



Bureau of Environmental Health  
 7178 Gateway Drive Columbia, MD 21046  
 (410) 313-2640 Fax (410) 313-2648  
 TDD (410) 313-2323 Toll Free 1-866-313-6300  
 website: www.hchealth.org

Maura J. Rossman, M.D., Health Officer

RECEIPT DATE: 12/14/12 **ONSITE SEWAGE DISPOSAL SYSTEM** P 544439-C

INSTALLATION APPROVAL DATE: 5/13/14 **PERMIT CONSTRUCTION** A \_\_\_\_\_

PROPERTY ADDRESS: 17263 Hardy Road

SUBDIVISION: Spring Hollow LOT: 28 TAX ID: 04-363027

CONTRACTOR: South Carroll Backhoe Inc. EMAIL: sbackhoe@comcast.net

CONTRACTOR ADDRESS: 4410 Salem Bottom Road, Westminster MD 21157 PHONE: 410-596-3618

PROPERTY OWNER: Cumberland Development EMAIL: \_\_\_\_\_

OWNER ADDRESS: 16391 A.E. Mullinix Road, Woodbine, MD 21797 PHONE: 301-252-1122

SEPTIC TANK SIZE (GALLONS): 2000

PUMP CHAMBER CAPACITY (GALLONS): \_\_\_\_\_ PUMP SIZE: \_\_\_\_\_

NUMBER OF BEDROOMS: 5 HOUSE SQ. FT. >3500 APPLICATION RATE: 1.2

DISTRIBUTION SYSTEM: GRAVITY FED  LOW PRESSURE DOSED

TRENCHES:	LINEAR FEET REQUIRED: <u><del>112</del> 157'</u>	INLET DEPTH: <u>4'</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>6</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>3</u>
LOCATION:	PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.	
NOTES:	Set septic tank about 40 feet from "staked tank" location and in line with distribution box. Set distribution box at north boundary of SDA, about 25 feet from northeast SDA corner. Install 1 x 50 & 1 x 62 trenches on contour in upper SDA. *Protect septic tank and d box with fence after Environmental Sanitarian approves installation. <u>42, 55, 60</u>	

ISSUED BY: Robert Bricker ISSUE DATE: \_\_\_\_\_ EXPIRATION DATE: 12/14/13

- NOTE: CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION INSPECTION PRIOR TO BEGINNING ANY INSTALLATION
- NOTE: CONTRACTOR MUST SCHEDULE AN INSPECTION AND GAIN APPROVAL OF ALL COMPONENTS PRIOR TO COVERING
- NOTE: STONE MUST BE APPROVED BY HEALTH DEPARTMENT AND GRAVEL TICKET MUST BE AVAILABLE FOR REVIEW.
- NOTE: WATERTIGHT SEPTIC TANKS REQUIRED
- NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET DOWNGRADIENT FROM ANY WATER WELL
- NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS
- NOTE: AN ELECTRICAL PERMIT IS REQUIRED FOR INSTALLATION OF ANY ELECTRICAL COMPONENTS OF THE SYSTEM

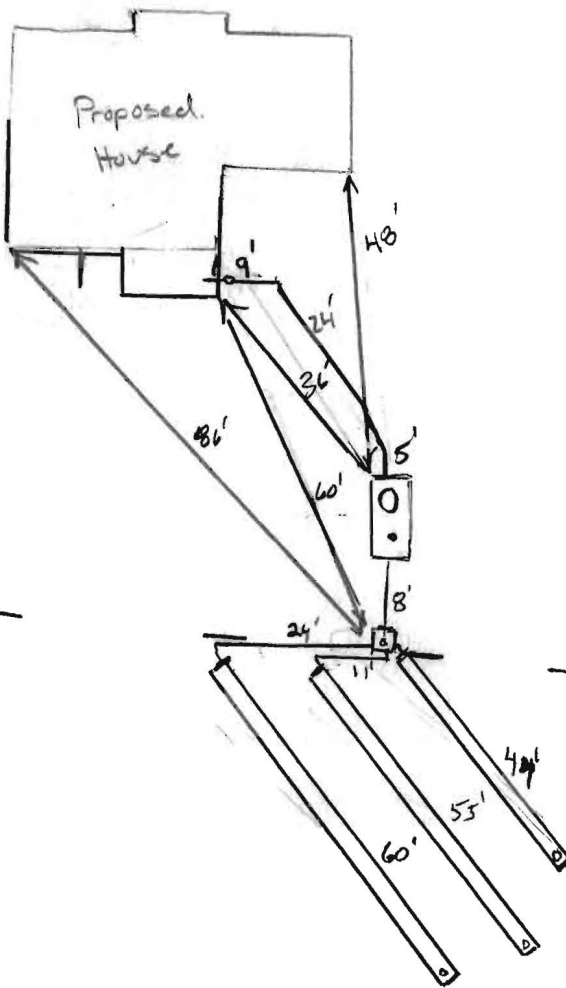
**NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM.**

**PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT.**

**CALL 410-313-1771 TO SCHEDULE INSPECTIONS.**

NOT TO SCALE

1" = 30'



ROAD NAME

TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
3	4	6
NUMBER OF TRENCHES		3
TOTAL LENGTH		159
ABSORPTION AREA		477 sq ft
DISTRIBUTION BOX LEVEL		Yes
DISTRIBUTION BOX BAFFLE		Yes
DISTRIBUTION BOX PORT		Yes

SEPTIC TANK DATA	
SEPTIC TANK I LEVEL	Yes
MANUFACTURER	Babylon
CAPACITY	2000 GAL
SEAM LOC	Top
TANK LID DEPTH	3'
BAFFLES	Yes
BAFFLE FILTER	-
MANHOLE LOC	Front
6" PORT LOC	Rear
WATERTIGHT TEST	-
SLOTTED	Yes
DATE ON LID	10-23-13

PUMP/SEPTIC TANK LEVEL	
MANUFACTURER	
CAPACITY	GAL
SEAM LOC	
TANK LID DEPTH	
BAFFLES	
BAFFLE FILTER	
MANHOLE LOC	
6" PORT LOC	
WATERTIGHT TEST	
SLOTTED	
DATE ON LID	

PRE-CONSTRUCTION:

11/25/13 SRA area and house corners staked per builder. Gave location for septic tanks very close to where shown on plan. Laid out 3 trenches (42', 55', 60') to be installed on contour running back towards proposed house location. Call for map. (KW)

INSTALLATION:

12/6/13 Rainy conditions. Tank set. Trenches dug. Upper trench and lower trench dug and stored. Told contractor to ~~not~~ use sch 40 on obs pipes from top of stone above grade. Screw caps must be used. (KW)  
 12/11/13 Trenches complete. D box leveled. Tank lifted a little. Needs to be re-set. (KW)  
 5/13/14 4" SHC made from foundation to S.T.

FINAL INSPECTOR

*K. Wall*

DATE OF APPROVAL

5/13/14

**COMPLETE THIS FORM WHEN DROPPING OFF ANY  
CORRESPONDENCE AND/OR PLANS TO THE HOWARD COUNTY  
DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS COUNTER:**

Date: 1-15-14  
To: ~~Plan Review~~ Health Dept  
(Person's Name and Division)  
From: Cumberland Deerp Corp (301) 252-1122  
(Your Name, Company Name and Telephone Number)  
Subject: Project name Spring Hollow lot 28  
Project site address lot 28 Handley Rd. Mt. Airy, MD  
Permit Number 13004528 SDP # \_\_\_\_\_  
Other information pertinent to this project Relocate Septic Tank; Per Health Dep.

Please check the attachments below that you are submitting with this transmittal:

- Letter of response to Howard County plan review code letter
- Revised plans and/or revised details: When submitting for a complete re-review, duplicate sets shall be submitted.
- Structural steel certification
- Energy conservation calculations
- Certification for \_\_\_\_\_ (be specific).
- Copies of \_\_\_\_\_ (be specific).
- Two sets of single family dwelling model plans to be placed on permanent file: Model name and/or # \_\_\_\_\_
- Other \_\_\_\_\_

Is there anyone else that should be contacted regarding this project if there are questions?

If so, please list that person's name and telephone number below:

Bertis Cumberland (Person's name) (301) 252-1122 (Telephone number)

**PLEASE ASSURE ALL DOCUMENTS AND/OR REVISIONS ARE APPROPRIATELY SIGNED AND SEALED, IF NECESSARY, BY A LICENSED ARCHITECT OR ENGINEER. PLEASE BE ADVISED THAT INSUFFICIENT INFORMATION MAY RESULT IN THE DELAY OF REVIEW BY THE PLANS EXAMINER. THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS WILL CONTACT YOU IF THERE IS A PROBLEM. IN ADDITION, ONCE THE BUILDING PERMIT IS APPROVED BY THE PLAN REVIEW DIVISION AND ALL OTHER REQUIRED SIGNATORY AGENCIES, AND THE BUILDING PERMIT IS READY FOR ISSUANCE, THE PERMIT DIVISION WILL NOTIFY THE APPROPRIATE CONTACT PERSON FOR PERMIT PICK UP. ALL PERMIT STATUS INQUIRIES SHALL BE DIRECTED TO THE PERMIT DIVISION AT 410-313-2455. CODE RELATED QUESTIONS AND PLAN REVIEW INQUIRIES SHALL BE DIRECTED TO THE PLAN REVIEW DIVISION AT 410-313-2436. PLEASE ALLOW A MINIMUM OF FIVE (5) WORKING DAYS FOR ANY PLAN SUBMITTALS TO BE REVIEWED. THANK YOU.**

Received by R. Zeman

white: Plan Review Division  
yellow: Applicant  
pink: Permit Division  
**RECEIVED**  
JAN 15 2014  
LICENSES & PERMITS  
DIVISION

**ENVIRONMENTAL SITE DESIGN NARRATIVE**

1. THERE ARE NO STREAMS, WETLANDS, FLOOD PLAINS OR FORESTED AREAS LOCATED ON THE LOT # 28. THE ON-SITE SEWAGE DISPOSAL AREA HAS BEEN RELOCATED AS FAR TO THE REAR OF THE LOT AS POSSIBLE TO PROVIDE FOR GRADING TO ACHIEVE RUNOFF DISCONNECTS. STORM WATER MANAGEMENT FOR WATER QUALITY IS PROVIDED BY NON-STRUCTURAL RUNOFF REDUCING PRACTICES TO LIMIT THE IMPACT OF THE DEVELOPMENT ON NATURAL RESOURCES AND THE SURROUNDING PROPERTY.
2. GRADING ON SITE IS LIMITED TO ONLY THAT REQUIRED TO ACCOMPLISH DISCONNECTS FOR ROOFTOP RUNOFF WHILE MAINTAINING NATURAL FLOW PATTERNS.
3. IMPERVIOUS AREA WAS HELD TO THE MINIMUM REQUIRED TO ACCOMPLISH THE WORK BY LOCATING THE PROPOSED DWELLING AS CLOSE TO HARDY ROAD AS PRACTICAL BASED UPON THE LOCATION OF EXISTING DWELLINGS ON ADJOINING PROPERTIES.
4. TEMPORARY PERIMETER SEDIMENT CONTROL IN THE FORM OF SUPER SILT FENCE IS PROPOSED IN ORDER TO PROVIDE TEMPORARY SWM VIA RUNOFF RETENTION DURING CONSTRUCTION.
5. ENVIRONMENTAL SITE DESIGN HAS BEEN IMPLEMENTED TO THE MAXIMUM EXTENT POSSIBLE BY THE USE OF ROOFTOP AND NON-ROOFTOP DISCONNECTS, TO SATISFY WATER QUALITY MANAGEMENT.
6. NO WAIVERS FROM THE SUBDIVISION REGULATIONS AND OR DESIGN MANUAL ARE REQUIRED FOR THE PROJECT AS SHOWN HEREON.

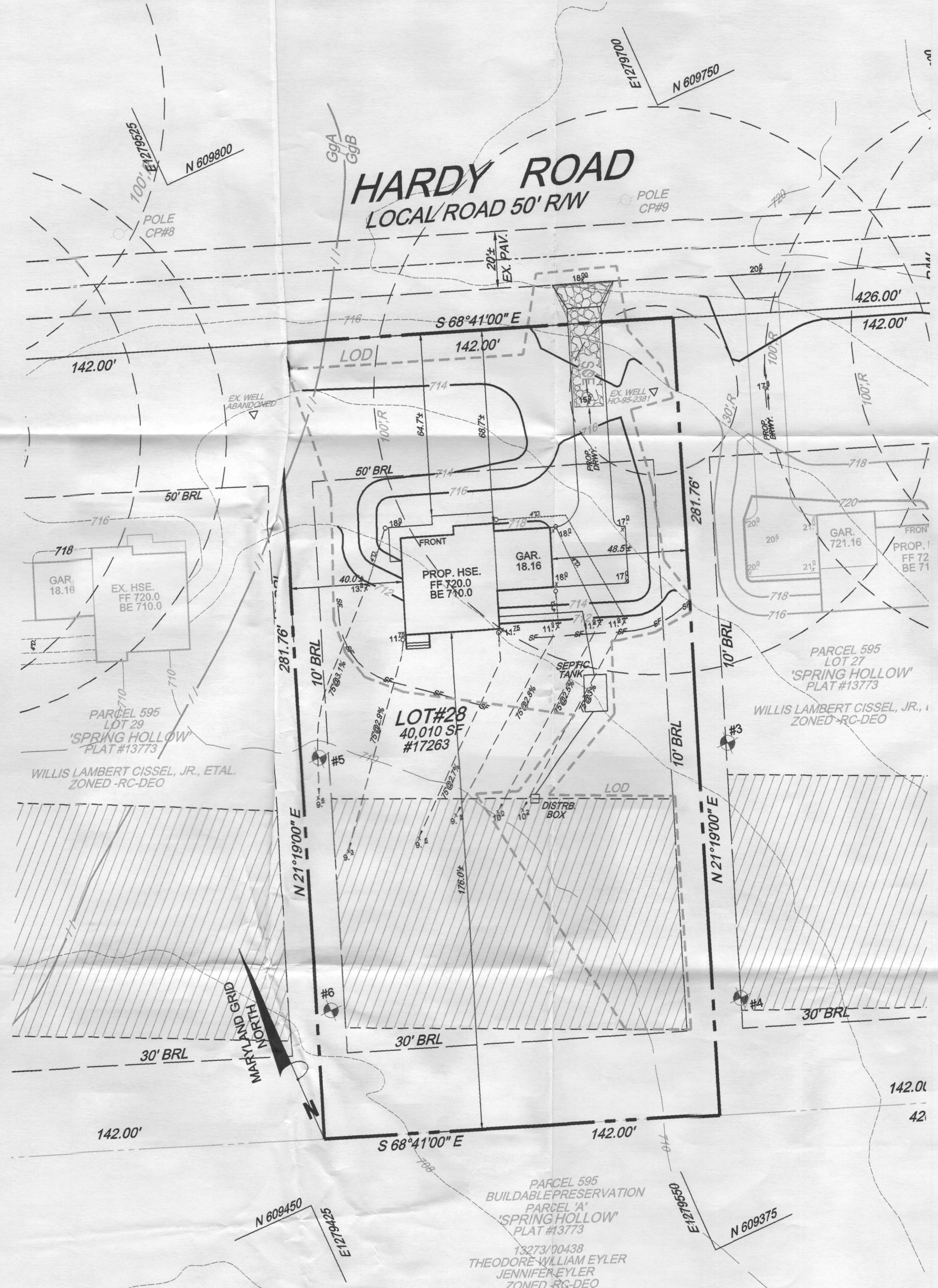
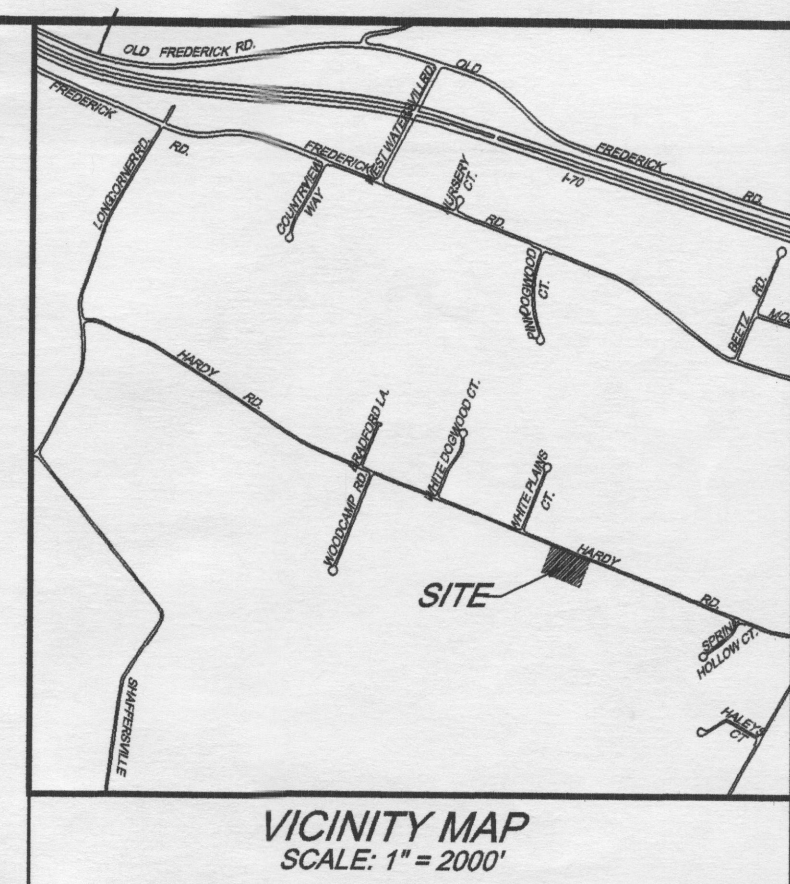
SOILS LEGEND					
SYMBOL	NAME/DESCRIPTION	SOIL GROUP	K-VALUE	K-VALUE	HYDRIC
Ga	General loam, 0 to 8 percent slopes	B	0.20	+	NOT HYDRIC
Gsb	General loam, 3 to 8 percent slopes	B	0.20	-	NOT HYDRIC

**REQUIRED SEQUENCE OF CONSTRUCTION (SINGLE FAMILY LOT)**

1. OBTAIN GRADING PERMIT (1-DAY)
2. CLEAR AND GRUB FOR INSTALLATION OF TEMPORARY SEDIMENT CONTROL MEASURES, SILT FENCE AND STONE CONSTRUCTION ENTRANCE. (1/2 DAY)
3. INSTALL TEMPORARY SEDIMENT CONTROL MEASURES (1/2 DAY)
4. UPON APPROVAL OF SEDIMENT CONTROL INSPECTOR CLEAR AND GRUB SITE FOR CONSTRUCTION OF DWELLING, DRIVEWAY AND WALKS. (1 DAY)
5. GRADE SITE AND CONSTRUCT DWELLING, DRIVEWAY AND WALKS PER APPROVED PLAN (12 - WEEKS)
6. STABILIZE ALL DISTURBED AREAS WITH SEED AND MULCH PER SCS STANDARDS. (2 DAYS)
7. UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR REMOVE ALL TEMPORARY SEDIMENT CONTROL MEASURES AND STABILIZE ALL DISTURBED AREAS PER SCS STANDARDS. (2 DAYS)

**LEGEND-SWM- MDE DESIGNATION**

DOWN SLOPE  
C-N-1  
DENOTES ROOF-TOP RUNOFF DISCONNECT



**SITE ANALYSIS**

TOTAL AREA SITE	40,010 SF
AREA DISTURBED	18385 SF
TOTAL IMPERVIOUS AREA	4068 SF
AREA TO BE VEGETATIVELY STABILIZED	14327 SF
TOTAL VOLUME CUT	282 CY
TOTAL VOLUME FILL	328 CY

**SEPTIC SYSTEM DATA**

INV. AT HOUSE	708.5
SEPTIC TANK (1500 gal)	
EX. GRADE	711.5
FIN. GRADE	711.5
INV. IN	708.3
INV. OUT	708.14
DISTRIBUTION BOX	
EX. GRADE	710.5
FIN. GRADE	710.5
INV. IN	707.28
INV. OUT	707.10

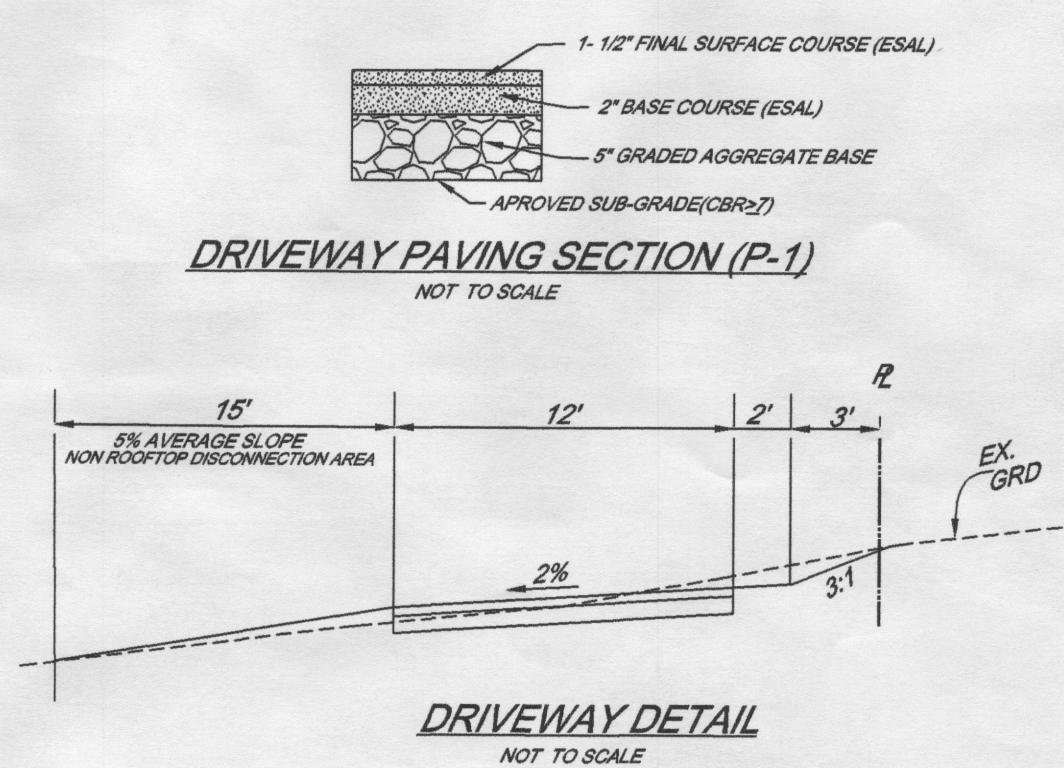
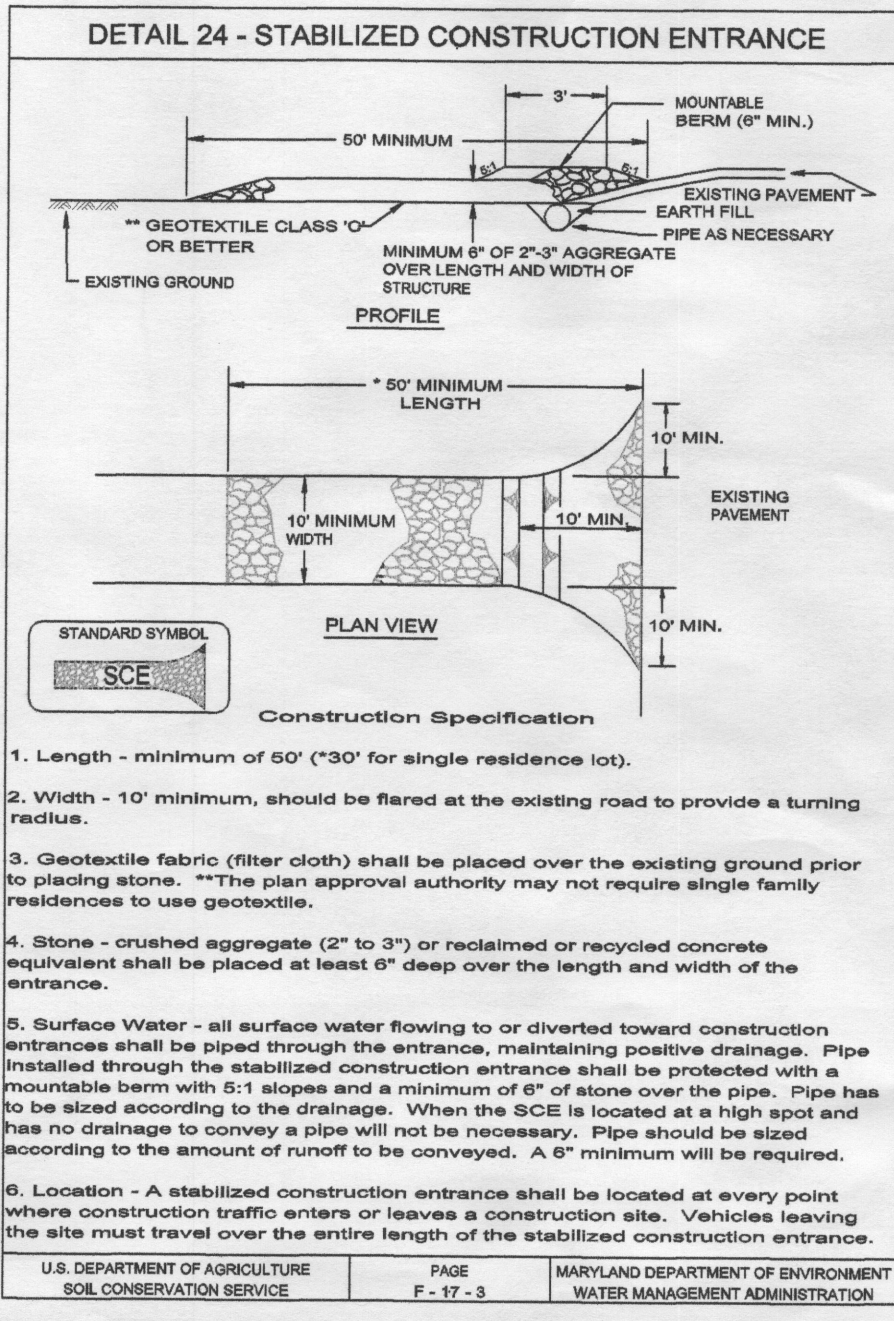
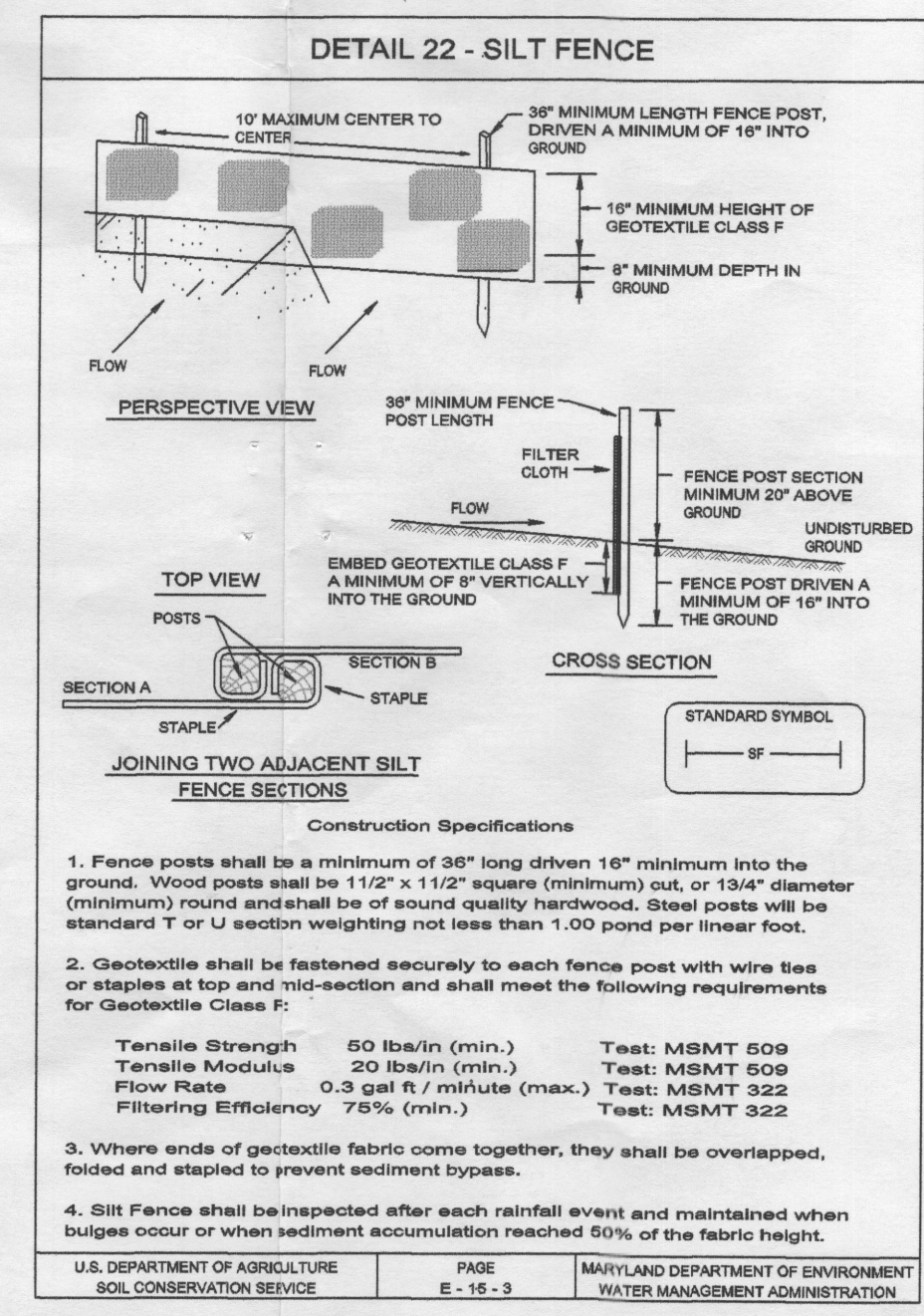
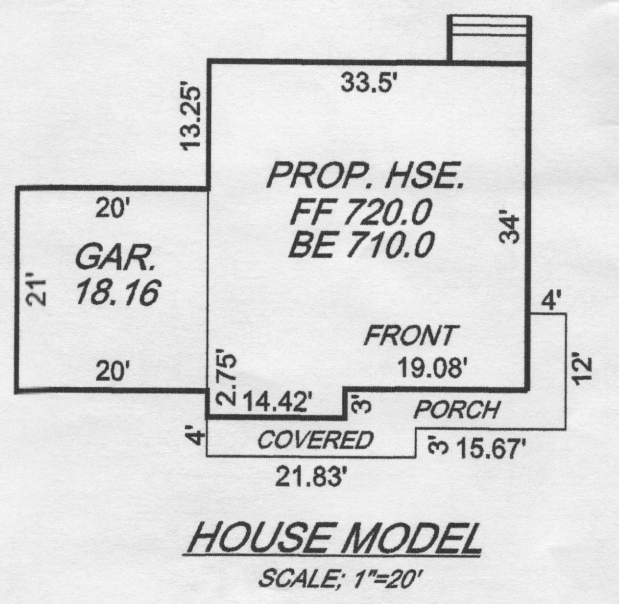
THE NUMBER OF TRENCHES, THEIR LENGTH, DEPTH, AND ORIENTATION TO BE DETERMINED BY HEALTH DEPARTMENT.

**GENERAL NOTES**

1. OWNERS: WILLIS LAMBERT CISSEL, JR. MARJORIE S. CISSEL, ETAL  
c/o CURTIS CUMBERLAND CUMBERLAND DEVELOPMENT CORP.  
16391 MULLINIX RD.  
WOODBINE, MD. 21797
- DEED REFERENCE: LIBER 890, FOLIO 875  
DATE: JUNE 18, 1979  
GRANTOR: A. ROBY HARDY & RAYMOND E. HARDY
- TAX MAP 007, GRID 08, PARCEL 528
- THE BOUNDARY SHOWN HEREON IS BASED UPON RECORDED PLAT OF 'SPRING HOLLOW' PLAT M.D.R. # 13773
- WATER SERVICE IS PRIVATE, SEWER SERVICE IS PRIVATE
- THERE IS NO 100 YEAR FLOOD PLAIN LOCATED ON THIS PROPERTY BASED ON FEMA INSURANCE RATE MAP COMMUNITY PANEL #
- TOPOGRAPHY SHOWN HEREON IS FIELD RUN BASED UPON HOWARD COUNTY GIS DATA NAVD88, CONTOUR INTERVAL = 2 FT. FIELD VERIFIED BY CRC & ASSOC.
- THERE ARE NO WELLS OR SEPTIC SYSTEMS WITHIN 100 FT OF THE SUBJECT PROPERTY UNLESS OTHERWISE SHOWN HEREON.
- EXISTING WELLS HO-85-2380, HO-85-2382, HO-85-2381, HO-85-2380, HO-0156, HO-85-1924 AND THE WELL WITH NO TAG ON ADJOINING PROPERTY 17270 HARDY RD. SHOWN HEREON HAVE BEEN FIELD LOCATED AND SHOWN ACCURATELY.
- SUBJECT PROPERTY IS ZONED RC-DEO
- THE SUBJECT PROPERTY SHOWN HEREON IS NOT SUBJECT TO ANY PRIOR ZONING CASES, VARIANCES OR SPECIAL EXCEPTIONS. PROPERTY HISTORY: S-88-01, P-88-26, & F-88-30
- STORMWATER MANAGEMENT FOR THE SUBJECT PROPERTY SHOWN HEREON HAS BEEN SATISFIED BY TAKING CREDIT FOR DISCONNECTED ROOF TOP AND NON-ROOF TOP RUNOFF IN ACCORDANCE WITH MDE STORM WATER DESIGN MANUAL VOL. 1, SEC. 5.1 AND MDE ENVIRONMENTAL SITE DESIGN (ESSD), THE HOWARD CO. DESIGN MANUAL VOL. 1, CHAPTER 5 REVISED AND THE HOWARD CO. DESIGN ESD, ON SMALL PROJECTS.

**HEALTH DEPARTMENT NOTES**

1. THE LOT SHOWN HEREON COMPLES WITH THE MINIMUM OWNERSHIP, WIDTH AND AREA REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
2. THE AREA DESIGNATES A PRIVATE SEWAGE EASEMENT OF 10,000 SQ-FT. AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWAGE IS AVAILABLE. THESE EASEMENTS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE EASEMENTS.
3. EXISTING WELLS HO-85-2380, HO-85-2382, HO-85-2381, HO-85-2380, HO-0156, HO-85-1924 AND THE WELL WITH NO TAG ON ADJOINING PROPERTY 17270 HARDY RD. SHOWN HEREON HAVE BEEN FIELD LOCATED AND SHOWN ACCURATELY.
4. THERE ARE NO EXISTING WELLS AND SEPTIC SYSTEMS WITHIN 1000' OF THE LOT LINES SHOWN HEREON UNLESS NOTED OTHERWISE.  
⊕ DENOTES 'PASSED' PERCOLATION TEST  
⊗ DENOTES 'FAILED' PERCOLATION TEST
5. THE NEAREST WATER INTAKE STRUCTURE IS FOUR MILES AWAY.



**LEGEND**

EX. PROPERTY LINE	---
EX. RIGHT-OF-WAY	---
PROP. LOT LINES	---
EX. EASEMENTS	---
EX. CONTOURS	---
PROP. CONTOURS	---
EX. TREEWOODS LINE	---
SOILS LINE	---
LIMIT OF DISTURBANCE	---
DENOTES SLOPES 25% OR GREATER	---
DENOTES SLOPES 15% - 25%	---
TEST PIT	⊠
TEST BORING	⊕
STABILIZED CONSTRUCTION ENTRANCE	---
SUPER SILT FENCE	---
SILT FENCE	---

**DEVELOPER:**  
CUMBERLAND DEVELOPMENT CORP.  
C/O CURTIS CUMBERLAND  
16391 MULLINIX RD.  
WOODBINE, MD 21797

**ENVIRONMENTAL CONCEPT PLAN  
NON-SDP RESIDENTIAL PLOT PLAN  
LOT 28  
'SPRING HOLLOW'**  
17281 HARDY ROAD  
SINGLE FAMILY DETACHED  
PLAT M.D.R. #13773  
FOURTH ELECTION DISTRICT TAX MAP #07, GRID 08, PARCEL 528  
ZONED RC-DEO  
HOWARD COUNTY, MARYLAND

Prepared by:  
**CHARLES R. CROCKEN AND ASSOCIATES, INC.**  
902 LEE AVE.  
SYKESVILLE, MARYLAND 21157  
Tel. (410) 549-2708  
Fax. (410) 549-9063

**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. 7803 EXPIRATION DATE 4-22-2015

*Charles R. Crocken* 1-14-14  
CHARLES R. CROCKEN, PE MD. LICENSE REG. NO. 7803 DATE

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

HOWARD COUNTY HEALTH OFFICER DATE

**ENVIRONMENTAL SITE DESIGN NARRATIVE**

1. THERE ARE NO STREAMS, WETLANDS, FLOOD PLAINS OR FORESTED AREAS LOCATED ON THE LOT # 28. THE ON-SITE SEWAGE DISPOSAL AREA HAS BEEN RELOCATED AS FAR TO THE REAR OF THE LOT AS POSSIBLE TO PROVIDE FOR GRADING TO ACHIEVE RUNOFF DISCONNECTS. STORM WATER MANAGEMENT FOR WATER QUALITY IS PROVIDED BY NON-STRUCTURAL RUNOFF REDUCING PRACTICES TO LIMIT THE IMPACT OF THE DEVELOPMENT ON NATURAL RESOURCES AND THE SURROUNDING PROPERTY.
2. GRADING ON SITE IS LIMITED TO ONLY THAT REQUIRED TO ACCOMPLISH DISCONNECTS FOR ROOFTOP RUNOFF WHILE MAINTAINING NATURAL FLOW PATTERNS.
3. IMPERVIOUS AREA WAS HELD TO THE MINIMUM REQUIRED TO ACCOMPLISH THE WORK BY LOCATING THE PROPOSED DWELLING AS CLOSE TO HARDY ROAD AS PRACTICAL BASED UPON THE LOCATION OF EXISTING DWELLINGS ON ADJOINING PROPERTIES.
4. TEMPORARY PERIMETER SEDIMENT CONTROL IN THE FORM OF SUPER SILT FENCE IS PROPOSED IN ORDER TO PROVIDE TEMPORARY SWM VIA RUNOFF RETENTION DURING CONSTRUCTION.
5. ENVIRONMENTAL SITE DESIGN HAS BEEN IMPLEMENTED TO THE MAXIMUM EXTENT POSSIBLE BY THE USE OF ROOFTOP AND NON-ROOFTOP DISCONNECTS, TO SATISFY WATER QUALITY MANAGEMENT.
6. NO WAIVERS FROM THE SUBDIVISION REGULATIONS AND OR DESIGN MANUAL ARE REQUIRED FOR THE PROJECT AS SHOWN HEREON.

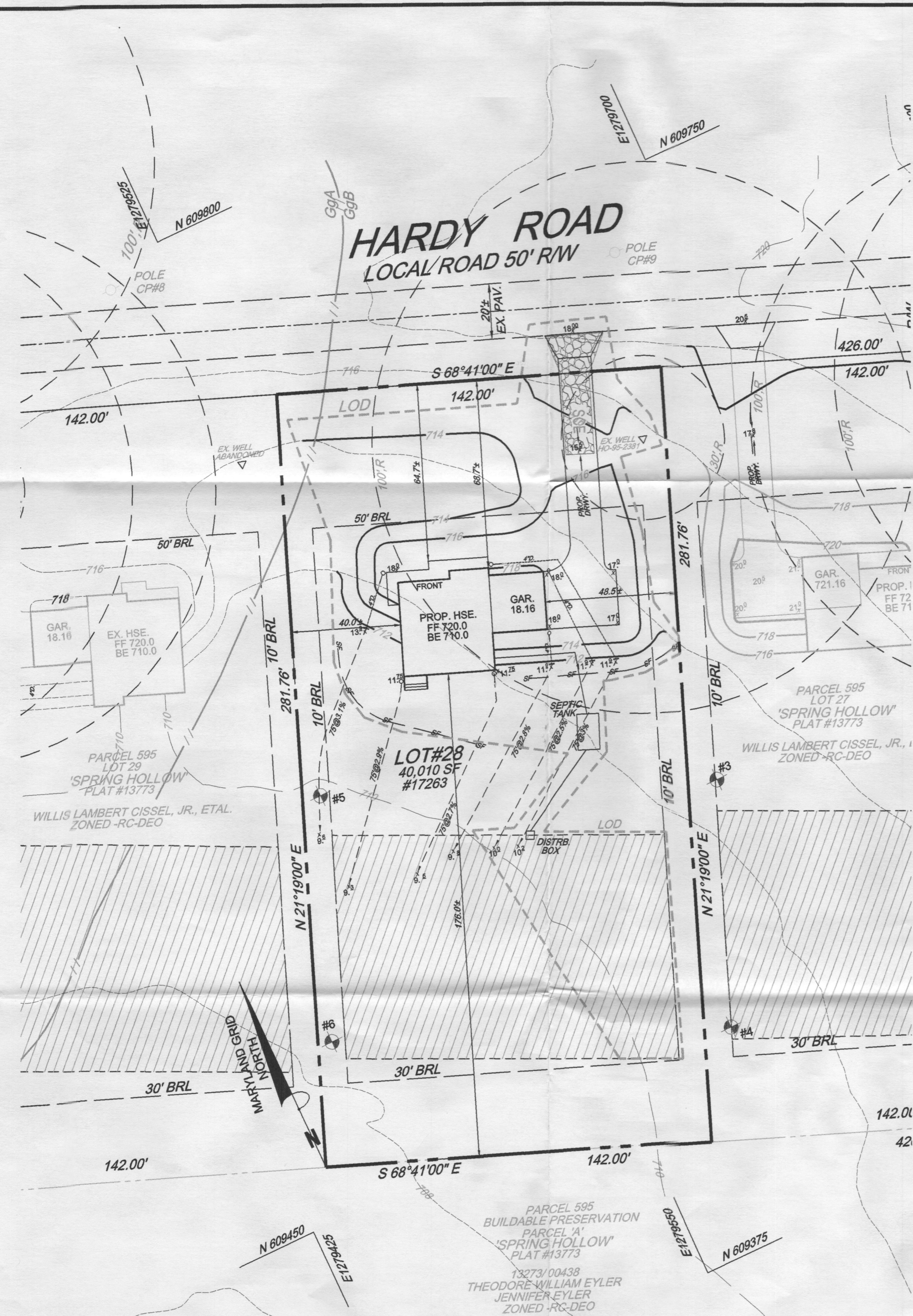
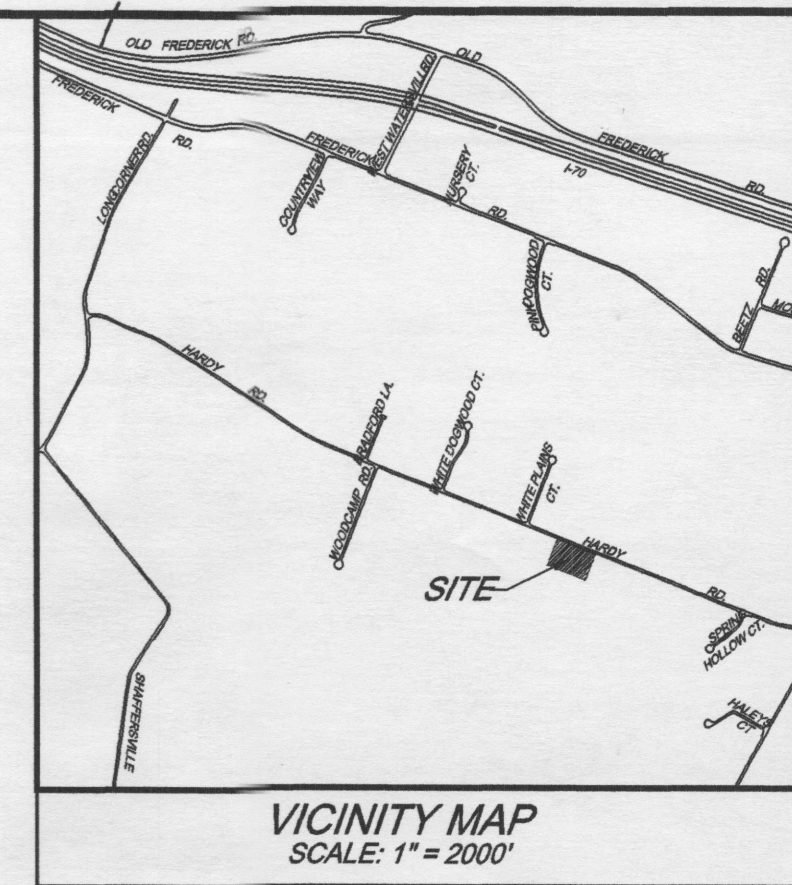
SOILS LEGEND				
SYMBOL	NAME/DESCRIPTION	SOIL GROUP	K-VALUE	HYDRO GROUP
GgA	Clayey loam, 0 to 3 percent slopes	B	0.20	+ NOT HYDRO
GgB	Clayey loam, 3 to 8 percent slopes	B	0.20	- NOT HYDRO

**REQUIRED SEQUENCE OF CONSTRUCTION (SINGLE FAMILY LOT)**

1. OBTAIN GRADING PERMIT (1-DAY)
2. CLEAR AND GRUB FOR INSTALLATION OF TEMPORARY SEDIMENT CONTROL MEASURES, SILT FENCE AND STONE CONSTRUCTION ENTRANCE. (12 DAY)
3. INSTALL TEMPORARY SEDIMENT CONTROL MEASURES (12 DAY)
4. UPON APPROVAL OF SEDIMENT CONTROL INSPECTOR CLEAR AND GRUB SITE FOR CONSTRUCTION OF DWELLING, DRIVEWAY AND WALKS. (1 DAY)
5. GRADE SITE AND CONSTRUCT DWELLING, DRIVEWAY AND WALKS PER APPROVED PLAN (12 - WEEKS)
6. STABILIZE ALL DISTURBED AREAS WITH SEED AND MULCH PER SCS STANDARDS. (2 DAYS)
7. UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR REMOVE ALL TEMPORARY SEDIMENT CONTROL MEASURES AND STABILIZE ALL DISTURBED AREAS PER SCS STANDARDS. (2 DAYS)

**LEGEND-SWM- MDE DESIGNATION**

DOWN SPOUT  
 - N-1  
 DENOTES ROOF-TOP RUNOFF DISCONNECT



**GENERAL NOTES**

1. OWNERS: WILLIS LAMBERT CISSEL, JR. MARJORIE S. CISSEL ETAL  
 C/O CURTIS CUMBERLAND CUMBERLAND DEVELOPEMENT CORP.  
 16391 MULLINIX RD.  
 WOODBINE, MD. 21797
2. TAX MAP 007, GRID 08, PARCEL 528
3. THE BOUNDARY SHOWN HEREON IS BASED UPON RECORDED PLAT OF "SPRING HOLLOW" PLAT M.D.R. # 13773
4. WATER SERVICE IS PRIVATE, SEWER SERVICE IS PRIVATE
5. THERE IS NO 100 YEAR FLOOD PLAN LOCATED ON THIS PROPERTY BASED ON FEMA INSURANCE RATE MAP COMMUNITY PANEL #
6. TOPOGRAPHY SHOWN HEREON IS FIELD RUN BASED UPON HOWARD COUNTY GIS DATA NAVD83 CONTOUR INTERVAL = 2 FT. FIELD VERIFIED BY CRC & ASSOC.
7. THERE ARE NO WELLS OR SEPTIC SYSTEMS WITHIN 100 FT OF THE SUBJECT PROPERTY UNLESS OTHERWISE SHOWN HEREON.
8. EXISTING WELLS HO-95-2380, HO-95-2382, HO-95-2381, HO-95-2380, HO-0156, HO 95-1924 AND THE WELL WITH NO TAG ON ADJOINING PROPERTY 17270 HARDY RD. SHOWN HEREON HAVE BEEN FIELD LOCATED AND SHOWN ACCURATELY.
9. SUBJECT PROPERTY IS ZONED RC-DEO
10. THE SUBJECT PROPERTY SHOWN HEREON IS NOT SUBJECT TO ANY PRIOR ZONING CASES VARIANCES OR SPECIAL EXCEPTIONS. PROPERTY HISTORY 5-98-01, P-88-26, & F-99-30
11. STORMWATER MANAGEMENT FOR THE SUBJECT PROPERTY SHOWN HEREON HAS BEEN SATISFIED BY TAKING CREDIT FOR DISCONNECTED ROOF TOP AND NON-ROOF TOP RUNOFF IN ACCORDANCE WITH MADE STORM WATER DESIGN MANUAL VOL. I, SEC. 5.1 AND MDE ENVIRONMENTAL SITE DESIGN (ESD), THE HOWARD CO. DESIGN MANUAL VOL. I, CHAPTER 5 REVISED AND THE HOWARD CO. DESIGN ESDV ON SMALL PROJECTS.

**SITE ANALYSIS**

TOTAL AREA SITE	40,010 SF
AREA DISTURBED	18,395 SF
TOTAL IMPERVIOUS AREA	4,069 SF
AREA TO BE VEGETATIVELY STABILIZED	14,327 SF
TOTAL VOLUME CUT	252 CY
TOTAL VOLUME FILL	328 CY

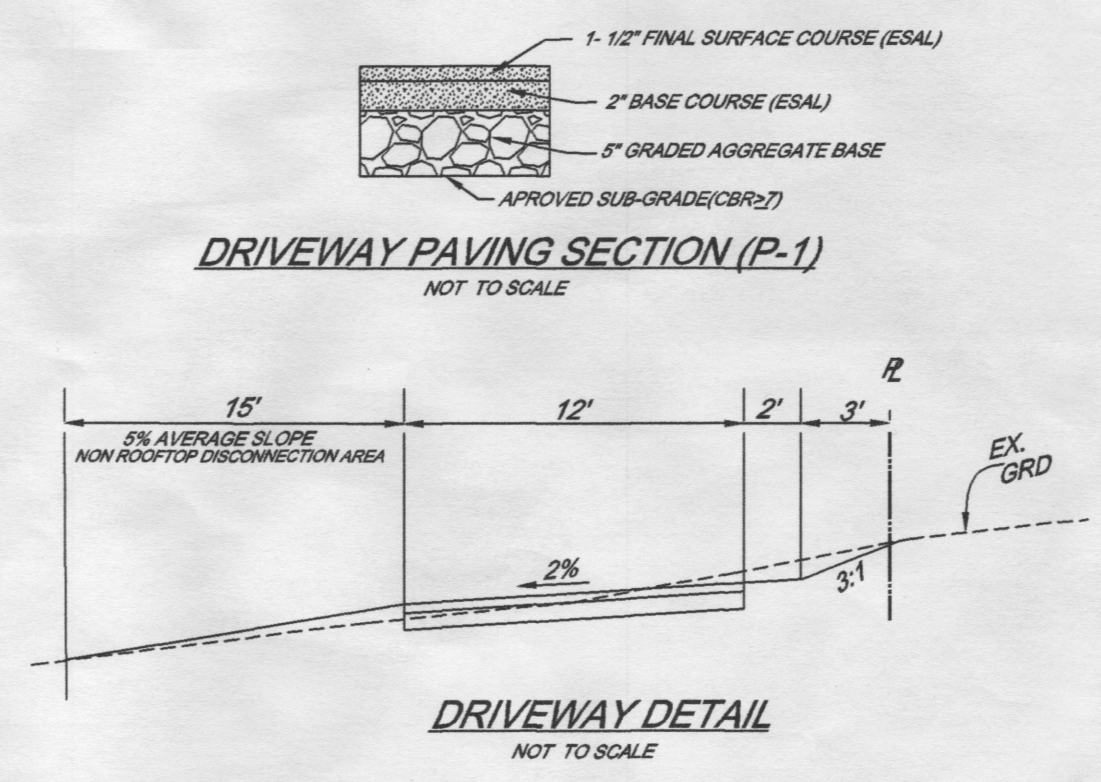
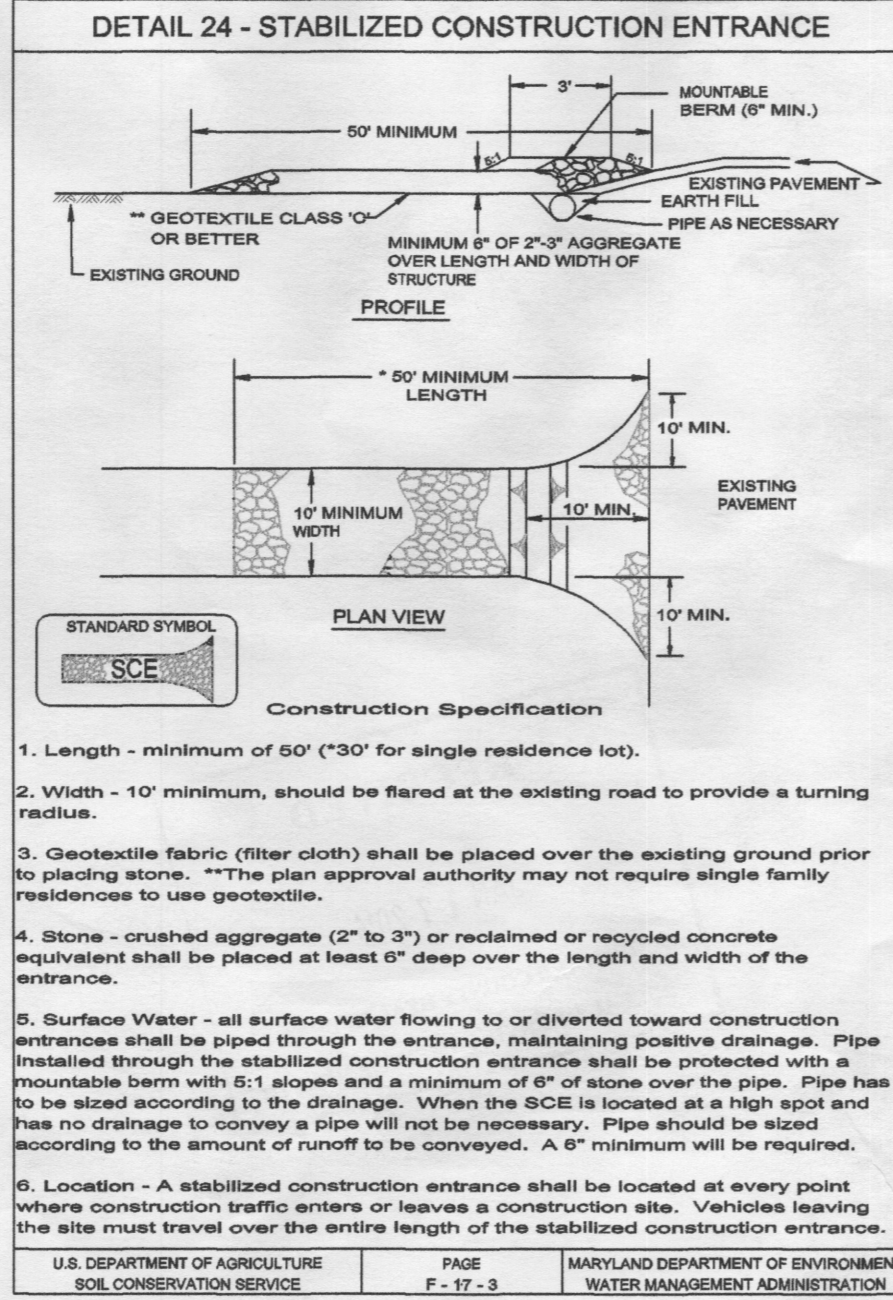
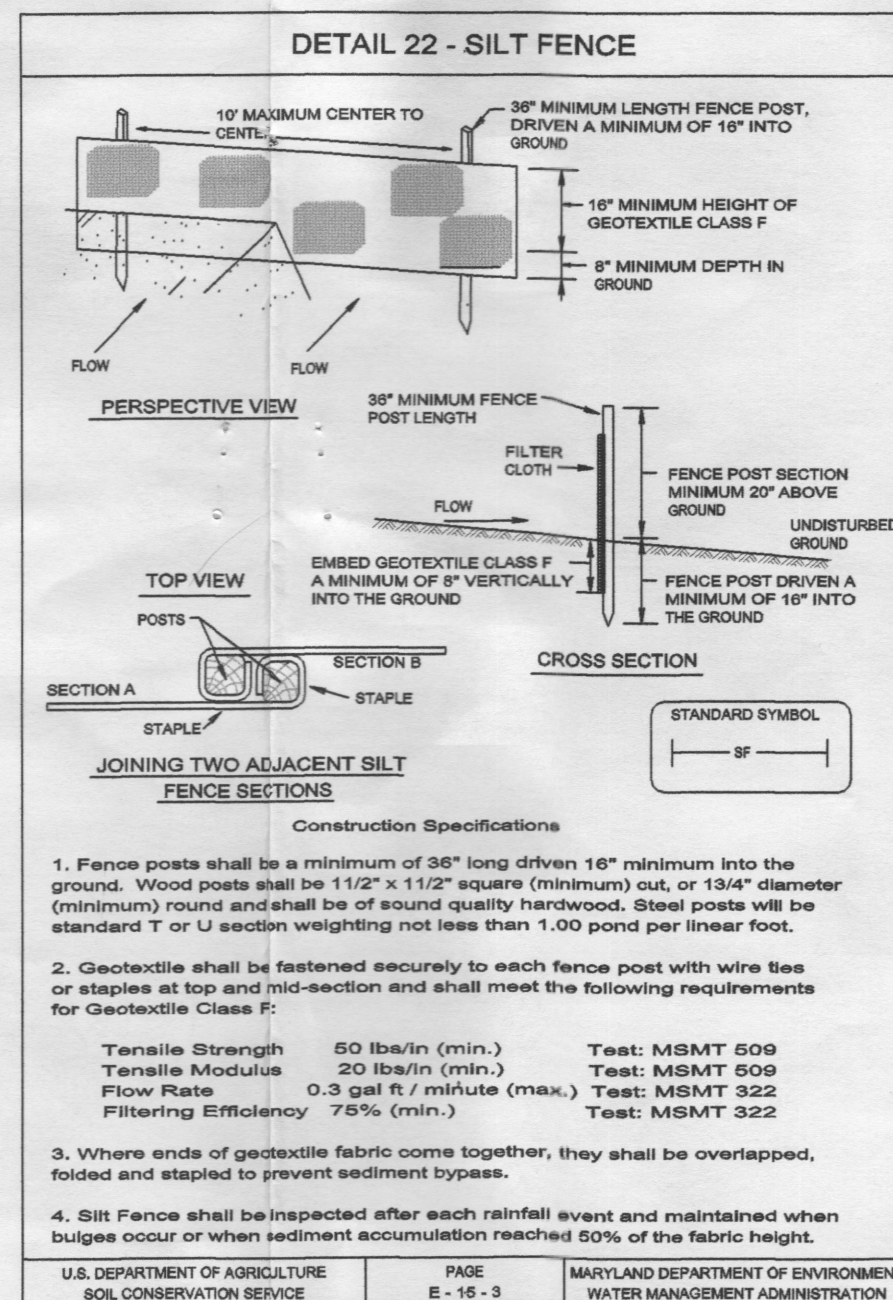
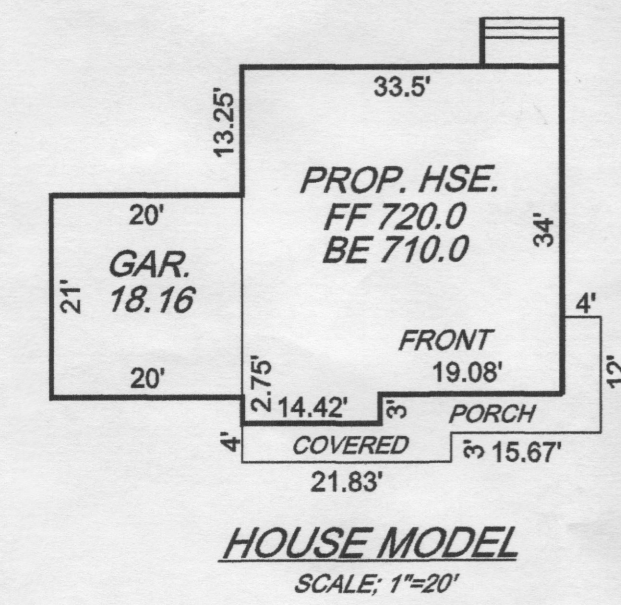
**SEPTIC SYSTEM DATA**

INV. AT HOUSE	708.5
SEPTIC TANK (1500 GAL)	
EX. GRADE	711.5
FIN. GRADE	711.5
INV. IN	708.3
INV. OUT	708.14
DISTRIBUTION BOX	
EX. GRADE	710.5
FIN. GRADE	710.5
INV. IN	707.26
INV. OUT	707.10

THE NUMBER OF TRENCHES, THEIR LENGTH, DEPTH, AND ORIENTATION TO BE DETERMINED BY HEALTH DEPARTMENT.

**HEALTH DEPARTMENT NOTES**

1. THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP, WIDTH AND AREA REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
2. THE AREA DESIGNATES A PRIVATE SEWAGE EASEMENT OF 10,000 SQ-FT. AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWAGE IS AVAILABLE. THESE EASEMENTS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE EASEMENTS.
3. EXISTING WELLS HO-95-2380, HO-95-2382, HO-95-2381, HO-95-2380, HO-0156, HO 95-1924 AND THE WELL WITH NO TAG ON ADJOINING PROPERTY 17270 HARDY RD. SHOWN HEREON HAVE BEEN FIELD LOCATED AND SHOWN ACCURATELY.
4. THERE ARE NO EXISTING WELLS AND SEPTIC SYSTEMS WITHIN 100 FT OF THE LOT LINES SHOWN HEREON UNLESS NOTED OTHERWISE.  
 DENOTES "PASSED" PERCOLATION TEST  
 DENOTES "FAILED" PERCOLATION TEST
5. THE NEAREST WATER INTAKE STRUCTURE IS FOUR MILES +/- AWAY.



**LEGEND**

- EX. PROPERTY LINE
- EX. RIGHT-OF-WAY
- PROP. LOT LINES
- EX. EASEMENTS
- EX. CONTOURS
- PROP. CONTOURS
- EX. TREEWOODS LINE
- SOILS LINE
- LIMIT OF DISTURBANCE
- DENOTES SLOPES 25% OR GREATER
- DENOTES SLOPES 15% - 25%
- TEST FIT
- TEST BORING
- STABILIZED CONSTRUCTION ENTRANCE
- SUPER SILT FENCE
- SILT FENCE

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

HOWARD COUNTY HEALTH OFFICER DATE

**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. 7803 EXPIRATION DATE 4-22-2015  
 Charles R. Crocken, PE, MD, LICENSE REG. NO. 7803 1-14-14 DATE

**DEVELOPER:**  
 CUMBERLAND DEVELOPEMENT CORP.  
 C/O CURTIS CUMBERLAND  
 16391 MULLINIX RD.  
 WOODBINE MD 21797

**ENVIRONMENTAL CONCEPT PLAN**  
 NON-SDP RESIDENTIAL PLOT PLAN  
 LOT 28  
 "SPRING HOLLOW"  
 #17287 HARDY ROAD  
 SINGLE FAMILY DETACHED  
 PLAT M.D.R. #13773  
 ZONED RC-DEO  
 FOURTH ELECTION DISTRICT TAX MAP #07, GRID 08, PARCEL 528  
 HOWARD COUNTY, MARYLAND

Prepared by:  
**CHARLES R. CROCKEN AND ASSOCIATES, INC.**  
 902 LEE AVE.  
 SYKESVILLE, MARYLAND 21157  
 Tel. (410) 548-2708  
 Fax. (410) 548-9063

SCALE: 1" = 30' DATE: 11/11/13 SHEET 1 OF 1





**ENVIRONMENTAL SITE DESIGN NARRATIVE**

1. THESE ARE NO OTHERS. MEASURES ALSO PLANNED OR PROPOSED ARE LOCATED ON THE LOT AS THE QUICKEST SERVICE APPROVAL AREA HAS BEEN RECOMMENDED AS FAR TO THE REAR OF THE LOT AS POSSIBLE TO PROVIDE FOR GRADING TO ACHIEVE RUNOFF ASSIGNMENTS. STORM WATER MANAGEMENT FOR WATER QUALITY IS PROVIDED BY NON-STRUCTURAL RUNOFF REDUCTION PRACTICES TO LIMIT THE IMPACT OF THE DEVELOPMENT ON NATURAL RESOURCES AND THE SURROUNDING PROPERTY.
2. GRADING ON SITE IS LIMITED TO ONLY THAT REQUIRED TO ACCOMPLISH THE WORK BY LOCATING THE PROPOSED DWELLING AS CLOSE TO THE PROPERTY AS POSSIBLE WHILE MAINTAINING MINIMUM FLOOD PLAIN ELEVATIONS.
3. IMPROVED ASBESTOS WAS HELD TO THE MINIMUM REQUIRED TO ACCOMPLISH THE WORK BY LOCATING THE PROPOSED DWELLING AS CLOSE TO THE PROPERTY AS POSSIBLE WHILE MAINTAINING MINIMUM FLOOD PLAIN ELEVATIONS.
4. TEMPORARY PERMITTER SEDIMENT CONTROL IN THE FORM OF SILT FENCES IS PROPOSED IN ORDER TO REMOVE TEMPORARY SWM FROM THE PROPERTY DURING CONSTRUCTION.
5. ENVIRONMENTAL SITE DESIGN HAS BEEN IMPLEMENTED TO THE MAXIMUM EXTENT POSSIBLE BY THE USE OF ROOFTOP AND NON-ROOFTOP SWM PRACTICES TO IMPROVE WATER QUALITY AND PREVENT POLLUTION.
6. NO IMPACTS FROM THE SUBDIVISION REGULATIONS AND ON DESIGN MANUAL ARE REQUIRED FOR THE PROJECT AS SHOWN HEREON.

**SOILS LEGEND**

SYMBOL	NAME/DESCRIPTION	SOIL GROUP	PERCENT	QUALITY	NOTES
GgA	Clayey Silty, 0 to 5 percent slopes	B	0.20	-	NOT FERTILE
GgB	Clayey Silty, 5 to 8 percent slopes	B	0.20	-	NOT FERTILE

**REQUIRED SEQUENCE OF CONSTRUCTION (SINGLE FAMILY LOT)**

1. OBTAIN GRADING PERMIT (1 DAY)
2. CLEAR AND GRADE FOR INSTALLATION OF TEMPORARY SEDIMENT CONTROL MEASURES, SILT FENCES AND STORM CONSTRUCTION ENTRANCE. (12 DAY)
3. INSTALL TEMPORARY SEDIMENT CONTROL MEASURES (12 DAY)
4. LOCAL APPROVAL OF SEDIMENT CONTROL MEASURES CLEAR AND GRAD SITE FOR CONSTRUCTION OF DWELLING (1 DAY)
5. GRAB SITE AND CONSTRUCT DWELLING, DRIVEWAY AND WALLS PER APPROVED PLAN (12 - WEEKS)
6. STABILIZE ALL DISTURBED AREAS WITH SEED AND MULCH PER SES STANDARDS. (2 DAYS)
7. LOCAL APPROVAL OF THE SEDIMENT CONTROL MEASURES REMOVE ALL TEMPORARY SEDIMENT CONTROL MEASURES AND STABILIZE ALL DISTURBED AREAS PER SES STANDARDS. (2 DAYS)

**LEGEND - S.W.M. ME DESIGNATION**

CONTRACT 141 DENOTES ROOF-TOP RUNOFF DISCONNECT

**GENERAL NOTES**

1. OWNERS: WILLIS LAMBERT CROSSEL, JR. 1400 S. SPRING HOLLOW, SPRING HOLLOW, MARYLAND 21787
2. ARCHITECT: CHARLES R. CROCKEN AND ASSOCIATES, INC. 2117 WOODBINE RD., WOODBINE, MD 21797
3. DESIGNER: JAMES EARL, P.O. BOX 675, GRANVILLE, A. ROBY WARDY & RAYMOND E. HANCOCK, INC. 1400 S. SPRING HOLLOW, SPRING HOLLOW, MARYLAND 21787
4. WATER SERVICE IS PRIVATE. SEWER SERVICE IS PRIVATE.
5. THERE IS NO 100 YEAR FLOOD PLAIN LOCATED ON THIS PROPERTY BASED ON FEMA INSURANCE RATE DATA COMPARISON TABLE 2.
6. HYDROGRAPHIC SURVEY HAS BEEN CONDUCTED BY THE SUBJECT PROPERTY OWNER AND IS ON FILE WITH THE COUNTY ENGINEER'S OFFICE.
7. THERE ARE NO WELLS OR SEPTIC SYSTEMS WITHIN 100 FT. OF THE SUBJECT PROPERTY UNLESS OTHERWISE SHOWN HEREON.
8. EXISTING WELLS (WELL NO. 1, WELLS NO. 2, WELLS NO. 3, WELLS NO. 4, WELLS NO. 5, WELLS NO. 6, WELLS NO. 7, WELLS NO. 8, WELLS NO. 9, WELLS NO. 10, WELLS NO. 11, WELLS NO. 12, WELLS NO. 13, WELLS NO. 14, WELLS NO. 15, WELLS NO. 16, WELLS NO. 17, WELLS NO. 18, WELLS NO. 19, WELLS NO. 20, WELLS NO. 21, WELLS NO. 22, WELLS NO. 23, WELLS NO. 24, WELLS NO. 25, WELLS NO. 26, WELLS NO. 27, WELLS NO. 28, WELLS NO. 29, WELLS NO. 30, WELLS NO. 31, WELLS NO. 32, WELLS NO. 33, WELLS NO. 34, WELLS NO. 35, WELLS NO. 36, WELLS NO. 37, WELLS NO. 38, WELLS NO. 39, WELLS NO. 40, WELLS NO. 41, WELLS NO. 42, WELLS NO. 43, WELLS NO. 44, WELLS NO. 45, WELLS NO. 46, WELLS NO. 47, WELLS NO. 48, WELLS NO. 49, WELLS NO. 50, WELLS NO. 51, WELLS NO. 52, WELLS NO. 53, WELLS NO. 54, WELLS NO. 55, WELLS NO. 56, WELLS NO. 57, WELLS NO. 58, WELLS NO. 59, WELLS NO. 60, WELLS NO. 61, WELLS NO. 62, WELLS NO. 63, WELLS NO. 64, WELLS NO. 65, WELLS NO. 66, WELLS NO. 67, WELLS NO. 68, WELLS NO. 69, WELLS NO. 70, WELLS NO. 71, WELLS NO. 72, WELLS NO. 73, WELLS NO. 74, WELLS NO. 75, WELLS NO. 76, WELLS NO. 77, WELLS NO. 78, WELLS NO. 79, WELLS NO. 80, WELLS NO. 81, WELLS NO. 82, WELLS NO. 83, WELLS NO. 84, WELLS NO. 85, WELLS NO. 86, WELLS NO. 87, WELLS NO. 88, WELLS NO. 89, WELLS NO. 90, WELLS NO. 91, WELLS NO. 92, WELLS NO. 93, WELLS NO. 94, WELLS NO. 95, WELLS NO. 96, WELLS NO. 97, WELLS NO. 98, WELLS NO. 99, WELLS NO. 100, WELLS NO. 101, WELLS NO. 102, WELLS NO. 103, WELLS NO. 104, WELLS NO. 105, WELLS NO. 106, WELLS NO. 107, WELLS NO. 108, WELLS NO. 109, WELLS NO. 110, WELLS NO. 111, WELLS NO. 112, WELLS NO. 113, WELLS NO. 114, WELLS NO. 115, WELLS NO. 116, WELLS NO. 117, WELLS NO. 118, WELLS NO. 119, WELLS NO. 120, WELLS NO. 121, WELLS NO. 122, WELLS NO. 123, WELLS NO. 124, WELLS NO. 125, WELLS NO. 126, WELLS NO. 127, WELLS NO. 128, WELLS NO. 129, WELLS NO. 130, WELLS NO. 131, WELLS NO. 132, WELLS NO. 133, WELLS NO. 134, WELLS NO. 135, WELLS NO. 136, WELLS NO. 137, WELLS NO. 138, WELLS NO. 139, WELLS NO. 140, WELLS NO. 141, WELLS NO. 142, WELLS NO. 143, WELLS NO. 144, WELLS NO. 145, WELLS NO. 146, WELLS NO. 147, WELLS NO. 148, WELLS NO. 149, WELLS NO. 150, WELLS NO. 151, WELLS NO. 152, WELLS NO. 153, WELLS NO. 154, WELLS NO. 155, WELLS NO. 156, WELLS NO. 157, WELLS NO. 158, WELLS NO. 159, WELLS NO. 160, WELLS NO. 161, WELLS NO. 162, WELLS NO. 163, WELLS NO. 164, WELLS NO. 165, WELLS NO. 166, WELLS NO. 167, WELLS NO. 168, WELLS NO. 169, WELLS NO. 170, WELLS NO. 171, WELLS NO. 172, WELLS NO. 173, WELLS NO. 174, WELLS NO. 175, WELLS NO. 176, WELLS NO. 177, WELLS NO. 178, WELLS NO. 179, WELLS NO. 180, WELLS NO. 181, WELLS NO. 182, WELLS NO. 183, WELLS NO. 184, WELLS NO. 185, WELLS NO. 186, WELLS NO. 187, WELLS NO. 188, WELLS NO. 189, WELLS NO. 190, WELLS NO. 191, WELLS NO. 192, WELLS NO. 193, WELLS NO. 194, WELLS NO. 195, WELLS NO. 196, WELLS NO. 197, WELLS NO. 198, WELLS NO. 199, WELLS NO. 200, WELLS NO. 201, WELLS NO. 202, WELLS NO. 203, WELLS NO. 204, WELLS NO. 205, WELLS NO. 206, WELLS NO. 207, WELLS NO. 208, WELLS NO. 209, WELLS NO. 210, WELLS NO. 211, WELLS NO. 212, WELLS NO. 213, WELLS NO. 214, WELLS NO. 215, WELLS NO. 216, WELLS NO. 217, WELLS NO. 218, WELLS NO. 219, WELLS NO. 220, WELLS NO. 221, WELLS NO. 222, WELLS NO. 223, WELLS NO. 224, WELLS NO. 225, WELLS NO. 226, WELLS NO. 227, WELLS NO. 228, WELLS NO. 229, WELLS NO. 230, WELLS NO. 231, WELLS NO. 232, WELLS NO. 233, WELLS NO. 234, WELLS NO. 235, WELLS NO. 236, WELLS NO. 237, WELLS NO. 238, WELLS NO. 239, WELLS NO. 240, WELLS NO. 241, WELLS NO. 242, WELLS NO. 243, WELLS NO. 244, WELLS NO. 245, WELLS NO. 246, WELLS NO. 247, WELLS NO. 248, WELLS NO. 249, WELLS NO. 250, WELLS NO. 251, WELLS NO. 252, WELLS NO. 253, WELLS NO. 254, WELLS NO. 255, WELLS NO. 256, WELLS NO. 257, WELLS NO. 258, WELLS NO. 259, WELLS NO. 260, WELLS NO. 261, WELLS NO. 262, WELLS NO. 263, WELLS NO. 264, WELLS NO. 265, WELLS NO. 266, WELLS NO. 267, WELLS NO. 268, WELLS NO. 269, WELLS NO. 270, WELLS NO. 271, WELLS NO. 272, WELLS NO. 273, WELLS NO. 274, WELLS NO. 275, WELLS NO. 276, WELLS NO. 277, WELLS NO. 278, WELLS NO. 279, WELLS NO. 280, WELLS NO. 281, WELLS NO. 282, WELLS NO. 283, WELLS NO. 284, WELLS NO. 285, WELLS NO. 286, WELLS NO. 287, WELLS NO. 288, WELLS NO. 289, WELLS NO. 290, WELLS NO. 291, WELLS NO. 292, WELLS NO. 293, WELLS NO. 294, WELLS NO. 295, WELLS NO. 296, WELLS NO. 297, WELLS NO. 298, WELLS NO. 299, WELLS NO. 300, WELLS NO. 301, WELLS NO. 302, WELLS NO. 303, WELLS NO. 304, WELLS NO. 305, WELLS NO. 306, WELLS NO. 307, WELLS NO. 308, WELLS NO. 309, WELLS NO. 310, WELLS NO. 311, WELLS NO. 312, WELLS NO. 313, WELLS NO. 314, WELLS NO. 315, WELLS NO. 316, WELLS NO. 317, WELLS NO. 318, WELLS NO. 319, WELLS NO. 320, WELLS NO. 321, WELLS NO. 322, WELLS NO. 323, WELLS NO. 324, WELLS NO. 325, WELLS NO. 326, WELLS NO. 327, WELLS NO. 328, WELLS NO. 329, WELLS NO. 330, WELLS NO. 331, WELLS NO. 332, WELLS NO. 333, WELLS NO. 334, WELLS NO. 335, WELLS NO. 336, WELLS NO. 337, WELLS NO. 338, WELLS NO. 339, WELLS NO. 340, WELLS NO. 341, WELLS NO. 342, WELLS NO. 343, WELLS NO. 344, WELLS NO. 345, WELLS NO. 346, WELLS NO. 347, WELLS NO. 348, WELLS NO. 349, WELLS NO. 350, WELLS NO. 351, WELLS NO. 352, WELLS NO. 353, WELLS NO. 354, WELLS NO. 355, WELLS NO. 356, WELLS NO. 357, WELLS NO. 358, WELLS NO. 359, WELLS NO. 360, WELLS NO. 361, WELLS NO. 362, WELLS NO. 363, WELLS NO. 364, WELLS NO. 365, WELLS NO. 366, WELLS NO. 367, WELLS NO. 368, WELLS NO. 369, WELLS NO. 370, WELLS NO. 371, WELLS NO. 372, WELLS NO. 373, WELLS NO. 374, WELLS NO. 375, WELLS NO. 376, WELLS NO. 377, WELLS NO. 378, WELLS NO. 379, WELLS NO. 380, WELLS NO. 381, WELLS NO. 382, WELLS NO. 383, WELLS NO. 384, WELLS NO. 385, WELLS NO. 386, WELLS NO. 387, WELLS NO. 388, WELLS NO. 389, WELLS NO. 390, WELLS NO. 391, WELLS NO. 392, WELLS NO. 393, WELLS NO. 394, WELLS NO. 395, WELLS NO. 396, WELLS NO. 397, WELLS NO. 398, WELLS NO. 399, WELLS NO. 400, WELLS NO. 401, WELLS NO. 402, WELLS NO. 403, WELLS NO. 404, WELLS NO. 405, WELLS NO. 406, WELLS NO. 407, WELLS NO. 408, WELLS NO. 409, WELLS NO. 410, WELLS NO. 411, WELLS NO. 412, WELLS NO. 413, WELLS NO. 414, WELLS NO. 415, WELLS NO. 416, WELLS NO. 417, WELLS NO. 418, WELLS NO. 419, WELLS NO. 420, WELLS NO. 421, WELLS NO. 422, WELLS NO. 423, WELLS NO. 424, WELLS NO. 425, WELLS NO. 426, WELLS NO. 427, WELLS NO. 428, WELLS NO. 429, WELLS NO. 430, WELLS NO. 431, WELLS NO. 432, WELLS NO. 433, WELLS NO. 434, WELLS NO. 435, WELLS NO. 436, WELLS NO. 437, WELLS NO. 438, WELLS NO. 439, WELLS NO. 440, WELLS NO. 441, WELLS NO. 442, WELLS NO. 443, WELLS NO. 444, WELLS NO. 445, WELLS NO. 446, WELLS NO. 447, WELLS NO. 448, WELLS NO. 449, WELLS NO. 450, WELLS NO. 451, WELLS NO. 452, WELLS NO. 453, WELLS NO. 454, WELLS NO. 455, WELLS NO. 456, WELLS NO. 457, WELLS NO. 458, WELLS NO. 459, WELLS NO. 460, WELLS NO. 461, WELLS NO. 462, WELLS NO. 463, WELLS NO. 464, WELLS NO. 465, WELLS NO. 466, WELLS NO. 467, WELLS NO. 468, WELLS NO. 469, WELLS NO. 470, WELLS NO. 471, WELLS NO. 472, WELLS NO. 473, WELLS NO. 474, WELLS NO. 475, WELLS NO. 476, WELLS NO. 477, WELLS NO. 478, WELLS NO. 479, WELLS NO. 480, WELLS NO. 481, WELLS NO. 482, WELLS NO. 483, WELLS NO. 484, WELLS NO. 485, WELLS NO. 486, WELLS NO. 487, WELLS NO. 488, WELLS NO. 489, WELLS NO. 490, WELLS NO. 491, WELLS NO. 492, WELLS NO. 493, WELLS NO. 494, WELLS NO. 495, WELLS NO. 496, WELLS NO. 497, WELLS NO. 498, WELLS NO. 499, WELLS NO. 500, WELLS NO. 501, WELLS NO. 502, WELLS NO. 503, WELLS NO. 504, WELLS NO. 505, WELLS NO. 506, WELLS NO. 507, WELLS NO. 508, WELLS NO. 509, WELLS NO. 510, WELLS NO. 511, WELLS NO. 512, WELLS NO. 513, WELLS NO. 514, WELLS NO. 515, WELLS NO. 516, WELLS NO. 517, WELLS NO. 518, WELLS NO. 519, WELLS NO. 520, WELLS NO. 521, WELLS NO. 522, WELLS NO. 523, WELLS NO. 524, WELLS NO. 525, WELLS NO. 526, WELLS NO. 527, WELLS NO. 528, WELLS NO. 529, WELLS NO. 530, WELLS NO. 531, WELLS NO. 532, WELLS NO. 533, WELLS NO. 534, WELLS NO. 535, WELLS NO. 536, WELLS NO. 537, WELLS NO. 538, WELLS NO. 539, WELLS NO. 540, WELLS NO. 541, WELLS NO. 542, WELLS NO. 543, WELLS NO. 544, WELLS NO. 545, WELLS NO. 546, WELLS NO. 547, WELLS NO. 548, WELLS NO. 549, WELLS NO. 550, WELLS NO. 551, WELLS NO. 552, WELLS NO. 553, WELLS NO. 554, WELLS NO. 555, WELLS NO. 556, WELLS NO. 557, WELLS NO. 558, WELLS NO. 559, WELLS NO. 560, WELLS NO. 561, WELLS NO. 562, WELLS NO. 563, WELLS NO. 564, WELLS NO. 565, WELLS NO. 566, WELLS NO. 567, WELLS NO. 568, WELLS NO. 569, WELLS NO. 570, WELLS NO. 571, WELLS NO. 572, WELLS NO. 573, WELLS NO. 574, WELLS NO. 575, WELLS NO. 576, WELLS NO. 577, WELLS NO. 578, WELLS NO. 579, WELLS NO. 580, WELLS NO. 581, WELLS NO. 582, WELLS NO. 583, WELLS NO. 584, WELLS NO. 585, WELLS NO. 586, WELLS NO. 587, WELLS NO. 588, WELLS NO. 589, WELLS NO. 590, WELLS NO. 591, WELLS NO. 592, WELLS NO. 593, WELLS NO. 594, WELLS NO. 595, WELLS NO. 596, WELLS NO. 597, WELLS NO. 598, WELLS NO. 599, WELLS NO. 600, WELLS NO. 601, WELLS NO. 602, WELLS NO. 603, WELLS NO. 604, WELLS NO. 605, WELLS NO. 606, WELLS NO. 607, WELLS NO. 608, WELLS NO. 609, WELLS NO. 610, WELLS NO. 611, WELLS NO. 612, WELLS NO. 613, WELLS NO. 614, WELLS NO. 615, WELLS NO. 616, WELLS NO. 617, WELLS NO. 618, WELLS NO. 619, WELLS NO. 620, WELLS NO. 621, WELLS NO. 622, WELLS NO. 623, WELLS NO. 624, WELLS NO. 625, WELLS NO. 626, WELLS NO. 627, WELLS NO. 628, WELLS NO. 629, WELLS NO. 630, WELLS NO. 631, WELLS NO. 632, WELLS NO. 633, WELLS NO. 634, WELLS NO. 635, WELLS NO. 636, WELLS NO. 637, WELLS NO. 638, WELLS NO. 639, WELLS NO. 640, WELLS NO. 641, WELLS NO. 642, WELLS NO. 643, WELLS NO. 644, WELLS NO. 645, WELLS NO. 646, WELLS NO. 647, WELLS NO. 648, WELLS NO. 649, WELLS NO. 650, WELLS NO. 651, WELLS NO. 652, WELLS NO. 653, WELLS NO. 654, WELLS NO. 655, WELLS NO. 656, WELLS NO. 657, WELLS NO. 658, WELLS NO. 659, WELLS NO. 660, WELLS NO. 661, WELLS NO. 662, WELLS NO. 663, WELLS NO. 664, WELLS NO. 665, WELLS NO. 666, WELLS NO. 667, WELLS NO. 668, WELLS NO. 669, WELLS NO. 670, WELLS NO. 671, WELLS NO. 672, WELLS NO. 673, WELLS NO. 674, WELLS NO. 675, WELLS NO. 676, WELLS NO. 677, WELLS NO. 678, WELLS NO. 679, WELLS NO. 680, WELLS NO. 681, WELLS NO. 682, WELLS NO. 683, WELLS NO. 684, WELLS NO. 685, WELLS NO. 686, WELLS NO. 687, WELLS NO. 688, WELLS NO. 689, WELLS NO. 690, WELLS NO. 691, WELLS NO. 692, WELLS NO. 693, WELLS NO. 694, WELLS NO. 695, WELLS NO. 696, WELLS NO. 697, WELLS NO. 698, WELLS NO. 699, WELLS NO. 700, WELLS NO. 701, WELLS NO. 702, WELLS NO. 703, WELLS NO. 704, WELLS NO. 705, WELLS NO. 706, WELLS NO. 707, WELLS NO. 708, WELLS NO. 709, WELLS NO. 710, WELLS NO. 711, WELLS NO. 712, WELLS NO. 713, WELLS NO. 714, WELLS NO. 715, WELLS NO. 716, WELLS NO. 717, WELLS NO. 718, WELLS NO. 719, WELLS NO. 720, WELLS NO. 721, WELLS NO. 722, WELLS NO. 723, WELLS NO. 724, WELLS NO. 725, WELLS NO. 726, WELLS NO. 727, WELLS NO. 728, WELLS NO. 729, WELLS NO. 730, WELLS NO. 731, WELLS NO. 732, WELLS NO. 733, WELLS NO. 734, WELLS NO. 735, WELLS NO. 736, WELLS NO. 737, WELLS NO. 738, WELLS NO. 739, WELLS NO. 740, WELLS NO. 741, WELLS NO. 742, WELLS NO. 743, WELLS NO. 744, WELLS NO. 745, WELLS NO. 746, WELLS NO. 747, WELLS NO. 748, WELLS NO. 749, WELLS NO. 750, WELLS NO. 751, WELLS NO. 752, WELLS NO. 753, WELLS NO. 754, WELLS NO. 755, WELLS NO. 756, WELLS NO. 757, WELLS NO. 758, WELLS NO. 759, WELLS NO. 760, WELLS NO. 761, WELLS NO. 762, WELLS NO. 763, WELLS NO. 764, WELLS NO. 765, WELLS NO. 766, WELLS NO. 767, WELLS NO. 768, WELLS NO. 769, WELLS NO. 770, WELLS NO. 771, WELLS NO. 772, WELLS NO. 773, WELLS NO. 774, WELLS NO. 775, WELLS NO. 776, WELLS NO. 777, WELLS NO. 778, WELLS NO. 779, WELLS NO. 780, WELLS NO. 781, WELLS NO. 782, WELLS NO. 783, WELLS NO. 784, WELLS NO. 785, WELLS NO. 786, WELLS NO. 787, WELLS NO. 788, WELLS NO. 789, WELLS NO. 790, WELLS NO. 791, WELLS NO. 792, WELLS NO. 793, WELLS NO. 794, WELLS NO. 795, WELLS NO. 796, WELLS NO. 797, WELLS NO. 798, WELLS NO. 799, WELLS NO. 800, WELLS NO. 801, WELLS NO. 802, WELLS NO. 803, WELLS NO. 804, WELLS NO. 805, WELLS NO. 806, WELLS NO. 807, WELLS NO. 808, WELLS NO. 809, WELLS NO. 810, WELLS NO. 811, WELLS NO. 812, WELLS NO. 813, WELLS NO. 814, WELLS NO. 815, WELLS NO. 816, WELLS NO. 817, WELLS NO. 818, WELLS NO. 819, WELLS NO. 820, WELLS NO. 821, WELLS NO. 822, WELLS NO. 823, WELLS NO. 824, WELLS NO. 825, WELLS NO. 826, WELLS NO. 827, WELLS NO. 828, WELLS NO. 829, WELLS NO. 830, WELLS NO. 831, WELLS NO. 832, WELLS NO. 833, WELLS NO. 834, WELLS NO. 835, WELLS NO. 836, WELLS NO. 837, WELLS NO. 838, WELLS NO. 839, WELLS NO. 840, WELLS NO. 841, WELLS NO. 842, WELLS NO. 843, WELLS NO. 844, WELLS NO. 845, WELLS NO. 846, WELLS NO. 847, WELLS NO. 848, WELLS NO. 849, WELLS NO. 850, WELLS NO. 851, WELLS NO. 852, WELLS NO. 853, WELLS NO. 854, WELLS NO. 855, WELLS NO. 856, WELLS NO. 857, WELLS NO. 858, WELLS NO. 859, WELLS NO. 860, WELLS NO. 861, WELLS NO. 862, WELLS NO. 863, WELLS NO. 864, WELLS NO. 865, WELLS NO. 866, WELLS NO. 867, WELLS NO. 868, WELLS NO. 869, WELLS NO. 870, WELLS NO. 871, WELLS NO. 872, WELLS NO. 873, WELLS NO. 874, WELLS NO. 875, WELLS NO. 876, WELLS NO. 877, WELLS NO. 878, WELLS NO. 879, WELLS NO. 880, WELLS NO. 881, WELLS NO. 882, WELLS NO. 883, WELLS NO. 884, WELLS NO. 885, WELLS NO. 886, WELLS NO. 887, WELLS NO. 888, WELLS NO. 889, WELLS NO. 890, WELLS NO. 891, WELLS NO. 892, WELLS NO. 893, WELLS NO. 894, WELLS NO. 895, WELLS NO. 896, WELLS NO. 897, WELLS NO. 898, WELLS NO. 899, WELLS NO. 900, WELLS NO. 901, WELLS NO. 902, WELLS NO. 903, WELLS NO. 904, WELLS NO. 905, WELLS NO. 906, WELLS NO. 907, WELLS NO. 908, WELLS NO. 909, WELLS NO. 910, WELLS NO. 911, WELLS NO. 912, WELLS NO. 913, WELLS NO. 914, WELLS NO. 915, WELLS NO. 916, WELLS NO. 917, WELLS NO. 918, WELLS NO. 919, WELLS NO. 920, WELLS NO. 921, WELLS NO. 922, WELLS NO. 923, WELLS NO. 924, WELLS NO. 925, WELLS NO. 926, WELLS NO. 927, WELLS NO. 928, WELLS NO. 929, WELLS NO. 930, WELLS NO. 931, WELLS NO. 932, WELLS NO. 933, WELLS NO. 934, WELLS NO. 935, WELLS NO. 936, WELLS NO. 937, WELLS NO. 938, WELLS NO. 939, WELLS NO. 940, WELLS NO. 941, WELLS NO. 942, WELLS NO. 943, WELLS NO. 944, WELLS NO. 945, WELLS NO. 946, WELLS NO. 947, WELLS NO. 948, WELLS NO. 949, WELLS NO. 950, WELLS NO. 951, WELLS NO. 952, WELLS NO. 953, WELLS NO. 954, WELLS NO. 955, WELLS NO. 956, WELLS NO. 957, WELLS NO. 958, WELLS NO. 959, WELLS NO. 960, WELLS NO. 961, WELLS NO. 962, WELLS NO. 963, WELLS NO. 964, WELLS NO. 965, WELLS NO. 966, WELLS NO. 967, WELLS NO. 968, WELLS NO. 969, WELLS NO. 970, WELLS NO. 971, WELLS NO. 972, WELLS NO. 973, WELLS NO. 974, WELLS NO. 975, WELLS NO. 976, WELLS NO. 977, WELLS NO. 978, WELLS NO. 979, WELLS NO. 980, WELLS NO. 981, WELLS NO. 982, WELLS NO. 983, WELLS NO. 984, WELLS NO. 985, WELLS NO. 986, WELLS NO. 987, WELLS NO. 988, WELLS NO. 989, WELLS NO. 990, WELLS NO. 991, WELLS NO. 992, WELLS NO. 993, WELLS NO. 994, WELLS NO. 995, WELLS NO. 996, WELLS NO. 997, WELLS NO. 998, WELLS NO. 999, WELLS NO. 1000, WELLS NO. 1001, WELLS NO. 1002, WELLS NO. 1003, WELLS NO. 1004, WELLS NO. 1005, WELLS NO. 1006, WELLS NO. 1007, WELLS NO. 1008, WELLS NO. 1009, WELLS NO. 1010, WELLS NO. 1011, WELLS NO. 1012, WELLS NO. 1013, WELLS NO. 1014, WELLS NO. 1015, WELLS NO. 1016, WELLS NO. 1017, WELLS NO. 1018, WELLS NO. 1019, WELLS NO. 1020, WELLS NO. 1021, WELLS NO. 1022, WELLS NO. 1023, WELLS NO. 1024, WELLS NO. 1025, WELLS NO. 1026, WELLS NO. 1027, WELLS NO. 1028, WELLS NO. 1029, WELLS NO. 1030, WELLS NO. 1031, WELLS NO. 1032, WELLS NO. 1033, WELLS NO. 1034, WELLS NO. 1035, WELLS NO. 1036, WELLS NO. 1037, WELLS NO. 1038, WELLS NO. 1039, WELLS NO. 1040, WELLS NO. 1041, WELLS NO. 1042, WELLS NO. 1043, WELLS NO. 1044, WELLS NO. 1045, WELLS NO. 1046, WELLS NO. 1047, WELLS NO. 1048, WELLS NO. 1049, WELLS NO. 1050, WELLS NO. 1051, WELLS NO. 1052, WELLS NO. 1053, WELLS NO. 1054, WELLS NO. 1055, WELLS NO. 1056, WELLS NO. 1057, WELLS NO. 1058, WELLS NO. 1059, WELLS NO. 1060, WELLS NO. 1061, WELLS NO. 1062, WELLS NO. 1063, WELLS NO. 1064, WELLS NO. 1065, WELLS NO. 1066, WELLS NO. 1067, WELLS NO. 1068, WELLS NO. 1069, WELLS NO. 1070, WELLS NO. 1071, WELLS NO. 1072, WELLS NO. 1073, WELLS NO. 1074, WELLS NO. 1075, WELLS NO. 1076, WELLS NO. 1077, WELLS NO. 1078, WELLS NO. 1079, WELLS NO. 1080, WELLS NO. 1081, WELLS NO. 1082, WELLS NO. 1083, WELLS NO. 1084, WELLS NO. 1085, WELLS NO.