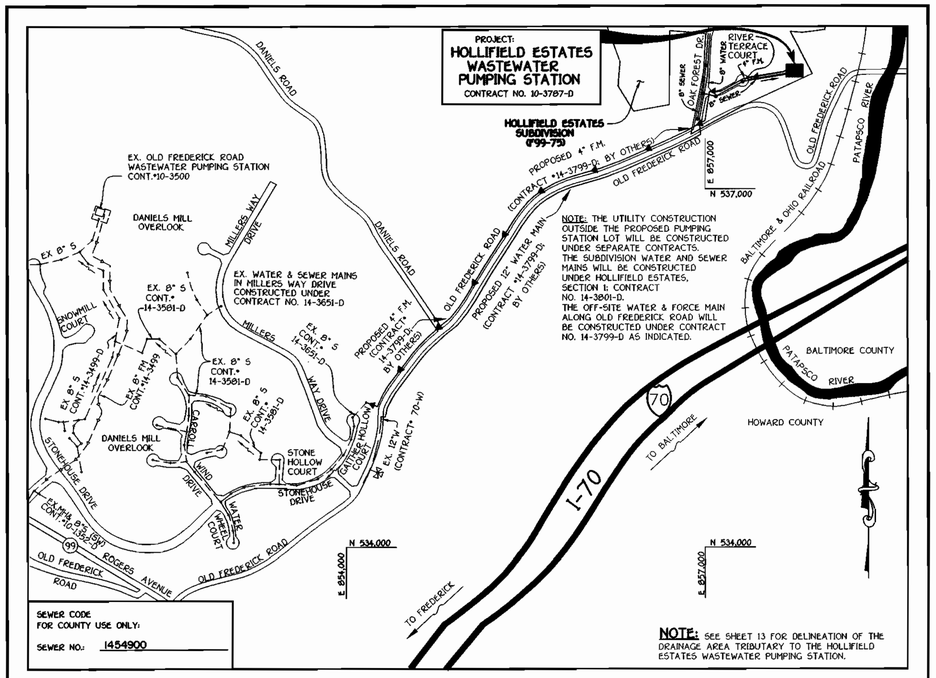
QUANTITIES

ITEM	ESTIMATED	AS-BUILT QUANTITIES	AS-BUILT TYPE	AS-BUILT SUPPLIER
PUMPING STATION; COMPLETE-IN-PLACE	1 EACH			
8" D.I.P. SEWER	82.5 L.F.			
MANHOLES	2 EACH			
4" FORCE MAIN (CL. 52 D.I.P.)	389 L.F.			
1" WATER	89 L.F.			
TELEPHONE LINE & CONDUIT	405 L.F.			
ELECTRIC LINE & CONDUIT	418 L.F.			
NAME OF UTILITY CONTRACTOR:				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE:				

INDEX OF DRAWINGS



SEWER CODE FOR COUNTY USE ONLY:
SEWER NO.: 1454900

VICINITY MAP

SCALE: 1"=600'

TYPE OF BUILDING:	WASTEWATER PUMPING STATION
NUMBER OF LOTS:	ONE (1) BUILDABLE
NO. OF WATER HOUSE CONNECTIONS:	1
NO. OF SEWER HOUSE CONNECTIONS:	N/A
DRAINAGE AREA:	PATAPSCO
TREATMENT PLANT:	PATAPSCO W.W.T.P.: CITY OF BALTIMORE VIA THE OLD FREDERICK ROAD WASTEWATER P.S.

PLAN REFERENCE NUMBERS:
F-99-75
SDP 99-170

GENERAL NOTES

1. APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
2. ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
3. ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
4. ALL PIPE ELEVATIONS ARE INVERT ELEVATIONS.
5. CLEAR ALL UTILITIES BY A MINIMUM OF 12". CLEAR ALL POLES BY 2'-0" MINIMUM.
6. FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (1991 AMENDMENTS) THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB SITE. NOTE: SPECIAL BLOCKING DETAILS ARE TO BE USED FOR THE CONSTRUCTION OF THE FORCE MAIN ON THIS PROJECT.
7. WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL ⊠ AT THE LOCATION OF THE TEST PIT. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION. ANY DAMAGE TO EXISTING FACILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
8. CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
   STATE HIGHWAY ADMINISTRATION - 531-5533
   BALTIMORE GAS & ELECTRIC CO. - CONTRACTOR SERVICES - 850-4620
   BALTIMORE GAS & ELECTRIC CO. - UNDER GROUND DAMAGE CONTROL - 787-9060
   MISS UTILITY - 1-800-257-7777
   COLONIAL PIPELINE CO. - 795-1390
   BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 313-4900
9. TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR
10. CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
11. ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
12. ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
13. T.B. DENOTES TEST BORING.
14. MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
15. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL G 5.52.
16. WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
17. HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CANNOT BE SERVED.
18. ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING, UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
19. MANHOLES LOCATED WITHIN THE PROPOSED ROADWAY SHALL HAVE STANDARD HEAVY TRAFFIC MANHOLE FRAMES AND COVERS, STANDARD DETAIL G5.51.
20. WATER MAINS AND WATER HOUSE CONNECTION LINES MUST BE PLACED AS TO HAVE ONE (1) FOOT SEPARATION FROM THE SEWER MAIN OR SEWER HOUSE CONNECTION AS THEY PASS OVER IT.
21. ALL WATER MAINS SHALL BE D.I.P., CLASS 52 UNLESS OTHERWISE NOTED.
22. TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3-1/2' COVER UNLESS OTHERWISE NOTED.
23. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
24. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS. NOTE: SPECIAL BLOCKING DETAILS ARE TO BE USED FOR THE CONSTRUCTION OF THE FORCE MAIN ON THIS PROJECT.
25. FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATION SHOWN ON THE WATER MAIN CONSTRUCTION DRAWINGS (CONTRACT NO. 14-3801-D). ALL FIRE HYDRANTS SHALL BE RESTRAINED IN ACCORDANCE WITH STANDARD DETAILS W.11 AND W.2.13, AND BUTTRESSED IN ACCORDANCE WITH THE SPECIAL BLOCKING DETAILS.
    SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
26. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
27. ALL D.I.P. FITTINGS SHALL BE IN ACCORDANCE WITH AWWA SPECIFICATIONS C-153; DUCTILE IRON COMPACT FITTINGS, 3-INCH THROUGH 12-INCH FOR WATER AND OTHER LIQUIDS.
28. FORCE MAIN SHALL BE CLASS 52 DUCTILE IRON PIPE (D.I.P.)
29. THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, ● (410) 313-2450 AT LEAST FIVE WORKING DAYS BEFORE ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS.
30. 1" WHC SHALL BE COPPER, TYPE K, MEETING THE REQUIREMENTS OF SECTION 1004 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS AND SHALL BE INSTALLED WITH 3'-6" OF COVER.

CONTRACT No. 10-3787-D

HOLLIFIELD ESTATES WASTEWATER PUMPING STATION

HOWARD COUNTY, MARYLAND

GP99-
REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

Cheryl Simmons 3-15-00
U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE

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

APPROVED:

John R Robertson 3-15-00
HOWARD SOIL CONSERVATION DISTRICT DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL & STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AS SHOWN ON THE ROAD CONSTRUCTION PLANS (F 99-75), AND AS INDICATED ON SHEET 2 OF 13 OF THESE PLANS.

Paul M Kaiser FOR: 03-02-00
SIGNATURE OF DEVELOPER MR. CHARLES SKIRVEN, CSG. DATE

CONTRACT NO. 10-3787-D
HOLLIFIELD ESTATES
WASTEWATER PUMPING STATION
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Robert W Berning 3-9-00
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
3/17/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

#9757
TERRELL A. FISHER

DESIGNED BY : P.W.K.				
DRAWN BY : M.D.T.	FCC	-	REVISE TO ADDRESS COUNTY COMMENTS; LETTER OF 12/20/99	12/99
	FCC	-	ADDRESS COUNTY COMMENTS PER LETTER OF 10/20/99	12/99
CHECKED BY : M.J.M.	FCC	-	ADDRESS HOWARD COUNTY COMMENTS	9/99
DATE : DECEMBER 29, 1999	FCC	-	ADDRESS HOWARD COUNTY COMMENTS	7/99
	BY	NO.	REVISION	DATE

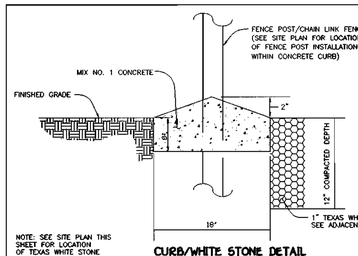
TITLE SHEET

600' SCALE MAP NO. 10 BLOCK NO. 2
F.C.C. WORK ORDER NO. 331
FILE NAME : G:\53\REVISED PLANS 12-99\PS SHT 1 OF 13.DWG

HOLLIFIELD ESTATES
WASTEWATER PUMPING STATION
CONTRACT NO. 10-3787-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 1 OF 13



NOTE: SEE SITE PLAN THIS SHEET FOR LOCATION OF TEXAS WHITE STONE

CURB/WHITE STONE DETAIL

NO SCALE

MINIMUM LOT SIZE CHART			
LOT NO.	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
O.S.LOT 15	14,742 Sq.Ft.±	6,088 Sq.Ft.±	8,654 Sq.Ft.±

NOTE: SEE SDP SHEET 3 FOR LANDSCAPING PLAN & PLANTING SPECIFICATIONS

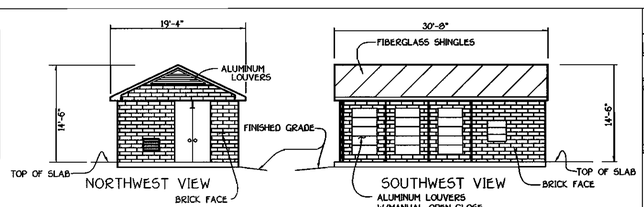
ADDRESS CHART	
LOT NO.	ADDRESS
O.S.NO.15	2250 RIVER TERRACE COURT

NOTE: SEE SDP SHEET 2 OF 4 FOR CHAIN LINK FENCE AND 12' WIDE DOUBLE GATE DETAILS & NOTES.

NOTE: PUMPING STATION CONTRACTOR SHALL COORDINATE WITH THE DEVELOPER AND THE HOWARD SOIL CONSERVATION DISTRICT TO PROVIDE A STABILIZED CONSTRUCTION ENTRANCE AT PROPERTY FRONTAGE, SEDIMENT & EROSION CONTROLS (F99-75), AND AN ACCEPTABLE STOCKPILE AREA FOR PUMPING STATION CONSTRUCTION PRIOR TO THE START OF WORK. SEE GENERAL NOTE NO. 19 THIS SHEET.

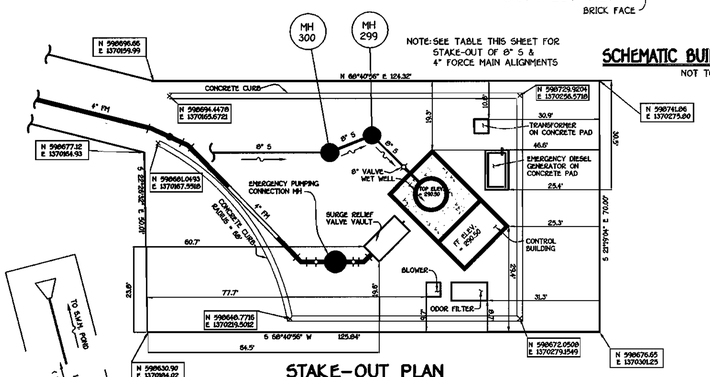
SITE ANALYSIS

A. AREA OF LOT: 14,742 Sq.Ft.± OR 0.338 AC.±
B. PRESENT ZONING: R-ED
C. PROPOSED USE OF STRUCTURE: WASTEWATER PUMPING STATION (GOVERNMENT USE)
D. FLOOR SPACE OF PUMPING STATION BUILDING 139.5 SQ.FT.: CONTROL BUILDING ONLY
E. MAXIMUM NUMBER OF EMPLOYEES: NORMALLY ONE (1) VISIT PER DAY BY BUREAU OF UTILITIES MAINTENANCE PERSONNEL
F. No. OF PARKING SPACES PROVIDED: THREE (3)



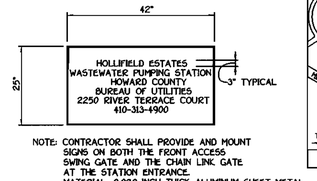
SCHEMATIC BUILDING PROFILES

NOT TO SCALE



STAKE-OUT PLAN

SCALE: 1" = 20'



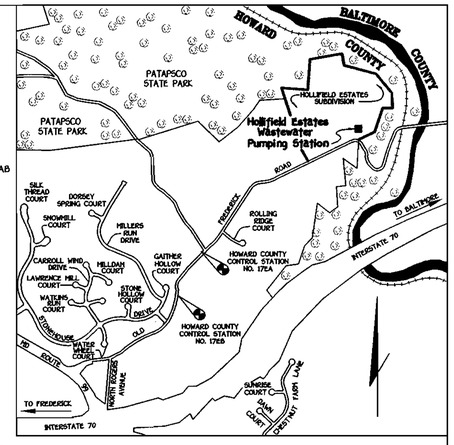
NOTE: CONTRACTOR SHALL PROVIDE AND MOUNT SIGNS ON BOTH THE FRONT ACCESS SWING GATE AND THE CHAIN LINK GATE AT THE STATION ENTRANCE. MATERIAL: 0.080-INCH THICK ALUMINUM SHEET METAL FINISH: BAKED ENAMEL PAINT COATING: POLYESTER BASED SPRAY

SIGN DETAIL

NOT TO SCALE

NOTE: OPEN SPACE LOT 15 SHALL BE DEDICATED IN FEE SIMPLE TO HOWARD COUNTY FOR THE PURPOSE OF A WASTEWATER PUMPING STATION.

NOTE: SET ALL MANHOLE RIMS FLUSH WITH PROPOSED FINISHED PAVING.



VICINITY MAP

SCALE: 1"=1200'

GENERAL NOTES:

1. SUBJECT PROPERTY IS LOCATED ON TAX MAP NO. 18, PART OF PARCEL NO.1.
2. PRESENT ZONING IS R-ED (RESIDENTIAL: ENVIRONMENTAL DEVELOPMENT)
3. TOTAL AREA OF PROPERTY: 14,742 Sq.Ft.± OR 0.338 Ac.±
4. PROPERTY REFERENCE: PLAT NO. ; HOLLIFIELD ESTATES, SECTION 1, OPEN SPACE LOT 15.
5. PARKING DATA:
   A. INTENDED USE OF STRUCTURE: WASTEWATER PUMPING STATION (GOVERNMENT USE)
   B. NUMBER OF SPACES REQUIRED: 2
   C. NUMBER OF SPACES PROVIDED: 3 (STANDARD SPACES: 10'x18')
6. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS' DIVISION OF CONSTRUCTION INSPECTION AT 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
7. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION WORK.
8. SEE THIS SHEET FOR SCHEMATIC BUILDING PROFILES.
9. STORMWATER MANAGEMENT AND STREET TREES FOR THIS PROJECT WERE PROVIDED UNDER F99-75.
10. ALL EXTERIOR LIGHTING OF THE PUMPING STATION STRUCTURE WILL BE DIRECTED DOWNWARD IN COMPLIANCE WITH SECTION 134 OF THE ZONING REGULATIONS.
11. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY.
12. ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
13. THE EXISTING TOPOGRAPHY FOR THE HOLLIFIELD ESTATES, SECTION ONE SUBDIVISION PLANS IS BASED ON AN AERIAL SURVEY PREPARED BY WINGS AERIAL MAPPING COMPANY, INC. FLOWN ON MARCH 25, 1995.
14. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 17EA AND 17EB WERE USED FOR THIS PROJECT.
15. EXISTING PUBLIC UTILITIES ARE BASED ON HOWARD COUNTY PUBLIC WATER AND SEWER CONTRACT NO. 14-3801-D, HOLLIFIELD ESTATES, SECTION 1 & CONTRACT NO. 14-3799-D, OFF-SITE WATER & SANITARY SEWER FORCE MAINS.
16. NO FLOODPLAIN EXISTS ON SITE.
17. NO WETLANDS EXIST ON SITE.
18. REFERENCE PREVIOUS DPZ FILE NOS. S96-16, P98-11, F99-61, WP99-39 AND F99-75.
19. EROSION AND SEDIMENT CONTROL FOR THE PUMPING STATION CONSTRUCTION IS INCLUDED AS PART OF HOLLIFIELD ESTATES, SECTION ONE, A RESUBDIVISION OF BULK PARCEL 'A', PROJECT F99-75, OF WHICH THIS SITE FORMS A PART. ALL SEDIMENT AND EROSION CONTROLS IN THIS AREA WILL REMAIN UNTIL PUMPING STATION CONSTRUCTION IS COMPLETED, AND THE REMOVAL OF CONTROLS IS APPROVED BY THE SOIL & EROSION CONTROL INSPECTOR.
20. FOREST CONSERVATION OBLIGATIONS HAVE BEEN ADDRESSED UNDER F99-75.
21. PRIOR TO CONSTRUCTION, THE DEVELOPER OF THE PUMPING STATION MUST SET MONUMENTS AT TWO (2) PROPERTY CORNERS OF OPEN SPACE LOT 15, AND ALSO ESTABLISH THE MONUMENTS AS BENCHMARKS. THESE BENCHMARKS SHALL BE USED BY THE CONTRACTOR AS HORIZONTAL AND VERTICAL CONTROL FOR CONSTRUCTION STAKEOUT OF THE PUMPING STATION AND ALL ASSOCIATED APPURTENANCES.
22. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE THE COUNTY A FIELD-RUN TOPOGRAPHY CHECK OF THE PUMPING STATION SITE TO VERIFY THAT THE GRADES & CONTOURS ARE AS INDICATED.

SITE PLAN

SCALE: 1"=20'

NOTE: SEE SHEET 13 OF 13 FOR SOIL BORING LOGS

NOTE: PUMPING STATION AND ON-SITE FORCE MAIN, SEWER MAIN & WATER HOUSE CONNECTION WILL BE CONSTRUCTED UNDER CONTRACT NO. 10-3787-D.

* THE EXISTING CONTOURS INDICATED IN THE SITE PLAN ARE BASED ON THE PROPOSED GRADING INDICATED AS PART OF THE ROAD CONSTRUCTION PLANS FOR HOLLIFIELD ESTATES; SECTION 1: F99-75. SEE GENERAL NOTE NO. 22

STAKE-OUT TABLE

8" SEWER MAIN		
ITEM	NORTHING	EASTING
8" GATE VALVE	598699.99	1370033.68
MH #299	598704.99	1370222.28
MH #300	598695.89	1370213.04
EX. MH #301	598677.12	1370066.93
4" FORCE MAIN		
ITEM	NORTHING	EASTING
STA. 0+00 @ PLUG & BUTTRESS	598647.88	1369871.44
STA. 1+00	598660.15	1369970.88
STA. 2+00	598672.42	1370069.92
STA. 2+94.5 @ 1/32 H.B.	598684.08	1370164.22
STA. 3+08 @ 1/16 H.B.	598683.41	1370175.54
STA. 3+51 @ 1/8 H.B.	598664.65	1370235.81
℄ EMERG. PUMPING CONN. MH	598668.14	1370223.55
STA. 3+69 @ 1/8 H.B.	598671.05	1370232.99

OWNER/DEVELOPER

MR. CHARLES SKIRVEN, ESQ.
5401 TWIN KNOLLS ROAD
SUITE 10
COLUMBIA, MARYLAND 21045
(410) 995-0081

HOWARD COUNTY GEODETIC CONTROL INFORMATION/BENCHMARKS

HOWARD COUNTY GEODETIC CONTROL STATION 17EA
N 101150.5724 (METERS) ELEV. = 479.40
E 413772.7247 (METERS)

HOWARD COUNTY GEODETIC CONTROL STATION 17EB
N 100944.8448 (METERS) ELEV. = 454.22
E 413227.0979 (METERS)

NOTE: SEE SDP SHEET 2 OF 4 FOR ACCESS DRIVEWAY PROFILE AND TYPICAL SECTION

LEGEND

+ 490.5 SPOT ELEVATION
EXISTING CONTOUR *
PROPOSED CONTOUR
L.O.D. LIMIT OF DISTURBANCE
PAVING
TEXAS WHITE STONE

S.D.P. SHEET INDEX

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

ENGINEER'S CERTIFICATION

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

SIGNATURE OF ENGINEER — DATE 12/29/99

DEVELOPER'S CERTIFICATION

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

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

03-02-00
SIGNATURE OF DEVELOPER FOR: MR. CHARLES SKIRVEN, ESQ. — DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR: JOSEPH RUTTER, JR. — DATE
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION — 3/13/00 DATE

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE — 3-15-00 DATE

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

HOWARD SOIL CONSERVATION DISTRICT — 3-15-00 DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — 3-9-00 DATE

PROJECT	SECTION/AREA	LOT NO.
HOLLIFIELD ESTATES	SECTION ONE	OPEN SPACE LOT 15

PLAT No.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
	1 & 2	R-ED	18	2nd	6021

WATER CODE	SEWER CODE
H02	1454050

SITE DEVELOPMENT PLAN: PUMPING STATION LOT LAYOUT

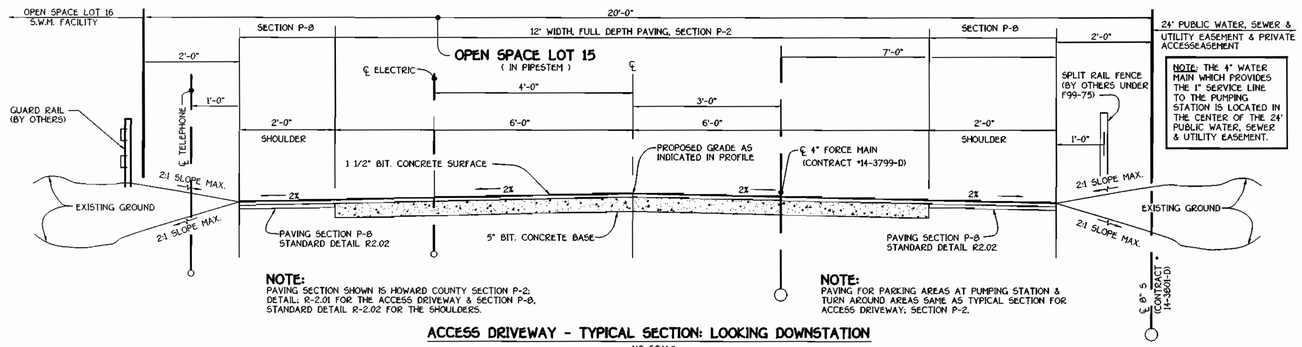
HOLLIFIELD ESTATES

WASTEWATER PUMPING STATION
CONTRACT No. 10-3787-D
OPEN SPACE LOT 15

TAX MAP No: 18 PARCEL: 1
SECOND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: DECEMBER 29, 1999
SDP SHEET 1 OF 4

SDP 99-170 — SHEET 2 OF 13

G:/DRAWINGS/531/REVISED PLANS 12-99 PS SHT 2 OF 13 SDP SHTLDWG

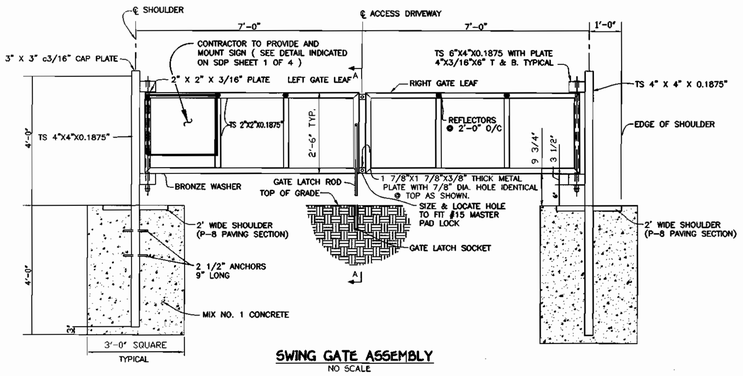


NOTE:
PAVING SECTION SHOWN IS HOWARD COUNTY SECTION P-2; DETAIL: R-2.01 FOR THE ACCESS DRIVEWAY & SECTION P-8, STANDARD DETAIL R-2.02 FOR THE SHOULDERS.

NOTE:
PAVING FOR PARKING AREAS AT PUMPING STATION & TURN AROUND AREAS SAME AS TYPICAL SECTION FOR ACCESS DRIVEWAY; SECTION P-2.

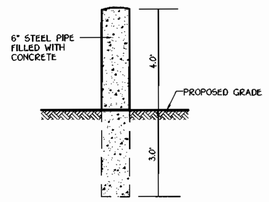
ACCESS DRIVEWAY - TYPICAL SECTION: LOOKING DOWNSTATION

NO SCALE



SWING GATE ASSEMBLY

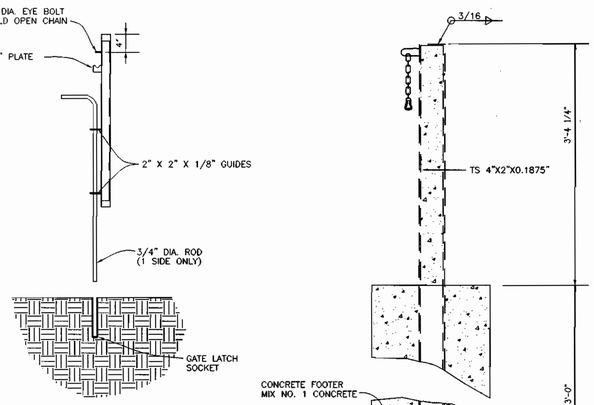
NO SCALE



TYPICAL BOLLARD DETAIL

NOT TO SCALE

"H" HEIGHT OF FENCE	6'-0"
"S" POST SPACING MAX.	10'-0"
"L" LENGTH OF H BEAM	8'-8" MIN.
H BEAM STEEL	2.25" x 1.95" AT 4.10 LBS./FT.
H BEAM ALUMINUM	2.25" x 1.95" AT1.25 LBS./FT.
TERM. POST STEEL	2.875" O.D. AT 5.79 LBS./FT.
TERM. POST ALUMINUM	2.875" O.D. AT 2.00 LBS./FT.
ALT. TERM POST STEEL	2.50" SQ. AT 5.70 LBS./FT.
ALT. TERM POST ALUMINUM	3.00" SQ. AT 2.00 LBS./FT.

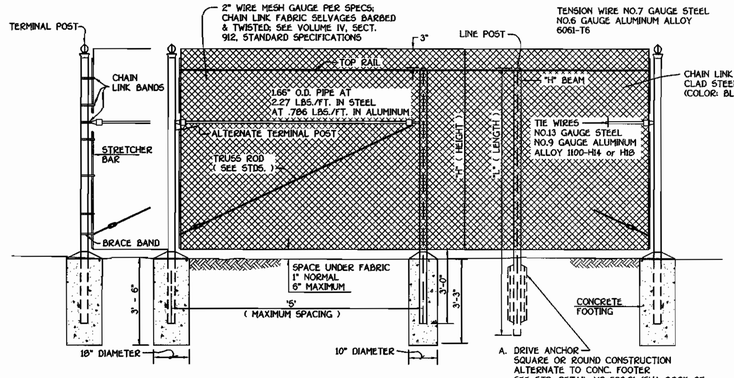


SECTION A-A

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

GATE HOLD OPEN POST

NO SCALE
(TWO REQUIRED)



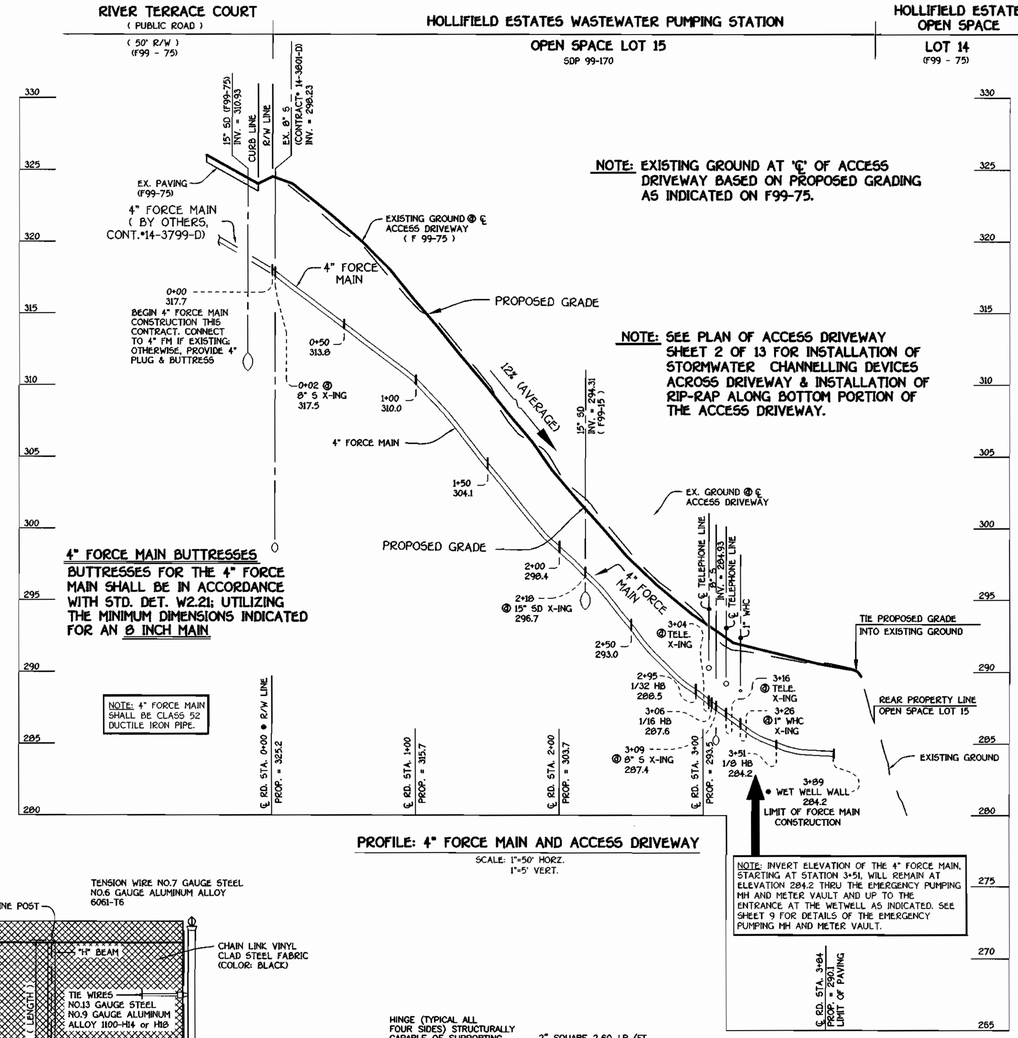
A. DRIVE ANCHOR SQUARE OR ROUND CONSTRUCTION ALTERNATE TO CONC. FOOTER SEE STD. DETAIL MD-690.21 (SHA BOOK OF STANDARDS)

B. ALL POSTS (TERMINAL & LINE) TO BE SAME LENGTH (L)

C. TENSION WIRE CLIP AT 18"± c/c 12 1/2 GA. GALVANIZED STEEL WIRE 0.110 ϕ ALUMINUM WIRE ALLOY 5056-H38 SEE STANDARD DETAIL GB.02 FOR BRACE & ROD ATTACHMENTS

DETAIL CHAIN LINK FENCE

NO SCALE



NOTE: EXISTING GROUND AT "℄" OF ACCESS DRIVEWAY BASED ON PROPOSED GRADING AS INDICATED ON F99-75.

NOTE: SEE PLAN OF ACCESS DRIVEWAY SHEET 2 OF 13 FOR INSTALLATION OF STORMWATER CHANNELLING DEVICES ACROSS DRIVEWAY & INSTALLATION OF RIP-RAP ALONG BOTTOM PORTION OF THE ACCESS DRIVEWAY.

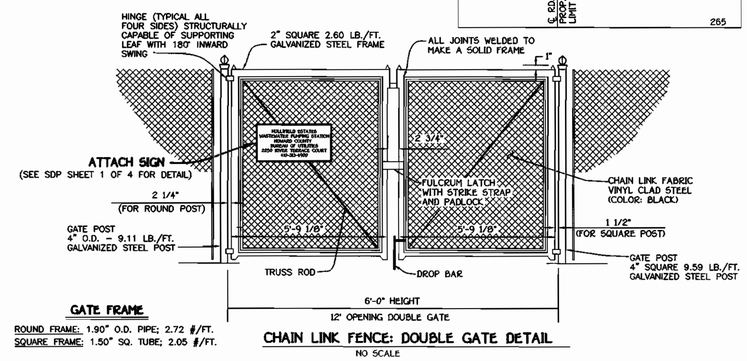
4" FORCE MAIN BUTTRESSES
BUTTRESSES FOR THE 4" FORCE MAIN SHALL BE IN ACCORDANCE WITH STD. DET. W2.21; UTILIZING THE MINIMUM DIMENSIONS INDICATED FOR AN 8 INCH MAIN

NOTE: 4" FORCE MAIN SHALL BE CLASS 52 DUCTILE IRON PIPE.

PROFILE: 4" FORCE MAIN AND ACCESS DRIVEWAY

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

NOTE: INVERT ELEVATION OF THE 4" FORCE MAIN, STARTING AT STATION 3+51, WILL REMAIN AT ELEVATION 284.2 THRU THE EMERGENCY PUMPING MH AND METER VAULT AND UP TO THE ENTRANCE AT THE WETWELL AS INDICATED. SEE SHEET 9 FOR DETAILS OF THE EMERGENCY PUMPING MH AND METER VAULT.



GATE FRAME
ROUND FRAME: 1.90" O.D. PIPE; 2.72 #/FT.
SQUARE FRAME: 1.50" SQ. TUBE; 2.05 #/FT.

CHAIN LINK FENCE: DOUBLE GATE DETAIL

NO SCALE

OWNER/DEVELOPER
MR. CHARLES SKIRVEN, ESQ.
5401 TWIN KNOLLS ROAD
SUITE 10
COLUMBIA, MARYLAND 21045
(410) 995-0081

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

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

TERRENCE A. FISHER — No. 9757

SIGNATURE OF ENGINEER — 12/29/99 DATE

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

Paul W. Kriel & FOR: Mr. CHARLES SKIRVEN, Esq. — 03-02-00
SIGNATURE OF DEVELOPER — DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR: JOSEPH RUTTER, JR. — DATE
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION — 3/17/00 DATE

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE — 3-15-00 DATE

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

HOWARD SOIL CONSERVATION DISTRICT — 3-15-00 DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — 3-9-00 DATE

PROJECT			SECTION/AREA		LOT NO.
HOLLIFIELD ESTATES			SECTION ONE		OPEN SPACE LOT 15
PLAT No.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
	1 & 2	R-ED	18	2nd	6021
WATER CODE		SEWER CODE			
W02		1454050			

SITE DEVELOPMENT PLAN: SITE PLAN DETAILS

HOLLIFIELD ESTATES

WASTEWATER PUMPING STATION
CONTRACT No. 10-3787-D
OPEN SPACE LOT 15

TAX MAP No: 18 PARCEL: 1
SECOND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: DECEMBER 29, 1999
SDP SHEET 2 OF 4

SDP 99-170

SHEET 3 OF 13

G/DRAWINGS/531/REVISED PLANS 12-99/PS SHT 3 OF 13 SDP SHT2.DWG

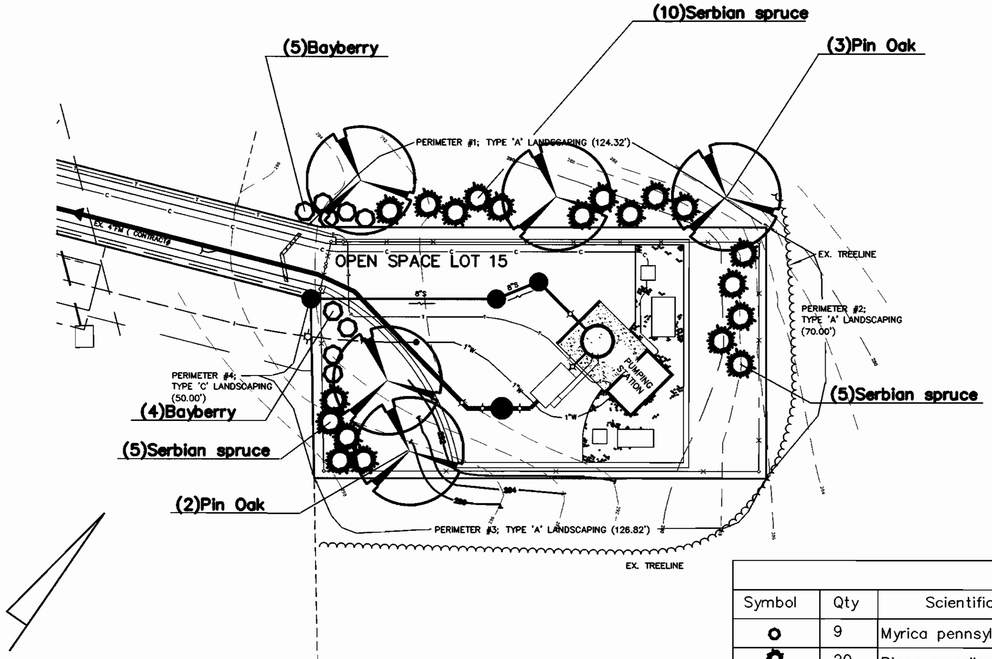
SCHEDULE A PERIMETER LANDSCAPE EDGE					
PERIMETER	1	2	3	4	
CATEGORY	Adjacent to Perimeter Properties	Adjacent to Perimeter Properties	Adjacent to Perimeter Properties	Adjacent to Perimeter Properties	
LANDSCAPE TYPE	A	A	A	C	
LINEAR FEET OF PERIMETER	124.32'	70.00'	126.82'	50.00'	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE IF NEEDED)	NO	NO	NO	NO	
NUMBER OF PLANTS REQUIRED					TOTALS
SHADE TREES EVERGREEN TREES	3 0	NO REQUIREMENT, ABUTS MAJOR OPEN SPACE, NOT VISIBLE FROM OTHER LAND USES	NO REQUIREMENT, ABUTS MAJOR OPEN SPACE, NOT VISIBLE FROM OTHER LAND USES	2 3	5 3
NUMBER OF PLANTS PROVIDED					
SHADE TREES EVERGREEN TREES SHRUBS	3 10 5	0 5 0	0 0 0	2 5 4	5 20 9
OTHER TREES (2:1 SUBSTITUTION)	0	0	0	0	0

LANDSCAPE PLAN NOTES

A. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE & LANDSCAPE MANUAL.

B. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE GRADING PERMIT IN THE AMOUNT OF $ 3,450.00.

C. LANDSCAPE BONDING AMOUNT: $ 3,450.00.



LANDSCAPING PLAN

SCALE: 1"=20'

Plant List					
Symbol	Qty	Scientific Name	Common Name	Size	Comments
o	9	Myrica pennsylvanica	Bayberry	3' ht.	Container
✿	20	Picea omorika	Serbian Spruce	7-8' ht.	B&B
✺	5	Quercus palustrus	Pin Oak	2-1/2" cal	B&B

NOTE: THIS PLAN IS INTENDED FOR LANDSCAPE USE ONLY. REFERENCE OTHER PLAN SHEETS FOR BUILDING LAY-OUT, UTILITIES, GRADING, SEDIMENT CONTROL, ETC.

PLANTING SPECIFICATIONS

Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein.

All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigorous root system, and shall conform to the species, size, root and shape shown on the plant list and the American Association of Nurserymen (AAN) Standards. Plant material shall be healthy, vigorous, free from defects, decay, disfiguring roots, sun scald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will not be accepted. All plants shall be freshly dug; no healed-in plants from cold storage will be accepted.

Unless otherwise specified, all general conditions, planting operations, details and planting specification shall conform to "Landscape Specification Guidelines for Baltimore-Washington Metropolitan Areas", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architect, latest edition, including all agenda.

Contractor shall be required to guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section of the Landscape Guidelines Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.

Contractor shall be responsible for notifying utility companies, utility contractors and "Miss Utility" a minimum of 48 hours prior to beginning any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.

Protection of existing vegetation to remain shall be provided in accordance with the approved Forest Conservation Plan.

Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within the growing season of completion of site construction.

Bid shall be based on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on drawings and specifications

Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence

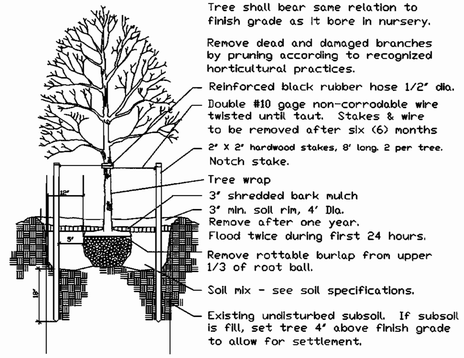
All shrubs shall be planted in continuous trenches or prepared planting beds and mulched with composted hardwood mulch as details and specified except where noted on plans.

Positive drainage shall be maintained in planting beds (2 percent slope).

Planting mix shall be as follows: Deciduous Plants – Two parts topsoil, one part well-rotted cow or horse manure. Add 3 lbs. of standard fertilizer per cubic yard of planting mix. Evergreen Plants – two parts topsoil, one part humus or other approved organic material. Add 3 lbs. of evergreen (acidic) fertilizer per cubic yard of planting mix. Topsoil shall conform to the Landscape Guidelines.

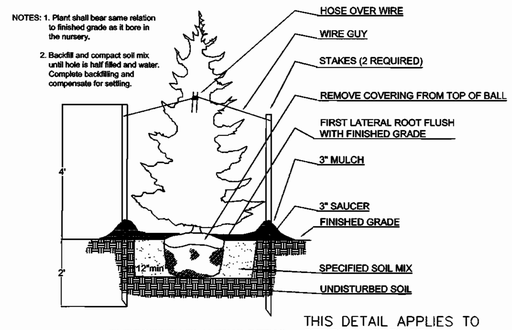
Weed Control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check the chemical used to assure its adaptability to the specific ground cover to be treated.

All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded and seeded.



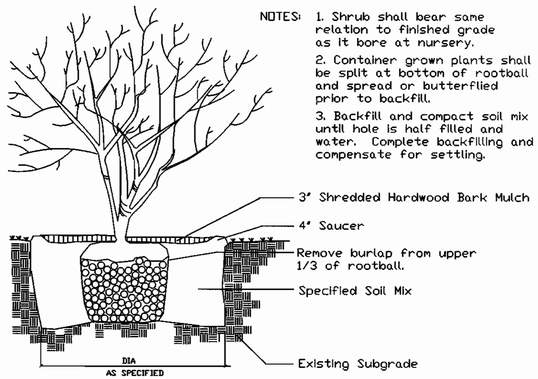
TREE PLANTING DETAIL

NOT TO SCALE



EVERGREEN PLANTING DETAIL (for plants greater than 6' in height)

THIS DETAIL APPLIES TO SERBIAN SPRUCE



SHRUB PLANTING DETAIL

NOT TO SCALE

THIS DETAIL APPLIES FOR BAYBERRY.

STATE OF MARYLAND — CHARLES R. BRENTON — No. 662 — REGISTERED LANDSCAPE ARCHITECT

Charles Brenton 1/7/2000

OWNER/DEVELOPER

MR. CHARLES SKIRVEN, ESQ.
5401 TWIN KNOLLS ROAD
SUITE 10
COLUMBIA, MARYLAND 21045
(410) 995-0081

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STATE OF MARYLAND — RAYMOND A. FISHER — No. 9757 — PROFESSIONAL ENGINEER

SIGNATURE OF ENGINEER — 12/20/99 DATE

DEVELOPER'S CERTIFICATION

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03-02-00
Paul W. Kaelin for Mr. Charles Skirven, Esq. — SIGNATURE OF DEVELOPER — DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR, JOSEPH RUTTER, JR. — DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 3/17/00 DATE

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE — 3-15-00 DATE

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HOWARD SOIL CONSERVATION DISTRICT — 3-15-00 DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — 3-9-00 DATE

PROJECT			SECTION/AREA	LOT NO.
HOLLIFIELD ESTATES			SECTION ONE	OPEN SPACE LOT 15
PLAT No.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
	1 & 2	R-ED	18	2nd	6021
WATER CODE			SEWER CODE	
W02			1454850	

SITE DEVELOPMENT PLAN: LANDSCAPE PLAN

HOLLIFIELD ESTATES

WASTEWATER PUMPING STATION
CONTRACT No. 10-3787-D
OPEN SPACE LOT 15

TAX MAP No: 18 PARCEL: 1
SECOND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: DECEMBER 29, 1999
SDP SHEET 3 OF 4

SDP 99-170

SHEET 4 OF 13

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SECTION 20 :
STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

DEFINITION

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

PURPOSE

Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources.

CONDITIONS WHERE PRACTICE APPLIES

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary soil stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dams, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

Sediment control devices must remain in place during grading, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. Site Preparation
   i. Install erosion and sediment control structures (either temporary of permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
   ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
   iii. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.

B. Soil Amendments (Fertilizer and Lime Specifications)
   i. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
   ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer.
   iii. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total neutralizing oxide plus magnesium oxide. Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 98-100% will pass through a #20 mesh sieve.
   iv. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

C. Seedbed Preparation
   i. Temporary Seeding
      a. Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth, but left in the roughened condition. Sloped areas steeper than 3:1 should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
      b. Apply fertilizer and lime as prescribed on the plans.
      c. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
   ii. Permanent Seeding
      a. Minimum soil conditions required for permanent vegetative establishment:
         1. Soil pH shall be between 6.0 and 7.0.
         2. Soluble salts shall be less than 500 parts per million (ppm).
         3. The soil shall contain less than 40% clay, but enough fine grained material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or sericeia lespedezas is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable.
         4. Soil shall contain 1.5% minimum organic matter by weight.
         5. Soil must contain sufficient pore space to permit adequate root penetration.
         6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.
      b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
      c. Apply soil amendments as per soil test or as included on the plans.
      d. Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed and application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.

D. Seed Specifications
   i. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job.
   Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
   ii. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75°-80° F. can weaken bacteria and make the inoculant less effective.

E. Methods of Seeding
   i. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder.
      a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen: maximum of 100 lbs. per acre total of soluble nitrogen; P2O5 (phosphorous): 200 lbs/ac; K2O (potassium): 200 lbs/ac.
      b. Lime - use only ground agricultural limestone, (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
      c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
   ii. Dry Seeding - This includes use of conventional drop or broadcast spreaders.
      a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 26S or 26E. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
      b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
   iii. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
      a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
      b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

F. Mulch Specifications (in order of preference)
   i. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
   ii. Wood Cellulose Fiber Mulch (WCFM)
      a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
      b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
      c. WCFM, including dye, shall contain no germination or growth inhibiting factors.
      d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
      e. WCFM material shall contain no elements or compounds at concentration levels that will be phyto-toxic.
      f. WCFM must conform to the following physical requirements: fiber length to 50% minimum, 10 mm. diameter, approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.
   Note: Only sterile straw mulch should be used in areas where one species of grass is desired.

G. Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.
   i. If grading is completed outside of the seeding season, mulch alone shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
   ii. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
   iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.

H. Securing Straw Mulch (mulch anchoring) Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard:
   i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.
   ii. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
   iii. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and crest of banks. The remainder of area should be appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70 Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
   iv. Lightweight plastic netting shall be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

SEDIMENT CONTROL NOTES

1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
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 MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3) FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 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 EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 50, 500 (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 PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7) SITE ANALYSIS:

TOTAL AREA OF SITE	0.338 ACRES
AREA DISTURBED	0.338 ACRES
AREA TO BE ROOFED OR PAVED	0.274 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.064 ACRES
TOTAL CUT	42.5 CU.YDS.
TOTAL FILL	7.5 CU.YDS.
OFFSITE WASTE/BORROW AREA LOCATION	35 CU.YDS.**

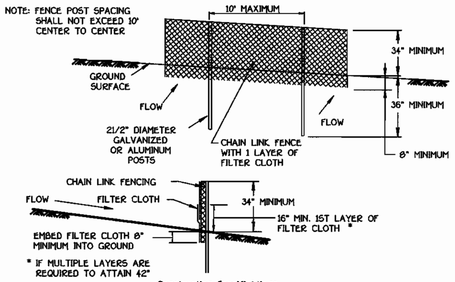
8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, 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.
11) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

**THE 35 CUBIC YARDS OF EXCESS IS ACCOUNTED FOR IN HOLLIFIELD ESTATES, SECTION 1 (F99-75).

SECTION 21 :
STANDARDS AND SPECIFICATIONS FOR TOPSOIL

1) DEFINITION: PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATIVE GROWTH.
2) PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.
3) SPECIFICATIONS: A. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND.
   B. TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING SUBSOILS.
   C. TOPSOIL SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1.5" IN DIAMETER.
4) APPLICATION: A. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4"- 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4" : AVOID SURFACE IRREGULARITIES.
   B. PLACE TOPSOIL AND APPLY SOIL AMENDMENTS AS SPECIFIED IN "STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION".
   C. TOPSOIL SHALL NOT BE PLACED DURING FROZEN, MUDDY, OR EXCESSIVELY WET CONDITIONS.

SUPER SILT FENCE



Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
4. Filter cloth shall be embedded a minimum of 8" into the ground.
5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height
7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft /minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

NOTE: SEE SHEET 2 OF 13 (SDP SHEET 1 OF 4) FOR LOCATION OF SUPER SILT FENCE INSTALLATION.

STANDARD SYMBOL: SSF

Design Criteria

Slope	Slope Steepness	Slope Length (maximum)	Silt Fence Length (maximum)
0 - 10%	0 - 10:1	Unlimited	Unlimited
10 - 20%	10:1 - 5:1	200 feet	1,500 feet
20 - 33%	5:1 - 3:1	100 feet	1,000 feet
33 - 50%	3:1 - 2:1	100 feet	500 feet
50% +	2:1 +	50 feet	250 feet

SEQUENCE OF CONSTRUCTION

1. OBTAIN THE REQUIRED GRADING PERMIT. (10 DAYS)
2. NOTIFY MISS UTILITY 48 HOURS BEFORE BEGINNING ANY WORK (1-800-257-7777). NOTIFY HOWARD COUNTY CONSTRUCTION/INSPECTION DIVISION 24 HOURS BEFORE STARTING ANY WORK ((410)313-1870). (1 DAY)
3. INSPECT AND REPAIR IF NECESSARY THE REQUIRED SEDIMENT AND EROSION CONTROL DEVICES AND STABILIZED CONSTRUCTION ENTRANCE AS INDICATED ON F-99-75 (1 DAY).
4. CONSTRUCT PUMPING STATION AND UTILITIES. (6 MONTHS)
5. CONSTRUCT ACCESS DRIVEWAY. (1 MONTH)
6. FINE GRADE PERIMETER AREAS AROUND PARKING LOT AND ACCESS DRIVEWAY. STABILIZE WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH. (5 DAYS)
7. THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE OF THE SEDIMENT AND EROSION CONTROL DEVICES SHOWN HEREON, AFTER EACH RAINFALL AND ON A DAILY BASIS. (1 DAY)
8. REMOVE SEDIMENT FROM ROADWAY AS REQUIRED. (1 DAY)
9. STABILIZE ALL REMAINING DISTURBED AREAS WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH. (3 DAYS)
10. FOLLOWING SUCCESSFUL STABILIZATION OF ALL DISTURBED AREAS, AND AFTER PERMISSION HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL MEASURES AND STABILIZE REMAINING DISTURBED AREAS WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH. (3 DAYS)

TEMPORARY SEEDING NOTES

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

SEEDBED PREPARATION:
LOOSEN UPPER 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./1,000 SQ.FT.)

SEEDING:
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 1.5 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS./ACRE OF WEEPING LOVEGRASS (.07 LBS./1,000 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 1.5 TO 2 TONS PER ACRE (70 TO 90 LBS./1,000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL./1,000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT ACRES ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL./1,000 SQ.FT.) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

PERMANENT SEEDING NOTES

ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:

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

SOIL AMENDMENTS:
APPLY TWO TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1,000 SQ.FT.) AND 600 LBS. PER ACRE 0-20-20 FERTILIZER (14 LBS./1,000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THROUGH JULY 31, SEED WITH 60 LBS/ACRE (1.4 LBS./1,000 SQ.FT.) KENTUCKY 31 TALL FESCUE AND 2 LBS. PER ACRE (0.05 LBS./1,000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THROUGH FEBRUARY 28, PROJECT SITE BY: OPTION (1) - TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) - USE SOD. OPTION (3) - SEED WITH 100 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH TWO TONS/ACRE WELL ANCHORED STRAW. ALL SLOPES SHOULD BE HYDROSEEDED.

MULCHING:
APPLY 1 TO 2 TONS PER ACRE (10 TO 90 LBS./1,000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING 200 GALLONS PER ACRE (5 GAL./1,000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT ACRES. ON SLOPES 8 FEET OR HIGHER USE 348 GALLONS PER ACRE (8 GAL./1,000 SQ.FT.) FOR ANCHORING.

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

OWNER/DEVELOPER

MR. CHARLES SKIRVEN, ESQ.
5401 TWIN KNOLLS ROAD
SUITE 10
COLUMBIA, MARYLAND 21045
(410) 995-0081

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

ENGINEER'S CERTIFICATION

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

STATE OF MARYLAND — TERRELL A. FISHER — No. 9757 — REGISTERED PROFESSIONAL ENGINEER

SIGNATURE OF ENGINEER — DATE 12/20/99

DEVELOPER'S CERTIFICATION

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

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

03-02-00
SIGNATURE OF DEVELOPER — DATE
BY: RONALD KNIGHT FOR: MR. CHARLES SKIRVEN ESQ.

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR: JOSEPH RUTTER, JR. — DATE
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/17/00

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE — DATE 3-15-00

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 3-15-00

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — DATE 3-9-00

PROJECT	SECTION/AREA	LOT NO.
HOLLIFIELD ESTATES	SECTION ONE	OPEN SPACE LOT 15

PLAT No.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
	1 & 2	R-ED	18	2nd	6021

WATER CODE	SEWER CODE
W02	1454850

SITE DEVELOPMENT PLAN: SITE PLAN DETAILS

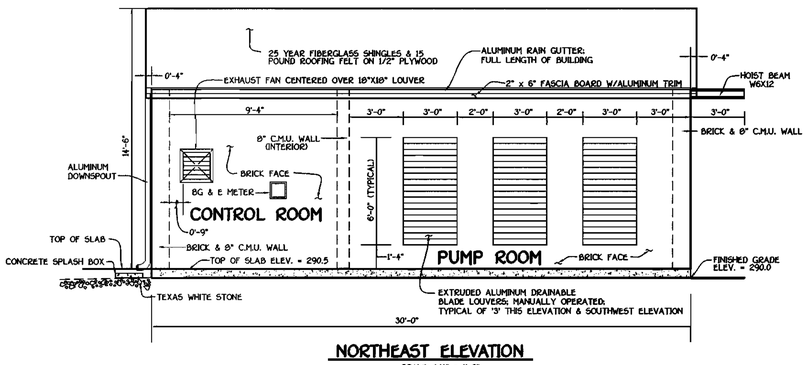
HOLLIFIELD ESTATES
WASTEWATER PUMPING STATION
CONTRACT No. 10-3787-D
OPEN SPACE LOT 15

TAX MAP No: 18 PARCEL: 1
SECOND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: DECEMBER 29, 1999
SDP SHEET 4 OF 4

SDP 99-170

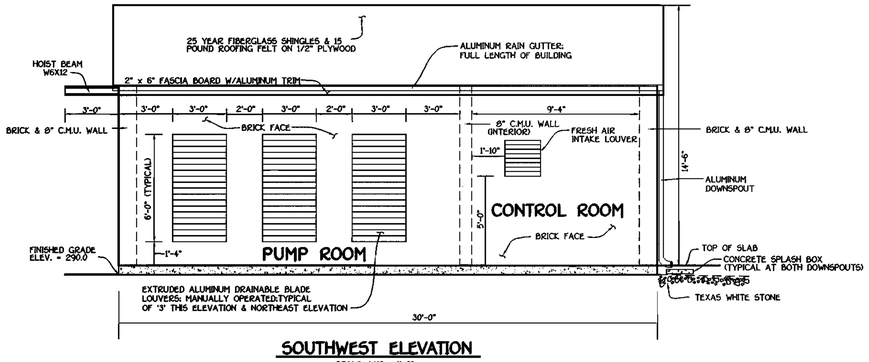
SHEET 5 OF 13

G:/DRAWINGS/531/REVISED PLANS 12-99/PS SHT 5 OF 13 SDP SHT4.DWG



NORTHEAST ELEVATION

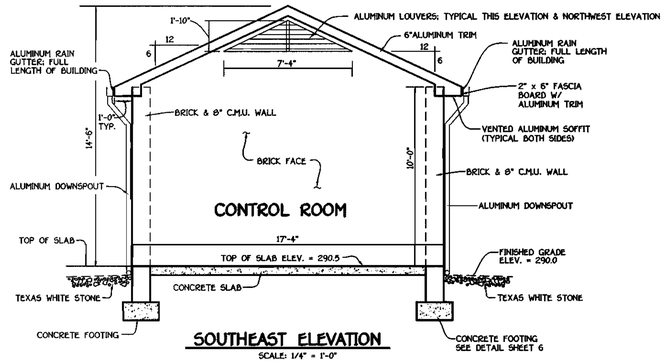
SCALE: 1/4" = 1'-0"



SOUTHWEST ELEVATION

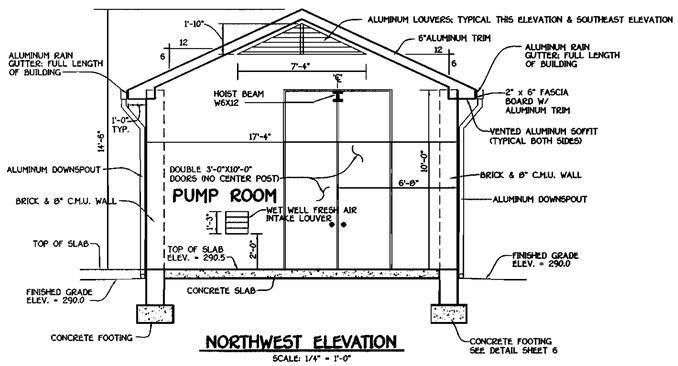
SCALE: 1/4" = 1'-0"

NOTE: SEE SHEET 9 FOR DRAIN PIPING & SANITARY WASTE PIPING RISER DIAGRAM



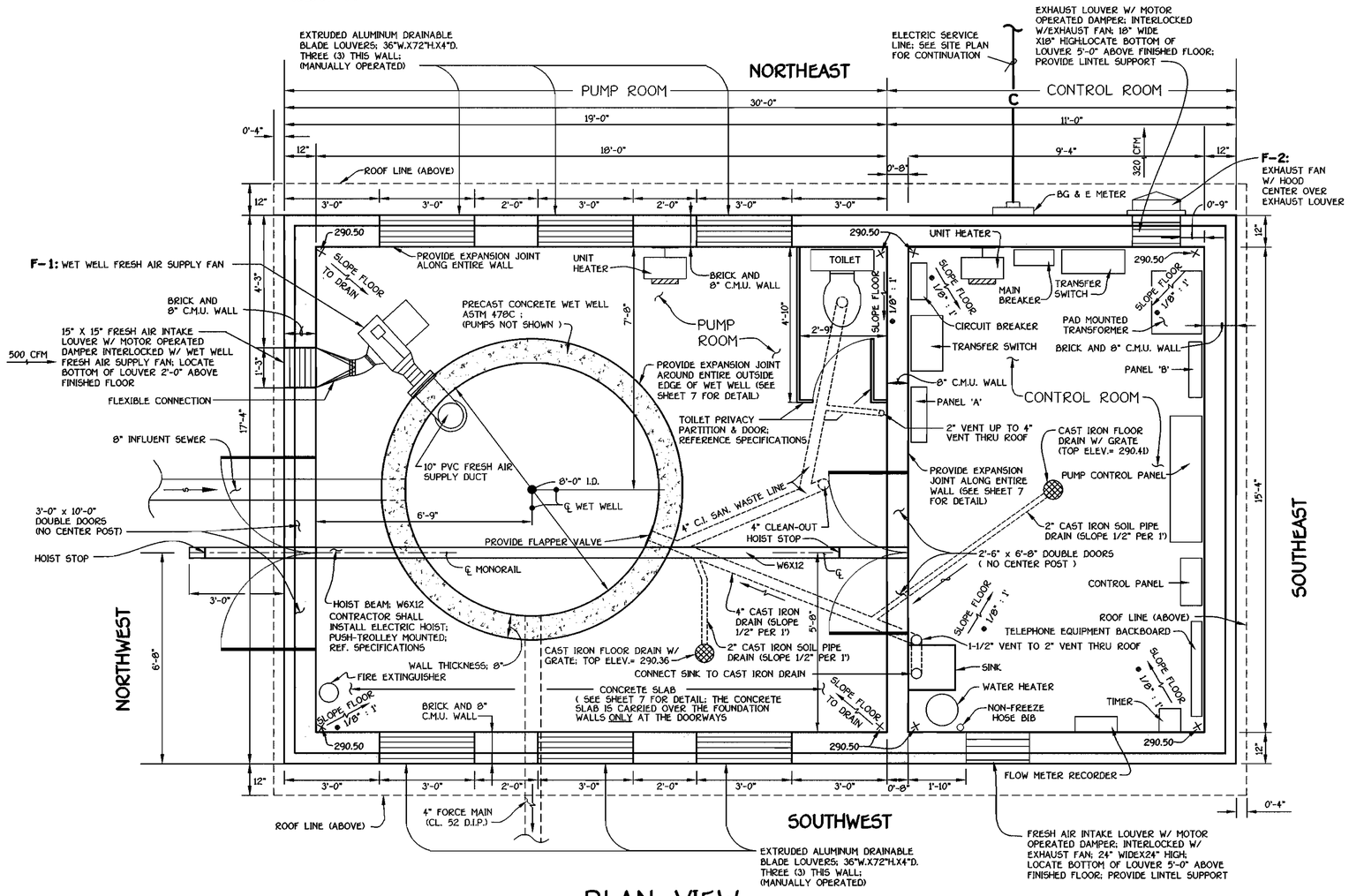
SOUTHEAST ELEVATION

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



NORTHWEST ELEVATION

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



PLAN VIEW

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

CONTRACT NO. 10-3787-D
HOLLIFIELD ESTATES
WASTEWATER PUMPING STATION
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert M. Berning 3-9-00
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

CHIEF, DEVELOPMENT ENGINEERING DIVISION 3/10/00
DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

#9757
STATE OF MARYLAND
TERRELL A. FISHER
REG. NO. 9757
PROFESSIONAL ENGINEER
TERRELL A. FISHER

DESIGNED BY : D.S.
DRAWN BY : M.D.T.
CHECKED BY : P.W.K.
DATE : DECEMBER 29, 1999

BY	NO.	REVISION	DATE
FCC	-	REVISE TO ADDRESS COUNTY COMMENTS; LETTER OF 12/20/99	12/99
FCC	-	ADDRESS COUNTY COMMENTS PER LETTER OF 10/20/99	12/99
FCC	-	ADDRESS HOWARD COUNTY COMMENTS	9/99
FCC	-	ADDRESS HOWARD COUNTY COMMENTS	7/99

PUMPING STATION PLAN & BUILDING ELEVATION VIEWS

600' SCALE MAP NO. 18 BLOCK NO. 2
F.C.C. WORK ORDER NO. 531
FILE NAME : G:/531/REVISED PLANS 12-99/PS SHT 6 OF 13.DWG

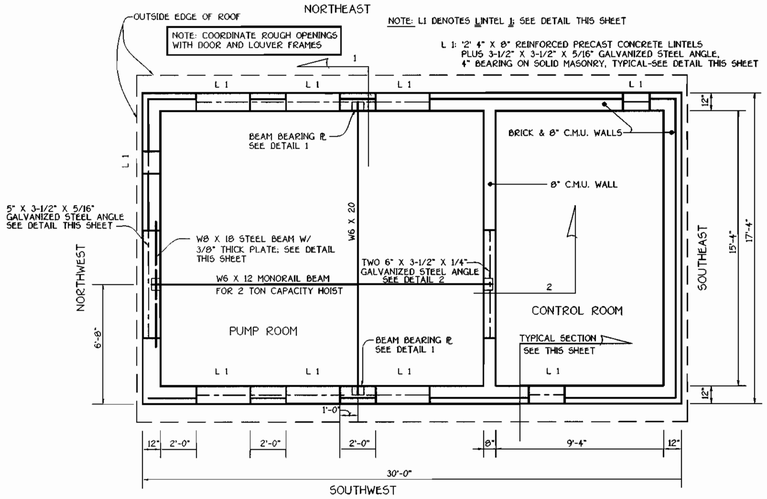
HOLLIFIELD ESTATES WASTEWATER PUMPING STATION

CONTRACT NO. 10-3787-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

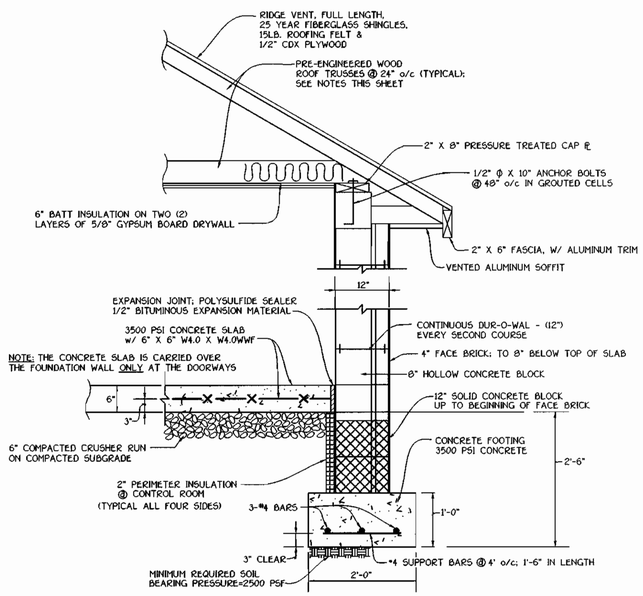
SHEET 6 OF 13

G:/531/REVISED PLANS 12-99/PS SHT 6 OF 13.DWG



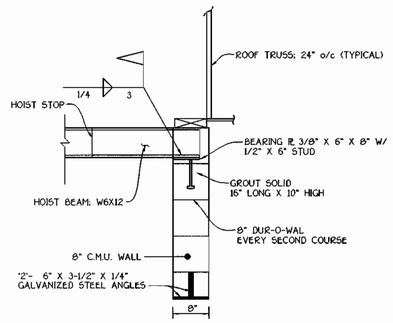
WALL & ROOF PLAN

1/4" = 1'-0"



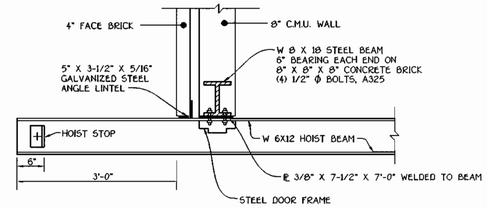
TYPICAL SECTION @ EXTERIOR WALL

3/4" = 1'-0"



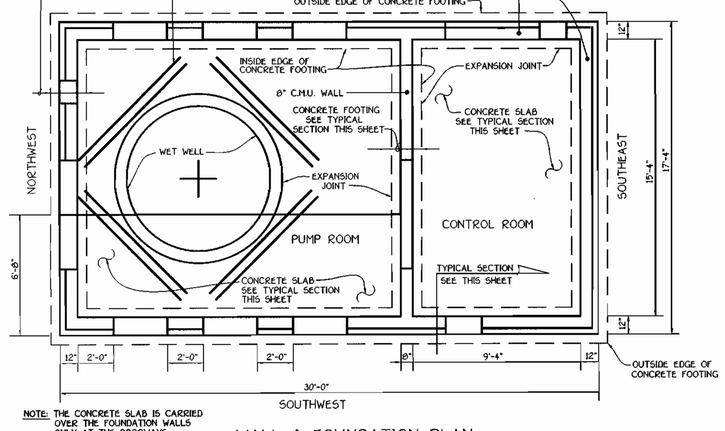
DETAIL 2

3/4" = 1'-0"



DETAIL: NORTHWEST DOOR HEADER

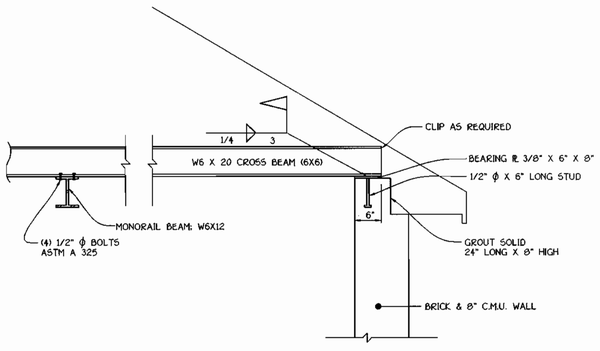
3/4" = 1'-0"



NOTE: THE CONCRETE SLAB IS CARRIED OVER THE FOUNDATION WALLS ONLY AT THE DOORWAYS

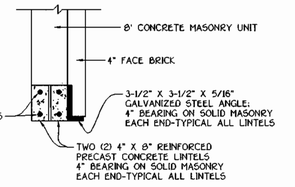
WALL & FOUNDATION PLAN

1/4" = 1'-0"



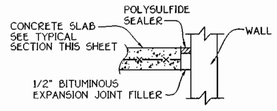
DETAIL 1

3/4" = 1'-0"



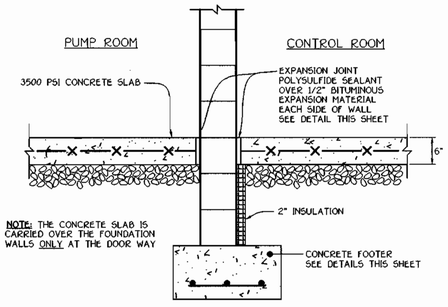
LINTEL DETAIL: L1

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



EXPANSION JOINT DETAIL

NO SCALE



TYPICAL SECTION @ INTERIOR CMU WALL

3/4" = 1'-0"

ROOF TRUSS NOTES

A. ROOF TRUSSES SHALL BE CERTIFIED BY THE MANUFACTURER & DESIGNED FOR THE CAPACITY TO SUPPORT THE FOLLOWING LOADS AS REQUIRED BY CODE:
   SNOW LOAD: 30 PSF
   ROOF DEAD LOAD: 10 PSF
   WIND LOAD: 25 PSF
   LIVE LOAD (NO RESTRICTIONS): 30 PSF
B. TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH THE "TRUSS PLATE INSTITUTE (TPI) DESIGN SPECIFICATIONS FOR METAL PLATE CONNECTED WOOD TRUSSES" AND SHALL BEAR THE TPI TRADE MARK.
C. TRUSS SHOP DRAWINGS SHALL INCLUDE BRIDGING SHOWN IN SECTIONS.
D. TRUSSES SHALL BE BRACED DURING AND AFTER ERECTION.

CONTRACT NO. 10-3787-D
HOLLIFIELD ESTATES
WASTEWATER PUMPING STATION
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Robert M Berning 3-9-00
CHIEF, BUREAU OF UTILITIES — DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
CHIEF, DEVELOPMENT ENGINEERING DIVISION — 3/2/00 DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

#9757 STATE OF MARYLAND TERRELL A. FISHER NO. 9757 REGISTERED PROFESSIONAL ENGINEER
TERRELL A. FISHER

DESIGNED BY : D.S.	
DRAWN BY : M.D.T.	
CHECKED BY : P.W.K.	
DATE : DECEMBER 29, 1999	

BY	NO.	REVISION	DATE
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SECTIONS
ARCHITECTURAL/STRUCTURAL
DETAILS

600' SCALE MAP NO. 18 BLOCK NO. 2
F.C.C. WORK ORDER NO. 531
FILE NAME : G:/531/REVISED PLANS 12-99/PS SHT 7 OF 13

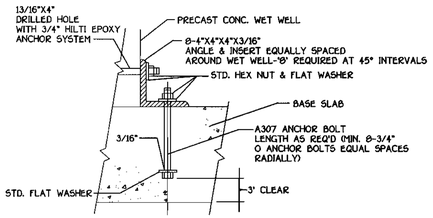
HOLLIFIELD ESTATES
WASTEWATER PUMPING STATION

CONTRACT NO. 10-3787-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

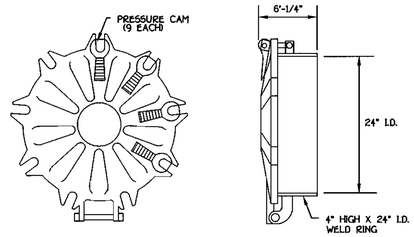
SHEET 7 OF 13

G:/531/REVISED PLANS 12-99/PS SHT 7 OF 13.DWG



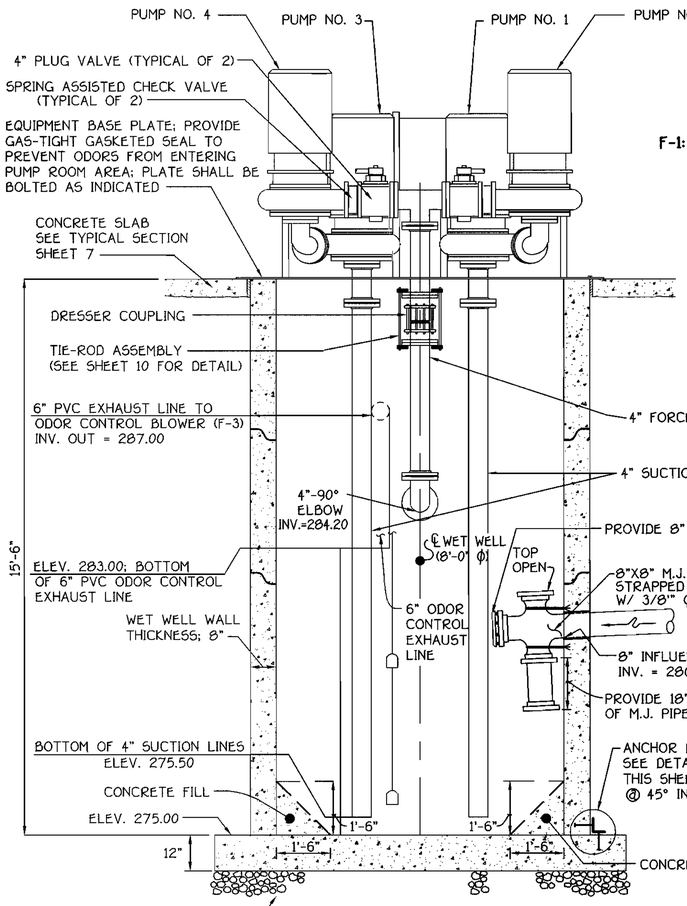
DETAIL - 'A'

NOT TO SCALE



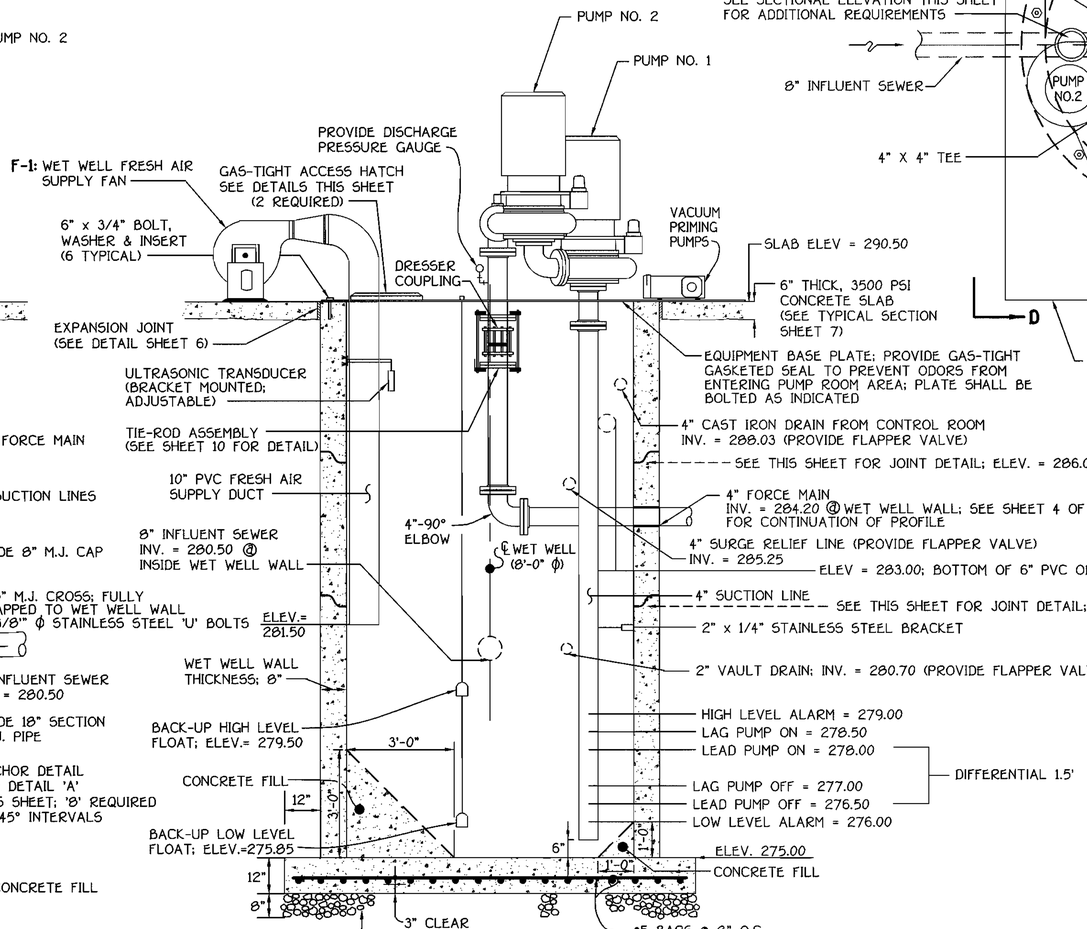
GAS-TIGHT ACCESS HATCH

NOT TO SCALE



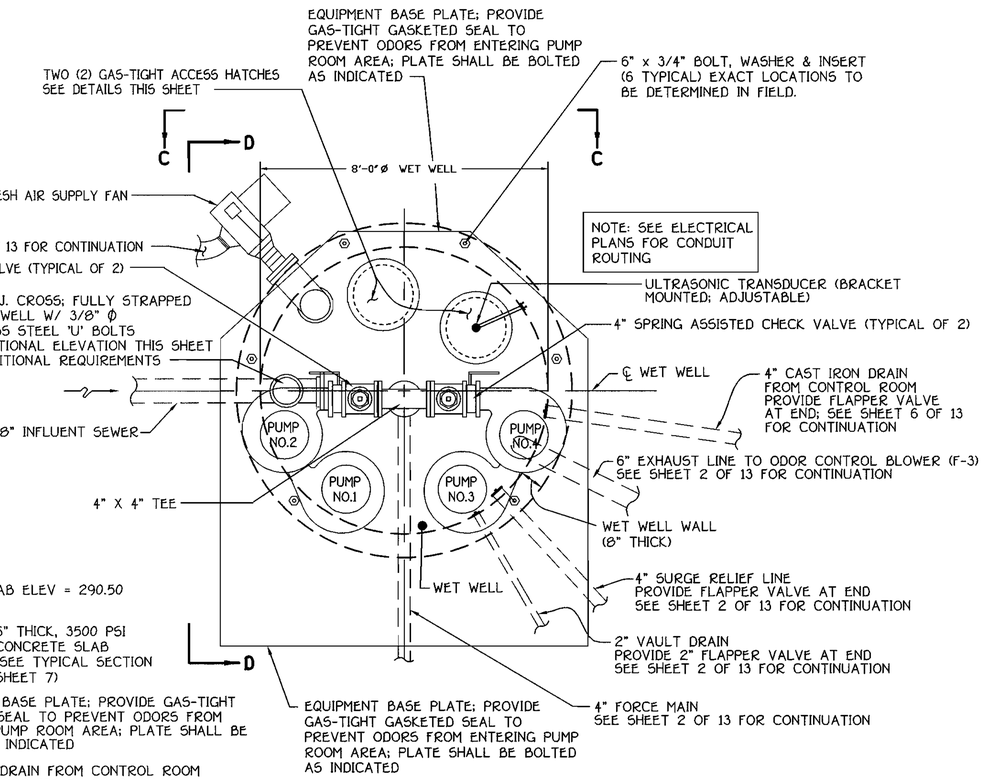
SECTIONAL ELEVATION C-C

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



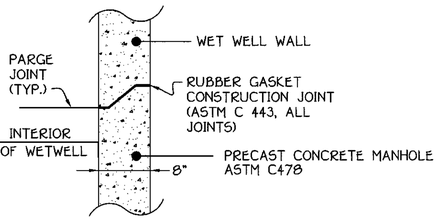
SECTIONAL ELEVATION D-D

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



PLAN VIEW

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



NOTE: CONSTRUCTION JOINTS TO BE PROVIDED AT ELEVATIONS INDICATED ON THIS SHEET.

WET WELL JOINT DETAIL

NOT TO SCALE

NOTE: ALL CONNECTIONS BETWEEN WET WELL WALL AND ALL PIPES SHALL BE SEALED WATERTIGHT WITH FLEXIBLE GASKET.

NOTE: REFER TO SPECIFICATIONS FOR A DETAILED SCHEDULE OF PAINTING/COATING OF PIPES, INTERIOR AND EXTERIOR CONCRETE SURFACES.

NOTES:

1. EQUIPMENT LAY-OUT BASED ON THE WET WELL MOUNTED DUPLEX SERIES PUMP STATION w/4" PIPING AS MANUFACTURED BY SMITH & LOVELESS, INC.
2. PUMPS SHALL BE MODEL 4C3B, 1760 RPM AS MANUFACTURED BY SMITH & LOVELESS, INC.
3. IMPELLER DESIGNATION: 54M32
4. PUMP MOTORS SHALL BE 20 H.P., 3 PHASE, 60 HERTZ, 460 VOLT.- REFERENCE ELECTRICAL PLANS.

CONTRACT NO. 10-3787-D
HOLLIFIELD ESTATES
WASTEWATER PUMPING STATION
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert M. Bauman 3-9-00
CHIEF, BUREAU OF UTILITIES — DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

3/10/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

*9757
STATE OF MARYLAND — TERRELL A. FISHER — No. 9757 — REGISTERED PROFESSIONAL ENGINEER
TERRELL A. FISHER

DESIGNED BY : D.S.				
DRAWN BY : M.D.T.	FCC	-	REVISE TO ADDRESS COUNTY COMMENTS; LETTER OF 12/20/99	12/99
CHECKED BY : P.W.K.	FCC	-	ADDRESS COUNTY COMMENTS PER LETTER OF 10/20/99	12/99
	FCC	-	ADDRESS HOWARD COUNTY COMMENTS	9/99
DATE : DECEMBER 29, 1999	FCC	-	ADDRESS HOWARD COUNTY COMMENTS	7/99
	BY	NO.	REVISION	DATE

PUMPING STATION WET WELL: PLAN AND SECTIONAL ELEVATION VIEWS

600' SCALE MAP NO. 18 BLOCK NO. 2
F.C.C. WORK ORDER NO. 531
FILE NAME : G:/531/REVISED PLANS 12-99/PS SHT 8 OF 13

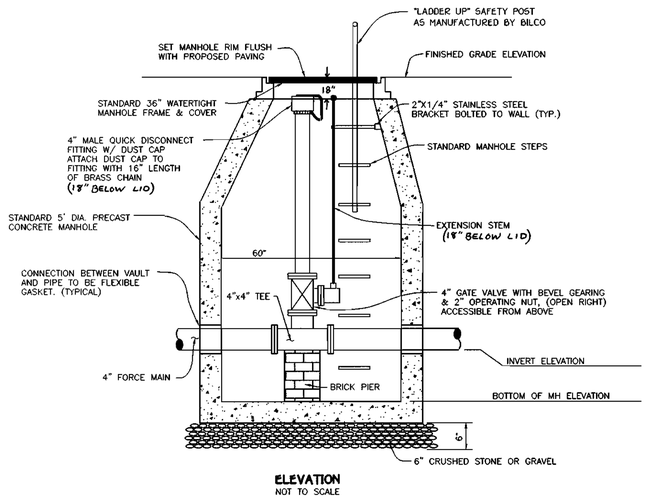
HOLLIFIELD ESTATES WASTEWATER PUMPING STATION

CONTRACT NO. 10-3787-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

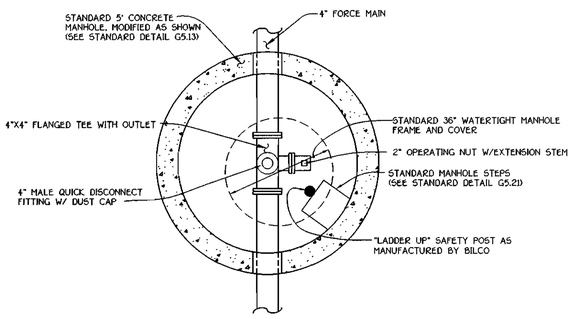
SCALE AS SHOWN

SHEET 8 of 13

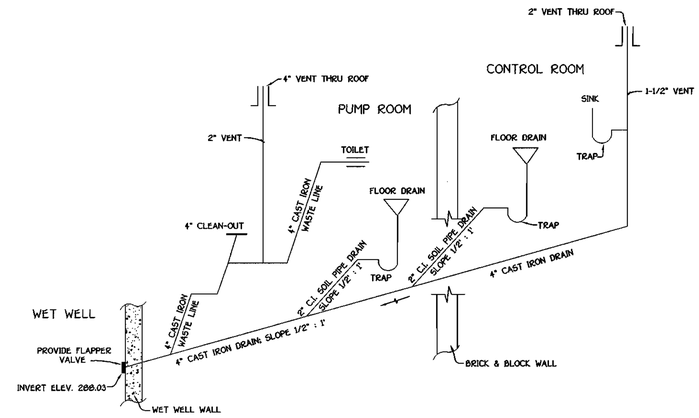
Wed Feb 16 09:2



ELEVATION
NOT TO SCALE



PLAN
NOT TO SCALE



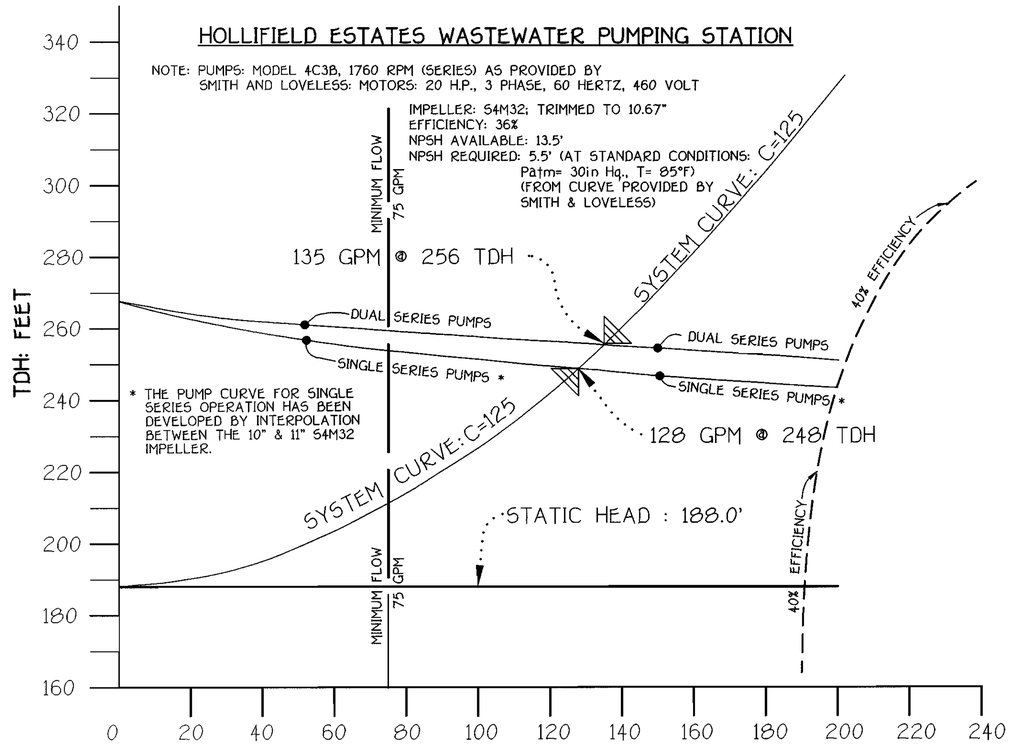
DRAIN PIPING & SANITARY WASTE PIPING RISER DIAGRAM
NO SCALE

EMERGENCY PUMPING CONNECTION MANHOLE
NOT TO SCALE

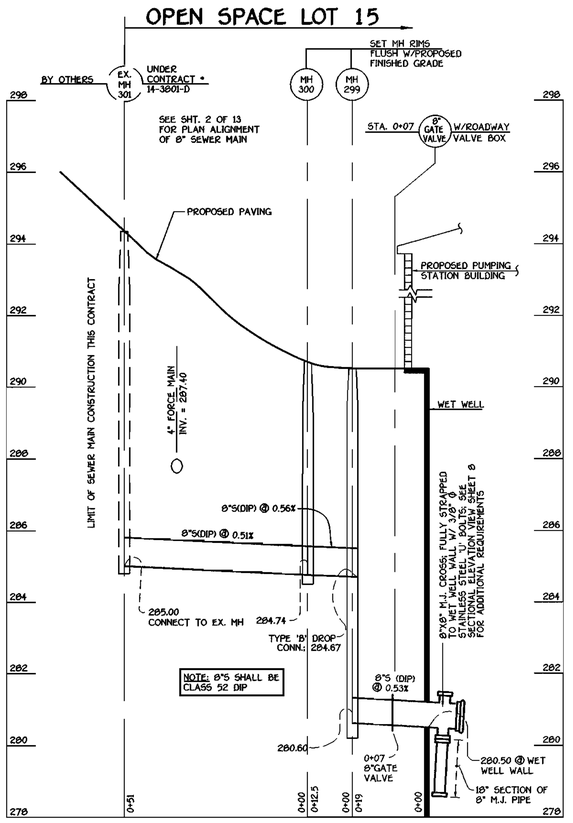
HOLLIFIELD ESTATES WASTEWATER PUMPING STATION

NOTE: PUMPS: MODEL 4C3B, 1760 RPM (SERIES) AS PROVIDED BY SMITH AND LOVELESS: MOTORS: 20 H.P., 3 PHASE, 60 HERTZ, 460 VOLT

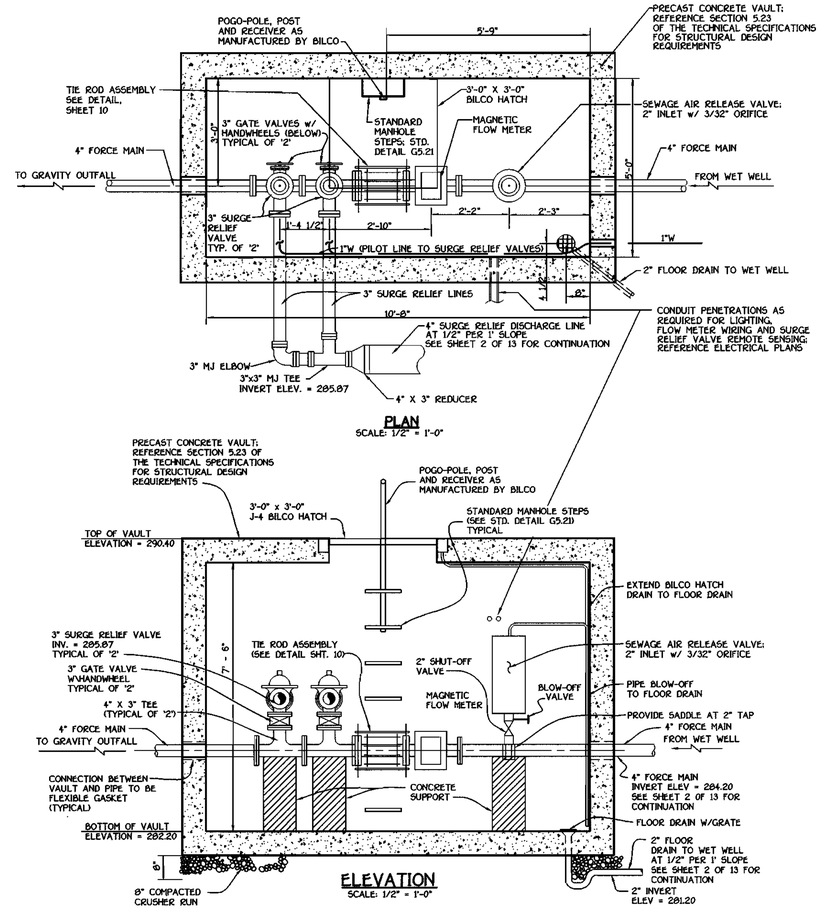
IMPELLER: S4M32; TRIMMED TO 10.67"
EFFICIENCY: 36%
NPSH AVAILABLE: 13.5'
NPSH REQUIRED: 5.5' (AT STANDARD CONDITIONS: Patm= 30in Hg., T= 85°F) (FROM CURVE PROVIDED BY SMITH & LOVELESS)



SYSTEM CURVE



8" SEWER MAIN PROFILE
SCALE: 1" = 20' HORIZ.
1" = 2' VERT



SURGE RELIEF VALVE & FLOW METER VAULT

CONTRACT NO. 10-3787-D
HOLLIFIELD ESTATES
WASTEWATER PUMPING STATION
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
CHIEF, BUREAU OF UTILITIES — DATE 3-9-00

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/7/00

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

#9757 STATE OF MARYLAND TERRELL A. FISHER PROFESSIONAL ENGINEER
TERRELL A. FISHER

DESIGNED BY : M.J.M.
DRAWN BY : J.E.P.
CHECKED BY : P.W.K.
DATE : DECEMBER 29, 1999

BY	NO.	REVISION	DATE
FCC	-	REVISE TO ADDRESS COUNTY COMMENTS; LETTER OF 12/20/99	12/99
FCC	-	ADDRESS COUNTY COMMENTS PER LETTER OF 10/20/99	12/99
FCC	-	ADDRESS HOWARD COUNTY COMMENTS	9/99
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SEWER MAIN PROFILE, FORCE MAIN APPURTENANCES MISCELLANEOUS DETAILS

600' SCALE MAP NO. 18 BLOCK NO. 2
F.C.C. WORK ORDER NO. 531
FILE NAME : G:/531/REVISED PLANS 12-99/PS SHT 9 OF 13

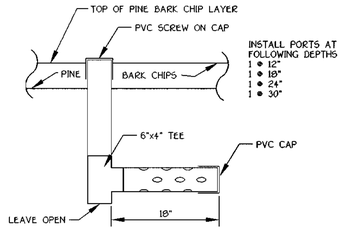
HOLLIFIELD ESTATES WASTEWATER PUMPING STATION

CONTRACT NO. 10-3787-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

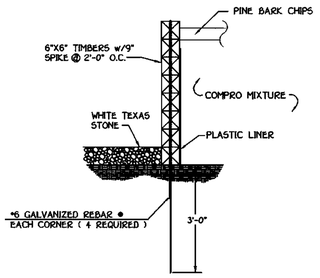
SHEET 9 OF 13

G:/531/REVISED PLANS 12-99/PS SHT 9 OF 13.DWG



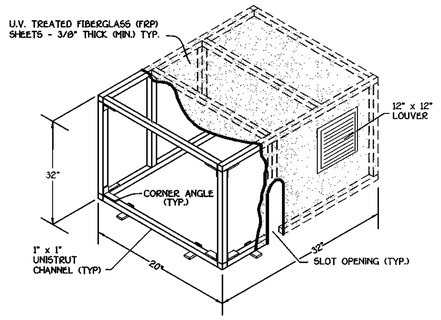
SAMPLING PORT

SCALE: 1" = 1'-0"



CORNER DETAIL

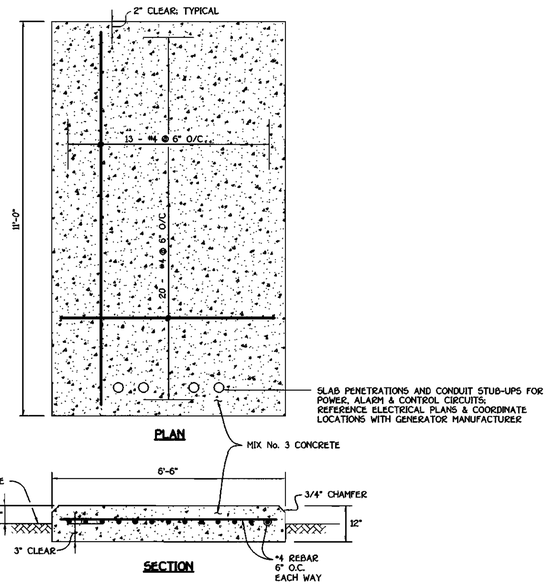
SCALE: 1/2" = 1' - 0"



BLOWER ENCLOSURE DETAIL

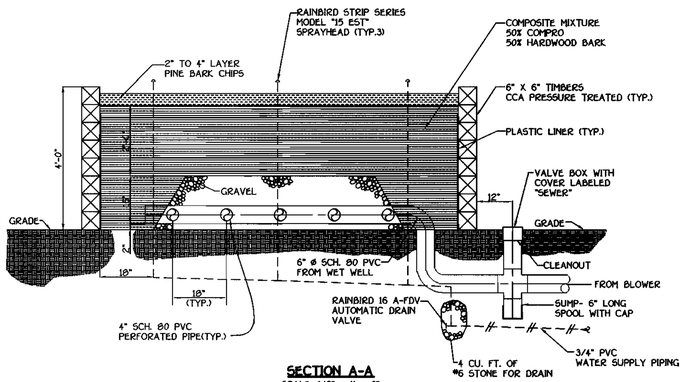
NOT TO SCALE

1. ALL DIMENSIONS ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION
2. PROVIDE ADDITIONAL UNISTRUT AS REQUIRED FOR LOUVER SUPPORT AND RIGIDITY OF ENCLOSURE
3. FIBERGLASS (FRP) SHEETS SHALL COVER ENTIRE STRUCTURE AND SHALL BE BOLTED TO UNISTRUT AS REQUIRED.
4. PROVIDE ADDITIONAL OPENINGS FOR PIPE PENETRATIONS AS REQUIRED.
5. STRUCTURE SHALL HAVE CORNER ANGLES (TWO PER SIDE) FOR BOLTING DOWN TO CONCRETE PAD.
6. ENCLOSURE SHALL HAVE 1/2" THICK U.L. APPROVED DUCT LINER GLUED TO INSIDE FACE OF FRP PANELS.



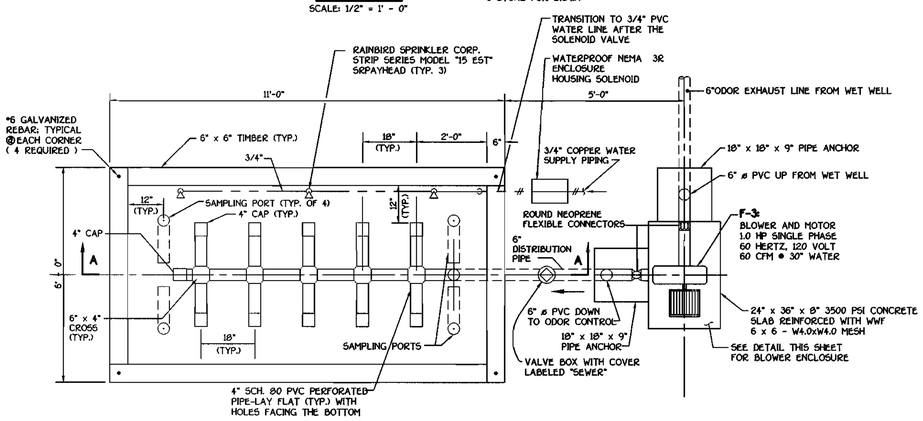
GENERATOR PAD DETAIL

NOT TO SCALE



SECTION A-A

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

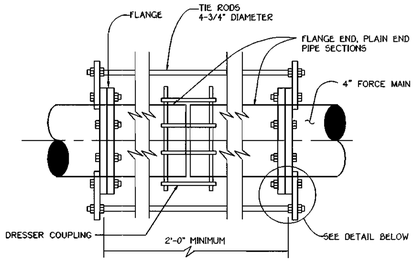


ODOR CONTROL SYSTEM

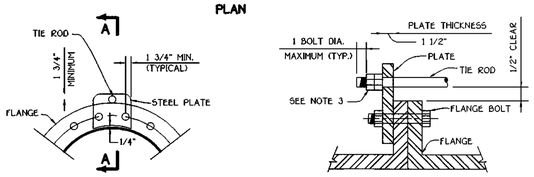
SCALE: 1/2" = 1' - 0"

NOTES:

1. PROVIDE MINIMUM 24" MULCH MIXTURE BETWEEN GRAVEL AND TIMBER STRUCTURE
2. CONTAIN GRAVEL DURING PLACEMENT WITH TEMPORARY FRAMEWORK. REMOVE TEMPORARY FRAMEWORK AFTER COMPOSITE MIXTURE IS IN PLACE AROUND GRAVEL.
3. 6"x 6" TIMBERS SHALL MEET AASHTO M168. MARINE GRADE, TREATED WITH CHROMATED COPPER ARSENATE (CCA) AT A RATE OF 2.5 LBS. PER CU. FT. OF WOOD AND SHALL MEET AASHTO M133.



PLAN

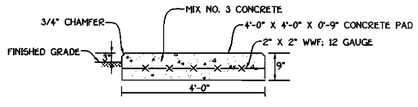


NOTES

1. TIE RODS SHALL CONFORM TO ASTM A-588 SPECIFICATIONS.
2. STEEL PLATE SHALL CONFORM TO ASTM A-36 SPECIFICATIONS.
3. INSIDE NUT TO BE HAND TIGHT AND TWO NUTS SHALL BE TIGHTENED AGAINST EACH OTHER.
4. WHEN THE STRAPPING ASSEMBLY IS LOCATED NEAR THE FLANGED VALVE, PROVIDE A FLANGED SPOOL PIECE (1" MINIMUM LENGTH) BETWEEN THE VALVE AND ASSEMBLY IN ORDER TO AVOID STRAPPING DIRECTLY TO THE VALVE.

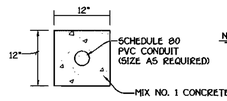
TIE ROD ASSEMBLY

NOT TO SCALE



TRANSFORMER PAD DETAIL

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



CONDUIT ENCASEMENT DETAIL

NOT TO SCALE

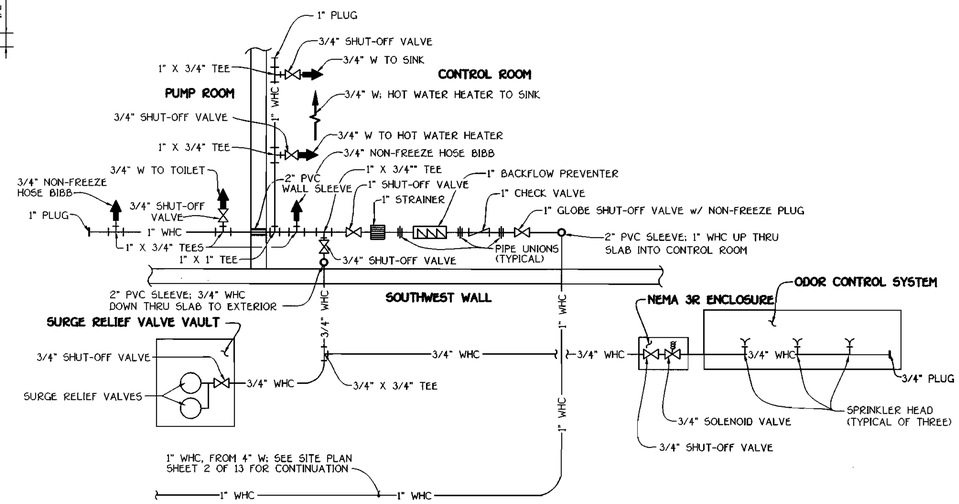
NOTES:
1. MAINTAIN 2-1/2" OF COVER OVER TOP OF CONDUIT ENCASEMENT.
2. ENCASEMENT NECESSARY ONLY WHEN REQUIRED BY BELL ATLANTIC OR BG&E; OTHERWISE, DIRECT BURIAL IS PERMISSIBLE.

FAN AND BLOWER SCHEDULE

NO.	SERVICE	CFM	FAN RPM	SP (IN W.G.)	TYPE/ DRIVE	ELECTRICAL HP-V/PH/HZ	NOTES	MANUFACTURER & MODEL NO.
F-1	WET WELL FRESH AIR SUPPLY	500	1137	0.5	US/DD	1/4-110/1/60	9,11	PENN DYNAMO D 10
F-2	CONTROL ROOM EXHAUST	320	1050	0.375	PR/DD	1/12-110/1/60	3,7,8,12	PENN BREEZEWAY
F-3	WET WELL ODOR CONTROL	100	3450	5.1	US/DD	1/2-110/1/60	9,11	BUFFALO FORGE 3E

TYPES/DRIVES:
RV - ROOF VENTILATOR
IL - IN-LINE CENTRIFUGAL
US - UTILITY SET
PR - PROPELLER
CAB - CABINET
SP - SPECIAL
DD - DIRECT DRIVE
BD - BELT DRIVE
VD - VARIABLE DRIVE

NOTES:
1. PREFAB. CURB
2. BUILT-UP CURB
3. BIRD SCREEN (INLET)
4. INSECT SCREEN
5. LOUVER
6. BACKDRAFT DAMPER
7. MOTORIZED DAMPER
8. DISCONNECT
9. CORR. PROTECT. COAT.
10. UL 762 (GREASE)
11. EXPLOSION PROOF
12. THERMOSTATICALLY CONTROLLED



WATER SUPPLY SCHEMATIC

NOT TO SCALE

CONTRACT NO. 10-3787-D
HOLLIFIELD ESTATES
WASTEWATER PUMPING STATION
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
CHIEF, BUREAU OF UTILITIES — DATE 3-9-00

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/3/00

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

*9757 STATE OF MARYLAND TERRELL A. FISHER REGISTERED PROFESSIONAL ENGINEER
TERRELL A. FISHER

DESIGNED BY : D.S.				
DRAWN BY : J.E.P.	FCC	-	REVISE TO ADDRESS COUNTY COMMENTS; LETTER OF 12/20/99	12/99
CHECKED BY : P.W.K.	FCC	-	ADDRESS COUNTY COMMENTS PER LETTER 10/20/99	12/99
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DATE : DECEMBER 29, 1999	FCC	-	ADDRESS HOWARD COUNTY COMMENTS	7/99
	BY	NO.	REVISION	DATE

ODOR CONTROL SYSTEM AND MISCELLANEOUS DETAILS

600' SCALE MAP NO. 18 BLOCK NO. 2
F.C.C. WORK ORDER NO. 531
FILE NAME : G/531/REVISED PLANS 12-99/PS SHT 10 OF 13

HOLLIFIELD ESTATES WASTEWATER PUMPING STATION

CONTRACT NO. 10-3787-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 10 OF 13

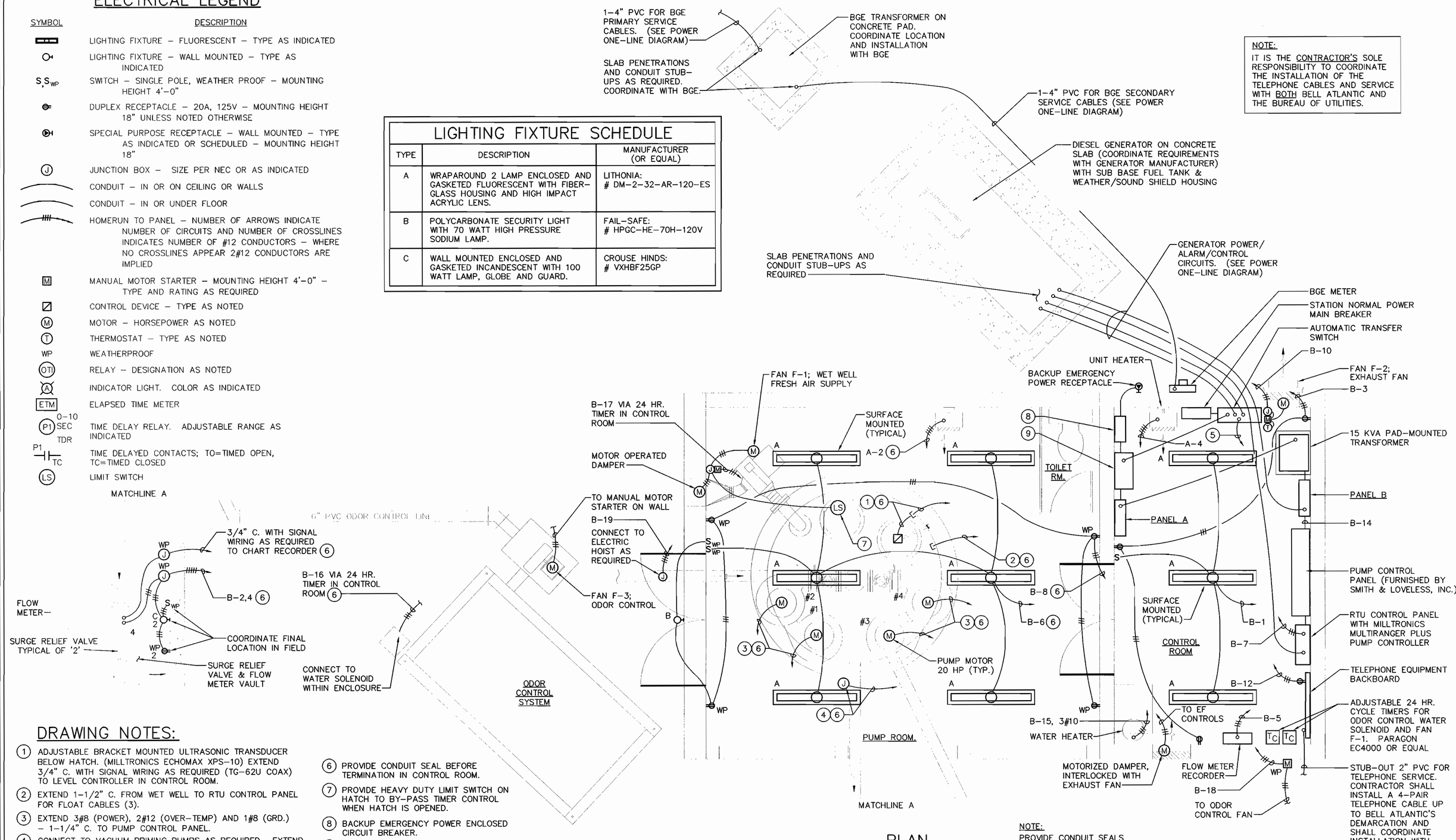
G/531/REVISED PLANS 12-99/PS SHT 10 OF 13.DWG

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	LIGHTING FIXTURE – FLUORESCENT – TYPE AS INDICATED
	LIGHTING FIXTURE – WALL MOUNTED – TYPE AS INDICATED
S, S_{WP}	SWITCH – SINGLE POLE, WEATHER PROOF – MOUNTING HEIGHT 4'–0"
	DUPLEX RECEPTACLE – 20A, 125V – MOUNTING HEIGHT 18" UNLESS NOTED OTHERWISE
	SPECIAL PURPOSE RECEPTACLE – WALL MOUNTED – TYPE AS INDICATED OR SCHEDULED – MOUNTING HEIGHT 18"
(J)	JUNCTION BOX – SIZE PER NEC OR AS INDICATED
	CONDUIT – IN OR ON CEILING OR WALLS
	CONDUIT – IN OR UNDER FLOOR
	HOMERUN TO PANEL – NUMBER OF ARROWS INDICATE NUMBER OF CIRCUITS AND NUMBER OF CROSSLINES INDICATES NUMBER OF #12 CONDUCTORS – WHERE NO CROSSLINES APPEAR 2#12 CONDUCTORS ARE IMPLIED
[M]	MANUAL MOTOR STARTER – MOUNTING HEIGHT 4'–0" – TYPE AND RATING AS REQUIRED
	CONTROL DEVICE – TYPE AS NOTED
(M)	MOTOR – HORSEPOWER AS NOTED
(T)	THERMOSTAT – TYPE AS NOTED
WP	WEATHERPROOF
(OTI)	RELAY – DESIGNATION AS NOTED
(A)	INDICATOR LIGHT. COLOR AS INDICATED
[ETM]	ELAPSED TIME METER
(P1) 0–10 SEC TDR	TIME DELAY RELAY. ADJUSTABLE RANGE AS INDICATED
P1 TC	TIME DELAYED CONTACTS; TO=TIMED OPEN, TC=TIMED CLOSED
(LS)	LIMIT SWITCH

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER (OR EQUAL)
A	WRAPAROUND 2 LAMP ENCLOSED AND GASKETED FLUORESCENT WITH FIBER–GLASS HOUSING AND HIGH IMPACT ACRYLIC LENS.	LITHONIA: # DM–2–32–AR–120–ES
B	POLYCARBONATE SECURITY LIGHT WITH 70 WATT HIGH PRESSURE SODIUM LAMP.	FAIL–SAFE: # HPGC–HE–70H–120V
C	WALL MOUNTED ENCLOSED AND GASKETED INCANDESCENT WITH 100 WATT LAMP, GLOBE AND GUARD.	CROUSE HINDS: # VXHBF25GP



NOTE:
IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO COORDINATE THE INSTALLATION OF THE TELEPHONE CABLES AND SERVICE WITH BOTH BELL ATLANTIC AND THE BUREAU OF UTILITIES.

DRAWING NOTES:

1. ADJUSTABLE BRACKET MOUNTED ULTRASONIC TRANSDUCER BELOW HATCH. (MILLTRONICS ECHOMAX XPS–10) EXTEND 3/4" C. WITH SIGNAL WIRING AS REQUIRED (TG–62U COAX) TO LEVEL CONTROLLER IN CONTROL ROOM.
2. EXTEND 1–1/2" C. FROM WET WELL TO RTU CONTROL PANEL FOR FLOAT CABLES (3).
3. EXTEND 3#8 (POWER), 2#12 (OVER–TEMP) AND 1#8 (GRD.) – 1–1/4" C. TO PUMP CONTROL PANEL.
4. CONNECT TO VACUUM PRIMING PUMPS AS REQUIRED. EXTEND 2#12 & 1#12 GRD. – 3/4" C. TO PUMP CONTROL PANEL.
5. 2#14 – 3/4" C. TO RTU CONTROL PANEL (ALL POWER LOST).
6. PROVIDE CONDUIT SEAL BEFORE TERMINATION IN CONTROL ROOM.
7. PROVIDE HEAVY DUTY LIMIT SWITCH ON HATCH TO BY–PASS TIMER CONTROL WHEN HATCH IS OPENED.
8. BACKUP EMERGENCY POWER ENCLOSED CIRCUIT BREAKER.
9. MANUAL TRANSFER SWITCH.

PLAN

SCALE: 1/2"=1'–0"

NOTE:
PROVIDE CONDUIT SEALS ON ALL CONDUITS LEAVING THE PUMP ROOM.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Robert M Berning 3-9-00
CHIEF, BUREAU OF UTILITIES — DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
3/17/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

E-B-L ENGINEERS, INC.
Mechanical • Electrical • Fire Protection
THE PROFESSIONAL ENGINEERING CENTER
8005 HARFORD ROAD, BALTIMORE, MARYLAND 21234–5701
(410) 668–8000 FAX (410) 668–8001
E–MAIL EBL@EBLENGINEERS.COM

STATE OF MARYLAND — RUSSELL A. FISHER — NO. 9757 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY : MLB
DRAWN BY : JCW/LEF
CHECKED BY : POD
DATE : DECEMBER 29, 1999

BY	NO.	REVISION	DATE
FCC	-	REVISE TO ADDRESS COUNTY COMMENTS; LETTER OF 12/20/99	12/99

ELECTRICAL LEGEND, SCHEDULE AND PLAN

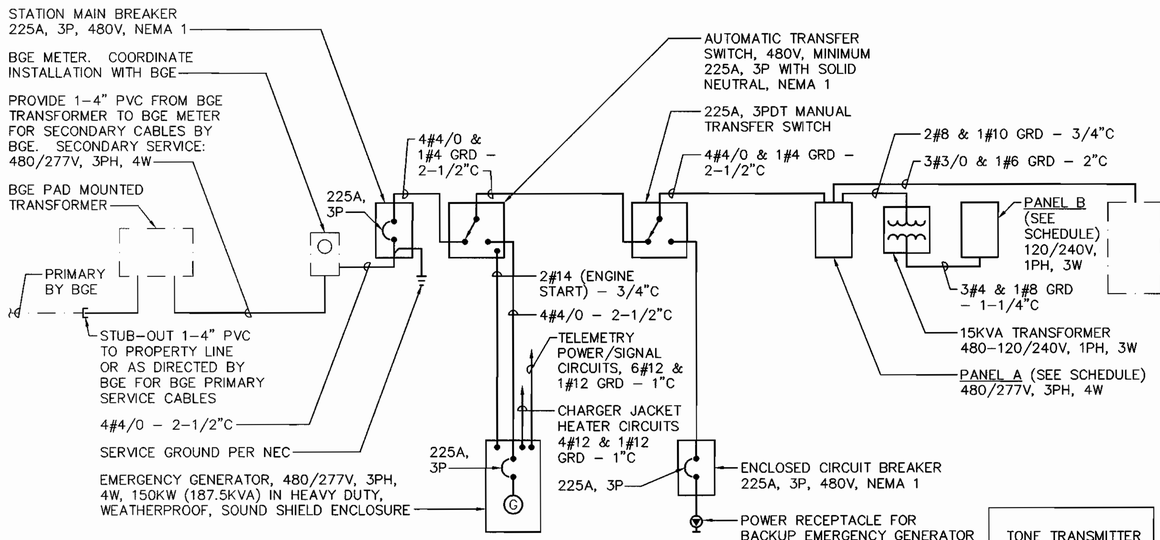
600' SCALE MAP NO. ___ BLOCK NO. ___
F.C.C. WORK ORDER NO. 531
FILE NAME : ___

HOLLIFIELD ESTATES WASTEWATER PUMPING STATION

CONTRACT NO. 10–3787–D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

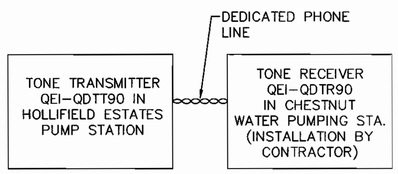
SCALE AS SHOWN

SHEET 11 OF 13



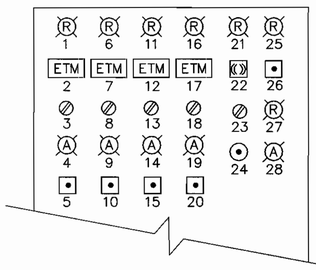
POWER ONE-LINE DIAGRAM

NO SCALE



TELEMETRY TRANSMITTER/ RECEIVER SCHEMATIC

NO SCALE



RTU PANEL DOOR LAYOUT

NO SCALE

LEGEND

1. PUMP 1 RUN
2. PUMP 1 RUN TIME
3. PUMP 1 H-O-A
4. PUMP 1 OVER-TEMP
5. PUMP 1 OVER-TEMP RESET
6. PUMP 2 RUN
7. PUMP 2 RUN TIME
8. PUMP 2 H-O-A
9. PUMP 2 OVER-TEMP
10. PUMP 2 OVER-TEMP RESET
11. PUMP 3 RUN
12. PUMP 3 RUN TIME
13. PUMP 3 H-O-A
14. PUMP 3 OVER-TEMP
15. PUMP 3 OVER-TEMP RESET
16. PUMP 4 RUN
17. PUMP 4 RUN TIME
18. PUMP 4 H-O-A
19. PUMP 4 OVER-TEMP
20. PUMP 4 OVER-TEMP RESET
21. HIGH LEVEL ALARM - TRANSFER TO FLOATS
22. HIGH LEVEL ALARM - AUDIBLE
23. HIGH LEVEL ALARM - SILENCE SWITCH (ENABLE/SILENCE)
24. HIGH LEVEL ALARM RESET
25. LOW LEVEL ALARM
26. LOW LEVEL ALARM RESET
27. GENERATOR RUN
28. GENERATOR FAIL

PANEL SCHEDULE A

480/277 VOLTS, 3 PHASE, 4 WIRE - SN - SURFACE

CIR	FOR	BREAKER FR	POLE	CAL	CIR	FOR	BREAKER FR	POLE	CAL
-	-	-	-	-	-	-	-	-	-
1	PUMP STATION CONTROL PANEL	225	3	200	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
3	TRANSFORMER (PANEL B)	100	2	40	-	-	-	-	-
-	-	-	-	-	2	UNIT HEATER - PUMP ROOM	100	3	20
5	SPACE AND BUS	100	1	-	-	-	-	-	-
7	SPACE AND BUS	100	1	-	-	-	-	-	-
9	SPACE AND BUS	100	1	-	4	UNIT HEATER - CONTROL RM	100	3	20
11	SPACE AND BUS	100	1	-	-	-	-	-	-
17	SPACE AND BUS	100	1	-	6	SPACE AND BUS	100	1	-
15	SPACE AND BUS	100	1	-	8	SPACE AND BUS	100	1	-
17	SPACE AND BUS	100	1	-	10	SPACE AND BUS	100	1	-

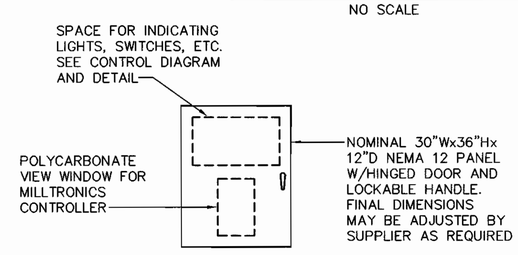
225A MAIN LUGS ONLY

PANEL SCHEDULE B

120/240 VOLTS, 1 PHASE, 3 WIRE - SN - SURFACE

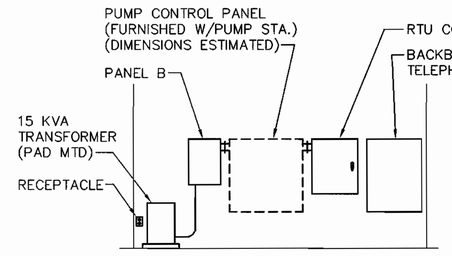
CIR	FOR	BREAKER FR	POLE	CAL	CIR	FOR	BREAKER FR	POLE	CAL
1	LIGHTS	100	1	20	2*	VALVE VAULT MISCELLANEOUS	100	1	20
3	RECEPTACLES	100	1	20	-	-	-	-	-
5	CHART RECORDER	100	1	20	4*	FLOW METER	100	1	20
7	RTU CONTROL PANEL	100	1	20	-	-	-	-	-
9	BATTERY CHARGER	100	1	20	6	PUMP ROOM LIGHTS	100	1	20
11	JACKET WATER HEATER	100	1	20	8	PUMP ROOM RECEPTACLES	100	1	20
13	CONTROL RM EXHAUST FAN	100	1	20	10	CONTROL ROOM EXHAUST FAN	100	1	20
15	WATER HEATER	100	2	30	12	TELEPHONE BOARD	100	1	20
-	-	-	-	-	14	CONTROL PANEL MISCELLANEOUS	100	1	20
17	WET WELL SUPPLY AIR FAN	100	1	20	16	ODOR CONTROL SOL. VALVE	100	1	20
19	ELECTRIC HOIST	100	1	20	18	ODOR CONTROL FAN	100	1	20
21	SPARE	100	1	20	20	SPARE	100	1	20
23	SPARE	100	1	20	22	SPACE AND BUS	100	1	-
25	SPACE AND BUS	100	1	-	24	SPACE AND BUS	100	1	-
27	SPACE AND BUS	100	1	-	26	SPACE AND BUS	100	1	-

MAIN BREAKER, 100A FRAME, 2P, CALIB 80A
* = GFCI TYPE CIRCUIT BREAKER



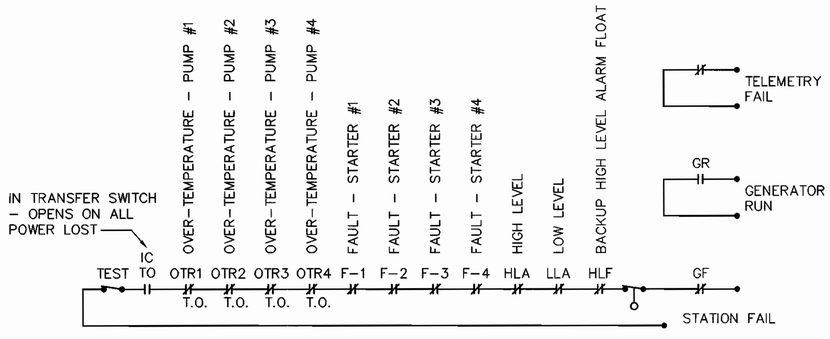
FRONT VIEW - RTU CABINET

NO SCALE



ELEVATION - CONTROL RM. WALL

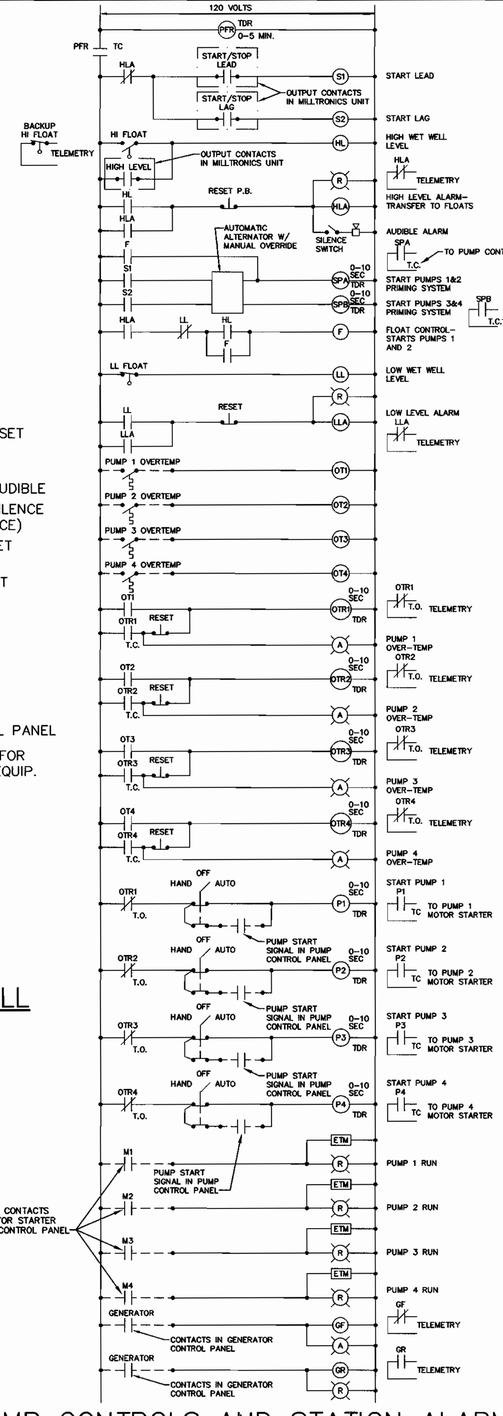
SCALE: 1/4"=1'-0"



TELEMETRY ALARMS DIAGRAM

NO SCALE

NOTE: TELEMETRY SYSTEM POWER IS TO BE SUPPLIED FROM THE GENERATOR BATTERY.



PUMP CONTROLS AND STATION ALARMS

(RTU CONTROL PANEL)

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert M. Berning 3-9-00
CHIEF, BUREAU OF UTILITIES — DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

3/7/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

E-B-L ENGINEERS, INC.
Mechanical • Electrical • Fire Protection
THE PROFESSIONAL ENGINEERING CENTER
8005 HARFORD ROAD, BALTIMORE, MARYLAND 21234-5701
(410) 668-8000 FAX (410) 668-8001
E-MAIL EBLE@EBLENGINEERS.COM

STATE OF MARYLAND — TERRELL A. FISHER — No. 9757 — PROFESSIONAL ENGINEER

DESIGNED BY :	MLB
DRAWN BY :	JCW/LEF
CHECKED BY :	POD
DATE :	DECEMBER 29, 1999

BY	NO.	REVISION	DATE
FCC	-	REVISE TO ADDRESS COUNTY COMMENTS. LETTER OF 12/20/99	12/99

ELECTRICAL DIAGRAMS, SCHEDULES AND DETAILS

600' SCALE MAP NO. ---- BLOCK NO. ----
F.C.C. WORK ORDER NO. 531
FILE NAME : ----

HOLLIFIELD ESTATES WASTEWATER PUMPING STATION

CONTRACT NO. 10-3787-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 12 OF 13

HILLIS - CARNES
ENGINEERING ASSOCIATES, INC.

RECORD OF SOIL EXPLORATION

Project Name Hollifield Pumping Station — Boring # B-1
Location Howard County, Maryland — Job # 972268

SAMPLER

Datum — Hammer Wt. 140 Lbs. — Hole Diameter 6" — Foreman Palmer Stephens
Surf. Elev. 288.82 — Hammer Drop 30 Inches — Rock Core Dia. - — Inspector
Date Started 10-26-98 — Pipe Size 2.0 Inches OD — Boring Method HSA — Date Completed 10-26-98

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON.	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					
	Brown, dry loose to very dense micaceous silty sand trace to little weathered rock fragments (SM) S-7 is dense			D	1-2-3	1	14"	4" Topsoil
285				D	5-6-7	2	15"	No groundwater encountered while drilling
			5	D	14-23-30	3	15"	* Caved in at 13.5' at Completion
280				D	21-31-41	4	15"	Caved in at 13.5' after 24 hours
			10	D	23-30-50	5	16"	
275				D	16-24-30	6	18"	
			15					
270			19.5	D	11-18-27	7	15"	
	Bottom of Test Hole at 19.5'		20					

BORING B-1

HILLIS - CARNES
ENGINEERING ASSOCIATES, INC.

RECORD OF SOIL EXPLORATION

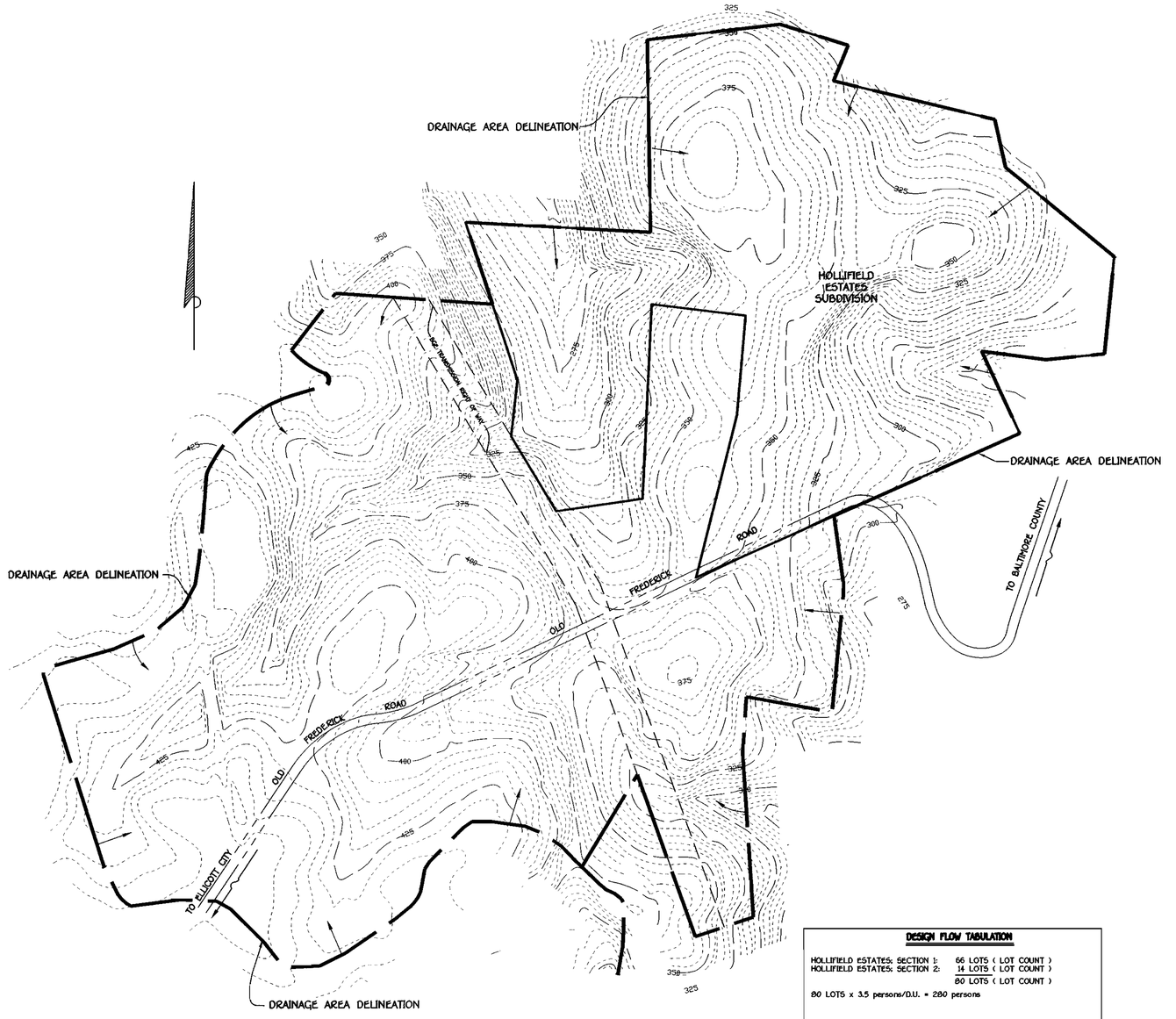
Project Name Hollifield Pumping Station — Boring # B-2
Location Howard County, Maryland — Job # 972268

SAMPLER

Datum — Hammer Wt. 140 Lbs. — Hole Diameter 6" — Foreman Palmer Stephens
Surf. Elev. 292.92 — Hammer Drop 30 Inches — Rock Core Dia. - — Inspector
Date Started 10-26-98 — Pipe Size 2.0 Inches OD — Boring Method HSA — Date Completed 10-26-98

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON.	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					
290	Brown, dry, very loose to medium dense micaceous silty sand (SM)			D	1-1-2	1	12"	12" Topsoil
			5	D	6-6-8	2	15"	No groundwater encountered while drilling
285				D	6-6-7	3	14"	* Caved in at 16.5' at Completion
				D	6-10-14	4	14"	Hard augering from 14.0' to 22.0'
		8.5	10					
280	Brown, dry, very dense micaceous silty sand and weathered rock fragments (SM) (Decomposed Rock)			D	17-51/4"	5	10"	Caved in at 15' after 24 hours
				D	51/4"	6	4"	
275			15					
			20	L	51/1"	7	No Rec	
	Brown, dry, very dense, micaceous silty sand and weathered rock fragments (SM) (Decomposed Rock)	22.0						
270	Bottom of Test Hole at 22.0' Augered very hard from 14.0' Auger refusal at 22.0'		25.0					

BORING B-2



DRAINAGE AREA MAP

SCALE: 1"=200'

DESIGN FLOW TABULATION

HOLLIFIELD ESTATES, SECTION 1: 66 LOTS (LOT COUNT)
HOLLIFIELD ESTATES, SECTION 2: 14 LOTS (LOT COUNT)
80 LOTS (LOT COUNT)

80 LOTS x 3.5 persons/D.U. = 280 persons

Remainder of Drainage Basin Zoned R-20: 50.7** Developable Area
$\frac{50.7^{**} \times 200 \times 200}{43,560}$ = 46.6 ACRES

46.6 ACRES x 1.7 D.U./ACRE = 79.2 ; SAY 79 DWELLING UNITS
79 D.U.s x 3.5 persons/D.U. = 276.5 ; SAY 276 persons
280 persons (FROM ABOVE) + 276 persons = 556 persons

556 persons x 72 gpcpd x 4 (PEAKED) = 160,128 gallons
556 persons x 40 gpcpd (INFILTRATION) = 22,240 gallons
182,368 gallons

182,368/60 x 24 = 126.6 SAY 127 gpm

HOLLIFIELD ESTATES WW PUMPING STATION DESIGN FLOW: 127 gpm

CONTRACT NO. 10-3787-D
HOLLIFIELD ESTATES
WASTEWATER PUMPING STATION
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert M Berninger 3-9-00
CHIEF, BUREAU OF UTILITIES — DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 3/17/00 DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

STATE OF MARYLAND — TERRELL A. FISHER — No. 9757 — PROFESSIONAL ENGINEER
TERRELL A. FISHER

DESIGNED BY : P.W.K.				
DRAWN BY : J.E.P.	FCC	-	REVISE TO ADDRESS COUNTY COMMENTS; LETTER OF 12/20/99	12/99
CHECKED BY : P.W.K.	FCC	-	ADDRESS COUNTY COMMENTS PER LETTER OF 10/20/99	12/99
	FCC	-	ADDRESS HOWARD COUNTY COMMENTS	9/99
DATE : DECEMBER 29, 1999	FCC	-	ADDRESS HOWARD COUNTY COMMENTS	7/99
	BY	NO.	REVISION	DATE

DRAINAGE AREA MAP

600' SCALE MAP NO. 18 BLOCK NO. 2
F.C.C. WORK ORDER NO. 531
FILE NAME : G:\531\REVISED PLANS 12-99\PS SHT 13 OF 13.dwg

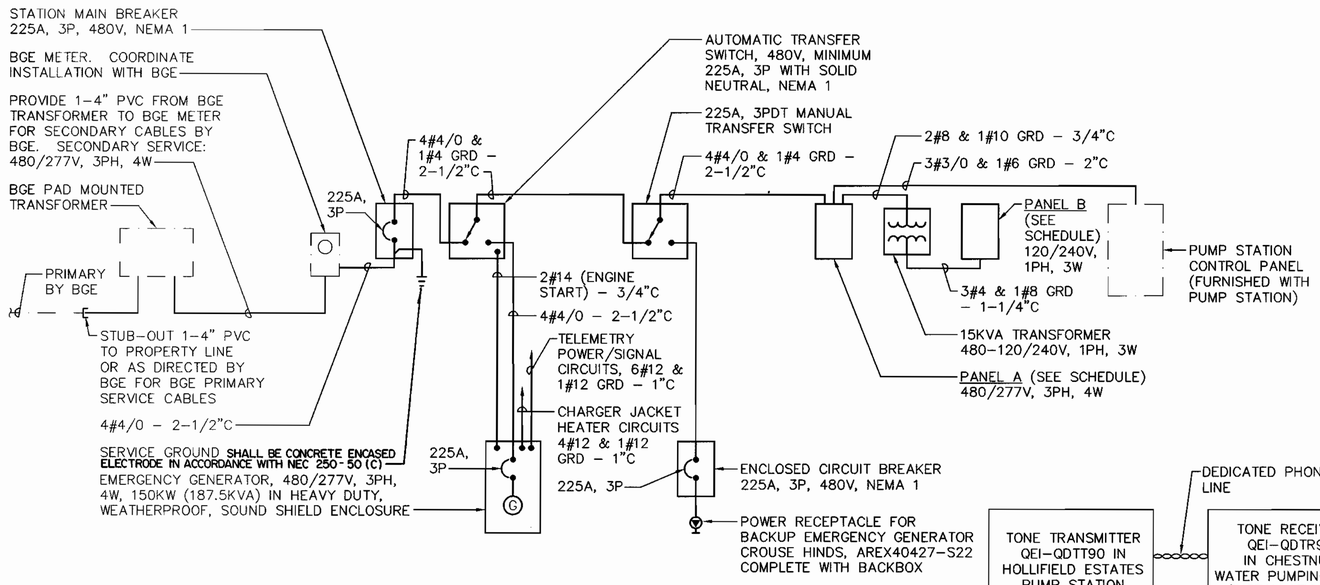
HOLLIFIELD ESTATES WASTEWATER PUMPING STATION

CONTRACT NO. 10-3787-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 13 OF 13

FCC • G:\531\REVISED PLANS 12-99\PS SHT 13 OF 13.dwg

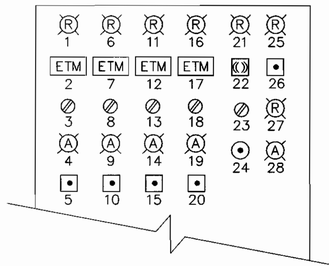


POWER ONE-LINE DIAGRAM

NO SCALE

TELEMETRY TRANSMITTER/ RECEIVER SCHEMATIC

NO SCALE



RTU PANEL DOOR LAYOUT

NO SCALE

LEGEND

1. PUMP 1 RUN
2. PUMP 1 RUN TIME
3. PUMP 1 H-O-A
4. PUMP 1 OVER-TEMP
5. PUMP 1 OVER-TEMP RESET
6. PUMP 2 RUN
7. PUMP 2 RUN TIME
8. PUMP 2 H-O-A
9. PUMP 2 OVER-TEMP
10. PUMP 2 OVER-TEMP RESET
11. PUMP 3 RUN
12. PUMP 3 RUN TIME
13. PUMP 3 H-O-A
14. PUMP 3 OVER-TEMP
15. PUMP 3 OVER-TEMP RESET
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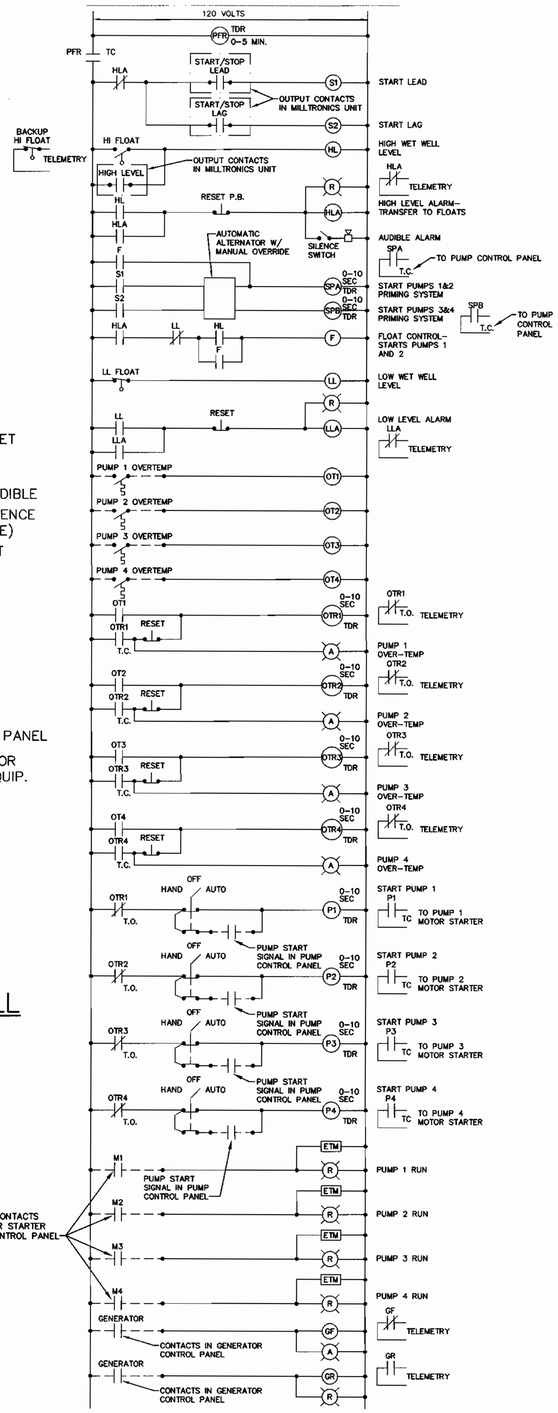
21. HIGH LEVEL ALARM - TRANSFER TO FLOATS
22. HIGH LEVEL ALARM - AUDIBLE
23. HIGH LEVEL ALARM - SILENCE SWITCH (ENABLE/SILENCE)
24. HIGH LEVEL ALARM RESET
25. LOW LEVEL ALARM
26. LOW LEVEL ALARM RESET
27. GENERATOR RUN
28. GENERATOR FAIL



PUMP CONTROLS AND STATION ALARMS

(RTU CONTROL PANEL)

PANEL SCHEDULE A

480/277 VOLTS, 3 PHASE, 4 WIRE - SN - SURFACE

CIR	FOR	BREAKER FR	POLE	CAL	CIR	FOR	BREAKER FR	POLE	CAL
-	-	-	-	-	-	-	-	-	-
1	PUMP STATION CONTROL PANEL	225	3	200	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
3	TRANSFORMER (PANEL B)	100	2	40	-	-	-	-	-
-	-	-	-	-	2	UNIT HEATER - PUMP ROOM	100	3	20
5	SPACE AND BUS	100	1	-	-	-	-	-	-
7	SPACE AND BUS	100	1	-	-	-	-	-	-
9	SPACE AND BUS	100	1	-	4	UNIT HEATER - CONTROL RM	100	3	20
11	SPACE AND BUS	100	1	-	-	-	-	-	-
17	SPACE AND BUS	100	1	-	6	SPACE AND BUS	100	1	-
15	SPACE AND BUS	100	1	-	8	SPACE AND BUS	100	1	-
17	SPACE AND BUS	100	1	-	10	SPACE AND BUS	100	1	-

225A MAIN LUGS ONLY

PANEL SCHEDULE B

120/240 VOLTS, 1 PHASE, 3 WIRE - SN - SURFACE

CIR	FOR	BREAKER FR	POLE	CAL	CIR	FOR	BREAKER FR	POLE	CAL
1	LIGHTS	100	1	20	2*	VALVE VAULT MISCELLANEOUS	100	1	20
3	RECEPTACLES	100	1	20	-	-	-	-	-
5	CHART RECORDER	100	1	20	4*	FLOW METER	100	1	20
7	RTU CONTROL PANEL	100	1	20	-	-	-	-	-
9	BATTERY CHARGER	100	1	20	6	PUMP ROOM LIGHTS	100	1	20
11	JACKET WATER HEATER	100	1	20	8	PUMP ROOM RECEPTACLES	100	1	20
13	CONTROL RM EXHAUST FAN	100	1	20	10	CONTROL ROOM EXHAUST FAN	100	1	20
15	WATER HEATER	100	2	30	12	TELEPHONE BOARD	100	1	20
-	-	-	-	-	14	CONTROL PANEL MISCELLANEOUS	100	1	20
17	WET WELL SUPPLY AIR FAN	100	1	20	16	ODOR CONTROL SOL. VALVE	100	1	20
19	ELECTRIC HOIST	100	1	20	18	ODOR CONTROL FAN	100	1	20
21	SPARE	100	1	20	20	SPARE	100	1	20
23	SPARE	100	1	20	22	SPACE AND BUS	100	1	-
25	SPACE AND BUS	100	1	-	24	SPACE AND BUS	100	1	-
27	SPACE AND BUS	100	1	-	26	SPACE AND BUS	100	1	-

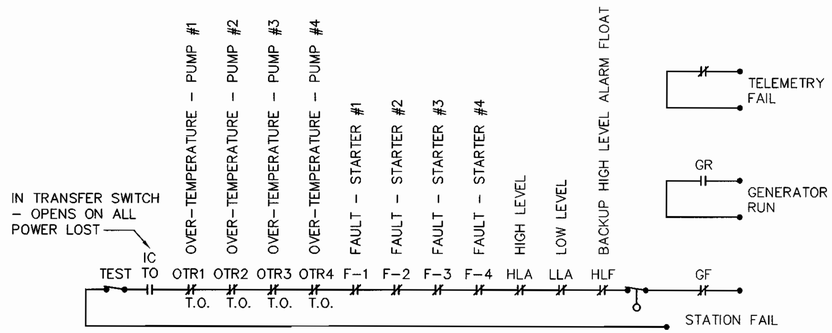
MAIN BREAKER, 100A FRAME, 2P, CALIB **60A**
* = GFCI TYPE CIRCUIT BREAKER

FRONT VIEW - RTU CABINET

NO SCALE

ELEVATION - CONTROL RM. WALL

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



TELEMETRY ALARMS DIAGRAM

NO SCALE

NOTE: TELEMETRY SYSTEM POWER IS TO BE SUPPLIED FROM THE GENERATOR BATTERY.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
CHIEF, BUREAU OF UTILITIES — DATE 3-9-00

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/13/00

E-B-L ENGINEERS, INC.
Mechanical • Electrical • Fire Protection
THE PROFESSIONAL ENGINEERING CENTER
8005 HARFORD ROAD, BALTIMORE, MARYLAND 21234-5701
(410) 668-8000 FAX (410) 668-8001
E-MAIL EBL@EBLENGINEERS.COM

LEONELLA A. FISHER — No. 9757 — REGISTERED PROFESSIONAL ENGINEER — STATE OF MARYLAND

DESIGNED BY :	MLB
DRAWN BY :	JCW/LEF
CHECKED BY :	POD
DATE :	DECEMBER 29, 1999

BY	NO.	REVISION	DATE
FCC	-	REVISE TO ADDRESS COUNTY COMMENTS; LETTER OF 12/20/99	12/99

ELECTRICAL DIAGRAMS, SCHEDULES AND DETAILS

600' SCALE MAP NO. ___ BLOCK NO. ___
F.C.C. WORK ORDER NO. 531
FILE NAME : ___

HOLLIFIELD ESTATES WASTEWATER PUMPING STATION

CONTRACT NO. 10-3787-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 12 OF 13