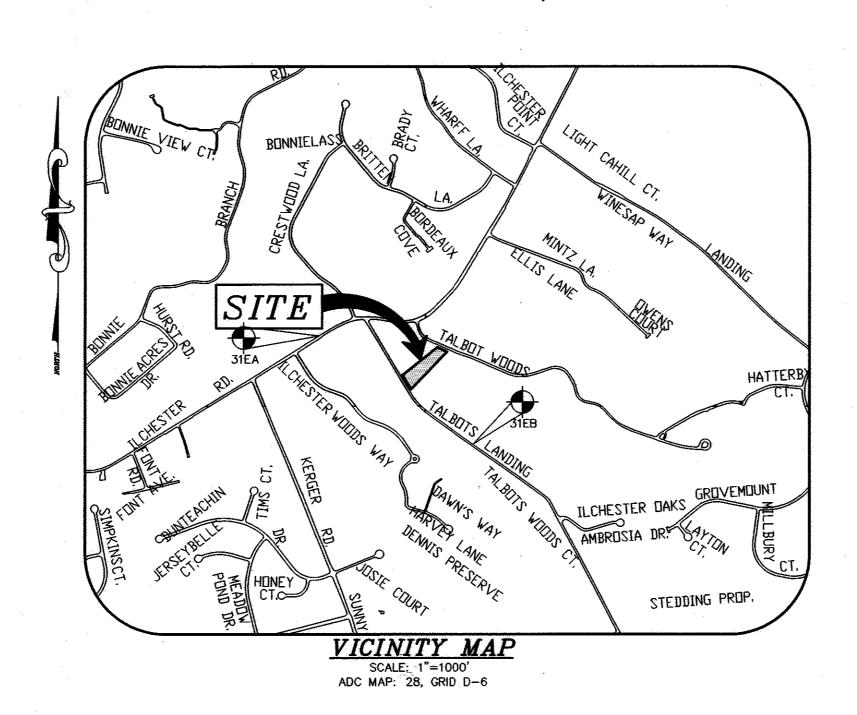
# INDEX OF DRAWINGS

NO.	DESCRIPTION							
1	COVER SHEET							
2	SITE DEVELOPMENT PLAN							
3	SEDIMENT CONTROL AND SWM NOTES AND DETAILS							

# SITE DEVELOPMENT PLAN TURLEY'S OVERLOOK LOTS 1 THRU 3

FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND



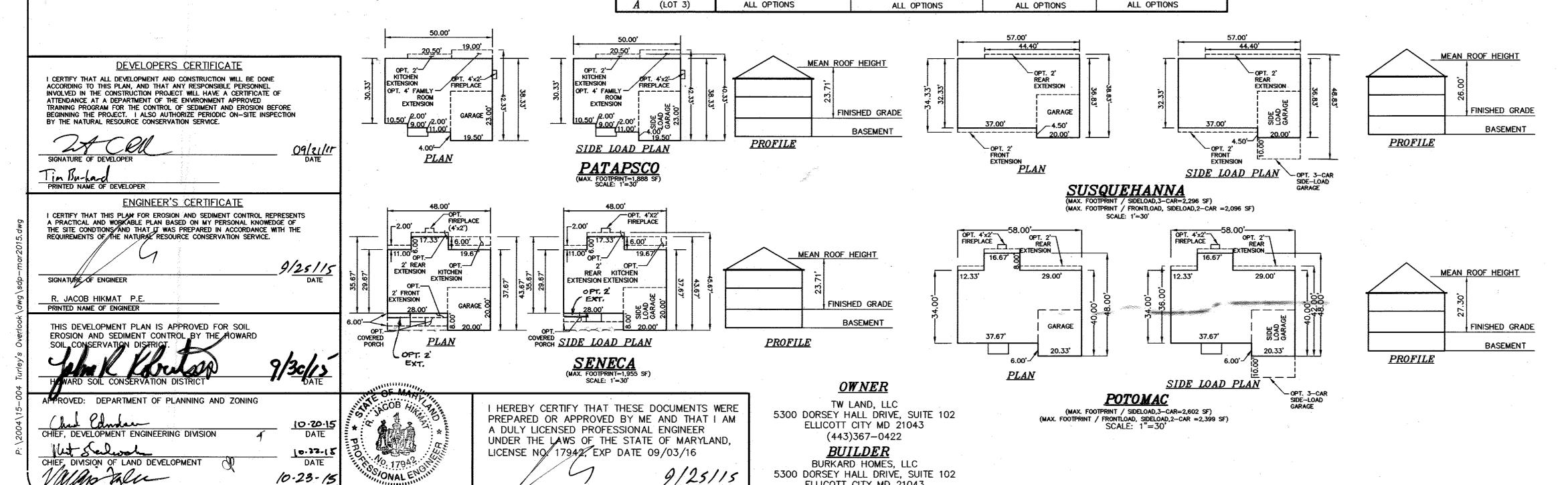
# GARAGE 20.33

GENERIC BOX 'A

10-23-1

R. JAÇOB HIKMAT P.E

#### HOUSE TYPE SELECTION CHART GENERIC BOX POTOMAC **PATAPSCO** SUSQUEHANNA ALL OPTIONS ALL OPTIONS (LOT 1) ALL OPTIONS ALL OPTIONS A (LOT 2) ALL OPTIONS ALL OPTIONS ALL OPTIONS ALL OPTIONS



ELLICOTT CITY MD 21043

(443)367-0422

### GENERAL NOTES

- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/CONSTRUCTION INSPECTIONS AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH CONTOUR INTERVALS PREPARED BY
- 4. HORIZONTAL AND VERTICAL DATUMS ARE RELATED TO THE MARYLAND NAD 83 (HORZ) AND NGVD88 (VERT) AS PROJECTED FROM HOWARD COUNTY CONTROL STATIONS #31EA AND #31EB.
- STORMWATER MANAGEMENT DESIGN FOR LOTS 1 THRU 3 HAS BEEN PROVIDED UNDER F-14-079. ALL SWM PRACTICES WILL BE PRIVATELY OWNED AND MAINTAINED.
- 6. EXISTING UTILITIES ARE BASED ON ACTUAL FIELD LOCATIONS, IN COMBINATION WITH EXISTING WATER AND SEWER CONTRACTS.
- 7. ANY DAMAGE TO THE COUNTY RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- 8. SEWER HOUSE CONNECTION ELEVATIONS SHOWN ARE LOCATED AT THE PROPERTY LINE OR EASEMENT LINE.
  - LOCATION: TAX MAP
  - **ELECTION DISTRICT:**
  - LIMIT OF DISTURBED AREA: 1.53 AC.±
  - RESIDENTIAL, SINGLE FAMILY DETACHED DWELLING. TYPE OF PROPOSED UNIT: SFD
  - ECP-13-075, WP-14-146, F-14-079
- 10. SUBJECT PROPERTY IS ZONED R-20 PER THE OCTOBER 6, 2013 HOWARD COUNTY COMPREHENSIVE ZONING PLAN.
- 11. IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS. CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS. PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.
- 12. THIS PROJECT IS SUBJECT TO WP-14-146, APPROVED ON JUNE 16, 2014, WAIVING SECTION 16.120(b)(6)(v)(c) TO PERMIT PIPESTEMS TO BE CREATED ON BOTH SIDES OF A FRONTAGE LOT IN THE SAME SUBDIVISION. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
- 1. COMPLIANCE WITH ALL SRC AGENCY COMMENTS GENERATED WITH THE REVIEW OF THE FINAL
- DRIVEWAY BETWEEN THE DRIVEWAY AND THE ADJOINING TURLEY'S MEADOW SUBDIVISION, LOTS 1 & 4, WITH A SINGLE ROW OF THUJA PLICATA (GIANT ARBORVITAE "GREEN GIANT") TREES, OR AN EQUIVALENT SPECIES AT A SPACING OF 15-20 FEET ON CENTER. THE PROPOSED USE-IN-COMMON DRIVEWAY MUST MAINTAIN AT LEAST A 10 FOOT DISTANCE FROM THE PROJECT BOUNDARY, AT ALL POINTS, TO ENSURE ADEQUATE ROOM FOR THE LANDSCAPING BUFFER. THE LANDSCAPING TREES SHALL BE SHOWN AS PART OF THE LANDSCAPE PLAN FOR F-14-079 AND SHALL BE BONDED WITH THE LANDSCAPING OBLIGATION.
- 13. DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:

  - SURFACE 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2) INCH MINIMUM). - GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE
  - CHANGE AND MINIMUM OF 45-FOOT TURNING RADIUS.
  - STRUCTURES (CULVERT/BRIDGES) CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING); - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE; MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.
- 14. PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. PUBLIC WATER AND SEWER WILL BE
- UTILIZED UNDER CONTRACT # 14-4775-D. THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES, AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- 16. FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND ROAD RIGHT-OF-WAY LINE
- 17. PUBLIC WATER AND SEWAGE ALLOCATIONS WILL BE GRANTED AT THE TIME OF ISSUANCE OF THE BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME.
- 18. THE FOREST CONSERVATION REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT WAS SATISFIED UNDER THE SUBDIVISION PLAN FOR TURLEY'S OVERLOOK, F-14-079. FOREST CONSERVATION IS PROVIDED BY OFF-SITE REFORESTATION OF .52 ACRES ON THE ROSEBAR PROPERTY, PRESERVATION PARCEL 'A'. FINANCIAL SURETY WAS POSTED UNDER
- 19. LANDSCAPING FOR LOTS 1 THRU 3 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 \$9,930.00 (13 SHADE TREE @ \$300/SHADE TREE, 39 EVERGREEN TREE @ \$150/EVERGREEN TREE AND 6 SHRUBS @ \$30/SHRUB) WILL BE POSTED AS PART OF BUILDING/GRADING PERMIT FOR THIS SDP.
- 20. OPEN SPACE REQUIREMENTS HAVE BEEN SATISFIED VIA THE PAYMENT OF FEE-IN-LIEU IN THE AMOUNT OF \$3,000.00 UNDER F-14-079.
- 21. NO CEMETERIES EXIST ON SITE.
- 22. NO HISTORIC STRUCTURE EXISTS ON SITE.
- 23. A WETLAND DELINEATION, FOREST STAND DELINEATION REPORT & PRELIMINARY FOREST CONSERVATION PLAN FOR THIS PROJECT DATED SEPTEMBER 28, 2012 WAS PREPARED BY ECO-SCIENCE PROFESSIONALS. NO WETLANDS EXIST ON-SITE PER REPORT SUBMITTED UNDER F-14- 079.
- 24. A COMMUNITY MEETING WAS CONDUCTED ON JULY 10, 2012 FOR THE PURPOSE OF THE DEVELOPER TO PROVIDE INFORMATION TO THE COMMUNITY REGARDING THE PROPOSED RESIDENTIAL DEVELOPMENT AND TO ALLOW THE COMMUNITY TO ASK QUESTIONS AND TO MAKE COMMENTS, PER SECTION 16.128(D), OF THE SUBDIVISION REGULATIONS.
- 25. THERE ARE NO FLOODPLAIN, 15-24.9% SLOPES, 25% OR GREATER SLOPES, STREAMS, OR THEIR BUFFERS ON THIS SITE AS CERTIFIED UNDER F-14-079.
- 26. RESIDENTIAL DRIVEWAY ENTRANCE SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAIL R-6.03 FOR THE PROPOSED USE-IN-COMMON DRIVEWAY.
- 27. A USE-IN-COMMON ACCESS MAINTENANCE AGREEMENT HAS BEEN RECORDED WITH F-14-079 UNDER L 15888/F 080 ON 11/21/2014 IN THE LAND RECORDS OF HOWARD COUNTY, MARYLAND.
- 28. THE MODERATE HOUSING UNIT AGREEMENT FOR THIS SUBDIVISION WILL BE MET BY THE PAYMENT OF A FEE-IN-LIEU FOR EACH PROPOSED UNIT. THE MIHU AGREEMENT HAS BEEN RECORDED IN THE LAND RECORDS OF HOWARD COUNTY ON 11/21/14 AS L.15888/F.083.
- 29. A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLY SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPERS/OWNERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5752 FOR DETAILS AND COST ESTIMATES.
- 30. FOR DRIVEWAY ENTRANCE DETAILS REFER TO THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD DETAIL R-6.06.

PLEASE NOTE THAT ALL LOTS IN THIS SUBDIVISION ARE SUBJECT TO THE MODERATE INCOME HOUSING UNIT (MIHU) FEE-IN-LIEU REQUIREMENT THAT IS TO BE CALCULATED AND PAID TO THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS AT THE TIME OF BUILDING PERMIT ISSUANCE BY THE PERMIT APPLICANT.

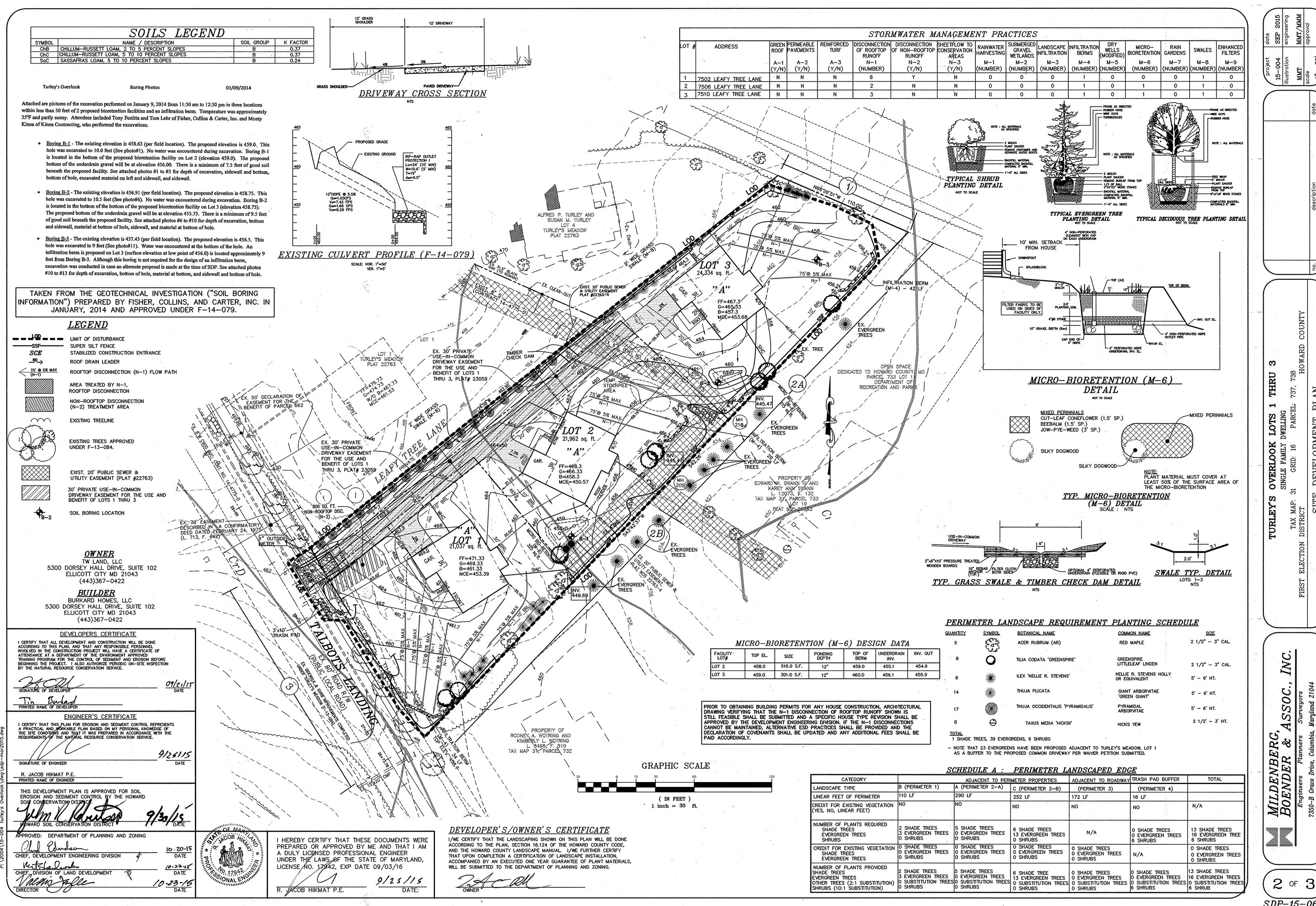
# ADDRESS CHART

LOT #	ADDRESS
1	7502 LEAFY TREE LANE
2	7506 LEAFY TREE LANE
3	7510 LEASY TREE LANS

SUBDIVISION NAME:			SECTION/AREA:		PARCI	PARCEL:	
TURLEY'S OV	ERLOOK, LOTS	THRU 3		N/A	739		
PLAT NO.	BLOCK(S)	ZONING	TAX MAP NO.	ELECTION DISTRICT FIRST		CENSUS TRAC	
23058	16	R-20	31			6011.04	

SDP-15-060

OF



SDP-15-060

	MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO I SOIL GRADATION.	-LANTS, AND/OR GNACCEPTABLE
2.	TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEE FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE USDA-NRCS.	SALVAGED FOR A GIVEN SOIL
3. a.	TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE: THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUA	TE TO PRODUCE VECETATIVE
b.	GROWTH. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.	
c. d.	THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.	
4. 5.	AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATIO TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FO	
а. b.	TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURI SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDER FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGEI TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS B GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS	CLAY LOAM, OR LOAMY SAND. SCIENTIST AND APPROVED BY E OF CONTRASTING TEXTURED ERS, STONES, SLAG, COARSE R THAN 1½ INCHES IN DIAMETER. ERMUDA GRASS, QUACK SPECIFIED.
¢.	TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MATOPSOIL.	
6. a. b.	TOPSOIL APPLICATION EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN A UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY CON THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MAN SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OF	MPACT TO A MINIMUM INER THAT SODDING OR AND TILLAGE. ANY PERATIONS MUST BE
c.	CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZED THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWIS GRADING AND SEEDBED PREPARATION.	N OR MUDDY CONDITION, WHEN
	OIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)	
1.	SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND A LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.	MORE. SOIL ANALYSIS MAY BE
2.	FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITAE BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZED APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE	R WITH PRIOR APPROVAL FROM TH TO THE SITE FULLY LABELED
3.	WARRANTY OF THE PRODUCER.  LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME I WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXID MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS	ES (CALCIUM OXIDE PLUS AT LEAST 50 PERCENT WILL
4.	LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED SOIL BY DISKING OR OTHER SUITABLE MEANS.	<del></del>
5.	WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CL AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUAR PLACEMENT OF TOPSOIL	AYS, SPREAD GROUND LIMESTONE E FEET) PRIOR TO THE
	<u>owner</u> Tw land, llc	
	5300 DORSEY HALL DRIVE, SUITE 102 ELLICOTT CITY MD 21043 (443)367-0422	
	BUILDER  BURKARD HOMES, LLC  5300 DORSEY HALL DRIVE, SUITE 102  ELLICOTT CITY MD 21043  (443)367-0422	
<del></del>	DEVELOPERS CERTIFICATE	
ACC INVO ATTI TRA	RTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL LIVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED INING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE INNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON—SITE INSPECTION	
	THE NATURAL RESOURCE CONSERVATION SERVICE.	
٠.		
9	A CM 09/21/15 NATURE OF DEVELOPER DATE	
SIG	A CM 09/21/15 NATURE OF DEVELOPER DATE  Tin Burkard	
SIG	NATURE OF DEVELOPER  DATE  DATE  DATE  DATE	
SIGI PRII I CE A P THE	nature of developer date	
SIGI PRII I CE A P THE	ENGINEER'S CERTIFICATE  ERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS RACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWEDGE OF SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE RUIREMENTS OF THE NATIONAL RESOURCE CONSERVATION SERVICE.	
PRII PRII I CE A P THE REC	NATURE OF DEVELOPER  DATE  SUR LANGE  NITED NAME OF DEVELOPER  ENGINEER'S CERTIFICATE  ERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS RACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWEDGE OF SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE	
SIGN PRIII I CE A P THE RECO	ENGINEER'S CERTIFICATE  ENTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS RACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWEDGE OF SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE UIREMENTS OF THE NATURAL RESOURCE CONSERVATION SERVICE.	
SIGN SIGN RECORD S	ENGINEER'S CERTIFICATE  ENGINEER'S CERTIFICATE  ENTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS RACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWEDGE OF SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE UNREMENTS OF THE NATURAL RESOURCE CONSERVATION SERVICE.  1/25/15  NATURE OF ENGINEER  DATE  JACOB HIKMAT P.E.	
SIGN SIGN SIGN SIGN SIGN SIGN SIGN SIGN	NATURE OF DEVELOPER  ENGINEER'S CERTIFICATE  ENTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS RACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWEDGE OF SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE UNREMENTS OF THE NATURAL RESOURCE CONSERVATION SERVICE.  JACOB HIKMAT P.E. NITED NAME OF ENGINEER  IIS DEVELOPMENT PLAN IS APPROVED FOR SOIL ROSION AND SEDIMENT CONTROL BY THE HOWARD	
SIG R. PRI	NATURE OF DEVELOPER  ENGINEER'S CERTIFICATE  ENGINEER'S CERTIFICATE  ERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS RACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWEDGE OF SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE UNREMENTS OF THE NATURAL RESOURCE CONSERVATION SERVICE.  JACOB HIKMAT P.E. NITED NAME OF ENGINEER  IS DEVELOPMENT PLAN IS APPROVED FOR SOIL COSION AND SEDIMENT CONTROL BY THE HOWARD UL CONSERVATION DISTRICT.	OF MARKEN
PRI CC PRI THE ER SO	NATURE OF DEVELOPER  ENGINEER'S CERTIFICATE  ENGINEER'S CERTIFICATE  ERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS RACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWEDGE OF SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE UNREMENTS OF THE NATURAL RESOURCE CONSERVATION SERVICE.  JACOB HIKMAT P.E. NITED NAME OF ENGINEER  DIS DEVELOPMENT PLAN IS APPROVED FOR SOIL CONSERVATION DISTRICT.  DWARD SOIL CONSERVATION DISTRICT  ROVED: DEPARTMENT OF PLANNING AND ZONING	OF MARY COB HAMING
SIGN R. PRINTERED SIGN R. PRIN	NATURE OF DEVELOPER  ENGINEER'S CERTIFICATE  ERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS RACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWEDGE OF SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE UIREMENTS OF THE NATURAL RESOURCE CONSERVATION SERVICE.  NATURE OF ENGINEER  JACOB HIKMAT P.E.  NITED NAME OF ENGINEER  UIS DEVELOPMENT PLAN IS APPROVED FOR SOIL OSION AND SEDIMENT CONTROL BY THE HOWARD  UIL CONSERVATION DISTRICT.  DATE  ROVED: DEPARTMENT OF PLANNING AND ZONING  LO 20-15  F, DEVELOPMENT ENGINEERING DIVISION  DATE  WE JELLOPHENT ENGINEERING DIVISION  DATE	OF MARY PROCESS OF THE PROCESS OF TH
SIGN R. PRI	NATURE OF DEVELOPER  ENGINEER'S CERTIFICATE  ERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS RACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWEDGE OF SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE UIREMENTS OF THE NATURAL RESOURCE CONSERVATION SERVICE.  NATURE OF ENGINEER  JACOB HIKMAT P.E. NIED NAME OF ENGINEER  JACOB HIKMAT P.E. NIED NAME OF ENGINEER  JIS DEVELOPMENT PLAN IS APPROVED FOR SOIL COSION AND SEDIMENT CONTROL BY THE HOWARD W. CONSERVATION DISTRICT.  DATE  ROVED: DEPARTMENT OF PLANNING AND ZONING  LOCALIST  ROVED: DEPARTMENT OF PLANNING AND ZONING  LOCALIST  LOCALIST  DATE  LOCALIST  DATE  LOCALIST  DATE  LOCALIST  DATE	

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

THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

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

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

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; P2 05 (PHOSPHOROUS), 200 POUNDS PER ACRE; K20 (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.

1. MUI CH MATERIALS (IN ORDER OF PREFERENCE)

WITH PRIOR APPROVAL FROM THE

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.

WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS

III. WOFM 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

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. 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. 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.

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

STANDARD SEDIMENT CONTROL NOTES

1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID) 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 REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:

A) 3 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1. B) 7 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE

4) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC.B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SDC.B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.

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 HOWARD

COUNTY SEDIMENT CONTROL INSPECTOR. 6) SITE ANALYSIS: TOTAL AREA OF SITE: AREA DISTURBED: AREA TO BE ROOFED OR PAVED:-AREA TO BE VEGITATIVELY STABILIZED: -\_\_1.13\_ACRES 500 CU. YDS 500 CU. YDS TOTAL FILL

OFFSITEWASTE/BORROW AREA LOCATION: \_\_TBD\_\_\_\_\_\_THESE QUANTITIES ARE FOR PERMIT PURPOSES ONLY. CONTRACTOR IS REQUIRED TO PROVIDE HIS OWN QUANTITIES MEASUREMENTS. 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 HOWARD COUNTY SEDIMENT CONTROL INSPECTOR. 9) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY

SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. 10) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH

CHALL BE BACK FILLED AND STABILIZED BY THE END OF EACH WORKING DAY, WHICHEVER IS SHORTER. 11) ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCESSING WITH CONSTRUCTION. 12) 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 ENFORCEMENT AUTHORITY. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE APPROVAL AUTHORITIES, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED

I HEREBY CERTIFY THAT THESE DOCUMENTS WER PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE 200. 17942, EXP DATE 09/03/16

AT A GIVEN TIME.

R/MACOB HIKMAT P.E

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

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.

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. FOR SITES HAVING DISTURBAD AREA OVER 5 ACRES, USE AND SHOW RATES RECOMMENDED BY THE

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.

AREAS WHERE TURFGRASS MAY BE DESIRE INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE. 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. 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.

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

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

KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FÓR 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. 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)

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-4-4) STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

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.

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 RECOMMENDED 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-4-8) STANDARDS AND SPECIFICATION FOR STOCKPILE AREA

A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES. 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. THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON

8. 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

RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE. 2. ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.

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.

WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE.

STOCKPILE MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION. 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

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

MARYLAND DEPARTMENT OF ENMRONMENT U.S. DEPARTMENT OF AGRICULTURE
WATER MANAGEMENT ADMINISTRATION NATURAL RESOURCES CONSERVATION SERVICE

ACCORDANCE WITH SECTION B-3 LAND GRADING.

2011

TEMPORARY SEEDING FOR SITE STABILIZATION RATE RECOMMENDED SEEDING DATED BY PLANT HARDINESS ZONE PLANT SPECIES LB/AC LB/ (INCHES 7A AND 7B COOL SEASON GRASSES MAR 1 TO MAY 15; | FEB.15 TO APR 30; AUG 1 TO OCT 15 AUG 15 TO NOV 30 LOLIUM PERENNE SSP. MULTIFLORI AUG 1 TO SEP 30 MAR 1 TO MAY 15: FEB.15 TO APR 30: MAR 15 TO MAY 31: 2.2 AUG 1 TO OCT 15 | AUG 15 TO NOV 30 (HORDEUM VULGARE AUG 1 TO SEP 30 MAR 15 TO MAY 31; MAR 1 TO MAY 15; FEB.15 TO APR 30; 72 1.7 (AVENA SATIVA) AUG 1 TO SEP 30 AUG 1 TO OCT 15 | AUG 15 TO NOV 30 MAR 15 TO MAY 31; MAR 1 TO MAY 15; FEB.15 TO APR 30; 120 | 2.8 0.5 (TRITICUM AESTIVUM AUG 1 TO OCT 15 | AUG 15 TO NOV 30 AUG 1 TO SEP 30 MAR 15 TO MAY 31; MAR 1 TO MAY 15; FEB.15 TO APR 30; (SECALE ITALICA) AUG 1 TO OCT 31 AUG 1 TO OCT 15 AUG 15 TO DEC 15

			PERMANE	ENT SE	EDING SUM	MARY		
HARDINESS ZONE (FROM FIGURE B.3): 6b SEED MIXTURE (FROM TABLE B.3): 8				FERTILIZER RATE (10-20-20)				
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	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)

AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MAY BE USED.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DISCONNECTION OF ROOFTOP RUNOFF (N-1), DISCONNECTION OF NON-ROOFTOP RUNOFF (N-2) MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE OWNER SHALL ENSURE THE AREAS RECEIVING RUNOFF ARE PROTECTED FROM FUTURE COMPACTION OF DEVELOPMENT OF IMPERVIOUS AREA. IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

WARM SEASON GRASSES

(SETARIA ITALICA)

PEARL MILLET

PENNISETUM GLAUCUM

OPERATION AND MAINTENANCE SCHEDULE FOR INFILTRATION BERM (M-4)

THE OWNER SHALL INSPECT THE BERN REGULARLY TO ENSURE THAT PONDING WATER DOES NOT CREATE NUISANCE CONDITIONS. 2. SIGNS OF CONCENTRATED FLOW AND OTHER SURFACE EROSION SHOULD BE

THE OWNER SHALL ENSURE A DENSE MAT OF VEGETATION IS PRESENT AT ALL TIMES. BERMS SHOULD BE PLANTED WITH MEADOW VEGETATION AND SHRUBS. TURF GRASS MAY BE USED ON BERMS THAT ARE TO BE MOWN. VEGETATION SHOULD BE REPLACED AS NEEDED.

OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6), BIORETENTION SWALE (M-8)

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 THE SPRING, PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT 'NFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. CCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2. THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF

YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND ASED
VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL
WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL. TREAT DISEASED TREES AN

SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL

REMOVED BEFORE THE NEW LAYER IS APPLIED. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM. SEQUENCE OF CONSTRUCTION OBTAIN GRADING PERMIT. (1 DAY)

2. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE AT LOCATIONS

3. INSTALL CULVERT AND ASSOCIATED RIPRAP UNDER THE USE-IN-COMMON DRIVEWAY. (1 DAY)

4. INSTALL SUPER SILT AND DIVERSION FENCE AT LOCATIONS SHOWN. (2 DAYS)

(90 - 120 DAYS)

5. BASE PAVE DRIVEWAY AND INSTALL GRASS SWALE WITH TIMBER CHECK DAMS ALONG THE USE-IN-COMMON DRIVEWAY. (1 WEEK) 6. CONSTRUCT HOUSES AND STORMWATER MANAGEMENT FACILITIES

7. INSTALL MICRO-BIORETENTION AND INFILTRATION BERM AS EACH LOT'S CONSTRUCTION IS COMPLETE.

8. COMPLETE FINE GRADING OF SITE TO GRADES INDICATED. (2 DAYS PER HOUSE)

9. SEED AND MULCH ALL REMAINING DISTURBED AREAS. (1 DAY PER

DEVICES AND STABILIZE REMAINING DISTURBED AREAS (1 DAY).

WHEN ALL CONTRIBUTING DRAINAGE AREAS TO SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED, AND WITH PERMISSION OF SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL

2011

MARYLAND DEPARTMENT OF ENVIRONMEN WATER MANAGEMENT ADMINISTRATION

30 0.7 MAY 16 TO JUL 31 | MAY 1 TO AUG 14 JUN 1 TO JUL 31 20 | 0.5 0.5 MAY 1 TO AUG 14 MIXTURES 1, 4-7, 9, AND 10 FROM TABLE B.3 OF THE 2011 MARYLAND STANDARD

> B.4.C. SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDENS, LANDSCAPE INFILTRATION & INFILTRATION BERMS

MATERIAL SPECIFICATIONS
THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.
FILTERING MEDIA OR PLANTING SOIL
THE SOIL SHALL BE 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 MICROBIORETENTION PRACTICE 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, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.

THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITER - SOIL COMPONENT - LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION)
- ORGANIC CONTENT - MINIMUM 10% BY DRY WEIGHT (ASTM D 2974) IN GENERAL, THIS CAN BE MET WITH A AND COMPOST (40%).

— CLAY CONTENT — MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%.

- PH RANGE - SHOULD BE BETWEEN 5.5-7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED INTO THE SOIL TO INCREASE OR DECREASE PH. THERE SHALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, AND ADDITIONAL TEST OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.

COMPACTION
IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE
REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE
EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH EQUIPMENT, OR LIGHT
EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER
TIRES WITH LARGE LUGS, OR HICH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED
INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

COMPACTION CAN BE ALLEMATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER, ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPASTION FROM LEAVE FOUNDEDLY. ROTOTILL 2-3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE.

WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3-4 INCHES OF TOPSOIL OVER THE SAND. THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL

WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND, GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS. . PLANT MATERIAL

RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION

COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE "NVERT AND OTHER LOW AREAS. MULCH SHOULD BE PLACED IN SURROUNDING TO A UNIFORM THICKNESS OF 2 3". SHREDDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT

ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6-12 MONTHS) FOR ACCEPTANCE. ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOTS SHOULD BE PLANTED SO 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST 6" LARGER THAN THE DIAMETER OF THE PLANTING BALL SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.

TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL. GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS. THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY, ADDING FERTILIZERS DEFEATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:
- PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTMF 758, TYPE PS 28 or aashto—m—278) in a gravel layer. The perforated material is slotted, 4" rigid pipe(e.g.,pvc

-PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOUD BE AT LEAST 3/8" DIAMETER LOCATED 6°ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (NO. 4 OR 4X4) GALVANIZED HARDWARE CLOTH. - GRAVEL - THE GRAVEL LAYER (NO.57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW

THE UNDERDRAIN.

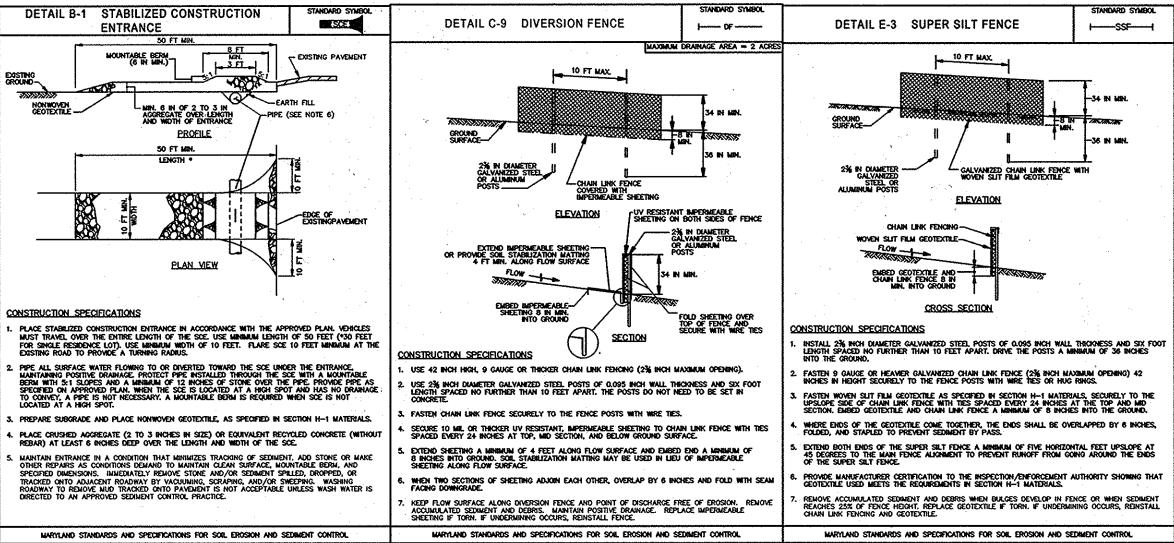
THE MAIN COLLECTOR PIPE CHALL BE AT A MINIMUM 0.5% SLOPE.

A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQUARE FEET)
TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.

A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES INTO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEED 24 THE MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5% OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER 1,000 SQUARE FEET OF SURFACE AREA).

THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

MISCELLANEOUS



2011

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

DET

ON. U

हर श्र MILDEN BOENDI

OF

SDP-15-060