sewer Mains within 2'-0" of exterior manhole wall.
- All Manholes shall be 4'-0" inside diameter, unless otherwise noted.
- Manholes designated as watertight in plan and profile shall have watertight frame and covers, Standard Detail G5.53. Where watertight manhole frame and cover is used, set top of frame 1'-6" above finished grade.
- House(s) with the symbol "C.N.S." indicates that cellar can not be served.
- Force Mains shall be D.I.P. only.
- All Water Mains to be D.I.P. unless otherwise noted.
- Top of all Water Mains to have a minimum of 3/2' cover unless otherwise noted.
- Valves adjacent to tees shall be strapped to tees.
- Block all fittings with concrete.
- The Contractor shall not operate any water main valves on the existing system.
- Reinforced Concrete Sewer Pipe (R.C.P.) shall conform to AWWA Specification C-302, latest edition and Section 1004.02.04 of the Howard County Standard Specifications.

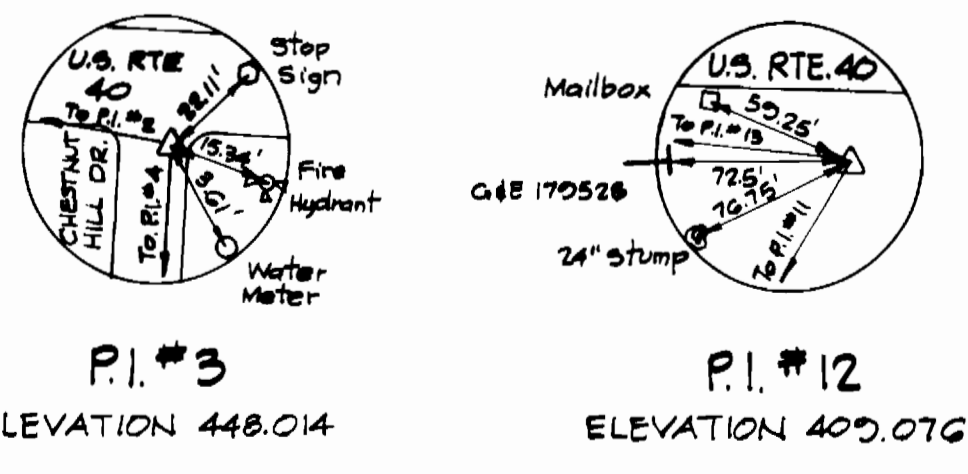
CHESTNUT HILLS COLLECTOR SEWERS
CAPITAL PROJECT NO. S-G11G
CONTRACT NO. 10-1133 SDF 20FG

APPROVED: For Public Water, Public Sewerage and Storm Drainage Systems and Roads
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DATE 6-12-84
DIRECTOR

APPROVED: For Public Water and Public Sewerage Systems
HOWARD COUNTY HEALTH DEPARTMENT
DATE 6-11-84
COUNTY HEALTH OFFICER

APPROVED: Howard County Office of Planning and Zoning
DATE 6-12-84
PLANNING DIRECTOR

CHIEF, DIVISION OF LAND DEV. & ZONING ADMIN. DATE



SITE ANALYSIS
Area of Parcel = 0.1054 Acres
Present Zoning = R-20
Floor Space of Building = 224.25 sq ft.
Employees on Site = 0
No. of Parking Spaces = 0

PLAN
Scale: 1"=50'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DATE 6-12-84
DIRECTOR

DATE 6-12-84
CHIEF, BUREAU OF ENGINEERING

DATE 6-12-84
CHIEF, BUREAU OF UTILITIES

DATE 6-12-84
CHIEF, UTILITY DIVISION

KIDDE CONSULTANTS, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND
1020 CHOWNING L. BRIDGE RD. Z1204

CONTRACT NO. 10-1133
CAPITAL PROJECT S-6116

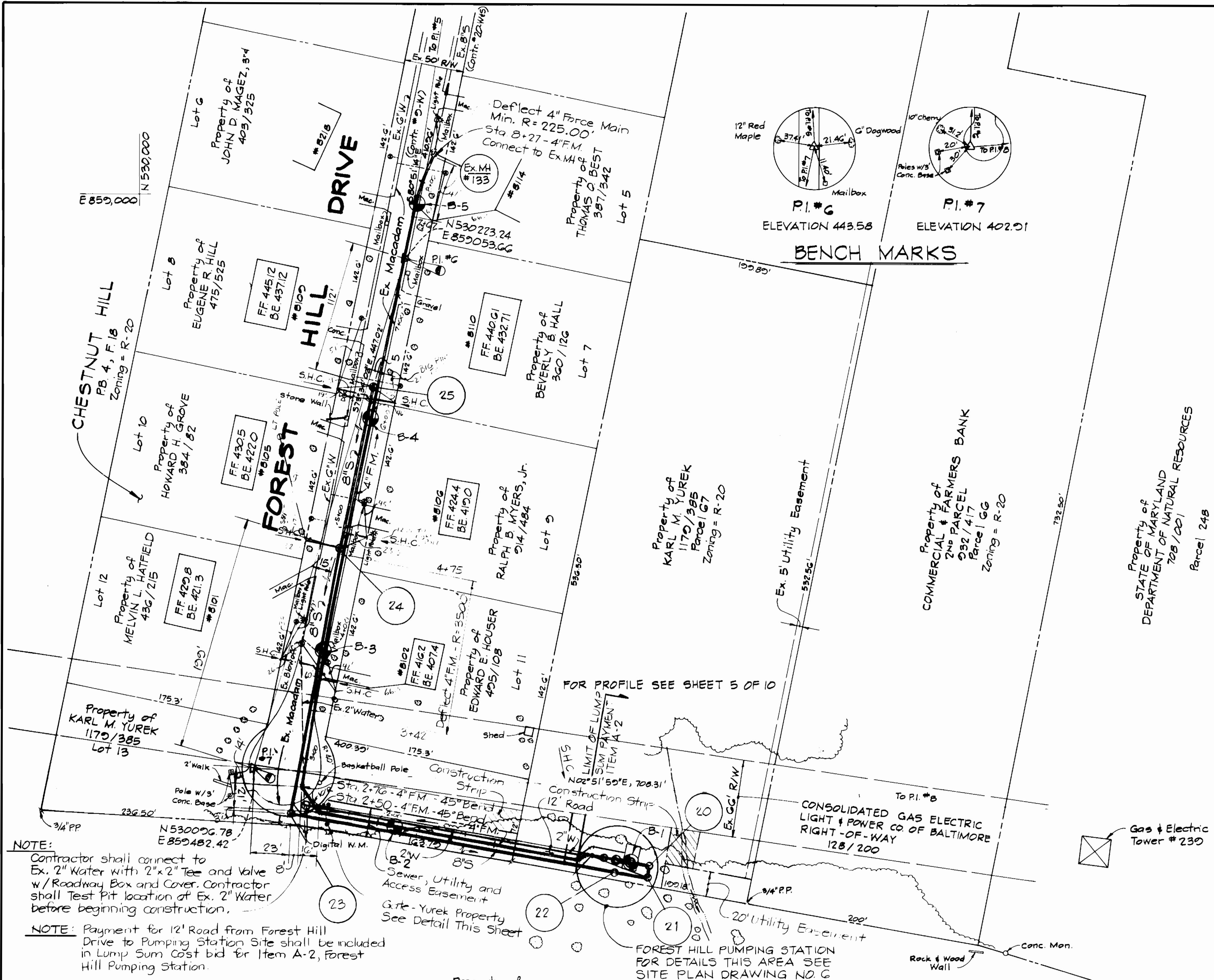
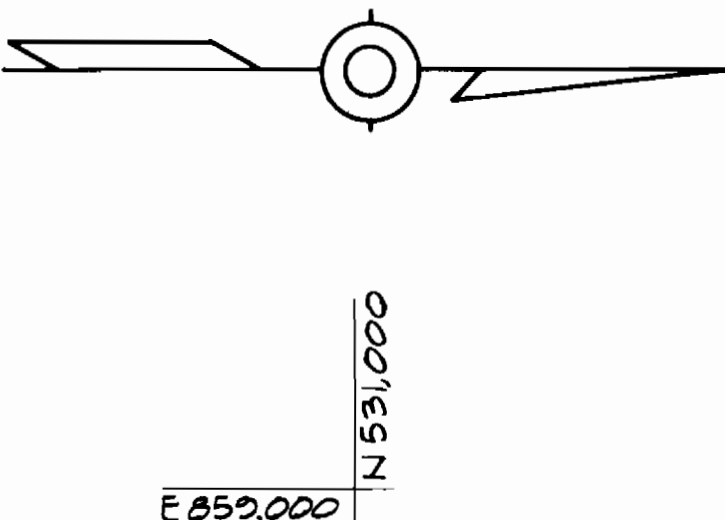
PLAN OF SEWER MAINS

CHESTNUT HILLS COLLECTOR SEWERS

DRAWING NO. 2 OF 10
SCALE 1"=50'
DES. T.E.S.
DRN. T.E.S.
CHK. W.B.H.

APPROVED: For Public Water, Public Sewerage and Storm Drainage Systems and Roads
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
John F. Neuman 6-12-84
 DIRECTOR DATE
John F. Neuman 6-12-84
 CHIEF, BUREAU OF ENGINEERING DATE
 APPROVED: For Public Water and Public Sewerage Systems
 HOWARD COUNTY HEALTH DEPARTMENT
John F. Neuman 6-12-84
 COUNTY HEALTH OFFICER DATE
 APPROVED: Howard County Office of Planning and Zoning
Acting *Donald W. Hall* 6-12-84
 PLANNING DIRECTOR DATE
 CHIEF, DIVISION OF LAND DEV. & ZONING ADMIN. DATE

APPROVED
 DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
 HOWARD COUNTY, MARYLAND
 DATE 11-22-83

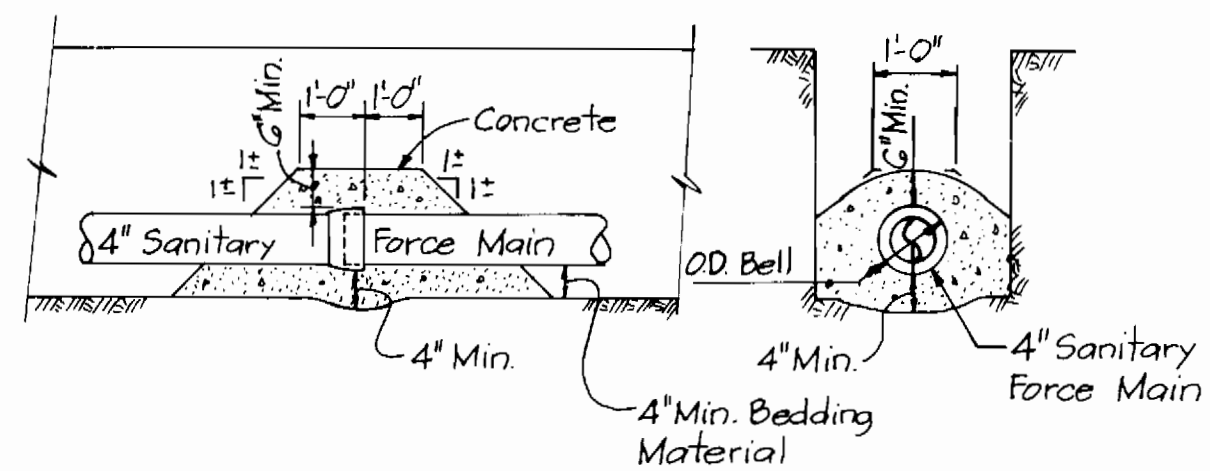


NOTE: Contractor shall connect to Ex. 2" Water with 2"x2" Tee and Valve w/ Roadway Box and Cover. Contractor shall Test Pit location of Ex. 2" Water before beginning construction.

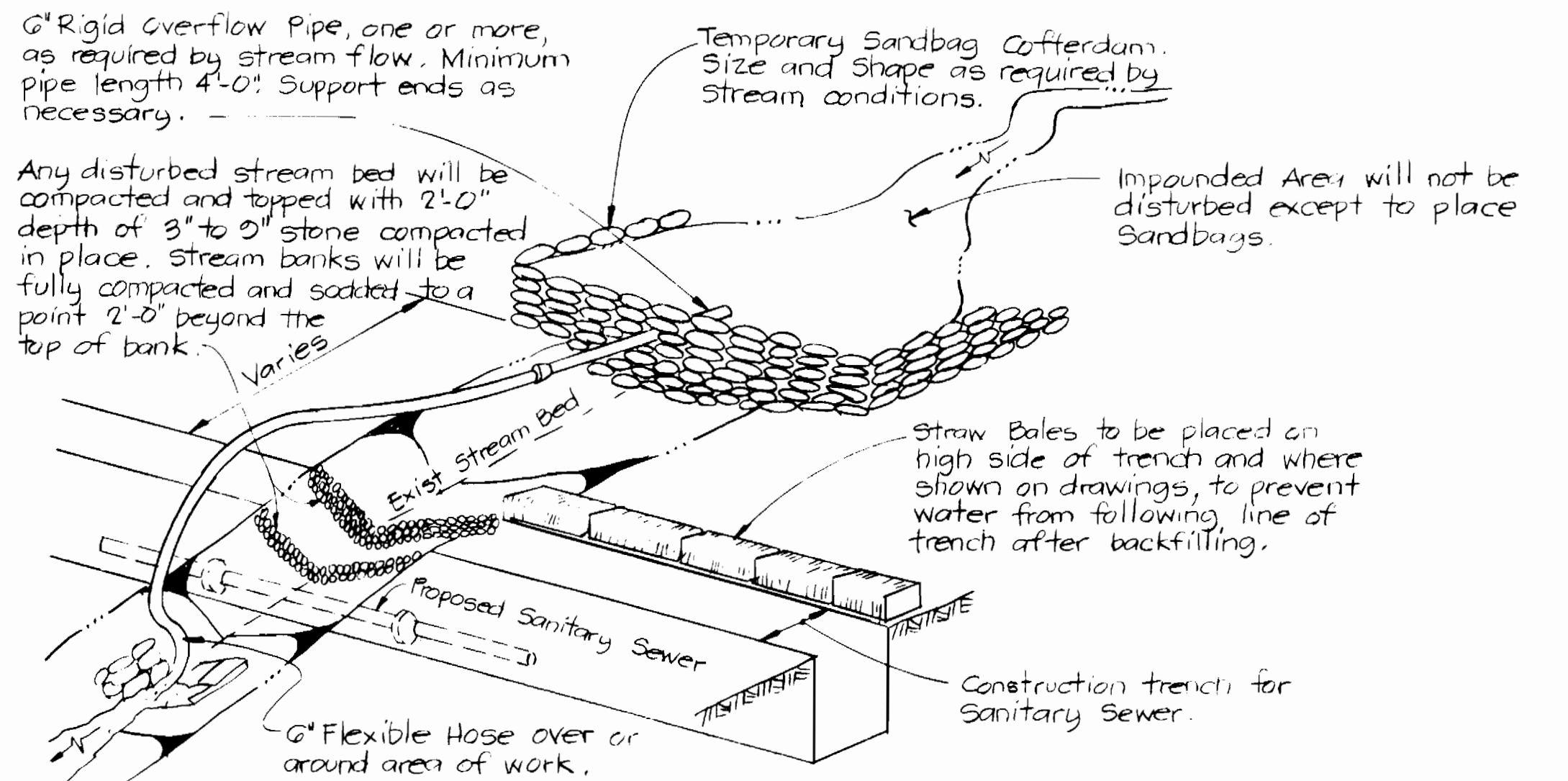
NOTE: Payment for 12' Road from Forest Hill Drive to Pumping Station Site shall be included in Lump Sum Cost bid for Item A-2, Forest Hill Pumping Station.

TRAVERSE NO.	BEARING	DISTANCE	MANHOLE NO.
7	N13°37'34"E	344.33'	20
7	N15°17'06"E	345.00'	21
7	N15°41'47"E	317.11'	22
7	N49°30'11"E	49.52'	23

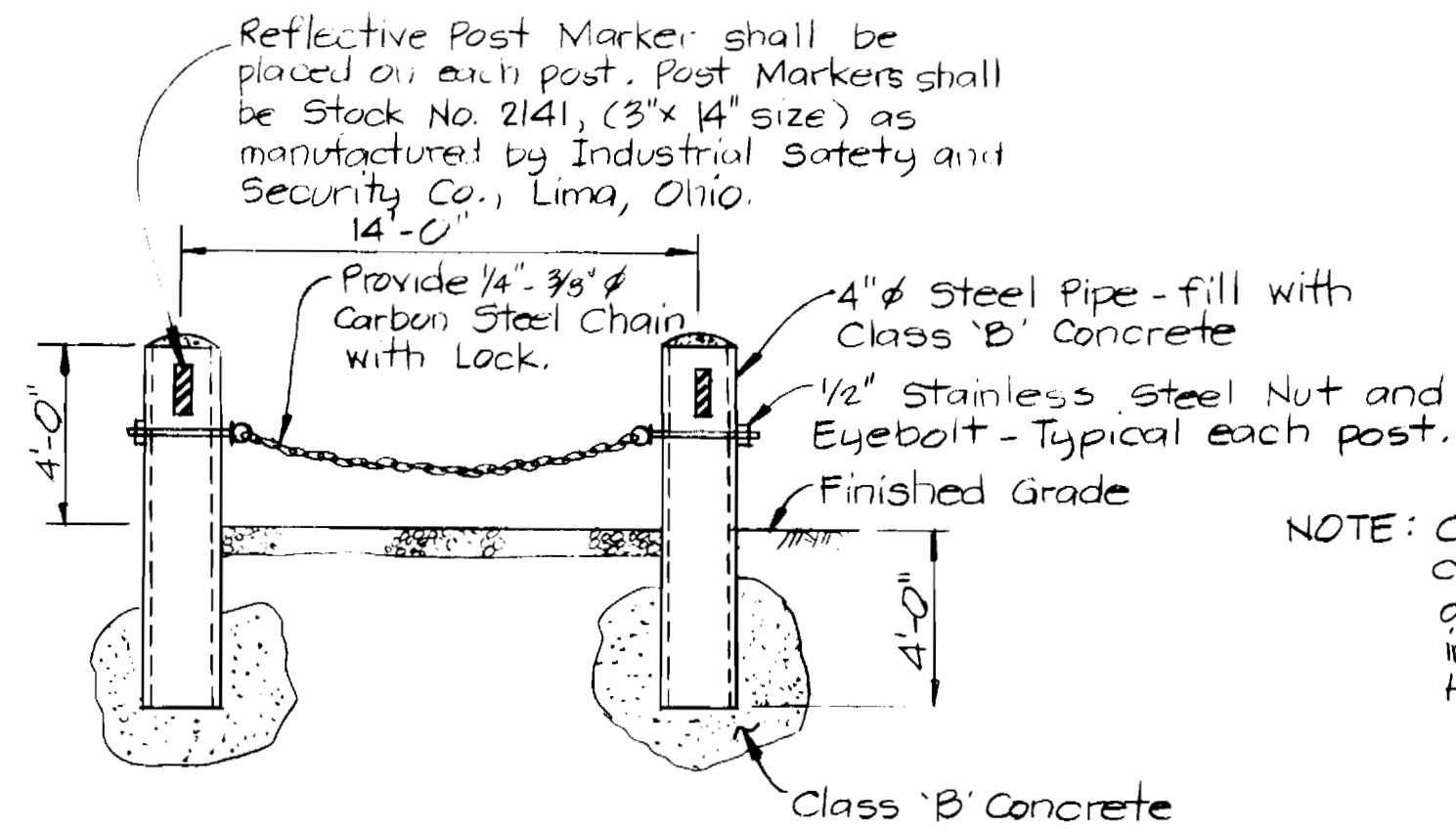
PLAN
 Scale: 1"=50'



ELEVATION SECTION
 FORCE MAIN JOINT ENCASEMENT
 Not to Scale



STREAM CROSSING DETAIL
 Not to Scale



GATE DETAIL
 YUREK PROPERTY
 Not to Scale

NOTE: Cost for furnishing gate posts, chain lock, and all equipment and labor, etc. shall be included in Lump Sum Price bid for Forest Hill Pumping Station.

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
John F. Neuman
 DIRECTOR OF PUBLIC WORKS
 DATE 6-1-84
 CHIEF, BUREAU OF UTILITIES

KIDDE CONSULTANTS, INC.
 CONSULTING ENGINEERS
 BALTIMORE, MARYLAND
 1020 CROMWELL BRIDGE RD. 21204

CONTRACT NO. 10-1133
 CAPITAL PROJECT S-6116

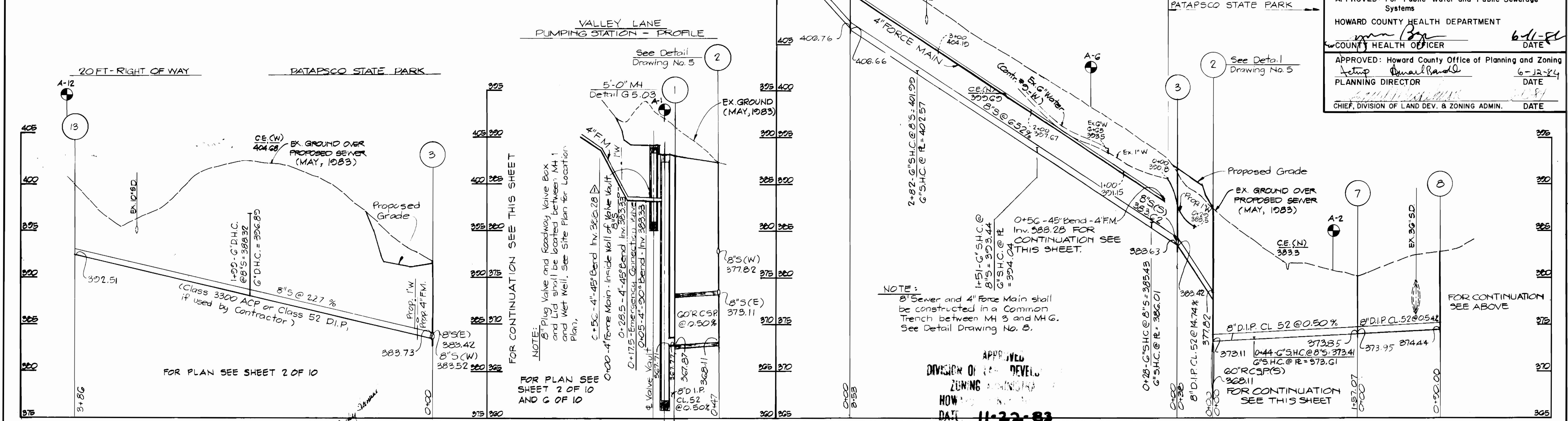
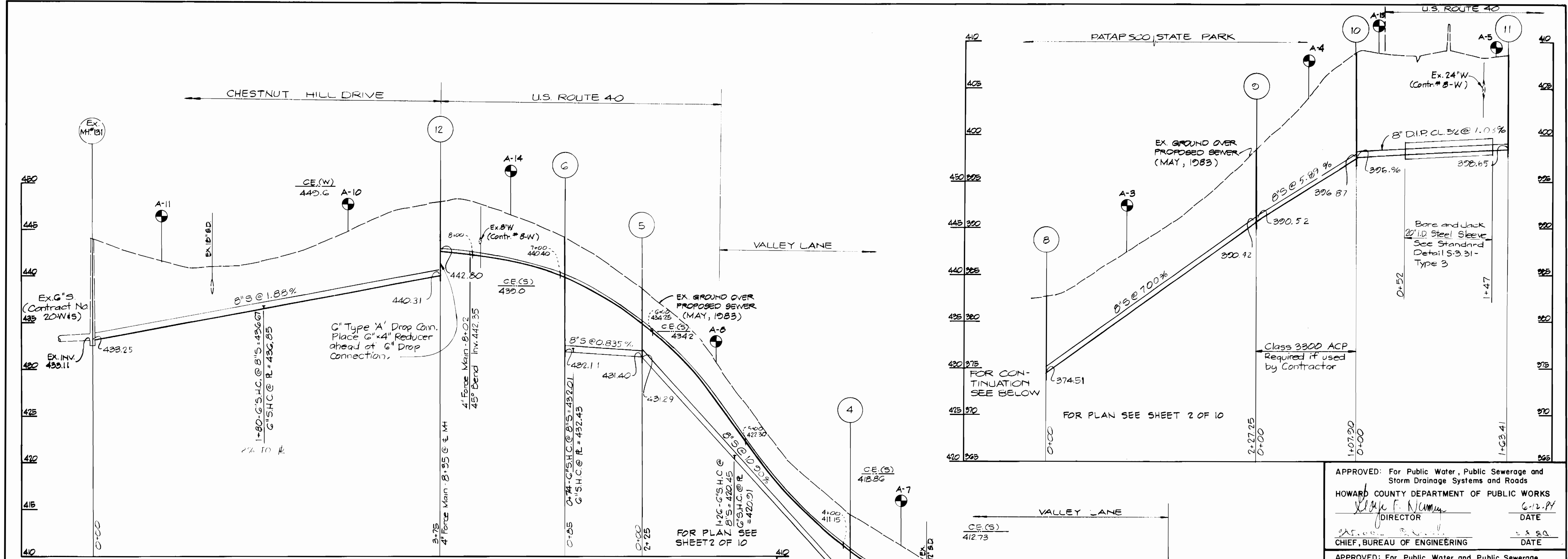
PLAN OF SEWER MAINS

KCI	BY	NO.	REVISION	DATE
▲			Added Force Main Joint Encasement Detail	8-17-84

CHESTNUT HILL COLLECTOR SEWERS
 CAPITAL PROJECT NO. S-6116
 CONTRACT NO. 10-1133 SDP 3076

CHESTNUT HILLS COLLECTOR SEWERS

DRAWING NO. 3 OF 10
 SCALE 1"=50'
 DES. T.E.S.
 DRN. T.E.S.
 CHK. W.B.H.



APPROVED: For Public Water, Public Sewerage and Storm Drainage Systems and Roads
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Director: *Robert M. Bennett* 6-12-84
 DATE
 Chief, Bureau of Engineering: *Robert M. Bennett* 6-12-84
 DATE

APPROVED: For Public Water and Public Sewerage Systems
 HOWARD COUNTY HEALTH DEPARTMENT
 County Health Officer: *John F. ...* 6-11-84
 DATE

APPROVED: Howard County Office of Planning and Zoning
 Planning Director: *John F. ...* 6-12-84
 DATE
 Chief, Division of Land Dev. & Zoning Admin.: *John F. ...* 6-12-84
 DATE

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: *Robert M. Bennett* 6-12-84
 Chief, Bureau of Engineering: *Robert M. Bennett* 6-12-84
 Chief, Utility Division: *Allen L. Brown* 5/1/84

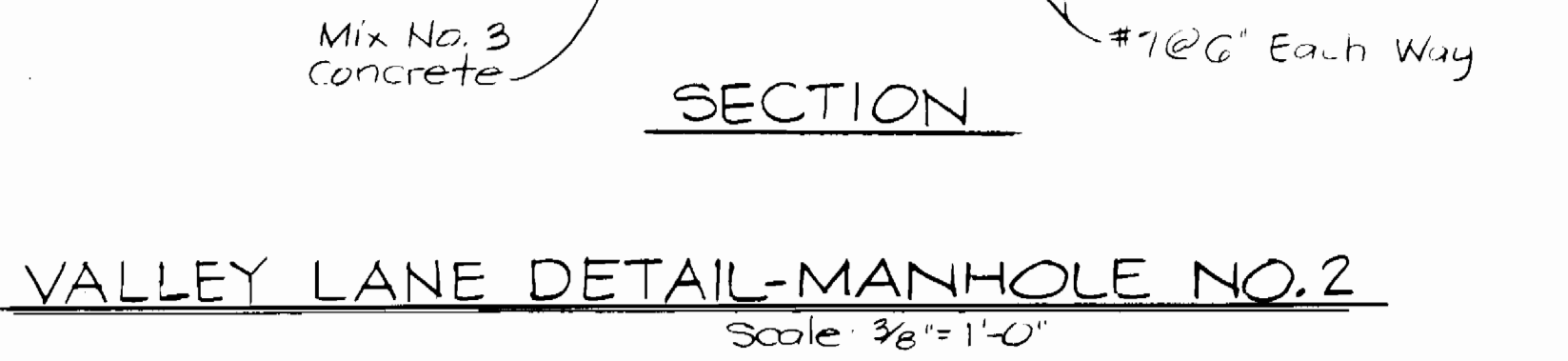
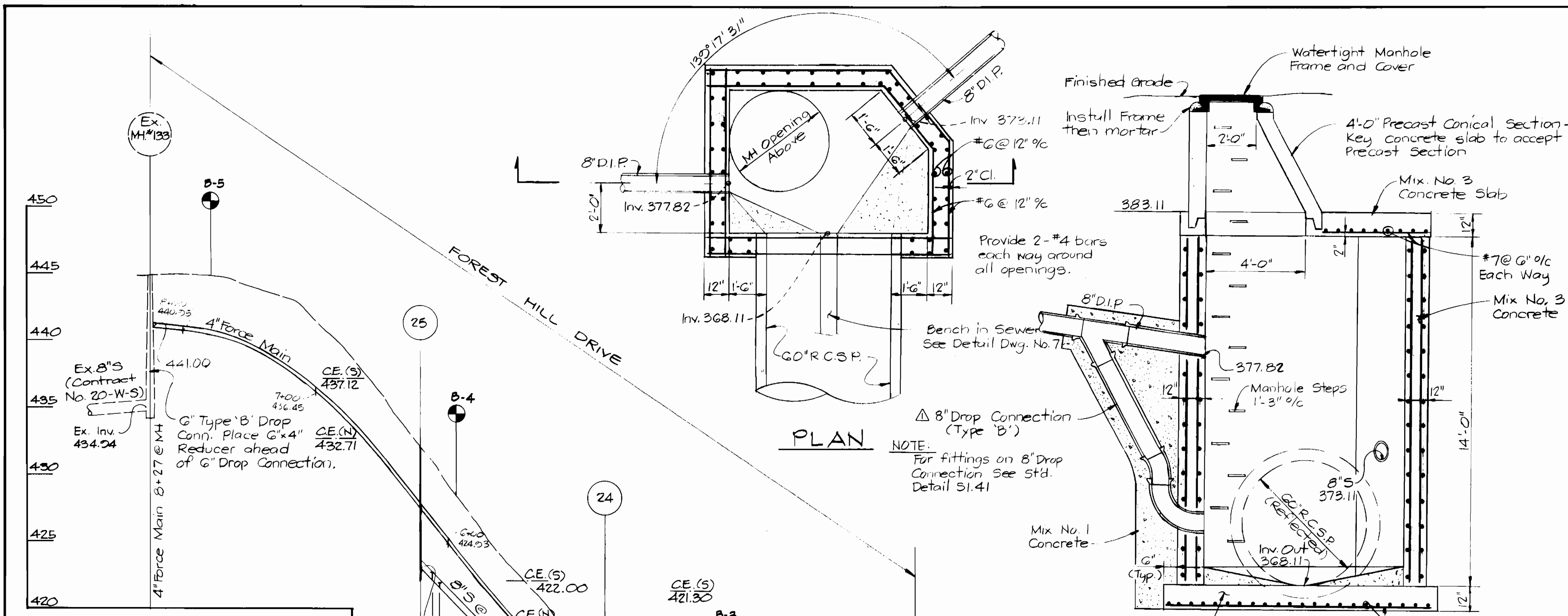
KIDDE CONSULTANTS, INC.
 CONSULTING ENGINEERS
 BALTIMORE, MARYLAND
 2120 CROMWELL BLVD. RD. 21204

CONTRACT NO. 10-1133
 CAPITAL PROJECT S-6116

PROFILES OF SEWER MAINS

CHESTNUT HILLS COLLECTOR SEWERS
 CAPITAL PROJECT NO. S-6116
 CONTRACT NO. 10-1133
 REVISION: Changed G'S to 8\"/>

DRAWING NO. 4 OF 10
 SCALE: HOR. 1\"/>



VALLEY LANE DETAIL-MANHOLE NO. 2
Scale: 3/8" = 1'-0"

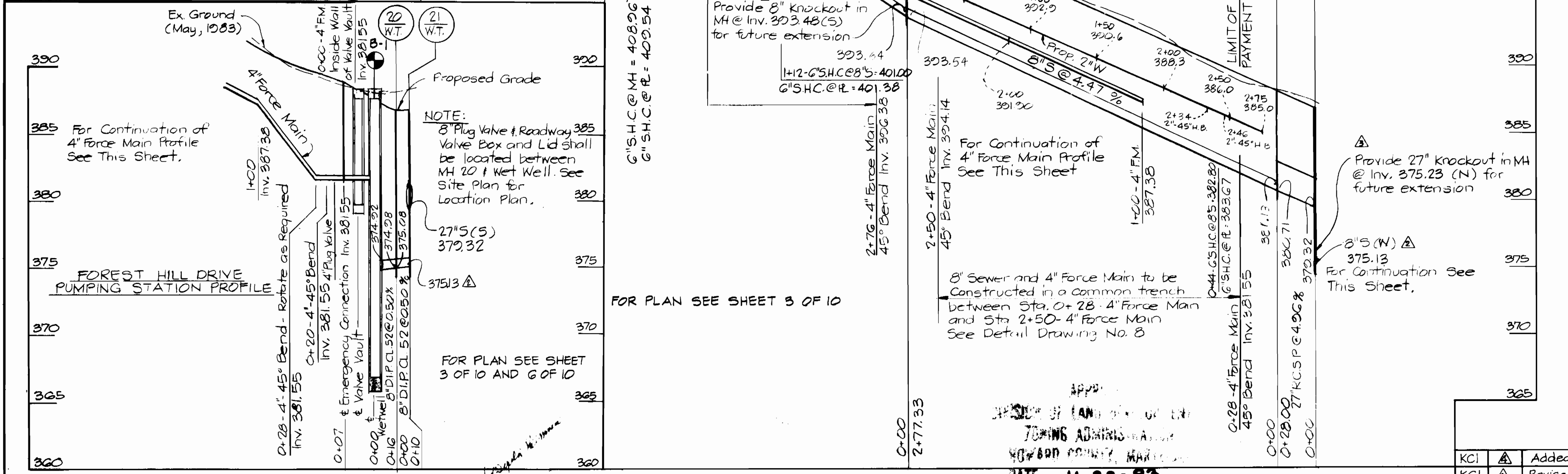
SOIL EROSION AND SEDIMENT CONTROL NOTES

1. THE CONTRACTOR WILL COMPLY WITH ALL REQUIREMENTS OF SEDIMENT AND EROSION CONTROL AS SET FORTH IN THE CONTRACT DRAWINGS, THE USDA SOIL CONSERVATION SERVICE MANUAL, "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS" AND VOLUME IV-SECTION 15 OF THE HOWARD COUNTY DESIGN MANUAL.
2. THE CONTRACTOR SHALL NOT PUMP FROM EXCAVATED AREAS DIRECTLY INTO THE HOWARD COUNTY STORM DRAINAGE SYSTEM OR ANY NATURAL WATER COURSE. WHERE GROUNDWATER IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE PORTABLE OR EXCAVATED SEDIMENT TRAPS TO PREVENT SILTED TRENCH WATER FROM ENTERING STORM DRAINAGE SYSTEMS OR NATURAL WATERWAYS.
3. ALL EXCAVATED MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH WHENEVER POSSIBLE, AND CONFINED TO AN AREA WHERE IT WILL NOT OBSTRUCT THE NORMAL FLOW OF DRAINAGE COURSES.
4. ALL SWALES SHALL BE EQUIPPED WITH A SEDIMENT RETENTION DEVICE TO TRAP SEDIMENT AND FILTER WATER LEAVING THE RIGHT-OF-WAY PRIOR TO ENTERING ANY RUNNING STREAMS.
5. THE CONTRACTOR SHALL PROVIDE STRAW BALE DIKES NORMAL TO SURFACE WATER FLOW AROUND ALL VEHICLE AND EQUIPMENT STAGING AREAS AS SHOWN IN DETAIL OF A STRAW BALE DIKE ENCLOSED IN SPECIFICATIONS.
6. ROADSIDE DITCHES AND DRAINAGE PIPES SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN ORIGINAL CONDITION FOLLOWING COMPLETION OF CONSTRUCTION.
7. ALL DISTURBED AREAS NOT STABILIZED BY BUILDINGS, PAVING OR WALKS SHALL BE STABILIZED IMMEDIATELY FOLLOWING COMPLETION OF TRENCH BACKFILL OPERATIONS AS FOLLOWS:
 SEEDBED PREPARATION: LOOSEN UPPER 3 INCHES OF SOIL ON FLAT AREAS AND SLOPES UP TO 3 TO 1 GRADE ON STEEP SLOPES LOOSEN ONLY TOP 1 TO 3 INCHES BY DISCING, RAKING OR OTHER ACCEPTABLE MEANS.
 SOIL AMENDMENTS: APPLY 2 TONS PER ACRE OF DOLOMITIC LIMESTONE AND 600 LBS. PER ACRE OF 0-20-20 FERTILIZER. HARROW OR DISC LIME AND FERTILIZER INTO SEED BED. AT THE TIME OF SEEDING APPLY 400 LBS. PER ACRE OF 38-0-0 UREAFORM FERTILIZER AND 500 LBS. PER ACRE OF 10-20-20 FERTILIZER.
 SEEDING: FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 6.0 LBS. PER ACRE OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. PER ACRE OF KENTUCKY 31 TALL FESCUE AND 2 LBS. PER ACRE OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT THE SITE BY OPTION (1) - 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) - 300 (DELAY UNTIL NEXT PERIOD, IF GROUND IS FROZEN).
 MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ. FT. OF UNROTTEN SMALL GRAIN STRAW UNIFORMLY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING 5 GAL. PER 1000 SQ. FT. OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPE 8 OR HIGHER USE 8 GAL. PER 1,000 SQ. FT. FOR ANCHORING.

APPROVED For Public Water, Public Sewerage and Storm Drainage Systems and Roads
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 DIRECTOR DATE 6-12-84
 CHIEF, BUREAU OF ENGINEERING DATE 6-12-84

APPROVED For Public Water and Public Sewerage Systems
HOWARD COUNTY HEALTH DEPARTMENT
 COUNTY HEALTH OFFICER DATE 6-11-84

APPROVED Howard County Office of Planning and Zoning
 PLANNING DIRECTOR DATE 6-12-84
 CHIEF, DIVISION OF LAND DEV. & ZONING ADMIN. DATE 6-12-84



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY MARYLAND
 DIRECTOR OF PUBLIC WORKS DATE 6-12-84
 CHIEF, BUREAU OF UTILITIES DATE 6-12-84

PROFILES
 Scale: Hor. 1" = 50'
 Vert. 1" = 5'

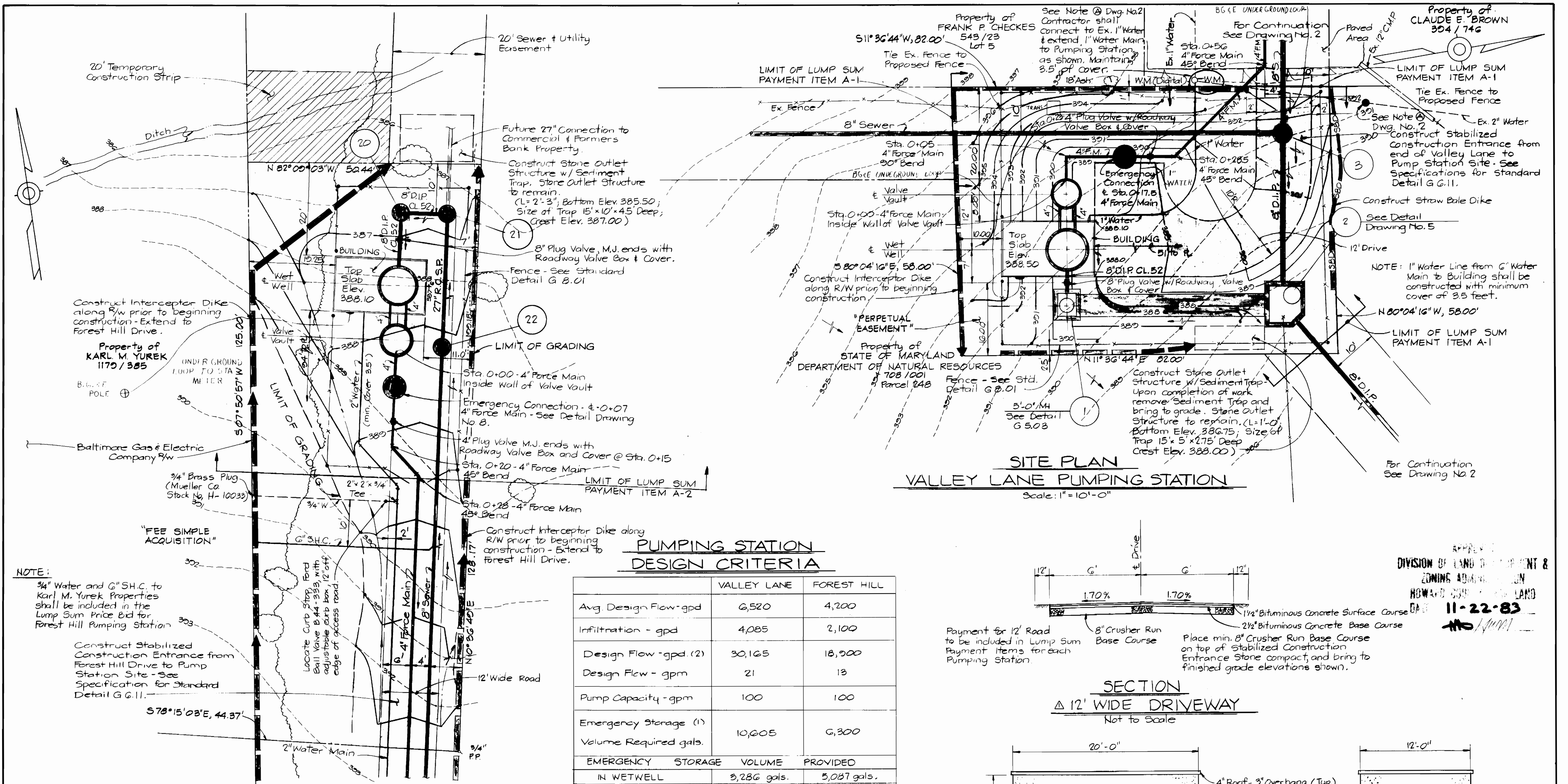
KIDDE CONSULTANTS, INC.
 CONSULTING ENGINEERS
 BALTIMORE, MARYLAND
 1222 CROMWELL BRIDGE RD 21204

CONTRACT NO. 10-1133
 CAPITAL PROJECT S-6116

PROFILE OF SEWER MAINS

KCI	▲	Added Sediment Control Note #15	10-11-84
KCI	▲	Revised Elevation of 27" knockout @ MH2	8-17-84
KCI	▲	Revised Elevation of 8" Sewer	8-17-84
KCI	▲	Added Drop Connection to MH 2	8-17-84
BY	NO.	REVISION	DATE

CHESTNUT HILLS COLLECTOR SEWERS
 CAPITAL PROJECT NO S-6116
 CONTRACT NO. 10-1133



SITE PLAN
VALLEY LANE PUMPING STATION
 Scale: 1" = 10'-0"

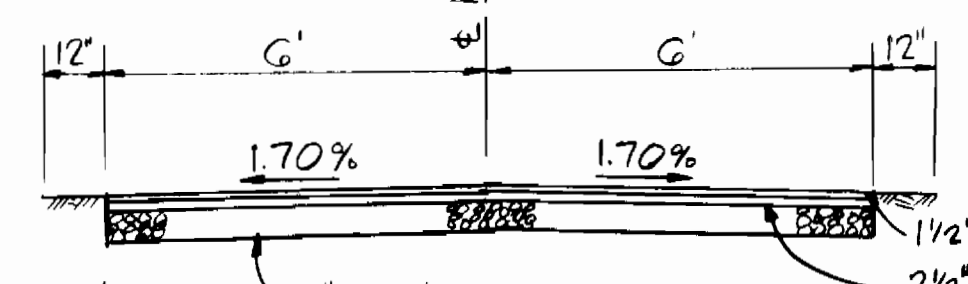
NOTE:
 3/4" Water and 6" S.H.C. to Karl M. Yurek Properties shall be included in the Lump Sum Price Bid for Forest Hill Pumping Station

Construct Stabilized Construction Entrance from Forest Hill Drive to Pump Station Site - See Specification for Standard Detail G.6.11.

SITE PLAN
FOREST HILL PUMPING STATION
 Scale: 1" = 10'-0"

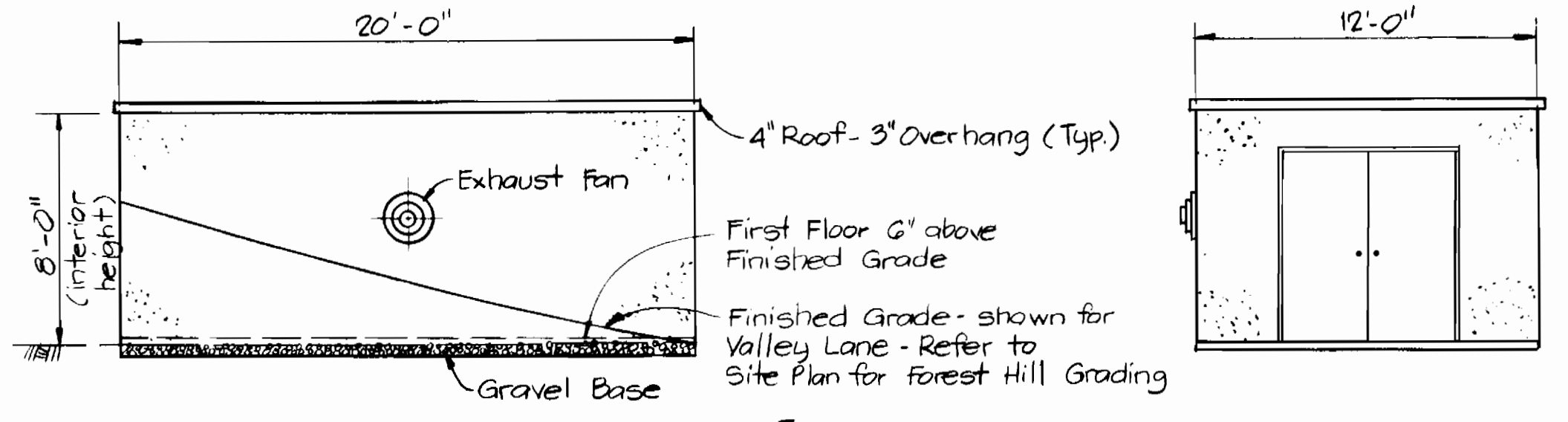
PUMPING STATION DESIGN CRITERIA

	VALLEY LANE	FOREST HILL
Avg. Design Flow - gpd	6,520	4,200
Infiltration - gpd	4,085	2,100
Design Flow - gpd (2)	30,165	18,900
Design Flow - gpm	21	13
Pump Capacity - gpm	100	100
Emergency Storage (1)	10,605	6,300
Volume Required gals.		
EMERGENCY STORAGE VOLUME PROVIDED		
IN WETWELL	3,286 gals.	5,087 gals.
IN MANHOLES	2,393 gals.	963 gals.
IN 8" PIPE	14 gals.	152 gals.
IN 27" PIPE	—	736 gals. (3)
IN 60" PIPE	6,063 gals.	—
TOTAL VOLUME ACTUALLY PROVIDED	11,756 gals.	6,938 gals.



Payment for 12' Road to be included in Lump Sum Payment Items for each Pumping Station.
 8" Crusher Run Base Course
 1 1/2" Bituminous Concrete Surface Course
 2 1/2" Bituminous Concrete Base Course
 Place min. 8" Crusher Run Base Course on top of Stabilized Construction Entrance Stone compact, and bring to finished grade elevations shown.

SECTION
Δ 12' WIDE DRIVEWAY
 Not to Scale



TYPICAL ELEVATION
 (EAST WALL VALLEY LANE STATION SHOWN)
 Scale: 1" = 5'

FRONT ELEVATION
 Scale: 1" = 5'

NOTE:
 Length of Building = 20'-0" (Out to Out)
 Width of Building = 12'-0" (Out to Out)
 Building is identical for each Station
 Above data for Zoning purposes only - Buildings offering similar floor area will be acceptable.

- (1) Emergency Storage Volume Required is 24 Hrs. average flow + infiltration.
- (2) Flows peaked in accordance with Volume II - Howard County Design Manual.
- (3) Future Sewer Extension to North will require oversize pipe to be constructed. The Volume for this pipe is not included in this figure.

APPROVED For Public Water, Public Sewerage and Storm Drainage Systems and Roads HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS <i>Walter F. Neuman</i> DIRECTOR DATE: 6-11-84	APPROVED For Public Water and Public Sewerage Systems HOWARD COUNTY HEALTH DEPARTMENT <i>John R. ...</i> COUNTY HEALTH OFFICER DATE: 6-11-84
APPROVED For Public Water and Public Sewerage Systems HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS <i>Walter F. Neuman</i> DIRECTOR DATE: 6-12-84	APPROVED Howard County Office of Planning and Zoning HOWARD COUNTY DEPARTMENT OF LAND DEV. & ZONING ADMIN. <i>Kevin Smallwood</i> PLANNING DIRECTOR DATE: 6-12-84

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: *Walter F. Neuman* 6-1-84
 Chief, Bureau of Engineering: *Robert M. ...* 6-1-84
 Chief, Bureau of Utilities: *Allen S. Brown* 5/1/84

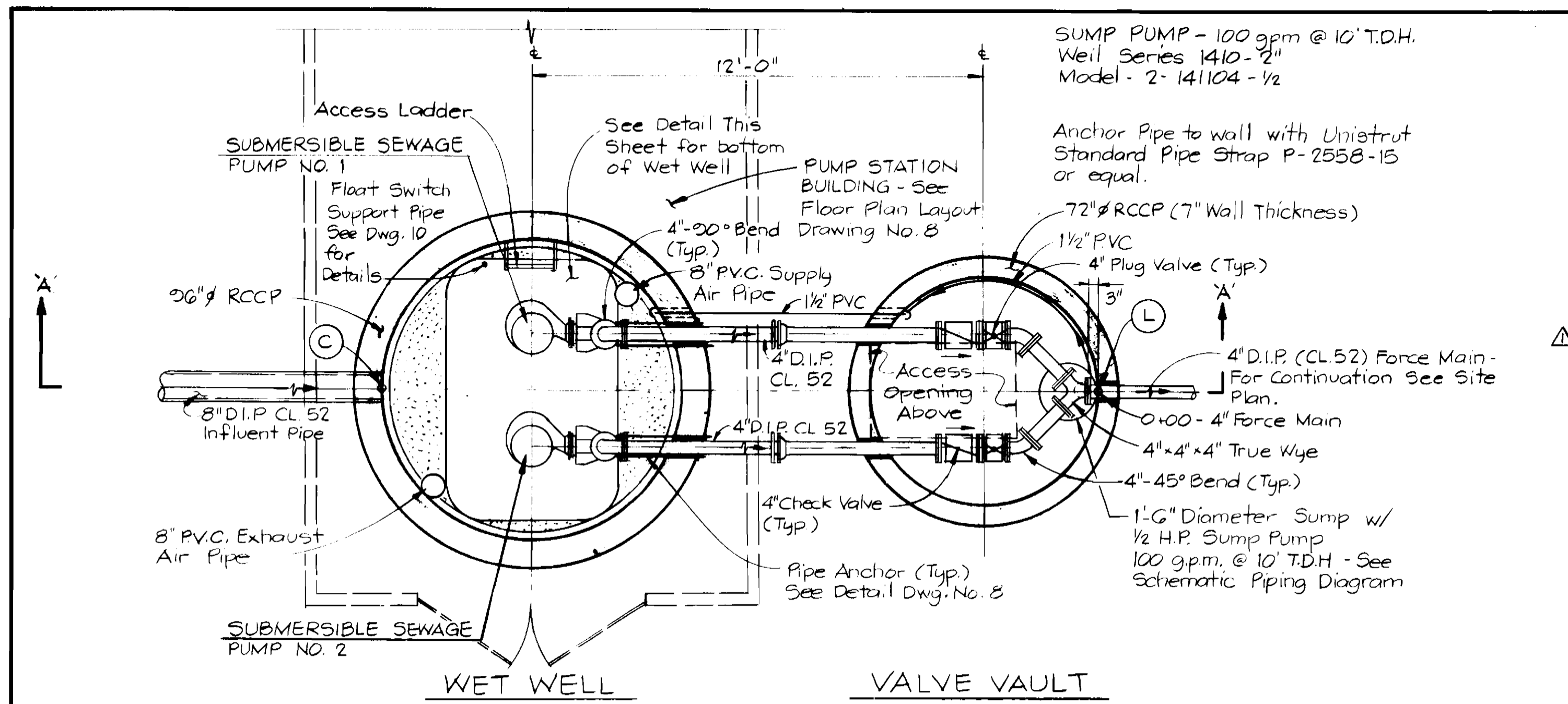
KIDDE CONSULTANTS, INC.
 CONSULTING ENGINEERS
 BALTIMORE, MARYLAND
 1020 CROMWELL BRIDGE RD. Z1204

CONTRACT NO. 10-1133
 CAPITAL PROJECT S-6116

PUMPING STATIONS
 SITE PLANS

CHESTNUT HILLS COLLECTOR SEWERS
 CAPITAL PROJECT NO. S-6116
 CONTRACT NO. 10-1133

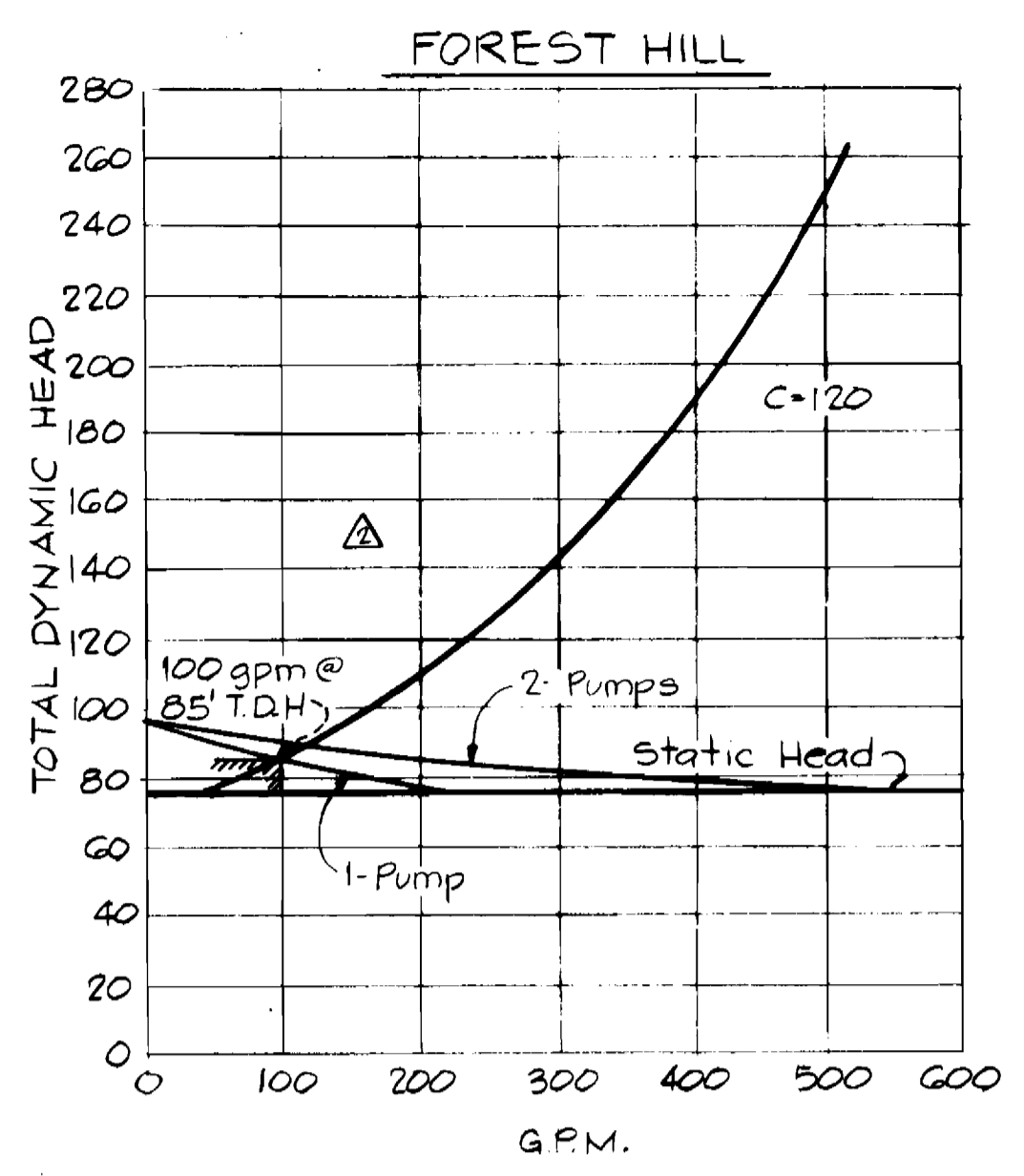
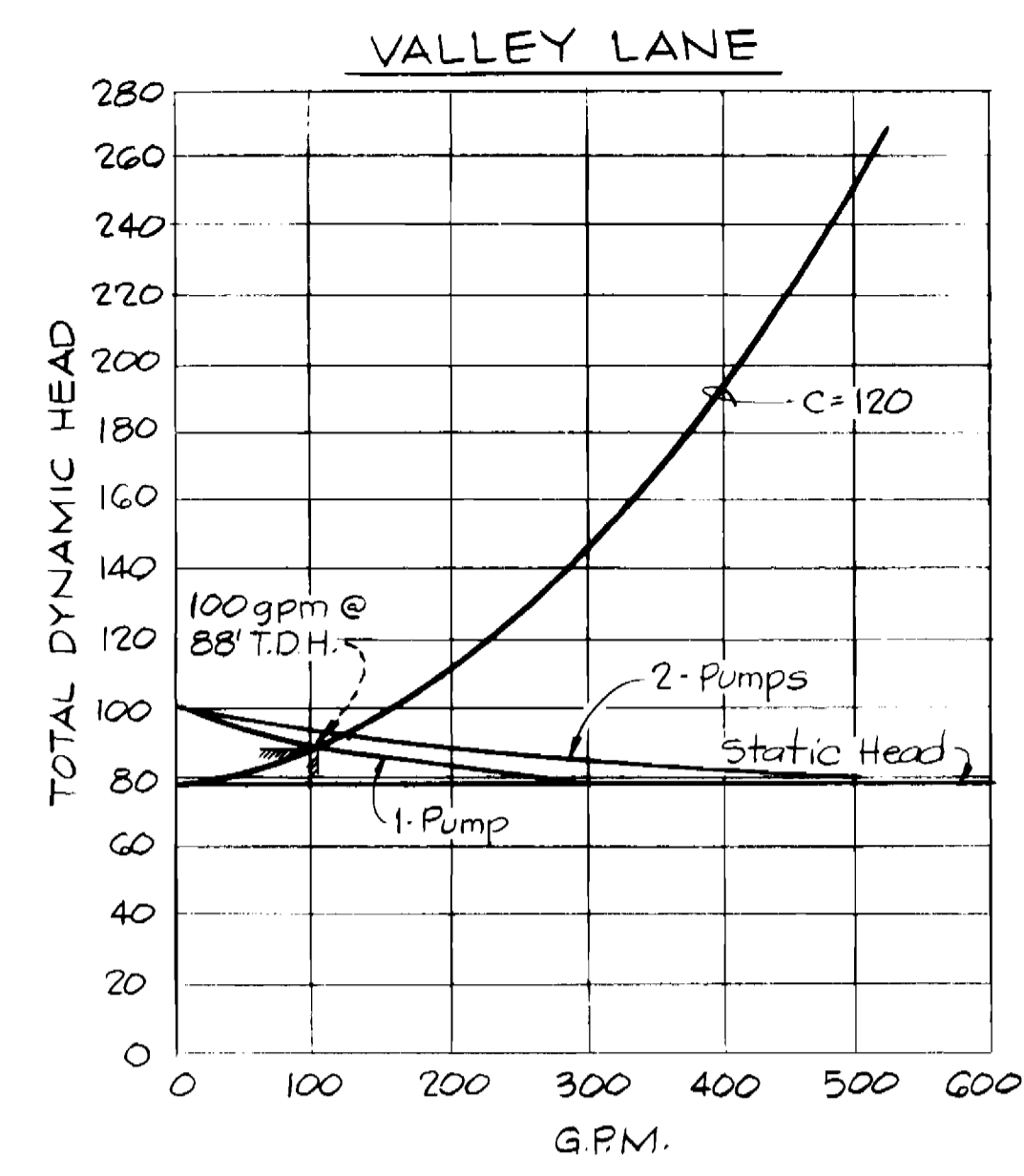
DRAWING NO. 6 OF 10
 SCALE 1" = 10'
 DES. W.B.H.
 DRN. E.A.B.
 CHK. J.P.H.



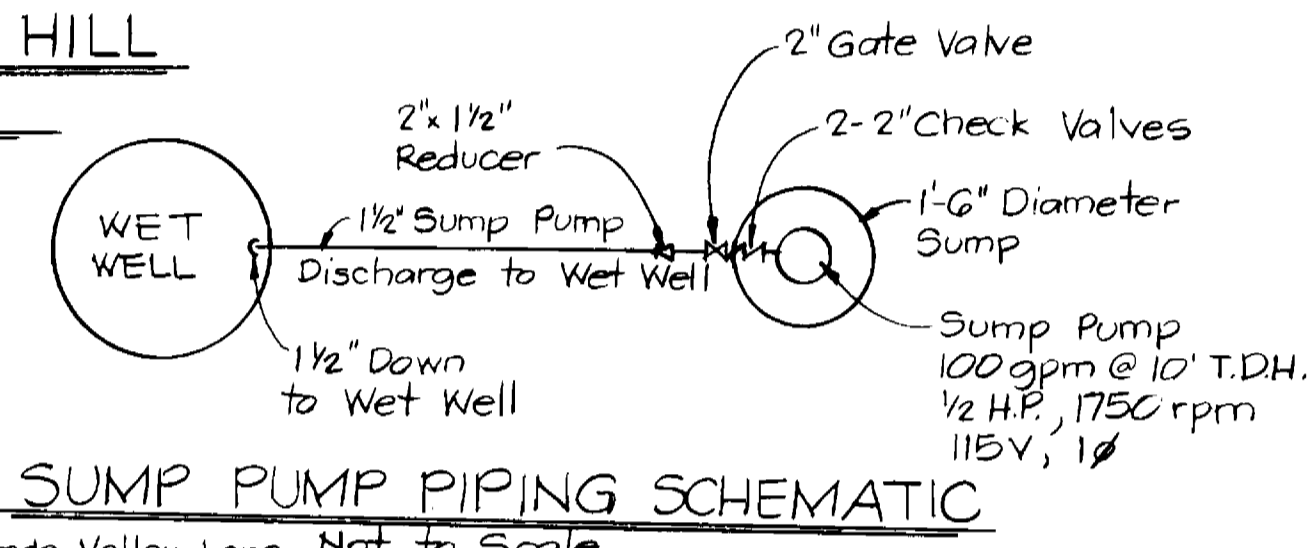
PLAN VALLEY LANE-FOREST HILL PUMPING STATIONS
Scale: 3/8"=1'-0"

PUMPING STATIONS DESIGN CRITERIA AND ELEVATIONS

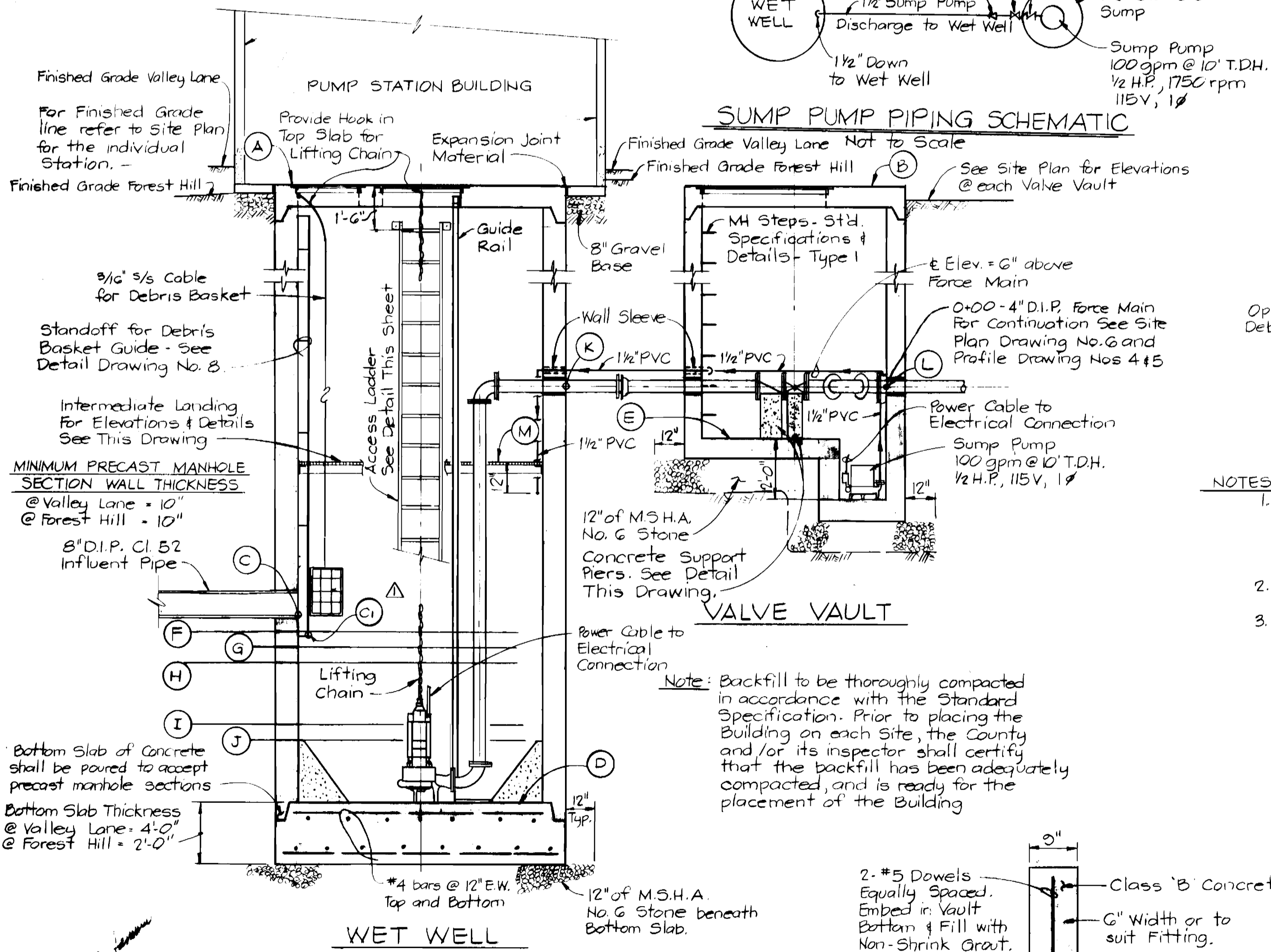
DESIGNATION	DESCRIPTION	VALLEY LANE	FOREST HILL
(A)	Top Concrete	388.50	388.10
(B)	Top Concrete	389.50	388.10
(C)	Invert 8" D.I.P. Sewer	367.71	374.92
(G)	Stop for Debris Basket	367.16	374.37
(D)	Bottom Wet Well	361.71	362.84
(E)	Bottom Valve Vault	381.75	379.97
(F)	High Water Alarm	367.21	368.34
(G)	Lag Pump On	366.71	367.84
(H)	Lead Pump On	366.21	367.34
(I)	Pump(s) Off	364.21	365.34
(J)	Low Water Alarm	363.71	364.84
(K)	± Elev. 4" Force Main	383.50	381.72
(L)	± Elev. 4" Force Main	383.50	381.72
(M)	Landing Elevation	369.71	375.91
Horsepower		20	15
Motor Speed-rpm		1750	1750
Wet well Supply Air Ventilation Fan		713 cfm @ 1/4 sp. 1/4 HP 1140 rpm	541 cfm @ 1/4 sp. 1/4 HP 1725 rpm



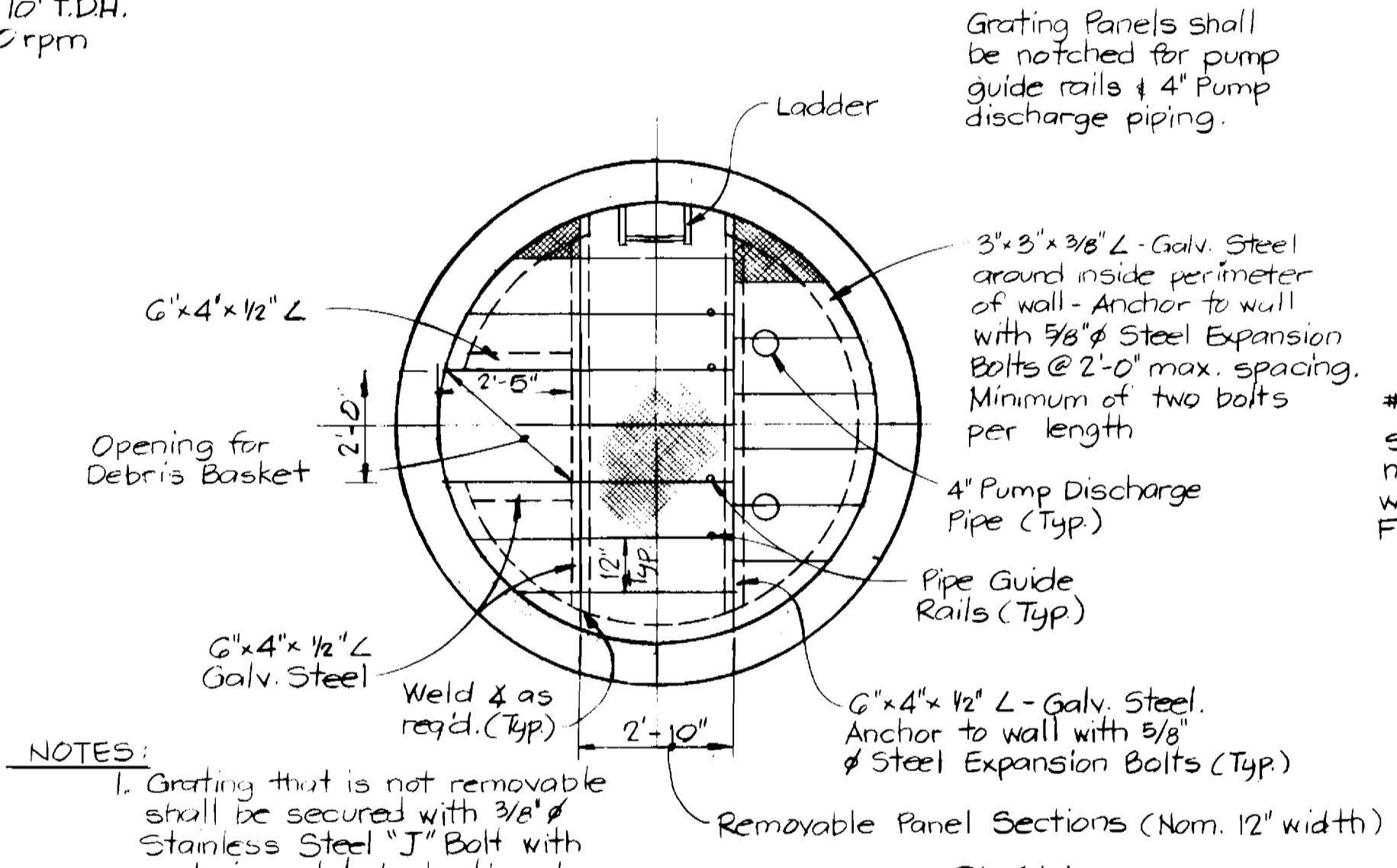
SYSTEMS CURVES



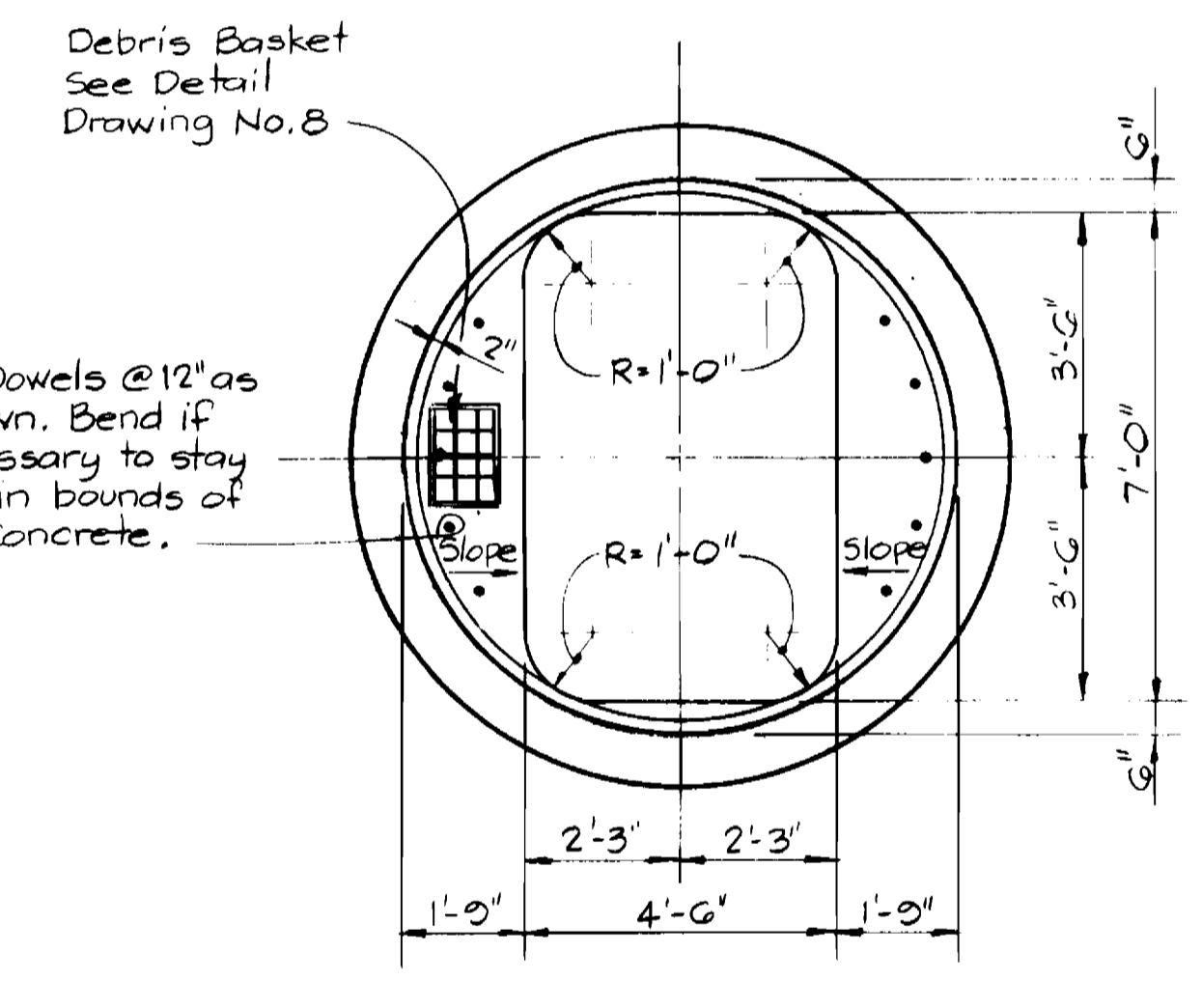
SUMP PUMP PIPING SCHEMATIC
Scale: 3/8"=1'-0"



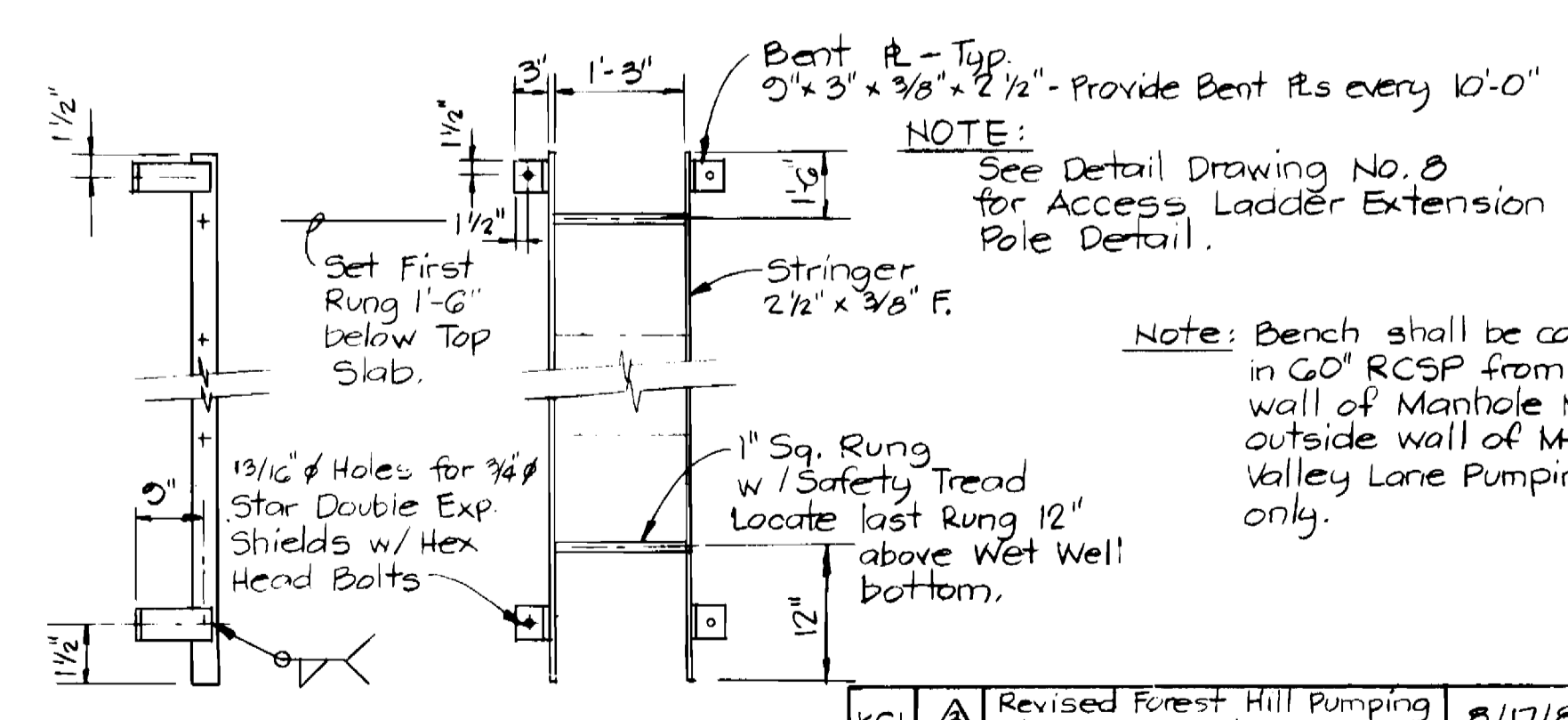
SECTION 'A-A' WET WELL
Scale: 3/8"=1'-0"



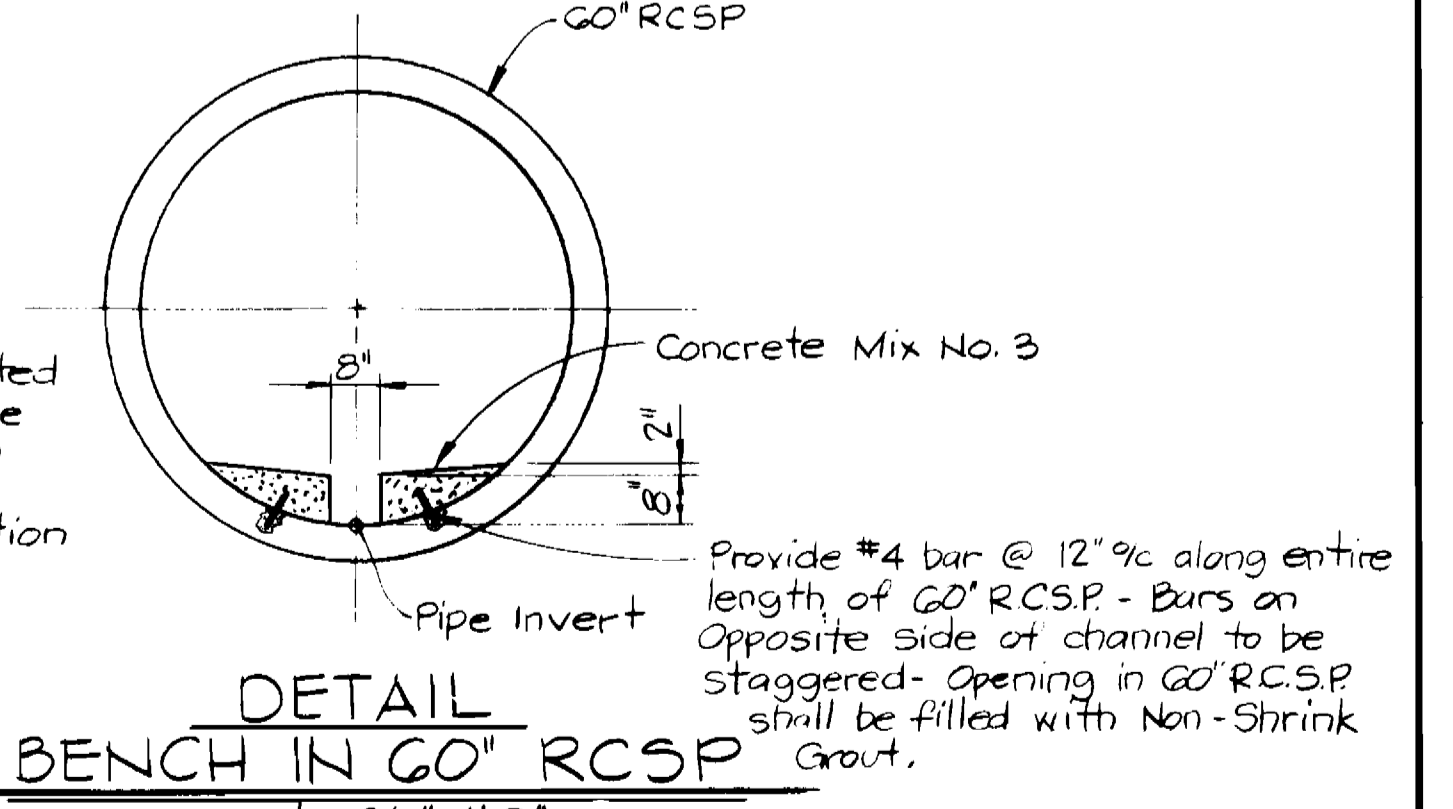
PLAN INTERMEDIATE LANDING IN WET WELL
Scale: 3/8"=1'-0"



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



ACCESS LADDER
Not to Scale



DETAIL BENCH IN 60\"/>

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Director of Public Works: *Mark F. Nunn* 6-1-84
Chief, Bureau of Engineering: *Allen S. Brown* 5/16/84
Chief, Bureau of Utilities: *Allen S. Brown* 5/16/84

KIDDE CONSULTANTS, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

CONTRACT NO. 10-1133
CAPITAL PROJECT S-6116

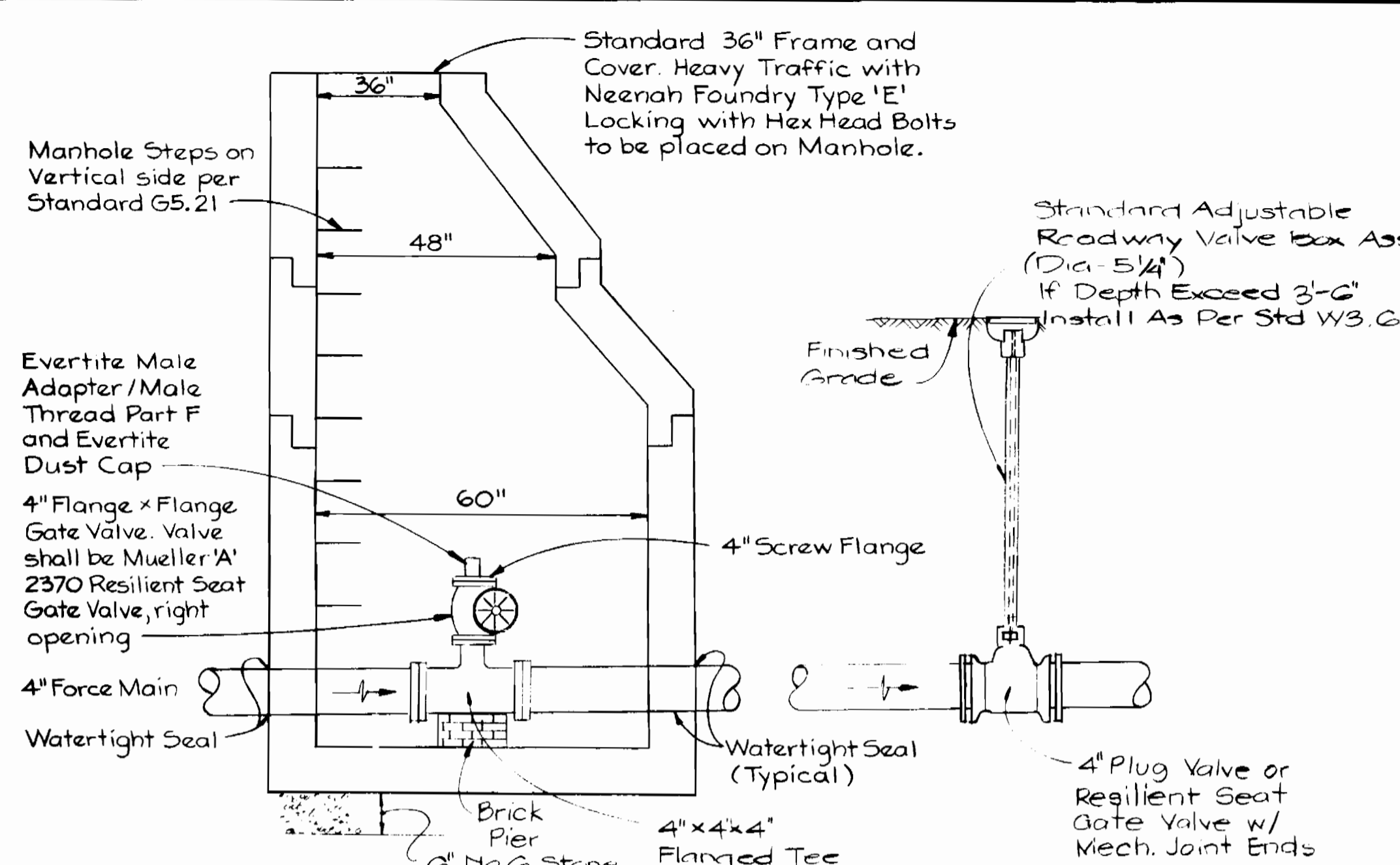
VALLEYLANE - FORESTHILL
PUMPING STATION - PLANS

CHESTNUT HILLS COLLECTOR SEWERS
DRAWING NO. 7 OF 10
SCALE AS SHOWN

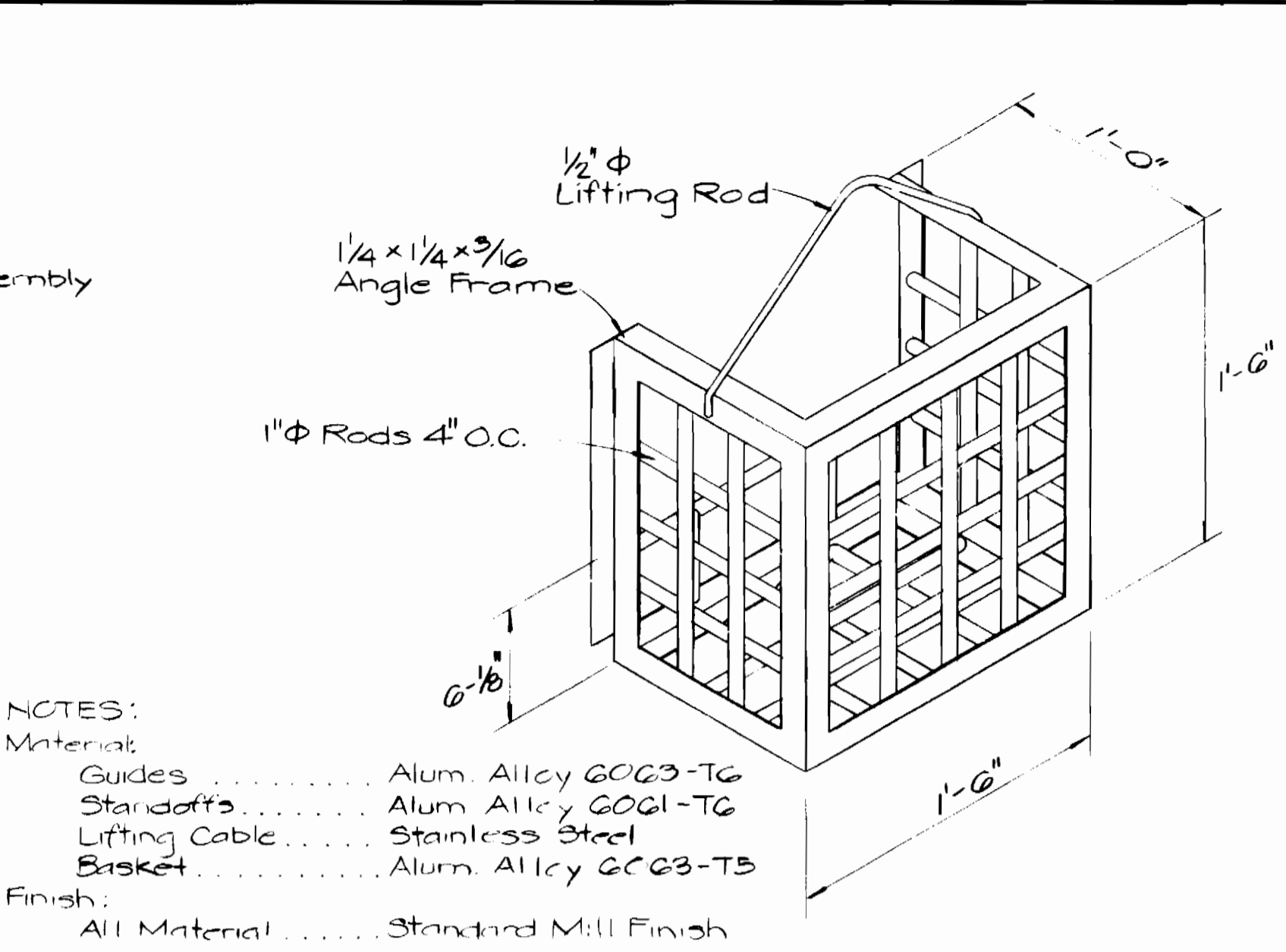
DES. W.B.H.
DRN. T.E.S.
CHK. J.P.H.

BY NO.	REVISION	DATE
KCI	Revised Forest Hill Pumping Station Elevations	8/17/84
KCI	Revised System Curve	8/17/84
KCI	Elevation of Debris Basket Stop Added	5/24/84

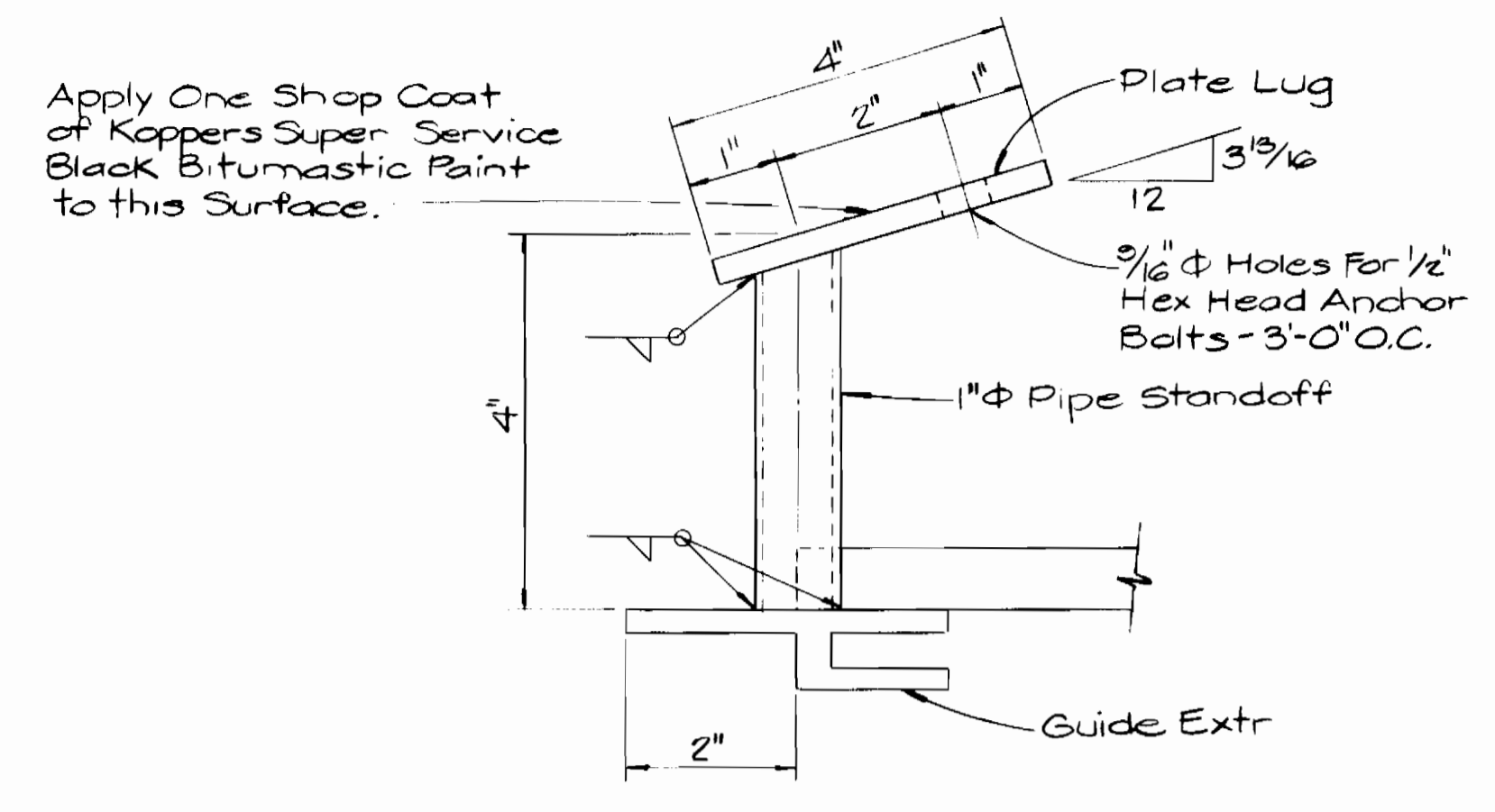
CHESTNUT HILL COLLECTOR SEWERS
CAPITAL PROJECT NO. S-G116
CONTRACT NO. 10-1133



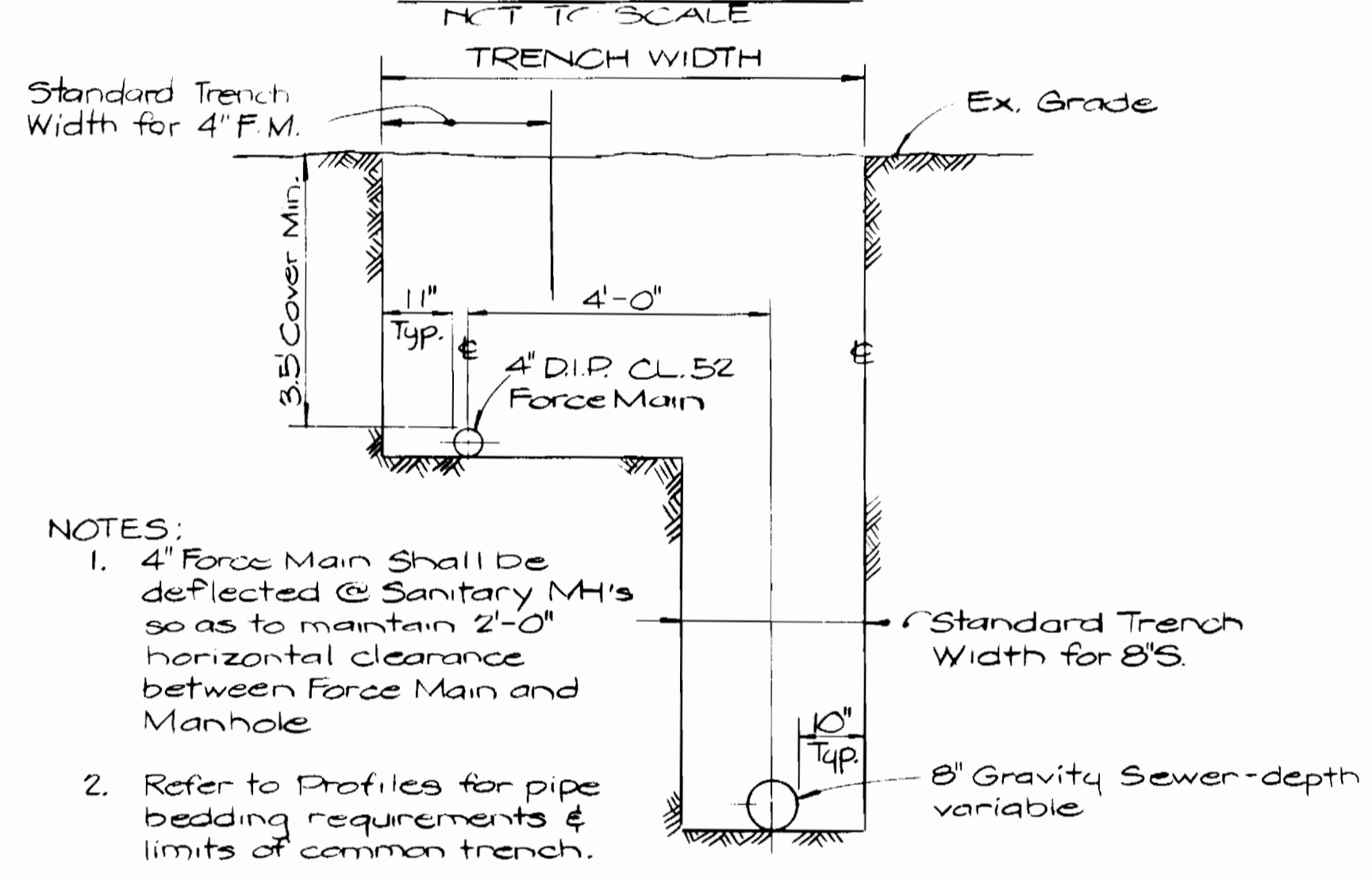
EMERGENCY CONNECTION VALVE DETAIL
Scale: 1/2" = 1'-0"



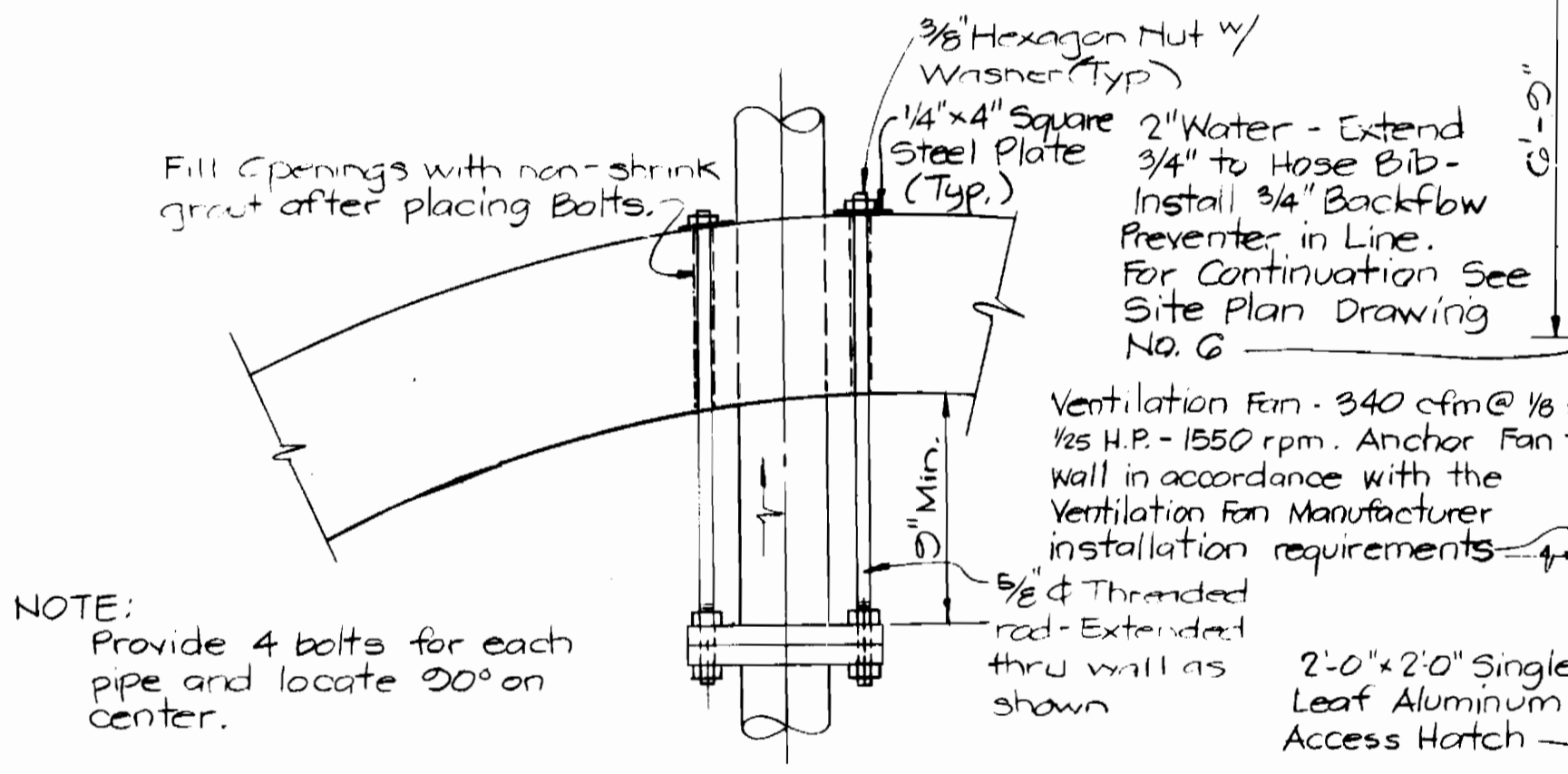
DEBRIS SCREENING BASKET
Scale: 1/2" = 1'-0"



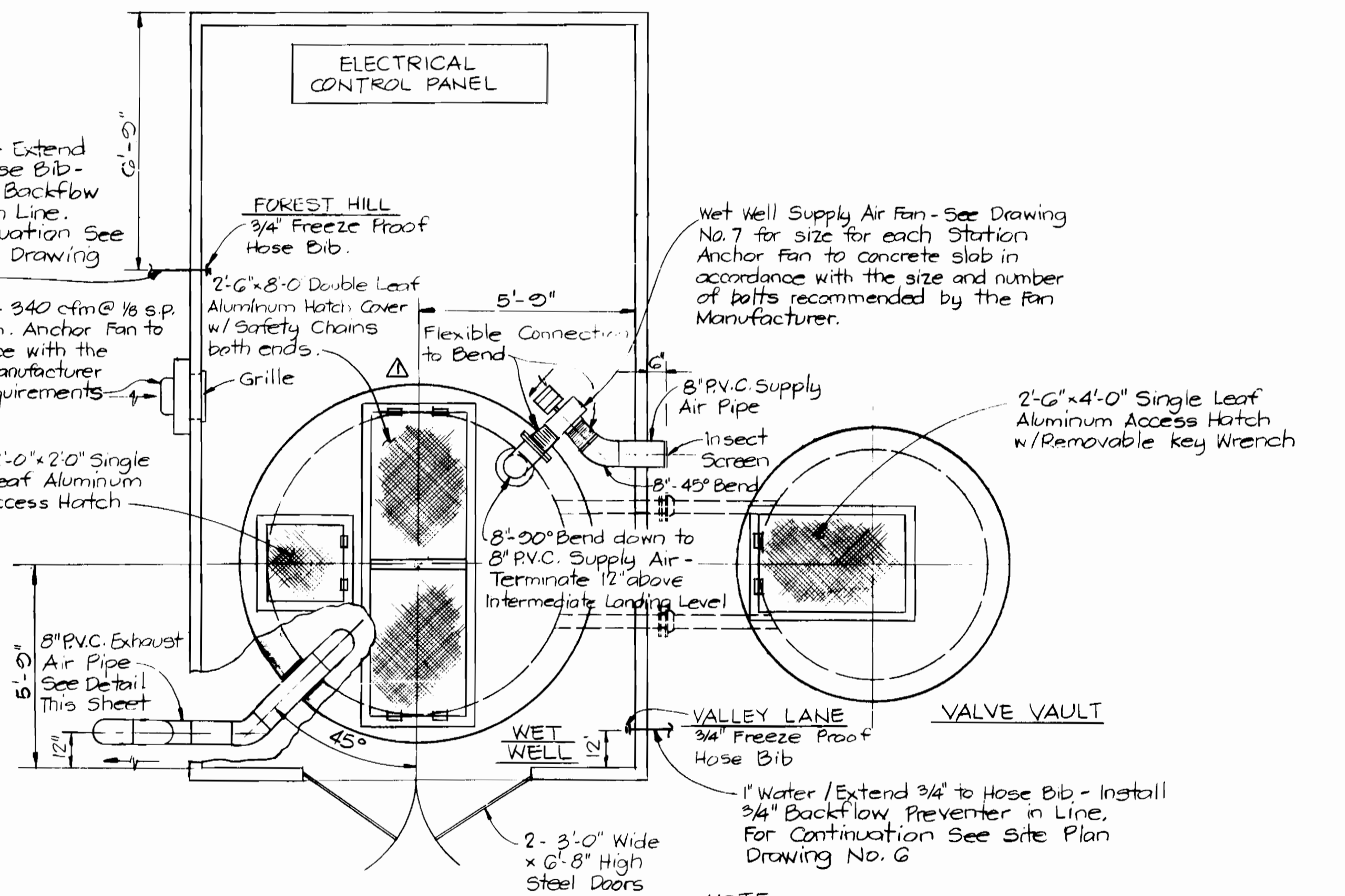
TYPICAL STANDOFF DETAIL
Scale: 1/2" = 1'-0"



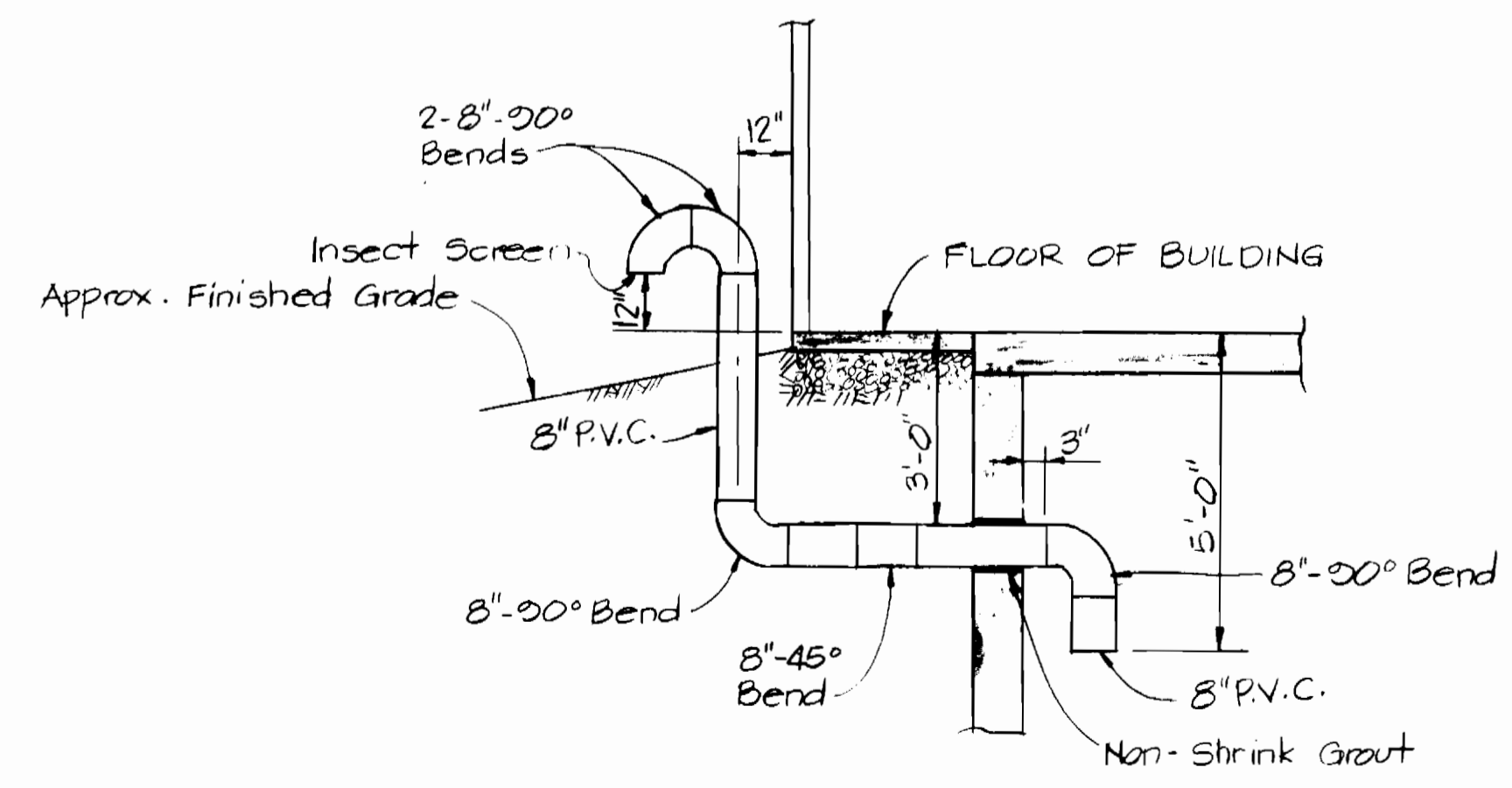
SECTION FORCE MAIN - GRAVITY SEWER IN COMMON TRENCH
Scale: 1/2" = 1'-0"



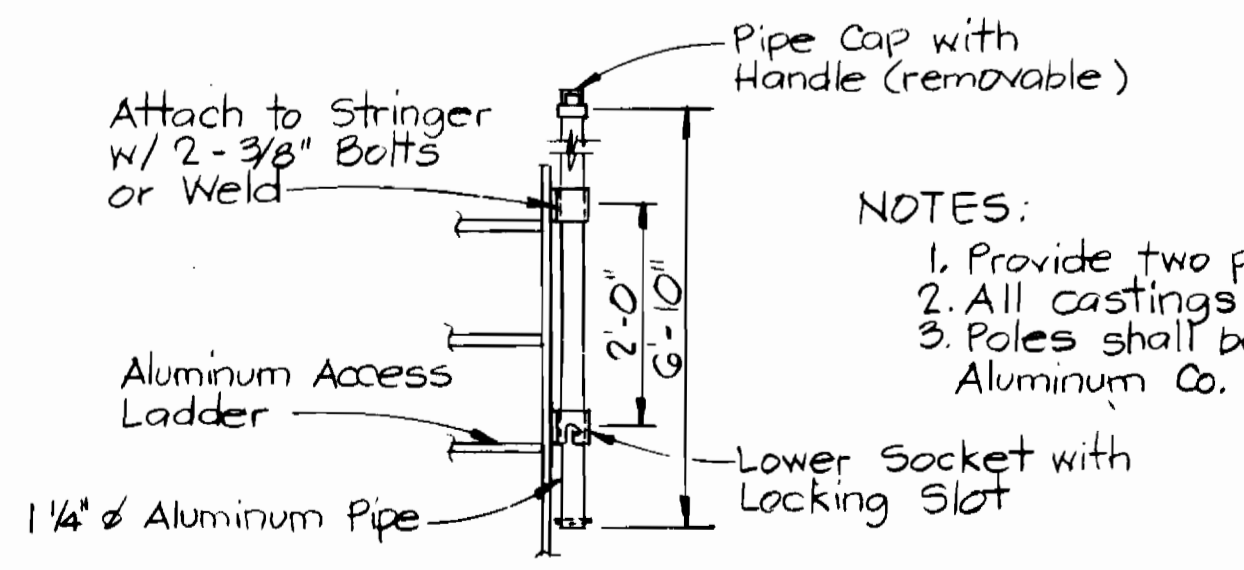
PIPE ANCHOR DETAIL
Not to Scale



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



DETAIL - EXHAUST AIR PIPE
Scale: 3/8" = 1'-0"



ALUMINUM ACCESS LADDER EXTENSION POLE DETAIL
NOT TO SCALE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY MARYLAND
Director of Public Works
Chief, Bureau of Engineering
Chief, Bureau of Utilities

KCL	△	Hinges on Hatch Revised	5/23/84
BY	NO.	REVISION	DATE

KIDDE CONSULTANTS, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

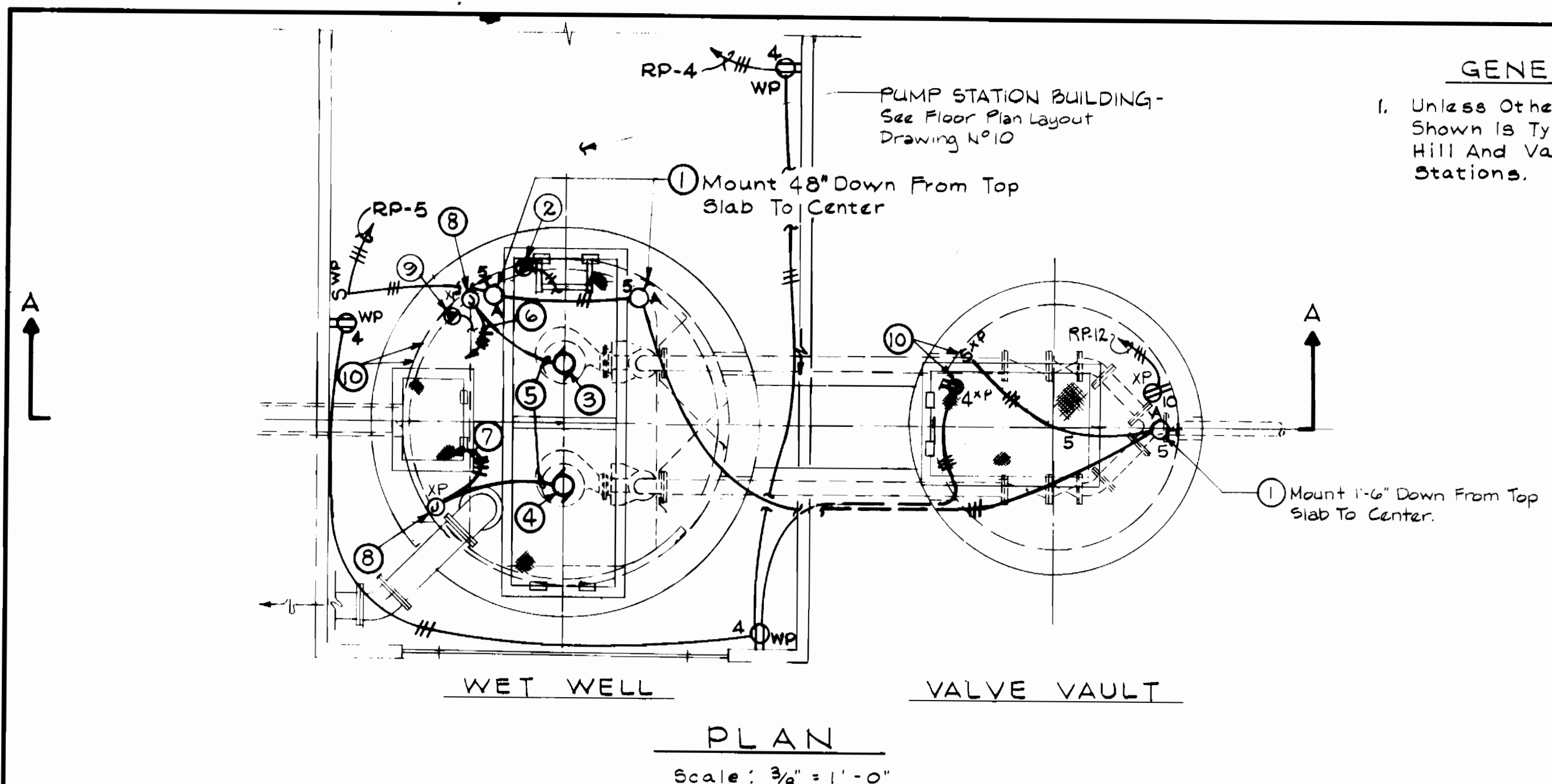
CONTRACT NO. 10-1133
CAPITAL PROJECT S-6116

VALLEYLANE - FORESTHILL
PUMPING STATION - DETAILS

CHESTNUT HILLS COLLECTOR SEWERS

DRAWING NO. 8 OF 10
SCALE AS SHOWN
DES. W.B.H.
DRN. E.A.B.
CHK. J.P.H.

CHESTNUT HILL COLLECTOR SEWERS
CAPITAL PROJECT NO. S-6116
CONTRACT NO. 10-1133



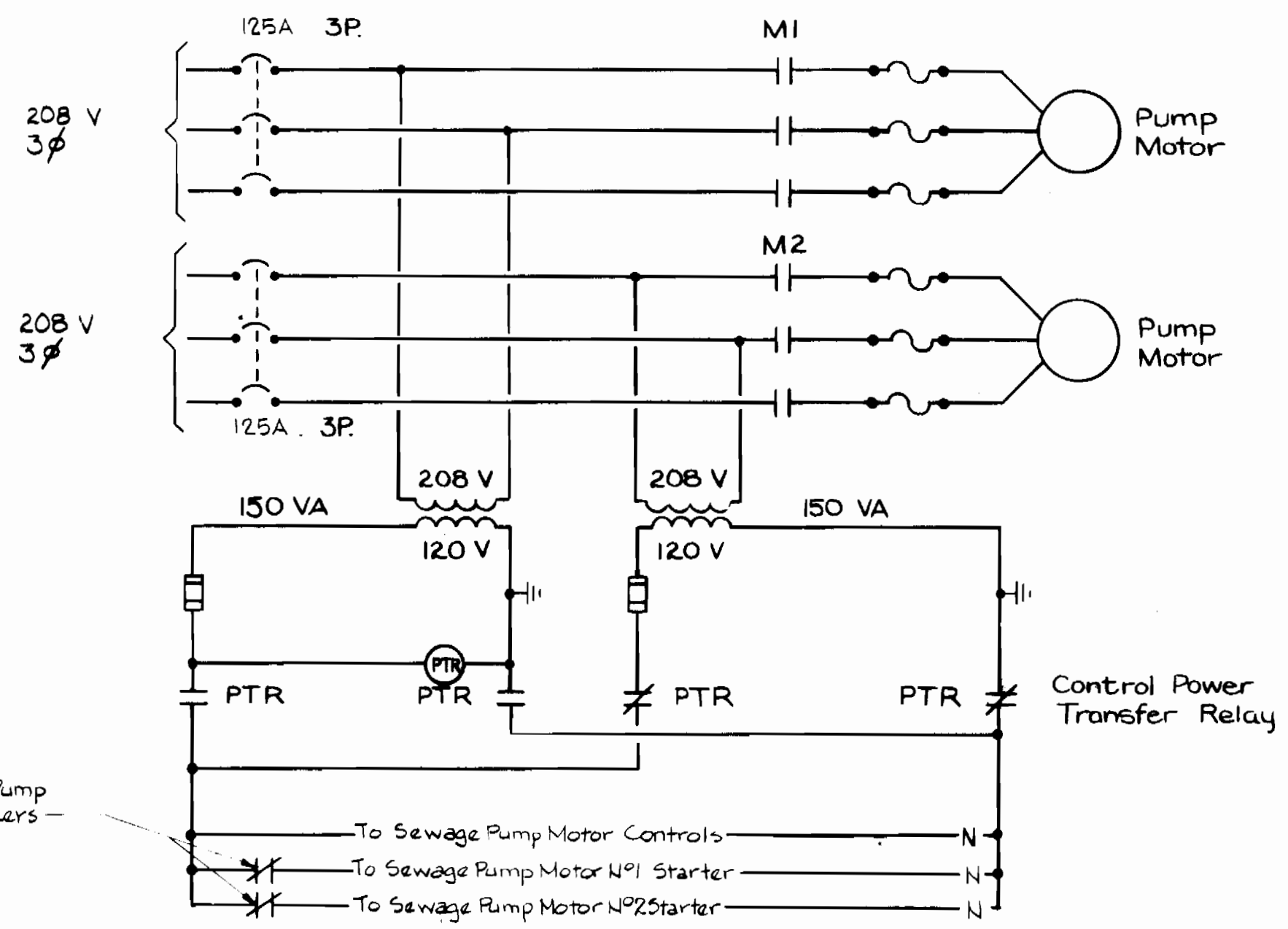
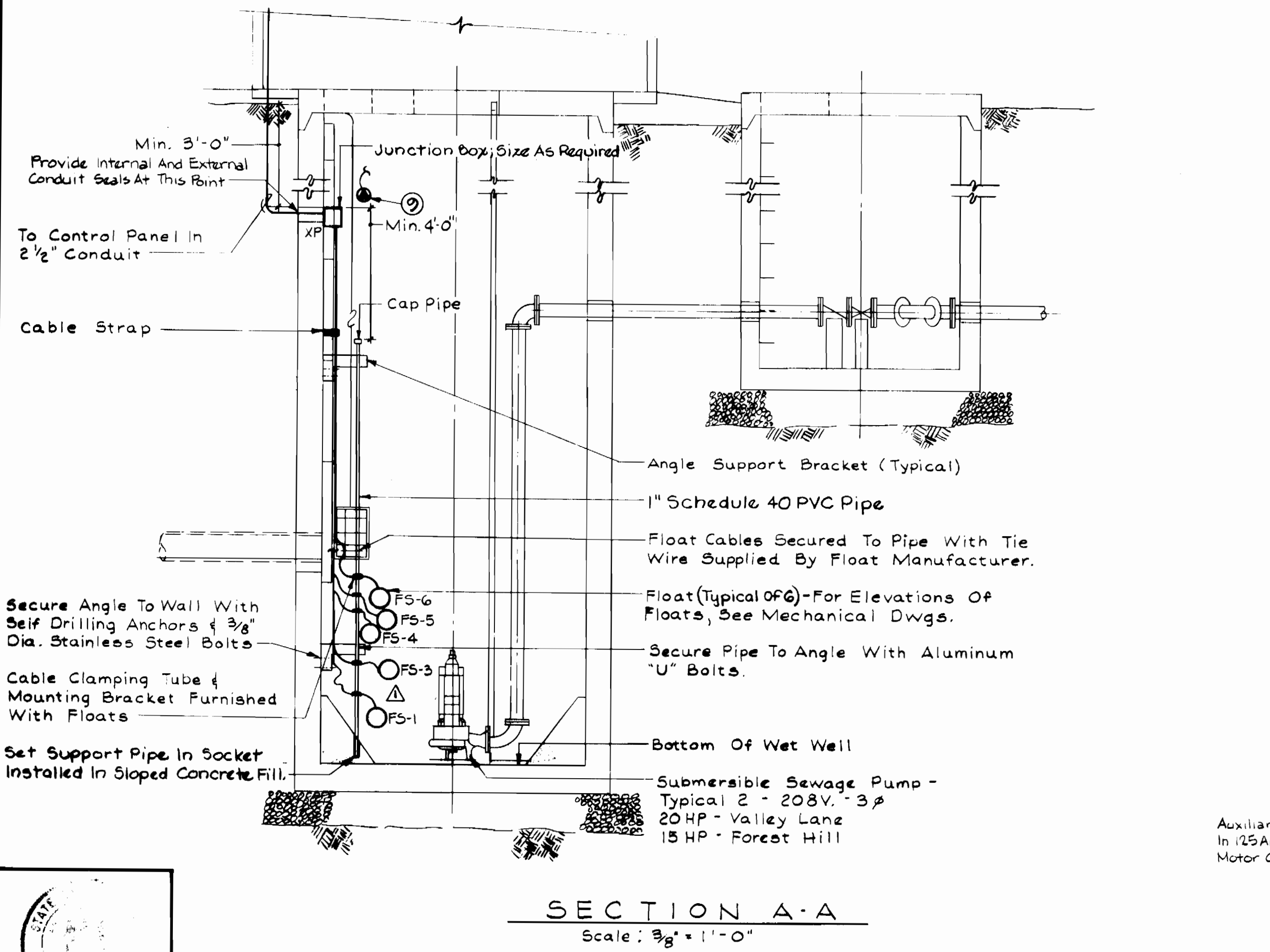
GENERAL NOTES
 1. Unless Otherwise Indicated All Work Shown Is Typical For Both Forest Hill And Valley Lane Pumping Stations.

SCHEDULE OF PANEL "RP"						100A. MAIN LUGS ONLY	
Circ. No.	Equipment Served	Phase (Volts)	Circ. Brkr. Poles	Trip	Wiring No.	Size	Cond.
1	Control Power	1 ϕ 120	1	20	2	#12	3/4"
2	Control Power	1 ϕ 120	1	20	2	#12	3/4"
3	Supply Air Fan	1 ϕ 120	1	20	2	#12	3/4"
4	Receptacles	1 ϕ 120	1	20	2	#12	3/4"
5	Lighting	1 ϕ 120	1	20	2	#12	3/4"
6,7	Electric Strip Heaters	1 ϕ 120	1	20	2	#12	3/4"
8	Spares	1 ϕ 120	1	20	2	#12	3/4"
9	Ventilation Fan	1 ϕ 120	1	20	2	#12	3/4"
10	Alarm Telemetry	1 ϕ 120	1	20	2	#12	3/4"
11	Methane Gas Detector Control Panel	1 ϕ 120	1	20	2	#12	3/4"
12	Sump Pump	1 ϕ 120	1	20	2	#12	3/4"
13,14	Spares	1 ϕ 120	1	—	—	—	—
15-20	Spares	1 ϕ 120	1	—	—	—	—

ELECTRICAL LEGEND	
Symbol	Description
○	Fixture - Incandescent - Wall Bracket
S	Switch - Single Pole
S°	Switch With Pilot Light
Ⓝ	J.B. Junction Box
→→→	Home-run To Panel - No. Of Arrows Indicate No. Of Circuits And No. Of Crosslines Indicate No. Of Conductors
—	Conduit - In Or On Ceiling Or Wall 2#12's 1#12 Grd. In 3/4" C.
---	Conduit - In Or Under Floor
T TS	Thermal Manual Motor Starting Switch With H.O.A. Selector Switch
Ⓜ	Panelboard
Ⓜ	Motor - Horsepower As Indicated
Ⓜ	Receptacle - 20A - 125 Volts - Simplex
Ⓜ	Receptacle - 20A - 125 Volts - Duplex
Ⓜ	Thermostat
Ⓜ	Pushbutton Station, No. Of Pushbuttons As Indicated
Ⓜ	Special Purpose Outlet As Noted
PT	Percentage Timer
Ⓜ	Fixture - Fluorescent - Surface / Ceiling Mounted
Ⓜ	Fused Disconnect Switch

DRAWING NOTES

- Type "A" - Wall Mounted. Fixture Shall Be 150 Watt, Enclosed And Gasketed, Cast Aluminum Construction With Glass Globe, Cast Guard And 30° Angle Reflector. Location And Mounting Height Shall Be As Shown On Drawing. Fixture Shall Be Crouse-Hinds Cat. No. VXHBF 25 GPRA Or Equal.
- Limit Switch. See Vent Fan Motor Control Diagram. Locate at Hatch Cover to avoid interference with Debris Basket.
- Submersible Sewage Pump No. 1.
- Submersible Sewage Pump No. 2.
- Power Cable Furnished With Sewage Pump.
- RP-1: 3#4 1#6 GRD. To Sewage Pump No.1 Motor Starter.
- RP-2: 3#4 1#6 GRD. To Sewage Pump No.2 Motor Starter.
- Junction Box - XP. For Transition Of Sewage Pump Power Cable To Motor Feeder Circuit.
- Methane Gas Detector diffuser head with 3/4" Conduit to Control Panel. Locate per Manufacturer's Recommendation.
- Mount 24" Down From Top Slab To Center.
- Type "B" Surface/Ceiling Mounted, Enclosed And Gasketed 2-Lamp Fluorescent Lighting Fixture With Molded, Impact Resistant ABS Plastic Housing Snap-in Pressure-Lock Type Lampholders Cross-Link Polyethylene Gasketing, Molded ABS Captive Latches And Virgin Acrylic Prismatic Lens. Fixture Shall Be Approved For Wet Locations. Provide Lithonia Cat No. DLP 240A-120. 120 Volt Operation.



ELECTRICAL ABBREVIATIONS			
Abbrev.	Description	Abbrev.	Description
A	Amperes	NTS	Not To Scale
AFF	Above Finished Floor	S/N	Solid Neutral
C	Conduit	SW	Switch
GRD	Ground	TYP	Typical
HOA	Hand-Off - Automatic	V	Volts
HP	Horsepower	W	Wire
JB	Junction Box	WP	Weatherproof
MCC	Motor Control Center	∅	Phase
MCM	Thousand Circular Mills	1P	One Pole
MH	Mounting Height	3P	Three Pole
MCB	Main Circuit Breaker	XP	Explosion Proof

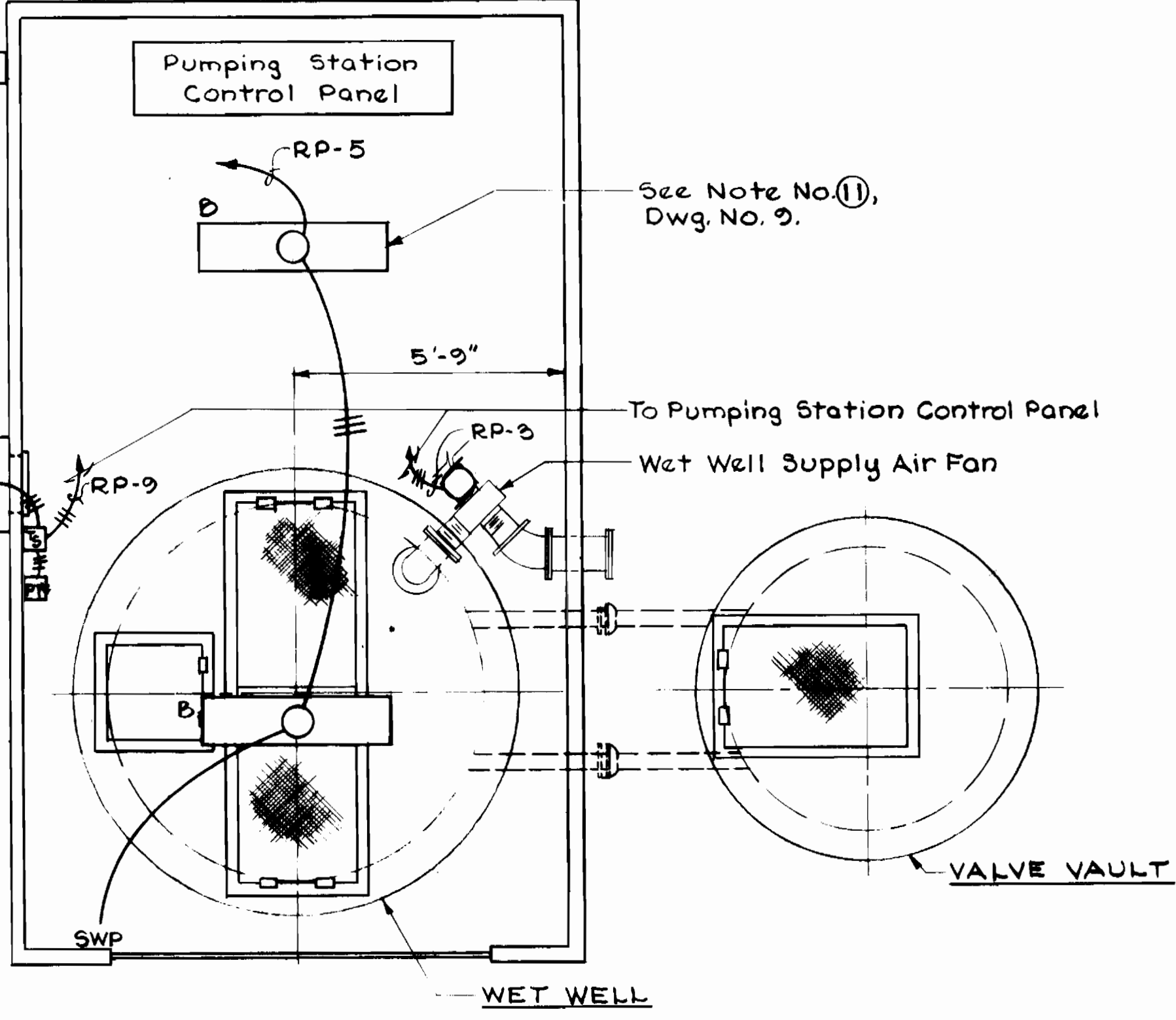
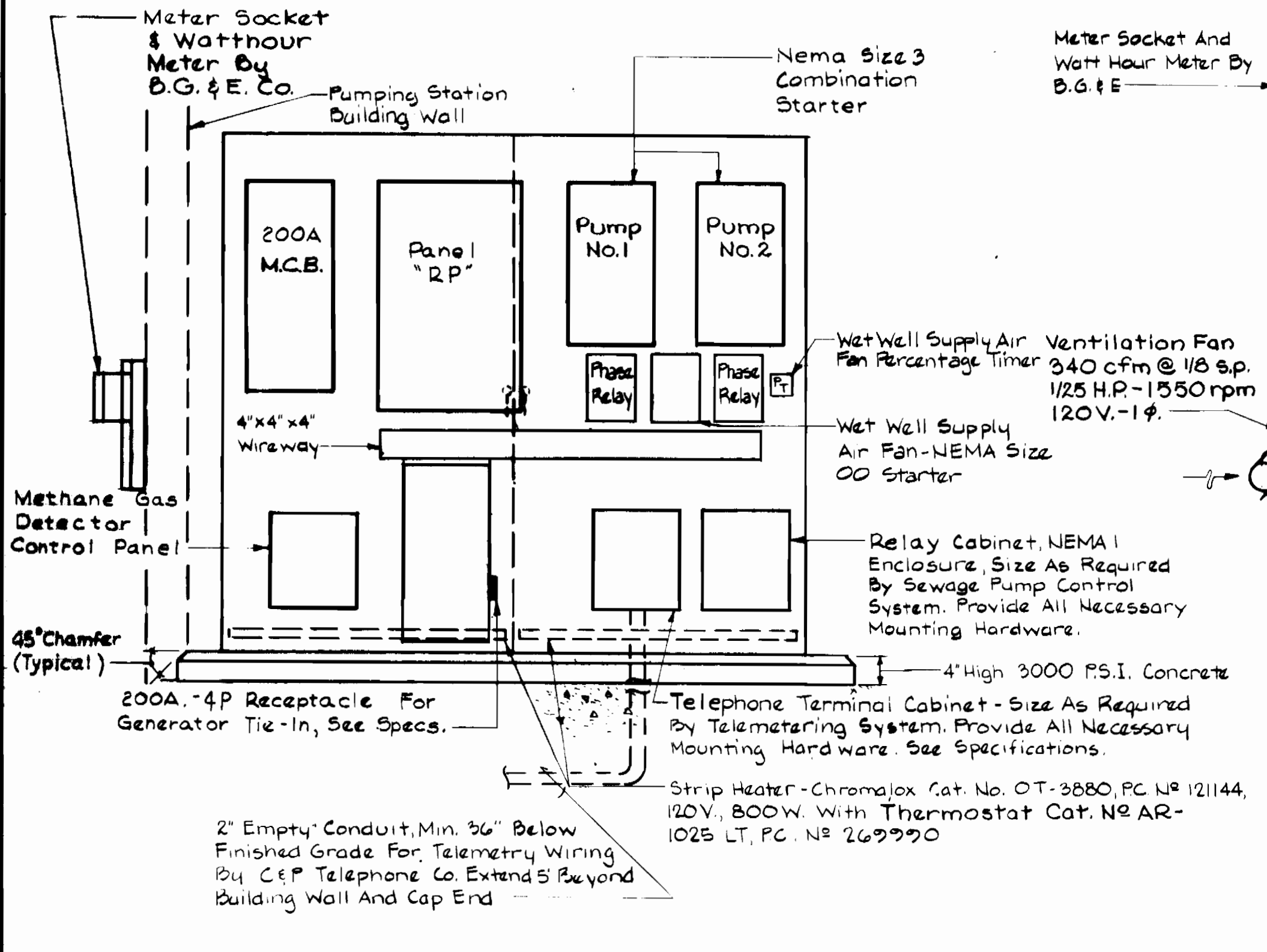
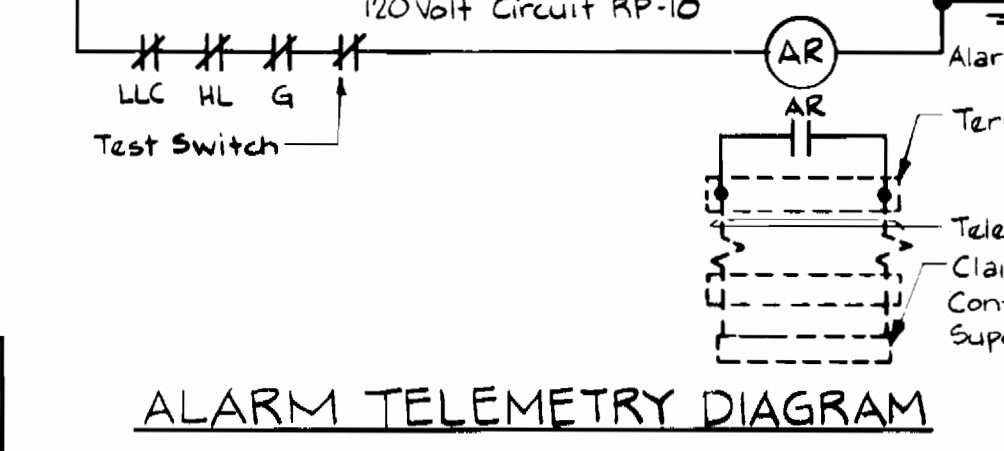
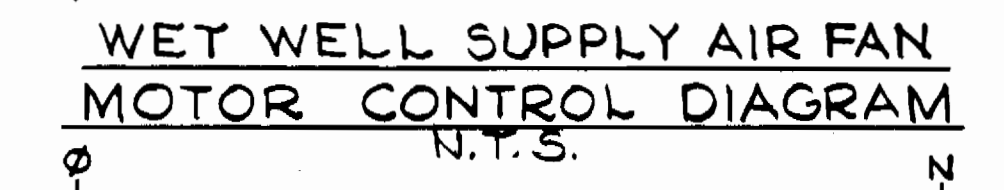
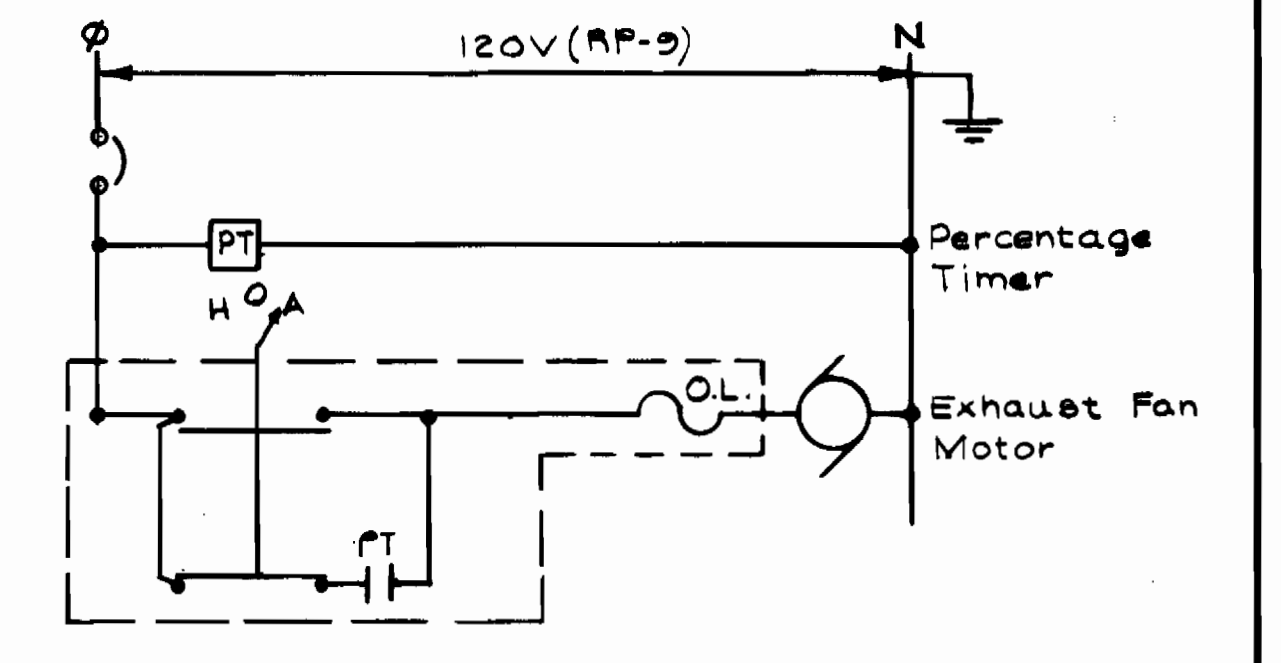
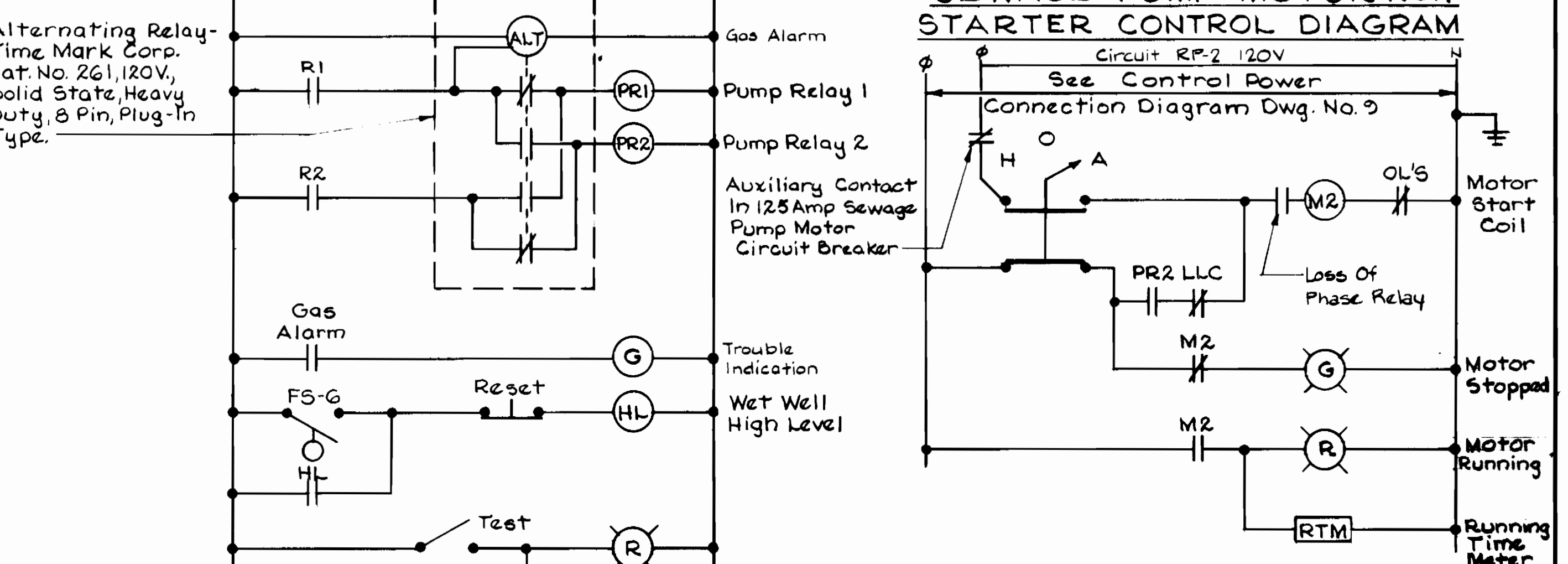
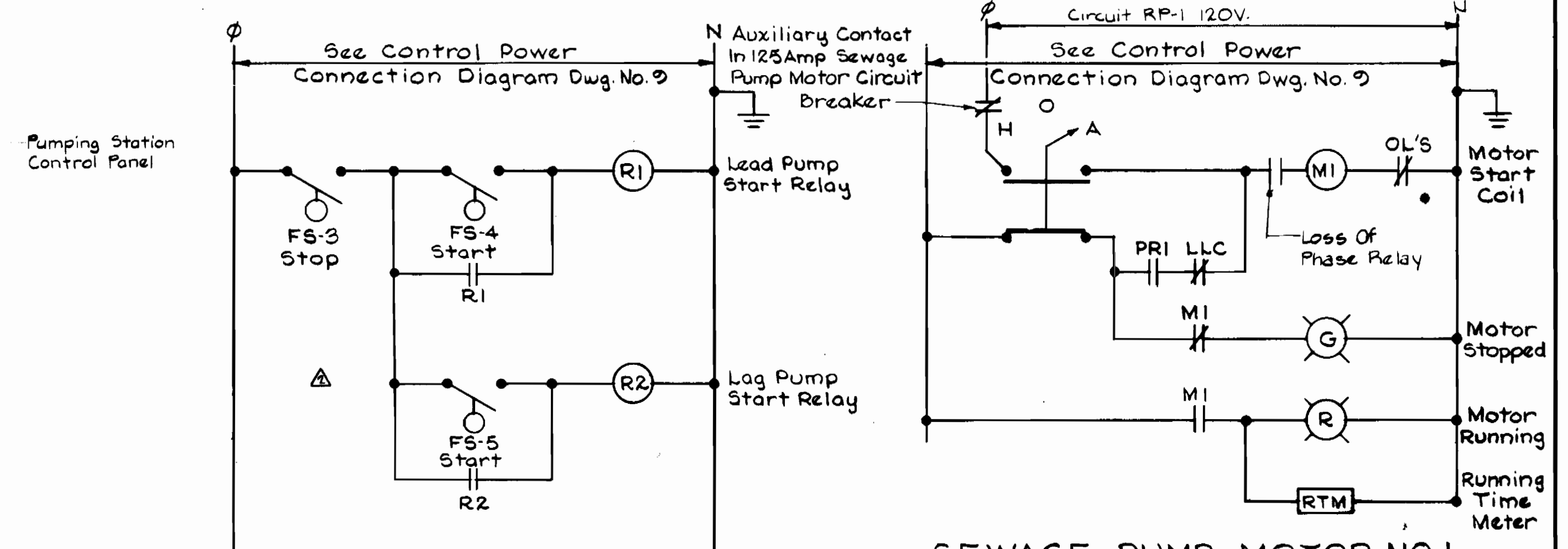
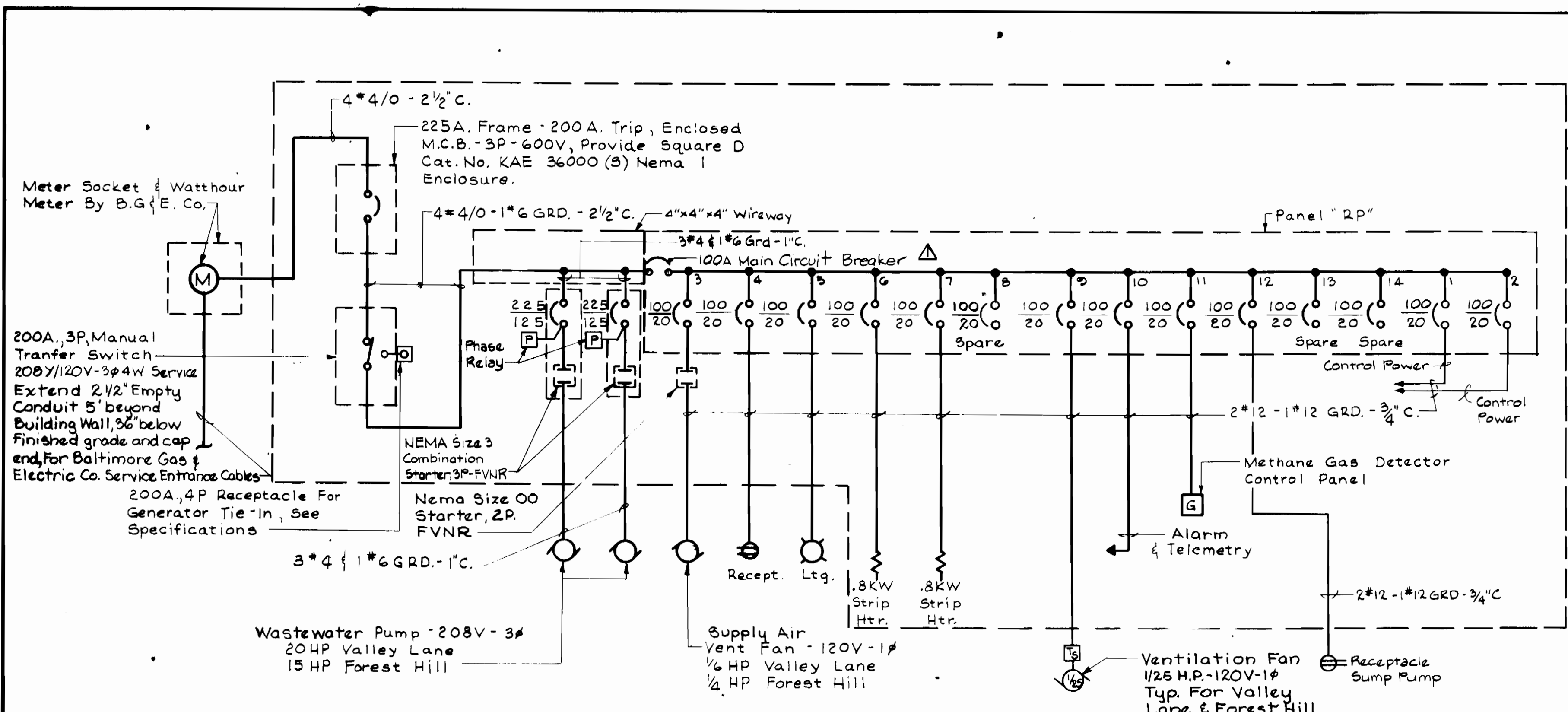
DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: *George F. ...*
 Chief, Bureau of Engineering: *...*
 Chief, Bureau of Utilities: *...*

KIDDE CONSULTANTS, INC.
 CONSULTING ENGINEERS
 BALTIMORE, MARYLAND

CONTRACT NO. 10-1133
 CAPITAL PROJECT S-6116

PUMPING STATION - ELECTRICAL
 SCHEDULE AND DETAILS

REVISION: Deleted FS-2, 8-17-84
 CHESTNUT HILL COLLECTOR SEWERS
 CAPITAL PROJECT NO. S-6116
 CONTRACT NO. 10-1133
 DRAWING NO. 9 OF 10
 SCALE AS SHOWN
 DES. WMR, DRW. DJW, CHK. CEC



GENERAL NOTES

1. Unless Otherwise Indicated All Work Shown is Typical For Both Forest Hill And Valley Lane Pumping Stations.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert M. Berman 6-1-84
DIRECTOR OF PUBLIC WORKS DATE

Allen S. Brown 5/4/84
CHIEF, BUREAU OF UTILITIES DATE

Richard J. Brown 5/4/84
CHIEF, BUREAU OF ENGINEERING DATE

KIDE CONSULTANTS, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

CONTRACT NO. 10-1133
CAPITAL PROJECT S-6116

BY	NO.	REVISION	DATE
KCI	Δ	Deleted FS-2	8/17/84
KCI	Δ	Circuit Breaker Added to One Line Diagram	5/24/84

PUMPING STATIONS ELECTRICAL
ONE LINE CONTROL DIAGRAMS - DETAILS

CHESTNUT HILLS COLLECTOR SEWERS

CHESTNUT HILLS COLLECTOR SEWERS
CAPITAL PROJECT NO. S-6116
CONTRACT NO. 10-1133

DRAWING NO. OF	SCALE	DES. WMR
10 OF 10	AS SHOWN	DRN. DJW CHK. CEC