SITE DEVELOPMENT PLAN
OWEN WOODS
LOTS 1-4
PARCEL 120
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SHEET INDEX

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOL. IV "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION" PLUS MSHA STANDARDS AND SPECIFICATIONS.

2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/ CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK. THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF HIGHWAYS AT (410) 313-2450 AT LEAST FIVE (5) WORKING DAYS BEFORE ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING WATER AND SEWER MAINS.

3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.

4. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.

5. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE PER HOWARD COUNTY RECORDS.

6. PUBLIC WATER AND SEWER IN STEVENS FOREST RD PROVIDED BY CONTRACT #(C-319-WS) PROPOSED WATER AND SEWER TO THE LOTS WILL BE PROVIDED ACCORDANCE WITH SECTION 18.122B OF THE HOWARD COUNTY CODE. PUBLIC WATER AND SEWER ALLOCATION WILL BE GRANTED AT THE TIME OF ISSUANCE OF THE BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME. A PUBLIC WATER AND SEWER PLAN WAS SUBMITTED TO THE DEVELOPMENT ENGINEERING DIVISION FILE NO. 24-4379D AND APPROVED NO. 24-4379D . A DEVELOPER'S AGREEMENT WILL BE REQUIRED WITH THIS SDP.

7. THIS SITE IS LOCATED IN THE LITTLE PATUXENT RIVER WATERSHED.

8. ALL FILL AREAS SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED AND VERIFIED IN ACCORDANCE WITH AASHTO T-180-STANDARD.

9. CONTRACTOR SHALL MAINTAIN ALL SEDIMENT CONTROL DEVICES WITHIN THE LIMITS OF THE SITE DURING CONSTRUCTION OF THE SITE IMPROVEMENTS. CONTRACTOR SHALL PROVIDE ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES AS MAY BE NECESSARY DURING CONSTRUCTION AND/OR BY GOVERNING AGENCIES.

10. PER FEMA MAP# 24004403 4B DATED DECEMBER 04, 1986, THIS SITE IS NOT LOCATED WITHIN THE 100 YR FLOODPLAIN.

11. THERE ARE NO EXISTING WETLANDS, WETLAND BUFFERS, STREAMS OR STREAM BUFFERS ON SITE.

12. THERE ARE NO STEEP SLOPES OR HIGHLY ERODIBLE SOILS ON THIS SITE. THE TOPOGRAPHY IS BASED ON A FIELD RUN SURVEY COMPLETED BY christopher consultants, ltd. IN AUGUST 2005.

13. THERE ARE NO KNOWN CEMETERIES OR BURIAL GROUNDS ON THIS SITE. HOWEVER, UPON DISCOVERY OF ANY EVIDENCE OF BURIAL OR GRAVES, THE DEVELOPER WILL BE SUBJECT TO SECTION 16.1305 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

14. ALL ADJACENT PROPERTIES ARE RESIDENTIAL USES.

15. THE SUBJECT PROPERTY IS ZONED R-20 PER THE COMPREHENSIVE REZONING PLAN (02/02/2004.)

16. THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH MAXIMUM TWO FOOT INTERVALS PREPARED BY christopher consultants, ltd. DATED AUGUST 2005.

17. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLAN COORDINATE SYSTEM. MONUMENT NUMBERS 36DE AND 36DA WERE USED FOR THIS PROJECT (NAD 83/91.)

18. CONTRACTOR SHALL VERIFY THE SIZE AND LOCATIONS OF ALL UNDERGROUND UTILITIES AND TEST PIT ALL UTILITIES, INCLUDING PROPOSED TIE IN LOCATIONS, AT LEAST 5 DAYS PRIOR TO STARTING ANY WORK ON THESE DRAWINGS. DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER IN ADVANCE OF CONSTRUCTION START.

19. THE CONTRACTOR SHALL INSURE THAT CURRENT AS BUILT RECORDS ARE MAINTAINED DURING CONSTRUCTION. UPON COMPLETION OF CONSTRUCTION, CERTIFIED (i.e. P.E. STAMPED) AS-BUILT DRAWINGS SHALL BE SUBMITTED TO THE OWNER.

20. WATER QUALITY & QUANTITY MANAGEMENT FOR THIS SITE WILL BE PROVIDED IN A BIORETENTION FACILITY LOCATED ON EACH INDIVIDUAL LOT THESE HAVE BEEN DESIGNED IN ACCORDANCE WITH THE CRITERIA LISTED ON P 3.31 TO 3.41 OF THE 2000 MDE DESIGN REQUIREMENTS. RECHARGE VOLUME IS MET BY THE PLACEMENT OF RECHARGE STONE BENEATH THE BIORETENTION AREA. THE SURETY AND THE DEVELOPERS AGREEMENTS FOR THE ON-LOT STORMWATER MANAGEMENT WILL BE POSTED UNDER THIS SDP.

21. THE FOREST CONSERVATION OBLIGATION FOR THE DEVELOPMENT OF THIS SITE HAS BEEN FULFILLED UNDER F-06-125.

22. THE LANDSCAPE PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE, AND THE LANDSCAPE MANUAL.

23. FINANCIAL SURETY FOR THE REQUIRED TWENTY SIX(26) SHADE TREES AND TEN(10) EVERGREEN TREES, AND SHRUBS IN THE AMOUNT OF $9300 IS PART OF THE DEVELOPER'S AGREEMENT FOR LOTS 1-4 POSTED UNDER THIS SDP.

24. THE CONSTRUCTION OF THE TEE TURN AROUND IN OWEN BROWN ROAD IS THE BUILDER'S RESPONSIBILITY, THE REQUIRED SURETY AND DEVELOPER'S AGREEMENT WILL BE FULFILLED AS PART OF THIS SDP.

25. CONTRACTOR SHALL VERIFY ALL EXISTING SITE PLAN CONDITIONS PRIOR TO BEGINNING WORK. HE SHALL VERIFY SIZE AND LOCATIONS OF ALL UNDERGROUND UTILITIES AND TEST PIT PROPOSED TIE IN LOCATIONS. DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER WELL IN ADVANCE OF CONSTRUCTION START. START OF CONSTRUCTION BY THE CONTRACTOR SHALL CONSTITUTE FULL ACCEPTANCE OF ALL SITE CONDITIONS BY THE CONTRACTOR.

26. THE EXISTING SHED ON PARCEL TWO WILL BE DEMOLISHED.

27. CONTRACTOR TO PROVIDE SIGNAGE AND TRAFFIC CONTROL DEVICES AS NECESSARY TO PREVENT PUBLIC ACCESS TO ROAD DURING CONSTRUCTION.

28. UNLESS OTHERWISE NOTED, DIMENSIONS FROM CURB ARE MEASURED AT FACE OF CURB.

29. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.

30. CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING ON THESE PLANS:

-MISS UTILITY 1-800-257-7777
-HOWARD COUNTY DPWT, BUREAU OF UTILITIES (410) 313-4900
-BALTIMORE GAS AND ELECTRIC COMPANY CONTRACTOR SERVICES (410)850-4620
-BALTIMORE GAS AND ELECTRIC COMPANY UNDERGROUND DAMAGE CONTROL (410)787-9068
-VERIZON 1-800-446-5266

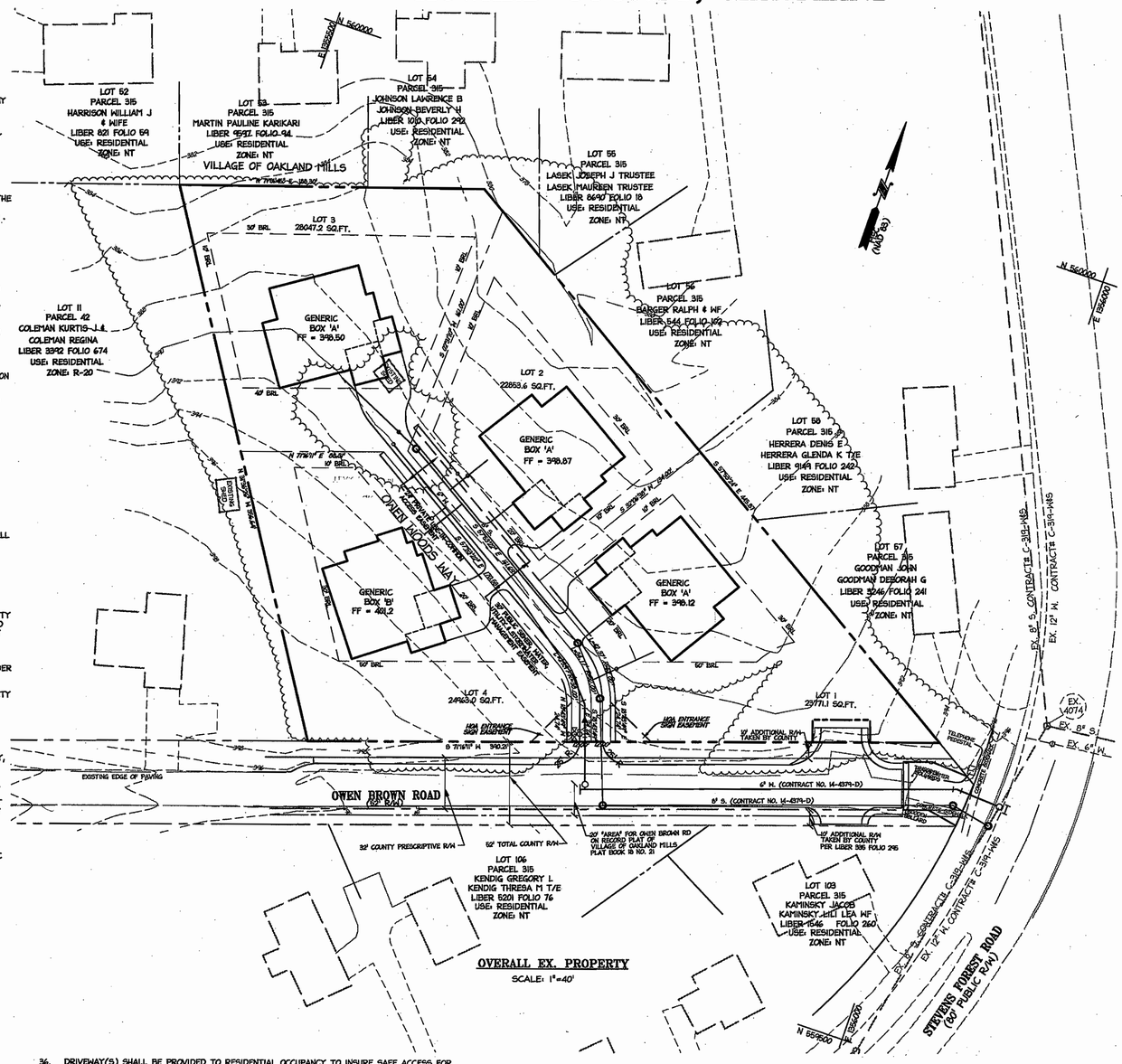
31. CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS AS NECESSARY TO GRADE THE SITE AND COMPLETE ANY REQUIRED EXCAVATIONS.

32. christopher consultants, ltd. SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION, MEANS, METHODS, TECHNIQUES, OR PROCEDURES, UTILIZED BY THE CONTRACTOR , NOR FOR THE SAFETY OF PUBLIC OR CONTRACTOR'S EMPLOYEES, NOR FOR THE FAILURE OF THE CONTRACTOR TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND STANDARD CONSTRUCTION PRACTICES.

33. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES WHICH ARE TO REMAIN FREE FROM DAMAGE AND MAINTAIN UNINTERRUPTED SERVICE TO ALL USERS. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OR SUBCONTRACTOR'S ACTIONS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.

34. SCALING OF THESE PLANS IS DISCOURAGED UNLESS DIRECTED BY THE ENGINEER. IN THE EVENT OF A DISCREPANCY BETWEEN THE SCALED AND THE FIGURED DIMENSIONS, THE FIGURED DIMENSIONS SHALL BE HELD.

35. IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16' IN WIDTH MAY PROJECT NOT MORE THAN 4' INTO ANY SETBACKS; PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NO MORE THAN 10' INTO THE FRONT OR REAR YARD SETBACKS.



OVERALL EX. PROPERTY
SCALE: 1"=40'

36. DRIVEWAY(S) SHALL BE PROVIDED TO RESIDENTIAL OCCUPANCY TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS.
- A) WIDTH - 12 FEET(14 FEET SERVING MORE THAN ONE RESIDENCE)
- B) SURFACE - 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND SHIP COATING.
- C) GEOMETRY - MAXIMUM 10% GRADE CHANGE RUN AND MINIMUM OF 45 - FOOT TURNING RADIUS
- D) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING)
- E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 - YEAR FLOOD WITH NO MORE THAN 1-FOOT DEPTH OVER DRIVEWAY SURFACE
- F) STRUCTURE CLEARANCES - MINIMUM 12 FEET
- G) MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE

37. THIS IS A RESIDENTIAL INFILL DEVELOPMENT CREATING 10 OR FEWER LOTS, PER SECTION 16.121(a) OPEN SPACE WILL BE SATISFIED WITH A FEE-IN-LIEU OF $4,500. ($1,500 PER LOT FOR 3 LOTS.) PER NOTE ON F-06-125. THE FEE WAS POSTED AS PART OF F-06-125.

38. SHC ELEVATIONS SHOWN ARE LOCATED AT THE PROPERTY LINE.

39. FOR DRIVEWAY ENTRANCE DETAILS REFER TO THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD DETAIL R-6.06.

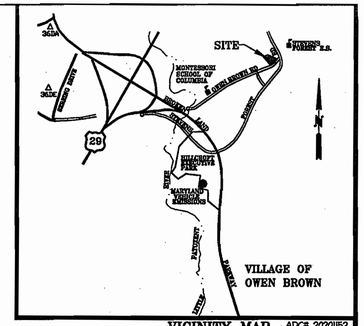
40. ALL BIO-RETENTION AND GRASS CHANNELS ARE TO BE PRIVATELY OWNED AND MAINTAINED.

41. THE 24' PRIVATE USE-IN-COMMON ACCESS EASEMENT IS RECORDED AMONG THE LAND RECORDS OF HOWARD COUNTY AT LIBER 10625 / FOLIO 087

42. THE 30' PUBLIC SEWER, WATER, UTILITY & STORMWATER MANAGEMENT EASEMENT IS RECORDED AMONG THE LAND RECORDS OF HOWARD COUNTY AT LIBER 10625 / FOLIO 095

43. TRASH AND RECYCLABLES COLLECTION WILL BE AT OWEN BROWN ROAD.

44. THE DEVELOPER WILL CONSTRUCT A 4' IMPROVED SHOULDER ALONG OWEN BROWN ROAD TO PROVIDE SAFE PEDESTRIAN ACCESS. THE DEVELOPER WILL ALSO PAY A FEE-IN-LIEU FOR SIDEWALK CONSTRUCTION ALONG THE PROPERTY FRONTAGE.



VICINITY MAP
SCALE 1"=2000'

ADC# 20201152

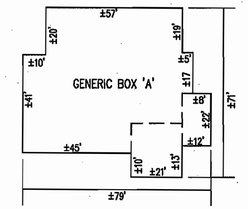
BENCHMARK
HORIZONTAL: MARYLAND NAD83 (ADJ 1991)
VERTICAL: NAVD88
GEODETIC SURVEY CONTROL: 36DE
NORTHING: 559516.00
EASTING: 1360409.51
ELEVATION: 383.44
LOCATION: SIDING DRIVE 0.3MI NORTH OF OWEN BROWN RD.

GEODETIC SURVEY CONTROL: 36DA
NORTHING: 560849.356
EASTING: 1360037.49
ELEVATION: 363.703
LOCATION: CORNER HICKORY RIDGE RD. & BROKEN LAND PKWY.

DESCRIPTIONS:
STAMPED DISC SET ON 3' DEEP COLUMN OF CONCRETE

SITE ANALYSIS DATA CHART

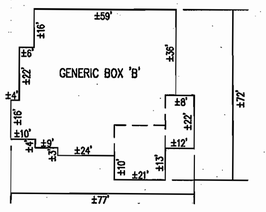
1. GENERAL SITE DATA
   - a. PRESENT ZONING: R-20 PER THE 02/02/2004 COMP. ZONING PLAN
   - b. APPLICABLE DPZ FILE REFERENCES: SDP-06-077, F-06-125.
   - c. PROPOSED USE OF SITE OR STRUCTURE(S): FOUR(4) SINGLE FAMILY DETACHED RESIDENTIAL HOUSES
   - d. PROPOSED WATER AND SEWER SYSTEMS: PUBLIC WATER & SEWER WITH A PUBLIC UTILITY, SEWER & WATER EASEMENT
   - e. PROPOSED NUMBER OF UNITS: FOUR(4)
2. AREA TABULATION
   - a. GROSS TRACT AREA: 2.3 AC.±
   - b. AREA OF THIS PLAN SUBMISSION: 2.3 AC.±
   - c. LIMIT OF DISTURBED AREA: 2.26 AC.± (INCLUDES RIGHT-OF-WAY IMPROVEMENTS)
   - d. MINIMUM LOT SIZE 20,000 S.F.
   - e. MINIMUM LOT WIDTH AT BRL: 60'
   - f. MINIMUM OPEN SPACE 6% GROSS TRACT
   - g. MAXIMUM BUILDING HEIGHT: 34' FOR PRIMARY STRUCTURE, 15' FOR ACCESSORY STRUCTURE REQUIRED.
3. SETBACKS
   - FRONT:
     - SETBACK FROM PUBLIC STREET R.O.W.=50'
     - UNITS FACING EACH OTHER ACROSS A USE-IN-COMMON DRIVEWAY: 20'
   - FRONT: 40'
   - SIDE: 10'
   - REAR: 30'



SCALE: 1"=30'

HOUSE TYPES (SEE SHEET 2 OF 12)

CALVERT- UNIT 'C'
CALVERT- UNIT 'C' SECONDARY PLAN
CALVERT- UNIT 'C' MASTER PLAN
SUMMERHILL
WILLIAM DEAVEN
GEORGE OLIVER
SARAH DUNMORE
JACOB TYLER- (REVERSE UNIT)
DORCHESTER II
THOMAS GOODWIN



SCALE: 1"=30'

HOUSE TYPES (SEE SHEET 2 OF 12)

CALVERT- UNIT 'C'
CALVERT - UNIT 'C' SECONDARY PLAN
SUMMERHILL (NO OPT. SUNROOM)
WILLIAM DEAVEN
GEORGE OLIVER
SARAH DUNMORE
JACOB TYLER (REVERSE UNIT)
DORCHESTER II
THOMAS GOODWIN

1-25-07
DATE
STATE OF MARYLAND
JOHN M. HOUSEHOLDER
No. 29907
PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development	4-24-07 Date
Chief, Development Engineering Division	4/23/07 Date
Director, Department of Planning and Zoning	4/24/07 Date

Date	No.	Revision Description

OWEN WOODS - LOTS 1-4
SINGLE FAMILY DETACHED DWELLINGS

OWNER / DEVELOPER
THE WILLIAMSBURG GROUP
CONTACT: BOB CORBETT
5485 HARPER'S FARM ROAD
SUITE 200
COLUMBIA, MD 21044
TEL. 410 997 8600 FAX. 410 997 4358

christopher consultants
engineering · surveying · land planning
christopher consultants, ltd.
7172 columbia gateway drive (suite 100) · columbia, md. 21046-2990
410.872.6650 · metro 301.881.0148 · fax 410.872.6693

ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
120	OWEN BROWN RD. COLUMBIA MD 21045
1	9604 - OWEN WOODS WAY
2	9606 - OWEN WOODS WAY
3	9611 OWEN WOODS WAY
4	9609 - OWEN WOODS WAY

PERMIT INFORMATION CHART

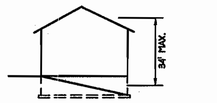
PROJECT NAME: OWENS WOODS	LOT/PARCEL NO.: 120		CENSUS TRACT: 6066.03
PLAT NO.: 18983	GRID NO.: 0009	ZONE: R-20	TAX MAP: 36
ELECTION DISTRICT: 6TH			
WATER CODE: E 09 PUBLIC		SEWER CODE: 5480000 SEWER	

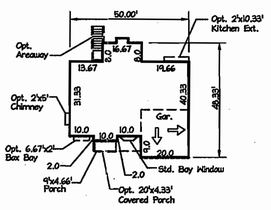
TITLE: **COVER SHEET**

DESIGN: KJS, AH	PLAN: AS SHOWN		PROJECT: 05F501.01
DRAWN: ADL	DATE: JUNE 22, 2006		1 OF 12
CHECKED: JMH	APPROVED:		

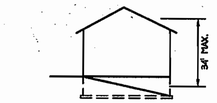
MDC-36B(SDP)

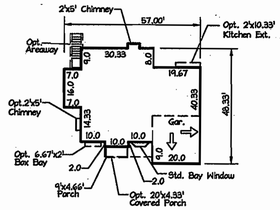
SDP-06-077





CALVERT – UNIT 'C'
SCALE: 1" = 30'





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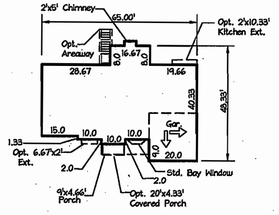

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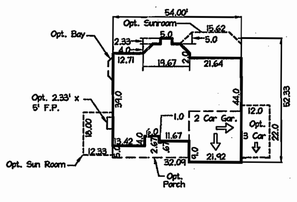

SUMMERHILL
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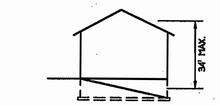

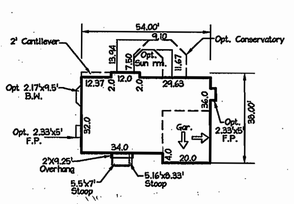

THE WILLIAM DEAVEN
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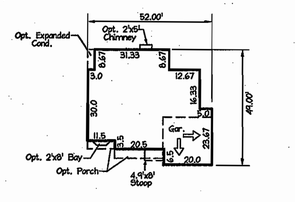
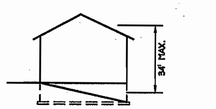
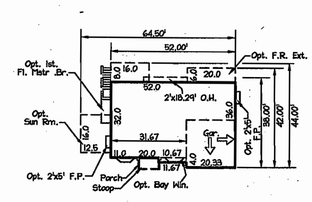
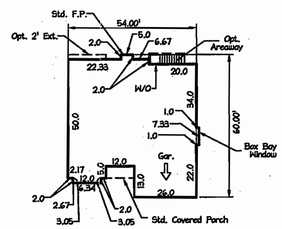


GEORGE OLIVER
SCALE: 1" = 30'

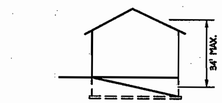


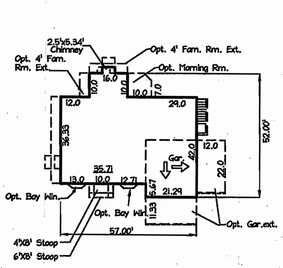


SARAH DUNMORE
SCALE: 1" = 30'

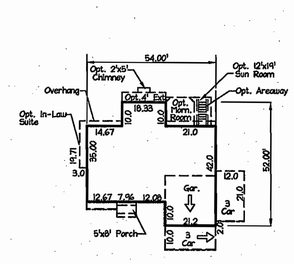


JACOB TYLER (REVERSE UNIT)
SCALE: 1" = 30'





DORCHESTER II
SCALE: 1" = 30'



THOMAS GOODWIN
SCALE: 1" = 30'

1-26-07
DATE
STATE OF MARYLAND
JOHN M. HOUSEHOLDER
PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date: 4-24-07

Chief, Development Engineering Division — Date: 4/23/07

Director, Department of Planning and Zoning — Date: 4/24/07

Date	No.	Revision Description

OWEN WOODS – LOTS 1-4
SINGLE FAMILY DETACHED DWELLINGS

OWNER / DEVELOPER
THE WILLIAMSBURG GROUP
CONTACT: BOB CORBETT
5485 HARPER'S FARM ROAD
SUITE 200
COLUMBIA, MD 21044
TEL. 410 997 8800 FAX. 410 997 4358

christopher consultants
engineering · surveying · land planning
christopher consultants, ltd.
7172 columbia gateway drive (suite 100) · columbia, md. 21046-2990
410.872.8550 - metro 301.881.0148 - fax 410.872.8553

ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
120	OWEN BROWN RD. COLUMBIA MD 21045
1	9604 OWEN WOODS WAY
2	9605 OWEN WOODS WAY
3	9611 OWEN WOODS WAY
4	9607 OWEN WOODS WAY

PERMIT INFORMATION CHART

PROJECT NAME	LOT/PARCEL NO.	CENSUS TRACT
OWENS WOODS	120	6066.03

PLAT NO.	GRID NO.	ZONE	TAX MAP	ELECTION DISTRICT
18983	0009	R-20	36	6TH

WATER CODE	SEWER CODE
E 09 PUBLIC	5480000 SEWER

TITLE: **HOUSE TEMPLATES & ELEVATIONS**

DESIGN: KLZ, AH	SCALE: AS SHOWN	PROJECT: 05F501.01
DRAWN: ADL	DATE: JUNE 22, 2006	2 OF 12
CHECKED: JMH	APPROVED:	

MDC-393(SDP)

SDP-06-077

MINIMUM LOT SIZE CHART

LOT NO.	GROSS AREA	PIPE STEM AREA	MINIMUM LOT SIZE
1	24,268.1 SQ.FT.	--------	24,268.1 SQ.FT.
2	22,853.6 SQ.FT.	1,328.5 SQ.FT.	21,525.1 SQ.FT.
3	28,047.2 SQ.FT.	2,651.4 SQ.FT.	25,395.8 SQ.FT.
4	24,963.0 SQ.FT.	--------	24,963.0 SQ.FT.

Key	A. Type of Community	B. Area (acres)	C. Soil Information: Soil Type	C. Soil Information: Typical Forest Cover for soil type	Woodland Suitability Index	D. Existing Vegetation (Dominant Species Approximate %)	E. Stand Characteristics: Avg. Size (Diam)	E. Stand Characteristics: Age (Yrs)	E. Stand Characteristics: General Conditions	F. Forest Area in Sensitive Environments (acres)	G. Habitat Value
AF-1	ABANDONED FIELD	0.06	GIB2	MIXED UPLAND HARDWOODS, MAINLY OAKS	30	BLACK LOCUST	3"-6"	5-10	POOR	0.00	1
AF-2	ABANDONED FIELD	0.13	GIB2	MIXED UPLAND HARDWOODS, MAINLY OAKS	30	BLACK LOCUST BLACK CHERRY	3"-6"	5-10	POOR	0.00	1
F-1	FOREST	0.36	MIC3	MIXED UPLAND HARDWOODS, MAINLY OAKS	43	BLACK LOCUST 60% BLACK CHERRY 20% MULBERRY 20%	10"-20"	10-15	POOR	0.00	1 1
F-2	FOREST	1.75	GnB2	MIXED UPLAND HARDWOODS, MAINLY OAKS WATER-TOLERANT HARDWOODS	12	TULIP POPLAR 40% BLACK LOCUST 20% RED OAK 20% RED MAPLE 20%	15"-25" 20"-25" 10"-15" 10"	15-20	FAIR	0.00	1 1

NOTE: NO SPECIMEN TREES EXIST ON SITE.

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE	TANGENT
C1	36.00'	25.47'	25.47'	S 38°18'36" E	39°09'34"	13.32'
C2	50.00'	34.17'	33.51'	S 39°18'36" E	39°09'33"	17.78'
C3	62.00'	42.37'	41.55'	S 38°18'36" E	39°09'34"	22.05'

NOTE: ALL PAVEMENT AND DRIVEWAY RADII TO BE 5' UNLESS OTHERWISE NOTED.

LOT 52
PARCEL 315
HARRISON WILLIAM J & WIFE
LIBER 821 FOLIO 59
USE: RESIDENTIAL
ZONE: NT

LOT 53
PARCEL 315
MARTIN PAULINE KARIKARI
LIBER 9547 FOLIO 94
USE: RESIDENTIAL
ZONE: NT

LOT 54
PARCEL 315
JOHNSON LAWRENCE B
JOHNSON BEVERLY H
LIBER 1010 FOLIO 292
USE: RESIDENTIAL
ZONE: NT

VILLAGE OF OAKLAND MILLS

LOT 55
PARCEL 315
LASEK JOSEPH J TRUSTEE
LASEK MAUREEN TRUSTEE
LIBER 8690 FOLIO 18
USE: RESIDENTIAL
ZONE: NT

LOT 56
PARCEL 315
BARGER RALPH E W/F
LIBER 544 FOLIO 402
USE: RESIDENTIAL
ZONE: NT

LOT 57
PARCEL 315
GOODMAN JOHN
GOODMAN DEBORAH G
LIBER 3246 FOLIO 241
USE: RESIDENTIAL
ZONE: NT

LOT 58
PARCEL 315
HERRERA DENIS E
HERRERA GLENDA K T/E
LIBER 9149 FOLIO 242
USE: RESIDENTIAL
ZONE: NT

LOT 11
PARCEL 42
COLEMAN KURTIS J &
COLEMAN REGINA
LIBER 3392 FOLIO 674
USE: RESIDENTIAL
ZONE: R-20

LOT 106
PARCEL 315
KENDIG GREGORY L
KENDIG THRESA M T/E
LIBER 5201 FOLIO 76
USE: RESIDENTIAL
ZONE: NT

LOT 103
PARCEL 315
KAMINSKY JACOB
KAMINSKY LILI LEA W/F
LIBER 1546 FOLIO 260
USE: RESIDENTIAL
ZONE: NT

LOT 3
28047.2 SQ.FT.

LOT 2
22853.6 SQ.FT.

LOT 4
24963.0 SQ.FT.

LOT 1
23771.1 SQ.FT.

GENERIC BOX 'A'

GENERIC BOX 'B'

OWEN WOODS WAY

OWEN BROWN ROAD
52' R/W

STEVENS FOREST ROAD
(80' PUBLIC R/W)

EXISTING SHED

EXISTING GAZEBO

497 SQ FT DEDICATED TO HOWARD COUNTY, MD FOR TEE TURNAROUND

10' ADDITIONAL R/W TAKEN BY COUNTY PER LIBER 335 FOLIO 295

20' 'AREA' FOR OWEN BROWN RD ON RECORD PLAT OF VILLAGE OF OAKLAND MILLS PLAT BOOK 15 NO. 21

52' TOTAL COUNTY R/W

32' COUNTY PRESCRIPTIVE R/W

20' WIDE EX PAVEMENT

4' SHOULDER TO MEET EX. PAVEMENT

EXISTING EDGE OF PAVING

MEA ENTRANCE SIGN EASEMENT

TELEPHONE PEDESTAL

TRANSFORMER PAD

Wooden Bollards

Concrete Sidewalk

Granite Sidewalk

EX. 4074

EX. 8" S.

EX. 6" W.

EX. 8" S. CONTRACT# C-319-WMS

EX. 12" W. CONTRACT# C-319-WMS

N 560000

E 1355000

(NAD 83)

LEGEND

EXISTING BUILDING
EXISTING FENCE
PROPERTY LINE
PROPOSED TREELINE
PROPOSED SEWER MANHOLE
PROPOSED FIRE HYDRANT
BUILDING RESTRICTION LINES
PROPOSED BUILDING
PROPOSED LOT LINE
EASEMENT
24' USE-IN-COMMON ACCESS EASEMENT
TO BE REMOVED (TBR)
OWEN BROWN RD FACES OWEN BROWN RD
OWEN WOOD WAY FACES OWEN WOODS WAY
STREET SIGN
FOREST STAND DELINEATION

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date 4-24-07

Chief, Development Engineering Division — Date 4/23/07

Director, Department of Planning and Zoning — Date 4/24/07

Date	No.	Revision Description

OWEN WOODS – LOTS 1-4
SINGLE FAMILY DETACHED DWELLINGS

OWNER / DEVELOPER

THE WILLIAMSBURG GROUP
CONTACT: BOB CORBETT
5485 HARPER'S FARM ROAD
SUITE 200
COLUMBIA, MD 21044
TEL. 410 997 8600 FAX. 410 997 4356

christopher consultants
engineering · surveying · land planning
christopher consultants, ltd.
7172 columbia gateway drive (suite 100) · columbia, md. 21046-2600
410.872.8600 · metro 301.861.0146 · fax 410.872.8610

ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
120	OWEN BROWN RD, COLUMBIA MD 21046
1	9604 OWEN WOODS WAY
2	9606 OWEN WOODS WAY
3	9611 OWEN WOODS WAY
4	9607 OWEN WOODS WAY

PERMIT INFORMATION CHART

PROJECT NAME	LOT/PARCEL NO.		CENSUS TRACT
OWENS WOODS	120		6066.03
PLAT NO. 18983	GRID NO. 0009	ZONE R-20	TAX MAP 36	ELECTION DISTRICT 6TH
WATER CODE E 09 PUBLIC		SEWER CODE	5460000 SEWER

1-26-07 DATE

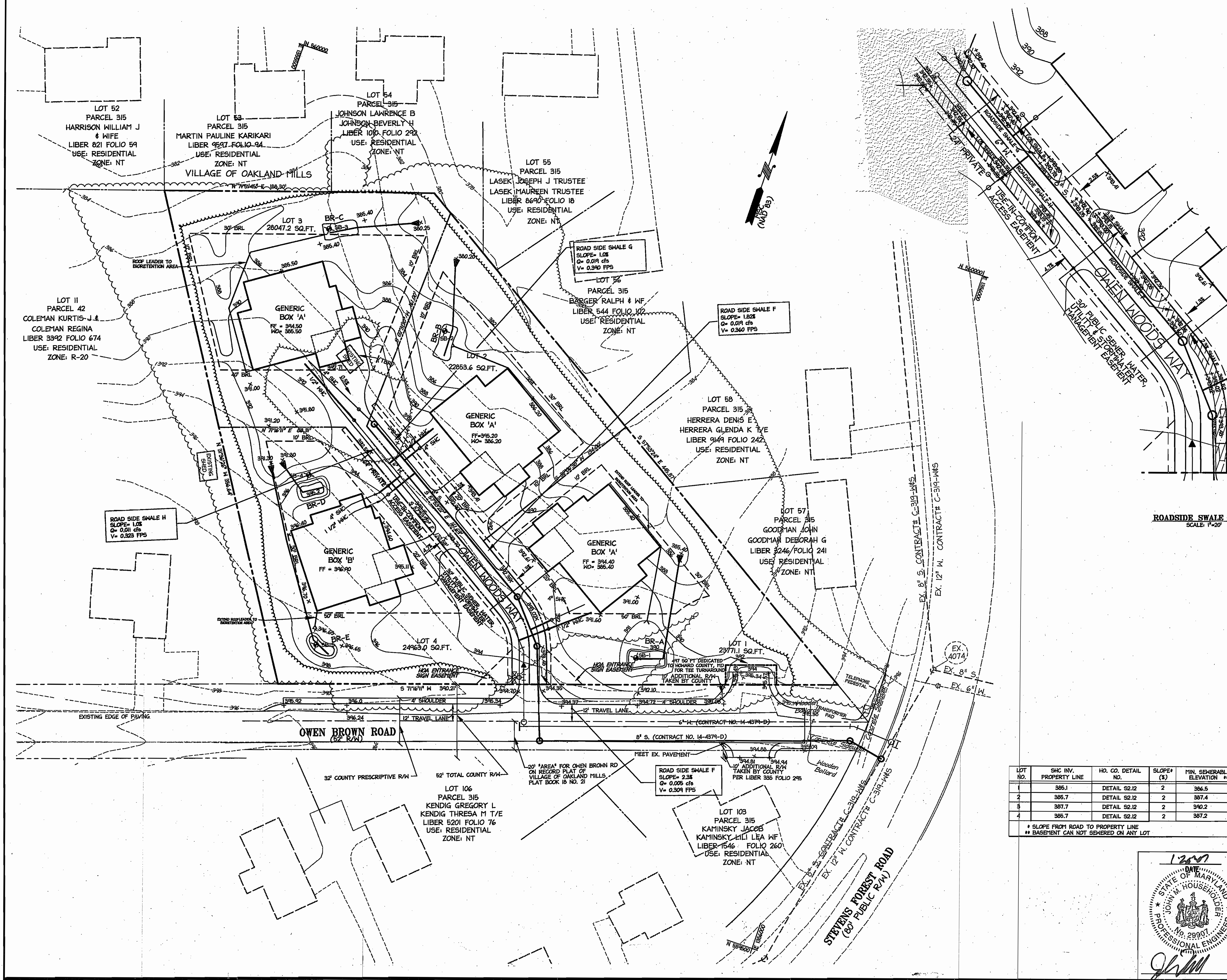
STATE OF MARYLAND · JOHN W. HOUSEHOLDER · No. 22907 · PROFESSIONAL ENGINEER

TITLE: **SITE PLAN**

DESIGN: KLZ,AH	SCALE: 1" = 30'	PROJECT: 05F501.01
DRAWN: ADL	DATE: JUNE 22, 2006	3 OF 12
CHECKED: JWH	APPROVED:	

MDC-368(SDP)

SDP-06-077



ROADSIDE SWALE DETAIL
SCALE: 1"=20'

LEGEND

- EXISTING TREELINE
- EXISTING CONTOURS — 392
- PROPOSED CONTOURS — 392
- EXISTING BUILDINGS
- EXISTING SANITARY SEWER — EX. 8" SAN
- EXISTING WATER — EX. 6" WATER
- PROPERTY LINE
- PUBLIC SEWER — PROP. 8" S.
- PUBLIC WATER — PROP. 6" W.
- SEWER HOUSE CONNECTION — 4" SHC
- WATER HOUSE CONNECTION — 1 1/2" WHC
- PROPOSED TREELINE
- PROPOSED FIRE HYDRANT
- PROPOSED UTILITY EASEMENT
- 24' PRIVATE USE-IN-COMMON ACCESS EASEMENT
- PROPOSED SETBACK LINES
- ROADSIDE SWALE
- PROPOSED PAVEMENT

LOT NO.	SHC INV. PROPERTY LINE	HO. CO. DETAIL NO.	SLOPE* (%)	MIN. SEWERABLE ELEVATION **
1	385.1	DETAIL S2.12	2	386.5
2	385.7	DETAIL S2.12	2	387.4
3	387.7	DETAIL S2.12	2	390.2
4	385.7	DETAIL S2.12	2	387.2

* SLOPE FROM ROAD TO PROPERTY LINE
** BASEMENT CAN NOT SEWERED ON ANY LOT

1-2007
DATE

STATE OF MARYLAND — JOHN M. HOUSEHOLDER — No. 29907 — PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development	Date 4-24-07
Chief, Development Engineering Division	Date 4/23/07
Director, Department of Planning and Zoning	Date 5/24/07

Date	No.	Revision Description

OWEN WOODS – LOTS 1-4
SINGLE FAMILY DETACHED DWELLINGS

OWNER / DEVELOPER

THE WILLIAMSBURG GROUP
CONTACT: BOB CORBETT
5485 HARPER'S FARM ROAD
SUITE 200
COLUMBIA, MD 21044
TEL. 410 997 8800 FAX. 410 997 4358

christopher consultants
engineering · surveying · land planning
christopher consultants, ltd.
7172 columbia gateway drive (suite 100) · columbia, md. 21046-2990
410.872.8690 · metro 301.881.0148 · fax 410.872.8693

ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
120	OWEN BROWN RD, COLUMBIA MD 21045
1	9604 OWEN WOODS WAY
2	9608 OWEN WOODS WAY
3	9611 OWEN WOODS WAY
4	9607 OWEN WOODS WAY

PERMIT INFORMATION CHART

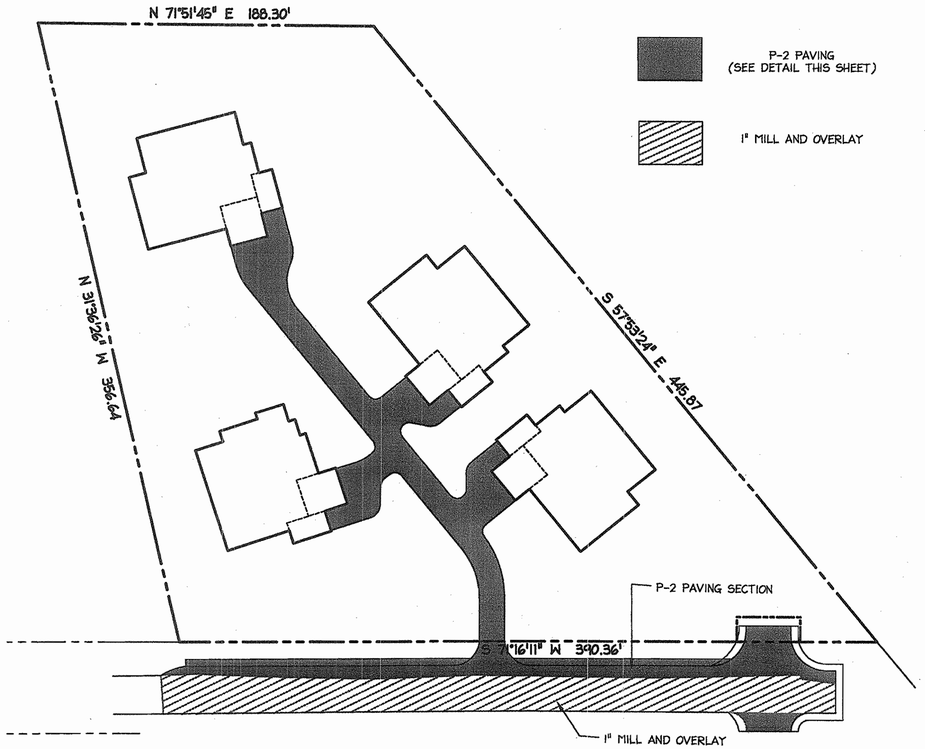
PROJECT NAME	LOT/PARCEL NO.			CENSUS TRACT
OWENS WOODS	120			6066.03
PLAT NO. 18983	GRID NO. 0009	ZONE R-20	TAX MAP 36	ELECTION DISTRICT 6TH
WATER CODE E 09 PUBLIC			SEWER CODE 5480000 SEWER	

TITLE: **GRADING & UTILITY PLAN**

DESIGN: KLZ,AH	SCALE: 1" = 30'	PROJECT: 05F501.01
DRAWN: ADL	DATE: JUNE 22, 2006	4 OF 12
CHECKED: JMH	APPROVED:	

SDP-06-077

MDC-393(SDP)



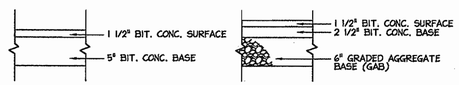
PAVING PLAN
1"=40'

NOTE:

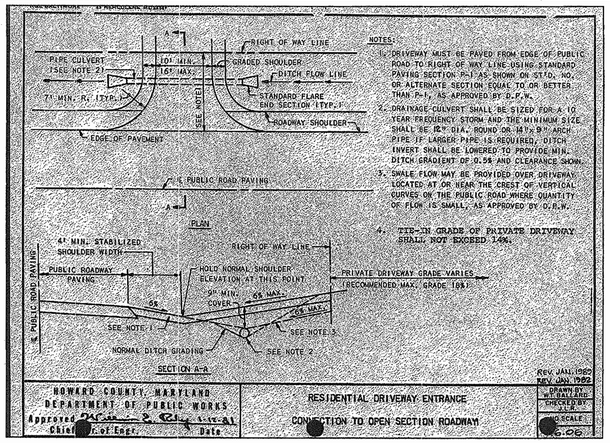
1. A MODIFIED TEE TURN-AROUND SHALL BE USED IN LIEU OF CUL-DE-SAC.
2. REFER TO HOWARD COUNTY STANDARD DETAIL R-5.06 FOR TYPICAL ROADWAY PROFILE OF LIMIT OF PAVING.

TEE TURN-AROUND
NOT TO SCALE

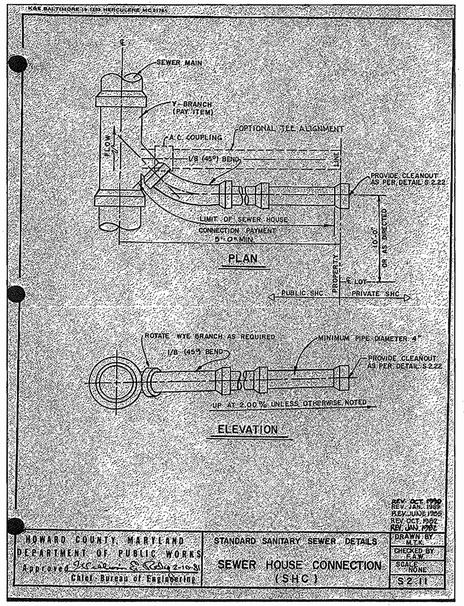
P-2 PAVING SECTION

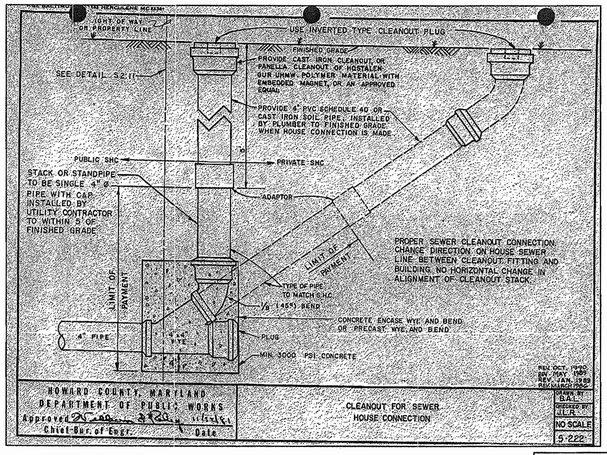


NOTE:
PAVING SECTIONS SHOWN RELATES TO A CBR VALUE OF 7. ACTUAL CBR TEST RESULTS MAY CAUSE MODIFICATION OF THESE PAVING SECTIONS.



NOTE: NO DRAINAGE CULVERT PROPOSED ON THIS SITE, SO NOTE #2 OF HO.CO. DETAIL R 6.06 IS NOT APPLICABLE.





APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development	4-24-07 Date
Chief, Development Engineering Division	4/23/07 Date
Director, Department of Planning and Zoning	4/24/07 Date

Date	No.	Revision Description

OWEN WOODS
SINGLE FAMILY DETACHED DWELLINGS

OWNER / DEVELOPER
THE WILLIAMSBURG GROUP
CONTACT: BOB CORBETT
5485 HARPER'S FARM ROAD
SUITE 200
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ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
120	OWEN BROWN RD, COLUMBIA MD 21045
1	9601 OWEN WOODS WAY
2	9605 OWEN WOODS WAY
3	9611 OWEN WOODS WAY
4	9607 OWEN WOODS WAY

PERMIT INFORMATION CHART

PROJECT NAME	LOT/PARCEL NO.	CENSUS TRACT
OWENS WOODS	120	6066.03

PLAT NO.	GRID NO.	ZONE	TAX MAP	ELECTION DISTRICT
19383	0009	R-20	36	6TH

WATER CODE		SEWER CODE	
E 09	PUBLIC	5800000	SEWER

TITLE:
SITE DETAILS

DESIGN: KLZ,AH	SCALE: 1" = 30'	PROJECT: 05F501.01
DRAWN: ADL	DATE: JUNE 22, 2006	5 OF 12
CHECKED: JMH	APPROVED:	

1.25.07
DATE

STATE OF MARYLAND
JOHN M. HOUSEHOLDER
No. 29907
PROFESSIONAL ENGINEER

SDP-06-077

MDC-303(SDP)

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Owens Woods — Boring No.: SB-1
Location: Howard County, MD — Job #: 05181A

SAMPLER — Hammer Wt.: lbs. — Hole Diameter: — Foreman:
Surf. Elev.: Ft. — Hammer Drop: in. — Rock Core Diameter: — Inspector: Robert Pushman
Date Started: 12/13/05 — Pipe Size: in. — Boring Method: Test Pit — Date Completed: 12/13/05

Elevation/ Depth	SOIL SYMBOL/ SAMPLE/ CONDITIONS	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	N	SPT Blows/Foot Curve 10 20 30
0		Brown, moist, micaceous sandy silt (ML)	Topsoil-7"					
-2.5			Groundwater encountered @ 1.0' while digging					
-5		Brown to tan, moist, micaceous silty sand, trace decomposed rock fragments (SM)						
-7.5								
-10		Bottom of test pit @ 11.0'						
-12.5								
-15								

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE
SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST
AT COMPLETION: GROUND WATER Dry; CAVE-IN DEPTH N/A
AFTER 24 HRS: GROUND WATER Dry; CAVE-IN DEPTH N/A
AFTER ___ HRS: GROUND WATER ___; CAVE-IN DEPTH ___
BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Owens Woods — Boring No.: SB-2
Location: Howard County, MD — Job #: 05181A

SAMPLER — Hammer Wt.: lbs. — Hole Diameter: — Foreman:
Surf. Elev.: Ft. — Hammer Drop: in. — Rock Core Diameter: — Inspector: Robert Pushman
Date Started: 12/13/05 — Pipe Size: in. — Boring Method: Test Pit — Date Completed: 12/13/05

Elevation/ Depth	SOIL SYMBOL/ SAMPLE/ CONDITIONS	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	N	SPT Blows/Foot Curve 10 20 30
0		Brown, moist, micaceous sandy silt (ML)	Topsoil-4"					
-2.5			No groundwater encountered while digging					
-5		Brown, moist, micaceous silty sand, fine decomposed rock fragments (SM)						
-7.5								
-10		Bottom of test pit @ 10.5'						
-12.5								
-15								

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE
SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST
AT COMPLETION: GROUND WATER Dry; CAVE-IN DEPTH 9.0
AFTER 24 HRS: GROUND WATER N/A; CAVE-IN DEPTH N/A
AFTER ___ HRS: GROUND WATER ___; CAVE-IN DEPTH ___
BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Owens Woods — Boring No.: SB-3
Location: Howard County, MD — Job #: 05181A

SAMPLER — Hammer Wt.: lbs. — Hole Diameter: — Foreman:
Surf. Elev.: Ft. — Hammer Drop: in. — Rock Core Diameter: — Inspector: Robert Pushman
Date Started: 12/13/05 — Pipe Size: in. — Boring Method: Test Pit — Date Completed: 12/13/05

Elevation/ Depth	SOIL SYMBOL/ SAMPLE/ CONDITIONS	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	N	SPT Blows/Foot Curve 10 20 30
0		Brown, moist, micaceous silty sand (SM)	Topsoil-10"					
-2.5			No groundwater encountered while digging					
-5		Tan, moist, micaceous silty sand, trace decomposed rock fragments (SM)						
-7.5								
-10		Bottom of test pit @ 10.2'						
-12.5								
-15								

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE
SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST
AT COMPLETION: GROUND WATER Dry; CAVE-IN DEPTH N/A
AFTER 24 HRS: GROUND WATER N/A; CAVE-IN DEPTH N/A
AFTER ___ HRS: GROUND WATER ___; CAVE-IN DEPTH ___
BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Owens Woods — Boring No.: SB-4
Location: Howard County, MD — Job #: 05181A

SAMPLER — Hammer Wt.: lbs. — Hole Diameter: — Foreman:
Surf. Elev.: Ft. — Hammer Drop: in. — Rock Core Diameter: — Inspector: Robert Pushman
Date Started: 12/13/05 — Pipe Size: in. — Boring Method: Test Pit — Date Completed: 12/13/05

Elevation/ Depth	SOIL SYMBOL/ SAMPLE/ CONDITIONS	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	N	SPT Blows/Foot Curve 10 20 30
0		Brown, moist, micaceous silty sand, trace decomposed rock fragments (SM)	Topsoil-6"					
-2.5			No groundwater encountered while digging					
-5								
-7.5								
-10		Bottom of test pit @ 10.0'						
-12.5								
-15								

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE
SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST
AT COMPLETION: GROUND WATER Dry; CAVE-IN DEPTH N/A
AFTER 24 HRS: GROUND WATER N/A; CAVE-IN DEPTH N/A
AFTER ___ HRS: GROUND WATER ___; CAVE-IN DEPTH ___
BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

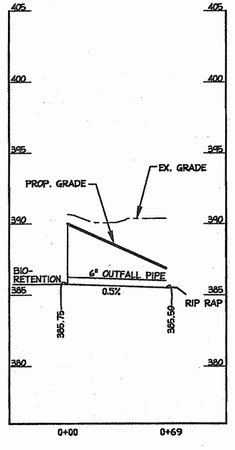
Project Name: Owens Woods — Boring No.: SB-5
Location: Howard County, MD — Job #: 05181A

SAMPLER — Hammer Wt.: lbs. — Hole Diameter: — Foreman:
Surf. Elev.: Ft. — Hammer Drop: in. — Rock Core Diameter: — Inspector: Robert Pushman
Date Started: 12/13/05 — Pipe Size: in. — Boring Method: Test Pit — Date Completed: 12/13/05

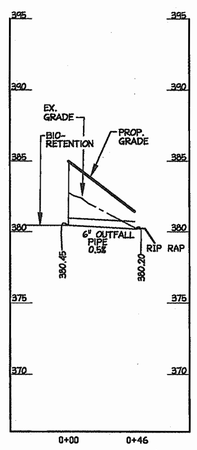
Elevation/ Depth	SOIL SYMBOL/ SAMPLE/ CONDITIONS	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	N	SPT Blows/Foot Curve 10 20 30
0		Brown, moist, micaceous sandy silt (ML)	Topsoil-4"					
-2.5			No groundwater encountered while digging					
-5		Brown to tan, moist, micaceous silty sand, trace decomposed rock fragments (SM)						
-7.5								
-10		Bottom of test pit @ 10.0'						
-12.5								
-15								

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE
SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST
AT COMPLETION: GROUND WATER Dry; CAVE-IN DEPTH N/A
AFTER 24 HRS: GROUND WATER N/A; CAVE-IN DEPTH N/A
AFTER ___ HRS: GROUND WATER ___; CAVE-IN DEPTH ___
BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING

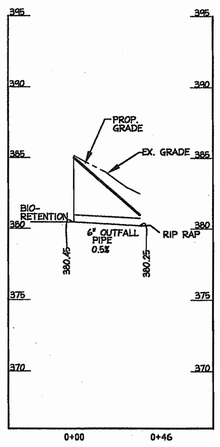
STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS



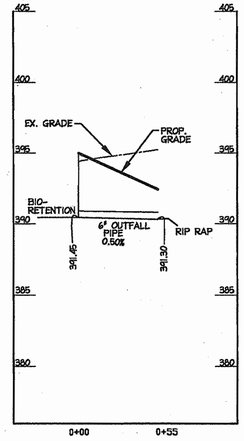
BR-A OUT FALL PIPE
SCALE: HORZ. 1"=50'
VERT. 1"=5'



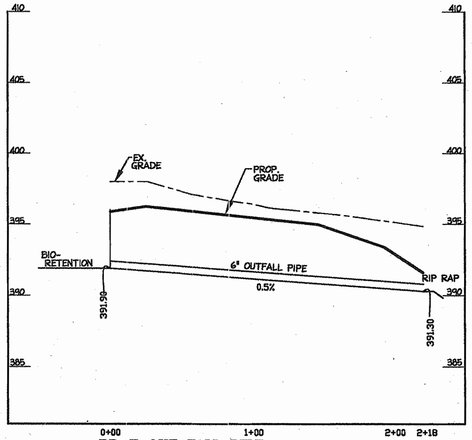
BR-B OUT FALL PIPE
SCALE: HORZ. 1"=50'
VERT. 1"=5'



BR-C OUT FALL PIPE
SCALE: HORZ. 1"=50'
VERT. 1"=5'



BR-D OUT FALL PIPE
SCALE: HORZ. 1"=50'
VERT. 1"=5'



BR-E OUT FALL PIPE
SCALE: HORZ. 1"=50'
VERT. 1"=5'

NOTE: SEE SHEET 9 OF 12 FOR BIORETENTION AREA DETAILS.

1-25-07
DATE

STATE OF MARYLAND
JOHN M. HOUSEHOLDER
No. 29907
PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date 4-24-07
Chief, Development Engineering Division — Date 4/23/07
Director, Department of Planning and Zoning — Date 1/4/07

Date	No.	Revision Description

OWEN WOODS
SINGLE FAMILY DETACHED DWELLINGS

OWNER / DEVELOPER
THE WILLIAMSBURG GROUP
CONTACT: BOB CORBETT
5485 HARPER'S FARM ROAD
SUITE 200
COLUMBIA, MD 21044
TEL. 410 997 8600 FAX. 410 997 4356

christopher consultants
engineering · surveying · land planning
christopher consultants, ltd.
7172 columbia gateway drive (suite 100) · columbia, md. 21046-2590
410.872.8690 · metro 301.881.0148 · fax 410.872.8693

ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
120	OWEN BROWN RD. COLUMBIA MD 21045
1	9609 OWEN WOODS WAY
2	9606 OWEN WOODS WAY
3	9611 OWEN WOODS WAY
4	9603 OWEN WOODS WAY

PERMIT INFORMATION CHART

PROJECT NAME: OWENS WOODS		LOT/PARCEL NO.: 120		CENSUS TRACT: 6066.03
PLAT NO.: 18983	GRID NO.: 0009	ZONE: R-20	TAX MAP: 36	ELECTION DISTRICT: 6TH
WATER CODE: E 01 PUBLIC			SEWER CODE: 5480000 SEWER	

TITLE: **OUT FALL PIPE PROFILES & BORING LOGS**

DESIGN: KLZ, AH	SCALE: AS SHOWN	PROJECT: 05F501.01
DRAWN: ADL	DATE: JUNE 22, 2006	6 OF 12
CHECKED: JMH	APPROVED:	

MDC-393(SDP)

SDP-06-077

LOT 52
PARCEL 315
HARRISON WILLIAM J
& WIFE
LIBER 821 FOLIO 59
USE: RESIDENTIAL
ZONE: NT

LOT 53
PARCEL 315
MARTIN PAULINE KARIKARI
LIBER 9597 FOLIO 94
USE: RESIDENTIAL
ZONE: NT

LOT 54
PARCEL 315
JOHNSON LAWRENCE B
JOHNSON BEVERLY H
LIBER 1010 FOLIO 292
USE: RESIDENTIAL
ZONE: NT

VILLAGE OF OAKLAND MILLS

LOT 55
PARCEL 315
LASEK JOSEPH J TRUSTEE
LASEK MAUREEN TRUSTEE
LIBER 8690 FOLIO 18
USE: RESIDENTIAL
ZONE: NT

LOT 56
PARCEL 315
BARGER RALPH E WF
LIBER 544 FOLIO 102
USE: RESIDENTIAL
ZONE: NT

LOT 58
PARCEL 315
HERRERA DENIS E
HERRERA GLENDA K T/E
LIBER 9149 FOLIO 242
USE: RESIDENTIAL
ZONE: NT

LOT 57
PARCEL 315
GOODMAN JOHN
GOODMAN DEBORAH G
LIBER 3246 FOLIO 241
USE: RESIDENTIAL
ZONE: NT

LOT 11
PARCEL 42
COLEMAN KURTIS J &
COLEMAN REGINA
LIBER 3392 FOLIO 674
USE: RESIDENTIAL
ZONE: R-20

LOT 106
PARCEL 315
KENDIG GREGORY L
KENDIG THRESA M T/E
LIBER 5201 FOLIO 76
USE: RESIDENTIAL
ZONE: NT

LOT 103
PARCEL 315
KAMINSKY JACOB
KAMINSKY LILI LEA WF
LIBER 1546 FOLIO 260
USE: RESIDENTIAL
ZONE: NT

LOT 1
22853.6 SQ.FT.

LOT 2
23771.1 SQ.FT.

LOT 3
28047.2 SQ.FT.

LOT 4
24963.0 SQ.FT.

OWEN WOODS

OWEN BROWN ROAD
(52' R/W)

STEVENS FOREST ROAD
(80' PUBLIC R/W)

EXISTING EDGE OF PAVING

32' COUNTY PRESCRIPTIVE R/W

52' TOTAL COUNTY R/W

20' "AREA" FOR OWEN BROWN RD ON RECORD PLAT OF VILLAGE OF OAKLAND MILLS PLAT BOOK 18 NO. 21

10' ADDITIONAL R/W TAKEN BY COUNTY PER LIBER 335 FOLIO 245

10' ADDITIONAL R/W TAKEN BY COUNTY

32' WIDE EX. ESMT.

HOA ENTRANCE SIGN EASEMENT

10' PUBLIC SEWER, WATER, STORM DRAIN, STREETLIGHT, UTILITY & HANDICAP RAMP EASEMENT

SUPER SILT FENCE
EX. AREA = 0.16 AC
PR AREA = 0.63 AC

SUPER SILT FENCE
EX. AREA = 1.64 AC
PR AREA = 0.51 AC

SUPER SILT FENCE
AREA (OFF SITE) = 0.20 AC
EX. AREA = 0.0 AC
PR AREA = 0.0 AC

SUPER SILT FENCE
AREA (OFF SITE) = 0.11 AC
EX. AREA = 0.54 AC
PR AREA = 0.70 AC

SB-1 SB-2 SB-3 SB-4 SB-5

FF = 394.50
WO= 385.50

FF=395.20
WO= 386.20

FF = 394.40
WO= 385.40

FF = 396.90

N 560000
E 1355000

N 560000
E 1356000

BASIS OF BEARINGS (NAD 83)

LEGEND

EXISTING CONTOURS — 382
PROPOSED CONTOUR — 382
SOILS LINE — GIB2
EXISTING FENCE — x — x —
PROPERTY LINE
TREELINE
SUPER SILT FENCE — SSF
LIMIT OF DISTURBANCE — LOD — LOD
PROP. DRAINAGE DIVIDE
EX. DRAINAGE DIVIDE
OVERALL DRAINAGE AREA
STABILIZE CONSTRUCTION ENTRANCE — SCE
EROSION CONTROL MATTING
SOIL BORING — SB-2

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan, and that any 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 of Developer — 1-26-07 Date

BOB CORBETT
Print name below signature
WILLIAMSBURG GROUP LLC

ENGINEER'S CERTIFICATE

I certify that this plan for erosion and sediment 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 of Engineer — 1.26.07 Date

JOHN HOUSEHOLDER, P.E.
Print name below signature

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

USDA-Natural Resources Conservation Service — 3/29/07 Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — 3/29/07 Date

SOILS CLASSIFICATION

Type	Name	Group	Description
GIB2	Glenelg	B	GLENELG LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
GnB2	Glenville	C	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
MIC3	Manor	B	MANOR LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — 4-24-07 Date

Chief, Development Engineering Division — 4/24/07 Date

Director, Department of Planning and Zoning — 4/24/07 Date

Date	No.	Revision Description

OWEN WOODS – LOTS 1-4
SINGLE FAMILY DETACHED DWELLINGS

OWNER / DEVELOPER

THE WILLIAMSBURG GROUP
CONTACT: BOB CORBETT
5485 HARPER'S FARM ROAD
SUITE 200
COLUMBIA, MD 21044
TEL. 410 997 8800 FAX. 410 997 4356

christopher consultants
engineering · surveying · land planning
christopher consultants, ltd.
7172 columbia gateway drive (suite 100) · columbia, md. 21046-2990
410.872.2800 · metro 301.261.0148 · fax 410.872.2828

ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
120	OWEN BROWN RD. COLUMBIA MD 21045
1	9604 OWEN WOODS WAY
2	9605 OWEN WOODS WAY
3	9611 OWEN WOODS WAY
4	9607 OWEN WOODS WAY

PERMIT INFORMATION CHART

PROJECT NAME: OWENS WOODS		LOT/PARCEL NO.: 120		CENSUS TRACT: 6066.03
PLAT NO.: 18363	GRID NO.: 0009	ZONE: R-20	TAX MAP: 36	ELECTION DISTRICT: 6TH
WATER CODE: E 09 PUBLIC			SEWER CODE: 5480000 SEWER	

TITLE: **SOILS MAP & EROSION AND SEDIMENT CONTROL PLAN**

DESIGN: KLZ, AH	SCALE: 1" = 30'	PROJECT: 05F501.01
DRAWN: ADL	DATE: JUNE 22, 2006	7 OF 12
CHECKED: JPH	APPROVED:	

1.26.07 DATE

STATE OF MARYLAND
JOHN M. HOUSEHOLDER
No. 29907
PROFESSIONAL ENGINEER

SDP-06-077

MDC-348 (SDP)

19.0 Standards and Specifications
For Land Grading

Definitions

Reshaping of the existing land surface in accordance with a plan as determined by engineering survey and layout.

Purpose

The purpose of a land grading specification is to provide for erosion control and vegetative establishment on those areas where the existing land surface is to be reshaped by grading according to plan.

Design Criteria

The grading plan should be based upon the incorporation of building designs and street layouts that fit and utilize existing topography and desirable natural surrounding to avoid extreme grade modifications. Information submitted must provide sufficient topographic surveys and soil investigations to determine limitations that must be imposed on the grading operation related to slope stability, effect on adjacent properties and drainage patterns, measured for drainage and water removal and vegetative treatment, etc.

Many countries have regulations and design procedures already established for land grading and cut and fill slopes. Where these requirements exist, they should be followed. The plan must show existing and proposed contours of the area(s) to be graded. The plan shall also include practices for erosion control, slope stabilization, safe disposal of runoff water and drainage, such as waterways, lined ditches, reverse slope benches (including grade and cross-section), grade stabilization structures, retaining walls, and surface and subsurface drains. The plan shall also include phasing of these practices. The following shall be incorporated into the plan:

1. Provisions shall be made to safely conduct surface runoff to storm drains, protected outlets or to stable water courses to insure that surface runoff will not damage slopes or other graded areas.

2. Cut and fill slopes that are to be stabilized with grasses shall not be steeper than 2:1. (Where the slope id to be mowed the slope should be no steeper than 3:1; 4:1 is preferred because of safety factors related to mowing steep slopes.

3. Reverse benches shall be provided whenever the vertical interval (height) of any 2:1slopes exceeds 20 feet; for 3:1 slopes it shall be increased to 30 feet and for 4:1 to 40 feet. Benches shall be located to divide the slopes face as equally as possible and shall convey the water to a stable outlet. Soils, seeps, rock outcrops, etc., shall also be taken into consideration when designing benches.

   a. Benches shall be a minimum of six-feet wide to provids ease of maintenance.

   b. Benches shall be designed with a reverse slope of 6:1 of flatter to the toe of the upper slope and with a minimum of one foot in depth. Bench gradient to the outlet shall be between 2 percent and 3 percent, unless accompanied by appropriate design and computations.

   c. The flow length within a bench shall not exceed 800' unless accompanied by appropriate design and computations. For flow channel stabilization see temporary swales.

4. Surface water shall be diverted from the face of all cut and/or fill slopes by the use of earth dikes, ditches and swales or conveyed downslope by the use of a designated structure, except where:

   a. The face of the slope is or shall be stabilized and the face of all graded slopes shall be protected far surface runoff until they are stabilized.

   b. The face of the slope shall not be subjected to any concentrated slows of surface water such as from natural drainways, graded swales, downspouts, etc.

   c. The face of the slope will be protected by special erosion control materials, to include, but not limited to: approved vegetative stabilization practices (see section G), rip-rap or other approved stabilization methods.

5. Cut slopes occurring in ripable rock shall be serrated as shown on the following diagram. These serrations shall be made with conventional equipment as the excavation is made. Each step or serration shall be constructed on the contour and will have steps cut as nominal two-foot intervals with nominal three-foot horizontal shelves. These steps will vary depending on the slope ratio or the cut slope. The nominal slope line is 1:1. These steps will weather and act to hold moisture, lime, fertilizer and seed thus producing a much quicker and longer lived vegetative cover and better slope stabilization. Over land flow shall be diverted from the top of all serrated cut slopes and carried to a suitable outlet.

6. Surface drainage shall be provided where necessary to intercept seepage that would otherwise adversely affect slope stability or create excessively wet site conditions.

7. Slopes shall not be created to close to property lines as the endanger adjoining properties without adequately protecting such properties against sediment, erosion, slippage, settlement, subsidence or other related damages.

8. Fill material shall be free of brush, rubbish, rocks, logs, stumps, building debris, and other objectionable material. It should be free of stones over two (2) inches in diameter where compacted by hand or mechanical tampers over eight (8) inches in diameter where compacted by rollers or other equipment. Frozen material shall not be placed in the fill nor shall the fill material be placed on a frozen foundation.

9. Stockpiles, borrow areas and spoil shall be shown on the plans and shall be subjected to the provisions of the Standard and Specifications.

All disturbed areas shall be stabilized structurally or vegetatively in compliance with 20.0 Standards and Specifications for Vegetative Stabilization.

21.0 Standard and Specifications
For Topsoil

Definitions

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

Purpose

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

Conditions Where Practice Applies

This practice is limited to areas having 2:1 or flatter slopes where:

   a. The texture of the exposed subsoil/parent material in 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 materials toxic to plant growth

   d. The soil is so acidic that treatment with limestone is not feasible.

For the purpose of these Standards and Specification, areas having slopes steeper that 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper that 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.

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 soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall bot be a mixture of contrastinf textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials large than 1 1/2 " in diameter.

   ii. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or other as specified.

   iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread to the rate of 4-8 tons/acre (200-400 pounds per 1,000square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked in to the soil in conjunction with tillage operations as described in the following procedures.

For sites having disturbed areas under 5 acres:

   Place topsoil (if required) and apply soil amendments as specified in 20.0 vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

For sites having disturbed areas over 5 acres:

On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following.

   a. pH for topsoil shall be between 6.0 and 7.5. If tested soil demonstrates a pH of less the 6.0, sufficient lime shall be prescribed to raise pH to 6.5 or higher.

   b. Organic content of topsoil shall be not less then 1.5 percent by weight.

   c. Topsoil having soluble salt content grater then 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 (14 day min.) to permit dissipation of phyto-toxic materials.

Note: Topsoil substitutes or amendments as recommended be a qualified agronomist or soil scientist approved by the appropriate approval authority, may be used in lieu of natural topsoil.

Place topsoil (if required) and apply soil amendments as specified on 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

Topsoil Application

When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fences and Sediment Traps and Basins.

Grades in the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.

Topsoil shall be uniformy distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.

Topsoil shall not be place while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil id excessively wet in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

Alternative for Permanent Seeding - Instead of applying the full amounts of like and commercial fertilizer, composted sludge and amendments mat be applied as specified below:

Composted Sludge Materials for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:

   a. Composted sludge shall be supplied by, or originated from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.

   b. Composted sludge shall contain as least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.

   c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.

Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Sodding. MD-VA, Pub #1, Cooperative Extention Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.

30.0 Dust Control

Definition

Controlling dust blowing and movement on construction sites and roads.

Purpose

To prevent blowing and movement of dust from exposed soil surfaces, reduce on and off-site damage, health hazards, and improve traffic safety.

Conditions Where Practice Applies

This practice is applicable to areas subject to dust blowing and movement wher in and off-site damage is likely without treatment.

Specifications

Temporary Methods

1. Mulches - See standards for vegetative stabilization with mulches only. Mulch should be crimped or tacked to prevent blowing.

2. Vegetative Cover - See standards for temporary vegetative cover.

3. Tillage - To roughen surface and bring clods to the surface. This is an emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12" apart, spring-toothed harrows, and similar plows are examples of equipment whicj may produce the desired effect.

4. Irrigation - This is generally done as an emergency treatment. Site is sprinkled with water until the surface is moist. Repeat as needed. At no time should the site be irrigated to the point that runoff begins to flow.

5. Barriers - Solid board fences, silt fences, snow fences, burlap fences, staw bales, and similar materials can be used to control air currents and soil blowing. Barriers placed at right angles to trevailing currents at intervals of about 10 times their height are effective in controlling soil blowing.

6. Calcium Chloride - Apply at rates that will keep surface moist. May need retreatment.

Permanent Methods

1. Permanent Vegetation - See standards for permanent vegetative cover, and permanent stabilization with sod. Existing trees or large shrubs may afford valuable protection if left in place.]

2. Topsoil - Covering with less erosive materials. See Standards for topsoiling.

3. Stone - Cover surface with crushed stone or coarse gravel.

References

1. Agriculture Handbook 346. Wind Erosion Forces in the United State and Their Use in Predicting Soil Loss.

2. Agriculture Information Bulletin 354. How to Control Wind Erosion, USDA - ARS.

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. Harrow or disk into upper three inches of soil.
   At time of seeding apply 400 lbs/acre 30-0-0 urea form fertilizer (9 lbs/1000 sq. ft.)
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. Harrow or disk into upper three inches of soil.

Seeding -- For the periods March 1 -- April 30, and August 1 -- October 15, seed with 60 lbs/acre (1.4 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 -- July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs/acre (.05 lbs/1000 sq. ft.) of weeping lovegrass. During the period of October 16 -- February 28, protect site by:
   Option 1 - Two tons per acre of well anchored straw mulch and seed as soon as possible in the spring.
   Option 2 -- Use sod. Option 3 -- Seer: with 60 lbs/acre Kentucky 30 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 (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.

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 15 -- October 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sq. ft.). For the period May 1 -- August 14, seed with 3 lbs/acre of weeping lovegrass (.07 lbs/1000 sq. ft.). For the period November 16 -- February 28 protect the 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. On slope 8 ft. or higher, use 348 gal. per acre (8 gal/1000 sq. ft.)for anchoring.

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

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan, and that any 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 of Developer — Date 1-26-07

Bob Corbett
Print name below signature
Williamsburg Group inc.

ENGINEER'S CERTIFICATE

I certify that this plan for erosion and sediment 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 of Engineer — Date 1-25-07

JOHN HOUSEHOLDER, P.E.
Print name below signature

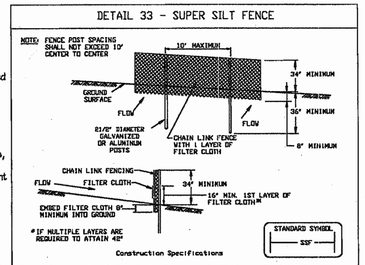
REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

USDA-Natural Resources Conservation Service — Date 3/29/07

This development plan is approved for soil erosion and sediment control by The HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — Date 3/29/07

DETAIL 33 - SUPER SILT FENCE



Construction Specifications

1. Fencing shall be 48" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.

2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.

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.

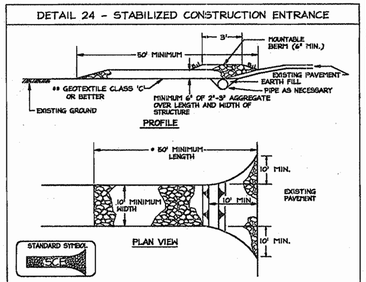
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of Fence height

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:

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

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

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



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. **The plan approval authority may not require single family residences to use geotextile.

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. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCD is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.

6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

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

HOWARD COUNTY
SOIL CONSERVATION DISTRICT
STANDARD 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 (410-313-1855).

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 specific above in accordance with the 1995 MARYLAND STANDARD AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. 51), sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Section 52). Temporary stabilization with mulch along 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 by the Howard County Sediment Control Inspector.

7. Site Analysis:
Total Area of Site 2.59 Acres
Area Disturbed 2.27 Acres
Area to be roofed or paved 0.58 Acres
Area to be vegetatively stabilized 1.64 Acres
Total Cut ____ Cu. Yds.
Total Fill 162 Cu. Yds.
Offsite waste/borrow area location: N/A

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 site with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of instilation 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 any construction as shown on these plans by the end of each work day, whichever is shorter.

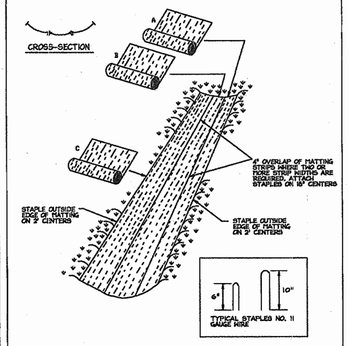
SUPER SILT FENCE

Design Criteria

Slope	Slope Steepness	Slope Length (Maximum)	Silt Fence Length (Maximum)
0 - 10%	0 - 10:1	Unlimited	Unlimited
10 - 20%	10:1 - 5:1	200 feet	1,500 feet
20 - 33%	5:1 - 3:1	100 feet	1,000 feet
33 - 50%	3:1 - 2:1	100 feet	500 feet
50% +	2:1 +	50 feet	250 feet

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

DETAIL 30 - EROSION CONTROL MATTING



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE 4 - 22 - 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

EROSION CONTROL MATTING

Construction Specifications

1. Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4' down slope from the trench. Spacing between staples is 6".

2. Staple the 4" overlap in the channel center using an 18" spacing between staples.

3. Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.

4. Staples shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.

5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4', stapled fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.

6. The discharge end of the matting liner should be similarly secured with 2 double rows of staples.

Note: If flow will enter from the edge of the matting then the area affected by the flow must be keyed-in.

SEQUENCE OF CONSTRUCTION

1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS PRIOR TO COMMENCING ANY LAND DISTURBANCE ACTIVITIES. (1 DAYS)

2. AN ON-SITE PRECONSTRUCTION MEETING SHALL BE CONDUCTED WITH THE CONTRACTOR AND THE HOWARD COUNTY INSPECTOR AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION. CONTACT THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS AT (410) 313-1880 TO SCHEDULE. (1 DAY)

3. CLEAR AND GRUB FOR AND INSTALL THE PERIMETER SEDIMENT CONTROL DEVICES INCLUDING SUPER SILT FENCE AND THE STABILIZED CONSTRUCTION ENTRANCE (4 DAYS)

4. BEGIN ROUGH GRADING THE SITE (3 DAYS).

5. BEGIN INSTALLATION OF UTILITY LINES. (10 DAYS).

6. BEGIN COMMON DRIVEWAY CONSTRUCTION & DRIVEWAY ENTRANCE TO THE EDGE OF THE UTILITY EASEMENT (5 DAYS)

7. BEGIN BASE PAVING COMMON ACCESS DRIVE (3 DAYS)

8. COMPLETE GRADING AND STABILIZE ALL DISTURBED AREAS (1 DAY).

9. CONSTRUCT HOUSES & FINE GRADE THE LOTS. STABILIZE EACH LOT. (60 DAYS)

10. BEGIN CONSTRUCTION OF BIORETENTION AREAS. PROTECT AREAS AS NECESSARY PRIOR TO STABILIZATION OF THE SITE. (2 DAYS)

11. SURFACE PAVE ALL ROADWAYS AND DRIVEWAY ENTRANCE (1 DAY).

12. STABILIZE ALL REMAINING DISTURBED AREAS (1 DAY).

13. WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR REMOVE ANY REMAINING SEDIMENT CONTROL DEVICES.

TOTAL CONSTRUCTION TIME 92 DAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date 4-24-07

Chief, Development Engineering Division — Date 4/23/07

Director, Department of Planning and Zoning — Date 4/24/07

Date	No.	Revision Description

OWEN WOODS
SINGLE FAMILY DETACHED DWELLINGS

OWNER / DEVELOPER
THE WILLIAMSBURG GROUP
CONTACT: BOB CORBETT
5485 HARPER'S FARM ROAD
SUITE 200
COLUMBIA, MD 21044
TEL. 410 997 8800 FAX. 410 997 4358

christopher consultants
engineering · surveying · land planning
christopher consultants, ltd.
7172 columbia gateway drive (suite 100) · columbia, md. 21046-2990
410.872.8800 · metro 301.861.0149 · fax 410.872.8803

ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
120	OWEN BROWN RD, COLUMBIA MD 21045
1	9604 OWEN WOODS WAY
2	9606 OWEN WOODS WAY
3	9611 OWEN WOODS WAY
4	9607 OWEN WOODS WAY

PERMIT INFORMATION CHART

PROJECT NAME	LOT/PARCEL NO.			CENSUS TRACT
OWENS WOODS	120			6066.03
PLAT NO.	GRID NO.	ZONE	TAX MAP	ELECTION DISTRICT
18363	14	R-20	36	6TH
WATER CODE	E 01 PUBLIC	SEWER CODE	5480000 SEWER	

TITLE: **EROSION AND SEDIMENT CONTROL NOTES & DETAILS**

DESIGN: KLZ,AH	SCALE: AS SHOWN	PROJECT: 06F501.01
DRAWN: ADL	DATE: JUNE 22, 2006	8 OF 12
CHECKED: JMH	APPROVED:	

1-25-07
STATE OF MARYLAND
JOHN M. HOUSEHOLDER
No. 29907
PROFESSIONAL ENGINEER

MDC-393 (SDP)

SDP-06-077

PLANTING SPECIFICATIONS FOR BIORETENTION

I. GENERAL NOTES

A. SCOPE: THE LANDSCAPE CONTRACTOR SHALL VERIFY ALL QUANTITIES OF PLANT MATERIAL SHOWN ON THE PLAN IN THE PLANT LIST, AND SHALL PROVIDE ALL MATERIALS, LABOR AND EQUIPMENT TO COMPLETE ALL LANDSCAPE WORK AS SHOWN ON THE PLANS AND SPECIFICATIONS.

B. UTILITIES: THE LANDSCAPE CONTRACTOR SHALL NOTIFY MISS UTILITY (1-800-257-7777) TO VERIFY THE LOCATION OF ALL MAIN UTILITIES AND SHALL ASK THE GENERAL CONTRACTOR TO LOCATE LIGHTING AND OTHER ON-SITE UTILITIES IN THE FIELD BEFORE PROCEEDING WITH THE INSTALLATION OF ANY PLANTING. IF CONDITIONS ARISE IN THE FIELD WHICH NECESSITATE THE SHIFTING OF A PLANT LOCATION MORE THAN 15', THE LANDSCAPE ARCHITECT IS TO BE CONSULTED.

C. SUBSTITUTIONS: ANY CHANGE IN THE TYPE, SIZE AND QUANTITY OF PLANT MATERIAL BY THE LANDSCAPE CONTRACTOR MUST BE APPROVED BY THE ENVIRONMENTAL CONSULTANT PRIOR TO INSTALLATION.

D. PLANT STANDARDS: PLANTS SUPPLIED SHALL CONFORM IN ALL RESPECTS TO THE CURRENT EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1). THEY SHALL BE FIRST CLASS REPRESENTATIVES OF THEIR SPECIES AND VARIETIES, NURSERY GROWN IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICE AND GROWN UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT. PLANT NAMES SHALL BE THOSE GIVEN IN THE LATEST EDITION OF STANDARD PLANT NAMES, AMERICAN JOINT COMMITTEE ON HORTICULTURAL NOMENCLATURE.

PLANTS SHALL BE SOUND, VIGOROUS AND HEALTHY, WELL BRANCHED, AND DENSELY FOLIATED WHEN IN LEAF. THEY SHALL BE FREE OF DISEASE AND INSECT PESTS AND SHALL HAVE HEALTHY, WELL DEVELOPED ROOT SUBSTANCE. TRUNKS AND BRANCHES SHALL BE FREE OF CUTS AND ABRASIONS OVER ONE INCH (1") IN AND DIMENSION. PLANTS IN LEAF SHALL BE SPRAYED WITH ANTI-DESICCANT IMMEDIATELY BEFORE DIGGING TO FILM THE LEAVES, BRANCHES, AND TWIGS.

SHADE TREES WITH BROKEN, DAMAGED OR MULTIPLE LEADERS WILL BE REJECTED.

BALLED AND BURLAPPED PLANTS SHALL BE DUG WITH A FIRM NATURAL ROOT BALL. PLANTS WITH SOFT, BROKEN OR DAMAGED LIMBS WILL BE REJECTED.

PLANTS SHALL BE TAGGED WITH LABELS IDENTIFYING THE BOTANICAL AND COMMON NAMES OF THE PLANTS. NO CHANGE IN THE KIND, QUANTITY, QUALITY, OR SIZE OF PLANTS SPECIFIED SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE APPROVING AGENCY.

ALL PLANTS SHALL BE CERTIFIED PEST-FREE BY THE DEPARTMENT OF AGRICULTURE OF THEIR STATE OF ORIGIN.

MAJOR SHADE TREES SHALL BE 2-1/2" CALIPER OR LARGER (EXCEPT WHEN WITHIN 2 YEAR HSEL, THEN 1-1/4" - 1-1/2" CAL. WILL BE PERMITTED); ORNAMENTAL TREES SHALL HAVE A MINIMUM CALIPER OF 1-1/4"; EVERGREEN TREES SHALL HAVE A MINIMUM HEIGHT OF 6' AND SHALL BE FULL TO THE GROUND AND HEAVILY BRANCHED. SHRUBS SHALL HAVE A SPREAD OF AT LEAST 15". NO BARE ROOT TREES OR SHRUBS WILL BE ACCEPTED WITHOUT WRITTEN APPROVAL OF THE APPROVING AGENCY.

E. PLANTING MATERIALS: TOPSOIL SHALL BE FERTILE, FRIABLE AND TYPICAL OF THE PROJECT SITE BEFORE DISTURBANCE. IT SHALL HAVE A MINIMUM ORGANIC CONTENT OF 2.5% BY VOLUME AND SHALL BE FREE OF STONES, LUMPS, ROOTS, STICKS, AND DEBRIS LARGER THAN 2" IN ANY DIMENSION. IT SHALL NOT BE LOADED, DELIVERED, SPREAD OR OTHERWISE HANDLED IN A MUDDY OR FROZEN CONDITION. (SEE BIORETENTION SPECS.)

PLANTING (BACKFILL) MIX SHALL BE COMPOSED OF THREE PARTS OF THE SOIL IMMEDIATELY ADJACENT TO THE PLANT PIT OR BED TO ONE PART APPROVED ORGANIC MATTER.

TREE STAKING MATERIALS SHALL BE ROUGH-SAWN HARDWOOD 2" BY 2" STOCK OF A LENGTH TO CONFORM TO THE REQUIREMENTS OF THE TREE PLANTING DETAIL SHOWN ON THE PLANTING PLAN.

STAKING TIES SHALL BE DOUBLE STRANDS OF 12 OR 14 GAUGE GALVANIZED STEEL WIRE, TWISTED, FURNISHED WITH PROTECTIVE SECTIONS OF CORDED 3/4" DIAMETER RUBBER HOSE OR NYLON WEBBING AT LEAST 1-1/2" WIDE OR POLYPROPYLENE CHAINLOCK STRAPPING MANUFACTURED FOR THE PURPOSE OR OTHER MATERIALS APPROVED BY THE APPROVING AGENCY.

ALL DIG PLANT MATERIAL SHALL HAVE BEEN DUG BEFORE BUD BREAK OR AFTER LEAF MATURATION. ANY PLANT MATERIAL EXHIBITING DROOPING NEW GROWTH WITHIN TWO (2) WEEKS OF BEING PLANTED WILL BE REJECTED AND MUST BE REMOVED FROM THE JOB.

F. POOR DRAINAGE: NO PLANT SHALL BE PLANTED IN SITUATIONS THAT SHOW OBVIOUS POOR DRAINAGE. SUCH SITUATIONS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENVIRONMENTAL CONSULTANT AND OWNER, AND IF THEY DEEM NECESSARY, THE PLANTS SHALL BE RELOCATED OR THE CONTRACTOR SHALL BE ADJUSTED TO ALLOW FOR DRAINAGE CORRECTION AT A NEGOTIATED COST.

G. SITE PREPARATION: IT SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY TO PRESENT 'CLEAN' SOIL CONDITIONS TO THE LANDSCAPE CONTRACTOR PRIOR TO ANY LANDSCAPE INSTALLATION. 'CLEAN' SOIL MAY INCLUDE ON-SITE SOIL MUST BE FREE OF PAVEMENT MATERIALS, MUCK, ROOT SYSTEMS, PETROLEUM OR OTHER CHEMICAL SUBSTANCES, BLUE STONE, CONSTRUCTION DEBRIS AND OTHER MATERIALS LARGER THAN 2" IN DIAMETER. THE 'CLEAN' SOIL SHALL EXTEND TO THE FOLLOWING MINIMUM DEPTHS: 18" WHERE TREES ARE PROPOSED, 12" WHERE SHRUBS ARE PROPOSED AND 4" WHERE LAWN IS PROPOSED. IF THE LANDSCAPE CONTRACTOR ENCOUNTERS ANY AREA TO BE DEFICIENT REGARDING THESE 'CLEAN' SOIL SPECIFICATIONS, HE SHALL REPORT THIS CONDITION TO THE ENVIRONMENTAL CONSULTANT AND OWNER PRIOR TO PLANTING IN THOSE AREAS.

H. WORKMANSHIP: DURING PLANTING, ALL AREAS SHALL BE KEPT NEAT AND CLEAN, AND ALL REASONABLE PRECAUTIONS SHALL BE TAKEN TO AVOID DAMAGE TO EXISTING PLANTS, TURF AND STRUCTURES. UPON COMPLETION, ALL DEBRIS AND WASTE MATERIAL RESULTING FROM PLANTING OPERATIONS SHALL BE REMOVED FROM THE PROJECT AND THE AREA CLEANED UP. ANY DAMAGED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION.

I. WATER: IF AVAILABLE ON-SITE, THE OWNER SHALL SUPPLY WATER AT NO EXTRA COST. IT WILL BE THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO SUPPLY WATER IF THERE IS NONE ON THE SITE.

II. PLANTING METHODS:

A. PLANTING BEDS: STAKE-OUT OUTLINES OF PLANTING BEDS AND CENTERS OF INDIVIDUAL PLANTING PITS. THESE LOCATIONS ARE TO BE APPROVED IN THE FIELD BY THE APPROVING AGENCY BEFORE PLANTING OPERATIONS BEGIN.

EXCAVATE STAKE OUT AREAS AND PREPARE PLANTING MIX (SEC. E1 & 2). ONLY PLANTING MIX SHALL BE USED TO BACKFILL THE PLANTING PITS AND BEDS.

B. TREE/SHRUB PIT: SET PLANTS SO THAT THE ROOTBALL REST ON FIRM GROUND AND THE ROOT CROWN IS 3"-4" HIGHER THEN THE SURROUNDING GRADE. BACKFILL WITH PLANTING MIX AND TAMP LIGHTLY IN EIGHT INCH (8") INCREMENTS. WATER THOROUGHLY TO ELIMINATE AIR POCKETS IN THE BACKFILL. REMOVE ALL MATERIALS OTHER THAN UNTREATED BURLAP, JUTE TWINE AND WIRE BASKET FROM THE TOP 1/3 OF THE BALL. COMPLETE BACKFILLING WITH PLANTING MIX TO BRING SOIL LEVEL TO SURROUNDING GRADE.

PROTECT PLANTS AT ALL TIMES FROM SUN AND DRYING WINDS. PLANTS THAT CANNOT BE PLANTED IMMEDIATELY SHALL BE KEPT IN THE SHADE, WELL PROTECTED WITH TOPSOIL, PEAT MOSS OR OTHER ACCEPTABLE MATERIAL AND SHALL BE KEPT WELL WATERED. PLANTS SHALL NOT REMAIN UNPLANTED FOR MORE THEN THREE (3) CALENDAR DAYS.

PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANYTIME SO AS TO DAMAGE THE BARK OR BREAK BRANCHES AND TWIGS. PLANTS SHALL BE LIFTED FROM THE BOTTOM OF THE BALL ONLY.

MULCH ALL BEDS AND PLANTING PITS WITH A THREE INCH (3') LAYER OF MULCH IMMEDIATELY AFTER PLANTING.

ALL PLANTS ARE TO BE WATERED THOROUGHLY ON THE DAY OF PLANTING, EVEN IF IT IS RAINING.

C. TREE BRACING: STAKE PLANTS IMMEDIATELY AFTER PLANTING, TAKING CARE THAT THEY STAND PLUMB AFTER STAKING. STAKED AND STAKING MATERIALS SHALL BE REMOVED AT THE END OF THE GUARANTEE PERIOD AND DISPOSED OF OFF-SITE BY THE CONTRACTOR.

D. TREE WRAP: WRAP DECIDUOUS TREE TRUNKS STARTING AT THE BASE OF THE TREE UP TO THE SECOND BRANCH. REMOVE WRAPPING AT THE END OF THE GUARANTEE PERIOD.

E. PRUNING: PRUNE PLANT AT THE TIME OF PLANTING AS DIRECTED BY THE APPROVING AGENCY, TAKING CARE TO RETAIN THE NATURAL FORM AND CHARACTER OF THE PLANT.

F. MISC.: ANY ITEMS NOT ADDRESSED IN THIS SECTION SHALL BE IN CONFORMANCE WITH THE APPLICABLE REQUIREMENTS OF THE LANDSCAPE SPECIFICATION GUIDELINES OF THE LANDSCAPE CONTRACTORS ASSOCIATION, MD-DC-VA.

G. WETLAND PLANTING NOTES: CONTRACTOR SHALL PROVIDE A MINIMUM SOIL DEPTH OF 4" AT THE COMPLETION OF FINAL GRADING. ANY LARGE STONES, DEBRIS OR CONSTRUCTION MATERIALS SHALL BE REMOVED AT THIS TIME. COMPACTED SOILS SHALL BE DISKED TO A DEPTH NO LESS THAN 6" PRIOR TO BASIN PLANTING AND FLOODING.

A SPRING OR EARLY SUMMER PLANTING SHALL BE REQUIRED. PLANTING MATERIALS SHALL NOT BE STORED ON-SITE LONGER THAN 48 HOURS. PLANT ROOTS SHALL BE KEPT MOIST AT ALL TIMES. PLANTS SHALL BE STORED OUT OF DIRECT SUNLIGHT.

FOR PLANTING POTTED PLANTS, MAKE A HOLE IN THE SUBSTRATE WIDE ENOUGH TO TAKE THE POTTED PLANT, AND DEEP ENOUGH THAT THE WETLAND SUBSTRATE IS AT THE SAME DEPTH (OR A LITTLE DEEPER) THAT THE SOIL LEVEL IN THE POT. THE POT SHALL BE REMOVED RIGHT BEFORE PLANTING TO FACILITATE THE ROOT SPREADING. THE OVERALL DEPTH SHOULD BE APPROXIMATELY 4"-6". PRESS THE SUBSTRATE FIRMLY AROUND THE PEAT POT.

EACH PLANT IS TO BE SIDE DRESSED AT THE TIME OF PLANTING WITH 30 GRAMS OSMOCOTE 18-6-12 SLOW RELEASE FERTILIZER OR AN EQUIVALENT.

SOURCE OF AQUATIC PLANTS: RUPPERT ENVIRONMENTAL, ASHTON, MARYLAND (301)774-0400 AND ENVIRONMENTAL CONCERN, INC., ST. MICHAELS, MARYLAND (410)745-4620.

III. SEEDING AND SODDING

ALL DISTURBED AREAS NOT COVERED BY BUILDINGS, PAVEMENTS AND PLANTING BEDS ARE TO BE ESTABLISHED IN A LAWN OF KENTUCKY-31 TALL FESCUE EITHER BY SEEDING OR SOD, OR COMBINATION, DEPENDING ON THE TIME OF YEAR, AVAILABILITY OF MATERIALS AND OWNER'S PREFERENCE. THE STABILIZATION SHALL BE IN CONFORMANCE TO STANDARDS AND SPECIFICATIONS FOR SOIL AND SEDIMENT CONTROL, PUBLISHED BY THE STATE OF MARYLAND.

IV. GUARANTEE

ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE CONTRACTOR TO BE IN HEALTHY AND VIGOROUS CONDITION AT THE BEGINNING OF THE SECOND GROWING SEASON FOLLOWING ACCEPTANCE BY THE APPROVING AGENCY. PLANTS WITH GREATER THAN 33% DIEBACK, OR HAVE NOT GROWN SO AS TO EMERGE FROM THE WATER SURFACE, SHALL BE REPLACED AT THE NEXT PLANTING SEASON.

V. MAINTENANCE

REMOVE LITTER AND DEBRIS AS REQUIRED DURING THE FIRST GROWING SEASON AND AT THE BEGINNING OF THE SECOND GROWING SEASON.

REPLACE UNSUCCESSFUL TRANSPLANTS MONTHLY FOR 6 MONTHS AND AT THE BEGINNING OF THE SECOND GROWING SEASON.

BIORETENTION SOIL & MATERIAL REQUIREMENTS

1. SOIL TEXTURE AND STRUCTURE:

TOPSOIL FOR BIORETENTION SHALL HAVE A SANDY LOAM, LOAMY TEXTURE PER USDA TEXTURAL TRIANGLE. MAXIMUM CLAY CONTENT IS 5%; SOIL MIXTURE SHALL BE 50-60% SAND; 20-30% LEAF MULCH; 20-30% TOPSOIL. THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS, OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE BIORETENTION THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, MUGHORT, NUTSEDGE, POISON IVY, CANADIAN THISTLE, TEARTHUB, OR OTHER NOXIOUS WEEDS.

2. SOIL TESTING:

PLANTING SOIL FOR BIORETENTION AREAS MUST BE TESTED PRIOR TO INSTALLATION FOR PH AND ORGANIC MATTER. THE SOIL SHOULD MEET THE FOLLOWING CRITERIA (LANDSCAPE CONTRACTORS ASSOCIATION, 1986).

PH RANGE: 5.5-6.5
ORGANIC MATTER 1.5-3.0%

IT IS REQUIRED THAT A SEIVE ANALYSIS, PH, AND ORGANIC MATTER TEST BE PREFORMED PER EACH BIORETENTION AREA.

3. SOIL PLACEMENT:

PLACEMENT OF THE PLANTING SOIL IN THE BIORETENTION AREA SHOULD BE IN LIFTS OF 12 TO 18 INCHES AND LIGHTLY COMPACTED. MINIMAL COMPACTION EFFORT CAN BE APPLIED TO THE SOIL BY TAMPING WITH A BUCKET FROM A DOZER OR BACKHOE. REFER ALSO TO "COMPACTION".

4. MULCH SPECIFICATIONS:

INDIVIDUAL PLANTING SHALL BE MULCHED (REFER TO LANDSCAPING DETAILS). ACCEPTABLE MULCH SHALL BE SHREDDED HARDWOOD ONLY. MULCH MUST BE WELL AGED, UNIFORM IN COLOR, AND FREE OF FOREIGN MATERIAL INCLUDING PLANT MATERIAL. WELL AGED MULCH IS DEFINED AS MULCH THAT HAS BEEN STOCKPILED OR STORED FOR AT LEAST TWELVE (12) MONTHS.

5. SAND SPECIFICATIONS:

PROVIDE CLEAN SAND, FREE OF DELETERIOUS MATERIALS. SAND SHALL MEET AASHTO M-6 OR ASTM C-33 WITH GRAIN SIZE OF 0.02"-0.04".

6. GEOTEXTILE SPECIFICATIONS:

GEOTEXTILE FABRIC SHALL MEET ASTM D-751 (PUNCTURE STRENGTH - 125 LB)
ASTM D-1117 ("MULLEN BURST STRENGTH - 400 PSI)
ASTM D-1682 (TENSILE STRENGTH - 300 LB)
FABRIC SHALL HAVE 0.08" THICK E.O.S. OF #80 SLEVE, AND MAINTAIN 125 GPM PER SQ. FT. FLOW RATE.

7. GRAVEL FILTER SPECIFICATIONS:

UNDERDRAIN GRAVEL BLANKET SHALL BE DOUBLE WASHED, #57 STONE, 1-1/2" IN SIZE. PEA GRAVEL SHALL BE WASHED, RIVER-RUN, ROUND DIAMETER 1/4" -1/2" IN SIZE.

8. INSPECTION REQUIREMENTS:

( ) THE CONTRACTOR SHALL ARRANGE A "PRECONSTRUCTION MEETING" WITH THE OWNER AND LANDSCAPE ARCHITECT/ENGINEER PRIOR TO BEGINNING WORK IN THE BIORETENTION FACILITY.

( ) AT THE COMPLETION OF EXCAVATION TO INSPECT SUB GRADE PREPARATION.

( ) DURING UNDERDRAIN AND FILTER INSTALLATION

( ) BACK FILL OF SOIL INTO THE BIORETENTION AREAS. SOIL CERTIFICATIONS FOR BACK FILL ARE REQUIRED.

( ) THE FINAL TOPSOIL LAYERS SHOULD BE THOROUGHLY WETTED TO ACHIEVE SETTLEMENT OF THE SOIL/SAND BACKFILL MIX.

( ) THE WORK SHALL BE INSPECTED BY THE OWNER/LANDSCAPE ARCHITECT PRIOR TO FINAL STABILIZATION AND PLANTING.

( ) SEDIMENT AND EROSION CONTROL PRACTICES MAY BE REMOVED UPON APPROVAL BY THE COUNTY INSPECTOR.

CONSTRUCTION SPECIFICATIONS FOR BIORETENTION

I. BIORETENTION AREA PLANT SPECIFICATIONS

GENERAL PLANTING SPECIFICATIONS

ROOT STOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT FROM THE SOURCE TO THE JOB SITE AND UNTIL PLANTED.

WALLS OF PLANTING PITS SHALL BE DUG SO THAT THEY ARE VERTICAL.

THE DIAMETER OF THE PLANTING PIT MUST BE A MINIMUM OF SIX INCHES (6") LARGER THEN THE DIAMETER OF THE BALL OF THE TREE.

THE PLANTING PITS SHALL BE DEEP ENOUGH TO ALLOW 1/4" OF THE BALL TO BE ABOVE THE EXISTING GRADE. LOOSE SOIL AT THE BOTTOM OF THE PIT SHALL BE TAMPED BY HAND.

THE APPROPRIATE AMOUNT OF FERTILIZER IS TO BE PLACED IN THE PLANTING PIT BY LIFTING AND CARRYING THE PLANT BY ITS' BALL (NEVER LIFT BY BRANCHES OR TRUNK).

SET THE PLANT STRAIGHT AND IN THE CENTER OF THE PIT SO THAT THE TOP OF THE BALL IS APPROXIMATELY 1/4" ABOVE THE FINAL GRADE.

BACKFILL PLANTING PIT WITH EXISTING SOIL.

MAKE SURE PLANT REMAINS STRAIGHT DURING BACKFILLING PROCEDURE.

NEVER COVER THE TOP OF THE BALL WITH SOIL.MOUND SOIL AROUND THE EXPOSED BALL (1/4").

TREES SHALL BE BRACED BY USING 2" BY 2" WHITE OAK STAKES. STAKES SHALL BE PLACED PARALLEL TO WALKWAYS AND BUILDINGS. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL, UTILIZING HOSE AND WIRE SO THE TREE IS BRACED TO THE STAKES.

PLANTING GRASS GROUND COVER

GRASSES AND LEGUME SEED SHALL BE TILLED INTO THE SOIL TO A DEPTH OF AT LEAST 2 INCHES BY WITHER HARROWING OR DISCING. FERTILIZER SHALL BE APPLIED AT THE SAME RATE AND UTILIZING THE SAME PROCESS FOR NON-GRASS GROUND COVER.

GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING TECHNIQUES.

FERTILIZER

ALL GROUND COVERS SHALL BE FERTILIZED WITH A 10-6-4 ANALYSIS FERTILIZER AS A WET APPLICATION AT THE RATE OF 3 LBS. PER 100 SQUARE FEET OF THE BIORETENTION AREA PRIOR TO PLANTING NON-GRASS GROUND COVER AS PART OF THE GRASS SEED GROUND COVER.

FERTILIZATION

TREE AND SHRUB FERTILIZER SHALL BE 21 GM. TIGHTLY COMPRESSED, LONG LASTING, SLOW RELEASE (2 YEAR) FERTILIZER TABLET WITH A MINIMUM GUARANTEED ANALYSIS OF 20-10-5:

TOTAL NITROGEN (N) 20%
WATER SOLUBLE ORGANIC NITROGEN 7%
WATER INSOLUBLE ORGANIC NITROGEN 13%
AVAILABLE PHOSPHORIC ACID (P2O5) 10%
SOLUBLE POTASH (K2O) 5%

FOR CONTAINERIZED TREES AND SHRUBS, PLACE THE SPECIFIC FERTILIZER TABLET(S) IN THE BOTTOM OF THE PLANTING PIT ACCORDING TO THE FOLLOWING RATES:

1 GAL. CONTAINER 1 EA. 21 GM. TABLETS
3 GAL. CONTAINER 2 EA. 21 GM. TABLETS
5 GAL. CONTAINER 3 EA. 21 GM. TABLETS
7 GAL. CONTAINER 5 EA. 21 GM. TABLETS

PLANTING NON-GRASS GROUND COVER

THE GROUND COVER PLANTING HOLES SHALL BE DUG THROUGH THE MULCH WITH ONE OF THE FOLLOWING: HAND TROWEL, SHOVEL, BULB PLANTER, OR HOE (THIS DOES NOT APPLY TO GRASSES OR LEGUMES). SPACING SHALL BE 2' ON CENTER.

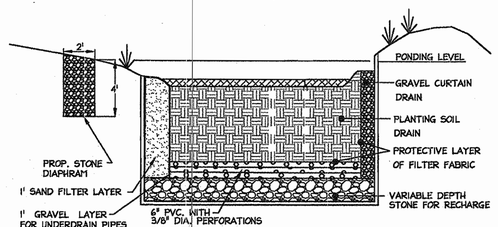
BEFORE PLANTING, BIODEGRADABLE POTS SHALL BE SPLIT, AND NON-BIODEGRADABLE POTS SHALL BE REMOVED. ROOT SYSTEMS OF ALL POTTED PLANTS SHALL BE SPLIT OR CRUMBLED.

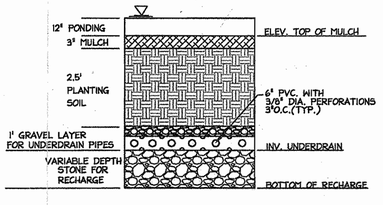
THE GROUND COVER SHALL BE PLANTED SO THAT THE ROOTS ARE SURROUNDED BY THE SOIL BELOW THE MULCH, POTTED PLANTS SHALL BE SET SO THAT THE TOP OF THE POT IS EVEN WITH THE EXISTING GRADE. THE ROOT OF BARE ROOT PLANTS SHALL BE COVERED TO THE CROWN.

SPRAY THE MULCHED AND PLANTED GROUND COVER BED WITH A PRE-EMERGENT HERBICIDE.

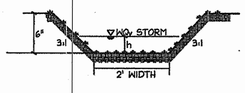
THE ENTIRE GROUND COVER BED SHALL BE THOROUGHLY WATERED.

BIORETENTION	ELEVATION AT TOP OF MULCH	ELEVATION AT INV. OF UNDERDRAIN	ELEVATION AT BOTTOM OF RECHARGE	LENGTH X WIDTH (FT X FT)	BIO-RETENTION AREA (SF)
BR # A	389.50	389.75	384.65	25.40 X 10.40	264
BR # B	384.20	380.45	379.35	24.70 X 10.45	258
BR # C	384.40	380.65	379.55	23.83 X 10.40	248
BR # D	395.20	391.45	390.45	16.13 X 7.50	121
BR # E	395.65	391.90	391.00	20.57 X 6.32	130



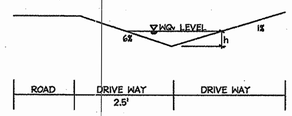


BIORETENTION A, B, C, D, E
N.T.S.



ROAD SIDE GRASS SWALE F, G, H
N.T.S.

SWALE NAME	F	G	H
SWALE SLOPE (%)	2.3	1.0	1.0
SWALE DEPTH FOR WQv (h)	0.1 IN.	0.3 IN.	0.2 IN.



SWALE FLOW OVER DRIVEWAY
N.T.S.

DRIVEWAY AT	LOT 1	LOT 2
DEPTH OF FLOW (h)	0.2 IN.	0.4 IN.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date 4-24-07
Chief, Development Engineering Division — Date 4/20/07
Director, Department of Planning and Zoning — Date 4/24/07

Date	No.	Revision Description

OWEN WOODS
SINGLE FAMILY DETACHED DWELLINGS

OWNER / DEVELOPER
THE WILLIAMSBURG GROUP
CONTACT: BOB CORBETT
5485 HARPER'S FARM ROAD
SUITE 200
COLUMBIA, MD 21044
TEL. 410 997 8600 FAX. 410 997 4368

christopher consultants
engineering · surveying · land planning
christopher consultants, ltd.
7172 columbia gateway drive (suite 100) · columbia, md. 21046-2990
410.872.8990 · mdnl 301.861.0149 · fax 410.872.8993

ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
120	OWEN BROWN RD, COLUMBIA MD 21045
1	9004 OWEN WOODS WAY
2	9006 OWEN WOODS WAY
3	9011 OWEN WOODS WAY
4	9007 OWEN WOODS WAY

PERMIT INFORMATION CHART

PROJECT NAME		LOT/PARCEL NO.		CENSUS TRACT
OWENS WOODS		120		6066.03
PLAT NO. 16383	GRID NO. 0001	ZONE R-20	TAX MAP 36	ELECTION DISTRICT 6TH
WATER CODE	E 09 PUBLIC		SEWER CODE	5620000 SEWER

TITLE: **STORMWATER MANAGEMENT NOTES AND DETAILS**

DESIGN: KLZ,AH	SCALE: AS SHOWN	PROJECT: 05F501.01	
DRAWN: ADL	DATE: JUNE 22, 2006	9 OF 12	
CHECKED: JMH	APPROVED:		

1-26-07
DATE
STATE OF MARYLAND
JOHN M. HOUSEHOLDER
No. 29907
PROFESSIONAL ENGINEER

SDP-06-077

MDC-393(SDP)

P:\Projects\05F501\MDC XXXX\MDC SUBMISSION\SDP\00 SW NOTES 08, 1/25/2007 5:45:11 PM

MINOR DRAINAGE AREAS

Area Name	Area in Ac.	CN	Zoning	% Imperv.
A	0.230	86	R-20	51.3%
B	0.245	85	R-20	47.4%
C	0.196	87	R-20	54.6%
D	0.080	88	R-20	60.0%
E	0.118	83	R-20	38.1%
F	0.249	75	R-20	12.5%
G	0.094	84	R-20	43.6%
H	0.202	79	R-20	21.3%
I	0.769	70	R-20	0.0%
J	0.542	68	R-20	0.0%

MAJOR DRAINAGE AREAS
Existing Conditions

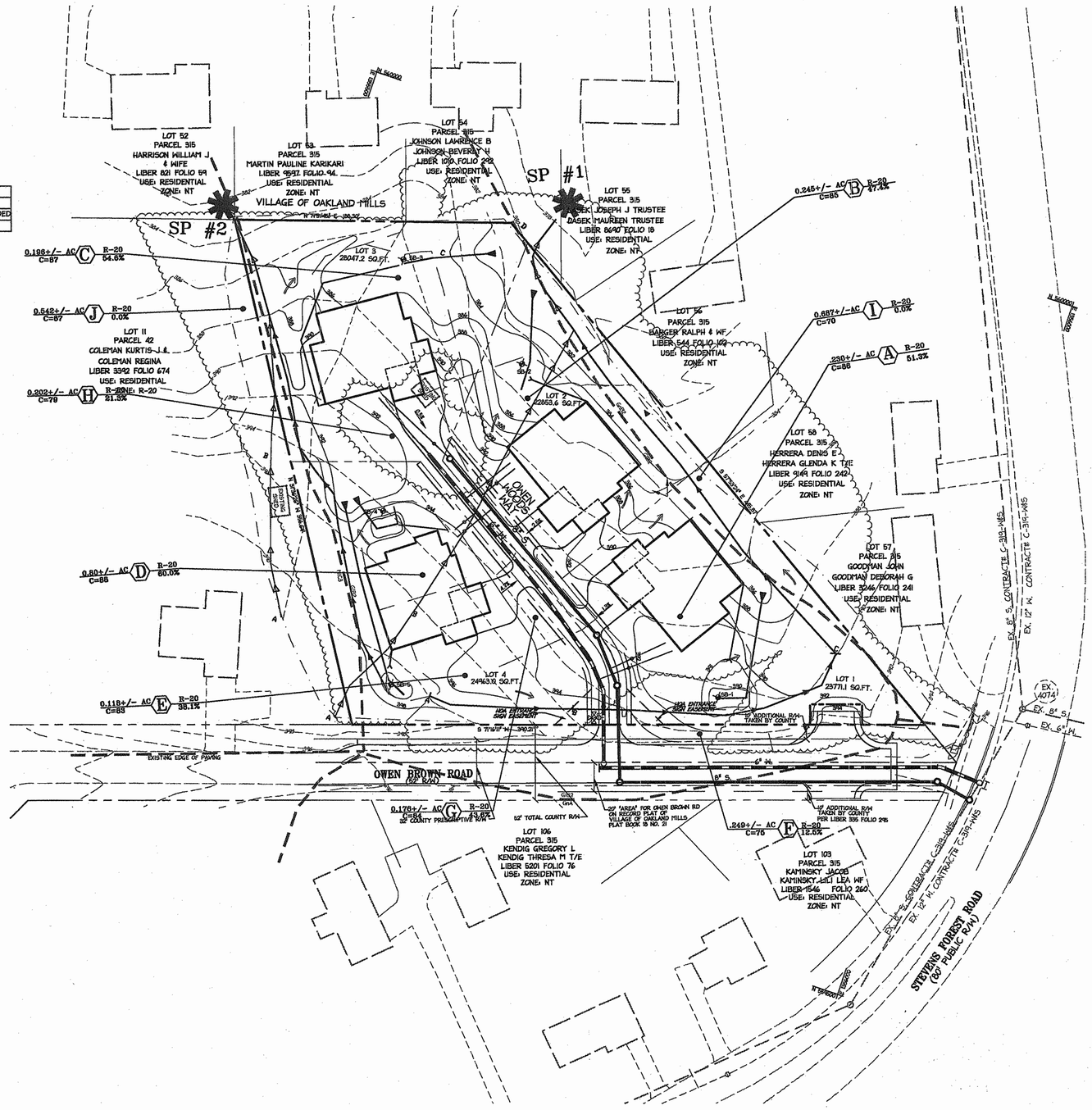
Area Name	Area in Ac.	CN	Tc (hrs)
SP #1	2.372	61	0.3504
SP #2	0.353	61	0.2964

MAJOR DRAINAGE AREAS
Proposed Conditions

Area Name	Area in Ac.	CN	Tc (hrs)
SP #1	1.783	77	0.1654
SP #2	0.942	74	0.1392

SOILS CLASSIFICATION

Type	Name	Group	Description
GlB2	Glenelg	B	GLENELG LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
GnB2	Glenville	C	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
MIC3	Manor	B	MANOR LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED



LEGEND

- EXISTING FENCE
- PROPERTY LINE
- TREELINE
- PROPOSED SETBACK LINES
- DRAINAGE AREA LABEL (A)
- PR. DRAINAGE DIVIDE
- OVERALL DRAINAGE AREA
- EX. DRAINAGE DIVIDE
- EXISTING TC PATH
- PROPOSED TC PATH
- SOIL LINE
- FLOW DIRECTION
- STUDY POINT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date 4-24-07

Chief, Development Engineering Division — Date 4/23/07

Director, Department of Planning and Zoning — Date 4/24/07

Date	No.	Revision Description

OWEN WOODS – LOTS 1-4
SINGLE FAMILY DETACHED DWELLINGS

OWNER / DEVELOPER

THE WILLIAMSBURG GROUP
CONTACT: BOB CORBETT
5405 HARPER'S FARM ROAD
SUITE 200
COLUMBIA, MD 21044
TEL. 410 997 8800 FAX. 410 997 4358

christopher consultants
engineering · surveying · land planning
christopher consultants, ltd.
7172 columbia gateway drive (suite 100) · columbia, md. 21046-2690
410.872.8690 - metro 301.881.0148 - fax 410.872.0693

ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
120	OWEN BROWN RD. COLUMBIA MD 21045
1	9604 OWEN WOODS WAY
2	9608 OWEN WOODS WAY
3	9611 OWEN WOODS WAY
4	9607 OWEN WOODS WAY

PERMIT INFORMATION CHART

PROJECT NAME: OWENS WOODS		LOT/PARCEL NO.: 120		CENSUS TRACT: 6066.03
PLAT NO.: 19983	GRID NO.: 0009	ZONE: R-20	TAX MAP: 36	ELECTION DISTRICT: 6TH
WATER CODE: E 09 PUBLIC			SEWER CODE: 5480000 SEWER	

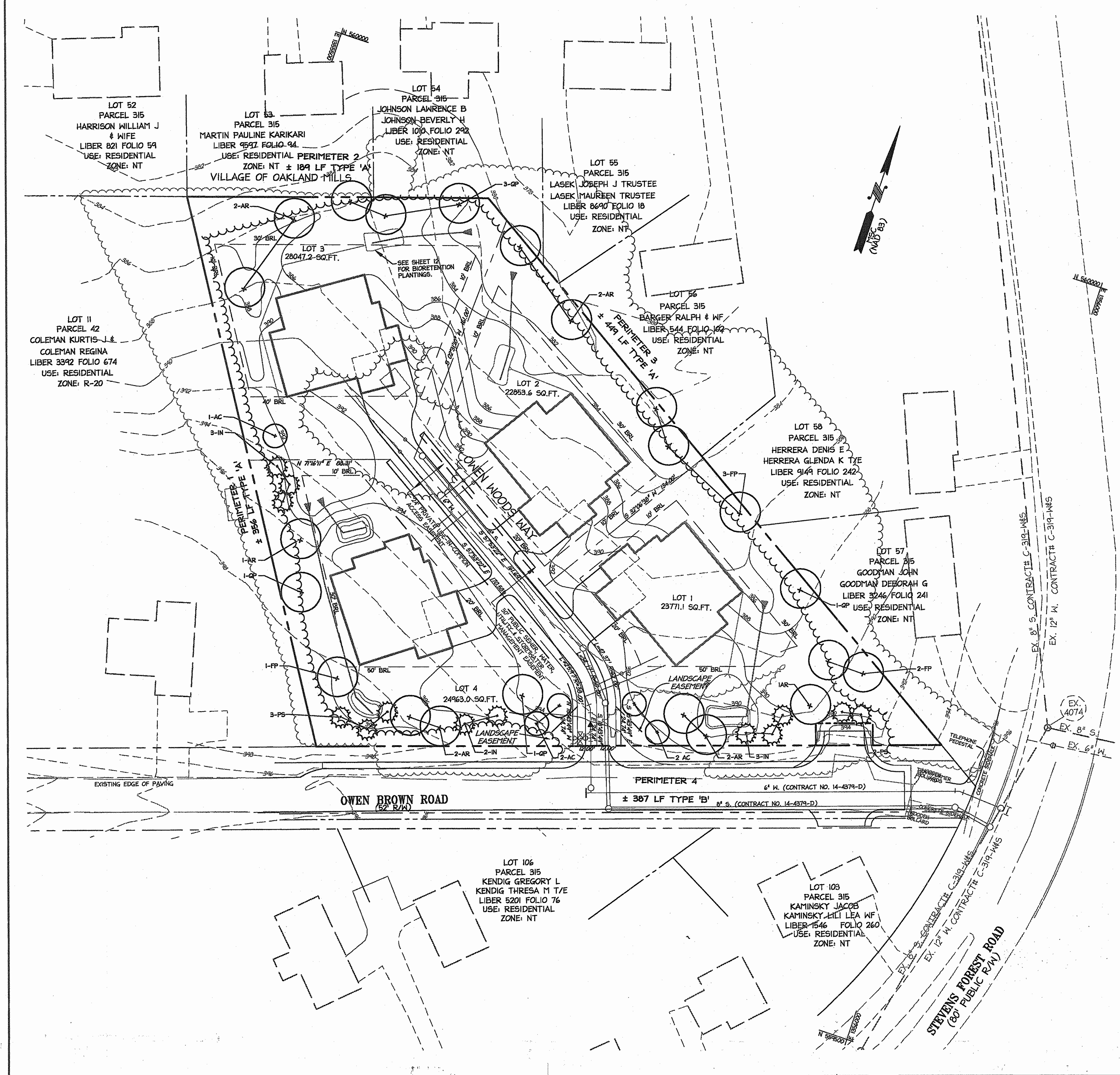
TITLE: **DRAINAGE AREA MAP**

DESIGN: KLZ, AH	SCALE: 1"=40'		PROJECT: 05F501.01
DRAWN: ADL	DATE: JUNE 22, 2006		10 OF 12
CHECKED: JMH	APPROVED:		

1-2007
DATE
STATE OF MARYLAND
JOHN M. HOUSEHOLDER
No. 29907
PROFESSIONAL ENGINEER

MDC-393(SDP)

SDP-06-077



LOT 52
PARCEL 315
HARRISON WILLIAM J
& WIFE
LIBER 821 FOLIO 59
USE: RESIDENTIAL
ZONE: NT
LOT 53
PARCEL 315
MARTIN PAULINE KARIKARI
LIBER 9597 FOLIO 94
USE: RESIDENTIAL
ZONE: NT
PERIMETER 2
± 189 LF TYPE 'A'
VILLAGE OF OAKLAND MILLS
LOT 54
PARCEL 315
JOHNSON LAWRENCE B
JOHNSON BEVERLY H
LIBER 1010 FOLIO 292
USE: RESIDENTIAL
ZONE: NT
LOT 55
PARCEL 315
LASEK JOSEPH J TRUSTEE
LASEK MAUREEN TRUSTEE
LIBER 8690 FOLIO 18
USE: RESIDENTIAL
ZONE: NT
LOT 56
PARCEL 315
BARGER RALPH & WF
LIBER 544 FOLIO 102
USE: RESIDENTIAL
ZONE: NT
LOT 58
PARCEL 315
HERRERA DENIS E
HERRERA GLENDA K T/E
LIBER 9149 FOLIO 242
USE: RESIDENTIAL
ZONE: NT
LOT 57
PARCEL 315
GOODMAN JOHN
GOODMAN DEBORAH G
LIBER 3246 FOLIO 241
USE: RESIDENTIAL
ZONE: NT
LOT 11
PARCEL 42
COLEMAN KURTIS J &
COLEMAN REGINA
LIBER 3392 FOLIO 674
USE: RESIDENTIAL
ZONE: R-20
LOT 3
28047.2 SQ.FT.
LOT 2
22853.6 SQ.FT.
LOT 1
23771.1 SQ.FT.
LOT 4
24963.0 SQ.FT.
SEE SHEET 12 FOR BIORETENTION PLANTINGS.
OWEN WOODS WAY
PERIMETER 3
± 449 LF TYPE 'A'
PERIMETER 1
± 356 LF TYPE 'A'
PERIMETER 4
± 387 LF TYPE 'B'
LANDSCAPE EASEMENT
EXISTING EDGE OF PAVING
OWEN BROWN ROAD
(52' R/W)
6" W. (CONTRACT NO. 14-4379-D)
8" S. (CONTRACT NO. 14-4379-D)
STEVENS FOREST ROAD
(80' PUBLIC R/W)
EX. 8" S. CONTRACT# C-319-W&S
EX. 12" W. CONTRACT# C-319-W&S
TELEPHONE PEDESTAL
LOT 106
PARCEL 315
KENDIG GREGORY L
KENDIG THRESA M T/E
LIBER 5201 FOLIO 76
USE: RESIDENTIAL
ZONE: NT
LOT 103
PARCEL 315
KAMINSKY JACOB
KAMINSKY LILI LEA WF
LIBER 1546 FOLIO 260
USE: RESIDENTIAL
ZONE: NT
MDSC (NAD 83)
N 560000

PLANT LIST:

SYMBOL	LATIN NAME	COMMON NAME	QUANTITY	SIZE	REMARKS
FP	Fraxinus Pennsylvanica	'Patmore' Green Ash	6	2½" - 3" caliper	B&B
AR	Acer Rubrum 'Red Sunset'	Red Sunset Maple	10	2½" - 3" caliper	B&B
QP	Quercus Phellos	Willow Oak	6	2½" - 3" caliper	B&B
PS	Pinus Strobus	White Pine	5	6' - 8' HT	B&B, Full to Ground
IN	Ilex x 'Nellie Stevens'	Nellie Stevens Holly	8	6' - 8' HT	B&B, Full to Ground
AC	Amelanchier Canadensis	Serviceberry	5	8' - 10' HT	B&B

SCHEDULE A
PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO PERIMETER PROPERTIES			ADJACENT TO ROADWAYS	
PERIMETER	P 1	P 2	P 3	P 4	
LANDSCAPE TYPE "A" L.F. OF PER.	356 LF.	189 LF.	449 LF.		
LANDSCAPE TYPE "B" L.F. OF PER.				387 LF.	
CREDIT FOR EX. VEG. BELOW IF NEEDED	N/A	N/A	N/A	N/A	
PERM. L.F. OF PERIMETER (PERIMETER- CREDIT)	N/A	N/A	N/A	N/A	TOTAL
NO. OF PLANTS REQ. SHADE TREES EVG. TREES SHRUBS	 6 0 0	 4 0 0	 8 0 0	 8 10 0	 26 10 0
NO. OF PLANTS PROV. SHADE TREES EVG. TREES OTHER TREES SHURBS	 4 * 3 1 0	 4 0 0 0	 8 0 0 0	 6 * 10 4 0	 22 13 5 0

* NOTE:
P1 - 3 EVERGREEN TREES AND 1 ORNAMENTAL TREE SUBSTITUTED FOR 2 SHADE TREES.
P4 - 4 ORNAMENTAL TREES HAVE BEEN SUBSTITUTED FOR 2 SHADE TREES.

LEGEND

- EXISTING CONTOURS — 416
- EXISTING STORM DRAIN — EX. 12" RCP
- EXISTING SANITARY SEWER — EX. 8" SAN
- EXISTING WATER — EX. 6" WATER
- EXISTING FENCE — X
- PROPERTY LINE
- EX. TREELINE
- PROPOSED TREELINE
- PROPOSED CONTOUR — 418
- PROPOSED SETBACK LINES
- PROPOSED SHADE TREE
- PROPOSED ORNAMENTAL TREE
- PROPOSED EVERGREEN TREE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date 4-24-07
Chief, Development Engineering Division — Date 4/23/07
Director, Department of Planning and Zoning — Date 4/24/07

Date	No.	Revision Description

OWEN WOODS
SINGLE FAMILY DETACHED DWELLINGS

OWNER / DEVELOPER
THE WILLIAMSBURG GROUP
CONTACT: BOB CORBETT
5485 HARPER'S FARM ROAD
SUITE 200
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410.872.8820 · metro 301.881.0148 · fax 410.872.8893

ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
120	OWEN BROWN RD, COLUMBIA MD 21045
1	9604 OWEN WOODS WAY
2	9608 OWEN WOODS WAY
3	9611 OWEN WOODS WAY
4	9607 OWEN WOODS WAY

PERMIT INFORMATION CHART

PROJECT NAME	LOT/PARCEL NO.		CENSUS TRACT
OWENS WOODS	120		6066.03

PLAT NO.	GRID NO.	ZONE	TAX MAP	ELECTION DISTRICT
18983	0009	R-20	36	6TH

WATER CODE	E 09 PUBLIC	SEWER CODE	5480000 SEWER

1.25.07
DATE

STATE OF MARYLAND · BRIAN KEITH COLLINS · NO. 3171 · REGISTERED LANDSCAPE ARCHITECT

TITLE: **LANDSCAPE PLAN**

DESIGN: LNG	SCALE: 1" = 30'	PROJECT: 05F501.01
DRAWN: ADL	DATE: JUNE 22, 2006	11 OF 12
CHECKED: BKC	APPROVED:	

MDC-393(SDP)

SDP-06-077

GENERAL PLANTING NOTES

1. ALL PLANT MATERIAL TO MEET A.A.N. STANDARDS

2. LANDSCAPING CONTRACTOR TO FOLLOW LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE- WASHINGTON METRO AREA APPROVED BY LCAMW.

3. NO SUBSTITUTIONS TO BE MADE WITHOUT CONSENT OF LANDSCAPE ARCHITECT OR OWNER.

4. IN THE EVENT OF VARIATION BETWEEN QUANTITIES SHOWN ON THE PLANT LIST AND THE PLANS, THE PLANS SHALL CONTROL. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL PLANT QUANTITIES PRIOR TO THE COMMENCEMENT OF WORK. SOD QUANTITY TAKE-OFFS ARE THE RESPONSIBILITY OF THE CONTRACTOR. ALL DISCREPANCIES SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT FOR CLARIFICATION PRIOR TO BIDDING. THE CONTRACTOR SHALL FURNISH PLANT MATERIAL IN SIZES AS SPECIFIED IN THE PLANT LIST.

5. ALL BEDS TO BE TOPPED WITH THREE INCHES OF HARDWOOD MULCH.

6. LANDSCAPE CONTRACTOR TO VERIFY LOCATION OF UTILITIES WITH OWNERS BEFORE PLANTING.

7. LANDSCAPE ARCHITECT/OWNER SHALL SELECT, VERIFY AND/OR APPROVE ALL PLANT MATERIAL. AT OWNER'S DISCRETION, SPECIMEN AND OTHER PLANT MATERIAL WILL BE SELECTED.

8. LANDSCAPE CONTRACTOR SHALL COORDINATE PLANT BED FILLING OPERATIONS AND PLANT MATERIAL INSTALLATION WITH GENERAL CONTRACTOR AND UTILITIES CONTRACTOR. AT THE TIME OF FINAL INSPECTION WITH ACCEPTANCE, ALL ELECTRIC,WATER,DRAINAGE, AND FOUNTAIN UTILITIES,AS WELL AS ALL PLANT MATERIALS, SHALL REMAIN UNDAMAGED. LIKEWISE, LANDSCAPE CONTRACTOR AND UTILITIES CONTRACTOR SHALL COORDINATE EFFORTS TO ENSURE THAT SURFACE UTILITIES ARE AT THE PROPER ELEVATION RELATIVE TO FINAL GRADES.

9. CONTRACTOR SHALL NOTIFY MISS UTILITY 72 HOURS PRIOR TO CONSTRUCTION.

10. THE OWNER,TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENTANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.

11. TOPSOIL MIX

a. Planting mix shall be prepared at approved on-site staging area using approved on-site existing soil. Mix minimum quantities of 20 cubic yards or sufficient mix for entire job if less than 20 cubic yards is required.

b. Thoroughly mixed in the following proportions for tree and shrub planting mix:
.5 cy existing soil
.2 cy sharp sand
.3 cy wood residuals
4.5 lbs treble superphosphate
5 lbs dolmanite limestone (eliminate for acid loving plants)

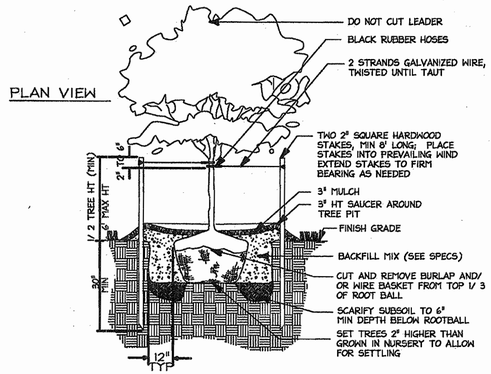
c. For bed planting, shrubs and groundcover spaces 24 inches or closer, incorporate the following ingredients per 20 sf and incorporate into top 8 inches of existing soils by rototilling or similar method of incorporation.
.2 cy sharp sand
.3 cy organic material
4.5 lbs treble superphosphate
5 lbs dolmanite limestone (eliminate for acid loving plants)

12. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HO.CO. CODE. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING IN THE AMOUNT OF $9,300.00 MUST BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT. (26 SHADE TREES AND 10 EVERGREEN TREES).

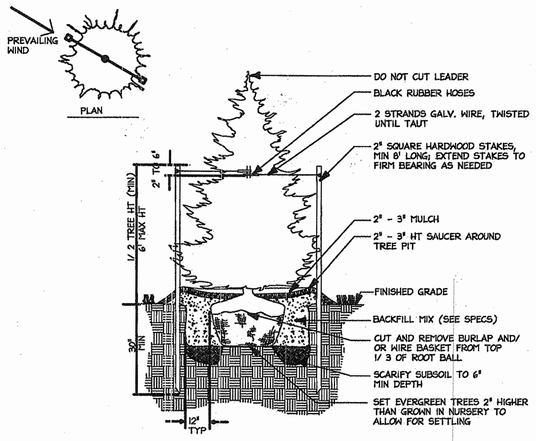
13. DEVELOPER'S BUILDER'S CERTIFICATE
I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPING MANUAL. I/WE FURTHER CERTIFY THAT UPON TREES COMPLETION, A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED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

NAME

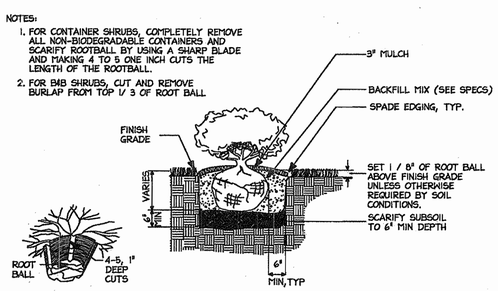
1-26-07
DATE



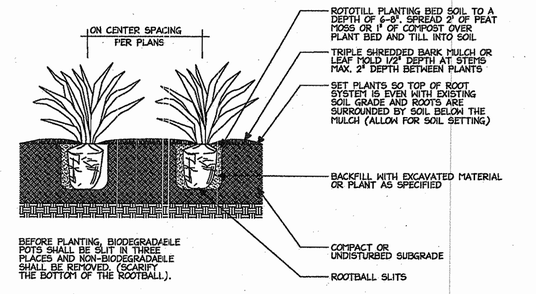
A TREE PLANTING DETAIL
NOT TO SCALE



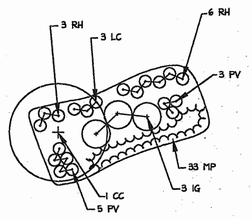
B EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE



C SHRUB BED PLANTING DETAIL
NOT TO SCALE



D PERENNIAL PLANTING DETAIL
NOT TO SCALE



E TYPICAL BIORETENTION PLANTING DETAIL
SCALE: 1"=10'

NOTE: PLANTING DETAIL SHOWN IS TYPICAL AND MAY NEED TO BE ADJUSTED ON SITE. THE PLANTING QUANTITIES CHANGE BASED ON THE ACTUAL SIZE OF THE BIORETENTION AREA.

BIORETENTION PLANT LIST:

SYMBOL	LATIN NAME	COMMON NAME	QUANTITY	SIZE	REMARKS
CC	Cercis Canadensis	Forest Pansy Redbud	1	10'-12' HT.	B & B
IG	Ilex Glabra	Inkberry Holly	3	3 Gal.	4' O.C.
PV	Panicum Virgatum	Switch Grass	8	3 Gal.	3' O.C.
RH	Rudbeckia Hirta	Black Eyed Susan	9	1 Gal.	2' O.C.
LC	Lobelia Cardinalis	Cardinal Flower	3	1 Gal.	2' O.C.
MP	Phlox Subulata	Moss Phlox	33	1 GT.	15" O.C.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date 4-24-07

Chief, Development Engineering Division — Date 4/23/07

Director, Department of Planning and Zoning — Date 4/24/07

Date	No.	Revision Description

OWEN WOODS
SINGLE FAMILY DETACHED DWELLINGS

OWNER / DEVELOPER
THE WILLIAMSBURG GROUP
CONTACT: BOB CORBETT
5485 HARPER'S FARM ROAD
SUITE 200
COLUMBIA, MD 21044
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410.872.8800 · metro 301.891.0146 · fax 410.872.8953

ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
120	OWEN BROWN RD, COLUMBIA MD 21046
1	9604 OWEN WOODS WAY
2	9608 OWEN WOODS WAY
3	9611 OWEN WOODS WAY
4	9607 OWEN WOODS WAY

PERMIT INFORMATION CHART

PROJECT NAME	LOT/PARCEL NO.		CENSUS TRACT
OWENS WOODS	120		6066.03
PLAT NO. 18923	GRID NO. 0009	ZONE R-20	TAX MAP 36	ELECTION DISTRICT 6TH
WATER CODE E 09 PUBLIC			SEWER CODE 5480000 SEWER

1-25-07
DATE

STATE OF MARYLAND — BRADLEY K. CORBETT — NO. 0477 — REGISTERED LANDSCAPE ARCHITECT

TITLE: **LANDSCAPE DETAILS**

DESIGN: LNG	SCALE: AS SHOWN	PROJECT: 05F501.01
DRAWN: ADL	DATE: JUNE 22, 2006	12 OF 12
CHECKED: BKC	APPROVED:	

SDP-06-077

MDC-393(SDP)