

ENVIRONMENTAL CONCEPT PLAN

HIGH RIDGE PARK

LOTS 65 & 66, PLAT BOOK 111 PAGE 0597

6th ELECTION DISTRICT

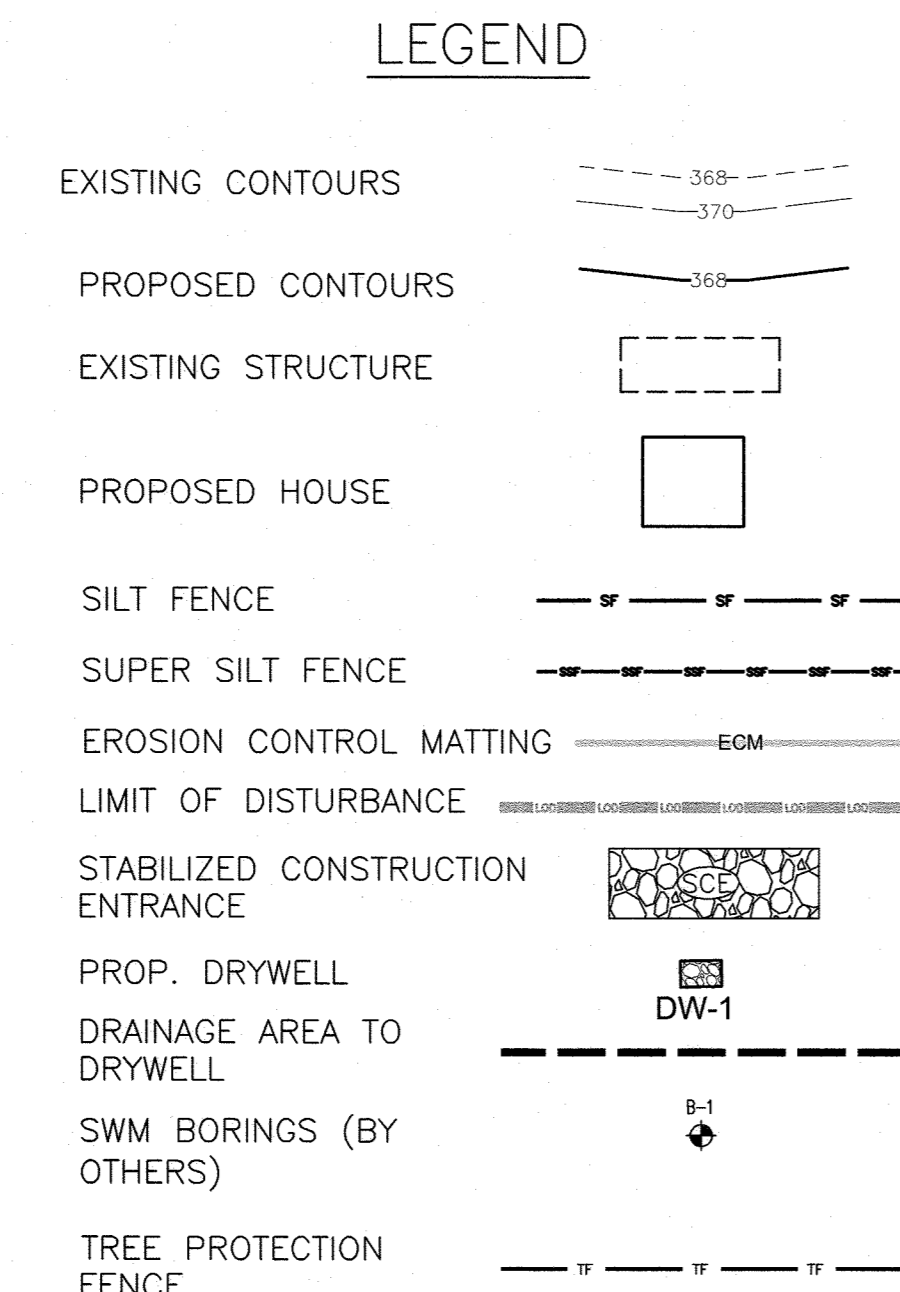
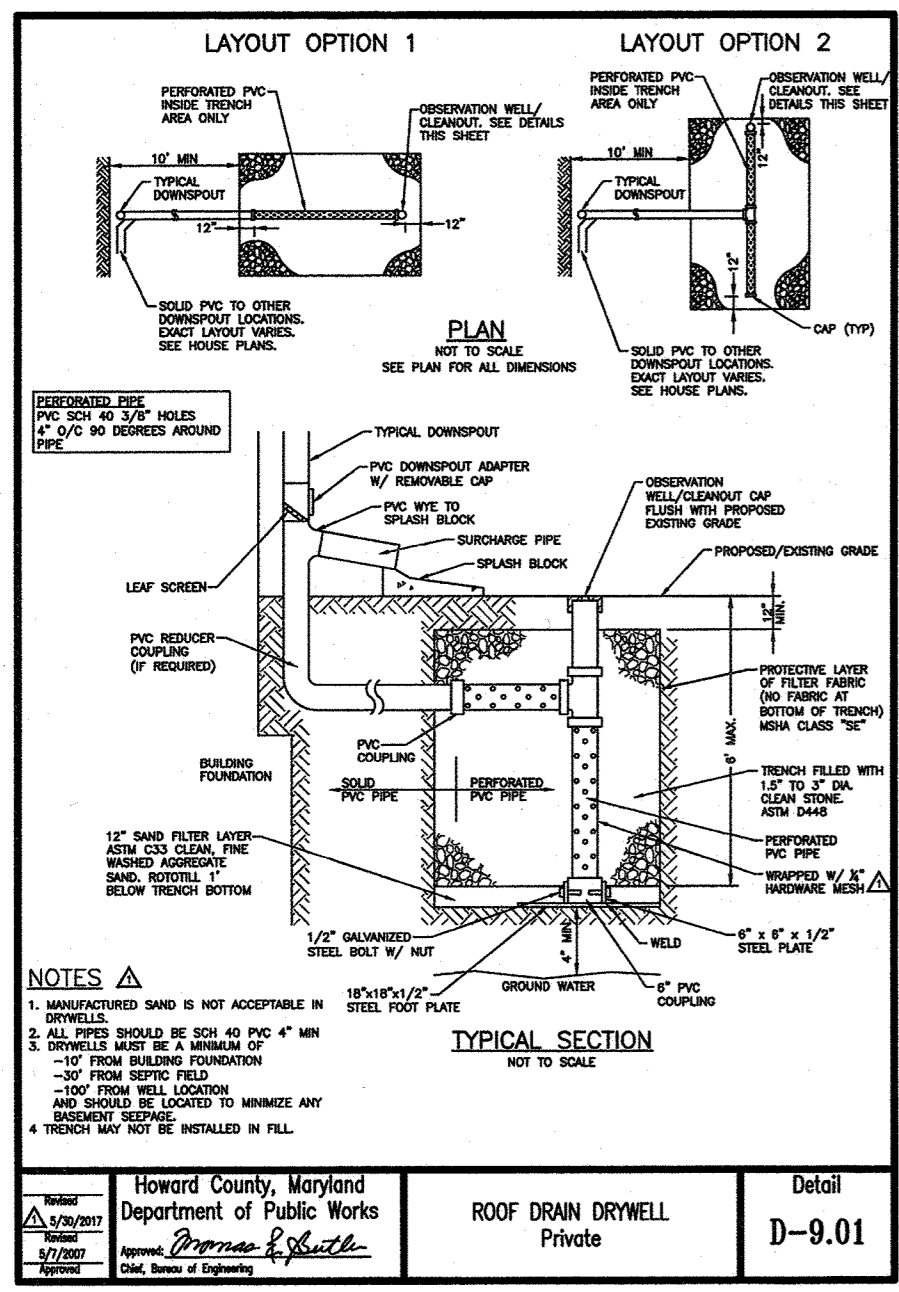
HOWARD COUNTY, MARYLAND

BENCH MARKS (NAD83)

HO. CO. No. 47GD ELEV. 312.32'
NEAR 9028 OLD SCAGGSVILLE ROAD
6 FEET FROM FIRE HYDRANT
33.9 FEET FROM WATER METER
N 530494.447 E 1350872.301

HO. CO. No. 47GE ELEV. 335.756'
BY 9160 OLD SCAGGSVILLE ROAD
19.8 FEET FROM WATER METER
76.5 FEET FROM BGE 31000
N 529044.964 E 1350854.953

VICINITY MAP
SCALE: 1" = 2000'
ADC MAP 40, GRID B8



| Lot No. | Drywell No. | Length (ft) | Width (ft) | Stone Depth (ft) | Grade | Top of Stone | Bottom of Stone |
|---------|-------------|-------------|------------|------------------|-------|--------------|-----------------|
| 65 | DW-1 | 7.00 | 7.00 | 5.00 | 269.9 | 269.9 | 263.9 |
| 65 | DW-2 | 7.00 | 7.00 | 5.00 | 269.2 | 269.2 | 263.2 |
| 65 | DW-3 | 7.00 | 7.00 | 5.00 | 263.5 | 263.5 | 257.5 |
| 66 | DW-4 | 7.00 | 7.00 | 5.00 | 268.6 | 268.6 | 262.6 |
| 66 | DW-5 | 7.00 | 7.00 | 5.00 | 264.0 | 263.0 | 258.0 |
| 66 | DW-6 | 7.00 | 7.00 | 5.00 | 262.0 | 261.0 | 256.0 |

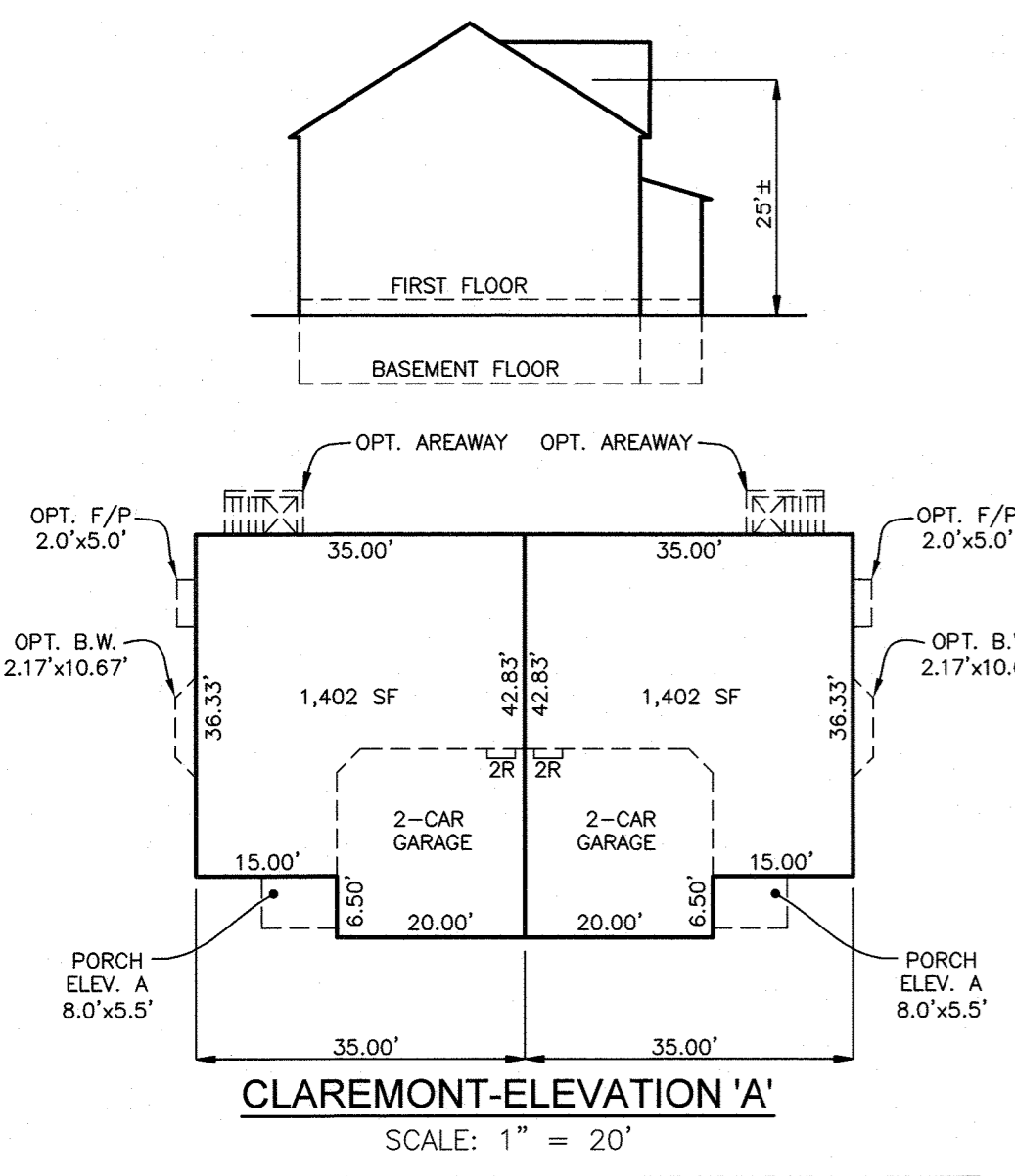
HIGH RIDGE PARK, LOTS 65 & 66 DATE: 07/07/20

Drywells (M-5) JOB NO: 3009

| Drywell Designation | Area (SF) | Runoff | Required (CF) | Length (ft) | Width (ft) | Depth (ft) | Volume Provided (CF) | Full ESDv | Provided? | Pe |
|---------------------|-------------|-------------|---------------|-------------|------------|------------|----------------------|------------|-------------|------|
| DW-1 | 733 | 733 | 0.95 | 92.85 | 7.00 | 7.00 | 5.00 | 98.00 | yes | 1.69 |
| DW-2 | 751 | 751 | 0.95 | 95.13 | 7.00 | 7.00 | 5.00 | 98.00 | yes | 1.65 |
| DW-3 | 654 | 654 | 0.95 | 82.84 | 7.00 | 7.00 | 5.00 | 98.00 | yes | 1.89 |
| DW-4 | 733 | 733 | 0.95 | 92.85 | 7.00 | 7.00 | 5.00 | 98.00 | yes | 1.69 |
| DW-5 | 751 | 751 | 0.95 | 95.13 | 7.00 | 7.00 | 5.00 | 98.00 | yes | 1.65 |
| DW-6 | 654 | 654 | 0.95 | 82.84 | 7.00 | 7.00 | 5.00 | 98.00 | yes | 1.89 |
| TOTAL | 4276 | 4276 | 542 | 588 | 588 | 588 | 588 | 588 | 1.74 | |

MATERIALS & SPECIFICATIONS FOR DRY WELLS

| MATERIAL | SPECIFICATION | SIZE | NOTES: |
|------------------------|---------------------------------|--|--|
| GEOTEXTILE (CLASS "C") | AASHTO M 43 | N/A | PE TYPE 1 NONWOVEN |
| GRAVEL | AASHTO M 43 | 1 1/2" TO 2 1/2" | |
| 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 2" OF GRAVEL OVER PIPES. |
| SAND | AASHTO M-6 OR ASTM-C-33 | .02" TO .04" | SAND SUBSTITUTIONS SUCH AS DIABASE AND GRANITONE (AASHTO) #10 ARE NOT ACCEPTABLE. NO CALCIUM CARBONATED OR DOLOMITIC SAND SUBSTITUTIONS ARE ACCEPTABLE. NT ROCK DUST CAN BE USED FOR SAND. |

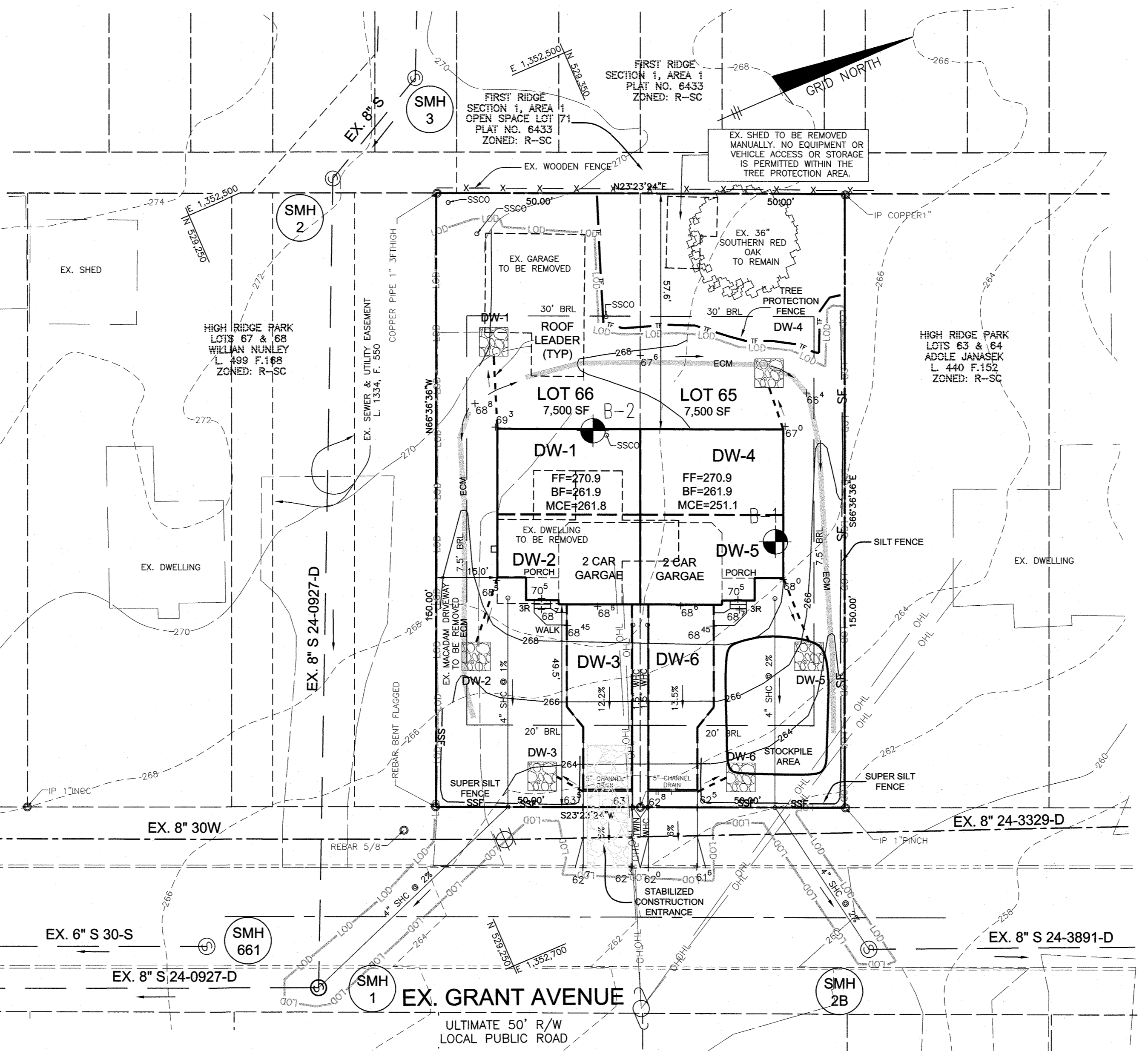


NDS WE TREAT WATER IN THE PLATE

5 Inch Pro Series Drain Kit

ADA Compliant

Part # 864 (Includes #14-Centers (2)gty., #800-Channel (1)gty., #1/2" Seal Coiler (1)gty., and #1/2" Seal Cap (1)gty.)
Material: Channel (Polyethylene) Grates (HDPE)
Color: Light Gray
Fits: 5" (4)gty and 6" (Spigot) Sewer/Drain Pipe
Rubber tie clips for easier installation: Fits #4 Rubber
Grate Opening: 3/8" x 1-1/4"
Open Surface Area: 23.5 Sq. Inch per Ft.
Head Pressure / Flow Rate:
Head (inches) > Max Flow:
1" = 19.1 GPM
0.5" = 71.95 GPM
Weight per each: 5.67 lbs.
Sewer: #20 Standard Steel Screw, 4 per grate.
UV Inhibitors



OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED 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.

Stormwater Management Design Recommendations

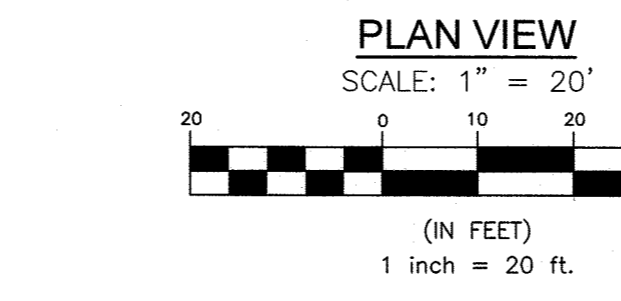
The "2000 Maryland Stormwater Design Manual" published by the Maryland Department of the Environment states that stormwater management facilities utilizing infiltration, such as the proposed drywells, shall have a Hydrologic Soil Group classification (HSG) of A or B.

The results of this study indicate that infiltration is feasible at Test Boring Nos. B-1 and B-2. It should be noted that the bottom of any SWM facility utilizing infiltration should be located at least four feet above any groundwater or bedrock.

* BASED ON THE ANALYSIS AND CONVERSATIONS WITH THE GEOTECH DRYWELLS ARE ACCEPTABLE FOR THIS SITE.

| SYMBOL | HYDRIC | HYDROLOGIC GROUP | ALTERNATE GROUP | NAME | k-VALUE |
|--------|--------|------------------|-----------------|---|---------|
| UCb | D | B/C | B/C | URBAN LAND-CHILLUM-BELTSVILLE COMPLEX 0 TO 5 PERCENT SLOPES | - |

SOILS MAP-28
SINCE THE SITE IS CLASSIFIED AS 'D' SOILS BY THE NRCS A GEOTECHNICAL ANALYSIS WAS PROVIDED. SEE GEOTECH RECOMMENDATIONS ABOVE.



Site Analysis Data Sheet

| | |
|---------------------------------|-------------|
| Gross Site Area | 0.34 ac |
| 100yr Floodplain | 0.00 ac |
| Slopes 15% or greater (On-Site) | 0.00 ac |
| Wetlands | 0.00 ac |
| Wetlands Buffer | 0.00 ac |
| Forested Area | 0.00 ac |
| Erodible Soils | 0.00 ac |
| Limit of Disturbance | 0.32 ac |
| Impervious Area | 0.11 ac |
| Green Space | 0.21 ac |
| Public Road Right-of-Way | 0.00 ac |
| Site Use | RESIDENTIAL |
| Open Space | N/A |

DESIGN NARRATIVE

This project is known High Ridge Park, Lots 65 & 66 located in Tax Map 50, Parcel 413 and is 0.34 acres. The parcel is zoned R-SC. The property slopes from the west to the east and is relatively moderate. There is an existing house and garage located on the property. The site consists of type "D" soils per the NRCS soils classification but based on a geotechnical analysis of the site in 2 locations it is determined that the soils are characteristic of a type "B" soil. A soil test report is included with this submission. The drainage area is Patuxent River Upper (013110), and is a Class I stream.

The target Pe for this site is 1.6 based on the improvements of the proposed conditions. The target Pe was treated using Environmental Site Design practices as outlined in Chapter 5 of the 2000 Maryland Stormwater Design Manual, as amended by Maryland's Stormwater Management Act of 2007. The selected methods of (1) Drywells (M-5) for each of the house, and of (6). There will be one for the rear of the house rooftop, one for the front rooftop and one for the driveway. The driveways will utilize trench drains to collect the runoff to the drywell. Based on the geotechnical analysis drywells are acceptable for this site.

To protect natural resources, it is important to minimize and adequately treat the stormwater runoff. The final design will incorporate adequate treatment and storage in order to create the least possible stormwater runoff in general compliance with this concept plan. The runoff will be treated on-site using approved methods.

Maintenance of the natural flow patterns is provided by limiting the site disturbance and by the use of drywells opposed to structural practices altering the drainage patterns and limiting concentrated flows. Utilizing (6) drywells, a nonstructural practice, makes for a better site design as well as maintaining the original drainage patterns.

As a result of fully addressing the stormwater management by use of Drywells the land conditions have been restored to a level of stability and the site is suitable for development. The ESD requirements for this site are based on non-structural practices we have met the ESD requirements for this site.

Sediment and erosion control shall comply with the latest edition of the MDE Standards and Specifications for Sediment Control and has been limited to the area necessary to conduct ESD practices and onsite functionality.

This site is less than 40,000 square feet, therefore, the site is exempt from the requirements of section 16.1200 of the Howard County Code for forest conservation and forest stand delineation requirements per section 16.1202(B)(1)(i) of the Subdivision Regulations for Development on land which is less than 40,000 square feet in size. The development was designed to limit the area of disturbance and to minimize clearing of vegetation and trees.

It is concluded that all ESD to the MEP requirements as defined in the Stormwater Management Act of 2007 have been met for the proposed development. The Water Quality has been provided by the implementation of (6) drywells (M-5) to treat most of the proposed impervious cover.

| NO. | DATE | REVISION |
|-----|------|----------|
| | | |
| | | |

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HIGH RIDGE PARK
LOTS 65 & 66

TAX MAP: 50 GRID: 02 PARCEL: 413
ZONED: R-SC
ELECTION DISTRICT NO. 6TH HOWARD COUNTY, MARYLAND

RESIDENTIAL ENVIRONMENTAL CONCEPT PLAN

DATE: JULY 2020
BEI PROJECT NO. 3009

DESIGN: JCO DRAFT: JCO SCALE: AS SHOWN SHEET 1 OF 1

ECP-20-050