GENERAL NOTES

- I. All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and
- 2. The contractor shall notify the Department of Public Works/Bureau of Engineering/Construction inspection Division at (410) 313-1880 at least five (5) working days prior to the start of work.
- 3. The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work being done.
- 4. Traffic control devices, markings and signing shall be in accordance with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
- 5. Street light placement and the type of fixture pole shall be in accordance with the Howard County Design Manual, Volume III (1993) and as modified by "Guidelines for Street Lights in Residential Developments (June 1993). A minimum spacing of 20'shall be maintained between any street light and any tree.
- 6. The existing topography is taken from field run survey with maximum two foot contour intervals prepared by Shanaberger & Lane June 27, 2008 and December 10, 2014.
- 7. The coordinates shown hereon are based upon the Howard County Geodetic Control which is based upon the Maryland State Plane Coordinate System. Howard County Monument Nos. 30 HA and 36 BC were used for this project.
- 8. Water is public. Contract No. 24-4562D Little Patuxent
- 9. Sewer is public. Contract No. 24-4562D Little Patuxent.
- 10. Stormwater Management for this site is provided by rooftop and non-rooftop disconnection credits. Privately maintained per previously submitted supplemental plan by Tesseract Sites, Inc. Preparation of Declaration of Covenants shall be done with the platrequired Site Development Plan. Additional stammater aspectant by drivells and micro-blockentian facilities on lets.
- II. Existing utilities are based on plans of record, field run topography and field location by A.I. Data for underground, water, gas electric, telephone, etc. located onsite.
- 12. There is no floodplain on this site.
- 13. There are no wetlands or streams on this site based on site inspection by Exploration Research, Inc. dated 12-19-14.
- 14. The traffic study for this project was prepared by the Mars Group, dated 1-10-08.
- 15. Project background information:
 - Subdivision Name: Mill Haven, Tax Map 36, Parcel 2, Zoning: R-I2, Election District: 6th, Total Tract Area I.3652 Ac., Number of Proposed Lots 3, DPZ Reference Number F-08-I2I, F-86-25, F-90-I33, SDP 94-74.
- 16. Walver to Design Manual Volume III, Section 2.5.B.9 to allow the use of stopping sight distance instead of intersection sight distance was approved March 18, 2008.
- 17. Walver to Design Manual Volume II, Section 5.4.B.5. to allow a sewer easement within 10' of an existing house was granted on
- 18. Walver to Design Manual Volume II, Section 5.3.B.I to allow a utility easement of 18-foot width was granted on August II, 2008.
- 19. This Plan complies with the requirements of Section 16.1200 of the Howard County Code for Forest Conservation by payment of a fee of \$6,534 (8,712 Sq.Ft. X \$0.75/Sq.Ft.)
- 20. The contractor shall test pit existing utilities at least five (5) days before starting work shown on these drawings to verify their location and elevation. The contractor shall notify the engineer immediately if location of utilities is other than shown.
- 21. Any damage caused by the Contractor to existing public right-of-way, existing paving, existing curb, and gutter, existing utilities, etc. shall be repaired at the Contractor's expense.
- 22. All hydraulic data is for the 10-year storm unless otherwise noted.
- 23. All fill areas shall be compacted to a minimum of 95% of the maximum dry density as determined and verified in accordance with
- 24. All plan dimensions are to face-of-curb unless otherwise noted. Numerically written dimensions take precedence offer scale
- 25. There are no known cemeteries, burial grounds or historic sites and structures on this site.
- 26. No grading, removal of vegetative cover of trees, paving and new structures shall be permitted within the required wetlands, streams, or their buffers, forest conservation easement areas and 100 year floodplain.
- 27. Existing structure on lots 8 & non-buildable parcel A shall be removed.
- 28. A fee-in-lieu of open space of \$3000.00 will be provided upon submission of the original final plats for signature.
- 29. All sign posts used for traffic control signs installed in the County right-of-way shall be mounted on a 2" galvanized steel, perforated, square tube post (14 gauge) inserted into a 2-1/2" galvanized steel perforated, square tube sleeve (12 gauge) 3' long. A galvanized steel pole cap shall be mounted on top of each post.
- 30. Landscaping for lots 5, 6 and 7 is provided in accordance with a certified landscape plan on file with this plat in accordance with section 16.124 of the Howard County Code and the landscape manual. landscape surety in the amount of \$3600.00 (3 shade trees, 4 evergreen trees, and 7 street trees) shall be posted as part of the developer agreement.
- 31. The private range of address sign shall be fabricated and installed by Howard County Bureau of Highways at the developers expense. Contact Ho.Co. DPW Traffic at 813-5752.
- 32. In a letter dated August 29, 2008 Howard County Department of Planning and Zoning granted a Design Manual waiver from Sections 2.5.B.9 (Required Stopping Sight Distance) and 2.4.D (Modified Curb and Gutter) of Volume III and from Detail R-1.03 (Non-Typical Paving
- 33. Driveways shall be provided prior to issuance of a use and occupancy permit for any new dwellings to insure safe access for fire and emergency vehicles per the following minimum requirements:

Width - 12' (16' serving more than one residence)

Surface - 6" of compacted crusher run base with tar and chip coating (I-I I/2" min) Geometry - max. 15% grade, max 10% grade change and min. 45' turning radius

Structure (culverts/bridges) - capable of supporting 25 gross tons (H25 loading)

Drainage elements - safely passing 100-year flood with no more than I foot depth over driveway surface

Maintenance - sufficient to insure all weather use

- 34. 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 and not onto the pipestem lot driveway.
- 35. On June 19, 2014 the planning director approved MP-14-133 which granted a waiver of section 16.144.(r).(6). of the subdivision and land development regulations, which required submission of the final plat original within 180 days of the final plan approval. approval of MP-14-133 is subject to the following conditions:
- Applicant must hold a pre-submission community meeting prior to the submission of the revised final plans.
 Applicant must submit a revised plan for review by the src agencies within 6 months of waiver approval.
 The signed water and sewer plans and signed road construction drawings must be revised reflecting any changes proposed on the final
- plat within 6 months of waiver approval.
- 4. 1/2 of the initial processing fee must be paid at the time of submission of the revised final plan.
 5. Plan must comply with any fee changes per the county fee schedule.
- 6. No new lots my be created with the re-activation of F-08-121.
- 7. Final plan must comply with all current county and state
- 8. Any removal of specimen trees will require the submission and approval of a waiver petition.
- 9. After review and approval of the final plan is complete, the subdivision will be tested for availability of housing unit allocations and the open/closed schools test in accordance with the adequate public facilities ordinance
- 36. A presubmission meeting for this subdivision was held on August 6, 2014.
- 37. WP 09-150, WP 10-046, WP 11-075, WP 12-095; were approved to extend time to complete developer agreements and submit plat originals

FOR REVISION CANY

38. At this time there are no allocations available for this planning area. When allocations are available, the Developer's Agreements and Declaration of Covenants shall be submitted for recordation, followed by the record plat.

APPROVED: DEPARTMENT OF PUBLIC WORKS	DATE	REVISION
Cheff, Bureau of Highways As Date	12/31/14	REVISED TO REFLECT CURRENT CONDITIONS AND REACTIVATION.
APPROVED: DEPARTMENT OF Planning & Zoning Vest Solution of Land Development & Date Date	03/12/18	REPLACE LOT 6 WITH LOT 8 8 NON-BUILDABLE PARCELA
Cheif, Development Engineering Division What Date		



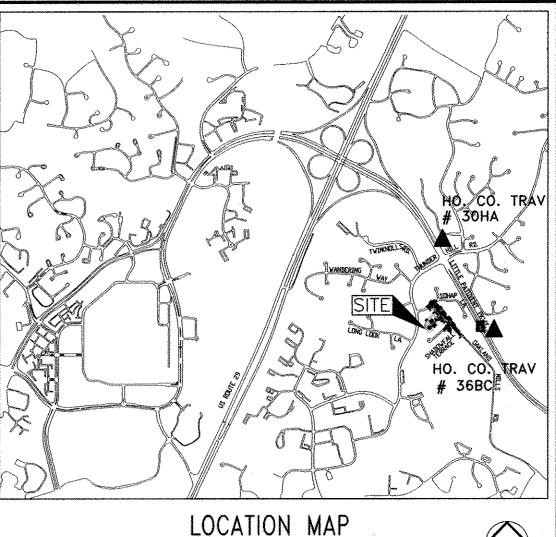
Cover Sheet

for

OAKLAND MILLS ROAD

Howard County, Maryland

PARCEL 2 LOTS 3, 5, 7, 8, & & NON BUILDABLE PARCEL A



SCALE :1"=2,000' ADC MAP 15 K-6

BENCHMARK DESCRIPTIONS

The courses and coordinates shown hereon are based on the following Howard County monuments:

Point	Northing	Easting	Elevation
30HA	566,030.6022	1,357,989.5726	387.036
36BC	563,264.1031	1,359,585.7446	410.028

General Notes Continued:

39. On November 6, 2014 the planning director approved MP-15-051 which allows the removal of one (1) of the four (4) specimen trees which have been identified to be located with the boundaries of this site. Approval of MP-15-051 is subject to the following conditions:

As mitigation for the requested removal of one (i) specimen tree located within this site, the developer is required to plant a 2" caliper native shade tree material along the rear perimeter of proposed Lot 7. This tree will be shown on the landscaping plan and will be bonded with the

On the final plan (F-08-121) and all subsequent plans and/or plats, provide a brief description of waiver petition, MP-15-051, as a general note to include requests, sections of the regulations, action

40. Temporary use Case No. 14-009 5626 Oakland Mills Road was granted December 8, 2014.

SHEET INDEX

SHEET	DESCRIPTION
1	Cover Sheet
2	Road Plan
3	Sediment & Erosion Control Plan & Details
4	Landscaping Plan & Details
5	Stormwater Management Plan and Details
6	Stormwater Management Notes and Details
7	Stormwater Management Drainage Area Maps

SUMMARY OF ESDS

	LOT 5	2 DRY WELLS	M-5
2	LOT 8	MICRO BIO RETENTION	M-6
	LOT 7	MICRO BIO RETENTION	M-6

Professional Certification. I hereby certify that these documents were prepared approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 14230, Expiration Date: 12/09/16.



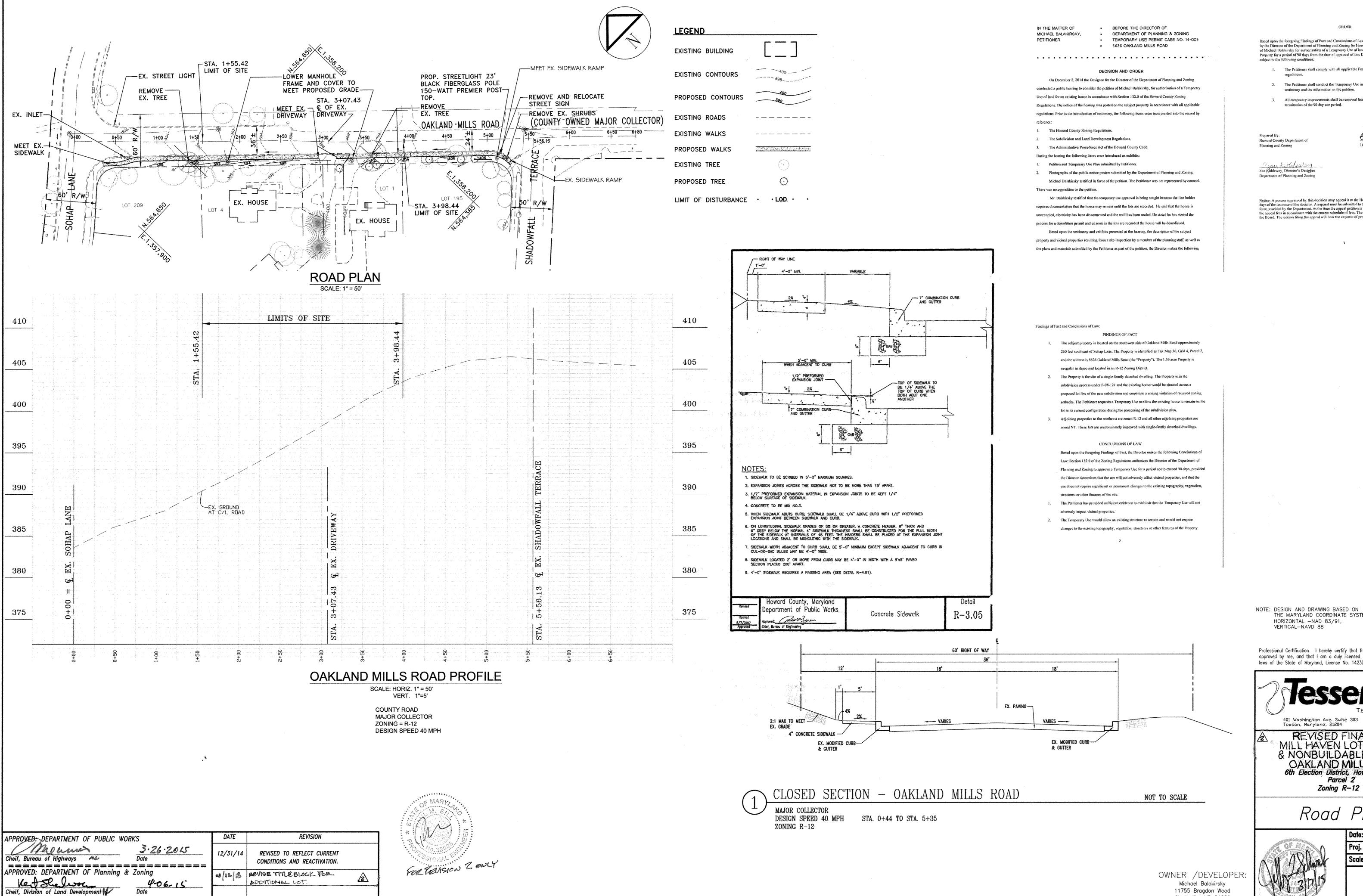
REVISED FINAL PLAN MILL HAVEN LOTS 3, 5, 7, 8 & NONBUILDABLE PARCEL A OAKLAND MILLS ROAD 6th Election District, Howard County Parcel 2 Zoning R-12

Cover Sheet

Date: March 13, 2015 Proj. No. 07015 Scale: 1"=50'

OWNER /DEVELOPER: Michael Balakirsky 11755 Bragdon Wood

Clarksville, MD 21029 Phone: 410-340-7823



Club Cduda

Cheif, Development Engineering Division

4.1.15

Based upon the foregoing Findings of Fact and Conclusions of Law, it is this # day of December, 2014 by the Director of the Department of Planning and Zoning for Howard County, ORDERED that the petition of Michael Balakirsky for authorization of a Temporary Use of land for an existing house to remain on the Property for a period of 90 days from the date of approval of this Decision and Order is hereby GRANTED,

1. The Petitioner shall comply with all applicable Federal, State and County laws and

The Petitioner shall conduct the Temporary Use in substantial conformance with the recorded

All temporary improvements shall be removed from the Property within five days of the

Marsha McLaughlin, Director Department of Planning and Zoning

Notice: A person aggriced by this decision may appeal it to the Howard County Board of Appeals within 30 days of the issuance of the decision. An appeal must be submitted to the Department of Planuing and Zoning on a form provided by the Department. At the time the appeal petition is filed, the person filing the appeal must pay the appeal fees in accordance with the current schedule of fees. The appeal will be heard on a de novo basis by the Board. The person filing the appeal will bear the expense of providing notice and advertising the hearing.

NOTE: DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 14230, Expiration Date: 12/09/16.



f, 410.321.7601

REVISED FINAL PLAN MILL HAVEN LOTS 3, 5, 7, 8 & NONBUILDABLE PARCEL A OAKLAND MILLS ROAD 6th Election District, Howard County Parcel 2

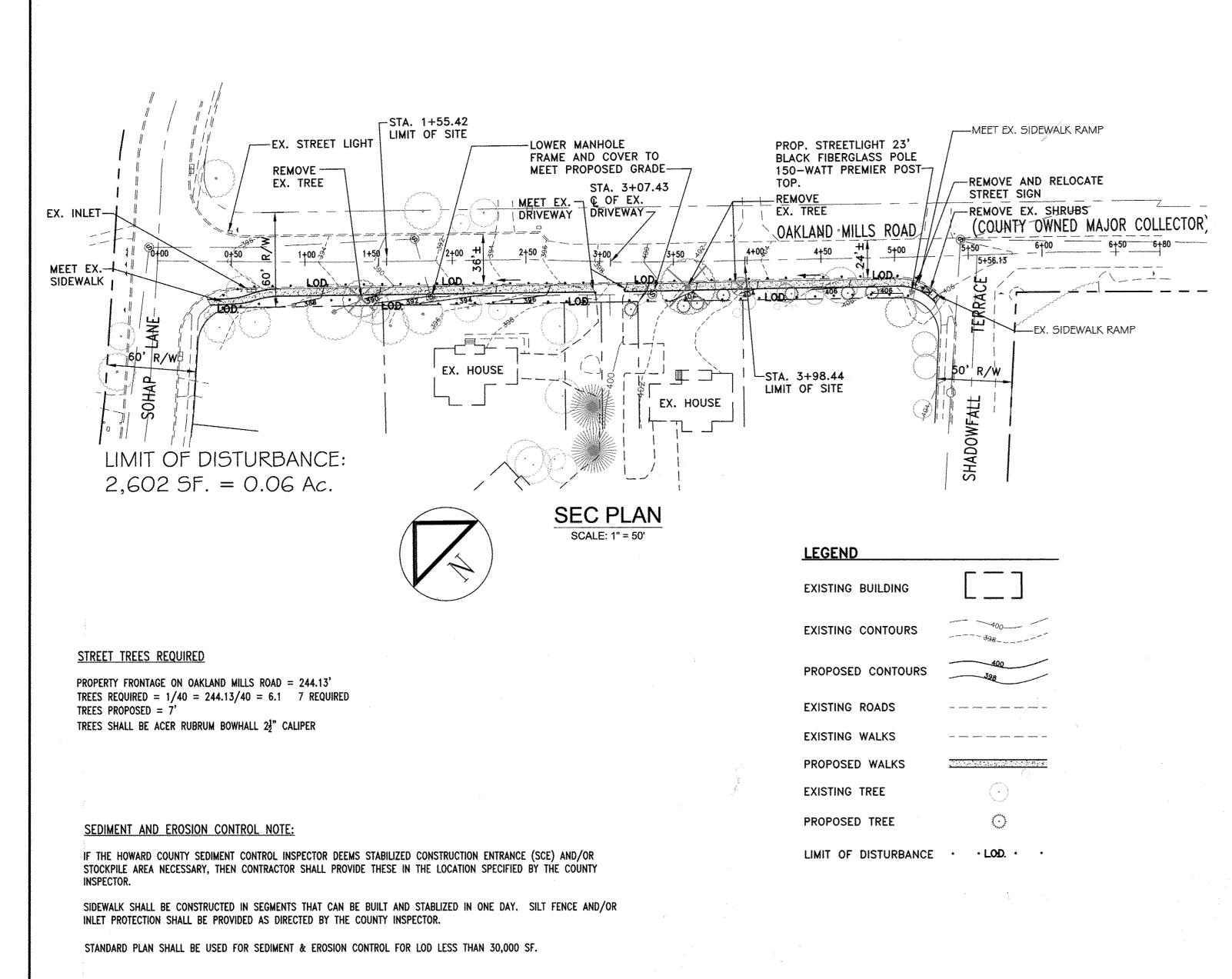
Road Plan



Date: March 11, 2015 Proj. No. 07015 Scale: 1"=50'

Clarksville, MD 21029

Phone: 410-340-7823



HOWARD SOIL CONSERVATION DISTRICT

STANDARD SEDIMENT CONTROL NOTES

- 1. A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction (313—1855).
- 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 TANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
- 3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within: a)
 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1,
 b) 14 days as to all other disturbed or graded areas on the project site.
- 4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol 1, Chapter 12 of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- 5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. 51), sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- 6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.

7. Site Analysis:	
Total Area of Site	1.37 Acres
Area Disturbed	0.14 Acres
Area to be paved	0.06 Acres
Area to be vegetatively stabilized	0.06 Acres
Total Cut	219 Cu. Yds
Total Fill	0 Cu. Yds.
Offsite waste/borrow area location: None	required.

- 8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- 9. Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
- 10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
- 11. Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized by the end of each work day, whichever is shorter.

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

<u>Seedbed Preparation:</u> Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:

- 1. Preferred -- Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs/acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq. ft.)
- 2. Acceptable Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs/acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.

Seeding — For the periods March 1 — April 30, and August 1 — October 15, seed with 60 lbs/acre (1.4 lbs/1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 — July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs/acre (.05 lbs/100() sq. ft.) of weeping lovegrass. During the period of October 16 — February 28, protect site by:

Option 1 — Two tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option 2 —Use sod. Option 3 —— Seer: with 60 lbs/acre Kentucky 30 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching — Apply 1—1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.

<u>Maintenance</u> -- Inspect all seeding areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES.

Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed.

<u>Seedbed preparation:</u> — Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

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

Seeding: — For periods March 1 — April 30 and from August 15 — October 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sq. ft.). For the period May 1 — August 14, seed with 3 lbs/acre of weeping lovegrass (.07 lbs/1000 sq. ft.). Fo~ the period November 16 — February 28, protect site by applying 2 tons/acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching: — Apply I-1/2 to 2 tons/acre (70 to 90 lbs/1000 sq. ft.) of unrotted weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 ft. or higher, use 348 gal. per acre (8 gal/1000 sq. ft.) for anchoring.

Refer to the 1994 MAR4AND STANDARDS AND SPECIFICATIONS FOR SOL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

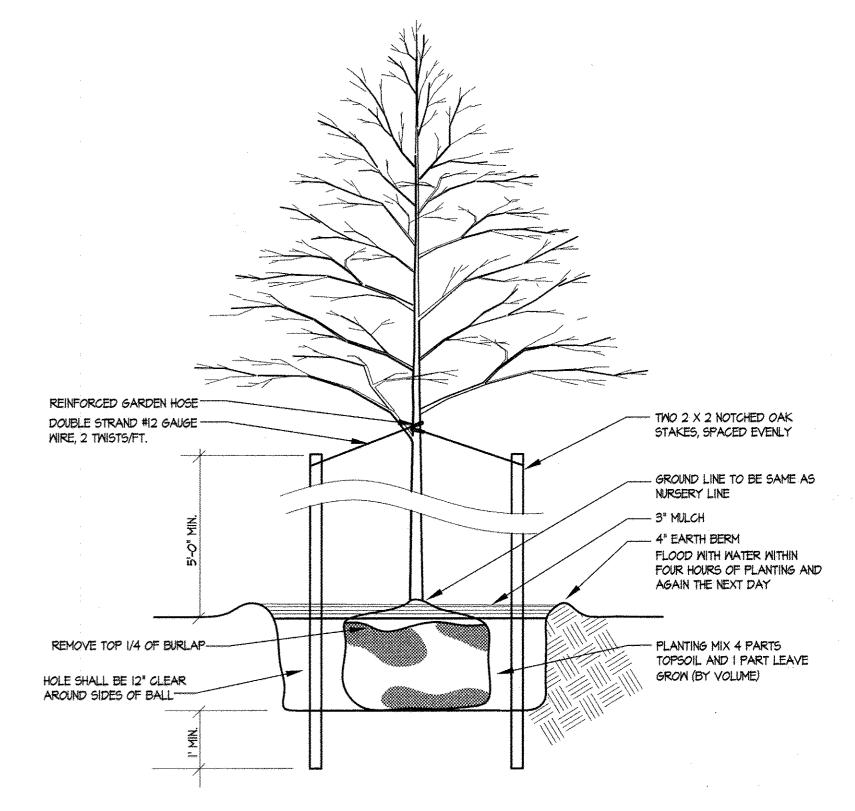
NO. OF DAYS

4. COMPLETE SITE GRADING, REPLACE CURB AND GUTTER AND INSTALL SIDEWALK AND STREET LIGHT.

SEQUENCE OF CONSTRUCTION

THAT AREA WHICH CAN BE STABILIZED THE SAMEDAY.

- 5. INSTALL TOPSOIL. FINE GRADE AND STABILIZE REMAINING DISTURBED/UNPAVED AREAS WITH SEED AND MULCH.
- 6. AFTER SITE IS PROPERLY STABILIZED, AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND STABILIZE ALL REMINING DISTURBED AREAS.



DECIDUOUS TREE PLANTING DETAIL

WATER AND MAINTAIN PLANTS IN ACCORDANCE WITH THE SPECIFICATIONS. NOT TO SCALE
2-1/2" MIN. CALIPER

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 14230, Expiration Date: 12/09/16.



401 Washington Ave. Suite 303 p. 410.321.
Towson, Maryland, 21204 f. 410.321.

REVISED FINAL PLAN

MILL HAVEN LOTS 3, 5, 7, 8
& NONBUILDABLE PARCEL A
OAKLAND MILLS ROAD

6th Election District, Howard County
Parcel 2
Zoning R-12

Sediment & Erosion Control
Plan & Details

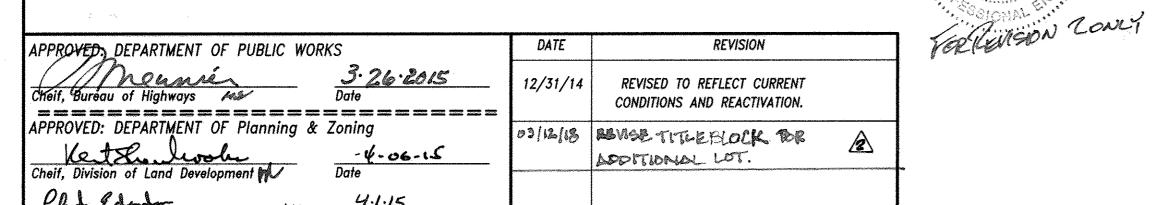


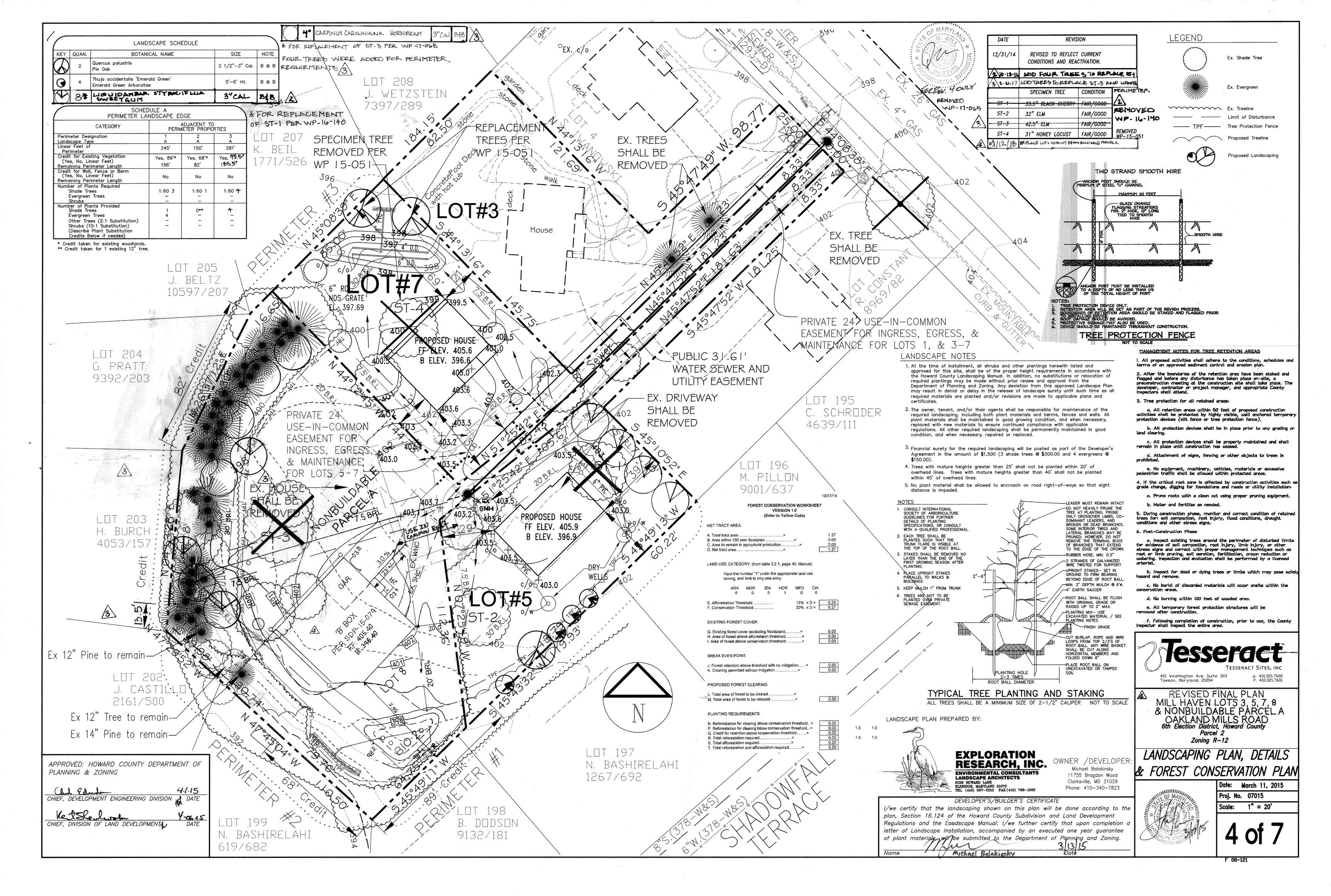
Date: March 11, 2015

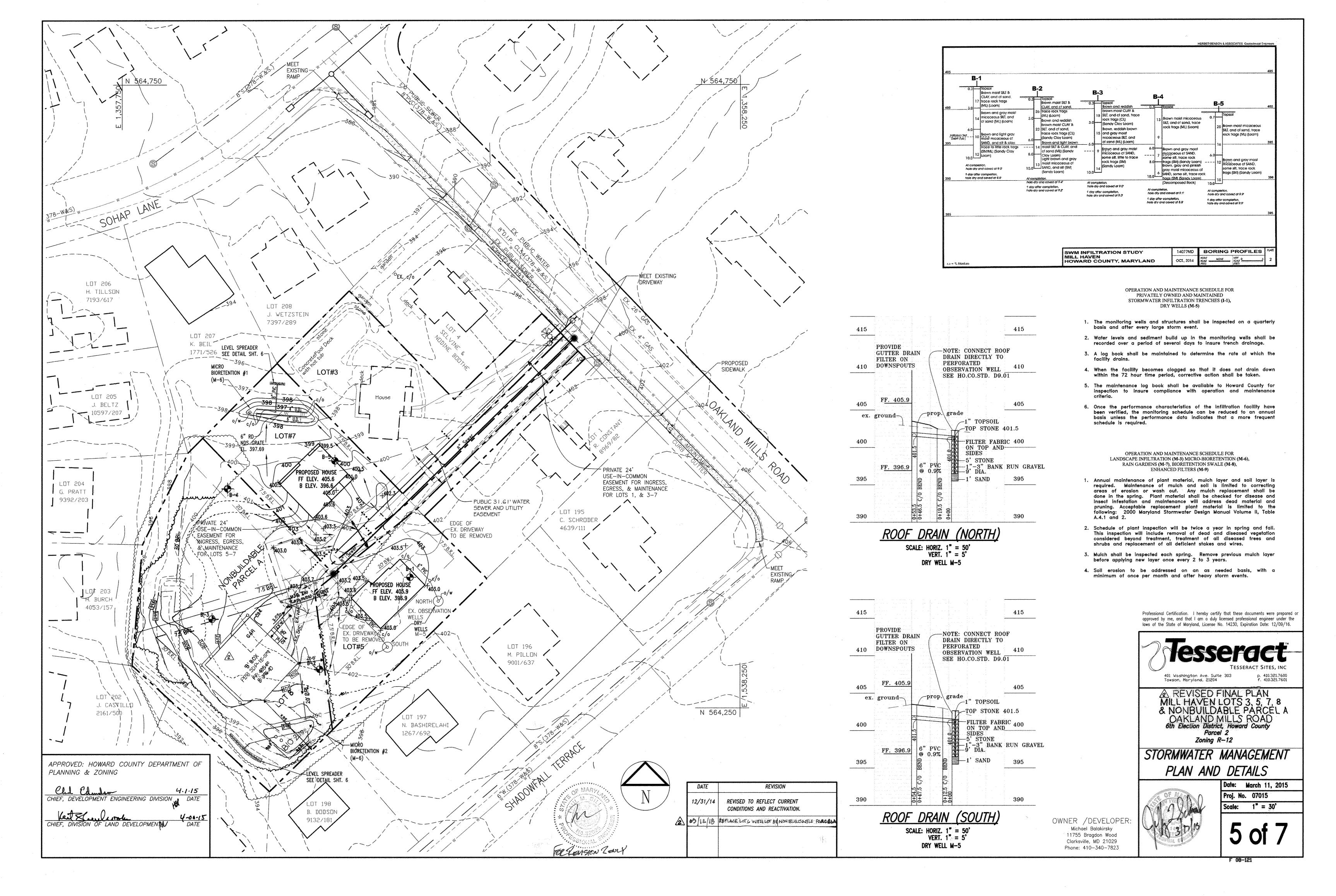
Proj. No. 07015

Scale: 1"= 50'

OWNER /DEVELOPER
Michael Balakirsky
11755 Bragdon Wood
Clarksville, MD 21029
Phone: 410-340-7823







3.4.6. Construction Specifications

3.4.6.1. Timing

A dry well shall not be constructed or placed in service until all of the contributing drainage area has been stabilized and approved by the responsible

3.4.6.2, Dry Well Preparation

Excavate the dry well to the design dimensions. Excavated materials shall be placed away from the excavated sides to enhance wall stability. Large tree roots shall be trimmed flush with the sides in order to prevent fabric puncturing or tearing during subsequent installation procedures. The side walls of the dry well shall be roughened where sheared and sealed by heavy equipment

3.4.6.3. Fabric Laydown

The filter fabric roll shall be cut to the proper width prior to installation. The cut width must include sufficient material to conform to well perimeter irregularities and for a 6-inch minimum top overlap. Place the fabric roll over the well and unroll a sufficient length to allow placement of the fabric down into the well. Stones or other anchoring objects should be placed on the fabric at the edge of the well to keep the lined well open during windy periods. When overlaps are required between rolls, the upstream roll shall lap a minimum of 2 feet over the downstream roll in order to provide a shingled effect. The overlag ensures fabric continuity or the fabric conforms to the excavation surface during aggregate placement and compaction.

3.4.6.4. Aggregate Placement and Compaction

Drainage aggregate shall be placed in lifts and compacted using plate compactors. As a rule of thumb, a maximum loose lift thickness of 12 inches is recommended. The compaction process ensures fabric conformity to the excavation sides, thereby reducing the potential for soil piping and fabric clogging.

3.4.6.5. Overlapping and Covering

Following angregate placement, the fabric previously weighted by stones should be folded over the aggregate to form a 6" minimum longitudinal lap. The desired fill soil should be placed over the lap at sufficient intervals to maintain the lap during subsequent backfilling.

3.4.6.6. Contamination

Care shall be exercised to prevent natural or fill soils from intermixing with the drainage aggregate. All contaminated aggregate shall be removed and replaced with uncontaminated aggregate.

3.4.6.7. Voids Behind Pabric

Voids can be created between the fabric and excavation sides and should be avoided. Removing boulders or other obstacles from the trench walls is one source of such voids. Natural soils should be placed in these voids at the most convenient time during construction to onsure fabric conformity to the excavation sides. Soil piping, fabric clogging, and possible surface subsidence will be avoided by this remedial process.

3.4.6.8. Unstable Excavation Sides

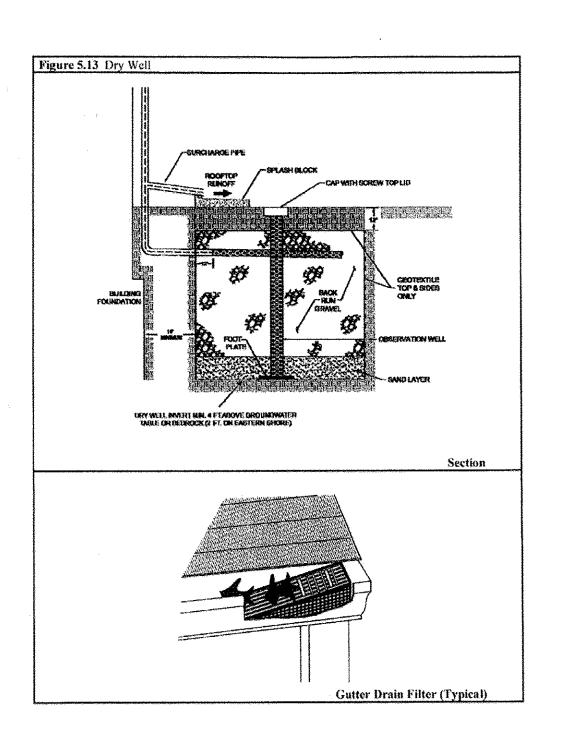
Vertically excavated trench walls may be difficult to maintain in areas where the soil moisture is high or where soft cohesive or cohesionless soils predominate. These conditions may require laying back of the side slopes to maintain stability; trapezoidal rather than rectangular cross sections may result.

3.4.6.9. Foundation Protection

Dry wells 3 or more feet deep shall be located at least 10 feet down gradient from foundation walls.

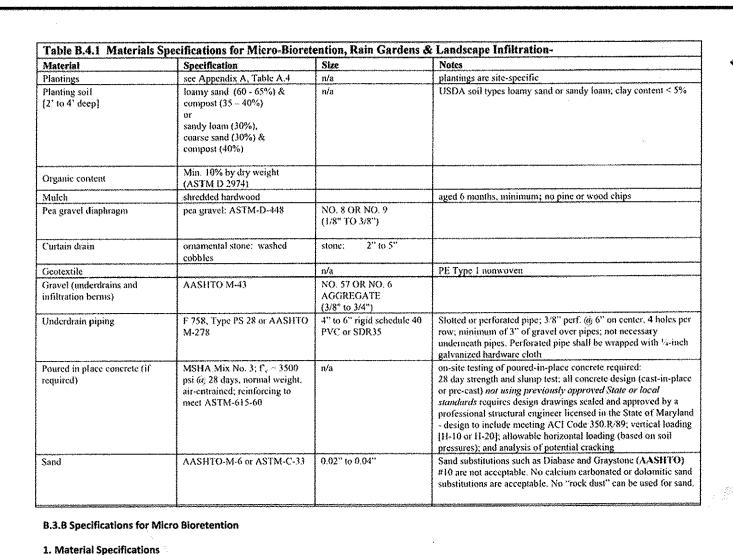
3.4.6.10. Observation Well

An observation well, as described in subsection 3.4.4.8 and Figure 3-5. will be provided. The depth of the well, at the time of installation, will be clearly marked on the well cal.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING Chil Edula-4.1.15 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

4-06-65



The allowable materials to be used in bioretention area detailed in Table B.3.2.

The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within

the bioretention area that may be harmful to plant growth, or prove a hindrance to the

1.5 - 4% (by weight)

not to exceed 500 ppm

35lb. /ac

75 lb. /ac

85 lb. /ac

planting or maintenance operations. The planting soil shall be free of Bermuda grass,

All bioretention areas shall have a minimum of one test. Each test shall consist of both

Since different labs calibrate their testing equipment differently, all testing results shall

Should the pH fall out of the acceptable range, it may be modified (higher) with lime or

It is very important to minimize compaction of both the base of the bioretention area and

the required backfill. When possible, use excavation hoes to remove original soil. If bioretention rubber tires with large lugs or high pressure tires will cause excessive compaction resulting in reduced infiltration rates and is not acceptable. Compaction will

Compaction can be alleviated 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

When backfilling the bioretention facility, place soil in lifts 12" to 18". Do not use heavy

perimeter of the basin to supply soils and sand. Grade bioretention materials with light

Mulch should be placed to a uniform thickness of 2" to 3". Shredded hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to the perimeter

of the bioretention areas during a storm event and are not acceptable. Shredded mulch

Root stock of the plant material shall be kept moist during transport and on-site storage.

The plant root ball should be planted so 1/8th of the ball is above final grading surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the

planting ball. Set and maintain the plant straight during the entire planting process.

Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing

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

The topsoil specifications provide enough organic material to adequately supply nutrients

water quality. Adding fertilizers defeats, or at a minimum, impedes this goal. Only add

fertilizer if wood chips or mulch are used to amend soil. Rototill urea fertilizer at a rate of

from natural cycling. The primary function of the bioretention structure is to improve

Underdrains are to be placed on a 3'-0" wide section of filter cloth. Pipe is placed next,

followed by the gravel bedding. The ends of underdrain pipes are not terminating in an

The main collector pipe for underdrain systems shall be constructed at a minimum slope

The bioretention facility may not be constructed until all contributing drainage area has

4" #8 BRIDGING

STONE

STONE-

4" PERF. PVC. -

4" MIN. DEPTH

VARIES NO. 57

TYPICAL SECTION MICRO BIORETENTION LOT 7

* HOLD BOTTOM LEVEL STONE

ABOVE & BELOW PIPE VARIES

" MULCH

PLANTING

GALVANIZED MESH

GALVANIZED HARDWARE

CLOTH WRAPPED AROUND

---FILTER FABRIC SIDES ONLY

4x4) OR SMALLER

* HOLD BOTTOM LEVEL STONE

ABOVE & BELOW PIPE VARIES

UNDERDRAIN

season only. Stakes are to be easily spaced on the outside of the tree ball.

equipment within the bioretention basin. Heavy equipment can be used around the

equipment such as a compact loader or a dozer/loader with marsh tracks.

tototill 2 to 3 inches of sand into the base of the bioretention facility backfilling t

optional sand layer. Pump any ponded water before preparing (rototilling) base.

the standard soil test for pH, phosphorus, and potassium and additional testes 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

Quackgrass, Johnson grass, or other noxious weeds as specified under COMAR

The planting soil shall be tested and shall meet the following criteria:

2. Planting Soil

organic matter

phosphorus (phosphate - P2O5)

potassium (potash - K2O)

come from the same testing facility.

(lower) with iron sulfate plus sulfur.

significantly contribute to design failure.

effects of compaction from heavy equipment.

Plant material shall be as indicated on the plans.

must be well aged (6 to 12 months) for acceptance.

horoughly water ground bed cover after installation

magnesium

soluble salts

top soil was excavated.

3. Compaction

4. Plant Material

5. Plant Installation

2 pounds per 100 square feet.

observation well shall be capped

7. Miscellaneous

been stabilized

TYPICAL SECTION MICRO BIORETENTION LOT8

4" #8 BRIDGING

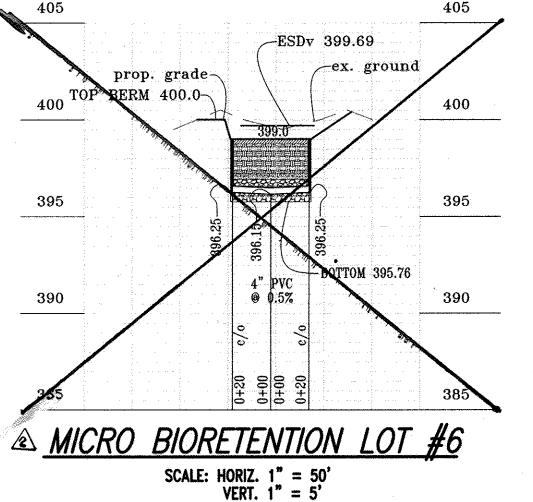
STONE

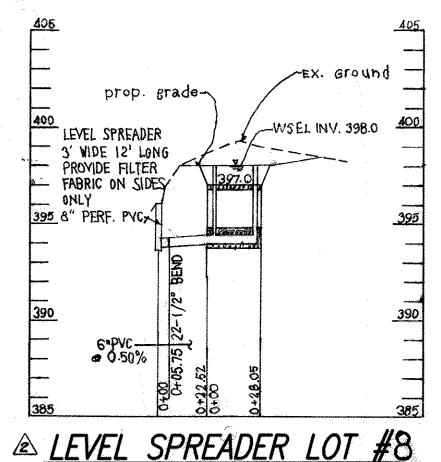
8" MIN. DEPTH

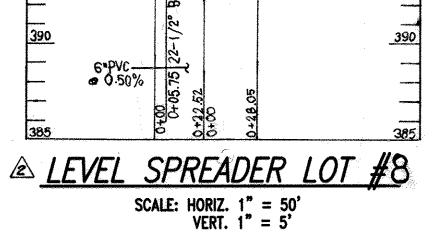
VARIES NO. 57

6" PERF. PVC.—

-TOP 397.00







for Col

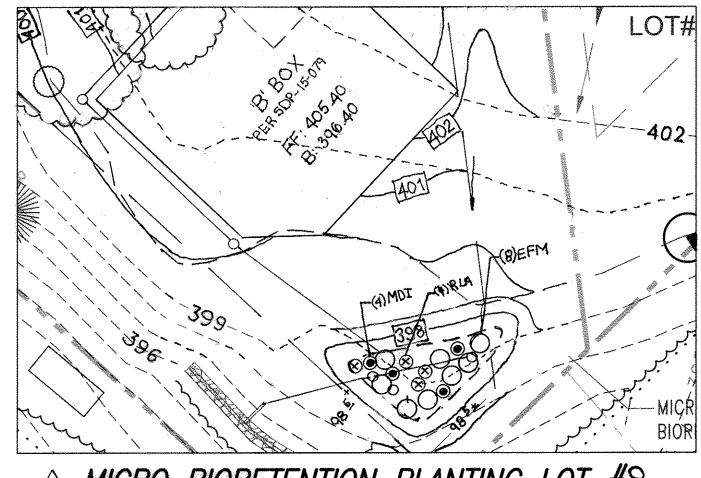
Const

FOOT PLATE

CONCRETE PAD

12"x12"x 4"

OR BLOCKS



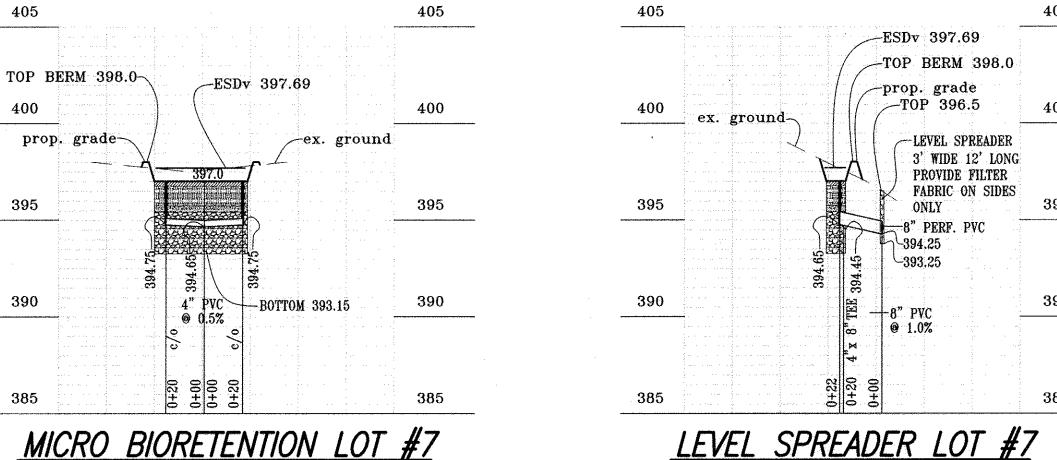
A MICRO BIORETENTION PLANTING LOT #8

LEVEL SPREADER

(I) YPT

BIORETENTION #1

SCALE: 1" = 20'



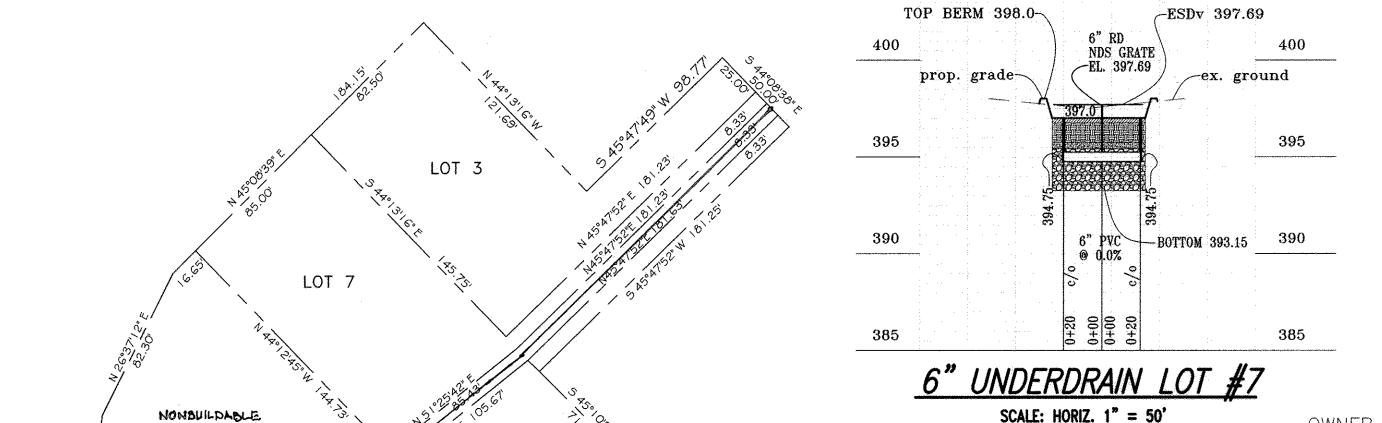
CONDITIONS AND REACTIVATION.

09/12/18 REPLACE LOT 6 WITH LOT 8 & NON-BUILDABLE PARCELA

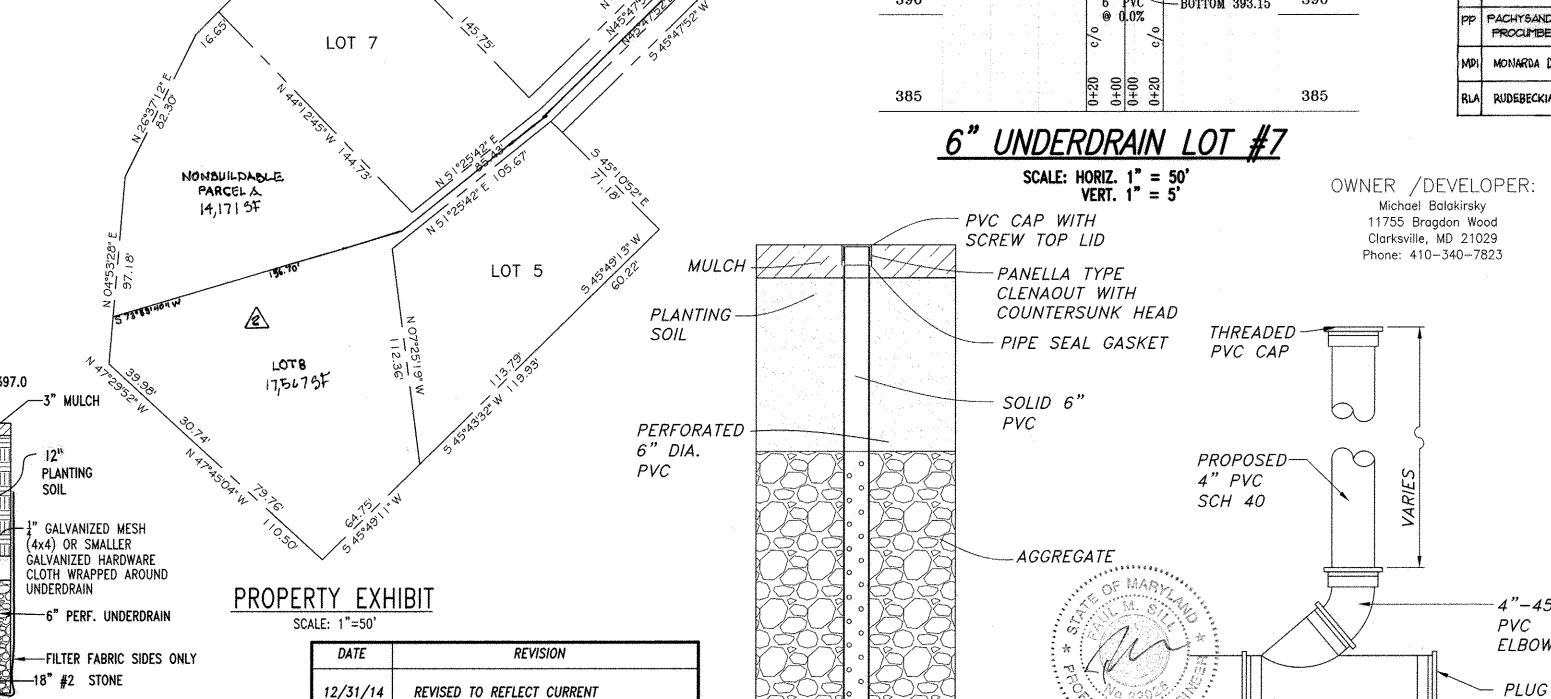
MICRO BIORETENTION LOT #7 SCALE: HORIZ. 1" = 50' VERT. 1" = 5'

(500) pp-MICRO BIORETENTION PLANTING LOT #7

SCALE: 1" = 20'



SMM PLANTING PLANS & SCHEDULE BOTANICAL NAME COMMON NAME SIZE # COMMENTS OB ILEX OPACA 'SATYR HILL' SATYR HILL HOLLY 6' HT 2 BAB OR CONT. SUMMERSWEET 24" HT. 3 BAB OR CONT. CLETHRA ALNIFOLIA VIBURNUM TRILOBUM B4B OR CONT. RANBERRYBUSH VIBURNUM 8 (CONT. (3' O.C.) EUPATORIUM FISTULOSUM JOE-PYE WEED PACHYSANDRA ALLEGHENY EACH 500 66" O.C. PROCUMBENS SPURGE MONARDA DIDYMA BEEBALM I GIT. CONT. RUDEBECKIA LACINIATA TALL CONFFLOWER



OBSERVATION WELL

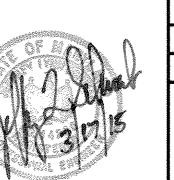
NOT TO SCALE

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 14230, Expiration Date: 12/09/16.

401 Washington Ave. Sulte 303 Towson, Maryland, 21204 REVISED FINAL PLAN MILL HAVEN LOTS 3, 5, 7, 8 & NONBUILDABLE PARCEL A

OAKLAND MILLS ROAD
6th Election District, Howard County Parcel 2 Zoning R-12

STORMWATER MANAGEMENT NOTES AND DETAILS



Date: March 11, 2015 Proj. No. 07015 icale: 1" = 30'

