

RIGGS MEADOW

4th ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

PUBLIC PRESSURE SEWER SYSTEM CONTRACT NO. 50-3606-D

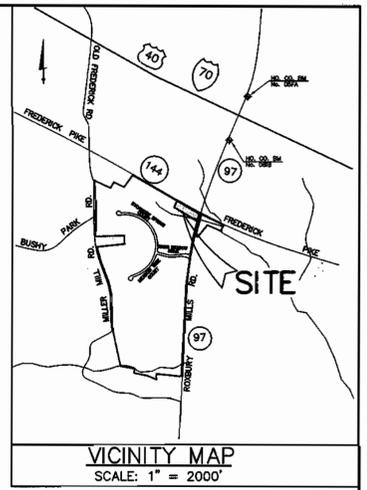
GENERAL NOTES

PART 1 - GENERAL

- 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 (NAD' 83).
- ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATA.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2'-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 THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONEY 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. 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  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 WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - STATE HIGHWAY ADMINISTRATION..... (410) 531-5533
 - BALTIMORE GAS & ELECTRIC CO..... (410) 850-4620
 - BALTIMORE GAS & ELECTRIC CO..... (410) 850-4620
 - UNDERGROUND DAMAGE CONTROL..... (410) 787-9068
 - MISS UTILITY..... 1-800-257-7777
 - COLONIAL PIPELINE CO..... (410) 795-1390
 - BUREAU OF UTILITIES.
 - HOWARD CO. DEPT. OF PUBLIC WORKS..... (410) 313-4900
 - HOWARD COUNTY
 - BUREAU OF ENVIRONMENTAL HEALTH..... (410) 313-2640
- 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.
- PLACE REGULATION "MEN WORKING" AND WARNING SIGNS AS REQUIRED TO COMPLY WITH MARYLAND STATE HIGHWAY ADMINISTRATION MANUAL OF TRAFFIC CONTROL FOR HIGHWAY MAINTENANCE OPERATIONS.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (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. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(a) OF THE HOWARD COUNTY CODE.
- THE BUILDER SHALL BE RESPONSIBLE FOR THE REQUIREMENTS AND METHOD OF INSTALLATION OF THE GRINDER PUMP AND ITS APPURTENANCES.
- THE MAINTENANCE AND OWNERSHIP OF GRINDER PUMP WILL BE PUBLIC.
- "PS" DENOTES PRESSURE SEWER.
- SEPTIC TANKS MUST BE VACUUM OR WATER TESTED ON SITE BY THE MANUFACTURER. SEPTIC TANK SHOP DRAWINGS FROM THE MANUFACTURER SHOULD BE SUBMITTED TO THE COUNTY FOR APPROVAL PRIOR TO ANY INSTALLION OF THE SEPTIC TANKS.
- THE CONTRACTOR SHALL NOTIFY THE HOWARD CO. HEALTH DEPARTMENT AT (410) 313-2640 AT LEAST FIVE WORKING DAYS BEFORE ANY SEPTIC TANKS VACUUM OR WATER TESTING IS PERFORMED.

PART 2 - PRESSURE SEWER

- ALL PRESSURE SEWERS TO BE SDR 21 PVC PIPE, SOLVENT WELDED. UNLESS OTHERWISE NOTED.
- TOP OF PRESSURE SEWERS TO HAVE A MINIMUM OF 3'-6" COVER UNLESS OTHERWISE NOTED.
- ALL PRESSURE SEWER SHALL HAVE 6 GAUGE TRACER WIRE WRAPPED OR ATTACHED TO THE PIPE.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.
- ALL PRESSURE SEWERS TO BE PRESSURE TESTED ACCORDING TO HOWARD COUNTY PUBLIC WORKS STANDARDS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL NOTIFY THE HOWARD CO. HEALTH DEPARTMENT AT (410) 313-2640 AT LEAST FIVE WORKING DAYS BEFORE ANY PRESSURE TEST OF PRESSURE SEWER.

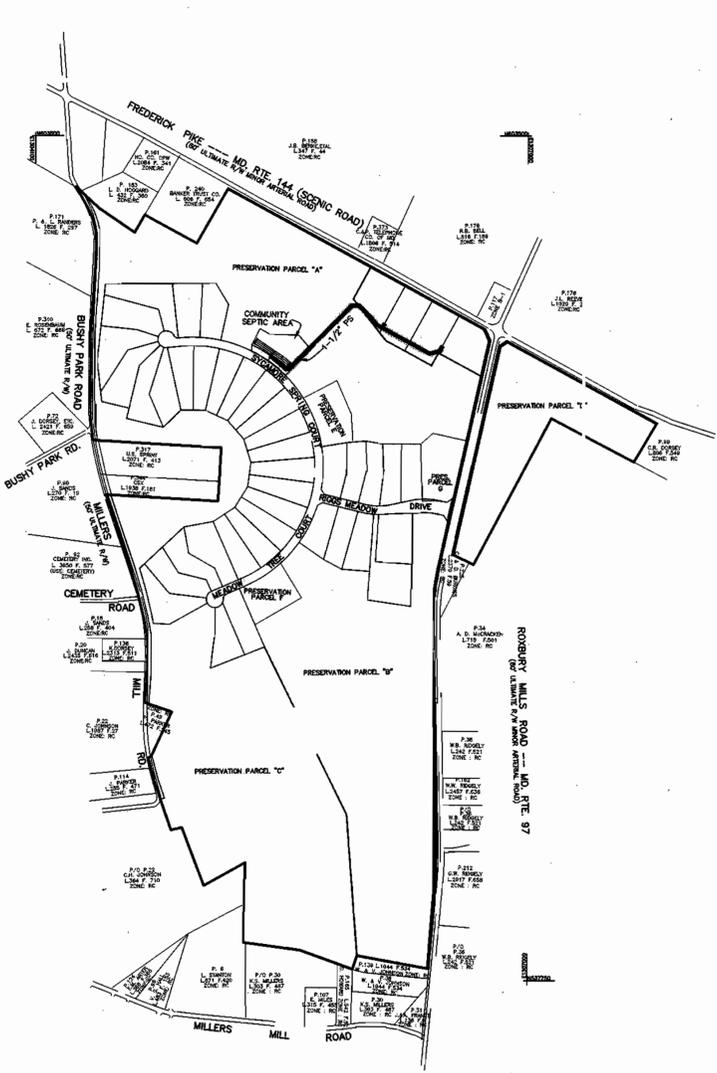


BENCH MARKS (NAD83) HORIZONTAL
 HO. CO. BM No. 08FA
 N 607,113.688 E 1,311,061.325
 STAMPED BRASS DISC SET ON
 TOP OF CONCRETE BASE

HO. CO. BM No. 081B
 N 604,721.750 E 1,310,194.124
 STAMPED BRASS DISC SET ON
 TOP OF CONCRETE BASE

BENCH MARKS (NAD29) VERTICAL
 HO. CO. BM No. 3633003 ELEV. = 617.44'
 N 541,955.702 E 793,731.821
 CONCRETE MONUMENT 0.9' BELOW SURFACE

SHEET INDEX	
NO.	DESCRIPTION
1	TITLE SHEET
2	PRESSURE SEWER SYSTEM PLAN
3	PROFILE
4-6	DETAILS
7	SEDIMENT & EROSION CONTROL NOTES AND DETAILS



ITEM	QUANTITIES ESTIMATED	AS-BUILT	
		QUANTITIES	TYPE MANUFACTURER/SUPPLIER
1-1/2" PVC	1,222 LF	1222	CRESLINE TUFF EQUIPMENT AND SUPPLY CO.
1-1/2" WYE	1 EA.	1	" " " "
1-1/2" x 1-1/2" TEE	1 EA.	1	" " " "
1-1/2" x 1-1/4" REDUCER	2 EA.	2	" " " "
1-1/2" UNION BALL VALVE	2 EA.	2	" " " "
1-1/2" TERM. FLUSH CONN.	1 EA.	1	" " " "
1-1/2" IN-LINE FLUSH	1 EA.	1	" " " "
2000 GAL. SEPTIC TANK DISTRIBUTION BOX	3 EA.	3	MAYER BROS.
4" PVC	165 LF	165	CRESLINE TUFF EQUIPMENT
TRANSITION MANHOLE	1 EA.	1	ATLANTIC PRECAST
4" PERFORATED PVC	960 LF.	960	CRESLINE

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

John Robertson 6/18/97
 HOWARD SOIL CONSERVATION DISTRICT DATE

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

Carol Simmons 6/18/97
 NATURAL RESOURCES CONSERVATION SERVICE DATE

APPROVED: FOR PRIVATE WATER AND PUBLIC SEWERAGE SYSTEMS.
 HOWARD COUNTY HEALTH DEPT.

Joyce M. Boyd 8/14/97
 COUNTY HEALTH OFFICER DATE

TYPE OF BUILDING: SINGLE FAMILY RESIDENTIAL
 DRAINAGE AREA: PATUXENT BASIN
 NO. OF WHC : 0
 NO. OF SHC : 4

OWNER/DEVELOPER
 COOKVILLE LIMITED PARTNERSHIP
 P.O. BOX 417
 ELLICOTT CITY, MARYLAND 21041
 (410) 465-4244

NAME OF UTILITY CONTRACTOR:
 SURVEY AND DRAFTING AS-BUILT DATE:

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

R. B. Berman 6-17-97
 CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND

Carol Simmons 6/18/97
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

TSA GROUP, INC.
 planning • engineering • surveying
 8480 Baltimore National Pike • Suite 418
 Ellicott City, Maryland 21043



DES:	YSL	DATE:	2/97
DRN:	YSL	KCI 4	AS-BUILT DATA 10/9/02
CHK:	CAM	JTC 3	REV. PER CO. COMMENTS OF 2/5/02 3/27/02
		YSL 2	REV. PER CO. HEALTH DEPT. COMMENTS OF 5/20/97 5/97
		YSL 1	REV. PER COUNTY COMMENTS OF MAR. 20,1997 5/97
DATE:	2/97	BY	NO. REVISIONS DATE

PUBLIC PRESSURE SEWER SYSTEM
 TITLE SHEET

TAX MAP NO. 8 BLOCK "22"

RIGGS MEADOW
 LOTS 1 THRU 4
 HOWARD COUNTY ELECTION DISTRICT NO. 4
 CONTRACT NO. 50-3606-D

SCALE AS SHOWN
 SHEET 1 OF 7

LEGEND

- COMMUNITY SEPTIC EASEMENT (OWNED & MAINTAINED BY HOWARD COUNTY.)
- PASSED PERC HOLE (12/94)
- FAILED PERC HOLE (12/94)
- PASSED PERC HOLE (11/6/96)
- PUBLIC SEWER & UTILITY EASEMENT
- LIMIT OF DISTURBANCE
- FUT. TRENCH LOCATION (FIRST REPAIR)
- FUT. TRENCH LOCATION (SECOND REPAIR)
- 4" OBSERVATION PIPE IN THE TRENCH

1-1/2" PS CRIMP RADIUS DATA

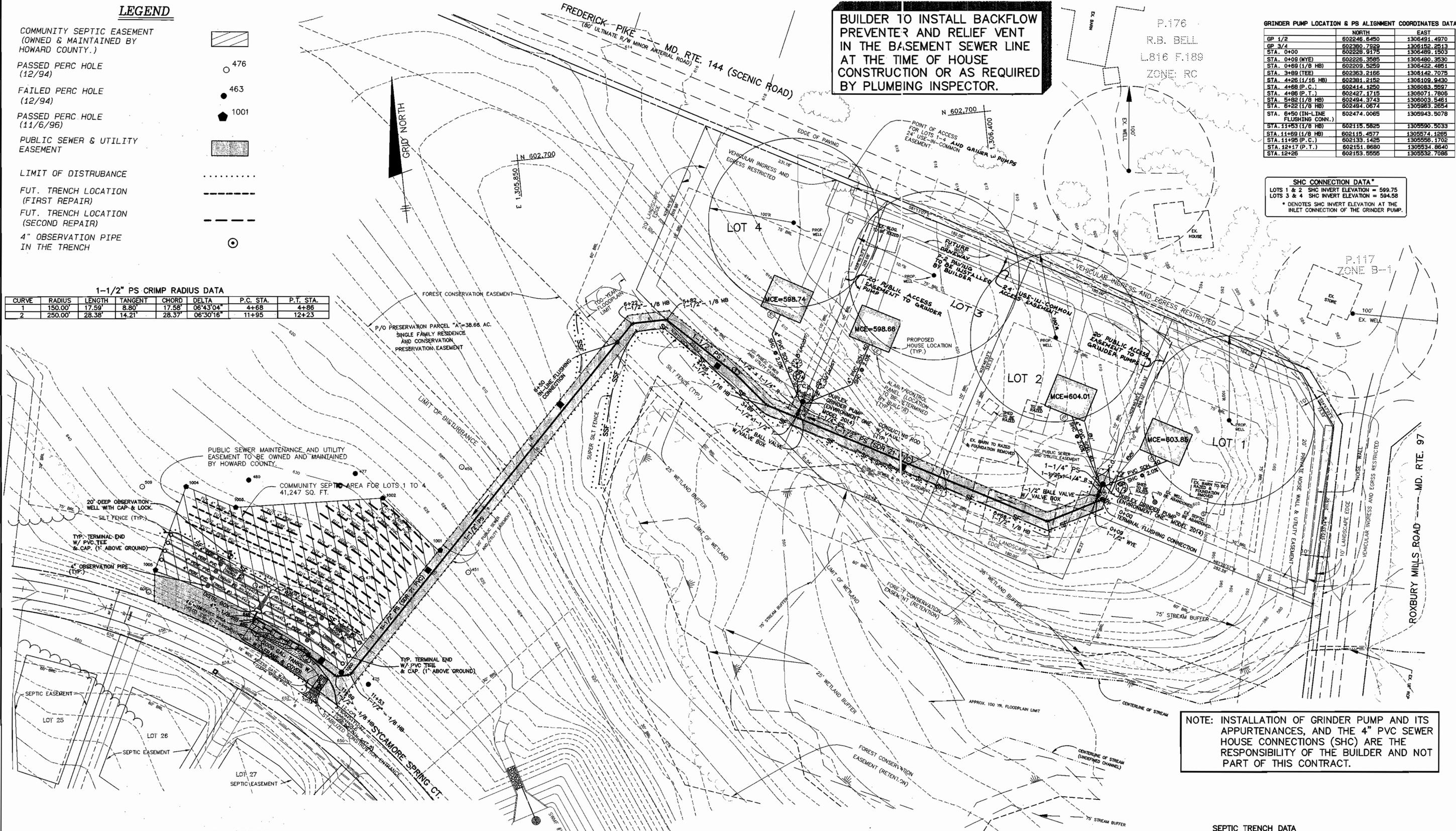
CURVE	RADIUS	LENGTH	TANGENT	CHORD	DELTA	P.C. STA.	P.T. STA.
1	150.00'	17.59'	8.80'	17.58'	06°43'04"	4+68	4+86
2	250.00'	28.38'	14.21'	28.37'	06°30'16"	11+95	12+23

BUILDER TO INSTALL BACKFLOW PREVENTER AND RELIEF VENT IN THE BASEMENT SEWER LINE AT THE TIME OF HOUSE CONSTRUCTION OR AS REQUIRED BY PLUMBING INSPECTOR.

GRINDER PUMP LOCATION & PS ALIGNMENT COORDINATES DATA

	NORTH	EAST
GP 1/2	602246.6450	1306491.4970
GP 3/4	602380.7829	1306152.2513
STA. 0+00	602228.9175	1306489.1903
STA. 0+09 (WYE)	602226.3585	1306480.3530
STA. 0+09 (1/8 HB)	602209.5259	1306422.4851
STA. 2+89 (TEE)	602353.2166	1306142.7075
STA. 4+26 (1/16 HB)	602381.2152	1306109.9430
STA. 4+88 (P.C.)	602414.1250	1306083.5597
STA. 4+86 (P.T.)	602427.1715	1306071.7806
STA. 5+82 (1/8 HB)	602494.3743	1306003.5461
STA. 6+22 (1/8 HB)	602454.0874	1305985.2854
STA. 6+50 (IN-LINE FLUSHING CONN.)	602474.0065	1305943.5078
STA. 11+53 (1/8 HB)	602115.5825	1305590.5033
STA. 11+69 (1/8 HB)	602115.4577	1305574.1265
STA. 11+95 (P.C.)	602133.1425	1305556.1702
STA. 12+17 (P.T.)	602151.8660	1305534.8640
STA. 12+26	602153.5555	1305532.7086

SHC CONNECTION DATA*
 LOTS 1 & 2 SHC INVERT ELEVATION = 599.75
 LOTS 3 & 4 SHC INVERT ELEVATION = 594.58
 * DENOTES SHC INVERT ELEVATION AT THE INLET CONNECTION OF THE GRINDER PUMP.



PLAN VIEW
SCALE: 1" = 50'

NOTE: INSTALLATION OF GRINDER PUMP AND ITS APPURTENANCES, AND THE 4" PVC SEWER HOUSE CONNECTIONS (SHC) ARE THE RESPONSIBILITY OF THE BUILDER AND NOT PART OF THIS CONTRACT.

NOTE: ALL PRESSURE SEWER SHALL BE SDR 21, PVC, SOLVENT WELDED. A 6 GAUGE TRACER WIRE SHALL BE WARRPED AROUND OR ATTACHED TO THE PVC PIPE.

SEPTIC TRENCH DATA
 REQUIRED: (180 S.F./BEDROOM)/3 FT. = 60 L.F. PER BEDROOM
 SINCE 4 HOUSES WITH 4 BEDROOMS EACH = 16 BEDROOMS
 THEREFORE 60 S.F. x 16 = 960 L.F. (REQUIRED)
 PROVIDED : 960 L.F. OF TRENCH PROVIDED

APPROVED: FOR PRIVATE WATER AND PUBLIC SEWERAGE SYSTEMS,
 HOWARD COUNTY HEALTH DEPT.
James M. ...
 COUNTY HEALTH OFFICER

OWNER/DEVELOPER
 COOKSVILLE LIMITED PARTNERSHIP
 P.O. BOX 417
 ELLICOTT CITY, MARYLAND 21041
 (410) 465-4244

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
Robert ...
 CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND
...
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

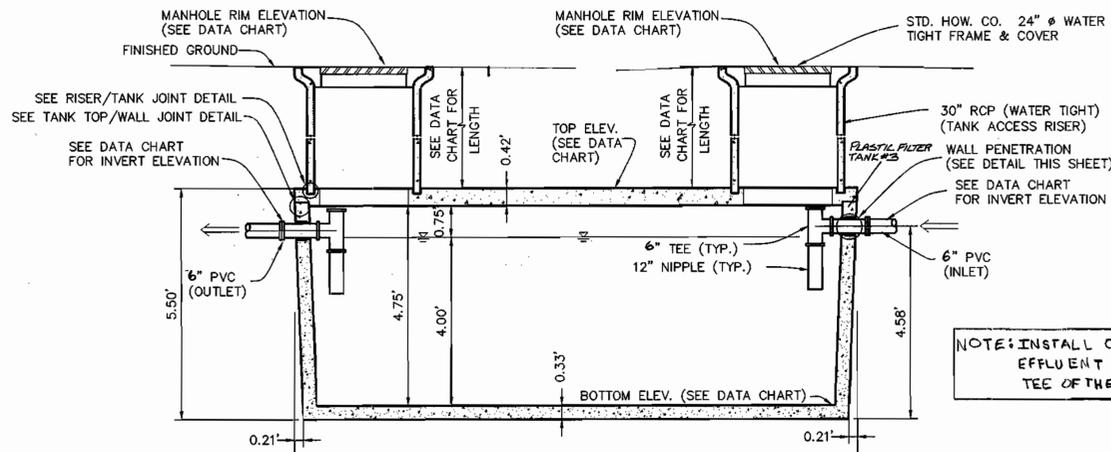
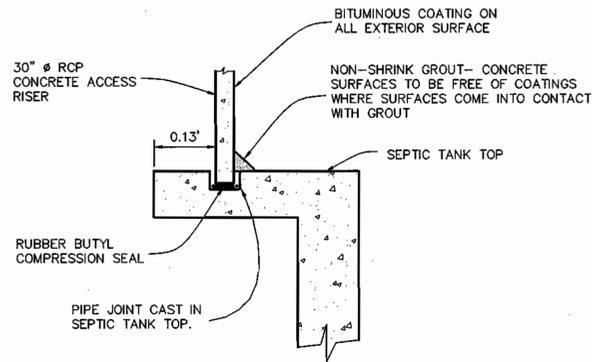
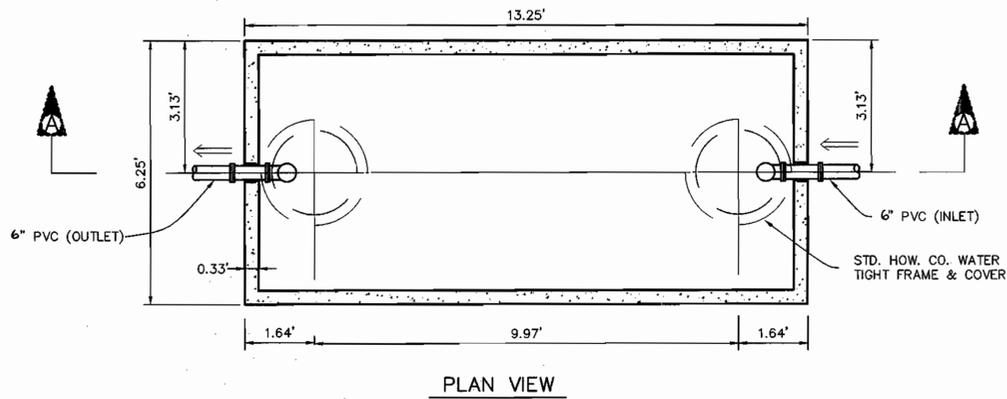
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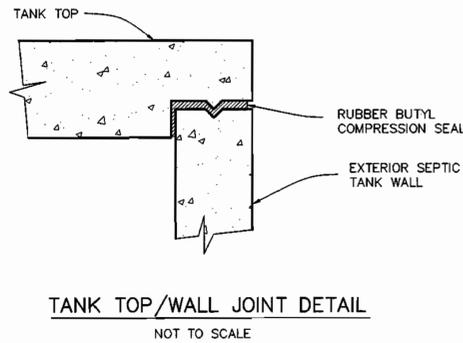
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		YSL	2	REV. PER CO. HEALTH DEPT. COMMENTS OF 5/20/97	5/97
		YSL	1	REV. PER COUNTY COMMENTS OF MAR. 20,1997	5/97
DATE:	2/97	BY	NO.	REVISIONS	DATE

PUBLIC PRESSURE SEWER SYSTEM PLAN
 TAX MAP NO. 8 BLOCK "22"

RIGGS MEADOW
 LOTS 1 THRU 4
 HOWARD COUNTY ELECTION DISTRICT NO. 4
 CONTRACT NO. 50-3606-D
 SCALE AS SHOWN
 SHEET 2 OF 7



RISER/TANK JOINT DETAIL
NOT TO SCALE



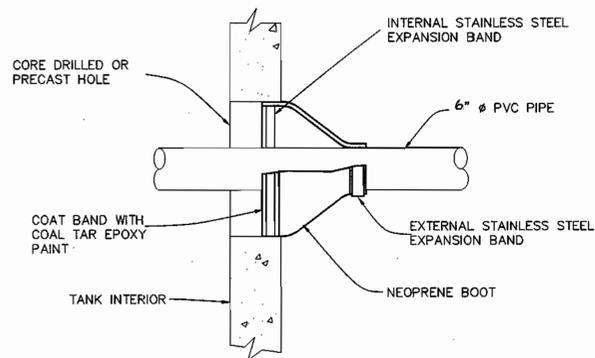
TANK TOP/WALL JOINT DETAIL
NOT TO SCALE

2000 GALLON SEPTIC TANK SECTION AND DETAIL
SCALE: 1" = 2'

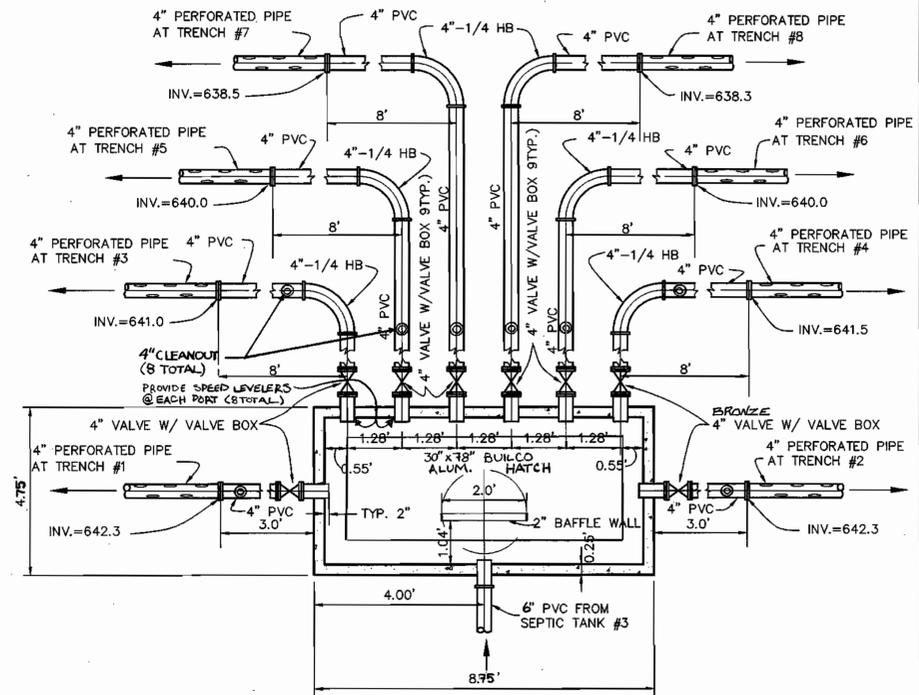
2,000 GALLON SEPTIC TANK DATA

TANK NO.	TANK ELEVATION	INVERT ELEVATION	TANK COORDINATES	MANHOLE RIM ELEVATION	REMARK
TANK NO. 1	TOP=646.95	646.03 (IN)	N 602153.56 E 1305532.71	649.85	TANK BY SUPERIOR TANK, INC. OR EQUAL
	BOTTOM=641.78	645.78 (OUT)	N 602161.72 E 1305522.28	649.70	
TANK NO. 2	TOP=646.47	645.38 (IN)	N 602167.89 E 1305514.41	649.51	TANK BY SUPERIOR TANK, INC. OR EQUAL
	BOTTOM=641.30	645.13 (OUT)	N 602176.08 E 1305503.98	649.37	
TANK NO. 3	TOP=645.99	644.73 (IN)	N 602182.24 E 1305496.11	649.18	TANK BY SUPERIOR TANK, INC. OR EQUAL
	BOTTOM=640.82	644.48 (OUT)	N 602190.41 E 1305485.68	649.00	

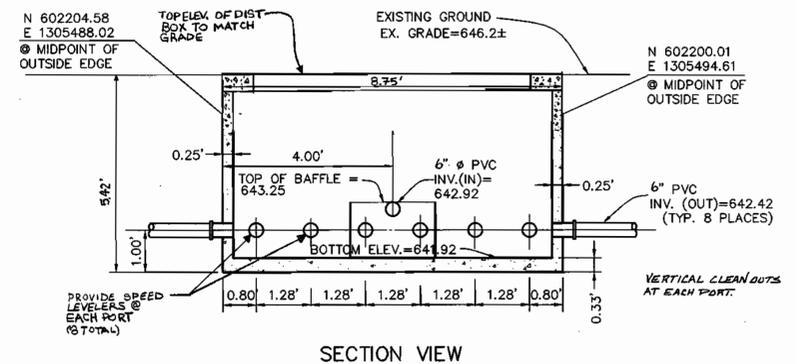
- NOTES:
- MANHOLE RIM ELEVATION SHOWN HEREON IS AT THE CENTER OF THE RIM.
 - TANK COORDINATES ARE AT THE MIDPOINT OF EACH END.



TYPICAL WALL PENETRATION DETAIL
NOT TO SCALE

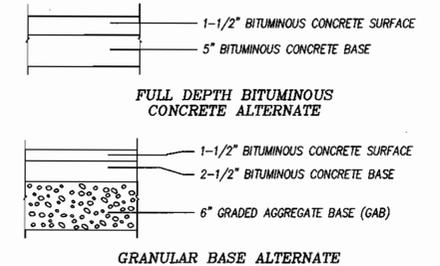


PLAN VIEW



SECTION VIEW

CONCRETE DISTRIBUTION BOX DETAIL
SCALE: 1" = 2'



PAVING SECTION P-2
NOT TO SCALE

APPROVED: FOR PRIVATE WATER AND PUBLIC SEWERAGE SYSTEMS.
HOWARD COUNTY HEALTH DEPT.

James M. Boyd
COUNTY HEALTH OFFICER
DATE: 8/14/97

OWNER/DEVELOPER

COOKVILLE LIMITED PARTNERSHIP
P.O. BOX 417
ELLCOTT CITY, MARYLAND 21041
(410) 465-4244

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

TSA GROUP, INC.

planning • engineering • surveying
8480 Baltimore National Pike • Suite 418
Ellicott City, Maryland 21043



DES:	YSL			
DRN:	YSL			
CHK:	CAM	JTC 3	REV. PER CO. COMMENTS OF 2/5/02	3/27/02
		YSL 2	REV. PER CO. HEALTH DEPT. COMMENTS OF 5/20/97.	5/97
DATE:	2/97	YSL 1	REV. PER COUNTY COMMENTS.	5/97
		BY NO.	REVISIONS	DATE

PUBLIC
PRESSURE SEWER SYSTEM
DETAILS

TAX MAP NO. 8

BLOCK "22"

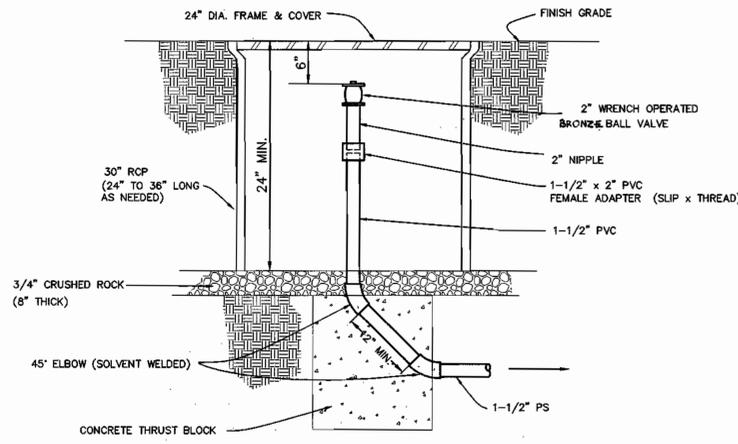
RIGGS MEADOW

LOTS 1 THRU 4

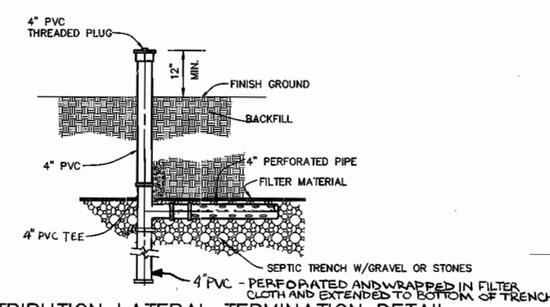
HOWARD COUNTY ELECTION DISTRICT NO. 4
CONTRACT NO. 50-3606-D

SCALE
AS
SHOWN

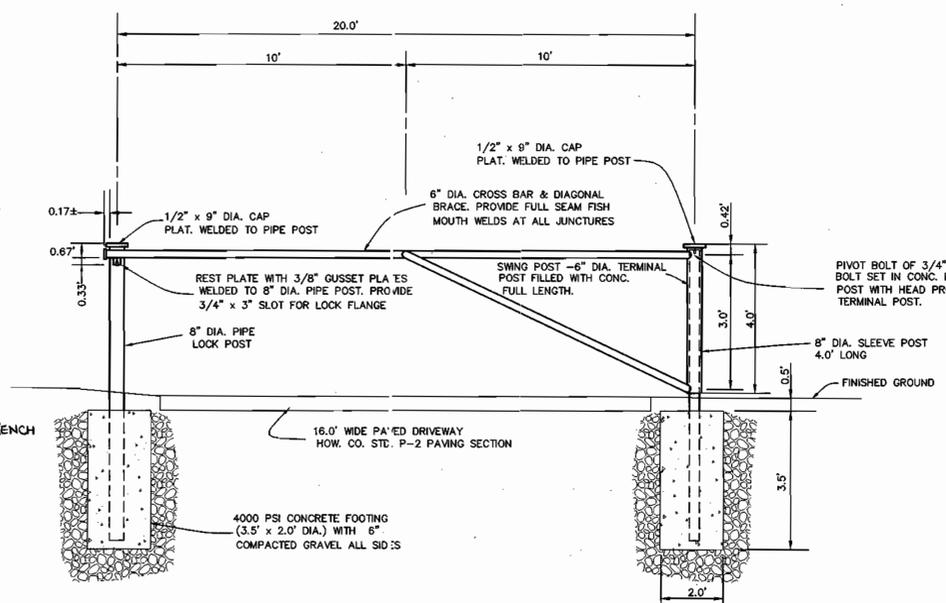
SHEET
4 OF 7



TERMINAL FLUSHING CONNECTION
NOT TO SCALE

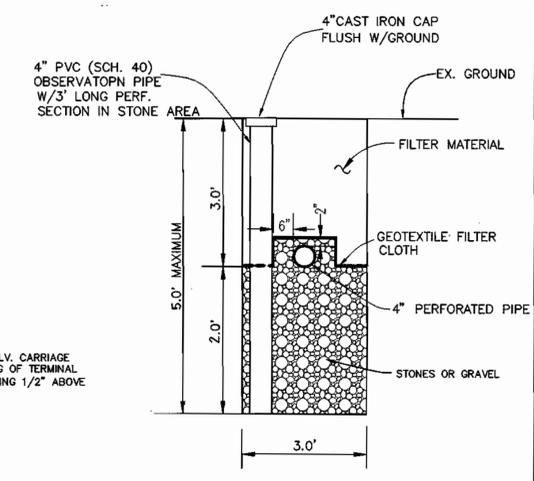


DISTRIBUTION LATERAL TERMINATION DETAIL
NOT TO SCALE

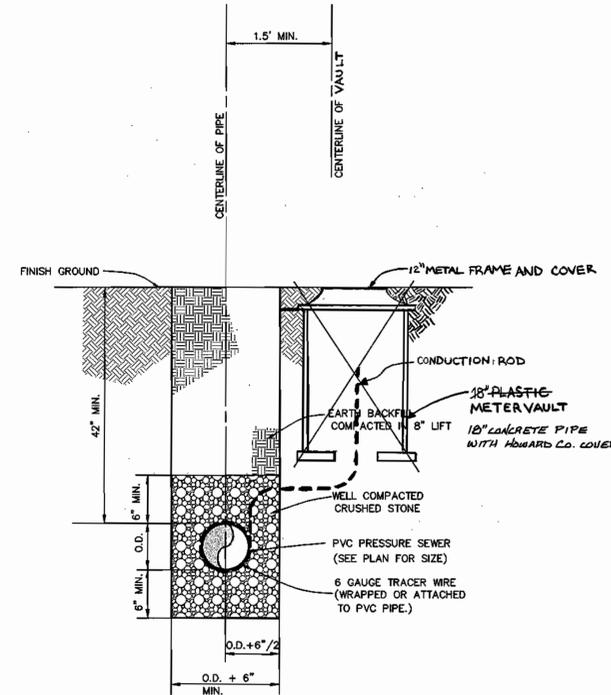


- NOTES:
1. ALL STEEL MEMBERS TO BE HOT DIPPED GALVANIZED.
 2. PROVIDE REFLECTIVE TAPES ON CENTER OF POSTS AND CROSSBARS.
 3. PADLOCK TO BE KEYPED TO HOWARD CO. PDW MASTER KEY SYSTEM.

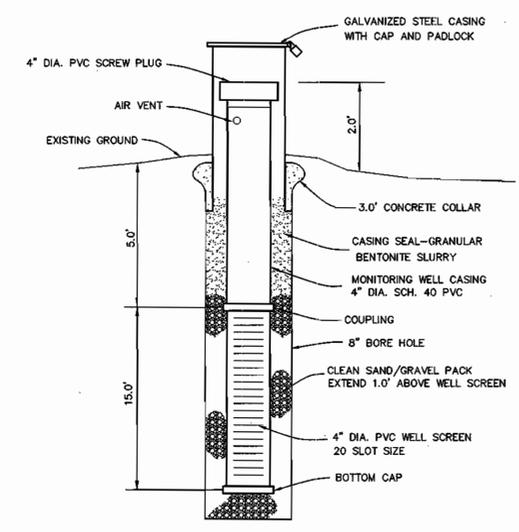
SWING GATE DETAIL
NOT TO SCALE



SEPTIC TRENCH DETAIL
NOT TO SCALE



PRESSURE SEWER TRENCH, BEDDING & CONDUCTING ROD CABLE BOX LOCATION DETAIL
NOT TO SCALE



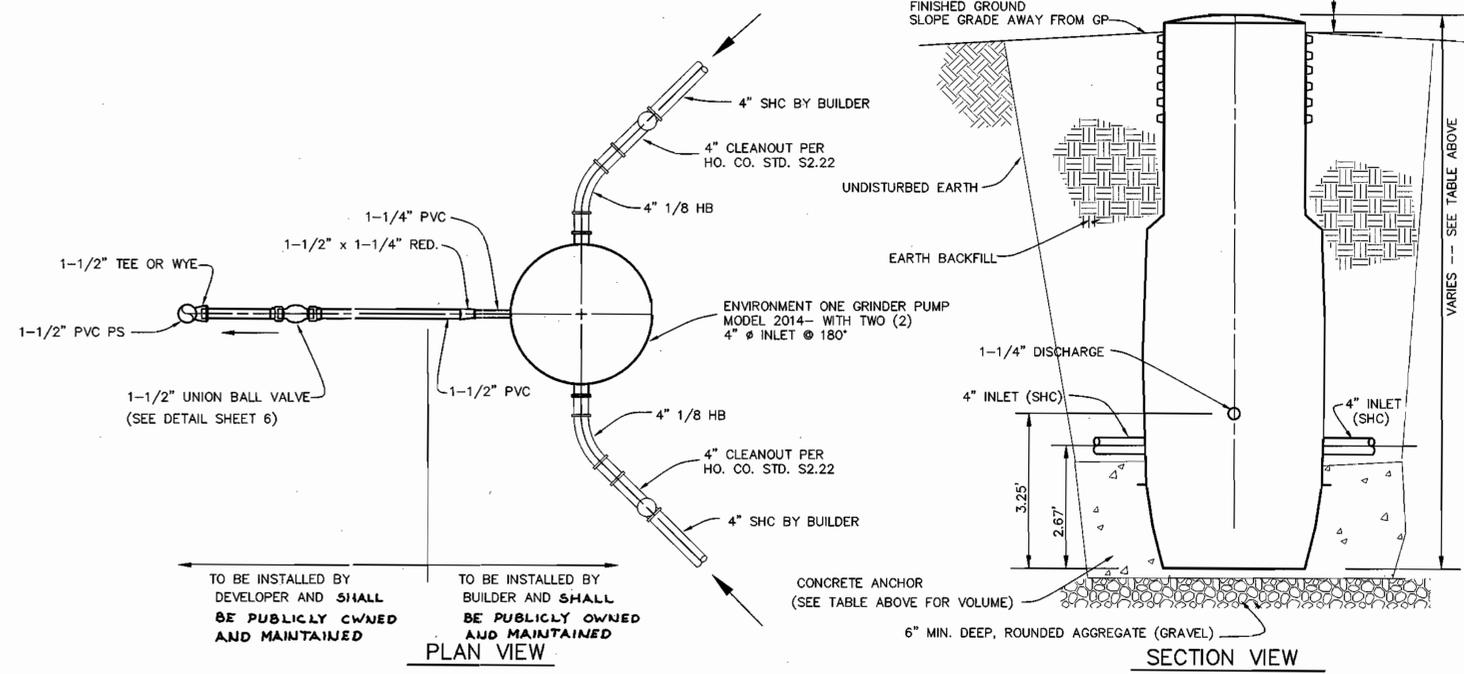
NOTE: MONITORING WELL MUST BE DRILLED BY A MARYLAND LICENSED WELL DRILLER. IF ROCK IS ENCOUNTERED MONITORING WELL CAN BE TERMINATED AT ROCK LEVEL.

MONITORING WELL DETAIL
NOT TO SCALE

ENVIRONMENT ONE GRINDER PUMP -- MODEL 2014 DATA TABLE

GP. NO.	TOP ELEVATION	BOTTOM ELEVATION	TOTAL LENGTH	INLET ELEVATION	DISCHARGE ELEVATION	VOLUME OF CONCRETE FOR CONCRETE ANCHOR
1/2	610.25	597.08	13.17'	599.75	600.33	43.63 CUBIC FEET
3/4	599.00	591.33	7.67'	594.00	594.58	29.88 CUBIC FEET

NOTE: SEE MANUFACTURER'S MANUAL FOR GRINDER PUMP INSTALLATION REQUIREMENT, PROCEDURE, AND ELECTRICAL CONNECTION.



PLAN VIEW

SECTION VIEW

ENVIRONMENT ONE GRINDER PUMP: MODEL 2014
NOT TO SCALE

APPROVED: FOR PRIVATE WATER AND PUBLIC SEWERAGE SYSTEMS.
HOWARD COUNTY HEALTH DEPT.

James M. Boyd 8/14/97
COUNTY HEALTH OFFICER DATE

OWNER/DEVELOPER

COOKVILLE LIMITED PARTNERSHIP
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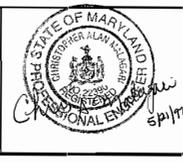
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert G. Deane 6-13-97
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

Michael J. Deane 6/17/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

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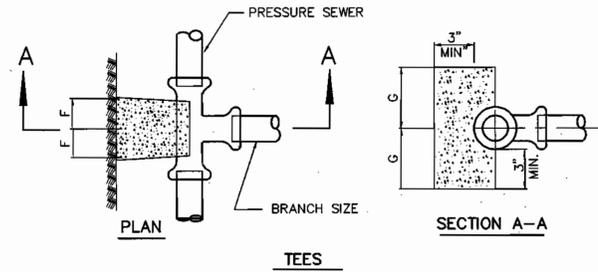
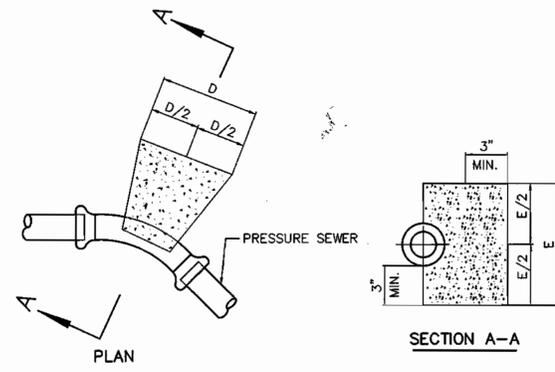
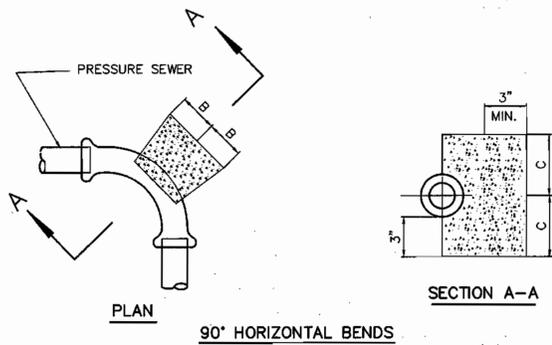
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		YSL 2	REV. PER CO. HEALTH DEPT. COMMENTS OF 5/20/97.	5/9/97
DATE:	2/97	YSL 1	REV. PER COUNTY COMMENTS.	5/9/97
		BY NO.	REVISIONS	DATE:

PUBLIC PRESSURE SEWER SYSTEM DETAILS

TAX MAP NO. 8 BLOCK "22"

RIGGS MEADOW
LOTS 1 THRU 4
HOWARD COUNTY ELECTION DISTRICT NO. 4
CONTRACT NO. 50-3606-D

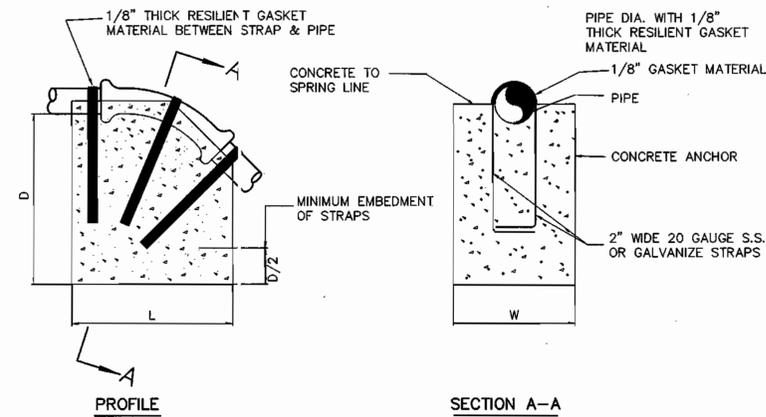
SCALE AS SHOWN
SHEET 5 OF 7



11-1/4; 22-1/2, 45° HORIZONTAL & LOWER VERTICAL BENDS

PIPE SIZE	B	C	D	E	F	G
1-1/4" & 1-1/2"	4"	4"	5"	5"	3"	3"
2"	5"	5"	7"	7"	5"	5"

- NOTES:
- f'c = 3000 psi @ 28 DAYS.
 - CARRY ALL BEARING SURFACE TO UNDISTURBED GROUND OR FIRM SUBGRADE.
 - BUTTRESS SIZED FOR 150 psi.
 - DO NOT ENCASE JOINTS.

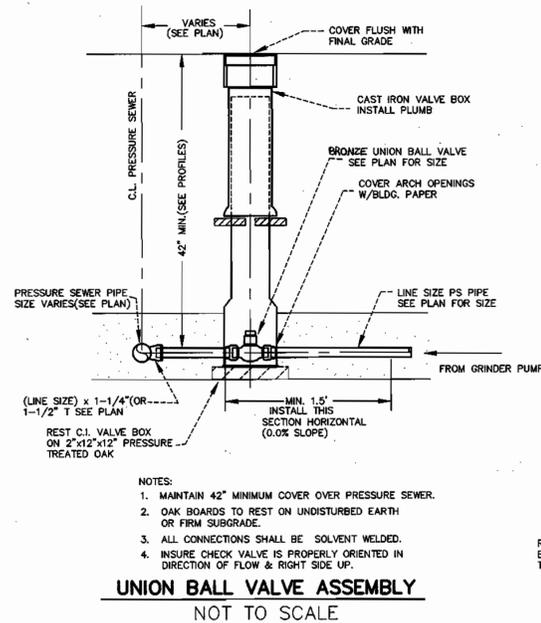


ANCHORING PRESSURE SEWERS
(UPPER VERTICAL BENDS)
NOT TO SCALE

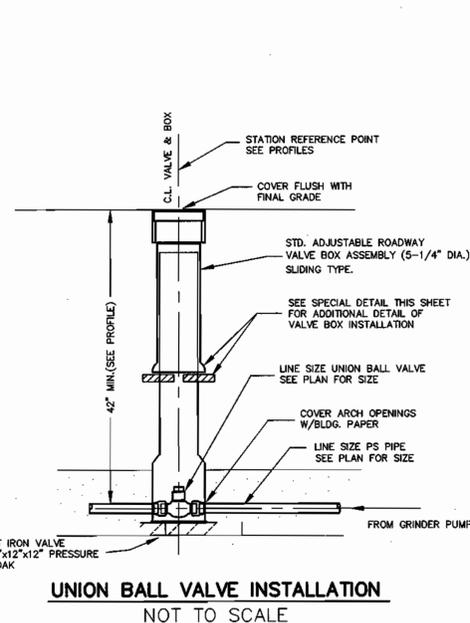
BEND	1-1/4" 1-1/2"	
	L	W
11-1/4'	12"	12"
	10"	10"
	10"	10"
22-1/2'	15"	15"
	15"	15"
	12"	12"
45'	20"	20"
	20"	20"
	12"	12"

- NOTES:
- PAIN EXPOSED GALVANIZE STRAPS WITH TWO(2) COATS OF BITUMINOUS PAINT.
 - f'c = 3000 psi AT 28 DAYS.
 - CARRY ALL BEARING SURFACE TO UNDISTURBED EARTH OR FIRM SUBGRADE.
 - CONCRETE ANCHORAGE DIMENSIONS ARE BASED ON TOTAL PRESSURE OF 150 psi.

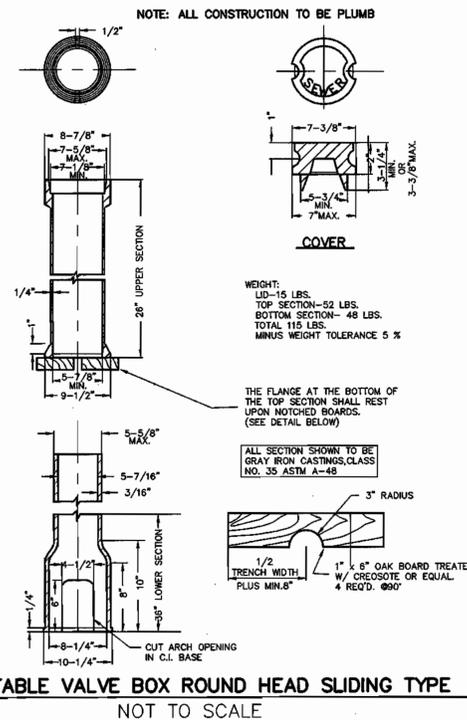
PRESSURE SEWER BLOCKING DETAILS
NOT TO SCALE



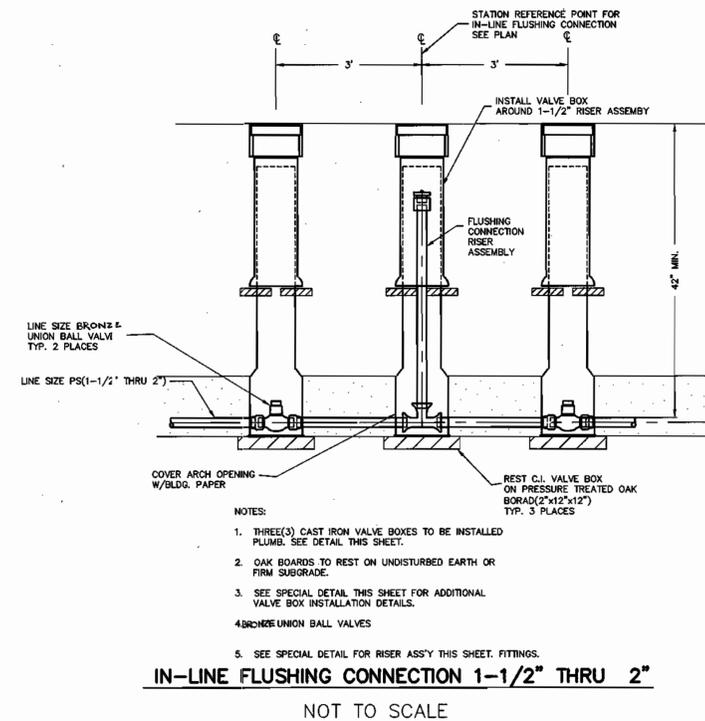
UNION BALL VALVE ASSEMBLY
NOT TO SCALE



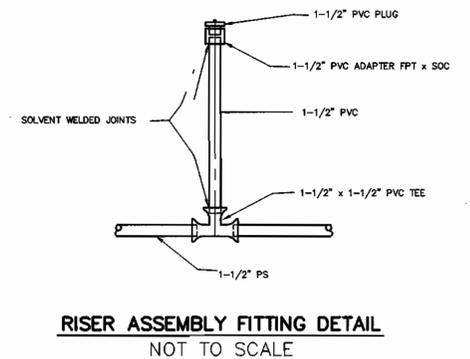
UNION BALL VALVE INSTALLATION
NOT TO SCALE



ADJUSTABLE VALVE BOX ROUND HEAD SLIDING TYPE
NOT TO SCALE



IN-LINE FLUSHING CONNECTION 1-1/2" THRU 2"
NOT TO SCALE



RISER ASSEMBLY FITTING DETAIL
NOT TO SCALE

APPROVED: FOR PRIVATE WATER AND PUBLIC SEWERAGE SYSTEMS.
HOWARD COUNTY HEALTH DEPARTMENT

Joseph M. Boyd
COUNTY HEALTH OFFICER

8/14/97
DATE

DESIGNED BY: *[Signature]*
and other authorized representatives
DATE: 8/14/97
NATURAL RESOURCES & ENVIRONMENT

OWNER/DEVELOPER

COOKVILLE LIMITED PARTNERSHIP
P.O. BOX 417
ELlicOTT CITY, MARYLAND 21041
(410) 465-4244

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

TSA GROUP, INC.

planning • engineering • surveying
8480 Baltimore National Pike • Suite 418
Ellicott City, Maryland 21043



DES: YSL

DRN: YSL

CHK: CAM

DATE: 2/97

BY	NO.	REVISIONS	DATE
JTC	3	REV. PER CO. COMMENTS OF 2/5/02	2/27/02
YSL	2	REV. PER CO. HEALTH DEPT. COMMENTS OF 5/20/97.	5/97
YSL	1	REV. PER COUNTY COMMENTS.	5/97

PUBLIC
PRESSURE SEWER SYSTEM
DETAILS

TAX MAP NO. 8

BLOCK "22"

RIGGS MEADOW

LOTS 1 THRU 4

HOWARD COUNTY ELECTION DISTRICT NO. 4
CONTRACT NO. 50-3606-D

SCALE
AS
SHOWN

SHEET
6 OF 7

SEDIMENT CONTROL NOTES

- A minimum of 48 hours notice must be given to the Howard County Department of Inspections and Permits, Sediment Control Division prior to the start of any construction (313-1855).
- All vegetative and structural practices are to be installed accordingly 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.
- Following initial soil disturbances or redisturbance, 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 calendar 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 12, of the "Howard County Design Manual, Storm Drainage".
- All disturbed areas must be stabilized within the time period specified above in accordance with the "1991 Maryland Standards and Specifications for Soil Erosion and Sediment Control" for Permanent Seedings (Sec. 51) Sod (Sec. 54), Temporary Seeding (Sec. 50) and Mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- 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:

Total Area of Site:	6.93± acres
Area to be Disturbed:	1.2± acre
Area to be roofed or paved:	0.06± acre
Area to be vegetatively stabilized:	1.14± acre
Total Cut:	N/A
Total Fill:	N/A
- 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 DPW Sediment Control Inspector.
- 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.
- Trenches for the construction of utilities is limited to three pipe lengths or that which can be back filled and stabilized within one working day, whichever is shorter.
- Quantities and estimates shown are for sediment control purposes only. Contractor shall prepare his/her own quantity estimates to his/her satisfaction.

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/1000 sf).

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 sf). For the period May 1 through August 14, seed with 3 lbs per acre of Weeping Lovegrass (0.07 lbs/1000 sf). For the period November 16 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 sf) 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 sf) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sf) for anchoring.

Refer to the 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control for rate and methods not covered.

APPROVED: FOR PRIVATE WATER AND PUBLIC SEWERAGE SYSTEMS.
HOWARD COUNTY HEALTH DEPARTMENT.

James M. Boyd
COUNTY HEALTH OFFICER

8/14/97
DATE

approved by *[Signature]* 8/14/97
HOWARD COUNTY HEALTH DEPARTMENT

PERMANENT SEEDING NOTES

Apply to graded or cleared area 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 on the following schedules.

- Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sf) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sf) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sf).
- Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sf) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sf) 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 sf) 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 (0.05 lbs/1000 sf) of Weeping Lovegrass. During the period of October 16 through February 28, protect site by: Option 1) 2 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 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sf) 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 sf) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sf) for anchoring.

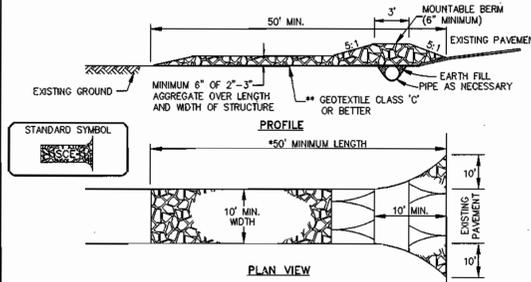
Maintenance: Inspect all seeded areas and make needed repairs, replacements and reseeds.

SEQUENCE OF CONSTRUCTION

Notify Sediment Control Division 48 hours prior to start of construction.

	Duration
1. Obtain construction permit	Day 1
2. Install new sediment and erosion control devices and stabilize.	Day 2
3. Install Pressure Sewer system up to the proposed grinder pump	Days 3-12
4. Install septic tanks and distribution box	Days 13-20
5. Install septic drain pipes	Days 21-26
6. Construct asphalt parking area	Days 27-29
7. Final grade and stabilize in accordance with standards and specifications.	Days 30-32
8. Upon approval of the Howard County sediment control inspector, remove sediment and erosion control devices and stabilize.	Days 33

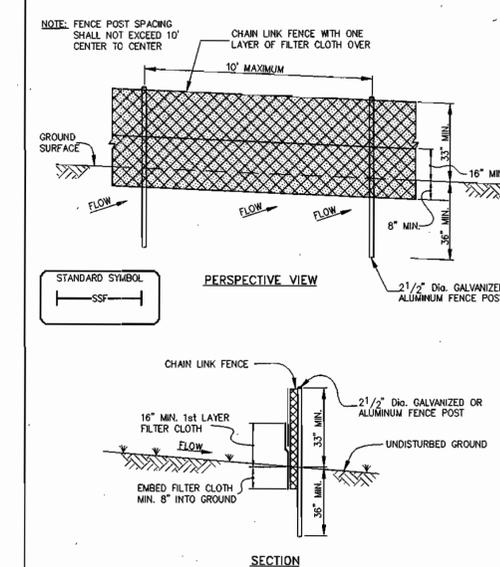
DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



- Length - minimum of 50' (*30' for single residence lot).
- Width - 10' minimum, should be flared at the existing road to provide a turning radius.
- Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.
- Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
- Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mounded berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
- Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE F - 17 - 3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 33 - SUPER SILT FENCE



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE H - 26 - 3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SUPER SILT FENCE

CONSTRUCTION SPECIFICATIONS

- 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.
- 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.
- Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
- Filter cloth shall be embedded a minimum of 8" into the ground.
- When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
- Maintenance shall be performed as needed and silt buildup removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.
- 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:

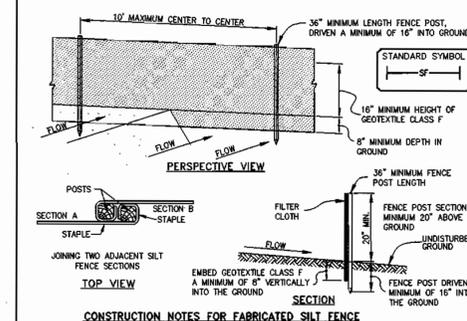
Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft/minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

SUPER SILT FENCE 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

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E - 26 - 3A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 22 - SILT FENCE



- Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighing not less than 1.00 pound per linear foot.
- Geotextile 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

- Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
- Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E - 15 - 3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SILT FENCE DESIGN CRITERIA

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

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

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E - 15 - 3A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

OWNER/DEVELOPER

COOKVILLE LIMITED PARTNERSHIP
P.O. BOX 417
ELLCOTT CITY, MARYLAND 21041
(410) 465-4244

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

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

TSA GROUP, INC.
planning • engineering • surveying
8480 Baltimore National Pike • Suite 418
Ellicott City, Maryland 21043



DES: YSL			
DRN: YSL			
CHK: CAM			
DATE: 2/97	YSL	1	REV. PER COUNTY COMMENTS
	BY	NO.	REVISIONS

PUBLIC
PRESSURE SEWER SYSTEM
SEDIMENT & EROSION CONTROL NOTES & DETAILS
TAX MAP NO. 8 BLOCK "22"

RIGGS MEADOW
LOTS 1 THRU 4
HOWARD COUNTY ELECTION DISTRICT NO. 4
CONTRACT NO. 50-3606-D
SCALE AS SHOWN
SHEET 7 OF 7