

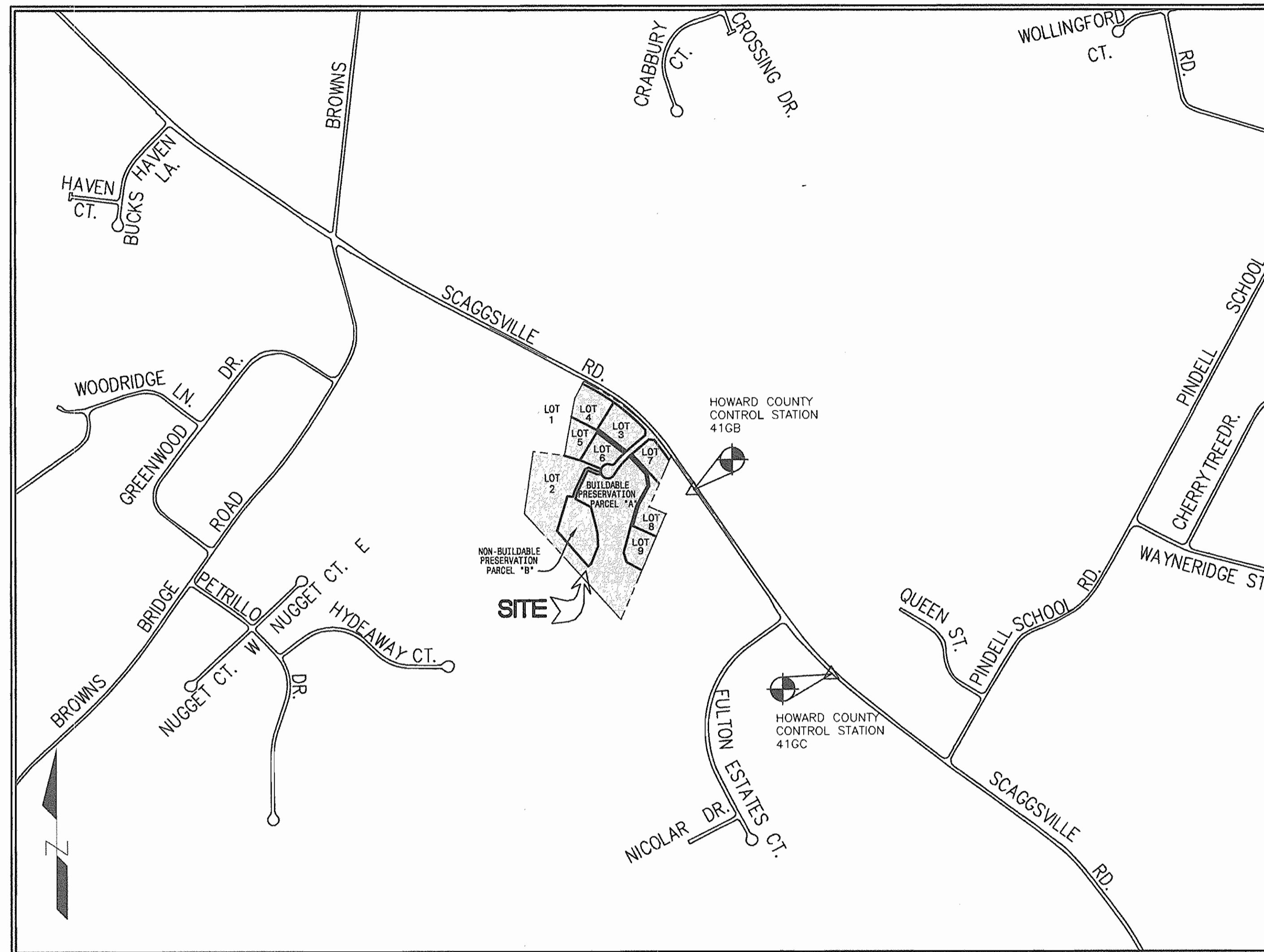
SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	FORCE MAIN PLAN
3	FORCE MAIN PROFILE AND DETAIL
4	DETAILS
5	DETAILS
6	DETAILS
7	DETAILS
8	DETAILS

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUF. / SUPPLIER
SIMPLEX GRINDER PUMP *	2			
DUPLEX GRINDER PUMP *	3			
1 1/2" HOUSE CONNECTION	160 L.F.			
2" FORCE MAIN	594 L.F.			
TERMINAL FLUSHING CONNECTION	1			
MANHOLE	2			
4" PVC SCH. 40 PERFORATED LATERAL	1200 L.F.			
4" PVC SCH. 40 GRAVITY PIPE	1936 L.F.			
5,000 GALLON SEPTIC TANK	2			
DISTRIBUTION BOX	3			
NAME OF UTILITY CONTRACTOR				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE:				

* ENVIRONMENTAL ONE SERIES 2000, DELTA DIP20-21 OR VORTEX V-2000B, MYERS OR EQUAL.

SHARED SEPTIC SYSTEM FLOW TABLE			
SHARED SEPTIC SYSTEM	# OF LOTS	# OF BEDROOM HOUSE	TOTAL SYSTEM FLOW
SHARED SEPTIC SYSTEM "A"	8 LOTS	7 - 4 BEDROOMS 1 - 5 BEDROOMS	4,950 GPD

- NOTE :
- A SEPTIC FEE IN AMOUNT OF \$ 180 PER LOT SERVICED BY THE COMMON SEPTIC SYSTEM SHALL BE PAID TO THE HOWARD COUNTY ENVIRONMENTAL HEALTH DEPARTMENT AT THE TIME OF THE SEPTIC CONSTRUCTION PERMIT ISSUANCE.
 - A SIGNED "DECLARATION OF COVENANTS" WILL BE REQUIRED ON SHARED SEPTIC LOTS.
 - THE BUILDER SHALL INSTALL BACK FLOW PREVENTER AND RELIEF VENT ON THE SEWER SERVICE AT THE HOUSE, AT THE TIME OF THE HOUSE CONNECTION OR AS REQUIRED BY THE PLUMBING INSPECTOR.
 - SEPTIC TANKS SHALL BE VACUUM TESTED AND WATER TESTED ON-SITE BY THE MANUFACTURER. SEPTIC TANK SHOP DRAWINGS FROM THE MANUFACTURER SHALL BE PERMITTED TO THE HOWARD COUNTY ENVIRONMENTAL HEALTH DEPARTMENT PRIOR TO ANY INSTALLATION OF THE SEPTIC TANKS.
 - THE CONTRACTOR SHALL NOTIFY HOWARD COUNTY HEALTH DEPARTMENT AT 410-313-2540 AT LEAST FIVE (5) WORKING DAYS BEFORE ANY PRESSURE TEST OF PRESSURE SEWERS, AND ANY SEPTIC TANKS VACUUM OR WATER TESTING IS PERFORMED.
 - OBSERVATION WELL TO BE INSTALLED AFTER TRENCH INSTALLATION IS COMPLETED.
 - THE HOWARD COUNTY HEALTH DEPARTMENT SHALL PROVIDE NOTES AND SKETCHES FOR THE SEPTIC TRENCH PORTION OF THE COMMON SEPTIC SYSTEM. THE COLLECTION PORTION OF THIS SYSTEM SHALL BE AS-BUILT BY OTHERS AS SPECIFIED BY THE DEVELOPER AGREEMENT.



LOCATION MAP
SCALE : 1" = 600'

GENERAL NOTES :

- PART I
- 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.
 - All horizontal controls are based on Maryland State Coordinates (North American Datum of 1983 (NAD '83)).
 - All vertical controls are based on NAVD 88.
 - All pipe elevations shown are invert elevations unless otherwise noted on the plans.
 - Clear all utilities by a minimum of 12". Clear all poles by 5'-0" minimum or tunnel as required. The owner has contacted the utility companies and has made arrangements for bracing of poles as shown on the drawings. In the event the contractor's work requires the bracing of additional poles, any cost incurred by the owner for bracing of additional poles or damages shall be deducted from monies owed the contractor. The contractor shall coordinate with the utility companies to schedule the bracing of the poles.
 - For details not shown on the drawings, and for materials and construction methods, use Howard County Design Manual, Volume IV, Standard Specifications and Detail for Construction (Latest Edition). The contractor shall have a copy of Volume IV on the job.
 - Where test pits have been made on existing utilities, they are noted by the symbol \oplus 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 located by the contractor two weeks in advance of construction operations at his own expense.
 - Contractor shall notify the following utility companies or agencies at least five (5) working days before starting work shown on these plans:

AT&T	1-800-252-1133
BGE Contractor Services	410-850-4620
BGE Under Ground Damage Control	410-291-4607
Bureau of Utilities	410-313-4900
Colonial Pipeline Company	410-795-1390
Miss Utility	1-800-257-7777
State Highway Administration	410-531-5533
Verizon	1-800-743-0033 / 410-224-9210
 - 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.
 - Contractor shall remove trees, stumps and roots along line of excavation. Payment for such removal shall be included in the unit price bid for construction of the main.
 - The contractor shall notify the Bureau of Highways, Howard County at 410-313-7450 at least five (5) working days before any open cutting or boring/jacking of any County road for laying water/sewer mains or house connections. The approval of these drawings will constitute compliance with the DPW requirements per Section 18.114(a) of the Howard County Code.
 - Place regulation "men working" and warning signs as required to comply with Maryland State Highway Administration Manual of Traffic Control for highway maintenance operations.
- PART II
- A septic fee in the amount of \$398.00 per lot serviced by the common septic system shall be paid to the Howard County Environmental Health Department at the time of the septic construction permit issuance.
 - The builder shall install back flow preventer and relief vent on the sewer service at the house, at the time of the house construction or as required by the plumbing inspector.
 - The contractor shall notify Howard County Health Department at (410) 313-2540 at least five (5) working days before any pressure test of pressure sewers, and any septic tanks vacuum or water testing is performed.
 - Installation of grinder pumps and appurtenances, and the 4" PVC sewer house connections (SHC) are to be installed by the developer. The developer shall be required to prepurchase the specified grinder pumps and provide storage at the manufacturer's facility until such time as they are installed and placed into service. No pumps shall be set until the house is ready for U & O, and any debris which has entered the tank prior to the pump installation shall be pumped out at the developer's expense. The developer will retain responsibility for installation of the grinder pumps and shall contract with the manufacturer to provide start up services just prior to U & O. Gravity connection to the grinder pumps will not be allowed until all work inside the homes is complete and the homes are ready for occupancy.
- PART III
- All sewer mains shall be DIP and PVC unless otherwise noted.
 - The contractor shall provide a joint in all sewer mains within 2'-0" of exterior manhole wall.
 - All manholes shall be 4'-0" inside diameter unless otherwise noted.
 - Force mains shall be HDPE DR11
 - Manholes shown with 12" and 16" walls are for brick manholes only.
 - Manholes designated W.T. in plan and profile shall have watertight frame and covers, standard detail 05.52 Where watertight manhole frame and cover is used, set top of frame 1'-6" above finished grade unless otherwise noted on the drawings.
 - House(s) with the symbol "C.N.S." indicates that cellar cannot be serviced.
 - The "Cans" for simplex pumps must be a minimum of 36 inches in diameter.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 14440, Expiration Date: 12/1/2010

David C. Woessner 2/29/08 DATE
DAVID C. WOESSNER, P.E.

APPROVED: FOR PRIVATE WATER AND PUBLIC SHARED SEWERAGE SYSTEM FOR LOTS 3 THRU 9 AND BUILDABLE PRESERVATION PARCEL "A".

Michael J. Quinn 3/13/08 DATE
HOWARD COUNTY HEALTH OFFICER

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

John K. ... 3/20/08 DATE
U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE

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

John K. ... 3/20/08 DATE
HOWARD SOIL CONSERVATION DISTRICT

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS AND AS PER ROAD CONSTRUCTION PLANS PER F-09-09G.



FULTON WOODS

LOTS 3 THRU 9, BUILDABLE PRESERVATION PARCEL "A"

AND NON-BUILDABLE PRESERVATION PARCEL "B"

BULK PARCEL A, TAX MAP # 41, GRID 13
5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND.

SHARED SEWAGE DISPOSAL AND FORCE MAIN

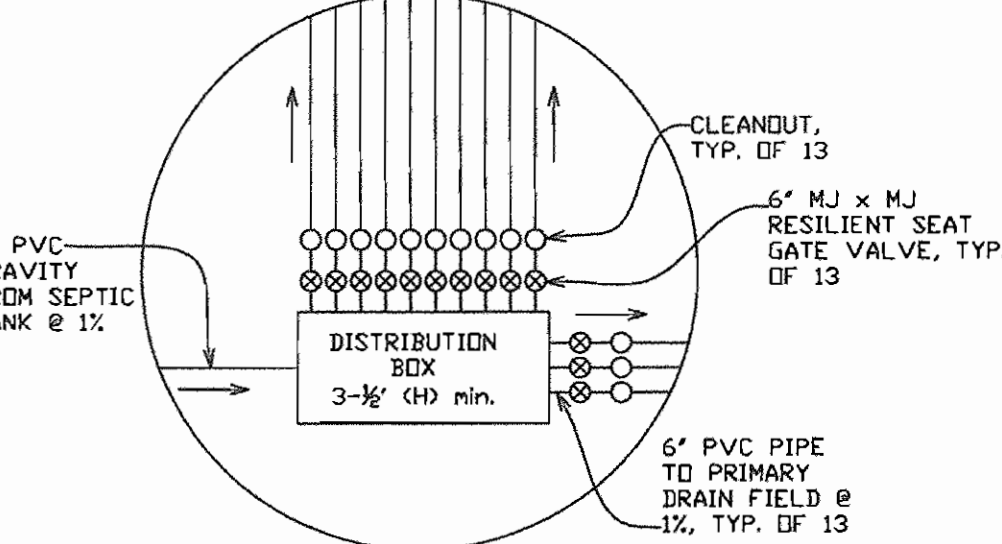
CONTRACT # 50-4361-D

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS	
STATE HIGHWAY ADMINISTRATION	410-531-5533
BALTIMORE GAS & ELECTRIC CO.	410-850-4620
CONTRACTOR SERVICES	410-850-4620
BALTIMORE GAS & ELECTRIC CO.	410-787-9068
UNDERGROUND DAMAGE CONTROL	1-800-257-7777
MISS UTILITY	410-795-1390
COLONIAL PIPELINE CO	410-795-1390
HOWARD COUNTY DEPT. OF PUBLIC WORKS	410-313-4900
BUREAU OF UTILITIES	410-313-4900
HO. CO. ENVIRONMENTAL HEALTH DEPT	410-313-2640

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>Stark ...</i> 3/13/08 CHIEF, BUREAU OF UTILITIES	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND <i>Michael J. Quinn</i> 3/13/08 CHIEF, DEVELOPMENT ENGINEERING DIVISION	American Land Development and Engineering, Inc. 10749 BIRMINGHAM WAY WOODSTOCK, MD. 21163 TEL. (410) 485-7908 FAX. (410) 485-9845	DES.: DW/AG DRN.: NW CHK.: DW DATE: 02-27-08	TITLE SHEET	600' SCALE MAP No. 21 BLOCK No. 12	FULTON WOODS LOTS 3 THRU 9, BUILDABLE PRESERVATION PARCEL "A" AND NON-BUILDABLE PRESERVATION PARCEL "B" CONTRACT No. : 50-4361-D 5th ELECTION DISTRICT HOWARD COUNTY, MD.	SCALE : AS SHOWN SHEET No. 1 OF 8
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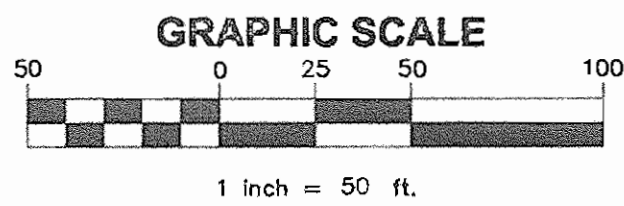
I:\WILSON\FULTONWOODS-SEWER\FM COVER12-27-07.dwg, COVER, 2/28/2008 4:48:21 PM, 0/2

- GENERAL NOTES:**
- CONTRACTOR TO INSTALL 200% OF THE DISPOSAL FIELDS (PRIMARY AND FIRST RESERVE FIELD). OPERATOR MUST OPERATE ONLY 100% AT A TIME;
 - CONTRACTOR TO INSTALL ISOLATION VALVE WITH VALVE BOX ON EACH LATERAL;
 - CONTRACTOR IS RESPONSIBLE TO VERIFY TOPO ELEVATIONS BEFORE CONSTRUCTION OF DISPOSAL TRENCHES. CONTRACTOR IS RESPONSIBLE TO CONTACT DESIGN ENGINEER AND HOWARD COUNTY INSPECTOR IN CASE OF ANY CONFLICT BETWEEN FIELD AND DESIGN INFORMATION;
 - CONTRACTOR IS RESPONSIBLE TO LABEL/TAG EACH OBSERVATION WELL AT THE END OF EACH LATERAL USING LATERAL IDENTIFICATION (NUMBERS 1, 2, 3, ETC.) AS SHOWN ON DESIGN PLANS;
 - OPERATOR IS RESPONSIBLE TO MAKE SURE THAT ONLY SEVEN (7) OF THIRTEEN (13) TRENCHES OF FIRST RESERVE FIELD ARE OPERATED AT A TIME. SEE OPERATION SCHEDULE THIS SHEET;
 - TEST STATIONS TO BE PLACED AT 200' INTERVALS ON THE FORCE MAIN;
 - TRACER WIRE CONNECTIONS OFF OF THE MAIN MUST BE OVERLAPPING, INSULATED AND FIRMLY CONNECTED AND ENCAPSULATED;
 - NON-BUILDABLE PRESERVATION PARCEL "B" MUST BE OWNED IN COMMON BY THE HOMEOWNERS ASSOCIATION (HOA). THE PARCEL WILL HAVE PUBLIC UTILITY AND SEWER EASEMENTS;
 - 5 FT CLEARANCE MUST BE PROVIDED AROUND ELECTRICAL PANELS AND BOE METERS;
 - CONTRACTOR TO INSTALL MANHOLES, DISTRIBUTION BOXES AND MANIFOLDS TO ALL DRAIN FIELDS;
 - MANIFOLDS TO DRAIN FIELD B (SECOND RESERVE FIELD) SHALL BE CAPPED FOR FUTURE INSTALLATION OF LATERALS;
 - CONTRACTOR TO INSTALL THREE (3) ISOLATION VALVES AT SEWER MANHOLE #1 AS SHOWN ON SITE PLAN;
 - ALL PVC GRAVITY PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM D-3034, SDR 28 SPECIFICATION FOR TYPE PSM POLY VINYL CHLORIDE (PVC) SEWER PIPE AND FITTINGS.



13-OUTLET DISTRIBUTION BOX DETAIL FOR PRIMARY DRAIN FIELD
NOT TO SCALE

- DISTRIBUTION BOX NOTES:**
- CONTRACTOR TO INSTALL TOPS OF DISTRIBUTION BOX AND VALVE BOX AT GRADE TO MINIMIZE PROTRUSIONS ABOVE GRADE.
 - CONTRACTOR TO FRAME AND GRAVEL THE AREA IMMEDIATELY SURROUNDING THE DISTRIBUTION BOX. ENCOMPASS THE CLEANOUT STANDPIPES TO ASSIST WITH GROUNDS MAINTENANCE.
 - EACH LATERAL SHALL BE EQUIPPED WITH A SPEED LEVELER, INSIDE THE BOX, FOR PROPER LIQUID LEVEL BALANCING.
 - THE DISTRIBUTION BOX SHALL BE EQUIPPED WITH AN AT-GRADE BILCO TYPE HATCH FOR ACCESS.



- LEGEND:**
- 325 --- EXISTING CONTOURS
 - 330 --- LIMIT OF DISTURBANCE
 - SSF --- SUPER SILT FENCE
 - SF --- SILT FENCE
 - --- PROPERTY LINE
 - --- EXISTING TREELINE
 - --- SAVED TREES
 - --- GENERIC HOUSE LAYOUT
 - --- PROP. SEPTIC FIELD
 - 10 APPROVED PERC HOLES
 - 39 BAD PERC HOLES

APPROVED FOR PRIVATE WATER AND PUBLIC SHARED SEWERAGE SYSTEM FOR LOTS 3 THRU 9 AND BUILDABLE PRESERVATION PARCEL "A".

HOWARD COUNTY HEALTH OFFICER: *[Signature]* DATE: 3/17/08

HOWARD SOIL CONSERVATION DISTRICT: REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS. *[Signature]*

U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE DATE: 3/20/08

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT. *[Signature]*

HOWARD SOIL CONSERVATION DISTRICT DATE: 3/20/08

SEDMIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS AND AS PER ROAD CONSTRUCTION PLANS PER F-06-096.

OWNER: DEBORAH C. WILSON 2.411 AC. 12275 ROUTE 216 FULTON, MD. 20759

DEVELOPER: FULTON, LLC. 7017 HEANDERING STREAM WAY FULTON, MD. 20759

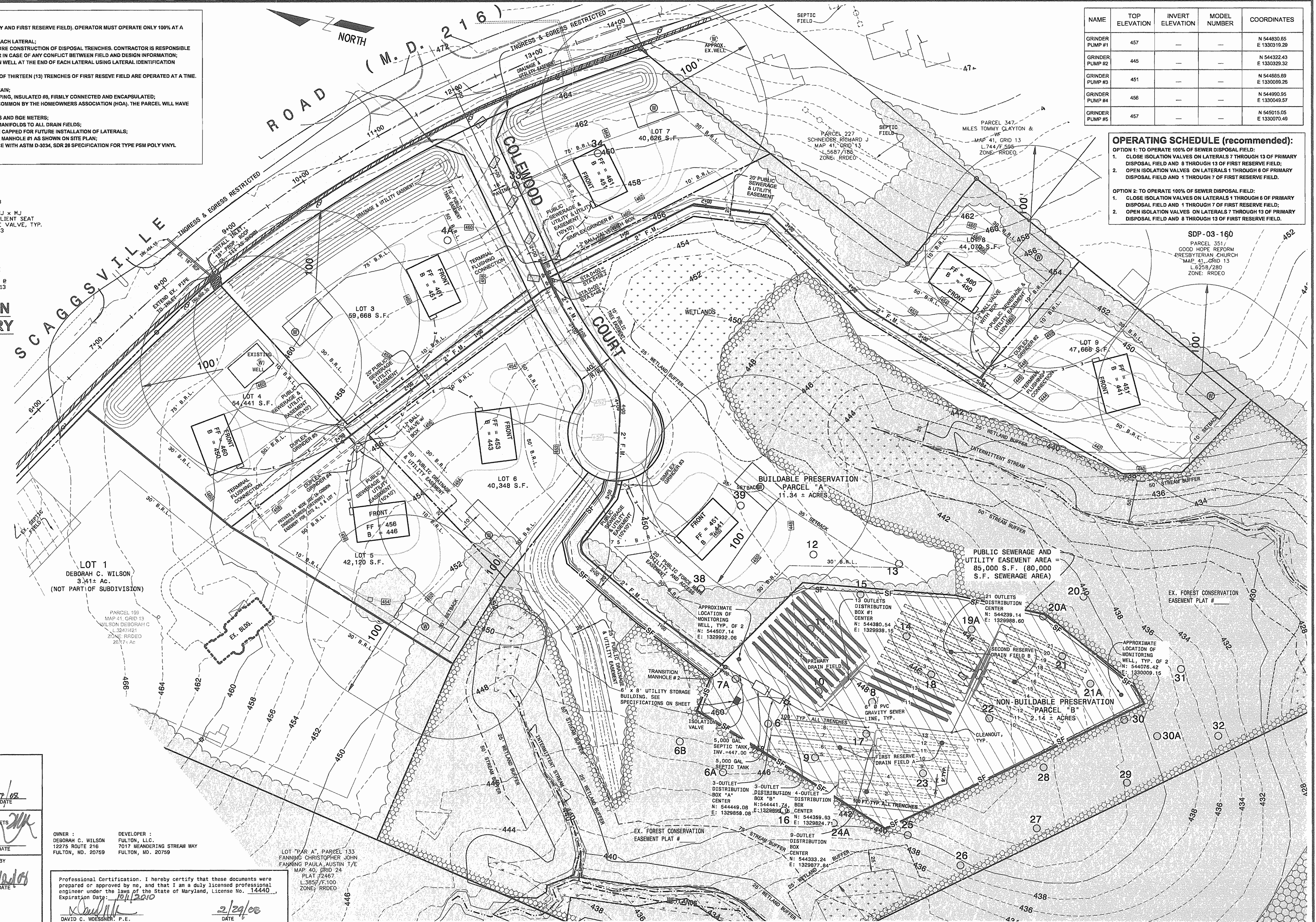
LOT "PAR A", PARCEL 133 FANNING CHRISTOPHER JOHN FANNING PAULA AUSTIN T/E MAP 40, GRID 24 PLAT #2467 L.3857/F.100 ZONE: RRDEO

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 14440. Expiration Date: 10/1/2010

[Signature] DATE: 2/29/08
DAVID C. WOODSNER, P.E.

NAME	TOP ELEVATION	INVERT ELEVATION	MODEL NUMBER	COORDINATES
GRINDER PUMP #1	457	---	---	N 544830.85 E 1330319.28
GRINDER PUMP #2	445	---	---	N 544322.43 E 1330329.32
GRINDER PUMP #3	451	---	---	N 544685.89 E 1330089.26
GRINDER PUMP #4	456	---	---	N 544990.95 E 1330049.57
GRINDER PUMP #5	457	---	---	N 545015.05 E 1330070.49

- OPERATING SCHEDULE (recommended):**
- OPTION 1: TO OPERATE 100% OF SEWER DISPOSAL FIELD:**
- CLOSE ISOLATION VALVES ON LATERALS 7 THROUGH 13 OF PRIMARY DISPOSAL FIELD AND 8 THROUGH 13 OF FIRST RESERVE FIELD;
 - OPEN ISOLATION VALVES ON LATERALS 1 THROUGH 6 OF PRIMARY DISPOSAL FIELD AND 1 THROUGH 7 OF FIRST RESERVE FIELD.
- OPTION 2: TO OPERATE 100% OF SEWER DISPOSAL FIELD:**
- CLOSE ISOLATION VALVES ON LATERALS 1 THROUGH 6 OF PRIMARY DISPOSAL FIELD AND 1 THROUGH 7 OF FIRST RESERVE FIELD;
 - OPEN ISOLATION VALVES ON LATERALS 7 THROUGH 13 OF PRIMARY DISPOSAL FIELD AND 8 THROUGH 13 OF FIRST RESERVE FIELD.



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

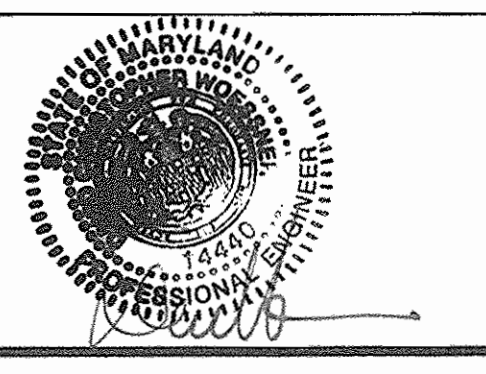
[Signature] DATE: 3/18/08
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

[Signature] DATE: 3/18/08
CHIEF, DEVELOPMENT ENGINEERING DIVISION

American Land Development and Engineering, Inc.
10749 BIRMINGHAM WAY WOODSTOCK, MD. 21163
TEL. (410) 465-7903 FAX. (410) 465-3945

[Signature] DATE: 3/18/08
DAVID C. WOODSNER, P.E.



DES. :	AVG	DATE:	02-27-08
DRN. :	AVG		
CHK. :	DW		
BY NO.		REVISIONS	

FORCE MAIN PLAN

60' SCALE MAP No. 21 BLOCK No. 12

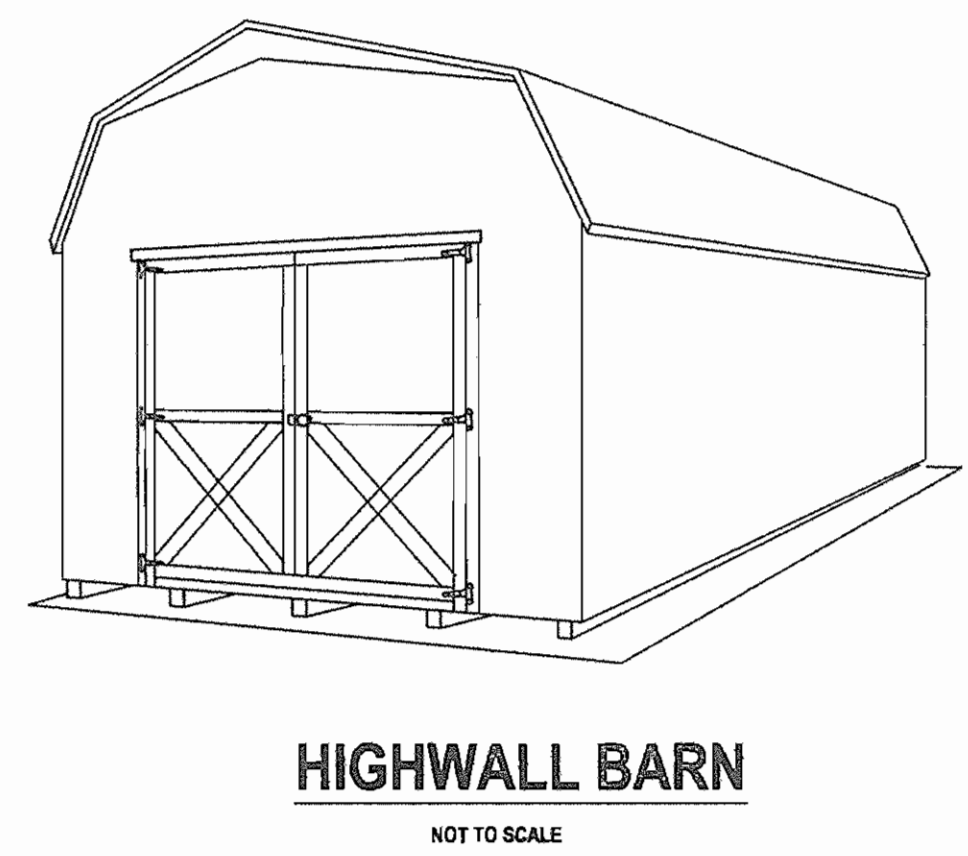
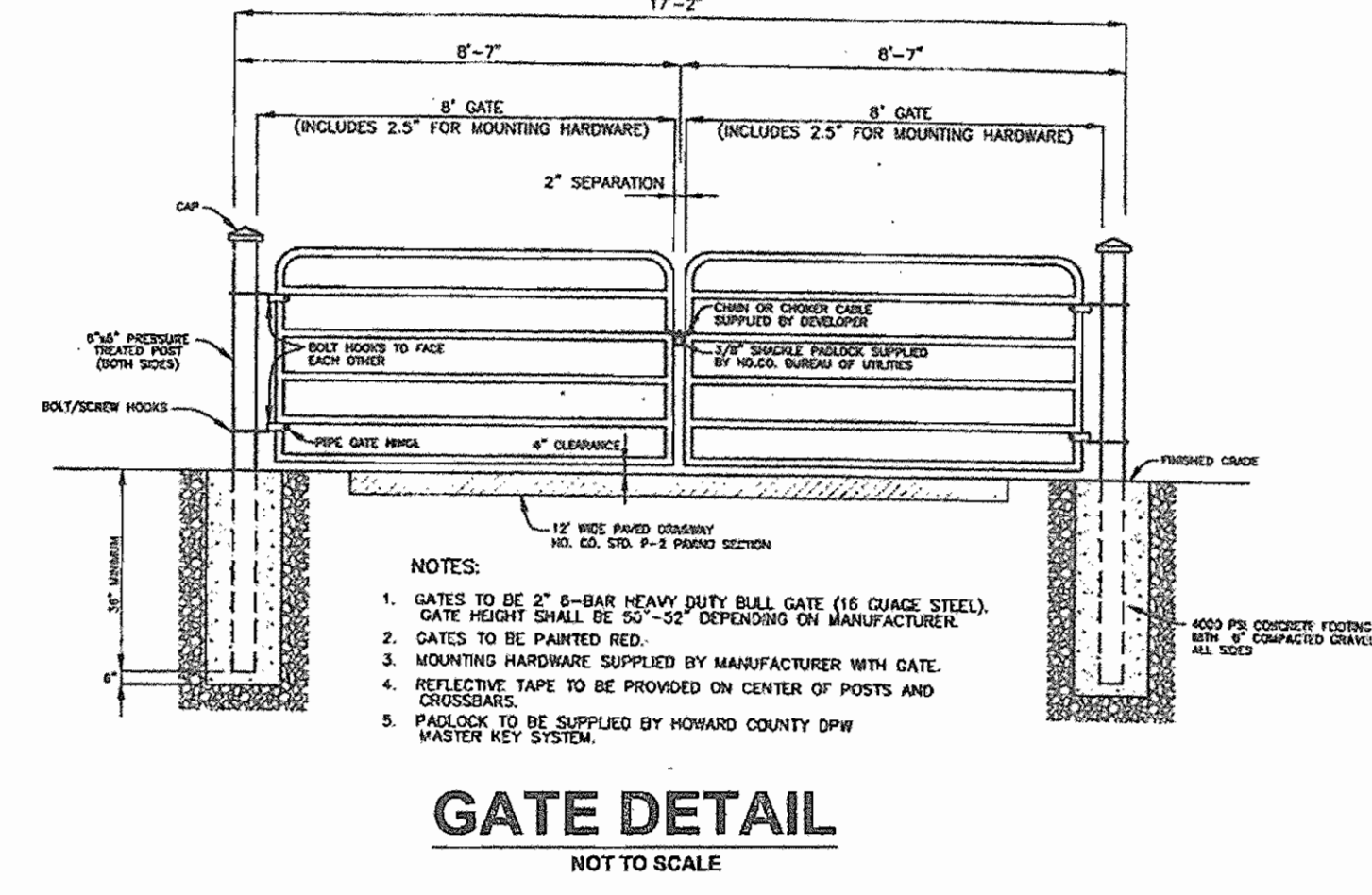
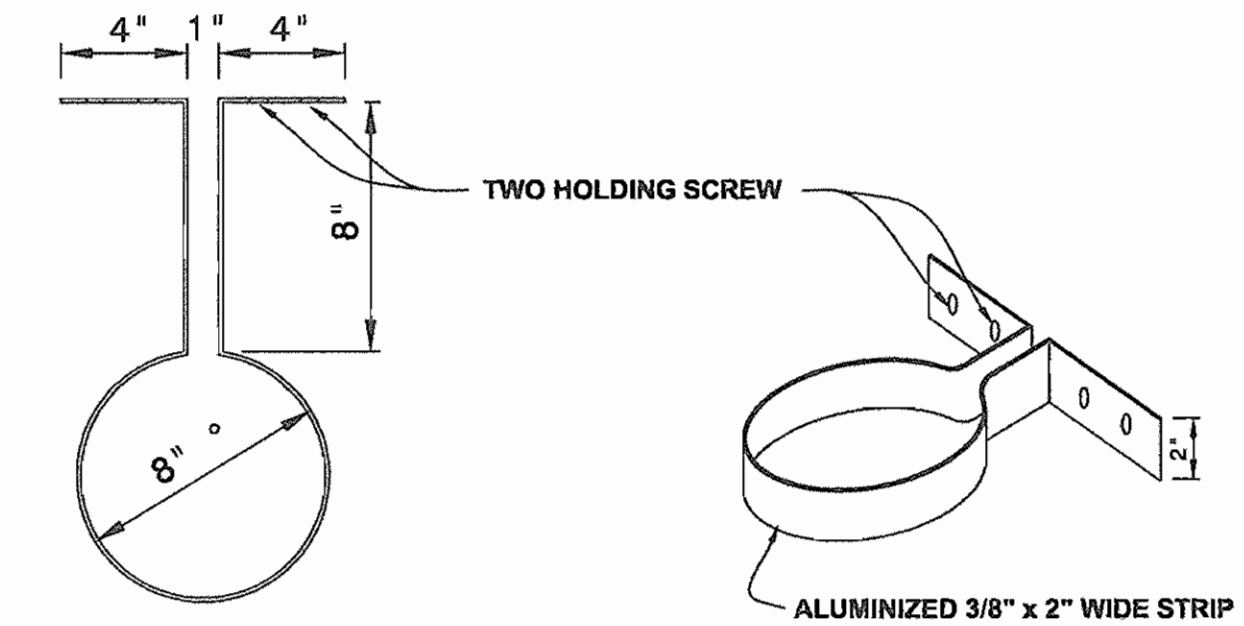
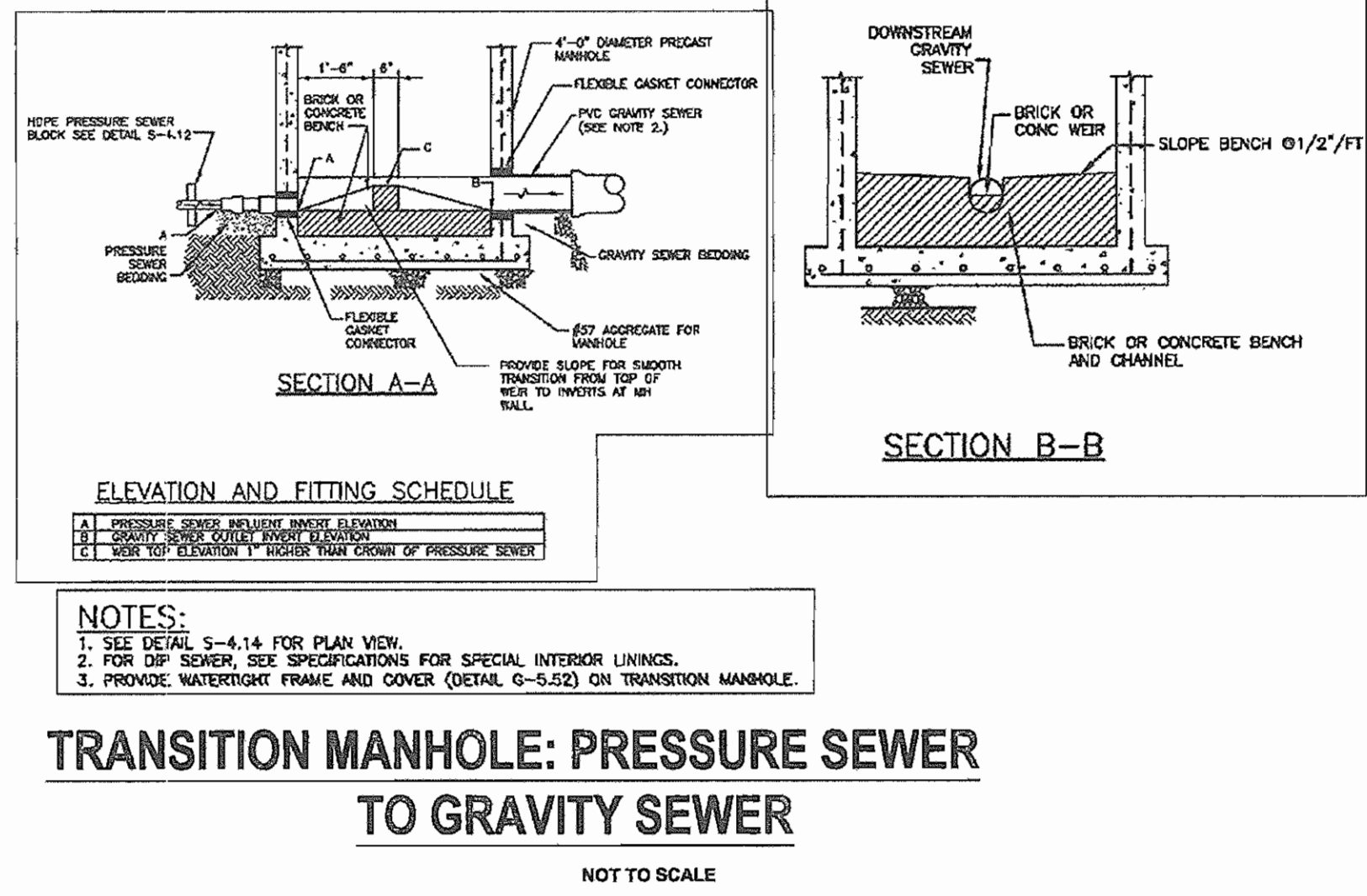
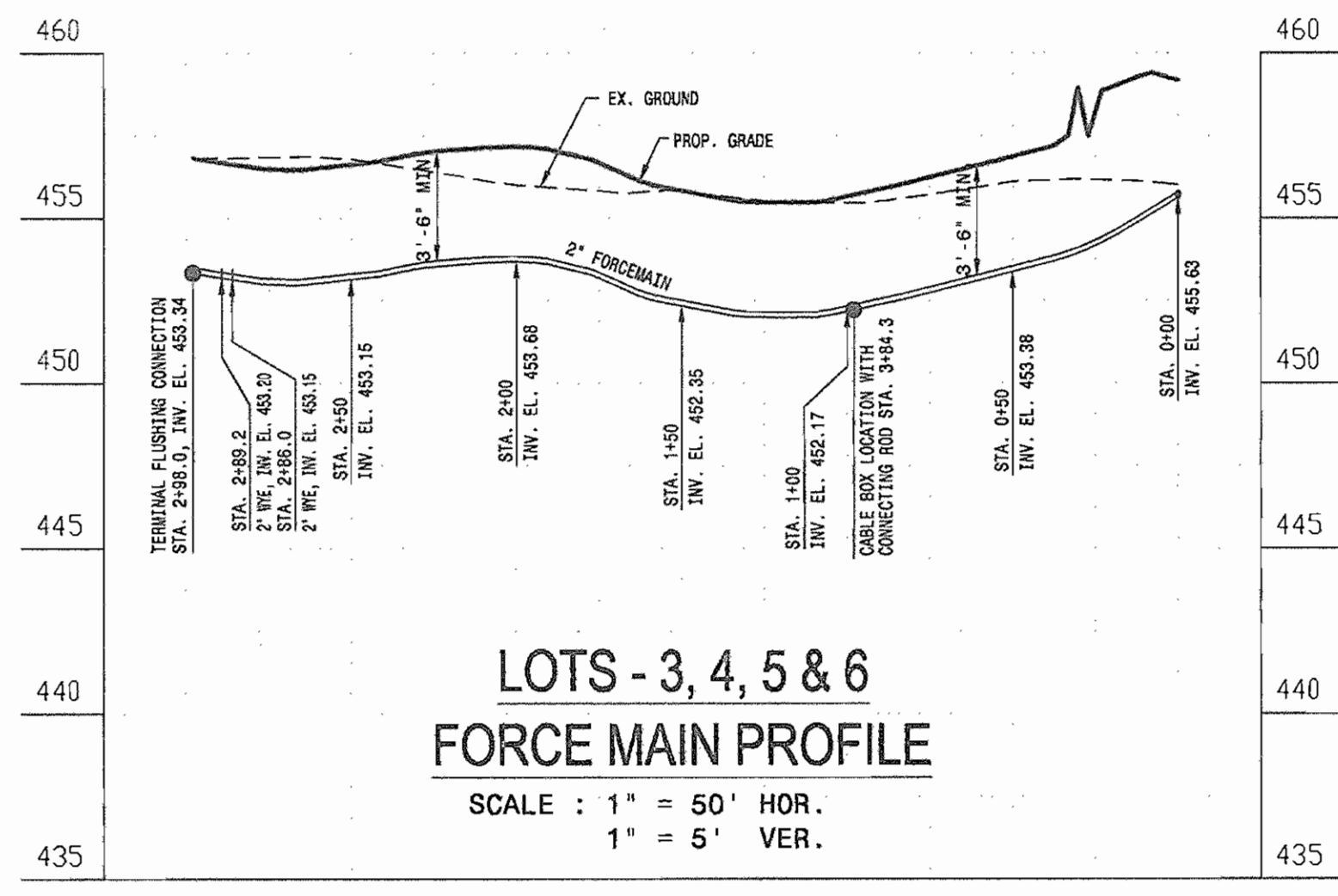
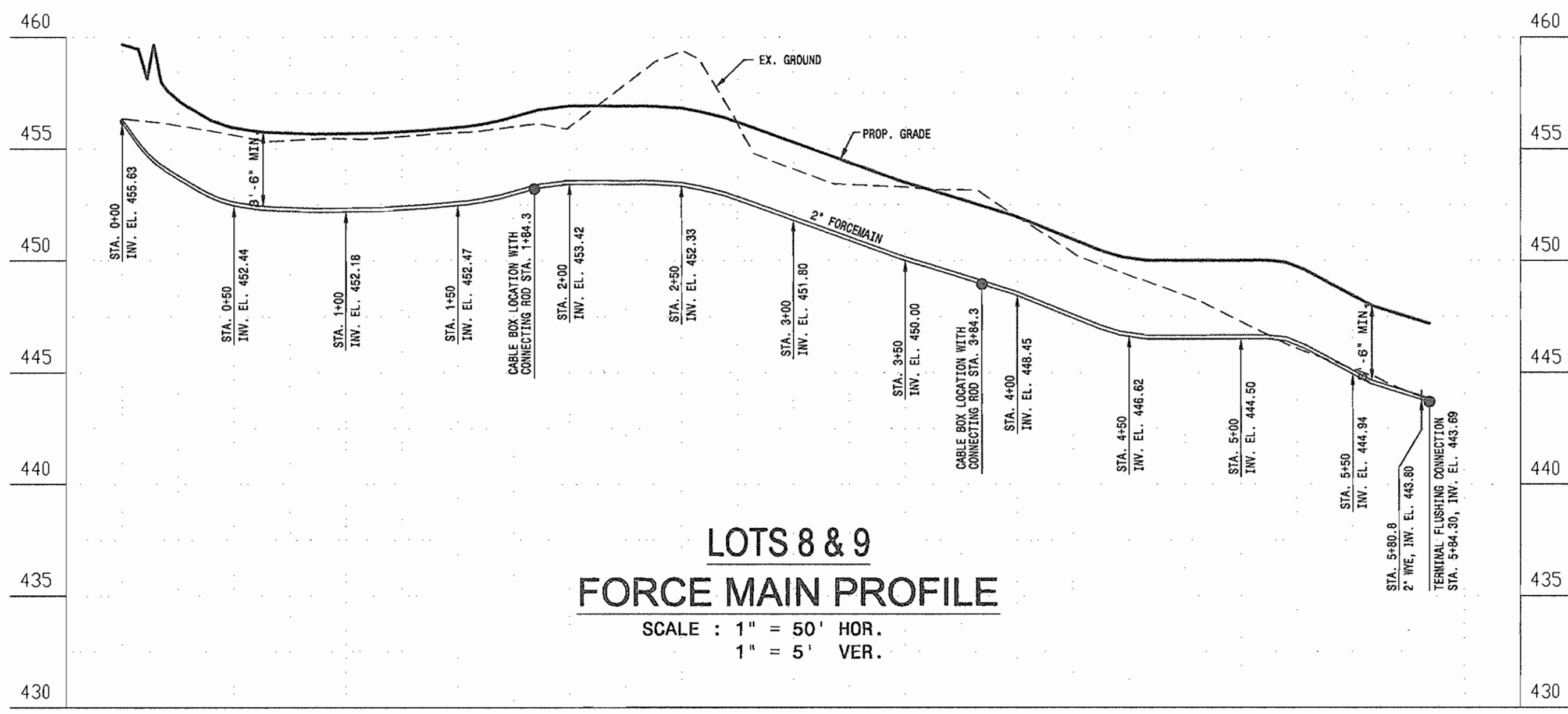
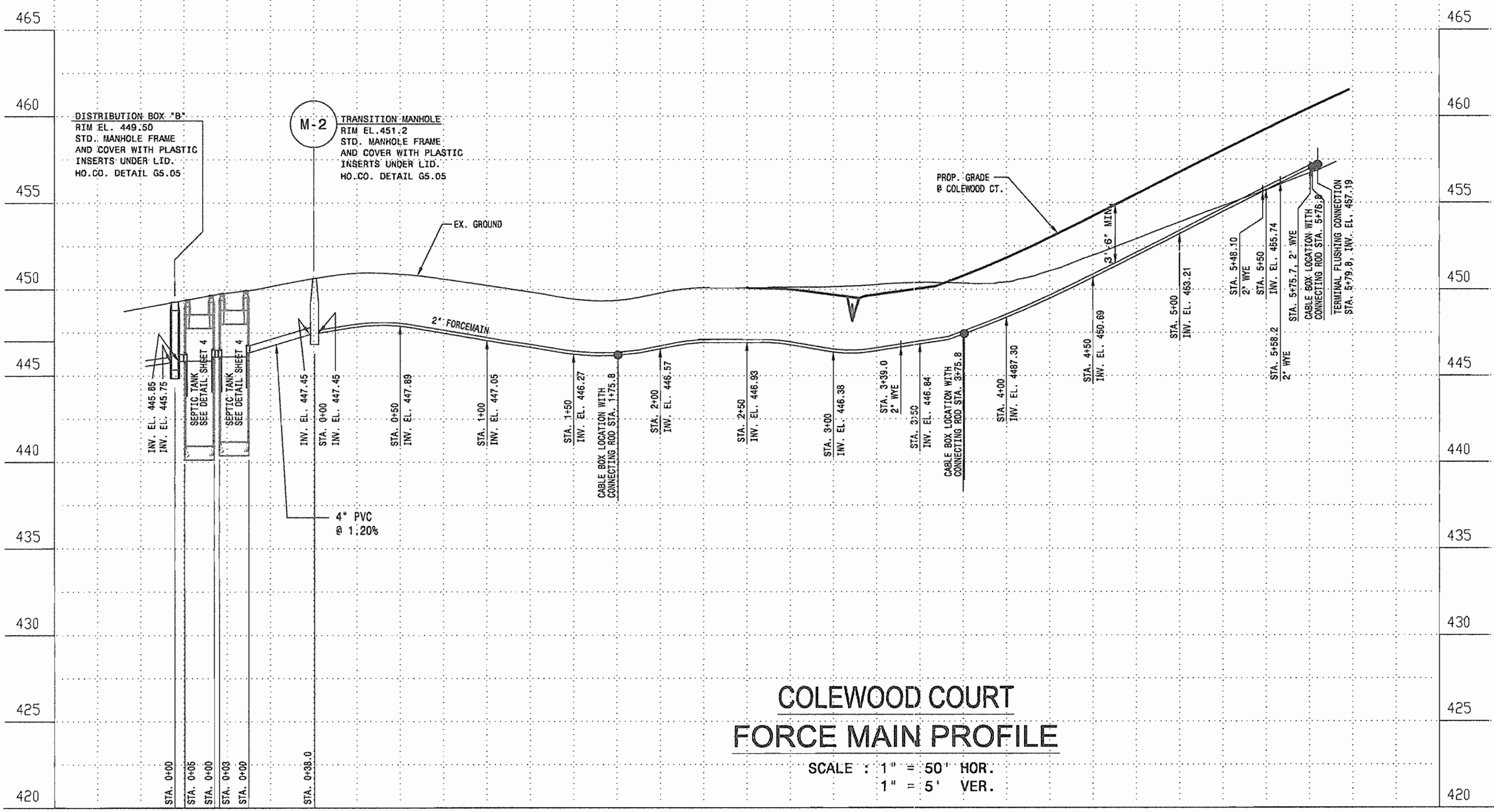
FULTON WOODS
LOTS 3 THRU 9, BUILDABLE PRESERVATION PARCEL "A"
AND NON-BUILDABLE PRESERVATION PARCEL "B"

CONTRACT No. : 50-4361-D
5th ELECTION DISTRICT HOWARD COUNTY, MD.

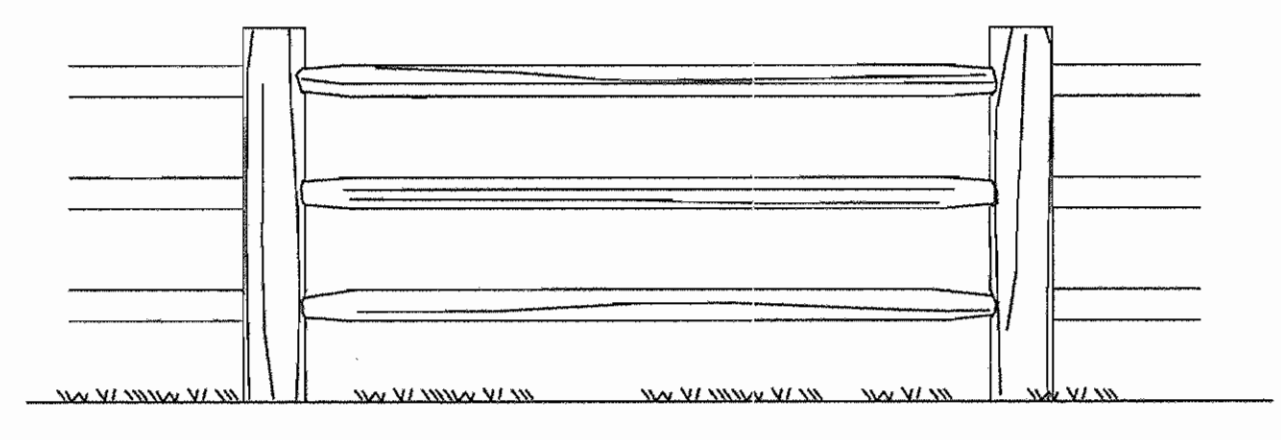
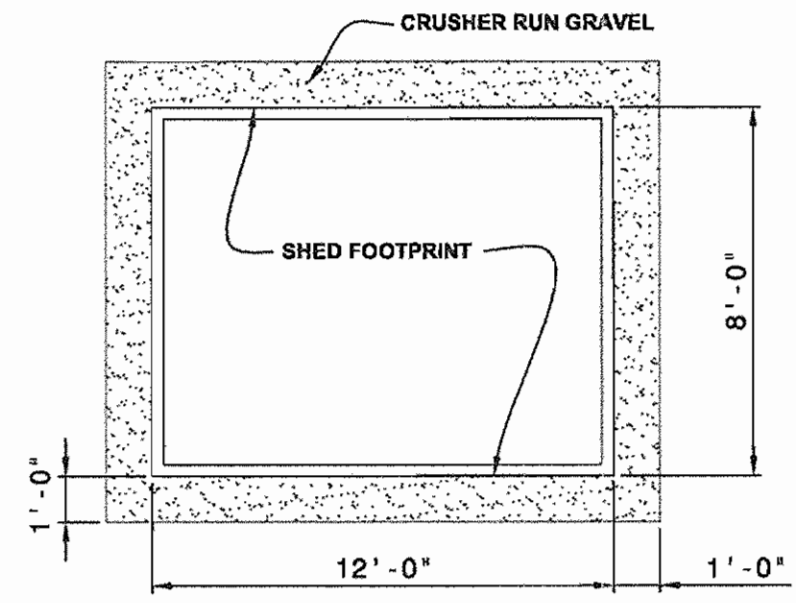
SCALE : 1" = 50'

SHEET No. 2 OF 8

1: WILSON/FULTONWOODS SEWER FORCEMAIN 12-27-07.dwg, FORNEATH, 2/26/2008 4:55:50 PM, g12



- SPECIFICATIONS TO INCLUDE :**
- NO WINDOWS.
 - 10' RIDGE VENT.
 - 4 x 4 PRESSURE TREATED SKIDS.
 - 2 x 4 FLOOR JOIST 16" ON CENTER.
 - 5/8" PLYWOOD FLOOR SHEATHING.
 - 2 x 4 STUDS 16" ON CENTER.
 - ALL WALLS TO BE PLATED AT BOTTOM AND DOUBLE PLATED AT THE TOP.
 - 240 POUND ASPHALT 20 YEAR SHINGLES.
 - DOOR AND FRAME TO BE REINFORCED.
 - DOOR HINGES MUST BE "T" TYPE OR STRAP TYPE, THREE HINGES PER DOOR SIDE. PIANO HINGES ARE NOT ACCEPTABLE.
 - LOCKS ARE TO BE KEYPED ALIKE WITH BAUER CH751 LOCK
 - VINYL SIDING AND TRIM COLOR - ALMOND.
 - SHINGLE COLOR - BROWN



OWNER : DEBORAH C. WILSON
DEVELOPER : FULTON, LLC.
12275 ROUTE 216
FULTON, MD. 20759

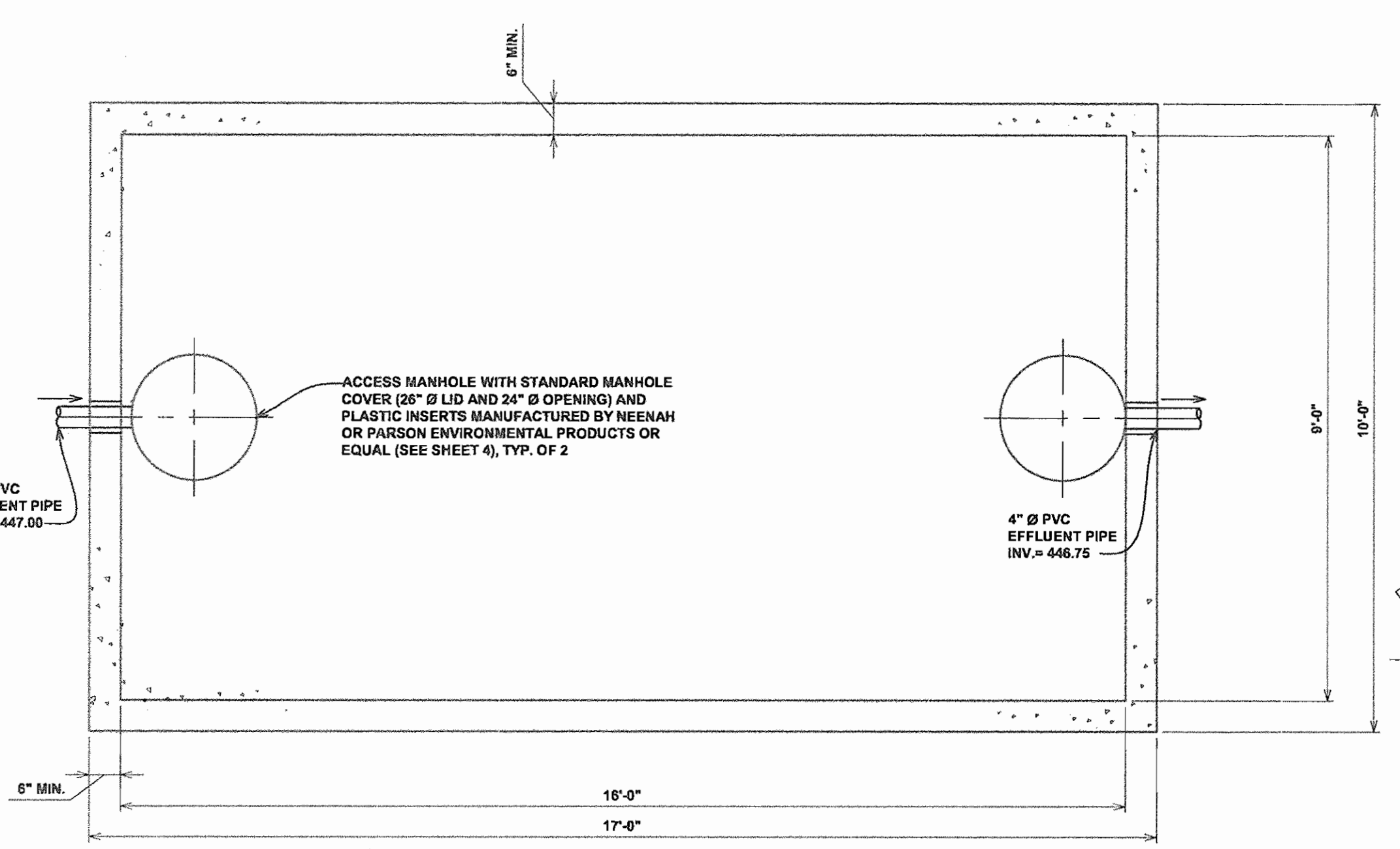
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 14440.
Expiration Date: 2/10/2010
DAVID C. WESSNER, P.E.

APPROVED: FOR PRIVATE WATER AND PUBLIC SHARED SEWERAGE SYSTEM FOR LOTS 3 THRU 9 AND BUILDABLE PRESERVATION PARCEL "A".
HOWARD COUNTY HEALTH OFFICER
DATE: 3/17/08

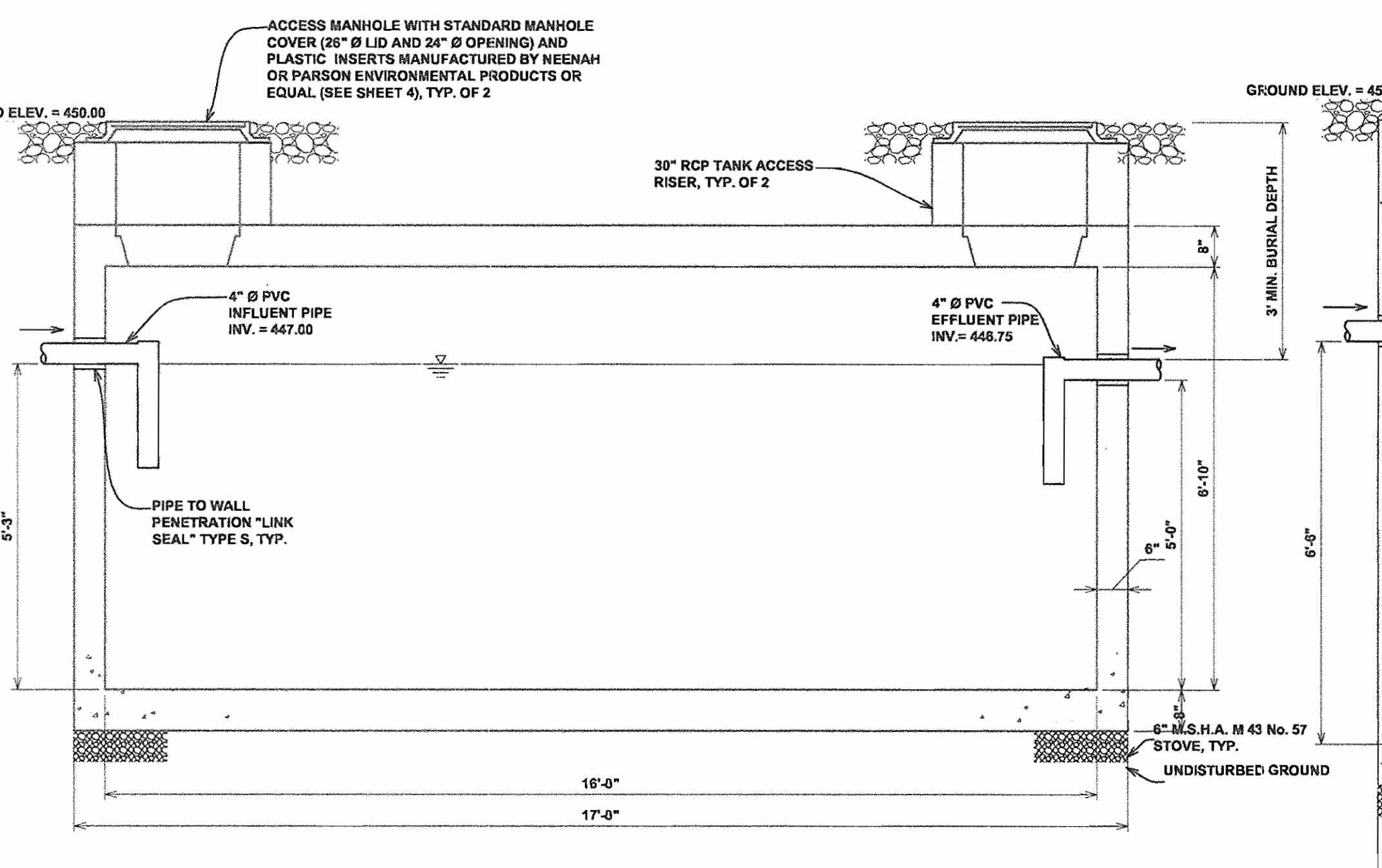
HOWARD SOIL CONSERVATION DISTRICT: REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE
DATE: _____
THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT
DATE: _____
SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS AND AS PER ROAD CONSTRUCTION PLANS PER F-06-096.

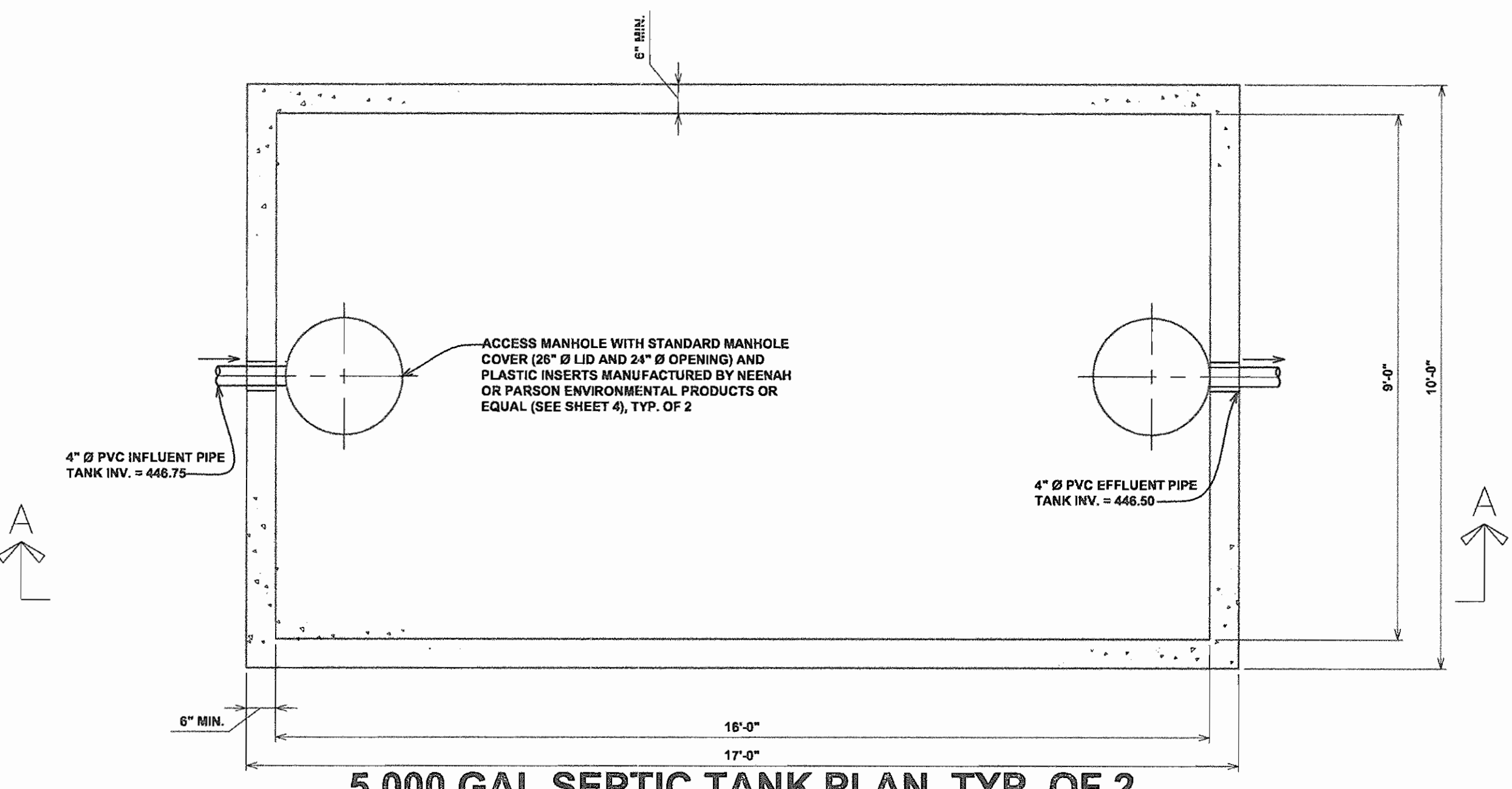
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: 3/18/08 CHIEF, BUREAU OF UTILITIES	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND DATE: 3/18/08 CHIEF, DEVELOPMENT ENGINEERING DIVISION	American Land Development and Engineering, Inc. 10749 BIRMINGHAM WAY WOODSTOCK, MD. 21163 TEL. (410) 465-7903 FAX. (410) 465-3845	DES. : AVG DRN. : AVG CHK. : DW DATE: 02-27-08	REVISIONS BY NO. DATE	FORCE MAIN PROFILE AND DETAIL 600' SCALE MAP No. 21 BLOCK No. 12	FULTON WOODS LOTS 3 THRU 9, BUILDABLE PRESERVATION PARCEL "A" AND NON-BUILDABLE PRESERVATION PARCEL "B" CONTRACT No. : 50-4361-D 5th ELECTION DISTRICT HOWARD COUNTY, MD.	SCALE : AS SHOWN SHEET No. 3 OF 8
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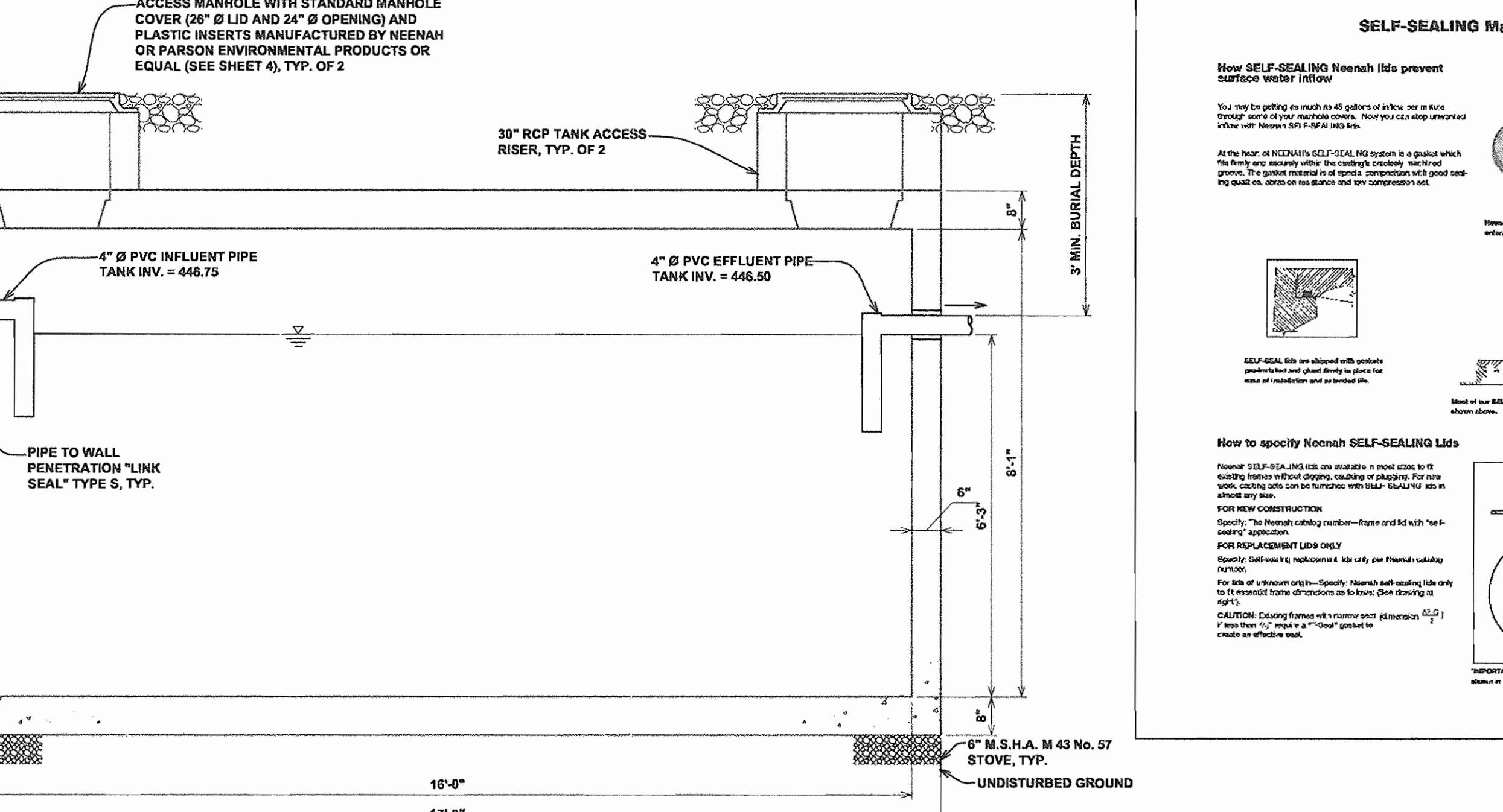
5,000 GAL SEPTIC TANK PLAN, TYP. OF 2
SCALE: 1/2" = 1'-0"



5,000 GAL SEPTIC TANK, TYP. OF 2 SECTION A-A
SCALE: 1/2" = 1'-0"



5,000 GAL SEPTIC TANK PLAN, TYP. OF 2
SCALE: 1/2" = 1'-0"



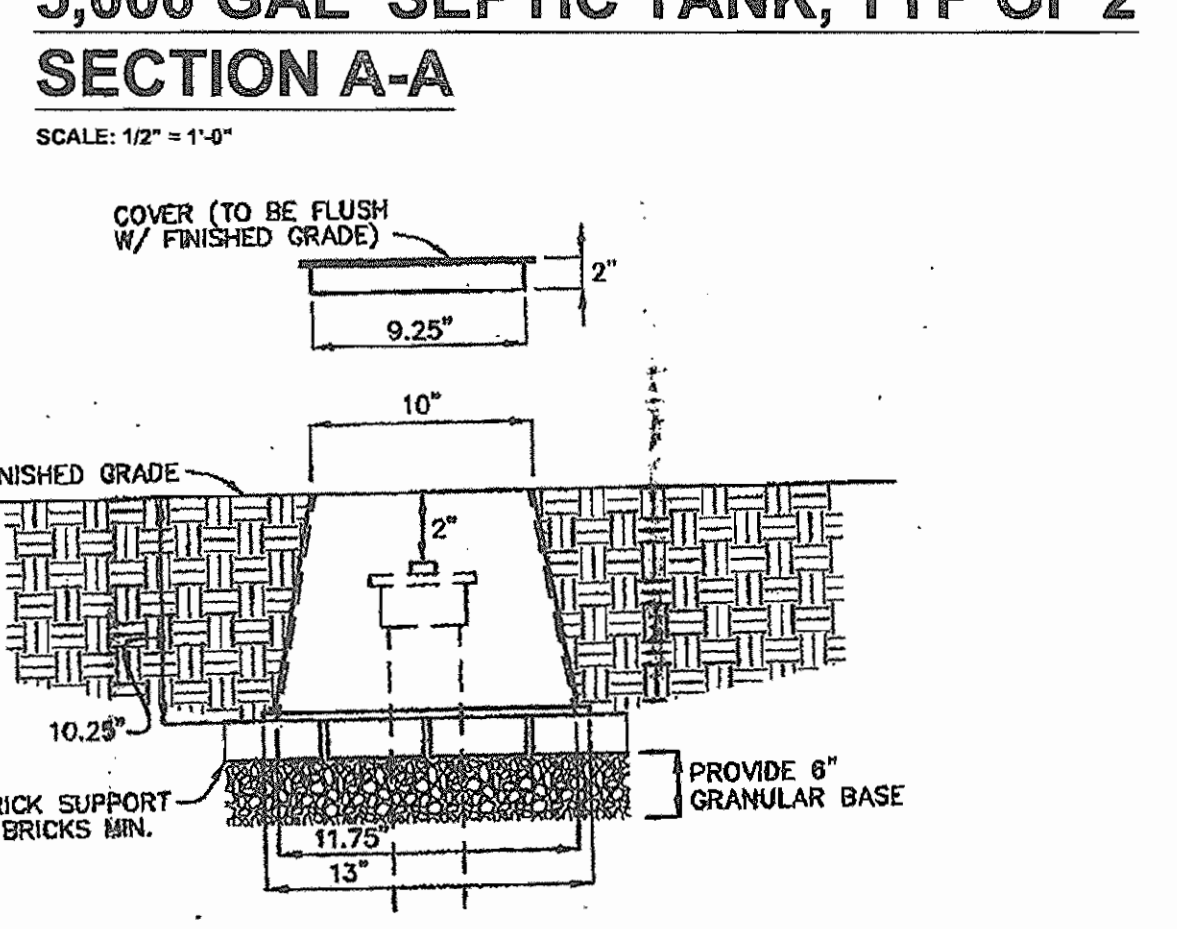
5,000 GAL SEPTIC TANK, TYP. OF 2 SECTION A-A
SCALE: 1/2" = 1'-0"

- SEPTIC TANK NOTES:**
- THE CONTRACTOR SHALL PROVIDE EFFLUENT FILTER FOR SECOND 5,000-GAL SEPTIC TANK IN WHICH ONE CARTRIDGE OFF OF THE TEE CAN HANDLE THE EXPECTED FLOW; THE EFFLUENT FILTER SHALL BE MODEL A300-12436-VC AS MANUFACTURED BY ZABEL OR MODEL FT51254-3EM AS MANUFACTURED BY ORENCO SIZED TO HANDLE UP TO 5,000 GPD.
 - THE CONTRACTOR SHALL INSTALL "STAND-OFF" SUPPORTS FOR TAIL ENDS OF INLET AND OUTLET TEES AND ANCHOR THEM AGAINST SIDEWALLS OF SEPTIC TANK.
 - SEPTIC TANK SHALL BE AS MANUFACTURED BY OLDE CASTLE PRECAST, FREDERICKSBURG, VA (540-295-1568) OR APPROVED EQUAL.

OWNER : DEBORAH C. WILSON
12275 ROUTE 216
FULTON, MD. 20759

DEVELOPER : FULTON, LLC
7017 MEANDERING STREAM WAY
FULTON, MD. 20759

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 14440.
Expiration Date: 10/1/2010
DAVID C. WEDSNER, P.E. DATE: 2/29/08



TURF BOX DETAIL
NOT TO SCALE

SELF-SEALING Manhole Covers

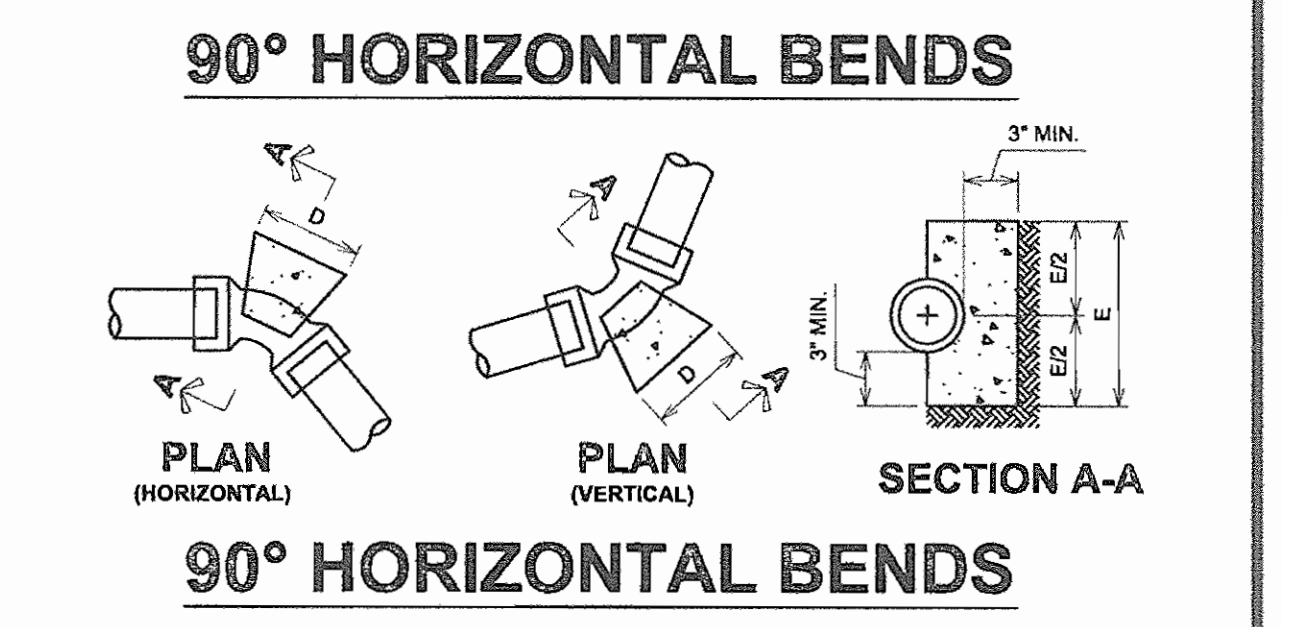
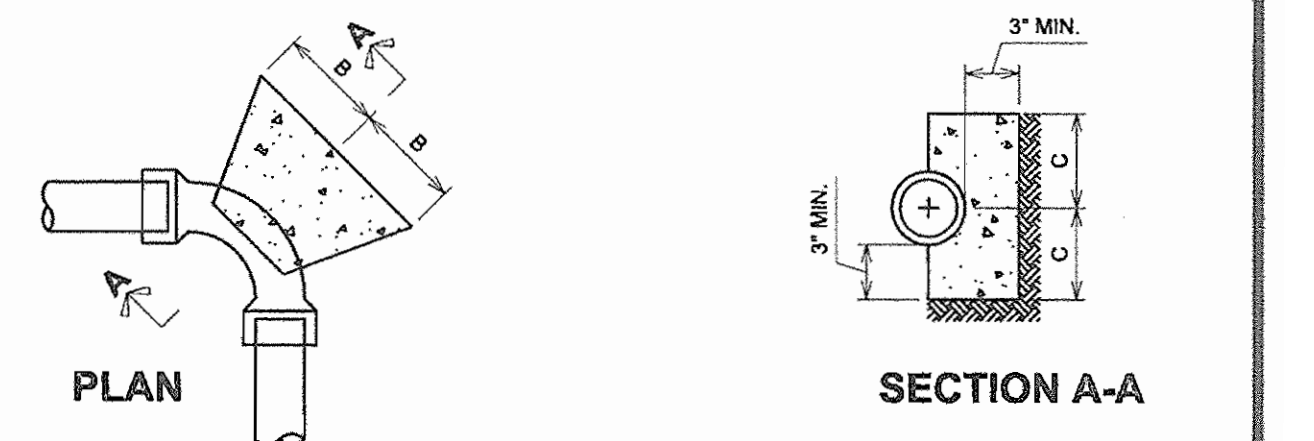
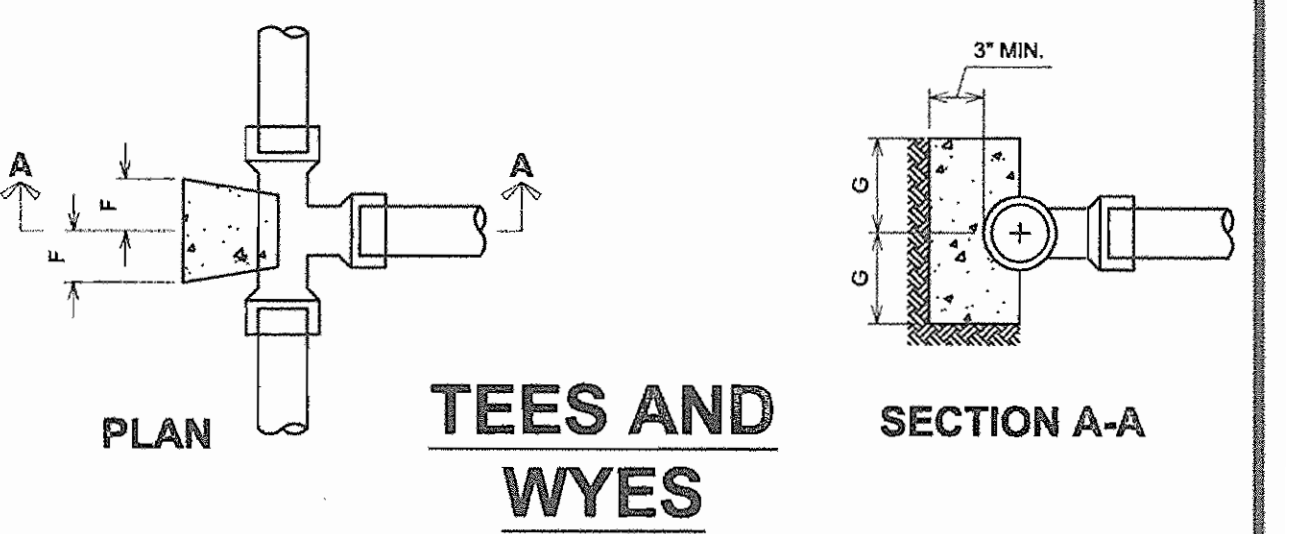
How SELF-SEALING Noeneh lids prevent surface water inflow:

You may be getting as much as 45 gallons of water per year through each of your manhole covers. Now you can stop unwanted water from entering your sewer lines.

At the hour of NEENEH SELF-SEALING system is a gasket which fits snugly and securely into the casting's recessed, non-trapped groove. The gasket is made of special polypropylene with good tear resistance and low compression set.

How to specify Noeneh SELF-SEALING Lids:

Specify: "NEENEH SELF-SEALING Lids are available in most sizes to fit existing manhole openings, including 45-degree. For new construction, specify: "NEENEH SELF-SEALING Lids with 4\"/>

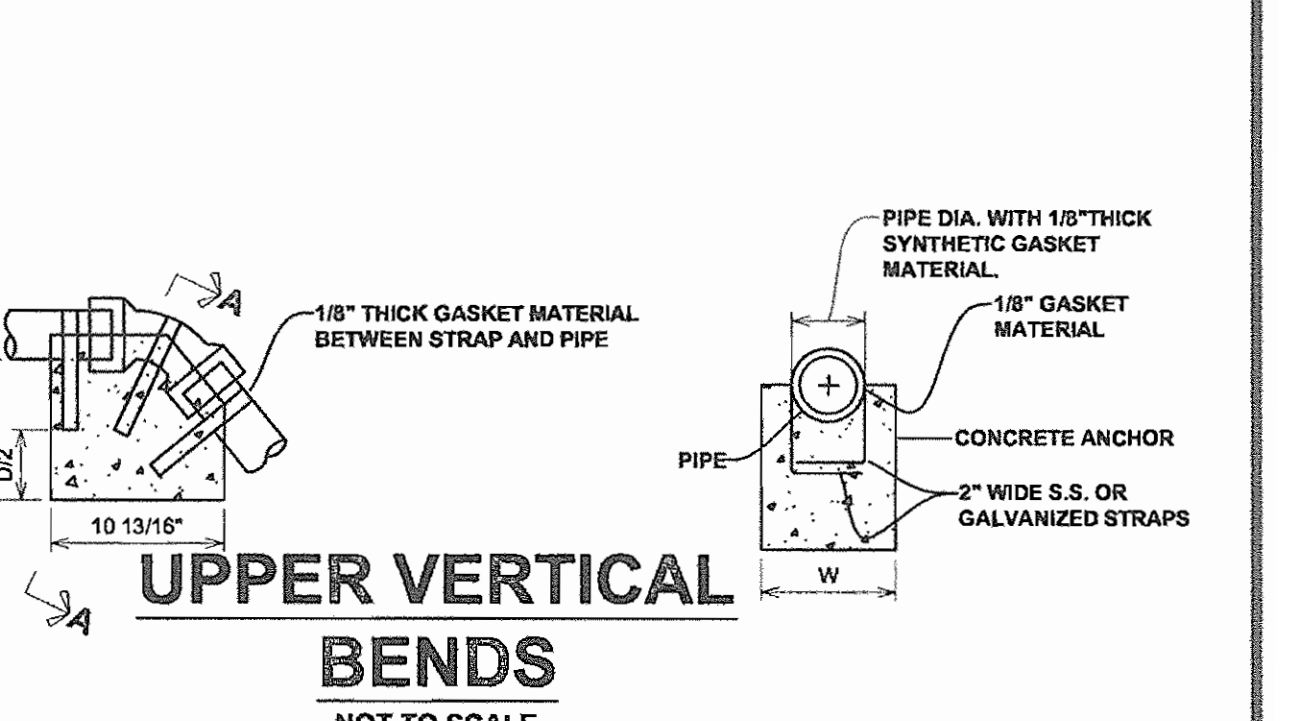


BUTTRESS DIMENSIONS

PIPE SIZE	B	C	D	E	F	G
1 1/2" OR 2"	4 1/2"	4 1/2"	5"	9"	4 1/2"	4"
2"	5"	5"	7"	7"	5"	5"
2 1/2"	5"	5"	7"	7"	5"	5"
3"	6"	6"	9"	9"	6"	6"

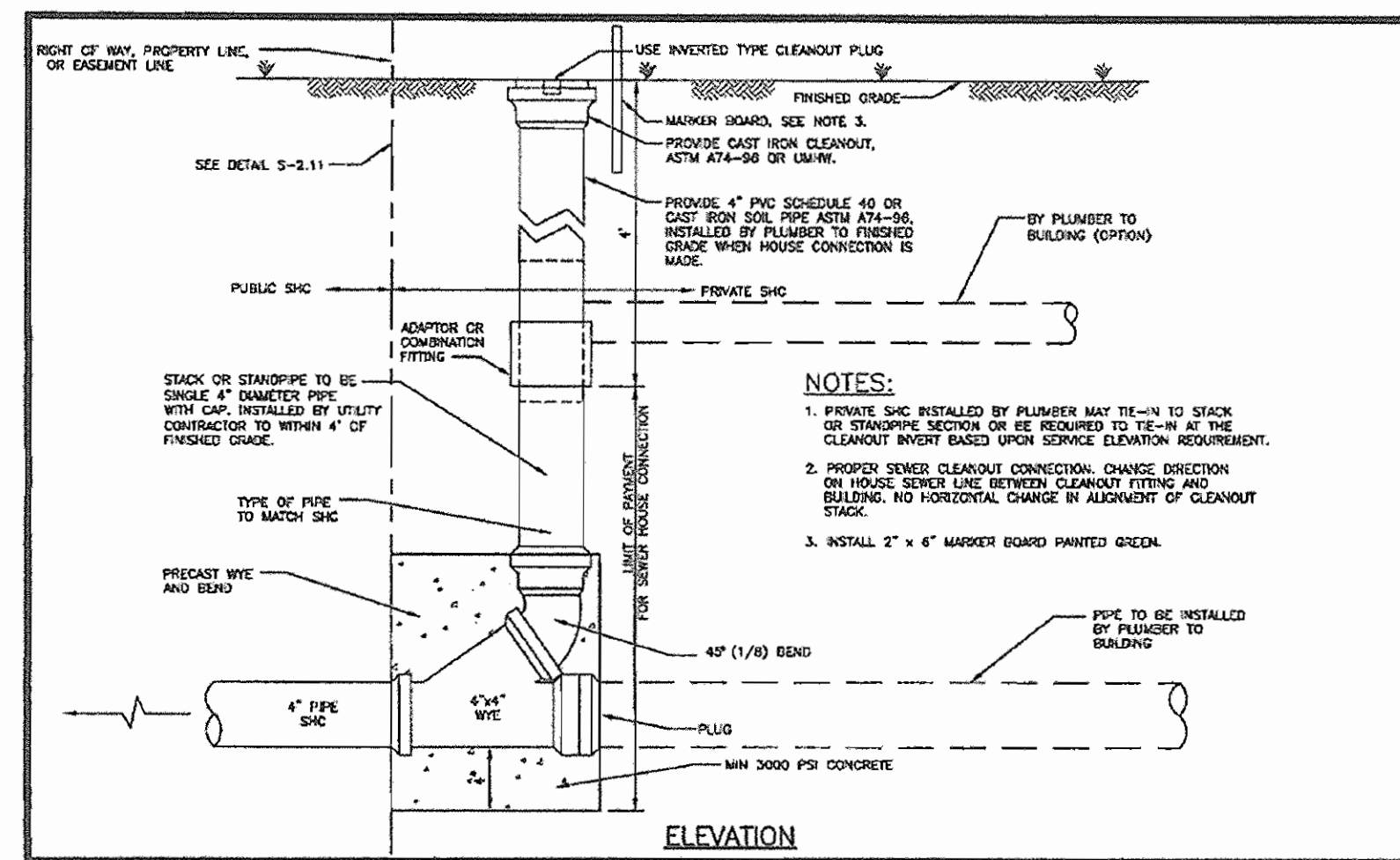
- NOTES:
- FC-3000 P.S.I. @ 28 DAYS
 - CARRY ALL BEARING SURFACES TO UNDISTURBED GROUND OR FIRM SUBGRADE.
 - BUTTRESS SIZED FOR 160 P.S.I. AND SOIL WITH C = 2000 P.S.I.

11 1/4°, 22 1/2°, 45° HORIZONTAL AND LOWER VERTICAL BENDS
NOT TO SCALE



UPPER VERTICAL BENDS
NOT TO SCALE

BEND	SIZE IN INCHES			
	1 1/4", 1 1/2"	2"	2-1/2"	3"
11 1/4°	L	12	15	18
	W	10	12	15
	D	10	15	15
22 1/2°	L	15	20	20
	W	15	20	20
	D	12	12	18
45°	L	20	24	24
	W	20	24	24
	D	12	20	24



CLEAN-OUT CONNECTION DETAIL
NOT TO SCALE

APPROVED FOR PRIVATE WATER AND PUBLIC SHARED SEWERAGE SYSTEM FOR LOTS 3 THRU 9 AND BUILDABLE PRESERVATION PARCEL "A".

HOWARD COUNTY HEALTH OFFICER: *3/12/08* DATE

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

U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE DATE

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

HOWARD SOIL CONSERVATION DISTRICT DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS AND AS PER ROAD CONSTRUCTION PLANS PER F-06-095.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

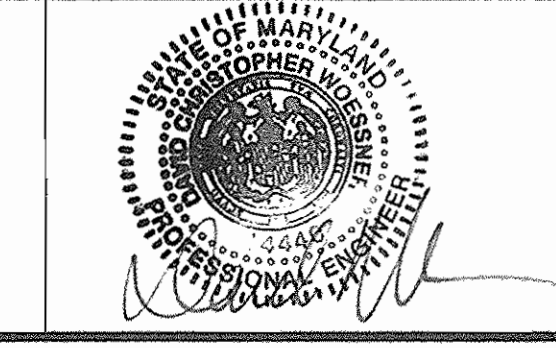
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Chief, Bureau of Utilities DATE: 3/12/08

Chief, Development Engineering Division DATE: 3/12/08

American Land Development and Engineering, Inc.
10749 BIRMINGHAM WAY WOODSTOCK, MD. 21163
TEL. (410) 465-7903 FAX. (410) 465-3845

Professional Engineer Seal: DAVID C. WEDSNER, P.E. DATE: 2/29/08



DES.: AVG
DRN.: AVG
CHK.: DW
DATE: 02-27-08

BY	NO.	REVISIONS	DATE

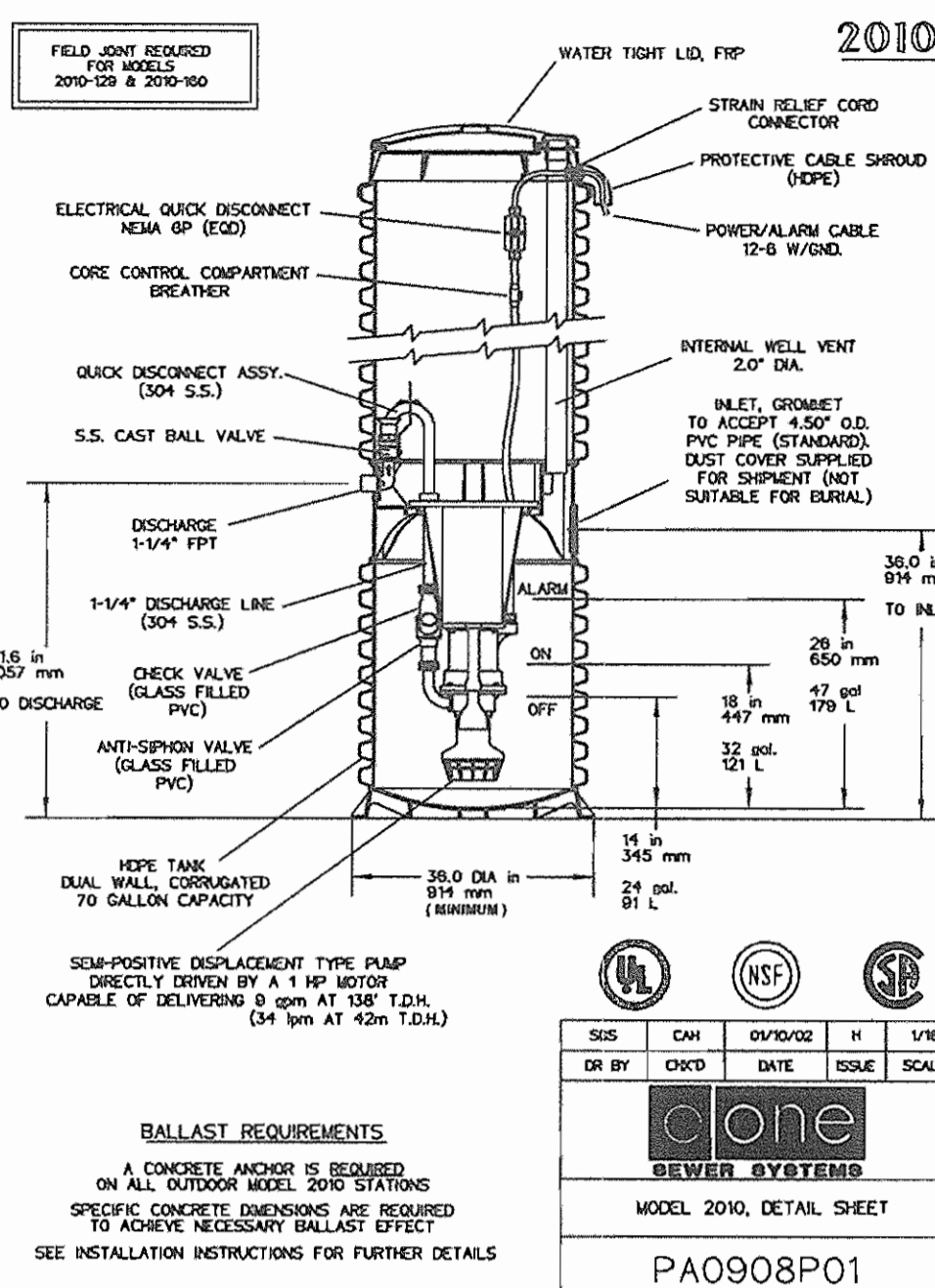
Howards County, Maryland
Department of Public Works
Sewer House Connection
Cleanout
Detail S-2.22

600' SCALE MAP No. 21 BLOCK No. 12

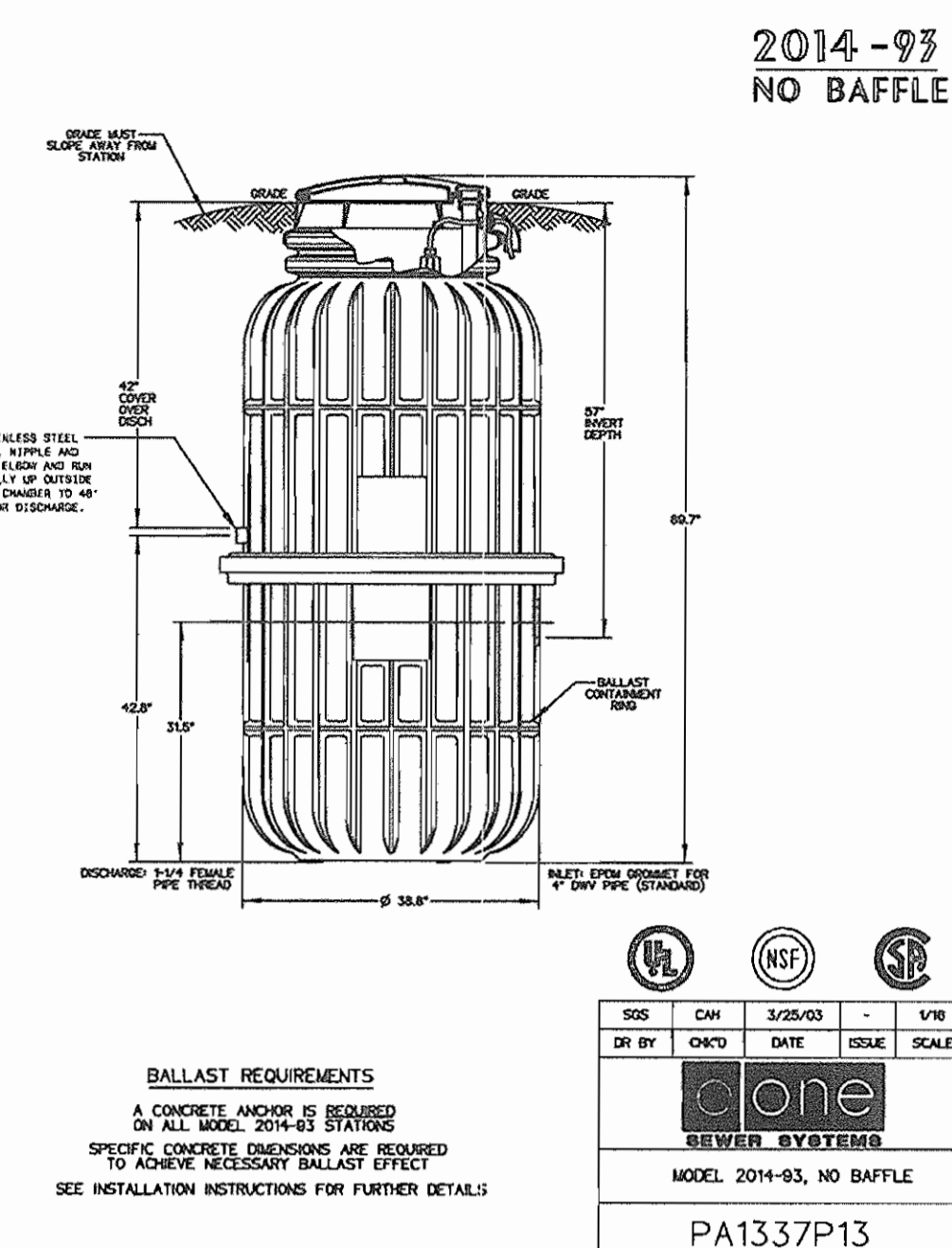
FULTON WOODS
LOTS 3 THRU 9, BUILDABLE PRESERVATION PARCEL "A"
AND NON-BUILDABLE PRESERVATION PARCEL "B"

CONTRACT No. : 50-4361-D
5th ELECTION DISTRICT HOWARD COUNTY, MD.

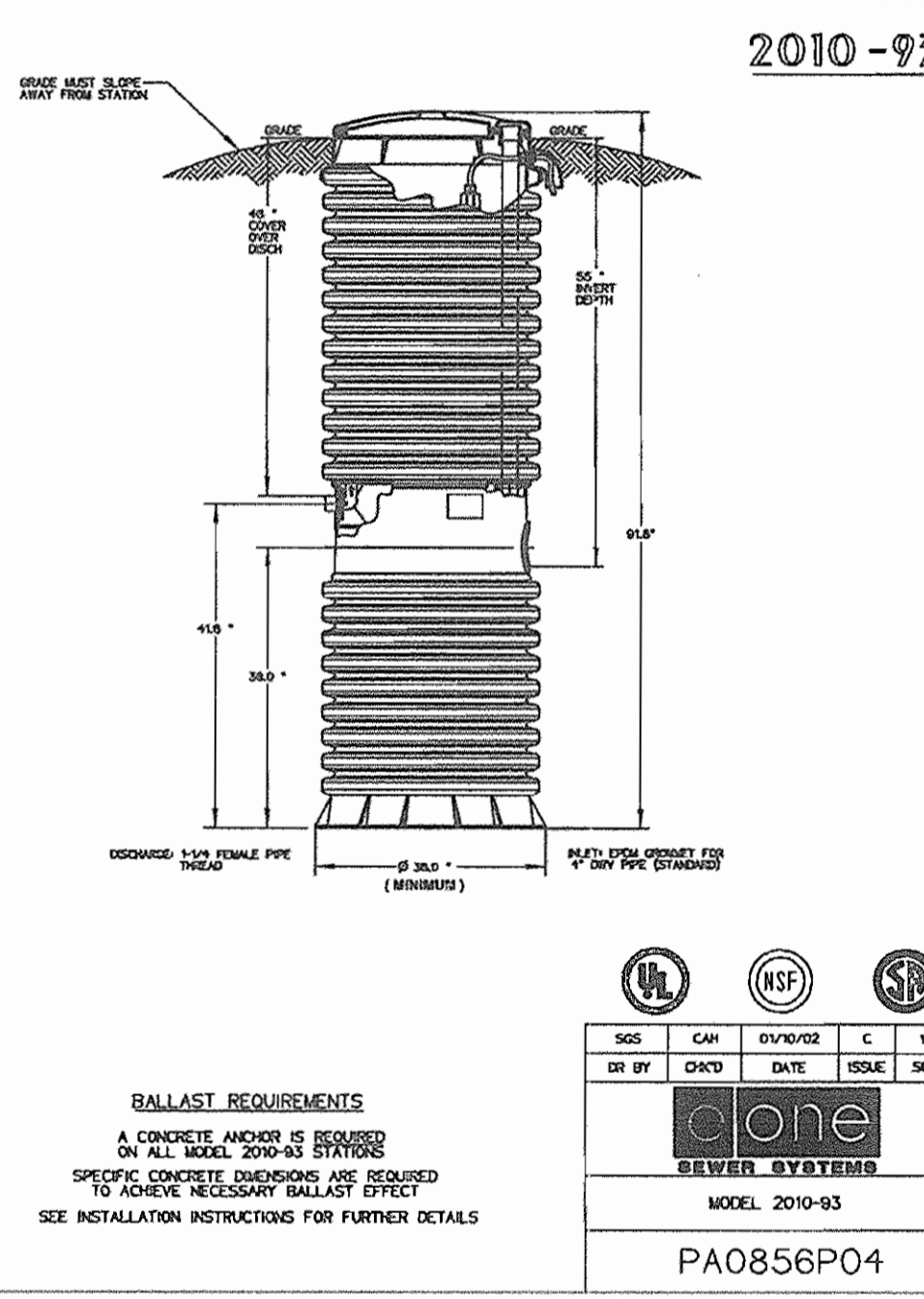
SCALE : AS SHOWN
SHEET No. 4 OF 8



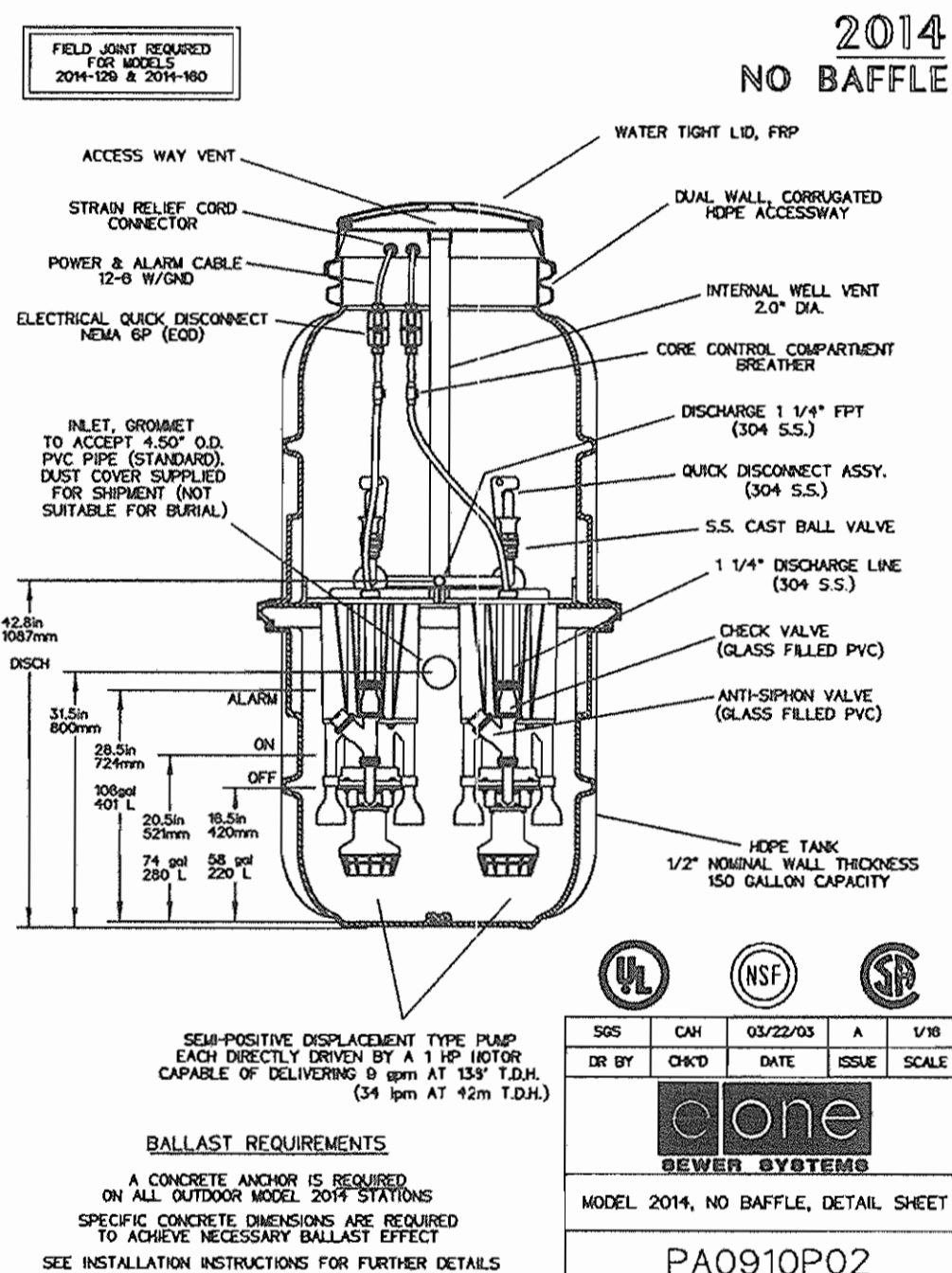
SIMPLEX ENVIRONMENT ONE GRINDER PUMP
NOT TO SCALE



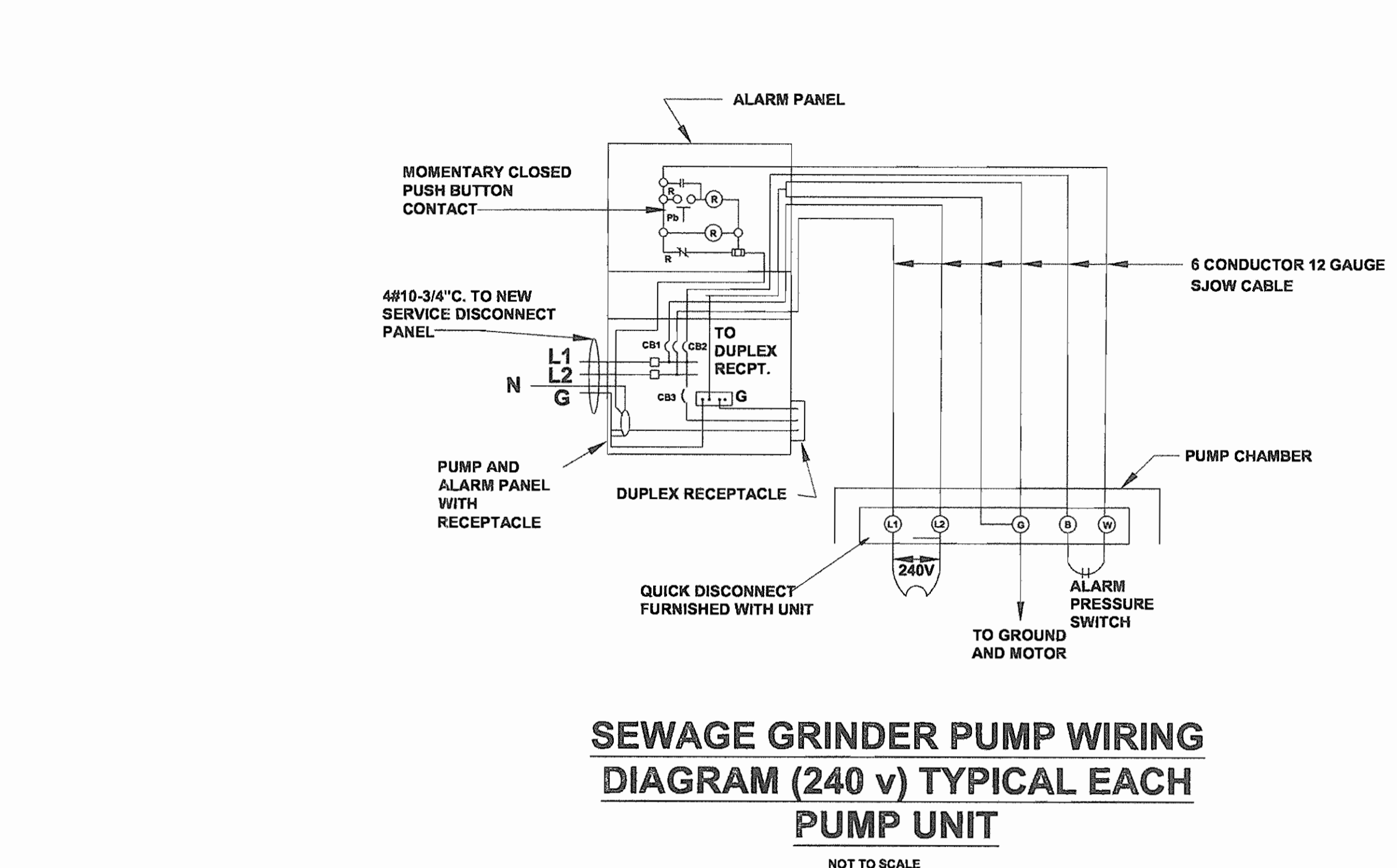
DUPLEX ENVIRONMENT ONE GRINDER PUMP
NOT TO SCALE



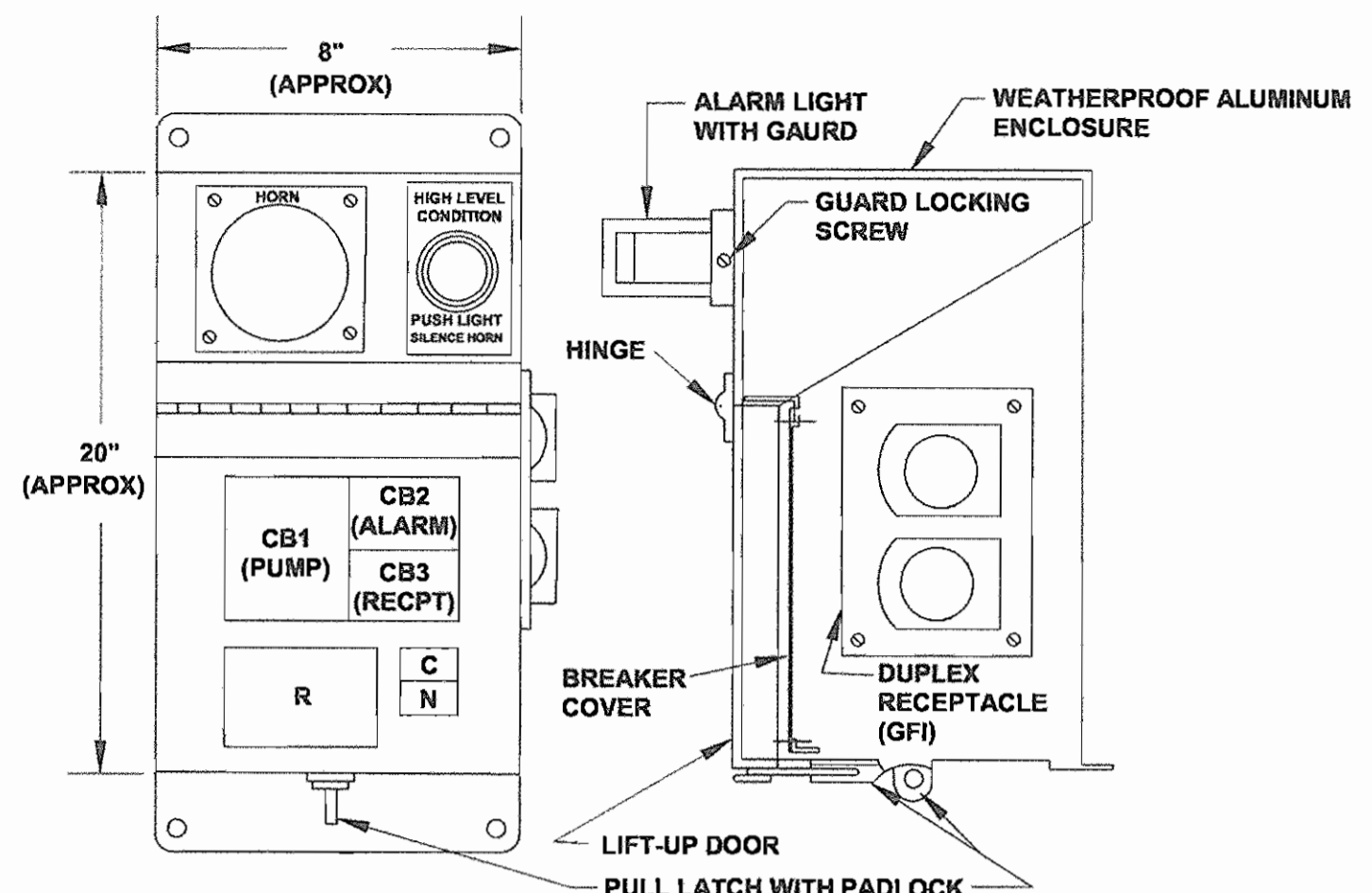
SIMPLEX ENVIRONMENT ONE GRINDER PUMP
NOT TO SCALE



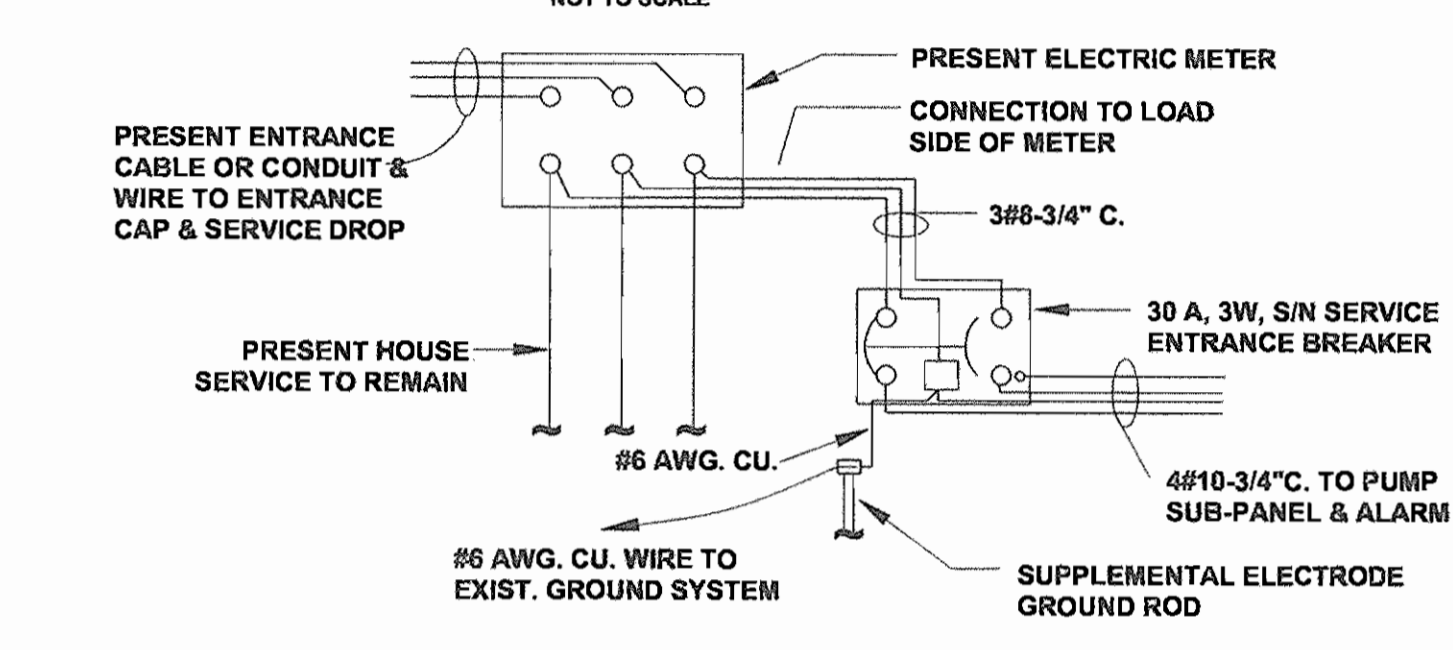
DUPLEX ENVIRONMENT ONE GRINDER PUMP
NOT TO SCALE



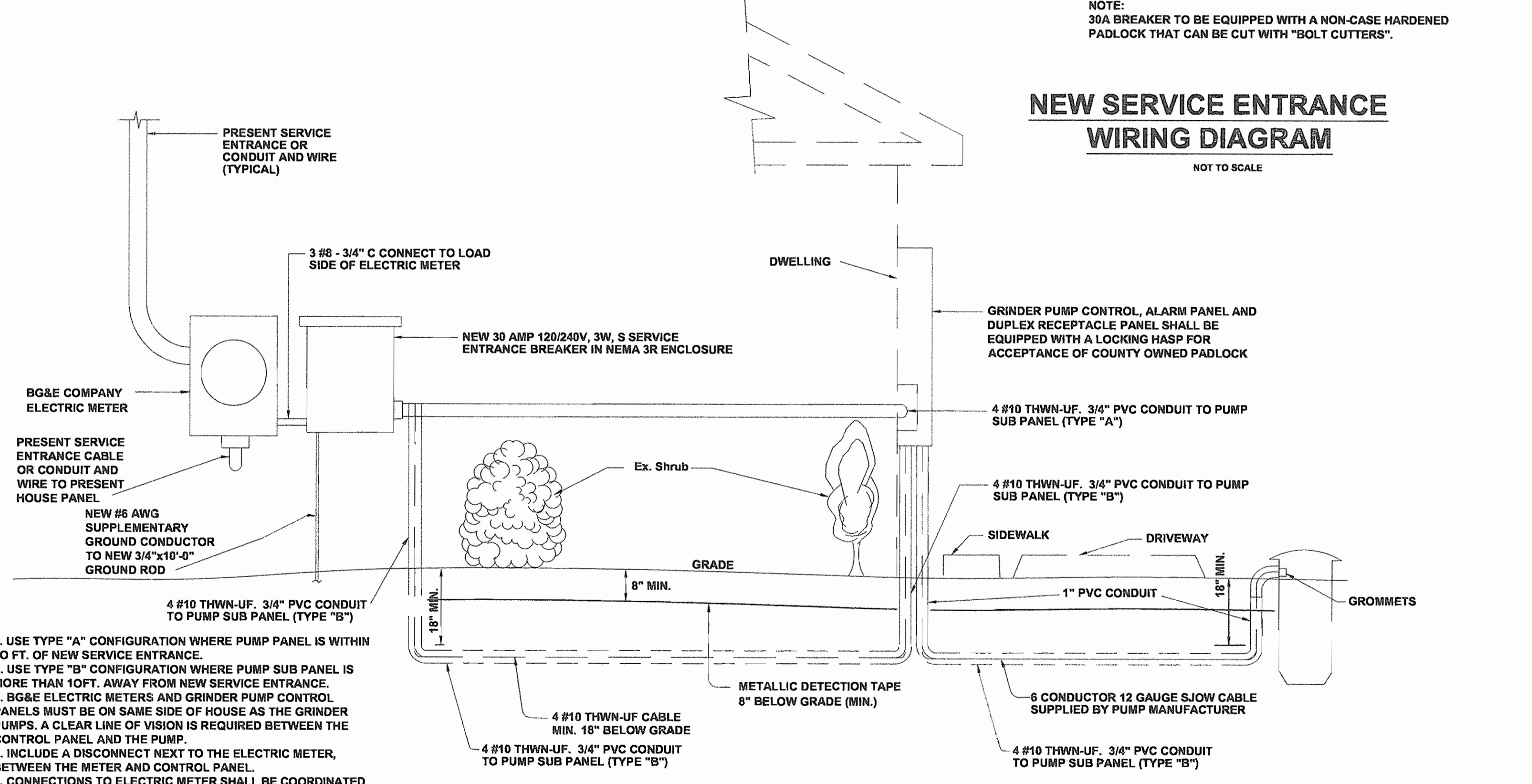
SEWAGE GRINDER PUMP WIRING DIAGRAM (240 v) TYPICAL EACH PUMP UNIT
NOT TO SCALE



GRINDER PUMP CONTROL & ALARM PANEL
NOT TO SCALE



NEW SERVICE ENTRANCE WIRING DIAGRAM
NOT TO SCALE



TYPICAL GRINDER PUMP ELECTRIC POWER
NOT TO SCALE

NOTE:
USE STAINLESS STEEL ADAPTER, NIPPLE AND PIPE TO ELBOW AND RUN VERTICALLY UP OUTSIDE OF PUMP CHAMBER TO 48\"/>

- GRINDER PUMPS NOTES:**
- A. E-ONE DETAILS ARE NOT APPROPRIATE
 - B. USE OPEN PUMP CHAMBER
 - C. NO DECK PLATES
 - D. STAND-MOUNTED PUMPS
 - E. PUMP DISCHARGE AT 42\"/>

1. USE TYPE "A" CONFIGURATION WHERE PUMP PANEL IS WITHIN 10 FT. OF NEW SERVICE ENTRANCE.
2. USE TYPE "B" CONFIGURATION WHERE PUMP SUB PANEL IS MORE THAN 10 FT. AWAY FROM NEW SERVICE ENTRANCE.
3. BG&E ELECTRIC METERS AND GRINDER PUMP CONTROL PANELS MUST BE ON SAME SIDE OF HOUSE AS THE GRINDER PUMPS. A CLEAR LINE OF VISION IS REQUIRED BETWEEN THE CONTROL PANEL AND THE PUMP.
4. INCLUDE A DISCONNECT NEXT TO THE ELECTRIC METER, BETWEEN THE METER AND CONTROL PANEL.
5. CONNECTIONS TO ELECTRIC METER SHALL BE COORDINATED WITH POWER COMPANY.
6. ALL PVC CONDUIT SHALL TERMINATE 18\"/>

APPROVED FOR PRIVATE WATER AND PUBLIC SHARED SEWERAGE SYSTEM FOR LOTS 3 THRU 9 AND BUILDABLE PRESERVATION PARCEL "A".

HOWARD COUNTY HEALTH OFFICER: *[Signature]* DATE: 2/29/02

HOWARD SOIL CONSERVATION DISTRICT: REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS. *[Signature]*

U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE: _____ DATE: _____

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

HOWARD SOIL CONSERVATION DISTRICT: _____ DATE: _____

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS AND AS PER ROAD CONSTRUCTION PLANS PER F-08-096.

OWNER: DEBORAH C. WILSON
12275 ROUTE 216
FULTON, MD. 20759

DEVELOPER: FULTON, L.L.C.
7017 REANDERING STREAM WAY
FULTON, MD. 20759

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 14440. Expiration Date: 10/1/2010. *[Signature]* DATE: 2/29/02 DAVID C. WOESSNER, P.E.

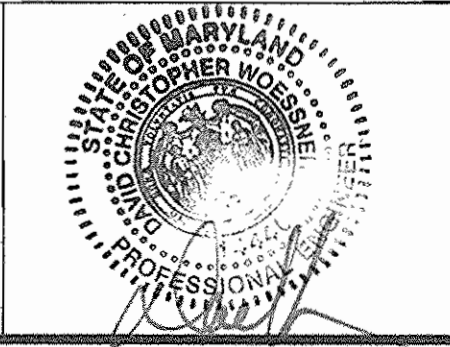
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] DATE: 2/29/02
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

[Signature] DATE: _____
CHIEF, DEVELOPMENT ENGINEERING DIVISION

American Land Development and Engineering, Inc.
10749 BIRMINGHAM WAY
WOODSTOCK, MD. 21163
TEL. (410) 465-7903 FAX. (410) 465-3845

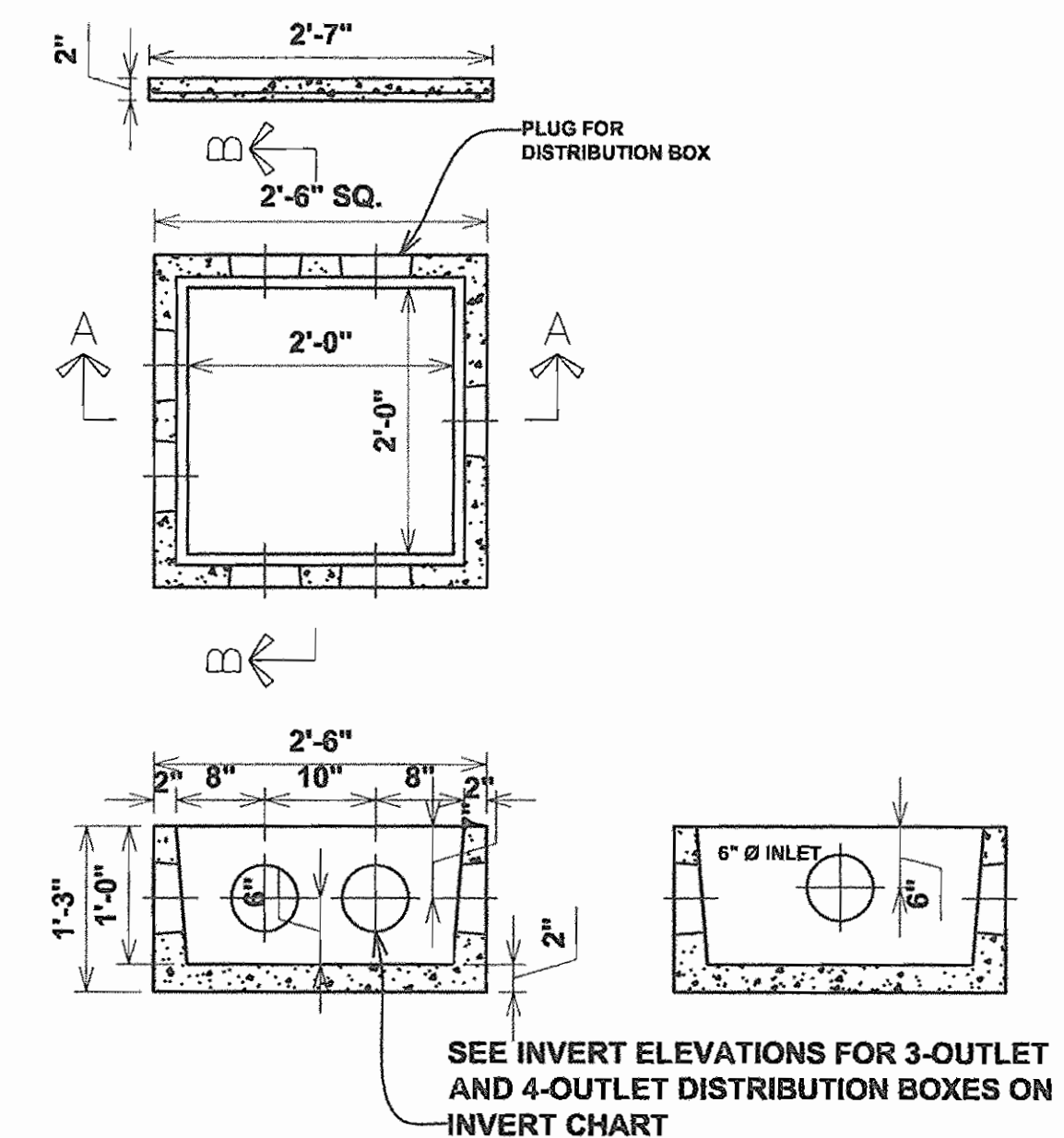
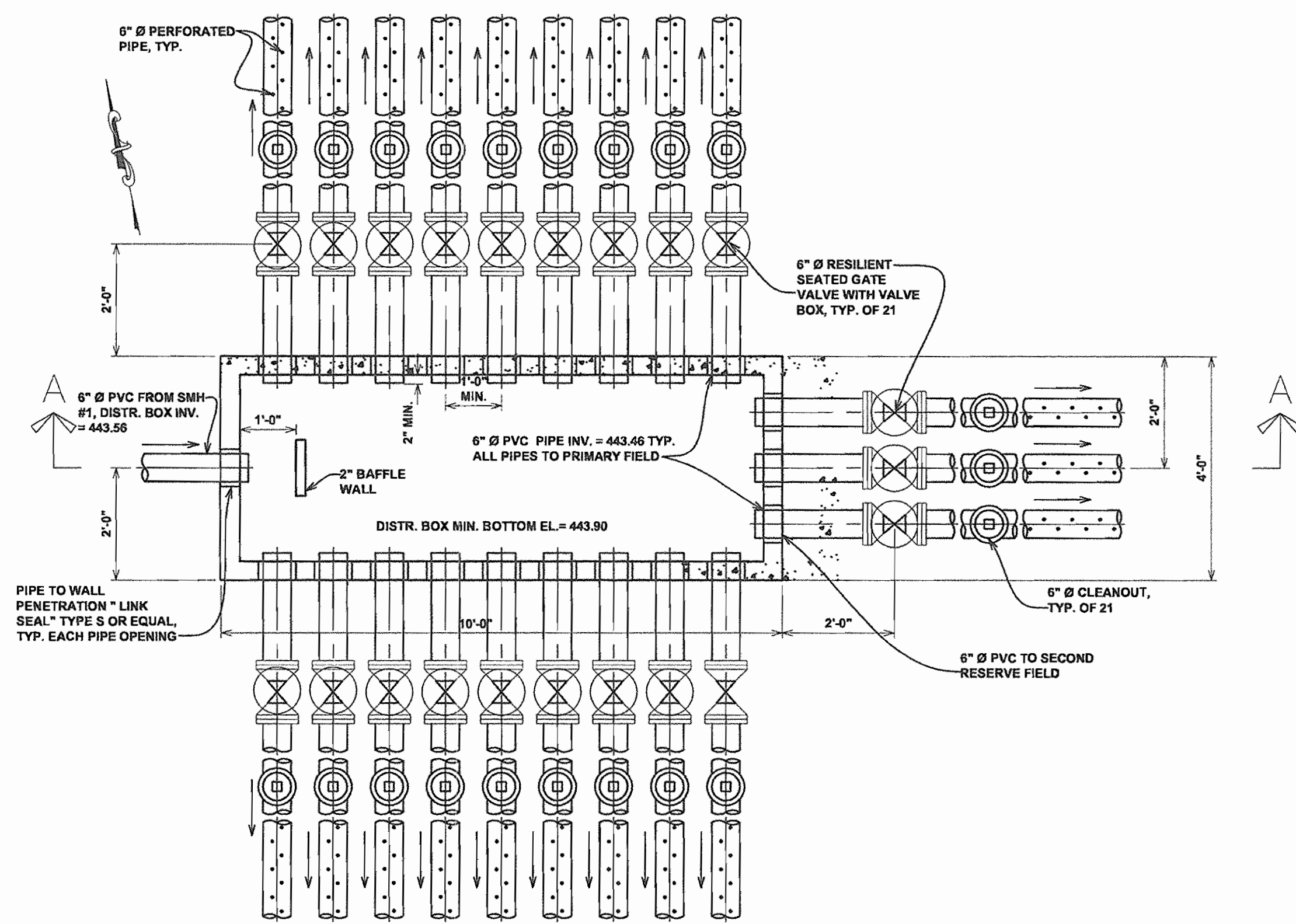
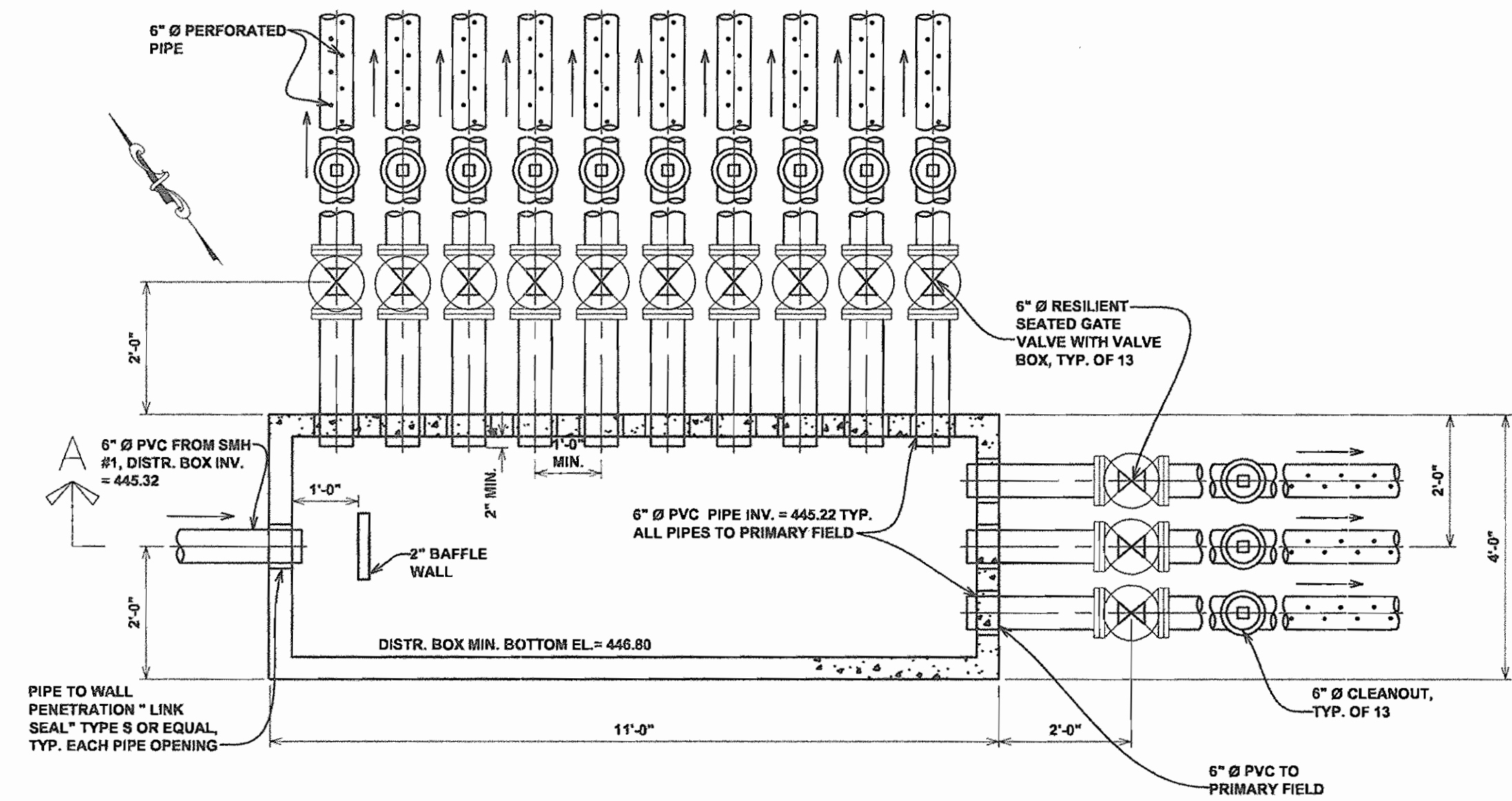
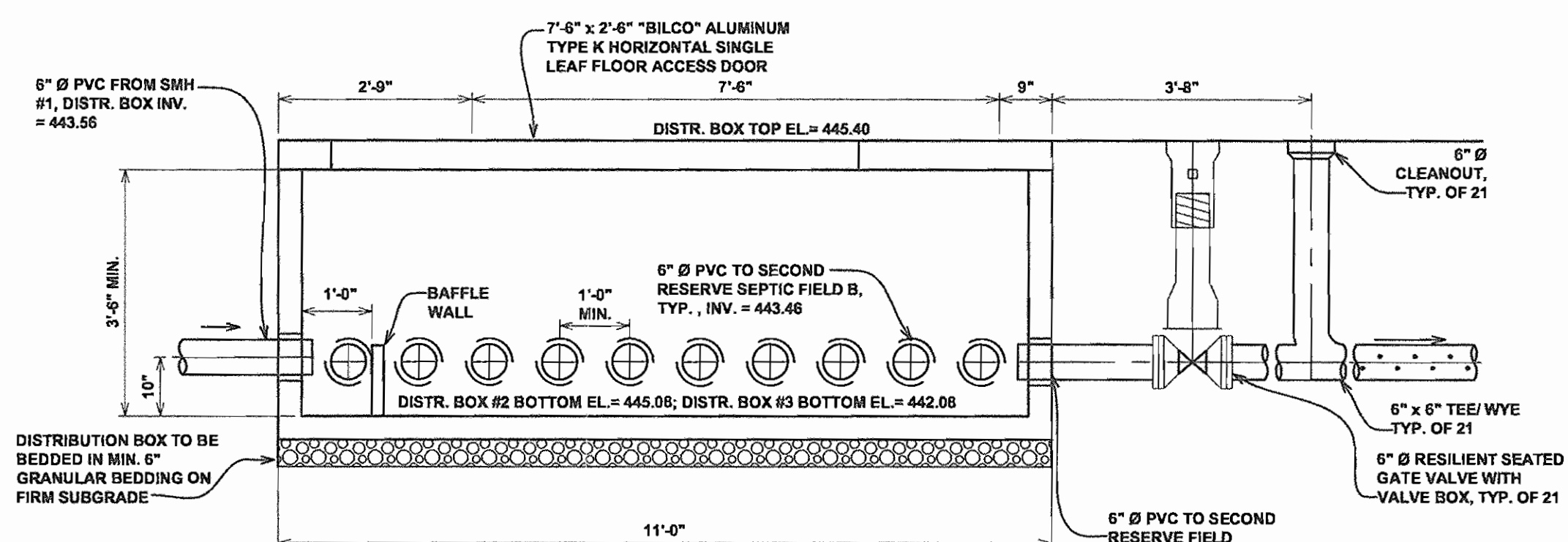
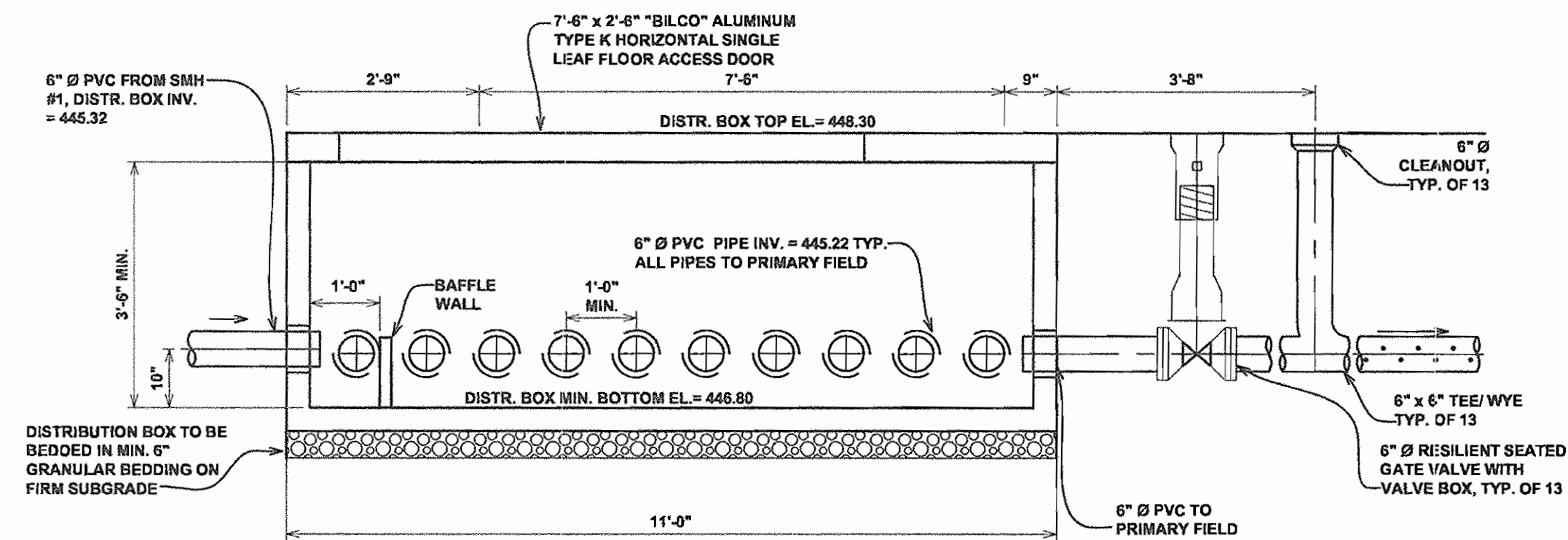


DES.:	AVG				
DRN.:	AVG				
CHK.:	DW				
DATE:	02-27-08	BY	NO.	REVISIONS	DATE

600' SCALE MAP No. 21
BLOCK No. 12

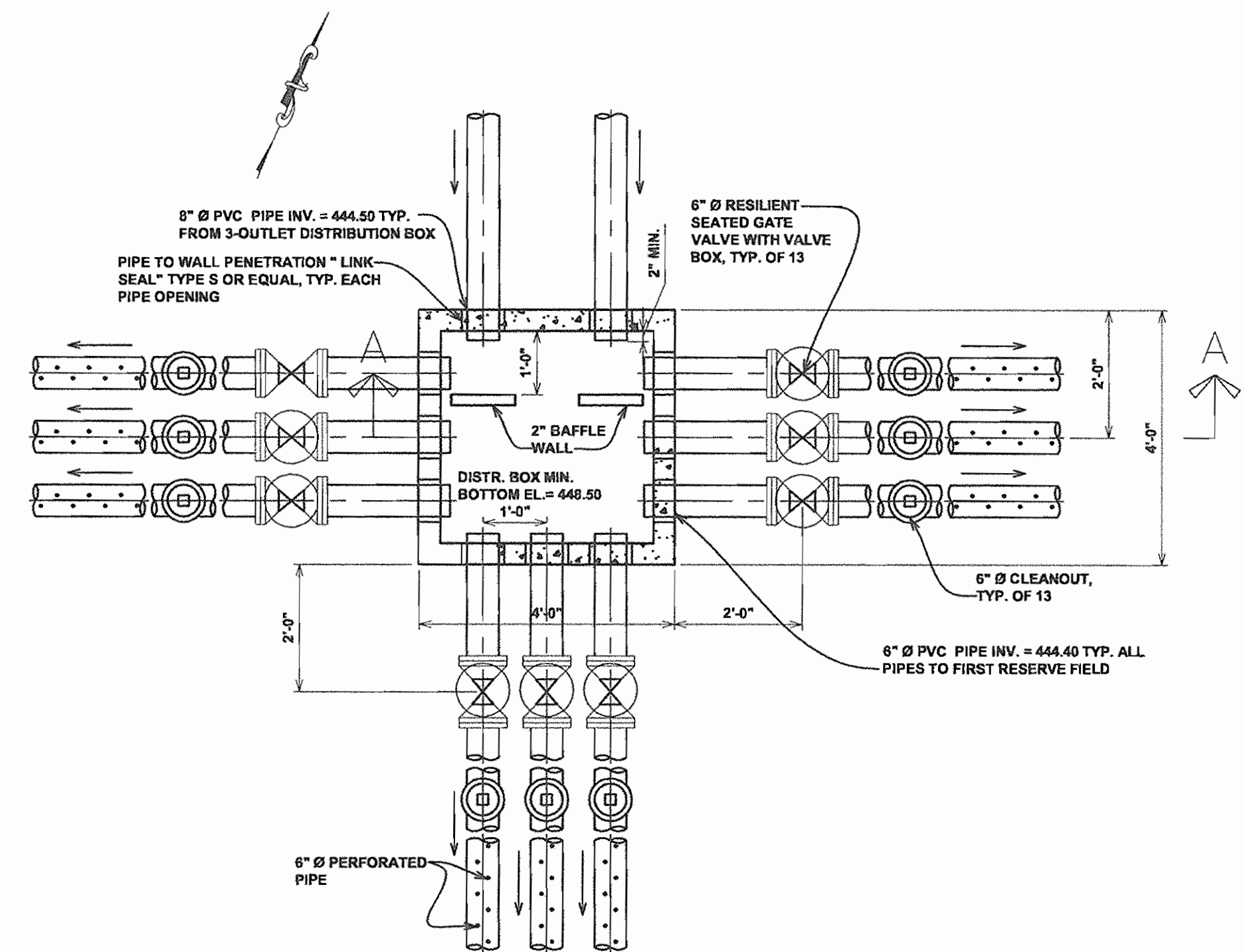
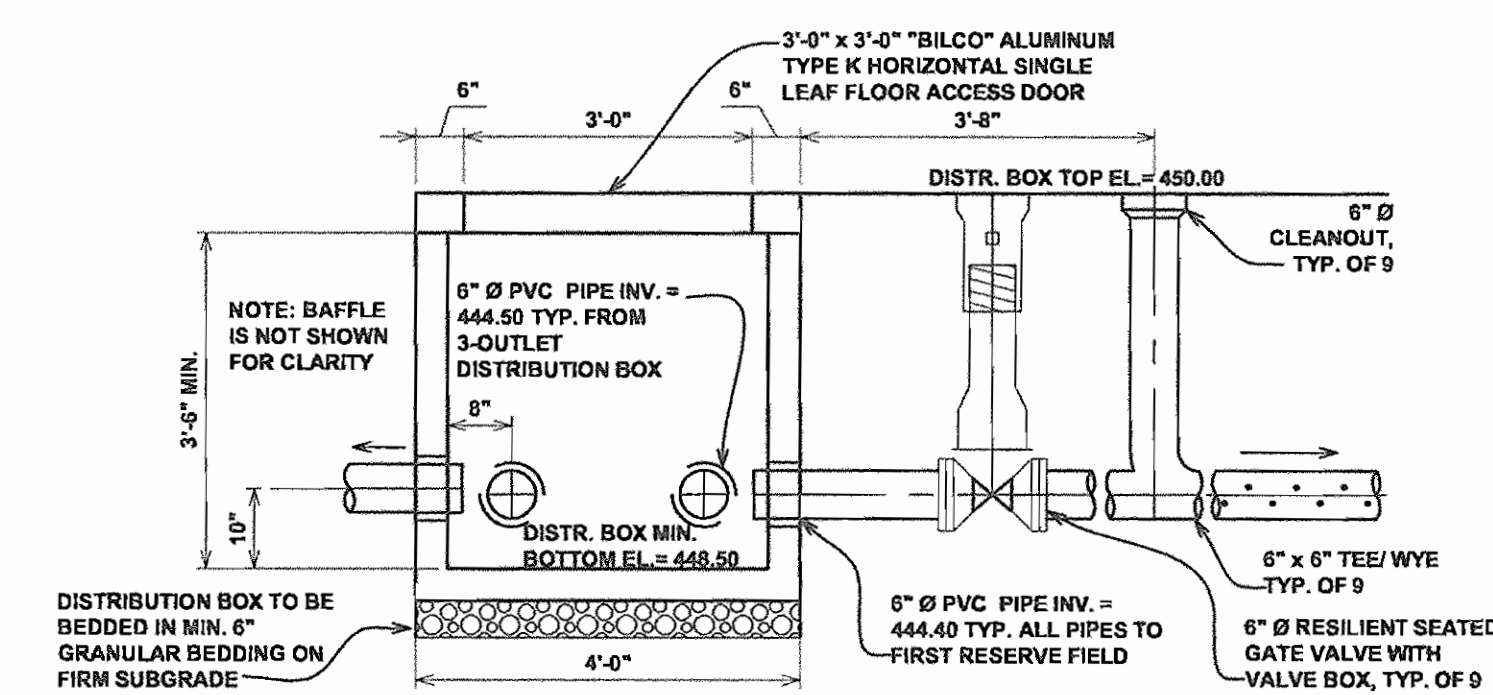
FULTON WOODS
LOTS 3 THRU 9, BUILDABLE PRESERVATION PARCEL "A"
AND NON-BUILDABLE PRESERVATION PARCEL "B"
CONTRACT No. : 50-4361-D
5th ELECTION DISTRICT HOWARD COUNTY, MD.

SCALE : AS SHOWN
SHEET No. 5 OF 8



3- AND 4-OUTLET DISTRIBUTION BOX DETAIL

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



9-OUTLET DISTRIBUTION BOX DETAIL

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

- DISTRIBUTION BOX NOTES:**
- 1) CONTRACTOR TO INSTALL TOPS OF DISTRIBUTION BOX AND VALVE BOX AT GRADE TO MINIMIZE PROTRUSIONS ABOVE GRADE.
 - 2) CONTRACTOR TO FRAME AND GRAVEL THE AREA IMMEDIATELY SURROUNDING THE DISTRIBUTION BOX; ENCOMPASS THE CLEANOUT STANDPIPES TO ASSIST WITH GROUNDS MAINTENANCE.
 - 3) EACH LATERAL SHALL BE EQUIPPED WITH A SPEED LEVELER, INSIDE THE BOX, FOR PROPER LIQUID LEVEL BALANCING.
 - 4) THE DISTRIBUTION BOX SHALL BE EQUIPPED WITH AN AT-GRADE BILCO TYPE HATCH FOR ACCESS.

13-OUTLET DISTRIBUTION BOX DETAIL

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

21-OUTLET DISTRIBUTION BOX DETAIL

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

APPROVED FOR PRIVATE WATER AND PUBLIC SHARED SEWERAGE SYSTEM FOR LOTS 3 THRU 9 AND BUILDABLE PRESERVATION PARCEL "A".

Michael J. Davis 3/17/08
HOWARD COUNTY HEALTH OFFICER DATE

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

U.S.D.A.-NATURAL RESOURCES CONSERVATION SERVICE DATE

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HOWARD SOIL CONSERVATION DISTRICT DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS AND AS PER ROAD CONSTRUCTION PLANS PER F-06-096.

OWNER : DEBORAH C. WILSON
12275 ROUTE 216
FULTON, MD. 20759

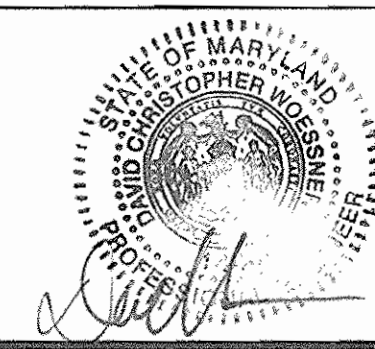
DEVELOPER : FULTON, LLC.
7017 MEANDERING STREAM WAY
FULTON, MD. 20759

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 14440.

Expiration Date: 01/12/12

David C. Woessner 2/29/08
DAVID C. WOESSNER, P.E. DATE

American Land Development and Engineering, Inc.
10749 BIRTHINGHAM WAY WOODSTOCK, MD. 21163
TEL. (410) 465-7903 FAX. (410) 465-3945



DES. : AVG				
DRN. : AVG				
CHK. : DW				
DATE: 02-27-08	BY	NO.	REVISIONS	DATE

DETAILS

600' SCALE MAP No. 21 BLOCK No. 12

FULTON WOODS
LOTS 3 THRU 9, BUILDABLE PRESERVATION PARCEL "A"
AND NON-BUILDABLE PRESERVATION PARCEL "B"
CONTRACT No. : 50-4361-D
5th ELECTION DISTRICT HOWARD COUNTY, MD.

SCALE : 1" = 50'
SHEET No. 6 OF 8

OPERATION AND MAINTENANCE SCHEDULE FOR BIORETENTION AREAS (F6)

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

TEMPORARY SEEDING NOTES

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./1000 sq.ft.)

Seeding: For periods march 1 through April 30 and from august 15 through November 15, seed with 2 1/2 bushel per acre of annual rye (3.2 lbs./1000 sq.ft.) for the period may 1 through august 14, seed with 3 lbs. per acre of weeping lovegrass (.07 lbs./1000 sq.ft.). For the period November 1 through February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs./1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq.ft.) for anchoring. Refer to the 1994 Maryland standards and specifications for soil erosion and sediment control for rate and methods not covered.

SEDIMENT CONTROL NOTES

- A minimum of 48 hours notice must be given to the Howard County Department of Inspection, License and Permits Sediment Control Division prior to the start of any construction (313-1855).
- All vegetation and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. and revisions thereto.
- Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: (a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes, and all slopes greater than 3:1, (b) 14 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 7, HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- 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, sod, temporary seeding, and mulching (Sec. G). Temporary stabilization with mulch alone shall be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- 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.
- Site Analysis :
Area Disturbed
Area to be roofed or paved
Area to be vegetatively stabilized
Offsite waste/borrow area location
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment controls must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
- On all sites with disturbed areas in excess of 2 acres, approval of the inspection

CONSTRUCTION AND MATERIAL SPECIFICATIONS

- Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the soil survey published by USDA in cooperation with Maryland agricultural experimental station.
- Topsoil specifications - soil to be used meet the following:
 - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or a soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 and 1/2" in diameter.
 - Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, johnsongrass, nutsedge, poison ivy, thistle, or others as specified.
 - Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
- For sites having disturbed areas under 5 acres:
 - Place topsoil (if required) and apply soil amendments as specified in 20.0 vegetative stabilization - elapsed (14 days min.) to permit dissipation of Section 1 - vegetative stabilization methods and materials. Phyto-toxic materials.
- For sites having disturbed areas over 5 acres:
 - On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - pH for topsoil shall be between 6.0 and 7.5. if the tested soil demonstrates a pH of less than 3. Place topsoil (if required) and apply soil amendments 6.0, sufficient lime shall be prescribed to raise specified in 20.0 vegetative stabilization-section 1-Vegetative the pH to 6.5 or higher. Stabilization methods and materials.
 - Organic content of topsoil shall be not less than 1.5 percent by weight.
 - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - No sod or seed shall be placed on soil soil which sediment control practices such as diversions, grade has been treated with soil sterilants or chemicals stabilization structures, earth dikes, slope silt fence and used for weed control until sufficient time has sediment traps and basins.

Note: Topsoil substitutes or amendments, as recommended results dictating fertilizer and lime amendments required by a qualified agronomist or soil scientist and approved by to bring the soil into compliance with the following: the appropriate approval authority, may be used in lieu of natural topsoil.

- Topsoil application
 - When topsoiling, maintain needed erosion and
 - Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
 - Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
 - Topsoil shall not be place while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

Definition

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose

To provide a suitable soil medium for vegetable growth. Soils of concern have low moisture content, low nutrient levels, low pH materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

- This practice is limited to areas having 2:1 or flatter slopes where:
 - the texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
 - The original soil to be vegetated contains material toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.
- For the purpose of these standards and specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

UTILITY STORAGE BUILDING SPECIFICATIONS

Contractor to provide 8' x 6' vinyl sided storage building, high wall barn style with 6 foot side walls and no windows, one double door on end of building. Contractor to meet the following specifications:
 1. No windows
 2. 10' ridge vent
 3. 4' x 4' pressure treated skids
 4. 2' x 4' floor joist 16" on center
 5. 5/8" plywood floor sheathing
 6. 2' x 4' studs 16" on center
 7. All walls to be plated at bottom and double plated at the top
 8. 1/2" roof sheathing
 9. 240 pund asphalt 20 years shingles
 10. Doors and frame to be reinforced
 11. Door hinges must be "t" type or strap type, three hinges per door side. Piano hinges are not acceptable
 12. Locks are to be keyed alike with bauer ch 751 lock
 13. Vinyl siding and trim color - almond, shingle color - brown

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

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

Soil amendments: In lieu of soil test recommendations, use one of the following schedules:

- Preferred-apply 2 tons per acre dolomite limestone (92 lbs/ 100 sq.ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs./ 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. at the time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq.ft.)
- Acceptable-apply 2 tons per acre dolomite limestone (92 lbs/ 1000 sq.ft.) and apply 1000 lbs. per acre 10-10-10 fertilizer (23 lbs./1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.

Seeding: for the periods march 1 through April 30, and august 1 through October 15, seed with 60 lbs. per acre (1.4 lbs/1000 sq.ft.) of kentucky 31 tall fescue. For the period may 1 through July 31, seed with 60 lbs. kentucky 31 tall fescue per acre and 2 lbs. per acre (.05 lbs./1000 sq.ft.) of weeping lovegrass. During the period of October 16 through February 28, protect site by: Option (1) 2 tons per acre well anchored straw mulch and seed as soon as possible in the spring. option (2) use sod. option (3) seed with 60 lbs/acre kentucky 31 tall fescue and mulch with 2 tons/acre well anchored

Mulching: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq.ft.) of emulsified asphalt on flat areas. on slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq.ft.) for anchoring.

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

TUBE GATE SPECIFICATIONS

- Contractor to provide one double leaf gate, see detail sheet 4
 - 16 gauge steel construction
 - Painted red by manufacture if option is available
 - Mounting hardware is typically included with gate
- Each tube gate will be 8 foot in length
- Gates are to be mounted to 6" x 6" pressure treated posts
- Posts are to be capped
- Posts are to be buried a minimum of 36 inches below grade
- Gates are to be secured to pressure treated posts with either screw hooks or bolt hooks
- Fastening hardware will not be permitted to extrude beyond the outside of the post
- Screw or bolt hooks are to face each other; this will prevent the gates from being lifted off of the hooks by trespassers
- The bottom tube of the gate shall be mounted to provide a minimum of 4" clearance above the access roadway
- Gates are to be secured by 3/8-inch shackle padlock, which will be supplied by Howard County Bureau of Utilities. The contractor will supply a suitable length of chain (approximately 1 foot) or short choker cable to complete securing the gates in the closed position.
- Contractor to provide reflectors on posts and reflective tape on crossbars

APPROVED: FOR PRIVATE WATER AND PUBLIC SHARED SEWERAGE SYSTEM FOR LOTS 3 THRU 9 AND BUILDABLE PRESERVATION PARCEL "A".
 [Signature] 3/17/02
 HOWARD COUNTY HEALTH OFFICER DATE

HOWARD SOIL CONSERVATION DISTRICT:
 REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
 [Signature] [Signature]
 U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature] 3/26/02
 HOWARD SOIL CONSERVATION DISTRICT DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS AND AS PER ROAD CONSTRUCTION PLANS PER F-06-096.

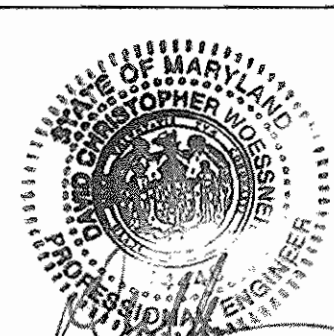
OWNER : DEBORAH C. WILSON
 DEVELOPER : FULTON, LLC.
 12275 ROUTE 216 FULTON, MD. 20759
 7017 MEANDERING STREAM WAY FULTON, MD. 20759

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 14440.
 [Signature] 2/28/02
 DAVID C. WESSNER. P.E. DATE

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 [Signature] [Signature]
 CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND
 [Signature]
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

American Land Development and Engineering, Inc.
 10749 BISHMITHINGHAM WAY WOODSTOCK, MD. 21163
 TEL. (410) 465-7903 FAX. (410) 465-3845



DES. : AVG					
DRN. : AVG					
CHK. : DW					
DATE: 02-27-08	BY	NO.	REVISIONS	DATE	

DETAILS

600' SCALE MAP No. 21 BLOCK No. 12

FULTON WOODS
 LOTS 3 THRU 9, BUILDABLE PRESERVATION PARCEL "A"
 AND NON-BUILDABLE PRESERVATION PARCEL "B"
 CONTRACT No. : 50-4361-D
 5th ELECTION DISTRICT HOWARD COUNTY, MD.

SCALE : 1" = 50'
 SHEET No. 7 OF 8

DESIGN NOTES

DESIGN FLOW
 7 Lots - 4-bedroom homes and 1 Lot - 5-bedroom home
 150 GPD per bedroom
 Design Flow = 600 GPD x 7 Homes (lots 2, 3, 4, 5, 6, 7, 8 and 9) + 750 GPD x 1 Home
 Design Flow = 4,950 GPD

SEPTIC TANK DESIGN
 7 Lots - 4-bedroom homes and 1 Lot - 5-bedroom home
 1,250 GAL per 4-bedroom house, with an additional 250 GAL for each additional bedroom
 Design Volume = 1,250 GAL x 7 + 1,500 GAL x 1 = 10,250 GAL (below inlet pipe invert)

PRECAST CONCRETE SPECIFICATIONS
 Each precast concrete septic tank shall be certified by a Professional Engineer to support earth load as presented on plans and to prevent buoyancy with ground water at finished grade.

TRENCH SPECIFICATIONS
 Perforated pipe within trench shall be 4" PVC (Schedule 26) as shown on the plans.
 Trench filter fabric shall be non-woven polyester fabric, needle pinched, 6 oz. per square yard minimum placed within trench as shown on the details.

Trench gravel shall meet the requirements of SHA #57 stone placed within trench as shown on the details.

PIPING SPECIFICATIONS
 All sanitary piping shall be PVC Schedule 26. All material shall conform to Howard County Design Manual Standard Specifications and Details for Construction.

GATE VALVES
 4" and 6" gate valves shall be Resilient seat "Baltimore Standard, open right" furnished with a non-rising stem and roadway box. One Tee-handled operating wrench shall be provided by the gate valve manufacturer to operate the gate valves from finished grade (with adequate length to operate from finished grade).

MILESTONES OF CONSTRUCTION
 The following Milestones of Construction must be approved by Michael Davis / the Howard County Department of Health (410-313-1771) and Beccy Kugel / the Howard County Department of Public Works (410-313-2723). The Engineer shall be contacted during the following phases of construction for system stakeout by registered surveyor.

- Initial system stakeout by registered surveyor;
- Open trench inspection;
- Septic Tank installation;
- All tanks must be watertight to the satisfaction of Howard County Department of Health. Contractor shall supply test water and provide forty-eight (48) hours notice to Health Department for water tightness testing.

Prior to installation, a preconstruction meeting must be scheduled to review the installation. The on-site sewage disposal system must be professionally staked for the meeting. The meeting shall include:

- Michael Davis, Howard County Department of Health (410) 313-1771
- Barry Giotfely, Maryland Department of the Environment (410) 537-4155
- Beccy Kugel (Public Works Managed System) Department of Public Works Bureau of Utilities (410) 313-2723
- On-site Disposal System Installation Contractor
- General Contractor for the Project
- Engineer that designed the system (McCrone, Inc. (410) 267-6947)

Note: a minimum of five days notice may be required to schedule the meeting. Any changes to the approved plan must be presented to the Department of Health and the Department of Public Works (Public Works Managed System) by the Engineer (McCrone, Inc. (410) 267-6947).

Prior to installation of any component of the system, proper permits must be obtained from:

- Department of Health, Septic System Installation Permit

STRUCTURES AND TRENCH INVERT ELEVATIONS CHART

	Ground Elev., ft	Pipe Length, ft	Slope	Invert In	Invert Out	Inv. Depth, ft	Perc Test No.	Good Soil Top Elev., ft	Good Soil Bot Elev., ft	Buffer Top Elev., ft	Trench Bottom Elev., ft	Trench In Good Soil?	Trench Depth, ft
Septic Tank #1- 3000 gal	450.00	3.00		447.00	446.75		N/A	N/A	N/A	N/A	N/A	N/A	N/A
Septic Tank #2- 5000 gal	450.00	3.00		446.75	446.50		N/A	N/A	N/A	N/A	N/A	N/A	N/A
Septic Tank #3- 5000 gal	450.00	3.00		446.50	446.25		N/A	N/A	N/A	N/A	N/A	N/A	N/A
DISTRIBUTION BOX "B"	449.50	83.07	0.01	445.85	445.75		N/A	N/A	N/A	N/A	N/A	N/A	N/A
Distr. Box #1	448.30	44.20	0.01	445.32	445.22		N/A	N/A	N/A	N/A	N/A	N/A	N/A
Primary Field Trench #1	449.50	36.16	0.01	444.78	444.78	4.72	10	444.25	437.50	441.50	442.25	YES	7.25
Primary Field Trench #2	449.20	28.11	0.01	444.88	444.86	4.34	10	443.95	437.20	441.20	441.95	YES	7.25
Primary Field Trench #3	448.70	20.07	0.01	444.94	444.94	3.76	10	443.45	436.70	440.70	441.45	YES	7.25
Primary Field Trench #4	448.20	12.03	0.01	445.02	445.02	3.18	10	442.85	436.20	440.20	440.95	YES	7.25
Primary Field Trench #5	448.40	12.02	0.01	445.10	445.10	3.30	10	443.15	436.40	440.40	441.15	YES	7.25
Primary Field Trench #6	448.30	20.06	0.01	445.10	445.10	3.20	10	443.05	436.30	440.30	441.05	YES	7.25
Primary Field Trench #7	448.20	28.10	0.01	445.02	445.02	3.18	10	442.95	436.20	440.20	440.95	YES	7.25
Primary Field Trench #8	447.50	38.14	0.01	444.94	444.94	2.56	10	442.25	435.50	439.50	440.25	YES	7.25
Primary Field Trench #9	447.20	44.20	0.01	444.86	444.86	2.34	10	441.95	435.20	439.20	439.95	YES	7.25
Primary Field Trench #10	447.00	22.06	0.01	444.78	444.78	2.22	10	441.75	435.00	439.00	439.75	YES	7.25
Primary Field Trench #11	447.30	29.18	0.01	445.00	445.00	2.30	18	441.63	434.30	438.30	439.63	YES	7.67
Primary Field Trench #12	447.00	36.30	0.01	444.93	444.93	2.07	18	441.33	434.00	438.00	439.33	YES	7.67
Primary Field Trench #13	446.60	39.57	0.01	444.88	444.88	1.74	18	440.93	433.60	437.60	438.93	YES	7.67
3-OUTLET DISTRIBUTION BOX "A"	448.60	105.61	0.01	445.75	445.65	3.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-Outlet Distribution Box	445.60	115.77	0.01	444.60	444.50	1.20	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9-Outlet Distribution Box	450.00	19.18	0.08	444.50	444.40	5.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Reserve Field A Trench #1	444.00	9.28	0.08	442.95	442.96	1.04	23	437.50	430.00	434.00	435.50	YES	8.50
Reserve Field A Trench #2	445.00	9.69	0.08	443.75	443.75	1.25	23	438.50	431.00	435.00	436.50	YES	8.50
Reserve Field A Trench #3	446.20	19.52	0.08	443.72	443.72	2.48	23	439.70	432.20	436.20	437.70	YES	8.50
Reserve Field A Trench #4	447.50	22.08	0.01	442.93	442.93	4.57	23	441.00	433.50	437.50	439.00	YES	8.50
Reserve Field A Trench #5	447.50	12.29	0.01	444.18	444.18	3.32	17	443.00	435.50	439.50	441.00	YES	6.50
Reserve Field A Trench #6	448.00	11.38	0.01	444.27	444.27	3.73	17	443.50	436.00	440.00	441.50	YES	6.50
Reserve Field A Trench #7	448.00	21.16	0.01	444.28	444.28	3.72	17	443.50	436.00	440.00	441.50	YES	6.50
Reserve Field A Trench #8	448.00	24.18	0.01	444.19	444.19	3.82	17	443.50	436.00	440.00	441.50	YES	6.50
Reserve Field A Trench #9	447.30	14.51	0.01	444.15	444.15	3.15	23	440.80	433.30	437.30	438.80	YES	8.50
Reserve Field A Trench #10	447.50	6.22	0.01	444.25	444.25	3.25	23	441.00	433.50	437.50	439.00	YES	8.50
Reserve Field A Trench #11	447.50	13.59	0.01	444.33	444.33	3.17	23	441.00	433.50	437.50	439.00	YES	8.50
Reserve Field A Trench #12	447.50	23.26	0.01	444.26	444.26	3.24	23	441.00	433.50	437.50	439.00	YES	8.50
Reserve Field A Trench #13	447.50	20.07	0.01	444.16	444.16	3.34	23	441.00	433.50	437.50	439.00	YES	8.50
Distr. Box #3	445.40	39.50	0.02	443.95	443.48	1.84		N/A	N/A	N/A	N/A	N/A	N/A
Reserve Field B Trench #1	446.40	31.50	0.02	442.67	442.67	3.73	18	440.73	433.40	437.40	438.73	YES	7.67
Reserve Field B Trench #2	446.20	23.50	0.02	442.83	442.83	3.37	18	440.53	433.20	437.20	438.53	YES	7.67
Reserve Field B Trench #3	446.00	15.48	0.02	442.99	442.99	3.01	18	440.33	433.00	437.00	438.33	YES	7.67
Reserve Field B Trench #4	445.50	8.00	0.02	443.15	443.15	2.35	18	439.83	432.50	436.50	437.83	YES	7.67
Reserve Field B Trench #5	445.20	15.48	0.02	443.30	443.30	1.90	18	439.53	432.20	436.20	437.53	YES	7.67
Reserve Field B Trench #6	444.80	23.50	0.02	443.15	443.15	1.65	18	439.13	431.80	435.80	437.13	YES	7.67
Reserve Field B Trench #7	444.50	31.50	0.02	442.99	442.99	1.51	19A	439.17	435.00	439.00	439.17	YES	5.33
Reserve Field B Trench #8	444.20	39.50	0.02	442.83	442.83	1.37	19A	438.87	434.70	438.70	438.87	YES	5.33
Reserve Field B Trench #9	444.00	39.50	0.02	442.67	442.67	1.33	19A	438.67	434.50	438.50	438.67	YES	5.33
Reserve Field B Trench #10	444.50	31.50	0.02	442.67	442.67	1.83	21A	439.00	435.00	439.00	439.00	YES	5.50
Reserve Field B Trench #11	444.60	23.50	0.02	442.83	442.83	1.77	21A	439.10	435.10	439.10	439.10	YES	5.50
Reserve Field B Trench #12	444.70	15.48	0.02	442.99	442.99	1.71	21A	439.20	435.20	439.20	439.20	YES	5.50
Reserve Field B Trench #13	444.60	8.00	0.02	443.15	443.15	1.45	21A	439.10	435.10	439.10	439.10	YES	5.50
Reserve Field B Trench #14	444.50	15.48	0.02	443.30	443.30	1.20	21A	439.00	435.00	439.00	439.00	YES	5.50
Reserve Field B Trench #15	444.30	23.50	0.02	443.15	443.15	1.15	21A	438.80	434.80	438.80	438.80	YES	5.50
Reserve Field B Trench #16	444.20	31.50	0.02	442.83	442.83	1.37	21A	438.70	434.70	438.70	438.70	YES	5.50
Reserve Field B Trench #17	444.00	39.50	0.02	442.67	442.67	1.33	21A	438.50	434.50	438.50	438.50	YES	5.50
Reserve Field B Trench #18	443.50	48.50	0.02	442.51	442.51	0.99	21A	438.00	434.00	438.00	438.00	YES	5.50
Reserve Field B Trench #19	443.20	58.50	0.02	442.33	442.33	0.87	21A	437.70	433.70	437.70	437.70	YES	5.50
Reserve Field B Trench #20	443.00	68.50	0.03	442.13	442.13	0.87	21A	437.50	433.50	437.50	437.50	YES	5.50
Reserve Field B Trench #21	442.20			441.24	441.24	0.96	21A	436.70	432.70	436.70	436.70	YES	5.50

PERC. TEST	PASS/FAIL	PERCOLATION		GOOD SOIL		GOOD SOIL	
		TIME, MIN	H ₂ O LEVEL, ft	TOP, ft	BOTTOM, ft		
6	PASS	13	12	5.5	12.00		
7A	PASS	6	12	6	12.00		
8	PASS	2	12	5.58	12.00		
9	PASS	13	12	5.17	12.00		
10	PASS	7	12	5.25	12.00		
15	PASS	20	12	4.5	12.00		
17	PASS	9	12	4.83	12.00		
19	PASS	5	13	5.25	13.00		
19A	PASS	29	12	5.33	9.50		
20A	PASS	15	13	4.5	13.00		
21A	PASS	10	12	5.5	9.50		
23	PASS	6	14	6.5	14.00		

FULTON WOODS SHARED SEPTIC SYSTEM DESIGN CALCULATIONS FOR PRIMARY AND FIRST RESERVE SEPTIC FIELD/SEPTIC SYSTEM

Maximum Daily Flow = 4,950 GPD
 Standard Application Rate = 0.80 gpd/SF
 Standard Trench Area = 6187.5 SF
 Trench Width = 3.00 feet
 Standard Trench Length = 2062.50 feet
 Deep Trench Length w = 3.00 feet
 d = 2.00 feet
 (w+2)(w+1+2d) = 0.625
 Design Length = 1289 feet
 Number of Trenches (100 ft) = 13
 Separation between deep trenches = 9 feet

FULTON WOODS SHARED SEPTIC SYSTEM DESIGN CALCULATIONS FOR FIRST RESERVE SEPTIC FIELD

Maximum Daily Flow = 2,400 GPD Note: 4 houses (4-bedroom) * 600 GPD
 Standard Application Rate = 0.80 gpd/SF
 Standard Trench Area = 3000 SF
 Trench Width = 3.00 feet
 Standard Trench Length = 1000.00 feet
 Deep Trench Length w = 3.00 feet
 d = 2.00 feet
 (w+2)(w+1+2d) = 0.625
 Design Length = 625 feet
 Number of Trenches (100 ft) = 7
 Separation between deep trenches = 9 feet

FULTON WOODS SHARED SEPTIC SYSTEM DESIGN CALCULATIONS FOR SECOND RESERVE SEPTIC FIELD

Maximum Daily Flow = 4,950 GPD
 Standard Application Rate = 0.80 gpd/SF
 Standard Trench Area = 6187.5 SF
 Trench Width = 3.00 feet
 Standard Trench Length = 2062.50 feet
 Deep Trench Length w = 3.00 feet
 d = 0.00 feet
 Number of Trenches (100 ft) = 21
 Separation between deep trenches = 9 feet

