

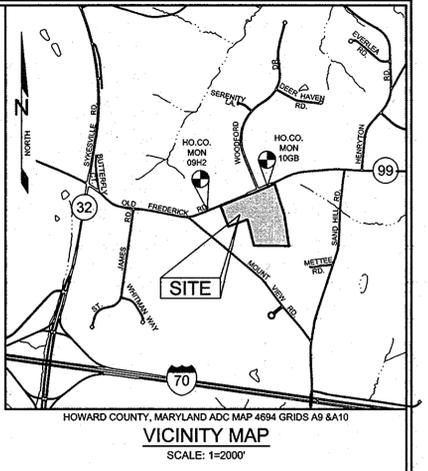
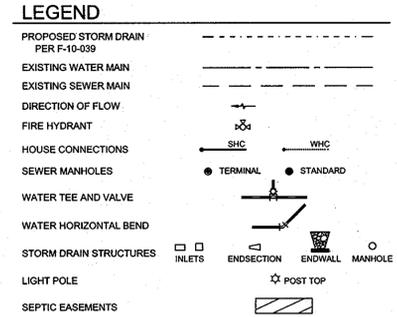
GENERAL NOTES

- I. STANDARD GENERAL NOTES**
- APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
 - TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED APRIL 2010 BY SILL, ADCOCK & ASSOCIATES, LLC. THE COORDINATES ON THE DRAWINGS ARE BASED ON THE MARYLAND STATE REFERENCE SYSTEM NAD 83/91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 10GB AND NO. 09H2.
 - ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE CONCRETE MONUMENTS.
 - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
 - CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. 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 MONIES OWED BY THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
 - FOR DETAILS NOT SHOWN ON THE DRAWING, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS 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 AT THE LOCATIONS OF THE TEST PITS. 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.
 - THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON PLANS:
 A T & T 1-800-252-1133
 BGE (CONSTRUCTION SERVICES) 410-637-8713
 BGE (EMERGENCY) 410-685-0123
 BUREAU OF UTILITIES 410-313-4900
 COLONIAL PIPELINE COMPANY 410-785-1390
 MISS UTILITY 1-800-257-7777
 STATE HIGHWAY ADMINISTRATION 410-531-5553
 VERIZON 1-800-743-0033/1-800-224-9210
 - TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
 - THE CONTRACTOR SHALL REMOVE TREES, STUMPS, AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
 - THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)313-7450 AT LEAST 5 WORKING DAYS BEFORE 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 DPW REQUIREMENTS PER SECTION 18.114(a) OF THE HOWARD COUNTY CODE.

- II. STANDARD WATER MAIN GENERAL NOTES**
- ALL WATER MAINS TO BE D.I.P. CLASS 54 UNLESS OTHERWISE NOTED.
 - TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
 - VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
 - ALL FITTING SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR IN THE DRAWINGS.
 - FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE RESTRAINED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
 - THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
 - 1" OUTSIDE METER SETTINGS AND ALL IRON FITTINGS TO BE EPOXY COATED FOR CORROSION PROTECTION.
 - ALL BENDS FOR PVC PIPE SHALL BE SCHEDULE 80 IN ACCORDANCE WITH SECTION 905.01.05 OF THE HOWARD COUNTY DESIGN MANUAL IV AND SHALL UTILIZE HIGH DEFLECTION COUPLINGS.
 - FIRE SPRINKLER SYSTEMS FOR ALL SINGLE FAMILY DWELLINGS SHALL HAVE A MINIMUM OF A 1-1/2" CONNECTION WITH A 1" METER. (SEE HOWARD COUNTY STANDARD DETAIL W-3.28.)
 - ALL HOUSE CONNECTIONS AND TAPS TO BE MADE USING SADDLES. (SEE HOWARD COUNTY STANDARD DETAILS C-5.11.)
 - ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE, AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE COUNTY DESIGN STANDARDS FOR PVC WATER PIPE INSTALLATION.
 - TRACER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL.
 - FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE AWWA STANDARD C900 FOR PVC PRESSURE PIPE SHALL BE SUBMITTED WITH THE PIPE MATERIAL CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF THE MATERIAL FOR USE. THE TEST RECORDS SHALL BE FOR THE PIPE TO BE INSTALLED UNDER THIS CONTRACT. ALL PVC PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS REFERENCING OF THE PIPE SUPPLIED TO THE TEST RECORDS RECEIVED.
 - UNLESS OTHERWISE NOTED IN THE PLANS OR IN SPECIFICATIONS, SEVENTEEN (17) POUND SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE WITH VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSSES. ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL "TEES" USED WITH PVC MAINS SHALL BE DUCTILE IRON.
 - TEST STATIONS SHALL BE PLACED NEXT TO FIRE HYDRANTS IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAIL W-1.15. SERVICE CONNECTIONS TO BE PROVIDED IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAILS C-5.11. END CAP TO BE PROVIDED IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAILS C-5.07.

FINAL PUBLIC WATER PLAN SHIPLEY'S CHOICE

LOTS 1 THRU 5, NON-BUILDABLE PRESERVATION PARCEL A,
& BUILDABLE BULK PARCEL B
HOWARD COUNTY, MARYLAND
CONTRACT NO. 44-4682-D

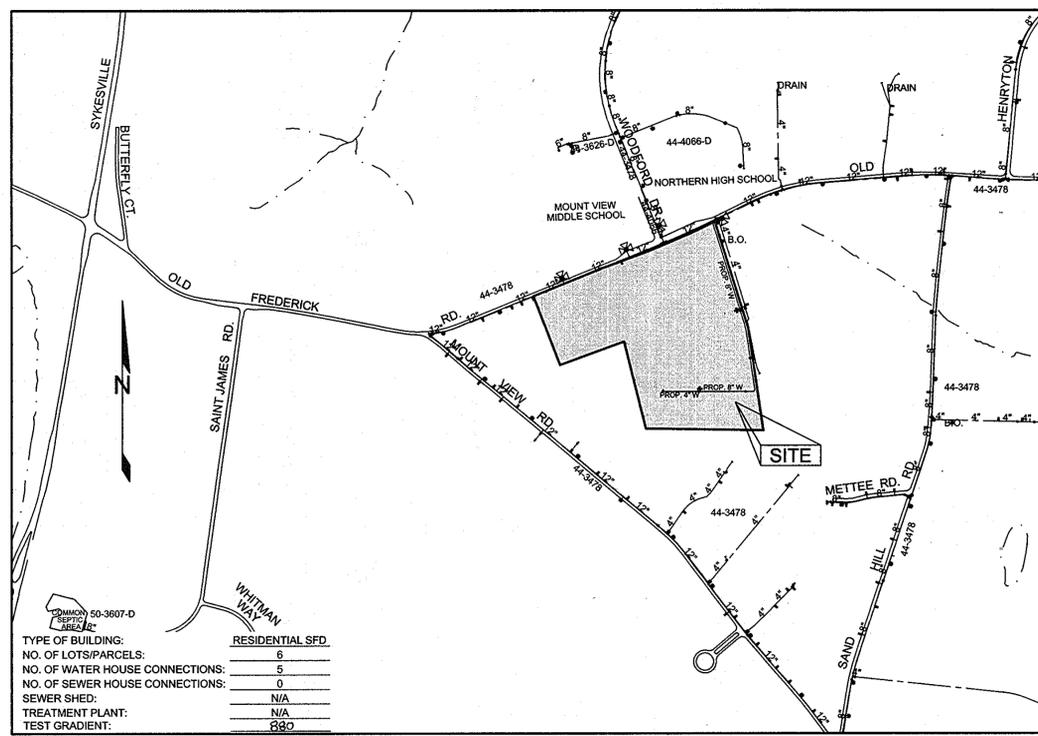


BENCHMARKS

NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
10GB	602,275.916	1,311,069.35	597.381	8.9' SOUTH OF RTE. 99 ROADWAY, 59.1' EAST OF CAP #0-27, 100' WEST OF A FIRE HYDRANT
09H2	601,676.655	1,329,520.98	640.429	NORTH OF RTE. 99, 5.25' SOUTHWEST OF CAP#18, 93.94' NORTHWEST OF BGE 255495, 47.68' NORTHEAST OF BGE 102450

SHEET INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	WATER PLAN
3	WATER PROFILE
4	GRADING, SEDIMENT & EROSION CONTROL PLAN AND DETAILS



TYPE OF BUILDING: RESIDENTIAL SFD

NO. OF LOTS/PARCELS: 6

NO. OF WATER HOUSE CONNECTIONS: 5

NO. OF SEWER HOUSE CONNECTIONS: 0

SEWER SHED: N/A

TREATMENT PLANT: N/A

TEST GRADIENT: 880

QUANTITIES

NAME OF UTILITY CONTRACTOR: UTILITIES UNLIMITED, INC.
SURVEY AND DRAFTING DIVISION AS-BUILT: 9-10-2012

ITEMS	QUANTITIES		AS-BUILT		MANUFACTURER/SUPPLIER
	ESTIMATED	QUANTITIES	TYPE	CLASS	
8" D.I.P. (WATER)	37 LF	35 LF	CLASS 54	ATLANTIC STATES / Ferguson	WORKS
8" PVC C900 (WATER)	1577 LF	1,563 LF	DR 18	AMERICAN PIPE / Ferguson	WORKS
4" PVC C900 (WATER)	262 LF	262 LF	DR 18	AMERICAN PIPE / Ferguson	WORKS
1.5" WHC	67 LF	76.5 LF	COPPER		WORKS
1/8" HB (DIP)	2 EA	2 EA	8" MS	FILB/UNION FOUNDRY / Ferguson	WORKS
1/32" HB (DIP)	1 EA	1 EA	8" MS	FILB/UNION FOUNDRY / Ferguson	WORKS
1/32" HB (PVC)	1 EA	0 EA			
1/32" HB (DIP)	2 EA	4 EA	8" MS	FILB/UNION FOUNDRY / Ferguson	WORKS
1/8" VB (PVC)	3 EA	0 EA			
1/16" VB (PVC)	1 EA	0 EA			
1/32" VB (PVC)	3 EA	0 EA			
DRAIN	2 EA	2 EA	1 1/2"	AV O. DONALD / Ferguson	WORKS
8" x 4" REDUCER	1 EA	1 EA	MS CL53	FILB/UNION FOUNDRY / Ferguson	WORKS
8" VALVE	3 EA	3 EA	MS GRATE	AMERICAN PIPE CONTROL / Ferguson	WORKS
12" x 8" TSB	1 EA	1 EA	STAINLESS STEEL	AMERICAN PIPE CONTROL / Ferguson	WORKS
FIRE HYDRANT	2 EA	2 EA	062B	AMERICAN PIPE CONTROL / Ferguson	WORKS
4" CAP & BUTTRESS	1 EA	1 EA	MS CL53	FILB/UNION FOUNDRY / Ferguson	WORKS
8" TAPPING VALVE	1 EA	1 EA	MS	MUELLER COMPANY / Ferguson	WORKS

NOTE: EXISTING WELL & SEPTIC FOR BUILDABLE BULK PARCEL B ARE TO REMAIN.

DEVELOPER'S CERTIFICATE

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

Signature: [Signature] DATE: 8/12/11

ENGINEER'S CERTIFICATE

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

Signature: [Signature] DATE: 8/12/11

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

Signature: [Signature] DATE: 9/3/11

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. 38386, EXPIRATION DATE: JANUARY 12, 2012

Sill · Adcock & Associates · LLC
Engineers · Surveyors · Planners
3300 North Ridge Road, Suite 160
Ellicott City, Maryland 21043
Phone: 443.325.7682 Fax: 443.325.7685
Email: info@saaand.com

DESIGNED BY: SJT
DRAWN BY: SJT
CHECKED BY: PS
DATE: AUGUST 10, 2011

AS-BUILT
9-10-2012

COVER SHEET
600' SCALE MAP NO. 10
BLOCK NO. 19

SHIPLEY'S CHOICE
LOTS 1 THRU 5, NON-BUILDABLE PRESERVATION PARCEL A,
& BUILDABLE BULK PARCEL B
TAX MAP 10 GRID 19 PARCEL 15
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CONTRACT NO. 44-4682-D

SCALE: AS SHOWN
SHEET NO. 1 OF 4

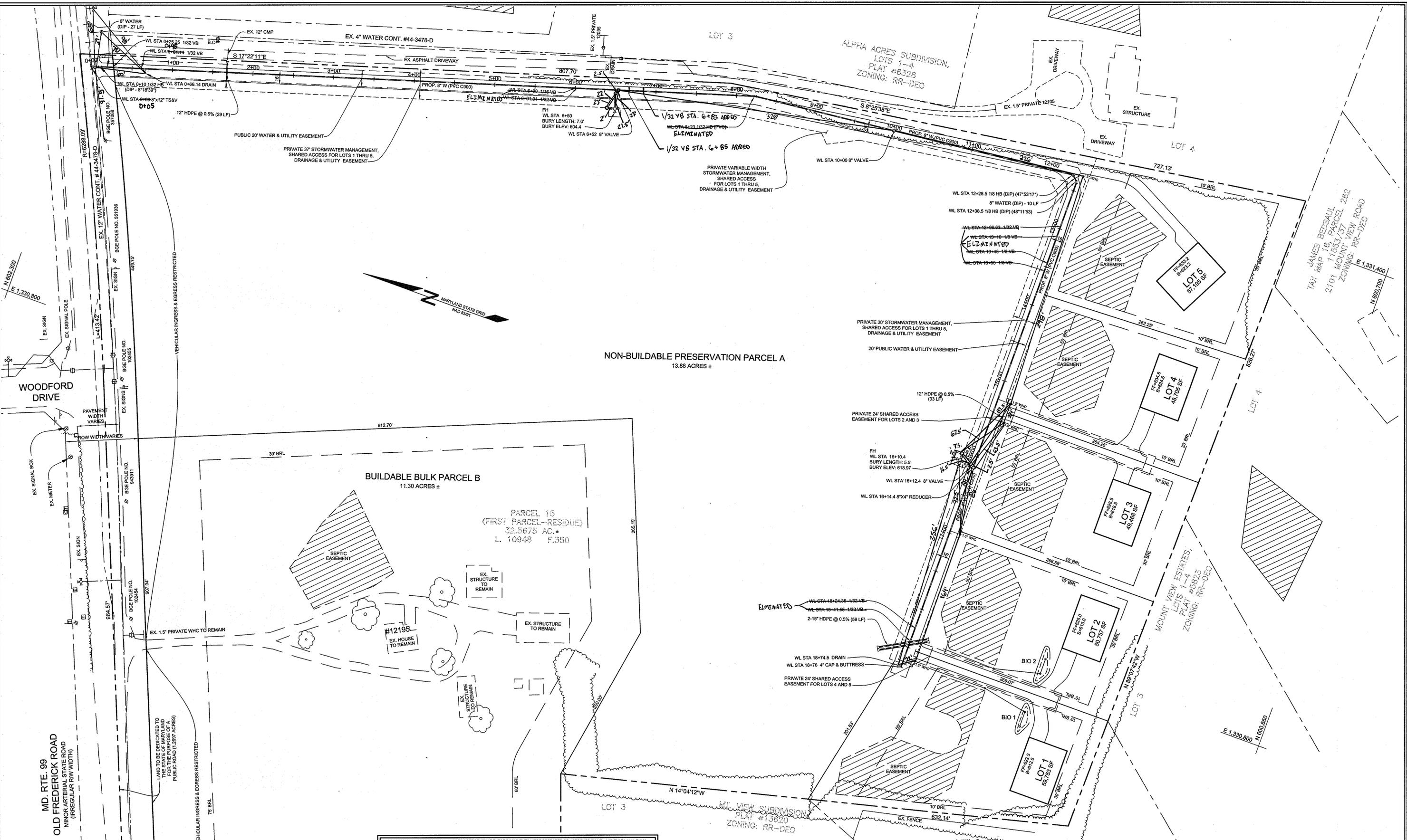
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Signature: [Signature] DATE: 9/27/11
CHIEF, BUREAU OF UTILITIES

Signature: [Signature] DATE: 9/20/11
CHIEF, DEVELOPMENT ENGINEERING DIVISION

GP-12-008



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. 38386, EXPIRATION DATE: JANUARY 12, 2012

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Silva C. Green
CHIEF, BUREAU OF UTILITIES

9/22/11
DATE

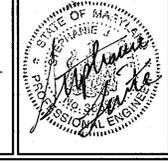
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Michael J. ...
CHIEF, DEVELOPMENT ENGINEERING DIVISION

9/20/11
DATE

Sill · Adcock & Associates · LLC
Engineers · Surveyors · Planners

3300 North Ridge Road, Suite 160
Ellicott City, Maryland 21043
Phone: 443.325.7682 Fax: 443.325.7685
Email: info@silland.com



DESIGNED BY: SJT	
DRAWN BY: SJT	
CHECKED BY: PS	
DATE: AUGUST 10, 2011	

NO.	AS-BUILT	DESCRIPTION	DATE

WATER PLAN

600' SCALE MAP NO. 10 BLOCK NO. 19

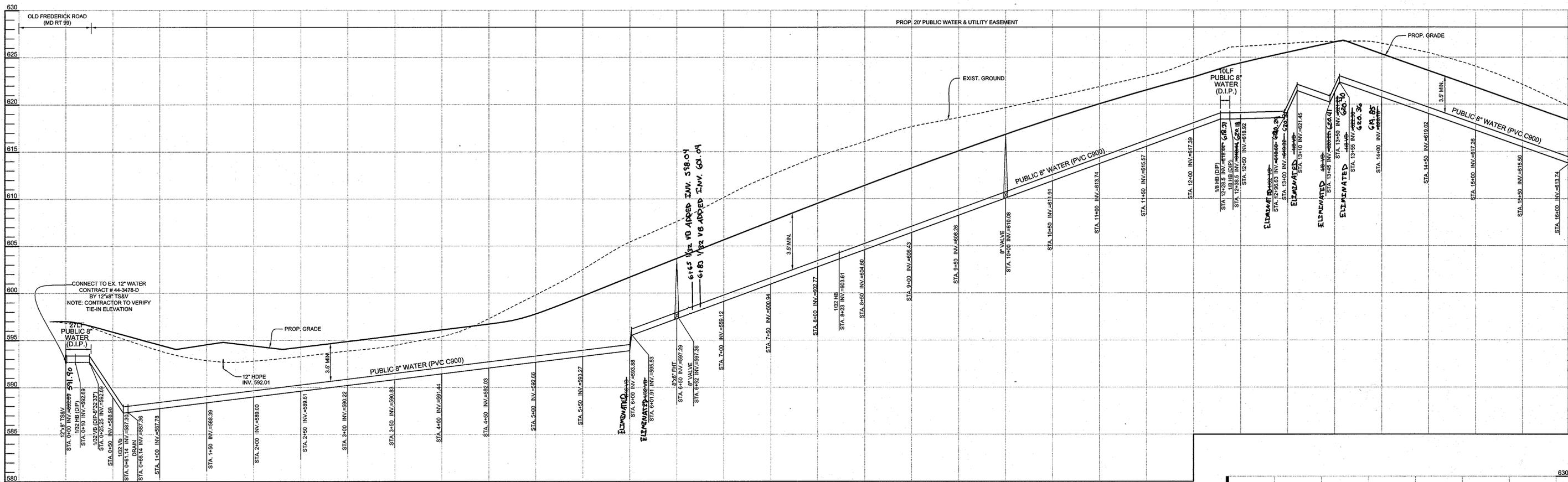
SHIPLEY'S CHOICE
LOTS 1 THRU 5, NON-BUILDABLE PRESERVATION PARCEL A,
& BUILDABLE BULK PARCEL B

TAX MAP 10 GRID 19 PARCEL 15
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

CONTRACT NO. 44-4682-D

SCALE:
1"=50'

SHEET NO.
2 OF 4

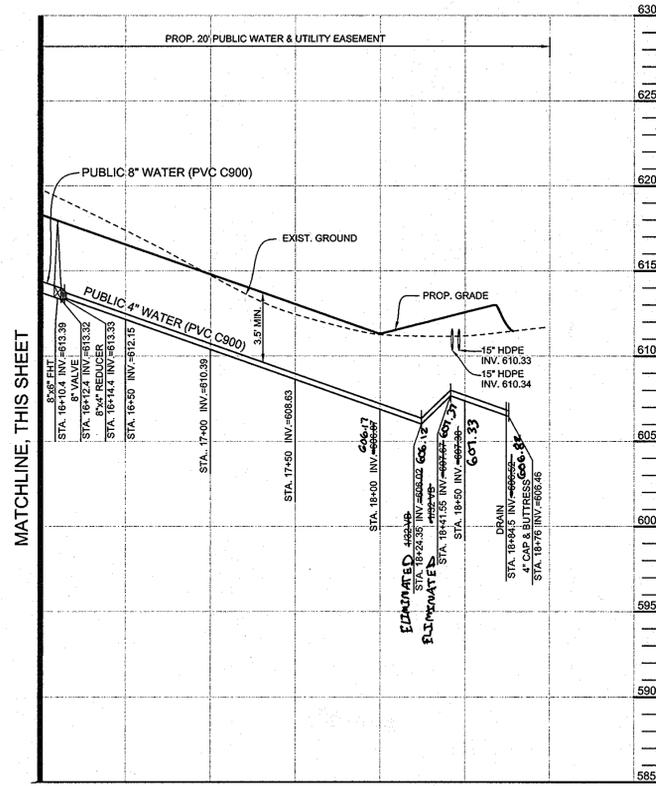


WATER MAIN PROFILE
 HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'

WATER MAIN TABULATION CHART

APPURTENANCE	NORTHING & EASTING
8"x12" TS&V	N 602,295.77, E 1,331,094.21
1/32 HB (DIP)	N 602,286.75, E 1,331,098.55
1/32 VB (DIP)	N 602,272.20, E 1,331,103.10
1/32 VB (PVC)	N 602,237.95, E 1,331,113.81
DRAIN	N 602,231.68, E 1,331,110.53
1/16 VB (PVC)	N 601,723.66, E 1,331,274.68
1/32 VB (PVC)	N 601,721.84, E 1,331,275.25
8"x6" FHT	N 601,675.94, E 1,331,289.61
6" VALVE	N 601,675.34, E 1,331,287.70
FIRE HYDRANT	N 601,673.51, E 1,331,281.84
8" VALVE	N 601,674.03, E 1,331,290.21
1/32 HB (PVC)	N 601,510.77, E 1,331,341.27
8" VALVE	N 601,334.84, E 1,331,360.14
1/8 HB	N 601,107.65, E 1,331,384.49
1/8 HB	N 601,100.19, E 1,331,377.83
1/32 VB (PVC)	N 601,100.16, E 1,331,319.69
1/8 VB (PVC)	N 601,100.15, E 1,331,306.32
1/8 VB (PVC)	N 601,100.13, E 1,331,271.32
1/8 VB (PVC)	N 601,100.12, E 1,331,261.32
8"x6" FHT	N 601,099.97, E 1,331,005.94
6" VALVE	N 601,101.97, E 1,331,005.94
FIRE HYDRANT	N 601,117.97, E 1,331,005.93
8" VALVE	N 601,099.97, E 1,331,003.94
8"x4" REDUCER	N 601,099.97, E 1,331,001.94
1/32 VB (PVC)	N 601,099.85, E 1,331,791.97
1/32 VB (PVC)	N 601,099.84, E 1,331,774.77
DRAIN	N 601,104.82, E 1,330,741.82
4" CAP & BUTTRESS	N 601,099.82, E 1,330,740.83

* LOCATION OF DRAIN IS AT BALL VALVE.
 ** 6" VALVES ASSOCIATED WITH FIRE HYDRANTS HAVE NOT BEEN INCLUDED IN THE QUANTITIES TABLE ALTHOUGH COORDINATE LOCATIONS HAVE BEEN SHOWN.



WATER MAIN PROFILE
 HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'

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. 38386, EXPIRATION DATE: JANUARY 12, 2012

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

John C. ...
 CHIEF, BUREAU OF UTILITIES

9/22/11
 DATE

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

...
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

9/20/11
 DATE

Sill · Adcock & Associates · LLC
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DESIGNED BY: SJT
 DRAWN BY: SJT
 CHECKED BY: PS
 DATE: AUGUST 10, 2011

NO. AS-BUILD DESCRIPTION DATE
 9-10-2012

WATER PROFILE

600' SCALE MAP NO. 10 BLOCK NO. 19

SHIPLEY'S CHOICE
 LOTS 1 THRU 5, NON-BUILDABLE PRESERVATION PARCEL A,
 & BUILDABLE BULK PARCEL B

TAX MAP 10 GRID 19 PARCEL 15
 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

CONTRACT NO. 44-4682-D

SCALE: AS SHOWN
 SHEET NO. 3 OF 1

21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOILS

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

- I. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
 - A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
 - B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR BURNISH CONTINUING SUPPLIES OF MOISTURE AND NUTRIENTS TO PLANT GROWTH.
 - C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
 - D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

II. 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.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

I. 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-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.

II. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:

1. 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 CONCRETS, STONE, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIAL LARGER THAN 1 AND 1/2" IN DIAMETER.

2. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

3. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-6 TONS PER ACRE (2000-3000 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.

III. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:

1. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

III. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:

1. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:

A. PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.

B. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.

C. TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.

D. NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILIZANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

II. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

V. TOPSOIL APPLICATION

1. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS OVERSLOPES, GRADE STABILIZATION STRUCTURES, EARTH OBERES, SLOPE STABILIZATION AND SEDIMENT TRAPS AND BASINS.

2. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4"-6" HIGHER IN ELEVATION.

3. 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 SOILING 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.

4. TOPSOIL SHALL NOT BE PLACED 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.

SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSE AND PERMITS DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (410-313-1880).

2. 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.

3. FOLLOWING INITIAL SOIL DISTURBANCE 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 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.

5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, 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.

DEVELOPER'S CERTIFICATE

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

Signature: *[Signature]* DATE: 9/8/11

ENGINEERS CERTIFICATE

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

Signature: *[Signature]* DATE: 9/8/11

Signature: *[Signature]* DATE: 9/8/11

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

Signature: *[Signature]* DATE: 9/8/11

Signature: *[Signature]* DATE: 9/20/14

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Signature: *[Signature]* DATE: 9/20/14

Signature: *[Signature]* DATE: 9/20/14

6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

7. SITE ANALYSIS:

TOTAL AREA:	2.14 ACRES
AREA DISTURBED:	2.14 ACRES
AREA TO BE ROOFED OR PAVED:	0.88 ACRES
AREA TO BE VEGETATIVELY STABILIZED:	1.46 ACRES
TOTAL CUT:	1,700 CY
TOTAL FILL:	1,700 CY
OFFSITE WASTE/BORROW AREA LOCATION:	

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER. * EARTHWORK QUANTITIES ARE SOLELY FOR THE PURPOSE OF CALCULATING FEES. CONTRACTOR TO VERIFY ALL QUANTITIES PRIOR TO THE START OF CONSTRUCTION.
- ** TO BE DETERMINED BY CONTRACTOR, WITH PRE-APPROVAL OF THE SEDIMENT CONTROL INSPECTOR WITH AN APPROVED AND ACTIVE GRADING PERMIT.

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

- 1) PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ.FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (1 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 SODIUM UREAFORM FERTILIZER (9 LBS/1000 SQ.FT.)
- 2) ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ.FT.) AND DISC INTO UPPER THREE INCHES OF SOIL. AT THE TIME OF SEEDING, APPLY 400 LBS PER ACRE SODIUM UREAFORM FERTILIZER (9 LBS/1000 SQ.FT.)

SEEDING: FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS PER ACRE (1 LBS/1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS KENTUCKY 31 TALL FESCUE PER ACRE AND 1 LBS PER ACRE (0.05 LBS/1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 1 THRU 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 STRAW.

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 (6 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (6 GAL/1000 SQ.FT.) FOR ANCHORING.

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

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 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2 1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ.FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (0.07 LBS/1000 SQ.FT.). FOR THE PERIOD NOVEMBER 1 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: APPLY 1 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 (6 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (6 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.

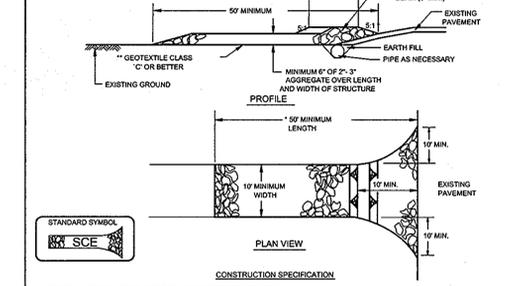
SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT.
2. NOTIFY HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSE AND PERMITS AT (410) 313-1880 AT LEAST 24 HOURS BEFORE STARTING ANY WORK.
3. INSTALL SILT FENCE AND SUPER SILT FENCE AS SHOWN OF THESE PLANS AND CLEAR SITE. (2 DAYS)
4. ROUGH GRADE SITE. (5 DAYS)
5. INSTALL WATER MAIN AS SHOWN ON THESE PLANS. (5 DAYS)
6. STABILIZE ALL DISTURBED AREAS AND ADD EROSION CONTROL MATTING AS SHOWN ON THESE PLANS. (2 DAYS)
7. UPON STABILIZATION OF ALL DISTURBED AREAS, INCLUDING MULCHING, AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL MEASURES AND STABILIZE ANY REMAINING DISTURBED AREA. (2 DAYS)

NOTE: FOLLOWING INITIAL SOIL DISTURBANCE OR ANY REDISTURBANCES, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:

- A. 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, SWALES AND ALL SLOPES GREATER THAN 2:1.
 - B. 14 CALENDAR DAYS FOR ALL OTHER DISTURBED AREAS.
- * DURING GRADING AND AFTER EACH RAINFALL, CONTRACTOR WILL INSPECT AND PROVIDE NECESSARY MAINTENANCE TO THE SEDIMENT CONTROL MEASURES ON THIS PLAN.

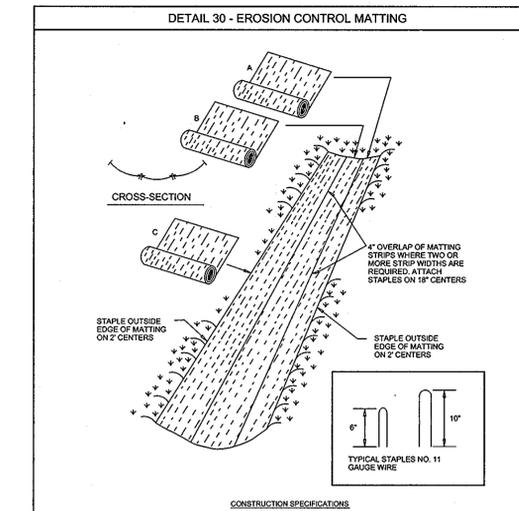
DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



NOTE: THIS DETAIL PROVIDED SHOULD SEDIMENT CONTROL INSPECTOR REQUIRE ITS INSTALLATION.

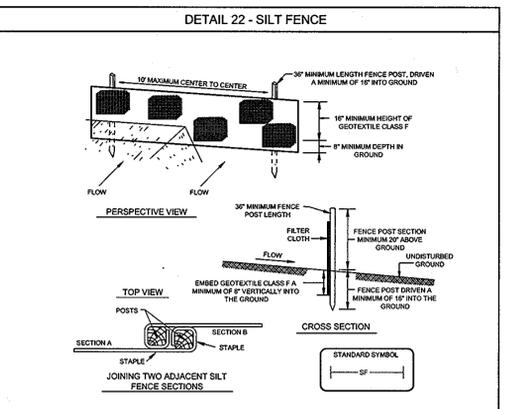
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE F-17-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 30 - EROSION CONTROL MATTING



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE G-22-2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

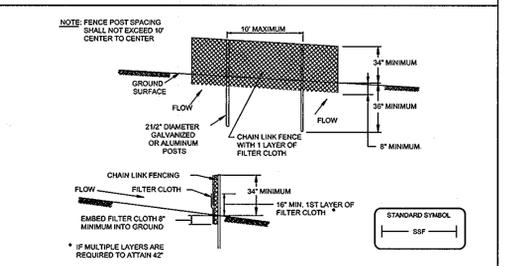
DETAIL 22 - SILT FENCE



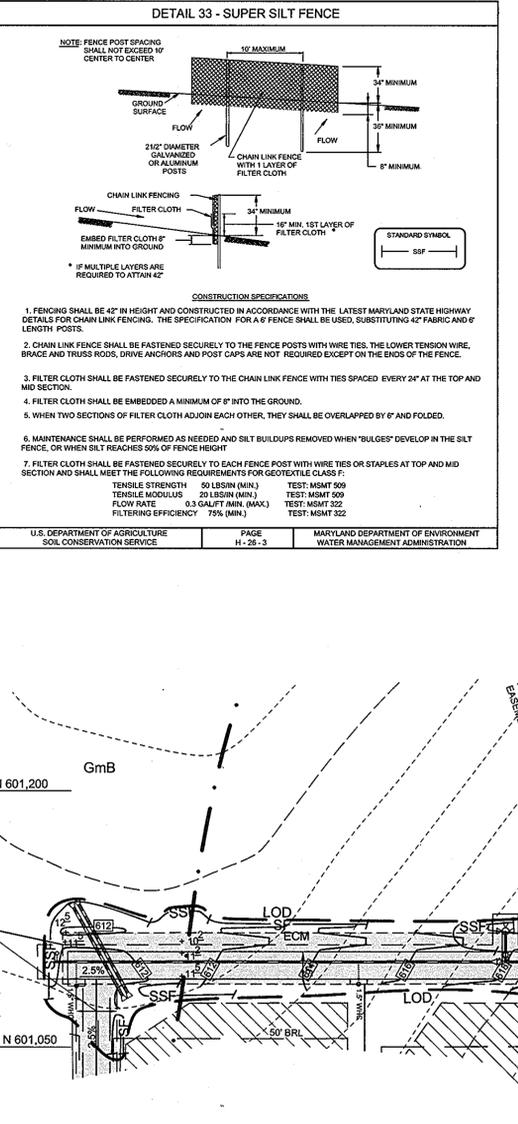
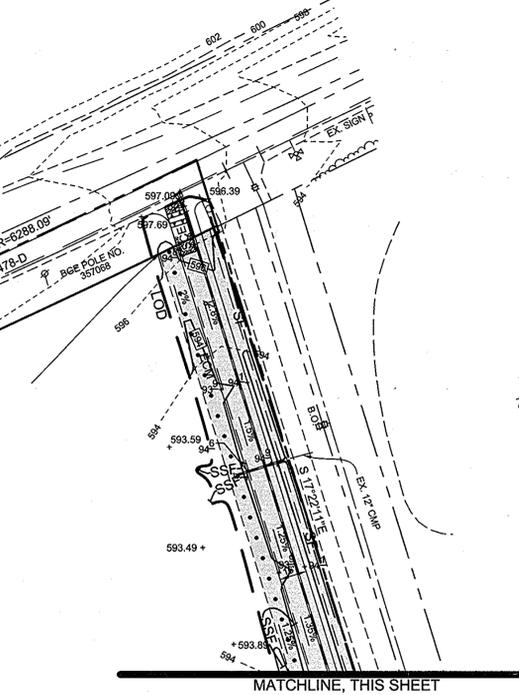
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-15-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Tensile Strength	20 lbs/in (min)	TEST: MSMT 509
Tensile Modulus	0.5 gal 8 minute (max)	TEST: MSMT 509
Flow Rate	75% (min)	TEST: MSMT 322
Filtering Efficiency	75% (min)	TEST: MSMT 322

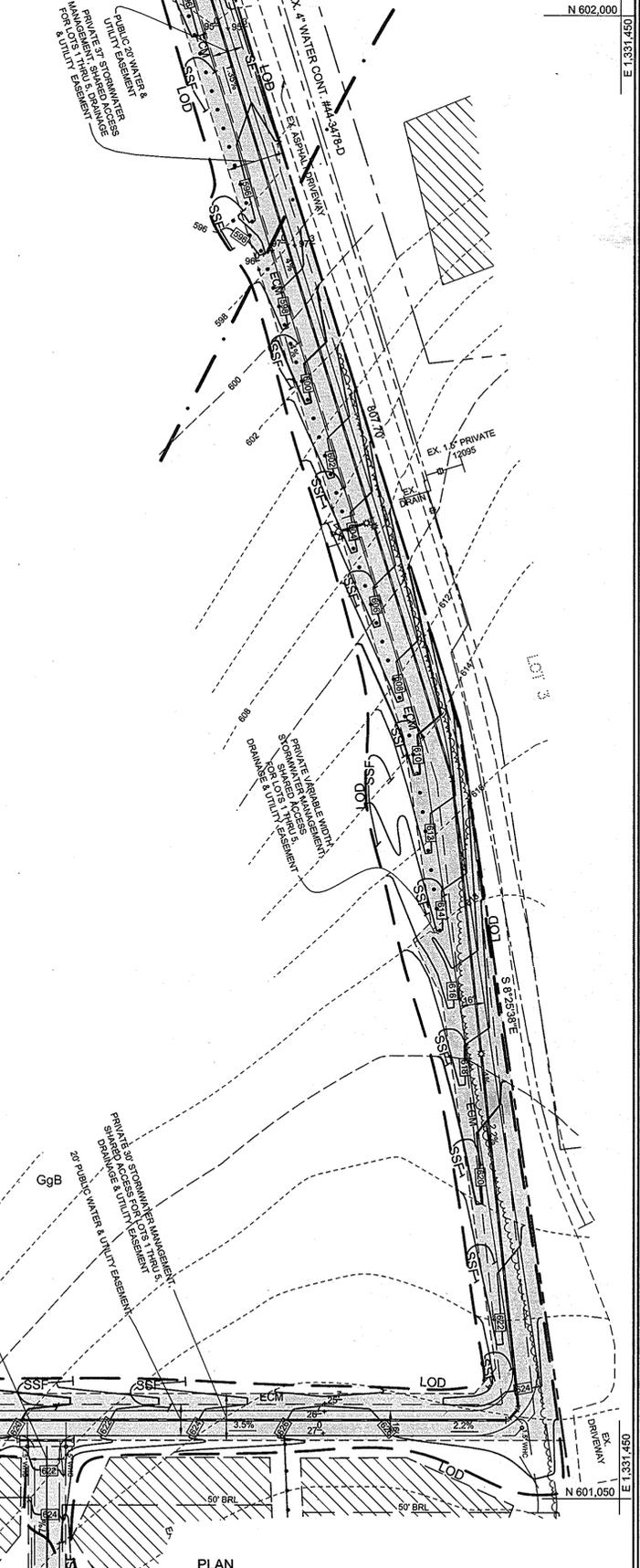
DETAIL 33 - SUPER SILT FENCE



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE H-25-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



MATCHLINE THIS SHEET



PLAN SCALE: 1"=50'

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. 38386, EXPIRATION DATE: JANUARY 12, 2012.

DESIGNED BY: SJT

DRAWN BY: SJT

CHECKED BY: PS

DATE: AUGUST 10, 2011

NO. DESCRIPTION DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Signature: *[Signature]* DATE: 9/20/14

Signature: *[Signature]* DATE: 9/20/14

GRADING, SEDIMENT, & EROSION CONTROL PLAN AND DETAILS

600' SCALE MAP NO. 10 BLOCK NO. 19

SHIPLEY'S CHOICE

LOTS 1 THRU 5, NON-BUILDABLE PRESERVATION PARCEL A, & BUILDABLE BULK PARCEL B

TAX MAP 10 GRID 19 PARCEL 15

3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

CONTRACT NO. 44-4682-D

SCALE: AS SHOWN

SHEET NO. 4 OF 4