

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 ACCORDANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
4. THE SUBJECT PROPERTY IS ZONED R-5C IN ACCORDANCE WITH THE 10/6/13 ZONING REGULATIONS.
5. 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. ALTERNATIVE COMPLIANCE, OR BUILDING AND GRADING PERMITS.
6. THE PROJECT BOUNDARY IS BASED ON A BOUNDARY SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED APRIL 27, 2017.
7. THE EXISTING TOPOGRAPHY SHOWN HEREON IS BASED ON F-19-019.
8. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS BM 470E AND BM 470D WERE USED FOR THIS PROJECT.
9. THIS PLAN IS SUBJECT TO THE AMENDED FINAL EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
10. STORMWATER MANAGEMENT FOR THE PROJECT IS PROVIDED BY THE USE OF MICRO-SCALE AND NON STRUCTURAL PRACTICES IN ACCORDANCE WITH ENVIRONMENTAL SITE DESIGN CRITERIA. MICRO-SCALE PRACTICES INCLUDE MICRO-BIOTENTIONS (M-6), PERMEABLE PAVEMENT (A-2), AND DRYWELLS (M-5). THESE FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED.
11. THE PROPOSED UTILITIES SHALL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
12. 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.
13. ANY DAMAGE TO THE COUNTY'S RIGHTS-OF-WAY, PAVING, OR EXISTING UTILITIES SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
14. SHC ELEVATIONS ARE LOCATED AT THE PROPERTY LINE/EDGE OF EASEMENT.
15. THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING AT & B:
BCE (CONSTRUCTION SERVICES) 410-637-8713
BCE (EMERGENCY) 410-685-0123
BUREAU OF UTILITIES 410-313-4900
COLONIAL PIPELINE CO 410-795-1390
MISS UTILITY 1-800-257-7777
STATE HIGHWAY ADMINISTRATION 410-531-5533
VERIZON 1-800-743-0033
16. THIS SITE IS NOT LOCATED IN A HISTORIC DISTRICT. THERE ARE EXISTING HOMES ON LOTS 60 AND 61 TO REMAIN.
17. IN ACCORDANCE WITH SECTION 12 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.
18. DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
A) WIDTH - 12' (14' SERVING MORE THAN ONE RESIDENCE)
B) SURFACE - 6" OF COMPACTED CRUSHER RUN BASE W/TAR 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 GROSS TONS (H2S LOADING)
E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD EVENTS WITH NO MORE THAN 1 FOOT DEPTH OF WATER OVER THE SURFACE.
F) MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.
19. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAMS) OF THEIR BUFFERS) AND FOREST CONSERVATION EASEMENT AREAS.
20. REFUSE COLLECTION, SNOW REMOVAL AND MAINTENANCE FOR LOTS 47, 48, 50, 51, 54-59, AND 60-61 SHALL BE PROVIDED AT THE JUNCTION OF THE PRIVATE USE-IN-COMMON ACCESS EASEMENT PLAT #25486-25493 AND THE PROPOSED ROAD RIGHT-OF-WAY. TRASH AND RECYCLING WILL BE COLLECTED WITHIN THE COUNTY ROADWAY.
21. THE PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
22. WATER SERVICE CONNECTION FOR THIS PROJECT WILL BE FROM AN EXTENSION OF CONTRACT NO. 24-5031-D. SEWER SERVICE CONNECTION FOR THIS PROJECT WILL BE FROM AN EXTENSION OF CONTRACT NO. 24-5031-D.
23. WATER AND SEWER SERVICE TO THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.122.8 OF THE HOWARD COUNTY CODE.
24. PUBLIC WATER AND SEWER ALLOCATION WILL BE GRANTED AT THE TIME OF ISSUANCE OF THE BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME.
25. ALL WATER HOUSE CONNECTIONS SHALL BE OUTSIDE METER SETTING UNLESS OTHERWISE NOTED ON THE PLANS OR IN SPECIFICATIONS.
26. TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL GROUNDS OR CEMETERIES LOCATED ON THIS PROPERTY OR THE COUNTY'S CEMETERY SITE MAP.
27. OLD SCAGGSVILLE ROAD IS CLASSIFIED AS A LOCAL ROAD, AND IT IS NOT A SCENIC ROAD. LAURENS WAY AND GIDDINGS CROSSING ARE PUBLIC ACCESS STREETS; THERE ARE THREE PRIVATE USE-IN-COMMON DRIVEWAYS.
28. A WETLAND AND SIMPLIFIED FOREST STAND DELINEATION PLAN PREPARED BY ECO-SCIENCE PROFESSIONALS, INC./C/O MR. JOHN CANOLES, AUGUST 16, 2016, AND APPROVED AS PART OF THE ECP & SKETCH PLAN SUBMISSION. AN INTERMITTENT STREAM IS LOCATED OFFSITE. ITS BUFFER SHOULD BE MAINTAINED AND THE PROJECT SITE -SEVEN (7) SPECIMEN TREES WERE FOUND ON SITE. THE PROPOSAL INCLUDES THE REMOVAL OF 6 TREES. EFFORTS WILL BE MADE TO SAVE TREE #4. REFER TO WP-17-059.
29. FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL A PORTION OF THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE HOWARD COUNTY FOREST CONSERVATION MANUAL, 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.
30. TOTAL FOREST CONSERVATION OBLIGATION OF THIS PROJECT TO BE FULFILLED UNDER F-19-019. FINANCIAL SURETY FOR THE REQUIRED REFORESTATION=\$4,930 (0.41AC @ 17,860\$/ @ \$0.50/SF) SHALL BE POSTED WITH THE DEVELOPERS AGREEMENT.
31. A TRAFFIC STUDY FOR THIS PROJECT PREPARED BY THE TRAFFIC GROUP, INC., DATED SEPTEMBER 7, 2016, WAS APPROVED APRIL 2017.
32. CERTIFIED TEST PITS HAVE BEEN PROVIDED TO VERIFY THE LOCATIONS OF GROUNDWATER AND/OR ROCK. OPEN TEST PITS WERE OBSERVED BY TRINITY HOMES ON APRIL 2017.
33. THE PRE-SUBMISSION MEETING WAS HELD FOR THIS PROJECT ON JULY 7, 2016.
34. AN ENVIRONMENTAL CONCEPT PLAN (ECP-17-005) WAS APPROVED ON DECEMBER 15, 2016.
35. A SKETCH PLAN (S-17-002) WAS APPROVED ON APRIL 6, 2017. A PRELIMINARY PLAN (P-17-004) WAS APPROVED ON JUNE 6, 2018.
36. A FINAL PLAN (F-19-019) WAS APPROVED ON JUNE 10, 2019.
37. PUBLIC STREET TREES PROVIDED FOR THIS PROJECT UNDER F-19-019 IN ACCORDANCE WITH SECTION 16.124(6)(1) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE LANDSCAPE MANUAL. FINANCIAL SURETY WAS POSTED AS PART OF THE F-19-019 DEVELOPERS AGREEMENTS.
38. PERIMETER LANDSCAPING WAS PROVIDED FOR THIS PROJECT UNDER F-19-019 IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE LANDSCAPE MANUAL. A FINANCIAL SURETY WAS POSTED AS PART OF THE F-19-019 DEVELOPERS AGREEMENTS.
39. THE PROPOSED SUBDIVISION AND RELATED CONSTRUCTION WILL NOT IMPACT ENVIRONMENTAL FEATURES OR BUFFERS.
40. NO FLOODPLAIN IS LOCATED ON SITE.
41. NO STEEP SLOPES OVER 20.00% ARE LOCATED ON SITE LOTS 1-59.
42. IN ACCORDANCE WITH DESIGN MANUAL-VOLUME 3, CHAPTER 2 - SECTION 2.9.B, PARKING IS REQUIRED AT TWO (2) SPACES PER UNIT OFF STREET PARKING TO INCLUDE GARAGE SPACE, DRIVEWAY AND PARKING PADS. GARAGE COUNT AS A FULL SPACE.
43. THE PROPOSED (13) GARAGE SPACE MAY BE CONVERTED TO LIVING SPACE AND SHALL ONLY BE UTILIZED FOR VEHICULAR PARKING SPACE. REFER TO PARKING TABULATION.
44. THE HOMEOWNERS ASSOCIATION DOCUMENTS HAVE BEEN RECORDED WITH THE MARYLAND STATE DEPARTMENT OF ASSESSMENTS AND TAXATION REFERENCE NUMBER D19052298. HOMEOWNERS ASSOCIATION COVENANTS AND RESTRICTIONS WERE RECORDED SIMULTANEOUSLY WITH F-18-059. REFER TO LIBER 18523 FOLIO 267, DEED DATED 8-27-2017.
45. THIS PROJECT IS SUBJECT TO WP-17-058, ON MARCH 29, 2018; THE PLANNING DIRECTOR APPROVED THE REQUEST FOR ALTERNATIVE COMPLIANCE TO SECTION 16.1205(A)(7) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, WHICH REQUIRES THE RETENTION OF STATE CHAMPION TREES, TREES 75% OF THE DIAMETER OF STATE CHAMPION TREES, AND TREES 30" IN DIAMETER OR LARGER. THIS PROJECT PROPOSES THE REMOVAL OF FOUR (4) SPECIMEN TREES APPROVED BY THE FOLLOWING CONDITIONS:
1. ADD A GENERAL NOTE FOR THE ALTERNATIVE COMPLIANCE WP-17-058, ON & S-17-002, MAGNOLIA MANOR WEST STATING THE REQUEST, SECTION REFERENCE NUMBER, THE APPROVAL DATE AND CONDITIONS.
2. SHOW THE SPECIMEN TREES BEING REMOVED AND LABELLED PER WP-17-058 ON THE PLAN MYLAR ORIGINAL, FOR S-17-003.
3. REMOVAL OF THE 4 SPECIMEN TREES IS SUBJECT TO PROVIDING THE REPLACEMENT OF FOURTEEN 3-1/2" MINIMUM CALIPER NATIVE SHADE TREES AS STATED IN THE ALTERNATIVE COMPLIANCE JUSTIFICATION TO BE LOCATED AT A MORE APPROPRIATE LOCATION.
4. IT IS RECOMMENDED THAT SPECIMEN TREE #6 BE REMOVED AS PART OF THIS REQUEST IF THE TREE IS DEAD AS INDICATED IN THE SPECIMEN TREE CHART. PRIOR TO REMOVING THE TREE, THE APPLICANT SHALL SUBMIT A REPORT AND /OR PHOTOGRAPHS DOCUMENTING THE CONDITION OF THE TREE.
5. SPECIMEN TREES WHERE THE CRITICAL ROOT ZONE IS IMPACTED BY THE LIMIT OF DISTURBANCE WILL REQUIRE PREDEVELOPMENT, DURING DEVELOPMENT AND POST-CONSTRUCTION PRACTICES AND MEASURES TO MINIMIZE IMPACT TO THE TREES. THESE SPECIFIC PRACTICES WILL BE IDENTIFIED WITHIN THE FINAL SUBDIVISION PLAN AND SHALL BE IMPLEMENTED AND/OR SUPERVISED IN THE FIELD BY A CERTIFIED ARBORIST. SPECIMEN TREE #6 THRU SPECIMEN TREE #16.
6. THE PROPOSED LIMIT OF DISTURBANCE WITHIN THE 25' WETLANDS BUFFER FOR THE LAURENS WAY ROAD CONSTRUCTION SHALL BE THE MINIMUM NECESSARY FOR THE ROAD CONSTRUCTION.
7. SUBJECT TO OBTAINING ALL THE REQUIRED WETLAND PERMITS FROM MDE AND/OR THE U.S. ARMY OF CORP. OF ENGINEERS.
8. COMPLIANCE WITH DEVELOPMENT ENGINEERING COMMENTS.
46. IN ACCORDANCE WITH SECTION 110.0.0 OF THE 10/06/13 COMPREHENSIVE ZONING REGULATIONS (RS-C), THIS SUBDIVISION IS SUBJECT TO MODERATE INCOME HOUSING UNITS. THE MIHU OBLIGATION FOR THIS DEVELOPMENT WAS PROVIDED BY:
A. PROVIDING 1 MIHU - LOT 36
B. PROVIDING 3 MIHU - LOTS 2, 26 AND 35.
- THE MIHU AGREEMENT WAS RECORDED IN THE LAND RECORDS OF HOWARD COUNTY SIMULTANEOUSLY WITH THE RECORDING OF THE F-19-019 PLAT AND FOUND AT L. XXX F. XXX.
47. THIS FINAL PLAN IS SUBJECT TO THE FOLLOWING DPZ FILES:
F-84-62, ECP-17-004, S-17-003, P-17-005, WP-17-059, F-18-059, F-19-019.
48. AN AGREEMENT WAS MADE TO SATISFY THE SIDEWALK REQUIREMENT. ADDITIONAL SIDEWALK HAS BEEN PROVIDED ACROSS OLD SCAGGSVILLE ROAD WITH THE MAGNOLIA MANOR (F-19-019) PLAN.
49. THIS PROJECT IS SUBJECT TO A DESIGN MANUAL WAIVER - DMW-19-004, ON OCTOBER 30, 2018. THE DEPUTY DIRECTOR OF THE DEPARTMENT OF PUBLIC WORKS APPROVED THE REQUEST TO WAIVE THE REQUIREMENTS OF HOWARD COUNTY DESIGN MANUAL VOLUME II - WATER AND SEWER, SECTION 4.3.B.2.C, TO ALLOW THE SEWER SERVING THE SUBJECT-REFERENCED SUBDIVISION DEVELOPMENT TO BE PLACED OUTSIDE OF THE PAVED ROADWAY SECTION; REFER TO F-18-059 AND CONTRACT 24-5032-D.
50. A PRIVATE ROAD STREET NAME 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. SEE F-19-019.
51. 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.
52. ESSENTIAL DISTURBANCE WAS GRANTED PRIOR TO COUNCIL BILL 61 BEING ADOPTED FOR THE DRIVEWAY DISTURBANCE FOR LOTS 60 & 61.
53. ELECTRICAL CHARGING STATIONS ARE NOT REQUIRED PER COUNCIL BILL 76 BECAUSE THE PRELIMINARY PLAN WAS SIGNED PRIOR TO JANUARY 11, 2019.

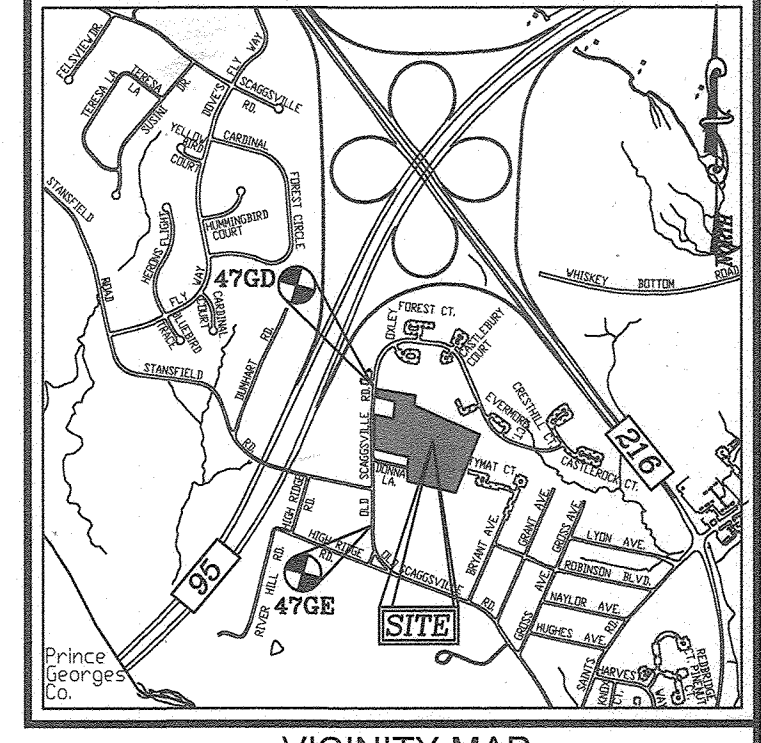
NOTES:

- 1. ALL WATER CONNECTIONS SHALL BE 1-1/2" WITH 1" OUTSIDE METER SETTINGS, UNLESS OTHERWISE NOTED. REFER TO HOWARD COUNTY DETAIL W-3.28 OUTSIDE METER SETTINGS.

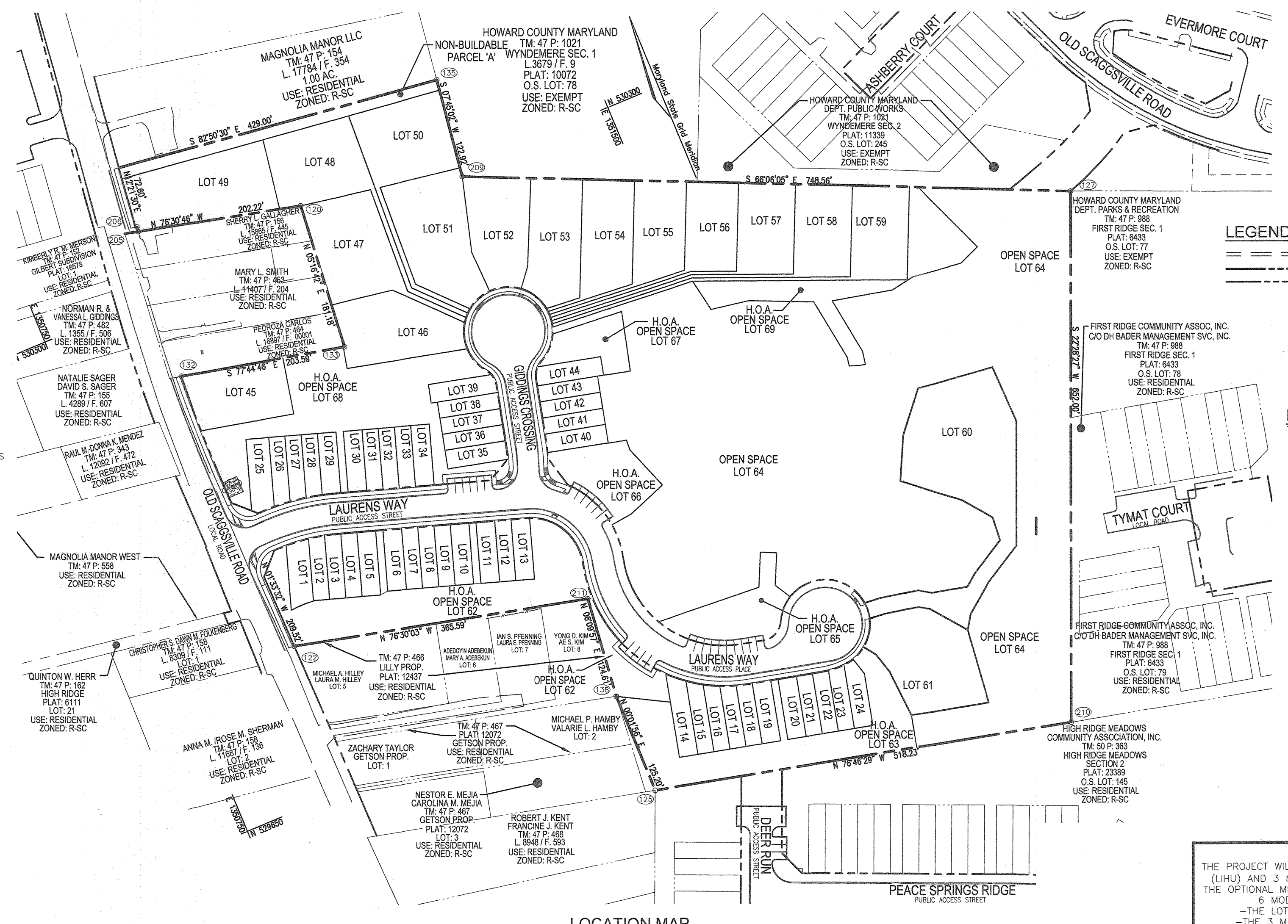
SITE DEVELOPMENT PLAN
MAGNOLIA MANOR
LOTS 1 - 61
HOWARD COUNTY, MD

NOTE
THE EXISTING CONTOURS SHOWN HEREON HAVE BEEN ESTABLISHED UNDER THE FINAL ROAD AND STORM DRAIN CONSTRUCTION PLANS FOR MAGNOLIA MANOR F-19-019

BENCHMARKS
HOWARD COUNTY BENCHMARK - 47GE
N 529044.94 E 1350855.03 ELEV.: 337.61
HOWARD COUNTY BENCHMARK - 47GD
N 530494.49 E 1350872.35 ELEV.: 312.28



MINIMUM LOT SIZE CHART
LOT # GROSS AREA PIPESTEM AREA NET AREA
47 12,131 SF 473 SF 11,658 SF
48 11,799 SF 1,255 SF 10,544 SF
50 11,986 SF 1,216 SF 10,770 SF
54 3,011 SF 170 SF 2,841 SF
55 8,099 SF 434 SF 7,665 SF
56 7,693 SF 701 SF 6,992 SF
57 8,120 SF 946 SF 7,174 SF
58 8,140 SF 946 SF 7,194 SF
59 9,551 SF 1,501 SF 8,050 SF
60 25,648 SF 5,803 SF 19,845 SF



LEGEND
--- EXISTING CURB AND GUTTER
--- PROPERTY LINE
--- RIGHT-OF-WAY LINE

PARKING TABULATION:
TOTAL NUMBER OF DWELLING UNITS PROPOSED: 61
SINGLE FAMILY ATTACHED (SFA) = 44 LOTS EXISTING
SINGLE FAMILY DETACHED (SFD) = 17 LOTS
OFF-STREET PARKING SPACES REQUIRED: 61
TOTAL OFF STREET PARKING SPACES PROVIDED: 61

SHEET INDEX
DESCRIPTION SHEET NO.
COVER SHEET 1 OF 13
LAYOUT PLAN, HOUSE TYPES AND NOTES 2-5 OF 13
GRADING, AND SOIL EROSION AND SEDIMENT CONTROL PLAN 6-9 OF 13

SITE DATA
ELECT REFERENCE: PARCEL 465
ELECTION DISTRICT: 17M
LOCATION: OLD SCAGGSVILLE ROAD, LAUREL, MD
EXISTING ZONING: R-5C
GROSS AREA: 15,338 AC
AREA OF 100 YEAR FLOODPLAIN: 0.00 AC
AREA OF STEEP SLOPES (20% & GREATER): 0.00 SF OR 0.00 AC
AREA OF WETLANDS & BUFFERS: 123,371.06 SF OR 2.88 AC
NET AREA (GROSS-STEP SLOPES & FLOODPLAIN): 15,338 AC
61 LOTS (15.33 x 4)
- 2 EXISTING DWELLINGS TO REMAIN
- 44 SINGLE FAMILY ATTACHED HOMES
- 17 SINGLE FAMILY DETACHED HOMES
- 2 EXISTING DWELLINGS TO REMAIN
5.00 AC RESIDENTIAL SFD
5.00 AC RESIDENTIAL SFA
0.00 AC PUBLIC - 24-1943-D & 1-W
0.00 AC PUBLIC - 24-1943-D
6,000 SF SFD - 17 LOTS @ 0.5 SPACES PER UNIT
6,000 SF SFA - 44 UNITS @ 0.5 SPACES PER UNIT
17 x 0.5 = 8.5 SPACES REQUIRED
44 x 0.5 = 22 SPACES REQUIRED
TOTAL SPACES REQUIRED = 31 SPACES (VISITOR PARKING)
TOTAL SPACES PROVIDED = 65 SPACES (VISITOR PARKING)
(27 ON-STREET+38 EXCESS OFF-STREET)

MODERATE INCOME HOUSING UNITS (MIHU) ALLOCATION EXEMPTIONS TRACKING
Total number of Lots/Units Proposed 59
Number of MIHU Required 10% OR 6 UNITS*
Number of MIHU Provided Onsite 0
Number of APFO Allocations Required (excluding lots/units) 59 UNITS
MIHU Fee-in-Lieu (indicate unit numbers) 0

MIHU AGREEMENT
THE PROJECT WILL PROVIDE 1 LOW INCOME HOUSING UNITS (LIHU) AND 3 MODERATE INCOME HOUSING UNIT (MIHU). THE OPTIONAL METHOD OF COMPLIANCE, RATHER THAN THE 6 MODERATE INCOME HOUSING UNITS - ONE LOT DESIGNATED AS A LIHU IS LOT 36 -THE 3 MIHU LOTS ARE LOTS 2, 26, AND 35.

OWNER
MARANTHA MAG MANOR LLC
LIVE FEARLESS IN CHRIST LLC
MICHAEL PFAU MANAGING MEMBER
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023
DEVELOPER
TRINITY HOMES MARY LAND, LLC
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

GENERAL NOTES

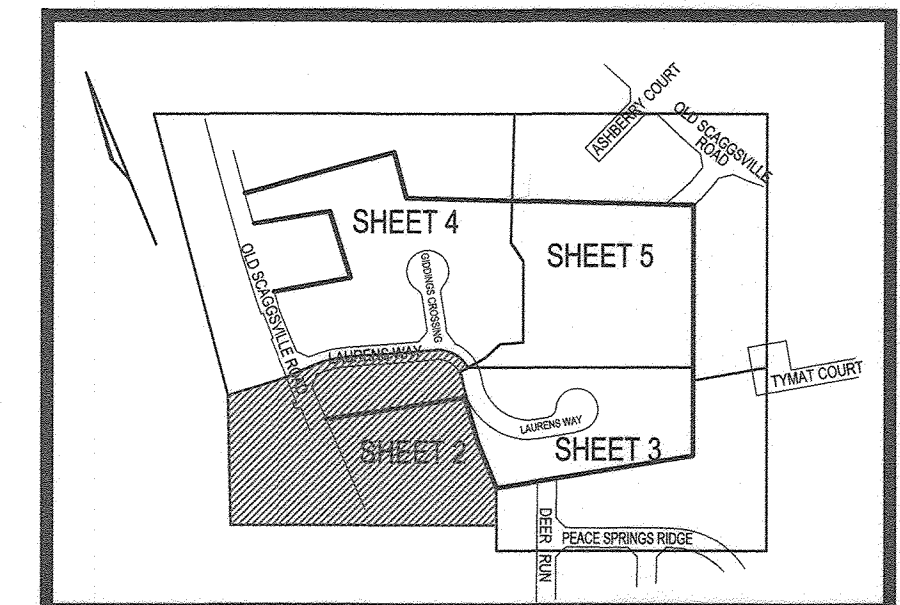
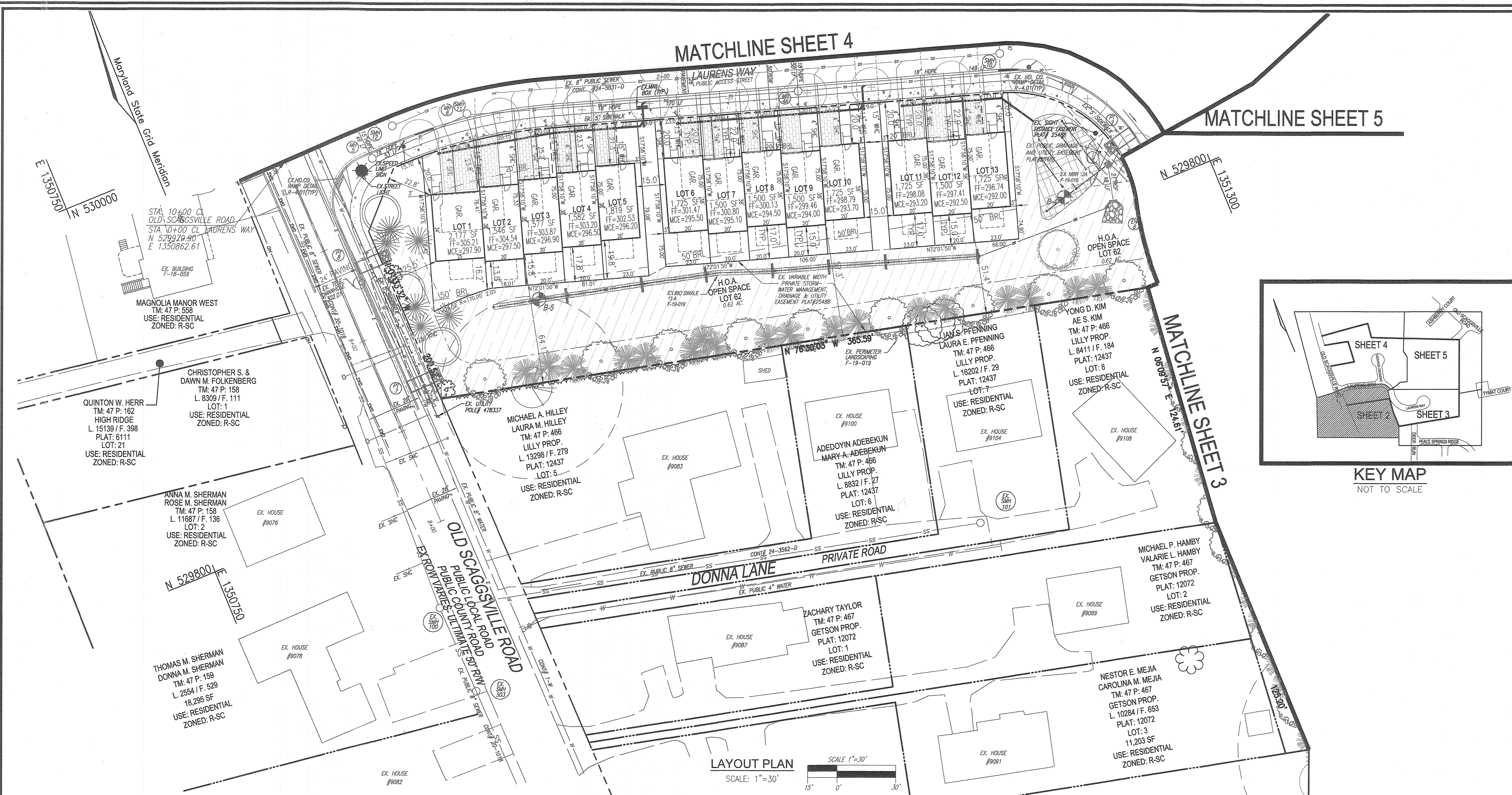
- 51. TRAFFIC CONTROL DEVICES:
A. THE R1-(10)TOP) SIGNS AND STREET NAME SIGN (SNS) ASSEMBLIES FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETE.
B. THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
C. ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE 'MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES' (MUTCD).
D. ALL SIGN POST USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED.
("QUICK PUNCH") SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (1/2 GAUGE - 3" LONG).
THE ANCHOR SHALL NOT EXTEND MORE THAN TWO "QUICK PUNCH" HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON THE TOP OF EACH POST.
52. STREET LIGHTING IS REQUIRED FOR THIS SITE IN ACCORDANCE WITH SECTION 16.135 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURES AND POLES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III, SECTION 5.5.A. A MINIMUM OF 20 FEET SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
53. A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLIES SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS FOR DRIVEWAYS TO LOTS 47, 48, 50, 54-59, 60-61 AT THE DEVELOPERS/OWNERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-2430 FOR DETAILS AND COST ESTIMATES.
54. NO STREET TREE CAN BE PLANTED WITHIN 30' OF A PROPOSED "STOP" SIGN LOCATION (APPROACH DIRECTION).
55. THIS PLAN IS SUBJECT TO WP-18-085, ON MARCH 28, 2018; THE PLANNING DIRECTOR APPROVED THE REQUEST FOR AN ALTERNATIVE COMPLIANCE OF SECTION 16.116(A) WHICH PROHIBITS GRADING, REMOVAL OF VEGETATIVE COVER AND TREES, PAVING AND NEW STRUCTURES WITHIN 100 FEET OF A PERENNIAL STREAMBANK, AND WITHIN 25 FEET OF A WETLAND BUFFER TO INSTALL A SEWER LINE WITH A TRADITIONAL OPEN CUT TRENCH. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
1. COMPLIANCE WITH THE SUBDIVISION REVIEW COMMITTEE COMMENTS ISSUED FOR P-17-004.
2. THE ALTERNATIVE COMPLIANCE NUMBER AND ITS CONDITIONS OF APPROVAL MUST BE ADDED TO ALL SUBDIVISION PLANS.
3. SUBJECT TO OBTAINING ALL THE REQUIRED WETLAND PERMITS FROM MDE AND/OR THE U.S. ARMY OF CORP. OF ENGINEERS. CASE OR PERMIT NUMBERS MUST BE PROVIDED WITHIN NOTES OF ALL SUBDIVISION PLANS FOR THIS PROPOSED DEVELOPMENT.
4. THE PROPOSED LIMIT OF DISTURBANCE WITHIN THE 25' WETLANDS BUFFER FOR THE CONSTRUCTION OF THE SEWER LINE SHALL BE THE MINIMUM NECESSARY FOR THE SEWER INSTALLATION.
56. THIS PROJECT IS SUBJECT TO A DESIGN MANUAL WAIVER, ON APRIL 11, 2018. THE CHIEF OF THE DEVELOPMENT ENGINEERING DIVISION APPROVED THE REQUEST TO WAIVE THE REQUIREMENTS OF DESIGN MANUAL VOLUME III, APPENDIX A "PUBLIC ROADWAY DESIGN CRITERIA" ALLOWING A PARKING TO THE MINIMUM CURVE RADIUS OF 210 FEET SUBJECT TO THE INSTALLATION OF SIX "NO PARKING" SIGNS ON THE ACCESS PLACE PORTION OF LAURENS WAY.

ADDRESS CHART / STORMWATER MANAGEMENT PRACTICES
Table with columns: LOT NUMBER, ADDRESS, PERMEABLE PAVEMENTS, DRY WELLS, MICRO-BIOTENTIONS, ADDRESS, PERMEABLE PAVEMENTS, DRY WELLS, MICRO-BIOTENTIONS. Rows include lots 1 through 61.

PERMIT INFORMATION CHART
SUBDIVISION NAME: MAGNOLIA MANOR
SECTION/AREA: 163 & 465
PLAT # OR L/F: 25486-25493
BLOCK NO: 19
ZONE: R-5C
TAX MAP: 47
ELECT. DIST.: 6TH
CENSUS TR.: 606906

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 0-720 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION
[Signature] 10-16-20 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT
[Signature] 10-16-20 DATE
DIRECTOR

SITE DEVELOPMENT PLAN
COVER SHEET
MAGNOLIA MANOR
LOTS 1 - 61
TAX MAP: 47 PARCELS: 163 & 465
6TH ELECTION DISTRICT
BLOCK: 19 ZONING: R-5C
HOWARD COUNTY, MARYLAND
VOGEL ENGINEERING
TIMMONS GROUP
3300 NORTH RIDGE ROAD, SUITE 110, ELLCOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com
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. 16183 EXPIRATION DATE: 09-27-2022
DESIGN BY: RHV
DRAWN BY: KG
CHECKED BY: RHV
DATE: SEPTEMBER 2020
SCALE: AS SHOWN
S.W. NO.: 16-15
1 SHEET OF 13
SDP-20-030



LAYOUT PLAN
SCALE: 1"=30'

NOTES:

- ALL WATER CONNECTIONS SHALL BE 1-1/2" WITH 1" OUTSIDE METER SETTINGS, UNLESS OTHERWISE NOTED. REFER TO HOWARD COUNTY DETAILS W-3.28 OUTSIDE METER SETTINGS.
- TYPICAL DRIVEWAY WIDTH AT RIGHT OF WAY SHOWN HEREON IS:
 - 16 FEET WIDE FOR THE PROPOSED TOWNHOUSE 2 CAR GARAGE.
 - 10 FEET WIDE FOR THE PROPOSED TOWNHOUSE 1 CAR GARAGE.
 *WIDTH SUBJECT TO CHANGE WITH BUILDER RESITE.
- DRIVEWAYS: THE SHOWN DRIVEWAY LOCATION CANNOT CHANGE UNLESS NOTED ON THIS SDP CONFIRMING THAT THE GRADING AND DRIVEWAY SLOPES WILL REMAIN THE SAME WHETHER THE DRIVEWAY IS ON THE RIGHT OR LEFT SIDE OF THE HOUSE. ONLY ONE DRIVEWAY ORIENTATION CAN BE SHOWN FOR CORNER LOTS.

LEGEND

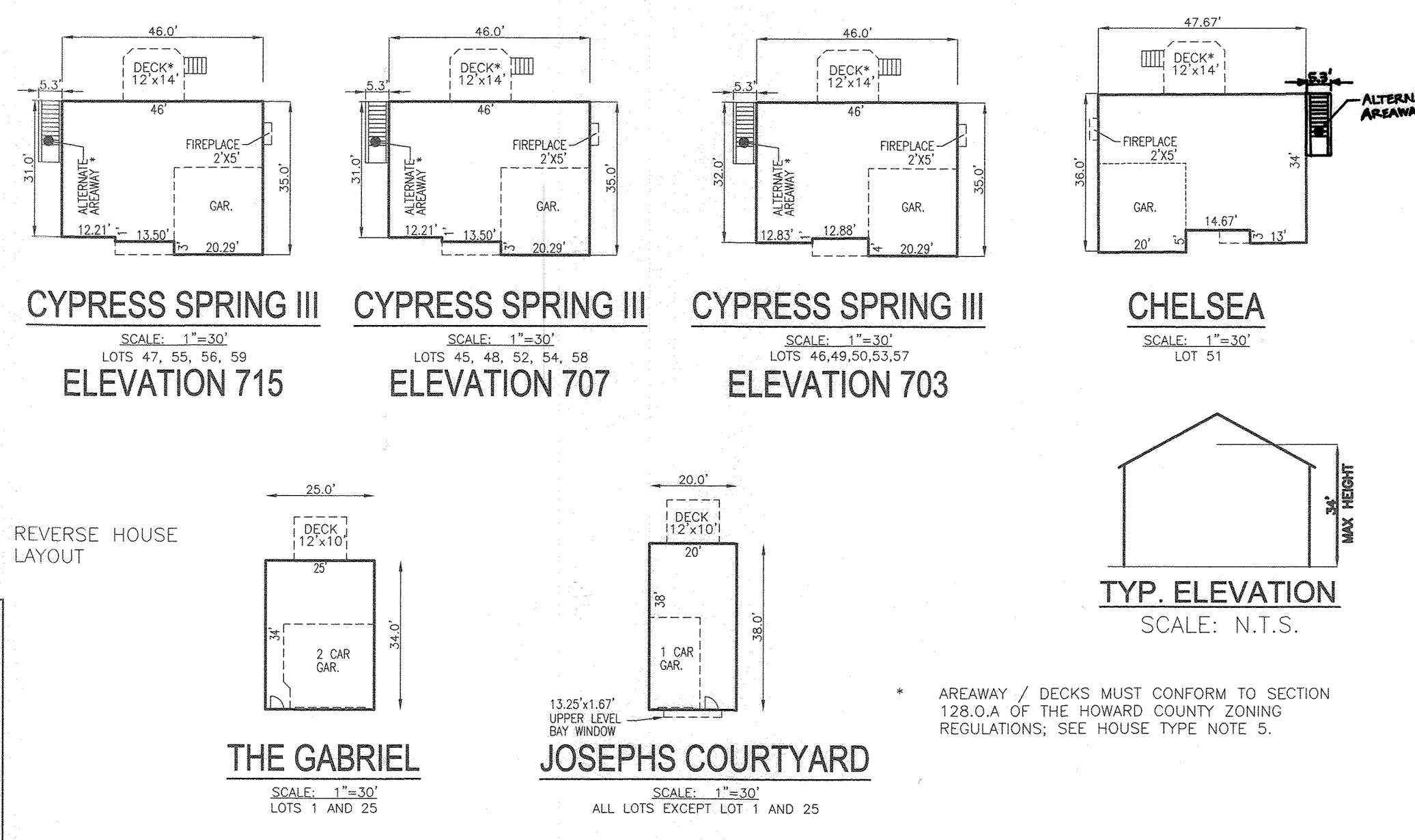
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EX. STORM DRAIN
- EX. STORM DRAIN INLET
- EXISTING STREET TREES (F-19-019)
- EXISTING CURB AND GUTTER
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- BRL. LINE
- EXISTING SIDEWALK
- EXISTING SIGHT-DISTANCE EASEMENT PLAT#24488
- EX. PRIVATE STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT PLAT#24488
- EXISTING SPECIMEN TREE
- EX. 20" PUBLIC DRAINAGE & UTILITY EASEMENT PLAT#24488
- EXISTING TREES (F-19-019)
- PERMEABLE PAVEMENT

NOTE:

- PERMEABLE DRIVEWAY HAS BEEN PROVIDED ON LOTS 1-13 DRIVEWAY. SEE SHEET 6, 12 & 13

HOUSE TYPE NOTES:

- ADDITIONAL HOUSE TYPES AND OPTIONS MAY FIT ON ANY GIVEN LOT.
- THE STAKING OF FOUNDATIONS PRIOR TO CONSTRUCTION TO ENSURE COMPLIANCE WITH REGULATORY BUILDING RESTRICTION LINES IS RECOMMENDED.
- A MINIMUM OF 10 FEET SHALL BE PROVIDED BETWEEN THE CHOSEN HOME MODEL AND A MICRO-BIOTRETENTION / RAIN GARDEN OR DRYWELL ESD STORMWATER FACILITY.
- MODEL ELEVATION SHALL NOT EXCEED 34' MAX HEIGHT AS ALLOWED BY R-SC ZONE.
- IN ACCORDANCE WITH SECTION 128.0.A OF THE HOWARD COUNTY ZONING REGULATIONS:
 - MAX ENCROACHMENT INTO SETBACK FOR CORNICES, EAVES AND CANTILEVERED BUILDING FEATURES WHICH DO NOT CONTAIN ANY FLOOR AREA OR EXTENSION OF INTERIOR LIVING SPACE IS: 3 FEET INTO ANY SETBACK.
 - MAX ENCROACHMENT INTO SETBACK FOR BAY WINDOWS, WINDOW WELLS, ORIELS, VESTIBULES, BALCONIES AND CHIMNEYS IS: 4 FEET INTO ANY SETBACK OR A REQUIRED DISTANCE BETWEEN BUILDINGS, PROVIDED THE FEATURE HAS A MAXIMUM WIDTH OF 16 FEET AS MEASURED HORIZONTALLY ALONG THE WALL FROM WHICH THE FEATURE EXTENDS.
 - MAX ENCROACHMENT INTO SETBACK FOR EXTERIOR STAIRWAYS OR RAMPS, ABOVE OR BELOW GROUND LEVEL EXCLUDING THOSE ATTACHED TO A PORCH OR DECK (SEE E): IS: 10 FEET INTO A FRONT SETBACK OR A SETBACK FROM A PROJECT BOUNDARY OR DIFFERENT ZONING DISTRICT; 16 FEET INTO A REAR SETBACK; 4 FEET INTO A SIDE SETBACK OR A REQUIRED DISTANCE BETWEEN BUILDINGS.
 - MAX ENCROACHMENT INTO SETBACK FOR OPEN OR ENCLOSED PORCHES AND DECKS, AND THE STAIRWAYS OR RAMPS ATTACHED THERETO IS: 10 FEET INTO A FRONT OR REAR SETBACK; A SETBACK FROM A PROJECT BOUNDARY; A SETBACK FROM A DIFFERENT ZONING DISTRICT, OR A REQUIRED DISTANCE BETWEEN BUILDINGS.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF DEVELOPMENT ENGINEERING DIVISION *SR* 10-7-20 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT *9/1/20* DATE
 DIRECTOR *10-16-20* DATE

OWNER
 MARANATHA MAG MANOR LLC
 LIVE FEARLESS IN CHRIST LLC
 MICHAEL PFAU MANAGING MEMBER
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

DEVELOPER
 TRINITY HOMES MARY LAND, LLC
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

REVISION: 2-12-21 DATE

SITE DEVELOPMENT PLAN
 LAYOUT PLAN,
 HOUSE TYPES AND NOTES
MAGNOLIA MANOR
 LOTS 1 - 61

TAX MAP: 47 PARCELS: 163 & 465
 6TH ELECTION DISTRICT

BLOCK: 19 ZONING: R-SC
 HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING
 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 P: 410.461.7666 F: 410.461.8961 www.timmons.com

TIMMONS GROUP
 PROFESSIONAL CERTIFICATE

DESIGN BY: RHV
 DRAWN BY: KG
 CHECKED BY: RHV
 DATE: SEPTEMBER 2020
 SCALE: AS SHOWN
 W.O. NO.: 16-15

PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2022

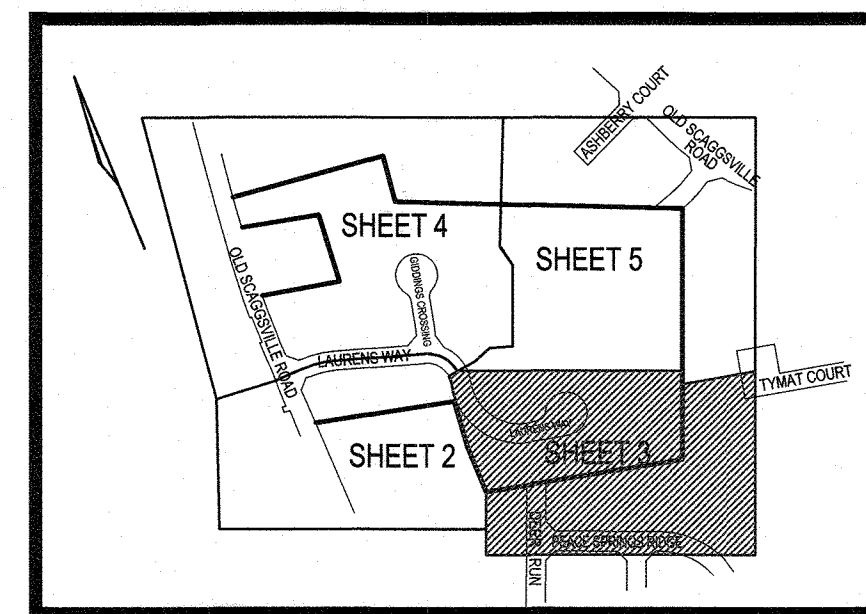
2 SHEET OF 13

NOTES:

1. ALL WATER CONNECTIONS SHALL BE 1-1/2" WITH 1" OUTSIDE METER SETTINGS, UNLESS OTHERWISE NOTED. REFER TO HOWARD COUNTY DETAILS W-3.28 OUTSIDE METER SETTINGS.

MATCHLINE SHEET 4

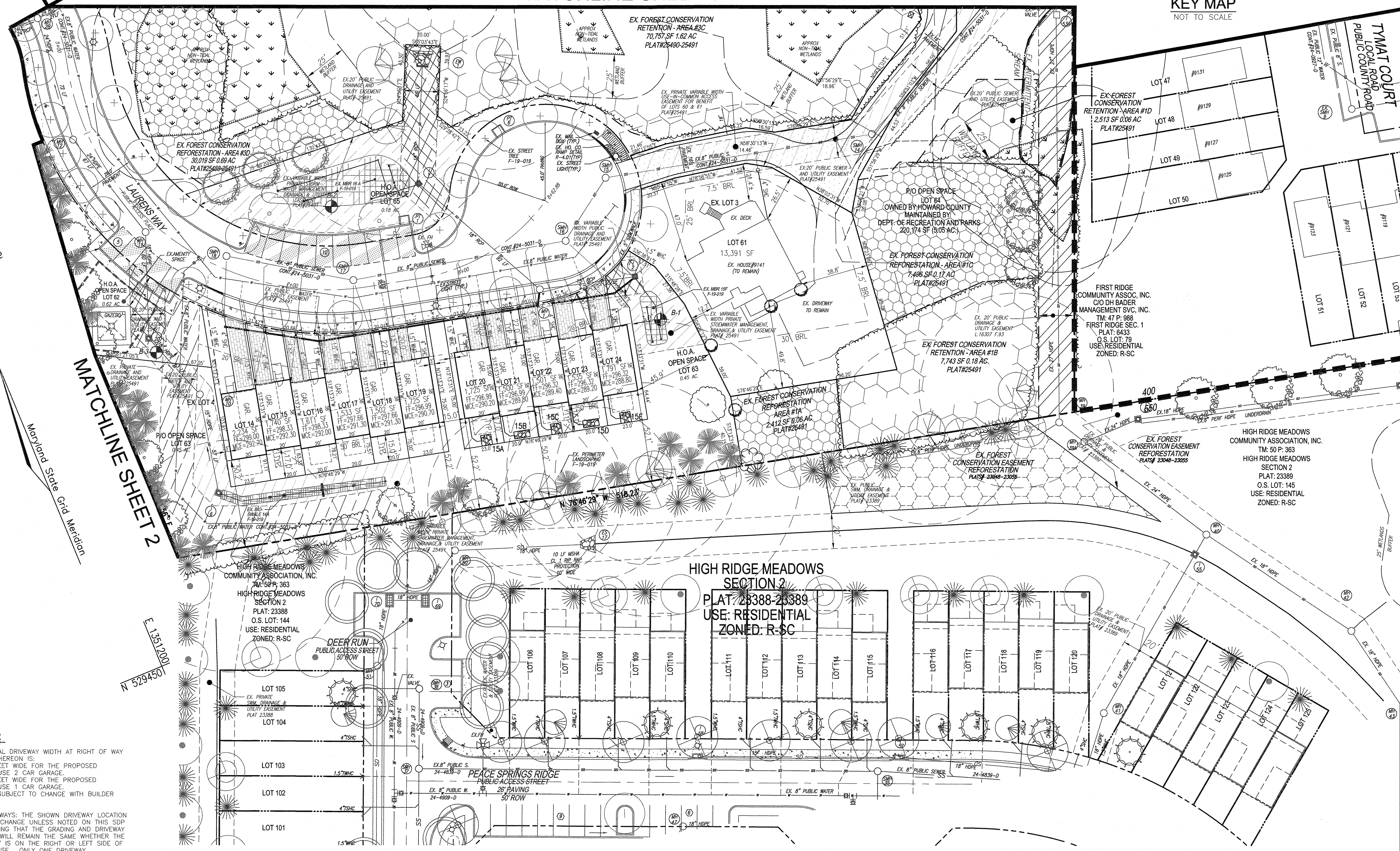
MATCHLINE SHEET 5



KEY MAP
NOT TO SCALE

LEGEND

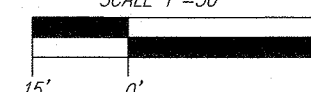
- EXISTING SANITARY MANHOLE
- SS — EXISTING SANITARY LINE
- EX EXISTING CLEANOUT
- ⊕ EX EXISTING FIRE HYDRANT
- W — EXISTING WATER LINE
- SD — EX. STORM DRAIN
- ⊕ EX EX. STORM DRAIN INLET
- X — EXISTING FENCE
- W — EX. WETLAND BUFFER
- — — — — EXISTING CURB AND GUTTER
- — — — — PROPERTY LINE
- — — — — RIGHT-OF-WAY LINE
- — — — — BRL LINE
- — — — — EXISTING SIDEWALK
- — — — — EX. PUBLIC FOREST CONSERVATION EASEMENT (REFORESTATION) PLAT#25488-25491
- — — — — EX. PUBLIC FOREST CONSERVATION EASEMENT (RETENTION) PLAT#25490-25491
- — — — — EX. WETLANDS
- — — — — EX. PUBLIC WATER SEWER AND UTILITY EASEMENT PLAT#25491
- — — — — EX. PRIVATE STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT PLAT#25491
- ⊕ EX EXISTING SPECIMEN TREE
- ⊕ EX EXISTING STREET TREES (F-19-019)
- ⊕ EX EXISTING TREES (F-19-019)
- — — — — EX. EX. PARKING AREA TO BE MAINTAINED BY HOA (F-19-019)
- — — — — PERMEABLE PAVEMENT
- ⊕ EX EX. DRYWELL
- — — — — EX. VARIABLE WIDTH PUBLIC DRAINAGE & UTILITY EASEMENT PLAT#25491
- — — — — EX. PRIVATE USE IN COMMON ACCESS EASEMENT PLAT# 25491



HIGH RIDGE MEADOWS SECTION 2
PLAT# 23388-23389
USE: RESIDENTIAL ZONED: R-SC

LAYOUT PLAN

SCALE: 1"=30'



NOTE:

1. TYPICAL DRIVEWAY WIDTH AT RIGHT OF WAY SHOWN HEREON IS:
a. 16 FEET WIDE FOR THE PROPOSED TOWNHOUSE 2 CAR GARAGE.
b. 10 FEET WIDE FOR THE PROPOSED TOWNHOUSE 1 CAR GARAGE.
*WIDTH SUBJECT TO CHANGE WITH BUILDER RESIST.
2. DRIVEWAYS: THE SHOWN DRIVEWAY LOCATION CANNOT CHANGE UNLESS NOTED ON THIS SDP. CONFIRMING THAT THE GRADING AND DRIVEWAY SLOPES WILL REMAIN THE SAME WHETHER THE DRIVEWAY IS ON THE RIGHT OR LEFT SIDE OF THE HOUSE. ONLY ONE DRIVEWAY ORIENTATION CAN BE SHOWN FOR CORNER LOTS.

NOTES:

1. PERMEABLE DRIVEWAY HAS BEEN PROVIDED ON LOTS 14-24 DRIVEWAY. SEE SHEET 6, 12 AND 13
2. REFER TO SHEET 12 FOR DRYWELL (DW) SIZE, NOTES & DETAILS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division
Chief, Division of Land Development
Director

DATE: 10-7-20
DATE: 10-16-20

OWNER

MARANATHA MAG MANOR LLC
LIVE FEARLESS IN CHRIST LLC
MICHAEL PFAU MANAGING MEMBER
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

DEVELOPER

TRINITY HOMES MARY LAND, LLC
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

REVISION	DATE

SITE DEVELOPMENT PLAN
LAYOUT PLAN

MAGNOLIA MANOR
LOTS 1 - 61

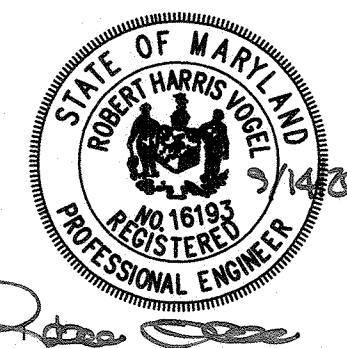
TAX MAP: 47 PARCELS: 163 & 485
6TH ELECTION DISTRICT

BLOCK: 19 ZONING: R-SC
HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING

TIMMONS GROUP

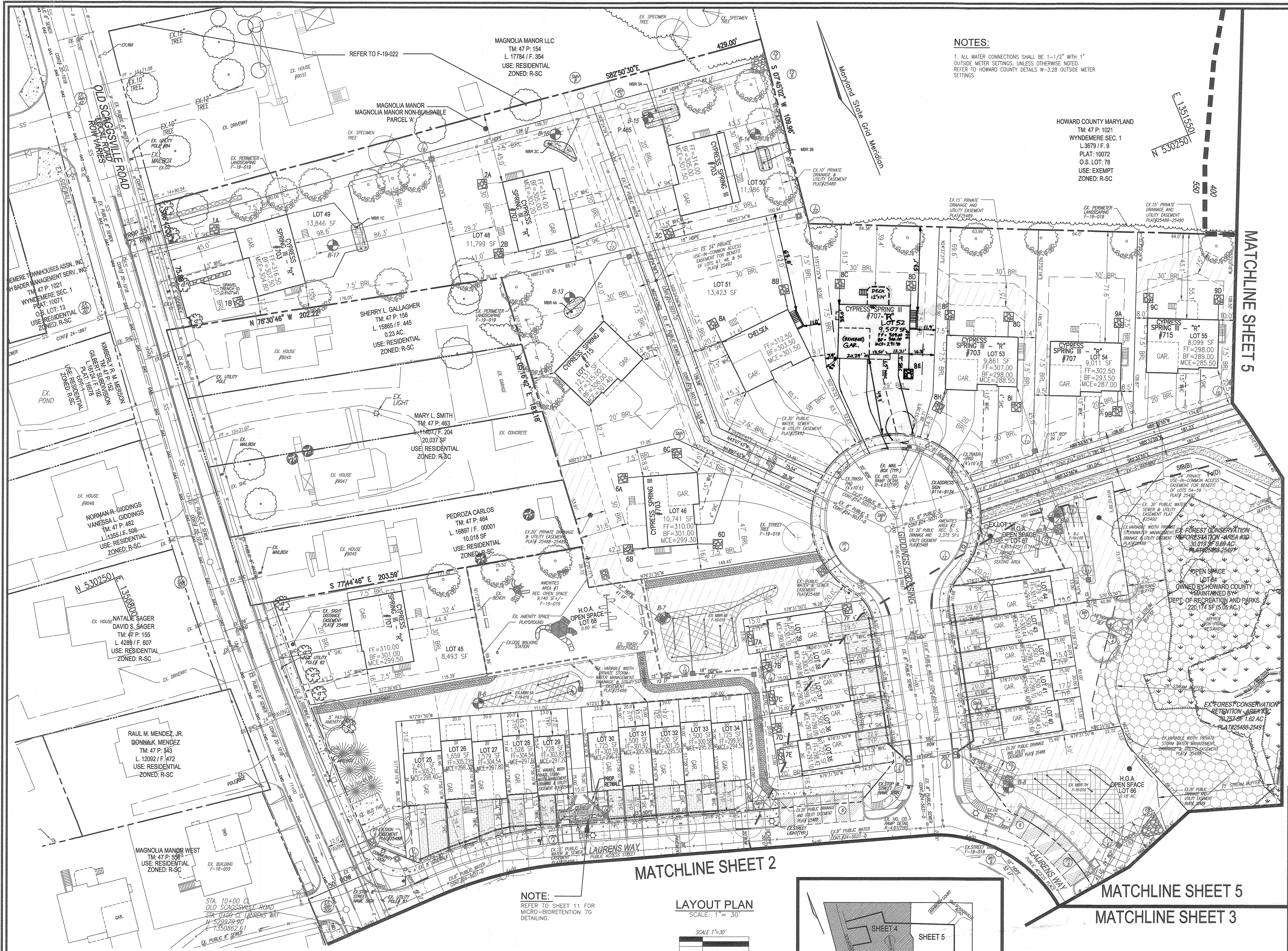
3300 NORTH RIDGE ROAD, SUITE 110, ELLCOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com



DESIGN BY: RHV
DRAWN BY: KG
CHECKED BY: RHV
DATE: SEPTEMBER 2020
SCALE: AS SHOWN
W.O. NO.: 16-15

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 JURISDICTION OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 09-27-2022

3 SHEET OF 13



NOTES:

1. ALL WATER CONNECTIONS SHALL BE 1-1/2" WITH 1" OUTSIDE METER SETTINGS, UNLESS OTHERWISE NOTED. REFER TO HOWARD COUNTY DETAILS W-328 OUTSIDE METER SETTINGS.

LEGEND

	EXISTING UTILITY POLE		EX. WETLANDS
	EXISTING LIGHT POLE		PERMEABLE PAVEMENT
	EXISTING MAILBOX		EX. 24' PRIVATE USE IN COMMON ACCESS EASEMENT PLAT# 25482
	EXISTING SIGN		EX. 24' PRIVATE WATER, SEWER, AND UTILITY EASEMENT PLAT# 25488 & 25492
	EXISTING SANITARY MANHOLE		EXISTING SIGHT-DISTANCE EASEMENT PLAT# 25488
	EXISTING CLEANOUT		EXISTING FIRE HYDRANT PLAT# 25488
	EXISTING FIRE HYDRANT		EXISTING WATER LINE PLAT# 25488
	EXISTING WATER LINE		EX. STORM DRAIN
	EX. STORM DRAIN		EX. STORM DRAIN INLET
	EX. STORM DRAIN INLET		EX. PARKING AREA TO BE MAINTAINED BY HOA (F-19-019)
	EXISTING STREET TREES (F-19-019)		EXISTING SPECIMEN TREE
	EXISTING FENCE		EXISTING TREES (F-19-019)
	EX. WETLAND BUFFER		EX. STREAM BUFFER
	EX. STREAM BUFFER		PROPERTY LINE
	PROPERTY LINE		RIGHT-OF-WAY LINE
	EXISTING SIDEWALK		EXISTING PATHWAY
	EXISTING PATHWAY		GULL LINE
	DRYWELL		PERMEABLE PAVEMENT

NOTES:

1. PERMEABLE DRIVEWAY HAS BEEN PROVIDED ON LOTS 25-44 DRIVEWAY. SEE SHEET 6, 12 & 13
2. REFER TO SHEET 12 FOR DRYWELL (DW) SIZE, NOTES & DETAILS

NOTE:

1. TYPICAL DRIVEWAY WIDTH AT RIGHT OF WAY SHOWN HEREON IS:
 - a. 16 FEET WIDE FOR THE PROPOSED TOWNHOUSE 2 CAR GARAGE.
 - b. 12 TO 16 FEET WIDE FOR THE PROPOSED SINGLE FAMILY DETACHED HOUSE.
 - c. 10 FEET WIDE FOR THE PROPOSED TOWNHOUSE 1 CAR GARAGE.
 *WIDTH SUBJECT TO CHANGE WITH BUILDER RESITE.
2. DRIVEWAYS: THE SHOWN DRIVEWAY LOCATION CANNOT CHANGE UNLESS NOTED ON THIS SDP CONFIRMING THAT THE GRADING AND DRIVEWAY SLOPES WILL REMAIN THE SAME WHETHER THE DRIVEWAY IS ON THE RIGHT OR LEFT SIDE OF THE HOUSE. ONLY ONE DRIVEWAY ORIENTATION CAN BE SHOWN FOR CORNER LOTS.

OWNER

MARANATHA MAG MANOR LLC
 TM: 47 P. 585
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

DEVELOPER

TRINITY HOMES MARY LAND, LLC
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

1	TO REVISE HOUSE TYPE AND GRADING ON LOT 52, AND TO REVISE GRADING AND ADD ARWAY ON LOT 51	2-12-21
	REVISION	DATE

SITE DEVELOPMENT PLAN

LAYOUT PLAN

MAGNOLIA MANOR
 LOTS 1 - 61

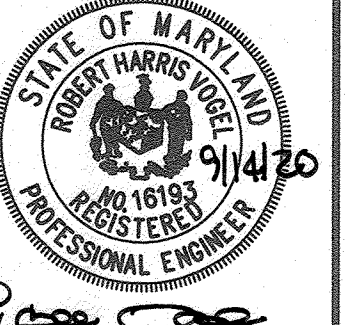
TAX MAP: 47 PARCELS: 163 & 465
 6TH ELECTION DISTRICT

BLOCK: 19 ZONING: R-SC
 HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING

TIMMONS GROUP

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 P: 410.461.7666 F: 410.461.8961 www.timmons.com



DESIGN BY: RHV
 DRAWN BY: KG
 CHECKED BY: RHV
 DATE: SEPTEMBER 2020
 SCALE: AS SHOWN
 W.O. NO.: 16-15

PROFESSIONAL CERTIFICATE
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APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

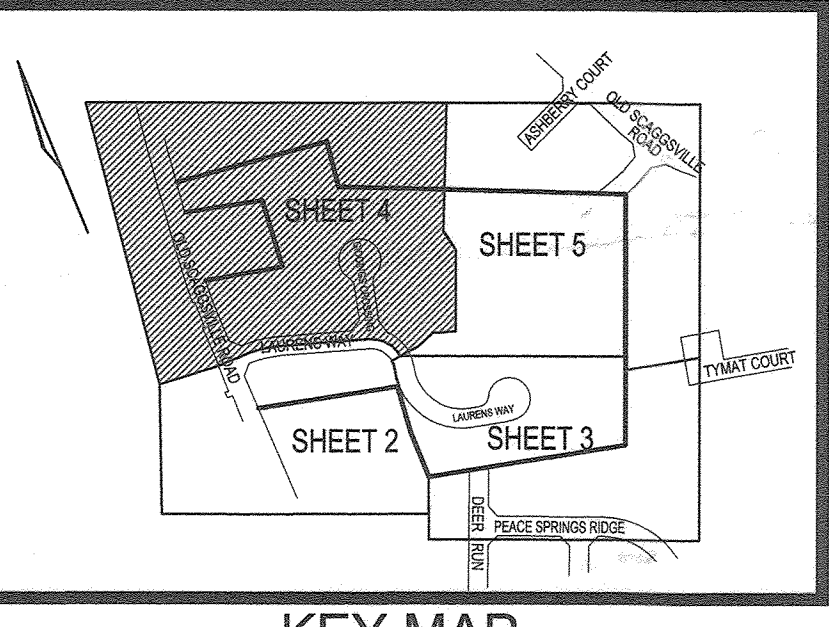
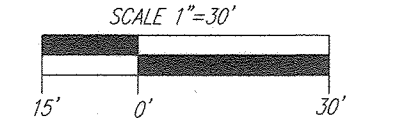
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 10-7-20

CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 10-16-20

DIRECTOR
 DATE: 10-16-20

MATCHLINE SHEET 2

LAYOUT PLAN
 SCALE: 1" = 30'

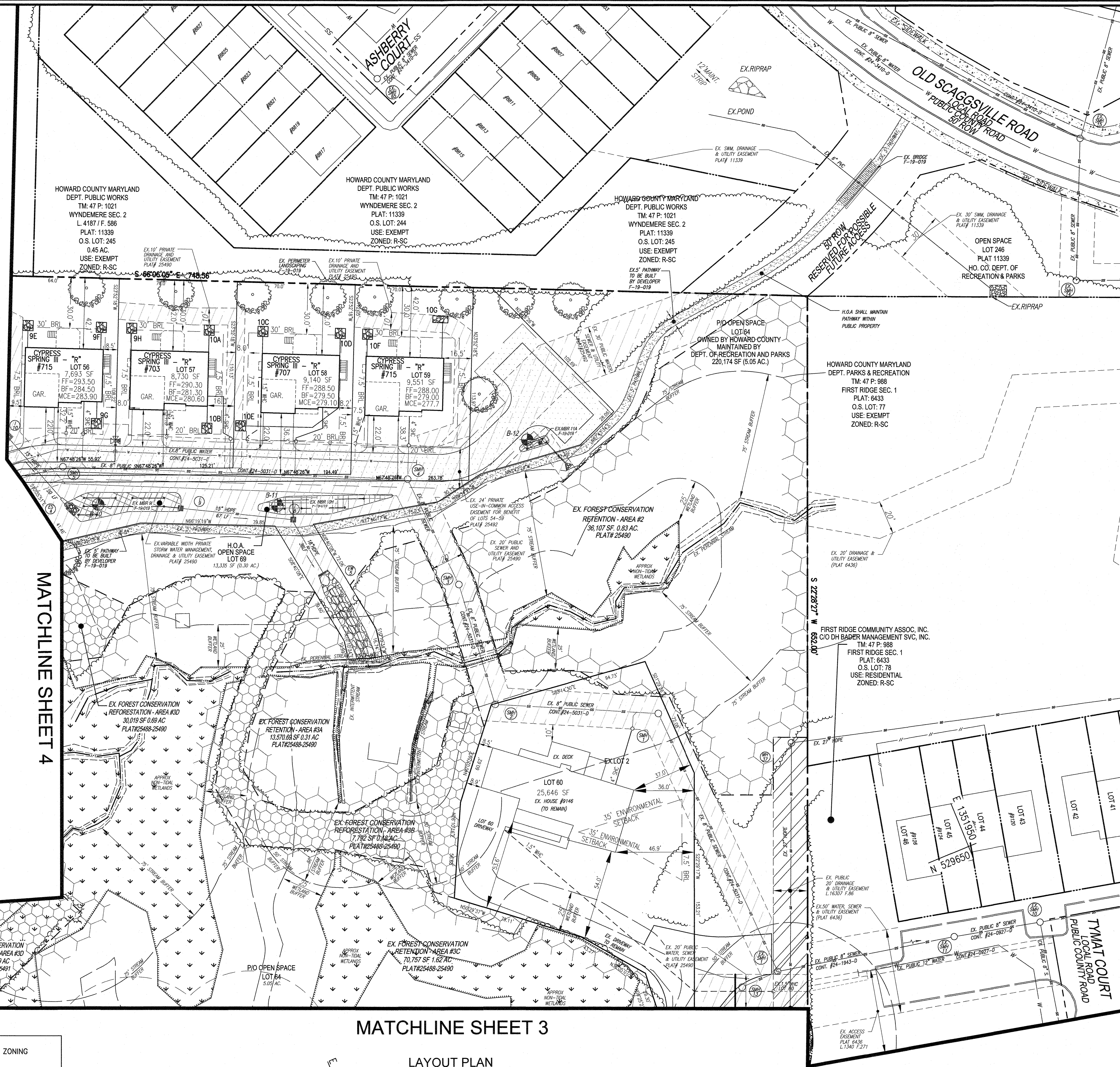
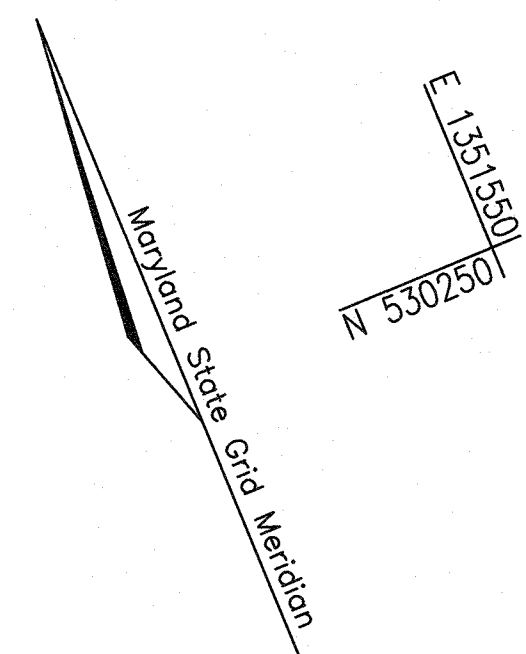


KEY MAP
 NOT TO SCALE

NOTE:
 REFER TO SHEET 11 FOR MICRO-BIOTRETENTION 7G DETAILING.

NOTES:

1. ALL WATER CONNECTIONS SHALL BE 1-1/2" WITH 1" OUTSIDE METER SETTINGS, UNLESS OTHERWISE NOTED. REFER TO HOWARD COUNTY DETAILS W-3.29 OUTSIDE METER SETTINGS.



NOTES:

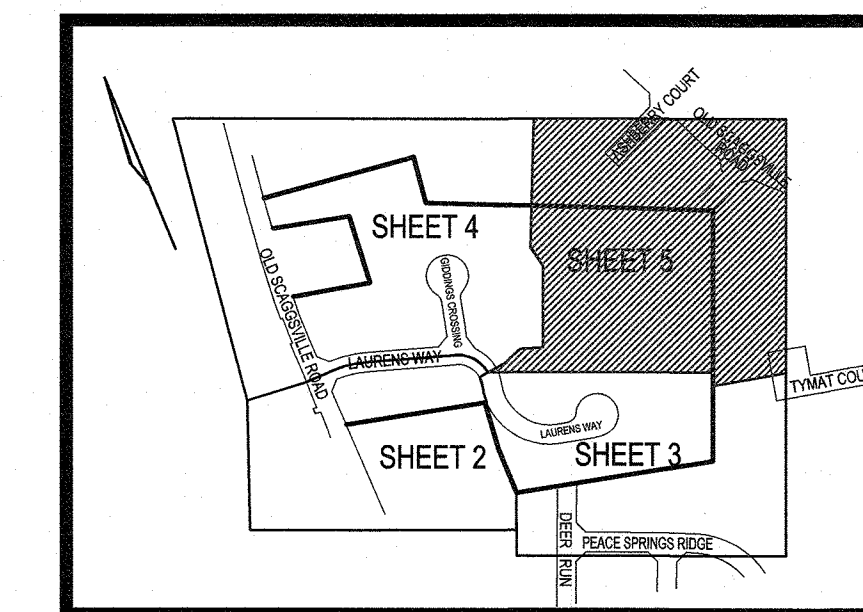
1. REFER TO SHEET 12 FOR DRYWELL (DW) SIZE, NOTES & DETAILS

NOTE:

1. TYPICAL DRIVEWAY WIDTH AT RIGHT OF WAY SHOWN HEREON IS:
12 TO 16 FEET WIDE FOR THE PROPOSED SINGLE FAMILY DETACHED HOUSE.
2. DRIVEWAYS: THE SHOWN DRIVEWAY LOCATION CANNOT CHANGE UNLESS NOTED ON THIS SDP CONFIRMING THAT THE GRADING AND DRIVEWAY SLOPES WILL REMAIN THE SAME WHETHER THE DRIVEWAY IS ON THE RIGHT OR LEFT SIDE OF THE HOUSE. ONLY ONE DRIVEWAY ORIENTATION CAN BE SHOWN FOR CORNER LOTS.

LEGEND

- EXISTING SANITARY MANHOLE
- SS — EXISTING SANITARY LINE
- EXISTING CLEANOUT
- ⊗ EXISTING FIRE HYDRANT
- W — EXISTING WATER LINE
- SD — EX. STORM DRAIN
- ⊠ EX. STORM DRAIN INLET
- X — EXISTING FENCE
- W — EX. WETLAND BUFFER
- S — EX. STREAM BUFFER
- G — EXISTING CURB AND GUTTER
- P — PROPERTY LINE
- R — RIGHT-OF-WAY LINE
- B — BRIDGE
- S — EXISTING SIDEWALK
- P — EXISTING 5' PATHWAY
- C — EXISTING PUBLIC FOREST CONSERVATION EASEMENT (REFORESTATION) PLAT# 25488-25491
- C — EXISTING PUBLIC FOREST CONSERVATION EASEMENT (REFORESTATION) PLAT# 25488-25490
- D — EX. PUBLIC 20' DRAINAGE & UTILITY EASEMENT L. 16307 F.86
- W — EX. WETLANDS
- C — EX. 24' PRIVATE USE IN COMMON ACCESS EASEMENT PLAT# 25492
- S — EX. PUBLIC WATER, SEWER, AND UTILITY EASEMENT PLAT# 25490 & 25492
- S — EX. PRIVATE STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT PLAT# 25490
- EXISTING TREES (F-19-019)
- DRYWELL



KEY MAP
NOT TO SCALE

OWNER
MARANATHA MAG MANOR LLC
LIVE FEARLESS IN CHRIST LLC
MICHAEL PFAU, MANAGING MEMBER
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

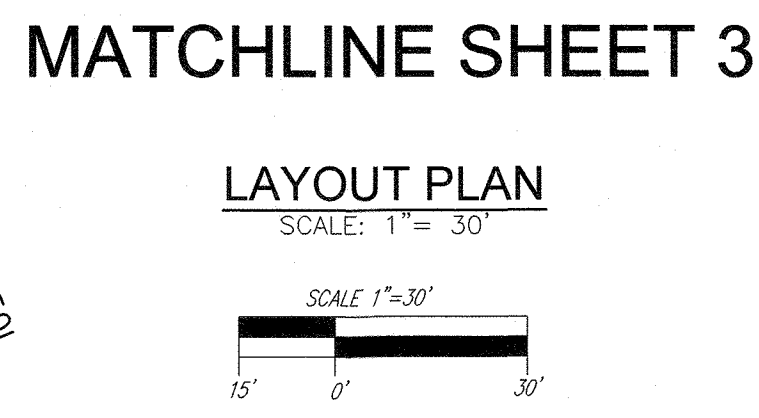
DEVELOPER
TRINITY HOMES MARY LAND, LLC
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 10-7-20
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 10/16/20
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 10-16-20
DIRECTOR DATE



REVISION	DATE

SITE DEVELOPMENT PLAN
LAYOUT PLAN
MAGNOLIA MANOR
LOTS 1 - 61

TAX MAP: 47 PARCELS: 163 & 465
BLOCK: 19 ZONING: R-SC
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING
TIMMONS GROUP
3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com

PROFESSIONAL CERTIFICATE

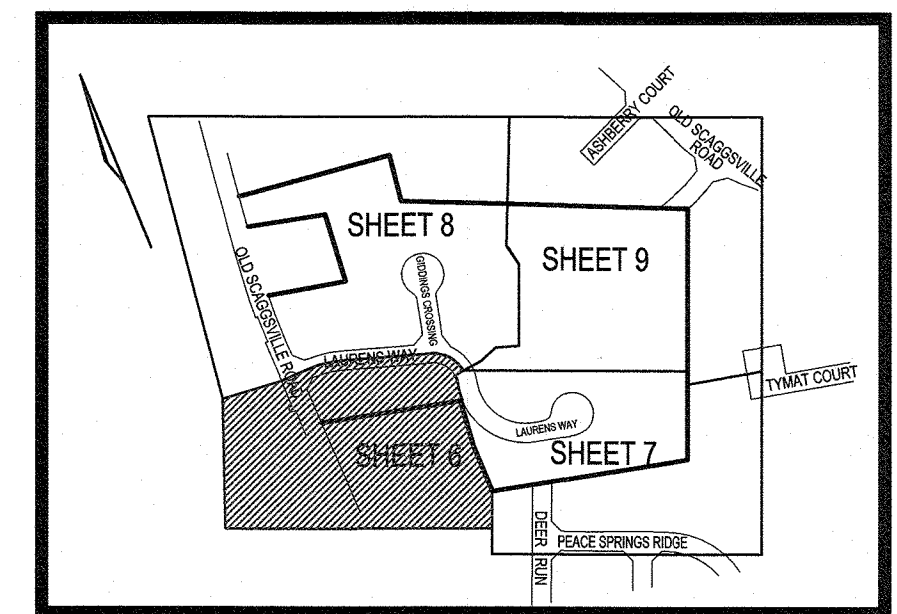
DESIGN BY: RHY
DRAWN BY: KC
CHECKED BY: RHY
DATE: SEPTEMBER 2020
SCALE: AS SHOWN
W.O. NO.: 16-15

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 08-27-2022

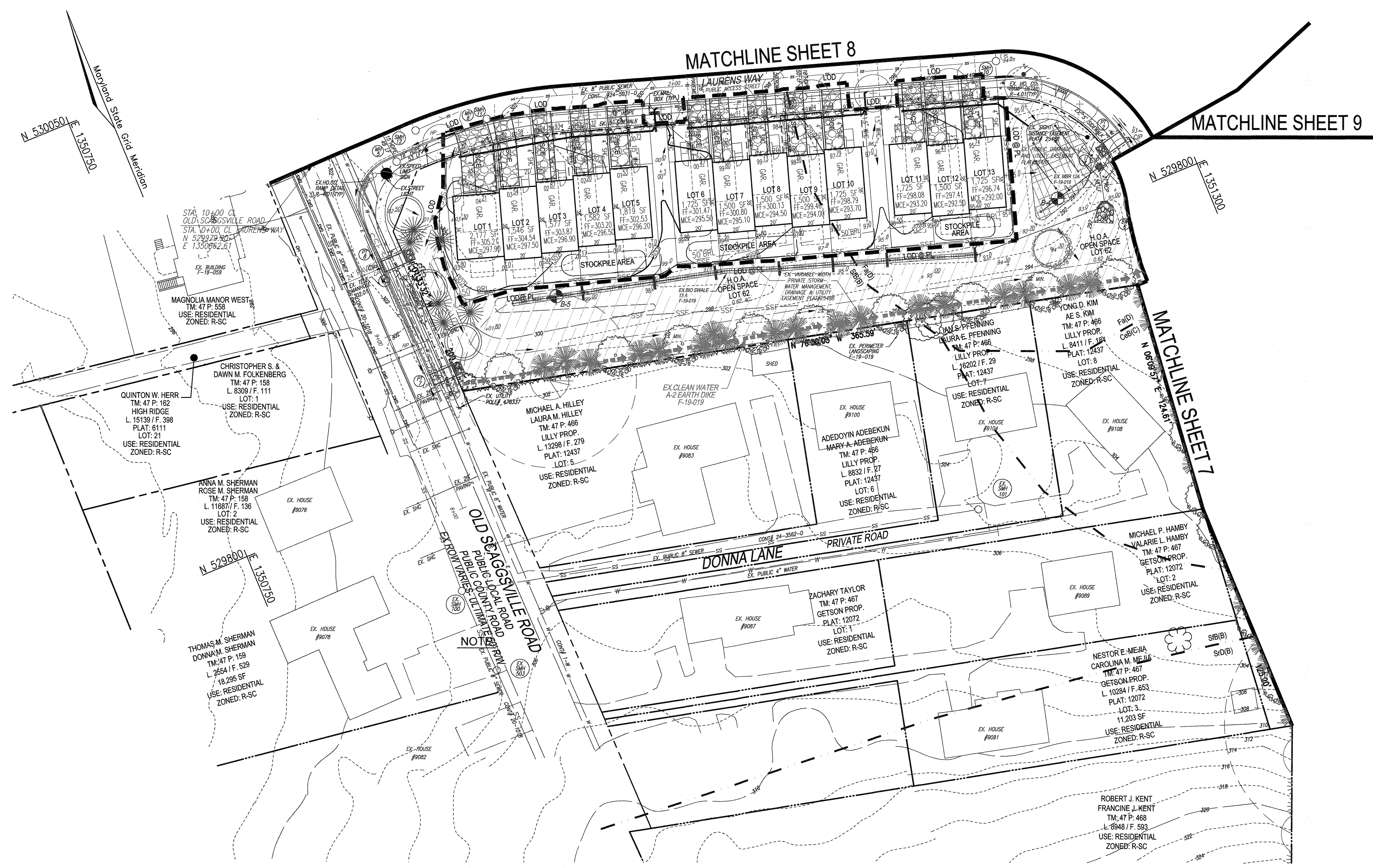
5 SHEET OF 13

MATCHLINE SHEET 8

MATCHLINE SHEET 9



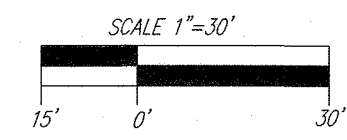
KEY MAP
NOT TO SCALE



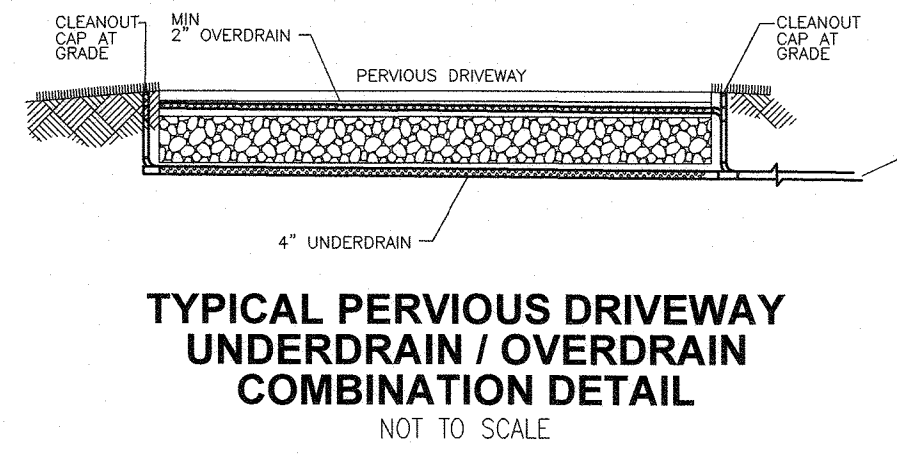
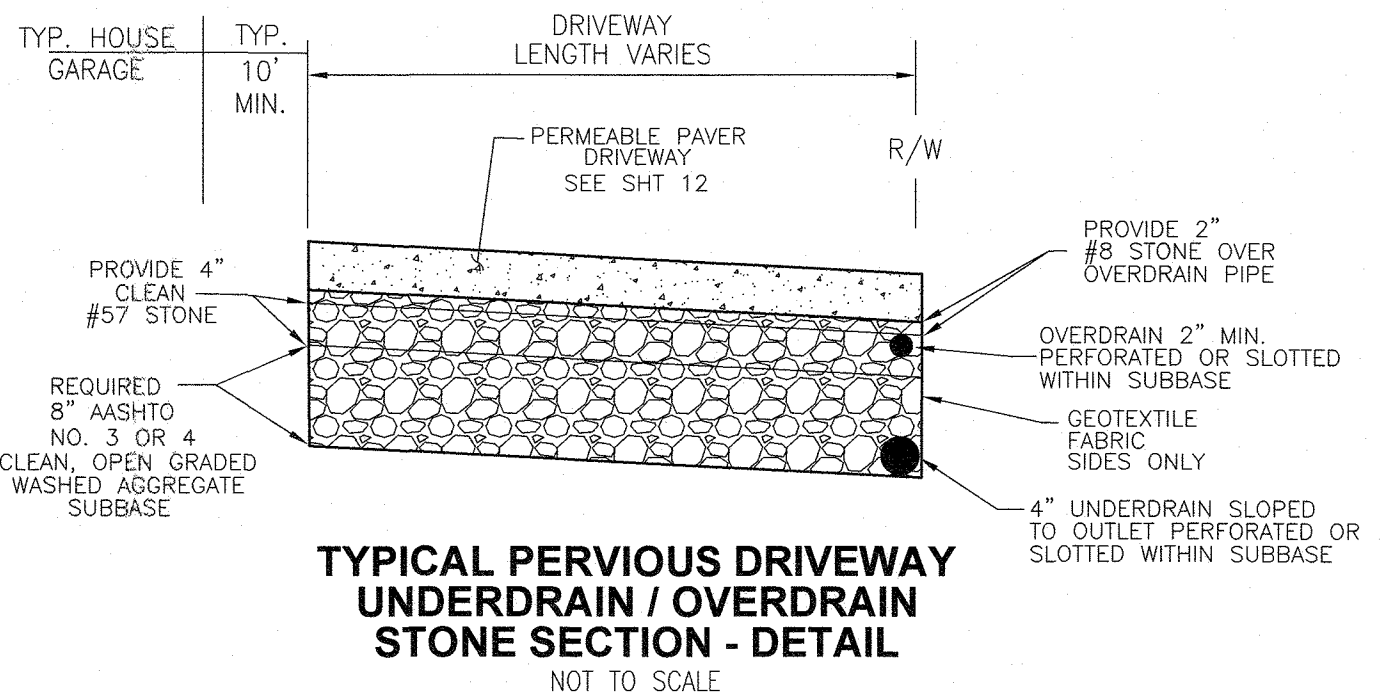
LEGEND

--- 389 ---	EXISTING CONTOUR	---	PROPERTY LINE
---	PROPOSED CONTOUR	---	RIGHT-OF-WAY LINE
+ 402.88	PROPOSED SPOT ELEVATION	---	EXISTING SIDEWALK
402.88	EXISTING SPOT ELEVATION	---	EXISTING EASEMENT PLAT# 25488
---	EXISTING UTILITY POLE	---	EX PRIVATE STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT PLAT# 22488
---	EXISTING LIGHT POLE	---	EXISTING SPECIMEN TREE
---	EXISTING MAILBOX	---	SILT FENCE
---	EXISTING SIGN	---	SUPER SILT FENCE
---	EXISTING SANITARY MANHOLE	---	LIMIT OF DISTURBANCE
---	EXISTING SANITARY LINE	---	CIP CURB INLET PROTECTION
---	EXISTING CLEANOUT	---	AGIP AT GRADE INLET PROTECTION
---	EXISTING FIRE HYDRANT	---	STABILIZED CONSTRUCTION ENTRANCE
---	EXISTING WATER LINE	---	SOILS BOUNDARY
---	EX. STORM DRAIN	---	EX. 20" PUBLIC DRAINAGE & UTILITY EASEMENT PLAT#25488
---	EX. STORM DRAIN INLET	---	
---	EXISTING STREET TREES (F-19-019)	---	
---	EXISTING CURB AND GUTTER	---	

GRADING, AND SOIL EROSION AND SEDIMENT CONTROL PLAN
SCALE: 1" = 30'



NOTE:
1. PERMEABLE DRIVEWAY HAS BEEN PROVIDED FOR LOTS 1-13 DRIVEWAY.



PERMEABLE SURFACE UNDERDRAIN OUTFALL

LOT #	RIGHT-OF-WAY GRADE (LOW)	OVERDRAIN		UNDERDRAIN		OUTFALL LOCATION
		MIN. INVERT*	MIN. INVERT*	MIN. INVERT*	MIN. INVERT*	
1	302.92	302.30	301.47	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY		
2	302.58	301.96	301.13	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY		
3	301.93	301.31	300.48	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY		
4	301.32	300.70	299.87	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY		
5	300.73	300.11	299.28	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY		
6	299.47	298.85	298.02	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY		
7	299.11	298.49	297.66	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY		
8	298.52	297.90	297.07	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY		
9	297.94	297.32	296.49	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY		
10	297.35	296.73	295.90	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY		
11	296.08	295.46	294.63	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY		
12	295.73	295.11	294.28	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY		
13	295.15	294.53	293.70	UNDERDRAIN TO DAYLIGHT AT MBR 12		

* SEE PLAN FOR DETAILED INVERT PER OVERLOT GRADING CONDITIONS
CONNECT LOT 5 COMBINED OVER/UNDERDRAIN PIPE TO STORM DRAIN PER F-19-019 TEE/WYE CONNECTION, SEE SHEET 13
CONNECT LOT 10 COMBINED OVER/UNDERDRAIN PIPE TO STORM DRAIN PER F-19-019 TEE/WYE CONNECTION, SEE SHEET 13
CONNECT LOT 5 COMBINED OVER/UNDERDRAIN PIPE TO STORM DRAIN PER F-19-019 TEE/WYE CONNECTION, SEE SHEET 13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature]
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 10-7-20

OWNER/DEVELOPER CERTIFICATION:
 I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE.
 [Signature]
 OWNER/DEVELOPER SIGNATURE
 DATE: 9/14/20
 PRINTED NAME & TITLE: Michael P. Papp, member

DESIGN CERTIFICATION:
 I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature]
 DESIGNER'S SIGNATURE
 DATE: 9/19/20
 PRINTED NAME: ROBERT H. VOGEL
 MD REGISTRATION NO. 16193
 (P.E., R.L.S., OR R.L.A. (circle one))

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature]
 DATE: 9/23/20

OWNER
 MARANATHA MAG MANOR LLC
 LIVE FEARLESS IN CHRIST LLC
 MICHAEL PFAU MANAGING MEMBER
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

DEVELOPER
 TRINITY HOMES MARY LAND, LLC
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

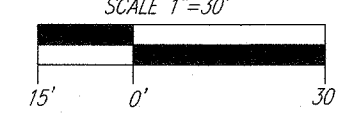
SITE DEVELOPMENT PLAN
 GRADING, AND SOIL EROSION AND SEDIMENT CONTROL PLAN
MAGNOLIA MANOR
 LOTS 1 - 61
 TAX MAP: 47 PARCELS: 163 & 465
 6TH ELECTION DISTRICT
 BLOCK: 19 ZONING: R-SC
 HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING
 TIMMONS GROUP
 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 P: 410.461.7666 F: 410.461.8961 www.timmons.com

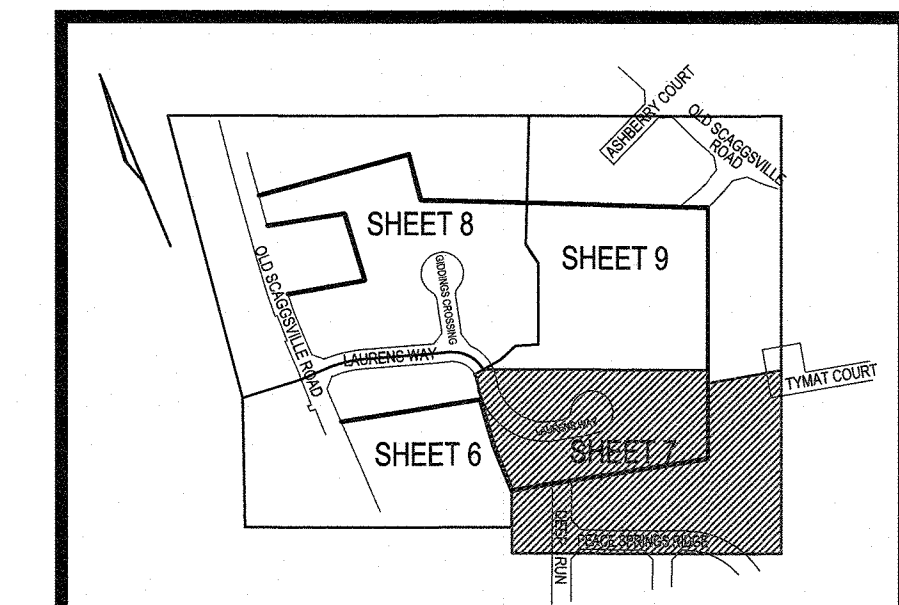
PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 09-27-2022.
 [Signature]
 ROBERT H. VOGEL, PE No. 16193
 DESIGN BY: RHV
 DRAWN BY: KG
 CHECKED BY: RHV
 DATE: SEPTEMBER 2020
 SCALE: AS SHOWN
 W.O. NO.: 16-15
 6 SHEET OF 13

GRADING, AND SOIL EROSION AND SEDIMENT CONTROL PLAN

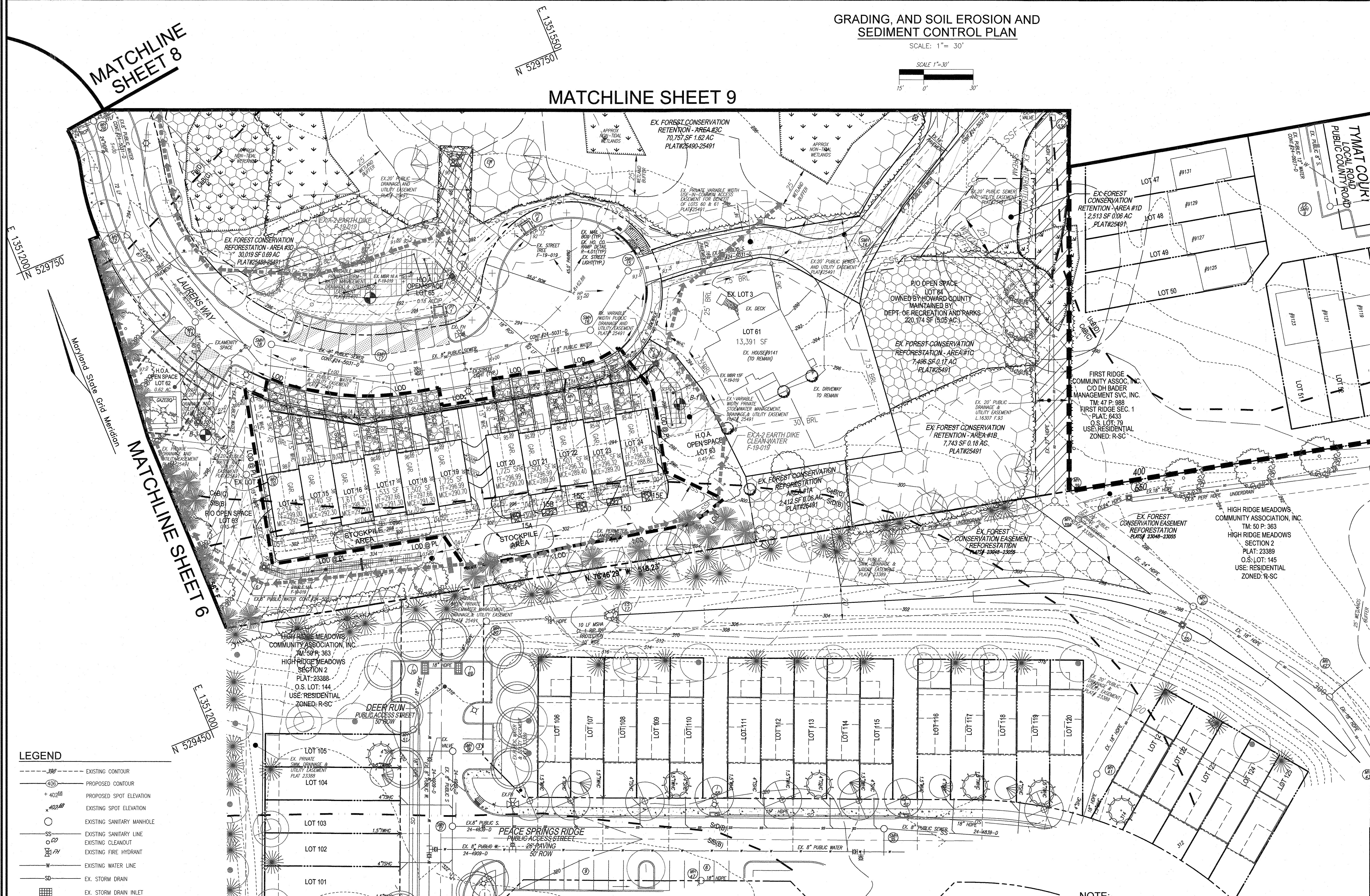
SCALE: 1" = 30'



MATCHLINE SHEET 9



KEY MAP
NOT TO SCALE



- LEGEND**
- - - - - EXISTING CONTOUR
 - - - - - PROPOSED CONTOUR
 - + 402.88 PROPOSED SPOT ELEVATION
 - + 402.88 EXISTING SPOT ELEVATION
 - EXISTING SANITARY MANHOLE
 - SS EXISTING SANITARY LINE
 - EXISTING CLEANOUT
 - EXISTING FIRE HYDRANT
 - W EXISTING WATER LINE
 - SD EX. STORM DRAIN
 - SD EX. STORM DRAIN INLET
 - EXISTING FENCE
 - EX. WETLAND BUFFER
 - EXISTING CURB AND GUTTER
 - PROPERTY LINE
 - RIGHT-OF-WAY LINE
 - EXISTING SIDEWALK
 - EXISTING PUBLIC FOREST CONSERVATION EASEMENT (REFORESTATION) PLAT#25491
 - EXISTING PUBLIC FOREST CONSERVATION EASEMENT (RETENTION) PLAT#25491
 - EX. VARIABLE WIDTH PUBLIC DRAINAGE & UTILITY EASEMENT PLAT#25491
 - EX. WETLANDS
 - EX. PUBLIC WATER, SEWER, AND UTILITY EASEMENT PLAT#25491
 - EX. PRIVATE STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT PLAT#25491
 - EXISTING SPECIMEN TREE
 - SOILS BOUNDARY
 - EXISTING STREET TREES (F-19-019)
 - SILT FENCE
 - SUPER SILT FENCE
 - LIMIT OF DISTURBANCE
 - CIP CURB INLET PROTECTION
 - AGIP AT GRADE INLET PROTECTION
 - STABILIZED CONSTRUCTION ENTRANCE

NOTE:

1. PERMEABLE DRIVEWAY HAS BEEN PROVIDED FOR LOTS 14-24 DRIVEWAY.

PERMEABLE SURFACE UNDERDRAIN OUTFALL					
LOT #	RIGHT-OF-WAY GRADE (LOW)	OVERDRAIN MIN. INVERT*	UNDERDRAIN MIN. INVERT*	UNDERDRAIN	OUTFALL LOCATION
14	296.11	295.49	294.66		COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
15	296.10	295.48	294.65		COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
16	296.04	295.42	294.59		COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
17	295.91	295.29	294.46		COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
18	295.7	295.08	294.25		COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
19	295.09	294.47	293.64		COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
20	295.16	294.54	293.71		COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
21	295.04	294.42	293.59		COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
22	294.84	294.22	293.39		COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
CONNECT LOT 22 COMBINED OVER/UNDERDRAIN PIPE TO MH-1 PER F-19-019 CONNECTION, SEE SHEET 13					
23	294.58	293.96	293.13		COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
24	294.39	293.77	292.94		COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
CONNECT LOT 24 COMBINED OVER/UNDERDRAIN PIPE TO I2 PER F-19-019 CONNECTION, SEE SHEET 13					

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature]
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 0-2-20

[Signature]
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 10-16-20

[Signature]
DIRECTOR

OWNER/DEVELOPER CERTIFICATION:
I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND THE STATE OF MARYLAND.

[Signature] Michael P. Fran
DATE: 9/14/20
PRINTED NAME & TITLE

DESIGN CERTIFICATION:
I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] Robert H. Vogel
DATE: 9/14/20
PRINTED NAME

MD REGISTRATION NO. 16193
P.E. R.L.S. OR R.L.A. (circle one)

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

[Signature] John R. Robertson
DATE: 9/23/20
WARD S.C.D.

OWNER
MARANATHA MAG MANOR LLC
LIVE FEARLESS IN CHRIST LLC
MICHAEL PFAU MANAGING MEMBER
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

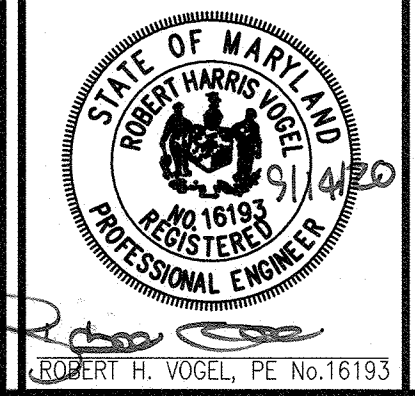
DEVELOPER
TRINITY HOMES MARY LAND, LLC
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

SITE DEVELOPMENT PLAN
GRADING, AND SOIL EROSION AND SEDIMENT CONTROL PLAN
MAGNOLIA MANOR
LOTS 1 - 61

TAX MAP: 47 PARCELS: 163 & 465
6TH ELECTION DISTRICT

BLOCK: 19 ZONING: R-SC
HOWARD COUNTY, MARYLAND

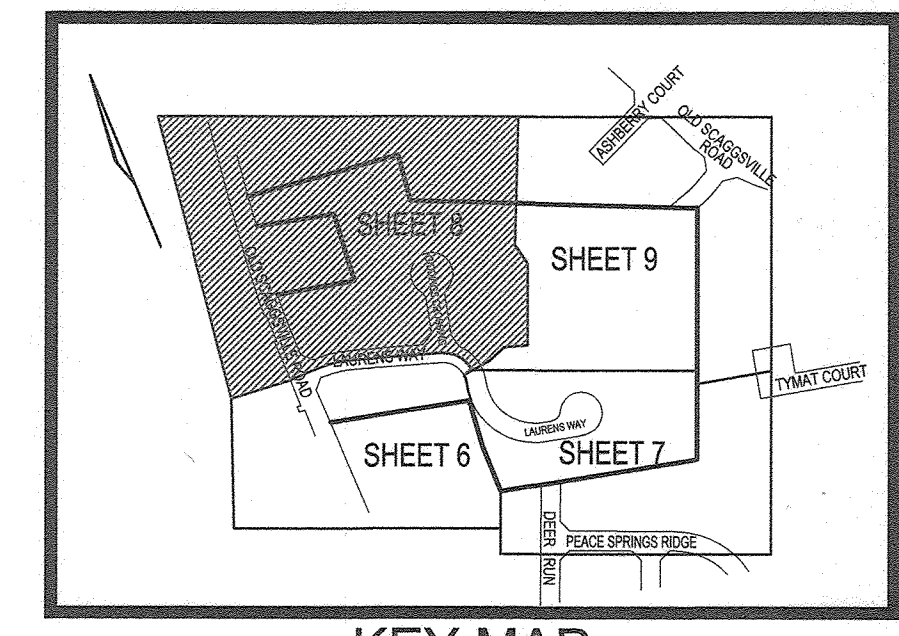
VOGEL ENGINEERING
TIMMONS GROUP
3300 NORTH RIDGE ROAD, SUITE 110, ELLCOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com



DESIGN BY: RHV
DRAWN BY: KC
CHECKED BY: RHV
DATE: SEPTEMBER 2020
SCALE: AS SHOWN
W.O. NO.: 16-15

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 09-27-2022

7 SHEET OF 13



LEGEND

---	EXISTING CONTOUR	---	EXISTING PUBLIC FOREST CONSERVATION EASEMENT PLAT 25488-25491
- - -	PROPOSED CONTOUR	---	EXISTING PUBLIC FOREST CONSERVATION EASEMENT PLAT 25488-25491
+ 40288	PROPOSED SPOT ELEVATION	---	EXISTING SIGHT-DISTANCE EASEMENT PLAT 25492
○	EXISTING SPOT ELEVATION	---	EX. WETLANDS
○	EXISTING UTILITY POLE	---	EX. 24' PRIVATE USE IN COMMON ACCESS EASEMENT PLAT 25492
○	EXISTING LIGHT POLE	---	EX. PUBLIC WATER, SEWER, AND UTILITY EASEMENT PLAT 25488 & 25492
○	EXISTING MAILBOX	---	EX. PRIVATE STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT PLAT 25488
○	EXISTING SIGN	---	EXISTING SPECIMEN TREE
○	EXISTING SANITARY MANHOLE	---	SILT FENCE
---	EXISTING SANITARY LINE	---	SUPER SILT FENCE
---	EXISTING CLEANOUT	---	LIMIT OF DISTURBANCE
---	EXISTING FIRE HYDRANT	---	CIP CURB INLET PROTECTION
---	EXISTING WATER LINE	---	ACIP AT GRADE INLET PROTECTION
---	EX. STORM DRAIN	---	STABILIZED CONSTRUCTION ENTRANCE
---	EX. STORM DRAIN INLET	---	MIB2 SOILS BOUNDARY
+	EXISTING STREET TREES (F-19-019)	---	MID3 SOILS BOUNDARY
---	EXISTING FENCE	---	
---	EX. WETLAND BUFFER	---	
---	EX. STREAM	---	
---	EX. STREAM BUFFER	---	
---	EXISTING CURB AND GUTTER	---	
---	PROPERTY LINE	---	
---	RIGHT-OF-WAY LINE	---	
---	EXISTING SIDEWALK	---	
---	EXISTING 5' PATHWAY	---	

OWNER
 MARANATHA MAG MANOR LLC
 LIVE FEARLESS IN CHRIST LLC
 MICHAEL PFALU MANAGING MEMBER
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

DEVELOPER
 TRINITY HOMES MARY LAND, LLC
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

MATCHLINE SHEET 6
 GRADING AND SOIL EROSION AND SEDIMENT CONTROL PLAN
 SCALE: 1" = 30'

PERMEABLE SURFACE UNDERDRAIN OUTFALL

LOT #	RIGHT-OF-WAY	OVERDRAIN	UNDERDRAIN	OUTFALL LOCATION
GRADE (ELEV.)	MIN. INVERT	MIN. INVERT		
*SEE PLAN FOR DETAILED INVERT PER OVERLOT GRADING CONDITIONS				
25	303.13	302.51	301.68	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
26	303.15	302.53	301.70	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
27	302.89	302.27	301.44	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
28	302.40	301.78	300.95	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
29	301.87	301.25	300.42	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
CONNECT LOT 29 COMBINED OVER/UNDERDRAIN PIPE TO MBR 76, SEE SHEET 13				
30	300.59	299.97	299.14	COMBINE OVER & UNDERDRAIN AT HIGH SIDE OF DRIVEWAY
31	300.26	299.64	298.81	COMBINE OVER & UNDERDRAIN AT HIGH SIDE OF DRIVEWAY
32	299.68	299.06	298.23	COMBINE OVER & UNDERDRAIN AT HIGH SIDE OF DRIVEWAY
33	299.09	298.47	297.64	COMBINE OVER & UNDERDRAIN AT HIGH SIDE OF DRIVEWAY
34	298.50	297.88	297.05	COMBINE OVER & UNDERDRAIN AT HIGH SIDE OF DRIVEWAY
CONNECT COMBINED OVER/UNDERDRAIN PIPE TO-18 NEAR LOT 30, SEE SHEET 13				

MATCHLINE SHEET 7
PERMEABLE SURFACE UNDERDRAIN OUTFALL

LOT #	RIGHT-OF-WAY	OVERDRAIN	UNDERDRAIN	OUTFALL LOCATION
GRADE (ELEV.)	MIN. INVERT	MIN. INVERT		
*SEE PLAN FOR DETAILED INVERT PER OVERLOT GRADING CONDITIONS				
35	296.54	295.92	295.09	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
36	297.17	296.55	295.72	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
37	297.97	297.35	296.52	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
38	298.77	298.15	297.32	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
39	299.17	298.55	297.72	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
CONNECT LOT 35 COMBINED OVER/UNDERDRAIN PIPE TO-5, SEE SHEET 13				
40	296.40	295.78	294.95	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
41	297.19	296.57	295.74	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
42	297.99	297.37	296.54	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
43	298.79	298.17	297.34	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
44	299.23	298.61	297.78	COMBINE OVER & UNDERDRAIN AT LOW SIDE OF DRIVEWAY
CONNECT LOT 40 COMBINED OVER/UNDERDRAIN PIPE TO-3, SEE SHEET 13				

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Chubb 10-7-20
 CHIEF, DEVELOPMENT ENGINEERING DIVISION JR
 DATE

Michael P. Fox 9/14/20
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE

John G. Gorman 10-16-20
 DIRECTOR
 DATE

OWNER/DEVELOPER CERTIFICATION:
 I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED GRADING AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MARYLAND DEPARTMENT OF THE ENVIRONMENT.

Michael P. Fox 9/14/20
 OWNER/DEVELOPER SIGNATURE
 PRINTED NAME & TITLE

DESIGN CERTIFICATION:
 I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Robert H. Vogel 9/14/20
 DESIGNER'S SIGNATURE
 PRINTED NAME

MD REGISTRATION NO. 16193
 R.L.S., OR R.L.A. (Circle one)

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

NOTE:
 1. PERMEABLE DRIVEWAY HAS BEEN PROVIDED FOR LOTS 24-44 DRIVEWAY.

John P. Robertson 9/23/20
 HOWARD S.C.D.

TO REVISE HOUSE TYPE AND GRADING ON LOT 52, AND TO REVISE GRADING AND ADD ASPHALT ON LOTS 2-12-21
 REVISION DATE

SITE DEVELOPMENT PLAN
GRADING AND SOIL EROSION AND SEDIMENT CONTROL PLAN
MAGNOLIA MANOR
 LOTS 1 - 61

TAX MAP: 47 PARCELS, 163 & 485
 BLOCK: 18 ZONING: R-SC
 HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING
 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 P: 410.461.7666 F: 410.461.8961 www.timmons.com

TIMMONS GROUP
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PROFESSIONAL CERTIFICATE

DESIGN BY: RHV
 DRAWN BY: KG
 CHECKED BY: RHV
 DATE: SEPTEMBER 2020
 SCALE: AS SHOWN
 W.O. NO.: 16-15

STATE OF MARYLAND
 REGISTERED PROFESSIONAL ENGINEER
 ROBERT H. VOGEL, PE No. 16193

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: 09-30-2022

8 SHEET OF 13

- LEGEND**
- EXISTING CONTOUR
 - PROPOSED CONTOUR
 - PROPOSED SPOT ELEVATION
 - EXISTING SPOT ELEVATION
 - EXISTING SANITARY MANHOLE
 - EXISTING SANITARY LINE
 - EXISTING CLEANOUT
 - EXISTING FIRE HYDRANT
 - EXISTING WATER LINE
 - EX. STORM DRAIN
 - EX. STORM DRAIN INLET
 - EXISTING FENCE
 - EX. WETLAND BUFFER
 - EX. STREAM
 - EX. STREAM BUFFER
 - EXISTING CURB AND GUTTER
 - PROPERTY LINE
 - RIGHT-OF-WAY LINE
 - EXISTING SIDEWALK
 - EXISTING 5' PATHWAY
 - EXISTING PUBLIC FOREST CONSERVATION EASEMENT (REFORESTATION) PLAT# 25488-25491
 - EXISTING PUBLIC FOREST CONSERVATION EASEMENT (RETENTION) PLAT# 25488-25490
 - EX. WETLANDS
 - EX. 24' PRIVATE USE IN COMMON ACCESS EASEMENT PLAT# 25492
 - EX. PUBLIC WATER, SEWER, AND UTILITY EASEMENT PLAT# 25490 & 25492
 - EX. PRIVATE STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT PLAT# 25490
 - EXISTING SPECIMEN TREE
 - SILT FENCE
 - SUPER SILT FENCE
 - LIMIT OF DISTURBANCE
 - CIP CURB INLET PROTECTION
 - AGIP AT GRADE INLET PROTECTION
 - STABILIZED CONSTRUCTION ENTRANCE
 - MIB2 SOILS BOUNDARY
 - MID3 SOILS BOUNDARY
 - MODERATE SLOPES (15% - 24.99%)
 - STEEP SLOPE (>25%)

E. 135.1500
N. 5302501

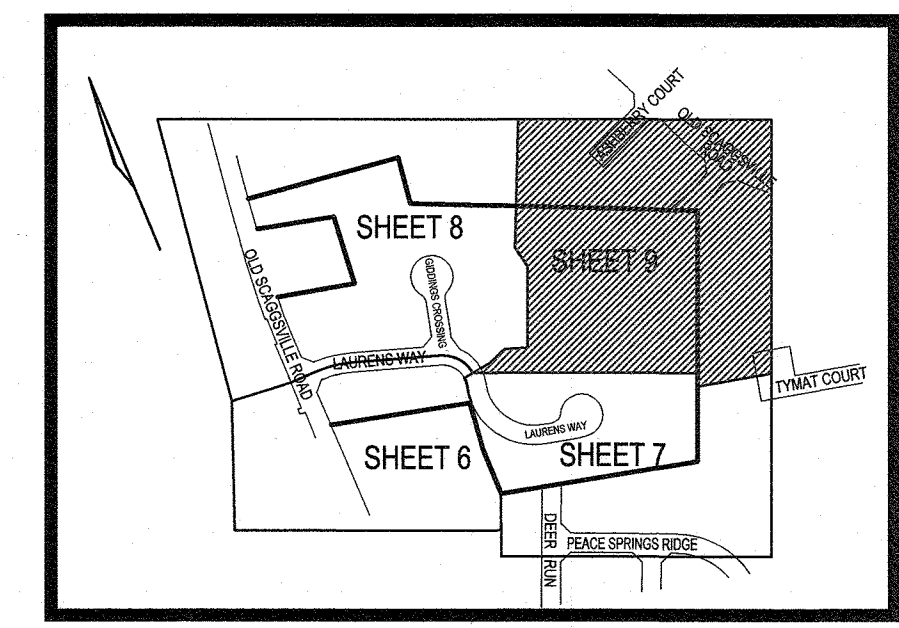
MATCHLINE SHEET 8

MATCHLINE SHEET 8

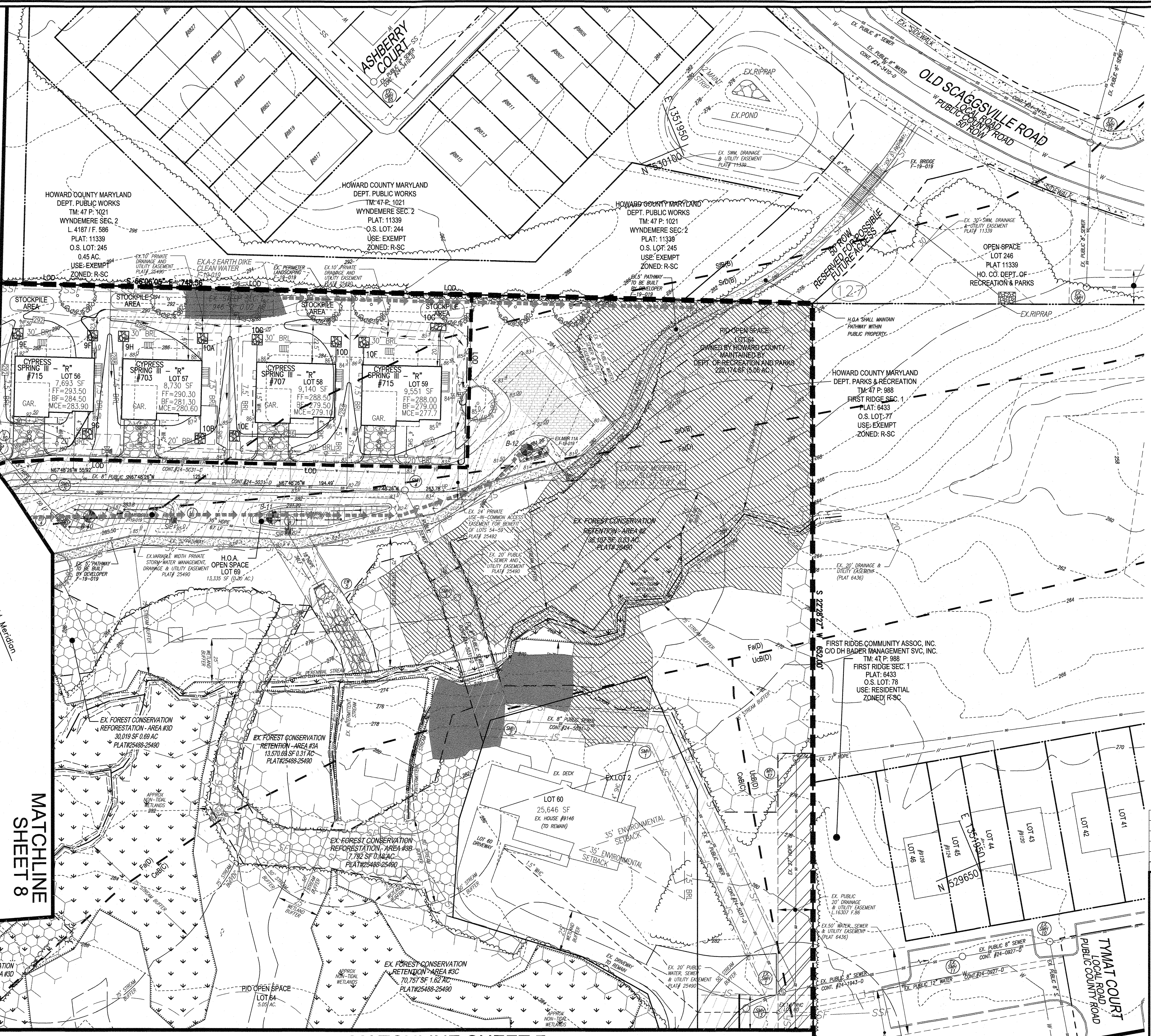
MATCHLINE SHEET 6

MATCHLINE SHEET 7

GRADING, AND SOIL EROSION AND SEDIMENT CONTROL PLAN



KEY MAP
NOT TO SCALE



OWNER
MARANATHA MAG MANOR LLC
LIVE FEARLESS IN CHRIST LLC
MICHAEL PFAU MANAGING MEMBER
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

DEVELOPER
TRINITY HOMES MARY LAND, LLC
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

SITE DEVELOPMENT PLAN
GRADING, AND SOIL EROSION AND SEDIMENT CONTROL PLAN
MAGNOLIA MANOR
LOTS 1 - 61

TAX MAP: 47 PARCELS: 163 & 465 BLOCK: 19 ZONING: R-5C HOWARD COUNTY, MARYLAND 6TH ELECTION DISTRICT

VOGEL ENGINEERING
TIMMONS GROUP
3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com

DESIGN BY: RHV
DRAWN BY: KG
CHECKED BY: RHV
DATE: SEPTEMBER 2020
SCALE: AS SHOWN
W.O. NO.: 16-15

PROFESSIONAL CERTIFICATE
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9 SHEET OF 13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
10-7-20
DATE
10-16-20
DATE

OWNER/DEVELOPER CERTIFICATION:
I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT, AND MDE.

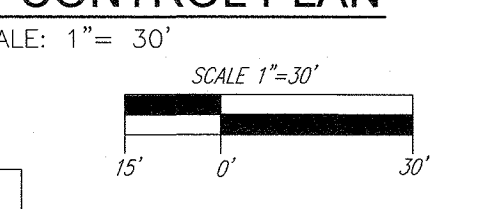
Michael Pfau 9/14/20
DATE
Michael Pfau
PRINTED NAME & TITLE

DESIGN CERTIFICATION:
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Robert H. Vogel 9/14/20
DATE
Robert H. Vogel
PRINTED NAME

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

9/23/20
DATE
ARD S.C.D.



HOWARD SOIL CONSERVATION DISTRICT
STANDARD SEDIMENT CONTROL NOTES

- A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 310-313-1885 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:
 - PRIOR TO THE START OF EARTH DISTURBANCE.
 - UPON COMPLETION OF THE INSTALLATION OF PERMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.
 - PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT.
 - PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.

OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.

- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THEREOF.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERMETER CONTROL, DIKES, SLOPES, DITCHES, PERMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND SLOPE (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.
- 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 (SECTION 4.1.1), PERMANENT SEEDING (SECTION 4.1.2), TEMPORARY SEEDING (SECTION 4.1.3), AND MULCHING (SECTION 4.1.4). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES. THE GROUND IS PROTECTED FROM EROSION AND SEDIMENTATION BY THE MULCH. MULCHING SHALL BE PERFORMED IN AREAS WITH A 1:1 CUT AND/OR FILL. STOCKPILES (SECTION 4.1.5) IN EXCESS OF 20 FT. MUST BE PROTECTED FROM EROSION AND SEDIMENTATION BY MULCHING AND/OR OTHER MEANS. MULCHING SHALL BE PERFORMED IN AREAS WITH A 1:1 CUT AND/OR FILL. STOCKPILES (SECTION 4.1.5) IN EXCESS OF 20 FT. MUST BE PROTECTED FROM EROSION AND SEDIMENTATION BY MULCHING AND/OR OTHER MEANS. MULCHING SHALL BE PERFORMED IN AREAS WITH A 1:1 CUT AND/OR FILL. STOCKPILES (SECTION 4.1.5) IN EXCESS OF 20 FT. MUST BE PROTECTED FROM EROSION AND SEDIMENTATION BY MULCHING AND/OR OTHER MEANS.

SITE ANALYSIS:

TOTAL AREA OF SITE:	15,334 ACRES
AREA TO BE ERODED OR PAVED:	5.00 ACRES
AREA TO BE VEGETATIVELY STABILIZED:	3.00 ACRES
TOTAL CUT:	1000 CU. YDS. TOTAL
TOTAL FILL:	1500 CU. YDS. TOTAL
OFFSITE WASTE/BORROW AREA LOCATION:	N/A

- REFER TO ITEM 11 BELOW.
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID, THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT INCLUDING CERTIFIED MEASUREMENTS AND PHOTOS SHALL BE SUBMITTED TO THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 310-313-1885. MAKE AVAILABLE UPON REQUEST, IS A COPY OF EVERY INSPECTION AND SHOULD INCLUDE:
 - INSPECTION DATE
 - INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
 - NAME AND TITLE OF INSPECTOR
 - WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
 - BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES
 - EVIDENCE OF SEDIMENT ESCAPES
 - IDENTIFICATION OF PLAN DEFICIENCIES
 - IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
 - IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
 - COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
 - PHOTOGRAPHS
 - MONITORING/SAMPLING
 - MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
 - OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MD, MD, MD)

- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PILE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, UNLESS OTHERWISE SPECIFIED.
- ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE CID PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER THE LIST OF HSD-APPROVED FIELD CHANGES.

- DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM AREA OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE CID. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE CID, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
- WASH WATER FROM AN EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.
- TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADES.
- ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON THE-OUTSLOPE, AND BE INTEGRATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION.
- STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUDING):
 - USE II AND III FROM MARCH 1 - JUNE 15
 - USE II AND III FROM APRIL 1 - APRIL 30
 - USE II AND III FROM MARCH 1 - MAY 31
- A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

B-4-5 STANDARDS AND SPECIFICATIONS
FOR PERMANENT STABILIZATION

TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

- GENERAL USE:
 - SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 8.3 FOR THE APPROPRIATE PLANT HARDNESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE SHOWN ON TABLE 8.2 (ENTER SELECTED MIXTURES), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY.
 - SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITION OR PURPOSE (ENTER SELECTED MIXTURES), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.

- AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
 - SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITION OR PURPOSE (ENTER SELECTED MIXTURES), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.

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- IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES
 - WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 10 TO OCTOBER 1 (HARDNESS ZONES: 5B, 6)
 - EASTERN MD: MARCH 15 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDNESS ZONES: 4B, 5)
 - SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDNESS ZONES: 7A, 7B)

- TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL, AND MAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1/4 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL PROVE NO DIFFICULTY.

- IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDING WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 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 SEASONS, OR ON ADVERSE SITES.

- SOIL TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER):
 - GENERAL SPECIFICATIONS
 - CLASS OF TURFGRASS SOO MUST BE MARYLAND STATE CERTIFIED. SOO LABELS MUST BE MADE AVAILABLE TO THE CID FOR INSPECTION AND APPROVAL.
 - SOO MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 5% INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROUND AND THATCH. GROUND PANS AND TON OR UNDER ENDS WILL NOT BE ACCEPTABLE.
 - STANDARD SIZE SECTIONS OF SOO MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 1/2 PORTION OF THE SECTION.
 - SOO MUST NOT BE HANDCUT OR TRANSPORTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
 - SOO MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOO NOT TRANSPORTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.
 - SOO INSTALLATION
 - DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SOO'S, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOO.
 - LAY THE FIRST ROW OF SOO IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO MINIMIZE MORE UNIFORM GROUND AND STRENGTH. ENSURE THAT SOO IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
 - WHEREVER POSSIBLE, LAY SOO WITH THE LONG EDGES PARALLEL TO THE OUTSLOPE AND WITH STAGGERING SURFACES. ROLL, TAMP, OR OTHERWISE SECURE THE SOO TO PREVENT SURFACE SOIL LOSS. ENSURE SOO CONTACT EXCEEDS BETWEEN SOO ROOTS AND THE UNDERLYING SOIL SURFACE.
 - WATER THE SOO IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOO PAD AND SOIL SURFACE BELOW THE SOO ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PCE OF SOO WITHIN 48 HOURS.
 - SOO MAINTENANCE
 - IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOO DURING THE HEAT OF THE DAY TO PREVENT WILTING OF THE GRASSES.
 - AFTER THE FIRST WEEK, SOO WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
 - DO NOT MOW UNTIL THE SOO IS FULLY ROOTED. NO MORE THAN 1/3 OF THE GRASS C. SHOULD BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

PERMANENT SEEDING SUMMARY

NO.	SPECIES	APPLICATION RATE (LB./AC.)	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-20-20)			LIME RATE
					N	P ₂ O ₅	K ₂ O	
1	COOL SEASON PERENNIAL GRASS OR EQUAL	1.5-2.0 LB./AC.	MAR. 1 TO MAY 15	1/4" - 1/2" IN.	45 LB./AC. (1000 SF)	90 LB./AC. (2 LB PER 1000 SF)	90 LB./AC. (2 LB PER 1000 SF)	2 TONS/AC. (90 LB PER 1000 SF)

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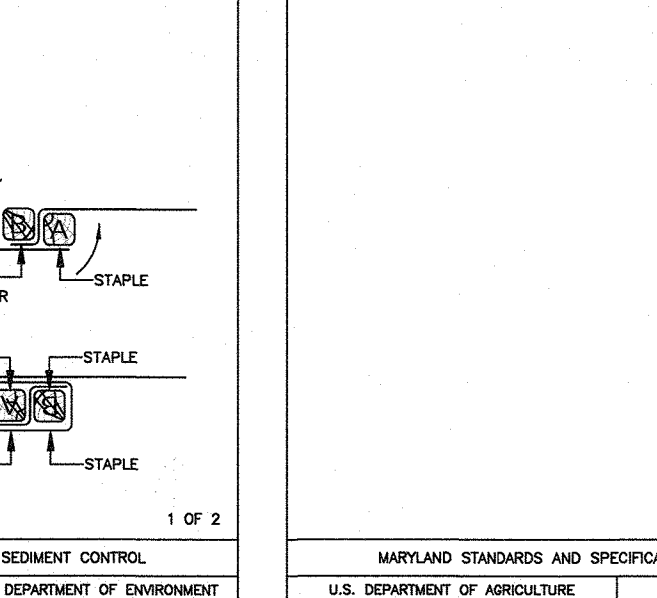
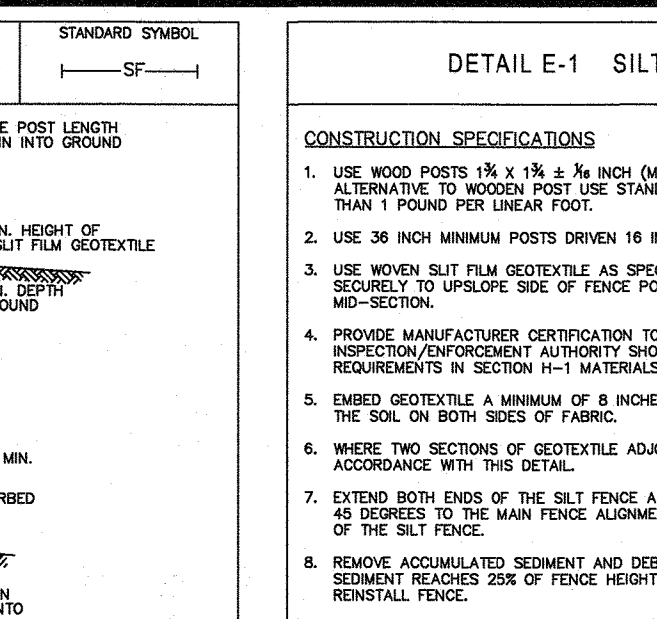
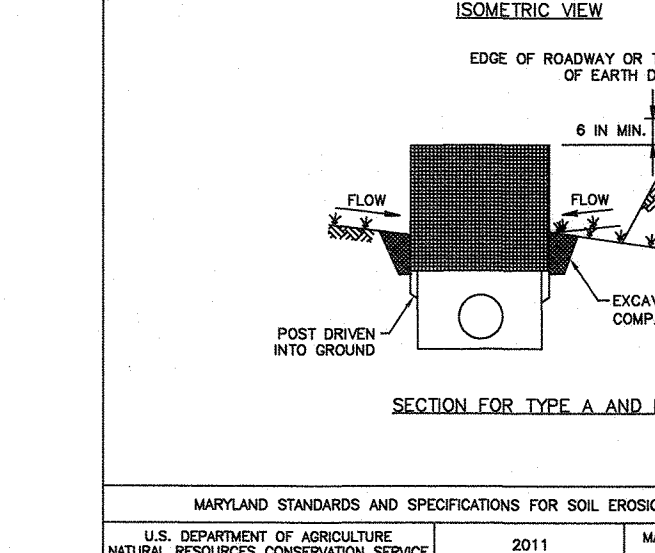
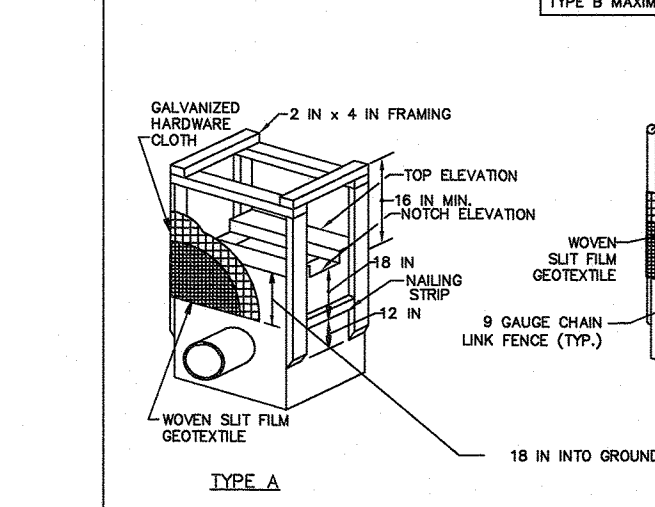
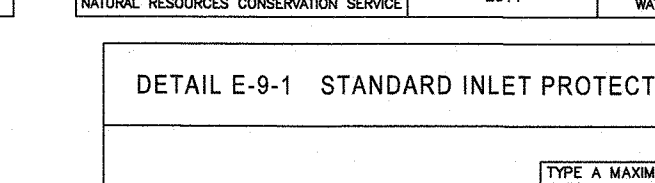
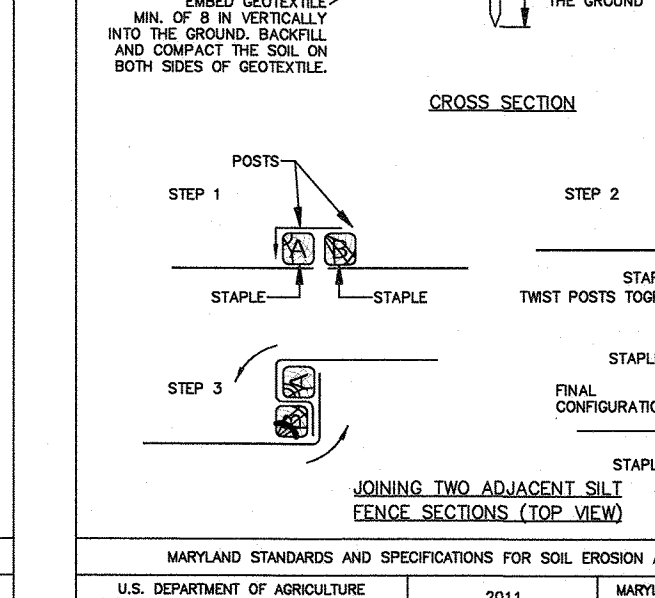
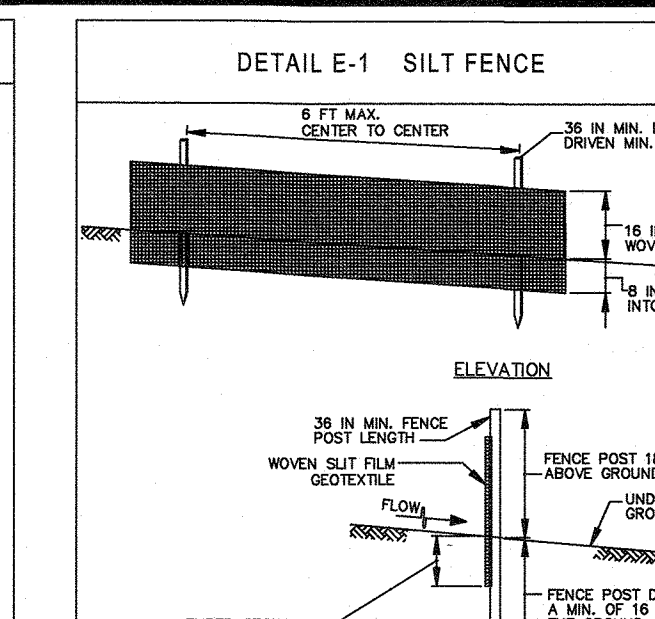
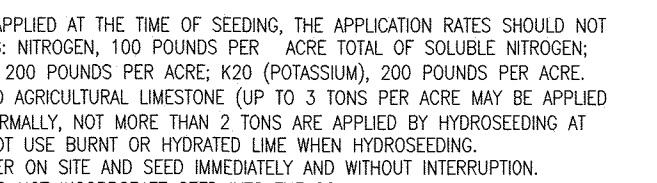
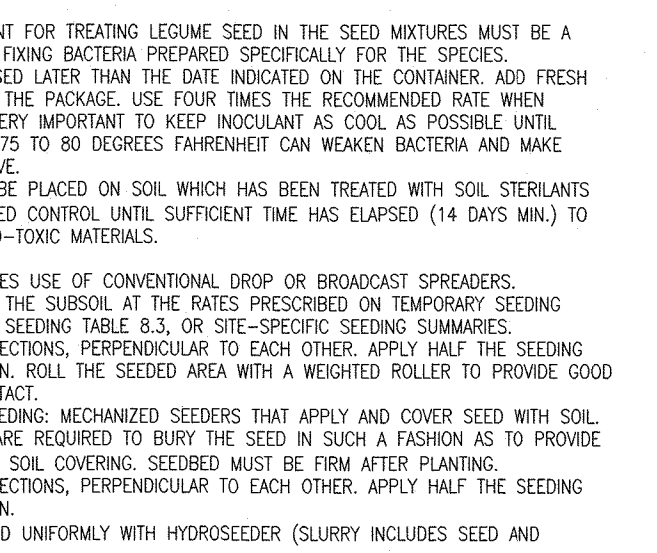
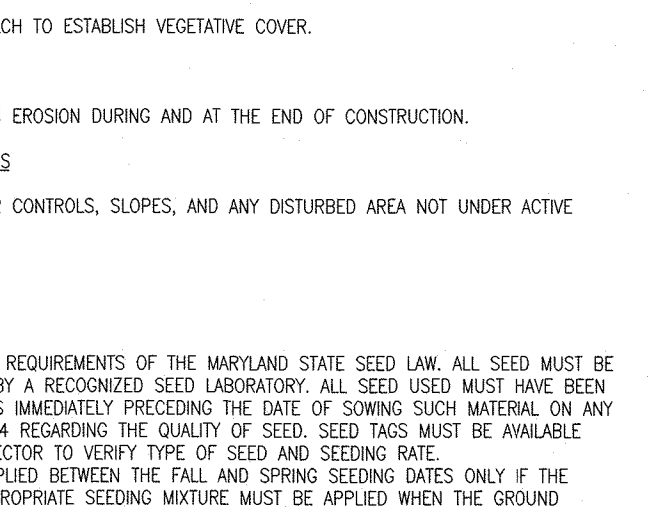
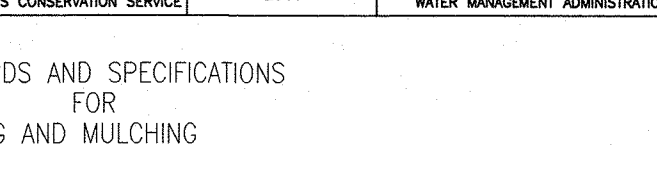
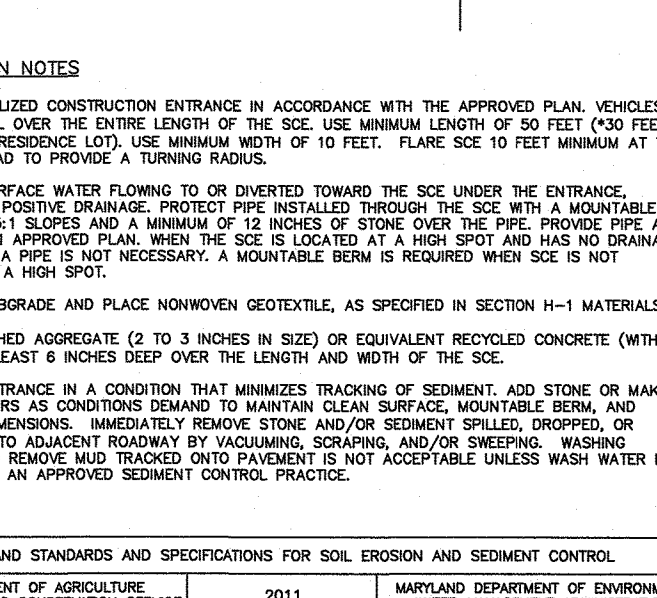
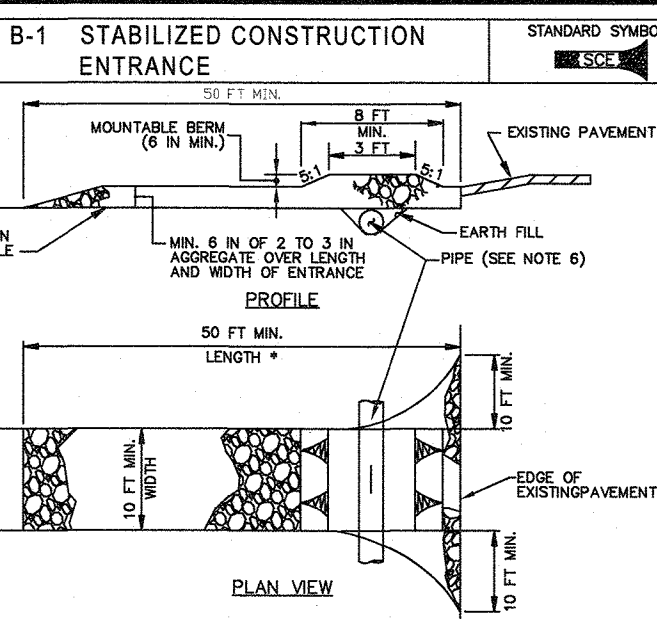
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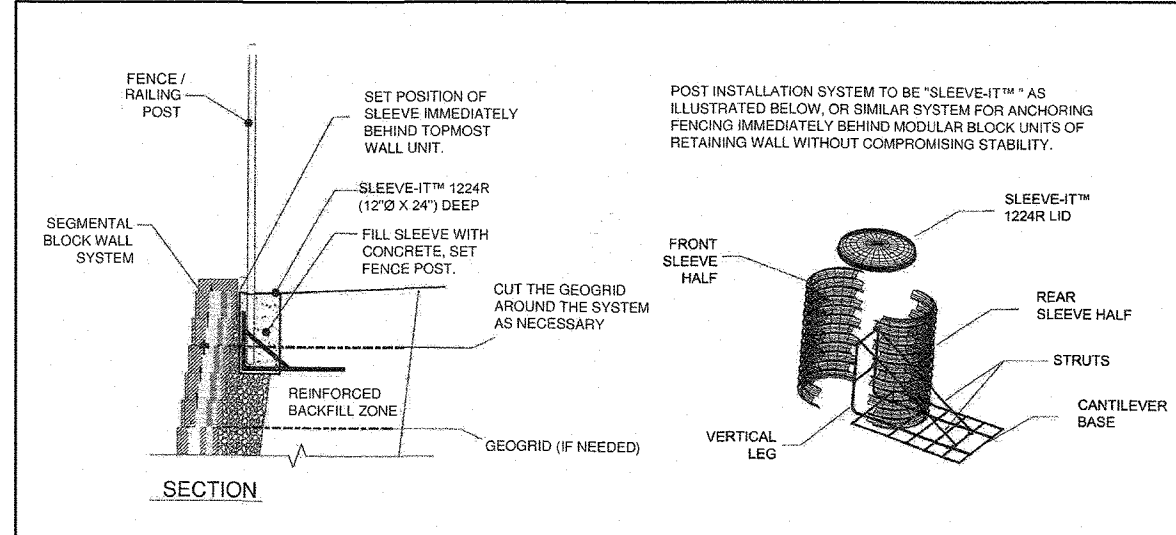
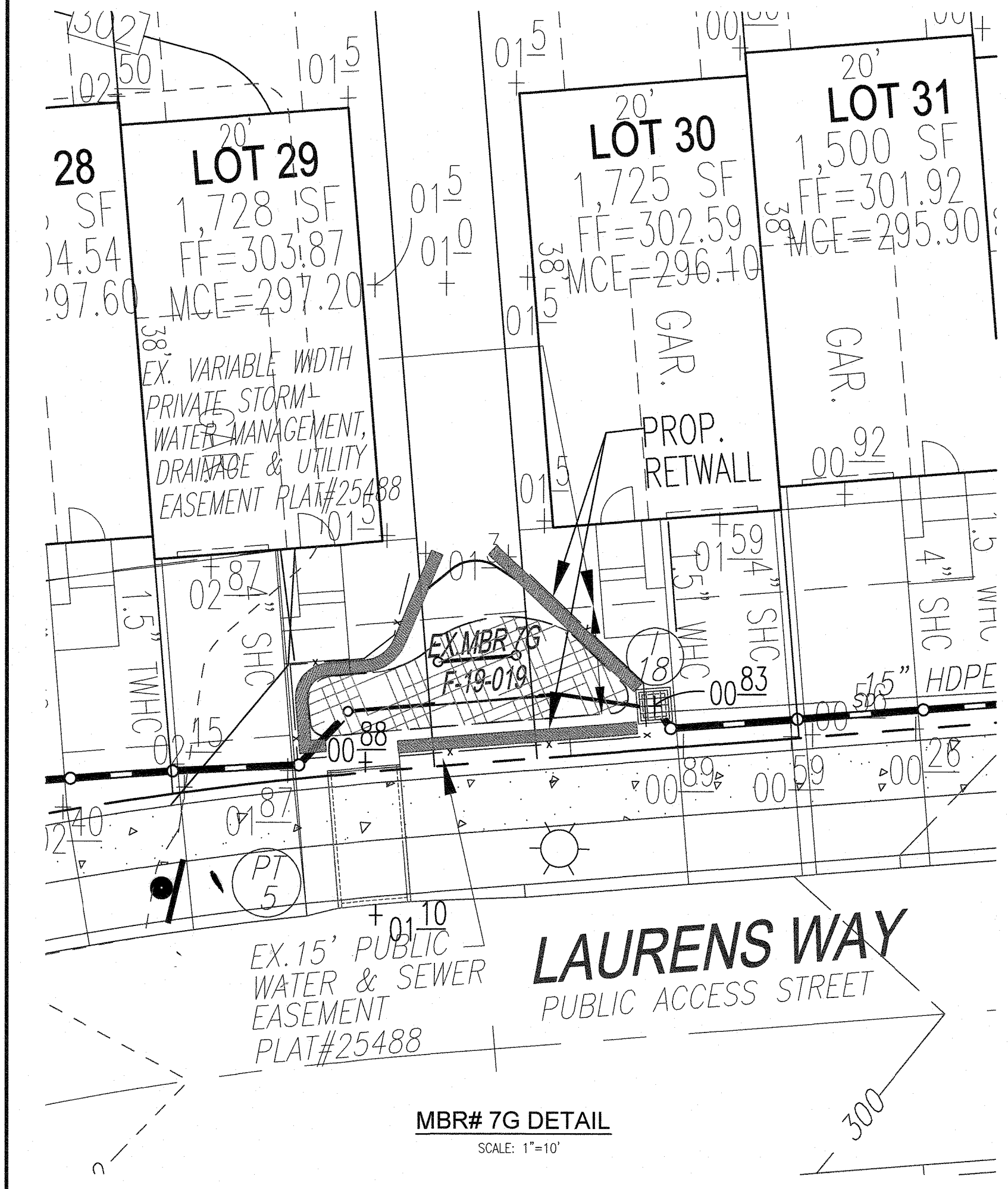
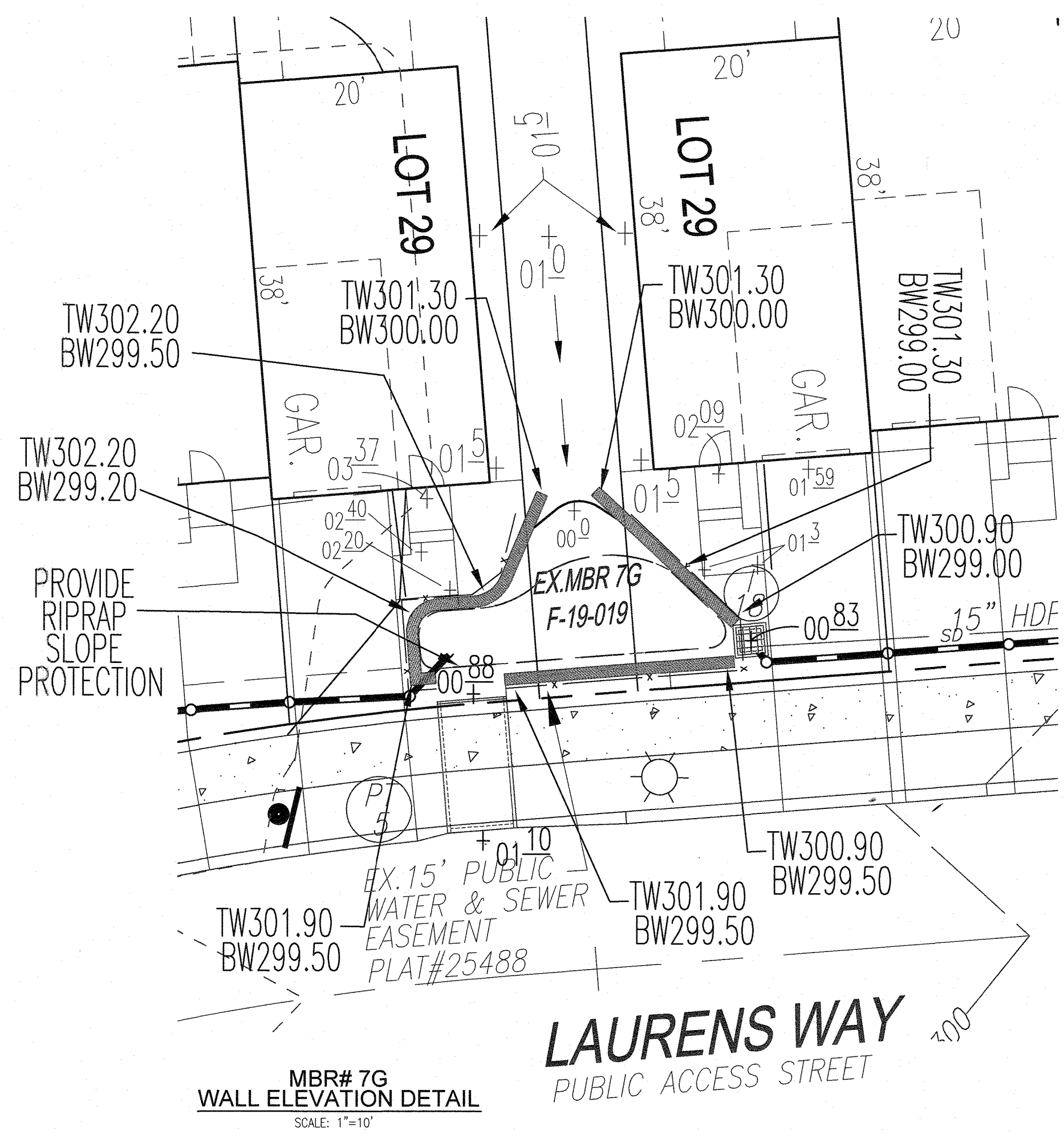
- IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDING WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

- SOIL TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER):
 - GENERAL SPECIFICATIONS
 - CLASS OF TURFGRASS SOO MUST BE MARYLAND STATE CERTIFIED. SOO LABELS MUST BE MADE AVAILABLE TO THE CID FOR INSPECTION AND APPROVAL.
 - SOO MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 5% INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROUND AND THATCH. GROUND PANS AND TON OR UNDER ENDS WILL NOT BE ACCEPTABLE.
 - STANDARD SIZE SECTIONS OF SOO MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 1/2 PORTION OF THE SECTION.
 - SOO MUST NOT BE HANDCUT OR TRANSPORTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
 - SOO MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOO NOT TRANSPORTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.
 - SOO INSTALLATION
 - DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SOO'S, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOO.
 - LAY THE FIRST ROW OF SOO IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO MINIMIZE MORE UNIFORM GROUND AND STRENGTH. ENSURE THAT SOO IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
 - WHEREVER POSSIBLE, LAY SOO WITH THE LONG EDGES PARALLEL TO THE OUTSLOPE AND WITH STAGGERING SURFACES. ROLL, TAMP, OR OTHERWISE SECURE THE SOO TO PREVENT SURFACE SOIL LOSS. ENSURE SOO CONTACT EXCEEDS BETWEEN SOO ROOTS AND THE UNDERLYING SOIL SURFACE.
 - WATER THE SOO IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOO PAD AND SOIL SURFACE BELOW THE SOO ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PCE OF SOO WITHIN 48 HOURS.
 - SOO MAINTENANCE
 - IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOO DURING THE HEAT OF THE DAY TO PREVENT WILTING OF THE GRASSES.
 - AFTER THE FIRST WEEK, SOO WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
 - DO NOT MOW UNTIL THE SOO IS FULLY ROOTED. NO MORE THAN 1/3 OF THE GRASS C. SHOULD BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

PERMANENT SEEDING SUMMARY

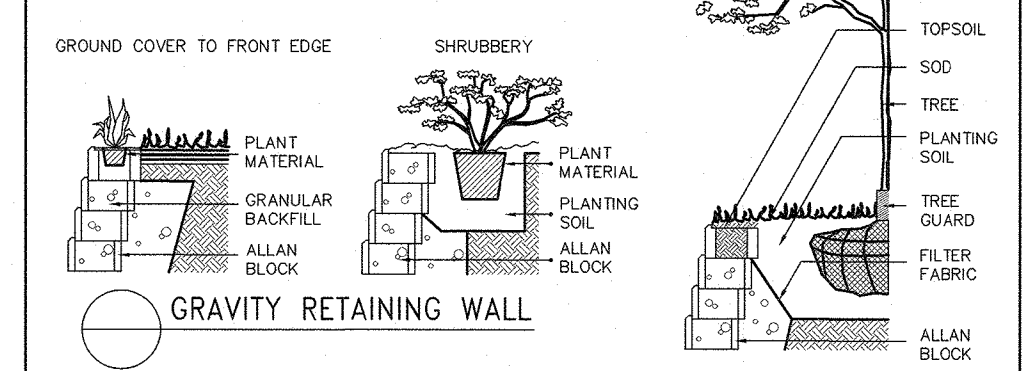
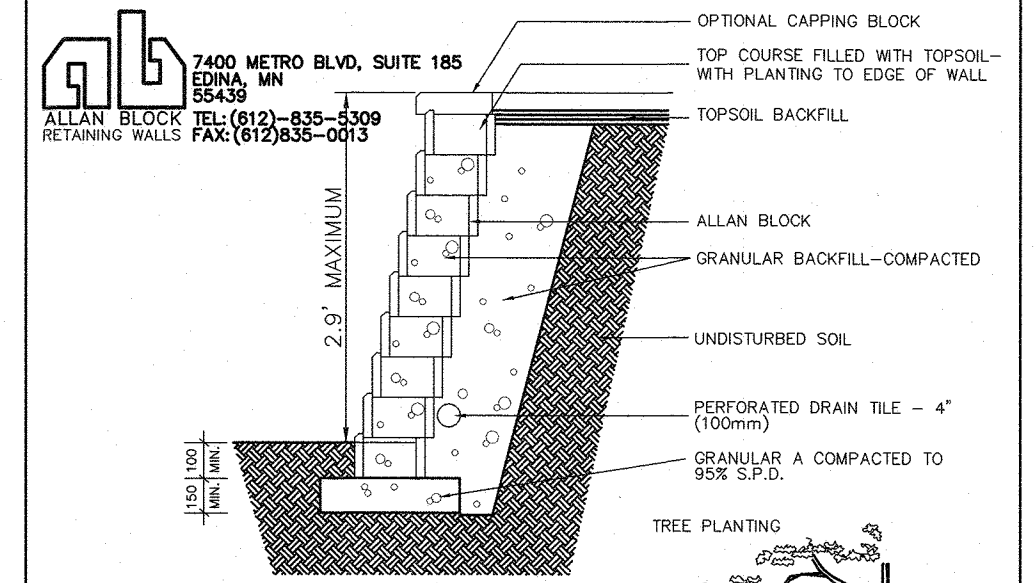
NO.	SPECIES	APPLICATION RATE (LB./AC.)	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-20-20)			LIME RATE
					N	P ₂ O ₅	K ₂ O	
1	COOL SEASON PERENNIAL GRASS OR EQUAL	1.5-2.0 LB./AC.	MAR. 1 TO MAY 15	1/4" - 1/2" IN.	45 LB./AC. (1000 SF)	90 LB./AC. (2 LB PER 1000 SF)	90 LB./AC. (2 LB PER 1000 SF)	2 TONS/AC. (90 LB PER 1000 SF)





FENCE POST AT MICRO-BIORETENTION W/ GRAVITY WALL - INSTALLATION DETAIL OR EQUAL
NOT TO SCALE

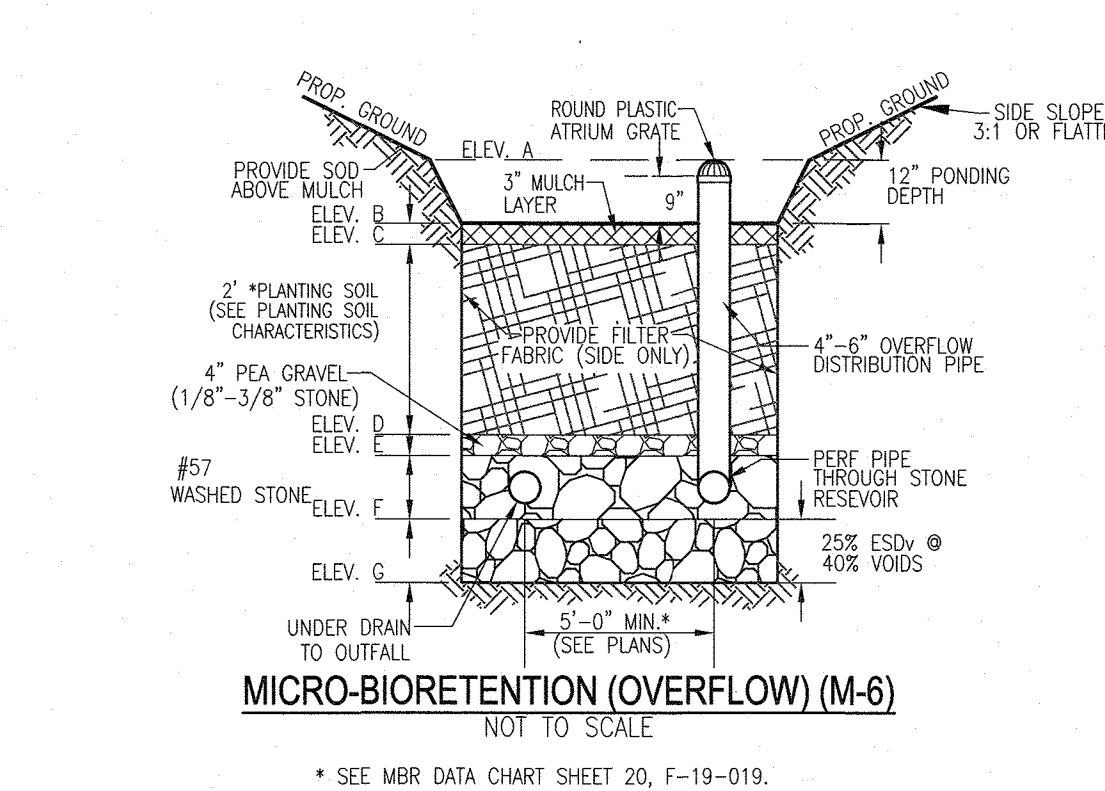
FENCE NOTES:
-FENCING IS REQUIRED FOR ALL WALLS WHERE THE WALL HEIGHT IS GREATER THAN 30" (2.5')
-FENCE DESIGN BY OTHERS



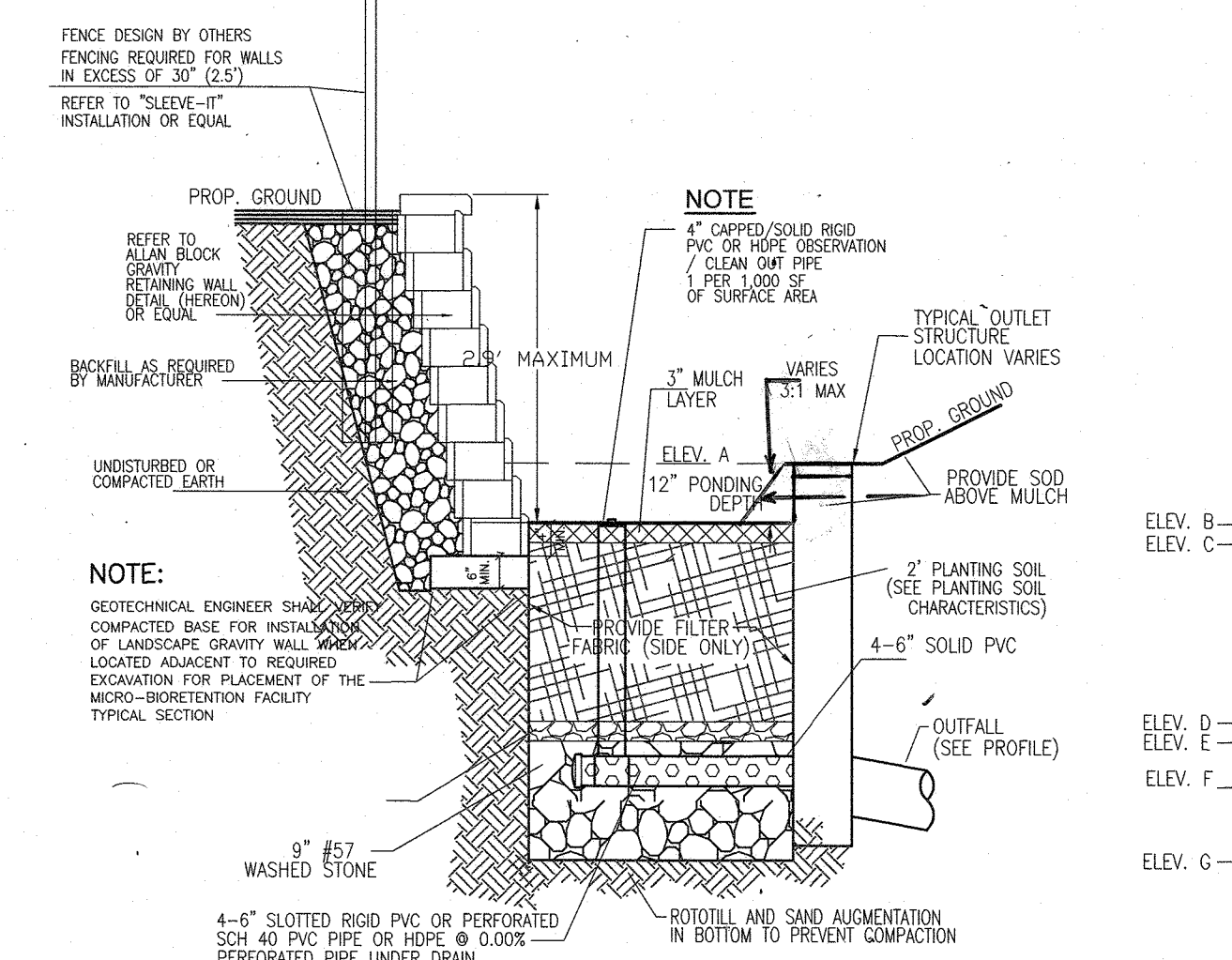
- GRAVITY RETAINING WALL**
- SPECIFICATIONS:**
- EXCAVATE AREA TO LINE AND GRADES AS SHOWN ON CONSTRUCTION DRAWINGS
 - SUBGRADE TO BE FIRM AND UNDISTURBED AND COMPACTED TO 95% S.P.D.
 - BASE MATERIAL SHALL BE GRANULAR A COMPACTED TO 95% S.P.D. AND GRADED TO PROVIDE LEVEL HARD SURFACE ON WHICH TO PLACE THE FIRST COURSE OF UNITS. MIN. THICKNESS = 6" (150mm)
 - PLACE FIRST COURSE A MINIMUM OF 4" (100mm) BELOW FINISHED GRADE, WITH THE RAISED LP FACING OUT AND THE FRONT EDGES TIGHT TOGETHER. FILL CAVITIES WITH SAND OR CLEAR CRUSHED STONE AND COMPACT. SWEEP CLEAN AND CHECK THE UNITS FOR LEVEL AND ALIGNMENT. BACKFILL FRONT AND BACK OF ENTIRE BASE ROW TO FIRMLY LOCK IN PLACE.
 - INSTALL SUBSEQUENT COURSES IN SIMILAR FASHION PROVIDING A MIN. 3" (76mm) OVERLAP OF SEAMS AND A MIN. OF 12" (305mm) GRANULAR BACKFILL.
 - ALLAN BLOCKS COME IN 3 STYLES: STANDARD BLOCK, ANGLE BLOCK, AND CORNER BLOCK AS WELL AS A STANDARD CAPPING STONE. THE BLOCKS HAVE A COMPRESSIVE STRENGTH OF OVER 4000 PSI (28MPa)
 - A WIDE VARIETY OF DESIGNS CAN BE ACHIEVED INCLUDING INSIDE AND OUTSIDE CORNERS, CURVES AND STEPS. BLOCKS COME IN 3 STANDARD COLORS: NATURAL, BUFF, BROWN. EARTH TANGE, SMOKE BLEND.
 - WALLS HIGHER THAN 6 FEET REQUIRE GEOTECHNICAL DESIGN AND MASONRY CONSTRUCTION CONSULT MANUF.

TYP. GRAVITY WALL OR EQUAL

- MICROBIORETENTION NOTES:**
- ONLY THE SIDES OF MICRO BIORETENTION ARE TO BE WRAPPED IN FILTER FABRIC. FILTER FABRIC BETWEEN LAYER OR AT THE BOTTOM OF THE MICRO BIORETENTION WILL CAUSE THE MBR TO FAIL AND THEREFORE SHALL NOT BE INSTALLED.
 - WRAP THE PERFORATED MBR UNDERDRAIN PIPE WITH 1/4" MESH (6x4) OR SMALLER GALVANIZED HARDWARE CLOTH. SEE APPENDIX B.4.C.6.
 - PROVIDE 5" MINIMUM SPACING BETWEEN UNDER DRAIN AND PERFORATED PIPE THROUGH STONE RESERVOIR OR SPACE PIPE EQUALLY ACROSS BOTTOM FOR SMALL BIOS. (SEE PLANS)



MICRO-BIORETENTION (OVERFLOW) (M-6)
NOT TO SCALE



TYPICAL DETAIL MICRO-BIORETENTION W/ GRAVITY WALL
NOT TO SCALE

- GRAVITY WALL NOTES:**
- SEE PLAN VIEWS FOR OUTFALL STRUCTURE LOCATION
 - PROVIDE FENCING AS REQUIRED
 - STRUCTURAL DESIGN MAY BE REQUIRED DUE TO LOCATION ADJACENT TO MICRO-BIORETENTION FACILITY

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 10-7-20
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 10-16-20
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature]
DIRECTOR DATE

OWNER
MARANATHA MAG MANOR LLC
LIVE FEARLESS IN CHRIST LLC
MICHAEL PFUA MANAGING MEMBER
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

DEVELOPER
TRINITY HOMES MARY LAND, LLC
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

REVISION	DATE

SITE DEVELOPMENT PLAN
LANDSCAPE WALL MICRO BIO-RETENTION DETAIL
MAGNOLIA MANOR
LOTS 1 - 61

TAX MAP: 47 PARCELS: 163 & 465
6TH ELECTION DISTRICT

BLOCK: 19 ZONING: R-SC
HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING

TIMMONS GROUP
3300 NORTH RIDGE ROAD, SUITE 110, ELLCOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com

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: 09-27-2022

DESIGN BY: RHV
DRAWN BY: KG
CHECKED BY: RHV
DATE: SEPTEMBER 2020
SCALE: AS SHOWN
W.O. NO.: 16-15

11 SHEET OF 13

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

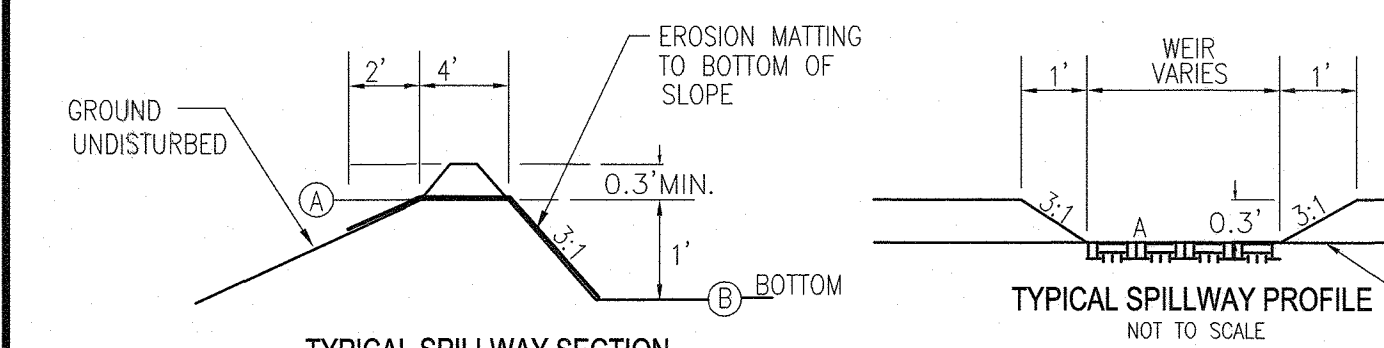
- MATERIAL SPECIFICATIONS**
THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.
- FILTERING MEDIA OR PLANTING SOIL**
THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITH THE MICRO-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVIDE A BARRIER TO A UNIFORM MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMIUM 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 CRITERIA:
• SOIL COMPONENT - LOAMY SAND OR SANDY LOAM (USA 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 (35% TO 40%) OR SANDY LOAM (30%), COARSE SAND (30%), AND COMPOST (40%).
• CLAY RANGE - 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 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 SOIL 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 ORGANIC MUD. IF PRACTICES ARE EXCAVATED USING LOADERS, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TIRE TYPES. 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 ALLEVATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO RESTRUCTURE THE SOIL PROFILE THROUGHOUT THE 12 INCH COMPACTION ZONE. SUBSTITUTIVE METHODS MUST BE APPROVED BY THE ENGINEER. ROTILLATORS THOROUGHLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.
ROTILLATORS 2 TO 3 INCHES OF SOIL INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTILLATING) BASE.
WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTILLATE 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 16". 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 A.2.3.
- PLANT INSTALLATION**
COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INNER AND OTHER LOW AREAS. MULCH SHOULD BE PLACED IN SURROUNDING 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 MOST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/3RD OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES GREATER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANTING MATERIAL THROUGHOUT WATER GROUND BED COVER AFTER INSTALLATION.
TREES SHALL BE BRANDED 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 BRUILED 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, IMPEDS THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTILLATE UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.
- UNDERDRAINS**
UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:
• PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM F 758, TYPE PS 28, OR AASHTO M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED 1/2" RIGID PIPE (I.C., PVC OF HOPEL).
• PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH 1/4" OR 1/2" 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 SHALL BE AT A MINIMUM 0.5% SLOPE.
• A 6" RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.
• A 4" X 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 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 WELLS MUST BE PROVIDED (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA).
- 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

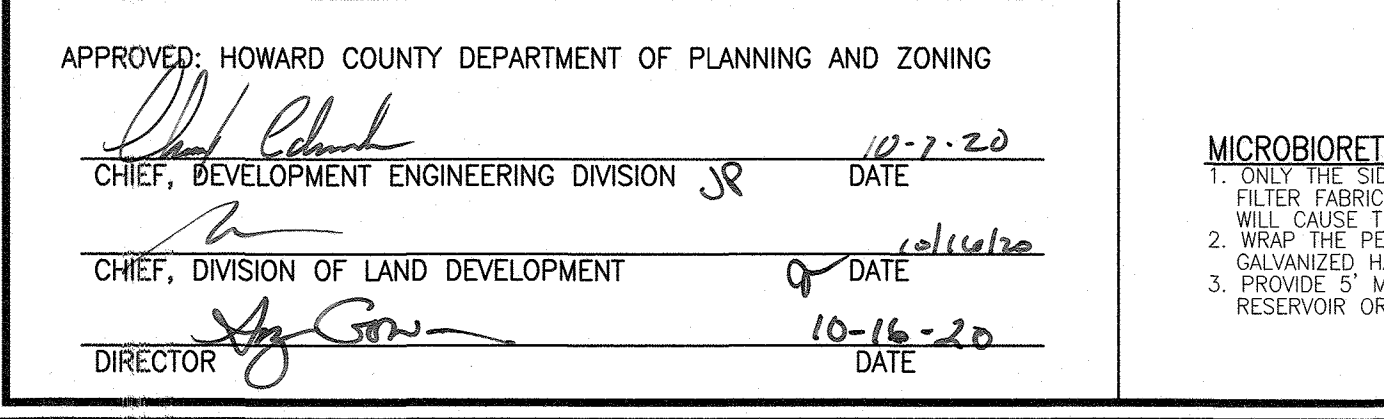
Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil	loamy sand (60-65%) & compost (35-40%) [2' to 4' deep]	n/a	USDA soil types loamy sand or sandy loam; clay content < 5% or sandy loam (30%), coarse sand (30%) & compost (40%)
Organic content	Min. 10% by dry weight (ASTM D 2974)	n/a	
Mulch	shredded hardwood	aged 6 months, minimum; no pine or wood chips	
Pea gravel diaphragm	pea gravel: ASTM-D-448	NO. 8 OR NO. 9 (1/8" to 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile	n/a	n/a	PE Type I 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" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per foot; minimum of 3" of gravel over pipes, not necessary underneath pipes. Perforated pipe shall be wrapped with 1/4-inch galvanized hardware cloth.
Poured in place concrete (if required)	MSHA Mix No. 3; F - 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; 28 day strength and slump test; all concrete design (cast-in-place 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/9; 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	0.02" to 0.04"	Sand substitutions such as Dabase and Graystone (AASHTO) #10 are not acceptable. No calcium carbonate or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

OPERATION AND MAINTENANCE SCHEDULE FOR MICROBIORETENTION / BIO-SWALE AREAS

- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARLAND STORMWATER DESIGN MANUAL VOLUME 1, TABLE A.4.1 AND 2.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BROWN BRANCH DURING THE ANNUAL PLANTING PROCESS. DEAD AND SHRUBS AND REPLACEMENT 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 BASIS WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.



DETAILS OF WEIR OUTLET MICRO-BIORETENTION



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DATE: 10-2-20

DATE: 10-16-20

DATE: 10-16-20

LOT#	YES	NO	YES
1	YES	31	YES
2	YES	32	YES
3	YES	33	YES
4	YES	34	YES
5	YES	35	YES
6	YES	36	YES
7	YES	37	YES
8	YES	38	YES
9	YES	39	YES
10	YES	40	YES
11	YES	41	NO
12	YES	42	NO
13	YES	43	NO
14	YES	44	NO
15	YES	45	NO
16	YES	46	NO
17	YES	47	NO
18	YES	48	NO
19	YES	49	NO
20	YES	50	NO
21	YES	51	NO
22	YES	52	NO
23	YES	53	NO
24	YES	54	NO
25	YES	55	NO
26	YES	56	NO
27	YES	57	NO
28	YES	58	NO
29	YES	59	NO
30	YES	60	NO
		61	NO

PERMEABLE DRIVEWAY

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DATE: 10-2-20

EP HENRY OR EQUAL

Eco Cobble Permeable Paver Installation Guidelines For Residential Driveways, Patios, and Walkways

MATERIALS NEEDED

Open Graded Base: Should be a clean stone (i.e. #2 stone and AASHTO #57), which weighs approximately 120 pounds per cubic foot. Calculate the depth of stone using the average depth of the stone from the highest point to the lowest point (2-inch minimum depth for patios and sidewalks, 10-inch minimum depth for driveways). The maximum recommended depth of AASHTO #57 in the base is 4". The remaining depth of the base material should be #2 stone. Calculate the project area and including an additional 5% for losses.

Bedding Layer: AASHTO #57 crushed stone is recommended. Calculate the volume for a 2-inch bedding layer over the project area. Add an additional 20 percent for filling joints and losses.

Pavers: Eco Pavers are sold by the square foot. Calculate the square footage needed for your project and add 5% - 10% for cuts, waste, etc.

Edge Restraint: All exposed edges must be restrained. A 6" wide by 12" deep concrete curb is one recommended edge restraint system for a clean stone base construction. But edge restraints including pre-cast, DGA shoulders wrapped in non-woven geotextile, plastic edge restraint systems connected with poly mesh, and mortared options can also work based on the application. Calculate the linear feet of edge restraint required. The curb should be flush with the top of the pavers. EP Henry's Curbs can be used as well as concrete as an alternative.

Edge Restraint: All exposed edges must be restrained. A 6" wide by 12" deep concrete curb is one recommended edge restraint system for a clean stone base construction. But edge restraints including pre-cast, DGA shoulders wrapped in non-woven geotextile, plastic edge restraint systems connected with poly mesh, and mortared options can also work based on the application. Calculate the linear feet of edge restraint required. The curb should be flush with the top of the pavers. EP Henry's Curbs can be used as well as concrete as an alternative.

If a dense graded stone base or shoulder is used a good quality plastic edge restraint that is 3-1/2" high may be used and held in place with 1/2" spikes placed at intervals of 5" on spaced edges and at 8" on straight edges. The spikes should be inserted through the holes in the horizontal face of the edge restraint and driven into the dense graded aggregate base pinning the edge restraint into place.

Separation Fabric: A non-woven fabric such as Miraf 160N or Miraf 140 N is recommended to be installed as a drainage and separation fabric between the #2 stone open graded base and the natural subgrade soil. In addition, a layer of Miraf 160N/140 N can be placed between the bedding layer and the open graded base if needed.

TOOLS

Hammer, hard tooth garden rake, rubber hammer, level, tape measure, flat shovel, wheelbarrow, shovel, 2x4 wet-cut chain link, plate compactor, 1/2" wide straight broom, wire cutters (or cutting bars on pavers), and 2-inch screw guide bars, and excavating equipment.

INSTALL PAVERS

Place the pavers in a running bond pattern, ensuring that the lugs interlock. Pavers can be cut with a wet saw as needed. To protect the pavers during compaction, place a medium such as a piece of 2x4 or 2x6 over the pavers. A vibratory plate compactor can be used for smaller projects. There should be a minimum of four passes with the compactor or roller with no visible movement of the material. Continue installing the #2 stone in 6-inch lifts until the elevation is reached where 4 inches of AASHTO #57 is required to bring the final elevation. The base should be smooth and level throughout and there should not be more than a 1/4" gap at any point along a straight edge.

EP HENRY OR EQUAL

LAYOUT & PREPARATION

Layout the limits of the driveway and edge restraint system. Mark the limits of the excavation on the ground. Before digging, always call your local utility companies to locate any underground utilities.

PREPARE SUBGRADE SOILS

For best results, the finished subgrade should be level. Excavate the soil providing the minimum recommended thickness at the lowest point of the driveway. For instance, a 50-foot long driveway with a 1/4" per foot slope will require a 60 inches of slope at the lowest point and a depth of 22 inches of stone at the highest point. Extend the excavation beyond the edges of the driveway to allow for the installation of the concrete edge restraints or a compacted dense graded aggregate (DGA Modified Stone) shoulder wrapped in Miraf 160 N/140 N geotextile. The subgrade should be clean and free of any organic materials such as topsoil and have adequate bearing capacity. The subgrade should be firm and not overly rutted. If the subgrade appears weak or damp, contact a professional engineer for further assistance. Do not compact the sub-grade soils, but dig the excavation in such a manner as to cause the least disturbance to the surface of the sub-grade soil surface.

Miraf 160N/140 N geotextile fabric is recommended as a separation and drainage layer between the open graded stone base and natural subgrade soil. Place the geotextile material over the subgrade soil and up the sides of the excavation taking care to remove any wrinkles. Where seams cannot be avoided, overlap the edges of the fabric by a minimum of two feet.

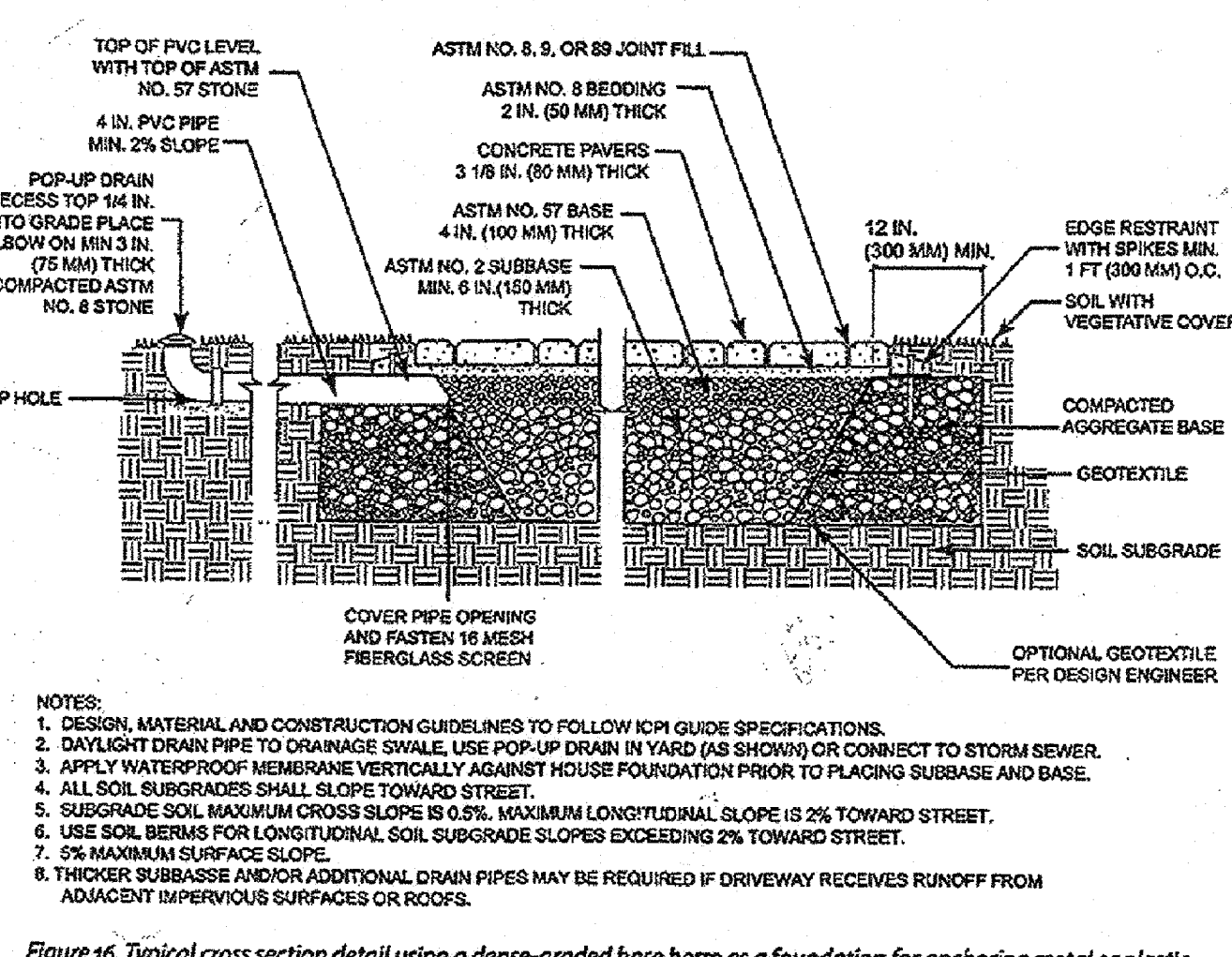
Open graded base materials must be free of fine materials allowing them to provide maximum storage capacity of runoff and ensuring a free flowing path to the soil. Take care not to track soil onto the fabric or allow sediment to wash into the excavation during construction, potentially clogging the system. The No. 2 stone sub-base (open-graded) needs to be installed before placing the #7 stone.

AASHTO #2 and #7 stone are recommended for this installation. Place the #2 stone in 6-inch lifts and compact. The material should be moist during installation. A 10-ton steel drum roller should be used for compaction. A vibratory plate compactor can be used for smaller projects. There should be a minimum of four passes with the compactor or roller with no visible movement of the material. Continue installing the #2 stone in 6-inch lifts until the elevation is reached where 4 inches of AASHTO #57 is required to bring the final elevation. The base should be smooth and level throughout and there should not be more than a 1/4" gap at any point along a straight edge.

PREPARATION OF OPEN GRADED BASE

Open graded base materials must be free of fine materials allowing them to provide maximum storage capacity of runoff and ensuring a free flowing path to the soil. Take care not to track soil onto the fabric or allow sediment to wash into the excavation during construction, potentially clogging the system. The No. 2 stone sub-base (open-graded) needs to be installed before placing the #7 stone.

AASHTO #2 and #7 stone are recommended for this installation. Place the #2 stone in 6-inch lifts and compact. The material should be moist during installation. A 10-ton steel drum roller should be used for compaction. A vibratory plate compactor can be used for smaller projects. There should be a minimum of four passes with the compactor or roller with no visible movement of the material. Continue installing the #2 stone in 6-inch lifts until the elevation is reached where 4 inches of AASHTO #57 is required to bring the final elevation. The base should be smooth and level throughout and there should not be more than a 1/4" gap at any point along a straight edge.



2. Permeable Interlocking Concrete Pavements (PICP)

Paver Blocks - Blocks should be either 3/4 in. or 4 in. thick, and meet ASTM C 936 or CSA A231.2 requirements. Applications should have 20% or more (40% preferred) of the surface area open. Installation should follow manufacturer's instructions, except that infill and base course materials and dimensions specified in this Appendix shall be followed.

Infill Materials and Leveling Course - Openings shall be filled with ASTM C-33 graded sand or sandy loam. PICP blocks shall be placed on a one-inch thick leveling course of ASTM C-33 sand.

Base Course - The base course shall be AASHTO No. 3 or 4 course aggregate with an assumed open pore space of 30% (n = 0.30).

EP HENRY PRODUCT OR EQUAL

REFER TO HOWARD COUNTY PERMEABLE PAVEMENT SPECIFICATIONS AND OPERATION & MAINTENANCE SCHEDULE - HEREIN

REFER TO HOWARD COUNTY PERMEABLE PAVEMENT SPECIFICATIONS AND OPERATION & MAINTENANCE SCHEDULE - HEREIN

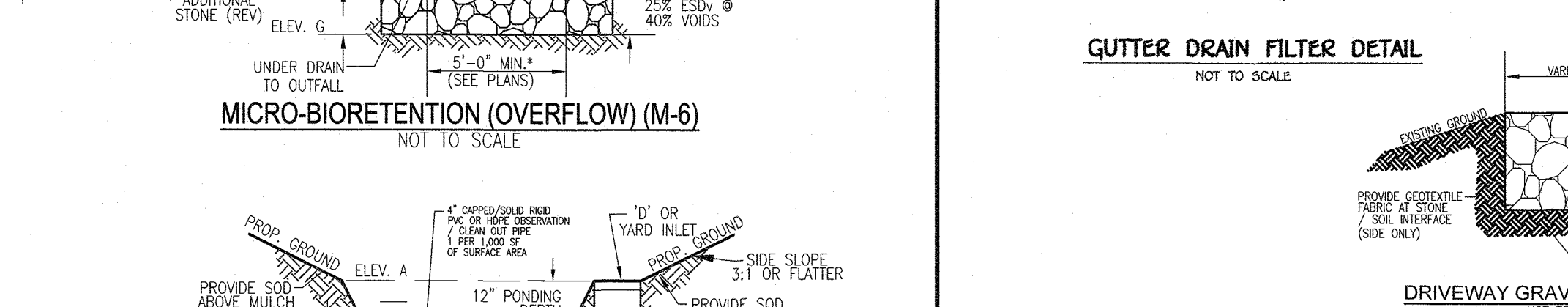
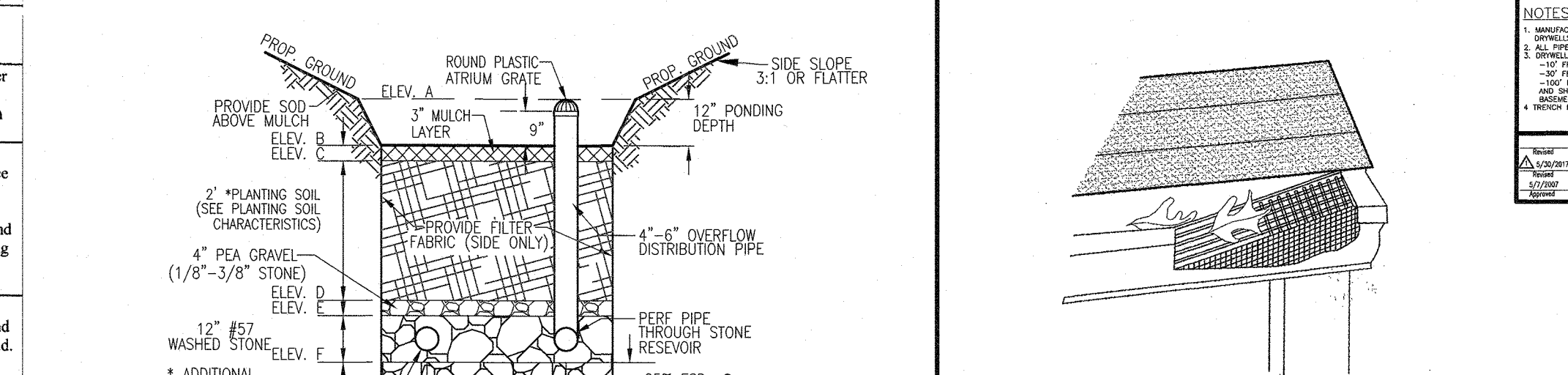
EP HENRY PRODUCT OR EQUAL

REFER TO HOWARD COUNTY PERMEABLE PAVEMENT SPECIFICATIONS AND OPERATION & MAINTENANCE SCHEDULE - SHEET 10

MICRO-BIORETENTION DATA CHART

MBR Facility	Ponding Depth (ft)	Elevation, ELEV. A	Top of Mulch, ELEV. B	Bottom of Mulch, ELEV. C	Bottom of Plant Mix, ELEV. D	Bottom of Pea Gravel, ELEV. E	Depth of Stone (ft)	Invert of Underdrain (ft)	Bottom of Stone, ELEV. F	REMARKS
1-C	1	313.5	312.50	312.25	310.25	309.92	1	0.33	309.25	308.92
2-C	1	309.00	308.00	307.75	305.75	305.42	1	0.33	304.75	304.42
3-A	1	305.13	304.13	303.88	301.88	301.55	1	0.33	300.88	300.55
3-B	1	305.13	304.13	303.88	302.38	302.05	1	0.33	301.38	301.05
4-A	1	311.00	310.00	309.75	307.75	307.42	1	0.33	306.75	306.42
5-A	1	299	298.00	297.75	295.75	295.42	1	0.33	294.75	294.42
6-E	1	297.5	296.50	296.25	294.25	293.92	1	0.33	293.25	292.92
7-G	1	300	299.00	298.75	296.75	296.42	1	0.33	295.75	295.42
7-H	1	291.9	290.9	290.65	288.65	288.32	1	0.33	287.65	287.32
8-J	1	295.00	294.00	293.75	291.75	291.42	1	0.33	290.75	290.42
10-H	1	282.20	281.20	280.95	278.95	278.62	1	0.33	278.95	278.62
11-A	1	281.2	280.20	279.95	277.95	277.62	1	0.33	277.95	277.62
12-A	1	292.7	291.70	291.45	289.45	289.12	1	0.33	288.45	288.12
15-F	1	294.00	293.00	292.75	290.75	290.42	1	0.33	289.75	289.42
16-A	1	291.5	290.5	290.25	288.25	287.92	1	0.33	287.25	286.92

*ONLY ON-LOT MBR 1C, 2C, 3A, 3B, 4A, ARE WITHIN THE LIMITS OF DISTURBANCE OF THIS PLAN. ALL OTHERS ARE CONSTRUCTED UNDER THE F-19-019 PLAN AND SHOWN IN CHART FOR INFORMATION ONLY.



OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER DRY WELLS (M-5)

- THE MONITORING WELLS AND STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM EVENT.
- WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS SHALL BE RECORDED OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.
- A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN THE 72 HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
- THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

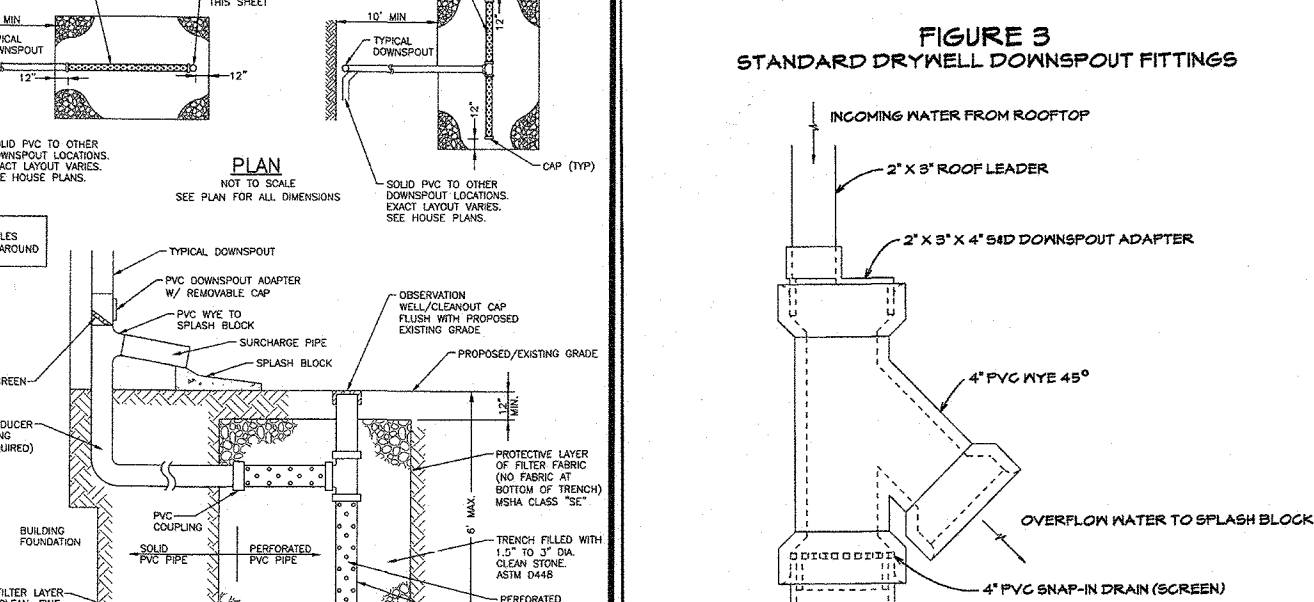
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DATE: 10-2-20

DATE: 10-16-20

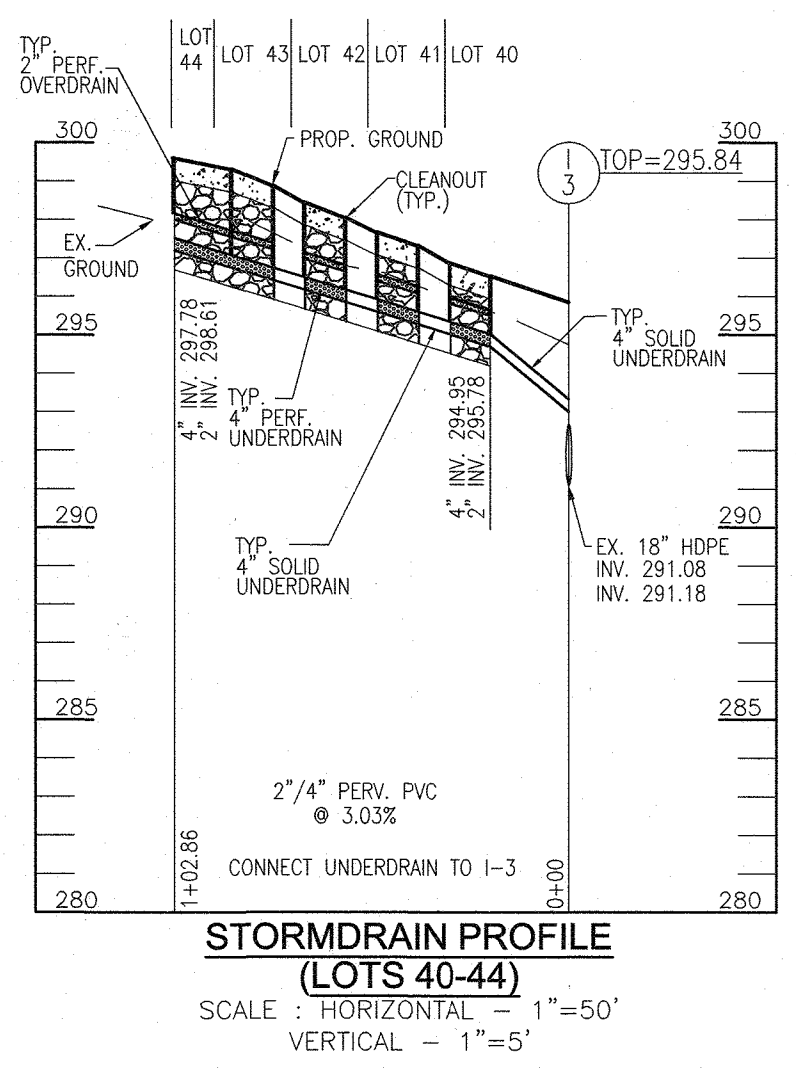
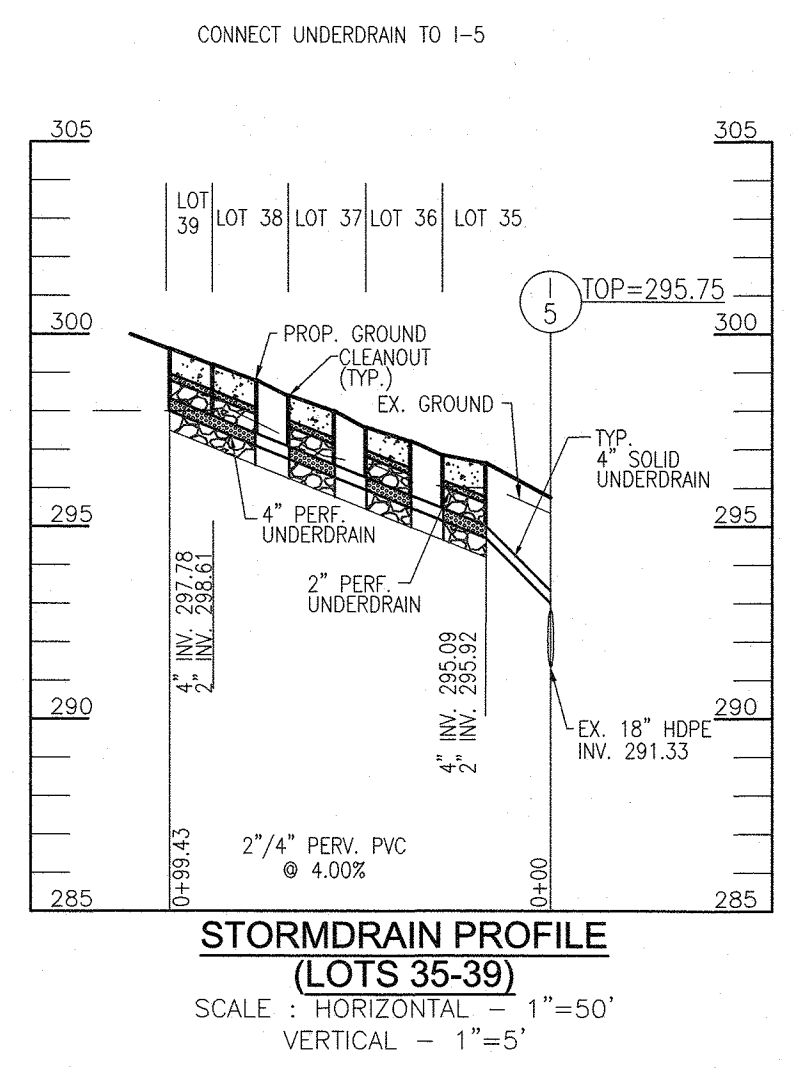
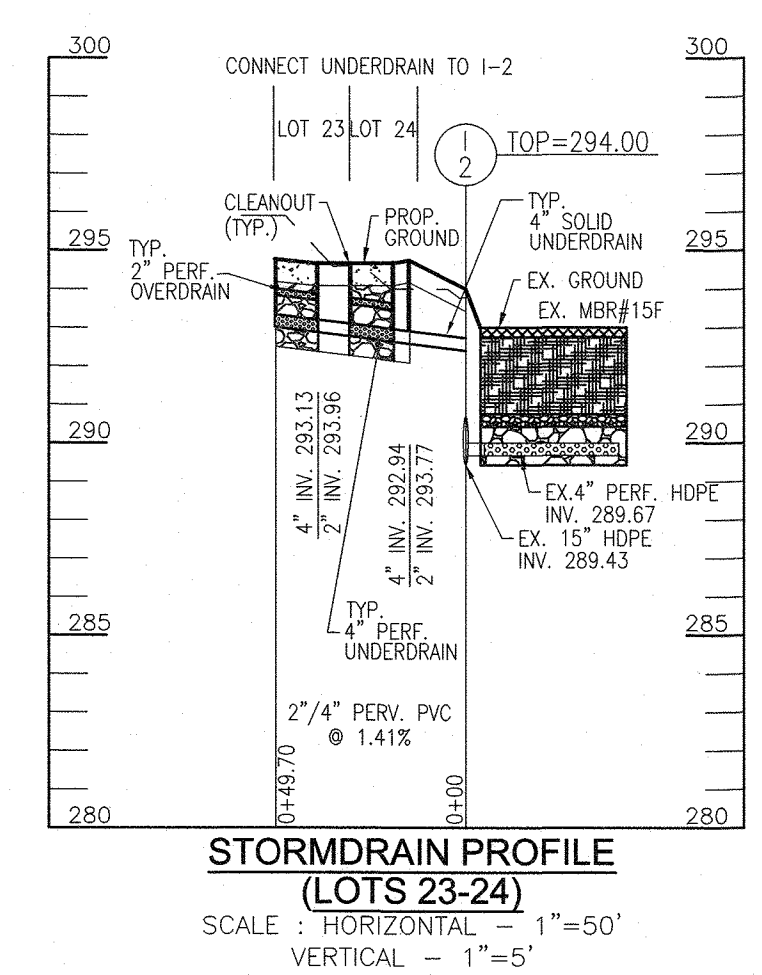
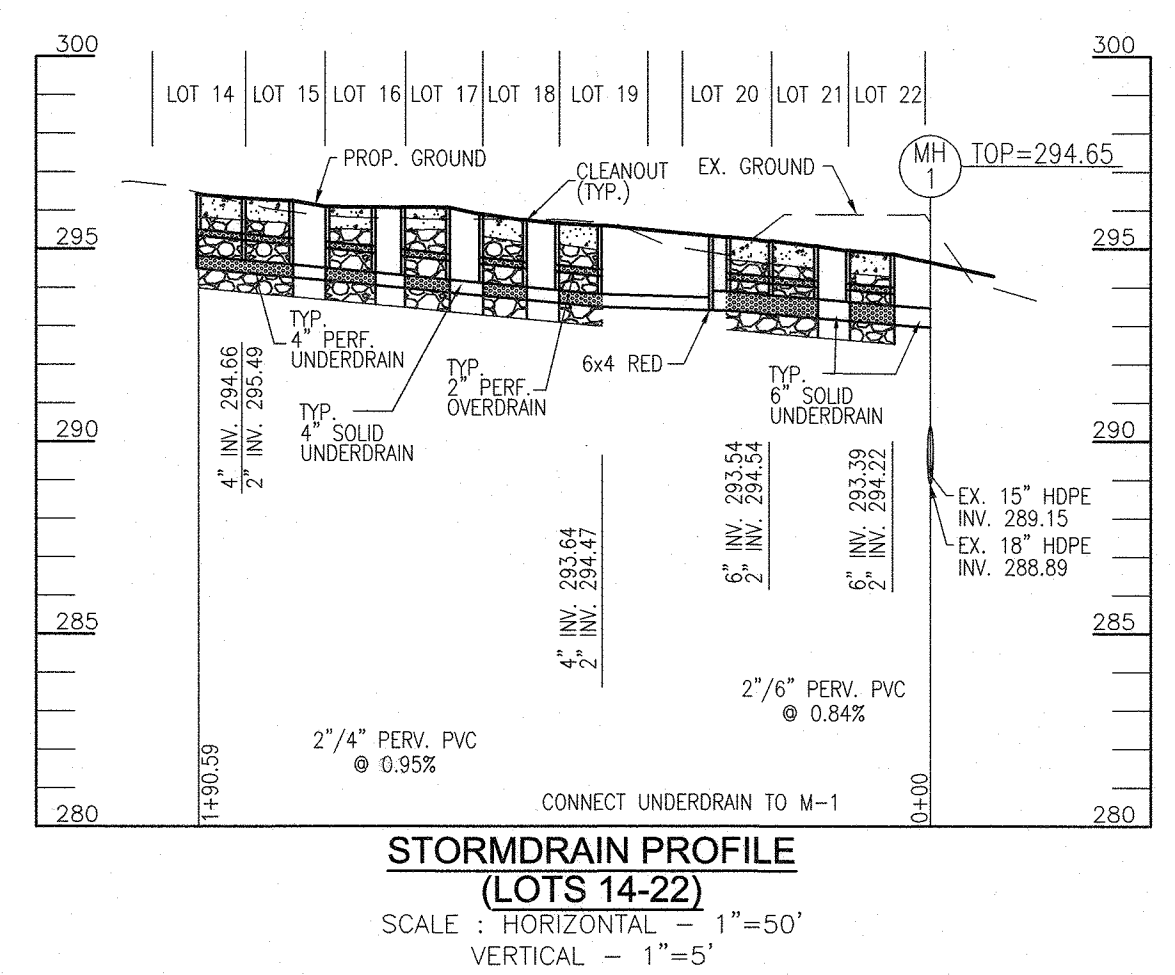
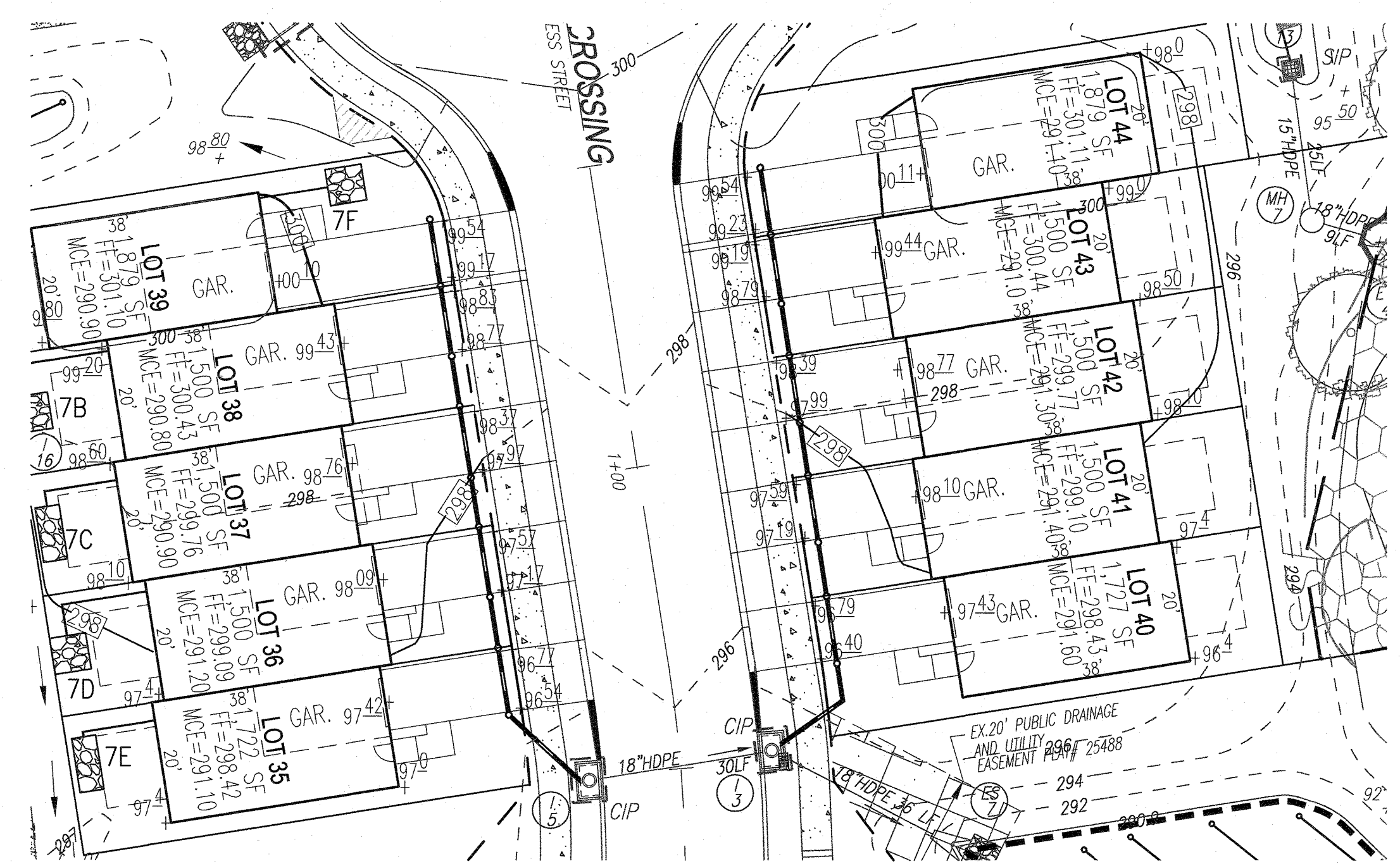
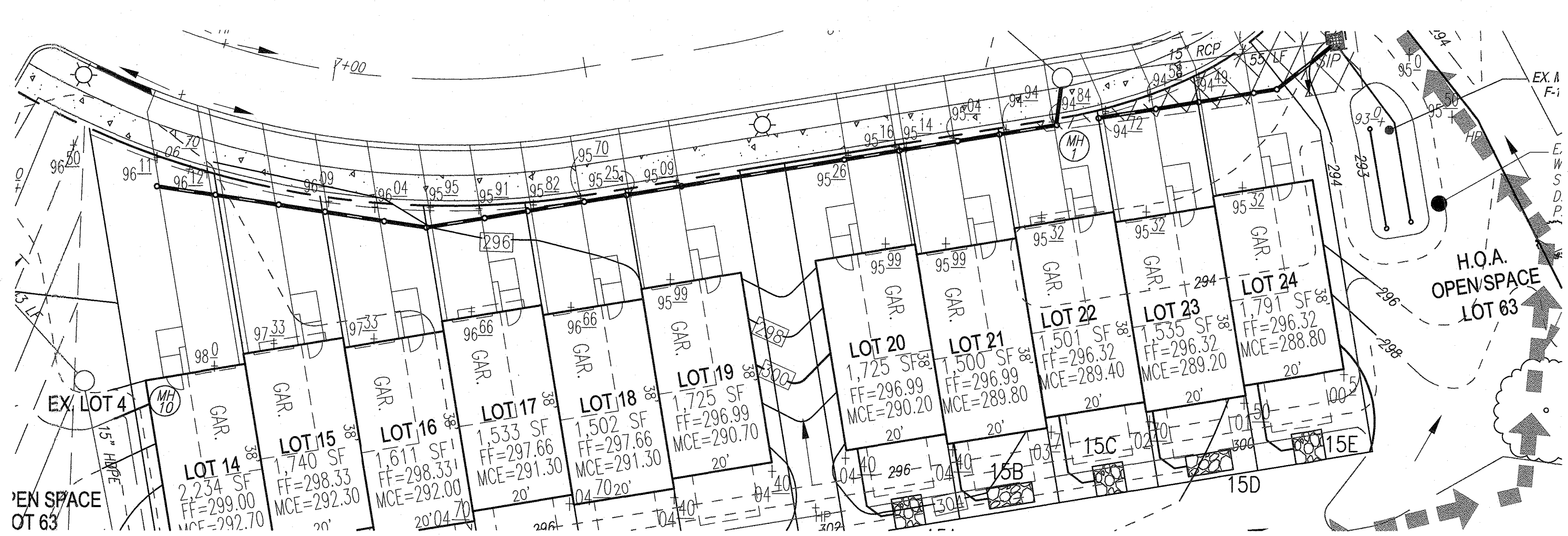
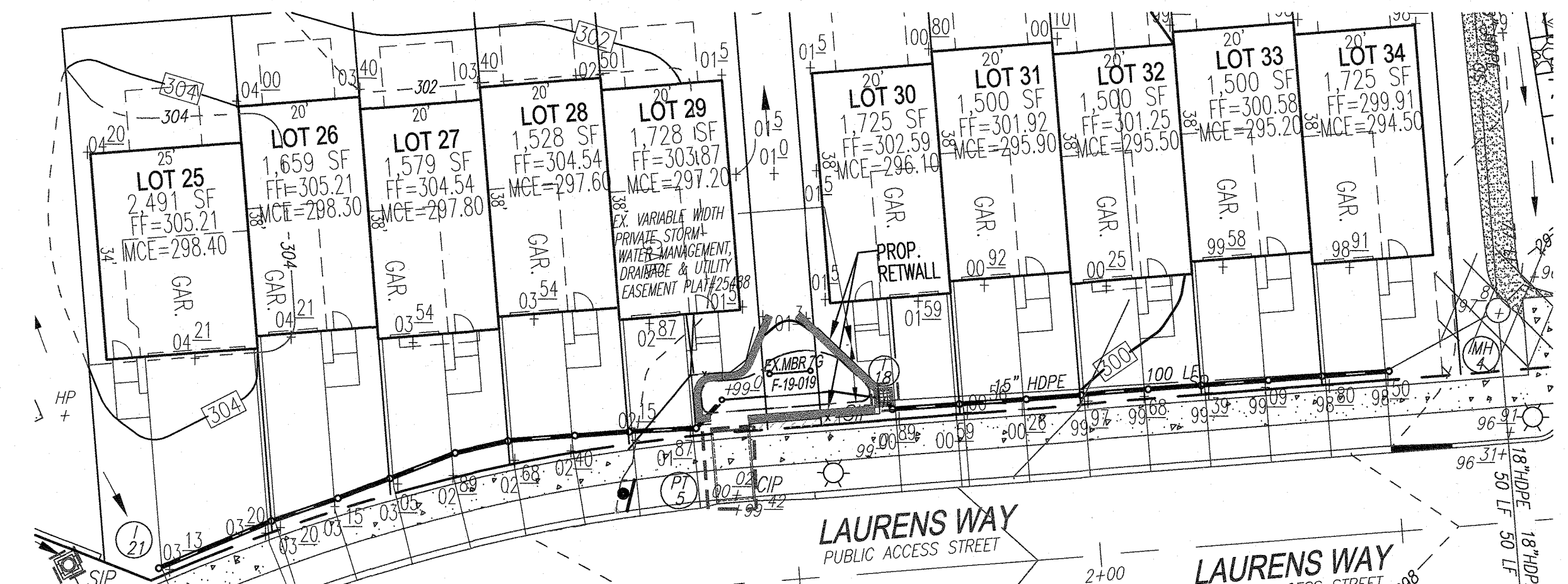
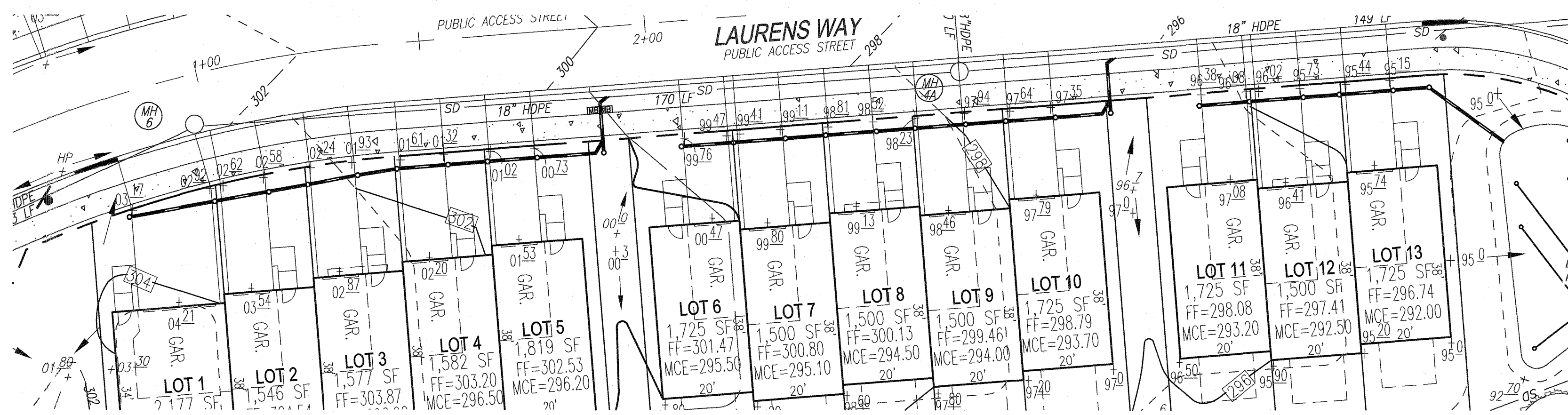
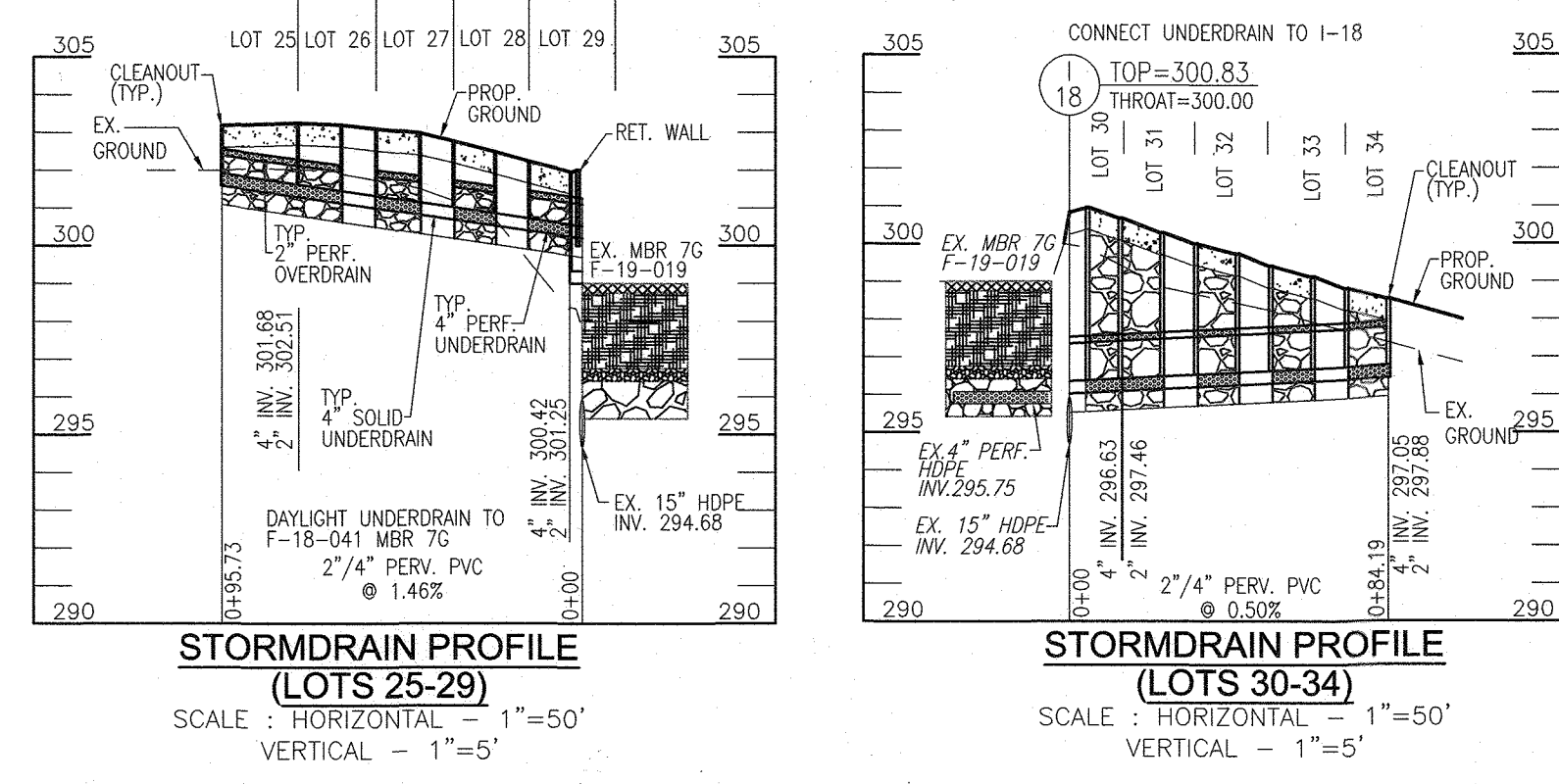
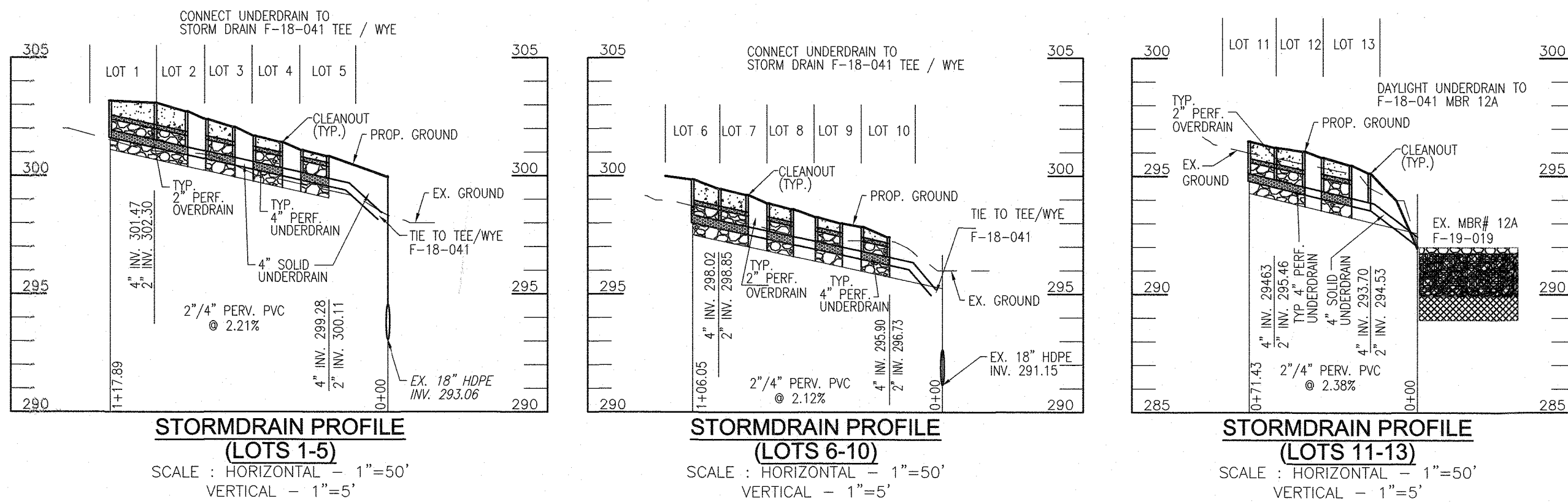
DATE: 10-16-20

FIGURE 3 STANDARD DRYWELL DOWNPOUT FITTINGS



ON-LOT DRYWELL - SIZING CHART

ESD	DA	DRYWELL #	LOT #	DW LOCATION	NUMBER OF DW'S	SURFACE SIZE	STONE DEPTH	SAND DEPTH
DA-15	15A	20	R	1	6.00 X 6.00	3	1	
DA-15	15B	21	R	1	4.00 X 9.00	3	1	
DA-15	15C	22	R	1	6.00 X 6.00	3	1	
DA-15	15D	23	R	1	4.00 X 9.00	3	1	
DA-15	15E	24	R	1	6.00 X 6.00	3	1	
DA-7	7E	35	R	1	4.00 X 9.00	3	1	
DA-7	7C	36	R	1	6.00 X 6.00	3	1	
DA-7	7D	37	R	1	4.00 X 9.00	3	1	
DA-7	7B	38	R	1	6.00 X 6.00	3	1	
DA-7	7A	39	R	1	4.00 X 9.00	3	1	
DA-7	7F	39	F	1	6.00 X 6.00	3	1	
DA-6	6A,6B,6C,6D	46	R-F	4	6.00 X 6.00	3	1	
DA-2	2A, 2B	48	R	2	6.00 X 6.00	3	1	
DA-1	1A, 1B	49	F	2	6.00 X 6.00	3	1	
DA-3	3C	50	F	1	6.00 X 6.00	3	1	
DA-8	8A, 8B	51	R	2	6.00 X 6.00	3	1	
DA-8	8C, 8D, 8E	52	R-F	3	6.00 X 6.00	3	1	
DA-8	8F, 8G, 8H, 8I	53	R-F	4	6.00 X 6.00	3	1	
DA-9	9A, 9B	54	R-F	2	6.00 X 6.00	3	1	
DA-9	9C, 9D	55	R	2	6.00 X 6.00	3	1	
DA-9	9E, 9F, 9G	56	R-F	3	6.00 X 6.00	3	1	
DA-9	9H	57	R	1	6.00 X 6.00	3	1	
DA-10	10A, 10B	57	R-F	2	6.00 X 6.00	3	1	
DA-10	10C, 10D, 10E	58	R-F	3	6.00 X 6.00	3	1	



OWNER
MARANATHA MAG MANOR LLC
LIVE FEARLESS IN CHRIST LLC
MICHAEL PFAU MANAGING MEMBER
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21045
(410) 480-0023

DEVELOPER
TRINITY HOMES MARY LAND, LLC
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

REVISION _____ DATE _____

SITE DEVELOPMENT PLAN
PERMEABLE SURFACE DETAILS, & PROFILES
MAGNOLIA MANOR
LOTS 1 - 61

TAX MAP: 47 PARCELS: 163 & 465 BLOCK: 19 ZONING: R-SC
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING
TIMMONS GROUP
3300 NORTH RIDGE ROAD, SUITE 110, ELLCOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 10-7-20
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 10-16-20
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature]
DIRECTOR DATE

PROFESSIONAL CERTIFICATE

STATE OF MARYLAND
ROBERT HARRIS PEARL
REGISTERED PROFESSIONAL ENGINEER

DESIGN BY: RHV
DRAWN BY: KG
CHECKED BY: RHV
DATE: SEPTEMBER 2020
SCALE: AS SHOWN
W.O. NO.: 16-15

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: 09-27-2022

13 SHEET OF 13