

VICINITY MAP
SCALE 1"=100'
ADC MAP NO. 16 GRID J4

BENCHMARKS			
#	ELEVATION	NORTHING	EASTING
310C	448.552	N567877.1992	E1371878.9595
31EA	468.888	N569641.124	E1374816.03

SHEET INDEX	
SHEET NO.	TITLE
1 OF 6	GRADING PLAN
2 OF 6	STORMWATER MANAGEMENT PLAN
3 OF 6	LANDSCAPE PLAN/SOILS MAP
4 OF 6	SEDIMENT & EROSION CONTROL PLAN
5 OF 6	SEDIMENT & EROSION CONTROL NOTES & DETAILS
6 OF 6	FOREST STAND DELINEATION PLAN

LEGEND

- ⊗ FIRE HYDRANT
- ⊙ SANITARY SEWER MANHOLE
- EXISTING SEWER LINE
- EXISTING WATER LINE
- - - EXISTING CONTOUR
- - - PROPOSED CONTOUR
- ▨ PROPOSED EASEMENT
- ▨ PUBLIC ROAD DEDICATION
- - - EASEMENT LINE
- - - EX. STORM DRAIN
- - - EX. OVERHEAD ELECTRIC LINE

SITE DATA

- LOCATION: TAX MAP 31, PARCEL 559
- 1ST ELECTION DISTRICT
- EXISTING ZONING: R-20
- GROSS AREA OF PARCEL: 75,719 SFT.=1.74 ACRES
- AREA OF RIGHT OF WAY: 3,249 S.F.=0.074 ACRES
- AREA OF FLOODPLAIN: N/A
- AREA OF CONTIGUOUS STEEP SLOPES ON-SITE: 0 S.F.T.
- NET AREA OF SITE = 72,470 S.F.
- AREA OF REQUIRED OPEN SPACE (IN-LIEU FEE PAYMENTS) = 4,348 S.F. (6% OF SITE AREA)
- NUMBER OF PROPOSED RESIDENTIAL LOTS: 3
- AREA OF PROPOSED RESIDENTIAL LOTS: 72,470 S.F.
- AREA OF SMALLEST BUILDABLE LOT PROPOSED: 18,046 S.F.

GRADING PLAN

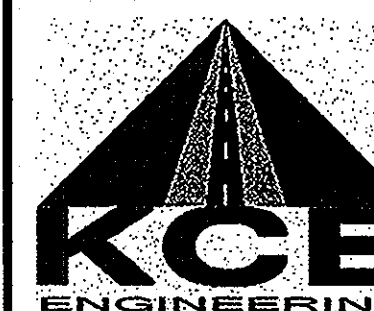
**O'NEILL SUBDIVISION
LOTS 1 TO 3**

A SUBDIVISION OF PARCEL 559, TAX MAP 31, GRID 15
1ST ELECTION DISTRICT HOWARD COUNTY, MD.
ZONE R-20

KCE ENGINEERING, INC.

EXECUTIVE CENTER

3300 NORTH RIDGE ROAD, SUITE 315
ELLICOTT CITY, MARYLAND 21043
PHONE (410) 203-9800 FAX (410) 203-9228



DRAWN BY: MG

CHECKED BY: DVK

SCALE: 1" = 40'

DATE: 02/07/2012

SHEET:

1 OF 6

GENERAL NOTE:

In accordance with Section 16.120(b)(2)(ii) of the Subdivision and land development regulations, an area of road dedication equal to 9.8% of the minimum lot size in the R-20 Zoning District is applied to the acreage of Lot 1.

NOTE:

PLEASE REFER TO SHEET 2
"STORMWATER MANAGEMENT PLAN"
FOR LOCATION AND DESCRIPTION
OF STORMWATER MANAGEMENT
BMP'S AND SUMMARY TABLE

SOIL ANALYSIS

SOIL SYMBOL	SOIL TYPE	CLASSIFICATION
AgB2	Croom Gravelly Loam, 1-5% slopes, Moderately Eroded	C
CIC3	Chillum Gravelly Loam, 5-10% slopes, severely Eroded	B
SC2	Sassafras Gravelly Sandy Loam, 5-10% slopes, Moderately Eroded	B

MINIMUM LOT SIZE CHART

LOT NO.	GROSS AREA (S.F.)	PIPESTEM AREA (S.F.)	MINIMUM LOT SIZE (S.F.)
1	18,046	-	18,046
2	22,842	2,560	20,282
3	31,582	4,916	26,666

NOTE: Land Dedicated for Road Widening Counted for 9.8% of Min. Lot Size for Lot 1

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION

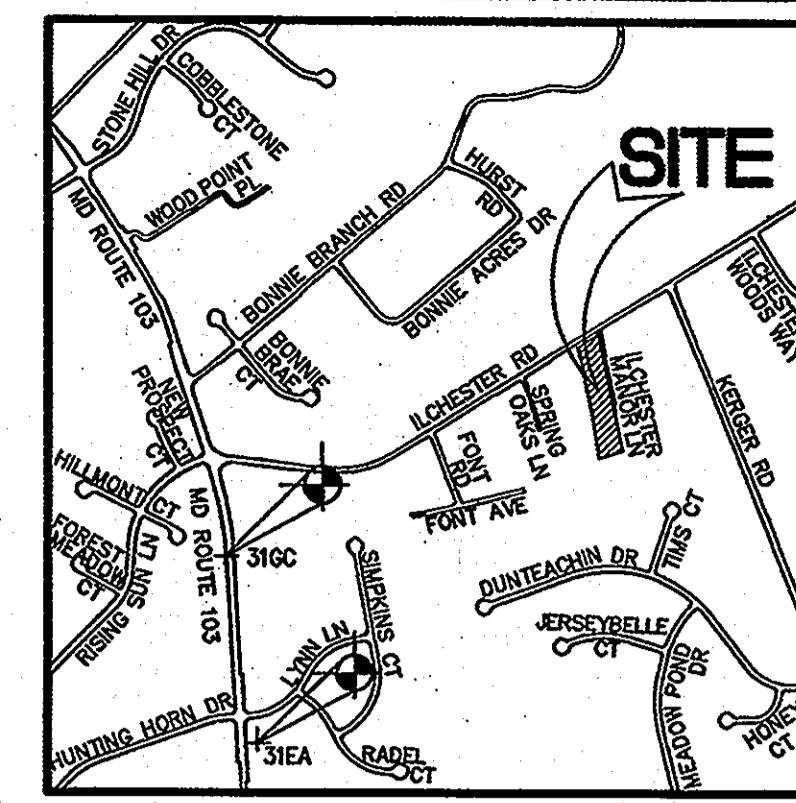
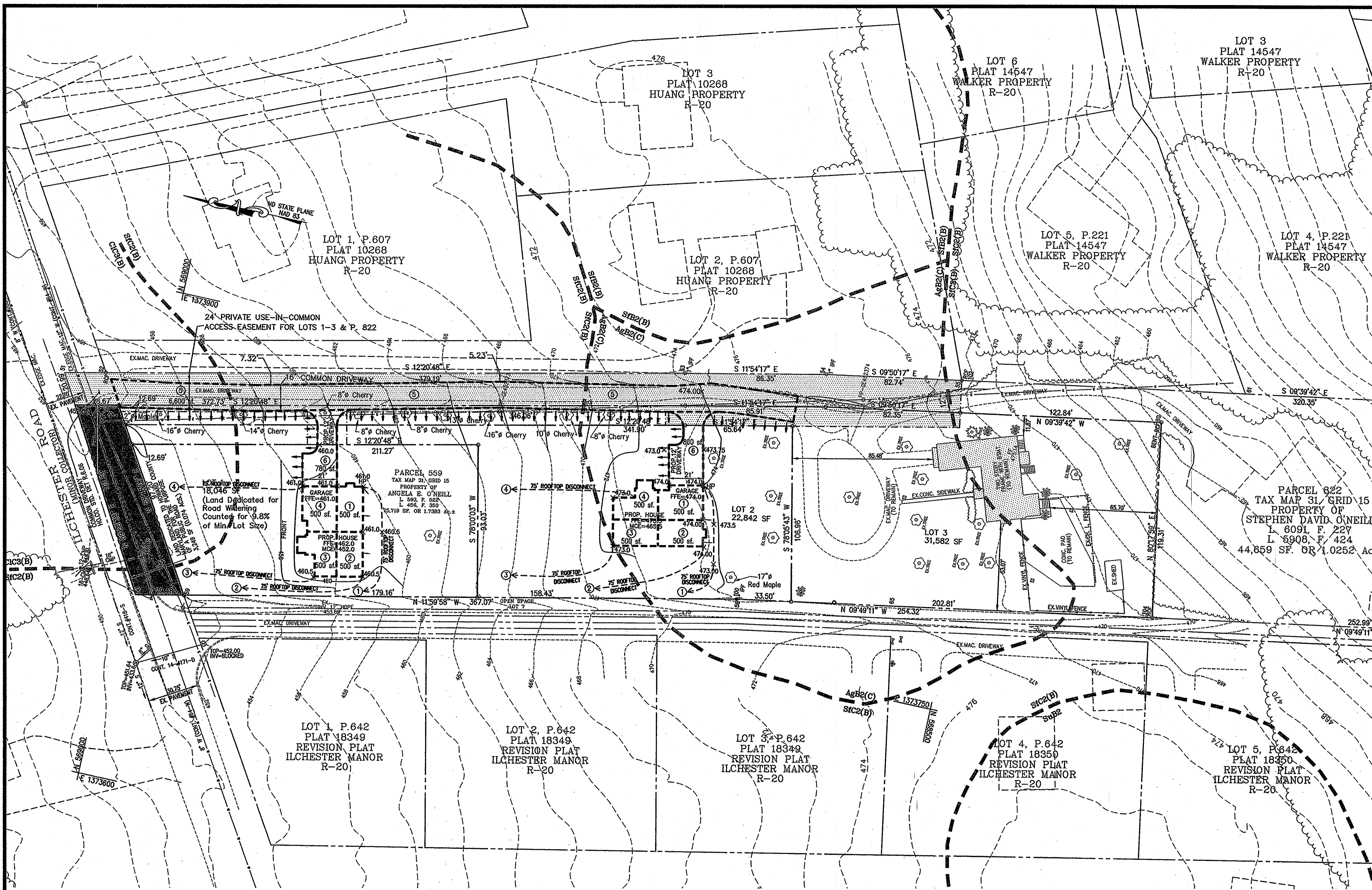
3/15/12

DATE

CHIEF, DIVISION OF LAND DEVELOPMENT

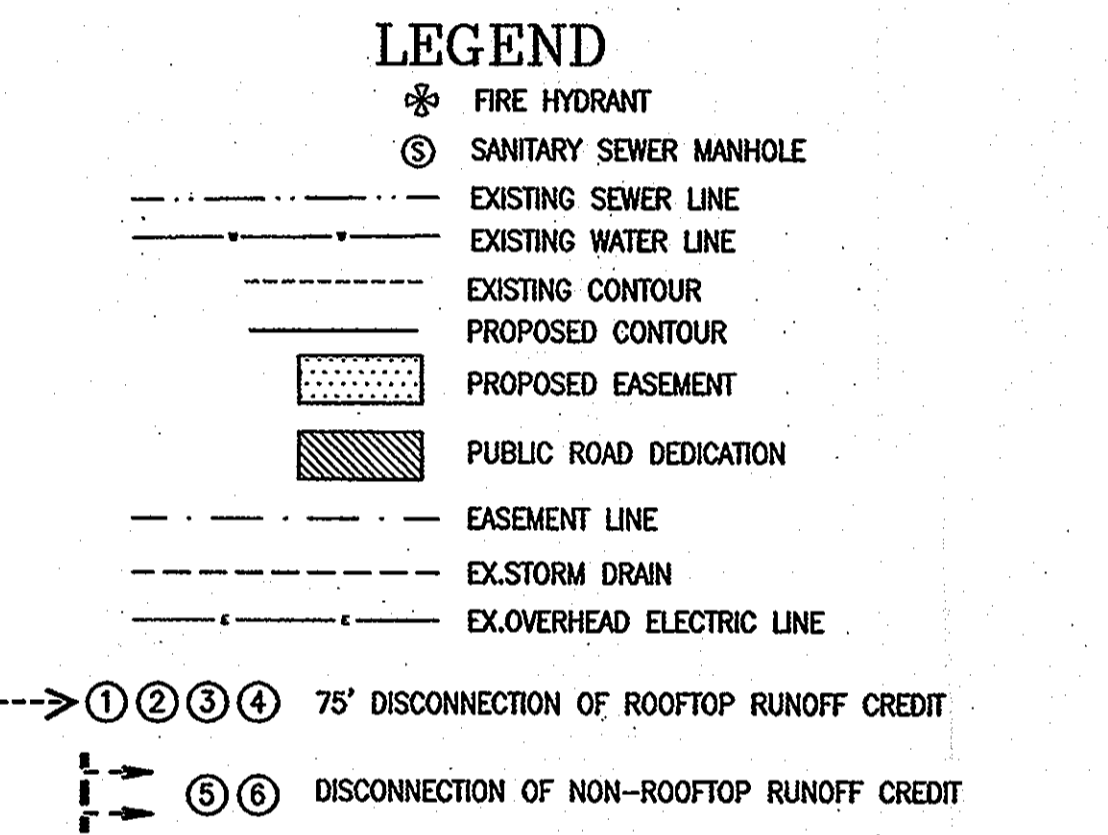
3/19/12

DATE



SOIL ANALYSIS

SOIL SYMBOL	SOIL TYPE	CLASSIFICATION
AgB2	Croom Gravelly Loam, 1-5% slopes, Moderately Eroded	C
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Sfc2	Sassafras Gravelly Sandy Loam, 5-10% slopes, Moderately Eroded	B



Stormwater Management - SUMMARY TABLE

MINIMUM SIZING CRITERIA	VOLUME REQUIREMENT	NOTES
WATER QUALITY VOLUME (Wq)	0.04 AC.FT.	Provided by SWM credits (Disconnection of Rooftop & Non-rooftop runoff credits)
RECHARGE VOLUME (Rev)	0.008 AC.FT.	Provided by SWM credits (Disconnection of Rooftop & Non-rooftop runoff credits)
CHANNEL PROTECTION VOLUME (Cpv)	-	Not Required 1-yr peak discharge < 2 cfs
OVERBANK FLOOD PROTECTION (Qp)	-	Not Required. Safe passage provided
EXTREME FLOOD VOLUME (Qf)	-	Not Required

TOTAL ON-SITE DRAINAGE AREA	1.33 AC.
TOTAL IMPERVIOUS AREA	0.28 AC.(12,180 SF)
TOTAL IMPERVIOUS AREA DISCONNECTED USING SWM CREDITS	0.28 AC.(12,180 SF)
TOTAL REMAINING IMPERVIOUS AREA TO BE TREATED	0 AC.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION *3/15/12*

CHIEF, DIVISION OF LAND DEVELOPMENT *3/19/12*

STORM WATER MANAGEMENT PLAN

O'NEILL SUBDIVISION

LOTS 1 TO 3

A SUBDIVISION OF PARCEL 559, TAX MAP 31, GRID 15
1ST ELECTION DISTRICT HOWARD COUNTY, MD.
ZONE R-20

KCE ENGINEERING, INC.

EXECUTIVE CENTER
3300 NORTH RIDGE ROAD, SUITE 315
ELLCOTT CITY, MARYLAND 21043
PHONE (410) 203-9800 FAX (410) 203-9228

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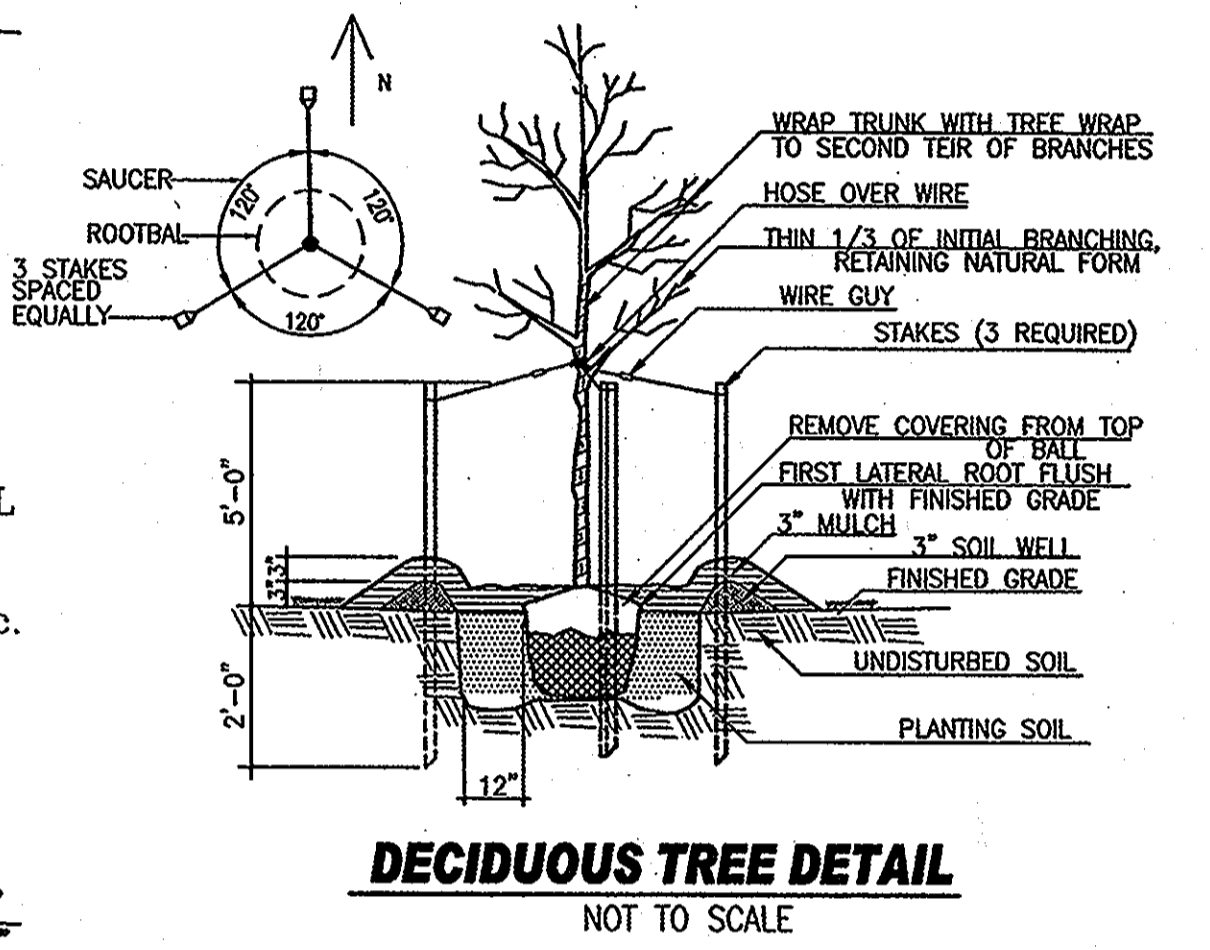
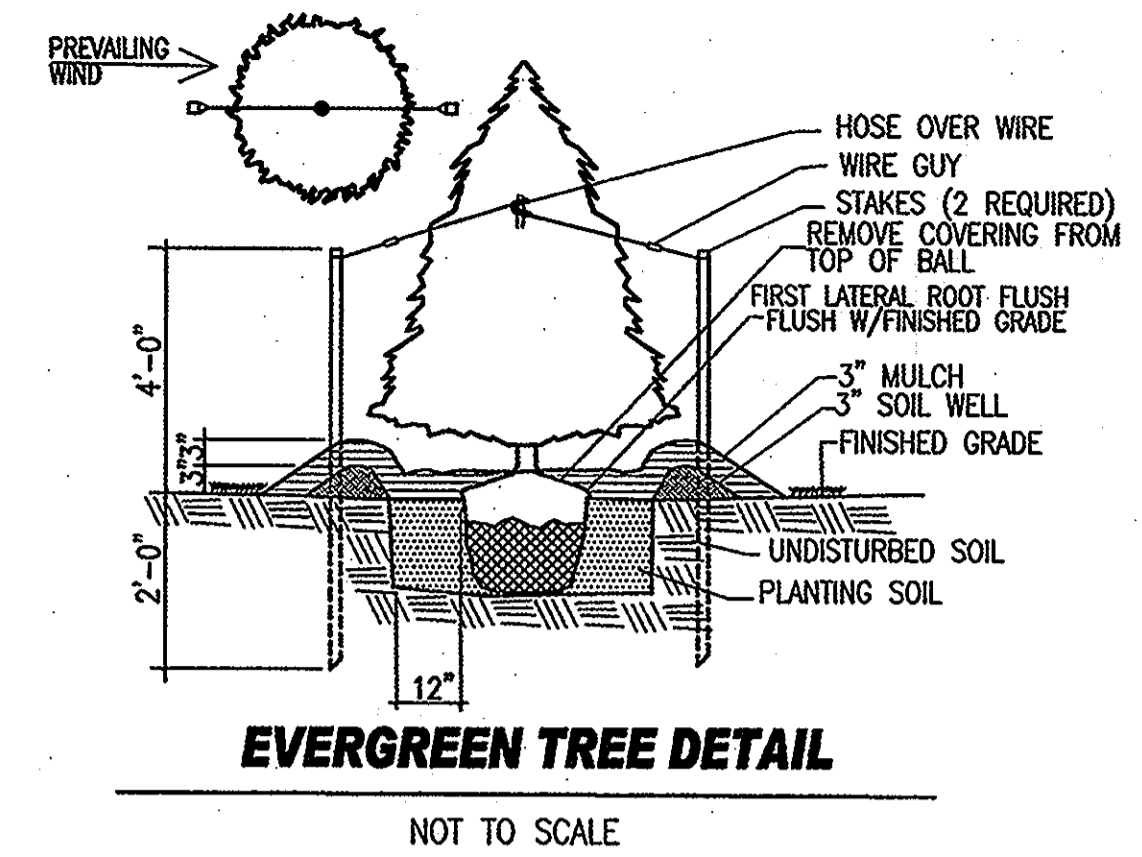
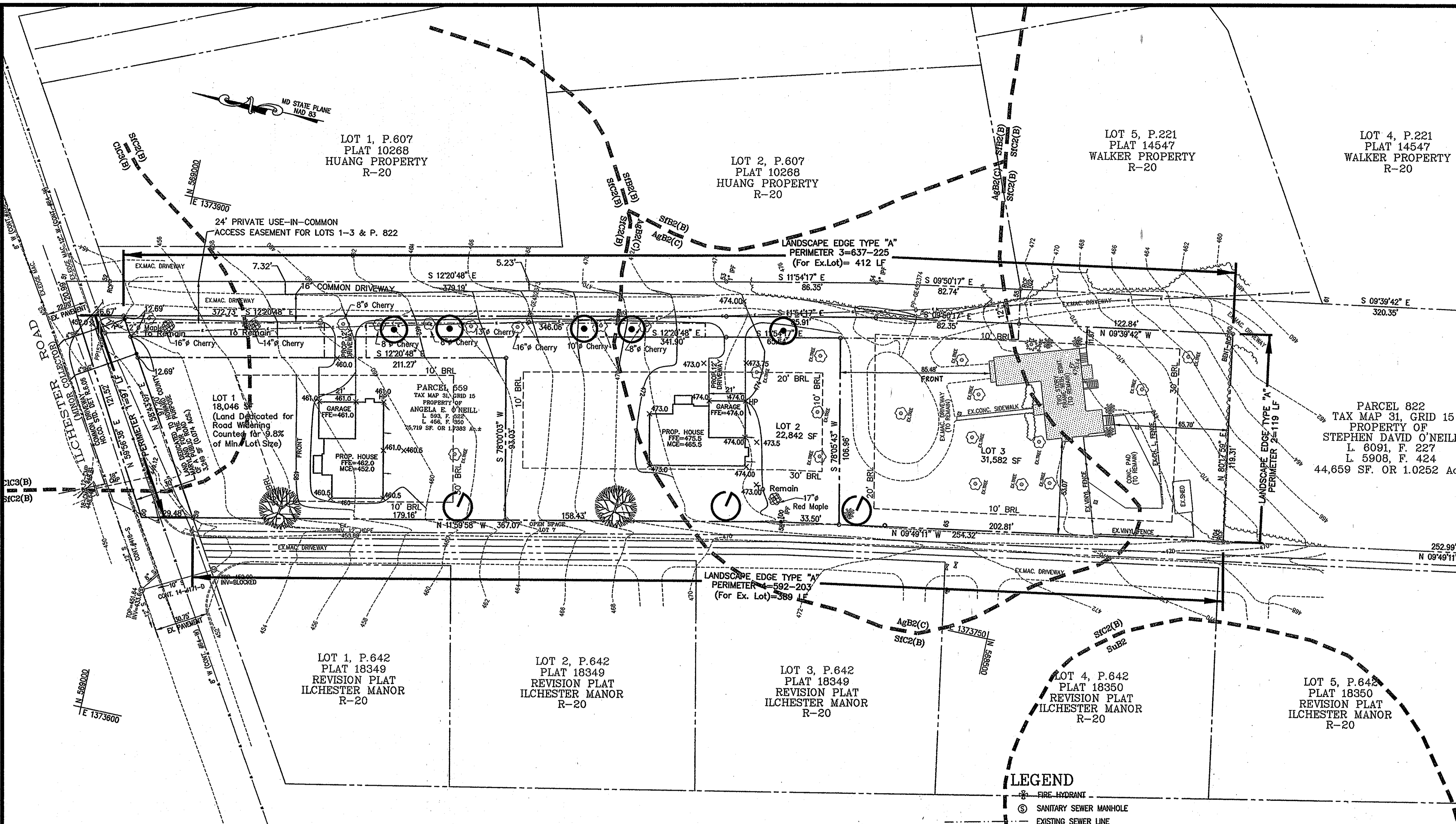
CHECKED BY: DVK

SCALE: 1" = 30'

DATE: 02/07/2012

OWNER
ANGELA E. O'NEILL
5185 ILCHESTER ROAD
ELLCOTT CITY, MD 21043
(410) 744-7472

SHEET:
2 OF 6



DEVELOPER'S LANDSCAPE CERTIFICATE
I CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. I FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

Angela O'Neill 2/10/12
OWNER/DEVELOPER SIGNATURE DATE

OWNER
ANGELA E. O'NEILL
5185 ILCHESTER ROAD
ELLCOTT CITY, MD 21043
(410) 744-7472

SOIL ANALYSIS

SOIL SYMBOL	SOIL TYPE	CLASSIFICATION
AgB2	Croom Gravelly Loam, 1-5% slopes, Moderately Eroded	C
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SIC2	Sassafras Gravelly Sandy Loam, 5-10% slopes, Moderately Eroded	B

- NOTES**
- No rare, threatened or endangered species were observed on this site.
 - There are no isolated forest stands on this site.
 - The property outline is based on a boundary survey prepared by KCE Engineering, Inc. dated October, 2008.
 - The existing features and contours shown hereon are based on a field run survey prepared by KCE Engineering, Inc. dated October, 2008.
 - Forest Conservation obligations in accordance with Section 16.1202 of the Howard County Code and Forest Conservation Manual shall be fulfilled by the payment of a fee-in-lieu in the amount of \$ 8,494.20 to the Forest Conservation Fund for 0.26 acres of required afforestation.
 - Contractor shall verify location of all underground utilities prior to digging.
 - Final location of plant material may need to vary to meet final field conditions. trees shall not be planted in the bottom of drainage swales.
 - Contractor shall verify plant quantities prior to bidding. If plan differs from landscape schedule, the plan shall govern.
 - At the time of plant installation, all trees listed and approved on the landscape plan, shall comply with the proper height requirement in accordance with the Howard County Landscape Manual. In addition, no substitutions or relocations of the required plantings may be made without prior review and approval from the Department of Planning and Zoning. Any deviations from the approved landscape plan may result in denial or delay in the release of landscape surety until such time as all required materials are planted and/or revisions are made to the plans.

LEGEND

- FIRE HYDRANT
- SANITARY SEWER MANHOLE
- EXISTING SEWER LINE
- EXISTING WATER LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED EASEMENT
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- EASEMENT LINE
- EX.STORM DRAIN
- EX.OVERHEAD ELECTRIC LINE
- Existing trees to remain and credited towards Landscape Requirement

SCHEDULE A PERIMETER LANDSCAPE EDGE

Category	Adjacent to Roadways	Adjacent to Perimeter Properties
Perimeter	1	2
Landscape Type	A	A
Linear Feet of Roadway Frontage/Perimeter	97'	119'
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)	N/A (FRONT TO ROAD)	N/A (EXISTING LOT)
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)	N/A	N/A
Number of Plants Required		
Shade Trees		7
Evergreen Trees		6
Shrubs		
Number of Plants Provided		
Shade Trees		5*
Evergreen Trees		5**
Other Trees (2:1 substitution)		
Shrubs (10:1 substitution) (Describe plant substitution credits below if needed)		

*Credit is taken for 2 shade trees within 20' perimeter width along perimeter 3
**Credit is taken for 1 shade tree along perimeter 4.

PLANT LIST

QTY	SPECIES	SIZE	SYMBOL	COMMENTS
2	Acer rubrum 'Red Sunset' / Red Sunset Red Maple	2-1/2" to 3" cal.	⊙	Plant min.40' apart
3	Acer saccharum 'Legacy' Legacy Sugar Maple	2-1/2" to 3" cal.	⊙	Plant min.30' apart
5	Prunus argentea Sargent Cherry	2-1/2" to 3" cal.	⊙	Plant min.30' apart

PERIMETER EDGE SUMMARY

Perimeter	Type	Linear Ft.	Plants Req'd.	Credit for existing vegetation	Plants provided
1		97'			
2	A	119'	N/A		
3	A	430'	7 shade	2 Shade	5 Shade
4	A	389'	6 shade	1 Shade	5 Shade

PERIMETER LANDSCAPING SHALL BE PROVIDED AS SHOWN ON THIS PLAN. POSTING OF SURETY IN THE AMOUNT OF \$3,000.00 FOR 10 SHADE TREES SHALL BE DEFERRED UNTIL SITE DEVELOPMENT PLAN APPROVAL.

LANDSCAPE PLAN / SOILS MAP
O'NEILL SUBDIVISION
LOTS 1 TO 3
A SUBDIVISION OF PARCEL 559, TAX MAP 31, GRID 15
1ST ELECTION DISTRICT HOWARD COUNTY, MD.
ZONE R-20

KCE ENGINEERING, INC.
EXECUTIVE CENTER
3300 NORTH RIDGE ROAD, SUITE 315
ELLCOTT CITY, MARYLAND 21043
PHONE (410) 203-9800 FAX (410) 203-9228

DRAWN BY: MG
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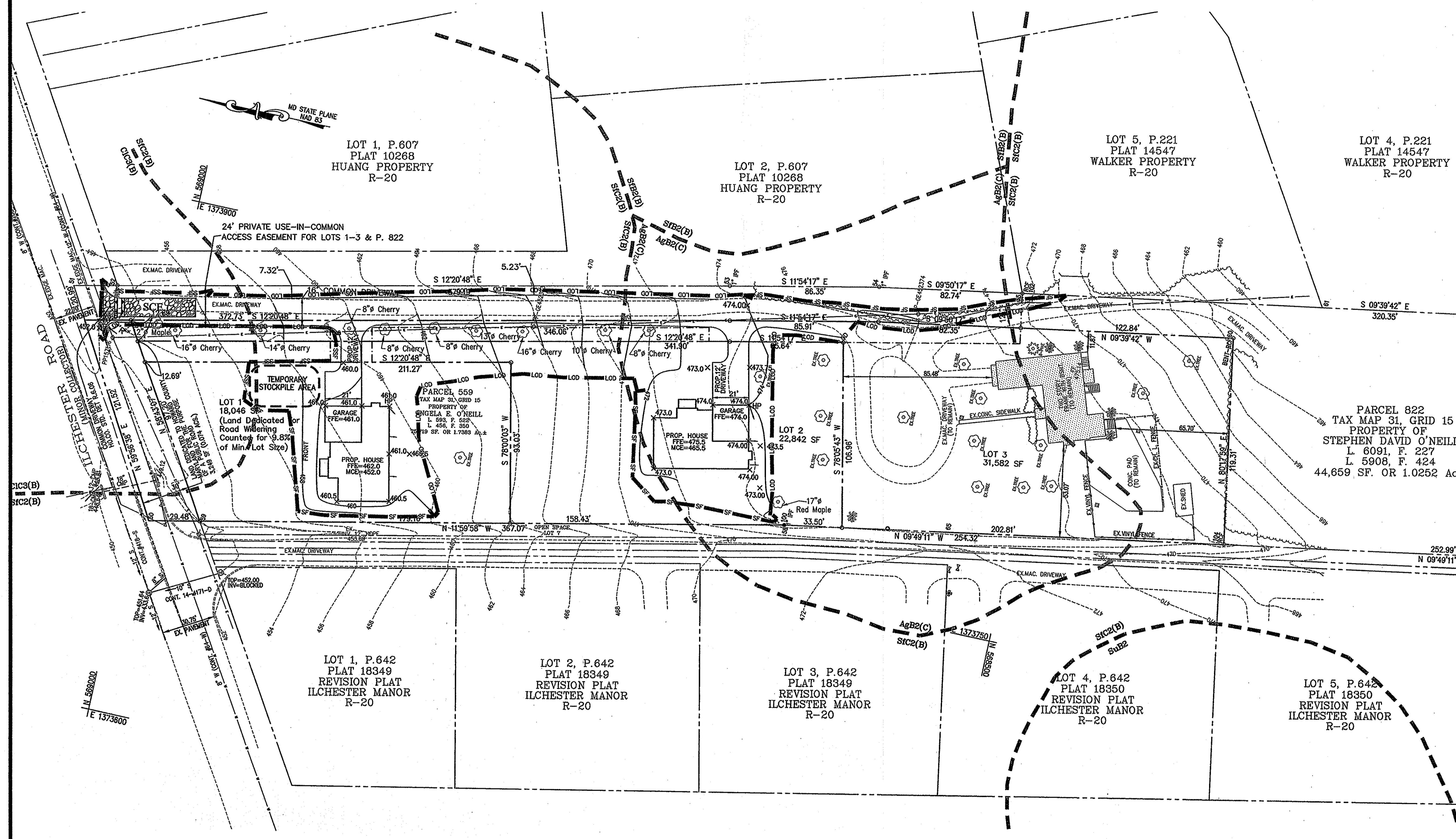
SHEET:
3 OF 6

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION 3/15/12 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 3/19/12 DATE

NOTE: TO IMPROVE CLARITY, LIMIT OF DISTURBANCE (LOD) LINE IS NOT SHOWN AT LOCATIONS WHERE SUPER SILT FENCE (SSF) & SILT FENCE (SF) IS USED. IN THESE AREAS, (SF) OR (SSF) LINE ALSO DENOTES THE LIMIT OF DISTURBANCE (LOD).
 CONTRACTOR SHALL INSTALL AND/OR RESET ADDITIONAL LENGTH OF SILT/SUPER SILT FENCE IF REQUIRED BY THE SEDIMENT CONTROL INSPECTOR.



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 - EASEMENT LINE
 - EX-STORM DRAIN
 - EX-OVERHEAD ELECTRIC LINE
 - LOD LIMIT OF DISTURBANCE
 - SF SILT FENCE
 - SSF SUPER SILT FENCE
 - SCB STABILIZED CONSTRUCTION ENTRANCE

PARCEL 822
 TAX MAP 31, GRID 15
 PROPERTY OF
 STEPHEN DAVID O'NEILL
 L. 6091, F. 227
 L. 5908, F. 424
 44,659 SF. OR 1.0252 Ac.

OWNER
 ANGELA E. O'NEILL
 5185 ILCHESTER ROAD
 ELLICOTT CITY, MD. 21043
 (410) 744-7472

SEDIMENT & EROSION CONTROL PLAN
O'NEILL SUBDIVISION
LOTS 1 TO 3
 A SUBDIVISION OF PARCEL 559, TAX MAP 31, GRID 15
 1ST ELECTION DISTRICT HOWARD COUNTY, MD.
 ZONE R-20

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 3300 NORTH RIDGE ROAD, SUITE 315
 ELLICOTT CITY, MARYLAND 21043
 PHONE (410) 203-9800 FAX (410) 203-9228

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 _____ 3/15/12
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 _____ 3/19/12
 CHIEF, DIVISION OF LAND DEVELOPMENT

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

 USDA-NATURAL RESOURCES CONSERVATION SERVICE

 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 _____ 2/21/12
 HOWARD SOIL CONSERVATION DISTRICT

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

 SIGNATURE OF ENGINEER
 D. VIR KATHURA

DEVELOPERS CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT & 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.
 _____ 2/10/12
 SIGNATURE OF DEVELOPER
 ANGELA O'NEILL

DRAWN BY: MG
 CHECKED BY: DVG
 SCALE: 1" = 30'
 DATE: 02/07/2012
 SHEET:
 4 OF 6

STANDARDS AND SPECIFICATIONS FOR TOPSOIL

DEFINITION

PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

PURPOSE

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE 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 FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
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:
i. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR A SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1.5-INCH IN DIAMETER.
ii. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS, SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
iii. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.
III. FOR THIS SITE, WHICH HAS A DISTURBED AREA UNDER 5 ACRES:
i. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
IV. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
I. 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 PF 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 STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14DAYS 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 SPECIFIED IN 20.0 VEGETATIVE STABILIZATION-SECTION 1-VEGETATIVE STABILIZATION METHODS AND MATERIALS.
V. TOPSOIL APPLICATION
i. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, SILT FENCE, SEDIMENT TRAPS AND BASINS.
ii. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBERT 4" - 8" HIGHER IN ELEVATION.
iii. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" - 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH MINIMUM 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.
iv. 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.

SEQUENCE OF CONSTRUCTION

Table with 2 columns: Activity and Duration. Activities include Obtain grading permit, Notify Howard County Bureau of Inspections and Permits, Construct stabilized construction entrance, etc.

DURATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

ENGINEERS CERTIFICATE

DEVELOPERS CERTIFICATE

Handwritten signatures and dates for Development Engineering Division and Division of Land Development.

Handwritten signatures and dates for Planning and Zoning, and Division of Land Development.

Handwritten signatures and dates for Natural Resources Conservation Service and Howard Soil Conservation District.

Handwritten signatures and dates for Engineer D. Vir Kathuria.

Handwritten signatures and dates for Developer Angela O'Neill.

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, disking 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/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding.
2. Acceptable - Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs/acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding.

Seeding - For the periods March 1 - April 20, and August 1 - October 20, inclusive, seed the appropriate seed mixtures:
Seed Mixture No. 1 - (relatively flat areas regularly mowed and exposed to normal conditions) with 192 lbs PLS/acre of 85% certified turf-type Tall Fescue, 28 lbs PLS/acre of 10% certified Kentucky Bluegrass and 14 lbs PLS/acre of 5% Perennial Ryegrass.

Seed Mixture No. 2 - (sloped areas not subject to regular mowing) with 85 lbs PLS/acre of 75% Hard Fescue, 23 lbs PLS/acre of 20% Chewings Fescue and 7 lbs PLS/acre of 5% Kentucky Bluegrass.
Seed Mixture No. 3 - (wetland areas and their associated buffer zones) with 83 lbs PLS/acre of 60% Fowl Meadow Grass, 34 lbs PLS/acre of 30% Chewings Fescue and 14 lbs PLS/acre of 10% Perennial Ryegrass.

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

Maintenance - Inspect all seeding areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed.
Seedbed preparation: - Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: - Apply 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.).

Seeding: - For periods March 1 - April 30 and from August 1 - November 30, inclusive, seed with 2-1/2 bushel per acre of Annual Rye/ Redtop (3.2 lbs/1000 sq. ft.). For the period May 1 - July 31, inclusive, seed with 13.6 lbs PLS/acre of Little Bluestem. For the period November 16 - February 28, protect site by applying 2 tons/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/acre (70 to 90 lbs/1000 sq. ft.) of unrotted weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

SEDIMENT CONTROL NOTES

1. A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction (313-1855).

2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.

3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes 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 12 of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.

5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. 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.

6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.

7. Site Analysis: Total Area of Site 1.73 Acres, Area Disturbed: 0.7 Acres, Area to be roofed or paved: 0.3 Acres, Area to be vegetatively stabilized: 0.4 Acres, Total Cut: 850 Cu. Yds., Total Fill: 20 Cu. Yds., Excess material to be hauled to an approved site.

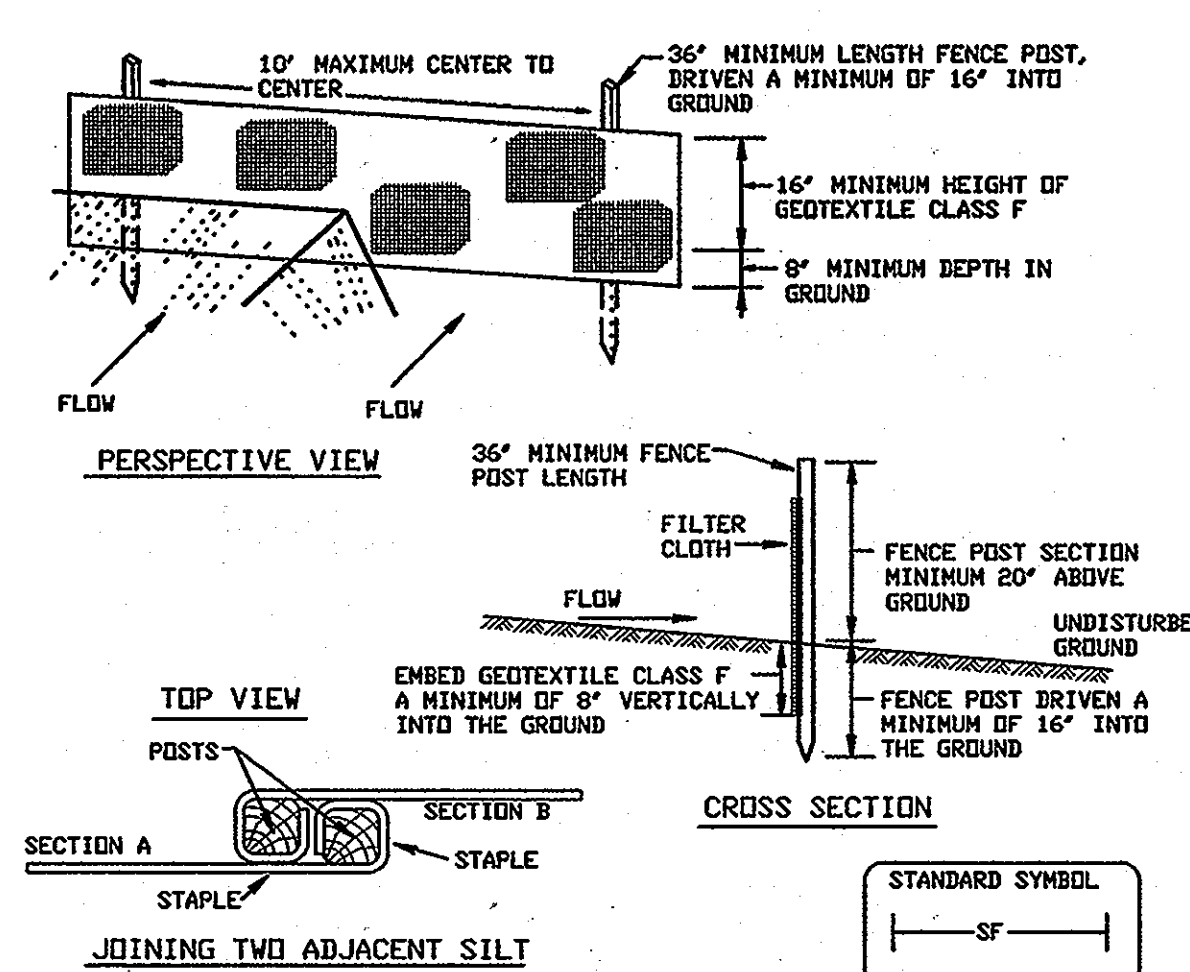
8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

9. Additional sediment control 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.

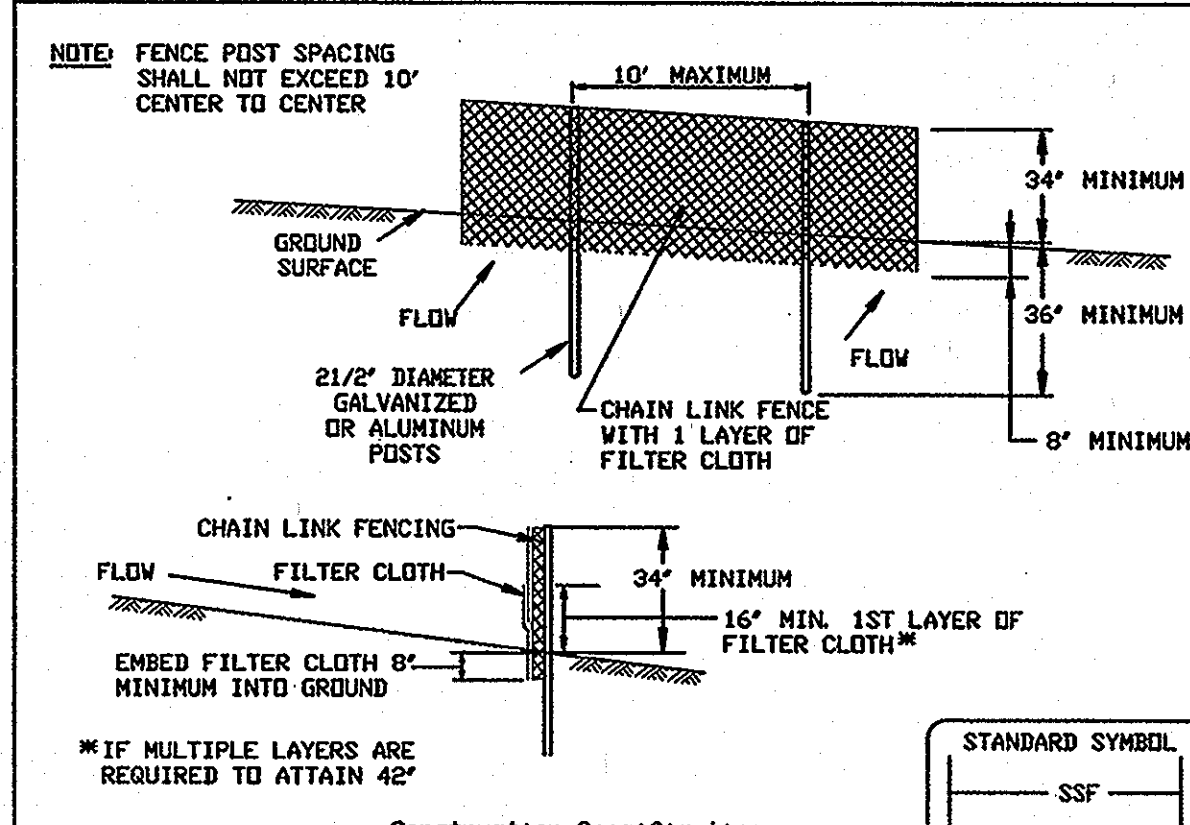
11. Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized by the end of each work day, whichever is shorter.

DETAIL 22 - SILT FENCE



Construction Specifications: 1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. 2. 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.
Design Criteria table: Slope Steepness, Slope Length (maximum), Silt Fence Length (maximum).

DETAIL 33 - SUPER SILT FENCE

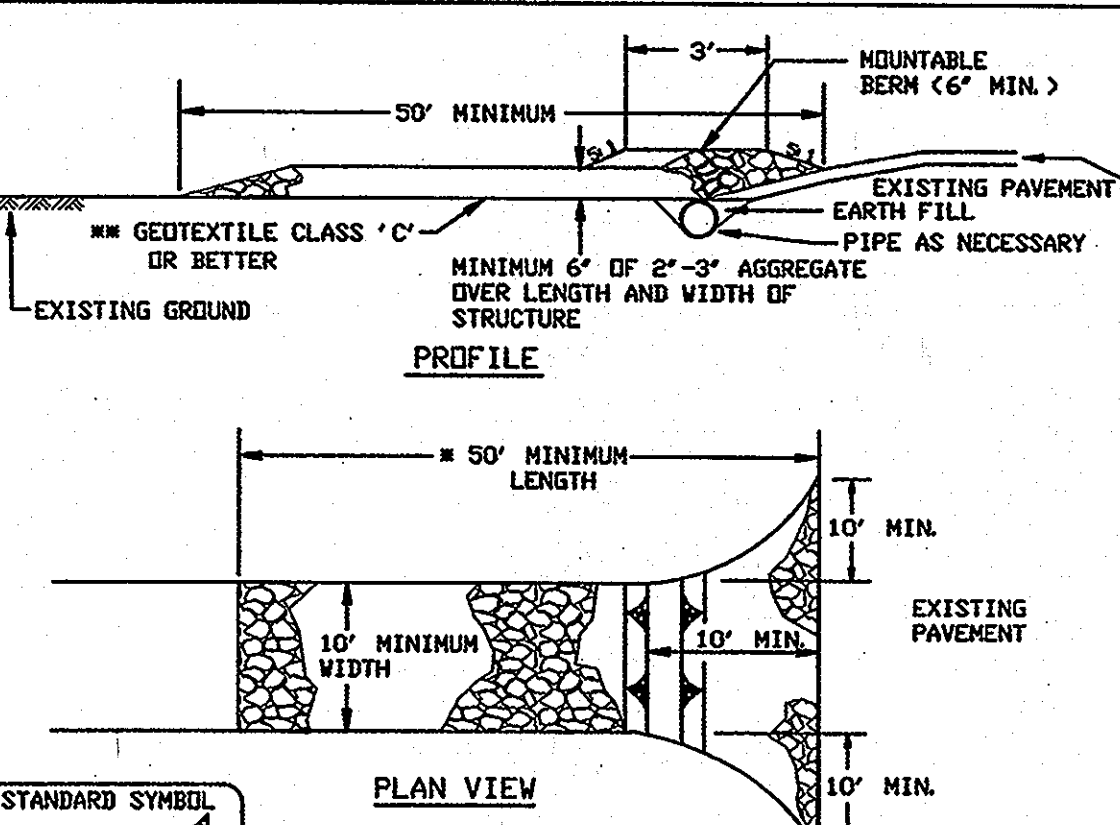


Construction Specifications: 1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. 2. Chain link fence shall be fastened securely to the fence posts with wire ties. 3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section. 4. Filter cloth shall be embedded a minimum of 8" into the ground. 5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded. 6. Maintenance shall be performed as needed and silt buildups removed when 'bulges' develop in the silt fence, or when silt reaches 50% of fence height. 7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F.
Design Criteria table: Slope Steepness, Slope Length (maximum), Silt Fence Length (maximum).

SUPER SILT FENCE

Design Criteria table: Slope Steepness, Slope Length (maximum), Silt Fence Length (maximum). Includes U.S. Department of Agriculture and Maryland Department of Environment logos.

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



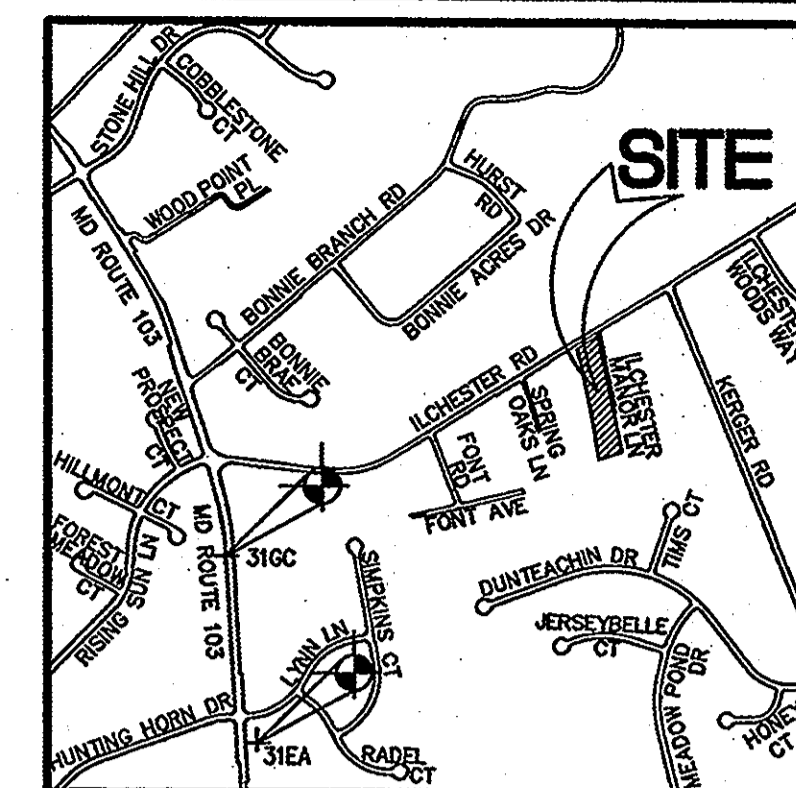
Construction Specification: 1. Length - minimum of 50' (30' for single residence lot). 2. Width - 10' minimum, should be flared at the existing road to provide a turning radius. 3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. 4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance. 5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. 6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site.
U.S. Department of Agriculture and Maryland Department of Environment logos.

SEDIMENT & EROSION CONTROL NOTES AND DETAILS

O'NEILL SUBDIVISION

LOTS 1 TO 3
A SUBDIVISION OF PARCEL 559, TAX MAP 31, GRID 15
1ST ELECTION DISTRICT HOWARD COUNTY, MD.
ZONE R-20
KCE ENGINEERING, INC. EXECUTIVE CENTER
3300 NORTH RIDGE ROAD, SUITE 315
ELLCOTT CITY, MARYLAND 21043
PHONE (410) 203-9800 FAX (410) 203-9228

Handwritten notes and signatures for Drawn By, Checked By, and Date. Includes a circular seal for the State of Maryland Professional Engineer.



VICINITY MAP
SCALE 1"=1000'
ADC MAP NO. 16 GRID J4

FOREST CONSERVATION WORKSHEET
O'Neill Subdivision, Howard County-R-20 Zoned

5Aug02

NET TRACT AREA:

A. Total tract area	1.74
B. Land dedication acres (parks, county facility, etc.)	0.00
C. Land dedication for roads or utilities (not being constructed by this plan)	0.00
D. Area to remain in commercial agricultural production/use	0.00
E. Other deductions (specify)	0.00
F. Net Tract Area	1.74

LAND USE CATEGORY: (from Trees Technical Manual)
Input the number "1" under the appropriate land use, limit to only one entry.

ARA	MDR	IDA	HDR	MPD	CIA
0	0	0	1	0	0
G. Afforestation Threshold			15%	x F =	0.28
H. Conservation Threshold			20%	x F =	0.35

EXISTING FOREST COVER:

I. Existing forest cover	0.00
J. Area of forest above afforestation threshold	0.00
K. Area of forest above conservation threshold	0.00

BREAK EVEN POINT:

L. Forest retention above threshold with no mitigation	0.00
M. Clearing permitted without mitigation	0.00

PROPOSED FOREST CLEARING:

N. Total area of forest to be cleared	0.00
O. Total area of forest to be retained	0.00

PLANTING REQUIREMENTS:

P. Reforestation for clearing above conservation threshold	0.00
Q. Reforestation for clearing below conservation threshold	0.00
R. Credit for retention above conservation threshold	0.00
S. Total reforestation required	0.00
T. Total afforestation required (may not exceed 20% of "S")	0.25
U. Credit for landscaping (may not exceed 20% of "S")	0.00
V. Total reforestation and afforestation required	0.25

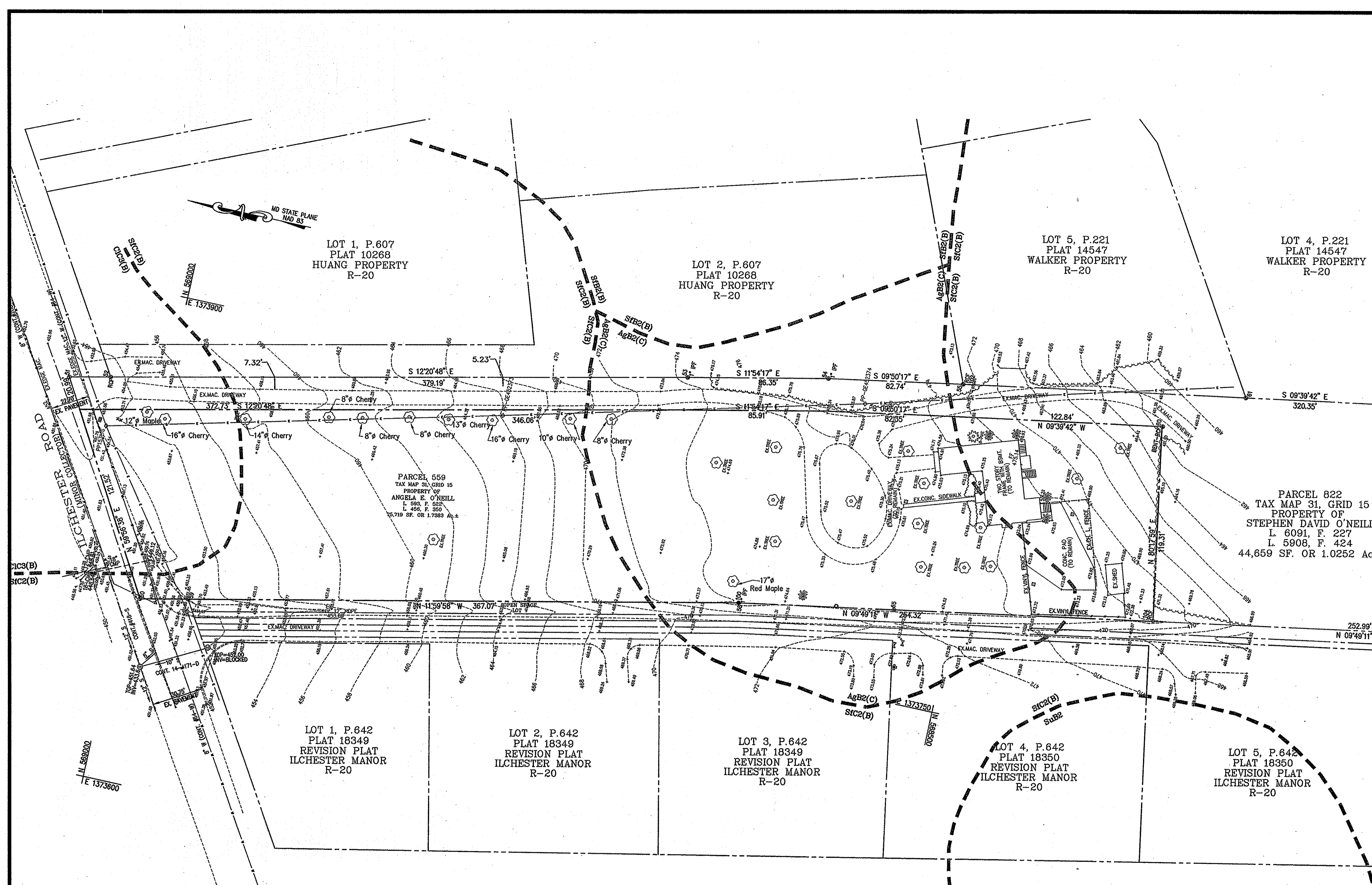
SITE DATA

- LOCATION: TAX MAP 31, PARCEL 559
- 1ST ELECTION DISTRICT
- EXISTING ZONING: R-20
- GROSS AREA OF PARCEL: 75,719 S.F.=1.74 ACRES
- AREA OF RIGHT OF WAY: 3,249 S.F.=0.074 ACRES
- AREA OF FLOODPLAIN: N/A
- AREA OF CONTIGUOUS STEEP SLOPES ON-SITE: 0 S.F.T.
- NET AREA OF SITE = 72,470 S.F.
- NUMBER OF PROPOSED RESIDENTIAL LOTS: 3
- AREA OF PROPOSED RESIDENTIAL LOTS: 72,470 S.F.
- AREA OF SMALLEST BUILDABLE LOT PROPOSED: 18,046 S.F.

FOREST STAND DELINEATION PLAN
O'NEILL SUBDIVISION
LOTS 1 TO 3
A SUBDIVISION OF PARCEL 559, TAX MAP 31, GRID 15
1ST ELECTION DISTRICT HOWARD COUNTY, MD.
ZONE R-20

KCE ENGINEERING, INC.
EXECUTIVE CENTER
3300 NORTH RIDGE ROAD, SUITE 315
ELLCOTT CITY, MARYLAND 21043
PHONE (410) 203-9800 FAX (410) 203-9228

STATE OF MARYLAND
REGISTERED PROFESSIONAL ENGINEER
DRAWN BY: MG
CHECKED BY: DVK
SCALE: 1" = 30'
DATE: 02/07/2012
SHEET:
6 OF 6



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION
CHIEF, DIVISION OF LAND DEVELOPMENT

3/15/12
3/19/12

LEGEND
* FIRE HYDRANT
S SANITARY SEWER MANHOLE
--- EXISTING SEWER LINE
--- EXISTING WATER LINE
--- EXISTING CONTOUR
--- EX. STORM DRAIN
--- EX. OVERHEAD ELECTRIC LINE

- NOTES:**
- NO RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED ON THE PROPERTY.
 - SURROUNDING LAND USE IS PRIMARILY SINGLE-FAMILY RESIDENTIAL AND COUNTY ROAD RIGHT-OF-WAY.
 - THERE ARE NO FOREST STANDS IDENTIFIED ON SITE.
 - NO WETLANDS/ STREAMS ARE PRESENT ON THE SITE.
 - FOREST CONSERVATION OBLIGATION IN ACCORDANCE WITH SECTION 16.1202 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL SHALL BE FULFILLED BY THE PAYMENT OF A FEE-IN-LIEU IN THE AMOUNT OF \$ 8,494.20 TO THE FOREST CONSERVATION FUND FOR 0.26 ACRES OF REQUIRED AFFORESTATION.

FOREST CONSERVATION SIGNATURE NOTE:
Mridula Gupta 02/08/2012
DNR QUALIFIED PROFESSIONAL
MRIDULA GUPTA
KCE ENGINEERING, INC.

SOIL ANALYSIS

SOIL SYMBOL	SOIL TYPE	CLASSIFICATION
AgB2	Croom Gravelly Loam, 1-5% slopes, Moderately Eroded	C
CIC3	Chillum Gravelly Loam, 5-10% slopes, severely Eroded	B
SIC2	Sassafras Gravelly Sandy Loam, 5-10% slopes, Moderately Eroded	B

OWNER
ANGELA E. O'NEILL
5185 ILCHESTER ROAD
ELLCOTT CITY, MD 21043
(410) 744-7472