

Docket Item # 5
BZA #2021-00010
Board of Zoning Appeals
June 13, 2022

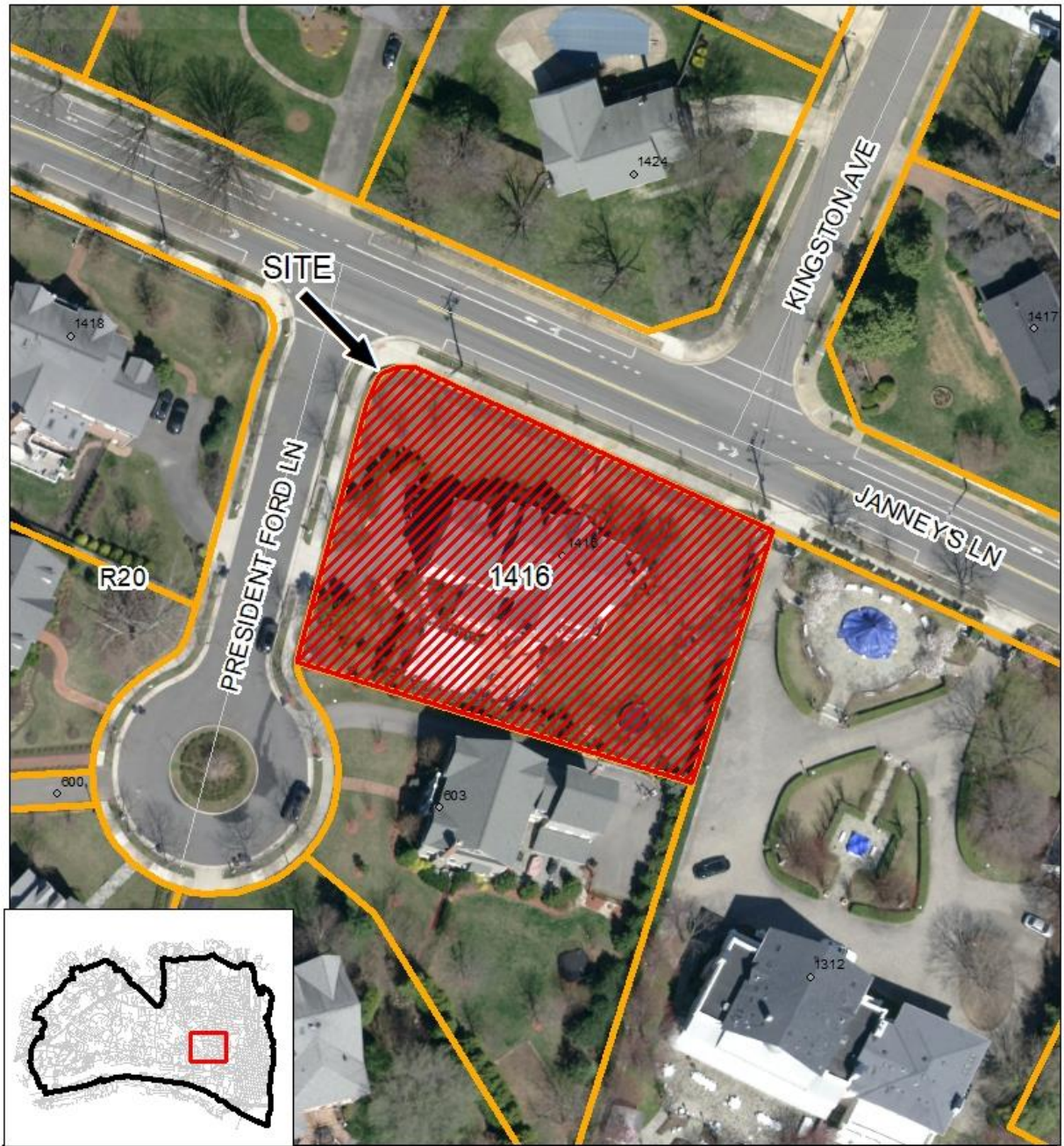
ADDRESS: 1416 JANNEY’S LANE
ZONE: R-20/SINGLE-FAMILY
APPLICANT: PHIL P. GARRETT AND DAWN M. GARRETT

ISSUE: Variance from maximum permitted floor area ratio for an after the fact construction of an accessory structure.

CODE SECTION	SUBJECT	ZONING REQUIREMENT/ MAXIMUM	APPLICANT PROPOSES	REQUESTED EXCEPTION/ VARIANCE
3-106(B)	Floor area ratio	0.29 (7,306 Sq. Ft.)	0.30 (7,669.00 Sq. Ft.)	0.01 (363 Sq. Ft.)

Staff **recommends denial** of the variance request because it does not meet the definition nor all the standards for approval.

If the Board decides to grant the variance, the approval would be subject to review of an amendment to DSUP#2004-00005 and subject to compliance with all applicable code requirements, ordinances, and recommended conditions found in the department comments. The variance must also be recorded with the deed of the property in the City’s Land Records Office prior to the release of the building permit.



BZA #2022-00010
1416 Janney's Lane



0 30 60 120 Feet

I. Issue

The applicants, Phil and Dawn Garrett, constructed a pavilion in the side yard at 1416 Janney's Lane. Prior to the construction of the pavilion the dwelling already exceeded the maximum floor area permitted by the R-20 zone. The new pavilion further exceeds the maximum floor area permitted. The applicant requests a variance from the maximum permitted floor area to allow for the already constructed pavilion to remain.

II. Background

The subject property is a corner lot of record with about 186.00 feet of frontage along Janney's Lane and 138.00 feet of frontage along President Ford Lane. The property has a lot size of 25,207 square feet. The lot is developed with a single-family dwelling, which according to Real Estate Assessments was constructed in 2008, pursuant to DSUP#2004-00005. At that time the entire attic was allowed to be excluded from floor area. There have been several changes to the definition of floor area since this dwelling was constructed.



Figure 1 - Subject Property

The dwelling is located 45.60 feet from the primary front lot line, 45.00 feet from the secondary lot line, 55.00 feet from the east side lot line, and 32.40 feet from the south side lot line. The dwelling, without the pavilion, contains 7,306 square feet of net floor area. The existing dwelling is noncomplying with regard to floor area. Residential dwellings surround the subject property. The following table provides a summary of all applicable zoning regulations as they pertain to the subject property:

R-20 Zone	Required/Permitted	Existing	Proposed pavilion
Lot Area	20,000 Sq. Ft.	25,207 Sq. Ft.	No change
Lot Width/Frontage	120 Ft.*	186.00 Ft.	No change
Front Yard (Primary)	Range established by contextual block face or at least 40 feet	45.60 Ft.	No change

Front Yard (Secondary)	Range established by contextual block face or at least 40 feet	45.00 Ft.	No change
Side Yard (East)	12.00 Ft. 1:2 height-to-setback ratio	55.00 Ft.	No change
Side Yard (West)	12.00 Ft. 1:2 height-to-setback ratio	32.40 Ft.	12.00 Ft.**
Height	30.00 Ft.	30 Ft.	No change
Floor Area (without the pavilion)	6,376.75 Sq. Ft. 0.25 FAR	7,306 Sq. Ft. 0.29 FAR	7,669.00 Sq. Ft. 0.30 FAR

*Lot width for a corner lot

**Based on the height of the pavilion from average preconstruction grade

III. Description

The applicant has constructed a pavilion on the south side yard of the property. The structure replaces a pergola, which was excludable from floor area calculations. The pavilion measures approximately 17.00 by 21.50 feet and contains a net floor area of 363 square feet, increasing the already noncomplying floor area ratio for the property from 7,306 square feet to 7,669 square feet, requiring a variance from the Zoning Ordinance's FAR maximum. The pavilion contains a fireplace, which pursuant to Zoning Ordinance section 2-145(A)(3), chimneys can be excluded from floor area calculations.

The proposal would comply with all other zoning regulations and there have been no variances or special exceptions previously granted for the subject property.

IV. Noncomplying Structure

The existing dwelling is a noncomplying structure with regard to the following:

	<u>Required/Permitted</u>	<u>Provided/Existing</u>	<u>Noncompliance</u>
	0.25	0.29	0.04
Floor Area	(6,376.75 Sq. Ft.)	(7,306 Sq. Ft.)	(929.25 Sq. Ft)

V. Master Plan/Zoning

The subject property has been zoned R-20/Single Family and has been so zoned since adoption of the Third Revised Zoning Map in 1951. The Taylor Run/Duke Small Area Plan identifies the property for residential use.

VI. Requested Variance

3-106(B) Floor Area Ratio (FAR).

The R-20 zone permits a maximum floor area ratio of 0.25 for all buildings. Based on a 0.25 FAR, the subject property's permitted maximum floor area is 6,375.75 square feet. However, the existing dwelling is noncomplying with regard to FAR because it exceeds

the maximum permitted by the R-20 zone due to how floor area was calculated when it was constructed versus the current way it is calculated. The applicant's proposal would result in an additional increase to a FAR of 0.30, or 7,669.00 square feet of floor area. The applicant requests variance of 0.01 FAR or 363 square feet of net floor area beyond the maximum permitted for the subject property.

VII. Applicant's Justification for Variance

The applicant states that the "...total square footage being over the allowable FAR was determined by the builder of the house which maxed out the property FAR with leaving it little to no room to build..." since "...the FAR limits have change since the homeowner purchased the property..." and that the "... [sun] exposure is south west and has made using the patio unbearable even with a current arbor. The sun exposure is unbearable for the homeowner."

VIII. Analysis of Variance Definition

Per zoning ordinance section 11-1103, the Board of Zoning Appeals shall not grant a variance unless it finds that the request meets the definition of a variance per zoning ordinance section 2-201.1 as follows:

- a. The request is a reasonable deviation from those provisions regulating the shape, size or area of a lot or parcel of land or the size, height, area, bulk or location of a building or structure.

The existing noncomplying dwelling already exceeds the maximum floor area permitted in the R-20 zone by 929.25 square feet. Because the subject property is larger than the minimum lot size for the zone and the existing dwelling exceeds the maximum FAR permitted, the request for a large pavilion, which is not a necessary structure to utilize the property, does not represent a reasonable deviation from maximum FAR.

- b. Strict application of the zoning ordinance would unreasonably restrict the utilization of the property.

Strict application of the Zoning Ordinance would not unreasonably restrict the utilization of the property because the existing noncomplying 7,306 square foot single-family dwelling is allowed to remain indefinitely. Compliance with the FAR would only not allow a pavilion of the size constructed to remain. Furthermore, the pavilion could be reduced to 100 square feet, which would allow the structure to be excluded from FAR per Section 2-145(A)(11). A pergola could also be constructed and covered with vegetation, which would create shade without adding to FAR. As such, strict application would not unreasonably restrict the utilization of the subject property.

- c. The need for a variance is not shared generally by other properties.

Any property owner who desires to exceed the maximum FAR for whatever reason, would need variance approval since a variance is the only mechanism by which such a change can be granted under the Zoning Ordinance. In other words, any property in the City that has been constructed to its maximum FAR, would need a similar variance.

- d. The variance is not contrary to the purpose of the ordinance.

The existing dwelling is noncomplying with regard to FAR. It has a FAR of 0.29 with 7,306 square feet of floor area. The R-20 zone permits a maximum FAR of 0.25 or 6,376.75 square feet of floor area. As such, it is considered a noncomplying structure. Zoning Ordinance Section 12-102(A) states that "...no noncomplying structure may be physically enlarged or expanded unless such enlargement or expansion complies with the regulations for the zone in which it is located. The intent of this provision is to prohibit the expansion of a noncomplying structure and to have properties be brought into compliance with the Zoning Ordinance. Because the proposed addition would be expanding an already noncomplying structure, the variance request is contrary to the purpose of the ordinance.

- e. The variance does not include a change in use, which change shall be accomplished by a rezoning.

The request does not include a change in use.

IX. Analysis of Variance Standards

Per zoning ordinance section 11-1103, the Board of Zoning Appeals shall not grant a variance unless it finds that the request meets the variance standards as follows:

- a. The strict application of the terms of the ordinance would unreasonably restrict the utilization of the property or that the granting of the variance would alleviate a hardship due to a physical condition relating to the property or improvements thereon at the time of the effective date of the ordinance.

Strict application of the Zoning Ordinance would not unreasonably restrict the utilization of the property because the existing noncomplying 7,306 square foot single-family dwelling is allowed to remain indefinitely. Compliance with the FAR would only not allow a pavilion of the size constructed to remain. At the time of construction the dwelling was in compliance, but built to the maximum FAR as calculated at that time. There are no physical conditions of the subject property or improvements thereon which create a hardship. The pavilion could be reduced to 100 square feet, which would allow the structure to be excluded from FAR per Section 2-145(A)(11). A pergola could also be constructed and covered with vegetation, which would create shade without adding to FAR.

- b. The property interest for which the variance is being requested was acquired in good

faith and any hardship was not created by the applicants for the variance.

The applicant constructed the pavilion after learning from City staff it would not comply with the Zoning Ordinance, so the hardship was created by the applicants. Further, no permits were obtained from the Department of Code Administration.

- c. The granting of the variance will not be of substantial detriment to adjacent property and nearby properties in the proximity of that geographical area.

Granting the variance would likely not be of substantial detriment to adjacent properties. Though the pavilion reduces open area on the property, the structure meets setbacks, has open walls, and does not have significant bulk.

- d. The condition or situation of the property concerned is not of so general or recurring a nature as to make reasonably practicable the formulation of a general regulation to be adopted as an amendment to the ordinance.

Staff finds the condition or situation to be recurring in nature. Many dwellings in this neighborhood have been constructed to their maximum allowable floor area and therefore cannot construct additions or larger accessory buildings. Given this, it cannot be considered reasonably practicable to amend the ordinance in context of this variance request.

- e. The granting of the variance does not result in a use that is not otherwise permitted on such property or a change in the zoning classification of the property.

The variance request would not result in a prohibited use as the applicant proposes to continue the single-family use of the subject property. Granting the variance would allow for the dwelling to exceed the maximum permitted by the R-20 zone. Because other zones allow for higher FARs than the R-20 zone, granting the request would effectively result in a rezoning of the subject property. Pursuant to Zoning Ordinance section 11-1005(G), the BZA is not authorized to change the zoning classification of a property.

- f. The relief or remedy sought by the variance application is not available through a special exception process that is authorized in the ordinance or the process for modification of a zoning ordinance at the time of the filing of the variance application.

The only other remedy available in the zoning ordinance would be a master plan and map amendment (rezoning).

X. Staff Conclusion

As outlined above, staff **recommends denial** of the requested variance as it does not meet the definition nor criteria as outlined within the Zoning Ordinance.

If the Board approves the request, it would be subject to compliance with all applicable code requirements, ordinances and recommended conditions found in the departmental comments of this report.

Staff

Rachel Drescher, Urban Planner, rachel.drescher@alexandriava.gov

Mary Christesen, Zoning Manager, mary.christesen@alexandriava.gov

Tony LaColla, AICP, Division Chief, anthony.lacolla@alexandriava.gov

DEPARTMENTAL COMMENTS

Legend: C - code requirement R - recommendation S - suggestion F - finding

*The applicant is advised that if the request is approved the following additional comments apply.

Transportation and Environmental Services:

- R-1 The building permit must be approved and issued prior to the issuance of any permit for demolition, if a separate demolition permit is required. (T&ES)
- R-1 Applicant shall be responsible for repairs to the adjacent city right-of-way if damaged during construction activity. (T&ES)
- R-3 No permanent structure may be constructed over any existing private and/or public utility easements. It is the responsibility of the applicant to identify any and all existing easements on the plan. (T&ES)
- F-1 After review of the information provided, an approved grading plan is not required at this time. Please note that if any changes are made to the plan it is suggested that T&ES be included in the review. (T&ES)
- C-1 The applicant shall comply with the City of Alexandria's Solid Waste Control, Title 5, Chapter 1, which sets forth the requirements for the recycling of materials (Sec. 5-1-99). (T&ES)
- C-2 The applicant shall comply with the City of Alexandria's Noise Control Code, Title 11, Chapter 5, which sets the maximum permissible noise level as measured at the property line. (T&ES)
- C-3 Roof, surface and sub-surface drains be connected to the public storm sewer system, if available, by continuous underground pipe. Where storm sewer is not available applicant must provide a design to mitigate impact of stormwater drainage onto adjacent properties and to the satisfaction of the Director of Transportation & Environmental Services. (Sec.5-6-224) (T&ES)
- C-4 All secondary utilities serving this site shall be placed underground. (Sec. 5-3-3) (T&ES)
- C-5 Any work within the right-of-way requires a separate permit from T&ES. (Sec. 5-2) (T&ES)
- C-6 All improvements to the city right-of-way such as curbing, sidewalk, driveway aprons, etc. must be city standard design. (Sec. 5-2-1) (T&ES)

Code Administration:

No comments

Recreation (City Arborist):

No comments

Historic Alexandria (Archaeology):

- F-1 Archaeological investigations were conducted at the location of this property in 2004. The findings for the area that includes the lot at 1416 Janney's Lane proved to be heavily disturbed, although areas nearby turned up a sizeable amount of artifacts related to Civil War activity.
- R-1 The statements in archaeology conditions below shall appear in the General Notes of all site plans and on all site plan sheets that involve demolition or ground disturbance (including Basement/Foundation Plans, Demolition, Erosion and Sediment Control, Grading, Landscaping, Utilities, and Sheeting and Shoring) so that on-site contractors are aware of the requirements:
- a. The applicant/developer shall call Alexandria Archaeology immediately (703-746-4399) if any buried structural remains (wall foundations, wells, privies, cisterns, etc.) or concentrations of artifacts are discovered during development. Work must cease in the area of the discovery until a City archaeologist comes to the site and records the finds.
 - b. The applicant/developer shall not allow any metal detection to be conducted on the property, unless authorized by Alexandria Archaeology.



**APPLICATION
BOARD OF ZONING APPEALS**

VARIANCE

_____ **Filing Fee**

_____ **Filing Deadline**

_____ **Board of Zoning Appeals Hearing**

Applicants must send written notice of public hearings by certified or registered mail to all adjoining and facing property owners at least 10 days prior to the Board of Zoning Appeals hearing, and not more than 30 days prior to the hearing.

Send notices by certified or registered mail between the dates of

_____ and _____.

INSTRUCTIONS

All materials are required to be uploaded to the Customer Service (CSS) Portal for a complete submission.

1. **FILING DEADLINE INSTRUCTIONS:** Board of Zoning Appeals applications, with required plans, must be submitted to the Department of Planning and Zoning at least 30 working days prior to the hearing date. Failure to submit all required information and plans by the filing deadline will result in the application being deferred to a later hearing date.
2. **FORMS:** Please complete the following forms below:
 - **APPLICATION:** Complete the form titled "Application for Variance: Board of Zoning Appeals."
 - **FLOOR AREA RATIO FORMS:** Complete form **A** for single and two-family residences outside the historic districts. Complete form **B** for all other properties.
3. **PDF PLANS:** Supporting materials are to be submitted with each application. Plans, drawings, photos, or other materials should not exceed 11" x 17" and should not be smaller than 8.5" x 11". All plan sets must be to scale. Applications without the required supporting materials will be deemed incomplete and will not be scheduled for hearing by the BZA.
4. **PHOTOGRAPHS:** Applicants must submit photographs of the property in the location where the variance is requested.
5. **FILING FEE:** Application fees are to be paid online through the CSS Portal. Once an application is submitted, staff will invoice the applicant with payment instructions. The application will not be processed until payment is received.
6. **PROPERTY OWNER NOTIFICATION:** Applicants must send written notice to all adjoining and facing property owners; notices must be sent by certified or registered mail **at least ten days** prior to the Board of Zoning Appeals public hearing (not counting the date of the hearing) and **not more than 30 days** prior to the hearing. Applicants may use the notice form supplied with the application forms. See page 16-20 for property owner notification instructions and. In the event the application is deferred, notification shall be given again. The following must be submitted to the Department of Planning and Zoning no later than **five calendar days** prior to the public hearing:
 - a copy of the notice letter sent
 - a list of the names and addresses of those persons to whom notice was sent
 - a copy of the post office receipts for the certified or registered mail
 - "Certification of Notice" form found at the back of this application.

Failure to send accurate or correct notices will result in deferral of the application to a later hearing date. Property ownership information is to be obtained from the City Real Estate Assessment Office, Room 2600, City Hall, 301 King Street or online at www.alexandriava.gov/city/realestate.

BOARD OF ZONING APPEALS PROCESS

PUBLIC HEARINGS – BOARD OF ZONING APPEALS

The Board of Zoning Appeals meets on the second Monday of each month in the City Council Chambers, City Hall, at 7:00 P.M. Meeting dates should be verified by the applicant prior to the hearing as they are subject to change. **The applicant or a representative must attend the meeting.**

DEFINITION OF VARIANCE, Code of Virginia § 15.2-2201

“Variance” means, in the application of a zoning ordinance, a reasonable deviation from those provisions regulating the shape, size, or area of a lot or parcel of land or the size, height, area, bulk, or location of a building or structure when the strict application of the ordinance would unreasonably restrict the utilization of the property, and such need for a variance would not be shared generally by other properties, and provided such variance is not contrary to the purpose of the ordinance. It shall not include a change in use, which change shall be accomplished by a rezoning or by a conditional zoning.

STANDARDS FOR VARIANCE, Code of Virginia § 15.2-2309

The Board of Zoning Appeals may grant a variance if the evidence shows that the strict application of the City’s Zoning Ordinance would unreasonably restrict the utilization of the property or that the granting of the variance would alleviate a hardship due to a physical condition relating to the property or improvements thereon at the time of the effective date of the ordinance, and the following criteria are met:

- i. The property interest for which the variance is being requested was acquired in good faith and any hardship was not created by the applicant for the variance;
- ii. The granting of the variance will not be of substantial detriment to adjacent property and nearby properties in the proximity of that geographical area;
- iii. The condition or situation of the property concerned is not of so general or recurring a nature as to make reasonably practicable the formulation of a general regulation to be adopted as an amendment to the ordinance;
- iv. The granting of the variance does not result in a use that is not otherwise permitted on such property or a change in the zoning classification of the property;
- v. The relief or remedy sought by the variance application is not available through a special exception process that is authorized in the ordinance pursuant to subdivision 6 of § [15.2-2309](#) or the process for modification of a zoning ordinance pursuant to subdivision A 4 of § [15.2-2286](#) at the time of the filing of the variance application

EFFECTIVE PERIOD OF VARIANCE

Any variance granted by the Board of Zoning Appeals is valid for a period of one year from the date the variance is approved. If no construction or operation has commenced within one year from the date of approval, the variance becomes null and void.

APPEAL OF THE BOARD OF ZONING APPEALS DECISION

Any person jointly or severally aggrieved or affected by a decision of the Board of Zoning Appeals may appeal such decision by filing a petition in the Circuit Court of the City. The petition shall set forth the alleged illegality of the Board's action, and shall be filed within 30 days from the date of the decision of the Board.

RECONSIDERATION OF AN APPLICATION

If an application for a variance is denied, the Board of Zoning Appeals shall not consider an application for the same variance on the same site again for one year unless the new application differs in a substantial and material way from the old one, in which case it may be reconsidered after six months.

**For assistance with any of these procedures or processes, please call the
Department of Planning and Zoning at 703-746-4333.**



APPLICATION BOARD OF ZONING APPEALS

VARIANCE

Section of zoning ordinance from which request for variance is made:

Section 11-1103 Standards of Variances. (D) The granting of the variance will not be of substantial detriment to adjacent property and nearby properties in the proximity of that geographical area.

PART A

1. Applicant: ☐ Owner ☐ Contract Purchaser ☒ Agent

Name Fatima Guevara

Address 5011 Olney Laytonsville Road, Suite B, Olney, MD 20832

Daytime Phone 240-483-1814

Email Address Fatimag@cahillcompanies.com

2. Property Location 1416 Janney's Lane Alexandria, VA 22302

3. Assessment Map # 51.01 Block 02 Lot 75 Zone R-20

4. Legal Property Owner Name Phil P. Garrett & Dawn M. Garrett

Address 1416 Janney's Lane Alexandria, VA 22302

OWNERSHIP AND DISCLOSURE STATEMENT

Use additional sheets if necessary

1. Applicant. State the name, address and percent of ownership of any person or entity owning an interest in the applicant, unless the entity is a corporation or partnership, in which case identify each owner of more than three percent. The term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

Name	Address	Percent of Ownership
1. Phil P. Garrett	1416 Janney's Lane Alexandria, VA 22302	100%
2. Dawn M. Garrett	1416 Janney's Lane Alexandria, VA 22302	100%
3.		

2. Property. State the name, address and percent of ownership of any person or entity owning an interest in the property located at 1416 Janney's Lane (address), unless the entity is a corporation or partnership, in which case identify each owner of more than three percent. The term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

Name	Address	Percent of Ownership
1. Phil P. Garrett	1416 Janney's Lane Alexandria, VA 22302	100%
2. Dawn M. Garrett	1416 Janney's Lane Alexandria, VA 22302	100%
3.		

3. Business or Financial Relationships. Each person or entity listed above (1 and 2), with an ownership interest in the applicant or in the subject property is required to disclose **any** business or financial relationship, as defined by Section 11-350 of the Zoning Ordinance, existing at the time of this application, or within the 12-month period prior to the submission of this application with any member of the [Alexandria City Council](#), [Planning Commission](#), [Board of Zoning Appeals](#) or either Boards of Architectural Review ([OHAD](#) and [Parker-Gray](#)). **All fields must be filled out completely. Do not leave blank. (If there are no relationships please indicate each person or entity below and "NONE" in the corresponding fields.)**

Name of person or entity	Relationship as defined by Section 11-350 of the Zoning Ordinance	Member of the Approving Body (i.e. City Council, Planning Commission, etc.)
1. Phil P. Garrett/Dawn M. Garrett	NONE	NONE
2.		
3.		

NOTE: Business or financial relationships of the type described in Sec. 11-350 that arise after the filing of this application and before each public hearing must be disclosed prior to the public hearings.

5. Describe request briefly:

TO CONSTRUCT A PAVILION OVER A PATIO IN THE REAR YARD WHERE THERE IS
AN EXISTING ARBOR. THE PAVILION WILL BE 360 SQF.

6. If property owner or applicant is being represented by an authorized agent,

such as an attorney, realtor or other person for which there is a form of compensation, does this agent or the business in which they are employed have a business license to operate in the City of Alexandria, Virginia?

☒ Yes — Provide proof of current City business license.

☐ No — Said agent shall be required to obtain a business prior to filing application.

THE UNDERSIGNED HEREBY ATTESTS that all of the information herein provided including the site plan, building elevations, prospective drawings of the projects, etc., are true, correct and accurate. The undersigned further understands that, should such information be found incorrect, any action taken by the Board based on such information may be invalidated. The undersigned also hereby grants the City of Alexandria permission to post placard notice as required by Article XI, Division A, Section 11-301(B) of the 1992 Alexandria City Zoning Ordinance, on the property which is the subject of this application. The applicant, if other than the property owner, also attests that he/she has obtained permission from the property owner to make this application.

APPLICANT OR AUTHORIZED AGENT:

☒ I, as the applicant or authorized agent, note that there is a fee associated with the submittal of this application. Planning & Zoning Department staff will be in contact with the applicant regarding payment methods. Please recognize that applications will not be processed until all fees are paid.

☒ Yes ☐ No I affirm that I, the applicant or authorized agent, am responsible for the processing of this application and agree to adhere to all the requirements and information herein.

Printed Name: **Fatima Guevara**

Date: **3.12.2022**

Signature: *Fatima Guevara*

Pursuant to Section 13-3-2 of the City Code, the use of a document containing false information may constitute a Class 1 misdemeanor and may result in a punishment of a year in jail or \$2,500 or both. It may also constitute grounds to revoke the permit applied for with such information.

PART B

APPLICANT MUST EXPLAIN THE FOLLOWING:

(Please **attach** additional pages where necessary.)

1. Please answer A or B:

A. Explain how enforcement of the zoning ordinance would prevent reasonable use of the property.

The home owner has an arbor and a fireplace over an existing patio. They want to replace the arbor with a smaller pavilion in the same exact location. The exposure is south west and has made using the patio unbearable even with a current arbor.

B. Explain how the variance, if granted, would alleviate a hardship, as defined above.

The pavilion construction being granted would alleviate the hardship. The exterior property would be able to be used by the home owner. The patio space would become usable for a good part of the season with limited to no impact on the environment nor any neighboring properties will be effected. The pavilion will be 21'-6" x 17' and have a square footage of approximately 370 sqf.

2. Is this unreasonable restriction or hardship unique to the property?

Yes, due to its exposure and not being able to use the property.

A. Explain if the restriction or hardship is shared by other properties in the neighborhood.

Not to our knowledge but I would assume so if they don't have an exterior covered porch or balcony like this home owner. We have observed that a property at the end of the cul-de-sac has the same positioning to the sun but has at least tree coverage that allows the space to be used.

B. Does this situation or condition of the property (on which this application is based) generally apply to other properties in the same zone?

We would not know as this residence is very site specific or custom. This property is known to have reached the FAR allowable sqf since the Alexandria planning and zoning has changed their FAR rules but that was after the residence was bought by the home owners, so then we assume the other properties will have the same issue as well.

3. Was the unreasonable restriction or hardship caused by the applicant?

A. Did the condition exist when the property was purchased?

This condition may have existed before. A mature stand of arborvitaes died due to a water issue created by run off water from the neighboring property. New plantings have been installed but will take 7-10 years to provide shade.

B. Did the applicant purchase the property without knowing of this restriction or hardship?

Yes, the property was purchased without the home owner knowing that they wouldn't be able to build an exterior pavilion to enjoy their property. When the house was purchased the FAR was different until the zoning and planning department decided to change the rules for this property FAR.

C. How and when did the condition, which created the unreasonable restriction or hardship, first occur?

The condition that created this hardship was when trees along the property line started to fall, this was about 5 years ago.

D. Did the applicant create the unreasonable restriction or hardship and, if so, how was it created?

No, the problem was caused due to excessive run off water from the neighboring property that caused the trees to fall and left the property exposed to so much sun light. So the home owner would like to alleviate this by building a pavilion.

4. Will the variance, if granted, be harmful to others?

A. Explain if the proposed variance will be detrimental to the adjacent properties or the neighborhood in general.

No, the home owner has full approval of the neighbor who is adjacent to the property and who would have the most amount of impact if one where to exist.

- B. Has the applicant shown the proposed plans to the most affected property owners? Have these property owners written statements of support or opposition of the proposed variance? If so, please attach the statements or submit at the time of the hearing.**

Yes, the home owner has reached out to all adjoining property owners.

- 5. Is there any other administrative or procedural remedy to relieve the hardship or unreasonable restriction?**

No, we have exhausted all remedies that we are aware of.

PART C

- 1. Have alternative plans or solutions been considered so that a variance would not be needed? Please explain each alternative and why it is unsatisfactory.**

Yes, the alternative was an arbored structure but this failed to provide sufficient relief.

2. Please provide any other information you believe demonstrates that the requested variance meets the required standards.

The execution of this project will significantly enhance the home owners use and enjoyment of their property.

The execution of the finish project should not alter or impede any of the surrounding properties in any significant way.

The finish project wont be impeding anyones sidelines or blocking light from adjacent property and any other properties.

The execution will in no way hamper others from the future developments of their own properties or inhibit the community's future plans.

The improvement to the property will increase the value of this property and in turn maintain the appraisal values for the rest of the neighborhood.

Any future owners would benefit and find enjoyment from enhancing the property.

The execution of this project will be a low maintenance and durable structure.

*****ATTENTION APPLICANTS*****

At the time of application for a Special Use Permit, Rezoning, Vacation, Encroachment, Variance, Special Exception or Subdivision, you must provide a draft of the description of your request you intend to use in the property owner's notice. You must be thorough in your description. Staff will review the draft wording to confirm its completeness.

The example illustrates a detailed description:

"Variance to construct a two-story addition in the required side yards on _____ Street."

If you fail to submit draft language at the time of the application filing deadline, the application will be determined to be incomplete and may be deferred by staff.

Variance to construct a pavilion over an existing patio in the rear yard.



Department of Planning and Zoning

Floor Area Ratio and Open Space Calculations for

Single and Two-Family Residential Outside Historic Districts

A

A. Property Information

A1. 1416 Janney's Lane R-20
Street Address Zone

A2. 25,507.00 x 0.25 = 6,376.75
Total Lot Area Floor Area Ratio Allowed by Zone Maximum Allowable Floor Area

B. Existing Gross Floor Area

Existing Gross Area		Allowable Exclusions**		
Basement	2,852.00	Basement**	2,852.00	B1. 10,496.00 Sq. Ft.
First Floor	3,534.00	Stairways**	299.00	Existing Gross Floor Area*
Second Floor	3,373.00	Mechanical**	39.00	B2. 3,190.00 Sq. Ft.
Third Floor		Attic less than 7'***		Allowable Floor Exclusions**
Attic	737.00	Porches**		B3. 7,306.00 Sq. Ft.
Porches		Balcony/Deck**		Existing Floor Area Minus Exclusions
Balcony/Deck		Garage**		(subtract B2 from B1)
Garage		Other***		Comments for Existing Gross Floor Area
Other***		Other***		
B1. Total Gross	10,496.00	B2. Total Exclusions	3,190.00	

C. Proposed Gross Floor Area

Proposed Gross Area		Allowable Exclusions**		
Basement		Basement**		C1. 376.00 Sq. Ft.
First Floor		Stairways**		Proposed Gross Floor Area*
Second Floor		Mechanical**	13.00	C2. 13.00 Sq. Ft.
Third Floor		Attic less than 7'***		Allowable Floor Exclusions**
Attic		Porches**		C3. 363.00 Sq. Ft.
Porches		Balcony/Deck**		Proposed Floor Area Minus Exclusions
Balcony/Deck		Garage**		(subtract C2 from C1)
Garage		Other***		
Other***	376.00	Other***		
C1. Total Gross	376.00	C2. Total Exclusions	13.00	

D. Total Floor Area

D1. 7,669.00 Sq. Ft.
Total Floor Area (add B3 and C3)

D2. 6,376.75 Sq. Ft.
Total Floor Area Allowed by Zone (A2)

E. Open Space (RA & RB Zones)

E1. Sq. Ft.
Existing Open Space

E2. Sq. Ft.
Required Open Space

E3. Sq. Ft.
Proposed Open Space

Notes

*Gross floor area for residential single and two-family dwellings in the R-20, R-12, R-8, R-5, R-2-5, RB and RA zones (not including properties located within a Historic District) is the sum of all areas under roof of a lot, measured from exterior walls.

** Refer to the Zoning Ordinance (Section 2-145(A)) and consult with Zoning Staff for information regarding allowable exclusions. Sections may also be required for some exclusions.

*** Refer to the Zoning Ordinance (Section 2-145(A)) and consult with Zoning Staff for additional allowable exclusions. Additional exclusions may include space under balconies, retractable awnings, etc.

The undersigned hereby certifies and attests that, to the best of his/her knowledge, the above computations are true and correct.

Signature: Fatima Guevara

Date: 04.22.2022 22

*****ATTENTION APPLICANTS*****

At the time of application for a Special Use Permit, Rezoning, Vacation, Encroachment, Variance, Special Exception or Subdivision, you must provide a draft of the description of your request you intend to use in the property owner's notice. You must be thorough in your description. Staff will review the draft wording to confirm its completeness.

The example illustrates a detailed description:

"Variance to construct a two-story addition in the required side yards on _____ Street."

If you fail to submit draft language at the time of the application filing deadline, the application will be determined to be incomplete and may be deferred by staff.

[**Variance to construct a pavilion over an existing patio in the rear yard.**](#)

PROPERTY OWNER NOTIFICATION

PROPERTY OWNER NOTIFICATION: Applicants must send written notice to all adjoining and facing property owners; notices must be sent by certified or registered mail **at least ten days** prior to the Board of Zoning Appeals public hearing (not counting the date of the hearing) and **not more than 30 days** prior to the hearing. Applicants may use the notice form supplied with the application forms. In the event the application is deferred, notification shall be given again.

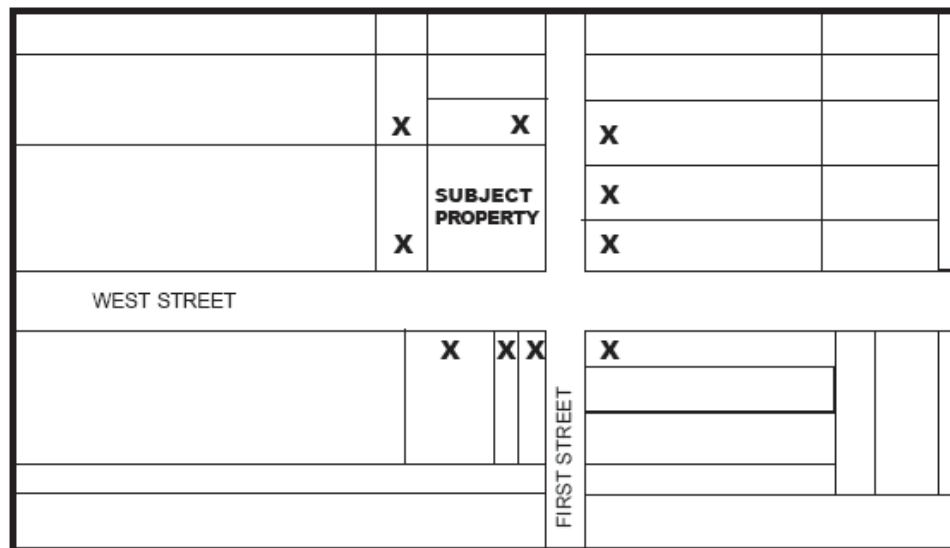
The following notice documents must be submitted to the Department of Planning and Zoning no later than **five calendar days** prior to the public hearing:

1. a copy of the notice letter sent
2. a list of the names and addresses of those persons to whom notice was sent
3. a copy of the post office receipts for the certified or registered mail
4. "Certification of Notice" form found at the back of this application.

Failure to send accurate or correct notices will result in deferral of the application to a later hearing date. Property ownership information is to be obtained from the City Real Estate Assessment Office, Room 2600, City Hall, 301 King Street or online at www.alexandriava.gov/city/realestate.

Example diagram of adjoining property owners

X = Property owners to be notified



Sketch showing subject site and property owners to be notified pursuant to Article XI, Section 11-300 of the 1992 Zoning Ordinance of the City of Alexandria, Virginia. This is a sample sketch only and is not to be used as a final authority when sending notice if in doubt, it is advisable to provide notice to additional properties. Contact staff at 703-746-4333 for assistance regarding notice.

NOTE: If inadequate notice is given, the request cannot be heard and will be deferred.

**ZONING ORDINANCE ARTICLE XI,
SECTION 11-300
NOTICE OF PUBLIC HEARINGS**

SECTION 11-301

Required Notice: Except as provided by Section 11-302, written notice, placard notice and newspaper notice shall be given before each public hearing by Planning Commission, City Council, Board of Zoning Appeals, Subdivision Committee or Board of Architectural Review.

A) Written Notice: The applicant shall send by certified or registered mail written notice at least ten and no more than 30 days prior to the hearing. Restricted delivery or return receipt is not required.

1) Recipients of Written Notice: Written notice shall be sent to the property owner, if different from the applicant, and to the owners of all abutting properties. In the case of a condominium, written notice may be mailed or delivered to the president of the board of the condo owner's association instead of to each individual unit owner.

2) Contents of Written Notice: Written notice shall contain the following information:

- (a) the time, date and place of all hearings scheduled; and
- (b) a description of the matter being heard, including the tax map number of the property and the complete street address of the property.

B) Placard and Newspaper Notice: The City staff will provide placard notice and newspaper advertisement. After the public hearing, the applicant may remove and discard the placard(s), or staff will remove the placard within seven days after the hearing.

*****Applicant to mail this notice by certified or registered mail to adjoining and abutting property owners between 30 and 10 days prior to the hearing.*****



NOTICE OF PUBLIC HEARINGS

BOARD OF ZONING APPEALS

Dear Property Owner:

You are hereby notified of the following public hearing to be held by the Board of Zoning Appeals on the issues described below.

BOARD OF ZONING APPEALS PUBLIC MEETING DATE: _____

AT
7:00 PM, CITY HALL
301 KING STREET
COUNCIL CHAMBERS, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22314

ISSUE DESCRIPTION:

The applicants, Philip P. Garrett & Dawn M. Garrett, propose a small pavilion on an existing patio and in the same location of their existing fireplace and arbor. The existing arbor is to be converted into a pavilion. The exposure is south west and has made the patio unbearable to be used even with an arbor.

PROPERTY ADDRESS: 1416 Janneys Lane Alexandria, VA 22302

TAX ASSESSMENT MAP NUMBER: *Map* 051.01 *Block* 02 *Lot* 75

As a citizen and party of interest, you are invited to attend the meetings and express your views concerning the above issue. If you have any questions regarding the request, you can reach me at dr.philipgarrett@gmail.com.

Sincerely,

Phil P. Garrett / Dawn M. Garrett
Applicant Signature

Phil P. Garrett & Dawn M. Garrett
Applicant Printed Name

NOTE: Applicant to return all notice documents at least 5 days prior to the hearing to: Department of Planning and Zoning, 301 King Street, Room 2100.



CERTIFICATION OF NOTICE

BOARD OF ZONING APPEALS

- ☐ SPECIAL EXCEPTION
☒ VARIANCE
☐ APPEAL

**TO: DIRECTOR OF PLANNING AND ZONING
301 KING STREET, ROOM 2100
ALEXANDRIA, VIRGINIA 22314**

Article XI, Section 11-301(A)(3), of the 1992 Zoning Ordinance of the City of Alexandria, Virginia states:

At least five days prior to the hearing, the applicant shall supply the director with the following notice documents:

1. a copy of the notice sent
2. a list of the names of those persons to whom notice has been given
3. copies of the post office receipts for registered or certified mail
4. a certification statement that notice has been sent by certified or registered mail to those to whom notice is required to be given.

The applicant shall use the records and maps maintained by the city's office of real estate assessments to determine the proper recipients of notice and reliance upon such records shall constitute compliance with the requirements of this section 11-301(A).

The undersigned hereby certifies that the notice to adjoining property owners (copy attached), as required pursuant to Article XI, Section 11-301(A)(3) of the 1992 Zoning Ordinance of the City of Alexandria, Virginia, was sent to the attached list of property owners concerning the following issue on (DATE) _____.

PROPERTY ADDRESS: 1416 Janneys Lane Alexandria, VA 22302

ISSUE DESCRIPTION:

The applicants, Philip P. Garrett & Dawn M. Garrett, propose a small pavilion on an existing patio and in the same location of their existing fireplace and arbor. The existing arbor is to be converted into a pavilion. The exposure is south west and has made the patio unbearable to be used even with an arbor.

Phil P. Garrett / Dawn M. Garrett
Signature

Phil P. Garrett & Dawn M. Garrett
Print Name

703-370-2313
Telephone

3.18.2022
Date

NOTE: Applicant to return all notice documents at least 5 days prior to the hearing to: Department of Planning and Zoning, 301 King Street, Room 2100.



PROPERTY OWNERS LIST

BOARD OF ZONING APPEALS

SUBJECT ADDRESS

051.01 - 02 - 75
TAX ASSESSMENT MAP NUMBER

Adjoining property owner names and addresses can be obtained by visiting the City website at www.alexandriava.gov and following the link to Real Estate Assessments, or by visiting the Office of Real Estate Assessments at City Hall, 301 King Street, Room 2600.

**ADJOINING PROPERTY OWNER'S
NAME & MAILING ADDRESS**

**TAX ASSESSMENT
MAP NUMBER**

Property Address	1418 Janneys Lane Alexandria, VA 22302	<div></div>
Owner Name	Mackay Leo S. Jr or Heather L.	
Mailing Address		
City, State, Zip		

Property Address		<div></div>
Owner Name		
Mailing Address		
City, State, Zip		

Property Address		<div></div>
Owner Name		
Mailing Address		
City, State, Zip		

Property Address		<div></div>
Owner Name		
Mailing Address		
City, State, Zip		

Property Address	1419 Janneys Lane Alexandria, VA 22302	041.03 - 03 - 36
Owner Name	Moore Jean S. Tr	
Mailing Address	1419 Janneys Lane	
City, State, Zip	Alexandria, VA 22302	

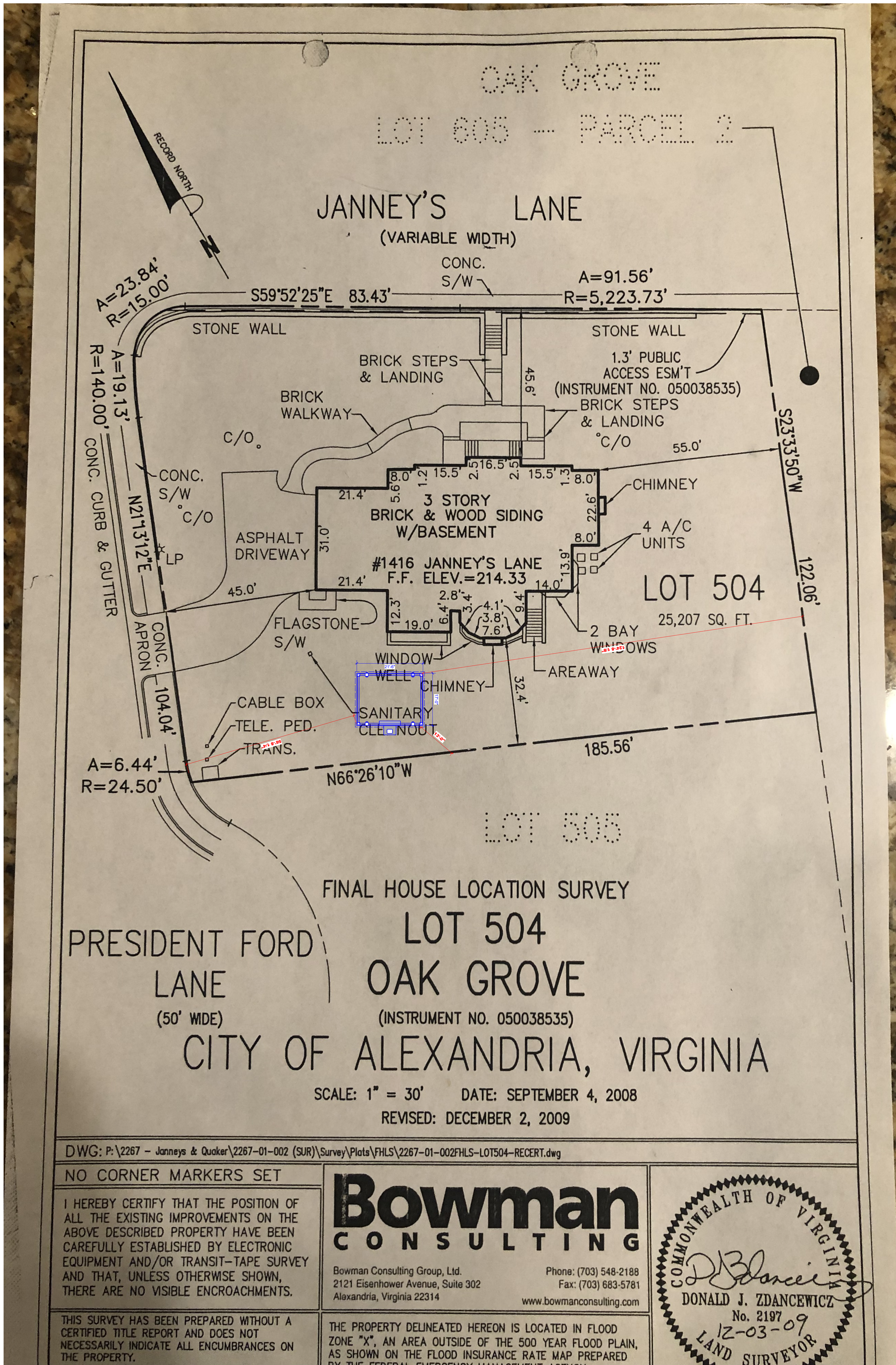
Property Address	1424 Kingston Ave Alexandria, VA 22302	041.03 - 03 - 35
Owner Name	Fields Nathaniel	
Mailing Address	1424 Kingstone Ave	
City, State, Zip	Alexandria, VA 22302	

Property Address		- - -
Owner Name		
Mailing Address		
City, State, Zip		

Property Address		- - -
Owner Name		
Mailing Address		
City, State, Zip		

Property Address		- - -
Owner Name		
Mailing Address		
City, State, Zip		

NOTE: Applicant to return all notice documents at least 5 days prior to the hearing to: Department of Planning and Zoning, 301 King Street, Room 2100.



1 PLOT PLAN W/ PAVILLION
Scale: 1/16" = 1'-0"

REVISION DATE
1/2022
ISSUE DATE
1/2022
DESIGNER
C/C
PLOT PLAN
1416 JANNEY'S LANE
ALEXANDRIA, VA 22302
PROJECT ADDRESS
GARRETT RESIDENCE
PROJECT

BD BotanicalDecorators™
Landscape Architecture Design-Build-Maintenance

www.BotanicalDecorators.com
5011 Olney Laytonville Road, Suite B, Olney, MD 20832
Phone: 301-948-6625 Toll Free: 888-550-6625 Fax: 301-948-3323



1889 PRESTON WHITE DRIVE.
SUITE 104, RESTON, VA20191
(703) 391-8911
FAX (703) 995-4680
www.soilandstructure.com
info@soilandstructure.com

CALCULATIONS

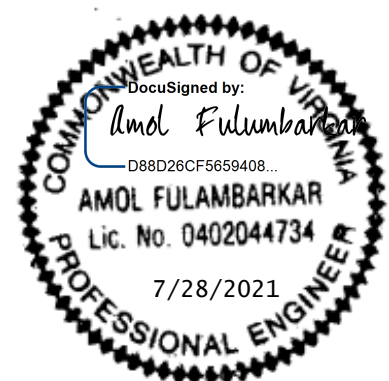
DESIGNED BY : Andy DATE : 07/28/2021 CHECKED BY : Andy DATE : 07/28/2021

PROJECT: Design of Framing for
Proposed Pavilion

ADDRESS: Garrett Residence, 1416
Janney's Lane, Alexandria,

CLIENT: Botanical Decorators

NO. OF PAGES: 16



Soil & Structure Consulting, Inc.

Project: Design of Framing for Proposed Pavilion

Address: Garrett Residence, 1416 Janney's Lane, Alexandria, VA

Client: Botanical Decorators

Designed by: Andy Date: 07/28/21

Checked by: Andy Date: 07/28/21

DESIGN CRITERIA

1. Scope of work

The scope of work includes

- 1) Design of framing for proposed pavilion for gravity and lateral loads.

2. Design Codes

The design complies with the provisions of following codes.

- 1) International Residential Code 2015
- 2) International Building Code 2015
- 3) ASCE 7 -10
- 4) NDS 2015
- 5) ACI 318-14
- 6) ACI 301-05
- 7) ACI 530/530.1 - 05
- 8) ASTM Latest standard

3. Materials

I. Lumber :-

Lumber is designed in accordance with "National Design Specification – 2015"

• SP #2

E min. = 1,600,000 psi
F_b min. = 1100 psi
F_v min. = 175 psi

II. Structural steel: -

Structural steel shall be designed in accordance with the 'Specification for structural steel buildings' (AISC Allowable Stress Design 13th edition).

Steel Tube of grade **ASTM A46** shall be used.

Steel W section W8x and smaller of grade **ASTM A36** shall be used.

All other Steel W section of grade **ASTM A50** shall be used.

All other steel shall be **ASTM A36**.

III. Structural concrete: -

Structural concrete shall be designed in accordance with the 'Building Code requirements for reinforced concrete (**ACI 318-14**).

The concrete used shall have minimum ultimate compressive strength 3000 psi @ 28 days.

The concrete exposed to freezing and thawing in a moist condition or to deicing chemicals shall have minimum ultimate compressive strength 3500 psi @ 28 days.

All concrete exposed to weather and subject to freezing and thawing during construction shall be air entrained, the total air content (percent by volume of concrete) shall not be less than 5% or more than 7%.

4. Soil Data

Soil Bearing: -

In absence of soil report, the footings shall be designed for 2000 psf min. soil bearing capacity.

Soil & Structure Consulting, Inc.

Project: Design of Framing for Proposed Pavilion

Address: Garrett Residence, 1416 Janney's Lane, Alexandria, VA

Client: Botanical Decorators

Designed by: Andy Date: 07/28/21

Checked by: Andy Date: 07/28/21

5. Loading & Design Data

1. Roof Loads

- | | |
|-------------------|----------|
| A. Roof Live Load | = 30 psf |
| B. Roof Dead Load | = 17 psf |

2. Deflection :

For Roof/Floor members

- | | |
|-----------------------|-----------|
| Live Load Deflection | = $L/360$ |
| Total Load Deflection | = $L/240$ |

For members supporting Brick / masonry

- | | |
|-----------------------|-----------|
| Live Load Deflection | = $L/600$ |
| Total Load Deflection | = $L/600$ |

6. Wind Loads – For main wind force resisting system design

- | | |
|----------------------------------|--|
| 1. Basic wind speed (3-sec gust) | = 115 mph (Refer to Fig.26.5-1, ASCE 7-10) |
| 2. Risk Category | = II (Refer Table 1.5-1, ASCE 7-10) |
| 3. Wind Importance factor, I_w | = 1.0 (Refer Table 1.5-2, ASCE 7-10) |
| 4. Wind Exposure | = B (Refer to Section 26.7.3, ASCE 7-10) |

7. Design Approach:

- 1) The framing for proposed pavilion shall be designed for loads as given above.
- 2) The foundation for proposed pavilion shall be designed & checked for 2000 psf min soil bearing.

Soil & Structure Consulting, Inc.

Project: Design of Framing for Proposed Pavilion

Address: Garrett Residence, 1416 Janney's Lane, Alexandria, VA

Client: Botanical Decorators

Designed by: Andy Date: 07/28/21

Checked by: Andy Date: 07/28/21

ROOF RAFTERS

Soil & Structure Consulting, Inc.

Project: Design of Framing for Proposed Pavilion

Address: Garrett Residence, 1416 Janney's Lane, Alexandria, VA

Client: Botanical Decorators

Designed by: Andy Date: 07/28/21

Checked by: Andy Date: 07/28/21

DESIGN CALCULATIONS**New Roof Rafter**

Maximum L = 10'-0" Plus 1'-9" Cantilever

Load Data

Dead Load = 17 psf

Live Load = 30 psf

Slope = 4:12

Use 2x12 P.T. SP#2 Roof Rafter @ 16" o.c.

Project: Botanical Decorations

Location: Roof Rafter

Roof Rafter

[2009 International Building Code(2005 NDS)]

1.5 IN x 11.25 IN x 11.75 FT (10 + 1.8) @ 16 O.C.

#2 - Southern Pine - Dry Use

Section Adequate By: 373.5%

Controlling Factor: Moment

DEFLECTIONS	Center	Right
Live Load	0.04 IN L/3603	0.00 IN 2L/16246
Dead Load	0.02 in	0.00 in
Total Load	0.05 IN L/2319	0.00 IN 2L/Infinity
Live Load Deflection Criteria: L/360 Total Load Deflection Criteria: L/240		

REACTIONS	A	B
Live Load	200 lb	276 lb
Dead Load	116 lb	165 lb
Total Load	316 lb	441 lb
Bearing Length	0.37 in	0.52 in

SUPPORT LOADS	A	B
Live Load	150 plf	207 plf
Dead Load	87 plf	124 plf
Total Load	237 plf	331 plf

MATERIAL PROPERTIES

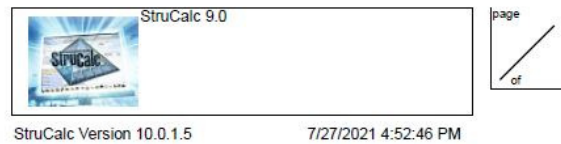
#2 - Southern Pine

	Base Values	Adjusted
Bending Stress:	Fb = 975 psi Cd=1.25 CF=1.00 Cr=1.15	Fb' = 1402 psi
Shear Stress:	Fv = 175 psi Cd=1.25	Fv' = 219 psi
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi
Min. Mod. of Elasticity:	E_min = 580 ksi	E_min' = 580 ksi
Comp. ⊥ to Grain:	Fc ⊥ = 565 psi	Fc ⊥' = 565 psi

Controlling Moment: 780 ft-lb
4.905 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Controlling Shear: -312 lb
10.436 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2, 3

Comparisons with required sections:	Req'd	Provided
Section Modulus:	6.68 in3	31.64 in3
Area (Shear):	2.14 in2	16.88 in2
Moment of Inertia (deflection):	18.42 in4	177.98 in4
Moment:	780 ft-lb	3696 ft-lb
Shear:	-312 lb	2461 lb

**LOADING DIAGRAM**

RAFTER DATA	Interior	Eave
Span Length	10 ft	1.75 ft
Rafter Pitch	4	:12
Roof sheathing applied to top of joists-top of rafters fully braced.		
Roof Duration Factor	1.25	
Peak Notch Depth	0.00	
Base Notch Depth	0.00	

RAFTER LOADING
Uniform Roof Loading
Roof Live Load: LL = 30 psf
Roof Dead Load: DL = 17 psf
Slope Adjusted Spans And Loads
Interior Span: L-adj = 10.54 ft
Eave Span: L-Eave-adj = 1.84 ft
Interior Live Load: wL-adj = 36 plf
Eave Live Load: wL-Eave-adj = 36 plf
Interior Dead Load: wD-adj = 22 plf
Eave Dead Load: wD-Eave-adj = 22 plf
Interior Total Load: wT-adj = 58 plf
Eave Total Load: wT-Eave-adj = 58 plf

Soil & Structure Consulting, Inc.

Project: Design of Framing for Proposed Pavilion

Address: Garrett Residence, 1416 Janney's Lane, Alexandria, VA

Client: Botanical Decorators

Designed by: Andy Date: 07/28/21

Checked by: Andy Date: 07/28/21

ROOF FRAMING

Soil & Structure Consulting, Inc.

Project: Design of Framing for Proposed Pavilion

Address: Garrett Residence, 1416 Janney's Lane, Alexandria, VA

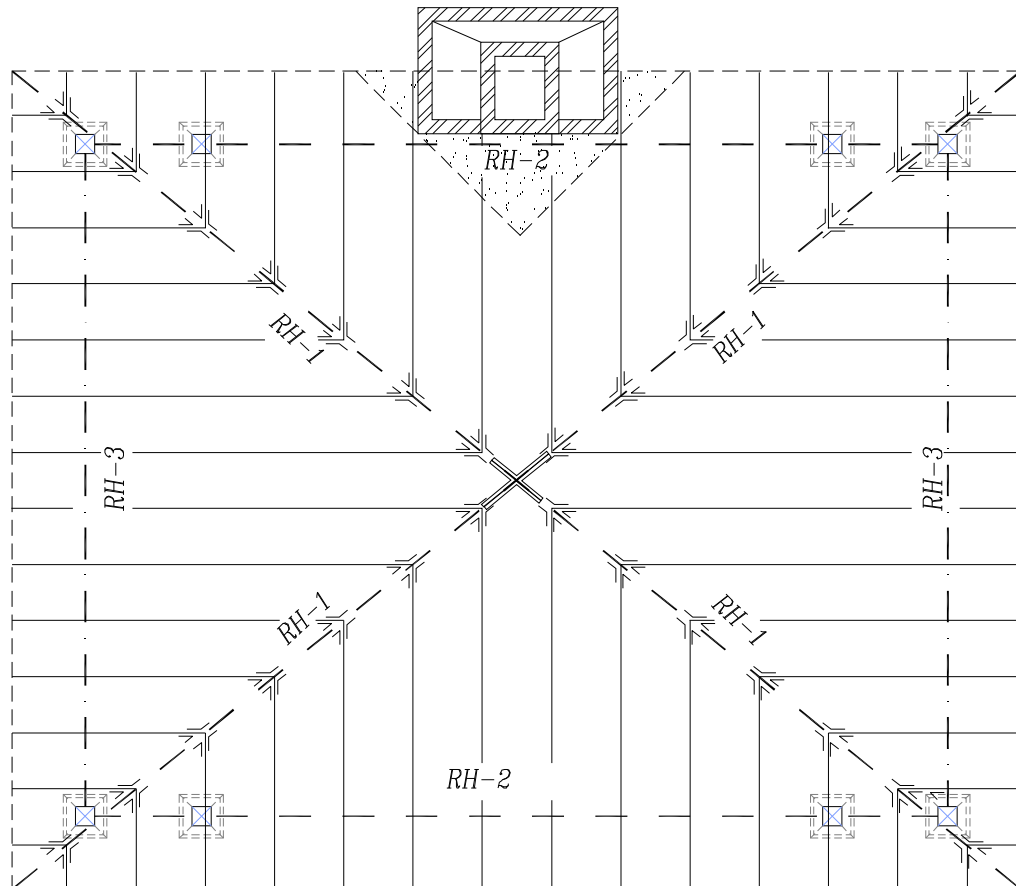
Client: Botanical Decorators

Designed by: Andy Date: 07/28/21

Checked by: Andy Date: 07/28/21

DESIGN CALCULATIONS

Roof Framing Notational Plan:



Soil & Structure Consulting, Inc.

Project: Design of Framing for Proposed Pavilion

Address: Garrett Residence, 1416 Janney's Lane, Alexandria, VA

Client: Botanical Decorators

Designed by: Andy Date: 07/28/21

Checked by: Andy Date: 07/28/21

DESIGN OF ROOF FRAMING BEAMS

RH-1

(Design for max Span & Loading)

L = 13'-0" Plus 2'-6" Right Cantilever

W₁ = Triangular Roof Load
 = $(10/2 + 8/2) \times 47$ @ 0'-0" to $(1.75) \times 47$ plf @ 9'-6"
 = 425 plf @ 0'-0" to 83 plf @ 9'-6"

W₂ = Triangular Roof Load
 = $(1.75) \times 47$ @ 0'-0" to 0 plf @ 2'-6" Right Cantilever
 = 83 plf @ 0'-0" to 0 plf @ 2'-6" Right Cantilever

Use (2) 2x12 P.T. SP#2

Reaction @ Left Support = 2100 lbs

Reaction @ Right Support = 1500 lbs

RH-2

L = 15'-0"

Load Data

W₁ = Trapezoidal Roof Load
 = $(2/2 + 1.75) \times 47$ @ 0'-0" to $(8/2 + 1.75) \times 47$ @ 7'-6"
 = 130 plf @ 0'-0" to 271 plf @ 7'-6"

W₁ = Trapezoidal Roof Load
 = $(8/2 + 1.75) \times 47$ @ 0'-0" to $(2/2 + 1.75) \times 47$
 = 271 plf @ 7'-6" to 130 plf @ 15'-0"

Use 3½" x 11¼" PSL

Reaction @ Left Support = 1600 lbs

Reaction @ Right Support = 1600 lbs

Soil & Structure Consulting, Inc.

Project: Design of Framing for Proposed Pavilion

Address: Garrett Residence, 1416 Janney's Lane, Alexandria, VA

Client: Botanical Decorators

Designed by: Andy Date: 07/28/21

Checked by: Andy Date: 07/28/21

RH-3

L = 16'-0"

Load Data

W₁ = Triangular Roof Load
= 0 plf @ 0'-0" to $(10/2 + 1.75) \times 47$
= 0 plf @ 0'-0" to 320 plf @ 8'-0"

W₁ = Triangular Roof Load
= $(10/2 + 1.75) \times 47$ to 0 plf @ 0'-0"
= 320 plf @ 8'-0" to 0 plf @ 16'-0"

Use 3½" x 11¼" PSL

Reaction @ Left Support = 1400 lbs

Reaction @ Right Support = 1400 lbs

Soil & Structure Consulting, Inc.

Project: Design of Framing for Proposed Pavilion

Address: Garrett Residence, 1416 Janney's Lane, Alexandria, VA

Client: Botanical Decorators

Designed by: Andy Date: 07/28/21

Checked by: Andy Date: 07/28/21

Project: Botanical Decorations

Location: RH-1

Multi-Loaded Multi-Span Beam

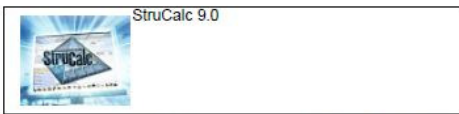
[2009 International Building Code(2005 NDS)]

(2) 1.5 IN x 11.25 IN x 15.5 FT (13 + 2.5)

#2 - Southern Pine - Dry Use

Section Adequate By: 15.3%

Controlling Factor: Moment



7/27/2021 4:52:45 PM

CAUTIONS

* Laminations are to be fully connected to provide uniform transfer of loads to all members

DEFLECTIONS	Center	Right
Live Load	0.19 IN L/801	-0.11 IN 2L/524
Dead Load	0.10 in	-0.06 in
Total Load	0.29 IN L/530	-0.17 IN 2L/348
Live Load Deflection Criteria: L/360 Total Load Deflection Criteria: L/240		

REACTIONS	A	B
Live Load	1376 lb	940 lb
Dead Load	694 lb	525 lb
Total Load	2070 lb	1465 lb
Bearing Length	1.22 in	0.86 in

BEAM DATA	Center	Right
Span Length	13 ft	2.5 ft
Unbraced Length-Top	0 ft	0 ft
Unbraced Length-Bottom	13 ft	2.5 ft
Live Load Duration Factor	1.25	
Notch Depth	0.00	

MATERIAL PROPERTIES

#2 - Southern Pine

	Base Values	Adjusted
Bending Stress:	Fb = 975 psi	Fb' = 1219 psi
	Cd=1.25 CF=1.00	
Shear Stress:	Fv = 175 psi	Fv' = 219 psi
	Cd=1.25	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi
Min. Mod. of Elasticity:	E_min = 580 ksi	E_min' = 580 ksi
Comp. ⊥ to Grain:	Fc ⊥ = 565 psi	Fc ⊥' = 565 psi

Controlling Moment: 5575 ft-lb

5.85 Ft from left support of span 2 (Center Span)

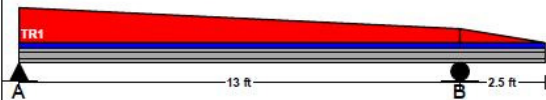
Created by combining all dead loads and live loads on span(s) 2

Controlling Shear: 2070 lb

At left support of span 2 (Center Span)

Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd	Provided
Section Modulus:	54.89 in3	63.28 in3
Area (Shear):	14.19 in2	33.75 in2
Moment of Inertia (deflection):	244.91 in4	355.96 in4
Moment:	5575 ft-lb	6427 ft-lb
Shear:	2070 lb	4922 lb

LOADING DIAGRAM

UNIFORM LOADS	Center	Right
Uniform Live Load	0 plf	0 plf
Uniform Dead Load	0 plf	0 plf
Beam Self Weight	8 plf	8 plf
Total Uniform Load	8 plf	8 plf

TRAPEZOIDAL LOADS - CENTER SPAN

Load Number	One
Left Live Load	290 plf
Left Dead Load	135 plf
Right Live Load	55 plf
Right Dead Load	28 plf
Load Start	0 ft
Load End	13 ft
Load Length	13 ft

RIGHT SPAN

Load Number	One
Left Live Load	55 plf
Left Dead Load	28 plf
Right Live Load	0 plf
Right Dead Load	0 plf
Load Start	0 ft
Load End	2.5 ft
Load Length	2.5 ft

Soil & Structure Consulting, Inc.

Project: Design of Framing for Proposed Pavilion

Address: Garrett Residence, 1416 Janney's Lane, Alexandria, VA

Client: Botanical Decorators

Designed by: Andy Date: 07/28/21

Checked by: Andy Date: 07/28/21

Project: Botanical Decorations

Location: RH-2

Multi-Loaded Multi-Span Beam

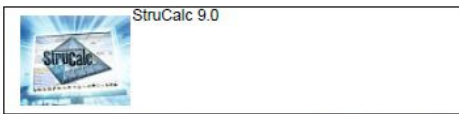
[2009 International Building Code(2005 NDS)]

3.5 IN x 11.25 IN x 15.0 FT

2.0E Parallam - iLevel Trus Joist

Section Adequate By: 122.4%

Controlling Factor: Deflection



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DEFLECTIONS		Center
Live Load	0.22	IN L/801
Dead Load	0.09	in
Total Load	0.32	IN L/565
Live Load Deflection Criteria: L/360		Total Load Deflection Criteria: L/240

REACTIONS		A	B
Live Load	1125	lb	1125
Dead Load	471	lb	471
Total Load	1596	lb	1596
Bearing Length	0.61	in	0.61

BEAM DATA		Center
Span Length	15	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	15	ft
Live Load Duration Factor	1.25	
Notch Depth	0.00	

MATERIAL PROPERTIES

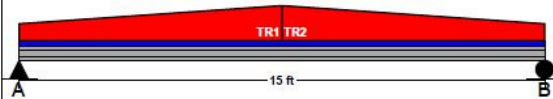
2.0E Parallam - iLevel Trus Joist

	Base Values	Adjusted
Bending Stress:	Fb = 2900 psi	Fb' = 3651 psi
	Cd=1.25 CF=1.01	
Shear Stress:	Fv = 290 psi	Fv' = 363 psi
	Cd=1.25	
Modulus of Elasticity:	E = 2000 ksi	E' = 2000 ksi
Comp. \perp to Grain:	Fc \perp = 750 psi	Fc \perp = 750 psi

Controlling Moment: 6646 ft-lb
 7.5 Ft from left support of span 2 (Center Span)
 Created by combining all dead loads and live loads on span(s) 2

Controlling Shear: 1596 lb
 At left support of span 2 (Center Span)
 Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd	Provided
Section Modulus:	21.84 in ³	73.83 in ³
Area (Shear):	6.6 in ²	39.38 in ²
Moment of Inertia (deflection):	186.72 in ⁴	415.28 in ⁴
Moment:	6646 ft-lb	22463 ft-lb
Shear:	1596 lb	9516 lb

LOADING DIAGRAM**UNIFORM LOADS**

	Center
Uniform Live Load	0 plf
Uniform Dead Load	0 plf
Beam Self Weight	12 plf
Total Uniform Load	12 plf

TRAPEZOIDAL LOADS - CENTER SPAN

Load Number	One	Two
Left Live Load	100 plf	200 plf
Left Dead Load	30 plf	71 plf
Right Live Load	200 plf	100 plf
Right Dead Load	71 plf	30 plf
Load Start	0 ft	7.5 ft
Load End	7.5 ft	15 ft
Load Length	7.5 ft	7.5 ft

Soil & Structure Consulting, Inc.

Project: Design of Framing for Proposed Pavilion

Address: Garrett Residence, 1416 Janney's Lane, Alexandria, VA

Client: Botanical Decorators

Designed by: Andy Date: 07/28/21

Checked by: Andy Date: 07/28/21

Project: Botanical Decorations

Location: RH-3

Multi-Loaded Multi-Span Beam

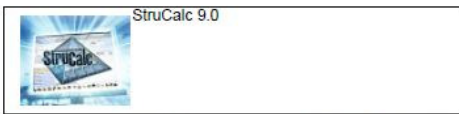
[2009 International Building Code(2005 NDS)]

3.5 IN x 11.25 IN x 16.0 FT

2.0E Parallam - iLevel Trus Joist

Section Adequate By: 107.7%

Controlling Factor: Deflection



StruCalc Version 10.0.1.5

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DEFLECTIONS		Center
Live Load	0.23	IN L/845
Dead Load	0.16	in
Total Load	0.39	IN L/498
Live Load Deflection Criteria: L/360		Total Load Deflection Criteria: L/240

REACTIONS		A	B
Live Load	800	lb	800
Dead Load	578	lb	578
Total Load	1378	lb	1378
Bearing Length	0.53	in	0.53

BEAM DATA		Center
Span Length	16	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	16	ft
Live Load Duration Factor	1.25	
Notch Depth	0.00	

MATERIAL PROPERTIES

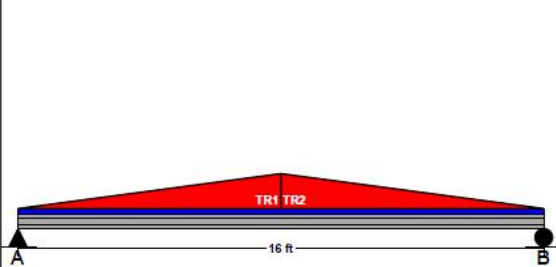
2.0E Parallam - iLevel Trus Joist

	Base Values	Adjusted
Bending Stress:	Fb = 2900 psi	Fb' = 3651 psi
	Cd=1.25 CF=1.01	
Shear Stress:	Fv = 290 psi	Fv' = 363 psi
	Cd=1.25	
Modulus of Elasticity:	E = 2000 ksi	E' = 2000 ksi
Comp. \perp to Grain:	Fc \perp = 750 psi	Fc \perp = 750 psi

Controlling Moment: 7220 ft-lb
 8.0 Ft from left support of span 2 (Center Span)
 Created by combining all dead loads and live loads on span(s) 2

Controlling Shear: 1378 lb
 At left support of span 2 (Center Span)
 Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd	Provided
Section Modulus:	23.73 in3	73.83 in3
Area (Shear):	5.7 in2	39.38 in2
Moment of Inertia (deflection):	199.98 in4	415.28 in4
Moment:	7220 ft-lb	22463 ft-lb
Shear:	1378 lb	9516 lb

LOADING DIAGRAM**UNIFORM LOADS**

	Center
Uniform Live Load	0 plf
Uniform Dead Load	0 plf
Beam Self Weight	12 plf
Total Uniform Load	12 plf

TRAPEZOIDAL LOADS - CENTER SPAN

Load Number	One	Two
Left Live Load	0 plf	200 plf
Left Dead Load	0 plf	120 plf
Right Live Load	200 plf	0 plf
Right Dead Load	120 plf	0 plf
Load Start	0 ft	8 ft
Load End	8 ft	16 ft
Load Length	8 ft	8 ft

Soil & Structure Consulting, Inc.

Project: Design of Framing for Proposed Pavilion

Address: Garrett Residence, 1416 Janney's Lane, Alexandria, VA

Client: Botanical Decorators

Designed by: Andy Date: 07/28/21

Checked by: Andy Date: 07/28/21

Design of lumber posts

6x6 Posts

Height = 9'-0"

Max W = Load from RH-2(L) & RH-3(R)

= 3000 lbs say 4000 lbs

Use 6x6 P.T SP#2 posts.

Lumber Post-Axial Load	TITLE	6x6	
		Units	
Axial Compressive Load, P	4000	lb	
Effective Length of Post, l_e	9	ft	
Load Duration Factor, C_D	1		
Number of Studs	1		
Nominal Width of Stud, b	6	in	
Nominal Depth of Stud, d	6	in	
Wood Species	SP#2		
Modulus of Elasticity, E	1.4	M psi	
Tabulated Compression Design Value, F_c	625	psi	
Size Factor, C_F	1		
Effective Width of Stud	5.5	in	
Effective Depth of Stud	5.5	in	
Area of Studs	30.25	sq. in	
Adjusted Compression Design Value F^*_c	625.000	psi	
Adjusted Modulus of Elasticity, E'	1400000	psi	
Column Stability Factor, C_P	0.8424		
Allowable Compressive Stress, F'_c	526.49	psi	
Actual Compressive Stress, f_c	132.23	psi	
Interaction Equation, f_c / F'_c	0.2512		OK

Soil & Structure Consulting, Inc.

Project: Design of Framing for Proposed Pavilion

Address: Garrett Residence, 1416 Janney's Lane, Alexandria, VA

Client: Botanical Decorators

Designed by: Andy Date: 07/28/21

Checked by: Andy Date: 07/28/21

Design of New Custom Steel Bracket:

Max. force at Connection = RH-1 (L)
= 2100 lbs

Try (2) ½" dia. through bolts @ Beam

The connection is in double shear

Capacity of Connection ½" dia bolt in double shear
= 1720 lbs (Table 12G, NDS 2015)

Capacity of Connection = 2 x 1720
= 3440 lbs > 2100 lbs **O.K.**

Provide (2) ½" dia. through bolts @ Beam

Soil & Structure Consulting, Inc.

Project: Design of Framing for Proposed Pavilion

Address: Garrett Residence, 1416 Janney's Lane, Alexandria, VA

Client: Botanical Decorators

Designed by: Andy Date: 07/28/21

Checked by: Andy Date: 07/28/21

Design of Footing

Design of New Isolated Footing

Max W = Load from RH-3 (L), RH-2 (L) & RH-4 (R)
 = 2900 lbs

Allowable soil bearing = 1500 psf

Width required = $\sqrt{2900/1500}$
 = 1.4 ft

Provide 20" x 20" x 12" thick concrete footing w/ (3) #4 rebar @ bottom each way

Soil & Structure Consulting, Inc.

Project: Design of Framing for Proposed Pavilion

Address: Garrett Residence, 1416 Janney's Lane, Alexandria, VA

Client: Botanical Decorators

Designed by: Andy Date: 07/28/21

Checked by: Andy Date: 07/28/21

LATERAL DESIGN CALCULATIONS FOR UPLIFT

Basic wind speed (Ultimate)	= 115 mph (Refer to Fig.26.5-1 ASCE 7-16)
Risk Category	= II (Refer Table 1.5-1 ASCE 7-16)
Wind Importance factor, I_w	= 1.0 (Refer Table 1.5-2 ASCE 7-16)
Wind Exposure	= B (Refer to Section 26.7.3 ASCE7-16)
Slope	= 4:12
	= 18.43°

Pressure Calculation for Uplift

(Ref Fig 28.6-1, ASCE 7 – 10)

Pressure @ End Zone (windward side)

$$\text{Roof Pressure (E)} = (-25.2 \times 1)/1.6 = -15.75 \text{ psf @ ASD Level}$$

Pressure @ Interior Zone (windward side)

$$\text{Roof Pressure (G)} = (-17.5 \times 1)/1.6 = -10.93 \text{ psf @ ASD Level}$$

Pressure @ End Zone (leeward side)

$$\text{Roof Pressure (F)} = (-17.19 \times 1)/1.6 = -11.99 \text{ psf @ ASD Level}$$

Pressure @ Interior Zone (leeward side)

$$\text{Roof Pressure (H)} = (-13.08 \times 1)/1.6 = -8.18 \text{ psf @ ASD Level}$$

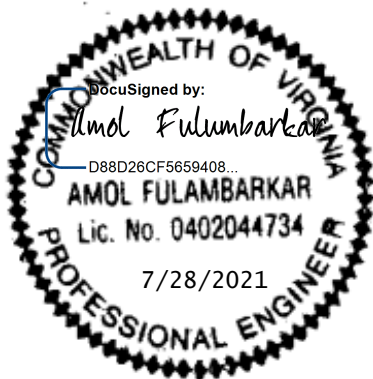
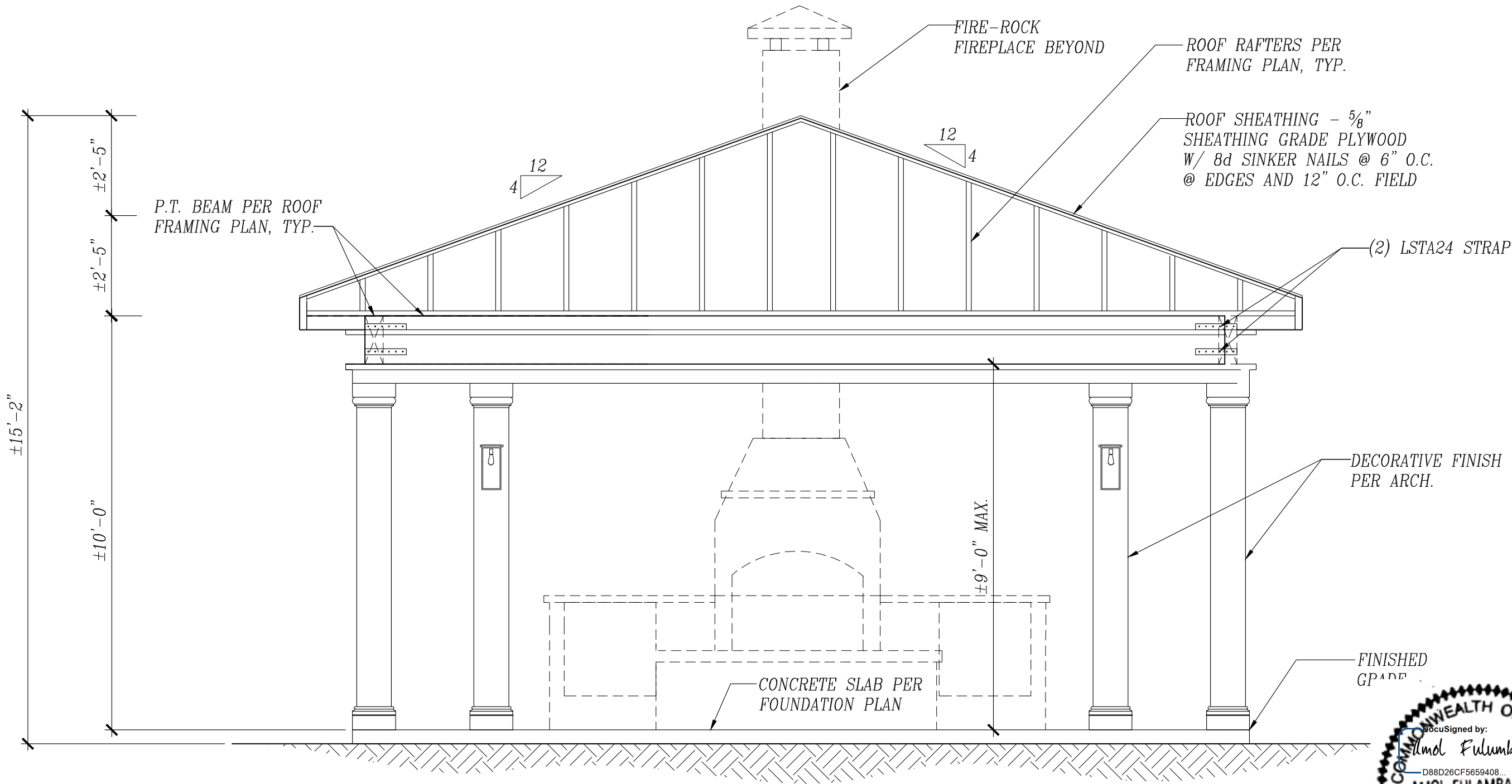
Pressure @ overhang Zone (windward side)

$$\text{Roof Pressure (E}_{OH}) = (-35.3 \times 1)/1.6 = -22.06 \text{ psf @ ASD Level}$$

Pressure @ overhang Zone (leeward side)

$$\text{Roof Pressure (G}_{OH}) = (-27.6 \times 1)/1.6 = -17.25 \text{ psf @ ASD Level}$$

Since the structure is open, let us consider maximum pressure.



1) PAVILION FRONT ELEVATION

SCALE: $\frac{1}{4}$ "=1'-0"

SHEET NO	DATE	07/28/2021	REVISION	
	SCALE	AS NOTED	REV. NO.	DATE
S-6	DRAWN BY	ANDY	-	-
	CHECKED BY	ANDY	-	-
			-	-
			-	-

PAVILION FRONT ELEVATION	
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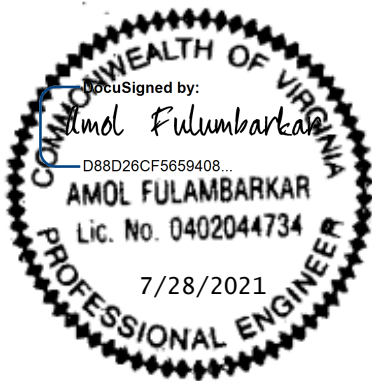
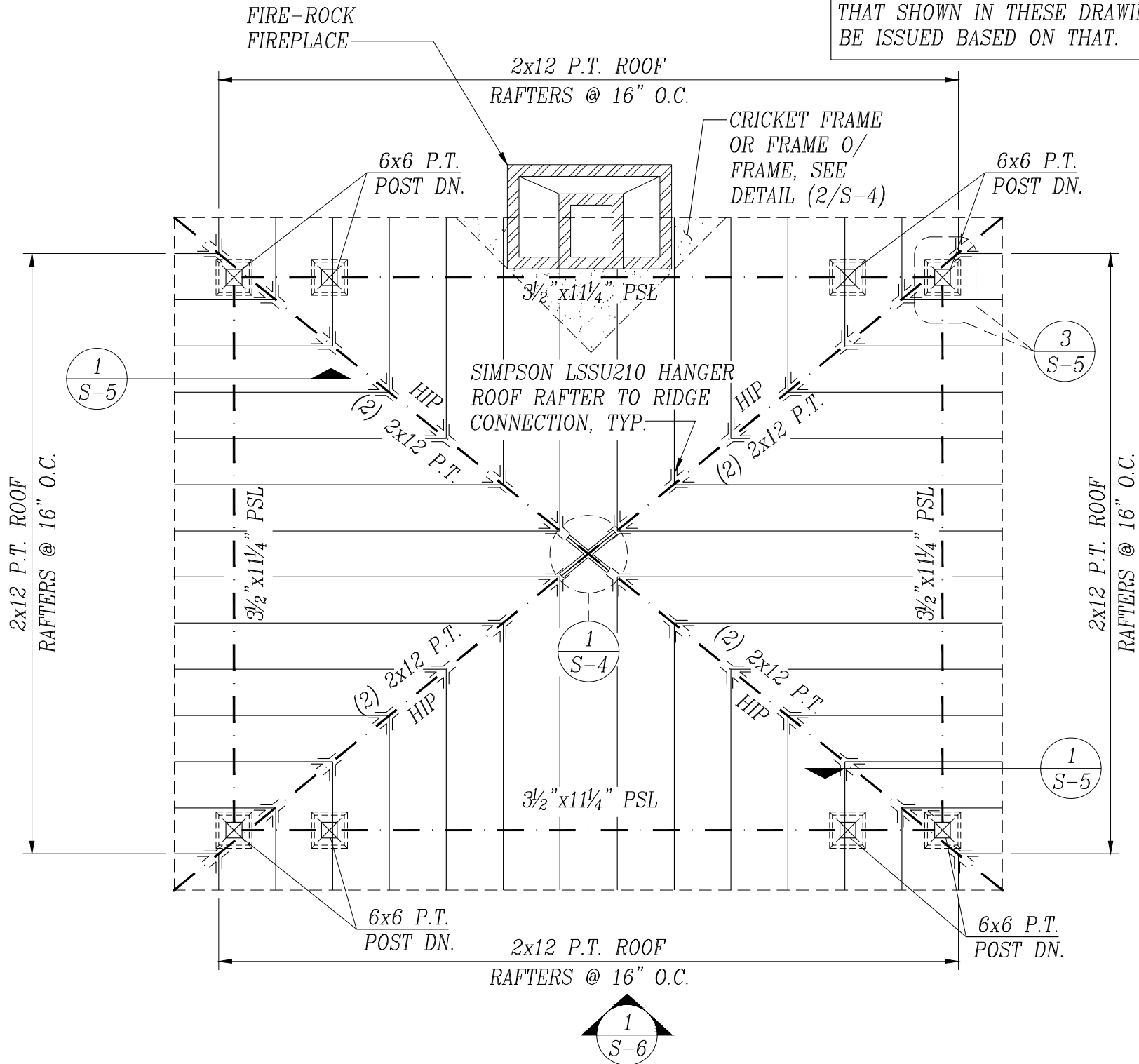
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IMPORTANT NOTE :-
CONTRACTOR TO FIELD VERIFY EXISTING FRAMING CONDITION PRIOR TO COMMENCEMENT OF WORK. CONTACT SOIL & STRUCTURE CONSULTING, INC. FOR CONSULTATION IF ANY DISCREPANCY IS FOUND BETWEEN ACTUAL CONDITION AND THAT SHOWN IN THESE DRAWINGS. REVISED DRAWINGS WILL BE ISSUED BASED ON THAT.

ROOF FRAMING PLAN NOTES :-

- * THE GOVERNING CODE IS INTERNATIONAL RESIDENTIAL CODE (IRC)-2015 AND VIRGINIA RESIDENTIAL CODE (VRC)-2015 AND/OR LOCAL COUNTY CODE AMENDMENTS AND/OR ORDINANCES.
 - * ALL DIMENSIONS PER ARCH. DRAWINGS.
 - * PROPOSED FRAMING IS DESIGNED FOR FOLLOWING PARAMETERS
- LOADING :-**
ROOF DEAD LOAD = 17 PSF
ROOF LIVE LOAD = 30 PSF
- DEFLECTION :-**
LIVE LOAD DEFLECTION = L/360
TOTAL LOAD DEFLECTION = L/240
- WIND LOAD**
BASIC WIND SPEED (3-SEC GUST) = 115 MPH
(REFER TO FIG.26.5-1 ASCE 7-10)
- * ROOF LAYOUT SHOWN IN FRAMING PLAN IS FOR GUIDANCE ONLY & SHALL NOT BE USED AS SHOP DRAWINGS.
 - * PROVIDE SKEWED OR SLOPED HANGER AS NECESSARY U.N.O.
 - * ALL EXPOSED WOOD SHALL BE PRESSURE TREATED.



DRAWING LEGEND

DRAWN AS	DESCRIPTION
⊠	POST
— . —	BEAM
———	ROOF RAFTERS
JL	SIMPSON HANGER
P.T.	PRESSURE TREATED
TYP.	TYPICAL

PAVILION ROOF FRAMING PLAN

SCALE: 1/4"=1'-0"

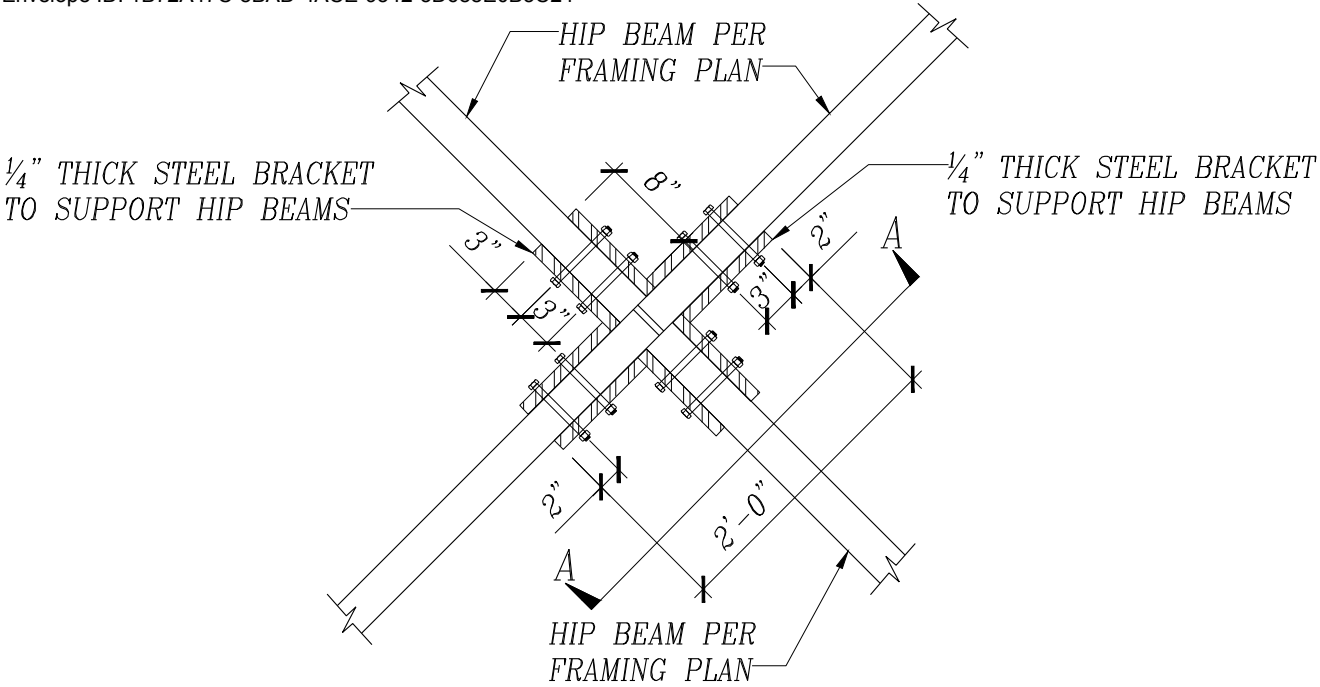
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	SCALE	AS NOTED	REV. NO.	DATE
S-2	DRAWN BY	ANDY	-	-
	CHECKED BY	ANDY	-	-
			-	-
			-	-

PAVILION ROOF FRAMING PLAN	
ADDRESS: GARRETT RESIDENCE, 1416 JANNEY'S LANE, ALEXANDRIA, VA 22302	
CLIENT: BOTANICAL DECORATORS	



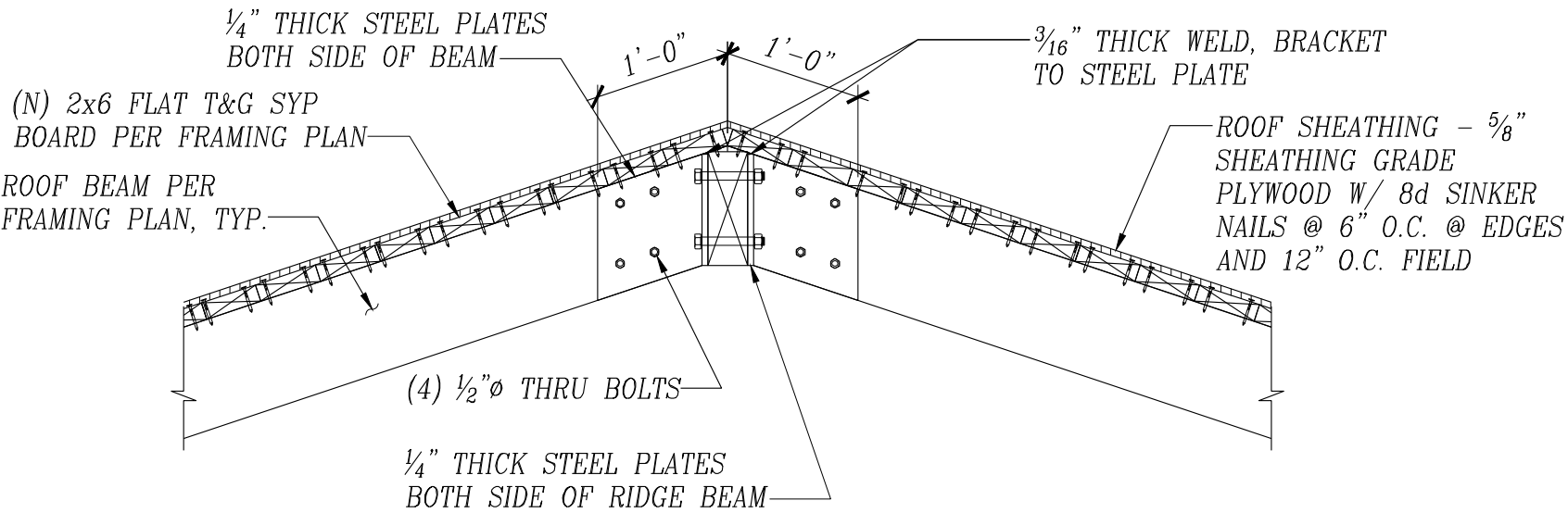
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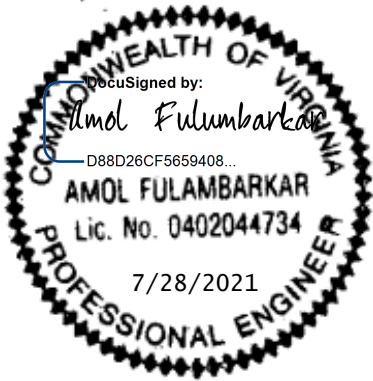
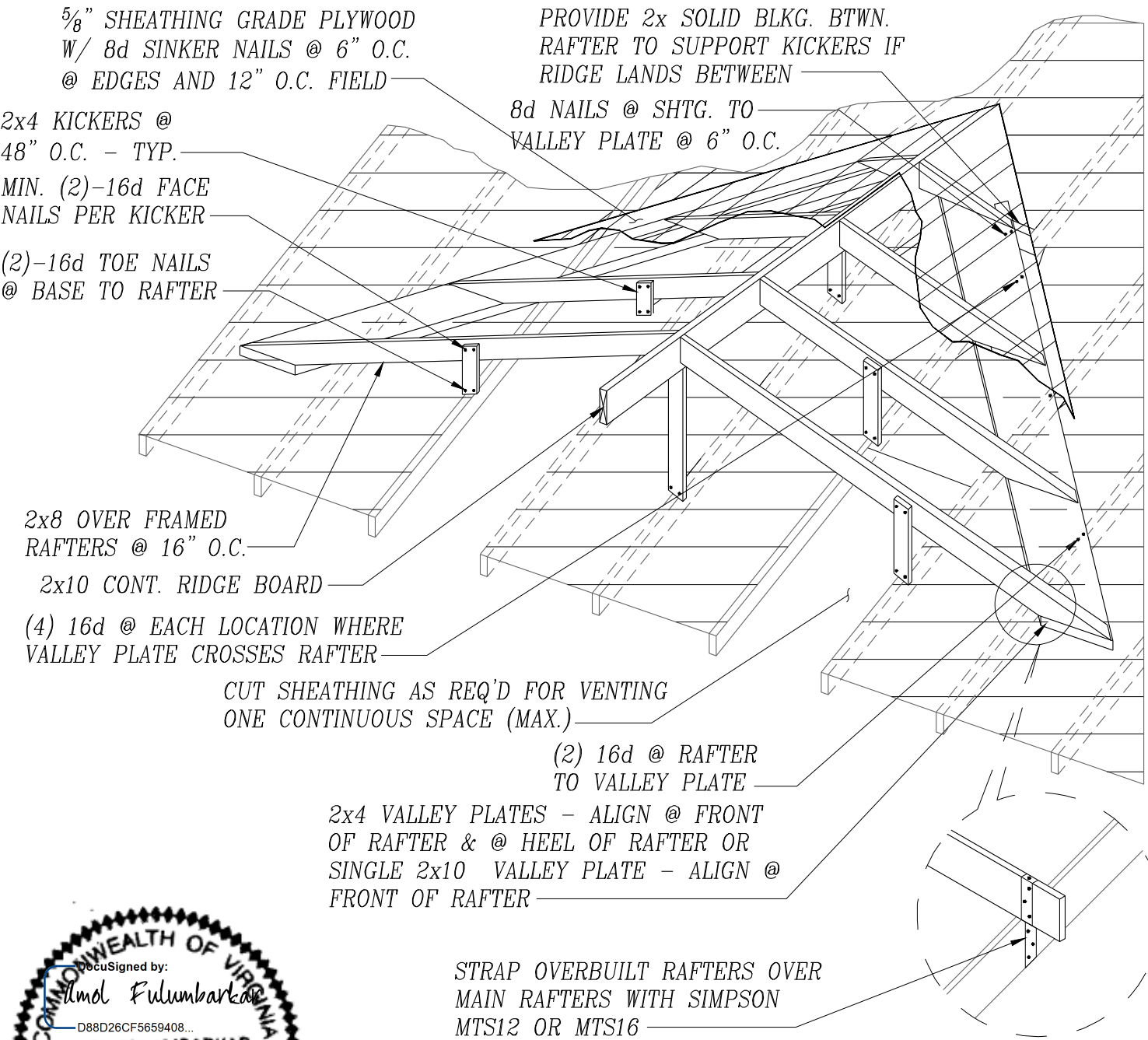
PLAN

SCALE: 3/4"=1'-0"



SECTION @ "A-A"

SCALE: 3/4"=1'-0"



1) DETAIL @ HIP BEAM CONNECTION

SCALE: 3/4"=1'-0"

2) TYPICAL DETAIL @ FRAME O/ FRAME

SCALE: 3/4"=1'-0"

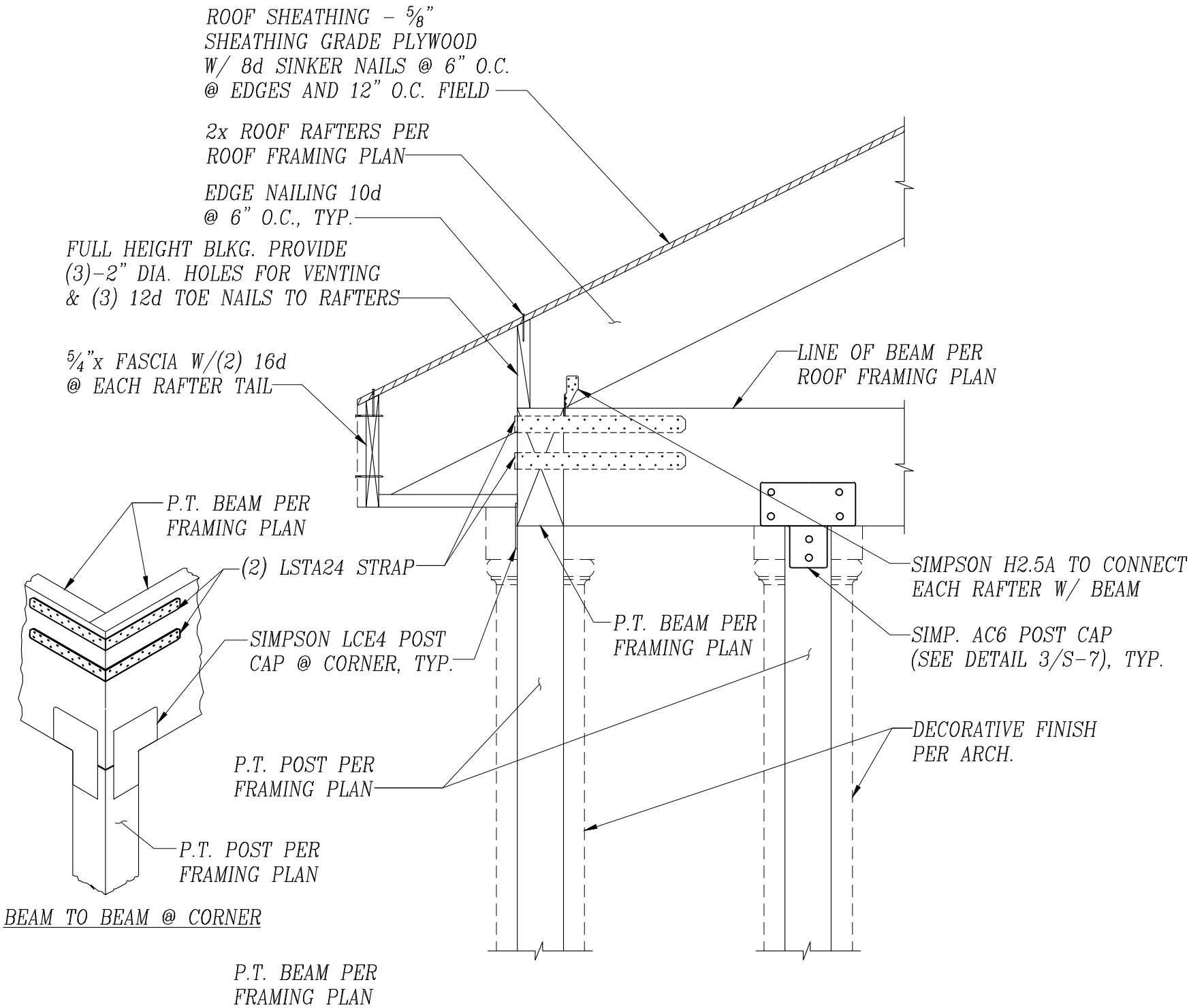
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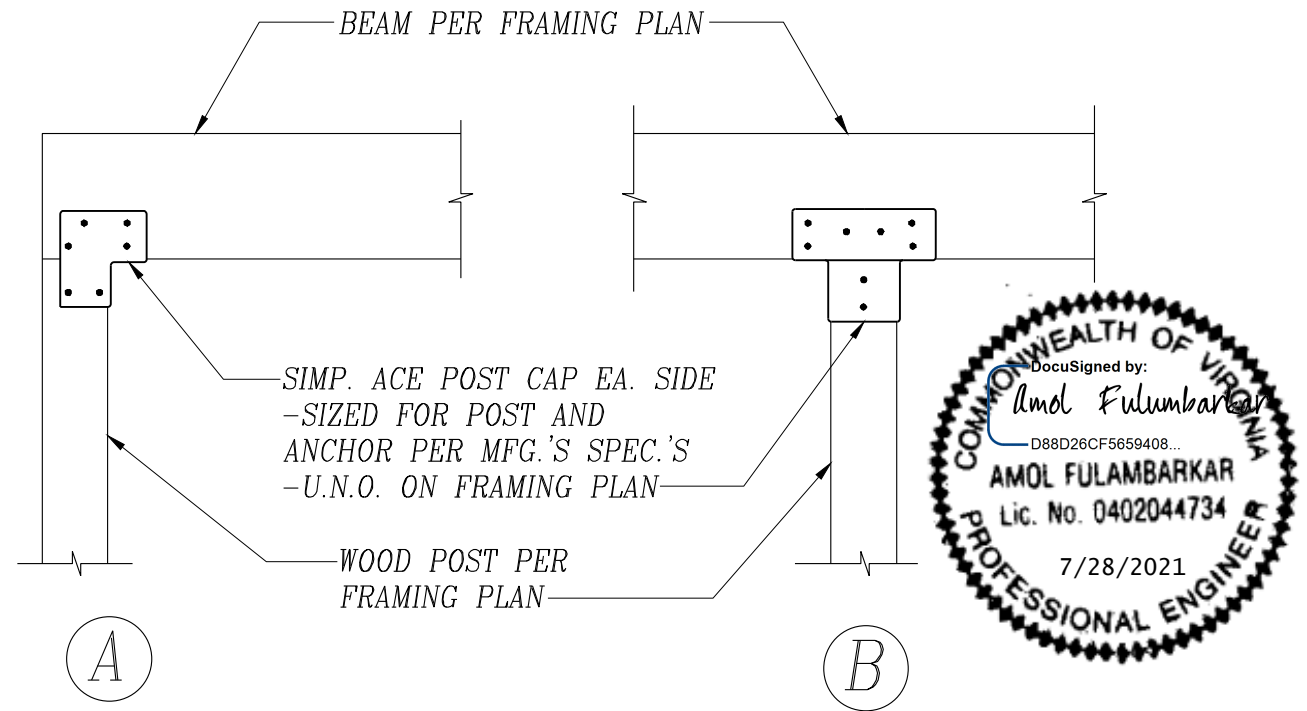


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2) NOT USED



1) DETAIL @ ROOF RAFTER TO BEAM CONNECTION

SCALE: $\frac{3}{4}$ "=1'-0"

3) TYPICAL DETAIL @ BEAM TO POST CONNECTION

SCALE: $\frac{3}{4}$ "=1'-0"

SHEET NO	DATE	07/28/2021	REVISION	
	SCALE	AS NOTED	REV. NO.	DATE
S-5	DRAWN BY	ANDY	-	-
	CHECKED BY	ANDY	-	-
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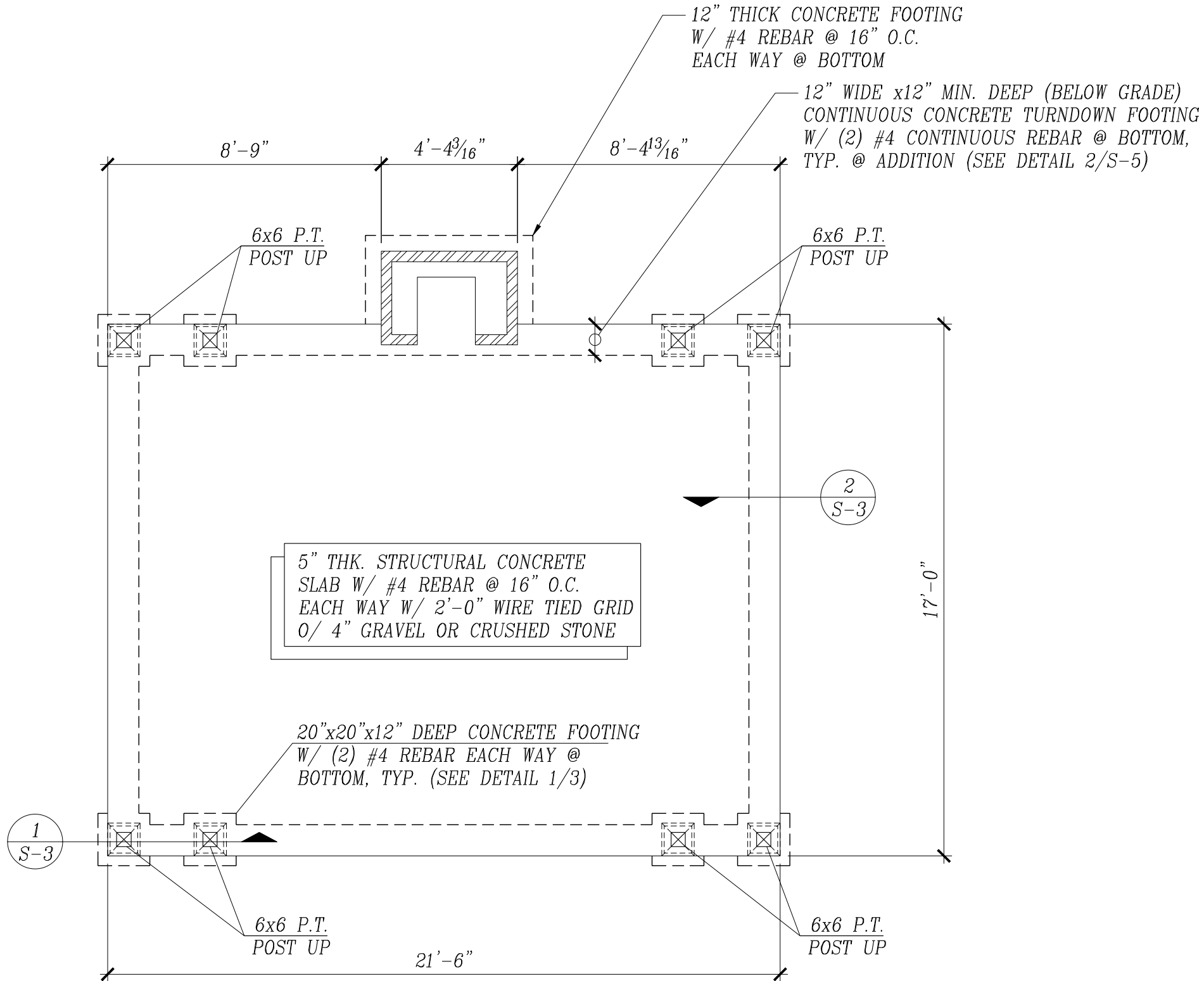
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PAVILION FOUNDATION PLAN

SCALE: 1/4"=1'-0"

FOUNDATION PLAN NOTES :-

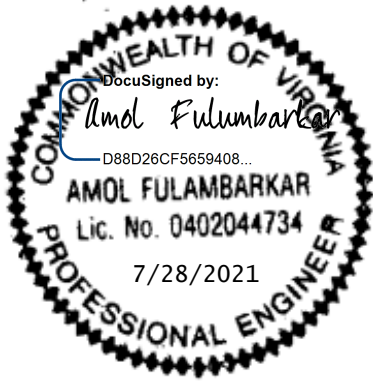
- * PROVIDE 3" MIN. CLEAR COVER TO REINFORCEMENT IN FOOTING.
- * MATERIAL PROPERTIES:-
f'c = 3000 psi
Fy = 60 ksi
- * MIN SOIL BEARING CAPACITY - 1500 psf
- * PROVIDE 16" MINIMUM SPLICE LENGTH FOR REBAR U.N.O.
- * PROVIDE MINIMUM 1/2"Ø ANCHOR BOLT @ 48" O.C. WITH A MINIMUM EMBEDMENT OF 7" INTO CONCRETE AND SHALL BE PLACED WITHIN 12" FROM END OF EACH SILL PLATE SECTION UNLESS NOTED.

DRAWING LEGEND

DRAWN AS	DESCRIPTION
⊠	POST
TYP.	TYPICAL

IMPORTANT NOTE :-

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	CHECKED BY	ANDY	-	-
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PAVILION FOUNDATION PLAN

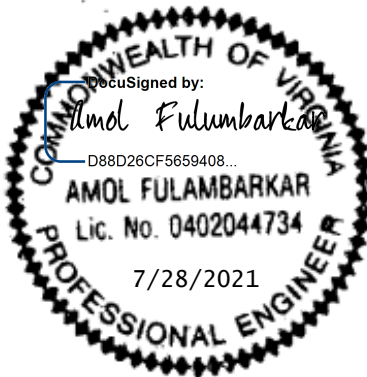
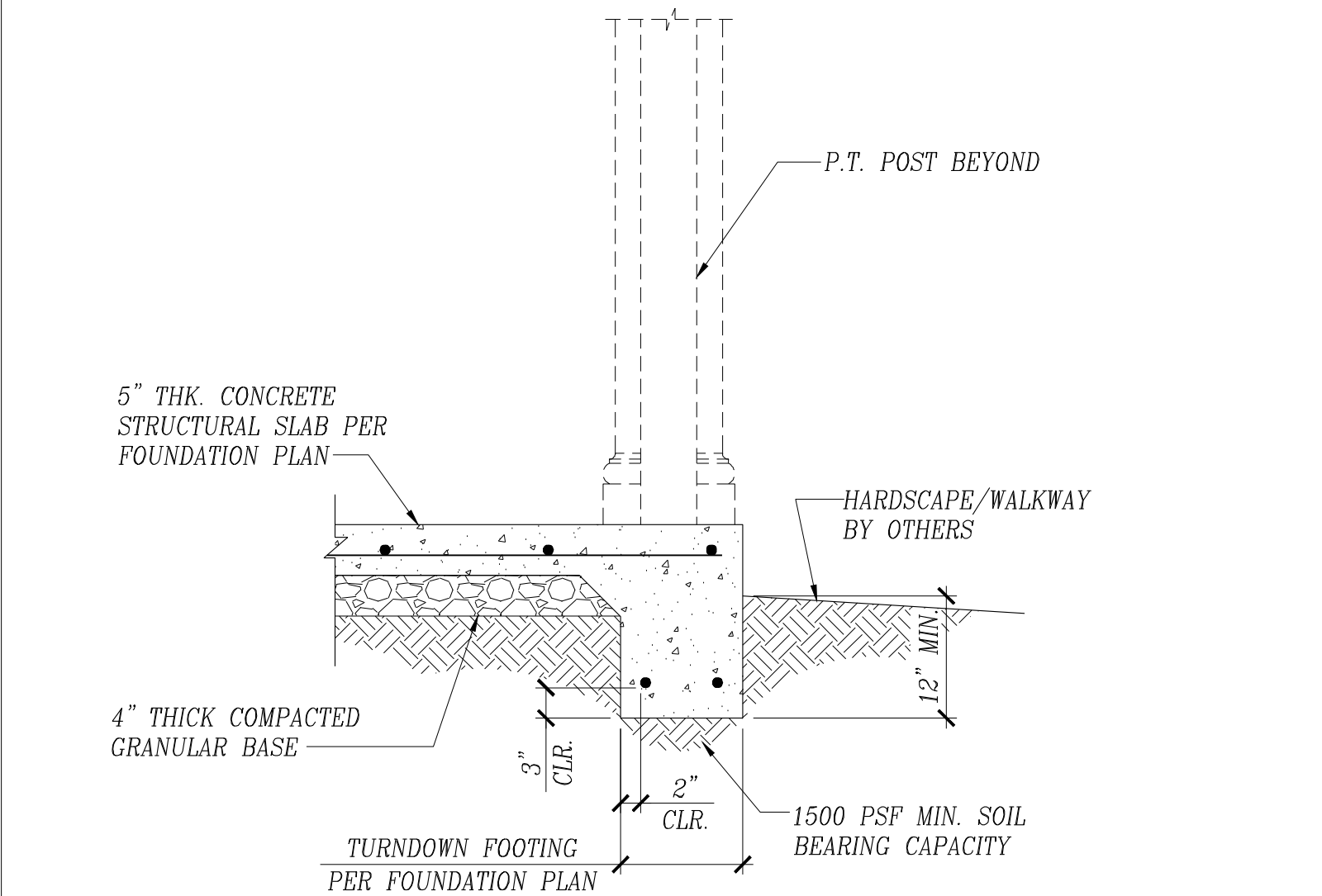
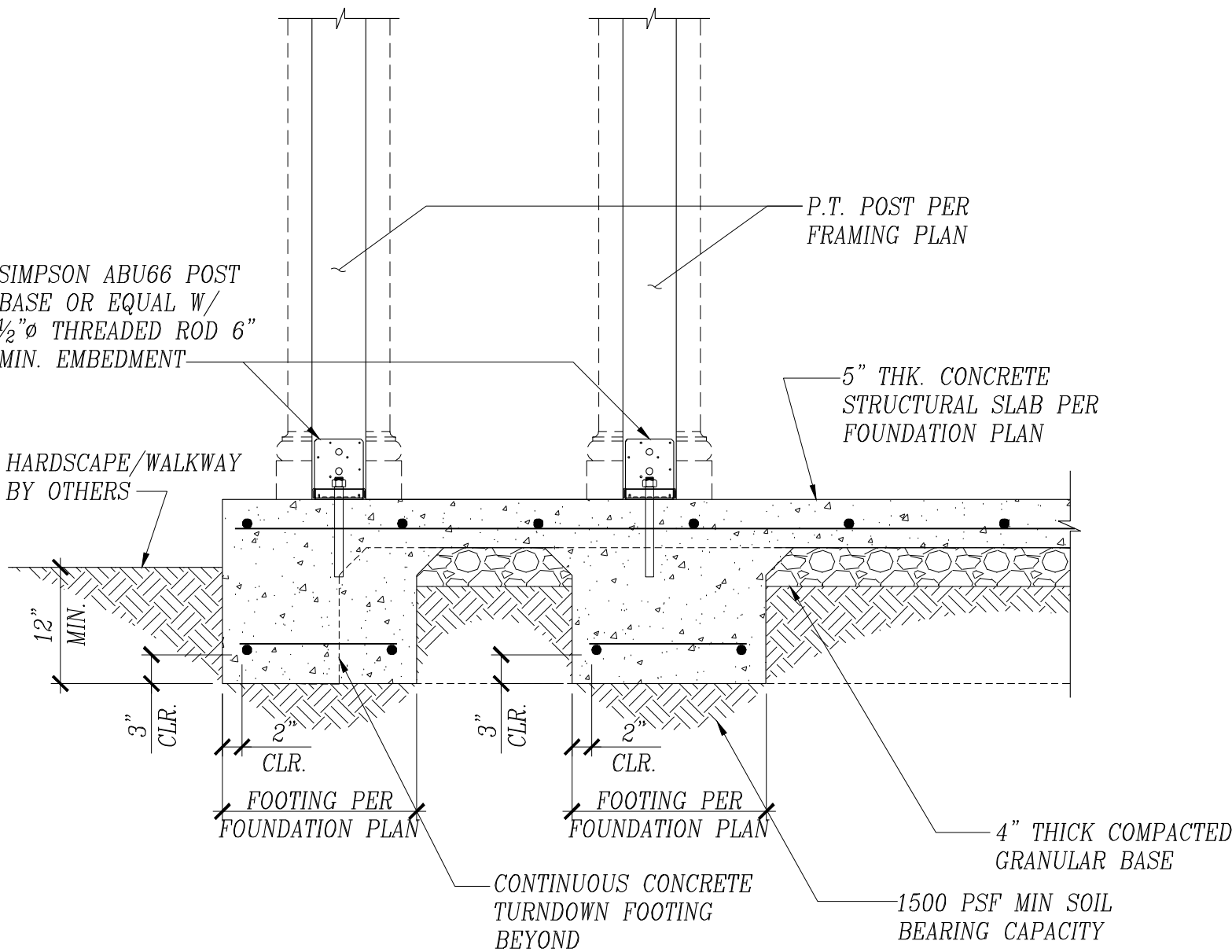
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1) DETAIL @ POST FOOTING

SCALE: 3/4"=1'-0" 2) DETAIL @ CONCRETE TURNDOWN FOOTING

SCALE: 3/4"=1'-0"

SHEET NO	DATE	07/28/2021	REVISION	
	SCALE	AS NOTED	REV. NO.	DATE
S-3	DRAWN BY	ANDY	-	-
	CHECKED BY	ANDY	-	-
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			-	-

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