# ROAD CONSTRUCTION PLANS
# WHISKEY BOTTOM POINT
## LOTS 1-6 , OPEN SPACE LOTS 7-9
## AND NON-BUILDABLE BULK PARCEL "A"
## SIXTH ELECTION DISTRICT
## HOWARD COUNTY, MARYLAND

### *SHEET INDEX*



| NO | TITLE |
|---|---|
| 1 | COVER SHEET |
| 2 | ROAD PLAN, PROFILES AND DETAILS |
| 3 | FINAL GRADING, EROSION AND SEDIMENT CONTROL PLAN |
| 4 | STORM DRAIN DRAINAGE AREA MAP AND PROFILES |
| 5 | SEDIMENT CONTROL NOTES AND DETAILS |
| 6 | STORMWATER MANAGEMENT PLAN |
| 7 | LANDSCAPING AND FOREST CONSERVATION AND DETAILS PLAN |
| | |

***VICINITY MAP***
SCALE : 1"= 2000'
ADC MAP 40, GRID D-7

### *GENERAL NOTES:*

1. THIS SUBJECT PROPERTY IS ZONED R-SC PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY.
3. 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.
4. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
5. ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MARYLAND MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MdMUTCD).
6. TOPOGRAPHY WITHIN 200' OF SITE BOUNDARY SHOWN HEREON IS BASED ON FIELD RUN TOPOGRAPHY BY MILDENBERG, BOENDER, & ASSOCIATES, ON OR ABOUT FEBRUARY, 2006. OTHER TOPOGRAPHY SHOWN IS BASED ON HOWARD COUNTY GIS.
7. BOUNDARY SHOWN HEREON IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT FEBRUARY, 2006 BY MILDENBERG, BOENDER & ASSOC., INC.
8. COORDINATES BASED ON NAD '83 (HORIZONTAL) AND NAD '88 (VERTICAL) MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS
   STA. No. 50BA N 527,561.667, E 1,359,772.600, ELEV. 248.655
   STA. No. 0015 N 527,889.354, E 1,360,017.060, ELEV. 239.581
9. PROJECT BACKGROUND:
   TAX MAP: 50 , GRID: 4, PARCEL: 488 / BULK PARCEL B-3
   ELECTION DISTRICT : SIXTH
   ZONING: R-SC
   DEED REFERENCE : 11026/111
   PREVIOUS PROJECT NUMBERS: ECP-13-055, F-12-065, F-07-036, WP-10-158
10. SITE DATA TABULATION

| | |
|---|---|
| GROSS AREA OF PROPERTY TRACT: | 1.72 Ac ± |
| AREA OF FLOODPLAIN: | 0 Ac |
| AREA OF STEEP SLOPES: | 0 Ac |
| NET AREA OF PROPERTY TRACT: | 1.72 Ac ± |
| DISTURBED AREA | 1.72 Ac ± |
| MINIMUM LOT SIZE PROPOSED: | 6,000 SQ.FT. |
| NUMBER OF BUILDABLE LOTS PROPOSED: | 6 (SFD) |
| NUMBER OF OPEN SPACE LOTS PROPOSED: | 3 |
| TOTAL LOTS / PARCELS PROPOSED: | 10 |
| REQUIRED OPEN SPACE (25% OF TOTAL SITE AREA): | 18,731 S.F. |
| PROVIDED CREDITED OPEN SPACE AREA: | 19,072 S.F. |
| PROVIDED NON-CREDITED OPEN SPACE AREA: | 4,360 S.F. |
| AREA TO BE DEDICATED FOR USE AS A PUBLIC ROAD: | 11,359 S.F. / 0.26 AC.± |

11. WATER IS PUBLIC, CONTRACT # 24-4872-D.
12. SEWER IS PUBLIC, CONTRACT # 24-4872-D.
13. ✓ STORMWATER MANAGEMENT IS PROVIDED BY 2 M-6 MICRO-BIORETENTION FACILITIES IN ACCORDANCE WITH THE 2007 MARYLAND STORMWATER DESIGN MANUAL AND THE HOWARD COUNTY DESIGN MANUAL (REGARDING MANAGEMENT OF THE 10-YEAR STORM EVENT). ALL STORMWATER MANAGEMENT FACILITIES ARE PRIVATELY OWNED AND MAINTAINED.
14. NO AREAS OF THE 100-YEAR FLOODPLAIN, STREAMS, STREAM BUFFERS, WETLANDS, WETLAND BUFFERS, OR CONTIGUOUS AREAS OF 10,000 SQUARE FEET OR MORE OF STEEP SLOPES EXIST ON-SITE.
15. DURING A FIELD VISIT ON JANUARY 31, 2013 BY MILDENBERG, BOENDER & ASSOCIATES, INC. IT WAS DETERMINED THAT NO AREAS OF FOREST STAND EXIST ON-SITE.
16. DURING A FIELD VISIT ON JANUARY 31, 2013 BY MILDENBERG, BOENDER & ASSOCIATES, INC. IT WAS DETERMINED THAT NO AREAS OF WETLAND EXIST ON-SITE.
17. FOREST CONSERVATION OBLIGATIONS IN ACCORDANCE WITH SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT FOR THIS SUBDIVISION WILL BE FULFILLED BY PAYMENT OF FEE-IN-LIEU IN THE AMOUNT OF $14,048.10 FOR 0.43 ACRES OF REFORESTATION.
18. SOIL DELINEATION IS BASED ON HOWARD COUNTY SOIL SURVEY MAP 2003.
19. LANDSCAPING FOR LOTS 1 THRU 6 IS PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. A LANDSCAPE SURETY FOR THE REQUIRED LANDSCAPING IN THE AMOUNT OF $7,800.00 (21 SHADE TREES, 2 EVERGREEN TREES, 20 SHRUBS AND 4 ORNAMENTAL TREES) WILL BE POSTED AT THE SITE DEVELOPMENT PLAN STAGE.
20. PER SECTION 16.121(a) OF THE HOWARD COUNTY SUBDIVISION AND LAND USE REGULATIONS, OPEN SPACE FOR THIS SUBDIVISION HAS BEEN PROVIDED THROUGH THE CREATION OF OPEN SPACE LOTS 7 AND 9.
21. A PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT ON JANUARY 10, 2014 AT HOWARD COUNTY SAVAGE BRANCH PUBLIC LIBRARY.
22. THIS DEVELOPMENT PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE ZONING REGULATIONS. DEVELOPMENT OR CONSTRUCTION ON LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE BUILDING / GRADING PERMIT.
23. ✓ AN APFO TRAFFIC STUDY FOR THIS PROJECT WAS APPROVED ON SEPTEMBER 8, 2014. FEE-IN-LIEU IN THE AMOUNT OF $5,466.75 FOR ROAD IMPROVEMENTS WILL BE REQUIRED FOR APPROVAL OF THE FINAL ROAD CONSTRUCTION PLANS.
24. WAIVER PETITION WP-10-158 TO WAIVE SECTION 16.120(c)(2)(IV) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS WAS APPROVED ON AUGUST 17, 2010. SECTION 16.120(c)(2)(IV) REQUIRES THAT SHARED USE AND MAINTENANCE OF A SINGLE USE-IN-COMMON DRIVEWAY IS LIMITED TO SIX (6) SINGLE-FAMILY LOTS. WP-10-158 ALLOWS FOR SEVEN (7) LOTS TO HAVE ACCESS TO THE USE-IN-COMMON DRIVEWAY THAT IS REFERRED TO AS "DAVENE LANE".
25. PER SECTION 110.0.E OF THE HOWARD COUNTY ZONING REGULATIONS, AT LEAST 10% OF THE DWELLINGS SHALL BE MODERATE INCOME HOUSING UNITS.
26. DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
    A) WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENT).
    B) SURFACE - 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1.5" MIN).
    C) GEOMETRY - MAX. 14% GRADE, MAX. 10% GRADE CHANGE AND MIN. OF 45 FOOT TURNING RADIUS.
    D) STRUCTURES (CULVERT/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING).
    E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD PLAIN WITH NO MORE THAN 1 FOOT OF DEPTH OVER DRIVEWAY SURFACE.
    F) STRUCTURE CLEARANCES - MINIMUM 12 INCHES
    G) MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.
27. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN LIMITS OF WETLANDS, STREAMS OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS, EXCEPT AS DETERMINED TO BE NECESSARY DISTURBANCE.
28. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURES AND POLES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (2006), SECTION 5.5.A. A MINIMUM OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
29. THE SUBDIVISION WILL CREATE SIX (6) NEW LOTS WHICH WILL BE SUBJECT TO THE MIHU FEE-IN-LIEU REQUIREMENT THAT IS TO BE CALCULATED AND PAID TO THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS BY THE PERMIT APPLICANT AT THE TIME OF BUILDING PERMIT ISSUANCE .
30. THE OPEN SPACES SHOWN HEREON ARE HEREBY DEDICATED TO A HOMEOWNERS ASSOCIATION AND HOWARD COUNTY RECREATION AND PARKS.

| LEGEND SYMBOL | DESCRIPTION |
|---|---|
| MB-1 | MICRO-BIORETENTION FACILITY I.D. |
| | 8' ASPHALT PATH |
| | 5' CONC. SIDEWALK |
| 266 (dashed) | EXISTING CONTOUR |
| 266 (solid) | PROPOSED CONTOUR |
| | SOIL BORING LOCATION |
| 67x00 | PROPOSED SPOT GRADE |
| LOD | LIMIT OF DISTURBANCE |
| SSF | SUPER SILT FENCE |
| SF | SILT FENCE |
| SDF | SILT DIVERSION FENCE |
| SCE | STABILIZED CONSTRUCTION ENTRANCE |
| R-SC / CE-CLI | ZONING DISTRICT BOUNDARY |

*STORMWATER MANAGEMENT PRACTICES*

| LOT # | ADDRESS | GREEN ROOF A-1 (Y/N) | PERMEABLE PAVEMENTS A-2 (Y/N) | REINFORCED TURF A-3 (Y/N) | DISCONNECTION OF ROOFTOP RUNOFF N-1 (NUMBER) | DISCONNECTION OF NON-ROOFTOP RUNOFF N-2 (Y/N) | SHEETFLOW TO CONSERVATION AREAS N-3 (Y/N) | RAINWATER HARVESTING M-1 (NUMBER) | SUBMERGED GRAVEL WETLANDS M-2 (NUMBER) | LANDSCAPE INFILTRATION M-3 (NUMBER) | INFILTRATION BERMS M-4 (NUMBER) | DRY WELLS M-5 (NUMBER) | MICRO-BIORETENTION M-6 (NUMBER) | RAIN GARDENS M-7 (NUMBER) | SWALES M-8 (NUMBER) | ENHANCED FILTERS M-9 (NUMBER) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 9252 HOMESTRETCH COURT | N | N | N | 0 | N | N | 0 | 0 | 0 | 0 | 0 | MB-1 | 0 | 0 | 0 |
| 2 | 9256 HOMESTRETCH COURT | N | N | N | 0 | N | N | 0 | 0 | 0 | 0 | 0 | MB-1 | 0 | 0 | 0 |
| 3 | 9260 HOMESTRETCH COURT | N | N | N | 0 | N | N | 0 | 0 | 0 | 0 | 0 | MB-1 | 0 | 0 | 0 |
| 4 | 9259 HOMESTRETCH COURT | N | N | N | 0 | N | N | 0 | 0 | 0 | 0 | 0 | MB-2 | 0 | 0 | 0 |
| 5 | 9255 HOMESTRETCH COURT | N | N | N | 0 | N | N | 0 | 0 | 0 | 0 | 0 | MB-2 | 0 | 0 | 0 |
| 6 | 9251 HOMESTRETCH COURT | N | N | N | 0 | N | N | 0 | 0 | 0 | 0 | 0 | MB-2 | 0 | 0 | 0 |

APPROVED: DEPT OF PUBIC WORKS
CHIEF, BUREAU OF HIGHWAYS — DATE 6/3/2016

DEVELOPERS CERTIFICATE

I 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 NATURAL RESOURCE CONSERVATION SERVICE.

SIGNATURE OF DEVELOPER — DATE 4-19-16
ISAAC GHEILER
PRINTED NAME OF DEVELOPER

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 NATURAL RESOURCE CONSERVATION SERVICE.

SIGNATURE OF ENGINEER — DATE 4/14/16
R. JACOB HIKMAT P.E.
PRINTED NAME OF ENGINEER

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 5/4/16

APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-20-16
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6-6-16
DIRECTOR N/A — DATE

*OWNER*
JENMAR HOMES AT
WHISKEY BOTTOM, LLC
3403 OLD POST DRIVE
BALTIMORE, MD. 21208
(410) 486-5693

*DEVELOPER*
JENMAR HOMES, INC.
3403 OLD POST DRIVE
BALTIMORE, MD. 21208
(410) 486-5693

STATE OF MARYLAND — R. JACOB HIKMAT — No. 17942 — PROFESSIONAL ENGINEER

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP DATE 09/03/16

R. JACOB HIKMAT P.E. — DATE: 4/14/16

DURING CONSTRUCTION, ACCESS FROM LOTS ON THE "WATSON DEVELOPMENT" TO HOMESTRETCH COURT IS TO BE MAINTAINED.

| project | date |
|---|---|
| 12-007 | APR. 2016 |
| illustration | engineering |
| MMT/MMM | MMM |
| scale | approval |
| 1"=50' | RJH |

| no. | description | date |
|---|---|---|
| revisions | | |

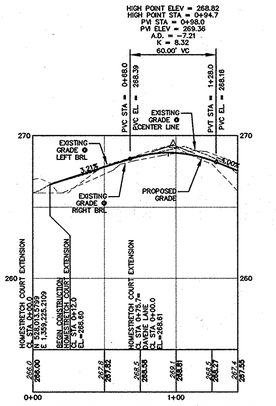
***WHISKEY BOTTOM POINT, LOTS 1 THRU 6, OPEN SPACE LOTS 7-9***
AND NON-BUILDABLE BULK PARCEL 'A', A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL B-3 (PLAT#19576)
TAX MAP 50, PARCEL 488, BULK PARCEL B-3 , BLOCK 4
SIXTH ELECTION DISTRICT — HOWARD COUNTY
COVER SHEET


MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
7350-B Grace Drive, Columbia, Maryland 21044
(410) 997-0296 Balt. (410) 997-0298 Fax.



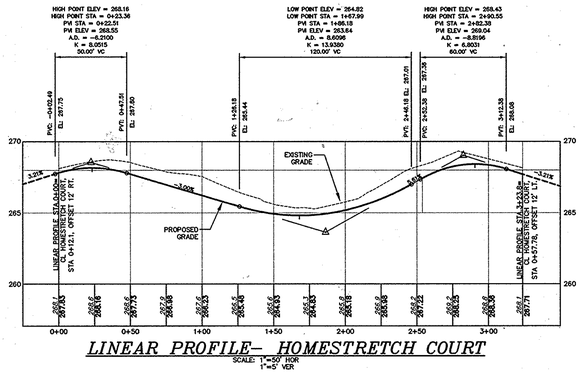
F-16-040

P:\2004\12-007 Whiskey Bottom\DWG\FINAL PLAN maya.dwg



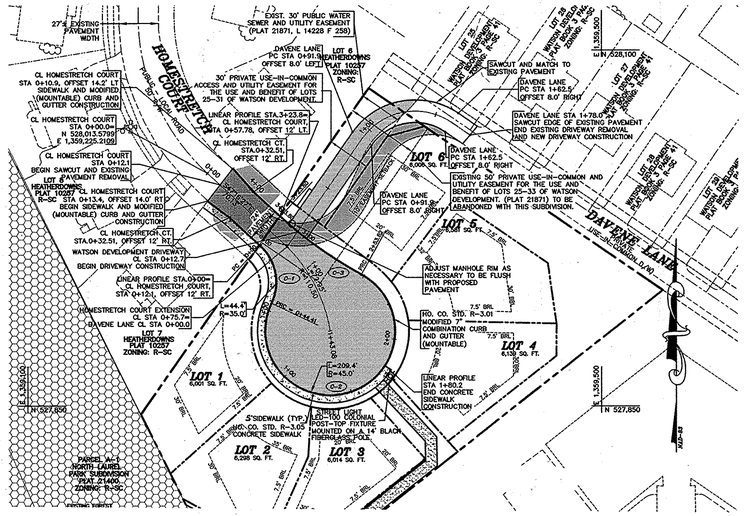

## PROFILE – HOMESTRETCH COURT EXTENSION

(PUBLIC – LOCAL ROAD, 25 M.P.H. DESIGN SPEED)
SCALE: 1"=50' HOR
1"=5' VER




## LINEAR PROFILE– HOMESTRETCH COURT

SCALE: 1"=50' HOR
1"=5' VER




## HOMESTRETCH COURT

(AND WATSON PROPERTY COMMON DRIVEWAY RECONSTRUCTION)

GRAPHIC SCALE

50 0 25 50 100 200

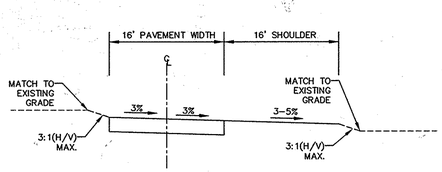
( IN FEET )
1 inch = 50 ft.

### CURVE DATA

| CURVE | LENGTH | RADIUS | DELTA | CHORD LENGTH | CHORD DIRRECTION |
|---|---|---|---|---|---|
| C1 | 30.74 | 25.00 | 70°26'33" | 28.84 | S12°03'11"E |
| C2 | 235.81 | 55.00 | 245°39'14" | 92.43 | N80°20'29"E |
| C3 | 21.12 | 100.00 | 12°06'03" | 21.08 | N48°32'16"W |

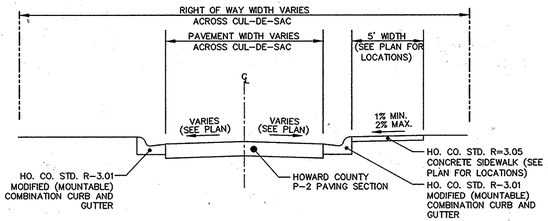
## LEGEND

- PROPOSED PAVEMENT
- EXISTING PAVEMENT TO BE REMOVED
- PROPOSED PUBLIC DRAINAGE AND UTILITY EASEMENT
- PROPOSED PRIVATE DRAINAGE AND UTILITY EASEMENT
- EXISTING FOREST CONSERVATION EASEMENT



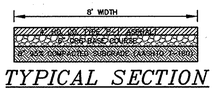

## TYPICAL SECTION – WATSON DEVELOPMENT COMMON DRIVEWAY

NOT TO SCALE



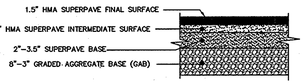

## TYPICAL SECTION – HOMESTRETCH COURT EXTENSION

NOT TO SCALE




## TYPICAL SECTION ASPHALT PATH

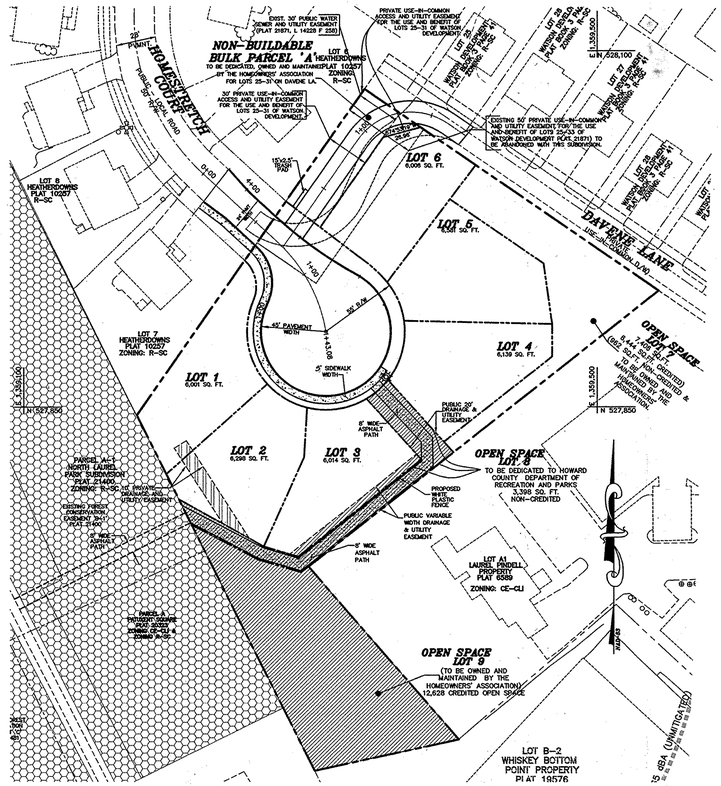
NOT TO SCALE




## PAVING SECTION P-2

N.T.S.

NOTE: DEPTH OF SUPERPAVE BASE AND GRADED AGGREGATE BASE DEPEND ON CBR.




## EASEMENT DETAIL

GRAPHIC SCALE

50 0 25 50 100 200

( IN FEET )
1 inch = 50 ft.

### OWNER

JENMAR HOMES AT WHISKEY BOTTOM, LLC
3403 OLD POST DRIVE
BALTIMORE, MD. 21208

### DEVELOPER

JENMAR HOMES, INC.
3403 OLD POST DRIVE
BALTIMORE, MD. 21208

APPROVED: DEPARTMENT OF PUBLIC WORKS
CHIEF BUREAU OF HIGHWAYS — DATE 5/3/2016

APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT, V — DATE 6-6-16

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5.20.16

STATE OF MARYLAND — R. JACOB HIKMAT — No. 17942 — PROFESSIONAL ENGINEER

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP DATE 09/03/16

R. JACOB HIKMAT P.E. — DATE: 4/14/16

P:\2004\12-007 Whiskey Bottom\DWG\FINAL PLAN\FINAL PLAN-JULY maps.dwg

project 12-007 | date APR. 2016
illustration MMT/MMM | engineering MMM
scale 1"=50' | approval RJH

| no. | description / revisions | date |
|---|---|---|

# WHISKEY BOTTOM POINT, LOTS 1 THRU 6, OPEN SPACE LOTS 7-9

AND NON-BUILDABLE BULK PARCEL B-3 (PLAT#19576)
A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A', PARCEL 488, BULK PARCEL B-3, BLOCK 4
TAX MAP 50, PARCEL B-3, BLOCK 4 HOWARD COUNTY
SIXTH ELECTION DISTRICT

ROAD PLAN, PROFILES AND DETAILS


MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
7350-B Grace Drive, Columbia, Maryland 21044
(410) 997-0296 Balt. (410) 997-0298 Fax.

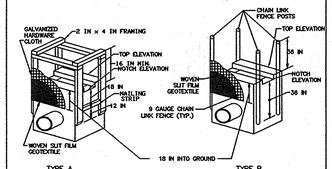
## SOILS DESCRIPTION

| SYMBOL | RATING | NAME | K FACTOR | PAGE |
|---|---|---|---|---|
| UsB | D) | URBAN LAND–SASSAFRASS–BELTSVILLE COMPLEX, 0% TO 5% SLOPES | .37 | 24 |

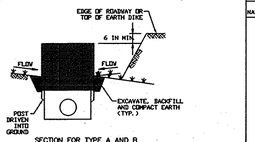
### DETAIL E-9-1 STANDARD INLET PROTECTION

STANDARD SYMBOL SIP

TYPE A MAXIMUM DRAINAGE AREA = ½ ACRE
TYPE B MAXIMUM DRAINAGE AREA = 1 ACRE




ISOMETRIC VIEW




SECTION FOR TYPE A AND B

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

| U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE | 2011 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION |
|---|---|---|

### DETAIL E-9-1 STANDARD INLET PROTECTION

STANDARD SYMBOL SIP

CONSTRUCTION SPECIFICATIONS

1. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
2. EXCAVATE COMPLETELY AROUND THE INLET TO A DEPTH OF 18 INCHES BELOW THE NOTCH ELEVATION.
3. FOR TYPE A, USE NOMINAL 2 INCH X 4 INCH CONSTRUCTION GRADE LUMBER POSTS. DRIVEN 1 FOOT INTO THE GROUND AT EACH CORNER OF THE INLET. PLACE NAIL STRIPS BETWEEN THE POSTS ON THE ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE SEA FRAME AS SHOWN. STRETCH ½ INCH GALVANIZED HARDWARE CLOTH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY. FASTEN GEOTEXTILE SECURELY TO THE HARDWARE CLOTH WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. ENDED GEOTEXTILE AND HARDWARE CLOTH A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. THE ENDS OF THE GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED TO THE POST.

   FOR TYPE B, USE SIX INCH DIAMETER LIMBED WITH BUTT ENDS OF SOUND AND WELL SEASONED WOOD POSTS. SPACE POSTS EVENLY NOT MORE THAN 8 FEET APART ON THE CREST AT EACH CORNER OF THE STRUCTURE. FASTEN 9 GAUGE OR HEAVIER CHAIN LINK FENCE, 42 INCHES IN HEIGHT, SECURELY TO THE FENCE POSTS WITH WIRE TIES. FASTEN GEOTEXTILE SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. ENDED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 18 INCHES BELOW THE WEIR CREST.
4. BACKFILL AROUND THE INLET IN LOOSE 4 INCH LIFTS AND COMPACT UNTIL DOIL IS LEVEL WITH THE NOTCH ELEVATION ON THE ENDS AND TOP ELEVATION ON THE SIDES.
5. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

2 OF 2

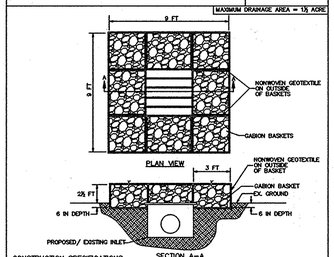
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

| U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE | 2011 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION |
|---|---|---|

### DETAIL E-9-7 GABION INLET PROTECTION

STANDARD SYMBOL GIP

MAXIMUM DRAINAGE AREA = 1½ ACRE




CONSTRUCTION SPECIFICATIONS

1. USE BASKETS MADE OF 11 GAUGE WIRE OR HEAVIER.
2. WRAP 3 FEET x 3 FEET GABION BASKETS (LENGTH VARIABLE) WITH NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVERLAPPING AT THE TOP AND FASTEN THE GEOTEXTILE AT THE TOP OF THE BASKET WITH WIRE FASTENERS (NOO RINGS) AT A MAXIMUM OF 1 FOOT INTERVALS ALONG THE SEAM.
3. AVOID TEARING OR DAMAGING GEOTEXTILE.
4. ENTRENCH GABION BASKETS TO A DEPTH OF 6 INCHES.
5. PLACE AND INTERLOCK GABION BASKETS WITH NO GAPS.
6. FILL GABION BASKETS WITH CLEAN 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE WITHOUT REBAR OR MESH.
7. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

| U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE | 2011 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION |
|---|---|---|

### OWNER

JENMAR HOMES AT WHISKEY BOTTOM, LLC
3403 OLD POST DRIVE
BALTIMORE, MD. 21208

### DEVELOPER

JENMAR HOMES, INC.
3403 OLD POST DRIVE
BALTIMORE, MD. 21208

### DEVELOPERS CERTIFICATE

I 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 NATURAL RESOURCE CONSERVATION SERVICE.

Steve Fluhr — 4.19.16
SIGNATURE OF DEVELOPER — DATE

Brad Gheleta
PRINTED NAME OF DEVELOPER

### 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 NATURAL RESOURCE CONSERVATION SERVICE.

4/14/16
SIGNATURE OF ENGINEER — DATE

R. JACOB HIKMAT P.E.
PRINTED NAME OF ENGINEER

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

John L Robertson — 5/4/16
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chad Edmondson — 5.20.16
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

Kent Sheubrooks — 6-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

N/A — DATE
DIRECTOR

STATE OF MARYLAND R. JACOB HIKMAT No. 17942 PROFESSIONAL ENGINEER

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP DATE 09/03/16

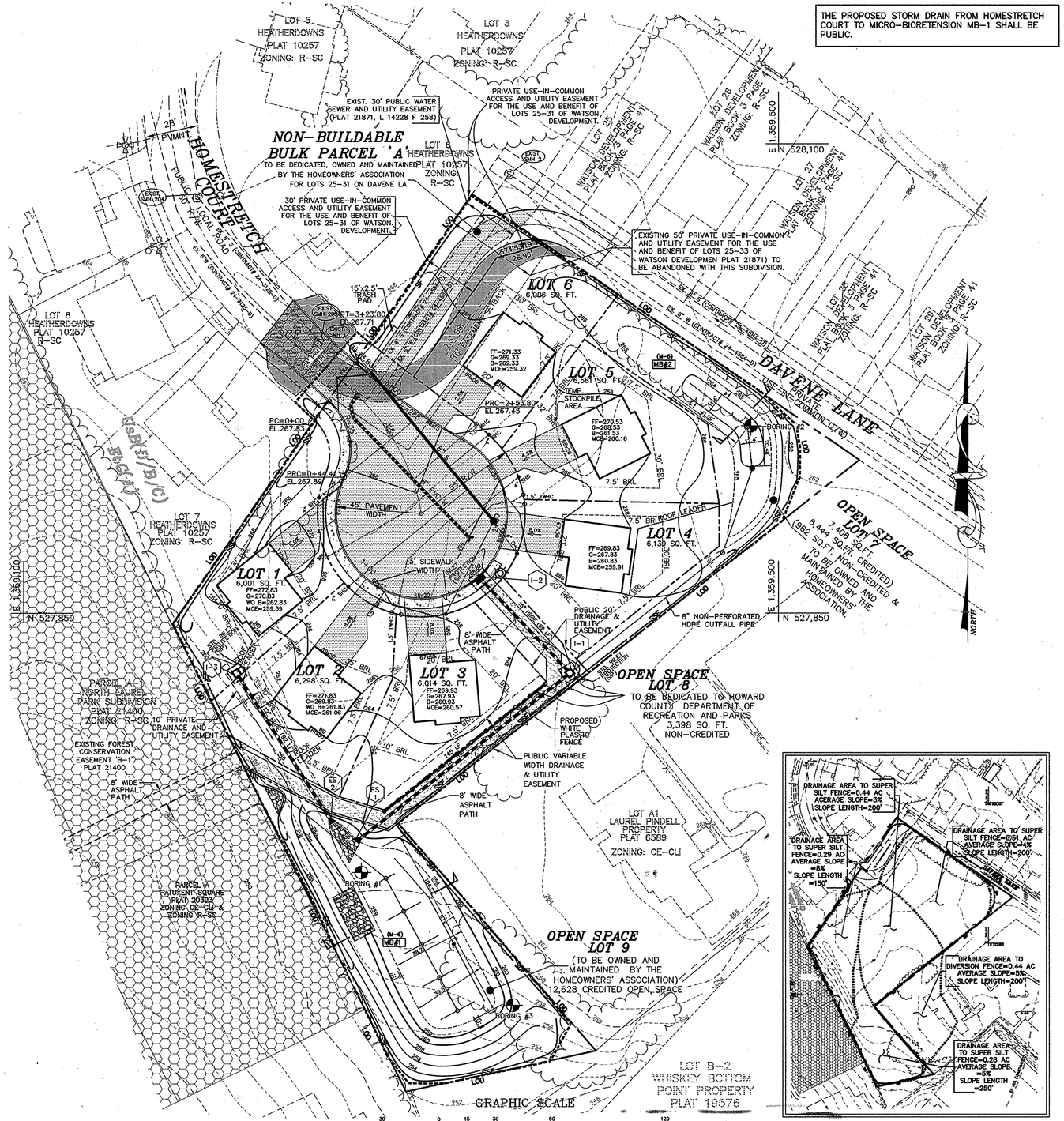
R. JACOB HIKMAT P.E. — 4/14/16 DATE:

APPROVED: DEPT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — 6/3/2016 DATE

### LEGEND

- 266 — EXISTING CONTOUR
- 266 — PROPOSED CONTOUR
- 67x00 — SOIL BORING LOCATION
- PROPOSED SPOT GRADE
- LOD — LIMIT OF DISTURBANCE
- SSF — SUPER SILT FENCE
- SF — SILT FENCE
- SDF — SILT DIVERSION FENCE
- SCE — STABILIZED CONSTRUCTION ENTRANCE
- EXISTING PAVEMENT TO BE REMOVED
- PROPOSED PAVEMENT
- PUBLIC FOREST CONSERVATION EASEMENT
- MB-1 — MICRO-BIORETENTION FACILITY I.D.
- 8' ASPHALT PATH
- 5' CONC. SIDEWALK







DRAINAGE AREA MAP TO SEDIMENT CONTROL DEVICES
SCALE: 1"=100'

DURING CONSTRUCTION, ACCESS FROM LOTS ON THE "WATSON DEVELOPMENT" TO HOMESTRETCH COURT IS TO BE MAINTAINED.

MICRO-BIORETENTION FACILITY 'MB-2' TO BE PRIVATELY OWNED AND MAINTAINED.

MICRO-BIORETENTION FACILITY 'MB-1' TO BE PRIVATELY OWNED AND JOINTLY MAINTAINED.

THE PROPOSED STORM DRAIN FROM HOMESTRETCH COURT TO MICRO-BIORETENSION MB-1 SHALL BE PUBLIC.

| project | date |
|---|---|
| 12-007 | APR. 2016 |
| illustration | engineering |
| MMM/MMT | JLS |
| scale | approval |
| 1"=30' | MMM |

| no. | description revisions | date |
|---|---|---|

# WHISKEY BOTTOM POINT, LOTS 1 THRU 6, OPEN SPACE LOTS 7-9

AND NON-BUILDABLE BULK PARCEL 'A', A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL B-3 (PLAT#19576)
TAX MAP 50, PARCEL 488, BULK PARCEL B-3 , BLOCK 4
SIXTH ELECTION DISTRICT — HOWARD COUNTY

FINAL GRADING, EROSION AND SEDIMENT CONTROL PLAN


MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
7350-B Grace Drive, Columbia, Maryland 21044
(410) 997-0296 Balt. (410) 997-0298 Fax.

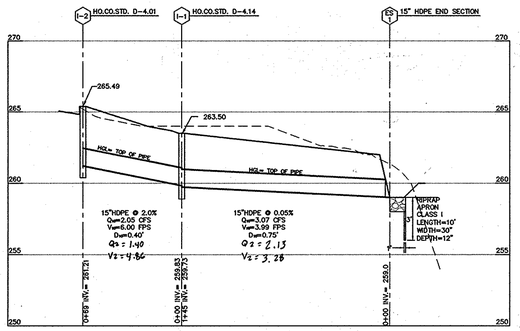



F-16-040

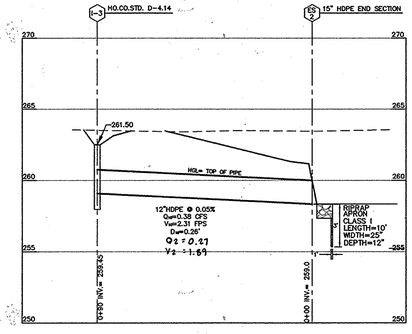
P:\2004\12-007 Whiskey Bottom\DWG\sketch-plan.dwg

## SOILS DESCRIPTION

| SYMBOL | RATING | NAME | K FACTOR | PAGE |
|---|---|---|---|---|
| UsB | D) | URBAN LAND–SASSAFRASS–BELTSVILLE COMPLEX, 0% TO 5% SLOPES | .37 | 24 |




## STORM DRAIN PROFILE
## I–1 TO ES–1
SCALE: HOR. 1"=50'
VER. 1"=5'




## STORM DRAIN PROFILE
## I–3 TO ES–2
SCALE: HOR. 1"=50'
VER. 1"=5'

## STRUCTURE SCHEDULE

| NO. | LOCATION* | TOP** | INV. IN | INV. OUT | COMMENTS |
|---|---|---|---|---|---|
| ES–1 | N 527,729.9; E 1,359,278.3 | – | 259.00 | | 15" HDPE END SECTION |
| ES–2 | N 527,741.8; E 1,359,261.6 | – | 259.00 | | 12" HDPE END SECTION |
| I–1 | N 527,817.8; E 1,359,389.5 | 263.50 | 259.83 | 259.73 | INLET TYPE A–5 (HO. CO. STD D–4.01) |
| I–2 | HOME STRETCH CT. L.P. STA. 2+86.18, OFFSET 0.43' | 265.49 | – | 261.21 | YARD INLET (HO. CO. STD D–4.14) |
| I–3 | N 527,817.8; E 1,359,213.4 | 261.00 | | – | YARD INLET (HO. CO. STD D–4.14) |
| | | | | | |

## PIPE SCHEDULE

| QUANTITY | PIPE SIZE |
|---|---|
| 90 LF | 12" HDPE |
| 214 LF | 15" HDPE |

**OWNER**
JENMAR HOMES AT
WHISKEY BOTTOM, LLC
3403 OLD POST DRIVE
BALTIMORE, MD. 21208

**DEVELOPER**
JENMAR HOMES, INC.
3403 OLD POST DRIVE
BALTIMORE, MD. 21208

APPROVED: DEPT OF PUBLIC WORKS
CHIEF, BUREAU OF UTILITIES — DATE 6/3/2016

DEVELOPERS CERTIFICATE

I 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 NATURAL RESOURCE CONSERVATION SERVICE.

SIGNATURE OF DEVELOPER — DATE 4.19.16
ISAAC GINSBERG
PRINTED NAME OF DEVELOPER

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 NATURAL RESOURCE CONSERVATION SERVICE.

SIGNATURE OF ENGINEER — DATE 4/14/16
R. JACOB HIKMAT P.E.
PRINTED NAME OF ENGINEER

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 5/4/16

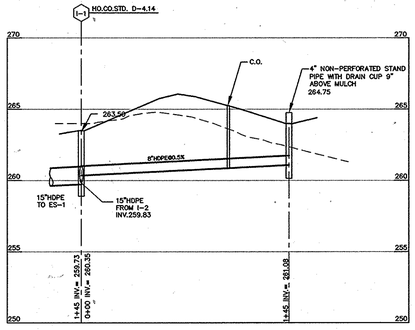
APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5.20.16
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6-6-16
DIRECTOR — N/A — DATE

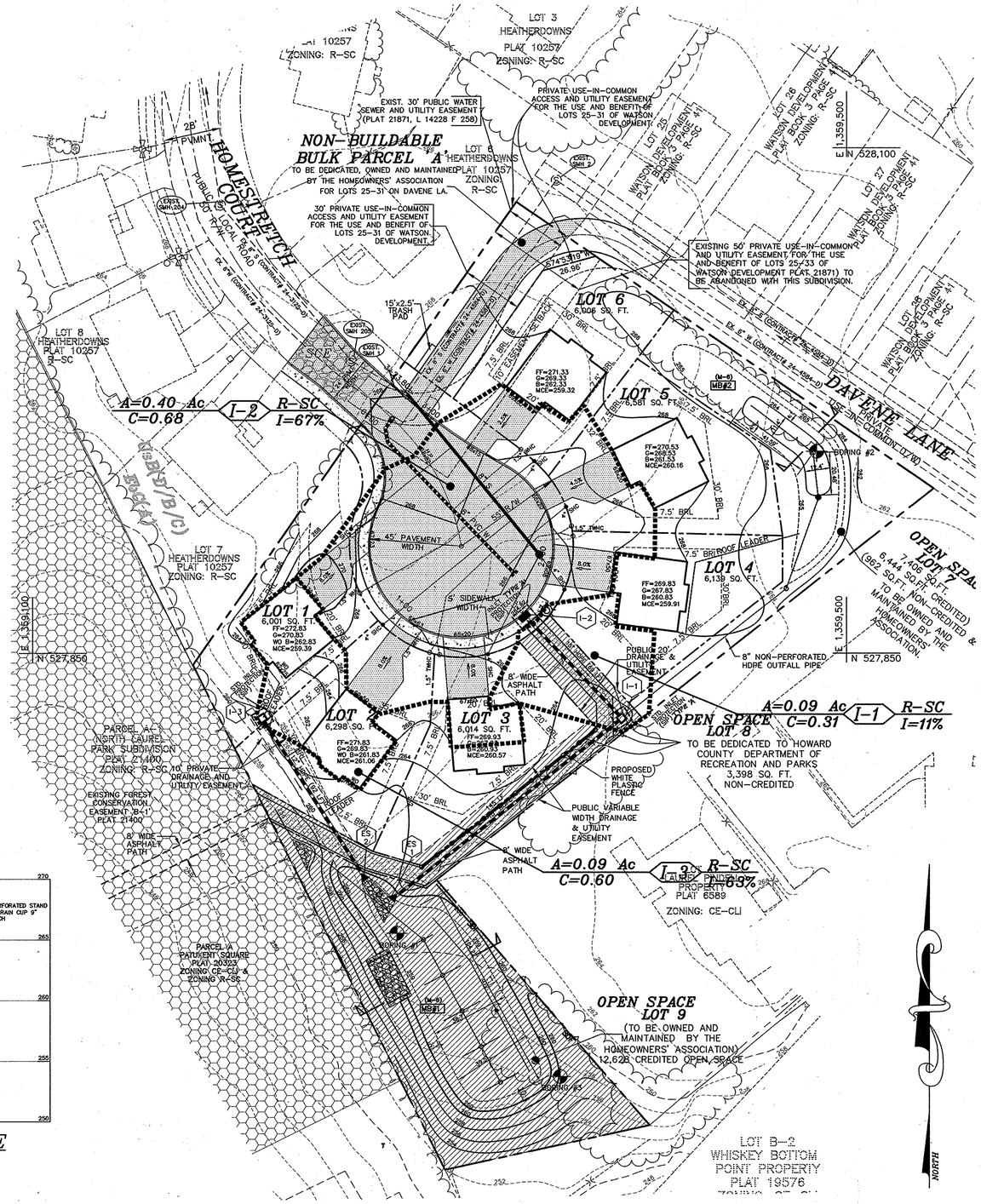
STATE OF MARYLAND — R. JACOB HIKMAT — No. 17942 — PROFESSIONAL ENGINEER

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP DATE 09/03/16

R. JACOB HIKMAT P.E. — DATE: 4/14/16




## STORM DRAIN PROFILE
## MB–2 TO I–1
SCALE: HOR. 1"=50'
VER. 1"=5'




GRAPHIC SCALE
30 0 15 30 60 120
( IN FEET )
1 inch = 30 ft.

| project | date |
|---|---|
| 12-007 | APR. 2016 |
| illustration | engineering |
| MMM/MMT | MMM |
| scale | approval |
| 1"=30' | RJH |

| no. | description revisions | date |
|---|---|---|
| | | |

**WHISKEY BOTTOM POINT, LOTS 1 THRU 6, OPEN SPACE LOTS 7–9**
AND NON-BUILDABLE BULK PARCEL 'A', A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL B-3 (PLAT#19576)
TAX MAP 50, PARCEL 488, BULK PARCEL B-3 , BLOCK 4
SIXTH ELECTION DISTRICT — HOWARD COUNTY
STORM DRAIN DRAINAGE AREA MAP AND PROFILES


MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
7350–B Grace Drive, Columbia, Maryland 21044
(410) 997–0296 Balt. (410) 997–0298 Fax.

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## (B-4-2) STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

**DEFINITION**

THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

**PURPOSE**

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

**CONDITIONS WHERE PRACTICE APPLIES**

WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

**CRITERIA**

A. SOIL PREPARATION

1. TEMPORARY STABILIZATION

a. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

2. PERMANENT STABILIZATION

a. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
I. SOIL PH BETWEEN 6.0 AND 7.0.
II. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
III. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.
IV. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
V. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
b. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
c. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.
d. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF SOIL TEST.
e. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

B. TOPSOILING

1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.
2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED 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-NRCS.
3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
a. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1½ INCHES IN DIAMETER.
b. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
c. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.
6. TOPSOIL APPLICATION
a. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
b. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO 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 MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
c. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.
2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.
3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.
4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

## (B-4-3) STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

**DEFINITION**

THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

**PURPOSE**

TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

**CONDITIONS WHERE PRACTICE APPLIES**

TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

**CRITERIA**

A. SEEDING

1. SPECIFICATIONS

a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.
b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.
c. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.
d. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

2. APPLICATION

a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
I. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.
II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
b. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.
I. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.
II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
c. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).
I. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; $P_2O_5$ (PHOSPHOROUS), 200 POUNDS PER ACRE; $K_2O$ (POTASSIUM), 200 POUNDS PER ACRE.
II. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.
III. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
IV. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

B. MULCHING

1. MULCH MATERIALS (IN ORDER OF PREFERENCE)
a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
I. WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.
II. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
III. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.
IV. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
V. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.

2. APPLICATION
a. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
b. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.
c. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

3. ANCHORING
a. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:
I. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.
II. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
III. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.
IV. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

## (B-4-4) STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

**DEFINITION**

TO STABILIZE DISTURBED SOIL WITH VEGETATION FOR UP TO 6 MONTHS.

**PURPOSE**

TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURB SOIL.

**CONDITIONS WHERE PRACTICE APPLIES**

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

**CRITERIA**

1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B-1 PLUS FORTELIZER AND LIME RATES MUST BE PUT ON THE PLAN.
2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMENTED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1b, AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

## (B-4-5) STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

**DEFINITION**

TO STABILIZE DISTURBED SOIL WITH PERMANENT VEGETATION.

**PURPOSE**

TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER OF DISTURBED

**CONDITIONS WHERE PRACTICE APPLIES**

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

**CRITERIA**

A. SEED MIXTURES

1. GENERAL USE

A. SELECT ONE OR MORE OF THE SPIECES OF MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED IN THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY.
B. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DINES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD GUIDE, SECTION 342-CRITICAL AREA PLANTING.
C. FOR SITES HAVING DISTURBAD AREA OVER 5 ACRES, USE AND SHOW RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
D. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FROM FERTILIZED (40-0-01) AT 3 1/2 POUNDS PER 1000 S.F. (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.

2. TURFGRASS MIXTURES

A. AREAS WHERE TURFGRASS MAY BE DESIRE INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
B. SELECT ONE OR MORE OF THE SPECIES OF MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLOCATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY.
I. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASRERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS SEEDING RETA: 1.5 TO 2.0 POUNDS PER 1000 S.F. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
II. KENTUCKY BLUEGRASS/PERENIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY ABD WHEN TURF WILL RECEIVE MEDIUM TO INTENSUVE MANAGEMENT. CERTIFIED PERENIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDINGRATE: 2 POUNDS MIXTURE PER 1000 S.F. SHOOSE A MINIMUM OF THREE KENTUCKYBLUEGRASS CULTIVARS EITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
III. TALL FESCUE/KENTUCKY BLUEGRASS: FULL MIXTURE: FOR USE IN DROUGHT AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES; CERTIFIED TALL FESCUE CULTIVARS 65 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 PERCENT PER 1000 S.F. ONE OR MORE CULTIVARS MAY BE BLENDED.
IV. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TIRF AREA. MIXTURE INCLUDES; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCANT AND CERTIFIES FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATES 1 1/2 TO 3 POUNDS PER 1000 S.F.
C. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURE
WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B,6A)
CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B)
SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 7A, 7B)
D. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONE AND DEBRIS OVER 1.5 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASS WILL POSE NO DIFFICULTY.
E. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH 0.5 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASON, OR ON ADVERSE SITES.

## (B-4-8) STANDARDS AND SPECIFICATION FOR STOCKPILE AREA

**DEFINITION**

A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES.

**PURPOSE**

TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION ,AND CHANGES TO DRAINAGE PATTERNS.

**CONDITIONS WHERE PRACTICE APPLIES**

STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.

**CRITERIA**

1. THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN.
2. THE FOOTPRINT OF STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1. BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.
3. RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE.
4. ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.
5. CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVISE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR DIVERSION FENCE. PROVISIONS MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER.
6. WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE.
7. STOCKPILE MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-I INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION.
8. IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIAL MUST COVERED WITH IMPERMEABLE SHEETING.

**MAINTENANCE**

THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN 2:1 RATIO. THE STOCKPILE AREA MUST BE KEPT FREE OF EROSION. IF THE VERTICAL HEIGHT OF A STOCKPILE EXCEEDS 20 FEET FOR 2:1 SLOPES, 30 FEET FOR 3:1 SLOPES, OR 40 FEET FOR 4:1 SLOPES, BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.

## EROSION AND SEDIMENT CONTROL NOTES

1. ALL SEDIMENT CONTROL OPERATIONS ARE TO BE DONE IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY VOLUME IV DESIGN MANUAL AND THE STANDARDS AND SPECIFICATIONS FOR SEDIMENT CONTROL IN DEVELOPING AREAS.
2. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS THE FIRST ORDER OF BUSINESS.
3. ALL EXCAVATED MATERIALS SHALL BE STOCKPILED ON THE UPGRADE SIDE OF THE MAIN TRENCH.
4. EXCAVATION AND BACKFILL SHALL BE LIMITED TO THAT WHICH CAN BE STABILIZED WITHIN ONE WORKING DAY.
5. IMMEDIATELY FOLLOWING BACKFILL OF THE SEWER TRENCH, ALL DISTURBED AREAS ARE TO BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION AND SEEDING NOTES SHOWN ON THIS SHEET.
6. THROUGHOUT THE PROJECT, THE CONTRACTOR SHALL REGULARLY INSPECT ALL SEDIMENT CONTROL DEVICES AND PROVIDE ALL NECESSARY MAINTENANCE TO ENSURE THAT ALL DEVICES ARE IN OPERATIVE CONDITION.
7. ALL SEDIMENT CONTROL FACILITIES SHALL REMAIN IN PLACE UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

## STANDARD SEDIMENT CONTROL NOTES

1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:
A. PRIOR TO THE START OF EARTH DISTURBANCE,
B. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING,
C. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT,
D. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.
OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.
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 2011 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 IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.
4. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARD AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15' OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6).
5. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE, AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE CID.
6. SITE ANALYSIS:

| | | |
|---|---|---|
| TOTAL AREA OF SITE: | 1.72 | ACRES |
| AREA DISTURBED: | 1.72 | ACRES |
| AREA TO BE ROOFED OR PAVED: | 0.55 | ACRES |
| AREA TO BE VEGETATIVE STABILIZED: | 1.14 | ACRES |
| TOTAL CUT: | 3,000 | CU. YDS. |
| TOTAL FILL: | 3,000 | CU. YDS. |
| OFFSITE WASTE/BORROW AREA LOCATION: | | |

7. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY; AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:
- INSPECTION DATE
- INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
- NAME AND TITLE OF INSPECTOR
- WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
- BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES
- EVIDENCE OF SEDIMENT DISCHARGES
- IDENTIFICATION OF PLAN DEFICIENCIES
- IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
- IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
- COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
- PHOTOGRAPHS
- MONITORING/SAMPLING
- MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
- OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE).
9. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.
10. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES.
11. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE CID. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE CID, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
12. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.
13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.
14. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBERICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION.
15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUSIVE):
USE I AND IP MARCH 1 - JUNE 15
USE III AND IIIP OCTOBER 1 - APRIL 30
USE IV MARCH 1 - MAY 31
16. A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

## SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT (1 DAY).
2. PERFORM CLEARING AND GRUBBING AS NECESSARY FOR THE INSTALLATION OF PERIMETER CONTROLS (5 DAYS)
3. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE AT LOCATION INDICATED (1 DAY).
4. CONSTRUCT PERIMETER CONTROLS: SILT FENCES (SF), SUPER SILT FENCES (SSF) AND DIVERSION FENCE (DF) AS SHOWN ON PLAN (5 DAYS).
5. CLEAR AND GRUB SITE (5 DAYS).
6. GRADE SITE AS SHOWN ON PLAN (10 DAYS).
7. RELOCATE PART OF THE EXISTING DAVINE LANE AS SHOWN ON PLAN (10 DAYS)
8. CONSTRUCT MICROBIORETENTION #1 & #2.
9. CONSTRUCT STORM DRAIN SYSTEM (10 DAYS).
10. INSTALL INLETS PROTECTIONS FOR INLET I-2 INSTALL GABION INLET PROTECTON MDE STD. E-9-7-, FOR INLETS I-1 AND I-3 INSTALL STANDARD INLET PROTECTION MDE STD. E-9-1. (1 DAY).
11. CONSTRUCT PUBLIC WATER AND SEWER MAINS (15 DAYS).
12. CONSTRUCT PUBLIC ROAD AND 8' ASPHALT PATHWAY (10 DAYS)
13. REMOVE INLET PROTECTION FROM I-2. (1 DAY)
14. SEED AND MULCH DISTURBED AREA (1 DAY).
15. WITH THE APPROVAL OF SEDIMENT CONTROL INSPECTOR REMOVE DIVERSION FENCE FROM OPEN SPACE LOT 7. (1 DAY).
LEAVE IN PLACE THE REMAINING SEDIMENT CONTROL DEVICES FOR FUTURE CONSTRUCTION OF THE HOUSES (SDP STAGE).

### TEMPORARY SEEDING FOR SITE STABILIZATION

| PLANT SPECIES | SEEDING RATE LB/AC | SEEDING RATE LB/1000SF | SEEDING DEPTH (INCHES) | RECOMMENDED SEEDING DATED BY PLANT HARDINESS ZONE: 5B AND 6A | 6B | 7A AND 7B |
|---|---|---|---|---|---|---|
| COOL SEASON GRASSES | | | | | | |
| ANNUAL RYEGRASS (LOLIUM PERENNE SSP. MULTIFLORUM) | 40 | 1.0 | 0.5 | MAR 15 TO MAY 31; AUG 1 TO SEP 30 | MAR 1 TO MAY 15; AUG 1 TO OCT 15 | FEB.15 TO APR 30; AUG 15 TO NOV 30 |
| BARLEY (HORDEUM VULGARE) | 96 | 2.2 | 0.5 | MAR 15 TO MAY 31; AUG 1 TO SEP 30 | MAR 1 TO MAY 15; AUG 1 TO OCT 15 | FEB.15 TO APR 30; AUG 15 TO NOV 30 |
| OATS (AVENA SATIVA) | 72 | 1.7 | 0.5 | MAR 15 TO MAY 31; AUG 1 TO SEP 30 | MAR 1 TO MAY 15; AUG 1 TO OCT 15 | FEB.15 TO APR 30; AUG 15 TO NOV 30 |
| WHEAT (TRITICUM AESTIVUM) | 120 | 2.8 | 0.5 | MAR 15 TO MAY 31; AUG 1 TO SEP 30 | MAR 1 TO MAY 15; AUG 1 TO OCT 15 | FEB.15 TO APR 30; AUG 15 TO NOV 30 |
| CEREAL RYE (SECALE ITALICA) | 112 | 2.8 | 0.5 | MAR 15 TO MAY 31; AUG 1 TO OCT 31 | MAR 1 TO MAY 15; AUG 1 TO OCT 15 | FEB.15 TO APR 30; AUG 15 TO DEC 15 |
| WARM SEASON GRASSES | | | | | | |
| FOXTAIL MILLET (SETARIA ITALICA) | 30 | 0.7 | 0.5 | JUN 1 TO JUL 31 | MAY 16 TO JUL 31 | MAY 1 TO AUG 14 |
| PEARL MILLET (PENNISETUM GLAUCUM) | 20 | 0.5 | 0.5 | JUN 1 TO JUL 31 | MAY 16 TO JUL 31 | MAY 1 TO AUG 14 |

### PERMANENT SEEDING SUMMARY

HARDINESS ZONE (FROM FIGURE B.3): 6b
SEED MIXTURE (FROM TABLE B.3): 8

| NO. | SPECIES | APPLICATION RATE (LB/AC) | SEEDING DATES | SEEDING DEPTHS | FERTILIZER RATE (10-20-20) N | $P_2O_5$ | $K_2O$ | LIME RATE |
|---|---|---|---|---|---|---|---|---|
| 1 | TALL FESCUE | 100 | MARCH 1-MAY 15 AUG 15-OCT 15 | 1/4"-1/2" | 45 LBS. PER ACRE (1 LB./1000 SF) | 90 LBS. PER ACRE (2 LB./1000 SF) | 90 LBS. PER ACRE (2 LB./1000 SF) | 2 TONS / ACRE (90 LBS / 1000 SF) |

MIXTURES 1, 4-7, 9, AND 10 FROM TABLE B.3 OF THE 2011 MARYLAND STANDARD AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MAY BE USED.

**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 NATURAL RESOURCE CONSERVATION SERVICE.

SIGNATURE OF ENGINEER — DATE 5/3/16

R. JACOB HIKMAT, P.E.
PRINTED NAME OF ENGINEER

**DEVELOPERS CERTIFICATE**

I 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. HOWARD SOIL CONSERVATION DISTRICT IS AUTHORIZED TO CONDUCT PERIODIC ON-SITE INSPECTION.

SIGNATURE OF DEVELOPER — DATE 5.3.16

ISAAC GHFILER
PRINTED NAME OF DEVELOPER

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 5/4/16

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 6/3/2016

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5.20.16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6.6.16

STATE OF MARYLAND R. JACOB HIKMAT No. 17942 PROFESSIONAL ENGINEER

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP DATE 9/3/16.

R. JACOB HIKMAT P.E. — DATE: 5/3/16

## OWNER/DEVELOPER

JENMAR HOMES, INC.
3403 OLD POST DRIVE
BALTIMORE, MD. 21208

P:\2004\12-007 Whiskey Bottom\DWG\FINAL PLAN\FINAL PLANJULY2015 MAYA.dwg

| project | date |
|---|---|
| 12-007 | APR. 2016 |
| illustration | engineering |
| MMT/MMM | MMM |
| scale | approval |
| 1"=30' | RJH |

| no. | description | date |
|---|---|---|
| | revisions | |

**WHISKEY BOTTOM POINT, LOTS 1 THRU 6, OPEN SPACE LOTS 7-9**
AND NON-BUILDABLE BULK PARCEL 'A', A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL B-3 (PLAT#19576)
TAX MAP 50, PARCEL 488, BULK PARCEL B-3, BLOCK 4
SIXTH ELECTION DISTRICT HOWARD COUNTY

SEDIMENT CONTROL NOTES AND DETAILS

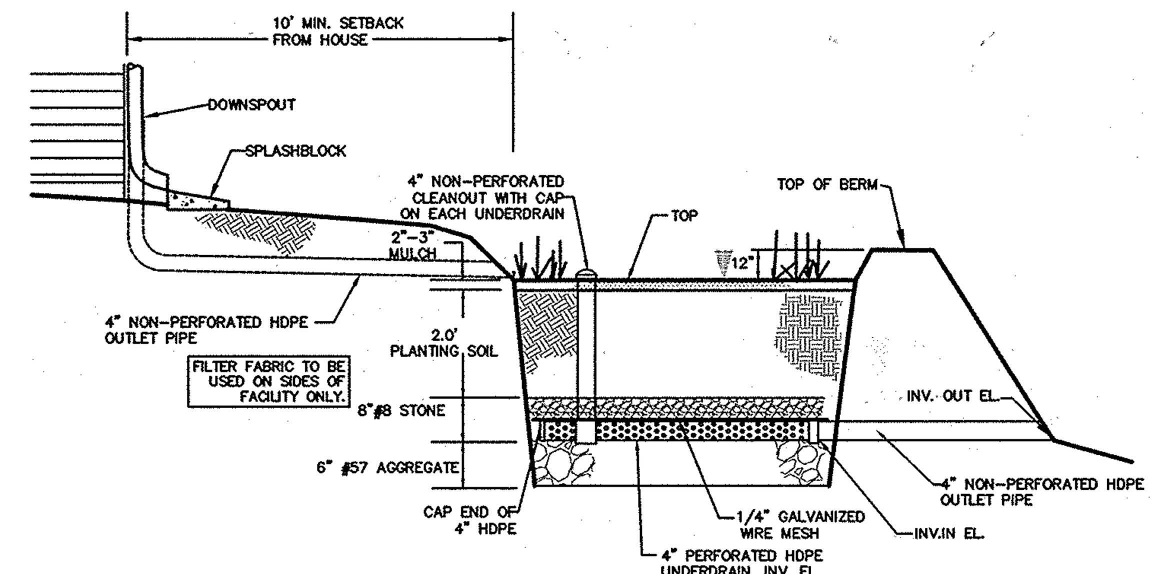
**MILDENBERG, BOENDER & ASSOC., INC.**
Engineers Planners Surveyors
7350-B Grace Drive, Columbia, Maryland 21044
(410) 997-0296 Balt. (410) 997-0298 Fax.



F-16-040

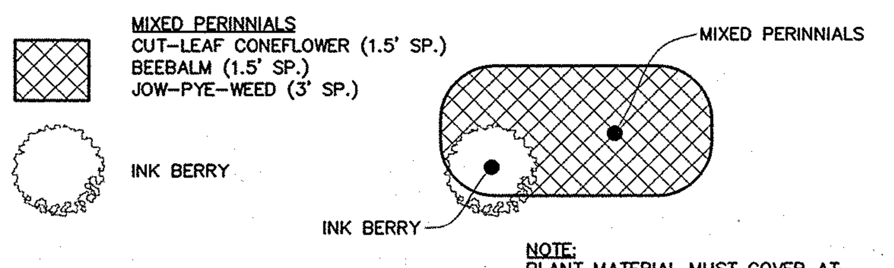
## SOILS DESCRIPTION

| SYMBOL | RATING | NAME | K FACTOR | PAGE |
|---|---|---|---|---|
| UsB | D) | URBAN LAND-SASSAFRASS-BELTSVILLE COMPLEX, 0% TO 5% SLOPES | .37 | 24 |




### TYP. MICRO-BIORETENTION (M-6) DETAIL

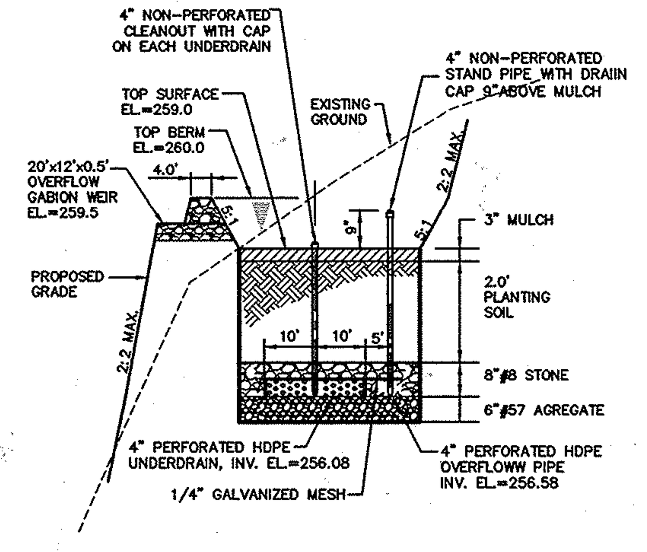
NOT TO SCALE




NOTE:
PLANT MATERIAL MUST COVER AT LEAST 50% OF THE SURFACE AREA OF THE MICRO-BIORETENTION

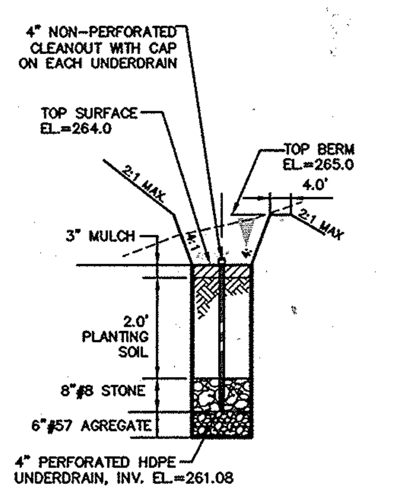
### TYP. MICRO-BIORETENTION (M-6) DETAIL

SCALE : NTS




### TYP. SECTION MICRO-BIORETENTION (M-6) #1

NOT TO SCALE




### TYP. SECTION MICRO-BIORETENTION (M-6) #2

NOT TO SCALE

### MICRO-BIORETENTION SCHEDULE

| FACILITY | TOP EL. | TOP OF BERM | INV. IN UNDERDRAIN | INV. OUT UNDERDRAIN | AREA AT TOP EL. | AREA AT BERM EL. | INV. EL. OVERFLOW PIPE |
|---|---|---|---|---|---|---|---|
| MB #1 | 259.00 | 260.00 | 256.08 | 255.70 | 3,210 SF | 6,400 SF | 256.08 |
| MB #2 | 266.00 | 265.00 | 261.08 | CONNECT TO I-1 | 700 SF | 2,580 SF | 261.08 |

### SWM SUMMARY

| FACILITY# | LOTS | REQUIRED ESDv | PROVIDED ESDv |
|---|---|---|---|
| MB #1 | 1, 2, 3 ROAD ROW | 5,432.2 C.F. | 5,969 C.F. |
| MB #2 | 4, 5, 6 | 1,744 C.F. | 1,920 C.F. |
| TOTAL: | | 7,176.2 C.F. | 7,889 C.F. |

**GEOTECHNICAL ENVIRONMENTAL TESTING — GE&T CONSULTANTS, INC.**

P.O. Box 2071
Columbia, MD 21045-2071
Phone: (410) 381-5330
Fax: (410) 381-1064
e-mail: mounir54@yahoo.com

PRESIDENT: Mounir Adouzakhm *MSCE, P.E.* | CONSULTANTS: Edward De Santis *Eng. C.E., P.E.* • Dr. Kamal Tawfiqu *Ph.D., P.E.*

April 30, 2014

Mildenberg, Boender & Associates, Inc.
6800 Deerpath Road, Suite 15
Elkridge, Maryland 21075

Attn: Mr. Jeff Sloman, P.E

Ref: Limited Subsurface Exploration
Proposed Residential Properties
Whiskey Bottom Point
Lots 1 thru 6 and Open Space Lot 7
Savage, Howard County, Maryland
GE&T Project No. G-234

Dear Mr. Sloman,

On April 12, 2014, **GE&T Consultants, Inc.** utilized a hand auger to bore three (3) soil borings at the approximate locations shown on the attached sheet. The purpose of the borings was to evaluate the presence/absence of bedrock and groundwater to a depth of 6 ft below existing site grades at the locations shown. The number, location, and depth of the borings were determined by others and the borings were staked-out in the field by others.

Our field observations are summarized in Table 1 below:

| Boring No. | Depth to Groundwater (in) | Depth to Hand-auger Refusal (in) | Termination Depth (in) |
|---|---|---|---|
| HA-1 | N/A | N/A | 75.0 |
| HA-2 | N/A | N/A | 73.0 |
| HA-3 | N/A | N/A | 77.0 |

*Note*: All depths are below existing ground surface.

It should be noted that the actual level of groundwater and the amount and level of perched water should be anticipated to fluctuate through the year, depending on variations in precipitation, surface run-off, infiltration, site topography, drainage, and other factors not evident at the time of our exploration. GE&T can not be responsible for changes in groundwater conditions at the site due to seasonal variations and changes caused by other factors such as grading operations at the site.

GE&T appreciates the opportunity to provide this geotechnical engineering service to you. Should you have any questions regarding this letter report, or require additional services, please feel free to contact our office.

Sincerely,

GE&T Consultants, Inc.

Mounir Abouzakhm, PE

STATE OF MARYLAND MOUNIR A. ABOUZAKHM No. 194 A REGISTERED PROFESSIONAL ENGINEER

### OWNER

JENMAR HOMES AT WHISKEY BOTTOM, LLC
3403 OLD POST DRIVE
BALTIMORE, MD. 21208

### DEVELOPER

JENMAR HOMES, INC.
3403 OLD POST DRIVE
BALTIMORE, MD. 21208

ENGINEER'S CERTIFICATE

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SIGNATURE OF ENGINEER — DATE 4/14/16

R. JACOB HIKMAT, P.E.
PRINTED NAME OF ENGINEER

DEVELOPERS CERTIFICATE

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SIGNATURE OF DEVELOPER — DATE 4.19.16

ISAAC GREILER
PRINTED NAME OF DEVELOPER

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HOWARD SOIL CONSERVATION DISTRICT — DATE 5/4/16

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 6/3/2016

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5.20.16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6-6-16

STATE OF MARYLAND R. JACOB HIKMAT No. 17942 PROFESSIONAL ENGINEER

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R. JACOB HIKMAT P.E. — DATE: 4/14/16

P:\2004\12-007 Whiskey Bottom\DWG\sketch-plan.dwg

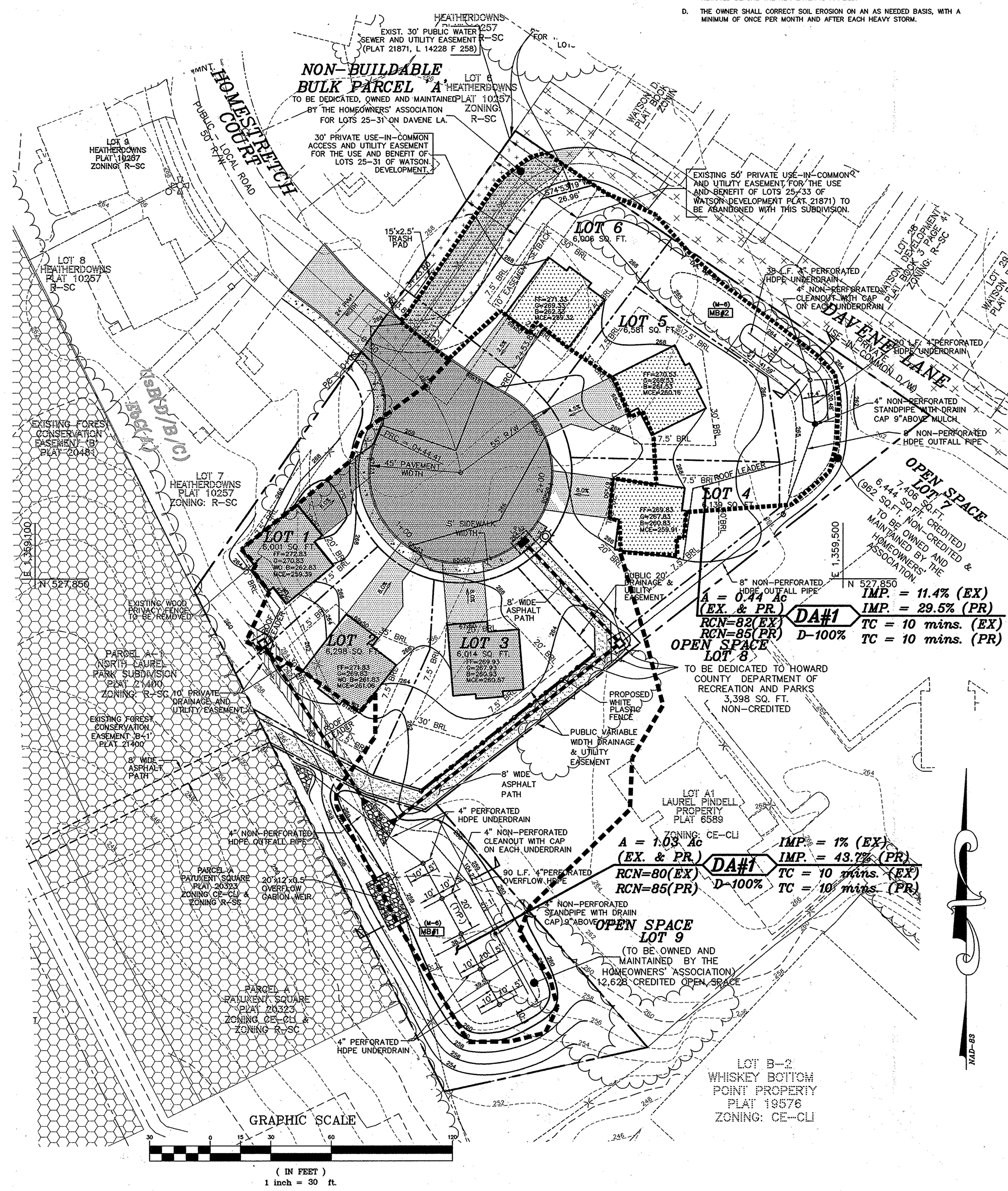
### OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)

A. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.

B. THE OWNER SHALL PERFORM A PLANT INSPECTION IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.

C. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.

D. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.




| project | date |
|---|---|
| 12-007 | APR. 2016 |
| illustration | engineering |
| JLS | JLS |
| scale | approval |
| 1"=30' | MMM |

| no. | description | date |
|---|---|---|
| | revisions | |

**WHISKEY BOTTOM POINT, LOTS 1 THRU 6, OPEN SPACE LOTS 7-9**
AND NON-BUILDABLE BULK PARCEL 'A', A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL B-3 (PLAT#19576)
TAX MAP 50, PARCEL 488, BULK PARCEL B-3, BLOCK 4
SIXTH ELECTION DISTRICT, HOWARD COUNTY

STORMWATER MANAGEMENT PLAN


MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
7350-B Grace Drive, Columbia, Maryland 21044
(410) 997-0296 Balt. (410) 997-0298 Fax.




F-16-040

FOREST CONSERVATION WORKSHEET
VERSION 1.0

NET TRACT AREA:

A. Total tract area.....=2.88
(1.16 Ac FROM RESIDENTIAL PORTION OF WATSON DEVELOPMENT)
B. Area within 100 year floodplain .....=0.00
C. Area to remain in agricultural production .....=0.00
D. Net tract area.....=2.88

LAND USE CATEGORY:

(from table 3.2.1, page 40, Manual) Input the number "1" under the appropriate land usezoning, and limit to only one entry.

| ARA | MDR | IDA | HDR | MPD | CIA |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 1 | 0 | 0 |

E. Afforestation Threshold..... 15% x D =0.43
F. Conservation Threshold.....20% x D =0.58

EXISTING FOREST COVER:

G. Existing forest cover (excluding floodplain).....=0.00
H. Area of forest above afforestation threshold .....=0.00
I. Area of forest above conservation threshold .....=0.00

BREAK EVEN POINT:

J. Forest retention above threshold with no mitigation.....=0.00
K. Clearing permitted without mitigation.....=0.00

PROPOSED FOREST CLEARING:

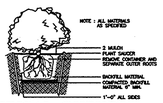
L. Total area of forest to be cleared.....=0.00
M. Total area of forest to be retained.....=0.00

PLANTING REQUIREMENTS:

N. Reforestation for clearing above conservation threshold.....=0.00
P. Reforestation for clearing below conservation threshold.....=0.00
Q. Credit for retention above conservation threshold.....=0.00
R. Total reforestation required.....=0.00
S. Total afforestation required.....=0.43
T. Total reforestation and afforestation required.....=0.43

NOTE–

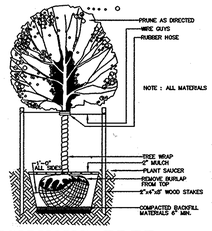
FOREST CONSERVATION OBLIGATIONS IN ACCORDANCE WITH SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT FOR THIS SUBDIVISION WILL BE FULFILLED BY PAYMENT OF FEE–IN–LIEU IN THE AMOUNT OF $14,048.10 FOR 0.43 ACRES OF REFORESTATION.




TYPICAL SHRUB PLANTING DETAIL
NOT TO SCALE

## LANDSCAPE NOTES

1. NO CLEARING OF EXISTING VEGETATION IS PERMITTED WITHIN THE LANDSCAPE EDGE FOR WHICH CREDIT IS BEING TAKEN; HOWEVER, LANDSCAPE MAINTENANCE IS AUTHORIZED.
2. THE OWNER, TENANT AND / OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, PLANT MATERIALS, 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 REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
3. AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.
4. SHOULD ANY TREE DESIGNATED FOR PRESERVATION, FOR WHICH CREDIT IS GIVEN, BE REMOVED OR DIE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST BE A MINIMUM OF 3 INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE LANDSCAPE MANUAL.
5. LANDSCAPING FOR LOTS 1 THRU 6 IS PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. A LANDSCAPE SURETY FOR THE REQUIRED LANDSCAPING IN THE AMOUNT OF $7,800.00 (21 SHADE TREES , 2 EVERGREEN TREES AND 4 ORNAMENTAL TREES) WILL BE POSTED AT THE SITE DEVELOPMET STAGE.




DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE

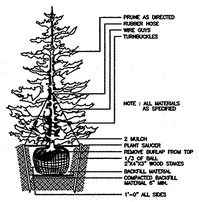
## STREET TREE CALCULATIONS

| STREET NAME | PERIMETER LENGTH | PLANTING REQUIREMENT | TREES REQUIRED | TREES PROVIDED |
|---|---|---|---|---|
| HOMESTRETCH | 341 L.F. | 1 TREE / 40 L.F. | 9 | 9 |

## STREET TREE PLANTING SCHEDULE

| QUANTITY | SYMBOL | BOTANICAL NAME | COMMON NAME | SIZE |
|---|---|---|---|---|
| 9 | | PRUNUS SARGENTII | SARGENT CHERRY | 2 1/2" – 3" CAL. |

TOTAL
9 STREET TREES

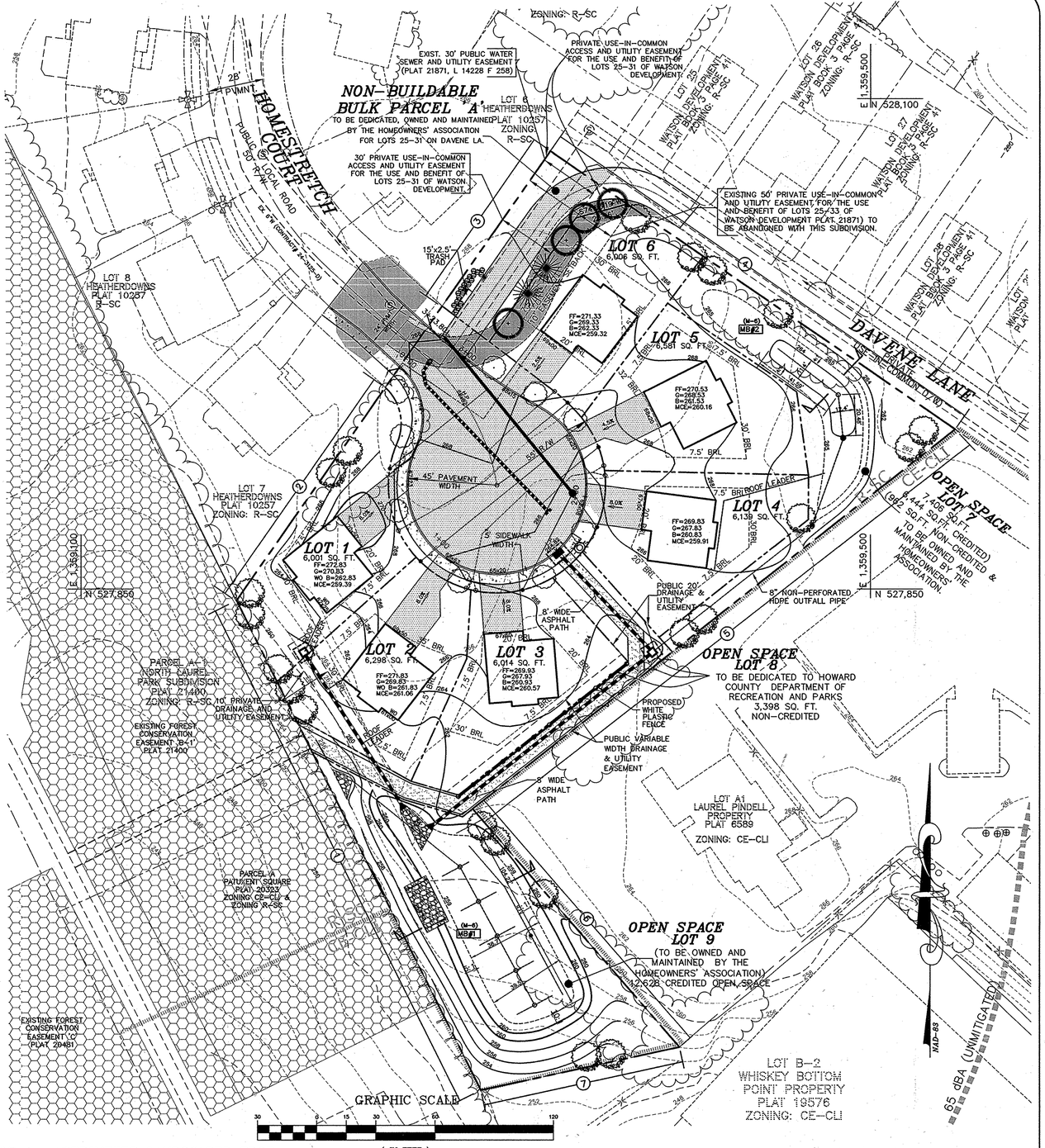



TYPICAL EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE

## PERIMETER TREE PLANTING SCHEDULE

| QUANTITY | SYMBOL | BOTANICAL NAME | COMMON NAME | SIZE |
|---|---|---|---|---|
| 21 | | ACER RUBRUM 'RED SUNSET' (SHADE) | RED MAPLE | 2 1/2" – 3" CAL. |
| 4 | | CIRCIS CANADENIS (SUBSTITUTION) | EASTERN REDBUD | 2 1/2" – 3" CAL. |
| 2 | | ILEX OPACA (10) (EVERGREEN) | AMERICAN HOLLY | 5' – 6' HT. |
| 20 | | TAXUS MEDIA 'HICKSII' (TM) (SHRUBS) | HICKS YEW | 2 1/2" – 3' HT. |

TOTAL
21 SHADE TREES, 4 SUBSTITUTION TREES, 2 EVERGREENS, 20 SHRUBS




## STREET TREE CALCULATIONS

| STREET NAME | PERIMETER LENGTH | PLANTING REQUIREMENT | TREES REQUIRED | TREES PROVIDED |
|---|---|---|---|---|
| HOMESTRETCH | 341 L.F. | 1 TREE / 40 L.F. | 9 | 9 |

## STREET TREE PLANTING SCHEDULE

| QUANTITY | SYMBOL | BOTANICAL NAME | COMMON NAME | SIZE |
|---|---|---|---|---|
| 9 | | PRUNUS SARGENTII | SARGENT CHERRY | 2 1/2" – 3" CAL. |

TOTAL
9 STREET TREES

## PERIMETER TREE PLANTING SCHEDULE

| QUANTITY | SYMBOL | BOTANICAL NAME | COMMON NAME | SIZE |
|---|---|---|---|---|
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| 20 | | TAXUS MEDIA 'HICKSII' (TM) (SHRUBS) | HICKS YEW | 2 1/2" – 3' HT. |

TOTAL
21 SHADE TREES, 4 SUBSTITUTION TREES, 2 EVERGREENS, 20 SHRUBS

SCHEDULE A : PERIMETER LANDSCAPED EDGE
( IN FEET )
1 inch = 30 ft.

| CATEGORY | ADJACENT TO PERIMETER PROPERTIES | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| LANDSCAPE TYPE | A (PERIMETER 1) | A (PERIMETER 2) | B, PER WP–10–158 (PERIMETER 3) | A (PERIMETER 4) | A (PERIMETER 5) | A (PERIMETER 6) | A (PERIMETER 7) | C (TRASH PAD) | TOTAL |
| LINEAR FEET OF PERIMETER | 278.6 LF | 132.5 LF | 96.5 LF | 249.3 LF | 312.3 LF | 160.0 LF | 102.9 LF | 20 LF | |
| CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) | NO | NO | NO | NO | NO | NO | NO | NO | |
| CREDIT FOR WALL, FENCE, OR BERM (YES, NO, LINEAR FEET) | NO | NO | NO | NO | NO | NO | NO | NO | |
| NUMBER OF PLANTS REQUIRED<br>SHADE TREES<br>EVERGREEN TREES<br>SHRUBS | 5 SHADE TREES<br>0 EVERGREEN TREES<br>0 SHRUBS | 2 SHADE TREES<br>0 EVERGREEN TREES<br>0 SHRUBS | 2 SHADE TREES<br>2 EVERGREEN TREES<br>0 SHRUBS | 4 SHADE TREES<br>0 EVERGREEN TREES<br>0 SHRUBS | 5 SHADE TREES<br>0 EVERGREEN TREES<br>0 SHRUBS | 3 SHADE TREES<br>0 EVERGREEN TREES<br>0 SHRUBS | 2 SHADE TREES<br>0 EVERGREEN TREES<br>0 SHRUBS | 1 SHADE TREE<br>1 EVERGREEN TREES<br>0 SHRUBS | 24 SHADE TREES<br>3 EVERGREEN TREES<br>0 SHRUBS |
| NUMBER OF PLANTS PROVIDED<br>SHADE TREES<br>EVERGREEN TREES<br>SHRUBS | 5 SHADE TREES<br>0 EVERGREEN TREES<br>0 SHRUBS | 2 SHADE TREES<br>0 EVERGREEN TREES<br>0 SHRUBS | 0 SHADE TREES<br>2 EVERGREEN TREES<br>4 SUBSTITUTION TREES (2:1)<br>0 SHRUBS | 4 SHADE TREES<br>0 EVERGREEN TREES<br>0 SUBSTITUTION TREES (2:1)<br>0 SHRUBS | 5 SHADE TREES<br>0 EVERGREEN TREES<br>0 SUBSTITUTION TREES (2:1)<br>0 SHRUBS | 3 SHADE TREES<br>0 EVERGREEN TREES<br>0 SUBSTITUTION TREES (2:1)<br>0 SHRUBS | 2 SHADE TREES<br>0 EVERGREEN TREES<br>0 SUBSTITUTION TREES (2:1)<br>0 SHRUBS | 0 SHADE TREES<br>0 EVERGREEN TREES<br>20 SHRUBS | 21 SHADE TREES<br>2 EVERGREEN TREES<br>4 SUBSTITUTION TREES (2:1)<br>20 SHRUBS |

Mashid Tringa 4/13/16
MASHID TRINGA, DNR QUALIFIED PROFESSIONAL

**OWNER**
JENMAR HOMES AT WHISKEY BOTTOM, LLC
3403 OLD POST DRIVE
BALTIMORE, MD. 21208

**DEVELOPER**
JENMAR HOMES, INC.
3403 OLD POST DRIVE
BALTIMORE, MD. 21208

**DEVELOPER'S/OWNER'S CERTIFICATE**

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

OWNER

APPROVED: DEPARTMENT OF PUBLIC WORKS
CHIEF BUREAU OF HIGHWAYS — DATE 6/3/2016

APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/6/16

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5.20.16

STATE OF MARYLAND
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R. JACOB HIKMAT P.E. — DATE: 4/14/16

P:\2004\12-007 Whiskey Bottom\DWG\sketch-plan.dwg

| project | date |
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| 12–007 | APR. 2016 |
| illustration | engineering |
| MMT | JLS |
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| 1"=30' | MMM |

| no. | description | date |
|---|---|---|
| | revisions | |

**WHISKEY BOTTOM POINT, LOTS 1 THRU 6, OPEN SPACE LOT 7–9**
LOTS 1 THRU 6, OPEN SPACE LOT 7, AND NON–BUILDABLE BULK PARCEL 'A'
TAX MAP 50, PARCEL 488, BULK PARCEL B–3 , BLOCK 4
SIXTH ELECTION DISTRICT HOWARD COUNTY
LANDSCAPE AND FOREST CONSERVATION PLAN AND DETAILS


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7 OF 7

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