

**FINDINGS AND RECOMMENDATION  
OFFICE OF PLANNING AND ZONING  
ANNE ARUNDEL COUNTY, MARYLAND**


**APPLICANT:** Matthew Rhoderick

**ASSESSMENT DISTRICT:** 2nd

**CASE NUMBER:** 2024-0215-V

**COUNCILMANIC DISTRICT:** 6th

**HEARING DATE:** February 4, 2025

**PREPARED BY:** Donnie Dyott Jr.   
Planner

**REQUEST**

The applicant is requesting a variance to allow a dwelling and associated facilities with less setbacks than required and with disturbance to slopes of 15% or greater on property located at 779 Snodgrass Road in Crownsville.

**LOCATION AND DESCRIPTION OF SITE**

The subject site consists of 5,800 square feet of land and is identified as Lots 22 & 23 of Parcel 390 in Block 23 on Tax Map 31. The subject property is zoned R5 - Residential District and is currently unimproved. The subject site is a non-waterfront property which lies within the Chesapeake Bay Critical Area and is designated as LDA - Limited Development Area.

**APPLICANT'S PROPOSAL**

The applicant proposes to construct a new two story single family detached dwelling (approximately height 35 feet) and associated facilities. The dwelling measures approximately 22' X 21' with a screened porch measuring approximately 12' X 9' on the east side of the proposed dwelling.

**REQUESTED VARIANCES**

§ 17-8-201(a) of the Code stipulates that development in the Limited Development Area (LDA) may not occur within slopes of 15% or greater unless development will facilitate stabilization of the slope; is to allow connection to a public utility; or is to provide direct access to the shoreline. The proposal will disturb approximately 3,714 square feet of steep slopes, necessitating a variance to this provision. Exact disturbance will be calculated at the time of permit.

§ 18-4-701 of the Anne Arundel County Zoning Code stipulates that principal structures in an R5 - Residential District shall be set back a minimum of 25 feet from the front lot line and 20 feet from the rear lot line. The proposed dwelling will be located as close as 18 feet from the front lot line and 11 feet from the rear lot line, necessitating variances of 7 feet and 9 feet respectively. The proposed entrance steps and landing will be located as close as 10 feet from the front lot line, necessitating a variance of 15 feet.

**FINDINGS**

The property at 5,800 square feet is undersized for a lot in the R5 District. According to the site plan, the total lot coverage after development will be 948 square feet which appears to be within the allowable limit. Exact lot coverage calculations will be determined at the time of permit. The applicant

argues that the proposal has been reduced based on the pre-file comments and represents the minimum necessary.

The **Health Department** commented that the proposed house's total living space exceeds the approved square footage under PAT02051161 and recommends denial of the request.

The **Department of Inspections and Permits (Engineering Division)** did not take a position on the request but provided several comments relating to stormwater management and are included in the County exhibits.

The **Development Division (Critical Area Team)** commented that recommendations for this request are premature until such time as the applicant has resolved the Health Department concerns with the size of the proposed dwelling in relation to the capacity of the septic system since resolution of this issue may result in a change to the site plan. Every effort should be made to utilize a size/design/footprint that minimizes disturbance to the 25% slopes as much as possible.

The **Critical Area Commission** comments were not available at the time this report was drafted.

For the granting of a critical area variance, a determination must be made on the following:

Because of certain unique physical conditions, such as exceptional topographical conditions peculiar to and inherent in the particular lot or irregularity, narrowness, or shallowness of lot size and shape, strict implementation of the County's critical area program would result in an unwarranted hardship or practical difficulty. In this case nearly the entire property is encumbered by the presence of steep slopes. Due to these slopes, developing the site with a single family dwelling would be impossible without relief from the Code and some relief is warranted.

A literal interpretation of the County's critical area program may deprive the applicant of rights that are commonly enjoyed by other properties in similar areas. The granting of the variance will not confer on the applicant a special privilege that would be denied by COMAR, Title 27. This request is not a result of actions by the applicant and does not arise from any condition relating to land or building use on any neighboring property.

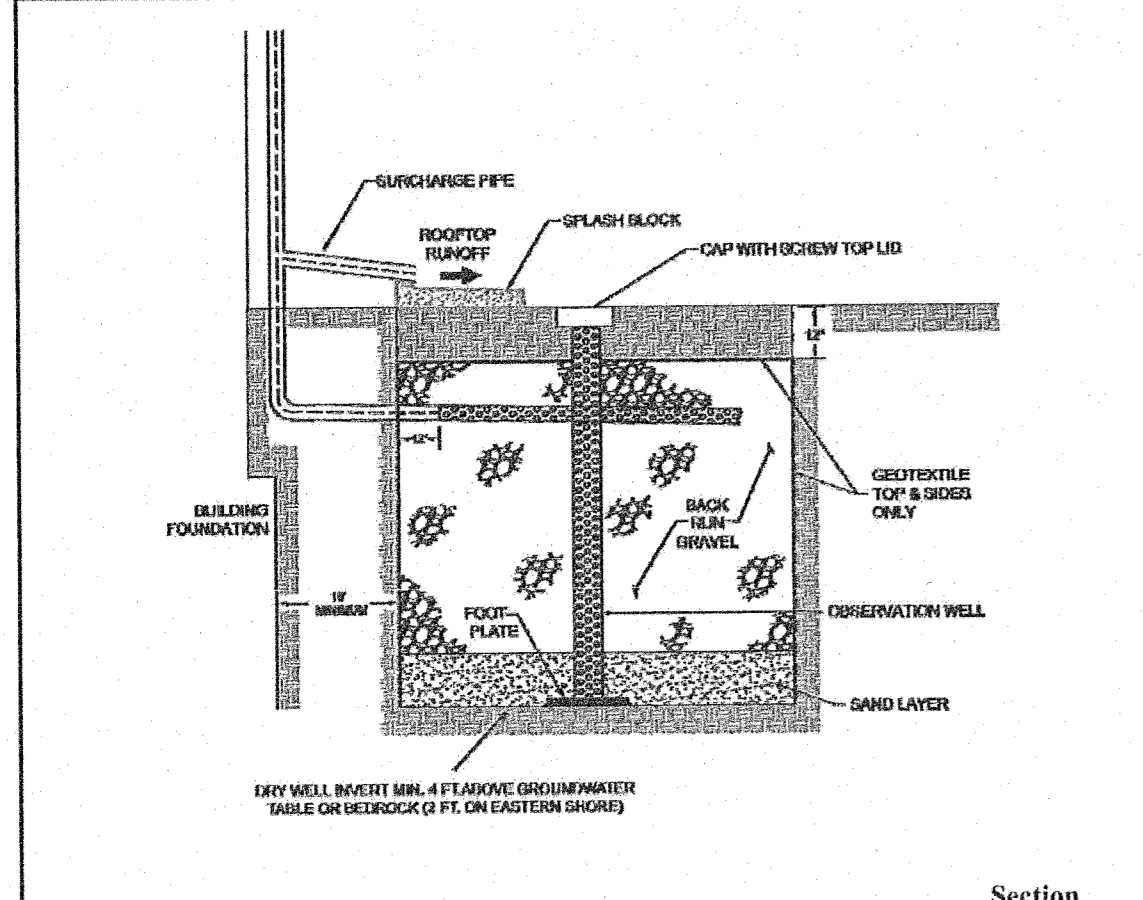
While some relief is warranted, this Office cannot determine at this time if the proposal meets all of the applicable variance standards. Based on comments received, it appears that the proposed dwelling exceeds the Health Department approval regarding total livable space. Due to this, it appears that the dwelling will likely need to be revised which could result in a change to the site plan and the extent of the required variances. Given the uncertainty of the proposal, determining such things as the minimum necessary, spirit and intent of the critical area program and impacts to adjacent properties or the public welfare is premature.

## **RECOMMENDATION**

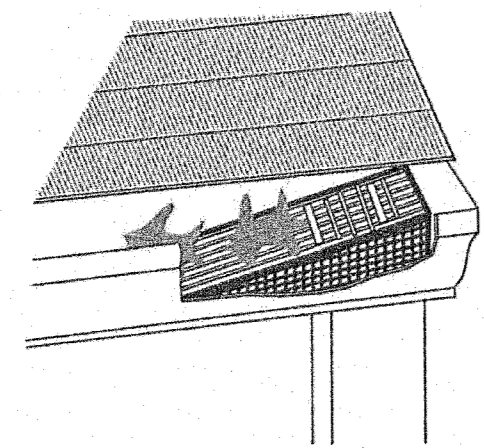
Based upon the standards set forth in § 18-16-305 under which a variance may be granted, this Office recommends ***denial*** of the proposed variances for the construction of the dwelling and associated facilities as shown on the site plan.

DISCLAIMER: This recommendation does not constitute a building permit. In order for the applicant(s) to construct the structure(s) as proposed, the applicant(s) shall apply for and obtain the necessary building permits and obtain any other approvals required to perform the work described herein. This includes but is not limited to verifying the legal status of the lot, resolving adequacy of public facilities, and demonstrating compliance with environmental site design criteria.

Figure 5.13 Dry Well



Section



Gutter Drain Filter (Typical)

93 Supp.1  
**DRYWELL DETAIL**

**CRITICAL AREA TABULATION**

Zoning	R5
Critical Area Classification	LDA
Total Site Area	5,800 Sq.Ft.± (0.13 Ac.±)
Total Critical Area	5,800 Sq.Ft.± (0.13 Ac.±)
Existing Forest (Within C.A.)	5,194 Sq.Ft.±
Maximum Clearing Allowed (Within C.A.)	N/A
Proposed Forest Clearing (Within C.A.)	3,683 Sq.Ft.± (Includes 103 Sq.Ft. w/in Elm Trail)
Required Reforestation	3,683 Sq.Ft.± (to be provided by off-site mitigation)
Ex Steep Slopes (15%+) On-Site	5,754 Sq.Ft.±
Steep Slopes (15%+) Disturbance	3,856 Sq.Ft.± (Includes 142 Sq.Ft. for utility connection)
Existing Lot Coverage	151 Sq.Ft.± (Includes a portion of Snodgrass Road and driveway from Lot 114)
Existing Lot Coverage To Be Removed	0 Sq.Ft.±
Maximum Lot Coverage (Within C.A.)	1,850 Sq.Ft.± (25% + 500 Sq.Ft.)
Proposed Lot Coverage (On-Site)	948 Sq.Ft.± (462 Sq.Ft. House + 324 Sq.Ft. D/W + 108 Sq.Ft. Cov. Porch + 54 Sq.Ft. S/W)
Total Proposed Lot Coverage (Within C.A.)	1,099 Sq.Ft.± (462 Sq.Ft. House + 324 Sq.Ft. D/W + 108 Sq.Ft. Cov. Porch + 54 Sq.Ft. S/W + 151 Sq.Ft. Ex. Cover)

**GENERAL NOTES**

- Notify the Anne Arundel County Department of Inspections & Permits, Inspection Division, (410)222-7784 (48) forty-eight hour before beginning the work shown on these plans.
- The existing utilities and obstructions shown are from the best available records and shall be verified by the contractor prior to construction. Necessary precautions shall be taken by the contractor to protect existing services and mains, and any damage to them shall be repaired immediately at his own expense.
- It shall be distinctly understood that failure to mention specifically any work which would normally be required to complete the project shall not relieve the contractor of his responsibility to complete such work.
- Temporary sediment control measures shall be maintained until all contributing areas are graded and stabilized.
- The property and topographic information shown hereon is based on field surveys performed by Atwell in April, 2024 and the A.A.Co. GIS Site.
- All disturbed areas shall be seeded or better as per plans.
- The user is responsible to verify all information shown on this plan.
- The contractor shall note that in case of a discrepancy between the scaled and the computed dimensions shown on these plans, the computed dimensions shall govern.
- File dirt on the high side of the trench during utility construction.
- The grading quantities shown hereon are for permit purposes only and should not be used for bidding purposes.
- All construction shall be in accordance with the "2001 Maryland Standards and Specifications for Soil Erosion and Sediment Controls."
- For exact building dimensions, see Architectural Plans, by others.
- All easements, irrespective of public or private disposition, are to be permanent unless otherwise labeled. All private easements have been labeled as such.
- All roof drains shall be directed to the proposed SWM facilities as shown on this sheet.
- This project is located within the Severn River Watershed.
- For existing water, see A.A. County As-Built Drawing #15,653.
- The boundary lines, bearings, and distances as shown hereon for all adjacent parcels, rights-of-way, etc. are taken from deed plotting's only. This drawing does not represent a field run survey of any parcel except Tax Map 31 Block 23 Parcel 390, Lots 22 & 23 as shown hereon.
- The property shown hereon is not located within Flood Hazard Zone, as shown on the FIRM Flood Insurance Maps. See F.E.M.A. Flood Map 2400300162F, dated February 18, 2015.
- For title, see Deed Liber 17318 Folio 538.
- The limits of developed woodlands shown here on are taken from aerial imagery shown on the Anne Arundel County G.I.S. Web Site.
- For additional information regarding proposed septic system see PAT02051161 and perc test #102014823.

**I. ENVIRONMENTAL SITE DESIGN VOLUME**

In Section 5.2.2 of the revised Chapter 5 of the 2000 M.D.E. Stormwater Design Manual, it is stated, "the criteria for sizing ESD practices are based on capturing and retaining enough rainfall so that the runoff leaving a site is reduced to a level equivalent to a wooded site in good condition as determined using U.S.D.A.'s Natural Resource Conservation Service methods...."the goal is to provide enough treatment using ESD practices to address Cp, requirements by replicating an RCN for woods in good condition for the 1-year rainfall event. In accordance with the "Stormwater Management Act of 2007" and Table 5.3 of the revised Chapter 5 M.D.E. Manual, the environmentally sensitive runoff volume, ESD, is equal to,

$$ESD_v = P_p \times R_v \times A$$

Where,  $P_p$  = the rainfall target from Table 5.3  
 $R_v$  = the volumetric runoff coefficient  
 $A$  = site area

Site area = 5,800 sq. ft. (0.13 ac.)  
 Total Proposed Impervious Cover = 1,655 sq. ft.

$$\%I = 954/5,800 = 16.4\%$$

$$R_v = 0.05 + 0.009(16.4) = 0.20$$

Existing soil types present = HSG "A"

From Table 5.3 of Chapter 5 of the M.D.E. Manual, the target rainfall based upon the impervious cover proposed and the soil types present is equal to 1.2".

and the ESD, volume becomes,

$$ESD_v = (1.2")(0.20)(5,800)/12 = 116 \text{ cu. ft.}$$

This is the total ESDv volume required for the proposed improvements to return the site back to a state of "woods in good condition".

This volume will be provided on-site within ESD practices as described below.

**ESDv LOT CALCULATION**

The proposed cover equals approximately 954 sq. ft. In order to provide the required ESDv volume for the development, a micro-scale ESD practice is proposed. A drywell is proposed to capture and treat the runoff from the roof area of the dwelling and provide the required volume.

**Micro-scale Practices - Drywells - Section 5.4.3 M-5**

The footprint of each dwelling equals 570 sq. ft. One (1) circular drywell can be used to capture and treat runoff from the roof. Using the target rainfall value ( $P_p$ ) of 2.45", the ESDv provided equals,

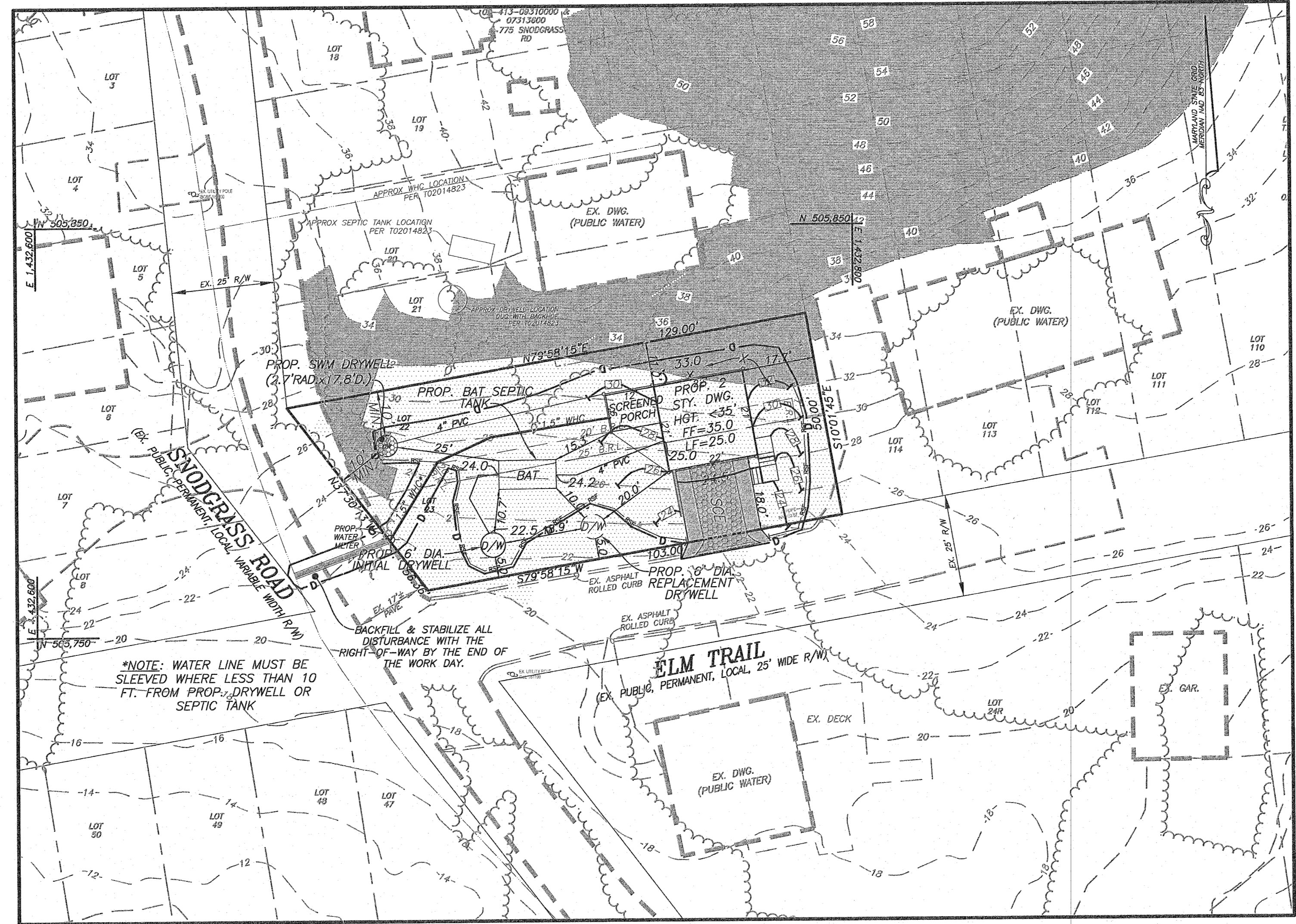
$$ESD_v = (2.45")(570 \text{ sq. ft.}) = 116 \text{ cu. ft.}$$

Using a circular drywell with an 8-foot depth will require a radius of approximately 2.2'. Therefore, provide a stormwater management drywell having the dimensions of 8'Dx2.2'R. The total ESDv volume provided by the microscale drywell practices is equal to 116 cu. ft.

**SUMMARY OF ESD VOLUMES**

Total Required ESD volume	= 116 cu.ft.
Microscale Practice - Drywell	= 116 cu. ft.
ESD volume prov'd.	= 116 cu.ft.
Total ESD volume prov'd.	= 116 cu.ft.
Total ESD volume required	= 0 cu.ft.

**SWM COMPUTATIONS**



PLAN VIEW  
SCALE: 1" = 20'

MINIMUM SIZING CRITERIA	SYMBOL	VOLUME REQUIRED (CU-FT)	SWM Practice	NOTES
ESDv Volume	(R0)	116	M-5	Provided through the use of a microscale drywell practice.
Recharge Volume	(Rev)	41	M-5	Provided through the use of a microscale drywell practice.
Channel Protection Storage Volume	(CPV)	N/A	M-5	The channel protection volume for this lot is being provided through the use of environmental site design practices that provide a target runoff value of 1.2" as specified in Table 5.3 of the revised M.D.E. Manual and return the site back to a "pre-development" state of woods in good condition.
Overbank Flood Protection	(Op10)	163	N/A	The Overbank Flood Protection Volume is being provided by the "Reduced Curve Number Method", whereby a sufficient amount of ESDv volume is being retained on the site to reduce the 10-year post-development discharge rate to its pre-development rate.
Extreme Flood Protection	(Op)	N/A	N/A	The extreme flood protection volume is not required since the site does not lie within a non-tidal 100-year floodplain and there are no properties downstream of the site that lie within a 100-yr. non-tidal floodplain.

**STORMWATER MANAGEMENT NOTE**

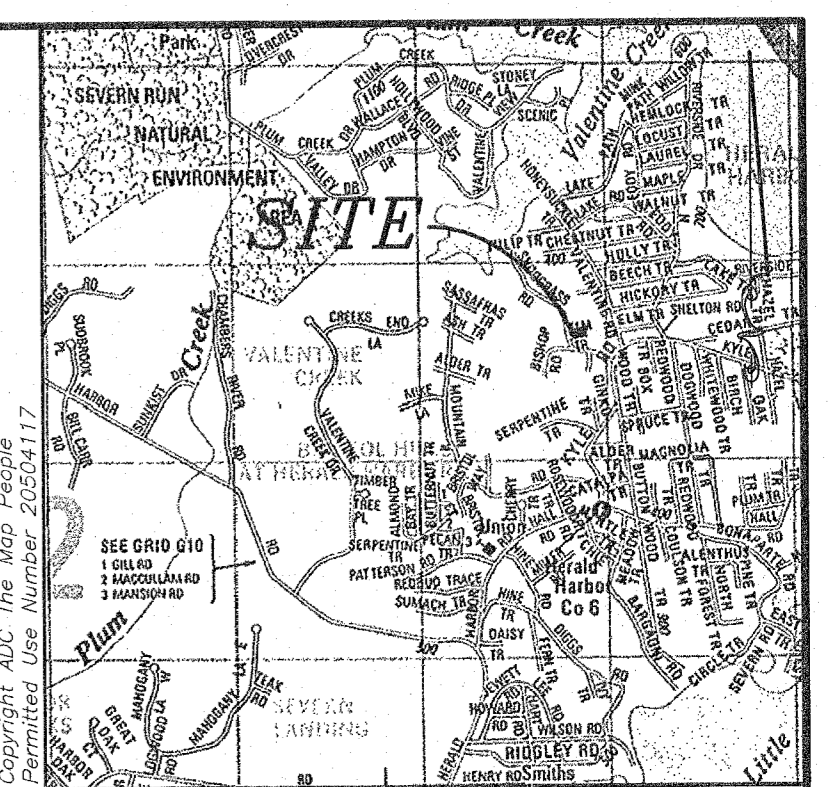
This grading permit #G0202 was reviewed under the 2010 regulations for stormwater management. Stormwater management practices will be provided for the proposed redevelopment shown hereon in accordance with Article 16, Section 4 and the final plan on file with the Office of Planning & Zoning. ESD to the MEP was achieved through the use of a microscale drywell practice, in accordance with Chapter 5, Section M-5, of the 2009 MDE Stormwater Design Manual.

**SUMMARY OF ESD VOLUMES**

Total Required ESD volume	= 116 cu. ft.
Total Drywell ESD volume prov'd.	= 163 cu. ft. (providing 10-yr. storm management)
Total ESD volume prov'd.	= 116 cu.ft.
ESD volume remaining	= 0 cu. ft.

**OUTFALL STATEMENT**

Runoff from the site flows in a pre-dominantly southerly direction to the right-of-way of Elm Trail, an existing 25-ft. public right-of-way, and crosses Elm Trail in a southerly direction and into a large wooded low-lying marsh area of Valentine Creek. The runoff joins Valentine Creek and meanders northwards into the Severn River. In accordance with the stormwater management practices shown hereon in accordance with Article 16, Section 4 and the final plan on file with the Office of Planning & Zoning, ESD to the MEP was achieved through the use of a microscale drywell practice, in accordance with Chapter 5, Section M-5, of the 2009 MDE Stormwater Design Manual. Since the site is platted lot and the overbank flood protection volume is being provided on site, the site outfall and point-of-investigation (P.O.I.) are the point along the property's southern boundary line with Elm Trail. The property was visited by an employee of Boyd & Dowgiallo, P.A. in September, 2024 to inspect the property and site outfall/P.O.I. It was noted that the site outfall and the P.O.I. were found to be stabilized by lawn and woods and did not show any signs of erosion. Given that the overbank flood protection volume is being provided, there should not be an increase in runoff from the site or erosion downstream.



VICINITY MAP  
SCALE: 1"=2000'

**LEGEND**

- Existing Curb
- Existing Contour
- Existing Wire Fence
- Existing Wood Fence
- Existing Woods line
- Existing Telephone Manhole
- Existing Utility Pole
- Existing Water Valve
- Existing Water Meter
- Proposed Contour
- Proposed Super Silt Fence
- Proposed Limit of Disturbance
- Stabilized Construction Entrance
- Perc Test Location
- Mean High Tide Line
- Prop. Septic Replacement System #1
- Prop. Septic Replacement System #2
- Prop. Stormwater Management Drywell
- BAT Septic Tank
- Ex. 15% to 25% Slopes
- Ex. 25% Slopes
- Prop. Gravel/Paved Driveway
- Prop. Downspout & Roof Leader

**SITE ANALYSIS**

Zoning	R5
Critical Area Classification	LDA (Modified Buffer)
Total Site Area	5,800 Sq.Ft.± (0.13 Ac.±)
Total Disturbed Area	4,025 Sq.Ft.±
Vegetative Area	3,057 Sq.Ft.±
Predominant Soil Type	Collington, Wat, and Westphalia soils, CSF, 25 to 40% (16% "A")
Existing Lot Coverage	151 Sq.Ft.± (Ex. cover w/in Snodgrass Rd.)
Existing Lot Coverage To Be Removed	0 Sq.Ft.±
Proposed Lot Coverage	948 Sq.Ft.± or 16.3%
Grading Quantities	100 cu. yds. Cut 50 cu. yds. Fill

**VARIANCE NOTES:**

- In accordance with Article 17, Section 8-201 of the Anne Arundel County Code, a variance is required to allow the disturbance of 3,714 Sq.Ft. of 15%+ steep slopes within the Critical Area and allow the construction of a dwelling and driveway, in accordance with Variance Case # 2024-\_\_\_\_-V, dated \_\_\_\_ 202\_\_.
- In accordance with Article 18, Section 4-601 of the Anne Arundel County Code, a 7 foot variance to the required 25 foot front setback to allow a front setback of 18 feet was granted with Variance Case # 2024-\_\_\_\_-V, dated \_\_\_\_ 202\_\_.
- In accordance with Article 18, Section 4-601 of the Anne Arundel County Code, a 9 foot variance to the required 20 foot side setback to allow a rear setback of 11.0 feet was granted with Variance Case # 2024-\_\_\_\_-V, dated \_\_\_\_ 202\_\_.

<p><b>OWNER</b> JUDE HOGAN 1 Whispering Surf Lane Scarborough, ME 04074</p>	<p>Maryland Professional Engineering Firm License No. 47570 <b>BOYD &amp; DOWGIALLO, P.A.</b> ENGINEERS*SURVEYORS*PLANNERS 412 Headquarters Drive, Suite 5 Millersville, Maryland 21108 (410) 729-1234 (P) (410) 729-1243 (F) JERRY@BNDPA.COM</p>	<p><b>VARIANCE/GRADING &amp; SEDIMENT CONTROL PLAN</b> LOTS 22 &amp; 23, BLOCK 36B, SECTION E, HERALD HARBOR PLAT BOOK 4, PAGE 14 TAX MAP 31 BLOCK 23, PARCEL 390 ZONED R5</p>
<p>NO. DATE BY REVISION APPROVED DATE</p>	<p>Job No.: 20-257 Sheet No.: 1 of 1 Checked By: JET Date: OCTOBER, 2024 Permit #G0202 Proj. No. SECOND DISTRICT</p>	<p>ANNE ARUNDEL COUNTY, MD 21032 JOB# 20-257</p>

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# BOYD & DOWGIALLO, P.A.

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Engineers, Surveyors & Planners

Maryland Professional Engineering Firm License No. 47570

November 15, 2024

Anne Arundel County  
Office of Planning and Zoning  
2664 Riva Road  
Annapolis, MD 21401

Re: 779 Snodgrass Road  
Crownsville, MD 21032  
Tax No.: 2413-0317-1620

Attn: Mr. Robert Konowal

Dear Mr. Konowal,

On behalf of our client, Matthew Rhoderick, contract purchaser for the above-referenced property, we are submitting herewith a Variance application for development of the site.

The subject property is known as Lots 22 & 23, Block 36B, Section E, as shown on the record plat for Herald Harbor, recorded among the land records of Anne Arundel County in plat 4 at page 14. The property is part of Parcel 390 on Tax Map 31 in Block 23, and is located at 779 Snodgrass Road in Crownsville, MD 21032. The site is currently vacant and predominantly forested. The property is zoned R5 and is located within an area designated LDA on the Chesapeake Bay Critical Area Maps. The site contains 5,800 sqft. of land, the majority of which (5,754 sqft.) is identified as steep slopes; however, the site is not located in the Critical Area Buffer or the Expanded Buffer. No rare, threatened or endangered species were noted during field visits while preparing the Critical Area Report and the Variance Site Plan.

As shown on the attached Variance Site Plan, the footprint of the proposed dwelling has been reduced from that which was shown on the Pre-File Plan (462 sqft. vs 512 sqft. or approximately 10%) and the location of the dwelling has been shifted towards Elm Trail to reduce the steep slope disturbance. In addition, the total proposed lot coverage on-site has been reduced from 1,172 sqft. to 934 sqft (excluding the portion of Snodgrass Road which encumbers the property), which is well below the maximum allowable lot coverage of 1,950 sqft. per the Code. Stormwater management has been provided for the proposed improvements via an infiltration drywell, and lot clearing has been reduced from the Pre-File, consistent with ESD requirements. Through the aforementioned revisions and reductions in proposed improvements, the total steep slopes disturbance has been minimized to 3,714 sqft (excluding disturbance for the proposed water connection.) Lastly, with the aforementioned revisions, the total proposed clearing on-site has been reduced to 3,683 sqft, well below the maximum allowable clearing of 5,194 sqft; and any reforestation requirements will be provided via off-site reforestation in an approved Critical Area Mitigation Bank.

As shown on the attached Variance Site Plan, the proposed development requires the following Variances:

1. A Variance to Article 17, Section 8-201 of the Code to allow the disturbance of 3,714 sqft. of 15%+ steep slopes on-site.
2. A Variance of 7' to the required 25' front setback noted in Article 18, Section 4-601 of the Code to allow a front setback of 18' to Elm Trail.
3. A Variance of 9' to the required 20' rear setback noted in Article 18, Section 4-601 of the Code to allow a rear setback of 11' to the abutting Lot 21.

In accordance with the Variance Instructions Checklist on-line, the following items were uploaded to the LUN:

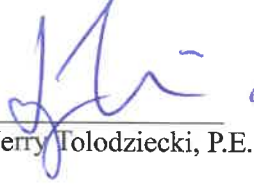
1. A signed Variance Application.

2. A copy of this explanation letter, including the statement of justification.
3. A copy of the Variance Site Plan, the architectural plans and one (1) copy of the Variance Submittal Requirements.
4. One (1) copy of the current deed.
5. A list of names & addresses of all property owners within 300 feet.
6. A Filing Fee in the amount of \$250 for the Variance fee and two signs.
7. a.) A copy of the Critical Area report, including the existing and developed plan views, one copy of the project notification application, one copy of the County topography map at 200 scale showing the property location.  
b.) One copy of the pre-file form from the Zoning reviewer. Please note that the plan has been revised to show a reduction in steep slope disturbance as noted above.  
c.) A copy of the completed single-family engineering checklist, including one copy of the Stormwater Management Report.

We appreciate your attention in this matter. If you have any questions or require any additional information regarding this request, please do not hesitate to contact our office.

Very truly yours,

Boyd & Dowgiallo, P.A.

By:   
Jerry Tolodziecki, P.E.

J.o.#20-257  
cc: file  
enclosures

THIS DEED, made this 14th day of October, in the year two thousand five, by and between **WILLIAM R. BROWN, JR., Controller for Anne Arundel County, State of Maryland**, party of the first part, and **JUDE HOGAN**, party of the second part.

WHEREAS, default having been made in payment of State and County taxes due and owing on the property hereinafter mentioned; and the then mentioned County Controller, under the provisions of the laws of the State of Maryland, and in compliance with the duties thereof imposed upon him having first complied with all the provisions of the law in relation thereto, proceeded to and did sell the property hereinafter mentioned and described to endorse the payment of said taxes so in default; and

WHEREAS, WILLIAM R. BROWN, JR., collector of taxes for the State of Maryland, and the County of Anne Arundel, did sell the hereinafter mentioned property to JUDE HOGAN, and a final judgment was entered on September 12, 2005, in Case No. 02-C-05-104579, in favor of Jude Hogan, and the said JUDE HOGAN, having paid the purchase price in full, is entitled to a Deed to the same.

WHEREAS, the said WILLIAM R. BROWN, JR., Controller, conveys the same;

NOW, THEREFORE, THIS DEED WITNESSETH: That in consideration of the sum of Twenty-nine Thousand Dollars (\$29,000.00), the receipt of which is hereby acknowledged, the said WILLIAM R. BROWN, JR., Controller, does hereby grant and convey unto the said JUDE HOGAN, his heirs and assigns in fee simple all that lot of ground situate, lying and being in the second election district of Anne Arundel County, State of Maryland, aforesaid, described as follows, that is to say<sup>1</sup>:

Lots Nos. 22 and 23, Block 36B, SC E, Snodgrass Road, Herald Harbor, Tax Account Number 241303171620.

BEING THE SAME LOTS of ground which by Deed dated April 30, 1970 and recorded among the Land Records of Anne Arundel County in Liber 2335, folio 655, was granted and conveyed to Townes L. Dawson .

TOGETHER with the buildings and improvements thereupon erected, made or being, and

I hereby certify that this Deed was prepared by me, an attorney licensed to practice in the State of Maryland.

Robert N. Winkler  
Robert N. Winkler

Return to:  
Robert N. Winkler, Esquire  
606 Baltimore Avenue, Suite 203  
Towson, MD 21204

IMP FD SURE \$	20.00
RECORDING FEE	20.00
RECORDATION T	200.00
TR TAX COUNTY	290.00
TR TAX STATE	145.00
TOTAL	675.00
Res# AA12	Rcpt # 95018
RPD LG	Blk # 354
Jan 03, 2006	02:32 PM

ACCT. 2413-0317-1620  
ALL LIENS ARE PAID AS  
OF 10/13/05 A.A. COUNTY.  
BY: [Signature]

RECEIVED FOR RECORD  
CIRCUIT COURT FOR A.A. COUNTY

2006 JAN 3 P 3:05

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148

all and every the rights, alleys, ways, waters, privileges, appurtenances and advantages to the same belonging or anywise pertaining.

TO HAVE AND TO HOLD to said lot of ground and premises above described and mentioned and hereby intended to be conveyed;

TOGETHER with the rights, privileges, appurtenances and advantages thereto belonging or appertaining unto and to the property use and benefit of the said JUDE HOGAN his heirs and assigns in fee simple.

AS WITNESS the hand and seal of the said Grantor:

Betty L. Bruce  
Witness

William R. Brown, Jr. (SEAL)  
WILLIAM R. BROWN, JR.  
Controller of Anne Arundel County

STATE OF MARYLAND, COUNTY OF ANNE ARUNDEL COUNTY, to Wit:

I HEREBY CERTIFY that, on this 14<sup>th</sup> day of October, 2005, before me, the undersigned officer, personally appeared WILLIAM R. BROWN, JR., who acknowledged himself to be the Controller of Anne Arundel County, Maryland, and that he as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained.

WITNESS my hand and Notarial Seal

Carol Hall  
Notary Public

My Commission Expires: 11/109

APPROVED FOR FORM AND LEGAL SUFFICIENCY  
COUNTY SOLICITOR ANNE ARUNDEL COUNTY, MARYLAND

By [Signature]  
OFFICE OF LAW

10/12/05  
Date

State of Maryland Land Instrument Intake Sheet
Baltimore City County:

Information provided is for the use of the Clerk's Office, State Department of Assessments and Taxation, and County Finance Office Only.
(Type of Print in Black Ink Only—All Copies Must Be Legible)

Space Reserved for Circuit Clerk Recording Validation

1 Type(s) of Instruments
2 Conveyance Type Check Box
3 Tax Exemptions (if Applicable)
Cite or Explain Authority

4 Consideration and Tax Calculations
Consideration Amount
Finance Office Use Only
Transfer and Recordation Tax Consideration

5 Fees
Amount of Fees
Doc. 1
Doc. 2
Agent:
Tax Bill:
C.B. Credit:
Ag. Tax/Other:

6 Description of Property
SDAT requires submission of all applicable information.
A maximum of 40 characters will be indexed in accordance with the priority cited in Real Property Article Section 3-104(g)(3)(i).

7 Transferred From
Doc. 1 - Grantor(s) Name(s)
Doc. 2 - Grantor(s) Name(s)
Doc. 1 - Owner(s) of Record, if Different from Grantor(s)
Doc. 2 - Owner(s) of Record, if Different from Grantor(s)

8 Transferred To
Doc. 1 - Grantee(s) Name(s)
Doc. 2 - Grantee(s) Name(s)
New Owner's (Grantee) Mailing Address

9 Other Names to Be Indexed
Doc. 1 - Additional Names to be Indexed (Optional)
Doc. 2 - Additional Names to be Indexed (Optional)

10 Contact/Mail Information
Instrument Submitted By or Contact Person
Name:
Firm:
Address:
Phone:
Return to Contact Person
Hold for Pickup
Return Address Provided

11 IMPORTANT: BOTH THE ORIGINAL DEED AND A PHOTOCOPY MUST ACCOMPANY EACH TRANSFER
Assessment Information
Yes No Will the property being conveyed be the grantee's principal residence?
Yes No Does transfer include personal property? If yes, identify:
Yes No Was property surveyed? If yes, attach copy of survey (if recorded, no copy required).

Assessment Use Only - Do Not Write Below This Line
Terminal Verification
Agricultural Verification
Whole
Part
Tran. Process Verification
Transfer Number:
Date Received:
Deed Reference:
Assigned Property No.:
Year
Geo.
Map
Sub
Block
Land
Zoning
Grid
Plat
Lot
Buildings
Use
Parcel
Section
Occ. Cd.
Total
Town Cd.
Ex. St.
Ex. Cd.
REMARKS:

Space Reserved for County Validation

ANNE ARUNDEL COUNTY CIRCUIT COURT (Land Records) RPD 17318, p. 0540, MSA\_CE59\_17662. Date available 02/13/2006. Printed 10/28/2024.



CRITICAL AREA COMMISSION  
 CHESAPEAKE AND ATLANTIC COASTAL BAYS  
 1804 WEST STREET, SUITE 100  
 ANNAPOLIS, MD 21401

PROJECT NOTIFICATION APPLICATION

**GENERAL PROJECT INFORMATION**

Jurisdiction: Anne Arundel County

Date: 10/17/24

Tax Map #	Parcel #	Block #	Lot #	Section
31	390	36 B	22+23	E

**FOR RESUBMITTAL ONLY**

- Corrections
- Redesign
- No Change
- Non-Critical Area

\*Complete Only Page 1  
 General Project Information

Tax ID: 0241303171620

Project Name (site name, subdivision name, or other) SNODGRASS COTTAGE

Project location/Address 779 SNODGRASS ROAD

City CROWNSVILLE, MD Zip 21032

Local case number

Applicant: Last name RHODERICK First name MATHEW

Company

**Application Type (check all that apply):**

- |   |  |
|---|--|
| Building Permit <input checked="" type="checkbox"/> | Variance <input checked="" type="checkbox"/> |
| Buffer Management Plan <input type="checkbox"/>     | Rezoning <input type="checkbox"/>            |
| Conditional Use <input type="checkbox"/>            | Site Plan <input type="checkbox"/>           |
| Consistency Report <input type="checkbox"/>         | Special Exception <input type="checkbox"/>   |
| Disturbance > 5,000 sq ft <input type="checkbox"/>  | Subdivision <input type="checkbox"/>         |
| Grading Permit <input checked="" type="checkbox"/>  | Other <input type="checkbox"/>               |

**Local Jurisdiction Contact Information:**

Last name AACo Zoning Administration Section First name

Phone # 410-222-7437 Response from Commission Required By TBD

Fax # Hearing date TBD

**SPECIFIC PROJECT INFORMATION**

Describe Proposed use of project site:

CONSTRUCT SINGLE FAMILY DWELLING AND REQUIRED SITE FACILITIES

- |                       |                          |                       |                          |
|-----------------------|--------------------------|-----------------------|--------------------------|
| Intra-Family Transfer | <input type="checkbox"/> | Growth Allocation     | <input type="checkbox"/> |
| Grandfathered Lot     | <input type="checkbox"/> | Buffer Exemption Area | <input type="checkbox"/> |

**Project Type (check all that apply)**

- |                    |                          |                          |                                     |
|--------------------|--------------------------|--------------------------|-------------------------------------|
| Commercial         | <input type="checkbox"/> | Recreational             | <input type="checkbox"/>            |
| Consistency Report | <input type="checkbox"/> | Redevelopment            | <input type="checkbox"/>            |
| Industrial         | <input type="checkbox"/> | Residential              | <input checked="" type="checkbox"/> |
| Institutional      | <input type="checkbox"/> | Shore Erosion Control    | <input type="checkbox"/>            |
| Mixed Use          | <input type="checkbox"/> | Water-Dependent Facility | <input type="checkbox"/>            |
| Other              | <input type="checkbox"/> |                          |                                     |

**SITE INVENTORY (Enter acres or square feet)**

	Acres	Sq Ft
IDA Area		
LDA Area		5,850
RCA Area		
Total Area		5,850

Total Disturbed Area 

Acres	Sq Ft
	4,200

# of Lots Created

	Acres	Sq Ft		Acres	Sq Ft
Existing Forest/Woodland/Trees		5,850	Existing Lot Coverage		0
Created Forest/Woodland/Trees			New Lot Coverage		970
Removed Forest/Woodland/Trees		1,800	Removed Lot Coverage		
		4,050	Total Lot Coverage		970

**VARIANCE INFORMATION (Check all that apply)**

	Acres	Sq Ft		Acres	Sq Ft
Buffer Disturbance		1800	Buffer Forest Clearing		
Non-Buffer Disturbance		2400	Mitigation		

Variance Type

- Buffer
- Forest Clearing
- HPA Impact
- Lot Coverage
- Expanded Buffer
- Nontidal Wetlands
- Setback
- Steep Slopes
- Other

Structure

- Acc. Structure Addition
- Barn
- Deck
- Dwelling
- Dwelling Addition
- Garage
- Gazebo
- Patio
- Pool
- Shed
- Other



**McHALE**  
LANDSCAPE  
DESIGN, INC.

Annapolis Office  
911 West Street  
Annapolis, MD 21401  
(410) 990-0894

Easton Office  
29459 Pintail Drive  
Easton, MD 21601  
(410) 770-9449

Green Gardens Office  
23023 Frederick Road  
Clarksburg, MD 20871  
(301) 972-9090

Virginia Office  
6819 Tennyson Drive  
McLean, VA 22101  
(703) 760-8600

**Corporate Office**  
6212 Leapley Road  
Upper Marlboro, MD 20772  
(301) 599-8300

mchalelandscape.com  
info@mchalelandscape.com

## CRITICAL AREA REPORT NARRATIVE

### Site Information:

- 779 Snodgrass Rd, Crownsville, MD 21032
- Owner – Jude Hogan
- Applicant – Matthew Rhoderick, McHale Landscape Design

### Describe the proposed use of the subject property and include if the project is residential, commercial, industrial, or maritime.

- 779 Snodgrass Rd is a 5,800 SF residential unimproved infill corner lot with current water tap connection at the roadway. The property is wooded, with portions containing steep slopes and adjacent developed properties or roadway on all sides. The property is within the R5 residential zone and is in the LDA Critical area classification.

### Describe the type of predominant trees and shrubs on the subject property. Include a statement addressing the square footage of the property that is vegetated with trees and shrubs, how much of the property will be disturbed by the proposed development, and how the disturbance will be mitigated.

- Predominant trees include Tulip Poplar, Walnut, Hickory, Maple, and Holly. Predominant shrubs include Yew, Laurel, Mahonia, but much of the wooded area is predominantly shade, evergreen, and understory trees with minimal shrubs. The total wooded area for the property is 5,194 SF. The total area to be disturbed is 4,025 SF, however the site area for the house and driveway is only 948 SF. Construction for this work estimates the removal of 3,856 SF of forested area to allow for grading and drainage, site utilities, and construction of the house and driveway. Any required mitigation for the disturbance will be provided by off-site mitigation in an approved Critical Area Mitigation Bank.

### Describe the methods to minimize impacts on water quality and habitat from proposed construction (i.e. stormwater management, sediment control, and silt fence).

- A reinforced silt fence will be installed around the proposed disturbance. Machinery to be used in the construction process will enter through a construction entrance that is located at the proposed driveway entrance. All materials to be unloaded from the construction entrance and staged directly in project area or house during construction. Stormwater management to be addressed with the following Environment Site Design (ESD) elements:
  - a. Permeable Pavement (A-2) – Paved areas of the driveway are to be constructed with permeable pavers on top of a geogrid and gravel base to allow for infiltration within an at-source practice.
  - b. Conservation Landscaping – Disturbed areas to be restored with a mixture of native trees, shrubs and perennials to allow for the site to minimize runoff and stabilize soils.
  - c. Micro-Scale Practices (Dry Wells) (M-5) – Roof area runoff to be captured directly into a dry well system as shown on the site plan, to meet ESDv and REv.



**McHALE**  
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(301) 972-9090

Virginia Office  
6819 Tennyson Drive  
McLean, VA 22101  
(703) 760-8600

mchalelandscape.com  
info@mchalelandscape.com

Calculate the impervious surface before and after construction, including all structures, gravel areas, driveways, and concrete areas.

- The existing impervious surface (Lot Coverage) is 151 SF. The proposed impervious surface (Lot Coverage) is as follows: Proposed Dwelling – 462 SF, Proposed Driveway – 324 SF, Proposed Stairway – 54 SF and Proposed Porch – 108 SF. The total existing and proposed impervious area (Lot Coverage) = 1,099 SF. The allowable lot coverage per classification LDA is 25% of the parcel plus 500 SF, or 1,963 SF

If applicable, describe any habitat protection areas on the subject property including expanded buffers, steep slopes of 15% or greater, rare and endangered species, anadromous fish propagation waters, colonial waterbird nesting sites, historic waterfowl staging and concentration areas, riparian forests, natural heritage areas, and plant and wildlife habitats of local significance.

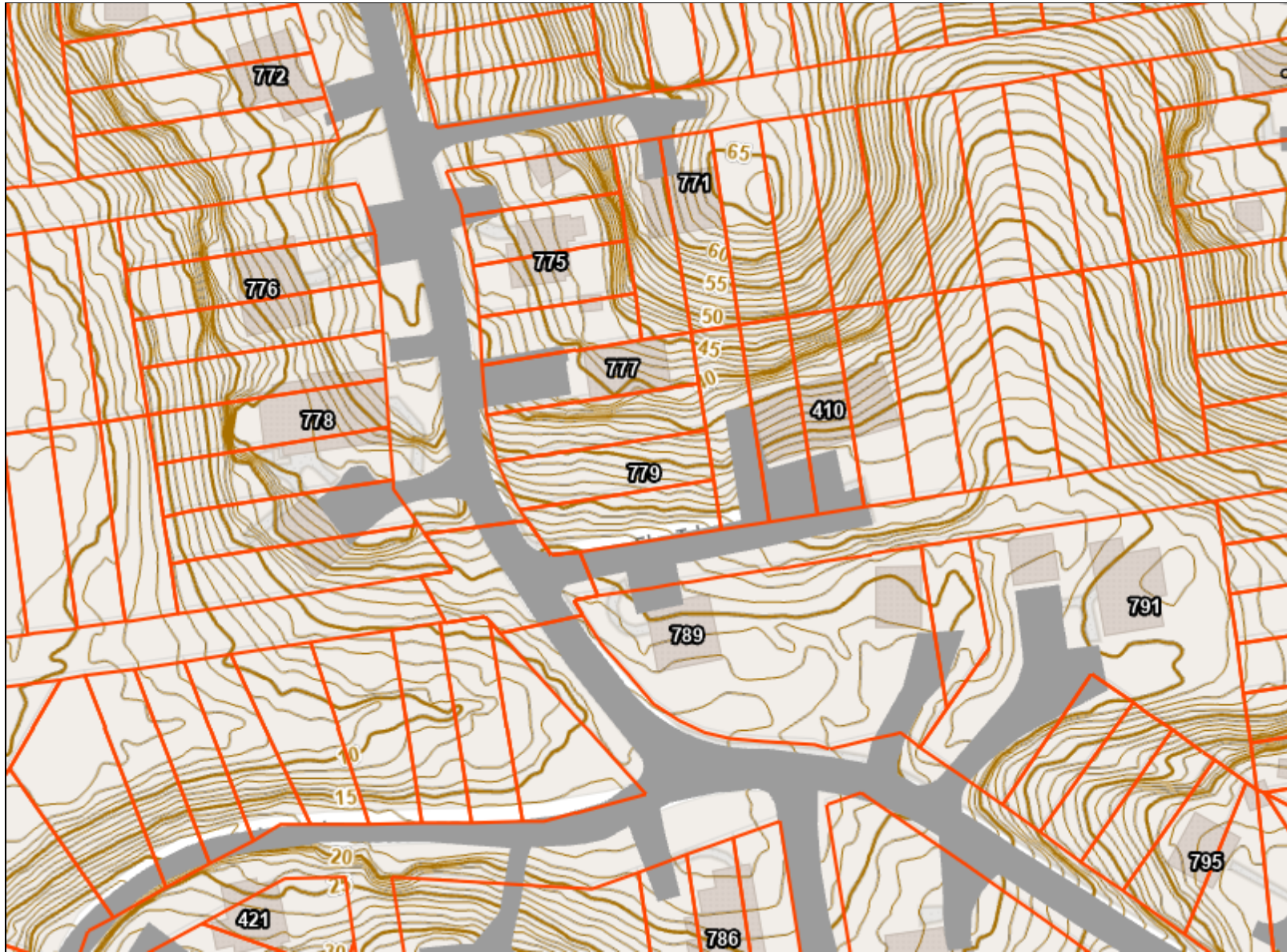
- The applicable habitat protection areas subject to this property are steep slopes of 15% or greater and the steep slope buffer. In siting the proposed structure, the health department requires all portions of the septic system to be located outside of the steep slopes and buffer. After locating this system, the only location for the proposed house is within the steep slope at the rear of the property, to meet setbacks from site facilities. Construction of the house foundation would facilitate stabilization of the steep slopes and fall into character of surrounding properties built into the slope.

Sincerely,

Applicant Information:

- McHale Landscape Design MHIC #29697
  - o 911 West Street, Annapolis, MD 21401
  - o (410)-990-0894
- Matthew Rhoderick – Registered Landscape Architect, #3731
  - o (301)-512-8234
  - o [Matr@mchalelandscape.com](mailto:Matr@mchalelandscape.com)

# Snodgrass Road topo map



## Legend

### Foundation

Addressing



Parcels



### Structure

County Structure



### Elevation

Topo 2023

Index

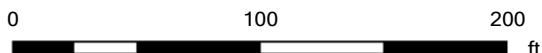
Intermediate



This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

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County of Anne Arundel, VGIN, ©  
OpenStreetMap, Microsoft, Esri,  
TomTom, Garmin, SafeGraph,  
GeoTechnologies, Inc. METI/NASA,

Notes 1"=100'



THIS MAP IS NOT TO BE  
USED FOR NAVIGATION

SUBMITTAL	DATE
Variance Submission	10/15/24

# Snodgrass Cottage

779 Snodgrass Road

Crownsville, MD

VARIANCE SUBMISSION  
October 15, 2024



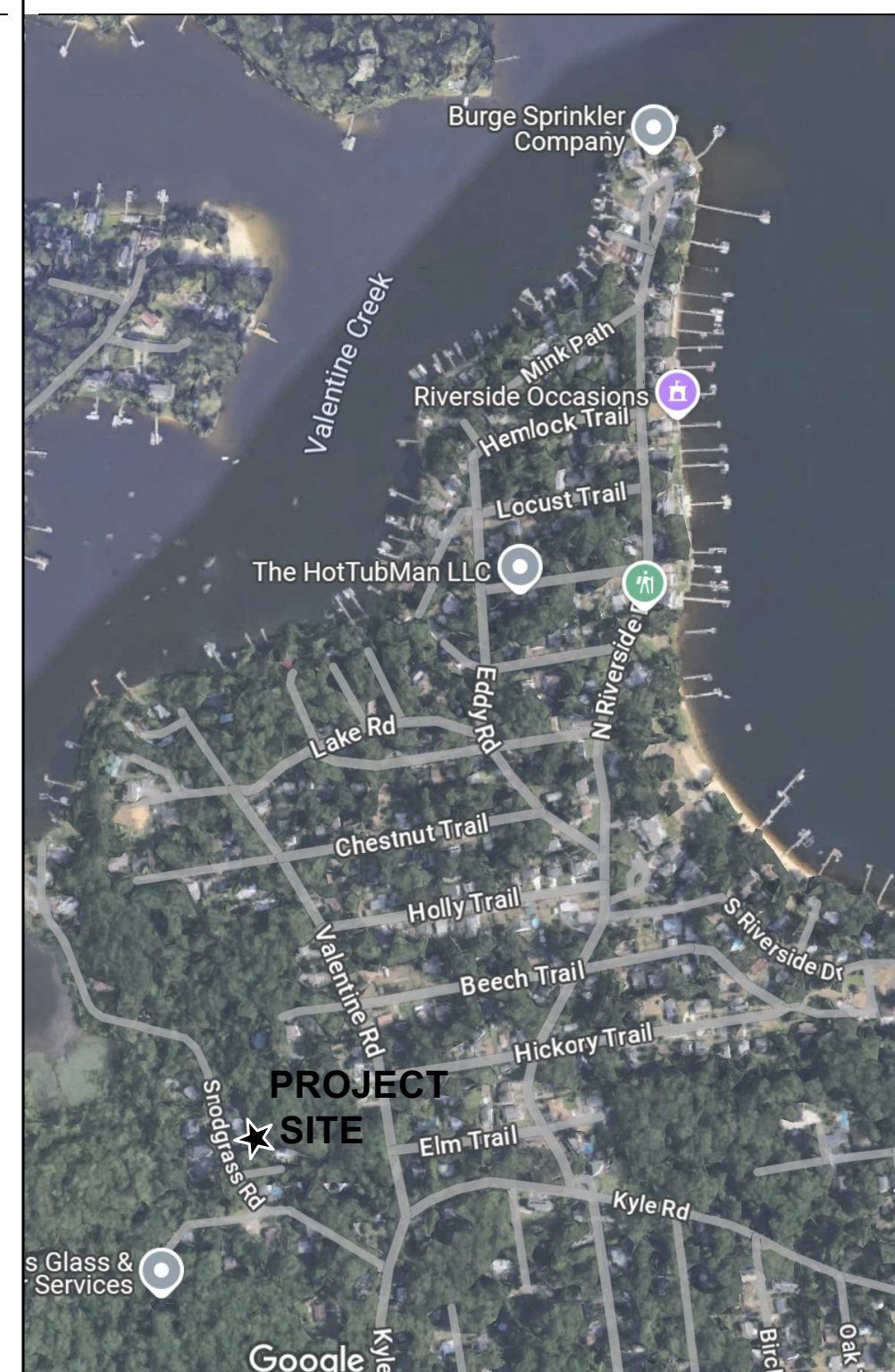
## SYMBOLS

	CONCRETE MASONRY UNIT
	CONCRETE
	GRAVEL, WASHED STONE
	EARTH
	PLYWOOD
	ROUGH LUMBER
	FINISH LUMBER
	STONE
	GYPSUM WALLBOARD
	RIGID INSULATION
	BATT INSULATION
	STEEL
	BRICK
	BUILDING SECTION
	WALL SECTION
	DETAIL
	INTERIOR ELEVATION
	DOOR SYMBOL
	WINDOW TYPES

## ABBREVIATIONS

ACCES.	ACCESSORY
ACOUS.	ACOUSTICAL
A.C.T.	ACOUSTICAL CEILING TILE
A.F.F.	ABOVE FINISH FLOOR
ALUM	ALUMINUM
BLDG.	BUILDING
B.O.F.	BOTTOM OF FOOTING
CLG.	CEILING
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
CMU	CONCRETE MASONRY UNIT
DN	DOWN
DWG	DRAWING
EL. ELEV.	ELEVATION
EX. EXIST.	EXISTING
FIN	FINISH
FL. FLR.	FLOOR
GWB	GYPSUM WALLBOARD
H.M.	HOLLOW METAL
HT.	HEIGHT
INSUL.	INSULATION
N.I.C.	NOT IN CONTRACT
O.C.	ON CENTER
PL. LAM.	PLASTIC LAMINATE
POLY	POLYETHYLENE
PTD. PT.	PAINTED
P.T.	PRESSURE TREATED
Q.T.	QUARRY TILE
REF.	REFERENCE
REQ'D	REQUIRED
R.O.	ROUGH OPENING
S/S	STAINLESS STEEL
STL	STEEL
SUSP	SUSPENDED
T&G	TONGUE AND GROOVE
T.O.M.	TOP OF MASONRY
T.O.P.	TOP OF PLATE
T.O.W.	TOP OF WALL
TYP.	TYPICAL
WP	WATERPROOF
W.W.F.	WOVEN WIRE FABRIC

## VICINITY MAP



## PROJECT INFO.

**OWNER:**  
Ms. Jude Hogan

**LOT LOCATION:**  
779 Snodgrass Road  
Crownsville, MD 21032  
Tax ID# 02-413-03171620  
Tax Map 0031, Grid 0023, Parcel 0390, Lot 22  
Anne Arundel County, Maryland

**PROJECT DESCRIPTION:**  
Construct a new, 3-story single family dwelling with an attached two car garage.

**SITE INFORMATION:**  
ZONING: R5  
Front Setback: 25'  
Side Setback: 7'  
Rear Setback: 20'

CRITICAL AREA: LDA (Limited Dev. Area)

LOT SIZE: 5,800 SF

## CONSULTANTS

**CIVIL ENGINEER**  
Boyd & Dowgiallo, PA  
412 Headquarters Drive, Suite 5  
Millersville, MD 21108  
410-729-1234  
Jerryt@BNDPA.com

## DRAWING LIST

Cover Sheet

**ARCHITECTURAL**

S1.0	Architectural Site Plan
A1.0	Floor Plans
A2.0	Elevations
A3.0	Building Sections
A4.0	Wall Sections
A5.0	Window/Door Schedule
A6.0	Deck/Stair Details

Snodgrass  
Cottage

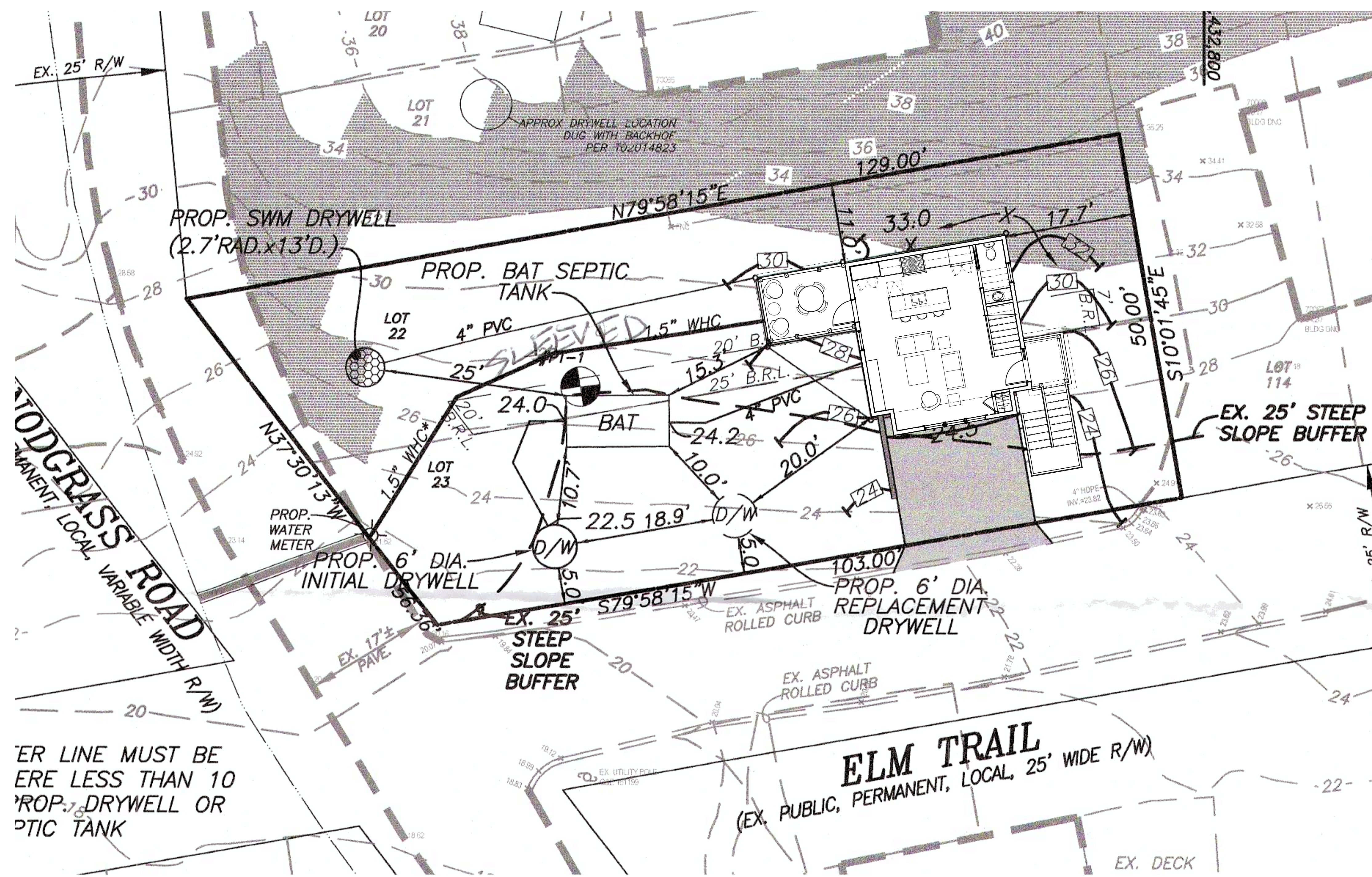
779 Snodgrass Road  
Crownsville, MD 21032

ISSUE DATE	
SCALE	AS NOTED
PROJECT NO.	24-01

Coversheet

CS

SUBMITTAL	DATE
Variance Submission	10/15/24



SEWER LINE MUST BE LESS THAN 10' FROM PROPOSED DRYWELL OR SEPTIC TANK

1 Proposed Site Plan  
S1.0 Scale: 1/8" = 1'-0"

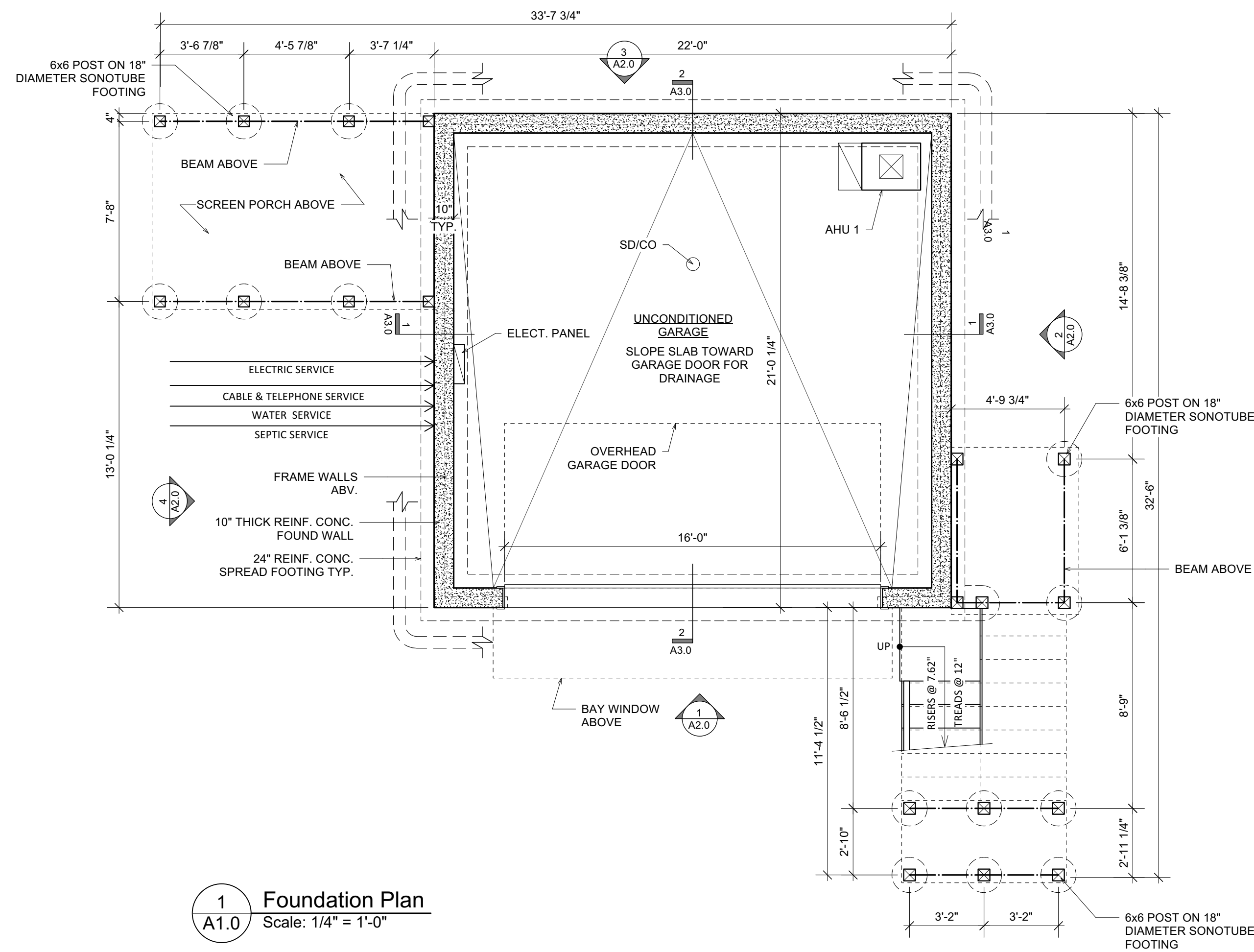
Snodgrass Cottage  
779 Snodgrass Road  
Crownsville, MD 21032

ISSUE DATE	
SCALE	AS NOTED
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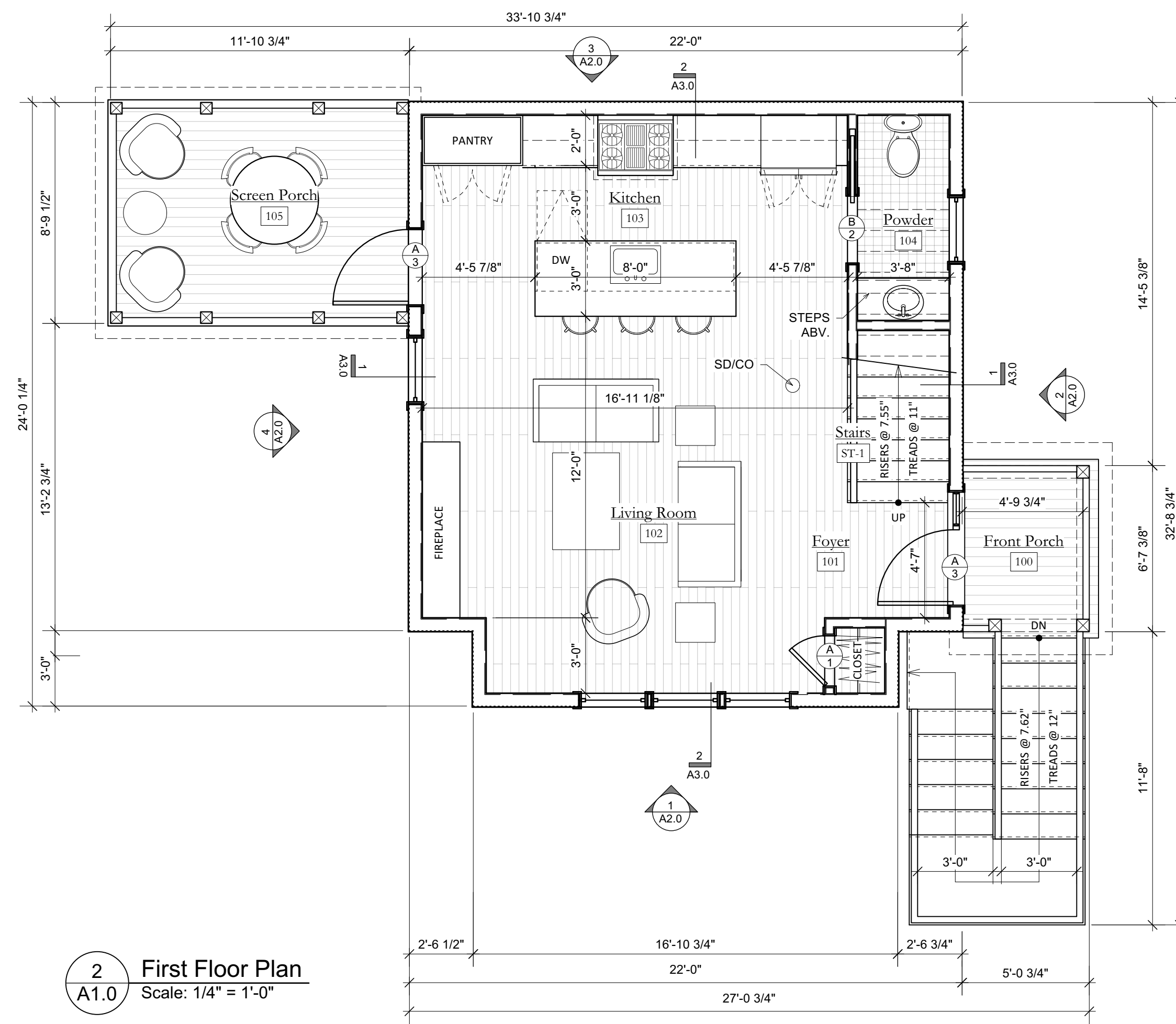
Site Plan

S1.0

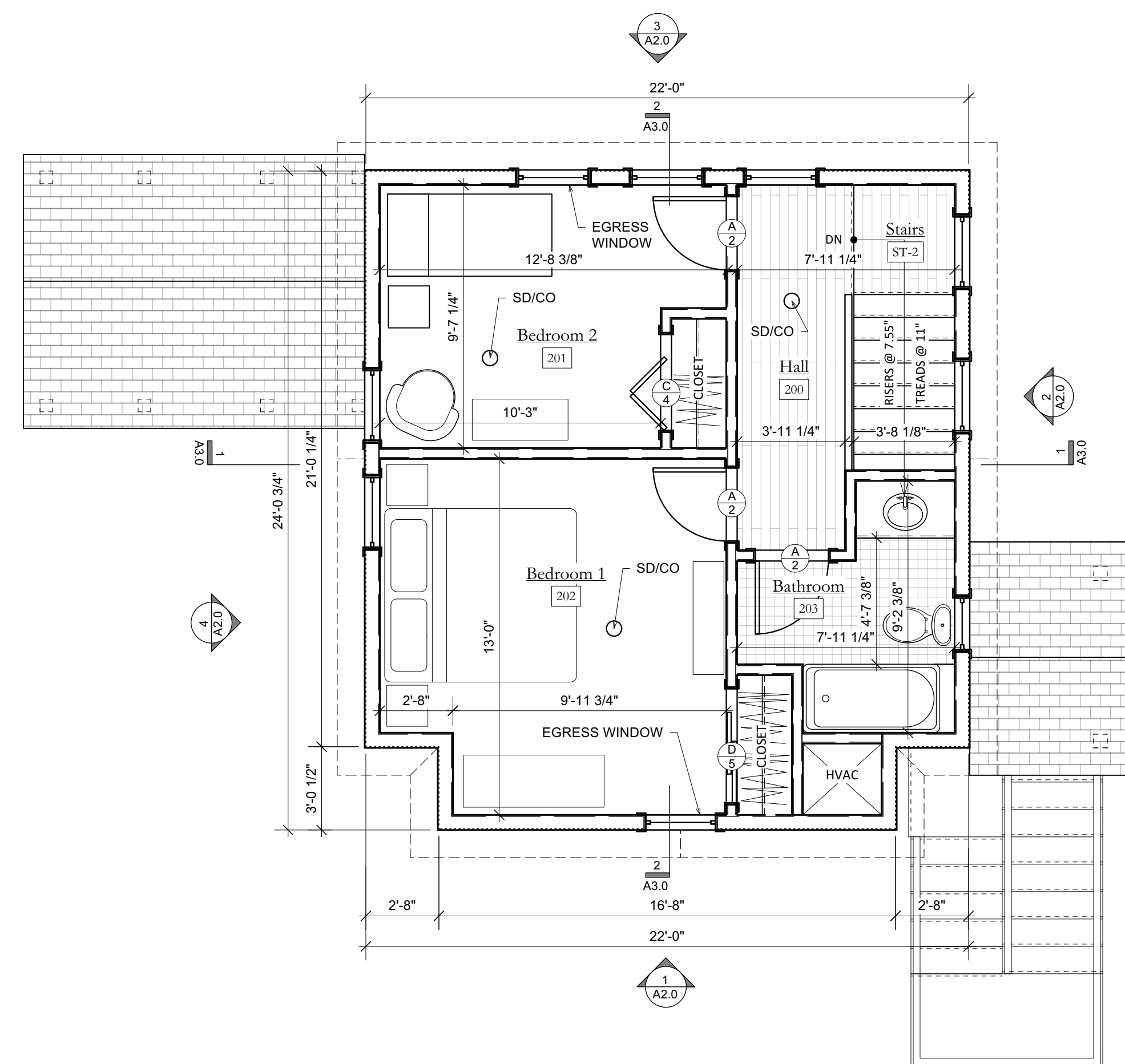
SUBMITTAL	DATE
Variance Submission	10/15/24



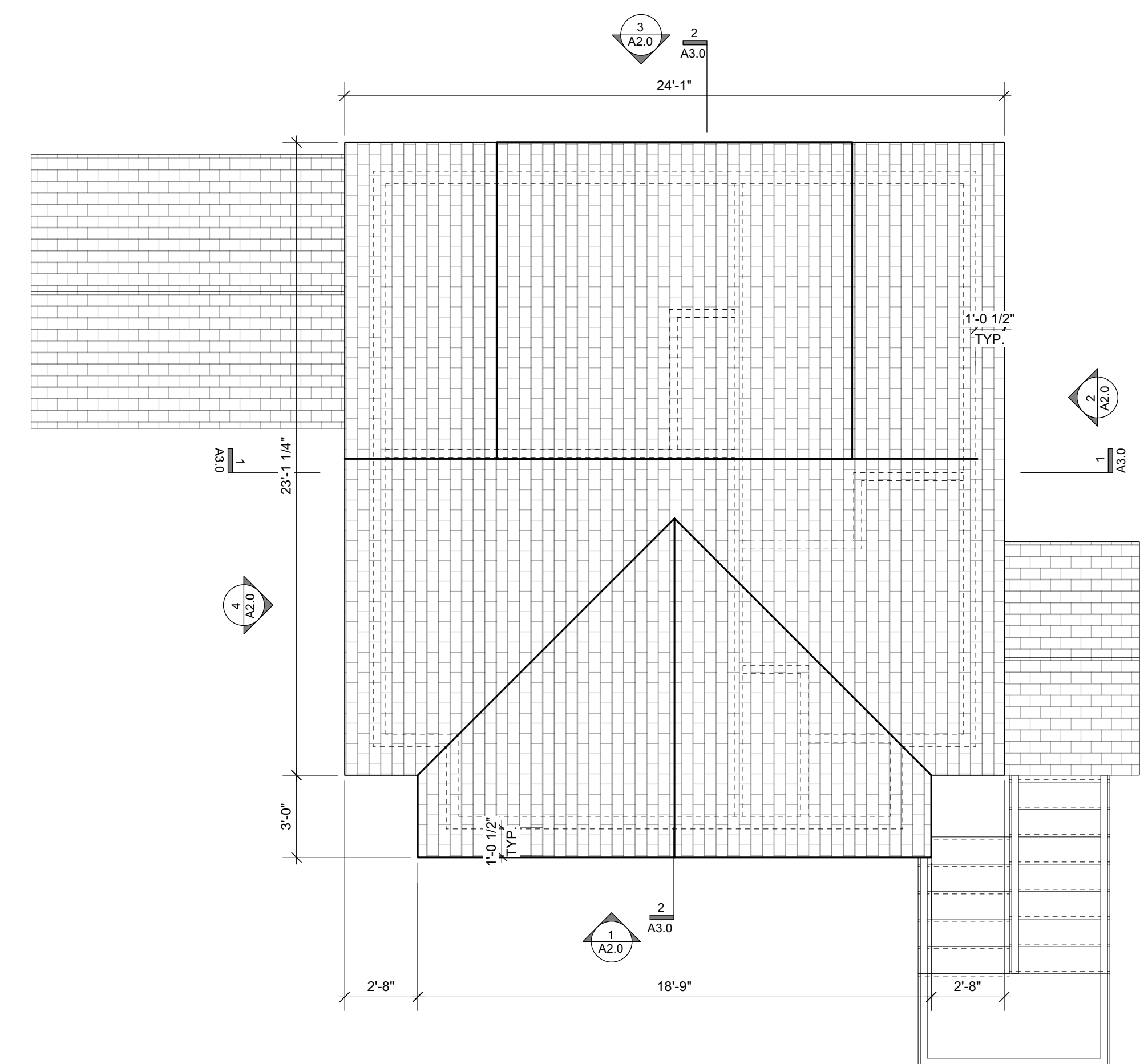
**1** Foundation Plan  
A1.0 Scale: 1/4" = 1'-0"



**2** First Floor Plan  
A1.0 Scale: 1/4" = 1'-0"



**3** Second Floor  
A1.0 Scale: 1/4" = 1'-0"



**4** Roof Plan  
A1.0 Scale: 1/4" = 1'-0"

**Snodgrass Cottage**  
779 Snodgrass Road  
Crownsville, MD 21032

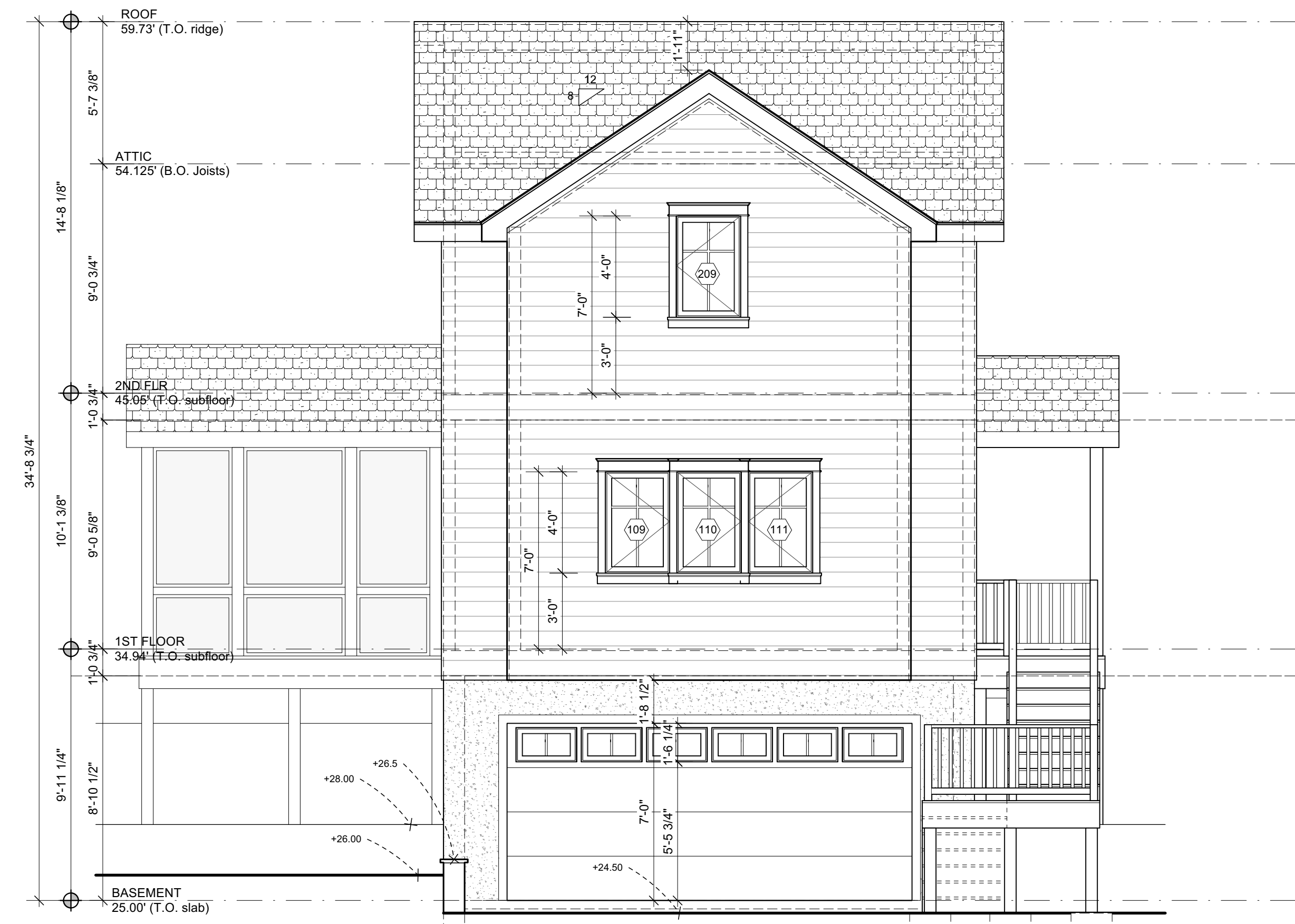
ISSUE DATE	
SCALE	AS NOTED
PROJECT NO.	24-01

Floor Plans

A1.0



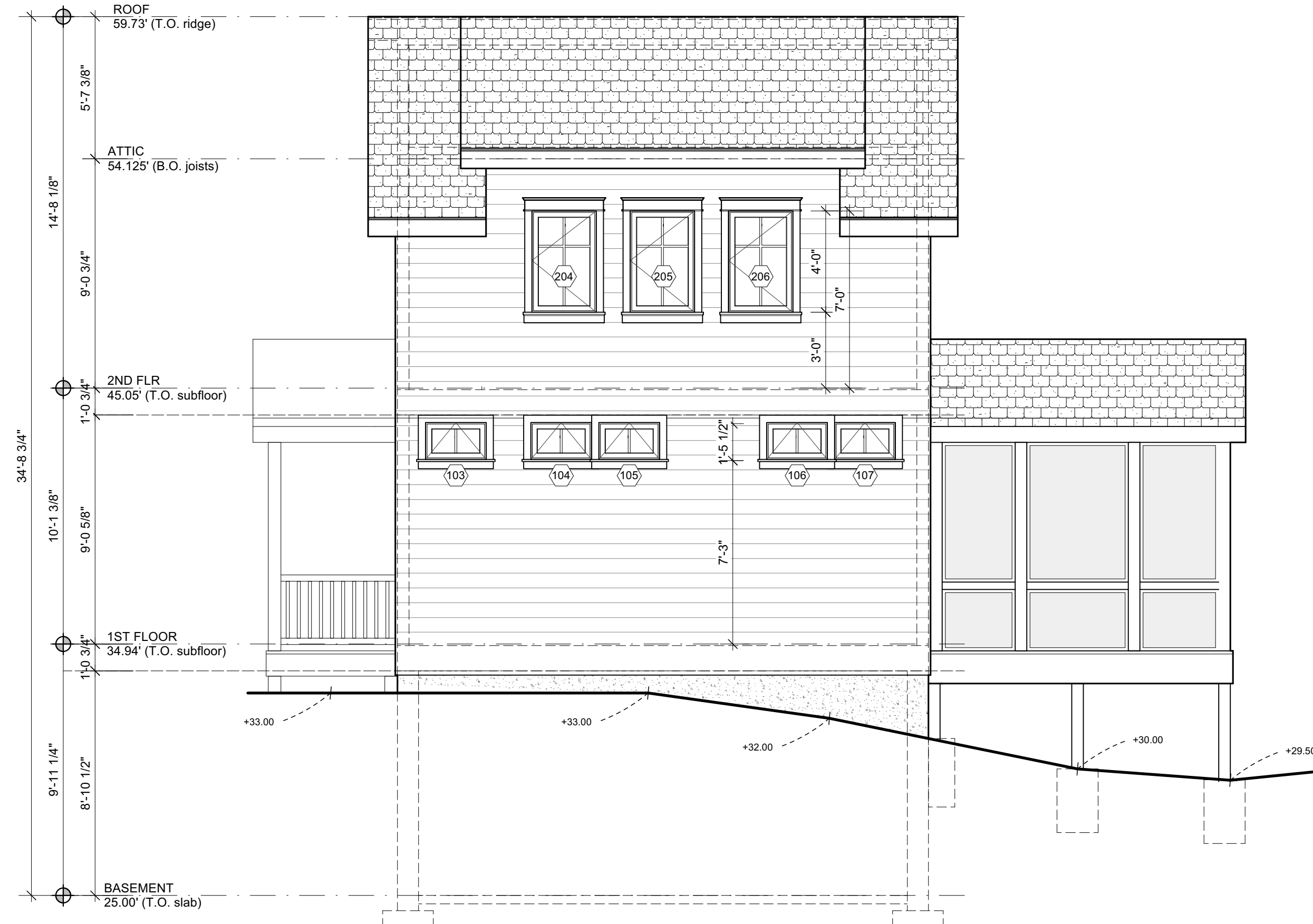
SUBMITTAL	DATE
Variance Submission	10/15/24



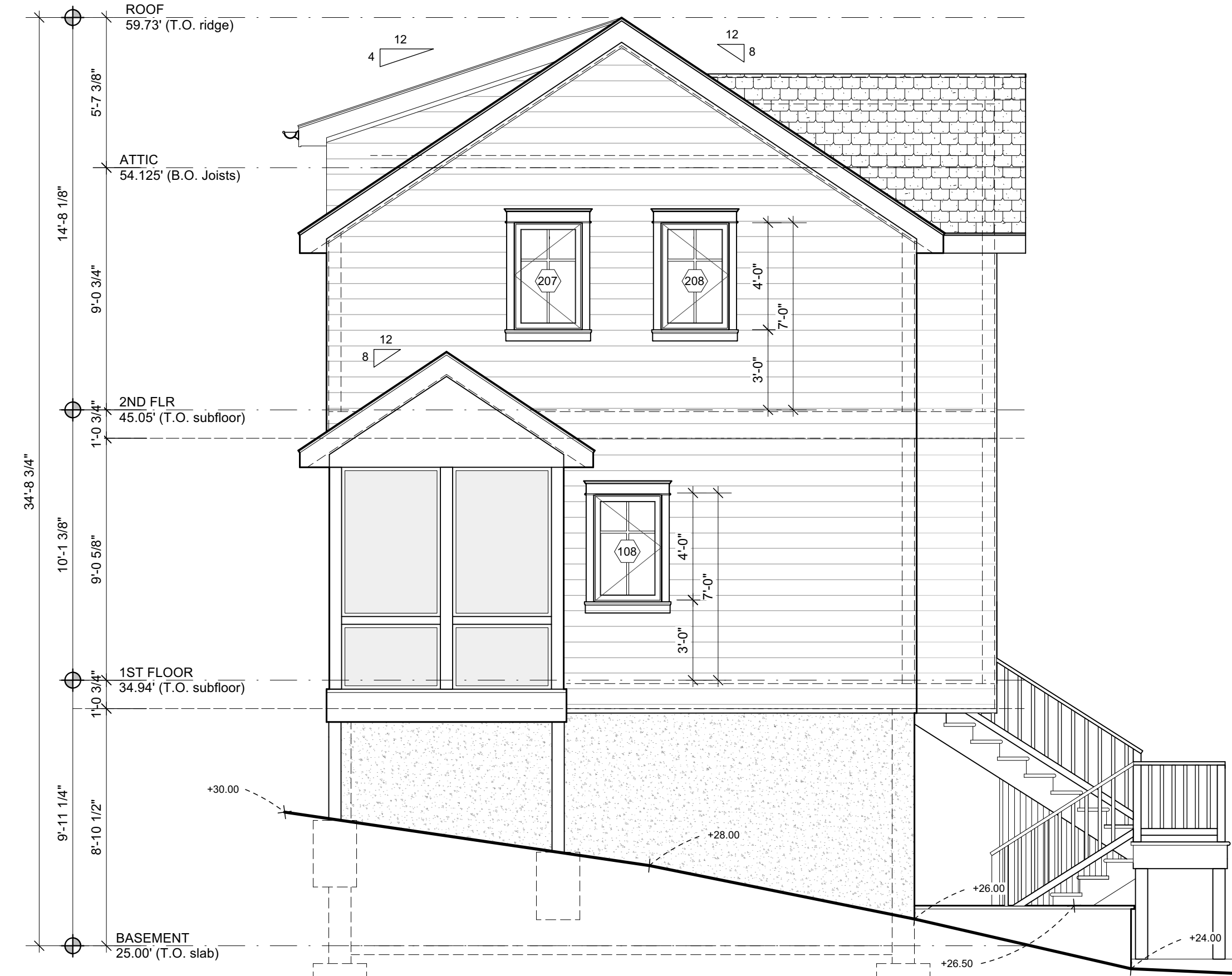
1 South (Front) Elevation  
A2.0 Scale: 1/4" = 1'-0"



2 East (Side) Elevation  
A2.0 Scale: 1/4" = 1'-0"



3 North (Rear) Elevation  
A2.0 Scale: 1/4" = 1'-0"



4 West (Side) Elevation  
A2.0 Scale: 1/4" = 1'-0"

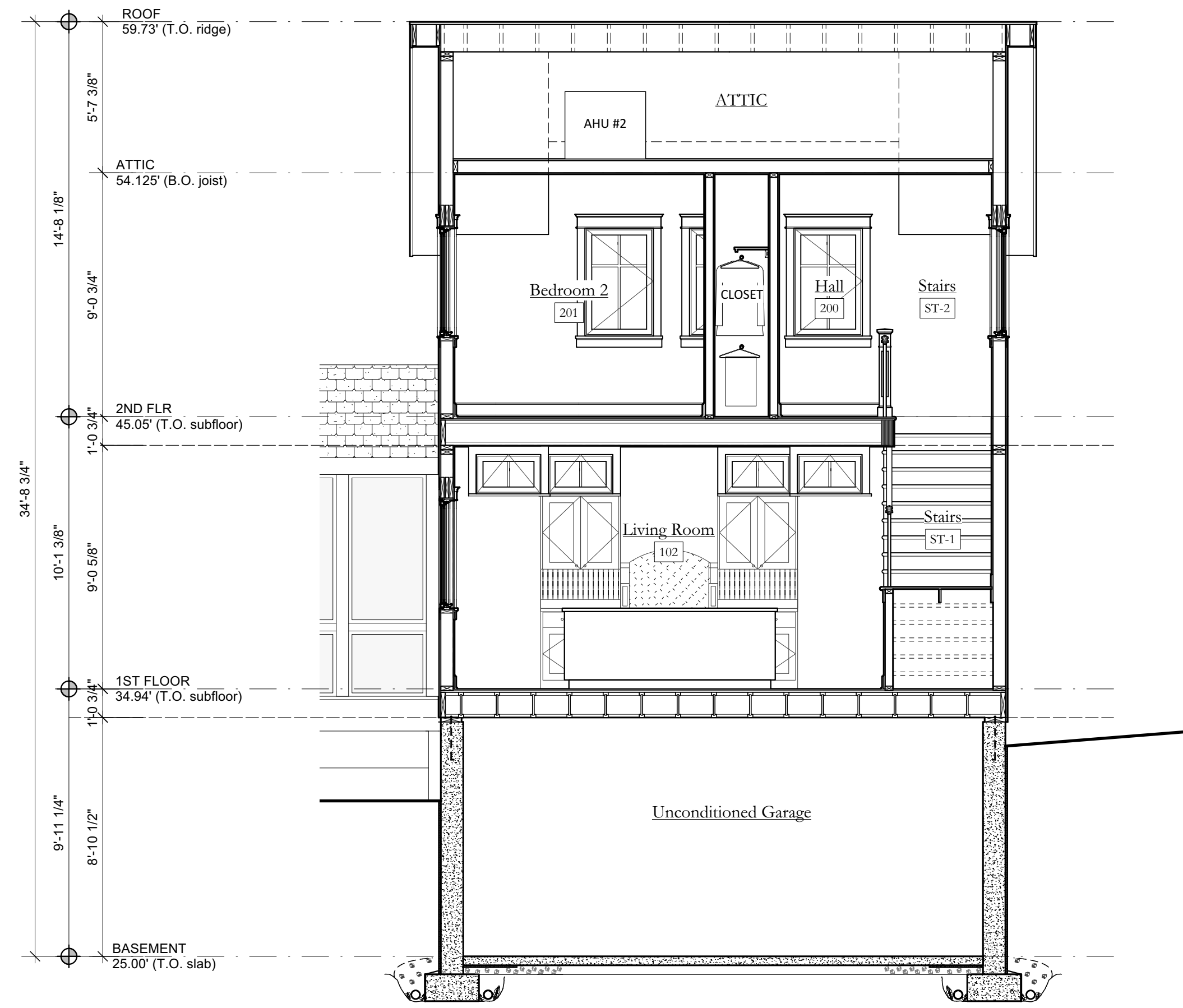
Snodgrass Cottage  
779 Snodgrass Road  
Crownsville, MD 21032

ISSUE DATE	
SCALE	AS NOTED
PROJECT NO.	24-01

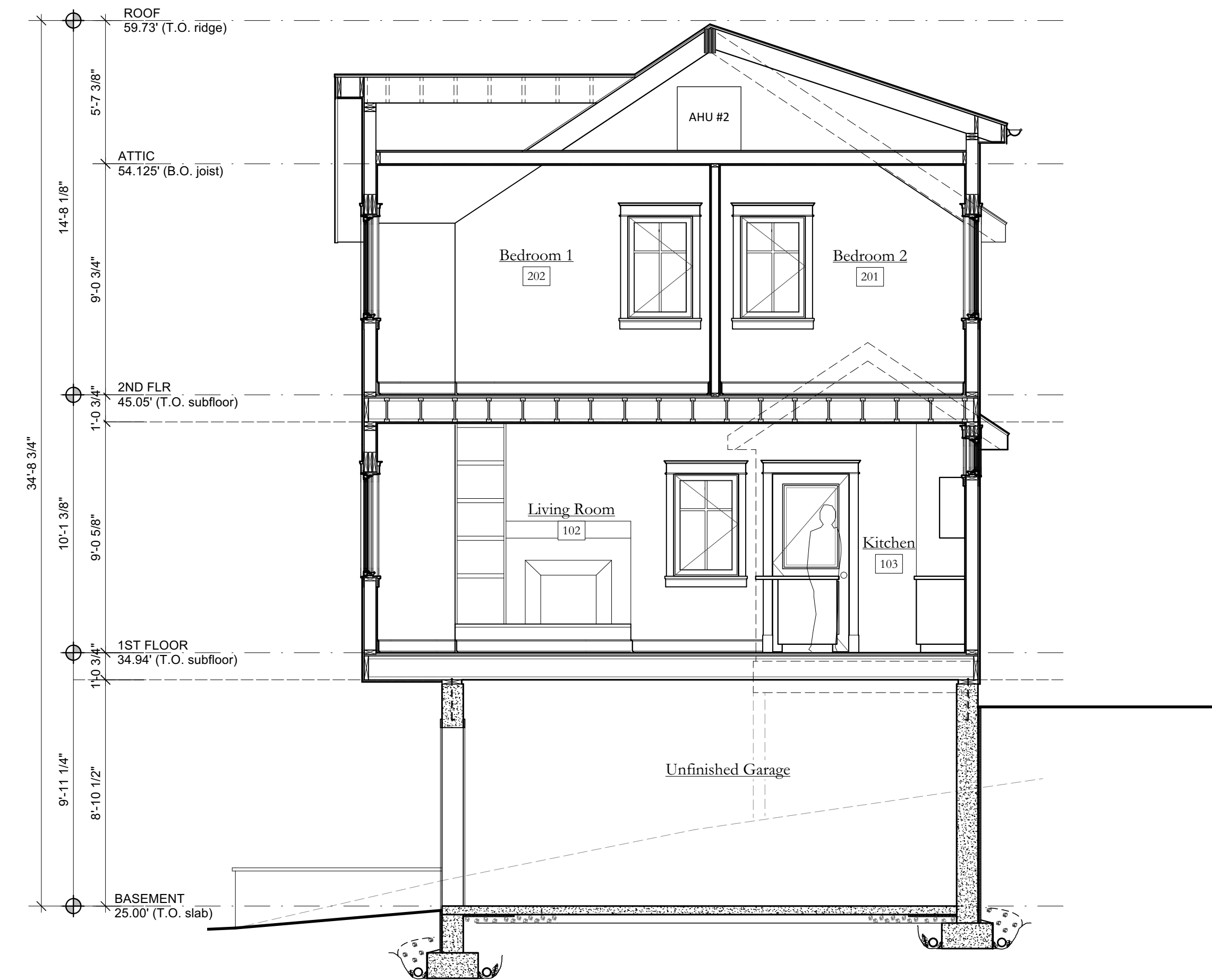
Elevations

A2.0

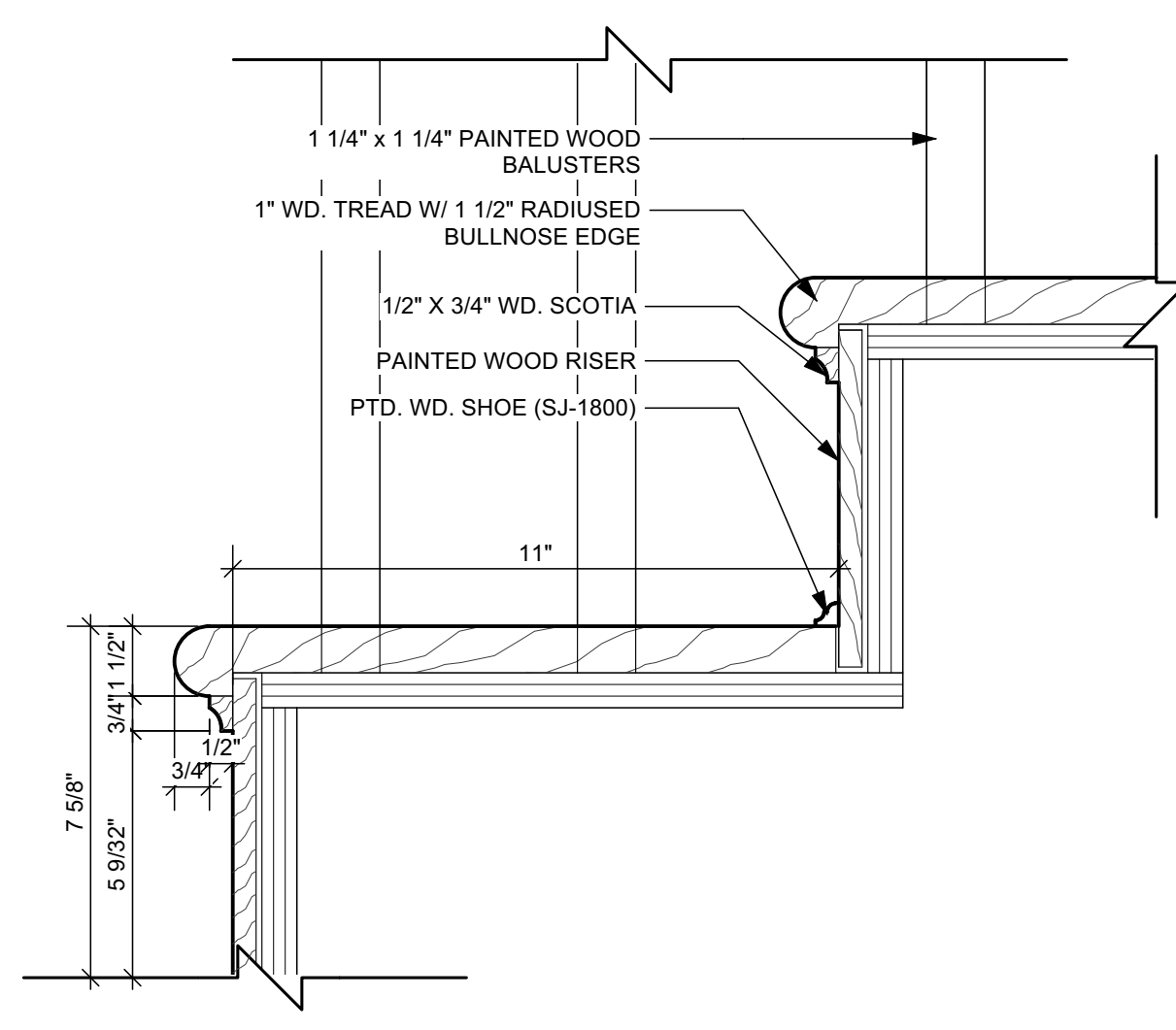
SUBMITTAL	DATE
Variance Submission	10/15/24



1 Section 1  
A3.0 Scale: 1/4" = 1'-0"



2 Section 2  
A3.0 Scale: 1/4" = 1'-0"



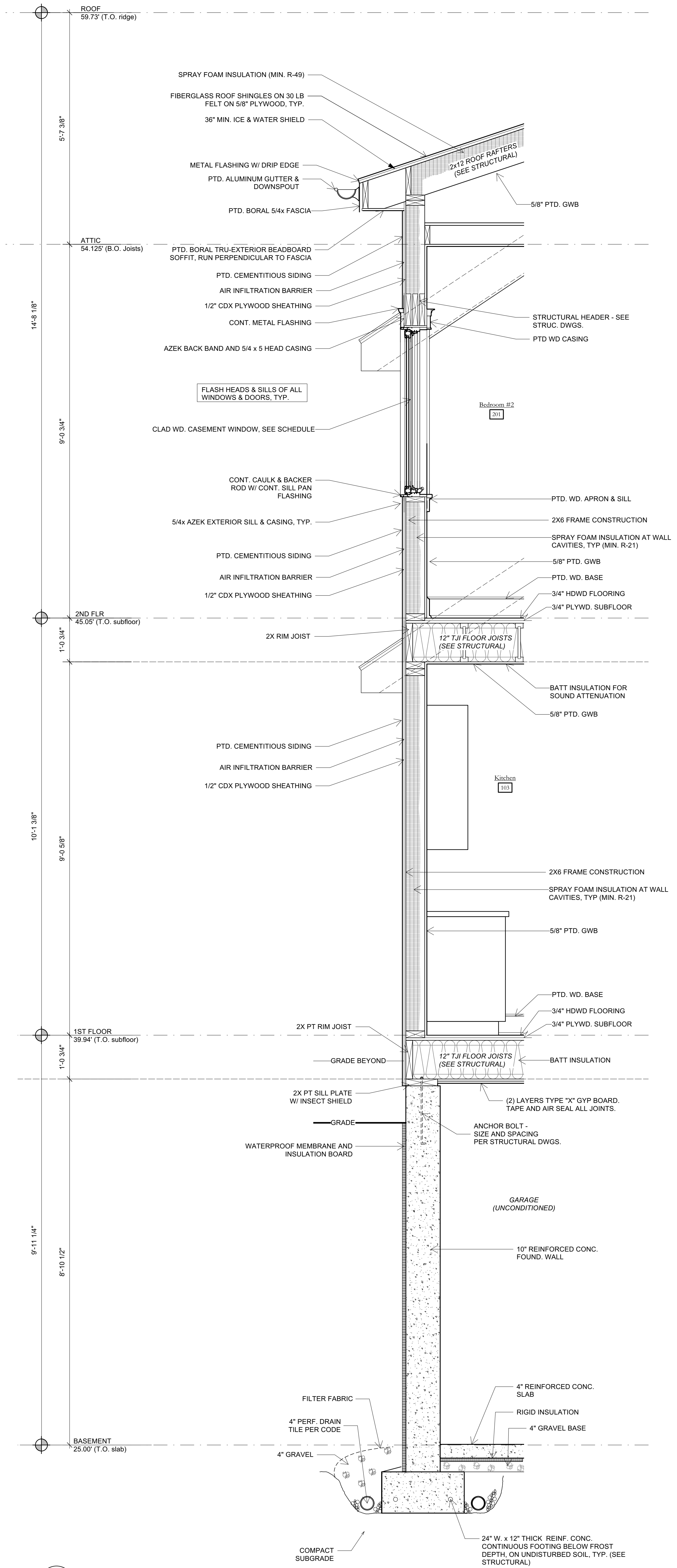
3 Stair Tread Detail  
A3.0 Scale: 3\"/>

Snodgrass Cottage  
779 Snodgrass Road  
Crownsville, MD 21032

ISSUE DATE	
SCALE	AS NOTED
PROJECT NO.	24-01

Building Sections

A3.0



**1** Wall Section 1  
A4.0 Scale: 3/4" = 1'-0"

ISSUE DATE	AS NOTED
SCALE	24-01
PROJECT NO.	

Wall Sections

A4.0

**Snodgrass  
Cottage**  
779 Snodgrass Road  
Crownsville, MD 21032

SUBMITTAL	DATE
Variance Submission	10/15/24

SUBMITTAL	DATE
Variance Submission	10/15/24

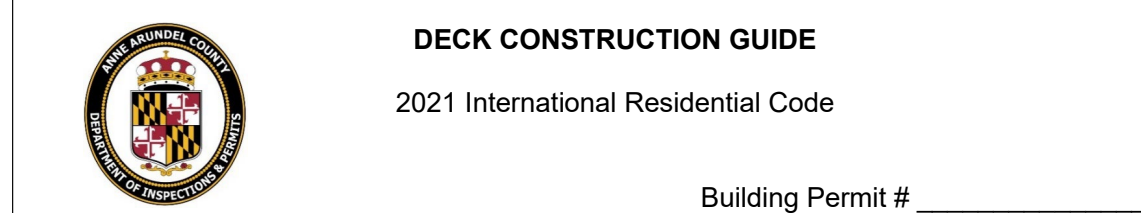
Snodgrass  
Cottage

779 Snodgrass Road  
Crownsville, MD 21032

ISSUE DATE	
SCALE	AS NOTED
PROJECT NO.	24-01

Schedules

A5.0

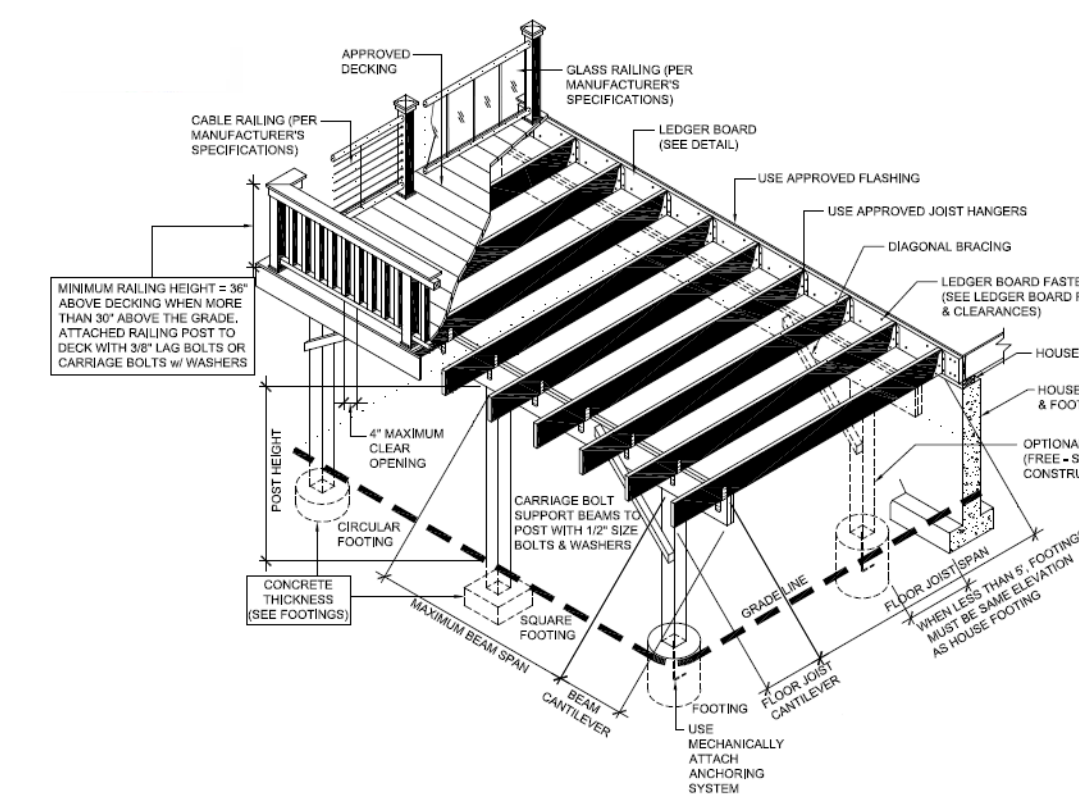


**DECK CONSTRUCTION GUIDE**  
2021 International Residential Code

Building Permit # \_\_\_\_\_

The intent of this guide is to assist homeowners and contractors to construct exterior wood-framed decks in accordance with the International Residential Code (IRC) - Section R507. Other decks can be built in accordance with IRC Section R301 and other applicable requirements.

This guide is for reference only. Please refer to the International Residential Code for complete details. Final review and approval shall be subjected to plan review and field inspections.



Applicant to first read through all applicable sections of the International Residential Code and all manufacturer's requirements to become familiar with all requirements. Then, this guide can be utilized to assist in the design, review, construction and inspection of the deck.

Building permit submitter to include Construction Plans of the deck, scaled Site Plan, Standard Grading Plan (<https://www.aacounty.org/departments/inspections-and-permits/forms-and-publications/permit-forms/sgp.pdf>) and a Critical Area Worksheet if within the critical area (<https://www.aacounty.org/departments/inspections-and-permits/forms-and-publications/permit-forms/CriticalAreaWorksheet.pdf>).

**GENERAL / MISCELLANEOUS REQUIREMENTS**

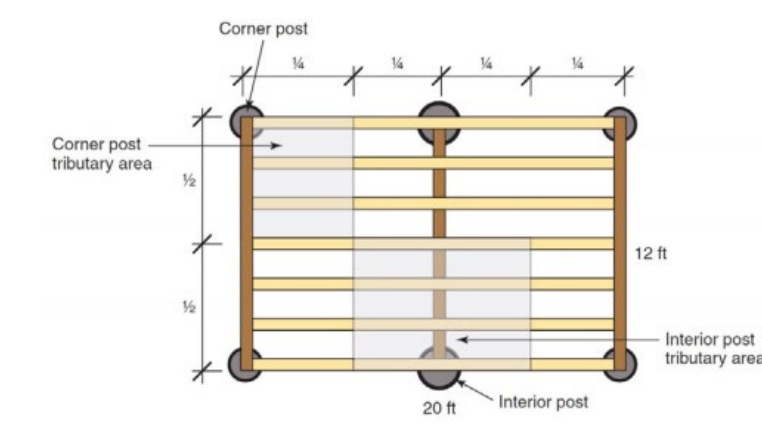
- Decks are not approved for future hot tub installations.
- Decks to maintain a minimum distance of 30 feet from wells.
- Decks shall not be attached to overhangs, bay windows or chimneys.
- Wood materials used for the construction of decks shall be No. 2 grade or better lumber, preservative-treated in accordance with IRC, R317. Cuts, notches and drilled holes of preservative treated wood members shall be treated in accordance with IRC, R317.1.1. All preservative-treated wood products in contact with the ground shall be labeled for such usage.
- Flashing shall be corrosion-resistant metal of nominal thickness not less than 0.019 inch or approved nonmetallic material that is compatible with the substrate of the structure and the decking materials.
- Emergency escape and rescue openings located under decks shall be fully openable and provide a path not less than 36 inches in height and width to a yard or court.
- All decks that are within 4 inches of the house shall have at least one receptacle outlet accessible from the deck per the National Electrical Code Section 210.52(E)(3).
- All nails, bolts, screws, nuts, washers are to be hot-dipped galvanized per ASTM A153, Class C (Class D for 3/8-inch diameter and less), stainless steel, silicon bronze, or copper. Fasteners other than nails can be of mechanically galvanized per ASTM B695 Class 55 or stainless steel.
- All connectors are to be ASTM A653 type G185 zinc coated galvanized steel or post hot-dipped galvanized per ASTM A123 providing a minimum average coating weight of 2.0 oz./ft<sup>2</sup> (total both sides), or stainless steel.
- Before you dig call MISS UTILITY 1-800-257-7777 (2-day notice is required). Please note that the Maryland High Voltage Line Act prohibits any person or object from getting closer than 10 feet to high voltage power lines.

**FOOTINGS**

Footings to be a minimum of 30 inches deep for attached decks. Footings must bear on undisturbed soil. Footing size is based on IRC, Table R507.3.1 for a load of 50 psf with a soil bearing capacity of 2000 psf.

Tributary Area (sq. ft.)	Side of a Square Footing (inches)	Diameter of a Round Footing (inches)	Thickness (inches)
5	7	8	6
10	10	11	6
15	13	15	6
20	16	18	6
30	19	21	6
40	23	26	7
60	28	33	8
80	32	39	9
100	37	46	10

Below is an example of how to calculate the Tributary Area:



**Tributary Area - Interior Post**  
Length is 1/2 of total length = 20 ft x 1/2 = 10 ft  
Width is 1/2 of total width = 12 ft x 1/2 = 6 ft  
Area = 10 ft x 6 ft = 60 ft<sup>2</sup>

**Footing Size - Interior Post**  
Min. 18 in. diameter  
Min. 6 in. thick

**DECK POSTS**

Post size is based on IRC, Table R507.4, for a 40 psf live load, utilizing southern pine post species.

Deck Post Size (inches)	Tributary Area (sq. ft.)					
	20	40	60	80	100	120
4x4	14'-0"	13'-8"	11'-0"	9'-5"	8'-4"	7'-5"
4x6	14'-0"	14'-0"	13'-11"	12'-0"	10'-8"	9'-8"
6x6	14'-0"	14'-0"	14'-0"	14'-0"	14'-0"	14'-0"
8x8	14'-0"	14'-0"	14'-0"	14'-0"	14'-0"	14'-0"

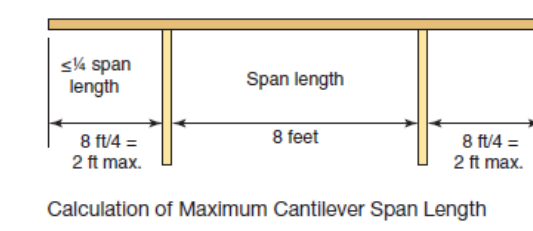
Where deck posts bear on concrete footings, lateral restraint shall be provided by manufactured connectors or a minimum post embedment of 12 inches in concrete piers.

**DECK BEAMS**

Beam size is based on IRC, Table R507.5, for a 40 psf live load, utilizing southern pine beam species.

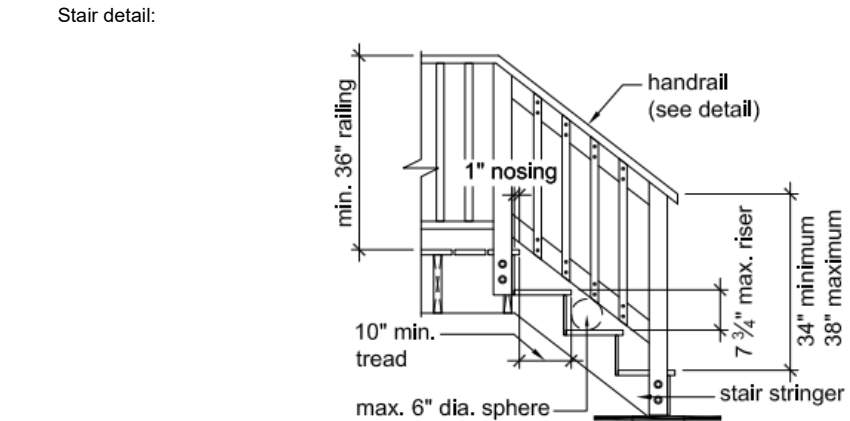
Beam Size	MAXIMUM BEAM SPAN LENGTH (feet-inches)					
	6	8	10	12	14	16
1 (2x6)	4'-7"	4'-0"	3'-7"	3'-3"	3'-0"	2'-10"
1 (2x8)	5'-11"	5'-1"	4'-7"	4'-2"	3'-10"	3'-7"
1 (2x10)	7'-0"	6'-0"	5'-5"	4'-11"	4'-7"	4'-3"
1 (2x12)	8'-3"	7'-1"	6'-4"	5'-10"	5'-5"	4'-9"
2 (2x6)	6'-11"	5'-11"	5'-4"	4'-10"	4'-6"	4'-3"
2 (2x8)	8'-9"	7'-7"	6'-9"	6'-2"	5'-9"	5'-0"
2 (2x10)	10'-4"	9'-0"	8'-0"	7'-4"	6'-9"	6'-4"
2 (2x12)	12'-2"	10'-7"	9'-5"	8'-7"	8'-0"	7'-5"
3 (2x6)	8'-6"	7'-5"	6'-8"	6'-1"	5'-8"	4'-11"
3 (2x8)	10'-11"	9'-6"	8'-6"	7'-9"	7'-2"	6'-8"
3 (2x10)	13'-0"	11'-2"	10'-0"	9'-2"	8'-6"	7'-11"
3 (2x12)	15'-3"	13'-3"	11'-10"	10'-9"	10'-0"	9'-4"

The maximum beam cantilever is allowed to be 1/4 of the beam span length. Below is an example:

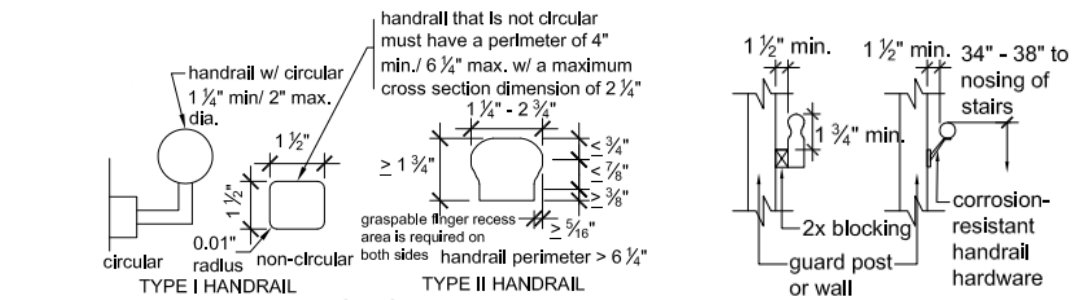


**STAIRS, GUARDRAILS AND HANDRAILS**

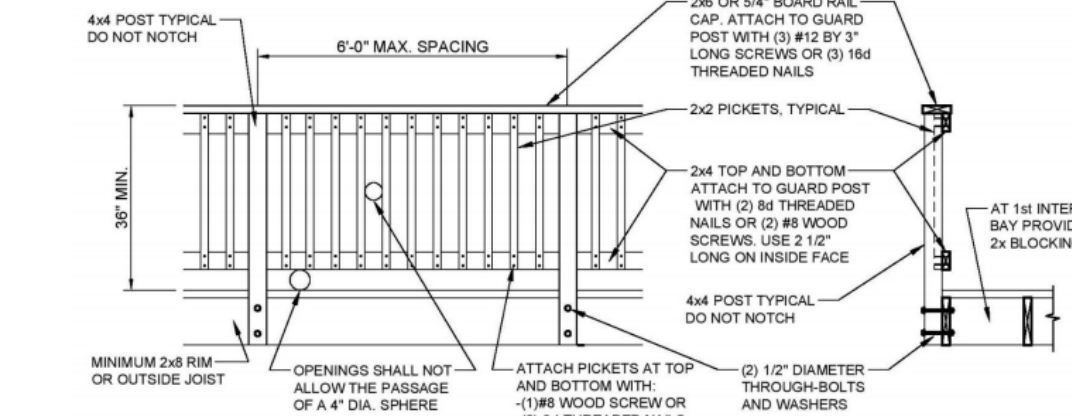
Stairs, guardrails and handrails are to be in accordance with IRC Sections R311 and R312 and the figures below:



Handrails shall be continuous for the full length of the stairs, from a point directly above the top riser to a point directly above the lowest riser. Handrail ends shall be returned of shall terminate in newel posts or safety terminals. Handrail size and connection details:



Guardrail details:



**DECK JOISTS**

Maximum allowable spans for joists shall be in accordance with the table below based on IRC, Table R507.6, for a 40 psf live load, utilizing southern pine beam species.

Joist Size	Allowable Joist Span			
	12	16	24	
2 x 6	9'-11"	9'-0"	7'-7"	
2 x 8	13'-11"	11'-10"	9'-6"	
2 x 10	16'-2"	14'-0"	11'-5"	
2 x 12	18'-0"	16'-6"	13'-6"	

Maximum allowable cantilever for joists shall be in accordance with the table below based on IRC, Table R507.6, for a 40 psf live load, utilizing southern pine beam species.

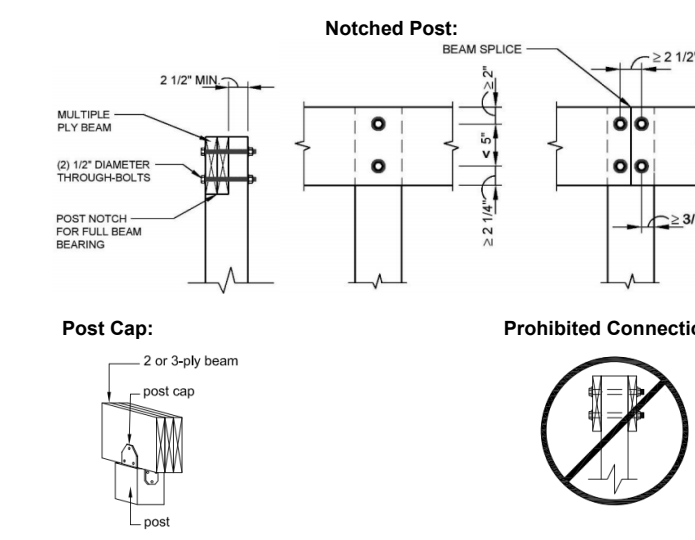
Joist Size	Maximum Cantilever							
	Joist Back Span (feet)							
2 x 6	1'-0"	1'-6"	1'-5"	NP	NP	NP	NP	NP
2 x 8	1'-0"	1'-6"	2'-0"	2'-6"	2'-3"	NP	NP	NP
2 x 10	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	3'-4"	3'-4"	NP
2 x 12	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-1"

**DECKING**

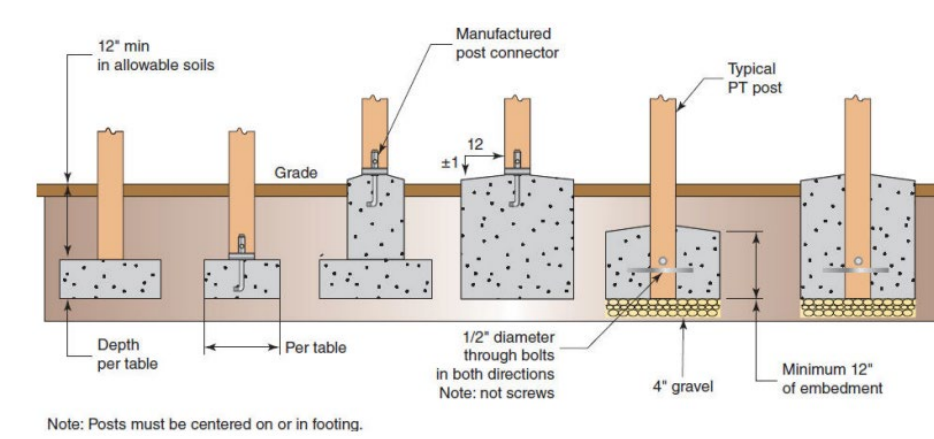
Maximum allowable spacing for joists supporting decking (excluding stairways) shall be in accordance with the table below based on IRC, Table R507.7. Wood decking shall be attached to each supporting member with not less than two 8d threaded nails or two No. 8 wood screws.

Decking Material Type and Size	MAXIMUM JOIST SPACING FOR WOOD DECKING			
	Decking Perpendicular to Joist		Decking Diagonal to Joist	
	Single Span	Multiple Span	Single Span	Multiple Span
1 1/4 inch thick wood	12 inches	16 inches	8 inches	12 inches
2 inch thick wood	24 inches	24 inches	18 inches	24 inches

**DECK POSTS TO BEAM CONNECTION**



**DECK POSTS TO FOOTINGS CONNECTION:**



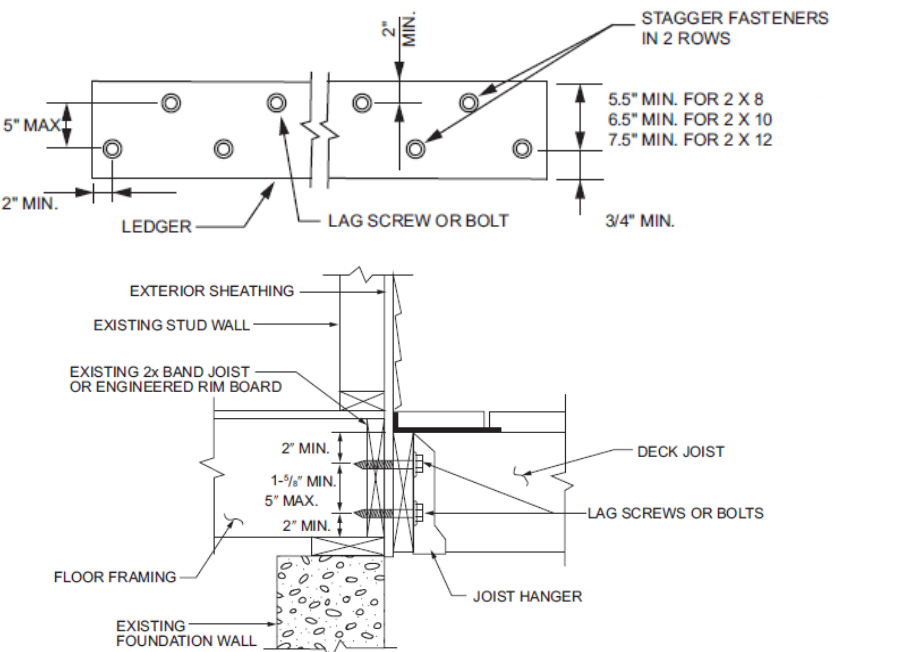
**VERTICAL SUPPORT (DECK LEDGER)**

Vertical loads of the deck shall be transferred to band joists with ledgers. Deck ledgers shall be a minimum 2-inch by 8-inch nominal, pressure-preservative-treated Southern pine, incised pressure-preservative-treated hem-fir, or approved, naturally durable, No. 2 grade or better lumber. Deck ledgers shall not be supported on stone or masonry veneer. Ledgers shall be flashed in accordance with IRC, R703.4. Band joists supporting a ledger shall be a minimum 2-inch nominal, solid-sawn, spruce-pine-fir or better lumber or a minimum 1-inch by 9-1/2-inch dimensional, Douglas fir or better, laminated veneer lumber. Band joists shall bear fully on the primary structure capable of supporting all required loads. For decks with cantilevered framing members, connection of the band joist to ledger shall be designed and constructed to resist uplift resulting from 40 psf acting on the cantilevered portion of the deck.

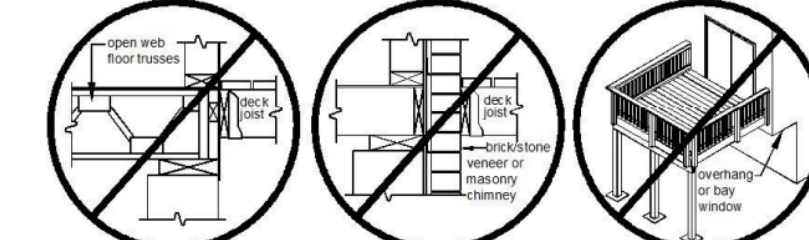
Fasteners used in deck ledger connections shall be in accordance with the table below. Fasteners shall be hot-dipped galvanized or stainless steel. Fasteners are not permitted to be nails subject to withdrawal.

Connection Details	DECK LEDGER CONNECTION TO BAND JOIST					
	Joist Span					
	6' and less	6'-1" to 8'	8'-1" to 10'	10'-1" to 12'	12'-1" to 16'	16'-1" to 18'
1/2-inch diameter lag screw with 1/2-inch maximum sheathing	30	23	18	15	13	11
1/2-inch diameter bolt with 1/2-inch maximum sheathing	36	36	34	29	24	21
1/2-inch diameter bolt with 1-inch maximum sheathing	36	36	29	24	21	16

Placement and spacing of lag screws and bolts in ledgers shall be in accordance with the figure below:



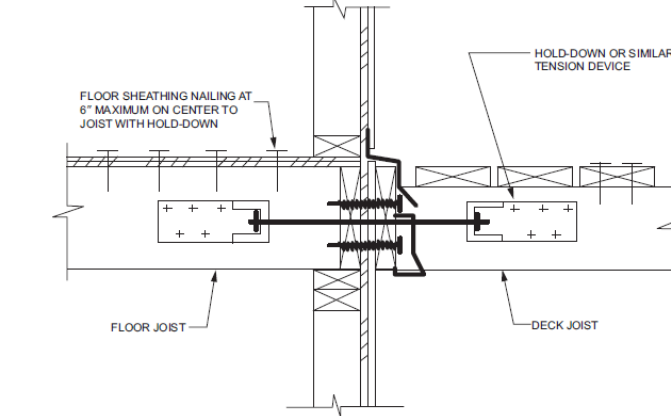
Prohibited ledger attachments are (with open web floor trusses, to brick/stone veneer or masonry chimney, and to an overhang or bay window):



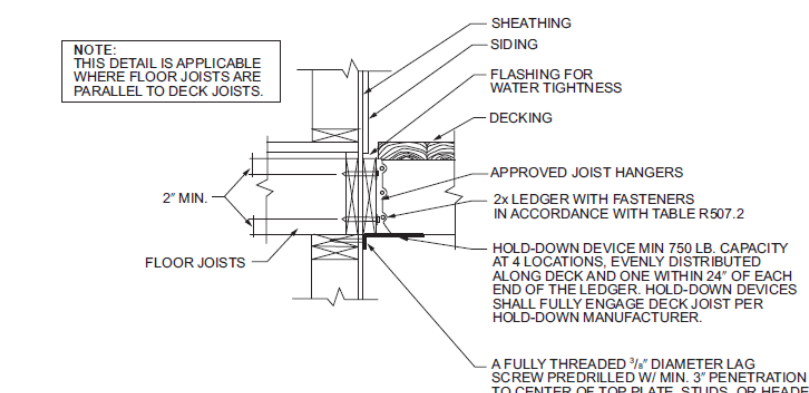
**LATERAL CONNECTIONS**

Lateral loads shall be transferred to the ground or to a structure capable of transmitting them to the ground.

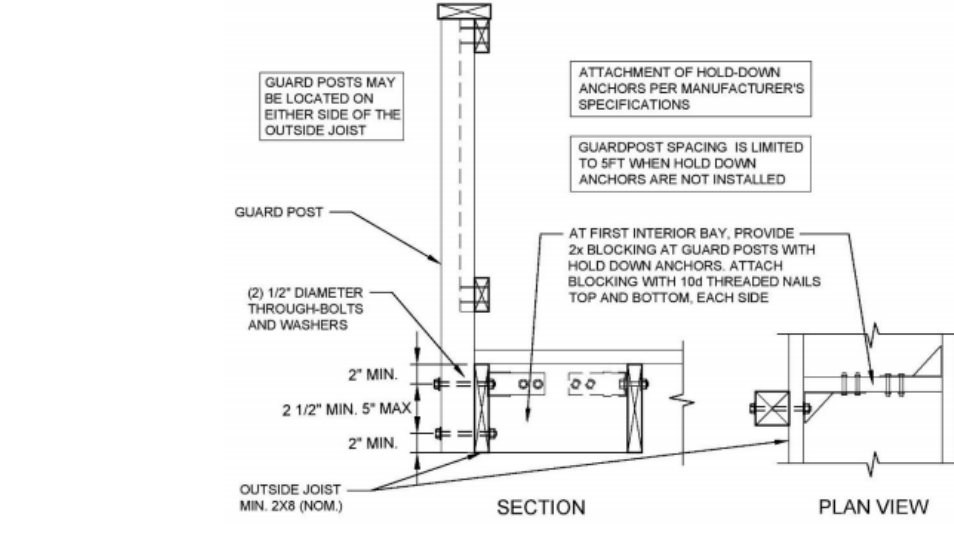
Where the lateral load connection is with hold-down tension devices, they shall be installed in not less than two locations per deck, within 24 inches of each end of the deck. Each device shall have an allowable stress design capacity of not less than 1,500 pounds. See figure below:



Where the lateral load connections are provided with hold-down tension devices, they shall be installed in not less than four locations per deck, and each device shall have an allowable stress design capacity of not less than 750 pounds. See figure below:



Guardrail post connection to deck:



**INSPECTIONS**

The applicant is required to obtain inspections from the County for their constructed deck. Inspections are required for Footings, Framing and Final.

To schedule an inspection utilize the LUN system at: [aacounty.org/LUN](http://aacounty.org/LUN)

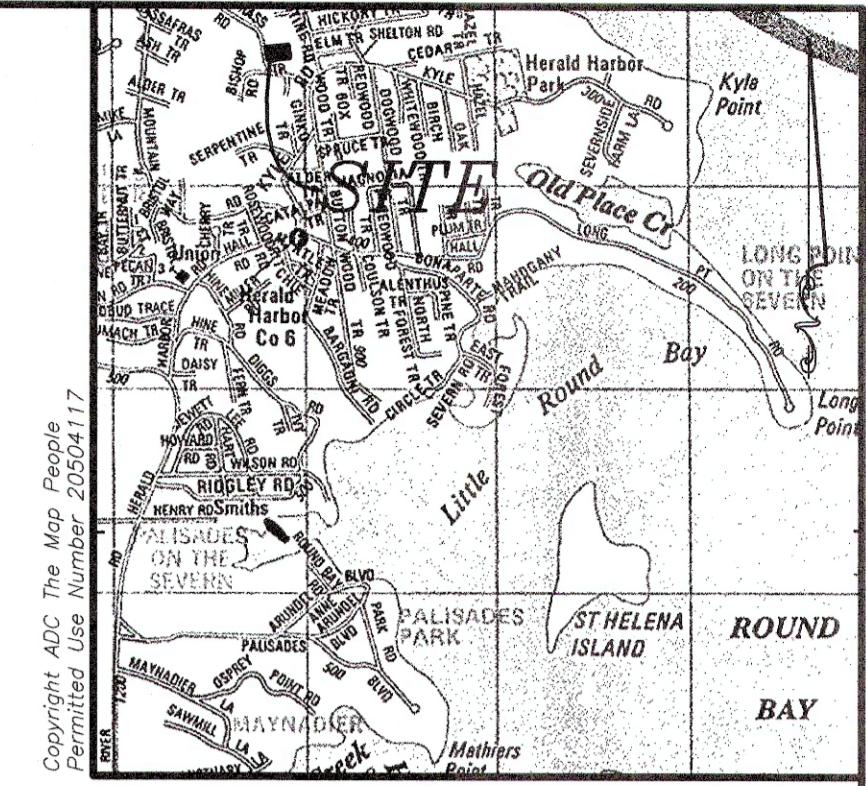
SUBMITTAL	DATE
Variance Submission	10/15/24

**Snodgrass Cottage**  
779 Snodgrass Road  
Crownsville, MD 21032

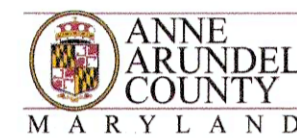
ISSUE DATE	SCALE
	AS NOTED
PROJECT NO.	24-01

Deck/Stairs  
Details

A6.0



VICINITY MAP  
SCALE: 1"=2000'



DEPARTMENT OF HEALTH  
DIVISION OF COMMUNITY & ENVIRONMENTAL HEALTH  
3 Harry S. Truman Parkway  
Annapolis, Maryland 21401

APPROVAL TO CONSTRUCT AN ON-SITE SEWAGE DISPOSAL SYSTEM  
Tax Account #: 241303171620 Property Owner: JUDE HOGAN  
Building Address: 779 SNODGRASS CROWNSVILLE, 21032  
Tax Map: 31 Block: 74 Parcel: 0390 Subdivision: HERALD HARBOR  
LIVABLE SQUARE FOOTAGE: 749 DATE RECEIVED: 12/27/2023

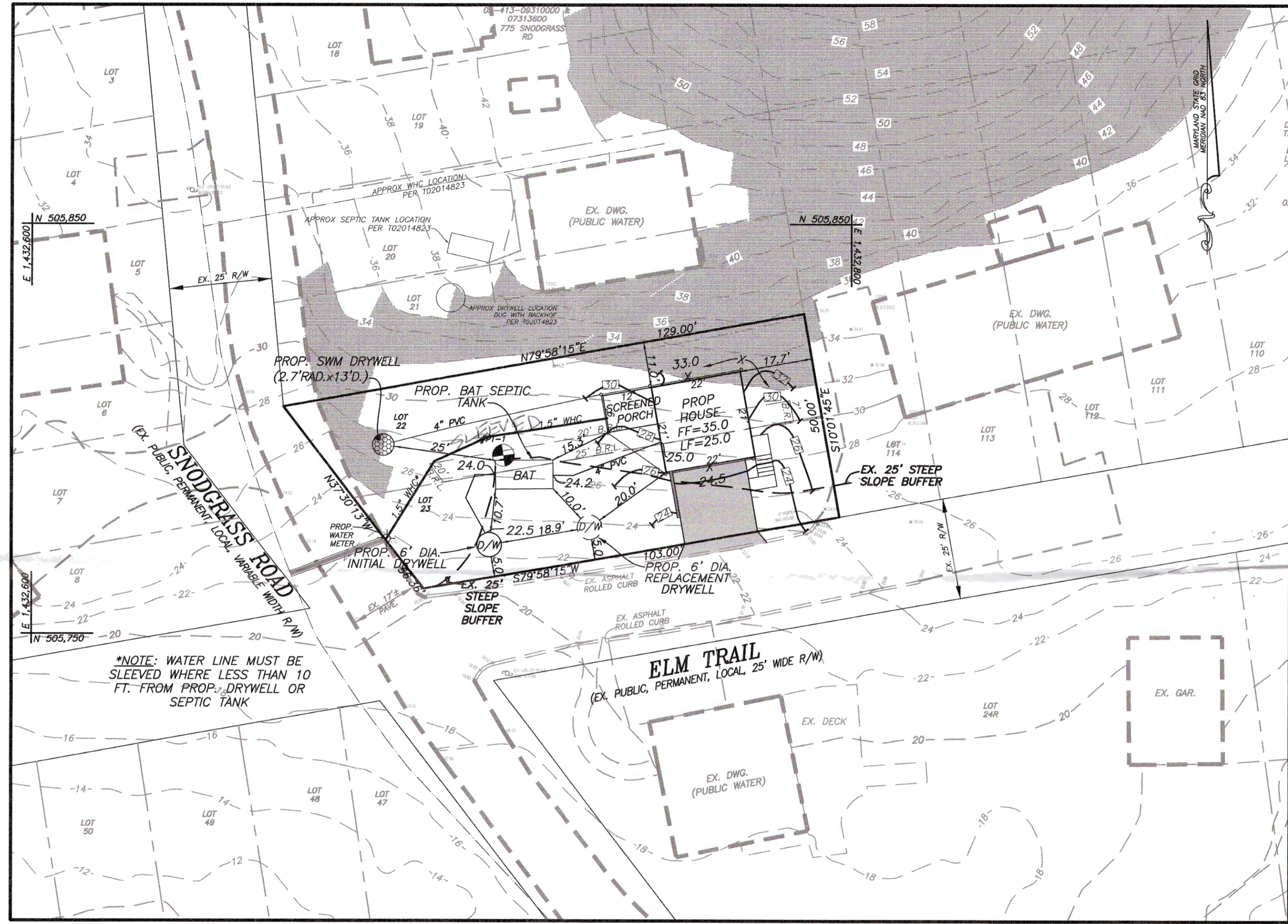
SEWAGE DISPOSAL SYSTEM MINIMUM REQUIREMENTS	
DRY WELL	
SEPTIC TANK: BAT	
DRY WELLS	
Number of Pits	1
Diameter	8
Effective Depth	10
Total Depth	12
Effective Area	251
Gravel From	12
Gravel To	2

COMMENTS: INSTALL SYSTEM PER PLAN FOR NEW UP TO 749SQFT W/ 2 BEDS, PUBLIC WATER.

The house, well and septic system must be located as shown on the site plans submitted on 12/27/2023. Any deviations from the approved site plan must receive prior approval of the Health Department or the building permit may be revised. Property lines must be adequately staked prior to the installation of the on-site sewage disposal system. If this approval includes the installation of a BAT (Best Available Technology for Removal of Nitrogen), it is the responsibility of the owner to ensure the BAT system is inspected and has necessary operation and maintenance performed at a minimum of once per year.

Thomas Scally 03/13/2024  
Program Supervisor Approved By Date of Issuance  
Josh Smith 03/30/2016  
Tested By Date Tested

Approval is valid for two (2) years from the date of issuance unless a building permit is obtained. A Licensed Disposal System Contractor or Master Plumber must secure a permit to install the sewage disposal system in accordance with the approved site plan and above requirements.



PLAN VIEW  
SCALE: 1"=20'

LEGEND

- Existing Curb
- Existing Contour
- Existing Wire Fence
- Existing Wood Fence
- Existing Woods line
- Existing Gas Line
- Existing Gas Valve
- Existing Stormdrain Inlet
- Existing Stormdrain Manhole
- Existing Sewer Manhole
- Existing Sewer Cleanout
- Existing Telephone Manhole
- Existing Utility Pole
- Existing Water Valve
- Existing Water Meter
- Proposed Contour
- Proposed Paved Driveway
- Prop. Test Location (PASS)
- Prop. Test Location (FAIL)
- Initial Drywell
- Replacement Drywell
- 1,500 BAT Tank
- 15%+ Slopes

THIS SITE PLAN HAS BEEN APPROVED BY THE ANNE ARUNDEL COUNTY HEALTH DEPT. ANY DEVIATIONS FROM THIS PLAN COULD RESULT IN THE REVOCATION OF THE BUILDING PERMIT. 3/8 7-13-24

SETBACKS (ZONED R5)

Front . . . . . 25'  
Rear . . . . . 20'  
Side . . . . . 7'

\* Side yards must have at least 20' on an abutting right-of-way.

SEPTIC SYSTEM REQUIREMENTS FOR 2 BDRM. HOUSE LESS THAN 750 SQ.FT.

Initial Septic System	Replacement Septic Systems
- BAT Septic Tank	(1 Required)
1 Drywell	1 Drywell
Diameter=6'	Diameter=6'
Depth=13'	Depth=13'
Separation =18'	Separation =18'

REVISED

BUILDING PERMIT SITE DATA

Lots	Area (Sq. Ft.)	Prop. Cover (Bldg) (Impervious)	Prop. Cover (Bldg) (Permeable)	Prop. Total (Bldg)	(Prop. Bldg Hgt.)
22,23	5,800 Sq.Ft.	570 Sq.Ft.±	954 Sq.Ft.±	See Arch Plans	See Arch Plans

PERC # PAT02051161

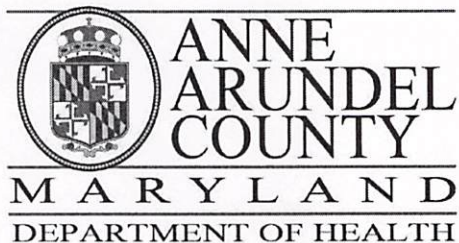
NO.	DATE	BY	REVISION	APPROVED	DATE

DEVELOPER  
MATT RHODERICK  
778 Snodgrass Road  
Crownsville, MD 21032  
301-512-8234

Maryland Professional Engineering Firm License No. 47570  
BOYD & DOWGIALLO, P.A.  
ENGINEERS\*SURVEYORS\*PLANNERS  
412 Headquarters Drive, Suite 5  
Millersville, Maryland 21108  
(410) 729-1234 (P)  
(410) 729-1243 (F)  
JERRY1@BNDPA.COM

Job No.: 20-257  
Sheet No.: 1 of 1  
Checked By: JET  
Date: SEPTEMBER, 2024  
Permit #G0201-  
Proj. No.

SEPTIC PLAN  
LOTS 22 & 23 HERALD HARBOR  
TAX MAP 31 BLOCK 23, PARCEL 390  
ZONED R5  
SECOND DISTRICT  
ANNE ARUNDEL COUNTY, MD 21032  
JOB# 20-257




J. Howard Beard Health Services Building  
3 Harry S. Truman Parkway  
Annapolis, Maryland 21401  
Phone: 410-222-7095 Fax: 410-222-7294  
Maryland Relay (TTY): 711  
www.aahealth.org

**Tonii Gedin, RN, DNP**  
Health Officer

**MEMORANDUM**

TO: Sadé Medina, Zoning Applications  
Planning and Zoning Department, MS-6301

FROM: Brian Chew, Program Manager  
Bureau of Environmental Health 

DATE: November 27, 2024

RE: Jude Hogan  
779 Snodgrass Road  
Crownsville, MD 21032

NUMBER: 2024-0215-V

SUBJECT: Variance/Special Exception/Rezoning

The Health Department has reviewed the above referenced variance to allow a dwelling and associated facilities with less setbacks than required and with disturbance to slopes of 15% or greater.

The Health Department recommends denial to the above referenced request. The proposed house's total living space exceeds the approved square footage under PAT02051161.

If you have further questions or comments, please contact Brian Chew at 410-222-7413.

cc: Sterling Seay

2024-0215-V (779 Snodgrass Road)

I&P Engineering Comments

12/9/2024

Reviewer: Jean Janvier

1. Variance Application - the letter attached to the Variance Application is not signed. (Uploaded pdf entitled, "Variance\_Application\_-\_Snodgrass\_Lots.pdf")
2. Variance Application – the letter attached to the Variance Application list x,xxx sq ft of Total Steep Slope Disturbance (in two areas of the letter) and y,yyy sq ft of Total Proposed Clearing on-site. There is another Letter of Application listing the areas' sizes and that letter is signed. (Uploaded pdf entitled, "Variance\_Application\_-\_Snodgrass\_Lots.pdf")
3. The Variance Application Letters references variances to 18-4-601, which is in reference to R2 Zoning Bulk Regulations; however, the property appears to be in R5 Zoning, which would appear to need to reference 18-4-701. Please clarify and refer to comments from the Zoning Reviewer.
4. The submitted Snodgrass Road Topo Map has the hatching of the road covering up the topo lines crossing the road.
5. There appears to be a downspout shown on the southeast corner of the house. Profile the swm drywell showing it captures and treats all of the roof runoff, as the grades near the southeast corner of the lot are low and it is a long distance to the swm drywell.
6. The Variance Application notes Jude Hogan's address as Scarborough, MD; however, the Variance Site Plan and Pre Critical Area Plan note Scarborough, ME.
7. It appears there is an asphalt curb running along the driveway of the home across Elm Trail (no street address on plans). Verify a curb is there as the runoff from the proposed home, especially the driveway, can't negatively affect the neighboring properties.
8. Revise the existing waterline linetype on the plans and add it to the Legends.
9. Revise the hatching of the various types of steep slopes on the various plans to match their Legends and to be consistent across the plans, as it is very confusing as to which slopes are which across the plans.
10. It appears the steep slope disturbance listed in the Letter of Explanation does not include 142 sq ft for utility connection, but it is included in the Variance Plan and the Post Critical Area Plan. Please clarify.
11. Proposed Lot Coverage listed in the Letter of Explanation is 934 sq ft (excluding the portion of Snodgrass Road that encumbers the property), while the proposed Lot Coverage listed on the Variance Plan is 948 sq ft. The SWM Report notes 934 sq ft.
12. In General Note #5 on the Variance Site Plan, note what year the AA Co. GIS Site information is from.
13. Why does General Note #11 on the Variance Site Plan refer to using the 2001 Maryland Standards and Specifications for Soil Erosion and Sediment Control rather than the 2011 Standards?
14. Please note, it appears the Septic Site Plan will need to be revised, as there are issues with the area quantities in the Building Permit Site Data Chart shown on the plan (Prop. Cover (Bldg.) and prop. Cover (Impervious)). The SWM Drywell is also labeled as a different size.
15. The CAC Project Notification Application has differing numbers for the LDA Area, New Lot Coverage, LOD, etc.
16. Check the LOD listed in the SWM Report. It is noted as approximately 4,475 sq ft but listed differently elsewhere, such as 4,025 sq ft on the Variance Plan.
17. Number all pages within the SWM Report.
18. It appears the 6<sup>th</sup> and 7<sup>th</sup> pages of the SWM Report are duplicates or partial duplicates.
19. It appears the sizing computations of the SWM drywell in the Micro-Scale Practices portion of the SWM Report didn't include the drywell being filled with stone and the appropriate void ratio being used.



20. In the Stormwater Management Design with ESDv Practices section of the SWM Report, there are two Roman Numeral V.
21. In section V. Overbank Flood Protection Volume of the SWM Report, revise the stated volume the "drywell above" is treating.
22. Mature trees are checked off on the checklist but don't appear to be shown on any of the plans.
23. Adjacent properties are missing site address labels on the plans.
24. The Individual Single Family Dwelling (SFD) Engineering Review Checklist notes to refer to the Grading Plan; however, a Grading Plan set was not included within this submittal. Please clarify.
25. The Critical Area Report notes Permeable Pavement is to be used onsite; however, the SWM Report notes it will not be used due to onsite slopes.
26. The SWM Report is not including the existing 151 sq ft of coverage in their swm computations while the Critical Area Report is including it and appears to be assuming it will be treated. Clarify.
27. The Maximum Lot Coverage allowed per the Critical Area Report is 1,963, while the Variance Plan notes only 1,950 sq ft.
28. Revise all plans, letters, reports, etc. so all areas, figures, volumes, etc. are consistent.
29. Per Pre-File Comment #8- A soil boring is required per practice. A soil boring was not included with the plans. If the Perc. Test is to be used as the soil boring to support the swm design, it must be included within the SWM Report and added to the plans set at Grading Permit.
30. Per Pre-File Comment #10- The stormwater management and utility/engineering design review for approval shall occur at Grading Permit.
31. It appears a portion of the neighbor's driveway (Lots 111-114 Elm Trail) is on this property. An easement will be required during Grading Permit
32. At Grading Permit, demonstrate in a profile, the phreatic line from the swm drywell remains in the ground and doesn't surface downslope of the device.
33. At Grading Permit, include the Soils and Vicinity Maps in the SWM Report, as the report must stand-alone.
34. At Grading Permit, show and label the size and material of the existing public waterline including the Public Utility Drawing Number on which it is shown. Also label the size of the WHC in the public right-of-way and the size of the proposed water meter.
35. The property will be served by an individual private septic system. The septic system will need to be reviewed and approved by the Health Department.

# 2024-0215-V

Menu Cancel Help

Task Details OPZ Critical Area Team

**Assigned Date**

11/20/2024

**Assigned to**

Kelly Krinetz

**Current Status**

Complete w/ Comments

**Action By**

Kelly Krinetz

**Comments**

Recommendations for this request are premature until such time as the applicant has resolved the Health Department concerns with the size of the proposed dwelling in relation to the capacity of the septic system since resolution of this issue may result in a change to the site plan. Every effort should be made to utilize a size/design/footprint that minimizes disturbance to the 25% slopes as much as possible.

**End Time**

**Billable**

No

**Time Tracking Start Date**

**In Possession Time (hrs)**

**Estimated Hours**

0.0

**Comment Display in ACA**

- All ACA Users
- Record Creator
- Licensed Professional
- Contact
- Owner

Task Specific Information

**Due Date**

12/11/2024

**Assigned to Department**

OPZ Critical Area

**Status Date**

12/12/2024

**Overtime**

No

**Start Time**

**Hours Spent**

0.0

**Action by Department**

OPZ Critical Area

**Est. Completion Date**

- Display E-mail Address in ACA
- Display Comment in ACA

Expiration Date	Review Notes	Reviewer Name
Reviewer Phone Number	Reviewer Email	

**Anne Arundel County Office of Planning and Zoning**  
 Individual Single Family Dwelling (SFD) Engineering Review Checklist

*FOR VAMANE SUB - NOT FOR PERMIT USE*

*1055 22/23, HOWARD HAMBOR*



Project Name-Number	
Design Professional	Design Professional Certification (Seal, Signature and expiration information)
<b>Instructions:</b>	
1. The checklist must be submitted with the first submittal. 2. Packages submitted without the completed checklist will not be reviewed and will be returned to the applicant. 3. Design Professional (Des.) should insert into each box either of the following: a. ✓ This item has been addressed b. N This item does not apply to this project 4. All boxes must be checked. 5. The review engineer (Rev.) will upon review of the plans verify by inserting either of the following: a. ✓ This item has been adequately addressed or agree that it does not apply. b. X This item has not been adequately addressed. (Use the remarks column to indicate via letter designation, which item needs to be addressed or if a more detailed response is required then indicate in the remarks column that the item is addressed in the comment letter). 6. <b>A copy of the checklist will be returned to the applicant with the comment letter.</b> 7. <b>The checklist must be returned with the second submittal utilizing the same check format indicated in item 3 above</b>	
▶	This checklist is being provided as a general guide for identifying the minimum features that should be addressed prior to submitting the plans for engineering review <b>it is to be used in conjunction with the site development plan checklist for Single Family Dwellings (SFD).</b>
▶	The design consultant by assigning his/her seal and signature certifies that the plans were completed in accordance with all currently applicable design standards.
▶	Plans that are incomplete as per the checklist items will result in an incomplete review and will be returned to the consultant. The resubmittal will be considered a first submittal in the review process.
▶	The Stormwater Management Concept items will be reviewed with the first submittal. If based on the review, this office determines that SWM is being addressed using Environmental Site Design (ESD) to the Maximum Extent Practicable (MEP), then the engineering review of the final details will be completed.
▶	If this office determines that SWM is NOT being addressed using Environmental Site Design (ESD) to the Maximum Extent Practicable (MEP), then the engineering review of the final details will NOT be completed. The applicant will then address the comments that are required to demonstrate that ESD to the MEP has been addressed prior to commencement of final plan review.

Engineering Review for Single Lot Grading Permit Plans		Remarks
First Submittal	Second Submittal	
Des.	Rev.	Des.   Rev.
<b>Stormwater Management Concept Review</b>		
<b>Drainage Area Maps</b>		
1		
2	TSD	Provide the following drainage area maps: A) Entire drainage area to site and or affecting site. B) On site drainage areas to SWM devices  TO BE DRAWN ON GSL PLANS
3	TSD	<b>All Drainage area maps:</b> A) Contours numbered with legible lettering B) contour lines extend at least 200' beyond drainage area boundaries C) Travel path for Tc shown with segments labeled (distance, slope and "n" factor) D) Hydrologic soil groups delineated and shaded E) Acreage shown for entire drainage area and each sub area used in computations for curve number or "C" factor F) North arrow shown G) Scale shown.  " " " "
4	✓	Soils: A) Labeled and shaded based on Hydrologic Soil Group (A, B, C, D). B) Indicate highly erodible soils by separate shading.
5	TSD	If all of the required information required to be shown, such as soil and zoning etc. cannot be shown on the overall map then the information may be shown on a separate map. These maps must be shown at same scale as overall map.
6	"	Scale shall be 1" = 100' for sites with acreage ≤ 25 acres, or 1" = 200' for sites with acreage > 25 acres.
<b>On Site Plans</b>		
7	"	
8	✓	North arrow/NAD 83;
9	TSD	Benchmark- BM NO., description and elevation. (Indicate vertical control used, NAVD 1929 or NAVD 1988);  SADW ON GSL PLAN
<b>Pre Development</b>		
10	✓	
11	✓	Site outline showing bearings and distances.
12	✓	<b>Resource Mapping:</b> Provide a composite map which allows clear depiction of the existing site resources and conditions.
13	✓	Site resources include but are not limited to: A) Mature trees B) Tidal and Non tidal Wetlands (based on report) C) Floodplains D) Streams labeled as (Perennial, Intermittent, etc.) E) Slopes greater than 25% (15% in critical areas). F) Buffers to streams and wetlands, G) Historical and or archaeological resources
14	✓	<b>Highlight and shade the areas that should be protected from development:</b> This includes site resources listed above and sensitive features such as steep slopes, flood plains, etc.  ER SLOPES

**Anne Arundel County Office of Planning and Zoning**  
Individual Single Family Dwelling (SFD) Engineering Review Checklist

		First Submittal		Second Submittal		Engineering Review for Single Lot Grading Permit Plans	Remarks
		Des.	Rev.	Des.	Rev.		
15	✓					Certification Note: Provide a note certifying that the location of features shown on the Resource map has been field verified. Note must be signed by design consultant.	ON GSC PLANS
16	✓					Pre and Post development discharge points from the site shown and labeled	✓
17	✓					Indicate if site is within any Bog Drainage or Impact areas	✓
18	✓					Provide a tabulation of sub drainage areas that provides a linkage with information used in computations. (i.e. any number used in curve number computations should be included in this table and clearly shown on the map.)	✓
19	✓					Provide the names of public or private roads that abut or traverse the site. B) Show right of way limits C) Indicate if road is on the scenic and historic road inventory.	✓
20	✓					Location of existing structures, septic areas, and water wells within 100 feet of site located on abutting and adjacent properties, as applicable; labeled "remain", "to be removed", or "to be abandoned".	✓
21	✓					Property ownership and info- including the tax # for abutting and adjacent properties.	✓
22	✓					Limits of Critical Area designations: LDA, RCA, IDA;	SEE VARIANCE LIST OF QUINCY'S
23						<b>Proposed Development Plan</b>	
24	✓					<b>Site layout meets the criteria listed below:</b>	
25	✓					Proposed imperviousness and disturbance is minimized to the maximum extent practicable	
26	✓					Protects conservation areas, and areas delineated in line 14 above, to the maximum extent practicable	
27	✓					SWM is addressed by utilizing non structural practices, natural areas, landscape features and micropractices to manage runoff from impervious surfaces.	SEE SWM REPORT
28	✓					Site graded so that runoff flows from impervious areas directly to pervious areas or natural conveyance systems	
29	✓					Natural flow paths between the site and upstream and downstream systems are maintained	
30	✓					Sheet flow and natural overland flow processes maintained wherever it is feasible	
31	✓					Stable conveyance of runoff provided to offsite areas.	
32	N/A					Structural BMPs are used only where absolutely necessary	MICPA - SAME PRACTICE, D/W
33	✓					Show and label proposed contour lines.	
34	N/A					Easements provided for any work proposed on private offsite properties.	
<b>End of Preliminary Plan Review</b>							

Engineering Review for Single Lot Grading Permit Plans		Remarks	
Final Plan Review			
Reports, Computations and Attachments			
First Submittal	Second Submittal		
Des. Rev.	Des. Rev.		
36			
37	✓		All computations are provided in a booklet that is A) Bound B) Sheets numbered C) Signed and Sealed by design professional D) Contains a table of contents.
38	✓		Provide a narrative that describes A) How natural features are protected and enhanced, B) How natural flow patterns are maintained, C) Measures taken to reduce impervious coverage.
39	NA		Address how the 10% pollutant reduction will be achieved if required.
40	✓		<b>Study points:</b> Provide pre and post development runoff for all study points.
41	✓		The same method of computation used when comparing runoff (i.e. if TR-55 used for post development runoff, it must be used for pre development as well)
42	✓		Compute rainfall amount treated in each facility and provide a table that shows the volume treated for each nonstructural method, micro practice and structural device and includes a summary of the total volume required and provided.
43			Roads
44	NA		Road plan checklist included for any proposed road improvements.
45			Use this section of the checklist only for plans where road improvements are not required.
46	NA		If road is not improved based on current classification and no improvements are proposed, then provide modification decision information on the plan.
47	✓		Bearing and distances shown on plan and plat
48	NO		Right of way bearing and distances shown on both sides of each proposed or existing road that is part of contract shown in plan view; Limits defined via bearings and distance and/or complete curve information; Show maximum and minimum widths if ROW is variable.
49	✓		Existing roads that abut or traverse the site (improved and unimproved) show: A) Road name; classification of road; B) Ownership (SHA, County, Private); C) Surface type; D) Show curb and gutter or edge of pavement E) Indicate if road is scenic and historic.
50	✓		ROW labeled A) As Temporary or Permanent B) Public or Private
51	NA		Proposed right of way widths shown if applicable
52	NO		Clear sight triangle at intersections
53	NA		Existing standard roads: Based on road classification, either provide right-of-way dedication and/or frontage road improvements (as applicable) or, submit for a modification to current Article 17 Section 2-103;

SEE 65L PLANS  
IF REQD. C 65L

		First Submittal		Second Submittal		Engineering Review for Single Lot Grading Permit Plans	Remarks
	Des.	Rev.	Des.	Rev.			
<b>Storm Drainage - Stormwater Management</b>							
54						Storm Drainage checklist is required for any proposed public storm drainage improvements.	
55	N/A					<b>Right to Discharge:</b> Determine if any rights-to-discharge, on-site or off-site, are required.	
56	N/A					Provide all necessary computations and plans to show how SWM is addressed. If disconnections are used, show the flow path on a plan that includes labeled contours.	SEE PERMIT
57	N/A					All SWM treatments must be covered under a Private SWM agreement to be executed with the grading permit.	w/ FUTURE GR.
<b>Water and Sewer</b>							
58	N/A					If public water and or sewer is being extended then please supply the completed water and sewer checklist with the necessary public plans.	
59						<b>This portion of the checklist is to be used only if water and or sewer system extensions are not proposed</b>	
60	✓					Label all existing mains along the property frontage showing A) Sizes and types, B) As-built tracing numbers.	
61	✓					Meters, cleanouts etc. located outside of driveways.	
62	N/A					Easement provided where: A) Water meter, B) Cleanout, C) Fire hydrant, D) Grinder pump, and or E) Mayo tank. is not located within public right-of-way	
63	N/A					Indicate current water and sewer service areas and category (existing, planned, no-planned service, etc.).	ON GSE PLANS
64	N/A					Mains extended to limits of property and through the property frontage, if lot is located within the required extension distance (RED) as per the current water and sewer master plan.	
65	N/A					If site is within existing or planned service and utilities are not being extended, indicate the distance between the property line and the closest public utility.	APPROX SURE
66						Show location of water and sewer connections to public utilities.	
<b>Flood Plain</b>							
67						<b>Flood plain:</b> A) Determine if flood plain exists on site. B) If flood plain exists use simplified method to determine water surface elevations on site	SEE 6.N.# 1B
68	✓					For previously platted flood plain: Flood plain limits shown, and flood plain source referenced.	
69	N/A					<b>For flood plains computed with this project:</b> A) Cross sections shown and labeled on the site development plan B) Q100, Elevation and station shown for each cross section	
70	N/A					Floodplain drainage area information used in computations clearly depicted on drainage area maps	
71	N/A					Runoff computations for flood plains based on ultimate development of the drainage area based on zoning. No reductions based on storage in ponds, oversized pipes and undersized culverts.	
72	N/A						
73						<b>Miscellaneous</b>	
74	N/A					Provide any necessary plats for easements, dedication etc.	w/ FUTURE GR.

**STORMWATER MANAGEMENT  
COMPUTATIONS**

For

***LOTS 22 & 23  
779 SNODGRASS ROAD  
PLAT BOOK 4, P. 14  
Tax Map 31, Block 23, Parcel 390  
CROWNSVILLE, MD 21032***

***To accompany Variance Submittal***



October, 2024

*"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. 19577,  
EXPIRATION DATE 3-16-2026"*

by

***Boyd & Dowgiallo, P.A.  
412 Headquarters Drive  
Suite 5  
Millersville, MD 21108  
410/729-1234***



## **TABLE OF CONTENTS**

Table of Contents	i
SWM Statement	ii
Introduction	1
Consideration of Alternative Practices	1
Implementation of Sediment & Erosion Control	2
Pollutant Removal	2
Summary of Conclusions	3
Outfall Statement	3
Stormwater management Computations	4
ESDv Volume	5
Recharge Volume	9
Channel Protection Volume	10
Overbank Flood Protection Volume	10
Extreme Flood Protection Volume	10
Vicinity Map & Soils Map	11
TR55 Computations	12

## **STORMWATER MANAGEMENT STATEMENT**

As stated in Article 16 of the Anne Arundel County Code, the purpose of Stormwater Management is “to protect and promote public health, safety and general welfare through the management of stormwater, to protect public and private property from damage, to reduce the effects of land use changes on stream channel erosion, to maintain and assist in the improvement of water quality, to preserve and enhance the environmental quality of streams and stream valleys, and to minimize adverse impacts on water quality and conserve plant, fish, and wildlife habitat.”

In accordance with the General Performance Standards, outlined in the 2010 Anne Arundel County Stormwater Practices and Procedures Manual, the use of Environmental Site Design Practices (ESD) shall be provided as necessary to address the required performance standards, to prevent adverse impacts from stormwater runoff.

As defined, in Chapter 6, Section 6.1.5, the MEP standard is met when:

- I. channel stability is maintained and
- II. predevelopment groundwater recharge is replicated and
- III. non-point source pollution is maintained and
- IV. regenerative step pool conveyance systems are employed wherever practicable on all public stormwater systems.

## **INTRODUCTION**

The subject site is known as Lots 22 & 23, Block 36B Section E of Herald Harbor, as shown on the plat of "Herald Harbor", recorded among the Land Records of Anne Arundel County in plat book 4, at page 14, and is located at 779 Snodgrass Road in Crownsville, Maryland 21032. The site contains approximately 5,800 sq. ft. (0.13 ac.) of land zoned R5 and is located on the north side of the intersection of Snodgrass Road and Elm Trail. In its current condition, the property is vacant and is predominantly covered by existing woodlands. Ground slopes on the site vary between 14 and 30% and the site drains in a southwesterly direction to the right of way of Elm Trail. The lots are located within a Limited Development Area of the Chesapeake Bay Critical Area due to its proximity to the Severn River and are shown on F.E.M.A. flood map 24003C0162F, but are not impacted by a tidal flood zone.

The property is not known to contain any rare, threatened or endangered species of plants, animals, and no wildlife habitat areas have been identified. The site is not known to contain any historical or archaeological artifacts or other items of historical or archaeological interest.

Planned development of the site includes the construction of a single-family residential dwelling, driveway, sidewalk, public water connection, private septic system, and stormwater management practices. The proposed improvements will result in the disturbance of approximately 4,475 sq. ft. and result in a new impervious cover of 934 sq. ft.

## **CONSIDERATION OF SWM PRACTICES & ALTERNATIVES**

Stormwater design for the proposed improvements was provided in accordance with Chapter 5 of the 2009 M.D.E. where three general types of stormwater methods are used to provide the required ESD volume at a site:

### *1. Alternative Surfaces*

Listed under Section 5.3, these surfaces include green roofs, permeable pavements and reinforced turf. A green roof practice was considered, but the heavier structural design required for the roof and the limited style options available are discouraging to homeowners. Therefore, this practice was not selected. The second alternative, permeable or porous pavement, is a stormwater management practice that was considered for the driveway area but could not be utilized due to the existing ground slopes. Therefore, this practice was not considered either. Reinforced turf was considered but declined due to the ground slopes present. Therefore, for this project, no alternative surfaces were chosen as an ESD practice.

### *2. Non-structural Practices*

Listed under Section 5.4.2 of the 2009 M.D.E. Manual, these practices include disconnection of rooftop runoff, disconnection of non-rooftop runoff, and sheetflow to conservation area. A disconnection of rooftop runoff practice was not selected due to the ground slopes present on the lot. A disconnection of non-rooftop runoff practice was not selected either due to ground slopes. A sheetflow to conservation area practice was not utilized due to the lack of any wooded conservation areas on or adjacent to the subject site. Therefore, no non-structural disconnection of non-rooftop runoff practices were utilized for the proposed development.

### 3. *Micro-scale Practices*

Listed under Section 5.4.3 of the 2009 M.D.E. Manual, these practices include small water quality treatment devices to capture runoff from small, discrete areas. Out of the nine options listed under this category, those that provided the most effective treatment were the use of a drywell practice. This practice was utilized to capture and treat runoff from the proposed rooftop area of the dwelling.

### **PROTECTION OF NATURAL RESOURCES**

Through the use of minimal grading techniques, the disturbed area will remain small and the amount of natural resources affected will be small. Through modern, environmentally friendly stormwater management techniques, rainwater will be captured by using practices that make use of micro-scale practices. These help to reduce the amount of disturbance to any existing natural resources also.

### **RETENTION OF NATURAL FLOW PATTERNS**

Through the use of proposed grades that will mimic the existing site grades, no disturbance to existing flow patterns will occur and the direction of rainwater runoff will remain largely unaffected.

### **REDUCTION OF IMPERVIOUS SURFACES**

The amount of impervious cover proposed is within the acceptable amount allowed under zoning and Critical Area laws.

### **POLLUTANT REDUCTION & REMOVAL**

Given that the site is *not* located within a Chesapeake Bay IDA critical area, it is *not* mandatory that the proposed stormwater management techniques address the “Critical Area Guidance Manual” and provide for 10% pollutant removal reduction. However, the proposed microscale practice will provide pollutant removal to some extent and help reduce the amount of phosphorus and other chemicals to downstream receiving storm drains and waters.

### **IMPLEMENTATION OF SEDIMENT & EROSION CONTROL**

The only sediment control measures being used are those provided to capture sediment laden runoff from leaving the site.

### **SOIL & FACILITY INVESTIGATION**

The Anne Arundel County Soil Survey indicates that the entire site is underlain by soils of the Collington-Wist & Westphalia soils, (CSF), 25 to 40% slopes. These soil types have a hydrologic rating of "A" and are considered to be very conducive to infiltration practices - overall. The stormwater management practice chosen to provide treatment of runoff from impervious areas on the site are based on the results of perc tests taken by a Sanitarian with the Health Department under perc test PAT02051161 and T02014823. Based on the results of the perc tests, the use of infiltration as a means of providing stormwater management on site is a feasible alternative.

## **SUMMARY OF CONCLUSIONS**

In accordance with the 2009 Maryland Department of the Environment (M.D.E.) Stormwater Design Manual and the 2017 Anne Arundel County Storm Water Management Practices and Procedures Manual, the water quality, recharge, channel protection, overbank flood protection, and extreme flood protection volumes were considered in the overall stormwater management design for this site.

ESDv is required in the amount of 116 cu. ft. and is being provided by a microscale drywell practice. The recharge volume is required in the amount of 41 cu. ft. and is automatically being provided through the use of the ESD practices being utilized on-site. The channel protection volume is being provided since the environmental site design target rainfall amount is being met through the use of ESD practices, in accordance with the 2009 M.D.E. Manual. The overbank flood protection volume is being provided by the “Reduced Curve Number Method”, whereby a sufficient amount of ESDv volume is being provided on-site to reduce the post-development 10-year discharge to its 10-year pre-development discharge rate. The extreme flood protection volume is not required since the site does not lie within a non-tidal 100-year floodplain and there are no properties downstream of the site that lie within a 100-yr. non-tidal floodplain.

## **OUTFALL STATEMENT**

Runoff from the site flows in a pre-dominantly southerly direction to the right-of-way of Elm Trail, an existing 25-ft. public right-of-way, and crosses Elm Trail in a southwesterly direction and into a large wooded low-lying marsh area of Valentine Creek. The runoff joins Valentine Creek and meanders northwards into the Severn River. In accordance with the October, 2017 A. A. County Stormwater Management Practices & Procedures Manual, since the site is platted lot and the overbank flood protection volume is being provided on site, the site outfall and point-of-investigation (P.O.I.) are the point along the property's southern boundary line with Elm Trail.

The property was visited by an employee of Boyd & Dowgiallo, P.A. in September, 2024 to inspect the property and site outfall/ P.O.I. It was noted that the site outfall and the P.O.I. were found to be stabilized by lawns and woods and did not show any signs of erosion. Given that the overbank flood protection volume is being provided, there should not be an increase in runoff from the site or erosion downstream.

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***STORMWATER MANAGEMENT  
COMPUTATIONS***

## **I. ENVIRONMENTAL SITE DESIGN VOLUME**

In Section 5.2.2 of the revised Chapter 5 of the 2000 M.D.E. Stormwater Design Manual, it is stated, “the criteria for sizing ESD practices are based on capturing and retaining enough rainfall so that the runoff leaving a site is reduced to a level equivalent to a wooded site in good condition as determined using U.S.D.A’s Natural Resource Conservation Service methods...”the goal is to provide enough treatment using ESD practices to address  $C_p$  requirements by replicating an RCN for woods in good condition for the 1-year rainfall event. In accordance with the “Stormwater Management Act of 2007” and Table 5.3 of the revised Chapter 5 M.D.E. Manual, the environmentally sensitive runoff volume,  $ESD_v$ , is equal to,

$$ESD_v = P_E \times R_v \times A$$

Where,  $P_E$  = the rainfall target from Table 5.3

$R_v$  = the volumetric runoff coefficient

$A$  = site area

Site area = 5,800 sq. ft. (0.13 ac.)

Total Proposed Impervious Cover = 934 sq. ft.

$$\%I = 934/5,800 = 16.1\%$$

$$R_v = 0.05 + 0.009(16.1) = 0.195 \text{ (say } 0.20)$$

Existing soil types present = HSG “A”

*From Table 5.3 of Chapter 5 of the M.D.E. Manual, the target rainfall based upon the impervious cover proposed and the soil types present is equal to 1.2”.*

and the  $ESD_v$  volume becomes,

$$ESD_v = (1.2")(0.20)(5,800)/12 = 116 \text{ cu. ft.}$$

**This is the *total*  $ESD_v$  volume required for the proposed improvements to return the site back to a state of “woods in good condition”.**

This volume will be provided on-site within ESD practices as described below.



***STORMWATER  
MANAGEMENT DESIGN  
With  
ESD, PRACTICES***

## MICRO-SCALE PRACTICES

### *Micro-scale Practices - Drywells - Section 5.4.3 M-5*

Section 5.4.3 M-5 of Chapter 5 of the 2009 M.D.E. Stormwater Design Manual states that drywells may be used to treat runoff from small drainage areas such as a single rooftop or single downspout. When designed in accordance with the guidelines in Section 5.4.3 M-5, drywells will provide treatment for the required  $ESD_v$  and  $Re_v$ . A  $P_E$  value based on the  $ESD_v$  captured and treated shall be applied to the contributing drainage area.

A drywell will be utilized to capture and treat the runoff from the proposed roof area of the dwelling, deck and screened porch.

The proposed area of the dwelling, deck and screened porch equals approximately 570 s.f. Allowing for a maximum of 500 sq. ft. of roof area to a single downspout, and 1,000 sq. ft. to a drywell, the dwelling will require two drywells. The ESD volume provided by one drywell can be found from the following equation:

$$ESD_v = \frac{(P_E)(\text{Roof Area})}{12} = ESD_v \text{ cu. ft.}$$

*Given that the site lacks an adequate outfall, the 10-year overbank flood protection volume will be required to be provided on site. Therefore, the target rainfall will be increased over and beyond what is required from 1.2" to 2.45" or,*

$$ESD_v = \frac{(2.45")(570 \text{ sq. ft.})}{12} = 116 \text{ cu. ft.}$$

**Use a circular drywell with an 8-foot depth will require a radius of approximately 2.2'. Therefore, provide a stormwater management drywell having the dimensions of 8'Dx2.2'R**

*The final sizes of the drywells will be provided below with the "Overbank Flood Protection Volume" of this Report.*

---

## SUMMARY OF ESD VOLUMES

<i>Total Required ESD volume</i>	<b>= 116 cu.ft.</b>
<i>Microscale Practice – Drywell</i> ESD volume prov'd.	= 116 cu. ft.
Total ESD volume prov'd.	= 116 cu.ft.
Total ESD volume required	<b>= 0 cu.ft.</b>

## **II. RECHARGE VOLUME**

The required recharge volume ( $Re_v$ ) for the proposed development is determined in accordance with the following equation, as stated in Section 2.2 of the MDE Stormwater Design Manual:

$$Re_v = \frac{(S)(R_v)(A)}{12} \text{ ac-ft, where A and } R_v \text{ are as defined above, and}$$

S = soil specific recharge factor;  
= 0.14 for type "A" soil.

The required volume is calculated as follows:

$$Re_v = (0.42)(0.20)(5,800 \text{ sq. ft.})/12 = \mathbf{41 \text{ cu. ft.}}$$

**This is the required recharge volume required for the proposed improvements. The recharge volume will be provided through the use of environmental site design practices, as described below.**

### **III. CHANNEL PROTECTION VOLUME**

The channel protection volume for this lot is being provided through the use of environmental site design practices that provide the target rainfall value of 1.2", as specified in Table 5.3 of the revised M.D.E. Manual and return the site back to a "pre-development state of woods in good condition".

### **V. OVERBANK FLOOD PROTECTION VOLUME**

The overbank flood protection volume is required in the amount of 163 cu. ft. and was determined through the Reduced Curve Number Method. This volume will be provided within the proposed stormwater drywell on-site serving the dwelling as sized above for the ESDv volume, as follows:

From above in this Report, the drywell is providing 137 cu. ft. of ESDv volume. The additional amount of ESDv volume required equals  $163 - 137 = 26$  cu. ft. Provide a drywell with the constructed volume of,

$$V_{\text{const.}} = 163 \text{ cu. ft.} / 0.40 = 408 \text{ cu. ft. (where 0.40 equals the porosity of #2 stone)}$$

Using a constructed area of 22.9 sq. ft., the required depth to provide 408 cu. ft. of volume is equal to

$$\text{Depth const.} = \text{Volume} / \text{Area} = 408 \text{ cu. ft.} / 22.9 \text{ s.f.} = 17.8 \text{ ft.}$$

**Therefore, provide a drywell on-site with the dimensions of 2.7'R x 17.8'D or alternatively, to provide the overbank flood protection volume in the amount of 163 cu. ft.**

**The overbank flood protection volume is being provided by the "Reduced Curve Number Method", whereby a sufficient amount of ESDv volume is being provided on-site to reduce the post-development 10-year discharge to its 10-year pre-development discharge rate.**

### **V. EXTREME FLOOD PROTECTION**

The extreme flood protection volume is not required since the site does not lie within a non-tidal 100-year floodplain and there are no properties downstream of the site that lie within a 100-yr. non-tidal floodplain.

***SOILS & VICINITY MAPS***  
***(See GSC Plans for Maps)***

***TR-55 COMPUTATIONS***

(site only)

**CHANGE IN CURVE NUMBER METHOD for 10-yr. Storm**  
(per 10-2017 A. A. County SWM Practices & Procedures Manual)

---

**779 Snodgrass Road**  
Crownsville, MD 21032  
**10 - YEAR**

By: JET  
8/19/2024

$$CN = 200 / [(P + 2Q + 2) - \sqrt{(5PQ + 4Q^2)}]$$

$Q_{\text{stored}}$ , in.	=	0.35
P (design rainfall depth), in.	=	5.2
$Q_{\text{dev.}}$ , in.	=	0.78
Q ( $Q_{\text{dev.}} - Q_{\text{stored}}$ ), in.	=	0.43

**CN = 43.4**

**RCN = 50**

$Q_{\text{stored}} = \text{ESDv c.f.} \times 12 / (43,560 \times \text{Site Ac.}) = X''$

$Q_{\text{stored}} = 163 \text{ cu.ft.}$  or  $0.35$

$Q_{\text{dev}} = 0.78 \text{ in.}$

Site =  $0.13 \text{ ac.}$

WinTR-55 Current Data Description

--- Identification Data ---

User: TFJ Date: 9/25/2024  
 Project: 779 SNODGRASS RD Units: English  
 SubTitle: 10 YR Areal Units: Acres  
 State: Maryland  
 County: ANNE ARUNDEL  
 Filename: C:\TR55\20-257 10yr.w55

--- Sub-Area Data ---

Name	Description	Reach	Area (ac)	RCN	Tc
PRE		Outlet	0.13	30	0.1
POST		Outlet	0.13	50	0.1
REDUCED		Outlet	0.13	43	0.104

Total area: .39 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
3.3	.0	5.2	.0	.0	7.4	.0

Storm Data Source: User-provided custom storm data  
 Rainfall Distribution Type: Type II  
 Dimensionless Unit Hydrograph: <standard>



TFJ

779 SNODGRASS RD  
10 YR  
ANNE ARUNDEL County, Maryland

Storm Data

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
3.3	.0	5.2	.0	.0	7.4	.0

Storm Data Source: User-provided custom storm data  
Rainfall Distribution Type: Type II  
Dimensionless Unit Hydrograph: <standard>

TFJ

779 SNODGRASS RD  
10 YR  
ANNE ARUNDEL County, Maryland

Watershed Peak Table

Sub-Area or Reach Identifier	Peak Flow by Rainfall Return Period 10-Yr (cfs)
-----	
SUBAREAS	
PRE	.00
POST	0.13
REDUCED	.00
REACHES	
OUTLET	0.13

TFJ

779 SNODGRASS RD  
10 YR  
ANNE ARUNDEL County, Maryland

Hydrograph Peak/Peak Time Table

Sub-Area or Reach Identifier	Peak Flow and Peak Time (hr) by Rainfall Return Period 10-Yr (cfs) (hr)
------------------------------------	--

-----  
SUBAREAS

PRE	.00 n/a
-----	------------

POST	0.13 12.02
------	---------------

REDUCED	.00 n/a
---------	------------

REACHES

OUTLET	0.13
--------	------

TFJ

779 SNODGRASS RD  
10 YR  
ANNE ARUNDEL County, Maryland

Sub-Area Summary Table

Sub-Area Identifier	Drainage Area (ac)	Time of Concentration (hr)	Curve Number	Receiving Reach	Sub-Area Description
PRE	.13	0.100	30	Outlet	
POST	.13	0.100	50	Outlet	
REDUCED	.13	0.104	43	Outlet	
Total Area:	.39 (ac)				

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779 SNODGRASS RD  
10 YR  
ANNE ARUNDEL County, Maryland

Sub-Area Time of Concentration Details

Sub-Area Identifier/	Flow Length (ft)	Slope (ft/ft)	Mannings's n	End Area (sq ft)	Wetted Perimeter (ft)	Velocity (ft/sec)	Travel Time (hr)
-----							
PRE SHEET	40	0.2400	0.400				0.063
					Time of Concentration		0.1
							=====
POST SHEET	50	0.2400	0.240				0.050
					Time of Concentration		0.1
							=====
REDUCED User-provided							0.104
					Time of Concentration		0.104
							=====

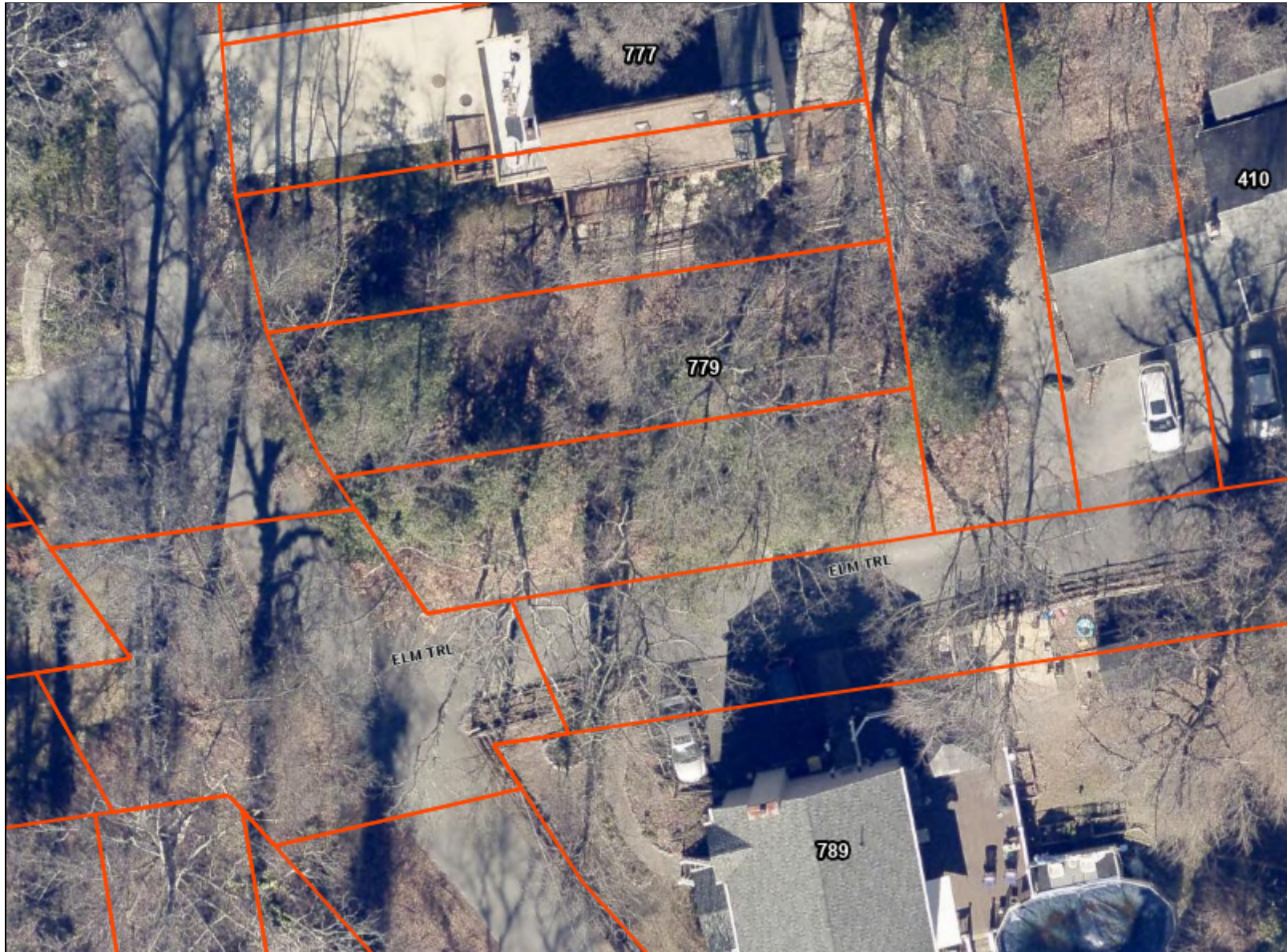
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Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use		Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
PRE	Woods	(good)	A	.13	30
	Total Area / Weighted Curve Number			.13	30
				===	==
POST	Open space; grass cover > 75%	(good)	A	.087	39
	Paved parking lots, roofs, driveways		A	.026	98
	Woods	(good)	A	.017	30
	Total Area / Weighted Curve Number			.13	50
				===	==
REDUCED	CN directly entered by user		-	.13	43
	Total Area / Weighted Curve Number			.13	43
				===	==

# Map Title



## Legend

### Foundation

#### Addressing



#### Parcels



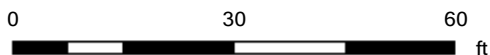
#### Parcels - Annapolis City



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none

## Notes



THIS MAP IS NOT TO BE  
USED FOR NAVIGATION