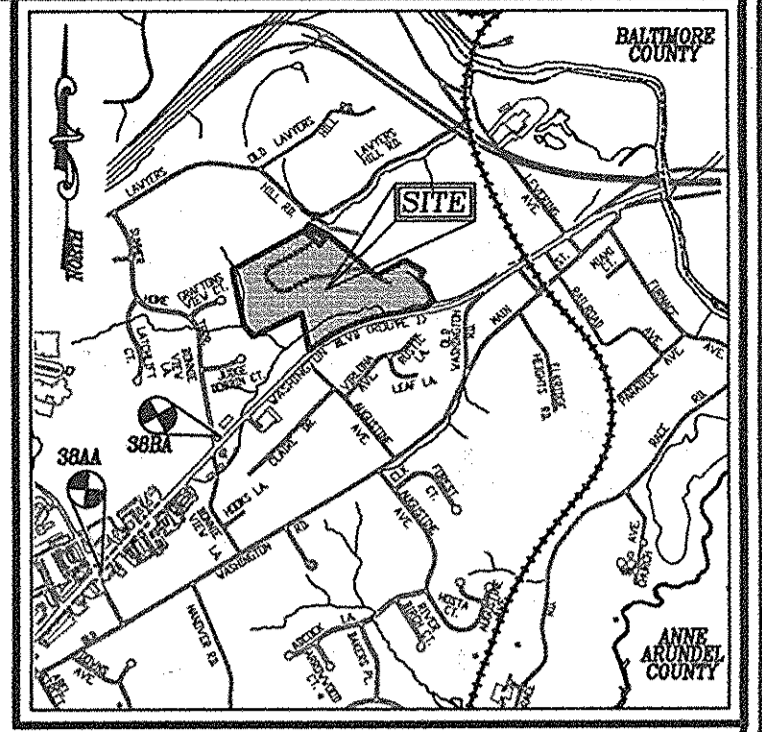


GENERAL NOTES

- 1. 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 START OF WORK.
2. THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
3. ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
4. THE SUBJECT PROPERTY IS ZONED "R-ED" IN ACCORDANCE WITH THE COMPREHENSIVE ZONING PLAN, EFFECTIVE OCTOBER 6, 2013.
5. PROPERTY OUTLINE SHOWN HEREON IS BASED ON A BOUNDARY SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED APRIL 2004.
6. THE TOPOGRAPHY SHOWN HEREON IS BASED ON AN AERIAL TOPOGRAPHIC SURVEY PREPARED BY POTOMAC AERIAL SURVEYS, DATED JANUARY 2004.
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. 38AA AND 38BA WERE USED FOR THIS PROJECT.
8. THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. DEVELOPMENT OR CONSTRUCTION OF THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION, OR BUILDING AND GRADING PERMITS.
9. PREVIOUS STORMWATER MANAGEMENT FOR CYPRESS SPRINGS IS PROVIDED UNDER F-10-028, A MICROPOOL POND (P-1) (SWM POND 1) AND A POCKET POND (P-5) (SWM POND 2) TO PROVIDE THE REQUIRED VOLUME AND CPM, AND A BIORETENTION FACILITY (F-6) TO PROVIDE VOLUME AND REV. SWM# 1 AND 2 ARE TO BE PRIVATELY OWNED BY THE H.O.A., AND JOINTLY MAINTAINED BY THE H.O.A AND HOWARD COUNTY. BIO-RETENTION FACILITY 3 IS TO BE PRIVATELY OWNED AND MAINTAINED BY THE H.O.A. THIS RESUBMISSION SHALL UTILIZE ENVIRONMENTAL SITE DESIGN IN ACCORDANCE WITH THE APPROVED SIMPLIFIED ENVIRONMENTAL CONCEPT PLAN SUBMISSION.
10. THE PROPOSED UNITS SHALL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
11. EXISTING UTILITIES LOCATED FROM ROAD CONSTRUCTION PLANS AND AVAILABLE RECORD DRAWINGS, APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTORS INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE.
12. ANY DAMAGE TO THE COUNTY'S RIGHTS-OF-WAY, PAVING, OR EXISTING UTILITIES SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
13. SHC ELEVATIONS ARE LOCATED AT THE PROPERTY LINE/EDGE OF EASEMENT.
14. THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING:
AT&T 1-800-252-1133
BOE (CONSTRUCTION SERVICES) 410-657-8713
BOE (EMERGENCY) 410-685-0123
BUREAU OF UTILITIES 410-313-4900
COLONIAL PIPELINE CO 410-795-1300
MISS UTILITY 1-800-257-7777
STATE HIGHWAY ADMINISTRATION 410-531-5533
VERIZON 1-800-743-0033
15. THERE ARE NO EXISTING DWELLING/STRUCTURES LOCATED ON THIS SITE.
16. 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 FRONT OR REAR YARD SETBACK.
17. SECTION 128A.1.J) OF THE ZONING REGULATIONS (CB-2-2012) WHICH ALLOWS SUNROOMS AND ROOM EXTENSIONS TO EXTEND NOT MORE THAN 10 FEET INTO THE REAR SETBACK ALONG NOT MORE THAN 50% OF THE REAR FACE OF A DWELLING ON A LOT WHICH ADJOINS OPEN SPACE ALONG A MAJORITY OF THE REAR LOT LINE FOR R-ED LOTS RECORDED AFTER THE EFFECTIVE DATE OF CB-2-2012 (MAY 13, 2012).
18. DRIVEWAYS SHALL PROVIDE PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
A) WIDTH - 12 FEET (16 FEET IF SERVING MORE THAN ONE RESIDENCE)
B) SURFACE - 6" OF COMPACTED CRUSHER RUN BASE WITH/AND CHIP COATING (1-1/2" MIN.)
C) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE, AND MINIMUM 45 FOOT TURNING RADIUS
D) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 TONS (H25 LOADING)
E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD EVENTS WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE.
F) MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE
19. A USE-IN-COMMON MAINTENANCE AGREEMENT FOR LOT 48 AND OPEN SPACE LOTS 17 AND 50 WAS PREVIOUSLY RECORDED AS 15-916 F 249. IN THE LAND RECORDS OF HOWARD COUNTY, MD. HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS SHALL NOT BE RESPONSIBLE FOR MAINTENANCE OF THE UIC ACCESS EASEMENT OR SHARED DRIVEWAY.
20. ROAD FRONTAGE TO OPEN SPACE LOTS 17 AND 50 SHALL BE THROUGH OPEN SPACE LOTS OWNED BY HOWARD COUNTY, MD.
21. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAMS OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100 YEAR FLOODPLAIN.
22. FOR FLAG OR PIPESTEM ROAD, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM ROAD RIGHT-OF-WAY LINE AND NOT ONTO THE FLAG OR PIPE STEM DRIVEWAY.
23. TRASH & RECYCLING COLLECTION WILL BE AT THE COUNTY ROADWAYS WITHIN FIVE FEET (5') OF THE COUNTY ROADWAY.
24. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
25. WATER AND SEWER SERVICE TO THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.122.B OF THE HOWARD COUNTY CODE.
26. WATER AND SEWER FOR THIS PROJECT WILL BE PUBLIC.
27. EXISTING SERVICE CONNECTIONS TO LOT 33 (47) SHALL BE UTILIZED IN ADDITION TO NEW CONNECTIONS.
28. WATER SERVICE CONNECTION FOR LOTS 48 & 49 SHALL BE PRIVATE CONNECTION FROM CONTRACT 14-4648-0.
29. SEWER SERVICE CONNECTION FOR LOTS 48 & 49 SHALL BE PRIVATE CONNECTION FROM CONTRACT 14-4648-0.
30. PUBLIC WATER AND SEWER ALLOCATION WILL BE GRANTED AT THE TIME OF ISSUANCE OF THE BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME.
31. ALL WATER SERVICE CONNECTIONS SHALL BE OUTSIDE METER SETTING UNLESS OTHERWISE NOTED ON THE PLANS OR IN SPECIFICATIONS.
32. THIS PROPERTY IS LOCATED WITHIN THE LAWYERS HILL NATIONAL HISTORIC DISTRICT.
33. THE EXISTING STRUCTURE LOCATED ON LOT 47 WAS LISTED ON THE HISTORIC SITES INVENTORY AS HO-449, THE OLD GRACE CHURCH RECTORY WHICH WAS TO REMAIN ON THE PROPERTY AND TO BE LOCATED ON LOT 47 WAS DESTROYED BY FIRE.
34. TO THE BEST OF THE OWNER'S KNOWLEDGE, THERE ARE NO CEMETERY OR BURIAL SITES LOCATED ON SUBJECT PROPERTY.
35. LAWYERS HILL ROAD IS A SCENIC ROAD. AREAS ADJACENT TO AND PARALLEL TO LAWYERS HILL ROAD WILL REMAIN UNDEVELOPED AND MOSTLY WOODED. THIS MAINTAINING THE EXISTING CHARACTERISTICS OF THE SCENIC ROAD.
36. CYPRESS SPRINGS ROAD IS CLASSIFIED AS A PUBLIC ACCESS STREET.
37. INGRESS AND EGRESS IS RESTRICTED ALONG WASHINGTON BOULEVARD (U.S. ROUTE 1).
38. A FOREST STAND DELINEATION PLAN WAS PREPARED BY JOHN CANOVES, ECO-SCIENCE PROFESSIONALS, DATED SEPTEMBER 2004.
39. THE FOREST CONSERVATION REQUIREMENTS, PER SECTION 16.102 OF THE HOWARD COUNTY CODE, THE FOREST CONSERVATION MANUAL AND FOREST CONSERVATION ACT, FOR THE ENTIRE SUBDIVISION (SP-05-06, F-10-028 AND SDP-09-061) HAVE BEEN FULFILLED THROUGH THE RETENTION OF 10.88 ACRES LOCATED OPEN SPACE LOTS 16 AND 17 WHICH IS SUFFICIENT TO MEET THE REQUIRED BREAKDOWN POINT OF 9 ACRES OF RETENTION REQUIRED UNDER F-10-028.
40. FOREST CONSERVATION EASEMENT NUMBERS 2-A AND 4-A CONSISTING OF 0.29 ACRES OF PLANTINGS ON OPEN SPACE LOT 50 OF BREAKDOWN POINT OF 9 ACRES OF RETENTION REQUIRED UNDER F-10-028.
41. FOREST CONSERVATION EASEMENT NUMBERS 2-A AND 4-A CONSISTING OF 0.25 ACRES OF PLANTINGS ON OPEN SPACE LOT 50 = \$ 5,420 (0.25 AC @ \$0.50/SF) SHALL BE POSTED WITH AN AMENDED DEVELOPERS AGREEMENT FOR SDP-09-061FC.
42. FOREST CONSERVATION EASEMENT AREAS 2-A AND 4-A LOCATED ON OPEN SPACE LOT 50 PROVIDES EXCESS FOREST CONSERVATION EASEMENT TO BE UTILIZED FOR FUTURE DEVELOPMENT. REFER TO SDP-09-061FC.
43. A TRAFFIC STUDY IS NOT REQUIRED FOR THIS SITE.
44. A NOISE STUDY HAS BEEN PREPARED BY ROBERT H. VOGEL, DATED SEPTEMBER 2004. THE NOISE CONTOUR IS BASED ON THE PROJECTED 2020 TRAFFIC STUDY. THE 65dBA NOISE CONTOUR LINE SHOWN HEREON IS AS REQUIRED BY THE HOWARD COUNTY DESIGN MANUAL, CHAPTER 5, REVISED FEBRUARY, 1992. NOISE STUDY REVISION FOR RELOCATION OF LOT 47, APRIL 2014. THE 65 dBA NOISE CONTOUR LINE DRAWN ON THIS SUBDIVISION PLAN IS AS REQUIRED BY THE HOWARD COUNTY DESIGN MANUAL, CHAPTER 5, REVISED FEBRUARY, 1992 AND CANNOT BE CONSIDERED TO EXACTLY LOCATE THE 65 dBA NOISE EXPOSURE. THE 65 dBA NOISE CONTOUR LINE WAS DEVELOPED BY AUBREY BROWN, INC. THE BUILDING FOOTPRINTS AND RESIDENTS THAT AREAS BEYOND THIS THRESHOLD MAY EXCEED GENERALLY ACCEPTED NOISE LEVELS ESTABLISHED BY THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.
45. IN ACCORDANCE WITH SECTION 16.120.9.A.3.c OF THE ZONING REGULATIONS, NOISE WALLS ARE EXEMPT FROM SETBACK REQUIREMENTS. THE NOISE WALL LOCATED ON LOT 49 SHALL BE CONSTRUCTED UNDER THIS SITE DEVELOPMENT PLAN.
46. MAINTENANCE AND UPKEEP OF THE NOISE WALL/FENCE LOCATED ON LOT 49 SHALL BE THE RESPONSIBILITY OF THE LOT OWNER.
47. A GEOTECHNICAL REPORT IS NOT REQUIRED FOR THIS PROJECT.
48. THE OFFICIAL PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT ON SEPTEMBER 19, 2013 AT ELKRODGE BRANCH LIBRARY.
49. A SIMPLIFIED ENVIRONMENTAL CONCEPT PLAN WAS APPROVED ON FEBRUARY 4, 2014.
50. SP 05-006 WAS APPROVED BY THE PLANNING BOARD UNDER CASE PB 274 ON MAY 11, 2006. THIS FINAL PLAN F 14-127 WAS APPROVED BY THE PLANNING BOARD UNDER CASE 405 ON JUNE 18, 2015.
51. PERIMETER, SWM LANSCAPE AND STREET TREES IN ACCORDANCE WITH SECTION 16.124 OF THE LANDSCAPE MANUAL SHALL BE INSTALLED IN ACCORDANCE WITH THE ROAD CONSTRUCTION DRAWINGS FOR F-10-028.
52. SURETY IN THE AMOUNT OF \$150,000 WAS PREVIOUSLY POSTED FOR THE 5 SHIRUPS USED TO SCREEN THE CONCRETE TRASH PAD AT THE INTERSECTION OF CYPRESS SPRINGS ROAD AND USE-IN-COMMON DRIVEWAY FOR LOTS 44-49 UNDER SDP-13-042.
53. THE PROPOSED SUBDIVISION AND RELATED CONSTRUCTION WILL NOT IMPACT ENVIRONMENTAL FEATURES OR BUFFERS.
54. SOIL TYPES SHOWN IN ACCORDANCE WITH THE WEB SOIL SURVEY - HOWARD COUNTY, MARYLAND.
55. AN "OBVIOUSLY NOT CRITICAL" FLOODPLAIN STUDY WAS PERFORMED BY ROBERT H. VOGEL ENGINEERING, INC. DATED JANUARY 2005.
56. NO STEEP SLOPES EXIST ON LOTS 48 AND 49.
57. STRAINS AND WETLANDS SHOWN HEREON WERE DELINEATED BY JOHN CANOVES, ECO-SCIENCE PROFESSIONALS, INC., DATED SEPTEMBER 2004. A 25' WETLAND BUFFER HAS BEEN ESTABLISHED, PER SECTION 16.116(a)(1) OF THE SUBDIVISION REGULATIONS. REFER TO F-10-028 AND SDP-09-061. NO STREAMS AND/OR WETLANDS EXIST ON LOTS 48-50.
58. IN ACCORDANCE WITH SECTION 13.3.2.b OF THE ZONING REGULATIONS 2.5 PARKING SPACES PER RESIDENCE IS REQUIRED. TWO SPACES ARE PROVIDED IN EACH GARAGE AND 2 SPACES PER DRIVEWAY.
59. REFERENCE : DESIGN MANUAL WAGER TO VOLUME IV, DETAIL R-1.02, TO ALLOW A 40' RIGHT-OF-WAY INSTEAD OF THE REQUIRED 50' RIGHT-OF-WAY WAS APPROVED BY DEVELOPMENT ENGINEERING DIVISION ON JANUARY 4, 2010.
60. THIS PROJECT IS SUBJECT TO WP-13-167. ON MAY 28, 2013, THE PLANNING DIRECTOR APPROVED THE REQUEST, TO WAIVE:
A) FROM SECTION 16.120(b)(5)(i) TO ALLOW THE 65 dBA NOISE LINE TO BE LOCATED ALONG THE SOUTHWESTERN PORTION OF LOT 47 WITHOUT NOISE MITIGATION, SUBJECT TO THE FOLLOWING CONDITIONS:
- LOT 47 SHALL NOT BE FURTHER SUBDIVIDED AT ANY TIME IN THE FUTURE WITHOUT MEETING REQUIRED NOISE MITIGATION AS APPLICABLE.
- THE PROPOSED HOUSE LOCATED ON LOT 47 SHALL BE CONSTRUCTED AS SHOWN ON SDP-13-042 AND CANNOT BE RELOCATED WITHIN THE 65 dBA UNMITIGATED NOISE LINE.
B) FROM SECTION 16.120(b)(5)(ii) TO ALLOW THE PLACEMENT OF A NOISE WALL/FENCE ALONG THE EASTERN SIDE AND SOUTHERN REAR PROPERTY LINES OF LOT 48 AS SHOWN ON SDP-13-042 RATHER THAN ON AN OPEN SPACE LOT AND TO ALLOW THE RECORDED OF F-13-037 WITHOUT THE SHOWING OF A NOISE WALL/FENCE MAINTENANCE EASEMENT ON LOT 48, SUBJECT TO THE FOLLOWING CONDITIONS:
- THE NOISE WALL ON LOT 48 SHALL BE CONSTRUCTED TO ACCEPTABLE DED DESIGN MANUAL STANDARDS AND A RED-LINE REVISION TO THE APPROVED ROAD CONSTRUCTION DRAWINGS FOR F-10-028/CYPRESS SPRINGS SHALL BE REQUIRED PRIOR TO RECORDED.
C) FROM SECTION 16.144(c) TO ALLOW A 180 DAY EXTENSION OF TIME FROM JUNE 2, 2013 BY WHICH TO SUBMIT THE FINAL PLAT ORIGINALS FOR SIGNATURE PROCESSING AND RECORDED, NEW DEADLINE NOVEMBER 29, 2013.
61. THIS PROJECT IS SUBJECT TO WP-14-005. ON DECEMBER 17, 2013, THE PLANNING DIRECTOR APPROVED THE REQUEST, TO WAIVE: SECTION 16.144(d) THAT REQUIRES THE SUBMISSION OF A PRELIMINARY EQUIVALENT SKETCH PLAN TO ADD ONE ADDITIONAL LOT BEYOND THE INITIAL 43 SINGLE FAMILY LOTS APPROVED BY THE PLANNING BOARD ON 5-11-2006 (PB CASE 374) APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
1. THE DEVELOPER SHALL SUBMIT A PLANNING BOARD APPLICATION FOR PLANNING BOARD APPROVAL TO RESUBDIVIDE LOT 47 INTO TWO LOTS (LOTS 48 AND 49) AS SHOWN ON A FINAL PLAT.
2. IN ACCORDANCE WITH CONDITIONS OF WP13-167, LOT 47 SHALL NOT BE SUBDIVIDED WITHOUT MEETING REQUIRED NOISE MITIGATION.
3. COMMENTS FROM THE DEVELOPMENT ENGINEERING DIVISION REQUIRING THE CONSTRUCTION OF A 16' WIDE USE-IN-COMMON DRIVEWAY AND PROVIDING A TURN ARROUND AREA AT THE END OF THE USE-IN-COMMON DRIVEWAY FOR LOTS 44-49.
62. LOTS IN THIS SUBDIVISION ARE SUBJECT TO THE MINIMUM 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.

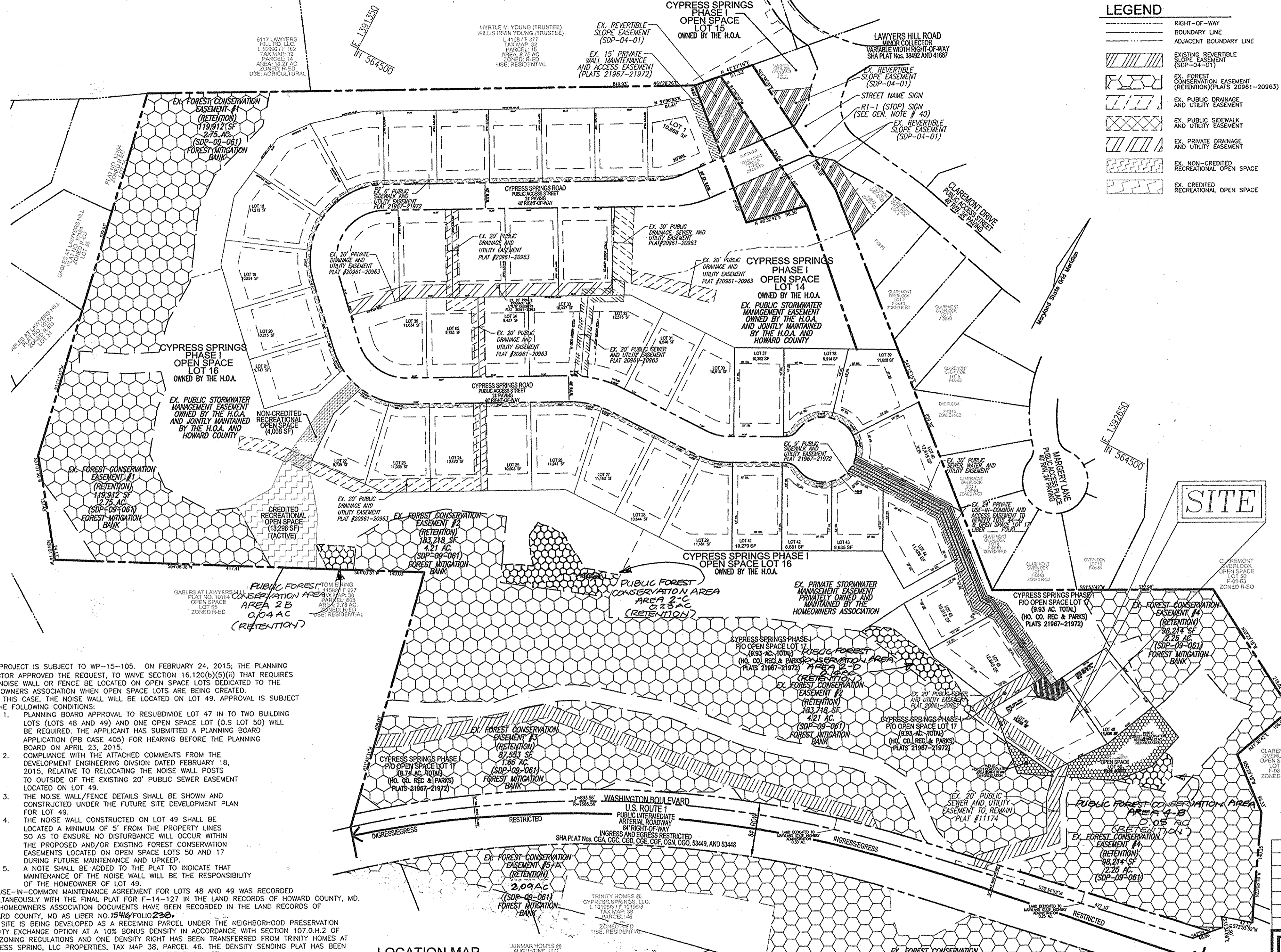
SITE DEVELOPMENT PLAN
CYPRESS SPRINGS - PHASE 3
LOTS 48 AND 49

BENCHMARKS table with columns NO., NORTHING, EASTING, ELEVATION. Includes benchmarks 38AA, 38BA, 38BA.



LEGEND table defining symbols for various features like RIGHT-OF-WAY, ADJACENT BOUNDARY LINE, EXISTING REVERSIBLE SLOPE EASEMENT, etc.

SHEET INDEX table with columns DESCRIPTION and SHEET NO., listing sheets 1 through 6.



MINIMUM LOT SIZE CHART table with columns LOT #, GROSS AREA, PIPESTEM AREA, NET AREA. Lists lots 48 and 49.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chief, Development Engineering Division: 2-24-16
Chief, Division of Land Development: 5-19-16
Director: 5-19-16

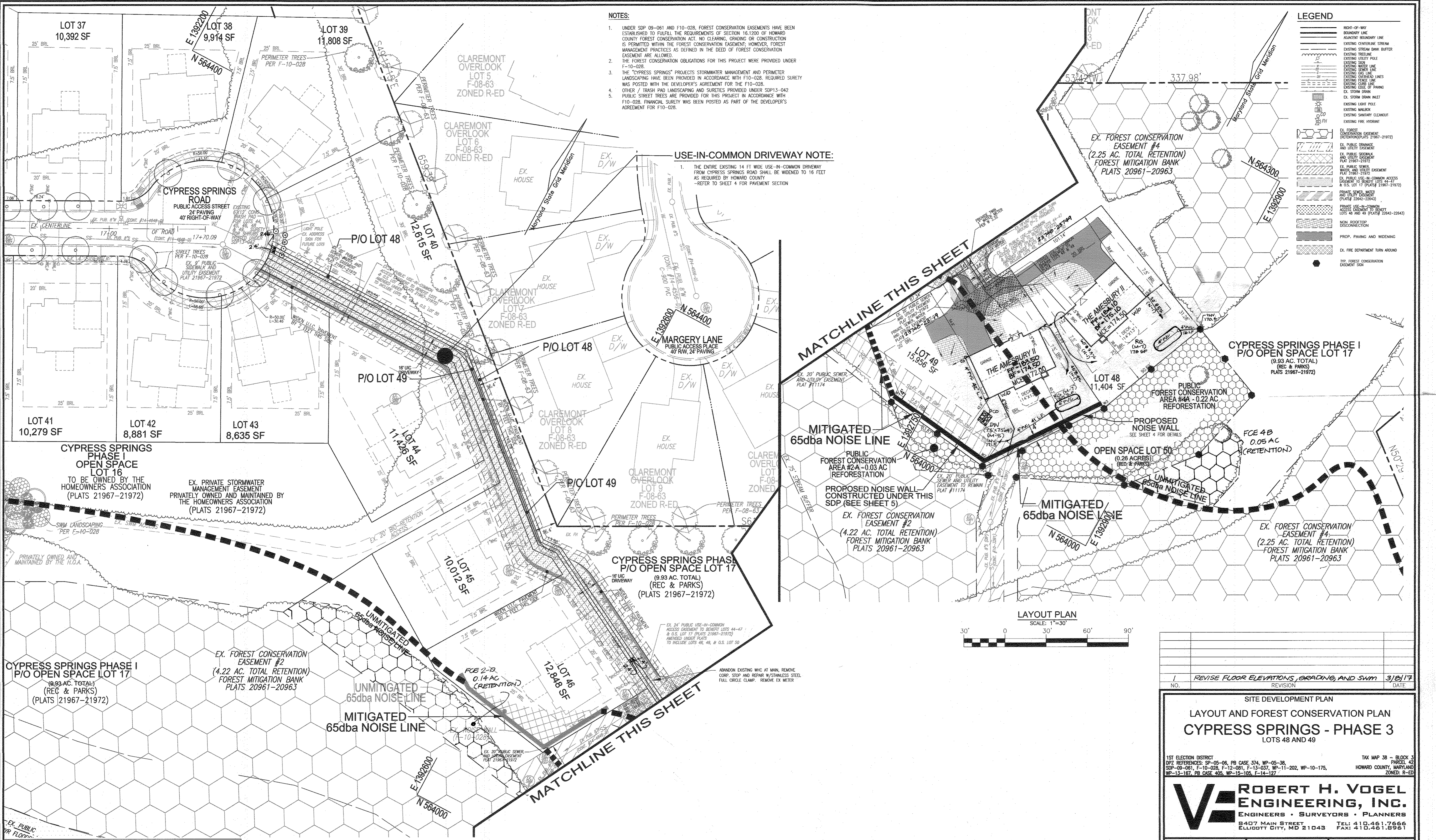
SITE ANALYSIS DATA table with columns A-P and corresponding values for project area, units, and other metrics.

PERMIT INFORMATION CHART table with columns SUBDIVISION NAME, SECTION/ AREA, LOTS, PLAT REF., BLOCK, ZONE, TAX MAP, ELECT. DIST., CENSUS TR.

ADDRESS CHART table with columns LOT NO. and STREET ADDRESS, listing lots 48, 49, and 50.

OWNER / DEVELOPER / CYPRESS SPRINGS
3675 PARK AVENUE, SUITE 301
ELLCOTT CITY, MARYLAND 21043
(410) 480-0023

Professional Engineer seal for Robert H. Vogel, Inc. and project information including sheet number 1 of 6 and date 12/11/2015.



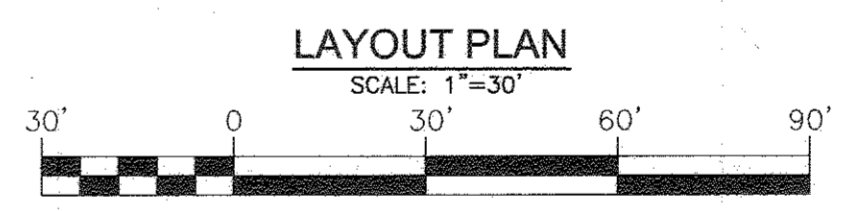
NOTES:

1. UNDER SDP 09-061 AND F10-028, FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF HOWARD COUNTY FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT; HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
2. THE FOREST CONSERVATION OBLIGATIONS FOR THIS PROJECT WERE PROVIDED UNDER F-10-028.
3. THE "CYPRESS SPRINGS" PROJECTS STORMWATER MANAGEMENT AND PERIMETER LANDSCAPING HAVE BEEN PROVIDED IN ACCORDANCE WITH F10-028. REQUIRED SURETY WAS POSTED WITH THE DEVELOPER'S AGREEMENT FOR THE F10-028.
4. OTHER TREES AND LANDSCAPING AND SURETIES PROVIDED UNDER SDP13-042 PUBLIC STREET TREES ARE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH F10-028. FINANCIAL SURETY WAS POSTED AS PART OF THE DEVELOPER'S AGREEMENT FOR F10-028.

USE-IN-COMMON DRIVEWAY NOTE:

1. THE ENTIRE EXISTING 14 FT WIDE USE-IN-COMMON DRIVEWAY FROM CYPRESS SPRINGS ROAD SHALL BE WIDENED TO 16 FEET AS REQUIRED BY HOWARD COUNTY
--REFER TO SHEET 4 FOR PAVEMENT SECTION

- LEGEND**
- ROAD-OF-WAY
 - BOUNDARY LINE
 - ADJACENT BOUNDARY LINE
 - EXISTING CENTERLINE STRIUM
 - EXISTING UTILITY POLE
 - EXISTING STREAM BANK BUFFER
 - EXISTING TREE LINE
 - EXISTING WATER LINE
 - EXISTING SEWER LINE
 - EXISTING FENCE LINE
 - EXISTING OVERHEAD LINES
 - EXISTING POWER LINE
 - EXISTING CLOSURE LINE
 - EXISTING CURB LINE
 - EX. STORM DRAIN
 - EX. STORM DRAIN INLET
 - EXISTING LIGHT POLE
 - EXISTING MAILBOX
 - EXISTING SANITARY CLEANOUT
 - EXISTING FIRE HYDRANT
 - EX. FOREST CONSERVATION EASEMENT (SECTION/PLATS 21967-21972)
 - EX. PUBLIC STORMWATER AND UTILITY EASEMENT (PLATS 21967-21972)
 - EX. PUBLIC USE-IN-COMMON ACCESS (PLATS 21967-21972) & O.S. LOT 17 (PLATS 21967-21972)
 - EX. PRIVATE STORMWATER MANAGEMENT AND UTILITY EASEMENT (PLATS 21967-21972)
 - EX. PRIVATE USE-IN-COMMON ACCESS EASEMENT TO BENEFIT USE #6 AND #8 (PLATS 22042-22043)
 - NON-ROOFTOP DISCONNECTION
 - PROP. PAVING AND WIDENING
 - EX. FIRE DEPARTMENT TURN AROUND
 - EXP. FOREST CONSERVATION EASEMENT SIGN



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Clark 7-7-16
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Kat Sabers 5-19-16
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

William J. Miller 5-19-16
DIRECTOR DATE

NOTES:

1. FOR THE NEW WATER CONNECTIONS TO LOTS 48 AND 49, UTILIZE A TWIN 1" OUTSIDE METER SETTING DETAIL PER W 3.32, WHERE SHOWN HEREON.
2. FOR THE EXISTING CONNECTION TO LOT 47, REMOVE THE CORPORATION STOP AND REPAIR WITH STAINLESS STEEL FULL CIRCLE CLAMP.
3. UTILIZE EXISTING SEWER HOUSE CONNECTION SHOWN FOR LOT 47 FOR LOT 48 (CONTRACT 14-4648-D) AND THE EXISTING CONNECTION FROM EXISTING MANHOLE 5 (CONTRACT 10-3991) FOR LOT 49

OWNER / DEVELOPER /
MATTHEW PFAU
3675 PARK AVENUE, SUITE 301
ELLIGOTT CITY, MARYLAND 21043
(410) 480-0023

NO.	REVISION	DATE
1	REVISE FLOOR ELEVATIONS, GRADING, AND SWM	3/8/17

SITE DEVELOPMENT PLAN
LAYOUT AND FOREST CONSERVATION PLAN
CYPRESS SPRINGS - PHASE 3
LOTS 48 AND 49

1ST ELECTION DISTRICT
SDP REFERENCES: SP-05-06, PB CASE 374, WP-05-38, SDP-09-061, F-10-028, F-12-061, F-13-037, WP-11-202, WP-10-175, WP-13-167, PB CASE 405, WP-15-105, F-14-127

TAX MAP 38 - BLOCK 3
PARCEL 483
HOWARD COUNTY, MARYLAND
ZONED: R-ED

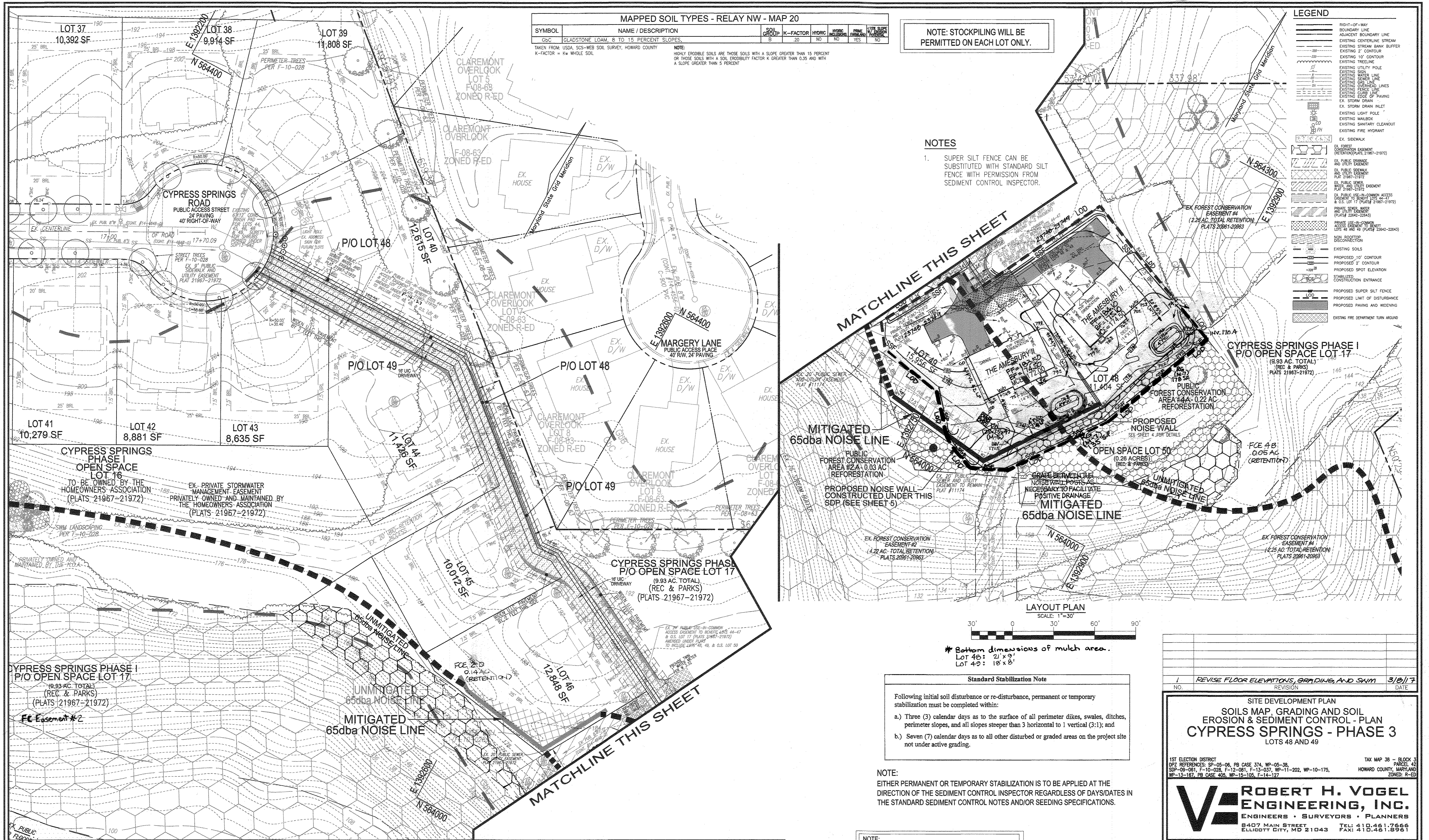
ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLIGOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

DESIGN BY: EDS.
DRAWN BY: RVE.
CHECKED BY: RHY.
DATE: DECEMBER, 2015
SCALE: AS SHOWN
W.O. NO.: 04-30

PROFESSIONAL CERTIFICATE
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. 16193
EXPIRATION DATE: 09-27-2016

2 SHEET OF 6

ROBERT H. VOGEL, PE No. 16193



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING Chief, Development Engineering Division 2/24/16 DATE 5-19-16 DATE 5-19-16 DATE	THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT. JOHN R. ROBERTSON 2/17/16 HOWARD S.C.D. DATE	BY THE DEVELOPER: I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT. MATTHEW PFAU 2/10/16 SIGNATURE OF DEVELOPER DATE	BY THE ENGINEER: I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. [Signature] 2/10/16 SIGNATURE OF ENGINEER DATE
---	--	--	---

1 REVISE FLOOR ELEVATIONS, GRADING, AND SWM 3/8/17

NO. REVISION DATE

SITE DEVELOPMENT PLAN
SOILS MAP, GRADING AND SOIL EROSION & SEDIMENT CONTROL - PLAN
CYPRESS SPRINGS - PHASE 3
LOTS 48 AND 49

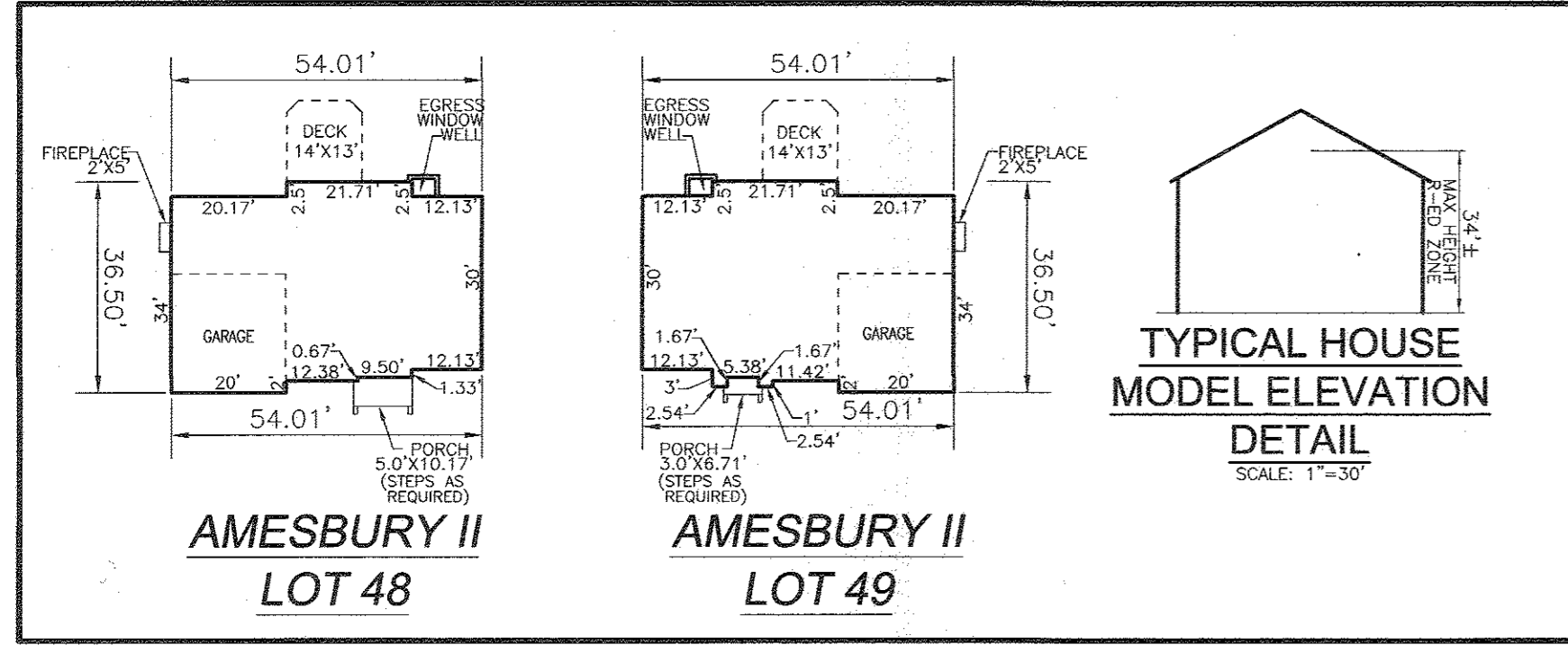
1ST ELECTION DISTRICT DPZ REFERENCES: SP-05-06, PB CASE 374, WP-05-38, SDP-09-081, F-10-028, F-12-081, F-13-037, WP-11-202, WP-10-175, WP-13-187, PB CASE 405, WP-15-105, F-14-127 TAX MAP 38 - BLOCK 3 PARCEL 42 HOWARD COUNTY, MARYLAND ZONED: R-ED

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961

DESIGN BY: EDS
DRAWN BY: RVE
CHECKED BY: RHV
DATE: DECEMBER 2016
SCALE: AS SHOWN
W.O. NO.: G4-30

PROFESSIONAL CERTIFICATE
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. 16183 EXPIRATION DATE: 09-27-2016

3 SHEET OF 6



N-1. DISCONNECTION OF ROOFTOP RUNOFF

CONSTRUCTION CRITERIA:

THE FOLLOWING ITEMS SHOULD BE ADDRESSED DURING THE CONSTRUCTION OF PROJECTS WITH PLANNED ROOFTOP DISCONNECTIONS:

— EROSION AND SEDIMENT CONTROL: EROSION AND SEDIMENT CONTROL PRACTICES (E.G., SEDIMENT TRAPS) SHALL NOT BE LOCATED IN VEGETATED AREAS RECEIVING DISCONNECTED RUNOFF

— SITE DISTURBANCE: CONSTRUCTION VEHICLES AND EQUIPMENT SHOULD AVOID AREAS RECEIVING DISCONNECTED RUNOFF TO MINIMIZE DISTURBANCE AND COMPACTION. SHOULD AREAS RECEIVING DISCONNECTED RUNOFF BECOME COMPACTED, SCARIFYING THE SURFACE OR ROTOTILLING THE SOIL TO A DEPTH OF FOUR TO SIX INCHES SHALL BE PERFORMED TO ENSURE PERMEABILITY. ADDITIONALLY, AMENDMENTS MAY BE NEEDED FOR TIGHT, CLAYEY SOILS.

INSPECTION:

A FINAL INSPECTION SHALL BE CONDUCTED BEFORE USE AND OCCUPANCY APPROVAL TO ENSURE THAT SIZING FOR TREATMENT AREAS HAVE BEEN MET AND PERMANENT STABILIZATION HAS BEEN ESTABLISHED.

MAINTENANCE CRITERIA:

MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING DISCONNECTED RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION (E.G., BY PLANTING TREES OR SHRUBS ALONG THE PERIMETER). IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

APPENDIX B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDEN, LANDSCAPE INFILTRATION & INFILTRATION BERMS

1. MATERIAL SPECIFICATIONS

THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.

2. FILTERING MEDIA OR PLANTING SOIL

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 MICRO-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE AN OBSTACLE 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 15.08.01.02.

THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:

- SOIL COMPOSITION - 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 MIXTURE OF LOAMY SAND (60%-65%) AND COMPOST (30% TO 40%) OR SANDY LOAM (30%), CORN-STEM (30%), AND COMPOST (40%).
- CLAY CONTENT - HEAVY SHALL HAVE A CLAY CONTENT OF LESS THAN 5%.
- PH RANGE - SHOULD BE BETWEEN 5.5 - 7.0. AMMONIUMS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED IN TO 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 TESTS 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.

3. 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 LOADERS, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TIRE TYPE THIS. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH-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 ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS CHESEL FLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO RESTRUCTURE 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 COMPACTION FROM HEAVY EQUIPMENT.

ROTTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP UP PONDING WATER BEFORE PREPARING (ROTOTILLING) BASE.

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

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.

4. PLANT MATERIAL

RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.

5. PLANT INSTALLATION

COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS. MULCH SHOULD BE PLACED IN SUBROUNDINGS TO A UNIFORM THICKNESS OF 2" TO 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 TO 12 MONTHS) FOR ACCEPTANCE.

ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT WET DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8TH OF THE BALL IS ABOVE FINAL GRADE 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. 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-CROSS-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, DEFOLIATES, OR AT A MINIMUM, IMPROVE 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.

6. UNDERDRAINS

UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:

- PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM F758, TYPE PS 28, OR ASTM M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED 4" RIGID PVC (E.G., PVC OF HOPE).
- PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER FOOT. PERFORATIONS SHALL BE MADE WITH A 1/4" (3/16" OR 1/8") GALVANIZED HAWKING GLOTT. (A 1/4" HOLE IN A 4" DIA. PIPE WILL ALLOW 2.5 GPM OF WATER TO PASS).
- GRAVEL - THE GRAVEL LAYER (NO. 57 STONE (PREWASHED)) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.
- THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.
- A 3" DIA. NON-PERFORATED OBSERVATION WELL SHALL BE PROVIDED (ONE PER EVERY 1,000 SQUARE FEET) TO PROVIDE A CLEAN-OUT POINT AND MONITOR PERFORMANCE OF THE FILTER.
- A 1" LAYER OF FINE GRAVEL (NO. 20) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES IN TO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".

THIS 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 EVERY 1000 SQUARE FEET OF SURFACE AREA).

7. MISCELLANEOUS

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

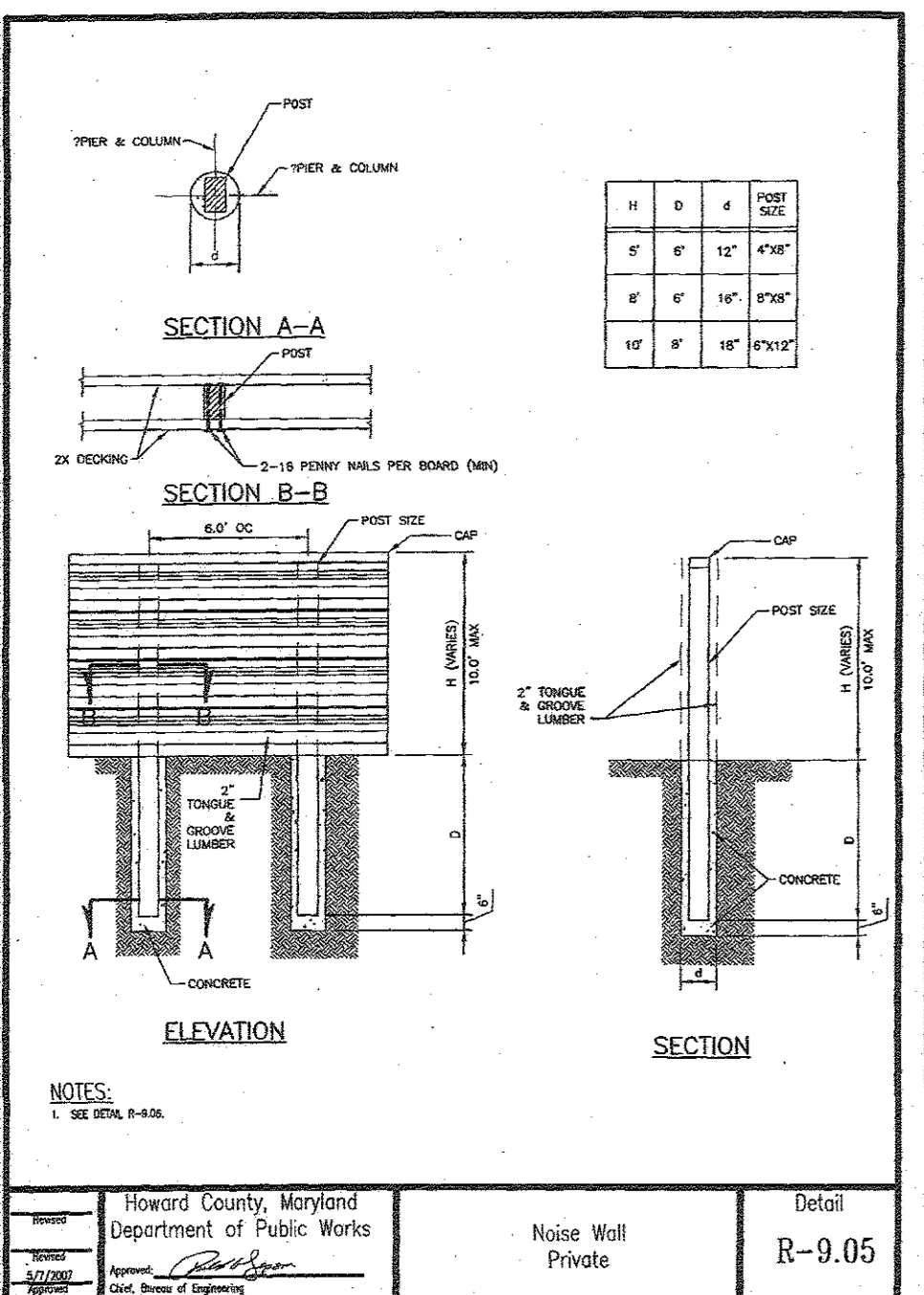
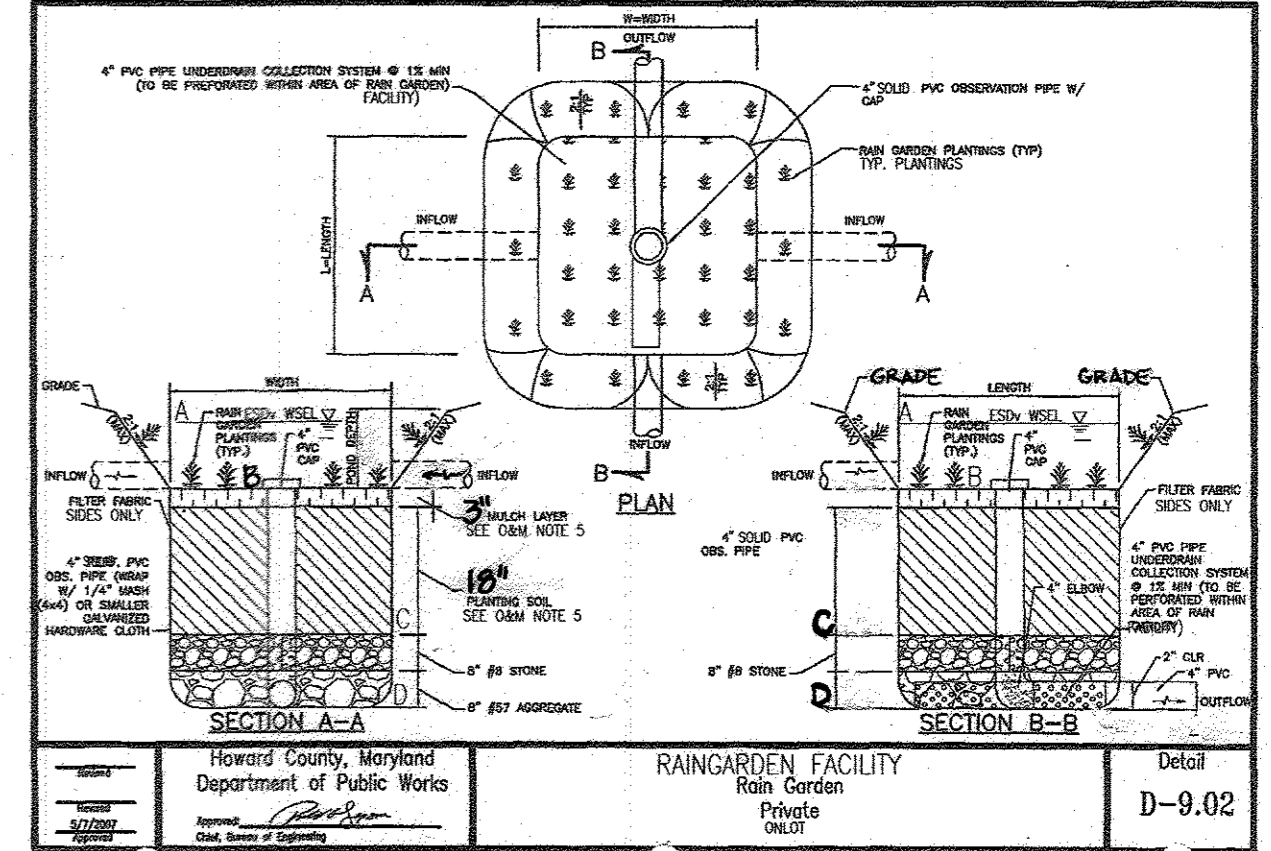
Appendix B.4. Construction Specifications for Environmental Site Design Practices

Table B.4.1 Materials Specifications for Micro-Bioretention, Rain Gardens & Landscape Infiltration-

Material	Specification	Size	Notes
Planting soil	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil	loamy sand (60-65%) & compost (35-40%) or sandy loam (35%), coarse sand (30%) & compost (40%)	n/a	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974)		aged 6 months, minimum; no pine or wood chips
Mulch	shredded hardwood		
Post gravel diaphragm	pes gravel: ASTM-D448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE	(3/8" to 3/4")
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" or 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; no necessary underdrain pipes. Perforated pipe shall be wrapped with 1/4-inch galvanized hardware cloth.
Poured in place concrete (if required)	MSHA Mix No. 3; f'c = 3500 psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n/a	on-site testing of poured-in-place concrete required, or pre-cast) not using previously approved State or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 350.R.89; vertical loading [H-10 or H-20]; allowable horizontal loading (based on soil pressure); and analysis of potential cracking.
Sand	AASHTO-M-6 or ASTM-C-33	0.075" to 0.04"	Sand substitutions such as Diabase and Graystone (AASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

SECTION	ROAD AND STREET CLASSIFICATION	CULVERT SPACING (FEET)	1 TO 4	5 TO 7	8 TO 11	12 TO 17	18 TO 24	25 TO 31	32 TO 37	38 TO 43
P-1	PARKING DRIVE, NON-RESIDENTIAL, PARKING DRIVE, ACCESS STREET, PARKING DRIVE, ACCESS STREET	15.0, 20.0, 25.0, 30.0, 35.0, 40.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
P-2	PARKING DRIVE, ACCESS STREET, PARKING DRIVE, ACCESS STREET	15.0, 20.0, 25.0, 30.0, 35.0, 40.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
P-3	PARKING DRIVE, ACCESS STREET, PARKING DRIVE, ACCESS STREET	15.0, 20.0, 25.0, 30.0, 35.0, 40.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
P-4	PARKING DRIVE, ACCESS STREET, PARKING DRIVE, ACCESS STREET	15.0, 20.0, 25.0, 30.0, 35.0, 40.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5

Notes:
 1. ROADWAY WIDTHS ARE BASED ON 60 FEET OR MORE INCLUDING SHOULDER WIDTHS.
 2. ROADWAY WIDTHS SHALL BE PLACED IN APPROPRIATE COLUMNS LEFT THROUGHOUT. 25.0 AND 30.0 FEET TO 47.0 FEET.
 3. 25.0 FEET TO 47.0 FEET SHALL BE PLACED IN APPROPRIATE COLUMNS LEFT THROUGHOUT. 25.0 AND 30.0 FEET TO 47.0 FEET.
 4. 48.0 FEET TO 50.0 FEET SHALL BE PLACED IN APPROPRIATE COLUMNS LEFT THROUGHOUT. 48.0 AND 50.0 FEET TO 50.0 FEET.
 5. 51.0 FEET TO 55.0 FEET SHALL BE PLACED IN APPROPRIATE COLUMNS LEFT THROUGHOUT. 51.0 AND 55.0 FEET TO 55.0 FEET.
 6. 56.0 FEET TO 60.0 FEET SHALL BE PLACED IN APPROPRIATE COLUMNS LEFT THROUGHOUT. 56.0 AND 60.0 FEET TO 60.0 FEET.
 7. 61.0 FEET TO 65.0 FEET SHALL BE PLACED IN APPROPRIATE COLUMNS LEFT THROUGHOUT. 61.0 AND 65.0 FEET TO 65.0 FEET.
 8. 66.0 FEET TO 70.0 FEET SHALL BE PLACED IN APPROPRIATE COLUMNS LEFT THROUGHOUT. 66.0 AND 70.0 FEET TO 70.0 FEET.
 9. 71.0 FEET TO 75.0 FEET SHALL BE PLACED IN APPROPRIATE COLUMNS LEFT THROUGHOUT. 71.0 AND 75.0 FEET TO 75.0 FEET.
 10. 76.0 FEET TO 80.0 FEET SHALL BE PLACED IN APPROPRIATE COLUMNS LEFT THROUGHOUT. 76.0 AND 80.0 FEET TO 80.0 FEET.
 11. 81.0 FEET TO 85.0 FEET SHALL BE PLACED IN APPROPRIATE COLUMNS LEFT THROUGHOUT. 81.0 AND 85.0 FEET TO 85.0 FEET.
 12. 86.0 FEET TO 90.0 FEET SHALL BE PLACED IN APPROPRIATE COLUMNS LEFT THROUGHOUT. 86.0 AND 90.0 FEET TO 90.0 FEET.
 13. 91.0 FEET TO 95.0 FEET SHALL BE PLACED IN APPROPRIATE COLUMNS LEFT THROUGHOUT. 91.0 AND 95.0 FEET TO 95.0 FEET.
 14. 96.0 FEET TO 100.0 FEET SHALL BE PLACED IN APPROPRIATE COLUMNS LEFT THROUGHOUT. 96.0 AND 100.0 FEET TO 100.0 FEET.
 15. 101.0 FEET TO 105.0 FEET SHALL BE PLACED IN APPROPRIATE COLUMNS LEFT THROUGHOUT. 101.0 AND 105.0 FEET TO 105.0 FEET.
 16. 106.0 FEET TO 110.0 FEET SHALL BE PLACED IN APPROPRIATE COLUMNS LEFT THROUGHOUT. 106.0 AND 110.0 FEET TO 110.0 FEET.
 17. 111.0 FEET TO 115.0 FEET SHALL BE PLACED IN APPROPRIATE COLUMNS LEFT THROUGHOUT. 111.0 AND 115.0 FEET TO 115.0 FEET.
 18. 116.0 FEET TO 120.0 FEET SHALL BE PLACED IN APPROPRIATE COLUMNS LEFT THROUGHOUT. 116.0 AND 120.0 FEET TO 120.0 FEET.
 19. 121.0 FEET TO 125.0 FEET SHALL BE PLACED IN APPROPRIATE COLUMNS LEFT THROUGHOUT. 121.0 AND 125.0 FEET TO 125.0 FEET.
 20. 126.0 FEET TO 130.0 FEET SHALL BE PLACED IN APPROPRIATE COLUMNS LEFT THROUGHOUT. 126.0 AND 130.0 FEET TO 130.0 FEET.
 21. 131.0 FEET TO 135.0 FEET SHALL BE PLACED IN APPROPRIATE COLUMNS LEFT THROUGHOUT. 131.0 AND 135.0 FEET TO 135.0 FEET.
 22. 136.0 FEET TO 140.0 FEET SHALL BE PLACED IN APPROPRIATE COLUMNS LEFT THROUGHOUT. 136.0 AND 140.0 FEET TO 140.0 FEET.



NOISE WALL NOTES:

- HEIGHT OF WALL SHALL BE BASED ON ACOUSTIC HOBBLEBOARD.
- NOISE WALL SHALL BE CONSTRUCTED AS SHOWN IN THE FIGURE HEIGHT CALCULATION.
- 3" HIGH WOOD BOARD MATERIAL SHALL BE FASTENED TO 2X4 VERTICAL STUDS WITH 1/4" X 1/4" WOOD SCREWS. 2X4 STUDS SHALL BE SPACED AT 16" ON CENTER. 3" HIGH WOOD BOARD MATERIAL SHALL BE SPACED AT 16" ON CENTER. 3" HIGH WOOD BOARD MATERIAL SHALL BE SPACED AT 16" ON CENTER. 3" HIGH WOOD BOARD MATERIAL SHALL BE SPACED AT 16" ON CENTER.
- WOOD POST SHALL BE INSTALLED AT THE SPACING INDICATED ON THE DRAWING. MINIMUM CENTER TO CENTER ON AN ALUMINUM BRACKET STRIPS OF 1/4" X 1/4" X 1/4" SHALL BE USED TO HOLD POSTS IN PLACE. 3" HIGH WOOD BOARD MATERIAL SHALL BE SPACED AT 16" ON CENTER. 3" HIGH WOOD BOARD MATERIAL SHALL BE SPACED AT 16" ON CENTER.
- CONCRETE IN THE PILES SHALL BE 3000 PSI CONCRETE WITH 4# REBAR. CONCRETE SHALL BE PLACED IN PILES WITH THE FORM AS SHOWN.
- REINFORCEMENT: REINFORCEMENT SHALL BE 4# REBAR WITH 18" SPACING. REINFORCEMENT SHALL BE 4# REBAR WITH 18" SPACING. REINFORCEMENT SHALL BE 4# REBAR WITH 18" SPACING.
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APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

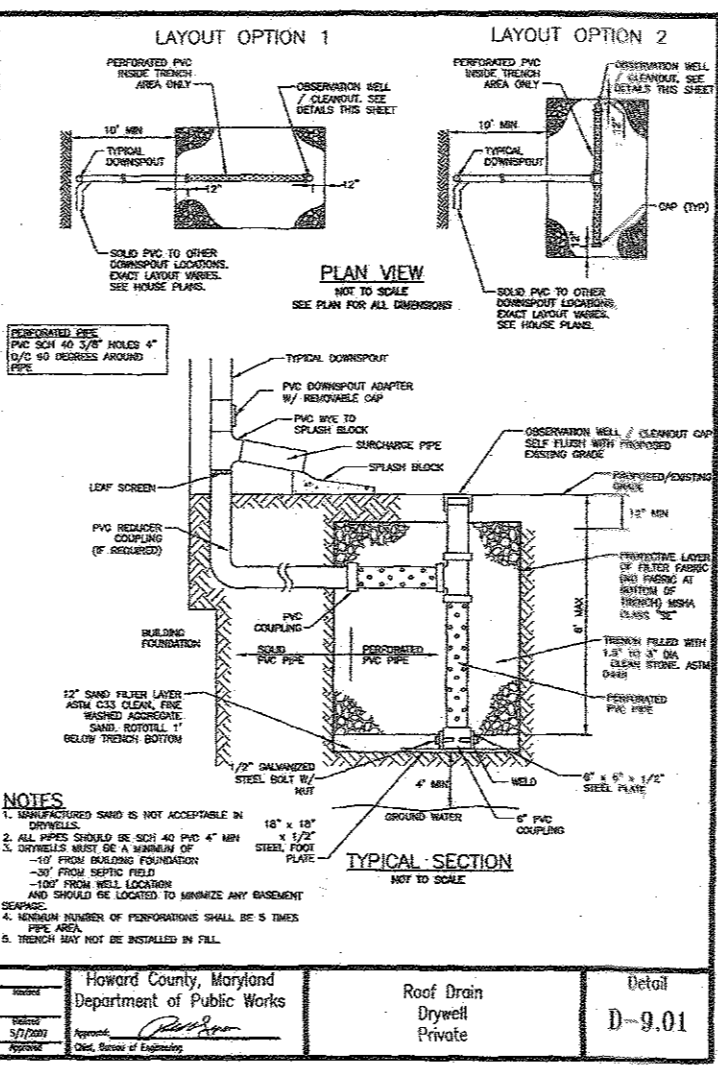
Chief, Development Engineering Division: Z.Z.V.16
 Chief, Division of Land Development: 5-19-16
 Director: 5-19-16

NOISE WALL LOCATION CHART

STREET NAME	POINT	NORTHING	EASTING	GROUND	WALL	WALL HEIGHT
LOT 48	W1	N 564030	E 1392725	175	181	6 FEET TALL
LOT 48	W2	N 564020	E 1392805	171	177	6 FEET TALL
LOT 48/49	W3	N 564097	E 1392861	177	183	6 FEET TALL

TYPICAL NOISE WALL DETAILS OR EQUAL

NOISE WALL SHALL BE CONSTRUCTED UNDER FUTURE SITE DEVELOPMENT PLAN



ON-LOT RAINGARDEN PLANTING SCHEDULE

QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
2	ALEX GLABRA INBERRY	3 GALLON	CONT
4	SPIRIBUSH LINDERA BENZON	3 GALLON	CONT

TYP. 100 SF X 75% X .0229 STEMS PER SQUARE FOOT = 2 PLANTS
 FILTER AREA SHALL BE 50% COVERED BY PLANTINGS AT FULL GROWTH

OPERATION AND MAINTENANCE SCHEDULE FOR (M-7) RAIN GARDEN AREAS

- ANNUAL MAINTENANCE OF PLANT MATERIAL MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS REQUIRED. MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND WEEDS. MAINTENANCE AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DEFICIENT STAKES AND WIRES.
- MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
- SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.
- FILTER MATERIAL MUST BE REPLACED WHEN WATER REMAINS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 24 HOURS FOLLOWING A 1- OR 2-YEAR STORM EVENT OR MORE THAN 48 HOURS FOLLOWING A 10-YEAR STORM EVENT.

REVISIONS

NO.	REVISION	DATE
1	REVISE FLOOR ELEVATIONS, GRADING, AND SWIM	3/0/17

SITE DEVELOPMENT PLAN

STORMWATER MANAGEMENT - NOTES & DETAILS

CYPRESS SPRINGS - PHASE 3

LOTS 48 AND 49

1ST ELECTION DISTRICT: 08-05-08, PB CASE 374, WP-05-38, DPZ-05-081, F-10-08, F-12-08, F-13-08, WP-11-202, WP-10-175, WP-13-187, PB CASE 405, WP-15-105, F-14-127

TAX MAP 38 - BLOCK 3 PARCEL 42 HOWARD COUNTY, MARYLAND ZONED: R-ED

ROBERT H. VOGEL ENGINEERING, INC.

ENGINEERS • SURVEYORS • PLANNERS

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DESIGN BY: EDS.
 DRAWN BY: RVE.
 CHECKED BY: RHV.
 DATE: DECEMBER 2015.
 SCALE: AS SHOWN.
 W.O. NO.: 04-30

PROFESSIONAL CERTIFICATE
 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. 16193 EXPIRATION DATE: 09-27-2016

5 SHEET OF 6

