



Building Permit Application

Howard County Maryland
Department of Inspections, Licenses and Permits
3430 Court House Drive
Permits: 410-313-2455
www.howardcountymd.gov

Date Received: _____

Permit No. B16001586

Building Address: 2121 MILLERS MILL RD
City: COOKSVILLE State: MD Zip Code: 21723
Suite/Apt. #: _____ SDP/WP/BA #: 16-015
Census Tract: _____ Subdivision: _____
Section: _____ Area: _____ Lot: 1
Tax Map: 1A Parcel: P1076 Grid: 4
Zoning: RC-DEO Map Coordinates: _____ Lot Size: 3.89 AC

Existing Use: VACANT
Proposed Use: SF HOME
Estimated Construction Cost: \$ 500,000
Description of Work: CONSTRUCT A 4,000 SF, SBR, 4 1/2 BA HOME (NEW)
Occupant or Tenant: NONE

Was tenant space previously occupied? Yes No
Contact Name: SCOTT ARTERBURN
Address: 1755 BUSINESS PKWY, STE 103
City: ELK RIDGE State: MD Zip Code: 21075
Phone: 410 829 9222 Fax: 410 379 8351
Email: SCOTT.ARTERBURN@THEPAINTMAKERGROUP.COM

Property Owner's Name: PAINTMAKER DEV. INC
Address: 1755 BUSINESS PKWY, STE 103
City: ELK RIDGE State: MD Zip Code: 21075
Phone: 410 379 1525 Fax: 410 379 8351
Email: SCOTT.ARTERBURN@THEPAINTMAKERGROUP.COM

Applicant's Name & Mailing Address, (If other than stated herein)
Applicant's Name: _____
Address: _____
City: _____ State: _____ Zip Code: _____
Phone: _____ Fax: _____
Email: _____

Contractor Company: PAINTMAKER CONTRACTING
Contact Person: SCOTT ARTERBURN
Address: 1755 BUSINESS PKWY, STE 103
City: ELK RIDGE State: MD Zip Code: 21075
License No.: MTBR 6485
Phone: 410 829 9222 Fax: 410 379 8351
Email: SCOTT.ARTERBURN@THEPAINTMAKERGROUP.COM

Engineer/Architect Company: _____
Responsible Design Prof.: _____
Address: _____
City: _____ State: _____ Zip Code: _____
Phone: _____ Fax: _____
Email: _____

| Commercial Building Characteristics | Residential Building Characteristics | |
|---|---|------------|
| Height: _____ | <input checked="" type="checkbox"/> SF Dwelling <input type="checkbox"/> SF Townhouse | |
| No. of stories: _____ | Depth | Width |
| Gross area, sq. ft./floor: _____ | 1 st floor: <u>32'</u> | <u>63'</u> |
| | 2 nd floor: <u>43'</u> | <u>63'</u> |
| Area of construction (sq. ft.): _____ | Basement: | |
| | <input type="checkbox"/> Finished Basement | |
| Use group: _____ | <input checked="" type="checkbox"/> Unfinished Basement | |
| | <input type="checkbox"/> Crawl Space | |
| Construction type: | <input type="checkbox"/> Slab on Grade | |
| <input type="checkbox"/> Reinforced Concrete | No. of Bedrooms: <u>5</u> | |
| <input type="checkbox"/> Structural Steel | Multi-family Dwelling | |
| <input type="checkbox"/> Masonry | No. of efficiency units: _____ | |
| <input type="checkbox"/> Wood Frame | No. of 1 BR units: _____ | |
| <input type="checkbox"/> State Certified Modular | No. of 2 BR units: _____ | |
| | No. of 3 BR units: _____ | |
| | Other Structure: _____ | |
| | Dimensions: _____ | |
| <input checked="" type="checkbox"/> Roadside Tree Project Permit | Footings: _____ | |
| <input type="checkbox"/> Yes <input type="checkbox"/> No | Roof: _____ | |
| Roadside Tree Project Permit # | <input type="checkbox"/> State Certified Modular | |
| | <input type="checkbox"/> Manufactured Home | |

| Utilities | |
|---|--|
| Water Supply | |
| <input type="checkbox"/> Public | |
| <input checked="" type="checkbox"/> Private | |
| Sewage Disposal | |
| <input type="checkbox"/> Public | |
| <input checked="" type="checkbox"/> Private | |
| Electric: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| Gas: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| Heating System | |
| <input checked="" type="checkbox"/> Electric <input type="checkbox"/> Oil | |
| <input type="checkbox"/> Natural Gas <input type="checkbox"/> Propane Gas | |
| <input type="checkbox"/> Other: _____ | |
| Sprinkler System: | |
| <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| Grading Permit Number: <u>616000083</u> | |
| Building Shell Permit Number: _____ | |

THE UNDERSIGNED HEREBY CERTIFIES AND AGREES AS FOLLOWS: (1) THAT HE/SHE IS AUTHORIZED TO MAKE THIS APPLICATION; (2) THAT THE INFORMATION IS CORRECT; (3) THAT HE/SHE WILL COMPLY WITH ALL REGULATIONS OF HOWARD COUNTY WHICH ARE APPLICABLE THERETO; (4) THAT HE/SHE WILL PERFORM NO WORK ON THE ABOVE REFERENCED PROPERTY NOT SPECIFICALLY DESCRIBED IN THIS APPLICATION; (5) THAT HE/SHE GRANTS COUNTY OFFICIALS THE RIGHT TO ENTER ONTO THIS PROPERTY FOR THE PURPOSE OF INSPECTING THE WORK PERMITTED AND POSTING NOTICES.

Applicant's Signature: SCOTT ARTERBURN Print Name: SCOTT ARTERBURN
Email Address: SCOTT.ARTERBURN@THEPAINTMAKERGROUP.COM Date: _____
Title/Company: PRINCIPAL / PAINTMAKER DEV. INC

Checks Payable to: DIRECTOR OF FINANCE OF HOWARD COUNTY

PLEASE WRITE NEATLY & LEGIBLY

-FOR OFFICE USE ONLY-

| AGENCY | DATE | SIGNATURE OF APPROVAL |
|----------------------|------|--------------------------|
| State Highways | | |
| Building Officials | | |
| PSZA (Zoning) | | |
| PSZA (Engineering) | | |
| Health | | <u>5/20/16 R. Becker</u> |

| DPZ SETBACK INFORMATION |
|---|
| Front: _____ |
| Rear: _____ |
| Side: _____ |
| Side St.: _____ |
| All minimum setbacks met? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Is Entrance Permit Required? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Historic District? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Lot Coverage for New Town Zone: _____ |
| SDP/Red-line approval date: _____ |

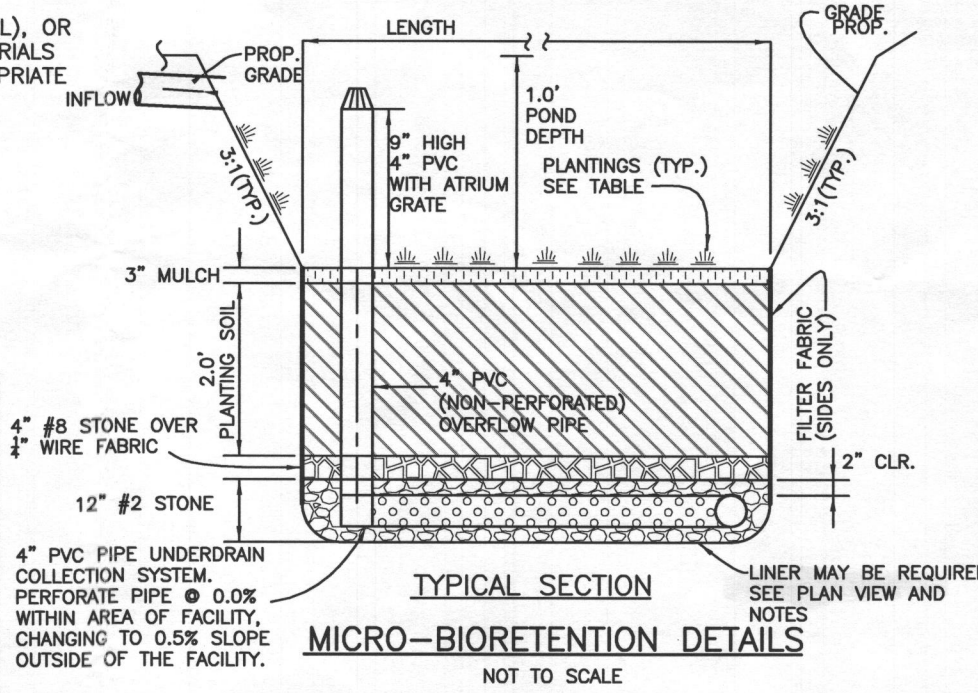
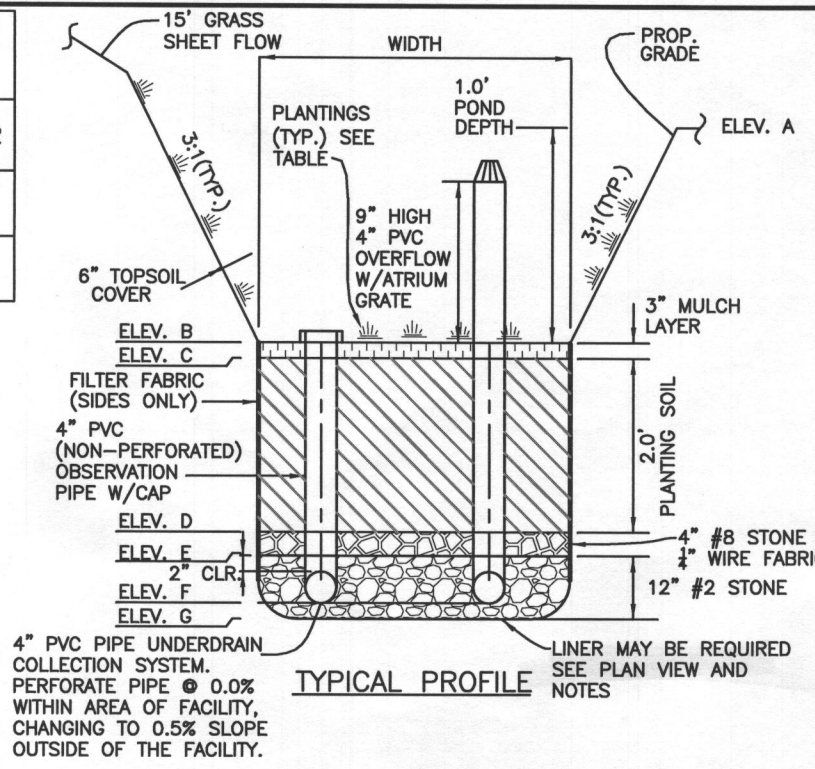
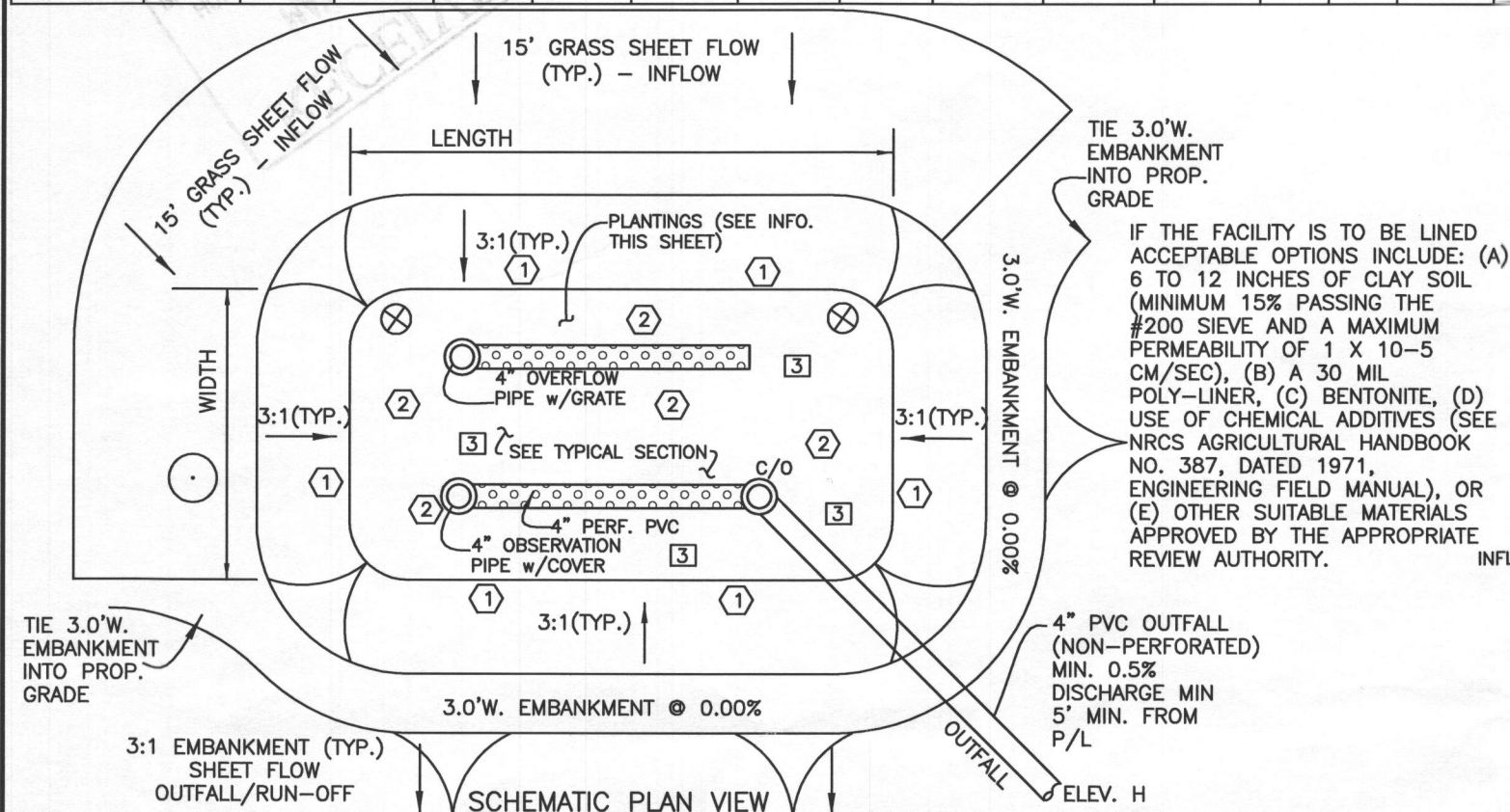
| | |
|----------------|------------------|
| Filing Fee | \$ <u>150.00</u> |
| Permit Fee | \$ |
| Tech Fee | \$ |
| Excise Tax | \$ |
| PSFS | \$ |
| Guaranty Fund | \$ |
| Add'l per Fee | \$ |
| Total Fees | \$ |
| Sub-Total Paid | \$ |
| Balance Due | \$ |
| Check | # <u>20316</u> |

Is Sediment Control approval required for issuance? Yes No
 CONTINGENCY CONSTRUCTION START

Distribution of Copies: White: Building Officials Green: PSZA,Zoning Yellow: PSZA,Engineering Pink: Health Gold: SHA

ON-LOT BIORETENTION DIMENSIONS

| FACILITY | A | B | C | D | E | F | G | H | LENGTH | WIDTH | FILTER (Af) | PLANTINGS | | | LINER |
|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------------|-----------|-----|----|-------|
| | | | | | | | | | | | (1) | (2) | (3) | | |
| MB-1 | 577.00 | 576.00 | 575.83 | 573.83 | 573.50 | 572.92 | 572.42 | 572.00 | 28 | 18 | 319 | 18 | 18 | 35 | yes |
| MB-2 | 556.00 | 555.00 | 554.83 | 552.83 | 552.50 | 551.92 | 551.42 | 551.00 | 50 | 12 | 600 | 33 | 33 | 67 | NO |



- OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)
- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.
 - THE OWNER SHALL PERFORM A PLANT INSPECTION IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
 - THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
 - THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

MATERIALS & SPECIFICATIONS FOR MICRO-BIORETENTION

| MATERIAL | SPECIFICATION | SIZE | NOTES: |
|-----------------------------------|--|--|---|
| PLANTINGS | SEE APPENDIX A; TABLE A.4 | N/A | PLANTINGS ARE SITE SPECIFIC |
| PLANTING SOIL (2.0' TO 4.0' DEEP) | LOAMY SAND 60-65% COMPOST 35-40% OR SANDY LOAM 30% COARSE SAND 30% & COMPOST 40% | N/A | USDA SOIL TYPES: LOAMY SAND OR SANDY LOAM; CLAY CONTENT <5% |
| ORGANIC CONTENT | MIN 10% BY DRY WEIGHT ASTM D 2974 | | |
| MULCH | SHREDDED HARDWOOD | N/A | AGED 6 MONTHS, MINIMUM, NO PINE OR WOOD CHIPS |
| GEOTEXTILE (CLASS "C") | | N/A | PE TYPE 1 NONWOVEN |
| GEOTEXTILE (1/4" WIRE MESH) | | 1/4" WIRE MESH | 1/4" WIRE MESH |
| UNDERDRAIN GRAVEL | AASHTO M-43 | NO. 57 OR NO. 6 0.375" TO 0.750" | |
| UNDERDRAIN PIPING | F758, TYPE PS28 OR AASHTO M-278 | 4" TO 6" RIGID SCH.40 PVC, SDR35 OR HDPE | 3/8" PERF. @ 6" O/C, 4 HOLES PER ROW; MINIMUM OF 3" OF GRAVEL OVER PIPES, NOT NECESSARY UNDERNEATH PIPES. PIPE SHALL BE WRAPPED WITH 1/4-INCH GALVANIZED HARDWARE CLOTH |
| IMPERVIOUS LINER | ASTM-D-4833 (THICKNESS) ASTM-D-412 (TENSILE STRENGTH 1,100 LB., ELONGATION 200%) ASTM-D-624 (TEAR RESISTANCE - 150 LB./IN) ASTM-D-471 (WATER ADSORPTION: +8 TO -2% MASS) | 30 MIL. THICK | LINER TO BE ULTRAVIOLET RESISTANT. A GEOTEXTILE FABRIC SHOULD BE USED TO PROTECT THE LINER FROM PUNCTURE. |
| GEOTEXTILE (BELOW IMPERV. LINER) | ASTM-D-4833 (PUNCTURE STRENGTH 125LB) ASTM-D-4632 (TENSILE STRENGTH 300 LB.) | | |

MICROBIORETENTION PLANTING SCHEDULE

- (PLANTING SPECIES AND DENSITY CAN BE CHANGED OR SUBSTITUTED BY A LANDSCAPE ARCHITECT OR QUALIFIED DESIGNER)
- (1) IRIS FULVA (COPPER IRIS) (SEE CHART)
 - (2) LOBELIA CARDINALIS (CARDINAL FLOWER) (SEE CHART)
 - (3) RUDBECKIA SUBTOMENTOSA (SWEET CONEFLOWER) (SEE CHART)
 - (X) CALLUNA VULGARIS (HEATHER) (1 PER FACILITY)
 - (O) ACER GINNALA (ARMUR MAPLE) (1 PER FACILITY)

MICROBIORETENTION PLANTING DATA

- PLANTINGS WITHIN THE PONDING AREA OF THE FACILITY ARE TO BE OF A MEDIUM TO HIGH WATER TOLERANCE
- PLANTINGS ALONG THE PERIMETER (BERM) AREA OF THE FACILITY ARE TO BE OF A LOW TO MEDIUM WATER TOLERANCE
- AVOID PLANTINGS WITH EXCESSIVE ROOT MASS IN POND AREA OF THE RAIN GARDEN NEAR O.B. PIPE AND UNDERDRAIN.

OWNER/BUILDER:
 RAINMAKER DEVELOPMENT, INC.
 6755 BUSINESS PARKWAY, SUITE 103
 ELKCRIDGE, MARYLAND 21075
 443-829-9222

BENCHMARK
 ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS

ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 ▲ FAX: 410-465-6644
 BEI@BEI-CMILENGINEERING.COM

PROJECT: **PRINCETON MILL PARCEL 1**

LOCATION: 2121 MILLERS MILL ROAD
 TAX MAP: 14, GRID: 4, PARCEL: p/o 76
 ZONED: RC-DEO
 ELECTION DISTRICT NO. 4
 HOWARD COUNTY, MARYLAND

TITLE: **BUILDING PERMIT PLAN**

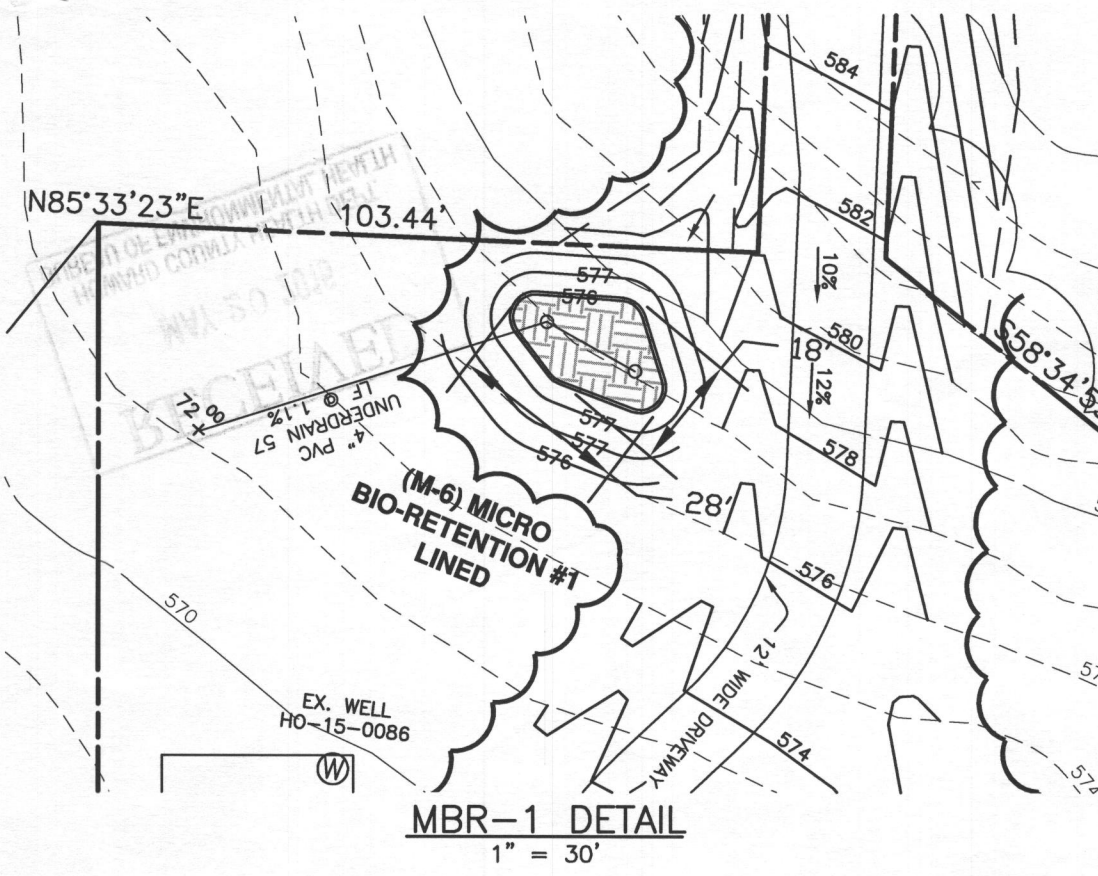
HOUSE TYPE: **PATTERSON**

DATE: MARCH, 2016
 MAY, 2016

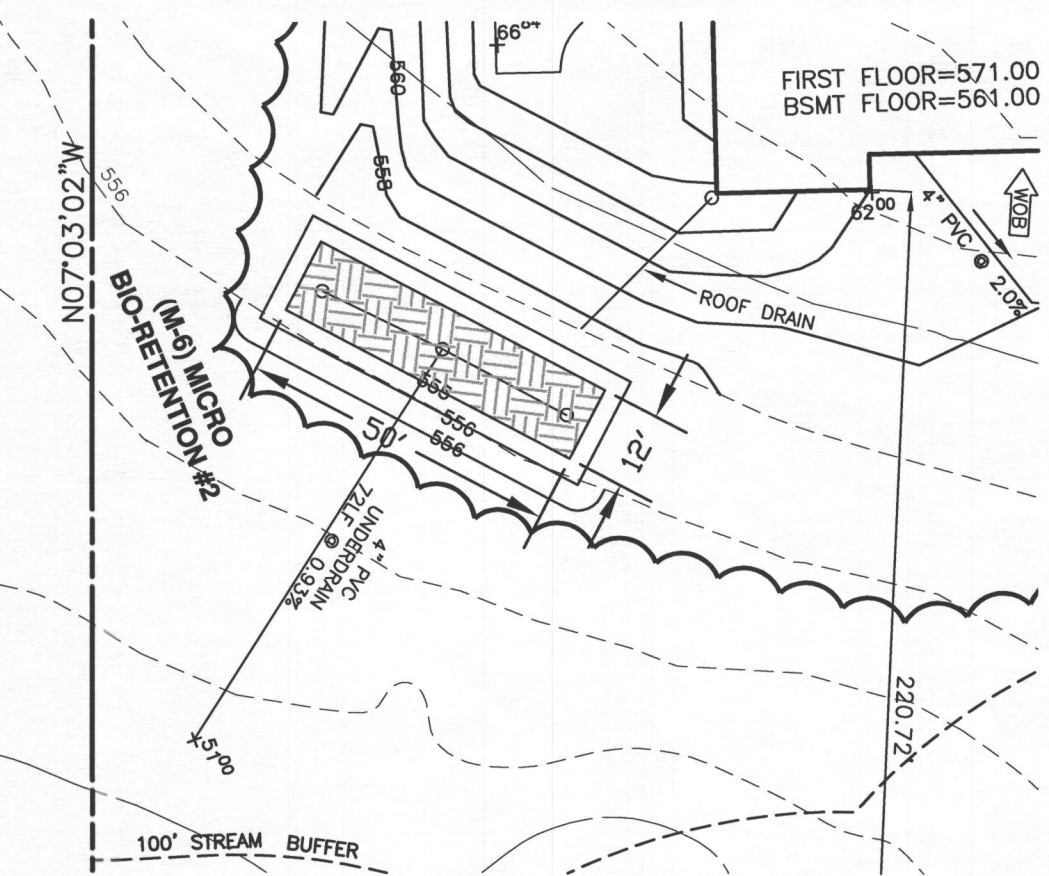
PROJECT NO. 2171

SCALE: 1" = 50'

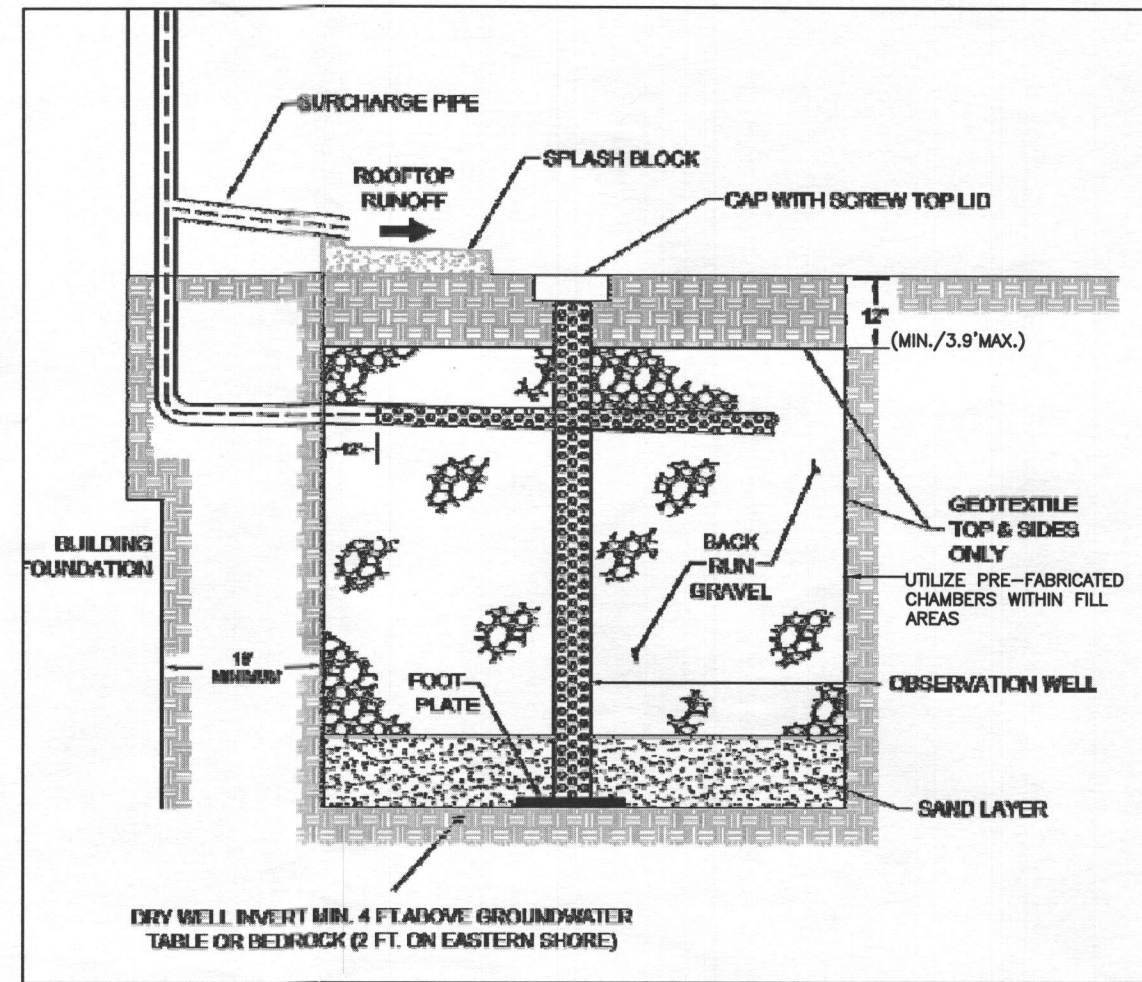
DRAWING 2 OF 3



MBR-1 DETAIL
1" = 30'



MBR-2 DETAIL
1" = 30'



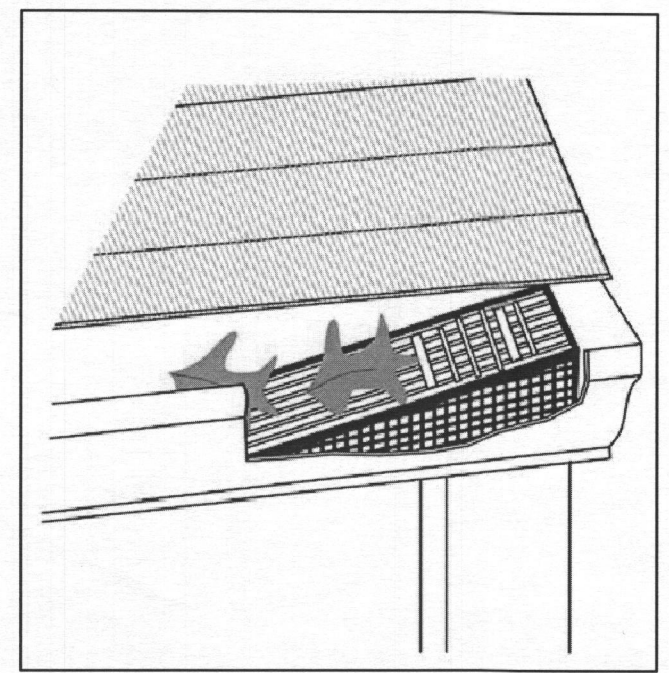
DRY WELL INVERT MIN. 4 FT. ABOVE GROUNDWATER TABLE OR BEDROCK (2 FT. ON EASTERN SHORE)

TYPICAL (M-5) DRYWELL DETAIL
NOT TO SCALE

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

- a. The Owner shall inspect the monitoring wells and structures on a quarterly basis and after every heavy storm event.
- b. The Owner shall record the water levels and sediment build up in the monitoring wells over a period of several days to insure trench drainage.
- c. The Owner shall maintain a log book to determine the rate at which the facility drains.
- d. When the facility becomes clogged so that it does not drain down within a seventytwo (72) hour time period, corrective action shall be taken.
- e. The maintenance log book shall be available to Howard County for inspection to insure compliance with operation and maintenance criteria.
- f. 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.

| Dry well | Cover ft. | Depth ft. | Length ft. | Width ft. |
|----------|-----------|-----------|------------|-----------|
| 1 | 2.00 | 5.00 | 8.5 | 8.5 |
| 2 | 1.00 | 5.00 | 7.5 | 7.5 |



GUTTER DRAIN FILTER (TYPICAL)

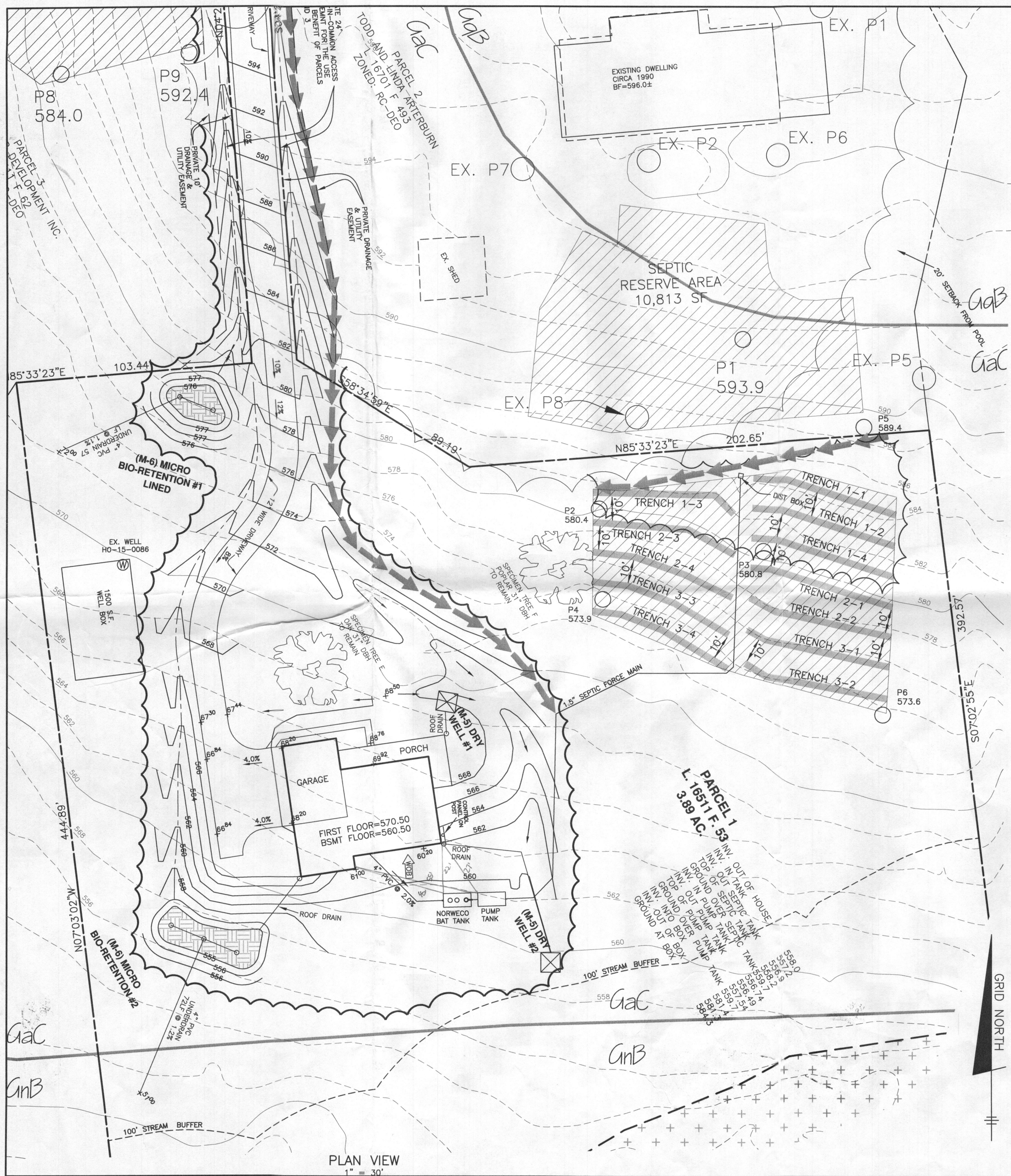
OWNER/BUILDER:
 RAINMAKER DEVELOPMENT, INC.
 6755 BUSINESS PARKWAY, SUITE 103
 ELKRIDGE, MARYLAND 21075
 443-829-9222

BENCHMARK
 ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS

ENGINEERING, INC.

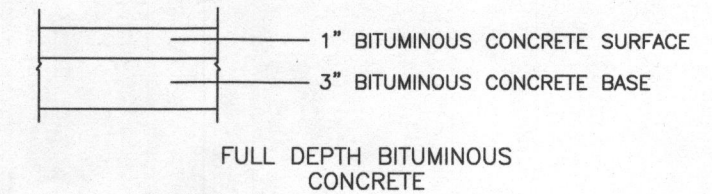
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 BEI@BEI-CVILENGINEERING.COM

| | | | |
|--------------------|--------------------------|---|--------|
| PROJECT: | | PRINCETON MILL PARCEL 1 | |
| LOCATION: | | 2121 MILLERS MILL ROAD TAX MAP: 14, GRID: 4, PARCEL: p/o 76 ZONED: RC-DEO ELECTION DISTRICT NO. 4 HOWARD COUNTY, MARYLAND | |
| TITLE: | | BUILDING PERMIT PLAN | |
| HOUSE TYPE: | | PATTERSON | |
| DATE: | MARCH, 2016 MAY, 2016 | PROJECT NO. | 2171 |
| SCALE: | 1" = 50' | DRAWING | 3 OF 3 |

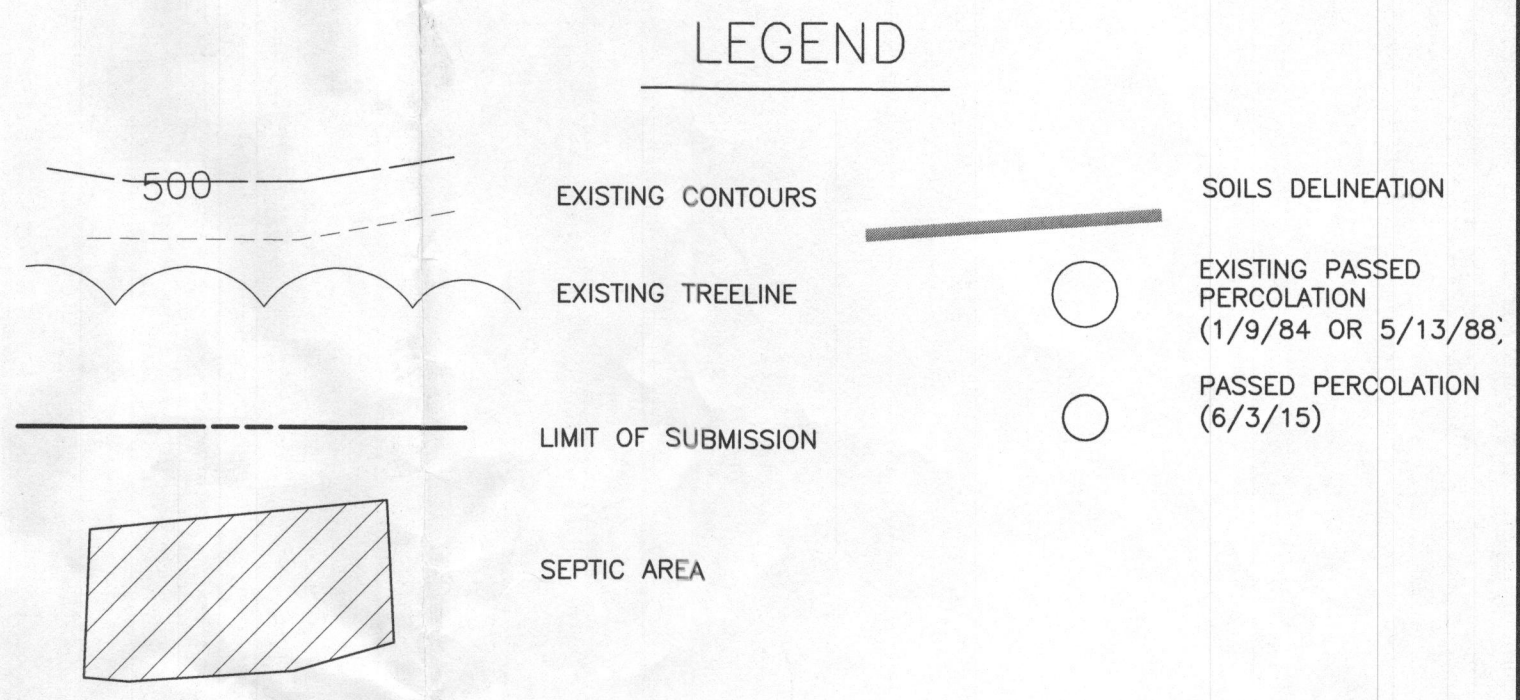


| SOILS LEGEND | | |
|--------------|------------|--|
| MAP SYMBOL | SOIL GROUP | SOIL TYPE |
| GnB2 | C | GLENVILLE, SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED |
| MgC2 | B | MANOR GRAVELLY LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED |
| - | - | - |

* INDICATES HYDRIC SOILS
 TAKEN FROM SOILS SURVEY, ISSUED JULY 1968, MAP NO. 33



LEGEND



BUILDING PERMIT PLAN NOTES:

1. THE LOT SHOWN HEREON WAS RECORDED AS PARCEL 1 IN A DEED RECORDED AS LIBER 16511 FOLIO 53 AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND, DATED OCTOBER 20, 2015.
2. SEDIMENT AND EROSION CONTROLS ARE APPROVED BY GRADING PLAN GP-16-032.
3. TOPOGRAPHY SHOWN HEREON IS TAKEN FROM HOWARD COUNTY GIS DEPARTMENT DATA AND FILED RUN TOPOGRAPHY BY BENCHMARK ENGINEERING, INC., DATED JULY, 2015.
4. ALL SEDIMENT AND EROSION CONTROL FEATURES USED ON THIS SITE SHALL COMPLY WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
5. ALL DRAINAGE AND STORMWATER MANAGEMENT FEATURES USED ON THIS SITE MUST COMPLY WITH THE REQUIREMENTS OF COMAR AND HOWARD COUNTY CODE.
6. THE EXISTING WELL SHOWN ON THIS PLAN, HO-15-0086, HAS BEEN FIELD LOCATED BY BENCHMARK ENGINEERING, INC., AND IS ACCURATELY SHOWN.
7. THERE ARE NO EXISTING WELLS OR SEPTIC SYSTEMS WITHIN 100' OF THIS PROJECT'S BOUNDARY EXCEPT AS NOTED.
8. ANY CHANGES TO A PRIVATE SEWAGE EASEMENT OR WELL BOX SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.

Approved Septic System Plan
 Howard County Health Department
 NORWECO TNTLP-6006A
 # 2000-gal, 1-compartment Pump Tank
 w/ Zeller '153 (ashp) Pump of
 J. Buckler
 Signature
 5/31/2016
 Date

BENCHMARK ENGINEERING, INC.
 ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS

6480 BALTIMORE NATIONAL PIKE ▲ SUITE 315
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 ▲ FAX: 410-465-6644
 BEI@BEI-CVLENGINEERING.COM

BL6001586

| | |
|---|--|
| OWNER/BUILDER: RAINMAKER DEVELOPMENT, INC. 6755 BUSINESS PARKWAY SUITE 103 ELK RIDGE, MD 21075 410-379-1525 | PROJECT: PRINCETON MILL PARCEL 1 |
| LOCATION: 2121 MILLERS MILL ROAD COOKSVILLE, MD 21723 TAX MAP: 14 GRID: 4 P/O PARCEL: 76 4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND TAX ID NUMBER: 04-596592 | TITLE: BAT SITE PLAN |
| HOUSE TYPE: PATTERSON II | DATE: MARCH, 2016 MAY, 2016 |
| DESIGN: JMC | DRAFT: JMC |
| SCALE: 1" = 30' | PROJECT NO. 2696 DRAWING 1 OF 3 |

| INITIAL SYSTEM | | |
|----------------------------------|-------|--------|
| Number of Bedrooms | 5 | |
| Application Rate | 0.8 | gpd/sf |
| Effective Area Beginning Depth | 7 | ft |
| Bottom Max Depth | 8 | ft |
| Design Flow | 750 | gpd |
| Drainage Field square footage | 937.5 | sf |
| Sidewall reduction credit | 0.83 | |
| Trench width | 3 | |
| Effective Area Depth | 1 | |
| Linear Length of trench Required | 260 | lf |

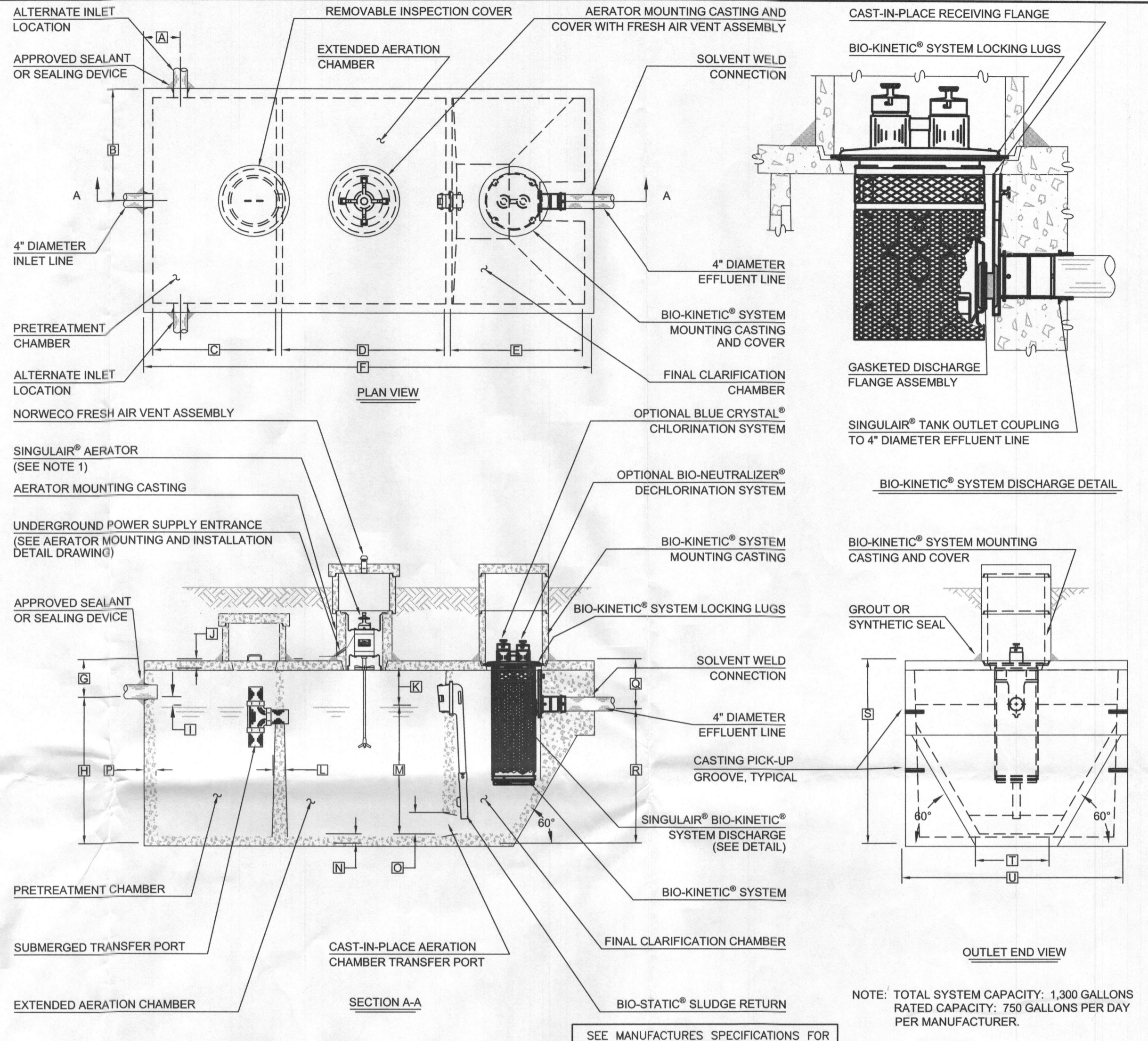
| 1st REPLACEMENT SYSTEM | | |
|----------------------------------|-------|--------|
| Number of Bedrooms | 5 | |
| Application Rate | 0.8 | gpd/sf |
| Effective Area Beginning Depth | 7 | ft |
| Bottom Max Depth | 8 | ft |
| Design Flow | 750 | gpd |
| Drainage Field square footage | 937.5 | sf |
| Sidewall reduction credit | 0.83 | |
| Trench width | 3 | |
| Effective Area Depth | 1 | |
| Linear Length of trench Required | 260 | lf |

| CRITICAL DIMENSIONS | | | |
|---------------------|--------|---|-------|
| A | 1'-0" | N | 0'-3" |
| B | 3'-0" | O | 0'-6" |
| C | 3'-4" | P | 0'-3" |
| D | 4'-5" | Q | 1'-4" |
| E | 3'-7" | R | 3'-8" |
| F | 12'-2" | S | 5'-0" |
| G | 1'-0" | T | 2'-0" |
| H | 4'-0" | U | 6'-0" |
| I | 0'-3" | V | |
| J | 0'-3" | W | |
| K | 1'-0" | X | |
| L | 0'-2" | Y | |
| M | 3'-6" | Z | |

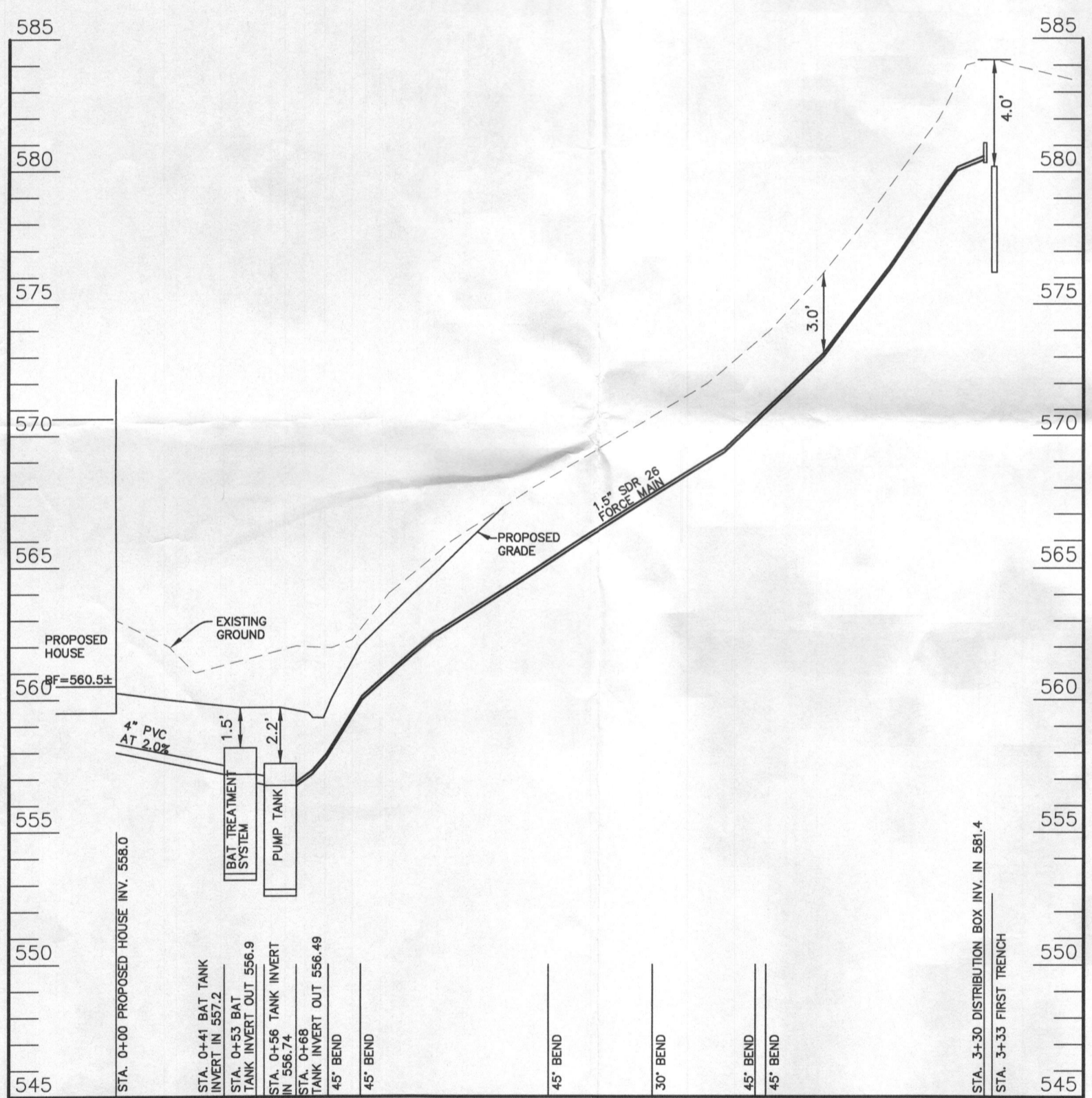
| | | | | | |
|----------------------------------|---|---------------|-----------|----------|---|
| U.S. AND FOREIGN PATENTS PENDING | norweco | REVISION DATE | 3-26-07 | REVISION | B |
| | LOW-PROFILE SINGULAIR® BIO-KINETIC® WASTEWATER TREATMENT SYSTEM MODEL TNLTP-600 GPD | DESIGNED BY | BDS | | |
| | | DATE | 10-16-06 | | |
| | | SCALE | NTS | | |
| | | PROJECT NO. | PC-5-7091 | | |

GENERAL NOTES:

- SINGULAIR® AERATOR, AS TESTED AND ACCEPTED BY NSF, OPERATING 60 MINUTES ON / 60 MINUTES OFF.
- FALL THROUGH SINGULAIR® PLANT FROM INLET INVERT TO OUTLET INVERT IS FOUR INCHES. INLET INVERT IS TWELVE INCHES BELOW TANK TOP.
- ON DEEPER INSTALLATIONS, PRECAST RISERS MUST BE USED TO EXTEND AERATOR MOUNTING CASTING AND BIO-KINETIC® SYSTEM MOUNTING CASTING TO GRADE.
- TANK REINFORCED PER ACI STD. 318-05.
- REMOVABLE COVERS ON RISERS WEIGH IN EXCESS OF SEVENTY-FIVE POUNDS EACH TO PREVENT UNAUTHORIZED ACCESS.
- CONTACT THE LOCAL, LICENSED SINGULAIR® DISTRIBUTOR FOR ELECTRICAL REQUIREMENTS.

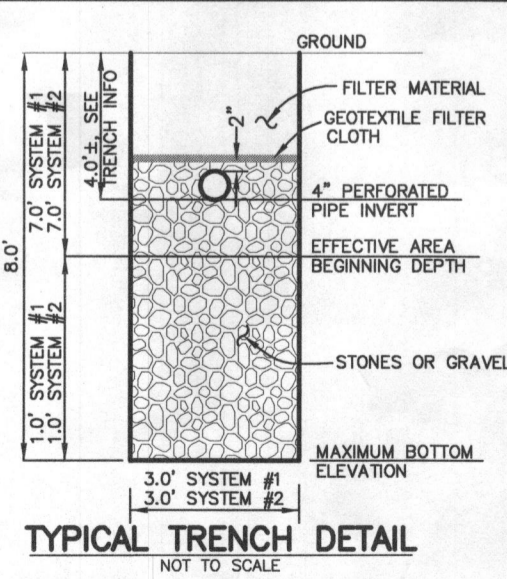


- Required BAT Site Plan Notes**
- Any change to the locations or depths to any components must be approved by the engineer and the Howard County Health Department prior to installation. A revised sit plan may be required.
 - The maximum depth of the BAT shall be per the manufacturer's specification, 3.0'.
 - The blower may not be located further from the tank than the manufacturer's specifications, 75'.
 - The BAT system shall be maintained and operated for the life of the system.
 - The BAT shall be operated by and maintained by a certified service provider.
 - Within one month of installation, a person installing the BAT system shall report to the Maryland Department of the Environment (MDE) in a manner acceptable to MDE, the address and date of completion of the BAT installation and the type of BAT installed.
 - Electrical work for the BAT installation must be performed by a licensed electrician.
 - An agreement and Easement must be completed and signed by all applicable parties, and recorded in Land Records of Howard County.
 - The Health Department requires documentation for the start-up certification from the manufacturer prior to final approval of the installation.



TRENCH INFORMATION
SCALE: VERTICAL 1"=5', HORIZONTAL 1"=50'

| TRENCH | LENGTH | GROUND ELEVATION | INVERT ELEVATION | MAX. BOTTOM ELEV. |
|------------|--------|------------------|------------------|-------------------|
| TRENCH 1-1 | 65 LF | 584.2 | 582.2 | 578.2 |
| TRENCH 1-2 | 65 LF | 582.5 | 578.5 | 574.5 |
| TRENCH 1-3 | 65 LF | 582.0 | 578.0 | 574.0 |
| TRENCH 1-4 | 65 LF | 581.0 | 577.0 | 573.0 |
| TRENCH 2-1 | 65 LF | 579.5 | 577.5 | 573.5 |
| TRENCH 2-2 | 65 LF | 577.8 | 573.8 | 569.8 |
| TRENCH 2-3 | 65 LF | 577.8 | 573.8 | 571.5 |
| TRENCH 2-4 | 65 LF | 577.0 | 573.0 | 569.0 |



BENCHMARK ENGINEERING, INC.

ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS

8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 ▲ FAX: 410-465-6644
BEI@BEI-CIVILENGINEERING.COM

SIGNATURE AND SEAL ARE FOR CALCULATIONS AND PROFILE ONLY:
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 45577, Expiration Date: 06-08-2016.

Car
5/16/16

OWNER/BUILDER: RAINMAKER DEVELOPMENT, INC.
7755 BUSINESS PARKWAY SUITE 103
ELK RIDGE, MD 21075
410-379-1525

PROJECT: PRINCETON MILLS PARCEL 1

LOCATION: 2121 MILLERS MILL ROAD
COOKSVILLE, MD 21723
TAX MAP: 14 GRID: 4 p/o PARCEL: 76
4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
TAX ID NUMBER: 04-596592

TITLE: BAT SITE PLAN

HOUSE TYPE: PATTERSON II

DATE: MARCH, 2016
MAY, 2016

PROJECT NO.: 2696

SCALE: 1" = 50'

DRAWING 2 OF 3

DESIGN: JMC DRAFT: JMC

Approved Septic System Plan
Howards County Health Department
NORWECO TNLTP-600 GPD
\$ 2000-gal, 1-compartment Pump tank
w/ 2-gal, 1/53' (ashp) Pump or equiv.
5/31/2016
Signature
Date

B 1600 1586

Your Peace of Mind is Our Top Priority™



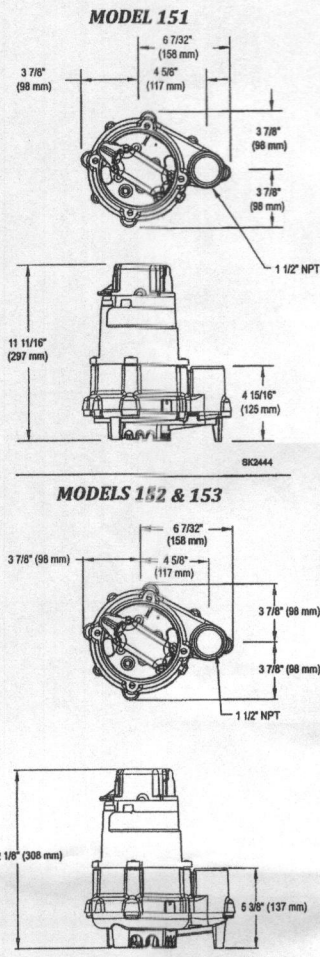
SECTION: 2.15.080
FM2784
0315
Supersedes
0114

Product information presented here reflects conditions at time of publication. Contact factory regarding discrepancies or inconsistencies.

**TECHNICAL DATA SHEET
DOSE-MATE SERIES
Models 151, 152, 153 Effluent Pumps**

PRODUCT SPECIFICATIONS

| MOTOR | PUMP | MATERIALS |
|--|--|------------------------------|
| Horse Power: 1/2 (151), 4/10 (152), 1/2 (153) Voltage: 115 or 230 Phase: 1 Ph Hertz: 60 Hz RPM: 3450 Type: Permanent split capacitor Insulation: Class B Amps: 3.2 - 10.5 Operation: Automatic or nonautomatic Discharge Size: 1-1/2" NPT Solids Handling: 1/2" (13 mm), 3/4" (19 mm) spherical solids Cord Length: 20' (6 m) Cord Type: UL listed power cord Max. Head: 44' (13.4 m) Max. Flow Rate: 77 GPM (291 LPM) Max. Operating Temp.: 130° F (54° C) Cooling: Oil filled Motor Protection: Auto reset thermal overload | Cap: Cast iron Motor Housing: Cast iron Pump Housing: Cast iron Base: Plastic or cast iron Upper Bearing: Sleeve bearing Lower Bearing: Ball bearing Mechanical Seal: Carbon and ceramic Impeller Type: Non-clogging vortex Impeller: Engineered thermoplastic Hardware: Stainless steel Motor Shaft: AISI 316 stainless Gasket: Neoprene | MODEL 151 MODEL 152 & 153 |



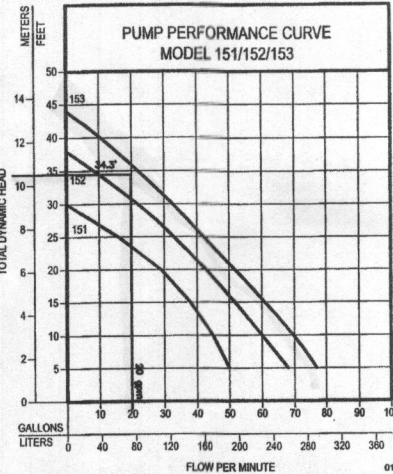
NOTE: The sizing of effluent systems normally requires variable level float controls and properly sized lines to achieve required pumping cycles or dosing timers with nonautomatic pumps.

NOTE: See model comparison chart for specific details.



**TOTAL DYNAMIC HEAD
FLOW PER MINUTE**

| MODEL | 151 | 152 | 153 |
|------------|------|------|------|
| Feet | 1.5 | 4.5 | 15.0 |
| Meters | 0.46 | 1.37 | 4.57 |
| Flow (GPM) | 30 | 100 | 300 |
| Flow (LPM) | 113 | 378 | 1134 |



| Model | Seal | Mode | Volts | Ph | Amps | HP | Hz | Lbs | Kg | Simplex | Duplex |
|-------|--------|------|-------|----|------|------|----|-----|----|---------|--------|
| N151 | Single | Non | 115 | 1 | 6.0 | 1/2 | 60 | 32 | 15 | 1 | 2 or 3 |
| E151 | Single | Non | 230 | 1 | 3.2 | 1/2 | 60 | 32 | 15 | 1 | 2 or 3 |
| BN151 | Single | Auto | 115 | 1 | 6.0 | 1/2 | 60 | 33 | 15 | * | 2 or 3 |
| BE151 | Single | Auto | 230 | 1 | 3.2 | 1/2 | 60 | 33 | 15 | * | 2 or 3 |
| N152 | Single | Non | 115 | 1 | 8.5 | 4/10 | 60 | 37 | 17 | 1 | 2 or 3 |
| E152 | Single | Non | 230 | 1 | 4.3 | 4/10 | 60 | 37 | 17 | 1 | 2 or 3 |
| BN152 | Single | Auto | 115 | 1 | 8.5 | 4/10 | 60 | 39 | 18 | * | 2 or 3 |
| BE152 | Single | Auto | 230 | 1 | 4.3 | 4/10 | 60 | 39 | 18 | * | 2 or 3 |
| N153 | Single | Non | 115 | 1 | 10.5 | 1/2 | 60 | 37 | 17 | * | 2 or 3 |
| BN153 | Single | Auto | 115 | 1 | 10.5 | 1/2 | 60 | 39 | 18 | * | 2 or 3 |
| E153 | Single | Non | 230 | 1 | 5.3 | 1/2 | 60 | 37 | 17 | 1 | 2 or 3 |
| BE153 | Single | Non | 230 | 1 | 5.3 | 1/2 | 60 | 39 | 18 | * | 2 or 3 |

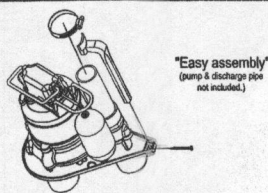
*BN and BE models include a 20' (6 m) piggyback variable level pump switch. Additional cord lengths are available in 20' (6 m) and 30' (9 m) lengths for 230 V units only.
NOTE: Model 151 has a plastic base. Models 152 & 153 have a cast iron base.

SELECTION GUIDE

- For automatic, use single piggyback variable level float switch or double piggyback variable level float switch. Refer to FM0477.
- See FM1228 for correct model of simplex control panel.
- See FM0712 for correct model of duplex control panel.

OPTIONAL PUMP STAND P/N 10-2421

- Reduces potential clogging by debris
- Replaces rocks or bricks under the pump
- Made of durable, noncorrosive ABS
- Raises pump 2" (5 cm) off bottom of basin
- Provides the ability to raise intake by adding sections of 1/4" or 2" (DN40 or DN50) PVC piping
- Attaches securely to pump
- Accommodates sump, dewatering and effluent applications



CAUTION: All installation of controls, protection devices and wiring should be done by a qualified licensed electrician. All electrical and safety codes should be followed including the most recent National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA).

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802-778-2731 | 800-928-7867 | 3649 Cane Run Road | Louisville, KY 40211-1901 | www.zoeller.com

Design Calculations

Design Input:

Capacity requirements
 number of lots 1
 bedrooms per lot 5
 use rate per bedroom 150 gpd

Calculations:

Max. Daily Flow 750 gpd
 Average Daily Flow 375 gpd
 Maximum Daily Flow 0.52 gpm
 Average Daily Flow 0.26 gpm

Tanks and Capacities

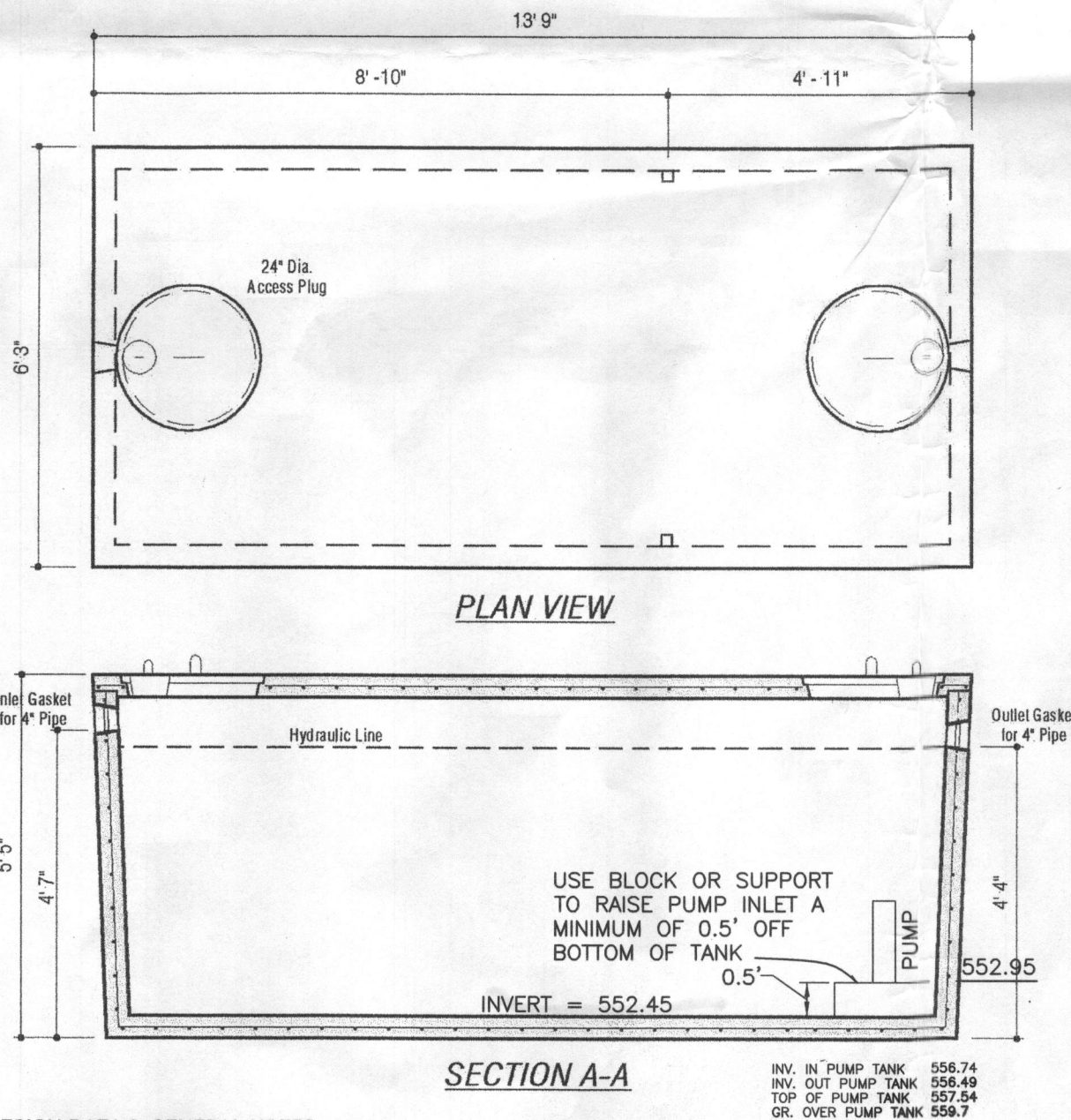
first chamber 1,000 gallons req. capacity (1125+(0.75*MDF)) 1687.5 gal
 pump chamber 1,000 gallons design capacity 2000 gal.
 min. pump chamber capacity (ADF+Dose) 505 gal.

Static Hydraulic Profile

Ground Elev. at tank 559.70 ft Tank #1 effluent elev 556.45 ft
 Tank invert in 557.53 ft
 Tank top 557.53 ft
 Fall in tank 0.25 ft
 inv. tank to top 5.08 ft
 Tank invert in 552.45 ft
 Pump Block Height 0.50 ft
 Height of Intake 0.45 ft
 Grinder Invert 553.40 ft

Dosing volume, flow rates and Pressures

flow rate 21.00 gpm Static Head 27.45 ft
 Friction (C) for PVC 150 Friction Head 6.91 ft
 Miscellaneous Losses 0 ft Distal Head 0 ft
 Estimated Run Time 6.50 Min. Max. Total Dynamic Head 34.36 ft
 min. Dose (1xMain) Vol. 130.00 gal.
 Pump tank Volume 1687.50 Gal Min. Runtime 6.19 min.
 Total Dose Volume 130.00 gal.
 Average Doses 2.88 per day



DESIGN DATA & GENERAL NOTES

- Concrete strength $f_c = 4,000$ p.s.i. @ 28 days. Density = 150 pcf.
- Cement - Portland Type VII per ASTM C 150-92.
- Admixtures & plasticizers per ASTM C 260-86 & C 494-92.
- Reinforcing per ASTM A185. Min. 1-1/2" cover.
- Top slab sealed with butyl mpe mastic.
- 4" wall, 4" base, & 5" top thickness.

MB
 Mayer Bros., Inc. www.mayerbrosprecast.com
 6264 Race Road
 Elkridge, Maryland 21075
 Tel. 410.796.1434
 Fax. 410.796.1438

**2,000 GALLON SEPTIC TANK
1-Compartment**
 Stock Item [Approx. 19,000 lbs]

Dwg. No. 2000-1C No Scale Jan 1, 2000

Pumping Station

Diameter of Force Main and Manifold = 1.5 of SDR 21 pipe
 Length of Force Main = 262 feet SDR 21 gallons/100 feet 40.9 Table 4.2

Volume of Main = 25.8 gallons ID = 1.554
 length = 100 gallon/sq ft 7.480519
 Total Volume = 25.8 gallons volume = 9.852834 gal/100 lf

Minimum Dose must be greater than 1/6 of the design flow 125 gallons

Minimum Dose must be greater than the volume of the main 26 gallons

Use minimum dose of 130 gallons okay

Size Pump Chamber

Pump chamber must be able to hold one dose and one days design flow

One day Capacity = 750 gallons
 Dose = 130 gallons
 Totals = 880 gallons

Use 2,000 gallon pump tank

Tank Dimensions:
 Exterior Length: 13.75 feet Interior Length: 13.08 feet Walls: 0.33 feet
 Width: 6.25 feet Width: 5.58 feet Bottom: 0.33 feet
 Height: 5.42 feet Height: 4.75 feet Top: 0.42 feet
 Area: 73.05 sf Volume: 347.22 cf Inlet: 4.58 feet

Sizing the Pump

Flow: runtime = 6.5 minutes
 rate = 20 gallons/minute

Design Head: Design Head = Static Head + Friction Head
 Static Head = highest elevation of main - pump off elevation
 Highest component of system = 581.4 D BOX IN
 Pump off elevation = 554.00
 Static Head = 27.40 feet

Friction Head = Head loss due to pipe friction
 1.5" pipe = 262 feet
 45° bends 6 loss for bend 18 feet per table 4.3
 90° Tee 0 loss for tee 0 feet per table 4.3
 Gate valve 1 loss for gate 1 feet per table 4.3
 Friction loss per table 4.4 = 2.46 (ft/100 ft)

Equivalent Length = 281 Friction l. 6.91 feet

Total Friction Head = 6.91

Design Head = 34.31 feet

Pump Requirements:

Performance = 20 gpm
 Head of Water = 34.31 feet of head

Pump Selection: Zoeller Pump Company Effluent Series, Model 153
 1/2 horse power

Pump Flow Rate = 21.00 gallons/minute per rating curve

Design Pump Chamber

Ground over Tank = 559.70
 Top of Tank = 557.54
 Invert of Tank = 552.45
 6" Riser = 0.50 feet
 12" Pump = 1.10 feet

Min. Pump off = 554.05
 Selected Pump off = 554.10

Dose = 17.4 cf
 Area of Pit = 73.05 sf

Pump on dist. = 0.24
 Pump on Elev. = 554.34

Distance between Pump on and Highwater Alarm = 0.5 feet
 Highwater Alarm Elevation = 554.84

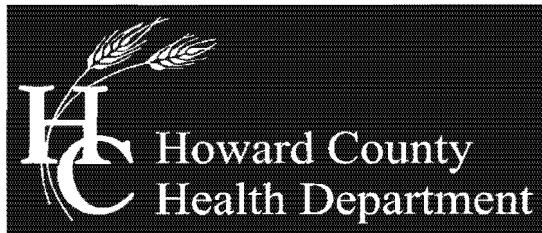
Dist for a dose above alarm = 1.37
 Min. Inlet Elev. = 556.21
 Tank Inlet = 556.70 okay
 Dist. Alarm to Inlet = 1.86 Okay

Approved Septic System Plan
 Howard County Health Department
 NORWECO TNTP-600GPD
 2000-gal, 1-compartment Pump Tank
 w/ Zoeller '153' (0.5hp) Pump or equiv.
 Signature: [Signature] Date: 5/31/2016
 B 15001586

BENCHMARK ENGINEERING, INC.
 ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
 8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 ▲ FAX: 410-465-6644
 BE@BEI-CIVILENGINEERING.COM

SIGNATURE AND SEAL ARE FOR CALCULATIONS AND PROFILE ONLY:
 Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 45577, Expiration Date: 06-08-2016.

| | | | |
|---|------------|--|---------------|
| OWNER/BUILDER: | PROJECT: | PRINCETON MILLS PARCEL 1 | |
| RAINMAKER DEVELOPMENT, INC. 6755 BUSINESS PARKWAY SUITE 103 ELKRIDGE, MD 21075 410-379-1525 | LOCATION: | 2121 MILLERS MILL ROAD COOKSVILLE, MD 21723 TAX MAP: 14 GRID: 4 p/o PARCEL: 76 4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND TAX ID NUMBER: 04-596592 | |
| DESIGN: JMC | DRAFT: JMC | TITLE: | BAT SITE PLAN |
| | | HOUSE TYPE: | PATTERSON II |
| | | DATE: | MAY, 2016 |
| | | PROJECT NO.: | 2696 |
| | | SCALE: | 1" = 30' |
| | | DRAWING | 3 OF 3 |



Bureau of Environmental Health

8930 Stanford Boulevard, Columbia, MD 21045

Main: 410-313-2640 | Fax: 410-313-2648

TDD 410-313-2323 | Toll Free 1-866-313-6300

www.hchealth.org

Facebook: www.facebook.com/hocohealth

Twitter: [HowardCoHealthDep](https://twitter.com/HowardCoHealthDep)

Maura J. Rossman, M.D., Health Officer

MEMORANDUM

TO: *Scott Arterburn, Rainmaker Development, Inc.*

FROM: *Robert Bricker, REHS/RS, L.E.H.S.*
Well & Septic Program

RE: *2121 Millers Mill Road (Princeton Mill, Parcel 1)*, Potential Basement Bedroom

DATE: May 11, 2016

I have reviewed the floor plans in support of Building Permit **B16001586** for a new home at **2121 Millers Mill Road** and noted that there is a rough-in for a full bathroom in the unfinished basement. Please note that this makes it very likely for one or more rooms to be considered bedrooms upon conversion of the basement to finished living space.

For reference, the following is the bedroom definition in Howard County Code Section 3.801(b):

- (1) Except as provided in paragraph (2) of this subsection, a bedroom is any space in the conditioned are of a dwelling unit or accessory structure that:
 - (i) Is 90 square feet or greater in size;
 - (ii) May be used as a private sleeping area; and
 - (iii) Has at least one window and one interior door.
- (2) If a home office, library, or similar room is proposed, it may not be a bedroom if there is no closet; and
 - (i) The room contains permanently built-in bookcases around the perimeter of the room, desks, and other features that encumber the room;
 - (ii) A minimum 4 foot-wide opening, without doors, into another room;
 - (iii) A half wall (4 foot maximum height) between the room and another room; or
 - (iv) The room is a first floor room or basement area that does not have direct access to full bathrooms or "roughed in" plumbing that would provide direct access to future full bathroom facilities.

The Health Department strongly recommends sizing the onsite sewage disposal system at least one bedroom larger than the existing **five (5)** bedroom design to accommodate a future finished basement. If you choose to only size for the existing design, any future building permit for a finished basement may be placed on hold until the system is upgraded to accommodate the proposed number of bedrooms. This memo will be retained in the Health Department file for future reference.